

Chemical Analysis Report

SE-DIST-2017-07-19-02

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

Event Description: **SMP-FoPo Run**
Request ID: **RQ-2017-07-17-10**
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

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 10-AUG-2017 11:21



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

Collection Date/Time: 07/18/2017 10:15

Field ID: G2SE0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914345	EPA 180.1 Rev. 2.0	Turbidity	3.5	A	NTU	P328798	
	EPA 300.0 Rev. 2.1	Chloride	210		mg Cl/L	P328864	
		Sulfate	94		mg SO4/L	P328866	
	SM 2120 B	Color (true)	150		PCU	P328802	
	SM 2320 B-97	Total Alkalinity	148		mg CaCO3/L	P328941	
	SM 2540 C-97	TDS	706		mg/L	P329280	
	SM 2540 D-97	TSS	5	I	mg/L	P329296	
	SM 4500 F-C-97	Fluoride	0.31		mg F/L	P328943	
1914347	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P328953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P328828	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P328918	
	EPA 365.1 Rev. 2.0	Total-P	0.35		mg P/L	P328834	
	SM 5310 B-00	Organic Carbon	21		mg C/L	P329124	
1914349	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.25		mg P/L	P328785	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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.

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: FORT PIERCE FARM CANAL

Collection Date/Time: 07/18/2017 10:45

Field ID: G2SE0002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914346	EPA 180.1 Rev. 2.0	Turbidity	2.2	A	NTU	P328797	
	EPA 300.0 Rev. 2.1	Chloride	410		mg Cl/L	P328865	
		Sulfate	100		mg SO4/L	P328867	
	SM 2120 B	Color (true)	47	A	PCU	P328802	
	SM 2320 B-97	Total Alkalinity	168		mg CaCO3/L	P328941	
	SM 2540 C-97	TDS	1.05E+03		mg/L	P329280	
	SM 2540 D-97	TSS	3	I	mg/L	P329296	
	SM 4500 F-C-97	Fluoride	0.45		mg F/L	P328943	
1914348	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P328953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P328829	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P328919	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P328834	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P329124	
1914350	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P328785	

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: MOORE CREEK @ 7TH STREET

Collection Date/Time: 07/18/2017 11:40

Field ID: 28042339

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914351	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P328797	
	SM 2320 B-97	Total Alkalinity	147		mg CaCO3/L	P328816	
	SM 2540 D-97	TSS	5	IA	mg/L	P329302	
	SM 4500 F-C-97	Fluoride	0.71		mg F/L	P328818	
1914352	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P328885	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P329110	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P328990	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P328906	
	SM 5310 B-00	Organic Carbon	9.0		mg C/L	P329125	
1914353	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P328786	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: IRL SOUTH @ MELODY LANE PIER

Collection Date/Time: 07/18/2017 12:00

Field ID: G2SE0028

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914363	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P328797	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P328816	
	SM 2540 D-97	TSS	3	I	mg/L	P329302	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P328818	
1914364	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P328955	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P329110	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P328991	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P328906	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P329125	
1914365	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P328786	

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: FIELD BLANK

Collection Date/Time: 07/18/2017 12:15

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914360	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P328797	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P328865	
		Sulfate	0.20	U	mg SO4/L	P328867	
	SM 2120 B	Color (true)	2.5	U	PCU	P328802	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P328941	
	SM 2540 C-97	TDS	15	U	mg/L	P329277	
	SM 2540 D-97	TSS	2	U	mg/L	P329293	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P328943	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P328953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P328829	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P328919	

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914361	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P328835	
	SM 5310 B-00	Organic Carbon	0.52	I	mg C/L	P329124	
1914362	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P328788	

Ref. Method and Comment:

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

SM 5310 B-00: The result was confirmed on 07/31/2017.

Sample Location: 5 MILE CREEK @ OKEECHOBEE RD.

Collection Date/Time: 07/18/2017 13:00

Field ID: 28010001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914354	EPA 180.1 Rev. 2.0	Turbidity	27		NTU	P328797	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P328865	
		Sulfate	50		mg SO4/L	P328867	
	SM 2120 B	Color (true)	37	A	PCU	P328805	
	SM 2320 B-97	Total Alkalinity	89		mg CaCO3/L	P328941	
	SM 2540 C-97	TDS	353		mg/L	P329280	
	SM 2540 D-97	TSS	28		mg/L	P329296	
	SM 4500 F-C-97	Fluoride	0.20		mg F/L	P328943	
1914355	EPA 350.1 Rev. 2.0	Ammonia-N	0.040		mg N/L	P328953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P328829	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P328919	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P328834	
	SM 5310 B-00	Organic Carbon	8.6		mg C/L	P329124	
1914356	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P328788	

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: 07/18/2017 13:30

Field ID: 28010045

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914357	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P328797	
	EPA 300.0 Rev. 2.1	Chloride	330		mg Cl/L	P328865	
		Sulfate	98		mg SO4/L	P328867	
	SM 2120 B	Color (true)	90		PCU	P328802	
	SM 2320 B-97	Total Alkalinity	167		mg CaCO3/L	P328941	
	SM 2540 C-97	TDS	845		mg/L	P329280	
	SM 2540 D-97	TSS	6	I	mg/L	P329296	
	SM 4500 F-C-97	Fluoride	0.35		mg F/L	P328943	
1914358	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P328953	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P328829	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.087		mg N/L	P328919	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P328835	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P329124	
1914359	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.25		mg P/L	P328788	

Field ID: 28010045

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1914377	EPA 8321B	Sucralose**	0.010	U	ug/L	P328678	
	USGS O-2060-01	2,4-D	0.096		ug/L	P328669	
		Diuron	0.080		ug/L	P328669	
		Fenuron	0.0080	U	ug/L	P328669	
		Imidacloprid	0.28		ug/L	P328669	
		Bentazon	9.5E-04	I	ug/L	P328669	
		Linuron	0.0040	U	ug/L	P328669	
		Acetaminophen**	0.0080	U	ug/L	P328669	
		MCP	0.0020	U	ug/L	P328669	
		Carbamazepine**	4.0E-04	U	ug/L	P328669	
		Triclopyr**	0.0040	U	ug/L	P328669	
		Primidone**	0.0040	U	ug/L	P328669	
		Fluridone**	9.0E-04	I	ug/L	P328669	

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: P328797

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P328798

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P328864

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P328865

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P328866

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P328867

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328867

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328885

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328953

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328955

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328828

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328829

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329110

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328918

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328919

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328990

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328991

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328834

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328835

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328906

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328785

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328786

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328788

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

Reference Method: EPA 8321B
Batch ID: P328678

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P328802

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P328805

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P328816

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

Reference Method: SM 2320 B-97
Batch ID: P328941

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

Reference Method: SM 2540 C-97
Batch ID: P329277

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P329280

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P329293

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P329296

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P329302

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P328818

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P328943

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P329124

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

Reference Method: SM 5310 B-00
Batch ID: P329125

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

Reference Method: USGS O-2060-01
Batch ID: P328669

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
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 300.0 Rev. 2.1
Batch ID: P328864

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328866

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328867

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328885

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328953

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328955

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328828

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.3		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328829

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329110

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: P328918

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328919

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328990

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: P328991

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328834

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328835

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	94.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328906

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328785

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328786

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328788

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P328678

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	90.0		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P328816

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P328941

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

Reference Method: SM 4500 F-C-97
Batch ID: P328818

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P328943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P329124

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.5		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P329125

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P328669

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	91.9		P	40 - 150
Acetaminophen	78.9		P	30 - 150
Bentazon	85.8		P	40 - 150
Carbamazepine	96.7		P	40 - 150
Diuron	102		P	40 - 150
Fenuron	90.5		P	40 - 150
Fluridone	91.9		P	40 - 150
Imidacloprid	92.6		P	40 - 160
Linuron	92.4		P	40 - 150
MCP	76.9		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P328669

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	99.6		P	40 - 150
Triclopyr	67.3		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914286	Chloride	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914489	Chloride	99.7		P	90 - 110
1914585	Chloride	96.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328866

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914244	Sulfate	93.1		P	90 - 110
1914286	Sulfate	96.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914489	Sulfate	97.1		P	90 - 110
1914585	Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328953

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914348	Ammonia-N	97.9	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328955

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914364	Ammonia-N	97.6	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328829

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914348	Kjeldahl Nitrogen	92.9	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329110

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1915926	Kjeldahl Nitrogen	97.9	96.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328918

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914257	NO2NO3-N	93.9	92.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328919

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914348	NO2NO3-N	98.0	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1913960	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328991

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914364	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914287	Total-P	98.8	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328835

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914470	Total-P	96.2	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1913969	Total-P	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914365	O-Phosphate-P	95.3	96.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914356	O-Phosphate-P	101	99.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P328678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1913980	Sucralose	103	105	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P328818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1913968	Fluoride	95.0	96.5	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P328943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914077	Fluoride	98.6	101	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P329124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914333	Organic Carbon	94.2	93.5	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P329125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1914352	Organic Carbon	93.7	92.1	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P328669

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1913836	2,4-D	116	107	P/P	40 - 150
1913836	Acetaminophen	116	128	P/P	30 - 150
1913836	Bentazon	74.7	77.1	P/P	40 - 150
1913836	Carbamazepine	120	120	P/P	40 - 150
1913836	Diuron	100	108	P/P	40 - 150
1913836	Fenuron	81.1	91.9	P/P	40 - 150
1913836	Fluridone	92.4	100	P/P	40 - 150
1913836	Imidacloprid	130	143	P/P	40 - 160
1913836	Linuron	102	96.4	P/P	40 - 150
1913836	MCP	98.9	116	P/P	40 - 150
1913836	Primidone	100	118	P/P	40 - 150
1913836	Triclopyr	88.5	76.4	P/P	40 - 150

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P328797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914346	Turbidity	0.449	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P328798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914345	Turbidity	1.99	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914244	Chloride	1.37	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914585	Chloride	1.71	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328866

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914244	Sulfate	0.324	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P328867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914585	Sulfate	4.59	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913960	Ammonia-N	0.245	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914348	Ammonia-N	1.36	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P328955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914364	Ammonia-N	6.40	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328828

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914256	Kjeldahl Nitrogen	1.46	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P328829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914348	Kjeldahl Nitrogen	7.11	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1915926	Kjeldahl Nitrogen	1.07	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914257	NO2NO3-N	1.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914348	NO2NO3-N	1.52	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913960	NO2NO3-N	0.927	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P328991

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914364	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914287	Total-P	3.89	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914470	Total-P	0.770	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P328906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913969	Total-P	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328785

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914251	O-Phosphate-P	0.795	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914365	O-Phosphate-P	1.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P328788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914356	O-Phosphate-P	0.696	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P328678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913980	Sucralose	1.94	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P328802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914346	Color (true)	0.460	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P328805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914354	Color (true)	0.0943	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P328816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913968	Total Alkalinity	0.240	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P328941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914077	Total Alkalinity	0.199	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P329277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913897	TDS	0.707	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P329280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914332	TDS	2.59	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P328818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913968	Fluoride	1.01	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P328943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914077	Fluoride	1.44	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P329124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914333	Organic Carbon	0.397	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P329125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1914352	Organic Carbon	1.43	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P328669

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913836	2,4-D	7.78	Spike	P	0 - 30
1913836	Acetaminophen	10.4	Spike	P	0 - 30
1913836	Bentazon	3.14	Spike	P	0 - 30
1913836	Carbamazepine	0.384	Spike	P	0 - 30
1913836	Diuron	7.44	Spike	P	0 - 30
1913836	Fenuron	12.5	Spike	P	0 - 30
1913836	Fluridone	8.44	Spike	P	0 - 30
1913836	Imidacloprid	9.09	Spike	P	0 - 30
1913836	Linuron	6.04	Spike	P	0 - 30
1913836	MCPP	15.6	Spike	P	0 - 30
1913836	Primidone	16.2	Spike	P	0 - 30
1913836	Triclopyr	14.7	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: 1914377
Field Sample ID: 28010045

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	109	P	40 - 160
USGS O-2060-01	2,4-D-d3	142	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	121	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	99.3	P	30 - 160
USGS O-2060-01	Diuron-d6	90.4	P	30 - 160
USGS O-2060-01	Primidone-d5	84.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A77800
Included Lab Sample IDs: 1914345, 1914346, 1914354, 1914357, 1914360

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Chloride	102	102	P/P	90 - 110
Sulfate	101	103	P/P	90 - 110
Sulfate	102	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77817

Included Lab Sample IDs: 1914349, 1914350, 1914353, 1914356, 1914359, 1914365

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.1	P/P	90 - 110
O-Phosphate-P	98.7	100	P/P	90 - 110
O-Phosphate-P	99.1	100	P/P	90 - 110
O-Phosphate-P	99.3	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77820

Included Lab Sample IDs: 1914362

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A77821

Included Lab Sample IDs: 1914345, 1914346, 1914351, 1914354, 1914357, 1914360, 1914363

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

Reference Method: SM 2120 B

Run ID: A77822

Included Lab Sample IDs: 1914345, 1914346, 1914354, 1914357, 1914360

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	85 - 115
Color (true)	103	104	P/P	85 - 115
Color (true)	105	109	P/P	85 - 115

Reference Method: SM 2320 B-97

Run ID: A77832

Included Lab Sample IDs: 1914351, 1914363

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

Reference Method: SM 4500 F-C-97

Run ID: A77832

Included Lab Sample IDs: 1914351, 1914363

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77842

Included Lab Sample IDs: 1914352, 1914364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77856

Included Lab Sample IDs: 1914352

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77863

Included Lab Sample IDs: 1914347, 1914348, 1914355, 1914358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.0	P/P	90 - 110
Total-P	99.2	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77864

Included Lab Sample IDs: 1914347, 1914348, 1914355, 1914358, 1914361

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.0	96.5	P/P	90 - 110
NO2NO3-N	97.0	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77865

Included Lab Sample IDs: 1914361

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77866

Included Lab Sample IDs: 1914347, 1914348, 1914355, 1914358, 1914361

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	97.4	P/P	90 - 110
Kjeldahl Nitrogen	97.4	99.9	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A77869

Included Lab Sample IDs: 1914345, 1914346, 1914354, 1914357, 1914360

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

Reference Method: SM 4500 F-C-97

Run ID: A77869

Included Lab Sample IDs: 1914345, 1914346, 1914354, 1914357, 1914360

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77874

Included Lab Sample IDs: 1914347, 1914348, 1914355, 1914358, 1914361, 1914364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.8	P/P	90 - 110
Ammonia-N	99.2	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77893

Included Lab Sample IDs: 1914352

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.6	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77900

Included Lab Sample IDs: 1914364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.5	97.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77952

Included Lab Sample IDs: 1914347, 1914348, 1914352, 1914355, 1914358, 1914361, 1914364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	98.0	P/P	90 - 110
Organic Carbon	98.3	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77995

Included Lab Sample IDs: 1914352, 1914364

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.9	98.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A78008

Included Lab Sample IDs: 1914377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	94.8	P/P	60 - 160

Reference Method: USGS O-2060-01

Run ID: A781083

Included Lab Sample IDs: 1914377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	92.8	99.6	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A78113

Included Lab Sample IDs: 1914377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01
Run ID: A78113
Included Lab Sample IDs: 1914377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	109	97.2	P/P	50 - 150
Acetaminophen	113	112	P/P	60 - 150
Bentazon	109	117	P/P	50 - 150
Carbamazepine	122	120	P/P	60 - 150
Diuron	138	117	P/P	60 - 150
Fenuron	117	113	P/P	60 - 150
Fluridone	119	113	P/P	60 - 160
Linuron	134	104	P/P	60 - 150
MCPD	104	97.1	P/P	50 - 150
Primidone	86.6	105	P/P	60 - 150
Triclopyr	102	78.5	P/P	50 - 150

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				0.449	
	Turbidity				1.99	
EPA 300.0 Rev. 2.1	Chloride	98.2	96.6		1.37	
	Chloride	98.4	96.9	99.7	1.71	
	Sulfate	98.7	93.1	96.3	0.324	
	Sulfate	99.4	98.6	97.1	4.59	
EPA 350.1 Rev. 2.0	Ammonia-N	104				0.245
	Ammonia-N	98.6	97.9	99.4		1.36
	Ammonia-N	99.6	97.6	105		6.40
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.3				1.46
	Kjeldahl Nitrogen	101	92.9	104		7.11
	Kjeldahl Nitrogen	102	97.9	96.6		1.07
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	93.9	92.9		1.04
	NO ₂ NO ₃ -N	99.0	98.0	99.5		1.52
	NO ₂ NO ₃ -N	104	102	101		0.927
	NO ₂ NO ₃ -N	102	102	102		0.0
EPA 365.1 Rev. 2.0	Total-P	100	98.8	95.0		3.89
	Total-P	94.4	96.2	97.0		0.770
	Total-P	97.9	99.0	99.0		0.0
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.8				0.795
	O-Phosphate-P	106	95.3	96.9		1.46
	O-Phosphate-P	97.5	101	99.5		0.696
EPA 8321B	Sucralose	90.0	103	105		1.94
SM 2120 B	Color (true)				0.460	
	Color (true)				0.0943	
SM 2320 B-97	Total Alkalinity	102			0.240	
	Total Alkalinity	103			0.199	
SM 2540 C-97	TDS				0.707	
	TDS				2.59	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-97	Fluoride	97.4	95.0	96.5		1.01
	Fluoride	95.8	98.6	101		1.44
SM 5310 B-00	Organic Carbon	99.5	94.2	93.5		0.397
	Organic Carbon	98.6	93.7	92.1		1.43
USGS O-2060-01	2,4-D	91.9	116	107		7.78
	Acetaminophen	78.9	116	128		10.4
	Bentazon	85.8	74.7	77.1		3.14
	Carbamazepine	96.7	120	120		0.384
	Diuron	102	100	108		7.44
	Fenuron	90.5	81.1	91.9		12.5
	Fluridone	91.9	92.4	100		8.44
	Imidacloprid	92.6	130	143		9.09
	Linuron	92.4	102	96.4		6.04
	MCPPP	76.9	98.9	116		15.6
	Primidone	99.6	100	118		16.2
	Triclopyr	67.3	88.5	76.4		14.7

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1914345, 1914346, 1914351, 1914354, 1914357, 1914360, 1914363
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1914345, 1914346, 1914354, 1914357, 1914360
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1914345, 1914346, 1914354, 1914357, 1914360
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1914347, 1914348, 1914352, 1914355, 1914358, 1914361, 1914364
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1914347, 1914348, 1914352, 1914355, 1914358, 1914361, 1914364
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1914347, 1914348, 1914352, 1914355, 1914358, 1914361, 1914364
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1914347, 1914348, 1914352, 1914355, 1914358, 1914361, 1914364
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1914349, 1914350, 1914353, 1914356, 1914359, 1914362, 1914365
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1914377
SM 2120 B / E31780	True Color measured at 450 nm	1914345, 1914346, 1914354, 1914357, 1914360
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1914345, 1914346, 1914351, 1914354, 1914357, 1914360, 1914363
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1914345, 1914346, 1914354, 1914357, 1914360
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1914345, 1914346, 1914351, 1914354, 1914357, 1914360, 1914363
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1914345, 1914346, 1914351, 1914354, 1914357, 1914360, 1914363
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1914347, 1914348, 1914352, 1914355, 1914358, 1914361, 1914364
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1914377
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1914377

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	07/19/2017			07/19/2017 16:03	DeAsia Armster	1914345, 1914346, 1914351, 1914354, 1914357, 1914360, 1914363
EPA 300.0 Rev. 2.1	07/19/2017			07/19/2017	Julia Storbeck	1914345, 1914346, 1914354, 1914357, 1914360
	07/19/2017			07/20/2017	Julia Storbeck	1914346, 1914354, 1914357, 1914360
EPA 350.1 Rev. 2.0	07/19/2017			07/20/2017	Sofia Elnemr	1914352
	07/19/2017			07/21/2017	Sofia Elnemr	1914347, 1914348, 1914355, 1914358, 1914361, 1914364
EPA 351.2 Rev. 2.0	07/19/2017	07/20/2017	Adrian Shelby	07/21/2017	Joseph Suarez	1914347, 1914348, 1914355, 1914358, 1914361
	07/19/2017	07/26/2017	Adrian Shelby	07/27/2017	Joseph Suarez	1914352, 1914364
EPA 353.2 Rev. 2.0	07/19/2017			07/20/2017	Beverly Y. Sanders	1914352, 1914364
	07/19/2017			07/21/2017	Beverly Y. Sanders	1914347, 1914348, 1914355, 1914358, 1914361
EPA 365.1 Rev. 2.0	07/19/2017	07/20/2017	Adrian Shelby	07/21/2017	Lipi Saha	1914347, 1914348, 1914355, 1914358, 1914361
	07/19/2017	07/21/2017	Vijayalakshmi Reddy	07/24/2017	Lipi Saha	1914352, 1914364
EPA 365.1 Rev. 2.0 dissolved	07/19/2017			07/19/2017 13:25	Lipi Saha	1914365
	07/19/2017			07/19/2017 13:33	Lipi Saha	1914356
	07/19/2017			07/19/2017 13:47	Lipi Saha	1914350
	07/19/2017			07/19/2017 13:48	Lipi Saha	1914353, 1914359
	07/19/2017			07/19/2017 14:16	Lipi Saha	1914349
	07/19/2017			07/19/2017 16:46	Lipi Saha	1914362
EPA 8321B	07/19/2017	07/26/2017	Julie Michelle Frank	07/27/2017	Mohammad Ghaffari	1914377
SM 2120 B	07/19/2017			07/19/2017 15:57	Tanya Welborn	1914346
	07/19/2017			07/19/2017 15:59	Tanya Welborn	1914357, 1914360
	07/19/2017			07/19/2017 16:29	Tanya Welborn	1914354
	07/19/2017			07/19/2017 16:43	Tanya Welborn	1914345
SM 2320 B-97	07/19/2017			07/20/2017	Dale L. Simmons	1914351, 1914363
	07/19/2017			07/21/2017	Dale L. Simmons	1914345, 1914346, 1914354, 1914357, 1914360
SM 2540 C-97	07/19/2017			07/21/2017	Yijie Li	1914345, 1914346, 1914354, 1914357, 1914360
SM 2540 D-97	07/19/2017			07/21/2017	Yijie Li	1914345, 1914346, 1914351, 1914354, 1914357, 1914360, 1914363
SM 4500 F-C-97	07/19/2017			07/20/2017	Dale L. Simmons	1914351, 1914363
	07/19/2017			07/21/2017	Dale L. Simmons	1914345, 1914346, 1914354, 1914357, 1914360
SM 5310 B-00	07/19/2017			07/24/2017	Ping Hua	1914347, 1914348, 1914355, 1914358, 1914361
	07/19/2017			07/25/2017	Ping Hua	1914352, 1914364
USGS O-2060-01	07/19/2017	07/20/2017	Hoor Shaik	07/29/2017	Juyoung Kim	1914377

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
USGS O-2060-01	07/19/2017	07/20/2017	Hoor Shaik	08/04/2017	Juyoung Kim	1914377