

Chemical Analysis Report

NE-DIST-2024-06-26-01

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-2024-03-04-72**
Customer: **NE-DIST**
Project ID: **BLOOM-RESP**

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Date Certified: 15-JUL-2024 11:52



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: Doctors Lake - Wyndegate Dr

Collection Date/Time: 06/25/2024 10:45

Field ID: NEHAB0117

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2497050	DEP SOP: NU-094-1	Color (true)	61	A	PCU	P447106	
2497052	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P447616	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P447325	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P447375	
	EPA 365.1 Rev. 2.0	Total-P	0.097		mg P/L	P447232	
2497054	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P447094	
2497056	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P447050	
		Cylindrospermopsin	0.10	U	ug/L	P447049	
		Desmethyl microcystin LR	0.25	U	ug/L	P447049	
		Microcystin HiLR	0.25	U	ug/L	P447049	
		Microcystin HtyR	0.25	U	ug/L	P447049	
		Microcystin LA	0.10	U	ug/L	P447049	
		Microcystin LF	0.10	U	ug/L	P447049	
		Microcystin LR	1.5		ug/L	P447049	
		Microcystin LW	0.25	U	ug/L	P447049	
		Microcystin LY	0.10	U	ug/L	P447049	
		Microcystin RR	0.10	U	ug/L	P447049	
		Microcystin WR	0.50	U	ug/L	P447049	
		Neosaxitoxin	0.50	U	ug/L	P447050	
		Microcystin YR	0.25	U	ug/L	P447049	
		Saxitoxin	0.50	U	ug/L	P447050	
		Nodularin-R	0.10	U	ug/L	P447049	

Sample Location: Doctors Lake - Mill Cove

Collection Date/Time: 06/25/2024 11:10

Field ID: NEHAB0057

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2497049	DEP SOP: NU-094-1	Color (true)	67		PCU	P447105	
2497051	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P447557	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P447325	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P447375	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P447232	
2497053	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.061		mg P/L	P447094	
2497055	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P447050	
		Cylindrospermopsin	0.10	U	ug/L	P447049	
		Desmethyl microcystin LR	0.25	U	ug/L	P447049	
		Microcystin HILR	0.25	U	ug/L	P447049	
		Microcystin HtyR	0.25	U	ug/L	P447049	
		Microcystin LA	0.10	U	ug/L	P447049	
		Microcystin LF	0.10	U	ug/L	P447049	
		Microcystin LR	3.9		ug/L	P447049	
		Microcystin LW	0.25	U	ug/L	P447049	
		Microcystin LY	0.10	U	ug/L	P447049	
		Microcystin RR	0.10	U	ug/L	P447049	
		Microcystin WR	0.50	U	ug/L	P447049	
		Neosaxitoxin	0.50	U	ug/L	P447050	
		Microcystin YR	0.25	U	ug/L	P447049	
		Saxitoxin	0.50	U	ug/L	P447050	
		Nodularin-R	0.10	U	ug/L	P447049	

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P447105

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P447106

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P447557

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P447616

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P447325

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P447375

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P447232

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P447094

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

Reference Method: EPA 8321B
Batch ID: P447049

Component	Result	Code	Units
Cylindrospermopsin	0.10	U	ug/L
Desmethyl microcystin LR	0.25	U	ug/L
Microcystin H11R	0.25	U	ug/L
Microcystin HtyR	0.25	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P447049

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: P447050

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: P447105

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P447106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P447557

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P447616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P447325

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P447375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P447232

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: P447094

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

Reference Method: EPA 8321B
Batch ID: P447049

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	93.7		P	40 - 160
Desmethyl microcystin LR	97.1		P	40 - 160
Microcystin H1LR	94.7		P	40 - 160
Microcystin HtyR	95.2		P	40 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P447049

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Microcystin LA	83.0		P	40 - 160
Microcystin LF	87.9		P	40 - 160
Microcystin LR	96.3		P	40 - 160
Microcystin LW	84.4		P	40 - 160
Microcystin LY	97.6		P	40 - 160
Microcystin RR	99.0		P	40 - 160
Microcystin WR	89.7		P	40 - 160
Microcystin YR	89.0		P	40 - 160
Nodularin-R	96.2		P	40 - 160

Reference Method: EPA 8321B

Batch ID: P447050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	115		P	40 - 150
Neosaxitoxin	108		P	40 - 150
Saxitoxin	114		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P447557

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2496825	Ammonia-N	98.2	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P447616

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2497052	Ammonia-N	93.6	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P447325

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2496834	Kjeldahl Nitrogen	110	111	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P447375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2496834	NO2NO3-N	106	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P447232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2497574	Total-P	99.6	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P447094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2497053	O-Phosphate-P	96.7	98.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P447049

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2496999	Cylindrospermopsin	92.8	93.2	P/P	40 - 160
2496999	Desmethyl microcystin LR	91.5	92.3	P/P	40 - 160
2496999	Microcystin HILR	94.2	96.7	P/P	40 - 160
2496999	Microcystin HtyR	97.2	98.4	P/P	40 - 160
2496999	Microcystin LA	82.1	83.1	P/P	40 - 160
2496999	Microcystin LF	90.2	102	P/P	40 - 160
2496999	Microcystin LR	90.1	98.4	P/P	40 - 160
2496999	Microcystin LW	90.8	107	P/P	40 - 160
2496999	Microcystin LY	95.6	97.6	P/P	40 - 160
2496999	Microcystin RR	97.0	100	P/P	40 - 160
2496999	Microcystin WR	88.8	90.7	P/P	40 - 160
2496999	Microcystin YR	90.6	92.5	P/P	40 - 160
2496999	Nodularin-R	94.5	101	P/P	40 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P447050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2496999	Anatoxin-a	123	127	P/P	40 - 150
2496999	Neosaxitoxin	81.1	83.0	P/P	40 - 150
2496999	Saxitoxin	89.3	87.8	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P447105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2497014	Color (true)	0.266	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P447106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2497050	Color (true)	0.549	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P447557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2496825	Ammonia-N	1.32	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P447616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2497052	Ammonia-N	1.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P447325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2496834	Kjeldahl Nitrogen	0.335	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P447375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2496834	NO2NO3-N	2.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P447232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2497574	Total-P	1.34	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P447094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2497053	O-Phosphate-P	0.947	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P447049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2496999	Cylindrospermopsin	0.434	Spike	P	0 - 30
2496999	Desmethyl microcystin LR	0.842	Spike	P	0 - 30
2496999	Microcystin HilR	2.60	Spike	P	0 - 30
2496999	Microcystin HtyR	1.28	Spike	P	0 - 30
2496999	Microcystin LA	1.17	Spike	P	0 - 30
2496999	Microcystin LF	12.5	Spike	P	0 - 30
2496999	Microcystin LR	8.83	Spike	P	0 - 30
2496999	Microcystin LW	16.2	Spike	P	0 - 30
2496999	Microcystin LY	2.00	Spike	P	0 - 30
2496999	Microcystin RR	3.11	Spike	P	0 - 30
2496999	Microcystin WR	2.17	Spike	P	0 - 30
2496999	Microcystin YR	2.13	Spike	P	0 - 30
2496999	Nodularin-R	6.56	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P447050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2496999	Anatoxin-a	3.62	Spike	P	0 - 30
2496999	Neosaxitoxin	2.37	Spike	P	0 - 30
2496999	Saxitoxin	1.73	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2497055
Field Sample ID: NEHAB0057

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	101	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	87.6	P	30 - 160

Lab Sample ID: 2497056
Field Sample ID: NEHAB0117

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	108	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	87.1	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A126352

Included Lab Sample IDs: 2497055, 2497056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	126	132	P/P	50 - 160
Neosaxitoxin	113	105	P/P	50 - 160
Saxitoxin	122	124	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A126372

Included Lab Sample IDs: 2497053, 2497054

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	99.9	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A126373

Included Lab Sample IDs: 2497049, 2497050

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

Reference Method: EPA 8321B

Run ID: A126381

Included Lab Sample IDs: 2497055, 2497056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	93.4	93.9	P/P	60 - 160
Desmethyl microcystin LR	99.3	100	P/P	60 - 160
Microcystin H1LR	97.9	99.4	P/P	60 - 160
Microcystin HtyR	99.4	102	P/P	60 - 160
Microcystin LA	84.7	83.7	P/P	50 - 160
Microcystin LF	103	104	P/P	50 - 160
Microcystin LR	99.0	102	P/P	60 - 160
Microcystin LW	99.3	109	P/P	60 - 160
Microcystin LY	103	101	P/P	60 - 160
Microcystin RR	102	101	P/P	60 - 160
Microcystin WR	93.6	94.0	P/P	60 - 160
Microcystin YR	97.4	94.0	P/P	60 - 160
Nodularin-R	99.7	99.9	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A126436

Included Lab Sample IDs: 2497051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.4	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A126441

Included Lab Sample IDs: 2497052

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A126468
Included Lab Sample IDs: 2497051, 2497052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A126517
Included Lab Sample IDs: 2497051, 2497052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A126548
Included Lab Sample IDs: 2497051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	97.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A126571
Included Lab Sample IDs: 2497052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	98.4	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)	101				0.266	
	Color (true)	102				0.549	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	98.2	101			1.32
	Ammonia-N	94.0	93.6	95.4			1.62
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	110	111			0.335
EPA 353.2 Rev. 2.0	NO2NO3-N	105	106	108			2.25
EPA 365.1 Rev. 2.0	Total-P	102	99.6	98.2			1.34
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	96.7	98.2			0.947
EPA 8321B	Anatoxin-a	115	123	127			3.62
	Cylindrospermopsin	93.7	92.8	93.2			0.434
	Desmethyl microcystin LR	97.1	91.5	92.3			0.842
	Microcystin HiLR	94.7	94.2	96.7			2.60
	Microcystin HtyR	95.2	97.2	98.4			1.28
	Microcystin LA	83.0	82.1	83.1			1.17
	Microcystin LF	87.9	90.2	102			12.5
	Microcystin LR	96.3	90.1	98.4			8.83
	Microcystin LW	84.4	90.8	107			16.2
	Microcystin LY	97.6	95.6	97.6			2.00
	Microcystin RR	99.0	97.0	100			3.11
	Microcystin WR	89.7	88.8	90.7			2.17
	Microcystin YR	89.0	90.6	92.5			2.13
	Neosaxitoxin	108	81.1	83.0			2.37
	Nodularin-R	96.2	94.5	101			6.56
	Saxitoxin	114	89.3	87.8			1.73

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2497049, 2497050
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2497051, 2497052
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2497051, 2497052
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2497051, 2497052
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2497051, 2497052
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2497053, 2497054
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2497055, 2497056
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2497055, 2497056

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	06/26/2024			06/26/2024 13:49	Samantha L Bates	2497049
	06/26/2024			06/26/2024 13:52	Samantha L Bates	2497050
EPA 350.1 Rev. 2.0	06/26/2024			07/09/2024 12:17	Ping Hua	2497051
	06/26/2024			07/10/2024 11:10	Khloe J Berg	2497052
EPA 351.2 Rev. 2.0	06/26/2024	07/02/2024 12:23	Ping Hua	07/08/2024 11:30	Samantha L Bates	2497051
	06/26/2024	07/02/2024 12:23	Ping Hua	07/08/2024 11:32	Samantha L Bates	2497052
EPA 353.2 Rev. 2.0	06/26/2024			07/01/2024 11:44	Fadila Guebre	2497051
	06/26/2024			07/01/2024 11:45	Fadila Guebre	2497052
EPA 365.1 Rev. 2.0	06/26/2024	06/28/2024 13:34	Josephine W Gitau	07/01/2024 11:58	Chandler E Cox	2497051
	06/26/2024	06/28/2024 13:34	Josephine W Gitau	07/01/2024 13:45	Chandler E Cox	2497052
EPA 365.1 Rev. 2.0 dissolved	06/26/2024			06/26/2024 14:14	Chandler E Cox	2497053
	06/26/2024			06/26/2024 14:16	Chandler E Cox	2497054
EPA 8321B	06/26/2024	06/26/2024 14:30	Samatha Luckman	06/26/2024 19:00	Samatha Luckman	2497055
	06/26/2024	06/26/2024 14:30	Samatha Luckman	06/26/2024 19:16	Samatha Luckman	2497056
	06/26/2024	06/26/2024 14:30	Samatha Luckman	06/26/2024 23:14	Samatha Luckman	2497055
	06/26/2024	06/26/2024 14:30	Samatha Luckman	06/26/2024 23:28	Samatha Luckman	2497056