

Chemical Analysis Report

NW-DIST-2018-03-29-01

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

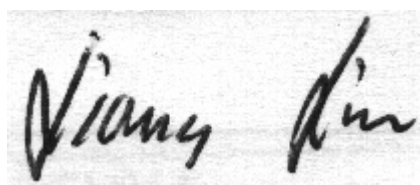
Event Description: **Laurel Hill East**
Request ID: **RQ-2018-03-12-42**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government St
Suite 208A
Pensacola, FL 32502-5794
Attn: Michael King

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 20-APR-2018 14:53

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

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 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: WEST SANDY CREEK

Collection Date/Time: 03/28/2018 11:10

Field ID: G3NW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979002	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P342445	
	EPA 300.0 Rev. 2.1	Chloride	3.6		mg Cl/L	P342595	
		Sulfate	1.4		mg SO4/L	P342598	
	SM 2120 B	Color (true)	52		PCU	P342456	
	SM 2320 B-97	Total Alkalinity	5.3		mg CaCO3/L	P343025	RPD
	SM 2540 C-97	TDS	24	I	mg/L	P343091	
	SM 2540 D-97	TSS	2	I	mg/L	P342610	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P343645	
1979008	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P342927	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P342494	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.39		mg N/L	P342846	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P342738	
	SM 5310 B-00	Organic Carbon	3.6		mg C/L	P342907	
1979014	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342462	

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: HUCKLEBERRY CREEK

Collection Date/Time: 03/28/2018 11:45

Field ID: G3NW0135

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979003	EPA 180.1 Rev. 2.0	Turbidity	2.7	A	NTU	P342445	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P342595	
		Sulfate	0.68		mg SO4/L	P342598	
	SM 2120 B	Color (true)	59		PCU	P342456	
	SM 2320 B-97	Total Alkalinity	4.3		mg CaCO3/L	P343025	RPD
	SM 2540 C-97	TDS	20	I	mg/L	P343091	
	SM 2540 D-97	TSS	2	I	mg/L	P342610	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P343645	
1979009	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P342927	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P342494	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.098		mg N/L	P342846	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P342738	
	SM 5310 B-00	Organic Carbon	4.4		mg C/L	P342907	
1979015	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342461	

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: Eightmile Creek upstream of CR 181 (South of)

Collection Date/Time: 03/28/2018 12:20

Field ID: G3NW0136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979004	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P342445	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P342595	
		Sulfate	0.65		mg SO4/L	P342598	

Field ID: G3NW0136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979004	SM 2120 B	Color (true)	77		PCU	P342456	
	SM 2320 B-97	Total Alkalinity	20		mg CaCO3/L	P343025	RPD
	SM 2540 C-97	TDS	42		mg/L	P343092	
	SM 2540 D-97	TSS	2	I	mg/L	P342610	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P343645	
1979010	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P342927	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P342488	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.098		mg N/L	P342846	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P342738	
	SM 5310 B-00	Organic Carbon	6.6		mg C/L	P342907	
1979016	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342461	

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: CANEY CREEK ABOVE HWY 2A

Collection Date/Time: 03/28/2018 13:00

Field ID: G4NW0397

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979005	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P342445	
	EPA 300.0 Rev. 2.1	Chloride	5.0	A	mg Cl/L	P342596	
		Sulfate	0.40	IA	mg SO4/L	P342599	
	SM 2120 B	Color (true)	47		PCU	P342456	
	SM 2320 B-97	Total Alkalinity	6.7		mg CaCO3/L	P343025	RPD
	SM 2540 C-97	TDS	24	I	mg/L	P343092	
	SM 2540 D-97	TSS	2	U	mg/L	P342610	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P343647	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P342927	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P342488	
1979011	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P342846	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P342641	
	SM 5310 B-00	Organic Carbon	3.6		mg C/L	P342907	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.029		mg P/L	P342461	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: GUM CREEK

Collection Date/Time: 03/28/2018 13:55

Field ID: G4NW0382

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979006	EPA 180.1 Rev. 2.0	Turbidity	2.9	A	NTU	P342446	
	EPA 300.0 Rev. 2.1	Chloride	3.8		mg Cl/L	P342596	
		Sulfate	0.70		mg SO4/L	P342599	
	SM 2120 B	Color (true)	70	A	PCU	P342457	
	SM 2320 B-97	Total Alkalinity	1.4	I	mg CaCO3/L	P343026	RPD
	SM 2540 C-97	TDS	23	I	mg/L	P343092	

Field ID: G4NW0382

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979006	SM 2540 D-97	TSS	4	I	mg/L	P342610	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P343647	
1979012	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P342927	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30		mg N/L	P342488	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.46		mg N/L	P342846	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P342641	
	SM 5310 B-00	Organic Carbon	5.9		mg C/L	P342907	
1979018	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342461	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: SHOAL RIVER ABV LAIRD ROAD

Collection Date/Time: 03/28/2018 14:35

Field ID: G4NW0375

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979007	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P342446	
	EPA 300.0 Rev. 2.1	Chloride	4.0		mg Cl/L	P342596	
		Sulfate	1.0		mg SO4/L	P342599	
	SM 2120 B	Color (true)	56		PCU	P342457	
	SM 2320 B-97	Total Alkalinity	2.7		mg CaCO3/L	P343026	RPD
	SM 2540 C-97	TDS	26		mg/L	P343092	
	SM 2540 D-97	TSS	7	I	mg/L	P342610	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P343647	
1979013	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P342927	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P342488	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.50		mg N/L	P342846	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P342641	
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P342907	
1979019	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342461	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: Eightmile Creek upstream of CR 181 (South of)

Collection Date/Time: 03/28/2018 12:30

Field ID: BLANK_03282018

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979020	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342461	
1979021	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P342446	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P342596	
		Sulfate	0.20	U	mg SO4/L	P342599	
	SM 2120 B	Color (true)	2.5	U	PCU	P342457	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P343026	RPD
	SM 2540 C-97	TDS	15	U	mg/L	P343092	
	SM 2540 D-97	TSS	2	U	mg/L	P342610	

Field ID: BLANK_03282018

Matrix: DI-WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1979021	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P343647	
1979022	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P342927	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P342603	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P342846	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P342641	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P343082	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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: P342445

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P342446

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P342595

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P342596

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P342598

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P342599

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P342927

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: P342488

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342494

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342603

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342846

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342641

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342738

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342461

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342462

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

Reference Method: SM 2120 B
Batch ID: P342456

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P342457

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P343025

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

Reference Method: SM 2320 B-97
Batch ID: P343026

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

Reference Method: SM 2540 C-97
Batch ID: P343091

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P343092

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P342610

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P343645

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P343647

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P342907

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: P343082

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342595

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	94.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342596

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342598

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342599

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342488

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342494

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342603

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342603

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342846

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342641

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342738

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: P342461

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342462

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

Reference Method: SM 2320 B-97
Batch ID: P343025

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.5		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P343026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.3		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P343645

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	91 - 105

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P343647

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

Reference Method: SM 5310 B-00
Batch ID: P342907

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P343082

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342595

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978899	Chloride	94.8		P	90 - 110
1978956	Chloride	96.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342596

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979005	Chloride	97.8		P	90 - 110
1979233	Chloride	94.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342598

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978899	Sulfate	98.0		P	90 - 110
1978956	Sulfate	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342599

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979005	Sulfate	100		P	90 - 110
1979233	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979008	Ammonia-N	98.2	99.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978783	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978907	Kjeldahl Nitrogen	98.5	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342603

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979070	Kjeldahl Nitrogen	89.5	88.9	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342846

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978961	NO2NO3-N	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979236	Total-P	97.0	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342738

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978938	Total-P	98.4	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978963	O-Phosphate-P	98.4	98.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979014	O-Phosphate-P	101	99.0	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P343645

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978282	Fluoride	97.0	97.0	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P343647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979292	Fluoride	96.9	97.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P342907

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978904	Organic Carbon	102	99.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P343082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979043	Organic Carbon	94.4	97.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979003	Turbidity	0.738	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979006	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342595

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978899	Chloride	0.569	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342596

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979005	Chloride	0.600	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978899	Sulfate	0.517	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979008	Ammonia-N	1.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978783	Kjeldahl Nitrogen	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978907	Kjeldahl Nitrogen	0.768	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342603

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979070	Kjeldahl Nitrogen	0.360	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978961	NO2NO3-N	0.926	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979236	Total-P	2.24	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978938	Total-P	0.202	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978963	O-Phosphate-P	0.304	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979014	O-Phosphate-P	1.60	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P342456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978951	Color (true)	0.190	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P342457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979006	Color (true)	0.487	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P343025

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979714	Total Alkalinity	1.58	Sample	F	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P343026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979292	Total Alkalinity	2.33	Sample	F	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P343091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978937	TDS	1.70	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P343092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979042	TDS	0.192	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P343645

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978282	Fluoride	0.0	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P343647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979292	Fluoride	0.477	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P342907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978904	Organic Carbon	2.09	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P343082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979043	Organic Carbon	1.61	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 300.0 Rev. 2.1
Run ID: A82892
Included Lab Sample IDs: 1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.3	97.7	P/P	90 - 110
Chloride	99.0	99.9	P/P	90 - 110
Sulfate	100	98.8	P/P	90 - 110
Sulfate	98.3	97.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A82942
Included Lab Sample IDs: 1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A82943
Included Lab Sample IDs: 1979014, 1979015, 1979016, 1979017, 1979018, 1979019, 1979020

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A82944

Included Lab Sample IDs: 1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	99.8	P/P	85 - 115
Color (true)	99.8	99.6	P/P	85 - 115

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A82998

Included Lab Sample IDs: 1979010, 1979011, 1979012, 1979013

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83005

Included Lab Sample IDs: 1979008, 1979009

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83025

Included Lab Sample IDs: 1979022

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83030

Included Lab Sample IDs: 1979011, 1979012, 1979013, 1979022

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83055

Included Lab Sample IDs: 1979008, 1979009, 1979010

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	102	P/P	90 - 110
Total-P	102	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83062

Included Lab Sample IDs: 1979008, 1979009, 1979010, 1979011, 1979012, 1979013, 1979022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	104	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83079

Included Lab Sample IDs: 1979008, 1979009, 1979010, 1979011, 1979012, 1979013

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

Reference Method: SM 5310 B-00

Run ID: A83079

Included Lab Sample IDs: 1979008, 1979009, 1979010, 1979011, 1979012, 1979013

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	98.3	P/P	90 - 110
Organic Carbon	98.3	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83082

Included Lab Sample IDs: 1979008, 1979009, 1979010, 1979011, 1979012, 1979013, 1979022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	102	P/P	90 - 110
Ammonia-N	99.6	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83116

Included Lab Sample IDs: 1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.4	98.9	P/P	90 - 110
Total Alkalinity	98.9	97.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83136

Included Lab Sample IDs: 1979022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	97.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83315

Included Lab Sample IDs: 1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	99.5	P/P	90 - 110
Fluoride	99.5	102	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		Precision SMP	MS
			LCS			
EPA 180.1 Rev. 2.0	Turbidity				0.738	
	Turbidity				0.0	
EPA 300.0 Rev. 2.1	Chloride	94.7	94.8	96.9	0.569	
	Chloride	97.2	97.8	94.4	0.600	
	Sulfate	97.1	98.0	99.0	0.517	
	Sulfate	98.8	100	101		
EPA 350.1 Rev. 2.0	Ammonia-N	94.9	98.2	99.8		1.02

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	102	101		1.06
	Kjeldahl Nitrogen	97.6	98.5	99.6		0.768
	Kjeldahl Nitrogen	106	89.5	88.9		0.360
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	106	108	108		0.926
EPA 365.1 Rev. 2.0	Total-P	102	97.0	99.7		2.24
	Total-P	103	98.4	98.6		0.202
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	98.4	98.7		0.304
	O-Phosphate-P	102	101	99.0		1.60
SM 2120 B	Color (true)				0.190	
	Color (true)				0.487	
SM 2320 B-97	Total Alkalinity	98.5			1.58	
	Total Alkalinity	98.3			2.33	
SM 2540 C-97	TDS				1.70	
	TDS				0.192	
SM 4500 F-C-97	Fluoride	96.7	97.0	97.0		0.0
	Fluoride	96.2	96.9	97.5		0.477
SM 5310 B-00	Organic Carbon	99.2	102	99.2		2.09
	Organic Carbon	96.0	94.4	97.0		1.61

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1979008, 1979009, 1979010, 1979011, 1979012, 1979013, 1979022
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1979008, 1979009, 1979010, 1979011, 1979012, 1979013, 1979022
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1979008, 1979009, 1979010, 1979011, 1979012, 1979013, 1979022
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1979008, 1979009, 1979010, 1979011, 1979012, 1979013, 1979022
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1979014, 1979015, 1979016, 1979017, 1979018, 1979019, 1979020
SM 2120 B / E31780	True Color measured at 450 nm	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1979008, 1979009, 1979010, 1979011, 1979012, 1979013, 1979022

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	03/29/2018			03/29/2018 16:28	DeAsia Armster	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
EPA 300.0 Rev. 2.1	03/29/2018			03/30/2018 19:44	Lipi Saha	1979002
	03/29/2018			03/30/2018 19:56	Lipi Saha	1979003
	03/29/2018			03/30/2018 20:08	Lipi Saha	1979004
	03/29/2018			03/30/2018 22:43	Lipi Saha	1979005
	03/29/2018			03/30/2018 23:31	Lipi Saha	1979006
	03/29/2018			03/30/2018 23:43	Lipi Saha	1979007
	03/29/2018			03/30/2018 23:55	Lipi Saha	1979021
EPA 350.1 Rev. 2.0	03/29/2018			04/05/2018 12:08	Ping Hua	1979008
	03/29/2018			04/05/2018 12:19	Ping Hua	1979009
	03/29/2018			04/05/2018 12:20	Ping Hua	1979010
	03/29/2018			04/05/2018 12:22	Ping Hua	1979011
	03/29/2018			04/05/2018 12:23	Ping Hua	1979012
	03/29/2018			04/05/2018 12:25	Ping Hua	1979013
	03/29/2018			04/05/2018 12:31	Ping Hua	1979022
EPA 351.2 Rev. 2.0	03/29/2018	03/30/2018 08:12	Adrian Shelby	04/03/2018 13:15	Joseph Suarez	1979008
	03/29/2018	03/30/2018 08:12	Adrian Shelby	04/03/2018 13:17	Joseph Suarez	1979009
	03/29/2018	03/30/2018 10:00	Adrian Shelby	04/03/2018 09:28	Joseph Suarez	1979010
	03/29/2018	03/30/2018 10:00	Adrian Shelby	04/03/2018 09:30	Joseph Suarez	1979011
	03/29/2018	03/30/2018 10:00	Adrian Shelby	04/03/2018 09:31	Joseph Suarez	1979012
	03/29/2018	03/30/2018 10:00	Adrian Shelby	04/03/2018 09:33	Joseph Suarez	1979013
	03/29/2018	04/03/2018 09:50	Adrian Shelby	04/04/2018 10:15	Joseph Suarez	1979022
EPA 353.2 Rev. 2.0	03/29/2018			04/05/2018 12:43	Lauren Bottorf	1979008
	03/29/2018			04/05/2018 12:45	Lauren Bottorf	1979009
	03/29/2018			04/05/2018 12:46	Lauren Bottorf	1979010
	03/29/2018			04/05/2018 12:47	Lauren Bottorf	1979011
	03/29/2018			04/05/2018 12:48	Lauren Bottorf	1979012
	03/29/2018			04/05/2018 12:49	Lauren Bottorf	1979013
	03/29/2018			04/05/2018 12:51	Lauren Bottorf	1979022
EPA 365.1 Rev. 2.0	03/29/2018	04/03/2018 13:07	Sima Feizi	04/04/2018 11:22	Beverly Y. Sanders	1979011
	03/29/2018	04/03/2018 13:07	Sima Feizi	04/04/2018 11:23	Beverly Y. Sanders	1979012
	03/29/2018	04/03/2018 13:07	Sima Feizi	04/04/2018 11:24	Beverly Y. Sanders	1979013
	03/29/2018	04/03/2018 13:07	Sima Feizi	04/04/2018 11:25	Beverly Y. Sanders	1979022
	03/29/2018	04/04/2018 12:52	Sima Feizi	04/05/2018 12:44	Beverly Y. Sanders	1979008
	03/29/2018	04/04/2018 12:52	Sima Feizi	04/05/2018 12:45	Beverly Y. Sanders	1979009
	03/29/2018	04/04/2018 12:52	Sima Feizi	04/05/2018 12:53	Beverly Y. Sanders	1979010
EPA 365.1 Rev. 2.0 dissolved	03/29/2018			03/29/2018 14:59	Megan Treadwell	1979014
	03/29/2018			03/29/2018 15:17	Megan Treadwell	1979015
	03/29/2018			03/29/2018 15:18	Megan Treadwell	1979016

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	03/29/2018			03/29/2018 15:23	Megan Treadwell	1979017
	03/29/2018			03/29/2018 15:24	Megan Treadwell	1979018
	03/29/2018			03/29/2018 15:25	Megan Treadwell	1979019
	03/29/2018			03/29/2018 15:26	Megan Treadwell	1979020
SM 2120 B	03/29/2018			03/29/2018 16:53	Tanya Welborn	1979002, 1979003
	03/29/2018			03/29/2018 16:54	Tanya Welborn	1979004
	03/29/2018			03/29/2018 16:55	Tanya Welborn	1979005
	03/29/2018			03/29/2018 16:59	Tanya Welborn	1979006, 1979007
SM 2320 B-97	03/29/2018			03/29/2018 17:00	Tanya Welborn	1979021
	03/29/2018			04/06/2018 21:13	Dale L. Simmons	1979002
	03/29/2018			04/06/2018 21:27	Dale L. Simmons	1979003
	03/29/2018			04/06/2018 21:41	Dale L. Simmons	1979004
SM 2540 C-97	03/29/2018			04/06/2018 21:55	Dale L. Simmons	1979005
	03/29/2018			04/06/2018 23:44	Dale L. Simmons	1979006
	03/29/2018			04/06/2018 23:58	Dale L. Simmons	1979007
	03/29/2018			04/07/2018 00:11	Dale L. Simmons	1979021
SM 2540 D-97	03/29/2018			03/30/2018 11:35	DeAsia Armster	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
SM 4500 F-C-97	03/29/2018			03/30/2018 11:35	DeAsia Armster	1979002, 1979003, 1979004, 1979005, 1979006, 1979007, 1979021
SM 5310 B-00	03/29/2018			04/17/2018 16:22	Dale L. Simmons	1979002
	03/29/2018			04/17/2018 16:27	Dale L. Simmons	1979003
	03/29/2018			04/17/2018 16:32	Dale L. Simmons	1979004
	03/29/2018			04/17/2018 17:05	Dale L. Simmons	1979005
SM 5310 B-00	03/29/2018			04/17/2018 17:09	Dale L. Simmons	1979006
	03/29/2018			04/17/2018 17:14	Dale L. Simmons	1979007
	03/29/2018			04/17/2018 17:18	Dale L. Simmons	1979021
	03/29/2018			04/06/2018 03:10	Julia Storbeck	1979008
SM 5310 B-00	03/29/2018			04/06/2018 03:25	Julia Storbeck	1979009
	03/29/2018			04/06/2018 03:37	Julia Storbeck	1979010
	03/29/2018			04/06/2018 03:49	Julia Storbeck	1979011
	03/29/2018			04/06/2018 04:01	Julia Storbeck	1979012
SM 5310 B-00	03/29/2018			04/06/2018 04:38	Julia Storbeck	1979013
	03/29/2018			04/06/2018 18:29	Julia Storbeck	1979022