Chemical Analysis Report

NW-DIST-2019-08-15-02

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

Event Description: **ESC/BW BAY RUN**
Request ID: **RQ-2019-08-12-27**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 11-SEP-2019 16:05

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: BLACKWATER BAY WEST OF ESCRIBANO POINT **Collection Date/Time: 08/14/2019 13:00**

Field ID: G4NW0401 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2111922	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P369126	
	EPA 300.0	Bromide	15		mg Br/L	P369435	
	SM 2320 B-97	Total Alkalinity	36		mg CaCO3/L	P369681	
	SM 2540 D-97	TSS	4	I	mg/L	P369484	
	SM 4500 F-C-97	Fluoride	0.26		mg F/L	P369892	
2111923	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P369693	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P369363	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P369576	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P369306	
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P369625	
2111924	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P369132	
2111928	EPA 200.7 Rev. 4.4	Iron	160	I	ug/L	P369529	
		Manganese	25		ug/L	P369529	
		Zinc	15	U	ug/L	P369529	
	EPA 200.8 Rev. 5.4	Aluminum	63	I	ug/L	P369529	
		Antimony	0.20	U	ug/L	P369529	
		Arsenic	0.82		ug/L	P369529	
		Cadmium	0.080	U	ug/L	P369529	
		Chromium	4.0	U	ug/L	P369529	
		Copper	1.6	U	ug/L	P369529	
		Lead	0.80	U	ug/L	P369529	
		Nickel	2.0	U	ug/L	P369529	
		Selenium	0.80	U	ug/L	P369529	
		Silver	0.040	U	ug/L	P369529	
		Thallium	0.40	U	ug/L	P369529	

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: P369126

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369529

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: P369529

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 300.0
Batch ID: P369435

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369363

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369576

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369306

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369132

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/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: P369484

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P369892

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P369625

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: P369529

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115
Manganese	104		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369529

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	103		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	98.8		P	85 - 115
Copper	98.4		P	85 - 115
Lead	98.7		P	85 - 115
Nickel	101		P	85 - 115
Selenium	104		P	85 - 115
Silver	103		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P369435

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369363

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: P369576

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: P369306

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369132

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

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: P369892

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P369625

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113473	Iron	99.2	98.1	P/P	70 - 130
2113473	Manganese	95.8	98.3	P/P	70 - 130
2113473	Zinc	105	107	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113473	Aluminum	107	109	P/P	70 - 130
2113473	Antimony	103	103	P/P	70 - 130
2113473	Arsenic	113	112	P/P	70 - 130
2113473	Cadmium	99.4	101	P/P	70 - 130
2113473	Chromium	94.2	95.7	P/P	70 - 130
2113473	Copper	101	101	P/P	70 - 130
2113473	Lead	102	102	P/P	70 - 130
2113473	Nickel	104	104	P/P	70 - 130
2113473	Selenium	106	106	P/P	70 - 130
2113473	Silver	97.5	97.9	P/P	70 - 130
2113473	Thallium	104	106	P/P	70 - 130

Reference Method: EPA 300.0
Batch ID: P369435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111696	Bromide	96.9	100	P/P	90 - 110
2112206	Bromide	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2112043	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369363

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111664	Kjeldahl Nitrogen	94.2	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111676	NO2NO3-N	98.8	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369306

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111667	Total-P	104	96.6	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111924	O-Phosphate-P	97.6	98.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P369892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2111922	Fluoride	98.7	101	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P369625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113123	Organic Carbon	91.7	89.3	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369126

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111936	Turbidity	4.54	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113473	Iron	1.10	Spike	P	0 - 20
2113473	Manganese	2.27	Spike	P	0 - 20
2113473	Zinc	1.59	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113473	Aluminum	1.43	Spike	P	0 - 20
2113473	Antimony	0.409	Spike	P	0 - 20
2113473	Arsenic	0.0781	Spike	P	0 - 20
2113473	Cadmium	1.34	Spike	P	0 - 20
2113473	Chromium	1.62	Spike	P	0 - 20
2113473	Copper	0.419	Spike	P	0 - 20
2113473	Lead	0.233	Spike	P	0 - 20
2113473	Nickel	0.196	Spike	P	0 - 20
2113473	Selenium	0.334	Spike	P	0 - 20
2113473	Silver	0.390	Spike	P	0 - 20
2113473	Thallium	2.32	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P369435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111696	Bromide	3.33	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2112043	Ammonia-N	0.685	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111664	Kjeldahl Nitrogen	2.48	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111676	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369306

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111667	Total-P	6.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111924	O-Phosphate-P	0.613	Spike	P	0 - 20

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

Reference Method: SM 4500 F-C-97
Batch ID: P369892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2111922	Fluoride	1.91	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P369625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113123	Organic Carbon	2.42	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: A93540
Included Lab Sample IDs: 2111922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A93541
Included Lab Sample IDs: 2111924

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A93671
Included Lab Sample IDs: 2111923

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A93679
Included Lab Sample IDs: 2111923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.8	P/P	90 - 110

Reference Method: EPA 300.0
Run ID: A93690
Included Lab Sample IDs: 2111922

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A93747
Included Lab Sample IDs: 2111923

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

Reference Method: SM 5310 B-00
Run ID: A93766
Included Lab Sample IDs: 2111923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	95.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A93792
Included Lab Sample IDs: 2111928

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A93792
Included Lab Sample IDs: 2111928

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

Reference Method: SM 2320 B-97
Run ID: A93793
Included Lab Sample IDs: 2111922

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A93798
Included Lab Sample IDs: 2111923

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

Reference Method: SM 4500 F-C-97
Run ID: A93863
Included Lab Sample IDs: 2111922

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94079
Included Lab Sample IDs: 2111928

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	103	P/P	90 - 110
Antimony	96.5	96.7	P/P	90 - 110
Arsenic	101	103	P/P	90 - 110
Cadmium	97.3	98.3	P/P	90 - 110
Chromium	97.4	99.4	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Lead	96.4	97.4	P/P	90 - 110
Nickel	101	102	P/P	90 - 110
Selenium	100	99.7	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	95.2	95.2	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						4.54	
EPA 200.7 Rev. 4.4	Iron	105	99.2	98.1				1.10
	Manganese	104	95.8	98.3				2.27
	Zinc	104	105	107				1.59
EPA 200.8 Rev. 5.4	Aluminum	101	107	109				1.43
	Antimony	101	103	103				0.409
	Arsenic	103	113	112				0.0781
	Cadmium	101	99.4	101				1.34
	Chromium	98.8	94.2	95.7				1.62
	Copper	98.4	101	101				0.419
	Lead	98.7	102	102				0.233
	Nickel	101	104	104				0.196
	Selenium	104	106	106				0.334
	Silver	103	97.5	97.9				0.390
	Thallium	104	104	106				2.32
EPA 300.0	Bromide	100	96.9	100	97.9			3.33
EPA 350.1 Rev. 2.0	Ammonia-N	100	103	104				0.685
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	94.2	96.9				2.48
EPA 353.2 Rev. 2.0	NO2NO3-N	100	98.8	98.2				0.494
EPA 365.1 Rev. 2.0	Total-P	107	104	96.6				6.31
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	97.6	98.2				0.613
SM 2320 B-97	Total Alkalinity	105					0.472	
SM 4500 F-C-97	Fluoride	96.7	98.7	101				1.91
SM 5310 B-00	Organic Carbon	93.4	91.7	89.3				2.42

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2111922
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2111928
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2111928
EPA 300.0 / E31780	Bromide in aqueous matrices	2111922
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2111923
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2111923
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2111923
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2111923
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2111924
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2111922
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2111922
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2111922
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2111923

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	08/15/2019			08/15/2019 16:59	Rosalyn Ballman	2111922
EPA 200.7 Rev. 4.4	08/15/2019	08/22/2019 16:00	Elliott D. Healy	08/26/2019 13:04	Alexander Thompson	2111928
EPA 200.8 Rev. 5.4	08/15/2019	08/22/2019 16:00	Elliott D. Healy	09/09/2019 21:23	Justin Cutchin	2111928
	08/15/2019	08/22/2019 16:00	Elliott D. Healy	09/09/2019 22:39	Justin Cutchin	2111928
EPA 300.0	08/15/2019			08/20/2019 20:14	Jhamieka S. Greenwood	2111922
EPA 350.1 Rev. 2.0	08/15/2019			08/26/2019 12:18	Ping Hua	2111923
EPA 351.2 Rev. 2.0	08/15/2019	08/20/2019 11:35	Sima Feizi	08/21/2019 11:14	Joseph Suarez	2111923
EPA 353.2 Rev. 2.0	08/15/2019			08/23/2019 10:25	Beverly Y. Sanders	2111923
EPA 365.1 Rev. 2.0	08/15/2019	08/20/2019 12:45	Lipi Saha	08/21/2019 12:00	Lipi Saha	2111923
EPA 365.1 Rev. 2.0 dissolved	08/15/2019			08/15/2019 14:20	Jhamieka S. Greenwood	2111924
SM 2320 B-97	08/15/2019			08/26/2019 23:52	Dale L. Simmons	2111922
SM 2540 D-97	08/15/2019			08/19/2019 15:20	Yijie Li	2111922
SM 4500 F-C-97	08/15/2019			08/28/2019 21:24	Dale L. Simmons	2111922
SM 5310 B-00	08/15/2019			08/24/2019 05:03	Madeline Funaro	2111923