

Chemical Analysis Report

CEN-DIST-2023-09-07-01

Florida DEP Laboratory
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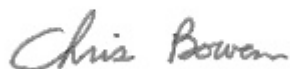
Event Description: **Algal Bloom Response - CEROC**
Request ID: **RQ-2023-07-31-07**
Customer: **CEN-DIST**
Project ID: **BLOOM-RESP**

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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 29-SEP-2023 10:57



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: Lake Minnehaha - E Dock

Collection Date/Time: 09/06/2023 11:04

Field ID: HABCE0194

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2435053	DEP SOP: NU-094-1	Color (true)	16	A	PCU	P434689	
2435055	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P434846	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P435425	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P435251	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P434895	
2435057	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P434675	
2435059	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P434666	
		Cylindrospermopsin	0.20	I	ug/L	P434665	
		Desmethyl microcystin LR	0.25	U	ug/L	P434665	
		Microcystin HilR	0.25	U	ug/L	P434665	
		Microcystin HtyR	0.25	U	ug/L	P434665	
		Microcystin LA	0.10	U	ug/L	P434665	
		Microcystin LF	0.10	U	ug/L	P434665	
		Microcystin LR	0.25	U	ug/L	P434665	
		Microcystin LW	0.25	U	ug/L	P434665	
		Microcystin LY	0.10	U	ug/L	P434665	
		Microcystin RR	0.10	U	ug/L	P434665	
		Microcystin WR	0.50	U	ug/L	P434665	
		Neosaxitoxin	0.50	U	ug/L	P434666	
		Microcystin YR	0.25	U	ug/L	P434665	
		Saxitoxin	0.50	U	ug/L	P434666	
		Nodularin-R	0.10	U	ug/L	P434665	

Sample Location: Pioneer Lake - N Shore

Collection Date/Time: 09/06/2023 12:00

Field ID: HABCE0206

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2435054	DEP SOP: NU-094-1	Color (true)	21		PCU	P434689	
2435056	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P434846	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P435425	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.44		mg N/L	P435251	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P434895	
2435058	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P434675	
2435060	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P434666	
		Cylindrospermopsin	0.10	U	ug/L	P434665	
		Desmethyl microcystin LR	0.25	U	ug/L	P434665	
		Microcystin HILR	0.25	U	ug/L	P434665	
		Microcystin HtyR	0.25	U	ug/L	P434665	
		Microcystin LA	0.10	U	ug/L	P434665	
		Microcystin LF	0.10	U	ug/L	P434665	
		Microcystin LR	0.25	U	ug/L	P434665	
		Microcystin LW	0.25	U	ug/L	P434665	
		Microcystin LY	0.10	U	ug/L	P434665	
		Microcystin RR	0.10	U	ug/L	P434665	
		Microcystin WR	0.50	U	ug/L	P434665	
		Neosaxitoxin	0.50	U	ug/L	P434666	
		Microcystin YR	0.25	U	ug/L	P434665	
		Saxitoxin	0.50	U	ug/L	P434666	
		Nodularin-R	0.10	U	ug/L	P434665	

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P434689

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434846

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435425

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435251

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434895

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P434675

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

Reference Method: EPA 8321B
Batch ID: P434665

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: P434666

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: P434689

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434846

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: P435425

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P434675

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

Reference Method: EPA 8321B
Batch ID: P434665

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	98.7		P	40 - 160
Desmethyl microcystin LR	107		P	40 - 160
Microcystin HILR	94.1		P	40 - 160
Microcystin HtyR	96.0		P	40 - 160
Microcystin LA	96.2		P	40 - 160
Microcystin LF	88.4		P	40 - 160
Microcystin LR	87.5		P	40 - 160
Microcystin LW	80.8		P	40 - 160
Microcystin LY	85.5		P	40 - 160
Microcystin RR	98.3		P	40 - 160
Microcystin WR	101		P	40 - 160
Microcystin YR	87.4		P	40 - 160
Nodularin-R	98.7		P	40 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P434666

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	99.2		P	40 - 150
Neosaxitoxin	93.1		P	40 - 150
Saxitoxin	95.5		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2434876	Ammonia-N	97.2	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2435075	Kjeldahl Nitrogen	109	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2434982	NO2NO3-N	97.6	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2434784	Total-P	109	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P434675

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2435058	O-Phosphate-P	98.7	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P434665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2435041	Cylindrospermopsin	94.6	98.6	P/P	40 - 160
2435041	Desmethyl microcystin LR	110	106	P/P	40 - 160
2435041	Microcystin HiLR	97.1	96.2	P/P	40 - 160
2435041	Microcystin HtyR	99.4	98.5	P/P	40 - 160
2435041	Microcystin LA	101	99.9	P/P	40 - 160
2435041	Microcystin LF	108	110	P/P	40 - 160
2435041	Microcystin LR	85.8	92.4	P/P	40 - 160
2435041	Microcystin LW	93.1	95.3	P/P	40 - 160
2435041	Microcystin LY	82.9	85.7	P/P	40 - 160
2435041	Microcystin RR	105	106	P/P	40 - 160
2435041	Microcystin WR	101	106	P/P	40 - 160
2435041	Microcystin YR	87.1	87.7	P/P	40 - 160
2435041	Nodularin-R	101	102	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P434666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2435041	Anatoxin-a	93.6	96.7	P/P	40 - 150
2435041	Neosaxitoxin	79.2	81.6	P/P	40 - 150
2435041	Saxitoxin	84.3	85.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P434689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2435053	Color (true)	2.74	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2434876	Ammonia-N	1.69	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2435075	Kjeldahl Nitrogen	1.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2434982	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2434784	Total-P	1.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P434675

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2435058	O-Phosphate-P	1.91	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P434665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2435041	Cylindrospermopsin	4.18	Spike	P	0 - 30
2435041	Desmethyl microcystin LR	3.87	Spike	P	0 - 30
2435041	Microcystin HtIR	0.902	Spike	P	0 - 30
2435041	Microcystin HtyR	0.877	Spike	P	0 - 30
2435041	Microcystin LA	1.59	Spike	P	0 - 30
2435041	Microcystin LF	2.44	Spike	P	0 - 30
2435041	Microcystin LR	7.33	Spike	P	0 - 30
2435041	Microcystin LW	2.34	Spike	P	0 - 30
2435041	Microcystin LY	3.26	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P434665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2435041	Microcystin RR	0.699	Spike	P	0 - 30
2435041	Microcystin WR	4.30	Spike	P	0 - 30
2435041	Microcystin YR	0.692	Spike	P	0 - 30
2435041	Nodularin-R	1.27	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P434666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2435041	Anatoxin-a	3.20	Spike	P	0 - 30
2435041	Neosaxitoxin	2.98	Spike	P	0 - 30
2435041	Saxitoxin	1.73	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2435059
Field Sample ID: HABCE0194

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	93.2	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	104	P	30 - 160

Lab Sample ID: 2435060
Field Sample ID: HABCE0206

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	92.1	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	81.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A121403

Included Lab Sample IDs: 2435059, 2435060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	85.1	102	P/P	60 - 160
Desmethyl microcystin LR	103	99.5	P/P	50 - 160
Microcystin HILR	91.0	90.2	P/P	60 - 160
Microcystin HtyR	95.8	94.6	P/P	60 - 160
Microcystin LA	99.0	92.3	P/P	50 - 160
Microcystin LF	95.0	99.2	P/P	60 - 160
Microcystin LR	83.7	88.6	P/P	60 - 160
Microcystin LW	81.0	79.0	P/P	60 - 160
Microcystin LY	82.3	90.1	P/P	60 - 160
Microcystin RR	99.6	102	P/P	60 - 160
Microcystin WR	95.0	94.6	P/P	60 - 160
Microcystin YR	83.4	85.6	P/P	60 - 160
Nodularin-R	98.4	97.8	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A121406

Included Lab Sample IDs: 2435057, 2435058

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.5	P/P	90 - 110
O-Phosphate-P	99.5	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121410

Included Lab Sample IDs: 2435059, 2435060

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	92.5	92.4	P/P	50 - 160
Neosaxitoxin	104	104	P/P	50 - 160
Saxitoxin	105	106	P/P	50 - 160

Reference Method: DEP SOP: NU-094-1

Run ID: A121411

Included Lab Sample IDs: 2435053, 2435054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121468

Included Lab Sample IDs: 2435055, 2435056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121536

Included Lab Sample IDs: 2435055, 2435056

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121654

Included Lab Sample IDs: 2435055, 2435056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121763

Included Lab Sample IDs: 2435055, 2435056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.0	100	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	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	99.9			2.74	
EPA 350.1 Rev. 2.0	Ammonia-N	95.2	97.2	99.2		1.69
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.6	109	107		1.49
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	97.6	97.6		0.0
EPA 365.1 Rev. 2.0	Total-P	106	109	108		1.38
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	98.7	101		1.91
EPA 8321B	Anatoxin-a	99.2	93.6	96.7		3.20
	Cylindrospermopsin	98.7	94.6	98.6		4.18
	Desmethyl microcystin LR	107	110	106		3.87
	Microcystin HiLR	94.1	97.1	96.2		0.902
	Microcystin HtyR	96.0	99.4	98.5		0.877
	Microcystin LA	96.2	101	99.9		1.59
	Microcystin LF	88.4	108	110		2.44
	Microcystin LR	87.5	85.8	92.4		7.33
	Microcystin LW	80.8	93.1	95.3		2.34
	Microcystin LY	85.5	82.9	85.7		3.26
	Microcystin RR	98.3	105	106		0.699
	Microcystin WR	101	101	106		4.30
	Microcystin YR	87.4	87.1	87.7		0.692
	Neosaxitoxin	93.1	79.2	81.6		2.98
	Nodularin-R	98.7	101	102		1.27
	Saxitoxin	95.5	84.3	85.7		1.73

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2435053, 2435054
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2435055, 2435056
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2435055, 2435056
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2435055, 2435056
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2435055, 2435056
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2435057, 2435058
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2435059, 2435060
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2435059, 2435060

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	09/07/2023			09/07/2023 14:36	Samantha L Bates	2435053
	09/07/2023			09/07/2023 14:37	Samantha L Bates	2435054
EPA 350.1 Rev. 2.0	09/07/2023			09/11/2023 15:07	Ping Hua	2435055
	09/07/2023			09/11/2023 15:09	Ping Hua	2435056
EPA 351.2 Rev. 2.0	09/07/2023	09/25/2023 12:47	Simonne.V. Calhoun	09/26/2023 10:55	Samantha L Bates	2435055
	09/07/2023	09/25/2023 12:47	Simonne.V. Calhoun	09/26/2023 10:57	Samantha L Bates	2435056
EPA 353.2 Rev. 2.0	09/07/2023			09/18/2023 15:21	Anna M. Plaviak	2435055
	09/07/2023			09/18/2023 15:23	Anna M. Plaviak	2435056
EPA 365.1 Rev. 2.0	09/07/2023	09/13/2023 18:31	Adam P Silver	09/14/2023 14:06	James L Waggeberby	2435055
	09/07/2023	09/13/2023 18:31	Adam P Silver	09/14/2023 14:07	James L Waggeberby	2435056
EPA 365.1 Rev. 2.0 dissolved	09/07/2023			09/07/2023 12:24	Elise M. Gillis	2435058
	09/07/2023			09/07/2023 12:36	Elise M. Gillis	2435057
EPA 8321B	09/07/2023	09/07/2023 16:00	Tae K Lee	09/07/2023 22:02	Hana Lee	2435059
	09/07/2023	09/07/2023 16:00	Tae K Lee	09/07/2023 22:15	Hana Lee	2435060
	09/07/2023	09/07/2023 16:00	Tae K Lee	09/07/2023 22:51	Hana Lee	2435059
	09/07/2023	09/07/2023 16:00	Tae K Lee	09/07/2023 23:07	Hana Lee	2435060