

Chemical Analysis Report

CEN-DIST-2017-01-20-02

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

Event Description: **Lake Jessup_Haynes Creek BMAP**
Request ID: **RQ-2017-01-09-34**
Customer: **CEN-DIST**
Project ID: **LKJES-BMAP**

Send Reports to:
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 15-FEB-2017 15:38



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 groups are included in this report: Nutrients and Pesticides.

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: HAYNES CREEK @ 300M DS OF CR 44

Collection Date/Time: 01/19/2017 10:54

Field ID: 2817A_20020642

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1865382	EPA 8321B	Sucralose**	0.13		ug/L	P318567	

Ref. Method and Comment:
 EPA 8321B: Fluoridone = 0.0028 ug/L.

Sample Location: HAYNES CREEK @ JUST DS OF BURELL LOCK

Collection Date/Time: 01/19/2017 11:08

Field ID: 2817A_20020168

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1865383	EPA 8321B	Sucralose**	0.12		ug/L	P318567	

Ref. Method and Comment:
 EPA 8321B: Fluoridone = 0.0021 ug/L.

Sample Location: SWEETWATER CREEK @ FLORIDA AVE

Collection Date/Time: 01/19/2017 13:14

Field ID: 2992_20010768

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1865376	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P318839	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P318577	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.099		mg N/L	P318691	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P318673	
1865378	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.25		mg P/L	P318511	
	dissolved						
1865380	SM 2540 D-97	TSS	4	I	mg/L	P318712	

Ref. Method and Comment:
 EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: SALT CREEK @ PACKARD AVE.

Collection Date/Time: 01/19/2017 13:35

Field ID: 2990_20010763

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1865377	EPA 350.1 Rev. 2.0	Ammonia-N	0.088		mg N/L	P318839	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P318577	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P318691	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P318673	
1865379	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.18		mg P/L	P318511	
	dissolved						
1865381	SM 2540 D-97	TSS	4	I	mg/L	P318712	

Ref. Method and Comment:
 EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P318839

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: P318577

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P318691

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P318673

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P318511

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8321B
Batch ID: P318567

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2540 D-97
Batch ID: P318712

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P318839

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: P318577

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: P318691

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P318691

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P318673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	93.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P318511

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

Reference Method: EPA 8321B
 Batch ID: P318567

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.6		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P318577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1865457	Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P318691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1865321	NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P318673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1865347	Total-P	97.4	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P318511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1865323	O-Phosphate-P	95.5	95.6	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P318567

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

Reference Method: EPA 8321B
 Batch ID: P318567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1865382	Sucralose	136	132	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P318839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1865376	Ammonia-N	1.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P318577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1865457	Kjeldahl Nitrogen	3.98	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P318691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1865321	NO2NO3-N	1.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P318673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1865347	Total-P	0.869	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P318511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1865323	O-Phosphate-P	0.105	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P318567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1865382	Sucralose	2.74	Spike	P	0 - 30

* 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 Surrogates

Lab Sample ID: 1865382
Field Sample ID: 2817A_20020642

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	130	P	40 - 150

Lab Sample ID: 1865383
Field Sample ID: 2817A_20020168

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	142	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A74030
Included Lab Sample IDs: 1865378, 1865379

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A74092
Included Lab Sample IDs: 1865376, 1865377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.6	97.7	P/P	90 - 110
Kjeldahl Nitrogen	97.7	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A74095
Included Lab Sample IDs: 1865376, 1865377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A74127
Included Lab Sample IDs: 1865376, 1865377

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

Reference Method: EPA 8321B
Run ID: A74129
Included Lab Sample IDs: 1865382, 1865383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	110	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A74141
Included Lab Sample IDs: 1865376, 1865377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	97.9	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 350.1 Rev. 2.0	Ammonia-N	100				1.60
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	105 101			3.98
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	103 102			1.32
EPA 365.1 Rev. 2.0	Total-P	93.9	97.4 98.2			0.869
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	105	95.5 95.6			0.105
EPA 8321B	Sucralose	92.6	136 132			2.74

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1865376, 1865377
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1865376, 1865377
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1865376, 1865377
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1865376, 1865377
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1865378, 1865379
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1865382, 1865383
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1865380, 1865381

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 350.1 Rev. 2.0	01/20/2017			01/26/2017	Sofia Elnemr	1865376, 1865377
EPA 351.2 Rev. 2.0	01/20/2017	01/24/2017	Adrian Shelby	01/25/2017	Joseph Suarez	1865376, 1865377
EPA 353.2 Rev. 2.0	01/20/2017			01/25/2017	Beverly Y. Sanders	1865376, 1865377
EPA 365.1 Rev. 2.0	01/20/2017	01/25/2017	Vijayalakshmi Reddy	01/26/2017	Lipi Saha	1865376, 1865377
EPA 365.1 Rev. 2.0 dissolved	01/20/2017			01/20/2017 14:52	Julia Storbeck	1865378
	01/20/2017			01/20/2017 14:53	Julia Storbeck	1865379
EPA 8321B	01/20/2017	01/26/2017	Mohammad Ghaffari	01/26/2017	Mohammad Ghaffari	1865382, 1865383
SM 2540 D-97	01/20/2017			01/24/2017	Yijie Li	1865380, 1865381