Chemical Analysis Report

SE-DIST-2024-04-12-02

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

Event Description: **SMP - Fort Drum**
Request ID: **RQ-2024-03-18-38**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

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: Thekkekalathil Chandrasekhar, Environmental Consultant Date Certified: 03-MAY-2024 14:01

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: SEVENMILE SLOUGH AT PEAVINE TRAIL **Collection Date/Time: 04/11/2024 10:45**

Field ID: G4SE0153 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482030	DEP SOP: NU-094-1	Color (true)	170	J	PCU	P444186	
	EPA 180.1 Rev. 2.0	Turbidity	25	A	NTU	P444200	
	EPA 300.0 Rev. 2.1	Chloride	34		mg Cl/L	P444908	
		Sulfate	0.96		mg SO4/L	P444911	
	SM 2320 B-2011	Total Alkalinity	26		mg CaCO3/L	P444417	
	SM 2540 C-2015	TDS	143		mg/L	P444572	
	SM 2540 D-2015	TSS	49		mg/L	P444502	
	SM 4500-F- C-2011	Fluoride	0.071	I	mg F/L	P444421	
2482031	EPA 350.1 Rev. 2.0	Ammonia-N	0.74		mg N/L	P444361	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	5.2		mg N/L	P444424	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P444720	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P444355	
	SM 5310 B-2014	Organic Carbon	36		mg C/L	P444547	

Ref. Method and Comment:
DEP SOP: NU-094-1: The result may be biased high because of turbidity.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: OAK CREEK AT 68 **Collection Date/Time: 04/11/2024 11:45**

Field ID: G4SE0080 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482026	DEP SOP: NU-094-1	Color (true)	60		PCU	P444186	
	EPA 180.1 Rev. 2.0	Turbidity	7.5		NTU	P444198	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P444908	
		Sulfate	28		mg SO4/L	P444911	
	SM 2320 B-2011	Total Alkalinity	11		mg CaCO3/L	P444417	
	SM 2540 C-2015	TDS	142	A	mg/L	P444572	
	SM 2540 D-2015	TSS	9	I A	mg/L	P444502	
	SM 4500-F- C-2011	Fluoride	0.14		mg F/L	P444421	
2482027	EPA 350.1 Rev. 2.0	Ammonia-N	0.22		mg N/L	P444361	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P444338	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.092		mg N/L	P444720	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P444355	
	SM 5310 B-2014	Organic Carbon	12		mg C/L	P444547	
2482040	EPA 200.7 Rev. 4.4	Calcium	13.8		mg/L	P444257	
		Iron	790		ug/L	P444257	
		Magnesium	5.57		mg/L	P444257	
		Potassium	3.9		mg/L	P444257	
		Sodium	17.5		mg/L	P444257	
		Strontium	619		ug/L	P444257	
		Tin	3.0	U	ug/L	P444257	
		Titanium	0.75	U	ug/L	P444257	
		Vanadium	2.0	U	ug/L	P444257	
		Zinc	9.2	I	ug/L	P444257	
	EPA 200.8 Rev. 5.4	Aluminum	147		ug/L	P444257	
		Antimony	0.050	U	ug/L	P444257	
		Arsenic	0.42		ug/L	P444257	
		Barium	27.0		ug/L	P444257	
		Beryllium	0.017	I	ug/L	P444257	
		Boron	31.4		ug/L	P444257	
		Cadmium	0.020	U	ug/L	P444257	
		Chromium	0.66	I	ug/L	P444257	
		Cobalt	0.104		ug/L	P444257	
		Copper	0.42	I	ug/L	P444257	
		Lead	0.23	I	ug/L	P444257	
		Manganese	30.4		ug/L	P444257	
		Molybdenum	0.16	I	ug/L	P444257	
		Nickel	0.50	U	ug/L	P444257	
		Selenium	0.20	U	ug/L	P444257	
		Silver	0.010	U	ug/L	P444257	
		Thallium	0.10	U	ug/L	P444257	
	SM 2340 B-2011	Hardness	57.3		mg/L	P444257	

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

Sample Location: FB **Collection Date/Time: 04/11/2024 12:00**

Field ID: FB_04112024 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482032	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P444186	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P444200	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P444908	
		Sulfate	0.20	U	mg SO4/L	P444911	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P444417	
	SM 2540 C-2015	TDS	15	U	mg/L	P444572	
	SM 2540 D-2015	TSS	2	U	mg/L	P444502	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P444421	
2482033	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P444361	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P444424	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P444720	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P444355	
	SM 5310 B-2014	Organic Carbon	0.50	U	mg C/L	P444547	
2482041	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P444257	
		Iron	30	U	ug/L	P444257	
		Magnesium	0.040	U	mg/L	P444257	
		Potassium	0.30	U	mg/L	P444257	
		Sodium	0.50	U	mg/L	P444257	
		Strontium	2.0	U	ug/L	P444257	
		Tin	3.0	U	ug/L	P444257	
		Titanium	0.75	U	ug/L	P444257	
		Vanadium	2.0	U	ug/L	P444257	
		Zinc	5.0	U	ug/L	P444257	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P444257	
		Antimony	0.050	U	ug/L	P444257	
		Arsenic	0.050	U	ug/L	P444257	
		Barium	0.20	U	ug/L	P444257	
		Beryllium	0.010	U	ug/L	P444257	
		Boron	2.0	U	ug/L	P444257	
		Cadmium	0.020	U	ug/L	P444257	
		Chromium	0.40	U	ug/L	P444257	
		Cobalt	0.020	U	ug/L	P444257	
		Copper	0.40	U	ug/L	P444257	
		Lead	0.20	U	ug/L	P444257	
		Manganese	0.10	U	ug/L	P444257	
		Molybdenum	0.15	U	ug/L	P444257	
		Nickel	0.50	U	ug/L	P444257	
		Selenium	0.20	U	ug/L	P444257	
		Silver	0.010	U	ug/L	P444257	
		Thallium	0.10	U	ug/L	P444257	

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

Sample Location: CHANDLER SLOUGH AT NORTHERN US98 CULVERT **Collection Date/Time: 04/11/2024 12:15**

Field ID: G4SE0141 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482028	DEP SOP: NU-094-1	Color (true)	110		PCU	P444186	
	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P444198	
	EPA 300.0 Rev. 2.1	Chloride	66		mg Cl/L	P444908	
		Sulfate	7.8		mg SO4/L	P444911	
	SM 2320 B-2011	Total Alkalinity	122		mg CaCO3/L	P444417	
	SM 2540 C-2015	TDS	312		mg/L	P444572	
	SM 2540 D-2015	TSS	4	I	mg/L	P444502	
	SM 4500-F- C-2011	Fluoride	0.16		mg F/L	P444421	
2482029	EPA 350.1 Rev. 2.0	Ammonia-N	1.0		mg N/L	P444361	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.5		mg N/L	P444424	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P444720	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P444355	
	SM 5310 B-2014	Organic Carbon	28		mg C/L	P444547	

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

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P444186

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444198

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444200

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

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: P444257

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444908

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444911

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444361

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444338

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444424

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444720

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444355

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

Reference Method: SM 2320 B-2011
Batch ID: P444417

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

Reference Method: SM 2540 C-2015
Batch ID: P444572

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P444502

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P444421

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P444547

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: P444186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.6		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444198

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444200

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	110		P	85 - 115
Magnesium	113		P	85 - 115
Potassium	104		P	85 - 115
Sodium	96.0		P	85 - 115
Strontium	96.9		P	85 - 115
Tin	103		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	98.8		P	85 - 115
Zinc	94.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.9		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	97.7		P	85 - 115
Barium	102		P	85 - 115
Beryllium	94.6		P	85 - 115
Boron	102		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	98.0		P	85 - 115
Cobalt	94.1		P	85 - 115
Copper	95.9		P	85 - 115
Lead	98.6		P	85 - 115
Manganese	105		P	85 - 115
Molybdenum	98.0		P	85 - 115
Nickel	93.5		P	85 - 115
Selenium	101		P	85 - 115
Silver	112		P	85 - 115
Thallium	97.5		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444908

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444911

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444361

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444338

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444424

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444720

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444355

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

Reference Method: SM 2320 B-2011
Batch ID: P444417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.1		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P444572

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	93.2		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P444502

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

Reference Method: SM 4500-F- C-2011
Batch ID: P444421

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

Reference Method: SM 5310 B-2014
Batch ID: P444547

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481600	Calcium	100		P	80 - 120
2481600	Iron	108	105	P/P	80 - 120
2481600	Magnesium	110	109	P/P	80 - 120
2481600	Potassium	100	100	P/P	80 - 120
2481600	Sodium	94.4		P	80 - 120
2481600	Strontium	94.4	92.9	P/P	80 - 120
2481600	Tin	101	102	P/P	80 - 120
2481600	Titanium	99.7	100	P/P	80 - 120
2481600	Vanadium	98.6	99.6	P/P	80 - 120
2481600	Zinc	93.1	93.5	P/P	80 - 120
2482093	Calcium	95.8		P	80 - 120
2482093	Iron	106		P	80 - 120
2482093	Magnesium	101		P	80 - 120
2482093	Potassium	100		P	80 - 120
2482093	Sodium	93.2		P	80 - 120
2482093	Strontium	89.8		P	80 - 120
2482093	Tin	101		P	80 - 120
2482093	Titanium	105		P	80 - 120
2482093	Vanadium	97.6		P	80 - 120
2482093	Zinc	89.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481600	Aluminum	93.3	95.8	P/P	80 - 120
2481600	Antimony	99.7	100	P/P	80 - 120
2481600	Arsenic	95.9	95.5	P/P	80 - 120
2481600	Barium	98.9	100	P/P	80 - 120
2481600	Beryllium	95.7	94.8	P/P	80 - 120
2481600	Boron	104	104	P/P	80 - 120
2481600	Cadmium	98.3	99.5	P/P	80 - 120
2481600	Chromium	96.7	96.8	P/P	80 - 120
2481600	Cobalt	93.2	92.9	P/P	80 - 120
2481600	Copper	93.8	93.6	P/P	80 - 120
2481600	Lead	98.1	97.9	P/P	80 - 120
2481600	Manganese	103	100	P/P	80 - 120
2481600	Molybdenum	97.2	98.1	P/P	80 - 120
2481600	Nickel	92.1	92.0	P/P	80 - 120
2481600	Selenium	96.6	93.9	P/P	80 - 120
2481600	Silver	109	108	P/P	80 - 120
2481600	Thallium	97.0	97.5	P/P	80 - 120
2482093	Aluminum	98.3		P	80 - 120
2482093	Antimony	103		P	80 - 120
2482093	Arsenic	96.7		P	80 - 120
2482093	Barium	102		P	80 - 120
2482093	Beryllium	96.6		P	80 - 120
2482093	Boron	103		P	80 - 120
2482093	Cadmium	101		P	80 - 120
2482093	Chromium	95.5		P	80 - 120
2482093	Cobalt	89.8		P	80 - 120
2482093	Copper	91.0		P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482093	Lead	97.2		P	80 - 120
2482093	Manganese	106		P	80 - 120
2482093	Molybdenum	97.9		P	80 - 120
2482093	Nickel	87.9		P	80 - 120
2482093	Selenium	97.3		P	80 - 120
2482093	Silver	110		P	80 - 120
2482093	Thallium	97.2		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481924	Chloride	94.2		P	90 - 110
2482030	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481924	Sulfate	98.5		P	90 - 110
2482030	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481925	Ammonia-N	99.4	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481911	Kjeldahl Nitrogen	102	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444424

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482066	Kjeldahl Nitrogen	106	96.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482027	NO2NO3-N	95.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481952	Total-P	110	107	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P444421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481846	Fluoride	102	103	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P444547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481925	Organic Carbon	101	103	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P444186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482067	Color (true)	0.314	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444198

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481792	Turbidity	13.4	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482030	Turbidity	6.40	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481600	Calcium	1.80	Spike	P	0 - 20
2481600	Iron	1.77	Spike	P	0 - 20
2481600	Magnesium	0.770	Spike	P	0 - 20
2481600	Potassium	0.109	Spike	P	0 - 20
2481600	Sodium	1.75	Spike	P	0 - 20
2481600	Strontium	1.59	Spike	P	0 - 20
2481600	Tin	1.10	Spike	P	0 - 20
2481600	Titanium	0.355	Spike	P	0 - 20
2481600	Vanadium	1.06	Spike	P	0 - 20
2481600	Zinc	0.380	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481600	Aluminum	1.77	Spike	P	0 - 20
2481600	Antimony	0.818	Spike	P	0 - 20
2481600	Arsenic	0.460	Spike	P	0 - 20
2481600	Barium	0.798	Spike	P	0 - 20
2481600	Beryllium	0.803	Spike	P	0 - 20
2481600	Boron	0.281	Spike	P	0 - 20
2481600	Cadmium	1.20	Spike	P	0 - 20
2481600	Chromium	0.160	Spike	P	0 - 20
2481600	Cobalt	0.349	Spike	P	0 - 20
2481600	Copper	0.267	Spike	P	0 - 20
2481600	Lead	0.219	Spike	P	0 - 20
2481600	Manganese	0.984	Spike	P	0 - 20
2481600	Molybdenum	0.989	Spike	P	0 - 20
2481600	Nickel	0.114	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481600	Selenium	2.83	Spike	P	0 - 20
2481600	Silver	0.760	Spike	P	0 - 20
2481600	Thallium	0.517	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481924	Chloride	4.81	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481924	Sulfate	5.25	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481925	Ammonia-N	0.570	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481911	Kjeldahl Nitrogen	4.85	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444424

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482066	Kjeldahl Nitrogen	5.20	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482027	NO2NO3-N	0.704	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444355

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

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481952	Total-P	2.42	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P444417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481846	Total Alkalinity	2.92	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P444572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482026	TDS	1.41	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P444421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481846	Fluoride	0.515	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P444547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481925	Organic Carbon	1.01	Spike	P	0 - 15

* 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: A125307
Included Lab Sample IDs: 2482026, 2482028, 2482032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	97.6	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A125309
Included Lab Sample IDs: 2482030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.6	95.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125311
Included Lab Sample IDs: 2482026, 2482028, 2482030, 2482032

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A125345
Included Lab Sample IDs: 2482040, 2482041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	97.7	P/P	90 - 110
Calcium	105	99.7	P/P	90 - 110
Iron	101	98.8	P/P	90 - 110
Iron	104	101	P/P	90 - 110
Magnesium	103	100	P/P	90 - 110
Magnesium	105	102	P/P	90 - 110
Potassium	100	98.8	P/P	90 - 110
Potassium	101	99.7	P/P	90 - 110
Sodium	94.3	92.4	P/P	90 - 110
Sodium	98.9	94.4	P/P	90 - 110
Strontium	92.7	92.3	P/P	90 - 110
Strontium	98.8	95.1	P/P	90 - 110
Tin	104	103	P/P	90 - 110
Tin	104	104	P/P	90 - 110
Titanium	103	103	P/P	90 - 110
Titanium	104	105	P/P	90 - 110
Vanadium	95.7	95.3	P/P	90 - 110
Vanadium	98.8	98.3	P/P	90 - 110
Zinc	93.6	93.0	P/P	90 - 110
Zinc	97.2	95.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125358
Included Lab Sample IDs: 2482027, 2482029, 2482031, 2482033

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	99.9	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A125379
Included Lab Sample IDs: 2482026, 2482028, 2482030, 2482032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	95.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125379
Included Lab Sample IDs: 2482026, 2482028, 2482030, 2482032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A125381
Included Lab Sample IDs: 2482040, 2482041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	99.1	P/P	90 - 110
Aluminum	98.8	99.8	P/P	90 - 110
Antimony	100	101	P/P	90 - 110
Antimony	103	98.8	P/P	90 - 110
Arsenic	95.5	97.4	P/P	90 - 110
Arsenic	99.2	95.6	P/P	90 - 110
Barium	101	96.7	P/P	90 - 110
Barium	98.1	101	P/P	90 - 110
Beryllium	94.2	96.5	P/P	90 - 110
Beryllium	99.1	96.0	P/P	90 - 110
Boron	98.0	96.4	P/P	90 - 110
Boron	99.9	99.1	P/P	90 - 110
Cadmium	101	96.9	P/P	90 - 110
Cadmium	98.5	100	P/P	90 - 110
Chromium	94.0	95.6	P/P	90 - 110
Chromium	99.6	94.8	P/P	90 - 110
Cobalt	90.8	92.3	P/P	90 - 110
Cobalt	96.3	91.7	P/P	90 - 110
Copper	92.3	93.9	P/P	90 - 110
Copper	97.5	92.8	P/P	90 - 110
Lead	100	95.7	P/P	90 - 110
Lead	96.6	97.7	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Manganese	102	98.9	P/P	90 - 110
Molybdenum	95.1	97.1	P/P	90 - 110
Molybdenum	99.4	94.4	P/P	90 - 110
Nickel	90.5	92.1	P/P	90 - 110
Nickel	96.7	92.2	P/P	90 - 110
Selenium	101	96.3	P/P	90 - 110
Selenium	97.3	99.5	P/P	90 - 110
Silver	95.3	96.5	P/P	90 - 110
Silver	98.0	94.7	P/P	90 - 110
Thallium	96.1	96.1	P/P	90 - 110
Thallium	97.9	95.9	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125388
Included Lab Sample IDs: 2482027, 2482029, 2482031

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125404
Included Lab Sample IDs: 2482027

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125422
Included Lab Sample IDs: 2482029, 2482033

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	91.1	P/P	90 - 110

Reference Method: SM 5310 B-2014
Run ID: A125423
Included Lab Sample IDs: 2482027, 2482029, 2482031, 2482033

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	114	101	P/P	70 - 130

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125427
Included Lab Sample IDs: 2482031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.7	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125429
Included Lab Sample IDs: 2482033

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125492
Included Lab Sample IDs: 2482027, 2482029, 2482031, 2482033

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A125571
Included Lab Sample IDs: 2482026, 2482028, 2482030, 2482032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.0	95.4	P/P	90 - 110
Chloride	99.4	97.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A125571
Included Lab Sample IDs: 2482026, 2482028, 2482030, 2482032

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	101	98.7	P/P	90 - 110
Sulfate	98.7	97.6	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
DEP SOP: NU-094-1	Color (true)	97.6					0.314	
EPA 180.1 Rev. 2.0	Turbidity	103					13.4	
	Turbidity	103					6.40	
EPA 200.7 Rev. 4.4	Calcium	102	100	95.8				1.80
	Iron	110	108	105	106			1.77
	Magnesium	113	110	109	101			0.770
	Potassium	104	100	100	100			0.109
	Sodium	96.0	94.4	93.2				1.75
	Strontium	96.9	94.4	92.9	89.8			1.59
	Tin	103	101	102	101			1.10
	Titanium	106	99.7	100	105			0.355
	Vanadium	98.8	98.6	99.6	97.6			1.06
	Zinc	94.3	93.1	93.5	89.4			0.380
EPA 200.8 Rev. 5.4	Aluminum	99.9	93.3	95.8	98.3			1.77
	Antimony	103	99.7	100	103			0.818
	Arsenic	97.7	95.9	95.5	96.7			0.460
	Barium	102	98.9	100	102			0.798
	Beryllium	94.6	95.7	94.8	96.6			0.803
	Boron	102	104	104	103			0.281
	Cadmium	99.5	98.3	99.5	101			1.20
	Chromium	98.0	96.7	96.8	95.5			0.160
	Cobalt	94.1	93.2	92.9	89.8			0.349
	Copper	95.9	93.8	93.6	91.0			0.267
	Lead	98.6	98.1	97.9	97.2			0.219
	Manganese	105	103	100	106			0.984
	Molybdenum	98.0	97.2	98.1	97.9			0.989
	Nickel	93.5	92.1	92.0	87.9			0.114
	Selenium	101	96.6	93.9	97.3			2.83
	Silver	112	109	108	110			0.760
	Thallium	97.5	97.0	97.5	97.2			0.517
EPA 300.0 Rev. 2.1	Chloride	106	94.2	99.9			4.81	
	Sulfate	107	98.5	102			5.25	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	99.4	98.8				0.570
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	102	109				4.85
	Kjeldahl Nitrogen	99.0	106	96.6				5.20
EPA 353.2 Rev. 2.0	NO2NO3-N	97.0	95.5	96.5				0.704
EPA 365.1 Rev. 2.0	Total-P	105	110	107				2.42
SM 2320 B-2011	Total Alkalinity	99.1					2.92	
SM 2540 C-2015	TDS	93.2					1.41	
SM 2540 D-2015	TSS	102						
SM 4500-F- C-2011	Fluoride	102	102	103				0.515
SM 5310 B-2014	Organic Carbon	101	101	103				1.01

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2482026, 2482028, 2482030, 2482032
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2482026, 2482028, 2482030, 2482032
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2482040, 2482041
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2482040, 2482041
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2482026, 2482028, 2482030, 2482032

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2482026, 2482028, 2482030, 2482032
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2482027, 2482029, 2482031, 2482033
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2482027, 2482029, 2482031, 2482033
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2482027, 2482029, 2482031, 2482033
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2482027, 2482029, 2482031, 2482033
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2482026, 2482028, 2482030, 2482032
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2482040
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2482026, 2482028, 2482030, 2482032
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2482026, 2482028, 2482030, 2482032
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2482026, 2482028, 2482030, 2482032
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2482027, 2482029, 2482031, 2482033

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	04/12/2024			04/12/2024 13:41	Jessica K Wilks	2482026
	04/12/2024			04/12/2024 13:42	Jessica K Wilks	2482028
	04/12/2024			04/12/2024 13:43	Jessica K Wilks	2482032
	04/12/2024			04/12/2024 14:05	Jessica K Wilks	2482030
EPA 180.1 Rev. 2.0	04/12/2024			04/12/2024 14:17	Jessica K Wilks	2482026
	04/12/2024			04/12/2024 14:19	Jessica K Wilks	2482028
	04/12/2024			04/12/2024 14:35	Jessica K Wilks	2482030
	04/12/2024			04/12/2024 14:36	Jessica K Wilks	2482032
EPA 200.7 Rev. 4.4	04/12/2024	04/15/2024 12:20	George D Taylor	04/16/2024 15:08	Conrad Hartmann	2482041
	04/12/2024	04/15/2024 12:20	George D Taylor	04/16/2024 19:37	Conrad Hartmann	2482040
EPA 200.8 Rev. 5.4	04/12/2024	04/15/2024 12:20	George D Taylor	04/17/2024 14:40	Emily M Philpot	2482041
	04/12/2024	04/15/2024 12:20	George D Taylor	04/17/2024 18:22	Emily M Philpot	2482040
EPA 300.0 Rev. 2.1	04/12/2024			04/25/2024 22:10	Samantha L Bates	2482030
	04/12/2024			04/26/2024 02:58	Samantha L Bates	2482026
	04/12/2024			04/26/2024 03:13	Samantha L Bates	2482028
	04/12/2024			04/26/2024 03:28	Samantha L Bates	2482032
EPA 350.1 Rev. 2.0	04/12/2024			04/17/2024 13:22	Kenneth H Lee	2482027
	04/12/2024			04/17/2024 13:23	Kenneth H Lee	2482029
	04/12/2024			04/17/2024 13:24	Kenneth H Lee	2482031
	04/12/2024			04/17/2024 13:26	Kenneth H Lee	2482033
EPA 351.2 Rev. 2.0	04/12/2024	04/17/2024 11:47	Simonne.V. Calhoun	04/18/2024 14:40	Robyn Blevins	2482027
	04/12/2024	04/18/2024 12:19	Ping Hua	04/19/2024 09:50	Ping Hua	2482029
	04/12/2024	04/18/2024 12:19	Ping Hua	04/19/2024 09:53	Ping Hua	2482033
	04/12/2024	04/18/2024 12:19	Ping Hua	04/19/2024 13:47	Ping Hua	2482031
EPA 353.2 Rev. 2.0	04/12/2024			04/23/2024 15:58	Fadila Guebre	2482027
	04/12/2024			04/23/2024 16:04	Fadila Guebre	2482029
	04/12/2024			04/23/2024 16:05	Fadila Guebre	2482031
	04/12/2024			04/23/2024 16:06	Fadila Guebre	2482033
EPA 365.1 Rev. 2.0	04/12/2024	04/17/2024 13:05	Adam P Silver	04/18/2024 12:02	Simonne.V. Calhoun	2482027
	04/12/2024	04/17/2024 13:05	Adam P Silver	04/18/2024 12:03	Simonne.V. Calhoun	2482029
	04/12/2024	04/17/2024 13:05	Adam P Silver	04/18/2024 12:04	Simonne.V. Calhoun	2482031
	04/12/2024	04/17/2024 13:05	Adam P Silver	04/19/2024 12:53	Simonne.V. Calhoun	2482033
SM 2320 B-2011	04/12/2024			04/17/2024 01:47	Adam P Silver	2482026
	04/12/2024			04/17/2024 01:59	Adam P Silver	2482028
	04/12/2024			04/17/2024 02:12	Adam P Silver	2482030
	04/12/2024			04/17/2024 02:21	Adam P Silver	2482032
SM 2340 B-2011	04/12/2024			04/16/2024 19:37	Conrad Hartmann	2482040
SM 2540 C-2015	04/12/2024			04/15/2024 15:00	Ping Hua	2482026, 2482028, 2482030, 2482032
SM 2540 D-2015	04/12/2024			04/15/2024 15:00	Ping Hua	2482026, 2482028, 2482030, 2482032
SM 4500-F- C-2011	04/12/2024			04/17/2024 01:47	Adam P Silver	2482026

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500-F- C-2011	04/12/2024			04/17/2024 01:59	Adam P Silver	2482028
	04/12/2024			04/17/2024 02:12	Adam P Silver	2482030
	04/12/2024			04/17/2024 02:21	Adam P Silver	2482032
SM 5310 B-2014	04/12/2024			04/18/2024 23:28	Jessica K Wilks	2482027
	04/12/2024			04/18/2024 23:43	Jessica K Wilks	2482029
	04/12/2024			04/18/2024 23:59	Jessica K Wilks	2482031
	04/12/2024			04/19/2024 00:14	Jessica K Wilks	2482033