

Chemical Analysis Report

SE-DIST-2018-08-31-01

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

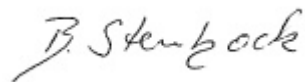
Event Description: **SMP- Fort Pierce**
Request ID: **RQ-2018-08-27-35**
Customer: **SE-DIST**
Project ID: **SMP**

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

Date Certified: 26-SEP-2018 13:15



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: C-25 CANAL WEST @ GODWIN

Collection Date/Time: 08/30/2018 10:00

Field ID: G2SE0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2021404	EPA 180.1 Rev. 2.0	Turbidity	7.6	A	NTU	P351100	
	EPA 300.0 Rev. 2.1	Chloride	79		mg Cl/L	P351466	
		Sulfate	26		mg SO4/L	P351468	
	SM 2120 B	Color (true)	220		PCU	P351037	
	SM 2320 B-97	Total Alkalinity	95		mg CaCO3/L	P351369	
	SM 2540 C-97	TDS	368		mg/L	P351409	
	SM 2540 D-97	TSS	12		mg/L	P351379	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P351373	
2021405	EPA 350.1 Rev. 2.0	Ammonia-N	0.071		mg N/L	P351215	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P351110	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P351310	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P351080	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P351134	
2021406	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P351039	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: FORT PIERCE FARM CANAL @ TAYLOR DAIRY Collection Date/Time: 08/30/2018 10:35

Field ID: G2SE0002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2021407	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P351100	
	EPA 300.0 Rev. 2.1	Chloride	300		mg Cl/L	P351466	
		Sulfate	72		mg SO4/L	P351468	
	SM 2120 B	Color (true)	57	A	PCU	P351037	
	SM 2320 B-97	Total Alkalinity	175		mg CaCO3/L	P351369	
	SM 2540 C-97	TDS	782		mg/L	P351409	
	SM 2540 D-97	TSS	3	I	mg/L	P351379	
	SM 4500 F-C-97	Fluoride	0.41		mg F/L	P351373	
2021408	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P351281	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P351110	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P351310	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P351080	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P351134	
2021409	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P351039	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: MOORES CREEK @ 7TH

Collection Date/Time: 08/30/2018 11:00

Field ID: G2SE0016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2021416	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P351100	
	SM 2320 B-97	Total Alkalinity	130		mg CaCO3/L	P351369	
	SM 2540 D-97	TSS	2	I	mg/L	P351379	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P351373	
2021418	EPA 350.1 Rev. 2.0	Ammonia-N	0.065		mg N/L	P351281	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P351111	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P351310	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P351080	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P351134	
2021420	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P351039	
2021436	EPA 8321B	2,4-D	0.0075	I	ug/L	P350923	
		Sucralose**	0.43		ug/L	P350994	
		Bentazon	8.0E-04	U	ug/L	P350923	MS
		MCP	0.0020	U	ug/L	P350923	
		Triclopyr**	0.0040	U	ug/L	P350923	
		Imidacloprid	0.0027	I	ug/L	P350923	
		Diuron	0.0034	I	ug/L	P350923	
		Pyraclostrobin**	0.0020	U	ug/L	P350923	
		Primidone**	0.0040	U	ug/L	P350923	
		Linuron	0.0040	U	ug/L	P350923	
		Acetaminophen**	0.0080	U	ug/L	P350923	
		Fenuron	0.016	U	ug/L	P350923	
		Imazapyr**	0.021		ug/L	P350923	
		Carbamazepine**	0.0012	I	ug/L	P350923	
		Fluridone**	0.0013	I	ug/L	P350923	
		Hydrocodone**	8.0E-04	U	ug/L	P350923	
		Naproxen**	0.0080	U	ug/L	P350923	
		Ibuprofen**	0.020	U	ug/L	P350923	
		Acesulfame K**	0.10	U	ug/L	P350994	
2021439	EPA 200.7 Rev. 4.4	Iron	260		ug/L	P351064	
		Zinc	5.0	U	ug/L	P351064	
	EPA 200.8 Rev. 5.4	Arsenic	0.78		ug/L	P351064	
		Cadmium	0.020	U	ug/L	P351064	
		Chromium	0.63	I	ug/L	P351064	
		Copper	0.74	I	ug/L	P351064	
		Lead	0.38		ug/L	P351064	
		Nickel	0.48	I	ug/L	P351064	
		Silver	0.010	U	ug/L	P351064	

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: MOORES CREEK @ 2nd

Collection Date/Time: 08/30/2018 11:55

Field ID: G2SE0025

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2021417	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P351100	
	SM 2320 B-97	Total Alkalinity	124	A	mg CaCO3/L	P351370	
	SM 2540 D-97	TSS	8	IA	mg/L	P351380	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P351374	
2021419	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P351088	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P351169	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P351341	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P351142	
	SM 5310 B-00	Organic Carbon	5.9		mg C/L	P351338	
2021421	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.035		mg P/L	P351040	
2021437	EPA 8321B	2,4-D	0.0046	I	ug/L	P350923	
		Sucralose**	0.064		ug/L	P350994	
		Bentazon	8.0E-04	U	ug/L	P350923	MS
		MCP	0.0020	U	ug/L	P350923	
		Triclopyr**	0.0040	U	ug/L	P350923	
		Imidacloprid	0.0036	I	ug/L	P350923	
		Diuron	0.0025	I	ug/L	P350923	
		Pyraclostrobin**	0.0020	U	ug/L	P350923	
		Primidone**	0.0040	U	ug/L	P350923	
		Linuron	0.0040	U	ug/L	P350923	
		Acetaminophen**	0.0080	U	ug/L	P350923	
		Fenuron	0.016	U	ug/L	P350923	
		Imazapyr**	0.0055	I	ug/L	P350923	
		Carbamazepine**	8.0E-04	U	ug/L	P350923	
		Fluridone**	9.1E-04	I	ug/L	P350923	
		Hydrocodone**	8.0E-04	U	ug/L	P350923	
		Naproxen**	0.0080	U	ug/L	P350923	
		Ibuprofen**	0.020	U	ug/L	P350923	
		Acesulfame K**	0.10	U	ug/L	P350994	
2021440	EPA 200.7 Rev. 4.4	Iron	150	I	ug/L	P351116	
		Zinc	20	U	ug/L	P351116	
	EPA 200.8 Rev. 5.4	Arsenic	3.03		ug/L	P351116	
		Cadmium	0.080	U	ug/L	P351116	
		Chromium	1.6	U	ug/L	P351116	
		Copper	1.1	I	ug/L	P351116	
		Lead	0.54	I	ug/L	P351116	
		Nickel	0.80	U	ug/L	P351116	
		Silver	0.040	U	ug/L	P351116	

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: FIVE-MILE CREEK @ OKEECHOBEE

Collection Date/Time: 08/30/2018 12:15

Field ID: G2SE0008

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2021413	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P351100	
	EPA 300.0 Rev. 2.1	Chloride	250		mg Cl/L	P351466	
		Sulfate	87		mg SO4/L	P351468	
		Color (true)	58		PCU	P351037	
	SM 2320 B-97	Total Alkalinity	215		mg CaCO3/L	P351369	
	SM 2540 C-97	TDS	770		mg/L	P351409	
	SM 2540 D-97	TSS	11		mg/L	P351379	
	SM 4500 F-C-97	Fluoride	0.44		mg F/L	P351373	
2021414	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P351281	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P351110	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.036		mg N/L	P351310	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P351080	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P351134	
2021415	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P351039	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: TEN-MILE CREEK @ GORDY

Collection Date/Time: 08/30/2018 12:40

Field ID: G2SE0009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2021410	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P351100	
	EPA 300.0 Rev. 2.1	Chloride	480		mg Cl/L	P351466	
		Sulfate	120		mg SO4/L	P351468	
		Color (true)	37		PCU	P351037	
	SM 2320 B-97	Total Alkalinity	208		mg CaCO3/L	P351369	
	SM 2540 C-97	TDS	1.16E+03		mg/L	P351409	
	SM 2540 D-97	TSS	6	I	mg/L	P351379	
	SM 4500 F-C-97	Fluoride	0.46		mg F/L	P351373	
2021411	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P351281	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P351110	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351310	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P351080	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P351134	
2021412	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.084		mg P/L	P351039	
2021438	EPA 200.7 Rev. 4.4	Calcium	122		mg/L	P351064	
		Iron	280		ug/L	P351064	
		Magnesium	42.2		mg/L	P351064	
		Potassium	7.9		mg/L	P351064	
		Sodium	223		mg/L	P351064	
		Zinc	5.0	U	ug/L	P351064	
	EPA 200.8 Rev. 5.4	Arsenic	1.33		ug/L	P351064	
		Cadmium	0.020	U	ug/L	P351064	
		Chromium	0.40	U	ug/L	P351064	
		Copper	1.33		ug/L	P351064	
		Lead	0.12	I	ug/L	P351064	
		Nickel	0.49	I	ug/L	P351064	
		Silver	0.010	U	ug/L	P351064	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: 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: P351100

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351064

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 200.7 Rev. 4.4
Batch ID: P351116

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351064

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 200.8 Rev. 5.4
Batch ID: P351116

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: P351466

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351468

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351088

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351215

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351281

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351110

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351111

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351169

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351310

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351341

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351080

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351142

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351039

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351040

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

Reference Method: EPA 8321B
Batch ID: P350923

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	0.017	I	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: EPA 8321B
Batch ID: P350994

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P351037

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P351369

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

Reference Method: SM 2320 B-97
Batch ID: P351370

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

Reference Method: SM 2540 C-97
Batch ID: P351409

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351379

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351380

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351373

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P351374

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351134

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

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Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P351338

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: P351064

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	107		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	104		P	85 - 115
Sodium	100		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	107		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351064

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	99.8		P	85 - 115
Chromium	99.0		P	85 - 115
Copper	100		P	85 - 115
Lead	104		P	85 - 115
Nickel	100		P	85 - 115
Silver	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351116

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.2		P	85 - 115
Cadmium	99.3		P	85 - 115
Chromium	102		P	85 - 115
Copper	97.3		P	85 - 115
Lead	102		P	85 - 115
Nickel	93.8		P	85 - 115
Silver	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351466

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	93.6		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351088

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351215

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351281

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351110

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351111

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351169

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351310

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351341

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351080

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P351142

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P351039

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P351040

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

Reference Method: EPA 8321B

Batch ID: P350923

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	67.7		P	40 - 150
Acetaminophen	113		P	30 - 150
Bentazon	59.1		P	30 - 150
Carbamazepine	70.4		P	40 - 150
Diuron	65.8		P	40 - 150
Fenuron	93.5		P	40 - 150
Fluridone	86.7		P	40 - 150
Hydrocodone	110		P	40 - 150
Ibuprofen	72.9		P	40 - 150
Imazapyr	91.0		P	40 - 150
Imidacloprid	105		P	40 - 160
Linuron	60.5		P	40 - 150
MCPP	73.5		P	40 - 150
Naproxen	94.1		P	40 - 150
Primidone	105		P	40 - 150
Pyraclostrobin	72.9		P	40 - 150
Triclopyr	49.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P350994

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	93.9		P	40 - 150
Sucralose	81.3		P	40 - 150

Reference Method: SM 2120 B

Batch ID: P351037

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.9		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P351369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P351370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P351374

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

Reference Method: SM 5310 B-00
Batch ID: P351134

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351338

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021180	Calcium	102		P	80 - 120
2021180	Iron	108		P	80 - 120
2021180	Magnesium	110		P	80 - 120
2021180	Potassium	104		P	80 - 120
2021180	Sodium	99.4		P	80 - 120
2021180	Zinc	105		P	80 - 120
2021276	Calcium	108		P	80 - 120
2021276	Iron	112	108	P/P	80 - 120
2021276	Magnesium	107		P	80 - 120
2021276	Potassium	107	102	P/P	80 - 120
2021276	Sodium	102		P	80 - 120
2021276	Zinc	103	102	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021440	Iron	101	102	P/P	70 - 130
2021440	Zinc	104	107	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021180	Arsenic	101		P	80 - 120
2021180	Cadmium	103		P	80 - 120
2021180	Chromium	98.9		P	80 - 120
2021180	Copper	95.4		P	80 - 120
2021180	Lead	104		P	80 - 120
2021180	Nickel	97.7		P	80 - 120
2021180	Silver	103		P	80 - 120
2021276	Arsenic	103	101	P/P	80 - 120
2021276	Cadmium	103	103	P/P	80 - 120
2021276	Chromium	99.5	97.6	P/P	80 - 120
2021276	Copper	94.7	92.2	P/P	80 - 120
2021276	Lead	100	99.2	P/P	80 - 120
2021276	Nickel	96.5	94.1	P/P	80 - 120
2021276	Silver	101	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021440	Arsenic	114	111	P/P	70 - 130
2021440	Cadmium	98.3	97.5	P/P	70 - 130
2021440	Chromium	93.6	94.5	P/P	80 - 120
2021440	Copper	95.0	93.9	P/P	70 - 130
2021440	Lead	122	119	P/P	70 - 130
2021440	Nickel	98.2	101	P/P	80 - 120
2021440	Silver	96.6	95.4	P/P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021293	Chloride	93.3		P	90 - 110
2021471	Chloride	90.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021293	Sulfate	93.9		P	90 - 110
2021471	Sulfate	91.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020388	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021303	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021408	Ammonia-N	99.3	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021472	Kjeldahl Nitrogen	95.4	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351169

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021499	Kjeldahl Nitrogen	98.8	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021408	NO2NO3-N	99.0	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021013	NO2NO3-N	100	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351080

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021418	Total-P	95.7	96.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021419	Total-P	95.9	95.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P351039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021247	O-Phosphate-P	97.0	96.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P351040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021421	O-Phosphate-P	98.2	97.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P350923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020945	2,4-D	99.8	107	P/P	40 - 150
2020945	Acetaminophen	127	126	P/P	30 - 150
2020945	Bentazon	20.8	18.4	F/F	30 - 150
2020945	Carbamazepine	56.4	48.5	P/P	40 - 150
2020945	Diuron	46.5	45.9	P/P	40 - 150
2020945	Fenuron	44.4	40.2	P/P	40 - 150
2020945	Fluridone	60.6	59.1	P/P	40 - 150
2020945	Hydrocodone	95.7	89.5	P/P	40 - 150
2020945	Ibuprofen	77.2	84.0	P/P	40 - 150
2020945	Imazapyr	88.1	81.6	P/P	40 - 150
2020945	Imidacloprid	96.2	84.6	P/P	40 - 160
2020945	Linuron	55.3	53.4	P/P	40 - 150
2020945	MCP	109	114	P/P	40 - 150
2020945	Naproxen	119	107	P/P	40 - 150
2020945	Primidone	62.1	61.0	P/P	40 - 150
2020945	Pyraclostrobin	79.4	73.4	P/P	40 - 150
2020945	Triclopyr	118	124	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P350994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021271	Acesulfame K	64.1	63.3	P/P	40 - 150
2021271	Sucralose	68.7	78.8	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P351373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021242	Fluoride	100	99.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P351374

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021417	Fluoride	97.7	96.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021405	Organic Carbon	103		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020430	Organic Carbon	94.0	95.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021404	Turbidity	1.06	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021276	Calcium	1.79	Spike	P	0 - 20
2021276	Iron	3.11	Spike	P	0 - 20
2021276	Magnesium	3.58	Spike	P	0 - 20
2021276	Potassium	2.96	Spike	P	0 - 20
2021276	Sodium	2.17	Spike	P	0 - 20
2021276	Zinc	0.545	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021440	Iron	0.846	Spike	P	0 - 20
2021440	Zinc	2.91	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021276	Arsenic	1.88	Spike	P	0 - 20
2021276	Cadmium	0.697	Spike	P	0 - 20
2021276	Chromium	1.96	Spike	P	0 - 20
2021276	Copper	2.64	Spike	P	0 - 20
2021276	Lead	1.20	Spike	P	0 - 20
2021276	Nickel	2.46	Spike	P	0 - 20
2021276	Silver	0.208	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021440	Arsenic	2.62	Spike	P	0 - 20
2021440	Cadmium	0.771	Spike	P	0 - 20
2021440	Chromium	0.950	Spike	P	0 - 20
2021440	Copper	1.10	Spike	P	0 - 20
2021440	Lead	2.59	Spike	P	0 - 20
2021440	Nickel	2.94	Spike	P	0 - 20
2021440	Silver	1.28	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021293	Chloride	1.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021293	Sulfate	1.85	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020388	Ammonia-N	0.214	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021303	Ammonia-N	0.448	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021408	Ammonia-N	0.268	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021405	Kjeldahl Nitrogen	0.307	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021472	Kjeldahl Nitrogen	1.61	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021499	Kjeldahl Nitrogen	0.0123	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021408	NO2NO3-N	2.88	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021013	NO2NO3-N	0.912	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021418	Total-P	0.866	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021419	Total-P	0.486	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021247	O-Phosphate-P	0.0930	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021421	O-Phosphate-P	0.680	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P350923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020945	2,4-D	6.51	Spike	P	0 - 30
2020945	Acetaminophen	0.965	Spike	P	0 - 30
2020945	Bentazon	12.5	Spike	P	0 - 30
2020945	Carbamazepine	15.0	Spike	P	0 - 30
2020945	Diuron	1.47	Spike	P	0 - 30
2020945	Fenuron	9.95	Spike	P	0 - 30
2020945	Fluridone	2.48	Spike	P	0 - 30
2020945	Hydrocodone	6.75	Spike	P	0 - 30
2020945	Ibuprofen	8.41	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P350923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020945	Imazapyr	6.95	Spike	P	0 - 30
2020945	Imidacloprid	12.8	Spike	P	0 - 30
2020945	Linuron	3.57	Spike	P	0 - 30
2020945	MCP	3.79	Spike	P	0 - 30
2020945	Naproxen	10.8	Spike	P	0 - 30
2020945	Primidone	1.79	Spike	P	0 - 30
2020945	Pyraclostrobin	7.90	Spike	P	0 - 30
2020945	Triclopyr	4.43	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P350994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021271	Acesulfame K	1.25	Spike	P	0 - 30
2021271	Sucralose	12.2	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P351037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021407	Color (true)	0.574	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P351369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021242	Total Alkalinity	0.607	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P351370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021417	Total Alkalinity	0.134	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021294	TDS	3.08	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P351373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021242	Fluoride	0.979	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P351374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021417	Fluoride	0.940	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P351134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021405	Organic Carbon	0.479	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P351338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020430	Organic Carbon	0.988	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: 2021436
Field Sample ID: G2SE0016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	106	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.2	P	30 - 160
EPA 8321B	Diuron-d6	53.7	P	30 - 160
EPA 8321B	Endothall-d6	149	P	40 - 160
EPA 8321B	Endothall-d6	149	P	40 - 160
EPA 8321B	Ibuprofen-d3	76.8	P	30 - 160
EPA 8321B	Primidone-d5	69.2	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160

Lab Sample ID: 2021437
Field Sample ID: G2SE0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	143	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.7	P	30 - 160
EPA 8321B	Diuron-d6	66.4	P	30 - 160
EPA 8321B	Endothall-d6	87.6	P	40 - 160
EPA 8321B	Endothall-d6	87.6	P	40 - 160
EPA 8321B	Ibuprofen-d3	62.3	P	30 - 160
EPA 8321B	Primidone-d5	90.5	P	30 - 160
EPA 8321B	Sucralose-d6	98.8	P	40 - 160
EPA 8321B	Sucralose-d6	98.8	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A86248

Included Lab Sample IDs: 2021404, 2021407, 2021410, 2021413

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	90 - 115
Color (true)	99.7	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86249

Included Lab Sample IDs: 2021406, 2021409, 2021412, 2021415, 2021420, 2021421

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	100	P/P	90 - 110
O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86253

Included Lab Sample IDs: 2021436, 2021437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	68.2	72.4	P/P	50 - 150
Acetaminophen	111	105	P/P	60 - 160
Bentazon	62.4	60.3	P/P	50 - 160
Carbamazepine	71.8	70.2	P/P	60 - 160
Diuron	63.2	72.6	P/P	60 - 150
Fenuron	97.0	90.1	P/P	60 - 150
Fluridone	72.9	72.6	P/P	60 - 160
Hydrocodone	99.0	108	P/P	60 - 150
Ibuprofen	138	113	P/P	50 - 160
Imazapyr	78.5	90.0	P/P	50 - 150
Imidacloprid	75.4	79.2	P/P	60 - 150
Linuron	83.9	74.0	P/P	60 - 150
MCPP	72.5	71.3	P/P	50 - 150
Naproxen	75.0	74.1	P/P	50 - 160
Primidone	92.9	88.9	P/P	60 - 150
Pyraclostrobin	93.3	97.3	P/P	60 - 150
Triclopyr	84.3	65.7	P/P	50 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86276

Included Lab Sample IDs: 2021419

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86278

Included Lab Sample IDs: 2021405, 2021408, 2021411, 2021414, 2021418

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86283

Included Lab Sample IDs: 2021404, 2021407, 2021410, 2021413, 2021416, 2021417

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

Reference Method: SM 5310 B-00

Run ID: A86299

Included Lab Sample IDs: 2021405, 2021408, 2021411, 2021414, 2021418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	95.6	P/P	90 - 110
Organic Carbon	95.6	95.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86302

Included Lab Sample IDs: 2021436, 2021437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	102	94.9	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86315

Included Lab Sample IDs: 2021405, 2021408, 2021411, 2021414, 2021418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.2	93.5	P/P	90 - 110
Kjeldahl Nitrogen	93.8	93.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A86318

Included Lab Sample IDs: 2021438, 2021439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	98.7	P/P	90 - 110
Iron	101	99.6	P/P	90 - 110
Magnesium	99.7	98.9	P/P	90 - 110
Potassium	96.9	94.8	P/P	90 - 110
Sodium	96.7	94.1	P/P	90 - 110
Zinc	99.3	99.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A86321

Included Lab Sample IDs: 2021440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	98.2	P/P	95 - 105
Zinc	100	101	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86328

Included Lab Sample IDs: 2021405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	105	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A86330

Included Lab Sample IDs: 2021436, 2021437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	84.2	89.2	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86346

Included Lab Sample IDs: 2021419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86347

Included Lab Sample IDs: 2021419

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86348

Included Lab Sample IDs: 2021408, 2021411, 2021414, 2021418

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86354

Included Lab Sample IDs: 2021405, 2021408, 2021411, 2021414, 2021418

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A86377

Included Lab Sample IDs: 2021419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.8	94.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86380

Included Lab Sample IDs: 2021419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	93.0	90.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A86387

Included Lab Sample IDs: 2021404, 2021407, 2021410, 2021413, 2021416, 2021417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A86387

Included Lab Sample IDs: 2021404, 2021407, 2021410, 2021413, 2021416, 2021417

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A86387

Included Lab Sample IDs: 2021404, 2021407, 2021410, 2021413, 2021416, 2021417

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86418

Included Lab Sample IDs: 2021404, 2021407, 2021410, 2021413

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	97.3	P/P	90 - 110
Chloride	97.3	96.2	P/P	90 - 110
Sulfate	100	96.1	P/P	90 - 110
Sulfate	96.1	95.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86465

Included Lab Sample IDs: 2021438, 2021439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	92.4	91.6	P/P	90 - 110
Cadmium	92.5	92.2	P/P	90 - 110
Chromium	91.4	91.8	P/P	90 - 110
Copper	91.9	92.5	P/P	90 - 110
Lead	104	104	P/P	90 - 110
Nickel	91.6	92.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86473

Included Lab Sample IDs: 2021440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	93.0	95.2	P/P	90 - 110
Cadmium	92.6	91.2	P/P	90 - 110
Copper	96.0	96.3	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Silver	96.2	95.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86535

Included Lab Sample IDs: 2021438, 2021439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	96.6	96.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86628

Included Lab Sample IDs: 2021440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	99.0	98.0	P/P	90 - 110
Nickel	90.5	94.2	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						1.06	
EPA 200.7 Rev. 4.4	Calcium	104	102	108				1.79
	Iron	107	108	112	108			3.11
	Iron	107	101	102				0.846
	Magnesium	106	110	107				3.58
	Potassium	104	104	107	102			2.96
	Sodium	100	99.4	102				2.17
	Zinc	103	105	103	102			0.545
	Zinc	103	104	107				2.91
EPA 200.8 Rev. 5.4	Arsenic	103	101	103	101			1.88
	Arsenic	98.2	114	111				2.62
	Cadmium	99.8	103	103	103			0.697
	Cadmium	99.3	98.3	97.5				0.771
	Chromium	99.0	98.9	99.5	97.6			1.96
	Chromium	102	93.6	94.5				0.950
	Copper	100	95.4	94.7	92.2			2.64
	Copper	97.3	95.0	93.9				1.10
	Lead	104	104	100	99.2			1.20
	Lead	102	122	119				2.59
	Nickel	100	97.7	96.5	94.1			2.46
	Nickel	93.8	98.2	101				2.94
	Silver	103	103	101	102			0.208
	Silver	101	96.6	95.4				1.28
EPA 300.0 Rev. 2.1	Chloride	95.1	93.3	90.8			1.11	
	Sulfate	93.6	93.9	91.2			1.85	
EPA 350.1 Rev. 2.0	Ammonia-N	105	100	100				0.214
	Ammonia-N	101	105	104				0.448
	Ammonia-N	102	99.3	99.0				0.268
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.9						0.307
	Kjeldahl Nitrogen	93.4	95.4	98.1				1.61
	Kjeldahl Nitrogen	101	98.8	98.8				0.0123
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.0	102				2.88
	NO2NO3-N	97.0	100	101				0.912
EPA 365.1 Rev. 2.0	Total-P	97.8	95.7	96.7				0.866
	Total-P	99.9	95.9	95.4				0.486
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.9	97.0	96.9				0.0930
	O-Phosphate-P	101	98.2	97.3				0.680
EPA 8321B	2,4-D	67.7	99.8	107				6.51
	Acesulfame K	93.9	64.1	63.3				1.25
	Acetaminophen	113	127	126				0.965
	Bentazon	59.1	20.8	18.4				12.5
	Carbamazepine	70.4	56.4	48.5				15.0
	Diuron	65.8	46.5	45.9				1.47
	Fenuron	93.5	44.4	40.2				9.95
	Fluridone	86.7	60.6	59.1				2.48
	Hydrocodone	110	95.7	89.5				6.75
	Ibuprofen	72.9	84.0	77.2				8.41
	Imazapyr	91.0	88.1	81.6				6.95
	Imidacloprid	105	96.2	84.6				12.8
	Linuron	60.5	55.3	53.4				3.57
	MCPP	73.5	114	109				3.79
	Naproxen	94.1	119	107				10.8
	Primidone	105	62.1	61.0				1.79
	Pyraclostrobin	72.9	79.4	73.4				7.90

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
			LCS	SMP	MS	
EPA 8321B	Sucralose	81.3	68.7	78.8		12.2
	Triclopyr	49.2	118	124		4.43
SM 2120 B	Color (true)	98.9			0.574	
SM 2320 B-97	Total Alkalinity	103			0.607	
	Total Alkalinity	103			0.134	
SM 2540 C-97	TDS				3.08	
SM 4500 F-C-97	Fluoride	101	100	99.1		0.979
	Fluoride	100	97.7	96.3		0.940
SM 5310 B-00	Organic Carbon	95.0	103			0.479
	Organic Carbon	95.0	94.0	95.1		0.988

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2021404, 2021407, 2021410, 2021413, 2021416, 2021417
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2021438, 2021439, 2021440
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2021438, 2021439, 2021440
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2021404, 2021407, 2021410, 2021413
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2021404, 2021407, 2021410, 2021413
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2021405, 2021408, 2021411, 2021414, 2021418, 2021419
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2021405, 2021408, 2021411, 2021414, 2021418, 2021419
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2021405, 2021408, 2021411, 2021414, 2021418, 2021419
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2021405, 2021408, 2021411, 2021414, 2021418, 2021419
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2021406, 2021409, 2021412, 2021415, 2021420, 2021421
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2021436, 2021437
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2021436, 2021437
SM 2120 B / E31780	True Color measured at 450 nm	2021404, 2021407, 2021410, 2021413
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2021404, 2021407, 2021410, 2021413, 2021416, 2021417
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2021404, 2021407, 2021410, 2021413
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2021404, 2021407, 2021410, 2021413, 2021416, 2021417
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2021404, 2021407, 2021410, 2021413, 2021416, 2021417
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2021405, 2021408, 2021411, 2021414, 2021418, 2021419

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	08/31/2018			08/31/2018 14:53	Megan Treadwell	2021404, 2021407, 2021410, 2021413, 2021416, 2021417
EPA 200.7 Rev. 4.4	08/31/2018	09/04/2018 13:35	Elliott D. Healy	09/06/2018 13:39	Betina Topolski	2021438
	08/31/2018	09/04/2018 13:35	Elliott D. Healy	09/06/2018 13:46	Betina Topolski	2021438
	08/31/2018	09/04/2018 13:35	Elliott D. Healy	09/06/2018 13:54	Betina Topolski	2021439
	08/31/2018	09/05/2018 15:15	Elliott D. Healy	09/06/2018 14:45	Martin Acosta	2021440
EPA 200.8 Rev. 5.4	08/31/2018	09/04/2018 13:35	Elliott D. Healy	09/12/2018 19:56	Robert K Palmer	2021438
	08/31/2018	09/04/2018 13:35	Elliott D. Healy	09/12/2018 20:06	Robert K Palmer	2021439
	08/31/2018	09/04/2018 13:35	Elliott D. Healy	09/14/2018 23:46	Robert K Palmer	2021438
	08/31/2018	09/04/2018 13:35	Elliott D. Healy	09/14/2018 23:53	Robert K Palmer	2021439
	08/31/2018	09/05/2018 15:15	Elliott D. Healy	09/13/2018 17:09	Allison Taylor	2021440
	08/31/2018	09/05/2018 15:15	Elliott D. Healy	09/13/2018 17:38	Allison Taylor	2021440
	08/31/2018	09/05/2018 15:15	Elliott D. Healy	09/20/2018 19:48	Allison Taylor	2021440
EPA 300.0 Rev. 2.1	08/31/2018			09/10/2018 23:18	Lipi Saha	2021404
	08/31/2018			09/10/2018 23:30	Lipi Saha	2021407
	08/31/2018			09/11/2018 00:06	Lipi Saha	2021410
	08/31/2018			09/11/2018 00:18	Lipi Saha	2021413
EPA 350.1 Rev. 2.0	08/31/2018			09/04/2018 13:16	Ping Hua	2021419
	08/31/2018			09/05/2018 14:25	Ping Hua	2021405
	08/31/2018			09/06/2018 11:55	Ping Hua	2021408
	08/31/2018			09/06/2018 12:00	Ping Hua	2021411
	08/31/2018			09/06/2018 12:01	Ping Hua	2021414
	08/31/2018			09/06/2018 12:09	Ping Hua	2021418
EPA 351.2 Rev. 2.0	08/31/2018	09/05/2018 15:00	Adrian Shelby	09/06/2018 11:42	Joseph Suarez	2021405
	08/31/2018	09/05/2018 15:00	Adrian Shelby	09/06/2018 11:49	Joseph Suarez	2021408
	08/31/2018	09/05/2018 15:00	Adrian Shelby	09/06/2018 11:51	Joseph Suarez	2021411
	08/31/2018	09/05/2018 15:00	Adrian Shelby	09/06/2018 11:52	Joseph Suarez	2021414
	08/31/2018	09/05/2018 15:00	Adrian Shelby	09/06/2018 11:57	Joseph Suarez	2021418
	08/31/2018	09/06/2018 10:00	Adrian Shelby	09/07/2018 11:12	Joseph Suarez	2021419
EPA 353.2 Rev. 2.0	08/31/2018			09/07/2018 14:11	Lauren Bottorf	2021408
	08/31/2018			09/07/2018 14:22	Lauren Bottorf	2021405
	08/31/2018			09/07/2018 14:23	Lauren Bottorf	2021411
	08/31/2018			09/07/2018 14:24	Lauren Bottorf	2021414
	08/31/2018			09/07/2018 14:25	Lauren Bottorf	2021418
	08/31/2018			09/10/2018 14:04	Lauren Bottorf	2021419
EPA 365.1 Rev. 2.0	08/31/2018	09/04/2018 14:44	Sima Feizi	09/05/2018 08:47	Beverly Y. Sanders	2021418
	08/31/2018	09/04/2018 14:44	Sima Feizi	09/05/2018 08:50	Beverly Y. Sanders	2021405
	08/31/2018	09/04/2018 14:44	Sima Feizi	09/05/2018 08:52	Beverly Y. Sanders	2021408
	08/31/2018	09/04/2018 14:44	Sima Feizi	09/05/2018 08:53	Beverly Y. Sanders	2021411
	08/31/2018	09/04/2018 14:44	Sima Feizi	09/05/2018 08:54	Beverly Y. Sanders	2021414

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	08/31/2018	09/06/2018 13:35	Sima Feizi	09/07/2018 13:01	Beverly Y. Sanders	2021419
EPA 365.1 Rev. 2.0 dissolved	08/31/2018			08/31/2018 15:52	Anthony C. Onicha	2021412
	08/31/2018			08/31/2018 15:53	Anthony C. Onicha	2021415
	08/31/2018			08/31/2018 15:54	Anthony C. Onicha	2021420
	08/31/2018			08/31/2018 15:57	Anthony C. Onicha	2021421
	08/31/2018			08/31/2018 16:11	Anthony C. Onicha	2021406
	08/31/2018			08/31/2018 16:12	Anthony C. Onicha	2021409
EPA 8321B	08/31/2018	08/31/2018 13:30	Hoor Shaik	09/01/2018 20:05	Juyoung Kim	2021436
	08/31/2018	08/31/2018 13:30	Hoor Shaik	09/01/2018 20:39	Juyoung Kim	2021437
	08/31/2018	08/31/2018 13:30	Hoor Shaik	09/02/2018 08:47	Juyoung Kim	2021436
	08/31/2018	08/31/2018 13:30	Hoor Shaik	09/02/2018 09:22	Juyoung Kim	2021437
	08/31/2018	09/05/2018 11:20	Mohammad Ghaffari	09/05/2018 13:28	Mohammad Ghaffari	2021436
	08/31/2018	09/05/2018 11:20	Mohammad Ghaffari	09/05/2018 13:43	Mohammad Ghaffari	2021437
	08/31/2018	09/05/2018 11:20	Mohammad Ghaffari	09/06/2018 13:47	Mohammad Ghaffari	2021436
	08/31/2018	09/05/2018 11:20	Mohammad Ghaffari	09/06/2018 14:23	Mohammad Ghaffari	2021437
SM 2120 B	08/31/2018			08/31/2018 16:29	Julia Storbeck	2021407
	08/31/2018			08/31/2018 16:32	Julia Storbeck	2021410
	08/31/2018			08/31/2018 16:33	Julia Storbeck	2021413
	08/31/2018			08/31/2018 16:59	Julia Storbeck	2021404
SM 2320 B-97	08/31/2018			09/07/2018 09:47	Dale L. Simmons	2021404
	08/31/2018			09/07/2018 10:29	Dale L. Simmons	2021407
	08/31/2018			09/07/2018 11:18	Dale L. Simmons	2021413
	08/31/2018			09/07/2018 11:29	Dale L. Simmons	2021410
	08/31/2018			09/07/2018 11:39	Dale L. Simmons	2021416
	08/31/2018			09/07/2018 15:04	Dale L. Simmons	2021417
SM 2540 C-97	08/31/2018			09/05/2018 14:02	Yijie Li	2021404, 2021407, 2021410, 2021413
SM 2540 D-97	08/31/2018			09/05/2018 14:02	Yijie Li	2021404, 2021407, 2021410, 2021413, 2021416, 2021417
SM 4500 F-C-97	08/31/2018			09/07/2018 09:47	Dale L. Simmons	2021404
	08/31/2018			09/07/2018 10:29	Dale L. Simmons	2021407
	08/31/2018			09/07/2018 11:18	Dale L. Simmons	2021413
	08/31/2018			09/07/2018 11:29	Dale L. Simmons	2021410
	08/31/2018			09/07/2018 11:39	Dale L. Simmons	2021416
	08/31/2018			09/07/2018 14:35	Dale L. Simmons	2021417
SM 5310 B-00	08/31/2018			09/05/2018 08:49	Megan Treadwell	2021405
	08/31/2018			09/05/2018 11:11	Megan Treadwell	2021408
	08/31/2018			09/05/2018 11:24	Megan Treadwell	2021411
	08/31/2018			09/05/2018 11:40	Megan Treadwell	2021414
	08/31/2018			09/05/2018 11:53	Megan Treadwell	2021418
	08/31/2018			09/08/2018 08:50	Megan Treadwell	2021419