

Chemical Analysis Report

NE-DIST-2024-05-02-01

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

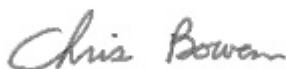
Event Description: **Nassau North Boat 2024**
Request ID: **RQ-2024-05-06-28**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Chris Bowen, Environmental Administrator

Date Certified: 30-MAY-2024 09:34



NON-CONFORMANCE REPORT INCLUDED

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: EGAN CREEK AT ATLANTIC

Collection Date/Time: 05/01/2024 10:25

Field ID: G4NE0285

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2486317	DEP SOP: NU-094-1	Color (true)	52	A	PCU	P445164	
	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P445171	
	EPA 300.0 Rev. 2.1	Chloride	1.1E+04		mg Cl/L	P445475	
		Sulfate	1.6E+03		mg SO4/L	P445479	
	SM 2540 C-2015	TDS	1.82E+04		mg/L	P445611	MS
	SM 2540 D-2015	TSS	15		mg/L	P445563	
	SM 4500-F- C-2011	Fluoride	0.79		mg F/L	P445604	
2486318	EPA 350.1 Rev. 2.0	Ammonia-N	0.090		mg N/L	P445348	RPD
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P445190	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P445261	
	EPA 365.1 Rev. 2.0	Total-P	0.42		mg P/L	P445208	
	SM 5310 B-2014	Organic Carbon	11		mg C/L	P445384	

Sample Location: NASSAU RIV US 17

Collection Date/Time: 05/01/2024 11:15

Field ID: 19020002

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2486326	EPA 200.7 Rev. 4.4	Calcium	46.7		mg/L	P445213	
		Iron	1.73E+03		ug/L	P445213	
		Magnesium	123		mg/L	P445213	
		Potassium	36		mg/L	P445213	
		Sodium	979		mg/L	P445213	
		Strontium	692		ug/L	P445213	
		Tin	3.0	U	ug/L	P445213	
		Titanium	18.4		ug/L	P445213	
		Vanadium	5.0	I	ug/L	P445213	
		Zinc	24		ug/L	P445213	
	EPA 200.8 Rev. 5.4	Aluminum	1.18E+03		ug/L	P445213	
		Antimony	0.082	I	ug/L	P445213	
		Arsenic	1.96		ug/L	P445213	
		Barium	16.2		ug/L	P445213	
		Beryllium	0.093		ug/L	P445213	
		Boron	426		ug/L	P445213	
		Cadmium	0.020	U	ug/L	P445213	
		Chromium	2.2		ug/L	P445213	
		Cobalt	0.382		ug/L	P445213	
		Copper	0.81		ug/L	P445213	
		Lead	1.30		ug/L	P445213	
		Manganese	49.3		ug/L	P445213	
		Molybdenum	1.53		ug/L	P445213	
		Nickel	1.0	I	ug/L	P445213	
		Selenium	0.20	U	ug/L	P445213	
		Silver	0.010	U	ug/L	P445213	
		Thallium	0.10	U	ug/L	P445213	
	SM 2340 B-2011	Hardness	624		mg/L	P445213	

Sample Location: ST MARYS R AT GA LINE US 17

Collection Date/Time: 05/01/2024 13:40

Field ID: 19010001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2486315	DEP SOP: NU-094-1	Color (true)	420		PCU	P445164	
	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P445171	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P445475	MS
		Sulfate	2.4		mg SO4/L	P445479	
	SM 2320 B-2011	Total Alkalinity	4.0		mg CaCO3/L	P445546	
	SM 2540 C-2015	TDS	100		mg/L	P445611	
	SM 2540 D-2015	TSS	6	I	mg/L	P445560	
	SM 4500-F- C-2011	Fluoride	0.042	I	mg F/L	P445550	
2486316	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P445347	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P445241	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P445211	
	SM 5310 B-2014	Organic Carbon	33		mg C/L	P445525	
2486325	EPA 200.7 Rev. 4.4	Calcium	4.12		mg/L	P445213	
		Iron	940		ug/L	P445213	
		Magnesium	2.16		mg/L	P445213	
		Potassium	0.53	I	mg/L	P445213	
		Sodium	10.3		mg/L	P445213	
		Strontium	22.5		ug/L	P445213	
		Tin	3.0	U	ug/L	P445213	
		Titanium	2.1	I	ug/L	P445213	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P445213	
		Zinc	18	I	ug/L	P445213	
		Aluminum	618		ug/L	P445213	
		Antimony	0.050	U	ug/L	P445213	
		Arsenic	0.49		ug/L	P445213	
		Barium	14.0		ug/L	P445213	
		Beryllium	0.052		ug/L	P445213	
		Boron	19.3		ug/L	P445213	
		Cadmium	0.020	U	ug/L	P445213	
		Chromium	0.77	I	ug/L	P445213	
		Cobalt	0.245		ug/L	P445213	
		Copper	0.46	I	ug/L	P445213	
		Lead	0.75		ug/L	P445213	
		Manganese	16.7		ug/L	P445213	
		Molybdenum	0.15	U	ug/L	P445213	
		Nickel	0.66	I	ug/L	P445213	
		Selenium	0.20	U	ug/L	P445213	
		Silver	0.010	U	ug/L	P445213	
		Thallium	0.10	U	ug/L	P445213	
	SM 2340 B-2011	Hardness	19.2		mg/L	P445213	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 05/08/2024.

Sample Location: STMARYS RIVER AT CRANDALL RD

Collection Date/Time: 05/01/2024 14:20

Field ID: G4NE0293

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2486327	EPA 200.7 Rev. 4.4	Calcium	57.8		mg/L	P445213	
		Iron	910		ug/L	P445213	
		Magnesium	172		mg/L	P445213	
		Potassium	50		mg/L	P445213	
		Sodium	1.37E+03		mg/L	P445213	
		Strontium	950		ug/L	P445213	
		Tin	3.0	U	ug/L	P445213	
		Titanium	6.3		ug/L	P445213	
		Vanadium	2.4	I	ug/L	P445213	
		Zinc	23		ug/L	P445213	
	EPA 200.8 Rev. 5.4	Aluminum	710		ug/L	P445213	
		Antimony	0.066	I	ug/L	P445213	
		Arsenic	0.96		ug/L	P445213	
		Barium	18.8		ug/L	P445213	
		Beryllium	0.041		ug/L	P445213	
		Boron	519		ug/L	P445213	
		Cadmium	0.020	U	ug/L	P445213	
		Chromium	0.85	I	ug/L	P445213	
		Cobalt	0.255		ug/L	P445213	
		Copper	0.55	I	ug/L	P445213	
	SM 2340 B-2011	Lead	0.74		ug/L	P445213	
		Manganese	17.8		ug/L	P445213	
		Molybdenum	1.87		ug/L	P445213	
		Nickel	0.65	I	ug/L	P445213	
		Selenium	0.20	U	ug/L	P445213	
		Silver	0.010	U	ug/L	P445213	
		Thallium	0.10	U	ug/L	P445213	
		Hardness	854		mg/L	P445213	

Non-Conformance Report

NCR ID: 10476

Event(s)

NE-DIST-2024-05-02-01

Job(s)

TLH-2024-05-02-19

Sample(s)

Test(s)

NCR Type: CUSTODY

NCR Category: General

Observation: After 05/09/2024, sample(s) were stored above room temperature for multiple days because of a power outage.

Resolution: Customer elected not to receive Y and/or Q qualified data resulting from power outage, so any affected tests were removed or the sample was cancelled.

Authorized by/Date: Sarah A Nixon 5/29/2024

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P445164

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P445171

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P445213

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: P445213

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: P445475

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: P445479

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445347

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445348

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445190

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445241

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445261

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445208

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445211

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

Reference Method: SM 2320 B-2011
Batch ID: P445546

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: P445611

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P445560

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P445563

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P445550

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 4500-F- C-2011
Batch ID: P445604

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P445384

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

Reference Method: SM 5310 B-2014
Batch ID: P445525

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: P445164

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.1		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P445171

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P445213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	106		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	99.4		P	85 - 115
Sodium	101		P	85 - 115
Strontium	98.4		P	85 - 115
Tin	100		P	85 - 115
Titanium	99.3		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P445213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	102		P	85 - 115
Barium	103		P	85 - 115
Beryllium	107		P	85 - 115
Boron	110		P	85 - 115
Cadmium	100		P	80 - 120
Chromium	105		P	85 - 115
Cobalt	103		P	85 - 115
Copper	102		P	85 - 115
Lead	101		P	85 - 115
Manganese	106		P	85 - 115
Molybdenum	103		P	85 - 115
Nickel	102		P	85 - 115
Selenium	102		P	85 - 115
Silver	118		P	80 - 120
Thallium	99.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445475

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445479

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445347

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445190

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445241

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445261

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: P445208

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445211

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

Reference Method: SM 2320 B-2011
Batch ID: P445546

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 103

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P445611

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	102		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P445560

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

Reference Method: SM 2540 D-2015
Batch ID: P445563

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	106		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P445550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	106		P	95 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P445604

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.0		P	95 - 106

Reference Method: SM 5310 B-2014
Batch ID: P445384

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P445525

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P445213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486312	Calcium	104		P	80 - 120
2486312	Iron	106	105	P/P	80 - 120
2486312	Magnesium	108	107	P/P	80 - 120
2486312	Potassium	97.3	98.8	P/P	80 - 120
2486312	Sodium	100		P	80 - 120
2486312	Strontium	94.6	95.8	P/P	80 - 120
2486312	Tin	100	102	P/P	80 - 120
2486312	Titanium	99.2	101	P/P	80 - 120
2486312	Vanadium	103	105	P/P	80 - 120
2486312	Zinc	105	106	P/P	80 - 120
2486435	Calcium	103		P	80 - 120
2486435	Iron	107		P	80 - 120
2486435	Magnesium	105		P	80 - 120
2486435	Potassium	102		P	80 - 120
2486435	Sodium	103		P	80 - 120
2486435	Strontium	96.5		P	80 - 120
2486435	Tin	99.3		P	80 - 120
2486435	Titanium	97.5		P	80 - 120
2486435	Vanadium	105		P	80 - 120
2486435	Zinc	102		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P445213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486312	Aluminum	99.4	101	P/P	80 - 120
2486312	Antimony	104	105	P/P	80 - 120
2486312	Arsenic	103	103	P/P	80 - 120
2486312	Barium	102	103	P/P	80 - 120
2486312	Beryllium	101	105	P/P	80 - 120
2486312	Boron	106	105	P/P	80 - 120
2486312	Cadmium	101	103	P/P	80 - 120
2486312	Chromium	105	105	P/P	80 - 120
2486312	Cobalt	101	102	P/P	80 - 120
2486312	Copper	101	101	P/P	80 - 120
2486312	Lead	102	103	P/P	80 - 120
2486312	Manganese	102	103	P/P	80 - 120
2486312	Molybdenum	103	104	P/P	80 - 120
2486312	Nickel	100	101	P/P	80 - 120
2486312	Selenium	99.8	101	P/P	80 - 120
2486312	Silver	114	115	P/P	80 - 120
2486312	Thallium	102	103	P/P	80 - 120
2486435	Aluminum	98.3		P	80 - 120
2486435	Antimony	102		P	80 - 120
2486435	Arsenic	101		P	80 - 120
2486435	Barium	101		P	80 - 120
2486435	Beryllium	104		P	80 - 120
2486435	Boron	109		P	80 - 120
2486435	Cadmium	99.1		P	80 - 120
2486435	Chromium	103		P	80 - 120
2486435	Cobalt	99.9		P	80 - 120
2486435	Copper	99.4		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P445213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486435	Lead	101		P	80 - 120
2486435	Manganese	103		P	80 - 120
2486435	Molybdenum	100		P	80 - 120
2486435	Nickel	101		P	80 - 120
2486435	Selenium	97.9		P	80 - 120
2486435	Silver	115		P	80 - 120
2486435	Thallium	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445475

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486307	Chloride	110		F	90 - 110
2486428	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445479

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486307	Sulfate	103		P	90 - 110
2486428	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445347

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486303	Ammonia-N	92.8	94.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485978	Ammonia-N	99.4	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486002	Kjeldahl Nitrogen	104	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445241

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486303	Kjeldahl Nitrogen	92.5	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485303	NO2NO3-N	97.6	98.1	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445208

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486000	Total-P	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486308	Total-P	102	102	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P445550

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486331	Fluoride	105	104	P/P	95 - 107

Reference Method: SM 4500-F- C-2011
Batch ID: P445604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485225	Fluoride	101	101	P/P	95 - 107

Reference Method: SM 5310 B-2014
Batch ID: P445384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2485067	Organic Carbon	96.3	95.5	P/P	85 - 115

Reference Method: SM 5310 B-2014
Batch ID: P445525

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2486308	Organic Carbon	99.6	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P445164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486317	Color (true)	4.09	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P445171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486146	Turbidity	3.63	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P445213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486312	Calcium	0.632	Spike	P	0 - 20
2486312	Iron	0.681	Spike	P	0 - 20
2486312	Magnesium	0.694	Spike	P	0 - 20
2486312	Potassium	1.04	Spike	P	0 - 20
2486312	Sodium	1.07	Spike	P	0 - 20
2486312	Strontium	1.22	Spike	P	0 - 20
2486312	Tin	1.87	Spike	P	0 - 20
2486312	Titanium	1.47	Spike	P	0 - 20
2486312	Vanadium	2.32	Spike	P	0 - 20
2486312	Zinc	1.41	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P445213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486312	Aluminum	2.00	Spike	P	0 - 20
2486312	Antimony	1.47	Spike	P	0 - 20
2486312	Arsenic	0.292	Spike	P	0 - 20
2486312	Barium	0.872	Spike	P	0 - 20
2486312	Beryllium	3.59	Spike	P	0 - 20
2486312	Boron	0.154	Spike	P	0 - 20
2486312	Cadmium	1.32	Spike	P	0 - 20
2486312	Chromium	0.581	Spike	P	0 - 20
2486312	Cobalt	0.969	Spike	P	0 - 20
2486312	Copper	0.352	Spike	P	0 - 20
2486312	Lead	1.22	Spike	P	0 - 20
2486312	Manganese	0.915	Spike	P	0 - 20
2486312	Molybdenum	0.653	Spike	P	0 - 20
2486312	Nickel	0.737	Spike	P	0 - 20
2486312	Selenium	0.783	Spike	P	0 - 20
2486312	Silver	0.948	Spike	P	0 - 20
2486312	Thallium	0.914	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445475

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486307	Chloride	0.173	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P445479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486307	Sulfate	0.251	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445347

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486303	Ammonia-N	1.97	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P445348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485978	Ammonia-N	0.690	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486002	Kjeldahl Nitrogen	4.23	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P445241

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486303	Kjeldahl Nitrogen	5.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P445261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485303	NO2NO3-N	0.475	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445208

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486000	Total-P	1.85	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P445211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486308	Total-P	0.740	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P445546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486331	Total Alkalinity	0.00355	Sample	P	0 - 4.1

Reference Method: SM 2540 C-2015
Batch ID: P445611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486307	TDS	3.31	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P445563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486390	TSS	10.9	Sample	F	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P445550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486331	Fluoride	0.470	Spike	P	0 - 1.7

Reference Method: SM 4500-F- C-2011
Batch ID: P445604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485225	Fluoride	0.0	Spike	P	0 - 1.7

Reference Method: SM 5310 B-2014
Batch ID: P445384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2485067	Organic Carbon	0.621	Spike	P	0 - 15

Reference Method: SM 5310 B-2014
Batch ID: P445525

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2486308	Organic Carbon	1.36	Spike	P	0 - 15

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: A125647
Included Lab Sample IDs: 2486315, 2486317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	97.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125651
Included Lab Sample IDs: 2486315, 2486317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125687
Included Lab Sample IDs: 2486318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125689
Included Lab Sample IDs: 2486318

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125701
Included Lab Sample IDs: 2486316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125705
Included Lab Sample IDs: 2486318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.6	93.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A125708
Included Lab Sample IDs: 2486325, 2486326, 2486327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	103	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Magnesium	106	105	P/P	90 - 110
Potassium	103	104	P/P	90 - 110
Sodium	104	105	P/P	90 - 110
Strontium	102	104	P/P	90 - 110
Tin	104	102	P/P	90 - 110
Titanium	101	101	P/P	90 - 110
Vanadium	106	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A125708

Included Lab Sample IDs: 2486325, 2486326, 2486327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	105	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A125719

Included Lab Sample IDs: 2486316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A125724

Included Lab Sample IDs: 2486316, 2486318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	98.3	P/P	90 - 110
Ammonia-N	98.3	99.2	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A125736

Included Lab Sample IDs: 2486318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	112	97.0	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A125740

Included Lab Sample IDs: 2486325, 2486326, 2486327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.2	99.6	P/P	90 - 110
Aluminum	99.1	98.2	P/P	90 - 110
Antimony	101	99.4	P/P	90 - 110
Antimony	99.4	101	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Arsenic	99.8	101	P/P	90 - 110
Barium	98.4	99.4	P/P	90 - 110
Barium	99.4	98.4	P/P	90 - 110
Beryllium	101	101	P/P	90 - 110
Beryllium	103	101	P/P	90 - 110
Boron	101	101	P/P	90 - 110
Chromium	100	102	P/P	90 - 110
Chromium	101	100	P/P	90 - 110
Cobalt	100	101	P/P	90 - 110
Cobalt	101	100	P/P	90 - 110
Copper	100	102	P/P	90 - 110
Copper	100	100	P/P	90 - 110
Lead	99.2	99.6	P/P	90 - 110
Lead	99.8	99.2	P/P	90 - 110
Manganese	101	102	P/P	90 - 110
Manganese	102	101	P/P	90 - 110
Molybdenum	101	99.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A125740

Included Lab Sample IDs: 2486325, 2486326, 2486327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Molybdenum	99.7	100	P/P	90 - 110
Nickel	100	102	P/P	90 - 110
Nickel	100	100	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Selenium	99.9	101	P/P	90 - 110
Thallium	99.3	99.4	P/P	90 - 110
Thallium	99.4	99.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A125767

Included Lab Sample IDs: 2486325, 2486326, 2486327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	95.8	95.3	P/P	90 - 110
Cadmium	98.1	95.8	P/P	90 - 110
Silver	94.1	93.9	P/P	90 - 110
Silver	95.7	94.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A125768

Included Lab Sample IDs: 2486315, 2486317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Sulfate	102	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A125788

Included Lab Sample IDs: 2486326, 2486327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	98.8	96.4	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A125795

Included Lab Sample IDs: 2486316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.0	99.1	P/P	85 - 115

Reference Method: SM 2320 B-2011

Run ID: A125801

Included Lab Sample IDs: 2486315

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	91.9	99.0	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: SM 4500-F- C-2011
Run ID: A125801
Included Lab Sample IDs: 2486315

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	106	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125829
Included Lab Sample IDs: 2486317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.4	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)	97.1				4.09	
EPA 180.1 Rev. 2.0	Turbidity	103				3.63	
EPA 200.7 Rev. 4.4	Calcium	103	104	103			0.632
	Iron	106	106	105	107		0.681
	Magnesium	111	108	107	105		0.694
	Potassium	99.4	97.3	98.8	102		1.04
	Sodium	101	100	103			1.07
	Strontium	98.4	94.6	95.8	96.5		1.22
	Tin	100	100	102	99.3		1.87
	Titanium	99.3	99.2	101	97.5		1.47
	Vanadium	102	103	105	105		2.32
	Zinc	102	105	106	102		1.41
EPA 200.8 Rev. 5.4	Aluminum	102	99.4	101	98.3		2.00
	Antimony	104	104	105	102		1.47
	Arsenic	102	103	103	101		0.292
	Barium	103	102	103	101		0.872
	Beryllium	107	101	105	104		3.59
	Boron	110	106	105	109		0.154
	Cadmium	100	99.1	101	103		1.32
	Chromium	105	105	105	103		0.581
	Cobalt	103	101	102	99.9		0.969
	Copper	102	101	101	99.4		0.352
	Lead	101	102	103	101		1.22
	Manganese	106	103	103	102		0.915
	Molybdenum	103	103	104	100		0.653
	Nickel	102	100	101	101		0.737
	Selenium	102	99.8	101	97.9		0.783
	Silver	118	115	114	115		0.948
	Thallium	99.3	102	103	102		0.914
EPA 300.0 Rev. 2.1	Chloride	106	110	105		0.173	
	Sulfate	104	103	102		0.251	
EPA 350.1 Rev. 2.0	Ammonia-N	95.6	92.8	94.8			1.97
	Ammonia-N	94.2	99.4	100			0.690
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.4	104	99.1			4.23
	Kjeldahl Nitrogen	101	92.5	99.8			5.36
EPA 353.2 Rev. 2.0	NO2NO3-N	102	97.6	98.1			0.475
EPA 365.1 Rev. 2.0	Total-P	103	102	100			1.85
	Total-P	104	102	102			0.740
SM 2320 B-2011	Total Alkalinity	101				0.0035	
SM 2540 C-2015	TDS	102				3.31	
SM 2540 D-2015	TSS	94.4					
	TSS	106				10.9	
SM 4500-F- C-2011	Fluoride	106	105	104			0.470
	Fluoride	96.0	101	101			0.0
SM 5310 B-2014	Organic Carbon	99.2	96.3	95.5			0.621
	Organic Carbon	99.8	99.6	101			1.36

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2486315, 2486317
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2486315, 2486317

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2486325, 2486326, 2486327
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2486325, 2486326, 2486327
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2486315, 2486317
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2486315, 2486317
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2486316, 2486318
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2486316, 2486318
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2486318
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2486316, 2486318
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2486315
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2486325, 2486326, 2486327
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2486315, 2486317
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2486315, 2486317
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2486315, 2486317
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2486316, 2486318

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	05/02/2024			05/02/2024 13:45	Chandler E Cox	2486315
	05/02/2024			05/02/2024 13:46	Chandler E Cox	2486317
EPA 180.1 Rev. 2.0	05/02/2024			05/02/2024 13:11	Samantha L Bates	2486315
	05/02/2024			05/02/2024 13:13	Samantha L Bates	2486317
EPA 200.7 Rev. 4.4	05/02/2024	05/03/2024 12:50	George D Taylor	05/06/2024 18:33	Chase Roberts	2486325
	05/02/2024	05/03/2024 12:50	George D Taylor	05/06/2024 18:41	Chase Roberts	2486326
	05/02/2024	05/03/2024 12:50	George D Taylor	05/06/2024 18:48	Chase Roberts	2486326
	05/02/2024	05/03/2024 12:50	George D Taylor	05/06/2024 18:55	Chase Roberts	2486327
	05/02/2024	05/03/2024 12:50	George D Taylor	05/06/2024 19:03	Chase Roberts	2486327
EPA 200.8 Rev. 5.4	05/02/2024	05/03/2024 12:50	George D Taylor	05/07/2024 18:44	McKinley C Carter	2486325
	05/02/2024	05/03/2024 12:50	George D Taylor	05/07/2024 19:46	McKinley C Carter	2486326
	05/02/2024	05/03/2024 12:50	George D Taylor	05/07/2024 19:55	McKinley C Carter	2486327
	05/02/2024	05/03/2024 12:50	George D Taylor	05/08/2024 16:44	McKinley C Carter	2486325
	05/02/2024	05/03/2024 12:50	George D Taylor	05/08/2024 17:46	McKinley C Carter	2486326
	05/02/2024	05/03/2024 12:50	George D Taylor	05/08/2024 17:55	McKinley C Carter	2486327
	05/02/2024	05/03/2024 12:50	George D Taylor	05/09/2024 17:44	McKinley C Carter	2486326
	05/02/2024	05/03/2024 12:50	George D Taylor	05/09/2024 17:53	McKinley C Carter	2486327
EPA 300.0 Rev. 2.1	05/02/2024			05/08/2024 04:45	James L Waggeberby	2486315
	05/02/2024			05/08/2024 05:00	James L Waggeberby	2486317
EPA 350.1 Rev. 2.0	05/02/2024			05/07/2024 12:31	Khloe J Berg	2486316
	05/02/2024			05/07/2024 12:48	Khloe J Berg	2486318
EPA 351.2 Rev. 2.0	05/02/2024	05/03/2024 13:14	Ping Hua	05/06/2024 16:38	Samantha L Bates	2486318
	05/02/2024	05/06/2024 11:58	Simonne.V. Calhoun	05/07/2024 12:45	Ping Hua	2486316
EPA 353.2 Rev. 2.0	05/02/2024			05/03/2024 15:09	Fadila Guebre	2486318
EPA 365.1 Rev. 2.0	05/02/2024	05/03/2024 14:00	Josephine W Gitau	05/06/2024 11:10	Chandler E Cox	2486318
	05/02/2024	05/03/2024 14:00	Josephine W Gitau	05/06/2024 14:44	Chandler E Cox	2486316
SM 2320 B-2011	05/02/2024			05/10/2024 05:14	Dale L. Simmons	2486315
SM 2340 B-2011	05/02/2024			05/06/2024 18:33	Chase Roberts	2486325
	05/02/2024			05/06/2024 18:48	Chase Roberts	2486326
	05/02/2024			05/06/2024 19:03	Chase Roberts	2486327
	05/02/2024			05/07/2024 15:24	Yijie Li	2486315, 2486317
SM 2540 C-2015	05/02/2024			05/07/2024 15:24	Yijie Li	2486315, 2486317
SM 4500-F- C-2011	05/02/2024			05/10/2024 05:14	Dale L. Simmons	2486315
	05/02/2024			05/21/2024 19:52	Dale L. Simmons	2486317
SM 5310 B-2014	05/02/2024			05/07/2024 08:31	Jessica K Wilks	2486318
	05/02/2024			05/09/2024 23:18	Khloe J Berg	2486316