

Chemical Analysis Report

WQAP-2016-07-14-08

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

Event Description: **Wakulla River and Chicken Branch**

Request ID: **RQ-2016-07-11-28**

Customer: **WQAP**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
MS #3560
Tallahassee, FL 32399-2400
Attn: Katrina Sanders

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

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 05-AUG-2016 14:07



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: CHICKEN BRANCH AT OLD PLANK RD.

Collection Date/Time: 07/14/2016 09:30

Field ID: G1WA0031-07142016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1816187	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P308068	
	EPA 300.0 Rev. 2.1	Chloride	5.7		mg Cl/L	P308927	
	SM 2120 B	Color (true)	12		PCU	P308044	
	SM 2320 B-97	Total Alkalinity	131		mg CaCO3/L	P308524	
	SM 2540 C-97	TDS	176	A	mg/L	P308839	
	SM 2540 D-97	TSS	2	I	mg/L	P308476	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P308528	
1816189	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P308308	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P308170	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P308716	
	EPA 365.1 Rev. 2.0	Total-P	0.051		mg P/L	P308133	
	SM 5310 B-00	Organic Carbon	1.7		mg C/L	P308640	
1816191	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.042		mg P/L	P307960	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: WAKULLA RIVER BELOW US 98

Collection Date/Time: 07/14/2016 13:00

Field ID: G1WA0028-07142016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1816188	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P308068	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P308927	
	SM 2120 B	Color (true)	4.5	I	PCU	P308044	
	SM 2320 B-97	Total Alkalinity	146		mg CaCO3/L	P308524	
	SM 2540 C-97	TDS	213		mg/L	P308839	
	SM 2540 D-97	TSS	2	I	mg/L	P308476	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P308528	
1816190	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P308309	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.13	I	mg N/L	P308170	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P308717	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P308133	
	SM 5310 B-00	Organic Carbon	0.95	I	mg C/L	P308640	
1816192	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P307960	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P308068

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: P308927

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308308

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308309

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308170

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308716

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308717

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308133

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307960

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

Reference Method: SM 2120 B
Batch ID: P308044

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P308524

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

Reference Method: SM 2540 C-97
Batch ID: P308839

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P308476

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P308528

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P308640

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: P308927

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308308

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308309

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308170

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P308170

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P308716

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P308717

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: P308133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P307960

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

Reference Method: SM 2320 B-97
 Batch ID: P308524

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

Reference Method: SM 4500 F-C-97
 Batch ID: P308528

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P308640

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P308927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
---------------	-----------	---------	---------	-----------	----------------

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P308927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816094	Chloride	98.5		P	90 - 110
1816095	Chloride	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816189	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308309

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816217	Ammonia-N	99.0	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816128	Kjeldahl Nitrogen	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816116	NO2NO3-N	95.5	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816219	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816189	Total-P	97.0	96.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P308528

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816215	Fluoride	98.6	99.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P308640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1816039	Organic Carbon	96.5	95.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P308068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816285	Turbidity	6.70	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P308927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816094	Chloride	0.0175	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816189	Ammonia-N	0.257	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P308309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816217	Ammonia-N	1.68	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P308170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816128	Kjeldahl Nitrogen	0.359	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816116	NO2NO3-N	0.603	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P308717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816219	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P308133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816189	Total-P	0.345	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816098	O-Phosphate-P	0.287	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P308044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816176	Color (true)	0.889	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P308524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816215	Total Alkalinity	0.0173	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P308839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816187	TDS	0.567	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P308528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816215	Fluoride	0.473	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P308640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1816039	Organic Carbon	0.780	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: A70559
Included Lab Sample IDs: 1816191, 1816192

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.5	98.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A70582

Included Lab Sample IDs: 1816187, 1816188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.5	98.3	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A70588

Included Lab Sample IDs: 1816187, 1816188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70648

Included Lab Sample IDs: 1816189, 1816190

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A70655

Included Lab Sample IDs: 1816189, 1816190

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A70726

Included Lab Sample IDs: 1816189, 1816190

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	95.9	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A70728

Included Lab Sample IDs: 1816187, 1816188

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: A70728

Included Lab Sample IDs: 1816187, 1816188

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

Reference Method: SM 5310 B-00

Run ID: A70765

Included Lab Sample IDs: 1816189, 1816190

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.3	95.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A70789
Included Lab Sample IDs: 1816189, 1816190

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	106	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A70802
Included Lab Sample IDs: 1816187, 1816188

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	101	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				6.70	
EPA 300.0 Rev. 2.1	Chloride	99.7	98.5 98.8		0.0175	
EPA 350.1 Rev. 2.0	Ammonia-N	102	100 100			0.257
	Ammonia-N	103	99.0 101			1.68
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	104 104			0.359
EPA 353.2 Rev. 2.0	NO2NO3-N	102	95.5 96.5			0.603
	NO2NO3-N	102	102 102			0.0
EPA 365.1 Rev. 2.0	Total-P	97.9	97.0 96.6			0.345
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101				0.287
SM 2120 B	Color (true)				0.889	
SM 2320 B-97	Total Alkalinity	103			0.0173	
SM 2540 C-97	TDS				0.567	
SM 4500 F-C-97	Fluoride	97.4	98.6 99.3			0.473
SM 5310 B-00	Organic Carbon	92.9	96.5 95.8			0.780

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1816187, 1816188
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1816187, 1816188
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1816189, 1816190
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1816189, 1816190
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1816189, 1816190
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1816189, 1816190
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1816191, 1816192

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2120 B / E31780	True Color measured at 450 nm	1816187, 1816188
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1816187, 1816188
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1816187, 1816188
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1816187, 1816188
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1816187, 1816188
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1816189, 1816190

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	07/14/2016			07/15/2016 14:09	Blanca Fach	1816187, 1816188
EPA 300.0 Rev. 2.1	07/14/2016			07/30/2016	Ping Hua	1816187, 1816188
EPA 350.1 Rev. 2.0	07/14/2016			07/20/2016	Julie Michelle Frank	1816189, 1816190
EPA 351.2 Rev. 2.0	07/14/2016	07/19/2016	Sofia Elnemr	07/21/2016	Christopher Armour	1816189, 1816190
EPA 353.2 Rev. 2.0	07/14/2016			07/27/2016	Beverly Y. Sanders	1816189, 1816190
EPA 365.1 Rev. 2.0	07/14/2016	07/18/2016	Vijayalakshmi Reddy	07/20/2016	Lipi Saha	1816189, 1816190
EPA 365.1 Rev. 2.0 dissolved	07/14/2016			07/14/2016 15:10	Julia Storbeck	1816191
	07/14/2016			07/14/2016 15:11	Julia Storbeck	1816192
SM 2120 B	07/14/2016			07/15/2016 13:21	Rochelle Y Jackson	1816187
	07/14/2016			07/15/2016 13:22	Rochelle Y Jackson	1816188
SM 2320 B-97	07/14/2016			07/22/2016	Dale L. Simmons	1816187, 1816188
SM 2540 C-97	07/14/2016			07/18/2016	Sima Feizi	1816187, 1816188
SM 2540 D-97	07/14/2016			07/18/2016	Sima Feizi	1816187, 1816188
SM 4500 F-C-97	07/14/2016			07/22/2016	Dale L. Simmons	1816187, 1816188
SM 5310 B-00	07/14/2016			07/26/2016	Sofia Elnemr	1816189, 1816190