

Biological Analysis Report

WQAP-2017-07-11-03

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

Overflow Analyses Performed By:
Advanced Environmental Laboratories - Tampa
9610 Princess Palm Avenue
Tampa, Florida 33619
DOH Accreditation E84589

Event Description: **RUN 11**
Request ID: **RQ-2017-07-10-21**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Tampa, FL 33637
Attn: Judy Ashton

For additional information please contact
Cheryl Swanson - Administrator
J. Marshall Faircloth - Aquatic Toxicology
Jacqueline Savage - Bench Biology
Jacqueline Savage - Microbiology
Cheryl Swanson - Molecular Biology
Jennifer Walters - Taxonomy (Invertebrate & Algal)
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8177

This Report replaces the previous Report Serial Number: 0098597

Report Comment: Corrected micro incubation times.

Revision certified by: Puja Jasrotia, Environmental Manager

Date Certified: 19-APR-2018 13:37



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 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: BISHOP TIDAL

Collection Date/Time: 07/10/2017 10:45

Field ID: G5SW0054

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912560	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.5		ug/L	P328611	
		Phaeophytin-a	0.89	I	ug/L	P328611	
		Chlorophyll/Phaeophytin Ratio	1.5			P328611	
		Chlorophyll-a, Uncorrected	3.1		ug/L	P328611	

Sample Location: BISHOP TIDAL

Collection Date/Time: 07/10/2017 10:45

Field ID: G5SW0054

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912563	SOP-PCR-1.0	HF183-qPCR**	48	T	GEU/100 mL	P329145	RPD
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				
1912570	SM 9230 C	Enterococci-Membrane Filter	600	B	cfu/100 mL		

Sample Location: BISHOP TIDAL

Collection Date/Time: 07/10/2017 10:45

Field ID: G5SW0054

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912566	SOP-PCR-1.0	HF183-qPCR**	53	T	GEU/100 mL	P328087	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Sample Location: BISHOP TIDAL

Collection Date/Time: 07/10/2017 10:45

Field ID: G5SW0054

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912568	SOP-PCR-1.0	HF183-qPCR**	33	T	GEU/100 mL	P329392	LCS, MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	5.6E+03	U	TSC/100 mL	P328087	LCS
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Ref. Method and Comment:
SOP-PCR-1.2: No amplification of GULL2 marker.

Sample Location: CEDAR TIDAL

Collection Date/Time: 07/10/2017 11:25

Field ID: G5SW0128

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912561	SM 10200 H (mod.)	Chlorophyll-a, Corrected	18		ug/L	P328611	
		Phaeophytin-a	3.4		ug/L	P328611	
		Chlorophyll/Phaeophytin Ratio	1.6			P328611	
		Chlorophyll-a, Uncorrected	20		ug/L	P328611	

Sample Location: CEDAR TIDAL

Collection Date/Time: 07/10/2017 11:25

Field ID: G5SW0128

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912564	SOP-PCR-1.0	HF183-qPCR**	100	T	GEU/100 mL	P329145	RPD
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				
1912571	SM 9230 C	Enterococci-Membrane Filter	440		cfu/100 mL		

Sample Location: CEDAR TIDAL

Collection Date/Time: 07/10/2017 11:25

Field ID: G5SW0128

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912567	SOP-PCR-1.0	HF183-qPCR**	94	U	GEU/100 mL	P328087	
	SOP-PCR-1.2	GULL2-qPCR**	1.0E+03	T	TSC/100 mL	P328087	LCS
	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	U	TSC/100 mL	P328087	LCS
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Ref. Method and Comment:
 SOP-PCR-1.0: No amplification of HF183 marker.
 SOP-PCR-1.4: No amplification of BACR marker.

Sample Location: KLOSTERMAN

Collection Date/Time: 07/10/2017 13:05

Field ID: G5SW0035

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912562	SM 10200 H (mod.)	Chlorophyll-a, Corrected	41		ug/L	P328611	
		Phaeophytin-a	9.9		ug/L	P328611	
		Chlorophyll/Phaeophytin Ratio	1.6			P328611	
		Chlorophyll-a, Uncorrected	49		ug/L	P328611	

Sample Location: KLOSTERMAN

Collection Date/Time: 07/10/2017 13:05

Field ID: G5SW0035

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912565	SOP-PCR-1.0	HF183-purified-qPCR**	9.4	TJ	GEU/100 mL	P329512	LCS, SUR
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				
1912572	SM 9230 C	Enterococci-Membrane Filter	1000	B	cfu/100 mL		

Ref. Method and Comment:
 SOP-PCR-1.0: Quality control failure(s) observed. See QA report for details.

Sample Location: KLOSTERMAN

Collection Date/Time: 07/10/2017 13:05

Field ID: G5SW0035

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1912569	SOP-PCR-1.0	HF183-qPCR**	100	T	GEU/100 mL	P329145	RPD
	SOP-PCR-1.3	GFD-purified-qPCR**	740	J	TSC/100 mL	P328245	LCS, MS, RPD
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

Ref. Method and Comment:
 SOP-PCR-1.3: Quality control failure(s) observed. See QA report for details.

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P328611

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

Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.0
Batch ID: P328087

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

Reference Method: SOP-PCR-1.0
Batch ID: P329145

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

Reference Method: SOP-PCR-1.0
Batch ID: P329392

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

Reference Method: SOP-PCR-1.0
Batch ID: P329512

Component	Result	Code	Units
HF183-purified-qPCR	47	U	GEU/100 mL

Reference Method: SOP-PCR-1.2
Batch ID: P328087

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

Reference Method: SOP-PCR-1.3
Batch ID: P328245

Component	Result	Code	Units
GFD-purified-qPCR	340	U	TSC/100 mL
GFD-purified-qPCR	340	U	TSC/100 mL

Reference Method: SOP-PCR-1.4
Batch ID: P328087

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: P328611

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	108		P	84 - 116

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P328087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	115	68.8	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P329145

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	66.7	87.2	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P329392

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	127	66.7	P/P	50 - 175
HF183-qPCR	232	66.7	F/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P329512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-purified-qPCR	98.4	0.835	P/F	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P328087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	62.4	41.8	P/F	50 - 300

Reference Method: SOP-PCR-1.3
Batch ID: P328245

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-purified-qPCR	14.7	103	F/P	50 - 175
GFD-purified-qPCR	20.1	123	F/P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P328087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	23.9	84.9	F/P	50 - 175
BacR-qPCR	29.2	68.4	F/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P328087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1910311	HF183-qPCR	108		P	50 - 175
1911680	HF183-qPCR	130		P	50 - 175
1911681	HF183-qPCR	122	99.5	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P328087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1911682	HF183-qPCR	85.1		P	50 - 175
1911683	HF183-qPCR	117		P	50 - 175
1911746	HF183-qPCR	83.3		P	50 - 175
1911747	HF183-qPCR	95.3		P	50 - 175
1912403	HF183-qPCR	95.7		P	50 - 175
1912566	HF183-qPCR	116		P	50 - 175
1912567	HF183-qPCR	98.1		P	50 - 175
1912906	HF183-qPCR	93.4		P	50 - 175
1912908	HF183-qPCR	88.3		P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P329145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1903864	HF183-qPCR	62.8		P	50 - 175
1912563	HF183-qPCR	65.7		P	50 - 175
1912564	HF183-qPCR	70.3		P	50 - 175
1912569	HF183-qPCR	56.9		P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P329392

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907187	HF183-qPCR	65.7		P	50 - 175
1907188	HF183-qPCR	44.1	65.8	F/P	50 - 175
1907189	HF183-qPCR	77.0		P	50 - 175
1907190	HF183-qPCR	66.9		P	50 - 175
1912568	HF183-qPCR	63.2		P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P329512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1912565	HF183-purified-qPCR	104		P	50 - 175
1912858	HF183-purified-qPCR	92.1		P	50 - 175
1916651	HF183-purified-qPCR	96.7	105	P/P	50 - 175
1917257	HF183-purified-qPCR	73.6		P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P328087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1912567	GULL2-qPCR	115		P	50 - 300
1912568	GULL2-qPCR	78.1		P	50 - 300

Reference Method: SOP-PCR-1.3
Batch ID: P328245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1870630	GFD-purified-qPCR	147		P	50 - 175
1879803	GFD-purified-qPCR	146		P	50 - 175
1879804	GFD-purified-qPCR	105		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.3
 Batch ID: P328245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902820	GFD-purified-qPCR	72.0		P	50 - 175
1909295	GFD-purified-qPCR	27.7		F	50 - 175
1909893	GFD-purified-qPCR	116		P	50 - 175
1912403	GFD-purified-qPCR	107		P	50 - 175
1912569	GFD-purified-qPCR	40.0		F	50 - 175
1912910	GFD-purified-qPCR	71.4		P	50 - 175
1913825	GFD-purified-qPCR	94.1		P	50 - 175
1913826	GFD-purified-qPCR	83.0		P	50 - 175
1913827	GFD-purified-qPCR	108		P	50 - 175
1913828	GFD-purified-qPCR	81.2	91.4	P/P	50 - 175
1913829	GFD-purified-qPCR	59.8		P	50 - 175
1913830	GFD-purified-qPCR	60.7		P	50 - 175

Reference Method: SOP-PCR-1.4
 Batch ID: P328087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1912567	BacR-qPCR	50.8		P	50 - 175
1912908	BacR-qPCR	78.7		P	50 - 175

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
 Batch ID: P328611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1912449	Chlorophyll/Phaeophytin Ratio	6.45	Sample	P	0 - 25
1912449	Chlorophyll-a, Corrected	8.01	Sample	P	0 - 25
1912449	Chlorophyll-a, Uncorrected	5.25	Sample	P	0 - 25
1912449	Phaeophytin-a	11.1	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
 Batch ID: P328087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1911681	HF183-qPCR	20.4	Spike	P	0 - 25

Reference Method: SOP-PCR-1.0
 Batch ID: P329145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907188	HF183-qPCR	39.4	Spike	F	0 - 25

Quality Assurance Report Precision

Reference Method: SOP-PCR-1.0
 Batch ID: P329392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907188	HF183-qPCR	39.4	Spike	F	0 - 25
1907188	HF183-qPCR	39.4	Spike	F	0 - 25

Reference Method: SOP-PCR-1.0
 Batch ID: P329512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916651	HF183-purified-qPCR	8.29	Spike	P	0 - 25

Reference Method: SOP-PCR-1.2
 Batch ID: P328087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908242	GULL2-qPCR	4.94	Spike	P	0 - 25

Reference Method: SOP-PCR-1.3
 Batch ID: P328245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1913828	GFD-purified-qPCR	11.8	Spike	P	0 - 25
1918018	GFD-purified-qPCR	55.0	Spike	F	0 - 25

Reference Method: SOP-PCR-1.4
 Batch ID: P328087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908242	BacR-qPCR	9.19	Spike	P	0 - 25
1917377	BacR-qPCR	6.85	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: 1912563
 Field Sample ID: G5SW0054

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	108	P	50 - 300

Lab Sample ID: 1912564
 Field Sample ID: G5SW0128

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	68.1	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 1912565
 Field Sample ID: G5SW0035

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	8.51	F	30 - 300

Lab Sample ID: 1912566
 Field Sample ID: G5SW0054

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	119	P	50 - 300

Lab Sample ID: 1912567
 Field Sample ID: G5SW0128

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	72.2	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	107	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	73.7	P	50 - 300

Lab Sample ID: 1912568
 Field Sample ID: G5SW0054

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	93.6	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	113	P	50 - 300

Lab Sample ID: 1912569
 Field Sample ID: G5SW0035

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	57.7	P	50 - 300

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll/Phaeophytin Ratio							6.45	
	Chlorophyll-a, Corrected	108						8.01	
	Chlorophyll-a, Uncorrected							5.25	
	Phaeophytin-a							11.1	
SOP-PCR-1.0	HF183-purified-qPCR	0.835	98.4	104	92.1	96.7			8.29
	HF183-qPCR	68.8	115	108	130	122			20.4
	HF183-qPCR	87.2	66.7	62.8	56.9	65.7			39.4
	HF183-qPCR	127	66.7	232	63.2	65.7	44.1		39.4
SOP-PCR-1.2	GULL2-qPCR	41.8	62.4	115	78.1				4.94
SOP-PCR-1.3	GFD-purified-qPCR	14.7	123	20.1	116	107	40.0		55.0
SOP-PCR-1.4	BacR-qPCR	23.9	68.4	29.2	50.8	78.7			9.19
		84.9							6.85

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	1912560, 1912561, 1912562
SM 9230 C / E84589	Enterococci by membrane filter method by Advanced Environmental Overflow Laboratories for SWD	1912570, 1912571, 1912572
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	1912563, 1912564, 1912566, 1912567, 1912568, 1912569
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	1912565
SOP-PCR-1.2 / E31780	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	1912567, 1912568
SOP-PCR-1.3 / E31780	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	1912569
SOP-PCR-1.4 / E31780	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	1912567
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	1912563, 1912564, 1912565, 1912566, 1912567, 1912568, 1912569

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 10200 H (mod.)	07/11/2017	07/11/2017 14:25	Elizabeth Lovern	07/17/2017 08:25	Jennifer Mihalic	1912560, 1912561, 1912562
SM 9230 C	07/10/2017	07/10/2017 17:10		07/11/2017 15:10	AEL - Tampa	1912570, 1912571, 1912572
SOP-PCR-1.0	07/11/2017	07/11/2017 12:30	Avril Wood	08/04/2017 14:05	Sarah Menz	1912565
	07/11/2017	07/11/2017 12:30	Puja Jasrotia	07/20/2017 11:55	Puja Jasrotia	1912566, 1912567
	07/11/2017	07/11/2017 12:30	Puja Jasrotia	08/02/2017 16:09	Puja Jasrotia	1912563, 1912564, 1912568, 1912569
	07/11/2017	07/11/2017 12:30	Puja Jasrotia	07/31/2017 09:13	Sarah Menz	1912567, 1912568
SOP-PCR-1.2	07/11/2017	07/11/2017 12:30	Puja Jasrotia	07/21/2017 09:27	Sarah Menz	1912569
SOP-PCR-1.3	07/11/2017	07/11/2017 12:30	Puja Jasrotia	07/28/2017 12:59	Sarah Menz	1912567
SOP-PCR-1.4	07/11/2017	07/11/2017 12:30	Puja Jasrotia	07/28/2017 10:51	Puja Jasrotia	1912563, 1912564, 1912565
SOP-PCR-4.0	07/11/2017	07/11/2017 12:30	Avril Wood	07/28/2017 10:51	Puja Jasrotia	1912566, 1912567, 1912568, 1912569
	07/11/2017	07/11/2017 12:30	Sarah Menz			