Chemical Analysis Report

SO-DIST-2016-06-28-03

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

Event Description: **SMP: Telegraph, Roberts, Olga Cr.**
Request ID: **RQ-2016-06-13-40**
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
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 20-JUL-2016 14:55

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: Telegraph Swamp South Site **Collection Date/Time: 06/27/2016 09:00**

Field ID: G3SD06272016-1 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1811718	EPA 180.1 Rev. 2.0	Turbidity	6.6	A	NTU	P307033	
	EPA 300.0 Rev. 2.1	Chloride	56		mg Cl/L	P307885	
		Sulfate	13		mg SO4/L	P307887	
	SM 2120 B	Color (true)	350		PCU	P307038	
	SM 2320 B-97	Total Alkalinity	70		mg CaCO3/L	P307512	
	SM 2540 C-97	TDS	245		mg/L	P307345	
	SM 2540 D-97	TSS	6	I	mg/L	P307316	
	SM 4500 F-C-97	Fluoride	0.098	I	mg F/L	P307514	
1811721	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P307360	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P307055	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.054		mg N/L	P307224	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P307143	
	SM 5310 B-00	Organic Carbon	35		mg C/L	P307474	
1811724	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.067		mg P/L	P307020	

Sample Location: Banana Branch @ Ft.Denaud Rd **Collection Date/Time: 06/27/2016 10:25**

Field ID: G3SD06272016-2 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1811719	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P307033	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P307885	
		Sulfate	7.6		mg SO4/L	P307887	
	SM 2120 B	Color (true)	280		PCU	P307038	
	SM 2320 B-97	Total Alkalinity	96		mg CaCO3/L	P307512	
	SM 2540 C-97	TDS	202	A	mg/L	P307345	
	SM 2540 D-97	TSS	12	A	mg/L	P307316	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P307514	
1811722	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P307360	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P307055	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P307224	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P307144	
	SM 5310 B-00	Organic Carbon	26		mg C/L	P307474	
1811725	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.082		mg P/L	P307020	

Sample Location: Olga Creek @ SR 80 **Collection Date/Time: 06/27/2016 10:00**

Field ID: G3SD06272016-3 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1811720	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P307033	
	EPA 300.0 Rev. 2.1	Chloride	160		mg Cl/L	P307885	
		Sulfate	30		mg SO4/L	P307887	
	SM 2120 B	Color (true)	78	A	PCU	P307038	
	SM 2320 B-97	Total Alkalinity	274		mg CaCO3/L	P307512	

Field ID: G3SD06272016-3 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1811720	SM 2540 C-97	TDS	601		mg/L	P307345	
	SM 2540 D-97	TSS	4	I	mg/L	P307316	
	SM 4500 F-C-97	Fluoride	0.32		mg F/L	P307514	
1811723	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P307360	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P307055	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.054		mg N/L	P307224	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P307144	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P307474	
1811726	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.017		mg P/L	P307020	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P307033

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P307885

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P307887

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P307360

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P307055

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P307224

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P307143

Component	Result	Code	Units

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P307143

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P307144

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307020

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

Reference Method: SM 2120 B
Batch ID: P307038

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P307512

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

Reference Method: SM 2540 C-97
Batch ID: P307345

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P307316

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P307514

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P307474

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: P307885

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P307887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P307360

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P307055

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P307224

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: P307143

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P307144

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307020

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

Reference Method: SM 2320 B-97
Batch ID: P307512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P307514

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P307474

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P307885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811763	Chloride	98.6		P	90 - 110
1811764	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P307887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811763	Sulfate	99.4		P	90 - 110
1811764	Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P307360

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811679	Ammonia-N	99.0	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P307055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811680	Kjeldahl Nitrogen	96.0	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P307224

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811747	NO2NO3-N	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P307143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811677	Total-P	105	99.7	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P307144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811723	Total-P	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811684	O-Phosphate-P	98.4	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P307514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811876	Fluoride	100	99.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P307474

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1811696	Organic Carbon	99.0	99.4	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P307033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811718	Turbidity	1.98	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P307885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811763	Chloride	0.0668	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P307887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811763	Sulfate	0.0966	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P307360

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811679	Ammonia-N	0.175	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P307055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811680	Kjeldahl Nitrogen	2.06	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P307224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811747	NO2NO3-N	1.83	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P307143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811677	Total-P	4.90	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P307144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811723	Total-P	0.745	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P307020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811684	O-Phosphate-P	1.81	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P307038

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811720	Color (true)	0.135	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P307512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811876	Total Alkalinity	0.346	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P307345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811719	TDS	2.48	Sample	P	0 - 10

Quality Assurance Report
Precision

Reference Method: SM 2540 D-97
Batch ID: P307316

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811719	TSS	6.67	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P307514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811876	Fluoride	0.470	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P307474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1811696	Organic Carbon	0.208	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: A70279
Included Lab Sample IDs: 1811724, 1811725, 1811726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A70283
Included Lab Sample IDs: 1811718, 1811719, 1811720

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

Reference Method: SM 2120 B
Run ID: A70284
Included Lab Sample IDs: 1811718, 1811719, 1811720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	97.0	P/P	90 - 115

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A70336
Included Lab Sample IDs: 1811721, 1811722, 1811723

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A70350
Included Lab Sample IDs: 1811721, 1811722, 1811723

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A70357
Included Lab Sample IDs: 1811723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A70368
Included Lab Sample IDs: 1811721, 1811722

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	102	P/P	90 - 110
Total-P	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A70390
Included Lab Sample IDs: 1811721, 1811722, 1811723

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

Reference Method: SM 5310 B-00
Run ID: A70435
Included Lab Sample IDs: 1811721, 1811722, 1811723

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

Reference Method: SM 2320 B-97
Run ID: A70440
Included Lab Sample IDs: 1811718, 1811719, 1811720

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

Reference Method: SM 4500 F-C-97
Run ID: A70440
Included Lab Sample IDs: 1811718, 1811719, 1811720

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A70540
Included Lab Sample IDs: 1811718, 1811719, 1811720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.4	98.8	P/P	90 - 110
Sulfate	99.2	95.0	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					1.98	
EPA 300.0 Rev. 2.1	Chloride	97.7	98.6	98.3		0.0668	
	Sulfate	98.9	99.4	98.6		0.0966	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	99.0	98.8			0.175
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.0	96.0	98.8			2.06
EPA 353.2 Rev. 2.0	NO2NO3-N	104	101	103			1.83
EPA 365.1 Rev. 2.0	Total-P	107	105	99.7			4.90
	Total-P	106	100	101			0.745
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.4	100			1.81
SM 2120 B	Color (true)					0.135	
SM 2320 B-97	Total Alkalinity	102				0.346	
SM 2540 C-97	TDS					2.48	
SM 2540 D-97	TSS					6.67	
SM 4500 F-C-97	Fluoride	98.2	100	99.6			0.470
SM 5310 B-00	Organic Carbon	100	99.0	99.4			0.208

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1811718, 1811719, 1811720
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1811718, 1811719, 1811720
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1811718, 1811719, 1811720
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1811721, 1811722, 1811723
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1811721, 1811722, 1811723
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1811721, 1811722, 1811723
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1811721, 1811722, 1811723
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1811724, 1811725, 1811726
SM 2120 B / E31780	True Color measured at 450 nm	1811718, 1811719, 1811720
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1811718, 1811719, 1811720
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1811718, 1811719, 1811720
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1811718, 1811719, 1811720

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1811718, 1811719, 1811720
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1811721, 1811722, 1811723

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	06/28/2016			06/28/2016 16:16	Sima Feizi	1811718, 1811719, 1811720
EPA 300.0 Rev. 2.1	06/28/2016			07/12/2016	Ping Hua	1811718, 1811719, 1811720
EPA 350.1 Rev. 2.0	06/28/2016			07/05/2016	Diana M. Turner	1811721, 1811722, 1811723
EPA 351.2 Rev. 2.0	06/28/2016	06/29/2016	Martin Acosta	06/30/2016	Christopher Armour	1811721, 1811722, 1811723
EPA 353.2 Rev. 2.0	06/28/2016			06/30/2016	Beverly Y. Sanders	1811721, 1811722, 1811723
EPA 365.1 Rev. 2.0	06/28/2016	06/30/2016	Vijayalakshmi Reddy	07/01/2016	Lipi Saha	1811721, 1811722, 1811723
EPA 365.1 Rev. 2.0 dissolved	06/28/2016			06/28/2016 15:17	Julia Storbeck	1811724
	06/28/2016			06/28/2016 15:18	Julia Storbeck	1811725
	06/28/2016			06/28/2016 15:19	Julia Storbeck	1811726
SM 2120 B	06/28/2016			06/28/2016 17:35	Rochelle Y Jackson	1811718
	06/28/2016			06/28/2016 17:36	Rochelle Y Jackson	1811719
	06/28/2016			06/28/2016 17:38	Rochelle Y Jackson	1811720
SM 2320 B-97	06/28/2016			07/07/2016	Dale L. Simmons	1811718, 1811719, 1811720
SM 2540 C-97	06/28/2016			06/29/2016	Yijie Li	1811718, 1811719, 1811720
SM 2540 D-97	06/28/2016			06/29/2016	Yijie Li	1811718, 1811719, 1811720
SM 4500 F-C-97	06/28/2016			07/07/2016	Dale L. Simmons	1811718, 1811719, 1811720
SM 5310 B-00	06/28/2016			07/06/2016	Sofia Elnemr	1811721, 1811722, 1811723