

Chemical Analysis Report

NW-DIST-2022-03-16-02

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-2022-03-14-54**
Customer: **NW-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Anita Nash

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
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Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 04-APR-2022 10:04



NON-CONFORMANCE REPORT INCLUDED

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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Sanders Beach

Collection Date/Time: 03/14/2022 10:35

Field ID: 33020J10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2312510	EPA 180.1 Rev. 2.0	Turbidity	4.6	Q	NTU	P411207	
2312511	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P411185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25	I	mg N/L	P411220	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P411253	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P411390	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

Sample Location: SW Arm Bayou Chico at Mandalay Dr

Collection Date/Time: 03/14/2022 11:20

Field ID: 33020JD4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2312502	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P411207	
2312505	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P411185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P411220	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.51		mg N/L	P411253	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P411390	

Sample Location: Jackson Cr. @ New Warrington

Collection Date/Time: 03/14/2022 12:30

Field ID: 33020222

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2312508	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P411207	
2312509	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P411186	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.14	I	mg N/L	P411277	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.0		mg N/L	P411227	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P411408	

Sample Location: EQ BLANK

Collection Date/Time: 03/14/2022 12:45

Field ID: EQ BLANK

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2312512	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P411207	
2312513	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P411186	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P411277	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P411227	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P411391	

Sample Location: Chico @ Navy Blvd Bdrge

Collection Date/Time: 03/14/2022 14:50

Field ID: 3302JE20

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2312503	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P411207	
2312506	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P411185	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.17	I	mg N/L	P411276	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.63		mg N/L	P411253	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P411390	

Sample Location: Chico @ W Street

Collection Date/Time: 03/14/2022 15:15

Field ID: 33020JF1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2312504	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P411207	
2312507	EPA 350.1 Rev. 2.0	Ammonia-N	0.046		mg N/L	P411186	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28		mg N/L	P411398	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.4		mg N/L	P411227	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P411408	

Non-Conformance Report

NCR ID: 9298

Event(s)

NW-DIST-2022-03-16-02

Job(s)

TLH-2022-03-16-15

Sample(s)

2312510

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Cooler arrived late, samples received within the acceptable temperature range. Turbidity sample expired while being logged in.

Resolution: Data will be qualified as appropriate

Authorized by/Date: Colin Wright 4/4/2022

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411207

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411185

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411186

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411220

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411276

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411277

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411398

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411227

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411253

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: P411390

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411391

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411408

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411207

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411185

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411220

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411276

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411277

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411398

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411227

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: P411253

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411390

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411391

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411408

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312505	Ammonia-N	103	95.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312345	Ammonia-N	98.0	92.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2311994	Kjeldahl Nitrogen	105	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312187	Kjeldahl Nitrogen	101	86.9	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312161	Kjeldahl Nitrogen	98.8	89.1	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411398

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312434	Kjeldahl Nitrogen	96.8	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411227

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312480	NO2NO3-N	94.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411253

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312258	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411390

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312256	Total-P	96.6	95.1	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411391

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312343	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312507	Total-P	105	105	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312430	Turbidity	4.40	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312505	Ammonia-N	6.40	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312345	Ammonia-N	4.97	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2311994	Kjeldahl Nitrogen	4.83	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312187	Kjeldahl Nitrogen	8.97	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312161	Kjeldahl Nitrogen	5.96	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411398

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312434	Kjeldahl Nitrogen	1.26	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312480	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312258	NO2NO3-N	0.460	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312256	Total-P	1.60	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312343	Total-P	0.920	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312507	Total-P	0.222	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A110971

Included Lab Sample IDs: 2312505, 2312506, 2312507, 2312509, 2312511, 2312513

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	98.6	P/P	90 - 110
Ammonia-N	98.1	98.5	P/P	90 - 110
Ammonia-N	98.5	98.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A110981

Included Lab Sample IDs: 2312502, 2312503, 2312504, 2312508, 2312510, 2312512

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110993

Included Lab Sample IDs: 2312507, 2312509, 2312513

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111008

Included Lab Sample IDs: 2312505, 2312506, 2312511

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111063

Included Lab Sample IDs: 2312505, 2312511

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111120

Included Lab Sample IDs: 2312505, 2312506, 2312511, 2312513

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	100	P/P	90 - 110
Total-P	100	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111130

Included Lab Sample IDs: 2312506, 2312509, 2312513

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.7	95.2	P/P	90 - 110
Kjeldahl Nitrogen	96.3	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111137

Included Lab Sample IDs: 2312507, 2312509

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	98.8	P/P	90 - 110
Total-P	98.8	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111154

Included Lab Sample IDs: 2312507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.9	105	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	96.9			4.40	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	103	95.8		6.40
	Ammonia-N	98.8	98.0	92.8		4.97
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	105	99.5		4.83
	Kjeldahl Nitrogen	95.6	101	86.9		8.97
	Kjeldahl Nitrogen	93.4	98.8	89.1		5.96
	Kjeldahl Nitrogen	96.2	96.8	98.7		1.26
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	94.8			0.0
	NO2NO3-N	102	101	101		0.460
EPA 365.1 Rev. 2.0	Total-P	103	96.6	95.1		1.60
	Total-P	102	104	105		0.920
	Total-P	101	105	105		0.222

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2312502, 2312503, 2312504, 2312508, 2312510, 2312512
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2312505, 2312506, 2312507, 2312509, 2312511, 2312513
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2312505, 2312506, 2312507, 2312509, 2312511, 2312513
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2312505, 2312506, 2312507, 2312509, 2312511, 2312513
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2312505, 2312506, 2312507, 2312509, 2312511, 2312513

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	03/16/2022			03/16/2022 11:17	Anna M. Plaviak	2312502
	03/16/2022			03/16/2022 11:38	Anna M. Plaviak	2312510
	03/16/2022			03/16/2022 11:41	Anna M. Plaviak	2312508
	03/16/2022			03/16/2022 11:43	Anna M. Plaviak	2312504
	03/16/2022			03/16/2022 11:45	Anna M. Plaviak	2312503
	03/16/2022			03/16/2022 11:47	Anna M. Plaviak	2312512
EPA 350.1 Rev. 2.0	03/16/2022			03/16/2022 12:23	Ping Hua	2312506
	03/16/2022			03/16/2022 12:24	Ping Hua	2312511
	03/16/2022			03/16/2022 12:47	Ping Hua	2312509
	03/16/2022			03/16/2022 12:50	Ping Hua	2312513
	03/16/2022			03/16/2022 13:22	Ping Hua	2312505
EPA 351.2 Rev. 2.0	03/16/2022			03/16/2022 13:34	Ping Hua	2312507
	03/16/2022	03/18/2022 09:50	Samantha L Bates	03/21/2022 13:29	Alexandra J Mattheus	2312505
	03/16/2022	03/18/2022 09:50	Samantha L Bates	03/21/2022 13:31	Alexandra J Mattheus	2312511
	03/16/2022	03/22/2022 11:30	Samantha L Bates	03/24/2022 12:20	Alexandra J Mattheus	2312506
	03/16/2022	03/22/2022 11:30	Samantha L Bates	03/24/2022 12:50	Alexandra J Mattheus	2312509
	03/16/2022	03/22/2022 11:30	Samantha L Bates	03/24/2022 12:51	Alexandra J Mattheus	2312513
EPA 353.2 Rev. 2.0	03/16/2022	03/23/2022 10:26	Samantha L Bates	03/25/2022 12:10	Alexandra J Mattheus	2312507
	03/16/2022			03/17/2022 11:35	Beverly Y. Sanders	2312507
	03/16/2022			03/17/2022 11:40	Beverly Y. Sanders	2312509
	03/16/2022			03/17/2022 11:41	Beverly Y. Sanders	2312513
	03/16/2022			03/17/2022 18:09	Nathaniel J Jones	2312505
	03/16/2022			03/17/2022 18:10	Nathaniel J Jones	2312506
EPA 365.1 Rev. 2.0	03/16/2022			03/17/2022 18:11	Nathaniel J Jones	2312511
	03/16/2022	03/22/2022 15:55	Simonne.V. Calhoun	03/24/2022 14:18	James L Waggeberby	2312507
	03/16/2022	03/22/2022 15:55	Simonne.V. Calhoun	03/24/2022 14:29	James L Waggeberby	2312509
	03/16/2022	03/22/2022 17:15	Simonne.V. Calhoun	03/23/2022 15:11	James L Waggeberby	2312505
	03/16/2022	03/22/2022 17:15	Simonne.V. Calhoun	03/23/2022 15:18	James L Waggeberby	2312506
	03/16/2022	03/22/2022 17:15	Simonne.V. Calhoun	03/23/2022 15:19	James L Waggeberby	2312511
	03/16/2022	03/22/2022 17:15	Simonne.V. Calhoun	03/23/2022 15:26	James L Waggeberby	2312513