Chemical Analysis Report

NW-DIST-2017-09-19-02

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

Event Description: **Eglin East WBID 351 361 432 445 476**
Request ID: **RQ-2017-09-11-29**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government St
Suite 208A
Pensacola, FL 32502-5794
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 06-OCT-2017 13:21

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: LITTLE ALAQUA CK.BELOW 282 BRIDGE **Collection Date/Time: 09/18/2017 11:35**

Field ID: G3NW0065 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929519	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P331859	
	EPA 300.0 Rev. 2.1	Chloride	2.2		mg Cl/L	P331959	
		Sulfate	0.61		mg SO4/L	P331961	
	SM 2120 B	Color (true)	39		PCU	P331847	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P331930	
	SM 2540 C-97	TDS	15	U	mg/L	P332174	
	SM 2540 D-97	TSS	2	I	mg/L	P332248	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P331935	
1929523	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P331951	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.12	I	mg N/L	P332188	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P331900	
	EPA 365.1 Rev. 2.0	Total-P	0.002	I	mg P/L	P331921	
	SM 5310 B-00	Organic Carbon	3.1		mg C/L	P332078	
1929527	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P331880	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ROCKY CREEK @ EGLIN 200/201 **Collection Date/Time: 09/18/2017 12:20**

Field ID: G3NW0059 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929520	EPA 180.1 Rev. 2.0	Turbidity	1.2	A	NTU	P331859	
	EPA 300.0 Rev. 2.1	Chloride	2.1		mg Cl/L	P331959	
		Sulfate	0.65		mg SO4/L	P331961	
	SM 2120 B	Color (true)	18		PCU	P331847	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P331930	
	SM 2540 C-97	TDS	15	U	mg/L	P332174	
	SM 2540 D-97	TSS	3	I	mg/L	P332248	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P331935	
1929524	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P331951	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P332188	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.088		mg N/L	P331900	
	EPA 365.1 Rev. 2.0	Total-P	0.002	I	mg P/L	P331921	
	SM 5310 B-00	Organic Carbon	1.6		mg C/L	P332080	
1929528	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P331880	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: LITTLE ROCK CK **Collection Date/Time: 09/18/2017 13:40**

Field ID: G3NW0103 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929521	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P331859	

Field ID: G3NW0103 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929521	EPA 300.0 Rev. 2.1	Chloride	2.3		mg Cl/L	P331959	
		Sulfate	0.79		mg SO4/L	P331961	
	SM 2120 B	Color (true)	27	A	PCU	P331847	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P331930	
	SM 2540 C-97	TDS	15	U	mg/L	P332174	
	SM 2540 D-97	TSS	2	I	mg/L	P332248	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P331935	
1929525	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P331951	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.13	I	mg N/L	P332188	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.065		mg N/L	P331900	
	EPA 365.1 Rev. 2.0	Total-P	0.002	I	mg P/L	P331921	
	SM 5310 B-00	Organic Carbon	2.1		mg C/L	P332080	
1929529	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P331880	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: TITI CREEK ABOVE HWY 285 **Collection Date/Time: 09/18/2017 13:25**

Field ID: G4NW0365 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929522	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P331859	
	EPA 300.0 Rev. 2.1	Chloride	2.2		mg Cl/L	P331959	
		Sulfate	0.76		mg SO4/L	P331961	
	SM 2120 B	Color (true)	110		PCU	P331847	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P331930	
	SM 2540 C-97	TDS	18	I	mg/L	P332174	
	SM 2540 D-97	TSS	3	I	mg/L	P332248	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P331935	
1929526	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P331951	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26		mg N/L	P332188	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P331901	
	EPA 365.1 Rev. 2.0	Total-P	0.005	I	mg P/L	P331921	
	SM 5310 B-00	Organic Carbon	7.9		mg C/L	P332080	
1929530	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P331880	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
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: P331859

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report
Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331959

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331961

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331951

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332188

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331900

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331901

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331921

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331880

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

Reference Method: SM 2120 B
Batch ID: P331847

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P331930

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

Reference Method: SM 2540 C-97
Batch ID: P332174

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P332248

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P331935

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P332078

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

Reference Method: SM 5310 B-00
Batch ID: P332080

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: P331959

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331961

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331951

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331951

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	109		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332188

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331900

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331901

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: P331921

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331880

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

Reference Method: SM 2320 B-97
Batch ID: P331930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P331935

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P332078

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P332080

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.9		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331959

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929428	Chloride	96.5		P	90 - 110
1929519	Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331961

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929428	Sulfate	94.5		P	90 - 110
1929519	Sulfate	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929504	Ammonia-N	103	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929523	Kjeldahl Nitrogen	106	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331900

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929443	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929526	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331921

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929555	Total-P	95.6	97.2	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929529	O-Phosphate-P	97.2	99.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P331935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929263	Fluoride	94.6	95.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P332078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929231	Organic Carbon	100	98.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P332080

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929524	Organic Carbon	98.3	101	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P331859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929520	Turbidity	1.74	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929428	Chloride	0.826	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929504	Ammonia-N	3.27	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929523	Kjeldahl Nitrogen	5.32	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331900

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929443	NO2NO3-N	0.871	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929526	NO2NO3-N	0.816	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929555	Total-P	1.57	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929529	O-Phosphate-P	2.34	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P331847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929521	Color (true)	3.38	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P331930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929263	Total Alkalinity	0.384	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P332174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929503	TDS	4.33	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P331935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929263	Fluoride	0.500	Spike	P	0 - 3.0

Quality Assurance Report
Precision

Reference Method: SM 5310 B-00
Batch ID: P332078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929231	Organic Carbon	1.81	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P332080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929524	Organic Carbon	2.83	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: A78987
Included Lab Sample IDs: 1929519, 1929520, 1929521, 1929522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Chloride	99.5	100	P/P	90 - 110
Sulfate	98.8	98.9	P/P	90 - 110
Sulfate	98.9	99.4	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A79014
Included Lab Sample IDs: 1929519, 1929520, 1929521, 1929522

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A79018
Included Lab Sample IDs: 1929519, 1929520, 1929521, 1929522

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: A79026
Included Lab Sample IDs: 1929527, 1929528, 1929529, 1929530

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A79032
Included Lab Sample IDs: 1929523, 1929524, 1929525, 1929526

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

Reference Method: SM 2320 B-97
Run ID: A79043
Included Lab Sample IDs: 1929519, 1929520, 1929521, 1929522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	99.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A79043
Included Lab Sample IDs: 1929519, 1929520, 1929521, 1929522

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A79044
Included Lab Sample IDs: 1929523, 1929524, 1929525, 1929526

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

Reference Method: SM 5310 B-00
Run ID: A79090
Included Lab Sample IDs: 1929523, 1929524, 1929525, 1929526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	101	P/P	90 - 110
Organic Carbon	98.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A79103
Included Lab Sample IDs: 1929523, 1929524, 1929525, 1929526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.8	P/P	90 - 110
Total-P	99.8	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A79174
Included Lab Sample IDs: 1929523, 1929524, 1929525, 1929526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.4	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		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					1.74	
EPA 300.0 Rev. 2.1	Chloride	95.9	96.5	98.7		0.826	
	Sulfate	96.0	94.5	97.2			
EPA 350.1 Rev. 2.0	Ammonia-N	109	103	107			3.27
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	100	106			5.32
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104	105			0.871
	NO2NO3-N	104	104	103			0.816
EPA 365.1 Rev. 2.0	Total-P	96.5	95.6	97.2			1.57
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0	97.2	99.5			2.34
SM 2120 B	Color (true)					3.38	
SM 2320 B-97	Total Alkalinity	101				0.384	
SM 2540 C-97	TDS					4.33	
SM 4500 F-C-97	Fluoride	95.5	94.6	95.1			0.500
SM 5310 B-00	Organic Carbon	99.4	100	98.6			1.81
	Organic Carbon	99.9	98.3	101			2.83

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1929519, 1929520, 1929521, 1929522
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1929519, 1929520, 1929521, 1929522
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1929519, 1929520, 1929521, 1929522
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1929523, 1929524, 1929525, 1929526
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1929523, 1929524, 1929525, 1929526
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1929523, 1929524, 1929525, 1929526
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1929523, 1929524, 1929525, 1929526
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1929527, 1929528, 1929529, 1929530
SM 2120 B / E31780	True Color measured at 450 nm	1929519, 1929520, 1929521, 1929522
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1929519, 1929520, 1929521, 1929522
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1929519, 1929520, 1929521, 1929522
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1929519, 1929520, 1929521, 1929522
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1929519, 1929520, 1929521, 1929522
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1929523, 1929524, 1929525, 1929526

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	09/19/2017			09/19/2017 16:12	DeAsia Armster	1929519, 1929520, 1929521, 1929522
EPA 300.0 Rev. 2.1	09/19/2017			09/20/2017	Julia Storbeck	1929519, 1929520, 1929521, 1929522
EPA 350.1 Rev. 2.0	09/19/2017			09/20/2017	Sofia Elnemr	1929523, 1929524, 1929525, 1929526
EPA 351.2 Rev. 2.0	09/19/2017	09/25/2017	Adrian Shelby	09/27/2017	Joseph Suarez	1929524, 1929525
	09/19/2017	09/28/2017	Adrian Shelby	09/27/2017	Joseph Suarez	1929523, 1929526
EPA 353.2 Rev. 2.0	09/19/2017			09/20/2017	Beverly Y. Sanders	1929523, 1929524, 1929525, 1929526
EPA 365.1 Rev. 2.0	09/19/2017	09/20/2017	Sima Feizi	09/22/2017	Lipi Saha	1929523, 1929524, 1929525, 1929526
EPA 365.1 Rev. 2.0 dissolved	09/19/2017			09/19/2017 14:59	Megan Treadwell	1929529
	09/19/2017			09/19/2017 15:41	Megan Treadwell	1929527
	09/19/2017			09/19/2017 15:42	Megan Treadwell	1929528
	09/19/2017			09/19/2017 15:43	Megan Treadwell	1929530
SM 2120 B	09/19/2017			09/19/2017 14:54	Tanya Welborn	1929519
	09/19/2017			09/19/2017 14:55	Tanya Welborn	1929520
	09/19/2017			09/19/2017 14:57	Tanya Welborn	1929521, 1929522
SM 2320 B-97	09/19/2017			09/21/2017	Dale L. Simmons	1929519, 1929520, 1929521, 1929522
SM 2540 C-97	09/19/2017			09/21/2017	Yijie Li	1929519, 1929520, 1929521, 1929522
SM 2540 D-97	09/19/2017			09/21/2017	Yijie Li	1929519, 1929520, 1929521, 1929522
SM 4500 F-C-97	09/19/2017			09/21/2017	Dale L. Simmons	1929519, 1929520, 1929521, 1929522
SM 5310 B-00	09/19/2017			09/21/2017	Ping Hua	1929523, 1929524, 1929525
	09/19/2017			09/22/2017	Ping Hua	1929526