

Chemical Analysis Report

NW-DIST-2018-09-18-02

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

Event Description: **Bayou Chico BMAP**
Request ID: **RQ-2018-08-13-15**
Customer: **NW-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
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Pensacola, FL 32502-5794
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 02-OCT-2018 10:31

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: BAYOU CHICO AT AT W ST. BRIDGE

Collection Date/Time: 09/17/2018 14:25

Field ID: 33020JF1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025983	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P351867	
2025987	EPA 350.1 Rev. 2.0	Ammonia-N	0.057		mg N/L	P352108	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P351957	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.69		mg N/L	P351995	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P352040	

Sample Location: BAYOU CHICO AT MANDALAY DRIVE

Collection Date/Time: 09/17/2018 10:55

Field ID: 33020JD4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025984	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P351867	
2025988	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P352036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P351956	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P352073	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P351942	

Sample Location: JONES CREEK AT OLD CORRY ROAD

Collection Date/Time: 09/17/2018 11:25

Field ID: 33020118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025985	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P351867	
2025989	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P352108	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P351957	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.092		mg N/L	P351995	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P351898	

Sample Location: BAYOU CHICO AT NAVY BLVD. BRIDGE

Collection Date/Time: 09/17/2018 14:00

Field ID: 33020JE20

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025986	EPA 180.1 Rev. 2.0	Turbidity	2.9	A	NTU	P351868	
2025990	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P352036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P352062	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.45		mg N/L	P352073	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P351967	

Sample Location: JACKSON CREEK AT OLD CORRY ROAD

Collection Date/Time: 09/17/2018 11:50

Field ID: 33020221

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025991	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P351868	
2025993	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P352108	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P351957	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.72		mg N/L	P351995	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P351898	

Sample Location: JACKSON CREEK AT NEW WARRINGTON ROAD

Collection Date/Time: 09/17/2018 12:10

Field ID: 33020222

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025992	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P351868	
2025994	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P352108	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P351957	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.2		mg N/L	P351995	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P351898	

Sample Location: PENSACOLA BAY AT SANDERS BEACH

Collection Date/Time: 09/17/2018 10:25

Field ID: 33020J10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2025995	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P351868	
2025996	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P352036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P352062	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P352074	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P351967	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351867

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351868

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352036

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352108

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351956

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351957

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352062

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351995

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352073

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352074

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351898

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351942

Component	Result	Code	Units
Total-P	0.002	U	

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351967

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352040

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352036

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352108

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351956

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351957

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352062

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351995

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352073

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352074

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351898

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351967

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352040

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.6		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024932	Ammonia-N	97.0	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026008	Ammonia-N	99.3	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025963	Kjeldahl Nitrogen	104	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351957

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025993	Kjeldahl Nitrogen	92.3	94.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352062

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026061	Kjeldahl Nitrogen	95.7	94.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351995

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025894	NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025988	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025996	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351898

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026021	Total-P	100	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025966	Total-P	93.8	90.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026065	Total-P	92.4	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026411	Total-P	99.0	101	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025865	Turbidity	5.04	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025986	Turbidity	3.15	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024932	Ammonia-N	4.63	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026008	Ammonia-N	2.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025963	Kjeldahl Nitrogen	5.21	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025993	Kjeldahl Nitrogen	1.11	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352062

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026061	Kjeldahl Nitrogen	1.56	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025894	NO2NO3-N	0.389	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P352073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025988	NO2NO3-N	0.853	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P352074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025996	NO2NO3-N	1.26	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026021	Total-P	0.704	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025966	Total-P	3.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026065	Total-P	7.82	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P352040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026411	Total-P	1.35	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 180.1 Rev. 2.0

Run ID: A86567

Included Lab Sample IDs: 2025983, 2025984, 2025985, 2025986, 2025991, 2025992, 2025995

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	101	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86596

Included Lab Sample IDs: 2025993, 2025994

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86610

Included Lab Sample IDs: 2025989

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86615

Included Lab Sample IDs: 2025987, 2025989, 2025993, 2025994

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86626

Included Lab Sample IDs: 2025988, 2025990, 2025996

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86639

Included Lab Sample IDs: 2025988, 2025990, 2025996

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86641

Included Lab Sample IDs: 2025987, 2025988, 2025989, 2025993, 2025994

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	105	P/P	90 - 110
Kjeldahl Nitrogen	105	99.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86651

Included Lab Sample IDs: 2025987, 2025989, 2025993, 2025994

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	101	P/P	90 - 110
Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86653

Included Lab Sample IDs: 2025988, 2025990, 2025996

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86669

Included Lab Sample IDs: 2025987

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86677

Included Lab Sample IDs: 2025990, 2025996

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	104	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					5.04	
	Turbidity					3.15	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	97.0	106			4.63
	Ammonia-N	96.8	99.3	102			2.50
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	104	97.5			5.21
	Kjeldahl Nitrogen	99.7	92.3	94.1			1.11
	Kjeldahl Nitrogen	99.8	95.7	94.0			1.56
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102				0.389
	NO2NO3-N	99.5	102	103			0.853
	NO2NO3-N	100	102	101			1.26
EPA 365.1 Rev. 2.0	Total-P	98.2	100	101			0.704
	Total-P	96.9	93.8	90.7			3.31
	Total-P	99.9	92.4	100			7.82
	Total-P	99.6	99.0	101			1.35

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2025983, 2025984, 2025985, 2025986, 2025991, 2025992, 2025995
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2025987, 2025988, 2025989, 2025990, 2025993, 2025994, 2025996
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2025987, 2025988, 2025989, 2025990, 2025993, 2025994, 2025996
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2025987, 2025988, 2025989, 2025990, 2025993, 2025994, 2025996
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2025987, 2025988, 2025989, 2025990, 2025993, 2025994, 2025996

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	09/18/2018			09/18/2018 16:36	Blanca Fach	2025983, 2025984, 2025985, 2025986, 2025991, 2025992, 2025995
EPA 350.1 Rev. 2.0	09/18/2018			09/20/2018 12:48	Ping Hua	2025988
	09/18/2018			09/20/2018 12:49	Ping Hua	2025990
	09/18/2018			09/20/2018 14:06	Ping Hua	2025996
	09/18/2018			09/21/2018 11:20	Julia Storbeck	2025987
	09/18/2018			09/21/2018 11:22	Julia Storbeck	2025989
	09/18/2018			09/21/2018 11:29	Julia Storbeck	2025993
EPA 351.2 Rev. 2.0	09/18/2018			09/21/2018 11:31	Julia Storbeck	2025994
	09/18/2018	09/20/2018 15:00	Adrian Shelby	09/21/2018 12:58	Joseph Suarez	2025988
	09/18/2018	09/20/2018 15:00	Adrian Shelby	09/21/2018 13:09	Joseph Suarez	2025987
	09/18/2018	09/20/2018 15:00	Adrian Shelby	09/21/2018 13:11	Joseph Suarez	2025989
	09/18/2018	09/20/2018 15:00	Adrian Shelby	09/21/2018 13:12	Joseph Suarez	2025993
	09/18/2018	09/20/2018 15:00	Adrian Shelby	09/21/2018 13:17	Joseph Suarez	2025994
EPA 353.2 Rev. 2.0	09/18/2018	09/21/2018 09:50	Adrian Shelby	09/24/2018 10:50	Joseph Suarez	2025990
	09/18/2018	09/21/2018 09:50	Adrian Shelby	09/24/2018 10:51	Joseph Suarez	2025996
	09/18/2018			09/20/2018 11:53	Lauren Bottorf	2025987
	09/18/2018			09/20/2018 11:54	Lauren Bottorf	2025989
	09/18/2018			09/20/2018 11:55	Lauren Bottorf	2025993
	09/18/2018			09/20/2018 14:20	Lauren Bottorf	2025994
EPA 365.1 Rev. 2.0	09/18/2018			09/21/2018 11:29	Lauren Bottorf	2025988
	09/18/2018			09/21/2018 11:45	Lauren Bottorf	2025990
	09/18/2018			09/21/2018 11:52	Lauren Bottorf	2025996
	09/18/2018	09/19/2018 12:55	Sima Feizi	09/20/2018 09:27	Beverly Y. Sanders	2025993
	09/18/2018	09/19/2018 12:55	Sima Feizi	09/20/2018 09:28	Beverly Y. Sanders	2025994
	09/18/2018	09/19/2018 12:55	Sima Feizi	09/20/2018 13:26	Beverly Y. Sanders	2025989
	09/18/2018	09/20/2018 13:10	Sima Feizi	09/21/2018 14:17	Beverly Y. Sanders	2025988
	09/18/2018	09/20/2018 13:10	Sima Feizi	09/21/2018 14:19	Beverly Y. Sanders	2025990
	09/18/2018	09/20/2018 13:10	Sima Feizi	09/21/2018 14:20	Beverly Y. Sanders	2025996
	09/18/2018	09/21/2018 12:45	Sima Feizi	09/24/2018 09:32	Beverly Y. Sanders	2025987