Chemical Analysis Report

WQAP-2022-04-01-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Algal Bloom Response - CEROC**
Request ID: **RQ-2022-02-28-27**
Customer: **WQAP**
Project ID: **BLOOM-RESP**

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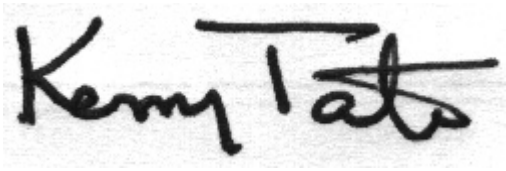
Date Certified: 18-APR-2022 10:14



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 Formosa - SW park **Collection Date/Time: 03/31/2022 09:51**

Field ID: HABCE0107_LakeFormosa1 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2316115	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P411933	
		Cylindrospermopsin	0.10	U	ug/L	P411933	
		Desmethyl microcystin LR	0.25	U	ug/L	P411933	
		Microcystin HilR**	0.25	U	ug/L	P411933	
		Microcystin HtyR**	0.25	U	ug/L	P411933	
		Microcystin LA	0.10	U	ug/L	P411933	
		Microcystin LF	0.10	U	ug/L	P411933	
		Microcystin LR	0.25	U	ug/L	P411933	
		Microcystin LW	0.25	U	ug/L	P411933	
		Microcystin LY	0.10	U	ug/L	P411933	
		Microcystin RR	0.10	U	ug/L	P411933	
		Microcystin WR	0.50	U	ug/L	P411933	
		Microcystin YR	0.25	U	ug/L	P411933	
		Nodularin-R**	0.10	U	ug/L	P411933	
2316118	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P412027	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P411915	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.042		mg N/L	P411952	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P412186	
2316121	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P411880	

Sample Location: Lake Sue - Lakeshore Dr. West Lobe **Collection Date/Time: 03/31/2022 09:32**

Field ID: HABCE0110_LakeSue1 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2316116	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P411933	
		Cylindrospermopsin	0.10	U	ug/L	P411933	
		Desmethyl microcystin LR	0.25	U	ug/L	P411933	
		Microcystin HilR**	0.25	U	ug/L	P411933	
		Microcystin HtyR**	0.25	U	ug/L	P411933	
		Microcystin LA	0.42		ug/L	P411933	
		Microcystin LF	0.10	U	ug/L	P411933	
		Microcystin LR	0.25	U	ug/L	P411933	
		Microcystin LW	0.25	U	ug/L	P411933	
		Microcystin LY	0.10	U	ug/L	P411933	
		Microcystin RR	0.10	U	ug/L	P411933	
		Microcystin WR	0.50	U	ug/L	P411933	
		Microcystin YR	0.25	U	ug/L	P411933	
		Nodularin-R**	0.10	U	ug/L	P411933	
2316119	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P412027	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P411914	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P411952	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P412186	
2316122	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P411880	

Sample Location: Lake Virginia - West Shore **Collection Date/Time: 03/31/2022 11:58**

Field ID: HABCE0113_LakeVirginia Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2316117	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P411933	
		Cylindrospermopsin	0.10	U	ug/L	P411933	
		Desmethyl microcystin LR	0.25	U	ug/L	P411933	
		Microcystin HilR**	0.25	U	ug/L	P411933	
		Microcystin HtyR**	0.25	U	ug/L	P411933	
		Microcystin LA	0.10	U	ug/L	P411933	
		Microcystin LF	0.10	U	ug/L	P411933	
		Microcystin LR	0.25	U	ug/L	P411933	
		Microcystin LW	0.25	U	ug/L	P411933	
		Microcystin LY	0.10	U	ug/L	P411933	
		Microcystin RR	0.10	U	ug/L	P411933	
		Microcystin WR	0.50	U	ug/L	P411933	
		Microcystin YR	0.25	U	ug/L	P411933	
		Nodularin-R**	0.10	U	ug/L	P411933	
2316120	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P412027	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P411915	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P411952	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P412186	
2316123	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P411880	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412027

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411914

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411915

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411952

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412186

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P411880

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

Reference Method: EPA 8321B
Batch ID: P411933

Component	Result	Code	Units
Anatoxin-a	0.25	U	ug/L
Cylindrospermopsin	0.10	U	ug/L
Desmethyl microcystin LR	0.25	U	ug/L
Microcystin HilR	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
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411914

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411915

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	90.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411952

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: P412186

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P411880

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

Reference Method: EPA 8321B
Batch ID: P411933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	108		P	40 - 150
Cylindrospermopsin	106		P	40 - 150
Desmethyl microcystin LR	107		P	40 - 150
Microcystin HilR	103		P	40 - 150
Microcystin HtyR	108		P	40 - 150
Microcystin LA	107		P	40 - 150
Microcystin LF	114		P	40 - 150
Microcystin LR	105		P	40 - 150
Microcystin LW	98.6		P	40 - 150
Microcystin LY	101		P	40 - 150
Microcystin RR	106		P	40 - 150
Microcystin WR	115		P	40 - 150
Microcystin YR	103		P	40 - 150
Nodularin-R	103		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2316118	Ammonia-N	95.6	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411914

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2315513	Kjeldahl Nitrogen	99.4	95.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2315666	Kjeldahl Nitrogen	102	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411952

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2315715	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2316120	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P411880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2316121	O-Phosphate-P	97.2	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P411933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2316115	Anatoxin-a	115	103	P/P	40 - 150
2316115	Cylindrospermopsin	100	94.9	P/P	40 - 150
2316115	Desmethyl microcystin LR	108	90.2	P/P	40 - 150
2316115	Microcystin HilR	100	91.0	P/P	40 - 150
2316115	Microcystin HtyR	99.7	94.4	P/P	40 - 150
2316115	Microcystin LA	107	102	P/P	40 - 150
2316115	Microcystin LF	113	96.8	P/P	40 - 150
2316115	Microcystin LR	98.9	95.8	P/P	40 - 150
2316115	Microcystin LW	95.4	91.6	P/P	40 - 150
2316115	Microcystin LY	101	89.7	P/P	40 - 150
2316115	Microcystin RR	102	93.1	P/P	40 - 150
2316115	Microcystin WR	106	91.9	P/P	40 - 150
2316115	Microcystin YR	105	83.6	P/P	40 - 150
2316115	Nodularin-R	98.2	87.4	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P412027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2316118	Ammonia-N	0.869	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2315513	Kjeldahl Nitrogen	3.01	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2315666	Kjeldahl Nitrogen	2.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411952

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2315715	NO2NO3-N	0.489	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P412186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2316120	Total-P	1.42	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P411880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2316121	O-Phosphate-P	1.43	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P411933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2316115	Anatoxin-a	10.5	Spike	P	0 - 30
2316115	Cylindrospermopsin	5.53	Spike	P	0 - 30
2316115	Desmethyl microcystin LR	18.3	Spike	P	0 - 30
2316115	Microcystin HilR	9.94	Spike	P	0 - 30
2316115	Microcystin HtyR	5.43	Spike	P	0 - 30
2316115	Microcystin LA	4.67	Spike	P	0 - 30
2316115	Microcystin LF	15.9	Spike	P	0 - 30
2316115	Microcystin LR	3.24	Spike	P	0 - 30
2316115	Microcystin LW	4.07	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P411933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2316115	Microcystin LY	11.4	Spike	P	0 - 30
2316115	Microcystin RR	9.51	Spike	P	0 - 30
2316115	Microcystin WR	13.9	Spike	P	0 - 30
2316115	Microcystin YR	23.0	Spike	P	0 - 30
2316115	Nodularin-R	11.6	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2316115
Field Sample ID: HABCE0107_LakeFormosa1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	81.8	P	30 - 160

Lab Sample ID: 2316116
Field Sample ID: HABCE0110_LakeSue1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	90.5	P	30 - 160

Lab Sample ID: 2316117
Field Sample ID: HABCE0113_LakeVirginia

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	90.4	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A111274
Included Lab Sample IDs: 2316121, 2316122, 2316123

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A111301
Included Lab Sample IDs: 2316118, 2316119, 2316120

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A111345
Included Lab Sample IDs: 2316118, 2316119, 2316120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	99.0	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A111355
Included Lab Sample IDs: 2316115, 2316116, 2316117

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	137	136	P/P	50 - 160
Cylindrospermopsin	134	139	P/P	60 - 160
Desmethyl microcystin LR	145	145	P/P	60 - 160
Microcystin HilR	136	133	P/P	60 - 160
Microcystin HtyR	147	135	P/P	60 - 160
Microcystin LA	130	138	P/P	50 - 160
Microcystin LF	141	148	P/P	60 - 160
Microcystin LR	147	147	P/P	60 - 160
Microcystin LW	137	133	P/P	60 - 160
Microcystin LY	126	134	P/P	60 - 160
Microcystin RR	145	134	P/P	60 - 160
Microcystin WR	143	138	P/P	60 - 160
Microcystin YR	120	129	P/P	60 - 160
Nodularin-R	127	134	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A111478
Included Lab Sample IDs: 2316118, 2316119, 2316120

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A111489
Included Lab Sample IDs: 2316118, 2316119, 2316120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.4	95.8	P/P	90 - 110
Kjeldahl Nitrogen	95.8	93.2	P/P	90 - 110

Quality Assurance Report
Calibration Verification

* 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	SMP	MS
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	95.6	96.6			0.869
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.0	99.4	95.5			3.01
	Kjeldahl Nitrogen	90.8	102	99.8			2.36
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	102			0.489
EPA 365.1 Rev. 2.0	Total-P	101	102	101			1.42
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	97.2	98.6			1.43
EPA 8321B	Anatoxin-a	108	115	103			10.5
	Cylindrospermopsin	106	100	94.9			5.53
	Desmethyl microcystin LR	107	108	90.2			18.3
	Microcystin HilR	103	100	91.0			9.94
	Microcystin HtyR	108	99.7	94.4			5.43
	Microcystin LA	107	107	102			4.67
	Microcystin LF	114	113	96.8			15.9
	Microcystin LR	105	98.9	95.8			3.24
	Microcystin LW	98.6	95.4	91.6			4.07
	Microcystin LY	101	101	89.7			11.4
	Microcystin RR	106	102	93.1			9.51
	Microcystin WR	115	106	91.9			13.9
	Microcystin YR	103	105	83.6			23.0
	Nodularin-R	103	98.2	87.4			11.6

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2316118, 2316119, 2316120
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2316118, 2316119, 2316120
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2316118, 2316119, 2316120
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2316118, 2316119, 2316120
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2316121, 2316122, 2316123
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2316115, 2316116, 2316117

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	04/01/2022			04/06/2022 13:33	Ping Hua	2316118
	04/01/2022			04/06/2022 13:38	Ping Hua	2316119
	04/01/2022			04/06/2022 13:40	Ping Hua	2316120
EPA 351.2 Rev. 2.0	04/01/2022	04/08/2022 09:39	Samantha L Bates	04/14/2022 14:44	Alexandra J Mattheus	2316118
	04/01/2022	04/08/2022 09:39	Samantha L Bates	04/14/2022 14:46	Alexandra J Mattheus	2316120
	04/01/2022	04/08/2022 09:39	Samantha L Bates	04/14/2022 17:02	Alexandra J Mattheus	2316119
EPA 353.2 Rev. 2.0	04/01/2022			04/04/2022 17:15	Nathaniel J Jones	2316118
	04/01/2022			04/04/2022 17:16	Nathaniel J Jones	2316119
	04/01/2022			04/04/2022 17:17	Nathaniel J Jones	2316120
EPA 365.1 Rev. 2.0	04/01/2022	04/12/2022 17:10	Simonne.V. Calhoun	04/14/2022 14:44	James L Waggerby	2316120
	04/01/2022	04/12/2022 17:10	Simonne.V. Calhoun	04/14/2022 14:45	James L Waggerby	2316118
	04/01/2022	04/12/2022 17:10	Simonne.V. Calhoun	04/14/2022 14:46	James L Waggerby	2316119
EPA 365.1 Rev. 2.0 dissolved	04/01/2022			04/01/2022 16:44	Nathaniel J Jones	2316121
	04/01/2022			04/01/2022 16:47	Nathaniel J Jones	2316122
	04/01/2022			04/01/2022 16:48	Nathaniel J Jones	2316123
EPA 8321B	04/01/2022	04/06/2022 12:00	Manjita Shrestha	04/06/2022 15:41	Manjita Shrestha	2316115
	04/01/2022	04/06/2022 12:00	Manjita Shrestha	04/06/2022 15:58	Manjita Shrestha	2316116
	04/01/2022	04/06/2022 12:00	Manjita Shrestha	04/06/2022 16:14	Manjita Shrestha	2316117
	04/01/2022	04/06/2022 12:00	Manjita Shrestha	04/06/2022 19:01	Manjita Shrestha	2316115
	04/01/2022	04/06/2022 12:00	Manjita Shrestha	04/06/2022 19:18	Manjita Shrestha	2316116
	04/01/2022	04/06/2022 12:00	Manjita Shrestha	04/06/2022 19:35	Manjita Shrestha	2316117