Chemical Analysis Report

CEN-DIST-2023-11-15-03

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

Event Description: **Run 14**
Request ID: **RQ-2023-11-13-15**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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3319 Maguire Blvd., Suite 232
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Certified by: Colin Wright, Program Administrator

Date Certified: 07-DEC-2023 10:00

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: DOUBLE RUN SPRING RUN DS OF DOUBLE RUN RD **Collection Date/Time: 11/14/2023 09:55**

Field ID: G1CE0122 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451613	DEP SOP: NU-094-1	Color (true)	41		PCU	P437807	
	EPA 180.1 Rev. 2.0	Turbidity	0.30	I	NTU	P437852	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P438358	
		Sulfate	16		mg SO4/L	P438361	
	SM 2320 B-2011	Total Alkalinity	53		mg CaCO3/L	P438014	
	SM 2540 C-2015	TDS	98		mg/L	P438344	
	SM 2540 D-2015	TSS	2	U	mg/L	P438340	
	SM 4500-F- C-2011	Fluoride	0.053	I	mg F/L	P438018	
2451617	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P438430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P438034	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.4		mg N/L	P438096	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P438118	
	SM 5310 B-2011	Organic Carbon	5.0		mg C/L	P437963	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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: BLUE SPRINGS (LAKE COUNTY) AT WEIR **Collection Date/Time: 11/14/2023 10:30**

Field ID: G1CE0024 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451614	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P437807	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P437852	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P438148	
		Sulfate	10		mg SO4/L	P438152	
	SM 2320 B-2011	Total Alkalinity	103	A	mg CaCO3/L	P438014	
	SM 2540 C-2015	TDS	144		mg/L	P438344	
	SM 2540 D-2015	TSS	2	I	mg/L	P438340	
	SM 4500-F- C-2011	Fluoride	0.086	I	mg F/L	P438018	
2451618	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P438430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P438034	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.5		mg N/L	P438096	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P438118	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P437963	

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: HOLIDAY SPRING ABOVE PUMP HOUSE **Collection Date/Time: 11/14/2023 10:58**

Field ID: G1CE0029 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451615	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P437808	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P437852	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P438148	
		Sulfate	13		mg SO4/L	P438152	
	SM 2320 B-2011	Total Alkalinity	110		mg CaCO3/L	P438014	
	SM 2540 C-2015	TDS	155		mg/L	P438344	
	SM 2540 D-2015	TSS	2	U	mg/L	P438340	
	SM 4500-F- C-2011	Fluoride	0.097	I	mg F/L	P438018	
2451619	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P438430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P438034	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.4		mg N/L	P438096	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P438118	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P438145	

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: BUGG SPRING AT VENT **Collection Date/Time: 11/14/2023 11:40**

Field ID: G1CE0109 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2451616	DEP SOP: NU-094-1	Color (true)	4.2	I	PCU	P437808	
	EPA 180.1 Rev. 2.0	Turbidity	0.30	I	NTU	P437852	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P438148	
		Sulfate	10		mg SO4/L	P438152	
	SM 2320 B-2011	Total Alkalinity	137		mg CaCO3/L	P438014	
	SM 2540 C-2015	TDS	185		mg/L	P438344	
	SM 2540 D-2015	TSS	2	U	mg/L	P438340	
	SM 4500-F- C-2011	Fluoride	0.055	I	mg F/L	P438018	
2451620	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P438430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.12	I	mg N/L	P438034	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.64		mg N/L	P438096	
	EPA 365.1 Rev. 2.0	Total-P	0.082		mg P/L	P438118	
	SM 5310 B-2011	Organic Carbon	1.3		mg C/L	P438145	

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: P437807

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P437808

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437852

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438148

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438152

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438358

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438361

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438430

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438034

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: P438096

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438118

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

Reference Method: SM 2320 B-2011
Batch ID: P438014

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

Reference Method: SM 2540 C-2015
Batch ID: P438344

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438340

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438018

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P437963

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

Reference Method: SM 5310 B-2011
Batch ID: P438145

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: P437807

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

Reference Method: DEP SOP: NU-094-1
Batch ID: P437808

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437852

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438148

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438152

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438361

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438034

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438096

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438118

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

Reference Method: SM 2320 B-2011
Batch ID: P438014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P438344

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	94.0		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P438340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	107		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P438018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P437963

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P438145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.1		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451475	Chloride	98.6		P	90 - 110
2451570	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451475	Sulfate	97.7		P	90 - 110
2451570	Sulfate	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452492	Chloride	101		P	90 - 110
2452502	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452492	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451572	Ammonia-N	95.6	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451617	Kjeldahl Nitrogen	104	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451567	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438118

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451620	Total-P	105	106	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P438018

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451614	Fluoride	102	102	P/P	94 - 106

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P437963

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451413	Organic Carbon	97.5	99.9	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P438145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2451619	Organic Carbon	95.3	95.6	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P437807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451570	Color (true)	0.775	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P437808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451672	Color (true)	0.207	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451498	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451475	Chloride	0.716	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451475	Sulfate	1.00	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452492	Chloride	2.72	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452492	Sulfate	3.40	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451572	Ammonia-N	2.78	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451617	Kjeldahl Nitrogen	5.59	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451567	NO2NO3-N	1.00	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438118

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451620	Total-P	0.515	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P438014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451614	Total Alkalinity	1.72	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P438344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451565	TDS	2.12	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P438018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451614	Fluoride	0.484	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P437963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451413	Organic Carbon	1.68	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P438145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2451619	Organic Carbon	0.262	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: A122732
Included Lab Sample IDs: 2451613, 2451614, 2451615, 2451616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.6	P/P	90 - 110
Color (true)	99.6	103	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A122747
Included Lab Sample IDs: 2451613, 2451614, 2451615, 2451616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 5310 B-2011
Run ID: A122791
Included Lab Sample IDs: 2451617, 2451618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.0	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A122815
Included Lab Sample IDs: 2451613, 2451614, 2451615, 2451616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.7	97.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A122815
Included Lab Sample IDs: 2451613, 2451614, 2451615, 2451616

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A122849
Included Lab Sample IDs: 2451617, 2451618, 2451619, 2451620

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

Reference Method: SM 5310 B-2011
Run ID: A122873
Included Lab Sample IDs: 2451619, 2451620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	95.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A122874
Included Lab Sample IDs: 2451614, 2451615, 2451616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A122874
Included Lab Sample IDs: 2451614, 2451615, 2451616

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A122886
Included Lab Sample IDs: 2451620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A122887
Included Lab Sample IDs: 2451617, 2451618, 2451619

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A122899
Included Lab Sample IDs: 2451617, 2451618, 2451619, 2451620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.2	97.4	P/P	90 - 110
Kjeldahl Nitrogen	97.4	97.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A122949
Included Lab Sample IDs: 2451613

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.1	101	P/P	90 - 110
Sulfate	97.1	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A122988
Included Lab Sample IDs: 2451617, 2451618, 2451619, 2451620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	98.6	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)	102				0.775	
	Color (true)	103				0.207	
EPA 180.1 Rev. 2.0	Turbidity	104				0.0	
EPA 300.0 Rev. 2.1	Chloride	103	98.6	99.9		0.716	
	Chloride	99.3	101	106		2.72	
	Sulfate	102	97.7	101		1.00	
	Sulfate	98.8	101			3.40	
EPA 350.1 Rev. 2.0	Ammonia-N	95.8	95.6	98.8			2.78
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	104	97.2			5.59
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	99.5	100			1.00
EPA 365.1 Rev. 2.0	Total-P	104	105	106			0.515
SM 2320 B-2011	Total Alkalinity	100				1.72	
SM 2540 C-2015	TDS	94.0				2.12	
SM 2540 D-2015	TSS	107					
SM 4500-F- C-2011	Fluoride	102	102	102			0.484
SM 5310 B-2011	Organic Carbon	96.6	97.5	99.9			1.68
	Organic Carbon	94.1	95.3	95.6			0.262

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2451613, 2451614, 2451615, 2451616
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2451613, 2451614, 2451615, 2451616
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2451613, 2451614, 2451615, 2451616
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2451613, 2451614, 2451615, 2451616
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2451617, 2451618, 2451619, 2451620
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2451617, 2451618, 2451619, 2451620
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2451617, 2451618, 2451619, 2451620
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2451617, 2451618, 2451619, 2451620
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2451613, 2451614, 2451615, 2451616
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2451613, 2451614, 2451615, 2451616
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2451613, 2451614, 2451615, 2451616
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2451613, 2451614, 2451615, 2451616
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2451617, 2451618, 2451619, 2451620

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	11/15/2023			11/15/2023 13:19	Samantha L Bates	2451613, 2451614
	11/15/2023			11/15/2023 13:22	Samantha L Bates	2451615, 2451616
EPA 180.1 Rev. 2.0	11/15/2023			11/15/2023 14:06	Khloe J Berg	2451613
	11/15/2023			11/15/2023 14:07	Khloe J Berg	2451614
	11/15/2023			11/15/2023 14:08	Khloe J Berg	2451615
	11/15/2023			11/15/2023 14:11	Khloe J Berg	2451616
EPA 300.0 Rev. 2.1	11/15/2023			11/22/2023 12:56	James L Waggerby	2451614
	11/15/2023			11/22/2023 13:11	James L Waggerby	2451615
	11/15/2023			11/22/2023 13:26	James L Waggerby	2451616
	11/15/2023			11/29/2023 18:58	James L Waggerby	2451613
EPA 350.1 Rev. 2.0	11/15/2023			12/01/2023 13:06	Khloe J Berg	2451617
	11/15/2023			12/01/2023 13:07	Khloe J Berg	2451618
	11/15/2023			12/01/2023 13:09	Khloe J Berg	2451619
	11/15/2023			12/01/2023 13:10	Khloe J Berg	2451620
EPA 351.2 Rev. 2.0	11/15/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 15:51	Ping Hua	2451617
	11/15/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 15:59	Ping Hua	2451618
	11/15/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 16:01	Ping Hua	2451619
	11/15/2023	11/20/2023 21:15	Simonne.V. Calhoun	11/27/2023 16:02	Ping Hua	2451620
EPA 353.2 Rev. 2.0	11/15/2023			11/20/2023 13:18	Anna M. Plaviak	2451617
	11/15/2023			11/20/2023 13:19	Anna M. Plaviak	2451618
	11/15/2023			11/20/2023 13:21	Anna M. Plaviak	2451619
	11/15/2023			11/20/2023 13:22	Anna M. Plaviak	2451620
EPA 365.1 Rev. 2.0	11/15/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 11:15	Chandler E Cox	2451620
	11/15/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 12:03	Chandler E Cox	2451617
	11/15/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 12:04	Chandler E Cox	2451618
	11/15/2023	11/21/2023 12:58	Adam P Silver	11/27/2023 12:05	Chandler E Cox	2451619
SM 2320 B-2011	11/15/2023			11/18/2023 12:17	Adam P Silver	2451614
	11/15/2023			11/18/2023 13:38	Adam P Silver	2451613
	11/15/2023			11/18/2023 13:51	Adam P Silver	2451615
	11/15/2023			11/18/2023 14:04	Adam P Silver	2451616
SM 2540 C-2015	11/15/2023			11/20/2023 15:30	Yijie Li	2451613, 2451614, 2451615, 2451616
SM 2540 D-2015	11/15/2023			11/20/2023 15:30	Yijie Li	2451613, 2451614, 2451615, 2451616
SM 4500-F- C-2011	11/15/2023			11/18/2023 12:07	Adam P Silver	2451614
	11/15/2023			11/18/2023 13:38	Adam P Silver	2451613
	11/15/2023			11/18/2023 13:51	Adam P Silver	2451615
	11/15/2023			11/18/2023 14:04	Adam P Silver	2451616
SM 5310 B-2011	11/15/2023			11/17/2023 01:02	Khloe J Berg	2451617
	11/15/2023			11/17/2023 01:15	Khloe J Berg	2451618
	11/15/2023			11/21/2023 20:51	Kenneth H Lee	2451619
	11/15/2023			11/21/2023 21:45	Kenneth H Lee	2451620