

Chemical Analysis Report

NW-DIST-2017-12-07-02

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

Event Description: **East Lake Run WBID 179A 61A**

Request ID: **RQ-2017-12-04-25**

Customer: **NW-DIST**

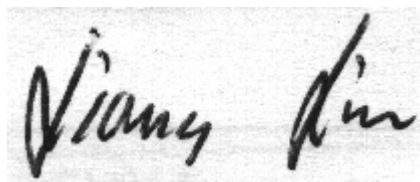
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government St
Suite 208A
Pensacola, FL 32502-5794
Attn: Michael King

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 28-DEC-2017 14:04

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

NON-CONFORMANCE REPORT INCLUDED

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 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: SAND HAMMOCK POND

Collection Date/Time: 12/05/2017 13:30

Field ID: G3NW0077

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951475	EPA 180.1 Rev. 2.0	Turbidity	1.3	A	NTU	P336596	
	EPA 300.0 Rev. 2.1	Chloride	3.8		mg Cl/L	P336670	
		Sulfate	0.20	U	mg SO4/L	P336673	
	SM 2120 B	Color (true)	29	A	PCU	P336553	
	SM 2320 B-97	Total Alkalinity	4.8		mg CaCO3/L	P336989	
	SM 2540 C-97	TDS	21	I	mg/L	P337014	
	SM 2540 D-97	TSS	2	U	mg/L	P336775	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P336992	
1951477	EPA 350.1 Rev. 2.0	Ammonia-N	0.087		mg N/L	P337269	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P336902	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P336801	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P336883	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P336821	
1951479	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336590	

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: BEAR LAKE

Collection Date/Time: 12/05/2017 10:55

Field ID: G4NW0361

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951476	EPA 180.1 Rev. 2.0	Turbidity	1.2	Q	NTU	P336596	
	EPA 300.0 Rev. 2.1	Chloride	2.0		mg Cl/L	P336670	
		Sulfate	0.40	I	mg SO4/L	P336673	
	SM 2120 B	Color (true)	21	Q	PCU	P336553	
	SM 2320 B-97	Total Alkalinity	5.5		mg CaCO3/L	P336989	
	SM 2540 C-97	TDS	15	U	mg/L	P337015	
	SM 2540 D-97	TSS	2	U	mg/L	P336775	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P336992	
1951478	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P337340	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34		mg N/L	P336902	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P336801	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P336883	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P336821	
1951480	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P336590	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired upon receipt.

SM 2120 B: The sample expired upon receipt.

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt.

Non-Conformance Report

NCR ID: 6806

Event(s)

Job(s)

Sample(s)

Test(s)

Non-Conformance Report

NCR ID: 6806

Event(s)

NW-DIST-2017-12-07-02
NW-DIST-2017-12-07-02

Job(s)

TLH-2017-12-07-07
TLH-2017-12-07-08

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived one or more days late,by FedEx code:802991097350. Samples received within the acceptable temperature range.

Resolution: Biology and Chemistry supervisors were notified by email.

Authorized by/Date: Joshua Ayres 12/12/2017

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry Colin Wright (850) 245-8085
Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336596

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336670

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336673

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337269

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337340

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336902

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336801

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336883

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336590

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

Reference Method: SM 2120 B
Batch ID: P336553

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P336989

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

Reference Method: SM 2540 C-97
Batch ID: P337014

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P337015

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P336775

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P336992

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P336821

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: P336670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337269

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337340

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: P336902

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: P336801

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336883

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336590

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

Reference Method: SM 2320 B-97
Batch ID: P336989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P336992

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P336821

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951348	Chloride	96.2		P	90 - 110
1951432	Chloride	96.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951348	Sulfate	97.5		P	90 - 110
1951432	Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951401	Ammonia-N	95.5	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951478	Ammonia-N	94.2	90.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951404	Kjeldahl Nitrogen	101	97.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336801

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951434	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951407	Total-P	97.0	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951479	O-Phosphate-P	98.8	99.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P336992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951399	Fluoride	98.0	98.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P336821

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951352	Organic Carbon	105	106	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336596

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951475	Turbidity	7.94	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951432	Chloride	1.09	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951432	Sulfate	0.0680	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951401	Ammonia-N	2.61	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951478	Ammonia-N	3.35	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951404	Kjeldahl Nitrogen	3.56	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336801

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951434	NO2NO3-N	0.398	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951407	Total-P	1.85	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951479	O-Phosphate-P	0.605	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P336553

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951475	Color (true)	1.17	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P336989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951399	Total Alkalinity	0.485	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P337014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951807	TDS	0.787	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P337015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951496	TDS	1.55	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P336992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951399	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P336821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951352	Organic Carbon	0.334	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A80735
Included Lab Sample IDs: 1951475, 1951476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	100	P/P	90 - 110
Sulfate	99.0	98.6	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A80756
Included Lab Sample IDs: 1951475, 1951476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.5	95.0	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A80761

Included Lab Sample IDs: 1951479, 1951480

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	98.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A80763

Included Lab Sample IDs: 1951475, 1951476

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80843

Included Lab Sample IDs: 1951477, 1951478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A80848

Included Lab Sample IDs: 1951477, 1951478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80897

Included Lab Sample IDs: 1951477, 1951478

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

Reference Method: SM 2320 B-97

Run ID: A80909

Included Lab Sample IDs: 1951475, 1951476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A80909

Included Lab Sample IDs: 1951475, 1951476

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80972

Included Lab Sample IDs: 1951477, 1951478

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81039

Included Lab Sample IDs: 1951477

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81069

Included Lab Sample IDs: 1951478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.9	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				7.94	
EPA 300.0 Rev. 2.1	Chloride	96.6	96.1 96.2		1.09	
	Sulfate	96.7	96.9 97.5		0.0680	
EPA 350.1 Rev. 2.0	Ammonia-N	100	95.5 98.2			2.61
	Ammonia-N	101	94.2 90.8			3.35
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.0	101 97.5			3.56
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104 105			0.398
EPA 365.1 Rev. 2.0	Total-P	98.2	97.0 98.9			1.85
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.8	98.8 99.4			0.605
SM 2120 B	Color (true)				1.17	
SM 2320 B-97	Total Alkalinity	100			0.485	
SM 2540 C-97	TDS				0.787	
	TDS				1.55	
SM 4500 F-C-97	Fluoride	96.4	98.0 98.0			0.0
SM 5310 B-00	Organic Carbon	97.6	105 106			0.334

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1951475, 1951476
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1951475, 1951476
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1951475, 1951476
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1951477, 1951478
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1951477, 1951478
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1951477, 1951478
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1951477, 1951478

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1951479, 1951480
SM 2120 B / E31780	True Color measured at 450 nm	1951475, 1951476
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1951475, 1951476
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1951475, 1951476
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1951475, 1951476
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1951475, 1951476
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1951477, 1951478

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	12/07/2017			12/07/2017 11:39	DeAsia Armster	1951475
	12/07/2017			12/07/2017 11:40	DeAsia Armster	1951476
EPA 300.0 Rev. 2.1	12/07/2017			12/08/2017	Julia Storbeck	1951475, 1951476
EPA 350.1 Rev. 2.0	12/07/2017			12/19/2017	Sofia Elnemr	1951477
	12/07/2017			12/20/2017	Sofia Elnemr	1951478
EPA 351.2 Rev. 2.0	12/07/2017	12/13/2017	Adrian Shelby	12/18/2017	Joseph Suarez	1951477, 1951478
EPA 353.2 Rev. 2.0	12/07/2017			12/12/2017	Beverly Y. Sanders	1951477, 1951478
EPA 365.1 Rev. 2.0	12/07/2017	12/13/2017	Sima Feizi	12/14/2017	Lipi Saha	1951477, 1951478
EPA 365.1 Rev. 2.0 dissolved	12/07/2017			12/07/2017 12:39	Megan Treadwell	1951479
	12/07/2017			12/07/2017 12:41	Megan Treadwell	1951480
SM 2120 B	12/07/2017			12/07/2017 12:48	Tanya Welborn	1951475
	12/07/2017			12/07/2017 12:49	Tanya Welborn	1951476
SM 2320 B-97	12/07/2017			12/14/2017	Dale L. Simmons	1951475, 1951476
SM 2540 C-97	12/07/2017			12/08/2017	DeAsia Armster	1951475, 1951476
SM 2540 D-97	12/07/2017			12/08/2017	DeAsia Armster	1951475, 1951476
SM 4500 F-C-97	12/07/2017			12/14/2017	Dale L. Simmons	1951475, 1951476
SM 5310 B-00	12/07/2017			12/11/2017	Ping Hua	1951477, 1951478