

Chemical Analysis Report

SO-DIST-2022-09-27-02

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

Event Description: **2022 SMP : Bonnet Creek**
Request ID: **RQ-2022-09-26-38**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 19-OCT-2022 12:53



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: BonnetCreekAtoldBmbngRd

Collection Date/Time: 09/26/2022 12:15

Field ID: G4SD0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2359597	DEP SOP: NU-094-1	Color (true)	360		PCU	P420178	
	EPA 180.1 Rev. 2.0	Turbidity	4.6	A	NTU	P420183	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P420332	
		Sulfate	20		mg SO4/L	P420335	
	SM 2320 B-2011	Total Alkalinity	59		mg CaCO3/L	P420554	
	SM 2540 C-2011	TDS	222	A	mg/L	P420666	
	SM 2540 D-2011	TSS	4	IA	mg/L	P420671	
	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P420558	MS
2359598	EPA 350.1 Rev. 2.0	Ammonia-N	2.7		mg N/L	P420590	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	5.4		mg N/L	P420271	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.7		mg N/L	P420498	
	EPA 365.1 Rev. 2.0	Total-P	1.8		mg P/L	P420286	
	SM 5310 B-2011	Organic Carbon	35		mg C/L	P420537	
2359602	EPA 8321B	2,4-D	0.013		ug/L	P420279	
		Acesulfame K	0.10	U	ug/L	P420170	
		2,4,5-T	0.0040	U	ug/L	P420279	
		AMPA	0.55		ug/L	P420170	
		Acetaminophen	0.0080	U	ug/L	P420279	
		Acetamiprid	0.0020	U	ug/L	P420279	
		Endothall	0.25	U	ug/L	P420170	MS
		Glufosinate	0.10	U	ug/L	P420170	
		Glyphosate	0.59		ug/L	P420170	
		Afidopyropen	0.0020	U	ug/L	P420279	
		Bentazon	0.0060		ug/L	P420279	
		Sucralose	0.073		ug/L	P420170	
		Benzovindiflupyr	0.0020	U	ug/L	P420279	
		Carbamazepine	8.0E-04	U	ug/L	P420279	
		Clothianidin	0.11		ug/L	P420279	
		Dinotefuran	0.0020	U	ug/L	P420279	
		Diuron	0.0046	I	ug/L	P420279	
		Fenuron	0.032	U	ug/L	P420279	
		Fluridone	8.0E-04	U	ug/L	P420279	
		Imazapyr	0.0074	I	ug/L	P420279	
		Hydrocodone	0.0020	U	ug/L	P420279	
		Ibuprofen	0.020	U	ug/L	P420279	
		Imidacloprid	0.16		ug/L	P420279	
		Linuron	0.0040	U	ug/L	P420279	
		Mandestrobin	0.0020	U	ug/L	P420279	
		MCP	0.0020	U	ug/L	P420279	
		Naproxen	0.0080	U	ug/L	P420279	
		Primidone	0.0040	U	ug/L	P420279	
		Pyraclostrobin	0.0020	U	ug/L	P420279	
		Silvex	0.0040	U	ug/L	P420279	
		Thiamethoxam	0.63		ug/L	P420279	

Field ID: G4SD0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2359602	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P420279	
		Triclopyr	0.0040	U	ug/L	P420279	

Ref. Method and Comment:
SM 2320 B-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: MS accuracy for bentazon could not be assessed due to a high concentration of parameters in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P420178

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P420183

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420332

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420335

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420590

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420271

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420498

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P420286

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

Reference Method: EPA 8321B
Batch ID: P420170

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: P420170

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

Reference Method: EPA 8321B
Batch ID: P420279

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: P420554

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

Reference Method: SM 2540 C-2011
Batch ID: P420666

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P420671

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P420558

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P420537

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: P420178

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: P420183

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420332

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420335

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420271

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420498

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P420286

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

Reference Method: EPA 8321B
Batch ID: P420170

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	106		P	40 - 150
AMPA	109		P	40 - 150
Endothall	97.8		P	40 - 150
Glufosinate	91.6		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P420170

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	103		P	40 - 150
Sucralose	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P420279

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.8		P	30 - 160
2,4,5-T	89.5		P	30 - 160
Acetaminophen	98.4		P	30 - 150
Acetamiprid	78.8		P	30 - 160
Afidopyropen	65.3		P	30 - 160
Bentazon	33.3		P	30 - 150
Benzovindiflupyr	82.6		P	30 - 160
Carbamazepine	75.3		P	30 - 160
Clothianidin	96.1		P	30 - 160
Dinotefuran	95.8		P	30 - 160
Diuron	76.3		P	30 - 160
Fenuron	103		P	30 - 160
Fluridone	97.7		P	30 - 160
Hydrocodone	93.6		P	30 - 160
Ibuprofen	79.3		P	30 - 160
Imazapyr	88.7		P	30 - 160
Imidacloprid	132		P	30 - 160
Linuron	76.2		P	30 - 160
Mandestrobin	86.9		P	30 - 160
MCPP	101		P	30 - 160
Naproxen	98.6		P	30 - 160
Primidone	90.9		P	30 - 160
Pyraclostrobin	91.1		P	30 - 160
Silvex	79.9		P	30 - 160
Thiamethoxam	91.8		P	30 - 160
Tolfenpyrad	44.2		P	30 - 160
Triclopyr	83.3		P	30 - 160

Reference Method: SM 2320 B-2011
Batch ID: P420554

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P420558

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P420537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420332

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359639	Chloride	99.3		P	90 - 110
2359640	Chloride	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359639	Sulfate	96.6		P	90 - 110
2359640	Sulfate	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359744	Ammonia-N	95.6	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359611	NO2NO3-N	99.5	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P420286

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359592	Total-P	108	105	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P420170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359923	Acesulfame K	70.8	70.5	P/P	40 - 150
2359923	AMPA	91.7	90.6	P/P	40 - 150
2359923	Endothall	157	154	F/F	40 - 150
2359923	Glufosinate	86.0	83.4	P/P	40 - 150
2359923	Glyphosate	106	105	P/P	40 - 150
2359923	Sucralose	101	102	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P420279

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359530	2,4-D	106	108	P/P	30 - 160
2359530	2,4,5-T	98.9	97.1	P/P	30 - 160
2359530	Acetaminophen	114	118	P/P	30 - 150
2359530	Acetamiprid	71.5	71.3	P/P	30 - 160
2359530	Afidopyropen	80.4	79.9	P/P	30 - 160
2359530	Benzovindiflupyr	73.6	74.9	P/P	30 - 160
2359530	Carbamazepine	68.8	68.8	P/P	30 - 160
2359530	Clothianidin	111	115	P/P	30 - 160
2359530	Dinotefuran	106	111	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P420279

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359530	Diuron	71.9	67.1	P/P	30 - 160
2359530	Fenuron	85.9	88.1	P/P	30 - 160
2359530	Fluridone	87.6	89.3	P/P	30 - 160
2359530	Hydrocodone	93.6	94.2	P/P	30 - 160
2359530	Ibuprofen	74.2	62.6	P/P	30 - 160
2359530	Imazapyr	99.6	99.4	P/P	30 - 160
2359530	Imidacloprid	117	114	P/P	30 - 160
2359530	Linuron	72.2	69.8	P/P	30 - 160
2359530	Mandestrobin	84.7	83.3	P/P	30 - 160
2359530	MCP	119	116	P/P	30 - 160
2359530	Naproxen	95.4	110	P/P	30 - 160
2359530	Primidone	92.2	97.1	P/P	30 - 160
2359530	Pyraclostrobin	90.8	91.8	P/P	30 - 160
2359530	Silvex	91.9	97.4	P/P	30 - 160
2359530	Thiamethoxam	122	125	P/P	30 - 160
2359530	Tolfenpyrad	47.2	49.1	P/P	30 - 160
2359530	Triclopyr	93.7	95.3	P/P	30 - 160

Reference Method: SM 4500-F- C-2011
Batch ID: P420558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359458	Fluoride	105	104	F/F	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P420537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2359346	Organic Carbon	101		P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P420178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359622	Color (true)	0.0348	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P420183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359597	Turbidity	7.38	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420332

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359639	Chloride	0.329	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P420335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359639	Sulfate	0.132	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359744	Ammonia-N	0.519	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359612	Kjeldahl Nitrogen	4.46	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359611	NO2NO3-N	1.99	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P420286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359592	Total-P	2.19	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P420170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359923	Acesulfame K	0.369	Spike	P	0 - 30
2359923	AMPA	0.607	Spike	P	0 - 30
2359923	Endothall	1.52	Spike	P	0 - 30
2359923	Glufosinate	3.09	Spike	P	0 - 30
2359923	Glyphosate	0.631	Spike	P	0 - 30
2359923	Sucralose	0.550	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P420279

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359530	2,4-D	1.63	Spike	P	0 - 30
2359530	2,4,5-T	1.77	Spike	P	0 - 30
2359530	Acetaminophen	3.80	Spike	P	0 - 30
2359530	Acetamiprid	0.288	Spike	P	0 - 30
2359530	Afidopyropen	0.562	Spike	P	0 - 30
2359530	Bentazon	3.73	Spike	P	0 - 30
2359530	Benzovindiflupyr	1.66	Spike	P	0 - 30
2359530	Carbamazepine	0.00701	Spike	P	0 - 30
2359530	Clothianidin	3.93	Spike	P	0 - 30
2359530	Dinotefuran	5.04	Spike	P	0 - 30
2359530	Diuron	5.39	Spike	P	0 - 30
2359530	Fenuron	2.52	Spike	P	0 - 30
2359530	Fluridone	1.39	Spike	P	0 - 30
2359530	Hydrocodone	0.654	Spike	P	0 - 30
2359530	Ibuprofen	16.9	Spike	P	0 - 30
2359530	Imazapyr	0.222	Spike	P	0 - 30
2359530	Imidacloprid	1.73	Spike	P	0 - 30
2359530	Linuron	3.31	Spike	P	0 - 30
2359530	Mandestrobin	1.74	Spike	P	0 - 30
2359530	MCPP	2.75	Spike	P	0 - 30
2359530	Naproxen	14.1	Spike	P	0 - 30
2359530	Primidone	4.77	Spike	P	0 - 30
2359530	Pyraclostrobin	1.04	Spike	P	0 - 30
2359530	Silvex	5.89	Spike	P	0 - 30
2359530	Thiamethoxam	2.54	Spike	P	0 - 30
2359530	Tolfenpyrad	3.86	Spike	P	0 - 30
2359530	Triclopyr	1.68	Spike	P	0 - 30

Reference Method: SM 2540 C-2011
Batch ID: P420666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359597	TDS	7.64	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P420558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359458	Fluoride	0.948	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P420537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2359346	Organic Carbon	0.212	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2359602

Field Sample ID: G4SD0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	145	P	30 - 160
EPA 8321B	Acetaminophen-d4	120	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.5	P	30 - 160
EPA 8321B	Diuron-d6	54.5	P	30 - 160
EPA 8321B	Endothall-d6	113	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	127	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.2	P	30 - 160
EPA 8321B	Primidone-d5	82.8	P	30 - 160
EPA 8321B	Sucralose-d6	97.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A114965

Included Lab Sample IDs: 2359597

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114967

Included Lab Sample IDs: 2359597

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114999

Included Lab Sample IDs: 2359597

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

Reference Method: EPA 8321B

Run ID: A115068

Included Lab Sample IDs: 2359602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	109	P/P	60 - 160
Endothall	105	95.6	P/P	60 - 160
Glufosinate	88.4	90.7	P/P	60 - 160
Glyphosate	99.0	108	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A115071

Included Lab Sample IDs: 2359602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	107	106	P/P	60 - 160
Sucralose	107	108	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A115078

Included Lab Sample IDs: 2359602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.5	89.1	P/P	50 - 150
2,4,5-T	95.7	93.0	P/P	50 - 150
Acetaminophen	103	103	P/P	60 - 160
Acetamiprid	100	100	P/P	50 - 150
Afidopyropen	96.5	91.9	P/P	50 - 150
Bentazon	101	103	P/P	50 - 160
Benzovindiflupyr	94.8	100	P/P	50 - 150
Carbamazepine	94.1	103	P/P	60 - 150
Clothianidin	97.0	101	P/P	60 - 150
Dinotefuran	103	104	P/P	50 - 150
Diuron	106	112	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A115078
Included Lab Sample IDs: 2359602

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	98.6	98.9	P/P	60 - 150
Fluridone	111	111	P/P	60 - 160
Hydrocodone	98.1	94.5	P/P	60 - 150
Ibuprofen	139	120	P/P	50 - 160
Imazapyr	83.5	73.4	P/P	50 - 150
Imidacloprid	93.3	94.0	P/P	60 - 150
Linuron	102	103	P/P	60 - 150
Mandestrobin	93.4	101	P/P	50 - 150
MCPP	92.5	92.9	P/P	50 - 150
Naproxen	78.3	72.7	P/P	50 - 160
Primidone	101	97.9	P/P	60 - 150
Pyraclostrobin	109	109	P/P	60 - 150
Silvex	94.1	93.1	P/P	50 - 150
Thiamethoxam	94.4	93.1	P/P	50 - 150
Tolfenpyrad	94.8	96.9	P/P	60 - 150
Triclopyr	93.7	100	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A115081
Included Lab Sample IDs: 2359598

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A115137
Included Lab Sample IDs: 2359598

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

Reference Method: SM 5310 B-2011
Run ID: A115145
Included Lab Sample IDs: 2359598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.1	97.8	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A115150
Included Lab Sample IDs: 2359597

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.7	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A115150
Included Lab Sample IDs: 2359597

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A115158

Included Lab Sample IDs: 2359598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A115187

Included Lab Sample IDs: 2359598

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	100	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)	102				0.0348	
EPA 180.1 Rev. 2.0	Turbidity	101				7.38	
EPA 300.0 Rev. 2.1	Chloride	103	99.3	99.6		0.329	
	Sulfate	102	96.6	96.7		0.132	
EPA 350.1 Rev. 2.0	Ammonia-N	94.4	95.6	96.2			0.519
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104					4.46
EPA 353.2 Rev. 2.0	NO2NO3-N	103	99.5	102			1.99
EPA 365.1 Rev. 2.0	Total-P	107	108	105			2.19
EPA 8321B	2,4-D	95.8	106	108			1.63
	2,4,5-T	89.5	98.9	97.1			1.77
	Acesulfame K	106	70.8	70.5			0.369
	Acetaminophen	98.4	114	118			3.80
	Acetamiprid	78.8	71.5	71.3			0.288
	Afidopyropen	65.3	80.4	79.9			0.562
	AMPA	109	91.7	90.6			0.607
	Bentazon	33.3					3.73
	Benzovindiflupyr	82.6	73.6	74.9			1.66
	Carbamazepine	75.3	68.8	68.8			0.0070
	Clothianidin	96.1	111	115			3.93
	Dinotefuran	95.8	106	111			5.04
	Diuron	76.3	71.9	67.1			5.39
	Endothall	97.8	157	154			1.52
	Fenuron	103	85.9	88.1			2.52
	Fluridone	97.7	87.6	89.3			1.39
	Glufosinate	91.6	86.0	83.4			3.09
	Glyphosate	103	106	105			0.631
	Hydrocodone	93.6	93.6	94.2			0.654
	Ibuprofen	79.3	74.2	62.6			16.9
	Imazapyr	88.7	99.6	99.4			0.222
	Imidacloprid	132	117	114			1.73
	Linuron	76.2	72.2	69.8			3.31
	Mandestrobin	86.9	84.7	83.3			1.74
	MCPP	101	119	116			2.75
	Naproxen	98.6	95.4	110			14.1
	Primidone	90.9	92.2	97.1			4.77
	Pyraclostrobin	91.1	90.8	91.8			1.04
	Silvex	79.9	91.9	97.4			5.89
	Sucralose	105	101	102			0.550
	Thiamethoxam	91.8	122	125			2.54
	Tolfenpyrad	44.2	47.2	49.1			3.86
	Triclopyr	83.3	93.7	95.3			1.68
SM 2320 B-2011	Total Alkalinity	100					
SM 2540 C-2011	TDS					7.64	
SM 4500-F- C-2011	Fluoride	101	105	104			0.948
SM 5310 B-2011	Organic Carbon	96.9	101				0.212

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2359597
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2359597
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2359597
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2359597

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2359598
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2359598
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2359598
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2359598
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2359602
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2359597
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2359597
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2359597
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2359597
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2359598

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	09/27/2022			09/27/2022 15:56	Anna M. Plaviak	2359597
EPA 180.1 Rev. 2.0	09/27/2022			09/27/2022 15:20	Chandler E Cox	2359597
EPA 300.0 Rev. 2.1	09/27/2022			09/30/2022 05:49	Anna M. Plaviak	2359597
EPA 350.1 Rev. 2.0	09/27/2022			10/06/2022 13:49	Ping Hua	2359598
EPA 351.2 Rev. 2.0	09/27/2022	09/29/2022 11:16	Simonne.V. Calhoun	10/07/2022 12:37	Alexandra J Mattheus	2359598
EPA 353.2 Rev. 2.0	09/27/2022			10/05/2022 11:00	Beverly Y. Sanders	2359598
EPA 365.1 Rev. 2.0	09/27/2022	09/30/2022 12:23	Adam P Silver	10/03/2022 11:53	James L Waggerby	2359598
EPA 8321B	09/27/2022	09/30/2022 09:00	Umesh Chiluwal	09/30/2022 11:43	Umesh Chiluwal	2359602
	09/27/2022	09/30/2022 09:00	Umesh Chiluwal	09/30/2022 17:34	Umesh Chiluwal	2359602
	09/27/2022	09/30/2022 09:30	June Rhew	09/30/2022 21:03	Juyoung Kim	2359602
SM 2320 B-2011	09/27/2022			10/06/2022 04:08	Dale L. Simmons	2359597
SM 2540 C-2011	09/27/2022			09/30/2022 16:11	Yijie Li	2359597
SM 2540 D-2011	09/27/2022			09/30/2022 16:11	Yijie Li	2359597
SM 4500-F- C-2011	09/27/2022			10/06/2022 04:08	Dale L. Simmons	2359597
SM 5310 B-2011	09/27/2022			10/05/2022 03:39	Touraj Touran	2359598