

Biological Analysis Report

SE-DIST-2024-04-16-01

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

Event Description: **SMP - Vero Beach (w Blank) (w Boat sites)**
Request ID: **RQ-2024-03-11-35**
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
Attn: Andrew Luering

For additional information please contact
Cheryl Swanson - Administrator
Sarah Menz, Ph.D. - Bench Biology & Aquatic
Toxicity
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Certified by: Sarah Menz, Environmental Administrator

Date Certified: 03-JUN-2024 12:55



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: 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: SOUTH IRL OUTSIDE BOB SUMMERS PARK Collection Date/Time: 04/15/2024 09:45

Field ID: G5SE0088 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482473	Enterolert/QT	Enterococci-Quanti-Tray	10.0	UQ	MPN/100 mL	P444557	
2482474	SM 9222 D	Fecal Coliforms-Membrane Filter	8	BQ	cfu/100 mL	P444680	

Ref. Method and Comment:
Enterolert/QT: Laboratory duplicate result is 10.0 U for Enterococci. Precision data is unavailable due to the small amount of analyte in this QC sample.
SM 9222 D: Laboratory duplicate result is 6 B. Precision data for this duplicate is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: SOUTH IRL OUTSIDE VERO BEACH YACHT CLUB Collection Date/Time: 04/15/2024 09:50

Field ID: G5SE0089 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482475	Enterolert/QT	Enterococci-Quanti-Tray	10.0	UQ	MPN/100 mL	P444557	
2482476	SM 9222 D	Fecal Coliforms-Membrane Filter	2	UQ	cfu/100 mL	P444680	

Ref. Method and Comment:
Enterolert/QT: Precision data is unavailable for Enterococci due to the small amount of analyte in the QC sample for the batch.
SM 9222 D: Precision data for QC sample is unavailable due to the colony count falling outside of method acceptable range.

Sample Location: UNNAMED CANAL NEAR 85TH ST Collection Date/Time: 04/15/2024 10:40

Field ID: G5SE0144 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482463	SM 10150 B	Chlorophyll-a, Corrected	8.7		ug/L	P444577	
		Phaeophytin-a	2.2	I	ug/L	P444577	
		Chlorophyll-a, Uncorrected	10		ug/L	P444577	
2482471	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	121.0	Q	MPN/100 mL	P444557	
2482481	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.2	GULL2-qPCR**	No result	O	TSC/100 mL	P444120	
	SOP-PCR-1.3	GFD-qPCR**	No result	O	TSC/100 mL	P444120	
	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.5	DG3-qPCR**	860	U	TSC/100 mL	P444120	

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-1.2: See non-conformance report # 10478
SOP-PCR-1.3: See non-conformance report # 10478

Sample Location: LATERAL C CANAL NEAR 85TH ST Collection Date/Time: 04/15/2024 10:55

Field ID: G5SE0143 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482462	SM 10150 B	Chlorophyll-a, Corrected	5.3		ug/L	P444577	
		Phaeophytin-a	1.7	I	ug/L	P444577	
		Chlorophyll-a, Uncorrected	6.5		ug/L	P444577	
2482470	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	538.0	Q	MPN/100 mL	P444557	
2482480	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.4	BacR-qPCR**	2.3E+03	I	TSC/100 mL	P444120	
	SOP-PCR-1.5	DG3-qPCR**	860	U	TSC/100 mL	P444120	

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	OC 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.

Sample Location: LATERAL C CANAL NEAR 69TH ST

Collection Date/Time: 04/15/2024 11:30

Field ID: G5SE0141

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482464	SM 10150 B	Chlorophyll-a, Corrected	8.9		ug/L	P444631	
		Phaeophytin-a	2.1	I	ug/L	P444631	
		Chlorophyll-a, Uncorrected	11		ug/L	P444631	
2482472	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	52.0	Q	MPN/100 mL	P444557	
2482482	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.2	GULL2-qPCR**	No result	O	TSC/100 mL	P444120	
	SOP-PCR-1.3	GFD-qPCR**	No result	O	TSC/100 mL	P444120	
	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.5	DG3-qPCR**	860	U	TSC/100 mL	P444120	

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-1.2: See non-conformance report # 10478

SOP-PCR-1.3: See non-conformance report # 10478

Sample Location: MAIN CANAL AT KINGS HIGHWAY

Collection Date/Time: 04/15/2024 12:25

Field ID: G5SE0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482461	SM 10150 B	Chlorophyll-a, Corrected	4.0		ug/L	P444577	
		Phaeophytin-a	1.0	U	ug/L	P444577	
		Chlorophyll-a, Uncorrected	4.6		ug/L	P444577	
2482469	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	10.0	UQ	MPN/100 mL	P444557	
2482479	SOP-PCR-1.0	HF183-qPCR**	1.1E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.2	GULL2-qPCR**	No result	O	TSC/100 mL	P444120	
	SOP-PCR-1.3	GFD-qPCR**	No result	O	TSC/100 mL	P444120	
	SOP-PCR-1.4	BacR-qPCR**	1.0E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.5	DG3-qPCR**	860	U	TSC/100 mL	P444120	

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-1.2: See non-conformance report # 10478

SOP-PCR-1.3: See non-conformance report # 10478

Sample Location: SOUTH CANAL AT 20TH AVE

Collection Date/Time: 04/15/2024 12:50

Field ID: G5SE0086

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482460	SM 10150 B	Chlorophyll-a, Corrected	14		ug/L	P444577	
		Phaeophytin-a	3.3		ug/L	P444577	
		Chlorophyll-a, Uncorrected	16		ug/L	P444577	
2482468	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	579.4	Q	MPN/100 mL	P444557	

Field ID: G5SE0086

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482478	SOP-PCR-1.0	HF183-qPCR**	3.3E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.2	GULL2-qPCR**	No result	0	TSC/100 mL	P444120	
	SOP-PCR-1.3	GFD-qPCR**	No result	0	TSC/100 mL	P444120	
	SOP-PCR-1.4	BacR-qPCR**	3.0E+03	UJ	TSC/100 mL	P444120	MS, SUR
	SOP-PCR-1.5	DG3-qPCR**	2.6E+03	UJ	TSC/100 mL	P444120	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-1.2: See non-conformance report # 10478
SOP-PCR-1.3: See non-conformance report # 10478
SOP-PCR-1.4: Refer to the Lab Analysis Report for an explanation of QC Codes.
SOP-PCR-1.5: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: VERO NORTH CANAL AT 66TH AVE Collection Date/Time: 04/15/2024 11:55

Field ID: G5SE0069

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2482459	SM 10150 B	Chlorophyll-a, Corrected	5.7	A	ug/L	P444577	
		Phaeophytin-a	2.0	U	ug/L	P444577	
		Chlorophyll-a, Uncorrected	7.1	A	ug/L	P444577	
2482467	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	163.5	AQ	MPN/100 mL	P444557	
2482477	SOP-PCR-1.0	HF183-qPCR**	1.7E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.2	GULL2-qPCR**	No result	0	TSC/100 mL	P444120	
	SOP-PCR-1.3	GFD-qPCR**	No result	0	TSC/100 mL	P444120	
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P444120	
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P444120	

Ref. Method and Comment:
SM 10150 B: Laboratory duplicate result is 2.0 U for Phaeophytin-a. Precision data is unavailable due to the small amount of analyte in the QC sample.
SOP-PCR-1.2: See non-conformance report # 10478
SOP-PCR-1.3: See non-conformance report # 10478

Non-Conformance Report

NCR ID: 10478

Event(s)	Job(s)	Sample(s)	Test(s)
SE-DIST-2024-04-16-01	TLH-2024-04-16-33	2482477	
SE-DIST-2024-04-16-01	TLH-2024-04-16-33	2482478	
SE-DIST-2024-04-16-01	TLH-2024-04-16-33	2482479	
SE-DIST-2024-04-16-01	TLH-2024-04-16-33	2482481	
SE-DIST-2024-04-16-01	TLH-2024-04-16-33	2482482	

NCR Type: PREPARATION NCR Category: Sample Preservation

Observation: Samples exceeded the required temperature during storage due to power outage.
Resolution: Per customer request, remaining tests of affected samples will not be analyzed. The data will be reported as "No Result" with an "O" qualifier.

Authorized by/Date: Cheryl A. Swanson 5/28/2024

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

ChemistryColin Wright(850) 245-8085

BiologyCheryl Swanson(850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: Enterolert/QT
Batch ID: P444557

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

Reference Method: SM 10150 B
Batch ID: P444577

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 10150 B
Batch ID: P444631

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 9222 D
Batch ID: P444680

Component	Result	Code	Units
Fecal Coliforms-Membrane Filter	2	U	cfu/100 mL

Reference Method: SM 9223 B Quanti-Tray
Batch ID: P444557

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

Reference Method: SOP-PCR-1.0
Batch ID: P444120

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

Reference Method: SOP-PCR-1.4
Batch ID: P444120

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

Reference Method: SOP-PCR-1.5
Batch ID: P444120

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: P444577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	101		P	84 - 116

Reference Method: SM 10150 B
Batch ID: P444631

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

Reference Method: SOP-PCR-1.0
Batch ID: P444120

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	96.8	92.5	P/P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P444120

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	109	72.3	P/P	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P444120

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	89.8	62.0	P/P	50 - 175

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P444120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481560	HF183-qPCR	81.6		P	50 - 175
2481938	HF183-qPCR	81.6	83.9	P/P	50 - 175
2482406	HF183-qPCR	86.0		P	50 - 175
2482477	HF183-qPCR	99.5		P	50 - 175
2482478	HF183-qPCR	77.1		P	50 - 175
2482479	HF183-qPCR	86.3		P	50 - 175
2482480	HF183-qPCR	88.2		P	50 - 175
2482481	HF183-qPCR	82.0		P	50 - 175
2482482	HF183-qPCR	89.4		P	50 - 175
2482709	HF183-qPCR	78.6		P	50 - 175
2483534	HF183-qPCR	85.9		P	50 - 175
2483535	HF183-qPCR	88.8		P	50 - 175
2483536	HF183-qPCR	86.5		P	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P444120

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-1.4

Batch ID: P444120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481560	BacR-qPCR	51.1	70.1	P	50 - 175
2481938	BacR-qPCR	70.2		P/P	50 - 175
2482406	BacR-qPCR	68.0		P	50 - 175
2482477	BacR-qPCR	76.6	70.1	P	50 - 175
2482478	BacR-qPCR	33.9		F	50 - 175
2482479	BacR-qPCR	96.4		P	50 - 175
2482480	BacR-qPCR	82.7	70.1	P	50 - 175
2482481	BacR-qPCR	55.0		P	50 - 175
2482482	BacR-qPCR	73.2		P	50 - 175
2482709	BacR-qPCR	63.3	70.1	P	50 - 175
2483534	BacR-qPCR	79.5		P	50 - 175
2483535	BacR-qPCR	77.6		P	50 - 175
2483536	BacR-qPCR	73.3		P	50 - 175

Reference Method: SOP-PCR-1.5

Batch ID: P444120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481560	DG3-qPCR	74.7	84.4	P	50 - 175
2481938	DG3-qPCR	81.9		P/P	50 - 175
2482406	DG3-qPCR	89.2		P	50 - 175
2482477	DG3-qPCR	97.2	84.4	P	50 - 175
2482478	DG3-qPCR	70.6		P	50 - 175
2482479	DG3-qPCR	89.5		P	50 - 175
2482480	DG3-qPCR	89.9	84.4	P	50 - 175
2482481	DG3-qPCR	86.8		P	50 - 175
2482482	DG3-qPCR	89.5		P	50 - 175
2482709	DG3-qPCR	86.2	84.4	P	50 - 175
2483534	DG3-qPCR	91.0		P	50 - 175
2483535	DG3-qPCR	88.5		P	50 - 175
2483536	DG3-qPCR	84.8		P	50 - 175

Quality Assurance Report

Precision

Reference Method: SM 10150 B

Batch ID: P444577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482459	Chlorophyll-a, Corrected	3.34	Sample	P	0 - 25
2482459	Chlorophyll-a, Uncorrected	2.22	Sample	P	0 - 25

Reference Method: SM 10150 B

Batch ID: P444631

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2482617	Chlorophyll-a, Corrected	4.08	Sample	P	0 - 25
2482617	Chlorophyll-a, Uncorrected	3.44	Sample	P	0 - 25

Quality Assurance Report

Precision

Reference Method: SOP-PCR-1.0
Batch ID: P444120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481938	HF183-qPCR	2.83	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P444120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481938	BacR-qPCR	0.120	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5
Batch ID: P444120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481938	DG3-qPCR	3.01	Spike	P	0 - 25

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2482477
Field Sample ID: G5SE0069

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	96.7	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	81.7	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	90.5	P	50 - 300

Lab Sample ID: 2482478
Field Sample ID: G5SE0086

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	51.3	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	42.7	F	50 - 300
SOP-PCR-1.5	SKETA-qPCR	47.4	F	50 - 300

Lab Sample ID: 2482479
Field Sample ID: G5SE0115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	99.8	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	93.7	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	104	P	50 - 300

Lab Sample ID: 2482480
Field Sample ID: G5SE0143

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

Surrogates

Lab Sample ID: 2482480

Field Sample ID: G5SE0143

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	89.9	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	81.7	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	96.0	P	50 - 300

Lab Sample ID: 2482481

Field Sample ID: G5SE0144

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	66.2	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	59.5	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	70.9	P	50 - 300

Lab Sample ID: 2482482

Field Sample ID: G5SE0141

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	90.2	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	85.2	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	98.5	P	50 - 300

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery			MS % Recovery			LCS	Precision	
									SMP	MS
SM 10150 B	Chlorophyll-a, Corrected	101							3.34	
	Chlorophyll-a, Corrected	102							4.08	
	Chlorophyll-a, Uncorrected								2.22	
	Chlorophyll-a, Uncorrected								3.44	
SOP-PCR-1.0	HF183-qPCR	92.5	96.8		81.6	81.6	83.9			2.83
SOP-PCR-1.4	BacR-qPCR	72.3	109		51.1	70.2	70.1			0.120
					76.6					
SOP-PCR-1.5	DG3-qPCR	62.0	89.8		74.7	81.9	84.4			3.01
					97.2					

Reference Method Descriptions

Method	Description	Associated Samples
Enterolert/QT	Enterococci by Enterolert Quanti-Tray method - non-chlorinated water systems	2482473, 2482475
SM 10150 B	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2482459, 2482460, 2482461, 2482462, 2482463, 2482464
SM 9222 D	Fecal coliforms by membrane filter method - non-chlorinated water systems	2482474, 2482476
SM 9223 B Quanti-Tray	Escherichia coli by Colilert 18 Quanti-Tray method - non-chlorinated water systems	2482467, 2482468, 2482469, 2482470, 2482471, 2482472
SOP-PCR-1.0	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2482477, 2482478, 2482479, 2482480, 2482481, 2482482
SOP-PCR-1.2	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	2482477, 2482478, 2482479, 2482481, 2482482
SOP-PCR-1.3	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	2482477, 2482478, 2482479, 2482481, 2482482

Reference Method Descriptions

Method	Description	Associated Samples
SOP-PCR-1.4	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2482477, 2482478, 2482479, 2482480, 2482481, 2482482
SOP-PCR-1.5	Detection and quantification of canine-specific DG3 Bacteroides genetic marker with quantitative polymerase chain reaction	2482477, 2482478, 2482479, 2482480, 2482481, 2482482

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	04/16/2024	04/16/2024 15:50	Callie Williams	04/17/2024 16:00	Megan Higbee	2482473, 2482475
	04/16/2024	04/16/2024 13:35	Julianna Belitz	04/19/2024 09:38	Tynan A Branch	2482459, 2482460, 2482461, 2482462, 2482463
SM 9222 D SM 9223 B Quanti-Tray	04/16/2024	04/16/2024 13:35	Julianna Belitz	04/22/2024 10:05	Tynan A Branch	2482464
	04/16/2024	04/16/2024 14:23	Megan Higbee	04/17/2024 13:57	Megan Higbee	2482474, 2482476
	04/16/2024	04/16/2024 16:35	Callie Williams	04/17/2024 10:55	Keanu Thijm	2482467, 2482468, 2482469, 2482470, 2482471, 2482472
SOP-PCR-1.0	04/16/2024	04/16/2024 11:00	Madeline Gruver	05/01/2024 09:28	Roberta Tatti	2482477, 2482478, 2482479
	04/16/2024	04/16/2024 13:40	Madeline Gruver	05/01/2024 09:28	Roberta Tatti	2482480, 2482481, 2482482
SOP-PCR-1.2	04/16/2024	04/16/2024 11:00	Madeline Gruver	05/29/2024 11:31	Roberta Tatti	2482477, 2482478, 2482479
	04/16/2024	04/16/2024 13:40	Madeline Gruver	05/29/2024 11:31	Roberta Tatti	2482481, 2482482
SOP-PCR-1.3	04/16/2024	04/16/2024 11:00	Madeline Gruver	05/29/2024 11:31	Roberta Tatti	2482477, 2482478, 2482479
	04/16/2024	04/16/2024 13:40	Madeline Gruver	05/29/2024 11:31	Roberta Tatti	2482481, 2482482
SOP-PCR-1.4	04/16/2024	04/16/2024 11:00	Madeline Gruver	05/03/2024 09:02	Roberta Tatti	2482477, 2482478, 2482479
	04/16/2024	04/16/2024 13:40	Madeline Gruver	05/03/2024 09:02	Roberta Tatti	2482480, 2482481, 2482482
SOP-PCR-1.5	04/16/2024	04/16/2024 11:00	Madeline Gruver	05/06/2024 09:51	Roberta Tatti	2482477, 2482478, 2482479
	04/16/2024	04/16/2024 13:40	Madeline Gruver	05/06/2024 09:51	Roberta Tatti	2482480, 2482481, 2482482