Chemical Analysis Report

SE-DIST-2023-02-01-01

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

Event Description: **Jupiter / Jupiter Deployment**
Request ID: **RQ-2023-01-30-18**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
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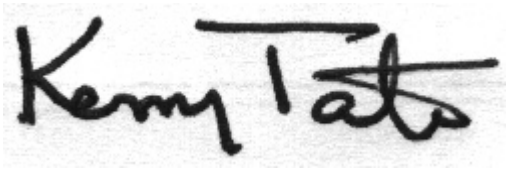
Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 21-FEB-2023 12:47



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: Jones Creek at SR 706 **Collection Date/Time: 01/31/2023 11:15**

Field ID: G2SE0074 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2384200	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P425276	
	SM 2320 B-2011	Total Alkalinity	159		mg CaCO3/L	P425570	
	SM 2540 D-2015	TSS	4	I A	mg/L	P425827	
	SM 4500-F- C-2011	Fluoride	0.79		mg F/L	P425575	
2384201	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P425728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P425343	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P425515	
	EPA 365.1 Rev. 2.0	Total-P	0.085		mg P/L	P425282	
	SM 5310 B-2011	Organic Carbon	8.2		mg C/L	P425588	

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: Sims Creek near Sims Creek Dr. **Collection Date/Time: 01/31/2023 11:00**

Field ID: G2SE0073 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2384212	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P425276	
	SM 2320 B-2011	Total Alkalinity	151		mg CaCO3/L	P425570	
	SM 2540 D-2015	TSS	3	I	mg/L	P425827	
	SM 4500-F- C-2011	Fluoride	0.91		mg F/L	P425575	
2384213	EPA 350.1 Rev. 2.0	Ammonia-N	0.37		mg N/L	P425728	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P425343	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.048		mg N/L	P425516	
	EPA 365.1 Rev. 2.0	Total-P	0.077		mg P/L	P425282	
	SM 5310 B-2011	Organic Carbon	7.3		mg C/L	P425588	

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: EPA 180.1 Rev. 2.0
Batch ID: P425276

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425728

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425343

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425515

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425516

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425282

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

Reference Method: SM 2320 B-2011
Batch ID: P425570

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

Reference Method: SM 2540 D-2015
Batch ID: P425827

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P425575

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P425588

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425276

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425728

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	91.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425515

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: P425516

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: P425282

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

Reference Method: SM 2320 B-2011
Batch ID: P425570

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.9		P	94 - 106

Reference Method: SM 2540 D-2015
Batch ID: P425827

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	99.0		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P425575

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P425588

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.0		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383669	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2384407	Kjeldahl Nitrogen	94.4	92.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383428	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2384213	NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2383808	Total-P	101	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P425575

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2384889	Fluoride	102	102	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P425588

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2384229	Organic Carbon	90.4	89.0	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384111	Turbidity	2.79	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P425728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383669	Ammonia-N	0.796	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384407	Kjeldahl Nitrogen	2.07	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383428	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P425516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384213	NO2NO3-N	0.394	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2383808	Total-P	0.0	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P425570

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384889	Total Alkalinity	0.342	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011
Batch ID: P425575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384889	Fluoride	0.0	Spike	P	0 - 1.6

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2011
Batch ID: P425588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2384229	Organic Carbon	1.13	Spike	P	0 - 20

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A117210
Included Lab Sample IDs: 2384200, 2384212

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A117251
Included Lab Sample IDs: 2384201, 2384213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A117273
Included Lab Sample IDs: 2384201, 2384213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A117314
Included Lab Sample IDs: 2384201, 2384213

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 2320 B-2011
Run ID: A117337
Included Lab Sample IDs: 2384200, 2384212

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	99.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A117337
Included Lab Sample IDs: 2384200, 2384212

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

Reference Method: SM 5310 B-2011
Run ID: A117348
Included Lab Sample IDs: 2384201, 2384213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	91.2	93.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A117409
Included Lab Sample IDs: 2384201, 2384213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	98.4	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A117409
Included Lab Sample IDs: 2384201, 2384213

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	98.7	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	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity	101				2.79	
EPA 350.1 Rev. 2.0	Ammonia-N	91.0	100	101			0.796
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.6	94.4	92.3			2.07
EPA 353.2 Rev. 2.0	NO2NO3-N	101	104	104			0.0
	NO2NO3-N	102	103	102			0.394
EPA 365.1 Rev. 2.0	Total-P	110	101	101			0.0
SM 2320 B-2011	Total Alkalinity	96.9				0.342	
SM 2540 D-2015	TSS	99.0					
SM 4500-F- C-2011	Fluoride	101	102	102			0.0
SM 5310 B-2011	Organic Carbon	93.0	90.4	89.0			1.13

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2384200, 2384212
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2384201, 2384213
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2384201, 2384213
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2384201, 2384213
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2384201, 2384213
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2384200, 2384212
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2384200, 2384212
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2384200, 2384212
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2384201, 2384213

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	02/01/2023			02/01/2023 15:35	Anna M. Plaviak	2384200
	02/01/2023			02/01/2023 15:37	Anna M. Plaviak	2384212
EPA 350.1 Rev. 2.0	02/01/2023			02/13/2023 11:19	Ping Hua	2384201
	02/01/2023			02/13/2023 12:56	Ping Hua	2384213
EPA 351.2 Rev. 2.0	02/01/2023	02/03/2023 11:05	Simonne.V. Calhoun	02/06/2023 11:54	Samantha L Bates	2384201
	02/01/2023	02/03/2023 11:05	Simonne.V. Calhoun	02/06/2023 11:56	Samantha L Bates	2384213
EPA 353.2 Rev. 2.0	02/01/2023			02/08/2023 09:31	Beverly Y. Sanders	2384201
	02/01/2023			02/08/2023 09:38	Beverly Y. Sanders	2384213
EPA 365.1 Rev. 2.0	02/01/2023	02/02/2023 14:04	Adam P Silver	02/03/2023 12:28	James L Waggerby	2384201
	02/01/2023	02/02/2023 14:04	Adam P Silver	02/03/2023 12:29	James L Waggerby	2384213
SM 2320 B-2011	02/01/2023			02/09/2023 05:40	Dale L. Simmons	2384200
	02/01/2023			02/09/2023 05:54	Dale L. Simmons	2384212
SM 2540 D-2015	02/01/2023			02/03/2023 15:44	Yijie Li	2384200, 2384212
SM 4500-F- C-2011	02/01/2023			02/09/2023 03:38	Dale L. Simmons	2384200
	02/01/2023			02/09/2023 03:43	Dale L. Simmons	2384212
SM 5310 B-2011	02/01/2023			02/09/2023 01:49	Elise M. Gillis	2384201
	02/01/2023			02/09/2023 02:02	Elise M. Gillis	2384213