Chemical Analysis Report

WQAP-2023-03-09-01

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

Event Description: **Algal Bloom Response - CEROC**
Request ID: **RQ-2023-02-27-47**
Customer: **WQAP**
Project ID: **BLOOM-RESP**

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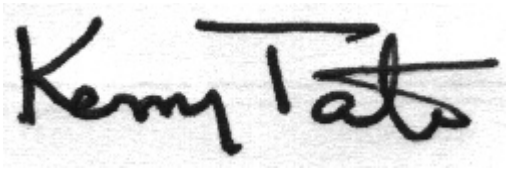
Date Certified: 22-MAR-2023 13:13



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 Pearl - Woodside Village Ramp **Collection Date/Time: 03/08/2023 09:39**

Field ID: HABCE0178_LakePearl2 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2392986	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P426923	
		Cylindrospermopsin	0.10	U	ug/L	P426907	
		Desmethyl microcystin LR	0.25	U	ug/L	P426907	
		Microcystin HilR	0.25	U	ug/L	P426907	
		Microcystin HtyR	0.25	U	ug/L	P426907	
		Microcystin LA	0.51		ug/L	P426907	
		Microcystin LF	0.10	U	ug/L	P426907	
		Microcystin LR	0.45	I	ug/L	P426907	
		Microcystin LW	0.25	U	ug/L	P426907	
		Microcystin LY	0.10	U	ug/L	P426907	
		Microcystin RR	0.10	U	ug/L	P426907	
		Microcystin WR	0.50	U	ug/L	P426907	
		Neosaxitoxin	0.50	U	ug/L	P426923	
		Microcystin YR	0.25	U	ug/L	P426907	
		Saxitoxin	0.50	U	ug/L	P426923	
		Nodularin-R	0.10	U	ug/L	P426907	
2392987	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P427081	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P427104	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P427127	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P427222	
2392988	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P426959	

Ref. Method and Comment:
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of analytical difficulties.

Sample Location: Sunset Lake - W Shore **Collection Date/Time: 03/08/2023 11:31**

Field ID: HABCE0165_SunsetLake Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2393000	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P426923	
		Cylindrospermopsin	0.10	U	ug/L	P426907	
		Desmethyl microcystin LR	0.25	U	ug/L	P426907	
		Microcystin HilR	0.25	U	ug/L	P426907	
		Microcystin HtyR	0.25	U	ug/L	P426907	
		Microcystin LA	0.25	I	ug/L	P426907	
		Microcystin LF	0.10	U	ug/L	P426907	
		Microcystin LR	2.3		ug/L	P426907	
		Microcystin LW	0.25	U	ug/L	P426907	
		Microcystin LY	0.26	I	ug/L	P426907	
		Microcystin RR	0.10	U	ug/L	P426907	
		Microcystin WR	0.50	U	ug/L	P426907	
		Neosaxitoxin	0.50	U	ug/L	P426923	
		Microcystin YR	0.25	U	ug/L	P426907	
		Saxitoxin	0.50	U	ug/L	P426923	
		Nodularin-R	0.10	U	ug/L	P426907	
2393004	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P427082	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P427105	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P427127	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P427222	
2393005	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P426959	

Ref. Method and Comment:
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of analytical difficulties.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427081

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427082

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427104

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427105

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427127

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427222

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426959

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

Reference Method: EPA 8321B
Batch ID: P426907

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
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: P426907

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

Reference Method: EPA 8321B
Batch ID: P426923

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: P427081

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427104

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427105

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427127

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: P427222

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426959

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.5		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P426907

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	93.5		P	40 - 150
Desmethyl microcystin LR	80.8		P	40 - 150
Microcystin HilR	88.3		P	40 - 150
Microcystin HtyR	89.2		P	40 - 150
Microcystin LA	88.2		P	40 - 150
Microcystin LF	89.1		P	40 - 150
Microcystin LR	88.4		P	40 - 150
Microcystin LW	113		P	40 - 150
Microcystin LY	94.4		P	40 - 150
Microcystin RR	88.5		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P426907

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Microcystin WR	84.0		P	40 - 150
Microcystin YR	93.4		P	40 - 150
Nodularin-R	88.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P426923

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	73.3		P	40 - 150
Neosaxitoxin	92.0		P	40 - 150
Saxitoxin	78.7		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427081

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392175	Ammonia-N	98.0	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393004	Ammonia-N	97.8	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427127

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392987	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393017	Total-P	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426959

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2393018	O-Phosphate-P	92.3	92.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P426907

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392564	Cylindrospermopsin	93.7	99.3	P/P	40 - 150
2392564	Desmethyl microcystin LR	85.8	89.0	P/P	40 - 150
2392564	Microcystin HilR	99.7	94.6	P/P	40 - 150
2392564	Microcystin HtyR	96.5	95.8	P/P	40 - 150
2392564	Microcystin LA	74.8	85.5	P/P	40 - 150
2392564	Microcystin LF	93.1	88.5	P/P	40 - 150
2392564	Microcystin LR	96.0	101	P/P	40 - 150
2392564	Microcystin LW	90.8	114	P/P	40 - 150
2392564	Microcystin LY	72.2	81.4	P/P	40 - 150
2392564	Microcystin RR	97.9	94.7	P/P	40 - 150
2392564	Microcystin WR	99.0	102	P/P	40 - 150
2392564	Microcystin YR	105	103	P/P	40 - 150
2392564	Nodularin-R	96.8	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P426923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2392564	Anatoxin-a	73.1	72.5	P/P	40 - 150
2392564	Neosaxitoxin	85.0	83.0	P/P	40 - 150
2392564	Saxitoxin	82.7	83.8	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392175	Ammonia-N	1.45	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393004	Ammonia-N	0.935	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392918	Kjeldahl Nitrogen	0.796	Sample	P	0 - 15

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393170	Kjeldahl Nitrogen	3.49	Sample	P	0 - 15

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392987	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393017	Total-P	0.303	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2393018	O-Phosphate-P	0.203	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P426907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392564	Cylindrospermopsin	5.77	Spike	P	0 - 30
2392564	Desmethyl microcystin LR	3.65	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P426907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392564	Microcystin HilR	5.25	Spike	P	0 - 30
2392564	Microcystin HtyR	0.804	Spike	P	0 - 30
2392564	Microcystin LA	8.59	Spike	P	0 - 30
2392564	Microcystin LF	4.97	Spike	P	0 - 30
2392564	Microcystin LR	4.75	Spike	P	0 - 30
2392564	Microcystin LW	22.5	Spike	P	0 - 30
2392564	Microcystin LY	12.0	Spike	P	0 - 30
2392564	Microcystin RR	3.28	Spike	P	0 - 30
2392564	Microcystin WR	3.42	Spike	P	0 - 30
2392564	Microcystin YR	2.84	Spike	P	0 - 30
2392564	Nodularin-R	6.37	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P426923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2392564	Anatoxin-a	0.876	Spike	P	0 - 30
2392564	Neosaxitoxin	2.46	Spike	P	0 - 30
2392564	Saxitoxin	1.33	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2392986
Field Sample ID: HABCE0178_LakePearl2

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	97.2	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	58.4	P	30 - 160

Lab Sample ID: 2393000
Field Sample ID: HABCE0165_SunsetLake

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	108	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	73.4	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A117891
Included Lab Sample IDs: 2392986, 2393000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	90.8	91.3	P/P	50 - 160
Desmethyl microcystin LR	78.5	84.6	P/P	50 - 160
Microcystin HilR	86.8	90.7	P/P	50 - 160
Microcystin HtyR	89.5	91.1	P/P	50 - 160
Microcystin LA	81.3	92.5	P/P	50 - 160
Microcystin LF	99.9	90.2	P/P	50 - 160
Microcystin LR	89.9	88.9	P/P	50 - 160
Microcystin LW	101	101	P/P	50 - 160
Microcystin LY	83.5	87.1	P/P	50 - 160
Microcystin RR	90.5	90.3	P/P	50 - 160
Microcystin WR	90.6	95.4	P/P	50 - 160
Microcystin YR	91.3	93.2	P/P	50 - 160
Nodularin-R	88.1	92.3	P/P	50 - 160

Reference Method: EPA 8321B
Run ID: A117894
Included Lab Sample IDs: 2392986, 2393000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	68.5	65.3	P/P	50 - 160
Neosaxitoxin	84.5	79.6	P/P	50 - 160
Saxitoxin	74.3	70.6	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A117910
Included Lab Sample IDs: 2392988, 2393005

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A117961
Included Lab Sample IDs: 2392987, 2393004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	98.5	P/P	90 - 110
Ammonia-N	98.5	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A117976
Included Lab Sample IDs: 2392987, 2393004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A118044
Included Lab Sample IDs: 2392987, 2393004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	94.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A118044
Included Lab Sample IDs: 2392987, 2393004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.6	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A118054
Included Lab Sample IDs: 2393004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.7	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A118064
Included Lab Sample IDs: 2392987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	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	SMP	MS
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	98.0	99.8			1.45
	Ammonia-N	95.8	97.8	99.0			0.935
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102				0.796 RSD	
	Kjeldahl Nitrogen	101				3.49 RSD	
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	100			0.501
EPA 365.1 Rev. 2.0	Total-P	102	101	102			0.303
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5	92.3	92.5			0.203
EPA 8321B	Anatoxin-a	73.3	73.1	72.5			0.876
	Cylindrospermopsin	93.5	93.7	99.3			5.77
	Desmethyl microcystin LR	80.8	85.8	89.0			3.65
	Microcystin HilR	88.3	99.7	94.6			5.25
	Microcystin HtyR	89.2	96.5	95.8			0.804
	Microcystin LA	88.2	74.8	85.5			8.59
	Microcystin LF	89.1	93.1	88.5			4.97
	Microcystin LR	88.4	96.0	101			4.75
	Microcystin LW	113	90.8	114			22.5
	Microcystin LY	94.4	72.2	81.4			12.0
	Microcystin RR	88.5	97.9	94.7			3.28
	Microcystin WR	84.0	99.0	102			3.42
	Microcystin YR	93.4	105	103			2.84
	Neosaxitoxin	92.0	85.0	83.0			2.46
	Nodularin-R	88.8	96.8	103			6.37
	Saxitoxin	78.7	82.7	83.8			1.33

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2392987, 2393004
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2392987, 2393004
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2392987, 2393004
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2392987, 2393004
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2392988, 2393005
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2392986, 2393000
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2392986, 2393000

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	03/09/2023			03/13/2023 13:01	Khloe J Berg	2392987
	03/09/2023			03/13/2023 13:13	Khloe J Berg	2393004
EPA 351.2 Rev. 2.0	03/09/2023	03/14/2023 16:30	Simonne.V. Calhoun	03/16/2023 13:13	Judith K. Clark	2392987
	03/09/2023	03/14/2023 16:30	Simonne.V. Calhoun	03/16/2023 13:25	Judith K. Clark	2393004
EPA 353.2 Rev. 2.0	03/09/2023			03/14/2023 10:24	Beverly Y. Sanders	2392987
	03/09/2023			03/14/2023 10:32	Beverly Y. Sanders	2393004
EPA 365.1 Rev. 2.0	03/09/2023	03/16/2023 16:36	Adam P Silver	03/17/2023 11:32	Simonne.V. Calhoun	2393004
	03/09/2023	03/16/2023 16:36	Adam P Silver	03/17/2023 16:20	James L Waggerby	2392987
EPA 365.1 Rev. 2.0 dissolved	03/09/2023			03/09/2023 15:16	Elise M. Gillis	2392988
	03/09/2023			03/09/2023 15:17	Elise M. Gillis	2393005
EPA 8321B	03/09/2023	03/09/2023 12:00	Manjita Shrestha	03/09/2023 16:46	Manjita Shrestha	2392986
	03/09/2023	03/09/2023 12:00	Manjita Shrestha	03/09/2023 17:03	Manjita Shrestha	2393000
	03/09/2023	03/09/2023 12:00	Manjita Shrestha	03/09/2023 23:23	Manjita Shrestha	2392986
	03/09/2023	03/09/2023 12:00	Manjita Shrestha	03/09/2023 23:37	Manjita Shrestha	2393000