

Chemical Analysis Report

NW-DIST-2024-04-12-02

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

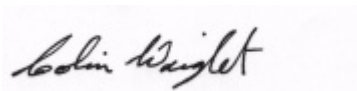
Event Description: **Algal Bloom Response - NW ROC**
Request ID: **RQ-2024-04-29-22**
Customer: **NW-DIST**
Project ID: **BLOOM-RESP**

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

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 01-MAY-2024 08:57



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 groups are included in this report: Nutrients and Pesticides.

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: Little Dear Lake @ SW Lobe

Collection Date/Time: 04/11/2024 12:00

Field ID: NWHAB0016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481911	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P444360	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P444338	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P444639	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P444329	
2481912	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P444188	

Sample Location: Little Dear Lake @ SW Lobe

Collection Date/Time: 04/11/2024 13:30

Field ID: FB_04112024

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481915	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P444163	
		Cylindrospermopsin	0.10	U	ug/L	P444161	
		Desmethyl microcystin LR	0.25	U	ug/L	P444161	
		Microcystin HILR	0.25	U	ug/L	P444161	
		Microcystin HtyR	0.25	U	ug/L	P444161	
		Microcystin LA	0.10	U	ug/L	P444161	
		Microcystin LF	0.10	U	ug/L	P444161	
		Microcystin LR	0.25	U	ug/L	P444161	
		Microcystin LW	0.25	U	ug/L	P444161	
		Microcystin LY	0.10	U	ug/L	P444161	
		Microcystin RR	0.10	U	ug/L	P444161	
		Microcystin WR	0.50	U	ug/L	P444161	
		Neosaxitoxin	0.50	U	ug/L	P444163	
		Microcystin YR	0.25	U	ug/L	P444161	
		Saxitoxin	0.50	U	ug/L	P444163	
		Nodularin-R	0.10	U	ug/L	P444161	

Sample Location: Little Dear Lake @ SW Lobe

Collection Date/Time: 04/11/2024 13:30

Field ID: FB_04112024

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481913	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P444361	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P444338	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P444892	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P444329	
2481914	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P444188	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444360

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444361

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444338

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444639

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444892

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444329

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444188

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

Reference Method: EPA 8321B
Batch ID: P444161

Component	Result	Code	Units
Cylindrospermopsin	0.10	U	ug/L
Desmethyl microcystin LR	0.25	U	ug/L
Microcystin HtIR	0.25	U	ug/L
Microcystin HtyR	0.25	U	ug/L
Microcystin LA	0.10	U	ug/L
Microcystin LF	0.10	U	ug/L
Microcystin LR	0.25	U	ug/L
Microcystin LW	0.25	U	ug/L
Microcystin LY	0.10	U	ug/L
Microcystin RR	0.10	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P444161

Component	Result	Code	Units
Microcystin WR	0.50	U	ug/L
Microcystin YR	0.25	U	ug/L
Nodularin-R	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P444163

Component	Result	Code	Units
Anatoxin-a	0.25	U	ug/L
Neosaxitoxin	0.50	U	ug/L
Saxitoxin	0.50	U	ug/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444360

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: P444361

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444338

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: P444639

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444892

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444329

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444188

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

Reference Method: EPA 8321B
Batch ID: P444161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	94.3		P	40 - 150
Desmethyl microcystin LR	93.6		P	40 - 150
Microcystin HILR	93.0		P	40 - 150
Microcystin HtyR	84.5		P	40 - 150
Microcystin LA	100		P	40 - 150
Microcystin LF	106		P	40 - 150
Microcystin LR	106		P	40 - 150
Microcystin LW	94.7		P	40 - 150
Microcystin LY	99.0		P	40 - 150
Microcystin RR	94.3		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P444161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Microcystin WR	90.9		P	40 - 150
Microcystin YR	88.8		P	40 - 150
Nodularin-R	98.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P444163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	106		P	40 - 150
Neosaxitoxin	111		P	40 - 150
Saxitoxin	117		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444360

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481817	Ammonia-N	97.0	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481925	Ammonia-N	99.4	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481911	Kjeldahl Nitrogen	102	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481901	NO2NO3-N	94.2	95.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480049	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481648	Total-P	102	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481796	O-Phosphate-P	99.7	98.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P444161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481840	Cylindrospermopsin	97.7	98.3	P/P	40 - 150
2481840	Desmethyl microcystin LR	98.2	106	P/P	40 - 150
2481840	Microcystin HiLR	94.4	105	P/P	40 - 150
2481840	Microcystin HtyR	80.1	89.2	P/P	40 - 150
2481840	Microcystin LA	93.0	101	P/P	40 - 150
2481840	Microcystin LF	99.5	111	P/P	40 - 150
2481840	Microcystin LR	93.1	106	P/P	40 - 150
2481840	Microcystin LW	90.3	101	P/P	40 - 150
2481840	Microcystin LY	98.8	99.2	P/P	40 - 150
2481840	Microcystin RR	96.9	103	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P444161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481840	Microcystin WR	95.5	101	P/P	40 - 150
2481840	Microcystin YR	91.2	92.2	P/P	40 - 150
2481840	Nodularin-R	92.7	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P444163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481840	Anatoxin-a	92.6	98.0	P/P	40 - 150
2481840	Neosaxitoxin	64.1	65.1	P/P	40 - 150
2481840	Saxitoxin	56.2	59.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444360

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481817	Ammonia-N	0.721	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481925	Ammonia-N	0.570	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481911	Kjeldahl Nitrogen	4.85	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481901	NO2NO3-N	1.41	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480049	NO2NO3-N	0.385	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481648	Total-P	1.84	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481796	O-Phosphate-P	0.653	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P444161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481840	Cylindrospermopsin	0.578	Spike	P	0 - 30
2481840	Desmethyl microcystin LR	8.04	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P444161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481840	Microcystin HII R	10.2	Spike	P	0 - 30
2481840	Microcystin Hty R	10.8	Spike	P	0 - 30
2481840	Microcystin LA	8.35	Spike	P	0 - 30
2481840	Microcystin LF	11.2	Spike	P	0 - 30
2481840	Microcystin LR	11.0	Spike	P	0 - 30
2481840	Microcystin LW	11.1	Spike	P	0 - 30
2481840	Microcystin LY	0.423	Spike	P	0 - 30
2481840	Microcystin RR	5.68	Spike	P	0 - 30
2481840	Microcystin WR	5.14	Spike	P	0 - 30
2481840	Microcystin YR	1.03	Spike	P	0 - 30
2481840	Nodularin-R	14.8	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P444163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481840	Anatoxin-a	5.67	Spike	P	0 - 30
2481840	Neosaxitoxin	1.60	Spike	P	0 - 30
2481840	Saxitoxin	6.08	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2481915
Field Sample ID: FB_04112024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	116	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	81.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A125265
Included Lab Sample IDs: 2481915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	89.6	88.6	P/P	50 - 160
Desmethyl microcystin LR	90.8	91.8	P/P	50 - 160
Microcystin HilR	93.7	85.8	P/P	50 - 160
Microcystin HtyR	78.9	76.9	P/P	50 - 160
Microcystin LA	97.5	94.7	P/P	50 - 160
Microcystin LF	85.5	85.0	P/P	50 - 160
Microcystin LR	101	88.7	P/P	50 - 160
Microcystin LW	80.9	83.7	P/P	50 - 160
Microcystin LY	93.9	88.1	P/P	50 - 160
Microcystin RR	89.6	85.0	P/P	50 - 160
Microcystin WR	89.2	90.2	P/P	50 - 160
Microcystin YR	84.2	82.1	P/P	50 - 160
Nodularin-R	88.2	89.8	P/P	50 - 160

Reference Method: EPA 8321B
Run ID: A125271
Included Lab Sample IDs: 2481915

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	103	94.6	P/P	50 - 160
Neosaxitoxin	114	104	P/P	50 - 160
Saxitoxin	116	113	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A125308
Included Lab Sample IDs: 2481912, 2481914

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	97.9	P/P	90 - 110
O-Phosphate-P	98.8	98.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125358
Included Lab Sample IDs: 2481911, 2481913

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	101	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125404
Included Lab Sample IDs: 2481911, 2481913

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125429
Included Lab Sample IDs: 2481911, 2481913

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125429
Included Lab Sample IDs: 2481911, 2481913

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125457
Included Lab Sample IDs: 2481911

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125563
Included Lab Sample IDs: 2481913

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

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	97.0	97.8			0.721
	Ammonia-N	97.4	99.4	98.8			0.570
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	102	109			4.85
EPA 353.2 Rev. 2.0	NO2NO3-N	101	94.2	95.7			1.41
	NO2NO3-N	99.0	99.5	100			0.385
EPA 365.1 Rev. 2.0	Total-P	104	102	105			1.84
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	99.7	98.9			0.653
EPA 8321B	Anatoxin-a	106	92.6	98.0			5.67
	Cylindrospermopsin	94.3	97.7	98.3			0.578
	Desmethyl microcystin LR	93.6	98.2	106			8.04
	Microcystin HiLR	93.0	94.4	105			10.2
	Microcystin HtyR	84.5	80.1	89.2			10.8
	Microcystin LA	100	93.0	101			8.35
	Microcystin LF	106	99.5	111			11.2
	Microcystin LR	106	93.1	106			11.0
	Microcystin LW	94.7	90.3	101			11.1
	Microcystin LY	99.0	98.8	99.2			0.423
	Microcystin RR	94.3	96.9	103			5.68
	Microcystin WR	90.9	95.5	101			5.14
	Microcystin YR	88.8	91.2	92.2			1.03
	Neosaxitoxin	111	64.1	65.1			1.60
	Nodularin-R	98.7	92.7	108			14.8
	Saxitoxin	117	56.2	59.7			6.08

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2481911, 2481913
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2481911, 2481913
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2481911, 2481913
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2481911, 2481913
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2481912, 2481914
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2481915
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2481915

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 350.1 Rev. 2.0	04/12/2024			04/17/2024 12:19	Kenneth H Lee	2481911
	04/12/2024			04/17/2024 12:35	Kenneth H Lee	2481913
EPA 351.2 Rev. 2.0	04/12/2024	04/17/2024 11:47	Simonne.V. Calhoun	04/18/2024 14:22	Robyn Blevins	2481911
	04/12/2024	04/17/2024 11:47	Simonne.V. Calhoun	04/18/2024 14:27	Robyn Blevins	2481913
EPA 353.2 Rev. 2.0	04/12/2024			04/22/2024 14:57	Fadila Guebre	2481911
	04/12/2024			04/25/2024 14:23	Fadila Guebre	2481913
EPA 365.1 Rev. 2.0	04/12/2024	04/17/2024 13:05	Adam P Silver	04/19/2024 12:48	Simonne.V. Calhoun	2481913
	04/12/2024	04/17/2024 13:05	Adam P Silver	04/19/2024 12:50	Simonne.V. Calhoun	2481911
EPA 365.1 Rev. 2.0 dissolved	04/12/2024			04/12/2024 13:52	Chandler E Cox	2481912
	04/12/2024			04/12/2024 13:57	Chandler E Cox	2481914
EPA 8321B	04/12/2024	04/12/2024 13:00	Tae K Lee	04/13/2024 17:22	Tae K Lee	2481915
	04/12/2024	04/12/2024 13:00	Tae K Lee	04/15/2024 13:06	Tae K Lee	2481915