

Chemical Analysis Report

SO-DIST-2023-02-15-01

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

Event Description: **2023 SMP: Goin' Coastal**
Request ID: **RQ-2023-02-06-44**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: William Mullen

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 08-MAR-2023 17:32



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: Punta Rassa Cove

Collection Date/Time: 02/14/2023 08:45

Field ID: G2SD0047

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2387617	DEP SOP: NU-094-1	Color (true)	25		PCU	P425876	
	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P425882	
	EPA 300.0 Rev. 2.1	Chloride	1.3E+04		mg Cl/L	P426518	
		Sulfate	1.8E+03		mg SO4/L	P426520	
	SM 2320 B-2011	Total Alkalinity	121		mg CaCO3/L	P426294	
	SM 2540 C-2015	TDS	2.24E+04		mg/L	P426460	
	SM 2540 D-2015	TSS	3	U	mg/L	P426315	
	SM 4500-F- C-2011	Fluoride	0.90		mg F/L	P426644	
2387618	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P426416	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P425919	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.065		mg N/L	P426233	
	EPA 365.1 Rev. 2.0	Total-P	0.052		mg P/L	P425991	
	SM 5310 B-2011	Organic Carbon	9.1		mg C/L	P426334	

Sample Location: Hendry Creek Lower Site

Collection Date/Time: 02/14/2023 10:40

Field ID: G1SD0129

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2387615	DEP SOP: NU-094-1	Color (true)	23		PCU	P425876	
	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P425882	
	EPA 300.0 Rev. 2.1	Chloride	1.5E+04		mg Cl/L	P426518	
		Sulfate	2.1E+03		mg SO4/L	P426520	
	SM 2320 B-2011	Total Alkalinity	180		mg CaCO3/L	P426294	
	SM 2540 C-2015	TDS	2.54E+04		mg/L	P426460	
	SM 2540 D-2015	TSS	5	I	mg/L	P426315	
	SM 4500-F- C-2011	Fluoride	0.98		mg F/L	P426644	
2387616	EPA 350.1 Rev. 2.0	Ammonia-N	0.055		mg N/L	P426416	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P425919	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P426233	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P425991	
	SM 5310 B-2011	Organic Carbon	9.4		mg C/L	P426334	

Sample Location: FB

Collection Date/Time: 02/14/2023 11:25

Field ID: FB_02142023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2387619	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P425876	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P425882	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P426518	
		Sulfate	0.20	U	mg SO4/L	P426520	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P426392	
	SM 2540 C-2015	TDS	15	U	mg/L	P426459	
	SM 2540 D-2015	TSS	2	U	mg/L	P426313	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P426396	
2387620	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P426282	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P426211	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P426129	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P426383	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P426588	

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: P425876

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425882

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426518

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426520

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426282

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426416

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425919

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426211

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426129

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426233

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425991

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426383

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

Reference Method: SM 2320 B-2011
Batch ID: P426294

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

Reference Method: SM 2320 B-2011
Batch ID: P426392

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

Reference Method: SM 2540 C-2015
Batch ID: P426459

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2015
Batch ID: P426460

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P426313

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P426315

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P426396

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P426644

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P426334

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

Reference Method: SM 5310 B-2011
Batch ID: P426588

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: P425876

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: P425882

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426518

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426520

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426282

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426416

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: P425919

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426211

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426129

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426233

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425991

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426383

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

Reference Method: SM 2320 B-2011
Batch ID: P426294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.5		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P426392

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.7		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P426459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	106		P	89 - 110

Reference Method: SM 2540 C-2015
Batch ID: P426460

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.0		P	89 - 110

Reference Method: SM 2540 D-2015
Batch ID: P426313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.3		P	85 - 106

Reference Method: SM 2540 D-2015
Batch ID: P426315

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P426396

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P426644

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P426334

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P426588

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426518

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387907	Chloride	97.7		P	90 - 110
2387927	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387907	Sulfate	101		P	90 - 110
2387927	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387593	Ammonia-N	102	96.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388071	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425919

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387547	Kjeldahl Nitrogen	107	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387598	Kjeldahl Nitrogen	103	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387593	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387616	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425991

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387616	Total-P	93.9	95.9	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387935	Total-P	103	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P426396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387728	Fluoride	101	101	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P426644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2389384	Fluoride	97.6	97.6	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P426334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2388186	Organic Carbon	85.0	87.8	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P426588

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2387934	Organic Carbon	94.4	96.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P425876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387545	Color (true)	3.91	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P425882

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387543	Turbidity	3.70	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426518

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387907	Chloride	0.755	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P426520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387907	Sulfate	8.28	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387593	Ammonia-N	4.90	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P426416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388071	Ammonia-N	0.732	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P425919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387547	Kjeldahl Nitrogen	3.35	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P426211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387598	Kjeldahl Nitrogen	3.18	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387593	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P426233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387616	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P425991

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387616	Total-P	1.95	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P426383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387935	Total-P	0.136	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P426294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388336	Total Alkalinity	0.540	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P426392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387728	Total Alkalinity	0.783	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P426459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386878	TDS	7.32	Sample	P	0 - 10

Reference Method: SM 2540 C-2015
Batch ID: P426460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386837	TDS	4.23	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 D-2015
Batch ID: P426315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386900	TSS	4.44	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P426396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387728	Fluoride	0.513	Spike	P	0 - 1.6

Reference Method: SM 4500-F- C-2011
Batch ID: P426644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2389384	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P426334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2388186	Organic Carbon	2.56	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P426588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2387934	Organic Carbon	1.42	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: A117463

Included Lab Sample IDs: 2387615, 2387617, 2387619

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A117467

Included Lab Sample IDs: 2387615, 2387617, 2387619

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117560

Included Lab Sample IDs: 2387620

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117576

Included Lab Sample IDs: 2387616, 2387618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	97.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A117596

Included Lab Sample IDs: 2387616, 2387618

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

Reference Method: SM 2320 B-2011

Run ID: A117622

Included Lab Sample IDs: 2387615, 2387617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.5	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117623

Included Lab Sample IDs: 2387620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117625

Included Lab Sample IDs: 2387616, 2387618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	99.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A117645

Included Lab Sample IDs: 2387616, 2387618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	90.9	93.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A117667

Included Lab Sample IDs: 2387619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.6	96.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117667

Included Lab Sample IDs: 2387619

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A117685

Included Lab Sample IDs: 2387616, 2387618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	98.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A117687

Included Lab Sample IDs: 2387615, 2387617, 2387619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.0	96.8	P/P	90 - 110
Sulfate	99.1	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A117718

Included Lab Sample IDs: 2387620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	95.5	96.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A117756

Included Lab Sample IDs: 2387620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	97.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A117776

Included Lab Sample IDs: 2387615, 2387617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A117783

Included Lab Sample IDs: 2387620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.1	98.5	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			3.91	
EPA 180.1 Rev. 2.0	Turbidity	101			3.70	
EPA 300.0 Rev. 2.1	Chloride	98.7	97.7	99.0	0.755	
	Sulfate	102	101	102	8.28	
EPA 350.1 Rev. 2.0	Ammonia-N	101	102	96.4		4.90
	Ammonia-N	97.4	104	103		0.732
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.6	107	103		3.35
	Kjeldahl Nitrogen	100	103	99.0		3.18
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	101		0.0
	NO2NO3-N	101	103	103		0.0
EPA 365.1 Rev. 2.0	Total-P	99.2	93.9	95.9		1.95
	Total-P	101	103	103		0.136
SM 2320 B-2011	Total Alkalinity	99.5			0.540	
	Total Alkalinity	97.7			0.783	
SM 2540 C-2015	TDS	106			7.32	
	TDS	96.0			4.23	
SM 2540 D-2015	TSS	94.3				
	TSS	102			4.44	
SM 4500-F- C-2011	Fluoride	100	101	101		0.513
	Fluoride	99.4	97.6	97.6		0.0
SM 5310 B-2011	Organic Carbon	95.4	85.0	87.8		2.56
	Organic Carbon	95.0	94.4	96.0		1.42

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2387615, 2387617, 2387619
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2387615, 2387617, 2387619
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2387615, 2387617, 2387619
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2387615, 2387617, 2387619
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2387616, 2387618, 2387620
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2387616, 2387618, 2387620
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2387616, 2387618, 2387620
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2387616, 2387618, 2387620
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2387615, 2387617, 2387619
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2387615, 2387617, 2387619
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2387615, 2387617, 2387619
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2387615, 2387617, 2387619
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2387616, 2387618, 2387620

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	02/15/2023			02/15/2023 14:06	Alexis Price	2387615
	02/15/2023			02/15/2023 14:07	Alexis Price	2387617, 2387619
	02/15/2023			02/15/2023 14:31	Anna M. Plaviak	2387615
EPA 180.1 Rev. 2.0	02/15/2023			02/15/2023 14:32	Anna M. Plaviak	2387617
	02/15/2023			02/15/2023 14:34	Anna M. Plaviak	2387619
	02/15/2023			02/28/2023 16:50	Judith K. Clark	2387615
EPA 300.0 Rev. 2.1	02/15/2023			02/28/2023 17:20	Judith K. Clark	2387617
	02/15/2023			02/28/2023 17:50	Judith K. Clark	2387619
	02/15/2023			02/23/2023 12:05	Ping Hua	2387620
EPA 350.1 Rev. 2.0	02/15/2023			02/27/2023 11:01	Ping Hua	2387616
	02/15/2023			02/27/2023 11:02	Ping Hua	2387618
	02/15/2023	02/16/2023 11:00	Simonne.V. Calhoun	02/23/2023 13:15	Judith K. Clark	2387616
EPA 351.2 Rev. 2.0	02/15/2023	02/16/2023 11:00	Simonne.V. Calhoun	02/23/2023 13:16	Judith K. Clark	2387618
	02/15/2023	02/22/2023 13:15	Simonne.V. Calhoun	03/03/2023 12:29	Judith K. Clark	2387620
	02/15/2023			02/20/2023 10:35	Beverly Y. Sanders	2387620
EPA 353.2 Rev. 2.0	02/15/2023			02/22/2023 10:08	Beverly Y. Sanders	2387616
	02/15/2023			02/22/2023 10:18	Beverly Y. Sanders	2387618
	02/15/2023	02/17/2023 12:21	Adam P Silver	02/21/2023 14:26	James L Waggeberby	2387616
EPA 365.1 Rev. 2.0	02/15/2023	02/17/2023 12:21	Adam P Silver	02/21/2023 14:32	James L Waggeberby	2387618
	02/15/2023	02/27/2023 14:45	Alexis Price	02/28/2023 15:03	James L Waggeberby	2387620
SM 2320 B-2011	02/15/2023			02/23/2023 04:04	Chandler E Cox	2387615
	02/15/2023			02/23/2023 04:17	Chandler E Cox	2387617
	02/15/2023			02/25/2023 01:38	Dale L. Simmons	2387619
SM 2540 C-2015	02/15/2023			02/17/2023 15:46	Yijie Li	2387615, 2387617, 2387619
SM 2540 D-2015	02/15/2023			02/17/2023 15:46	Yijie Li	2387615, 2387617, 2387619
SM 4500-F- C-2011	02/15/2023			02/25/2023 01:38	Dale L. Simmons	2387619
	02/15/2023			03/02/2023 17:57	Chandler E Cox	2387615
	02/15/2023			03/02/2023 18:07	Chandler E Cox	2387617
SM 5310 B-2011	02/15/2023			02/23/2023 05:24	Elise M. Gillis	2387616
	02/15/2023			02/23/2023 05:41	Elise M. Gillis	2387618
	02/15/2023			03/01/2023 09:49	Elise M. Gillis	2387620