

Chemical Analysis Report

WQAP-2022-08-18-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Algae Bloom Response-as needed**
Request ID: **RQ-2022-08-15-20**
Customer: **WQAP**
Project ID: **BLOOM-RESP**

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Date Certified: 12-SEP-2022 10:23



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: Dr's Lake near Lucy Branch

Collection Date/Time: 08/17/2022 11:35

Field ID: NEHAB0086

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350538	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P418296	
		Cylindrospermopsin	0.10	U	ug/L	P418295	
		Desmethyl microcystin LR	0.25	U	ug/L	P418295	
		Microcystin HILR	0.25	U	ug/L	P418295	
		Microcystin HtyR	0.25	U	ug/L	P418295	
		Microcystin LA	0.10	U	ug/L	P418295	
		Microcystin LF	0.10	U	ug/L	P418295	
		Microcystin LR	0.84	I	ug/L	P418295	
		Microcystin LW	0.25	U	ug/L	P418295	
		Microcystin LY	0.10	U	ug/L	P418295	
		Microcystin RR	0.10	U	ug/L	P418295	
		Microcystin WR	0.50	U	ug/L	P418295	
		Neosaxitoxin	0.50	U	ug/L	P418296	
		Microcystin YR	0.25	U	ug/L	P418295	
		Saxitoxin	0.50	U	ug/L	P418296	
		Nodularin-R	0.10	U	ug/L	P418295	
2350543	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P418540	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P419093	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418576	
	EPA 365.1 Rev. 2.0	Total-P	0.074		mg P/L	P418671	
2350548	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P418333	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Dr's Lake End of Lawrence Rd

Collection Date/Time: 08/17/2022 11:15

Field ID: NEHAB0073

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350535	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P418297	
		Cylindrospermopsin	0.10	U	ug/L	P418298	
		Desmethyl microcystin LR	0.25	U	ug/L	P418298	
		Microcystin H1LR	0.25	U	ug/L	P418298	
		Microcystin HtyR	0.25	U	ug/L	P418298	
		Microcystin LA	0.10	U	ug/L	P418298	
		Microcystin LF	0.10	U	ug/L	P418298	
		Microcystin LR	1.1		ug/L	P418298	
		Microcystin LW	0.25	U	ug/L	P418298	
		Microcystin LY	0.10	U	ug/L	P418298	
		Microcystin RR	0.10	U	ug/L	P418298	
		Microcystin WR	0.50	U	ug/L	P418298	
		Neosaxitoxin	0.50	U	ug/L	P418297	
		Microcystin YR	0.25	U	ug/L	P418298	
		Saxitoxin	0.50	U	ug/L	P418297	
		Nodularin-R	0.10	U	ug/L	P418298	
2350540	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P418540	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P419093	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418576	
	EPA 365.1 Rev. 2.0	Total-P	0.074		mg P/L	P418671	
2350545	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P418333	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Swimming Pen Cr @ Whitey's Fish Camp

Collection Date/Time: 08/17/2022 10:45

Field ID: NEHAB0074

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350536	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P418297	
		Cylindrospermopsin	0.10	U	ug/L	P418298	
		Desmethyl microcystin LR	0.25	U	ug/L	P418298	
		Microcystin HILR	0.25	U	ug/L	P418298	
		Microcystin HtyR	0.25	U	ug/L	P418298	
		Microcystin LA	0.10	U	ug/L	P418298	
		Microcystin LF	0.10	U	ug/L	P418298	
		Microcystin LR	2.0		ug/L	P418298	
		Microcystin LW	0.25	U	ug/L	P418298	
		Microcystin LY	0.10	U	ug/L	P418298	
		Microcystin RR	0.10	U	ug/L	P418298	
		Microcystin WR	0.50	U	ug/L	P418298	
		Neosaxitoxin	0.50	U	ug/L	P418297	
		Microcystin YR	0.25	U	ug/L	P418298	
		Saxitoxin	0.50	U	ug/L	P418297	
		Nodularin-R	0.10	U	ug/L	P418298	
2350541	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P418540	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P418508	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418576	
	EPA 365.1 Rev. 2.0	Total-P	0.086		mg P/L	P418671	
2350546	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P418333	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Dr's Lake at Camp Echockotee

Collection Date/Time: 08/17/2022 11:49

Field ID: NEHAB0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350537	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P418297	
		Cylindrospermopsin	0.10	U	ug/L	P418298	
		Desmethyl microcystin LR	0.25	U	ug/L	P418298	
		Microcystin HILR	0.25	U	ug/L	P418298	
		Microcystin HtyR	0.25	U	ug/L	P418298	
		Microcystin LA	0.10	U	ug/L	P418298	
		Microcystin LF	0.10	U	ug/L	P418298	
		Microcystin LR	0.45	I	ug/L	P418298	
		Microcystin LW	0.25	U	ug/L	P418298	
		Microcystin LY	0.10	U	ug/L	P418298	
		Microcystin RR	0.10	U	ug/L	P418298	
		Microcystin WR	0.50	U	ug/L	P418298	
		Neosaxitoxin	0.50	U	ug/L	P418297	
		Microcystin YR	0.25	U	ug/L	P418298	
		Saxitoxin	0.50	U	ug/L	P418297	
		Nodularin-R	0.10	U	ug/L	P418298	
2350542	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P418540	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P418510	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418576	
	EPA 365.1 Rev. 2.0	Total-P	0.078		mg P/L	P418671	
2350547	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P418333	

Sample Location: Doctor's Lake @ Mill Cove

Collection Date/Time: 08/17/2022 12:15

Field ID: NEHAB0057

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350534	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P418297	
		Cylindrospermopsin	0.10	U	ug/L	P418298	
		Desmethyl microcystin LR	0.25	U	ug/L	P418298	
		Microcystin HILR	0.25	U	ug/L	P418298	
		Microcystin HtyR	0.25	U	ug/L	P418298	
		Microcystin LA	0.10	U	ug/L	P418298	
		Microcystin LF	0.10	U	ug/L	P418298	
		Microcystin LR	1.1		ug/L	P418298	
		Microcystin LW	0.25	U	ug/L	P418298	
		Microcystin LY	0.10	U	ug/L	P418298	
		Microcystin RR	0.10	U	ug/L	P418298	
		Microcystin WR	0.50	U	ug/L	P418298	
		Neosaxitoxin	0.50	U	ug/L	P418297	
		Microcystin YR	0.25	U	ug/L	P418298	
		Saxitoxin	0.50	U	ug/L	P418297	
		Nodularin-R	0.10	U	ug/L	P418298	
2350539	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P418540	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P418510	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418576	
	EPA 365.1 Rev. 2.0	Total-P	0.063		mg P/L	P418512	
2350544	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P418333	

Sample Location: Swimming Pen CR @ Whitey's Fish Camp

Collection Date/Time: 08/17/2022 10:50

Field ID: FB_08172022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2350567	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P418296	
		Cylindrospermopsin	0.10	U	ug/L	P418295	
		Desmethyl microcystin LR	0.25	U	ug/L	P418295	
		Microcystin HILR	0.25	U	ug/L	P418295	
		Microcystin HtyR	0.25	U	ug/L	P418295	
		Microcystin LA	0.10	U	ug/L	P418295	
		Microcystin LF	0.10	U	ug/L	P418295	
		Microcystin LR	0.25	U	ug/L	P418295	
		Microcystin LW	0.25	U	ug/L	P418295	
		Microcystin LY	0.10	U	ug/L	P418295	
		Microcystin RR	0.10	U	ug/L	P418295	
		Microcystin WR	0.50	U	ug/L	P418295	
		Neosaxitoxin	0.50	U	ug/L	P418296	
		Microcystin YR	0.25	U	ug/L	P418295	
		Saxitoxin	0.50	U	ug/L	P418296	
		Nodularin-R	0.10	U	ug/L	P418295	
2350572	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P418540	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P419093	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418659	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P418671	
2350573	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P418334	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418540

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418508

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418510

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419093

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418576

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418659

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418671

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P418333

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P418334

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

Reference Method: EPA 8321B
Batch ID: P418295

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: P418296

Component	Result	Code	Units
Anatoxin-a	0.25	U	ug/L
Neosaxitoxin	0.50	U	ug/L
Saxitoxin	0.50	U	ug/L

Reference Method: EPA 8321B
Batch ID: P418297

Component	Result	Code	Units
Anatoxin-a	0.25	U	ug/L
Neosaxitoxin	0.50	U	ug/L
Saxitoxin	0.50	U	ug/L

Reference Method: EPA 8321B
Batch ID: P418298

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P418298

Component	Result	Code	Units
Nodularin-R	0.10	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418540

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418508

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418510

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419093

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418576

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418659

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418671

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P418333

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P418334

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

Reference Method: EPA 8321B
Batch ID: P418295

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	113		P	40 - 150
Desmethyl microcystin LR	87.8		P	40 - 150
Microcystin HILR	90.7		P	40 - 150
Microcystin HtyR	89.4		P	40 - 150
Microcystin LA	107		P	40 - 150
Microcystin LF	90.9		P	40 - 150
Microcystin LR	84.0		P	40 - 150
Microcystin LW	88.6		P	40 - 150
Microcystin LY	90.6		P	40 - 150
Microcystin RR	92.1		P	40 - 150
Microcystin WR	87.2		P	40 - 150
Microcystin YR	80.0		P	40 - 150
Nodularin-R	90.4		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	122		P	40 - 150
Neosaxitoxin	138		P	40 - 150
Saxitoxin	133		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	129		P	40 - 150
Neosaxitoxin	148		P	40 - 150
Saxitoxin	134		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	105		P	40 - 150
Desmethyl microcystin LR	90.7		P	40 - 150
Microcystin HILR	95.1		P	40 - 150
Microcystin HtyR	94.0		P	40 - 150
Microcystin LA	107		P	40 - 150
Microcystin LF	96.3		P	40 - 150
Microcystin LR	85.9		P	40 - 150
Microcystin LW	92.1		P	40 - 150
Microcystin LY	92.6		P	40 - 150
Microcystin RR	98.8		P	40 - 150
Microcystin WR	93.9		P	40 - 150
Microcystin YR	83.3		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P418298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Nodularin-R	93.4		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350540	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350542	Kjeldahl Nitrogen	109	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350539	NO2NO3-N	96.5	96.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418659

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350632	NO2NO3-N	94.8	93.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350479	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418671

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350540	Total-P	104	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P418333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350548	O-Phosphate-P	101	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P418334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350556	O-Phosphate-P	98.2	97.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P418295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350538	Cylindrospermopsin	102	99.0	P/P	40 - 150
2350538	Desmethyl microcystin LR	104	107	P/P	40 - 150
2350538	Microcystin HtIR	100	104	P/P	40 - 150
2350538	Microcystin HtyR	97.0	101	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P418295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350538	Microcystin LA	108	111	P/P	40 - 150
2350538	Microcystin LF	98.1	102	P/P	40 - 150
2350538	Microcystin LR	97.9	98.7	P/P	40 - 150
2350538	Microcystin LW	89.6	92.5	P/P	40 - 150
2350538	Microcystin LY	97.4	94.1	P/P	40 - 150
2350538	Microcystin RR	103	106	P/P	40 - 150
2350538	Microcystin WR	93.1	97.0	P/P	40 - 150
2350538	Microcystin YR	90.9	93.8	P/P	40 - 150
2350538	Nodularin-R	97.0	102	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350538	Anatoxin-a	101	99.5	P/P	40 - 150
2350538	Neosaxitoxin	88.8	81.4	P/P	40 - 150
2350538	Saxitoxin	78.2	74.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350444	Anatoxin-a	131	141	P/P	40 - 150
2350444	Neosaxitoxin	119	118	P/P	40 - 150
2350444	Saxitoxin	88.2	93.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P418298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2350444	Cylindrospermopsin	107	109	P/P	40 - 150
2350444	Desmethyl microcystin LR	108	107	P/P	40 - 150
2350444	Microcystin HiLR	101	106	P/P	40 - 150
2350444	Microcystin HtyR	101	105	P/P	40 - 150
2350444	Microcystin LA	112	113	P/P	40 - 150
2350444	Microcystin LF	106	102	P/P	40 - 150
2350444	Microcystin LR	94.7	97.1	P/P	40 - 150
2350444	Microcystin LW	97.3	98.3	P/P	40 - 150
2350444	Microcystin LY	103	97.9	P/P	40 - 150
2350444	Microcystin RR	107	109	P/P	40 - 150
2350444	Microcystin WR	98.8	102	P/P	40 - 150
2350444	Microcystin YR	89.1	94.8	P/P	40 - 150
2350444	Nodularin-R	103	102	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350540	Ammonia-N	0.870	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418508

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350541	Kjeldahl Nitrogen	0.440	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350542	Kjeldahl Nitrogen	2.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350543	Kjeldahl Nitrogen	0.327	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350539	NO2NO3-N	0.519	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418659

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350632	NO2NO3-N	0.881	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350479	Total-P	0.165	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P418671

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350540	Total-P	2.77	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P418333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350548	O-Phosphate-P	2.00	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P418334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350556	O-Phosphate-P	0.480	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P418295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350538	Cylindrospermopsin	2.60	Spike	P	0 - 30
2350538	Desmethyl microcystin LR	2.11	Spike	P	0 - 30
2350538	Microcystin H1LR	3.63	Spike	P	0 - 30
2350538	Microcystin HtyR	4.02	Spike	P	0 - 30
2350538	Microcystin LA	3.14	Spike	P	0 - 30
2350538	Microcystin LF	3.86	Spike	P	0 - 30
2350538	Microcystin LR	0.766	Spike	P	0 - 30
2350538	Microcystin LW	3.18	Spike	P	0 - 30
2350538	Microcystin LY	3.43	Spike	P	0 - 30
2350538	Microcystin RR	3.25	Spike	P	0 - 30
2350538	Microcystin WR	4.05	Spike	P	0 - 30
2350538	Microcystin YR	3.20	Spike	P	0 - 30
2350538	Nodularin-R	5.16	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P418296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350538	Anatoxin-a	1.49	Spike	P	0 - 30
2350538	Neosaxitoxin	8.70	Spike	P	0 - 30
2350538	Saxitoxin	4.78	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P418297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350444	Anatoxin-a	7.74	Spike	P	0 - 30
2350444	Neosaxitoxin	0.758	Spike	P	0 - 30
2350444	Saxitoxin	5.59	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P418298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P418298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2350444	Cylindrospermopsin	1.69	Spike	P	0 - 30
2350444	Desmethyl microcystin LR	0.624	Spike	P	0 - 30
2350444	Microcystin HilR	4.17	Spike	P	0 - 30
2350444	Microcystin HtyR	3.16	Spike	P	0 - 30
2350444	Microcystin LA	0.999	Spike	P	0 - 30
2350444	Microcystin LF	3.82	Spike	P	0 - 30
2350444	Microcystin LR	2.50	Spike	P	0 - 30
2350444	Microcystin LW	1.07	Spike	P	0 - 30
2350444	Microcystin LY	5.52	Spike	P	0 - 30
2350444	Microcystin RR	2.16	Spike	P	0 - 30
2350444	Microcystin WR	3.25	Spike	P	0 - 30
2350444	Microcystin YR	6.23	Spike	P	0 - 30
2350444	Nodularin-R	0.442	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2350534
Field Sample ID: NEHAB0057

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	98.7	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	91.5	P	30 - 160

Lab Sample ID: 2350535
Field Sample ID: NEHAB0073

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	95.9	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	97.9	P	30 - 160

Lab Sample ID: 2350536
Field Sample ID: NEHAB0074

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	96.8	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	93.6	P	30 - 160

Lab Sample ID: 2350537
Field Sample ID: NEHAB0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	91.8	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	97.8	P	30 - 160

Lab Sample ID: 2350538
Field Sample ID: NEHAB0086

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	122	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	80.1	P	30 - 160

Lab Sample ID: 2350567
Field Sample ID: FB_08172022

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	101	P	30 - 160
EPA 8321B	Neosaxitoxin-15N7	93.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A114169

Included Lab Sample IDs: 2350534, 2350535, 2350536, 2350537, 2350538, 2350567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	108	112	P/P	60 - 160
Cylindrospermopsin	112	108	P/P	60 - 160
Desmethyl microcystin LR	68.4	87.9	P/P	60 - 160
Desmethyl microcystin LR	87.9	80.8	P/P	60 - 160
Microcystin HllR	71.8	89.3	P/P	60 - 160
Microcystin HllR	89.3	85.3	P/P	60 - 160
Microcystin HtyR	69.7	89.8	P/P	60 - 160
Microcystin HtyR	89.8	83.5	P/P	60 - 160
Microcystin LA	102	107	P/P	50 - 160
Microcystin LA	90.4	102	P/P	50 - 160
Microcystin LF	68.3	92.1	P/P	60 - 160
Microcystin LF	92.1	84.7	P/P	60 - 160
Microcystin LR	70.9	82.9	P/P	60 - 160
Microcystin LR	82.9	80.9	P/P	60 - 160
Microcystin LW	67.4	91.6	P/P	60 - 160
Microcystin LW	91.6	84.3	P/P	60 - 160
Microcystin LY	81.2	91.3	P/P	60 - 160
Microcystin LY	91.3	87.8	P/P	60 - 160
Microcystin RR	75.6	90.1	P/P	60 - 160
Microcystin RR	90.1	84.5	P/P	60 - 160
Microcystin WR	71.1	92.4	P/P	60 - 160
Microcystin WR	92.4	82.7	P/P	60 - 160
Microcystin YR	65.6	80.4	P/P	60 - 160
Microcystin YR	80.4	78.5	P/P	60 - 160
Nodularin-R	84.2	94.0	P/P	60 - 160
Nodularin-R	94.0	90.2	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A114170

Included Lab Sample IDs: 2350534, 2350535, 2350536, 2350537, 2350538, 2350567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	101	107	P/P	50 - 160
Anatoxin-a	107	106	P/P	50 - 160
Neosaxitoxin	114	129	P/P	50 - 160
Neosaxitoxin	129	128	P/P	50 - 160
Saxitoxin	108	118	P/P	50 - 160
Saxitoxin	118	114	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A114190

Included Lab Sample IDs: 2350544, 2350545, 2350546, 2350547, 2350548, 2350573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	101	99.4	P/P	90 - 110
O-Phosphate-P	99.7	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114274

Included Lab Sample IDs: 2350539, 2350540, 2350541, 2350542, 2350543, 2350572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	98.6	P/P	90 - 110
Ammonia-N	99.1	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114291

Included Lab Sample IDs: 2350539, 2350540, 2350541, 2350542, 2350543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114329

Included Lab Sample IDs: 2350572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114337

Included Lab Sample IDs: 2350541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.1	95.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114342

Included Lab Sample IDs: 2350539

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114401

Included Lab Sample IDs: 2350540, 2350541, 2350542, 2350543

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114404

Included Lab Sample IDs: 2350572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114411

Included Lab Sample IDs: 2350539, 2350542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114411

Included Lab Sample IDs: 2350539, 2350542

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	95.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114569

Included Lab Sample IDs: 2350540, 2350543, 2350572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	103	P/P	90 - 110
Kjeldahl Nitrogen	99.1	106	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	100	100	101			0.870
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103					0.440
	Kjeldahl Nitrogen	100	109	105			2.00
	Kjeldahl Nitrogen	98.5					0.327
	Kjeldahl Nitrogen	99.0	96.5	96.0			0.519
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	94.8	93.8			0.881
	NO2NO3-N	99.0					
EPA 365.1 Rev. 2.0	Total-P	103	104	104			0.165
	Total-P	104	104	108			2.77
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	101	99.1			2.00
	O-Phosphate-P	102	98.2	97.7			0.480
EPA 8321B	Anatoxin-a	122	101	99.5			1.49
	Anatoxin-a	129	131	141			7.74
	Cylindrospermopsin	113	102	99.0			2.60
	Cylindrospermopsin	105	107	109			1.69
	Desmethyl microcystin LR	87.8	104	107			2.11
	Desmethyl microcystin LR	90.7	108	107			0.624
	Microcystin HilR	90.7	100	104			3.63
	Microcystin HilR	95.1	101	106			4.17
	Microcystin HtyR	89.4	97.0	101			4.02
	Microcystin HtyR	94.0	101	105			3.16
	Microcystin LA	107	108	111			3.14
	Microcystin LA	107	112	113			0.999
	Microcystin LF	90.9	98.1	102			3.86
	Microcystin LF	96.3	106	102			3.82
	Microcystin LR	84.0	97.9	98.7			0.766
	Microcystin LR	85.9	94.7	97.1			2.50
	Microcystin LW	88.6	89.6	92.5			3.18
	Microcystin LW	92.1	97.3	98.3			1.07
	Microcystin LY	90.6	97.4	94.1			3.43
	Microcystin LY	92.6	103	97.9			5.52
	Microcystin RR	92.1	103	106			3.25
	Microcystin RR	98.8	107	109			2.16
	Microcystin WR	87.2	93.1	97.0			4.05
	Microcystin WR	93.9	98.8	102			3.25
	Microcystin YR	80.0	90.9	93.8			3.20
	Microcystin YR	83.3	89.1	94.8			6.23
	Neosaxitoxin	138	88.8	81.4			8.70
	Neosaxitoxin	148	119	118			0.758
	Nodularin-R	90.4	97.0	102			5.16
	Nodularin-R	93.4	103	102			0.442
	Saxitoxin	133	78.2	74.5			4.78
	Saxitoxin	134	88.2	93.3			5.59

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2350539, 2350540, 2350541, 2350542, 2350543, 2350572
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2350539, 2350540, 2350541, 2350542, 2350543, 2350572
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2350539, 2350540, 2350541, 2350542, 2350543, 2350572
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2350539, 2350540, 2350541, 2350542, 2350543, 2350572

Reference Method Descriptions

Method	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2350544, 2350545, 2350546, 2350547, 2350548, 2350573
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2350534, 2350535, 2350536, 2350537, 2350538, 2350567
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2350534, 2350535, 2350536, 2350537, 2350538, 2350567

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	08/18/2022			08/23/2022 15:03	Judith K. Clark	2350540
	08/18/2022			08/23/2022 15:04	Judith K. Clark	2350541
	08/18/2022			08/23/2022 15:06	Judith K. Clark	2350542
	08/18/2022			08/23/2022 15:07	Judith K. Clark	2350543
	08/18/2022			08/23/2022 15:10	Judith K. Clark	2350572
	08/18/2022			08/23/2022 15:52	Judith K. Clark	2350539
EPA 351.2 Rev. 2.0	08/18/2022	08/24/2022 13:30	Alexandra J Mattheus	08/29/2022 12:09	Alexandra J Mattheus	2350539
	08/18/2022	08/24/2022 13:30	Alexandra J Mattheus	08/29/2022 12:11	Alexandra J Mattheus	2350542
	08/18/2022	08/24/2022 13:32	Alexandra J Mattheus	08/25/2022 12:09	Samantha L Bates	2350541
	08/18/2022	09/06/2022 14:30	Alexandra J Mattheus	09/07/2022 09:19	Alexandra J Mattheus	2350540
	08/18/2022	09/06/2022 14:30	Alexandra J Mattheus	09/07/2022 09:21	Alexandra J Mattheus	2350543
	08/18/2022	09/06/2022 14:30	Alexandra J Mattheus	09/07/2022 09:30	Alexandra J Mattheus	2350572
EPA 353.2 Rev. 2.0	08/18/2022			08/24/2022 11:55	Beverly Y. Sanders	2350539
	08/18/2022			08/24/2022 12:04	Beverly Y. Sanders	2350540
	08/18/2022			08/24/2022 12:05	Beverly Y. Sanders	2350541
	08/18/2022			08/24/2022 12:06	Beverly Y. Sanders	2350542
	08/18/2022			08/24/2022 12:07	Beverly Y. Sanders	2350543
	08/18/2022			08/25/2022 09:55	Beverly Y. Sanders	2350572
EPA 365.1 Rev. 2.0	08/18/2022	08/24/2022 15:20	Simonne.V. Calhoun	08/25/2022 10:26	James L Waggeberby	2350539
	08/18/2022	08/25/2022 15:50	Simonne.V. Calhoun	08/29/2022 09:47	James L Waggeberby	2350540
	08/18/2022	08/25/2022 15:50	Simonne.V. Calhoun	08/29/2022 09:55	James L Waggeberby	2350541
	08/18/2022	08/25/2022 15:50	Simonne.V. Calhoun	08/29/2022 09:56	James L Waggeberby	2350542
	08/18/2022	08/25/2022 15:50	Simonne.V. Calhoun	08/29/2022 09:57	James L Waggeberby	2350543
	08/18/2022	08/25/2022 15:50	Simonne.V. Calhoun	08/29/2022 14:30	James L Waggeberby	2350572
EPA 365.1 Rev. 2.0 dissolved	08/18/2022			08/18/2022 14:01	Chandler E Cox	2350548
	08/18/2022			08/18/2022 14:05	Chandler E Cox	2350544
	08/18/2022			08/18/2022 14:06	Chandler E Cox	2350545
	08/18/2022			08/18/2022 14:07	Chandler E Cox	2350546
	08/18/2022			08/18/2022 14:13	Chandler E Cox	2350547
	08/18/2022			08/18/2022 14:27	Chandler E Cox	2350573
EPA 8321B	08/18/2022	08/18/2022 12:00	Manjita Shrestha	08/18/2022 19:50	Manjita Shrestha	2350534
	08/18/2022	08/18/2022 12:00	Manjita Shrestha	08/18/2022 20:04	Manjita Shrestha	2350535
	08/18/2022	08/18/2022 12:00	Manjita Shrestha	08/18/2022 20:17	Manjita Shrestha	2350536
	08/18/2022	08/18/2022 12:00	Manjita Shrestha	08/18/2022 20:31	Manjita Shrestha	2350537
	08/18/2022	08/18/2022 12:00	Manjita Shrestha	08/18/2022 21:55	Manjita Shrestha	2350538
	08/18/2022	08/18/2022 12:00	Manjita Shrestha	08/18/2022 22:23	Manjita Shrestha	2350567
	08/18/2022	08/18/2022 12:00	Umesh Chiluwal	08/18/2022 23:47	Umesh Chiluwal	2350534
	08/18/2022	08/18/2022 12:00	Umesh Chiluwal	08/19/2022 00:04	Umesh Chiluwal	2350535
	08/18/2022	08/18/2022 12:00	Umesh Chiluwal	08/19/2022 00:21	Umesh Chiluwal	2350536
	08/18/2022	08/18/2022 12:00	Umesh Chiluwal	08/19/2022 00:38	Umesh Chiluwal	2350537

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/18/2022	08/18/2022 12:00	Umesh Chiluwal	08/19/2022 02:02	Umesh Chiluwal	2350538
	08/18/2022	08/18/2022 12:00	Umesh Chiluwal	08/19/2022 02:53	Umesh Chiluwal	2350567