

Chemical Analysis Report

SE-DIST-2021-11-02-01

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

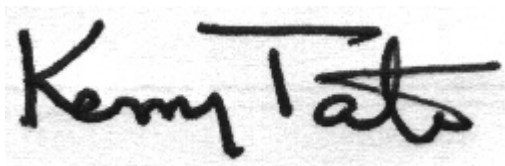
Event Description: **SMP - 3208C Deploy**
Request ID: **RQ-2021-10-25-07**
Customer: **SE-DIST**
Project ID: **SMP**

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

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 23-NOV-2021 12:45

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Manatee Pocket North

Collection Date/Time: 11/01/2021 14:30

Field ID: G2SE0063

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2287236	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P405886	
	SM 2320 B-2011	Total Alkalinity	128		mg CaCO3/L	P405987	
	SM 2540 D-2011	TSS	6	I	mg/L	P406420	
	SM 4500 F-C-2011	Fluoride	1.0		mg F/L	P405990	
2287237	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P406063	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P406122	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P405915	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P405925	
	SM 5310 B-2011	Organic Carbon	6.0		mg C/L	P406059	
2287238	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.029		mg P/L	P405874	
2287260	EPA 8321B	Acesulfame K	0.14	I	ug/L	P405862	
		2,4-D	0.013		ug/L	P405850	
		AMPA	10	U	ug/L	P405862	
		2,4,5-T	0.0040	U	ug/L	P405850	
		Acetaminophen	0.0080	U	ug/L	P405850	
		Endothall	0.25	U	ug/L	P405862	
		Acetamiprid	0.0020	U	ug/L	P405850	
		Glufosinate	10	U	ug/L	P405862	
		Glyphosate	10	U	ug/L	P405862	
		Afidopyropen	0.0020	U	ug/L	P405850	
		Sucralose	0.39		ug/L	P405862	
		Bentazon	0.021		ug/L	P405850	
		Benzovindiflupyr	0.0020	U	ug/L	P405850	
		Carbamazepine	0.0013	I	ug/L	P405850	
		Clothianidin	0.0020	U	ug/L	P405850	
		Dinotefuran	0.0020	U	ug/L	P405850	MS
		Diuron	0.019		ug/L	P405850	
		Fenuron	0.016	U	ug/L	P405850	
		Fluridone	0.0088		ug/L	P405850	
		Imazapyr	0.093		ug/L	P405850	
		Hydrocodone	0.0020	U	ug/L	P405850	
		Ibuprofen	0.020	U	ug/L	P405850	
		Imidacloprid	0.0058	I	ug/L	P405850	MS
		Linuron	0.0040	U	ug/L	P405850	
		Mandestrobin	0.0020	U	ug/L	P405850	
		MCP	0.0040	U	ug/L	P405850	
		Naproxen	0.0080	U	ug/L	P405850	
		Primidone	0.0040	U	ug/L	P405850	
		Pyraclostrobin	0.0020	U	ug/L	P405850	
		Thiamethoxam	0.0020	U	ug/L	P405850	MS
		Tolfenpyrad	0.0020	U	ug/L	P405850	
		Triclopyr	0.0040	U	ug/L	P405850	

Field ID: G2SE0063

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-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MDL for some parameters elevated due to matrix interference.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405886

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406063

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P406122

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405915

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405925

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405874

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8321B
Batch ID: P405850

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	0.016	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P405850

Component	Result	Code	Units
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P405862

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: SM 2320 B-2011
Batch ID: P405987

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

Reference Method: SM 2540 D-2011
Batch ID: P406420

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405990

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P406059

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P406063

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P406122

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: P405915

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405925

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	95.9		P	90 - 110

Reference Method: EPA 8321B

Batch ID: P405850

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	102		P	40 - 150
2,4,5-T	92.0		P	40 - 150
Acetaminophen	93.3		P	30 - 150
Acetamiprid	104		P	40 - 150
Afidopyropen	75.4		P	40 - 150
Bentazon	98.1		P	30 - 150
Benzovindiflupyr	96.4		P	40 - 150
Carbamazepine	107		P	40 - 150
Clothianidin	115		P	40 - 150
Dinotefuran	104		P	40 - 150
Diuron	105		P	40 - 150
Fenuron	102		P	40 - 150
Fluridone	97.4		P	40 - 150
Hydrocodone	94.0		P	40 - 150
Ibuprofen	65.9		P	40 - 150
Imazapyr	95.0		P	40 - 150
Imidacloprid	105		P	40 - 150
Linuron	96.2		P	40 - 150
Mandestrobin	101		P	40 - 150
MCPP	116		P	40 - 150
Naproxen	90.1		P	40 - 150
Primidone	102		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P405850

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	86.6		P	40 - 150
Thiamethoxam	112		P	40 - 150
Tolfenpyrad	54.2		P	30 - 150
Triclopyr	89.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	89.0		P	40 - 150
AMPA	103		P	40 - 160
Endothall	72.2		P	40 - 150
Glufosinate	104		P	40 - 160
Glyphosate	109		P	40 - 160
Sucralose	89.7		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P405987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P405990

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P406059

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P406063

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287093	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P406122

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286762	Kjeldahl Nitrogen	102	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287093	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286744	Total-P	97.6	94.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287238	O-Phosphate-P	96.5	98.5	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P405850

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287064	2,4-D	109	111	P/P	40 - 150
2287064	2,4,5-T	112	101	P/P	40 - 150
2287064	Acetaminophen	136	95.9	P/P	30 - 150
2287064	Acetamiprid	119	103	P/P	40 - 150
2287064	Afidopyropen	95.8	82.4	P/P	40 - 150
2287064	Bentazon	65.3	58.8	P/P	30 - 150
2287064	Benzovindiflupyr	89.8	85.7	P/P	40 - 150
2287064	Carbamazepine	114	111	P/P	40 - 150
2287064	Clothianidin	123	92.2	P/P	40 - 150
2287064	Dinotefuran	152	134	F/P	40 - 150
2287064	Diuron	79.8	88.3	P/P	40 - 150
2287064	Fenuron	90.7	85.0	P/P	40 - 150
2287064	Fluridone	89.4	82.1	P/P	40 - 150
2287064	Hydrocodone	110	99.3	P/P	40 - 150
2287064	Ibuprofen	87.7	71.3	P/P	40 - 150
2287064	Imazapyr	118	125	P/P	40 - 150
2287064	Imidacloprid	194	181	F/F	40 - 150
2287064	Linuron	80.4	76.7	P/P	40 - 150
2287064	Mandestrobin	97.8	84.5	P/P	40 - 150
2287064	MCPP	122	131	P/P	40 - 150
2287064	Naproxen	109	89.3	P/P	40 - 150
2287064	Primidone	110	114	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P405850

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287064	Pyraclostrobin	81.3	81.4	P/P	40 - 150
2287064	Thiamethoxam	170	158	F/F	40 - 150
2287064	Tolfenpyrad	54.4	49.9	P/P	30 - 150
2287064	Triclopyr	107	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287064	Acesulfame K	123	133	P/P	40 - 150
2287064	AMPA	89.9	87.7	P/P	40 - 160
2287064	Endothall	84.6	81.3	P/P	40 - 150
2287064	Glufosinate	96.6	97.9	P/P	40 - 160
2287064	Glyphosate	99.6	101	P/P	40 - 160
2287064	Sucralose	89.0	87.5	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P405990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2287201	Fluoride	98.9	99.8	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P406059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286762	Organic Carbon	92.2	93.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P405886

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287101	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P406063

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287093	Ammonia-N	1.87	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P406122

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286762	Kjeldahl Nitrogen	4.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405915

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287093	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405925

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286744	Total-P	3.04	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405874

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287238	O-Phosphate-P	1.58	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P405850

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287064	2,4-D	2.28	Spike	P	0 - 30
2287064	2,4,5-T	10.1	Spike	P	0 - 30
2287064	Acetaminophen	28.5	Spike	P	0 - 30
2287064	Acetamiprid	14.8	Spike	P	0 - 30
2287064	Afidopyropen	15.1	Spike	P	0 - 30
2287064	Bentazon	10.4	Spike	P	0 - 30
2287064	Benzovindiflupyr	4.47	Spike	P	0 - 30
2287064	Carbamazepine	2.41	Spike	P	0 - 30
2287064	Clothianidin	28.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P405850

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287064	Dinotefuran	12.3	Spike	P	0 - 30
2287064	Diuron	10.2	Spike	P	0 - 30
2287064	Fenuron	6.50	Spike	P	0 - 30
2287064	Fluridone	8.49	Spike	P	0 - 30
2287064	Hydrocodone	10.6	Spike	P	0 - 30
2287064	Ibuprofen	20.6	Spike	P	0 - 30
2287064	Imazapyr	4.12	Spike	P	0 - 30
2287064	Imidacloprid	6.28	Spike	P	0 - 30
2287064	Linuron	4.63	Spike	P	0 - 30
2287064	Mandestrobin	14.6	Spike	P	0 - 30
2287064	MCPPP	7.27	Spike	P	0 - 30
2287064	Naproxen	20.2	Spike	P	0 - 30
2287064	Primidone	3.57	Spike	P	0 - 30
2287064	Pyraclostrobin	0.0843	Spike	P	0 - 30
2287064	Thiamethoxam	7.20	Spike	P	0 - 30
2287064	Tolfenpyrad	8.63	Spike	P	0 - 30
2287064	Triclopyr	0.852	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P405862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287064	Acesulfame K	7.60	Spike	P	0 - 30
2287064	AMPA	2.52	Spike	P	0 - 30
2287064	Endothall	3.95	Spike	P	0 - 30
2287064	Glufosinate	1.32	Spike	P	0 - 30
2287064	Glyphosate	1.21	Spike	P	0 - 30
2287064	Sucralose	1.73	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P405987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287201	Total Alkalinity	0.383	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P405990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2287201	Fluoride	0.476	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P406059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286762	Organic Carbon	1.52	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2287260

Field Sample ID: G2SE0063

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	111	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Carbamazepine-d10	115	P	30 - 160
EPA 8321B	Diuron-d6	98.5	P	30 - 160
EPA 8321B	Endothall-d6	51.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.9	P	30 - 160
EPA 8321B	Primidone-d5	108	P	30 - 160
EPA 8321B	Sucralose-d6	74.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108663

Included Lab Sample IDs: 2287238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108665

Included Lab Sample IDs: 2287236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	101	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108679

Included Lab Sample IDs: 2287237

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

Reference Method: SM 2320 B-2011

Run ID: A108707

Included Lab Sample IDs: 2287236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A108707

Included Lab Sample IDs: 2287236

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

Reference Method: EPA 8321B

Run ID: A108725

Included Lab Sample IDs: 2287260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	96.6	P/P	60 - 160
Glufosinate	99.7	101	P/P	60 - 160
Glyphosate	109	111	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A108728

Included Lab Sample IDs: 2287260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	100	94.6	P/P	60 - 160
Endothall	73.2	69.9	P/P	60 - 160
Sucralose	91.8	87.1	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A108741

Included Lab Sample IDs: 2287237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	94.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108743

Included Lab Sample IDs: 2287237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108758

Included Lab Sample IDs: 2287237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A108777

Included Lab Sample IDs: 2287260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.0	86.2	P/P	50 - 150
2,4,5-T	101	107	P/P	50 - 150
Acetaminophen	90.3	91.4	P/P	60 - 160
Acetamiprid	112	109	P/P	50 - 150
Afidopyropen	111	103	P/P	50 - 150
Bentazon	113	88.7	P/P	50 - 160
Benzovindiflupyr	116	110	P/P	50 - 150
Carbamazepine	114	120	P/P	60 - 150
Clothianidin	129	120	P/P	60 - 150
Dinotefuran	102	116	P/P	50 - 150
Diuron	119	115	P/P	60 - 160
Fenuron	110	108	P/P	60 - 150
Fluridone	109	107	P/P	60 - 160
Hydrocodone	112	103	P/P	60 - 150
Ibuprofen	71.8	75.4	P/P	50 - 160
Imazapyr	111	108	P/P	50 - 150
Imidacloprid	108	114	P/P	60 - 150
Linuron	114	116	P/P	60 - 150
Mandestrobin	103	105	P/P	50 - 150
MCPP	88.8	99.9	P/P	50 - 150
Naproxen	112	112	P/P	50 - 160
Primidone	113	108	P/P	60 - 150
Pyraclostrobin	114	106	P/P	60 - 150
Thiamethoxam	118	125	P/P	50 - 150
Tolfenpyrad	104	106	P/P	60 - 150
Triclopyr	105	109	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108800

Included Lab Sample IDs: 2287237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	108	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	MS
EPA 180.1 Rev. 2.0	Turbidity					0.0	
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	102	100			1.87
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	102	96.9			4.36
EPA 353.2 Rev. 2.0	NO2NO3-N	102	104	104			0.0
EPA 365.1 Rev. 2.0	Total-P	104	97.6	94.6			3.04
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	95.9	96.5	98.5			1.58
EPA 8321B	2,4-D	102	111	109			2.28
	2,4,5-T	92.0	101	112			10.1
	Acesulfame K	89.0	123	133			7.60
	Acetaminophen	93.3	136	95.9			28.5
	Acetamiprid	104	119	103			14.8
	Afidopyropen	75.4	95.8	82.4			15.1
	AMPA	103	89.9	87.7			2.52
	Bentazon	98.1	58.8	65.3			10.4
	Benzovindiflupyr	96.4	89.8	85.7			4.47
	Carbamazepine	107	114	111			2.41
	Clothianidin	115	123	92.2			28.7
	Dinotefuran	104	152	134			12.3
	Diuron	105	79.8	88.3			10.2
	Endothall	72.2	84.6	81.3			3.95
	Fenuron	102	90.7	85.0			6.50
	Fluridone	97.4	89.4	82.1			8.49
	Glufosinate	104	96.6	97.9			1.32
	Glyphosate	109	99.6	101			1.21
	Hydrocodone	94.0	110	99.3			10.6
	Ibuprofen	65.9	71.3	87.7			20.6
	Imazapyr	95.0	125	118			4.12
	Imidacloprid	105	194	181			6.28
	Linuron	96.2	80.4	76.7			4.63
	Mandestrobin	101	97.8	84.5			14.6
	MCPP	116	131	122			7.27
	Naproxen	90.1	89.3	109			20.2
	Primidone	102	110	114			3.57
	Pyraclostrobin	86.6	81.4	81.3			0.0843
	Sucralose	89.7	89.0	87.5			1.73
	Thiamethoxam	112	170	158			7.20
	Tolfenpyrad	54.2	49.9	54.4			8.63
	Triclopyr	89.6	108	107			0.852
SM 2320 B-2011	Total Alkalinity	99.1				0.383	
SM 4500 F-C-2011	Fluoride	100	98.9	99.8			0.476
SM 5310 B-2011	Organic Carbon	101	92.2	93.8			1.52

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2287236
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2287237
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2287237
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2287237
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2287237
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2287238
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2287260

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2287236
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2287236
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2287236
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2287237

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	11/02/2021			11/02/2021 16:49	Khloe J Berg	2287236
EPA 350.1 Rev. 2.0	11/02/2021			11/04/2021 11:46	Ping Hua	2287237
EPA 351.2 Rev. 2.0	11/02/2021	11/08/2021 13:15	Benjamin T. Nordmann	11/09/2021 11:10	Alexandra J Mattheus	2287237
EPA 353.2 Rev. 2.0	11/02/2021			11/03/2021 09:20	Beverly Y. Sanders	2287237
EPA 365.1 Rev. 2.0	11/02/2021	11/03/2021 16:35	Simonne.V. Calhoun	11/05/2021 16:15	Sarah A Nixon	2287237
EPA 365.1 Rev. 2.0 dissolved	11/02/2021			11/02/2021 15:29	James L Waggeberby	2287238
EPA 8321B	11/02/2021	11/03/2021 09:00	Hoor Shaik	11/05/2021 01:42	Juyoung Kim	2287260
	11/02/2021	11/03/2021 11:50	Juyoung Kim	11/03/2021 17:06	Juyoung Kim	2287260
	11/02/2021	11/03/2021 11:50	Juyoung Kim	11/04/2021 20:53	Manjita Shrestha	2287260
SM 2320 B-2011	11/02/2021			11/03/2021 23:40	Dale L. Simmons	2287236
SM 2540 D-2011	11/02/2021			11/05/2021 15:35	Yijie Li	2287236
SM 4500 F-C-2011	11/02/2021			11/03/2021 22:07	Dale L. Simmons	2287236
SM 5310 B-2011	11/02/2021			11/04/2021 09:01	Khloe J Berg	2287237