

Chemical Analysis Report

SE-DIST-2017-04-28-02

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

Event Description: **SMP-G5 North Run (2/5)**

Request ID: **RQ-2017-02-20-13**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

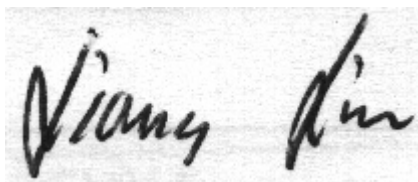
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

For additional information please contact

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 23-MAY-2017 12:01

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

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 groups are included in this report: Metals and 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: IRL @ ROYAL PALM POINTE

Collection Date/Time: 04/27/2017 11:25

Field ID: G5SE0051

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1894222	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P324229	
	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P324858	
	SM 2540 D-97	TSS	6	I	mg/L	P324929	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P324861	
1894223	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P324263	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P324344	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P324466	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P324458	
	SM 5310 B-00	Organic Carbon	2.5		mg C/L	P324948	
1894224	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.031		mg P/L	P324237	
1894226	EPA 200.7 Rev. 4.4	Iron	228	I	ug/L	P324521	
	EPA 200.8 Rev. 5.4	Arsenic	2.0		ug/L	P324521	
		Cadmium	0.10	U	ug/L	P324521	
		Chromium	1.6	U	ug/L	P324521	
		Copper	1.4	I	ug/L	P324521	
		Lead	0.30	U	ug/L	P324521	
		Nickel	0.80	U	ug/L	P324521	
		Silver	0.050	U	ug/L	P324521	
		Zinc	7.7	I	ug/L	P324521	

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: P324229

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P324521

Component	Result	Code	Units
Iron	30.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P324521

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L
Zinc	1.0	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324263

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324344

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324466

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324458

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324237

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

Reference Method: SM 2320 B-97
Batch ID: P324858

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

Reference Method: SM 2540 D-97
Batch ID: P324929

Component	Result	Code	Units
TSS	3	U	

Reference Method: SM 4500 F-C-97
Batch ID: P324861

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P324948

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	100		P	85 - 115
Copper	99.0		P	85 - 115
Lead	102		P	85 - 115
Nickel	102		P	85 - 115
Silver	99.4		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324263

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: P324344

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: P324466

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324458

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324237

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

Reference Method: SM 2320 B-97
Batch ID: P324858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P324861

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P324948

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	91.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1895132	Iron	102	98.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1895132	Arsenic	108	107	P/P	80 - 120
1895132	Cadmium	102	104	P/P	80 - 120
1895132	Chromium	88.1	88.5	P/P	80 - 120
1895132	Copper	93.0	91.3	P/P	80 - 120
1895132	Lead	106	106	P/P	80 - 120
1895132	Nickel	98.0	97.6	P/P	80 - 120
1895132	Silver	91.3	91.7	P/P	80 - 120
1895132	Zinc	90.3	91.1	P/P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324263

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894223	Ammonia-N	107	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324344

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894223	Kjeldahl Nitrogen	99.0	98.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894217	NO2NO3-N	102	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893726	Total-P	91.8	90.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324237

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1894218	O-Phosphate-P	99.2	99.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P324861

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1895081	Fluoride	98.1	98.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P324948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1893591	Organic Carbon	90.2	87.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894135	Turbidity	8.23	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P324521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1895132	Iron	2.92	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P324521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1895132	Arsenic	0.533	Spike	P	0 - 20
1895132	Cadmium	1.46	Spike	P	0 - 20
1895132	Chromium	0.491	Spike	P	0 - 20
1895132	Copper	1.78	Spike	P	0 - 20
1895132	Lead	0.0408	Spike	P	0 - 20
1895132	Nickel	0.404	Spike	P	0 - 20
1895132	Silver	0.409	Spike	P	0 - 20
1895132	Zinc	0.847	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P324263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894223	Ammonia-N	0.00687	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P324344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894223	Kjeldahl Nitrogen	0.609	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P324466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894217	NO2NO3-N	0.870	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893726	Total-P	1.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324237

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1894218	O-Phosphate-P	0.241	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P324858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1895081	Total Alkalinity	0.811	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P324861

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1895081	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P324948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1893591	Organic Carbon	2.58	Spike	P	0 - 20

Quality Assurance Report Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76066

Included Lab Sample IDs: 1894222

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A76069

Included Lab Sample IDs: 1894224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76071

Included Lab Sample IDs: 1894223

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: A76147

Included Lab Sample IDs: 1894223

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: A76191

Included Lab Sample IDs: 1894223

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76206

Included Lab Sample IDs: 1894223

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76229

Included Lab Sample IDs: 1894226

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	101	101	P/P	90 - 110
Copper	101	94.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76229

Included Lab Sample IDs: 1894226

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	102	95.0	P/P	90 - 110
Zinc	102	97.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76252

Included Lab Sample IDs: 1894226

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	98.3	98.9	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76258

Included Lab Sample IDs: 1894222

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A76258

Included Lab Sample IDs: 1894222

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

Reference Method: SM 5310 B-00

Run ID: A76303

Included Lab Sample IDs: 1894223

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.6	94.1	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A76366

Included Lab Sample IDs: 1894226

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76490

Included Lab Sample IDs: 1894226

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	98.0	P/P	90 - 110
Cadmium	98.7	98.6	P/P	90 - 110
Silver	97.3	95.8	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					8.23	
EPA 200.7 Rev. 4.4	Iron	103	102	98.8			2.92
EPA 200.8 Rev. 5.4	Arsenic	101	108	107			0.533
	Cadmium	103	102	104			1.46
	Chromium	100	88.1	88.5			0.491
	Copper	99.0	93.0	91.3			1.78
	Lead	102	106	106			0.0408
	Nickel	102	98.0	97.6			0.404
	Silver	99.4	91.3	91.7			0.409
	Zinc	100	90.3	91.1			0.847
EPA 350.1 Rev. 2.0	Ammonia-N	104	107	107			0.0068
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.0	98.3			0.609
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	103			0.870
EPA 365.1 Rev. 2.0	Total-P	98.0	91.8	90.5			1.37
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	99.2	99.5			0.241
SM 2320 B-97	Total Alkalinity	103				0.811	
SM 4500 F-C-97	Fluoride	97.4	98.1	98.1			0.0
SM 5310 B-00	Organic Carbon	91.3	90.2	87.7			2.58

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1894222
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1894226
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1894226
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1894223
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1894223
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1894223
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1894223
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1894224
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1894222
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1894222
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1894222
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1894223

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	04/28/2017			04/28/2017 16:01	Sima Feizi	1894222
EPA 200.7 Rev. 4.4	04/28/2017	05/03/2017	Elliott D. Healy	05/11/2017	Martin Acosta	1894226
EPA 200.8 Rev. 5.4	04/28/2017	05/03/2017	Elliott D. Healy	05/05/2017	Betina Topolski	1894226
	04/28/2017	05/03/2017	Elliott D. Healy	05/08/2017	Betina Topolski	1894226
	04/28/2017	05/03/2017	Elliott D. Healy	05/16/2017	Betina Topolski	1894226
	04/28/2017			04/28/2017	Julie Michelle Frank	1894223
EPA 350.1 Rev. 2.0	04/28/2017					
EPA 351.2 Rev. 2.0	04/28/2017	05/02/2017	Adrian Shelby	05/05/2017	Joseph Suarez	1894223
EPA 353.2 Rev. 2.0	04/28/2017			05/03/2017	Beverly Y. Sanders	1894223
EPA 365.1 Rev. 2.0	04/28/2017	05/03/2017	Vijayalakshmi Reddy	05/04/2017	Lipi Saha	1894223
EPA 365.1 Rev. 2.0 dissolved	04/28/2017			04/28/2017 15:46	Anthony C. Onicha	1894224
SM 2320 B-97	04/28/2017			05/09/2017	Dale L. Simmons	1894222
SM 2540 D-97	04/28/2017			05/03/2017	Yijie Li	1894222
SM 4500 F-C-97	04/28/2017			05/09/2017	Dale L. Simmons	1894222
SM 5310 B-00	04/28/2017			05/09/2017	Christopher Armour	1894223