

Chemical Analysis Report

SO-DIST-2017-02-22-01

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

Event Description: **SMP: Bay of Florida**
Request ID: **RQ-2017-02-20-14**
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: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 08-MAR-2017 11:38



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: 8069 - ENRE13

Collection Date/Time: 02/21/2017 14:40

Field ID: G5SD022117-3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1874808	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P320311	
	SM 2320 B-97	Total Alkalinity	179		mg CaCO3/L	P320591	
	SM 2540 D-97	TSS	7	I	mg/L	P320841	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P320599	
1874813	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P320794	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P320436	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P320720	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P320470	
	SM 5310 B-00	Organic Carbon	5.5		mg C/L	P320512	
1874818	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P320306	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ENRE9 Harney River

Collection Date/Time: 02/21/2017 14:00

Field ID: G5SD022117-4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1874809	EPA 180.1 Rev. 2.0	Turbidity	5.8	A	NTU	P320312	
	SM 2320 B-97	Total Alkalinity	233		mg CaCO3/L	P320591	
	SM 2540 D-97	TSS	9	I	mg/L	P320841	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P320599	
1874814	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P320606	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P320436	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P320720	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P320470	
	SM 5310 B-00	Organic Carbon	9.4		mg C/L	P320512	
1874819	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P320306	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ENRE14 Harney River

Collection Date/Time: 02/21/2017 13:45

Field ID: G5SD022117-5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1874810	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P320312	
	SM 2320 B-97	Total Alkalinity	257		mg CaCO3/L	P320591	
	SM 2540 D-97	TSS	4	I	mg/L	P320841	
	SM 4500 F-C-97	Fluoride	0.96		mg F/L	P320599	
1874815	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P320517	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P320436	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.046		mg N/L	P320720	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P320470	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P320512	
1874820	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.019		mg P/L	P320306	

Field ID: G5SD022117-5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment: SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.							

Sample Location: ENRE9 Lostmans Bay

Collection Date/Time: 02/21/2017 12:10

Field ID: G5SD022117-6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1874811	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P320312	
	SM 2320 B-97	Total Alkalinity	169		mg CaCO3/L	P320591	
	SM 2540 D-97	TSS	4	I	mg/L	P320841	
	SM 4500 F-C-97	Fluoride	0.98		mg F/L	P320599	
1874816	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P320517	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P320436	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P320720	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P320470	
	SM 5310 B-00	Organic Carbon	7.7		mg C/L	P320512	
1874821	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P320306	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ENRE 12 Lostmans Bay

Collection Date/Time: 02/21/2017 12:30

Field ID: G5SD022117-7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1874812	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P320312	
	SM 2320 B-97	Total Alkalinity	169		mg CaCO3/L	P320591	
	SM 2540 D-97	TSS	7	I	mg/L	P320841	
	SM 4500 F-C-97	Fluoride	0.96		mg F/L	P320599	
1874817	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P320517	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P320436	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P320720	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P320470	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P320512	
1874822	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P320306	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P320311

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P320312

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320517

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320606

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320794

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P320436

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320720

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P320470

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P320306

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

Reference Method: SM 2320 B-97
Batch ID: P320591

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P320841

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P320599

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P320512

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320794

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P320436

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320720

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: P320470

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: P320470

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P320306

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

Reference Method: SM 2320 B-97
Batch ID: P320591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P320599

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P320512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1874816	Ammonia-N	99.4	97.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1874188	Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1875768	Ammonia-N	102	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P320436

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P320436

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1874816	Kjeldahl Nitrogen	92.7	94.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1874744	NO2NO3-N	98.6	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P320470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1874814	Total-P	91.0	91.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P320306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1874820	O-Phosphate-P	95.3	94.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P320599

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1874741	Fluoride	96.4	98.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P320512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1873893	Organic Carbon	94.6	95.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P320311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874741	Turbidity	1.23	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P320312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874809	Turbidity	1.89	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874816	Ammonia-N	1.33	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874188	Ammonia-N	1.54	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1875768	Ammonia-N	2.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P320436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874816	Kjeldahl Nitrogen	0.998	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874744	NO2NO3-N	0.919	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P320470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874814	Total-P	0.779	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P320306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874820	O-Phosphate-P	1.06	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P320591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874741	Total Alkalinity	1.48	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P320599

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1874741	Fluoride	1.42	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P320512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1873893	Organic Carbon	0.963	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: A74651
Included Lab Sample IDs: 1874818, 1874819, 1874820, 1874821, 1874822

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.6	P/P	90 - 110
O-Phosphate-P	100	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A74653
Included Lab Sample IDs: 1874808, 1874809, 1874810, 1874811, 1874812

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	100	100	P/P	95 - 105

Reference Method: SM 5310 B-00
Run ID: A74725
Included Lab Sample IDs: 1874813, 1874814, 1874815, 1874816, 1874817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.8	96.0	P/P	90 - 110
Organic Carbon	96.2	95.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A74728
Included Lab Sample IDs: 1874815, 1874816, 1874817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	99.0	P/P	90 - 110
Ammonia-N	99.0	98.8	P/P	90 - 110
Ammonia-N	99.4	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74743

Included Lab Sample IDs: 1874813, 1874814, 1874815, 1874816, 1874817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	100	P/P	90 - 110
Total-P	99.0	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A74749

Included Lab Sample IDs: 1874813, 1874814, 1874815, 1874816, 1874817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.9	P/P	90 - 110
Kjeldahl Nitrogen	97.8	98.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A74752

Included Lab Sample IDs: 1874808, 1874809, 1874810, 1874811, 1874812

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A74752

Included Lab Sample IDs: 1874808, 1874809, 1874810, 1874811, 1874812

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	105	99.0	P/P	90 - 110
Fluoride	99.0	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A74758

Included Lab Sample IDs: 1874814

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A74796

Included Lab Sample IDs: 1874813, 1874814, 1874815, 1874816, 1874817

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A74822

Included Lab Sample IDs: 1874813

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.8	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					1.23	
	Turbidity					1.89	
EPA 350.1 Rev. 2.0	Ammonia-N	95.6	99.4	97.6			1.33
	Ammonia-N	99.6	103	101			1.54
	Ammonia-N	104	102	98.5			2.80
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	92.7	94.0			0.998
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	98.6	99.6			0.919
EPA 365.1 Rev. 2.0	Total-P	96.0	91.0	91.8			0.779
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	95.3	94.1			1.06
SM 2320 B-97	Total Alkalinity	104				1.48	
SM 4500 F-C-97	Fluoride	98.0	96.4	98.8			1.42
SM 5310 B-00	Organic Carbon	96.4	94.6	95.8			0.963

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1874808, 1874809, 1874810, 1874811, 1874812
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1874813, 1874814, 1874815, 1874816, 1874817
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1874813, 1874814, 1874815, 1874816, 1874817
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1874813, 1874814, 1874815, 1874816, 1874817
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1874813, 1874814, 1874815, 1874816, 1874817
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1874818, 1874819, 1874820, 1874821, 1874822
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1874808, 1874809, 1874810, 1874811, 1874812
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1874808, 1874809, 1874810, 1874811, 1874812
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1874808, 1874809, 1874810, 1874811, 1874812
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1874813, 1874814, 1874815, 1874816, 1874817

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	02/22/2017			02/22/2017 15:55	Sima Feizi	1874808, 1874809, 1874810, 1874811, 1874812
EPA 350.1 Rev. 2.0	02/22/2017			02/24/2017	Sofia Elnemr	1874815, 1874816, 1874817
	02/22/2017			02/27/2017	Sofia Elnemr	1874814
	02/22/2017			03/01/2017	Sofia Elnemr	1874813
EPA 351.2 Rev. 2.0	02/22/2017	02/24/2017	Adrian Shelby	02/27/2017	Joseph Suarez	1874813, 1874814, 1874815, 1874816, 1874817
EPA 353.2 Rev. 2.0	02/22/2017			03/01/2017	Beverly Y. Sanders	1874813, 1874814, 1874815, 1874816, 1874817
EPA 365.1 Rev. 2.0	02/22/2017	02/24/2017	Vijayalakshmi Reddy	02/27/2017	Lipi Saha	1874813, 1874814, 1874815, 1874816, 1874817
EPA 365.1 Rev. 2.0 dissolved	02/22/2017			02/22/2017 14:29	Julia Storbeck	1874820
	02/22/2017			02/22/2017 15:07	Julia Storbeck	1874818
	02/22/2017			02/22/2017 15:08	Julia Storbeck	1874819
	02/22/2017			02/22/2017 15:09	Julia Storbeck	1874821, 1874822
SM 2320 B-97	02/22/2017			02/25/2017	Dale L. Simmons	1874808, 1874809, 1874810, 1874811, 1874812
SM 2540 D-97	02/22/2017			02/24/2017	Yijie Li	1874808, 1874809, 1874810, 1874811, 1874812
SM 4500 F-C-97	02/22/2017			02/25/2017	Dale L. Simmons	1874808, 1874809, 1874810, 1874811, 1874812
SM 5310 B-00	02/22/2017			02/25/2017	Julie Michelle Frank	1874813, 1874814, 1874815, 1874816, 1874817