

Chemical Analysis Report

NE-DIST-2023-11-21-01

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

Event Description: **Nassau West 2023**
Request ID: **RQ-2023-11-27-33**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 08-DEC-2023 09:25

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light pink rectangular background.

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: SWIFT CREEK POND CENTER

Collection Date/Time: 11/20/2023 10:50

Field ID: 21030066

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452582	DEP SOP: NU-094-1	Color (true)	360		PCU	P438138	
	EPA 180.1 Rev. 2.0	Turbidity	7.2		NTU	P438142	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P438359	
		Sulfate	1.2		mg SO4/L	P438362	
	SM 2320 B-2011	Total Alkalinity	1.4	I	mg CaCO3/L	P438222	
	SM 2540 C-2015	TDS	59		mg/L	P438382	
	SM 2540 D-2015	TSS	3	I	mg/L	P438372	
2452583	SM 4500-F- C-2011	Fluoride	0.038	I	mg F/L	P438335	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P438504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P438274	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P438302	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P438211	
2452593	SM 5310 B-2011	Organic Carbon	25		mg C/L	P438188	
	EPA 200.7 Rev. 4.4	Calcium	2.93		mg/L	P438174	
		Iron	690		ug/L	P438174	
		Magnesium	1.40		mg/L	P438174	
		Potassium	0.41	I	mg/L	P438174	
		Sodium	4.3		mg/L	P438174	
		Strontium	12.2		ug/L	P438174	
		Tin	3.0	U	ug/L	P438174	
		Titanium	1.8	I	ug/L	P438174	
		Vanadium	2.0	U	ug/L	P438174	
		Zinc	16	I	ug/L	P438174	
	EPA 200.8 Rev. 5.4	Aluminum	374		ug/L	P438174	
		Antimony	0.065	I	ug/L	P438174	
		Arsenic	0.39		ug/L	P438174	
		Barium	9.92		ug/L	P438174	
		Beryllium	0.020	I	ug/L	P438174	
		Boron	18.0		ug/L	P438174	
		Cadmium	0.020	U	ug/L	P438174	
		Chromium	0.44	I	ug/L	P438174	
		Cobalt	0.125		ug/L	P438174	
		Copper	0.40	U	ug/L	P438174	
		Lead	0.55		ug/L	P438174	
		Manganese	18.2		ug/L	P438174	
		Molybdenum	0.15	U	ug/L	P438174	
		Nickel	0.50	U	ug/L	P438174	
		Selenium	0.20	U	ug/L	P438174	
		Silver	0.010	U	ug/L	P438174	
		Thallium	0.10	U	ug/L	P438174	
	SM 2340 B-2011	Hardness	13.1		mg/L	P438174	

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 11/29/2023.

Sample Location: ST MARYS S PRONG AT US 90

Collection Date/Time: 11/20/2023 11:45

Field ID: 19010021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452592	EPA 200.7 Rev. 4.4	Calcium	12.0		mg/L	P438174	
		Iron	790		ug/L	P438174	
		Magnesium	4.81		mg/L	P438174	
		Potassium	3.0		mg/L	P438174	
		Sodium	16.9		mg/L	P438174	
		Strontium	124		ug/L	P438174	
		Tin	3.0	U	ug/L	P438174	
		Titanium	0.75	U	ug/L	P438174	
		Vanadium	2.0	U	ug/L	P438174	
		Zinc	17	I	ug/L	P438174	
	EPA 200.8 Rev. 5.4	Aluminum	161		ug/L	P438174	
		Antimony	0.079	I	ug/L	P438174	
		Arsenic	0.36		ug/L	P438174	
		Barium	32.0		ug/L	P438174	
		Beryllium	0.021	I	ug/L	P438174	
		Boron	42.8		ug/L	P438174	
		Cadmium	0.020	U	ug/L	P438174	
		Chromium	0.41	I	ug/L	P438174	
		Cobalt	0.157		ug/L	P438174	
		Copper	0.40	U	ug/L	P438174	
		Lead	0.30	I	ug/L	P438174	
		Manganese	7.50		ug/L	P438174	
		Molybdenum	1.25		ug/L	P438174	
		Nickel	0.50	U	ug/L	P438174	
		Selenium	0.20	U	ug/L	P438174	
		Silver	0.010	U	ug/L	P438174	
		Thallium	0.10	U	ug/L	P438174	
	SM 2340 B-2011	Hardness	49.8		mg/L	P438174	

Sample Location: ST MARYS RIVER AT SR 121 GA LINE

Collection Date/Time: 11/20/2023 12:30

Field ID: 19010002

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452578	DEP SOP: NU-094-1	Color (true)	290		PCU	P438138	
	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P438142	
	EPA 300.0 Rev. 2.1	Chloride	8.2		mg Cl/L	P438359	
		Sulfate	1.3		mg SO4/L	P438362	
	SM 2320 B-2011	Total Alkalinity	8.1		mg CaCO3/L	P438222	
	SM 2540 C-2015	TDS	89		mg/L	P438382	
	SM 2540 D-2015	TSS	2	U	mg/L	P438372	
2452580	SM 4500-F- C-2011	Fluoride	0.048	I	mg F/L	P438335	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P438504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P438274	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P438302	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P438211	
2452590	SM 5310 B-2011	Organic Carbon	26		mg C/L	P438188	
	EPA 200.7 Rev. 4.4	Calcium	4.81		mg/L	P438174	
		Iron	580		ug/L	P438174	
		Magnesium	2.51		mg/L	P438174	
		Potassium	0.63	I	mg/L	P438174	
		Sodium	4.8		mg/L	P438174	
		Strontium	16.0		ug/L	P438174	
		Tin	3.0	U	ug/L	P438174	
		Titanium	0.78	I	ug/L	P438174	
		Vanadium	2.0	U	ug/L	P438174	
		Zinc	12	I	ug/L	P438174	
	EPA 200.8 Rev. 5.4	Aluminum	229		ug/L	P438174	
		Antimony	0.050	U	ug/L	P438174	
		Arsenic	0.29		ug/L	P438174	
		Barium	15.2		ug/L	P438174	
		Beryllium	0.028	I	ug/L	P438174	
		Boron	16.1		ug/L	P438174	
		Cadmium	0.020	U	ug/L	P438174	
		Chromium	0.41	I	ug/L	P438174	
		Cobalt	0.172		ug/L	P438174	
		Copper	0.40	U	ug/L	P438174	
		Lead	0.32	I	ug/L	P438174	
		Manganese	16.1		ug/L	P438174	
		Molybdenum	0.55	I	ug/L	P438174	
		Nickel	0.50	U	ug/L	P438174	
		Selenium	0.20	U	ug/L	P438174	
		Silver	0.010	U	ug/L	P438174	
		Thallium	0.10	U	ug/L	P438174	
	SM 2340 B-2011	Hardness	22.4		mg/L	P438174	

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: DEEP CR AT US 90

Collection Date/Time: 11/20/2023 13:40

Field ID: 19010085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2452579	DEP SOP: NU-094-1	Color (true)	120		PCU	P438138	
	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P438142	
	EPA 300.0 Rev. 2.1	Chloride	34		mg Cl/L	P438359	
		Sulfate	8.2		mg SO4/L	P438362	
	SM 2320 B-2011	Total Alkalinity	89		mg CaCO3/L	P438222	
	SM 2540 C-2015	TDS	214		mg/L	P438382	
	SM 2540 D-2015	TSS	2	I	mg/L	P438372	
2452581	SM 4500-F- C-2011	Fluoride	0.13		mg F/L	P438335	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P438504	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P438274	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.087		mg N/L	P438302	
	EPA 365.1 Rev. 2.0	Total-P	0.21		mg P/L	P438211	
2452591	SM 5310 B-2011	Organic Carbon	21		mg C/L	P438188	
	EPA 200.7 Rev. 4.4	Calcium	30.5		mg/L	P438174	
		Iron	610		ug/L	P438174	
		Magnesium	6.62		mg/L	P438174	
		Potassium	3.8		mg/L	P438174	
		Sodium	27.0		mg/L	P438174	
		Strontium	186		ug/L	P438174	
		Tin	3.0	U	ug/L	P438174	
		Titanium	0.75	U	ug/L	P438174	
		Vanadium	2.0	U	ug/L	P438174	
		Zinc	28		ug/L	P438174	
	EPA 200.8 Rev. 5.4	Aluminum	73		ug/L	P438174	
		Antimony	0.17	I	ug/L	P438174	
		Arsenic	0.55		ug/L	P438174	
		Barium	23.9		ug/L	P438174	
		Beryllium	0.013	I	ug/L	P438174	
		Boron	74.9		ug/L	P438174	
		Cadmium	0.020	U	ug/L	P438174	
		Chromium	0.62	I	ug/L	P438174	
		Cobalt	0.163		ug/L	P438174	
		Copper	0.52	I	ug/L	P438174	
		Lead	0.21	I	ug/L	P438174	
		Manganese	25.9		ug/L	P438174	
		Molybdenum	3.06		ug/L	P438174	
		Nickel	0.83	I	ug/L	P438174	
		Selenium	0.20	U	ug/L	P438174	
		Silver	0.010	U	ug/L	P438174	
		Thallium	0.10	U	ug/L	P438174	
	SM 2340 B-2011	Hardness	104		mg/L	P438174	

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: P438138

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438142

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438174

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: P438174

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: P438359

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: P438362

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438504

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438274

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438302

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438211

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

Reference Method: SM 2320 B-2011
Batch ID: P438222

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

Reference Method: SM 2540 C-2015
Batch ID: P438382

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P438372

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P438335

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P438188

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: P438138

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.2		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438142

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	109		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	101		P	85 - 115
Sodium	106		P	85 - 115
Strontium	97.9		P	85 - 115
Tin	96.8		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	99.5		P	85 - 115
Zinc	97.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	99.2		P	85 - 115
Barium	101		P	85 - 115
Beryllium	89.9		P	85 - 115
Boron	101		P	85 - 115
Cadmium	98.5		P	85 - 115
Chromium	107		P	85 - 115
Cobalt	93.3		P	85 - 115
Copper	98.5		P	85 - 115
Lead	94.6		P	85 - 115
Manganese	100		P	85 - 115
Molybdenum	96.7		P	85 - 115
Nickel	100		P	85 - 115
Selenium	99.7		P	85 - 115
Silver	97.8		P	85 - 115
Thallium	98.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438359

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438362

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438274

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438302

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438211

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

Reference Method: SM 2320 B-2011
Batch ID: P438222

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.5		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P438382

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.4		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P438372

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.8		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P438335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	94 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P438188

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P438174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452360	Calcium	110	109	P/P	80 - 120
2452360	Iron	110	109	P/P	80 - 120
2452360	Magnesium	111	109	P/P	80 - 120
2452360	Potassium	103	102	P/P	80 - 120
2452360	Sodium	108	108	P/P	80 - 120
2452360	Strontium	102	101	P/P	80 - 120
2452360	Tin	98.1	99.1	P/P	80 - 120
2452360	Titanium	102	102	P/P	80 - 120
2452360	Vanadium	101	101	P/P	80 - 120
2452360	Zinc	98.4	98.3	P/P	80 - 120
2452610	Calcium	106		P	80 - 120
2452610	Iron	108		P	80 - 120
2452610	Magnesium	105		P	80 - 120
2452610	Potassium	99.7		P	80 - 120
2452610	Sodium	105		P	80 - 120
2452610	Strontium	99.1		P	80 - 120
2452610	Tin	94.5		P	80 - 120
2452610	Titanium	101		P	80 - 120
2452610	Vanadium	101		P	80 - 120
2452610	Zinc	98.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P438174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452360	Aluminum	99.4	98.1	P/P	80 - 120
2452360	Antimony	99.2	99.8	P/P	80 - 120
2452360	Arsenic	98.2	97.7	P/P	80 - 120
2452360	Barium	100	100	P/P	80 - 120
2452360	Beryllium	89.5	87.4	P/P	80 - 120
2452360	Boron	104	103	P/P	80 - 120
2452360	Cadmium	97.9	98.2	P/P	80 - 120
2452360	Chromium	97.6	95.1	P/P	80 - 120
2452360	Cobalt	91.8	91.6	P/P	80 - 120
2452360	Copper	99.0	97.5	P/P	80 - 120
2452360	Lead	94.4	93.9	P/P	80 - 120
2452360	Manganese	100	100	P/P	80 - 120
2452360	Molybdenum	99.2	97.9	P/P	80 - 120
2452360	Nickel	95.8	95.1	P/P	80 - 120
2452360	Selenium	99.1	95.9	P/P	80 - 120
2452360	Silver	96.8	96.8	P/P	80 - 120
2452360	Thallium	99.9	98.7	P/P	80 - 120
2452610	Aluminum	99.6		P	80 - 120
2452610	Antimony	99.9		P	80 - 120
2452610	Arsenic	97.2		P	80 - 120
2452610	Barium	98.7		P	80 - 120
2452610	Beryllium	90.4		P	80 - 120
2452610	Boron	101		P	80 - 120
2452610	Cadmium	98.2		P	80 - 120
2452610	Chromium	96.2		P	80 - 120
2452610	Cobalt	89.4		P	80 - 120
2452610	Copper	98.7		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452610	Lead	94.6		P	80 - 120
2452610	Manganese	91.7		P	80 - 120
2452610	Molybdenum	99.3		P	80 - 120
2452610	Nickel	94.7		P	80 - 120
2452610	Selenium	95.3		P	80 - 120
2452610	Silver	96.2		P	80 - 120
2452610	Thallium	98.4		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438359

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452598	Chloride	104		P	90 - 110
2452883	Chloride	98.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452598	Sulfate	107		P	90 - 110
2452883	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452581	Ammonia-N	98.0	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452569	Kjeldahl Nitrogen	111	111	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438302

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452507	NO2NO3-N	97.2	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452601	Total-P	100	99.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P438335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452499	Fluoride	101	103	P/P	94 - 106

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P438188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2452507	Organic Carbon	98.8		P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P438138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452501	Color (true)	6.43	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P438142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452502	Turbidity	7.27	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P438174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452360	Calcium	0.826	Spike	P	0 - 20
2452360	Iron	1.35	Spike	P	0 - 20
2452360	Magnesium	1.02	Spike	P	0 - 20
2452360	Potassium	0.746	Spike	P	0 - 20
2452360	Sodium	0.319	Spike	P	0 - 20
2452360	Strontium	0.764	Spike	P	0 - 20
2452360	Tin	0.922	Spike	P	0 - 20
2452360	Titanium	0.140	Spike	P	0 - 20
2452360	Vanadium	0.457	Spike	P	0 - 20
2452360	Zinc	0.120	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P438174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452360	Aluminum	1.25	Spike	P	0 - 20
2452360	Antimony	0.610	Spike	P	0 - 20
2452360	Arsenic	0.485	Spike	P	0 - 20
2452360	Barium	0.104	Spike	P	0 - 20
2452360	Beryllium	2.34	Spike	P	0 - 20
2452360	Boron	1.46	Spike	P	0 - 20
2452360	Cadmium	0.394	Spike	P	0 - 20
2452360	Chromium	2.54	Spike	P	0 - 20
2452360	Cobalt	0.169	Spike	P	0 - 20
2452360	Copper	1.52	Spike	P	0 - 20
2452360	Lead	0.477	Spike	P	0 - 20
2452360	Manganese	0.118	Spike	P	0 - 20
2452360	Molybdenum	1.36	Spike	P	0 - 20
2452360	Nickel	0.727	Spike	P	0 - 20
2452360	Selenium	3.34	Spike	P	0 - 20
2452360	Silver	0.00468	Spike	P	0 - 20
2452360	Thallium	1.25	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452598	Chloride	1.15	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P438362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452598	Sulfate	0.267	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P438504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452581	Ammonia-N	0.881	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P438274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452569	Kjeldahl Nitrogen	0.0634	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P438302

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452507	NO2NO3-N	0.971	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P438211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452601	Total-P	0.408	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P438222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452501	Total Alkalinity	0.210	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P438382

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452502	TDS	2.93	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P438335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452499	Fluoride	0.947	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P438188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2452507	Organic Carbon	0.284	Spike	P	0 - 20

* 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: A122870

Included Lab Sample IDs: 2452578, 2452579, 2452582

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.8	98.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A122871

Included Lab Sample IDs: 2452578, 2452579, 2452582

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

Reference Method: SM 5310 B-2011

Run ID: A122895

Included Lab Sample IDs: 2452580, 2452581, 2452583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.7	95.3	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A122907

Included Lab Sample IDs: 2452578, 2452579, 2452582

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	99.9	P/P	90 - 110
Total Alkalinity	99.9	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122916

Included Lab Sample IDs: 2452581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	92.2	98.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A122924

Included Lab Sample IDs: 2452590, 2452591, 2452592, 2452593

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	101	P/P	90 - 110
Antimony	99.8	98.7	P/P	90 - 110
Arsenic	98.6	98.1	P/P	90 - 110
Barium	100	99.1	P/P	90 - 110
Boron	104	100	P/P	90 - 110
Cadmium	99.4	99.6	P/P	90 - 110
Chromium	99.4	100	P/P	90 - 110
Cobalt	91.1	91.7	P/P	90 - 110
Copper	96.6	96.0	P/P	90 - 110
Lead	95.3	95.6	P/P	90 - 110
Manganese	98.6	100	P/P	90 - 110
Molybdenum	99.3	98.6	P/P	90 - 110
Nickel	97.3	97.1	P/P	90 - 110
Selenium	100	99.0	P/P	90 - 110
Silver	94.7	94.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A122924

Included Lab Sample IDs: 2452590, 2452591, 2452592, 2452593

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	96.2	95.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A122927

Included Lab Sample IDs: 2452580, 2452583

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A122945

Included Lab Sample IDs: 2452580, 2452581, 2452583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A122949

Included Lab Sample IDs: 2452578, 2452579, 2452582

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	103	P/P	90 - 110
Sulfate	101	103	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A122950

Included Lab Sample IDs: 2452578, 2452579, 2452582

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	102	P/P	90 - 110
Fluoride	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122958

Included Lab Sample IDs: 2452580, 2452581, 2452583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	105	P/P	90 - 110
Kjeldahl Nitrogen	99.4	97.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A122975

Included Lab Sample IDs: 2452590, 2452591, 2452592, 2452593

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	98.1	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123027

Included Lab Sample IDs: 2452580, 2452581, 2452583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	99.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123039

Included Lab Sample IDs: 2452590, 2452591, 2452592, 2452593

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	102	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Magnesium	102	101	P/P	90 - 110
Potassium	101	100	P/P	90 - 110
Sodium	102	102	P/P	90 - 110
Strontium	102	102	P/P	90 - 110
Tin	101	102	P/P	90 - 110
Titanium	103	104	P/P	90 - 110
Vanadium	100	102	P/P	90 - 110
Zinc	101	102	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	MS
DEP SOP: NU-094-1	Color (true)	98.2				6.43	
EPA 180.1 Rev. 2.0	Turbidity	103				7.27	
EPA 200.7 Rev. 4.4	Calcium	108	110	109	106		0.826
	Iron	109	110	109	108		1.35
	Magnesium	110	111	109	105		1.02
	Potassium	101	103	102	99.7		0.746
	Sodium	106	108	108	105		0.319
	Strontium	97.9	102	101	99.1		0.764
	Tin	96.8	98.1	99.1	94.5		0.922
	Titanium	101	102	102	101		0.140
	Vanadium	99.5	101	101	101		0.457
	Zinc	97.1	98.4	98.3	98.4		0.120
EPA 200.8 Rev. 5.4	Aluminum	100	99.4	98.1	99.6		1.25
	Antimony	100	99.2	99.8	99.9		0.610
	Arsenic	99.2	98.2	97.7	97.2		0.485
	Barium	101	100	100	98.7		0.104
	Beryllium	89.9	89.5	87.4	90.4		2.34
	Boron	101	104	103	101		1.46
	Cadmium	98.5	97.9	98.2	98.2		0.394
	Chromium	107	97.6	95.1	96.2		2.54
	Cobalt	93.3	91.8	91.6	89.4		0.169
	Copper	98.5	99.0	97.5	98.7		1.52
	Lead	94.6	94.4	93.9	94.6		0.477
	Manganese	100	100	100	91.7		0.118
	Molybdenum	96.7	99.2	97.9	99.3		1.36
	Nickel	100	95.8	95.1	94.7		0.727
	Selenium	99.7	99.1	95.9	95.3		3.34
	Silver	97.8	96.8	96.8	96.2		0.0046
	Thallium	98.6	99.9	98.7	98.4		1.25
EPA 300.0 Rev. 2.1	Chloride	101	104	98.5		1.15	
	Sulfate	101	107	104		0.267	
EPA 350.1 Rev. 2.0	Ammonia-N	93.8	98.0	96.8			0.881
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	111	111			0.0634
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	97.2	98.2			0.971
EPA 365.1 Rev. 2.0	Total-P	102	100	99.6			0.408
SM 2320 B-2011	Total Alkalinity	97.5				0.210	
SM 2540 C-2015	TDS	96.4				2.93	
SM 2540 D-2015	TSS	96.8					
SM 4500-F- C-2011	Fluoride	99.1	101	103			0.947
SM 5310 B-2011	Organic Carbon	93.6	98.8				0.284

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2452578, 2452579, 2452582
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2452578, 2452579, 2452582
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2452590, 2452591, 2452592, 2452593
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2452590, 2452591, 2452592, 2452593
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2452578, 2452579, 2452582
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2452578, 2452579, 2452582
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2452580, 2452581, 2452583

Reference Method Descriptions

Method	Description	Associated Samples
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2452580, 2452581, 2452583
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2452580, 2452581, 2452583
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2452580, 2452581, 2452583
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2452578, 2452579, 2452582
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2452590, 2452591, 2452592, 2452593
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2452578, 2452579, 2452582
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2452578, 2452579, 2452582
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2452578, 2452579, 2452582
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2452580, 2452581, 2452583

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	11/21/2023			11/21/2023 14:52	Chandler E Cox	2452578
	11/21/2023			11/21/2023 14:53	Chandler E Cox	2452579
	11/21/2023			11/21/2023 14:54	Chandler E Cox	2452582
EPA 180.1 Rev. 2.0	11/21/2023			11/21/2023 14:39	Anna M. Plaviak	2452578
	11/21/2023			11/21/2023 14:40	Anna M. Plaviak	2452579
	11/21/2023			11/21/2023 14:41	Anna M. Plaviak	2452582
EPA 200.7 Rev. 4.4	11/21/2023	11/27/2023 13:20	George D Taylor	12/05/2023 17:11	Chase Roberts	2452590
	11/21/2023	11/27/2023 13:20	George D Taylor	12/05/2023 17:19	Chase Roberts	2452591
	11/21/2023	11/27/2023 13:20	George D Taylor	12/05/2023 17:26	Chase Roberts	2452592
EPA 200.8 Rev. 5.4	11/21/2023	11/27/2023 13:20	George D Taylor	12/05/2023 17:33	Chase Roberts	2452593
	11/21/2023	11/27/2023 13:20	George D Taylor	11/28/2023 18:30	Conrad Hartmann	2452590
	11/21/2023	11/27/2023 13:20	George D Taylor	11/28/2023 18:39	Conrad Hartmann	2452591
	11/21/2023	11/27/2023 13:20	George D Taylor	11/28/2023 18:48	Conrad Hartmann	2452592
	11/21/2023	11/27/2023 13:20	George D Taylor	11/28/2023 18:57	Conrad Hartmann	2452593
	11/21/2023	11/27/2023 13:20	George D Taylor	11/30/2023 15:07	Emily M Philpot	2452590
	11/21/2023	11/27/2023 13:20	George D Taylor	11/30/2023 15:17	Emily M Philpot	2452591
EPA 300.0 Rev. 2.1	11/21/2023	11/27/2023 13:20	George D Taylor	11/30/2023 15:27	Emily M Philpot	2452592
	11/21/2023	11/27/2023 13:20	George D Taylor	11/30/2023 15:36	Emily M Philpot	2452593
	11/21/2023			11/30/2023 01:46	James L Waggeberby	2452578
	11/21/2023			11/30/2023 02:01	James L Waggeberby	2452579
	11/21/2023			11/30/2023 02:16	James L Waggeberby	2452582
EPA 350.1 Rev. 2.0	11/21/2023			12/05/2023 13:53	Ping Hua	2452581
	11/21/2023			12/05/2023 14:03	Ping Hua	2452580
	11/21/2023			12/05/2023 14:05	Ping Hua	2452583
EPA 351.2 Rev. 2.0	11/21/2023	11/29/2023 14:15	Simonne.V. Calhoun	11/30/2023 10:27	Ping Hua	2452580
	11/21/2023	11/29/2023 14:15	Simonne.V. Calhoun	11/30/2023 10:32	Ping Hua	2452581
	11/21/2023	11/29/2023 14:15	Simonne.V. Calhoun	11/30/2023 10:33	Ping Hua	2452583
EPA 353.2 Rev. 2.0	11/21/2023			11/29/2023 11:54	Fadila Guebre	2452580
	11/21/2023			11/29/2023 11:55	Fadila Guebre	2452581
	11/21/2023			11/29/2023 11:57	Fadila Guebre	2452583
EPA 365.1 Rev. 2.0	11/21/2023	11/28/2023 10:59	Adam P Silver	11/28/2023 15:14	James L Waggeberby	2452581
	11/21/2023	11/28/2023 10:59	Adam P Silver	11/29/2023 11:09	James L Waggeberby	2452580
	11/21/2023	11/28/2023 10:59	Adam P Silver	11/29/2023 11:10	James L Waggeberby	2452583
SM 2320 B-2011	11/21/2023			11/28/2023 03:19	Adam P Silver	2452578
	11/21/2023			11/28/2023 04:05	Adam P Silver	2452579
	11/21/2023			11/28/2023 04:16	Adam P Silver	2452582
SM 2340 B-2011	11/21/2023			12/05/2023 17:11	Chase Roberts	2452590
	11/21/2023			12/05/2023 17:19	Chase Roberts	2452591
	11/21/2023			12/05/2023 17:26	Chase Roberts	2452592
	11/21/2023			12/05/2023 17:33	Chase Roberts	2452593

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2015	11/21/2023			11/21/2023 16:31	Yijie Li	2452578, 2452579, 2452582
SM 2540 D-2015	11/21/2023			11/21/2023 16:31	Yijie Li	2452578, 2452579, 2452582
SM 4500-F- C-2011	11/21/2023			11/30/2023 06:46	Chandler E Cox	2452578
	11/21/2023			11/30/2023 07:06	Chandler E Cox	2452579
	11/21/2023			11/30/2023 07:12	Chandler E Cox	2452582
SM 5310 B-2011	11/21/2023			11/27/2023 22:32	Kenneth H Lee	2452580
	11/21/2023			11/27/2023 22:46	Kenneth H Lee	2452581
	11/21/2023			11/27/2023 23:00	Kenneth H Lee	2452583