

Chemical Analysis Report

NE-DIST-2024-06-07-01

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

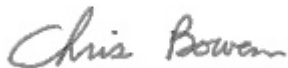
Event Description: **Algae Bloom Response NEROC-as needed**
Request ID: **RQ-2024-03-04-72**
Customer: **NE-DIST**
Project ID: **BLOOM-RESP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Katrin Villinger

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: Chris Bowen, Environmental Administrator

Date Certified: 24-JUN-2024 12:35



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: Lake Santa Fe - SW Lobe

Collection Date/Time: 06/06/2024 11:30

Field ID: NEHAB0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2492422	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P446174	
		Cylindrospermopsin	0.10	U	ug/L	P446173	
		Desmethyl microcystin LR	0.25	U	ug/L	P446173	
		Microcystin HlIR	0.25	U	ug/L	P446173	
		Microcystin HtyR	0.25	U	ug/L	P446173	
		Microcystin LA	0.10	U	ug/L	P446173	
		Microcystin LF	0.10	U	ug/L	P446173	
		Microcystin LR	0.25	U	ug/L	P446173	
		Microcystin LW	0.25	U	ug/L	P446173	
		Microcystin LY	0.10	U	ug/L	P446173	
		Microcystin RR	0.10	U	ug/L	P446173	
		Microcystin WR	0.50	U	ug/L	P446173	
		Neosaxitoxin	0.50	U	ug/L	P446174	
		Microcystin YR	0.25	U	ug/L	P446173	
		Saxitoxin	0.50	U	ug/L	P446174	
		Nodularin-R	0.10	U	ug/L	P446173	

Sample Location: Lake Santa Fe - SW Lobe

Collection Date/Time: 06/06/2024 11:30

Field ID: NEHAB0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2492416	DEP SOP: NU-094-1	Color (true)	25		PCU	P446204	
2492417	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P446408	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P446275	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P446356	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P446336	
2492418	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P446196	

Sample Location: Lake Santa Fe - SW Lobe

Collection Date/Time: 06/06/2024 11:40

Field ID: FB_06062024

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2492419	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P446204	
2492420	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P446408	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P446275	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P446356	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P446336	
2492421	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P446196	
2492423	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P446174	
		Cylindrospermopsin	0.10	U	ug/L	P446173	
		Desmethyl microcystin LR	0.25	U	ug/L	P446173	
		Microcystin HilR	0.25	U	ug/L	P446173	
		Microcystin HtyR	0.25	U	ug/L	P446173	
		Microcystin LA	0.10	U	ug/L	P446173	
		Microcystin LF	0.10	U	ug/L	P446173	
		Microcystin LR	0.25	U	ug/L	P446173	
		Microcystin LW	0.25	U	ug/L	P446173	
		Microcystin LY	0.10	U	ug/L	P446173	
		Microcystin RR	0.10	U	ug/L	P446173	
		Microcystin WR	0.50	U	ug/L	P446173	
		Neosaxitoxin	0.50	U	ug/L	P446174	
		Microcystin YR	0.25	U	ug/L	P446173	
		Saxitoxin	0.50	U	ug/L	P446174	
		Nodularin-R	0.10	U	ug/L	P446173	

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P446204

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446408

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446275

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446356

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P446336

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P446196

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

Reference Method: EPA 8321B
Batch ID: P446173

Component	Result	Code	Units
Cylindrospermopsin	0.10	U	ug/L
Desmethyl microcystin LR	0.25	U	ug/L
Microcystin H1LR	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
Microcystin WR	0.50	U	ug/L
Microcystin YR	0.25	U	ug/L
Nodularin-R	0.10	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P446174

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: DEP SOP: NU-094-1
Batch ID: P446204

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446408

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446275

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446356

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: P446336

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P446196

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

Reference Method: EPA 8321B
Batch ID: P446173

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	101		P	40 - 160
Desmethyl microcystin LR	90.3		P	40 - 160
Microcystin HILR	93.2		P	40 - 160
Microcystin HtyR	92.8		P	40 - 160
Microcystin LA	98.1		P	40 - 160
Microcystin LF	103		P	40 - 160
Microcystin LR	86.9		P	40 - 160
Microcystin LW	101		P	40 - 160
Microcystin LY	105		P	40 - 160
Microcystin RR	88.3		P	40 - 160
Microcystin WR	95.1		P	40 - 160
Microcystin YR	99.3		P	40 - 160
Nodularin-R	86.4		P	40 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P446174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	104		P	40 - 150
Neosaxitoxin	81.4		P	40 - 150
Saxitoxin	83.5		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492386	Ammonia-N	92.4	94.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492353	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492376	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P446336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492389	Total-P	107	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P446196

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492369	O-Phosphate-P	98.4	98.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P446173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492370	Cylindrospermopsin	97.4	100	P/P	40 - 160
2492370	Desmethyl microcystin LR	87.1	88.1	P/P	40 - 160
2492370	Microcystin HiLR	87.7	91.2	P/P	40 - 160
2492370	Microcystin HtyR	85.8	88.6	P/P	40 - 160
2492370	Microcystin LA	90.4	97.4	P/P	40 - 160
2492370	Microcystin LF	96.6	92.7	P/P	40 - 160
2492370	Microcystin LR	85.7	88.8	P/P	40 - 160
2492370	Microcystin LW	91.2	92.2	P/P	40 - 160
2492370	Microcystin LY	99.7	103	P/P	40 - 160
2492370	Microcystin RR	83.7	84.4	P/P	40 - 160
2492370	Microcystin WR	88.6	93.4	P/P	40 - 160
2492370	Microcystin YR	89.7	91.4	P/P	40 - 160
2492370	Nodularin-R	85.5	88.8	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P446174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2492370	Anatoxin-a	89.8	93.9	P/P	40 - 150
2492370	Neosaxitoxin	43.5	45.1	P/P	40 - 150
2492370	Saxitoxin	49.7	52.0	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P446204

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492385	Color (true)	0.429	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P446408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492386	Ammonia-N	1.82	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P446275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492353	Kjeldahl Nitrogen	0.538	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P446356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492376	NO2NO3-N	1.00	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P446336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492389	Total-P	1.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P446196

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492369	O-Phosphate-P	0.203	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P446173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492370	Cylindrospermopsin	3.17	Spike	P	0 - 30
2492370	Desmethyl microcystin LR	1.13	Spike	P	0 - 30
2492370	Microcystin HtIR	3.91	Spike	P	0 - 30
2492370	Microcystin HtyR	3.21	Spike	P	0 - 30
2492370	Microcystin LA	7.53	Spike	P	0 - 30
2492370	Microcystin LF	4.13	Spike	P	0 - 30
2492370	Microcystin LR	3.52	Spike	P	0 - 30
2492370	Microcystin LW	1.03	Spike	P	0 - 30
2492370	Microcystin LY	3.08	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8321B
Batch ID: P446173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492370	Microcystin RR	0.805	Spike	P	0 - 30
2492370	Microcystin WR	5.28	Spike	P	0 - 30
2492370	Microcystin YR	1.94	Spike	P	0 - 30
2492370	Nodularin-R	3.73	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P446174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2492370	Anatoxin-a	4.55	Spike	P	0 - 30
2492370	Neosaxitoxin	3.49	Spike	P	0 - 30
2492370	Saxitoxin	4.40	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2492422
Field Sample ID: NEHAB0116

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	103	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	70.4	P	30 - 160

Lab Sample ID: 2492423
Field Sample ID: FB_06062024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	114	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	68.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A126009

Included Lab Sample IDs: 2492422, 2492423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	97.1	93.9	P/P	50 - 160
Neosaxitoxin	86.4	79.8	P/P	50 - 160
Saxitoxin	82.4	79.1	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A126017

Included Lab Sample IDs: 2492422, 2492423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	99.3	100	P/P	60 - 160
Desmethyl microcystin LR	89.8	90.8	P/P	60 - 160
Microcystin HILR	92.0	92.6	P/P	60 - 160
Microcystin HtyR	89.3	89.6	P/P	60 - 160
Microcystin LA	92.9	97.3	P/P	50 - 160
Microcystin LF	99.8	102	P/P	50 - 160
Microcystin LR	91.3	89.2	P/P	60 - 160
Microcystin LW	102	99.2	P/P	60 - 160
Microcystin LY	106	100	P/P	60 - 160
Microcystin RR	89.2	83.1	P/P	60 - 160
Microcystin WR	95.1	98.4	P/P	60 - 160
Microcystin YR	93.9	91.8	P/P	60 - 160
Nodularin-R	86.6	85.4	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A126054

Included Lab Sample IDs: 2492418, 2492421

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.4	97.5	P/P	90 - 110
O-Phosphate-P	97.5	97.4	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A126055

Included Lab Sample IDs: 2492416, 2492419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A126099

Included Lab Sample IDs: 2492417, 2492420

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A126112

Included Lab Sample IDs: 2492417, 2492420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.8	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A126119
Included Lab Sample IDs: 2492417, 2492420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.5	95.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A126167
Included Lab Sample IDs: 2492417, 2492420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	95.9	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	
DEP SOP: NU-094-1	Color (true)	100				0.429	
EPA 350.1 Rev. 2.0	Ammonia-N	95.2	92.4	94.4			1.82
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	106	106			0.538
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	100			1.00
EPA 365.1 Rev. 2.0	Total-P	102	107	109			1.65
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.4	98.2			0.203
EPA 8321B	Anatoxin-a	104	89.8	93.9			4.55
	Cylindrospermopsin	101	97.4	100			3.17
	Desmethyl microcystin LR	90.3	87.1	88.1			1.13
	Microcystin HiLR	93.2	87.7	91.2			3.91
	Microcystin HtyR	92.8	85.8	88.6			3.21
	Microcystin LA	98.1	90.4	97.4			7.53
	Microcystin LF	103	96.6	92.7			4.13
	Microcystin LR	86.9	85.7	88.8			3.52
	Microcystin LW	101	91.2	92.2			1.03
	Microcystin LY	105	99.7	103			3.08
	Microcystin RR	88.3	83.7	84.4			0.805
	Microcystin WR	95.1	88.6	93.4			5.28
	Microcystin YR	99.3	89.7	91.4			1.94
	Neosaxitoxin	81.4	43.5	45.1			3.49
	Nodularin-R	86.4	85.5	88.8			3.73
	Saxitoxin	83.5	49.7	52.0			4.40

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2492416, 2492419
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2492417, 2492420
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2492417, 2492420
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2492417, 2492420
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2492417, 2492420
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2492418, 2492421
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2492422, 2492423
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2492422, 2492423

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	06/07/2024			06/07/2024 14:29	Jessica K Wilks	2492416, 2492419
EPA 350.1 Rev. 2.0	06/07/2024			06/12/2024 15:20	Khloe J Berg	2492417
	06/07/2024			06/12/2024 15:21	Khloe J Berg	2492420
EPA 351.2 Rev. 2.0	06/07/2024	06/11/2024 09:29	Robyn Blevins	06/14/2024 14:00	Samantha L Bates	2492417
	06/07/2024	06/11/2024 09:29	Robyn Blevins	06/14/2024 14:02	Samantha L Bates	2492420
EPA 353.2 Rev. 2.0	06/07/2024			06/11/2024 13:41	Fadila Guebre	2492417
	06/07/2024			06/11/2024 13:42	Fadila Guebre	2492420
EPA 365.1 Rev. 2.0	06/07/2024	06/11/2024 15:03	Josephine W Gitau	06/12/2024 12:19	Chandler E Cox	2492420
	06/07/2024	06/11/2024 15:03	Josephine W Gitau	06/12/2024 12:25	Chandler E Cox	2492417
EPA 365.1 Rev. 2.0 dissolved	06/07/2024			06/07/2024 13:59	Chandler E Cox	2492421
	06/07/2024			06/07/2024 14:11	Chandler E Cox	2492418
EPA 8321B	06/07/2024	06/07/2024 11:30	Samatha Luckman	06/07/2024 16:37	Samatha Luckman	2492422
	06/07/2024	06/07/2024 11:30	Samatha Luckman	06/07/2024 16:51	Samatha Luckman	2492423
	06/07/2024	06/07/2024 11:30	Samatha Luckman	06/07/2024 18:30	Samatha Luckman	2492422
	06/07/2024	06/07/2024 11:30	Samatha Luckman	06/07/2024 18:47	Samatha Luckman	2492423