

Chemical Analysis Report

SE-DIST-2024-03-01-01

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

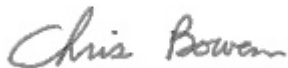
Event Description: **Algal Bloom Response - SE ROC**
Request ID: **RQ-2024-03-04-71**
Customer: **SE-DIST**
Project ID: **BLOOM-RESP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

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: 14-MAR-2024 09:02



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: St. Lucie River - Banyan Tree Drive

Collection Date/Time: 02/29/2024 13:05

Field ID: SEHAB0109

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2472556	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P442185	
		Cylindrospermopsin	0.10	U	ug/L	P442183	
		Desmethyl microcystin LR	0.25	U	ug/L	P442183	
		Microcystin HILR	0.25	U	ug/L	P442183	
		Microcystin HtyR	0.25	U	ug/L	P442183	
		Microcystin LA	0.10	U	ug/L	P442183	
		Microcystin LF	0.10	U	ug/L	P442183	
		Microcystin LR	0.25	U	ug/L	P442183	
		Microcystin LW	0.25	U	ug/L	P442183	
		Microcystin LY	0.10	U	ug/L	P442183	
		Microcystin RR	0.10	U	ug/L	P442183	
		Microcystin WR	0.50	U	ug/L	P442183	
		Neosaxitoxin	0.50	U	ug/L	P442185	MS
		Microcystin YR	0.25	U	ug/L	P442183	
		Saxitoxin	0.50	U	ug/L	P442185	
		Nodularin-R	0.10	U	ug/L	P442183	
2472581	DEP SOP: NU-094-1	Color (true)	36		PCU	P442226	
2472583	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P442392	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P442295	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P442417	
	EPA 365.1 Rev. 2.0	Total-P	0.094		mg P/L	P442286	
2472585	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.040		mg P/L	P442221	

Sample Location: St. Lucie River - Northwest of Roosevelt

Collection Date/Time: 02/29/2024 12:45

Field ID: SEHAB0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2472555	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P442185	
		Cylindrospermopsin	0.10	U	ug/L	P442183	
		Desmethyl microcystin LR	0.25	U	ug/L	P442183	
		Microcystin H1LR	0.25	U	ug/L	P442183	
		Microcystin HtyR	0.25	U	ug/L	P442183	
		Microcystin LA	0.10	U	ug/L	P442183	
		Microcystin LF	0.10	U	ug/L	P442183	
		Microcystin LR	0.25	U	ug/L	P442183	
		Microcystin LW	0.25	U	ug/L	P442183	
		Microcystin LY	0.10	U	ug/L	P442183	
		Microcystin RR	0.10	U	ug/L	P442183	
		Microcystin WR	0.50	U	ug/L	P442183	
		Neosaxitoxin	0.50	UJ	ug/L	P442185	MS
		Microcystin YR	0.25	U	ug/L	P442183	
		Saxitoxin	0.50	U	ug/L	P442185	
2472580	DEP SOP: NU-094-1	Nodularin-R	0.10	U	ug/L	P442183	
		Color (true)	42		PCU	P442226	
2472582	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P442392	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P442295	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.082		mg N/L	P442417	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P442286	
2472584	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P442221	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P442226

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P442392

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442295

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P442417

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442286

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P442221

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

Reference Method: EPA 8321B
Batch ID: P442183

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: P442185

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: P442226

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P442392

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442295

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P442417

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442286

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P442221

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

Reference Method: EPA 8321B
Batch ID: P442183

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	85.8		P	40 - 150
Desmethyl microcystin LR	79.8		P	40 - 150
Microcystin H1LR	88.2		P	40 - 150
Microcystin HtyR	86.0		P	40 - 150
Microcystin LA	87.2		P	40 - 150
Microcystin LF	82.5		P	40 - 150
Microcystin LR	91.2		P	40 - 150
Microcystin LW	83.2		P	40 - 150
Microcystin LY	90.6		P	40 - 150
Microcystin RR	77.4		P	40 - 150
Microcystin WR	88.1		P	40 - 150
Microcystin YR	84.9		P	40 - 150
Nodularin-R	81.9		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P442185

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	93.9		P	40 - 150
Neosaxitoxin	81.3		P	40 - 150
Saxitoxin	90.7		P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P442392

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472464	Ammonia-N	96.6	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472582	Kjeldahl Nitrogen	99.3	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P442417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472412	NO2NO3-N	99.6	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442286

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472617	Total-P	96.3	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P442221

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472584	O-Phosphate-P	98.3	97.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P442183

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472555	Cylindrospermopsin	91.4	91.6	P/P	40 - 150
2472555	Desmethyl microcystin LR	90.3	95.8	P/P	40 - 150
2472555	Microcystin HiLR	105	92.7	P/P	40 - 150
2472555	Microcystin HtyR	92.9	91.9	P/P	40 - 150
2472555	Microcystin LA	98.3	97.0	P/P	40 - 150
2472555	Microcystin LF	91.1	93.7	P/P	40 - 150
2472555	Microcystin LR	108	112	P/P	40 - 150
2472555	Microcystin LW	93.5	94.0	P/P	40 - 150
2472555	Microcystin LY	103	103	P/P	40 - 150
2472555	Microcystin RR	92.6	94.1	P/P	40 - 150
2472555	Microcystin WR	103	103	P/P	40 - 150
2472555	Microcystin YR	96.8	101	P/P	40 - 150
2472555	Nodularin-R	97.9	96.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P442185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2472555	Anatoxin-a	70.4	67.8	P/P	40 - 150
2472555	Neosaxitoxin	30.1	30.2	F/F	40 - 150
2472555	Saxitoxin	44.6	43.3	P/P	40 - 150

Quality Assurance Report

Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P442226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472558	Color (true)	3.30	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P442392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472464	Ammonia-N	0.150	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P442295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472582	Kjeldahl Nitrogen	2.17	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P442417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472412	NO2NO3-N	0.489	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P442286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472617	Total-P	4.94	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P442221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472584	O-Phosphate-P	0.482	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P442183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472555	Cylindrospermopsin	0.239	Spike	P	0 - 30
2472555	Desmethyl microcystin LR	5.93	Spike	P	0 - 30
2472555	Microcystin HtIR	12.6	Spike	P	0 - 30
2472555	Microcystin HtyR	1.00	Spike	P	0 - 30
2472555	Microcystin LA	1.34	Spike	P	0 - 30
2472555	Microcystin LF	2.84	Spike	P	0 - 30
2472555	Microcystin LR	3.79	Spike	P	0 - 30
2472555	Microcystin LW	0.502	Spike	P	0 - 30
2472555	Microcystin LY	0.116	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8321B
Batch ID: P442183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472555	Microcystin RR	1.62	Spike	P	0 - 30
2472555	Microcystin WR	0.722	Spike	P	0 - 30
2472555	Microcystin YR	4.71	Spike	P	0 - 30
2472555	Nodularin-R	1.73	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P442185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2472555	Anatoxin-a	3.81	Spike	P	0 - 30
2472555	Neosaxitoxin	0.120	Spike	P	0 - 30
2472555	Saxitoxin	3.00	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2472555
Field Sample ID: SEHAB0108

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	73.3	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	119	P	30 - 160

Lab Sample ID: 2472556
Field Sample ID: SEHAB0109

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	70.3	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	116	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A124484

Included Lab Sample IDs: 2472555, 2472556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	104	104	P/P	50 - 160
Desmethyl microcystin LR	104	103	P/P	50 - 160
Microcystin HilR	106	106	P/P	50 - 160
Microcystin HtyR	102	102	P/P	50 - 160
Microcystin LA	106	107	P/P	50 - 160
Microcystin LF	99.2	100	P/P	50 - 160
Microcystin LR	124	120	P/P	50 - 160
Microcystin LW	102	105	P/P	50 - 160
Microcystin LY	109	108	P/P	50 - 160
Microcystin RR	97.5	94.6	P/P	50 - 160
Microcystin WR	108	111	P/P	50 - 160
Microcystin YR	104	102	P/P	50 - 160
Nodularin-R	105	103	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A124485

Included Lab Sample IDs: 2472555, 2472556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	91.6	88.5	P/P	50 - 160
Neosaxitoxin	87.7	81.3	P/P	50 - 160
Saxitoxin	92.4	87.0	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A124504

Included Lab Sample IDs: 2472584, 2472585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	99.5	100	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A124509

Included Lab Sample IDs: 2472580, 2472581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A124574

Included Lab Sample IDs: 2472582, 2472583

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124575

Included Lab Sample IDs: 2472582, 2472583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A124575
Included Lab Sample IDs: 2472582, 2472583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.0	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A124577
Included Lab Sample IDs: 2472582, 2472583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A124589
Included Lab Sample IDs: 2472582, 2472583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	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	MS
					SMP	
DEP SOP: NU-094-1	Color (true)	101			3.30	
EPA 350.1 Rev. 2.0	Ammonia-N	93.6	96.6	96.4		0.150
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.3	102		2.17
EPA 353.2 Rev. 2.0	NO2NO3-N	102	99.6	99.1		0.489
EPA 365.1 Rev. 2.0	Total-P	96.9	96.3	101		4.94
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	98.3	97.6		0.482
EPA 8321B	Anatoxin-a	93.9	70.4	67.8		3.81
	Cylindrospermopsin	85.8	91.4	91.6		0.239
	Desmethyl microcystin LR	79.8	90.3	95.8		5.93
	Microcystin HILR	88.2	105	92.7		12.6
	Microcystin HtyR	86.0	92.9	91.9		1.00
	Microcystin LA	87.2	98.3	97.0		1.34
	Microcystin LF	82.5	91.1	93.7		2.84
	Microcystin LR	91.2	108	112		3.79
	Microcystin LW	83.2	93.5	94.0		0.502
	Microcystin LY	90.6	103	103		0.116
	Microcystin RR	77.4	92.6	94.1		1.62
	Microcystin WR	88.1	103	103		0.722
	Microcystin YR	84.9	96.8	101		4.71
	Neosaxitoxin	81.3	30.1	30.2		0.120
	Nodularin-R	81.9	97.9	96.2		1.73
	Saxitoxin	90.7	44.6	43.3		3.00

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2472580, 2472581
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2472582, 2472583
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2472582, 2472583
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2472582, 2472583
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2472582, 2472583
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2472584, 2472585
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2472555, 2472556
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2472555, 2472556

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	03/01/2024			03/01/2024 14:57	Jessica K Wilks	2472580, 2472581
EPA 350.1 Rev. 2.0	03/01/2024			03/06/2024 14:46	Kenneth H Lee	2472582
	03/01/2024			03/06/2024 14:48	Kenneth H Lee	2472583
	03/01/2024	03/05/2024 10:01	Samantha L Bates	03/06/2024 14:06	Samantha L Bates	2472582
EPA 351.2 Rev. 2.0	03/01/2024	03/05/2024 10:01	Samantha L Bates	03/06/2024 14:14	Samantha L Bates	2472583
EPA 353.2 Rev. 2.0	03/01/2024			03/05/2024 16:32	Fadila Guebre	2472582
	03/01/2024			03/05/2024 16:34	Fadila Guebre	2472583
	03/01/2024	03/04/2024 15:03	Adam P Silver	03/06/2024 14:59	Simonne.V. Calhoun	2472582
EPA 365.1 Rev. 2.0	03/01/2024	03/04/2024 15:03	Adam P Silver	03/06/2024 15:00	Simonne.V. Calhoun	2472583
EPA 365.1 Rev. 2.0 dissolved	03/01/2024			03/01/2024 14:02	Elise M. Gillis	2472584
	03/01/2024			03/01/2024 14:09	Elise M. Gillis	2472585
EPA 8321B	03/01/2024	03/01/2024 13:00	Tae K Lee	03/01/2024 15:37	Tae K Lee	2472555
	03/01/2024	03/01/2024 13:00	Tae K Lee	03/01/2024 15:54	Tae K Lee	2472556
	03/01/2024	03/01/2024 13:00	Tae K Lee	03/01/2024 20:24	Tae K Lee	2472555
	03/01/2024	03/01/2024 13:00	Tae K Lee	03/01/2024 20:38	Tae K Lee	2472556