

Chemical Analysis Report

WQAP-2017-10-03-02

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

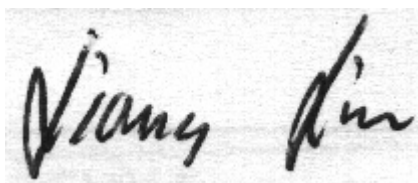
Event Description: **SMP 2017 kit A-b/t/m PCR-FILTER & PCR-HF183
(3603_Boggy, 3389_Sugar, 3480_Bethel)**
Request ID: **RQ-2017-09-25-25**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
MS #3560
Tallahassee, FL 32399-2400
Attn: Michael Eckles

For additional information please contact
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 18-OCT-2017 10:07

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: Boggy Creek @ SR51

Collection Date/Time: 10/03/2017 10:55

Field ID: G1TLHR0005-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1933653	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P332681	
	EPA 300.0 Rev. 2.1	Chloride	9.6		mg Cl/L	P332902	
	SM 2120 B	Color (true)	220		PCU	P332658	
	SM 2320 B-97	Total Alkalinity	155		mg CaCO3/L	P333034	
	SM 2540 C-97	TDS	232		mg/L	P333042	
	SM 2540 D-97	TSS	2	I	mg/L	P333088	
	SM 4500 F-C-97	Fluoride	0.066	I	mg F/L	P333149	
1933654	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P332931	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P332789	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P332968	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P332805	
	SM 5310 B-00	Organic Carbon	34		mg C/L	P332961	
1933655	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P332729	
1933659	EPA 8321B	Sucralose**	0.010	U	ug/L	P332452	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P332453	
		Diuron	8.0E-04	U	ug/L	P332453	
		Fenuron	0.0080	U	ug/L	P332453	
		Imidacloprid	8.0E-04	U	ug/L	P332453	
		Bentazon	8.0E-04	U	ug/L	P332453	MS
		Linuron	0.0040	U	ug/L	P332453	
		Acetaminophen**	0.0080	U	ug/L	P332453	
		MCPD	0.0020	U	ug/L	P332453	
		Carbamazepine**	4.0E-04	U	ug/L	P332453	
		Triclopyr**	0.0040	U	ug/L	P332453	
		Primidone**	0.0040	U	ug/L	P332453	
		Fluridone**	4.0E-04	U	ug/L	P332453	

Ref. Method and Comment:

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

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P332681

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P332902

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332931

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332789

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332968

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332805

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332729

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

Reference Method: EPA 8321B
Batch ID: P332452

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P332658

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P333034

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

Reference Method: SM 2540 C-97
Batch ID: P333042

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P333088

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333149

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P332961

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

Reference Method: USGS O-2060-01
Batch ID: P332453

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332902

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332931

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: P332789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332968

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332805

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332729

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

Reference Method: EPA 8321B
Batch ID: P332452

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	77.3		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P333034

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

Reference Method: SM 4500 F-C-97
Batch ID: P333149

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

Reference Method: SM 5310 B-00
Batch ID: P332961

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P332453

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.0		P	40 - 150
Acetaminophen	99.8		P	30 - 150
Bentazon	45.4		P	40 - 150
Carbamazepine	110		P	40 - 150
Diuron	99.9		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	101		P	40 - 150
Imidacloprid	99.9		P	40 - 160
Linuron	98.8		P	40 - 150
MCP	68.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P332453

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	103		P	40 - 150
Triclopyr	68.9		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P332902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1933597	Chloride	102		P	90 - 110
1933599	Chloride	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P332931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1933595	Ammonia-N	104	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P332789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1933643	Kjeldahl Nitrogen	101	91.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P332968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1933601	NO2NO3-N	108	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P332805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1933643	Total-P	100	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P332729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1933645	O-Phosphate-P	97.8	106	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P332452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1932875	Sucralose	149	85.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P333149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1933774	Fluoride	98.4	99.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P332961

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1933601	Organic Carbon	95.0	95.9	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P332453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1932874	2,4-D	62.2	67.3	P/P	40 - 150
1932874	Acetaminophen	76.5	84.4	P/P	30 - 150
1932874	Bentazon	30.0	36.6	F/F	40 - 150
1932874	Carbamazepine	80.6	84.2	P/P	40 - 150
1932874	Diuron	63.6	64.9	P/P	40 - 150
1932874	Fenuron	77.9	83.3	P/P	40 - 150
1932874	Fluridone	59.2	50.5	P/P	40 - 150
1932874	Linuron	86.6	88.2	P/P	40 - 150
1932874	MCP	50.8	53.2	P/P	40 - 150
1932874	Primidone	86.2	87.6	P/P	40 - 150
1932874	Triclopyr	47.3	48.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P332681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933396	Turbidity	3.69	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P332902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933599	Chloride	0.362	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933595	Ammonia-N	0.743	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933643	Kjeldahl Nitrogen	6.86	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933601	NO2NO3-N	0.341	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933643	Total-P	3.04	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933645	O-Phosphate-P	4.62	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P332452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1932875	Sucralose	27.7	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P332658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933515	Color (true)	3.60	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P333034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933774	Total Alkalinity	0.403	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P333042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933642	TDS	2.85	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
 Batch ID: P333149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933774	Fluoride	0.993	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P332961

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933601	Organic Carbon	0.923	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P332453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1932874	2,4-D	7.10	Spike	P	0 - 30
1932874	Acetaminophen	9.89	Spike	P	0 - 30
1932874	Bentazon	7.20	Spike	P	0 - 30
1932874	Carbamazepine	4.42	Spike	P	0 - 30
1932874	Diuron	1.06	Spike	P	0 - 30
1932874	Fenuron	6.75	Spike	P	0 - 30
1932874	Fluridone	10.3	Spike	P	0 - 30
1932874	Imidacloprid	2.85	Spike	P	0 - 30
1932874	Linuron	1.78	Spike	P	0 - 30
1932874	MCPP	4.73	Spike	P	0 - 30
1932874	Primidone	1.63	Spike	P	0 - 30
1932874	Triclopyr	2.79	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: 1933659
 Field Sample ID: G1TLHR0005-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	92.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.1	P	30 - 160
EPA 8321B	Diuron-d6	43.1	P	30 - 160
EPA 8321B	Primidone-d5	67.8	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	40 - 160
USGS O-2060-01	2,4-D-d3	67.7	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	92.9	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	62.1	P	30 - 160
USGS O-2060-01	Diuron-d6	43.1	P	30 - 160
USGS O-2060-01	Primidone-d5	67.8	P	30 - 160
USGS O-2060-01	Sucralose-d6	126	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A79312
Included Lab Sample IDs: 1933653

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A79320
Included Lab Sample IDs: 1933653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A79336
Included Lab Sample IDs: 1933655

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

Reference Method: USGS O-2060-01
Run ID: A79377
Included Lab Sample IDs: 1933659

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	107	P/P	50 - 150
Acetaminophen	105	103	P/P	60 - 150
Bentazon	118	112	P/P	50 - 150
Carbamazepine	109	110	P/P	60 - 150
Diuron	100	107	P/P	60 - 150
Fenuron	102	104	P/P	60 - 150
Fluridone	105	103	P/P	60 - 160
Imidacloprid	96.9	97.0	P/P	60 - 150
Linuron	103	102	P/P	60 - 150
MCPP	96.8	97.2	P/P	50 - 150
Primidone	84.0	95.6	P/P	60 - 150
Triclopyr	101	99.8	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A79401
Included Lab Sample IDs: 1933653

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A79409
Included Lab Sample IDs: 1933654

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79413

Included Lab Sample IDs: 1933654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.5	97.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A79419

Included Lab Sample IDs: 1933654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	97.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79421

Included Lab Sample IDs: 1933654

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79422

Included Lab Sample IDs: 1933654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	98.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A79442

Included Lab Sample IDs: 1933653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.4	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A79445

Included Lab Sample IDs: 1933659

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	107	P/P	60 - 150

Reference Method: SM 4500 F-C-97

Run ID: A79482

Included Lab Sample IDs: 1933653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	100	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					3.69	
EPA 300.0 Rev. 2.1	Chloride	103	101	102		0.362	
EPA 350.1 Rev. 2.0	Ammonia-N	104	104	102			0.743
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.4	101	91.4			6.86
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	107	108	109			0.341
EPA 365.1 Rev. 2.0	Total-P	99.9	100	96.4			3.04
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	97.8	106			4.62
EPA 8321B	Sucralose	77.3	149	85.4			27.7
SM 2120 B	Color (true)					3.60	
SM 2320 B-97	Total Alkalinity	103				0.403	
SM 2540 C-97	TDS					2.85	
SM 4500 F-C-97	Fluoride	98.6	98.4	99.6			0.993
SM 5310 B-00	Organic Carbon	95.6	95.0	95.9			0.923
USGS O-2060-01	2,4-D	69.0	62.2	67.3			7.10
	Acetaminophen	99.8	76.5	84.4			9.89
	Bentazon	45.4	30.0	36.6			7.20
	Carbamazepine	110	80.6	84.2			4.42
	Diuron	99.9	63.6	64.9			1.06
	Fenuron	104	77.9	83.3			6.75
	Fluridone	101	59.2	50.5			10.3
	Imidacloprid	99.9					2.85
	Linuron	98.8	86.6	88.2			1.78
	MCP	68.5	50.8	53.2			4.73
	Primidone	103	86.2	87.6			1.63
	Triclopyr	68.9	47.3	48.7			2.79

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1933653
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1933653
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1933654
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1933654
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1933654
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1933654
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1933655
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1933659
SM 2120 B / E31780	True Color measured at 450 nm	1933653
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1933653
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1933653
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1933653
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1933653
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1933654
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1933659
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1933659

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	10/03/2017			10/03/2017 15:52	DeAsia Armster	1933653
EPA 300.0 Rev. 2.1	10/03/2017			10/06/2017	Julia Storbeck	1933653
EPA 350.1 Rev. 2.0	10/03/2017			10/06/2017	Sofia Elnemr	1933654
EPA 351.2 Rev. 2.0	10/03/2017	10/05/2017	Adrian Shelby	10/06/2017	Virginia P. Brown	1933654
EPA 353.2 Rev. 2.0	10/03/2017			10/09/2017	Beverly Y. Sanders	1933654
EPA 365.1 Rev. 2.0	10/03/2017	10/05/2017	Sima Feizi	10/09/2017	Lipi Saha	1933654
EPA 365.1 Rev. 2.0 dissolved	10/03/2017			10/04/2017 12:05	Megan Treadwell	1933655
EPA 8321B	10/03/2017	10/04/2017	Hoor Shaik	10/06/2017	Juyoung Kim	1933659
SM 2120 B	10/03/2017			10/03/2017 16:42	Tanya Welborn	1933653
SM 2320 B-97	10/03/2017			10/07/2017	Dale L. Simmons	1933653
SM 2540 C-97	10/03/2017			10/06/2017	Yijie Li	1933653
SM 2540 D-97	10/03/2017			10/06/2017	Yijie Li	1933653
SM 4500 F-C-97	10/03/2017			10/10/2017	Dale L. Simmons	1933653
SM 5310 B-00	10/03/2017			10/07/2017	Ping Hua	1933654
USGS O-2060-01	10/03/2017	10/04/2017	Hoor Shaik	10/08/2017	Julie Michelle Frank	1933659