Chemical Analysis Report

NW-DIST-2017-12-12-02

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

Event Description: **Bayou Chico BMAP**
Request ID: **RQ-2017-11-13-18**
Customer: **NW-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
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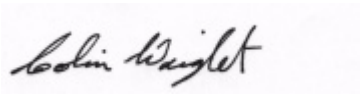
Certified by: Colin Wright, Program Administrator

Date Certified: 27-DEC-2017 10:54



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 group are included in this report: 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: Pensacola Bay at Sanders Beach **Collection Date/Time: 12/11/2017 11:00**

Field ID: A Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1953100	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P336844	
1953105	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P337424	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21	I	mg N/L	P337211	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P336913	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P337059	

Sample Location: Bayou Chico at Mandalay Park **Collection Date/Time: 12/11/2017 11:25**

Field ID: B Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1953101	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P336844	
1953106	EPA 350.1 Rev. 2.0	Ammonia-N	0.063		mg N/L	P337424	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P337212	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P336913	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P337059	

Sample Location: Jones Creek at Old Corry Road **Collection Date/Time: 12/11/2017 11:50**

Field ID: C Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1953096	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P336844	
1953098	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P337423	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P337141	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.093		mg N/L	P337284	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P337056	

Sample Location: Jackson Creek at Old Corry Road **Collection Date/Time: 12/11/2017 12:20**

Field ID: D Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1953102	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P336844	
1953107	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P337423	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P337141	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.9		mg N/L	P337285	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P337060	

Sample Location: Jackson Creek at New Warrington Road **Collection Date/Time: 12/11/2017 12:35**

Field ID: E Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1953103	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P336844	
1953108	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P337423	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P337141	
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.1		mg N/L	P337285	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P337060	

Sample Location: Bayou Chico at Navy Blvd Bridge **Collection Date/Time: 12/11/2017 13:40**

Field ID: F Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1953104	EPA 180.1 Rev. 2.0	Turbidity	4.0	A	NTU	P336845	
1953109	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P337424	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P337212	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.96		mg N/L	P336913	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P337059	

Sample Location: Bayou Chico at W Street **Collection Date/Time: 12/11/2017 14:05**

Field ID: G Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1953097	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P336844	
1953099	EPA 350.1 Rev. 2.0	Ammonia-N	0.077		mg N/L	P337423	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P337141	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.5		mg N/L	P337284	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P337056	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336844

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336845

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337423

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337424

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337141

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337211

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337212

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336913

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337284

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337285

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337056

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337059

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337060

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337423

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337424

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: P337141

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337211

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337212

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336913

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337284

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337285

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337056

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.6		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337059

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337060

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1952995	Ammonia-N	108	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337424

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953024	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337141

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953107	Kjeldahl Nitrogen	95.6	98.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953060	Kjeldahl Nitrogen	94.9	91.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953106	Kjeldahl Nitrogen	98.1	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953064	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1952995	NO2NO3-N	105	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953176	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953099	Total-P	98.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953065	Total-P	94.4	93.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337060

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1953107	Total-P	98.9	99.3	P/P	90 - 110

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953223	Turbidity	3.13	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953104	Turbidity	3.24	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1952995	Ammonia-N	1.05	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337424

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953024	Ammonia-N	1.26	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953107	Kjeldahl Nitrogen	2.41	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953060	Kjeldahl Nitrogen	2.88	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P337212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953106	Kjeldahl Nitrogen	1.50	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953064	NO2NO3-N	0.962	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1952995	NO2NO3-N	0.416	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P337285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953176	NO2NO3-N	0.962	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953099	Total-P	1.94	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953065	Total-P	1.23	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P337060

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1953107	Total-P	0.335	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: A80852
Included Lab Sample IDs: 1953096, 1953097, 1953100, 1953101, 1953102, 1953103, 1953104

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A80870
Included Lab Sample IDs: 1953105, 1953106, 1953109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A80968
Included Lab Sample IDs: 1953098, 1953099, 1953105, 1953106, 1953107, 1953108, 1953109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	102	P/P	90 - 110
Total-P	102	95.5	P/P	90 - 110
Total-P	97.5	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A81019
Included Lab Sample IDs: 1953098, 1953099, 1953107, 1953108

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.9	92.5	P/P	90 - 110
Kjeldahl Nitrogen	92.5	90.9	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A81030
Included Lab Sample IDs: 1953105, 1953106, 1953109

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A81041
Included Lab Sample IDs: 1953098, 1953099, 1953107, 1953108

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A81097
Included Lab Sample IDs: 1953098, 1953099, 1953105, 1953106, 1953107, 1953108, 1953109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	103	P/P	90 - 110
Ammonia-N	105	106	P/P	90 - 110
Ammonia-N	106	104	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					3.13	
	Turbidity					3.24	
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	108	106			1.05
	Ammonia-N	102	101	100			1.26
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.6	95.6	98.3			2.41
	Kjeldahl Nitrogen	95.4	94.9	91.8			2.88
	Kjeldahl Nitrogen	97.9	98.1	99.8			1.50
EPA 353.2 Rev. 2.0	NO2NO3-N	105	104	104			0.962
	NO2NO3-N	104	105	105			0.416
	NO2NO3-N	104	104	104			0.962
EPA 365.1 Rev. 2.0	Total-P	99.6	98.6	101			1.94
	Total-P	101	94.4	93.3			1.23
	Total-P	104	98.9	99.3			0.335

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1953096, 1953097, 1953100, 1953101, 1953102, 1953103, 1953104
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1953098, 1953099, 1953105, 1953106, 1953107, 1953108, 1953109
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1953098, 1953099, 1953105, 1953106, 1953107, 1953108, 1953109

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1953098, 1953099, 1953105, 1953106, 1953107, 1953108, 1953109
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1953098, 1953099, 1953105, 1953106, 1953107, 1953108, 1953109

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	12/12/2017			12/12/2017 16:03	DeAsia Armster	1953096, 1953097, 1953100, 1953101, 1953102, 1953103, 1953104
EPA 350.1 Rev. 2.0	12/12/2017			12/21/2017	Sofia Elnemr	1953098, 1953099, 1953105, 1953106, 1953107, 1953108, 1953109
EPA 351.2 Rev. 2.0	12/12/2017	12/18/2017	Adrian Shelby	12/19/2017	Joseph Suarez	1953098, 1953099, 1953107, 1953108
	12/12/2017	12/19/2017	Adrian Shelby	12/20/2017	Joseph Suarez	1953105, 1953106, 1953109
EPA 353.2 Rev. 2.0	12/12/2017			12/13/2017	Lauren Bottorf	1953105, 1953106, 1953109
	12/12/2017			12/20/2017	Lauren Bottorf	1953098, 1953099, 1953107, 1953108
EPA 365.1 Rev. 2.0	12/12/2017	12/15/2017	Sima Feizi	12/18/2017	Lipi Saha	1953098, 1953099, 1953105, 1953106, 1953107, 1953108, 1953109