Chemical Analysis Report

WQAP-2023-06-30-02

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

Event Description: **Algae Bloom Response NEROC-as needed**
Request ID: **RQ-2023-05-22-64**
Customer: **WQAP**
Project ID: **BLOOM-RESP**

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant Date Certified: 19-JUL-2023 12:24

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: George's Lake **Collection Date/Time: 06/29/2023 10:50**

Field ID: NEHAB0099 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2420973	DEP SOP: NU-094-1	Color (true)	50	A	PCU	P432007	
	EPA 120.1	Specific_Conductance	54		umhos/cm	P432204	
2420974	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P432121	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P432015	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P432159	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P432158	
2420975	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P432003	
2420976	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P431964	
		Cylindrospermopsin	0.10	U	ug/L	P431963	
		Desmethyl microcystin LR	0.25	U	ug/L	P431963	
		Microcystin HilR	0.25	U	ug/L	P431963	
		Microcystin HtyR	0.25	U	ug/L	P431963	
		Microcystin LA	0.10	U	ug/L	P431963	
		Microcystin LF	0.10	U	ug/L	P431963	
		Microcystin LR	0.30	I	ug/L	P431963	
		Microcystin LW	0.25	U	ug/L	P431963	
		Microcystin LY	0.10	U	ug/L	P431963	
		Microcystin RR	0.75		ug/L	P431963	
		Microcystin WR	0.50	U	ug/L	P431963	
		Neosaxitoxin	0.50	U	ug/L	P431964	MS
		Microcystin YR	0.25	U	ug/L	P431963	
		Saxitoxin	0.50	U	ug/L	P431964	
		Nodularin-R	0.10	U	ug/L	P431963	

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P432007

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 120.1
Batch ID: P432204

Component	Result	Code	Units
Specific_Conductance	2.0	U	umhos/cm

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432121

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432015

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432159

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432158

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P432003

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

Reference Method: EPA 8321B
Batch ID: P431963

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P431963

Component	Result	Code	Units
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: P431964

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: P432007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.5		P	90 - 110

Reference Method: EPA 120.1
Batch ID: P432204

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432015

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432159

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432158

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: P432003

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

Reference Method: EPA 8321B
Batch ID: P431963

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	95.5		P	40 - 160
Desmethyl microcystin LR	84.5		P	40 - 160
Microcystin HilR	85.0		P	40 - 160
Microcystin HtyR	94.7		P	40 - 160
Microcystin LA	93.8		P	40 - 160
Microcystin LF	77.1		P	40 - 160
Microcystin LR	77.9		P	40 - 160
Microcystin LW	73.3		P	40 - 160
Microcystin LY	87.4		P	40 - 160
Microcystin RR	99.4		P	40 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P431963

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Microcystin WR	82.1		P	40 - 160
Microcystin YR	85.0		P	40 - 160
Nodularin-R	94.0		P	40 - 160

Reference Method: EPA 8321B
Batch ID: P431964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	97.3		P	40 - 150
Neosaxitoxin	127		P	40 - 150
Saxitoxin	137		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420508	Ammonia-N	91.2	92.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432015

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420984	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432159

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420508	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420974	Total-P	100	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P432003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2421082	O-Phosphate-P	99.2	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P431963

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420950	Cylindrospermopsin	82.9	87.1	P/P	40 - 160
2420950	Desmethyl microcystin LR	87.0	87.2	P/P	40 - 160
2420950	Microcystin HilR	85.3	86.1	P/P	40 - 160
2420950	Microcystin HtyR	89.4	93.3	P/P	40 - 160
2420950	Microcystin LA	98.9	96.7	P/P	40 - 160
2420950	Microcystin LF	79.9	83.0	P/P	40 - 160
2420950	Microcystin LR	83.2	85.1	P/P	40 - 160
2420950	Microcystin LW	67.8	74.7	P/P	40 - 160
2420950	Microcystin LY	83.4	80.5	P/P	40 - 160
2420950	Microcystin RR	81.6	86.8	P/P	40 - 160
2420950	Microcystin WR	72.3	77.5	P/P	40 - 160
2420950	Microcystin YR	77.4	84.0	P/P	40 - 160
2420950	Nodularin-R	100	98.3	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P431964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420950	Anatoxin-a	75.2	83.1	P/P	40 - 150
2420950	Neosaxitoxin	38.3	40.4	F/P	40 - 150
2420950	Saxitoxin	48.4	52.4	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P432007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420973	Color (true)	1.96	Sample	P	0 - 20

Reference Method: EPA 120.1
Batch ID: P432204

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420358	Specific_Conductance	3.22	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420508	Ammonia-N	1.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420984	Kjeldahl Nitrogen	1.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432159

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420508	NO2NO3-N	0.995	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420974	Total-P	0.334	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P432003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421082	O-Phosphate-P	0.903	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P431963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420950	Cylindrospermopsin	4.87	Spike	P	0 - 30
2420950	Desmethyl microcystin LR	0.294	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P431963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420950	Microcystin HilR	1.03	Spike	P	0 - 30
2420950	Microcystin HtyR	4.30	Spike	P	0 - 30
2420950	Microcystin LA	2.15	Spike	P	0 - 30
2420950	Microcystin LF	3.79	Spike	P	0 - 30
2420950	Microcystin LR	2.19	Spike	P	0 - 30
2420950	Microcystin LW	9.69	Spike	P	0 - 30
2420950	Microcystin LY	3.50	Spike	P	0 - 30
2420950	Microcystin RR	6.22	Spike	P	0 - 30
2420950	Microcystin WR	6.95	Spike	P	0 - 30
2420950	Microcystin YR	8.15	Spike	P	0 - 30
2420950	Nodularin-R	2.15	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P431964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420950	Anatoxin-a	9.97	Spike	P	0 - 30
2420950	Neosaxitoxin	5.13	Spike	P	0 - 30
2420950	Saxitoxin	7.92	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2420976
Field Sample ID: NEHAB0099

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	84.3	P	30 - 160
EPA 8321B	Saxitoxin-15N7	33.0	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A120129
Included Lab Sample IDs: 2420975

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	98.8	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A120131
Included Lab Sample IDs: 2420973

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A120135
Included Lab Sample IDs: 2420976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	91.2	92.6	P/P	60 - 160
Desmethyl microcystin LR	82.1	80.4	P/P	50 - 160
Microcystin HilR	85.5	82.8	P/P	60 - 160
Microcystin HtyR	88.5	86.9	P/P	60 - 160
Microcystin LA	88.9	91.9	P/P	50 - 160
Microcystin LF	72.2	73.6	P/P	60 - 160
Microcystin LR	76.5	74.0	P/P	60 - 160
Microcystin LW	66.4	67.2	P/P	60 - 160
Microcystin LY	80.0	81.0	P/P	60 - 160
Microcystin RR	90.9	92.6	P/P	60 - 160
Microcystin WR	81.4	74.3	P/P	60 - 160
Microcystin YR	79.4	79.2	P/P	60 - 160
Nodularin-R	91.7	89.6	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A120136
Included Lab Sample IDs: 2420976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	110	110	P/P	50 - 160
Neosaxitoxin	85.5	84.5	P/P	50 - 160
Saxitoxin	123	110	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A120185
Included Lab Sample IDs: 2420974

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	97.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A120189
Included Lab Sample IDs: 2420974

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.9	96.8	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A120222
Included Lab Sample IDs: 2420974

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 120.1
Run ID: A120243
Included Lab Sample IDs: 2420973

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Specific_Conductance	100	102	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A120270
Included Lab Sample IDs: 2420974

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	102	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
DEP SOP: NU-094-1	Color (true)	98.5				1.96	
EPA 120.1	Specific_Conductance	100				3.22	
EPA 350.1 Rev. 2.0	Ammonia-N	93.2	91.2	92.8			1.54
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	102	105			1.49
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	100			0.995
EPA 365.1 Rev. 2.0	Total-P	104	100	99.9			0.334
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9	99.2	100			0.903
EPA 8321B	Anatoxin-a	97.3	75.2	83.1			9.97
	Cylindrospermopsin	95.5	82.9	87.1			4.87
	Desmethyl microcystin LR	84.5	87.0	87.2			0.294
	Microcystin HilR	85.0	85.3	86.1			1.03
	Microcystin HtyR	94.7	89.4	93.3			4.30
	Microcystin LA	93.8	98.9	96.7			2.15
	Microcystin LF	77.1	79.9	83.0			3.79
	Microcystin LR	77.9	83.2	85.1			2.19
	Microcystin LW	73.3	67.8	74.7			9.69
	Microcystin LY	87.4	83.4	80.5			3.50
	Microcystin RR	99.4	81.6	86.8			6.22
	Microcystin WR	82.1	72.3	77.5			6.95
	Microcystin YR	85.0	77.4	84.0			8.15
	Neosaxitoxin	127	38.3	40.4			5.13
	Nodularin-R	94.0	100	98.3			2.15
	Saxitoxin	137	48.4	52.4			7.92

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2420973
EPA 120.1	Specific Conductivity in aqueous matrices (umhos/cm at 25 deg C).	2420973
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2420974
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2420974
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2420974
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2420974
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2420975
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2420976
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2420976

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	06/30/2023			06/30/2023 13:46	Samantha L Bates	2420973
EPA 120.1	06/30/2023			07/06/2023 18:55	Dale L. Simmons	2420973
EPA 350.1 Rev. 2.0	06/30/2023			07/06/2023 13:59	Khloe J Berg	2420974
EPA 351.2 Rev. 2.0	06/30/2023	07/05/2023 16:53	Ping Hua	07/06/2023 11:05	Ping Hua	2420974
EPA 353.2 Rev. 2.0	06/30/2023			07/07/2023 09:36	Beverly Y. Sanders	2420974
EPA 365.1 Rev. 2.0	06/30/2023	07/07/2023 16:02	Adam P Silver	07/10/2023 13:47	Chandler E Cox	2420974
EPA 365.1 Rev. 2.0 dissolved	06/30/2023			06/30/2023 14:02	Elise M. Gillis	2420975
EPA 8321B	06/30/2023	06/30/2023 10:30	Hana Lee	06/30/2023 18:35	Manjita Shrestha	2420976
	06/30/2023	06/30/2023 10:30	Hana Lee	06/30/2023 19:28	Juyoung Kim	2420976