

Chemical Analysis Report

SW-DIST-2024-04-19-01

Florida DEP Laboratory
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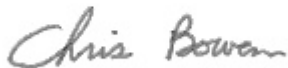
Event Description: **Algal Bloom Response - SWD**
Request ID: **RQ-2024-03-25-54**
Customer: **SW-DIST**
Project ID: **BLOOM-RESP**

Send Reports to:
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 22-MAY-2024 08:59



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: Weeki Wachee - Richard Dr.

Collection Date/Time: 04/18/2024 11:30

Field ID: HAB-SW-0290

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2483751	DEP SOP: NU-094-1	Color (true)	10		PCU	P444574	
2483754	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P444623	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P445008	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P445199	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P444802	
2483757	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P444580	
2483760	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P444520	
		Cylindrospermopsin	0.10	U	ug/L	P444519	
		Desmethyl microcystin LR	0.25	U	ug/L	P444519	
		Microcystin HiLR	0.25	U	ug/L	P444519	
		Microcystin HtyR	0.25	U	ug/L	P444519	
		Microcystin LA	0.10	U	ug/L	P444519	
		Microcystin LF	0.10	U	ug/L	P444519	
		Microcystin LR	0.25	U	ug/L	P444519	
		Microcystin LW	0.25	U	ug/L	P444519	
		Microcystin LY	0.10	U	ug/L	P444519	
		Microcystin RR	0.10	U	ug/L	P444519	
		Microcystin WR	0.50	U	ug/L	P444519	
		Neosaxitoxin	0.50	U	ug/L	P444520	
		Microcystin YR	0.25	U	ug/L	P444519	
		Saxitoxin	0.50	U	ug/L	P444520	
		Nodularin-R	0.10	U	ug/L	P444519	

Sample Location: Blanton Lake - South Lobe

Collection Date/Time: 04/18/2024 09:10

Field ID: HAB-SW-0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2483752	DEP SOP: NU-094-1	Color (true)	67		PCU	P444574	
2483755	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P444625	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P445008	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P445374	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P444802	
2483758	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P444580	
2483761	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P444520	
		Cylindrospermopsin	0.10	U	ug/L	P444519	
		Desmethyl microcystin LR	0.25	U	ug/L	P444519	
		Microcystin HiLR	0.25	U	ug/L	P444519	
		Microcystin HtyR	0.25	U	ug/L	P444519	
		Microcystin LA	0.51		ug/L	P444519	
		Microcystin LF	0.10	U	ug/L	P444519	
		Microcystin LR	0.25	U	ug/L	P444519	
		Microcystin LW	0.25	U	ug/L	P444519	
		Microcystin LY	0.10	U	ug/L	P444519	
		Microcystin RR	0.16	I	ug/L	P444519	
		Microcystin WR	0.50	U	ug/L	P444519	
		Neosaxitoxin	0.50	U	ug/L	P444520	
		Microcystin YR	0.25	U	ug/L	P444519	
		Saxitoxin	0.50	U	ug/L	P444520	
		Nodularin-R	0.10	U	ug/L	P444519	

Sample Location: Lake Dowling - Off Dock

Collection Date/Time: 04/18/2024 09:45

Field ID: HAB-SW-0033

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2483753	DEP SOP: NU-094-1	Color (true)	37		PCU	P444574	
2483756	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P444625	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.4		mg N/L	P445008	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P445200	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P444802	
2483759	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P444580	
2483762	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P444520	
		Cylindrospermopsin	0.10	U	ug/L	P444519	
		Desmethyl microcystin LR	0.25	U	ug/L	P444519	
		Microcystin HiLR	0.25	U	ug/L	P444519	
		Microcystin HtyR	0.25	U	ug/L	P444519	
		Microcystin LA	0.57		ug/L	P444519	
		Microcystin LF	0.10	U	ug/L	P444519	
		Microcystin LR	0.84	I	ug/L	P444519	
		Microcystin LW	0.25	U	ug/L	P444519	
		Microcystin LY	0.10	U	ug/L	P444519	
		Microcystin RR	1.1		ug/L	P444519	
		Microcystin WR	0.50	U	ug/L	P444519	
		Neosaxitoxin	0.50	U	ug/L	P444520	
		Microcystin YR	0.25	U	ug/L	P444519	
		Saxitoxin	0.50	U	ug/L	P444520	
		Nodularin-R	0.10	U	ug/L	P444519	

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P444574

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444623

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444625

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445008

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445199

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445200

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445374

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444802

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444580

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P444519

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

Reference Method: EPA 8321B
Batch ID: P444520

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: P444574

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444623

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: P444625

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445008

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445199

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445200

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445374

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: P444802

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: P444580

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.6		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P444519

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	86.5		P	40 - 160
Desmethyl microcystin LR	96.4		P	40 - 160
Microcystin HilR	94.6		P	40 - 160
Microcystin HtyR	85.9		P	40 - 160
Microcystin LA	103		P	40 - 160
Microcystin LF	85.5		P	40 - 160
Microcystin LR	96.7		P	40 - 160
Microcystin LW	105		P	40 - 160
Microcystin LY	84.9		P	40 - 160
Microcystin RR	88.9		P	40 - 160
Microcystin WR	92.0		P	40 - 160
Microcystin YR	98.1		P	40 - 160
Nodularin-R	87.5		P	40 - 160

Reference Method: EPA 8321B
Batch ID: P444520

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	104		P	40 - 150
Neosaxitoxin	85.4		P	40 - 150
Saxitoxin	93.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483654	Ammonia-N	96.8	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483755	Ammonia-N	99.4	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445008

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483754	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481811	NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483756	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445374

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2484754	NO2NO3-N	95.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444802

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483754	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444580

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483595	O-Phosphate-P	98.8	99.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P444519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483627	Cylindrospermopsin	97.7	99.7	P/P	40 - 160
2483627	Desmethyl microcystin LR	101	106	P/P	40 - 160
2483627	Microcystin HtIR	102	109	P/P	40 - 160
2483627	Microcystin HtyR	85.7	90.5	P/P	40 - 160

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P444519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483627	Microcystin LA	91.0	97.2	P/P	40 - 160
2483627	Microcystin LF	79.7	82.4	P/P	40 - 160
2483627	Microcystin LR	102	109	P/P	40 - 160
2483627	Microcystin LW	83.3	95.3	P/P	40 - 160
2483627	Microcystin LY	90.6	82.8	P/P	40 - 160
2483627	Microcystin RR	86.5	88.1	P/P	40 - 160
2483627	Microcystin WR	89.1	104	P/P	40 - 160
2483627	Microcystin YR	99.8	105	P/P	40 - 160
2483627	Nodularin-R	94.2	97.4	P/P	40 - 160

Reference Method: EPA 8321B

Batch ID: P444520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483627	Anatoxin-a	92.1	97.7	P/P	40 - 150
2483627	Neosaxitoxin	41.0	42.6	P/P	40 - 150
2483627	Saxitoxin	47.5	52.1	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P444574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483772	Color (true)	1.17	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483654	Ammonia-N	0.774	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483755	Ammonia-N	2.75	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445008

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483754	Kjeldahl Nitrogen	2.63	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481811	NO2NO3-N	0.406	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483756	NO2NO3-N	2.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2484754	NO2NO3-N	1.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483754	Total-P	0.967	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P444580

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483595	O-Phosphate-P	0.182	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P444519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483627	Cylindrospermopsin	2.09	Spike	P	0 - 30
2483627	Desmethyl microcystin LR	5.63	Spike	P	0 - 30
2483627	Microcystin HILR	6.35	Spike	P	0 - 30
2483627	Microcystin HtyR	5.49	Spike	P	0 - 30
2483627	Microcystin LA	6.51	Spike	P	0 - 30
2483627	Microcystin LF	3.37	Spike	P	0 - 30
2483627	Microcystin LR	6.87	Spike	P	0 - 30
2483627	Microcystin LW	13.4	Spike	P	0 - 30
2483627	Microcystin LY	8.99	Spike	P	0 - 30
2483627	Microcystin RR	1.77	Spike	P	0 - 30
2483627	Microcystin WR	15.4	Spike	P	0 - 30
2483627	Microcystin YR	4.73	Spike	P	0 - 30
2483627	Nodularin-R	3.39	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P444520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483627	Anatoxin-a	5.87	Spike	P	0 - 30
2483627	Neosaxitoxin	3.91	Spike	P	0 - 30
2483627	Saxitoxin	9.11	Spike	P	0 - 30

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2483760

Field Sample ID: HAB-SW-0290

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	96.5	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	104	P	30 - 160

Lab Sample ID: 2483761

Field Sample ID: HAB-SW-0041

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	96.4	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	112	P	30 - 160

Lab Sample ID: 2483762

Field Sample ID: HAB-SW-0033

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Anatoxin-a 13C4	93.3	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	130	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A125407

Included Lab Sample IDs: 2483760, 2483761, 2483762

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	110	107	P/P	50 - 160
Neosaxitoxin	99.6	99.0	P/P	50 - 160
Saxitoxin	108	108	P/P	50 - 160

Reference Method: DEP SOP: NU-094-1

Run ID: A125434

Included Lab Sample IDs: 2483751, 2483752, 2483753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.2	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A125435

Included Lab Sample IDs: 2483757, 2483758, 2483759

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A125442

Included Lab Sample IDs: 2483760, 2483761, 2483762

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	90.1	87.6	P/P	60 - 160
Desmethyl microcystin LR	102	109	P/P	50 - 160
Microcystin HILR	104	103	P/P	60 - 160
Microcystin HtyR	88.2	90.0	P/P	60 - 160
Microcystin LA	102	96.9	P/P	50 - 160
Microcystin LF	92.1	93.3	P/P	60 - 160
Microcystin LR	99.6	99.7	P/P	60 - 160
Microcystin LW	98.8	92.1	P/P	60 - 160
Microcystin LY	94.6	94.7	P/P	60 - 160
Microcystin RR	89.2	87.5	P/P	60 - 160
Microcystin WR	95.1	97.6	P/P	60 - 160
Microcystin YR	97.5	101	P/P	60 - 160
Nodularin-R	86.9	93.2	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A125453

Included Lab Sample IDs: 2483754, 2483755, 2483756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.1	P/P	90 - 110
Ammonia-N	99.4	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A125542

Included Lab Sample IDs: 2483755, 2483756

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 365.1 Rev. 2.0
Run ID: A125547
Included Lab Sample IDs: 2483754

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125657
Included Lab Sample IDs: 2483754, 2483755, 2483756

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.7	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125660
Included Lab Sample IDs: 2483754, 2483756

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125733
Included Lab Sample IDs: 2483755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	101	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)	96.9				1.17	
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	96.8	98.0			0.774
	Ammonia-N	97.4	99.4	96.4			2.75
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.2	102	105			2.63
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102				0.406
	NO2NO3-N	104	104	106			2.39
	NO2NO3-N	99.5	95.5	96.5			1.02
EPA 365.1 Rev. 2.0	Total-P	101	102	103			0.967
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6	98.8	99.1			0.182
EPA 8321B	Anatoxin-a	104	92.1	97.7			5.87
	Cylindrospermopsin	86.5	97.7	99.7			2.09
	Desmethyl microcystin LR	96.4	101	106			5.63
	Microcystin HiLR	94.6	102	109			6.35
	Microcystin HtyR	85.9	85.7	90.5			5.49
	Microcystin LA	103	91.0	97.2			6.51
	Microcystin LF	85.5	79.7	82.4			3.37
	Microcystin LR	96.7	102	109			6.87
	Microcystin LW	105	83.3	95.3			13.4
	Microcystin LY	84.9	90.6	82.8			8.99
	Microcystin RR	88.9	86.5	88.1			1.77
	Microcystin WR	92.0	89.1	104			15.4
	Microcystin YR	98.1	99.8	105			4.73
	Neosaxitoxin	85.4	41.0	42.6			3.91
	Nodularin-R	87.5	94.2	97.4			3.39
	Saxitoxin	93.8	47.5	52.1			9.11

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2483751, 2483752, 2483753
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2483754, 2483755, 2483756
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2483754, 2483755, 2483756
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2483754, 2483755, 2483756
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2483754, 2483755, 2483756
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2483757, 2483758, 2483759
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2483760, 2483761, 2483762
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2483760, 2483761, 2483762

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	04/19/2024			04/19/2024 14:35	Jessica K Wilks	2483751
	04/19/2024			04/19/2024 14:36	Jessica K Wilks	2483752, 2483753
	04/19/2024			04/22/2024 12:29	Khloe J Berg	2483754
EPA 350.1 Rev. 2.0	04/19/2024			04/22/2024 13:02	Khloe J Berg	2483755
	04/19/2024			04/22/2024 13:06	Khloe J Berg	2483756
	04/19/2024	05/01/2024 15:48	Simonne.V. Calhoun	05/02/2024 19:14	Ping Hua	2483754
EPA 351.2 Rev. 2.0	04/19/2024	05/01/2024 15:48	Simonne.V. Calhoun	05/02/2024 19:18	Ping Hua	2483755
	04/19/2024	05/01/2024 15:48	Simonne.V. Calhoun	05/02/2024 19:20	Ping Hua	2483756
	04/19/2024			05/01/2024 16:05	Fadila Guebre	2483754
EPA 353.2 Rev. 2.0	04/19/2024			05/01/2024 16:13	Fadila Guebre	2483756
	04/19/2024			05/07/2024 15:10	Fadila Guebre	2483755
	04/19/2024	04/25/2024 13:36	Josephine W Gitau	04/26/2024 08:41	Elise M. Gillis	2483755
EPA 365.1 Rev. 2.0	04/19/2024	04/25/2024 13:36	Josephine W Gitau	04/26/2024 08:42	Elise M. Gillis	2483756
	04/19/2024	04/25/2024 13:36	Josephine W Gitau	04/26/2024 10:51	Elise M. Gillis	2483754
	04/19/2024			04/19/2024 15:31	Adam P Silver	2483757, 2483758
EPA 365.1 Rev. 2.0 dissolved	04/19/2024			04/19/2024 15:32	Adam P Silver	2483759
	04/19/2024	04/19/2024 11:30	Samatha Luckman	04/20/2024 05:00	Samatha Luckman	2483760
	04/19/2024	04/19/2024 11:30	Samatha Luckman	04/20/2024 05:16	Samatha Luckman	2483761
EPA 8321B	04/19/2024	04/19/2024 11:30	Samatha Luckman	04/20/2024 05:33	Samatha Luckman	2483762
	04/19/2024	04/19/2024 11:30	Samatha Luckman	04/20/2024 21:19	Samatha Luckman	2483760
	04/19/2024	04/19/2024 11:30	Samatha Luckman	04/20/2024 21:33	Samatha Luckman	2483761
	04/19/2024	04/19/2024 11:30	Samatha Luckman	04/20/2024 21:47	Samatha Luckman	2483762
	04/19/2024	04/19/2024 11:30	Samatha Luckman			