

Chemical Analysis Report

WQAP-2017-11-07-03

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

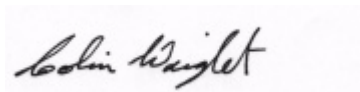
Event Description: **Gilley Creek**
Request ID: **RQ-2017-11-06-12**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Tampa, FL 33637
Attn: Judy Ashton

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Certified by: Colin Wright, Program Administrator

Date Certified: 04-DEC-2017 12:11

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: Gilley Crk

Collection Date/Time: 11/06/2017 12:45

Field ID: G2SW0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1943567	EPA 180.1 Rev. 2.0	Turbidity	4.7	A	NTU	P334907	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P335056	
		Sulfate	50		mg SO4/L	P335059	
	SM 2120 B	Color (true)	73		PCU	P334891	
	SM 2320 B-97	Total Alkalinity	23		mg CaCO3/L	P335164	
	SM 2540 C-97	TDS	185		mg/L	P335254	
	SM 2540 D-97	TSS	3	I	mg/L	P335259	
	SM 4500 F-C-97	Fluoride	0.27		mg F/L	P335168	
1943568	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P335576	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P335707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.5		mg N/L	P335456	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P334972	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P335303	
1943569	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P334873	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Gilley Crk

Collection Date/Time: 11/06/2017 12:45

Field ID: G2SW0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1943574	EPA 8321B	Sucralose**	0.010	U	ug/L	P334664	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P334632	
		Diuron	0.0082		ug/L	P334632	
		Fenuron	0.0080	U	ug/L	P334632	
		Imidacloprid	0.012		ug/L	P334632	
		Bentazon	8.0E-04	U	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**	4.0E-04	U	ug/L	P334632	
		Triclopyr**	0.0040	U	ug/L	P334632	
		Primidone**	0.0040	U	ug/L	P334632	
		Fluridone**	4.0E-04	U	ug/L	P334632	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P334907

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: P335056

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335059

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335576

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335707

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335456

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334972

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334873

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: P334891

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
 Batch ID: P335164

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

Reference Method: SM 2540 C-97
 Batch ID: P335254

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P335259

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P335168

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P335303

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: P335056

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335059

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335576

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335707

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335456

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334972

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334873

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	108		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: P335164

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P335168

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: P335303

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		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: P335056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943504	Chloride	102		P	90 - 110
1943583	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943504	Sulfate	102		P	90 - 110
1943583	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943532	Ammonia-N	103	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943568	Kjeldahl Nitrogen	92.6	97.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P335456

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943514	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P334873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943217	O-Phosphate-P	103	96.2	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: P335168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943504	Fluoride	101	100	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P335303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943505	Organic Carbon	97.4	98.2	P/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

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P334907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943567	Turbidity	3.19	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943504	Chloride	0.0907	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943504	Sulfate	0.120	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943532	Ammonia-N	2.25	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943568	Kjeldahl Nitrogen	2.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943514	NO2NO3-N	0.353	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943532	Total-P	3.28	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943217	O-Phosphate-P	5.16	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: P334891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943529	Color (true)	1.63	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P335164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943504	Total Alkalinity	0.321	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P335254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943501	TDS	2.65	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P335168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943504	Fluoride	0.484	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P335303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943505	Organic Carbon	0.455	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: 1943574
Field Sample ID: G2SW0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.8	P	30 - 160
EPA 8321B	Diuron-d6	83.2	P	30 - 160
EPA 8321B	Primidone-d5	132	P	30 - 160
EPA 8321B	Sucralose-d6	62.8	P	40 - 160
USGS O-2060-01	2,4-D-d3	51.4	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	105	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	85.8	P	30 - 160
USGS O-2060-01	Diuron-d6	83.2	P	30 - 160
USGS O-2060-01	Primidone-d5	132	P	30 - 160
USGS O-2060-01	Sucralose-d6	62.8	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A80109
Included Lab Sample IDs: 1943569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	102	98.8	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A80114
Included Lab Sample IDs: 1943567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	104	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A80117
Included Lab Sample IDs: 1943567

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A80134

Included Lab Sample IDs: 1943567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	103	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80172

Included Lab Sample IDs: 1943568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	99.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A80224

Included Lab Sample IDs: 1943567

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

Reference Method: SM 4500 F-C-97

Run ID: A80224

Included Lab Sample IDs: 1943567

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

Reference Method: USGS O-2060-01

Run ID: A80228

Included Lab Sample IDs: 1943574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	106	P/P	50 - 150
Bentazon	92.0	95.2	P/P	50 - 150
MCP	117	115	P/P	50 - 150
Triclopyr	107	104	P/P	50 - 150

Reference Method: SM 5310 B-00

Run ID: A80269

Included Lab Sample IDs: 1943568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	97.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A80274

Included Lab Sample IDs: 1943574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	123	120	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80277

Included Lab Sample IDs: 1943568

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

Reference Method: USGS O-2060-01

Run ID: A80279

Included Lab Sample IDs: 1943574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	124	121	P/P	60 - 150
Carbamazepine	116	118	P/P	60 - 150
Diuron	129	128	P/P	60 - 150
Fenuron	111	111	P/P	60 - 150
Fluridone	110	113	P/P	60 - 160
Imidacloprid	104	110	P/P	60 - 150
Linuron	118	117	P/P	60 - 150
Primidone	112	103	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80369

Included Lab Sample IDs: 1943568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80471

Included Lab Sample IDs: 1943568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.5	99.1	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				3.19	
EPA 300.0 Rev. 2.1	Chloride	103	102 103		0.0907	
	Sulfate	103	102 102		0.120	
EPA 350.1 Rev. 2.0	Ammonia-N	106	103 99.7			2.25
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	92.6 97.0			2.92
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104 104			0.353
EPA 365.1 Rev. 2.0	Total-P	102				3.28
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	108	103 96.2			5.16
EPA 8321B	Sucralose	102	71.7 69.0			3.79
SM 2120 B	Color (true)				1.63	
SM 2320 B-97	Total Alkalinity	104			0.321	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
					LCS	
SM 2540 C-97	TDS				2.65	
SM 4500 F-C-97	Fluoride	99.2	101	100		0.484
SM 5310 B-00	Organic Carbon	99.4	97.4	98.2		0.455
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
	MCPP	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	1943567
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1943567
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1943567
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1943568
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1943568
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1943568
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1943568
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1943569
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1943574
SM 2120 B / E31780	True Color measured at 450 nm	1943567
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1943567
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1943567
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1943567
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1943567
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1943568
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1943574
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1943574

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	11/07/2017			11/07/2017 17:16	DeAsia Armster	1943567
EPA 300.0 Rev. 2.1	11/07/2017			11/09/2017	Julia Storbeck	1943567
EPA 350.1 Rev. 2.0	11/07/2017			11/17/2017	Sofia Elnemr	1943568
EPA 351.2 Rev. 2.0	11/07/2017	11/21/2017	Adrian Shelby	11/22/2017	Tanya Welborn	1943568
EPA 353.2 Rev. 2.0	11/07/2017			11/15/2017	Beverly Y. Sanders	1943568
EPA 365.1 Rev. 2.0	11/07/2017	11/08/2017	Sima Feizi	11/09/2017	Lipi Saha	1943568
EPA 365.1 Rev. 2.0 dissolved	11/07/2017			11/07/2017 15:32	Megan Treadwell	1943569
EPA 8321B	11/07/2017	11/13/2017	Juyoung Kim	11/14/2017	Juyoung Kim	1943574
SM 2120 B	11/07/2017			11/07/2017 16:22	Tanya Welborn	1943567
SM 2320 B-97	11/07/2017			11/10/2017	Dale L. Simmons	1943567
SM 2540 C-97	11/07/2017			11/08/2017	Yijie Li	1943567
SM 2540 D-97	11/07/2017			11/08/2017	Yijie Li	1943567
SM 4500 F-C-97	11/07/2017			11/10/2017	Dale L. Simmons	1943567
SM 5310 B-00	11/07/2017			11/15/2017	Ping Hua	1943568
USGS O-2060-01	11/07/2017	11/09/2017	Hoor Shaik	11/11/2017	Julie Michelle Frank	1943574
	11/07/2017	11/09/2017	Hoor Shaik	11/14/2017	Julie Michelle Frank	1943574