

Chemical Analysis Report

NE-DIST-2016-10-13-01

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

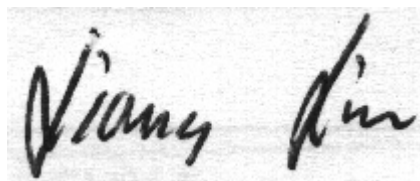
Event Description: **Gville South Bio**
Request ID: **RQ-2016-10-10-15**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

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

Date Certified: 09-NOV-2016 11:12

A handwritten signature in black ink, appearing to read "Liang Lin", is written on a light-colored, textured 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: River Styx at 346

Collection Date/Time: 10/12/2016 11:35

Field ID: G1NE0106 10122016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1840546	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P313130	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P313701	
		Sulfate	0.72		mg SO4/L	P313703	
	SM 2120 B	Color (true)	340		PCU	P313141	
	SM 2320 B-97	Total Alkalinity	23		mg CaCO3/L	P313459	
	SM 2540 C-97	TDS	111		mg/L	P313963	
	SM 2540 D-97	TSS	2	U	mg/L	P313784	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P313463	
1840549	EPA 350.1 Rev. 2.0	Ammonia-N	0.28		mg N/L	P313915	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P314281	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P313382	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P313973	
	SM 5310 B-00	Organic Carbon	39		mg C/L	P313266	
1840552	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P313140	

Sample Location: Cross Creek at SR 325

Collection Date/Time: 10/12/2016 12:50

Field ID: G1NE0105 10122016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1840547	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P313130	
	EPA 300.0 Rev. 2.1	Chloride	9.9		mg Cl/L	P313701	
		Sulfate	2.5		mg SO4/L	P313703	
	SM 2120 B	Color (true)	72	A	PCU	P313141	
	SM 2320 B-97	Total Alkalinity	27	A	mg CaCO3/L	P313460	
	SM 2540 C-97	TDS	70		mg/L	P313963	
	SM 2540 D-97	TSS	14		mg/L	P313784	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P313464	
1840550	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P313915	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P314282	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P313382	
	EPA 365.1 Rev. 2.0	Total-P	0.080		mg P/L	P314060	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P313266	
1840553	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P313140	

Sample Location: West Hawthorne @ Fish Camp Rd

Collection Date/Time: 10/12/2016 13:20

Field ID: G1NE0210 10122016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1840548	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P313130	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P313701	
		Sulfate	5.6		mg SO4/L	P313703	
	SM 2120 B	Color (true)	590		PCU	P313141	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P313459	

Field ID: G1NE0210 10122016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1840548	SM 2540 C-97	TDS	155		mg/L	P313963	
	SM 2540 D-97	TSS	2	U	mg/L	P313784	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P313463	
1840551	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P313915	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P313910	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P313382	
	EPA 365.1 Rev. 2.0	Total-P	0.28		mg P/L	P314060	
	SM 5310 B-00	Organic Carbon	55		mg C/L	P313266	
1840554	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.22		mg P/L	P313140	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P313130

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P313701

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P313703

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P313915

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P313910

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P314281

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P314282

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314282

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313382

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313973

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314060

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P313140

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

Reference Method: SM 2120 B
Batch ID: P313141

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P313459

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

Reference Method: SM 2320 B-97
Batch ID: P313460

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

Reference Method: SM 2540 C-97
Batch ID: P313963

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P313784

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P313463

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P313464

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P313266

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: P313701

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313703

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313915

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313910

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: P314281

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314281

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314282

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313382

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313973

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314060

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P313140

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

Reference Method: SM 2320 B-97
Batch ID: P313459

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

Reference Method: SM 2320 B-97
Batch ID: P313460

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P313463

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P313464

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P313266

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840498	Chloride	104		P	90 - 110
1840860	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840498	Sulfate	101		P	90 - 110
1840860	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840503	Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840863	Kjeldahl Nitrogen	97.7	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840502	Kjeldahl Nitrogen	98.9	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1841070	Kjeldahl Nitrogen	102	98.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313382

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840534	NO2NO3-N	98.9	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840377	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840821	Total-P	99.2	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P313140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840511	O-Phosphate-P	102	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P313463

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840531	Fluoride	98.7	101	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P313464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840547	Fluoride	99.9	99.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P313266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840470	Organic Carbon	93.2	94.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P313130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840496	Turbidity	4.01	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840498	Chloride	0.418	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840498	Sulfate	0.355	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840503	Ammonia-N	1.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840863	Kjeldahl Nitrogen	0.882	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840502	Kjeldahl Nitrogen	1.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841070	Kjeldahl Nitrogen	2.10	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840534	NO2NO3-N	1.13	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840377	Total-P	0.0772	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P314060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840821	Total-P	1.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P313140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840511	O-Phosphate-P	0.877	Spike	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P313141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840547	Color (true)	0.875	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P313459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840531	Total Alkalinity	0.438	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97

Batch ID: P313460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840547	Total Alkalinity	0.330	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97

Batch ID: P313963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840531	TDS	0.784	Sample	P	0 - 10

Reference Method: SM 2540 D-97

Batch ID: P313784

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840531	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97

Batch ID: P313463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840531	Fluoride	1.43	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P313464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840547	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P313266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840470	Organic Carbon	0.847	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 180.1 Rev. 2.0
Run ID: A72211
Included Lab Sample IDs: 1840546, 1840547, 1840548

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A72213
Included Lab Sample IDs: 1840552, 1840553, 1840554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	101	99.2	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A72214
Included Lab Sample IDs: 1840546, 1840547, 1840548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	105	P/P	85 - 115
Color (true)	104	102	P/P	85 - 115

Reference Method: SM 5310 B-00
Run ID: A72250
Included Lab Sample IDs: 1840549, 1840550, 1840551

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	95.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A72281
Included Lab Sample IDs: 1840549, 1840550, 1840551

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72281

Included Lab Sample IDs: 1840549, 1840550, 1840551

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	98.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A72305

Included Lab Sample IDs: 1840546, 1840547, 1840548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	102	P/P	90 - 110
Chloride	103	104	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110
Sulfate	99.7	98.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A72309

Included Lab Sample IDs: 1840546, 1840547, 1840548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A72309

Included Lab Sample IDs: 1840546, 1840547, 1840548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	98.1	P/P	90 - 110
Fluoride	99.5	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A72438

Included Lab Sample IDs: 1840549, 1840550, 1840551

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	100	P/P	90 - 110
Ammonia-N	99.5	99.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72517

Included Lab Sample IDs: 1840551

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.1	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72522

Included Lab Sample IDs: 1840549, 1840550, 1840551

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A72577
Included Lab Sample IDs: 1840549, 1840550

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

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				4.01	
EPA 300.0 Rev. 2.1	Chloride	104	104 105		0.418	
	Sulfate	100	101 101		0.355	
EPA 350.1 Rev. 2.0	Ammonia-N	107	103 101			1.54
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.4	97.7 96.8			0.882
	Kjeldahl Nitrogen	108	98.9 101			1.44
	Kjeldahl Nitrogen	101	102 98.1			2.10
EPA 353.2 Rev. 2.0	NO2NO3-N	102	98.9 97.4			1.13
EPA 365.1 Rev. 2.0	Total-P	103	101 101			0.0772
	Total-P	98.0	99.2 101			1.44
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	102 103			0.877
SM 2120 B	Color (true)				0.875	
SM 2320 B-97	Total Alkalinity	104			0.438	
	Total Alkalinity	103			0.330	
SM 2540 C-97	TDS				0.784	
SM 2540 D-97	TSS				0.0	
SM 4500 F-C-97	Fluoride	98.3	98.7 101			1.43
	Fluoride	98.3	99.9 99.9			0.0
SM 5310 B-00	Organic Carbon	96.0	93.2 94.3			0.847

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1840546, 1840547, 1840548
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1840546, 1840547, 1840548
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1840546, 1840547, 1840548
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1840549, 1840550, 1840551
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1840549, 1840550, 1840551
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1840549, 1840550, 1840551
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1840549, 1840550, 1840551
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1840552, 1840553, 1840554
SM 2120 B / E31780	True Color measured at 450 nm	1840546, 1840547, 1840548

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1840546, 1840547, 1840548
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1840546, 1840547, 1840548
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1840546, 1840547, 1840548
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1840546, 1840547, 1840548
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1840549, 1840550, 1840551

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	10/13/2016			10/13/2016 15:12	Sima Feizi	1840546, 1840547, 1840548
EPA 300.0 Rev. 2.1	10/13/2016			10/22/2016	Julia Storbeck	1840546, 1840547, 1840548
EPA 350.1 Rev. 2.0	10/13/2016			10/25/2016	Sofia Elnemr	1840549, 1840550, 1840551
EPA 351.2 Rev. 2.0	10/13/2016	10/26/2016	Adrian Shelby	10/28/2016	Joseph Suarez	1840551
	10/13/2016	11/01/2016	Adrian Shelby	11/02/2016	Joseph Suarez	1840549, 1840550
EPA 353.2 Rev. 2.0	10/13/2016			10/18/2016	Beverly Y. Sanders	1840549, 1840550, 1840551
EPA 365.1 Rev. 2.0	10/13/2016	10/27/2016	Vijayalakshmi Reddy	10/28/2016	Lipi Saha	1840549, 1840550, 1840551
EPA 365.1 Rev. 2.0 dissolved	10/13/2016			10/13/2016 16:14	Julia Storbeck	1840554
	10/13/2016			10/13/2016 16:17	Julia Storbeck	1840553
	10/13/2016			10/13/2016 16:26	Julia Storbeck	1840552
SM 2120 B	10/13/2016			10/13/2016 16:11	Jared I. Manley	1840547
	10/13/2016			10/13/2016 16:35	Jared I. Manley	1840546
	10/13/2016			10/13/2016 16:36	Jared I. Manley	1840548
SM 2320 B-97	10/13/2016			10/19/2016	Dale L. Simmons	1840546, 1840547, 1840548
SM 2540 C-97	10/13/2016			10/17/2016	Sima Feizi	1840546, 1840547, 1840548
SM 2540 D-97	10/13/2016			10/17/2016	Sima Feizi	1840546, 1840547, 1840548
SM 4500 F-C-97	10/13/2016			10/19/2016	Dale L. Simmons	1840546, 1840547, 1840548
SM 5310 B-00	10/13/2016			10/15/2016	Julie Michelle Frank	1840549, 1840550, 1840551