

Chemical Analysis Report

SE-DIST-2022-03-22-01

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

Event Description: **Bessey Creek Deploy (in-house)**

Request ID: **RQ-2022-03-21-46**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

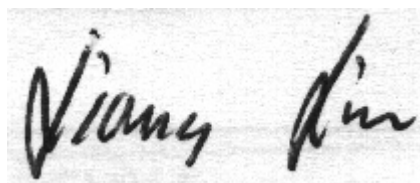
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Drew Liddick

For additional information please contact

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 08-APR-2022 13:50

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: Danforth Creek @ Martin Hwy

Collection Date/Time: 03/21/2022 11:00

Field ID: G2SE0018

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313460	DEP SOP: NU-094-1	Color (true)**	66	A	PCU	P411450	
	EPA 180.1 Rev. 2.0	Turbidity	6.4		NTU	P411421	
	EPA 300.0 Rev. 2.1	Chloride	62		mg Cl/L	P411617	
		Sulfate	11		mg SO4/L	P411619	
	SM 2320 B-2011	Total Alkalinity	201		mg CaCO3/L	P411602	
	SM 2540 C-2011	TDS	341		mg/L	P411622	
	SM 2540 D-2011	TSS	3	I	mg/L	P411584	
	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P411605	
2313461	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P411489	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P411531	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P411481	
	EPA 365.1 Rev. 2.0	Total-P	0.085		mg P/L	P411462	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P411595	
2313467	EPA 8321B	2,4-D	0.0043	I	ug/L	P411506	
		Acesulfame K	0.20	I	ug/L	P411448	
		2,4,5-T	0.0040	U	ug/L	P411506	
		AMPA	0.32	I	ug/L	P411448	
		Acetaminophen	0.0080	U	ug/L	P411506	
		Acetamiprid	0.0020	U	ug/L	P411506	
		Endothall	0.25	U	ug/L	P411448	
		Glufosinate	0.10	U	ug/L	P411448	
		Glyphosate	0.46		ug/L	P411448	
		Afidopyropen	0.0020	U	ug/L	P411506	
		Bentazon	0.089		ug/L	P411506	
		Sucralose	0.30		ug/L	P411448	
		Benzovindiflupyr	0.0020	U	ug/L	P411506	
		Carbamazepine	8.0E-04	U	ug/L	P411506	
		Clothianidin	0.0020	U	ug/L	P411506	
		Dinotefuran	0.0020	U	ug/L	P411506	
		Diuron	0.0020	UJ	ug/L	P411506	RPD
		Fenuron	0.016	U	ug/L	P411506	
		Fluridone	0.0036		ug/L	P411506	
		Imazapyr	0.30		ug/L	P411506	
		Hydrocodone	0.0020	U	ug/L	P411506	
		Ibuprofen	0.020	U	ug/L	P411506	
		Imidacloprid	0.0030	I J	ug/L	P411506	MS
		Linuron	0.0040	U	ug/L	P411506	
		Mandestrobin	0.0020	U	ug/L	P411506	
		MCPP	0.0020	U	ug/L	P411506	
		Naproxen	0.0080	U	ug/L	P411506	
		Primidone	0.0040	U	ug/L	P411506	
		Pyraclostrobin	0.0020	U	ug/L	P411506	
		Silvex	0.0040	U	ug/L	P411506	
		Thiamethoxam	0.0025	I J	ug/L	P411506	MS

Field ID: G2SE0018

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313467	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P411506	
		Triclopyr	0.0040	U	ug/L	P411506	

Ref. Method and Comment:
EPA 8321B: MS accuracy for bentazon could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P411450

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411421

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411617

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411619

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411489

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411531

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411481

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411462

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

Reference Method: EPA 8321B
Batch ID: P411448

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: P411448

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

Reference Method: EPA 8321B
Batch ID: P411506

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	0.022	I	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: P411602

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

Reference Method: SM 2540 C-2011
Batch ID: P411622

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P411584

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P411605

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P411595

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: P411450

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411421

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411617

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411619

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411489

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411531

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411481

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: P411462

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

Reference Method: EPA 8321B
Batch ID: P411448

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	110		P	40 - 150
AMPA	109		P	40 - 150
Endothall	126		P	40 - 150
Glufosinate	121		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P411448

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	114		P	40 - 150
Sucralose	119		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P411506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	47.7		P	30 - 160
2,4,5-T	40.3		P	30 - 160
Acetaminophen	90.6		P	30 - 150
Acetamiprid	75.6		P	30 - 160
Afidopyropen	45.7		P	30 - 160
Bentazon	77.9		P	30 - 150
Benzovindiflupyr	76.0		P	30 - 160
Carbamazepine	59.9		P	30 - 160
Clothianidin	98.1		P	30 - 160
Dinotefuran	90.4		P	30 - 160
Diuron	64.3		P	30 - 160
Fenuron	122		P	30 - 160
Fluridone	66.4		P	30 - 160
Hydrocodone	92.2		P	30 - 160
Ibuprofen	68.8		P	30 - 160
Imazapyr	95.6		P	30 - 160
Imidacloprid	84.8		P	30 - 160
Linuron	69.1		P	30 - 160
Mandestrobin	62.2		P	30 - 160
MCPP	58.9		P	30 - 160
Naproxen	84.3		P	30 - 160
Primidone	83.3		P	30 - 160
Pyraclostrobin	66.7		P	30 - 160
Silvex	35.4		P	30 - 160
Thiamethoxam	98.5		P	30 - 160
Tolfenpyrad	42.5		P	30 - 160
Triclopyr	43.1		P	30 - 160

Reference Method: SM 2320 B-2011

Batch ID: P411602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P411605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P411595

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: P411617

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313417	Chloride	94.7		P	90 - 110
2313566	Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411619

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313417	Sulfate	96.0		P	90 - 110
2313566	Sulfate	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313422	Ammonia-N	96.2	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313422	Kjeldahl Nitrogen	94.0	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313339	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313420	Total-P	103	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P411448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313467	Acesulfame K	143	140	P/P	40 - 150
2313467	AMPA	75.1	102	P/P	40 - 150
2313467	Endothall	83.1	83.7	P/P	40 - 150
2313467	Glufosinate	96.8	119	P/P	40 - 150
2313467	Glyphosate	71.9	95.4	P/P	40 - 150
2313467	Sucralose	112	117	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P411506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313467	2,4-D	85.3	78.7	P/P	30 - 160
2313467	2,4,5-T	59.9	69.4	P/P	30 - 160
2313467	Acetaminophen	107	92.2	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P411506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313467	Acetamiprid	104	98.0	P/P	30 - 160
2313467	Afidopyropen	78.9	66.1	P/P	30 - 160
2313467	Benzovindiflupyr	82.4	87.3	P/P	30 - 160
2313467	Carbamazepine	80.3	74.7	P/P	30 - 160
2313467	Clothianidin	128	127	P/P	30 - 160
2313467	Dinotefuran	135	130	P/P	30 - 160
2313467	Diuron	61.7	43.1	P/P	30 - 160
2313467	Fenuron	110	124	P/P	30 - 160
2313467	Fluridone	75.0	67.3	P/P	30 - 160
2313467	Hydrocodone	117	108	P/P	30 - 160
2313467	Ibuprofen	87.8	82.0	P/P	30 - 160
2313467	Imazapyr	138	134	P/P	30 - 160
2313467	Imidacloprid	235	211	F/F	30 - 160
2313467	Linuron	98.1	78.7	P/P	30 - 160
2313467	Mandestrobin	68.4	64.7	P/P	30 - 160
2313467	MCP	88.1	77.4	P/P	30 - 160
2313467	Naproxen	75.7	68.0	P/P	30 - 160
2313467	Primidone	125	110	P/P	30 - 160
2313467	Pyraclostrobin	79.8	79.9	P/P	30 - 160
2313467	Silvex	64.0	66.3	P/P	30 - 160
2313467	Thiamethoxam	190	170	F/F	30 - 160
2313467	Tolfenpyrad	46.0	39.7	P/P	30 - 160
2313467	Triclopyr	62.6	63.9	P/P	30 - 160

Reference Method: SM 4500 F-C-2011

Batch ID: P411605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313867	Fluoride	96.0	94.1	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P411595

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313461	Organic Carbon	99.0	99.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P411450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313460	Color (true)	19.0	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313417	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313417	Chloride	0.00200	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313417	Sulfate	0.521	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313422	Ammonia-N	0.987	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313422	Kjeldahl Nitrogen	11.9	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313339	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313420	Total-P	1.92	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P411448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313467	Acesulfame K	2.20	Spike	P	0 - 30
2313467	AMPA	26.5	Spike	P	0 - 30
2313467	Endothall	0.772	Spike	P	0 - 30
2313467	Glufosinate	20.8	Spike	P	0 - 30
2313467	Glyphosate	23.0	Spike	P	0 - 30
2313467	Sucralose	4.19	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P411506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313467	2,4-D	7.58	Spike	P	0 - 30
2313467	2,4,5-T	14.6	Spike	P	0 - 30
2313467	Acetaminophen	14.6	Spike	P	0 - 30
2313467	Acetamiprid	5.66	Spike	P	0 - 30
2313467	Afidopyropen	17.7	Spike	P	0 - 30
2313467	Bentazon	6.70	Spike	P	0 - 30
2313467	Benzovindiflupyr	5.82	Spike	P	0 - 30
2313467	Carbamazepine	7.23	Spike	P	0 - 30
2313467	Clothianidin	0.659	Spike	P	0 - 30
2313467	Dinotefuran	3.66	Spike	P	0 - 30
2313467	Diuron	35.5	Spike	F	0 - 30
2313467	Fenuron	12.2	Spike	P	0 - 30
2313467	Fluridone	8.64	Spike	P	0 - 30
2313467	Hydrocodone	8.08	Spike	P	0 - 30
2313467	Ibuprofen	6.90	Spike	P	0 - 30
2313467	Imazapyr	0.694	Spike	P	0 - 30
2313467	Imidacloprid	10.7	Spike	P	0 - 30
2313467	Linuron	21.9	Spike	P	0 - 30
2313467	Mandestrobin	5.53	Spike	P	0 - 30
2313467	MCPP	13.0	Spike	P	0 - 30
2313467	Naproxen	10.7	Spike	P	0 - 30
2313467	Primidone	12.8	Spike	P	0 - 30
2313467	Pyraclostrobin	0.116	Spike	P	0 - 30
2313467	Silvex	3.47	Spike	P	0 - 30
2313467	Thiamethoxam	10.9	Spike	P	0 - 30
2313467	Tolfenpyrad	14.7	Spike	P	0 - 30
2313467	Triclopyr	2.19	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P411602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313867	Total Alkalinity	0.862	Sample	P	0 - 5.2

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P411622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313265	TDS	5.04	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P411584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313265	TSS	6.06	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P411605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313867	Fluoride	0.973	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P411595

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313461	Organic Carbon	0.350	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2313467

Field Sample ID: G2SE0018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	74.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.6	P	30 - 160
EPA 8321B	Diuron-d6	43.6	P	30 - 160
EPA 8321B	Endothall-d6	90.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	49.3	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A111070

Included Lab Sample IDs: 2313460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.8	98.3	P/P	90 - 110
Sulfate	98.3	98.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111088

Included Lab Sample IDs: 2313460

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: A111099

Included Lab Sample IDs: 2313460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	99.4	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111105

Included Lab Sample IDs: 2313461

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A111108

Included Lab Sample IDs: 2313461

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A111155

Included Lab Sample IDs: 2313461

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.1	95.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A111156

Included Lab Sample IDs: 2313460

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.1	97.3	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A111156

Included Lab Sample IDs: 2313460

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111157

Included Lab Sample IDs: 2313461

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111169

Included Lab Sample IDs: 2313467

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	106	P/P	60 - 160
Glufosinate	98.6	103	P/P	60 - 160
Glyphosate	101	102	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111179

Included Lab Sample IDs: 2313467

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	104	P/P	60 - 160
Endothall	99.2	101	P/P	60 - 160
Sucralose	108	111	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111189

Included Lab Sample IDs: 2313467

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	67.3	95.4	P/P	50 - 150
2,4,5-T	75.0	83.8	P/P	50 - 150
Acetaminophen	122	118	P/P	60 - 160
Acetamiprid	99.8	102	P/P	50 - 150
Afidopyropen	80.5	64.1	P/P	50 - 150
Benzovindiflupyr	98.3	96.2	P/P	50 - 160
Carbamazepine	74.2	91.4	P/P	60 - 150
Clothianidin	118	124	P/P	60 - 150
Dinotefuran	110	116	P/P	50 - 150
Diuron	74.7	66.0	P/P	60 - 160
Fenuron	103	107	P/P	60 - 150
Fluridone	81.7	87.6	P/P	60 - 160
Hydrocodone	107	107	P/P	60 - 150
Ibuprofen	144	119	P/P	50 - 160
Imazapyr	108	104	P/P	50 - 150
Imidacloprid	104	100	P/P	60 - 150
Linuron	110	87.0	P/P	60 - 150
Mandestrobin	67.8	69.8	P/P	50 - 150
MCPP	78.3	80.2	P/P	50 - 150
Naproxen	125	93.7	P/P	50 - 160
Primidone	110	104	P/P	60 - 150
Pyraclostrobin	94.1	97.9	P/P	60 - 150
Silvex	83.5	82.0	P/P	50 - 150
Thiamethoxam	110	124	P/P	50 - 150
Tolfenpyrad	94.7	81.3	P/P	60 - 150
Triclopyr	68.8	74.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111196

Included Lab Sample IDs: 2313461

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111346

Included Lab Sample IDs: 2313467

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	95.2	103	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	
DEP SOP: NU-094-1	Color (true)	99.0				19.0	
EPA 180.1 Rev. 2.0	Turbidity	96.6				0.0	
EPA 300.0 Rev. 2.1	Chloride	97.5	94.7	97.8		0.0020	
	Sulfate	97.2	96.0	97.4		0.521	
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	96.2	97.4			0.987
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	94.0	109			11.9
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	102	102			0.0
EPA 365.1 Rev. 2.0	Total-P	102	103	100			1.92
EPA 8321B	2,4-D	47.7	85.3	78.7			7.58
	2,4,5-T	40.3	59.9	69.4			14.6
	Acesulfame K	110	143	140			2.20
	Acetaminophen	90.6	107	92.2			14.6
	Acetamiprid	75.6	104	98.0			5.66
	Afidopyropen	45.7	78.9	66.1			17.7
	AMPA	109	75.1	102			26.5
	Bentazon	77.9					6.70
	Benzovindiflupyr	76.0	82.4	87.3			5.82
	Carbamazepine	59.9	80.3	74.7			7.23
	Clothianidin	98.1	128	127			0.659
	Dinotefuran	90.4	135	130			3.66
	Diuron	64.3	61.7	43.1			35.5
	Endothall	126	83.1	83.7			0.772
	Fenuron	122	110	124			12.2
	Fluridone	66.4	75.0	67.3			8.64
	Glufosinate	121	96.8	119			20.8
	Glyphosate	114	71.9	95.4			23.0
	Hydrocodone	92.2	117	108			8.08
	Ibuprofen	68.8	87.8	82.0			6.90
	Imazapyr	95.6	138	134			0.694
	Imidacloprid	84.8	235	211			10.7
	Linuron	69.1	98.1	78.7			21.9
	Mandestrobin	62.2	68.4	64.7			5.53
	MCPP	58.9	88.1	77.4			13.0
	Naproxen	84.3	75.7	68.0			10.7
	Primidone	83.3	125	110			12.8
	Pyraclostrobin	66.7	79.8	79.9			0.116
	Silvex	35.4	64.0	66.3			3.47
	Sucralose	119	112	117			4.19
	Thiamethoxam	98.5	190	170			10.9
	Tolfenpyrad	42.5	46.0	39.7			14.7
	Triclopyr	43.1	62.6	63.9			2.19
SM 2320 B-2011	Total Alkalinity	98.4				0.862	
SM 2540 C-2011	TDS					5.04	
SM 2540 D-2011	TSS					6.06	
SM 4500 F-C-2011	Fluoride	97.2	96.0	94.1			0.973
SM 5310 B-2011	Organic Carbon	95.6	99.0	99.6			0.350

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2313460
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2313460
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2313460

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2313460
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2313461
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2313461
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2313461
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2313461
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2313467
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2313460
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2313460
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2313460
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2313460
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2313461

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	03/22/2022			03/22/2022 14:58	Blanca Fach	2313460
EPA 180.1 Rev. 2.0	03/22/2022			03/22/2022 15:27	Anna M. Plaviak	2313460
EPA 300.0 Rev. 2.1	03/22/2022			03/24/2022 13:52	James L Waggeberby	2313460
EPA 350.1 Rev. 2.0	03/22/2022			03/23/2022 12:36	Judith K. Clark	2313461
EPA 351.2 Rev. 2.0	03/22/2022	03/25/2022 10:06	Samantha L Bates	03/28/2022 14:43	Alexandra J Mattheus	2313461
EPA 353.2 Rev. 2.0	03/22/2022			03/23/2022 10:08	Beverly Y. Sanders	2313461
EPA 365.1 Rev. 2.0	03/22/2022	03/23/2022 17:20	Simonne.V. Calhoun	03/25/2022 13:14	Sarah A Nixon	2313461
EPA 8321B	03/22/2022	03/24/2022 09:30	June Rhew	03/26/2022 21:56	Juyoung Kim	2313467
	03/22/2022	03/24/2022 09:30	June Rhew	04/01/2022 00:22	Juyoung Kim	2313467
	03/22/2022	03/24/2022 15:00	Manjita Shrestha	03/25/2022 19:35	Manjita Shrestha	2313467
	03/22/2022	03/24/2022 15:00	Manjita Shrestha	03/26/2022 05:09	Manjita Shrestha	2313467
SM 2320 B-2011	03/22/2022			03/25/2022 00:54	Dale L. Simmons	2313460
SM 2540 C-2011	03/22/2022			03/23/2022 14:22	Yijie Li	2313460
SM 2540 D-2011	03/22/2022			03/23/2022 14:22	Yijie Li	2313460
SM 4500 F-C-2011	03/22/2022			03/25/2022 00:54	Dale L. Simmons	2313460
SM 5310 B-2011	03/22/2022			03/24/2022 14:56	Khloe J Berg	2313461