

Chemical Analysis Report

NE-DIST-2021-10-27-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Nassau North**
Request ID: **RQ-2021-10-25-14**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 19-NOV-2021 15:13



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: Mills CR @ CR 115

Collection Date/Time: 10/26/2021 10:20

Field ID: 19010097

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286300	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P405687	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P406037	
		Sulfate	6.1		mg SO4/L	P406040	
	SM 2120 B-2011	Color (true)	320		PCU	P405684	
	SM 2320 B-2011	Total Alkalinity	6.0		mg CaCO3/L	P405794	
	SM 2540 C-2011	TDS	98		mg/L	P406284	
	SM 2540 D-2011	TSS	5	I	mg/L	P406278	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P405796	
2286303	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P406064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P405823	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P405757	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P405868	
	SM 5310 B-2011	Organic Carbon	25		mg C/L	P405837	
2286306	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P405679	
2286322	EPA 200.7 Rev. 4.4	Barium	22.7		ug/L	P405731	
		Calcium	5.93		mg/L	P405731	
		Iron	1.98E+03		ug/L	P405731	
		Magnesium	1.61		mg/L	P405731	
		Manganese	8.9		ug/L	P405731	
		Potassium	1.9		mg/L	P405731	
		Sodium	6.8		mg/L	P405731	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P405731	
		Aluminum	538		ug/L	P405731	
		Antimony	0.050	U	ug/L	P405731	
		Arsenic	0.62		ug/L	P405731	
		Beryllium	0.030	I	ug/L	P405731	
		Boron**	21.3		ug/L	P405731	
		Cadmium	0.020	U	ug/L	P405731	
		Chromium	0.56	I	ug/L	P405731	
		Copper	0.40	U	ug/L	P405731	
		Lead	0.60		ug/L	P405731	
		Nickel	0.56	I	ug/L	P405731	
		Selenium	0.20	U	ug/L	P405731	
		Silver	0.010	U	ug/L	P405731	
		Thallium	0.10	U	ug/L	P405731	
		Hardness	21.4		mg/L	P405731	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 11/03/2021.

Sample Location: Mills Creek at US 301/US1

Collection Date/Time: 10/26/2021 09:50

Field ID: 19020048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286325	EPA 200.7 Rev. 4.4	Barium	25.6		ug/L	P405731	
		Calcium	6.01		mg/L	P405731	
		Iron	2.41E+03		ug/L	P405731	
		Magnesium	1.98		mg/L	P405731	
		Manganese	32.6		ug/L	P405731	
		Potassium	2.2		mg/L	P405731	
		Sodium	8.2		mg/L	P405731	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P405731	
		Aluminum	438		ug/L	P405731	
		Antimony	0.050	U	ug/L	P405731	
		Arsenic	0.70		ug/L	P405731	
		Beryllium	0.036	I	ug/L	P405731	
		Boron**	25.4		ug/L	P405731	
		Cadmium	0.020	U	ug/L	P405731	
		Chromium	0.66	I	ug/L	P405731	
		Copper	0.40	U	ug/L	P405731	
		Lead	0.54		ug/L	P405731	
		Nickel	0.65	I	ug/L	P405731	
		Selenium	0.20	U	ug/L	P405731	
		Silver	0.010	U	ug/L	P405731	
		Thallium	0.10	U	ug/L	P405731	
	SM 2340B	Hardness	23.2		mg/L	P405731	

Ref. Method and Comment:

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 11/03/2021.

Sample Location: Creek Draining Former Hampton lake 100m above Rd

Collection Date/Time: 10/26/2021 11:05

Field ID: G4NE0292

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286309	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P405687	
	EPA 300.0 Rev. 2.1	Chloride	9.2		mg Cl/L	P406037	
		Sulfate	2.9		mg SO4/L	P406040	
	SM 2120 B-2011	Color (true)	180		PCU	P405685	
	SM 2320 B-2011	Total Alkalinity	6.3		mg CaCO3/L	P405794	
	SM 2540 C-2011	TDS	62		mg/L	P406284	
	SM 2540 D-2011	TSS	2	I	mg/L	P406278	
2286310	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P405796	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P406064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P405823	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P405757	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P405868	
2286311	SM 5310 B-2011	Organic Carbon	15		mg C/L	P405837	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.009	I	mg P/L	P405679	
2286328	EPA 200.7 Rev. 4.4	Barium	17.1		ug/L	P405731	
		Calcium	4.42		mg/L	P405731	
		Iron	950		ug/L	P405731	
		Magnesium	1.06		mg/L	P405731	
		Manganese	6.0		ug/L	P405731	
		Potassium	1.1	I	mg/L	P405731	
		Sodium	5.3		mg/L	P405731	
		Zinc	5.0	U	ug/L	P405731	
	EPA 200.8 Rev. 5.4	Aluminum	274		ug/L	P405731	
		Antimony	0.050	U	ug/L	P405731	
		Arsenic	0.44		ug/L	P405731	
		Beryllium	0.022	I	ug/L	P405731	
		Boron**	19.7		ug/L	P405731	
		Cadmium	0.020	U	ug/L	P405731	
		Chromium	0.45	I	ug/L	P405731	
		Copper	0.40	U	ug/L	P405731	
		Lead	0.42		ug/L	P405731	
		Nickel	0.50	U	ug/L	P405731	
		Selenium	0.20	U	ug/L	P405731	
		Silver	0.010	U	ug/L	P405731	
		Thallium	0.10	U	ug/L	P405731	
	SM 2340B	Hardness	15.4		mg/L	P405731	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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.

Sample Location: Pigeon creek at US 1

Collection Date/Time: 10/26/2021 11:25

Field ID: 19010099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286326	EPA 200.7 Rev. 4.4	Barium	17.9		ug/L	P405731	
		Calcium	4.55		mg/L	P405731	
		Iron	970		ug/L	P405731	
		Magnesium	1.09		mg/L	P405731	
		Manganese	7.9		ug/L	P405731	
		Potassium	1.5		mg/L	P405731	
		Sodium	5.4		mg/L	P405731	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P405731	
		Aluminum	265		ug/L	P405731	
		Antimony	0.050	U	ug/L	P405731	
		Arsenic	0.44		ug/L	P405731	
		Beryllium	0.018	I	ug/L	P405731	
		Boron**	19.5		ug/L	P405731	
		Cadmium	0.020	U	ug/L	P405731	
		Chromium	0.72	I	ug/L	P405731	
		Copper	0.40	U	ug/L	P405731	
		Lead	0.36	I	ug/L	P405731	
		Nickel	0.69	I	ug/L	P405731	
		Selenium	0.20	U	ug/L	P405731	
		Silver	0.010	U	ug/L	P405731	
		Thallium	0.10	U	ug/L	P405731	
	SM 2340B	Hardness	15.9		mg/L	P405731	

Sample Location: Pigeon Creek @ Andrews Rd

Collection Date/Time: 10/26/2021 11:45

Field ID: 19010098

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286301	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P405687	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P406037	
		Sulfate	1.7		mg SO4/L	P406040	
	SM 2120 B-2011	Color (true)	360		PCU	P405684	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P405794	
	SM 2540 C-2011	TDS	74		mg/L	P406284	
	SM 2540 D-2011	TSS	3	I	mg/L	P406278	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P405796	
2286304	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P406064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P405823	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P405757	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P405868	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P405837	
2286307	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P405679	
2286323	EPA 200.7 Rev. 4.4	Barium	13.7		ug/L	P405731	
		Calcium	1.91		mg/L	P405731	
		Iron	2.17E+03		ug/L	P405731	
		Magnesium	0.80		mg/L	P405731	
		Manganese	12.2		ug/L	P405731	
		Potassium	1.2		mg/L	P405731	
		Sodium	7.0		mg/L	P405731	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P405731	
		Aluminum	410		ug/L	P405731	
		Antimony	0.050	U	ug/L	P405731	
		Arsenic	0.52		ug/L	P405731	
		Beryllium	0.020	I	ug/L	P405731	
		Boron**	19.2		ug/L	P405731	
		Cadmium	0.020	U	ug/L	P405731	
		Chromium	0.50	I	ug/L	P405731	
		Copper	0.40	U	ug/L	P405731	
		Lead	0.83		ug/L	P405731	
		Nickel	0.50	U	ug/L	P405731	
		Selenium	0.20	U	ug/L	P405731	
		Silver	0.010	U	ug/L	P405731	
		Thallium	0.10	U	ug/L	P405731	
	SM 2340B	Hardness	8.1		mg/L	P405731	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 11/03/2021.

Sample Location: Little St Marys @ CR 121A

Collection Date/Time: 10/26/2021 12:25

Field ID: 19010046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286302	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P405687	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P406037	
		Sulfate	7.1		mg SO4/L	P406040	
	SM 2120 B-2011	Color (true)	240		PCU	P405684	
	SM 2320 B-2011	Total Alkalinity	22		mg CaCO3/L	P405794	
	SM 2540 C-2011	TDS	123		mg/L	P406284	
	SM 2540 D-2011	TSS	3	I	mg/L	P406278	
	SM 4500 F-C-2011	Fluoride	0.049	I	mg F/L	P405796	
2286305	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P406064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P405823	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P405757	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P405868	
	SM 5310 B-2011	Organic Carbon	27		mg C/L	P405837	
2286308	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P405679	
2286324	EPA 200.7 Rev. 4.4	Barium	28.8		ug/L	P405731	
		Calcium	11.0		mg/L	P405731	
		Iron	1.17E+03		ug/L	P405731	
		Magnesium	3.46		mg/L	P405731	
		Manganese	161		ug/L	P405731	
		Potassium	2.2		mg/L	P405731	
		Sodium	10.0		mg/L	P405731	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P405731	
		Aluminum	218		ug/L	P405731	
		Antimony	0.050	U	ug/L	P405731	
		Arsenic	0.64		ug/L	P405731	
		Beryllium	0.030	I	ug/L	P405731	
		Boron**	30.8		ug/L	P405731	
		Cadmium	0.020	U	ug/L	P405731	
		Chromium	0.48	I	ug/L	P405731	
		Copper	0.40	U	ug/L	P405731	
		Lead	0.47		ug/L	P405731	
		Nickel	0.50	U	ug/L	P405731	
		Selenium	0.20	U	ug/L	P405731	
		Silver	0.010	U	ug/L	P405731	
		Thallium	0.10	U	ug/L	P405731	
	SM 2340B	Hardness	41.8		mg/L	P405731	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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.

Sample Location: Little St Mary's River at White Oak Rd

Collection Date/Time: 10/26/2021 13:05

Field ID: G4NE0289

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2286327	EPA 200.7 Rev. 4.4	Barium	15.1		ug/L	P405731	
		Calcium	4.60		mg/L	P405731	
		Iron	1.12E+03		ug/L	P405731	
		Magnesium	2.95		mg/L	P405731	
		Manganese	19.3		ug/L	P405731	
		Potassium	1.0	I	mg/L	P405731	
		Sodium	15.1		mg/L	P405731	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P405731	
		Aluminum	531		ug/L	P405731	
		Antimony	0.050	U	ug/L	P405731	
		Arsenic	0.53		ug/L	P405731	
		Beryllium	0.042		ug/L	P405731	
		Boron**	21.9		ug/L	P405731	
		Cadmium	0.020	U	ug/L	P405731	
		Chromium	0.63	I	ug/L	P405731	
		Copper	0.40	U	ug/L	P405731	
		Lead	0.78		ug/L	P405731	
		Nickel	0.55	I	ug/L	P405731	
		Selenium	0.20	U	ug/L	P405731	
		Silver	0.010	U	ug/L	P405731	
		Thallium	0.10	U	ug/L	P405731	
	SM 2340B	Hardness	23.6		mg/L	P405731	

Ref. Method and Comment:

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 11/03/2021.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405687

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405731

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P405731

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
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	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: P406037

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406064

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405823

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405757

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405868

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405679

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

Reference Method: SM 2120 B-2011
Batch ID: P405684

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P405685

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P405794

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

Reference Method: SM 2540 C-2011
Batch ID: P406284

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P406278

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P405796

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405837

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405731

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	106		P	85 - 115
Iron	104		P	85 - 115
Magnesium	106		P	85 - 115
Manganese	101		P	85 - 115
Potassium	102		P	85 - 115
Sodium	104		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P405731

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.8		P	80 - 120
Antimony	100		P	80 - 120
Arsenic	98.0		P	80 - 120
Beryllium	98.2		P	80 - 120
Boron	96.5		P	80 - 120
Cadmium	96.2		P	80 - 120
Chromium	94.7		P	80 - 120
Copper	96.9		P	80 - 120
Lead	96.9		P	80 - 120
Nickel	97.3		P	80 - 120
Selenium	97.5		P	80 - 120
Silver	98.4		P	80 - 120
Thallium	98.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406037

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406064

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405823

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405868

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.9		P	90 - 110

Reference Method: SM 2120 B-2011
Batch ID: P405684

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P405685

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.5		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P405794

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P405796

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P405837

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405731

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285813	Barium	104		P	80 - 120
2285813	Calcium	106		P	80 - 120
2285813	Iron	106		P	80 - 120
2285813	Magnesium	109		P	80 - 120
2285813	Manganese	104		P	80 - 120
2285813	Potassium	108		P	80 - 120
2285813	Sodium	102		P	80 - 120
2285813	Zinc	105		P	80 - 120
2286487	Barium	104	103	P/P	80 - 120
2286487	Calcium	105	107	P/P	80 - 120
2286487	Iron	110	111	P/P	80 - 120
2286487	Magnesium	112	114	P/P	80 - 120
2286487	Manganese	109	108	P/P	80 - 120
2286487	Potassium	99.2	101	P/P	80 - 120
2286487	Sodium	102	102	P/P	80 - 120
2286487	Zinc	113	111	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405731

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285813	Aluminum	101		P	80 - 120
2285813	Antimony	102		P	80 - 120
2285813	Arsenic	97.8		P	80 - 120
2285813	Beryllium	97.5		P	80 - 120
2285813	Boron	101		P	80 - 120
2285813	Cadmium	97.2		P	80 - 120
2285813	Chromium	95.5		P	80 - 120
2285813	Copper	97.8		P	80 - 120
2285813	Lead	100		P	80 - 120
2285813	Nickel	96.2		P	80 - 120
2285813	Selenium	95.9		P	80 - 120
2285813	Silver	101		P	80 - 120
2285813	Thallium	102		P	80 - 120
2286487	Aluminum	100	102	P/P	80 - 120
2286487	Antimony	102	102	P/P	80 - 120
2286487	Arsenic	98.3	99.1	P/P	80 - 120
2286487	Beryllium	94.0	94.5	P/P	80 - 120
2286487	Boron	99.4	101	P/P	80 - 120
2286487	Cadmium	98.6	99.8	P/P	80 - 120
2286487	Chromium	96.1	95.7	P/P	80 - 120
2286487	Copper	98.3	98.8	P/P	80 - 120
2286487	Lead	98.7	98.7	P/P	80 - 120
2286487	Nickel	97.4	97.0	P/P	80 - 120
2286487	Selenium	97.6	97.6	P/P	80 - 120
2286487	Silver	99.0	99.1	P/P	80 - 120
2286487	Thallium	99.5	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P406037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285877	Chloride	98.9		P	90 - 110
2286184	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P406040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285877	Sulfate	101		P	90 - 110
2286184	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P406064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286384	Ammonia-N	96.4	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286295	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286393	Total-P	108	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286296	O-Phosphate-P	98.5	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P405796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286264	Fluoride	98.7	98.7	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P405837

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2286384	Organic Carbon	97.8	98.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P405687

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286189	Turbidity	1.85	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405731

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286487	Barium	0.960	Spike	P	0 - 20
2286487	Calcium	1.42	Spike	P	0 - 20
2286487	Iron	1.58	Spike	P	0 - 20
2286487	Magnesium	1.50	Spike	P	0 - 20
2286487	Manganese	1.21	Spike	P	0 - 20
2286487	Potassium	1.02	Spike	P	0 - 20
2286487	Sodium	0.359	Spike	P	0 - 20
2286487	Zinc	2.06	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405731

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286487	Aluminum	1.87	Spike	P	0 - 20
2286487	Antimony	0.454	Spike	P	0 - 20
2286487	Arsenic	0.832	Spike	P	0 - 20
2286487	Beryllium	0.365	Spike	P	0 - 20
2286487	Boron	1.65	Spike	P	0 - 20
2286487	Cadmium	1.17	Spike	P	0 - 20
2286487	Chromium	0.408	Spike	P	0 - 20
2286487	Copper	0.522	Spike	P	0 - 20
2286487	Lead	0.0542	Spike	P	0 - 20
2286487	Nickel	0.321	Spike	P	0 - 20
2286487	Selenium	0.0669	Spike	P	0 - 20
2286487	Silver	0.110	Spike	P	0 - 20
2286487	Thallium	1.62	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P406037

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285877	Chloride	0.751	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P406064

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286384	Ammonia-N	1.21	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286295	Kjeldahl Nitrogen	5.77	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286295	NO2NO3-N	1.00	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286393	Total-P	2.12	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286296	O-Phosphate-P	0.713	Spike	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P405684

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286184	Color (true)	0.357	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P405685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286383	Color (true)	1.20	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P405794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286264	Total Alkalinity	0.0802	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P406284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286184	TDS	8.85	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P405796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286264	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P405837

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2286384	Organic Carbon	0.398	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108565

Included Lab Sample IDs: 2286306, 2286307, 2286308, 2286311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.6	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A108567

Included Lab Sample IDs: 2286300, 2286301, 2286302, 2286309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115
Color (true)	101	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108569

Included Lab Sample IDs: 2286300, 2286301, 2286302, 2286309

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108614

Included Lab Sample IDs: 2286303, 2286304, 2286305, 2286310

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

Reference Method: SM 2320 B-2011

Run ID: A108642

Included Lab Sample IDs: 2286300, 2286301, 2286302, 2286309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.4	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A108642

Included Lab Sample IDs: 2286300, 2286301, 2286302, 2286309

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

Reference Method: SM 5310 B-2011

Run ID: A108656

Included Lab Sample IDs: 2286303, 2286304, 2286305, 2286310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108661

Included Lab Sample IDs: 2286303, 2286304, 2286305, 2286310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A108667

Included Lab Sample IDs: 2286322, 2286323, 2286324, 2286325, 2286326, 2286327, 2286328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	98.5	P/P	90 - 110
Barium	98.5	101	P/P	90 - 110
Calcium	101	102	P/P	90 - 110
Calcium	102	103	P/P	90 - 110
Iron	101	102	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	104	105	P/P	90 - 110
Magnesium	105	106	P/P	90 - 110
Manganese	102	104	P/P	90 - 110
Manganese	104	102	P/P	90 - 110
Potassium	96.8	98.1	P/P	90 - 110
Potassium	97.9	96.8	P/P	90 - 110
Sodium	100	99.0	P/P	90 - 110
Sodium	99.0	101	P/P	90 - 110
Zinc	103	105	P/P	90 - 110
Zinc	105	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108673

Included Lab Sample IDs: 2286322, 2286323, 2286324, 2286325, 2286326, 2286327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.2	99.3	P/P	90 - 110
Aluminum	99.3	100	P/P	90 - 110
Antimony	102	102	P/P	90 - 110
Antimony	102	102	P/P	90 - 110
Arsenic	98.6	99.0	P/P	90 - 110
Arsenic	99.3	98.6	P/P	90 - 110
Beryllium	94.2	94.8	P/P	90 - 110
Beryllium	95.6	94.2	P/P	90 - 110
Boron	97.6	99.6	P/P	90 - 110
Boron	99.6	99.5	P/P	90 - 110
Cadmium	97.3	97.8	P/P	90 - 110
Cadmium	98.4	97.3	P/P	90 - 110
Chromium	93.6	94.1	P/P	90 - 110
Chromium	94.3	93.6	P/P	90 - 110
Copper	95.5	95.3	P/P	90 - 110
Copper	97.3	95.5	P/P	90 - 110
Lead	97.1	95.7	P/P	90 - 110
Lead	97.9	97.1	P/P	90 - 110
Nickel	94.9	95.1	P/P	90 - 110
Nickel	97.1	94.9	P/P	90 - 110
Selenium	98.2	98.7	P/P	90 - 110
Selenium	99.7	98.2	P/P	90 - 110
Silver	101	99.8	P/P	90 - 110
Silver	99.8	99.6	P/P	90 - 110
Thallium	98.9	96.2	P/P	90 - 110
Thallium	99.7	98.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108721

Included Lab Sample IDs: 2286303, 2286304, 2286305, 2286310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.8	97.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A108733

Included Lab Sample IDs: 2286300, 2286301, 2286302, 2286309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.9	101	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108743

Included Lab Sample IDs: 2286303, 2286304, 2286305, 2286310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	97.7	P/P	90 - 110
Ammonia-N	97.0	96.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108761

Included Lab Sample IDs: 2286328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	103	103	P/P	90 - 110
Arsenic	99.1	99.7	P/P	90 - 110
Beryllium	101	102	P/P	90 - 110
Boron	105	103	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	103	102	P/P	90 - 110
Copper	95.3	97.4	P/P	90 - 110
Lead	93.7	93.9	P/P	90 - 110
Nickel	96.0	97.2	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Silver	91.1	91.3	P/P	90 - 110
Thallium	100	100	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						1.85
EPA 200.7 Rev. 4.4	Barium	100	104	104	103		0.960
	Calcium	106	106	105	107		1.42
	Iron	104	106	110	111		1.58
	Magnesium	106	109	112	114		1.50
	Manganese	101	104	109	108		1.21
	Potassium	102	108	99.2	101		1.02
	Sodium	104	102	102	102		0.359
	Zinc	101	105	113	111		2.06
EPA 200.8 Rev. 5.4	Aluminum	98.8	100	102	101		1.87
	Antimony	100	102	102	102		0.454
	Arsenic	98.0	98.3	99.1	97.8		0.832
	Beryllium	98.2	94.0	94.5	97.5		0.365
	Boron	96.5	99.4	101	101		1.65
	Cadmium	96.2	98.6	99.8	97.2		1.17
	Chromium	94.7	96.1	95.7	95.5		0.408
	Copper	96.9	98.3	98.8	97.8		0.522
	Lead	96.9	98.7	98.7	100		0.0542
	Nickel	97.3	97.4	97.0	96.2		0.321
	Selenium	97.5	97.6	97.6	95.9		0.0669
	Silver	98.4	99.0	99.1	101		0.110
	Thallium	98.6	99.5	101	102		1.62
EPA 300.0 Rev. 2.1	Chloride	99.3	98.9	97.5		0.751	
	Sulfate	99.8	101	100			
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	96.4	97.8			1.21
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101					5.77
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	100	99.5			1.00
EPA 365.1 Rev. 2.0	Total-P	103	108	105			2.12
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	98.5	97.8			0.713
SM 2120 B-2011	Color (true)	98.3				0.357	
	Color (true)	98.5				1.20	
SM 2320 B-2011	Total Alkalinity	99.2				0.0802	
SM 2540 C-2011	TDS					8.85	
SM 4500 F-C-2011	Fluoride	100	98.7	98.7			0.0
SM 5310 B-2011	Organic Carbon	96.7	97.8	98.4			0.398

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2286300, 2286301, 2286302, 2286309
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2286322, 2286323, 2286324, 2286325, 2286326, 2286327, 2286328
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2286322, 2286323, 2286324, 2286325, 2286326, 2286327, 2286328
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2286300, 2286301, 2286302, 2286309
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2286300, 2286301, 2286302, 2286309
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2286303, 2286304, 2286305, 2286310
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2286303, 2286304, 2286305, 2286310
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2286303, 2286304, 2286305, 2286310
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2286303, 2286304, 2286305, 2286310
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2286306, 2286307, 2286308, 2286311
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2286300, 2286301, 2286302, 2286309

Reference Method Descriptions

Method	Description	Associated Samples
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2286300, 2286301, 2286302, 2286309
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2286322, 2286323, 2286324, 2286325, 2286326, 2286327, 2286328
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2286300, 2286301, 2286302, 2286309
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2286300, 2286301, 2286302, 2286309
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2286300, 2286301, 2286302, 2286309
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2286303, 2286304, 2286305, 2286310

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	10/27/2021			10/27/2021 15:55	Sarah A Nixon	2286300, 2286301, 2286302, 2286309
EPA 200.7 Rev. 4.4	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 15:28	Josef B Mick	2286322
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 15:36	Josef B Mick	2286323
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 16:16	Josef B Mick	2286324
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 16:23	Josef B Mick	2286325
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 16:31	Josef B Mick	2286326
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 16:39	Josef B Mick	2286327
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 16:47	Josef B Mick	2286328
EPA 200.8 Rev. 5.4	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 18:45	McKinley C Carter	2286322
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 18:54	McKinley C Carter	2286323
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 19:03	McKinley C Carter	2286324
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 19:57	McKinley C Carter	2286325
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 20:06	McKinley C Carter	2286326
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/02/2021 20:15	McKinley C Carter	2286327
	10/27/2021	10/29/2021 09:30	Emily M Philpot	11/05/2021 17:07	Alexander Thompson	2286328
EPA 300.0 Rev. 2.1	10/27/2021			11/03/2021 19:46	Roberta Tatti	2286300
	10/27/2021			11/03/2021 19:58	Roberta Tatti	2286301
	10/27/2021			11/03/2021 20:10	Roberta Tatti	2286302
	10/27/2021			11/03/2021 20:22	Roberta Tatti	2286309
EPA 350.1 Rev. 2.0	10/27/2021			11/04/2021 12:08	Ping Hua	2286304
	10/27/2021			11/04/2021 12:09	Ping Hua	2286305
	10/27/2021			11/04/2021 12:10	Ping Hua	2286310
	10/27/2021			11/04/2021 13:21	Ping Hua	2286303
EPA 351.2 Rev. 2.0	10/27/2021	11/01/2021 13:20	Benjamin T. Nordmann	11/02/2021 13:06	Alexandra J Mattheus	2286303
	10/27/2021	11/01/2021 13:20	Benjamin T. Nordmann	11/02/2021 13:08	Alexandra J Mattheus	2286304
	10/27/2021	11/01/2021 13:20	Benjamin T. Nordmann	11/02/2021 13:10	Alexandra J Mattheus	2286305
	10/27/2021	11/01/2021 13:20	Benjamin T. Nordmann	11/02/2021 13:11	Alexandra J Mattheus	2286310
EPA 353.2 Rev. 2.0	10/27/2021			10/29/2021 10:24	Beverly Y. Sanders	2286303
	10/27/2021			10/29/2021 10:25	Beverly Y. Sanders	2286304
	10/27/2021			10/29/2021 10:26	Beverly Y. Sanders	2286305
	10/27/2021			10/29/2021 10:27	Beverly Y. Sanders	2286310
EPA 365.1 Rev. 2.0	10/27/2021	11/02/2021 16:18	Simonne.V. Calhoun	11/04/2021 14:08	Lipi Saha	2286303
	10/27/2021	11/02/2021 16:18	Simonne.V. Calhoun	11/04/2021 14:09	Lipi Saha	2286304
	10/27/2021	11/02/2021 16:18	Simonne.V. Calhoun	11/04/2021 14:10	Lipi Saha	2286305
	10/27/2021	11/02/2021 16:18	Simonne.V. Calhoun	11/04/2021 14:11	Lipi Saha	2286310
EPA 365.1 Rev. 2.0 dissolved	10/27/2021			10/27/2021 14:54	James L Waggeberby	2286306
	10/27/2021			10/27/2021 14:55	James L Waggeberby	2286307, 2286308
	10/27/2021			10/27/2021 14:56	James L Waggeberby	2286311
SM 2120 B-2011	10/27/2021			10/27/2021 15:39	Benjamin T. Nordmann	2286300
	10/27/2021			10/27/2021 15:40	Benjamin T. Nordmann	2286301

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B-2011	10/27/2021			10/27/2021 15:42	Benjamin T. Nordmann	2286302
	10/27/2021			10/27/2021 15:43	Benjamin T. Nordmann	2286309
SM 2320 B-2011	10/27/2021			10/29/2021 02:09	Dale L. Simmons	2286300
	10/27/2021			10/29/2021 02:16	Dale L. Simmons	2286301
	10/27/2021			10/29/2021 02:29	Dale L. Simmons	2286302
	10/27/2021			10/29/2021 02:39	Dale L. Simmons	2286309
SM 2340B	10/27/2021			11/02/2021 15:28	Josef B Mick	2286322
	10/27/2021			11/02/2021 15:36	Josef B Mick	2286323
	10/27/2021			11/02/2021 16:16	Josef B Mick	2286324
	10/27/2021			11/02/2021 16:23	Josef B Mick	2286325
	10/27/2021			11/02/2021 16:31	Josef B Mick	2286326
	10/27/2021			11/02/2021 16:39	Josef B Mick	2286327
	10/27/2021			11/02/2021 16:47	Josef B Mick	2286328
SM 2540 C-2011	10/27/2021			11/01/2021 14:21	Yijie Li	2286300, 2286301, 2286302, 2286309
SM 2540 D-2011	10/27/2021			11/01/2021 14:21	Yijie Li	2286300, 2286301, 2286302, 2286309
SM 4500 F-C-2011	10/27/2021			10/29/2021 02:09	Dale L. Simmons	2286300
	10/27/2021			10/29/2021 02:16	Dale L. Simmons	2286301
	10/27/2021			10/29/2021 02:29	Dale L. Simmons	2286302
	10/27/2021			10/29/2021 02:39	Dale L. Simmons	2286309
SM 5310 B-2011	10/27/2021			11/01/2021 20:56	Khloe J Berg	2286303
	10/27/2021			11/01/2021 21:09	Khloe J Berg	2286304
	10/27/2021			11/01/2021 21:22	Khloe J Berg	2286305
	10/27/2021			11/01/2021 21:35	Khloe J Berg	2286310