

Biological Analysis Report

SO-DIST-2024-01-22-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Overflow Analyses Performed By:
Benchmark EnviroAnalytical, Inc. - North Port
1001 Corporate Avenue, Suite 102
North Port, FL 34289
DOH Accreditation E85086

Event Description: **2024 SMP: Venice**
Request ID: **RQ-2024-01-15-30**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: Nicole Reistad

For additional information please contact
Cheryl Swanson - Administrator
Sarah Menz, Ph.D. - Bench Biology & Aquatic
Toxicity
Puja Jasrotia, Ph.D. - Molecular Biology & Taxonomy
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Phone (850) 245-8177

Certified by: Sarah Menz, Environmental Administrator

Date Certified: 06-MAR-2024 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: 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: HATCHETT CREEK AT PINEBROOK RD

Collection Date/Time: 01/18/2024 10:00

Field ID: G3SD0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2462428	SOP-PCR-1.0	HF183-qPCR**	1.7E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.2	GULL2-qPCR**	1.8E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.3	GFD-qPCR**	430	IQ	TSC/100 mL	P439656	
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	UQ	TSC/100 mL	P439656	
2462433	SM 9223 Quanti-Tray	Escherichia Coli-Quanti-Tray	211		MPN/100 mL		

Ref. Method and Comment:

SOP-PCR-1.0: See non-conformance report # 10282

SOP-PCR-1.2: See non-conformance report #10282

SOP-PCR-1.3: See non-conformance report # 10282

SOP-PCR-1.4: See non-conformance report # 10282

SOP-PCR-1.5: See non-conformance report # 10282

Sample Location: ALLIGATOR TIDAL AT US 41

Collection Date/Time: 01/18/2024 10:20

Field ID: G2SD0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2462430	SOP-PCR-1.0	HF183-qPCR**	1.7E+03	UQ	TSC/100 mL	P440262	
	SOP-PCR-1.2	GULL2-qPCR**	1.8E+03	UQ	TSC/100 mL	P440262	
	SOP-PCR-1.3	GFD-qPCR**	1.7E+03	IQ	TSC/100 mL	P440262	
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	UQ	TSC/100 mL	P440262	
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	UQ	TSC/100 mL	P440262	
2462435	Enterolert/QT	Enterococci-Quanti-Tray	1198		MPN/100 mL		

Ref. Method and Comment:

SOP-PCR-1.0: See non-conformance report # 10282

SOP-PCR-1.2: See non-conformance report #10282

SOP-PCR-1.3: See non-conformance report # 10282

SOP-PCR-1.4: See non-conformance report # 10282

SOP-PCR-1.5: See non-conformance report # 10282

Sample Location: ALLIGATOR ATJACARANDA

Collection Date/Time: 01/18/2024 10:40

Field ID: G2SD0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2462429	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.2	GULL2-qPCR**	1.2E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.3	GFD-qPCR**	710	IQ	TSC/100 mL	P439656	
	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.5	DG3-qPCR**	860	UQ	TSC/100 mL	P439656	
2462434	SM 9223 Quanti-Tray	Escherichia Coli-Quanti-Tray	84		MPN/100 mL		

Ref. Method and Comment:

SOP-PCR-1.0: See non-conformance report # 10282

SOP-PCR-1.2: See non-conformance report #10282

SOP-PCR-1.3: See non-conformance report # 10282

SOP-PCR-1.4: See non-conformance report # 10282

SOP-PCR-1.5: See non-conformance report # 10282

Sample Location: HATCHETT CREEK TIDAL 1

Collection Date/Time: 01/18/2024 09:30

Field ID: G3SD0191

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2462432	Enterolert/QT	Enterococci-Quanti-Tray	1455		MPN/100 mL		

Sample Location: CURRY CREEK (TIDAL) AT ALBEE FARM RD Collection Date/Time: 01/18/2024 08:40

Field ID: G3SD0066

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2462427	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.2	GULL2-qPCR**	1.2E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.3	GFD-qPCR**	2.4E+03	Q	TSC/100 mL	P439656	
	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	UQ	TSC/100 mL	P439656	
	SOP-PCR-1.5	DG3-qPCR**	860	UQ	TSC/100 mL	P439656	
2462431	Enterolert/QT	Enterococci-Quanti-Tray	420		MPN/100 mL		

Ref. Method and Comment:
SOP-PCR-1.0: See non-conformance report # 10282
SOP-PCR-1.2: See non-conformance report #10282
SOP-PCR-1.3: See non-conformance report # 10282
SOP-PCR-1.4: See non-conformance report # 10282
SOP-PCR-1.5: See non-conformance report # 10282

Non-Conformance Report

NCR ID: 10282

Event(s)	Job(s)	Sample(s)	Test(s)
SO-DIST-2024-01-22-01			

NCR Type: SHIPPING/RECEIVING NCR Category: Samples arrived late

Observation: Samples arrived late, samples received outside the acceptable temperature range.
Resolution: Samples will be qualified as appropriate. Samples for qPCR analysis were within acceptable temperature range. Customer contacted, email correspondence attached to sample submittal forms. Biology and Chemistry supervisors were notified by email.

Authorized by/Date: Kyle Klug 2/21/2024

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: SOP-PCR-1.0
Batch ID: P439656

Component	Result	Code	Units
HF183-qPCR	3.3E+03	U	TSC/100 mL

Reference Method: SOP-PCR-1.0
Batch ID: P440262

Component	Result	Code	Units
HF183-qPCR	3.3E+03	U	TSC/100 mL

Quality Assurance Report
Method Blank Results

Reference Method: SOP-PCR-1.2
Batch ID: P439656

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

Reference Method: SOP-PCR-1.2
Batch ID: P440262

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

Reference Method: SOP-PCR-1.3
Batch ID: P439656

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

Reference Method: SOP-PCR-1.3
Batch ID: P440262

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

Reference Method: SOP-PCR-1.4
Batch ID: P439656

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

Reference Method: SOP-PCR-1.4
Batch ID: P440262

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

Reference Method: SOP-PCR-1.5
Batch ID: P439656

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

Reference Method: SOP-PCR-1.5
Batch ID: P440262

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: P439656

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: P439656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	90.5	89.5	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P440262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	88.5	89.0	P/P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P439656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	73.9	83.7	P/P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P440262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	78.3	96.7	P/P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P439656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-qPCR	50.2	84.0	P/P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P440262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-qPCR	82.9	94.1	P/P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P439656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	97.6	82.1	P/P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P440262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	106	86.8	P/P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P439656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	92.6	84.5	P/P	50 - 175

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.5

Batch ID: P440262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	95.1	88.0	P/P	50 - 175

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0

Batch ID: P439656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2459335	HF183-qPCR	87.5	84.1	P/P	50 - 175
2459336	HF183-qPCR	93.3		P	50 - 175
2459337	HF183-qPCR	104		P	50 - 175
2459338	HF183-qPCR	104		P	50 - 175
2459864	HF183-qPCR	96.1		P	50 - 175
2459950	HF183-qPCR	94.4		P	50 - 175
2460468	HF183-qPCR	84.8		P	50 - 175
2460496	HF183-qPCR	89.6		P	50 - 175
2460497	HF183-qPCR	94.9		P	50 - 175
2461329	HF183-qPCR	95.8		P	50 - 175
2462427	HF183-qPCR	99.3		P	50 - 175
2462428	HF183-qPCR	123		P	50 - 175
2462429	HF183-qPCR	110		P	50 - 175

Reference Method: SOP-PCR-1.0

Batch ID: P440262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2462430	HF183-qPCR	87.3		P	50 - 175
2462693	HF183-qPCR	95.5	93.5	P/P	50 - 175
2463166	HF183-qPCR	99.9		P	50 - 175
2463301	HF183-qPCR	93.5		P	50 - 175
2463302	HF183-qPCR	96.0		P	50 - 175
2463303	HF183-qPCR	90.0		P	50 - 175
2463304	HF183-qPCR	90.9		P	50 - 175
2463305	HF183-qPCR	93.3		P	50 - 175
2463306	HF183-qPCR	94.3		P	50 - 175
2463570	HF183-qPCR	85.1		P	50 - 175
2463571	HF183-qPCR	90.0		P	50 - 175
2463643	HF183-qPCR	95.5		P	50 - 175
2463737	HF183-qPCR	99.4		P	50 - 175

Reference Method: SOP-PCR-1.2

Batch ID: P439656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2459335	GULL2-qPCR	101	95.3	P/P	50 - 175
2459336	GULL2-qPCR	47.5		F	50 - 175
2459337	GULL2-qPCR	86.4		P	50 - 175
2459864	GULL2-qPCR	95.1		P	50 - 175
2460496	GULL2-qPCR	50.4		P	50 - 175
2460497	GULL2-qPCR	87.9		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.2
Batch ID: P439656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461329	GULL2-qPCR	84.3		P	50 - 175
2462427	GULL2-qPCR	82.9		P	50 - 175
2462428	GULL2-qPCR	61.6		P	50 - 175
2462429	GULL2-qPCR	64.2		P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P440262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2462430	GULL2-qPCR	70.3		P	50 - 175
2462693	GULL2-qPCR	80.6	85.0	P/P	50 - 175
2463301	GULL2-qPCR	65.9		P	50 - 175
2463302	GULL2-qPCR	74.3		P	50 - 175
2463303	GULL2-qPCR	76.9		P	50 - 175
2463306	GULL2-qPCR	56.4		P	50 - 175
2463570	GULL2-qPCR	65.1		P	50 - 175
2463571	GULL2-qPCR	74.8		P	50 - 175
2463643	GULL2-qPCR	71.5		P	50 - 175
2463737	GULL2-qPCR	58.2		P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P439656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2459335	GFD-qPCR	92.1	86.8	P/P	50 - 175
2459336	GFD-qPCR	97.2		P	50 - 175
2459337	GFD-qPCR	91.3		P	50 - 175
2459864	GFD-qPCR	88.1		P	50 - 175
2460496	GFD-qPCR	75.3		P	50 - 175
2460497	GFD-qPCR	90.5		P	50 - 175
2461329	GFD-qPCR	86.3		P	50 - 175
2462427	GFD-qPCR	80.9		P	50 - 175
2462428	GFD-qPCR	73.3		P	50 - 175
2462429	GFD-qPCR	77.6		P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P440262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2462430	GFD-qPCR	86.9		P	50 - 175
2462693	GFD-qPCR	94.8	93.3	P/P	50 - 175
2463301	GFD-qPCR	84.6		P	50 - 175
2463302	GFD-qPCR	99.3		P	50 - 175
2463303	GFD-qPCR	96.8		P	50 - 175
2463306	GFD-qPCR	88.2		P	50 - 175
2463570	GFD-qPCR	96.3		P	50 - 175
2463571	GFD-qPCR	87.8		P	50 - 175
2463643	GFD-qPCR	95.0		P	50 - 175
2463737	GFD-qPCR	84.2		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.4
Batch ID: P439656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2459335	BacR-qPCR	87.4	89.1	P/P	50 - 175
2459336	BacR-qPCR	73.2		P	50 - 175
2459337	BacR-qPCR	92.0		P	50 - 175
2459338	BacR-qPCR	72.1		P	50 - 175
2459864	BacR-qPCR	88.5		P	50 - 175
2460468	BacR-qPCR	68.0		P	50 - 175
2460496	BacR-qPCR	65.7		P	50 - 175
2460497	BacR-qPCR	82.4		P	50 - 175
2461329	BacR-qPCR	83.4		P	50 - 175
2462427	BacR-qPCR	86.1		P	50 - 175
2462428	BacR-qPCR	87.7		P	50 - 175
2462429	BacR-qPCR	80.7		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P440262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2462430	BacR-qPCR	83.1	98.9	P	50 - 175
2462693	BacR-qPCR	97.0		P/P	50 - 175
2463166	BacR-qPCR	73.6		P	50 - 175
2463301	BacR-qPCR	85.0		P	50 - 175
2463302	BacR-qPCR	94.3		P	50 - 175
2463303	BacR-qPCR	80.0		P	50 - 175
2463304	BacR-qPCR	84.1		P	50 - 175
2463305	BacR-qPCR	83.0		P	50 - 175
2463306	BacR-qPCR	84.6		P	50 - 175
2463570	BacR-qPCR	77.5		P	50 - 175
2463571	BacR-qPCR	87.5		P	50 - 175
2463643	BacR-qPCR	82.8		P	50 - 175
2463737	BacR-qPCR	78.6		P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P439656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2459335	DG3-qPCR	89.3	90.1	P/P	50 - 175
2459336	DG3-qPCR	84.3		P	50 - 175
2459337	DG3-qPCR	102		P	50 - 175
2459338	DG3-qPCR	89.1		P	50 - 175
2459864	DG3-qPCR	91.6		P	50 - 175
2459950	DG3-qPCR	89.7		P	50 - 175
2460468	DG3-qPCR	86.4		P	50 - 175
2460496	DG3-qPCR	86.6		P	50 - 175
2460497	DG3-qPCR	95.8		P	50 - 175
2461329	DG3-qPCR	92.3		P	50 - 175
2462427	DG3-qPCR	101		P	50 - 175
2462428	DG3-qPCR	100		P	50 - 175
2462429	DG3-qPCR	93.4		P	50 - 175

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SOP-PCR-1.5
Batch ID: P440262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2462430	DG3-qPCR	85.3	99.5	P	50 - 175
2462693	DG3-qPCR	97.6		P/P	50 - 175
2463166	DG3-qPCR	81.1	99.5	P	50 - 175
2463301	DG3-qPCR	90.5		P	50 - 175
2463302	DG3-qPCR	90.5	99.5	P	50 - 175
2463303	DG3-qPCR	91.7		P	50 - 175
2463304	DG3-qPCR	92.3	99.5	P	50 - 175
2463305	DG3-qPCR	91.3		P	50 - 175
2463306	DG3-qPCR	88.1	99.5	P	50 - 175
2463570	DG3-qPCR	82.7		P	50 - 175
2463571	DG3-qPCR	92.8	99.5	P	50 - 175
2463643	DG3-qPCR	91.9		P	50 - 175
2463737	DG3-qPCR	85.3		P	50 - 175

Quality Assurance Report
Precision

Reference Method: SOP-PCR-1.0
Batch ID: P439656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2459335	HF183-qPCR	3.92	Spike	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P440262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2462693	HF183-qPCR	2.14	Spike	P	0 - 25

Reference Method: SOP-PCR-1.2
Batch ID: P439656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2459335	GULL2-qPCR	6.03	Spike	P	0 - 25

Reference Method: SOP-PCR-1.2
Batch ID: P440262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2462693	GULL2-qPCR	4.46	Spike	P	0 - 25

Reference Method: SOP-PCR-1.3
Batch ID: P439656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2459335	GFD-qPCR	5.96	Spike	P	0 - 25

Quality Assurance Report

Precision

Reference Method: SOP-PCR-1.3
Batch ID: P440262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2462693	GFD-qPCR	1.31	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P439656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2459335	BacR-qPCR	1.95	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P440262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2462693	BacR-qPCR	1.93	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5
Batch ID: P439656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2459335	DG3-qPCR	0.875	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5
Batch ID: P440262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2462693	DG3-qPCR	1.85	Spike	P	0 - 25

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2462427
Field Sample ID: G3SD0066

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	105	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	98.1	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	96.4	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	96.8	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	102	P	50 - 300

Lab Sample ID: 2462428
Field Sample ID: G3SD0103

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
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Quality Assurance Report

Surrogates

Lab Sample ID: 2462428

Field Sample ID: G3SD0103

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	70.4	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	65.7	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	71.6	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	75.4	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	67.8	P	50 - 300

Lab Sample ID: 2462429

Field Sample ID: G2SD0026

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	85.4	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	89.4	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	86.0	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	83.1	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	89.9	P	50 - 300

Lab Sample ID: 2462430

Field Sample ID: G2SD0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	90.4	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	110	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	103	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	95.1	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	98.2	P	50 - 300

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
SOP-PCR-1.0	HF183-qPCR	89.5	90.5	87.5	84.1	93.3			3.92
	HF183-qPCR			104					
SOP-PCR-1.2	HF183-qPCR	89.0	88.5	87.3	95.5	93.5			2.14
	GULL2-qPCR			99.9					
SOP-PCR-1.3	GULL2-qPCR	83.7	73.9	101	95.3	47.5			6.03
	GULL2-qPCR			86.4					
SOP-PCR-1.4	GFD-qPCR	96.7	78.3	70.3	80.6	85.0			4.46
	GFD-qPCR			65.9					
SOP-PCR-1.5	GFD-qPCR	84.0	50.2	92.1	86.8	97.2			5.96
	BacR-qPCR			91.3					
SOP-PCR-1.6	BacR-qPCR	94.1	82.9	86.9	94.8	93.3			1.31
	BacR-qPCR			84.6					
SOP-PCR-1.7	BacR-qPCR	82.1	97.6	87.4	89.1	73.2			1.95
	BacR-qPCR			92.0					
SOP-PCR-1.8	BacR-qPCR	86.8	106	83.1	97.0	98.9			1.93
	DG3-qPCR			73.6					
SOP-PCR-1.9	DG3-qPCR	84.5	92.6	89.3	90.1	84.3			0.875
	DG3-qPCR			102					
SOP-PCR-2.0	DG3-qPCR	88.0	95.1	85.3	97.6	99.5			1.85
	DG3-qPCR			81.1					

Reference Method Descriptions

Method	Description	Associated Samples
Enterolert/QT	Enterococci by Enterolert/QT by BEA South in North Port	2462431, 2462432, 2462435
SM 9223 Quanti-Tray	E. coli by Colilert/QT by BEA South in North Port	2462433, 2462434
SOP-PCR-1.0	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2462427, 2462428, 2462429, 2462430
SOP-PCR-1.2	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	2462427, 2462428, 2462429, 2462430
SOP-PCR-1.3	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	2462427, 2462428, 2462429, 2462430
SOP-PCR-1.4	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2462427, 2462428, 2462429, 2462430
SOP-PCR-1.5	Detection and quantification of canine-specific DG3 Bacteroides genetic marker with quantitative polymerase chain reaction	2462427, 2462428, 2462429, 2462430

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	01/18/2024	01/18/2024 15:17		01/19/2024 15:41	Benchmark EnviroAnalytical in North Port	2462431, 2462432, 2462435
SM 9223 Quanti-Tray	01/18/2024	01/18/2024 14:33		01/19/2024 14:54	Benchmark EnviroAnalytical in North Port	2462433, 2462434
SOP-PCR-1.0	01/22/2024	01/23/2024 09:44	Lily Gregson	01/25/2024 08:53	Roberta Tatti	2462427, 2462428, 2462429
SOP-PCR-1.2	01/22/2024	01/23/2024 09:44	Lily Gregson	02/02/2024 08:42	Roberta Tatti	2462430
	01/22/2024	01/23/2024 09:44	Lily Gregson	01/31/2024 14:49	Madeline Gruver	2462427, 2462428, 2462429
SOP-PCR-1.3	01/22/2024	01/23/2024 09:44	Lily Gregson	02/07/2024 18:12	Madeline Gruver	2462430
	01/22/2024	01/23/2024 09:44	Lily Gregson	01/30/2024 16:54	Madeline Gruver	2462427, 2462428, 2462429
SOP-PCR-1.4	01/22/2024	01/23/2024 09:44	Lily Gregson	02/07/2024 15:49	Madeline Gruver	2462430
	01/22/2024	01/23/2024 09:44	Lily Gregson	01/26/2024 08:47	Roberta Tatti	2462427, 2462428, 2462429
SOP-PCR-1.5	01/22/2024	01/23/2024 09:44	Lily Gregson	02/05/2024 08:33	Roberta Tatti	2462430
	01/22/2024	01/23/2024 09:44	Lily Gregson	01/26/2024 09:54	Roberta Tatti	2462427, 2462428, 2462429
	01/22/2024	01/23/2024 09:44	Lily Gregson	02/05/2024 09:29	Roberta Tatti	2462430