

Chemical Analysis Report

SO-DIST-2018-03-07-01

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

Event Description: **Charlotte Gators**
Request ID: **RQ-2018-03-05-52**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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2295 Victoria Ave. Suite 364
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 19-APR-2018 15:38



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 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: ClevelandCemeteryDitch

Collection Date/Time: 03/06/2018 09:25

Field ID: G3SD0076

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1972478	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P341133	
	SM 2320 B-97	Total Alkalinity	155	A	mg CaCO3/L	P341337	
	SM 2540 D-97	TSS	3	U	mg/L	P341614	
	SM 4500 F-C-97	Fluoride	0.57		mg F/L	P341828	
1972479	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P341402	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P341356	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.070		mg N/L	P341480	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P341168	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P341327	
1972480	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.28		mg P/L	P341142	
1972488	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P341449	
		Zinc	15	U	ug/L	P341449	
	EPA 200.8 Rev. 5.4	Arsenic	2.14		ug/L	P341449	
		Cadmium	0.060	U	ug/L	P341449	
		Chromium	1.2	U	ug/L	P341449	
		Copper	0.60	U	ug/L	P341449	
		Lead	0.15	U	ug/L	P341449	
		Nickel	0.60	U	ug/L	P341449	
		Silver	0.030	U	ug/L	P341449	

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 N@JonesLoopRd

Collection Date/Time: 03/06/2018 10:00

Field ID: G2SD0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1972472	EPA 180.1 Rev. 2.0	Turbidity	5.5		NTU	P341133	
	EPA 300.0 Rev. 2.1	Chloride	62		mg Cl/L	P341420	
		Sulfate	51		mg SO4/L	P341425	
	SM 2120 B	Color (true)	24		PCU	P341126	
	SM 2320 B-97	Total Alkalinity	253		mg CaCO3/L	P341521	
	SM 2540 C-97	TDS	435		mg/L	P341591	
	SM 2540 D-97	TSS	2	I	mg/L	P341608	
	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P341524	
1972474	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P341494	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P341357	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.089		mg N/L	P341285	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P341314	
	SM 5310 B-00	Organic Carbon	7.2		mg C/L	P341326	
1972476	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P341141	

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 S@JonesLoopRd

Collection Date/Time: 03/06/2018 10:30

Field ID: G2SD0033

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1972473	EPA 180.1 Rev. 2.0	Turbidity	15		NTU	P341133	
	EPA 300.0 Rev. 2.1	Chloride	250		mg Cl/L	P341420	
		Sulfate	47		mg SO4/L	P341425	
	SM 2120 B	Color (true)	11		PCU	P341129	
	SM 2320 B-97	Total Alkalinity	231		mg CaCO3/L	P341521	
	SM 2540 C-97	TDS	711		mg/L	P341591	
	SM 2540 D-97	TSS	6	I	mg/L	P341608	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P341524	
1972475	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P341494	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P341602	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P341285	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P341314	
	SM 5310 B-00	Organic Carbon	7.2		mg C/L	P341326	
1972477	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P341141	

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 N@JonesLoopRd

Collection Date/Time: 03/06/2018 10:05

Field ID: G2SD0032_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1972481	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P341133	
	EPA 300.0 Rev. 2.1	Chloride	62		mg Cl/L	P341420	
		Sulfate	51		mg SO4/L	P341425	
	SM 2120 B	Color (true)	23		PCU	P341126	
	SM 2320 B-97	Total Alkalinity	253		mg CaCO3/L	P341521	
	SM 2540 C-97	TDS	427		mg/L	P341589	
	SM 2540 D-97	TSS	2	I	mg/L	P341606	
	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P341524	
1972482	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P341494	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36		mg N/L	P341602	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.090		mg N/L	P341285	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P341314	
	SM 5310 B-00	Organic Carbon	7.3		mg C/L	P341326	
1972483	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P341141	

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: P341133

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P341449

Component	Result	Code	Units
Iron	30	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341449

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341420

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341425

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341402

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341494

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341356

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341357

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341602

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341285

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341480

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341168

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341314

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341141

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341142

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

Reference Method: SM 2120 B
Batch ID: P341126

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P341129

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P341337

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

Reference Method: SM 2320 B-97
Batch ID: P341521

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

Reference Method: SM 2540 C-97
Batch ID: P341589

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P341591

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P341606

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P341608

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P341614

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P341524

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P341828

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: P341326

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

Reference Method: SM 5310 B-00
Batch ID: P341327

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: P341449

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	109		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341449

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	80 - 120
Cadmium	102		P	80 - 120
Chromium	105		P	85 - 115
Copper	101		P	80 - 120
Lead	103		P	80 - 120
Nickel	101		P	80 - 120
Silver	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341420

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341425

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341402

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.6		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341494

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341356

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: P341357

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: P341602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341480

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341168

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341314

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341141

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P341337

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P341521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P341524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.7		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P341828

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.6		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P341326

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

Reference Method: SM 5310 B-00
Batch ID: P341327

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P341449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973056	Iron	108	109	P/P	80 - 120
1973056	Zinc	109	106	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1973056	Arsenic	110	108	P/P	70 - 130
1973056	Cadmium	102	99.7	P/P	70 - 130
1973056	Chromium	92.7	93.2	P/P	70 - 130
1973056	Copper	102	100	P/P	70 - 130
1973056	Lead	111	109	P/P	70 - 130
1973056	Nickel	102	100	P/P	70 - 130
1973056	Silver	100	99.2	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341420

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972433	Chloride	98.9		P	90 - 110
1972454	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972433	Sulfate	99.0		P	90 - 110
1972454	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972338	Ammonia-N	100	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972466	Ammonia-N	95.7	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972286	Kjeldahl Nitrogen	96.9	95.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972465	Kjeldahl Nitrogen	102	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972516	Kjeldahl Nitrogen	107	99.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972475	NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972338	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972286	Total-P	99.1	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972519	Total-P	98.4	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341141

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972714	O-Phosphate-P	97.0	96.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P341142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972562	O-Phosphate-P	96.8	98.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P341524

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972840	Fluoride	96.4	97.0	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P341828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972478	Fluoride	92.1	94.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P341326

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972416	Organic Carbon	113		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P341327

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1972479	Organic Carbon	96.7	96.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P341133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972459	Turbidity	0.137	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P341449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973056	Iron	0.619	Spike	P	0 - 20
1973056	Zinc	1.22	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P341449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1973056	Arsenic	1.85	Spike	P	0 - 20
1973056	Cadmium	1.49	Spike	P	0 - 20
1973056	Chromium	0.561	Spike	P	0 - 20
1973056	Copper	2.04	Spike	P	0 - 20
1973056	Lead	1.18	Spike	P	0 - 20
1973056	Nickel	1.87	Spike	P	0 - 20
1973056	Silver	1.09	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972433	Chloride	0.0511	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P341425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972433	Sulfate	0.500	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972338	Ammonia-N	0.670	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P341494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972466	Ammonia-N	2.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972286	Kjeldahl Nitrogen	1.48	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972465	Kjeldahl Nitrogen	3.82	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P341602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972516	Kjeldahl Nitrogen	3.70	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972475	NO2NO3-N	0.735	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P341480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972338	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P341168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972286	Total-P	1.98	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P341314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972519	Total-P	0.0240	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P341141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972714	O-Phosphate-P	0.412	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P341142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972562	O-Phosphate-P	1.23	Spike	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P341126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972459	Color (true)	3.27	Sample	P	0 - 20

Reference Method: SM 2120 B

Batch ID: P341129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972458	Color (true)	4.18	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P341337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972478	Total Alkalinity	0.490	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97

Batch ID: P341521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972840	Total Alkalinity	0.318	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97

Batch ID: P341589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972354	TDS	3.06	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P341591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972512	TDS	7.06	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P341524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972840	Fluoride	0.477	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P341828

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972478	Fluoride	1.43	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P341326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972416	Organic Carbon	0.235	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P341327

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1972479	Organic Carbon	0.440	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: SM 2120 B
Run ID: A82485
Included Lab Sample IDs: 1972472, 1972473, 1972481

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	85 - 115
Color (true)	98.3	100	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A82487
Included Lab Sample IDs: 1972472, 1972473, 1972478, 1972481

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A82489

Included Lab Sample IDs: 1972476, 1972477, 1972480, 1972483

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A82509

Included Lab Sample IDs: 1972472, 1972473, 1972481

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.7	95.7	P/P	90 - 110
Sulfate	97.2	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A82523

Included Lab Sample IDs: 1972474, 1972475, 1972482

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A82526

Included Lab Sample IDs: 1972479

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

Reference Method: SM 5310 B-00

Run ID: A82537

Included Lab Sample IDs: 1972474, 1972475, 1972479, 1972482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	97.7	P/P	90 - 110
Organic Carbon	99.0	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A82543

Included Lab Sample IDs: 1972478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.7	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A82548

Included Lab Sample IDs: 1972475

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A82550
Included Lab Sample IDs: 1972474, 1972482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A82557
Included Lab Sample IDs: 1972479

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A82579
Included Lab Sample IDs: 1972479

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.5	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A82584
Included Lab Sample IDs: 1972474, 1972475, 1972482

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A82600
Included Lab Sample IDs: 1972474, 1972479

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	105	P/P	90 - 110
Kjeldahl Nitrogen	107	102	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A82604
Included Lab Sample IDs: 1972472, 1972473, 1972481

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.9	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A82604
Included Lab Sample IDs: 1972472, 1972473, 1972481

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	98.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A82617
Included Lab Sample IDs: 1972488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A82617

Included Lab Sample IDs: 1972488

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A82661

Included Lab Sample IDs: 1972475, 1972482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	94.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A82726

Included Lab Sample IDs: 1972478

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	105	96.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A82821

Included Lab Sample IDs: 1972488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.0	99.2	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Copper	100	99.8	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Nickel	98.8	99.1	P/P	90 - 110
Silver	105	105	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A82886

Included Lab Sample IDs: 1972488

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	95.2	95.6	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements. Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				0.137	
EPA 200.7 Rev. 4.4	Iron	109	108	109		0.619
	Zinc	104	109	106		1.22
EPA 200.8 Rev. 5.4	Arsenic	101	110	108		1.85
	Cadmium	102	102	99.7		1.49

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 200.8 Rev. 5.4	Chromium	105	92.7	93.2			0.561
	Copper	101	102	100			2.04
	Lead	103	111	109			1.18
	Nickel	101	102	100			1.87
	Silver	107	100	99.2			1.09
EPA 300.0 Rev. 2.1	Chloride	101	98.9	102		0.0511	
	Sulfate	104	99.0	103		0.500	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6	100	99.8			0.670
	Ammonia-N	97.6	95.7	98.6			2.54
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	96.9	95.3			1.48
	Kjeldahl Nitrogen	100	102	106			3.82
	Kjeldahl Nitrogen	96.3	107	99.3			3.70
EPA 353.2 Rev. 2.0	NO2NO3-N	102	103	102			0.735
	NO2NO3-N	102	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	101	99.1	101			1.98
	Total-P	102	98.4	98.4			0.0240
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.0	96.3			0.412
	O-Phosphate-P	99.2	96.8	98.3			1.23
SM 2120 B	Color (true)					3.27	
	Color (true)					4.18	
SM 2320 B-97	Total Alkalinity	99.3				0.490	
	Total Alkalinity	99.2				0.318	
SM 2540 C-97	TDS					3.06	
	TDS					7.06	
SM 4500 F-C-97	Fluoride	95.7	96.4	97.0			0.477
	Fluoride	93.6	92.1	94.5			1.43
SM 5310 B-00	Organic Carbon	98.2	113				0.235
	Organic Carbon	99.6	96.7	96.1			0.440

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1972472, 1972473, 1972478, 1972481
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1972488
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1972488
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1972472, 1972473, 1972481
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1972472, 1972473, 1972481
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1972474, 1972475, 1972479, 1972482
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1972474, 1972475, 1972479, 1972482
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1972474, 1972475, 1972479, 1972482
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1972474, 1972475, 1972479, 1972482
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1972476, 1972477, 1972480, 1972483
SM 2120 B / E31780	True Color measured at 450 nm	1972472, 1972473, 1972481
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1972472, 1972473, 1972478, 1972481
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1972472, 1972473, 1972481

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1972472, 1972473, 1972478, 1972481
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1972472, 1972473, 1972478, 1972481
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1972474, 1972475, 1972479, 1972482

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/07/2018			03/07/2018 15:18	DeAsia Armster	1972472, 1972473, 1972478, 1972481
EPA 200.7 Rev. 4.4	03/07/2018	03/13/2018 12:45	Elliott D. Healy	03/14/2018 16:01	Betina Topolski	1972488
EPA 200.8 Rev. 5.4	03/07/2018	03/13/2018 12:45	Elliott D. Healy	03/24/2018 02:33	Nadine Brooks	1972488
	03/07/2018	03/13/2018 12:45	Elliott D. Healy	03/28/2018 02:57	Nadine Brooks	1972488
EPA 300.0 Rev. 2.1	03/07/2018			03/09/2018 01:21	Julia Storbeck	1972472
	03/07/2018			03/09/2018 01:33	Julia Storbeck	1972473
	03/07/2018			03/09/2018 01:45	Julia Storbeck	1972481
EPA 350.1 Rev. 2.0	03/07/2018			03/09/2018 13:18	Ping Hua	1972479
	03/07/2018			03/12/2018 17:30	Ping Hua	1972474
	03/07/2018			03/12/2018 17:31	Ping Hua	1972482
	03/07/2018			03/12/2018 18:55	Ping Hua	1972475
EPA 351.2 Rev. 2.0	03/07/2018	03/12/2018 11:30	Adrian Shelby	03/14/2018 10:00	Joseph Suarez	1972479
	03/07/2018	03/12/2018 11:30	Adrian Shelby	03/14/2018 10:34	Joseph Suarez	1972474
	03/07/2018	03/15/2018 14:00	Adrian Shelby	03/16/2018 11:40	Joseph Suarez	1972475
	03/07/2018	03/15/2018 14:00	Adrian Shelby	03/16/2018 11:42	Joseph Suarez	1972482
EPA 353.2 Rev. 2.0	03/07/2018			03/09/2018 10:27	Beverly Y. Sanders	1972475
	03/07/2018			03/09/2018 10:34	Beverly Y. Sanders	1972474
	03/07/2018			03/09/2018 10:35	Beverly Y. Sanders	1972482
	03/07/2018			03/13/2018 13:00	Lauren Bottorf	1972479
EPA 365.1 Rev. 2.0	03/07/2018	03/08/2018 09:15	Lipi Saha	03/09/2018 12:01	Lipi Saha	1972479
	03/07/2018	03/09/2018 14:10	Sima Feizi	03/12/2018 10:38	Beverly Y. Sanders	1972475
	03/07/2018	03/09/2018 14:10	Sima Feizi	03/12/2018 12:38	Beverly Y. Sanders	1972474
	03/07/2018	03/09/2018 14:10	Sima Feizi	03/12/2018 12:39	Beverly Y. Sanders	1972482
EPA 365.1 Rev. 2.0 dissolved	03/07/2018			03/07/2018 17:23	Megan Treadwell	1972476, 1972477
	03/07/2018			03/07/2018 17:24	Megan Treadwell	1972483
	03/07/2018			03/07/2018 17:36	Megan Treadwell	1972480
SM 2120 B	03/07/2018			03/07/2018 15:31	Tanya Welborn	1972472
	03/07/2018			03/07/2018 15:32	Tanya Welborn	1972481
	03/07/2018			03/07/2018 16:01	Tanya Welborn	1972473
SM 2320 B-97	03/07/2018			03/10/2018 01:21	Lauren Bottorf	1972478
	03/07/2018			03/14/2018 00:57	Dale L. Simmons	1972472
	03/07/2018			03/14/2018 01:08	Dale L. Simmons	1972473
	03/07/2018			03/14/2018 01:19	Dale L. Simmons	1972481
SM 2540 C-97	03/07/2018			03/10/2018 23:15	Yijie Li	1972472, 1972473, 1972481
SM 2540 D-97	03/07/2018			03/10/2018 23:15	Yijie Li	1972472, 1972473, 1972478, 1972481
SM 4500 F-C-97	03/07/2018			03/14/2018 00:57	Dale L. Simmons	1972472
	03/07/2018			03/14/2018 01:08	Dale L. Simmons	1972473
	03/07/2018			03/14/2018 01:19	Dale L. Simmons	1972481
	03/07/2018			03/20/2018 05:06	Lauren Bottorf	1972478
SM 5310 B-00	03/07/2018			03/09/2018 07:23	Megan Treadwell	1972474

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	03/07/2018			03/09/2018 07:37	Megan Treadwell	1972475
	03/07/2018			03/09/2018 07:52	Megan Treadwell	1972482
	03/07/2018			03/09/2018 10:23	Megan Treadwell	1972479