Biological Analysis Report

NE-DIST-2018-02-07-02

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

Overflow Analyses Performed By:
ALS Environmental - Jacksonville
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DOH Accreditation E82502

Event Description: **LSJR West 1 2018**
Request ID: **RQ-2018-02-05-22**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Puja Jasrotia, Environmental Manager

Date Certified: 01-MAY-2018 15:08

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: Chlorophyll/Grain Size/BOD, InvertZool, Molecular and Overflow.

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: Williamson Creek @ Jammes Rd. Jacksonville **Collection Date/Time: 02/06/2018 13:40**

Field ID: 20030618 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965448	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.4		ug/L	P340031	
		Phaeophytin-a	0.40	U	ug/L	P340031	
		Chlorophyll-a, Uncorrected	4.5		ug/L	P340031	
1965452	SM 9223 B	Escherichia Coli-Quanti-Tray**	309		MPN/100 mL		
1965457	SOP-PCR-4.0	HF183 - Human Source Marker**	Below Threshold				

Sample Location: Jax Heights at Wesconett **Collection Date/Time: 02/06/2018 10:45**

Field ID: 20030608 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965449	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.7	I	ug/L	P340031	
		Phaeophytin-a	0.40	U	ug/L	P340031	
		Chlorophyll-a, Uncorrected	2.0		ug/L	P340031	
1965453	SM 9223 B	Escherichia Coli-Quanti-Tray**	422		MPN/100 mL		
1965458	SOP-PCR-1.0	HF183-qPCR**	55	T	GEU/100 mL	P340649	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Sample Location: Jax Heights at Wesconett **Collection Date/Time: 02/06/2018 10:45**

Field ID: 20030608 Matrix: BIOLOGICAL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965451	SOP-IZ06	Stream Condition Index (SCI)**	51	A	Points		
		Macroinvert-FW-Qual-DipnetX20-#Taxa -Rep2**	25		# Taxa		

Sample Location: McCoy Creek @ Myrtle Ave **Collection Date/Time: 02/06/2018 14:40**

Field ID: 20030693 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965450	SM 10200 H (mod.)	Chlorophyll-a, Corrected	16		ug/L	P340031	
		Phaeophytin-a	1.2		ug/L	P340031	
		Chlorophyll-a, Uncorrected	17		ug/L	P340031	
1965454	SM 9223 B	Escherichia Coli-Quanti-Tray**	670		MPN/100 mL		
1965459	SOP-PCR-1.0	HF183-qPCR**	81	T	GEU/100 mL	P340649	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Sample Location: Williamson Creek @ Hugh Edwards Dr. **Collection Date/Time: 02/06/2018 13:50**

Field ID: 20030429 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965455	SM 9223 B	Escherichia Coli-Quanti-Tray**	228		MPN/100 mL		
1965460	SOP-PCR-4.0	HF183 - Human Source Marker**	Below Threshold				

Sample Location: McCoy Creek @ McDuff **Collection Date/Time: 02/06/2018 14:15**

Field ID: 20030881 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965456	SM 9223 B	Escherichia Coli-Quanti-Tray**	488		MPN/100 mL		
1965461	SOP-PCR-1.0	HF183-qPCR**	4.9	T	GEU/100 mL	P340649	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Quality Assurance Report
Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P340031

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Chlorophyll-a, Uncorrected	0.40	U	ug/L
Phaeophytin-a	0.40	U	ug/L

Reference Method: SOP-PCR-1.0
Batch ID: P340649

Component	Result	Code	Units
HF183-qPCR	280	U	GEU/100 mL

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P340031

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	99.2		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P340649

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	117	86.1	P/P	50 - 175

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P340649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964973	HF183-qPCR	74.0		P	50 - 175
1964974	HF183-qPCR	84.2		P	50 - 175
1965458	HF183-qPCR	91.9		P	50 - 175
1965459	HF183-qPCR	70.6		P	50 - 175
1965461	HF183-qPCR	83.3		P	50 - 175
1966060	HF183-qPCR	67.1		P	50 - 175
1966063	HF183-qPCR	68.5		P	50 - 175
1966064	HF183-qPCR	72.6		P	50 - 175
1966327	HF183-qPCR	93.3		P	50 - 175
1971016	HF183-qPCR	87.0	81.6	P/P	50 - 175

Quality Assurance Report
Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P340031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965303	Chlorophyll-a, Corrected	3.34	Sample	P	0 - 25
1965303	Chlorophyll-a, Uncorrected	1.92	Sample	P	0 - 25
1965303	Phaeophytin-a	1.21	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P340649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1971016	HF183-qPCR	6.39	Spike	P	0 - 25

* 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: 1965458
Field Sample ID: 20030608

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	95.2	P	50 - 300

Lab Sample ID: 1965459
Field Sample ID: 20030693

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	88.9	P	50 - 300

Lab Sample ID: 1965461
Field Sample ID: 20030881

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	110	P	50 - 300

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision		
				LCS	SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	99.2			3.34	
	Chlorophyll-a, Uncorrected				1.92	
	Phaeophytin-a				1.21	
SOP-PCR-1.0	HF183-qPCR	86.1 117	91.9 70.6 83.3 67.1			6.39

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	1965448, 1965449, 1965450
SM 9223 B / E82502	Escherichia coli by Colilert Quanti-Tray method by ALS Environmental Overflow Laboratory for Northeast District	1965452, 1965453, 1965454, 1965455, 1965456
SOP-IZ06 / E31780	No. Taxa of FW macroinverts, qual samp, 20 dipnets.	1965451
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	1965458, 1965459, 1965461
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	1965457, 1965458, 1965459, 1965460, 1965461

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	02/07/2018	02/07/2018 13:20	Cathy Sherrer	02/14/2018 12:40	Jennifer Mihalic	1965448, 1965449, 1965450
SM 9223 B	02/06/2018	02/06/2018 15:34		02/07/2018 15:48	ALS Environmental, Jax	1965452, 1965453, 1965454, 1965455, 1965456
SOP-IZ06	02/07/2018	04/24/2018 08:22	Mariam Hanna	04/27/2018 12:37	Michael Heyn	1965451
	02/07/2018	04/24/2018 08:22	Mariam Hanna	05/01/2018 12:37	Michael Heyn	1965451
SOP-PCR-1.0	02/07/2018	02/07/2018 13:45	Puja Jasrotia	03/08/2018 14:55	Sarah Menz	1965458, 1965459, 1965461
SOP-PCR-4.0	02/07/2018	02/07/2018 13:45	Angela Smith	02/27/2018 12:51	Puja Jasrotia	1965457, 1965458, 1965459, 1965460, 1965461