

Chemical Analysis Report

TLH-ROC-2019-08-01-01

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

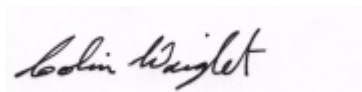
Event Description: **Run 12**
Request ID: **RQ-2019-07-29-18**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 28-AUG-2019 12:33



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: Gully Branch 80m north of Gully Branch Rd

Collection Date/Time: 08/01/2019 11:00

Field ID: G2TLHR0006

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108199	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P368411	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P368587	
		Sulfate	0.20	U	mg SO4/L	P368589	
		Color (true)	420		PCU	P368414	
	SM 2120 B	Total Alkalinity	0.65	U	mg CaCO3/L	P368838	
	SM 2540 C-97	TDS	60		mg/L	P368812	
	SM 2540 D-97	TSS	5	I	mg/L	P368545	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P368841	
2108200	EPA 350.1 Rev. 2.0	Ammonia-N	0.093		mg N/L	P368823	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P368455	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P368387	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P368443	
	SM 5310 B-00	Organic Carbon	41		mg C/L	P368483	
2108201	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P368408	
2108215	EPA 200.7 Rev. 4.4	Barium	8.1		ug/L	P368439	
		Calcium	2.63		mg/L	P368439	
		Iron	1.75E+03		ug/L	P368439	
		Magnesium	0.51		mg/L	P368439	
		Potassium	0.30	U	mg/L	P368439	
		Sodium	3.2		mg/L	P368439	
		Zinc	5.0	U	ug/L	P368439	
	EPA 200.8 Rev. 5.4	Aluminum	762		ug/L	P368439	
		Antimony	0.050	U	ug/L	P368439	
		Arsenic	0.33		ug/L	P368439	
		Boron**	15.7		ug/L	P368439	
		Cadmium	0.023	I	ug/L	P368439	
		Chromium	0.73	I	ug/L	P368439	
		Copper	0.40	U	ug/L	P368439	
		Lead	0.57		ug/L	P368439	
		Nickel	0.55	I	ug/L	P368439	
		Selenium	0.20	U	ug/L	P368439	
		Silver	0.010	U	ug/L	P368439	
		Thallium	0.10	U	ug/L	P368439	

Ref. Method and Comment:

SM 2540 D-97: 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 sodium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable for one of two spiked samples because of high analyte concentration in the QC sample. The lead result was confirmed in the undigested sample on 08/27/2019.

Sample Location: CROOKED RIVER @ POST 46

Collection Date/Time: 08/01/2019 11:40

Field ID: G2TLHR0038

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108202	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P368411	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P368587	
		Sulfate	3.3		mg SO4/L	P368589	
	SM 2120 B	Color (true)	400		PCU	P368414	
	SM 2320 B-97	Total Alkalinity	9.0		mg CaCO3/L	P368838	
	SM 2540 C-97	TDS	125		mg/L	P368812	
	SM 2540 D-97	TSS	2	I	mg/L	P368545	
	SM 4500 F-C-97	Fluoride	0.048	I	mg F/L	P368841	
2108203	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P368823	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P368455	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P368387	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P368443	
	SM 5310 B-00	Organic Carbon	33		mg C/L	P368483	
2108204	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P368408	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Alligator Harbor near clam beds

Collection Date/Time: 08/01/2019 12:55

Field ID: G2TLHR0025

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108205	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P368411	
	EPA 300.0	Bromide	63		mg Br/L	P368847	
	SM 2320 B-97	Total Alkalinity	116		mg CaCO3/L	P368819	
	SM 2540 D-97	TSS	8	I	mg/L	P368548	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P368829	
2108206	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P368809	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P368603	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P368494	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P368506	
	SM 5310 B-00	Organic Carbon	4.2		mg C/L	P368485	
2108207	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P368409	

Ref. Method and Comment:

SM 2540 D-97: 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: P368411

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P368439

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368439

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

Reference Method: EPA 300.0
Batch ID: P368847

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368587

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368589

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368809

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368823

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368455

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368603

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368387

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368494

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368443

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368506

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368408

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368409

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

Reference Method: SM 2120 B
Batch ID: P368414

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P368819

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

Reference Method: SM 2320 B-97
Batch ID: P368838

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

Reference Method: SM 2540 C-97
Batch ID: P368812

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368545

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368548

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P368829

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P368841

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P368483

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

Reference Method: SM 5310 B-00
Batch ID: P368485

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P368439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	104		P	85 - 115
Iron	104		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	108		P	85 - 115
Sodium	104		P	85 - 115
Zinc	99.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	98.7		P	85 - 115
Arsenic	103		P	85 - 115
Boron	104		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	100		P	85 - 115
Copper	99.6		P	85 - 115
Lead	99.2		P	85 - 115
Nickel	101		P	85 - 115
Selenium	101		P	85 - 115
Silver	101		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P368847

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368587

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368589

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368809

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.1		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368823

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368455

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368603

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: P368387

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368494

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368443

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368408

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368409

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P368414

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

Reference Method: SM 2320 B-97
Batch ID: P368819

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

Reference Method: SM 2320 B-97
Batch ID: P368838

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

Reference Method: SM 4500 F-C-97
Batch ID: P368829

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P368841

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P368483

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P368485

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P368439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107205	Barium	98.6	98.4	P/P	80 - 120
2107205	Calcium	97.9		P	80 - 120
2107205	Iron	102	103	P/P	80 - 120
2107205	Magnesium	106	107	P/P	80 - 120
2107205	Potassium	107	108	P/P	80 - 120
2107205	Sodium	100		P	80 - 120
2107205	Zinc	97.2	95.2	P/P	80 - 120
2107878	Barium	94.6		P	80 - 120
2107878	Calcium	102		P	80 - 120
2107878	Iron	98.3		P	80 - 120
2107878	Magnesium	98.3		P	80 - 120
2107878	Potassium	108		P	80 - 120
2107878	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107205	Aluminum	100	101	P/P	80 - 120
2107205	Antimony	100	99.9	P/P	80 - 120
2107205	Arsenic	104	104	P/P	80 - 120
2107205	Boron	107	108	P/P	80 - 120
2107205	Cadmium	102	104	P/P	80 - 120
2107205	Chromium	102	102	P/P	80 - 120
2107205	Copper	99.7	101	P/P	80 - 120
2107205	Lead	101	101	P/P	80 - 120
2107205	Nickel	102	102	P/P	80 - 120
2107205	Selenium	102	101	P/P	80 - 120
2107205	Silver	101	102	P/P	80 - 120
2107205	Thallium	104	105	P/P	80 - 120
2107878	Aluminum	103		P	80 - 120
2107878	Antimony	103		P	80 - 120
2107878	Arsenic	109		P	80 - 120
2107878	Cadmium	102		P	80 - 120
2107878	Chromium	96.3		P	80 - 120
2107878	Copper	99.1		P	80 - 120
2107878	Lead	103		P	80 - 120
2107878	Nickel	100		P	80 - 120
2107878	Selenium	96.7		P	80 - 120
2107878	Silver	98.1		P	80 - 120
2107878	Thallium	105		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P368847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108329	Bromide	96.5		P	90 - 110
2108778	Bromide	97.8	97.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368587

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107914	Chloride	101	102	P/P	90 - 110
2108226	Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107914	Sulfate	105	106	P/P	90 - 110
2108226	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107950	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108233	Ammonia-N	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107935	Kjeldahl Nitrogen	103	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368603

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108081	Kjeldahl Nitrogen	109	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368387

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108200	NO2NO3-N	93.2	91.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108082	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368443

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107936	Total-P	95.2	97.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107988	Total-P	94.4	91.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108311	O-Phosphate-P	95.2	96.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108331	O-Phosphate-P	95.6	96.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P368829

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108971	Fluoride	94.5	97.4	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P368841

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107167	Fluoride	97.5	95.8	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P368483

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108232	Organic Carbon	103	101	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P368485

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108082	Organic Carbon	102	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108225	Turbidity	1.34	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P368439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107205	Barium	0.263	Spike	P	0 - 20
2107205	Calcium	0.232	Spike	P	0 - 20
2107205	Iron	0.778	Spike	P	0 - 20
2107205	Magnesium	0.966	Spike	P	0 - 20
2107205	Potassium	0.805	Spike	P	0 - 20
2107205	Sodium	0.643	Spike	P	0 - 20
2107205	Zinc	2.12	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107205	Aluminum	0.407	Spike	P	0 - 20
2107205	Antimony	0.465	Spike	P	0 - 20
2107205	Arsenic	0.430	Spike	P	0 - 20
2107205	Boron	0.916	Spike	P	0 - 20
2107205	Cadmium	1.30	Spike	P	0 - 20
2107205	Chromium	0.378	Spike	P	0 - 20
2107205	Copper	1.70	Spike	P	0 - 20
2107205	Lead	0.240	Spike	P	0 - 20
2107205	Nickel	0.0740	Spike	P	0 - 20
2107205	Selenium	0.937	Spike	P	0 - 20
2107205	Silver	0.434	Spike	P	0 - 20
2107205	Thallium	0.857	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P368847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108778	Bromide	0.780	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107914	Chloride	0.508	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107914	Sulfate	0.388	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107950	Ammonia-N	0.781	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108233	Ammonia-N	1.38	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107935	Kjeldahl Nitrogen	3.27	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368603

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108081	Kjeldahl Nitrogen	1.76	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108200	NO2NO3-N	1.57	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108082	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107936	Total-P	2.44	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107988	Total-P	2.33	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108311	O-Phosphate-P	0.941	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108331	O-Phosphate-P	0.730	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P368414

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108225	Color (true)	3.06	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P368819

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108971	Total Alkalinity	0.0218	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P368838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107167	Total Alkalinity	0.297	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P368812

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107934	TDS	1.99	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P368829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108971	Fluoride	1.95	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P368841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107167	Fluoride	1.48	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P368483

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108232	Organic Carbon	1.27	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P368485

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108082	Organic Carbon	0.212	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93231

Included Lab Sample IDs: 2108200, 2108203

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93240

Included Lab Sample IDs: 2108201, 2108204, 2108207

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	98.0	P/P	90 - 110
O-Phosphate-P	98.9	98.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93241

Included Lab Sample IDs: 2108199, 2108202, 2108205

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	102	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A93242

Included Lab Sample IDs: 2108199, 2108202

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115

Reference Method: SM 5310 B-00

Run ID: A93280

Included Lab Sample IDs: 2108200, 2108203, 2108206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	104	P/P	90 - 110
Organic Carbon	104	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93284

Included Lab Sample IDs: 2108206

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93319

Included Lab Sample IDs: 2108200, 2108203

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.0	P/P	90 - 110
Total-P	97.5	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93323

Included Lab Sample IDs: 2108206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	97.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93324

Included Lab Sample IDs: 2108199, 2108202

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.7	98.2	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93325

Included Lab Sample IDs: 2108200, 2108203

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	95.2	P/P	90 - 110
Kjeldahl Nitrogen	106	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93346

Included Lab Sample IDs: 2108215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.5	99.5	P/P	90 - 110
Calcium	99.2	99.0	P/P	90 - 110
Iron	99.7	99.3	P/P	90 - 110
Magnesium	98.9	98.2	P/P	90 - 110
Potassium	102	103	P/P	90 - 110
Sodium	106	107	P/P	90 - 110
Zinc	96.0	96.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93371

Included Lab Sample IDs: 2108215

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	104	104	P/P	90 - 110
Antimony	97.2	95.9	P/P	90 - 110
Arsenic	101	99.4	P/P	90 - 110
Boron	108	107	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	98.3	97.4	P/P	90 - 110
Copper	102	100	P/P	90 - 110
Lead	101	103	P/P	90 - 110
Nickel	99.4	99.1	P/P	90 - 110
Selenium	101	100	P/P	90 - 110
Silver	103	104	P/P	90 - 110
Thallium	102	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93393

Included Lab Sample IDs: 2108206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93406

Included Lab Sample IDs: 2108206

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.9	98.1	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93413

Included Lab Sample IDs: 2108205

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	106	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A93413

Included Lab Sample IDs: 2108205

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93414

Included Lab Sample IDs: 2108200, 2108203

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

Reference Method: SM 2320 B-97

Run ID: A93419

Included Lab Sample IDs: 2108199, 2108202

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A93419

Included Lab Sample IDs: 2108199, 2108202

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	99.1	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A93422

Included Lab Sample IDs: 2108205

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

Quality Assurance Report

Calibration Verification

* 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
EPA 180.1 Rev. 2.0	Turbidity						1.34	
EPA 200.7 Rev. 4.4	Barium	101	98.6	98.4	94.6			0.263
	Calcium	104	97.9	102				0.232
	Iron	104	102	103	98.3			0.778
	Magnesium	111	106	107	98.3			0.966
	Potassium	108	107	108	108			0.805
	Sodium	104	100					0.643
	Zinc	99.0	97.2	95.2	101			2.12
EPA 200.8 Rev. 5.4	Aluminum	102	100	101	103			0.407
	Antimony	98.7	100	99.9	103			0.465
	Arsenic	103	104	104	109			0.430
	Boron	104	107	108				0.916
	Cadmium	101	102	104	102			1.30
	Chromium	100	102	102	96.3			0.378
	Copper	99.6	99.7	101	99.1			1.70
	Lead	99.2	101	101	103			0.240
	Nickel	101	102	102	100			0.0740
	Selenium	101	102	101	96.7			0.937
	Silver	101	101	102	98.1			0.434
	Thallium	101	104	105	105			0.857
EPA 300.0	Bromide	103	97.8	97.0	96.5			0.780
EPA 300.0 Rev. 2.1	Chloride	98.8	101	102	98.7			0.508
	Sulfate	104	105	106	103			0.388
EPA 350.1 Rev. 2.0	Ammonia-N	97.1	104	104				0.781
	Ammonia-N	101	100	102				1.38
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	103	109				3.27
	Kjeldahl Nitrogen	103	109	106				1.76
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	93.2	91.8				1.57
	NO ₂ NO ₃ -N	98.5	100	100				0.0
EPA 365.1 Rev. 2.0	Total-P	100	95.2	97.8				2.44
	Total-P	97.8	94.4	91.8				2.33
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.5	95.2	96.1				0.941
	O-Phosphate-P	102	95.6	96.3				0.730
SM 2120 B	Color (true)	101					3.06	
SM 2320 B-97	Total Alkalinity	104					0.0218	
	Total Alkalinity	104					0.297	
SM 2540 C-97	TDS						1.99	
SM 4500 F-C-97	Fluoride	97.5	94.5	97.4				1.95
	Fluoride	100	97.5	95.8				1.48
SM 5310 B-00	Organic Carbon	101	103	101				1.27
	Organic Carbon	102	102	103				0.212

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2108199, 2108202, 2108205
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2108215
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2108215
EPA 300.0 / E31780	Bromide in aqueous matrices	2108205
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2108199, 2108202

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2108199, 2108202
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2108200, 2108203, 2108206
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2108200, 2108203, 2108206
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2108200, 2108203, 2108206
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2108200, 2108203, 2108206
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2108201, 2108204, 2108207
SM 2120 B / E31780	True Color measured at 450 nm	2108199, 2108202
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2108199, 2108202, 2108205
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2108199, 2108202
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2108199, 2108202, 2108205
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2108199, 2108202, 2108205
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2108200, 2108203, 2108206

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	08/01/2019			08/02/2019 16:57	Adrian Shelby	2108199, 2108202, 2108205
EPA 200.7 Rev. 4.4	08/01/2019	08/05/2019 13:30	Elliott D. Healy	08/07/2019 18:19	Alexander Thompson	2108215
EPA 200.8 Rev. 5.4	08/01/2019	08/05/2019 13:30	Elliott D. Healy	08/08/2019 01:07	Robert K Palmer	2108215
EPA 300.0	08/01/2019			08/09/2019 13:01	Jhamieka S. Greenwood	2108205
EPA 300.0 Rev. 2.1	08/01/2019			08/07/2019 00:21	Jhamieka S. Greenwood	2108199
	08/01/2019			08/07/2019 00:33	Jhamieka S. Greenwood	2108202
EPA 350.1 Rev. 2.0	08/01/2019			08/10/2019 14:38	Ping Hua	2108206
	08/01/2019			08/11/2019 11:22	Ping Hua	2108203
	08/01/2019			08/11/2019 11:25	Ping Hua	2108200
EPA 351.2 Rev. 2.0	08/01/2019	08/05/2019 13:30	Adrian Shelby	08/07/2019 12:23	Joseph Suarez	2108200
	08/01/2019	08/05/2019 13:30	Adrian Shelby	08/07/2019 12:28	Joseph Suarez	2108203
	08/01/2019	08/07/2019 12:30	Adrian Shelby	08/08/2019 17:44	Julia Storbeck	2108206
EPA 353.2 Rev. 2.0	08/01/2019			08/02/2019 13:11	Beverly Y. Sanders	2108200
	08/01/2019			08/02/2019 13:12	Beverly Y. Sanders	2108203
	08/01/2019			08/06/2019 09:55	Beverly Y. Sanders	2108206
EPA 365.1 Rev. 2.0	08/01/2019	08/05/2019 12:54	Vijayalakshmi Reddy	08/06/2019 12:02	Lipi Saha	2108203
	08/01/2019	08/05/2019 12:54	Vijayalakshmi Reddy	08/06/2019 12:11	Lipi Saha	2108200
	08/01/2019	08/06/2019 13:26	Vijayalakshmi Reddy	08/07/2019 11:42	Lipi Saha	2108206
EPA 365.1 Rev. 2.0 dissolved	08/01/2019			08/02/2019 16:09	Jhamieka S. Greenwood	2108201
	08/01/2019			08/02/2019 16:10	Jhamieka S. Greenwood	2108204
	08/01/2019			08/02/2019 16:20	Jhamieka S. Greenwood	2108207
SM 2120 B	08/01/2019			08/02/2019 16:59	Madeline Funaro	2108199, 2108202
SM 2320 B-97	08/01/2019			08/09/2019 09:18	Dale L. Simmons	2108199
	08/01/2019			08/09/2019 09:29	Dale L. Simmons	2108202
	08/01/2019			08/10/2019 12:06	Dale L. Simmons	2108205
SM 2540 C-97	08/01/2019			08/05/2019 14:05	Sima Feizi	2108199, 2108202
SM 2540 D-97	08/01/2019			08/05/2019 14:05	Sima Feizi	2108199, 2108202, 2108205
SM 4500 F-C-97	08/01/2019			08/09/2019 09:18	Dale L. Simmons	2108199
	08/01/2019			08/09/2019 09:29	Dale L. Simmons	2108202
	08/01/2019			08/10/2019 06:46	Dale L. Simmons	2108205
SM 5310 B-00	08/01/2019			08/05/2019 17:43	Madeline Funaro	2108200
	08/01/2019			08/05/2019 17:55	Madeline Funaro	2108203
	08/01/2019			08/06/2019 06:01	Madeline Funaro	2108206