

Chemical Analysis Report

NW-DIST-2023-11-02-02

Florida DEP Laboratory
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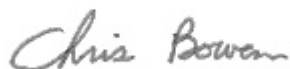
Event Description: **Lake Powell Continuous Monitoring Recovery**
Request ID: **RQ-2023-10-30-10**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 20-NOV-2023 12:10



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: LAKE POWELL DRAIN EAST ARM

Collection Date/Time: 11/01/2023 11:20

Field ID: G3NW0009

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2448603	DEP SOP: NU-094-1	Color (true)	43		PCU	P437298	
	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P437291	
	EPA 300.0 Rev. 2.1	Chloride	3.7E+03		mg Cl/L	P437826	
		Sulfate	520		mg SO4/L	P437830	
	SM 2320 B-2011	Total Alkalinity	26		mg CaCO3/L	P437542	
	SM 2540 C-2015	TDS	6.50E+03		mg/L	P437814	
	SM 2540 D-2015	TSS	3	U	mg/L	P437783	
	SM 4500-F- C-2011	Fluoride	0.24		mg F/L	P437405	
2448605	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P437429	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22	I	mg N/L	P437456	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P437700	
	EPA 365.1 Rev. 2.0	Total-P	0.006	I	mg P/L	P437656	
	SM 5310 B-2011	Organic Carbon	6.5		mg C/L	P437789	

Ref. Method and Comment:

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 11570 umhos/cm.

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

Sample Location: POWELL LAKE CENTER N OF CAIN RD AREA Collection Date/Time: 11/01/2023 12:05

Field ID: G3NW0012

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2448604	DEP SOP: NU-094-1	Color (true)	9.1		PCU	P437298	
	EPA 180.1 Rev. 2.0	Turbidity	0.90	I	NTU	P437291	
	EPA 300.0 Rev. 2.1	Chloride	1.5E+04		mg Cl/L	P437826	
		Sulfate	2.1E+03		mg SO4/L	P437830	
	SM 2320 B-2011	Total Alkalinity	91		mg CaCO3/L	P437542	
	SM 2540 C-2015	TDS	2.52E+04		mg/L	P437814	
	SM 2540 D-2015	TSS	3	U	mg/L	P437783	
2448606	SM 4500-F- C-2011	Fluoride	0.95		mg F/L	P437405	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P437429	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31	I	mg N/L	P437456	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P437700	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P437656	
	SM 5310 B-2011	Organic Carbon	3.8	I	mg C/L	P437789	

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: TUCKER BAYOU E CHOCTAWHATCHEE BAY Collection Date/Time: 11/01/2023 12:55

Field ID: G3NW0010

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2448607	DEP SOP: NU-094-1	Color (true)	7.2		PCU	P437298	
	EPA 180.1 Rev. 2.0	Turbidity	7.5		NTU	P437291	
	EPA 300.0 Rev. 2.1	Chloride	1.1E+04		mg Cl/L	P437827	
		Sulfate	1.5E+03		mg SO4/L	P437831	
	SM 2320 B-2011	Total Alkalinity	89		mg CaCO3/L	P437542	
	SM 2540 C-2015	TDS	1.72E+04		mg/L	P437814	
	SM 2540 D-2015	TSS	10	I	mg/L	P437783	
	SM 4500-F- C-2011	Fluoride	0.66		mg F/L	P437405	
2448608	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P437429	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P437456	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.098		mg N/L	P437700	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P437656	
	SM 5310 B-2011	Organic Carbon	2.7		mg C/L	P437789	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of analytical difficulties.

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of analytical difficulties.

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: P437298

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437291

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437826

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437827

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437830

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437831

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437429

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437456

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437700

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437656

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

Reference Method: SM 2320 B-2011
Batch ID: P437542

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

Reference Method: SM 2540 C-2015
Batch ID: P437814

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P437783

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P437405

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P437789

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: P437298

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437291

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437826

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437827

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437830

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437831

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437429

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437456

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437700

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437656

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

Reference Method: SM 2320 B-2011
Batch ID: P437542

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P437814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.2		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P437783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	109		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P437405

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P437789

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437826

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448448	Chloride	107		P	90 - 110
2448513	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437827

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448639	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437830

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448448	Sulfate	107		P	90 - 110
2448513	Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448639	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448451	Ammonia-N	97.2	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437456

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448605	Kjeldahl Nitrogen	102	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437700

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2447419	NO2NO3-N	98.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448606	Total-P	95.1	95.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P437405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448603	Fluoride	102	100	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P437789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2448777	Organic Carbon	88.5	90.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P437298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448574	Color (true)	2.26	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P437291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448475	Turbidity	0.215	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448448	Chloride	1.90	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448639	Chloride	0.762	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437830

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448448	Sulfate	2.27	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448639	Sulfate	0.880	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P437429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448451	Ammonia-N	1.41	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P437456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448605	Kjeldahl Nitrogen	6.58	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2447419	NO2NO3-N	2.16	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P437656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448606	Total-P	0.210	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P437542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448552	Total Alkalinity	0.203	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P437814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448520	TDS	2.07	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P437405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448603	Fluoride	0.992	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P437789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2448777	Organic Carbon	1.31	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122520

Included Lab Sample IDs: 2448603, 2448604, 2448607

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

Reference Method: DEP SOP: NU-094-1

Run ID: A122524

Included Lab Sample IDs: 2448603, 2448604, 2448607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122565

Included Lab Sample IDs: 2448603, 2448604, 2448607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	104	P/P	90 - 110
Fluoride	104	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A122575

Included Lab Sample IDs: 2448605, 2448606, 2448608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122610

Included Lab Sample IDs: 2448603, 2448604, 2448607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	103	P/P	90 - 110
Chloride	103	103	P/P	90 - 110
Sulfate	100	104	P/P	90 - 110
Sulfate	104	103	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A122617

Included Lab Sample IDs: 2448603, 2448604, 2448607

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.4	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122620

Included Lab Sample IDs: 2448605, 2448606, 2448608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.5	98.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122696

Included Lab Sample IDs: 2448605, 2448606, 2448608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122712

Included Lab Sample IDs: 2448605, 2448606, 2448608

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

Reference Method: SM 5310 B-2011

Run ID: A122725

Included Lab Sample IDs: 2448605, 2448606, 2448608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.0	94.4	P/P	90 - 110
Organic Carbon	95.5	94.0	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)	99.9			2.26	
EPA 180.1 Rev. 2.0	Turbidity	104			0.215	
EPA 300.0 Rev. 2.1	Chloride	103	107	104	1.90	
	Chloride	103	105		0.762	
	Sulfate	104	107	104	2.27	
	Sulfate	103	105		0.880	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	97.2	99.0		1.41
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	102	109		6.58
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	98.6	101		2.16
EPA 365.1 Rev. 2.0	Total-P	102	95.1	95.3		0.210
SM 2320 B-2011	Total Alkalinity	98.4			0.203	
SM 2540 C-2015	TDS	97.2			2.07	
SM 2540 D-2015	TSS	109				
SM 4500-F- C-2011	Fluoride	103	102	100		0.992
SM 5310 B-2011	Organic Carbon	94.4	88.5	90.0		1.31

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2448603, 2448604, 2448607
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2448603, 2448604, 2448607
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2448603, 2448604, 2448607
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2448603, 2448604, 2448607
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2448605, 2448606, 2448608
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2448605, 2448606, 2448608
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2448605, 2448606, 2448608
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2448605, 2448606, 2448608
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2448603, 2448604, 2448607
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2448603, 2448604, 2448607
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2448603, 2448604, 2448607
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2448603, 2448604, 2448607
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2448605, 2448606, 2448608

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	11/02/2023			11/02/2023 15:49	Anna M. Plaviak	2448603, 2448604
	11/02/2023			11/02/2023 15:50	Anna M. Plaviak	2448607
EPA 180.1 Rev. 2.0	11/02/2023			11/02/2023 14:52	Khloe J Berg	2448603
	11/02/2023			11/02/2023 14:53	Khloe J Berg	2448604, 2448607
EPA 300.0 Rev. 2.1	11/02/2023			11/09/2023 10:08	James L Waggeberby	2448603
	11/02/2023			11/09/2023 10:23	James L Waggeberby	2448604
	11/02/2023			11/09/2023 12:41	James L Waggeberby	2448607
EPA 350.1 Rev. 2.0	11/02/2023			11/06/2023 11:47	Khloe J Berg	2448605
	11/02/2023			11/06/2023 11:48	Khloe J Berg	2448606
	11/02/2023			11/06/2023 11:49	Khloe J Berg	2448608
EPA 351.2 Rev. 2.0	11/02/2023	11/07/2023 12:15	Simonne.V. Calhoun	11/08/2023 10:46	Samantha L Bates	2448605
	11/02/2023	11/07/2023 12:15	Simonne.V. Calhoun	11/08/2023 10:51	Samantha L Bates	2448606
	11/02/2023	11/07/2023 12:15	Simonne.V. Calhoun	11/08/2023 10:53	Samantha L Bates	2448608
EPA 353.2 Rev. 2.0	11/02/2023			11/13/2023 13:47	Fadila Guebre	2448605
	11/02/2023			11/13/2023 13:48	Fadila Guebre	2448606
	11/02/2023			11/13/2023 13:49	Fadila Guebre	2448608
EPA 365.1 Rev. 2.0	11/02/2023	11/13/2023 13:18	Adam P Silver	11/14/2023 15:42	James L Waggeberby	2448606
	11/02/2023	11/13/2023 13:18	Adam P Silver	11/14/2023 15:52	James L Waggeberby	2448605
	11/02/2023	11/13/2023 13:18	Adam P Silver	11/14/2023 15:53	James L Waggeberby	2448608
SM 2320 B-2011	11/02/2023			11/08/2023 00:22	Chandler E Cox	2448607
	11/02/2023			11/08/2023 00:31	Chandler E Cox	2448603
	11/02/2023			11/08/2023 00:42	Chandler E Cox	2448604
SM 2540 C-2015	11/02/2023			11/07/2023 15:38	Yijie Li	2448603, 2448604, 2448607
SM 2540 D-2015	11/02/2023			11/07/2023 15:38	Yijie Li	2448603, 2448604, 2448607
SM 4500-F- C-2011	11/02/2023			11/04/2023 10:08	Chandler E Cox	2448603
	11/02/2023			11/04/2023 11:01	Chandler E Cox	2448604
	11/02/2023			11/04/2023 11:06	Chandler E Cox	2448607
SM 5310 B-2011	11/02/2023			11/14/2023 02:00	Khloe J Berg	2448605
	11/02/2023			11/14/2023 02:15	Khloe J Berg	2448606
	11/02/2023			11/14/2023 03:01	Khloe J Berg	2448608