

Biological Analysis Report

CEN-DIST-2019-01-30-01

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

Overflow Analyses Performed By:
Pace Analytical Services
8 East Tower Circle
Ormond Beach, FL 32174
DOH Accreditation E83079

Event Description: **Rose / Spruce / Strick / UnBranch / Groover**

Request ID: **RQ-2019-01-28-39**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Michael Linger

For additional information please contact

Cheryl Swanson - Administrator
Jacqueline Savage - Microbiology
Diane Power - Bench Biology
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Amelia Rankin - Taxonomy (Invertebrate & Algal)
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Phone (850) 245-8177

Certified by: Jacqueline Savage, Environmental Administrator

Date Certified: 12-MAR-2019 15:25



NON-CONFORMANCE REPORT INCLUDED

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, 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 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: UNNAMED BRANCH @ 60M UPSTREAM OF AIRPORT ROAD

Collection Date/Time: 01/29/2019 11:26

Field ID: G5CE0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058223	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1.0	QU	MPN/100 mL		
2058250	SOP-PCR-1.0	HF183-qPCR**	380	I	GEU/100 mL	P357602	

Sample Location: SPRUCE CREEK @ 0.68 MILES UPSTREAM OF RR BRIDGE

Collection Date/Time: 01/29/2019 14:15

Field ID: G5CE0099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058219	Enterolert/QT	Enterococci-Quanti-Tray	2419.6	J	MPN/100 mL		
2058227	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.4	J	ug/L	P358523	
		Phaeophytin-a	1.2	UJ	ug/L	P358523	
		Chlorophyll-a, Uncorrected	5.1	J	ug/L	P358523	

Ref. Method and Comment:

Enterolert/QT: All Quanti-tray wells were positive. Result may be higher than reported.

SM 10200 H (mod.): Precision data isn't available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for precision data. See nonconformance report 7482. Phaeo-a may be biased high Chl-a corr may be biased low

Sample Location: SPRUCE CREEK @ 500M UPSTREAM OF RR BRIDGE

Collection Date/Time: 01/29/2019 14:04

Field ID: G5CE0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058220	Enterolert/QT	Enterococci-Quanti-Tray	2419.6	J	MPN/100 mL		
2058228	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.8	J	ug/L	P358523	
		Phaeophytin-a	1.3	IJ	ug/L	P358523	
		Chlorophyll-a, Uncorrected	5.7	J	ug/L	P358523	

Ref. Method and Comment:

Enterolert/QT: All Quanti-tray wells were positive. Result may be higher than reported.

SM 10200 H (mod.): Precision data isn't available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for precision data. See nonconformance report 7482. Phaeo-a may be biased high Chl-a corr may be biased low

Sample Location: ROSE BAY @ 125M NE OF BOAT RAMP

Collection Date/Time: 01/29/2019 12:26

Field ID: G5CE0073

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058217	Enterolert/QT	Enterococci-Quanti-Tray	276	J	MPN/100 mL		
2058225	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.8	J	ug/L	P358523	
		Phaeophytin-a	0.60	UJ	ug/L	P358523	
		Chlorophyll-a, Uncorrected	2.1	J	ug/L	P358523	
2058248	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P359614	
	SOP-PCR-1.2	GULL2-qPCR**	3.2E+04	I	TSC/100 mL	P359614	
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P359614	LCS
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold			P358029	

Ref. Method and Comment:

Enterolert/QT: See NCR 7518.

SM 10200 H (mod.): Precision data isn't available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for precision data. See nonconformance report 7482. Phaeo-a may be biased high Chl-a corr may be biased low

SOP-PCR-1.4: Precision data unavailable for Analysis Batch A89879

Sample Location: ROSE BAY @ 200M E OF BOAT RAMP

Collection Date/Time: 01/29/2019 12:36

Field ID: G5CE0098

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058218	Enterolert/QT	Enterococci-Quanti-Tray	548	J	MPN/100 mL		
2058226	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.7	J	ug/L	P358523	
		Phaeophytin-a	0.60	UJ	ug/L	P358523	
		Chlorophyll-a, Uncorrected	1.9	J	ug/L	P358523	
2058249	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P359614	
	SOP-PCR-1.2	GULL2-qPCR**	1.2E+04	I	TSC/100 mL	P359614	
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P359614	LCS
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold			P358029	

Ref. Method and Comment:

Enterolert/QT: See NCR 7518.

SM 10200 H (mod.): Precision data isn't available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report

for precision data. See nonconformance report 7482. Phaeo-a may be biased high Chl-a corr may be biased low

SOP-PCR-1.4: Precision data unavailable for Analysis Batch A89879

**Sample Location: STRICKLAND BAY @ 100M EAST
(DOWNSTREAM) OF RR CROSSING**

Collection Date/Time: 01/29/2019 13:35

Field ID: G5CE0081

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058221	Enterolert/QT	Enterococci-Quanti-Tray	2419.6	J	MPN/100 mL		
2058229	SM 10200 H (mod.)	Chlorophyll-a, Corrected	6.0	J	ug/L	P358523	
		Phaeophytin-a	1.2	UJ	ug/L	P358523	
		Chlorophyll-a, Uncorrected	6.9	J	ug/L	P358523	

Ref. Method and Comment:

Enterolert/QT: All Quanti-tray wells were positive. Result may be higher than reported.

SM 10200 H (mod.): Precision data isn't available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report

for precision data. See nonconformance report 7482. Phaeo-a may be biased high Chl-a corr may be biased low

**Sample Location: STRICKLAND BAY @ 525M EAST
(DOWNSTREAM) OF RR CROSSING**

Collection Date/Time: 01/29/2019 13:47

Field ID: G5CE0082

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058222	Enterolert/QT	Enterococci-Quanti-Tray	2419.6	J	MPN/100 mL		
2058230	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.2	AJ	ug/L	P358523	
		Phaeophytin-a	1.2	UJ	ug/L	P358523	
		Chlorophyll-a, Uncorrected	5.0	AJ	ug/L	P358523	

Ref. Method and Comment:

Enterolert/QT: All Quanti-tray wells were positive. Result may be higher than reported. See NCR 7518.

SM 10200 H (mod.): Laboratory duplicate result is 1.2 UJ for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample. See nonconformance report #7482. Phaeo-a may be biased high Chl-a corr may be biased low.

Sample Location: GROOVER BRANCH AT TYMBER RUN ROAD

Collection Date/Time: 01/29/2019 10:32

Field ID: G5CE0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058224	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1.0	QU	MPN/100 mL		

**Sample Location: GROOVER BRANCH AT AIRPORT ROAD
BRIDGE**

Collection Date/Time: 01/29/2019 10:45

Field ID: G5CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058283	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1.0	QU	MPN/100 mL		

Sample Location: UNNAMED BRANCH @ BEAR CREEK PATH

Collection Date/Time: 01/29/2019 11:13

Field ID: G5CE0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2058282	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1.0	QU	MPN/100 mL		
2058284	SOP-PCR-1.0	HF183-qPCR**	330	I	GEU/100 mL	P358030	LCS

Non-Conformance Report

NCR ID: 7482

Event(s)

CEN-DIST-2019-01-30-01

Job(s)

TLH-2019-01-30-65

Sample(s)

Test(s)

NCR Type: ANALYSIS

NCR Category: Analytical Measurement

Observation: Samples were inadvertently allowed to thaw overnight which does not comply with the method.

Resolution: Customers have been notified and results will be "J" qualified.

Authorized by/Date: Cheryl A. Swanson 2/25/2019

NCR ID: 7518

Event(s)

CEN-DIST-2019-01-30-01

Job(s)

TLH-2019-01-30-64

Sample(s)

2058217

Test(s)

CEN-DIST-2019-01-30-01

TLH-2019-01-30-64

2058218

CEN-DIST-2019-01-30-01

TLH-2019-01-30-64

2058222

NCR Type: ANALYSIS

NCR Category: Analytical Measurement

Observation: Marine samples were not diluted at least tenfold according to the method.

Resolution: J-qualified samples. Customer notified.

Authorized by/Date: Cheryl A. Swanson 3/1/2019

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
 Please address questions to:

Chemistry Colin Wright (850) 245-8085
 Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
 Batch ID: P358523

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Chlorophyll-a, Uncorrected	0.40	U	ug/L
Phaeophytin-a	0.60	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.0
Batch ID: P357602

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

Reference Method: SOP-PCR-1.0
Batch ID: P358030

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

Reference Method: SOP-PCR-1.0
Batch ID: P359614

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

Reference Method: SOP-PCR-1.2
Batch ID: P359614

Component	Result	Code	Units
GULL2-qPCR	1.7E+04	U	TSC/100 mL

Reference Method: SOP-PCR-1.4
Batch ID: P359614

Component	Result	Code	Units
BacR-qPCR	3.0E+03	U	TSC/100 mL
BacR-qPCR	3.0E+03	U	TSC/100 mL

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P358523

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	114		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P357602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	121	149	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P358030

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	96.4	186	P/F	50 - 175

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.0

Batch ID: P359614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	99.1	144	P/P	50 - 175

Reference Method: SOP-PCR-1.2

Batch ID: P359614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	162	160	P/P	50 - 300

Reference Method: SOP-PCR-1.4

Batch ID: P359614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	43.2	90.8	F/P	50 - 175
BacR-qPCR	43.5	95.1	F/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0

Batch ID: P357602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2047013	HF183-qPCR	88.4		P	50 - 175
2049763	HF183-qPCR	98.8		P	50 - 175
2055951	HF183-qPCR	98.8		P	50 - 175
2056897	HF183-qPCR	89.0		P	50 - 175
2056898	HF183-qPCR	83.9		P	50 - 175
2056899	HF183-qPCR	107		P	50 - 175
2057759	HF183-qPCR	97.0	96.6	P/P	50 - 175
2057761	HF183-qPCR	85.1		P	50 - 175
2057762	HF183-qPCR	84.8		P	50 - 175
2058102	HF183-qPCR	95.4		P	50 - 175
2058250	HF183-qPCR	100		P	50 - 175

Reference Method: SOP-PCR-1.0

Batch ID: P358030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2057014	HF183-qPCR	59.8		P	50 - 175
2058129	HF183-qPCR	85.2		P	50 - 175
2058284	HF183-qPCR	97.0		P	50 - 175
2058446	HF183-qPCR	79.0		P	50 - 175
2058642	HF183-qPCR	95.0		P	50 - 175
2058643	HF183-qPCR	79.3		P	50 - 175
2058644	HF183-qPCR	83.6		P	50 - 175
2058645	HF183-qPCR	89.6		P	50 - 175
2058899	HF183-qPCR	74.8		P	50 - 175
2058900	HF183-qPCR	78.4		P	50 - 175
2059326	HF183-qPCR	80.1	71.8	P/P	50 - 175
2059327	HF183-qPCR	86.0		P	50 - 175
2059329	HF183-qPCR	81.6		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0

Batch ID: P359614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058248	HF183-qPCR	87.8		P	50 - 175
2058249	HF183-qPCR	91.8		P	50 - 175
2060595	HF183-qPCR	84.7		P	50 - 175
2060596	HF183-qPCR	74.6		P	50 - 175
2061285	HF183-qPCR	75.4		P	50 - 175
2061793	HF183-qPCR	83.7		P	50 - 175
2062154	HF183-qPCR	87.4		P	50 - 175
2065681	HF183-qPCR	94.8		P	50 - 175
2065682	HF183-qPCR	88.6		P	50 - 175
2065683	HF183-qPCR	98.9		P	50 - 175
2065684	HF183-qPCR	94.1	94.5	P/P	50 - 175
2066123	HF183-qPCR	79.3		P	50 - 175
2066124	HF183-qPCR	83.0		P	50 - 175

Reference Method: SOP-PCR-1.2

Batch ID: P359614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058248	GULL2-qPCR	173		P	50 - 300
2058249	GULL2-qPCR	175		P	50 - 300
2060595	GULL2-qPCR	151		P	50 - 300
2060596	GULL2-qPCR	163		P	50 - 300
2061285	GULL2-qPCR	140		P	50 - 300
2061793	GULL2-qPCR	137		P	50 - 300
2062154	GULL2-qPCR	157		P	50 - 300

Reference Method: SOP-PCR-1.4

Batch ID: P359614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2058248	BacR-qPCR	81.5		P	50 - 175
2058249	BacR-qPCR	82.6		P	50 - 175
2060595	BacR-qPCR	71.7		P	50 - 175
2060596	BacR-qPCR	73.4		P	50 - 175
2061285	BacR-qPCR	67.2		P	50 - 175
2061793	BacR-qPCR	70.9		P	50 - 175
2062154	BacR-qPCR	77.7		P	50 - 175
2065681	BacR-qPCR	84.9		P	50 - 175
2065682	BacR-qPCR	77.6		P	50 - 175
2065683	BacR-qPCR	83.0		P	50 - 175
2065684	BacR-qPCR	90.6	92.7	P/P	50 - 175
2066123	BacR-qPCR	68.3		P	50 - 175
2066124	BacR-qPCR	78.1		P	50 - 175

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
 Batch ID: P358523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2058230	Chlorophyll-a, Corrected	4.37	Sample	P	0 - 25
2058230	Chlorophyll-a, Uncorrected	3.34	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
 Batch ID: P357602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2057759	HF183-qPCR	0.494	Spike	P	0 - 25

Reference Method: SOP-PCR-1.0
 Batch ID: P358030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2059326	HF183-qPCR	11.0	Spike	P	0 - 25

Reference Method: SOP-PCR-1.0
 Batch ID: P359614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065684	HF183-qPCR	0.427	Spike	P	0 - 25

Reference Method: SOP-PCR-1.2
 Batch ID: P359614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063185	GULL2-qPCR	17.6	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
 Batch ID: P359614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2065684	BacR-qPCR	2.33	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: 2058248
 Field Sample ID: G5CE0073

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	106	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	98.6	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 2058248
Field Sample ID: G5CE0073

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.4	SKETA-qPCR	97.8	P	50 - 300

Lab Sample ID: 2058249
Field Sample ID: G5CE0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	105	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	102	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	101	P	50 - 300

Lab Sample ID: 2058250
Field Sample ID: G5CE0084

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	98.9	P	50 - 300

Lab Sample ID: 2058284
Field Sample ID: G5CE0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	99.8	P	50 - 300

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery			MS % Recovery			LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	114						4.37		
	Chlorophyll-a, Uncorrected							3.34		
SOP-PCR-1.0	HF183-qPCR	149	121		88.4	98.8	98.8		0.494	
					89.0					
	HF183-qPCR	186	96.4		85.2	97.0	59.8		11.0	
					79.0					
	HF183-qPCR	144	99.1		94.8	88.6	98.9		0.427	
					94.1					
SOP-PCR-1.2	GULL2-qPCR	160	162		173	175	157		17.6	
					151					
SOP-PCR-1.4	BacR-qPCR	43.2	95.1	43.5	81.5	82.6	77.7		2.33	
		90.8			71.7					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
Enterolert/QT / E83079	Enterococci by Enterolert Quanti-Tray method by Pace Analytical in Ormond Beach	2058217, 2058218, 2058219, 2058220, 2058221, 2058222
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2058225, 2058226, 2058227, 2058228, 2058229, 2058230
SM 9223 B Quanti-Tray / E83079	Escherichia coli by Colilert-18 Quanti-Tray method by Pace Analytical in Ormond Beach	2058223, 2058224, 2058282, 2058283
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2058248, 2058249, 2058250, 2058284

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SOP-PCR-1.2 / E31780	Detection and quantification of coastal bird specific <i>Catelliboccus marimammalium</i> Gull2 genetic marker with quantitative polymerase chain reaction	2058248, 2058249
SOP-PCR-1.4 / E31780	Detection and quantification of Ruminant specific <i>Bacteroidetes</i> BacR genetic marker with quantitative polymerase chain reaction	2058248, 2058249
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	2058248, 2058249

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	01/29/2019	01/29/2019 16:34		01/30/2019 17:57	Pace Analytical-Ormond Beach	2058217, 2058218, 2058219, 2058220, 2058221, 2058222
SM 10200 H (mod.)	01/30/2019	01/30/2019 13:45	Edwin Gonzalez-Soto	02/05/2019 15:55	Jennifer Mihalic	2058225, 2058226, 2058227, 2058228, 2058229, 2058230
SM 9223 B Quanti-Tray	01/29/2019	01/30/2019 12:45		01/31/2019 10:26	Pace Analytical-Ormond Beach	2058223, 2058224, 2058282, 2058283
SOP-PCR-1.0	01/30/2019	01/30/2019 12:45	Angela Smith	03/07/2019 08:59	Mailin Lopez	2058248, 2058249
	01/30/2019	01/30/2019 12:45	Sarah Menz	02/05/2019 14:56	Mailin Lopez	2058250
	01/30/2019	01/30/2019 14:00	Angela Smith	02/06/2019 14:45	Mailin Lopez	2058284
SOP-PCR-1.2	01/30/2019	01/30/2019 12:45	Angela Smith	03/08/2019 11:03	Mailin Lopez	2058248, 2058249
SOP-PCR-1.4	01/30/2019	01/30/2019 12:45	Angela Smith	03/07/2019 13:38	Mailin Lopez	2058248, 2058249
SOP-PCR-4.0	01/30/2019	01/30/2019 12:45	Angela Smith	03/06/2019 10:40	Sarah Menz	2058248, 2058249