

Chemical Analysis Report

SE-DIST-2017-02-10-01

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

Event Description: **SMP-Fort pierce Run (1/5)**

Request ID: **RQ-2017-02-06-18**

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: 02-MAR-2017 10:26



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 East @ 25th ST

Collection Date/Time: 02/09/2017 10:10

Field ID: G2SE0003

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871797	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P319698	
	EPA 300.0 Rev. 2.1	Chloride	190		mg Cl/L	P320128	
		Sulfate	58		mg SO4/L	P320124	
	SM 2120 B	Color (true)	42		PCU	P319705	
	SM 2320 B-97	Total Alkalinity	225		mg CaCO3/L	P320107	
	SM 2540 C-97	TDS	630		mg/L	P320163	RPD
	SM 2540 D-97	TSS	2	U	mg/L	P319851	
	SM 4500 F-C-97	Fluoride	0.31		mg F/L	P319956	
1871801	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P320118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P319765	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320166	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P319962	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P319723	
1871805	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.036		mg P/L	P319702	

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 @ 7th ST

Collection Date/Time: 02/09/2017 10:45

Field ID: 28042339

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871809	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P319700	
	SM 2320 B-97	Total Alkalinity	141		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	4	I	mg/L	P320025	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P319874	
1871810	EPA 350.1 Rev. 2.0	Ammonia-N	0.073		mg N/L	P320117	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P319848	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P320027	
	EPA 365.1 Rev. 2.0	Total-P	0.094		mg P/L	P319903	
	SM 5310 B-00	Organic Carbon	4.4		mg C/L	P319912	
1871811	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P319704	

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: 02/09/2017 11:00

Field ID: 28010001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871812	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P319698	
	EPA 300.0 Rev. 2.1	Chloride	320		mg Cl/L	P320634	
		Sulfate	100		mg SO4/L	P320633	
	SM 2120 B	Color (true)	38		PCU	P319705	
	SM 2320 B-97	Total Alkalinity	209		mg CaCO3/L	P320107	
	SM 2540 C-97	TDS	824		mg/L	P320163	RPD
	SM 2540 D-97	TSS	6	I	mg/L	P319851	

Field ID: 28010001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871812	SM 4500 F-C-97	Fluoride	0.45		mg F/L	P320247	
1871813	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P320118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P319765	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P320166	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P319896	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P319723	
1871814	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P319702	

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: 02/09/2017 11:15

Field ID: 28010045

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871815	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P319698	
	EPA 300.0 Rev. 2.1	Chloride	730		mg Cl/L	P320634	
		Sulfate	130		mg SO4/L	P320633	
	SM 2120 B	Color (true)	27	A	PCU	P319705	
	SM 2320 B-97	Total Alkalinity	190		mg CaCO3/L	P320107	
	SM 2540 C-97	TDS	1.46E+03		mg/L	P320163	RPD
	SM 2540 D-97	TSS	6	I	mg/L	P319851	
	SM 4500 F-C-97	Fluoride	0.50		mg F/L	P320247	
1871816	EPA 350.1 Rev. 2.0	Ammonia-N	0.070		mg N/L	P320014	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P319765	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.064		mg N/L	P320166	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P319896	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P319723	
1871817	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P319702	
1871884	EPA 8321B	Sucralose**	0.015	I	ug/L	P319661	
	USGS O-2060-01	Diuron	0.0040	U	ug/L	P319620	
		Fenuron	0.0080	U	ug/L	P319620	
		Imidacloprid	0.0040	U	ug/L	P319620	
		Linuron	0.0040	U	ug/L	P319620	
		Acetaminophen**	0.0040	U	ug/L	P319620	
		Carbamazepine**	4.0E-04	U	ug/L	P319620	
		Primidone**	0.0080	U	ug/L	P319620	
		Fluridone**	0.0012	I	ug/L	P319620	

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.

USGS O-2060-01: Bentazon = 0.0050 ug/L and 2,4-D = 5.5 ug/L.

Sample Location: Cowbone Creek near SR68

Collection Date/Time: 02/09/2017 14:10

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871818	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P319698	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P320634	
		Sulfate	0.2	U	mg SO4/L	P320633	
	SM 2120 B	Color (true)	2.5	U	PCU	P319705	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P320107	
	SM 2540 C-97	TDS	15	U	mg/L	P320163	RPD
	SM 2540 D-97	TSS	2	U	mg/L	P319851	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P320247	
1871819	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P320014	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P319765	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320166	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P319896	
	SM 5310 B-00	Organic Carbon	0.71	I	mg C/L	P319723	
1871820	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P319702	
1871885	EPA 8321B	Sucralose**	0.010	U	ug/L	P319661	
	USGS O-2060-01	Diuron	0.0040	U	ug/L	P319620	
		Fenuron	0.0080	U	ug/L	P319620	
		Imidacloprid	0.0040	U	ug/L	P319620	
		Linuron	0.0040	U	ug/L	P319620	
		Acetaminophen**	0.0040	U	ug/L	P319620	
		Carbamazepine**	4.0E-04	U	ug/L	P319620	
		Primidone**	0.0080	U	ug/L	P319620	
		Fluridone**	4.0E-04	U	ug/L	P319620	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The result was confirmed on 02/10/2017.

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.

SM 5310 B-00: The result was confirmed on 02/14/2017.

Sample Location: C-25 Canal West @ Goodwin Rd

Collection Date/Time: 02/09/2017 13:00

Field ID: G2SE0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871798	EPA 180.1 Rev. 2.0	Turbidity	9.1		NTU	P319698	
	EPA 300.0 Rev. 2.1	Chloride	380		mg Cl/L	P320128	
		Sulfate	140		mg SO4/L	P320124	
	SM 2120 B	Color (true)	50		PCU	P319705	
	SM 2320 B-97	Total Alkalinity	233		mg CaCO3/L	P320107	
	SM 2540 C-97	TDS	985		mg/L	P320163	RPD
	SM 2540 D-97	TSS	19		mg/L	P319851	
	SM 4500 F-C-97	Fluoride	0.35		mg F/L	P320247	
1871802	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P320118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P319765	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320166	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P319896	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P319723	

Field ID: G2SE0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871806	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.094		mg P/L	P319702	

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: Cowbone Creek near SR68

Collection Date/Time: 02/09/2017 13:45

Field ID: 28042343

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871799	EPA 180.1 Rev. 2.0	Turbidity	9.9	A	NTU	P319698	
	EPA 300.0 Rev. 2.1	Chloride	55		mg Cl/L	P320128	
		Sulfate	12		mg SO4/L	P320124	
	SM 2120 B	Color (true)	96		PCU	P319705	
	SM 2320 B-97	Total Alkalinity	80		mg CaCO3/L	P320107	
	SM 2540 C-97	TDS	227		mg/L	P320163	RPD
	SM 2540 D-97	TSS	37		mg/L	P319851	
	SM 4500 F-C-97	Fluoride	0.083	I	mg F/L	P320247	
1871803	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P320118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P319765	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.067		mg N/L	P320166	
	EPA 365.1 Rev. 2.0	Total-P	0.43		mg P/L	P319896	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P319723	
1871807	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.35		mg P/L	P319702	

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: 02/09/2017 14:30

Field ID: G2SE0002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871800	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P319698	
	EPA 300.0 Rev. 2.1	Chloride	490		mg Cl/L	P320128	
		Sulfate	120		mg SO4/L	P320124	
	SM 2120 B	Color (true)	28		PCU	P319705	
	SM 2320 B-97	Total Alkalinity	177		mg CaCO3/L	P320107	
	SM 2540 C-97	TDS	1.04E+03		mg/L	P320163	RPD
	SM 2540 D-97	TSS	6	I	mg/L	P319851	
	SM 4500 F-C-97	Fluoride	0.54		mg F/L	P320247	
1871804	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P320118	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P319765	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P320166	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P319896	
	SM 5310 B-00	Organic Carbon	8.1		mg C/L	P319723	
1871808	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P319702	

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: P319698

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P319700

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320124

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320128

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320633

Component	Result	Code	Units
Sulfate	0.2	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320634

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320014

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320117

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320118

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319765

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319848

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320027

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320166

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319896

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319903

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319962

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319702

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319704

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P319661

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P319705

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P319869

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

Reference Method: SM 2320 B-97
Batch ID: P320107

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

Reference Method: SM 2540 C-97
Batch ID: P320163

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P319851

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P320025

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P319874

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P319956

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P320247

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P319723

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

Reference Method: SM 5310 B-00
Batch ID: P319912

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

Reference Method: USGS O-2060-01
Batch ID: P319620

Component	Result	Code	Units
Acetaminophen	0.0040	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0040	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
Primidone	0.0080	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320124

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320128

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.6		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320634

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320014

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320117

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320118

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319765

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319848

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320027

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320166

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: P319896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	93.1		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319903

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319962

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319702

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319704

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

Reference Method: EPA 8321B
Batch ID: P319661

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

Reference Method: SM 2320 B-97
Batch ID: P319869

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

Reference Method: SM 2320 B-97
Batch ID: P320107

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

Reference Method: SM 4500 F-C-97
Batch ID: P319874

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

Reference Method: SM 4500 F-C-97
Batch ID: P319956

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P320247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P319723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P319912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.7		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P319620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	102		P	40 - 140
Carbamazepine	125		P	40 - 140
Diuron	87.2		P	40 - 140
Fenuron	91.2		P	40 - 140
Fluridone	90.4		P	40 - 140
Imidacloprid	88.0		P	40 - 160
Linuron	90.4		P	40 - 140
Primidone	92.4		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871894	Sulfate	103		P	90 - 110
1871970	Sulfate	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871894	Chloride	107		P	90 - 110
1871970	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872392	Sulfate	96.4		P	90 - 110
1872393	Sulfate	95.1		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320634

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872392	Chloride	100		P	90 - 110
1872393	Chloride	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871435	Ammonia-N	99.1	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320118

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871716	Ammonia-N	92.7	94.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319765

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871804	Kjeldahl Nitrogen	100	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319848

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871810	Kjeldahl Nitrogen	97.4	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871432	NO2NO3-N	102	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871801	NO2NO3-N	107	105	P/P	90 - 110
1871801	NO2NO3-N	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319896

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871816	Total-P	95.9	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871860	Total-P	97.2	96.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319962

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872644	Total-P	96.1	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871863	O-Phosphate-P	98.4	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319704

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871933	O-Phosphate-P	101	103	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P319661

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872479	Sucralose	61.3	75.1	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P319874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1870554	Fluoride	93.0	94.2	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P319956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1870833	Fluoride	101	99.6	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P320247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871968	Fluoride	98.5	99.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P319723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871801	Organic Carbon	93.2	94.0	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P319912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871296	Organic Carbon	93.4	94.3	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P319620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871630	Acetaminophen	66.4	76.8	P/P	40 - 140
1871630	Carbamazepine	62.0	56.0	P/P	40 - 140
1871630	Diuron	47.2	44.8	P/P	40 - 140
1871630	Fenuron	50.8	52.4	P/P	40 - 140
1871630	Fluridone	62.2	56.6	P/P	40 - 140
1871630	Imidacloprid	101	108	P/P	40 - 160
1871630	Linuron	78.8	74.4	P/P	40 - 140
1871630	Primidone	57.6	61.6	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P319698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871799	Turbidity	0.911	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P319700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871859	Turbidity	0.930	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871894	Sulfate	0.0866	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871894	Chloride	0.0880	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872393	Sulfate	0.393	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P320634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872393	Chloride	0.106	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871823	Ammonia-N	0.0470	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871435	Ammonia-N	0.536	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320118

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871716	Ammonia-N	1.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871804	Kjeldahl Nitrogen	5.66	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871810	Kjeldahl Nitrogen	1.46	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871432	NO2NO3-N	1.93	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871801	NO2NO3-N	0.943	Spike	P	0 - 15

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871816	Total-P	2.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871860	Total-P	0.836	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319962

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872644	Total-P	0.321	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871863	O-Phosphate-P	0.272	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871933	O-Phosphate-P	1.77	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P319661

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872479	Sucralose	14.1	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P319705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871815	Color (true)	1.46	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P319869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870554	Total Alkalinity	0.615	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P320107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871968	Total Alkalinity	0.306	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P320163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871739	TDS	11.4	Sample	F	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P319874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870554	Fluoride	0.987	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P319956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870833	Fluoride	1.04	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P320247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871968	Fluoride	0.506	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P319723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871801	Organic Carbon	0.548	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P319912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871296	Organic Carbon	0.806	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P319620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871630	Acetaminophen	14.5	Spike	P	0 - 30
1871630	Carbamazepine	10.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P319620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871630	Diuron	5.22	Spike	P	0 - 30
1871630	Fenuron	3.10	Spike	P	0 - 30
1871630	Fluridone	8.28	Spike	P	0 - 30
1871630	Imidacloprid	6.50	Spike	P	0 - 30
1871630	Linuron	5.74	Spike	P	0 - 30
1871630	Primidone	6.71	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: 1871884
Field Sample ID: 28010045

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	97.0	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	60.6	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	66.8	P	40 - 160
USGS O-2060-01	Diuron-d6	49.0	P	40 - 150
USGS O-2060-01	Primidone-d5	79.8	P	40 - 150

Lab Sample ID: 1871885
Field Sample ID: Field Blank

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	103	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	115	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	109	P	40 - 160
USGS O-2060-01	Diuron-d6	94.4	P	40 - 150
USGS O-2060-01	Primidone-d5	115	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A74414
Included Lab Sample IDs: 1871797, 1871798, 1871799, 1871800, 1871809, 1871812, 1871815, 1871818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	97.0	P/P	95 - 105
Turbidity	100	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A74416
Included Lab Sample IDs: 1871805, 1871806, 1871807, 1871808, 1871811, 1871814, 1871817, 1871820

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	99.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A74416

Included Lab Sample IDs: 1871805, 1871806, 1871807, 1871808, 1871811, 1871814, 1871817, 1871820

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	97.7	P/P	90 - 110
O-Phosphate-P	99.4	99.4	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A74417

Included Lab Sample IDs: 1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.2	99.6	P/P	85 - 115

Reference Method: SM 5310 B-00

Run ID: A74422

Included Lab Sample IDs: 1871801, 1871802, 1871803, 1871804, 1871813, 1871816, 1871819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	95.8	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A74453

Included Lab Sample IDs: 1871884, 1871885

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	92.0	100	P/P	60 - 150
Carbamazepine	104	106	P/P	60 - 150
Diuron	96.4	95.2	P/P	60 - 150
Fenuron	107	109	P/P	60 - 150
Fluridone	87.6	88.4	P/P	60 - 150
Imidacloprid	98.8	106	P/P	60 - 150
Linuron	105	91.6	P/P	60 - 150
Primidone	113	111	P/P	60 - 150

Reference Method: SM 2320 B-97

Run ID: A74479

Included Lab Sample IDs: 1871809

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

Reference Method: SM 4500 F-C-97

Run ID: A74479

Included Lab Sample IDs: 1871809

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	94.2	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A74496

Included Lab Sample IDs: 1871801, 1871802, 1871803, 1871804, 1871813, 1871816, 1871819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A74496

Included Lab Sample IDs: 1871801, 1871802, 1871803, 1871804, 1871813, 1871816, 1871819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	101	P/P	90 - 110
Kjeldahl Nitrogen	98.8	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A74499

Included Lab Sample IDs: 1871810

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	96.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A74502

Included Lab Sample IDs: 1871884, 1871885

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	80.6	114	P/P	60 - 150

Reference Method: SM 4500 F-C-97

Run ID: A74518

Included Lab Sample IDs: 1871797

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A74527

Included Lab Sample IDs: 1871797, 1871798, 1871799, 1871800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	105	P/P	90 - 110
Sulfate	98.2	92.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74529

Included Lab Sample IDs: 1871802, 1871803, 1871804, 1871813, 1871816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.6	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A74530

Included Lab Sample IDs: 1871810

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74531

Included Lab Sample IDs: 1871810, 1871819

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74531

Included Lab Sample IDs: 1871810, 1871819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.5	P/P	90 - 110
Total-P	100	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A74538

Included Lab Sample IDs: 1871816, 1871819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.0	96.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A74547

Included Lab Sample IDs: 1871810

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: A74571

Included Lab Sample IDs: 1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	103	P/P	90 - 110
Total Alkalinity	103	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A74577

Included Lab Sample IDs: 1871801, 1871802, 1871803, 1871804, 1871810, 1871813

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	93.6	93.7	P/P	90 - 110
Ammonia-N	98.1	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74579

Included Lab Sample IDs: 1871801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.9	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A74601

Included Lab Sample IDs: 1871801, 1871802, 1871803, 1871804, 1871813, 1871816, 1871819

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	102	P/P	90 - 110
NO2NO3-N	102	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A74626

Included Lab Sample IDs: 1871798, 1871799, 1871800, 1871812, 1871815, 1871818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.5	97.6	P/P	90 - 110
Fluoride	97.6	98.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A74765

Included Lab Sample IDs: 1871812, 1871815, 1871818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	102	P/P	90 - 110
Sulfate	95.7	97.0	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						0.911	
	Turbidity						0.930	
EPA 300.0 Rev. 2.1	Chloride	108		107	104		0.0880	
	Chloride	100		99.7	100		0.106	
	Sulfate	103		103	103		0.0866	
	Sulfate	94.6		95.1	96.4		0.393	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0						0.0470
	Ammonia-N	99.0		99.1	98.5			0.536
	Ammonia-N	92.1		92.7	94.0			1.02
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		100	108			5.66
	Kjeldahl Nitrogen	104		97.4	99.3			1.46
EPA 353.2 Rev. 2.0	NO2NO3-N	103		102	104			1.93
	NO2NO3-N	104		107	106	105		0.943
EPA 365.1 Rev. 2.0	Total-P	93.1		95.9	99.0			2.53
	Total-P	97.2		97.2	96.4			0.836
	Total-P	95.0		96.1	95.8			0.321
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		98.4	98.7			0.272
	O-Phosphate-P	103		101	103			1.77
EPA 8321B	Sucralose	104		61.3	75.1			14.1
SM 2120 B	Color (true)						1.46	
SM 2320 B-97	Total Alkalinity	103					0.615	
	Total Alkalinity	103					0.306	
SM 2540 C-97	TDS						11.4	
SM 4500 F-C-97	Fluoride	98.6		93.0	94.2			0.987
	Fluoride	103		101	99.6			1.04
	Fluoride	96.6		98.5	99.1			0.506
SM 5310 B-00	Organic Carbon	96.0		93.2	94.0			0.548
	Organic Carbon	94.7		93.4	94.3			0.806
USGS O-2060-01	Acetaminophen	102		66.4	76.8			14.5
	Carbamazepine	125		62.0	56.0			10.2

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
USGS O-2060-01	Diuron	87.2	47.2	44.8		5.22
	Fenuron	91.2	50.8	52.4		3.10
	Fluridone	90.4	62.2	56.6		8.28
	Imidacloprid	88.0	101	108		6.50
	Linuron	90.4	78.8	74.4		5.74
	Primidone	92.4	57.6	61.6		6.71

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1871797, 1871798, 1871799, 1871800, 1871809, 1871812, 1871815, 1871818
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1871801, 1871802, 1871803, 1871804, 1871810, 1871813, 1871816, 1871819
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1871801, 1871802, 1871803, 1871804, 1871810, 1871813, 1871816, 1871819
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1871801, 1871802, 1871803, 1871804, 1871810, 1871813, 1871816, 1871819
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1871801, 1871802, 1871803, 1871804, 1871810, 1871813, 1871816, 1871819
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1871805, 1871806, 1871807, 1871808, 1871811, 1871814, 1871817, 1871820
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1871884, 1871885
SM 2120 B / E31780	True Color measured at 450 nm	1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1871797, 1871798, 1871799, 1871800, 1871809, 1871812, 1871815, 1871818
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1871797, 1871798, 1871799, 1871800, 1871809, 1871812, 1871815, 1871818
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1871797, 1871798, 1871799, 1871800, 1871809, 1871812, 1871815, 1871818
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1871801, 1871802, 1871803, 1871804, 1871810, 1871813, 1871816, 1871819
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1871884, 1871885

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	02/10/2017			02/10/2017 16:18	Julie Michelle Frank	1871797, 1871798, 1871799, 1871800, 1871809, 1871812, 1871815, 1871818
EPA 300.0 Rev. 2.1	02/10/2017			02/16/2017	Ping Hua	1871797, 1871798, 1871799, 1871800
	02/10/2017			02/27/2017	Ping Hua	1871812, 1871815, 1871818
EPA 350.1 Rev. 2.0	02/10/2017			02/16/2017	Sofia Elnemr	1871816, 1871819
	02/10/2017			02/17/2017	Sofia Elnemr	1871801, 1871802, 1871803, 1871804, 1871810, 1871813
EPA 351.2 Rev. 2.0	02/10/2017	02/14/2017	Adrian Shelby	02/15/2017	Joseph Suarez	1871801, 1871802, 1871803, 1871804, 1871813, 1871816, 1871819
	02/10/2017	02/15/2017	Adrian Shelby	02/16/2017	Joseph Suarez	1871810
EPA 353.2 Rev. 2.0	02/10/2017			02/17/2017	Beverly Y. Sanders	1871810
	02/10/2017			02/21/2017	Beverly Y. Sanders	1871801, 1871802, 1871803, 1871804, 1871813, 1871816, 1871819
EPA 365.1 Rev. 2.0	02/10/2017	02/15/2017	Vijayalakshmi Reddy	02/16/2017	Lipi Saha	1871802, 1871803, 1871804, 1871810, 1871813, 1871816, 1871819
	02/10/2017	02/16/2017	Adrian Shelby	02/17/2017	Lipi Saha	1871801
EPA 365.1 Rev. 2.0 dissolved	02/10/2017			02/10/2017 16:54	Julia Storbeck	1871811
	02/10/2017			02/10/2017 16:55	Julia Storbeck	1871806
	02/10/2017			02/10/2017 16:57	Julia Storbeck	1871808
	02/10/2017			02/10/2017 17:02	Julia Storbeck	1871820
	02/10/2017			02/10/2017 17:04	Julia Storbeck	1871814
	02/10/2017			02/10/2017 17:05	Julia Storbeck	1871817
	02/10/2017			02/10/2017 17:19	Julia Storbeck	1871805
	02/10/2017			02/10/2017 17:20	Julia Storbeck	1871807
EPA 8321B	02/10/2017	02/14/2017	Mohammad Ghaffari	02/15/2017	Mohammad Ghaffari	1871884, 1871885
SM 2120 B	02/10/2017			02/10/2017 17:27	Julie Michelle Frank	1871797
	02/10/2017			02/10/2017 17:28	Julie Michelle Frank	1871798
	02/10/2017			02/10/2017 17:29	Julie Michelle Frank	1871799
	02/10/2017			02/10/2017 17:30	Julie Michelle Frank	1871800, 1871812
	02/10/2017			02/10/2017 17:32	Julie Michelle Frank	1871815
	02/10/2017			02/10/2017 17:33	Julie Michelle Frank	1871818
SM 2320 B-97	02/10/2017			02/15/2017	Dale L. Simmons	1871809
	02/10/2017			02/19/2017	Dale L. Simmons	1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818
SM 2540 C-97	02/10/2017			02/13/2017	Christopher Armour	1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818
SM 2540 D-97	02/10/2017			02/13/2017	Christopher Armour	1871797, 1871798, 1871799, 1871800, 1871812, 1871815, 1871818
	02/10/2017			02/14/2017	Blanca Fach	1871809
SM 4500 F-C-97	02/10/2017			02/15/2017	Dale L. Simmons	1871809
	02/10/2017			02/16/2017	Dale L. Simmons	1871797

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	02/10/2017			02/22/2017	Dale L. Simmons	1871798, 1871799, 1871800, 1871812, 1871815, 1871818
SM 5310 B-00	02/10/2017			02/11/2017	Julie Michelle Frank	1871801, 1871802, 1871803, 1871804, 1871813, 1871816, 1871819
	02/10/2017			02/15/2017	Julie Michelle Frank	1871810
USGS O-2060-01	02/10/2017	02/13/2017	Hoor Shaik	02/14/2017	Juyoung Kim	1871884, 1871885