

Chemical Analysis Report

WQAP-2017-11-08-08

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

Event Description: **Manatee_Streams**

Request ID: **RQ-2017-10-30-40**

Customer: **WQAP**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Tampa, FL 33637
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 04-DEC-2017 12:56



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: WARES CRK TIDAL

Collection Date/Time: 11/07/2017 13:40

Field ID: G2SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1944313	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P335008	
	EPA 300.0 Rev. 2.1	Chloride	3.9E+03		mg Cl/L	P335092	
		Sulfate	590		mg SO4/L	P335095	
	SM 2120 B	Color (true)	33	A	PCU	P334983	
	SM 2320 B-97	Total Alkalinity	173	A	mg CaCO3/L	P335402	
	SM 2540 C-97	TDS	7.67E+03		mg/L	P335606	
	SM 2540 D-97	TSS	3	U	mg/L	P335586	
	SM 4500 F-C-97	Fluoride	0.62		mg F/L	P335854	
1944314	EPA 350.1 Rev. 2.0	Ammonia-N	0.056		mg N/L	P335681	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P335518	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.075		mg N/L	P335425	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P335239	
	SM 5310 B-00	Organic Carbon	7.7		mg C/L	P335304	
1944315	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P335003	
1944362	EPA 8321B	Sucralose**	0.082		ug/L	P334973	
	USGS O-2060-01	2,4-D	0.0085		ug/L	P334865	
		Diuron	0.0019	I	ug/L	P334865	
		Fenuron	0.0080	U	ug/L	P334865	
		Imidacloprid	0.0078		ug/L	P334865	
		Bentazon	0.0089		ug/L	P334865	
		Linuron	0.0040	U	ug/L	P334865	
		Acetaminophen**	0.0080	U	ug/L	P334865	
		MCPP	0.0020	U	ug/L	P334865	
		Carbamazepine**	4.0E-04	U	ug/L	P334865	
		Triclopyr**	0.0040	U	ug/L	P334865	
		Primidone**	0.0040	U	ug/L	P334865	
		Fluridone**	0.031		ug/L	P334865	

Ref. Method and Comment:

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 1.25E+4 umhos/cm.

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: P335008

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P335092

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335095

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335681

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335518

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335425

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335239

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P335003

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

Reference Method: EPA 8321B
Batch ID: P334973

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P334983

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P335402

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P335606

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P335586

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P335854

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P335304

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

Reference Method: USGS O-2060-01
Batch ID: P334865

Component	Result	Code	Units
2,4-D	0.00200	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.00E-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	0.00200	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.00400	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335092

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335095

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335681

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335518

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335425

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335239

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P335003

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

Reference Method: EPA 8321B
Batch ID: P334973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	108		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P335402

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

Reference Method: SM 4500 F-C-97
Batch ID: P335854

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P335304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P334865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	83.1		P	40 - 150
Acetaminophen	97.4		P	30 - 150
Bentazon	78.0		P	30 - 150
Carbamazepine	80.6		P	40 - 150
Diuron	84.9		P	40 - 150
Fenuron	84.4		P	40 - 150
Fluridone	77.9		P	40 - 150
Imidacloprid	78.9		P	40 - 160
Linuron	85.2		P	40 - 150
MCPP	86.6		P	40 - 150
Primidone	82.6		P	40 - 150
Triclopyr	83.9		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1944029	Chloride	100		P	90 - 110
1944032	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335095

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1944029	Sulfate	98.8		P	90 - 110
1944032	Sulfate	98.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1944082	Ammonia-N	98.8	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335518

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1944550	Kjeldahl Nitrogen	96.1	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1944150	NO2NO3-N	105	105	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P335239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1944045	Total-P	91.4	91.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P335003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1944046	O-Phosphate-P	98.8	102	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P334973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943952	Sucralose	71.9	77.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P335854

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946323	Fluoride	97.0	97.0	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P335304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943768	Organic Carbon	93.2	92.6	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P334865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1945213	2,4-D	75.2	77.4	P/P	40 - 150
1945213	Acetaminophen	129	120	P/P	30 - 150
1945213	Bentazon	50.0	53.0	P/P	30 - 150
1945213	Carbamazepine	116	110	P/P	40 - 150
1945213	Diuron	130	122	P/P	40 - 150
1945213	Fenuron	113	112	P/P	40 - 150
1945213	Fluridone	98.0	104	P/P	40 - 150
1945213	Imidacloprid	133	129	P/P	40 - 160
1945213	Linuron	110	106	P/P	40 - 150
1945213	MCP	76.6	81.1	P/P	40 - 150
1945213	Primidone	128	125	P/P	40 - 150
1945213	Triclopyr	71.0	73.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P335008

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: P335008

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944130	Turbidity	3.61	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944029	Chloride	1.61	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944029	Sulfate	0.104	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944082	Ammonia-N	0.736	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335518

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944550	Kjeldahl Nitrogen	0.330	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944150	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944045	Total-P	0.239	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P335003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944046	O-Phosphate-P	3.38	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P334973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943952	Sucralose	6.76	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P334983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944313	Color (true)	2.37	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P335402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944313	Total Alkalinity	0.316	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P335606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1944131	TDS	6.32	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P335854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946323	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P335304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943768	Organic Carbon	0.326	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P334865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1945213	2,4-D	2.84	Spike	P	0 - 30
1945213	Acetaminophen	7.41	Spike	P	0 - 30
1945213	Bentazon	5.81	Spike	P	0 - 30
1945213	Carbamazepine	5.48	Spike	P	0 - 30
1945213	Diuron	6.11	Spike	P	0 - 30
1945213	Fenuron	1.16	Spike	P	0 - 30
1945213	Fluridone	6.21	Spike	P	0 - 30
1945213	Imidacloprid	2.87	Spike	P	0 - 30
1945213	Linuron	3.53	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P334865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1945213	MCP	5.76	Spike	P	0 - 30
1945213	Primidone	2.14	Spike	P	0 - 30
1945213	Triclopyr	3.68	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: 1944362
Field Sample ID: G2SW0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	69.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.4	P	30 - 160
EPA 8321B	Diuron-d6	54.9	P	30 - 160
EPA 8321B	Primidone-d5	89.0	P	30 - 160
EPA 8321B	Sucralose-d6	47.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	67.6	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	69.0	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	77.4	P	30 - 160
USGS O-2060-01	Diuron-d6	54.9	P	30 - 160
USGS O-2060-01	Primidone-d5	89.0	P	30 - 160
USGS O-2060-01	Sucralose-d6	47.2	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A80134
Included Lab Sample IDs: 1944313

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

Reference Method: SM 2120 B
Run ID: A80138
Included Lab Sample IDs: 1944313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	106	107	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A80149
Included Lab Sample IDs: 1944315

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	93.9	97.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A80151

Included Lab Sample IDs: 1944313

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

Reference Method: SM 5310 B-00

Run ID: A80269

Included Lab Sample IDs: 1944314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	97.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A80274

Included Lab Sample IDs: 1944362

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	115	105	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A80279

Included Lab Sample IDs: 1944362

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.8	92.0	P/P	50 - 150
Acetaminophen	128	137	P/P	60 - 150
Bentazon	89.4	86.3	P/P	50 - 150
Carbamazepine	111	116	P/P	60 - 150
Diuron	132	144	P/P	60 - 150
Fenuron	111	113	P/P	60 - 150
Fluridone	112	114	P/P	60 - 160
Imidacloprid	105	111	P/P	60 - 150
Linuron	129	126	P/P	60 - 150
MCPP	95.5	97.6	P/P	50 - 150
Primidone	98.0	112	P/P	60 - 150
Triclopyr	93.2	90.0	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80280

Included Lab Sample IDs: 1944314

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

Reference Method: SM 2320 B-97

Run ID: A80300

Included Lab Sample IDs: 1944313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80312

Included Lab Sample IDs: 1944314

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80407

Included Lab Sample IDs: 1944314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80415

Included Lab Sample IDs: 1944314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A80493

Included Lab Sample IDs: 1944313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	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				3.61	
EPA 300.0 Rev. 2.1	Chloride	100	100	99.3	1.61	
	Sulfate	99.8	98.8	98.5	0.104	
EPA 350.1 Rev. 2.0	Ammonia-N	98.9	98.8	97.6		0.736
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	96.1	96.5		0.330
EPA 353.2 Rev. 2.0	NO2NO3-N	105	105	105		0.0
EPA 365.1 Rev. 2.0	Total-P	99.4	91.4	91.2		0.239
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	98.8	102		3.38
EPA 8321B	Sucralose	108	71.9	77.2		6.76
SM 2120 B	Color (true)				2.37	
SM 2320 B-97	Total Alkalinity	103			0.316	
SM 2540 C-97	TDS				6.32	
SM 4500 F-C-97	Fluoride	98.0	97.0	97.0		0.0
SM 5310 B-00	Organic Carbon	99.0	93.2	92.6		0.326
USGS O-2060-01	2,4-D	83.1	75.2	77.4		2.84
	Acetaminophen	97.4	129	120		7.41
	Bentazon	78.0	50.0	53.0		5.81
	Carbamazepine	80.6	116	110		5.48

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
USGS O-2060-01	Diuron	84.9	130	122			6.11
	Fenuron	84.4	113	112			1.16
	Fluridone	77.9	98.0	104			6.21
	Imidacloprid	78.9	133	129			2.87
	Linuron	85.2	110	106			3.53
	MCPP	86.6	76.6	81.1			5.76
	Primidone	82.6	128	125			2.14
	Triclopyr	83.9	71.0	73.7			3.68

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1944313
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1944313
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1944313
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1944314
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1944314
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1944314
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1944314
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1944315
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1944362
SM 2120 B / E31780	True Color measured at 450 nm	1944313
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1944313
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1944313
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1944313
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1944313
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1944314
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1944362
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1944362

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	11/08/2017			11/08/2017 17:35	DeAsia Armster	1944313
EPA 300.0 Rev. 2.1	11/08/2017			11/10/2017	Julia Storbeck	1944313
EPA 350.1 Rev. 2.0	11/08/2017			11/20/2017	Sofia Elnemr	1944314
EPA 351.2 Rev. 2.0	11/08/2017	11/17/2017	Adrian Shelby	11/20/2017	Joseph Suarez	1944314
EPA 353.2 Rev. 2.0	11/08/2017			11/16/2017	Beverly Y. Sanders	1944314
EPA 365.1 Rev. 2.0	11/08/2017	11/14/2017	Sima Feizi	11/15/2017	Lipi Saha	1944314
EPA 365.1 Rev. 2.0 dissolved	11/08/2017			11/08/2017 16:09	Megan Treadwell	1944315
EPA 8321B	11/08/2017	11/13/2017	Juyoung Kim	11/14/2017	Juyoung Kim	1944362
SM 2120 B	11/08/2017			11/08/2017 15:48	Tanya Welborn	1944313
SM 2320 B-97	11/08/2017			11/16/2017	Dale L. Simmons	1944313
SM 2540 C-97	11/08/2017			11/09/2017	Yijie Li	1944313
SM 2540 D-97	11/08/2017			11/09/2017	Yijie Li	1944313
SM 4500 F-C-97	11/08/2017			11/23/2017	Dale L. Simmons	1944313
SM 5310 B-00	11/08/2017			11/15/2017	Ping Hua	1944314
USGS O-2060-01	11/08/2017	11/14/2017	Hoor Shaik	11/15/2017	Julie Michelle Frank	1944362