Chemical Analysis Report

SO-DIST-2022-06-24-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

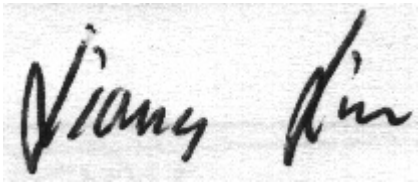
Event Description: **2022 SMP : Glades Sloughs**
Request ID: **RQ-2022-06-20-52**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: William Mullen

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 18-JUL-2022 11:45



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: JohnHenrySlough AtCR7321 **Collection Date/Time: 06/23/2022 10:10**

Field ID: G4SD0215 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337194	DEP SOP: NU-094-1	Color (true)	87		PCU	P415731	
	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P415726	
	EPA 300.0 Rev. 2.1	Chloride	470		mg Cl/L	P416148	
		Sulfate	220		mg SO4/L	P416151	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P415958	
	SM 2540 C-2011	TDS	1.10E+03		mg/L	P416223	
	SM 2540 D-2011	TSS	3	I	mg/L	P416190	
	SM 4500-F- C-2011	Fluoride	0.13		mg F/L	P415963	
2337197	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P416045	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P415919	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.089		mg N/L	P416401	
	EPA 365.1 Rev. 2.0	Total-P	0.036		mg P/L	P416022	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P415857	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: BootheelCreekEastBranch **Collection Date/Time: 06/23/2022 10:40**

Field ID: G4SD0105 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337195	DEP SOP: NU-094-1	Color (true)	580		PCU	P415731	
	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P415726	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P416148	
		Sulfate	3.3		mg SO4/L	P416151	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P415958	
	SM 2540 C-2011	TDS	184		mg/L	P416223	
	SM 2540 D-2011	TSS	2	U	mg/L	P416190	
	SM 4500-F- C-2011	Fluoride	0.069	I	mg F/L	P415963	
2337198	EPA 350.1 Rev. 2.0	Ammonia-N	0.061		mg N/L	P416257	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P415919	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416401	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P416022	
	SM 5310 B-2011	Organic Carbon	64		mg C/L	P415857	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Gatir Slough At US27 **Collection Date/Time: 06/23/2022 11:25**

Field ID: G4SD0214 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337196	DEP SOP: NU-094-1	Color (true)	500		PCU	P415731	
	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P415726	
	EPA 300.0 Rev. 2.1	Chloride	8.9		mg Cl/L	P416148	
		Sulfate	1.6		mg SO4/L	P416151	
	SM 2320 B-2011	Total Alkalinity	0.91	I	mg CaCO3/L	P415958	
	SM 2540 C-2011	TDS	116		mg/L	P416223	
	SM 2540 D-2011	TSS	21		mg/L	P416190	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415963	
2337199	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P416257	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	10		mg N/L	P415920	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P416401	
	EPA 365.1 Rev. 2.0	Total-P	1.8		mg P/L	P416392	
	SM 5310 B-2011	Organic Carbon	39		mg C/L	P415857	

Ref. Method and Comment:
SM 2540 D-2011: 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: P415731

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415726

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416148

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416151

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416045

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416257

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415919

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415920

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416401

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: P416022

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416392

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

Reference Method: SM 2320 B-2011
Batch ID: P415958

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

Reference Method: SM 2540 C-2011
Batch ID: P416223

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P416190

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P415963

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P415857

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: P415731

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.0		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415726

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416148

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416151

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416045

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416257

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415919

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415920

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416401

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416022

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416392

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

Reference Method: SM 2320 B-2011
Batch ID: P415958

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P415963

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337487	Chloride	98.8		P	90 - 110
2337511	Chloride	99.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337487	Sulfate	93.5		P	90 - 110
2337511	Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337008	Ammonia-N	99.8	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337478	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415920

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2336974	Kjeldahl Nitrogen	99.7	99.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337072	NO2NO3-N	99.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416392

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2339929	Total-P	95.4	94.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P415963

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337006	Fluoride	102	102	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337032	Organic Carbon	97.4	97.3	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415731

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337151	Color (true)	2.55	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415726

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337031	Turbidity	3.23	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337487	Chloride	0.167	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337487	Sulfate	0.0716	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337008	Ammonia-N	0.375	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337478	Ammonia-N	0.187	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336228	Kjeldahl Nitrogen	2.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2336974	Kjeldahl Nitrogen	0.394	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337072	NO2NO3-N	0.937	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337152	Total-P	0.732	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2339929	Total-P	0.389	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P415958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337006	Total Alkalinity	0.0833	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P416223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337151	TDS	2.52	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337006	Fluoride	0.483	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P415857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337032	Organic Carbon	0.101	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: A113052
Included Lab Sample IDs: 2337194, 2337195, 2337196

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

Reference Method: DEP SOP: NU-094-1
Run ID: A113054
Included Lab Sample IDs: 2337194, 2337195, 2337196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	103	P/P	85 - 115

Reference Method: SM 5310 B-2011
Run ID: A113129
Included Lab Sample IDs: 2337197, 2337198, 2337199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A113156
Included Lab Sample IDs: 2337194, 2337195, 2337196

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

Reference Method: SM 2320 B-2011
Run ID: A113157
Included Lab Sample IDs: 2337194, 2337195, 2337196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.3	99.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A113157
Included Lab Sample IDs: 2337194, 2337195, 2337196

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A113212
Included Lab Sample IDs: 2337197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	97.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A113239
Included Lab Sample IDs: 2337197, 2337198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	97.4	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A113241
Included Lab Sample IDs: 2337199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	96.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113278
Included Lab Sample IDs: 2337198

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113282
Included Lab Sample IDs: 2337197

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A113326
Included Lab Sample IDs: 2337198, 2337199

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A113410
Included Lab Sample IDs: 2337197, 2337198, 2337199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113477
Included Lab Sample IDs: 2337199

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	103	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)	97.0				2.55	
EPA 180.1 Rev. 2.0	Turbidity	95.7				3.23	
EPA 300.0 Rev. 2.1	Chloride	99.5	98.8	99.5		0.167	
	Sulfate	99.4	93.5	96.6		0.0716	
EPA 350.1 Rev. 2.0	Ammonia-N	94.2	99.8	99.4			0.375
	Ammonia-N	98.6	101	101			0.187
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103					2.33
	Kjeldahl Nitrogen	96.0	99.7	99.3			0.394
EPA 353.2 Rev. 2.0	NO2NO3-N	104	99.8				0.937
EPA 365.1 Rev. 2.0	Total-P	102					0.732
	Total-P	102	95.4	94.9			0.389
SM 2320 B-2011	Total Alkalinity	101				0.0833	
SM 2540 C-2011	TDS					2.52	
SM 4500-F- C-2011	Fluoride	99.3	102	102			0.483
SM 5310 B-2011	Organic Carbon	98.4	97.4	97.3			0.101

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2337194, 2337195, 2337196
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2337194, 2337195, 2337196
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2337194, 2337195, 2337196
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2337194, 2337195, 2337196
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2337197, 2337198, 2337199
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2337197, 2337198, 2337199
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2337197, 2337198, 2337199
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2337197, 2337198, 2337199
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2337194, 2337195, 2337196
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2337194, 2337195, 2337196
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2337194, 2337195, 2337196
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2337194, 2337195, 2337196
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2337197, 2337198, 2337199

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	06/24/2022			06/24/2022 14:37	Samantha L Bates	2337194
	06/24/2022			06/24/2022 14:38	Samantha L Bates	2337195
	06/24/2022			06/24/2022 14:39	Samantha L Bates	2337196
EPA 180.1 Rev. 2.0	06/24/2022			06/24/2022 13:56	Anna M. Plaviak	2337194
	06/24/2022			06/24/2022 13:57	Anna M. Plaviak	2337195
	06/24/2022			06/24/2022 13:58	Anna M. Plaviak	2337196
EPA 300.0 Rev. 2.1	06/24/2022			07/01/2022 20:02	Anna M. Plaviak	2337194
	06/24/2022			07/01/2022 20:14	Anna M. Plaviak	2337195
	06/24/2022			07/01/2022 20:26	Anna M. Plaviak	2337196
EPA 350.1 Rev. 2.0	06/24/2022			06/30/2022 15:49	Judith K. Clark	2337197
	06/24/2022			07/06/2022 12:15	Ping Hua	2337198
	06/24/2022			07/06/2022 12:16	Ping Hua	2337199
EPA 351.2 Rev. 2.0	06/24/2022	06/30/2022 14:06	Samantha L Bates	07/01/2022 12:26	Alexandra J Mattheus	2337197
	06/24/2022	06/30/2022 14:06	Samantha L Bates	07/01/2022 12:28	Alexandra J Mattheus	2337198
	06/24/2022	06/30/2022 14:06	Samantha L Bates	07/01/2022 14:41	Alexandra J Mattheus	2337199
EPA 353.2 Rev. 2.0	06/24/2022			07/08/2022 15:59	Touraj Touran	2337197
	06/24/2022			07/08/2022 16:00	Touraj Touran	2337198
	06/24/2022			07/08/2022 16:02	Touraj Touran	2337199
EPA 365.1 Rev. 2.0	06/24/2022	07/01/2022 16:41	Simonne.V. Calhoun	07/05/2022 11:25	James L Waggerby	2337198
	06/24/2022	07/01/2022 16:41	Simonne.V. Calhoun	07/05/2022 16:06	James L Waggerby	2337197
	06/24/2022	07/13/2022 09:52	Adam P Silver	07/13/2022 14:06	James L Waggerby	2337199
SM 2320 B-2011	06/24/2022			06/29/2022 04:29	Dale L. Simmons	2337195
	06/24/2022			06/29/2022 04:38	Dale L. Simmons	2337196
	06/24/2022			06/29/2022 05:05	Dale L. Simmons	2337194
SM 2540 C-2011	06/24/2022			06/28/2022 16:31	Yijie Li	2337194, 2337195, 2337196
SM 2540 D-2011	06/24/2022			06/28/2022 16:31	Yijie Li	2337194, 2337195, 2337196
SM 4500-F- C-2011	06/24/2022			06/29/2022 04:29	Dale L. Simmons	2337195
	06/24/2022			06/29/2022 04:38	Dale L. Simmons	2337196
	06/24/2022			06/29/2022 05:05	Dale L. Simmons	2337194
SM 5310 B-2011	06/24/2022			06/28/2022 04:55	Khloe J Berg	2337197
	06/24/2022			06/28/2022 05:09	Khloe J Berg	2337198
	06/24/2022			06/28/2022 05:23	Khloe J Berg	2337199