

Chemical Analysis Report

SE-DIST-2023-04-20-01

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

Event Description: **Jupiter / Jupiter Deployment**
Request ID: **RQ-2023-04-03-34**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 12-MAY-2023 10:42



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: JONES CREEK TIDAL AT FOOTBRIDGE

Collection Date/Time: 04/19/2023 11:20

Field ID: G2SE0075

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2401934	DEP SOP: NU-094-1	Color (true)	72		PCU	P428786	
	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P428796	
	EPA 300.0 Rev. 2.1	Chloride	5.3E+03		mg Cl/L	P429068	
		Sulfate	740		mg SO4/L	P429072	
	SM 2320 B-2011	Total Alkalinity	134		mg CaCO3/L	P429189	
	SM 2540 C-2015	TDS	1.02E+04		mg/L	P429182	
	SM 2540 D-2015	TSS	4	IA	mg/L	P429186	
	SM 4500-F- C-2011	Fluoride	0.42		mg F/L	P429698	
2401935	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P429010	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P428996	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P429547	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P429002	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P429307	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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: P428786

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428796

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429068

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429072

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429010

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428996

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429547

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429002

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

Reference Method: SM 2320 B-2011
Batch ID: P429189

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: P429182

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P429186

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P429698

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P429307

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: P428786

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428796

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429068

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429072

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429010

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428996

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429547

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429002

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

Reference Method: SM 2320 B-2011
Batch ID: P429189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.2		P	94 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P429182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.2		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P429186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	102		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P429698

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P429307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401813	Chloride	101		P	90 - 110
2401909	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401909	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429010

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401462	Ammonia-N	100	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428996

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401851	Kjeldahl Nitrogen	98.6	94.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401776	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402635	Total-P	95.3	97.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P429698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401934	Fluoride	100	100	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P429307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2401935	Organic Carbon	95.9	96.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P428786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401856	Color (true)	2.36	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401856	Turbidity	9.61	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401813	Chloride	0.0105	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401813	Sulfate	0.716	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401462	Ammonia-N	0.159	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401851	Kjeldahl Nitrogen	3.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401776	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402635	Total-P	1.54	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P429189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2403072	Total Alkalinity	0.185	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P429182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401119	TDS	4.74	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P429698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401934	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P429307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401935	Organic Carbon	0.0809	Spike	P	0 - 20

* 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: A118689

Included Lab Sample IDs: 2401934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118691

Included Lab Sample IDs: 2401934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118755

Included Lab Sample IDs: 2401934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.4	99.5	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118788

Included Lab Sample IDs: 2401935

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118812

Included Lab Sample IDs: 2401935

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118833

Included Lab Sample IDs: 2401935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.2	97.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118869

Included Lab Sample IDs: 2401934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.5	94.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118925

Included Lab Sample IDs: 2401935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A119011

Included Lab Sample IDs: 2401935

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

Reference Method: SM 4500-F- C-2011

Run ID: A119080

Included Lab Sample IDs: 2401934

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	100			2.36	
EPA 180.1 Rev. 2.0	Turbidity	99.7			9.61	
EPA 300.0 Rev. 2.1	Chloride	101	101	103	0.0105	
	Sulfate	102	103		0.716	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	100	99.8		0.159
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.0	98.6	94.7		3.36
EPA 353.2 Rev. 2.0	NO2NO3-N	103	104	105		0.477
EPA 365.1 Rev. 2.0	Total-P	102	95.3	97.2		1.54
SM 2320 B-2011	Total Alkalinity	96.2			0.185	
SM 2540 C-2015	TDS	94.2			4.74	
SM 2540 D-2015	TSS	102				
SM 4500-F- C-2011	Fluoride	99.5	100	100		0.0
SM 5310 B-2011	Organic Carbon	105	95.9	96.0		0.0809

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2401934
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2401934
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2401934
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2401934
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2401935
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2401935
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2401935
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2401935
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2401934
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2401934
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2401934
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2401934
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2401935

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	04/20/2023			04/20/2023 14:40	Chandler E Cox	2401934
EPA 180.1 Rev. 2.0	04/20/2023			04/20/2023 15:01	Anna M. Plaviak	2401934
EPA 300.0 Rev. 2.1	04/20/2023			04/27/2023 07:49	James L Waggeberby	2401934
EPA 350.1 Rev. 2.0	04/20/2023			04/26/2023 13:42	Ping Hua	2401935
EPA 351.2 Rev. 2.0	04/20/2023	04/26/2023 12:20	Dana G. Hughes	04/27/2023 13:45	Ping Hua	2401935
EPA 353.2 Rev. 2.0	04/20/2023			05/04/2023 14:47	Anna M. Plaviak	2401935
EPA 365.1 Rev. 2.0	04/20/2023	04/26/2023 14:50	Adam P Silver	04/27/2023 08:57	Simonne.V. Calhoun	2401935
SM 2320 B-2011	04/20/2023			04/28/2023 05:40	Dale L. Simmons	2401934
SM 2540 C-2015	04/20/2023			04/21/2023 14:41	Yijie Li	2401934
SM 2540 D-2015	04/20/2023			04/21/2023 14:41	Yijie Li	2401934
SM 4500-F- C-2011	04/20/2023			05/10/2023 04:41	Dale L. Simmons	2401934
SM 5310 B-2011	04/20/2023			05/03/2023 00:06	Elise M. Gillis	2401935