

Chemical Analysis Report

WQAP-2022-07-22-02

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-2022-07-18-32**
Customer: **WQAP**
Project ID: **BLOOM-RESP**

Send Reports to:
FL Dept. of Environmental Protection
3319 Maguire Blvd. Suite 232
Orlando, FL 32803
Attn: Matt Bearden

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 08-AUG-2022 12:15



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 Griffin - South Lobe

Collection Date/Time: 07/21/2022 11:42

Field ID: HABCE0122_LakeGriffinLakeCo

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2343387	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P416969	
		Cylindrospermopsin	0.10	U	ug/L	P417021	
		Desmethyl microcystin LR	0.25	U	ug/L	P417021	
		Microcystin HIR	0.25	U	ug/L	P417021	
		Microcystin HtyR	0.25	U	ug/L	P417021	
		Microcystin LA	0.10	U	ug/L	P417021	
		Microcystin LF	0.10	U	ug/L	P417021	
		Microcystin LR	0.25	U	ug/L	P417021	
		Microcystin LW	0.25	U	ug/L	P417021	
		Microcystin LY	0.10	U	ug/L	P417021	
		Microcystin RR	0.10	U	ug/L	P417021	
		Microcystin WR	0.50	U	ug/L	P417021	
		Microcystin YR	0.25	U	ug/L	P417021	
		Nodularin-R	0.10	U	ug/L	P417021	
2343389	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P417322	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P417464	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417307	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P417139	
2343391	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P417045	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Harris - S of Monkey Island

Collection Date/Time: 07/21/2022 12:23

Field ID: HABCE0123_LakeHarris1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2343388	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P416969	
		Cylindrospermopsin	0.10	U	ug/L	P417021	
		Desmethyl microcystin LR	0.25	U	ug/L	P417021	
		Microcystin HILR	0.25	U	ug/L	P417021	
		Microcystin HtyR	0.25	U	ug/L	P417021	
		Microcystin LA	0.10	U	ug/L	P417021	
		Microcystin LF	0.10	U	ug/L	P417021	
		Microcystin LR	0.25	U	ug/L	P417021	
		Microcystin LW	0.25	U	ug/L	P417021	
		Microcystin LY	0.10	U	ug/L	P417021	
		Microcystin RR	0.10	U	ug/L	P417021	
		Microcystin WR	0.50	U	ug/L	P417021	
		Microcystin YR	0.25	U	ug/L	P417021	
		Nodularin-R	0.10	U	ug/L	P417021	
2343390	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P417314	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P417464	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P417307	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P417139	
2343392	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P417045	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417314

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417322

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417464

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417307

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417139

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417045

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

Reference Method: EPA 8321B
Batch ID: P416969

Component	Result	Code	Units
Anatoxin-a	0.25	U	ug/L

Reference Method: EPA 8321B
Batch ID: P417021

Component	Result	Code	Units
Cylindrospermopsin	0.10	U	ug/L
Desmethyl microcystin LR	0.25	U	ug/L
Microcystin HIR	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P417021

Component	Result	Code	Units
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: P417314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417322

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: P417464

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: P417307

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: P417139

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417045

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P416969

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	101		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P417021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	97.3		P	40 - 150
Desmethyl microcystin LR	96.9		P	40 - 150
Microcystin HILR	96.4		P	40 - 150
Microcystin HtyR	93.3		P	40 - 150
Microcystin LA	95.6		P	40 - 150
Microcystin LF	85.0		P	40 - 150
Microcystin LR	88.6		P	40 - 150
Microcystin LW	86.5		P	40 - 150
Microcystin LY	89.9		P	40 - 150
Microcystin RR	94.8		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P417021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Microcystin WR	89.5		P	40 - 150
Microcystin YR	87.3		P	40 - 150
Nodularin-R	95.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343494	Ammonia-N	95.6	93.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2342449	Ammonia-N	97.6	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343381	NO2NO3-N	98.2	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417139

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343389	Total-P	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343392	O-Phosphate-P	97.1	97.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P416969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343014	Anatoxin-a	91.6	96.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P417021

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2343361	Cylindrospermopsin	86.7	91.8	P/P	40 - 150
2343361	Desmethyl microcystin LR	81.1	83.1	P/P	40 - 150
2343361	Microcystin HilR	85.6	83.4	P/P	40 - 150
2343361	Microcystin HtyR	81.3	86.1	P/P	40 - 150
2343361	Microcystin LA	82.2	87.6	P/P	40 - 150
2343361	Microcystin LF	77.6	72.9	P/P	40 - 150
2343361	Microcystin LR	74.7	77.9	P/P	40 - 150
2343361	Microcystin LW	76.2	77.1	P/P	40 - 150
2343361	Microcystin LY	77.8	79.1	P/P	40 - 150
2343361	Microcystin RR	85.9	83.5	P/P	40 - 150
2343361	Microcystin WR	81.5	84.5	P/P	40 - 150
2343361	Microcystin YR	73.1	80.3	P/P	40 - 150
2343361	Nodularin-R	81.2	86.3	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343494	Ammonia-N	1.76	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2342449	Ammonia-N	1.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P417464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343389	Kjeldahl Nitrogen	0.547	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343381	NO2NO3-N	0.445	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417139

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343389	Total-P	1.70	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343392	O-Phosphate-P	0.411	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P416969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343014	Anatoxin-a	5.28	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P417021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343361	Cylindrospermopsin	5.65	Spike	P	0 - 30
2343361	Desmethyl microcystin LR	2.47	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P417021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2343361	Microcystin HllR	2.50	Spike	P	0 - 30
2343361	Microcystin HtyR	5.76	Spike	P	0 - 30
2343361	Microcystin LA	6.25	Spike	P	0 - 30
2343361	Microcystin LF	6.28	Spike	P	0 - 30
2343361	Microcystin LR	4.16	Spike	P	0 - 30
2343361	Microcystin LW	1.18	Spike	P	0 - 30
2343361	Microcystin LY	1.72	Spike	P	0 - 30
2343361	Microcystin RR	2.80	Spike	P	0 - 30
2343361	Microcystin WR	3.55	Spike	P	0 - 30
2343361	Microcystin YR	9.41	Spike	P	0 - 30
2343361	Nodularin-R	6.05	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2343387

Field Sample ID: HABCE0122_LakeGriffinLakeCo

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	82.8	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	84.8	P	30 - 160

Lab Sample ID: 2343388

Field Sample ID: HABCE0123_LakeHarris1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	80.3	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	99.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A113623

Included Lab Sample IDs: 2343387, 2343388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	91.3	91.4	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A113668

Included Lab Sample IDs: 2343391, 2343392

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	99.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A113671

Included Lab Sample IDs: 2343387, 2343388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	109	108	P/P	60 - 160
Desmethyl microcystin LR	94.3	98.9	P/P	60 - 160
Microcystin HII R	97.5	104	P/P	60 - 160
Microcystin HtyR	96.9	103	P/P	60 - 160
Microcystin LA	104	105	P/P	50 - 160
Microcystin LF	97.5	99.0	P/P	60 - 160
Microcystin LR	96.2	92.4	P/P	60 - 160
Microcystin LW	97.9	101	P/P	60 - 160
Microcystin LY	94.5	98.4	P/P	60 - 160
Microcystin RR	99.6	102	P/P	60 - 160
Microcystin WR	104	102	P/P	60 - 160
Microcystin YR	95.8	91.0	P/P	60 - 160
Nodularin-R	98.9	98.4	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113761

Included Lab Sample IDs: 2343389, 2343390

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: A113763

Included Lab Sample IDs: 2343390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	98.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113765

Included Lab Sample IDs: 2343389

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113771

Included Lab Sample IDs: 2343389, 2343390

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113880

Included Lab Sample IDs: 2343389, 2343390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	106	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	SMP	MS
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	95.6	93.8			1.76
	Ammonia-N	98.2	97.6	99.6			1.10
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106					0.547
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	98.2	98.6			0.445
EPA 365.1 Rev. 2.0	Total-P	103	104	102			1.70
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	97.5	97.1			0.411
EPA 8321B	Anatoxin-a	101	91.6	96.6			5.28
	Cylindrospermopsin	97.3	86.7	91.8			5.65
	Desmethyl microcystin LR	96.9	81.1	83.1			2.47
	Microcystin HiLR	96.4	85.6	83.4			2.50
	Microcystin HtyR	93.3	81.3	86.1			5.76
	Microcystin LA	95.6	82.2	87.6			6.25
	Microcystin LF	85.0	77.6	72.9			6.28
	Microcystin LR	88.6	74.7	77.9			4.16
	Microcystin LW	86.5	76.2	77.1			1.18
	Microcystin LY	89.9	77.8	79.1			1.72
	Microcystin RR	94.8	85.9	83.5			2.80
	Microcystin WR	89.5	81.5	84.5			3.55
	Microcystin YR	87.3	73.1	80.3			9.41
	Nodularin-R	95.8	81.2	86.3			6.05

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2343389, 2343390
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2343389, 2343390
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2343389, 2343390
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2343389, 2343390
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2343391, 2343392
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2343387, 2343388
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2343387, 2343388

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	07/22/2022			07/28/2022 11:29	Ping Hua	2343390
	07/22/2022			07/28/2022 12:15	Judith K. Clark	2343389
EPA 351.2 Rev. 2.0	07/22/2022	08/02/2022 13:37	Samantha L Bates	08/03/2022 12:58	Samantha L Bates	2343389
	07/22/2022	08/02/2022 13:37	Samantha L Bates	08/03/2022 13:02	Samantha L Bates	2343390
EPA 353.2 Rev. 2.0	07/22/2022			07/28/2022 10:30	Beverly Y. Sanders	2343389
	07/22/2022			07/28/2022 10:31	Beverly Y. Sanders	2343390
EPA 365.1 Rev. 2.0	07/22/2022	07/27/2022 16:58	Adam P Silver	07/28/2022 14:57	James L Waggerby	2343389
	07/22/2022	07/27/2022 16:58	Adam P Silver	07/28/2022 14:59	James L Waggerby	2343390
EPA 365.1 Rev. 2.0 dissolved	07/22/2022			07/22/2022 14:53	Chandler E Cox	2343392
	07/22/2022			07/22/2022 14:56	Chandler E Cox	2343391
EPA 8321B	07/22/2022	07/22/2022 12:00	Manjita Shrestha	07/22/2022 15:30	Manjita Shrestha	2343387
	07/22/2022	07/22/2022 12:00	Manjita Shrestha	07/22/2022 15:44	Manjita Shrestha	2343388
	07/22/2022	07/22/2022 12:00	Umesh Chiluwal	07/22/2022 17:45	Umesh Chiluwal	2343387
	07/22/2022	07/22/2022 12:00	Umesh Chiluwal	07/22/2022 18:02	Umesh Chiluwal	2343388