

Chemical Analysis Report

SO-DIST-2023-05-11-01

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

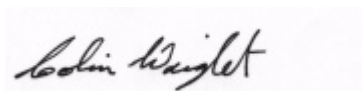
Event Description: **2023 SMP : Lee Branch**
Request ID: **RQ-2023-05-01-47**
Customer: **SO-DIST**
Project ID: **SMP**

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

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Certified by: Colin Wright, Program Administrator

Date Certified: 30-MAY-2023 12:06

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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: LEEBRANCHATRAILROAD

Collection Date/Time: 05/10/2023 08:50

Field ID: G3SD0212

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2408857	EPA 180.1 Rev. 2.0	Turbidity	7.8		NTU	P429780	
	SM 2320 B-2011	Total Alkalinity	99		mg CaCO3/L	P430119	
	SM 2540 D-2015	TSS	7	IA	mg/L	P430030	
	SM 4500-F- C-2011	Fluoride	0.77	J	mg F/L	P430444	MS
2408858	EPA 350.1 Rev. 2.0	Ammonia-N	0.045		mg N/L	P429929	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P429809	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P430162	
	EPA 365.1 Rev. 2.0	Total-P	0.66		mg P/L	P429804	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P429896	
2408873	EPA 8321B	2,4-D	0.0039	I	ug/L	P429749	
		Acesulfame K	0.10	U	ug/L	P429733	
		2,4,5-T	0.014	I	ug/L	P429749	
		AMPA	10	U	ug/L	P429733	
		Acetaminophen	0.0080	U	ug/L	P429749	
		Acetamiprid	0.0020	U	ug/L	P429749	
		Endothall	0.25	U	ug/L	P429733	
		Glufosinate	10	U	ug/L	P429733	
		Glyphosate	10	U	ug/L	P429733	
		Afidopyropen	0.0020	U	ug/L	P429749	
		Bentazon	0.0084		ug/L	P429749	
		Sucralose	0.61		ug/L	P429733	
		Benzovindiflupyr	0.0020	U	ug/L	P429749	
		Carbamazepine	0.0022	I	ug/L	P429749	
		Clothianidin	0.0031	I	ug/L	P429749	
		Dinotefuran	0.0020	U	ug/L	P429749	
		Diuron	0.0051	I	ug/L	P429749	
		Fenuron	0.032	U	ug/L	P429749	
		Fluridone	8.0E-04	U	ug/L	P429749	
		Imazapyr	0.014	I	ug/L	P429749	
		Hydrocodone	0.0020	U	ug/L	P429749	
		Ibuprofen	0.080	U	ug/L	P429749	
		Imidacloprid	0.0054	I	ug/L	P429749	
		Linuron	0.0040	U	ug/L	P429749	
		Mandestrobin	0.0020	U	ug/L	P429749	
		MCP	0.0020	U	ug/L	P429749	
		Naproxen	0.0080	U	ug/L	P429749	
		Primidone	0.0040	U	ug/L	P429749	
		Pyraclostrobin	0.0020	U	ug/L	P429749	
		Silvex	0.0040	U	ug/L	P429749	
		Thiamethoxam	0.0024	I	ug/L	P429749	
		Tolfenpyrad	0.0020	U	ug/L	P429749	
		Triclopyr	0.0040	U	ug/L	P429749	

Field ID: G3SD0212

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500-F- C-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429780

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429929

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429809

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430162

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429804

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

Reference Method: EPA 8321B
Batch ID: P429733

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: P429749

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: P429749

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: P430119

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

Reference Method: SM 2540 D-2015

Batch ID: P430030

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P430444

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P429896

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: P429780

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429929

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429809

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430162

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429804

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

Reference Method: EPA 8321B
Batch ID: P429733

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	99.3		P	40 - 150
AMPA	104		P	40 - 150
Endothall	80.0		P	40 - 150
Glufosinate	105		P	40 - 150
Glyphosate	122		P	40 - 150
Sucralose	96.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P429749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.1		P	40 - 150
2,4,5-T	90.2		P	40 - 150
Acetaminophen	80.4		P	30 - 150
Acetamiprid	82.4		P	40 - 150
Afidopyropen	70.1		P	30 - 150
Bentazon	136		P	30 - 150
Benzovindiflupyr	89.8		P	40 - 150
Carbamazepine	88.3		P	40 - 150
Clothianidin	87.7		P	40 - 150
Dinotefuran	95.4		P	40 - 150
Diuron	82.1		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P429749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	88.7		P	40 - 150
Fluridone	90.8		P	40 - 150
Hydrocodone	91.3		P	40 - 150
Ibuprofen	75.1		P	40 - 150
Imazapyr	87.8		P	40 - 150
Imidacloprid	86.6		P	40 - 150
Linuron	80.8		P	40 - 150
Mandestrobin	91.4		P	40 - 150
MCPP	90.8		P	40 - 150
Naproxen	81.6		P	40 - 150
Primidone	83.5		P	40 - 150
Pyraclostrobin	82.1		P	40 - 150
Silvex	105		P	40 - 150
Thiamethoxam	86.1		P	40 - 150
Tolfenpyrad	60.7		P	30 - 150
Triclopyr	83.0		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P430119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.0		P	92 - 105

Reference Method: SM 2540 D-2015
Batch ID: P430030

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	97.4		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P430444

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	104		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P429896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429929

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408534	Ammonia-N	102	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408207	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430162

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408444	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429804

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408532	Total-P	95.7	97.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P429733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408587	Acesulfame K	76.9	77.8	P/P	40 - 150
2408587	AMPA	71.7	72.7	P/P	40 - 150
2408587	Endothall	73.2	75.2	P/P	40 - 150
2408587	Glufosinate	68.2	72.2	P/P	40 - 150
2408587	Glyphosate	79.6	67.2	P/P	40 - 150
2408587	Sucralose	81.1	89.4	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P429749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408093	2,4-D	116	102	P/P	40 - 150
2408093	2,4,5-T	115	113	P/P	40 - 150
2408093	Acetaminophen	96.3	95.4	P/P	30 - 150
2408093	Acetamiprid	72.8	80.5	P/P	40 - 150
2408093	Afidopyropen	73.9	64.4	P/P	30 - 150
2408093	Benzovindiflupyr	91.0	89.7	P/P	40 - 150
2408093	Carbamazepine	83.9	86.2	P/P	40 - 150
2408093	Clothianidin	112	111	P/P	40 - 150
2408093	Dinotefuran	108	109	P/P	40 - 150
2408093	Diuron	69.1	69.9	P/P	40 - 150
2408093	Fenuron	71.8	71.5	P/P	40 - 150
2408093	Hydrocodone	85.5	83.3	P/P	40 - 150
2408093	Ibuprofen	73.2	68.8	P/P	40 - 150
2408093	Imidacloprid	136	137	P/P	40 - 150
2408093	Linuron	71.5	75.4	P/P	40 - 150
2408093	Mandestrobin	80.4	87.2	P/P	40 - 150
2408093	MCP	122	132	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P429749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408093	Naproxen	106	98.5	P/P	40 - 150
2408093	Primidone	102	89.8	P/P	40 - 150
2408093	Pyraclostrobin	85.1	84.7	P/P	40 - 150
2408093	Silvex	131	142	P/P	40 - 150
2408093	Thiamethoxam	122	119	P/P	40 - 150
2408093	Tolfenpyrad	57.4	58.9	P/P	30 - 150
2408093	Triclopyr	103	103	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P430444

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408857	Fluoride	108	108	F/F	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P429896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2408608	Organic Carbon	97.6	97.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408796	Turbidity	0.494	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429929

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408534	Ammonia-N	1.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408207	Kjeldahl Nitrogen	0.984	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408444	NO2NO3-N	0.484	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429804

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408532	Total-P	1.96	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P429733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408587	Acesulfame K	1.13	Spike	P	0 - 30
2408587	AMPA	1.43	Spike	P	0 - 30
2408587	Endothall	2.76	Spike	P	0 - 30
2408587	Glufosinate	5.74	Spike	P	0 - 30
2408587	Glyphosate	16.8	Spike	P	0 - 30
2408587	Sucralose	8.35	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P429749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408093	2,4-D	11.5	Spike	P	0 - 30
2408093	2,4,5-T	2.08	Spike	P	0 - 30
2408093	Acetaminophen	0.892	Spike	P	0 - 30
2408093	Acetamidrid	10.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P429749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408093	Afidopyropen	13.8	Spike	P	0 - 30
2408093	Bentazon	20.8	Spike	P	0 - 30
2408093	Benzovindiflupyr	1.37	Spike	P	0 - 30
2408093	Carbamazepine	2.49	Spike	P	0 - 30
2408093	Clothianidin	1.28	Spike	P	0 - 30
2408093	Dinotefuran	1.20	Spike	P	0 - 30
2408093	Diuron	0.757	Spike	P	0 - 30
2408093	Fenuron	0.429	Spike	P	0 - 30
2408093	Fluridone	2.44	Spike	P	0 - 30
2408093	Hydrocodone	2.58	Spike	P	0 - 30
2408093	Ibuprofen	6.25	Spike	P	0 - 30
2408093	Imazapyr	1.43	Spike	P	0 - 30
2408093	Imidacloprid	0.599	Spike	P	0 - 30
2408093	Linuron	5.30	Spike	P	0 - 30
2408093	Mandestrobin	8.09	Spike	P	0 - 30
2408093	MCPP	7.65	Spike	P	0 - 30
2408093	Naproxen	7.29	Spike	P	0 - 30
2408093	Primidone	12.4	Spike	P	0 - 30
2408093	Pyraclostrobin	0.495	Spike	P	0 - 30
2408093	Silvex	7.88	Spike	P	0 - 30
2408093	Thiamethoxam	2.85	Spike	P	0 - 30
2408093	Tolfenpyrad	2.53	Spike	P	0 - 30
2408093	Triclopyr	0.246	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P430119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407776	Total Alkalinity	0.414	Sample	P	0 - 3.9

Reference Method: SM 4500-F- C-2011
Batch ID: P430444

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408857	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P429896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2408608	Organic Carbon	0.412	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2408873

Field Sample ID: G3SD0212

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	106	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.2	P	30 - 160
EPA 8321B	Diuron-d6	66.7	P	30 - 160
EPA 8321B	Endothall-d6	97.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.1	P	30 - 160
EPA 8321B	Primidone-d5	87.4	P	30 - 160
EPA 8321B	Sucralose-d6	59.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A119114

Included Lab Sample IDs: 2408857

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: A119148

Included Lab Sample IDs: 2408858

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

Reference Method: EPA 8321B

Run ID: A119173

Included Lab Sample IDs: 2408873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.8	89.9	P/P	50 - 150
2,4,5-T	107	91.0	P/P	50 - 150
Acetaminophen	89.7	87.8	P/P	60 - 160
Acetamiprid	108	111	P/P	50 - 150
Afidopyropen	79.4	99.2	P/P	50 - 150
Bentazon	127	121	P/P	50 - 160
Benzovindiflupyr	108	101	P/P	50 - 150
Carbamazepine	110	103	P/P	60 - 150
Clothianidin	104	96.4	P/P	60 - 150
Dinotefuran	107	111	P/P	50 - 150
Diuron	110	114	P/P	60 - 160
Fenuron	109	105	P/P	60 - 150
Fluridone	110	106	P/P	60 - 160
Hydrocodone	108	111	P/P	60 - 150
Ibuprofen	110	96.6	P/P	50 - 160
Imazapyr	94.1	94.3	P/P	50 - 150
Imidacloprid	101	99.6	P/P	60 - 150
Linuron	109	103	P/P	60 - 150
Mandestrobin	109	105	P/P	50 - 150
MCPP	107	97.1	P/P	50 - 150
Naproxen	102	128	P/P	50 - 160
Primidone	91.4	86.2	P/P	60 - 150
Pyraclostrobin	107	108	P/P	60 - 150
Silvex	104	98.1	P/P	50 - 150
Thiamethoxam	103	106	P/P	50 - 150
Tolfenpyrad	98.4	98.4	P/P	60 - 150
Triclopyr	102	84.6	P/P	50 - 150

Reference Method: SM 5310 B-2011

Run ID: A119185

Included Lab Sample IDs: 2408858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	96.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A119187

Included Lab Sample IDs: 2408858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	107	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A119190

Included Lab Sample IDs: 2408873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	114	116	P/P	60 - 160
Endothall	82.5	85.0	P/P	60 - 160
Glufosinate	102	98.6	P/P	60 - 160
Glyphosate	115	117	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A119191

Included Lab Sample IDs: 2408873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	101	98.6	P/P	60 - 160
Sucralose	115	92.7	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A119199

Included Lab Sample IDs: 2408858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A119276

Included Lab Sample IDs: 2408857

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.7	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A119305

Included Lab Sample IDs: 2408858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A119421

Included Lab Sample IDs: 2408857

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	109	107	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	
EPA 180.1 Rev. 2.0	Turbidity	99.7				0.494	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	102	104			1.44
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	105	104			0.984
EPA 353.2 Rev. 2.0	NO2NO3-N	101	104	103			0.484
EPA 365.1 Rev. 2.0	Total-P	102	95.7	97.7			1.96
EPA 8321B	2,4-D	85.1	116	102			11.5
	2,4,5-T	90.2	115	113			2.08
	Acesulfame K	99.3	76.9	77.8			1.13
	Acetaminophen	80.4	96.3	95.4			0.892
	Acetamiprid	82.4	72.8	80.5			10.1
	Afidopyropen	70.1	73.9	64.4			13.8
	AMPA	104	71.7	72.7			1.43
	Bentazon	136					20.8
	Benzovindiflupyr	89.8	91.0	89.7			1.37
	Carbamazepine	88.3	83.9	86.2			2.49
	Clothianidin	87.7	112	111			1.28
	Dinotefuran	95.4	108	109			1.20
	Diuron	82.1	69.1	69.9			0.757
	Endothall	80.0	73.2	75.2			2.76
	Fenuron	88.7	71.8	71.5			0.429
	Fluridone	90.8					2.44
	Glufosinate	105	68.2	72.2			5.74
	Glyphosate	122	79.6	67.2			16.8
	Hydrocodone	91.3	85.5	83.3			2.58
	Ibuprofen	75.1	73.2	68.8			6.25
	Imazapyr	87.8					1.43
	Imidacloprid	86.6	136	137			0.599
	Linuron	80.8	71.5	75.4			5.30
	Mandestrobin	91.4	80.4	87.2			8.09
	MCPP	90.8	122	132			7.65
	Naproxen	81.6	106	98.5			7.29
	Primidone	83.5	102	89.8			12.4
	Pyraclostrobin	82.1	85.1	84.7			0.495
	Silvex	105	131	142			7.88
	Sucralose	96.1	81.1	89.4			8.35
	Thiamethoxam	86.1	122	119			2.85
	Tolfenpyrad	60.7	57.4	58.9			2.53
	Triclopyr	83.0	103	103			0.246
SM 2320 B-2011	Total Alkalinity	99.0				0.414	
SM 2540 D-2015	TSS	97.4					
SM 4500-F- C-2011	Fluoride	104	108	108			0.0
SM 5310 B-2011	Organic Carbon	96.7	97.6	97.0			0.412

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2408857
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2408858
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2408858
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2408858
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2408858
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2408873
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2408857

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2408857
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2408857
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2408858

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	05/11/2023			05/11/2023 14:03	Anna M. Plaviak	2408857
EPA 350.1 Rev. 2.0	05/11/2023			05/16/2023 14:40	Khloe J Berg	2408858
EPA 351.2 Rev. 2.0	05/11/2023	05/12/2023 15:14	Simonne.V. Calhoun	05/16/2023 11:35	Samantha L Bates	2408858
EPA 353.2 Rev. 2.0	05/11/2023			05/22/2023 10:39	Beverly Y. Sanders	2408858
EPA 365.1 Rev. 2.0	05/11/2023	05/12/2023 12:59	Adam P Silver	05/12/2023 17:14	James L Waggeberby	2408858
EPA 8321B	05/11/2023	05/12/2023 09:00	Hoor Shaik	05/13/2023 01:43	Juyoung Kim	2408873
	05/11/2023	05/12/2023 12:00	Manjita Shrestha	05/12/2023 17:32	Manjita Shrestha	2408873
	05/11/2023	05/12/2023 12:00	Manjita Shrestha	05/12/2023 23:52	Manjita Shrestha	2408873
	05/11/2023	05/12/2023 12:00	Manjita Shrestha	05/13/2023 21:30	Manjita Shrestha	2408873
SM 2320 B-2011	05/11/2023			05/19/2023 11:39	Dale L. Simmons	2408857
SM 2540 D-2015	05/11/2023			05/12/2023 15:01	Yijie Li	2408857
SM 4500-F- C-2011	05/11/2023			05/25/2023 06:36	Dale L. Simmons	2408857
SM 5310 B-2011	05/11/2023			05/15/2023 21:48	Elise M. Gillis	2408858