

Chemical Analysis Report

SE-DIST-2021-07-20-01

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

Event Description: **SMP - 3208B Deploy**
Request ID: **RQ-2021-05-10-57**
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: Colin Wright, Program Administrator

Date Certified: 16-AUG-2021 11:21

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light blue 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: Manatee Pocket North

Collection Date/Time: 07/19/2021 14:20

Field ID: G2SE0063

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2263382	EPA 180.1 Rev. 2.0	Turbidity	5.8	A	NTU	P401249	
	SM 2320 B-2011	Total Alkalinity	129		mg CaCO3/L	P401466	
	SM 2540 D-2011	TSS	8	I	mg/L	P401807	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P401472	
2263383	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P401706	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P402206	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P401294	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P401641	
	SM 5310 B-2011	Organic Carbon	5.9		mg C/L	P401624	
2263384	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P401239	
2263396	EPA 8321B	Acesulfame K	0.10	U	ug/L	P401256	
		2,4-D	0.032		ug/L	P401218	
		AMPA	1.0	U	ug/L	P401256	
		2,4,5-T	0.0040	U	ug/L	P401218	
		Acetaminophen	0.0080	U	ug/L	P401218	MS, RPD
		Endothall	0.25	U	ug/L	P401256	
		Acetamiprid	0.0020	U	ug/L	P401218	
		Glufosinate	1.0	U	ug/L	P401256	
		Glyphosate	1.0	U	ug/L	P401256	
		Afidopyropen	0.0020	U	ug/L	P401218	
		Sucralose	0.10		ug/L	P401256	
		Bentazon	0.018		ug/L	P401218	
		Benzovindiflupyr	0.0020	U	ug/L	P401218	
		Carbamazepine	8.0E-04	U	ug/L	P401218	
		Clothianidin	0.0020	U	ug/L	P401218	
		Dinotefuran	0.0020	U	ug/L	P401218	
		Diuron	0.013		ug/L	P401218	
		Fenuron	0.016	U	ug/L	P401218	
		Fluridone	0.0025	I	ug/L	P401218	
		Imazapyr	0.089		ug/L	P401218	
		Hydrocodone	0.0020	U	ug/L	P401218	
		Ibuprofen	0.020	U	ug/L	P401218	
		Imidacloprid	0.0041	I	ug/L	P401218	
		Linuron	0.0040	U	ug/L	P401218	
		Mandestrobin	0.0020	U	ug/L	P401218	
		MCP	0.0020	U	ug/L	P401218	
		Naproxen	0.0080	U	ug/L	P401218	
		Primidone	0.0040	U	ug/L	P401218	
		Pyraclostrobin	0.0020	U	ug/L	P401218	
		Thiamethoxam	0.0020	U	ug/L	P401218	
		Tolfenpyrad	0.0020	U	ug/L	P401218	
		Triclopyr	0.0040	U	ug/L	P401218	

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.
EPA 8321B: MS accuracy for 2,4-D 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: P401249

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401706

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402206

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401294

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401641

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401239

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

Reference Method: EPA 8321B
Batch ID: P401218

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: P401218

Component	Result	Code	Units
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
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P401256

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: P401466

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

Reference Method: SM 2540 D-2011

Batch ID: P401807

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P401472

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P401624

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: P401706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P402206

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: P401294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P401641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P401239

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

Reference Method: EPA 8321B

Batch ID: P401218

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	121		P	30 - 160
2,4,5-T	122		P	30 - 160
Acetaminophen	86.2		P	30 - 160
Acetamiprid	85.9		P	30 - 160
Afidopyropen	70.0		P	30 - 160
Bentazon	95.0		P	30 - 160
Benzovindiflupyr	91.7		P	30 - 160
Carbamazepine	101		P	30 - 160
Clothianidin	98.6		P	30 - 160
Dinotefuran	94.6		P	30 - 160
Diuron	94.6		P	30 - 160
Fenuron	95.5		P	30 - 160
Fluridone	89.2		P	30 - 160
Hydrocodone	95.5		P	30 - 160
Ibuprofen	91.0		P	30 - 160
Imazapyr	110		P	30 - 160
Imidacloprid	95.8		P	30 - 160
Linuron	87.9		P	30 - 160
Mandestrobin	90.7		P	30 - 160
MCPP	115		P	30 - 160
Naproxen	72.0		P	30 - 160
Primidone	108		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P401218

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	81.4		P	30 - 160
Thiamethoxam	95.7		P	30 - 160
Tolfenpyrad	39.8		P	30 - 160
Triclopyr	120		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P401256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	85.8		P	40 - 150
AMPA	95.8		P	40 - 150
Endothall	93.4		P	40 - 150
Glufosinate	99.6		P	40 - 150
Glyphosate	96.1		P	40 - 150
Sucralose	83.3		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P401466

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P401472

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P401624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P401706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263493	Ammonia-N	104	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P402206

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263229	Kjeldahl Nitrogen	111	106	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P401294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263172	NO2NO3-N	101	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P401641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263383	Total-P	102	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P401239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263175	O-Phosphate-P	97.7	98.7	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P401218

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263287	2,4,5-T	122	127	P/P	30 - 160
2263287	Acetaminophen	254	110	F/P	30 - 160
2263287	Acetamiprid	88.9	101	P/P	30 - 160
2263287	Afidopyropen	79.9	91.3	P/P	30 - 160
2263287	Bentazon	78.4	82.0	P/P	30 - 160
2263287	Benzovindiflupyr	98.2	103	P/P	30 - 160
2263287	Carbamazepine	102	104	P/P	30 - 160
2263287	Clothianidin	119	120	P/P	30 - 160
2263287	Dinotefuran	121	122	P/P	30 - 160
2263287	Diuron	86.0	91.2	P/P	30 - 160
2263287	Fenuron	76.9	78.5	P/P	30 - 160
2263287	Fluridone	86.3	88.5	P/P	30 - 160
2263287	Hydrocodone	107	108	P/P	30 - 160
2263287	Ibuprofen	89.6	96.1	P/P	30 - 160
2263287	Imazapyr	136	140	P/P	30 - 160
2263287	Imidacloprid	154	156	P/P	30 - 160
2263287	Linuron	83.1	81.8	P/P	30 - 160
2263287	Mandestrobin	93.6	96.3	P/P	30 - 160
2263287	MCP	124	127	P/P	30 - 160
2263287	Naproxen	75.4	77.7	P/P	30 - 160
2263287	Primidone	118	126	P/P	30 - 160
2263287	Pyraclostrobin	94.5	100	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P401218

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263287	Thiamethoxam	150	152	P/P	30 - 160
2263287	Tolfenpyrad	60.0	55.9	P/P	30 - 160
2263287	Triclopyr	126	130	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P401256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263287	Acesulfame K	121	130	P/P	40 - 150
2263287	AMPA	79.5	84.1	P/P	40 - 150
2263287	Endothall	110	105	P/P	40 - 150
2263287	Glufosinate	108	109	P/P	40 - 150
2263287	Glyphosate	85.9	85.8	P/P	40 - 150
2263287	Sucralose	90.2	93.3	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P401472

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263226	Fluoride	97.4	99.5	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P401624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263489	Organic Carbon	97.3	98.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P401249

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263382	Turbidity	2.76	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P401706

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263493	Ammonia-N	0.852	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P402206

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263229	Kjeldahl Nitrogen	3.91	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P401294

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263172	NO2NO3-N	1.75	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P401641

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263383	Total-P	1.55	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P401239

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263175	O-Phosphate-P	0.805	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P401218

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263287	2,4-D	9.34	Spike	P	0 - 30
2263287	2,4,5-T	3.81	Spike	P	0 - 30
2263287	Acetaminophen	79.3	Spike	F	0 - 30
2263287	Acetamiprid	12.7	Spike	P	0 - 30
2263287	Afidopyropen	13.4	Spike	P	0 - 30
2263287	Bentazon	4.50	Spike	P	0 - 30
2263287	Benzovindiflupyr	4.71	Spike	P	0 - 30
2263287	Carbamazepine	2.13	Spike	P	0 - 30
2263287	Clothianidin	0.554	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P401218

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263287	Dinotefuran	0.675	Spike	P	0 - 30
2263287	Diuron	4.96	Spike	P	0 - 30
2263287	Fenuron	2.08	Spike	P	0 - 30
2263287	Fluridone	2.59	Spike	P	0 - 30
2263287	Hydrocodone	1.09	Spike	P	0 - 30
2263287	Ibuprofen	6.97	Spike	P	0 - 30
2263287	Imazapyr	2.57	Spike	P	0 - 30
2263287	Imidacloprid	0.986	Spike	P	0 - 30
2263287	Linuron	1.57	Spike	P	0 - 30
2263287	Mandestrobin	2.83	Spike	P	0 - 30
2263287	MCPPP	2.28	Spike	P	0 - 30
2263287	Naproxen	3.08	Spike	P	0 - 30
2263287	Primidone	6.12	Spike	P	0 - 30
2263287	Pyraclostrobin	5.96	Spike	P	0 - 30
2263287	Thiamethoxam	1.25	Spike	P	0 - 30
2263287	Tolfenpyrad	7.11	Spike	P	0 - 30
2263287	Triclopyr	2.72	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P401256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263287	Acesulfame K	7.30	Spike	P	0 - 30
2263287	AMPA	5.07	Spike	P	0 - 30
2263287	Endothall	4.58	Spike	P	0 - 30
2263287	Glufosinate	0.494	Spike	P	0 - 30
2263287	Glyphosate	0.0999	Spike	P	0 - 30
2263287	Sucralose	3.47	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P401466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263226	Total Alkalinity	0.417	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011

Batch ID: P401472

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263226	Fluoride	1.39	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011

Batch ID: P401624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263489	Organic Carbon	0.646	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: 2263396

Field Sample ID: G2SE0063

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	125	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	109	P	30 - 160
EPA 8321B	Diuron-d6	83.0	P	30 - 160
EPA 8321B	Endothall-d6	91.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	35.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	94.4	P	30 - 160
EPA 8321B	Primidone-d5	117	P	30 - 160
EPA 8321B	Sucralose-d6	80.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106713

Included Lab Sample IDs: 2263384

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.9	99.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106714

Included Lab Sample IDs: 2263382

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106736

Included Lab Sample IDs: 2263383

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

Reference Method: EPA 8321B

Run ID: A106754

Included Lab Sample IDs: 2263396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	96.9	102	P/P	60 - 160
Glufosinate	103	102	P/P	60 - 160
Glyphosate	97.6	97.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A106768

Included Lab Sample IDs: 2263396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.7	95.7	P/P	50 - 150
2,4,5-T	98.4	100	P/P	50 - 150
Acetaminophen	108	109	P/P	60 - 160
Acetamiprid	105	104	P/P	50 - 150
Afidopyropen	119	101	P/P	50 - 150
Bentazon	102	102	P/P	50 - 160
Benzovindiflupyr	115	110	P/P	50 - 160
Carbamazepine	106	106	P/P	60 - 150
Clothianidin	107	109	P/P	60 - 150
Dinotefuran	105	104	P/P	50 - 150
Diuron	119	119	P/P	60 - 160
Fenuron	107	106	P/P	60 - 150
Fluridone	102	102	P/P	60 - 160
Hydrocodone	111	108	P/P	60 - 150
Ibuprofen	106	103	P/P	50 - 160
Imazapyr	108	112	P/P	50 - 160
Imidacloprid	101	99.6	P/P	60 - 150
Linuron	110	110	P/P	60 - 150
Mandestrobin	108	108	P/P	50 - 150
MCPP	95.4	97.8	P/P	50 - 150
Naproxen	87.7	89.9	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106768
Included Lab Sample IDs: 2263396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Primidone	109	110	P/P	60 - 150
Pyraclostrobin	110	104	P/P	60 - 150
Thiamethoxam	104	104	P/P	50 - 150
Tolfenpyrad	105	103	P/P	60 - 150
Triclopyr	101	103	P/P	50 - 150

Reference Method: SM 2320 B-2011
Run ID: A106794
Included Lab Sample IDs: 2263382

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

Reference Method: SM 4500 F-C-2011
Run ID: A106794
Included Lab Sample IDs: 2263382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	104	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A106812
Included Lab Sample IDs: 2263396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	86.4	98.5	P/P	60 - 160
Endothall	90.1	95.5	P/P	60 - 160
Sucralose	82.8	85.2	P/P	60 - 160

Reference Method: SM 5310 B-2011
Run ID: A106870
Included Lab Sample IDs: 2263383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A106917
Included Lab Sample IDs: 2263383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A106942
Included Lab Sample IDs: 2263383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107152

Included Lab Sample IDs: 2263383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	99.2	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					2.76	
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	104	105			0.852
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	111	106			3.91
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	101	98.8			1.75
EPA 365.1 Rev. 2.0	Total-P	106	102	99.8			1.55
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	97.7	98.7			0.805
EPA 8321B	2,4-D	121					9.34
	2,4,5-T	122	122	127			3.81
	Acesulfame K	85.8	121	130			7.30
	Acetaminophen	86.2	254	110			79.3
	Acetamiprid	85.9	88.9	101			12.7
	Afidopyropen	70.0	79.9	91.3			13.4
	AMPA	95.8	79.5	84.1			5.07
	Bentazon	95.0	78.4	82.0			4.50
	Benzovindiflupyr	91.7	98.2	103			4.71
	Carbamazepine	101	102	104			2.13
	Clothianidin	98.6	119	120			0.554
	Dinotefuran	94.6	121	122			0.675
	Diuron	94.6	86.0	91.2			4.96
	Endothall	93.4	110	105			4.58
	Fenuron	95.5	76.9	78.5			2.08
	Fluridone	89.2	86.3	88.5			2.59
	Glufosinate	99.6	108	109			0.494
	Glyphosate	96.1	85.9	85.8			0.0999
	Hydrocodone	95.5	107	108			1.09
	Ibuprofen	91.0	89.6	96.1			6.97
	Imazapyr	110	136	140			2.57
	Imidacloprid	95.8	154	156			0.986
	Linuron	87.9	83.1	81.8			1.57
	Mandestrobin	90.7	93.6	96.3			2.83
	MCPP	115	124	127			2.28
	Naproxen	72.0	75.4	77.7			3.08
	Primidone	108	118	126			6.12
	Pyraclostrobin	81.4	94.5	100			5.96
	Sucralose	83.3	90.2	93.3			3.47
	Thiamethoxam	95.7	150	152			1.25
	Tolfenpyrad	39.8	60.0	55.9			7.11
	Triclopyr	120	126	130			2.72
SM 2320 B-2011	Total Alkalinity	102				0.417	
SM 4500 F-C-2011	Fluoride	101	97.4	99.5			1.39
SM 5310 B-2011	Organic Carbon	98.6	97.3	98.0			0.646

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2263382
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2263383
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2263383
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2263383
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2263383
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2263384
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2263396

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2263382
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2263382
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2263382
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2263383

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	07/20/2021			07/20/2021 15:51	Sarah A Nixon	2263382
EPA 350.1 Rev. 2.0	07/20/2021			07/29/2021 12:49	Ping Hua	2263383
EPA 351.2 Rev. 2.0	07/20/2021	08/09/2021 18:22	Madeline Gruver	08/10/2021 15:07	Virginia P. Brown	2263383
EPA 353.2 Rev. 2.0	07/20/2021			07/21/2021 12:39	Beverly Y. Sanders	2263383
EPA 365.1 Rev. 2.0	07/20/2021	07/29/2021 12:32	Simonne.V. Calhoun	07/30/2021 12:10	Shengyu Ding	2263383
EPA 365.1 Rev. 2.0 dissolved	07/20/2021			07/20/2021 16:09	Ping Hua	2263384
EPA 8321B	07/20/2021	07/21/2021 09:00	Hoor Shaik	07/22/2021 06:01	Juyoung Kim	2263396
	07/20/2021	07/21/2021 09:00	Juyoung Kim	07/21/2021 17:16	Juyoung Kim	2263396
	07/20/2021	07/21/2021 09:00	Juyoung Kim	07/23/2021 12:16	Pramila Ghimire	2263396
SM 2320 B-2011	07/20/2021			07/23/2021 08:44	Dale L. Simmons	2263382
SM 2540 D-2011	07/20/2021			07/23/2021 15:22	Yijie Li	2263382
SM 4500 F-C-2011	07/20/2021			07/23/2021 07:19	Dale L. Simmons	2263382
SM 5310 B-2011	07/20/2021			07/27/2021 12:15	Touraj Touran	2263383