

Chemical Analysis Report

SO-DIST-2020-03-11-01

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

Event Description: **2020 SMP : Sebring Lakes**
Request ID: **RQ-2020-03-09-60**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 27-MAR-2020 12:45

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the "T" and a long horizontal stroke at the end.

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: Lake Damon @ Middle

Collection Date/Time: 03/10/2020 10:45

Field ID: G4SD0168

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163855	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P380532	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P380615	
		Sulfate	35		mg SO4/L	P380619	
		Color (true)	10		PCU	P380479	
	SM 2320 B-2011	Total Alkalinity	24		mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	97		mg/L	P381108	
	SM 2540 D-2011	TSS	3	I	mg/L	P380981	
	SM 4500 F-C-2011	Fluoride	0.099	I	mg F/L	P381258	
2163861	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P380968	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P380630	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381095	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P380797	
	SM 5310 B-2011	Organic Carbon	4.5		mg C/L	P380667	
2163867	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380501	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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.

Sample Location: Lake Glenada @ Center

Collection Date/Time: 03/10/2020 11:20

Field ID: G4SD0179

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163856	EPA 180.1 Rev. 2.0	Turbidity	18	A	NTU	P380530	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P380615	
		Sulfate	10		mg SO4/L	P380619	
		Color (true)	26	A	PCU	P380483	
	SM 2320 B-2011	Total Alkalinity	42		mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	115		mg/L	P381109	
	SM 2540 D-2011	TSS	19		mg/L	P380982	
	SM 4500 F-C-2011	Fluoride	0.086	I	mg F/L	P381258	
2163862	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P380631	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381095	
	EPA 365.1 Rev. 2.0	Total-P	0.093		mg P/L	P380797	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P380667	
2163868	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380501	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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.

Sample Location: Little Bonnet Lake

Collection Date/Time: 03/10/2020 11:55

Field ID: G4SD0169

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163857	EPA 180.1 Rev. 2.0	Turbidity	9.8		NTU	P380532	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P380615	
		Sulfate	31		mg SO4/L	P380619	
	SM 2120 B-2011	Color (true)	11	A	PCU	P380479	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	151		mg/L	P381109	
	SM 2540 D-2011	TSS	10	I	mg/L	P380982	
	SM 4500 F-C-2011	Fluoride	0.067	I	mg F/L	P381258	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P380631	
2163863	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P381095	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P380797	
	SM 5310 B-2011	Organic Carbon	8.4		mg C/L	P380667	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380501	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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. The PQL was elevated because of sample matrix interference.

Sample Location: Lake Denton @ Center

Collection Date/Time: 03/10/2020 12:25

Field ID: G4SD0180

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163858	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P380532	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P380615	
		Sulfate	43		mg SO4/L	P380619	
		SM 2120 B-2011	Color (true)	2.5	U	PCU	P380479
	SM 2320 B-2011	Total Alkalinity	42	A	mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	158		mg/L	P381109	
	SM 2540 D-2011	TSS	2	I	mg/L	P380982	
	SM 4500 F-C-2011	Fluoride	0.22		mg F/L	P381258	
2163864	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P380631	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.4		mg N/L	P381097	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P380797	
	SM 5310 B-2011	Organic Carbon	2.0		mg C/L	P380667	
2163870	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380501	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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.

Sample Location: LittleRedWaterLake@Mid

Collection Date/Time: 03/10/2020 13:20

Field ID: G4SD0171

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163859	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P380532	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P380615	
		Sulfate	10		mg SO4/L	P380619	
		Color (true)	56		PCU	P380479	
	SM 2320 B-2011	Total Alkalinity	4.8		mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	60		mg/L	P381109	
	SM 2540 D-2011	TSS	3	I	mg/L	P380982	
	SM 4500 F-C-2011	Fluoride	0.050	I	mg F/L	P381258	
2163865	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P380631	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381097	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P380797	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P380667	
2163871	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380501	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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.

Sample Location: LittleLakeJackson@Centr

Collection Date/Time: 03/10/2020 14:10

Field ID: G4SD0183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163860	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P380532	
	EPA 300.0 Rev. 2.1	Chloride	16	A	mg Cl/L	P380670	
		Sulfate	15	A	mg SO4/L	P380671	
	SM 2120 B-2011	Color (true)	21	A	PCU	P380480	
	SM 2320 B-2011	Total Alkalinity	16		mg CaCO3/L	P380928	
	SM 2540 C-2011	TDS	83		mg/L	P381109	
	SM 2540 D-2011	TSS	4	I	mg/L	P380982	
	SM 4500 F-C-2011	Fluoride	0.072	I	mg F/L	P381258	
2163866	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P380969	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P380631	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381096	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P380799	
	SM 5310 B-2011	Organic Carbon	7.0		mg C/L	P380667	
2163872	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380504	

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: P380530

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380532

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380615

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380619

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380670

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380671

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380968

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380969

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380630

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380631

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381095

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381096

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381097

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380797

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380799

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380501

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380504

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

Reference Method: SM 2120 B-2011
Batch ID: P380479

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P380480

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P380483

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P380928

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

Reference Method: SM 2540 C-2011
Batch ID: P381108

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P381109

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P380981

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P380982

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381258

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P380667

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: P380615

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380619

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380671

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380968

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380969

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380630

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380631

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381095

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381096

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380797

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380799

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: P380501

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.3		P	90 - 110

Reference Method: SM 2120 B-2011
Batch ID: P380479

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P380480

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

Reference Method: SM 2120 B-2011
Batch ID: P380483

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P380928

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P381258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P380667

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380615

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163754	Chloride	97.5		P	90 - 110
2163855	Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380619

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163855	Sulfate	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163860	Chloride	96.2		P	90 - 110
2164261	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380671

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163860	Sulfate	97.3		P	90 - 110
2164261	Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163861	Ammonia-N	99.4	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163864	Ammonia-N	99.3	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380630

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163847	Kjeldahl Nitrogen	99.2	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380631

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163864	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381095

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163817	NO2NO3-N	97.0	96.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381096

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163866	NO2NO3-N	99.5	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381097

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2164177	NO2NO3-N	98.9	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163817	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163866	Total-P	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163673	O-Phosphate-P	95.2	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163872	O-Phosphate-P	97.4	98.7	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P381258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163858	Fluoride	97.8	97.8	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P380667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163862	Organic Carbon	100	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163856	Turbidity	11.6	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163796	Turbidity	6.08	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380615

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163754	Chloride	0.470	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163754	Sulfate	0.350	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163860	Chloride	0.289	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380671

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163860	Sulfate	0.000688	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163861	Ammonia-N	0.298	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P380969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163864	Ammonia-N	1.12	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380630

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163847	Kjeldahl Nitrogen	0.168	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P380631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163864	Kjeldahl Nitrogen	1.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163817	NO2NO3-N	0.758	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381096

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163866	NO2NO3-N	1.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164177	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163817	Total-P	1.26	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P380799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163866	Total-P	0.628	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163673	O-Phosphate-P	1.56	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163872	O-Phosphate-P	1.33	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P380479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163857	Color (true)	5.68	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P380480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163860	Color (true)	0.973	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P380483

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163856	Color (true)	3.00	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P380928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163858	Total Alkalinity	0.270	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P381108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163665	TDS	3.35	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P381109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164224	TDS	5.70	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P381258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163858	Fluoride	0.0	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P380667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163862	Organic Carbon	1.67	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A98096

Included Lab Sample IDs: 2163855, 2163856, 2163857, 2163858, 2163859, 2163860

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.9	98.6	P/P	90 - 110
Chloride	99.0	99.9	P/P	90 - 110
Chloride	99.9	99.4	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110
Sulfate	98.5	99.1	P/P	90 - 110
Sulfate	99.7	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A98133

Included Lab Sample IDs: 2163867, 2163868, 2163869, 2163870, 2163871, 2163872

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.8	96.8	P/P	90 - 110
O-Phosphate-P	98.4	98.6	P/P	90 - 110
O-Phosphate-P	99.4	98.4	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A98135

Included Lab Sample IDs: 2163855, 2163856, 2163857, 2163858, 2163859, 2163860

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115
Color (true)	101	100	P/P	90 - 115
Color (true)	102	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A98149

Included Lab Sample IDs: 2163855, 2163856, 2163857, 2163858, 2163859, 2163860

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

Reference Method: SM 5310 B-2011

Run ID: A98194

Included Lab Sample IDs: 2163861, 2163862, 2163863, 2163864, 2163865, 2163866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	102	P/P	90 - 110
Organic Carbon	97.4	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A98222

Included Lab Sample IDs: 2163861, 2163862, 2163863, 2163864, 2163865, 2163866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	100	P/P	90 - 110
Kjeldahl Nitrogen	103	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A98293

Included Lab Sample IDs: 2163855, 2163856, 2163857, 2163858, 2163859, 2163860

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A98309

Included Lab Sample IDs: 2163861, 2163862, 2163863, 2163864, 2163865, 2163866

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98317

Included Lab Sample IDs: 2163862

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98319

Included Lab Sample IDs: 2163861, 2163863, 2163864, 2163865, 2163866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.0	P/P	90 - 110
Total-P	99.5	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A98374

Included Lab Sample IDs: 2163861, 2163862, 2163863, 2163864, 2163865, 2163866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110
NO2NO3-N	98.5	99.0	P/P	90 - 110
NO2NO3-N	99.0	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A98428

Included Lab Sample IDs: 2163855, 2163856, 2163857, 2163858, 2163859, 2163860

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	97.0	P/P	90 - 110
Fluoride	97.0	97.6	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	MS
EPA 180.1 Rev. 2.0	Turbidity				11.6	
	Turbidity				6.08	
EPA 300.0 Rev. 2.1	Chloride	100	97.5	99.1	0.470	
	Chloride	97.7	96.2	97.5	0.289	
	Sulfate	100	100		0.350	
	Sulfate	97.5	97.3	98.6	0.0006	
EPA 350.1 Rev. 2.0	Ammonia-N	102	99.4	99.1		0.298
	Ammonia-N	102	99.3	101		1.12
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.2	99.5		0.168
	Kjeldahl Nitrogen	96.7	102	105		1.92
EPA 353.2 Rev. 2.0	NO2NO3-N	98.0	97.0	96.0		0.758
	NO2NO3-N	98.5	99.5	98.5		1.01
	NO2NO3-N	99.5	98.9	99.4		0.491
EPA 365.1 Rev. 2.0	Total-P	103	105	103		1.26
	Total-P	104	108	107		0.628
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	95.2	97.0		1.56
	O-Phosphate-P	98.3	97.4	98.7		1.33
SM 2120 B-2011	Color (true)	100			5.68	
	Color (true)	101			0.973	
	Color (true)	102			3.00	
SM 2320 B-2011	Total Alkalinity	104			0.270	
SM 2540 C-2011	TDS				3.35	
	TDS				5.70	
SM 4500 F-C-2011	Fluoride	96.7	97.8	97.8		0.0
SM 5310 B-2011	Organic Carbon	98.1	100	103		1.67

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2163861, 2163862, 2163863, 2163864, 2163865, 2163866
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2163861, 2163862, 2163863, 2163864, 2163865, 2163866
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2163861, 2163862, 2163863, 2163864, 2163865, 2163866
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2163861, 2163862, 2163863, 2163864, 2163865, 2163866
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2163867, 2163868, 2163869, 2163870, 2163871, 2163872
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2163855, 2163856, 2163857, 2163858, 2163859, 2163860

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2163861, 2163862, 2163863, 2163864, 2163865, 2163866

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	03/11/2020			03/11/2020 19:16	Yen Ta	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
EPA 300.0 Rev. 2.1	03/11/2020			03/13/2020 03:29	Lipi Saha	2163855
	03/11/2020			03/13/2020 06:18	Lipi Saha	2163856
	03/11/2020			03/13/2020 06:30	Lipi Saha	2163857
	03/11/2020			03/13/2020 06:42	Lipi Saha	2163858
	03/11/2020			03/13/2020 06:55	Lipi Saha	2163859
	03/11/2020			03/13/2020 16:55	Lipi Saha	2163860
EPA 350.1 Rev. 2.0	03/11/2020			03/19/2020 11:59	Ping Hua	2163861
	03/11/2020			03/19/2020 12:32	Ping Hua	2163864
	03/11/2020			03/19/2020 12:37	Ping Hua	2163862
	03/11/2020			03/19/2020 12:38	Ping Hua	2163863
	03/11/2020			03/19/2020 12:40	Ping Hua	2163865
	03/11/2020			03/19/2020 12:41	Ping Hua	2163866
EPA 351.2 Rev. 2.0	03/11/2020	03/13/2020 12:19	Sima Feizi	03/16/2020 15:07	Julia Storbeck	2163861
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:15	Julia Storbeck	2163864
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:23	Julia Storbeck	2163862
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:25	Julia Storbeck	2163863
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:26	Julia Storbeck	2163865
	03/11/2020	03/13/2020 12:30	Sima Feizi	03/16/2020 15:28	Julia Storbeck	2163866
EPA 353.2 Rev. 2.0	03/11/2020			03/20/2020 10:35	Beverly Y. Sanders	2163861
	03/11/2020			03/20/2020 10:36	Beverly Y. Sanders	2163862
	03/11/2020			03/20/2020 10:37	Beverly Y. Sanders	2163863
	03/11/2020			03/20/2020 10:47	Beverly Y. Sanders	2163866
	03/11/2020			03/20/2020 12:15	Beverly Y. Sanders	2163864
	03/11/2020			03/20/2020 12:16	Beverly Y. Sanders	2163865
EPA 365.1 Rev. 2.0	03/11/2020	03/17/2020 13:34	Yen Ta	03/18/2020 11:18	Benjamin T. Nordmann	2163862
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 16:21	Benjamin T. Nordmann	2163861
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 16:22	Benjamin T. Nordmann	2163863
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 16:23	Benjamin T. Nordmann	2163864
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 16:24	Benjamin T. Nordmann	2163865
	03/11/2020	03/17/2020 13:34	Yen Ta	03/19/2020 16:55	Benjamin T. Nordmann	2163866
EPA 365.1 Rev. 2.0 dissolved	03/11/2020			03/11/2020 14:14	Carlos Miranda	2163867
	03/11/2020			03/11/2020 14:15	Carlos Miranda	2163868
	03/11/2020			03/11/2020 14:16	Carlos Miranda	2163869
	03/11/2020			03/11/2020 14:22	Carlos Miranda	2163870, 2163871
	03/11/2020			03/11/2020 15:42	Carlos Miranda	2163872
SM 2120 B-2011	03/11/2020			03/11/2020 18:15	Madeline Gruver	2163855
	03/11/2020			03/11/2020 18:17	Madeline Gruver	2163857
	03/11/2020			03/11/2020 18:18	Madeline Gruver	2163858

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B-2011	03/11/2020			03/11/2020 18:19	Madeline Gruver	2163859
	03/11/2020			03/11/2020 18:23	Madeline Gruver	2163860
	03/11/2020			03/11/2020 18:56	Madeline Gruver	2163856
SM 2320 B-2011	03/11/2020			03/19/2020 02:24	Dale L. Simmons	2163858
	03/11/2020			03/19/2020 02:44	Dale L. Simmons	2163855
	03/11/2020			03/19/2020 02:55	Dale L. Simmons	2163856
	03/11/2020			03/19/2020 03:06	Dale L. Simmons	2163857
	03/11/2020			03/19/2020 03:17	Dale L. Simmons	2163859
	03/11/2020			03/19/2020 03:28	Dale L. Simmons	2163860
SM 2540 C-2011	03/11/2020			03/13/2020 15:32	Yijie Li	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
SM 2540 D-2011	03/11/2020			03/13/2020 15:32	Yijie Li	2163855, 2163856, 2163857, 2163858, 2163859, 2163860
SM 4500 F-C-2011	03/11/2020			03/24/2020 13:37	Dale L. Simmons	2163858
	03/11/2020			03/24/2020 14:41	Dale L. Simmons	2163855
	03/11/2020			03/24/2020 14:56	Dale L. Simmons	2163856
	03/11/2020			03/24/2020 15:01	Dale L. Simmons	2163857
	03/11/2020			03/24/2020 15:06	Dale L. Simmons	2163859
	03/11/2020			03/24/2020 15:11	Dale L. Simmons	2163860
SM 5310 B-2011	03/11/2020			03/12/2020 10:40	Lauren Lees	2163862
	03/11/2020			03/13/2020 02:52	Lauren Lees	2163861
	03/11/2020			03/13/2020 03:05	Lauren Lees	2163863
	03/11/2020			03/13/2020 03:18	Lauren Lees	2163864
	03/11/2020			03/13/2020 03:31	Lauren Lees	2163865
	03/11/2020			03/13/2020 03:44	Lauren Lees	2163866