

Chemical Analysis Report

WQAP-2021-04-01-01

Florida Department of Environmental Protection
Central Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

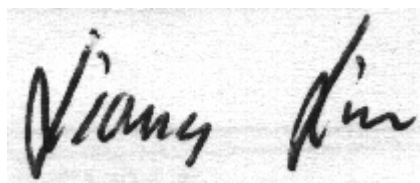
Event Description: **Algal Bloom Response - CEROC**
Request ID: **RQ-2021-03-08-10**
Customer: **WQAP**
Project ID: **BLOOM-RESP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 21-APR-2021 10:20

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

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 Willisara @ Center

Collection Date/Time: 03/31/2021 12:11

Field ID: HABCE0064_LakeWillisara

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235442	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P395783	
		Cylindrospermopsin	0.25	U	ug/L	P395783	
		Desmethyl microcystin LR	0.25	U	ug/L	P395783	
		Microcystin HIR**	0.25	U	ug/L	P395783	
		Microcystin HtyR**	0.25	U	ug/L	P395783	
		Microcystin LA	0.25	U	ug/L	P395783	
		Microcystin LF	0.25	U	ug/L	P395783	
		Microcystin LR	0.25	I	ug/L	P395783	
		Microcystin LW	0.25	U	ug/L	P395783	
		Microcystin LY	0.25	U	ug/L	P395783	
		Microcystin RR	0.25	U	ug/L	P395783	
		Microcystin WR	0.50	U	ug/L	P395783	
		Microcystin YR	0.25	U	ug/L	P395783	
		Nodularin-R**	0.25	U	ug/L	P395783	
2235445	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P396571	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P396165	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P395866	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P395891	
2235448	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P395807	

Sample Location: Lake Sloat Near Park

Collection Date/Time: 03/31/2021 10:30

Field ID: HABCE0068_LakeSloat

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235443	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P395783	
		Cylindrospermopsin	0.25	U	ug/L	P395783	
		Desmethyl microcystin LR	0.25	U	ug/L	P395783	
		Microcystin HilR**	0.25	U	ug/L	P395783	
		Microcystin HtyR**	0.25	U	ug/L	P395783	
		Microcystin LA	0.25	U	ug/L	P395783	
		Microcystin LF	0.25	U	ug/L	P395783	
		Microcystin LR	0.25	U	ug/L	P395783	
		Microcystin LW	0.25	U	ug/L	P395783	
		Microcystin LY	0.25	U	ug/L	P395783	
		Microcystin RR	0.25	U	ug/L	P395783	
		Microcystin WR	0.50	U	ug/L	P395783	
		Microcystin YR	0.25	U	ug/L	P395783	
		Nodularin-R**	0.25	U	ug/L	P395783	
2235446	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P396571	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P396165	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P395866	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P395891	
2235449	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P395807	

Sample Location: Lake Pearl @ Center

Collection Date/Time: 03/31/2021 11:14

Field ID: HABCE0074_LakePearl

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2235444	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P395783	
		Cylindrospermopsin	0.25	U	ug/L	P395783	
		Desmethyl microcystin LR	0.25	U	ug/L	P395783	
		Microcystin HilR**	0.25	U	ug/L	P395783	
		Microcystin HtyR**	0.25	U	ug/L	P395783	
		Microcystin LA	0.25	U	ug/L	P395783	
		Microcystin LF	0.25	U	ug/L	P395783	
		Microcystin LR	0.25	U	ug/L	P395783	
		Microcystin LW	0.25	U	ug/L	P395783	
		Microcystin LY	0.25	U	ug/L	P395783	
		Microcystin RR	0.25	U	ug/L	P395783	
		Microcystin WR	0.50	U	ug/L	P395783	
		Microcystin YR	0.25	U	ug/L	P395783	
		Nodularin-R**	0.25	U	ug/L	P395783	
2235447	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P396568	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P396069	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P395866	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P395891	
2235450	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P395807	

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396568

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396571

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396069

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396165

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395866

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395891

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395807

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

Reference Method: EPA 8321B
Batch ID: P395783

Component	Result	Code	Units
Anatoxin-a	0.25	U	ug/L
Cylindrospermopsin	0.25	U	ug/L
Desmethyl microcystin LR	0.25	U	ug/L
Microcystin HIR	0.25	U	ug/L
Microcystin HtyR	0.25	U	ug/L
Microcystin LA	0.25	U	ug/L
Microcystin LF	0.25	U	ug/L
Microcystin LR	0.25	U	ug/L
Microcystin LW	0.25	U	ug/L
Microcystin LY	0.25	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P395783

Component	Result	Code	Units
Microcystin RR	0.25	U	ug/L
Microcystin WR	0.50	U	ug/L
Microcystin YR	0.25	U	ug/L
Nodularin-R	0.25	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396568

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396571

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396069

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396165

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: P395866

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395891

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395807

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

Reference Method: EPA 8321B
Batch ID: P395783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	122		P	40 - 150
Cylindrospermopsin	110		P	40 - 150
Desmethyl microcystin LR	107		P	40 - 150
Microcystin HtR	107		P	40 - 150
Microcystin HtyR	107		P	40 - 150
Microcystin LA	112		P	40 - 150
Microcystin LF	124		P	40 - 150
Microcystin LR	109		P	40 - 150
Microcystin LW	109		P	40 - 150
Microcystin LY	109		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P395783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Microcystin RR	114		P	40 - 150
Microcystin WR	109		P	40 - 150
Microcystin YR	115		P	40 - 150
Nodularin-R	109		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235447	Ammonia-N	98.6	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235445	Ammonia-N	96.6	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235395	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235369	Kjeldahl Nitrogen	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395866

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235445	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235394	Total-P	106	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235312	O-Phosphate-P	99.1	97.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P395783

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235442	Anatoxin-a	124	129	P/P	40 - 150
2235442	Cylindrospermopsin	96.8	116	P/P	40 - 150
2235442	Desmethyl microcystin LR	116	132	P/P	40 - 150
2235442	Microcystin HilR	112	122	P/P	40 - 150
2235442	Microcystin HtyR	111	122	P/P	40 - 150
2235442	Microcystin LA	118	122	P/P	40 - 150
2235442	Microcystin LF	102	112	P/P	40 - 150
2235442	Microcystin LR	102	116	P/P	40 - 150
2235442	Microcystin LW	105	106	P/P	40 - 150
2235442	Microcystin LY	120	120	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P395783

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2235442	Microcystin RR	109	118	P/P	40 - 150
2235442	Microcystin WR	110	118	P/P	40 - 150
2235442	Microcystin YR	114	119	P/P	40 - 150
2235442	Nodularin-R	115	126	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235447	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P396571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235445	Ammonia-N	1.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235395	Kjeldahl Nitrogen	0.608	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P396165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235369	Kjeldahl Nitrogen	0.0870	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P395866

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235445	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P395891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235394	Total-P	3.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P395807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235312	O-Phosphate-P	1.20	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P395783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235442	Anatoxin-a	3.85	Spike	P	0 - 30
2235442	Cylindrospermopsin	17.6	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P395783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2235442	Desmethyl microcystin LR	12.5	Spike	P	0 - 30
2235442	Microcystin HilR	8.39	Spike	P	0 - 30
2235442	Microcystin HtyR	9.30	Spike	P	0 - 30
2235442	Microcystin LA	3.45	Spike	P	0 - 30
2235442	Microcystin LF	9.47	Spike	P	0 - 30
2235442	Microcystin LR	12.7	Spike	P	0 - 30
2235442	Microcystin LW	1.30	Spike	P	0 - 30
2235442	Microcystin LY	0.289	Spike	P	0 - 30
2235442	Microcystin RR	7.69	Spike	P	0 - 30
2235442	Microcystin WR	7.20	Spike	P	0 - 30
2235442	Microcystin YR	4.67	Spike	P	0 - 30
2235442	Nodularin-R	8.89	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2235442

Field Sample ID: HABCE0064_LakeWillisara

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR-d7	122	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	104	P	30 - 160

Lab Sample ID: 2235443

Field Sample ID: HABCE0068_LakeSloat

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR-d7	126	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	116	P	30 - 160

Lab Sample ID: 2235444

Field Sample ID: HABCE0074_LakePearl

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR-d7	132	P	30 - 160
EPA 8321B	Microcystin LR ethyl-d5	122	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A104426

Included Lab Sample IDs: 2235448, 2235449, 2235450

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	98.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A104428

Included Lab Sample IDs: 2235442, 2235443, 2235444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	102	94.7	P/P	50 - 160
Cylindrospermopsin	96.6	92.0	P/P	60 - 160
Desmethyl microcystin LR	96.5	95.3	P/P	60 - 160
Microcystin H1R	100	99.5	P/P	60 - 160
Microcystin HtyR	97.5	89.8	P/P	60 - 160
Microcystin LA	99.0	108	P/P	50 - 160
Microcystin LF	104	104	P/P	60 - 160
Microcystin LR	92.0	91.3	P/P	60 - 160
Microcystin LW	91.9	86.3	P/P	60 - 160
Microcystin LY	103	102	P/P	60 - 160
Microcystin RR	100	99.1	P/P	60 - 160
Microcystin WR	97.6	99.1	P/P	60 - 160
Microcystin YR	102	96.6	P/P	60 - 160
Nodularin-R	105	103	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A104447

Included Lab Sample IDs: 2235445, 2235446, 2235447

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A104493

Included Lab Sample IDs: 2235445, 2235446, 2235447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A104602

Included Lab Sample IDs: 2235447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A104649

Included Lab Sample IDs: 2235445, 2235446

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A104733

Included Lab Sample IDs: 2235445, 2235446, 2235447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	99.0	P/P	90 - 110
Ammonia-N	99.0	97.2	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	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	98.6	98.6			0.0
	Ammonia-N	98.6	96.6	98.6			1.80
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	103	104			0.608
	Kjeldahl Nitrogen	101	106	106			0.0870
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104	104			0.0
EPA 365.1 Rev. 2.0	Total-P	107	106	102			3.38
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.8	99.1	97.7			1.20
EPA 8321B	Anatoxin-a	122	124	129			3.85
	Cylindrospermopsin	110	96.8	116			17.6
	Desmethyl microcystin LR	107	116	132			12.5
	Microcystin HiLR	107	112	122			8.39
	Microcystin HtyR	107	111	122			9.30
	Microcystin LA	112	118	122			3.45
	Microcystin LF	124	102	112			9.47
	Microcystin LR	109	102	116			12.7
	Microcystin LW	109	105	106			1.30
	Microcystin LY	109	120	120			0.289
	Microcystin RR	114	109	118			7.69
	Microcystin WR	109	110	118			7.20
	Microcystin YR	115	114	119			4.67
	Nodularin-R	109	115	126			8.89

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2235445, 2235446, 2235447
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2235445, 2235446, 2235447
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2235445, 2235446, 2235447
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2235445, 2235446, 2235447
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2235448, 2235449, 2235450
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2235442, 2235443, 2235444

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	04/01/2021			04/14/2021 17:49	Ping Hua	2235447
	04/01/2021			04/14/2021 18:15	Ping Hua	2235445
	04/01/2021			04/14/2021 18:25	Ping Hua	2235446
EPA 351.2 Rev. 2.0	04/01/2021	04/07/2021 12:41	Yen Ta	04/08/2021 16:54	Virginia P. Brown	2235447
	04/01/2021	04/08/2021 13:19	Benjamin T. Nordmann	04/09/2021 16:18	Virginia P. Brown	2235445
	04/01/2021	04/08/2021 13:19	Benjamin T. Nordmann	04/09/2021 16:19	Virginia P. Brown	2235446
EPA 353.2 Rev. 2.0	04/01/2021			04/02/2021 10:28	Beverly Y. Sanders	2235445
	04/01/2021			04/02/2021 10:39	Beverly Y. Sanders	2235446
	04/01/2021			04/02/2021 10:40	Beverly Y. Sanders	2235447
EPA 365.1 Rev. 2.0	04/01/2021	04/02/2021 13:22	Yen Ta	04/05/2021 15:05	Shengyu Ding	2235445
	04/01/2021	04/02/2021 13:22	Yen Ta	04/05/2021 15:06	Shengyu Ding	2235446
	04/01/2021	04/02/2021 13:22	Yen Ta	04/05/2021 15:07	Shengyu Ding	2235447
EPA 365.1 Rev. 2.0 dissolved	04/01/2021			04/01/2021 13:43	Lipi Saha	2235448
	04/01/2021			04/01/2021 13:44	Lipi Saha	2235449
	04/01/2021			04/01/2021 13:45	Lipi Saha	2235450
EPA 8321B	04/01/2021	04/01/2021 12:00	Pramila Ghimire	04/01/2021 14:41	Juyoung Kim	2235442
	04/01/2021	04/01/2021 12:00	Pramila Ghimire	04/01/2021 14:57	Juyoung Kim	2235443
	04/01/2021	04/01/2021 12:00	Pramila Ghimire	04/01/2021 15:14	Juyoung Kim	2235444