

Chemical Analysis Report

WQAP-2017-04-11-03

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

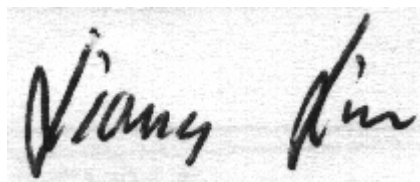
Event Description: **SMP 2017 Freshwater Kit A with B/T/M**
Request ID: **RQ-2017-02-20-31**
Customer: **WQAP**
Project ID: **SMP**

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
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 08-MAY-2017 15:03

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: Woods Creek @ Osteen Rd.

Collection Date/Time: 04/11/2017 10:50

Field ID: GITLHR0067

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1887223	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P323149	
	EPA 300.0 Rev. 2.1	Chloride	6.2		mg Cl/L	P323744	
	SM 2120 B	Color (true)	150		PCU	P323113	
	SM 2320 B-97	Total Alkalinity	162		mg CaCO3/L	P323543	
	SM 2540 C-97	TDS	174		mg/L	P323436	
	SM 2540 D-97	TSS	3	I	mg/L	P323551	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P324679	
1887224	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P323130	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P323211	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P323318	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P323254	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P323329	
1887225	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P323106	
1887245	EPA 8321B	Sucralose**	0.010	U	ug/L	P323079	
	USGS O-2060-01	2,4-D	0.0040	U	ug/L	P323095	
		Diuron	0.0040	U	ug/L	P323095	
		Fenuron	0.0080	U	ug/L	P323095	MS
		Imidacloprid	0.0040	U	ug/L	P323095	
		Bentazon	0.060		ug/L	P323095	
		Linuron	0.0040	U	ug/L	P323095	
		Acetaminophen**	0.010	U	ug/L	P323095	
		MCP	0.0040	U	ug/L	P323095	
		Carbamazepine**	4.0E-04	U	ug/L	P323095	
		Triclopyr**	0.010	U	ug/L	P323095	
		Primidone**	0.0080	U	ug/L	P323095	
		Fluridone**	4.0E-04	U	ug/L	P323095	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for bentazon 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: P323149

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P323744

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: P323130

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323211

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P323318

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323254

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323106

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

Reference Method: EPA 8321B
Batch ID: P323079

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P323113

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P323543

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

Reference Method: SM 2540 C-97
Batch ID: P323436

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P323551

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P324679

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P323329

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

Reference Method: USGS O-2060-01
 Batch ID: P323095

Component	Result	Code	Units
2,4-D	0.0040	U	ug/L
Acetaminophen	0.010	U	ug/L
Bentazon	0.0040	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0040	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0040	U	ug/L
Primidone	0.0080	U	ug/L
Triclopyr	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P323744

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P323130

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P323211

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P323318

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323254

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P323079

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	97.1		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P323543

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P324679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P323329

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

Reference Method: USGS O-2060-01
Batch ID: P323095

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.6		P	40 - 140
Acetaminophen	110		P	40 - 140
Bentazon	106		P	40 - 140
Carbamazepine	99.6		P	40 - 140
Diuron	80.8		P	40 - 140
Fenuron	96.4		P	40 - 140
Fluridone	90.4		P	40 - 140
Imidacloprid	78.0		P	40 - 160
Linuron	67.2		P	40 - 140
MCP	100		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P323095

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	73.2		P	40 - 140
Triclopyr	84.4		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887330	Chloride	101		P	90 - 110
1887605	Chloride	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P323130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887107	Ammonia-N	106	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887139	Kjeldahl Nitrogen	98.3	97.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P323318

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887260	NO2NO3-N	100	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887183	Total-P	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887074	O-Phosphate-P	97.6	95.4	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P323079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887097	Sucralose	104	100	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
 Batch ID: P324679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1891234	Fluoride	98.4	99.0	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P323329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887224	Organic Carbon	103	102	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P323095

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1887113	2,4-D	124	103	P/P	40 - 140
1887113	Acetaminophen	66.0	78.8	P/P	40 - 140
1887113	Carbamazepine	77.2	73.6	P/P	40 - 140
1887113	Diuron	44.8	56.4	P/P	40 - 140
1887113	Fenuron	31.5	38.7	F/F	40 - 140
1887113	Fluridone	45.8	62.6	P/P	40 - 140
1887113	Imidacloprid	96.4	101	P/P	40 - 160
1887113	Linuron	70.8	74.0	P/P	40 - 140
1887113	MCP	98.0	116	P/P	40 - 140
1887113	Primidone	63.6	59.2	P/P	40 - 140
1887113	Triclopyr	122	113	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P323149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887106	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P323744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887605	Chloride	0.0681	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P323130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887107	Ammonia-N	1.37	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887139	Kjeldahl Nitrogen	0.907	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P323318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887260	NO2NO3-N	1.01	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887183	Total-P	1.17	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887074	O-Phosphate-P	1.44	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P323079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887097	Sucralose	3.28	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P323113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887259	Color (true)	1.42	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P323543

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887138	Total Alkalinity	0.0884	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P323436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887106	TDS	4.24	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
 Batch ID: P323551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887106	TSS	7.41	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P324679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1891234	Fluoride	0.487	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P323329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887224	Organic Carbon	0.537	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P323095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1887113	2,4-D	19.0	Spike	P	0 - 30
1887113	Acetaminophen	17.7	Spike	P	0 - 30
1887113	Bentazon	0.944	Spike	P	0 - 30
1887113	Carbamazepine	4.77	Spike	P	0 - 30
1887113	Diuron	22.9	Spike	P	0 - 30
1887113	Fenuron	20.4	Spike	P	0 - 30
1887113	Fluridone	29.4	Spike	P	0 - 30
1887113	Imidacloprid	4.86	Spike	P	0 - 30
1887113	Linuron	4.42	Spike	P	0 - 30
1887113	MCPP	16.5	Spike	P	0 - 30
1887113	Primidone	7.17	Spike	P	0 - 30
1887113	Triclopyr	8.16	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: 1887245
 Field Sample ID: GITLHR0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	98.5	P	40 - 150
USGS O-2060-01	2,4-D-d3	114	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	67.6	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	88.2	P	40 - 160
USGS O-2060-01	Diuron-d6	62.8	P	40 - 150
USGS O-2060-01	Primidone-d5	89.2	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A75721

Included Lab Sample IDs: 1887225

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.8	98.0	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A75722

Included Lab Sample IDs: 1887223

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	99.8	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A75725

Included Lab Sample IDs: 1887224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A75732

Included Lab Sample IDs: 1887223

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75754

Included Lab Sample IDs: 1887224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A75759

Included Lab Sample IDs: 1887224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75763

Included Lab Sample IDs: 1887224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	105	106	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A75769

Included Lab Sample IDs: 1887224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.9	95.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A75783
 Included Lab Sample IDs: 1887245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	94.6	108	P/P	60 - 150

Reference Method: USGS O-2060-01
 Run ID: A75820
 Included Lab Sample IDs: 1887245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	105	P/P	50 - 150
Bentazon	81.4	91.0	P/P	50 - 150
MCP	128	133	P/P	50 - 150
Triclopyr	113	109	P/P	50 - 150

Reference Method: SM 2320 B-97
 Run ID: A75835
 Included Lab Sample IDs: 1887223

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	105	P/P	90 - 110

Reference Method: USGS O-2060-01
 Run ID: A75847
 Included Lab Sample IDs: 1887245

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	124	124	P/P	60 - 150
Carbamazepine	145	131	P/P	60 - 150
Diuron	113	121	P/P	60 - 150
Fenuron	128	127	P/P	60 - 150
Fluridone	110	115	P/P	60 - 150
Imidacloprid	100	98.8	P/P	60 - 150
Linuron	138	129	P/P	60 - 150
Primidone	109	103	P/P	60 - 150

Reference Method: EPA 300.0 Rev. 2.1
 Run ID: A75903
 Included Lab Sample IDs: 1887223

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

Reference Method: SM 4500 F-C-97
 Run ID: A76201
 Included Lab Sample IDs: 1887223

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					0.0	
EPA 300.0 Rev. 2.1	Chloride	101	100	101		0.0681	
EPA 350.1 Rev. 2.0	Ammonia-N	99.1	106	104			1.37
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.0	98.3	97.3			0.907
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	100	99.0			1.01
EPA 365.1 Rev. 2.0	Total-P	105	101	100			1.17
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	97.6	95.4			1.44
EPA 8321B	Sucralose	97.1	104	100			3.28
SM 2120 B	Color (true)					1.42	
SM 2320 B-97	Total Alkalinity	104				0.0884	
SM 2540 C-97	TDS					4.24	
SM 2540 D-97	TSS					7.41	
SM 4500 F-C-97	Fluoride	98.1	98.4	99.0			0.487
SM 5310 B-00	Organic Carbon	101	103	102			0.537
USGS O-2060-01	2,4-D	85.6	124	103			19.0
	Acetaminophen	110	66.0	78.8			17.7
	Bentazon	106					0.944
	Carbamazepine	99.6	77.2	73.6			4.77
	Diuron	80.8	44.8	56.4			22.9
	Fenuron	96.4	31.5	38.7			20.4
	Fluridone	90.4	45.8	62.6			29.4
	Imidacloprid	78.0	96.4	101			4.86
	Linuron	67.2	70.8	74.0			4.42
	MCP	100	98.0	116			16.5
	Primidone	73.2	63.6	59.2			7.17
	Triclopyr	84.4	122	113			8.16

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1887223
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1887223
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1887224
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1887224
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1887224
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1887224
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1887225
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1887245
SM 2120 B / E31780	True Color measured at 450 nm	1887223
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1887223
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1887223
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1887223
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1887223
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1887224
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1887245
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1887245

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	04/11/2017			04/11/2017 16:14	Blanca Fach	1887223
EPA 300.0 Rev. 2.1	04/11/2017			04/20/2017	Ping Hua	1887223
EPA 350.1 Rev. 2.0	04/11/2017			04/11/2017	Julie Michelle Frank	1887224
EPA 351.2 Rev. 2.0	04/11/2017	04/12/2017	Adrian Shelby	04/13/2017	Joseph Suarez	1887224
EPA 353.2 Rev. 2.0	04/11/2017			04/13/2017	Beverly Y. Sanders	1887224
EPA 365.1 Rev. 2.0	04/11/2017	04/12/2017	Vijayalakshmi Reddy	04/13/2017	Lipi Saha	1887224
EPA 365.1 Rev. 2.0 dissolved	04/11/2017			04/11/2017 14:42	Lipi Saha	1887225
EPA 8321B	04/11/2017	04/12/2017	Mohammad Ghaffari	04/13/2017	Mohammad Ghaffari	1887245
SM 2120 B	04/11/2017			04/11/2017 16:19	Julia Storbeck	1887223
SM 2320 B-97	04/11/2017			04/17/2017	Dale L. Simmons	1887223
SM 2540 C-97	04/11/2017			04/12/2017	Yijie Li	1887223
SM 2540 D-97	04/11/2017			04/12/2017	Yijie Li	1887223
SM 4500 F-C-97	04/11/2017			05/02/2017	Dale L. Simmons	1887223
SM 5310 B-00	04/11/2017			04/12/2017	Julie Michelle Frank	1887224
USGS O-2060-01	04/11/2017	04/12/2017	Fe-Val Siddell	04/15/2017	Juyoung Kim	1887245
	04/11/2017	04/12/2017	Fe-Val Siddell	04/16/2017	Juyoung Kim	1887245