

Chemical Analysis Report

SO-DIST-2022-11-08-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **2022 SMP: Hendry Cricks + Jacks Branch SCI**
Request ID: **RQ-2022-11-07-33**
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: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 29-NOV-2022 11:32

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the name.

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: 11/07/2022 08:50

Field ID: G3SD0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2368441	DEP SOP: NU-094-1	Color (true)	350		PCU	P422085	
	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P422090	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P422649	
		Sulfate	8.6		mg SO4/L	P422652	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P422621	
	SM 2540 C-2015	TDS	155		mg/L	P422522	
	SM 2540 D-2015	TSS	4	I	mg/L	P422340	
2368442	SM 4500-F- C-2011	Fluoride	0.087	I	mg F/L	P422623	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P422138	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P422364	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P422220	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P422309	
2368455	SM 5310 B-2011	Organic Carbon	33		mg C/L	P422612	
	EPA 200.7 Rev. 4.4	Calcium	12.3		mg/L	P422211	
		Iron	1.26E+03		ug/L	P422211	
		Magnesium	4.22		mg/L	P422211	
		Potassium	2.0		mg/L	P422211	
		Sodium	19.2		mg/L	P422211	
		Strontium	420		ug/L	P422211	
		Tin	3.0	U	ug/L	P422211	
		Titanium	1.3	I	ug/L	P422211	
		Vanadium	2.0	U	ug/L	P422211	
		Zinc	5.0	U	ug/L	P422211	
	EPA 200.8 Rev. 5.4	Aluminum	221		ug/L	P422211	
		Antimony	0.050	U	ug/L	P422211	
		Arsenic	1.16		ug/L	P422211	
		Barium	15.6		ug/L	P422211	
		Beryllium	0.034	I	ug/L	P422211	
		Boron	35.3		ug/L	P422211	
		Cadmium	0.020	U	ug/L	P422211	
		Chromium	1.1	I	ug/L	P422211	
		Cobalt	0.343		ug/L	P422211	
		Copper	0.67	I	ug/L	P422211	
		Lead	0.31	I	ug/L	P422211	
		Manganese	34.1		ug/L	P422211	
		Molybdenum	0.16	I	ug/L	P422211	
		Nickel	0.55	I	ug/L	P422211	
		Selenium	0.20	U	ug/L	P422211	
		Silver	0.010	U	ug/L	P422211	
		Thallium	0.10	U	ug/L	P422211	
	SM 2340 B-2011	Hardness	48.2		mg/L	P422211	

Sample Location: Bee Branch At CR78

Collection Date/Time: 11/07/2022 09:20

Field ID: G3SD0226

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2368456	EPA 200.7 Rev. 4.4	Calcium	48.9		mg/L	P422211	
		Iron	1.63E+03		ug/L	P422211	
		Magnesium	7.00		mg/L	P422211	
		Potassium	4.6		mg/L	P422211	
		Sodium	28.3		mg/L	P422211	
		Strontium	468		ug/L	P422211	
		Tin	3.0	U	ug/L	P422211	
		Titanium	1.2	I	ug/L	P422211	
		Vanadium	2.0	U	ug/L	P422211	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P422211	
		Aluminum	94		ug/L	P422211	
		Antimony	0.16	I	ug/L	P422211	
		Arsenic	1.46		ug/L	P422211	
		Barium	20.6		ug/L	P422211	
		Beryllium	0.032	I	ug/L	P422211	
		Boron	40.8		ug/L	P422211	
		Cadmium	0.020	U	ug/L	P422211	
		Chromium	0.75	I	ug/L	P422211	
		Cobalt	0.463		ug/L	P422211	
		Copper	0.42	I	ug/L	P422211	
		Lead	0.20	U	ug/L	P422211	
		Manganese	82.6		ug/L	P422211	
		Molybdenum	1.13		ug/L	P422211	
		Nickel	1.5	I	ug/L	P422211	
		Selenium	0.20	U	ug/L	P422211	
		Silver	0.010	U	ug/L	P422211	
		Thallium	0.10	U	ug/L	P422211	
	SM 2340 B-2011	Hardness	151		mg/L	P422211	

Sample Location: Jacks Branch At CR78

Collection Date/Time: 11/07/2022 09:35

Field ID: G3SD0227

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2368435	DEP SOP: NU-094-1	Color (true)	86		PCU	P422085	
	EPA 180.1 Rev. 2.0	Turbidity	0.65	I	NTU	P422090	
	EPA 300.0 Rev. 2.1	Chloride	68		mg Cl/L	P422649	
		Sulfate	22		mg SO4/L	P422652	
	SM 2320 B-2011	Total Alkalinity	174		mg CaCO3/L	P422621	
	SM 2540 C-2015	TDS	333		mg/L	P422522	
	SM 2540 D-2015	TSS	2	I	mg/L	P422340	
	SM 4500-F- C-2011	Fluoride	0.17		mg F/L	P422623	
2368438	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P422138	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P422659	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.29		mg N/L	P422219	
	EPA 365.1 Rev. 2.0	Total-P	0.070		mg P/L	P422306	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P422603	

Sample Location: Fort Simmons Branch

Collection Date/Time: 11/07/2022 10:10

Field ID: G3SD0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2368436	DEP SOP: NU-094-1	Color (true)	70		PCU	P422085	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P422090	
	EPA 300.0 Rev. 2.1	Chloride	66		mg Cl/L	P422649	
		Sulfate	57		mg SO4/L	P422652	
	SM 2320 B-2011	Total Alkalinity	264		mg CaCO3/L	P422621	
	SM 2540 C-2015	TDS	514		mg/L	P422522	
	SM 2540 D-2015	TSS	5	I	mg/L	P422340	
	SM 4500-F- C-2011	Fluoride	0.53		mg F/L	P422623	
2368439	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P422138	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P422364	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.32		mg N/L	P422219	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P422309	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P422616	

Sample Location: FortSimmonsBranchAtSR80

Collection Date/Time: 11/07/2022 10:30

Field ID: G3SD0230

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2368437	DEP SOP: NU-094-1	Color (true)	63	A	PCU	P422085	
	EPA 180.1 Rev. 2.0	Turbidity	8.3		NTU	P422090	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P422649	
		Sulfate	69		mg SO4/L	P422652	
	SM 2320 B-2011	Total Alkalinity	297		mg CaCO3/L	P422621	
	SM 2540 C-2015	TDS	647	A	mg/L	P422522	
	SM 2540 D-2015	TSS	14	A	mg/L	P422340	
	SM 4500-F- C-2011	Fluoride	0.56		mg F/L	P422623	
2368440	EPA 350.1 Rev. 2.0	Ammonia-N	0.27		mg N/L	P422138	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P422659	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P422219	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P422309	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P422616	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P422085

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P422090

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P422211

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: P422211

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422649

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: P422652

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422138

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P422364

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P422659

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422219

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422220

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422306

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422309

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

Reference Method: SM 2320 B-2011
Batch ID: P422621

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P422522

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P422340

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P422623

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P422603

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

Reference Method: SM 5310 B-2011
Batch ID: P422612

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

Reference Method: SM 5310 B-2011
Batch ID: P422616

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: P422085

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P422090

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P422211

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	104		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	101		P	85 - 115
Sodium	104		P	85 - 115
Strontium	105		P	85 - 115
Tin	100		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	98.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P422211

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.9		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	101		P	85 - 115
Barium	104		P	85 - 115
Beryllium	95.7		P	85 - 115
Boron	104		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	103		P	85 - 115
Cobalt	101		P	85 - 115
Copper	101		P	85 - 115
Lead	94.8		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	98.6		P	85 - 115
Nickel	101		P	85 - 115
Selenium	100		P	85 - 115
Silver	98.9		P	85 - 115
Thallium	97.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422649

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422652

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422138

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P422364

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P422659

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: P422219

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422220

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422306

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422309

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

Reference Method: SM 2320 B-2011
Batch ID: P422621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.5		P	94 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P422522

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.4		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P422340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.1		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P422623

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P422603

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

Reference Method: SM 5310 B-2011
Batch ID: P422612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P422616

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P422211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368645	Calcium	103		P	80 - 120
2368645	Iron	105	107	P/P	80 - 120
2368645	Magnesium	103		P	80 - 120
2368645	Potassium	102	103	P/P	80 - 120
2368645	Sodium	101		P	80 - 120
2368645	Strontium	104	105	P/P	80 - 120
2368645	Tin	96.5	99.1	P/P	80 - 120
2368645	Titanium	101	102	P/P	80 - 120
2368645	Vanadium	101	102	P/P	80 - 120
2368645	Zinc	97.2	99.0	P/P	80 - 120
2368994	Calcium	103		P	80 - 120
2368994	Iron	105		P	80 - 120
2368994	Magnesium	102		P	80 - 120
2368994	Potassium	101		P	80 - 120
2368994	Sodium	105		P	80 - 120
2368994	Strontium	107		P	80 - 120
2368994	Tin	102		P	80 - 120
2368994	Titanium	102		P	80 - 120
2368994	Vanadium	102		P	80 - 120
2368994	Zinc	96.1		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P422211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368645	Aluminum	98.3	99.7	P/P	80 - 120
2368645	Antimony	105	106	P/P	80 - 120
2368645	Arsenic	104	105	P/P	80 - 120
2368645	Barium	105	105	P/P	80 - 120
2368645	Beryllium	97.8	97.4	P/P	80 - 120
2368645	Boron	103	106	P/P	80 - 120
2368645	Cadmium	103	104	P/P	80 - 120
2368645	Chromium	105	105	P/P	80 - 120
2368645	Cobalt	102	103	P/P	80 - 120
2368645	Copper	103	104	P/P	80 - 120
2368645	Lead	97.3	97.1	P/P	80 - 120
2368645	Manganese	102	104	P/P	80 - 120
2368645	Molybdenum	102	104	P/P	80 - 120
2368645	Nickel	104	104	P/P	80 - 120
2368645	Selenium	101	103	P/P	80 - 120
2368645	Silver	98.0	99.4	P/P	80 - 120
2368645	Thallium	102	103	P/P	80 - 120
2368994	Aluminum	99.9		P	80 - 120
2368994	Antimony	106		P	80 - 120
2368994	Arsenic	105		P	80 - 120
2368994	Barium	106		P	80 - 120
2368994	Beryllium	97.8		P	80 - 120
2368994	Boron	106		P	80 - 120
2368994	Cadmium	104		P	80 - 120
2368994	Chromium	106		P	80 - 120
2368994	Cobalt	101		P	80 - 120
2368994	Copper	98.9		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P422211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368994	Lead	96.8		P	80 - 120
2368994	Manganese	106		P	80 - 120
2368994	Molybdenum	103		P	80 - 120
2368994	Nickel	101		P	80 - 120
2368994	Selenium	101		P	80 - 120
2368994	Silver	101		P	80 - 120
2368994	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368205	Chloride	98.0		P	90 - 110
2368441	Chloride	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368205	Sulfate	99.2		P	90 - 110
2368441	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368438	Ammonia-N	95.2	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P422364

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368114	Kjeldahl Nitrogen	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P422659

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368401	Kjeldahl Nitrogen	104	116	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422219

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368415	NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368517	NO2NO3-N	106	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368403	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422309

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368518	Total-P	108	104	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P422623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368106	Fluoride	97.7	97.0	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P422603

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368438	Organic Carbon	96.0	97.0	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P422612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2367641	Organic Carbon	100		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P422616

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2368512	Organic Carbon	97.0	97.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P422085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368437	Color (true)	3.56	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P422090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368251	Turbidity	4.20	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P422211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368645	Calcium	2.05	Spike	P	0 - 20
2368645	Iron	1.47	Spike	P	0 - 20
2368645	Magnesium	1.80	Spike	P	0 - 20
2368645	Potassium	0.693	Spike	P	0 - 20
2368645	Sodium	1.25	Spike	P	0 - 20
2368645	Strontium	1.04	Spike	P	0 - 20
2368645	Tin	2.42	Spike	P	0 - 20
2368645	Titanium	0.969	Spike	P	0 - 20
2368645	Vanadium	1.19	Spike	P	0 - 20
2368645	Zinc	1.82	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P422211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368645	Aluminum	1.38	Spike	P	0 - 20
2368645	Antimony	0.877	Spike	P	0 - 20
2368645	Arsenic	0.825	Spike	P	0 - 20
2368645	Barium	0.300	Spike	P	0 - 20
2368645	Beryllium	0.410	Spike	P	0 - 20
2368645	Boron	2.28	Spike	P	0 - 20
2368645	Cadmium	0.679	Spike	P	0 - 20
2368645	Chromium	0.159	Spike	P	0 - 20
2368645	Cobalt	0.418	Spike	P	0 - 20
2368645	Copper	0.934	Spike	P	0 - 20
2368645	Lead	0.158	Spike	P	0 - 20
2368645	Manganese	1.28	Spike	P	0 - 20
2368645	Molybdenum	1.03	Spike	P	0 - 20
2368645	Nickel	0.0915	Spike	P	0 - 20
2368645	Selenium	2.04	Spike	P	0 - 20
2368645	Silver	1.41	Spike	P	0 - 20
2368645	Thallium	0.715	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368205	Chloride	0.191	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P422652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368205	Sulfate	0.247	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P422138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368438	Ammonia-N	0.226	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P422364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368114	Kjeldahl Nitrogen	0.180	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P422659

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368401	Kjeldahl Nitrogen	6.32	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422219

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368415	NO2NO3-N	0.193	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368517	NO2NO3-N	0.251	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368403	Total-P	0.0798	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368518	Total-P	3.08	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P422621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368106	Total Alkalinity	0.694	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P422522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368437	TDS	1.85	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P422340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368437	TSS	5.56	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P422623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368106	Fluoride	0.524	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P422603

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368438	Organic Carbon	0.551	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P422612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2367641	Organic Carbon	0.442	Sample	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P422616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2368512	Organic Carbon	0.637	Spike	P	0 - 20

Quality Assurance Report Precision

* 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: A115809

Included Lab Sample IDs: 2368435, 2368436, 2368437, 2368441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A115811

Included Lab Sample IDs: 2368435, 2368436, 2368437, 2368441

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A115829

Included Lab Sample IDs: 2368438, 2368439, 2368440, 2368442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	99.0	P/P	90 - 110
Ammonia-N	99.0	95.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115863

Included Lab Sample IDs: 2368438, 2368439, 2368440, 2368442

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A115939

Included Lab Sample IDs: 2368435, 2368436, 2368437, 2368441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.1	97.7	P/P	90 - 110
Chloride	97.7	98.4	P/P	90 - 110
Sulfate	98.1	98.7	P/P	90 - 110
Sulfate	98.7	99.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A115945

Included Lab Sample IDs: 2368455, 2368456

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.9	98.5	P/P	90 - 110
Antimony	99.3	100	P/P	90 - 110
Arsenic	100	101	P/P	90 - 110
Barium	101	101	P/P	90 - 110
Beryllium	98.0	98.6	P/P	90 - 110
Boron	102	103	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Cobalt	98.7	98.5	P/P	90 - 110
Copper	99.2	99.0	P/P	90 - 110
Lead	93.9	94.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A115945

Included Lab Sample IDs: 2368455, 2368456

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Manganese	100	103	P/P	90 - 110
Molybdenum	98.5	98.2	P/P	90 - 110
Nickel	99.4	98.8	P/P	90 - 110
Selenium	99.5	101	P/P	90 - 110
Silver	96.7	97.2	P/P	90 - 110
Thallium	99.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A115962

Included Lab Sample IDs: 2368438

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A115992

Included Lab Sample IDs: 2368455, 2368456

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	104	P/P	95 - 105
Calcium	104	104	P/P	90 - 110
Iron	104	105	P/P	95 - 105
Iron	105	105	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Magnesium	104	103	P/P	95 - 105
Potassium	100	104	P/P	95 - 105
Potassium	104	104	P/P	90 - 110
Sodium	102	105	P/P	95 - 105
Sodium	105	104	P/P	90 - 110
Strontium	103	108	P/P	95 - 105
Strontium	108	105	P/P	90 - 110
Tin	98.6	101	P/P	90 - 110
Tin	99.8	98.6	P/P	95 - 105
Titanium	101	101	P/P	90 - 110
Titanium	99.9	101	P/P	95 - 105
Vanadium	101	102	P/P	90 - 110
Vanadium	99.7	101	P/P	95 - 105
Zinc	97.7	99.8	P/P	90 - 110
Zinc	99.4	97.7	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A115997

Included Lab Sample IDs: 2368439, 2368440, 2368442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.6	96.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116026

Included Lab Sample IDs: 2368439, 2368442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	106	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A116039

Included Lab Sample IDs: 2368438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A116047

Included Lab Sample IDs: 2368442

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

Reference Method: SM 5310 B-2011

Run ID: A116048

Included Lab Sample IDs: 2368439, 2368440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	100	P/P	90 - 110
Organic Carbon	97.8	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A116055

Included Lab Sample IDs: 2368435, 2368436, 2368437, 2368441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.9	95.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A116055

Included Lab Sample IDs: 2368435, 2368436, 2368437, 2368441

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.5	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116110

Included Lab Sample IDs: 2368438, 2368440

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.3	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)	99.4				3.56	
EPA 180.1 Rev. 2.0	Turbidity	101				4.20	
EPA 200.7 Rev. 4.4	Calcium	104	103	103			2.05
	Iron	104	105	107	105		1.47
	Magnesium	102	103	102			1.80
	Potassium	101	102	103	101		0.693
	Sodium	104	101	105			1.25
	Strontium	105	104	105	107		1.04
	Tin	100	96.5	99.1	102		2.42
	Titanium	103	101	102	102		0.969
	Vanadium	103	101	102	102		1.19
	Zinc	98.8	97.2	99.0	96.1		1.82
EPA 200.8 Rev. 5.4	Aluminum	99.9	98.3	99.7	99.9		1.38
	Antimony	102	105	106	106		0.877
	Arsenic	101	104	105	105		0.825
	Barium	104	105	105	106		0.300
	Beryllium	95.7	97.8	97.4	97.8		0.410
	Boron	104	103	106	106		2.28
	Cadmium	100	103	104	104		0.679
	Chromium	103	105	105	106		0.159
	Cobalt	101	102	103	101		0.418
	Copper	101	103	104	98.9		0.934
	Lead	94.8	97.3	97.1	96.8		0.158
	Manganese	101	102	104	106		1.28
	Molybdenum	98.6	102	104	103		1.03
	Nickel	101	104	104	101		0.0915
	Selenium	100	101	103	101		2.04
	Silver	98.9	98.0	99.4	101		1.41
	Thallium	97.5	102	103	103		0.715
EPA 300.0 Rev. 2.1	Chloride	101	98.0	106		0.191	
	Sulfate	103	99.2	105		0.247	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	95.2	95.6			0.226
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.8	103	103			0.180
	Kjeldahl Nitrogen	100	104	116			6.32
EPA 353.2 Rev. 2.0	NO2NO3-N	105	99.0				0.193
	NO2NO3-N	106	106	106			0.251
EPA 365.1 Rev. 2.0	Total-P	107	105	105			0.0798
	Total-P	101	108	104			3.08
SM 2320 B-2011	Total Alkalinity	96.5				0.694	
SM 2540 C-2015	TDS	97.4				1.85	
SM 2540 D-2015	TSS	93.1				5.56	
SM 4500-F- C-2011	Fluoride	96.1	97.7	97.0			0.524
SM 5310 B-2011	Organic Carbon	96.2	96.0	97.0			0.551
	Organic Carbon	99.0	100			0.442	
	Organic Carbon	101	97.0	97.7			0.637

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2368435, 2368436, 2368437, 2368441
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2368435, 2368436, 2368437, 2368441
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2368455, 2368456

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2368455, 2368456
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2368435, 2368436, 2368437, 2368441
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2368435, 2368436, 2368437, 2368441
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2368438, 2368439, 2368440, 2368442
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2368438, 2368439, 2368440, 2368442
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2368438, 2368439, 2368440, 2368442
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2368438, 2368439, 2368440, 2368442
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2368435, 2368436, 2368437, 2368441
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2368455, 2368456
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2368435, 2368436, 2368437, 2368441
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2368435, 2368436, 2368437, 2368441
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2368435, 2368436, 2368437, 2368441
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2368438, 2368439, 2368440, 2368442

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	11/08/2022			11/08/2022 15:30	Chandler E Cox	2368435
	11/08/2022			11/08/2022 15:31	Chandler E Cox	2368436
	11/08/2022			11/08/2022 15:32	Chandler E Cox	2368437
	11/08/2022			11/08/2022 15:33	Chandler E Cox	2368441
EPA 180.1 Rev. 2.0	11/08/2022			11/08/2022 15:37	Khloe J Berg	2368435
	11/08/2022			11/08/2022 15:38	Khloe J Berg	2368436
	11/08/2022			11/08/2022 15:39	Khloe J Berg	2368437
	11/08/2022			11/08/2022 15:40	Khloe J Berg	2368441
EPA 200.7 Rev. 4.4	11/08/2022	11/14/2022 12:25	George D Taylor	11/17/2022 12:52	Betina Topolski	2368455
	11/08/2022	11/14/2022 12:25	George D Taylor	11/17/2022 13:22	Betina Topolski	2368456
EPA 200.8 Rev. 5.4	11/08/2022	11/14/2022 12:25	George D Taylor	11/15/2022 20:04	Megan Whitefoot	2368455
	11/08/2022	11/14/2022 12:25	George D Taylor	11/15/2022 20:13	Megan Whitefoot	2368456
EPA 300.0 Rev. 2.1	11/08/2022			11/18/2022 22:55	Anna M. Plaviak	2368441
	11/08/2022			11/19/2022 03:26	Anna M. Plaviak	2368435
	11/08/2022			11/19/2022 03:41	Anna M. Plaviak	2368436
	11/08/2022			11/19/2022 03:56	Anna M. Plaviak	2368437
EPA 350.1 Rev. 2.0	11/08/2022			11/08/2022 13:28	Ping Hua	2368438
	11/08/2022			11/08/2022 13:29	Ping Hua	2368439
	11/08/2022			11/08/2022 13:48	Ping Hua	2368440
	11/08/2022			11/08/2022 13:49	Ping Hua	2368442
EPA 351.2 Rev. 2.0	11/08/2022	11/16/2022 13:04	Alexandra J Mattheus	11/18/2022 10:54	Samantha L Bates	2368439
	11/08/2022	11/16/2022 13:04	Alexandra J Mattheus	11/18/2022 10:56	Samantha L Bates	2368442
	11/08/2022	11/21/2022 14:39	Alexandra J Mattheus	11/22/2022 15:49	Judith K. Clark	2368438
	11/08/2022	11/21/2022 14:39	Alexandra J Mattheus	11/22/2022 15:50	Judith K. Clark	2368440
EPA 353.2 Rev. 2.0	11/08/2022			11/10/2022 11:13	Beverly Y. Sanders	2368438
	11/08/2022			11/10/2022 11:15	Beverly Y. Sanders	2368439
	11/08/2022			11/10/2022 11:16	Beverly Y. Sanders	2368440
	11/08/2022			11/10/2022 11:29	Beverly Y. Sanders	2368442
EPA 365.1 Rev. 2.0	11/08/2022	11/15/2022 10:56	Simonne.V. Calhoun	11/16/2022 12:58	James L Waggeberby	2368438
	11/08/2022	11/15/2022 10:56	Simonne.V. Calhoun	11/17/2022 13:21	James L Waggeberby	2368439
	11/08/2022	11/15/2022 10:56	Simonne.V. Calhoun	11/17/2022 13:22	James L Waggeberby	2368440
	11/08/2022	11/15/2022 10:56	Simonne.V. Calhoun	11/17/2022 13:23	James L Waggeberby	2368442
SM 2320 B-2011	11/08/2022			11/17/2022 20:15	Dale L. Simmons	2368435
	11/08/2022			11/17/2022 20:30	Dale L. Simmons	2368436
	11/08/2022			11/17/2022 20:45	Dale L. Simmons	2368437
	11/08/2022			11/17/2022 20:58	Dale L. Simmons	2368441
SM 2340 B-2011	11/08/2022			11/17/2022 12:52	Betina Topolski	2368455
	11/08/2022			11/17/2022 13:22	Betina Topolski	2368456
SM 2540 C-2015	11/08/2022			11/09/2022 16:35	Yijie Li	2368435, 2368436, 2368437, 2368441
SM 2540 D-2015	11/08/2022			11/09/2022 16:35	Yijie Li	2368435, 2368436, 2368437, 2368441

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500-F- C-2011	11/08/2022			11/17/2022 20:15	Dale L. Simmons	2368435
	11/08/2022			11/17/2022 20:30	Dale L. Simmons	2368436
	11/08/2022			11/17/2022 20:45	Dale L. Simmons	2368437
	11/08/2022			11/17/2022 20:58	Dale L. Simmons	2368441
SM 5310 B-2011	11/08/2022			11/17/2022 17:33	Khloe J Berg	2368438
	11/08/2022			11/18/2022 17:55	Khloe J Berg	2368442
	11/08/2022			11/18/2022 22:48	Khloe J Berg	2368439
	11/08/2022			11/18/2022 23:30	Khloe J Berg	2368440