

Chemical Analysis Report

SO-DIST-2016-10-21-01

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

Event Description: **SMP: L-28 Tieback 3278M**

Request ID: **RQ-2016-10-17-79**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Ben Paswater

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 17-NOV-2016 13:05



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: L-28 Tieback@ I75

Collection Date/Time: 10/20/2016 11:50

Field ID: G1SD102016-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1843236	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P313739	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P314863	
		Sulfate	5.9		mg SO4/L	P314865	
	SM 2120 B	Color (true)	110		PCU	P313666	
	SM 2320 B-97	Total Alkalinity	195		mg CaCO3/L	P313695	
	SM 2540 C-97	TDS	277		mg/L	P314271	
	SM 2540 D-97	TSS	3	I	mg/L	P314161	
	SM 4500 F-C-97	Fluoride	0.20		mg F/L	P313696	
1843239	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P314646	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P314878	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P314029	
	EPA 365.1 Rev. 2.0	Total-P	0.087		mg P/L	P314389	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P313853	
1843242	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.052		mg P/L	P313670	

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: L-28 Tieback@ I75 duplicate

Collection Date/Time: 10/20/2016 11:55

Field ID: G1SD102016-2

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1843237	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P313739	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P314863	
		Sulfate	5.9		mg SO4/L	P314865	
	SM 2120 B	Color (true)	110		PCU	P313666	
	SM 2320 B-97	Total Alkalinity	194		mg CaCO3/L	P313695	
	SM 2540 C-97	TDS	267		mg/L	P314271	
	SM 2540 D-97	TSS	2	I	mg/L	P314161	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P313696	
1843240	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P314646	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P314878	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P314029	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P314389	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P313853	
1843243	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.053		mg P/L	P313670	

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: BLANK

Collection Date/Time: 10/20/2016 12:00

Field ID: G1SD102016-3

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1843238	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P313739	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P314863	
		Sulfate	0.20	U	mg SO4/L	P314865	

Field ID: G1SD102016-3

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1843238	SM 2120 B	Color (true)	2.5	U	PCU	P313666	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P313695	
	SM 2540 C-97	TDS	15	U	mg/L	P314270	
	SM 2540 D-97	TSS	2	U	mg/L	P314160	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P313696	
1843241	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P314646	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P314878	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P314029	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P314389	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P313853	
1843244	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P313670	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 353.2 Rev. 2.0: NO2NO3-N: The result was confirmed on 10/31/2016.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P313739

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P314863

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P314865

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P314646

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P314878

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P314029

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314389

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P313670

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

Reference Method: SM 2120 B
Batch ID: P313666

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P313695

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

Reference Method: SM 2540 C-97
Batch ID: P314270

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P314271

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P314160

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P314161

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P313696

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P313853

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: P314863

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P314865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P314646

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314878

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: P314029

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: P314389

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P313670

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

Reference Method: SM 2320 B-97
Batch ID: P313695

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P313695

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P313696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P313853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P314863

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843293	Chloride	97.3		P	90 - 110
1847287	Chloride	99.7	97.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P314865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843293	Sulfate	93.5		P	90 - 110
1847287	Sulfate	93.6	92.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P314646

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843208	Ammonia-N	98.5	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843207	Kjeldahl Nitrogen	99.9	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843205	NO2NO3-N	105	105	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843203	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P313670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843214	O-Phosphate-P	99.8	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P313696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843177	Fluoride	96.0	96.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P313853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843193	Organic Carbon	98.3	99.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P313739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843197	Turbidity	5.10	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P314863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847287	Chloride	1.65	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P314865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1847287	Sulfate	0.848	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P314646

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843208	Ammonia-N	0.0266	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843207	Kjeldahl Nitrogen	1.68	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843205	NO2NO3-N	0.426	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843203	Total-P	1.90	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P313670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843214	O-Phosphate-P	0.699	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P313666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843201	Color (true)	8.87	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P313695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843177	Total Alkalinity	0.104	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P314270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843177	TDS	7.69	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P314271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843202	TDS	0.922	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P313696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843177	Fluoride	0.495	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P313853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843193	Organic Carbon	1.27	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: SM 2120 B
Run ID: A72372
Included Lab Sample IDs: 1843236, 1843237, 1843238

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A72374
Included Lab Sample IDs: 1843242, 1843243, 1843244

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.6	97.2	P/P	90 - 110
O-Phosphate-P	98.2	97.6	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A72381
Included Lab Sample IDs: 1843236, 1843237, 1843238

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

Reference Method: SM 4500 F-C-97
Run ID: A72381
Included Lab Sample IDs: 1843236, 1843237, 1843238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	98.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A72389
Included Lab Sample IDs: 1843236, 1843237, 1843238

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A72424

Included Lab Sample IDs: 1843239, 1843240, 1843241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72468

Included Lab Sample IDs: 1843239, 1843240, 1843241

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72612

Included Lab Sample IDs: 1843239, 1843240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	104	P/P	90 - 110
Total-P	105	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72630

Included Lab Sample IDs: 1843241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A72636

Included Lab Sample IDs: 1843239, 1843240, 1843241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	97.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A72715

Included Lab Sample IDs: 1843236, 1843237, 1843238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Sulfate	97.6	96.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72747

Included Lab Sample IDs: 1843239, 1843240, 1843241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	101	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			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					5.10	
EPA 300.0 Rev. 2.1	Chloride	97.8		99.7	97.9		1.65
	Sulfate	94.1		93.6	92.7		0.848
EPA 350.1 Rev. 2.0	Ammonia-N	102		98.5	98.5		0.0266
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104		99.9	103		1.68
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104		105	105		0.426
EPA 365.1 Rev. 2.0	Total-P	99.4		102	104		1.90
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102		99.8	100		0.699
SM 2120 B	Color (true)					8.87	
SM 2320 B-97	Total Alkalinity	105				0.104	
SM 2540 C-97	TDS					7.69	
	TDS					0.922	
SM 4500 F-C-97	Fluoride	94.8		96.0	96.5		0.495
SM 5310 B-00	Organic Carbon	100		98.3	99.7		1.27

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1843236, 1843237, 1843238
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1843236, 1843237, 1843238
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1843236, 1843237, 1843238
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1843239, 1843240, 1843241
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1843239, 1843240, 1843241
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1843239, 1843240, 1843241
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1843239, 1843240, 1843241
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1843242, 1843243, 1843244
SM 2120 B / E31780	True Color measured at 450 nm	1843236, 1843237, 1843238
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1843236, 1843237, 1843238
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1843236, 1843237, 1843238
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1843236, 1843237, 1843238
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1843236, 1843237, 1843238
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1843239, 1843240, 1843241

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	10/21/2016			10/21/2016 15:29	Blanca Fach	1843236, 1843237, 1843238
EPA 300.0 Rev. 2.1	10/21/2016			11/09/2016	Ping Hua	1843236, 1843237, 1843238
EPA 350.1 Rev. 2.0	10/21/2016			11/04/2016	Sofia Elnemr	1843239, 1843240, 1843241
EPA 351.2 Rev. 2.0	10/21/2016	11/09/2016	Adrian Shelby	11/10/2016	Joseph Suarez	1843239, 1843240, 1843241
EPA 353.2 Rev. 2.0	10/21/2016			10/27/2016	Beverly Y. Sanders	1843239, 1843240, 1843241
EPA 365.1 Rev. 2.0	10/21/2016	11/02/2016	Vijayalakshmi Reddy	11/03/2016	Lipi Saha	1843239, 1843240
	10/21/2016	11/02/2016	Vijayalakshmi Reddy	11/04/2016	Lipi Saha	1843241
EPA 365.1 Rev. 2.0 dissolved	10/21/2016			10/21/2016 16:39	Julia Storbeck	1843244
	10/21/2016			10/21/2016 16:49	Julia Storbeck	1843242
	10/21/2016			10/21/2016 16:50	Julia Storbeck	1843243
SM 2120 B	10/21/2016			10/21/2016 15:24	Julie Michelle Frank	1843236
	10/21/2016			10/21/2016 15:25	Julie Michelle Frank	1843237
	10/21/2016			10/21/2016 15:26	Julie Michelle Frank	1843238
SM 2320 B-97	10/21/2016			10/24/2016	Dale L. Simmons	1843236, 1843237, 1843238
SM 2540 C-97	10/21/2016			10/26/2016	Yijie Li	1843236, 1843237, 1843238
SM 2540 D-97	10/21/2016			10/26/2016	Yijie Li	1843236, 1843237, 1843238
SM 4500 F-C-97	10/21/2016			10/24/2016	Dale L. Simmons	1843236, 1843237, 1843238
SM 5310 B-00	10/21/2016			10/25/2016	Julie Michelle Frank	1843239, 1843240, 1843241