

Chemical Analysis Report

NW-DIST-2021-04-30-01

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

Event Description: **Perdido Bayou Run**
Request ID: **RQ-2021-04-26-22**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 21-MAY-2021 13:15

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical 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: Bayou Grande Near Navy Point Boat Ramp

Collection Date/Time: 04/29/2021 10:05

Field ID: G4NW0501

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244317	EPA 180.1 Rev. 2.0	Turbidity	2.4	A	NTU	P397498	
	SM 2320 B-2011	Total Alkalinity	47		mg CaCO3/L	P398016	
	SM 2540 D-2011	TSS	4	I	mg/L	P397795	
	SM 4500 F-C-2011	Fluoride	0.36		mg F/L	P397642	
2244324	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P397509	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P397761	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397554	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P397969	
	SM 5310 B-2011	Organic Carbon	5.9		mg C/L	P397751	
2244331	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397485	

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: Bayou Grande

Collection Date/Time: 04/29/2021 10:25

Field ID: G4NW0500

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244318	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P397498	
	SM 2320 B-2011	Total Alkalinity	48		mg CaCO3/L	P398017	
	SM 2540 D-2011	TSS	3	U	mg/L	P397795	
	SM 4500 F-C-2011	Fluoride	0.39		mg F/L	P397642	
2244325	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P397509	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P397761	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397554	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P397969	
	SM 5310 B-2011	Organic Carbon	5.4		mg C/L	P397751	
2244332	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397485	

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: Weekly Bayou Creek @ County Rd. 293

Collection Date/Time: 04/29/2021 12:25

Field ID: G5NW0163

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244319	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P397498	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P398017	
	SM 2540 D-2011	TSS	4	I	mg/L	P397795	
	SM 4500 F-C-2011	Fluoride	0.36		mg F/L	P397642	
2244326	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P397509	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P397761	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.040		mg N/L	P397554	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P397969	
	SM 5310 B-2011	Organic Carbon	7.8		mg C/L	P397751	
2244333	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397485	

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: Bayou Garcon

Collection Date/Time: 04/29/2021 13:20

Field ID: G5NW0152

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244320	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P397498	
	SM 2320 B-2011	Total Alkalinity	47		mg CaCO3/L	P398017	
	SM 2540 D-2011	TSS	4	IA	mg/L	P397795	
	SM 4500 F-C-2011	Fluoride	0.44		mg F/L	P397642	
2244327	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P397509	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P397853	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P397554	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P397969	
	SM 5310 B-2011	Organic Carbon	6.9		mg C/L	P397751	
2244334	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397485	

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: Bayou Grande at CR-297

Collection Date/Time: 04/29/2021 11:05

Field ID: G4NW0521

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244321	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P397498	
	SM 2320 B-2011	Total Alkalinity	7.2		mg CaCO3/L	P398017	
	SM 2540 D-2011	TSS	3	IA	mg/L	P397794	
	SM 4500 F-C-2011	Fluoride	0.050	I	mg F/L	P397639	
2244328	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P398153	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P397851	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.061		mg N/L	P397655	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P398072	
	SM 5310 B-2011	Organic Carbon	9.2		mg C/L	P397881	
2244335	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397487	

Ref. Method and Comment:

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: Weekly Bayou Middle Portion

Collection Date/Time: 04/29/2021 13:50

Field ID: G5NW0157

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244322	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P397498	
	SM 2320 B-2011	Total Alkalinity	39		mg CaCO3/L	P398017	
	SM 2540 D-2011	TSS	3	U	mg/L	P397795	
	SM 4500 F-C-2011	Fluoride	0.37		mg F/L	P397642	
2244329	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P397989	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P397853	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P397554	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P397969	
	SM 5310 B-2011	Organic Carbon	6.7		mg C/L	P397751	
2244336	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397485	

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: Bridge Creek Near Bridge Creek Landing

Collection Date/Time: 04/29/2021 14:50

Field ID: G5NW0153

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244323	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P397498	
	SM 2320 B-2011	Total Alkalinity	14		mg CaCO3/L	P398017	
	SM 2540 D-2011	TSS	3	I	mg/L	P397794	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P397639	
2244330	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P397509	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P397853	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.091		mg N/L	P397554	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P397969	
	SM 5310 B-2011	Organic Carbon	9.7		mg C/L	P397881	
2244337	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397485	

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: FB

Collection Date/Time: 04/29/2021 12:30

Field ID: FB_04292021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2244338	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P397498	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P398017	
	SM 2540 D-2011	TSS	2	U	mg/L	P397794	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P397577	
2244339	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P398153	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P397851	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P397655	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P397970	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P397881	
2244340	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P397487	

Ref. Method and Comment:

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: P397498

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397509

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397989

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P398153

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397761

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397851

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397853

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397554

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397655

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397969

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397970

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398072

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397485

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397487

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

Reference Method: SM 2320 B-2011
Batch ID: P398016

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

Reference Method: SM 2320 B-2011
Batch ID: P398017

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

Reference Method: SM 2540 D-2011
Batch ID: P397794

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P397795

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P397577

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P397639

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P397642

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P397751

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

Reference Method: SM 5310 B-2011
Batch ID: P397881

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397509

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: P397989

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P398153

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397761

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397851

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397853

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397554

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397655

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397969

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397970

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398072

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397485

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397487

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.6		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P398016

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P398017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P397577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P397639

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.8		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P397642

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	90 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P397751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P397881

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397509

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244325	Ammonia-N	97.2	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397989

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2243405	Ammonia-N	107	108	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P398153

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244415	Ammonia-N	95.4	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244236	Kjeldahl Nitrogen	97.3	97.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244327	Kjeldahl Nitrogen	105	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244324	NO2NO3-N	93.8	95.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244095	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244237	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P397970

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244415	Total-P	105	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244328	Total-P	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244331	O-Phosphate-P	93.4	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P397487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244335	O-Phosphate-P	92.4	94.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P397577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244187	Fluoride	102	103	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P397639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244453	Fluoride	97.5	98.0	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P397642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244317	Fluoride	97.1	97.1	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P397751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244325	Organic Carbon	95.9	97.2	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P397881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2244011	Organic Carbon	100	104	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P397498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244317	Turbidity	3.33	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397509

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244325	Ammonia-N	2.64	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P397989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2243405	Ammonia-N	0.782	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P398153

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244415	Ammonia-N	0.915	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244236	Kjeldahl Nitrogen	0.505	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244179	Kjeldahl Nitrogen	4.49	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P397853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244327	Kjeldahl Nitrogen	5.45	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P397554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244324	NO2NO3-N	1.59	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P397655

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244095	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P397969

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244237	Total-P	0.189	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P397970

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244415	Total-P	0.897	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P398072

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244328	Total-P	1.04	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P397485

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244331	O-Phosphate-P	2.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P397487

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244335	O-Phosphate-P	2.25	Spike	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P398016

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244187	Total Alkalinity	1.31	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011

Batch ID: P398017

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244453	Total Alkalinity	1.41	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
 Batch ID: P397577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244187	Fluoride	0.929	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
 Batch ID: P397639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244453	Fluoride	0.474	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
 Batch ID: P397642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244317	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
 Batch ID: P397751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244325	Organic Carbon	1.18	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
 Batch ID: P397881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2244011	Organic Carbon	2.93	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: A105108

Included Lab Sample IDs: 2244331, 2244332, 2244333, 2244334, 2244335, 2244336, 2244337, 2244340

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	102	102	P/P	90 - 110
O-Phosphate-P	102	101	P/P	90 - 110
O-Phosphate-P	99.3	103	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A105114

Included Lab Sample IDs: 2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323, 2244338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	99.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105117

Included Lab Sample IDs: 2244324, 2244325, 2244326, 2244327, 2244330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.3	97.5	P/P	90 - 110
Ammonia-N	97.9	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105132

Included Lab Sample IDs: 2244324, 2244325, 2244326, 2244327, 2244329, 2244330

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

Reference Method: SM 4500 F-C-2011

Run ID: A105140

Included Lab Sample IDs: 2244338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A105174

Included Lab Sample IDs: 2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	100	P/P	90 - 110
Fluoride	99.1	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105180

Included Lab Sample IDs: 2244328, 2244339

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A105220

Included Lab Sample IDs: 2244324, 2244325, 2244326, 2244327, 2244329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	98.4	P/P	90 - 110
Organic Carbon	98.4	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105257

Included Lab Sample IDs: 2244324, 2244325, 2244326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A105278

Included Lab Sample IDs: 2244328, 2244330, 2244339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.4	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105301

Included Lab Sample IDs: 2244328, 2244339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105338

Included Lab Sample IDs: 2244327, 2244329, 2244330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.1	97.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105340

Included Lab Sample IDs: 2244329

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

Reference Method: SM 2320 B-2011

Run ID: A105344

Included Lab Sample IDs: 2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323, 2244338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	97.8	P/P	90 - 110
Total Alkalinity	97.8	99.8	P/P	90 - 110
Total Alkalinity	99.8	97.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105367

Included Lab Sample IDs: 2244324, 2244325, 2244326, 2244327, 2244329, 2244330, 2244339

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105403

Included Lab Sample IDs: 2244328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105414

Included Lab Sample IDs: 2244328, 2244339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	97.8	P/P	90 - 110
Ammonia-N	98.8	98.3	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				3.33	
EPA 350.1 Rev. 2.0	Ammonia-N	102	97.2	99.8		2.64
	Ammonia-N	99.4	107	108		0.782
	Ammonia-N	98.0	95.4	96.4		0.915
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.1	97.3	97.9		0.505
	Kjeldahl Nitrogen	100				4.49
	Kjeldahl Nitrogen	103	105	98.2		5.45
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.0	93.8	95.3		1.59
	NO ₂ NO ₃ -N	100	100	100		0.0
EPA 365.1 Rev. 2.0	Total-P	107	104	104		0.189
	Total-P	105	105	106		0.897
	Total-P	106	104	103		1.04
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0	93.4	95.7		2.43
	O-Phosphate-P	97.6	92.4	94.5		2.25
SM 2320 B-2011	Total Alkalinity	98.4			1.31	
	Total Alkalinity	100			1.41	
SM 4500 F-C-2011	Fluoride	98.7	102	103		0.929
	Fluoride	96.8	97.5	98.0		0.474
	Fluoride	97.7	97.1	97.1		0.0
SM 5310 B-2011	Organic Carbon	95.8	95.9	97.2		1.18
	Organic Carbon	97.2	100	104		2.93

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323, 2244338
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2244324, 2244325, 2244326, 2244327, 2244328, 2244329, 2244330, 2244339
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2244324, 2244325, 2244326, 2244327, 2244328, 2244329, 2244330, 2244339
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2244324, 2244325, 2244326, 2244327, 2244328, 2244329, 2244330, 2244339
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2244324, 2244325, 2244326, 2244327, 2244328, 2244329, 2244330, 2244339
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2244331, 2244332, 2244333, 2244334, 2244335, 2244336, 2244337, 2244340
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323, 2244338
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323, 2244338
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323, 2244338
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2244324, 2244325, 2244326, 2244327, 2244328, 2244329, 2244330, 2244339

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	04/30/2021			04/30/2021 16:21	Sarah A Nixon	2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323, 2244338
EPA 350.1 Rev. 2.0	04/30/2021			05/01/2021 10:30	Ping Hua	2244325
	04/30/2021			05/01/2021 10:40	Ping Hua	2244326
	04/30/2021			05/01/2021 10:42	Ping Hua	2244327
	04/30/2021			05/01/2021 10:44	Ping Hua	2244330
	04/30/2021			05/01/2021 13:31	Ping Hua	2244324
	04/30/2021			05/11/2021 13:22	Ping Hua	2244329
	04/30/2021			05/13/2021 13:30	Ping Hua	2244328
	04/30/2021			05/13/2021 14:38	Ping Hua	2244339
EPA 351.2 Rev. 2.0	04/30/2021	05/06/2021 13:48	Benjamin T. Nordmann	05/07/2021 13:54	Virginia P. Brown	2244324
	04/30/2021	05/06/2021 13:48	Benjamin T. Nordmann	05/07/2021 13:56	Virginia P. Brown	2244325
	04/30/2021	05/06/2021 13:48	Benjamin T. Nordmann	05/07/2021 13:57	Virginia P. Brown	2244326
	04/30/2021	05/07/2021 18:29	Benjamin T. Nordmann	05/10/2021 13:37	Virginia P. Brown	2244328
	04/30/2021	05/07/2021 18:29	Benjamin T. Nordmann	05/10/2021 13:39	Virginia P. Brown	2244339
	04/30/2021	05/07/2021 18:29	Benjamin T. Nordmann	05/11/2021 13:35	Virginia P. Brown	2244327
	04/30/2021	05/07/2021 18:29	Benjamin T. Nordmann	05/11/2021 13:39	Virginia P. Brown	2244329
	04/30/2021	05/07/2021 18:29	Benjamin T. Nordmann	05/11/2021 13:41	Virginia P. Brown	2244330
EPA 353.2 Rev. 2.0	04/30/2021			05/03/2021 14:03	Touraj Touran	2244324
	04/30/2021			05/03/2021 14:08	Touraj Touran	2244325
	04/30/2021			05/03/2021 14:10	Touraj Touran	2244326
	04/30/2021			05/03/2021 14:11	Touraj Touran	2244327
	04/30/2021			05/03/2021 14:12	Touraj Touran	2244329
	04/30/2021			05/03/2021 14:13	Touraj Touran	2244330
	04/30/2021			05/05/2021 10:09	Beverly Y. Sanders	2244328
	04/30/2021			05/05/2021 10:11	Beverly Y. Sanders	2244339
EPA 365.1 Rev. 2.0	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 12:16	Shengyu Ding	2244324
	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 12:23	Shengyu Ding	2244325
	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 12:24	Shengyu Ding	2244326
	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 12:25	Shengyu Ding	2244327
	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 12:26	Shengyu Ding	2244329
	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 12:27	Shengyu Ding	2244330
	04/30/2021	05/11/2021 14:29	Yen Ta	05/12/2021 12:29	Shengyu Ding	2244339
	04/30/2021	05/12/2021 13:55	Yen Ta	05/13/2021 12:45	Shengyu Ding	2244328
EPA 365.1 Rev. 2.0 dissolved	04/30/2021			04/30/2021 14:07	Lipi Saha	2244331
	04/30/2021			04/30/2021 14:10	Lipi Saha	2244332
	04/30/2021			04/30/2021 14:15	Lipi Saha	2244333
	04/30/2021			04/30/2021 14:16	Lipi Saha	2244334
	04/30/2021			04/30/2021 14:17	Lipi Saha	2244336
	04/30/2021			04/30/2021 14:18	Lipi Saha	2244337

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	04/30/2021			04/30/2021 14:41	Lipi Saha	2244335
	04/30/2021			04/30/2021 14:43	Lipi Saha	2244340
SM 2320 B-2011	04/30/2021			05/11/2021 23:42	Dale L. Simmons	2244317
	04/30/2021			05/12/2021 00:51	Dale L. Simmons	2244338
	04/30/2021			05/12/2021 00:59	Dale L. Simmons	2244321
	04/30/2021			05/12/2021 01:08	Dale L. Simmons	2244323
	04/30/2021			05/12/2021 02:15	Dale L. Simmons	2244318
	04/30/2021			05/12/2021 02:54	Dale L. Simmons	2244319
	04/30/2021			05/12/2021 03:04	Dale L. Simmons	2244320
	04/30/2021			05/12/2021 03:15	Dale L. Simmons	2244322
SM 2540 D-2011	04/30/2021			05/04/2021 15:06	Yijie Li	2244317, 2244318, 2244319, 2244320, 2244321, 2244322, 2244323, 2244338
SM 4500 F-C-2011	04/30/2021			05/04/2021 01:30	Dale L. Simmons	2244338
	04/30/2021			05/04/2021 18:55	Dale L. Simmons	2244321
	04/30/2021			05/04/2021 19:07	Dale L. Simmons	2244323
	04/30/2021			05/04/2021 20:21	Dale L. Simmons	2244317
	04/30/2021			05/04/2021 20:40	Dale L. Simmons	2244318
	04/30/2021			05/04/2021 20:45	Dale L. Simmons	2244319
	04/30/2021			05/04/2021 20:50	Dale L. Simmons	2244320
	04/30/2021			05/04/2021 20:55	Dale L. Simmons	2244322
SM 5310 B-2011	04/30/2021			05/06/2021 06:37	Madeline Gruver	2244325
	04/30/2021			05/06/2021 07:59	Madeline Gruver	2244324
	04/30/2021			05/06/2021 08:24	Madeline Gruver	2244326
	04/30/2021			05/06/2021 08:37	Madeline Gruver	2244327
	04/30/2021			05/06/2021 08:50	Madeline Gruver	2244329
	04/30/2021			05/08/2021 00:25	Madeline Gruver	2244328
	04/30/2021			05/08/2021 00:38	Madeline Gruver	2244330
	04/30/2021			05/08/2021 00:51	Madeline Gruver	2244339