

Chemical Analysis Report

TLH-ROC-2020-01-14-02

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

Event Description: **Run 1**
Request ID: **RQ-2020-01-13-45**
Customer: **TLH-ROC**
Project ID: **SMP**

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

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 31-JAN-2020 09:46

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: LITTLE AUCILLA RIVER

Collection Date/Time: 01/14/2020 15:05

Field ID: G1TLHR0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2149277	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P377299	
	EPA 300.0 Rev. 2.1	Chloride	6.2		mg Cl/L	P377329	
		Sulfate	0.53		mg SO4/L	P377331	
	SM 2120 B-2011	Color (true)	330		PCU	P377333	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P377366	
	SM 2540 C-2011	TDS	43		mg/L	P377610	
	SM 2540 D-2011	TSS	2	U	mg/L	P377511	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P377370	
2149280	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P377305	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P377326	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P377417	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P377541	
	SM 5310 B-2011	Organic Carbon	40		mg C/L	P377340	
2149283	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P377108	
2149298	EPA 200.7 Rev. 4.4	Barium	16.6		ug/L	P377256	
		Calcium	2.16		mg/L	P377256	
		Iron	920		ug/L	P377256	
		Magnesium	1.17		mg/L	P377256	
		Potassium	0.35	I	mg/L	P377256	
		Sodium	3.2		mg/L	P377256	
		Zinc	6.7	I	ug/L	P377256	
	EPA 200.8 Rev. 5.4	Aluminum	450		ug/L	P377256	
		Antimony	0.050	U	ug/L	P377256	
		Arsenic	0.37		ug/L	P377256	
		Boron**	26.0		ug/L	P377256	
		Cadmium	0.020	I	ug/L	P377256	
		Chromium	0.48	I	ug/L	P377256	
		Copper	0.40	I	ug/L	P377256	
		Lead	0.39	I	ug/L	P377256	
		Nickel	0.64	I	ug/L	P377256	
		Selenium	0.20	U	ug/L	P377256	
		Silver	0.010	U	ug/L	P377256	
		Thallium	0.10	U	ug/L	P377256	
	SM 2340B	Hardness	10.2		mg/L	P377256	

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: FENHOLLOWAY RIVER

Collection Date/Time: 01/14/2020 14:00

Field ID: G1TLHR0002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2149286	EPA 180.1 Rev. 2.0	Turbidity	6.7		NTU	P377299	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P377329	
		Sulfate	0.38	I	mg SO4/L	P377331	
		Color (true)	880		PCU	P377333	
	SM 2320 B-2011	Total Alkalinity	1.3	I	mg CaCO3/L	P377366	
	SM 2540 C-2011	TDS	109		mg/L	P377610	
	SM 2540 D-2011	TSS	2	U	mg/L	P377511	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P377370	
2149287	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P377306	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P377396	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P377417	
	EPA 365.1 Rev. 2.0	Total-P	0.061		mg P/L	P377541	
	SM 5310 B-2011	Organic Carbon	74		mg C/L	P377340	
2149288	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.032		mg P/L	P377108	

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: FENHOLLOWAY RIVER

Collection Date/Time: 01/14/2020 13:00

Field ID: G1TLHR0003

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2149278	EPA 180.1 Rev. 2.0	Turbidity	6.5	A	NTU	P377299	
	EPA 300.0 Rev. 2.1	Chloride	130		mg Cl/L	P377329	
		Sulfate	320		mg SO4/L	P377331	
		Color (true)	450		PCU	P377333	
	SM 2320 B-2011	Total Alkalinity	197		mg CaCO3/L	P377366	
	SM 2540 C-2011	TDS	958		mg/L	P377610	
	SM 2540 D-2011	TSS	11		mg/L	P377511	
	SM 4500 F-C-2011	Fluoride	0.16		mg F/L	P377370	
2149281	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P377306	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.93		mg N/L	P377396	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.069		mg N/L	P377417	
	EPA 365.1 Rev. 2.0	Total-P	0.40		mg P/L	P377541	
	SM 5310 B-2011	Organic Carbon	54		mg C/L	P377340	
2149284	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.28		mg P/L	P377108	
2149299	EPA 200.7 Rev. 4.4	Barium	17.1		ug/L	P377256	
		Calcium	61.7		mg/L	P377256	
		Iron	600		ug/L	P377256	
		Magnesium	20.7		mg/L	P377256	
		Potassium	3.6		mg/L	P377256	
		Sodium	237		mg/L	P377256	
		Zinc	17	I	ug/L	P377256	
	EPA 200.8 Rev. 5.4	Aluminum	275		ug/L	P377256	
		Antimony	0.20	I	ug/L	P377256	
		Arsenic	0.53		ug/L	P377256	
		Boron**	32.8		ug/L	P377256	
		Cadmium	0.028	I	ug/L	P377256	
		Chromium	2.2		ug/L	P377256	
		Copper	3.66		ug/L	P377256	
		Lead	0.36	I	ug/L	P377256	
		Nickel	1.2	I	ug/L	P377256	
		Selenium	0.20	U	ug/L	P377256	
		Silver	0.022	I	ug/L	P377256	
		Thallium	0.10	U	ug/L	P377256	
	SM 2340B	Hardness	239		mg/L	P377256	

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: SPRING CREEK @ US98

Collection Date/Time: 01/14/2020 12:40

Field ID: G1TLHR0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2149279	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P377299	
	EPA 300.0 Rev. 2.1	Chloride	6.0		mg Cl/L	P377329	
		Sulfate	12		mg SO4/L	P377331	
		Color (true)	90		PCU	P377333	
	SM 2320 B-2011	Total Alkalinity	191		mg CaCO3/L	P377366	
	SM 2540 C-2011	TDS	208		mg/L	P377610	
	SM 2540 D-2011	TSS	2	U	mg/L	P377511	
	SM 4500 F-C-2011	Fluoride	0.17		mg F/L	P377370	
2149282	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P377306	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P377396	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.033		mg N/L	P377417	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P377541	
	SM 5310 B-2011	Organic Carbon	8.2		mg C/L	P377340	
2149285	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P377108	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P377299

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P377256

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: P377256

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P377329

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P377331

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P377305

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P377306

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P377326

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P377396

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P377417

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P377541

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377108

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

Reference Method: SM 2120 B-2011
Batch ID: P377333

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P377366

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

Reference Method: SM 2540 C-2011
Batch ID: P377610

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P377511

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P377370

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P377340

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: P377256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	101		P	85 - 115
Iron	107		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	110		P	85 - 115
Sodium	101		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P377256

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	107		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	103		P	85 - 115
Boron	107		P	85 - 115
Cadmium	115		P	85 - 115
Chromium	102		P	85 - 115
Copper	106		P	85 - 115
Lead	107		P	85 - 115
Nickel	112		P	85 - 115
Selenium	105		P	85 - 115
Silver	105		P	85 - 115
Thallium	108		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P377329

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P377331

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P377305

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P377306

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P377326

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: P377396

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P377417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	95.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P377541

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377108

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

Reference Method: SM 2120 B-2011
Batch ID: P377333

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P377366

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

Reference Method: SM 4500 F-C-2011
Batch ID: P377370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P377340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P377256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149189	Barium	99.8		P	80 - 120
2149189	Calcium	102		P	80 - 120
2149189	Iron	107		P	80 - 120
2149189	Magnesium	104		P	80 - 120
2149189	Potassium	105		P	80 - 120
2149189	Sodium	101		P	80 - 120
2149189	Zinc	104		P	80 - 120
2149400	Barium	98.7	100	P/P	80 - 120
2149400	Calcium	104		P	80 - 120
2149400	Iron	104	105	P/P	80 - 120
2149400	Magnesium	105		P	80 - 120
2149400	Potassium	102	102	P/P	80 - 120
2149400	Sodium	102		P	80 - 120
2149400	Zinc	101	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P377256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149189	Aluminum	106		P	80 - 120
2149189	Antimony	103		P	80 - 120
2149189	Arsenic	102		P	80 - 120
2149189	Boron	106		P	80 - 120
2149189	Cadmium	115		P	80 - 120
2149189	Chromium	91.4		P	80 - 120
2149189	Copper	102		P	80 - 120
2149189	Lead	111		P	80 - 120
2149189	Nickel	108		P	80 - 120
2149189	Selenium	103		P	80 - 120
2149189	Silver	101		P	80 - 120
2149189	Thallium	112		P	80 - 120
2149400	Aluminum	103	100	P/P	80 - 120
2149400	Antimony	102	101	P/P	80 - 120
2149400	Arsenic	100	100	P/P	80 - 120
2149400	Boron	105	104	P/P	80 - 120
2149400	Cadmium	109	110	P/P	80 - 120
2149400	Chromium	91.3	90.0	P/P	80 - 120
2149400	Copper	99.1	99.5	P/P	80 - 120
2149400	Lead	106	106	P/P	80 - 120
2149400	Nickel	105	107	P/P	80 - 120
2149400	Selenium	101	100	P/P	80 - 120
2149400	Silver	103	101	P/P	80 - 120
2149400	Thallium	107	107	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P377329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2148883	Chloride	101		P	90 - 110
2149312	Chloride	96.2		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P377331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2148883	Sulfate	101		P	90 - 110
2149312	Sulfate	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P377305

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149217	Ammonia-N	97.3	99.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P377306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149282	Ammonia-N	96.0	95.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P377326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149212	Kjeldahl Nitrogen	101	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P377396

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149282	Kjeldahl Nitrogen	105	99.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P377417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149231	NO2NO3-N	95.1	96.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P377541

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149216	Total-P	107	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P377108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2148885	O-Phosphate-P	97.2	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P377370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149335	Fluoride	98.5	98.5	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P377340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2149282	Organic Carbon	97.4	98.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P377299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149278	Turbidity	3.55	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P377256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149400	Barium	1.45	Spike	P	0 - 20
2149400	Calcium	3.05	Spike	P	0 - 20
2149400	Iron	0.945	Spike	P	0 - 20
2149400	Magnesium	2.07	Spike	P	0 - 20
2149400	Potassium	0.394	Spike	P	0 - 20
2149400	Sodium	0.573	Spike	P	0 - 20
2149400	Zinc	1.48	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P377256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149400	Aluminum	2.41	Spike	P	0 - 20
2149400	Antimony	0.796	Spike	P	0 - 20
2149400	Arsenic	0.230	Spike	P	0 - 20
2149400	Boron	0.837	Spike	P	0 - 20
2149400	Cadmium	1.28	Spike	P	0 - 20
2149400	Chromium	1.39	Spike	P	0 - 20
2149400	Copper	0.336	Spike	P	0 - 20
2149400	Lead	0.446	Spike	P	0 - 20
2149400	Nickel	1.56	Spike	P	0 - 20
2149400	Selenium	1.02	Spike	P	0 - 20
2149400	Silver	1.32	Spike	P	0 - 20
2149400	Thallium	0.111	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P377329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149312	Chloride	0.124	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P377331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149312	Sulfate	0.424	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P377305

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149217	Ammonia-N	1.34	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P377306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149282	Ammonia-N	0.372	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P377326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149212	Kjeldahl Nitrogen	3.98	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P377396

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149282	Kjeldahl Nitrogen	4.24	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P377417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149231	NO2NO3-N	0.692	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P377541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149216	Total-P	0.912	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P377108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2148885	O-Phosphate-P	0.615	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
 Batch ID: P377333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149311	Color (true)	0.0870	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P377366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149335	Total Alkalinity	0.767	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P377610

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149311	TDS	0.256	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P377370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149335	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P377340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2149282	Organic Carbon	0.829	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A96853

Included Lab Sample IDs: 2149277, 2149278, 2149279, 2149286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.0	100	P/P	90 - 110
Sulfate	99.4	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A96878

Included Lab Sample IDs: 2149283, 2149284, 2149285, 2149288

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.8	98.7	P/P	90 - 110
O-Phosphate-P	98.1	96.7	P/P	90 - 110
O-Phosphate-P	98.7	98.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96947

Included Lab Sample IDs: 2149277, 2149278, 2149279, 2149286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96950

Included Lab Sample IDs: 2149280, 2149281, 2149282, 2149287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.7	P/P	90 - 110
Ammonia-N	99.7	99.9	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A96960

Included Lab Sample IDs: 2149277, 2149278, 2149279, 2149286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	85 - 115
Color (true)	103	103	P/P	85 - 115

Reference Method: SM 5310 B-2011

Run ID: A96961

Included Lab Sample IDs: 2149280, 2149281, 2149282, 2149287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	103	P/P	90 - 110
Organic Carbon	99.3	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96974

Included Lab Sample IDs: 2149280, 2149281, 2149282, 2149287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.0	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A96976

Included Lab Sample IDs: 2149277, 2149278, 2149279, 2149286

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

Reference Method: SM 4500 F-C-2011

Run ID: A96976

Included Lab Sample IDs: 2149277, 2149278, 2149279, 2149286

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	103	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A97041

Included Lab Sample IDs: 2149298, 2149299

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.4	99.0	P/P	90 - 110
Calcium	98.0	99.9	P/P	90 - 110
Iron	99.2	99.8	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	100	99.7	P/P	90 - 110
Sodium	100	101	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97052

Included Lab Sample IDs: 2149280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97079

Included Lab Sample IDs: 2149281, 2149282, 2149287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.9	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A97087

Included Lab Sample IDs: 2149298, 2149299

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	104	P/P	90 - 110
Aluminum	104	101	P/P	90 - 110
Antimony	92.2	92.4	P/P	90 - 110
Antimony	92.4	94.4	P/P	90 - 110
Boron	101	107	P/P	90 - 110
Boron	107	105	P/P	90 - 110
Chromium	100	96.8	P/P	90 - 110
Chromium	96.8	95.1	P/P	90 - 110
Copper	103	101	P/P	90 - 110
Copper	104	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A97087

Included Lab Sample IDs: 2149298, 2149299

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	101	101	P/P	90 - 110
Lead	99.7	101	P/P	90 - 110
Selenium	103	105	P/P	90 - 110
Selenium	104	103	P/P	90 - 110
Silver	105	106	P/P	90 - 110
Silver	106	107	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A97095

Included Lab Sample IDs: 2149298, 2149299

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.9	98.9	P/P	90 - 110
Thallium	97.8	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97097

Included Lab Sample IDs: 2149281, 2149282, 2149287

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	104	P/P	90 - 110
Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97098

Included Lab Sample IDs: 2149280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	109	109	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A97129

Included Lab Sample IDs: 2149298, 2149299

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	100	101	P/P	90 - 110
Nickel	96.2	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
EPA 180.1 Rev. 2.0	Turbidity								3.55	
EPA 200.7 Rev. 4.4	Barium	102			99.8	98.7	100			1.45
	Calcium	101			102	104				3.05
	Iron	107			107	104	105			0.945
	Magnesium	103			104	105				2.07
	Potassium	110			105	102	102			0.394
	Sodium	101			101	102				0.573
	Zinc	101			104	101	102			1.48
EPA 200.8 Rev. 5.4	Aluminum	107			106	103	100			2.41
	Antimony	102			103	102	101			0.796
	Arsenic	103			100	100	102			0.230
	Boron	107			106	105	104			0.837
	Cadmium	115			109	110	115			1.28
	Chromium	102			91.4	91.3	90.0			1.39
	Copper	106			102	99.1	99.5			0.336
	Lead	107			111	106	106			0.446
	Nickel	112			105	107	108			1.56
	Selenium	105			103	101	100			1.02
	Silver	105			101	103	101			1.32
	Thallium	108			107	107	112			0.111
EPA 300.0 Rev. 2.1	Chloride	100			96.2	101			0.124	
	Sulfate	98.9			99.1	101			0.424	
EPA 350.1 Rev. 2.0	Ammonia-N	99.9			97.3	99.3				1.34
	Ammonia-N	101			96.0	95.5				0.372
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100			101	106				3.98
	Kjeldahl Nitrogen	99.8			105	99.7				4.24
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	95.5			95.1	96.1				0.692
EPA 365.1 Rev. 2.0	Total-P	104			107	106				0.912
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102			97.2	97.8				0.615
SM 2120 B-2011	Color (true)	100							0.0870	
SM 2320 B-2011	Total Alkalinity	104							0.767	
SM 2540 C-2011	TDS								0.256	
SM 4500 F-C-2011	Fluoride	99.4			98.5	98.5				0.0
SM 5310 B-2011	Organic Carbon	98.0			97.4	98.5				0.829

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2149277, 2149278, 2149279, 2149286
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2149298, 2149299
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2149298, 2149299
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2149277, 2149278, 2149279, 2149286
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2149277, 2149278, 2149279, 2149286
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2149280, 2149281, 2149282, 2149287
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2149280, 2149281, 2149282, 2149287
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2149280, 2149281, 2149282, 2149287

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2149280, 2149281, 2149282, 2149287
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2149283, 2149284, 2149285, 2149288
SM 2120 B-2011 / E31780	True Color measured at 450 nm (not valid for NPDES monitoring)	2149277, 2149278, 2149279, 2149286
SM 2320 B-2011 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2149277, 2149278, 2149279, 2149286
SM 2340B / E31780	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2149298, 2149299
SM 2540 C-2011 / E31780	Total Dissolved Solids in aqueous matrices	2149277, 2149278, 2149279, 2149286
SM 2540 D-2011 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2149277, 2149278, 2149279, 2149286
SM 4500 F-C-2011 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2149277, 2149278, 2149279, 2149286
SM 5310 B-2011 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2149280, 2149281, 2149282, 2149287

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	01/14/2020			01/15/2020 18:01	Yen Ta	2149277, 2149278, 2149279, 2149286
EPA 200.7 Rev. 4.4	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/21/2020 13:22	Vijayalakshmi Reddy	2149298
	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/21/2020 13:25	Vijayalakshmi Reddy	2149299
	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/21/2020 13:33	Vijayalakshmi Reddy	2149299
EPA 200.8 Rev. 5.4	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/23/2020 16:12	Justin Cutchin	2149298
	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/23/2020 16:41	Justin Cutchin	2149299
	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/24/2020 15:52	Alexander Thompson	2149298
	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/24/2020 16:01	Alexander Thompson	2149299
	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/27/2020 17:15	Alexander Thompson	2149298
	01/14/2020	01/16/2020 13:35	Elliott D. Healy	01/27/2020 17:24	Alexander Thompson	2149299
EPA 300.0 Rev. 2.1	01/14/2020			01/16/2020 18:27	Lipi Saha	2149277
	01/14/2020			01/16/2020 18:39	Lipi Saha	2149278
	01/14/2020			01/16/2020 18:51	Lipi Saha	2149279
	01/14/2020			01/16/2020 19:03	Lipi Saha	2149286
EPA 350.1 Rev. 2.0	01/14/2020			01/16/2020 15:03	Ping Hua	2149280
	01/14/2020			01/16/2020 15:19	Ping Hua	2149281
	01/14/2020			01/16/2020 15:21	Ping Hua	2149282
	01/14/2020			01/16/2020 15:22	Ping Hua	2149287
EPA 351.2 Rev. 2.0	01/14/2020	01/17/2020 09:05	Jhamieka S. Greenwood	01/22/2020 16:28	Jhamieka S. Greenwood	2149280
	01/14/2020	01/21/2020 12:05	Jhamieka S. Greenwood	01/23/2020 11:52	Virginia P. Brown	2149281
	01/14/2020	01/21/2020 12:05	Jhamieka S. Greenwood	01/23/2020 11:53	Virginia P. Brown	2149282
	01/14/2020	01/21/2020 12:05	Jhamieka S. Greenwood	01/23/2020 11:58	Virginia P. Brown	2149287
EPA 353.2 Rev. 2.0	01/14/2020			01/17/2020 11:17	Beverly Y. Sanders	2149280
	01/14/2020			01/17/2020 11:18	Beverly Y. Sanders	2149281
	01/14/2020			01/17/2020 11:19	Beverly Y. Sanders	2149282
	01/14/2020			01/17/2020 11:20	Beverly Y. Sanders	2149287
EPA 365.1 Rev. 2.0	01/14/2020	01/22/2020 14:24	Yen Ta	01/23/2020 14:19	Benjamin T. Nordmann	2149281
	01/14/2020	01/22/2020 14:24	Yen Ta	01/23/2020 14:22	Benjamin T. Nordmann	2149282
	01/14/2020	01/22/2020 14:24	Yen Ta	01/23/2020 14:23	Benjamin T. Nordmann	2149287
	01/14/2020	01/22/2020 14:24	Yen Ta	01/24/2020 13:54	Benjamin T. Nordmann	2149280
EPA 365.1 Rev. 2.0 dissolved	01/14/2020			01/14/2020 17:04	Julia Storbeck	2149284
	01/14/2020			01/14/2020 17:05	Julia Storbeck	2149285
	01/14/2020			01/14/2020 17:13	Julia Storbeck	2149288
	01/14/2020			01/14/2020 17:28	Julia Storbeck	2149283
SM 2120 B-2011	01/14/2020			01/15/2020 18:14	Madeline Funaro	2149279
	01/14/2020			01/15/2020 19:06	Madeline Funaro	2149277, 2149278
	01/14/2020			01/15/2020 19:07	Madeline Funaro	2149286
SM 2320 B-2011	01/14/2020			01/17/2020 02:33	Dale L. Simmons	2149277
	01/14/2020			01/17/2020 02:48	Dale L. Simmons	2149279
	01/14/2020			01/17/2020 02:56	Dale L. Simmons	2149286

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	01/14/2020			01/17/2020 04:16	Dale L. Simmons	2149278
SM 2340B	01/14/2020			01/21/2020 13:22	Vijayalakshmi Reddy	2149298
	01/14/2020			01/21/2020 13:25	Vijayalakshmi Reddy	2149299
SM 2540 C-2011	01/14/2020			01/16/2020 15:45	Sima Feizi	2149277, 2149278, 2149279, 2149286
SM 2540 D-2011	01/14/2020			01/16/2020 15:45	Sima Feizi	2149277, 2149278, 2149279, 2149286
SM 4500 F-C-2011	01/14/2020			01/17/2020 02:33	Dale L. Simmons	2149277
	01/14/2020			01/17/2020 02:48	Dale L. Simmons	2149279
	01/14/2020			01/17/2020 02:56	Dale L. Simmons	2149286
	01/14/2020			01/17/2020 04:16	Dale L. Simmons	2149278
SM 5310 B-2011	01/14/2020			01/16/2020 16:43	Lauren Lees	2149282
	01/14/2020			01/16/2020 19:33	Lauren Lees	2149280
	01/14/2020			01/16/2020 19:46	Lauren Lees	2149281
	01/14/2020			01/16/2020 20:00	Lauren Lees	2149287