

Chemical Analysis Report

NW-DIST-2023-05-25-04

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

Event Description: **Highway 20 Run**
Request ID: **RQ-2023-05-22-21**
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
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 20-JUN-2023 09:03



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: BOGGY BAYOU MOUTH

Collection Date/Time: 05/23/2023 10:20

Field ID: G3NW0186

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2412834	DEP SOP: NU-094-1	Color (true)	5.4	IQ	PCU	P430378	
	EPA 180.1 Rev. 2.0	Turbidity	0.75	IQ	NTU	P430425	
	EPA 300.0 Rev. 2.1	Chloride	1.0E+04		mg Cl/L	P430619	
		Sulfate	1.5E+03		mg SO4/L	P430621	
	SM 2320 B-2011	Total Alkalinity	70		mg CaCO3/L	P430787	
	SM 2540 C-2015	TDS	1.83E+04		mg/L	P430773	
	SM 2540 D-2015	TSS	4	I	mg/L	P430569	
	SM 4500-F- C-2011	Fluoride	0.68		mg F/L	P431362	
2412836	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P430694	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P430516	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P431156	
	EPA 365.1 Rev. 2.0	Total-P	0.005	I	mg P/L	P430636	
	SM 5310 B-2011	Organic Carbon	2.6		mg C/L	P430727	

Ref. Method and Comment:

DEP SOP: NU-094-1: The sample expired upon receipt.

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ALAQUA BAYOU CENTER

Collection Date/Time: 05/23/2023 12:35

Field ID: G3NW0180

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2412835	DEP SOP: NU-094-1	Color (true)	18		PCU	P430378	
	EPA 180.1 Rev. 2.0	Turbidity	7.5		NTU	P430425	
	EPA 300.0 Rev. 2.1	Chloride	5.0E+03		mg Cl/L	P430619	
		Sulfate	720		mg SO4/L	P430621	
	SM 2320 B-2011	Total Alkalinity	42		mg CaCO3/L	P430787	
	SM 2540 C-2015	TDS	8.96E+03		mg/L	P430773	
	SM 2540 D-2015	TSS	4	IA	mg/L	P430569	
	SM 4500-F- C-2011	Fluoride	0.34		mg F/L	P431362	
2412837	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P430694	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P430516	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P431156	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P430636	
	SM 5310 B-2011	Organic Carbon	3.3		mg C/L	P430727	

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: BASIN BAYOU NORTH END

Collection Date/Time: 05/23/2023 11:50

Field ID: G3NW0102

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2412832	DEP SOP: NU-094-1	Color (true)	47		PCU	P430378	
	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P430425	
	EPA 300.0 Rev. 2.1	Chloride	1.6E+03		mg Cl/L	P430619	
		Sulfate	230		mg SO4/L	P430621	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P430787	
	SM 2540 C-2015	TDS	2.88E+03		mg/L	P430773	
	SM 2540 D-2015	TSS	3	I	mg/L	P430568	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P431428	
2412833	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P430694	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38	I	mg N/L	P430516	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P431156	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P430500	
	SM 5310 B-2011	Organic Carbon	5.0		mg C/L	P430578	

Ref. Method and Comment:

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 5510 umhos/cm.

Non-Conformance Report

NCR ID: 9900

Event(s)

NW-DIST-2023-05-25-04

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived late, samples received within the acceptable temperature range.

Resolution: Biology and Chemistry supervisors were notified by email.
Samples will be qualified as appropriate.

Authorized by/Date: Kyle Klug 6/7/2023

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: DEP SOP: NU-094-1
Batch ID: P430378

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430425

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430619

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430621

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430694

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430516

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431156

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430500

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430636

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P430787

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2015
Batch ID: P430773

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P430568

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P430569

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P431362

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P431428

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P430578

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

Reference Method: SM 5310 B-2011
Batch ID: P430727

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: P430378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430425

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430619

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430694

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: P430516

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431156

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: P430500

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430636

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P430787

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

Reference Method: SM 2540 C-2015
Batch ID: P430773

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.3		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P430568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.3		P	85 - 106

Reference Method: SM 2540 D-2015
Batch ID: P430569

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.8		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P431362

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

Reference Method: SM 4500-F- C-2011
Batch ID: P431428

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

Reference Method: SM 5310 B-2011
Batch ID: P430578

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P430727

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430619

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412791	Chloride	100		P	90 - 110
2412930	Chloride	96.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412791	Sulfate	96.2		P	90 - 110
2412930	Sulfate	95.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412657	Ammonia-N	98.2	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412825	Kjeldahl Nitrogen	96.9	95.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431156

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412811	NO2NO3-N	96.0	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412728	Total-P	93.7	92.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2413464	Total-P	92.4	91.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P431362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412835	Fluoride	98.2	97.6	P/P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P431428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412514	Fluoride	99.1	97.5	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P430578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2412585	Organic Carbon	95.9	99.3	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P430727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2411706	Organic Carbon	87.2	89.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P430378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412514	Color (true)	2.04	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P430425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412514	Turbidity	0.148	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412791	Chloride	2.19	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412791	Sulfate	2.32	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412657	Ammonia-N	0.313	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412825	Kjeldahl Nitrogen	1.49	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431156

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412811	NO2NO3-N	0.522	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412728	Total-P	1.18	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P430636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2413464	Total-P	0.515	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P430787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2413223	Total Alkalinity	2.71	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P430773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412653	TDS	1.32	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P430568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412653	TSS	4.71	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P431362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412835	Fluoride	0.470	Spike	P	0 - 1.9

Reference Method: SM 4500-F- C-2011
Batch ID: P431428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412514	Fluoride	1.55	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P430578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2412585	Organic Carbon	2.91	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P430727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2411706	Organic Carbon	1.63	Spike	P	0 - 20

Quality Assurance Report Precision

* 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: A119399

Included Lab Sample IDs: 2412832, 2412834, 2412835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A119415

Included Lab Sample IDs: 2412832, 2412834, 2412835

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

Reference Method: SM 5310 B-2011

Run ID: A119479

Included Lab Sample IDs: 2412833

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A119488

Included Lab Sample IDs: 2412833, 2412836, 2412837

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	100	P/P	90 - 110
Kjeldahl Nitrogen	98.4	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A119492

Included Lab Sample IDs: 2412833

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A119496

Included Lab Sample IDs: 2412832, 2412834, 2412835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.5	P/P	90 - 110
Sulfate	98.5	97.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A119520

Included Lab Sample IDs: 2412833, 2412836, 2412837

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	99.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A119540

Included Lab Sample IDs: 2412836, 2412837

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

Reference Method: SM 5310 B-2011

Run ID: A119540

Included Lab Sample IDs: 2412836, 2412837

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.6	92.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A119553

Included Lab Sample IDs: 2412836, 2412837

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.0	99.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A119566

Included Lab Sample IDs: 2412832, 2412834, 2412835

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.2	96.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A119737

Included Lab Sample IDs: 2412833, 2412836, 2412837

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

Reference Method: SM 4500-F- C-2011

Run ID: A119846

Included Lab Sample IDs: 2412834, 2412835

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

Reference Method: SM 4500-F- C-2011

Run ID: A119876

Included Lab Sample IDs: 2412832

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	99.8			2.04	
EPA 180.1 Rev. 2.0	Turbidity	98.9			0.148	
EPA 300.0 Rev. 2.1	Chloride	100	100	96.3	2.19	
	Sulfate	98.2	96.2	95.5	2.32	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	98.2	98.6		0.313
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	96.9	95.3		1.49
EPA 353.2 Rev. 2.0	NO2NO3-N	101	96.0	95.5		0.522
EPA 365.1 Rev. 2.0	Total-P	101	93.7	92.6		1.18
	Total-P	102	92.4	91.9		0.515
SM 2320 B-2011	Total Alkalinity	97.0			2.71	
SM 2540 C-2015	TDS	98.3			1.32	
SM 2540 D-2015	TSS	93.3			4.71	
	TSS	94.8				
SM 4500-F- C-2011	Fluoride	96.9	98.2	97.6		0.470
	Fluoride	97.8	99.1	97.5		1.55
SM 5310 B-2011	Organic Carbon	97.0	95.9	99.3		2.91
	Organic Carbon	95.9	87.2	89.1		1.63

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2412832, 2412834, 2412835
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2412832, 2412834, 2412835
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2412832, 2412834, 2412835
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2412832, 2412834, 2412835
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2412833, 2412836, 2412837
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2412833, 2412836, 2412837
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2412833, 2412836, 2412837
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2412833, 2412836, 2412837
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2412832, 2412834, 2412835
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2412832, 2412834, 2412835
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2412832, 2412834, 2412835
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2412832, 2412834, 2412835
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2412833, 2412836, 2412837

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	05/25/2023			05/25/2023 10:37	Chandler E Cox	2412835
	05/25/2023			05/25/2023 10:38	Chandler E Cox	2412832, 2412834
	05/25/2023			05/25/2023 10:22	Alexis Price	2412835
EPA 180.1 Rev. 2.0	05/25/2023			05/25/2023 10:25	Alexis Price	2412834
	05/25/2023			05/25/2023 10:26	Alexis Price	2412832
	05/25/2023			05/31/2023 04:27	James L Waggeberby	2412832
EPA 300.0 Rev. 2.1	05/25/2023			05/31/2023 04:42	James L Waggeberby	2412834
	05/25/2023			05/31/2023 04:57	James L Waggeberby	2412835
	05/25/2023			06/01/2023 13:57	Khloe J Berg	2412833
EPA 350.1 Rev. 2.0	05/25/2023			06/01/2023 13:58	Khloe J Berg	2412836
	05/25/2023			06/01/2023 14:00	Khloe J Berg	2412837
	05/25/2023	05/30/2023 12:30	Simonne.V. Calhoun	05/31/2023 12:11	Ping Hua	2412833
EPA 351.2 Rev. 2.0	05/25/2023	05/30/2023 12:30	Simonne.V. Calhoun	05/31/2023 12:16	Ping Hua	2412836
	05/25/2023	05/30/2023 12:30	Simonne.V. Calhoun	05/31/2023 12:18	Ping Hua	2412837
	05/25/2023			06/12/2023 14:02	Anna M. Plaviak	2412833
EPA 353.2 Rev. 2.0	05/25/2023			06/12/2023 14:04	Anna M. Plaviak	2412836
	05/25/2023			06/12/2023 14:05	Anna M. Plaviak	2412837
	05/25/2023	05/30/2023 12:20	Alexis Price	05/31/2023 10:44	James L Waggeberby	2412833
EPA 365.1 Rev. 2.0	05/25/2023	06/01/2023 11:40	Alexis Price	06/02/2023 13:39	Simonne.V. Calhoun	2412836
	05/25/2023	06/01/2023 11:40	Alexis Price	06/02/2023 13:40	Simonne.V. Calhoun	2412837
	05/25/2023			06/03/2023 09:50	Dale L. Simmons	2412832
SM 2320 B-2011	05/25/2023			06/03/2023 10:12	Dale L. Simmons	2412834
	05/25/2023			06/03/2023 10:23	Dale L. Simmons	2412835
	05/25/2023			05/26/2023 12:49	Dana G. Hughes	2412832, 2412834, 2412835
SM 2540 C-2015	05/25/2023			05/26/2023 12:49	Dana G. Hughes	2412832, 2412834, 2412835
SM 4500-F- C-2011	05/25/2023			06/15/2023 20:09	Dale L. Simmons	2412835
	05/25/2023			06/15/2023 20:34	Dale L. Simmons	2412834
	05/25/2023			06/16/2023 18:22	Adam P Silver	2412832
SM 5310 B-2011	05/25/2023			05/31/2023 05:38	Elise M. Gillis	2412833
	05/25/2023			06/02/2023 01:58	Elise M. Gillis	2412836
	05/25/2023			06/02/2023 02:11	Elise M. Gillis	2412837