

Biological Analysis Report

SE-DIST-2024-01-26-01

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

Event Description: **SMP - Turkey Creek**
Request ID: **RQ-2024-01-08-30**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Sarah Menz, Environmental Administrator

Date Certified: 11-MAR-2024 14:21

A handwritten signature in dark ink, appearing to be 'Sarah Menz', with a long, sweeping horizontal stroke extending to the right.

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, Microbiology and Molecular.

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: NORTH DITCH NEAR BOTTLEBRUSH DR

Collection Date/Time: 01/25/2024 10:15

Field ID: G5SE0135

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463681	SM 10150 B	Chlorophyll-a, Corrected	4.7	I	ug/L	P440848	
		Phaeophytin-a	2.2	U	ug/L	P440848	
		Chlorophyll-a, Uncorrected	5.5		ug/L	P440848	
2463693	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	2419.6	JQ	MPN/100 mL	P440929	
2463703	SOP-PCR-1.0	HF183-purified-qPCR**	2.7E+03	I J	TSC/100 mL	P441663	LCS, SUR
	SOP-PCR-1.4	BacR-purified-qPCR**	510	UJ	TSC/100 mL	P441663	LCS, SUR
	SOP-PCR-1.5	DG3-purified-qPCR**	430	UJ	TSC/100 mL	P441663	LCS, SUR

Ref. Method and Comment:
SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.
SM 9223 B Quanti-Tray: Precision data is unavailable for E. coli due to the small amount of analyte in the QC sample for the batch. All Quanti-Tray wells were positive. Result may be higher than reported.
SOP-PCR-1.0: Precision data unavailable for HF183-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.
SOP-PCR-1.4: Precision data unavailable for BacR-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.
SOP-PCR-1.5: Precision data unavailable for DG3-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: NORTH PRONG TURKEY CREEK TURKEY CREEK TRAIL

Collection Date/Time: 01/25/2024 10:30

Field ID: G5SE0136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463683	SM 10150 B	Chlorophyll-a, Corrected	6.8		ug/L	P440848	
		Phaeophytin-a	2.5	I	ug/L	P440848	
		Chlorophyll-a, Uncorrected	8.6		ug/L	P440848	
2463695	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	2419.6	Q	MPN/100 mL	P440929	
2463705	SOP-PCR-1.0	HF183-purified-qPCR**	1.2E+03	I	TSC/100 mL	P441663	LCS
	SOP-PCR-1.4	BacR-purified-qPCR**	510	U	TSC/100 mL	P441663	LCS
	SOP-PCR-1.5	DG3-purified-qPCR**	430	U	TSC/100 mL	P441663	LCS

Ref. Method and Comment:
SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.
SM 9223 B Quanti-Tray: Precision data is unavailable for E. coli due to the small amount of analyte in the QC sample for the batch.
SOP-PCR-1.0: Precision data unavailable for HF183-purified-qPCR component.
SOP-PCR-1.4: Precision data unavailable for BacR-purified-qPCR component.
SOP-PCR-1.5: Precision data unavailable for DG3-purified-qPCR component.

Sample Location: DITCH NEAR PALM BAY WWTP

Collection Date/Time: 01/25/2024 11:04

Field ID: G5SE0134

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463680	SM 10150 B	Chlorophyll-a, Corrected	1.9	I	ug/L	P440924	
		Phaeophytin-a	1.8	U	ug/L	P440924	
		Chlorophyll-a, Uncorrected	2.0	I	ug/L	P440924	
2463692	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	11.8	Q	MPN/100 mL	P440929	
2463702	SOP-PCR-1.0	HF183-qPCR**	1.7E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.2	GULL2-qPCR**	1.8E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.3	GFD-qPCR**	660	I	TSC/100 mL	P440491	
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P440491	

Field ID: G5SE0134

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment: SM 10150 B: Lab dup result is 1.7 I for Chl-a Corrected, 1.6 I for Chl-a Uncorrected, and 1.8 U for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample. SM 9223 B Quanti-Tray: Precision data is unavailable for E. coli due to the small amount of analyte in the QC sample for the batch.							

Sample Location: TURKEY CREEK CLEARMONT ST Collection Date/Time: 01/25/2024 11:25

Field ID: G5SE0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463679	SM 10150 B	Chlorophyll-a, Corrected	2.5	I	ug/L	P440848	
		Phaeophytin-a	1.5	U	ug/L	P440848	
		Chlorophyll-a, Uncorrected	3.3		ug/L	P440848	
2463691	Enterolert/QT	Enterococci-Quanti-Tray	579.4	Q	MPN/100 mL	P440929	
2463701	SOP-PCR-1.0	HF183-qPCR**	3.3E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.2	GULL2-qPCR**	3.6E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.3	GFD-qPCR**	1.8E+03	I	TSC/100 mL	P440491	
	SOP-PCR-1.4	BacR-qPCR**	3.0E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.5	DG3-qPCR**	2.6E+03	U	TSC/100 mL	P440491	

Ref. Method and Comment:
SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.
SOP-PCR-1.3: Duplicate was analyzed and result is 1.7E+03 I.

Sample Location: TURKEY CREEK PORT MALABAR BRIDGE Collection Date/Time: 01/25/2024 11:45

Field ID: G5SE0132

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463682	SM 10150 B	Chlorophyll-a, Corrected	2.4	I	ug/L	P440848	
		Phaeophytin-a	0.90	U	ug/L	P440848	
		Chlorophyll-a, Uncorrected	2.9		ug/L	P440848	
2463694	Enterolert/QT	Enterococci-Quanti-Tray	124.6	Q	MPN/100 mL	P440929	
2463704	SOP-PCR-1.0	HF183-purified-qPCR**	370	UJ	TSC/100 mL	P441663	LCS, SUR
	SOP-PCR-1.2	GULL2-purified-qPCR**	400	UJ	TSC/100 mL	P441663	LCS, SUR
	SOP-PCR-1.3	GFD-purified-qPCR**	220	IJ	TSC/100 mL	P441663	LCS, SUR
	SOP-PCR-1.4	BacR-purified-qPCR**	340	UJ	TSC/100 mL	P441663	LCS, SUR
	SOP-PCR-1.5	DG3-purified-qPCR**	290	UJ	TSC/100 mL	P441663	LCS, SUR

Ref. Method and Comment:
SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.
SOP-PCR-1.0: Precision data unavailable for HF183-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.
SOP-PCR-1.2: Precision data unavailable for GULL2-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.
SOP-PCR-1.3: Precision data unavailable for GFD-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.
SOP-PCR-1.4: Precision data unavailable for BacR-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.
SOP-PCR-1.5: Precision data unavailable for DG3-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: TURKEY CREEK RESIDENTIAL CANAL Collection Date/Time: 01/25/2024 12:00

Field ID: G5SE0133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463677	SM 10150 B	Chlorophyll-a, Corrected	26		ug/L	P440848	
		Phaeophytin-a	12		ug/L	P440848	

Field ID: G5SE0133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463677	SM 10150 B	Chlorophyll-a, Uncorrected	34		ug/L	P440848	
2463689	Enterolert/QT	Enterococci-Quanti-Tray	88.0	Q	MPN/100 mL	P440929	
2463699	SOP-PCR-1.0	HF183-qPCR**	3.3E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.2	GULL2-qPCR**	3.6E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.3	GFD-qPCR**	720	U	TSC/100 mL	P440491	
	SOP-PCR-1.4	BacR-qPCR**	3.0E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.5	DG3-qPCR**	2.6E+03	U	TSC/100 mL	P440491	

Ref. Method and Comment:
SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.

Sample Location: TURKEY CREEK NEAR BRIAR CREEK BLVD Collection Date/Time: 01/25/2024 12:30

Field ID: G5SE0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463678	SM 10150 B	Chlorophyll-a, Corrected	0.82	U	ug/L	P440848	
		Phaeophytin-a	0.90	U	ug/L	P440848	
		Chlorophyll-a, Uncorrected	1.1	I	ug/L	P440848	
2463690	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	193.5	Q	MPN/100 mL	P440929	
2463700	SOP-PCR-1.0	HF183-qPCR**	2.2E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.2	GULL2-qPCR**	2.4E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.3	GFD-qPCR**	480	U	TSC/100 mL	P440491	
	SOP-PCR-1.4	BacR-qPCR**	2.0E+03	U	TSC/100 mL	P440491	
	SOP-PCR-1.5	DG3-qPCR**	1.7E+03	U	TSC/100 mL	P440491	

Ref. Method and Comment:
SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.
SM 9223 B Quanti-Tray: Precision data is unavailable for E. coli due to the small amount of analyte in the QC sample for the batch.

Sample Location: LITTLE TURKEY CREEK NEAR FALLON BLVD Collection Date/Time: 01/25/2024 13:05

Field ID: G5SE0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2463684	SM 10150 B	Chlorophyll-a, Corrected	5.4		ug/L	P440852	
		Phaeophytin-a	2.9	I	ug/L	P440852	
		Chlorophyll-a, Uncorrected	7.3		ug/L	P440852	
2463696	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	290.9	Q	MPN/100 mL	P440929	
2463706	SOP-PCR-1.0	HF183-purified-qPCR**	370	U	TSC/100 mL	P441663	LCS
	SOP-PCR-1.2	GULL2-purified-qPCR**	400	U	TSC/100 mL	P441663	LCS
	SOP-PCR-1.3	GFD-purified-qPCR**	1.43E+03		TSC/100 mL	P441663	LCS
	SOP-PCR-1.4	BacR-purified-qPCR**	340	UJ	TSC/100 mL	P441663	LCS, SUR
	SOP-PCR-1.5	DG3-purified-qPCR**	290	U	TSC/100 mL	P441663	LCS

Ref. Method and Comment:
SM 10150 B: Precision data is not available for at least one component due to the small amount of analyte in the QC sample. Refer to QA report for available precision data.
SM 9223 B Quanti-Tray: Precision data is unavailable for E. coli due to the small amount of analyte in the QC sample for the batch.
SOP-PCR-1.0: Precision data unavailable for HF183-purified-qPCR component.
SOP-PCR-1.2: Precision data unavailable for GULL2-purified-qPCR component.
SOP-PCR-1.3: Precision data unavailable for GFD-purified-qPCR component.
SOP-PCR-1.4: Precision data unavailable for BacR-purified-qPCR component. Refer to the Lab Analysis Report for an explanation of QC Codes.
SOP-PCR-1.5: Precision data unavailable for DG3-purified-qPCR component.

Quality Assurance Report
Method Blank Results

Reference Method: Enterolert/QT
Batch ID: P440929

Component	Result	Code	Units
Enterococci-Quanti-Tray	1.0	U	MPN/100 mL

Reference Method: SM 10150 B
Batch ID: P440848

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.82	U	ug/L
Chlorophyll-a, Uncorrected	0.60	U	ug/L
Phaeophytin-a	0.90	U	ug/L

Reference Method: SM 10150 B
Batch ID: P440852

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.82	U	ug/L
Chlorophyll-a, Uncorrected	0.60	U	ug/L
Phaeophytin-a	0.90	U	ug/L

Reference Method: SM 10150 B
Batch ID: P440924

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.82	U	ug/L
Chlorophyll-a, Uncorrected	0.60	U	ug/L
Phaeophytin-a	0.90	U	ug/L

Reference Method: SM 9223 B Quanti-Tray
Batch ID: P440929

Component	Result	Code	Units
Escherichia Coli-Quanti-Tray	1.0	U	MPN/100 mL

Reference Method: SOP-PCR-1.0
Batch ID: P440491

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

Reference Method: SOP-PCR-1.0
Batch ID: P441663

Component	Result	Code	Units
HF183-purified-qPCR	550	U	TSC/100 mL

Reference Method: SOP-PCR-1.2
Batch ID: P440491

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

Quality Assurance Report
Method Blank Results

Reference Method: SOP-PCR-1.2
Batch ID: P441663

Component	Result	Code	Units
GULL2-purified-qPCR	600	U	TSC/100 mL

Reference Method: SOP-PCR-1.3
Batch ID: P440491

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

Reference Method: SOP-PCR-1.3
Batch ID: P441663

Component	Result	Code	Units
GFD-purified-qPCR	120	U	TSC/100 mL

Reference Method: SOP-PCR-1.4
Batch ID: P440491

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

Reference Method: SOP-PCR-1.4
Batch ID: P441663

Component	Result	Code	Units
BacR-purified-qPCR	510	U	TSC/100 mL

Reference Method: SOP-PCR-1.5
Batch ID: P440491

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

Reference Method: SOP-PCR-1.5
Batch ID: P441663

Component	Result	Code	Units
DG3-purified-qPCR	430	U	TSC/100 mL

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 10150 B
Batch ID: P440848

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	103		P	84 - 116

Reference Method: SM 10150 B
Batch ID: P440852

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

Laboratory Control Sample Accuracy

Reference Method: SM 10150 B
Batch ID: P440852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	94.6		P	84 - 116

Reference Method: SM 10150 B
Batch ID: P440924

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	107		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P440491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	81.9	92.6	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P441663

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-purified-qPCR	95.4	13.4	P/F	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P440491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	110	92.0	P/P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P441663

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-purified-qPCR	95.2	9.65	P/F	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P440491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-qPCR	90.5	84.2	P/P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P441663

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-purified-qPCR	79.1	11.5	P/F	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P440491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	100	89.2	P/P	50 - 175

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.4
Batch ID: P441663

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-purified-qPCR	90.6	9.44	P/F	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P440491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	99.9	83.2	P/P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P441663

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-purified-qPCR	99.7	6.61	P/F	50 - 175

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P440491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463699	HF183-qPCR	90.3	93.9	P	50 - 175
2463700	HF183-qPCR	92.6		P	50 - 175
2463701	HF183-qPCR	89.1		P/P	50 - 175
2463702	HF183-qPCR	91.6		P	50 - 175
2463738	HF183-qPCR	93.4	93.9	P	50 - 175
2463739	HF183-qPCR	81.2		P	50 - 175
2463992	HF183-qPCR	87.3		P	50 - 175
2464105	HF183-qPCR	92.4		P	50 - 175
2464106	HF183-qPCR	104		P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P441663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463703	HF183-purified-qPCR	98.3	93.9	P	50 - 175
2463704	HF183-purified-qPCR	98.3		P	50 - 175
2463705	HF183-purified-qPCR	92.8		P	50 - 175
2463706	HF183-purified-qPCR	91.8		P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P440491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463699	GULL2-qPCR	67.8	79.7	P	50 - 175
2463700	GULL2-qPCR	56.0		P	50 - 175
2463701	GULL2-qPCR	81.0		P/P	50 - 175
2463702	GULL2-qPCR	66.8		P	50 - 175
2463738	GULL2-qPCR	80.2	79.7	P	50 - 175
2464106	GULL2-qPCR	83.4		P	50 - 175

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SOP-PCR-1.2
Batch ID: P441663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463704	GULL2-purified-qPCR	93.1		P	50 - 175
2463706	GULL2-purified-qPCR	102		P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P440491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463699	GFD-qPCR	87.3		P	50 - 175
2463700	GFD-qPCR	96.1		P	50 - 175
2463701	GFD-qPCR	93.7	94.1	P/P	50 - 175
2463702	GFD-qPCR	91.0		P	50 - 175
2463738	GFD-qPCR	93.3		P	50 - 175
2464106	GFD-qPCR	103		P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P441663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463704	GFD-purified-qPCR	90.0		P	50 - 175
2463706	GFD-purified-qPCR	89.6		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P440491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463699	BacR-qPCR	62.9		P	50 - 175
2463700	BacR-qPCR	61.7		P	50 - 175
2463701	BacR-qPCR	67.3	72.2	P/P	50 - 175
2463702	BacR-qPCR	55.1		P	50 - 175
2463738	BacR-qPCR	70.7		P	50 - 175
2463739	BacR-qPCR	74.0		P	50 - 175
2463992	BacR-qPCR	54.3		P	50 - 175
2464105	BacR-qPCR	58.9		P	50 - 175
2464106	BacR-qPCR	69.7		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P441663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463703	BacR-purified-qPCR	90.4		P	50 - 175
2463704	BacR-purified-qPCR	91.7		P	50 - 175
2463705	BacR-purified-qPCR	91.5		P	50 - 175
2463706	BacR-purified-qPCR	88.0		P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P440491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463699	DG3-qPCR	91.6		P	50 - 175
2463700	DG3-qPCR	83.5		P	50 - 175
2463701	DG3-qPCR	97.8	105	P/P	50 - 175
2463702	DG3-qPCR	97.2		P	50 - 175

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SOP-PCR-1.5
Batch ID: P440491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463738	DG3-qPCR	106		P	50 - 175
2463739	DG3-qPCR	93.9		P	50 - 175
2463992	DG3-qPCR	87.6		P	50 - 175
2464105	DG3-qPCR	102		P	50 - 175
2464106	DG3-qPCR	111		P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P441663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2463703	DG3-purified-qPCR	96.5		P	50 - 175
2463704	DG3-purified-qPCR	101		P	50 - 175
2463705	DG3-purified-qPCR	102		P	50 - 175
2463706	DG3-purified-qPCR	103		P	50 - 175

Quality Assurance Report
Precision

Reference Method: SM 10150 B
Batch ID: P440852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2464100	Chlorophyll-a, Corrected	2.12	Sample	P	0 - 25
2464100	Chlorophyll-a, Uncorrected	4.39	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P440491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463701	HF183-qPCR	5.29	Spike	P	0 - 25

Reference Method: SOP-PCR-1.2
Batch ID: P440491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463701	GULL2-qPCR	1.62	Spike	P	0 - 25

Reference Method: SOP-PCR-1.3
Batch ID: P440491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463701	GFD-qPCR	0.366	Spike	P	0 - 25

Quality Assurance Report

Precision

Reference Method: SOP-PCR-1.4

Batch ID: P440491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463701	BacR-qPCR	7.02	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5

Batch ID: P440491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2463701	DG3-qPCR	6.89	Spike	P	0 - 25

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2463699

Field Sample ID: G5SE0133

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	75.4	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	111	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	114	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	99.9	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	91.6	P	50 - 300

Lab Sample ID: 2463700

Field Sample ID: G5SE0146

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	70.6	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	108	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	110	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	96.1	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	74.1	P	50 - 300

Lab Sample ID: 2463701

Field Sample ID: G5SE0131

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	90.2	P	50 - 300
SOP-PCR-1.0	SKETA-qPCR	96.4	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	115	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	124	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	115	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	126	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	105	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	110	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	91.3	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	93.3	P	50 - 300

Quality Assurance Report
Surrogates

Lab Sample ID: 2463702
Field Sample ID: G5SE0134

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	69.3	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	104	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	109	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	101	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	87.4	P	50 - 300

Lab Sample ID: 2463703
Field Sample ID: G5SE0135

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	44.0	F	50 - 300
SOP-PCR-1.4	SKETA-qPCR	43.6	F	50 - 300
SOP-PCR-1.5	SKETA-qPCR	48.2	F	50 - 300

Lab Sample ID: 2463704
Field Sample ID: G5SE0132

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	30.2	F	50 - 300
SOP-PCR-1.2	SKETA-qPCR	42.0	F	50 - 300
SOP-PCR-1.3	SKETA-qPCR	38.6	F	50 - 300
SOP-PCR-1.4	SKETA-qPCR	27.5	F	50 - 300
SOP-PCR-1.5	SKETA-qPCR	33.2	F	50 - 300

Lab Sample ID: 2463705
Field Sample ID: G5SE0136

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	58.5	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	52.8	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	59.6	P	50 - 300

Lab Sample ID: 2463706
Field Sample ID: G5SE0150

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	50.2	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	65.6	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	62.8	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	46.2	F	50 - 300
SOP-PCR-1.5	SKETA-qPCR	50.2	P	50 - 300

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision	
				LCS	MS
SM 10150 B	Chlorophyll-a, Corrected	103			
	Chlorophyll-a, Corrected	94.6		2.12	
	Chlorophyll-a, Corrected	107			
	Chlorophyll-a, Uncorrected			4.39	

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
SOP-PCR-1.0	HF183-purified-qPCR	13.4	95.4	98.3	98.3	92.8			
				91.8					
	HF183-qPCR	92.6	81.9	90.3	92.6	89.1			5.29
				93.9					
SOP-PCR-1.2	GULL2-purified-qPCR	9.65	95.2	93.1	102				
	GULL2-qPCR	92.0	110	67.8	56.0	81.0			1.62
				79.7					
SOP-PCR-1.3	GFD-purified-qPCR	11.5	79.1	90.0	89.6				
	GFD-qPCR	84.2	90.5	87.3	96.1	93.7			0.366
				94.1					
SOP-PCR-1.4	BacR-purified-qPCR	90.6	9.44	90.4	91.7	91.5			
				88.0					
	BacR-qPCR	100	89.2	62.9	61.7	67.3			7.02
				72.2					
SOP-PCR-1.5	DG3-purified-qPCR	6.61	99.7	96.5	101	102			
				103					
	DG3-qPCR	83.2	99.9	111	91.6	83.5			6.89
				97.8					

Reference Method Descriptions

Method	Description	Associated Samples
Enterolert/QT	Enterococci by Enterolert Quanti-Tray method - non-chlorinated water systems	2463689, 2463691, 2463694
SM 10150 B	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2463677, 2463678, 2463679, 2463680, 2463681, 2463682, 2463683, 2463684
SM 9223 B Quanti-Tray	Escherichia coli by Colilert 18 Quanti-Tray method - non-chlorinated water systems	2463690, 2463692, 2463693, 2463695, 2463696
SOP-PCR-1.0	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2463699, 2463700, 2463701, 2463702
SOP-PCR-1.0	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2463703, 2463704, 2463705, 2463706
SOP-PCR-1.2	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	2463699, 2463700, 2463701, 2463702
SOP-PCR-1.2	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	2463704, 2463706
SOP-PCR-1.3	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	2463704, 2463706
SOP-PCR-1.3	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	2463699, 2463700, 2463701, 2463702
SOP-PCR-1.4	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2463699, 2463700, 2463701, 2463702
SOP-PCR-1.4	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2463703, 2463704, 2463705, 2463706
SOP-PCR-1.5	Detection and quantification of canine-specific DG3 Bacteroides genetic marker with quantitative polymerase chain reaction	2463699, 2463700, 2463701, 2463702
SOP-PCR-1.5	Detection and quantification of canine-specific DG3 Bacteroides genetic marker with quantitative polymerase chain reaction	2463703, 2463704, 2463705, 2463706

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT SM 10150 B	01/26/2024	01/26/2024 10:57	Callie Williams	01/27/2024 11:23	Megan Higbee	2463689, 2463691, 2463694
	01/26/2024	01/26/2024 13:07	Keanu Thijm	01/31/2024 09:52	Megan Higbee	2463680
	01/26/2024	01/26/2024 13:07	Keanu Thijm	02/01/2024 09:40	Megan Higbee	2463677, 2463678, 2463679, 2463681, 2463682, 2463683
SM 9223 B Quanti-Tray	01/26/2024	01/26/2024 13:07	Keanu Thijm	02/01/2024 15:40	Megan Higbee	2463684
	01/26/2024	01/26/2024 16:49	Callie Williams	01/27/2024 11:07	Megan Higbee	2463690, 2463692, 2463693, 2463695, 2463696
SOP-PCR-1.0	01/26/2024	01/26/2024 12:32	Lily Gregson	02/08/2024 18:51	Madeline Gruver	2463699, 2463700, 2463701, 2463702
	01/26/2024	01/26/2024 12:32	Madeline Gruver	02/22/2024 08:42	Roberta Tatti	2463703, 2463704, 2463705, 2463706
SOP-PCR-1.2	01/26/2024	01/26/2024 12:32	Lily Gregson	02/21/2024 12:53	Madeline Gruver	2463699, 2463700, 2463701, 2463702
	01/26/2024	01/26/2024 12:32	Madeline Gruver	02/27/2024 15:30	Madeline Gruver	2463704, 2463706
SOP-PCR-1.3	01/26/2024	01/26/2024 12:32	Lily Gregson	02/15/2024 17:00	Madeline Gruver	2463699, 2463700, 2463701, 2463702
	01/26/2024	01/26/2024 12:32	Madeline Gruver	02/27/2024 15:30	Madeline Gruver	2463704, 2463706
SOP-PCR-1.4	01/26/2024	01/26/2024 12:32	Lily Gregson	02/09/2024 08:48	Roberta Tatti	2463699, 2463700, 2463701, 2463702
	01/26/2024	01/26/2024 12:32	Madeline Gruver	02/26/2024 08:58	Roberta Tatti	2463703, 2463704, 2463705, 2463706
SOP-PCR-1.5	01/26/2024	01/26/2024 12:32	Lily Gregson	02/09/2024 09:40	Roberta Tatti	2463699, 2463700, 2463701, 2463702
	01/26/2024	01/26/2024 12:32	Madeline Gruver	02/23/2024 08:31	Roberta Tatti	2463703, 2463704, 2463705, 2463706