Chemical Analysis Report

NE-DIST-2022-06-02-02

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

Event Description: **Nassau North 2022**
Request ID: **RQ-2022-05-09-25**
Customer: **NE-DIST**
Project ID: **SMP**

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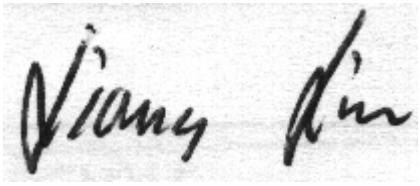
Date Certified: 28-JUN-2022 09:34



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: Little St. Marys River at White Oak Rd. **Collection Date/Time: 06/01/2022 10:20**

Field ID: G4NE0289 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2331370	EPA 200.7 Rev. 4.4	Calcium	4.55		mg/L	P414696	
		Iron	640		ug/L	P414696	
		Magnesium	2.97		mg/L	P414696	
		Potassium	0.75	I	mg/L	P414696	
		Sodium	15.7		mg/L	P414696	
		Strontium	29.3		ug/L	P414696	
		Tin	3.0	U	ug/L	P414696	
		Titanium	1.6	I	ug/L	P414696	
		Vanadium	2.0	U	ug/L	P414696	
		Zinc	5.0	U	ug/L	P414696	
	EPA 200.8 Rev. 5.4	Aluminum	447		ug/L	P414696	
		Antimony	0.051	I	ug/L	P414696	
		Arsenic	0.51		ug/L	P414696	
		Barium	13.2		ug/L	P414696	
		Beryllium	0.041		ug/L	P414696	
		Boron**	22.8		ug/L	P414696	
		Cadmium	0.020	U	ug/L	P414696	
		Chromium	0.57	I	ug/L	P414696	
		Cobalt	0.176		ug/L	P414696	
		Copper	0.40	U	ug/L	P414696	
		Lead	0.65		ug/L	P414696	
		Manganese	12.7		ug/L	P414696	
		Molybdenum	0.16	I	ug/L	P414696	
		Nickel	0.52	I	ug/L	P414696	
		Selenium	0.20	U	ug/L	P414696	
		Silver	0.010	U	ug/L	P414696	
		Thallium	0.10	U	ug/L	P414696	
	SM 2340 B-2011	Hardness	23.6		mg/L	P414696	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for manganese are unavailable for one of two spiked samples because of high analyte concentration in the QC sample. The lead result was confirmed in the undigested sample on 06/06/2022.

Sample Location: Escambia Slough at Escambia st. **Collection Date/Time: 06/01/2022 13:00**

Field ID: G4NE0287 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2331349	EPA 180.1 Rev. 2.0	Turbidity	8.8	A	NTU	P414665	
	SM 2320 B-2011	Total Alkalinity	121		mg CaCO3/L	P415137	
	SM 2540 D-2011	TSS	16		mg/L	P414779	
	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P415762	
2331350	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P414973	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P414742	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P415114	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P414753	
	SM 5310 B-2011	Organic Carbon	6.3		mg C/L	P415265	
2331369	EPA 200.7 Rev. 4.4	Calcium	372		mg/L	P415007	
		Iron	230	I	ug/L	P415007	
		Magnesium	1.19E+03		mg/L	P415007	
		Strontium	7.14E+03		ug/L	P415007	
		Tin	300	U	ug/L	P415007	
		Titanium	10	I	ug/L	P415007	
		Vanadium	8.0	U	ug/L	P415007	
		Zinc	20	U	ug/L	P415007	
	EPA 200.8 Rev. 5.4	Aluminum	258		ug/L	P415007	
		Antimony	0.20	U	ug/L	P415007	
		Arsenic	2.46		ug/L	P415007	
		Beryllium	0.040	U	ug/L	P415007	
		Cadmium	0.080	U	ug/L	P415007	
		Chromium	1.6	U	ug/L	P415007	
		Cobalt	0.16	I	ug/L	P415007	
		Copper	1.6	U	ug/L	P415007	
		Lead	2.0	U	ug/L	P415007	
		Manganese	25.8		ug/L	P415007	
		Molybdenum	10.6		ug/L	P415007	
		Nickel	2.0	U	ug/L	P415007	
		Selenium	0.80	U	ug/L	P415007	
		Silver	0.040	U	ug/L	P415007	
		Thallium	1.0	U	ug/L	P415007	

Ref. Method and Comment:
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium and magnesium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Egan creek at Atlantic **Collection Date/Time: 06/01/2022 13:15**

Field ID: G4NE0285 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2331351	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P414665	
	SM 2320 B-2011	Total Alkalinity	133		mg CaCO3/L	P415137	
	SM 2540 D-2011	TSS	20	A	mg/L	P414780	
	SM 4500-F- C-2011	Fluoride	1.1		mg F/L	P415762	
2331353	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P414973	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P414742	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P415115	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P414753	
	SM 5310 B-2011	Organic Carbon	9.0		mg C/L	P415265	

Sample Location: Egans Creek at Jasmine st **Collection Date/Time: 06/01/2022 13:35**

Field ID: G4NE0305 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2331352	EPA 180.1 Rev. 2.0	Turbidity	8.8		NTU	P414665	
	SM 2320 B-2011	Total Alkalinity	139		mg CaCO3/L	P415137	
	SM 2540 D-2011	TSS	12		mg/L	P414780	
	SM 4500-F- C-2011	Fluoride	0.88		mg F/L	P415762	
2331354	EPA 350.1 Rev. 2.0	Ammonia-N	0.069		mg N/L	P415076	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P414742	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P415114	
	EPA 365.1 Rev. 2.0	Total-P	0.58		mg P/L	P414753	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P415265	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414665

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P414696

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 200.7 Rev. 4.4
Batch ID: P415007

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	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: P414696

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 200.8 Rev. 5.4
Batch ID: P415007

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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 350.1 Rev. 2.0
Batch ID: P414973

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415076

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414742

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415114

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415115

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414753

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P415137

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

Reference Method: SM 2540 D-2011
Batch ID: P414779

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P414780

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P415762

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P415265

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414665

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.7		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P414696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	99.0		P	85 - 115
Magnesium	98.8		P	85 - 115
Potassium	100		P	85 - 115
Sodium	99.1		P	85 - 115
Strontium	98.9		P	85 - 115
Tin	102		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	93.3		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	105		P	85 - 115
Magnesium	101		P	85 - 115
Strontium	105		P	85 - 115
Tin	101		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	96.4		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.3		P	85 - 115
Antimony	99.2		P	85 - 115
Arsenic	101		P	85 - 115
Barium	104		P	85 - 115
Beryllium	98.4		P	85 - 115
Boron	103		P	85 - 115
Cadmium	97.6		P	85 - 115
Chromium	98.0		P	85 - 115
Cobalt	105		P	85 - 115
Copper	98.3		P	85 - 115
Lead	102		P	85 - 115
Manganese	98.6		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	99.5		P	85 - 115
Selenium	101		P	85 - 115
Silver	106		P	85 - 115
Thallium	101		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	99.7		P	85 - 115
Beryllium	97.0		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.0		P	85 - 115
Cobalt	99.0		P	85 - 115
Copper	96.8		P	85 - 115
Lead	103		P	85 - 115
Manganese	99.3		P	85 - 115
Molybdenum	102		P	85 - 115
Nickel	98.4		P	85 - 115
Selenium	98.0		P	85 - 115
Silver	99.7		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414973

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415076

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414742

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.3		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415114

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415115

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414753

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P415137

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

Reference Method: SM 4500-F- C-2011
Batch ID: P415762

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415265

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P414696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331424	Calcium	102		P	80 - 120
2331424	Iron	104		P	80 - 120
2331424	Magnesium	102		P	80 - 120
2331424	Potassium	101		P	80 - 120
2331424	Sodium	97.3		P	80 - 120
2331424	Strontium	101		P	80 - 120
2331424	Tin	105		P	80 - 120
2331424	Titanium	102		P	80 - 120
2331424	Vanadium	95.6		P	80 - 120
2331424	Zinc	104		P	80 - 120
2331465	Calcium	99.1	98.9	P/P	80 - 120
2331465	Iron	99.8	101	P/P	80 - 120
2331465	Magnesium	99.2	100	P/P	80 - 120
2331465	Potassium	106	107	P/P	80 - 120
2331465	Sodium	97.0	98.7	P/P	80 - 120
2331465	Strontium	98.2	99.9	P/P	80 - 120
2331465	Tin	101	102	P/P	80 - 120
2331465	Titanium	97.7	102	P/P	80 - 120
2331465	Vanadium	90.1	93.8	P/P	80 - 120
2331465	Zinc	98.1	102	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333582	Iron	108	106	P/P	70 - 130
2333582	Strontium	110	108	P/P	70 - 130
2333582	Tin	91.4	97.6	P/P	70 - 130
2333582	Titanium	108	111	P/P	70 - 130
2333582	Vanadium	97.6	99.6	P/P	70 - 130
2333582	Zinc	100	101	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331424	Aluminum	112		P	80 - 120
2331424	Antimony	101		P	80 - 120
2331424	Arsenic	100		P	80 - 120
2331424	Barium	103		P	80 - 120
2331424	Beryllium	99.0		P	80 - 120
2331424	Boron	110		P	80 - 120
2331424	Cadmium	99.1		P	80 - 120
2331424	Chromium	101		P	80 - 120
2331424	Cobalt	105		P	80 - 120
2331424	Copper	97.6		P	80 - 120
2331424	Lead	104		P	80 - 120
2331424	Molybdenum	102		P	80 - 120
2331424	Nickel	100		P	80 - 120
2331424	Selenium	94.6		P	80 - 120
2331424	Silver	107		P	80 - 120
2331424	Thallium	105		P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331465	Aluminum	101	101	P/P	80 - 120
2331465	Antimony	102	101	P/P	80 - 120
2331465	Arsenic	102	101	P/P	80 - 120
2331465	Barium	105	104	P/P	80 - 120
2331465	Beryllium	97.9	99.8	P/P	80 - 120
2331465	Boron	103	104	P/P	80 - 120
2331465	Cadmium	99.9	99.8	P/P	80 - 120
2331465	Chromium	100	99.2	P/P	80 - 120
2331465	Cobalt	108	106	P/P	80 - 120
2331465	Copper	101	98.1	P/P	80 - 120
2331465	Lead	103	103	P/P	80 - 120
2331465	Manganese	102	98.6	P/P	80 - 120
2331465	Molybdenum	104	103	P/P	80 - 120
2331465	Nickel	102	100	P/P	80 - 120
2331465	Selenium	99.8	97.3	P/P	80 - 120
2331465	Silver	108	105	P/P	80 - 120
2331465	Thallium	105	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333582	Aluminum	103	105	P/P	70 - 130
2333582	Antimony	101	104	P/P	70 - 130
2333582	Arsenic	111	114	P/P	70 - 130
2333582	Beryllium	109	115	P/P	70 - 130
2333582	Cadmium	96.1	97.1	P/P	70 - 130
2333582	Chromium	96.3	101	P/P	70 - 130
2333582	Cobalt	110	114	P/P	70 - 130
2333582	Copper	105	110	P/P	70 - 130
2333582	Lead	105	109	P/P	70 - 130
2333582	Manganese	95.8	105	P/P	70 - 130
2333582	Molybdenum	110	116	P/P	70 - 130
2333582	Nickel	110	114	P/P	70 - 130
2333582	Selenium	102	106	P/P	70 - 130
2333582	Silver	92.6	95.0	P/P	70 - 130
2333582	Thallium	107	111	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2330408	Ammonia-N	97.2	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2329993	Ammonia-N	97.8	98.0	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331350	Kjeldahl Nitrogen	95.3	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331023	NO2NO3-N	109	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415115

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331353	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331344	Total-P	99.9	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P415762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2331472	Fluoride	101	100	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2330408	Organic Carbon	89.6	87.4	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P414665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331349	Turbidity	5.79	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P414696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331465	Calcium	0.149	Spike	P	0 - 20
2331465	Iron	0.807	Spike	P	0 - 20
2331465	Magnesium	0.998	Spike	P	0 - 20
2331465	Potassium	0.992	Spike	P	0 - 20
2331465	Sodium	1.23	Spike	P	0 - 20
2331465	Strontium	1.75	Spike	P	0 - 20
2331465	Tin	1.50	Spike	P	0 - 20
2331465	Titanium	4.05	Spike	P	0 - 20
2331465	Vanadium	4.13	Spike	P	0 - 20
2331465	Zinc	4.11	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333582	Calcium	0.595	Spike	P	0 - 20
2333582	Iron	1.40	Spike	P	0 - 20
2333582	Magnesium	0.133	Spike	P	0 - 20
2333582	Strontium	1.38	Spike	P	0 - 20
2333582	Tin	6.56	Spike	P	0 - 20
2333582	Titanium	2.50	Spike	P	0 - 20
2333582	Vanadium	1.98	Spike	P	0 - 20
2333582	Zinc	1.25	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331465	Aluminum	0.657	Spike	P	0 - 20
2331465	Antimony	1.04	Spike	P	0 - 20
2331465	Arsenic	0.549	Spike	P	0 - 20
2331465	Barium	0.784	Spike	P	0 - 20
2331465	Beryllium	1.89	Spike	P	0 - 20
2331465	Boron	0.253	Spike	P	0 - 20
2331465	Cadmium	0.118	Spike	P	0 - 20
2331465	Chromium	1.19	Spike	P	0 - 20
2331465	Cobalt	1.60	Spike	P	0 - 20
2331465	Copper	2.84	Spike	P	0 - 20
2331465	Lead	0.185	Spike	P	0 - 20
2331465	Manganese	2.72	Spike	P	0 - 20
2331465	Molybdenum	1.43	Spike	P	0 - 20
2331465	Nickel	1.79	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P414696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331465	Selenium	2.51	Spike	P	0 - 20
2331465	Silver	2.59	Spike	P	0 - 20
2331465	Thallium	0.970	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333582	Aluminum	1.74	Spike	P	0 - 20
2333582	Antimony	3.18	Spike	P	0 - 20
2333582	Arsenic	3.33	Spike	P	0 - 20
2333582	Beryllium	5.23	Spike	P	0 - 20
2333582	Cadmium	1.06	Spike	P	0 - 20
2333582	Chromium	4.36	Spike	P	0 - 20
2333582	Cobalt	4.09	Spike	P	0 - 20
2333582	Copper	3.87	Spike	P	0 - 20
2333582	Lead	3.24	Spike	P	0 - 20
2333582	Manganese	4.82	Spike	P	0 - 20
2333582	Molybdenum	4.47	Spike	P	0 - 20
2333582	Nickel	3.21	Spike	P	0 - 20
2333582	Selenium	4.00	Spike	P	0 - 20
2333582	Silver	2.59	Spike	P	0 - 20
2333582	Thallium	4.11	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P414973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2330408	Ammonia-N	0.742	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2329993	Ammonia-N	0.152	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P414742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331350	Kjeldahl Nitrogen	2.80	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331023	NO2NO3-N	5.66	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415115

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331353	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P414753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331344	Total-P	2.52	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P415137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331472	Total Alkalinity	0.307	Sample	P	0 - 3.8

Reference Method: SM 2540 D-2011
Batch ID: P414779

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2330814	TSS	2.35	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P414780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331351	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2331472	Fluoride	0.480	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P415265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2330408	Organic Carbon	1.89	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: EPA 180.1 Rev. 2.0
Run ID: A112575
Included Lab Sample IDs: 2331349, 2331351, 2331352

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A112612
Included Lab Sample IDs: 2331370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	102	P/P	90 - 110
Antimony	99.7	99.3	P/P	90 - 110
Arsenic	99.4	100	P/P	90 - 110
Barium	99.5	99.7	P/P	90 - 110
Boron	104	105	P/P	90 - 110
Cadmium	99.5	99.5	P/P	90 - 110
Chromium	99.3	97.8	P/P	90 - 110
Cobalt	102	102	P/P	90 - 110
Copper	97.2	97.5	P/P	90 - 110
Lead	101	100	P/P	90 - 110
Manganese	99.0	99.1	P/P	90 - 110
Nickel	98.3	98.2	P/P	90 - 110
Selenium	98.9	98.6	P/P	90 - 110
Silver	105	106	P/P	90 - 110
Thallium	98.3	98.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A112634
Included Lab Sample IDs: 2331370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	96.8	97.9	P/P	90 - 110
Molybdenum	97.8	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A112647
Included Lab Sample IDs: 2331353, 2331354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A112648
Included Lab Sample IDs: 2331350

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	96.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A112677
Included Lab Sample IDs: 2331370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	92.1	96.7	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A112677
Included Lab Sample IDs: 2331370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	92.9	98.0	P/P	90 - 110
Magnesium	92.1	97.4	P/P	90 - 110
Potassium	94.7	99.4	P/P	90 - 110
Sodium	91.5	96.0	P/P	90 - 110
Strontium	97.5	96.8	P/P	90 - 110
Tin	99.6	99.1	P/P	90 - 110
Titanium	96.6	95.7	P/P	90 - 110
Vanadium	97.0	96.8	P/P	90 - 110
Zinc	99.7	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A112704
Included Lab Sample IDs: 2331350, 2331353, 2331354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.2	95.6	P/P	90 - 110
Kjeldahl Nitrogen	93.4	90.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A112705
Included Lab Sample IDs: 2331350, 2331353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A112753
Included Lab Sample IDs: 2331369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	99.9	P/P	95 - 105
Iron	103	101	P/P	95 - 105
Magnesium	102	100	P/P	95 - 105
Strontium	101	103	P/P	95 - 105
Tin	98.2	101	P/P	95 - 105
Titanium	98.9	99.3	P/P	95 - 105
Vanadium	99.1	101	P/P	95 - 105
Zinc	98.8	101	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A112754
Included Lab Sample IDs: 2331354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A112776
Included Lab Sample IDs: 2331350, 2331353, 2331354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A112776
Included Lab Sample IDs: 2331350, 2331353, 2331354

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

Reference Method: SM 2320 B-2011
Run ID: A112796
Included Lab Sample IDs: 2331349, 2331351, 2331352

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.2	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A112826
Included Lab Sample IDs: 2331369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	104	104	P/P	90 - 110
Antimony	99.2	98.8	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Beryllium	97.0	96.6	P/P	90 - 110
Cadmium	98.5	98.8	P/P	90 - 110
Chromium	96.4	96.2	P/P	90 - 110
Cobalt	102	104	P/P	90 - 110
Copper	103	103	P/P	90 - 110
Lead	100	99.4	P/P	90 - 110
Manganese	97.4	97.3	P/P	90 - 110
Molybdenum	100	100	P/P	90 - 110
Nickel	103	105	P/P	90 - 110
Selenium	97.3	98.0	P/P	90 - 110
Silver	99.4	100	P/P	90 - 110
Thallium	98.8	98.3	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A112851
Included Lab Sample IDs: 2331350, 2331353, 2331354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.2	95.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A113065
Included Lab Sample IDs: 2331349, 2331351, 2331352

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	100	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		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity	96.7					5.79	
EPA 200.7 Rev. 4.4	Calcium	103	102	99.1	98.9			0.149
	Calcium	103						0.595
	Iron	99.0	104	99.8	101			0.807
	Iron	105	108	106				1.40
	Magnesium	98.8	102	99.2	100			0.998
	Magnesium	101						0.133
	Potassium	100	101	106	107			0.992
	Sodium	99.1	97.3	97.0	98.7			1.23
	Strontium	98.9	101	98.2	99.9			1.75
	Strontium	105	110	108				1.38
	Tin	102	105	101	102			1.50
	Tin	101	91.4	97.6				6.56
	Titanium	101	102	97.7	102			4.05
	Titanium	102	108	111				2.50
	Vanadium	93.3	95.6	90.1	93.8			4.13
	Vanadium	96.4	97.6	99.6				1.98
	Zinc	102	104	98.1	102			4.11
	Zinc	101	100	101				1.25
EPA 200.8 Rev. 5.4	Aluminum	99.3	101	101	112			0.657
	Aluminum	103	103	105				1.74
	Antimony	99.2	102	101	101			1.04
	Antimony	102	101	104				3.18
	Arsenic	101	102	101	100			0.549
	Arsenic	99.7	111	114				3.33
	Barium	104	105	104	103			0.784
	Beryllium	98.4	97.9	99.8	99.0			1.89
	Beryllium	97.0	109	115				5.23
	Boron	103	103	104	110			0.253
	Cadmium	97.6	99.9	99.8	99.1			0.118
	Cadmium	100	96.1	97.1				1.06
	Chromium	98.0	100	99.2	101			1.19
	Chromium	98.0	96.3	101				4.36
	Cobalt	105	108	106	105			1.60
	Cobalt	99.0	110	114				4.09
	Copper	98.3	101	98.1	97.6			2.84
	Copper	96.8	105	110				3.87
	Lead	102	103	103	104			0.185
	Lead	103	105	109				3.24
	Manganese	98.6	102	98.6				2.72
	Manganese	99.3	95.8	105				4.82
	Molybdenum	101	104	103	102			1.43
	Molybdenum	102	110	116				4.47
	Nickel	99.5	102	100	100			1.79
	Nickel	98.4	110	114				3.21
	Selenium	101	99.8	97.3	94.6			2.51
	Selenium	98.0	102	106				4.00
	Silver	106	108	105	107			2.59
	Silver	99.7	92.6	95.0				2.59
	Thallium	101	105	104	105			0.970
	Thallium	104	107	111				4.11
EPA 350.1 Rev. 2.0	Ammonia-N	96.2	97.2	98.0				0.742
	Ammonia-N	98.8	97.8	98.0				0.152
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.3	95.3	98.5				2.80

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 353.2 Rev. 2.0	NO2NO3-N	102	109	103			5.66
	NO2NO3-N	102	99.5	100			0.501
EPA 365.1 Rev. 2.0	Total-P	108	99.9	102			2.52
SM 2320 B-2011	Total Alkalinity	101				0.307	
SM 2540 D-2011	TSS					2.35	
	TSS					0.0	
SM 4500-F- C-2011	Fluoride	101	101	100			0.480
SM 5310 B-2011	Organic Carbon	94.4	89.6	87.4			1.89

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2331349, 2331351, 2331352
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2331369, 2331370
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2331369, 2331370
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2331350, 2331353, 2331354
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2331350, 2331353, 2331354
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2331350, 2331353, 2331354
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2331350, 2331353, 2331354
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2331349, 2331351, 2331352
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2331370
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2331349, 2331351, 2331352
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2331349, 2331351, 2331352
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2331350, 2331353, 2331354

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	06/02/2022			06/02/2022 13:26	Anna M. Plaviak	2331349
	06/02/2022			06/02/2022 13:28	Anna M. Plaviak	2331351
	06/02/2022			06/02/2022 13:29	Anna M. Plaviak	2331352
EPA 200.7 Rev. 4.4	06/02/2022	06/03/2022 09:45	Megan Whitefoot	06/08/2022 02:06	McKinley C Carter	2331370
	06/02/2022	06/10/2022 09:22	Megan Whitefoot	06/11/2022 22:18	Betina Topolski	2331369
	06/02/2022	06/10/2022 09:22	Megan Whitefoot	06/11/2022 22:30	Betina Topolski	2331369
EPA 200.8 Rev. 5.4	06/02/2022	06/03/2022 09:45	Megan Whitefoot	06/03/2022 22:10	Emily M Philpot	2331370
	06/02/2022	06/03/2022 09:45	Megan Whitefoot	06/06/2022 16:21	Alexander Thompson	2331370
	06/02/2022	06/10/2022 09:22	Megan Whitefoot	06/14/2022 15:48	Alexander Thompson	2331369
	06/02/2022	06/10/2022 09:22	Megan Whitefoot	06/14/2022 19:18	Alexander Thompson	2331369
EPA 350.1 Rev. 2.0	06/02/2022			06/09/2022 12:11	Judith K. Clark	2331350
	06/02/2022			06/09/2022 12:13	Judith K. Clark	2331353
	06/02/2022			06/10/2022 14:23	Ping Hua	2331354
EPA 351.2 Rev. 2.0	06/02/2022	06/08/2022 11:39	Samantha L Bates	06/09/2022 12:31	Alexandra J Mattheus	2331350
	06/02/2022	06/08/2022 11:39	Samantha L Bates	06/09/2022 12:39	Alexandra J Mattheus	2331353
	06/02/2022	06/08/2022 11:39	Samantha L Bates	06/09/2022 12:41	Alexandra J Mattheus	2331354
EPA 353.2 Rev. 2.0	06/02/2022			06/10/2022 17:14	Touraj Touran	2331350
	06/02/2022			06/10/2022 17:15	Touraj Touran	2331354
	06/02/2022			06/10/2022 17:28	Touraj Touran	2331353
EPA 365.1 Rev. 2.0	06/02/2022	06/06/2022 15:34	Adam P Silver	06/07/2022 11:52	James L Waggerby	2331353
	06/02/2022	06/06/2022 15:34	Adam P Silver	06/07/2022 11:53	James L Waggerby	2331354
	06/02/2022	06/06/2022 15:34	Adam P Silver	06/07/2022 14:40	James L Waggerby	2331350
SM 2320 B-2011	06/02/2022			06/14/2022 02:47	Dale L. Simmons	2331349
	06/02/2022			06/14/2022 03:01	Dale L. Simmons	2331351
	06/02/2022			06/14/2022 03:15	Dale L. Simmons	2331352
SM 2340 B-2011	06/02/2022			06/08/2022 02:06	McKinley C Carter	2331370
SM 2540 D-2011	06/02/2022			06/03/2022 16:26	Blanca Fach	2331349, 2331351, 2331352
SM 4500-F- C-2011	06/02/2022			06/24/2022 13:37	Dale L. Simmons	2331349
	06/02/2022			06/24/2022 13:42	Dale L. Simmons	2331351
	06/02/2022			06/24/2022 13:47	Dale L. Simmons	2331352
SM 5310 B-2011	06/02/2022			06/15/2022 03:27	Khloe J Berg	2331350
	06/02/2022			06/15/2022 03:41	Khloe J Berg	2331353
	06/02/2022			06/15/2022 03:55	Khloe J Berg	2331354