

Chemical Analysis Report

CEN-DIST-2016-11-08-03

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

Event Description: **Holiday Springs+HA**
Request ID: **RQ-2016-11-07-81**
Customer: **CEN-DIST**
Project ID: **SMP**

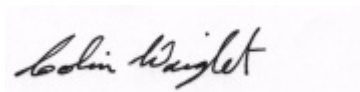
Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Mike Linger

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

This Report replaces the previous Report Serial Number: 0092624

Revision certified by: Colin Wright, Environmental Administrator

Date Certified: 23-DEC-2016 11:33



Report Comments:

Sample 1848241 was re-analyzed for Total Phosphorus.

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 group are included in this report: Nutrients.

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: Holiday Springs above pump house

Collection Date/Time: 11/07/2016 12:30

Field ID: G1CE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1848238	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P314869	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P315509	
		Sulfate	13		mg SO4/L	P315884	
	SM 2120 B	Color (true)	2.5	U	PCU	P314820	
	SM 2320 B-97	Total Alkalinity	111		mg CaCO3/L	P315137	
	SM 2540 C-97	TDS	160		mg/L	P315526	
	SM 2540 D-97	TSS	4	I	mg/L	P315493	
	SM 4500 F-C-97	Fluoride	0.096	I	mg F/L	P315141	
1848240	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P315185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P315512	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.7		mg N/L	P314977	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P315260	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P314972	
1848242	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P314835	

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: The result was confirmed on 11/15/2016.

Sample Location: Holiday Springs above pump house (directly from pipe)

Collection Date/Time: 11/07/2016 12:36

Field ID: G1CE0029_D

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1848239	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P314870	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P315509	
		Sulfate	16		mg SO4/L	P315502	
	SM 2120 B	Color (true)	2.5	U	PCU	P314820	
	SM 2320 B-97	Total Alkalinity	113	A	mg CaCO3/L	P315137	
	SM 2540 C-97	TDS	178		mg/L	P315526	
	SM 2540 D-97	TSS	2	I	mg/L	P315493	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P315141	
1848241	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P315185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.090	I	mg N/L	P315512	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.3		mg N/L	P314977	
	EPA 365.1 Rev. 2.0	Total-P	0.032	Q	mg P/L	P316836	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P314972	
1848243	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.031		mg P/L	P314835	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low 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 350.1 Rev. 2.0: The result was confirmed on 11/15/2016.

EPA 365.1 Rev. 2.0: Total-P: The sample was analyzed out of holding time due to analytical difficulties.

Quality Assurance Report

Method Blank Results

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P314869

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P314870

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315502

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315509

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315884

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315185

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315512

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314977

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315260

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316836

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314835

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

Reference Method: SM 2120 B
Batch ID: P314820

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P315137

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

Reference Method: SM 2540 C-97
Batch ID: P315526

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P315493

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P315141

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P314972

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
-----------	---------	---------	-----------	----------------

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315502

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315509

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315884

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315185

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315512

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314977

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315260

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316836

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314835

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P315137

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

Reference Method: SM 4500 F-C-97
Batch ID: P315141

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P314972

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847117	Sulfate	94.4		P	90 - 110
1848093	Sulfate	95.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315509

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1847117	Chloride	102		P	90 - 110
1848093	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315884

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1850010	Sulfate	96.0		P	90 - 110
1850105	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1848213	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1848416	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314977

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1848192	NO2NO3-N	94.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315260

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1848256	Total-P	95.9	95.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1857009	Total-P	95.4	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314835

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1848103	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P315141

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1848239	Fluoride	98.6	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P314972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1848213	Organic Carbon	94.0	95.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P314869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848206	Turbidity	1.02	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315509

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847117	Chloride	0.0198	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P315884

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1850010	Sulfate	0.907	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P315185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848213	Ammonia-N	0.740	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P315512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848416	Kjeldahl Nitrogen	0.425	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848192	NO2NO3-N	0.749	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P315260

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848256	Total-P	0.763	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1857009	Total-P	3.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P314835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848103	O-Phosphate-P	0.298	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P314820

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848210	Color (true)	5.51	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P315137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848239	Total Alkalinity	0.0614	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P315526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848133	TDS	3.57	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P315141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848239	Fluoride	1.54	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P314972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1848213	Organic Carbon	1.18	Spike	P	0 - 20

* 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 Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A72703
Included Lab Sample IDs: 1848242, 1848243

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A72721
Included Lab Sample IDs: 1848238, 1848239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Reference Method: SM 2120 B
Run ID: A72723
Included Lab Sample IDs: 1848238, 1848239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72754

Included Lab Sample IDs: 1848240, 1848241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.5	95.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A72755

Included Lab Sample IDs: 1848240, 1848241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.3	98.6	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A72801

Included Lab Sample IDs: 1848238, 1848239

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

Reference Method: SM 4500 F-C-97

Run ID: A72801

Included Lab Sample IDs: 1848238, 1848239

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A72814

Included Lab Sample IDs: 1848240, 1848241

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A72830

Included Lab Sample IDs: 1848238, 1848239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	99.0	P/P	90 - 110
Sulfate	101	96.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72911

Included Lab Sample IDs: 1848240

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72959

Included Lab Sample IDs: 1848240, 1848241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	97.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A73064

Included Lab Sample IDs: 1848238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	98.0	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A73450

Included Lab Sample IDs: 1848241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	96.5	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.02	
EPA 300.0 Rev. 2.1	Chloride	103	102 101		0.0198	
	Sulfate	99.0	94.4 95.0			
	Sulfate	95.8	96.0 96.9		0.907	
EPA 350.1 Rev. 2.0	Ammonia-N	104	105 104			0.740
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	106 106			0.425
EPA 353.2 Rev. 2.0	NO2NO3-N	98.0	94.0			0.749
EPA 365.1 Rev. 2.0	Total-P	98.2	95.9 95.1			0.763
	Total-P	99.0	95.4 98.8			3.10
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	101 101			0.298
SM 2120 B	Color (true)				5.51	
SM 2320 B-97	Total Alkalinity	102			0.0614	
SM 2540 C-97	TDS				3.57	
SM 4500 F-C-97	Fluoride	98.1	98.6 100			1.54
SM 5310 B-00	Organic Carbon	98.0	94.0 95.4			1.18

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1848238, 1848239
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1848238, 1848239
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1848238, 1848239
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1848240, 1848241
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1848240, 1848241
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1848240, 1848241
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1848240, 1848241

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1848242, 1848243
SM 2120 B / E31780	True Color measured at 450 nm	1848238, 1848239
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1848238, 1848239
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1848238, 1848239
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1848238, 1848239
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1848238, 1848239
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1848240, 1848241

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	11/08/2016			11/08/2016 16:50	Blanca Fach	1848238, 1848239
EPA 300.0 Rev. 2.1	11/08/2016			11/18/2016	Ping Hua	1848238, 1848239
	11/08/2016			11/29/2016	Ping Hua	1848238
EPA 350.1 Rev. 2.0	11/08/2016			11/15/2016	Julie Michelle Frank	1848240, 1848241
EPA 351.2 Rev. 2.0	11/08/2016	11/21/2016	Martin Acosta	11/22/2016	Joseph Suarez	1848240, 1848241
EPA 353.2 Rev. 2.0	11/08/2016			11/10/2016	Beverly Y. Sanders	1848240, 1848241
EPA 365.1 Rev. 2.0	11/08/2016	11/16/2016	Adrian Shelby	11/18/2016	Lipi Saha	1848240
	11/08/2016	12/15/2016	Vijayalakshmi Reddy	12/16/2016	Lipi Saha	1848241
EPA 365.1 Rev. 2.0 dissolved	11/08/2016			11/08/2016 16:15	Julia Storbeck	1848242
	11/08/2016			11/08/2016 16:16	Julia Storbeck	1848243
SM 2120 B	11/08/2016			11/08/2016 15:54	Jared I. Manley	1848238
	11/08/2016			11/08/2016 15:55	Jared I. Manley	1848239
SM 2320 B-97	11/08/2016			11/15/2016	Dale L. Simmons	1848238, 1848239
SM 2540 C-97	11/08/2016			11/11/2016	Yijie Li	1848238, 1848239
SM 2540 D-97	11/08/2016			11/11/2016	Yijie Li	1848238, 1848239
SM 4500 F-C-97	11/08/2016			11/15/2016	Dale L. Simmons	1848238, 1848239
SM 5310 B-00	11/08/2016			11/09/2016	Julie Michelle Frank	1848240, 1848241