Chemical Analysis Report

SE-DIST-2023-10-19-02

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

Event Description: **SMP - Sebastian 2023**
Request ID: **RQ-2023-09-04-33**
Customer: **SE-DIST**
Project ID: **SMP**

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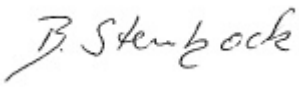
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 07-NOV-2023 12:02



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: C 54 CONFLUENCE WITH SEBASTIAN NEAR MOCKINGBIRD LANE DOCK **Collection Date/Time: 10/18/2023 10:30**

Field ID: G5SE0106 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2446050	DEP SOP: NU-094-1	Color (true)	150		PCU	P436769	
	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P436773	
	EPA 300.0 Rev. 2.1	Chloride	1.9E+03		mg Cl/L	P437373	
		Sulfate	260		mg SO4/L	P437377	
	SM 2320 B-2011	Total Alkalinity	143		mg CaCO3/L	P436884	
	SM 2540 C-2015	TDS	3.44E+03		mg/L	P437262	
	SM 2540 D-2015	TSS	3	I	mg/L	P437214	
	SM 4500-F- C-2011	Fluoride	0.32		mg F/L	P437041	
2446051	EPA 350.1 Rev. 2.0	Ammonia-N	0.099		mg N/L	P436917	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P436780	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P437176	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P436836	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P437015	
2446055	EPA 200.7 Rev. 4.4	Calcium	97.1		mg/L	P436809	
		Iron	1.08E+03		ug/L	P436809	
		Magnesium	120		mg/L	P436809	
		Potassium	39.3		mg/L	P436809	
		Sodium	1.11E+03		mg/L	P436809	
		Strontium	2.06E+03		ug/L	P436809	
		Tin	9.0	U	ug/L	P436809	
		Titanium	2.2	U	ug/L	P436809	
		Vanadium	6.0	U	ug/L	P436809	
		Zinc	15	U	ug/L	P436809	
	EPA 200.8 Rev. 5.4	Aluminum	55	I	ug/L	P436809	
		Antimony	0.20	U	ug/L	P436809	
		Arsenic	1.62		ug/L	P436809	
		Barium	25.0		ug/L	P436809	
		Beryllium	0.040	U	ug/L	P436809	
		Boron	415		ug/L	P436809	
		Cadmium	0.080	U	ug/L	P436809	
		Chromium	1.6	U	ug/L	P436809	
		Cobalt	0.12	I	ug/L	P436809	
		Copper	1.6	U	ug/L	P436809	
		Lead	0.80	U	ug/L	P436809	
		Manganese	29.9		ug/L	P436809	
		Molybdenum	1.9	I	ug/L	P436809	
		Nickel	2.0	U	ug/L	P436809	
		Selenium	0.80	U	ug/L	P436809	
		Silver	0.040	U	ug/L	P436809	
		Thallium	0.40	U	ug/L	P436809	
	SM 2340 B-2011	Hardness	738		mg/L	P436809	

Field ID: G5SE0106 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 6280 umhos/cm.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

Sample Location: FB **Collection Date/Time: 10/18/2023 10:45**

Field ID: FB_10182023 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2446056	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P436818	
		Iron	30	U	ug/L	P436818	
		Magnesium	0.040	U	mg/L	P436818	
		Potassium	0.30	U	mg/L	P436818	
		Sodium	0.50	U	mg/L	P436818	
		Strontium	2.0	U	ug/L	P436818	
		Tin	3.0	U	ug/L	P436818	
		Titanium	0.75	U	ug/L	P436818	
		Vanadium	2.0	U	ug/L	P436818	
		Zinc	5.0	U	ug/L	P436818	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P436818	
		Antimony	0.050	U	ug/L	P436818	
		Arsenic	0.050	U	ug/L	P436818	
		Barium	0.20	U	ug/L	P436818	
		Beryllium	0.010	U	ug/L	P436818	
		Boron	2.0	U	ug/L	P436818	
		Cadmium	0.020	U	ug/L	P436818	
		Chromium	0.40	U	ug/L	P436818	
		Cobalt	0.020	U	ug/L	P436818	
		Copper	0.40	U	ug/L	P436818	
		Lead	0.20	U	ug/L	P436818	
		Manganese	0.10	U	ug/L	P436818	
		Molybdenum	0.15	U	ug/L	P436818	
		Nickel	0.50	U	ug/L	P436818	
		Selenium	0.20	U	ug/L	P436818	
		Silver	0.010	U	ug/L	P436818	
		Thallium	0.10	U	ug/L	P436818	

Ref. Method and Comment:
EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for copper are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P436769

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436773

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P436809

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: P436818

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: P436809

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436809

Component	Result	Code	Units
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 200.8 Rev. 5.4
Batch ID: P436818

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: P437373

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436917

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436780

Component	Result	Code	Units

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436780

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437176

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436836

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

Reference Method: SM 2320 B-2011
Batch ID: P436884

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

Reference Method: SM 2540 C-2015
Batch ID: P437262

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P437214

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P437041

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P437015

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: P436769

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436773

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P436809

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	102		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	95.9		P	85 - 115
Sodium	101		P	85 - 115
Strontium	96.6		P	85 - 115
Tin	106		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P436818

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	112		P	85 - 115
Magnesium	113		P	85 - 115
Potassium	104		P	85 - 115
Sodium	103		P	85 - 115
Strontium	99.9		P	85 - 115
Tin	99.1		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	99.9		P	85 - 115
Zinc	98.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436809

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	96.9		P	85 - 115
Arsenic	98.1		P	85 - 115
Barium	99.5		P	85 - 115
Beryllium	90.0		P	85 - 115
Boron	107		P	85 - 115
Cadmium	98.3		P	85 - 115
Chromium	96.6		P	85 - 115
Cobalt	94.9		P	85 - 115
Copper	97.3		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436809

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lead	93.4		P	85 - 115
Manganese	100		P	85 - 115
Molybdenum	96.6		P	85 - 115
Nickel	95.2		P	85 - 115
Selenium	97.0		P	85 - 115
Silver	105		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436818

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	97.5		P	85 - 115
Arsenic	98.7		P	85 - 115
Barium	100		P	85 - 115
Beryllium	94.0		P	85 - 115
Boron	101		P	85 - 115
Cadmium	99.6		P	85 - 115
Chromium	96.2		P	85 - 115
Cobalt	95.3		P	85 - 115
Copper	99.5		P	85 - 115
Lead	91.3		P	85 - 115
Manganese	99.7		P	85 - 115
Molybdenum	97.4		P	85 - 115
Nickel	95.8		P	85 - 115
Selenium	101		P	85 - 115
Silver	105		P	85 - 115
Thallium	98.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437373

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436917

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436780

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436780

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: P437176

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436836

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

Reference Method: SM 2320 B-2011
Batch ID: P436884

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.9		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P437262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	95.2		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P437214

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.6		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P437041

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P437015

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.9		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P436809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445338	Iron	102	100	P/P	80 - 120
2445338	Strontium	94.5	94.4	P/P	80 - 120
2445338	Tin	100	108	P/P	80 - 120
2445338	Titanium	100	98.0	P/P	80 - 120
2445338	Vanadium	107	105	P/P	80 - 120
2445338	Zinc	102	102	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P436818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446026	Calcium	105		P	80 - 120
2446026	Iron	109	110	P/P	80 - 120
2446026	Magnesium	109	110	P/P	80 - 120
2446026	Potassium	101	102	P/P	80 - 120
2446026	Sodium	101		P	80 - 120
2446026	Strontium	98.7	98.5	P/P	80 - 120
2446026	Tin	95.9	95.8	P/P	80 - 120
2446026	Titanium	99.9	98.8	P/P	80 - 120
2446026	Vanadium	98.0	98.1	P/P	80 - 120
2446026	Zinc	96.2	96.4	P/P	80 - 120
2446070	Calcium	101		P	80 - 120
2446070	Iron	108		P	80 - 120
2446070	Magnesium	104		P	80 - 120
2446070	Potassium	102		P	80 - 120
2446070	Sodium	105		P	80 - 120
2446070	Strontium	96.6		P	80 - 120
2446070	Tin	94.6		P	80 - 120
2446070	Titanium	99.0		P	80 - 120
2446070	Vanadium	96.9		P	80 - 120
2446070	Zinc	92.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445338	Aluminum	102	99.5	P/P	70 - 130
2445338	Antimony	96.0	96.0	P/P	70 - 130
2445338	Arsenic	108	108	P/P	70 - 130
2445338	Barium	97.4	97.9	P/P	70 - 130
2445338	Beryllium	94.0	97.5	P/P	70 - 130
2445338	Boron	108	95.8	P/P	70 - 130
2445338	Cadmium	93.9	94.5	P/P	70 - 130
2445338	Chromium	93.5	91.5	P/P	70 - 130
2445338	Cobalt	91.6	91.2	P/P	70 - 130
2445338	Copper	104	105	P/P	70 - 130
2445338	Lead	96.3	96.1	P/P	70 - 130
2445338	Manganese	94.7	94.3	P/P	70 - 130
2445338	Molybdenum	100	104	P/P	70 - 130
2445338	Nickel	93.8	93.1	P/P	70 - 130
2445338	Selenium	97.9	100	P/P	70 - 130
2445338	Silver	95.3	95.2	P/P	70 - 130

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445338	Thallium	102	102	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446026	Aluminum	98.2	98.9	P/P	80 - 120
2446026	Antimony	96.1	95.8	P/P	80 - 120
2446026	Arsenic	99.1	97.8	P/P	80 - 120
2446026	Barium	101	99.1	P/P	80 - 120
2446026	Beryllium	95.4	96.5	P/P	80 - 120
2446026	Boron	100	102	P/P	80 - 120
2446026	Cadmium	98.8	97.0	P/P	80 - 120
2446026	Chromium	96.4	96.1	P/P	80 - 120
2446026	Cobalt	95.1	95.1	P/P	80 - 120
2446026	Copper	98.1	97.0	P/P	80 - 120
2446026	Lead	92.2	92.5	P/P	80 - 120
2446026	Manganese	98.6	97.7	P/P	80 - 120
2446026	Molybdenum	96.5	96.2	P/P	80 - 120
2446026	Nickel	96.3	96.5	P/P	80 - 120
2446026	Selenium	98.3	98.8	P/P	80 - 120
2446026	Silver	102	101	P/P	80 - 120
2446026	Thallium	101	101	P/P	80 - 120
2446070	Aluminum	99.6		P	80 - 120
2446070	Antimony	98.6		P	80 - 120
2446070	Arsenic	100		P	80 - 120
2446070	Barium	101		P	80 - 120
2446070	Beryllium	91.4		P	80 - 120
2446070	Boron	107		P	80 - 120
2446070	Cadmium	98.2		P	80 - 120
2446070	Chromium	94.6		P	80 - 120
2446070	Cobalt	94.5		P	80 - 120
2446070	Lead	92.9		P	80 - 120
2446070	Manganese	101		P	80 - 120
2446070	Molybdenum	98.8		P	80 - 120
2446070	Nickel	94.7		P	80 - 120
2446070	Selenium	100		P	80 - 120
2446070	Silver	101		P	80 - 120
2446070	Thallium	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446031	Chloride	105		P	90 - 110
2446235	Chloride	107		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446031	Sulfate	105		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446235	Sulfate	106		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446287	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436780

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445843	Kjeldahl Nitrogen	102	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445788	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2445231	Total-P	98.8	98.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P437041

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446797	Fluoride	99.7	100	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P437015

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2446051	Organic Carbon	94.6	96.7	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P436769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446042	Color (true)	5.28	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P436773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445948	Turbidity	11.4	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P436809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445338	Calcium	0.898	Spike	P	0 - 20
2445338	Iron	1.41	Spike	P	0 - 20
2445338	Magnesium	0.110	Spike	P	0 - 20
2445338	Potassium	0.786	Spike	P	0 - 20
2445338	Sodium	2.54	Spike	P	0 - 20
2445338	Strontium	0.0227	Spike	P	0 - 20
2445338	Tin	7.03	Spike	P	0 - 20
2445338	Titanium	2.08	Spike	P	0 - 20
2445338	Vanadium	1.35	Spike	P	0 - 20
2445338	Zinc	0.195	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P436818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446026	Calcium	0.0104	Spike	P	0 - 20
2446026	Iron	0.722	Spike	P	0 - 20
2446026	Magnesium	0.444	Spike	P	0 - 20
2446026	Potassium	0.818	Spike	P	0 - 20
2446026	Sodium	0.00965	Spike	P	0 - 20
2446026	Strontium	0.285	Spike	P	0 - 20
2446026	Tin	0.0207	Spike	P	0 - 20
2446026	Titanium	1.08	Spike	P	0 - 20
2446026	Vanadium	0.142	Spike	P	0 - 20
2446026	Zinc	0.193	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445338	Aluminum	2.07	Spike	P	0 - 20
2445338	Antimony	0.0708	Spike	P	0 - 20
2445338	Arsenic	0.790	Spike	P	0 - 20
2445338	Barium	0.536	Spike	P	0 - 20
2445338	Beryllium	3.68	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445338	Boron	2.51	Spike	P	0 - 20
2445338	Cadmium	0.556	Spike	P	0 - 20
2445338	Chromium	2.15	Spike	P	0 - 20
2445338	Cobalt	0.429	Spike	P	0 - 20
2445338	Copper	0.722	Spike	P	0 - 20
2445338	Lead	0.164	Spike	P	0 - 20
2445338	Manganese	0.365	Spike	P	0 - 20
2445338	Molybdenum	3.10	Spike	P	0 - 20
2445338	Nickel	0.784	Spike	P	0 - 20
2445338	Selenium	2.54	Spike	P	0 - 20
2445338	Silver	0.179	Spike	P	0 - 20
2445338	Thallium	0.0289	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P436818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446026	Aluminum	0.637	Spike	P	0 - 20
2446026	Antimony	0.339	Spike	P	0 - 20
2446026	Arsenic	1.35	Spike	P	0 - 20
2446026	Barium	1.39	Spike	P	0 - 20
2446026	Beryllium	1.14	Spike	P	0 - 20
2446026	Boron	1.34	Spike	P	0 - 20
2446026	Cadmium	1.89	Spike	P	0 - 20
2446026	Chromium	0.253	Spike	P	0 - 20
2446026	Cobalt	0.0237	Spike	P	0 - 20
2446026	Copper	1.13	Spike	P	0 - 20
2446026	Lead	0.294	Spike	P	0 - 20
2446026	Manganese	0.798	Spike	P	0 - 20
2446026	Molybdenum	0.273	Spike	P	0 - 20
2446026	Nickel	0.238	Spike	P	0 - 20
2446026	Selenium	0.525	Spike	P	0 - 20
2446026	Silver	0.691	Spike	P	0 - 20
2446026	Thallium	0.234	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446031	Chloride	0.646	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P437377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446031	Sulfate	1.02	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P436917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446287	Ammonia-N	0.840	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445843	Kjeldahl Nitrogen	3.84	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P437176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445788	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P436836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445231	Total-P	0.711	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P436884

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2445709	Total Alkalinity	1.07	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P437262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446550	TDS	6.02	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P437041

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446797	Fluoride	0.492	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P437015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2446051	Organic Carbon	1.44	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: A122250
Included Lab Sample IDs: 2446050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.9	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A122251
Included Lab Sample IDs: 2446050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A122295
Included Lab Sample IDs: 2446056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	104	P/P	95 - 105
Iron	104	103	P/P	95 - 105
Magnesium	103	102	P/P	95 - 105
Potassium	100	99.7	P/P	95 - 105
Sodium	101	100	P/P	95 - 105
Strontium	100	99.7	P/P	95 - 105
Tin	101	101	P/P	95 - 105
Titanium	100	99.6	P/P	95 - 105
Vanadium	100	99.7	P/P	95 - 105
Zinc	102	101	P/P	95 - 105

Reference Method: SM 2320 B-2011
Run ID: A122296
Included Lab Sample IDs: 2446050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.5	95.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A122297
Included Lab Sample IDs: 2446055, 2446056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	100	P/P	90 - 110
Aluminum	99.6	98.7	P/P	90 - 110
Antimony	94.6	92.6	P/P	90 - 110
Antimony	97.2	96.3	P/P	90 - 110
Arsenic	97.2	96.8	P/P	90 - 110
Arsenic	98.3	97.5	P/P	90 - 110
Barium	96.2	94.9	P/P	90 - 110
Barium	98.5	97.3	P/P	90 - 110
Beryllium	96.2	95.4	P/P	90 - 110
Beryllium	98.1	98.2	P/P	90 - 110
Boron	94.2	97.8	P/P	90 - 110
Boron	99.1	96.9	P/P	90 - 110
Cadmium	100	98.2	P/P	90 - 110
Cadmium	97.4	95.5	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A122297
Included Lab Sample IDs: 2446055, 2446056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.0	97.6	P/P	90 - 110
Cobalt	94.4	94.9	P/P	90 - 110
Cobalt	95.9	94.6	P/P	90 - 110
Copper	96.4	97.1	P/P	90 - 110
Copper	97.5	97.2	P/P	90 - 110
Lead	91.0	90.5	P/P	90 - 110
Lead	92.8	91.7	P/P	90 - 110
Manganese	95.4	96.2	P/P	90 - 110
Manganese	99.2	98.9	P/P	90 - 110
Molybdenum	96.4	96.2	P/P	90 - 110
Molybdenum	97.3	96.7	P/P	90 - 110
Nickel	95.5	95.0	P/P	90 - 110
Nickel	97.1	96.3	P/P	90 - 110
Selenium	98.0	97.0	P/P	90 - 110
Selenium	98.7	99.6	P/P	90 - 110
Silver	96.3	94.7	P/P	90 - 110
Silver	97.9	96.8	P/P	90 - 110
Thallium	96.2	96.1	P/P	90 - 110
Thallium	98.3	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A122310
Included Lab Sample IDs: 2446051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.7	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A122312
Included Lab Sample IDs: 2446051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A122322
Included Lab Sample IDs: 2446051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.3	96.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A122325
Included Lab Sample IDs: 2446055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	99.3	98.9	P/P	90 - 110
Potassium	100	101	P/P	90 - 110
Sodium	104	106	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A122325
Included Lab Sample IDs: 2446055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Strontium	98.2	100	P/P	90 - 110
Tin	103	102	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Vanadium	103	103	P/P	90 - 110
Zinc	104	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A122343
Included Lab Sample IDs: 2446055

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.9	97.4	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A122369
Included Lab Sample IDs: 2446051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	98.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A122379
Included Lab Sample IDs: 2446050

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A122452
Included Lab Sample IDs: 2446051

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A122479
Included Lab Sample IDs: 2446050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Sulfate	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
DEP SOP: NU-094-1	Color (true)	99.5					5.28	
EPA 180.1 Rev. 2.0	Turbidity	104					11.4	
EPA 200.7 Rev. 4.4	Calcium	102						0.898
	Calcium	107	105	101				0.0104
	Iron	102	102	100				1.41
	Iron	112	109	110	108			0.722
	Magnesium	102						0.110
	Magnesium	113	109	110	104			0.444
	Potassium	95.9						0.786
	Potassium	104	101	102	102			0.818
	Sodium	101						2.54
	Sodium	103	101	105				0.0096
	Strontium	96.6	94.5	94.4				0.0227
	Strontium	99.9	98.7	98.5	96.6			0.285
	Tin	106	100	108				7.03
	Tin	99.1	95.9	95.8	94.6			0.0207
	Titanium	102	100	98.0				2.08
	Titanium	101	99.9	98.8	99.0			1.08
	Vanadium	103	107	105				1.35
	Vanadium	99.9	98.0	98.1	96.9			0.142
	Zinc	104	102	102				0.195
	Zinc	98.9	92.4	96.2	96.4			0.193
EPA 200.8 Rev. 5.4	Aluminum	100	102	99.5				2.07
	Aluminum	101	98.2	98.9	99.6			0.637
	Antimony	96.9	96.0	96.0				0.0708
	Antimony	97.5	96.1	95.8	98.6			0.339
	Arsenic	98.1	108	108				0.790
	Arsenic	98.7	99.1	97.8	100			1.35
	Barium	99.5	97.4	97.9				0.536
	Barium	100	101	99.1	101			1.39
	Beryllium	90.0	94.0	97.5				3.68
	Beryllium	94.0	91.4	95.4	96.5			1.14
	Boron	107	108	95.8				2.51
	Boron	101	100	102	107			1.34
	Cadmium	98.3	93.9	94.5				0.556
	Cadmium	99.6	98.8	97.0	98.2			1.89
	Chromium	96.6	93.5	91.5				2.15
	Chromium	96.2	96.4	96.1	94.6			0.253
	Cobalt	94.9	91.6	91.2				0.429
	Cobalt	95.3	95.1	95.1	94.5			0.0237
	Copper	97.3	104	105				0.722
	Copper	99.5	98.1	97.0				1.13
	Lead	93.4	96.3	96.1				0.164
	Lead	91.3	92.2	92.5	92.9			0.294
	Manganese	100	94.7	94.3				0.365
	Manganese	99.7	98.6	97.7	101			0.798
	Molybdenum	96.6	100	104				3.10
	Molybdenum	97.4	96.5	96.2	98.8			0.273
	Nickel	95.2	93.8	93.1				0.784
	Nickel	95.8	96.3	96.5	94.7			0.238
	Selenium	97.0	97.9	100				2.54
	Selenium	101	98.3	98.8	100			0.525
	Silver	105	95.3	95.2				0.179
	Silver	105	102	101	101			0.691

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
EPA 200.8 Rev. 5.4	Thallium	100	102	102				0.0289
	Thallium	98.2	101	101	102			0.234
EPA 300.0 Rev. 2.1	Chloride	105	105	107			0.646	
	Sulfate	106	105	106			1.02	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	101	102				0.840
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	102	97.6				3.84
EPA 353.2 Rev. 2.0	NO2NO3-N	100	102	102				0.0
EPA 365.1 Rev. 2.0	Total-P	103	98.8	98.0				0.711
SM 2320 B-2011	Total Alkalinity	96.9					1.07	
SM 2540 C-2015	TDS	95.2					6.02	
SM 2540 D-2015	TSS	93.6						
SM 4500-F- C-2011	Fluoride	102	99.7	100				0.492
SM 5310 B-2011	Organic Carbon	96.9	94.6	96.7				1.44

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2446050
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2446050
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2446055, 2446056
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2446055, 2446056
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2446050
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2446050
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2446051
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2446051
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2446051
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2446051
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2446050
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2446055
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2446050
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2446050
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2446050
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2446051

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	10/19/2023			10/19/2023 15:00	Anna M. Plaviak	2446050
EPA 180.1 Rev. 2.0	10/19/2023			10/19/2023 13:58	Samantha L Bates	2446050
EPA 200.7 Rev. 4.4	10/19/2023	10/20/2023 12:45	George D Taylor	10/23/2023 13:38	Chase Roberts	2446056
	10/19/2023	10/20/2023 12:55	George D Taylor	10/24/2023 15:34	Samatha Luckman	2446055
	10/19/2023	10/20/2023 12:55	George D Taylor	10/24/2023 15:42	Samatha Luckman	2446055
EPA 200.8 Rev. 5.4	10/19/2023	10/20/2023 12:45	George D Taylor	10/23/2023 16:05	Conrad Hartmann	2446056
	10/19/2023	10/20/2023 12:55	George D Taylor	10/23/2023 22:39	Conrad Hartmann	2446055
	10/19/2023	10/20/2023 12:55	George D Taylor	10/24/2023 01:23	Conrad Hartmann	2446055
	10/19/2023	10/20/2023 12:55	George D Taylor	10/24/2023 14:30	Conrad Hartmann	2446055
EPA 300.0 Rev. 2.1	10/19/2023			11/02/2023 09:33	James L Waggerby	2446050
EPA 350.1 Rev. 2.0	10/19/2023			10/24/2023 11:30	Khloe J Berg	2446051
EPA 351.2 Rev. 2.0	10/19/2023	10/20/2023 11:17	Simonne.V. Calhoun	10/24/2023 15:36	Samantha L Bates	2446051
EPA 353.2 Rev. 2.0	10/19/2023			10/30/2023 13:43	Fadila Guebre	2446051
EPA 365.1 Rev. 2.0	10/19/2023	10/23/2023 13:55	Simonne.V. Calhoun	10/24/2023 11:57	Simonne.V. Calhoun	2446051
SM 2320 B-2011	10/19/2023			10/24/2023 01:13	Adam P Silver	2446050
SM 2340 B-2011	10/19/2023			10/24/2023 15:34	Samatha Luckman	2446055
SM 2540 C-2015	10/19/2023			10/24/2023 15:22	Yijie Li	2446050
SM 2540 D-2015	10/19/2023			10/24/2023 15:22	Yijie Li	2446050
SM 4500-F- C-2011	10/19/2023			10/26/2023 00:42	Dale L. Simmons	2446050
SM 5310 B-2011	10/19/2023			10/25/2023 23:07	Elise M. Gillis	2446051