

Chemical Analysis Report

CEN-DIST-2023-11-14-01

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

Event Description: **Algal Bloom Response - CEROC**
Request ID: **RQ-2023-10-30-46**
Customer: **CEN-DIST**
Project ID: **BLOOM-RESP**

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Date Certified: 27-NOV-2023 15:06



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 Rowena - near NE Corner

Collection Date/Time: 11/13/2023 14:50

Field ID: HABCE0057

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450765	DEP SOP: NU-094-1	Color (true)	11		PCU	P437748	
2450768	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P438072	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P437757	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P437978	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P437868	
2450771	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P437741	
2450774	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P437780	
		Cylindrospermopsin	0.10	U	ug/L	P437775	
		Desmethyl microcystin LR	0.25	U	ug/L	P437775	
		Microcystin HilR	0.25	U	ug/L	P437775	
		Microcystin HtyR	0.25	U	ug/L	P437775	
		Microcystin LA	0.12	I	ug/L	P437775	
		Microcystin LF	0.10	U	ug/L	P437775	
		Microcystin LR	0.40	I	ug/L	P437775	
		Microcystin LW	0.25	U	ug/L	P437775	
		Microcystin LY	0.10	U	ug/L	P437775	
		Microcystin RR	0.10	U	ug/L	P437775	
		Microcystin WR	0.50	U	ug/L	P437775	
		Neosaxitoxin	0.50	U	ug/L	P437780	
		Microcystin YR	0.25	U	ug/L	P437775	
		Saxitoxin	0.50	U	ug/L	P437780	
		Nodularin-R	0.10	U	ug/L	P437775	

Sample Location: Lake Weir - Eatons Beach

Collection Date/Time: 11/13/2023 11:26

Field ID: HABCE0203

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450766	DEP SOP: NU-094-1	Color (true)	4.7	I	PCU	P437748	
2450769	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P438072	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P437757	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P437978	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P437868	
2450772	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P437741	
2450775	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P437780	
		Cylindrospermopsin	0.10	U	ug/L	P437775	
		Desmethyl microcystin LR	0.25	U	ug/L	P437775	
		Microcystin HilR	0.25	U	ug/L	P437775	
		Microcystin HtyR	0.25	U	ug/L	P437775	
		Microcystin LA	0.10	U	ug/L	P437775	
		Microcystin LF	0.10	U	ug/L	P437775	
		Microcystin LR	0.25	U	ug/L	P437775	
		Microcystin LW	0.25	U	ug/L	P437775	
		Microcystin LY	0.10	U	ug/L	P437775	
		Microcystin RR	0.10	U	ug/L	P437775	
		Microcystin WR	0.50	U	ug/L	P437775	
		Neosaxitoxin	0.50	U	ug/L	P437780	
		Microcystin YR	0.25	U	ug/L	P437775	
		Saxitoxin	0.50	U	ug/L	P437780	
		Nodularin-R	0.10	U	ug/L	P437775	

Sample Location: Gee Creek - Murphy Rd

Collection Date/Time: 11/13/2023 13:25

Field ID: HABCE0218

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2450767	DEP SOP: NU-094-1	Color (true)	64		PCU	P437748	
2450770	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P438072	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P437757	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P438095	
	EPA 365.1 Rev. 2.0	Total-P	0.093		mg P/L	P438043	
2450773	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.059		mg P/L	P437741	
2450776	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P437780	
		Cylindrospermopsin	0.10	U	ug/L	P437775	
		Desmethyl microcystin LR	0.25	U	ug/L	P437775	
		Microcystin HiLR	0.25	U	ug/L	P437775	
		Microcystin HtyR	0.25	U	ug/L	P437775	
		Microcystin LA	0.10	U	ug/L	P437775	
		Microcystin LF	0.10	U	ug/L	P437775	
		Microcystin LR	0.25	U	ug/L	P437775	
		Microcystin LW	0.25	U	ug/L	P437775	
		Microcystin LY	0.10	U	ug/L	P437775	
		Microcystin RR	0.10	U	ug/L	P437775	
		Microcystin WR	0.50	U	ug/L	P437775	
		Neosaxitoxin	0.50	U	ug/L	P437780	
		Microcystin YR	0.25	U	ug/L	P437775	
		Saxitoxin	0.50	U	ug/L	P437780	
		Nodularin-R	0.10	U	ug/L	P437775	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P437748

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438072

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437757

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437978

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438095

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437868

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438043

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P437741

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

Reference Method: EPA 8321B
Batch ID: P437775

Component	Result	Code	Units
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P437775

Component	Result	Code	Units
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

Reference Method: EPA 8321B

Batch ID: P437780

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: P437748

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438072

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437757

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437978

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438095

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437868

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438043

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: P437741

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

Reference Method: EPA 8321B
Batch ID: P437775

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	107		P	40 - 150
Desmethyl microcystin LR	97.7		P	40 - 150
Microcystin H1R	107		P	40 - 150
Microcystin HtyR	109		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P437775

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Microcystin LA	114		P	40 - 150
Microcystin LF	106		P	40 - 150
Microcystin LR	116		P	40 - 150
Microcystin LW	119		P	40 - 150
Microcystin LY	116		P	40 - 150
Microcystin RR	104		P	40 - 150
Microcystin WR	101		P	40 - 150
Microcystin YR	119		P	40 - 150
Nodularin-R	109		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P437780

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	91.1		P	40 - 150
Neosaxitoxin	79.6		P	40 - 150
Saxitoxin	86.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450739	Ammonia-N	98.6	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450740	Kjeldahl Nitrogen	93.8	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437978

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450792	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438095

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450900	NO2NO3-N	97.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450531	Total-P	107	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438043

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450739	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P437741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450771	O-Phosphate-P	97.5	97.4	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P437775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450774	Cylindrospermopsin	102	108	P/P	40 - 150
2450774	Desmethyl microcystin LR	97.5	104	P/P	40 - 150
2450774	Microcystin HILR	99.5	113	P/P	40 - 150
2450774	Microcystin HtyR	111	119	P/P	40 - 150
2450774	Microcystin LA	106	113	P/P	40 - 150
2450774	Microcystin LF	114	113	P/P	40 - 150
2450774	Microcystin LR	104	123	P/P	40 - 150
2450774	Microcystin LW	116	118	P/P	40 - 150
2450774	Microcystin LY	106	116	P/P	40 - 150
2450774	Microcystin RR	99.7	106	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P437775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450774	Microcystin WR	105	114	P/P	40 - 150
2450774	Microcystin YR	113	119	P/P	40 - 150
2450774	Nodularin-R	101	106	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P437780

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450774	Anatoxin-a	83.1	87.0	P/P	40 - 150
2450774	Neosaxitoxin	73.8	75.3	P/P	40 - 150
2450774	Saxitoxin	85.5	88.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P437748

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450735	Color (true)	5.24	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450739	Ammonia-N	0.714	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450740	Kjeldahl Nitrogen	7.60	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450792	NO2NO3-N	0.671	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450900	NO2NO3-N	0.512	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450531	Total-P	1.73	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438043

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450739	Total-P	0.0197	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P437741

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450771	O-Phosphate-P	0.103	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P437775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450774	Cylindrospermopsin	5.91	Spike	P	0 - 30
2450774	Desmethyl microcystin LR	6.27	Spike	P	0 - 30
2450774	Microcystin H1R	12.9	Spike	P	0 - 30
2450774	Microcystin HtyR	7.00	Spike	P	0 - 30
2450774	Microcystin LA	6.83	Spike	P	0 - 30
2450774	Microcystin LF	0.636	Spike	P	0 - 30
2450774	Microcystin LR	16.4	Spike	P	0 - 30
2450774	Microcystin LW	2.01	Spike	P	0 - 30
2450774	Microcystin LY	9.22	Spike	P	0 - 30
2450774	Microcystin RR	6.15	Spike	P	0 - 30
2450774	Microcystin WR	8.57	Spike	P	0 - 30
2450774	Microcystin YR	4.58	Spike	P	0 - 30
2450774	Nodularin-R	4.21	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P437780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450774	Anatoxin-a	4.60	Spike	P	0 - 30
2450774	Neosaxitoxin	2.09	Spike	P	0 - 30
2450774	Saxitoxin	3.35	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2450774
Field Sample ID: HABCE0057

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	91.1	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	111	P	30 - 160

Lab Sample ID: 2450775
Field Sample ID: HABCE0203

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	92.5	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	127	P	30 - 160

Lab Sample ID: 2450776
Field Sample ID: HABCE0218

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	92.2	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	124	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A122703

Included Lab Sample IDs: 2450771, 2450772, 2450773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	98.0	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A122707

Included Lab Sample IDs: 2450765, 2450766, 2450767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122765

Included Lab Sample IDs: 2450768, 2450769, 2450770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A122772

Included Lab Sample IDs: 2450774, 2450775, 2450776

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	107	116	P/P	50 - 160
Desmethyl microcystin LR	102	114	P/P	50 - 160
Microcystin HILR	123	128	P/P	50 - 160
Microcystin HtyR	116	132	P/P	50 - 160
Microcystin LA	117	118	P/P	50 - 160
Microcystin LF	122	123	P/P	50 - 160
Microcystin LR	116	134	P/P	50 - 160
Microcystin LW	118	137	P/P	50 - 160
Microcystin LY	112	113	P/P	50 - 160
Microcystin RR	108	110	P/P	50 - 160
Microcystin WR	107	125	P/P	50 - 160
Microcystin YR	118	124	P/P	50 - 160
Nodularin-R	109	112	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A122781

Included Lab Sample IDs: 2450774, 2450775, 2450776

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	96.6	89.9	P/P	50 - 160
Neosaxitoxin	96.5	90.0	P/P	50 - 160
Saxitoxin	101	104	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122797

Included Lab Sample IDs: 2450768, 2450769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122800

Included Lab Sample IDs: 2450768, 2450769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122831

Included Lab Sample IDs: 2450768, 2450769, 2450770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.8	P/P	90 - 110
Ammonia-N	99.7	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122846

Included Lab Sample IDs: 2450770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122849

Included Lab Sample IDs: 2450770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	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		LCS	Precision	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	99.3				5.24	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	98.6	99.8			0.714
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.6	93.8	103			7.60
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	103	100	101			0.671
	NO ₂ NO ₃ -N	99.0	97.5	98.0			0.512
EPA 365.1 Rev. 2.0	Total-P	104	107	109			1.73
	Total-P	106	104	104			0.0197
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	97.5	97.4			0.103
EPA 8321B	Anatoxin-a	91.1	87.0	83.1			4.60
	Cylindrospermopsin	107	102	108			5.91
	Desmethyl microcystin LR	97.7	97.5	104			6.27
	Microcystin HiIR	107	99.5	113			12.9
	Microcystin HtyR	109	111	119			7.00
	Microcystin LA	114	106	113			6.83
	Microcystin LF	106	114	113			0.636
	Microcystin LR	116	104	123			16.4
	Microcystin LW	119	116	118			2.01
	Microcystin LY	116	106	116			9.22
	Microcystin RR	104	99.7	106			6.15
	Microcystin WR	101	105	114			8.57
	Microcystin YR	119	113	119			4.58
	Neosaxitoxin	79.6	75.3	73.8			2.09
	Nodularin-R	109	101	106			4.21
	Saxitoxin	86.7	88.4	85.5			3.35

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2450765, 2450766, 2450767
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2450768, 2450769, 2450770
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2450768, 2450769, 2450770
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2450768, 2450769, 2450770
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2450768, 2450769, 2450770
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2450771, 2450772, 2450773
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2450774, 2450775, 2450776
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2450774, 2450775, 2450776

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	11/14/2023			11/14/2023 14:46	Chandler E Cox	2450765
	11/14/2023			11/14/2023 14:47	Chandler E Cox	2450766
	11/14/2023			11/14/2023 14:48	Chandler E Cox	2450767
EPA 350.1 Rev. 2.0	11/14/2023			11/20/2023 14:15	Khloe J Berg	2450768
	11/14/2023			11/20/2023 14:17	Khloe J Berg	2450769
	11/14/2023			11/20/2023 14:49	Khloe J Berg	2450770
EPA 351.2 Rev. 2.0	11/14/2023	11/15/2023 11:48	Simonne.V. Calhoun	11/16/2023 10:30	Samantha L Bates	2450768
	11/14/2023	11/15/2023 11:48	Simonne.V. Calhoun	11/16/2023 10:32	Samantha L Bates	2450769
	11/14/2023	11/15/2023 11:48	Simonne.V. Calhoun	11/16/2023 10:33	Samantha L Bates	2450770
EPA 353.2 Rev. 2.0	11/14/2023			11/17/2023 13:46	Fadila Guebre	2450768
	11/14/2023			11/17/2023 13:47	Fadila Guebre	2450769
	11/14/2023			11/20/2023 11:39	Anna M. Plaviak	2450770
EPA 365.1 Rev. 2.0	11/14/2023	11/16/2023 12:40	Adam P Silver	11/17/2023 13:31	Chandler E Cox	2450768
	11/14/2023	11/16/2023 12:40	Adam P Silver	11/17/2023 13:32	Chandler E Cox	2450769
	11/14/2023	11/20/2023 12:58	Adam P Silver	11/20/2023 18:27	Simonne.V. Calhoun	2450770
EPA 365.1 Rev. 2.0 dissolved	11/14/2023			11/14/2023 14:00	Elise M. Gillis	2450771
	11/14/2023			11/14/2023 14:03	Elise M. Gillis	2450772, 2450773
EPA 8321B	11/14/2023	11/16/2023 07:00	Tae K Lee	11/16/2023 09:02	Hana Lee	2450774
	11/14/2023	11/16/2023 07:00	Tae K Lee	11/16/2023 09:19	Hana Lee	2450775
	11/14/2023	11/16/2023 07:00	Tae K Lee	11/16/2023 09:36	Hana Lee	2450776
	11/14/2023	11/16/2023 12:00	Tae K Lee	11/16/2023 15:57	Hana Lee	2450774
	11/14/2023	11/16/2023 12:00	Tae K Lee	11/16/2023 16:11	Hana Lee	2450775
	11/14/2023	11/16/2023 12:00	Tae K Lee	11/16/2023 16:25	Hana Lee	2450776