

Chemical Analysis Report

SO-DIST-2016-12-01-01

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

Event Description: **SCI Kit Daughtry Creek**
Request ID: **RQ-2016-11-28-16**
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 33901-3381
Attn: Corey Anderson

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

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 23-DEC-2016 11:37



NON-CONFORMANCE REPORT INCLUDED

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: DRAUGHTREY CR. @ BRIGHT RD.

Collection Date/Time: 11/29/2016 08:20

Field ID: G3SD112916-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1853756	EPA 180.1 Rev. 2.0	Turbidity	2.2	Q	NTU	P316041	
	EPA 300.0 Rev. 2.1	Chloride	240		mg Cl/L	P316909	
		Sulfate	57		mg SO4/L	P316906	
	SM 2120 B	Color (true)	34	Q	PCU	P316035	
	SM 2320 B-97	Total Alkalinity	272		mg CaCO3/L	P316122	
	SM 2540 C-97	TDS	795		mg/L	P316704	
	SM 2540 D-97	TSS	2	U	mg/L	P316482	
	SM 4500 F-C-97	Fluoride	0.28		mg F/L	P316125	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P316472	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P316366	
1853758	EPA 353.2 Rev. 2.0	NO2NO3-N	0.37		mg N/L	P316091	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P316319	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P316151	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.027	Q	mg P/L	P316046	
	dissolved						

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired prior to receipt.

SM 2120 B: The sample expired prior to receipt.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired prior to receipt.

Sample Location: FIELD BLANK

Collection Date/Time: 11/29/2016 08:30

Field ID: SDBLank1

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1853757	EPA 180.1 Rev. 2.0	Turbidity	0.10	UQ	NTU	P316042	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P316909	
		Sulfate	0.20	U	mg SO4/L	P316906	
	SM 2120 B	Color (true)	2.5	UQ	PCU	P316036	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P316122	
	SM 2540 C-97	TDS	15	U	mg/L	P316704	
	SM 2540 D-97	TSS	2	U	mg/L	P316482	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P316125	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P316472	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P316366	
1853759	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P316091	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P316319	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P316151	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.005	IQ	mg P/L	P316046	
	dissolved						

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The sample expired prior to receipt.

SM 2120 B: The sample expired prior to receipt.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The result was confirmed on 12/01/2016. The sample expired prior to receipt.

Non-Conformance Report

NCR ID: 6138

Event(s)

Job(s)

Sample(s)

Test(s)

Non-Conformance Report

NCR ID: 6138

Event(s)

SO-DIST-2016-12-01-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: FedEx code:810414022370

Samples were collected on 11-29-2016 and the samples weren't received until 12-01-2016. The short hold samples affected are

TURBIDITY
 W-COLOR
 W-PO4-F
 CHLSUITE-W

Resolution: Biology and Chemistry supervisors were notified by phone and email.

CHLSUITE-W samples were analyzed and a "Q" qualifier will be added to the results. Client (Corey Anderson) not contacted as data was analyzed with qualifications per his request.

Authorised by/Date: Cheryl A. Swanson 12/22/2016

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test. Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P316041

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P316042

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P316906

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P316909

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P316472

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P316472

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316366

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316091

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316319

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P316046

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

Reference Method: SM 2120 B
Batch ID: P316035

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P316036

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P316122

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

Reference Method: SM 2540 C-97
Batch ID: P316704

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P316482

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P316125

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P316151

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: P316906

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316909

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P316472

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316091

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316319

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316319

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P316046

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

Reference Method: SM 2320 B-97
Batch ID: P316122

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.5		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P316125

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P316151

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853650	Sulfate	103		P	90 - 110
1853651	Sulfate	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853650	Chloride	102		P	90 - 110
1853651	Chloride	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P316472

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853758	Ammonia-N	98.0	97.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1852539	Kjeldahl Nitrogen	97.5	95.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853656	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853660	Total-P	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P316046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853665	O-Phosphate-P	101	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P316125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853751	Fluoride	98.2	98.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P316151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1853758	Organic Carbon	94.4	94.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P316041

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853651	Turbidity	3.11	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P316042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853769	Turbidity	0.357	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853650	Sulfate	0.0206	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P316909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853650	Chloride	0.0421	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P316472

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853758	Ammonia-N	0.351	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P316366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1852539	Kjeldahl Nitrogen	1.50	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P316091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853656	NO2NO3-N	0.186	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P316319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853660	Total-P	1.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P316046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853665	O-Phosphate-P	1.67	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P316035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853733	Color (true)	0.878	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P316036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853769	Color (true)	1.14	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P316122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853751	Total Alkalinity	0.0771	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P316704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853772	TDS	1.72	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P316482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853772	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P316125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853751	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P316151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1853758	Organic Carbon	0.386	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: SM 2120 B
Run ID: A73120
Included Lab Sample IDs: 1853756, 1853757

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	85 - 115
Color (true)	101	103	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A73121

Included Lab Sample IDs: 1853756, 1853757

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A73122

Included Lab Sample IDs: 1853760, 1853761

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	99.0	P/P	90 - 110
O-Phosphate-P	99.7	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A73139

Included Lab Sample IDs: 1853758, 1853759

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: A73150

Included Lab Sample IDs: 1853756, 1853757

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.2	97.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A73150

Included Lab Sample IDs: 1853756, 1853757

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A73154

Included Lab Sample IDs: 1853758, 1853759

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.1	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A73255

Included Lab Sample IDs: 1853758, 1853759

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.0	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A73263
Included Lab Sample IDs: 1853758, 1853759

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A73272
Included Lab Sample IDs: 1853758, 1853759

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A73375
Included Lab Sample IDs: 1853756, 1853757

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	106	P/P	90 - 110
Chloride	102	103	P/P	90 - 110
Sulfate	100	99.6	P/P	90 - 110
Sulfate	100	102	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				3.11	
	Turbidity				0.357	
EPA 300.0 Rev. 2.1	Chloride	105	102 102		0.0421	
	Sulfate	106	103 100		0.0206	
EPA 350.1 Rev. 2.0	Ammonia-N	102	98.0 97.5			0.351
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	97.5 95.7			1.50
EPA 353.2 Rev. 2.0	NO2NO3-N	105	101			0.186
EPA 365.1 Rev. 2.0	Total-P	98.6	100 102			1.65
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	101 103			1.67
SM 2120 B	Color (true)				0.878	
	Color (true)				1.14	
SM 2320 B-97	Total Alkalinity	98.5			0.0771	
SM 2540 C-97	TDS				1.72	
SM 2540 D-97	TSS				0.0	
SM 4500 F-C-97	Fluoride	98.6	98.2 98.2			0.0
SM 5310 B-00	Organic Carbon	96.0	94.4 94.9			0.386

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
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Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1853756, 1853757
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1853756, 1853757
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1853756, 1853757
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1853758, 1853759
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1853758, 1853759
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1853758, 1853759
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1853758, 1853759
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1853760, 1853761
SM 2120 B / E31780	True Color measured at 450 nm	1853756, 1853757
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1853756, 1853757
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1853756, 1853757
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1853756, 1853757
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1853756, 1853757
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1853758, 1853759

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	12/01/2016			12/01/2016 16:32	Sima Feizi	1853756, 1853757
EPA 300.0 Rev. 2.1	12/01/2016			12/15/2016	Ping Hua	1853756, 1853757
EPA 350.1 Rev. 2.0	12/01/2016			12/08/2016	Sofia Elnemr	1853758, 1853759
EPA 351.2 Rev. 2.0	12/01/2016	12/08/2016	Adrian Shelby	12/09/2016	Joseph Suarez	1853758, 1853759
EPA 353.2 Rev. 2.0	12/01/2016			12/02/2016	Beverly Y. Sanders	1853758, 1853759
EPA 365.1 Rev. 2.0	12/01/2016	12/07/2016	Vijayalakshmi Reddy	12/08/2016	Lipi Saha	1853758, 1853759
EPA 365.1 Rev. 2.0 dissolved	12/01/2016			12/01/2016 16:00	Julia Storbeck	1853761
	12/01/2016			12/01/2016 16:15	Julia Storbeck	1853760
SM 2120 B	12/01/2016			12/01/2016 15:55	Jared I. Manley	1853756
	12/01/2016			12/01/2016 15:59	Jared I. Manley	1853757
SM 2320 B-97	12/01/2016			12/02/2016	Dale L. Simmons	1853756, 1853757
SM 2540 C-97	12/01/2016			12/05/2016	Sima Feizi	1853756, 1853757
SM 2540 D-97	12/01/2016			12/05/2016	Sima Feizi	1853756, 1853757
SM 4500 F-C-97	12/01/2016			12/02/2016	Dale L. Simmons	1853756, 1853757
SM 5310 B-00	12/01/2016			12/02/2016	Julie Michelle Frank	1853758, 1853759