

Chemical Analysis Report

NW-DIST-2016-10-18-01

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-2016-09-19-16**
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

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Certified by: Colin Wright, Environmental Administrator

Date Certified: 14-NOV-2016 12:25

A handwritten signature in black ink, appearing to read "Colin Wright", is written on a light-colored rectangular background.

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: 10/17/2016 10:10

Field ID: A

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1841363	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P313397	
1841370	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P314549	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35	I	mg N/L	P314283	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P313639	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P314059	

Sample Location: Bayou Chico at Mandalay Park

Collection Date/Time: 10/17/2016 10:35

Field ID: B

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1841364	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P313397	
1841371	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P314549	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P314283	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P313639	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P314059	

Sample Location: Jones Creek at Old Corry Road

Collection Date/Time: 10/17/2016 11:10

Field ID: C

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1841365	EPA 180.1 Rev. 2.0	Turbidity	4.9	A	NTU	P313398	
1841372	EPA 350.1 Rev. 2.0	Ammonia-N	0.066		mg N/L	P314549	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P314283	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P313639	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P314059	

Sample Location: Jackson Creek at Old Corry Road

Collection Date/Time: 10/17/2016 11:40

Field ID: D

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1841366	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P313398	
1841373	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P314397	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P314284	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.4		mg N/L	P313541	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P314128	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Jackson Creek at New Warrington Road

Collection Date/Time: 10/17/2016 12:00

Field ID: E

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1841367	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P313398	
1841374	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P314397	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23		mg N/L	P314284	
	EPA 353.2 Rev. 2.0	NO2NO3-N	2.5		mg N/L	P313541	

Field ID: E

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1841374	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P314128	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Bayou Chico at Navy Blvd Bridge

Collection Date/Time: 10/17/2016 13:25

Field ID: F

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1841368	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P313398	
1841375	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P314549	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P314283	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P314363	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P314059	

Sample Location: Bayou Chico at W Street

Collection Date/Time: 10/17/2016 13:45

Field ID: G

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1841369	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P313398	
1841376	EPA 350.1 Rev. 2.0	Ammonia-N	0.084		mg N/L	P314549	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P314283	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.80		mg N/L	P313898	
	EPA 365.1 Rev. 2.0	Total-P	0.033		mg P/L	P314059	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P313397

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P313398

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P314397

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P314549

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: P314283

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314284

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313541

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313639

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313898

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314363

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314059

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314128

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: P314397

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P314397

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P314549

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314283

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314284

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	90.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313541

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313639

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	106		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313898

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P314363

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314059

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P314128

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P314397

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1841311	Ammonia-N	101	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P314549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1841370	Ammonia-N	103	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P314283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1841581	Kjeldahl Nitrogen	98.9	97.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P313541

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1841308	NO2NO3-N	95.0	95.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P313639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840065	NO2NO3-N	106	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P313898

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1841579	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P314363

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843737	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P314059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1840343	Total-P	92.3	93.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P314128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1841373	Total-P	99.0	100	P/P	90 - 110

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P313397

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841291	Turbidity	0.972	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P313398

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841365	Turbidity	1.42	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P314397

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841311	Ammonia-N	1.55	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P314549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841370	Ammonia-N	2.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841581	Kjeldahl Nitrogen	1.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P314284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P314284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841392	Kjeldahl Nitrogen	8.27	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P313541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841308	NO2NO3-N	0.525	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P313639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840065	NO2NO3-N	2.40	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P313898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841579	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P314363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843737	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P314059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1840343	Total-P	1.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P314128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1841373	Total-P	1.26	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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A72290

Included Lab Sample IDs: 1841363, 1841364, 1841365, 1841366, 1841367, 1841368, 1841369

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72337

Included Lab Sample IDs: 1841373, 1841374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	95.0	93.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72364

Included Lab Sample IDs: 1841370, 1841371, 1841372

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72436

Included Lab Sample IDs: 1841376

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72525

Included Lab Sample IDs: 1841370, 1841371, 1841372, 1841375, 1841376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	97.2	P/P	90 - 110
Total-P	97.2	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72562

Included Lab Sample IDs: 1841373, 1841374

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72565

Included Lab Sample IDs: 1841375

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72577

Included Lab Sample IDs: 1841370, 1841371, 1841372, 1841375, 1841376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72577

Included Lab Sample IDs: 1841370, 1841371, 1841372, 1841375, 1841376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	97.6	P/P	90 - 110
Kjeldahl Nitrogen	97.6	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A72578

Included Lab Sample IDs: 1841373, 1841374

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A72604

Included Lab Sample IDs: 1841370, 1841371, 1841372, 1841375, 1841376

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72665

Included Lab Sample IDs: 1841373, 1841374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.8	94.1	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	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				0.972	
	Turbidity				1.42	
EPA 350.1 Rev. 2.0	Ammonia-N	102	101 104			1.55
	Ammonia-N	104	103 106			2.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	98.9 97.5			1.24
	Kjeldahl Nitrogen	90.8				8.27
EPA 353.2 Rev. 2.0	NO2NO3-N	101	95.0 95.5			0.525
	NO2NO3-N	106	106 103			2.40
	NO2NO3-N	103	104 104			0.0
	NO2NO3-N	105	103 103			0.0
EPA 365.1 Rev. 2.0	Total-P	101	92.3 93.6			1.41
	Total-P	100	99.0 100			1.26

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1841363, 1841364, 1841365, 1841366, 1841367, 1841368, 1841369
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1841370, 1841371, 1841372, 1841373, 1841374, 1841375, 1841376
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1841370, 1841371, 1841372, 1841373, 1841374, 1841375, 1841376
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1841370, 1841371, 1841372, 1841373, 1841374, 1841375, 1841376
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1841370, 1841371, 1841372, 1841373, 1841374, 1841375, 1841376

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	10/18/2016			10/18/2016 15:13	Sima Feizi	1841363, 1841364, 1841365, 1841366, 1841367, 1841368, 1841369
EPA 350.1 Rev. 2.0	10/18/2016			11/01/2016	Sofia Elnemr	1841373, 1841374
	10/18/2016			11/03/2016	Sofia Elnemr	1841370, 1841371, 1841372, 1841375, 1841376
EPA 351.2 Rev. 2.0	10/18/2016	11/01/2016	Adrian Shelby	11/02/2016	Joseph Suarez	1841370, 1841371, 1841372, 1841375, 1841376
	10/18/2016	11/01/2016	Adrian Shelby	11/04/2016	Joseph Suarez	1841373, 1841374
EPA 353.2 Rev. 2.0	10/18/2016			10/20/2016	Beverly Y. Sanders	1841373, 1841374
	10/18/2016			10/21/2016	Beverly Y. Sanders	1841370, 1841371, 1841372
	10/18/2016			10/26/2016	Beverly Y. Sanders	1841376
	10/18/2016			11/02/2016	Beverly Y. Sanders	1841375
EPA 365.1 Rev. 2.0	10/18/2016	10/27/2016	Vijayalakshmi Reddy	10/31/2016	Lipi Saha	1841370, 1841371, 1841372, 1841375, 1841376
	10/18/2016	10/28/2016	Vijayalakshmi Reddy	10/31/2016	Lipi Saha	1841373, 1841374