

Chemical Analysis Report

NW-DIST-2019-02-12-02

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

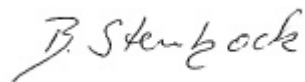
Event Description: **Dune Lakes**
Request ID: **RQ-2019-02-11-24**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 06-MAR-2019 13:47



Case Narrative

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

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: STALWORTH LAKE INPUT

Collection Date/Time: 02/11/2019 10:15

Field ID: G3NW0174

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061811	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P358806	
	EPA 300.0 Rev. 2.1	Chloride	31		mg Cl/L	P359449	
		Sulfate	6.7		mg SO4/L	P359453	
	SM 2120 B	Color (true)	160		PCU	P358811	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P359116	
	SM 2540 C-97	TDS	84		mg/L	P359130	
	SM 2540 D-97	TSS	2	I	mg/L	P359151	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359121	
2061814	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P359058	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P358839	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P359142	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P358862	
	SM 5310 B-00	Organic Carbon	9.8		mg C/L	P358985	
2061817	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358815	

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: OYSTER LAKE INPUT

Collection Date/Time: 02/11/2019 11:10

Field ID: G3NW0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061812	EPA 180.1 Rev. 2.0	Turbidity	7.6	A	NTU	P358806	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P359449	
		Sulfate	3.8		mg SO4/L	P359453	
	SM 2120 B	Color (true)	140		PCU	P358811	
	SM 2320 B-97	Total Alkalinity	1.9	I	mg CaCO3/L	P359116	
	SM 2540 C-97	TDS	64		mg/L	P359130	
	SM 2540 D-97	TSS	8	I	mg/L	P359151	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359121	
2061815	EPA 350.1 Rev. 2.0	Ammonia-N	0.047		mg N/L	P359060	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P358839	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P359142	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P358862	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P358985	
2061818	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P358815	

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: IRWIN CREEK

Collection Date/Time: 02/11/2019 12:55

Field ID: G3NW0175

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061813	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P358806	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P359449	
		Sulfate	5.3		mg SO4/L	P359453	
	SM 2120 B	Color (true)	240		PCU	P358811	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P359116	
	SM 2540 C-97	TDS	72		mg/L	P359130	
	SM 2540 D-97	TSS	2	I	mg/L	P359151	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P359121	
2061816	EPA 350.1 Rev. 2.0	Ammonia-N	0.084		mg N/L	P359060	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P358839	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.042		mg N/L	P359142	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P358862	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P358985	
2061819	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.022		mg P/L	P358815	

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: OYSTER LAKE CENTER

Collection Date/Time: 02/11/2019 10:45

Field ID: G3NW0165

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061820	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P358806	
	EPA 300.0	Bromide	47		mg Br/L	P358982	
	SM 2320 B-97	Total Alkalinity	93		mg CaCO3/L	P359100	
	SM 2540 D-97	TSS	4	I	mg/L	P359154	
	SM 4500 F-C-97	Fluoride	0.84		mg F/L	P359104	
2061823	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P359059	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P358931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P359214	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P358956	
	SM 5310 B-00	Organic Carbon	7.2		mg C/L	P359419	
2061826	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358817	

Sample Location: LITTLE REDFISH LAKE

Collection Date/Time: 02/11/2019 11:40

Field ID: G3NW0125

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061821	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P358806	
	EPA 300.0	Bromide	14		mg Br/L	P358982	
	SM 2320 B-97	Total Alkalinity	36		mg CaCO3/L	P359100	
	SM 2540 D-97	TSS	3	U	mg/L	P359154	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P359612	
2061824	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P359059	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34	I	mg N/L	P358931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P359214	
	EPA 365.1 Rev. 2.0	Total-P	0.009	I	mg P/L	P358956	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P359419	
2061827	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358817	

Sample Location: EASTERN LAKE OFF OF CENTER AVENUE

Collection Date/Time: 02/11/2019 12:15

Field ID: G3NW0124

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2061822	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P358807	
	EPA 300.0	Bromide	32		mg Br/L	P359119	
	SM 2320 B-97	Total Alkalinity	72		mg CaCO3/L	P359100	
	SM 2540 D-97	TSS	3	U	mg/L	P359154	
	SM 4500 F-C-97	Fluoride	0.61		mg F/L	P359104	
2061825	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P359059	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22	I	mg N/L	P358931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P359214	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P358956	
	SM 5310 B-00	Organic Carbon	5.3		mg C/L	P359419	
2061828	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P358817	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358806

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358807

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P358982

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0
Batch ID: P359119

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359449

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359453

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359058

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359059

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359060

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358839

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358931

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359142

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359214

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358862

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358956

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358815

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358817

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

Reference Method: SM 2120 B
Batch ID: P358811

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P359100

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

Reference Method: SM 2320 B-97
Batch ID: P359116

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

Reference Method: SM 2540 C-97
Batch ID: P359130

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P359151

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P359154

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P359121

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P359612

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P358985

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P359419

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P358982

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

Reference Method: EPA 300.0
Batch ID: P359119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	97.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359449

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359453

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359059

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359060

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358839

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358931

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359142

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359214

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: P358862

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358956

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358815

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358817

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

Reference Method: SM 2120 B
Batch ID: P358811

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P359100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P359116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P359121

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

Reference Method: SM 4500 F-C-97
Batch ID: P359612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P358985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359419

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P358982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058620	Bromide	96.0		P	90 - 110
2061372	Bromide	96.0		P	90 - 110

Reference Method: EPA 300.0
Batch ID: P359119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062615	Bromide	94.6	96.9	P/P	90 - 110
2062652	Bromide	95.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061675	Chloride	103		P	90 - 110
2061726	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359453

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061675	Sulfate	102		P	90 - 110
2061726	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061730	Ammonia-N	99.3	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061076	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061851	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061732	Kjeldahl Nitrogen	105	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061773	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061787	NO2NO3-N	98.4	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359214

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061767	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061852	Total-P	101	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061871	Total-P	97.7	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061739	O-Phosphate-P	98.8	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061828	O-Phosphate-P	91.9	94.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061232	Fluoride	96.9	96.2	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P359121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061786	Fluoride	92.6	93.1	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P359612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061821	Fluoride	94.5	96.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P358985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061620	Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062785	Organic Carbon	96.2	96.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061812	Turbidity	2.50	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061850	Turbidity	4.43	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P358982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058620	Bromide	0.790	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P359119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062615	Bromide	1.42	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061675	Chloride	0.0456	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061675	Sulfate	0.0756	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061730	Ammonia-N	1.51	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061076	Ammonia-N	0.359	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061851	Ammonia-N	0.281	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061732	Kjeldahl Nitrogen	2.43	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061773	Kjeldahl Nitrogen	0.463	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061787	NO2NO3-N	0.421	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061767	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061852	Total-P	1.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061871	Total-P	1.29	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061739	O-Phosphate-P	1.31	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061828	O-Phosphate-P	2.26	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P358811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061857	Color (true)	6.17	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P359100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061232	Total Alkalinity	0.248	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P359116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061786	Total Alkalinity	0.477	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P359130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061675	TDS	4.62	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P359154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061081	TSS	5.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P359104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061232	Fluoride	0.473	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P359121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061786	Fluoride	0.474	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P359612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061821	Fluoride	1.42	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P358985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061620	Organic Carbon	0.488	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P359419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062785	Organic Carbon	0.337	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 180.1 Rev. 2.0

Run ID: A89377

Included Lab Sample IDs: 2061811, 2061812, 2061813, 2061820, 2061821, 2061822

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105
Turbidity	102	101	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A89379

Included Lab Sample IDs: 2061811, 2061812, 2061813

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	100	P/P	90 - 115
Color (true)	100	102	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A89380

Included Lab Sample IDs: 2061817, 2061818, 2061819, 2061826, 2061827, 2061828

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	97.8	P/P	90 - 110
O-Phosphate-P	98.6	99.1	P/P	90 - 110
O-Phosphate-P	99.1	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89420

Included Lab Sample IDs: 2061814, 2061815, 2061816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	100	P/P	90 - 110
Total-P	99.5	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89421

Included Lab Sample IDs: 2061814, 2061815, 2061816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	99.3	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A89435

Included Lab Sample IDs: 2061820, 2061821, 2061822

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	102	100	P/P	90 - 110
Bromide	97.4	96.6	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89440

Included Lab Sample IDs: 2061814, 2061815, 2061816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.1	P/P	90 - 110
Organic Carbon	97.1	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89444

Included Lab Sample IDs: 2061823, 2061824, 2061825

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89467

Included Lab Sample IDs: 2061814, 2061815, 2061816, 2061823, 2061824, 2061825

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

Reference Method: SM 2320 B-97

Run ID: A89482

Included Lab Sample IDs: 2061820, 2061821, 2061822

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

Reference Method: SM 4500 F-C-97

Run ID: A89482

Included Lab Sample IDs: 2061820, 2061822

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89485

Included Lab Sample IDs: 2061823, 2061824, 2061825

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

Reference Method: SM 2320 B-97

Run ID: A89490

Included Lab Sample IDs: 2061811, 2061812, 2061813

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A89490

Included Lab Sample IDs: 2061811, 2061812, 2061813

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	94.8	94.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89498

Included Lab Sample IDs: 2061814, 2061815, 2061816

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89525

Included Lab Sample IDs: 2061823, 2061824, 2061825

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

Reference Method: SM 5310 B-00

Run ID: A89603

Included Lab Sample IDs: 2061823, 2061824, 2061825

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.1	94.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A89617

Included Lab Sample IDs: 2061811, 2061812, 2061813

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

Reference Method: SM 4500 F-C-97

Run ID: A89688

Included Lab Sample IDs: 2061821

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	98.6	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					2.50	
	Turbidity					4.43	
EPA 300.0	Bromide	100	96.0	96.0		0.790	
	Bromide	97.9	94.6	96.9	95.4		1.42
EPA 300.0 Rev. 2.1	Chloride	105	103	105		0.0456	
	Sulfate	105	102	104		0.0756	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	99.3	101			1.51
	Ammonia-N	100	101	101			0.359
	Ammonia-N	100	101	102			0.281
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	110	105	109			2.43
	Kjeldahl Nitrogen	107	102	102			0.463
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	98.4	98.0			0.421
	NO2NO3-N	102	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	97.6	101	99.3			1.54
	Total-P	103	97.7	96.4			1.29
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	98.8	100			1.31
	O-Phosphate-P	99.3	91.9	94.0			2.26
SM 2120 B	Color (true)	102				6.17	
SM 2320 B-97	Total Alkalinity	104				0.248	
	Total Alkalinity	102				0.477	
SM 2540 C-97	TDS					4.62	
SM 2540 D-97	TSS					5.80	
SM 4500 F-C-97	Fluoride	97.3	96.9	96.2			0.473
	Fluoride	93.6	92.6	93.1			0.474
	Fluoride	96.3	94.5	96.3			1.42
SM 5310 B-00	Organic Carbon	97.1	101				0.488
	Organic Carbon	97.2	96.2	96.6			0.337

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2061811, 2061812, 2061813, 2061820, 2061821, 2061822
EPA 300.0 / E31780	Bromide in aqueous matrices	2061820, 2061821, 2061822
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2061811, 2061812, 2061813
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2061811, 2061812, 2061813
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2061814, 2061815, 2061816, 2061823, 2061824, 2061825
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2061814, 2061815, 2061816, 2061823, 2061824, 2061825
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2061814, 2061815, 2061816, 2061823, 2061824, 2061825
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2061814, 2061815, 2061816, 2061823, 2061824, 2061825
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2061817, 2061818, 2061819, 2061826, 2061827, 2061828
SM 2120 B / E31780	True Color measured at 450 nm	2061811, 2061812, 2061813
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2061811, 2061812, 2061813, 2061820, 2061821, 2061822
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2061811, 2061812, 2061813
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2061811, 2061812, 2061813, 2061820, 2061821, 2061822

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2061811, 2061812, 2061813, 2061820, 2061821, 2061822
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2061814, 2061815, 2061816, 2061823, 2061824, 2061825

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	02/12/2019			02/12/2019 16:03	Adrian Shelby	2061811, 2061812, 2061813, 2061820, 2061821, 2061822
EPA 300.0	02/12/2019			02/14/2019 21:36	Lipi Saha	2061820
	02/12/2019			02/14/2019 21:53	Lipi Saha	2061821
	02/12/2019			02/15/2019 15:56	Lipi Saha	2061822
EPA 300.0 Rev. 2.1	02/12/2019			02/23/2019 03:51	Lipi Saha	2061811
	02/12/2019			02/23/2019 04:06	Lipi Saha	2061812
	02/12/2019			02/23/2019 04:50	Lipi Saha	2061813
EPA 350.1 Rev. 2.0	02/12/2019			02/15/2019 13:07	Ping Hua	2061814
	02/12/2019			02/15/2019 13:24	Ping Hua	2061824
	02/12/2019			02/15/2019 13:25	Ping Hua	2061825
	02/12/2019			02/15/2019 13:40	Ping Hua	2061823
	02/12/2019			02/15/2019 13:58	Ping Hua	2061816
	02/12/2019			02/15/2019 14:03	Ping Hua	2061815
EPA 351.2 Rev. 2.0	02/12/2019	02/13/2019 12:15	Adrian Shelby	02/14/2019 13:25	Joseph Suarez	2061814
	02/12/2019	02/13/2019 12:15	Adrian Shelby	02/14/2019 13:27	Joseph Suarez	2061815
	02/12/2019	02/13/2019 12:15	Adrian Shelby	02/14/2019 13:28	Joseph Suarez	2061816
	02/12/2019	02/14/2019 12:45	Adrian Shelby	02/15/2019 14:05	Joseph Suarez	2061823
	02/12/2019	02/14/2019 12:45	Adrian Shelby	02/15/2019 14:07	Joseph Suarez	2061824
	02/12/2019	02/14/2019 12:45	Adrian Shelby	02/15/2019 14:08	Joseph Suarez	2061825
EPA 353.2 Rev. 2.0	02/12/2019			02/19/2019 09:14	Beverly Y. Sanders	2061814
	02/12/2019			02/19/2019 09:15	Beverly Y. Sanders	2061815
	02/12/2019			02/19/2019 09:17	Beverly Y. Sanders	2061816
	02/12/2019			02/20/2019 09:49	Beverly Y. Sanders	2061823
	02/12/2019			02/20/2019 09:50	Beverly Y. Sanders	2061824
	02/12/2019			02/20/2019 09:51	Beverly Y. Sanders	2061825
EPA 365.1 Rev. 2.0	02/12/2019	02/13/2019 12:40	Sima Feizi	02/14/2019 13:25	Rosalyn Ballman	2061814
	02/12/2019	02/13/2019 12:40	Sima Feizi	02/14/2019 13:33	Rosalyn Ballman	2061815
	02/12/2019	02/13/2019 12:40	Sima Feizi	02/14/2019 13:34	Rosalyn Ballman	2061816
	02/12/2019	02/14/2019 13:40	Sima Feizi	02/18/2019 13:16	Rosalyn Ballman	2061823
	02/12/2019	02/14/2019 13:40	Sima Feizi	02/18/2019 13:17	Rosalyn Ballman	2061824
	02/12/2019	02/14/2019 13:40	Sima Feizi	02/18/2019 13:18	Rosalyn Ballman	2061825
EPA 365.1 Rev. 2.0 dissolved	02/12/2019			02/12/2019 15:41	Jhamieka S. Greenwood	2061828
	02/12/2019			02/12/2019 15:52	Jhamieka S. Greenwood	2061826, 2061827
	02/12/2019			02/12/2019 16:01	Jhamieka S. Greenwood	2061817
	02/12/2019			02/12/2019 16:02	Jhamieka S. Greenwood	2061818
	02/12/2019			02/12/2019 16:03	Jhamieka S. Greenwood	2061819
SM 2120 B	02/12/2019			02/12/2019 16:27	Chelsea Hernandez	2061812
	02/12/2019			02/12/2019 16:41	Chelsea Hernandez	2061811
	02/12/2019			02/12/2019 16:43	Chelsea Hernandez	2061813

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-97	02/12/2019			02/15/2019 12:48	Dale L. Simmons	2061820
	02/12/2019			02/15/2019 13:00	Dale L. Simmons	2061821
	02/12/2019			02/15/2019 13:12	Dale L. Simmons	2061822
	02/12/2019			02/16/2019 17:51	Dale L. Simmons	2061811
	02/12/2019			02/16/2019 18:05	Dale L. Simmons	2061812
	02/12/2019			02/16/2019 18:17	Dale L. Simmons	2061813
	02/12/2019			02/13/2019 15:22	Yijie Li	2061811, 2061812, 2061813
SM 2540 C-97	02/12/2019			02/13/2019 15:22	Yijie Li	2061811, 2061812, 2061813, 2061820, 2061821, 2061822
SM 4500 F-C-97	02/12/2019			02/15/2019 09:39	Dale L. Simmons	2061820
	02/12/2019			02/15/2019 09:47	Dale L. Simmons	2061822
	02/12/2019			02/16/2019 17:51	Dale L. Simmons	2061811
	02/12/2019			02/16/2019 18:05	Dale L. Simmons	2061812
	02/12/2019			02/16/2019 18:17	Dale L. Simmons	2061813
	02/12/2019			02/27/2019 02:33	Dale L. Simmons	2061821
	02/12/2019			02/14/2019 21:03	Chelsea Hernandez	2061814
SM 5310 B-00	02/12/2019			02/14/2019 21:40	Chelsea Hernandez	2061815
	02/12/2019			02/14/2019 21:52	Chelsea Hernandez	2061816
	02/12/2019			02/24/2019 11:04	Julia Storbeck	2061823
	02/12/2019			02/24/2019 11:20	Julia Storbeck	2061824
	02/12/2019			02/24/2019 11:33	Julia Storbeck	2061825