

Chemical Analysis Report

WQAP-2017-04-13-02

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

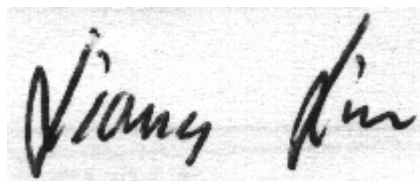
Event Description: **RUN 11 A-kits**
Request ID: **RQ-2017-04-10-24**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 10-MAY-2017 13:21

A handwritten signature in black ink, appearing to read "Liang Lin", is written on a light-colored, textured 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: Cedar Creek

Collection Date/Time: 04/12/2017 13:50

Field ID: G5SW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1888667	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P323527	
	EPA 300.0 Rev. 2.1	Chloride	200		mg Cl/L	P324107	
		Sulfate	26		mg SO4/L	P323864	
	SM 2120 B	Color (true)	65		PCU	P323337	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P323889	
	SM 2540 C-97	TDS	550	A	mg/L	P324100	
	SM 2540 D-97	TSS	3	IA	mg/L	P323933	
1888668	SM 4500 F-C-97	Fluoride	0.25		mg F/L	P324403	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P323348	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.27		mg N/L	P323503	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.031		mg N/L	P323700	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P323511	
1888669	SM 5310 B-00	Organic Carbon	13		mg C/L	P323470	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.081		mg P/L	P323342	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Cedar Creek

Collection Date/Time: 04/12/2017 13:50

Field ID: G5SW0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1888674	EPA 8321B	Sucralose**	3.7		ug/L	P323304	
	USGS O-2060-01	2,4-D	0.011	I	ug/L	P323371	
		Diuron	0.0040	U	ug/L	P323371	MS
		Fenuron	0.0080	U	ug/L	P323371	
		Imidacloprid	0.046		ug/L	P323371	
		Bentazon	0.22		ug/L	P323371	
		Linuron	0.0040	U	ug/L	P323371	
		Acetaminophen**	0.010	U	ug/L	P323371	
		MCP	0.0040	U	ug/L	P323371	
		Carbamazepine**	0.0016	I	ug/L	P323371	
		Triclopyr**	0.29		ug/L	P323371	
		Primidone**	0.0080	U	ug/L	P323371	
		Fluridone**	4.0E-04	U	ug/L	P323371	

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: P323527

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323864

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324107

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P323348

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323503

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P323700

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323511

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323342

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

Reference Method: EPA 8321B
Batch ID: P323304

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P323337

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
 Batch ID: P323889

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
 Batch ID: P324100

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P323933

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P324403

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P323470

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

Reference Method: USGS O-2060-01
 Batch ID: P323371

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: P323864

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324107

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P323348

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323503

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: P323700

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323511

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323342

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

Reference Method: EPA 8321B
Batch ID: P323304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	132		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P323889

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P324403

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.7		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P323470

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

Reference Method: USGS O-2060-01
Batch ID: P323371

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	84.8		P	40 - 140
Acetaminophen	70.8		P	40 - 140
Bentazon	134		P	40 - 140
Carbamazepine	107		P	40 - 140
Diuron	62.4		P	40 - 140
Fenuron	86.4		P	40 - 140
Fluridone	83.2		P	40 - 140
Imidacloprid	70.8		P	40 - 160
Linuron	101		P	40 - 140
MCP	109		P	40 - 140
Primidone	70.0		P	40 - 140
Triclopyr	104		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888661	Sulfate	100		P	90 - 110
1888829	Sulfate	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888662	Chloride	102		P	90 - 110
1888828	Chloride	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P323348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888663	Ammonia-N	98.5	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P323700

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888663	NO2NO3-N	97.5	97.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P323511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888668	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P323342

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888665	O-Phosphate-P	95.9	96.9	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P323304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888590	Sucralose	134	123	P/P	40 - 140

Reference Method: SM 4500 F-C-97
 Batch ID: P324403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888726	Fluoride	104	103	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P323470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888031	Organic Carbon	104	104	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P323371

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1888144	2,4-D	129	127	P/P	40 - 140
1888144	Acetaminophen	76.8	84.4	P/P	40 - 140
1888144	Carbamazepine	41.9	45.5	P/P	40 - 140
1888144	Diuron	31.1	33.4	F/F	40 - 140
1888144	Fenuron	40.4	41.2	P/P	40 - 140
1888144	Fluridone	46.0	48.4	P/P	40 - 140
1888144	Imidacloprid	82.9	78.9	P/P	40 - 160
1888144	Linuron	62.8	53.2	P/P	40 - 140
1888144	MCPD	137	135	P/P	40 - 140
1888144	Primidone	52.8	57.2	P/P	40 - 140
1888144	Triclopyr	79.6	72.4	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P323527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888542	Turbidity	6.74	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888661	Sulfate	3.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888662	Chloride	0.262	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P323348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888663	Ammonia-N	1.51	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P323503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888686	Kjeldahl Nitrogen	2.33	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P323700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888663	NO2NO3-N	0.406	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P323511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888668	Total-P	1.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P323342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888665	O-Phosphate-P	0.943	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P323304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888590	Sucralose	6.38	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
 Batch ID: P323337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888683	Color (true)	2.31	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P323889

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888726	Total Alkalinity	0.299	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
 Batch ID: P324100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888667	TDS	0.546	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P324403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888726	Fluoride	0.558	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P323470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888031	Organic Carbon	0.462	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P323371

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1888144	2,4-D	1.21	Spike	P	0 - 30
1888144	Acetaminophen	9.43	Spike	P	0 - 30
1888144	Bentazon	0.941	Spike	P	0 - 30
1888144	Carbamazepine	7.86	Spike	P	0 - 30
1888144	Diuron	7.19	Spike	P	0 - 30
1888144	Fenuron	1.96	Spike	P	0 - 30
1888144	Fluridone	4.14	Spike	P	0 - 30
1888144	Imidacloprid	3.65	Spike	P	0 - 30
1888144	Linuron	16.6	Spike	P	0 - 30
1888144	MCP	1.39	Spike	P	0 - 30
1888144	Primidone	8.00	Spike	P	0 - 30
1888144	Triclopyr	5.49	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
 Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 1888674
Field Sample ID: G5SW0129

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	99.5	P	40 - 150
USGS O-2060-01	2,4-D-d3	121	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	64.4	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	59.6	P	40 - 160
USGS O-2060-01	Diuron-d6	30.6	P	30 - 150
USGS O-2060-01	Primidone-d5	64.6	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A75770
Included Lab Sample IDs: 1888667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	100	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A75771
Included Lab Sample IDs: 1888669

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.9	97.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A75772
Included Lab Sample IDs: 1888668

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

Reference Method: EPA 8321B
Run ID: A75783
Included Lab Sample IDs: 1888674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	110	106	P/P	60 - 150

Reference Method: SM 5310 B-00
Run ID: A75802
Included Lab Sample IDs: 1888668

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A75831
Included Lab Sample IDs: 1888667

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

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A75845

Included Lab Sample IDs: 1888674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	125	120	P/P	60 - 150
Carbamazepine	115	134	P/P	60 - 150
Diuron	133	128	P/P	60 - 150
Fenuron	118	117	P/P	60 - 150
Fluridone	124	112	P/P	60 - 150
Imidacloprid	91.2	95.6	P/P	60 - 150
Linuron	99.6	130	P/P	60 - 150
Primidone	114	107	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75853

Included Lab Sample IDs: 1888668

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.6	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75856

Included Lab Sample IDs: 1888668

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A75875

Included Lab Sample IDs: 1888668

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.5	94.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A75903

Included Lab Sample IDs: 1888667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	101	108	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A75952

Included Lab Sample IDs: 1888667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	105	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A75985

Included Lab Sample IDs: 1888674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	78.2	P/P	50 - 150
Bentazon	86.2	88.4	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01
 Run ID: A75985
 Included Lab Sample IDs: 1888674

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCP	105	107	P/P	50 - 150
Tricopyr	84.6	83.0	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
 Run ID: A75999
 Included Lab Sample IDs: 1888667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Run ID: A76126
 Included Lab Sample IDs: 1888667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	99.0	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					6.74	
EPA 300.0 Rev. 2.1	Chloride	101	102	102		0.262	
	Sulfate	97.4	100	102		3.13	
EPA 350.1 Rev. 2.0	Ammonia-N	100	98.5	96.2			1.51
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102					2.33
EPA 353.2 Rev. 2.0	NO2NO3-N	96.0	97.5	97.0			0.406
EPA 365.1 Rev. 2.0	Total-P	104	102	104			1.48
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.9	95.9	96.9			0.943
EPA 8321B	Sucralose	132	134	123			6.38
SM 2120 B	Color (true)					2.31	
SM 2320 B-97	Total Alkalinity	105				0.299	
SM 2540 C-97	TDS					0.546	
SM 4500 F-C-97	Fluoride	94.7	104	103			0.558
SM 5310 B-00	Organic Carbon	105	104	104			0.462
USGS O-2060-01	2,4-D	84.8	129	127			1.21
	Acetaminophen	70.8	76.8	84.4			9.43
	Bentazon	134					0.941
	Carbamazepine	107	41.9	45.5			7.86
	Diuron	62.4	31.1	33.4			7.19
	Fenuron	86.4	40.4	41.2			1.96
	Fluridone	83.2	46.0	48.4			4.14
	Imidacloprid	70.8	82.9	78.9			3.65
	Linuron	101	62.8	53.2			16.6
	MCP	109	137	135			1.39

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
USGS O-2060-01	Primidone	70.0	52.8	57.2			8.00
	Triclopyr	104	79.6	72.4			5.49

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1888667
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1888667
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1888667
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1888668
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1888668
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1888668
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1888668
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1888669
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1888674
SM 2120 B / E31780	True Color measured at 450 nm	1888667
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1888667
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1888667
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1888667
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1888667
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1888668
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1888674
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1888674

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	04/13/2017			04/13/2017 16:21	Sima Feizi	1888667
EPA 300.0 Rev. 2.1	04/13/2017			04/20/2017	Ping Hua	1888667
	04/13/2017			04/26/2017	Ping Hua	1888667
EPA 350.1 Rev. 2.0	04/13/2017			04/13/2017	Julie Michelle Frank	1888668
EPA 351.2 Rev. 2.0	04/13/2017	04/17/2017	Adrian Shelby	04/18/2017	Joseph Suarez	1888668
EPA 353.2 Rev. 2.0	04/13/2017			04/19/2017	Beverly Y. Sanders	1888668
EPA 365.1 Rev. 2.0	04/13/2017	04/17/2017	Vijayalakshmi Reddy	04/18/2017	Lipi Saha	1888668
EPA 365.1 Rev. 2.0 dissolved	04/13/2017			04/13/2017 13:48	Anthony C. Onicha	1888669
EPA 8321B	04/13/2017	04/13/2017	Mohammad Ghaffari	04/13/2017	Mohammad Ghaffari	1888674
SM 2120 B	04/13/2017			04/13/2017 15:04	Julia Storbeck	1888667
SM 2320 B-97	04/13/2017			04/22/2017	Dale L. Simmons	1888667
SM 2540 C-97	04/13/2017			04/17/2017	Sima Feizi	1888667
SM 2540 D-97	04/13/2017			04/17/2017	Sima Feizi	1888667
SM 4500 F-C-97	04/13/2017			05/01/2017	Dale L. Simmons	1888667
SM 5310 B-00	04/13/2017			04/14/2017	Julie Michelle Frank	1888668
USGS O-2060-01	04/13/2017	04/16/2017	Hoor Shaik	04/18/2017	Juyoung Kim	1888674
	04/13/2017	04/16/2017	Hoor Shaik	04/23/2017	Juyoung Kim	1888674