

Chemical Analysis Report

SE-DIST-2021-06-30-03

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

Event Description: **SMP - 3129B1sonde, 3108B final, 3121 monthly, 3194A bio**
Request ID: **RQ-2021-06-14-40**
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: Liang Lin, Environmental Administrator

Date Certified: 22-JUL-2021 10:24

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: South Prong Sebastian @ Park Dock

Collection Date/Time: 06/29/2021 13:00

Field ID: G5SE0079

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2257978	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P400432	
	SM 2320 B-2011	Total Alkalinity	155	A	mg CaCO3/L	P400708	
	SM 2540 D-2011	TSS	6	I	mg/L	P400674	
	SM 4500 F-C-2011	Fluoride	0.64		mg F/L	P400711	
2257979	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P400873	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P400637	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400623	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P400526	
	SM 5310 B-2011	Organic Carbon	8.5		mg C/L	P400569	
2257980	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.071		mg P/L	P400411	
2257988	EPA 8321B	Acesulfame K	0.10	U	ug/L	P400314	
		2,4-D	0.0072	I	ug/L	P400315	
		AMPA	1.0	U	ug/L	P400314	
		2,4,5-T	0.0040	U	ug/L	P400315	
		Acetaminophen	0.0080	U	ug/L	P400315	
		Endothall	0.25	U	ug/L	P400314	
		Acetamiprid	0.0020	U	ug/L	P400315	
		Glufosinate	1.0	U	ug/L	P400314	
		Glyphosate	1.0	U	ug/L	P400314	
		Afidopyropen	0.0020	U	ug/L	P400315	
		Sucralose	0.16		ug/L	P400314	
		Bentazon	0.0099		ug/L	P400315	
		Benzovindiflupyr	0.0020	U	ug/L	P400315	
		Carbamazepine	8.0E-04	U	ug/L	P400315	
		Clothianidin	0.0022	I	ug/L	P400315	
		Dinotefuran	0.0020	U	ug/L	P400315	
		Diuron	0.0029	I	ug/L	P400315	
		Fenuron	0.016	U	ug/L	P400315	
		Fluridone	0.0016	I	ug/L	P400315	
		Imazapyr	0.032		ug/L	P400315	MS
		Hydrocodone	0.0020	U	ug/L	P400315	
		Ibuprofen	0.020	U	ug/L	P400315	
		Imidacloprid	0.017		ug/L	P400315	
		Linuron	0.0040	U	ug/L	P400315	
		Mandestrobin	0.0020	U	ug/L	P400315	
		MCP	0.0020	U	ug/L	P400315	
		Naproxen	0.0080	U	ug/L	P400315	
		Primidone	0.0040	U	ug/L	P400315	
		Pyraclostrobin	0.0020	U	ug/L	P400315	
		Thiamethoxam	0.0020	U	ug/L	P400315	
		Tolfenpyrad	0.0020	U	ug/L	P400315	
		Triclopyr	0.0040	U	ug/L	P400315	

Field ID: G5SE0079

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: P400432

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400873

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400637

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400623

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400526

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400411

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

Reference Method: EPA 8321B
Batch ID: P400314

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: P400315

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P400315

Component	Result	Code	Units
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
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: SM 2320 B-2011

Batch ID: P400708

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

Reference Method: SM 2540 D-2011

Batch ID: P400674

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P400711

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P400569

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: P400873

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400637

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400623

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400526

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400411

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

Reference Method: EPA 8321B
Batch ID: P400314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	89.8		P	40 - 150
AMPA	97.0		P	40 - 150
Endothall	97.7		P	40 - 150
Glufosinate	93.3		P	40 - 150
Glyphosate	96.5		P	40 - 150
Sucralose	85.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P400315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	120		P	30 - 160
2,4,5-T	128		P	30 - 160
Acetaminophen	83.0		P	30 - 160
Acetamiprid	90.6		P	30 - 160
Afidopyropen	73.6		P	30 - 160
Bentazon	92.3		P	30 - 160
Benzovindiflupyr	92.8		P	30 - 160
Carbamazepine	92.0		P	30 - 160
Clothianidin	92.2		P	30 - 160
Dinotefuran	88.1		P	30 - 160
Diuron	73.7		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P400315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	99.7		P	30 - 160
Fluridone	87.6		P	30 - 160
Hydrocodone	94.6		P	30 - 160
Ibuprofen	86.0		P	30 - 160
Imazapyr	101		P	30 - 160
Imidacloprid	92.6		P	30 - 160
Linuron	73.3		P	30 - 160
Mandestrobin	94.1		P	30 - 160
MCPP	125		P	30 - 160
Naproxen	82.1		P	30 - 160
Primidone	93.3		P	30 - 160
Pyraclostrobin	81.1		P	30 - 160
Thiamethoxam	91.7		P	30 - 160
Tolfenpyrad	47.4		P	30 - 160
Triclopyr	122		P	30 - 160

Reference Method: SM 2320 B-2011

Batch ID: P400708

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P400711

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P400569

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257750	Ammonia-N	98.4	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400637

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257749	Kjeldahl Nitrogen	99.5	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257979	NO2NO3-N	95.0	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400526

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257749	Total-P	96.5	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257980	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P400314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257607	Acesulfame K	78.8	87.6	P/P	40 - 150
2257607	AMPA	85.0	82.9	P/P	40 - 150
2257607	Endothall	93.9	93.7	P/P	40 - 150
2257607	Glufosinate	86.9	89.2	P/P	40 - 150
2257607	Glyphosate	91.4	82.6	P/P	40 - 150
2257607	Sucralose	80.9	85.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P400315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256868	2,4-D	122	124	P/P	30 - 160
2256868	2,4,5-T	113	116	P/P	30 - 160
2256868	Acetaminophen	112	112	P/P	30 - 160
2256868	Acetamiprid	82.4	74.6	P/P	30 - 160
2256868	Afidopyrophen	71.1	57.7	P/P	30 - 160
2256868	Bentazon	79.5	74.5	P/P	30 - 160
2256868	Benzovindiflupyr	84.5	91.2	P/P	30 - 160
2256868	Carbamazepine	85.2	87.3	P/P	30 - 160
2256868	Clothianidin	114	107	P/P	30 - 160
2256868	Dinotefuran	125	123	P/P	30 - 160
2256868	Diuron	75.7	68.5	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P400315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256868	Fenuron	83.1	79.1	P/P	30 - 160
2256868	Fluridone	79.7	81.1	P/P	30 - 160
2256868	Hydrocodone	108	107	P/P	30 - 160
2256868	Ibuprofen	84.8	67.3	P/P	30 - 160
2256868	Imazapyr	168	159	F/P	30 - 160
2256868	Imidacloprid	148	155	P/P	30 - 160
2256868	Linuron	70.6	70.0	P/P	30 - 160
2256868	Mandestrobin	94.0	90.3	P/P	30 - 160
2256868	MCPD	113	112	P/P	30 - 160
2256868	Naproxen	97.4	75.5	P/P	30 - 160
2256868	Primidone	122	111	P/P	30 - 160
2256868	Pyraclostrobin	88.6	80.2	P/P	30 - 160
2256868	Thiamethoxam	145	148	P/P	30 - 160
2256868	Tolfenpyrad	53.7	55.9	P/P	30 - 160
2256868	Triclopyr	121	113	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P400711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257978	Fluoride	98.2	99.9	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P400569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257743	Organic Carbon	95.9	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400432

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257960	Turbidity	2.63	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257750	Ammonia-N	0.751	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257749	Kjeldahl Nitrogen	1.08	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257979	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257749	Total-P	0.519	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257980	O-Phosphate-P	0.290	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P400314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257607	Acesulfame K	9.91	Spike	P	0 - 30
2257607	AMPA	2.21	Spike	P	0 - 30
2257607	Endothall	0.197	Spike	P	0 - 30
2257607	Glufosinate	2.64	Spike	P	0 - 30
2257607	Glyphosate	9.03	Spike	P	0 - 30
2257607	Sucralose	5.32	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P400315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256868	2,4-D	1.26	Spike	P	0 - 30
2256868	2,4,5-T	3.02	Spike	P	0 - 30
2256868	Acetaminophen	0.0414	Spike	P	0 - 30
2256868	Acetamiprid	10.0	Spike	P	0 - 30
2256868	Afidopyropen	20.9	Spike	P	0 - 30
2256868	Bentazon	4.42	Spike	P	0 - 30
2256868	Benzovindiflupyr	7.62	Spike	P	0 - 30
2256868	Carbamazepine	2.49	Spike	P	0 - 30
2256868	Clothianidin	6.72	Spike	P	0 - 30
2256868	Dinotefuran	1.79	Spike	P	0 - 30
2256868	Diuron	9.87	Spike	P	0 - 30
2256868	Fenuron	4.91	Spike	P	0 - 30
2256868	Fluridone	1.73	Spike	P	0 - 30
2256868	Hydrocodone	1.10	Spike	P	0 - 30
2256868	Ibuprofen	23.0	Spike	P	0 - 30
2256868	Imazapyr	5.53	Spike	P	0 - 30
2256868	Imidacloprid	3.73	Spike	P	0 - 30
2256868	Linuron	0.884	Spike	P	0 - 30
2256868	Mandestrobin	4.05	Spike	P	0 - 30
2256868	MCP	0.487	Spike	P	0 - 30
2256868	Naproxen	25.3	Spike	P	0 - 30
2256868	Primidone	9.27	Spike	P	0 - 30
2256868	Pyraclostrobin	9.94	Spike	P	0 - 30
2256868	Thiamethoxam	2.44	Spike	P	0 - 30
2256868	Tolfenpyrad	4.05	Spike	P	0 - 30
2256868	Triclopyr	6.44	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P400708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257978	Total Alkalinity	0.342	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P400711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257978	Fluoride	0.915	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P400569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257743	Organic Carbon	0.504	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2257988

Field Sample ID: G5SE0079

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	126	P	30 - 160
EPA 8321B	Acetaminophen-d4	125	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.7	P	30 - 160
EPA 8321B	Diuron-d6	54.0	P	30 - 160
EPA 8321B	Endothall-d6	90.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	43.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	68.8	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	82.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106369

Included Lab Sample IDs: 2257980

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106383

Included Lab Sample IDs: 2257978

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

Reference Method: EPA 8321B

Run ID: A106390

Included Lab Sample IDs: 2257988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.7	95.4	P/P	50 - 150
2,4,5-T	104	99.2	P/P	50 - 150
Acetaminophen	111	104	P/P	60 - 160
Acetamiprid	104	101	P/P	50 - 150
Afidopyropen	97.1	95.0	P/P	50 - 150
Bentazon	105	101	P/P	50 - 160
Benzovindiflupyr	113	114	P/P	50 - 160
Carbamazepine	111	109	P/P	60 - 150
Clothianidin	116	105	P/P	60 - 150
Dinotefuran	109	103	P/P	50 - 150
Diuron	105	108	P/P	60 - 160
Fenuron	99.6	104	P/P	60 - 150
Fluridone	101	103	P/P	60 - 160
Hydrocodone	109	108	P/P	60 - 150
Ibuprofen	96.7	103	P/P	50 - 160
Imazapyr	108	94.0	P/P	50 - 160
Imidacloprid	94.3	95.4	P/P	60 - 150
Linuron	114	101	P/P	60 - 150
Mandestrobin	107	113	P/P	50 - 150
MCP	105	103	P/P	50 - 150
Naproxen	91.9	102	P/P	50 - 160
Primidone	101	100	P/P	60 - 150
Pyraclostrobin	104	108	P/P	60 - 150
Thiamethoxam	106	106	P/P	50 - 150
Tolfenpyrad	107	101	P/P	60 - 150
Triclopyr	103	103	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A106404

Included Lab Sample IDs: 2257988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	84.8	92.5	P/P	60 - 160
Glufosinate	84.8	91.4	P/P	60 - 160
Glyphosate	86.1	94.1	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106449

Included Lab Sample IDs: 2257979

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	103	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106454

Included Lab Sample IDs: 2257979

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.1	97.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106461

Included Lab Sample IDs: 2257988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	82.8	75.4	P/P	60 - 160
Endothall	80.2	71.1	P/P	60 - 160
Sucralose	77.4	75.8	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106480

Included Lab Sample IDs: 2257979

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106504

Included Lab Sample IDs: 2257979

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.9	103	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106513

Included Lab Sample IDs: 2257978

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.4	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106513

Included Lab Sample IDs: 2257978

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106584

Included Lab Sample IDs: 2257979

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106584

Included Lab Sample IDs: 2257979

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	99.0	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
EPA 180.1 Rev. 2.0	Turbidity					2.63
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	98.4	97.4		0.751
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.5	101		1.08
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	95.0	95.0		0.0
EPA 365.1 Rev. 2.0	Total-P	101	96.0	96.5		0.519
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	101	101		0.290
EPA 8321B	2,4-D	120	122	124		1.26
	2,4,5-T	128	113	116		3.02
	Acesulfame K	89.8	78.8	87.6		9.91
	Acetaminophen	83.0	112	112		0.0414
	Acetamiprid	90.6	82.4	74.6		10.0
	Afidopyropen	73.6	71.1	57.7		20.9
	AMPA	97.0	85.0	82.9		2.21
	Bentazon	92.3	79.5	74.5		4.42
	Benzovindiflupyr	92.8	84.5	91.2		7.62
	Carbamazepine	92.0	85.2	87.3		2.49
	Clothianidin	92.2	114	107		6.72
	Dinotefuran	88.1	125	123		1.79
	Diuron	73.7	75.7	68.5		9.87
	Endothall	97.7	93.9	93.7		0.197
	Fenuron	99.7	83.1	79.1		4.91
	Fluridone	87.6	79.7	81.1		1.73
	Glufosinate	93.3	86.9	89.2		2.64
	Glyphosate	96.5	91.4	82.6		9.03
	Hydrocodone	94.6	108	107		1.10
	Ibuprofen	86.0	84.8	67.3		23.0
	Imazapyr	101	168	159		5.53
	Imidacloprid	92.6	148	155		3.73
	Linuron	73.3	70.6	70.0		0.884
	Mandestrobin	94.1	94.0	90.3		4.05
	MCPP	125	113	112		0.487
	Naproxen	82.1	97.4	75.5		25.3
	Primidone	93.3	122	111		9.27
	Pyraclostrobin	81.1	88.6	80.2		9.94
	Sucralose	85.2	80.9	85.6		5.32
	Thiamethoxam	91.7	145	148		2.44
	Tolfenpyrad	47.4	53.7	55.9		4.05
	Triclopyr	122	121	113		6.44
SM 2320 B-2011	Total Alkalinity	103				0.342
SM 4500 F-C-2011	Fluoride	99.9	98.2	99.9		0.915
SM 5310 B-2011	Organic Carbon	96.8	95.9	96.4		0.504

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2257978
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2257979
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2257979
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2257979
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2257979
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2257980
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2257988

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2257978
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2257978
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2257978
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2257979

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	06/30/2021			06/30/2021 16:33	Sarah A Nixon	2257978
EPA 350.1 Rev. 2.0	06/30/2021			07/13/2021 12:59	Roberta Tatti	2257979
EPA 351.2 Rev. 2.0	06/30/2021	07/07/2021 13:14	Benjamin T. Nordmann	07/08/2021 11:57	Letuzia M De Oliveira	2257979
EPA 353.2 Rev. 2.0	06/30/2021			07/07/2021 10:23	Beverly Y. Sanders	2257979
EPA 365.1 Rev. 2.0	06/30/2021	07/02/2021 14:09	Madeline Gruver	07/06/2021 08:58	Shengyu Ding	2257979
EPA 365.1 Rev. 2.0 dissolved	06/30/2021			06/30/2021 14:22	Ping Hua	2257980
EPA 8321B	06/30/2021	06/30/2021 13:00	Hoor Shaik	07/01/2021 05:43	Juyoung Kim	2257988
	06/30/2021	07/01/2021 11:30	Pramila Ghimire	07/01/2021 20:40	Juyoung Kim	2257988
	06/30/2021	07/01/2021 11:30	Pramila Ghimire	07/02/2021 11:48	Pramila Ghimire	2257988
SM 2320 B-2011	06/30/2021			07/09/2021 04:47	Dale L. Simmons	2257978
SM 2540 D-2011	06/30/2021			07/01/2021 15:22	Yijie Li	2257978
SM 4500 F-C-2011	06/30/2021			07/09/2021 03:45	Dale L. Simmons	2257978
SM 5310 B-2011	06/30/2021			07/03/2021 10:56	Madeline Gruver	2257979