

Chemical Analysis Report

WQAP-2017-06-07-01

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

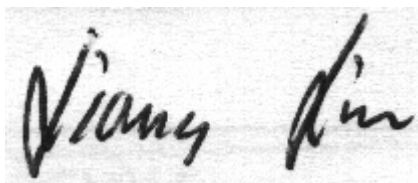
Event Description: **RUN 15**
Request ID: **RQ-2017-06-05-40**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Tampa, FL 33637
Attn: Judy Ashton

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 30-JUN-2017 11:14

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: WARES CREEK (TIDAL)

Collection Date/Time: 06/06/2017 11:00

Field ID: G2SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1904109	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P326402	
	SM 2320 B-97	Total Alkalinity	91		mg CaCO3/L	P326654	
	SM 2540 D-97	TSS	7	I	mg/L	P327029	
	SM 4500 F-C-97	Fluoride	0.62		mg F/L	P326656	
1904111	EPA 350.1 Rev. 2.0	Ammonia-N	0.096		mg N/L	P326408	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P326727	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.096		mg N/L	P326625	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P326535	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P326724	
1904113	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P326396	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: WARES CREEK (TIDAL)

Collection Date/Time: 06/06/2017 11:00

Field ID: G2SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1904122	EPA 8321B	Sucralose**	0.16		ug/L	P326278	MS, RPD
	USGS O-2060-01	2,4-D	0.087		ug/L	P326401	
		Diuron	0.016		ug/L	P326401	
		Fenuron	0.0040	U	ug/L	P326401	
		Imidacloprid	0.091		ug/L	P326401	MS
		Bentazon	0.0019	I	ug/L	P326401	
		Linuron	0.0040	U	ug/L	P326401	
		Acetaminophen**	0.020	I	ug/L	P326401	
		MCP	0.0030	I	ug/L	P326401	
		Carbamazepine**	4.0E-04	U	ug/L	P326401	
		Triclopyr**	0.0040	U	ug/L	P326401	
		Primidone**	0.0040	U	ug/L	P326401	
		Fluridone**	0.063		ug/L	P326401	

Sample Location: SIMS BRANCH

Collection Date/Time: 06/06/2017 11:55

Field ID: G1SW0056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1904110	EPA 180.1 Rev. 2.0	Turbidity	4.0	A	NTU	P326403	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P326654	
	SM 2540 D-97	TSS	6	I	mg/L	P327029	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P326656	
1904112	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P326408	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P326495	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P326625	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P326535	

Field ID: G1SW0056 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1904112	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P326724	
1904114	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P326396	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: SIMS BRANCH Collection Date/Time: 06/06/2017 11:55

Field ID: G1SW0056 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1904123	EPA 8321B	Sucralose**	1.4		ug/L	P326278	MS, RPD
	USGS O-2060-01	2,4-D	0.0013	I	ug/L	P326401	
		Diuron	0.0046		ug/L	P326401	
		Fenuron	0.0040	U	ug/L	P326401	
		Imidacloprid	8.0E-04	U	ug/L	P326401	MS
		Bentazon	8.0E-04	U	ug/L	P326401	
		Linuron	0.0040	U	ug/L	P326401	
		Acetaminophen**	0.0080	U	ug/L	P326401	
		MCP	0.0020	U	ug/L	P326401	
		Carbamazepine**	0.0023		ug/L	P326401	
		Triclopyr**	0.0040	U	ug/L	P326401	
		Primidone**	0.0059	I	ug/L	P326401	
		Fluridone**	0.0011	I	ug/L	P326401	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P326402

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P326403

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P326408

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P326495

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326727

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326625

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326535

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326396

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

Reference Method: EPA 8321B
Batch ID: P326278

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P326654

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

Reference Method: SM 2540 D-97
Batch ID: P327029

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P326656

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P326724

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

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
 Batch ID: P326401

Component	Result	Code	Units
2,4-D	8.0E-04	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	0.0040	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	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 350.1 Rev. 2.0
 Batch ID: P326408

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P326495

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P326727

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P326625

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P326535

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P326396

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P326278

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	88.2		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P326654

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

Reference Method: SM 4500 F-C-97
Batch ID: P326656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P326724

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	90.9		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P326401

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	94.0		P	40 - 140
Acetaminophen	50.0		P	40 - 140
Bentazon	78.6		P	40 - 140
Carbamazepine	139		P	40 - 140
Diuron	139		P	40 - 140
Fenuron	115		P	40 - 140
Fluridone	138		P	40 - 140
Imidacloprid	120		P	40 - 160
Linuron	124		P	40 - 140
MCPP	98.2		P	40 - 140
Primidone	132		P	40 - 140
Triclopyr	103		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904112	Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326495

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1903895	Kjeldahl Nitrogen	94.0	95.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1905521	Kjeldahl Nitrogen	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904111	NO2NO3-N	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904112	Total-P	96.8	98.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P326278

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1903830	Sucralose	32.1	148	F/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P326656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1904221	Fluoride	99.1	99.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P326724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1903792	Organic Carbon	89.2	89.0	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P326401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1903831	2,4-D	90.0	95.8	P/P	40 - 140
1903831	Acetaminophen	109	108	P/P	40 - 140
1903831	Bentazon	41.6	42.8	P/P	40 - 140
1903831	Carbamazepine	114	121	P/P	40 - 140
1903831	Diuron	102	105	P/P	40 - 140
1903831	Fenuron	80.0	78.0	P/P	40 - 140
1903831	Fluridone	100	103	P/P	40 - 140
1903831	Imidacloprid	205	204	F/F	40 - 160
1903831	Linuron	116	112	P/P	40 - 140
1903831	MCP	73.2	76.0	P/P	40 - 140
1903831	Primidone	120	128	P/P	40 - 140
1903831	Triclopyr	76.0	74.8	P/P	40 - 140

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P326402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904052	Turbidity	2.69	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P326403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904110	Turbidity	1.51	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904112	Ammonia-N	1.64	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1903895	Kjeldahl Nitrogen	1.19	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1905521	Kjeldahl Nitrogen	0.600	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904111	NO2NO3-N	0.326	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904112	Total-P	1.26	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904113	O-Phosphate-P	0.336	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P326278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1903830	Sucralose	64.8	Spike	F	0 - 30

Reference Method: SM 2320 B-97
 Batch ID: P326654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904221	Total Alkalinity	0.00963	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
 Batch ID: P326656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1904221	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P326724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1903792	Organic Carbon	0.144	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P326401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1903831	2,4-D	5.05	Spike	P	0 - 30
1903831	Acetaminophen	0.369	Spike	P	0 - 30
1903831	Bentazon	1.77	Spike	P	0 - 30
1903831	Carbamazepine	5.01	Spike	P	0 - 30
1903831	Diuron	2.25	Spike	P	0 - 30
1903831	Fenuron	2.53	Spike	P	0 - 30
1903831	Fluridone	2.35	Spike	P	0 - 30
1903831	Imidacloprid	0.471	Spike	P	0 - 30
1903831	Linuron	4.21	Spike	P	0 - 30
1903831	MCPP	3.75	Spike	P	0 - 30
1903831	Primidone	6.79	Spike	P	0 - 30
1903831	Triclopyr	1.59	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

Quality Assurance Report Surrogates

Lab Sample ID: 1904122
Field Sample ID: G2SW0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	140	P	40 - 160
USGS O-2060-01	2,4-D-d3	80.5	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	95.1	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	91.3	P	30 - 160
USGS O-2060-01	Diuron-d6	63.1	P	30 - 160
USGS O-2060-01	Primidone-d5	128	P	30 - 150

Lab Sample ID: 1904123
Field Sample ID: G1SW0056

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	147	P	40 - 160
USGS O-2060-01	2,4-D-d3	92.2	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	104	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	133	P	30 - 160
USGS O-2060-01	Diuron-d6	111	P	30 - 160
USGS O-2060-01	Primidone-d5	132	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76930
Included Lab Sample IDs: 1904113, 1904114

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A76931
Included Lab Sample IDs: 1904109, 1904110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A76933
Included Lab Sample IDs: 1904111, 1904112

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

Reference Method: USGS O-2060-01
Run ID: A76951
Included Lab Sample IDs: 1904122, 1904123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	117	P/P	50 - 150
2,4-D	117	105	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A76951

Included Lab Sample IDs: 1904122, 1904123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	102	107	P/P	60 - 150
Acetaminophen	90.0	102	P/P	60 - 150
Bentazon	112	135	P/P	50 - 150
Bentazon	135	120	P/P	50 - 150
Carbamazepine	110	110	P/P	60 - 150
Carbamazepine	110	115	P/P	60 - 150
Diuron	102	112	P/P	60 - 150
Diuron	112	118	P/P	60 - 150
Fenuron	100	98.8	P/P	60 - 150
Fenuron	93.6	100	P/P	60 - 150
Fluridone	113	127	P/P	60 - 160
Fluridone	127	136	P/P	60 - 160
Imidacloprid	101	109	P/P	60 - 150
Imidacloprid	98.4	101	P/P	60 - 150
Linuron	104	109	P/P	60 - 150
Linuron	109	116	P/P	60 - 150
MCPP	105	101	P/P	50 - 150
MCPP	91.2	105	P/P	50 - 150
Primidone	110	113	P/P	60 - 150
Primidone	113	106	P/P	60 - 150
Triclopyr	108	100	P/P	50 - 150
Triclopyr	98.8	108	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77007

Included Lab Sample IDs: 1904111, 1904112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	108	P/P	90 - 110
Total-P	108	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77012

Included Lab Sample IDs: 1904111, 1904112

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

Reference Method: SM 2320 B-97

Run ID: A77029

Included Lab Sample IDs: 1904109, 1904110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A77029

Included Lab Sample IDs: 1904109, 1904110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77042

Included Lab Sample IDs: 1904112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	96.7	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77054

Included Lab Sample IDs: 1904111, 1904112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.5	95.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77179

Included Lab Sample IDs: 1904111

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A77276

Included Lab Sample IDs: 1904122, 1904123

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	78.8	112	P/P	60 - 160

* 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				2.69	
	Turbidity				1.51	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	103 101			1.64
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	94.0 95.5			1.19
	Kjeldahl Nitrogen	101	102 103			0.600
EPA 353.2 Rev. 2.0	NO2NO3-N	104	105 105			0.326
EPA 365.1 Rev. 2.0	Total-P	100	96.8 98.2			1.26
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.4				0.336
EPA 8321B	Sucralose	88.2	32.1 148			64.8
SM 2320 B-97	Total Alkalinity	103			0.0096	
SM 4500 F-C-97	Fluoride	96.5	99.1 99.1			0.0
SM 5310 B-00	Organic Carbon	90.9	89.2 89.0			0.144
USGS O-2060-01	2,4-D	94.0	90.0 95.8			5.05
	Acetaminophen	50.0	109 108			0.369
	Bentazon	78.6	41.6 42.8			1.77
	Carbamazepine	139	114 121			5.01
	Diuron	139	102 105			2.25
	Fenuron	115	80.0 78.0			2.53

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
USGS O-2060-01	Fluridone	138	100	103			2.35
	Imidacloprid	120	205	204			0.471
	Linuron	124	116	112			4.21
	MCP	98.2	73.2	76.0			3.75
	Primidone	132	120	128			6.79
	Triclopyr	103	76.0	74.8			1.59

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1904109, 1904110
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1904111, 1904112
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1904111, 1904112
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1904111, 1904112
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1904111, 1904112
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1904113, 1904114
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1904122, 1904123
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1904109, 1904110
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1904109, 1904110
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1904109, 1904110
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1904111, 1904112
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1904122, 1904123
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1904122, 1904123

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	06/07/2017			06/07/2017 16:15	Sima Feizi	1904109, 1904110
EPA 350.1 Rev. 2.0	06/07/2017			06/07/2017	Julie Michelle Frank	1904111, 1904112
EPA 351.2 Rev. 2.0	06/07/2017	06/09/2017	Adrian Shelby	06/13/2017	Joseph Suarez	1904112
	06/07/2017	06/14/2017	Adrian Shelby	06/19/2017	Joseph Suarez	1904111
EPA 353.2 Rev. 2.0	06/07/2017			06/12/2017	Beverly Y. Sanders	1904111, 1904112
EPA 365.1 Rev. 2.0	06/07/2017	06/09/2017	Vijayalakshmi Reddy	06/12/2017	Lipi Saha	1904111, 1904112
EPA 365.1 Rev. 2.0 dissolved	06/07/2017			06/07/2017 15:11	Virginia P. Brown	1904113
	06/07/2017			06/07/2017 15:29	Virginia P. Brown	1904114
EPA 8321B	06/07/2017	06/15/2017	Mohammad Ghaffari	06/20/2017	Mohammad Ghaffari	1904122
	06/07/2017	06/15/2017	Mohammad Ghaffari	06/21/2017	Mohammad Ghaffari	1904123
SM 2320 B-97	06/07/2017			06/12/2017	Dale L. Simmons	1904109, 1904110
SM 2540 D-97	06/07/2017			06/09/2017	Yijie Li	1904109, 1904110
SM 4500 F-C-97	06/07/2017			06/12/2017	Dale L. Simmons	1904109, 1904110
SM 5310 B-00	06/07/2017			06/13/2017	Christopher Armour	1904111, 1904112
USGS O-2060-01	06/07/2017	06/08/2017	Hoor Shaik	06/09/2017	Mohammad Ghaffari	1904122, 1904123