

Chemical Analysis Report

NE-DIST-2022-06-10-01

Florida Department of Environmental Protection
Central Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

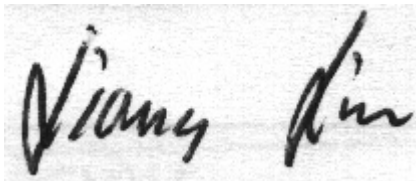
Event Description: **Nassau Suwannee Lakes**
Request ID: **RQ-2022-05-16-20**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 01-JUL-2022 10:35

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: OCEAN POND CENTER

Collection Date/Time: 06/09/2022 10:00

Field ID: 21010011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2333767	DEP SOP: NU-094-1	Color (true)**	170		PCU	P415060	
	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P415059	
	EPA 300.0 Rev. 2.1	Chloride	5.9		mg Cl/L	P415544	
		Sulfate	1.4		mg SO4/L	P415547	
	SM 2320 B-2011	Total Alkalinity	1.1	I	mg CaCO3/L	P415496	
	SM 2540 C-2011	TDS	41		mg/L	P415491	
	SM 2540 D-2011	TSS	2	I	mg/L	P415430	
2333769	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415752	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P415585	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P415163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P415855	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P415186	
2333779	SM 5310 B-2011	Organic Carbon	12		mg C/L	P415144	
	EPA 200.7 Rev. 4.4	Calcium	1.48		mg/L	P415073	
		Iron	800		ug/L	P415073	
		Magnesium	0.66		mg/L	P415073	
		Potassium	0.30	U	mg/L	P415073	
		Sodium	3.4		mg/L	P415073	
		Strontium	7.4	I	ug/L	P415073	
		Tin	3.0	U	ug/L	P415073	
		Titanium	2.7	I	ug/L	P415073	
		Vanadium	2.0	U	ug/L	P415073	
		Zinc	5.0	U	ug/L	P415073	
	EPA 200.8 Rev. 5.4	Aluminum	395		ug/L	P415073	
		Antimony	0.050	U	ug/L	P415073	
		Arsenic	0.60		ug/L	P415073	
		Barium	7.95		ug/L	P415073	
		Beryllium	0.010	U	ug/L	P415073	
		Boron**	17.3		ug/L	P415073	
		Cadmium	0.020	U	ug/L	P415073	
		Chromium	0.41	I	ug/L	P415073	
		Cobalt	0.194		ug/L	P415073	
		Copper	0.40	I	ug/L	P415073	
		Lead	0.96		ug/L	P415073	
		Manganese	18.3		ug/L	P415073	
		Molybdenum	0.15	U	ug/L	P415073	
		Nickel	0.50	U	ug/L	P415073	
		Selenium	0.20	U	ug/L	P415073	
		Silver	0.010	U	ug/L	P415073	
		Thallium	0.10	U	ug/L	P415073	
	SM 2340 B-2011	Hardness	6.4		mg/L	P415073	

Ref. Method and Comment:

SM 2540 D-2011: 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 06/14/2022.

Sample Location: PALESTINE LAKE CENTER

Collection Date/Time: 06/09/2022 10:55

Field ID: 19010044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2333768	DEP SOP: NU-094-1	Color (true)**	160		PCU	P415060	
	EPA 180.1 Rev. 2.0	Turbidity	7.1		NTU	P415059	
	EPA 300.0 Rev. 2.1	Chloride	6.8		mg Cl/L	P415544	
		Sulfate	2.6		mg SO4/L	P415547	
	SM 2320 B-2011	Total Alkalinity	1.4	I	mg CaCO3/L	P415496	
	SM 2540 C-2011	TDS	50		mg/L	P415491	
	SM 2540 D-2011	TSS	2	I	mg/L	P415430	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415752	
2333770	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P415585	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P415163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P415855	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P415186	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P415144	
2333780	EPA 200.7 Rev. 4.4	Calcium	1.76		mg/L	P415073	
		Iron	340		ug/L	P415073	
		Magnesium	1.10		mg/L	P415073	
		Potassium	0.43	I	mg/L	P415073	
		Sodium	4.0		mg/L	P415073	
		Strontium	9.8		ug/L	P415073	
		Tin	3.0	U	ug/L	P415073	
		Titanium	2.2	I	ug/L	P415073	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P415073	
		Zinc	5.0	U	ug/L	P415073	
		Aluminum	268		ug/L	P415073	
		Antimony	0.061	I	ug/L	P415073	
		Arsenic	0.38		ug/L	P415073	
		Barium	10.1		ug/L	P415073	
		Beryllium	0.010	U	ug/L	P415073	
		Boron**	20.8		ug/L	P415073	
		Cadmium	0.020	U	ug/L	P415073	
		Chromium	0.40	U	ug/L	P415073	
		Cobalt	0.125		ug/L	P415073	
		Copper	0.40	U	ug/L	P415073	
		Lead	0.74		ug/L	P415073	
		Manganese	21.3		ug/L	P415073	
		Molybdenum	0.15	U	ug/L	P415073	
		Nickel	0.50	U	ug/L	P415073	
		Selenium	0.20	U	ug/L	P415073	
	SM 2340 B-2011	Silver	0.010	U	ug/L	P415073	
		Thallium	0.10	U	ug/L	P415073	
		Hardness	8.9		mg/L	P415073	

Ref. Method and Comment:

SM 2540 D-2011: 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 06/14/2022.

Sample Location: FB_06092022

Collection Date/Time: 06/09/2022 11:00

Field ID: FB_06092022

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2333773	DEP SOP: NU-094-1	Color (true)**	2.5	U	PCU	P415061	
	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P415059	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P415544	
		Sulfate	0.20	U	mg SO4/L	P415547	
	SM 2320 B-2011	Total Alkalinity	1.0	U	mg CaCO3/L	P415496	
	SM 2540 C-2011	TDS	15	U	mg/L	P415490	
	SM 2540 D-2011	TSS	2	U	mg/L	P415429	
2333774	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P415752	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P415585	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P415163	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P415855	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P415186	
2333781	SM 5310 B-2011	Organic Carbon	2.1		mg C/L	P415362	
	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P415073	
		Iron	30	U	ug/L	P415073	
		Magnesium	0.040	U	mg/L	P415073	
		Potassium	0.30	U	mg/L	P415073	
		Sodium	0.50	U	mg/L	P415073	
		Strontium	2.0	U	ug/L	P415073	
		Tin	3.0	U	ug/L	P415073	
		Titanium	0.75	U	ug/L	P415073	
		Vanadium	2.0	U	ug/L	P415073	
		Zinc	5.0	U	ug/L	P415073	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P415073	
		Antimony	0.050	U	ug/L	P415073	
		Arsenic	0.050	U	ug/L	P415073	
		Barium	0.20	U	ug/L	P415073	
		Beryllium	0.010	U	ug/L	P415073	
		Boron**	2.0	U	ug/L	P415073	
		Cadmium	0.020	U	ug/L	P415073	
		Chromium	0.40	U	ug/L	P415073	
		Cobalt	0.020	U	ug/L	P415073	
		Copper	0.40	U	ug/L	P415073	
		Lead	0.20	U	ug/L	P415073	
		Manganese	0.10	U	ug/L	P415073	
		Molybdenum	0.15	U	ug/L	P415073	
		Nickel	0.50	U	ug/L	P415073	
		Selenium	0.20	U	ug/L	P415073	
		Silver	0.010	U	ug/L	P415073	
		Thallium	0.10	U	ug/L	P415073	

Ref. Method and Comment:

SM 2320 B-2011: The MDL was elevated due to analytical difficulties.

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

SM 5310 B-2011: The result was confirmed on 06/20/2022.

Sample Location: Lake Sampson Center

Collection Date/Time: 06/09/2022 12:10

Field ID: G1NE0936

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2333771	DEP SOP: NU-094-1	Color (true)**	110		PCU	P415060	
	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P415059	
	EPA 300.0 Rev. 2.1	Chloride	12	A	mg Cl/L	P415544	
		Sulfate	9.2	A	mg SO4/L	P415547	
	SM 2320 B-2011	Total Alkalinity	21		mg CaCO3/L	P415496	
	SM 2540 C-2011	TDS	96		mg/L	P415491	
	SM 2540 D-2011	TSS	4	I	mg/L	P415430	
	SM 4500-F- C-2011	Fluoride	0.048	I	mg F/L	P415752	
2333772	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P415585	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P415536	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P415858	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P415186	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P415144	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P415060

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P415061

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415059

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415073

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: P415073

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415544

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415547

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415585

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415163

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415536

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415855

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415186

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

Reference Method: SM 2320 B-2011
Batch ID: P415496

Component	Result	Code	Units
Total Alkalinity	1.0	U	mg CaCO3/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P415490

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P415491

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P415429

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P415430

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P415752

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P415144

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

Reference Method: SM 5310 B-2011
Batch ID: P415362

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: P415060

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: DEP SOP: NU-094-1
Batch ID: P415061

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.4		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	101		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	103		P	85 - 115
Sodium	102		P	85 - 115
Strontium	98.8		P	85 - 115
Tin	98.0		P	85 - 115
Titanium	99.0		P	85 - 115
Vanadium	92.6		P	85 - 115
Zinc	97.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.4		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	99.0		P	85 - 115
Barium	103		P	85 - 115
Beryllium	93.4		P	85 - 115
Boron	99.3		P	85 - 115
Cadmium	97.4		P	85 - 115
Chromium	97.1		P	85 - 115
Cobalt	104		P	85 - 115
Copper	97.6		P	85 - 115
Lead	100		P	85 - 115
Manganese	97.7		P	85 - 115
Molybdenum	99.0		P	85 - 115
Nickel	99.1		P	85 - 115
Selenium	98.0		P	85 - 115
Silver	105		P	85 - 115
Thallium	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415544

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415547

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415585

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: P415163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415536

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415855

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	95.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415186

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

Reference Method: SM 2320 B-2011
Batch ID: P415496

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P415752

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.7		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P415362

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P415073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333337	Calcium	102		P	80 - 120
2333337	Iron	102		P	80 - 120
2333337	Magnesium	102		P	80 - 120
2333337	Potassium	108		P	80 - 120
2333337	Sodium	101		P	80 - 120
2333337	Strontium	99.8		P	80 - 120
2333337	Tin	99.1		P	80 - 120
2333337	Titanium	103		P	80 - 120
2333337	Vanadium	94.9		P	80 - 120
2333337	Zinc	100		P	80 - 120
2333846	Calcium	100	103	P/P	80 - 120
2333846	Iron	99.7	100	P/P	80 - 120
2333846	Magnesium	100	101	P/P	80 - 120
2333846	Potassium	110	111	P/P	80 - 120
2333846	Sodium	103	104	P/P	80 - 120
2333846	Strontium	98.6	98.4	P/P	80 - 120
2333846	Tin	98.5	97.5	P/P	80 - 120
2333846	Titanium	99.5	100	P/P	80 - 120
2333846	Vanadium	92.2	93.0	P/P	80 - 120
2333846	Zinc	95.4	96.3	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P415073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333337	Aluminum	102		P	80 - 120
2333337	Antimony	102		P	80 - 120
2333337	Arsenic	99.3		P	80 - 120
2333337	Barium	105		P	80 - 120
2333337	Beryllium	92.7		P	80 - 120
2333337	Boron	103		P	80 - 120
2333337	Cadmium	102		P	80 - 120
2333337	Chromium	98.8		P	80 - 120
2333337	Cobalt	105		P	80 - 120
2333337	Copper	99.5		P	80 - 120
2333337	Lead	101		P	80 - 120
2333337	Manganese	101		P	80 - 120
2333337	Molybdenum	100		P	80 - 120
2333337	Nickel	98.9		P	80 - 120
2333337	Selenium	95.2		P	80 - 120
2333337	Silver	106		P	80 - 120
2333337	Thallium	103		P	80 - 120
2333846	Aluminum	99.5	99.4	P/P	80 - 120
2333846	Antimony	100	100	P/P	80 - 120
2333846	Arsenic	99.4	98.1	P/P	80 - 120
2333846	Barium	104	103	P/P	80 - 120
2333846	Beryllium	92.4	93.3	P/P	80 - 120
2333846	Boron	102	102	P/P	80 - 120
2333846	Cadmium	97.6	97.7	P/P	80 - 120
2333846	Chromium	95.5	97.0	P/P	80 - 120
2333846	Cobalt	102	102	P/P	80 - 120
2333846	Copper	96.7	96.2	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333846	Lead	100	101	P/P	80 - 120
2333846	Manganese	97.1	96.0	P/P	80 - 120
2333846	Molybdenum	98.8	98.4	P/P	80 - 120
2333846	Nickel	96.6	96.4	P/P	80 - 120
2333846	Selenium	97.7	95.1	P/P	80 - 120
2333846	Silver	104	103	P/P	80 - 120
2333846	Thallium	102	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333771	Chloride	96.5		P	90 - 110
2334322	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333771	Sulfate	95.6		P	90 - 110
2334322	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333672	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333643	Kjeldahl Nitrogen	104	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333641	NO2NO3-N	94.5	95.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333805	NO2NO3-N	92.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333803	Total-P	104	103	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P415752

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2334354	Fluoride	98.1	98.1	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P415144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333482	Organic Carbon	86.0	93.1	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P415362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2333840	Organic Carbon	94.1	94.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333686	Color (true)	2.97	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P415061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333796	Color (true)	0.893	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333656	Turbidity	7.48	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P415073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333846	Calcium	2.16	Spike	P	0 - 20
2333846	Iron	0.748	Spike	P	0 - 20
2333846	Magnesium	0.757	Spike	P	0 - 20
2333846	Potassium	0.691	Spike	P	0 - 20
2333846	Sodium	0.393	Spike	P	0 - 20
2333846	Strontium	0.182	Spike	P	0 - 20
2333846	Tin	0.951	Spike	P	0 - 20
2333846	Titanium	0.820	Spike	P	0 - 20
2333846	Vanadium	0.867	Spike	P	0 - 20
2333846	Zinc	0.953	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333846	Aluminum	0.0722	Spike	P	0 - 20
2333846	Antimony	0.0323	Spike	P	0 - 20
2333846	Arsenic	1.28	Spike	P	0 - 20
2333846	Barium	0.214	Spike	P	0 - 20
2333846	Beryllium	0.960	Spike	P	0 - 20
2333846	Boron	0.213	Spike	P	0 - 20
2333846	Cadmium	0.0798	Spike	P	0 - 20
2333846	Chromium	1.53	Spike	P	0 - 20
2333846	Cobalt	0.830	Spike	P	0 - 20
2333846	Copper	0.598	Spike	P	0 - 20
2333846	Lead	0.308	Spike	P	0 - 20
2333846	Manganese	0.938	Spike	P	0 - 20
2333846	Molybdenum	0.417	Spike	P	0 - 20
2333846	Nickel	0.216	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P415073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333846	Selenium	2.74	Spike	P	0 - 20
2333846	Silver	1.37	Spike	P	0 - 20
2333846	Thallium	0.661	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333771	Chloride	0.210	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P415547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333771	Sulfate	0.649	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P415585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333672	Ammonia-N	0.478	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333643	Kjeldahl Nitrogen	0.189	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P415536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333672	Kjeldahl Nitrogen	5.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333641	NO2NO3-N	0.692	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P415858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333805	NO2NO3-N	0.220	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P415186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333803	Total-P	0.858	Spike	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P415496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333516	Total Alkalinity	0.627	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P415490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333231	TDS	3.17	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P415491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333684	TDS	6.80	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P415752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2334354	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P415144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333482	Organic Carbon	6.07	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P415362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2333840	Organic Carbon	0.604	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A112748

Included Lab Sample IDs: 2333767, 2333768, 2333771, 2333773

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

Reference Method: DEP SOP: NU-094-1

Run ID: A112750

Included Lab Sample IDs: 2333767, 2333768, 2333771, 2333773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	85 - 115
Color (true)	101	101	P/P	85 - 115
Color (true)	103	101	P/P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A112787

Included Lab Sample IDs: 2333779, 2333780, 2333781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.3	95.9	P/P	90 - 110
Aluminum	97.7	98.2	P/P	90 - 110
Antimony	98.4	97.8	P/P	90 - 110
Antimony	98.7	98.8	P/P	90 - 110
Arsenic	97.5	97.4	P/P	90 - 110
Arsenic	99.6	98.8	P/P	90 - 110
Barium	98.8	97.9	P/P	90 - 110
Barium	98.9	98.6	P/P	90 - 110
Beryllium	95.2	95.0	P/P	90 - 110
Beryllium	96.0	96.3	P/P	90 - 110
Boron	94.7	95.0	P/P	90 - 110
Boron	98.0	99.2	P/P	90 - 110
Cadmium	97.3	98.0	P/P	90 - 110
Cadmium	98.9	97.3	P/P	90 - 110
Chromium	96.8	97.4	P/P	90 - 110
Chromium	96.8	97.0	P/P	90 - 110
Cobalt	101	101	P/P	90 - 110
Cobalt	102	102	P/P	90 - 110
Copper	95.8	95.8	P/P	90 - 110
Copper	97.2	97.7	P/P	90 - 110
Lead	98.1	98.5	P/P	90 - 110
Lead	98.4	97.8	P/P	90 - 110
Manganese	96.3	97.7	P/P	90 - 110
Manganese	98.2	97.7	P/P	90 - 110
Molybdenum	97.3	97.2	P/P	90 - 110
Molybdenum	98.0	97.6	P/P	90 - 110
Nickel	96.9	96.6	P/P	90 - 110
Nickel	97.6	97.9	P/P	90 - 110
Selenium	94.8	96.3	P/P	90 - 110
Selenium	98.0	98.3	P/P	90 - 110
Silver	103	104	P/P	90 - 110
Silver	105	104	P/P	90 - 110
Thallium	96.4	95.2	P/P	90 - 110
Thallium	96.6	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A112800

Included Lab Sample IDs: 2333769, 2333770, 2333772

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	96.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A112806

Included Lab Sample IDs: 2333779, 2333780, 2333781

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	99.3	P/P	95 - 105
Calcium	96.9	97.6	P/P	90 - 110
Iron	102	100	P/P	95 - 105
Iron	96.7	96.5	P/P	90 - 110
Iron	99.6	96.7	P/P	90 - 110
Magnesium	101	99.6	P/P	95 - 105
Magnesium	96.5	96.3	P/P	90 - 110
Potassium	103	99.0	P/P	90 - 110
Potassium	104	102	P/P	95 - 105
Potassium	99.0	99.3	P/P	90 - 110
Sodium	100	97.7	P/P	90 - 110
Sodium	102	100	P/P	95 - 105
Sodium	97.7	98.6	P/P	90 - 110
Strontium	100	98.7	P/P	95 - 105
Strontium	96.2	96.5	P/P	90 - 110
Strontium	98.3	96.2	P/P	90 - 110
Tin	96.7	95.2	P/P	90 - 110
Tin	97.5	96.7	P/P	90 - 110
Tin	99.7	98.9	P/P	95 - 105
Titanium	96.1	97.0	P/P	90 - 110
Titanium	97.0	93.8	P/P	90 - 110
Titanium	98.2	97.1	P/P	95 - 105
Vanadium	101	98.8	P/P	95 - 105
Vanadium	96.8	96.5	P/P	90 - 110
Vanadium	97.9	96.8	P/P	90 - 110
Zinc	95.8	96.5	P/P	90 - 110
Zinc	96.5	94.2	P/P	90 - 110
Zinc	99.1	97.6	P/P	95 - 105

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A112823

Included Lab Sample IDs: 2333779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	97.4	P/P	95 - 105
Magnesium	103	99.2	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A112889

Included Lab Sample IDs: 2333769, 2333770, 2333774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.1	94.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A112896

Included Lab Sample IDs: 2333774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A112938

Included Lab Sample IDs: 2333769, 2333770, 2333772, 2333774

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

Reference Method: SM 2320 B-2011

Run ID: A112951

Included Lab Sample IDs: 2333767, 2333768, 2333771, 2333773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A112976

Included Lab Sample IDs: 2333767, 2333768, 2333771, 2333773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	99.9	P/P	90 - 110
Sulfate	99.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A112990

Included Lab Sample IDs: 2333769, 2333770, 2333772, 2333774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	98.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A113064

Included Lab Sample IDs: 2333767, 2333768, 2333771, 2333773

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113073

Included Lab Sample IDs: 2333772

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

Quality Assurance Report

Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113128

Included Lab Sample IDs: 2333769, 2333770, 2333772, 2333774

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.5	94.5	P/P	90 - 110
NO2NO3-N	99.0	96.5	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 SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	102				2.97	
	Color (true)	104				0.893	
EPA 180.1 Rev. 2.0	Turbidity	96.4				7.48	
EPA 200.7 Rev. 4.4	Calcium	103	100	102	103		2.16
	Iron	101	102	99.7	100		0.748
	Magnesium	102	102	100	101		0.757
	Potassium	103	108	110	111		0.691
	Sodium	102	101	103	104		0.393
	Strontium	98.8	99.8	98.6	98.4		0.182
	Tin	98.0	99.1	98.5	97.5		0.951
	Titanium	99.0	103	99.5	100		0.820
	Vanadium	92.6	94.9	92.2	93.0		0.867
	Zinc	97.7	100	95.4	96.3		0.953
EPA 200.8 Rev. 5.4	Aluminum	98.4	99.5	99.4	102		0.0722
	Antimony	100	100	100	102		0.0323
	Arsenic	99.0	99.4	98.1	99.3		1.28
	Barium	103	104	103	105		0.214
	Beryllium	93.4	92.4	93.3	92.7		0.960
	Boron	99.3	102	102	103		0.213
	Cadmium	97.4	97.6	97.7	102		0.0798
	Chromium	97.1	95.5	97.0	98.8		1.53
	Cobalt	104	102	102	105		0.830
	Copper	97.6	96.7	96.2	99.5		0.598
	Lead	100	100	101	101		0.308
	Manganese	97.7	97.1	96.0	101		0.938
	Molybdenum	99.0	98.8	98.4	100		0.417
	Nickel	99.1	96.6	96.4	98.9		0.216
	Selenium	98.0	97.7	95.1	95.2		2.74
	Silver	105	104	103	106		1.37
	Thallium	100	102	103	103		0.661
EPA 300.0 Rev. 2.1	Chloride	97.5	96.5	98.3		0.210	
	Sulfate	97.5	95.6	98.2		0.649	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	101	100			0.478
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.0	104	105			0.189
	Kjeldahl Nitrogen	103					5.12
EPA 353.2 Rev. 2.0	NO2NO3-N	97.5	94.5	95.5			0.692
	NO2NO3-N	95.0	92.0				0.220
EPA 365.1 Rev. 2.0	Total-P	103	104	103			0.858
SM 2320 B-2011	Total Alkalinity	105				0.627	
SM 2540 C-2011	TDS					3.17	
	TDS					6.80	
SM 4500-F- C-2011	Fluoride	96.9	98.1	98.1			0.0
SM 5310 B-2011	Organic Carbon	92.7	86.0	93.1			6.07
	Organic Carbon	93.7	94.1	94.8			0.604

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2333767, 2333768, 2333771, 2333773
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2333767, 2333768, 2333771, 2333773
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2333779, 2333780, 2333781

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	2333779, 2333780, 2333781
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2333767, 2333768, 2333771, 2333773
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2333767, 2333768, 2333771, 2333773
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2333769, 2333770, 2333772, 2333774
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2333769, 2333770, 2333772, 2333774
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2333769, 2333770, 2333772, 2333774
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2333769, 2333770, 2333772, 2333774
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2333767, 2333768, 2333771, 2333773
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2333779, 2333780
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2333767, 2333768, 2333771, 2333773
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2333767, 2333768, 2333771, 2333773
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2333767, 2333768, 2333771, 2333773
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2333769, 2333770, 2333772, 2333774

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	06/10/2022			06/10/2022 14:24	Blanca Fach	2333771
	06/10/2022			06/10/2022 14:29	Blanca Fach	2333773
	06/10/2022			06/10/2022 14:40	Blanca Fach	2333767, 2333768
EPA 180.1 Rev. 2.0	06/10/2022			06/10/2022 13:57	Anna M. Plaviak	2333767
	06/10/2022			06/10/2022 13:58	Anna M. Plaviak	2333768
	06/10/2022			06/10/2022 13:59	Anna M. Plaviak	2333771
	06/10/2022			06/10/2022 14:04	Anna M. Plaviak	2333773
EPA 200.7 Rev. 4.4	06/10/2022	06/12/2022 10:44	Emily M Philpot	06/13/2022 14:25	McKinley C Carter	2333781
	06/10/2022	06/12/2022 10:44	Emily M Philpot	06/13/2022 17:39	McKinley C Carter	2333779
	06/10/2022	06/12/2022 10:44	Emily M Philpot	06/13/2022 18:42	McKinley C Carter	2333780
	06/10/2022	06/12/2022 10:44	Emily M Philpot	06/14/2022 15:29	McKinley C Carter	2333779
EPA 200.8 Rev. 5.4	06/10/2022	06/12/2022 10:44	Emily M Philpot	06/13/2022 15:33	Emily M Philpot	2333781
	06/10/2022	06/12/2022 10:44	Emily M Philpot	06/13/2022 19:37	Emily M Philpot	2333779
	06/10/2022	06/12/2022 10:44	Emily M Philpot	06/13/2022 19:46	Emily M Philpot	2333780
EPA 300.0 Rev. 2.1	06/10/2022			06/21/2022 15:46	Anna M. Plaviak	2333771
	06/10/2022			06/21/2022 17:34	Anna M. Plaviak	2333767
	06/10/2022			06/21/2022 17:46	Anna M. Plaviak	2333768
	06/10/2022			06/21/2022 17:58	Anna M. Plaviak	2333773
EPA 350.1 Rev. 2.0	06/10/2022			06/22/2022 14:57	Judith K. Clark	2333769
	06/10/2022			06/22/2022 14:59	Judith K. Clark	2333770
	06/10/2022			06/22/2022 15:00	Judith K. Clark	2333772
	06/10/2022			06/22/2022 15:01	Judith K. Clark	2333774
EPA 351.2 Rev. 2.0	06/10/2022	06/16/2022 09:51	Samantha L Bates	06/16/2022 17:30	Alexandra J Mattheus	2333769
	06/10/2022	06/16/2022 09:51	Samantha L Bates	06/16/2022 17:32	Alexandra J Mattheus	2333770
	06/10/2022	06/16/2022 09:51	Samantha L Bates	06/16/2022 17:34	Alexandra J Mattheus	2333774
	06/10/2022	06/23/2022 16:39	Samantha L Bates	06/24/2022 15:53	Alexandra J Mattheus	2333772
EPA 353.2 Rev. 2.0	06/10/2022			06/28/2022 09:00	Beverly Y. Sanders	2333769
	06/10/2022			06/28/2022 09:01	Beverly Y. Sanders	2333770
	06/10/2022			06/28/2022 09:02	Beverly Y. Sanders	2333774
	06/10/2022			06/28/2022 09:26	Beverly Y. Sanders	2333772
EPA 365.1 Rev. 2.0	06/10/2022	06/15/2022 11:23	Simonne.V. Calhoun	06/20/2022 16:48	James L Waggeberby	2333774
	06/10/2022	06/15/2022 11:23	Simonne.V. Calhoun	06/20/2022 16:51	James L Waggeberby	2333769
	06/10/2022	06/15/2022 11:23	Simonne.V. Calhoun	06/20/2022 16:52	James L Waggeberby	2333770
	06/10/2022	06/15/2022 11:23	Simonne.V. Calhoun	06/20/2022 16:59	James L Waggeberby	2333772
SM 2320 B-2011	06/10/2022			06/18/2022 22:31	Dale L. Simmons	2333767
	06/10/2022			06/18/2022 22:36	Dale L. Simmons	2333768
	06/10/2022			06/18/2022 22:46	Dale L. Simmons	2333771
	06/10/2022			06/18/2022 22:52	Dale L. Simmons	2333773
SM 2340 B-2011	06/10/2022			06/13/2022 18:42	McKinley C Carter	2333780
	06/10/2022			06/14/2022 15:29	McKinley C Carter	2333779

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2011	06/10/2022			06/14/2022 14:14	Yijie Li	2333767, 2333768, 2333771, 2333773
SM 2540 D-2011	06/10/2022			06/14/2022 14:14	Yijie Li	2333767, 2333768, 2333771, 2333773
SM 4500-F- C-2011	06/10/2022			06/23/2022 00:41	Dale L. Simmons	2333767
	06/10/2022			06/23/2022 00:50	Dale L. Simmons	2333768
	06/10/2022			06/23/2022 01:40	Dale L. Simmons	2333771
	06/10/2022			06/23/2022 01:49	Dale L. Simmons	2333773
SM 5310 B-2011	06/10/2022			06/14/2022 05:42	Judith K. Clark	2333769
	06/10/2022			06/14/2022 05:57	Judith K. Clark	2333770
	06/10/2022			06/14/2022 06:12	Judith K. Clark	2333772
	06/10/2022			06/16/2022 22:21	Khloe J Berg	2333774