

Chemical Analysis Report

NW-DIST-2019-10-15-02

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-2019-09-09-23**
Customer: **NW-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

For additional information please contact
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Certified by: Colin Wright, Program Administrator

Date Certified: 07-NOV-2019 09:36



NON-CONFORMANCE REPORT INCLUDED

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 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: Pensacola Bay at Sanders Beach-Bottle Group C **Collection Date/Time: 10/14/2019 10:35**

Field ID: 33020J10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2128070	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P372506	
2128071	EPA 350.1 Rev. 2.0	Ammonia-N	0.084	J	mg N/L	P372884	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P372652	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012	J	mg N/L	P372917	
	EPA 365.1 Rev. 2.0	Total-P	0.033	J	mg P/L	P372742	

Ref. Method and Comment:

EPA 350.1 Rev. 2.0: Sample integrity compromised because of damaged container.

EPA 353.2 Rev. 2.0: Sample integrity compromised because of damaged container.

EPA 365.1 Rev. 2.0: Total-P: Sample integrity compromised because of damaged container.

Sample Location: Bayou Chico at Mandalay Drive

Collection Date/Time: 10/14/2019 11:00

Field ID: 33020JD4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2128058	EPA 180.1 Rev. 2.0	Turbidity	9.9		NTU	P372506	
2128061	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P372884	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P372652	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.086		mg N/L	P372917	
	EPA 365.1 Rev. 2.0	Total-P	0.070		mg P/L	P372742	

Sample Location: Jackson Creek @ Old Corry Road-Bottle Group Collection Date/Time: 10/14/2019 11:30 B

Field ID: 33020221

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2128064	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P372506	
2128067	EPA 350.1 Rev. 2.0	Ammonia-N	0.042		mg N/L	P372883	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P372619	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.4		mg N/L	P372734	
	EPA 365.1 Rev. 2.0	Total-P	0.026		mg P/L	P372743	

Sample Location: Jackson Creek at New Warrington Road-Group B **Collection Date/Time: 10/14/2019 11:55**

Field ID: 33020222

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2128065	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P372506	
2128068	EPA 350.1 Rev. 2.0	Ammonia-N	0.073		mg N/L	P372885	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P372619	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.7		mg N/L	P372734	
	EPA 365.1 Rev. 2.0	Total-P	0.038		mg P/L	P372743	

**Sample Location: Jones Creek Upstream of New Warrington
Rd-Bottle Group B**

Collection Date/Time: 10/14/2019 12:40

Field ID: 33020117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2128066	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P372506	
2128069	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P372982	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28		mg N/L	P372619	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029		mg N/L	P372734	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P372743	

Sample Location: Bayou Chico at W Street

Collection Date/Time: 10/14/2019 15:00

Field ID: 33020JF1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2128059	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P372506	
2128062	EPA 350.1 Rev. 2.0	Ammonia-N	0.17		mg N/L	P372884	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P372652	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.61		mg N/L	P372917	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P372742	

Sample Location: Bayou Chico at Navy Blvd Bridge

Collection Date/Time: 10/14/2019 14:40

Field ID: 33020JE20

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2128060	EPA 180.1 Rev. 2.0	Turbidity	7.1		NTU	P372506	
2128063	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P372884	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P372652	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.054		mg N/L	P372917	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P372742	

Non-Conformance Report

NCR ID: 7967

Event(s)

NW-DIST-2019-10-15-02

Job(s)

TLH-2019-10-15-104

Sample(s)

2128071

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Sample Integrity

Observation: Sample container was dropped in receiving room, resulting in a broken cap and loss of sample. Sample integrity compromised.

Resolution: Broken cap replaced on 10/18/2019. Any data generated after this date will need to be qualified in LIMS and/or log books.

Authorized by/Date: Peter D. Kaus 11/3/2019

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372506

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372883

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372884

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372885

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372982

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372619

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372652

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372734

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: P372917

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372742

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372743

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: P372883

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372884

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372885

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372982

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372619

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372734

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: P372917

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: P372742

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	94.5		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.1		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128067	Ammonia-N	97.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372884

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128267	Ammonia-N	104	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128475	Ammonia-N	97.7	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128069	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372619

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128068	Kjeldahl Nitrogen	90.3	96.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128071	Kjeldahl Nitrogen	94.2	93.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128011	NO2NO3-N	98.8	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2127847	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372742

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128061	Total-P	90.0	92.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372743

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2128067	Total-P	96.0	98.7	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128009	Turbidity	5.61	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128067	Ammonia-N	1.35	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372884

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128267	Ammonia-N	1.39	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128475	Ammonia-N	0.664	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P372982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128069	Ammonia-N	1.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372619

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128068	Kjeldahl Nitrogen	4.81	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128071	Kjeldahl Nitrogen	0.409	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128011	NO2NO3-N	0.905	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2127847	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372742

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128061	Total-P	2.54	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372743

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2128067	Total-P	2.64	Spike	P	0 - 20

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94965

Included Lab Sample IDs: 2128058, 2128059, 2128060, 2128064, 2128065, 2128066, 2128070

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95064

Included Lab Sample IDs: 2128067, 2128068, 2128069

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: A95132

Included Lab Sample IDs: 2128061, 2128062, 2128063, 2128067, 2128068, 2128071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	101	P/P	90 - 110
Ammonia-N	102	103	P/P	90 - 110
Ammonia-N	102	102	P/P	90 - 110
Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95141

Included Lab Sample IDs: 2128061, 2128062, 2128063, 2128071

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95144

Included Lab Sample IDs: 2128061, 2128062, 2128063, 2128067, 2128068, 2128069, 2128071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.5	93.0	P/P	90 - 110
Kjeldahl Nitrogen	93.6	93.5	P/P	90 - 110
Kjeldahl Nitrogen	97.4	98.1	P/P	90 - 110
Kjeldahl Nitrogen	98.1	91.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95146

Included Lab Sample IDs: 2128061, 2128062, 2128067, 2128068, 2128069, 2128071

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	101	P/P	90 - 110
Total-P	99.0	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95154

Included Lab Sample IDs: 2128063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95172

Included Lab Sample IDs: 2128069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	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 SMP	MS
					LCS	
EPA 180.1 Rev. 2.0	Turbidity				5.61	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	97.8	100		1.35
	Ammonia-N	99.9	104	106		1.39
	Ammonia-N	99.0	97.7	98.9		0.664
	Ammonia-N	99.5	102	100		1.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.2	90.3	96.0		4.81
	Kjeldahl Nitrogen	96.2	94.2	93.7		0.409
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	98.8	97.8		0.905
	NO ₂ NO ₃ -N	100	100	100		0.499
EPA 365.1 Rev. 2.0	Total-P	94.5	90.0	92.5		2.54
	Total-P	95.1	96.0	98.7		2.64

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2128058, 2128059, 2128060, 2128064, 2128065, 2128066, 2128070
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2128061, 2128062, 2128063, 2128067, 2128068, 2128069, 2128071
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2128061, 2128062, 2128063, 2128067, 2128068, 2128069, 2128071
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2128061, 2128062, 2128063, 2128067, 2128068, 2128069, 2128071
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2128061, 2128062, 2128063, 2128067, 2128068, 2128069, 2128071

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	10/15/2019			10/15/2019 16:32	Samantha Davila	2128058, 2128059, 2128060, 2128064, 2128065, 2128066, 2128070
EPA 350.1 Rev. 2.0	10/15/2019			10/21/2019 11:53	Ping Hua	2128067
	10/15/2019			10/21/2019 12:34	Ping Hua	2128061
	10/15/2019			10/21/2019 12:36	Ping Hua	2128062
	10/15/2019			10/21/2019 12:37	Ping Hua	2128063
	10/15/2019			10/21/2019 12:45	Ping Hua	2128071
	10/15/2019			10/21/2019 13:04	Ping Hua	2128068
	10/15/2019			10/22/2019 11:56	Ping Hua	2128069
EPA 351.2 Rev. 2.0	10/15/2019	10/17/2019 11:10	Sima Feizi	10/18/2019 16:29	Jhamieka S. Greenwood	2128071
	10/15/2019	10/17/2019 11:10	Sima Feizi	10/18/2019 16:43	Jhamieka S. Greenwood	2128061
	10/15/2019	10/17/2019 11:10	Sima Feizi	10/18/2019 16:44	Jhamieka S. Greenwood	2128062
	10/15/2019	10/17/2019 11:10	Sima Feizi	10/18/2019 16:46	Jhamieka S. Greenwood	2128063
	10/15/2019	10/17/2019 12:22	Sima Feizi	10/18/2019 17:50	Jhamieka S. Greenwood	2128068
	10/15/2019	10/17/2019 12:22	Sima Feizi	10/18/2019 18:04	Jhamieka S. Greenwood	2128067
	10/15/2019	10/17/2019 12:22	Sima Feizi	10/18/2019 18:05	Jhamieka S. Greenwood	2128069
EPA 353.2 Rev. 2.0	10/15/2019			10/18/2019 11:55	Beverly Y. Sanders	2128067
	10/15/2019			10/18/2019 11:56	Beverly Y. Sanders	2128068
	10/15/2019			10/18/2019 11:57	Beverly Y. Sanders	2128069
	10/15/2019			10/22/2019 13:31	Lauren Lees	2128061
	10/15/2019			10/22/2019 13:32	Lauren Lees	2128062
	10/15/2019			10/22/2019 13:34	Lauren Lees	2128063
	10/15/2019			10/22/2019 13:35	Lauren Lees	2128071
EPA 365.1 Rev. 2.0	10/15/2019	10/18/2019 15:10	Lipi Saha	10/22/2019 11:55	Beverly Y. Sanders	2128063
	10/15/2019	10/18/2019 15:10	Lipi Saha	10/22/2019 13:15	Beverly Y. Sanders	2128061
	10/15/2019	10/18/2019 15:10	Lipi Saha	10/22/2019 13:16	Beverly Y. Sanders	2128062
	10/15/2019	10/18/2019 15:10	Lipi Saha	10/22/2019 13:24	Beverly Y. Sanders	2128071
	10/15/2019	10/18/2019 15:10	Lipi Saha	10/22/2019 13:30	Beverly Y. Sanders	2128067
	10/15/2019	10/18/2019 15:10	Lipi Saha	10/22/2019 13:31	Beverly Y. Sanders	2128068
	10/15/2019	10/18/2019 15:10	Lipi Saha	10/22/2019 13:32	Beverly Y. Sanders	2128069