Chemical Analysis Report

WQAP-2023-06-02-04

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: 20-JUN-2023 09:29

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: Georges Lake at Boat Ramp **Collection Date/Time: 06/01/2023 10:35**

Field ID: NEHAB0099 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2414338	DEP SOP: NU-094-1	Color (true)	49		PCU	P430747	
	EPA 120.1	Specific_Conductance	58		umhos/cm	P431138	
2414339	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P430851	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P431037	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P431075	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P430887	
2414340	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P430739	
2414341	EPA 8321B	Anatoxin-a	0.25	U	ug/L	P430713	
		Cylindrospermopsin	0.10	U	ug/L	P430712	
		Desmethyl microcystin LR	0.25	U	ug/L	P430712	
		Microcystin HilR	0.25	U	ug/L	P430712	
		Microcystin HtyR	0.25	U	ug/L	P430712	
		Microcystin LA	0.10	U	ug/L	P430712	
		Microcystin LF	0.10	U	ug/L	P430712	
		Microcystin LR	0.25	U	ug/L	P430712	
		Microcystin LW	0.25	U	ug/L	P430712	
		Microcystin LY	0.10	U	ug/L	P430712	
		Microcystin RR	0.32	I	ug/L	P430712	
		Microcystin WR	0.50	U	ug/L	P430712	
		Neosaxitoxin	0.50	U	ug/L	P430713	
		Microcystin YR	0.25	U	ug/L	P430712	
		Saxitoxin	0.50	U	ug/L	P430713	
		Nodularin-R	0.10	U	ug/L	P430712	

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P430747

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 120.1
Batch ID: P431138

Component	Result	Code	Units
Specific_Conductance	2.0	U	umhos/cm

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430851

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431037

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431075

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430887

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P430739

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

Reference Method: EPA 8321B
Batch ID: P430712

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: P430712

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: P430713

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: P430747

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	90 - 110

Reference Method: EPA 120.1
Batch ID: P431138

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Specific_Conductance	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430851

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431037

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431075

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: P430887

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P430739

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.9		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P430712

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cylindrospermopsin	90.0		P	40 - 150
Desmethyl microcystin LR	94.5		P	40 - 150
Microcystin HilR	106		P	40 - 150
Microcystin HtyR	97.0		P	40 - 150
Microcystin LA	97.3		P	40 - 150
Microcystin LF	120		P	40 - 150
Microcystin LR	104		P	40 - 150
Microcystin LW	125		P	40 - 150
Microcystin LY	103		P	40 - 150
Microcystin RR	98.8		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P430712

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Microcystin WR	110		P	40 - 150
Microcystin YR	105		P	40 - 150
Nodularin-R	90.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P430713

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Anatoxin-a	98.0		P	40 - 150
Neosaxitoxin	99.0		P	40 - 150
Saxitoxin	89.4		P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430851

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2414249	Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2414191	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431075

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2414254	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2414567	Total-P	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P430739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2414072	O-Phosphate-P	97.5	97.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P430712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2414069	Cylindrospermopsin	89.1	92.4	P/P	40 - 150
2414069	Desmethyl microcystin LR	112	119	P/P	40 - 150
2414069	Microcystin HilR	127	125	P/P	40 - 150
2414069	Microcystin HtyR	113	107	P/P	40 - 150
2414069	Microcystin LA	89.1	102	P/P	40 - 150
2414069	Microcystin LF	110	108	P/P	40 - 150
2414069	Microcystin LR	125	123	P/P	40 - 150
2414069	Microcystin LW	115	103	P/P	40 - 150
2414069	Microcystin LY	109	96.9	P/P	40 - 150
2414069	Microcystin RR	100	100	P/P	40 - 150
2414069	Microcystin WR	132	137	P/P	40 - 150
2414069	Microcystin YR	136	139	P/P	40 - 150
2414069	Nodularin-R	103	100	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P430713

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2414069	Anatoxin-a	107	107	P/P	40 - 150
2414069	Neosaxitoxin	79.6	74.3	P/P	40 - 150
2414069	Saxitoxin	75.0	82.0	P/P	40 - 150

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P430747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414252	Color (true)	0.316	Sample	P	0 - 20

Reference Method: EPA 120.1
Batch ID: P431138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2415176	Specific_Conductance	14.7	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414249	Ammonia-N	0.173	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414191	Kjeldahl Nitrogen	0.111	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431075

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414254	NO2NO3-N	0.489	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414567	Total-P	1.73	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P430739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414072	O-Phosphate-P	0.477	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P430712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414069	Cylindrospermopsin	3.64	Spike	P	0 - 30
2414069	Desmethyl microcystin LR	6.33	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P430712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414069	Microcystin HilR	1.48	Spike	P	0 - 30
2414069	Microcystin HtyR	5.34	Spike	P	0 - 30
2414069	Microcystin LA	13.2	Spike	P	0 - 30
2414069	Microcystin LF	2.15	Spike	P	0 - 30
2414069	Microcystin LR	1.78	Spike	P	0 - 30
2414069	Microcystin LW	11.1	Spike	P	0 - 30
2414069	Microcystin LY	11.0	Spike	P	0 - 30
2414069	Microcystin RR	0.324	Spike	P	0 - 30
2414069	Microcystin WR	3.65	Spike	P	0 - 30
2414069	Microcystin YR	2.66	Spike	P	0 - 30
2414069	Nodularin-R	3.15	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P430713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2414069	Anatoxin-a	0.209	Spike	P	0 - 30
2414069	Neosaxitoxin	6.83	Spike	P	0 - 30
2414069	Saxitoxin	8.88	Spike	P	0 - 30

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2414341
Field Sample ID: NEHAB0099

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Microcystin LR ethyl-d5	108	P	30 - 160
EPA 8321B	Saxitoxin-15N7	52.5	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A119549
Included Lab Sample IDs: 2414340

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	97.6	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A119551
Included Lab Sample IDs: 2414338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	99.7	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A119563
Included Lab Sample IDs: 2414341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Anatoxin-a	94.1	91.2	P/P	50 - 160
Neosaxitoxin	91.4	92.4	P/P	50 - 160
Saxitoxin	89.8	91.0	P/P	50 - 160

Reference Method: EPA 8321B
Run ID: A119564
Included Lab Sample IDs: 2414341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cylindrospermopsin	84.4	82.2	P/P	50 - 160
Desmethyl microcystin LR	89.8	93.6	P/P	50 - 160
Microcystin HilR	102	103	P/P	50 - 160
Microcystin HtyR	89.4	90.2	P/P	50 - 160
Microcystin LA	97.9	97.4	P/P	50 - 160
Microcystin LF	82.0	104	P/P	50 - 160
Microcystin LR	91.4	91.6	P/P	50 - 160
Microcystin LW	86.8	102	P/P	50 - 160
Microcystin LY	95.7	97.9	P/P	50 - 160
Microcystin RR	91.2	93.0	P/P	50 - 160
Microcystin WR	99.3	108	P/P	50 - 160
Microcystin YR	99.3	101	P/P	50 - 160
Nodularin-R	85.6	87.3	P/P	50 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A119602
Included Lab Sample IDs: 2414339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A119658
Included Lab Sample IDs: 2414339

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A119691
Included Lab Sample IDs: 2414339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A119727
Included Lab Sample IDs: 2414339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.6	97.3	P/P	90 - 110

Reference Method: EPA 120.1
Run ID: A119730
Included Lab Sample IDs: 2414338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Specific_Conductance	99.5	101	P/P	85 - 115

* 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)	99.7				0.316	
EPA 120.1	Specific_Conductance	99.1				14.7	
EPA 350.1 Rev. 2.0	Ammonia-N	96.6	105	105			0.173
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	102	102			0.111
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	102			0.489
EPA 365.1 Rev. 2.0	Total-P	98.0	100	102			1.73
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	97.5	97.0			0.477
EPA 8321B	Anatoxin-a	98.0	107	107			0.209
	Cylindrospermopsin	90.0	89.1	92.4			3.64
	Desmethyl microcystin LR	94.5	112	119			6.33
	Microcystin HilR	106	127	125			1.48
	Microcystin HtyR	97.0	113	107			5.34
	Microcystin LA	97.3	89.1	102			13.2
	Microcystin LF	120	110	108			2.15
	Microcystin LR	104	125	123			1.78
	Microcystin LW	125	115	103			11.1
	Microcystin LY	103	109	96.9			11.0
	Microcystin RR	98.8	100	100			0.324
	Microcystin WR	110	132	137			3.65
	Microcystin YR	105	136	139			2.66
	Neosaxitoxin	99.0	79.6	74.3			6.83
	Nodularin-R	90.9	103	100			3.15
	Saxitoxin	89.4	75.0	82.0			8.88

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2414338
EPA 120.1	Specific Conductivity in aqueous matrices (umhos/cm at 25 deg C).	2414338
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2414339
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2414339
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2414339
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2414339
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2414340
EPA 8321B	Microcystins in water matrices by HPLC/MS/MS	2414341
EPA 8321B	Saxitoxin in water matrices by HPLC/MS/MS	2414341

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	06/02/2023			06/02/2023 15:47	Alexis Price	2414338
EPA 120.1	06/02/2023			06/10/2023 22:17	Dale L. Simmons	2414338
EPA 350.1 Rev. 2.0	06/02/2023			06/06/2023 13:03	Khloe J Berg	2414339
EPA 351.2 Rev. 2.0	06/02/2023	06/09/2023 11:22	Ping Hua	06/12/2023 11:46	Samantha L Bates	2414339
EPA 353.2 Rev. 2.0	06/02/2023			06/09/2023 10:42	Beverly Y. Sanders	2414339
EPA 365.1 Rev. 2.0	06/02/2023	06/07/2023 15:36	Adam P Silver	06/08/2023 09:45	Simonne.V. Calhoun	2414339
EPA 365.1 Rev. 2.0 dissolved	06/02/2023			06/02/2023 15:26	Elise M. Gillis	2414340
EPA 8321B	06/02/2023	06/02/2023 12:00	Touraj Touran	06/02/2023 20:54	Touraj Touran	2414341
	06/02/2023	06/02/2023 12:00	Touraj Touran	06/03/2023 04:28	Touraj Touran	2414341