

Chemical Analysis Report

SO-DIST-2024-07-19-01

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

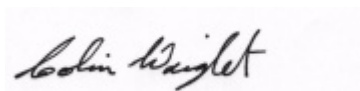
Event Description: **SCCF ALGAL DYNAMICS STUDY**
Request ID: **RQ-2024-06-03-13**
Customer: **SO-DIST**
Project ID: **DISCRTNARY**

Send Reports to:
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FLDEP South District Office
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Certified by: Colin Wright, Program Administrator

Date Certified: 08-AUG-2024 09:39



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 group are included in this report: Nutrients.

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: 26.71393, -81.56266

Collection Date/Time: 07/18/2024 10:00

Field ID: CLEW04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2503056	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P448559	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P448250	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.099		mg N/L	P448515	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P448447	
2503061	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.031		mg N/L	P448365	
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.3		mg N/L	P448308	
2503066	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P448144	

Sample Location: 26.69315, 81.79630

Collection Date/Time: 07/18/2024 11:10

Field ID: ORANGE

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2503057	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P448559	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P448250	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P448515	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P448447	
2503062	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.028		mg N/L	P448365	
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.1		mg N/L	P448308	
2503067	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P448144	

Sample Location: 26.70324, 81.80525

Collection Date/Time: 07/18/2024 11:35

Field ID: POPASH

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2503058	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P448559	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P448306	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P448512	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P448447	
2503063	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.020		mg N/L	P448365	
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.2		mg N/L	P448306	
2503068	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P448144	

Sample Location: 26.65737, 81.89425

Collection Date/Time: 07/18/2024 12:30

Field ID: HANCOCK

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2503059	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P448559	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P448306	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P448512	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P448447	
2503064	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.018		mg N/L	P448365	
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.0		mg N/L	P448306	
2503069	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P448144	

Sample Location: 26.64467, -81.87899

Collection Date/Time: 07/18/2024 13:00

Field ID: CLEW07

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2503060	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P448634	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P448306	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P448512	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P448447	
2503065	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.020		mg N/L	P448365	
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.1		mg N/L	P448306	
2503070	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P448144	

Sample Location: 26.57761, -81.89881

Collection Date/Time: 07/18/2024 11:12

Field ID: WHISKEY					Matrix: W-SURF-FRH			
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes	
2503071	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P448634		
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.98		mg N/L	P448306		
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.098		mg N/L	P448512		
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P448447		
2503075	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.037		mg N/L	P448365		
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.83		mg N/L	P448306		
2503079	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.081		mg P/L	P448144		

Sample Location: 26.54335, -81.94011

Collection Date/Time: 07/18/2024 11:49

Field ID: CLEW09

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2503072	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P448554	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P448303	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P448393	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P448297	
2503076	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.034		mg N/L	P448635	
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.93		mg N/L	P448303	
2503080	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P448145	

Ref. Method and Comment:
EPA 350.1 Rev. 2.0: The result was confirmed on 08/01/2024.
EPA 350.1 Rev. 2.0 dissolved: The result was confirmed on 08/01/2024.

Sample Location: 26.52328, -82.00864

Collection Date/Time: 07/18/2024 12:31

Field ID: CLEW10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2503073	EPA 350.1 Rev. 2.0	Ammonia-N	0.010	U	mg N/L	P448554	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P448304	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004		mg N/L	P448393	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P448297	
2503077	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.010		mg N/L	P448635	
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.41		mg N/L	P448304	
2503081	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.022		mg P/L	P448145	

Sample Location: 26.47219, -82.01621

Collection Date/Time: 07/18/2024 13:03

Field ID: CLEW11

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2503074	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P448554	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P448304	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P448393	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P448297	
2503078	EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	0.008		mg N/L	P448635	
	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.39	I	mg N/L	P448304	
2503082	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P448145	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448554

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448559

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448634

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

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Batch ID: P448365

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

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Batch ID: P448635

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448250

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448303

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448304

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448306

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448303

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448304

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448306

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448308

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448393

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448512

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448515

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P448297

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P448447

Component	Result	Code	Units
Total-P	0.010	U	mg P/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P448144

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P448145

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448554

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448559

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448634

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Batch ID: P448365

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

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Batch ID: P448635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448250

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448303

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448306

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448303

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448306

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448308

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448393

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448512

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448515

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P448297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P448447

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P448144

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P448145

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2502650	Ammonia-N	97.4	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448559

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2502997	Ammonia-N	95.6	96.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448634

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503273	Ammonia-N	92.0	93.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Batch ID: P448365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2502264	Ammonia-N	93.8	96.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Batch ID: P448635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503271	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448250

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2502997	Kjeldahl Nitrogen	106	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2502650	Kjeldahl Nitrogen	104	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503883	Kjeldahl Nitrogen	98.3	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503059	Kjeldahl Nitrogen	104	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2502650	Kjeldahl Nitrogen	104	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503883	Kjeldahl Nitrogen	98.3	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503059	Kjeldahl Nitrogen	104	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503062	Kjeldahl Nitrogen	102	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448393

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503017	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503058	NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2502976	NO2NO3-N	94.7	94.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P448297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503017	Total-P	91.9	91.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P448447

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503027	Total-P	103	105	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P448144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2502849	O-Phosphate-P	98.6	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P448145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2503081	O-Phosphate-P	98.7	99.8	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2502650	Ammonia-N	0.310	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2502997	Ammonia-N	0.513	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P448634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503273	Ammonia-N	1.17	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Batch ID: P448365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2502264	Ammonia-N	2.30	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Batch ID: P448635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503271	Ammonia-N	1.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2502997	Kjeldahl Nitrogen	3.28	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2502650	Kjeldahl Nitrogen	4.17	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503883	Kjeldahl Nitrogen	2.04	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P448306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503059	Kjeldahl Nitrogen	1.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2502650	Kjeldahl Nitrogen	4.17	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503883	Kjeldahl Nitrogen	2.04	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503059	Kjeldahl Nitrogen	1.29	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P448308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503062	Kjeldahl Nitrogen	3.25	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448393

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503017	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503058	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P448515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2502976	NO2NO3-N	0.418	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P448297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503017	Total-P	0.131	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P448447

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503027	Total-P	1.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P448144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2502849	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P448145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2503081	O-Phosphate-P	0.910	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A126784

Included Lab Sample IDs: 2503066, 2503067, 2503068, 2503069, 2503070, 2503079, 2503080, 2503081, 2503082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.5	98.0	P/P	90 - 110
O-Phosphate-P	98.0	98.2	P/P	90 - 110
O-Phosphate-P	98.2	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0 dissolved

Run ID: A126860

Included Lab Sample IDs: 2503061, 2503062, 2503063, 2503064, 2503065, 2503075

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A126872

Included Lab Sample IDs: 2503072

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A126874

Included Lab Sample IDs: 2503072, 2503073, 2503074

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A126885

Included Lab Sample IDs: 2503073, 2503074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	92.2	95.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A126887

Included Lab Sample IDs: 2503056, 2503057, 2503072, 2503073, 2503074

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A126887

Included Lab Sample IDs: 2503076, 2503077, 2503078

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A126915
Included Lab Sample IDs: 2503056, 2503057, 2503058, 2503059, 2503060, 2503071

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A126925
Included Lab Sample IDs: 2503056, 2503057, 2503058, 2503059, 2503060, 2503071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A126933
Included Lab Sample IDs: 2503056, 2503057, 2503058, 2503059, 2503072, 2503073, 2503074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.7	P/P	90 - 110
Ammonia-N	99.6	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A126938
Included Lab Sample IDs: 2503058, 2503059, 2503060, 2503071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	98.8	P/P	90 - 110
Kjeldahl Nitrogen	98.6	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Run ID: A126938
Included Lab Sample IDs: 2503063, 2503064, 2503065, 2503075

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A126971
Included Lab Sample IDs: 2503060, 2503071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0 dissolved
Run ID: A126971
Included Lab Sample IDs: 2503076, 2503077, 2503078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	98.7	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A126996

Included Lab Sample IDs: 2503061, 2503062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	103	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	MS
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	97.4	97.8		0.310
	Ammonia-N	96.6	95.6	96.2		0.513
	Ammonia-N	93.8	92.0	93.6		1.17
EPA 350.1 Rev. 2.0 dissolved	Ammonia-N	97.4	93.8	96.4		2.30
	Ammonia-N	94.0	101	102		1.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.7	106	102		3.28
	Kjeldahl Nitrogen	102	104	99.6		4.17
	Kjeldahl Nitrogen	99.4	98.3	96.1		2.04
	Kjeldahl Nitrogen	101	104	102		1.29
EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	102	104	99.6		4.17
	Kjeldahl Nitrogen	99.4	98.3	96.1		2.04
	Kjeldahl Nitrogen	101	104	102		1.29
	Kjeldahl Nitrogen	99.9	102	107		3.25
EPA 353.2 Rev. 2.0	NO2NO3-N	101	103	103		0.0
	NO2NO3-N	99.5	98.0			0.0
	NO2NO3-N	101	94.7	94.2		0.418
EPA 365.1 Rev. 2.0	Total-P	99.4	91.9	91.8		0.131
	Total-P	102	103	105		1.37
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	98.6	98.6		0.0
	O-Phosphate-P	102	98.7	99.8		0.910

Reference Method Descriptions

Method	Description	Associated Samples
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2503056, 2503057, 2503058, 2503059, 2503060, 2503071, 2503072, 2503073, 2503074
EPA 350.1 Rev. 2.0 dissolved	Ammonia, dissolved, in filtered, aqueous matrices as mg N/L	2503061, 2503062, 2503063, 2503064, 2503065, 2503075, 2503076, 2503077, 2503078
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2503056, 2503057, 2503058, 2503059, 2503060, 2503071, 2503072, 2503073, 2503074
EPA 351.2 Rev. 2.0 dissolved	Total Kjeldahl Nitrogen, dissolved, in filtered, aqueous matrices	2503061, 2503062, 2503063, 2503064, 2503065, 2503075, 2503076, 2503077, 2503078
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2503056, 2503057, 2503058, 2503059, 2503060, 2503071, 2503072, 2503073, 2503074
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2503056, 2503057, 2503058, 2503059, 2503060, 2503071, 2503072, 2503073, 2503074
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2503066, 2503067, 2503068, 2503069, 2503070, 2503079, 2503080, 2503081, 2503082

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	07/19/2024			07/26/2024 12:36	Khloe J Berg	2503072
	07/19/2024			07/26/2024 12:37	Khloe J Berg	2503073
	07/19/2024			07/26/2024 12:38	Khloe J Berg	2503074
	07/19/2024			07/26/2024 14:49	Khloe J Berg	2503056
	07/19/2024			07/26/2024 14:50	Khloe J Berg	2503057
	07/19/2024			07/26/2024 14:52	Khloe J Berg	2503058
	07/19/2024			07/26/2024 14:53	Khloe J Berg	2503059
	07/19/2024			07/30/2024 12:14	Robyn Blevins	2503060
	07/19/2024			07/30/2024 12:16	Robyn Blevins	2503071
	07/19/2024			07/24/2024 12:56	Robyn Blevins	2503061
EPA 350.1 Rev. 2.0 dissolved	07/19/2024			07/24/2024 12:57	Robyn Blevins	2503062
	07/19/2024			07/24/2024 12:59	Robyn Blevins	2503063
	07/19/2024			07/24/2024 13:00	Robyn Blevins	2503064
	07/19/2024			07/24/2024 13:01	Robyn Blevins	2503065
	07/19/2024			07/24/2024 13:03	Robyn Blevins	2503075
	07/19/2024			07/30/2024 12:34	Robyn Blevins	2503076
	07/19/2024			07/30/2024 12:36	Robyn Blevins	2503077
	07/19/2024			07/30/2024 12:37	Robyn Blevins	2503078
	07/19/2024	07/23/2024 10:00	Robyn Blevins	07/25/2024 12:01	Samantha L Bates	2503056
	07/19/2024	07/23/2024 10:00	Robyn Blevins	07/25/2024 12:03	Samantha L Bates	2503057
EPA 351.2 Rev. 2.0	07/19/2024	07/24/2024 08:38	Simonne.V. Calhoun	07/25/2024 12:30	Samantha L Bates	2503072
	07/19/2024	07/24/2024 08:38	Simonne.V. Calhoun	07/25/2024 12:40	Samantha L Bates	2503073
	07/19/2024	07/24/2024 08:38	Simonne.V. Calhoun	07/25/2024 12:42	Samantha L Bates	2503074
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/26/2024 12:28	Robyn Blevins	2503058
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/26/2024 12:30	Robyn Blevins	2503059
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/26/2024 12:38	Robyn Blevins	2503060
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/26/2024 12:44	Robyn Blevins	2503071
	07/19/2024	07/24/2024 08:38	Simonne.V. Calhoun	07/25/2024 12:32	Samantha L Bates	2503076
	07/19/2024	07/24/2024 08:38	Simonne.V. Calhoun	07/25/2024 12:43	Samantha L Bates	2503077
	07/19/2024	07/24/2024 08:38	Simonne.V. Calhoun	07/25/2024 12:45	Samantha L Bates	2503078
EPA 351.2 Rev. 2.0 dissolved	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/26/2024 12:39	Robyn Blevins	2503063
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/26/2024 12:41	Robyn Blevins	2503064
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/26/2024 12:43	Robyn Blevins	2503065
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/26/2024 12:46	Robyn Blevins	2503075
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/31/2024 10:50	Samantha L Bates	2503061
	07/19/2024	07/24/2024 12:04	Simonne.V. Calhoun	07/31/2024 10:52	Samantha L Bates	2503062
	07/19/2024			07/24/2024 14:32	Fadila Guebre	2503072
	07/19/2024			07/24/2024 14:33	Fadila Guebre	2503073
	07/19/2024			07/24/2024 15:25	Fadila Guebre	2503074
	07/19/2024			07/26/2024 12:00	Fadila Guebre	2503058
EPA 353.2 Rev. 2.0	07/19/2024					
	07/19/2024					
	07/19/2024					
	07/19/2024					

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	07/19/2024			07/26/2024 12:06	Fadila Guebre	2503059
	07/19/2024			07/26/2024 12:07	Fadila Guebre	2503060
	07/19/2024			07/26/2024 12:09	Fadila Guebre	2503071
	07/19/2024			07/26/2024 13:20	Fadila Guebre	2503056
	07/19/2024			07/26/2024 13:21	Fadila Guebre	2503057
EPA 365.1 Rev. 2.0	07/19/2024	07/24/2024 08:31	Adam P Silver	07/24/2024 17:21	Simonne.V. Calhoun	2503072
	07/19/2024	07/24/2024 08:31	Adam P Silver	07/25/2024 11:25	Simonne.V. Calhoun	2503073
	07/19/2024	07/24/2024 08:31	Adam P Silver	07/25/2024 11:26	Simonne.V. Calhoun	2503074
	07/19/2024	07/25/2024 15:35	Adam P Silver	07/26/2024 10:18	Elise M. Gillis	2503056
	07/19/2024	07/25/2024 15:35	Adam P Silver	07/26/2024 10:19	Elise M. Gillis	2503057
	07/19/2024	07/25/2024 15:35	Adam P Silver	07/26/2024 10:20	Elise M. Gillis	2503058
	07/19/2024	07/25/2024 15:35	Adam P Silver	07/26/2024 10:21	Elise M. Gillis	2503059
	07/19/2024	07/25/2024 15:35	Adam P Silver	07/26/2024 10:22	Elise M. Gillis	2503060
EPA 365.1 Rev. 2.0 dissolved	07/19/2024	07/25/2024 15:35	Adam P Silver	07/26/2024 10:23	Elise M. Gillis	2503071
	07/19/2024			07/19/2024 13:21	Elise M. Gillis	2503066
	07/19/2024			07/19/2024 13:22	Elise M. Gillis	2503067
	07/19/2024			07/19/2024 13:28	Elise M. Gillis	2503068
	07/19/2024			07/19/2024 13:29	Elise M. Gillis	2503069
	07/19/2024			07/19/2024 13:30	Elise M. Gillis	2503070
	07/19/2024			07/19/2024 13:31	Elise M. Gillis	2503079
	07/19/2024			07/19/2024 13:33	Elise M. Gillis	2503081
	07/19/2024			07/19/2024 13:36	Elise M. Gillis	2503080
	07/19/2024			07/19/2024 13:42	Elise M. Gillis	2503082