

Chemical Analysis Report

CEN-DIST-2023-04-13-01

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

Event Description: **BMAP - Sweetwater and Salt + Blank**
Request ID: **RQ-2023-04-10-20**
Customer: **CEN-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Matthew Bearden

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 04-MAY-2023 11:47



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: FB

Collection Date/Time: 04/12/2023 10:15

Field ID: FB_04122023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400112	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P428462	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P428491	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P428766	
		Sulfate	0.20	U	mg SO4/L	P428769	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P428656	
	SM 2540 C-2015	TDS	15	U	mg/L	P428693	
	SM 2540 D-2015	TSS	2	U	mg/L	P428803	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P428929	
2400113	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P428751	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P428478	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P428855	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P428518	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P428607	
2400114	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P428448	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: SALT CREEK AT PACKARD AVE

Collection Date/Time: 04/12/2023 10:30

Field ID: G2CE0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400106	DEP SOP: NU-094-1	Color (true)	46		PCU	P428462	
	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P428491	
	EPA 300.0 Rev. 2.1	Chloride	1.4E+03		mg Cl/L	P428766	
		Sulfate	200		mg SO4/L	P428769	
	SM 2320 B-2011	Total Alkalinity	124		mg CaCO3/L	P428655	
	SM 2540 C-2015	TDS	2.45E+03		mg/L	P428693	
	SM 2540 D-2015	TSS	7	I	mg/L	P428803	
	SM 4500-F- C-2011	Fluoride	0.14		mg F/L	P428929	
2400108	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P428751	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P428478	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P428855	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P428518	
	SM 5310 B-2011	Organic Carbon	6.5		mg C/L	P428607	
2400110	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P428447	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: SWEETWATER CREEK AT FLORIDA AVENUE Collection Date/Time: 04/12/2023 10:03

Field ID: G2CE0123

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2400107	DEP SOP: NU-094-1	Color (true)	38		PCU	P428462	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P428491	
	EPA 300.0 Rev. 2.1	Chloride	170		mg Cl/L	P428766	
		Sulfate	25		mg SO4/L	P428769	
	SM 2320 B-2011	Total Alkalinity	127		mg CaCO3/L	P428655	
	SM 2540 C-2015	TDS	444		mg/L	P428693	
	SM 2540 D-2015	TSS	4	I	mg/L	P428803	
	SM 4500-F- C-2011	Fluoride	0.31		mg F/L	P428929	
2400109	EPA 350.1 Rev. 2.0	Ammonia-N	0.064		mg N/L	P428751	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P428478	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.4		mg N/L	P428855	
	EPA 365.1 Rev. 2.0	Total-P	0.45		mg P/L	P428518	
	SM 5310 B-2011	Organic Carbon	7.2		mg C/L	P428607	
2400111	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.36		mg P/L	P428447	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P428462

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428491

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428766

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428769

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428751

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428478

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428855

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428518

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428447

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: P428448

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

Reference Method: SM 2320 B-2011
Batch ID: P428655

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2320 B-2011
Batch ID: P428656

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2015
Batch ID: P428693

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P428803

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P428929

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P428607

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P428462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428491

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428766

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428769

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428751

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428478

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428855

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: P428518

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428447

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: P428448

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

Reference Method: SM 2320 B-2011
Batch ID: P428655

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.4		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P428656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.9		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P428693

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.7		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P428803

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P428929

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P428607

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400028	Chloride	104		P	90 - 110
2400031	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400028	Sulfate	102		P	90 - 110
2400031	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400124	Ammonia-N	97.8	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400070	Kjeldahl Nitrogen	109	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400090	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428518

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400070	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428447

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400091	O-Phosphate-P	99.3	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400250	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P428929

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400031	Fluoride	101	102	P/P	94 - 104

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P428607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2400124	Organic Carbon	87.4	94.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P428462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400077	Color (true)	1.05	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2399940	Turbidity	8.60	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400028	Chloride	1.37	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400028	Sulfate	1.83	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400124	Ammonia-N	1.32	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400070	Kjeldahl Nitrogen	3.72	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400090	NO2NO3-N	0.489	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428518

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400070	Total-P	2.03	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428447

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400091	O-Phosphate-P	0.201	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400250	O-Phosphate-P	0.396	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P428655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400031	Total Alkalinity	1.68	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P428656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400213	Total Alkalinity	0.177	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P428693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400030	TDS	2.60	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P428929

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400031	Fluoride	0.470	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P428607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2400124	Organic Carbon	7.56	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: A118556

Included Lab Sample IDs: 2400110, 2400111, 2400114

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.4	P/P	90 - 110
O-Phosphate-P	98.6	98.6	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A118558

Included Lab Sample IDs: 2400106, 2400107, 2400112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.9	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118570

Included Lab Sample IDs: 2400106, 2400107, 2400112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118607

Included Lab Sample IDs: 2400108, 2400109

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118615

Included Lab Sample IDs: 2400113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	99.0	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118628

Included Lab Sample IDs: 2400108, 2400109, 2400113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	99.4	P/P	90 - 110
Organic Carbon	99.4	98.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118632

Included Lab Sample IDs: 2400108, 2400109, 2400113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	106	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118641

Included Lab Sample IDs: 2400106, 2400107, 2400112

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118641

Included Lab Sample IDs: 2400106, 2400107, 2400112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.7	98.3	P/P	90 - 110
Sulfate	99.0	99.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118645

Included Lab Sample IDs: 2400106, 2400107, 2400112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.8	93.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118680

Included Lab Sample IDs: 2400108, 2400109, 2400113

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118722

Included Lab Sample IDs: 2400108, 2400109, 2400113

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

Reference Method: SM 4500-F- C-2011

Run ID: A118753

Included Lab Sample IDs: 2400106, 2400107, 2400112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	100	P/P	90 - 110
Fluoride	100	100	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
DEP SOP: NU-094-1	Color (true)	99.9			1.05	
EPA 180.1 Rev. 2.0	Turbidity	99.5			8.60	
EPA 300.0 Rev. 2.1	Chloride	102	104	104	1.37	
	Sulfate	103	102	102	1.83	
EPA 350.1 Rev. 2.0	Ammonia-N	96.8	97.8	99.2		1.32
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	109	102		3.72
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	102	102		0.489
EPA 365.1 Rev. 2.0	Total-P	103	102	104		2.03
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	99.3	99.5		0.201
	O-Phosphate-P	99.1	101	101		0.396
SM 2320 B-2011	Total Alkalinity	95.4			1.68	
	Total Alkalinity	95.9			0.177	
SM 2540 C-2015	TDS	97.7			2.60	
SM 2540 D-2015	TSS	96.9				
SM 4500-F- C-2011	Fluoride	99.3	101	102		0.470
SM 5310 B-2011	Organic Carbon	95.2	87.4	94.5		7.56

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2400106, 2400107, 2400112
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2400106, 2400107, 2400112
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2400106, 2400107, 2400112
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2400106, 2400107, 2400112
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2400108, 2400109, 2400113
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2400108, 2400109, 2400113
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2400108, 2400109, 2400113
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2400108, 2400109, 2400113
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2400110, 2400111, 2400114
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2400106, 2400107, 2400112
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2400106, 2400107, 2400112
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2400106, 2400107, 2400112
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2400106, 2400107, 2400112
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2400108, 2400109, 2400113

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	04/13/2023			04/13/2023 15:33	Alexis Price	2400106
	04/13/2023			04/13/2023 15:34	Alexis Price	2400107, 2400112
EPA 180.1 Rev. 2.0	04/13/2023			04/13/2023 14:16	Anna M. Plaviak	2400106
	04/13/2023			04/13/2023 14:17	Anna M. Plaviak	2400107
	04/13/2023			04/13/2023 14:18	Anna M. Plaviak	2400112
EPA 300.0 Rev. 2.1	04/13/2023			04/20/2023 07:53	James L Waggeberby	2400106
	04/13/2023			04/20/2023 08:08	James L Waggeberby	2400107
	04/13/2023			04/20/2023 08:23	James L Waggeberby	2400112
EPA 350.1 Rev. 2.0	04/13/2023			04/19/2023 12:21	Ping Hua	2400108
	04/13/2023			04/19/2023 12:22	Ping Hua	2400109
	04/13/2023			04/19/2023 12:23	Ping Hua	2400113
EPA 351.2 Rev. 2.0	04/13/2023	04/14/2023 11:35	Simonne.V. Calhoun	04/18/2023 12:29	Samantha L Bates	2400108
	04/13/2023	04/14/2023 11:35	Simonne.V. Calhoun	04/18/2023 12:31	Samantha L Bates	2400113
	04/13/2023	04/14/2023 11:35	Simonne.V. Calhoun	04/18/2023 12:32	Samantha L Bates	2400109
EPA 353.2 Rev. 2.0	04/13/2023			04/21/2023 10:05	Beverly Y. Sanders	2400108
	04/13/2023			04/21/2023 10:39	Beverly Y. Sanders	2400109
	04/13/2023			04/21/2023 10:41	Beverly Y. Sanders	2400113
EPA 365.1 Rev. 2.0	04/13/2023	04/14/2023 14:15	Alexis Price	04/17/2023 09:39	James L Waggeberby	2400108
	04/13/2023	04/14/2023 14:15	Alexis Price	04/17/2023 09:40	James L Waggeberby	2400109
	04/13/2023	04/14/2023 14:15	Alexis Price	04/17/2023 15:40	James L Waggeberby	2400113
EPA 365.1 Rev. 2.0 dissolved	04/13/2023			04/13/2023 13:46	Elise M. Gillis	2400110
	04/13/2023			04/13/2023 13:48	Elise M. Gillis	2400111
	04/13/2023			04/13/2023 13:58	Elise M. Gillis	2400114
SM 2320 B-2011	04/13/2023			04/18/2023 17:00	Dale L. Simmons	2400107
	04/13/2023			04/18/2023 17:12	Dale L. Simmons	2400106
	04/13/2023			04/18/2023 18:23	Dale L. Simmons	2400112
SM 2540 C-2015	04/13/2023			04/14/2023 13:00	Dana G. Hughes	2400106, 2400107, 2400112
SM 2540 D-2015	04/13/2023			04/14/2023 13:00	Dana G. Hughes	2400106, 2400107, 2400112
SM 4500-F- C-2011	04/13/2023			04/24/2023 20:42	Dale L. Simmons	2400107
	04/13/2023			04/24/2023 20:47	Dale L. Simmons	2400112
	04/13/2023			04/24/2023 21:13	Dale L. Simmons	2400106
SM 5310 B-2011	04/13/2023			04/18/2023 02:01	Elise M. Gillis	2400108
	04/13/2023			04/18/2023 02:46	Elise M. Gillis	2400109
	04/13/2023			04/18/2023 03:00	Elise M. Gillis	2400113