Chemical Analysis Report

NW-DIST-2019-09-17-01

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

Event Description: **Bayou Chico BMAP/Blank**
Request ID: **RQ-2019-08-12-04**
Customer: **NW-DIST**
Project ID: **BMAP**

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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: Jackson Creek at New Warrington Road **Collection Date/Time: 09/16/2019 13:05**

Field ID: 33020222 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119780	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P370835	
2119782	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P370995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P370969	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.1		mg N/L	P370970	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P370981	

Sample Location: Jones Creek Upstream of New Warrington Rd **Collection Date/Time: 09/16/2019 13:25**

Field ID: 33020117 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119781	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P370835	
2119783	EPA 350.1 Rev. 2.0	Ammonia-N	0.051		mg N/L	P370995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P370969	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.094		mg N/L	P370970	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P370981	

Sample Location: Bayou Chico at W St. Bridge **Collection Date/Time: 09/16/2019 14:40**

Field ID: 33020JF1 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119772	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P370835	
2119776	EPA 350.1 Rev. 2.0	Ammonia-N	0.061		mg N/L	P370933	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P370893	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.74		mg N/L	P371047	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P370894	

Sample Location: Bayou Chico at Navy Blvd. Bridge **Collection Date/Time: 09/16/2019 14:15**

Field ID: 3302JE20 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119773	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P370835	
2119777	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P370933	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P370893	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P371047	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P370894	

Sample Location: Equipment Blank **Collection Date/Time: 09/16/2019 11:35**

Field ID: BMAP_EB Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119784	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P370835	
2119786	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P370995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P370969	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370970	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P370981	

Sample Location: Pensacola Bay at Sanders Beach **Collection Date/Time: 09/16/2019 11:20**

Field ID: 33020J10 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119785	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P370836	
2119787	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P370994	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P370960	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P371047	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P370985	

Sample Location: Bayou Chico at Mandalay Drive **Collection Date/Time: 09/16/2019 11:55**

Field ID: 33020JD4 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119774	EPA 180.1 Rev. 2.0	Turbidity	13	A	NTU	P370835	
2119778	EPA 350.1 Rev. 2.0	Ammonia-N	0.061		mg N/L	P370933	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P370960	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P371047	
	EPA 365.1 Rev. 2.0	Total-P	0.078		mg P/L	P370894	

Sample Location: Jackson Creek @ Old Corry Road **Collection Date/Time: 09/16/2019 12:45**

Field ID: 33020221 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119775	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P370835	
2119779	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P370995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P370969	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.2		mg N/L	P370970	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P370981	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370835

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370836

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370933

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370994

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370995

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370893

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370960

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370969

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370970

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371047

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370894

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370981

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370985

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: P370933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370994

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370995

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370893

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370960

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370969

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370970

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: P371047

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: P370894

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370981

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370985

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119211	Ammonia-N	99.1	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119787	Ammonia-N	97.2	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370995

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119720	Ammonia-N	95.7	96.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370893

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119211	Kjeldahl Nitrogen	101	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370960

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120260	Kjeldahl Nitrogen	98.8	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119779	Kjeldahl Nitrogen	99.0	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370970

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119802	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119777	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370894

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119212	Total-P	94.3	91.3	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370981

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119715	Total-P	97.4	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119787	Total-P	94.8	96.5	P/P	90 - 110

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119774	Turbidity	1.57	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119801	Turbidity	4.38	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119211	Ammonia-N	0.0365	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119787	Ammonia-N	2.82	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119720	Ammonia-N	1.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370893

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119211	Kjeldahl Nitrogen	1.79	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120260	Kjeldahl Nitrogen	2.54	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119779	Kjeldahl Nitrogen	1.59	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370970

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119802	NO2NO3-N	0.962	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119777	NO2NO3-N	0.458	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119212	Total-P	3.21	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119715	Total-P	1.94	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119787	Total-P	1.76	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: A94291
Included Lab Sample IDs: 2119772, 2119773, 2119774, 2119775, 2119780, 2119781, 2119784, 2119785

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A94334
Included Lab Sample IDs: 2119776, 2119777, 2119778

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	99.1	P/P	90 - 110
Ammonia-N	99.1	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A94338
Included Lab Sample IDs: 2119779, 2119782, 2119783, 2119786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	101	P/P	90 - 110
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A94340
Included Lab Sample IDs: 2119779, 2119782, 2119783, 2119786, 2119787

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	98.6	P/P	90 - 110
Ammonia-N	99.1	98.5	P/P	90 - 110
Ammonia-N	100	96.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A94351
Included Lab Sample IDs: 2119776, 2119777

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A94371
Included Lab Sample IDs: 2119776, 2119777, 2119778, 2119787

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A94374
Included Lab Sample IDs: 2119776, 2119777, 2119778

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A94412
Included Lab Sample IDs: 2119778, 2119779, 2119782, 2119783, 2119786, 2119787

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.3	97.2	P/P	90 - 110
Kjeldahl Nitrogen	98.3	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A94415
Included Lab Sample IDs: 2119779, 2119782, 2119783, 2119786

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A94422
Included Lab Sample IDs: 2119787

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.2	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					1.57	
	Turbidity					4.38	
EPA 350.1 Rev. 2.0	Ammonia-N	95.9	99.1	99.2			0.0365
	Ammonia-N	97.6	97.2	100			2.82
	Ammonia-N	99.0	95.7	96.9			1.12
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	101	103			1.79
	Kjeldahl Nitrogen	99.8	98.8	102			2.54
	Kjeldahl Nitrogen	101	99.0	101			1.59
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	102			0.962
	NO2NO3-N	100	103	103			0.458
EPA 365.1 Rev. 2.0	Total-P	104	94.3	91.3			3.21
	Total-P	96.4	97.4	99.4			1.94
	Total-P	97.2	94.8	96.5			1.76

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2119772, 2119773, 2119774, 2119775, 2119780, 2119781, 2119784, 2119785
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2119776, 2119777, 2119778, 2119779, 2119782, 2119783, 2119786, 2119787
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2119776, 2119777, 2119778, 2119779, 2119782, 2119783, 2119786, 2119787
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2119776, 2119777, 2119778, 2119779, 2119782, 2119783, 2119786, 2119787
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2119776, 2119777, 2119778, 2119779, 2119782, 2119783, 2119786, 2119787

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	09/17/2019			09/17/2019 15:16	Samantha Davila	2119772, 2119773, 2119774, 2119775, 2119780, 2119781, 2119784, 2119785
EPA 350.1 Rev. 2.0	09/17/2019			09/18/2019 14:22	Ping Hua	2119776
	09/17/2019			09/18/2019 14:29	Ping Hua	2119777
	09/17/2019			09/18/2019 14:31	Ping Hua	2119778
	09/17/2019			09/19/2019 12:11	Ping Hua	2119787
	09/17/2019			09/19/2019 12:55	Ping Hua	2119782
	09/17/2019			09/19/2019 12:56	Ping Hua	2119783
	09/17/2019			09/19/2019 13:01	Ping Hua	2119786
	09/17/2019			09/19/2019 14:15	Ping Hua	2119779
EPA 351.2 Rev. 2.0	09/17/2019	09/18/2019 11:40	Sima Feizi	09/19/2019 18:58	Julia Storbeck	2119776
	09/17/2019	09/18/2019 11:40	Sima Feizi	09/19/2019 19:00	Julia Storbeck	2119777
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 16:53	Julia Storbeck	2119778
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 16:54	Julia Storbeck	2119787
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 17:31	Julia Storbeck	2119779
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 17:37	Julia Storbeck	2119782
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 17:39	Julia Storbeck	2119783
	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 17:40	Julia Storbeck	2119786
EPA 353.2 Rev. 2.0	09/17/2019			09/19/2019 10:38	Beverly Y. Sanders	2119786
	09/17/2019			09/19/2019 11:53	Beverly Y. Sanders	2119779
	09/17/2019			09/19/2019 11:54	Beverly Y. Sanders	2119782
	09/17/2019			09/19/2019 11:55	Beverly Y. Sanders	2119783
	09/17/2019			09/20/2019 09:35	Beverly Y. Sanders	2119776
	09/17/2019			09/20/2019 09:45	Beverly Y. Sanders	2119777
	09/17/2019			09/20/2019 09:46	Beverly Y. Sanders	2119778
	09/17/2019			09/20/2019 09:47	Beverly Y. Sanders	2119787
EPA 365.1 Rev. 2.0	09/17/2019	09/18/2019 15:11	Lipi Saha	09/19/2019 17:04	Rosalyn Ballman	2119776
	09/17/2019	09/18/2019 15:11	Lipi Saha	09/19/2019 17:05	Rosalyn Ballman	2119777
	09/17/2019	09/18/2019 15:11	Lipi Saha	09/19/2019 17:06	Rosalyn Ballman	2119778
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 16:49	Rosalyn Ballman	2119779
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 16:50	Rosalyn Ballman	2119782
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 16:51	Rosalyn Ballman	2119783
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 16:52	Rosalyn Ballman	2119786
	09/17/2019	09/19/2019 14:14	Lipi Saha	09/23/2019 20:00	Rosalyn Ballman	2119787