

Biological Analysis Report

SE-DIST-2024-04-09-01

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

Event Description: **SMP - Turkey Creek**
Request ID: **RQ-2024-03-04-68**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
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Certified by: Sarah Menz, Environmental Administrator

Date Certified: 23-MAY-2024 08:50

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: 04/08/2024 09:30

Field ID: G5SE0135

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480694	SM 10150 B	Chlorophyll-a, Corrected	4.2		ug/L	P444244	
		Phaeophytin-a	3.0	I	ug/L	P444244	
		Chlorophyll-a, Uncorrected	6.1		ug/L	P444244	
2480711	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	2014.0	Q	MPN/100 mL	P444344	
2480721	SOP-PCR-1.0	HF183-qPCR**	2.2E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.2	GULL2-qPCR**	2.4E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.3	GFD-qPCR**	3.9E+03		TSC/100 mL	P443723	
	SOP-PCR-1.4	BacR-qPCR**	2.0E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.5	DG3-qPCR**	1.7E+03	U	TSC/100 mL	P443723	

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: Laboratory duplicate precision is not within criteria limits.

Sample Location: NORTH PRONG TURKEY CREEK TURKEY
CREEK TRAIL

Collection Date/Time: 04/08/2024 09:50

Field ID: G5SE0136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480696	SM 10150 B	Chlorophyll-a, Corrected	0.93	U	ug/L	P444244	
		Phaeophytin-a	1.0	U	ug/L	P444244	
		Chlorophyll-a, Uncorrected	0.93	I	ug/L	P444244	
2480713	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	770.1	Q	MPN/100 mL	P444344	
2480723	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.2	GULL2-qPCR**	1.2E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.3	GFD-qPCR**	380	I	TSC/100 mL	P443723	
	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.5	DG3-qPCR**	860	U	TSC/100 mL	P443723	

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: Laboratory duplicate precision is not within criteria limits.

Sample Location: DITCH NEAR PALM BAY WWTP

Collection Date/Time: 04/08/2024 10:15

Field ID: G5SE0134

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480693	SM 10150 B	Chlorophyll-a, Corrected	0.93	U	ug/L	P444244	
		Phaeophytin-a	1.0	U	ug/L	P444244	
		Chlorophyll-a, Uncorrected	0.71	I	ug/L	P444244	
2480710	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	920.8	Q	MPN/100 mL	P444344	
2480720	SOP-PCR-1.0	HF183-qPCR**	830	U	TSC/100 mL	P443723	
	SOP-PCR-1.2	GULL2-qPCR**	900	U	TSC/100 mL	P443723	
	SOP-PCR-1.3	GFD-qPCR**	210	I	TSC/100 mL	P443723	
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P443723	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P443723	

Field ID: G5SE0134

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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: Laboratory duplicate precision is not within criteria limits.

Sample Location: TURKEY CREEK NEAR BRIAR CREEK BLVD Collection Date/Time: 04/08/2024 11:30

Field ID: G5SE0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480691	SM 10150 B	Chlorophyll-a, Corrected	1.0	I	ug/L	P444244	
		Phaeophytin-a	1.0	U	ug/L	P444244	
		Chlorophyll-a, Uncorrected	1.2	I	ug/L	P444244	
2480708	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	1046.2	Q	MPN/100 mL	P444344	
2480718	SOP-PCR-1.0	HF183-qPCR**	950	I	TSC/100 mL	P443723	
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P443723	
	SOP-PCR-1.5	DG3-qPCR**	640	U	TSC/100 mL	P443723	

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: Laboratory duplicate precision is not within criteria limits.

Sample Location: TURKEY CREEK RESIDENTIAL CANAL Collection Date/Time: 04/08/2024 11:45

Field ID: G5SE0133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480690	SM 10150 B	Chlorophyll-a, Corrected	27		ug/L	P444244	
		Phaeophytin-a	8.9		ug/L	P444244	
		Chlorophyll-a, Uncorrected	33		ug/L	P444244	
2480707	Enterolert/QT	Enterococci-Quanti-Tray	146.5	AQ	MPN/100 mL	P444344	
2480717	SOP-PCR-1.0	HF183-qPCR**	1.7E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.2	GULL2-qPCR**	1.8E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.3	GFD-qPCR**	360	U	TSC/100 mL	P443723	
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P443723	

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: LITTLE TURKEY CREEK NEAR FALLON BLVD Collection Date/Time: 04/08/2024 12:15

Field ID: G5SE0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480697	SM 10150 B	Chlorophyll-a, Corrected	4.2	I	ug/L	P444244	
		Phaeophytin-a	3.4	U	ug/L	P444244	
		Chlorophyll-a, Uncorrected	4.5	I	ug/L	P444244	
2480714	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	461.1	Q	MPN/100 mL	P444344	
2480724	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.2	GULL2-qPCR**	1.2E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.3	GFD-qPCR**	3.0E+03		TSC/100 mL	P443723	

Field ID: G5SE0150

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480724	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.5	DG3-qPCR**	860	U	TSC/100 mL	P443723	

Ref. Method and Comment:
SM 10150 B: Lab dup result is 4.0 I for Chl-a Corrected, 4.2 I for Chl-a Uncorrected, and 3.4 U for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.
SM 9223 B Quanti-Tray: Laboratory duplicate precision is not within criteria limits.

Sample Location: TURKEY CREEK CLEARMONT STCollection Date/Time: 04/08/2024 10:30

Field ID: G5SE0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480692	SM 10150 B	Chlorophyll-a, Corrected	2.7	U	ug/L	P444244	
		Phaeophytin-a	2.9	U	ug/L	P444244	
		Chlorophyll-a, Uncorrected	1.9	U	ug/L	P444244	
2480709	Enterolert/QT	Enterococci-Quanti-Tray	2419.6	Q	MPN/100 mL	P444344	
2480719	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.2	GULL2-qPCR**	1.2E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.3	GFD-qPCR**	250	I	TSC/100 mL	P443723	
	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	U	TSC/100 mL	P443723	
	SOP-PCR-1.5	DG3-qPCR**	860	U	TSC/100 mL	P443723	

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 PORT MALABAR BRIDGECollection Date/Time: 04/08/2024 11:00

Field ID: G5SE0132

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2480695	SM 10150 B	Chlorophyll-a, Corrected	1.8	I	ug/L	P444244	
		Phaeophytin-a	1.0	U	ug/L	P444244	
		Chlorophyll-a, Uncorrected	2.0		ug/L	P444244	
2480712	Enterolert/QT	Enterococci-Quanti-Tray	110.0	Q	MPN/100 mL	P444344	
2480722	SOP-PCR-1.0	HF183-qPCR**	830	U	TSC/100 mL	P443723	
	SOP-PCR-1.4	BacR-qPCR**	760	U	TSC/100 mL	P443723	
	SOP-PCR-1.5	DG3-qPCR**	1.92E+04		TSC/100 mL	P443723	

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.

Quality Assurance Report

Method Blank Results

Reference Method: Enterolert/QT

Batch ID: P444344

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 10150 B
Batch ID: P444244

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.93	U	ug/L
Chlorophyll-a, Uncorrected	0.68	U	ug/L
Phaeophytin-a	1.0	U	ug/L

Reference Method: SM 9223 B Quanti-Tray
Batch ID: P444344

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

Reference Method: SOP-PCR-1.0
Batch ID: P443723

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

Reference Method: SOP-PCR-1.2
Batch ID: P443723

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

Reference Method: SOP-PCR-1.3
Batch ID: P443723

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

Reference Method: SOP-PCR-1.4
Batch ID: P443723

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

Reference Method: SOP-PCR-1.5
Batch ID: P443723

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 10150 B
Batch ID: P444244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	102		P	84 - 116

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P443723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	93.2	86.9	P/P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P443723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	95.7	78.9	P/P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P443723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-qPCR	112	97.5	P/P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P443723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	96.0	102	P/P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P443723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	91.5	88.9	P/P	50 - 175

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P443723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2479460	HF183-qPCR	78.3	80.7	P/P	50 - 175
2479694	HF183-qPCR	92.3		P	50 - 175
2480235	HF183-qPCR	86.1		P	50 - 175
2480717	HF183-qPCR	88.5		P	50 - 175
2480718	HF183-qPCR	86.5		P	50 - 175
2480719	HF183-qPCR	81.0		P	50 - 175
2480720	HF183-qPCR	123		P	50 - 175
2480721	HF183-qPCR	125		P	50 - 175
2480722	HF183-qPCR	94.7		P	50 - 175
2480723	HF183-qPCR	92.2		P	50 - 175
2480724	HF183-qPCR	103		P	50 - 175
2481007	HF183-qPCR	97.0		P	50 - 175
2481559	HF183-qPCR	82.1		P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P443723

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

Matrix Spike Accuracy

Reference Method: SOP-PCR-1.2
Batch ID: P443723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2479460	GULL2-qPCR	80.5	88.2	P/P	50 - 175
2479694	GULL2-qPCR	88.3		P	50 - 175
2480717	GULL2-qPCR	75.1		P	50 - 175
2480719	GULL2-qPCR	84.4		P	50 - 175
2480720	GULL2-qPCR	91.5		P	50 - 175
2480721	GULL2-qPCR	88.4		P	50 - 175
2480723	GULL2-qPCR	82.6		P	50 - 175
2480724	GULL2-qPCR	72.6		P	50 - 175
2481007	GULL2-qPCR	74.5		P	50 - 175
2481559	GULL2-qPCR	82.6		P	50 - 175

Reference Method: SOP-PCR-1.3
Batch ID: P443723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2479460	GFD-qPCR	82.6	92.9	P/P	50 - 175
2479694	GFD-qPCR	88.8		P	50 - 175
2480717	GFD-qPCR	101		P	50 - 175
2480719	GFD-qPCR	102		P	50 - 175
2480720	GFD-qPCR	93.5		P	50 - 175
2480721	GFD-qPCR	107		P	50 - 175
2480723	GFD-qPCR	88.4		P	50 - 175
2480724	GFD-qPCR	89.6		P	50 - 175
2481007	GFD-qPCR	82.3		P	50 - 175
2481559	GFD-qPCR	93.1		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P443723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2479460	BacR-qPCR	55.8	57.6	P/P	50 - 175
2479694	BacR-qPCR	81.5		P	50 - 175
2480235	BacR-qPCR	89.7		P	50 - 175
2480717	BacR-qPCR	57.5		P	50 - 175
2480718	BacR-qPCR	82.7		P	50 - 175
2480719	BacR-qPCR	57.5		P	50 - 175
2480720	BacR-qPCR	90.6		P	50 - 175
2480721	BacR-qPCR	76.0		P	50 - 175
2480722	BacR-qPCR	60.0		P	50 - 175
2480723	BacR-qPCR	78.7		P	50 - 175
2480724	BacR-qPCR	80.5		P	50 - 175
2481007	BacR-qPCR	76.7		P	50 - 175
2481559	BacR-qPCR	74.4		P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P443723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2479460	DG3-qPCR	81.9	78.6	P/P	50 - 175
2479694	DG3-qPCR	86.7		P	50 - 175
2480235	DG3-qPCR	86.5		P	50 - 175
2480717	DG3-qPCR	73.1		P	50 - 175

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SOP-PCR-1.5
Batch ID: P443723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480718	DG3-qPCR	106		P	50 - 175
2480719	DG3-qPCR	73.7		P	50 - 175
2480720	DG3-qPCR	88.0		P	50 - 175
2480721	DG3-qPCR	88.5		P	50 - 175
2480722	DG3-qPCR	87.5		P	50 - 175
2480723	DG3-qPCR	87.1		P	50 - 175
2480724	DG3-qPCR	85.7		P	50 - 175
2481007	DG3-qPCR	84.5		P	50 - 175
2481559	DG3-qPCR	88.1		P	50 - 175

Quality Assurance Report

Precision

Reference Method: SOP-PCR-1.0
Batch ID: P443723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2479460	HF183-qPCR	2.95	Spike	P	0 - 25

Reference Method: SOP-PCR-1.2
Batch ID: P443723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2479460	GULL2-qPCR	9.13	Spike	P	0 - 25

Reference Method: SOP-PCR-1.3
Batch ID: P443723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2479460	GFD-qPCR	11.7	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P443723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2479460	BacR-qPCR	3.05	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5
Batch ID: P443723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2479460	DG3-qPCR	4.14	Spike	P	0 - 25

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2480717

Field Sample ID: G5SE0133

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	80.2	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	201	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	93.3	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	77.8	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	72.8	P	50 - 300

Lab Sample ID: 2480718

Field Sample ID: G5SE0146

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	99.3	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	103	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	102	P	50 - 300

Lab Sample ID: 2480719

Field Sample ID: G5SE0131

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	79.3	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	195	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	95.6	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	78.2	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	79.5	P	50 - 300

Lab Sample ID: 2480720

Field Sample ID: G5SE0134

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	110	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	197	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	95.9	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	109	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	111	P	50 - 300

Lab Sample ID: 2480721

Field Sample ID: G5SE0135

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	220	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	94.5	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	100	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	101	P	50 - 300

Lab Sample ID: 2480722

Field Sample ID: G5SE0132

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	88.1	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	83.7	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	87.6	P	50 - 300

Quality Assurance Report

Surrogates

Lab Sample ID: 2480723

Field Sample ID: G5SE0136

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	87.2	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	198	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	96.1	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	90.3	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	84.3	P	50 - 300

Lab Sample ID: 2480724

Field Sample ID: G5SE0150

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	92.6	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	202	P	50 - 300
SOP-PCR-1.3	SKETA-qPCR	86.9	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	89.1	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	90.5	P	50 - 300

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
SM 10150 B	Chlorophyll-a, Corrected	102							
SOP-PCR-1.0	HF183-qPCR	86.9	93.2	88.5	86.5	81.0			2.95
SOP-PCR-1.2	GULL2-qPCR	78.9	95.7	80.5	88.2	88.3			9.13
SOP-PCR-1.3	GFD-qPCR	97.5	112	82.6	92.9	88.8			11.7
SOP-PCR-1.4	BacR-qPCR	102	96.0	55.8	57.6	81.5			3.05
SOP-PCR-1.5	DG3-qPCR	88.9	91.5	81.9	78.6	86.7			4.14

Reference Method Descriptions

Method	Description	Associated Samples
Enterolert/QT	Enterococci by Enterolert Quanti-Tray method - non-chlorinated water systems	2480707, 2480709, 2480712
SM 10150 B	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2480690, 2480691, 2480692, 2480693, 2480694, 2480695, 2480696, 2480697
SM 9223 B Quanti-Tray	Escherichia coli by Colilert 18 Quanti-Tray method - non-chlorinated water systems	2480708, 2480710, 2480711, 2480713, 2480714
SOP-PCR-1.0	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2480717, 2480718, 2480719, 2480720, 2480721, 2480722, 2480723, 2480724
SOP-PCR-1.2	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	2480717, 2480719, 2480720, 2480721, 2480723, 2480724
SOP-PCR-1.3	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	2480717, 2480719, 2480720, 2480721, 2480723, 2480724
SOP-PCR-1.4	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2480717, 2480718, 2480719, 2480720, 2480721, 2480722, 2480723, 2480724
SOP-PCR-1.5	Detection and quantification of canine-specific DG3 Bacteroides genetic marker with quantitative polymerase chain reaction	2480717, 2480718, 2480719, 2480720, 2480721, 2480722, 2480723, 2480724

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	04/09/2024	04/09/2024 13:47	Callie Williams	04/10/2024 14:52	Callie Williams	2480707, 2480709, 2480712
	04/09/2024	04/09/2024 13:03	Julia Herten	04/11/2024 14:59	Tynan A Branch	2480690, 2480691, 2480692, 2480693, 2480694, 2480695, 2480696, 2480697
SM 9223 B Quanti-Tray	04/09/2024	04/09/2024 14:44	Callie Williams	04/10/2024 12:11	Callie Williams	2480708, 2480710, 2480711, 2480713, 2480714
SOP-PCR-1.0	04/09/2024	04/09/2024 12:38	Jennifer Mihalic	04/26/2024 08:43	Roberta Tatti	2480717, 2480718, 2480719, 2480720, 2480721, 2480722, 2480723
	04/09/2024	04/09/2024 16:14	Jennifer Mihalic	04/26/2024 08:43	Roberta Tatti	2480724
SOP-PCR-1.2	04/09/2024	04/09/2024 12:38	Jennifer Mihalic	05/02/2024 18:20	Madeline Gruver	2480717, 2480719, 2480720, 2480721, 2480723
	04/09/2024	04/09/2024 16:14	Jennifer Mihalic	05/02/2024 18:20	Madeline Gruver	2480724
SOP-PCR-1.3	04/09/2024	04/09/2024 12:38	Jennifer Mihalic	05/02/2024 13:31	Jennifer Mihalic	2480717, 2480719, 2480720, 2480721, 2480723
	04/09/2024	04/09/2024 16:14	Jennifer Mihalic	05/02/2024 13:31	Jennifer Mihalic	2480724
SOP-PCR-1.4	04/09/2024	04/09/2024 12:38	Jennifer Mihalic	04/29/2024 09:22	Roberta Tatti	2480717, 2480718, 2480719, 2480720, 2480721, 2480722, 2480723
	04/09/2024	04/09/2024 16:14	Jennifer Mihalic	04/29/2024 09:22	Roberta Tatti	2480724
SOP-PCR-1.5	04/09/2024	04/09/2024 12:38	Jennifer Mihalic	04/30/2024 12:20	Roberta Tatti	2480717, 2480718, 2480719, 2480720, 2480721, 2480722, 2480723
	04/09/2024	04/09/2024 16:14	Jennifer Mihalic	04/30/2024 12:20	Roberta Tatti	2480724