

Chemical Analysis Report

SE-DIST-2017-04-27-01

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

Event Description: **SMP-Fort pierce Run**

Request ID: **RQ-2017-04-03-24**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

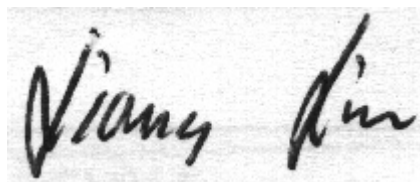
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

For additional information please contact

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 24-MAY-2017 10:48

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: C-25 Canal West @ Godwin Rd

Collection Date/Time: 04/26/2017 11:30

Field ID: G2SE0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893425	EPA 180.1 Rev. 2.0	Turbidity	5.2	A	NTU	P324191	
	EPA 300.0 Rev. 2.1	Chloride	420		mg Cl/L	P324673	
		Sulfate	150		mg SO4/L	P324669	
	SM 2120 B	Color (true)	40		PCU	P324144	
	SM 2320 B-97	Total Alkalinity	216		mg CaCO3/L	P324823	
	SM 2540 C-97	TDS	1.16E+03		mg/L	P325036	
	SM 2540 D-97	TSS	8	I	mg/L	P324591	
	SM 4500 F-C-97	Fluoride	0.38		mg F/L	P325523	
1893428	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P324253	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P324285	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324387	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P324322	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P324234	
1893431	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P324183	

Ref. Method and Comment:

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

Sample Location: Fort Pierce Farm Canal

Collection Date/Time: 04/26/2017 11:50

Field ID: G2SE0002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893426	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P324191	
	EPA 300.0 Rev. 2.1	Chloride	580		mg Cl/L	P324673	
		Sulfate	130		mg SO4/L	P324669	
	SM 2120 B	Color (true)	25		PCU	P324144	
	SM 2320 B-97	Total Alkalinity	160		mg CaCO3/L	P324823	
	SM 2540 C-97	TDS	1.30E+03		mg/L	P325072	
	SM 2540 D-97	TSS	4	I	mg/L	P324862	
	SM 4500 F-C-97	Fluoride	0.64		mg F/L	P325596	
1893429	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324253	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P324285	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324387	
	EPA 365.1 Rev. 2.0	Total-P	0.063		mg P/L	P324322	
	SM 5310 B-00	Organic Carbon	7.2		mg C/L	P324234	
1893432	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.033		mg P/L	P324183	

Ref. Method and Comment:

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

Sample Location: Fort Pierce Farm Canal

Collection Date/Time: 04/26/2017 12:00

Field ID: G2SE0002 dupe

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893427	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P324191	
	EPA 300.0 Rev. 2.1	Chloride	580		mg Cl/L	P324673	
		Sulfate	130		mg SO4/L	P324669	

Field ID: G2SE0002 dupe

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893427	SM 2120 B	Color (true)	25		PCU	P324144	
	SM 2320 B-97	Total Alkalinity	161		mg CaCO3/L	P324823	
	SM 2540 C-97	TDS	1.30E+03		mg/L	P325072	
	SM 2540 D-97	TSS	4	I	mg/L	P324862	
	SM 4500 F-C-97	Fluoride	0.64		mg F/L	P325596	
1893430	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324253	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P324285	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324387	
	EPA 365.1 Rev. 2.0	Total-P	0.062		mg P/L	P324322	
	SM 5310 B-00	Organic Carbon	7.2		mg C/L	P324234	
1893433	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P324183	

Ref. Method and Comment:

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

Sample Location: Moore Creek

Collection Date/Time: 04/26/2017 12:30

Field ID: 28042339

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893434	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P324191	
	SM 2320 B-97	Total Alkalinity	140		mg CaCO3/L	P324823	
	SM 2540 D-97	TSS	3	IA	mg/L	P324592	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P325596	
1893435	EPA 350.1 Rev. 2.0	Ammonia-N	0.071		mg N/L	P324253	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P324285	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.046		mg N/L	P324387	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P324323	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P324234	
1893436	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.090		mg P/L	P324183	

Ref. Method and Comment:

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

Sample Location: 5 Mile Creek @ Okeechobee Rd

Collection Date/Time: 04/26/2017 13:30

Field ID: 28010001

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893437	EPA 180.1 Rev. 2.0	Turbidity	18		NTU	P324191	
	EPA 300.0 Rev. 2.1	Chloride	410		mg Cl/L	P324673	
		Sulfate	140		mg SO4/L	P324669	
	SM 2120 B	Color (true)	33	A	PCU	P324147	
	SM 2320 B-97	Total Alkalinity	201		mg CaCO3/L	P324823	
	SM 2540 C-97	TDS	990		mg/L	P325036	
	SM 2540 D-97	TSS	33		mg/L	P324591	
	SM 4500 F-C-97	Fluoride	0.65		mg F/L	P325596	
1893438	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P324253	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P324340	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324604	

Field ID: 28010001

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893438	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P324323	
	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P324234	
1893439	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.076		mg P/L	P324184	

Ref. Method and Comment:

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

Sample Location: 10 Mile Creek @ Gordy Rd

Collection Date/Time: 04/26/2017 14:00

Field ID: 28010045

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893440	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P324191	
	EPA 300.0 Rev. 2.1	Chloride	910		mg Cl/L	P324673	
		Sulfate	150		mg SO4/L	P324669	
	SM 2120 B	Color (true)	30		PCU	P324144	
	SM 2320 B-97	Total Alkalinity	182		mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	1.82E+03		mg/L	P325036	
	SM 2540 D-97	TSS	11		mg/L	P324591	
	SM 4500 F-C-97	Fluoride	0.56		mg F/L	P324831	
1893441	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P324253	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.22		mg N/L	P324340	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324604	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P324323	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P324234	
1893442	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.038		mg P/L	P324184	
1893455	EPA 8321B	Sucralose**	0.027	I	ug/L	P324163	
	USGS O-2060-01	2,4-D	0.14		ug/L	P324133	
		Diuron	0.0010	I	ug/L	P324133	
		Fenuron	0.0040	U	ug/L	P324133	
		Imidacloprid	0.013		ug/L	P324133	MS
		Bentazon	0.0014	I	ug/L	P324133	
		Linuron	0.0040	U	ug/L	P324133	
		Acetaminophen**	0.0080	U	ug/L	P324133	
		MCP	8.0E-04	U	ug/L	P324133	
		Carbamazepine**	4.0E-04	U	ug/L	P324133	
		Triclopyr**	0.0040	U	ug/L	P324133	
		Primidone**	0.0040	U	ug/L	P324133	
		Fluridone**	7.2E-04	I	ug/L	P324133	

Ref. Method and Comment:

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

Sample Location: 10 Mile Creek @ Gordy Rd

Collection Date/Time: 04/26/2017 14:15

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893443	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P324191	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P324673	

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1893443	EPA 300.0 Rev. 2.1	Sulfate	0.20	U	mg SO4/L	P324669	
	SM 2120 B	Color (true)	2.5	U	PCU	P324144	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P325141	
	SM 2540 C-97	TDS	15	U	mg/L	P325036	
	SM 2540 D-97	TSS	2	U	mg/L	P324591	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P324831	
1893444	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P324253	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P324285	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324388	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P324323	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P324234	
1893445	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324184	
1893456	EPA 8321B	Sucralose**	0.010	U	ug/L	P324163	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P324133	
		Diuron	8.0E-04	U	ug/L	P324133	
		Fenuron	0.0040	U	ug/L	P324133	
		Imidacloprid	8.0E-04	U	ug/L	P324133	MS
		Bentazon	8.0E-04	U	ug/L	P324133	
		Linuron	0.0040	U	ug/L	P324133	
		Acetaminophen**	0.0080	U	ug/L	P324133	
		MCP	8.0E-04	U	ug/L	P324133	
		Carbamazepine**	4.0E-04	U	ug/L	P324133	
		Triclopyr**	0.0040	U	ug/L	P324133	
		Primidone**	0.0040	U	ug/L	P324133	
		Fluridone**	4.0E-04	U	ug/L	P324133	

Ref. Method and Comment:

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P324191

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P324669

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P324673

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: P324253

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324285

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324340

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324387

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324388

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324604

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324322

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324323

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324183

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324184

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

Reference Method: EPA 8321B
Batch ID: P324163

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P324144

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P324147

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P324823

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

Reference Method: SM 2320 B-97
Batch ID: P325141

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

Reference Method: SM 2540 C-97
Batch ID: P325036

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P325072

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P324591

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P324592

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P324862

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P325523

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P325596

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P324234

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

Reference Method: USGS O-2060-01
Batch ID: P324133

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	8.0E-04	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: P324669

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324673

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324253

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324340

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324387

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324388

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324604

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: P324322

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324323

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324183

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324184

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.2		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P324163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	73.6		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P324823

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

Reference Method: SM 2320 B-97
Batch ID: P325141

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

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P325523

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P325596

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P324234

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

Reference Method: USGS O-2060-01
Batch ID: P324133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	76.3		P	40 - 140
Acetaminophen	105		P	40 - 140
Bentazon	69.5		P	40 - 140
Carbamazepine	121		P	40 - 140
Diuron	127		P	40 - 140
Fenuron	127		P	40 - 140
Fluridone	117		P	40 - 140
Imidacloprid	127		P	40 - 160
Linuron	127		P	40 - 140
MCP	73.2		P	40 - 140
Primidone	120		P	40 - 140
Triclopyr	71.7		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324669

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892987	Sulfate	98.8		P	90 - 110
1892988	Sulfate	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892987	Chloride	97.3		P	90 - 110
1892988	Chloride	95.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324253

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893428	Ammonia-N	98.7	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893467	Kjeldahl Nitrogen	102	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893441	Kjeldahl Nitrogen	100	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324387

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893384	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893466	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894397	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893290	Total-P	99.9	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893547	Total-P	101	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324183

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893431	O-Phosphate-P	96.9	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324184

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893486	O-Phosphate-P	96.3	97.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P324163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893377	Sucralose	109	114	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893545	Fluoride	96.8	96.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P325523

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892759	Fluoride	101	102	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P325596

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893434	Fluoride	96.5	95.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P324234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1892924	Organic Carbon	103	103	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P324133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893010	2,4-D	73.2	76.3	P/P	40 - 140
1893010	Acetaminophen	111	96.2	P/P	40 - 140
1893010	Bentazon	75.2	80.4	P/P	40 - 140
1893010	Carbamazepine	101	108	P/P	40 - 140
1893010	Diuron	99.1	103	P/P	40 - 140
1893010	Fenuron	76.0	78.2	P/P	40 - 140
1893010	Fluridone	91.5	92.8	P/P	40 - 140
1893010	Imidacloprid	180	199	F/F	40 - 160
1893010	Linuron	104	111	P/P	40 - 140
1893010	MCP	64.7	70.7	P/P	40 - 140
1893010	Primidone	95.7	109	P/P	40 - 140
1893010	Triclopyr	65.1	69.9	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893425	Turbidity	1.53	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324669

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892987	Sulfate	0.593	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P324673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892987	Chloride	0.0770	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893428	Ammonia-N	2.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893467	Kjeldahl Nitrogen	1.45	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893441	Kjeldahl Nitrogen	2.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893384	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893466	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894397	NO2NO3-N	1.91	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893290	Total-P	2.56	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893547	Total-P	2.89	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893431	O-Phosphate-P	0.658	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893486	O-Phosphate-P	0.951	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P324163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893377	Sucralose	4.12	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P324144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893464	Color (true)	1.21	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P324147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893437	Color (true)	0.507	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P324823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893287	Total Alkalinity	0.653	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P325141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893545	Total Alkalinity	0.451	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P325036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893464	TDS	0.864	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P325072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893580	TDS	1.94	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P324831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893545	Fluoride	0.477	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P325523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892759	Fluoride	0.947	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P325596

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893434	Fluoride	0.480	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P324234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1892924	Organic Carbon	0.150	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P324133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893010	2,4-D	4.06	Spike	P	0 - 30
1893010	Acetaminophen	13.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P324133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893010	Bentazon	6.68	Spike	P	0 - 30
1893010	Carbamazepine	6.76	Spike	P	0 - 30
1893010	Diuron	4.11	Spike	P	0 - 30
1893010	Fenuron	2.85	Spike	P	0 - 30
1893010	Fluridone	1.39	Spike	P	0 - 30
1893010	Imidacloprid	10.1	Spike	P	0 - 30
1893010	Linuron	6.71	Spike	P	0 - 30
1893010	MCP	8.86	Spike	P	0 - 30
1893010	Primidone	12.6	Spike	P	0 - 30
1893010	Triclopyr	7.05	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: 1893455
Field Sample ID: 28010045

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	118	P	40 - 150
USGS O-2060-01	2,4-D-d3	70.1	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	108	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	94.6	P	30 - 160
USGS O-2060-01	Diuron-d6	90.4	P	30 - 150
USGS O-2060-01	Primidone-d5	116	P	30 - 150

Lab Sample ID: 1893456
Field Sample ID: Field Blank

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	74.5	P	40 - 150
USGS O-2060-01	2,4-D-d3	79.4	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	131	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	116	P	30 - 160
USGS O-2060-01	Diuron-d6	129	P	30 - 150
USGS O-2060-01	Primidone-d5	143	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A76036
Included Lab Sample IDs: 1893425, 1893426, 1893427, 1893437, 1893440, 1893443

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.7	94.3	P/P	85 - 115
Color (true)	98.5	99.5	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A76048

Included Lab Sample IDs: 1893431, 1893432, 1893433, 1893436, 1893439, 1893442, 1893445

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.2	98.1	P/P	90 - 110
O-Phosphate-P	97.7	97.9	P/P	90 - 110
O-Phosphate-P	97.9	98.0	P/P	90 - 110
O-Phosphate-P	98.0	97.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76055

Included Lab Sample IDs: 1893425, 1893426, 1893427, 1893434, 1893437, 1893440, 1893443

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

Reference Method: SM 5310 B-00

Run ID: A76068

Included Lab Sample IDs: 1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.5	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76070

Included Lab Sample IDs: 1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	92.0	91.0	P/P	90 - 110
Ammonia-N	92.1	92.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A76074

Included Lab Sample IDs: 1893455, 1893456

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	75.4	122	P/P	60 - 150
Sucralose	83.2	109	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76107

Included Lab Sample IDs: 1893428, 1893429, 1893430, 1893435, 1893438, 1893441

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76117

Included Lab Sample IDs: 1893428, 1893429, 1893430, 1893435, 1893444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110
NO2NO3-N	101	100	P/P	90 - 110
NO2NO3-N	99.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76133

Included Lab Sample IDs: 1893428, 1893429, 1893430, 1893435, 1893444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	98.6	P/P	90 - 110
Kjeldahl Nitrogen	98.6	98.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A76148

Included Lab Sample IDs: 1893425, 1893426, 1893427, 1893437, 1893440, 1893443

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	106	P/P	90 - 110
Chloride	106	105	P/P	90 - 110
Sulfate	100	99.3	P/P	90 - 110
Sulfate	99.3	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76173

Included Lab Sample IDs: 1893444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.0	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76178

Included Lab Sample IDs: 1893438, 1893441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76197

Included Lab Sample IDs: 1893438, 1893441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	108	P/P	90 - 110
Kjeldahl Nitrogen	108	105	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76242

Included Lab Sample IDs: 1893425, 1893426, 1893427, 1893434, 1893437

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

Reference Method: SM 4500 F-C-97

Run ID: A76242

Included Lab Sample IDs: 1893440, 1893443

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A76363

Included Lab Sample IDs: 1893440, 1893443

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110
Total Alkalinity	103	100	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A76477

Included Lab Sample IDs: 1893455, 1893456

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.2	92.0	P/P	50 - 150
Acetaminophen	122	106	P/P	60 - 150
Bentazon	84.8	88.8	P/P	50 - 150
Carbamazepine	107	108	P/P	60 - 150
Diuron	121	122	P/P	60 - 150
Fenuron	114	107	P/P	60 - 150
Fluridone	121	115	P/P	60 - 150
Imidacloprid	114	104	P/P	60 - 150
Linuron	114	111	P/P	60 - 150
MCP	91.2	97.2	P/P	50 - 150
Primidone	99.2	96.8	P/P	60 - 150
Triclopyr	93.6	94.8	P/P	50 - 150

Reference Method: SM 4500 F-C-97

Run ID: A76528

Included Lab Sample IDs: 1893425

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

Reference Method: SM 4500 F-C-97

Run ID: A76561

Included Lab Sample IDs: 1893426, 1893427, 1893434, 1893437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	100	P/P	90 - 110
Fluoride	99.5	98.0	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				1.53	
EPA 300.0 Rev. 2.1	Chloride	101	97.3	95.5	0.0770	
	Sulfate	99.8	98.8	98.4	0.593	
EPA 350.1 Rev. 2.0	Ammonia-N	96.1	98.7	96.1		2.50
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.6	102	104		1.45

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	100	96.0		2.01
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	101	101		0.0
	NO ₂ NO ₃ -N	102	100	100		0.0
	NO ₂ NO ₃ -N	106	104	106		1.91
EPA 365.1 Rev. 2.0	Total-P	103	99.9	97.2		2.56
	Total-P	99.6	101	97.0		2.89
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.2	96.9	98.0		0.658
	O-Phosphate-P	98.2	96.3	97.3		0.951
EPA 8321B	Sucralose	73.6	109	114		4.12
SM 2120 B	Color (true)				1.21	
	Color (true)				0.507	
SM 2320 B-97	Total Alkalinity	103			0.653	
	Total Alkalinity	103			0.451	
SM 2540 C-97	TDS				0.864	
	TDS				1.94	
SM 4500 F-C-97	Fluoride	97.0	96.8	96.1		0.477
	Fluoride	102	101	102		0.947
	Fluoride	98.6	96.5	95.8		0.480
SM 5310 B-00	Organic Carbon	104	103	103		0.150
USGS O-2060-01	2,4-D	76.3	73.2	76.3		4.06
	Acetaminophen	105	111	96.2		13.8
	Bentazon	69.5	75.2	80.4		6.68
	Carbamazepine	121	101	108		6.76
	Diuron	127	99.1	103		4.11
	Fenuron	127	76.0	78.2		2.85
	Fluridone	117	91.5	92.8		1.39
	Imidacloprid	127	180	199		10.1
	Linuron	127	104	111		6.71
	MCP	73.2	64.7	70.7		8.86
	Primidone	120	95.7	109		12.6
	Triclopyr	71.7	65.1	69.9		7.05

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1893425, 1893426, 1893427, 1893434, 1893437, 1893440, 1893443
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1893425, 1893426, 1893427, 1893437, 1893440, 1893443
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1893425, 1893426, 1893427, 1893437, 1893440, 1893443
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1893431, 1893432, 1893433, 1893436, 1893439, 1893442, 1893445
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1893455, 1893456
SM 2120 B / E31780	True Color measured at 450 nm	1893425, 1893426, 1893427, 1893437, 1893440, 1893443

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1893425, 1893426, 1893427, 1893434, 1893437, 1893440, 1893443
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1893425, 1893426, 1893427, 1893437, 1893440, 1893443
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1893425, 1893426, 1893427, 1893434, 1893437, 1893440, 1893443
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1893425, 1893426, 1893427, 1893434, 1893437, 1893440, 1893443
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1893455, 1893456
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1893455, 1893456

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	04/27/2017			04/27/2017 16:59	Sima Feizi	1893425, 1893426, 1893427, 1893434, 1893437, 1893440, 1893443
EPA 300.0 Rev. 2.1	04/27/2017			05/04/2017	Ping Hua	1893425, 1893426, 1893427, 1893437, 1893440, 1893443
EPA 350.1 Rev. 2.0	04/27/2017			04/27/2017	Julie Michelle Frank	1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444
EPA 351.2 Rev. 2.0	04/27/2017	05/01/2017	Adrian Shelby	05/02/2017	Joseph Suarez	1893428, 1893429, 1893430, 1893435, 1893444
EPA 353.2 Rev. 2.0	04/27/2017	05/02/2017	Adrian Shelby	05/04/2017	Joseph Suarez	1893438, 1893441
	04/27/2017			05/02/2017	Beverly Y. Sanders	1893428, 1893429, 1893430, 1893435, 1893444
EPA 365.1 Rev. 2.0	04/27/2017			05/04/2017	Beverly Y. Sanders	1893438, 1893441
	04/27/2017	05/01/2017	Vijayalakshmi Reddy	05/02/2017	Christopher Armour	1893428, 1893429, 1893430, 1893435, 1893438, 1893441
EPA 365.1 Rev. 2.0 dissolved	04/27/2017	05/01/2017	Vijayalakshmi Reddy	05/02/2017	Lipi Saha	1893444
	04/27/2017			04/27/2017 15:36	Anthony C. Onicha	1893431
	04/27/2017			04/27/2017 15:57	Anthony C. Onicha	1893432
	04/27/2017			04/27/2017 16:14	Anthony C. Onicha	1893433, 1893436
	04/27/2017			04/27/2017 16:22	Anthony C. Onicha	1893439
	04/27/2017			04/27/2017 16:23	Anthony C. Onicha	1893442
	04/27/2017			04/27/2017 16:24	Anthony C. Onicha	1893445
EPA 8321B	04/27/2017	04/29/2017	Mohammad Ghaffari	04/29/2017	Mohammad Ghaffari	1893456
SM 2120 B	04/27/2017	04/29/2017	Mohammad Ghaffari	04/30/2017	Mohammad Ghaffari	1893455
	04/27/2017			04/27/2017 16:39	Julia Storbeck	1893425
	04/27/2017			04/27/2017 16:40	Julia Storbeck	1893426
	04/27/2017			04/27/2017 16:41	Julia Storbeck	1893427
	04/27/2017			04/27/2017 16:42	Julia Storbeck	1893440
	04/27/2017			04/27/2017 16:43	Julia Storbeck	1893443
SM 2320 B-97	04/27/2017			04/27/2017 17:03	Julia Storbeck	1893437
	04/27/2017			05/06/2017	Dale L. Simmons	1893425, 1893426, 1893427, 1893434, 1893437
SM 2540 C-97	04/27/2017			05/09/2017	Dale L. Simmons	1893440, 1893443
	04/27/2017			05/01/2017	Sima Feizi	1893425, 1893437, 1893440, 1893443
	04/27/2017			05/02/2017	Sima Feizi	1893426, 1893427
SM 2540 D-97	04/27/2017			05/01/2017	Sima Feizi	1893425, 1893434, 1893437, 1893440, 1893443
SM 4500 F-C-97	04/27/2017			05/02/2017	Sima Feizi	1893426, 1893427
	04/27/2017			05/06/2017	Dale L. Simmons	1893440, 1893443
	04/27/2017			05/19/2017	Dale L. Simmons	1893425
	04/27/2017			05/20/2017	Dale L. Simmons	1893426, 1893427, 1893434, 1893437
SM 5310 B-00	04/27/2017			04/28/2017	Julie Michelle Frank	1893428, 1893429, 1893430, 1893435, 1893438, 1893441, 1893444

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
USGS O-2060-01	04/27/2017	04/29/2017	Fe-Val Siddell	05/14/2017	Juyoung Kim	1893455, 1893456