Chemical Analysis Report

NW-DIST-2020-07-14-01

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

Event Description: **Crestview Run**
Request ID: **RQ-2020-07-13-49**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
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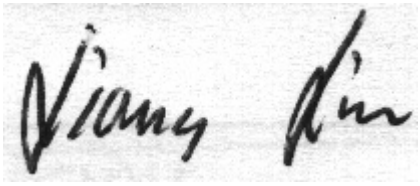
Certified by: Liang Lin, Environmental Administrator

Date Certified: 31-JUL-2020 13:03



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 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: Bay Branch upstream of Hwy 331 **Collection Date/Time: 07/13/2020 11:00**

Field ID: G3NW0171 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182765	EPA 180.1 Rev. 2.0	Turbidity	5.1	A	NTU	P384595	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P385197	
		Sulfate	2.1		mg SO4/L	P385201	
	SM 2120 B-2011	Color (true)	170		PCU	P384602	
	SM 2320 B-2011	Total Alkalinity	9.9		mg CaCO3/L	P385000	
	SM 2540 C-2011	TDS	56		mg/L	P384945	
	SM 2540 D-2011	TSS	2	I	mg/L	P385022	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P384853	
2182767	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P384817	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P384697	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P384710	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P384635	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P384700	
2182769	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384588	
2182790	EPA 200.7 Rev. 4.4	Barium	16.2		ug/L	P384585	
		Calcium	5.76		mg/L	P384585	
		Iron	910		ug/L	P384585	
		Magnesium	1.12		mg/L	P384585	
		Potassium	0.38	I	mg/L	P384585	
		Sodium	2.3		mg/L	P384585	
		Zinc	7.7	I	ug/L	P384585	
	EPA 200.8 Rev. 5.4	Aluminum	340		ug/L	P384585	
		Antimony	0.054	I	ug/L	P384585	
		Arsenic	0.56		ug/L	P384585	
		Boron**	12.3		ug/L	P384585	
		Cadmium	0.020	U	ug/L	P384585	
		Chromium	0.43	I	ug/L	P384585	
		Copper	0.42	I	ug/L	P384585	
		Lead	0.38	I	ug/L	P384585	
		Nickel	0.50	U	ug/L	P384585	
		Selenium	0.20	U	ug/L	P384585	
		Silver	0.010	U	ug/L	P384585	
		Thallium	0.10	U	ug/L	P384585	
	SM 2340B	Hardness	19.0		mg/L	P384585	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Poverty Creek upstream of Poverty Creek Rd **Collection Date/Time: 07/13/2020 12:30**

Field ID: G4NW0427 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182771	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P384595	
	EPA 300.0 Rev. 2.1	Chloride	2.9		mg Cl/L	P385197	
		Sulfate	2.2		mg SO4/L	P385201	
	SM 2120 B-2011	Color (true)	35		PCU	P384602	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P385000	
	SM 2540 C-2011	TDS	19	I	mg/L	P384945	
	SM 2540 D-2011	TSS	8	I	mg/L	P385022	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P384853	
2182774	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P384817	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.19	I	mg N/L	P384697	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P384711	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P384635	
	SM 5310 B-2011	Organic Carbon	3.8		mg C/L	P384700	
2182777	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384588	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Horsehead Creek upstream of Steele Mill Creek Rd **Collection Date/Time: 07/13/2020 13:10**

Field ID: G4NW0428 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182772	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P384595	
	EPA 300.0 Rev. 2.1	Chloride	4.5		mg Cl/L	P385197	
		Sulfate	0.55		mg SO4/L	P385201	
	SM 2120 B-2011	Color (true)	70		PCU	P384602	
	SM 2320 B-2011	Total Alkalinity	7.0		mg CaCO3/L	P385000	
	SM 2540 C-2011	TDS	38		mg/L	P384945	
	SM 2540 D-2011	TSS	3	I	mg/L	P385022	
	SM 4500 F-C-2011	Fluoride	0.041	I	mg F/L	P384853	
2182775	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P384817	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P384697	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P384711	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P384635	
	SM 5310 B-2011	Organic Carbon	6.0		mg C/L	P384700	
2182778	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P384588	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Deadfall Creek upstream of Old River Rd **Collection Date/Time: 07/13/2020 13:50**

Field ID: G4NW0491 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182766	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P384595	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P385197	
		Sulfate	1.2		mg SO4/L	P385201	
	SM 2120 B-2011	Color (true)	52	A	PCU	P384602	
	SM 2320 B-2011	Total Alkalinity	0.75	I	mg CaCO3/L	P385000	
	SM 2540 C-2011	TDS	21	I	mg/L	P384945	
	SM 2540 D-2011	TSS	3	I	mg/L	P385022	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P384853	
2182768	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P384817	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P384697	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P384710	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P384635	
	SM 5310 B-2011	Organic Carbon	6.4		mg C/L	P384700	
2182770	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384588	
2182791	EPA 200.7 Rev. 4.4	Barium	18.5		ug/L	P384585	
		Calcium	1.13		mg/L	P384585	
		Iron	450		ug/L	P384585	
		Magnesium	0.64		mg/L	P384585	
		Potassium	0.30	U	mg/L	P384585	
		Sodium	1.7	I	mg/L	P384585	
		Zinc	5.0	U	ug/L	P384585	
	EPA 200.8 Rev. 5.4	Aluminum	229		ug/L	P384585	
		Antimony	0.050	U	ug/L	P384585	
		Arsenic	0.26		ug/L	P384585	
		Boron**	9.8		ug/L	P384585	
		Cadmium	0.020	U	ug/L	P384585	
		Chromium	0.40	U	ug/L	P384585	
		Copper	0.40	U	ug/L	P384585	
		Lead	0.20	U	ug/L	P384585	
		Nickel	0.59	I	ug/L	P384585	
		Selenium	0.20	U	ug/L	P384585	
		Silver	0.010	U	ug/L	P384585	
		Thallium	0.10	U	ug/L	P384585	
	SM 2340B	Hardness	5.5		mg/L	P384585	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Deadfall Creek upstream of Shockley Springs Rd **Collection Date/Time: 07/13/2020 14:10**

Field ID: G4NW0490 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2182773	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P384595	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P385197	
		Sulfate	1.5		mg SO4/L	P385201	
	SM 2120 B-2011	Color (true)	42		PCU	P384602	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P385000	
	SM 2540 C-2011	TDS	21	I	mg/L	P384945	
	SM 2540 D-2011	TSS	2	U	mg/L	P385022	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P384853	
2182776	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P384817	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P384697	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.087		mg N/L	P384711	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P384635	
	SM 5310 B-2011	Organic Carbon	6.0		mg C/L	P384700	
2182779	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384588	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384595

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P384585

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384585

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385197

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385201

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384817

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384697

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384710

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384711

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384635

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384588

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

Reference Method: SM 2120 B-2011
Batch ID: P384602

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P385000

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

Reference Method: SM 2540 C-2011
Batch ID: P384945

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385022

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P384853

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P384700

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: P384585

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	104		P	85 - 115
Calcium	109		P	85 - 115
Iron	106		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	104		P	85 - 115
Sodium	99.6		P	85 - 115
Zinc	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384585

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.9		P	85 - 115
Antimony	96.9		P	85 - 115
Arsenic	102		P	85 - 115
Boron	101		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	95.5		P	85 - 115
Copper	95.6		P	85 - 115
Lead	98.3		P	85 - 115
Nickel	98.6		P	85 - 115
Selenium	99.2		P	85 - 115
Silver	100		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385197

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385201

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384817

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384697

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.5		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384710

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384711

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: P384635

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384588

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

Reference Method: SM 2120 B-2011
Batch ID: P384602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P385000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P384853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P384700

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.7		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P384585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181995	Barium	106		P	80 - 120
2181995	Calcium	108		P	80 - 120
2181995	Iron	105		P	80 - 120
2181995	Magnesium	107		P	80 - 120
2181995	Potassium	108		P	80 - 120
2181995	Sodium	102		P	80 - 120
2181995	Zinc	108		P	80 - 120
2182728	Barium	105	106	P/P	80 - 120
2182728	Calcium	103	107	P/P	80 - 120
2182728	Iron	101	105	P/P	80 - 120
2182728	Magnesium	103	107	P/P	80 - 120
2182728	Potassium	104	107	P/P	80 - 120
2182728	Sodium	102	103	P/P	80 - 120
2182728	Zinc	106	107	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2181995	Aluminum	98.5		P	80 - 120
2181995	Antimony	95.4		P	80 - 120
2181995	Arsenic	101		P	80 - 120
2181995	Boron	101		P	80 - 120
2181995	Cadmium	99.6		P	80 - 120
2181995	Chromium	98.5		P	80 - 120
2181995	Copper	98.3		P	80 - 120
2181995	Lead	99.2		P	80 - 120
2181995	Nickel	97.5		P	80 - 120
2181995	Selenium	95.6		P	80 - 120
2181995	Silver	98.1		P	80 - 120
2181995	Thallium	102		P	80 - 120
2182728	Aluminum	99.9	97.1	P/P	80 - 120
2182728	Antimony	96.1	95.7	P/P	80 - 120
2182728	Arsenic	101	101	P/P	80 - 120
2182728	Boron	101	97.9	P/P	80 - 120
2182728	Cadmium	99.7	99.2	P/P	80 - 120
2182728	Chromium	97.0	96.0	P/P	80 - 120
2182728	Copper	96.8	95.8	P/P	80 - 120
2182728	Lead	98.2	97.5	P/P	80 - 120
2182728	Nickel	99.7	97.9	P/P	80 - 120
2182728	Selenium	98.1	97.5	P/P	80 - 120
2182728	Silver	98.9	98.6	P/P	80 - 120
2182728	Thallium	101	102	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182765	Chloride	96.2		P	90 - 110
2182798	Chloride	96.6		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385201

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182765	Sulfate	95.4		P	90 - 110
2182798	Sulfate	95.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182776	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182725	NO2NO3-N	99.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182775	NO2NO3-N	98.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182135	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384588

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182770	O-Phosphate-P	98.4	99.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P384853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183318	Fluoride	100	100	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P384700

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182774	Organic Carbon	97.2	97.2	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384595

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182765	Turbidity	4.35	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P384585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182728	Barium	1.49	Spike	P	0 - 20
2182728	Calcium	4.00	Spike	P	0 - 20
2182728	Iron	3.98	Spike	P	0 - 20
2182728	Magnesium	3.85	Spike	P	0 - 20
2182728	Potassium	2.31	Spike	P	0 - 20
2182728	Sodium	0.426	Spike	P	0 - 20
2182728	Zinc	1.57	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P384585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182728	Aluminum	2.71	Spike	P	0 - 20
2182728	Antimony	0.463	Spike	P	0 - 20
2182728	Arsenic	0.200	Spike	P	0 - 20
2182728	Boron	2.64	Spike	P	0 - 20
2182728	Cadmium	0.528	Spike	P	0 - 20
2182728	Chromium	0.990	Spike	P	0 - 20
2182728	Copper	1.06	Spike	P	0 - 20
2182728	Lead	0.782	Spike	P	0 - 20
2182728	Nickel	1.81	Spike	P	0 - 20
2182728	Selenium	0.662	Spike	P	0 - 20
2182728	Silver	0.272	Spike	P	0 - 20
2182728	Thallium	0.838	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182798	Chloride	1.02	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182776	Ammonia-N	0.0499	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182747	Kjeldahl Nitrogen	4.23	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182725	NO2NO3-N	0.244	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182775	NO2NO3-N	0.279	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182135	Total-P	1.24	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182770	O-Phosphate-P	1.11	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P384602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182766	Color (true)	0.641	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P385000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183317	Total Alkalinity	1.87	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P384945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182730	TDS	2.99	Sample	P	0 - 10

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P384853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183318	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P384700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182774	Organic Carbon	0.0	Spike	P	0 - 20

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A100019
Included Lab Sample IDs: 2182765, 2182766, 2182771, 2182772, 2182773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.5	97.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A100104
Included Lab Sample IDs: 2182765, 2182766, 2182771, 2182772, 2182773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.3	98.9	P/P	90 - 110
Sulfate	99.3	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A99861
Included Lab Sample IDs: 2182769, 2182770, 2182777, 2182778, 2182779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.2	96.6	P/P	90 - 110
O-Phosphate-P	96.7	96.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A99865
Included Lab Sample IDs: 2182765, 2182766, 2182771, 2182772, 2182773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: SM 2120 B-2011
Run ID: A99866
Included Lab Sample IDs: 2182765, 2182766, 2182771, 2182772, 2182773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115
Color (true)	101	104	P/P	90 - 115

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A99901
Included Lab Sample IDs: 2182790, 2182791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	102	P/P	90 - 110
Calcium	101	101	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	99.3	99.6	P/P	90 - 110
Sodium	100	101	P/P	90 - 110
Zinc	104	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A99906
Included Lab Sample IDs: 2182775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A99906
Included Lab Sample IDs: 2182775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.1	101	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A99908
Included Lab Sample IDs: 2182767, 2182768, 2182774, 2182775, 2182776

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	94.8	P/P	90 - 110
Organic Carbon	99.0	95.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A99910
Included Lab Sample IDs: 2182767, 2182768, 2182774, 2182775, 2182776

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A99923
Included Lab Sample IDs: 2182790, 2182791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	98.8	P/P	90 - 110
Antimony	96.4	96.0	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Boron	103	102	P/P	90 - 110
Cadmium	101	99.3	P/P	90 - 110
Lead	99.3	99.4	P/P	90 - 110
Nickel	99.8	98.6	P/P	90 - 110
Selenium	100	99.7	P/P	90 - 110
Silver	98.8	98.2	P/P	90 - 110
Thallium	98.5	97.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A99951
Included Lab Sample IDs: 2182767, 2182768, 2182774, 2182775, 2182776

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.4	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A99954
Included Lab Sample IDs: 2182767, 2182768, 2182774, 2182775, 2182776

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A99960
Included Lab Sample IDs: 2182767, 2182768, 2182774, 2182776

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.5	P/P	90 - 110
Total-P	98.5	98.0	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A99965
Included Lab Sample IDs: 2182765, 2182766, 2182771, 2182772, 2182773

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A99979
Included Lab Sample IDs: 2182790, 2182791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	94.4	93.9	P/P	90 - 110
Copper	95.3	95.4	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						4.35	
EPA 200.7 Rev. 4.4	Barium	104	106	105	106			1.49
	Calcium	109	108	103	107			4.00
	Iron	106	105	101	105			3.98
	Magnesium	107	107	103	107			3.85
	Potassium	104	108	104	107			2.31
	Sodium	99.6	102	102	103			0.426
	Zinc	106	108	106	107			1.57
EPA 200.8 Rev. 5.4	Aluminum	96.9	99.9	97.1	98.5			2.71
	Antimony	96.9	96.1	95.7	95.4			0.463
	Arsenic	102	101	101	101			0.200
	Boron	101	101	97.9	101			2.64
	Cadmium	101	99.7	99.2	99.6			0.528
	Chromium	95.5	97.0	96.0	98.5			0.990
	Copper	95.6	96.8	95.8	98.3			1.06
	Lead	98.3	98.2	97.5	99.2			0.782
	Nickel	98.6	99.7	97.9	97.5			1.81
	Selenium	99.2	98.1	97.5	95.6			0.662
	Silver	100	98.1	98.9	98.6			0.272
	Thallium	101	101	102	102			0.838
EPA 300.0 Rev. 2.1	Chloride	96.8	96.6	96.2			1.02	
	Sulfate	95.9	95.0	95.4				
EPA 350.1 Rev. 2.0	Ammonia-N	101	101	100				0.0499
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.5						4.23
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.8					0.244
	NO2NO3-N	101	98.5	99.0				0.279
EPA 365.1 Rev. 2.0	Total-P	104	102	101				1.24
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	98.4	99.5				1.11
SM 2120 B-2011	Color (true)	101					0.641	
SM 2320 B-2011	Total Alkalinity	102					1.87	
SM 2540 C-2011	TDS						2.99	
SM 4500 F-C-2011	Fluoride	98.0	100	100				0.0
SM 5310 B-2011	Organic Carbon	98.7	97.2	97.2				0.0

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2182765, 2182766, 2182771, 2182772, 2182773
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2182790, 2182791
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2182790, 2182791
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2182765, 2182766, 2182771, 2182772, 2182773
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2182765, 2182766, 2182771, 2182772, 2182773
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2182767, 2182768, 2182774, 2182775, 2182776
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2182767, 2182768, 2182774, 2182775, 2182776
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2182767, 2182768, 2182774, 2182775, 2182776
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2182767, 2182768, 2182774, 2182775, 2182776

Reference Method Descriptions

Method	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2182769, 2182770, 2182777, 2182778, 2182779
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2182765, 2182766, 2182771, 2182772, 2182773
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2182765, 2182766, 2182771, 2182772, 2182773
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2182790, 2182791
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2182765, 2182766, 2182771, 2182772, 2182773
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2182765, 2182766, 2182771, 2182772, 2182773
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2182765, 2182766, 2182771, 2182772, 2182773
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2182767, 2182768, 2182774, 2182775, 2182776

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	07/14/2020			07/14/2020 15:46	Yen Ta	2182765, 2182766, 2182771, 2182772, 2182773
EPA 200.7 Rev. 4.4	07/14/2020	07/14/2020 16:10	Elliott D. Healy	07/15/2020 18:53	Betina Topolski	2182790
	07/14/2020	07/14/2020 16:10	Elliott D. Healy	07/15/2020 19:01	Betina Topolski	2182791
EPA 200.8 Rev. 5.4	07/14/2020	07/14/2020 16:10	Elliott D. Healy	07/17/2020 00:54	Alexander Thompson	2182790
	07/14/2020	07/14/2020 16:10	Elliott D. Healy	07/17/2020 01:01	Alexander Thompson	2182791
	07/14/2020	07/14/2020 16:10	Elliott D. Healy	07/17/2020 17:58	Alexander Thompson	2182790
	07/14/2020	07/14/2020 16:10	Elliott D. Healy	07/17/2020 18:03	Alexander Thompson	2182791
EPA 300.0 Rev. 2.1	07/14/2020			07/21/2020 15:00	Julia Storbeck	2182765
	07/14/2020			07/21/2020 15:24	Julia Storbeck	2182766
	07/14/2020			07/21/2020 15:36	Julia Storbeck	2182771
	07/14/2020			07/21/2020 15:48	Julia Storbeck	2182772
	07/14/2020			07/21/2020 16:01	Julia Storbeck	2182773
EPA 350.1 Rev. 2.0	07/14/2020			07/18/2020 10:38	Ping Hua	2182776
	07/14/2020			07/18/2020 10:44	Ping Hua	2182767
	07/14/2020			07/18/2020 10:45	Ping Hua	2182768
	07/14/2020			07/18/2020 10:47	Ping Hua	2182774
	07/14/2020			07/18/2020 10:59	Ping Hua	2182775
EPA 351.2 Rev. 2.0	07/14/2020	07/16/2020 09:35	Sima Feizi	07/17/2020 14:46	Jhamieka S. Greenwood	2182767
	07/14/2020	07/16/2020 09:35	Sima Feizi	07/17/2020 14:47	Jhamieka S. Greenwood	2182768
	07/14/2020	07/16/2020 09:35	Sima Feizi	07/17/2020 14:49	Jhamieka S. Greenwood	2182774
	07/14/2020	07/16/2020 09:35	Sima Feizi	07/17/2020 14:51	Jhamieka S. Greenwood	2182775
	07/14/2020	07/16/2020 09:35	Sima Feizi	07/17/2020 14:52	Jhamieka S. Greenwood	2182776
EPA 353.2 Rev. 2.0	07/14/2020			07/16/2020 10:12	Beverly Y. Sanders	2182767
	07/14/2020			07/16/2020 10:13	Beverly Y. Sanders	2182768
	07/14/2020			07/16/2020 10:20	Beverly Y. Sanders	2182775
	07/14/2020			07/16/2020 10:27	Beverly Y. Sanders	2182774
	07/14/2020			07/16/2020 10:28	Beverly Y. Sanders	2182776
EPA 365.1 Rev. 2.0	07/14/2020	07/15/2020 12:01	Yen Ta	07/16/2020 10:03	Benjamin T. Nordmann	2182775
	07/14/2020	07/15/2020 12:01	Yen Ta	07/17/2020 11:18	Lipi Saha	2182767
	07/14/2020	07/15/2020 12:01	Yen Ta	07/17/2020 11:19	Lipi Saha	2182768
	07/14/2020	07/15/2020 12:01	Yen Ta	07/17/2020 11:27	Lipi Saha	2182774
	07/14/2020	07/15/2020 12:01	Yen Ta	07/17/2020 11:28	Lipi Saha	2182776
EPA 365.1 Rev. 2.0 dissolved	07/14/2020			07/14/2020 15:13	Carlos Miranda	2182770
	07/14/2020			07/14/2020 15:15	Carlos Miranda	2182769
	07/14/2020			07/14/2020 15:20	Carlos Miranda	2182777
	07/14/2020			07/14/2020 15:21	Carlos Miranda	2182778
	07/14/2020			07/14/2020 15:22	Carlos Miranda	2182779
SM 2120 B-2011	07/14/2020			07/14/2020 16:24	Benjamin T. Nordmann	2182766
	07/14/2020			07/14/2020 16:26	Benjamin T. Nordmann	2182771, 2182772

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B-2011	07/14/2020			07/14/2020 16:27	Benjamin T. Nordmann	2182773
	07/14/2020			07/14/2020 16:38	Benjamin T. Nordmann	2182765
SM 2320 B-2011	07/14/2020			07/21/2020 18:49	Dale L. Simmons	2182765
	07/14/2020			07/21/2020 18:56	Dale L. Simmons	2182766
	07/14/2020			07/21/2020 19:02	Dale L. Simmons	2182771
	07/14/2020			07/21/2020 19:11	Dale L. Simmons	2182772
	07/14/2020			07/21/2020 19:17	Dale L. Simmons	2182773
SM 2340B	07/14/2020			07/15/2020 18:53	Betina Topolski	2182790
	07/14/2020			07/15/2020 19:01	Betina Topolski	2182791
SM 2540 C-2011	07/14/2020			07/15/2020 15:29	Yijie Li	2182765, 2182766, 2182771, 2182772, 2182773
SM 2540 D-2011	07/14/2020			07/15/2020 15:29	Yijie Li	2182765, 2182766, 2182771, 2182772, 2182773
SM 4500 F-C-2011	07/14/2020			07/18/2020 04:57	Samantha Davila	2182765
	07/14/2020			07/18/2020 05:06	Samantha Davila	2182766
	07/14/2020			07/18/2020 05:14	Samantha Davila	2182771
	07/14/2020			07/18/2020 05:49	Samantha Davila	2182772
	07/14/2020			07/18/2020 05:58	Samantha Davila	2182773
SM 5310 B-2011	07/14/2020			07/15/2020 22:53	David Boose	2182774
	07/14/2020			07/16/2020 00:40	David Boose	2182767
	07/14/2020			07/16/2020 00:55	David Boose	2182768
	07/14/2020			07/16/2020 01:07	David Boose	2182775
	07/14/2020			07/16/2020 01:19	David Boose	2182776