

Chemical Analysis Report

CEN-DIST-2016-09-16-01

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

Event Description: **Banana River D (Nitric)**

Request ID: **RQ-2016-09-12-65**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
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Attn: Mike Linger

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Date Certified: 13-OCT-2016 10:04



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: BANANA RIVER EQUIDISTANT FROM SR 528 & Collection Date/Time: 09/15/2016 10:28 520

Field ID: G5CE0057

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1832312	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P311351	
	SM 2320 B-97	Total Alkalinity	121		mg CaCO3/L	P311737	
	SM 2540 D-97	TSS	8	I	mg/L	P311790	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P311741	
1832313	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P311516	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P311887	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P312124	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P312013	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P311729	
1832314	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P311355	
1832329	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P311608	
	EPA 200.8 Rev. 5.4	Arsenic	4.55		ug/L	P311608	
		Cadmium	0.060	U	ug/L	P311608	
		Chromium	0.15	U	ug/L	P311608	
		Copper	0.30	U	ug/L	P311608	
		Lead	0.25	U	ug/L	P311608	
		Nickel	0.32	I	ug/L	P311608	
		Silver	0.015	U	ug/L	P311608	
		Zinc	3.0	U	ug/L	P311608	

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: P311351

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P311608

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P311608

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.050	U	ug/L
Copper	0.10	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.050	U	ug/L
Silver	0.0050	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P311608

Component	Result	Code	Units
Zinc	1.0	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P311516

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P311887

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P312124

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P312013

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P311355

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

Reference Method: SM 2320 B-97
Batch ID: P311737

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

Reference Method: SM 2540 D-97
Batch ID: P311790

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P311741

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P311729

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: P311608

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P311608

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.2		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	96.5		P	85 - 115
Copper	94.1		P	85 - 115
Lead	94.7		P	85 - 115
Nickel	97.1		P	85 - 115
Silver	95.5		P	85 - 115
Zinc	98.2		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P311516

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P311887

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P312124

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: P312013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.5		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P311355

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

Reference Method: SM 2320 B-97
Batch ID: P311737

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

Reference Method: SM 4500 F-C-97
Batch ID: P311741

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P311729

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P311608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1832329	Iron	89.1	91.4	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P311608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1832329	Arsenic	104	103	P/P	70 - 130
1832329	Cadmium	93.2	92.9	P/P	70 - 130
1832329	Chromium	78.7	77.9	P/P	70 - 130
1832329	Copper	94.3	95.3	P/P	70 - 130
1832329	Lead	104	103	P/P	70 - 130
1832329	Nickel	98.9	98.8	P/P	70 - 130
1832329	Silver	88.4	88.6	P/P	70 - 130
1832329	Zinc	88.9	89.9	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P311516

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1832221	Ammonia-N	104	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P311887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1832308	Kjeldahl Nitrogen	95.7	96.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P312124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1832311	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P312013

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1832302	Total-P	93.9	97.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P311355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1832283	O-Phosphate-P	102	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P311741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1832281	Fluoride	96.9	99.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P311729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1831186	Organic Carbon	93.1	92.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P311351

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832253	Turbidity	0.791	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P311608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832329	Iron	2.58	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P311608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832329	Arsenic	1.06	Spike	P	0 - 20
1832329	Cadmium	0.413	Spike	P	0 - 20
1832329	Chromium	1.09	Spike	P	0 - 20
1832329	Copper	1.04	Spike	P	0 - 20
1832329	Lead	0.741	Spike	P	0 - 20
1832329	Nickel	0.0384	Spike	P	0 - 20
1832329	Silver	0.141	Spike	P	0 - 20
1832329	Zinc	1.05	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P311516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832221	Ammonia-N	1.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P311887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832308	Kjeldahl Nitrogen	1.02	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P312124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832311	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P312013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832302	Total-P	3.50	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P311355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832283	O-Phosphate-P	0.685	Spike	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P311737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832281	Total Alkalinity	0.725	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P311741

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1832281	Fluoride	1.45	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P311729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1831186	Organic Carbon	1.01	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 180.1 Rev. 2.0
Run ID: A171685
Included Lab Sample IDs: 1832312

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A71686
Included Lab Sample IDs: 1832314

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A71731
Included Lab Sample IDs: 1832313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	98.9	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A71797
Included Lab Sample IDs: 1832313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	97.0	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A71798
Included Lab Sample IDs: 1832312

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A71798

Included Lab Sample IDs: 1832312

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A71810

Included Lab Sample IDs: 1832329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	104	97.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A71844

Included Lab Sample IDs: 1832329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.7	101	P/P	90 - 110
Cadmium	98.8	96.8	P/P	90 - 110
Chromium	97.8	94.4	P/P	90 - 110
Lead	94.2	92.6	P/P	90 - 110
Silver	96.3	94.8	P/P	90 - 110
Zinc	99.6	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A71891

Included Lab Sample IDs: 1832313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.7	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A71894

Included Lab Sample IDs: 1832313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A71911

Included Lab Sample IDs: 1832329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	93.8	92.3	P/P	90 - 110
Nickel	95.4	93.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A71947

Included Lab Sample IDs: 1832313

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

Quality Assurance Report Calibration Verification

* 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					0.791	
EPA 200.7 Rev. 4.4	Iron	104	89.1	91.4			2.58
EPA 200.8 Rev. 5.4	Arsenic	99.2	104	103			1.06
	Cadmium	100	93.2	92.9			0.413
	Chromium	96.5	78.7	77.9			1.09
	Copper	94.1	94.3	95.3			1.04
	Lead	94.7	104	103			0.741
	Nickel	97.1	98.9	98.8			0.0384
	Silver	95.5	88.4	88.6			0.141
	Zinc	98.2	88.9	89.9			1.05
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	104	102			1.12
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.9	95.7	96.8			1.02
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	104	104			0.0
EPA 365.1 Rev. 2.0	Total-P	97.5	93.9	97.3			3.50
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	102	102			0.685
SM 2320 B-97	Total Alkalinity	103				0.725	
SM 4500 F-C-97	Fluoride	98.8	96.9	99.1			1.45
SM 5310 B-00	Organic Carbon	97.1	93.1	92.0			1.01

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1832312
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1832329
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1832329
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1832313
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1832313
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1832313
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1832313
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1832314
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1832312
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1832312
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1832312
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1832313

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	09/16/2016			09/16/2016 16:25	Sima Feizi	1832312
EPA 200.7 Rev. 4.4	09/16/2016	09/21/2016	Elliott D. Healy	09/23/2016	Joshua Ayres	1832329
EPA 200.8 Rev. 5.4	09/16/2016	09/21/2016	Elliott D. Healy	09/26/2016	Charles J. Peterson	1832329
	09/16/2016	09/21/2016	Elliott D. Healy	09/29/2016	Charles J. Peterson	1832329
EPA 350.1 Rev. 2.0	09/16/2016			09/19/2016	Joseph Suarez	1832313
EPA 351.2 Rev. 2.0	09/16/2016	09/27/2016	Adrian Shelby	09/28/2016	Christopher Armour	1832313
EPA 353.2 Rev. 2.0	09/16/2016			09/28/2016	Beverly Y. Sanders	1832313
EPA 365.1 Rev. 2.0	09/16/2016	09/28/2016	Lipi Saha	09/30/2016	Lipi Saha	1832313
EPA 365.1 Rev. 2.0 dissolved	09/16/2016			09/16/2016 15:31	Julia Storbeck	1832314
SM 2320 B-97	09/16/2016			09/23/2016	Dale L. Simmons	1832312
SM 2540 D-97	09/16/2016			09/19/2016	Yijie Li	1832312
SM 4500 F-C-97	09/16/2016			09/23/2016	Dale L. Simmons	1832312
SM 5310 B-00	09/16/2016			09/22/2016	Julie Michelle Frank	1832313