

Chemical Analysis Report

WQAP-2017-11-03-01

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

Event Description: **Cedar & Stevenson Crk**
Request ID: **RQ-2017-10-30-41**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Tampa, FL 33637
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Certified by: Colin Wright, Program Administrator

Date Certified: 01-DEC-2017 14:46

A handwritten signature in black ink, appearing to read "Colin Wright", is placed over a light gray rectangular background.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: Cedar Crk

Collection Date/Time: 11/02/2017 10:55

Field ID: G5SW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942956	EPA 8321B	Sucralose**	1.4		ug/L	P334664	
	USGS O-2060-01	2,4-D	0.0027	I	ug/L	P334632	
		Diuron	0.0076		ug/L	P334632	
		Fenuron	0.0080	U	ug/L	P334632	
		Imidacloprid	0.029		ug/L	P334632	
		Bentazon	0.048		ug/L	P334632	
		Linuron	0.0040	U	ug/L	P334632	
		Acetaminophen**	0.0080	U	ug/L	P334632	
		MCP	0.0020	U	ug/L	P334632	
		Carbamazepine**	0.0019		ug/L	P334632	
		Triclopyr**	0.0040	U	ug/L	P334632	
		Primidone**	0.020		ug/L	P334632	
		Fluridone**	0.0019		ug/L	P334632	

Sample Location: Cedar Crk

Collection Date/Time: 11/02/2017 10:55

Field ID: G5SW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942949	EPA 180.1 Rev. 2.0	Turbidity	2.2	A	NTU	P334676	
	EPA 300.0 Rev. 2.1	Chloride	140		mg Cl/L	P334975	
		Sulfate	32		mg SO4/L	P334977	
	SM 2120 B	Color (true)	54	A	PCU	P334672	
	SM 2320 B-97	Total Alkalinity	102		mg CaCO3/L	P335163	
	SM 2540 C-97	TDS	463		mg/L	P335251	
	SM 2540 D-97	TSS	3	I	mg/L	P335256	
	SM 4500 F-C-97	Fluoride	0.37		mg F/L	P335167	
1942950	EPA 350.1 Rev. 2.0	Ammonia-N	0.068		mg N/L	P335577	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P335100	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.46		mg N/L	P335333	
	EPA 365.1 Rev. 2.0	Total-P	0.078		mg P/L	P334869	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P335235	
1942951	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.056		mg P/L	P334693	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P334676

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334975

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334977

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335577

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335100

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335333

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334869

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334693

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

Reference Method: EPA 8321B
Batch ID: P334664

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P334672

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
 Batch ID: P335163

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
 Batch ID: P335251

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P335256

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P335167

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P335235

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

Reference Method: USGS O-2060-01
 Batch ID: P334632

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	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P334975

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.9		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334977

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335100

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335333

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334869

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: P334693

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

Reference Method: EPA 8321B
Batch ID: P334664

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	102		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P335163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	107		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P335167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.2		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P335235

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P334632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	52.5		P	40 - 150
Acetaminophen	102		P	30 - 150
Bentazon	48.3		P	30 - 150
Carbamazepine	119		P	40 - 150
Diuron	114		P	40 - 150
Fenuron	114		P	40 - 150
Fluridone	111		P	40 - 150
Imidacloprid	114		P	40 - 160
Linuron	106		P	40 - 150
MCP	57.5		P	40 - 150
Primidone	115		P	40 - 150
Triclopyr	53.3		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P334975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942830	Chloride	98.3		P	90 - 110
1942968	Chloride	93.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P334977

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942830	Sulfate	98.2		P	90 - 110
1942968	Sulfate	94.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P335577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942973	Ammonia-N	105	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P335100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942864	Kjeldahl Nitrogen	94.6	97.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P335333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942970	NO2NO3-N	99.4	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P334869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942950	Total-P	99.1	92.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P334693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942834	O-Phosphate-P	99.4	99.9	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P334664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942837	Sucralose	71.7	69.0	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P335167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942957	Fluoride	99.0	99.0	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P335235

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942482	Organic Carbon	96.6		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P334632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943517	Acetaminophen	128	104	P/P	30 - 150
1943517	Carbamazepine	76.8	73.4	P/P	40 - 150
1943517	Diuron	85.3	74.9	P/P	40 - 150
1943517	Fenuron	91.4	86.3	P/P	40 - 150
1943517	Fluridone	95.4	86.3	P/P	40 - 150
1943517	Imidacloprid	128	123	P/P	40 - 160
1943517	Linuron	95.9	91.9	P/P	40 - 150
1943517	Primidone	98.6	89.2	P/P	40 - 150
1943612	2,4-D	103	98.1	P/P	40 - 150
1943612	Bentazon	54.5	52.5	P/P	30 - 150
1943612	MCP	106	90.8	P/P	40 - 150
1943612	Triclopyr	100	82.9	P/P	40 - 150

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942949	Turbidity	1.37	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942968	Chloride	0.802	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942968	Sulfate	1.77	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942973	Ammonia-N	2.63	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942864	Kjeldahl Nitrogen	2.84	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942970	NO2NO3-N	0.747	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942950	Total-P	5.70	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942834	O-Phosphate-P	0.502	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P334664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942837	Sucralose	3.79	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P334672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942949	Color (true)	1.29	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P335163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942957	Total Alkalinity	1.14	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P335251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942957	TDS	2.02	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P335167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942957	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P335235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942482	Organic Carbon	0.353	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P334632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943517	Acetaminophen	20.8	Spike	P	0 - 30
1943517	Carbamazepine	4.53	Spike	P	0 - 30
1943517	Diuron	12.7	Spike	P	0 - 30
1943517	Fenuron	5.70	Spike	P	0 - 30
1943517	Fluridone	7.40	Spike	P	0 - 30
1943517	Imidacloprid	3.67	Spike	P	0 - 30
1943517	Linuron	4.24	Spike	P	0 - 30
1943517	Primidone	10.1	Spike	P	0 - 30
1943612	2,4-D	5.01	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P334632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943612	Bentazon	3.76	Spike	P	0 - 30
1943612	MCP	15.2	Spike	P	0 - 30
1943612	Triclopyr	18.9	Spike	P	0 - 30

* 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: 1942956
Field Sample ID: G5SW0129

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	45.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	99.3	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	58.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	64.6	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	45.6	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	107	P	30 - 160
USGS O-2060-01	Diuron-d6	99.3	P	30 - 160
USGS O-2060-01	Primidone-d5	106	P	30 - 160
USGS O-2060-01	Sucralose-d6	58.2	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A80037
Included Lab Sample IDs: 1942949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.8	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A80038
Included Lab Sample IDs: 1942949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A80040
Included Lab Sample IDs: 1942951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	102	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A80134

Included Lab Sample IDs: 1942949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.5	P/P	90 - 110
Sulfate	100	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80142

Included Lab Sample IDs: 1942950

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

Reference Method: SM 2320 B-97

Run ID: A80224

Included Lab Sample IDs: 1942949

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

Reference Method: SM 4500 F-C-97

Run ID: A80224

Included Lab Sample IDs: 1942949

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

Reference Method: USGS O-2060-01

Run ID: A80228

Included Lab Sample IDs: 1942956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	112	102	P/P	50 - 150
Bentazon	91.7	92.0	P/P	50 - 150
MCP	119	117	P/P	50 - 150
Triclopyr	101	107	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80249

Included Lab Sample IDs: 1942950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	106	106	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A80250

Included Lab Sample IDs: 1942950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	97.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A80274
 Included Lab Sample IDs: 1942956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	129	121	P/P	60 - 150

Reference Method: USGS O-2060-01
 Run ID: A80279
 Included Lab Sample IDs: 1942956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	111	124	P/P	60 - 150
Carbamazepine	115	116	P/P	60 - 150
Diuron	120	129	P/P	60 - 150
Fenuron	112	111	P/P	60 - 150
Fluridone	110	110	P/P	60 - 160
Imidacloprid	102	104	P/P	60 - 150
Linuron	106	118	P/P	60 - 150
Primidone	100	112	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0
 Run ID: A80291
 Included Lab Sample IDs: 1942950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.3	96.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Run ID: A80369
 Included Lab Sample IDs: 1942950

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	101	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.37	
EPA 300.0 Rev. 2.1	Chloride	98.9	93.9 98.3		0.802	
	Sulfate	99.1	94.1 98.2		1.77	
EPA 350.1 Rev. 2.0	Ammonia-N	94.6	105 100			2.63
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	94.6 97.8			2.84
EPA 353.2 Rev. 2.0	NO2NO3-N	110	99.4 100			0.747
EPA 365.1 Rev. 2.0	Total-P	101	99.1 92.5			5.70
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.6	99.4 99.9			0.502
EPA 8321B	Sucralose	102	71.7 69.0			3.79
SM 2120 B	Color (true)				1.29	
SM 2320 B-97	Total Alkalinity	107			1.14	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
					LCS	
SM 2540 C-97	TDS				2.02	
SM 4500 F-C-97	Fluoride	99.2	99.0	99.0		0.0
SM 5310 B-00	Organic Carbon	94.6	96.6			0.353
USGS O-2060-01	2,4-D	52.5	98.1	103		5.01
	Acetaminophen	102	128	104		20.8
	Bentazon	48.3	52.5	54.5		3.76
	Carbamazepine	119	76.8	73.4		4.53
	Diuron	114	85.3	74.9		12.7
	Fenuron	114	91.4	86.3		5.70
	Fluridone	111	95.4	86.3		7.40
	Imidacloprid	114	128	123		3.67
	Linuron	106	95.9	91.9		4.24
	MCP	57.5	90.8	106		15.2
	Primidone	115	98.6	89.2		10.1
	Triclopyr	53.3	82.9	100		18.9

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1942949
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1942949
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1942949
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1942950
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1942950
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1942950
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1942950
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1942951
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1942956
SM 2120 B / E31780	True Color measured at 450 nm	1942949
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1942949
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1942949
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1942949
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1942949
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1942950
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1942956
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1942956

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	11/03/2017			11/03/2017 14:46	Julia Storbeck	1942949
EPA 300.0 Rev. 2.1	11/03/2017			11/08/2017	Julia Storbeck	1942949
EPA 350.1 Rev. 2.0	11/03/2017			11/17/2017	Sofia Elnemr	1942950
EPA 351.2 Rev. 2.0	11/03/2017	11/13/2017	Adrian Shelby	11/15/2017	Tanya Welborn	1942950
EPA 353.2 Rev. 2.0	11/03/2017			11/14/2017	Beverly Y. Sanders	1942950
EPA 365.1 Rev. 2.0	11/03/2017	11/07/2017	Sima Feizi	11/08/2017	Lipi Saha	1942950
EPA 365.1 Rev. 2.0 dissolved	11/03/2017			11/03/2017 15:12	Megan Treadwell	1942951
EPA 8321B	11/03/2017	11/13/2017	Juyoung Kim	11/14/2017	Juyoung Kim	1942956
SM 2120 B	11/03/2017			11/03/2017 15:37	Julia Storbeck	1942949
SM 2320 B-97	11/03/2017			11/10/2017	Dale L. Simmons	1942949
SM 2540 C-97	11/03/2017			11/08/2017	Yijie Li	1942949
SM 2540 D-97	11/03/2017			11/08/2017	Yijie Li	1942949
SM 4500 F-C-97	11/03/2017			11/10/2017	Dale L. Simmons	1942949
SM 5310 B-00	11/03/2017			11/14/2017	Ping Hua	1942950
USGS O-2060-01	11/03/2017	11/09/2017	Hoor Shaik	11/11/2017	Julie Michelle Frank	1942956
	11/03/2017	11/09/2017	Hoor Shaik	11/14/2017	Julie Michelle Frank	1942956