Chemical Analysis Report

NW-DIST-2016-05-25-01

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-2016-04-18-16**
Customer: **NW-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
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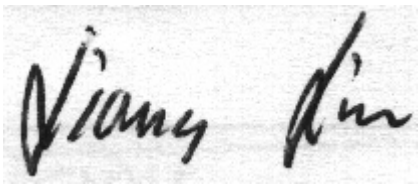
Certified by: Liang Lin, Environmental Administrator

Date Certified: 20-JUN-2016 11:35



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: SANDERS BEACH **Collection Date/Time: 05/24/2016 10:40**

Field ID: F Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802035	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P305039	
1802042	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P305496	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P305314	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P305355	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P305706	

Sample Location: MANDALAY DR. **Collection Date/Time: 05/24/2016 11:10**

Field ID: E Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802036	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P305040	
1802043	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P305496	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P305420	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.065		mg N/L	P305355	
	EPA 365.1 Rev. 2.0	Total-P	0.034		mg P/L	P305706	

Sample Location: JONES @ OLD CORRY **Collection Date/Time: 05/24/2016 11:30**

Field ID: D Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802037	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P305040	
1802044	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P305505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P305419	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P305183	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P305712	

Sample Location: JACKSON @ OLD CORRY **Collection Date/Time: 05/24/2016 11:55**

Field ID: A Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802038	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P305040	
1802045	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P305505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P305419	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.7		mg N/L	P305183	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P305712	

Sample Location: JACKSON @ NEW WARRINGTON **Collection Date/Time: 05/24/2016 12:15**

Field ID: G Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802039	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P305040	
1802046	EPA 350.1 Rev. 2.0	Ammonia-N	0.029		mg N/L	P305505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P305419	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.4		mg N/L	P305183	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P305712	

Sample Location: BAYOU CHICO @ NAVY **Collection Date/Time: 05/24/2016 12:55**

Field ID: C Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802040	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P305040	
1802047	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P305497	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P305420	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.64		mg N/L	P305355	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P305706	

Sample Location: BAYOU CHICO @ W ST **Collection Date/Time: 05/24/2016 13:15**

Field ID: B Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802041	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P305040	
1802048	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P305497	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P305420	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.85		mg N/L	P305640	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P305706	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P305039

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P305040

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305496

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305497

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305505

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305314

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305419

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305420

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305183

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305355

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305640

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305706

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305712

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: P305496

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: P305496

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: P305497

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: P305505

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: P305314

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305420

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: P305183

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305355

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: P305640

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305712

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801380	Ammonia-N	103	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305497

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802047	Ammonia-N	100	98.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802044	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801505	Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801928	Kjeldahl Nitrogen	96.2	95.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305420

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802043	Kjeldahl Nitrogen	98.0	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305183

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: P305183

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802044	NO2NO3-N	96.5	95.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801506	NO2NO3-N	96.7	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1803343	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802042	Total-P	99.4	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802045	Total-P	99.0	102	P/P	90 - 110

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P305039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801921	Turbidity	0.398	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P305040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802036	Turbidity	2.51	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801380	Ammonia-N	1.27	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802047	Ammonia-N	1.24	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802044	Ammonia-N	0.703	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801505	Kjeldahl Nitrogen	1.82	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801928	Kjeldahl Nitrogen	0.791	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802043	Kjeldahl Nitrogen	4.50	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802044	NO2NO3-N	0.673	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801506	NO2NO3-N	1.54	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1803343	NO2NO3-N	0.881	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802042	Total-P	2.53	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802045	Total-P	2.52	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: A69695
Included Lab Sample IDs: 1802035, 1802036, 1802037, 1802038, 1802039, 1802040, 1802041

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A69735
Included Lab Sample IDs: 1802044, 1802045, 1802046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.0	97.0	P/P	90 - 110
NO2NO3-N	97.5	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A69782
Included Lab Sample IDs: 1802042, 1802043, 1802047

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A69820
Included Lab Sample IDs: 1802042, 1802043, 1802044, 1802045, 1802046, 1802047, 1802048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	100	P/P	90 - 110
Ammonia-N	100	99.4	P/P	90 - 110
Ammonia-N	101	99.8	P/P	90 - 110
Ammonia-N	101	101	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A69824
Included Lab Sample IDs: 1802042

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A69846
Included Lab Sample IDs: 1802043, 1802047, 1802048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.8	93.6	P/P	90 - 110
Kjeldahl Nitrogen	96.1	94.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A69857
Included Lab Sample IDs: 1802048

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A69880
Included Lab Sample IDs: 1802044, 1802045, 1802046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.5	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A69947
Included Lab Sample IDs: 1802042, 1802043, 1802044, 1802045, 1802046, 1802047, 1802048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.5	P/P	90 - 110
Total-P	98.8	99.0	P/P	90 - 110
Total-P	99.0	97.8	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					0.398	
	Turbidity					2.51	
EPA 350.1 Rev. 2.0	Ammonia-N	99.9	103	105			1.27
	Ammonia-N	99.9	100	98.4			1.24
	Ammonia-N	100	100	101			0.703
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	105	102			1.82
	Kjeldahl Nitrogen	97.0	96.2	95.1			0.791
	Kjeldahl Nitrogen	101	98.0	103			4.50

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	96.5	95.5			0.673
	NO2NO3-N	100	96.7	98.2			1.54
	NO2NO3-N	102	100	101			0.881
EPA 365.1 Rev. 2.0	Total-P	108	99.4	102			2.53
	Total-P	101	99.0	102			2.52

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1802035, 1802036, 1802037, 1802038, 1802039, 1802040, 1802041
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1802042, 1802043, 1802044, 1802045, 1802046, 1802047, 1802048
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1802042, 1802043, 1802044, 1802045, 1802046, 1802047, 1802048
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1802042, 1802043, 1802044, 1802045, 1802046, 1802047, 1802048
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1802042, 1802043, 1802044, 1802045, 1802046, 1802047, 1802048

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	05/25/2016			05/25/2016 16:22	Sima Feizi	1802035, 1802036, 1802037, 1802038, 1802039, 1802040, 1802041
EPA 350.1 Rev. 2.0	05/25/2016			06/02/2016	Diana M. Turner	1802042, 1802043, 1802044, 1802045, 1802046, 1802047, 1802048
EPA 351.2 Rev. 2.0	05/25/2016	06/01/2016	Sofia Elnemr	06/02/2016	Christopher Armour	1802042
	05/25/2016	06/02/2016	Sofia Elnemr	06/03/2016	Christopher Armour	1802043, 1802047, 1802048
	05/25/2016	06/02/2016	Sofia Elnemr	06/06/2016	Christopher Armour	1802044, 1802045, 1802046
EPA 353.2 Rev. 2.0	05/25/2016			05/27/2016	Peter D. Kaus	1802044, 1802045, 1802046
	05/25/2016			06/01/2016	Peter D. Kaus	1802042, 1802043, 1802047
	05/25/2016			06/06/2016	Peter D. Kaus	1802048
EPA 365.1 Rev. 2.0	05/25/2016	06/07/2016	Vijayalakshmi Reddy	06/09/2016	Virginia P. Brown	1802042, 1802043, 1802044, 1802045, 1802046, 1802047, 1802048