

Chemical Analysis Report

NE-DIST-2021-10-08-01

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

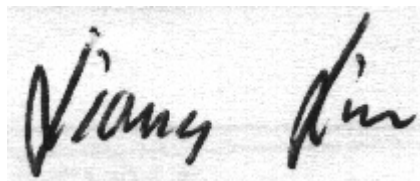
Event Description: **unnamed run boat**
Request ID: **RQ-2021-09-20-16**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 01-NOV-2021 14:09

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

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: Unnamed Drain South Entrance

Collection Date/Time: 10/07/2021 10:50

Field ID: G5NE0591

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2282188	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P404834	
	SM 2320 B-2011	Total Alkalinity	119		mg CaCO3/L	P405136	
	SM 2540 D-2011	TSS	12	AJ	mg/L	P405252	RPD
	SM 4500 F-C-2011	Fluoride	1.3		mg F/L	P405137	
2282189	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P405234	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P405320	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404913	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P404973	
	SM 5310 B-2011	Organic Carbon	2.1		mg C/L	P405725	
2282190	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P404806	

Ref. Method and Comment:

SM 2540 D-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: FB10072021

Collection Date/Time: 10/07/2021 11:00

Field ID: FB10072021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2282191	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P404834	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P405084	
	SM 2540 D-2011	TSS	2	U	mg/L	P405248	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P405086	
2282192	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P405209	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P405196	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404977	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P404974	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P405199	
2282193	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P404805	

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: EPA 180.1 Rev. 2.0
Batch ID: P404834

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405209

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405234

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405196

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405320

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404913

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404977

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404973

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404974

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404805

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404806

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2320 B-2011
Batch ID: P405084

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

Reference Method: SM 2320 B-2011
Batch ID: P405136

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

Reference Method: SM 2540 D-2011
Batch ID: P405248

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P405252

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405086

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405137

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405199

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P405725

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405209

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405234

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405196

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405320

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404913

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404977

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: P404973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404974

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404805

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.2		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404806

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.2		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P405084

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.7		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P405136

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.3		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P405086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P405137

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P405199

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

Reference Method: SM 5310 B-2011
Batch ID: P405725

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 350.1 Rev. 2.0
Batch ID: P405209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282159	Ammonia-N	96.8	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282189	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405196

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282206	Kjeldahl Nitrogen	85.7	93.3	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282133	Kjeldahl Nitrogen	92.9	91.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282189	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404977

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282158	NO2NO3-N	99.7	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281173	Total-P	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282100	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282261	O-Phosphate-P	95.5	96.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282190	O-Phosphate-P	99.5	97.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P405086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282203	Fluoride	102	103	P/P	92 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P405137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281619	Fluoride	99.8	99.8	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P405199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282159	Organic Carbon	96.0	96.6	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P405725

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284503	Organic Carbon	93.2	93.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282157	Turbidity	3.84	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282159	Ammonia-N	1.44	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282189	Ammonia-N	0.183	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405196

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282206	Kjeldahl Nitrogen	4.51	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282133	Kjeldahl Nitrogen	1.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282189	NO2NO3-N	0.489	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282158	NO2NO3-N	0.487	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281173	Total-P	2.34	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P404974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282100	Total-P	0.0423	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P404805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282261	O-Phosphate-P	0.842	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P404806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282190	O-Phosphate-P	2.17	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P405084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282203	Total Alkalinity	0.952	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011

Batch ID: P405136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281619	Total Alkalinity	1.69	Sample	P	0 - 5.2

Reference Method: SM 2540 D-2011

Batch ID: P405252

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282188	TSS	10.2	Sample	F	0 - 10

Reference Method: SM 4500 F-C-2011

Batch ID: P405086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282203	Fluoride	0.953	Spike	P	0 - 2.1

Reference Method: SM 4500 F-C-2011

Batch ID: P405137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281619	Fluoride	0.0	Spike	P	0 - 2.1

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P405199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282159	Organic Carbon	0.379	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P405725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284503	Organic Carbon	0.220	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108240

Included Lab Sample IDs: 2282190, 2282193

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.5	95.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108259

Included Lab Sample IDs: 2282188, 2282191

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108278

Included Lab Sample IDs: 2282189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108305

Included Lab Sample IDs: 2282192

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

Reference Method: SM 2320 B-2011

Run ID: A108344

Included Lab Sample IDs: 2282191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.8	96.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A108344

Included Lab Sample IDs: 2282191

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108350

Included Lab Sample IDs: 2282189, 2282192

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	99.8	P/P	90 - 110
Total-P	99.8	98.2	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A108367

Included Lab Sample IDs: 2282188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.8	95.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-2011

Run ID: A108367

Included Lab Sample IDs: 2282188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108389

Included Lab Sample IDs: 2282192

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.4	94.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108394

Included Lab Sample IDs: 2282192

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	98.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108410

Included Lab Sample IDs: 2282192

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108412

Included Lab Sample IDs: 2282189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108438

Included Lab Sample IDs: 2282189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	103	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108594

Included Lab Sample IDs: 2282189

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.4	94.2	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		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					3.84	
EPA 350.1 Rev. 2.0	Ammonia-N	95.6	96.8	98.8			1.44
	Ammonia-N	98.2	103	103			0.183
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.4	85.7	93.3			4.51
	Kjeldahl Nitrogen	99.0	92.9	91.5			1.04
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	102			0.489
	NO2NO3-N	100	99.7	100			0.487
EPA 365.1 Rev. 2.0	Total-P	99.1	101	103			2.34
	Total-P	101	101	101			0.0423
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.2	95.5	96.4			0.842
	O-Phosphate-P	96.2	99.5	97.2			2.17
SM 2320 B-2011	Total Alkalinity	97.7				0.952	
	Total Alkalinity	98.3				1.69	
SM 2540 D-2011	TSS					10.2	
SM 4500 F-C-2011	Fluoride	102	102	103			0.953
	Fluoride	101	99.8	99.8			0.0
SM 5310 B-2011	Organic Carbon	97.2	96.0	96.6			0.379
	Organic Carbon	96.4	93.2	93.0			0.220

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2282188, 2282191
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2282189, 2282192
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2282189, 2282192
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2282189, 2282192
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2282189, 2282192
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2282190, 2282193
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2282188, 2282191
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2282188, 2282191
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2282188, 2282191
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2282189, 2282192

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	10/08/2021			10/08/2021 17:41	Khloe J Berg	2282188, 2282191
EPA 350.1 Rev. 2.0	10/08/2021			10/18/2021 13:49	Ping Hua	2282192
	10/08/2021			10/19/2021 13:03	Ping Hua	2282189
EPA 351.2 Rev. 2.0	10/08/2021	10/18/2021 15:00	Benjamin T. Nordmann	10/19/2021 12:43	Alexandra J Mattheus	2282192
	10/08/2021	10/19/2021 11:59	Benjamin T. Nordmann	10/20/2021 12:20	Alexandra J Mattheus	2282189
EPA 353.2 Rev. 2.0	10/08/2021			10/12/2021 10:02	Beverly Y. Sanders	2282189
	10/08/2021			10/13/2021 10:13	Beverly Y. Sanders	2282192
EPA 365.1 Rev. 2.0	10/08/2021	10/13/2021 11:40	Simonne.V. Calhoun	10/14/2021 17:57	Sarah A Nixon	2282189
	10/08/2021	10/13/2021 11:40	Simonne.V. Calhoun	10/14/2021 18:07	Sarah A Nixon	2282192
EPA 365.1 Rev. 2.0 dissolved	10/08/2021			10/08/2021 15:32	James L Waggeberby	2282193
	10/08/2021			10/08/2021 15:40	James L Waggeberby	2282190
SM 2320 B-2011	10/08/2021			10/14/2021 02:03	Sarah A Nixon	2282191
	10/08/2021			10/14/2021 18:27	Dale L. Simmons	2282188
SM 2540 D-2011	10/08/2021			10/11/2021 15:05	Yijie Li	2282188, 2282191
SM 4500 F-C-2011	10/08/2021			10/14/2021 02:03	Sarah A Nixon	2282191
	10/08/2021			10/14/2021 16:08	Dale L. Simmons	2282188
SM 5310 B-2011	10/08/2021			10/15/2021 19:23	Khloe J Berg	2282192
	10/08/2021			10/26/2021 11:47	Khloe J Berg	2282189