Chemical Analysis Report

WQAP-2017-10-10-01

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-2017-10-02-16**
Customer: **WQAP**
Project ID: **SMP**

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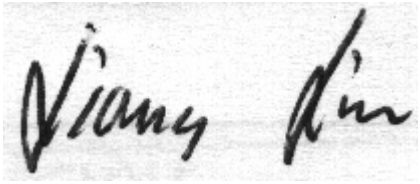
Certified by: Liang Lin, Environmental Administrator

Date Certified: 26-OCT-2017 14:47



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 Creek **Collection Date/Time: 10/09/2017 13:45**

Field ID: G2SW0024 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1935317	EPA 180.1 Rev. 2.0	Turbidity	4.9	A	NTU	P333097	
	EPA 300.0 Rev. 2.1	Chloride	12	A	mg Cl/L	P333241	
		Sulfate	32	A	mg SO4/L	P333244	
	SM 2120 B	Color (true)	120		PCU	P333102	
	SM 2320 B-97	Total Alkalinity	23		mg CaCO3/L	P333524	
	SM 2540 C-97	TDS	129		mg/L	P333825	
	SM 2540 D-97	TSS	2	I	mg/L	P333283	
	SM 4500 F-C-97	Fluoride	0.24		mg F/L	P333527	
1935318	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P333396	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P333497	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.1		mg N/L	P333340	
	EPA 365.1 Rev. 2.0	Total-P	0.44		mg P/L	P333268	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P333820	
1935319	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.35		mg P/L	P333134	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
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 Creek **Collection Date/Time: 10/09/2017 13:45**

Field ID: G2SW0024 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1935323	EPA 8321B	Sucralose**	0.010	I	ug/L	P333049	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P333050	
		Diuron	0.0036		ug/L	P333050	
		Fenuron	0.023	I	ug/L	P333050	
		Imidacloprid	0.012		ug/L	P333050	MS
		Bentazon	8.0E-04	U	ug/L	P333050	MS
		Linuron	0.0040	U	ug/L	P333050	
		Acetaminophen**	0.0080	U	ug/L	P333050	
		MCPP	0.0020	U	ug/L	P333050	
		Carbamazepine**	4.0E-04	U	ug/L	P333050	
		Triclopyr**	0.0040	U	ug/L	P333050	MS
		Primidone**	0.0040	U	ug/L	P333050	
		Fluridone**	4.0E-04	U	ug/L	P333050	

Ref. Method and Comment:
USGS O-2060-01: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report
Method Blank Results

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333097

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333241

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333244

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333396

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333497

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333340

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333268

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333134

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

Reference Method: EPA 8321B
Batch ID: P333049

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B
Batch ID: P333102

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P333524

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

Reference Method: SM 2540 C-97
Batch ID: P333825

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P333283

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333527

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P333820

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

Reference Method: USGS O-2060-01
Batch ID: P333050

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
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333241

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333244

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333396

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333497

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333340

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: P333268

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333134

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

Reference Method: EPA 8321B
Batch ID: P333049

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	116		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P333524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P333527

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P333820

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

Reference Method: USGS O-2060-01
Batch ID: P333050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	63.2		P	40 - 150
Acetaminophen	111		P	30 - 150
Bentazon	30.3		P	30 - 150
Carbamazepine	104		P	40 - 150
Diuron	99.7		P	40 - 150
Fenuron	93.4		P	40 - 150
Fluridone	109		P	40 - 150
Imidacloprid	92.6		P	40 - 160
Linuron	94.7		P	40 - 150
MCPP	63.8		P	40 - 150
Primidone	97.1		P	40 - 150
Triclopyr	62.7		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935317	Chloride	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935318	Ammonia-N	97.8	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333497

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935328	Kjeldahl Nitrogen	91.9	87.8	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935228	NO2NO3-N	106	106	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935270	O-Phosphate-P	95.8	97.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P333049

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935016	Sucralose	66.8	86.8	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P333527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935178	Fluoride	101	102	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P333820

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935303	Organic Carbon	102		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P333050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1935465	Acetaminophen	98.9	96.0	P/P	30 - 150
1935465	Bentazon	18.5	18.0	F/F	30 - 150
1935465	Carbamazepine	83.5	78.7	P/P	40 - 150
1935465	Diuron	58.1	56.6	P/P	40 - 150
1935465	Fenuron	88.5	85.1	P/P	40 - 150
1935465	Fluridone	82.4	80.9	P/P	40 - 150
1935465	Imidacloprid	177	168	F/F	40 - 160
1935465	Linuron	76.8	75.3	P/P	40 - 150
1935465	MCPP	44.5	44.8	P/P	40 - 150
1935465	Primidone	114	116	P/P	40 - 150
1935465	Triclopyr	38.5	37.2	F/F	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935317	Turbidity	0.206	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935317	Chloride	3.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935317	Sulfate	0.209	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935318	Ammonia-N	1.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935328	Kjeldahl Nitrogen	3.42	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935228	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935318	Total-P	0.224	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935270	O-Phosphate-P	1.28	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P333049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935016	Sucralose	17.9	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P333102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935300	Color (true)	0.523	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P333524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935178	Total Alkalinity	0.109	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P333825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935212	TDS	3.10	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P333527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935178	Fluoride	0.473	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P333820

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935303	Organic Carbon	0.0485	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P333050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1935465	2,4-D	3.65	Spike	P	0 - 30
1935465	Acetaminophen	2.98	Spike	P	0 - 30
1935465	Bentazon	2.52	Spike	P	0 - 30
1935465	Carbamazepine	5.92	Spike	P	0 - 30
1935465	Diuron	1.45	Spike	P	0 - 30
1935465	Fenuron	3.92	Spike	P	0 - 30
1935465	Fluridone	1.69	Spike	P	0 - 30
1935465	Imidacloprid	3.80	Spike	P	0 - 30
1935465	Linuron	1.97	Spike	P	0 - 30
1935465	MCPP	0.672	Spike	P	0 - 30
1935465	Primidone	1.83	Spike	P	0 - 30
1935465	Triclopyr	3.33	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: 1935323
Field Sample ID: G2SW0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	73.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	91.4	P	30 - 160
EPA 8321B	Diuron-d6	63.1	P	30 - 160
EPA 8321B	Primidone-d5	94.7	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	40 - 160
USGS O-2060-01	2,4-D-d3	58.8	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	73.0	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	91.4	P	30 - 160
USGS O-2060-01	Diuron-d6	63.1	P	30 - 160
USGS O-2060-01	Primidone-d5	94.7	P	30 - 160
USGS O-2060-01	Sucralose-d6	128	P	40 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A79470
Included Lab Sample IDs: 1935317

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

Reference Method: SM 2120 B
Run ID: A79471
Included Lab Sample IDs: 1935317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A79473
Included Lab Sample IDs: 1935317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	106	108	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A79477
Included Lab Sample IDs: 1935319

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

Reference Method: USGS O-2060-01
Run ID: A79478
Included Lab Sample IDs: 1935323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.7	95.9	P/P	50 - 150
Acetaminophen	93.9	91.4	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: USGS O-2060-01
Run ID: A79478
Included Lab Sample IDs: 1935323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	90.6	90.6	P/P	50 - 150
Carbamazepine	97.9	97.3	P/P	60 - 150
Diuron	102	98.9	P/P	60 - 150
Fenuron	93.9	95.2	P/P	60 - 150
Fluridone	107	109	P/P	60 - 160
Imidacloprid	92.1	96.2	P/P	60 - 150
Linuron	98.2	103	P/P	60 - 150
MCPP	95.0	97.7	P/P	50 - 150
Primidone	96.6	98.3	P/P	60 - 150
Triclopyr	96.4	101	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A79536
Included Lab Sample IDs: 1935318

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A79555
Included Lab Sample IDs: 1935318

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A79567
Included Lab Sample IDs: 1935318

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

Reference Method: EPA 8321B
Run ID: A79590
Included Lab Sample IDs: 1935323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	92.6	93.7	P/P	60 - 150

Reference Method: SM 2320 B-97
Run ID: A79620
Included Lab Sample IDs: 1935317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A79620
Included Lab Sample IDs: 1935317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A79620
Included Lab Sample IDs: 1935317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A79702
Included Lab Sample IDs: 1935318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	95.4	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A79713
Included Lab Sample IDs: 1935318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	96.6	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	MS
EPA 180.1 Rev. 2.0	Turbidity					0.206	
EPA 300.0 Rev. 2.1	Chloride	102	104			3.11	
	Sulfate	98.9				0.209	
EPA 350.1 Rev. 2.0	Ammonia-N	101	97.8	99.7			1.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.8	91.9	87.8			3.42
EPA 353.2 Rev. 2.0	NO2NO3-N	104	106	106			0.0
EPA 365.1 Rev. 2.0	Total-P	100					0.224
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	95.8	97.1			1.28
EPA 8321B	Sucralose	116	66.8	86.8			17.9
SM 2120 B	Color (true)					0.523	
SM 2320 B-97	Total Alkalinity	102				0.109	
SM 2540 C-97	TDS					3.10	
SM 4500 F-C-97	Fluoride	98.6	101	102			0.473
SM 5310 B-00	Organic Carbon	94.6	102				0.0485
USGS O-2060-01	2,4-D	63.2					3.65
	Acetaminophen	111	98.9	96.0			2.98
	Bentazon	30.3	18.5	18.0			2.52
	Carbamazepine	104	83.5	78.7			5.92
	Diuron	99.7	58.1	56.6			1.45
	Fenuron	93.4	88.5	85.1			3.92
	Fluridone	109	82.4	80.9			1.69
	Imidacloprid	92.6	177	168			3.80
	Linuron	94.7	76.8	75.3			1.97
	MCPP	63.8	44.5	44.8			0.672
	Primidone	97.1	114	116			1.83

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
USGS O-2060-01	Triclopyr	62.7	38.5	37.2			3.33

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1935317
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1935317
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1935317
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1935318
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1935318
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1935318
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1935318
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1935319
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1935323
SM 2120 B / E31780	True Color measured at 450 nm	1935317
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1935317
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1935317
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1935317
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1935317
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1935318
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1935323
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1935323

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	10/10/2017			10/10/2017 16:21	DeAsia Armster	1935317
EPA 300.0 Rev. 2.1	10/10/2017			10/11/2017	Julia Storbeck	1935317
EPA 350.1 Rev. 2.0	10/10/2017			10/13/2017	Sofia Elnemr	1935318
EPA 351.2 Rev. 2.0	10/10/2017	10/17/2017	Adrian Shelby	10/18/2017	Joseph Suarez	1935318
EPA 353.2 Rev. 2.0	10/10/2017			10/13/2017	Beverly Y. Sanders	1935318
EPA 365.1 Rev. 2.0	10/10/2017	10/12/2017	Sima Feizi	10/13/2017	Lipi Saha	1935318
EPA 365.1 Rev. 2.0 dissolved	10/10/2017			10/10/2017 15:34	Megan Treadwell	1935319
EPA 8321B	10/10/2017	10/12/2017	Juyoung Kim	10/12/2017	Juyoung Kim	1935323
SM 2120 B	10/10/2017			10/10/2017 16:23	Julia Storbeck	1935317
SM 2320 B-97	10/10/2017			10/17/2017	Dale L. Simmons	1935317
SM 2540 C-97	10/10/2017			10/11/2017	Yijie Li	1935317
SM 2540 D-97	10/10/2017			10/11/2017	Yijie Li	1935317
SM 4500 F-C-97	10/10/2017			10/17/2017	Dale L. Simmons	1935317
SM 5310 B-00	10/10/2017			10/20/2017	Ping Hua	1935318
USGS O-2060-01	10/10/2017	10/12/2017	Hoor Shaik	10/13/2017	Julie Michelle Frank	1935323