

Chemical Analysis Report

SO-DIST-2022-07-13-01

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

Event Description: **2022 SMP: Hendry Cricks**
Request ID: **RQ-2022-07-11-50**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 29-JUL-2022 10:04

A handwritten signature in black ink, appearing to read "Liang Lin", 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 and Nutrients.

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: BEE BRANCH @ LOBLOLLY BAY RD

Collection Date/Time: 07/12/2022 09:15

Field ID: G3SD0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341152	DEP SOP: NU-094-1	Color (true)	390		PCU	P416606	
	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P416612	
	EPA 300.0 Rev. 2.1	Chloride	44		mg Cl/L	P417111	
		Sulfate	19		mg SO4/L	P417114	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P417026	
	SM 2540 C-2011	TDS	218		mg/L	P417072	
	SM 2540 D-2011	TSS	2	I	mg/L	P416977	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P417023	MS
2341153	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P417119	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P416773	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.082		mg N/L	P416770	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P416805	
	SM 5310 B-2011	Organic Carbon	39		mg C/L	P416759	
2341178	EPA 200.7 Rev. 4.4	Calcium	15.0		mg/L	P416617	
		Iron	1.01E+03		ug/L	P416617	
		Magnesium	5.68		mg/L	P416617	
		Potassium	3.2		mg/L	P416617	
		Sodium	23.7		mg/L	P416617	
		Strontium	679		ug/L	P416617	
		Tin	3.0	U	ug/L	P416617	
		Titanium	1.6	I	ug/L	P416617	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P416617	
		Zinc	5.0	U	ug/L	P416617	
		Aluminum	341		ug/L	P416617	
		Antimony	0.091	I	ug/L	P416617	
		Arsenic	1.25		ug/L	P416617	
		Barium	20.9		ug/L	P416617	
		Beryllium	0.047		ug/L	P416617	
		Boron	50.8		ug/L	P416617	
		Cadmium	0.020	U	ug/L	P416617	
		Chromium	1.2	I	ug/L	P416617	
		Cobalt	0.317		ug/L	P416617	
		Copper	0.71	I	ug/L	P416617	
		Lead	0.31	I	ug/L	P416617	
		Manganese	27.9		ug/L	P416617	
		Molybdenum	0.22	I	ug/L	P416617	
		Nickel	0.72	I	ug/L	P416617	
		Selenium	0.23	I	ug/L	P416617	
		Silver	0.010	U	ug/L	P416617	
		Thallium	0.10	U	ug/L	P416617	
	SM 2340 B-2011	Hardness	60.9		mg/L	P416617	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Bee Branch At CR78

Collection Date/Time: 07/12/2022 09:55

Field ID: G3SD0226

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341179	EPA 200.7 Rev. 4.4	Calcium	25.8		mg/L	P416617	
		Iron	1.40E+03		ug/L	P416617	
		Magnesium	5.43		mg/L	P416617	
		Potassium	3.7		mg/L	P416617	
		Sodium	22.1		mg/L	P416617	
		Strontium	400		ug/L	P416617	
		Tin	3.0	U	ug/L	P416617	
		Titanium	2.2	I	ug/L	P416617	
		Vanadium	2.0	U	ug/L	P416617	
		Zinc	5.0	U	ug/L	P416617	
	EPA 200.8 Rev. 5.4	Aluminum	230		ug/L	P416617	
		Antimony	0.12	I	ug/L	P416617	
		Arsenic	1.84		ug/L	P416617	
		Barium	16.9		ug/L	P416617	
		Beryllium	0.038	I	ug/L	P416617	
		Boron	40.5		ug/L	P416617	
		Cadmium	0.020	U	ug/L	P416617	
		Chromium	1.0	I	ug/L	P416617	
		Cobalt	0.243		ug/L	P416617	
		Copper	0.66	I	ug/L	P416617	
		Lead	0.31	I	ug/L	P416617	
		Manganese	22.8		ug/L	P416617	
		Molybdenum	0.54	I	ug/L	P416617	
		Nickel	1.0	I	ug/L	P416617	
		Selenium	0.21	I	ug/L	P416617	
		Silver	0.010	U	ug/L	P416617	
		Thallium	0.10	U	ug/L	P416617	
	SM 2340 B-2011	Hardness	86.8		mg/L	P416617	

Sample Location: Jacks Branch At CR78

Collection Date/Time: 07/12/2022 10:15

Field ID: G3SD0227

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341146	DEP SOP: NU-094-1	Color (true)	230		PCU	P416604	
	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P416612	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P417111	
		Sulfate	11		mg SO4/L	P417114	
	SM 2320 B-2011	Total Alkalinity	117		mg CaCO3/L	P417026	
	SM 2540 C-2011	TDS	275		mg/L	P417072	
	SM 2540 D-2011	TSS	2	I	mg/L	P416977	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P417023	MS
2341149	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P417119	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P416775	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P416770	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P416805	
	SM 5310 B-2011	Organic Carbon	27		mg C/L	P416759	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FortSimmonsBranchAtSR80

Collection Date/Time: 07/12/2022 11:15

Field ID: G3SD0230

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341147	DEP SOP: NU-094-1	Color (true)	87		PCU	P416604	
	EPA 180.1 Rev. 2.0	Turbidity	7.2		NTU	P416612	
	EPA 300.0 Rev. 2.1	Chloride	63		mg Cl/L	P417111	
		Sulfate	57		mg SO4/L	P417114	
	SM 2320 B-2011	Total Alkalinity	251		mg CaCO3/L	P417026	
	SM 2540 C-2011	TDS	526		mg/L	P417072	
	SM 2540 D-2011	TSS	8	I	mg/L	P416977	
	SM 4500-F- C-2011	Fluoride	0.46		mg F/L	P417023	MS
2341150	EPA 350.1 Rev. 2.0	Ammonia-N	0.078		mg N/L	P417119	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P416776	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.088		mg N/L	P416770	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P416805	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P416759	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Fort Simmons Branch

Collection Date/Time: 07/12/2022 11:25

Field ID: G3SD0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2341148	DEP SOP: NU-094-1	Color (true)	66	A	PCU	P416606	
	EPA 180.1 Rev. 2.0	Turbidity	4.0	A	NTU	P416612	
	EPA 300.0 Rev. 2.1	Chloride	67		mg Cl/L	P417111	
		Sulfate	58		mg SO4/L	P417114	
	SM 2320 B-2011	Total Alkalinity	268		mg CaCO3/L	P417026	
	SM 2540 C-2011	TDS	475		mg/L	P417072	
	SM 2540 D-2011	TSS	2	U	mg/L	P416977	
	SM 4500-F- C-2011	Fluoride	0.55		mg F/L	P417023	MS
2341151	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P417119	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P416776	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P416770	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P416805	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P416759	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P416604

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P416606

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416612

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416617

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
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416617

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417111

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417114

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417119

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416773

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416775

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416776

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416770

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416805

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

Reference Method: SM 2320 B-2011
Batch ID: P417026

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P417072

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P416977

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P416759

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P416604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.9		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P416606

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416612

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416617

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	101		P	85 - 115
Magnesium	99.3		P	85 - 115
Potassium	104		P	85 - 115
Sodium	103		P	85 - 115
Strontium	106		P	85 - 115
Tin	99.9		P	85 - 115
Titanium	104		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	99.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416617

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	105		P	85 - 115
Arsenic	101		P	85 - 115
Barium	97.6		P	85 - 115
Beryllium	95.3		P	85 - 115
Boron	103		P	85 - 115
Cadmium	99.4		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	103		P	85 - 115
Copper	97.9		P	85 - 115
Lead	99.5		P	85 - 115
Manganese	104		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	101		P	85 - 115
Selenium	102		P	85 - 115
Silver	104		P	85 - 115
Thallium	102		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417111

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417114

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417119

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416773

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416775

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416776

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416770

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416805

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

Reference Method: SM 2320 B-2011
Batch ID: P417026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	104		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416759

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416617

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340504	Calcium	98.9		P	80 - 120
2340504	Iron	102		P	80 - 120
2340504	Magnesium	103		P	80 - 120
2340504	Potassium	101		P	80 - 120
2340504	Sodium	101		P	80 - 120
2340504	Strontium	107		P	80 - 120
2340504	Tin	99.3		P	80 - 120
2340504	Titanium	106		P	80 - 120
2340504	Vanadium	105		P	80 - 120
2340504	Zinc	101		P	80 - 120
2340703	Calcium	96.4		P	80 - 120
2340703	Iron	99.9	98.3	P/P	80 - 120
2340703	Magnesium	98.6	96.8	P/P	80 - 120
2340703	Potassium	98.9	99.4	P/P	80 - 120
2340703	Sodium	103	101	P/P	80 - 120
2340703	Strontium	104	104	P/P	80 - 120
2340703	Tin	96.3	95.8	P/P	80 - 120
2340703	Titanium	101	100	P/P	80 - 120
2340703	Vanadium	101	100	P/P	80 - 120
2340703	Zinc	95.1	94.2	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416617

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340504	Aluminum	100		P	80 - 120
2340504	Antimony	104		P	80 - 120
2340504	Arsenic	99.4		P	80 - 120
2340504	Barium	98.2		P	80 - 120
2340504	Beryllium	98.0		P	80 - 120
2340504	Boron	98.0		P	80 - 120
2340504	Cadmium	99.2		P	80 - 120
2340504	Chromium	98.3		P	80 - 120
2340504	Cobalt	99.3		P	80 - 120
2340504	Copper	95.2		P	80 - 120
2340504	Lead	98.3		P	80 - 120
2340504	Manganese	100		P	80 - 120
2340504	Molybdenum	99.1		P	80 - 120
2340504	Nickel	97.2		P	80 - 120
2340504	Selenium	99.8		P	80 - 120
2340504	Silver	99.4		P	80 - 120
2340504	Thallium	101		P	80 - 120
2340703	Aluminum	103	102	P/P	80 - 120
2340703	Antimony	107	104	P/P	80 - 120
2340703	Arsenic	99.3	98.6	P/P	80 - 120
2340703	Barium	99.1	104	P/P	80 - 120
2340703	Beryllium	93.4	92.5	P/P	80 - 120
2340703	Boron	108	105	P/P	80 - 120
2340703	Cadmium	103	100	P/P	80 - 120
2340703	Chromium	102	100	P/P	80 - 120
2340703	Cobalt	101	99.5	P/P	80 - 120
2340703	Copper	93.9	92.3	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416617

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340703	Lead	100	99.0	P/P	80 - 120
2340703	Manganese	104	102	P/P	80 - 120
2340703	Molybdenum	103	102	P/P	80 - 120
2340703	Nickel	98.4	97.4	P/P	80 - 120
2340703	Selenium	97.0	97.6	P/P	80 - 120
2340703	Silver	104	101	P/P	80 - 120
2340703	Thallium	104	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341069	Chloride	97.9		P	90 - 110
2341071	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341069	Sulfate	97.2		P	90 - 110
2341071	Sulfate	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417119

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341149	Ammonia-N	95.8	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340808	Kjeldahl Nitrogen	102	93.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2340689	Kjeldahl Nitrogen	99.9	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341072	Kjeldahl Nitrogen	93.3	95.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341074	NO2NO3-N	104	103	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341151	Total-P	98.3	100	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341350	Fluoride	111	110	F/F	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P416759

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2341155	Organic Carbon	102	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P416604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341071	Color (true)	1.28	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P416606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341148	Color (true)	1.22	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P416612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341148	Turbidity	8.24	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340703	Calcium	1.24	Spike	P	0 - 20
2340703	Iron	1.64	Spike	P	0 - 20
2340703	Magnesium	1.06	Spike	P	0 - 20
2340703	Potassium	0.470	Spike	P	0 - 20
2340703	Sodium	0.831	Spike	P	0 - 20
2340703	Strontium	0.676	Spike	P	0 - 20
2340703	Tin	0.586	Spike	P	0 - 20
2340703	Titanium	0.914	Spike	P	0 - 20
2340703	Vanadium	0.936	Spike	P	0 - 20
2340703	Zinc	0.989	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340703	Aluminum	1.59	Spike	P	0 - 20
2340703	Antimony	2.89	Spike	P	0 - 20
2340703	Arsenic	0.715	Spike	P	0 - 20
2340703	Barium	4.89	Spike	P	0 - 20
2340703	Beryllium	1.02	Spike	P	0 - 20
2340703	Boron	2.34	Spike	P	0 - 20
2340703	Cadmium	2.89	Spike	P	0 - 20
2340703	Chromium	1.11	Spike	P	0 - 20
2340703	Cobalt	1.76	Spike	P	0 - 20
2340703	Copper	1.68	Spike	P	0 - 20
2340703	Lead	1.14	Spike	P	0 - 20
2340703	Manganese	1.49	Spike	P	0 - 20
2340703	Molybdenum	0.793	Spike	P	0 - 20
2340703	Nickel	0.995	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340703	Selenium	0.570	Spike	P	0 - 20
2340703	Silver	2.74	Spike	P	0 - 20
2340703	Thallium	0.749	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341069	Chloride	1.56	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P417114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341069	Sulfate	1.96	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341149	Ammonia-N	1.48	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340808	Kjeldahl Nitrogen	4.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340689	Kjeldahl Nitrogen	1.01	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341072	Kjeldahl Nitrogen	1.66	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341074	NO2NO3-N	0.484	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341151	Total-P	1.22	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P417026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341350	Total Alkalinity	0.00504	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P417072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2340818	TDS	6.09	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P417023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341350	Fluoride	1.00	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P416759

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2341155	Organic Carbon	0.483	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A113478

Included Lab Sample IDs: 2341146, 2341147, 2341148, 2341152

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.4	98.5	P/P	90 - 110
Color (true)	99.4	100	P/P	90 - 110
Color (true)	99.4	98.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113480

Included Lab Sample IDs: 2341146, 2341147, 2341148, 2341152

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113518

Included Lab Sample IDs: 2341178, 2341179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.5	98.8	P/P	90 - 110
Antimony	101	100	P/P	90 - 110
Arsenic	97.6	96.8	P/P	90 - 110
Beryllium	94.1	95.0	P/P	90 - 110
Boron	98.8	99.2	P/P	90 - 110
Cadmium	101	99.7	P/P	90 - 110
Chromium	96.7	95.1	P/P	90 - 110
Cobalt	98.9	97.8	P/P	90 - 110
Copper	93.9	93.3	P/P	90 - 110
Lead	96.4	96.1	P/P	90 - 110
Manganese	100	98.6	P/P	90 - 110
Molybdenum	98.0	96.8	P/P	90 - 110
Nickel	96.8	95.2	P/P	90 - 110
Selenium	98.0	98.6	P/P	90 - 110
Silver	103	102	P/P	90 - 110
Thallium	98.9	98.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113519

Included Lab Sample IDs: 2341178, 2341179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	94.1	93.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113542

Included Lab Sample IDs: 2341178, 2341179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	96.2	97.3	P/P	90 - 110
Iron	96.4	100	P/P	90 - 110
Magnesium	95.6	99.1	P/P	90 - 110
Potassium	98.6	103	P/P	90 - 110
Sodium	98.8	101	P/P	90 - 110
Strontium	106	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113542

Included Lab Sample IDs: 2341178, 2341179

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tin	96.9	98.0	P/P	90 - 110
Titanium	102	100	P/P	90 - 110
Vanadium	101	99.1	P/P	90 - 110
Zinc	96.5	96.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113546

Included Lab Sample IDs: 2341149, 2341150, 2341151, 2341153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113558

Included Lab Sample IDs: 2341149, 2341150, 2341151, 2341153

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A113606

Included Lab Sample IDs: 2341149, 2341150, 2341151, 2341153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	97.1	P/P	90 - 110
Total-P	97.0	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113613

Included Lab Sample IDs: 2341150, 2341151, 2341153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	92.4	P/P	90 - 110
Kjeldahl Nitrogen	98.2	95.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113630

Included Lab Sample IDs: 2341149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.9	96.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113634

Included Lab Sample IDs: 2341146, 2341147, 2341148, 2341152

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	99.5	P/P	90 - 110
Sulfate	99.0	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A113658

Included Lab Sample IDs: 2341146, 2341147, 2341148, 2341152

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113658

Included Lab Sample IDs: 2341146, 2341147, 2341148, 2341152

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A113708

Included Lab Sample IDs: 2341149, 2341150, 2341151, 2341153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.5	98.6	P/P	90 - 110

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	96.9				1.28	
	Color (true)	99.8				1.22	
EPA 180.1 Rev. 2.0	Turbidity	94.8				8.24	
EPA 200.7 Rev. 4.4	Calcium	100	98.9	96.4			1.24
	Iron	101	102	99.9	98.3		1.64
	Magnesium	99.3	103	98.6	96.8		1.06
	Potassium	104	101	98.9	99.4		0.470
	Sodium	103	101	103	101		0.831
	Strontium	106	107	104	104		0.676
	Tin	99.9	99.3	96.3	95.8		0.586
	Titanium	104	106	101	100		0.914
	Vanadium	103	105	101	100		0.936
	Zinc	99.1	101	95.1	94.2		0.989
EPA 200.8 Rev. 5.4	Aluminum	104	100	103	102		1.59
	Antimony	105	104	107	104		2.89
	Arsenic	101	99.4	99.3	98.6		0.715
	Barium	97.6	99.1	104	98.2		4.89
	Beryllium	95.3	98.0	93.4	92.5		1.02
	Boron	103	98.0	108	105		2.34
	Cadmium	99.4	99.2	103	100		2.89
	Chromium	102	98.3	102	100		1.11
	Cobalt	103	99.3	101	99.5		1.76
	Copper	97.9	95.2	93.9	92.3		1.68
	Lead	99.5	98.3	100	99.0		1.14
	Manganese	104	100	104	102		1.49
	Molybdenum	101	99.1	103	102		0.793
	Nickel	101	97.2	98.4	97.4		0.995
	Selenium	102	99.8	97.0	97.6		0.570
	Silver	104	99.4	104	101		2.74
	Thallium	102	101	104	103		0.749
EPA 300.0 Rev. 2.1	Chloride	98.0	97.9	97.5		1.56	
	Sulfate	98.1	97.2	96.4		1.96	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	95.8	98.2			1.48
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	102	93.7			4.33
	Kjeldahl Nitrogen	98.1	99.9	101			1.01
	Kjeldahl Nitrogen	100	93.3	95.9			1.66
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	104	103			0.484
EPA 365.1 Rev. 2.0	Total-P	99.6	98.3	100			1.22
SM 2320 B-2011	Total Alkalinity	101				0.0050	
SM 2540 C-2011	TDS					6.09	
SM 4500-F- C-2011	Fluoride	104	111	110			1.00
SM 5310 B-2011	Organic Carbon	98.2	102	103			0.483

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2341146, 2341147, 2341148, 2341152
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2341146, 2341147, 2341148, 2341152
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2341178, 2341179
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2341178, 2341179
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2341146, 2341147, 2341148, 2341152

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2341146, 2341147, 2341148, 2341152
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2341149, 2341150, 2341151, 2341153
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2341149, 2341150, 2341151, 2341153
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2341149, 2341150, 2341151, 2341153
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2341149, 2341150, 2341151, 2341153
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2341146, 2341147, 2341148, 2341152
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2341178, 2341179
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2341146, 2341147, 2341148, 2341152
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2341146, 2341147, 2341148, 2341152
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2341146, 2341147, 2341148, 2341152
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2341149, 2341150, 2341151, 2341153

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	07/13/2022			07/13/2022 15:15	Anna M. Plaviak	2341147
	07/13/2022			07/13/2022 15:36	Anna M. Plaviak	2341146, 2341152
	07/13/2022			07/13/2022 15:42	Anna M. Plaviak	2341148
	07/13/2022			07/13/2022 15:27	Khloe J Berg	2341148
EPA 180.1 Rev. 2.0	07/13/2022			07/13/2022 15:31	Khloe J Berg	2341146
	07/13/2022			07/13/2022 15:32	Khloe J Berg	2341147
	07/13/2022			07/13/2022 15:34	Khloe J Berg	2341152
	07/13/2022			07/13/2022 15:34	Khloe J Berg	2341152
EPA 200.7 Rev. 4.4	07/13/2022	07/14/2022 09:59	Mackenzie Hunt	07/16/2022 00:03	McKinley C Carter	2341178
	07/13/2022	07/14/2022 09:59	Mackenzie Hunt	07/16/2022 00:11	McKinley C Carter	2341179
EPA 200.8 Rev. 5.4	07/13/2022	07/14/2022 09:59	Mackenzie Hunt	07/14/2022 19:54	Megan Whitefoot	2341178
	07/13/2022	07/14/2022 09:59	Mackenzie Hunt	07/14/2022 20:03	Megan Whitefoot	2341179
	07/13/2022	07/14/2022 09:59	Mackenzie Hunt	07/15/2022 04:30	Emily M Philpot	2341178
	07/13/2022	07/14/2022 09:59	Mackenzie Hunt	07/15/2022 04:36	Emily M Philpot	2341179
EPA 300.0 Rev. 2.1	07/13/2022			07/21/2022 14:18	James L Waggeberby	2341146
	07/13/2022			07/21/2022 14:30	James L Waggeberby	2341147
	07/13/2022			07/21/2022 14:42	James L Waggeberby	2341148
	07/13/2022			07/21/2022 14:55	James L Waggeberby	2341152
EPA 350.1 Rev. 2.0	07/13/2022			07/25/2022 12:11	Judith K. Clark	2341149
	07/13/2022			07/25/2022 12:15	Judith K. Clark	2341150
	07/13/2022			07/25/2022 12:16	Judith K. Clark	2341151
	07/13/2022			07/25/2022 12:18	Judith K. Clark	2341153
EPA 351.2 Rev. 2.0	07/13/2022	07/19/2022 11:11	Samantha L Bates	07/20/2022 12:52	Alexandra J Mattheus	2341150
	07/13/2022	07/19/2022 11:11	Samantha L Bates	07/20/2022 12:54	Alexandra J Mattheus	2341151
	07/13/2022	07/19/2022 11:12	Samantha L Bates	07/20/2022 11:29	Alexandra J Mattheus	2341153
	07/13/2022	07/19/2022 11:12	Samantha L Bates	07/20/2022 16:16	Alexandra J Mattheus	2341149
EPA 353.2 Rev. 2.0	07/13/2022			07/18/2022 10:29	Beverly Y. Sanders	2341149
	07/13/2022			07/18/2022 10:30	Beverly Y. Sanders	2341150
	07/13/2022			07/18/2022 10:31	Beverly Y. Sanders	2341151
	07/13/2022			07/18/2022 10:33	Beverly Y. Sanders	2341153
EPA 365.1 Rev. 2.0	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 10:13	James L Waggeberby	2341151
	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 10:16	James L Waggeberby	2341149
	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 10:17	James L Waggeberby	2341150
	07/13/2022	07/19/2022 16:00	Adam P Silver	07/20/2022 10:20	James L Waggeberby	2341153
SM 2320 B-2011	07/13/2022			07/21/2022 03:36	Dale L. Simmons	2341146
	07/13/2022			07/21/2022 03:51	Dale L. Simmons	2341147
	07/13/2022			07/21/2022 04:05	Dale L. Simmons	2341148
	07/13/2022			07/21/2022 04:18	Dale L. Simmons	2341152
SM 2340 B-2011	07/13/2022			07/16/2022 00:03	McKinley C Carter	2341178
	07/13/2022			07/16/2022 00:11	McKinley C Carter	2341179
SM 2540 C-2011	07/13/2022			07/18/2022 15:45	Yijie Li	2341146, 2341147, 2341148, 2341152

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 D-2011	07/13/2022			07/18/2022 15:45	Yijie Li	2341146, 2341147, 2341148, 2341152
SM 4500-F- C-2011	07/13/2022			07/21/2022 03:36	Dale L. Simmons	2341146
	07/13/2022			07/21/2022 03:51	Dale L. Simmons	2341147
	07/13/2022			07/21/2022 04:05	Dale L. Simmons	2341148
	07/13/2022			07/21/2022 04:18	Dale L. Simmons	2341152
	07/13/2022			07/15/2022 20:23	Khloe J Berg	2341149
SM 5310 B-2011	07/13/2022			07/15/2022 20:38	Khloe J Berg	2341150
	07/13/2022			07/15/2022 20:52	Khloe J Berg	2341151
	07/13/2022			07/15/2022 21:06	Khloe J Berg	2341153