

Chemical Analysis Report

NE-DIST-2017-12-07-01

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

Event Description: **Suwannee 2**
Request ID: **RQ-2017-12-04-39**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 28-DEC-2017 09:34

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored 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: New River @ SR 100

Collection Date/Time: 12/06/2017 09:30

Field ID: G1NE0534 12062017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951718	EPA 8321B	Sucralose**	0.010	U	ug/L	P336557	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P336466	
		Diuron	8.0E-04	U	ug/L	P336466	
		Fenuron	0.0080	U	ug/L	P336466	
		Imidacloprid	8.0E-04	U	ug/L	P336466	
		Bentazon	8.0E-04	U	ug/L	P336466	
		Linuron	0.0040	U	ug/L	P336466	
		Acetaminophen**	0.0080	U	ug/L	P336466	
		MCP	0.0020	U	ug/L	P336466	
		Carbamazepine**	0.0051		ug/L	P336466	
		Triclopyr**	0.0040	U	ug/L	P336466	
		Primidone**	0.0040	U	ug/L	P336466	
		Fluridone**	4.0E-04	U	ug/L	P336466	

Sample Location: Olustee Creek @ CR 238

Collection Date/Time: 12/06/2017 11:15

Field ID: G1NE0332 12062017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951708	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P336598	
	EPA 300.0 Rev. 2.1	Chloride	8.9		mg Cl/L	P336707	
		Sulfate	0.34	I	mg SO4/L	P336713	
	SM 2120 B	Color (true)	550		PCU	P336622	
	SM 2320 B-97	Total Alkalinity	4.1		mg CaCO3/L	P336990	
	SM 2540 C-97	TDS	102		mg/L	P337017	
	SM 2540 D-97	TSS	2	UA	mg/L	P336776	
	SM 4500 F-C-97	Fluoride	0.072	I	mg F/L	P337106	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P337342	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P336907	
1951709	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P336737	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P336885	
	SM 5310 B-00	Organic Carbon	47		mg C/L	P336822	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.12		mg P/L	P336592	
	dissolved						
1951710	EPA 8321B	Sucralose**	0.010	U	ug/L	P336428	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P336466	
		Diuron	8.0E-04	U	ug/L	P336466	
		Fenuron	0.0080	U	ug/L	P336466	
		Imidacloprid	8.0E-04	U	ug/L	P336466	
		Bentazon	8.0E-04	U	ug/L	P336466	
		Linuron	0.0040	U	ug/L	P336466	
		Acetaminophen**	0.0080	U	ug/L	P336466	
		MCP	0.0020	U	ug/L	P336466	
		Carbamazepine**	4.0E-04	U	ug/L	P336466	
		Triclopyr**	0.0040	U	ug/L	P336466	
		Primidone**	0.0040	U	ug/L	P336466	

Field ID: G1NE0332 12062017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951717	USGS O-2060-01	Fluridone**	4.0E-04	U	ug/L	P336466	

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: P336598

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P336707

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P336713

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P337342

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P336907

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P336737

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P336885

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P336592

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P336428

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P336557

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P336622

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P336990

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

Reference Method: SM 2540 C-97
Batch ID: P337017

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P336776

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P337106

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P336822

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

Reference Method: USGS O-2060-01
Batch ID: P336466

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

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P336466

Component	Result	Code	Units
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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336707

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336713

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337342

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336907

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336737

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: P336885

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P336592

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.1		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P336428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	112		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P336557

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	129		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P336990

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P337106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P336822

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P336466

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	99.7		P	40 - 150
Acetaminophen	88.6		P	30 - 150
Bentazon	92.7		P	30 - 150
Carbamazepine	93.9		P	40 - 150
Diuron	81.1		P	40 - 150
Fenuron	95.1		P	40 - 150
Fluridone	93.2		P	40 - 150
Imidacloprid	91.9		P	40 - 160
Linuron	83.6		P	40 - 150
MCPP	91.3		P	40 - 150
Primidone	99.8		P	40 - 150
Triclopyr	91.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951594	Chloride	97.7		P	90 - 110
1951595	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336713

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951594	Sulfate	98.5		P	90 - 110
1951595	Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337342

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951709	Ammonia-N	99.2	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336907

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951647	Kjeldahl Nitrogen	96.6	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951630	NO2NO3-N	97.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951605	Total-P	98.2	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336592

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951653	O-Phosphate-P	103	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P336428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1950864	Sucralose	115	115	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P336557

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951718	Sucralose	97.3	100	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
 Batch ID: P337106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951838	Fluoride	97.9	98.5	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P336822

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951605	Organic Carbon	103	99.1	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P336466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951659	2,4-D	88.4	83.8	P/P	40 - 150
1951659	Acetaminophen	104	112	P/P	30 - 150
1951659	Bentazon	76.5	72.8	P/P	30 - 150
1951659	Carbamazepine	107	110	P/P	40 - 150
1951659	Diuron	91.6	92.8	P/P	40 - 150
1951659	Fenuron	105	108	P/P	40 - 150
1951659	Fluridone	103	108	P/P	40 - 150
1951659	Imidacloprid	114	123	P/P	40 - 160
1951659	Linuron	97.3	101	P/P	40 - 150
1951659	MCP	84.2	80.5	P/P	40 - 150
1951659	Primidone	112	115	P/P	40 - 150
1951659	Triclopyr	77.8	75.5	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P336598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951629	Turbidity	5.65	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P336707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951594	Chloride	0.711	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P336713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951594	Sulfate	1.40	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951709	Ammonia-N	1.83	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951647	Kjeldahl Nitrogen	4.48	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951630	NO2NO3-N	3.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951605	Total-P	0.725	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951653	O-Phosphate-P	2.56	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P336428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1950864	Sucralose	0.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P336557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951718	Sucralose	3.09	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P336622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951747	Color (true)	1.39	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P336990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951838	Total Alkalinity	0.704	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P337017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951815	TDS	1.93	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P337106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951838	Fluoride	0.490	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P336822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951605	Organic Carbon	3.29	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P336466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951659	2,4-D	5.37	Spike	P	0 - 30
1951659	Acetaminophen	7.50	Spike	P	0 - 30
1951659	Bentazon	4.80	Spike	P	0 - 30
1951659	Carbamazepine	2.68	Spike	P	0 - 30
1951659	Diuron	1.30	Spike	P	0 - 30
1951659	Fenuron	3.48	Spike	P	0 - 30
1951659	Fluridone	5.21	Spike	P	0 - 30
1951659	Imidacloprid	6.59	Spike	P	0 - 30
1951659	Linuron	3.27	Spike	P	0 - 30
1951659	MCPP	4.48	Spike	P	0 - 30
1951659	Primidone	3.00	Spike	P	0 - 30
1951659	Triclopyr	2.93	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

Quality Assurance Report Surrogates

Lab Sample ID: 1951717
Field Sample ID: G1NE0332 12062017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	140	P	30 - 160
EPA 8321B	Carbamazepine-d10	100	P	30 - 160
EPA 8321B	Diuron-d6	89.0	P	30 - 160
EPA 8321B	Primidone-d5	64.0	P	30 - 160
EPA 8321B	Sucralose-d6	96.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	75.1	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	140	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	100	P	30 - 160
USGS O-2060-01	Diuron-d6	89.0	P	30 - 160
USGS O-2060-01	Primidone-d5	64.0	P	30 - 160
USGS O-2060-01	Sucralose-d6	96.1	P	40 - 160

Lab Sample ID: 1951718
Field Sample ID: G1NE0534 12062017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	139	P	30 - 160
EPA 8321B	Carbamazepine-d10	101	P	30 - 160
EPA 8321B	Diuron-d6	89.3	P	30 - 160
EPA 8321B	Primidone-d5	59.8	P	30 - 160
EPA 8321B	Sucralose-d6	87.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	72.3	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	139	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	101	P	30 - 160
USGS O-2060-01	Diuron-d6	89.3	P	30 - 160
USGS O-2060-01	Primidone-d5	59.8	P	30 - 160
USGS O-2060-01	Sucralose-d6	87.1	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A80735
Included Lab Sample IDs: 1951708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.6	107	P/P	90 - 110
Sulfate	98.1	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A80761
Included Lab Sample IDs: 1951710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A80763
Included Lab Sample IDs: 1951708

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A80763

Included Lab Sample IDs: 1951708

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

Reference Method: EPA 8321B

Run ID: A80771

Included Lab Sample IDs: 1951717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	82.9	98.1	P/P	60 - 150

Reference Method: SM 2120 B

Run ID: A80772

Included Lab Sample IDs: 1951708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	102	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80816

Included Lab Sample IDs: 1951709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A80848

Included Lab Sample IDs: 1951709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	101	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A80867

Included Lab Sample IDs: 1951717, 1951718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.5	99.5	P/P	50 - 150
Acetaminophen	104	104	P/P	60 - 150
Bentazon	95.4	95.7	P/P	50 - 150
Carbamazepine	109	109	P/P	60 - 150
Diuron	103	107	P/P	60 - 150
Fenuron	102	106	P/P	60 - 150
Fluridone	113	114	P/P	60 - 160
Imidacloprid	95.9	104	P/P	60 - 150
Linuron	108	108	P/P	60 - 150
MCP	98.6	99.6	P/P	50 - 150
Primidone	108	91.1	P/P	60 - 150
Triclopyr	92.3	98.4	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80902

Included Lab Sample IDs: 1951709

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: A80909

Included Lab Sample IDs: 1951708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.3	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A80962

Included Lab Sample IDs: 1951708

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80972

Included Lab Sample IDs: 1951709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	97.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A81055

Included Lab Sample IDs: 1951718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	119	86.6	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81069

Included Lab Sample IDs: 1951709

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	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				5.65	
EPA 300.0 Rev. 2.1	Chloride	97.6	97.7	98.3	0.711	
	Sulfate	97.6	98.5	98.7	1.40	
EPA 350.1 Rev. 2.0	Ammonia-N	100	99.2	97.0		1.83

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.1	96.6	102		4.48
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103	97.0	100		3.05
EPA 365.1 Rev. 2.0	Total-P	101	98.2	97.2		0.725
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.1	103	100		2.56
EPA 8321B	Sucralose	112	115	115		0.0
	Sucralose	129	97.3	100		3.09
SM 2120 B	Color (true)				1.39	
SM 2320 B-97	Total Alkalinity	101			0.704	
SM 2540 C-97	TDS				1.93	
SM 4500 F-C-97	Fluoride	97.5	97.9	98.5		0.490
SM 5310 B-00	Organic Carbon	99.8	103	99.1		3.29
USGS O-2060-01	2,4-D	99.7	88.4	83.8		5.37
	Acetaminophen	88.6	112	104		7.50
	Bentazon	92.7	76.5	72.8		4.80
	Carbamazepine	93.9	110	107		2.68
	Diuron	81.1	92.8	91.6		1.30
	Fenuron	95.1	108	105		3.48
	Fluridone	93.2	108	103		5.21
	Imidacloprid	91.9	123	114		6.59
	Linuron	83.6	101	97.3		3.27
	MCP	91.3	84.2	80.5		4.48
	Primidone	99.8	115	112		3.00
	Triclopyr	91.0	77.8	75.5		2.93

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1951708
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1951708
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1951708
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1951709
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1951709
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1951709
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1951709
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1951710
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1951717, 1951718
SM 2120 B / E31780	True Color measured at 450 nm	1951708
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1951708
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1951708
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1951708
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1951708
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1951709
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1951717, 1951718
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1951717, 1951718

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	12/07/2017			12/07/2017 16:28	DeAsia Armster	1951708
EPA 300.0 Rev. 2.1	12/07/2017			12/08/2017	Julia Storbeck	1951708
EPA 350.1 Rev. 2.0	12/07/2017			12/20/2017	Sofia Elnemr	1951709
EPA 351.2 Rev. 2.0	12/07/2017	12/13/2017	Adrian Shelby	12/18/2017	Joseph Suarez	1951709
EPA 353.2 Rev. 2.0	12/07/2017			12/11/2017	Lauren Bottorf	1951709
EPA 365.1 Rev. 2.0	12/07/2017	12/13/2017	Sima Feizi	12/14/2017	Lipi Saha	1951709
EPA 365.1 Rev. 2.0 dissolved	12/07/2017			12/07/2017 13:33	Megan Treadwell	1951710
EPA 8321B	12/07/2017	12/07/2017	Juyoung Kim	12/07/2017	Juyoung Kim	1951717
	12/07/2017	12/20/2017	Juyoung Kim	12/20/2017	Juyoung Kim	1951718
SM 2120 B	12/07/2017			12/07/2017 16:46	Tanya Welborn	1951708
SM 2320 B-97	12/07/2017			12/14/2017	Dale L. Simmons	1951708
SM 2540 C-97	12/07/2017			12/08/2017	DeAsia Armster	1951708
SM 2540 D-97	12/07/2017			12/08/2017	DeAsia Armster	1951708
SM 4500 F-C-97	12/07/2017			12/18/2017	Dale L. Simmons	1951708
SM 5310 B-00	12/07/2017			12/12/2017	Ping Hua	1951709
USGS O-2060-01	12/07/2017	12/11/2017	Hoor Shaik	12/13/2017	Julie Michelle Frank	1951717, 1951718