

Chemical Analysis Report

NW-DIST-2023-11-17-02

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

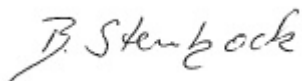
Event Description: **Highway 20 Run**
Request ID: **RQ-2023-11-13-38**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 07-DEC-2023 17:31



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: ALAQUA BAYOU CENTER

Collection Date/Time: 11/16/2023 12:00

Field ID: G3NW0180

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452155	DEP SOP: NU-094-1	Color (true)	5.4	I	PCU	P437979	
	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P437981	
	EPA 300.0 Rev. 2.1	Chloride	1.5E+04		mg Cl/L	P438318	
		Sulfate	2.1E+03		mg SO4/L	P438321	
	SM 2320 B-2011	Total Alkalinity	87		mg CaCO3/L	P438165	
	SM 2540 C-2015	TDS	2.36E+04		mg/L	P438382	
	SM 2540 D-2015	TSS	4	I	mg/L	P438373	
2452158	SM 4500-F- C-2011	Fluoride	0.91		mg F/L	P438167	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.051		mg N/L	P438429	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P438032	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P438184	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P438120	
	SM 5310 B-2011	Organic Carbon	2.7	I	mg C/L	P438155	

Ref. Method and Comment:

DEP SOP: NU-094-1: 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: LAGRANGE BAYOU MIDDLE

Collection Date/Time: 11/16/2023 11:10

Field ID: G3NW0036

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452156	DEP SOP: NU-094-1	Color (true)	6.7		PCU	P437979	
	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P437981	
	EPA 300.0 Rev. 2.1	Chloride	1.4E+04		mg Cl/L	P438318	
		Sulfate	2.0E+03		mg SO4/L	P438321	
	SM 2320 B-2011	Total Alkalinity	84		mg CaCO3/L	P438165	
	SM 2540 C-2015	TDS	2.36E+04		mg/L	P438382	
	SM 2540 D-2015	TSS	11		mg/L	P438373	
2452159	SM 4500-F- C-2011	Fluoride	0.88		mg F/L	P438167	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P438501	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P438032	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P438184	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P438120	
	SM 5310 B-2011	Organic Carbon	3.4	I	mg C/L	P438155	

Ref. Method and Comment:

DEP SOP: NU-094-1: 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: BASIN BAYOU NORTH END

Collection Date/Time: 11/16/2023 12:45

Field ID: G3NW0102

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452153	DEP SOP: NU-094-1	Color (true)	37		PCU	P437979	
	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P437981	
	EPA 300.0 Rev. 2.1	Chloride	5.5E+03		mg Cl/L	P438317	
		Sulfate	770		mg SO4/L	P438320	
	SM 2320 B-2011	Total Alkalinity	37	A	mg CaCO3/L	P438165	
	SM 2540 C-2015	TDS	9.34E+03		mg/L	P438382	
	SM 2540 D-2015	TSS	3	I	mg/L	P438373	
	SM 4500-F- C-2011	Fluoride	0.34		mg F/L	P438167	
2452154	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P438429	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26	I	mg N/L	P438032	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P438184	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P438120	
	SM 5310 B-2011	Organic Carbon	4.9		mg C/L	P438155	

Ref. Method and Comment:

DEP SOP: NU-094-1: 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: BOGGY BAYOU MOUTH

Collection Date/Time: 11/16/2023 14:05

Field ID: G3NW0186

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452157	DEP SOP: NU-094-1	Color (true)	5.8	I	PCU	P437979	
	EPA 180.1 Rev. 2.0	Turbidity	0.70	I	NTU	P437981	
	EPA 300.0 Rev. 2.1	Chloride	1.3E+04		mg Cl/L	P438318	
		Sulfate	1.8E+03		mg SO4/L	P438321	
	SM 2320 B-2011	Total Alkalinity	79		mg CaCO3/L	P438165	
	SM 2540 C-2015	TDS	2.11E+04		mg/L	P438382	
	SM 2540 D-2015	TSS	4	IA	mg/L	P438373	
	SM 4500-F- C-2011	Fluoride	0.79		mg F/L	P438167	
2452160	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P438501	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22	I	mg N/L	P438032	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P438184	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P438120	
	SM 5310 B-2011	Organic Carbon	3.4	I	mg C/L	P438155	

Ref. Method and Comment:

DEP SOP: NU-094-1: 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: P437979

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437981

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438317

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438318

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438320

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438321

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438429

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438501

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438032

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438184

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438120

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

Reference Method: SM 2320 B-2011
Batch ID: P438165

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

Reference Method: SM 2540 C-2015
Batch ID: P438382

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438373

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438167

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P438155

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: P437979

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437981

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438317

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438318

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438320

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438321

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438429

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	92.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438501

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438032

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438184

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438120

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

Reference Method: SM 2320 B-2011
Batch ID: P438165

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.5		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P438382

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.4		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P438373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	97.6		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P438167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P438155

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438317

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451931	Chloride	102		P	90 - 110
2451950	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438318

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452389	Chloride	104		P	90 - 110
2452437	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451931	Sulfate	105		P	90 - 110
2451950	Sulfate	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438321

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452389	Sulfate	105		P	90 - 110
2452437	Sulfate	107		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451499	Ammonia-N	103	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452160	Ammonia-N	99.6	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2450283	Kjeldahl Nitrogen	109	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438184

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451500	NO2NO3-N	99.4	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452154	Total-P	105	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P438167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452153	Fluoride	99.7	101	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P438155

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451949	Organic Carbon	85.3	87.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452075	Turbidity	0.324	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451931	Chloride	3.61	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438318

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452389	Chloride	1.31	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451931	Sulfate	2.56	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452389	Sulfate	2.33	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451499	Ammonia-N	1.72	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452160	Ammonia-N	1.69	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2450283	Kjeldahl Nitrogen	5.47	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451500	NO2NO3-N	1.29	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452154	Total-P	0.144	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P438165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452153	Total Alkalinity	1.40	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P438382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452502	TDS	2.93	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P438167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452153	Fluoride	0.986	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P438155

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451949	Organic Carbon	1.48	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: A122801

Included Lab Sample IDs: 2452153, 2452155, 2452156, 2452157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122805

Included Lab Sample IDs: 2452153, 2452155, 2452156, 2452157

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

Reference Method: SM 5310 B-2011

Run ID: A122876

Included Lab Sample IDs: 2452154, 2452158, 2452159, 2452160

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	95.8	P/P	90 - 110
Organic Carbon	98.6	96.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A122884

Included Lab Sample IDs: 2452153, 2452155, 2452156, 2452157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.0	101	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122884

Included Lab Sample IDs: 2452153, 2452155, 2452156, 2452157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	101	P/P	90 - 110
Fluoride	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122887

Included Lab Sample IDs: 2452154, 2452158, 2452159, 2452160

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	98.5	P/P	90 - 110
Total-P	98.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122891

Included Lab Sample IDs: 2452154, 2452158, 2452159, 2452160

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122892

Included Lab Sample IDs: 2452154, 2452158, 2452159, 2452160

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.2	99.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122949

Included Lab Sample IDs: 2452153, 2452155, 2452156, 2452157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Chloride	105	102	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110
Sulfate	104	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122988

Included Lab Sample IDs: 2452154, 2452158

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	98.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123027

Included Lab Sample IDs: 2452159, 2452160

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	97.9	P/P	90 - 110

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

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: NU-094-1	Color (true)	98.8					
EPA 180.1 Rev. 2.0	Turbidity	104				0.324	
EPA 300.0 Rev. 2.1	Chloride	104	102	103		3.61	
	Chloride	106	104	106		1.31	
	Sulfate	105	105	105		2.56	
	Sulfate	108	105	107		2.33	
EPA 350.1 Rev. 2.0	Ammonia-N	92.2	103	106			1.72
	Ammonia-N	96.0	99.6	102			1.69
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	109	103			5.47
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.4	101			1.29
EPA 365.1 Rev. 2.0	Total-P	105	105	104			0.144
SM 2320 B-2011	Total Alkalinity	98.5				1.40	
SM 2540 C-2015	TDS	96.4				2.93	
SM 2540 D-2015	TSS	97.6					
SM 4500-F- C-2011	Fluoride	98.7	99.7	101			0.986
SM 5310 B-2011	Organic Carbon	96.4	85.3	87.3			1.48

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2452153, 2452155, 2452156, 2452157
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2452153, 2452155, 2452156, 2452157
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2452153, 2452155, 2452156, 2452157
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2452153, 2452155, 2452156, 2452157
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2452154, 2452158, 2452159, 2452160
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2452154, 2452158, 2452159, 2452160
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2452154, 2452158, 2452159, 2452160
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2452154, 2452158, 2452159, 2452160
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2452153, 2452155, 2452156, 2452157
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2452153, 2452155, 2452156, 2452157
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2452153, 2452155, 2452156, 2452157
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2452153, 2452155, 2452156, 2452157
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2452154, 2452158, 2452159, 2452160

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	11/17/2023			11/17/2023 13:44	Anna M. Plaviak	2452153, 2452155
	11/17/2023			11/17/2023 13:45	Anna M. Plaviak	2452156
	11/17/2023			11/17/2023 13:46	Anna M. Plaviak	2452157
EPA 180.1 Rev. 2.0	11/17/2023			11/17/2023 12:59	Chandler E Cox	2452153
	11/17/2023			11/17/2023 13:00	Chandler E Cox	2452155
	11/17/2023			11/17/2023 13:01	Chandler E Cox	2452156, 2452157
EPA 300.0 Rev. 2.1	11/17/2023			11/28/2023 10:03	James L Waggeberby	2452153
	11/17/2023			11/28/2023 12:49	James L Waggeberby	2452155
	11/17/2023			11/28/2023 13:04	James L Waggeberby	2452156
EPA 350.1 Rev. 2.0	11/17/2023			11/28/2023 13:19	James L Waggeberby	2452157
	11/17/2023			12/01/2023 12:46	Khloe J Berg	2452154
	11/17/2023			12/01/2023 12:47	Khloe J Berg	2452158
EPA 351.2 Rev. 2.0	11/17/2023			12/05/2023 12:33	Ping Hua	2452160
	11/17/2023			12/05/2023 12:37	Ping Hua	2452159
	11/17/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 13:34	Ping Hua	2452154
EPA 353.2 Rev. 2.0	11/17/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 13:36	Ping Hua	2452158
	11/17/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 13:37	Ping Hua	2452159
	11/17/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 13:39	Ping Hua	2452160
EPA 365.1 Rev. 2.0	11/17/2023			11/27/2023 13:19	Fadila Guebre	2452154
	11/17/2023			11/27/2023 13:20	Fadila Guebre	2452158
	11/17/2023			11/27/2023 13:21	Fadila Guebre	2452159
SM 2320 B-2011	11/17/2023			11/27/2023 13:23	Fadila Guebre	2452160
	11/17/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 12:20	Chandler E Cox	2452154
	11/17/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 12:24	Chandler E Cox	2452158, 2452159
SM 2540 C-2015	11/17/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 12:32	Chandler E Cox	2452160
	11/17/2023			11/22/2023 00:41	Chandler E Cox	2452153
	11/17/2023			11/22/2023 01:34	Chandler E Cox	2452155
SM 2540 D-2015	11/17/2023			11/22/2023 01:47	Chandler E Cox	2452156
	11/17/2023			11/22/2023 02:00	Chandler E Cox	2452157
	11/17/2023			11/21/2023 16:31	Yijie Li	2452153, 2452155, 2452156, 2452157
SM 4500-F- C-2011	11/17/2023			11/21/2023 16:31	Yijie Li	2452153, 2452155, 2452156, 2452157
	11/17/2023			11/21/2023 22:48	Chandler E Cox	2452153
	11/17/2023			11/21/2023 23:24	Chandler E Cox	2452155
SM 5310 B-2011	11/17/2023			11/22/2023 00:03	Chandler E Cox	2452156
	11/17/2023			11/22/2023 00:09	Chandler E Cox	2452157
	11/17/2023			11/22/2023 01:14	Kenneth H Lee	2452154
	11/17/2023			11/22/2023 01:48	Kenneth H Lee	2452158
	11/17/2023			11/22/2023 02:04	Kenneth H Lee	2452159
	11/17/2023			11/22/2023 03:00	Kenneth H Lee	2452160