

Chemical Analysis Report

SW-DIST-2018-09-07-01

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

Event Description: **1443 E & F**
Request ID: **RQ-2018-09-03-31**
Customer: **SW-DIST**
Project ID: **SMP**

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Date Certified: 28-SEP-2018 10:55



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 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: HILLS R. @ LOWRY PARK

Collection Date/Time: 09/06/2018 09:20

Field ID: G2SW0020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023005	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P351323	
	SM 2320 B-97	Total Alkalinity	54		mg CaCO3/L	P351533	
	SM 2540 D-97	TSS	3	I	mg/L	P351731	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P351536	
2023007	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P351574	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P351483	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.067		mg N/L	P351585	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P351396	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P352042	
2023009	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.29		mg P/L	P351304	
2023047	EPA 8321B	2,4-D	0.014		ug/L	P351258	
		Sucralose**	0.31		ug/L	P351269	
		Bentazon	0.016	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.031		ug/L	P351258	
		Diuron	0.0042	I	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.082		ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	0.010		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	
		Acesulfame K**	0.10	UJ	ug/L	P351269	MS

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.
EPA 8321B: Refer to the narrative for an explanation of QC Codes.

Sample Location: HILLSBOROUGH RIVER @ I-275 BRIDGE

Collection Date/Time: 09/06/2018 09:50

Field ID: G2SW0034

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023006	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P351323	
	SM 2320 B-97	Total Alkalinity	53		mg CaCO3/L	P351533	
	SM 2540 D-97	TSS	3	I	mg/L	P351731	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P351536	
2023008	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P351574	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.93		mg N/L	P351483	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P351585	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P351396	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P352042	
2023010	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.29		mg P/L	P351303	
2023048	EPA 8321B	2,4-D	0.014		ug/L	P351258	
		Sucralose**	0.30		ug/L	P351269	
		Bentazon	0.034	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.030		ug/L	P351258	
		Diuron	0.0033	I	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.089		ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	0.0096		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.033	I	ug/L	P351258	
		Acesulfame K**	0.10	U	ug/L	P351269	MS

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: HILLSBOROUGH RIVER @ ROWLETT PARK DR.

Collection Date/Time: 09/06/2018 10:30

Field ID: G2SW0035

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023011	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P351323	
	SM 2320 B-97	Total Alkalinity	50		mg CaCO3/L	P351533	
	SM 2540 D-97	TSS	3	I	mg/L	P351731	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P351536	
2023012	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P351574	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P351483	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.054		mg N/L	P351585	
	EPA 365.1 Rev. 2.0	Total-P	0.33		mg P/L	P351396	
	SM 5310 B-00	Organic Carbon	20		mg C/L	P352042	
2023013	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.29		mg P/L	P351303	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351323

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351574

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351483

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351585

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: P351396

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351303

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351304

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

Reference Method: EPA 8321B
Batch ID: P351258

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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: P351258

Component	Result	Code	Units
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	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
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P351269

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P351533

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

Reference Method: SM 2540 D-97
Batch ID: P351731

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351536

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P352042

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: P351574

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.3		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P351483

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: P351585

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351396

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P351303

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P351304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.0		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P351258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.7	97.3	P/P	40 - 150
Acetaminophen	134	135	P/P	30 - 150
Bentazon	96.3	148	P/P	30 - 150
Carbamazepine	87.3	90.0	P/P	40 - 150
Diuron	81.2	91.2	P/P	40 - 150
Fenuron	95.2	115	P/P	40 - 150
Fluridone	103	114	P/P	40 - 150
Hydrocodone	105	113	P/P	40 - 150
Ibuprofen	81.5	95.1	P/P	40 - 150
Imazapyr	75.7	80.1	P/P	40 - 150
Imidacloprid	94.4	100	P/P	40 - 160
Linuron	71.7	72.9	P/P	40 - 150
MCPP	91.4	116	P/P	40 - 150
Naproxen	102	93.2	P/P	40 - 150
Primidone	80.8	95.6	P/P	40 - 150
Pyraclostrobin	78.6	91.2	P/P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P351258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Triclopyr	98.2	118	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	74.1		P	40 - 150
Sucralose	92.1		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P351533

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P352042

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: P351574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022942	Ammonia-N	98.3	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351483

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023019	Kjeldahl Nitrogen	94.2	95.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022969	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023022	Total-P	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023170	O-Phosphate-P	99.3	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022946	O-Phosphate-P	98.6	97.4	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P351269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023047	Acesulfame K	28.9	30.2	F/F	40 - 150
2023047	Sucralose	112	115	P/P	40 - 150

Reference Method: SM 5310 B-00
Batch ID: P352042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022278	Organic Carbon	97.6	98.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023016	Turbidity	4.72	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022942	Ammonia-N	1.93	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351483

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023019	Kjeldahl Nitrogen	0.983	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022969	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023022	Total-P	0.631	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023170	O-Phosphate-P	0.302	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022946	O-Phosphate-P	0.991	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P351258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4-D	8.16	LCS	P	0 - 30
LFB	Acetaminophen	1.08	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P351258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Bentazon	42.4	LCS	F	0 - 30
LFB	Carbamazepine	3.09	LCS	P	0 - 30
LFB	Diuron	11.6	LCS	P	0 - 30
LFB	Fenuron	18.7	LCS	P	0 - 30
LFB	Fluridone	9.32	LCS	P	0 - 30
LFB	Hydrocodone	7.04	LCS	P	0 - 30
LFB	Ibuprofen	15.4	LCS	P	0 - 30
LFB	Imazapyr	5.56	LCS	P	0 - 30
LFB	Imidacloprid	5.88	LCS	P	0 - 30
LFB	Linuron	1.62	LCS	P	0 - 30
LFB	MCPD	23.4	LCS	P	0 - 30
LFB	Naproxen	9.25	LCS	P	0 - 30
LFB	Primidone	16.8	LCS	P	0 - 30
LFB	Pyraclostrobin	14.8	LCS	P	0 - 30
LFB	Triclopyr	18.4	LCS	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P351269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023047	Acesulfame K	4.38	Spike	P	0 - 30
2023047	Sucralose	2.25	Spike	P	0 - 30

Reference Method: SM 2320 B-97
 Batch ID: P351533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022887	Total Alkalinity	0.0958	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
 Batch ID: P351536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022887	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
 Batch ID: P352042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022278	Organic Carbon	0.551	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
 Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2023047
Field Sample ID: G2SW0020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	122	P	30 - 160
EPA 8321B	Acetaminophen-d4	146	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.1	P	30 - 160
EPA 8321B	Diuron-d6	65.7	P	30 - 160
EPA 8321B	Endothall-d6	147	P	40 - 160
EPA 8321B	Endothall-d6	147	P	40 - 160
EPA 8321B	Ibuprofen-d3	89.2	P	30 - 160
EPA 8321B	Primidone-d5	83.2	P	30 - 160
EPA 8321B	Sucralose-d6	116	P	40 - 160
EPA 8321B	Sucralose-d6	116	P	40 - 160

Lab Sample ID: 2023048
Field Sample ID: G2SW0034

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	140	P	30 - 160
EPA 8321B	Acetaminophen-d4	145	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.1	P	30 - 160
EPA 8321B	Diuron-d6	65.4	P	30 - 160
EPA 8321B	Endothall-d6	135	P	40 - 160
EPA 8321B	Endothall-d6	135	P	40 - 160
EPA 8321B	Ibuprofen-d3	96.3	P	30 - 160
EPA 8321B	Primidone-d5	85.4	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	40 - 160
EPA 8321B	Sucralose-d6	107	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A86353
Included Lab Sample IDs: 2023009, 2023010, 2023013

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

Reference Method: EPA 8321B
Run ID: A86357
Included Lab Sample IDs: 2023047, 2023048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	84.5	78.9	P/P	60 - 150

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A86366
Included Lab Sample IDs: 2023005, 2023006, 2023011

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	104	P/P	95 - 105

Reference Method: EPA 8321B
Run ID: A86410
Included Lab Sample IDs: 2023047, 2023048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	95.3	110	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A86427
Included Lab Sample IDs: 2023007, 2023008, 2023012

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

Reference Method: EPA 8321B
Run ID: A86431
Included Lab Sample IDs: 2023047, 2023048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.4	83.5	P/P	50 - 150
Bentazon	120	110	P/P	50 - 160
Ibuprofen	67.7	86.7	P/P	50 - 160
MCP	61.9	94.3	P/P	50 - 150
Naproxen	66.1	109	P/P	50 - 160
Triclopyr	113	100	P/P	50 - 160

Reference Method: SM 2320 B-97
Run ID: A86448
Included Lab Sample IDs: 2023005, 2023006, 2023011

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A86448

Included Lab Sample IDs: 2023005, 2023006, 2023011

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86458

Included Lab Sample IDs: 2023007, 2023008, 2023012

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86460

Included Lab Sample IDs: 2023007, 2023008, 2023012

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86508

Included Lab Sample IDs: 2023007, 2023008, 2023012

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

Reference Method: SM 5310 B-00

Run ID: A86629

Included Lab Sample IDs: 2023007, 2023008, 2023012

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	99.2	P/P	90 - 110
Organic Carbon	99.8	98.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86633

Included Lab Sample IDs: 2023047, 2023048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	120	131	P/P	60 - 160
Carbamazepine	118	137	P/P	60 - 160
Diuron	102	126	P/P	60 - 150
Fenuron	88.7	130	P/P	60 - 150
Fluridone	117	120	P/P	60 - 160
Hydrocodone	107	128	P/P	60 - 150
Imazapyr	112	88.8	P/P	50 - 150
Imidacloprid	79.6	108	P/P	60 - 150
Linuron	97.9	101	P/P	60 - 150
Primidone	104	108	P/P	60 - 150
Pyraclostrobin	101	112	P/P	60 - 150

* 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						4.72	
EPA 350.1 Rev. 2.0	Ammonia-N	99.3		98.3	100			1.93
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103		94.2	95.8			0.983
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103		104	105			0.477
EPA 365.1 Rev. 2.0	Total-P	103		101	100			0.631
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		99.3	99.6			0.302
	O-Phosphate-P	99.0		98.6	97.4			0.991
EPA 8321B	2,4-D	89.7	97.3			8.16		
	Acesulfame K	74.1		28.9	30.2			4.38
	Acetaminophen	134	135			1.08		
	Bentazon	96.3	148			42.4		
	Carbamazepine	87.3	90.0			3.09		
	Diuron	81.2	91.2			11.6		
	Fenuron	95.2	115			18.7		
	Fluridone	103	114			9.32		
	Hydrocodone	105	113			7.04		
	Ibuprofen	81.5	95.1			15.4		
	Imazapyr	75.7	80.1			5.56		
	Imidacloprid	94.4	100			5.88		
	Linuron	71.7	72.9			1.62		
	MCP	91.4	116			23.4		
	Naproxen	102	93.2			9.25		
	Primidone	80.8	95.6			16.8		
	Pyraclostrobin	78.6	91.2			14.8		
	Sucralose	92.1		112	115			2.25
	Triclopyr	98.2	118			18.4		
SM 2320 B-97	Total Alkalinity	103					0.0958	
SM 4500 F-C-97	Fluoride	97.7						0.0
SM 5310 B-00	Organic Carbon	101		97.6	98.4			0.551

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2023005, 2023006, 2023011
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2023007, 2023008, 2023012
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2023007, 2023008, 2023012
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2023007, 2023008, 2023012
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2023007, 2023008, 2023012
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2023009, 2023010, 2023013
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2023047, 2023048
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2023047, 2023048
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2023005, 2023006, 2023011
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2023005, 2023006, 2023011
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2023005, 2023006, 2023011
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2023007, 2023008, 2023012

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	09/07/2018			09/07/2018 16:38	Megan Treadwell	2023005, 2023006, 2023011
EPA 350.1 Rev. 2.0	09/07/2018			09/11/2018 12:57	Ping Hua	2023007
	09/07/2018			09/11/2018 12:59	Ping Hua	2023008
	09/07/2018			09/11/2018 13:00	Ping Hua	2023012
EPA 351.2 Rev. 2.0	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 16:46	Joseph Suarez	2023007
	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 16:48	Joseph Suarez	2023008
	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 16:49	Joseph Suarez	2023012
EPA 353.2 Rev. 2.0	09/07/2018			09/13/2018 12:05	Lauren Bottorf	2023007
	09/07/2018			09/13/2018 12:06	Lauren Bottorf	2023008
	09/07/2018			09/13/2018 12:07	Lauren Bottorf	2023012
EPA 365.1 Rev. 2.0	09/07/2018	09/11/2018 12:05	Sima Feizi	09/12/2018 09:31	Beverly Y. Sanders	2023007
	09/07/2018	09/11/2018 12:05	Sima Feizi	09/12/2018 09:32	Beverly Y. Sanders	2023008
	09/07/2018	09/11/2018 12:05	Sima Feizi	09/12/2018 09:33	Beverly Y. Sanders	2023012
EPA 365.1 Rev. 2.0 dissolved	09/07/2018			09/07/2018 15:56	Julia Storbeck	2023009
	09/07/2018			09/07/2018 15:57	Julia Storbeck	2023010
	09/07/2018			09/07/2018 15:58	Julia Storbeck	2023013
EPA 8321B	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/10/2018 00:39	Mohammad Ghaffari	2023047
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/10/2018 00:54	Mohammad Ghaffari	2023048
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 12:52	Mohammad Ghaffari	2023047
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 13:06	Mohammad Ghaffari	2023048
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 03:16	Juyoung Kim	2023047
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 03:50	Juyoung Kim	2023048
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/21/2018 07:23	Mohammad Ghaffari	2023047
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/21/2018 07:58	Mohammad Ghaffari	2023048
SM 2320 B-97	09/07/2018			09/13/2018 01:45	Dale L. Simmons	2023005
	09/07/2018			09/13/2018 01:55	Dale L. Simmons	2023006
	09/07/2018			09/13/2018 02:05	Dale L. Simmons	2023011
SM 2540 D-97	09/07/2018			09/12/2018 15:16	Yijie Li	2023005, 2023006, 2023011
SM 4500 F-C-97	09/07/2018			09/13/2018 01:45	Dale L. Simmons	2023005
	09/07/2018			09/13/2018 01:55	Dale L. Simmons	2023006
	09/07/2018			09/13/2018 02:05	Dale L. Simmons	2023011
SM 5310 B-00	09/07/2018			09/20/2018 01:07	Megan Treadwell	2023012
	09/07/2018			09/20/2018 12:18	Megan Treadwell	2023007
	09/07/2018			09/20/2018 12:55	Megan Treadwell	2023008