

Chemical Analysis Report

NE-DIST-2019-10-25-01

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

Event Description: **Nassau West**
Request ID: **RQ-2019-10-21-28**
Customer: **NE-DIST**
Project ID: **SMP**

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Date Certified: 13-NOV-2019 16:13



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: Daughtery Br @ Crews Rd

Collection Date/Time: 10/24/2019 11:30

Field ID: 19010136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131603	EPA 180.1 Rev. 2.0	Turbidity	3.3	A	NTU	P373330	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P373762	
		Sulfate	0.96		mg SO4/L	P373766	
	SM 2120 B	Color (true)	23		PCU	P373181	
	SM 2320 B-97	Total Alkalinity	37		mg CaCO3/L	P373311	
	SM 2540 C-97	TDS	90		mg/L	P373708	
	SM 2540 D-97	TSS	2	I	mg/L	P373519	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P373314	
2131606	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P373464	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P373499	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.8		mg N/L	P373200	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P373349	
	SM 5310 B-00	Organic Carbon	2.7		mg C/L	P373404	
2131609	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P373227	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: St Marys S Prong @ CR 23C

Collection Date/Time: 10/24/2019 10:30

Field ID: 19010023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131604	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P373330	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P373762	
		Sulfate	8.9		mg SO4/L	P373766	
	SM 2120 B	Color (true)	41		PCU	P373181	
	SM 2320 B-97	Total Alkalinity	51		mg CaCO3/L	P373311	
	SM 2540 C-97	TDS	119		mg/L	P373708	
	SM 2540 D-97	TSS	2	U	mg/L	P373519	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P373314	
2131607	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P373464	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P373499	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.70		mg N/L	P373200	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P373349	
	SM 5310 B-00	Organic Carbon	4.9		mg C/L	P373404	
2131610	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.25		mg P/L	P373225	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: St Marys S Prong @ US 90

Collection Date/Time: 10/24/2019 09:25

Field ID: 19010021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2131605	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P373330	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P373762	
		Sulfate	12		mg SO4/L	P373766	
	SM 2120 B	Color (true)	63		PCU	P373182	
	SM 2320 B-97	Total Alkalinity	52		mg CaCO3/L	P373311	
	SM 2540 C-97	TDS	140	A	mg/L	P373708	
	SM 2540 D-97	TSS	2	UA	mg/L	P373519	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P373314	
2131608	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P373464	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P373499	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.0		mg N/L	P373200	
	EPA 365.1 Rev. 2.0	Total-P	0.55		mg P/L	P373349	
	SM 5310 B-00	Organic Carbon	6.9		mg C/L	P373472	
2131611	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.46		mg P/L	P373227	

Ref. Method and Comment:

SM 2540 D-97: 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: P373330

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373762

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373766

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373464

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373499

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373200

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373349

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373225

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373227

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P373181

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P373182

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P373311

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

Reference Method: SM 2540 C-97
Batch ID: P373708

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373519

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373314

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P373404

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

Reference Method: SM 5310 B-00
Batch ID: P373472

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373762

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373766

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373464

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373499

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373200

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: P373349

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: P373225

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373227

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.6		P	90 - 110

Reference Method: SM 2120 B
Batch ID: P373181

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.3		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P373182

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P373311

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P373404

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P373472

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131557	Chloride	99.5		P	90 - 110
2131964	Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131557	Sulfate	100		P	90 - 110
2131964	Sulfate	99.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131606	Ammonia-N	99.1	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131624	Kjeldahl Nitrogen	108	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131555	NO2NO3-N	97.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373349

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131607	Total-P	95.4	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373225

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131471	O-Phosphate-P	95.9	97.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373227

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131609	O-Phosphate-P	96.8	98.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P373314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131468	Fluoride	96.5	95.4	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P373404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131156	Organic Carbon	103	103	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P373472

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131682	Organic Carbon	100	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131603	Turbidity	0.306	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131557	Chloride	0.0539	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131557	Sulfate	0.0220	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131606	Ammonia-N	0.940	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131624	Kjeldahl Nitrogen	1.71	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131555	NO2NO3-N	0.512	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373349

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131607	Total-P	2.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131471	O-Phosphate-P	1.12	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131609	O-Phosphate-P	1.35	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P373181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131492	Color (true)	2.48	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P373182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131812	Color (true)	2.14	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P373311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131468	Total Alkalinity	0.101	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P373708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131605	TDS	2.15	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P373314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131468	Fluoride	1.01	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P373404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131156	Organic Carbon	0.153	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P373472

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131682	Organic Carbon	1.58	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: SM 2120 B

Run ID: A95265

Included Lab Sample IDs: 2131603, 2131604, 2131605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	100	P/P	90 - 115
Color (true)	99.0	102	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95272

Included Lab Sample IDs: 2131606, 2131607, 2131608

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95277

Included Lab Sample IDs: 2131609, 2131610, 2131611

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.9	P/P	90 - 110
O-Phosphate-P	101	101	P/P	90 - 110
O-Phosphate-P	102	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A95300

Included Lab Sample IDs: 2131603, 2131604, 2131605

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

Reference Method: SM 4500 F-C-97

Run ID: A95300

Included Lab Sample IDs: 2131603, 2131604, 2131605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	99.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95304

Included Lab Sample IDs: 2131603, 2131604, 2131605

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95336

Included Lab Sample IDs: 2131607, 2131608

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A95339

Included Lab Sample IDs: 2131606, 2131607

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95343

Included Lab Sample IDs: 2131606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95362

Included Lab Sample IDs: 2131606, 2131607, 2131608

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

Reference Method: SM 5310 B-00

Run ID: A95368

Included Lab Sample IDs: 2131608

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95416

Included Lab Sample IDs: 2131606, 2131607, 2131608

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95511

Included Lab Sample IDs: 2131603, 2131604, 2131605

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Sulfate	102	102	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					0.306	
EPA 300.0 Rev. 2.1	Chloride	99.7	99.5	99.1		0.0539	
	Sulfate	99.8	100	99.5		0.0220	
EPA 350.1 Rev. 2.0	Ammonia-N	101	99.1	100			0.940
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	108	106			1.71
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	97.5	98.0			0.512
EPA 365.1 Rev. 2.0	Total-P	101	95.4	99.3			2.31
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.3	95.9	97.1			1.12
	O-Phosphate-P	99.6	96.8	98.4			1.35
SM 2120 B	Color (true)	99.3				2.48	
	Color (true)	99.0				2.14	
SM 2320 B-97	Total Alkalinity	104				0.101	
SM 2540 C-97	TDS					2.15	
SM 4500 F-C-97	Fluoride	97.6	96.5	95.4			1.01
SM 5310 B-00	Organic Carbon	102	103	103			0.153
	Organic Carbon	104	100	103			1.58

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2131603, 2131604, 2131605
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2131603, 2131604, 2131605
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2131603, 2131604, 2131605
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2131606, 2131607, 2131608
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2131606, 2131607, 2131608
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2131606, 2131607, 2131608
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2131606, 2131607, 2131608
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2131609, 2131610, 2131611
SM 2120 B / E31780	True Color measured at 450 nm	2131603, 2131604, 2131605
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2131603, 2131604, 2131605
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2131603, 2131604, 2131605
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2131603, 2131604, 2131605
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2131603, 2131604, 2131605
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2131606, 2131607, 2131608

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	10/25/2019			10/25/2019 15:59	Blanca Fach	2131603, 2131604, 2131605
EPA 300.0 Rev. 2.1	10/25/2019			11/05/2019 05:24	Jhamieka S. Greenwood	2131603
	10/25/2019			11/05/2019 05:36	Jhamieka S. Greenwood	2131604
	10/25/2019			11/05/2019 05:48	Jhamieka S. Greenwood	2131605
EPA 350.1 Rev. 2.0	10/25/2019			10/30/2019 13:16	Ping Hua	2131606
	10/25/2019			10/30/2019 13:35	Ping Hua	2131607
	10/25/2019			10/30/2019 13:37	Ping Hua	2131608
EPA 351.2 Rev. 2.0	10/25/2019	10/31/2019 12:35	Sima Feizi	11/01/2019 15:00	Jhamieka S. Greenwood	2131606
	10/25/2019	10/31/2019 12:35	Sima Feizi	11/01/2019 15:01	Jhamieka S. Greenwood	2131607
	10/25/2019	10/31/2019 12:35	Sima Feizi	11/01/2019 15:03	Jhamieka S. Greenwood	2131608
EPA 353.2 Rev. 2.0	10/25/2019			10/28/2019 11:06	Beverly Y. Sanders	2131606
	10/25/2019			10/28/2019 11:07	Beverly Y. Sanders	2131607
	10/25/2019			10/28/2019 11:08	Beverly Y. Sanders	2131608
EPA 365.1 Rev. 2.0	10/25/2019	10/29/2019 13:09	Vijayalakshmi Reddy	10/30/2019 11:03	Lipi Saha	2131607
	10/25/2019	10/29/2019 13:09	Vijayalakshmi Reddy	10/30/2019 11:10	Lipi Saha	2131608
	10/25/2019	10/29/2019 13:09	Vijayalakshmi Reddy	10/30/2019 12:54	Lipi Saha	2131606
EPA 365.1 Rev. 2.0 dissolved	10/25/2019			10/25/2019 15:30	Jhamieka S. Greenwood	2131609
	10/25/2019			10/25/2019 16:00	Jhamieka S. Greenwood	2131610
	10/25/2019			10/25/2019 16:19	Jhamieka S. Greenwood	2131611
SM 2120 B	10/25/2019			10/25/2019 17:15	Madeline Funaro	2131603, 2131604
	10/25/2019			10/25/2019 17:19	Madeline Funaro	2131605
SM 2320 B-97	10/25/2019			10/29/2019 08:45	Dale L. Simmons	2131603
	10/25/2019			10/29/2019 08:57	Dale L. Simmons	2131604
	10/25/2019			10/29/2019 09:09	Dale L. Simmons	2131605
SM 2540 C-97	10/25/2019			10/30/2019 15:03	Yijie Li	2131603, 2131604, 2131605
SM 2540 D-97	10/25/2019			10/30/2019 15:03	Yijie Li	2131603, 2131604, 2131605
SM 4500 F-C-97	10/25/2019			10/29/2019 08:45	Dale L. Simmons	2131603
	10/25/2019			10/29/2019 08:57	Dale L. Simmons	2131604
	10/25/2019			10/29/2019 09:09	Dale L. Simmons	2131605
SM 5310 B-00	10/25/2019			10/30/2019 05:05	Madeline Funaro	2131606
	10/25/2019			10/30/2019 05:19	Madeline Funaro	2131607
	10/25/2019			10/30/2019 17:45	Lauren Lees	2131608