Chemical Analysis Report

SO-DIST-2023-05-09-01

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

Event Description: **2023 SMP : Myakka Cricks**
Request ID: **RQ-2023-05-01-45**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
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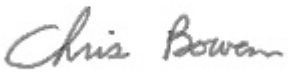
Certified by: Chris Bowen, Environmental Administrator

Date Certified: 26-MAY-2023 11:07



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: LITTLE ALLIGATOR CREEK AT MIDWAY BLVD. Collection Date/Time: 05/08/2023 08:35

Field ID: G3SD0071 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2407613	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P429622	
	SM 2320 B-2011	Total Alkalinity	118		mg CaCO3/L	P430119	
	SM 2540 D-2015	TSS	6	I	mg/L	P429894	
	SM 4500-F- C-2011	Fluoride	1.0		mg F/L	P429888	
2407615	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P429737	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P429625	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P430006	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P429770	
	SM 5310 B-2011	Organic Carbon	8.9		mg C/L	P429964	
2407626	EPA 200.7 Rev. 4.4	Calcium	307		mg/L	P429880	
		Iron	90	U	ug/L	P429880	
		Magnesium	825		mg/L	P429880	
		Strontium	6.47E+03		ug/L	P429880	
		Tin	150	U	ug/L	P429880	
		Titanium	2.2	U	ug/L	P429880	
		Vanadium	6.0	U	ug/L	P429880	
		Zinc	15	U	ug/L	P429880	
	EPA 200.8 Rev. 5.4	Aluminum	43	I	ug/L	P429880	
		Antimony	0.37	I	ug/L	P429880	
		Arsenic	2.74		ug/L	P429880	
		Beryllium	0.040	U	ug/L	P429880	
		Cadmium	0.080	U	ug/L	P429880	
		Chromium	4.0	U	ug/L	P429880	
		Cobalt	0.096	I	ug/L	P429880	
		Copper	1.6	U	ug/L	P429880	
		Lead	2.0	U	ug/L	P429880	
		Manganese	12.4		ug/L	P429880	
		Molybdenum	8.8		ug/L	P429880	
		Nickel	2.0	U	ug/L	P429880	
		Selenium	0.80	U	ug/L	P429880	
		Silver	0.040	U	ug/L	P429880	
		Thallium	1.0	U	ug/L	P429880	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of analytical difficulties.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

Sample Location: ROCK CREEK AT EISENHOWER DR. **Collection Date/Time: 05/08/2023 09:10**

Field ID: G3SD0070 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2407614	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P429622	
	SM 2320 B-2011	Total Alkalinity	108		mg CaCO3/L	P430119	
	SM 2540 D-2015	TSS	14		mg/L	P429894	
	SM 4500-F- C-2011	Fluoride	0.98		mg F/L	P429888	
2407616	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P429737	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P429625	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P430006	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P429770	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P429964	
2407627	EPA 200.7 Rev. 4.4	Calcium	314		mg/L	P429880	
		Iron	240	I	ug/L	P429880	
		Magnesium	763		mg/L	P429880	
		Strontium	8.52E+03		ug/L	P429880	
		Tin	150	U	ug/L	P429880	
		Titanium	2.2	U	ug/L	P429880	
		Vanadium	6.0	U	ug/L	P429880	
		Zinc	15	U	ug/L	P429880	
	EPA 200.8 Rev. 5.4	Aluminum	295		ug/L	P429880	
		Antimony	0.26	I	ug/L	P429880	
		Arsenic	1.86		ug/L	P429880	
		Beryllium	0.040	U	ug/L	P429880	
		Cadmium	0.080	U	ug/L	P429880	
		Chromium	4.0	U	ug/L	P429880	
		Cobalt	0.11	I	ug/L	P429880	
		Copper	1.6	U	ug/L	P429880	
		Lead	2.0	U	ug/L	P429880	
		Manganese	18.3		ug/L	P429880	
		Molybdenum	7.5		ug/L	P429880	
		Nickel	2.0	U	ug/L	P429880	
		Selenium	0.80	U	ug/L	P429880	
		Silver	0.040	U	ug/L	P429880	
		Thallium	1.0	U	ug/L	P429880	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of analytical difficulties.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

Sample Location: MYAKKA RIVER (TIDAL) AT US 41 **Collection Date/Time: 05/08/2023 09:35**

Field ID: G3SD0068 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2407617	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P429623	
	SM 2320 B-2011	Total Alkalinity	114		mg CaCO3/L	P430119	
	SM 2540 D-2015	TSS	5	I	mg/L	P429894	
	SM 4500-F- C-2011	Fluoride	0.93		mg F/L	P429888	
2407618	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P429737	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P429625	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P430006	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P429770	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P430151	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of analytical difficulties.

Sample Location: BIG SLOUGH CANAL **Collection Date/Time: 05/08/2023 10:05**

Field ID: G3SD0161 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2407628	EPA 200.7 Rev. 4.4	Calcium	264		mg/L	P429880	
		Iron	140	I	ug/L	P429880	
		Magnesium	534		mg/L	P429880	
		Strontium	8.51E+03		ug/L	P429880	
		Tin	60	U	ug/L	P429880	
		Titanium	2.2	U	ug/L	P429880	
		Vanadium	6.0	U	ug/L	P429880	
		Zinc	15	U	ug/L	P429880	
	EPA 200.8 Rev. 5.4	Aluminum	50	U	ug/L	P429880	
		Antimony	0.25	I	ug/L	P429880	
		Arsenic	1.83		ug/L	P429880	
		Beryllium	0.040	U	ug/L	P429880	
		Cadmium	0.080	U	ug/L	P429880	
		Chromium	4.0	U	ug/L	P429880	
		Cobalt	0.14	I	ug/L	P429880	
		Copper	1.6	U	ug/L	P429880	
		Lead	2.0	U	ug/L	P429880	
		Manganese	20.1		ug/L	P429880	
		Molybdenum	5.8		ug/L	P429880	
		Nickel	2.0	U	ug/L	P429880	
		Selenium	0.80	U	ug/L	P429880	
		Silver	0.040	U	ug/L	P429880	
		Thallium	1.0	U	ug/L	P429880	

Ref. Method and Comment:
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium and strontium are unavailable because of high analyte concentration in the QC sample.

Sample Location: BIG SLOUGH AT BUTLER PARK **Collection Date/Time: 05/08/2023 10:35**

Field ID: G3SD0168 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2407629	EPA 200.7 Rev. 4.4	Calcium	116		mg/L	P429670	
		Iron	410		ug/L	P429670	
		Magnesium	12.5		mg/L	P429670	
		Potassium	1.7		mg/L	P429670	
		Sodium	68.1		mg/L	P429670	
		Strontium	1.26E+03		ug/L	P429670	
		Tin	3.0	U	ug/L	P429670	
		Titanium	0.75	U	ug/L	P429670	
		Vanadium	2.0	U	ug/L	P429670	
		Zinc	5.0	U	ug/L	P429670	
	EPA 200.8 Rev. 5.4	Aluminum	43		ug/L	P429670	
		Antimony	0.11	I	ug/L	P429670	
		Arsenic	1.52		ug/L	P429670	
		Barium	14.9		ug/L	P429670	
		Beryllium	0.010	U	ug/L	P429670	
		Boron	53.6		ug/L	P429670	
		Cadmium	0.020	U	ug/L	P429670	
		Chromium	0.45	I	ug/L	P429670	
		Cobalt	0.119		ug/L	P429670	
		Copper	0.40	U	ug/L	P429670	
		Lead	0.20	U	ug/L	P429670	
		Manganese	31.7		ug/L	P429670	
		Molybdenum	3.43		ug/L	P429670	
		Nickel	0.74	I	ug/L	P429670	
		Selenium	0.22	I	ug/L	P429670	
		Silver	0.010	U	ug/L	P429670	
		Thallium	0.10	U	ug/L	P429670	
	SM 2340 B-2011	Hardness	341		mg/L	P429670	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429622

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429623

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429670

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429880

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	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: P429670

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.24	I	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429670

Component	Result	Code	Units
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429880

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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 350.1 Rev. 2.0
Batch ID: P429737

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429625

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430006

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429770

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P430119

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

Reference Method: SM 2540 D-2015
Batch ID: P429894

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P429888

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P429964

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

Reference Method: SM 5310 B-2011
Batch ID: P430151

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429622

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429623

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.3		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429670

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	103		P	85 - 115
Magnesium	101		P	85 - 115
Strontium	104		P	85 - 115
Tin	103		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	103		P	85 - 115
Zinc	108		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	100		P	85 - 115
Barium	105		P	85 - 115
Beryllium	95.3		P	85 - 115
Boron	105		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	97.9		P	85 - 115
Cobalt	104		P	85 - 115
Copper	98.2		P	85 - 115
Lead	106		P	85 - 115
Manganese	99.2		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429670

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Molybdenum	98.9		P	85 - 115
Nickel	99.3		P	85 - 115
Selenium	99.8		P	85 - 115
Silver	106		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	80 - 120
Antimony	105		P	80 - 120
Arsenic	102		P	80 - 120
Beryllium	95.6		P	80 - 120
Cadmium	102		P	80 - 120
Chromium	103		P	80 - 120
Cobalt	103		P	80 - 120
Copper	99.3		P	80 - 120
Lead	104		P	80 - 120
Manganese	105		P	80 - 120
Molybdenum	101		P	80 - 120
Nickel	100		P	80 - 120
Selenium	102		P	80 - 120
Silver	105		P	80 - 120
Thallium	103		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429737

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429625

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: P430006

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429770

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.7		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P430119

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.0		P	92 - 105

Reference Method: SM 2540 D-2015
Batch ID: P429894

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	97.4		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P429888

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

Reference Method: SM 5310 B-2011
Batch ID: P429964

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P430151

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2407547	Calcium	102		P	80 - 120
2407547	Iron	103	103	P/P	80 - 120
2407547	Magnesium	103		P	80 - 120
2407547	Potassium	103		P	80 - 120
2407547	Sodium	103		P	80 - 120
2407547	Strontium	101	103	P/P	80 - 120
2407547	Tin	104	101	P/P	80 - 120
2407547	Titanium	99.6	102	P/P	80 - 120
2407547	Vanadium	101	103	P/P	80 - 120
2407547	Zinc	104	104	P/P	80 - 120
2407602	Calcium	102		P	80 - 120
2407602	Iron	104		P	80 - 120
2407602	Magnesium	101		P	80 - 120
2407602	Potassium	103		P	80 - 120
2407602	Sodium	103		P	80 - 120
2407602	Strontium	102		P	80 - 120
2407602	Tin	101		P	80 - 120
2407602	Titanium	102		P	80 - 120
2407602	Vanadium	101		P	80 - 120
2407602	Zinc	104		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2406042	Iron	103	102	P/P	80 - 120
2406042	Tin	85.6	89.7	P/P	80 - 120
2406042	Titanium	103	104	P/P	80 - 120
2406042	Vanadium	105	103	P/P	80 - 120
2406042	Zinc	107	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2407547	Aluminum	101	98.1	P/P	80 - 120
2407547	Antimony	103	102	P/P	80 - 120
2407547	Arsenic	101	100	P/P	80 - 120
2407547	Barium	104	103	P/P	80 - 120
2407547	Beryllium	97.0	93.9	P/P	80 - 120
2407547	Boron	103	98.4	P/P	80 - 120
2407547	Cadmium	104	101	P/P	80 - 120
2407547	Chromium	96.4	94.6	P/P	80 - 120
2407547	Cobalt	101	99.6	P/P	80 - 120
2407547	Copper	98.8	98.2	P/P	80 - 120
2407547	Lead	105	104	P/P	80 - 120
2407547	Manganese	97.0	93.6	P/P	80 - 120
2407547	Molybdenum	101	99.7	P/P	80 - 120
2407547	Nickel	97.0	95.4	P/P	80 - 120
2407547	Selenium	100	99.8	P/P	80 - 120
2407547	Silver	104	103	P/P	80 - 120
2407547	Thallium	104	103	P/P	80 - 120

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2407602	Aluminum	100		P	80 - 120
2407602	Antimony	102		P	80 - 120
2407602	Arsenic	98.1		P	80 - 120
2407602	Barium	104		P	80 - 120
2407602	Beryllium	97.2		P	80 - 120
2407602	Boron	106		P	80 - 120
2407602	Cadmium	102		P	80 - 120
2407602	Chromium	98.1		P	80 - 120
2407602	Cobalt	102		P	80 - 120
2407602	Copper	98.2		P	80 - 120
2407602	Lead	106		P	80 - 120
2407602	Manganese	101		P	80 - 120
2407602	Molybdenum	98.7		P	80 - 120
2407602	Nickel	97.3		P	80 - 120
2407602	Selenium	98.1		P	80 - 120
2407602	Silver	105		P	80 - 120
2407602	Thallium	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2406042	Aluminum	106	103	P/P	70 - 130
2406042	Antimony	111	111	P/P	70 - 130
2406042	Arsenic	113	112	P/P	70 - 130
2406042	Beryllium	99.9	98.7	P/P	70 - 130
2406042	Cadmium	101	102	P/P	70 - 130
2406042	Chromium	102	102	P/P	70 - 130
2406042	Cobalt	95.5	96.4	P/P	70 - 130
2406042	Copper	101	96.3	P/P	70 - 130
2406042	Lead	107	106	P/P	70 - 130
2406042	Manganese	100	96.2	P/P	70 - 130
2406042	Molybdenum	115	111	P/P	70 - 130
2406042	Nickel	95.1	95.0	P/P	70 - 130
2406042	Selenium	109	109	P/P	70 - 130
2406042	Silver	99.1	100	P/P	70 - 130
2406042	Thallium	105	107	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2407586	Ammonia-N	104	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2405529	Kjeldahl Nitrogen	96.9	91.6	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2407485	NO2NO3-N	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2407586	Total-P	91.4	94.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Batch ID: P429888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2405381	Fluoride	104	105	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P429964

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409134	Organic Carbon	94.7	93.4	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P430151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2410513	Organic Carbon	91.2	92.2	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407424	Turbidity	1.63	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407639	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407547	Calcium	1.54	Spike	P	0 - 20
2407547	Iron	0.532	Spike	P	0 - 20
2407547	Magnesium	0.575	Spike	P	0 - 20
2407547	Potassium	1.50	Spike	P	0 - 20
2407547	Sodium	2.14	Spike	P	0 - 20
2407547	Strontium	1.88	Spike	P	0 - 20
2407547	Tin	2.24	Spike	P	0 - 20
2407547	Titanium	2.32	Spike	P	0 - 20
2407547	Vanadium	2.31	Spike	P	0 - 20
2407547	Zinc	0.247	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2406042	Calcium	2.94	Spike	P	0 - 20
2406042	Iron	0.604	Spike	P	0 - 20
2406042	Magnesium	2.98	Spike	P	0 - 20
2406042	Strontium	1.08	Spike	P	0 - 20
2406042	Tin	4.67	Spike	P	0 - 20
2406042	Titanium	0.222	Spike	P	0 - 20
2406042	Vanadium	1.06	Spike	P	0 - 20
2406042	Zinc	0.982	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407547	Aluminum	2.21	Spike	P	0 - 20
2407547	Antimony	0.720	Spike	P	0 - 20
2407547	Arsenic	0.282	Spike	P	0 - 20
2407547	Barium	1.11	Spike	P	0 - 20
2407547	Beryllium	3.26	Spike	P	0 - 20
2407547	Boron	2.77	Spike	P	0 - 20
2407547	Cadmium	3.02	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407547	Chromium	1.90	Spike	P	0 - 20
2407547	Cobalt	1.56	Spike	P	0 - 20
2407547	Copper	0.574	Spike	P	0 - 20
2407547	Lead	1.26	Spike	P	0 - 20
2407547	Manganese	2.33	Spike	P	0 - 20
2407547	Molybdenum	0.642	Spike	P	0 - 20
2407547	Nickel	1.62	Spike	P	0 - 20
2407547	Selenium	0.332	Spike	P	0 - 20
2407547	Silver	0.983	Spike	P	0 - 20
2407547	Thallium	0.423	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2406042	Aluminum	2.53	Spike	P	0 - 20
2406042	Antimony	0.369	Spike	P	0 - 20
2406042	Arsenic	0.686	Spike	P	0 - 20
2406042	Beryllium	1.22	Spike	P	0 - 20
2406042	Cadmium	0.616	Spike	P	0 - 20
2406042	Chromium	0.403	Spike	P	0 - 20
2406042	Cobalt	0.876	Spike	P	0 - 20
2406042	Copper	4.51	Spike	P	0 - 20
2406042	Lead	0.283	Spike	P	0 - 20
2406042	Manganese	3.05	Spike	P	0 - 20
2406042	Molybdenum	2.72	Spike	P	0 - 20
2406042	Nickel	0.0195	Spike	P	0 - 20
2406042	Selenium	0.548	Spike	P	0 - 20
2406042	Silver	0.976	Spike	P	0 - 20
2406042	Thallium	1.75	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407586	Ammonia-N	0.810	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P429625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2405529	Kjeldahl Nitrogen	5.05	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430006

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

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407485	NO2NO3-N	1.86	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407586	Total-P	3.08	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P430119

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407776	Total Alkalinity	0.414	Sample	P	0 - 3.9

Reference Method: SM 4500-F- C-2011
Batch ID: P429888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2405381	Fluoride	0.531	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P429964

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409134	Organic Carbon	1.12	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P430151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410513	Organic Carbon	0.768	Spike	P	0 - 20

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A119049
Included Lab Sample IDs: 2407613, 2407614, 2407617

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A119098
Included Lab Sample IDs: 2407615, 2407616, 2407618

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A119099
Included Lab Sample IDs: 2407615, 2407616, 2407618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A119121
Included Lab Sample IDs: 2407629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.7	98.7	P/P	90 - 110
Antimony	101	101	P/P	90 - 110
Arsenic	98.6	96.3	P/P	90 - 110
Barium	101	99.2	P/P	90 - 110
Beryllium	96.6	96.1	P/P	90 - 110
Boron	98.9	103	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	98.4	97.9	P/P	90 - 110
Cobalt	102	101	P/P	90 - 110
Copper	96.0	94.3	P/P	90 - 110
Lead	104	103	P/P	90 - 110
Manganese	99.3	101	P/P	90 - 110
Molybdenum	98.2	96.8	P/P	90 - 110
Nickel	98.3	95.8	P/P	90 - 110
Selenium	100	98.3	P/P	90 - 110
Silver	104	103	P/P	90 - 110
Thallium	104	104	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A119125
Included Lab Sample IDs: 2407629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	98.8	P/P	90 - 110
Iron	103	99.8	P/P	90 - 110
Magnesium	102	98.6	P/P	90 - 110
Potassium	102	98.9	P/P	90 - 110
Sodium	102	101	P/P	90 - 110
Strontium	101	101	P/P	90 - 110
Tin	98.8	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A119125
Included Lab Sample IDs: 2407629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Titanium	99.7	99.9	P/P	90 - 110
Vanadium	99.2	99.3	P/P	90 - 110
Zinc	99.1	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A119126
Included Lab Sample IDs: 2407615, 2407616, 2407618

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

Reference Method: SM 4500-F- C-2011
Run ID: A119179
Included Lab Sample IDs: 2407613, 2407614, 2407617

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A119207
Included Lab Sample IDs: 2407626, 2407627, 2407628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	90 - 110
Calcium	102	102	P/P	90 - 110
Iron	101	99.0	P/P	90 - 110
Iron	99.0	98.8	P/P	90 - 110
Magnesium	101	98.8	P/P	90 - 110
Magnesium	98.8	98.9	P/P	90 - 110
Strontium	103	104	P/P	90 - 110
Strontium	104	103	P/P	90 - 110
Tin	102	104	P/P	90 - 110
Tin	104	102	P/P	90 - 110
Titanium	101	100	P/P	90 - 110
Titanium	99.5	101	P/P	90 - 110
Vanadium	100	102	P/P	90 - 110
Vanadium	102	101	P/P	90 - 110
Zinc	103	106	P/P	90 - 110
Zinc	106	106	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A119213
Included Lab Sample IDs: 2407615, 2407616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.8	94.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A119230
Included Lab Sample IDs: 2407615, 2407616, 2407618

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A119236
Included Lab Sample IDs: 2407626, 2407627, 2407628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	103	105	P/P	90 - 110
Arsenic	102	102	P/P	90 - 110
Beryllium	100	101	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Cobalt	102	101	P/P	90 - 110
Copper	98.1	98.1	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Molybdenum	98.9	100	P/P	90 - 110
Nickel	99.2	98.7	P/P	90 - 110
Selenium	101	103	P/P	90 - 110
Silver	102	103	P/P	90 - 110
Thallium	101	102	P/P	90 - 110
Thallium	102	102	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A119276
Included Lab Sample IDs: 2407613, 2407614, 2407617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.7	100	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A119300
Included Lab Sample IDs: 2407618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	92.6	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
EPA 180.1 Rev. 2.0	Turbidity	101					1.63	
	Turbidity	99.3					0.0	
EPA 200.7 Rev. 4.4	Calcium	103	102	102				1.54
	Calcium	103						2.94
	Iron	104	104	103	103			0.532
	Iron	103	103	102				0.604
	Magnesium	102	103	101				0.575
	Magnesium	101						2.98
	Potassium	103	103	103				1.50
	Sodium	101	103	103				2.14
	Strontium	103	101	103	102			1.88
	Strontium	104						1.08
	Tin	103	104	101	101			2.24
	Tin	103	85.6	89.7				4.67
	Titanium	101	99.6	102	102			2.32
	Titanium	101	103	104				0.222
	Vanadium	101	101	103	101			2.31
	Vanadium	103	105	103				1.06
	Zinc	103	104	104	104			0.247
	Zinc	108	107	106				0.982
EPA 200.8 Rev. 5.4	Aluminum	101	101	98.1	100			2.21
	Aluminum	103	106	103				2.53
	Antimony	104	103	102	102			0.720
	Antimony	105	111	111				0.369
	Arsenic	100	101	100	98.1			0.282
	Arsenic	102	113	112				0.686
	Barium	105	104	103	104			1.11
	Beryllium	95.3	97.0	93.9	97.2			3.26
	Beryllium	95.6	99.9	98.7				1.22
	Boron	105	103	98.4	106			2.77
	Cadmium	101	104	101	102			3.02
	Cadmium	102	101	102				0.616
	Chromium	97.9	96.4	94.6	98.1			1.90
	Chromium	103	102	102				0.403
	Cobalt	104	101	99.6	102			1.56
	Cobalt	103	95.5	96.4				0.876
	Copper	98.2	98.8	98.2	98.2			0.574
	Copper	99.3	101	96.3				4.51
	Lead	106	105	104	106			1.26
	Lead	104	107	106				0.283
	Manganese	99.2	97.0	93.6	101			2.33
	Manganese	105	100	96.2				3.05
	Molybdenum	98.9	101	99.7	98.7			0.642
	Molybdenum	101	115	111				2.72
	Nickel	99.3	97.0	95.4	97.3			1.62
	Nickel	100	95.1	95.0				0.0195
	Selenium	99.8	100	99.8	98.1			0.332
	Selenium	102	109	109				0.548
	Silver	106	104	103	105			0.983
	Silver	105	99.1	100				0.976
	Thallium	101	104	103	101			0.423
	Thallium	103	105	107				1.75
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	104	105				0.810
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	96.9	91.6				5.05

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104	106			1.86
EPA 365.1 Rev. 2.0	Total-P	99.7	91.4	94.3			3.08
SM 2320 B-2011	Total Alkalinity	99.0				0.414	
SM 2540 D-2015	TSS	97.4					
SM 4500-F- C-2011	Fluoride	100	104	105			0.531
SM 5310 B-2011	Organic Carbon	97.0	94.7	93.4			1.12
	Organic Carbon	98.4	91.2	92.2			0.768

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2407613, 2407614, 2407617
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2407626, 2407627, 2407628, 2407629
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2407626, 2407627, 2407628, 2407629
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2407615, 2407616, 2407618
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2407615, 2407616, 2407618
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2407615, 2407616, 2407618
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2407615, 2407616, 2407618
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2407613, 2407614, 2407617
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2407629
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2407613, 2407614, 2407617
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2407613, 2407614, 2407617
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2407615, 2407616, 2407618

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	05/09/2023			05/09/2023 13:08	Chandler E Cox	2407613, 2407614
	05/09/2023			05/09/2023 13:14	Chandler E Cox	2407617
EPA 200.7 Rev. 4.4	05/09/2023	05/10/2023 12:15	George D Taylor	05/11/2023 21:35	McKinley C Carter	2407629
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 03:49	McKinley C Carter	2407626
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 03:57	McKinley C Carter	2407626
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 04:32	McKinley C Carter	2407627
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 04:40	McKinley C Carter	2407627
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 04:48	McKinley C Carter	2407628
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 04:56	McKinley C Carter	2407628
EPA 200.8 Rev. 5.4	05/09/2023	05/10/2023 12:15	George D Taylor	05/11/2023 18:09	Conrad Hartmann	2407629
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 17:30	Conrad Hartmann	2407626
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 17:39	Conrad Hartmann	2407627
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 18:50	Conrad Hartmann	2407628
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 19:08	Conrad Hartmann	2407626
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 19:17	Conrad Hartmann	2407627
	05/09/2023	05/15/2023 13:50	George D Taylor	05/17/2023 19:26	Conrad Hartmann	2407628
EPA 350.1 Rev. 2.0	05/09/2023			05/11/2023 11:51	Khloe J Berg	2407615
	05/09/2023			05/11/2023 11:52	Khloe J Berg	2407616
	05/09/2023			05/11/2023 11:54	Khloe J Berg	2407618
EPA 351.2 Rev. 2.0	05/09/2023	05/10/2023 12:06	Dana G. Hughes	05/11/2023 11:25	Ping Hua	2407615
	05/09/2023	05/10/2023 12:06	Dana G. Hughes	05/11/2023 11:26	Ping Hua	2407616
	05/09/2023	05/10/2023 12:06	Dana G. Hughes	05/11/2023 11:28	Ping Hua	2407618
EPA 353.2 Rev. 2.0	05/09/2023			05/16/2023 14:08	Anna M. Plaviak	2407615
	05/09/2023			05/16/2023 14:09	Anna M. Plaviak	2407616
	05/09/2023			05/16/2023 14:10	Anna M. Plaviak	2407618
EPA 365.1 Rev. 2.0	05/09/2023	05/11/2023 15:10	Adam P Silver	05/12/2023 09:48	James L Waggerby	2407615
	05/09/2023	05/11/2023 15:10	Adam P Silver	05/12/2023 09:49	James L Waggerby	2407616
	05/09/2023	05/11/2023 15:10	Adam P Silver	05/12/2023 09:50	James L Waggerby	2407618
SM 2320 B-2011	05/09/2023			05/19/2023 10:41	Dale L. Simmons	2407613
	05/09/2023			05/19/2023 10:52	Dale L. Simmons	2407614
	05/09/2023			05/19/2023 11:03	Dale L. Simmons	2407617
SM 2340 B-2011	05/09/2023			05/11/2023 21:35	McKinley C Carter	2407629
SM 2540 D-2015	05/09/2023			05/10/2023 15:30	Yijie Li	2407613, 2407614, 2407617
SM 4500-F- C-2011	05/09/2023			05/16/2023 01:22	Dale L. Simmons	2407613
	05/09/2023			05/16/2023 01:27	Dale L. Simmons	2407614
	05/09/2023			05/16/2023 01:32	Dale L. Simmons	2407617
SM 5310 B-2011	05/09/2023			05/17/2023 05:10	Elise M. Gillis	2407615
	05/09/2023			05/17/2023 05:28	Elise M. Gillis	2407616
	05/09/2023			05/20/2023 03:51	Elise M. Gillis	2407618