

Chemical Analysis Report

WQAP-2017-08-21-01

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

Event Description: **SMP 2017 Freshwater Kit A with B/T/M**
Request ID: **RQ-2017-04-24-39**
Customer: **WQAP**
Project ID: **SMP**

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

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

Date Certified: 13-SEP-2017 12:17

A handwritten signature in black ink, appearing to read "Liang Lin", 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: LAKE OVERSTREET DRAIN @ N. MERIDIAN ROAD

Collection Date/Time: 08/21/2017 10:25

Field ID: GITLHR0069-2017-05

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1922799	EPA 180.1 Rev. 2.0	Turbidity	8.1	A	NTU	P330654	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P330747	
	SM 2120 B	Color (true)	64	A	PCU	P330664	
	SM 2320 B-97	Total Alkalinity	31		mg CaCO3/L	P330798	
	SM 2540 C-97	TDS	79		mg/L	P330966	
	SM 2540 D-97	TSS	5	I	mg/L	P330984	
	SM 4500 F-C-97	Fluoride	0.098	I	mg F/L	P330800	
1922800	EPA 350.1 Rev. 2.0	Ammonia-N	0.043		mg N/L	P330757	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P330647	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P330761	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P330614	
	SM 5310 B-00	Organic Carbon	7.4		mg C/L	P330863	
1922801	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.077		mg P/L	P330593	
1922805	EPA 8321B	Sucralose**	0.17		ug/L	P330492	
	USGS O-2060-01	2,4-D	0.013		ug/L	P330602	
		Diuron	0.033		ug/L	P330602	
		Fenuron	0.038		ug/L	P330602	
		Imidacloprid	0.054		ug/L	P330602	
		Bentazon	0.0022	I	ug/L	P330602	
		Linuron	0.0040	U	ug/L	P330602	
		Acetaminophen**	0.0080	U	ug/L	P330602	MS
		MCP	0.0020	U	ug/L	P330602	
		Carbamazepine**	4.0E-04	U	ug/L	P330602	
		Triclopyr**	0.0040	U	ug/L	P330602	
		Primidone**	0.0040	U	ug/L	P330602	
		Fluridone**	0.0074		ug/L	P330602	

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 diuron and 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: P330654

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P330747

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: P330757

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330647

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330761

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330614

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330593

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

Reference Method: EPA 8321B
Batch ID: P330492

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P330664

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P330798

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

Reference Method: SM 2540 C-97
Batch ID: P330966

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P330984

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P330800

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P330863

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

Reference Method: USGS O-2060-01
Batch ID: P330602

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: P330747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330757

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.1		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330761

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330614

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330593

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.5		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P330492

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	118		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P330798

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

Reference Method: SM 4500 F-C-97
Batch ID: P330800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P330863

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P330602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	74.1		P	40 - 150
Acetaminophen	149		P	30 - 150
Bentazon	104		P	40 - 150
Carbamazepine	118		P	40 - 150
Diuron	109		P	40 - 150
Fenuron	123		P	40 - 150
Fluridone	87.3		P	40 - 150
Imidacloprid	131		P	40 - 160
Linuron	110		P	40 - 150
MCP	76.2		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P330602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	116		P	40 - 150
Triclopyr	73.9		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P330747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922835	Chloride	98.7		P	90 - 110
1922877	Chloride	92.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P330757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922708	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P330647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922800	Kjeldahl Nitrogen	92.3	94.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P330761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922800	NO2NO3-N	107	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P330614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922545	Total-P	93.9	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P330593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922793	O-Phosphate-P	96.0	95.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P330492

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922732	Sucralose	97.6	121	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P330800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922707	Fluoride	97.5	98.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P330863

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922820	Organic Carbon	102		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P330602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1922735	2,4-D	114	97.9	P/P	40 - 150
1922735	Acetaminophen	157	137	F/P	30 - 150
1922735	Bentazon	57.0	59.5	P/P	40 - 150
1922735	Carbamazepine	127	130	P/P	40 - 150
1922735	Fenuron	76.9	74.8	P/P	40 - 150
1922735	Fluridone	80.7	75.2	P/P	40 - 150
1922735	Linuron	108	100	P/P	40 - 150
1922735	MCP	93.0	79.0	P/P	40 - 150
1922735	Primidone	115	113	P/P	40 - 150
1922735	Triclopyr	79.3	95.9	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P330654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922799	Turbidity	1.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P330747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922835	Chloride	1.87	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P330757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922708	Ammonia-N	0.0475	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P330647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922800	Kjeldahl Nitrogen	1.57	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P330761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922800	NO2NO3-N	0.299	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P330614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922545	Total-P	5.34	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P330593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922793	O-Phosphate-P	0.645	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P330492

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922732	Sucralose	4.68	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P330664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922799	Color (true)	1.31	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P330798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922707	Total Alkalinity	0.206	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P330966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922714	TDS	3.46	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P330800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922707	Fluoride	0.473	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P330863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922820	Organic Carbon	0.977	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P330602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1922735	2,4-D	14.7	Spike	P	0 - 30
1922735	Acetaminophen	13.2	Spike	P	0 - 30
1922735	Bentazon	4.01	Spike	P	0 - 30
1922735	Carbamazepine	2.62	Spike	P	0 - 30
1922735	Diuron	18.6	Spike	P	0 - 30
1922735	Fenuron	2.74	Spike	P	0 - 30
1922735	Fluridone	7.01	Spike	P	0 - 30
1922735	Imidacloprid	5.59	Spike	P	0 - 30
1922735	Linuron	7.66	Spike	P	0 - 30
1922735	MCPP	16.2	Spike	P	0 - 30
1922735	Primidone	1.30	Spike	P	0 - 30
1922735	Triclopyr	19.0	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: 1922805
Field Sample ID: GITLHR0069-2017-05

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	120	P	30 - 160
EPA 8321B	Carbamazepine-d10	118	P	30 - 160
EPA 8321B	Diuron-d6	98.2	P	30 - 160
EPA 8321B	Primidone-d5	136	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	40 - 160
USGS O-2060-01	2,4-D-d3	102	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	120	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	118	P	30 - 160
USGS O-2060-01	Diuron-d6	98.2	P	30 - 160
USGS O-2060-01	Primidone-d5	136	P	30 - 160
USGS O-2060-01	Sucralose-d6	103	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A78545

Included Lab Sample IDs: 1922801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	99.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A78571

Included Lab Sample IDs: 1922799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A78573

Included Lab Sample IDs: 1922799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	99.6	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78578

Included Lab Sample IDs: 1922800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A78584

Included Lab Sample IDs: 1922799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	93.4	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78593

Included Lab Sample IDs: 1922800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.9	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78594

Included Lab Sample IDs: 1922800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78599

Included Lab Sample IDs: 1922800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.4	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
 Run ID: A78604
 Included Lab Sample IDs: 1922799

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

Reference Method: SM 4500 F-C-97
 Run ID: A78604
 Included Lab Sample IDs: 1922799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	98.1	P/P	90 - 110

Reference Method: SM 5310 B-00
 Run ID: A78619
 Included Lab Sample IDs: 1922800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.4	98.2	P/P	90 - 110

Reference Method: USGS O-2060-01
 Run ID: A78635
 Included Lab Sample IDs: 1922805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.3	87.7	P/P	50 - 150
Acetaminophen	129	119	P/P	60 - 150
Bentazon	108	131	P/P	50 - 150
Carbamazepine	122	96.2	P/P	60 - 150
Diuron	112	105	P/P	60 - 150
Fenuron	109	116	P/P	60 - 150
Fluridone	101	114	P/P	60 - 160
Imidacloprid	128	121	P/P	60 - 150
Linuron	118	141	P/P	60 - 150
MCP	87.7	105	P/P	50 - 150
Primidone	109	99.6	P/P	60 - 150
Triclopyr	100	95.8	P/P	50 - 160

Reference Method: EPA 8321B
 Run ID: A78750
 Included Lab Sample IDs: 1922805

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	121	119	P/P	60 - 150

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision	MS
				LCS SMP	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					1.11	
EPA 300.0 Rev. 2.1	Chloride	96.9	98.7	92.9		1.87	
EPA 350.1 Rev. 2.0	Ammonia-N	101	100	100			0.0475
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.1	92.3	94.6			1.57
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	106	107	106			0.299
EPA 365.1 Rev. 2.0	Total-P	95.7	93.9	99.3			5.34
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	96.0	95.3			0.645
EPA 8321B	Sucralose	118	97.6	121			4.68
SM 2120 B	Color (true)					1.31	
SM 2320 B-97	Total Alkalinity	103				0.206	
SM 2540 C-97	TDS					3.46	
SM 4500 F-C-97	Fluoride	96.2	97.5	98.2			0.473
SM 5310 B-00	Organic Carbon	101	102				0.977
USGS O-2060-01	2,4-D	74.1	114	97.9			14.7
	Acetaminophen	149	157	137			13.2
	Bentazon	104	57.0	59.5			4.01
	Carbamazepine	118	127	130			2.62
	Diuron	109					18.6
	Fenuron	123	76.9	74.8			2.74
	Fluridone	87.3	80.7	75.2			7.01
	Imidacloprid	131					5.59
	Linuron	110	108	100			7.66
	MCP	76.2	79.0	93.0			16.2
	Primidone	116	115	113			1.30
	Triclopyr	73.9	79.3	95.9			19.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1922799
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1922799
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1922800
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1922800
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1922800
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1922800
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1922801
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1922805
SM 2120 B / E31780	True Color measured at 450 nm	1922799
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1922799
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1922799
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1922799
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1922799
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1922800
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1922805
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1922805

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	08/21/2017			08/22/2017 17:11	Tanya Welborn	1922799
EPA 300.0 Rev. 2.1	08/21/2017			08/23/2017	Julia Storbeck	1922799
EPA 350.1 Rev. 2.0	08/21/2017			08/23/2017	Sofia Elnemr	1922800
EPA 351.2 Rev. 2.0	08/21/2017	08/23/2017	Adrian Shelby	08/24/2017	Joseph Suarez	1922800
EPA 353.2 Rev. 2.0	08/21/2017			08/24/2017	Beverly Y. Sanders	1922800
EPA 365.1 Rev. 2.0	08/21/2017	08/22/2017	Sima Feizi	08/23/2017	Lipi Saha	1922800
EPA 365.1 Rev. 2.0 dissolved	08/21/2017			08/21/2017 15:38	Megan Treadwell	1922801
EPA 8321B	08/21/2017	08/25/2017	Hoor Shaik	09/01/2017	Julie Michelle Frank	1922805
SM 2120 B	08/21/2017			08/22/2017 15:16	Tanya Welborn	1922799
SM 2320 B-97	08/21/2017			08/23/2017	Dale L. Simmons	1922799
SM 2540 C-97	08/21/2017			08/23/2017	Yijie Li	1922799
SM 2540 D-97	08/21/2017			08/23/2017	Yijie Li	1922799
SM 4500 F-C-97	08/21/2017			08/23/2017	Dale L. Simmons	1922799
SM 5310 B-00	08/21/2017			08/24/2017	Ping Hua	1922800
USGS O-2060-01	08/21/2017	08/23/2017	Hoor Shaik	08/25/2017	Juyoung Kim	1922805