

Chemical Analysis Report

NE-DIST-2024-04-26-02

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
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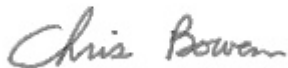
Event Description: **Plummer Creek CM**
Request ID: **RQ-2024-04-08-12**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 24-MAY-2024 12:25



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: PLUMMER CREEK AT SECOND ISLAND

Collection Date/Time: 04/25/2024 10:20

Field ID: G4NE0301					Matrix: W-SURF-FRH			
Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes	
2485259	DEP SOP: NU-094-1	Color (true)	380		PCU	P444863		
	EPA 180.1 Rev. 2.0	Turbidity	9.3		NTU	P444866		
	EPA 300.0 Rev. 2.1	Chloride	75		mg Cl/L	P445270		
		Sulfate	15		mg SO4/L	P445275		
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P445056	RPD	
	SM 2540 C-2015	TDS	245		mg/L	P445464		
	SM 2540 D-2015	TSS	12		mg/L	P445493		
	SM 4500-F- C-2011	Fluoride	0.072	I	mg F/L	P445060		
2485260	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P445068		
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P444975		
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P445530		
	EPA 365.1 Rev. 2.0	Total-P	0.080		mg P/L	P444948		
	SM 5310 B-2014	Organic Carbon	31		mg C/L	P445150		

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: P444863

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444866

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445270

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445275

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445068

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444975

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445530

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444948

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

Reference Method: SM 2320 B-2011
Batch ID: P445056

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P445464

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P445493

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P445060

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P445150

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: P444863

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.2		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444866

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445275

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	108		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445068

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444975

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: P445530

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444948

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

Reference Method: SM 2320 B-2011
Batch ID: P445056

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.2		P	92 - 105

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P445464

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.8		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P445493

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.8		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P445060

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P445150

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485165	Chloride	103		P	90 - 110
2485193	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485165	Sulfate	103		P	90 - 110
2485193	Sulfate	107		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485230	Ammonia-N	97.2	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485204	Kjeldahl Nitrogen	104	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485277	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485170	Total-P	104	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P445060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485163	Fluoride	103	103	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P445150

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485168	Organic Carbon	98.0	99.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P444863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485288	Color (true)	2.19	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444866

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485125	Turbidity	5.39	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485165	Chloride	0.0398	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485165	Sulfate	0.762	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485230	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485204	Kjeldahl Nitrogen	1.58	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485277	NO2NO3-N	0.496	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485170	Total-P	0.572	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2320 B-2011
Batch ID: P445056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485163	Total Alkalinity	8.93	Sample	F	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P445464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485182	TDS	3.89	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P445060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485163	Fluoride	0.495	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P445150

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485168	Organic Carbon	1.79	Spike	P	0 - 15

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

Quality Assurance Report

Calibration Verification

Reference Method: DEP SOP: NU-094-1
Run ID: A125553
Included Lab Sample IDs: 2485259

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125555
Included Lab Sample IDs: 2485259

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125609
Included Lab Sample IDs: 2485260

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

Reference Method: SM 2320 B-2011
Run ID: A125619
Included Lab Sample IDs: 2485259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125619
Included Lab Sample IDs: 2485259

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125620
Included Lab Sample IDs: 2485260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A125640
Included Lab Sample IDs: 2485259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	103	P/P	90 - 110
Sulfate	104	105	P/P	90 - 110

Reference Method: SM 5310 B-2014
Run ID: A125643
Included Lab Sample IDs: 2485260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	111	98.2	P/P	70 - 130

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125654
Included Lab Sample IDs: 2485260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125796
Included Lab Sample IDs: 2485260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	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)	98.2			2.19	
EPA 180.1 Rev. 2.0	Turbidity	104			5.39	
EPA 300.0 Rev. 2.1	Chloride	105	103	106	0.0398	
	Sulfate	108	103	107	0.762	
EPA 350.1 Rev. 2.0	Ammonia-N	95.4	97.2	99.0		1.06
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	104	106		1.58
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	100		0.496
EPA 365.1 Rev. 2.0	Total-P	101	104	104		0.572
SM 2320 B-2011	Total Alkalinity	98.2			8.93	
SM 2540 C-2015	TDS	98.8			3.89	
SM 2540 D-2015	TSS	96.8				
SM 4500-F- C-2011	Fluoride	102	103	103		0.495
SM 5310 B-2014	Organic Carbon	98.7	98.0	99.9		1.79

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2485259
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2485259
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2485259
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2485259
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2485260
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2485260
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2485260
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2485260
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2485259
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2485259
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2485259
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2485259
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2485260

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	04/26/2024			04/26/2024 14:08	Samantha L Bates	2485259
EPA 180.1 Rev. 2.0	04/26/2024			04/26/2024 14:09	Samantha L Bates	2485259
EPA 300.0 Rev. 2.1	04/26/2024			05/02/2024 08:58	Samantha L Bates	2485259
EPA 350.1 Rev. 2.0	04/26/2024			05/01/2024 14:11	Khloe J Berg	2485260
EPA 351.2 Rev. 2.0	04/26/2024	05/01/2024 13:27	Ping Hua	05/02/2024 12:47	Ping Hua	2485260
EPA 353.2 Rev. 2.0	04/26/2024			05/09/2024 13:03	Fadila Guebre	2485260
EPA 365.1 Rev. 2.0	04/26/2024	04/30/2024 12:43	Adam P Silver	05/01/2024 11:32	Chandler E Cox	2485260
SM 2320 B-2011	04/26/2024			05/01/2024 00:59	Dale L. Simmons	2485259
SM 2540 C-2015	04/26/2024			04/30/2024 15:24	Yijie Li	2485259
SM 2540 D-2015	04/26/2024			04/30/2024 15:24	Yijie Li	2485259
SM 4500-F- C-2011	04/26/2024			05/01/2024 00:59	Dale L. Simmons	2485259
SM 5310 B-2014	04/26/2024			05/02/2024 06:44	Jessica K Wilks	2485260