

Chemical Analysis Report

NE-DIST-2017-08-24-01

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

Event Description: **LSJR Downtown**
Request ID: **RQ-2017-08-21-10**
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: 15-SEP-2017 09:44

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on 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: Pottsburg Cr. @ Beach Blvd.

Collection Date/Time: 08/23/2017 09:35

Field ID: G2NE0823 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924184	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P330821	
	SM 2320 B-97	Total Alkalinity	63		mg CaCO3/L	P331029	
	SM 2540 D-97	TSS	4	I	mg/L	P330926	
	SM 4500 F-C-97	Fluoride	0.096	I	mg F/L	P331031	
1924188	EPA 350.1 Rev. 2.0	Ammonia-N	0.071		mg N/L	P331097	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P330869	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P331050	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P330878	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P330972	
1924192	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.074		mg P/L	P330812	

Ref. Method and Comment:

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

Sample Location: Goodbys Creek @ Sanchez Rd.

Collection Date/Time: 08/23/2017 10:10

Field ID: G2NE0601 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924185	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P330821	
	SM 2320 B-97	Total Alkalinity	97		mg CaCO3/L	P331029	
	SM 2540 D-97	TSS	2	I	mg/L	P330926	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P331031	
1924189	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P331097	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P330869	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P331050	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P330878	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P330972	
1924193	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.069		mg P/L	P330812	

Ref. Method and Comment:

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

Sample Location: Big Fishweir Cr. @ Herschel St.

Collection Date/Time: 08/23/2017 10:50

Field ID: G2NE0146 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924186	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P330821	
	SM 2320 B-97	Total Alkalinity	84		mg CaCO3/L	P331029	
	SM 2540 D-97	TSS	16		mg/L	P330926	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P331031	
1924190	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P331097	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P330894	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P331050	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P330878	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P330972	
1924194	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P330812	

Field ID: G2NE0146 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment: SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.							

Sample Location: Ortega R Br @ Timuquana Rd.

Collection Date/Time: 08/23/2017 11:10

Field ID: G2NE0086 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924187	EPA 180.1 Rev. 2.0	Turbidity	3.9		NTU	P330821	
	SM 2320 B-97	Total Alkalinity	45		mg CaCO3/L	P331029	
	SM 2540 D-97	TSS	3	I	mg/L	P330926	
	SM 4500 F-C-97	Fluoride	0.079	I	mg F/L	P331031	
1924191	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P331097	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P330894	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.062		mg N/L	P331050	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P330880	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P330972	
1924195	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.080		mg P/L	P330812	

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

Sample Location: Ortega R Br @ Timuquana Rd.

Collection Date/Time: 08/23/2017 11:10

Field ID: G2NE0086 08232017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1924225	EPA 8321B	Sucralose**	0.14		ug/L	P330491	
	USGS O-2060-01	2,4-D	0.046		ug/L	P330679	
		Diuron	0.016		ug/L	P330679	
		Fenuron	0.0080	U	ug/L	P330679	
		Imidacloprid	0.028		ug/L	P330679	MS
		Bentazon	0.0033		ug/L	P330679	
		Linuron	0.0040	U	ug/L	P330679	
		Acetaminophen**	0.0080	U	ug/L	P330679	
		MCP	0.0020	U	ug/L	P330679	
		Carbamazepine**	4.0E-04	U	ug/L	P330679	MS
		Triclopyr**	0.0040	U	ug/L	P330679	
		Primidone**	0.0040	U	ug/L	P330679	
		Fluridone**	4.0E-04	U	ug/L	P330679	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P330821

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331097

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330869

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330894

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331050

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330878

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330880

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330812

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

Reference Method: EPA 8321B
Batch ID: P330491

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P331029

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P330926

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P331031

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P330972

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

Reference Method: USGS O-2060-01
 Batch ID: P330679

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 350.1 Rev. 2.0
 Batch ID: P331097

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P330869

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P330894

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.2		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P331050

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: P330878

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P330880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P330812

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.8		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P330491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	107		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P331029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P331031

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.4		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P330972

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

Reference Method: USGS O-2060-01
 Batch ID: P330679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	134		P	40 - 150
Acetaminophen	117		P	30 - 150
Bentazon	87.2		P	40 - 150
Carbamazepine	128		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P330679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	141		P	40 - 150
Fenuron	144		P	40 - 150
Fluridone	126		P	40 - 150
Imidacloprid	137		P	40 - 160
Linuron	119		P	40 - 150
MCP	103		P	40 - 150
Primidone	133		P	40 - 150
Triclopyr	85.6		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924104	Ammonia-N	101	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924105	Kjeldahl Nitrogen	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330894

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924251	Kjeldahl Nitrogen	94.8	92.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923407	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924104	Total-P	96.4	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924251	Total-P	96.8	95.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P330812

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923964	O-Phosphate-P	93.7	97.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P330491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922313	Sucralose	41.9	40.8	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P331031

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1924247	Fluoride	95.3	95.9	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P330972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923932	Organic Carbon	105		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P330679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923137	2,4-D	138	130	P/P	40 - 150
1923137	Acetaminophen	109	112	P/P	30 - 150
1923137	Bentazon	51.6	52.6	P/P	40 - 150
1923137	Carbamazepine	155	153	F/F	40 - 150
1923137	Diuron	113	122	P/P	40 - 150
1923137	Fenuron	113	128	P/P	40 - 150
1923137	Fluridone	94.5	110	P/P	40 - 150
1923137	Imidacloprid	220	235	F/F	40 - 160
1923137	Linuron	110	126	P/P	40 - 150
1923137	MCP	99.5	111	P/P	40 - 150
1923137	Primidone	129	145	P/P	40 - 150
1923137	Triclopyr	101	106	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P330821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924098	Turbidity	6.47	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924104	Ammonia-N	1.63	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924105	Kjeldahl Nitrogen	1.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924251	Kjeldahl Nitrogen	2.16	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1923407	NO2NO3-N	0.353	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924104	Total-P	5.29	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924251	Total-P	1.12	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330812

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1923964	O-Phosphate-P	3.15	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P330491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922313	Sucralose	1.44	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P331029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924247	Total Alkalinity	2.46	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P331031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1924247	Fluoride	0.492	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P330972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1923932	Organic Carbon	0.320	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P330679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1923137	2,4-D	5.84	Spike	P	0 - 30
1923137	Acetaminophen	2.40	Spike	P	0 - 30
1923137	Bentazon	1.88	Spike	P	0 - 30
1923137	Carbamazepine	1.77	Spike	P	0 - 30
1923137	Diuron	7.51	Spike	P	0 - 30
1923137	Fenuron	12.6	Spike	P	0 - 30
1923137	Fluridone	14.7	Spike	P	0 - 30
1923137	Imidacloprid	6.75	Spike	P	0 - 30
1923137	Linuron	13.3	Spike	P	0 - 30
1923137	MCP	11.0	Spike	P	0 - 30
1923137	Primidone	11.3	Spike	P	0 - 30
1923137	Triclopyr	4.49	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: 1924225
Field Sample ID: G2NE0086 08232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	130	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.4	P	30 - 160
EPA 8321B	Diuron-d6	79.6	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	73.3	P	40 - 160
USGS O-2060-01	2,4-D-d3	139	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1924225
Field Sample ID: G2NE0086 08232017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
USGS O-2060-01	Acetaminophen-d4	130	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	90.4	P	30 - 160
USGS O-2060-01	Diuron-d6	79.6	P	30 - 160
USGS O-2060-01	Primidone-d5	111	P	30 - 160
USGS O-2060-01	Sucralose-d6	73.3	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A78608
Included Lab Sample IDs: 1924192, 1924193, 1924194, 1924195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A78610
Included Lab Sample IDs: 1924184, 1924185, 1924186, 1924187

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A78654
Included Lab Sample IDs: 1924188, 1924189, 1924190, 1924191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	104	P/P	90 - 110
Total-P	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A78663
Included Lab Sample IDs: 1924188, 1924189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	95.6	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A78672
Included Lab Sample IDs: 1924188, 1924189, 1924190, 1924191

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A78679
Included Lab Sample IDs: 1924190, 1924191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	95.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78679

Included Lab Sample IDs: 1924190, 1924191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	97.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A78696

Included Lab Sample IDs: 1924184, 1924185, 1924186, 1924187

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.7	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A78696

Included Lab Sample IDs: 1924184, 1924185, 1924186, 1924187

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78701

Included Lab Sample IDs: 1924188, 1924189, 1924190, 1924191

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: A78720

Included Lab Sample IDs: 1924188, 1924189, 1924190, 1924191

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

Reference Method: EPA 8321B

Run ID: A78750

Included Lab Sample IDs: 1924225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	118	126	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A78770

Included Lab Sample IDs: 1924225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	118	121	P/P	50 - 150
Acetaminophen	75.0	91.0	P/P	60 - 150
Bentazon	104	106	P/P	50 - 150
Carbamazepine	102	133	P/P	60 - 150
Diuron	114	140	P/P	60 - 150
Fenuron	124	142	P/P	60 - 150
Fluridone	82.7	112	P/P	60 - 160
Imidacloprid	116	144	P/P	60 - 150
Linuron	99.5	136	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01
Run ID: A78770
Included Lab Sample IDs: 1924225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCPP	103	117	P/P	50 - 150
Primidone	127	142	P/P	60 - 150
Triclopyr	110	114	P/P	50 - 160

* 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				6.47	
EPA 350.1 Rev. 2.0	Ammonia-N	104	101 98.8			1.63
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	103 101			1.08
	Kjeldahl Nitrogen	99.2	94.8 92.1			2.16
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104 103			0.353
EPA 365.1 Rev. 2.0	Total-P	99.8	96.4 102			5.29
	Total-P	95.3	96.8 95.7			1.12
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.8	93.7 97.3			3.15
EPA 8321B	Sucralose	107	41.9 40.8			1.44
SM 2320 B-97	Total Alkalinity	103			2.46	
SM 4500 F-C-97	Fluoride	95.4	95.3 95.9			0.492
SM 5310 B-00	Organic Carbon	102	105			0.320
USGS O-2060-01	2,4-D	134	138 130			5.84
	Acetaminophen	117	109 112			2.40
	Bentazon	87.2	51.6 52.6			1.88
	Carbamazepine	128	155 153			1.77
	Diuron	141	113 122			7.51
	Fenuron	144	113 128			12.6
	Fluridone	126	94.5 110			14.7
	Imidacloprid	137	220 235			6.75
	Linuron	119	110 126			13.3
	MCPP	103	99.5 111			11.0
	Primidone	133	129 145			11.3
	Triclopyr	85.6	101 106			4.49

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1924184, 1924185, 1924186, 1924187
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1924188, 1924189, 1924190, 1924191
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1924188, 1924189, 1924190, 1924191
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1924188, 1924189, 1924190, 1924191

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1924188, 1924189, 1924190, 1924191
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1924192, 1924193, 1924194, 1924195
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1924225
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1924184, 1924185, 1924186, 1924187
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1924184, 1924185, 1924186, 1924187
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1924184, 1924185, 1924186, 1924187
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1924188, 1924189, 1924190, 1924191
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1924225
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1924225

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	08/24/2017			08/24/2017 16:33	DeAsia Armster	1924184, 1924185, 1924186, 1924187
EPA 350.1 Rev. 2.0	08/24/2017			08/29/2017	Sofia Elnemr	1924188, 1924189, 1924190, 1924191
EPA 351.2 Rev. 2.0	08/24/2017	08/25/2017	Adrian Shelby	08/28/2017	Joseph Suarez	1924188, 1924189
	08/24/2017	08/28/2017	Adrian Shelby	08/29/2017	Joseph Suarez	1924190, 1924191
EPA 353.2 Rev. 2.0	08/24/2017			08/30/2017	Beverly Y. Sanders	1924188, 1924189, 1924190, 1924191
EPA 365.1 Rev. 2.0	08/24/2017	08/25/2017	Sima Feizi	08/28/2017	Lipi Saha	1924188, 1924189, 1924190, 1924191
EPA 365.1 Rev. 2.0 dissolved	08/24/2017			08/24/2017 15:00	Megan Treadwell	1924192
	08/24/2017			08/24/2017 15:01	Megan Treadwell	1924193
	08/24/2017			08/24/2017 15:02	Megan Treadwell	1924194, 1924195
EPA 8321B	08/24/2017	08/25/2017	Julie Michelle Frank	08/31/2017	Julie Michelle Frank	1924225
SM 2320 B-97	08/24/2017			08/29/2017	Dale L. Simmons	1924184, 1924185, 1924186, 1924187
SM 2540 D-97	08/24/2017			08/25/2017	DeAsia Armster	1924184, 1924185, 1924186, 1924187
SM 4500 F-C-97	08/24/2017			08/29/2017	Dale L. Simmons	1924184, 1924185, 1924186, 1924187
SM 5310 B-00	08/24/2017			08/29/2017	Ping Hua	1924188, 1924189, 1924190, 1924191
USGS O-2060-01	08/24/2017	08/24/2017	Hoor Shaik	08/26/2017	Juyoung Kim	1924225