

Chemical Analysis Report

NE-DIST-2022-04-21-01

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

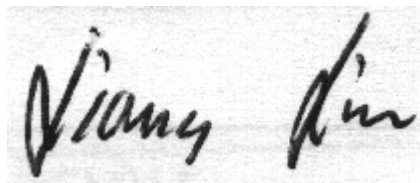
Event Description: **Pellicer Creek Tribs**
Request ID: **RQ-2022-04-04-38**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 10-MAY-2022 12:57

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Stevens Branch East Branch at CR204

Collection Date/Time: 04/20/2022 10:50

Field ID: G5NE0600

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321142	EPA 8321B	2,4-D	0.0020	U	ug/L	P412715	
		Acesulfame K	0.10	U	ug/L	P412696	
		2,4,5-T	0.0040	U	ug/L	P412715	
		AMPA	0.10	U	ug/L	P412696	
		Acetaminophen	0.0080	U	ug/L	P412715	
		Acetamiprid	0.0020	U	ug/L	P412715	
		Endothall	0.25	U	ug/L	P412696	
		Glufosinate	0.10	U	ug/L	P412696	
		Glyphosate	0.10	U	ug/L	P412696	
		Afidopyropen	0.0020	U	ug/L	P412715	
		Bentazon	8.0E-04	U	ug/L	P412715	
		Sucralose	0.010	U	ug/L	P412696	
		Benzovindiflupyr	0.0020	U	ug/L	P412715	
		Carbamazepine	8.0E-04	U	ug/L	P412715	
		Clothianidin	0.0020	U	ug/L	P412715	
		Dinotefuran	0.0020	U	ug/L	P412715	
		Diuron	0.0020	U	ug/L	P412715	
		Fenuron	0.032	U	ug/L	P412715	
		Fluridone	8.0E-04	U	ug/L	P412715	
		Imazapyr	0.0050	I	ug/L	P412715	
		Hydrocodone	0.0020	U	ug/L	P412715	
		Ibuprofen	0.020	U	ug/L	P412715	RPD
		Imidacloprid	0.0020	U	ug/L	P412715	
		Linuron	0.0040	U	ug/L	P412715	
		Mandestrobin	0.0020	U	ug/L	P412715	
		MCPP	0.0020	U	ug/L	P412715	
		Naproxen	0.0080	U	ug/L	P412715	
		Primidone	0.0040	U	ug/L	P412715	
		Pyraclostrobin	0.0020	U	ug/L	P412715	
		Silvex	0.0040	U	ug/L	P412715	
		Thiamethoxam	0.0020	U	ug/L	P412715	
		Tolfenpyrad	0.0020	U	ug/L	P412715	
		Triclopyr	0.0040	U	ug/L	P412715	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: STEVENS BR @ CR 204

Collection Date/Time: 04/20/2022 11:05

Field ID: 27010062

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2321136	DEP SOP: NU-094-1	Color (true)**	550		PCU	P412727	
	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P412724	
	EPA 300.0 Rev. 2.1	Chloride	22	A	mg Cl/L	P413119	
		Sulfate	0.64	A	mg SO4/L	P413122	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P413184	
	SM 2540 C-2011	TDS	154		mg/L	P413196	
	SM 2540 D-2011	TSS	2	I	mg/L	P413199	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P413189	
2321137	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P413375	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P413211	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P412880	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P413335	
	SM 5310 B-2011	Organic Carbon	54		mg C/L	P412971	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P412727

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412724

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413119

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413122

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413375

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413211

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412880

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413335

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

Reference Method: EPA 8321B
Batch ID: P412696

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P412696

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P412715

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	0.020	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: P413184

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

Reference Method: SM 2540 C-2011
Batch ID: P413196

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P413199

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P413189

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P412971

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: P412727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412724

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413119

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413122

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413211

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: P412880

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413335

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

Reference Method: EPA 8321B
Batch ID: P412696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	108		P	40 - 150
Endothall	101		P	40 - 150
Glufosinate	108		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P412696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	97.9		P	40 - 150
Sucralose	96.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P412715

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	56.2		P	30 - 160
2,4,5-T	49.8		P	30 - 160
Acetaminophen	49.6		P	30 - 150
Acetamiprid	75.8		P	30 - 160
Afidopyropen	47.2		P	30 - 160
Bentazon	47.0		P	30 - 150
Benzovindiflupyr	76.8		P	30 - 160
Carbamazepine	80.8		P	30 - 160
Clothianidin	89.6		P	30 - 160
Dinotefuran	85.5		P	30 - 160
Diuron	86.3		P	30 - 160
Fenuron	110		P	30 - 160
Fluridone	87.8		P	30 - 160
Hydrocodone	80.2		P	30 - 160
Ibuprofen	48.6		P	30 - 160
Imazapyr	81.8		P	30 - 160
Imidacloprid	90.8		P	30 - 160
Linuron	75.3		P	30 - 160
Mandestrobin	84.7		P	30 - 160
MCPP	71.3		P	30 - 160
Naproxen	76.0		P	30 - 160
Primidone	78.6		P	30 - 160
Pyraclostrobin	82.0		P	30 - 160
Silvex	48.1		P	30 - 160
Thiamethoxam	86.7		P	30 - 160
Tolfenpyrad	46.1		P	30 - 160
Triclopyr	48.2		P	30 - 160

Reference Method: SM 2320 B-2011
Batch ID: P413184

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

Reference Method: SM 4500-F- C-2011
Batch ID: P413189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P412971

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321136	Chloride	101		P	90 - 110
2321216	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413122

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321136	Sulfate	99.7		P	90 - 110
2321216	Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320999	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320960	Kjeldahl Nitrogen	99.7	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321060	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321225	Total-P	107	106	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P412696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320528	Acesulfame K	94.5	92.1	P/P	40 - 150
2320528	AMPA	73.6	71.0	P/P	40 - 150
2320528	Endothall	99.8	96.4	P/P	40 - 150
2320528	Glufosinate	80.6	82.3	P/P	40 - 150
2320528	Glyphosate	68.3	68.5	P/P	40 - 150
2320528	Sucralose	105	100	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P412715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321005	2,4-D	101	77.5	P/P	30 - 160
2321005	2,4,5-T	73.5	66.8	P/P	30 - 160
2321005	Acetaminophen	96.9	90.9	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P412715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321005	Acetamiprid	98.3	89.4	P/P	30 - 160
2321005	Afidopyropen	52.7	47.5	P/P	30 - 160
2321005	Benzovindiflupyr	76.7	78.9	P/P	30 - 160
2321005	Carbamazepine	82.3	78.8	P/P	30 - 160
2321005	Clothianidin	121	122	P/P	30 - 160
2321005	Dinotefuran	119	119	P/P	30 - 160
2321005	Diuron	75.0	72.5	P/P	30 - 160
2321005	Fenuron	87.6	85.3	P/P	30 - 160
2321005	Fluridone	80.6	73.1	P/P	30 - 160
2321005	Hydrocodone	90.2	86.8	P/P	30 - 160
2321005	Ibuprofen	62.5	42.1	P/P	30 - 160
2321005	Imidacloprid	158	156	P/P	30 - 160
2321005	Linuron	69.0	60.7	P/P	30 - 160
2321005	Mandestrobin	84.8	78.9	P/P	30 - 160
2321005	MCPP	95.3	87.5	P/P	30 - 160
2321005	Naproxen	52.1	56.8	P/P	30 - 160
2321005	Primidone	111	105	P/P	30 - 160
2321005	Pyraclostrobin	81.1	79.5	P/P	30 - 160
2321005	Silvex	69.6	66.1	P/P	30 - 160
2321005	Thiamethoxam	146	139	P/P	30 - 160
2321005	Tolfenpyrad	37.5	43.5	P/P	30 - 160
2321005	Triclopyr	75.2	67.9	P/P	30 - 160

Reference Method: SM 4500-F- C-2011
Batch ID: P413189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2320888	Fluoride	102	102	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P412971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2321000	Organic Carbon	93.6	94.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P412727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321013	Color (true)	0.326	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P412724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321153	Turbidity	6.58	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321136	Chloride	0.535	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321136	Sulfate	0.671	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320999	Ammonia-N	0.207	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320960	Kjeldahl Nitrogen	3.18	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P412880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321060	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321225	Total-P	0.871	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P412696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320528	Acesulfame K	2.65	Spike	P	0 - 30
2320528	AMPA	2.48	Spike	P	0 - 30
2320528	Endothall	3.55	Spike	P	0 - 30
2320528	Glufosinate	2.17	Spike	P	0 - 30
2320528	Glyphosate	0.137	Spike	P	0 - 30
2320528	Sucralose	3.90	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P412715

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321005	2,4-D	17.6	Spike	P	0 - 30
2321005	2,4,5-T	9.54	Spike	P	0 - 30
2321005	Acetaminophen	6.44	Spike	P	0 - 30
2321005	Acetamiprid	9.55	Spike	P	0 - 30
2321005	Afidopyropen	10.4	Spike	P	0 - 30
2321005	Bentazon	10.6	Spike	P	0 - 30
2321005	Benzovindiflupyr	2.81	Spike	P	0 - 30
2321005	Carbamazepine	3.93	Spike	P	0 - 30
2321005	Clothianidin	0.673	Spike	P	0 - 30
2321005	Dinotefuran	0.299	Spike	P	0 - 30
2321005	Diuron	3.32	Spike	P	0 - 30
2321005	Fenuron	2.64	Spike	P	0 - 30
2321005	Fluridone	6.21	Spike	P	0 - 30
2321005	Hydrocodone	3.93	Spike	P	0 - 30
2321005	Ibuprofen	39.0	Spike	F	0 - 30
2321005	Imazapyr	4.14	Spike	P	0 - 30
2321005	Imidacloprid	1.45	Spike	P	0 - 30
2321005	Linuron	12.8	Spike	P	0 - 30
2321005	Mandestrobin	7.33	Spike	P	0 - 30
2321005	MCPP	8.52	Spike	P	0 - 30
2321005	Naproxen	8.56	Spike	P	0 - 30
2321005	Primidone	5.28	Spike	P	0 - 30
2321005	Pyraclostrobin	1.98	Spike	P	0 - 30
2321005	Silvex	5.18	Spike	P	0 - 30
2321005	Thiamethoxam	5.15	Spike	P	0 - 30
2321005	Tolfenpyrad	14.8	Spike	P	0 - 30
2321005	Triclopyr	10.2	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P413184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320888	Total Alkalinity	0.974	Sample	P	0 - 5.2

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P413196

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321059	TDS	7.55	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P413189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2320888	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P412971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2321000	Organic Carbon	0.466	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2321142

Field Sample ID: G5NE0600

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.8	P	30 - 160
EPA 8321B	Diuron-d6	70.6	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.5	P	30 - 160
EPA 8321B	Primidone-d5	94.5	P	30 - 160
EPA 8321B	Sucralose-d6	87.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111613

Included Lab Sample IDs: 2321136

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

Reference Method: DEP SOP: NU-094-1

Run ID: A111614

Included Lab Sample IDs: 2321136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	104	P/P	85 - 115

Reference Method: EPA 8321B

Run ID: A111654

Included Lab Sample IDs: 2321142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	97.7	98.5	P/P	60 - 160
Sucralose	96.8	98.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111655

Included Lab Sample IDs: 2321142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	110	113	P/P	60 - 160
Endothall	104	103	P/P	60 - 160
Glufosinate	107	112	P/P	60 - 160
Glyphosate	101	102	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111688

Included Lab Sample IDs: 2321137

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A111715

Included Lab Sample IDs: 2321136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.9	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111725

Included Lab Sample IDs: 2321137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.7	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A111767
Included Lab Sample IDs: 2321142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.0	86.5	P/P	50 - 150
2,4,5-T	101	90.1	P/P	50 - 150
Acetaminophen	68.8	89.1	P/P	60 - 160
Acetamiprid	97.2	96.1	P/P	50 - 150
Afidopyropen	77.8	62.6	P/P	50 - 150
Bentazon	92.9	103	P/P	50 - 160
Benzovindiflupyr	93.6	69.1	P/P	50 - 150
Carbamazepine	85.7	84.3	P/P	60 - 150
Clothianidin	92.1	89.1	P/P	60 - 150
Dinotefuran	73.5	84.8	P/P	50 - 150
Diuron	97.3	92.5	P/P	60 - 160
Fenuron	99.3	97.4	P/P	60 - 150
Fluridone	99.2	95.9	P/P	60 - 160
Hydrocodone	86.4	88.1	P/P	60 - 150
Ibuprofen	106	64.7	P/P	50 - 160
Imazapyr	82.8	86.1	P/P	50 - 150
Imidacloprid	85.0	84.3	P/P	60 - 150
Linuron	90.2	106	P/P	60 - 150
Mandestrobin	94.5	85.3	P/P	50 - 150
MCPP	79.5	74.5	P/P	50 - 150
Naproxen	66.6	78.9	P/P	50 - 160
Primidone	79.9	88.6	P/P	60 - 150
Pyraclostrobin	105	78.2	P/P	60 - 150
Silvex	81.2	80.2	P/P	50 - 150
Thiamethoxam	89.2	82.8	P/P	50 - 150
Tolfenpyrad	86.3	66.8	P/P	60 - 150
Triclopyr	87.8	76.2	P/P	50 - 150

Reference Method: SM 2320 B-2011
Run ID: A111826
Included Lab Sample IDs: 2321136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.5	96.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A111826
Included Lab Sample IDs: 2321136

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A111914
Included Lab Sample IDs: 2321137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111960

Included Lab Sample IDs: 2321137

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111973

Included Lab Sample IDs: 2321137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	99.0	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	99.8				0.326	
EPA 180.1 Rev. 2.0	Turbidity	95.8				6.58	
EPA 300.0 Rev. 2.1	Chloride	100	101	100		0.535	
	Sulfate	99.6	99.7	98.7		0.671	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	101	101			0.207
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.7	104			3.18
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	100	100			0.0
EPA 365.1 Rev. 2.0	Total-P	103	107	106			0.871
EPA 8321B	2,4-D	56.2	101	77.5			17.6
	2,4,5-T	49.8	73.5	66.8			9.54
	Acesulfame K	103	94.5	92.1			2.65
	Acetaminophen	49.6	96.9	90.9			6.44
	Acetamiprid	75.8	98.3	89.4			9.55
	Afidopyropen	47.2	52.7	47.5			10.4
	AMPA	108	73.6	71.0			2.48
	Bentazon	47.0					10.6
	Benzovindiflupyr	76.8	76.7	78.9			2.81
	Carbamazepine	80.8	82.3	78.8			3.93
	Clothianidin	89.6	121	122			0.673
	Dinotefuran	85.5	119	119			0.299
	Diuron	86.3	75.0	72.5			3.32
	Endothall	101	99.8	96.4			3.55
	Fenuron	110	87.6	85.3			2.64
	Fluridone	87.8	80.6	73.1			6.21
	Glufosinate	108	80.6	82.3			2.17
	Glyphosate	97.9	68.3	68.5			0.137
	Hydrocodone	80.2	90.2	86.8			3.93
	Ibuprofen	48.6	62.5	42.1			39.0
	Imazapyr	81.8					4.14
	Imidacloprid	90.8	158	156			1.45
	Linuron	75.3	69.0	60.7			12.8
	Mandestrobin	84.7	84.8	78.9			7.33
	MCPP	71.3	95.3	87.5			8.52
	Naproxen	76.0	52.1	56.8			8.56
	Primidone	78.6	111	105			5.28
	Pyraclostrobin	82.0	81.1	79.5			1.98
	Silvex	48.1	69.6	66.1			5.18
	Sucralose	96.1	105	100			3.90
	Thiamethoxam	86.7	146	139			5.15
	Tolfenpyrad	46.1	37.5	43.5			14.8
	Triclopyr	48.2	75.2	67.9			10.2
SM 2320 B-2011	Total Alkalinity	101				0.974	
SM 2540 C-2011	TDS					7.55	
SM 4500-F- C-2011	Fluoride	101	102	102			0.0
SM 5310 B-2011	Organic Carbon	95.5	93.6	94.2			0.466

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2321136
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2321136
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2321136
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2321136

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2321137
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2321137
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2321137
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2321137
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2321142
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2321136
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2321136
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2321136
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2321136
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2321137

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	04/21/2022			04/21/2022 17:29	Samantha L Bates	2321136
EPA 180.1 Rev. 2.0	04/21/2022			04/21/2022 15:11	Khloe J Berg	2321136
EPA 300.0 Rev. 2.1	04/21/2022			04/27/2022 23:38	James L Waggerby	2321136
EPA 350.1 Rev. 2.0	04/21/2022			05/04/2022 16:59	Judith K. Clark	2321137
EPA 351.2 Rev. 2.0	04/21/2022	05/03/2022 16:44	Samantha L Bates	05/05/2022 12:01	Samantha L Bates	2321137
EPA 353.2 Rev. 2.0	04/21/2022			04/26/2022 10:06	Beverly Y. Sanders	2321137
EPA 365.1 Rev. 2.0	04/21/2022	05/04/2022 17:30	Simonne.V. Calhoun	05/06/2022 15:13	James L Waggerby	2321137
EPA 8321B	04/21/2022	04/22/2022 09:00	June Rhew	04/23/2022 15:24	Juyoung Kim	2321142
	04/21/2022	04/22/2022 10:00	Manjita Shrestha	04/23/2022 02:07	Manjita Shrestha	2321142
	04/21/2022	04/22/2022 10:00	Manjita Shrestha	04/24/2022 01:16	Manjita Shrestha	2321142
SM 2320 B-2011	04/21/2022			04/30/2022 19:32	Dale L. Simmons	2321136
SM 2540 C-2011	04/21/2022			04/22/2022 15:36	Yijie Li	2321136
SM 2540 D-2011	04/21/2022			04/22/2022 15:36	Yijie Li	2321136
SM 4500-F- C-2011	04/21/2022			04/30/2022 19:32	Dale L. Simmons	2321136
SM 5310 B-2011	04/21/2022			04/26/2022 20:33	Khloe J Berg	2321137