Chemical Analysis Report

SO-DIST-2016-06-14-02

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

Event Description: **SMP: Arbuckle Br, HPC, Arbuckle Above Morgan**
Request ID: **RQ-2016-05-23-08**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901
Attn: Ben Paswater

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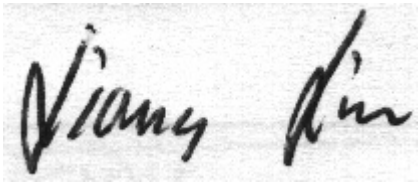
Certified by: Liang Lin, Environmental Administrator

Date Certified: 07-JUL-2016 11:10



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: PLATT BRANCH AT CR 731 **Collection Date/Time: 06/13/2016 12:30**

Field ID: 26010704FTM Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1807795	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P306166	
	EPA 300.0 Rev. 2.1	Chloride	87		mg Cl/L	P306617	
		Sulfate	40		mg SO4/L	P306620	
	SM 2120 B	Color (true)	410		PCU	P306177	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P306373	
	SM 2540 C-97	TDS	309		mg/L	P306885	
	SM 2540 D-97	TSS	4	I	mg/L	P306863	
	SM 4500 F-C-97	Fluoride	0.095	I	mg F/L	P306377	
1807798	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P306634	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P306198	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P306341	
	EPA 365.1 Rev. 2.0	Total-P	0.38		mg P/L	P306319	
	SM 5310 B-00	Organic Carbon	36		mg C/L	P306614	
1807801	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.32		mg P/L	P306179	

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

Sample Location: JACKSON CREEK NORTH ABOVE W **Collection Date/Time: 06/13/2016 11:40**

Field ID: KISSRV0063FTM Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1807796	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P306166	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P306617	
		Sulfate	15		mg SO4/L	P306620	
	SM 2120 B	Color (true)	35		PCU	P306177	
	SM 2320 B-97	Total Alkalinity	27		mg CaCO3/L	P306373	
	SM 2540 C-97	TDS	99		mg/L	P306885	
	SM 2540 D-97	TSS	4	I	mg/L	P306863	
	SM 4500 F-C-97	Fluoride	0.092	I	mg F/L	P306377	
1807799	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P306634	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P306198	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P306341	
	EPA 365.1 Rev. 2.0	Total-P	0.051		mg P/L	P306319	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P306614	
1807802	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P306179	

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

Sample Location: ARBUCKLE CREEK @ US98 **Collection Date/Time: 06/13/2016 10:15**

Field ID: 26010511* Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1807797	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P306166	
	EPA 300.0 Rev. 2.1	Chloride	7.8		mg Cl/L	P306617	
		Sulfate	4.8		mg SO4/L	P306620	

Field ID: 26010511*

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1807797	SM 2120 B	Color (true)	370		PCU	P306177	
	SM 2320 B-97	Total Alkalinity	8.7		mg CaCO3/L	P306373	
	SM 2540 C-97	TDS	91		mg/L	P306885	
	SM 2540 D-97	TSS	4	I	mg/L	P306863	
	SM 4500 F-C-97	Fluoride	0.057	I	mg F/L	P306377	
1807800	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P306634	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P306198	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P306343	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P306319	
	SM 5310 B-00	Organic Carbon	26		mg C/L	P306614	
1807803	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P306179	

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306166

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306617

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306620

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306634

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306198

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306341

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306343

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306319

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306179

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

Reference Method: SM 2120 B
Batch ID: P306177

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P306373

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

Reference Method: SM 2540 C-97
Batch ID: P306885

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P306863

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P306377

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P306614

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: P306617

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306634

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306198

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306343

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306319

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306179

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

Reference Method: SM 2320 B-97
Batch ID: P306373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 105

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P306377

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P306614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306617

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807449	Chloride	99.1		P	90 - 110
1807797	Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807449	Sulfate	97.7		P	90 - 110
1807797	Sulfate	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306634

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807799	Ammonia-N	98.9	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306198

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807791	Kjeldahl Nitrogen	86.9	96.8	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807452	NO2NO3-N	96.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807800	NO2NO3-N	95.2	95.2	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807791	Total-P	96.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807792	O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P306377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808201	Fluoride	98.6	101	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P306614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1807647	Organic Carbon	92.0	92.6	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807761	Turbidity	17.5	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807449	Chloride	0.0189	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807449	Sulfate	0.731	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807799	Ammonia-N	1.45	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306198

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807791	Kjeldahl Nitrogen	9.20	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306341

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807452	NO2NO3-N	1.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306343

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807800	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306319

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807791	Total-P	4.17	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306179

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807792	O-Phosphate-P	0.987	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P306177

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807790	Color (true)	1.33	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P306373

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808201	Total Alkalinity	0.169	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P306885

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807843	TDS	5.68	Sample	P	0 - 10

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-97
Batch ID: P306377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808201	Fluoride	1.45	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P306614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1807647	Organic Carbon	0.567	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: A70027
Included Lab Sample IDs: 1807795, 1807796, 1807797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: SM 2120 B
Run ID: A70030
Included Lab Sample IDs: 1807795, 1807796, 1807797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A70031
Included Lab Sample IDs: 1807801, 1807802, 1807803

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	98.0	P/P	90 - 110
O-Phosphate-P	99.6	98.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A70045
Included Lab Sample IDs: 1807795, 1807796, 1807797

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.9	P/P	90 - 110
Chloride	101	99.8	P/P	90 - 110
Sulfate	96.7	98.0	P/P	90 - 110
Sulfate	98.0	98.4	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A70085
Included Lab Sample IDs: 1807798, 1807799, 1807800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A70094
Included Lab Sample IDs: 1807798, 1807799, 1807800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.1	94.0	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A70097
Included Lab Sample IDs: 1807795, 1807796, 1807797

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

Reference Method: SM 4500 F-C-97
Run ID: A70097
Included Lab Sample IDs: 1807795, 1807796, 1807797

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A70098
Included Lab Sample IDs: 1807798, 1807800

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A70120
Included Lab Sample IDs: 1807799

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

Reference Method: SM 5310 B-00
Run ID: A70160
Included Lab Sample IDs: 1807798, 1807799, 1807800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	95.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A70162
Included Lab Sample IDs: 1807798, 1807799, 1807800

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A70162
Included Lab Sample IDs: 1807798, 1807799, 1807800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	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		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					17.5	
EPA 300.0 Rev. 2.1	Chloride	99.5	99.1	99.4		0.0189	
	Sulfate	97.5	97.7	98.3		0.731	
EPA 350.1 Rev. 2.0	Ammonia-N	96.7	98.9	100			1.45
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.2	86.9	96.8			9.20
EPA 353.2 Rev. 2.0	NO2NO3-N	98.0	96.8				1.11
	NO2NO3-N	100	95.2	95.2			0.0
EPA 365.1 Rev. 2.0	Total-P	100	96.8	101			4.17
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	101	102			0.987
SM 2120 B	Color (true)					1.33	
SM 2320 B-97	Total Alkalinity	102				0.169	
SM 2540 C-97	TDS					5.68	
SM 4500 F-C-97	Fluoride	98.1	98.6	101			1.45
SM 5310 B-00	Organic Carbon	96.2	92.0	92.6			0.567

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1807795, 1807796, 1807797
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1807795, 1807796, 1807797
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1807795, 1807796, 1807797
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1807798, 1807799, 1807800
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1807798, 1807799, 1807800
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1807798, 1807799, 1807800
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1807798, 1807799, 1807800
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1807801, 1807802, 1807803
SM 2120 B / E31780	True Color measured at 450 nm	1807795, 1807796, 1807797
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1807795, 1807796, 1807797
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1807795, 1807796, 1807797
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1807795, 1807796, 1807797
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1807795, 1807796, 1807797
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1807798, 1807799, 1807800

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	06/14/2016			06/14/2016 13:47	Rochelle Y Jackson	1807795, 1807796, 1807797
EPA 300.0 Rev. 2.1	06/14/2016			06/16/2016	Elisa J Lutz	1807795, 1807796, 1807797
EPA 350.1 Rev. 2.0	06/14/2016			06/21/2016	Diana M. Turner	1807798, 1807799, 1807800
EPA 351.2 Rev. 2.0	06/14/2016	06/15/2016	Sofia Elnemr	06/16/2016	Christopher Armour	1807798, 1807799, 1807800
EPA 353.2 Rev. 2.0	06/14/2016			06/16/2016	Beverly Y. Sanders	1807798, 1807799, 1807800
EPA 365.1 Rev. 2.0	06/14/2016	06/16/2016	Vijayalakshmi Reddy	06/17/2016	Lipi Saha	1807798, 1807799, 1807800
EPA 365.1 Rev. 2.0 dissolved	06/14/2016			06/14/2016 15:57	Julia Storbeck	1807801
	06/14/2016			06/14/2016 15:59	Julia Storbeck	1807802
	06/14/2016			06/14/2016 16:09	Julia Storbeck	1807803
SM 2120 B	06/14/2016			06/14/2016 14:32	Rochelle Y Jackson	1807795, 1807796
	06/14/2016			06/14/2016 14:34	Rochelle Y Jackson	1807797
SM 2320 B-97	06/14/2016			06/16/2016	Dale L. Simmons	1807795, 1807796, 1807797
SM 2540 C-97	06/14/2016			06/17/2016	Yijie Li	1807795, 1807796, 1807797
SM 2540 D-97	06/14/2016			06/17/2016	Yijie Li	1807795, 1807796, 1807797
SM 4500 F-C-97	06/14/2016			06/16/2016	Dale L. Simmons	1807795, 1807796, 1807797
SM 5310 B-00	06/14/2016			06/21/2016	Diana M. Turner	1807798, 1807799, 1807800