

Chemical Analysis Report

NW-DIST-2022-10-14-02

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

Event Description: **Dune Lakes Run**
Request ID: **RQ-2022-10-10-36**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda Butler

For additional information please contact
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 04-NOV-2022 14:21



NON-CONFORMANCE REPORT INCLUDED

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: Alligator Lake

Collection Date/Time: 10/13/2022 11:15

Field ID: G3NW0219

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2362534	EPA 180.1 Rev. 2.0	Turbidity	0.90	I	NTU	P420948	
	SM 2320 B-2011	Total Alkalinity	41	AJ	mg CaCO3/L	P421170	RPD
	SM 2540 D-2015	TSS	2	I	mg/L	P421494	
	SM 4500-F- C-2011	Fluoride	0.27	J	mg F/L	P421173	MS
2362536	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	IY	mg N/L	P421227	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P420960	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	UY	mg N/L	P421448	MS
	EPA 365.1 Rev. 2.0	Total-P	0.012	Y	mg P/L	P421084	
	SM 5310 B-2011	Organic Carbon	11	Y	mg C/L	P421113	

Ref. Method and Comment:

SM 2320 B-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

SM 4500-F- C-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 350.1 Rev. 2.0: Sample stored outside of the acceptable temperature range. Please see NCR.

EPA 353.2 Rev. 2.0: Sample stored outside of the acceptable temperature range. Please see NCR.

EPA 365.1 Rev. 2.0: Total-P: Sample stored outside of the acceptable temperature range. Please see NCR.

SM 5310 B-2011: Sample stored outside of the acceptable temperature range. Please see NCR.

Sample Location: Western Lake

Collection Date/Time: 10/13/2022 12:15

Field ID: G3NW0007

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2362535	EPA 180.1 Rev. 2.0	Turbidity	0.95	I	NTU	P420948	
	SM 2320 B-2011	Total Alkalinity	46		mg CaCO3/L	P421170	RPD
	SM 2540 D-2015	TSS	2	I	mg/L	P421494	
	SM 4500-F- C-2011	Fluoride	0.26		mg F/L	P421173	MS
2362541	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	UY	mg N/L	P421227	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P420960	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	UY	mg N/L	P421448	MS
	EPA 365.1 Rev. 2.0	Total-P	0.007	IY	mg P/L	P421084	
	SM 5310 B-2011	Organic Carbon	10	Y	mg C/L	P421129	

Ref. Method and Comment:

EPA 350.1 Rev. 2.0: Sample stored outside of the acceptable temperature range. Please see NCR.

EPA 353.2 Rev. 2.0: Sample stored outside of the acceptable temperature range. Please see NCR.

EPA 365.1 Rev. 2.0: Total-P: Sample stored outside of the acceptable temperature range. Please see NCR.

SM 5310 B-2011: Sample stored outside of the acceptable temperature range. Please see NCR.

Non-Conformance Report

NCR ID: 9589

Event(s)

NW-DIST-2022-10-14-02
NW-DIST-2022-10-14-02

Job(s)

TLH-2022-10-14-30
TLH-2022-10-14-33

Sample(s)

2362536
2362541

Test(s)

NCR Type: CUSTODY

NCR Category: General

Observation: Samples stored at room temperature overnight on 10/17/2022.

Resolution: Samples placed in refrigerator on 10/18/2022 at 9:20 AM. Data generated after this time will be qualified where appropriate.

Authorized by/Date: Patrick M. Roche 10/27/2022

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P420948

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421227

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420960

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421448

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421084

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

Reference Method: SM 2320 B-2011
Batch ID: P421170

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

Reference Method: SM 2540 D-2015
Batch ID: P421494

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P421173

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P421113

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P421129

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: P420948

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421227

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420960

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421448

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421084

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

Reference Method: SM 2320 B-2011
Batch ID: P421170

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.6		P	94 - 106

Reference Method: SM 2540 D-2015
Batch ID: P421494

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.1		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P421173

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P421113

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P421129

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421227

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2362332	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420960

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2362228	Kjeldahl Nitrogen	98.9	94.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2364557	NO2NO3-N	110	106	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2363295	Total-P	98.7	99.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P421173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2362534	Fluoride	94.6	93.3	P/F	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P421113

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2362418	Organic Carbon	98.1	99.1	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P421129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2362568	Organic Carbon	99.2	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P420948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2362498	Turbidity	4.32	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P421227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2362332	Ammonia-N	0.545	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2362228	Kjeldahl Nitrogen	3.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P421448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2364557	NO2NO3-N	3.69	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P421084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2363295	Total-P	0.732	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P421170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2362534	Total Alkalinity	4.38	Sample	F	0 - 3.8

Reference Method: SM 2540 D-2015
Batch ID: P421494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2362934	TSS	6.45	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P421173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2362534	Fluoride	1.00	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P421113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2362418	Organic Carbon	0.708	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P421129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2362568	Organic Carbon	0.699	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: A115326

Included Lab Sample IDs: 2362534, 2362535

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A115368

Included Lab Sample IDs: 2362536, 2362541

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

Reference Method: SM 5310 B-2011

Run ID: A115398

Included Lab Sample IDs: 2362536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	96.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A115411

Included Lab Sample IDs: 2362541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	99.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A115421

Included Lab Sample IDs: 2362534, 2362535

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.8	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A115421

Included Lab Sample IDs: 2362534, 2362535

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A115448

Included Lab Sample IDs: 2362536, 2362541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A115477

Included Lab Sample IDs: 2362536, 2362541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	95.8	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115537

Included Lab Sample IDs: 2362536, 2362541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	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		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity	100				4.32	
EPA 350.1 Rev. 2.0	Ammonia-N	93.4	105	104			0.545
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	98.9	94.1			3.49
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	105	110	106			3.69
EPA 365.1 Rev. 2.0	Total-P	105	98.7	99.4			0.732
SM 2320 B-2011	Total Alkalinity	99.6				4.38	
SM 2540 D-2015	TSS	91.1				6.45	
SM 4500-F- C-2011	Fluoride	98.1	94.6	93.3			1.00
SM 5310 B-2011	Organic Carbon	96.2	98.1	99.1			0.708
	Organic Carbon	99.2	99.2	100			0.699

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2362534, 2362535
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2362536, 2362541
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2362536, 2362541
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2362536, 2362541
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2362536, 2362541
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2362534, 2362535
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2362534, 2362535
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2362534, 2362535
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2362536, 2362541

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	10/14/2022			10/14/2022 12:46	Chandler E Cox	2362534
	10/14/2022			10/14/2022 12:47	Chandler E Cox	2362535
EPA 350.1 Rev. 2.0	10/14/2022			10/21/2022 08:39	Judith K. Clark	2362536
	10/14/2022			10/21/2022 08:40	Judith K. Clark	2362541
EPA 351.2 Rev. 2.0	10/14/2022	10/17/2022 12:50	Simonne.V. Calhoun	10/18/2022 13:46	Samantha L Bates	2362536
	10/14/2022	10/17/2022 12:50	Simonne.V. Calhoun	10/18/2022 13:48	Samantha L Bates	2362541
EPA 353.2 Rev. 2.0	10/14/2022			10/26/2022 09:38	Beverly Y. Sanders	2362536
	10/14/2022			10/26/2022 09:40	Beverly Y. Sanders	2362541
EPA 365.1 Rev. 2.0	10/14/2022	10/20/2022 15:06	Adam P Silver	10/24/2022 10:05	James L Waggeberby	2362536
	10/14/2022	10/20/2022 15:06	Adam P Silver	10/24/2022 10:06	James L Waggeberby	2362541
SM 2320 B-2011	10/14/2022			10/20/2022 07:01	Dale L. Simmons	2362534
	10/14/2022			10/20/2022 07:26	Dale L. Simmons	2362535
SM 2540 D-2015	10/14/2022			10/19/2022 16:26	Yijie Li	2362534, 2362535
SM 4500-F- C-2011	10/14/2022			10/20/2022 06:06	Dale L. Simmons	2362534
	10/14/2022			10/20/2022 06:25	Dale L. Simmons	2362535
SM 5310 B-2011	10/14/2022			10/18/2022 22:03	Khloe J Berg	2362536
	10/14/2022			10/19/2022 21:49	Khloe J Berg	2362541