

Chemical Analysis Report

SO-DIST-2022-09-15-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **2021 SMP: Continuous Lee**
Request ID: **RQ-2022-09-05-46**
Customer: **SO-DIST**
Project ID: **SMP**

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FLDEP South District Office
2295 Victoria Ave. Suite 314
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Date Certified: 04-OCT-2022 11:08



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: Spring Creek @ US41

Collection Date/Time: 09/14/2022 08:30

Field ID: G1SD0109

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356758	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P419657	
	SM 2320 B-2011	Total Alkalinity	252		mg CaCO3/L	P420160	
	SM 2540 D-2011	TSS	3	I	mg/L	P419851	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P419967	
2356759	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P419910	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P419809	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P420322	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P419834	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P419757	
2356773	EPA 8321B	2,4-D	0.0040	I	ug/L	P419624	
		Acesulfame K	0.15	I	ug/L	P419612	
		2,4,5-T	0.0040	U	ug/L	P419624	
		AMPA	0.72		ug/L	P419612	
		Acetaminophen	0.016	I	ug/L	P419624	
		Acetamiprid	0.0020	U	ug/L	P419624	
		Endothall	0.25	U	ug/L	P419612	
		Glufosinate	0.10	U	ug/L	P419612	
		Glyphosate	0.10	U	ug/L	P419612	
		Afidopyropen	0.0020	U	ug/L	P419624	
		Sucralose	1.6		ug/L	P419612	
		Bentazon	0.27		ug/L	P419624	MS
		Benzovindiflupyr	0.0020	U	ug/L	P419624	
		Carbamazepine	0.0014	I	ug/L	P419624	
		Clothianidin	0.0032	I	ug/L	P419624	
		Dinotefuran	0.0020	U	ug/L	P419624	
		Diuron	0.0020	U	ug/L	P419624	
		Fenuron	0.016	U	ug/L	P419624	
		Fluridone	0.028		ug/L	P419624	
		Imazapyr	0.13		ug/L	P419624	MS
		Hydrocodone	0.0020	U	ug/L	P419624	
		Ibuprofen	0.020	U	ug/L	P419624	
		Imidacloprid	0.011		ug/L	P419624	
		Linuron	0.0040	U	ug/L	P419624	
		Mandestrobin	0.0020	U	ug/L	P419624	
		MCP	0.0036	I	ug/L	P419624	MS
		Naproxen	0.0080	U	ug/L	P419624	
		Primidone	0.010	I	ug/L	P419624	
		Pyraclostrobin	0.0020	U	ug/L	P419624	
		Silvex	0.0040	U	ug/L	P419624	
		Thiamethoxam	0.0020	U	ug/L	P419624	MS
		Tolfenpyrad	0.0020	U	ug/L	P419624	
		Triclopyr	0.0040	U	ug/L	P419624	

Ref. Method and Comment:

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.

Sample Location: Imperial River @ Orr Rd

Collection Date/Time: 09/14/2022 09:10

Field ID: G1SD0105

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356760	DEP SOP: NU-094-1	Color (true)	84		PCU	P419685	
	EPA 180.1 Rev. 2.0	Turbidity	0.80	I	NTU	P419657	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P420088	
		Sulfate	1.1		mg SO4/L	P420093	
	SM 2320 B-2011	Total Alkalinity	88		mg CaCO3/L	P420160	
	SM 2540 C-2011	TDS	137		mg/L	P419891	
	SM 2540 D-2011	TSS	3	I	mg/L	P419847	
2356761	SM 4500-F- C-2011	Fluoride	0.060	I	mg F/L	P419967	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P419910	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P419871	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P420322	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P419834	
2356774	SM 5310 B-2011	Organic Carbon	16		mg C/L	P419757	
	EPA 8321B	2,4-D	0.0030	I	ug/L	P419624	
		Acesulfame K	0.10	U	ug/L	P419612	
		2,4,5-T	0.0040	U	ug/L	P419624	
		AMPA	0.10	U	ug/L	P419612	
		Acetaminophen	0.0096	I	ug/L	P419624	
		Acetamiprid	0.0020	U	ug/L	P419624	
		Endothall	0.25	U	ug/L	P419612	
		Glufosinate	0.10	U	ug/L	P419612	
		Glyphosate	0.10	U	ug/L	P419612	
		Afidopyropen	0.0020	U	ug/L	P419624	
		Sucralose	0.014	I	ug/L	P419612	
		Bentazon	0.011		ug/L	P419624	MS
		Benzovindiflupyr	0.0020	U	ug/L	P419624	
		Carbamazepine	8.0E-04	U	ug/L	P419624	
		Clothianidin	0.0020	U	ug/L	P419624	
		Dinotefuran	0.0020	U	ug/L	P419624	
		Diuron	0.0020	U	ug/L	P419624	
		Fenuron	0.016	U	ug/L	P419624	
		Fluridone	8.0E-04	U	ug/L	P419624	
		Imazapyr	0.28		ug/L	P419624	MS
		Hydrocodone	0.0020	U	ug/L	P419624	
		Ibuprofen	0.020	U	ug/L	P419624	
		Imidacloprid	0.0043	I	ug/L	P419624	
		Linuron	0.0040	U	ug/L	P419624	
		Mandestrobin	0.0020	U	ug/L	P419624	
		MCPP	0.0020	U	ug/L	P419624	MS
		Naproxen	0.0080	U	ug/L	P419624	
		Primidone	0.0040	U	ug/L	P419624	
		Pyraclostrobin	0.0020	U	ug/L	P419624	
		Silvex	0.0040	U	ug/L	P419624	
		Thiamethoxam	0.0020	U	ug/L	P419624	MS

Field ID: G1SD0105

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2356774	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P419624	
		Triclopyr	0.0040	U	ug/L	P419624	

Ref. Method and Comment:
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: DEP SOP: NU-094-1
Batch ID: P419685

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419657

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420088

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420093

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419910

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419809

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419871

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420322

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419834

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P419612

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: EPA 8321B

Batch ID: P419624

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
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: SM 2320 B-2011

Batch ID: P420160

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

Reference Method: SM 2540 C-2011

Batch ID: P419891

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P419847

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P419851

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P419967

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P419757

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P419685

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419657

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420088

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419910

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: P419809

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419871

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: P420322

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419834

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P419612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	115		P	40 - 150
AMPA	105		P	40 - 150
Endothall	98.0		P	40 - 150
Glufosinate	97.9		P	40 - 150
Glyphosate	113		P	40 - 150
Sucralose	110		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P419624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.4		P	30 - 160
2,4,5-T	88.3		P	30 - 160
Acetaminophen	93.4		P	30 - 150
Acetamiprid	89.1		P	30 - 160
Afidopyropen	70.7		P	30 - 160
Bentazon	111		P	30 - 150
Benzovindiflupyr	87.3		P	30 - 160
Carbamazepine	98.4		P	30 - 160
Clothianidin	90.6		P	30 - 160
Dinotefuran	95.6		P	30 - 160
Diuron	76.5		P	30 - 160
Fenuron	101		P	30 - 160
Fluridone	99.2		P	30 - 160
Hydrocodone	54.7		P	30 - 160
Ibuprofen	52.2		P	30 - 160
Imazapyr	89.9		P	30 - 160
Imidacloprid	93.6		P	30 - 160
Linuron	88.7		P	30 - 160
Mandestrobin	96.2		P	30 - 160
MCPP	88.1		P	30 - 160
Naproxen	73.1		P	30 - 160
Primidone	79.5		P	30 - 160
Pyraclostrobin	86.0		P	30 - 160
Silvex	92.4		P	30 - 160
Thiamethoxam	97.2		P	30 - 160
Tolfenpyrad	76.5		P	30 - 160
Triclopyr	86.6		P	30 - 160

Reference Method: SM 2320 B-2011

Batch ID: P420160

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P419967

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	96 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P419757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356905	Chloride	99.1		P	90 - 110
2356920	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356905	Sulfate	97.4		P	90 - 110
2356920	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357099	Ammonia-N	97.6	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356298	Kjeldahl Nitrogen	108	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419871

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356576	Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2357987	NO2NO3-N	96.0	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356922	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P419612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356572	Acesulfame K	110	109	P/P	40 - 150
2356572	AMPA	103	94.6	P/P	40 - 150
2356572	Endothall	99.4	97.9	P/P	40 - 150
2356572	Glufosinate	85.8	91.8	P/P	40 - 150
2356572	Glyphosate	117	115	P/P	40 - 150
2356572	Sucralose	105	103	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P419624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356270	2,4,5-T	149	137	P/P	30 - 160
2356270	Acetaminophen	135	138	P/P	30 - 150
2356270	Acetamiprid	104	102	P/P	30 - 160
2356270	Afidopyropen	132	130	P/P	30 - 160
2356270	Bentazon	147	152	P/F	30 - 150
2356270	Benzovindiflupyr	103	109	P/P	30 - 160
2356270	Carbamazepine	101	97.2	P/P	30 - 160
2356270	Clothianidin	123	141	P/P	30 - 160
2356270	Dinotefuran	137	141	P/P	30 - 160
2356270	Diuron	70.0	61.4	P/P	30 - 160
2356270	Fenuron	124	125	P/P	30 - 160
2356270	Fluridone	129	137	P/P	30 - 160
2356270	Hydrocodone	80.7	79.0	P/P	30 - 160
2356270	Ibuprofen	90.1	101	P/P	30 - 160
2356270	Imazapyr	186	196	F/F	30 - 160
2356270	Imidacloprid	153	144	P/P	30 - 160
2356270	Linuron	105	109	P/P	30 - 160
2356270	Mandestrobin	128	125	P/P	30 - 160
2356270	MCCP	172	180	F/F	30 - 160
2356270	Naproxen	128	106	P/P	30 - 160
2356270	Primidone	143	150	P/P	30 - 160
2356270	Pyraclostrobin	125	126	P/P	30 - 160
2356270	Silvex	151	150	P/P	30 - 160
2356270	Thiamethoxam	188	189	F/F	30 - 160
2356270	Tolfenpyrad	105	101	P/P	30 - 160
2356270	Triclopyr	145	144	P/P	30 - 160

Reference Method: SM 4500-F- C-2011

Batch ID: P419967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356587	Fluoride	99.1	99.1	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P419757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2356759	Organic Carbon	95.6	97.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P419685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356799	Color (true)	0.333	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P419657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356471	Turbidity	1.69	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356905	Chloride	0.124	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356905	Sulfate	0.116	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357099	Ammonia-N	0.587	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356298	Kjeldahl Nitrogen	3.78	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419871

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356576	Kjeldahl Nitrogen	1.83	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2357987	NO2NO3-N	0.309	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P419834

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356922	Total-P	0.0918	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P419612

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356572	Acesulfame K	0.921	Spike	P	0 - 30
2356572	AMPA	8.03	Spike	P	0 - 30
2356572	Endothall	1.60	Spike	P	0 - 30
2356572	Glufosinate	6.78	Spike	P	0 - 30
2356572	Glyphosate	2.29	Spike	P	0 - 30
2356572	Sucralose	1.06	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P419624

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356270	2,4-D	9.15	Spike	P	0 - 30
2356270	2,4,5-T	8.92	Spike	P	0 - 30
2356270	Acetaminophen	1.82	Spike	P	0 - 30
2356270	Acetamiprid	1.94	Spike	P	0 - 30
2356270	Afidopyropen	0.994	Spike	P	0 - 30
2356270	Bentazon	2.58	Spike	P	0 - 30
2356270	Benzovindiflupyr	5.16	Spike	P	0 - 30
2356270	Carbamazepine	4.07	Spike	P	0 - 30
2356270	Clothianidin	14.0	Spike	P	0 - 30
2356270	Dinotefuran	2.62	Spike	P	0 - 30
2356270	Diuron	13.1	Spike	P	0 - 30
2356270	Fenuron	1.01	Spike	P	0 - 30
2356270	Fluridone	5.91	Spike	P	0 - 30
2356270	Hydrocodone	2.14	Spike	P	0 - 30
2356270	Ibuprofen	11.3	Spike	P	0 - 30
2356270	Imazapyr	4.70	Spike	P	0 - 30
2356270	Imidacloprid	5.96	Spike	P	0 - 30
2356270	Linuron	3.59	Spike	P	0 - 30
2356270	Mandestrobin	2.24	Spike	P	0 - 30
2356270	MCPP	3.71	Spike	P	0 - 30
2356270	Naproxen	19.1	Spike	P	0 - 30
2356270	Primidone	4.58	Spike	P	0 - 30
2356270	Pyraclostrobin	0.573	Spike	P	0 - 30
2356270	Silvex	1.25	Spike	P	0 - 30
2356270	Thiamethoxam	0.440	Spike	P	0 - 30
2356270	Tolfenpyrad	4.16	Spike	P	0 - 30
2356270	Triclopyr	0.443	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P420160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356699	Total Alkalinity	3.20	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P419891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356409	TDS	6.84	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P419967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356587	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P419757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2356759	Organic Carbon	0.879	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2356773
Field Sample ID: G1SD0109

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	106	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.1	P	30 - 160
EPA 8321B	Diuron-d6	53.5	P	30 - 160
EPA 8321B	Endothall-d6	93.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	87.1	P	30 - 160
EPA 8321B	Primidone-d5	127	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	30 - 160

Lab Sample ID: 2356774
Field Sample ID: G1SD0105

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	106	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.3	P	30 - 160
EPA 8321B	Diuron-d6	48.0	P	30 - 160
EPA 8321B	Endothall-d6	149	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.9	P	30 - 160
EPA 8321B	Primidone-d5	122	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114754

Included Lab Sample IDs: 2356758, 2356760

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

Reference Method: DEP SOP: NU-094-1

Run ID: A114769

Included Lab Sample IDs: 2356760

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A114799

Included Lab Sample IDs: 2356759, 2356761

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.1	P/P	90 - 110
Organic Carbon	96.1	96.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A114835

Included Lab Sample IDs: 2356773, 2356774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	100	P/P	50 - 150
2,4,5-T	107	110	P/P	50 - 150
Acetaminophen	97.6	98.0	P/P	60 - 160
Acetamiprid	110	120	P/P	50 - 150
Afidopyropen	96.1	99.2	P/P	50 - 150
Bentazon	117	120	P/P	50 - 160
Bentazon	120	105	P/P	50 - 160
Benzovindiflupyr	108	111	P/P	50 - 160
Carbamazepine	112	112	P/P	60 - 150
Clothianidin	87.3	95.6	P/P	60 - 150
Dinotefuran	112	113	P/P	50 - 150
Diuron	131	105	P/P	60 - 160
Fenuron	109	111	P/P	60 - 150
Fluridone	108	103	P/P	60 - 160
Hydrocodone	108	106	P/P	60 - 150
Ibuprofen	96.3	139	P/P	50 - 160
Imazapyr	96.8	96.6	P/P	50 - 150
Imidacloprid	117	117	P/P	60 - 150
Linuron	113	110	P/P	60 - 150
Mandestrobin	109	109	P/P	50 - 150
MCPP	97.2	107	P/P	50 - 150
Naproxen	71.2	125	P/P	50 - 160
Primidone	96.6	107	P/P	60 - 150
Pyraclostrobin	108	110	P/P	60 - 150
Silvex	95.5	104	P/P	50 - 150
Thiamethoxam	102	108	P/P	50 - 150
Tolfenpyrad	110	105	P/P	60 - 150
Triclopyr	105	116	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A114851

Included Lab Sample IDs: 2356773, 2356774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	105	P/P	60 - 160
AMPA	107	103	P/P	60 - 160
Endothall	80.6	94.4	P/P	60 - 160
Endothall	95.2	74.9	P/P	60 - 160
Glufosinate	75.6	100	P/P	60 - 160
Glufosinate	90.5	73.0	P/P	60 - 160
Glyphosate	114	116	P/P	60 - 160
Glyphosate	114	108	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A114853

Included Lab Sample IDs: 2356773, 2356774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	125	120	P/P	60 - 160
Sucralose	113	107	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114854

Included Lab Sample IDs: 2356759, 2356761

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114857

Included Lab Sample IDs: 2356760

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	100	P/P	90 - 110
Sulfate	99.4	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114864

Included Lab Sample IDs: 2356759, 2356761

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114865

Included Lab Sample IDs: 2356759

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.6	95.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114876

Included Lab Sample IDs: 2356758, 2356760

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A114876

Included Lab Sample IDs: 2356758, 2356760

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114892

Included Lab Sample IDs: 2356761

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	90.3	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114959

Included Lab Sample IDs: 2356758, 2356760

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115032

Included Lab Sample IDs: 2356759, 2356761

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	98.5	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		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	102			0.333	
EPA 180.1 Rev. 2.0	Turbidity	101			1.69	
EPA 300.0 Rev. 2.1	Chloride	102	99.1	99.0	0.124	
	Sulfate	99.5	97.4	99.2	0.116	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	97.6	98.2		0.587
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	108	103		3.78
	Kjeldahl Nitrogen	101	105	101		1.83
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	96.0	96.5		0.309
EPA 365.1 Rev. 2.0	Total-P	102	103	103		0.0918
EPA 8321B	2,4-D	86.4				9.15
	2,4,5-T	88.3	149	137		8.92
	Acesulfame K	115	110	109		0.921
	Acetaminophen	93.4	135	138		1.82
	Acetamiprid	89.1	104	102		1.94
	Afidopyropen	70.7	132	130		0.994
	AMPA	105	103	94.6		8.03
	Bentazon	111	147	152		2.58
	Benzovindiflupyr	87.3	103	109		5.16
	Carbamazepine	98.4	101	97.2		4.07
	Clothianidin	90.6	123	141		14.0
	Dinotefuran	95.6	137	141		2.62
	Diuron	76.5	70.0	61.4		13.1
	Endothall	98.0	99.4	97.9		1.60
	Fenuron	101	124	125		1.01
	Fluridone	99.2	129	137		5.91
	Glufosinate	97.9	85.8	91.8		6.78
	Glyphosate	113	117	115		2.29
	Hydrocodone	54.7	80.7	79.0		2.14
	Ibuprofen	52.2	90.1	101		11.3
	Imazapyr	89.9	186	196		4.70
	Imidacloprid	93.6	153	144		5.96
	Linuron	88.7	105	109		3.59
	Mandestrobin	96.2	128	125		2.24
	MCPP	88.1	172	180		3.71
	Naproxen	73.1	128	106		19.1
	Primidone	79.5	143	150		4.58
	Pyraclostrobin	86.0	125	126		0.573
	Silvex	92.4	151	150		1.25
	Sucralose	110	105	103		1.06
	Thiamethoxam	97.2	188	189		0.440
	Tolfenpyrad	76.5	105	101		4.16
	Triclopyr	86.6	145	144		0.443
SM 2320 B-2011	Total Alkalinity	101			3.20	
SM 2540 C-2011	TDS				6.84	
SM 4500-F- C-2011	Fluoride	99.4	99.1	99.1		0.0
SM 5310 B-2011	Organic Carbon	95.6	95.6	97.0		0.879

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2356760
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2356758, 2356760
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2356760

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2356760
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2356759, 2356761
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2356759, 2356761
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2356759, 2356761
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2356759, 2356761
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2356773, 2356774
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2356758, 2356760
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2356760
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2356758, 2356760
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2356758, 2356760
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2356759, 2356761

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	09/15/2022			09/15/2022 15:36	Anna M. Plaviak	2356760
EPA 180.1 Rev. 2.0	09/15/2022			09/15/2022 14:18	Chandler E Cox	2356758
	09/15/2022			09/15/2022 14:19	Chandler E Cox	2356760
EPA 300.0 Rev. 2.1	09/15/2022			09/22/2022 20:32	Anna M. Plaviak	2356760
EPA 350.1 Rev. 2.0	09/15/2022			09/21/2022 11:26	Ping Hua	2356759
	09/15/2022			09/21/2022 11:27	Ping Hua	2356761
EPA 351.2 Rev. 2.0	09/15/2022	09/20/2022 11:52	Alexandra J Mattheus	09/21/2022 14:42	Alexandra J Mattheus	2356759
	09/15/2022	09/21/2022 13:07	Samantha L Bates	09/22/2022 11:06	Samantha L Bates	2356761
EPA 353.2 Rev. 2.0	09/15/2022			09/29/2022 15:29	Judith K. Clark	2356759
	09/15/2022			09/29/2022 15:30	Judith K. Clark	2356761
EPA 365.1 Rev. 2.0	09/15/2022	09/21/2022 08:40	Adam P Silver	09/21/2022 16:22	Simonne.V. Calhoun	2356759
	09/15/2022	09/21/2022 08:40	Adam P Silver	09/21/2022 16:23	Simonne.V. Calhoun	2356761
EPA 8321B	09/15/2022	09/16/2022 09:00	Hoor Shaik	09/21/2022 11:21	Juyoung Kim	2356773
	09/15/2022	09/16/2022 09:00	Hoor Shaik	09/21/2022 11:41	Juyoung Kim	2356774
	09/15/2022	09/16/2022 09:00	Hoor Shaik	09/21/2022 13:25	Juyoung Kim	2356773
	09/15/2022	09/16/2022 13:00	Umesh Chiluwal	09/17/2022 01:31	Umesh Chiluwal	2356773
	09/15/2022	09/16/2022 13:00	Umesh Chiluwal	09/17/2022 07:20	Umesh Chiluwal	2356774
	09/15/2022	09/16/2022 13:00	Umesh Chiluwal	09/19/2022 13:38	Umesh Chiluwal	2356773
	09/15/2022	09/16/2022 13:00	Umesh Chiluwal	09/19/2022 13:53	Umesh Chiluwal	2356774
SM 2320 B-2011	09/15/2022			09/26/2022 18:56	Dale L. Simmons	2356758
	09/15/2022			09/26/2022 19:04	Dale L. Simmons	2356760
SM 2540 C-2011	09/15/2022			09/16/2022 15:56	Yijie Li	2356760
SM 2540 D-2011	09/15/2022			09/16/2022 15:56	Yijie Li	2356758, 2356760
SM 4500-F- C-2011	09/15/2022			09/21/2022 22:01	Dale L. Simmons	2356758
	09/15/2022			09/21/2022 22:13	Dale L. Simmons	2356760
SM 5310 B-2011	09/15/2022			09/16/2022 21:54	Khloe J Berg	2356759
	09/15/2022			09/17/2022 01:55	Khloe J Berg	2356761