

Chemical Analysis Report

WQAP-2017-08-30-02

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

Event Description: **kit C (3310 Aucilla River) , (3573B Steinhatchee River)**

Request ID: **RQ-2017-08-14-45**

Customer: **WQAP**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
MS #3560
Tallahassee, FL 32399-2400
Attn: Michael Eckles

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 20-SEP-2017 11:34



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 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: Fort Gasden Creek

Collection Date/Time: 08/30/2017 11:45

Field ID: G2TLHR00012-2017-03

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1926536	EPA 180.1 Rev. 2.0	Turbidity	6.8	A	NTU	P331072	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P331487	
	SM 2120 B	Color (true)	410		PCU	P331086	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P331522	
	SM 2540 C-97	TDS	77		mg/L	P331345	
	SM 2540 D-97	TSS	6	I	mg/L	P331534	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P331744	
1926537	EPA 350.1 Rev. 2.0	Ammonia-N	0.085		mg N/L	P331199	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P331160	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P331248	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P331132	
	SM 5310 B-00	Organic Carbon	33		mg C/L	P331339	
1926538	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P331077	
1926540	EPA 200.7 Rev. 4.4	Iron	2.89E+03		ug/L	P331134	
		Zinc	6.2	I	ug/L	P331134	
	EPA 200.8 Rev. 5.4	Arsenic	0.53		ug/L	P331134	
		Cadmium	0.020	U	ug/L	P331134	
		Chromium	0.68	I	ug/L	P331134	
		Copper	0.56	I	ug/L	P331134	
		Lead	0.78		ug/L	P331134	
		Nickel	0.61	I	ug/L	P331134	
		Silver	0.010	U	ug/L	P331134	

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: P331072

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P331134

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

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P331134

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331134

Component	Result	Code	Units
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331487

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331199

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331160

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331248

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331132

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331077

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

Reference Method: SM 2120 B
Batch ID: P331086

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P331522

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P331345

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P331534

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P331744

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P331339

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: P331134

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	107		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331134

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	105		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	97.9		P	85 - 115
Copper	100		P	85 - 115
Lead	99.7		P	85 - 115
Nickel	102		P	85 - 115
Silver	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331487

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.2		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331199

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331160

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331248

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331132

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331077

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

Reference Method: SM 2320 B-97
Batch ID: P331522

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P331744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P331339

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P331134

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P331134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923909	Iron	108		P	80 - 120
1923909	Zinc	106		P	80 - 120
1926383	Iron	110	109	P/P	80 - 120
1926383	Zinc	105	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1923909	Arsenic	110		P	80 - 120
1923909	Cadmium	102		P	80 - 120
1923909	Chromium	92.7		P	80 - 120
1923909	Copper	97.5		P	80 - 120
1923909	Lead	103		P	80 - 120
1923909	Nickel	99.5		P	80 - 120
1923909	Silver	101		P	80 - 120
1926383	Arsenic	104	104	P/P	80 - 120
1926383	Cadmium	102	103	P/P	80 - 120
1926383	Chromium	97.1	98.0	P/P	80 - 120
1926383	Copper	95.4	94.9	P/P	80 - 120
1926383	Lead	100	100	P/P	80 - 120
1926383	Nickel	96.7	96.2	P/P	80 - 120
1926383	Silver	102	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331487

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926536	Chloride	96.2		P	90 - 110
1926552	Chloride	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926451	Ammonia-N	97.6	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926554	Kjeldahl Nitrogen	101	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926537	NO2NO3-N	99.8	98.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926423	Total-P	99.2	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331077

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926428	O-Phosphate-P	94.7	98.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P331744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926521	Fluoride	97.3	97.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P331339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926422	Organic Carbon	103	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P331072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926536	Turbidity	0.587	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P331134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926383	Iron	0.653	Spike	P	0 - 20
1926383	Zinc	1.38	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926383	Arsenic	0.291	Spike	P	0 - 20
1926383	Cadmium	1.14	Spike	P	0 - 20
1926383	Chromium	0.956	Spike	P	0 - 20
1926383	Copper	0.534	Spike	P	0 - 20
1926383	Lead	0.0946	Spike	P	0 - 20
1926383	Nickel	0.441	Spike	P	0 - 20
1926383	Silver	0.787	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926552	Chloride	2.08	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926451	Ammonia-N	0.150	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926554	Kjeldahl Nitrogen	1.56	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926537	NO2NO3-N	1.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926423	Total-P	1.86	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926428	O-Phosphate-P	4.14	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P331086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926415	Color (true)	0.561	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P331522

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926521	Total Alkalinity	0.463	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P331345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926553	TDS	2.92	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P331744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926521	Fluoride	0.480	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P331339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1926422	Organic Carbon	0.914	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: A78711
Included Lab Sample IDs: 1926536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A78712
Included Lab Sample IDs: 1926538

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

Reference Method: SM 2120 B
Run ID: A78715
Included Lab Sample IDs: 1926536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A78752
Included Lab Sample IDs: 1926537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	98.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78775

Included Lab Sample IDs: 1926537

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78778

Included Lab Sample IDs: 1926537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.5	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A78788

Included Lab Sample IDs: 1926540

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	105	104	P/P	90 - 110
Zinc	106	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78804

Included Lab Sample IDs: 1926537

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

Reference Method: SM 5310 B-00

Run ID: A78811

Included Lab Sample IDs: 1926537

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A78818

Included Lab Sample IDs: 1926540

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	102	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Chromium	99.8	99.5	P/P	90 - 110
Copper	100	101	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Nickel	99.3	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A78862

Included Lab Sample IDs: 1926536

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A78870
Included Lab Sample IDs: 1926536

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A78913
Included Lab Sample IDs: 1926540

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	94.7	95.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A78959
Included Lab Sample IDs: 1926536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	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	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				0.587	
EPA 200.7 Rev. 4.4	Iron	107	108 110 109			0.653
	Zinc	105	106 105 103			1.38
EPA 200.8 Rev. 5.4	Arsenic	105	110 104 104			0.291
	Cadmium	101	102 102 103			1.14
	Chromium	97.9	92.7 97.1 98.0			0.956
	Copper	100	97.5 95.4 94.9			0.534
	Lead	99.7	103 100 100			0.0946
	Nickel	102	99.5 96.7 96.2			0.441
	Silver	103	101 102 103			0.787
EPA 300.0 Rev. 2.1	Chloride	97.2	97.2 96.2		2.08	
EPA 350.1 Rev. 2.0	Ammonia-N	102	97.6 97.8			0.150
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	101 103			1.56
EPA 353.2 Rev. 2.0	NO2NO3-N	103	99.8 98.3			1.46
EPA 365.1 Rev. 2.0	Total-P	105	99.2 101			1.86
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	105	94.7 98.7			4.14
SM 2120 B	Color (true)				0.561	
SM 2320 B-97	Total Alkalinity	103			0.463	
SM 2540 C-97	TDS				2.92	
SM 4500 F-C-97	Fluoride	98.3	97.3 97.9			0.480
SM 5310 B-00	Organic Carbon	102	103 102			0.914

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1926536
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1926540
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1926540
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1926536
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1926537
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1926537
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1926537
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1926537
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1926538
SM 2120 B / E31780	True Color measured at 450 nm	1926536
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1926536
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1926536
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1926536
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1926536
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1926537

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	08/30/2017			08/30/2017 15:25	DeAsia Armster	1926536
EPA 200.7 Rev. 4.4	08/30/2017	08/31/2017	Elliott D. Healy	09/05/2017	Betina Topolski	1926540
EPA 200.8 Rev. 5.4	08/30/2017	08/31/2017	Elliott D. Healy	09/06/2017	Nadine Brooks	1926540
	08/30/2017	08/31/2017	Elliott D. Healy	09/13/2017	Nadine Brooks	1926540
EPA 300.0 Rev. 2.1	08/30/2017			09/06/2017	Julia Storbeck	1926536
EPA 350.1 Rev. 2.0	08/30/2017			09/01/2017	Sofia Elnemr	1926537
EPA 351.2 Rev. 2.0	08/30/2017	09/01/2017	Adrian Shelby	09/05/2017	Joseph Suarez	1926537
EPA 353.2 Rev. 2.0	08/30/2017			09/05/2017	Beverly Y. Sanders	1926537
EPA 365.1 Rev. 2.0	08/30/2017	08/31/2017	Sima Feizi	09/01/2017	Lipi Saha	1926537
EPA 365.1 Rev. 2.0 dissolved	08/30/2017			08/30/2017 14:57	Megan Treadwell	1926538
SM 2120 B	08/30/2017			08/30/2017 16:59	Tanya Welborn	1926536
SM 2320 B-97	08/30/2017			09/07/2017	Dale L. Simmons	1926536
SM 2540 C-97	08/30/2017			09/01/2017	Yijie Li	1926536
SM 2540 D-97	08/30/2017			09/01/2017	Yijie Li	1926536
SM 4500 F-C-97	08/30/2017			09/16/2017	Dale L. Simmons	1926536
SM 5310 B-00	08/30/2017			09/06/2017	Ping Hua	1926537