

Chemical Analysis Report

SO-DIST-2016-04-12-03

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

Event Description: **SMP: Platt Branch**
Request ID: **RQ-2016-04-04-10**
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
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 29-APR-2016 14:14



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 @ CR 731

Collection Date/Time: 04/11/2016 12:50

Field ID: G4SD041116-98

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1788605	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P302125	
	EPA 300.0 Rev. 2.1	Chloride	180		mg Cl/L	P302457	
		Sulfate	82		mg SO4/L	P302458	
	SM 2120 B	Color (true)	200		PCU	P302073	
	SM 2320 B-97	Total Alkalinity	38		mg CaCO3/L	P302424	
	SM 2540 C-97	TDS	516	A	mg/L	P302839	
	SM 2540 D-97	TSS	5	I	mg/L	P302826	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P302427	
1788606	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P302651	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P302852	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P302262	
	EPA 365.1 Rev. 2.0	Total-P	0.30		mg P/L	P302572	
	SM 5310 B-00	Organic Carbon	24		mg C/L	P302647	
1788607	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P302108	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: Field Blank

Collection Date/Time: 04/11/2016 13:05

Field ID: G4SD041116-Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1788608	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P302125	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P302457	
		Sulfate	0.20	U	mg SO4/L	P302458	
	SM 2120 B	Color (true)	2.5	U	PCU	P302073	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P302424	
	SM 2540 C-97	TDS	15	U	mg/L	P302835	
	SM 2540 D-97	TSS	2	U	mg/L	P302822	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P302427	
1788609	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P302651	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P302852	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P302262	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P302925	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P302647	
1788610	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P302108	

Ref. Method and Comment:

EPA 350.1 Rev. 2.0: The result was confirmed on 04/20/2016.

EPA 351.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: Platt Branch @ CR 731-Duplicate

Collection Date/Time: 04/11/2016 12:55

Field ID: G4SD041116-99

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1788611	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P302125	

Field ID: G4SD041116-99

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1788611	EPA 300.0 Rev. 2.1	Chloride	180		mg Cl/L	P302457	
		Sulfate	82		mg SO4/L	P302458	
	SM 2120 B	Color (true)	190		PCU	P302073	
	SM 2320 B-97	Total Alkalinity	39		mg CaCO3/L	P302424	
	SM 2540 C-97	TDS	531		mg/L	P302839	
	SM 2540 D-97	TSS	4	I	mg/L	P302826	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P302427	
1788612	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P302651	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P302852	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P302262	
	EPA 365.1 Rev. 2.0	Total-P	0.30		mg P/L	P302572	
	SM 5310 B-00	Organic Carbon	24		mg C/L	P302647	
1788613	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P302108	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: 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: P302125

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P302457

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P302458

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P302651

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P302852

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302262

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302572

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302925

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302108

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

Reference Method: SM 2120 B
Batch ID: P302073

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P302424

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

Reference Method: SM 2540 C-97
Batch ID: P302835

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P302839

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P302822

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P302826

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P302427

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P302647

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: P302457

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P302458

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P302651

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P302852

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302262

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302572

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: P302572

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302925

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302108

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

Reference Method: SM 2320 B-97
Batch ID: P302424

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P302427

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P302647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P302457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788790	Chloride	100		P	90 - 110
1788791	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P302458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788790	Sulfate	99.3		P	90 - 110
1788791	Sulfate	99.7		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P302651

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788566	Ammonia-N	97.8	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788566	NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788563	Total-P	97.0	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1789503	Total-P	93.5	93.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788631	O-Phosphate-P	98.8	99.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P302427

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788668	Fluoride	97.6	97.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P302647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1788564	Organic Carbon	91.8	90.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P302125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788248	Turbidity	3.80	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P302457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788790	Chloride	0.0851	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P302458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788790	Sulfate	1.01	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P302651

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788566	Ammonia-N	1.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P302852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788606	Kjeldahl Nitrogen	0.845	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P302262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788566	NO2NO3-N	0.306	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788563	Total-P	2.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P302925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1789503	Total-P	0.309	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P302108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788631	O-Phosphate-P	0.591	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P302073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788557	Color (true)	0.421	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P302424

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788668	Total Alkalinity	0.0639	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P302835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788249	TDS	3.17	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P302839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788605	TDS	2.90	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P302822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788249	TSS	8.00	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P302427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788668	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P302647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1788564	Organic Carbon	0.462	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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A68822

Included Lab Sample IDs: 1788605, 1788608, 1788611

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	100	P/P	90 - 115
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A68831

Included Lab Sample IDs: 1788607, 1788610, 1788613

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A68840

Included Lab Sample IDs: 1788605, 1788608, 1788611

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A68882

Included Lab Sample IDs: 1788606, 1788609, 1788612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	99.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A68927

Included Lab Sample IDs: 1788605, 1788608, 1788611

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.7	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A68927

Included Lab Sample IDs: 1788605, 1788608, 1788611

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A68939

Included Lab Sample IDs: 1788605, 1788608, 1788611

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	102	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Chloride	102	101	P/P	90 - 110
Sulfate	101	99.5	P/P	90 - 110
Sulfate	99.2	101	P/P	90 - 110
Sulfate	99.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A68999

Included Lab Sample IDs: 1788606, 1788609, 1788612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.5	95.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69001

Included Lab Sample IDs: 1788606, 1788609, 1788612

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69058

Included Lab Sample IDs: 1788606, 1788612

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69109

Included Lab Sample IDs: 1788606, 1788609, 1788612

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110
Kjeldahl Nitrogen	98.4	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69131

Included Lab Sample IDs: 1788609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	98.2	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					3.80	
EPA 300.0 Rev. 2.1	Chloride	101	100	101		0.0851	
	Sulfate	99.9	99.3	99.7		1.01	
EPA 350.1 Rev. 2.0	Ammonia-N	98.9	97.8	99.1			1.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103					0.845
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.0	99.5			0.306
EPA 365.1 Rev. 2.0	Total-P	97.4	95.0	97.0			2.05
	Total-P	96.9	93.5	93.9			0.309
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	104	98.8	99.5			0.591

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
SM 2120 B	Color (true)					0.421	
SM 2320 B-97	Total Alkalinity	103				0.0639	
SM 2540 C-97	TDS					3.17	
	TDS					2.90	
SM 2540 D-97	TSS					8.00	
SM 4500 F-C-97	Fluoride	97.6	97.6	97.6			0.0
SM 5310 B-00	Organic Carbon	93.6	91.8	90.9			0.462

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1788605, 1788608, 1788611
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1788605, 1788608, 1788611
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1788605, 1788608, 1788611
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1788606, 1788609, 1788612
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1788606, 1788609, 1788612
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1788606, 1788609, 1788612
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1788606, 1788609, 1788612
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1788607, 1788610, 1788613
SM 2120 B / E31780	True Color measured at 450 nm	1788605, 1788608, 1788611
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1788605, 1788608, 1788611
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1788605, 1788608, 1788611
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1788605, 1788608, 1788611
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1788605, 1788608, 1788611
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1788606, 1788609, 1788612

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	04/12/2016			04/12/2016 15:22	Sima Feizi	1788605, 1788608, 1788611
EPA 300.0 Rev. 2.1	04/12/2016			04/18/2016	Julia Storbeck	1788605
	04/12/2016			04/19/2016	Julia Storbeck	1788608, 1788611
EPA 350.1 Rev. 2.0	04/12/2016			04/20/2016	Diana M. Turner	1788606, 1788609, 1788612
EPA 351.2 Rev. 2.0	04/12/2016	04/25/2016	Sofia Elnemr	04/26/2016	Christopher Armour	1788606, 1788609, 1788612
EPA 353.2 Rev. 2.0	04/12/2016			04/14/2016	Peter D. Kaus	1788606, 1788609, 1788612
EPA 365.1 Rev. 2.0	04/12/2016	04/20/2016	Christopher Armour	04/20/2016	Lipi Saha	1788606, 1788612
	04/12/2016	04/26/2016	Christopher Armour	04/27/2016	Lipi Saha	1788609
EPA 365.1 Rev. 2.0 dissolved	04/12/2016			04/12/2016 15:06	Julia Storbeck	1788610
	04/12/2016			04/12/2016 15:09	Julia Storbeck	1788607
	04/12/2016			04/12/2016 15:10	Julia Storbeck	1788613
SM 2120 B	04/12/2016			04/12/2016 14:14	Rochelle Y Jackson	1788608
	04/12/2016			04/12/2016 14:22	Rochelle Y Jackson	1788605
	04/12/2016			04/12/2016 14:23	Rochelle Y Jackson	1788611
SM 2320 B-97	04/12/2016			04/16/2016	Dale L. Simmons	1788605, 1788608, 1788611
SM 2540 C-97	04/12/2016			04/15/2016	Yijie Li	1788605, 1788608, 1788611
SM 2540 D-97	04/12/2016			04/15/2016	Yijie Li	1788605, 1788608, 1788611
SM 4500 F-C-97	04/12/2016			04/16/2016	Dale L. Simmons	1788605, 1788608, 1788611
SM 5310 B-00	04/12/2016			04/20/2016	Sofia Elnemr	1788606, 1788609, 1788612