

Chemical Analysis Report

SW-DIST-2022-05-10-01

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

Event Description: **SMP: Run 19 Nutrients**
Request ID: **RQ-2022-05-02-69**
Customer: **SW-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 07-JUN-2022 08:39



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: Clark Lake @ NW end of Southern Quarter

Collection Date/Time: 05/09/2022 13:15

Field ID: G3SW0105

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2325895	DEP SOP: NU-094-1	Color (true)**	22		PCU	P413649	
	EPA 180.1 Rev. 2.0	Turbidity	85		NTU	P413652	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P413939	
		Sulfate	130		mg SO4/L	P413943	
	SM 2320 B-2011	Total Alkalinity	90		mg CaCO3/L	P413916	
	SM 2540 C-2011	TDS	552		mg/L	P414018	
	SM 2540 D-2011	TSS	152		mg/L	P413890	
	SM 4500-F- C-2011	Fluoride	0.85		mg F/L	P413918	
2325896	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P414032	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	10		mg N/L	P414240	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P414125	
	EPA 365.1 Rev. 2.0	Total-P	0.68		mg P/L	P414230	
	SM 5310 B-2011	Organic Carbon	31		mg C/L	P413969	

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: Island Park Boat Basin off Dock

Collection Date/Time: 05/09/2022 11:50

Field ID: G3SW0061

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2325899	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P413652	
	SM 2320 B-2011	Total Alkalinity	121		mg CaCO3/L	P413854	
	SM 2540 D-2011	TSS	7	I	mg/L	P414174	
	SM 4500-F- C-2011	Fluoride	1.2		mg F/L	P413859	
2325900	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P414095	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33	I	mg N/L	P414368	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P413742	
	EPA 365.1 Rev. 2.0	Total-P	0.062		mg P/L	P413989	
	SM 5310 B-2011	Organic Carbon	4.1		mg C/L	P413970	
2325906	EPA 200.7 Rev. 4.4	Calcium	374		mg/L	P413782	
		Iron	120	U	ug/L	P413782	
		Magnesium	1.28E+03		mg/L	P413782	
		Strontium	7.19E+03		ug/L	P413782	
		Tin	150	U	ug/L	P413782	
		Titanium	5.0	I	ug/L	P413782	
		Vanadium	8.0	U	ug/L	P413782	
		Zinc	20	U	ug/L	P413782	
	EPA 200.8 Rev. 5.4	Aluminum	69	I	ug/L	P413782	
		Antimony	0.23	I	ug/L	P413782	
		Arsenic	2.47		ug/L	P413782	
		Beryllium	0.055	I	ug/L	P413782	
		Cadmium	0.080	U	ug/L	P413782	
		Chromium	1.6	U	ug/L	P413782	
		Cobalt	0.080	U	ug/L	P413782	
		Copper	4.2		ug/L	P414131	
		Lead	2.0	U	ug/L	P413782	
		Manganese	4.3		ug/L	P413782	
		Molybdenum	13.0		ug/L	P413782	
		Nickel	2.0	U	ug/L	P413782	
		Selenium	0.80	U	ug/L	P413782	
		Silver	0.040	U	ug/L	P413782	
		Thallium	1.0	U	ug/L	P413782	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample. Precision data and spike recoveries for tin are unavailable because sample matrix interference necessitated a high dilution.

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 05/23/2022.

Sample Location: Hudson Bayou Tidal by Marie Selby Botanical Gardens **Collection Date/Time: 05/09/2022 11:20**

Field ID: G3SW0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2325897	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P413652	
	SM 2320 B-2011	Total Alkalinity	123		mg CaCO3/L	P413854	
	SM 2540 D-2011	TSS	7	I	mg/L	P414174	
	SM 4500-F- C-2011	Fluoride	1.2		mg F/L	P413859	
2325898	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P414095	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39	I	mg N/L	P413925	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P413742	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P414056	
	SM 5310 B-2011	Organic Carbon	5.5		mg C/L	P413970	

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: DEP SOP: NU-094-1
Batch ID: P413649

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413652

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P413782

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P413782

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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 200.8 Rev. 5.4
Batch ID: P414131

Component	Result	Code	Units
Copper	0.40	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413939

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413943

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414032

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414095

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413925

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414240

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414368

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413742

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414125

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413989

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414056

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414230

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

Reference Method: SM 2320 B-2011
Batch ID: P413854

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

Reference Method: SM 2320 B-2011
Batch ID: P413916

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

Reference Method: SM 2540 C-2011
Batch ID: P414018

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P413890

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P414174

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P413859

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P413918

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P413969

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

Reference Method: SM 5310 B-2011
Batch ID: P413970

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P413649

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	97.2		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P413782

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	98.0		P	85 - 115
Iron	100		P	85 - 115
Magnesium	97.3		P	85 - 115
Strontium	99.6		P	85 - 115
Tin	97.6		P	85 - 115
Titanium	99.8		P	85 - 115
Vanadium	93.4		P	85 - 115
Zinc	96.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P413782

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.4		P	85 - 115
Antimony	99.9		P	85 - 115
Arsenic	98.5		P	85 - 115
Beryllium	88.4		P	85 - 115
Cadmium	98.3		P	85 - 115
Chromium	95.7		P	85 - 115
Cobalt	97.4		P	85 - 115
Lead	101		P	85 - 115
Manganese	97.0		P	85 - 115
Molybdenum	99.5		P	85 - 115
Nickel	97.4		P	85 - 115
Selenium	96.5		P	85 - 115
Silver	98.2		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414131

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	94.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413939

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413943

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414032

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414095

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413925

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414240

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414368

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413742

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: P414125

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413989

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414056

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414230

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

Reference Method: SM 2320 B-2011
Batch ID: P413854

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.0		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P413916

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.2		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P413859

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	96 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P413918

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P413969

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.6		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P413970

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P413782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325226	Iron	100	98.5	P/P	70 - 130
2325226	Titanium	99.1	99.3	P/P	70 - 130
2325226	Vanadium	95.9	96.1	P/P	70 - 130
2325226	Zinc	90.9	90.6	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P413782

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325226	Aluminum	110	111	P/P	70 - 130
2325226	Antimony	99.0	100	P/P	70 - 130
2325226	Arsenic	108	109	P/P	70 - 130
2325226	Beryllium	102	106	P/P	70 - 130
2325226	Cadmium	90.2	88.4	P/P	70 - 130
2325226	Chromium	96.6	96.0	P/P	70 - 130
2325226	Cobalt	113	112	P/P	70 - 130
2325226	Lead	111	123	P/P	70 - 130
2325226	Manganese	96.8	96.6	P/P	70 - 130
2325226	Molybdenum	103	104	P/P	70 - 130
2325226	Nickel	114	115	P/P	70 - 130
2325226	Selenium	95.4	95.2	P/P	70 - 130
2325226	Silver	85.0	85.2	P/P	70 - 130
2325226	Thallium	114	126	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414131

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2327216	Copper	121	120	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413939

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325467	Chloride	100		P	90 - 110
2325714	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325467	Sulfate	95.6		P	90 - 110
2325714	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325442	Ammonia-N	95.8	97.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414095

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2326147	Ammonia-N	95.6	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413925

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325692	Kjeldahl Nitrogen	98.2	93.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2327117	Kjeldahl Nitrogen	98.6	93.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2326863	Kjeldahl Nitrogen	103	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325847	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325442	NO2NO3-N	94.9	94.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413989

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325859	Total-P	96.0	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2327170	Total-P	97.6	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414230

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2326841	Total-P	104	105	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P413859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323905	Fluoride	98.4	98.4	P/P	94 - 104

Reference Method: SM 4500-F- C-2011
Batch ID: P413918

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2326041	Fluoride	96.8	96.0	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P413969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2326583	Organic Carbon	97.5	98.2	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P413970

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2325861	Organic Carbon	96.4	93.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P413649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325605	Color (true)	8.57	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2326039	Turbidity	6.51	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P413782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325226	Calcium	0.399	Spike	P	0 - 20
2325226	Iron	1.61	Spike	P	0 - 20
2325226	Magnesium	1.04	Spike	P	0 - 20
2325226	Strontium	0.375	Spike	P	0 - 20
2325226	Titanium	0.197	Spike	P	0 - 20
2325226	Vanadium	0.231	Spike	P	0 - 20
2325226	Zinc	0.279	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P413782

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325226	Aluminum	0.199	Spike	P	0 - 20
2325226	Antimony	1.14	Spike	P	0 - 20
2325226	Arsenic	1.07	Spike	P	0 - 20
2325226	Beryllium	3.88	Spike	P	0 - 20
2325226	Cadmium	2.01	Spike	P	0 - 20
2325226	Chromium	0.614	Spike	P	0 - 20
2325226	Cobalt	1.26	Spike	P	0 - 20
2325226	Lead	10.0	Spike	P	0 - 20
2325226	Manganese	0.209	Spike	P	0 - 20
2325226	Molybdenum	0.503	Spike	P	0 - 20
2325226	Nickel	0.843	Spike	P	0 - 20
2325226	Selenium	0.260	Spike	P	0 - 20
2325226	Silver	0.200	Spike	P	0 - 20
2325226	Thallium	10.1	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414131

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2327216	Copper	0.681	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325467	Chloride	0.233	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325467	Sulfate	0.0521	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325442	Ammonia-N	1.32	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2326147	Ammonia-N	1.72	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325692	Kjeldahl Nitrogen	4.72	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2327117	Kjeldahl Nitrogen	4.20	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2326863	Kjeldahl Nitrogen	4.03	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325847	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P414125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325442	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325859	Total-P	3.49	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2327170	Total-P	0.823	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414230

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2326841	Total-P	0.870	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P413854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323905	Total Alkalinity	2.60	Sample	P	0 - 3.8

Reference Method: SM 2320 B-2011
Batch ID: P413916

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2326041	Total Alkalinity	0.113	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P414018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325521	TDS	0.0	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P413859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323905	Fluoride	0.0	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P413918

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2326041	Fluoride	0.480	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P413969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2326583	Organic Carbon	0.507	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P413970

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2325861	Organic Carbon	2.06	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A112036

Included Lab Sample IDs: 2325895

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	105	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A112037

Included Lab Sample IDs: 2325895, 2325897, 2325899

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A112081

Included Lab Sample IDs: 2325898, 2325900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	98.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A112151

Included Lab Sample IDs: 2325906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	96.0	95.2	P/P	90 - 110
Iron	97.7	97.1	P/P	90 - 110
Magnesium	96.6	95.9	P/P	90 - 110
Strontium	102	101	P/P	90 - 110
Tin	97.5	95.8	P/P	90 - 110
Titanium	99.7	96.9	P/P	90 - 110
Vanadium	99.0	97.1	P/P	90 - 110
Zinc	97.8	95.6	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A112155

Included Lab Sample IDs: 2325897, 2325899

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.5	98.8	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A112155

Included Lab Sample IDs: 2325897, 2325899

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A112184

Included Lab Sample IDs: 2325906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	100	P/P	90 - 110
Antimony	97.5	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A112184

Included Lab Sample IDs: 2325906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	101	P/P	90 - 110
Beryllium	98.9	102	P/P	90 - 110
Cadmium	96.4	98.0	P/P	90 - 110
Chromium	95.8	97.0	P/P	90 - 110
Cobalt	102	99.7	P/P	90 - 110
Lead	99.9	99.0	P/P	90 - 110
Manganese	97.2	98.9	P/P	90 - 110
Molybdenum	98.8	98.7	P/P	90 - 110
Nickel	103	101	P/P	90 - 110
Selenium	98.1	100	P/P	90 - 110
Silver	98.0	98.4	P/P	90 - 110
Thallium	98.7	98.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A112189

Included Lab Sample IDs: 2325895

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.1	97.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A112189

Included Lab Sample IDs: 2325895

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A112198

Included Lab Sample IDs: 2325895

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	103	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A112207

Included Lab Sample IDs: 2325896, 2325898, 2325900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	93.9	P/P	90 - 110
Organic Carbon	97.6	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112227

Included Lab Sample IDs: 2325896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	99.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112261

Included Lab Sample IDs: 2325898, 2325900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.5	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A112270

Included Lab Sample IDs: 2325896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.0	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112297

Included Lab Sample IDs: 2325900

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A112347

Included Lab Sample IDs: 2325906

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	97.2	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112349

Included Lab Sample IDs: 2325898

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.4	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112364

Included Lab Sample IDs: 2325898

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112401

Included Lab Sample IDs: 2325896

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112447

Included Lab Sample IDs: 2325896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.2	94.0	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112589

Included Lab Sample IDs: 2325900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.5	95.0	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		LCS	Precision SMP	MS
DEP SOP: NU-094-1	Color (true)	101				8.57	
EPA 180.1 Rev. 2.0	Turbidity	97.2				6.51	
EPA 200.7 Rev. 4.4	Calcium	98.0					0.399
	Iron	100	100	98.5			1.61
	Magnesium	97.3					1.04
	Strontium	99.6					0.375
	Tin	97.6					
	Titanium	99.8	99.1	99.3			0.197
	Vanadium	93.4	95.9	96.1			0.231
	Zinc	96.7	90.9	90.6			0.279
EPA 200.8 Rev. 5.4	Aluminum	98.4	110	111			0.199
	Antimony	99.9	99.0	100			1.14
	Arsenic	98.5	108	109			1.07
	Beryllium	88.4	102	106			3.88
	Cadmium	98.3	90.2	88.4			2.01
	Chromium	95.7	96.6	96.0			0.614
	Cobalt	97.4	113	112			1.26
	Copper	94.0	121	120			0.681
	Lead	101	111	123			10.0
	Manganese	97.0	96.8	96.6			0.209
	Molybdenum	99.5	103	104			0.503
	Nickel	97.4	114	115			0.843
	Selenium	96.5	95.4	95.2			0.260
	Silver	98.2	85.0	85.2			0.200
	Thallium	102	114	126			10.1
EPA 300.0 Rev. 2.1	Chloride	103	100	101		0.233	
	Sulfate	102	95.6	98.9		0.0521	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	95.8	97.4			1.32
	Ammonia-N	98.8	95.6	97.4			1.72
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	98.2	93.1			4.72
	Kjeldahl Nitrogen	96.9	98.6	93.0			4.20
	Kjeldahl Nitrogen	102	103	97.8			4.03
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	101	101			0.0
	NO2NO3-N	96.5	94.9	94.9			0.0
EPA 365.1 Rev. 2.0	Total-P	103	96.0	99.6			3.49
	Total-P	104	97.6	96.8			0.823
	Total-P	101	104	105			0.870
SM 2320 B-2011	Total Alkalinity	98.0				2.60	
	Total Alkalinity	98.2				0.113	
SM 2540 C-2011	TDS					0.0	
SM 4500-F- C-2011	Fluoride	99.3	98.4	98.4			0.0
	Fluoride	97.5	96.8	96.0			0.480
SM 5310 B-2011	Organic Carbon	99.6	97.5	98.2			0.507
	Organic Carbon	99.1	96.4	93.6			2.06

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2325895
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2325895, 2325897, 2325899
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2325906

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2325906
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2325895
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2325895
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2325896, 2325898, 2325900
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2325896, 2325898, 2325900
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2325896, 2325898, 2325900
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2325896, 2325898, 2325900
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2325895, 2325897, 2325899
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2325895
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2325895, 2325897, 2325899
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2325895, 2325897, 2325899
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2325896, 2325898, 2325900

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	05/10/2022			05/10/2022 16:45	Samantha L Bates	2325895
EPA 180.1 Rev. 2.0	05/10/2022			05/10/2022 15:23	Khloe J Berg	2325897
	05/10/2022			05/10/2022 15:25	Khloe J Berg	2325899
	05/10/2022			05/10/2022 15:31	Khloe J Berg	2325895
EPA 200.7 Rev. 4.4	05/10/2022	05/13/2022 09:55	Megan Whitefoot	05/13/2022 23:44	McKinley C Carter	2325906
	05/10/2022	05/13/2022 09:55	Megan Whitefoot	05/13/2022 23:52	McKinley C Carter	2325906
EPA 200.8 Rev. 5.4	05/10/2022	05/13/2022 09:55	Megan Whitefoot	05/16/2022 18:59	Alexander Thompson	2325906
	05/10/2022	05/13/2022 09:55	Megan Whitefoot	05/16/2022 20:35	Alexander Thompson	2325906
	05/10/2022	05/20/2022 09:30	Megan Whitefoot	05/23/2022 18:51	Alexander Thompson	2325906
EPA 300.0 Rev. 2.1	05/10/2022			05/17/2022 11:54	Anna M. Plaviak	2325895
EPA 350.1 Rev. 2.0	05/10/2022			05/18/2022 13:24	Ping Hua	2325896
	05/10/2022			05/19/2022 11:29	Ping Hua	2325898
	05/10/2022			05/19/2022 11:30	Ping Hua	2325900
EPA 351.2 Rev. 2.0	05/10/2022	05/20/2022 08:33	Samantha L Bates	05/23/2022 15:17	Alexandra J Mattheus	2325898
	05/10/2022	05/24/2022 15:13	Samantha L Bates	05/26/2022 15:43	Alexandra J Mattheus	2325896
	05/10/2022	06/02/2022 08:23	Samantha L Bates	06/02/2022 16:38	Alexandra J Mattheus	2325900
EPA 353.2 Rev. 2.0	05/10/2022			05/11/2022 16:49	Nathaniel J Jones	2325898
	05/10/2022			05/11/2022 16:51	Nathaniel J Jones	2325900
	05/10/2022			05/19/2022 16:35	Nathaniel J Jones	2325896
EPA 365.1 Rev. 2.0	05/10/2022	05/18/2022 16:09	Simonne.V. Calhoun	05/20/2022 15:18	James L Waggeberby	2325900
	05/10/2022	05/20/2022 15:00	Simonne.V. Calhoun	05/24/2022 11:40	James L Waggeberby	2325898
	05/10/2022	05/24/2022 03:30	Adam P Silver	05/25/2022 11:10	James L Waggeberby	2325896
SM 2320 B-2011	05/10/2022			05/14/2022 13:53	Dale L. Simmons	2325897
	05/10/2022			05/14/2022 14:06	Dale L. Simmons	2325899
	05/10/2022			05/17/2022 00:17	Dale L. Simmons	2325895
SM 2540 C-2011	05/10/2022			05/13/2022 12:41	Ping Hua	2325895
SM 2540 D-2011	05/10/2022			05/13/2022 12:41	Ping Hua	2325895
	05/10/2022			05/13/2022 15:08	Yijie Li	2325897, 2325899
SM 4500-F- C-2011	05/10/2022			05/14/2022 10:18	Dale L. Simmons	2325897
	05/10/2022			05/14/2022 10:23	Dale L. Simmons	2325899
	05/10/2022			05/17/2022 00:17	Dale L. Simmons	2325895
SM 5310 B-2011	05/10/2022			05/17/2022 01:43	Khloe J Berg	2325896
	05/10/2022			05/17/2022 09:28	Khloe J Berg	2325898
	05/10/2022			05/17/2022 09:43	Khloe J Berg	2325900