Chemical Analysis Report

NW-DIST-2020-02-27-01

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

Event Description: **NorthWest Run**
Request ID: **RQ-2020-02-24-49**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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160 Government Center
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 17-MAR-2020 09:36

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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Big Escambia Creek downstream of Fannie Rd **Collection Date/Time: 02/26/2020 10:15**

Field ID: G4NW0421 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2160932	EPA 180.1 Rev. 2.0	Turbidity	7.0	A	NTU	P379772	
	EPA 300.0 Rev. 2.1	Chloride	4.0		mg Cl/L	P380164	
		Sulfate	1.7		mg SO4/L	P380167	
	SM 2120 B-2011	Color (true)	39	A	PCU	P379770	
	SM 2320 B-2011	Total Alkalinity	2.4	I	mg CaCO3/L	P380322	
	SM 2540 C-2011	TDS	29		mg/L	P380329	
	SM 2540 D-2011	TSS	8	I	mg/L	P380333	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P380273	
2160934	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P380067	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P379882	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.35		mg N/L	P380233	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P380138	
	SM 5310 B-2011	Organic Carbon	3.7		mg C/L	P379929	
2160936	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P379766	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: McDavid Creek 100 m upstream SR99 **Collection Date/Time: 02/26/2020 11:50**

Field ID: G5NW0150 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2160933	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P379772	
	EPA 300.0 Rev. 2.1	Chloride	3.9		mg Cl/L	P380164	
		Sulfate	1.1		mg SO4/L	P380167	
	SM 2120 B-2011	Color (true)	33		PCU	P379770	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P380322	
	SM 2540 C-2011	TDS	21	I	mg/L	P380329	
	SM 2540 D-2011	TSS	3	I	mg/L	P380333	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P380273	
2160935	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P380067	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P379882	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P380233	
	EPA 365.1 Rev. 2.0	Total-P	0.0069		mg P/L	P380138	
	SM 5310 B-2011	Organic Carbon	3.1		mg C/L	P379929	
2160937	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P379766	

Ref. Method and Comment:
SM 2540 D-2011: 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: P379772

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380164

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380167

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380067

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379882

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380233

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380138

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379766

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

Reference Method: SM 2120 B-2011
Batch ID: P379770

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P380322

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

Reference Method: SM 2540 C-2011
Batch ID: P380329

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P380333

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P380273

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P379929

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: P380164

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380067

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: P379882

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380233

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380138

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	94.6		P	90 - 110

Reference Method: SM 2120 B-2011
Batch ID: P379770

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P380322

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P380273

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P379929

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160748	Chloride	103		P	90 - 110
2160965	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160748	Sulfate	102		P	90 - 110
2160965	Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380067

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160966	Ammonia-N	97.8	96.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379882

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160934	Kjeldahl Nitrogen	105	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160907	NO2NO3-N	96.8	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160934	Total-P	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160901	O-Phosphate-P	90.1	94.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P380273

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2161279	Fluoride	103	105	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P379929

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2160718	Organic Carbon	104		P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P379772

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160932	Turbidity	2.99	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160748	Chloride	0.387	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160748	Sulfate	0.903	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160966	Ammonia-N	0.864	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379882

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160934	Kjeldahl Nitrogen	2.90	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P380233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160907	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160934	Total-P	1.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P379766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160901	O-Phosphate-P	4.85	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 2120 B-2011
Batch ID: P379770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160932	Color (true)	0.553	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P380322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160714	Total Alkalinity	0.124	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P380329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160748	TDS	2.30	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P380273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2161279	Fluoride	0.960	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P379929

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2160718	Organic Carbon	1.05	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A97861
Included Lab Sample IDs: 2160936, 2160937

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	94.0	P/P	90 - 110

Reference Method: SM 2120 B-2011
Run ID: A97863
Included Lab Sample IDs: 2160932, 2160933

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A97865
Included Lab Sample IDs: 2160932, 2160933

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

Reference Method: SM 5310 B-2011
Run ID: A97937
Included Lab Sample IDs: 2160934, 2160935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	96.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A97957
Included Lab Sample IDs: 2160934, 2160935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	93.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A97999
Included Lab Sample IDs: 2160934, 2160935

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A98001
Included Lab Sample IDs: 2160932, 2160933

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A98035
Included Lab Sample IDs: 2160934, 2160935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-2011
Run ID: A98059
Included Lab Sample IDs: 2160932, 2160933

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A98071
Included Lab Sample IDs: 2160934, 2160935

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

Reference Method: SM 2320 B-2011
Run ID: A98082
Included Lab Sample IDs: 2160932, 2160933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.6	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		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					2.99	
EPA 300.0 Rev. 2.1	Chloride	100	103	100		0.387	
	Sulfate	97.9	102	99.7		0.903	
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	97.8	96.9			0.864
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	105	109			2.90
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	96.8	96.8			0.0
EPA 365.1 Rev. 2.0	Total-P	107	108	107			1.10
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	94.6	90.1	94.8			4.85
SM 2120 B-2011	Color (true)	99.9				0.553	
SM 2320 B-2011	Total Alkalinity	103				0.124	
SM 2540 C-2011	TDS					2.30	
SM 4500 F-C-2011	Fluoride	101	103	105			0.960
SM 5310 B-2011	Organic Carbon	97.4	104				1.05

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2160932, 2160933
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2160932, 2160933
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2160932, 2160933
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2160934, 2160935
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2160934, 2160935
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2160934, 2160935
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2160934, 2160935
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2160936, 2160937
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2160932, 2160933
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2160932, 2160933
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2160932, 2160933
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2160932, 2160933
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2160932, 2160933
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2160934, 2160935

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	02/27/2020			02/27/2020 15:38	Yen Ta	2160932, 2160933
EPA 300.0 Rev. 2.1	02/27/2020			03/06/2020 04:34	Lipi Saha	2160932
	02/27/2020			03/06/2020 04:46	Lipi Saha	2160933
EPA 350.1 Rev. 2.0	02/27/2020			03/04/2020 11:48	Ping Hua	2160934
	02/27/2020			03/04/2020 11:49	Ping Hua	2160935
EPA 351.2 Rev. 2.0	02/27/2020	03/02/2020 14:35	Sima Feizi	03/03/2020 13:49	Jhamieka S. Greenwood	2160934
	02/27/2020	03/02/2020 14:35	Sima Feizi	03/03/2020 13:55	Jhamieka S. Greenwood	2160935
EPA 353.2 Rev. 2.0	02/27/2020			03/06/2020 11:47	Beverly Y. Sanders	2160934
	02/27/2020			03/06/2020 11:48	Beverly Y. Sanders	2160935
EPA 365.1 Rev. 2.0	02/27/2020	03/05/2020 13:48	Yen Ta	03/09/2020 13:28	Benjamin T. Nordmann	2160934
	02/27/2020	03/05/2020 13:48	Yen Ta	03/09/2020 13:29	Benjamin T. Nordmann	2160935
EPA 365.1 Rev. 2.0 dissolved	02/27/2020			02/27/2020 16:13	Carlos Miranda	2160936
	02/27/2020			02/27/2020 16:14	Carlos Miranda	2160937
SM 2120 B-2011	02/27/2020			02/27/2020 16:19	Madeline Funaro	2160932
	02/27/2020			02/27/2020 16:20	Madeline Funaro	2160933
SM 2320 B-2011	02/27/2020			03/09/2020 23:57	Lauren Lees	2160932
	02/27/2020			03/10/2020 00:06	Lauren Lees	2160933
SM 2540 C-2011	02/27/2020			03/02/2020 15:08	Yijie Li	2160932, 2160933
SM 2540 D-2011	02/27/2020			03/02/2020 14:22	Yijie Li	2160932, 2160933
SM 4500 F-C-2011	02/27/2020			03/07/2020 10:46	Samantha Davila	2160932
	02/27/2020			03/07/2020 10:55	Samantha Davila	2160933
SM 5310 B-2011	02/27/2020			03/03/2020 01:12	Lauren Lees	2160934
	02/27/2020			03/03/2020 01:26	Lauren Lees	2160935