

Chemical Analysis Report

SE-DIST-2018-08-22-01

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

Event Description: **SMP- Dade**
Request ID: **RQ-2018-08-20-55**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

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Certified by: Colin Wright, Program Administrator

Date Certified: 06-SEP-2018 13:40

A handwritten signature in black ink, appearing to read "Colin Wright", 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 groups are included in this report: Metals, Nutrients and Pesticides.

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: Miami (C-6) @ S26

Collection Date/Time: 08/21/2018 12:20

Field ID: G4SE0024

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019018	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P350641	
	SM 2320 B-97	Total Alkalinity	206		mg CaCO3/L	P350793	
	SM 2540 D-97	TSS	3	I	mg/L	P351018	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P350796	
2019019	EPA 350.1 Rev. 2.0	Ammonia-N	0.49		mg N/L	P350839	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P350748	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.040		mg N/L	P350853	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P350901	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P350836	
2019020	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P350607	
2019047	EPA 8321B	2,4-D	0.0020	U	ug/L	P350552	MS
		Bentazon	0.0061		ug/L	P350552	
		MCP	0.0020	U	ug/L	P350552	MS
		Triclopyr**	0.0040	U	ug/L	P350552	MS
		Imidacloprid	0.0020	U	ug/L	P350552	
		Diuron	0.0078	I	ug/L	P350552	
		Pyraclostrobin**	0.0020	U	ug/L	P350552	
		Primidone**	0.0040	U	ug/L	P350552	
		Linuron	0.0040	U	ug/L	P350552	
		Acetaminophen**	0.0080	U	ug/L	P350552	
		Fenuron	0.016	U	ug/L	P350552	
		Imazapyr**	0.081		ug/L	P350552	
		Carbamazepine**	8.0E-04	U	ug/L	P350552	
		Fluridone**	0.0037		ug/L	P350552	
		Hydrocodone**	8.0E-04	U	ug/L	P350552	
		Naproxen**	0.0080	U	ug/L	P350552	
		Ibuprofen**	0.020	U	ug/L	P350552	
		Sucralose**	0.033	I	ug/L	P350504	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Wagner Creek (WC-02)

Collection Date/Time: 08/21/2018 12:50

Field ID: G4SEWC02

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019021	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P350641	
	SM 2320 B-97	Total Alkalinity	179		mg CaCO3/L	P350793	
	SM 2540 D-97	TSS	2	I	mg/L	P351018	
	SM 4500 F-C-97	Fluoride	0.29		mg F/L	P350796	
2019022	EPA 350.1 Rev. 2.0	Ammonia-N	0.23		mg N/L	P350839	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P350748	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P350853	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P350901	
	SM 5310 B-00	Organic Carbon	3.4		mg C/L	P350836	
2019023	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P350607	
2019048	EPA 8321B	2,4-D	0.030		ug/L	P350552	MS
		Bentazon	0.0016	I	ug/L	P350552	
		MCP	0.0020	U	ug/L	P350552	MS
		Triclopyr**	0.0040	U	ug/L	P350552	MS
		Imidacloprid	0.0025	I	ug/L	P350552	
		Diuron	0.016		ug/L	P350552	
		Pyraclostrobin**	0.0020	U	ug/L	P350552	
		Primidone**	0.0040	U	ug/L	P350552	
		Linuron	0.0040	U	ug/L	P350552	
		Acetaminophen**	0.36		ug/L	P350552	
		Fenuron	0.016	U	ug/L	P350552	
		Imazapyr**	0.070		ug/L	P350552	
		Carbamazepine**	0.0028	I	ug/L	P350552	
		Fluridone**	0.0014	I	ug/L	P350552	
		Hydrocodone**	8.0E-04	U	ug/L	P350552	
		Naproxen**	0.0095	I	ug/L	P350552	
		Ibuprofen**	0.034	I	ug/L	P350552	
		Sucralose**	0.33		ug/L	P350504	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Snake Creek (East) @ Flamingo

Collection Date/Time: 08/21/2018 13:30

Field ID: G4SE0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019012	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P350641	
	EPA 300.0 Rev. 2.1	Chloride	56		mg Cl/L	P350845	
		Sulfate	3.0		mg SO4/L	P350848	
		Color (true)	38		PCU	P350618	
	SM 2320 B-97	Total Alkalinity	196		mg CaCO3/L	P350793	
	SM 2540 C-97	TDS	316	A	mg/L	P351020	
	SM 2540 D-97	TSS	3	IA	mg/L	P351015	
	SM 4500 F-C-97	Fluoride	0.27		mg F/L	P350796	
2019014	EPA 350.1 Rev. 2.0	Ammonia-N	0.25		mg N/L	P350839	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P350748	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P350853	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P350901	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P350836	
2019016	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P350607	
2019049	EPA 200.7 Rev. 4.4	Calcium	64.3		mg/L	P350621	
		Iron	270		ug/L	P350621	
		Magnesium	9.77		mg/L	P350621	
		Potassium	2.6		mg/L	P350621	
		Sodium	37.5		mg/L	P350621	
		Zinc	5.0	U	ug/L	P350621	
	EPA 200.8 Rev. 5.4	Arsenic	1.05		ug/L	P350621	
		Cadmium	0.020	U	ug/L	P350621	
		Chromium	0.40	U	ug/L	P350621	
		Copper	0.22	I	ug/L	P350621	
		Lead	0.060	I	ug/L	P350621	
		Nickel	0.20	U	ug/L	P350621	
		Silver	0.010	U	ug/L	P350621	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Snake Creek (East) @ Flamingo

Collection Date/Time: 08/21/2018 13:40

Field ID: DUPE_G4SE0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019013	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P350641	
	EPA 300.0 Rev. 2.1	Chloride	59		mg Cl/L	P350845	
		Sulfate	3.2		mg SO4/L	P350848	
	SM 2120 B	Color (true)	37		PCU	P350618	
	SM 2320 B-97	Total Alkalinity	197		mg CaCO3/L	P350793	
	SM 2540 C-97	TDS	316	A	mg/L	P351021	
	SM 2540 D-97	TSS	3	IA	mg/L	P351016	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P350796	
2019015	EPA 350.1 Rev. 2.0	Ammonia-N	0.25		mg N/L	P350839	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P350748	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P350853	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P350901	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P350836	
2019017	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P350607	
2019050	EPA 200.7 Rev. 4.4	Calcium	66.1		mg/L	P350621	
		Iron	260		ug/L	P350621	
		Magnesium	9.84		mg/L	P350621	
		Potassium	2.7		mg/L	P350621	
		Sodium	37.9		mg/L	P350621	
		Zinc	5.0	U	ug/L	P350621	
	EPA 200.8 Rev. 5.4	Arsenic	1.04		ug/L	P350621	
		Cadmium	0.020	U	ug/L	P350621	
		Chromium	0.40	U	ug/L	P350621	
		Copper	0.22	I	ug/L	P350621	
		Lead	0.060	I	ug/L	P350621	
		Nickel	0.20	U	ug/L	P350621	
		Silver	0.010	U	ug/L	P350621	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P350641

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

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: P350845

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350848

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350839

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350748

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350853

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350901

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350607

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

Reference Method: EPA 8321B
Batch ID: P350504

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P350552

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P350618

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P350793

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P350793

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

Reference Method: SM 2540 C-97
Batch ID: P351020

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P351021

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351015

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351016

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351018

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P350796

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P350836

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: P350621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	104		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	100		P	85 - 115
Sodium	97.7		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.0		P	85 - 115
Copper	99.3		P	85 - 115
Lead	99.6		P	85 - 115
Nickel	101		P	85 - 115
Silver	98.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350845

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350848

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350839

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350748

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350853

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P350901

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P350607

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.4		P	90 - 110

Reference Method: EPA 8321B

Batch ID: P350504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	89.4		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P350552

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.0		P	40 - 150
Acetaminophen	113		P	30 - 150
Bentazon	124		P	30 - 150
Carbamazepine	73.5		P	40 - 150
Diuron	79.4		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	70.9		P	40 - 150
Hydrocodone	95.7		P	40 - 150
Ibuprofen	99.1		P	40 - 150
Imazapyr	89.1		P	40 - 150
Imidacloprid	104		P	40 - 160
Linuron	58.1		P	40 - 150
MCPP	99.3		P	40 - 150
Naproxen	82.8		P	40 - 150
Primidone	102		P	40 - 150
Pyraclostrobin	61.7		P	40 - 150
Triclopyr	104		P	40 - 150

Reference Method: SM 2120 B

Batch ID: P350618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	85 - 115

Reference Method: SM 2320 B-97

Batch ID: P350793

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 107

Reference Method: SM 4500 F-C-97

Batch ID: P350796

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

Reference Method: SM 4500 F-C-97
Batch ID: P350796

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P350836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018787	Calcium	108		P	80 - 120
2018787	Iron	107		P	80 - 120
2018787	Magnesium	110		P	80 - 120
2018787	Potassium	103		P	80 - 120
2018787	Sodium	104		P	80 - 120
2018787	Zinc	106		P	80 - 120
2019049	Calcium	100		P	80 - 120
2019049	Iron	104	101	P/P	80 - 120
2019049	Magnesium	101		P	80 - 120
2019049	Potassium	101	97.6	P/P	80 - 120
2019049	Sodium	99.1		P	80 - 120
2019049	Zinc	105	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018787	Arsenic	102		P	80 - 120
2018787	Cadmium	105		P	80 - 120
2018787	Chromium	99.4		P	80 - 120
2018787	Copper	99.5		P	80 - 120
2018787	Lead	101		P	80 - 120
2018787	Nickel	101		P	80 - 120
2018787	Silver	100		P	80 - 120
2019049	Arsenic	102	106	P/P	80 - 120
2019049	Cadmium	100	105	P/P	80 - 120
2019049	Chromium	92.5	94.9	P/P	80 - 120
2019049	Copper	94.6	97.7	P/P	80 - 120
2019049	Lead	99.3	103	P/P	80 - 120
2019049	Nickel	97.1	101	P/P	80 - 120
2019049	Silver	96.9	99.2	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350845

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018855	Chloride	94.1		P	90 - 110
2018925	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350848

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018855	Sulfate	98.3		P	90 - 110
2018925	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018996	Ammonia-N	102	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350748

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019015	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018996	NO2NO3-N	99.5	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350901

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019022	Total-P	98.7	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018997	O-Phosphate-P	97.1	98.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P350504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019172	Sucralose	103	106	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P350552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019699	2,4-D	180	141	F/P	40 - 150
2019699	Acetaminophen	135	138	P/P	30 - 150
2019699	Bentazon	99.7	87.8	P/P	30 - 150
2019699	Carbamazepine	56.2	56.9	P/P	40 - 150
2019699	Diuron	64.4	64.8	P/P	40 - 150
2019699	Fenuron	75.4	76.2	P/P	40 - 150
2019699	Fluridone	58.9	57.5	P/P	40 - 150
2019699	Hydrocodone	84.2	80.4	P/P	40 - 150
2019699	Ibuprofen	96.9	92.2	P/P	40 - 150
2019699	Imazapyr	100	91.1	P/P	40 - 150
2019699	Imidacloprid	158	156	P/P	40 - 160
2019699	Linuron	54.8	57.3	P/P	40 - 150
2019699	MCPP	162	170	F/F	40 - 150
2019699	Naproxen	109	104	P/P	40 - 150
2019699	Primidone	91.9	91.1	P/P	40 - 150
2019699	Pyraclostrobin	71.0	68.6	P/P	40 - 150
2019699	Triclopyr	182	182	F/F	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P350796

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

Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P350796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019110	Fluoride	99.6	99.6	P/P	91 - 105

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P350641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018995	Turbidity	2.22	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019049	Calcium	2.52	Spike	P	0 - 20
2019049	Iron	2.40	Spike	P	0 - 20
2019049	Magnesium	1.39	Spike	P	0 - 20
2019049	Potassium	1.90	Spike	P	0 - 20
2019049	Sodium	1.39	Spike	P	0 - 20
2019049	Zinc	3.76	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019049	Arsenic	3.07	Spike	P	0 - 20
2019049	Cadmium	4.07	Spike	P	0 - 20
2019049	Chromium	2.52	Spike	P	0 - 20
2019049	Copper	3.14	Spike	P	0 - 20
2019049	Lead	3.87	Spike	P	0 - 20
2019049	Nickel	3.50	Spike	P	0 - 20
2019049	Silver	2.35	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018855	Chloride	0.0733	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018855	Sulfate	0.0235	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018996	Ammonia-N	0.930	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350748

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019015	Kjeldahl Nitrogen	0.177	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018996	NO2NO3-N	2.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019022	Total-P	0.591	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018997	O-Phosphate-P	1.23	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P350504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019172	Sucralose	2.64	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P350552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019699	2,4-D	16.2	Spike	P	0 - 30
2019699	Acetaminophen	2.32	Spike	P	0 - 30
2019699	Bentazon	12.0	Spike	P	0 - 30
2019699	Carbamazepine	1.29	Spike	P	0 - 30
2019699	Diuron	0.587	Spike	P	0 - 30
2019699	Fenuron	1.09	Spike	P	0 - 30
2019699	Fluridone	1.59	Spike	P	0 - 30
2019699	Hydrocodone	4.54	Spike	P	0 - 30
2019699	Ibuprofen	4.93	Spike	P	0 - 30
2019699	Imazapyr	5.71	Spike	P	0 - 30
2019699	Imidacloprid	1.75	Spike	P	0 - 30
2019699	Linuron	4.50	Spike	P	0 - 30
2019699	MCPP	5.31	Spike	P	0 - 30
2019699	Naproxen	4.41	Spike	P	0 - 30
2019699	Primidone	0.918	Spike	P	0 - 30
2019699	Pyraclostrobin	3.38	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P350552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019699	Triclopyr	0.0605	Spike	P	0 - 30

Reference Method: SM 2120 B
 Batch ID: P350618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018925	Color (true)	1.52	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P350793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019110	Total Alkalinity	0.105	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P351020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019012	TDS	6.64	Sample	P	0 - 10

Reference Method: SM 2540 C-97
 Batch ID: P351021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019013	TDS	4.12	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P350796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019110	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
 Batch ID: P350836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019004	Organic Carbon	0.204	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 Surrogates

Lab Sample ID: 2019047
Field Sample ID: G4SE0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	148	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.0	P	30 - 160
EPA 8321B	Diuron-d6	68.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.4	P	30 - 160
EPA 8321B	Primidone-d5	90.5	P	30 - 160
EPA 8321B	Sucralose-d6	68.1	P	40 - 160

Lab Sample ID: 2019048
Field Sample ID: G4SEWC02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	134	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.2	P	30 - 160
EPA 8321B	Diuron-d6	70.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.1	P	30 - 160
EPA 8321B	Primidone-d5	95.3	P	30 - 160
EPA 8321B	Sucralose-d6	70.8	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86049

Included Lab Sample IDs: 2019012, 2019013

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86064

Included Lab Sample IDs: 2019016, 2019017, 2019020, 2019023

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	97.3	P/P	90 - 110
O-Phosphate-P	99.8	98.8	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A86065

Included Lab Sample IDs: 2019012, 2019013

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86071

Included Lab Sample IDs: 2019012, 2019013, 2019018, 2019021

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A86093

Included Lab Sample IDs: 2019049, 2019050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	102	P/P	90 - 110
Iron	106	103	P/P	90 - 110
Magnesium	106	102	P/P	90 - 110
Potassium	104	101	P/P	90 - 110
Sodium	102	98.7	P/P	90 - 110
Zinc	107	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86110

Included Lab Sample IDs: 2019047, 2019048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	77.3	86.8	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A86129

Included Lab Sample IDs: 2019012, 2019013, 2019018, 2019021

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	106	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A86129

Included Lab Sample IDs: 2019012, 2019013, 2019018, 2019021

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

Reference Method: EPA 8321B

Run ID: A86134

Included Lab Sample IDs: 2019047, 2019048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	83.4	104	P/P	50 - 150
Bentazon	85.1	88.2	P/P	50 - 160
Ibuprofen	108	97.5	P/P	50 - 160
MCP	94.4	93.9	P/P	50 - 150
Naproxen	74.5	108	P/P	50 - 160
Triclopyr	96.4	91.5	P/P	50 - 160

Reference Method: SM 5310 B-00

Run ID: A86150

Included Lab Sample IDs: 2019014, 2019015, 2019019, 2019022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86153

Included Lab Sample IDs: 2019014, 2019015, 2019019, 2019022

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86155

Included Lab Sample IDs: 2019014, 2019015, 2019019, 2019022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86157

Included Lab Sample IDs: 2019014, 2019015, 2019019, 2019022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	100	P/P	90 - 110
Kjeldahl Nitrogen	98.2	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86159

Included Lab Sample IDs: 2019049, 2019050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	96.4	97.1	P/P	90 - 110
Cadmium	96.2	96.0	P/P	90 - 110
Chromium	96.3	92.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86159

Included Lab Sample IDs: 2019049, 2019050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	96.1	94.3	P/P	90 - 110
Lead	101	101	P/P	90 - 110
Nickel	95.5	93.5	P/P	90 - 110
Silver	96.2	95.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86195

Included Lab Sample IDs: 2019047, 2019048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	113	124	P/P	60 - 150
Acetaminophen	124	118	P/P	60 - 150
Carbamazepine	100	96.0	P/P	60 - 150
Carbamazepine	99.5	100	P/P	60 - 150
Diuron	120	118	P/P	60 - 150
Diuron	122	120	P/P	60 - 150
Fenuron	105	107	P/P	60 - 150
Fenuron	109	105	P/P	60 - 150
Fluridone	107	110	P/P	60 - 160
Fluridone	112	107	P/P	60 - 160
Hydrocodone	110	111	P/P	60 - 150
Hydrocodone	111	115	P/P	60 - 150
Imazapyr	100	107	P/P	50 - 150
Imazapyr	92.9	100	P/P	50 - 150
Imidacloprid	109	108	P/P	60 - 150
Imidacloprid	112	109	P/P	60 - 150
Linuron	102	106	P/P	60 - 150
Linuron	111	102	P/P	60 - 150
Primidone	109	113	P/P	60 - 150
Primidone	113	123	P/P	60 - 150
Pyraclostrobin	95.4	94.3	P/P	60 - 150
Pyraclostrobin	96.5	95.4	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86208

Included Lab Sample IDs: 2019014, 2019015, 2019019, 2019022

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.2	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						2.22	
EPA 200.7 Rev. 4.4	Calcium	101	108	100				2.52
	Iron	104	107	104	101			2.40
	Magnesium	101	110	101				1.39
	Potassium	100	103	101	97.6			1.90
	Sodium	97.7	104	99.1				1.39
	Zinc	102	106	105	101			3.76
EPA 200.8 Rev. 5.4	Arsenic	102	102	102	106			3.07
	Cadmium	100	105	100	105			4.07
	Chromium	98.0	99.4	92.5	94.9			2.52
	Copper	99.3	99.5	94.6	97.7			3.14
	Lead	99.6	101	99.3	103			3.87
	Nickel	101	101	97.1	101			3.50
	Silver	98.3	100	96.9	99.2			2.35
EPA 300.0 Rev. 2.1	Chloride	103	94.1	101			0.0733	
	Sulfate	102	98.3	101			0.0235	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	102	101				0.930
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	102	102				0.177
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	99.5	102				2.48
EPA 365.1 Rev. 2.0	Total-P	98.9	98.7	99.4				0.591
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.4	97.1	98.3				1.23
EPA 8321B	2,4-D	86.0	180	141				16.2
	Acetaminophen	113	135	138				2.32
	Bentazon	124	99.7	87.8				12.0
	Carbamazepine	73.5	56.2	56.9				1.29
	Diuron	79.4	64.4	64.8				0.587
	Fenuron	104	75.4	76.2				1.09
	Fluridone	70.9	58.9	57.5				1.59
	Hydrocodone	95.7	84.2	80.4				4.54
	Ibuprofen	99.1	96.9	92.2				4.93
	Imazapyr	89.1	100	91.1				5.71
	Imidacloprid	104	158	156				1.75
	Linuron	58.1	54.8	57.3				4.50
	MCP	99.3	162	170				5.31
	Naproxen	82.8	109	104				4.41
	Primidone	102	91.9	91.1				0.918
	Pyraclostrobin	61.7	71.0	68.6				3.38
	Sucralose	89.4	103	106				2.64
	Triclopyr	104	182	182				0.0605
SM 2120 B	Color (true)	99.2					1.52	
SM 2320 B-97	Total Alkalinity	105					0.105	
SM 2540 C-97	TDS						6.64	
	TDS						4.12	
SM 4500 F-C-97	Fluoride	100	99.6	99.6				0.0
SM 5310 B-00	Organic Carbon	96.8						0.204

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2019012, 2019013, 2019018, 2019021
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2019049, 2019050

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2019049, 2019050
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2019012, 2019013
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2019012, 2019013
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2019014, 2019015, 2019019, 2019022
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2019014, 2019015, 2019019, 2019022
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2019014, 2019015, 2019019, 2019022
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2019014, 2019015, 2019019, 2019022
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2019016, 2019017, 2019020, 2019023
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2019047, 2019048
SM 2120 B / E31780	True Color measured at 450 nm	2019012, 2019013
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2019012, 2019013, 2019018, 2019021
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2019012, 2019013
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2019012, 2019013, 2019018, 2019021
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2019012, 2019013, 2019018, 2019021
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2019014, 2019015, 2019019, 2019022

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/22/2018			08/22/2018 17:25	Megan Treadwell	2019012, 2019013, 2019018, 2019021
EPA 200.7 Rev. 4.4	08/22/2018	08/22/2018 18:00	Elliott D. Healy	08/23/2018 18:27	Betina Topolski	2019049
	08/22/2018	08/22/2018 18:00	Elliott D. Healy	08/23/2018 18:53	Betina Topolski	2019050
EPA 200.8 Rev. 5.4	08/22/2018	08/22/2018 18:00	Elliott D. Healy	08/28/2018 23:40	Allison Taylor	2019049
	08/22/2018	08/22/2018 18:00	Elliott D. Healy	08/29/2018 00:09	Allison Taylor	2019050
EPA 300.0 Rev. 2.1	08/22/2018			08/24/2018 07:10	Lipi Saha	2019012
	08/22/2018			08/24/2018 07:22	Lipi Saha	2019013
EPA 350.1 Rev. 2.0	08/22/2018			08/27/2018 13:04	Ping Hua	2019022
	08/22/2018			08/27/2018 13:06	Ping Hua	2019014
	08/22/2018			08/27/2018 13:07	Ping Hua	2019015
	08/22/2018			08/27/2018 13:09	Ping Hua	2019019
EPA 351.2 Rev. 2.0	08/22/2018	08/27/2018 11:00	Adrian Shelby	08/28/2018 14:18	Joseph Suarez	2019014
	08/22/2018	08/27/2018 11:00	Adrian Shelby	08/28/2018 14:23	Joseph Suarez	2019015
	08/22/2018	08/27/2018 11:00	Adrian Shelby	08/28/2018 14:27	Joseph Suarez	2019019
	08/22/2018	08/27/2018 11:00	Adrian Shelby	08/28/2018 14:29	Joseph Suarez	2019022
EPA 353.2 Rev. 2.0	08/22/2018			08/28/2018 11:48	Lauren Bottorf	2019014
	08/22/2018			08/28/2018 11:49	Lauren Bottorf	2019015
	08/22/2018			08/28/2018 11:53	Lauren Bottorf	2019019
	08/22/2018			08/28/2018 11:54	Lauren Bottorf	2019022
EPA 365.1 Rev. 2.0	08/22/2018	08/29/2018 13:20	Sima Feizi	08/30/2018 11:57	Beverly Y. Sanders	2019014
	08/22/2018	08/29/2018 13:20	Sima Feizi	08/30/2018 11:58	Beverly Y. Sanders	2019015, 2019019
	08/22/2018	08/29/2018 13:20	Sima Feizi	08/30/2018 11:59	Beverly Y. Sanders	2019022
EPA 365.1 Rev. 2.0 dissolved	08/22/2018			08/22/2018 14:43	Julia Storbeck	2019016, 2019017
	08/22/2018			08/22/2018 15:05	Julia Storbeck	2019020
	08/22/2018			08/22/2018 15:06	Julia Storbeck	2019023
EPA 8321B	08/22/2018	08/23/2018 12:45	Mohammad Ghaffari	08/24/2018 12:06	Mohammad Ghaffari	2019047
	08/22/2018	08/23/2018 12:45	Mohammad Ghaffari	08/24/2018 12:21	Mohammad Ghaffari	2019048
	08/22/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 05:38	Juyoung Kim	2019047
	08/22/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 06:12	Juyoung Kim	2019048
	08/22/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 11:16	Juyoung Kim	2019047
	08/22/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 12:25	Juyoung Kim	2019048
SM 2120 B	08/22/2018			08/22/2018 16:17	William L. Brown IV	2019012
	08/22/2018			08/22/2018 16:18	William L. Brown IV	2019013
SM 2320 B-97	08/22/2018			08/25/2018 10:19	Dale L. Simmons	2019012
	08/22/2018			08/25/2018 10:31	Dale L. Simmons	2019013
	08/22/2018			08/25/2018 10:42	Dale L. Simmons	2019018
	08/22/2018			08/25/2018 11:37	Dale L. Simmons	2019021
SM 2540 C-97	08/22/2018			08/24/2018 16:01	Yijie Li	2019012, 2019013
SM 2540 D-97	08/22/2018			08/24/2018 16:01	Yijie Li	2019012, 2019013, 2019018, 2019021
SM 4500 F-C-97	08/22/2018			08/25/2018 10:19	Dale L. Simmons	2019012

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	08/22/2018			08/25/2018 10:31	Dale L. Simmons	2019013
	08/22/2018			08/25/2018 10:42	Dale L. Simmons	2019018
	08/22/2018			08/25/2018 11:37	Dale L. Simmons	2019021
SM 5310 B-00	08/22/2018			08/28/2018 00:22	Megan Treadwell	2019014
	08/22/2018			08/28/2018 00:35	Megan Treadwell	2019015
	08/22/2018			08/28/2018 00:48	Megan Treadwell	2019019
	08/22/2018			08/28/2018 01:04	Megan Treadwell	2019022