

Chemical Analysis Report

SO-DIST-2023-02-21-01

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

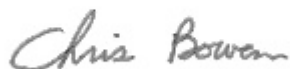
Event Description: **2023 SMP: JohnHenrySlough**
Request ID: **RQ-2023-02-20-77**
Customer: **SO-DIST**
Project ID: **SMP**

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

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Chris Bowen, Environmental Administrator

Date Certified: 15-MAR-2023 09:41



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: JohnHenrySlough AtCR731

Collection Date/Time: 02/20/2023 09:00

Field ID: G4SD0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388921	DEP SOP: NU-094-1	Color (true)	95		PCU	P426178	
	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P426184	
	EPA 300.0 Rev. 2.1	Chloride	290		mg Cl/L	P426649	
		Sulfate	110		mg SO4/L	P426653	
	SM 2320 B-2011	Total Alkalinity	50		mg CaCO3/L	P426434	
	SM 2540 C-2015	TDS	736		mg/L	P426737	
	SM 2540 D-2015	TSS	2	I	mg/L	P426639	
2388922	SM 4500-F- C-2011	Fluoride	0.12		mg F/L	P426436	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P426473	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P426766	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P426280	
	EPA 365.1 Rev. 2.0	Total-P	0.090		mg P/L	P426383	
2388926	SM 5310 B-2011	Organic Carbon	18		mg C/L	P426710	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P426090	
		Acesulfame K	0.10	U	ug/L	P425983	MS
		2,4,5-T	0.0040	U	ug/L	P426090	
		AMPA	0.10	U	ug/L	P425983	
		Acetaminophen	0.0080	U	ug/L	P426090	
		Acetamiprid	0.0020	U	ug/L	P426090	
		Endothall	0.25	U	ug/L	P425983	
		Glufosinate	0.10	U	ug/L	P425983	MS
		Glyphosate	0.10	U	ug/L	P425983	
		Afidopyropen	0.0020	U	ug/L	P426090	
		Bentazon	8.0E-04	U	ug/L	P426090	
		Sucralose	0.012	I	ug/L	P425983	
		Benzovindiflupyr	0.0020	U	ug/L	P426090	
		Carbamazepine	8.0E-04	U	ug/L	P426090	
		Clothianidin	0.0020	U	ug/L	P426090	
		Dinotefuran	0.0020	U	ug/L	P426090	
		Diuron	0.0020	U	ug/L	P426090	
		Fenuron	0.032	U	ug/L	P426090	
		Fluridone	8.0E-04	U	ug/L	P426090	
		Imazapyr	0.0040	U	ug/L	P426090	
		Hydrocodone	0.0020	U	ug/L	P426090	
		Ibuprofen	0.080	U	ug/L	P426090	
		Imidacloprid	0.0029	I	ug/L	P426090	
		Linuron	0.0040	U	ug/L	P426090	
		Mandestrobin	0.0020	U	ug/L	P426090	
		MCP	0.0020	U	ug/L	P426090	
		Naproxen	0.0080	U	ug/L	P426090	
		Primidone	0.0040	U	ug/L	P426090	
		Pyraclostrobin	0.0020	U	ug/L	P426090	
		Silvex	0.0040	U	ug/L	P426090	
		Thiamethoxam	0.0020	U	ug/L	P426090	

Field ID: G4SD0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2388926	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P426090	
		Triclopyr	0.0040	U	ug/L	P426090	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: MS accuracy for some analytes 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: P426178

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426184

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426649

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426653

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426473

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426766

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426280

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426383

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

Reference Method: EPA 8321B
Batch ID: P425983

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: P425983

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

Reference Method: EPA 8321B
Batch ID: P426090

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
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: P426434

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

Reference Method: SM 2540 C-2015
Batch ID: P426737

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P426639

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P426436

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P426710

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: P426178

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426184

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426649

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426653

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426280

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426383

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

Reference Method: EPA 8321B
Batch ID: P425983

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	119		P	40 - 150
AMPA	107		P	40 - 150
Endothall	105		P	40 - 150
Glufosinate	101		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P425983

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	105		P	40 - 150
Sucralose	111		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P426090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	140		P	40 - 150
2,4,5-T	105		P	40 - 150
Acetaminophen	94.6		P	30 - 150
Acetamiprid	103		P	40 - 150
Afidopyropen	80.8		P	30 - 150
Bentazon	134		P	30 - 150
Benzovindiflupyr	90.3		P	40 - 150
Carbamazepine	95.2		P	40 - 150
Clothianidin	72.7		P	40 - 150
Dinotefuran	115		P	40 - 150
Diuron	70.3		P	40 - 150
Fenuron	78.2		P	40 - 150
Fluridone	83.5		P	40 - 150
Hydrocodone	88.0		P	40 - 150
Ibuprofen	65.6		P	40 - 150
Imazapyr	94.9		P	40 - 150
Imidacloprid	107		P	40 - 150
Linuron	71.4		P	40 - 150
Mandestrobin	102		P	40 - 150
MCPP	96.7		P	40 - 150
Naproxen	75.2		P	40 - 150
Primidone	94.3		P	40 - 150
Pyraclostrobin	82.1		P	40 - 150
Silvex	102		P	40 - 150
Thiamethoxam	87.7		P	40 - 150
Tolfenpyrad	49.5		P	30 - 150
Triclopyr	93.9		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P426434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P426737

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.2		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P426639

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	98.4		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P426436

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

Reference Method: SM 5310 B-2011
Batch ID: P426710

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388484	Chloride	96.7		P	90 - 110
2388699	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388484	Sulfate	101		P	90 - 110
2388699	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388707	Ammonia-N	95.2	95.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388894	Kjeldahl Nitrogen	104	90.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388874	NO2NO3-N	95.0	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387935	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P425983

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388155	Acesulfame K	150	151	F/F	40 - 150
2388155	Endothall	110	113	P/P	40 - 150
2388155	Glufosinate	232	184	F/F	40 - 150
2388155	Sucralose	108	113	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P426090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388382	2,4-D	103	108	P/P	40 - 150
2388382	2,4,5-T	96.2	98.7	P/P	40 - 150
2388382	Acetaminophen	96.8	109	P/P	30 - 150
2388382	Acetamiprid	79.0	69.2	P/P	40 - 150
2388382	Afidopyropen	55.5	52.6	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P426090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388382	Bentazon	90.4	93.0	P/P	30 - 150
2388382	Benzovindiflupyr	77.8	88.0	P/P	40 - 150
2388382	Carbamazepine	64.8	72.3	P/P	40 - 150
2388382	Clothianidin	67.5	65.4	P/P	40 - 150
2388382	Dinotefuran	102	107	P/P	40 - 150
2388382	Diuron	47.5	51.0	P/P	40 - 150
2388382	Fenuron	53.0	52.8	P/P	40 - 150
2388382	Fluridone	65.6	63.1	P/P	40 - 150
2388382	Hydrocodone	71.6	71.9	P/P	40 - 150
2388382	Ibuprofen	79.0	86.7	P/P	40 - 150
2388382	Imazapyr	90.7	96.1	P/P	40 - 150
2388382	Linuron	61.5	68.4	P/P	40 - 150
2388382	Mandestrobin	87.5	90.9	P/P	40 - 150
2388382	MCPP	91.6	97.3	P/P	40 - 150
2388382	Naproxen	111	101	P/P	40 - 150
2388382	Primidone	75.1	81.6	P/P	40 - 150
2388382	Pyraclostrobin	80.7	80.8	P/P	40 - 150
2388382	Silvex	111	113	P/P	40 - 150
2388382	Thiamethoxam	82.2	78.2	P/P	40 - 150
2388382	Tolfenpyrad	55.8	53.8	P/P	30 - 150
2388382	Triclopyr	104	116	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P426436

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388899	Fluoride	102	103	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P426710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389009	Organic Carbon	97.0	98.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P426178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388699	Color (true)	1.19	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P426184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388699	Turbidity	5.33	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388484	Chloride	1.92	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388484	Sulfate	1.54	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388707	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388894	Kjeldahl Nitrogen	9.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388874	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387935	Total-P	0.136	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P425983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388155	Acesulfame K	0.853	Spike	P	0 - 30
2388155	AMPA	2.29	Spike	P	0 - 30
2388155	Endothall	2.28	Spike	P	0 - 30
2388155	Glufosinate	23.4	Spike	P	0 - 30
2388155	Glyphosate	1.90	Spike	P	0 - 30
2388155	Sucralose	2.95	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P426090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388382	2,4-D	4.39	Spike	P	0 - 30
2388382	2,4,5-T	2.53	Spike	P	0 - 30
2388382	Acetaminophen	11.7	Spike	P	0 - 30
2388382	Acetamiprid	13.3	Spike	P	0 - 30
2388382	Afidopyropen	5.46	Spike	P	0 - 30
2388382	Bentazon	2.83	Spike	P	0 - 30
2388382	Benzovindiflupyr	12.3	Spike	P	0 - 30
2388382	Carbamazepine	10.8	Spike	P	0 - 30
2388382	Clothianidin	2.18	Spike	P	0 - 30
2388382	Dinotefuran	4.68	Spike	P	0 - 30
2388382	Diuron	6.48	Spike	P	0 - 30
2388382	Fenuron	0.337	Spike	P	0 - 30
2388382	Fluridone	3.86	Spike	P	0 - 30
2388382	Hydrocodone	0.472	Spike	P	0 - 30
2388382	Ibuprofen	9.21	Spike	P	0 - 30
2388382	Imazapyr	5.34	Spike	P	0 - 30
2388382	Imidacloprid	4.45	Spike	P	0 - 30
2388382	Linuron	10.5	Spike	P	0 - 30
2388382	Mandestrobin	3.84	Spike	P	0 - 30
2388382	MCPP	6.09	Spike	P	0 - 30
2388382	Naproxen	9.58	Spike	P	0 - 30
2388382	Primidone	8.35	Spike	P	0 - 30
2388382	Pyraclostrobin	0.147	Spike	P	0 - 30
2388382	Silvex	1.65	Spike	P	0 - 30
2388382	Thiamethoxam	3.28	Spike	P	0 - 30
2388382	Tolfenpyrad	3.77	Spike	P	0 - 30
2388382	Triclopyr	10.7	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P426434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388899	Total Alkalinity	0.00137	Sample	P	0 - 3.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P426737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388703	TDS	8.47	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P426436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388899	Fluoride	0.520	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P426710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389009	Organic Carbon	0.786	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2388926
Field Sample ID: G4SD0215

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.3	P	30 - 160
EPA 8321B	Diuron-d6	51.1	P	30 - 160
EPA 8321B	Endothall-d6	121	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	68.6	P	30 - 160
EPA 8321B	Primidone-d5	83.4	P	30 - 160
EPA 8321B	Sucralose-d6	131	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A117573

Included Lab Sample IDs: 2388921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.4	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A117574

Included Lab Sample IDs: 2388921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.5	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A117585

Included Lab Sample IDs: 2388926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	115	107	P/P	60 - 160
Endothall	116	111	P/P	60 - 160
Glufosinate	111	91.1	P/P	60 - 160
Glyphosate	111	93.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A117586

Included Lab Sample IDs: 2388926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	130	125	P/P	60 - 160
Sucralose	119	119	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117620

Included Lab Sample IDs: 2388922

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

Reference Method: EPA 8321B

Run ID: A117655

Included Lab Sample IDs: 2388926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	118	120	P/P	50 - 150
2,4,5-T	99.9	104	P/P	50 - 150
Acetaminophen	103	102	P/P	60 - 160
Acetamiprid	77.9	87.6	P/P	50 - 150
Afidopyropen	107	97.1	P/P	50 - 150
Bentazon	127	139	P/P	50 - 160
Benzovindiflupyr	106	111	P/P	50 - 150
Carbamazepine	119	124	P/P	60 - 150
Clothianidin	105	106	P/P	60 - 150
Dinotefuran	115	116	P/P	50 - 150
Diuron	108	108	P/P	60 - 160
Fenuron	108	109	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A117655
Included Lab Sample IDs: 2388926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	107	118	P/P	60 - 160
Hydrocodone	124	121	P/P	60 - 150
Ibuprofen	125	119	P/P	50 - 160
Imazapyr	101	100	P/P	50 - 150
Imidacloprid	78.6	92.0	P/P	60 - 150
Linuron	91.9	103	P/P	60 - 150
Mandestrobin	116	114	P/P	50 - 150
MCP	102	96.6	P/P	50 - 150
Naproxen	106	93.5	P/P	50 - 160
Primidone	103	95.1	P/P	60 - 150
Pyraclostrobin	106	109	P/P	60 - 150
Silvex	95.8	103	P/P	50 - 150
Thiamethoxam	115	122	P/P	50 - 150
Tolfenpyrad	99.9	107	P/P	60 - 150
Triclopyr	101	104	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A117687
Included Lab Sample IDs: 2388921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.6	97.4	P/P	90 - 110
Sulfate	99.0	99.9	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A117689
Included Lab Sample IDs: 2388921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.4	99.7	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A117689
Included Lab Sample IDs: 2388921

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A117698
Included Lab Sample IDs: 2388922

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A117701
Included Lab Sample IDs: 2388922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	98.0	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A117812

Included Lab Sample IDs: 2388922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.1	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117932

Included Lab Sample IDs: 2388922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	93.8	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	SMP
DEP SOP: NU-094-1	Color (true)	99.0				1.19
EPA 180.1 Rev. 2.0	Turbidity	99.9				5.33
EPA 300.0 Rev. 2.1	Chloride	99.3	96.7	100		1.92
	Sulfate	103	101	104		1.54
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	95.2	95.2		
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.5	104	90.6		
EPA 353.2 Rev. 2.0	NO2NO3-N	97.0	95.0	95.0		
EPA 365.1 Rev. 2.0	Total-P	101	103	103		
EPA 8321B	2,4-D	140	103	108		
	2,4,5-T	105	96.2	98.7		
	Acesulfame K	119	150	151		
	Acetaminophen	94.6	96.8	109		
	Acetamiprid	103	79.0	69.2		
	Afidopyropen	80.8	55.5	52.6		
	AMPA	107				
	Bentazon	134	90.4	93.0		
	Benzovindiflupyr	90.3	77.8	88.0		
	Carbamazepine	95.2	64.8	72.3		
	Clothianidin	72.7	67.5	65.4		
	Dinotefuran	115	102	107		
	Diuron	70.3	47.5	51.0		
	Endothall	105	110	113		
	Fenuron	78.2	53.0	52.8		
	Fluridone	83.5	65.6	63.1		
	Glufosinate	101	232	184		
	Glyphosate	105				
	Hydrocodone	88.0	71.6	71.9		
	Ibuprofen	65.6	79.0	86.7		
	Imazapyr	94.9	90.7	96.1		
	Imidacloprid	107				
	Linuron	71.4	61.5	68.4		
	Mandestrobin	102	87.5	90.9		
	MCPP	96.7	91.6	97.3		
	Naproxen	75.2	111	101		
	Primidone	94.3	75.1	81.6		
	Pyraclostrobin	82.1	80.7	80.8		
	Silvex	102	111	113		
	Sucralose	111	108	113		
	Thiamethoxam	87.7	82.2	78.2		
	Tolfenpyrad	49.5	55.8	53.8		
	Triclopyr	93.9	104	116		
SM 2320 B-2011	Total Alkalinity	99.3				0.0013
SM 2540 C-2015	TDS	94.2				8.47
SM 2540 D-2015	TSS	98.4				
SM 4500-F- C-2011	Fluoride	101	102	103		
SM 5310 B-2011	Organic Carbon	94.8	97.0	98.2		

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2388921
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2388921
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2388921

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2388921
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2388922
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2388922
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2388922
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2388922
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2388926
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2388921
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2388921
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2388921
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2388921
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2388922

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	02/21/2023			02/21/2023 14:17	Alexis Price	2388921
EPA 180.1 Rev. 2.0	02/21/2023			02/21/2023 13:59	Anna M. Plaviak	2388921
EPA 300.0 Rev. 2.1	02/21/2023			03/02/2023 07:43	Judith K. Clark	2388921
EPA 350.1 Rev. 2.0	02/21/2023			02/28/2023 12:02	Ping Hua	2388922
EPA 351.2 Rev. 2.0	02/21/2023	03/07/2023 15:37	Simonne.V. Calhoun	03/10/2023 13:14	Samantha L Bates	2388922
EPA 353.2 Rev. 2.0	02/21/2023			02/23/2023 10:30	Beverly Y. Sanders	2388922
EPA 365.1 Rev. 2.0	02/21/2023	02/27/2023 14:45	Alexis Price	02/28/2023 09:40	James L Waggerby	2388922
EPA 8321B	02/21/2023	02/21/2023 12:00	Manjita Shrestha	02/21/2023 15:33	Manjita Shrestha	2388926
	02/21/2023	02/21/2023 12:00	Manjita Shrestha	02/21/2023 23:45	Manjita Shrestha	2388926
	02/21/2023	02/23/2023 08:30	Hoor Shaik	02/23/2023 23:31	Juyoung Kim	2388926
SM 2320 B-2011	02/21/2023			02/27/2023 23:51	Chandler E Cox	2388921
SM 2540 C-2015	02/21/2023			02/24/2023 16:46	Yijie Li	2388921
SM 2540 D-2015	02/21/2023			02/24/2023 16:46	Yijie Li	2388921
SM 4500-F- C-2011	02/21/2023			02/27/2023 23:51	Chandler E Cox	2388921
SM 5310 B-2011	02/21/2023			03/03/2023 17:11	Khloe J Berg	2388922