

Chemical Analysis Report

CEN-DIST-2023-06-21-02

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

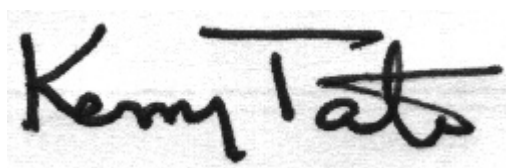
Event Description: **BMAP - Sweetwater, Salt and Long**
Request ID: **RQ-2023-07-03-18**
Customer: **CEN-DIST**
Project ID: **BMAP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 12-JUL-2023 10:23

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line extending from the end of the name.

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, Nutrients and Pesticides.

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: LONG BRANCH AT 07 MI DS OF CR 13

Collection Date/Time: 06/20/2023 10:30

Field ID: G2CE0036

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2418622	DEP SOP: NU-094-1	Color (true)	88		PCU	P431604	
	EPA 180.1 Rev. 2.0	Turbidity	6.1		NTU	P431593	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P431829	
		Sulfate	23		mg SO4/L	P431832	
	SM 2320 B-2011	Total Alkalinity	70		mg CaCO3/L	P431770	
	SM 2540 C-2015	TDS	184		mg/L	P432043	
	SM 2540 D-2015	TSS	8	IA	mg/L	P432045	
	SM 4500-F- C-2011	Fluoride	0.088	I	mg F/L	P431773	MS
2418623	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P431838	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P431704	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.047		mg N/L	P431815	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P431631	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P431708	
2418624	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.075		mg P/L	P431586	
2418680	EPA 8321B	Sucralose	0.33		ug/L	P431641	
2418681	EPA 200.7 Rev. 4.4	Calcium	39.5		mg/L	P431650	
		Iron	380		ug/L	P431650	
		Magnesium	2.05		mg/L	P431650	
		Potassium	1.8		mg/L	P431650	
		Sodium	16.5		mg/L	P431650	
		Strontium	165		ug/L	P431650	
		Tin	4.1	I	ug/L	P431650	
		Titanium	8.9		ug/L	P431650	
		Vanadium	2.5	I	ug/L	P431650	
		Zinc	5.0	U	ug/L	P431650	
	EPA 200.8 Rev. 5.4	Aluminum	260		ug/L	P431650	
		Antimony	0.43		ug/L	P431650	
		Arsenic	1.33		ug/L	P431650	
		Barium	20.6		ug/L	P431650	
		Beryllium	0.021	I	ug/L	P431650	
		Boron	52.3		ug/L	P431650	
		Cadmium	0.020	U	ug/L	P431650	
		Chromium	0.73	I	ug/L	P431650	
		Cobalt	0.102		ug/L	P431650	
		Copper	1.66		ug/L	P431650	
		Lead	0.71		ug/L	P431650	
		Manganese	8.03		ug/L	P431650	
		Molybdenum	1.48		ug/L	P431650	
		Nickel	0.53	I	ug/L	P431650	
		Selenium	0.33	I	ug/L	P431650	
		Silver	0.010	U	ug/L	P431650	
		Thallium	0.10	U	ug/L	P431650	
	SM 2340 B-2011	Hardness	107		mg/L	P431650	

Field ID: G2CE0036

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: SWEETWATER CREEK AT FLORIDA AVENUE Collection Date/Time: 06/20/2023 11:27

Field ID: G2CE0123

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2418616	DEP SOP: NU-094-1	Color (true)	99		PCU	P431604	
	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P431593	
	EPA 300.0 Rev. 2.1	Chloride	210		mg Cl/L	P431829	
		Sulfate	41		mg SO4/L	P431832	
	SM 2320 B-2011	Total Alkalinity	114		mg CaCO3/L	P431770	
	SM 2540 C-2015	TDS	552		mg/L	P432043	
	SM 2540 D-2015	TSS	6	I	mg/L	P432045	
	SM 4500-F- C-2011	Fluoride	0.29		mg F/L	P431773	MS
2418618	EPA 350.1 Rev. 2.0	Ammonia-N	0.067		mg N/L	P431838	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P431701	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.70		mg N/L	P432103	
	EPA 365.1 Rev. 2.0	Total-P	0.33		mg P/L	P431631	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P431708	
2418620	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.27		mg P/L	P431586	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: SALT CREEK AT PACKARD AVE

Collection Date/Time: 06/20/2023 12:02

Field ID: G2CE0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2418617	DEP SOP: NU-094-1	Color (true)	98		PCU	P431604	
	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P431593	
	EPA 300.0 Rev. 2.1	Chloride	1.3E+03		mg Cl/L	P431829	
		Sulfate	230		mg SO4/L	P431832	
	SM 2320 B-2011	Total Alkalinity	109		mg CaCO3/L	P431770	
	SM 2540 C-2015	TDS	2.36E+03		mg/L	P432043	
	SM 2540 D-2015	TSS	4	I	mg/L	P432045	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P431773	MS
2418619	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P431838	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P431704	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P431814	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P431631	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P431708	
2418621	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P431586	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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: P431604

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431593

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431650

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: P431650

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: P431829

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: P431832

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431838

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431701

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431704

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431814

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431815

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432103

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431631

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P431586

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P431641

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P431770

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

Reference Method: SM 2540 C-2015
Batch ID: P432043

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P432045

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P431773

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P431708

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: P431604

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431593

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	105		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	101		P	85 - 115
Sodium	101		P	85 - 115
Strontium	99.5		P	85 - 115
Tin	101		P	85 - 115
Titanium	100		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	99.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	102		P	85 - 115
Barium	106		P	85 - 115
Beryllium	99.8		P	85 - 115
Boron	103		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	98.9		P	85 - 115
Cobalt	98.8		P	85 - 115
Copper	98.2		P	85 - 115
Lead	96.0		P	85 - 115
Manganese	98.8		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	99.2		P	85 - 115
Selenium	102		P	85 - 115
Silver	104		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431829

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431832

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431838

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431701

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431704

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	94.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431815

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432103

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431631

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P431586

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P431641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	112		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P431770

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.1		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P432043

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

Reference Method: SM 2540 D-2015
Batch ID: P432045

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	98.4		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P431773

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	105		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P431708

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P431650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418460	Calcium	107	107	P/P	80 - 120
2418460	Iron	109	108	P/P	80 - 120
2418460	Magnesium	106	105	P/P	80 - 120
2418460	Potassium	103	103	P/P	80 - 120
2418460	Sodium	99.3		P	80 - 120
2418460	Strontium	102	101	P/P	80 - 120
2418460	Tin	105	101	P/P	80 - 120
2418460	Titanium	103	103	P/P	80 - 120
2418460	Vanadium	104	104	P/P	80 - 120
2418460	Zinc	102	103	P/P	80 - 120
2418916	Calcium	109		P	80 - 120
2418916	Iron	108		P	80 - 120
2418916	Magnesium	108		P	80 - 120
2418916	Potassium	101		P	80 - 120
2418916	Sodium	105		P	80 - 120
2418916	Strontium	102		P	80 - 120
2418916	Tin	104		P	80 - 120
2418916	Titanium	96.5		P	80 - 120
2418916	Vanadium	105		P	80 - 120
2418916	Zinc	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P431650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418460	Aluminum	103	103	P/P	80 - 120
2418460	Antimony	104	106	P/P	80 - 120
2418460	Arsenic	101	102	P/P	80 - 120
2418460	Barium	106	106	P/P	80 - 120
2418460	Beryllium	101	101	P/P	80 - 120
2418460	Boron	104	103	P/P	80 - 120
2418460	Cadmium	101	102	P/P	80 - 120
2418460	Chromium	97.5	97.7	P/P	80 - 120
2418460	Cobalt	98.4	98.0	P/P	80 - 120
2418460	Copper	99.2	98.7	P/P	80 - 120
2418460	Lead	96.8	97.8	P/P	80 - 120
2418460	Manganese	99.1	98.6	P/P	80 - 120
2418460	Molybdenum	101	102	P/P	80 - 120
2418460	Nickel	98.2	97.9	P/P	80 - 120
2418460	Selenium	103	100	P/P	80 - 120
2418460	Silver	104	104	P/P	80 - 120
2418460	Thallium	104	106	P/P	80 - 120
2418916	Aluminum	99.0		P	80 - 120
2418916	Antimony	101		P	80 - 120
2418916	Arsenic	98.7		P	80 - 120
2418916	Barium	105		P	80 - 120
2418916	Beryllium	93.7		P	80 - 120
2418916	Boron	102		P	80 - 120
2418916	Cadmium	101		P	80 - 120
2418916	Chromium	97.3		P	80 - 120
2418916	Cobalt	98.3		P	80 - 120
2418916	Copper	97.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418916	Lead	95.2		P	80 - 120
2418916	Manganese	98.7		P	80 - 120
2418916	Molybdenum	96.2		P	80 - 120
2418916	Nickel	97.2		P	80 - 120
2418916	Selenium	96.9		P	80 - 120
2418916	Silver	102		P	80 - 120
2418916	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431829

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418455	Chloride	106		P	90 - 110
2418708	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431832

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418455	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418547	Ammonia-N	95.2	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418548	Kjeldahl Nitrogen	106	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431704

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418711	Kjeldahl Nitrogen	101	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418547	NO2NO3-N	105	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418698	NO2NO3-N	104	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2420165	NO2NO3-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431631

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418553	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P431586

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418703	O-Phosphate-P	100	99.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P431641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418283	Sucralose	95.7	89.2	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P431773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418428	Fluoride	105	107	P/F	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P431708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418854	Organic Carbon	93.1	95.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P431604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418504	Color (true)	3.17	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418474	Turbidity	19.7	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418460	Calcium	0.0610	Spike	P	0 - 20
2418460	Iron	0.715	Spike	P	0 - 20
2418460	Magnesium	0.502	Spike	P	0 - 20
2418460	Potassium	0.0725	Spike	P	0 - 20
2418460	Sodium	0.618	Spike	P	0 - 20
2418460	Strontium	0.387	Spike	P	0 - 20
2418460	Tin	3.97	Spike	P	0 - 20
2418460	Titanium	0.0837	Spike	P	0 - 20
2418460	Vanadium	0.108	Spike	P	0 - 20
2418460	Zinc	0.0786	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418460	Aluminum	0.204	Spike	P	0 - 20
2418460	Antimony	1.27	Spike	P	0 - 20
2418460	Arsenic	0.374	Spike	P	0 - 20
2418460	Barium	0.0980	Spike	P	0 - 20
2418460	Beryllium	0.211	Spike	P	0 - 20
2418460	Boron	0.308	Spike	P	0 - 20
2418460	Cadmium	1.20	Spike	P	0 - 20
2418460	Chromium	0.174	Spike	P	0 - 20
2418460	Cobalt	0.391	Spike	P	0 - 20
2418460	Copper	0.527	Spike	P	0 - 20
2418460	Lead	1.07	Spike	P	0 - 20
2418460	Manganese	0.398	Spike	P	0 - 20
2418460	Molybdenum	0.495	Spike	P	0 - 20
2418460	Nickel	0.344	Spike	P	0 - 20
2418460	Selenium	2.93	Spike	P	0 - 20
2418460	Silver	0.197	Spike	P	0 - 20
2418460	Thallium	1.28	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418455	Chloride	5.09	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418455	Sulfate	5.19	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418547	Ammonia-N	1.49	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418548	Kjeldahl Nitrogen	0.446	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418711	Kjeldahl Nitrogen	0.648	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418547	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418698	NO2NO3-N	0.480	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2420165	NO2NO3-N	0.541	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P431631

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418553	Total-P	0.474	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P431586

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418703	O-Phosphate-P	0.448	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P431641

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418283	Sucralose	2.90	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P431770

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418428	Total Alkalinity	1.03	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015

Batch ID: P432043

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418552	TDS	3.92	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P431773

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418428	Fluoride	0.979	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011

Batch ID: P431708

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418854	Organic Carbon	0.966	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2418680
Field Sample ID: G2CE0036

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A119945

Included Lab Sample IDs: 2418620, 2418621, 2418624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	99.1	P/P	90 - 110
O-Phosphate-P	99.5	98.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A119947

Included Lab Sample IDs: 2418616, 2418617, 2418622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A119950

Included Lab Sample IDs: 2418616, 2418617, 2418622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.4	97.4	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A119991

Included Lab Sample IDs: 2418618, 2418619, 2418623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	96.2	P/P	90 - 110
Organic Carbon	96.8	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120004

Included Lab Sample IDs: 2418618, 2418619, 2418623

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120013

Included Lab Sample IDs: 2418681

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	102	P/P	90 - 110
Antimony	102	101	P/P	90 - 110
Arsenic	99.8	101	P/P	90 - 110
Barium	102	102	P/P	90 - 110
Beryllium	99.4	101	P/P	90 - 110
Boron	101	99.5	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	98.9	99.8	P/P	90 - 110
Cobalt	96.9	97.7	P/P	90 - 110
Copper	95.8	96.2	P/P	90 - 110
Lead	93.5	95.0	P/P	90 - 110
Manganese	98.9	101	P/P	90 - 110
Molybdenum	100	99.9	P/P	90 - 110
Nickel	97.0	97.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120013

Included Lab Sample IDs: 2418681

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	101	102	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120032

Included Lab Sample IDs: 2418618, 2418619, 2418623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.3	96.6	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120036

Included Lab Sample IDs: 2418616, 2418617, 2418622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.6	94.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120036

Included Lab Sample IDs: 2418616, 2418617, 2418622

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120043

Included Lab Sample IDs: 2418619, 2418623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A120044

Included Lab Sample IDs: 2418680

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	97.3	91.5	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120045

Included Lab Sample IDs: 2418618, 2418619, 2418623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120051

Included Lab Sample IDs: 2418616, 2418617, 2418622

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Chloride	102	103	P/P	90 - 110
Sulfate	101	103	P/P	90 - 110
Sulfate	103	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120188

Included Lab Sample IDs: 2418618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120209

Included Lab Sample IDs: 2418681

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	103	P/P	90 - 110
Iron	103	105	P/P	90 - 110
Magnesium	102	105	P/P	90 - 110
Potassium	100	102	P/P	90 - 110
Sodium	99.1	101	P/P	90 - 110
Strontium	102	99.9	P/P	90 - 110
Tin	104	101	P/P	90 - 110
Titanium	101	98.4	P/P	90 - 110
Vanadium	102	99.1	P/P	90 - 110
Zinc	103	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			LCS	Precision	MS
							SMP	
DEP SOP: NU-094-1	Color (true)	98.4					3.17	
EPA 180.1 Rev. 2.0	Turbidity	100					19.7	
EPA 200.7 Rev. 4.4	Calcium	105	107	107	109			0.0610
	Iron	105	109	108	108			0.715
	Magnesium	105	106	105	108			0.502
	Potassium	101	103	103	101			0.0725
	Sodium	101	99.3	105				0.618
	Strontium	99.5	102	101	102			0.387
	Tin	101	105	101	104			3.97
	Titanium	100	103	103	96.5			0.0837
	Vanadium	100	104	104	105			0.108
	Zinc	99.2	102	103	104			0.0786
EPA 200.8 Rev. 5.4	Aluminum	103	103	103	99.0			0.204
	Antimony	103	104	106	101			1.27
	Arsenic	102	101	102	98.7			0.374
	Barium	106	106	106	105			0.0980
	Beryllium	99.8	101	101	93.7			0.211
	Boron	103	104	103	102			0.308
	Cadmium	101	101	102	101			1.20
	Chromium	98.9	97.5	97.7	97.3			0.174
	Cobalt	98.8	98.4	98.0	98.3			0.391
	Copper	98.2	99.2	98.7	97.0			0.527
	Lead	96.0	96.8	97.8	95.2			1.07
	Manganese	98.8	99.1	98.6	98.7			0.398
	Molybdenum	101	101	102	96.2			0.495
	Nickel	99.2	98.2	97.9	97.2			0.344
	Selenium	102	103	100	96.9			2.93
	Silver	104	104	104	102			0.197
	Thallium	102	104	106	104			1.28
EPA 300.0 Rev. 2.1	Chloride	103	106	105			5.09	
	Sulfate	102	101				5.19	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	95.2	97.0				1.49
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.8	106	105				0.446
	Kjeldahl Nitrogen	94.6	101	100				0.648
EPA 353.2 Rev. 2.0	NO2NO3-N	105	105	105				0.0
	NO2NO3-N	104	104	104				0.480
	NO2NO3-N	102	97.0	98.0				0.541
EPA 365.1 Rev. 2.0	Total-P	104	103	102				0.474
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	100	99.8				0.448
EPA 8321B	Sucralose	112	95.7	89.2				2.90
SM 2320 B-2011	Total Alkalinity	95.1					1.03	
SM 2540 C-2015	TDS	102					3.92	
SM 2540 D-2015	TSS	98.4						
SM 4500-F- C-2011	Fluoride	105	105	107				0.979
SM 5310 B-2011	Organic Carbon	95.0	93.1	95.0				0.966

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2418616, 2418617, 2418622
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2418616, 2418617, 2418622
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2418681

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2418681
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2418616, 2418617, 2418622
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2418616, 2418617, 2418622
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2418618, 2418619, 2418623
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2418618, 2418619, 2418623
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2418618, 2418619, 2418623
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2418618, 2418619, 2418623
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2418620, 2418621, 2418624
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2418680
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2418616, 2418617, 2418622
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2418681
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2418616, 2418617, 2418622
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2418616, 2418617, 2418622
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2418616, 2418617, 2418622
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2418618, 2418619, 2418623

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	06/21/2023			06/21/2023 15:14	Anna M. Plaviak	2418616
	06/21/2023			06/21/2023 15:15	Anna M. Plaviak	2418617
	06/21/2023			06/21/2023 15:16	Anna M. Plaviak	2418622
EPA 180.1 Rev. 2.0	06/21/2023			06/21/2023 13:12	Alexis Price	2418616
	06/21/2023			06/21/2023 13:13	Alexis Price	2418617
	06/21/2023			06/21/2023 13:14	Alexis Price	2418622
EPA 200.7 Rev. 4.4	06/21/2023	06/22/2023 12:45	George D Taylor	07/06/2023 15:10	Samatha Luckman	2418681
EPA 200.8 Rev. 5.4	06/21/2023	06/22/2023 12:45	George D Taylor	06/23/2023 15:44	Emily M Philpot	2418681
EPA 300.0 Rev. 2.1	06/21/2023			06/26/2023 21:59	James L Waggeberby	2418616
	06/21/2023			06/26/2023 22:45	James L Waggeberby	2418617
	06/21/2023			06/26/2023 23:00	James L Waggeberby	2418622
EPA 350.1 Rev. 2.0	06/21/2023			06/27/2023 13:24	Khloe J Berg	2418618
	06/21/2023			06/27/2023 13:26	Khloe J Berg	2418619
	06/21/2023			06/27/2023 13:27	Khloe J Berg	2418623
EPA 351.2 Rev. 2.0	06/21/2023	06/23/2023 13:15	Dana G. Hughes	06/26/2023 11:48	Samantha L Bates	2418618
	06/21/2023	06/23/2023 13:15	Dana G. Hughes	06/26/2023 11:53	Samantha L Bates	2418619
	06/21/2023	06/23/2023 13:15	Dana G. Hughes	06/26/2023 11:54	Samantha L Bates	2418623
EPA 353.2 Rev. 2.0	06/21/2023			06/27/2023 11:07	Beverly Y. Sanders	2418619
	06/21/2023			06/27/2023 11:20	Beverly Y. Sanders	2418623
	06/21/2023			07/06/2023 09:25	Beverly Y. Sanders	2418618
EPA 365.1 Rev. 2.0	06/21/2023	06/22/2023 13:08	Alexis Price	06/23/2023 14:11	James L Waggeberby	2418618
	06/21/2023	06/22/2023 13:08	Alexis Price	06/23/2023 14:12	James L Waggeberby	2418619
	06/21/2023	06/22/2023 13:08	Alexis Price	06/23/2023 14:13	James L Waggeberby	2418623
EPA 365.1 Rev. 2.0 dissolved	06/21/2023			06/21/2023 13:23	Elise M. Gillis	2418624
	06/21/2023			06/21/2023 13:33	Elise M. Gillis	2418621
	06/21/2023			06/21/2023 13:34	Elise M. Gillis	2418620
EPA 8321B	06/21/2023	06/23/2023 16:00	Hana Lee	06/24/2023 03:50	Tae K Lee	2418680
SM 2320 B-2011	06/21/2023			06/24/2023 04:06	Dale L. Simmons	2418622
	06/21/2023			06/24/2023 04:48	Dale L. Simmons	2418616
	06/21/2023			06/24/2023 05:02	Dale L. Simmons	2418617
SM 2340 B-2011	06/21/2023			07/06/2023 15:10	Samatha Luckman	2418681
SM 2540 C-2015	06/21/2023			06/23/2023 15:19	Yijie Li	2418616, 2418617, 2418622
SM 2540 D-2015	06/21/2023			06/23/2023 15:19	Yijie Li	2418616, 2418617, 2418622
SM 4500-F- C-2011	06/21/2023			06/24/2023 04:06	Dale L. Simmons	2418622
	06/21/2023			06/24/2023 04:48	Dale L. Simmons	2418616
	06/21/2023			06/24/2023 05:02	Dale L. Simmons	2418617
SM 5310 B-2011	06/21/2023			06/22/2023 19:48	Khloe J Berg	2418618
	06/21/2023			06/22/2023 20:02	Khloe J Berg	2418619
	06/21/2023			06/22/2023 20:46	Khloe J Berg	2418623