

Chemical Analysis Report

WQAP-2023-01-25-02

Florida DEP Laboratory
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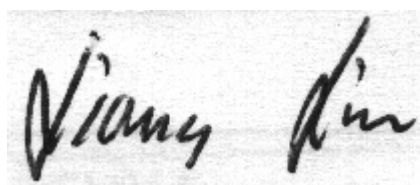
Event Description: **Algal Bloom Response - CEROC**
Request ID: **RQ-2023-01-16-16**
Customer: **WQAP**
Project ID: **BLOOM-RESP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 14-FEB-2023 11:31

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

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: Big Sand Lake From Dock

Collection Date/Time: 01/24/2023 13:02

Field ID: HABCE0155_BigSandLake

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2382744	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P424950	
		Cylindrospermopsin	0.10	U	ug/L	P424449	
		Desmethyl microcystin LR	0.25	U	ug/L	P424449	MS
		Microcystin H1R	0.25	U	ug/L	P424449	MS
		Microcystin HtyR	0.25	U	ug/L	P424449	MS
		Microcystin LA	0.19	I	ug/L	P424449	
		Microcystin LF	0.10	U	ug/L	P424449	
		Microcystin LR	0.25	U	ug/L	P424449	MS
		Microcystin LW	0.25	U	ug/L	P424449	
		Microcystin LY	0.10	U	ug/L	P424449	
		Microcystin RR	0.10	U	ug/L	P424449	
		Microcystin WR	0.50	U	ug/L	P424449	
		Neosaxitoxin	0.50	U	ug/L	P424950	
		Microcystin YR	0.25	U	ug/L	P424449	MS
		Saxitoxin	0.50	U	ug/L	P424950	
		Nodularin-R	0.10	U	ug/L	P424449	MS
2382746	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P425539	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P425063	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P425143	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P425134	
2382748	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P424990	

Sample Location: Lake Killarney-N Lobe

Collection Date/Time: 01/24/2023 11:43

Field ID: HABCE0167_LakeKillarney

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2382745	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P424950	
		Cylindrospermopsin	0.10	U	ug/L	P424449	
		Desmethyl microcystin LR	0.25	U	ug/L	P424449	MS
		Microcystin HILR	0.25	U	ug/L	P424449	MS
		Microcystin HtyR	0.25	U	ug/L	P424449	MS
		Microcystin LA	0.10	U	ug/L	P424449	
		Microcystin LF	0.10	U	ug/L	P424449	
		Microcystin LR	0.25	U	ug/L	P424449	MS
		Microcystin LW	0.25	U	ug/L	P424449	
		Microcystin LY	0.10	U	ug/L	P424449	
		Microcystin RR	0.10	U	ug/L	P424449	
		Microcystin WR	0.50	U	ug/L	P424449	
		Neosaxitoxin	0.50	U	ug/L	P424950	
		Microcystin YR	0.25	U	ug/L	P424449	MS
		Saxitoxin	0.50	U	ug/L	P424950	
		Nodularin-R	0.10	U	ug/L	P424449	MS
2382747	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P425608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P425063	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.049		mg N/L	P425143	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P425134	
2382749	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P424990	

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425539

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425608

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425063

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425143

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425134

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424990

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

Reference Method: EPA 8321B
Batch ID: P424449

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: P424950

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: P425539

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425608

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425063

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425143

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425134

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: P424990

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

Reference Method: EPA 8321B
Batch ID: P424449

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	99.9		P	40 - 150
Desmethyl microcystin LR	104		P	40 - 150
Microcystin H1LR	103		P	40 - 150
Microcystin HtyR	102		P	40 - 150
Microcystin LA	102		P	40 - 150
Microcystin LF	98.7		P	40 - 150
Microcystin LR	104		P	40 - 150
Microcystin LW	92.3		P	40 - 150
Microcystin LY	106		P	40 - 150
Microcystin RR	107		P	40 - 150
Microcystin WR	96.8		P	40 - 150
Microcystin YR	109		P	40 - 150
Nodularin-R	105		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P424950

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	96.0		P	40 - 150
Neosaxitoxin	104		P	40 - 150
Saxitoxin	88.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425539

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382687	Ammonia-N	94.6	96.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382769	Ammonia-N	95.4	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425063

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382712	Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382687	NO2NO3-N	96.9	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382768	Total-P	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382713	O-Phosphate-P	98.0	98.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P424449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382734	Cylindrospermopsin	104	106	P/P	40 - 150
2382734	Desmethyl microcystin LR	161	173	F/F	40 - 150
2382734	Microcystin HilR	157	168	F/F	40 - 150
2382734	Microcystin HtyR	158	176	F/F	40 - 150
2382734	Microcystin LA	102	111	P/P	40 - 150
2382734	Microcystin LF	107	128	P/P	40 - 150
2382734	Microcystin LR	173	186	F/F	40 - 150
2382734	Microcystin LW	97.0	120	P/P	40 - 150
2382734	Microcystin LY	115	113	P/P	40 - 150
2382734	Microcystin RR	110	117	P/P	40 - 150
2382734	Microcystin WR	131	144	P/P	40 - 150
2382734	Microcystin YR	197	216	F/F	40 - 150
2382734	Nodularin-R	206	226	F/F	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P424950

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2382734	Anatoxin-a	122	114	P/P	40 - 150
2382734	Neosaxitoxin	66.9	61.4	P/P	40 - 150
2382734	Saxitoxin	60.5	57.6	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382687	Ammonia-N	1.28	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382769	Ammonia-N	1.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425063

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382712	Kjeldahl Nitrogen	0.916	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382687	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382768	Total-P	0.862	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P424990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382713	O-Phosphate-P	0.102	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P424449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382734	Cylindrospermopsin	2.16	Spike	P	0 - 30
2382734	Desmethyl microcystin LR	7.07	Spike	P	0 - 30
2382734	Microcystin HtIR	7.21	Spike	P	0 - 30
2382734	Microcystin HtyR	10.8	Spike	P	0 - 30
2382734	Microcystin LA	8.69	Spike	P	0 - 30
2382734	Microcystin LF	17.6	Spike	P	0 - 30
2382734	Microcystin LR	6.96	Spike	P	0 - 30
2382734	Microcystin LW	21.1	Spike	P	0 - 30
2382734	Microcystin LY	1.06	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P424449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382734	Microcystin RR	6.41	Spike	P	0 - 30
2382734	Microcystin WR	9.71	Spike	P	0 - 30
2382734	Microcystin YR	9.38	Spike	P	0 - 30
2382734	Nodularin-R	8.97	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P424950

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2382734	Anatoxin-a	6.77	Spike	P	0 - 30
2382734	Neosaxitoxin	8.53	Spike	P	0 - 30
2382734	Saxitoxin	4.87	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2382744

Field Sample ID: HABCE0155_BigSandLake

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	87.3	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	99.3	P	30 - 160

Lab Sample ID: 2382745

Field Sample ID: HABCE0167_LakeKillarney

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	99.4	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	99.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A117098

Included Lab Sample IDs: 2382748, 2382749

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	99.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A117101

Included Lab Sample IDs: 2382744, 2382745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	96.2	94.8	P/P	50 - 160
Desmethyl microcystin LR	96.7	107	P/P	50 - 160
Microcystin H1R	93.6	106	P/P	50 - 160
Microcystin HtyR	92.9	102	P/P	50 - 160
Microcystin LA	85.8	83.1	P/P	50 - 160
Microcystin LF	90.0	104	P/P	50 - 160
Microcystin LR	101	104	P/P	50 - 160
Microcystin LW	88.4	108	P/P	50 - 160
Microcystin LY	87.5	92.4	P/P	50 - 160
Microcystin RR	99.7	104	P/P	50 - 160
Microcystin WR	88.0	103	P/P	50 - 160
Microcystin YR	108	113	P/P	50 - 160
Nodularin-R	101	99.5	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A117112

Included Lab Sample IDs: 2382744, 2382745

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	95.8	105	P/P	50 - 160
Neosaxitoxin	106	124	P/P	50 - 160
Saxitoxin	86.9	95.6	P/P	50 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117158

Included Lab Sample IDs: 2382746, 2382747

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.5	95.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117161

Included Lab Sample IDs: 2382746, 2382747

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.0	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117176

Included Lab Sample IDs: 2382747

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.4	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117206

Included Lab Sample IDs: 2382746

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117327

Included Lab Sample IDs: 2382746

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	97.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117354

Included Lab Sample IDs: 2382747

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	97.9	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		Precision LCS	Precision SMP	MS
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	94.6	96.2			1.28
	Ammonia-N	95.6	95.4	96.8			1.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	105	104			0.916
EPA 353.2 Rev. 2.0	NO2NO3-N	96.0	96.9	96.4			0.499
EPA 365.1 Rev. 2.0	Total-P	106	105	104			0.862
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.7	98.0	98.1			0.102
EPA 8321B	Anatoxin-a	96.0	122	114			6.77
	Cylindrospermopsin	99.9	104	106			2.16
	Desmethyl microcystin LR	104	161	173			7.07
	Microcystin HILR	103	157	168			7.21
	Microcystin HtyR	102	158	176			10.8
	Microcystin LA	102	102	111			8.69
	Microcystin LF	98.7	107	128			17.6
	Microcystin LR	104	173	186			6.96
	Microcystin LW	92.3	97.0	120			21.1
	Microcystin LY	106	115	113			1.06
	Microcystin RR	107	110	117			6.41
	Microcystin WR	96.8	131	144			9.71
	Microcystin YR	109	197	216			9.38
	Neosaxitoxin	104	66.9	61.4			8.53
	Nodularin-R	105	206	226			8.97
	Saxitoxin	88.7	60.5	57.6			4.87

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2382746, 2382747
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2382746, 2382747
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2382746, 2382747
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2382746, 2382747
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2382748, 2382749
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2382744, 2382745
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2382744, 2382745

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	01/25/2023			02/08/2023 13:12	Ping Hua	2382746
	01/25/2023			02/09/2023 11:14	Ping Hua	2382747
EPA 351.2 Rev. 2.0	01/25/2023	01/27/2023 11:50	Simonne.V. Calhoun	01/30/2023 14:14	Samantha L Bates	2382746
	01/25/2023	01/27/2023 11:50	Simonne.V. Calhoun	01/30/2023 14:15	Samantha L Bates	2382747
EPA 353.2 Rev. 2.0	01/25/2023			01/30/2023 11:29	Beverly Y. Sanders	2382746
	01/25/2023			01/30/2023 11:30	Beverly Y. Sanders	2382747
EPA 365.1 Rev. 2.0	01/25/2023	01/30/2023 14:03	Adam P Silver	01/31/2023 10:56	James L Waggerby	2382747
	01/25/2023	01/30/2023 14:03	Adam P Silver	02/01/2023 12:06	James L Waggerby	2382746
EPA 365.1 Rev. 2.0 dissolved	01/25/2023			01/25/2023 15:18	Elise M. Gillis	2382748
	01/25/2023			01/25/2023 15:19	Elise M. Gillis	2382749
EPA 8321B	01/25/2023	01/26/2023 05:00	Manjita Shrestha	01/26/2023 07:32	Manjita Shrestha	2382744
	01/25/2023	01/26/2023 05:00	Manjita Shrestha	01/26/2023 07:46	Manjita Shrestha	2382745
	01/25/2023	01/26/2023 11:00	Manjita Shrestha	01/26/2023 13:53	Manjita Shrestha	2382744
	01/25/2023	01/26/2023 11:00	Manjita Shrestha	01/26/2023 14:10	Manjita Shrestha	2382745