Chemical Analysis Report

WQAP-2023-02-22-04

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

Event Description: **Algae Bloom Response NEROC-as needed**
Request ID: **RQ-2023-02-13-15**
Customer: **WQAP**
Project ID: **BLOOM-RESP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way W
Suite 100
Jacksonville, FL 32256
Attn: Katrin Villinger

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
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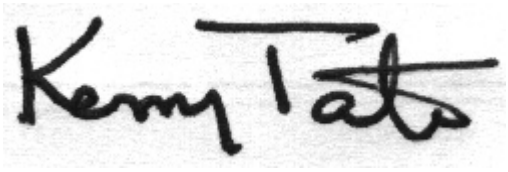
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 22-MAR-2023 15:17



NON-CONFORMANCE REPORT INCLUDED

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: George's Lake @ Boat Ramp **Collection Date/Time: 02/21/2023 10:35**

Field ID: NEHAB0099 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389260	EPA 8321B	Anatoxin-a	2.5	U	ug/L	P426161	
		Cylindrospermopsin	1.0	U	ug/L	P426160	
		Desmethyl microcystin LR	420		ug/L	P426160	
		Microcystin HilR	240		ug/L	P426160	
		Microcystin HtyR	2.6	I	ug/L	P426160	MS
		Microcystin LA	1.0	U	ug/L	P426160	MS
		Microcystin LF	1.1	I	ug/L	P426160	
		Microcystin LR	2.9E+03		ug/L	P426160	
		Microcystin LW	2.5	U	ug/L	P426160	
		Microcystin LY	1.6	I	ug/L	P426160	MS
		Microcystin RR	4.8E+03		ug/L	P426160	
		Microcystin WR	120		ug/L	P426160	
		Neosaxitoxin	5.0	U	ug/L	P426161	
		Microcystin YR	510		ug/L	P426160	MS
		Saxitoxin	5.0	U	ug/L	P426161	
		Nodularin-R	1.0	U	ug/L	P426160	MS
2389262	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	84		mg N/L	P427254	
	EPA 365.1 Rev. 2.0	Total-P	15		mg P/L	P426386	

Ref. Method and Comment:
EPA 8321B: MDLs elevated due to matrix interference.
EPA 8321B: MDLs are elevated due to required dilution of sample matrix. Surrogate spike recovery is not available due to dilution.

Sample Location: George's Lake @ HAB Center **Collection Date/Time: 02/21/2023 11:40**

Field ID: NEHAB0098 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2389261	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P426161	
		Cylindrospermopsin	1.0	U	ug/L	P426160	
		Desmethyl microcystin LR	2.5	U	ug/L	P426160	
		Microcystin HilR	2.5	U	ug/L	P426160	
		Microcystin HtyR	2.5	U	ug/L	P426160	MS
		Microcystin LA	1.0	U	ug/L	P426160	MS
		Microcystin LF	1.0	U	ug/L	P426160	
		Microcystin LR	5.0	I	ug/L	P426160	
		Microcystin LW	2.5	U	ug/L	P426160	
		Microcystin LY	1.0	U	ug/L	P426160	MS
		Microcystin RR	3.9	I	ug/L	P426160	
		Microcystin WR	5.0	U	ug/L	P426160	
		Neosaxitoxin	0.50	U	ug/L	P426161	
		Microcystin YR	2.5	U	ug/L	P426160	MS
		Saxitoxin	0.50	U	ug/L	P426161	
		Nodularin-R	1.0	U	ug/L	P426160	MS
2389263	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P426529	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.72		mg N/L	P427106	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.048		mg N/L	P426409	
	EPA 365.1 Rev. 2.0	Total-P	0.075		mg P/L	P426386	
2389265	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I Y	mg P/L	P426258	

Ref. Method and Comment:
EPA 8321B: MDLs are elevated due to required dilution of sample matrix.
EPA 365.1 Rev. 2.0 dissolved: Sample was received and analyzed un-filtered.

Non-Conformance Report

NCR ID: 9762

Event(s)	Job(s)	Sample(s)	Test(s)
WQAP-2023-02-22-04	TLH-2023-02-22-33	2389265	

NCR Type: SHIPPING/RECEIVING **NCR Category: Sample not field-filtered**

Observation: Sampler noted on submittal form that the W-PO4-F sample was not field filtered.

Resolution: Data will be qualified as appropriate.

Authorized by/Date: Kerry Tate, Ph.D. 3/22/2023

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426529

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427106

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427254

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426409

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426386

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426258

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

Reference Method: EPA 8321B
Batch ID: P426160

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
Microcystin WR	0.50	U	ug/L
Microcystin YR	0.25	U	ug/L
Nodularin-R	0.10	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P426161

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: P426529

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427254

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426409

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426386

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: P426258

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

Reference Method: EPA 8321B
Batch ID: P426160

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	109		P	40 - 150
Desmethyl microcystin LR	97.4		P	40 - 150
Microcystin HilR	102		P	40 - 150
Microcystin HtyR	101		P	40 - 150
Microcystin LA	140		P	40 - 150
Microcystin LF	114		P	40 - 150
Microcystin LR	91.5		P	40 - 150
Microcystin LW	96.9		P	40 - 150
Microcystin LY	139		P	40 - 150
Microcystin RR	120		P	40 - 150
Microcystin WR	104		P	40 - 150
Microcystin YR	108		P	40 - 150
Nodularin-R	114		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P426161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	67.0		P	40 - 150
Neosaxitoxin	75.4		P	40 - 150
Saxitoxin	70.3		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389138	Ammonia-N	99.4	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389381	Kjeldahl Nitrogen	105	95.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2390050	Kjeldahl Nitrogen	96.3	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389090	NO2NO3-N	98.4	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389115	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389453	O-Phosphate-P	97.6	98.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P426160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388804	Cylindrospermopsin	135	118	P/P	40 - 150
2388804	Desmethyl microcystin LR	138	141	P/P	40 - 150
2388804	Microcystin HilR	137	149	P/P	40 - 150
2388804	Microcystin HtyR	156	146	F/P	40 - 150
2388804	Microcystin LA	173	160	F/F	40 - 150
2388804	Microcystin LF	136	125	P/P	40 - 150
2388804	Microcystin LR	135	137	P/P	40 - 150
2388804	Microcystin LW	123	135	P/P	40 - 150
2388804	Microcystin LY	151	147	F/P	40 - 150
2388804	Microcystin RR	115	113	P/P	40 - 150
2388804	Microcystin WR	133	142	P/P	40 - 150
2388804	Microcystin YR	156	159	F/F	40 - 150
2388804	Nodularin-R	179	168	F/F	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P426161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388804	Anatoxin-a	70.1	70.2	P/P	40 - 150
2388804	Neosaxitoxin	52.4	56.1	P/P	40 - 150
2388804	Saxitoxin	48.5	51.4	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389138	Ammonia-N	1.68	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389381	Kjeldahl Nitrogen	7.45	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2390050	Kjeldahl Nitrogen	4.80	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389090	NO2NO3-N	1.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389115	Total-P	0.422	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P426258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389453	O-Phosphate-P	0.471	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P426160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388804	Cylindrospermopsin	13.4	Spike	P	0 - 30
2388804	Desmethyl microcystin LR	2.79	Spike	P	0 - 30
2388804	Microcystin HilR	8.41	Spike	P	0 - 30
2388804	Microcystin HtyR	7.02	Spike	P	0 - 30
2388804	Microcystin LA	8.02	Spike	P	0 - 30
2388804	Microcystin LF	8.70	Spike	P	0 - 30
2388804	Microcystin LR	1.41	Spike	P	0 - 30
2388804	Microcystin LW	9.35	Spike	P	0 - 30
2388804	Microcystin LY	2.23	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P426160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388804	Microcystin RR	1.96	Spike	P	0 - 30
2388804	Microcystin WR	7.13	Spike	P	0 - 30
2388804	Microcystin YR	1.58	Spike	P	0 - 30
2388804	Nodularin-R	6.26	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P426161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388804	Anatoxin-a	0.108	Spike	P	0 - 30
2388804	Neosaxitoxin	6.70	Spike	P	0 - 30
2388804	Saxitoxin	5.86	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2389260
Field Sample ID: NEHAB0099

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Neosaxitoxin-15N7	38.8	P	30 - 160

Lab Sample ID: 2389261
Field Sample ID: NEHAB0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	143	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	65.2	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A117608
Included Lab Sample IDs: 2389265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	98.3	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A117635
Included Lab Sample IDs: 2389260, 2389261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	86.5	81.0	P/P	50 - 160
Desmethyl microcystin LR	118	137	P/P	50 - 160
Desmethyl microcystin LR	150	118	P/P	50 - 160
Microcystin HilR	126	135	P/P	50 - 160
Microcystin HtyR	117	127	P/P	50 - 160
Microcystin LA	107	131	P/P	50 - 160
Microcystin LF	115	120	P/P	50 - 160
Microcystin LR	120	132	P/P	50 - 160
Microcystin LR	151	120	P/P	50 - 160
Microcystin LW	118	105	P/P	50 - 160
Microcystin LY	112	123	P/P	50 - 160
Microcystin RR	91.2	96.7	P/P	50 - 160
Microcystin RR	97.3	91.2	P/P	50 - 160
Microcystin WR	128	138	P/P	50 - 160
Microcystin YR	112	135	P/P	50 - 160
Microcystin YR	146	112	P/P	50 - 160
Nodularin-R	108	121	P/P	50 - 160

Reference Method: EPA 8321B
Run ID: A117636
Included Lab Sample IDs: 2389260, 2389261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	69.8	71.4	P/P	50 - 160
Anatoxin-a	69.9	68.8	P/P	50 - 160
Neosaxitoxin	81.1	80.1	P/P	50 - 160
Neosaxitoxin	82.7	71.5	P/P	50 - 160
Saxitoxin	75.8	77.0	P/P	50 - 160
Saxitoxin	76.1	70.8	P/P	50 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A117680
Included Lab Sample IDs: 2389263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A117698
Included Lab Sample IDs: 2389262, 2389263

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A117733
Included Lab Sample IDs: 2389263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A118044
Included Lab Sample IDs: 2389263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A118092
Included Lab Sample IDs: 2389262

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	103	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	96.2	99.4	101			1.68
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.0	105	95.1			7.45
	Kjeldahl Nitrogen	102	96.3	103			4.80
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	98.4	100			1.37
EPA 365.1 Rev. 2.0	Total-P	101	102	102			0.422
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	97.6	98.2			0.471
EPA 8321B	Anatoxin-a	67.0	70.1	70.2			0.108
	Cylindrospermopsin	109	118	135			13.4
	Desmethyl microcystin LR	97.4	141	138			2.79
	Microcystin HilR	102	149	137			8.41
	Microcystin HtyR	101	146	156			7.02
	Microcystin LA	140	160	173			8.02
	Microcystin LF	114	136	125			8.70
	Microcystin LR	91.5	137	135			1.41
	Microcystin LW	96.9	123	135			9.35
	Microcystin LY	139	151	147			2.23
	Microcystin RR	120	113	115			1.96
	Microcystin WR	104	142	133			7.13
	Microcystin YR	108	159	156			1.58
	Neosaxitoxin	75.4	52.4	56.1			6.70
	Nodularin-R	114	168	179			6.26
	Saxitoxin	70.3	48.5	51.4			5.86

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2389263
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2389262, 2389263
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2389263
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2389262, 2389263
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2389265
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2389260, 2389261
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2389260, 2389261

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	02/22/2023			03/01/2023 10:45	Ping Hua	2389263
EPA 351.2 Rev. 2.0	02/22/2023	03/14/2023 10:34	Simonne.V. Calhoun	03/16/2023 14:00	Judith K. Clark	2389263
	02/22/2023	03/20/2023 12:15	Simonne.V. Calhoun	03/21/2023 10:02	Samantha L Bates	2389262
EPA 353.2 Rev. 2.0	02/22/2023			02/27/2023 09:32	Beverly Y. Sanders	2389263
EPA 365.1 Rev. 2.0	02/22/2023	02/27/2023 14:45	Alexis Price	02/28/2023 10:30	James L Waggerby	2389262
	02/22/2023	02/27/2023 14:45	Alexis Price	02/28/2023 10:32	James L Waggerby	2389263
EPA 365.1 Rev. 2.0 dissolved	02/22/2023			02/22/2023 15:18	James L Waggerby	2389265
EPA 8321B	02/22/2023	02/23/2023 08:00	Manjita Shrestha	02/23/2023 16:05	Manjita Shrestha	2389260
	02/22/2023	02/23/2023 08:00	Manjita Shrestha	02/23/2023 17:47	Manjita Shrestha	2389260
	02/22/2023	02/23/2023 08:00	Manjita Shrestha	02/23/2023 20:19	Manjita Shrestha	2389261
	02/22/2023	02/23/2023 13:00	Manjita Shrestha	02/24/2023 03:00	Manjita Shrestha	2389261
	02/22/2023	02/23/2023 13:00	Manjita Shrestha	02/24/2023 08:14	Manjita Shrestha	2389260