

Chemical Analysis Report

NW-DIST-2016-04-27-02

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

Event Description: **WBID 321 517 683 864A**

Request ID: **RQ-2016-04-25-27**

Customer: **NW-DIST**

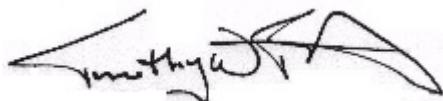
Project ID: **SMP**

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Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 24-MAY-2016 15:51

A handwritten signature in black ink, appearing to read 'Timothy Fitzpatrick', with a stylized flourish at the end.

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: TITI CREEK @ EGLIN 214

Collection Date/Time: 04/26/2016 14:35

Field ID: G4NW0369

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1793439	EPA 180.1 Rev. 2.0	Turbidity	1.8	A	NTU	P303121	
	EPA 300.0 Rev. 2.1	Chloride	1.8		mg Cl/L	P303646	
		Sulfate	0.82		mg SO4/L	P303649	
	SM 2120 B	Color (true)	70		PCU	P303184	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P303814	
	SM 2540 C-97	TDS	16	I	mg/L	P303763	
	SM 2540 D-97	TSS	2	I	mg/L	P303754	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P303818	
1793442	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P303792	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P304040	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P303833	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P304232	
	SM 5310 B-00	Organic Carbon	4.0		mg C/L	P304636	
1793445	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303104	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: TITI CREEK @ EGLIN 220

Collection Date/Time: 04/26/2016 15:50

Field ID: G4NW0368

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1793440	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P303121	
	EPA 300.0 Rev. 2.1	Chloride	2.0		mg Cl/L	P303646	
		Sulfate	0.78		mg SO4/L	P303649	
	SM 2120 B	Color (true)	49		PCU	P303184	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P303814	
	SM 2540 C-97	TDS	16	I	mg/L	P303763	
	SM 2540 D-97	TSS	3	I	mg/L	P303754	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P303818	
1793443	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P303792	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P304040	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P303833	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P304232	
	SM 5310 B-00	Organic Carbon	2.7		mg C/L	P304636	
1793446	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303105	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: TITI CREEK ABV EGLIN RD 207

Collection Date/Time: 04/26/2016 16:15

Field ID: G4NW0364

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1793441	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P303121	
	EPA 300.0 Rev. 2.1	Chloride	2.1		mg Cl/L	P303646	
		Sulfate	0.80		mg SO4/L	P303649	

Field ID: G4NW0364

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1793441	SM 2120 B	Color (true)	52	A	PCU	P303184	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P303814	
	SM 2540 C-97	TDS	16	I	mg/L	P303763	
	SM 2540 D-97	TSS	5	I	mg/L	P303754	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P303818	
1793444	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P303792	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P304040	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P303833	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P304232	
	SM 5310 B-00	Organic Carbon	3.0		mg C/L	P304636	
1793447	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P303105	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P303121

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P303646

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P303649

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P303792

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P304040

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P303833

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: P304232

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303104

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303105

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

Reference Method: SM 2120 B
Batch ID: P303184

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P303814

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

Reference Method: SM 2540 C-97
Batch ID: P303763

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P303754

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P303818

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P304636

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: P303646

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303649

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: P303792

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304040

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P303833

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304232

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303104

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303105

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

Reference Method: SM 2320 B-97
Batch ID: P303814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 105

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P303818

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P304636

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303646

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793399	Chloride	99.5		P	90 - 110
1793555	Chloride	98.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793399	Sulfate	96.1		P	90 - 110
1793555	Sulfate	95.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303792

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793444	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793407	Kjeldahl Nitrogen	98.6	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P303833

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793442	NO2NO3-N	98.7	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793442	Total-P	98.0	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303104

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793411	O-Phosphate-P	100	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303105

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793446	O-Phosphate-P	102	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P303818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793863	Fluoride	95.9	96.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P304636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1793332	Organic Carbon	97.5	98.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P303121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793439	Turbidity	8.94	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303646

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793399	Chloride	0.237	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P303649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793399	Sulfate	1.11	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P303792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793444	Ammonia-N	1.34	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P304040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793407	Kjeldahl Nitrogen	0.162	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P303833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793442	NO2NO3-N	1.86	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P304232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793442	Total-P	2.30	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793411	O-Phosphate-P	2.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P303105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793446	O-Phosphate-P	1.27	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P303184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793441	Color (true)	1.49	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P303814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793863	Total Alkalinity	0.505	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P303763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793543	TDS	4.63	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P303818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793863	Fluoride	0.524	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P304636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1793332	Organic Carbon	0.272	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: A69135
Included Lab Sample IDs: 1793445, 1793446, 1793447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.7	P/P	90 - 110
O-Phosphate-P	99.6	99.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A69141
Included Lab Sample IDs: 1793439, 1793440, 1793441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	101	P/P	95 - 105

Reference Method: SM 2120 B
Run ID: A69157
Included Lab Sample IDs: 1793439, 1793440, 1793441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.1	P/P	90 - 115

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A69217
Included Lab Sample IDs: 1793439, 1793440, 1793441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	102	P/P	90 - 110
Sulfate	99.6	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A69333
Included Lab Sample IDs: 1793442, 1793443, 1793444

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69333

Included Lab Sample IDs: 1793442, 1793443, 1793444

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

Reference Method: SM 2320 B-97

Run ID: A69345

Included Lab Sample IDs: 1793439, 1793440, 1793441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.7	99.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A69345

Included Lab Sample IDs: 1793439, 1793440, 1793441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A69353

Included Lab Sample IDs: 1793442, 1793443, 1793444

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69462

Included Lab Sample IDs: 1793442, 1793443, 1793444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	97.7	P/P	90 - 110
Kjeldahl Nitrogen	97.7	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69506

Included Lab Sample IDs: 1793442, 1793443, 1793444

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

Reference Method: SM 5310 B-00

Run ID: A69584

Included Lab Sample IDs: 1793442, 1793443, 1793444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	97.7	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					8.94	
EPA 300.0 Rev. 2.1	Chloride	98.3	99.5	98.5		0.237	
	Sulfate	95.8	96.1	95.0		1.11	
EPA 350.1 Rev. 2.0	Ammonia-N	99.9	101	102			1.34
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	98.6	98.8			0.162
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5	98.7	101			1.86
EPA 365.1 Rev. 2.0	Total-P	97.8	98.0	100			2.30
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	107	100	103			2.25
	O-Phosphate-P	104	102	103			1.27
SM 2120 B	Color (true)					1.49	
SM 2320 B-97	Total Alkalinity	101				0.505	
SM 2540 C-97	TDS					4.63	
SM 4500 F-C-97	Fluoride	96.0	95.9	96.6			0.524
SM 5310 B-00	Organic Carbon	98.6	97.5	98.0			0.272

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1793439, 1793440, 1793441
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1793439, 1793440, 1793441
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1793439, 1793440, 1793441
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1793442, 1793443, 1793444
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1793442, 1793443, 1793444
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1793442, 1793443, 1793444
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1793442, 1793443, 1793444
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1793445, 1793446, 1793447
SM 2120 B / E31780	True Color measured at 450 nm	1793439, 1793440, 1793441
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1793439, 1793440, 1793441
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1793439, 1793440, 1793441
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1793439, 1793440, 1793441
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1793439, 1793440, 1793441
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1793442, 1793443, 1793444

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	04/27/2016			04/27/2016 16:13	Sima Feizi	1793439, 1793440, 1793441
EPA 300.0 Rev. 2.1	04/27/2016			05/04/2016	Elisa J Lutz	1793439, 1793440, 1793441
EPA 350.1 Rev. 2.0	04/27/2016			05/06/2016	Diana M. Turner	1793442, 1793443, 1793444
EPA 351.2 Rev. 2.0	04/27/2016	05/11/2016	Sofia Elnemr	05/12/2016	Christopher Armour	1793442, 1793443, 1793444
EPA 353.2 Rev. 2.0	04/27/2016			05/09/2016	Peter D. Kaus	1793442, 1793443, 1793444
EPA 365.1 Rev. 2.0	04/27/2016	05/13/2016	Lipi Saha	05/16/2016	Lipi Saha	1793442, 1793443, 1793444
EPA 365.1 Rev. 2.0 dissolved	04/27/2016			04/27/2016 14:59	Julia Storbeck	1793446
	04/27/2016			04/27/2016 16:02	Julia Storbeck	1793445, 1793447
SM 2120 B	04/27/2016			04/28/2016 13:28	Rochelle Y Jackson	1793439, 1793440
	04/27/2016			04/28/2016 13:33	Rochelle Y Jackson	1793441
SM 2320 B-97	04/27/2016			05/06/2016	Dale L. Simmons	1793439, 1793440, 1793441
SM 2540 C-97	04/27/2016			04/29/2016	Yijie Li	1793439, 1793440, 1793441
SM 2540 D-97	04/27/2016			04/29/2016	Yijie Li	1793439, 1793440, 1793441
SM 4500 F-C-97	04/27/2016			05/06/2016	Dale L. Simmons	1793439, 1793440, 1793441
SM 5310 B-00	04/27/2016			05/19/2016	Diana M. Turner	1793442, 1793443, 1793444