

Chemical Analysis Report

SO-DIST-2019-08-14-01

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

Event Description: **2019 Continuous Monitoring**
Request ID: **RQ-2019-08-05-15**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: John Barrington

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 11-SEP-2019 14:37

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals and Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: ClevelandCemeteryDitch

Collection Date/Time: 08/13/2019 09:25

Field ID: G3SD0076

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2111464	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P369077	
	SM 2320 B-97	Total Alkalinity	145		mg CaCO3/L	P369442	
	SM 2540 D-97	TSS	2	IA	mg/L	P369481	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P369445	
2111465	EPA 350.1 Rev. 2.0	Ammonia-N	0.062		mg N/L	P369466	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P369278	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.064		mg N/L	P369238	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P369180	
	SM 5310 B-00	Organic Carbon	31		mg C/L	P369233	
2111466	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.21		mg P/L	P369093	
2111482	EPA 200.7 Rev. 4.4	Iron	460		ug/L	P369121	
		Manganese	24.4		ug/L	P369121	
		Zinc	5.0	U	ug/L	P369121	
	EPA 200.8 Rev. 5.4	Aluminum	58		ug/L	P369121	
		Antimony	0.13	I	ug/L	P369121	
		Arsenic	6.27		ug/L	P369121	
		Cadmium	0.020	U	ug/L	P369121	
		Chromium	0.79	I	ug/L	P369121	
		Copper	0.59	I	ug/L	P369121	
		Lead	0.20	U	ug/L	P369121	
		Nickel	0.67	I	ug/L	P369121	
		Selenium	0.25	I	ug/L	P369121	
		Silver	0.010	U	ug/L	P369121	
		Thallium	0.10	U	ug/L	P369121	

Ref. Method and Comment:

SM 2540 D-97: 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: Coral Creek (East)

Collection Date/Time: 08/13/2019 11:05

Field ID: G2SD0039

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2111467	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P369077	
	SM 2320 B-97	Total Alkalinity	127		mg CaCO3/L	P369681	
	SM 2540 D-97	TSS	6	I	mg/L	P369484	
	SM 4500 F-C-97	Fluoride	0.58		mg F/L	P369682	
2111468	EPA 350.1 Rev. 2.0	Ammonia-N	0.094		mg N/L	P369618	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P369221	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010	I	mg N/L	P369201	
	EPA 365.1 Rev. 2.0	Total-P	0.051		mg P/L	P369102	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P369234	
2111469	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369095	
2111483	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P369030	
		Manganese	10	I	ug/L	P369030	
		Zinc	15	U	ug/L	P369030	
	EPA 200.8 Rev. 5.4	Aluminum	50	U	ug/L	P369030	
		Antimony	0.50	U	ug/L	P369030	
		Arsenic	3.2		ug/L	P369030	
		Cadmium	0.20	U	ug/L	P369030	
		Chromium	4.0	U	ug/L	P369030	
		Copper	1.6	U	ug/L	P369030	
		Lead	2.0	U	ug/L	P369030	
		Nickel	5.0	U	ug/L	P369030	
		Selenium	2.0	U	ug/L	P369030	
		Silver	0.10	U	ug/L	P369030	
		Thallium	1.0	U	ug/L	P369030	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: The sample required dilution due to matrix interference.

EPA 200.8 Rev. 5.4: The sample required dilution due to matrix interference.

Sample Location: Coral Creek (East)

Collection Date/Time: 08/13/2019 12:00

Field ID: FB_08132019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2111470	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P369077	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P369443	
	SM 2540 D-97	TSS	2	U	mg/L	P369481	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P369446	
2111471	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P369466	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P369362	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P369239	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P369180	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P369233	
2111472	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369093	
2111484	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P369121	
		Manganese	1.0	U	ug/L	P369121	
		Zinc	5.0	U	ug/L	P369121	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P369121	
		Antimony	0.050	U	ug/L	P369121	
		Arsenic	0.050	U	ug/L	P369121	
		Cadmium	0.020	U	ug/L	P369121	
		Chromium	0.40	U	ug/L	P369121	
		Copper	0.40	U	ug/L	P369121	
		Lead	0.20	U	ug/L	P369121	
		Nickel	0.50	U	ug/L	P369121	
		Selenium	0.20	U	ug/L	P369121	
		Silver	0.010	U	ug/L	P369121	
		Thallium	0.10	U	ug/L	P369121	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369077

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369030

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369121

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	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 200.8 Rev. 5.4
Batch ID: P369121

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369466

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369618

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369221

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369278

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369362

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369201

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369238

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369239

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369102

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369180

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369093

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369095

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

Reference Method: SM 2320 B-97
Batch ID: P369442

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

Reference Method: SM 2320 B-97
Batch ID: P369443

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

Reference Method: SM 2320 B-97
Batch ID: P369681

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

Reference Method: SM 2540 D-97
Batch ID: P369481

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369484

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P369445

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

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Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P369446

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P369682

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P369233

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

Reference Method: SM 5310 B-00
Batch ID: P369234

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: P369030

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	107		P	85 - 115
Manganese	104		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	106		P	85 - 115
Manganese	103		P	85 - 115
Zinc	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	104		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	95.7		P	85 - 115
Copper	95.8		P	85 - 115
Lead	99.6		P	85 - 115
Nickel	97.3		P	85 - 115
Selenium	105		P	85 - 115
Silver	99.0		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.9		P	85 - 115
Antimony	98.7		P	85 - 115
Arsenic	101		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	99.6		P	85 - 115
Copper	99.2		P	85 - 115
Lead	101		P	85 - 115
Nickel	99.9		P	85 - 115
Selenium	96.4		P	85 - 115
Silver	100		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369466

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369618

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369221

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369278

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369362

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369201

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369238

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369239

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: P369102

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369180

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369093

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369095

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

Reference Method: SM 2320 B-97
Batch ID: P369442

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P369443

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P369681

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369445

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P369446

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P369682

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P369233

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P369234

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109813	Iron	101	102	P/P	70 - 130
2109813	Manganese	97.0	97.8	P/P	70 - 130
2109813	Zinc	104	106	P/P	70 - 130

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111646	Iron	104	106	P/P	80 - 120
2111646	Manganese	101	101	P/P	80 - 120
2111646	Zinc	100	100	P/P	80 - 120
2111792	Iron	105		P	80 - 120
2111792	Manganese	99.8		P	80 - 120
2111792	Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109813	Aluminum	103	103	P/P	70 - 130
2109813	Antimony	102	101	P/P	70 - 130
2109813	Arsenic	111	112	P/P	70 - 130
2109813	Cadmium	101	96.4	P/P	70 - 130
2109813	Chromium	94.0	92.8	P/P	70 - 130
2109813	Copper	98.7	98.4	P/P	70 - 130
2109813	Lead	102	102	P/P	70 - 130
2109813	Nickel	99.1	98.6	P/P	70 - 130
2109813	Selenium	108	108	P/P	70 - 130
2109813	Silver	96.6	111	P/P	70 - 130
2109813	Thallium	92.2	91.8	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111646	Aluminum	97.1	95.8	P/P	80 - 120
2111646	Antimony	100	101	P/P	80 - 120
2111646	Arsenic	103	102	P/P	80 - 120
2111646	Cadmium	103	103	P/P	80 - 120
2111646	Chromium	101	99.9	P/P	80 - 120
2111646	Copper	98.4	98.3	P/P	80 - 120
2111646	Lead	103	101	P/P	80 - 120
2111646	Nickel	101	101	P/P	80 - 120
2111646	Selenium	95.5	94.9	P/P	80 - 120
2111646	Silver	101	98.6	P/P	80 - 120
2111646	Thallium	105	104	P/P	80 - 120
2111792	Aluminum	98.0		P	80 - 120
2111792	Antimony	101		P	80 - 120
2111792	Arsenic	104		P	80 - 120
2111792	Cadmium	102		P	80 - 120
2111792	Chromium	99.0		P	80 - 120
2111792	Copper	99.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111792	Lead	103		P	80 - 120
2111792	Nickel	99.6		P	80 - 120
2111792	Selenium	97.9		P	80 - 120
2111792	Silver	99.9		P	80 - 120
2111792	Thallium	107		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111544	Ammonia-N	98.9	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111372	Ammonia-N	95.5	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369221

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111163	Kjeldahl Nitrogen	103	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111621	Kjeldahl Nitrogen	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369201

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111468	NO2NO3-N	98.8	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111217	NO2NO3-N	96.5	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111221	NO2NO3-N	96.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369102

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P369102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111351	Total-P	93.4	94.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P369180

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111544	Total-P	106	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111538	O-Phosphate-P	94.7	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P369095

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111165	O-Phosphate-P	94.4	97.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Batch ID: P369445

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111620	Fluoride	96.3	96.9	P/P	89 - 106

Reference Method: SM 4500 F-C-97
 Batch ID: P369446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111696	Fluoride	98.2	96.5	P/P	89 - 106

Reference Method: SM 4500 F-C-97
 Batch ID: P369682

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113383	Fluoride	98.0	99.3	P/P	89 - 106

Reference Method: SM 5310 B-00
 Batch ID: P369233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111621	Organic Carbon	100	100	P/P	85 - 115

Reference Method: SM 5310 B-00
 Batch ID: P369234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111593	Organic Carbon	99.0	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111536	Turbidity	4.77	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109813	Iron	0.549	Spike	P	0 - 20
2109813	Manganese	0.744	Spike	P	0 - 20
2109813	Zinc	2.60	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111646	Iron	2.07	Spike	P	0 - 20
2111646	Manganese	0.0502	Spike	P	0 - 20
2111646	Zinc	0.0742	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109813	Aluminum	0.245	Spike	P	0 - 20
2109813	Antimony	0.632	Spike	P	0 - 20
2109813	Arsenic	0.809	Spike	P	0 - 20
2109813	Cadmium	5.13	Spike	P	0 - 20
2109813	Chromium	1.29	Spike	P	0 - 20
2109813	Copper	0.280	Spike	P	0 - 20
2109813	Lead	0.0146	Spike	P	0 - 20
2109813	Nickel	0.539	Spike	P	0 - 20
2109813	Selenium	0.0800	Spike	P	0 - 20
2109813	Silver	14.0	Spike	P	0 - 20
2109813	Thallium	0.394	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111646	Aluminum	1.21	Spike	P	0 - 20
2111646	Antimony	0.177	Spike	P	0 - 20
2111646	Arsenic	0.311	Spike	P	0 - 20
2111646	Cadmium	0.686	Spike	P	0 - 20
2111646	Chromium	0.866	Spike	P	0 - 20
2111646	Copper	0.0887	Spike	P	0 - 20
2111646	Lead	1.81	Spike	P	0 - 20
2111646	Nickel	0.308	Spike	P	0 - 20
2111646	Selenium	0.578	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111646	Silver	2.22	Spike	P	0 - 20
2111646	Thallium	0.844	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111544	Ammonia-N	1.63	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111372	Ammonia-N	2.55	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111163	Kjeldahl Nitrogen	3.30	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111410	Kjeldahl Nitrogen	1.28	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111621	Kjeldahl Nitrogen	0.265	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111468	NO2NO3-N	0.959	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111217	NO2NO3-N	0.837	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111221	NO2NO3-N	0.220	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111351	Total-P	0.694	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369180

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111544	Total-P	2.28	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111538	O-Phosphate-P	1.68	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369095

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111165	O-Phosphate-P	2.90	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P369442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111620	Total Alkalinity	0.0323	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P369443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111696	Total Alkalinity	0.565	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P369681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113383	Total Alkalinity	0.472	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
 Batch ID: P369445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111620	Fluoride	0.519	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
 Batch ID: P369446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111696	Fluoride	1.48	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
 Batch ID: P369682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113383	Fluoride	0.967	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P369233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111621	Organic Carbon	0.203	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P369234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111593	Organic Carbon	0.989	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
 Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93525

Included Lab Sample IDs: 2111464, 2111467, 2111470

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93535

Included Lab Sample IDs: 2111466, 2111469, 2111472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93542

Included Lab Sample IDs: 2111483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	100	100	P/P	90 - 110
Manganese	103	103	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93567

Included Lab Sample IDs: 2111468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93573

Included Lab Sample IDs: 2111468

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93581

Included Lab Sample IDs: 2111482, 2111484

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	101	101	P/P	90 - 110
Iron	99.7	101	P/P	90 - 110
Manganese	102	102	P/P	90 - 110
Manganese	102	102	P/P	90 - 110
Zinc	100	99.3	P/P	90 - 110
Zinc	99.3	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A93586

Included Lab Sample IDs: 2111465, 2111468, 2111471

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A93586

Included Lab Sample IDs: 2111465, 2111468, 2111471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	97.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93589

Included Lab Sample IDs: 2111465, 2111471

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93591

Included Lab Sample IDs: 2111465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93599

Included Lab Sample IDs: 2111471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93600

Included Lab Sample IDs: 2111468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	104	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93642

Included Lab Sample IDs: 2111482, 2111484

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	97.9	P/P	90 - 110
Aluminum	98.7	96.8	P/P	90 - 110
Antimony	92.4	93.6	P/P	90 - 110
Antimony	95.3	95.5	P/P	90 - 110
Arsenic	100	96.9	P/P	90 - 110
Arsenic	101	98.8	P/P	90 - 110
Cadmium	96.1	94.8	P/P	90 - 110
Cadmium	98.9	98.0	P/P	90 - 110
Chromium	96.4	96.7	P/P	90 - 110
Chromium	99.5	99.9	P/P	90 - 110
Copper	101	96.6	P/P	90 - 110
Copper	101	99.1	P/P	90 - 110
Lead	102	101	P/P	90 - 110
Lead	99.0	98.8	P/P	90 - 110
Nickel	100	95.7	P/P	90 - 110
Nickel	101	98.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93642

Included Lab Sample IDs: 2111482, 2111484

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	101	101	P/P	90 - 110
Silver	99.1	97.2	P/P	90 - 110
Thallium	93.4	92.4	P/P	90 - 110
Thallium	98.5	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93647

Included Lab Sample IDs: 2111465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.0	92.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93671

Included Lab Sample IDs: 2111471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.9	105	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93694

Included Lab Sample IDs: 2111464, 2111470

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

Reference Method: SM 4500 F-C-97

Run ID: A93694

Included Lab Sample IDs: 2111464, 2111470

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93709

Included Lab Sample IDs: 2111465, 2111471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	103	P/P	90 - 110
Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93751

Included Lab Sample IDs: 2111468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	93.2	98.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
 Run ID: A93793
 Included Lab Sample IDs: 2111467

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Run ID: A93793
 Included Lab Sample IDs: 2111467

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A93990
 Included Lab Sample IDs: 2111483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	104	P/P	90 - 110
Antimony	94.5	94.7	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Cadmium	96.3	95.7	P/P	90 - 110
Lead	97.5	97.9	P/P	90 - 110
Selenium	98.2	99.4	P/P	90 - 110
Thallium	93.6	93.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A94046
 Included Lab Sample IDs: 2111483

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

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A94068
 Included Lab Sample IDs: 2111482, 2111483, 2111484

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	97.6	95.0	P/P	90 - 110
Nickel	96.7	96.0	P/P	90 - 110
Selenium	100	98.5	P/P	90 - 110
Selenium	98.5	99.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A94101
 Included Lab Sample IDs: 2111483

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

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						4.77	
EPA 200.7 Rev. 4.4	Iron	107	101	102				0.549
	Iron	106	104	106	105			2.07
	Manganese	104	97.0	97.8				0.744
	Manganese	103	101	101	99.8			0.0502
	Zinc	102	104	106				2.60
	Zinc	100	100	100	103			0.0742
EPA 200.8 Rev. 5.4	Aluminum	102	103	103				0.245
	Aluminum	99.9	97.1	95.8	98.0			1.21
	Antimony	101	101	102				0.632
	Antimony	98.7	100	101	101			0.177
	Arsenic	104	112	111				0.809
	Arsenic	101	103	102	104			0.311
	Cadmium	102	96.4	101				5.13
	Cadmium	101	103	103	102			0.686
	Chromium	95.7	94.0	92.8				1.29
	Chromium	99.6	101	99.9	99.0			0.866
	Copper	95.8	98.7	98.4				0.280
	Copper	99.2	98.4	98.3	99.0			0.0887
	Lead	99.6	102	102				0.0146
	Lead	101	103	101	103			1.81
	Nickel	97.3	99.1	98.6				0.539
	Nickel	99.9	101	101	99.6			0.308
	Selenium	105	108	108				0.0800
	Selenium	96.4	95.5	94.9	97.9			0.578
	Silver	99.0	96.6	111				14.0
	Silver	100	101	98.6	99.9			2.22
	Thallium	102	91.8	92.2				0.394
	Thallium	101	105	104	107			0.844
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	98.9	101				1.63
	Ammonia-N	94.6	95.5	99.7				2.55
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.7	103	99.1				3.30
	Kjeldahl Nitrogen	107						1.28
	Kjeldahl Nitrogen	100	101	101				0.265
EPA 353.2 Rev. 2.0	NO2NO3-N	100	98.8	99.8				0.959
	NO2NO3-N	100	96.5	98.0				0.837
	NO2NO3-N	100	96.2					0.220
EPA 365.1 Rev. 2.0	Total-P	103	93.4	94.0				0.694
	Total-P	106	106	103				2.28
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	94.7	96.4				1.68
	O-Phosphate-P	105	94.4	97.3				2.90
SM 2320 B-97	Total Alkalinity	102					0.0323	
	Total Alkalinity	103					0.565	
	Total Alkalinity	105					0.472	
SM 4500 F-C-97	Fluoride	98.9	96.3	96.9				0.519
	Fluoride	100	98.2	96.5				1.48
	Fluoride	98.7	98.0	99.3				0.967
SM 5310 B-00	Organic Carbon	101	100	100				0.203
	Organic Carbon	98.6	99.0	97.8				0.989

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
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Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2111464, 2111467, 2111470
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2111482, 2111483, 2111484
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2111482, 2111483, 2111484
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2111465, 2111468, 2111471
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2111465, 2111468, 2111471
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2111465, 2111468, 2111471
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2111465, 2111468, 2111471
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2111466, 2111469, 2111472
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2111464, 2111467, 2111470
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2111464, 2111467, 2111470
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2111464, 2111467, 2111470
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2111465, 2111468, 2111471

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	08/14/2019			08/14/2019 19:08	Rosalyn Ballman	2111464, 2111467, 2111470
EPA 200.7 Rev. 4.4	08/14/2019	08/14/2019 16:15	Elliott D. Healy	08/15/2019 17:11	Alexander Thompson	2111483
	08/14/2019	08/15/2019 16:05	Elliott D. Healy	08/16/2019 14:56	Alexander Thompson	2111484
	08/14/2019	08/15/2019 16:05	Elliott D. Healy	08/16/2019 16:20	Alexander Thompson	2111482
EPA 200.8 Rev. 5.4	08/14/2019	08/14/2019 16:15	Elliott D. Healy	09/05/2019 03:56	Robert K Palmer	2111483
	08/14/2019	08/14/2019 16:15	Elliott D. Healy	09/06/2019 18:29	Robert K Palmer	2111483
	08/14/2019	08/14/2019 16:15	Elliott D. Healy	09/09/2019 06:16	Robert K Palmer	2111483
	08/14/2019	08/14/2019 16:15	Elliott D. Healy	09/10/2019 14:33	Justin Cutchin	2111483
	08/14/2019	08/15/2019 16:05	Elliott D. Healy	08/19/2019 20:35	Martin Acosta	2111484
	08/14/2019	08/15/2019 16:05	Elliott D. Healy	08/20/2019 07:23	Martin Acosta	2111482
	08/14/2019	08/15/2019 16:05	Elliott D. Healy	09/09/2019 02:46	Robert K Palmer	2111484
	08/14/2019	08/15/2019 16:05	Elliott D. Healy	09/09/2019 04:31	Robert K Palmer	2111482
EPA 350.1 Rev. 2.0	08/14/2019			08/21/2019 12:56	Ping Hua	2111471
	08/14/2019			08/21/2019 13:05	Ping Hua	2111465
	08/14/2019			08/23/2019 14:04	Ping Hua	2111468
EPA 351.2 Rev. 2.0	08/14/2019	08/16/2019 15:10	Sima Feizi	08/19/2019 13:08	Joseph Suarez	2111468
	08/14/2019	08/19/2019 13:30	Sima Feizi	08/20/2019 13:42	Joseph Suarez	2111465
	08/14/2019	08/20/2019 11:35	Sima Feizi	08/21/2019 10:31	Joseph Suarez	2111471
EPA 353.2 Rev. 2.0	08/14/2019			08/16/2019 10:56	Beverly Y. Sanders	2111468
	08/14/2019			08/19/2019 09:03	Beverly Y. Sanders	2111465
	08/14/2019			08/19/2019 09:16	Beverly Y. Sanders	2111471
EPA 365.1 Rev. 2.0	08/14/2019	08/15/2019 13:11	Vijayalakshmi Reddy	08/16/2019 13:07	Lipi Saha	2111468
	08/14/2019	08/16/2019 13:30	Vijayalakshmi Reddy	08/19/2019 10:05	Lipi Saha	2111465
	08/14/2019	08/16/2019 13:30	Vijayalakshmi Reddy	08/19/2019 13:01	Lipi Saha	2111471
EPA 365.1 Rev. 2.0 dissolved	08/14/2019			08/14/2019 17:51	Jhamieka S. Greenwood	2111472
	08/14/2019			08/14/2019 17:54	Jhamieka S. Greenwood	2111466
	08/14/2019			08/14/2019 18:10	Jhamieka S. Greenwood	2111469
SM 2320 B-97	08/14/2019			08/21/2019 01:13	Dale L. Simmons	2111464
	08/14/2019			08/21/2019 04:22	Dale L. Simmons	2111470
	08/14/2019			08/26/2019 23:16	Dale L. Simmons	2111467
SM 2540 D-97	08/14/2019			08/19/2019 15:20	Yijie Li	2111464, 2111467, 2111470
SM 4500 F-C-97	08/14/2019			08/21/2019 01:13	Dale L. Simmons	2111464
	08/14/2019			08/21/2019 04:22	Dale L. Simmons	2111470
	08/14/2019			08/26/2019 20:50	Dale L. Simmons	2111467
SM 5310 B-00	08/14/2019			08/17/2019 02:44	Madeline Funaro	2111465
	08/14/2019			08/17/2019 02:56	Madeline Funaro	2111471
	08/14/2019			08/17/2019 08:05	Madeline Funaro	2111468