

Chemical Analysis Report

SO-DIST-2023-08-23-02

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

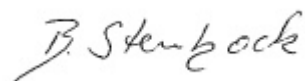
Event Description: **2023 SMP : P Riv**
Request ID: **RQ-2023-08-21-19**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 15-SEP-2023 17:18



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: PEACE RIVER ESTUARY AT HARBOUR HEIGHTS

Collection Date/Time: 08/22/2023 09:10

Field ID: G3SD0148

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2432832	DEP SOP: NU-094-1	Color (true)	140		PCU	P434245	
	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P434247	
	EPA 300.0 Rev. 2.1	Chloride	1.4E+03		mg Cl/L	P434331	
		Sulfate	240		mg SO4/L	P434333	
	SM 2320 B-2011	Total Alkalinity	70		mg CaCO3/L	P434411	RPD
	SM 2540 C-2015	TDS	2.57E+03		mg/L	P434620	
	SM 2540 D-2015	TSS	7	I	mg/L	P434617	
	SM 4500-F- C-2011	Fluoride	0.57		mg F/L	P434417	
2432833	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P434579	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P434826	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.044		mg N/L	P434558	
	EPA 365.1 Rev. 2.0	Total-P	0.56		mg P/L	P434357	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P434340	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low 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.

Sample Location: PEACE RIVER ABOVE HORSE CREEK 2

Collection Date/Time: 08/22/2023 10:20

Field ID: G3SD0154

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2432839	DEP SOP: NU-094-1	Color (true)	150		PCU	P434245	
	EPA 180.1 Rev. 2.0	Turbidity	9.0		NTU	P434247	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P434331	
		Sulfate	78		mg SO4/L	P434333	
	SM 2320 B-2011	Total Alkalinity	68		mg CaCO3/L	P434512	
	SM 2540 C-2015	TDS	262		mg/L	P434620	
	SM 2540 D-2015	TSS	13		mg/L	P434617	
	SM 4500-F- C-2011	Fluoride	0.66		mg F/L	P434515	
2432840	EPA 350.1 Rev. 2.0	Ammonia-N	0.066		mg N/L	P434447	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P434724	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.78		mg N/L	P434741	
	EPA 365.1 Rev. 2.0	Total-P	0.64		mg P/L	P434358	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P434340	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low 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: P434245

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434247

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434331

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434333

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434447

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434579

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434724

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434826

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434558

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: P434741

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434357

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434358

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

Reference Method: SM 2320 B-2011
Batch ID: P434411

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

Reference Method: SM 2320 B-2011
Batch ID: P434512

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

Reference Method: SM 2540 C-2015
Batch ID: P434620

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P434617

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P434417

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P434515

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: P434340

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: P434245

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434247

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434331

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434333

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434447

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434579

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434724

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434826

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434558

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434741

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434357

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434358

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

Reference Method: SM 2320 B-2011
Batch ID: P434411

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.8		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P434512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.0		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P434620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.4		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P434617

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.9		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P434417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P434515

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P434340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432696	Chloride	101		P	90 - 110
2433094	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432696	Sulfate	97.9		P	90 - 110
2433094	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434447

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432701	Ammonia-N	98.6	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433894	Ammonia-N	99.2	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432703	Kjeldahl Nitrogen	111	103	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434826

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432833	Kjeldahl Nitrogen	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432410	NO2NO3-N	97.4	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432701	NO2NO3-N	104	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433418	Total-P	102	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432653	Total-P	104	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P434417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432389	Fluoride	100	100	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P434515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2433094	Fluoride	99.0	97.8	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P434340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2432534	Organic Carbon	94.6	96.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P434245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432874	Color (true)	0.384	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P434247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432692	Turbidity	2.55	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P434331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432696	Chloride	0.355	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434447

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432701	Ammonia-N	0.385	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P434579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433894	Ammonia-N	0.372	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432703	Kjeldahl Nitrogen	4.92	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P434826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432833	Kjeldahl Nitrogen	0.764	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432410	NO2NO3-N	0.990	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P434741

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432701	NO2NO3-N	1.66	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433418	Total-P	1.11	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P434358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432653	Total-P	0.0681	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P434411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432389	Total Alkalinity	4.05	Sample	F	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P434512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433094	Total Alkalinity	2.46	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P434620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432702	TDS	1.44	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P434417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432389	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P434515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2433094	Fluoride	1.03	Spike	P	0 - 1.9

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P434340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2432534	Organic Carbon	1.06	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121182

Included Lab Sample IDs: 2432832, 2432839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.5	98.9	P/P	90 - 110
Sulfate	97.5	97.9	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A121205

Included Lab Sample IDs: 2432832, 2432839

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: A121206

Included Lab Sample IDs: 2432832, 2432839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: SM 5310 B-2011

Run ID: A121240

Included Lab Sample IDs: 2432833, 2432840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	95.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A121272

Included Lab Sample IDs: 2432832

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.2	98.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121272

Included Lab Sample IDs: 2432832

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121286

Included Lab Sample IDs: 2432833, 2432840

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121292

Included Lab Sample IDs: 2432840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121292

Included Lab Sample IDs: 2432840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.3	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A121328

Included Lab Sample IDs: 2432839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.6	98.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121328

Included Lab Sample IDs: 2432839

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121351

Included Lab Sample IDs: 2432833

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121360

Included Lab Sample IDs: 2432833

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121424

Included Lab Sample IDs: 2432840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121448

Included Lab Sample IDs: 2432840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121510

Included Lab Sample IDs: 2432833

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.9	97.4	P/P	90 - 110

Quality Assurance Report

Calibration Verification

* 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)	102			0.384	
EPA 180.1 Rev. 2.0	Turbidity	101			2.55	
EPA 300.0 Rev. 2.1	Chloride	100	101	103	0.355	
	Sulfate	97.4	97.9	98.9		
EPA 350.1 Rev. 2.0	Ammonia-N	96.0	98.6	98.0		0.385
	Ammonia-N	100	99.2	99.8		0.372
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	111	103		4.92
	Kjeldahl Nitrogen	99.8	102	103		0.764
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	97.4	98.4		0.990
	NO2NO3-N	99.5	104	101		1.66
EPA 365.1 Rev. 2.0	Total-P	105	102	101		1.11
	Total-P	104	104	104		0.0681
SM 2320 B-2011	Total Alkalinity	96.8			4.05	
	Total Alkalinity	97.0			2.46	
SM 2540 C-2015	TDS	94.4			1.44	
SM 2540 D-2015	TSS	93.9				
SM 4500-F- C-2011	Fluoride	97.4	100	100		0.0
	Fluoride	97.7	99.0	97.8		1.03
SM 5310 B-2011	Organic Carbon	93.2	94.6	96.0		1.06

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2432832, 2432839
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2432832, 2432839
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2432832, 2432839
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2432832, 2432839
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2432833, 2432840
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2432833, 2432840
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2432833, 2432840
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2432833, 2432840
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2432832, 2432839
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2432832, 2432839
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2432832, 2432839
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2432832, 2432839
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2432833, 2432840

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	08/23/2023			08/23/2023 15:44	Alexis Price	2432832, 2432839
EPA 180.1 Rev. 2.0	08/23/2023			08/23/2023 13:46	Alexis Price	2432832
	08/23/2023			08/23/2023 13:47	Alexis Price	2432839
EPA 300.0 Rev. 2.1	08/23/2023			08/25/2023 00:05	James L Waggeberby	2432832
	08/23/2023			08/25/2023 00:20	James L Waggeberby	2432839
EPA 350.1 Rev. 2.0	08/23/2023			08/28/2023 14:19	Ping Hua	2432840
	08/23/2023			09/05/2023 13:13	Ping Hua	2432833
EPA 351.2 Rev. 2.0	08/23/2023	09/08/2023 12:21	Simonne.V. Calhoun	09/11/2023 09:49	Samantha L Bates	2432840
	08/23/2023	09/12/2023 13:48	Simonne.V. Calhoun	09/13/2023 15:04	Samantha L Bates	2432833
EPA 353.2 Rev. 2.0	08/23/2023			08/29/2023 12:04	Anna M. Plaviak	2432833
	08/23/2023			09/07/2023 13:38	Anna M. Plaviak	2432840
EPA 365.1 Rev. 2.0	08/23/2023	08/25/2023 14:35	Adam P Silver	08/28/2023 11:49	Chandler E Cox	2432833
	08/23/2023	08/25/2023 14:35	Adam P Silver	08/28/2023 12:05	Chandler E Cox	2432840
SM 2320 B-2011	08/23/2023			08/27/2023 23:06	Dale L. Simmons	2432832
	08/23/2023			08/29/2023 23:30	Dale L. Simmons	2432839
SM 2540 C-2015	08/23/2023			08/25/2023 15:21	Yijie Li	2432832, 2432839
SM 2540 D-2015	08/23/2023			08/25/2023 15:21	Yijie Li	2432832, 2432839
SM 4500-F- C-2011	08/23/2023			08/27/2023 23:06	Dale L. Simmons	2432832
	08/23/2023			08/29/2023 23:30	Dale L. Simmons	2432839
SM 5310 B-2011	08/23/2023			08/25/2023 03:13	Elise M. Gillis	2432833
	08/23/2023			08/25/2023 03:27	Elise M. Gillis	2432840