

Chemical Analysis Report

NE-DIST-2016-05-17-01

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

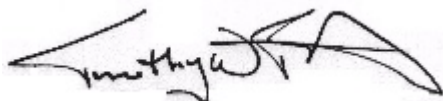
Event Description: **Nassau West**
Request ID: **RQ-2016-05-09-30**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 06-JUN-2016 14:51

A handwritten signature in black ink, appearing to read 'Timothy W. 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: 19010042CALKINS TR@HAMP REGIST

Collection Date/Time: 05/16/2016 10:40

Field ID: 19010042CALKINS TR@HAMP REGIST

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799525	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P304595	
	EPA 300.0 Rev. 2.1	Chloride	7.5	A	mg Cl/L	P304796	
		Sulfate	1.4		mg SO4/L	P305007	
	SM 2120 B	Color (true)	68	A	PCU	P304464	
	SM 2320 B-97	Total Alkalinity	37		mg CaCO3/L	P304841	
	SM 2540 C-97	TDS	72		mg/L	P305233	
	SM 2540 D-97	TSS	5	I	mg/L	P305152	
	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P304844	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.52		mg N/L	P305199	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P305023	
1799528	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P304709	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P305191	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P305077	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.025		mg P/L	P304451	
	dissolved						

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: 19010023 SMR S PRONG @ CR 23C

Collection Date/Time: 05/16/2016 11:05

Field ID: 19010023 SMR S PRONG @ CR 23C

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799526	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P304595	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P304796	
		Sulfate	5.9		mg SO4/L	P305007	
	SM 2120 B	Color (true)	82		PCU	P304464	
	SM 2320 B-97	Total Alkalinity	41		mg CaCO3/L	P304841	
	SM 2540 C-97	TDS	112		mg/L	P305233	
	SM 2540 D-97	TSS	4	I	mg/L	P305152	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P304844	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P305200	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P305023	
1799529	EPA 353.2 Rev. 2.0	NO2NO3-N	0.45		mg N/L	P304709	
	EPA 365.1 Rev. 2.0	Total-P	0.23		mg P/L	P305191	
	SM 5310 B-00	Organic Carbon	7.6		mg C/L	P305077	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.18		mg P/L	P304451	
	dissolved						

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: 19010021 SMR S PRONG @ US 90

Collection Date/Time: 05/16/2016 12:10

Field ID: 19010021 SMR S PRONG @ US 90

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799527	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P304595	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P304796	
		Sulfate	15		mg SO4/L	P305007	

Field ID: 19010021 SMR S PRONG @ US 90

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1799527	SM 2120 B	Color (true)	100		PCU	P304464	
	SM 2320 B-97	Total Alkalinity	49		mg CaCO3/L	P304841	
	SM 2540 C-97	TDS	168	A	mg/L	P305233	
	SM 2540 D-97	TSS	3	I	mg/L	P305152	
	SM 4500 F-C-97	Fluoride	0.27		mg F/L	P304844	
1799530	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P305200	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P305023	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.61		mg N/L	P304709	
	EPA 365.1 Rev. 2.0	Total-P	0.98		mg P/L	P305191	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P305077	
1799533	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.85		mg P/L	P304451	

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: P304595

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P304796

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305007

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P305199

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P305200

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P305023

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304709

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305191

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304451

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

Reference Method: SM 2120 B
Batch ID: P304464

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P304841

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

Reference Method: SM 2540 C-97
Batch ID: P305233

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P305152

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P304844

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P305077

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: P304796

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305007

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305199

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305200

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305191

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304451

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

Reference Method: SM 2320 B-97
Batch ID: P304841

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 105

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P304844

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P305077

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799497	Chloride	98.5		P	90 - 110
1799525	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799147	Sulfate	98.8		P	90 - 110
1799497	Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799500	Ammonia-N	98.3	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799529	Ammonia-N	97.9	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799528	Kjeldahl Nitrogen	99.5	94.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799499	NO2NO3-N	99.5	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799457	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799531	O-Phosphate-P	96.9	98.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P304844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799498	Fluoride	102	101	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P305077

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1799376	Organic Carbon	99.2	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P304595

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799497	Turbidity	1.72	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P304796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799525	Chloride	0.110	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799497	Sulfate	2.41	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799500	Ammonia-N	1.63	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799529	Ammonia-N	0.396	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799528	Kjeldahl Nitrogen	2.77	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P304709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799499	NO2NO3-N	1.50	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799457	Total-P	0.0974	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P304451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799531	O-Phosphate-P	1.22	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P304464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799525	Color (true)	1.44	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P304841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799498	Total Alkalinity	0.184	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P305233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799527	TDS	5.95	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P304844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799498	Fluoride	1.01	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P305077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1799376	Organic Carbon	0.973	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: A69523
Included Lab Sample IDs: 1799531, 1799532, 1799533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	100	98.7	P/P	90 - 110
O-Phosphate-P	101	99.8	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A69527
Included Lab Sample IDs: 1799525, 1799526, 1799527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.8	97.4	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A69574
Included Lab Sample IDs: 1799525, 1799526, 1799527

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A69597
Included Lab Sample IDs: 1799528, 1799529, 1799530

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A69620
Included Lab Sample IDs: 1799525, 1799526, 1799527

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A69620

Included Lab Sample IDs: 1799525, 1799526, 1799527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.7	P/P	90 - 110
Chloride	99.9	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A69640

Included Lab Sample IDs: 1799525, 1799526, 1799527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.6	99.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A69640

Included Lab Sample IDs: 1799525, 1799526, 1799527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A69676

Included Lab Sample IDs: 1799525, 1799526, 1799527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	102	98.7	P/P	90 - 110
Sulfate	97.4	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A69711

Included Lab Sample IDs: 1799528, 1799529, 1799530

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69737

Included Lab Sample IDs: 1799528, 1799529, 1799530

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	97.7	P/P	90 - 110
Ammonia-N	98.5	98.8	P/P	90 - 110
Ammonia-N	98.7	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69748

Included Lab Sample IDs: 1799528, 1799529, 1799530

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 365.1 Rev. 2.0
Run ID: A69755
Included Lab Sample IDs: 1799529, 1799530

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A69793
Included Lab Sample IDs: 1799528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.5	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					1.72	
EPA 300.0 Rev. 2.1	Chloride	98.6	100	98.5		0.110	
	Sulfate	99.4	97.9	98.8		2.41	
EPA 350.1 Rev. 2.0	Ammonia-N	99.5	98.3	96.6			1.63
	Ammonia-N	101	97.9	98.5			0.396
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	99.5	94.9			2.77
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	99.5	101			1.50
EPA 365.1 Rev. 2.0	Total-P	96.8	101	101			0.0974
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6	96.9	98.4			1.22
SM 2120 B	Color (true)					1.44	
SM 2320 B-97	Total Alkalinity	102				0.184	
SM 2540 C-97	TDS					5.95	
SM 4500 F-C-97	Fluoride	99.5	102	101			1.01
SM 5310 B-00	Organic Carbon	102	99.2	100			0.973

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1799525, 1799526, 1799527
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1799525, 1799526, 1799527
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1799525, 1799526, 1799527
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1799528, 1799529, 1799530
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1799528, 1799529, 1799530
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1799528, 1799529, 1799530
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1799528, 1799529, 1799530

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	1799531, 1799532, 1799533
SM 2120 B / E31780	True Color measured at 450 nm	1799525, 1799526, 1799527
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1799525, 1799526, 1799527
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1799525, 1799526, 1799527
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1799525, 1799526, 1799527
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1799525, 1799526, 1799527
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1799528, 1799529, 1799530

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	05/17/2016			05/17/2016 18:12	Chrisoulla Rakowski	1799525, 1799526, 1799527
EPA 300.0 Rev. 2.1	05/17/2016			05/21/2016	Elisa J Lutz	1799525, 1799526, 1799527
	05/17/2016			05/25/2016	Ping Hua	1799525, 1799526, 1799527
EPA 350.1 Rev. 2.0	05/17/2016			05/26/2016	Diana M. Turner	1799528, 1799529, 1799530
EPA 351.2 Rev. 2.0	05/17/2016	05/25/2016	Sofia Elnemr	05/27/2016	Christopher Armour	1799528, 1799529, 1799530
EPA 353.2 Rev. 2.0	05/17/2016			05/20/2016	Peter D. Kaus	1799528, 1799529, 1799530
EPA 365.1 Rev. 2.0	05/17/2016	05/27/2016	Vijayalakshmi Reddy	05/31/2016	Peter D. Kaus	1799529, 1799530
	05/17/2016	05/27/2016	Vijayalakshmi Reddy	06/01/2016	Rochelle Y Jackson	1799528
EPA 365.1 Rev. 2.0 dissolved	05/17/2016			05/17/2016 15:07	Julia Storbeck	1799531
	05/17/2016			05/17/2016 15:22	Julia Storbeck	1799532
	05/17/2016			05/17/2016 15:56	Julia Storbeck	1799533
SM 2120 B	05/17/2016			05/17/2016 15:00	Rochelle Y Jackson	1799525
	05/17/2016			05/17/2016 15:01	Rochelle Y Jackson	1799526
	05/17/2016			05/17/2016 15:02	Rochelle Y Jackson	1799527
SM 2320 B-97	05/17/2016			05/21/2016	Dale L. Simmons	1799525, 1799526, 1799527
SM 2540 C-97	05/17/2016			05/19/2016	Yijie Li	1799525, 1799526, 1799527
SM 2540 D-97	05/17/2016			05/19/2016	Yijie Li	1799525, 1799526, 1799527
SM 4500 F-C-97	05/17/2016			05/21/2016	Dale L. Simmons	1799525, 1799526, 1799527
SM 5310 B-00	05/17/2016			05/26/2016	Diana M. Turner	1799528, 1799529, 1799530