

Chemical Analysis Report

NW-DIST-2016-10-11-01

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

Event Description: **WBID 204A 283 61A**

Request ID: **RQ-2016-10-10-50**

Customer: **NW-DIST**

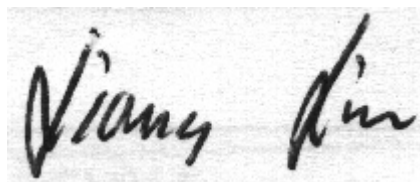
Project ID: **SMP**

Send Reports to:
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160 W Government St
Suite 208A
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Attn: Michael King

For additional information please contact
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 03-NOV-2016 17:07

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 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 CENTER

Collection Date/Time: 10/10/2016 12:45

Field ID: G3NW0077

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1839489	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P312973	
	EPA 300.0 Rev. 2.1	Chloride	3.4		mg Cl/L	P313654	
		Sulfate	0.20	U	mg SO4/L	P313657	
	SM 2120 B	Color (true)	12		PCU	P312921	
	SM 2320 B-97	Total Alkalinity	4.0		mg CaCO3/L	P313058	
	SM 2540 C-97	TDS	20	I	mg/L	P313713	
	SM 2540 D-97	TSS	2	I	mg/L	P313834	
	SM 4500 F-C-97	Fluoride	0.037	I	mg F/L	P313061	
1839492	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P313505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.13	I	mg N/L	P313448	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P313221	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P313755	
	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P313093	
1839495	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P312917	

Sample Location: BLUE POND CENTER

Collection Date/Time: 10/10/2016 13:45

Field ID: G3NW0070

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1839490	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P312973	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P313654	
		Sulfate	0.82		mg SO4/L	P313657	
	SM 2120 B	Color (true)	6.7		PCU	P312921	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P313058	
	SM 2540 C-97	TDS	16	I	mg/L	P313713	
	SM 2540 D-97	TSS	4	I	mg/L	P313834	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P313061	
1839493	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P313505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28		mg N/L	P313823	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P313221	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P313806	
	SM 5310 B-00	Organic Carbon	3.0		mg C/L	P313093	
1839496	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P312917	

Sample Location: JUNIPER LAKE NE OF DEFUNIAK

Collection Date/Time: 10/10/2016 15:45

Field ID: G3NW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1839491	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P312973	
	EPA 300.0 Rev. 2.1	Chloride	5.0		mg Cl/L	P313654	
		Sulfate	0.85		mg SO4/L	P313657	
	SM 2120 B	Color (true)	13		PCU	P312921	
	SM 2320 B-97	Total Alkalinity	1.3	I	mg CaCO3/L	P313058	

Field ID: G3NW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1839491	SM 2540 C-97	TDS	25		mg/L	P313713	
	SM 2540 D-97	TSS	3	I	mg/L	P313834	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P313061	
1839494	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P313505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P313823	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P313222	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P313806	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P313093	
1839497	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P312917	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P312973

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P313654

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P313657

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P313505

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P313448

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P313823

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P313221

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313221

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313222

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313755

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313806

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312917

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

Reference Method: SM 2120 B
Batch ID: P312921

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P313058

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

Reference Method: SM 2540 C-97
Batch ID: P313713

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P313834

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P313061

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P313093

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: P313654

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313657

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313505

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313448

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: P313823

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313221

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313222

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313222

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313806

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: P312917

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

Reference Method: SM 2320 B-97
Batch ID: P313058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P313061

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P313093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313654

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839458	Chloride	98.2		P	90 - 110
1839459	Chloride	99.2		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839458	Sulfate	97.9		P	90 - 110
1839459	Sulfate	93.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839493	Ammonia-N	96.9	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839440	Kjeldahl Nitrogen	97.3	97.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839536	Kjeldahl Nitrogen	100	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313221

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839434	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839494	NO2NO3-N	108	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839441	Total-P	101	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839493	Total-P	98.0	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839497	O-Phosphate-P	101	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P313061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839403	Fluoride	98.4	99.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P313093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839418	Organic Carbon	94.8	93.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P312973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839459	Turbidity	4.62	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839458	Chloride	0.139	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839458	Sulfate	0.332	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839493	Ammonia-N	1.69	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839440	Kjeldahl Nitrogen	0.0310	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839536	Kjeldahl Nitrogen	0.396	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839434	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839494	NO2NO3-N	0.935	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839441	Total-P	2.57	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839493	Total-P	0.807	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839497	O-Phosphate-P	0.592	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P312921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839526	Color (true)	0.291	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P313058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839403	Total Alkalinity	0.331	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P313713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839552	TDS	4.14	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P313834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839552	TSS	5.82	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P313061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839403	Fluoride	0.477	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P313093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839418	Organic Carbon	0.954	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 365.1 Rev. 2.0 dissolved
Run ID: A72157
Included Lab Sample IDs: 1839495, 1839496, 1839497

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	99.6	P/P	90 - 110
O-Phosphate-P	99.7	99.8	P/P	90 - 110
O-Phosphate-P	99.8	98.2	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A72158
Included Lab Sample IDs: 1839489, 1839490, 1839491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.8	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A72177
Included Lab Sample IDs: 1839489, 1839490, 1839491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A72177

Included Lab Sample IDs: 1839489, 1839490, 1839491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	101	P/P	95 - 105

Reference Method: SM 2320 B-97

Run ID: A72195

Included Lab Sample IDs: 1839489, 1839490, 1839491

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

Reference Method: SM 4500 F-C-97

Run ID: A72195

Included Lab Sample IDs: 1839489, 1839490, 1839491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A72203

Included Lab Sample IDs: 1839492, 1839493, 1839494

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72235

Included Lab Sample IDs: 1839492, 1839493, 1839494

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A72305

Included Lab Sample IDs: 1839489, 1839490, 1839491

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	101	P/P	90 - 110
Sulfate	98.1	96.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A72319

Included Lab Sample IDs: 1839492, 1839493, 1839494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.8	P/P	90 - 110
Ammonia-N	99.7	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72400

Included Lab Sample IDs: 1839492

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72422

Included Lab Sample IDs: 1839492

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72473

Included Lab Sample IDs: 1839493, 1839494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72477

Included Lab Sample IDs: 1839493, 1839494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	100	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				4.62	
EPA 300.0 Rev. 2.1	Chloride	103	98.2 99.2		0.139	
	Sulfate	98.2	97.9 93.6		0.332	
EPA 350.1 Rev. 2.0	Ammonia-N	106	96.9 98.8			1.69
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.4	97.3 97.3			0.0310
	Kjeldahl Nitrogen	107	100 101			0.396
EPA 353.2 Rev. 2.0	NO2NO3-N	107	106 106			0.0
	NO2NO3-N	106	108 106			0.935
EPA 365.1 Rev. 2.0	Total-P	97.6	101 98.0			2.57
	Total-P	101	98.0 97.2			0.807
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	101 102			0.592
SM 2120 B	Color (true)				0.291	
SM 2320 B-97	Total Alkalinity	104			0.331	
SM 2540 C-97	TDS				4.14	
SM 2540 D-97	TSS				5.82	
SM 4500 F-C-97	Fluoride	98.6	98.4 99.0			0.477
SM 5310 B-00	Organic Carbon	99.0	94.8 93.0			0.954

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1839489, 1839490, 1839491
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1839489, 1839490, 1839491
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1839489, 1839490, 1839491
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1839492, 1839493, 1839494
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1839492, 1839493, 1839494
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1839492, 1839493, 1839494
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1839492, 1839493, 1839494
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1839495, 1839496, 1839497
SM 2120 B / E31780	True Color measured at 450 nm	1839489, 1839490, 1839491
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1839489, 1839490, 1839491
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1839489, 1839490, 1839491
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1839489, 1839490, 1839491
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1839489, 1839490, 1839491
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1839492, 1839493, 1839494

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	10/11/2016			10/11/2016 15:51	Blanca Fach	1839489, 1839490, 1839491
EPA 300.0 Rev. 2.1	10/11/2016			10/21/2016	Ping Hua	1839489, 1839490, 1839491
EPA 350.1 Rev. 2.0	10/11/2016			10/19/2016	Sofia Elnemr	1839492, 1839493, 1839494
EPA 351.2 Rev. 2.0	10/11/2016	10/19/2016	Adrian Shelby	10/24/2016	Joseph Suarez	1839492
	10/11/2016	10/25/2016	Adrian Shelby	10/26/2016	Joseph Suarez	1839493, 1839494
EPA 353.2 Rev. 2.0	10/11/2016			10/14/2016	Beverly Y. Sanders	1839492, 1839493, 1839494
EPA 365.1 Rev. 2.0	10/11/2016	10/24/2016	Vijayalakshmi Reddy	10/25/2016	Lipi Saha	1839492
	10/11/2016	10/25/2016	Vijayalakshmi Reddy	10/27/2016	Lipi Saha	1839493, 1839494
EPA 365.1 Rev. 2.0 dissolved	10/11/2016			10/11/2016 14:25	Julia Storbeck	1839497
	10/11/2016			10/11/2016 15:14	Julia Storbeck	1839496
	10/11/2016			10/11/2016 15:30	Julia Storbeck	1839495
SM 2120 B	10/11/2016			10/11/2016 14:45	Julie Michelle Frank	1839489
	10/11/2016			10/11/2016 14:46	Julie Michelle Frank	1839490
	10/11/2016			10/11/2016 14:47	Julie Michelle Frank	1839491
SM 2320 B-97	10/11/2016			10/13/2016	Dale L. Simmons	1839489, 1839490, 1839491
SM 2540 C-97	10/11/2016			10/15/2016	Yijie Li	1839489, 1839490, 1839491
SM 2540 D-97	10/11/2016			10/15/2016	Yijie Li	1839489, 1839490, 1839491
SM 4500 F-C-97	10/11/2016			10/13/2016	Dale L. Simmons	1839489, 1839490, 1839491
SM 5310 B-00	10/11/2016			10/13/2016	Julie Michelle Frank	1839492, 1839493, 1839494