

Biological Analysis Report

SO-DIST-2021-01-20-01

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

Overflow Analyses Performed By:
Sanders Laboratories
10090 Bavaria Road
Ft. Myers, FL 33913
DOH Accreditation E85457

Event Description: **2021 SMP: Lee Coastal**
Request ID: **RQ-2021-01-18-33**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
2295 Victoria Ave. Suite 364
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Certified by: Puja Jasrotia, Environmental Administrator

Date Certified: 04-FEB-2021 11:52



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: 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: Estero River @ Preserve

Collection Date/Time: 01/19/2021 09:20

Field ID: G1SD0104

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2220199	SOP-PCR-1.0	HF183-qPCR**	71	U	GEU/100 mL	P392217	
	SOP-PCR-1.2	GULL2-qPCR**	900	U	TSC/100 mL	P392217	
	SOP-PCR-1.3	GFD-qPCR**	6.11E+03	J	TSC/100 mL	P392217	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P392217	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P392217	
2220206	Enterolert/QT	ENTEROCOCCI-ENTEROLERT	108		MPN/100 mL		

Ref. Method and Comment:

SOP-PCR-1.2: Precision data unavailable for Analysis Batch A103217

SOP-PCR-1.3: Precision data unavailable for Analysis Batch A103246. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Estero River near ramp

Collection Date/Time: 01/19/2021 09:45

Field ID: G1SD0102

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2220200	SOP-PCR-1.0	HF183-qPCR**	71	U	GEU/100 mL	P392217	
	SOP-PCR-1.2	GULL2-qPCR**	900	U	TSC/100 mL	P392217	
	SOP-PCR-1.3	GFD-qPCR**	3.48E+03		TSC/100 mL	P392217	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P392217	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P392217	
2220207	Enterolert/QT	ENTEROCOCCI-ENTEROLERT	189		MPN/100 mL		

Ref. Method and Comment:

SOP-PCR-1.2: Precision data unavailable for Analysis Batch A103217

SOP-PCR-1.3: Precision data unavailable for Analysis Batch A103246.

Sample Location: Estero River at US41

Collection Date/Time: 01/19/2021 10:40

Field ID: G1SD0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2220201	SOP-PCR-1.0	HF183-qPCR**	78	I	GEU/100 mL	P392217	
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P392217	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P392217	
2220208	Enterolert/QT	ENTEROCOCCI-ENTEROLERT	195		MPN/100 mL		

Sample Location: Imperial River Near US 41

Collection Date/Time: 01/19/2021 11:15

Field ID: G1SD0057

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2220202	SOP-PCR-1.0	HF183-qPCR**	71	U	GEU/100 mL	P392217	
	SOP-PCR-1.2	GULL2-qPCR**	900	U	TSC/100 mL	P392217	
	SOP-PCR-1.3	GFD-qPCR**	2.83E+03		TSC/100 mL	P392217	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P392217	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P392217	
2220209	Enterolert/QT	ENTEROCOCCI-ENTEROLERT	219		MPN/100 mL		

Ref. Method and Comment:

SOP-PCR-1.2: Precision data unavailable for Analysis Batch A103217

SOP-PCR-1.3: Precision data unavailable for Analysis Batch A103246.

Sample Location: Imperial @ US 41 ramp

Collection Date/Time: 01/19/2021 11:40

Field ID: G1SD0108

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2220203	SOP-PCR-1.0	HF183-qPCR**	71	U	GEU/100 mL	P392217	
	SOP-PCR-1.2	GULL2-qPCR**	900	U	TSC/100 mL	P392217	
	SOP-PCR-1.3	GFD-qPCR**	2.35E+03		TSC/100 mL	P392217	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P392217	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P392217	
2220210	Enterolert/QT	ENTEROCOCCI-ENTEROLERT	276		MPN/100 mL		

Ref. Method and Comment:

SOP-PCR-1.2: Precision data unavailable for Analysis Batch A103217

SOP-PCR-1.3: Precision data unavailable for Analysis Batch A103246.

Sample Location: Oak Creek@PennsylvaniaAv

Collection Date/Time: 01/19/2021 12:15

Field ID: G1SD0107

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2220204	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P392614	MS
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P392614	
	SOP-PCR-1.5	DG3-qPCR**	2.9E+03	I	TSC/100 mL	P392614	
2220211	Enterolert/QT	ENTEROCOCCI-ENTEROLERT	517		MPN/100 mL		
2222712	Colilert-18	Escherichia Coli-Quanti-Tray	770		MPN/100 mL		

Sample Location: LeitnerCreek@GoodwinSt

Collection Date/Time: 01/19/2021 12:35

Field ID: G1SD0106

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2220205	SOP-PCR-1.0	HF183-qPCR**	71	U	GEU/100 mL	P392614	MS
	SOP-PCR-1.2	GULL2-qPCR**	6.8E+03		TSC/100 mL	P392614	MS
	SOP-PCR-1.3	GFD-qPCR**	320	I	TSC/100 mL	P392614	
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P392614	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P392614	
2220212	Colilert-18	Escherichia Coli-Quanti-Tray	2420		MPN/100 mL		

Ref. Method and Comment:

SOP-PCR-1.2: Precision data unavailable for Analysis Batch A103359

SOP-PCR-1.3: Precision data unavailable for Analysis Batch A103367

Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.0

Batch ID: P392217

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

Reference Method: SOP-PCR-1.0

Batch ID: P392614

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

Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.2
Batch ID: P392217

Component	Result	Code	Units
GULL2-qPCR	3.6E+03	U	TSC/100 mL

Reference Method: SOP-PCR-1.2
Batch ID: P392614

Component	Result	Code	Units
GULL2-qPCR	3.6E+03	U	TSC/100 mL

Reference Method: SOP-PCR-1.3
Batch ID: P392217

Component	Result	Code	Units
GFD-qPCR	720	U	TSC/100 mL

Reference Method: SOP-PCR-1.3
Batch ID: P392614

Component	Result	Code	Units
GFD-qPCR	720	U	TSC/100 mL

Reference Method: SOP-PCR-1.4
Batch ID: P392217

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

Reference Method: SOP-PCR-1.4
Batch ID: P392614

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

Reference Method: SOP-PCR-1.5
Batch ID: P392217

Component	Result	Code	Units
DG3-qPCR	2.6E+03	U	TSC/100 mL

Reference Method: SOP-PCR-1.5
Batch ID: P392614

Component	Result	Code	Units
DG3-qPCR	2.6E+03	U	TSC/100 mL

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P392217

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

Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P392217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	130	108	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P392614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	132	98.8	P/P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P392217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	87.3	94.0	P/P	50 - 300

Reference Method: SOP-PCR-1.2
Batch ID: P392614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	86.6	83.2	P/P	50 - 300

Reference Method: SOP-PCR-1.3
Batch ID: P392217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-qPCR	178	123	F/P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P392614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-qPCR	103	73.4	P/P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P392217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	98.1	58.8	P/P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P392614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	97.0	71.0	P/P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P392217

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	79.4	56.8	P/P	50 - 175

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.5
Batch ID: P392614

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	67.8	94.4	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P392217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218027	HF183-qPCR	108	116	P	50 - 175
2218028	HF183-qPCR	116		P/P	50 - 175
2218340	HF183-qPCR	130		P	50 - 175
2218923	HF183-qPCR	118		P	50 - 175
2219367	HF183-qPCR	124		P	50 - 175
2219368	HF183-qPCR	110		P	50 - 175
2219369	HF183-qPCR	109		P	50 - 175
2219514	HF183-qPCR	106		P	50 - 175
2220199	HF183-qPCR	101		P	50 - 175
2220200	HF183-qPCR	109		P	50 - 175
2220201	HF183-qPCR	110		P	50 - 175
2220202	HF183-qPCR	105		P	50 - 175
2220203	HF183-qPCR	99.6		P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P392614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220204	HF183-qPCR	101	93.0	P/P	50 - 175
2220205	HF183-qPCR	91.1		P	50 - 175
2220231	HF183-qPCR	89.3		P	50 - 175
2220509	HF183-qPCR	106		P	50 - 175
2220510	HF183-qPCR	99.1		P	50 - 175
2220598	HF183-qPCR	82.9		P	50 - 175
2221252	HF183-qPCR	92.7		P	50 - 175
2221253	HF183-qPCR	79.9		P	50 - 175
2221347	HF183-qPCR	82.3		P	50 - 175
2221348	HF183-qPCR	107		P	50 - 175
2221349	HF183-qPCR	102		P	50 - 175
2221978	HF183-qPCR	51.5		P	50 - 175
2222088	HF183-qPCR	35.7		F	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P392217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219367	GULL2-qPCR	79.0		P	50 - 300
2219368	GULL2-qPCR	78.3		P	50 - 300
2219369	GULL2-qPCR	69.1		P	50 - 300
2219514	GULL2-qPCR	61.6		P	50 - 300
2220199	GULL2-qPCR	98.4		P	50 - 300
2220200	GULL2-qPCR	68.0		P	50 - 300

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.2
Batch ID: P392217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220202	GULL2-qPCR	65.2		P	50 - 300
2220203	GULL2-qPCR	61.4		P	50 - 300

Reference Method: SOP-PCR-1.2
Batch ID: P392614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220205	GULL2-qPCR	67.7		P	50 - 300
2221253	GULL2-qPCR	48.4		F	50 - 300
2221347	GULL2-qPCR	80.5		P	50 - 300
2221348	GULL2-qPCR	60.6		P	50 - 300
2221349	GULL2-qPCR	76.5		P	50 - 300

Reference Method: SOP-PCR-1.3
Batch ID: P392217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2219367	GFD-qPCR	172		P	50 - 175
2219368	GFD-qPCR	175		P	50 - 175
2219369	GFD-qPCR	142		P	50 - 175
2219514	GFD-qPCR	193		F	50 - 175
2220199	GFD-qPCR	180		F	50 - 175
2220200	GFD-qPCR	167		P	50 - 175
2220202	GFD-qPCR	167		P	50 - 175
2220203	GFD-qPCR	168		P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P392614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220205	GFD-qPCR	108		P	50 - 175
2220509	GFD-qPCR	99.0		P	50 - 175
2220510	GFD-qPCR	105		P	50 - 175
2220598	GFD-qPCR	108		P	50 - 175
2221253	GFD-qPCR	104		P	50 - 175
2221347	GFD-qPCR	96.0		P	50 - 175
2221348	GFD-qPCR	89.4		P	50 - 175
2221349	GFD-qPCR	93.5		P	50 - 175
2221978	GFD-qPCR	113		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P392217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218027	BacR-qPCR	74.4		P	50 - 175
2218028	BacR-qPCR	87.5	82.7	P/P	50 - 175
2218340	BacR-qPCR	80.4		P	50 - 175
2218923	BacR-qPCR	88.5		P	50 - 175
2219367	BacR-qPCR	81.8		P	50 - 175
2219368	BacR-qPCR	79.8		P	50 - 175
2219369	BacR-qPCR	74.1		P	50 - 175
2219514	BacR-qPCR	66.6		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.4
Batch ID: P392217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220199	BacR-qPCR	79.4		P	50 - 175
2220200	BacR-qPCR	76.9		P	50 - 175
2220201	BacR-qPCR	83.3		P	50 - 175
2220202	BacR-qPCR	72.3		P	50 - 175
2220203	BacR-qPCR	71.5		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P392614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220204	BacR-qPCR	84.5	91.6	P/P	50 - 175
2220205	BacR-qPCR	85.9		P	50 - 175
2220231	BacR-qPCR	97.4		P	50 - 175
2220509	BacR-qPCR	86.2		P	50 - 175
2220510	BacR-qPCR	86.4		P	50 - 175
2220598	BacR-qPCR	62.2		P	50 - 175
2221252	BacR-qPCR	82.4		P	50 - 175
2221253	BacR-qPCR	66.7		P	50 - 175
2221347	BacR-qPCR	82.2		P	50 - 175
2221348	BacR-qPCR	83.5		P	50 - 175
2221349	BacR-qPCR	89.7		P	50 - 175
2221978	BacR-qPCR	80.3		P	50 - 175
2222088	BacR-qPCR	77.4		P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P392217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218027	DG3-qPCR	85.5		P	50 - 175
2218028	DG3-qPCR	92.4	81.7	P/P	50 - 175
2218340	DG3-qPCR	95.2		P	50 - 175
2218923	DG3-qPCR	87.9		P	50 - 175
2219367	DG3-qPCR	85.2		P	50 - 175
2219368	DG3-qPCR	82.4		P	50 - 175
2219369	DG3-qPCR	80.2		P	50 - 175
2219514	DG3-qPCR	87.1		P	50 - 175
2220199	DG3-qPCR	84.1		P	50 - 175
2220200	DG3-qPCR	82.2		P	50 - 175
2220201	DG3-qPCR	91.3		P	50 - 175
2220202	DG3-qPCR	71.4		P	50 - 175
2220203	DG3-qPCR	80.4		P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P392614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2220204	DG3-qPCR	112	101	P/P	50 - 175
2220205	DG3-qPCR	93.9		P	50 - 175
2220231	DG3-qPCR	95.1		P	50 - 175
2221252	DG3-qPCR	100		P	50 - 175
2221253	DG3-qPCR	77.7		P	50 - 175
2221347	DG3-qPCR	93.5		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.5
Batch ID: P392614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2221348	DG3-qPCR	83.8		P	50 - 175
2221349	DG3-qPCR	89.1		P	50 - 175
2222088	DG3-qPCR	88.9		P	50 - 175

Quality Assurance Report Precision

Reference Method: SOP-PCR-1.0
Batch ID: P392217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218028	HF183-qPCR	0.194	Spike	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P392614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220204	HF183-qPCR	8.55	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P392217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218028	BacR-qPCR	5.52	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P392614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220204	BacR-qPCR	8.06	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5
Batch ID: P392217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218028	DG3-qPCR	12.3	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5
Batch ID: P392614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2220204	DG3-qPCR	10.8	Spike	P	0 - 25

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2220199
Field Sample ID: G1SD0104

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-1.3	SKETA-qPCR	95.5	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	113	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	98.0	P	50 - 300

Lab Sample ID: 2220200
Field Sample ID: G1SD0102

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	101	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	93.0	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	90.8	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	113	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	94.7	P	50 - 300

Lab Sample ID: 2220201
Field Sample ID: G1SD0103

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	103	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	105	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	98.6	P	50 - 300

Lab Sample ID: 2220202
Field Sample ID: G1SD0057

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	97.0	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	92.1	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	93.3	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	111	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	93.5	P	50 - 300

Lab Sample ID: 2220203
Field Sample ID: G1SD0108

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	92.2	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	93.9	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	94.1	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	94.9	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	82.7	P	50 - 300

Lab Sample ID: 2220204
Field Sample ID: G1SD0107

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	99.2	P	50 - 300
SOP-PCR-1.0	SKETA-qPCR	91.1	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	90.2	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	97.3	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 2220204
Field Sample ID: G1SD0107

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.5	SKETA-qPCR	91.0	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	88.2	P	50 - 300

Lab Sample ID: 2220205
Field Sample ID: G1SD0106

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	96.2	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	103	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	103	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	99.6	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	96.0	P	50 - 300

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
SOP-PCR-1.0	HF183-qPCR	108	130	101	109	110			0.194
	HF183-qPCR	98.8	132	101	93.0	91.1			8.55
SOP-PCR-1.2	GULL2-qPCR	94.0	87.3	79.0	78.3	69.1			
	GULL2-qPCR	83.2	86.6	67.7	48.4	80.5			
SOP-PCR-1.3	GFD-qPCR	123	178	172	175	142			
	GFD-qPCR	73.4	103	108	99.0	105			
SOP-PCR-1.4	BacR-qPCR	58.8	98.1	87.5	82.7	74.4			5.52
	BacR-qPCR	71.0	97.0	84.5	91.6	85.9			8.06
SOP-PCR-1.5	DG3-qPCR	56.8	79.4	92.4	81.7	85.5			12.3
	DG3-qPCR	94.4	67.8	112	101	93.9			10.8

Reference Method Descriptions

Method	Description	Associated Samples
Colilert-18	E. coli by Colilert-18/QT by Sanders in Fort Myers	2220212, 2222712
Enterolert/QT	Enterococci by Enterolert/QT by Sanders in Fort Myers	2220206, 2220207, 2220208, 2220209, 2220210, 2220211
SOP-PCR-1.0	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2220199, 2220200, 2220201, 2220202, 2220203, 2220204, 2220205
SOP-PCR-1.2	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	2220199, 2220200, 2220202, 2220203, 2220205
SOP-PCR-1.3	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	2220199, 2220200, 2220202, 2220203, 2220205
SOP-PCR-1.4	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2220199, 2220200, 2220201, 2220202, 2220203, 2220204, 2220205

Reference Method Descriptions

Method	Description	Associated Samples
SOP-PCR-1.5	Detection and quantification of canine-specific DG3 Bacteroides genetic marker with quantitative polymerase chain reaction	2220199, 2220200, 2220201, 2220202, 2220203, 2220204, 2220205

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Colilert-18	01/19/2021	01/19/2021 16:32		01/20/2021 11:04	Sanders-Fort Myers	2220212
Enterolert/QT	01/19/2021	01/19/2021 14:42		01/20/2021 15:10	Sanders-Fort Myers	2220206, 2220207, 2220208, 2220209
SOP-PCR-1.0	01/20/2021	01/20/2021 12:45	Lauren Campbell	01/21/2021 14:33	Lauren Campbell	2220199, 2220200, 2220201, 2220202, 2220203
	01/20/2021	01/20/2021 14:35	DeAsia Armster	01/29/2021 11:30	Lauren Campbell	2220204, 2220205
SOP-PCR-1.2	01/20/2021	01/20/2021 12:45	Lauren Campbell	01/25/2021 14:16	Lauren Campbell	2220199, 2220200, 2220202, 2220203
	01/20/2021	01/20/2021 14:35	DeAsia Armster	02/02/2021 08:27	Mailin Lopez	2220205
SOP-PCR-1.3	01/20/2021	01/20/2021 12:45	Lauren Campbell	01/26/2021 11:58	Lauren Campbell	2220199, 2220200, 2220202, 2220203
	01/20/2021	01/20/2021 14:35	DeAsia Armster	02/02/2021 11:28	Mailin Lopez	2220205
SOP-PCR-1.4	01/20/2021	01/20/2021 12:45	Lauren Campbell	01/22/2021 09:00	Mailin Lopez	2220199, 2220200, 2220201, 2220202, 2220203
	01/20/2021	01/20/2021 14:35	DeAsia Armster	01/29/2021 16:04	Lauren Campbell	2220204, 2220205
SOP-PCR-1.5	01/20/2021	01/20/2021 12:45	Lauren Campbell	01/22/2021 11:27	Mailin Lopez	2220199, 2220200, 2220201, 2220202, 2220203
	01/20/2021	01/20/2021 14:35	DeAsia Armster	01/31/2021 09:02	Mailin Lopez	2220204, 2220205