Chemical Analysis Report

SO-DIST-2023-01-10-01

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

Event Description: **2023 SMP : Charlotte Cricks**
Request ID: **RQ-2023-01-09-43**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
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Certified by: Colin Wright, Program Administrator

Date Certified: 01-FEB-2023 09:04

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: LeeBranchAtRailroad **Collection Date/Time: 01/09/2023 08:55**

Field ID: G3SD0212 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2379121	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P424361	
	SM 2320 B-2011	Total Alkalinity	150		mg CaCO3/L	P424709	
	SM 2540 D-2015	TSS	4	I	mg/L	P424820	
	SM 4500-F- C-2011	Fluoride	0.47		mg F/L	P425151	
2379122	EPA 350.1 Rev. 2.0	Ammonia-N	0.059		mg N/L	P424565	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P424936	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P424605	
	EPA 365.1 Rev. 2.0	Total-P	0.57		mg P/L	P424439	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P424545	
2379133	EPA 8321B	2,4-D	0.0020	U	ug/L	P424452	
		Acesulfame K	0.10	U	ug/L	P424336	
		2,4,5-T	0.0040	U	ug/L	P424452	
		AMPA	0.10	U	ug/L	P424336	
		Acetaminophen	0.0080	U	ug/L	P424452	
		Acetamiprid	0.0020	U	ug/L	P424452	
		Endothall	0.25	U	ug/L	P424336	
		Glufosinate	0.10	U	ug/L	P424336	
		Glyphosate	0.10	U	ug/L	P424336	
		Afidopyropen	0.0020	U	ug/L	P424452	
		Bentazon	8.0E-04	U	ug/L	P424452	
		Sucralose	0.086		ug/L	P424336	
		Benzovindiflupyr	0.0020	U	ug/L	P424452	
		Carbamazepine	8.0E-04	U	ug/L	P424452	
		Clothianidin	0.0020	U	ug/L	P424452	
		Dinotefuran	0.0020	U	ug/L	P424452	
		Diuron	0.0020	U	ug/L	P424452	
		Fenuron	0.032	U	ug/L	P424452	
		Fluridone	8.0E-04	U	ug/L	P424452	
		Imazapyr	0.021		ug/L	P424452	
		Hydrocodone	0.0020	U	ug/L	P424452	
		Ibuprofen	0.080	U	ug/L	P424452	
		Imidacloprid	0.0055	I	ug/L	P424452	MS
		Linuron	0.0040	U	ug/L	P424452	
		Mandestrobin	0.0020	U	ug/L	P424452	
		MCPP	0.0020	U	ug/L	P424452	
		Naproxen	0.0080	U	ug/L	P424452	
		Primidone	0.0040	U	ug/L	P424452	
		Pyraclostrobin	0.0020	U	ug/L	P424452	
		Silvex	0.0040	U	ug/L	P424452	
		Thiamethoxam	0.0020	U	ug/L	P424452	
		Tolfenpyrad	0.0020	U	ug/L	P424452	
		Triclopyr	0.0040	U	ug/L	P424452	

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 some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424361

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424565

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424936

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424605

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424439

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

Reference Method: EPA 8321B
Batch ID: P424336

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P424452

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P424452

Component	Result	Code	Units
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: P424709

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

Reference Method: SM 2540 D-2015
Batch ID: P424820

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P425151

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P424545

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424361

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424565

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424936

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424439

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

Reference Method: EPA 8321B
Batch ID: P424336

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	107		P	40 - 150
Endothall	123		P	40 - 150
Glufosinate	126		P	40 - 150
Glyphosate	105		P	40 - 150
Sucralose	107		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P424452

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	105		P	40 - 150
2,4,5-T	84.4		P	40 - 150
Acetaminophen	88.7		P	30 - 150
Acetamiprid	98.6		P	40 - 150
Afidopyropen	73.3		P	30 - 150
Bentazon	85.6		P	30 - 150
Benzovindiflupyr	92.3		P	40 - 150
Carbamazepine	83.0		P	40 - 150
Clothianidin	98.6		P	40 - 150
Dinotefuran	98.0		P	40 - 150
Diuron	89.9		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P424452

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	108		P	40 - 150
Fluridone	98.1		P	40 - 150
Hydrocodone	94.3		P	40 - 150
Ibuprofen	108		P	40 - 150
Imazapyr	93.9		P	40 - 150
Imidacloprid	103		P	40 - 150
Linuron	74.5		P	40 - 150
Mandestrobin	107		P	40 - 150
MCPP	105		P	40 - 150
Naproxen	86.8		P	40 - 150
Primidone	95.2		P	40 - 150
Pyraclostrobin	70.5		P	40 - 150
Silvex	82.8		P	40 - 150
Thiamethoxam	96.9		P	40 - 150
Tolfenpyrad	33.5		P	30 - 150
Triclopyr	84.6		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P424709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.1		P	94 - 106

Reference Method: SM 2540 D-2015
Batch ID: P424820

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	87.7		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P425151

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P424545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379225	Ammonia-N	97.8	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2378990	Kjeldahl Nitrogen	97.0	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379020	NO2NO3-N	97.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379020	Total-P	107	107	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P424336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2378951	Acesulfame K	96.0	99.2	P/P	40 - 150
2378951	AMPA	106	113	P/P	40 - 150
2378951	Endothall	128	127	P/P	40 - 150
2378951	Glufosinate	108	122	P/P	40 - 150
2378951	Glyphosate	104	105	P/P	40 - 150
2378951	Sucralose	97.8	91.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P424452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2378952	2,4-D	91.6	106	P/P	40 - 150
2378952	2,4,5-T	100	99.6	P/P	40 - 150
2378952	Acetaminophen	97.6	94.5	P/P	30 - 150
2378952	Acetamiprid	77.5	88.5	P/P	40 - 150
2378952	Afidopyropen	78.2	95.4	P/P	30 - 150
2378952	Benzovindiflupyr	90.0	92.5	P/P	40 - 150
2378952	Carbamazepine	61.0	63.5	P/P	40 - 150
2378952	Clothianidin	97.3	100	P/P	40 - 150
2378952	Dinotefuran	91.6	93.7	P/P	40 - 150
2378952	Diuron	58.1	58.8	P/P	40 - 150
2378952	Fenuron	72.6	75.5	P/P	40 - 150
2378952	Fluridone	91.7	83.9	P/P	40 - 150
2378952	Hydrocodone	81.4	82.5	P/P	40 - 150
2378952	Ibuprofen	81.5	89.5	P/P	40 - 150
2378952	Imidacloprid	145	154	P/F	40 - 150
2378952	Linuron	62.0	59.6	P/P	40 - 150
2378952	Mandestrobin	94.9	97.3	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P424452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2378952	MCPP	117	114	P/P	40 - 150
2378952	Naproxen	82.3	79.4	P/P	40 - 150
2378952	Primidone	99.6	98.4	P/P	40 - 150
2378952	Pyraclostrobin	75.4	79.6	P/P	40 - 150
2378952	Silvex	78.3	84.8	P/P	40 - 150
2378952	Thiamethoxam	96.3	97.3	P/P	40 - 150
2378952	Tolfenpyrad	49.6	49.0	P/P	30 - 150
2378952	Triclopyr	101	109	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P425151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379229	Fluoride	98.8	99.4	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P424545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2379122	Organic Carbon	96.8	97.2	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P424361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2378775	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P424565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379225	Ammonia-N	0.186	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P424936

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2378990	Kjeldahl Nitrogen	2.06	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P424605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379020	NO2NO3-N	0.237	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P424439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379020	Total-P	0.169	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P424336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2378951	Acesulfame K	3.32	Spike	P	0 - 30
2378951	AMPA	6.64	Spike	P	0 - 30
2378951	Endothall	1.07	Spike	P	0 - 30
2378951	Glufosinate	12.0	Spike	P	0 - 30
2378951	Glyphosate	1.09	Spike	P	0 - 30
2378951	Sucralose	6.14	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P424452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2378952	2,4-D	12.9	Spike	P	0 - 30
2378952	2,4,5-T	0.720	Spike	P	0 - 30
2378952	Acetaminophen	3.23	Spike	P	0 - 30
2378952	Acetamiprid	13.2	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P424452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2378952	Afidopyropen	19.8	Spike	P	0 - 30
2378952	Bentazon	12.3	Spike	P	0 - 30
2378952	Benzovindiflupyr	2.71	Spike	P	0 - 30
2378952	Carbamazepine	3.99	Spike	P	0 - 30
2378952	Clothianidin	2.87	Spike	P	0 - 30
2378952	Dinotefuran	2.29	Spike	P	0 - 30
2378952	Diuron	1.12	Spike	P	0 - 30
2378952	Fenuron	4.03	Spike	P	0 - 30
2378952	Fluridone	5.90	Spike	P	0 - 30
2378952	Hydrocodone	1.27	Spike	P	0 - 30
2378952	Ibuprofen	9.38	Spike	P	0 - 30
2378952	Imazapyr	0.581	Spike	P	0 - 30
2378952	Imidacloprid	4.99	Spike	P	0 - 30
2378952	Linuron	3.99	Spike	P	0 - 30
2378952	Mandestrobin	2.50	Spike	P	0 - 30
2378952	MCPP	3.17	Spike	P	0 - 30
2378952	Naproxen	3.55	Spike	P	0 - 30
2378952	Primidone	1.13	Spike	P	0 - 30
2378952	Pyraclostrobin	5.42	Spike	P	0 - 30
2378952	Silvex	7.89	Spike	P	0 - 30
2378952	Thiamethoxam	0.952	Spike	P	0 - 30
2378952	Tolfenpyrad	1.33	Spike	P	0 - 30
2378952	Triclopyr	7.52	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P424709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379739	Total Alkalinity	1.55	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011
Batch ID: P425151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379229	Fluoride	0.487	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P424545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2379122	Organic Carbon	0.256	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2379133
Field Sample ID: G3SD0212

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	107	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.1	P	30 - 160
EPA 8321B	Diuron-d6	46.1	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	89.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	93.4	P	30 - 160
EPA 8321B	Primidone-d5	82.8	P	30 - 160
EPA 8321B	Sucralose-d6	54.0	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A116828
Included Lab Sample IDs: 2379121

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A116891
Included Lab Sample IDs: 2379122

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

Reference Method: SM 5310 B-2011
Run ID: A116895
Included Lab Sample IDs: 2379122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A116897
Included Lab Sample IDs: 2379133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	108	P/P	60 - 160
Endothall	104	107	P/P	60 - 160
Glufosinate	93.8	100	P/P	60 - 160
Glyphosate	86.2	99.0	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A116902
Included Lab Sample IDs: 2379122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	98.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A116918
Included Lab Sample IDs: 2379133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	103	P/P	50 - 150
2,4,5-T	124	106	P/P	50 - 150
Acetaminophen	115	113	P/P	60 - 160
Acetamiprid	139	141	P/P	50 - 150
Afidopyropen	138	140	P/P	50 - 150
Bentazon	111	112	P/P	50 - 160
Benzovindiflupyr	123	129	P/P	50 - 150
Carbamazepine	115	126	P/P	60 - 150
Clothianidin	120	117	P/P	60 - 150
Dinotefuran	114	123	P/P	50 - 150
Diuron	144	142	P/P	60 - 160
Fenuron	115	115	P/P	60 - 150
Fluridone	123	122	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A116918
Included Lab Sample IDs: 2379133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	119	121	P/P	60 - 150
Ibuprofen	123	119	P/P	50 - 160
Imazapyr	108	110	P/P	50 - 150
Imidacloprid	122	120	P/P	60 - 150
Linuron	108	112	P/P	60 - 150
Mandestrobin	136	132	P/P	50 - 150
MCPP	113	116	P/P	50 - 150
Naproxen	146	87.9	P/P	50 - 160
Primidone	107	109	P/P	60 - 150
Pyraclostrobin	115	118	P/P	60 - 150
Silvex	117	118	P/P	50 - 150
Thiamethoxam	128	121	P/P	50 - 150
Tolfenpyrad	109	110	P/P	60 - 150
Triclopyr	102	113	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A116920
Included Lab Sample IDs: 2379122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A116950
Included Lab Sample IDs: 2379133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	84.8	87.6	P/P	60 - 160
Sucralose	89.9	66.9	P/P	60 - 160

Reference Method: SM 2320 B-2011
Run ID: A116966
Included Lab Sample IDs: 2379121

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.7	95.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A117111
Included Lab Sample IDs: 2379122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	99.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A117157
Included Lab Sample IDs: 2379121

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	104	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

* 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	MS
EPA 180.1 Rev. 2.0	Turbidity	100				0.0	
EPA 350.1 Rev. 2.0	Ammonia-N	98.8	97.8	98.0			0.186
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	97.0	101			2.06
EPA 353.2 Rev. 2.0	NO2NO3-N	104	97.0				0.237
EPA 365.1 Rev. 2.0	Total-P	107	107	107			0.169
EPA 8321B	2,4-D	105	91.6	106			12.9
	2,4,5-T	84.4	100	99.6			0.720
	Acesulfame K	103	96.0	99.2			3.32
	Acetaminophen	88.7	97.6	94.5			3.23
	Acetamiprid	98.6	77.5	88.5			13.2
	Afidopyropen	73.3	78.2	95.4			19.8
	AMPA	107	106	113			6.64
	Bentazon	85.6					12.3
	Benzovindiflupyr	92.3	90.0	92.5			2.71
	Carbamazepine	83.0	61.0	63.5			3.99
	Clothianidin	98.6	97.3	100			2.87
	Dinotefuran	98.0	91.6	93.7			2.29
	Diuron	89.9	58.1	58.8			1.12
	Endothall	123	128	127			1.07
	Fenuron	108	72.6	75.5			4.03
	Fluridone	98.1	91.7	83.9			5.90
	Glufosinate	126	108	122			12.0
	Glyphosate	105	104	105			1.09
	Hydrocodone	94.3	81.4	82.5			1.27
	Ibuprofen	108	81.5	89.5			9.38
	Imazapyr	93.9					0.581
	Imidacloprid	103	145	154			4.99
	Linuron	74.5	62.0	59.6			3.99
	Mandestrobin	107	94.9	97.3			2.50
	MCPP	105	117	114			3.17
	Naproxen	86.8	82.3	79.4			3.55
	Primidone	95.2	99.6	98.4			1.13
	Pyraclostrobin	70.5	75.4	79.6			5.42
	Silvex	82.8	78.3	84.8			7.89
	Sucralose	107	97.8	91.6			6.14
	Thiamethoxam	96.9	96.3	97.3			0.952
	Tolfenpyrad	33.5	49.6	49.0			1.33
	Triclopyr	84.6	101	109			7.52
SM 2320 B-2011	Total Alkalinity	96.1				1.55	
SM 2540 D-2015	TSS	87.7					
SM 4500-F- C-2011	Fluoride	99.8	98.8	99.4			0.487
SM 5310 B-2011	Organic Carbon	97.6	96.8	97.2			0.256

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2379121
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2379122
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2379122
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2379122
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2379122
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2379133
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2379121

Reference Method Descriptions

Method	Description	Associated Samples
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2379121
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2379121
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2379122

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	01/10/2023			01/10/2023 13:53	Khloe J Berg	2379121
EPA 350.1 Rev. 2.0	01/10/2023			01/13/2023 13:42	Ping Hua	2379122
EPA 351.2 Rev. 2.0	01/10/2023	01/25/2023 14:17	Samantha L Bates	01/26/2023 10:12	Samantha L Bates	2379122
EPA 353.2 Rev. 2.0	01/10/2023			01/17/2023 10:22	Beverly Y. Sanders	2379122
EPA 365.1 Rev. 2.0	01/10/2023	01/12/2023 15:28	Adam P Silver	01/13/2023 10:26	James L Waggerby	2379122
EPA 8321B	01/10/2023	01/12/2023 09:30	June Rhew	01/12/2023 14:44	Manjita Shrestha	2379133
	01/10/2023	01/12/2023 09:30	June Rhew	01/13/2023 02:51	Manjita Shrestha	2379133
	01/10/2023	01/13/2023 09:00	June Rhew	01/13/2023 19:06	Juyoung Kim	2379133
SM 2320 B-2011	01/10/2023			01/19/2023 04:51	Adam P Silver	2379121
SM 2540 D-2015	01/10/2023			01/13/2023 16:42	Yijie Li	2379121
SM 4500-F- C-2011	01/10/2023			01/28/2023 08:24	Dale L. Simmons	2379121
SM 5310 B-2011	01/10/2023			01/12/2023 16:02	Khloe J Berg	2379122