

Biological Analysis Report

NE-DIST-2018-09-07-01

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

Overflow Analyses Performed By:
ALS Environmental - Jacksonville
9143 Philips Highway, Suite 200
Jacksonville, FL 32256
DOH Accreditation E82502

Event Description: **GTM NERR-Guana River SMP = 7 Sites + 1 Field Blank**
Request ID: **RQ-2018-09-03-01**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd.
MS 3560
Tallahassee, FL 32399-2400
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Certified by: Amelia G. Rankin,

Date Certified: 15-OCT-2018 16:38



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, 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 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: DEPGR3

Collection Date/Time: 09/06/2018 07:48

Field ID: GTMGR3NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023245	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.4		ug/L	P352162	
		Phaeophytin-a	1.3		ug/L	P352162	
		Chlorophyll-a, Uncorrected	5.4		ug/L	P352162	
2023252	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	QU	MPN/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	10	BQ	cfu/100 mL		
2023260	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P351148	MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	8.4E+03	U	TSC/100 mL	P351148	MS
	SOP-PCR-1.3	GFD-purified-qPCR**	170	U	TSC/100 mL	P351074	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P351148	LCS
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P351148	

Ref. Method and Comment:

SM 10200 H (mod.): 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: DEPGR2

Collection Date/Time: 09/06/2018 08:11

Field ID: GTMGRNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023246	SM 10200 H (mod.)	Chlorophyll-a, Corrected	4.5		ug/L	P352162	
		Phaeophytin-a	1.7		ug/L	P352162	
		Chlorophyll-a, Uncorrected	5.7		ug/L	P352162	
2023253	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	Q	MPN/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	10	BQ	cfu/100 mL		
2023261	SOP-PCR-1.0	HF183-qPCR**	140	UJ	GEU/100 mL	P351148	MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	8.4E+03	U	TSC/100 mL	P351148	MS
	SOP-PCR-1.3	GFD-purified-qPCR**	170	U	TSC/100 mL	P351074	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P351148	LCS
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P351148	

Ref. Method and Comment:

SM 10200 H (mod.): 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: Quality control failure(s) observed. See QA report for details.

Sample Location: DEPGR1

Collection Date/Time: 09/06/2018 08:34

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023247	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.7		ug/L	P352162	
		Phaeophytin-a	3.4		ug/L	P352162	
		Chlorophyll-a, Uncorrected	7.9		ug/L	P352162	
2023254	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	QU	MPN/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	10	QU	cfu/100 mL		
2023262	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P351148	MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	8.4E+03	U	TSC/100 mL	P351148	MS
	SOP-PCR-1.3	GFD-purified-qPCR**	170	U	TSC/100 mL	P351074	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P351148	LCS

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023262	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P351148	

Ref. Method and Comment:

SM 10200 H (mod.): 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: DEPL4

Collection Date/Time: 09/06/2018 09:48

Field ID: GTMGL4NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023248	SM 10200 H (mod.)	Chlorophyll-a, Corrected	43		ug/L	P352162	
		Phaeophytin-a	7.7		ug/L	P352162	
		Chlorophyll-a, Uncorrected	49		ug/L	P352162	
2023255	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	10	QU	cfu/100 mL		
2023263	SOP-PCR-1.0	HF183-qPCR**	280	U	GEU/100 mL	P351148	MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	1.7E+04	U	TSC/100 mL	P351148	MS
	SOP-PCR-1.3	GFD-purified-qPCR**	170	UJ	TSC/100 mL	P351074	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	3.0E+03	U	TSC/100 mL	P351148	LCS
	SOP-PCR-1.5	DG3-qPCR**	2.6E+03	U	TSC/100 mL	P351148	

Ref. Method and Comment:

SM 10200 H (mod.): 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: Quality control failure(s) observed. See QA report for details.

Sample Location: DEPL3

Collection Date/Time: 09/06/2018 10:15

Field ID: GTMLMNUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023249	SM 10200 H (mod.)	Chlorophyll-a, Corrected	19		ug/L	P352162	
		Phaeophytin-a	2.5		ug/L	P352162	
		Chlorophyll-a, Uncorrected	21		ug/L	P352162	
2023256	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	10	U	cfu/100 mL		
2023264	SOP-PCR-1.0	HF183-qPCR**	280	U	GEU/100 mL	P351148	MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	1.7E+04	U	TSC/100 mL	P351148	MS
	SOP-PCR-1.3	GFD-purified-qPCR**	170	U	TSC/100 mL	P351074	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	3.0E+03	U	TSC/100 mL	P351148	LCS
	SOP-PCR-1.5	DG3-qPCR**	2.6E+03	U	TSC/100 mL	P351148	

Ref. Method and Comment:

SM 10200 H (mod.): 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: DEPL2

Collection Date/Time: 09/06/2018 10:48

Field ID: GTMGL2NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023250	SM 10200 H (mod.)	Chlorophyll-a, Corrected	20		ug/L	P352162	
		Phaeophytin-a	2.9		ug/L	P352162	
		Chlorophyll-a, Uncorrected	22		ug/L	P352162	

Field ID: GTMGL2NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023257	ASTM D650399	ENTEROCOCCI-ENTEROLERT	10	U	MPN/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	10	U	cfu/100 mL		
2023265	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P351148	MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	8.4E+03	U	TSC/100 mL	P351148	MS
	SOP-PCR-1.3	GFD-purified-qPCR**	170	U	TSC/100 mL	P351074	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P351148	LCS
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P351148	

Ref. Method and Comment:
 SM 10200 H (mod.): 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: DEPL1 Collection Date/Time: 09/06/2018 11:32

Field ID: GTMGL1NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023251	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.6		ug/L	P352162	
		Phaeophytin-a	0.88	I	ug/L	P352162	
		Chlorophyll-a, Uncorrected	6.4		ug/L	P352162	
2023258	ASTM D650399	ENTEROCOCCI-ENTEROLERT	31		MPN/100 mL		
	SM 9222 D	Fecal Coliforms-Membrane Filter	40	B	cfu/100 mL		
2023266	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P351148	MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	8.4E+03	U	TSC/100 mL	P351148	MS
	SOP-PCR-1.3	GFD-purified-qPCR**	170	I	TSC/100 mL	P351074	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P351148	LCS
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P351148	

Ref. Method and Comment:
 SM 10200 H (mod.): 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: Field Blank Collection Date/Time: 09/06/2018 07:38

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023267	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P351148	MS, RPD
	SOP-PCR-1.2	GULL2-qPCR**	8.4E+03	U	TSC/100 mL	P351148	MS
	SOP-PCR-1.3	GFD-purified-qPCR**	170	U	TSC/100 mL	P351074	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P351148	LCS
	SOP-PCR-1.5	DG3-qPCR**	1.3E+03	U	TSC/100 mL	P351148	

Quality Assurance Report
 Method Blank Results

Reference Method: SM 10200 H (mod.)
 Batch ID: P352162

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.69	U	ug/L
Chlorophyll-a, Uncorrected	0.50	U	ug/L
Phaeophytin-a	0.50	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.0
Batch ID: P351148

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

Reference Method: SOP-PCR-1.2
Batch ID: P351148

Component	Result	Code	Units
GULL2-qPCR	1.7E+04	U	TSC/100 mL

Reference Method: SOP-PCR-1.3
Batch ID: P351074

Component	Result	Code	Units
GFD-purified-qPCR	340	U	TSC/100 mL

Reference Method: SOP-PCR-1.4
Batch ID: P351148

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

Reference Method: SOP-PCR-1.5
Batch ID: P351148

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P352162

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	91.6		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P351148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	94.9	137	P/P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P351148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	135	160	P/P	50 - 300

Reference Method: SOP-PCR-1.3
Batch ID: P351074

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

Reference Method: SOP-PCR-1.3
Batch ID: P351074

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-purified-qPCR	121	49.7	P/F	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P351148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	101	244	P/F	50 - 175

Reference Method: SOP-PCR-1.5
Batch ID: P351148

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
DG3-qPCR	100	145	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P351148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2017120	HF183-qPCR	62.4		P	50 - 175
2020738	HF183-qPCR	87.3		P	50 - 175
2020739	HF183-qPCR	103		P	50 - 175
2020740	HF183-qPCR	81.3		P	50 - 175
2021267	HF183-qPCR	93.2		P	50 - 175
2023260	HF183-qPCR	87.7		P	50 - 175
2023261	HF183-qPCR	90.0	0.0	P/F	50 - 175
2023262	HF183-qPCR	83.2		P	50 - 175
2023263	HF183-qPCR	81.0		P	50 - 175
2023264	HF183-qPCR	77.8		P	50 - 175
2023265	HF183-qPCR	91.5		P	50 - 175
2023266	HF183-qPCR	85.5		P	50 - 175
2023267	HF183-qPCR	87.6		P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P351148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2017120	GULL2-qPCR	14.1		F	50 - 300
2020738	GULL2-qPCR	142		P	50 - 300
2020739	GULL2-qPCR	115		P	50 - 300
2023260	GULL2-qPCR	110		P	50 - 300
2023261	GULL2-qPCR	108	108	P/P	50 - 300
2023262	GULL2-qPCR	116		P	50 - 300
2023263	GULL2-qPCR	159		P	50 - 300
2023264	GULL2-qPCR	114		P	50 - 300
2023265	GULL2-qPCR	126		P	50 - 300
2023266	GULL2-qPCR	111		P	50 - 300
2023267	GULL2-qPCR	138		P	50 - 300

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.3

Batch ID: P351074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2013669	GFD-purified-qPCR	157		P	50 - 175
2015786	GFD-purified-qPCR	172		P	50 - 175
2016247	GFD-purified-qPCR	50.0		F	50 - 175
2016293	GFD-purified-qPCR	138		P	50 - 175
2017669	GFD-purified-qPCR	177		F	50 - 175
2017670	GFD-purified-qPCR	130		P	50 - 175
2017671	GFD-purified-qPCR	143		P	50 - 175
2018597	GFD-purified-qPCR	172		P	50 - 175
2018598	GFD-purified-qPCR	133		P	50 - 175
2019428	GFD-purified-qPCR	153		P	50 - 175
2023260	GFD-purified-qPCR	153		P	50 - 175
2023261	GFD-purified-qPCR	172	150	P/P	50 - 175
2023262	GFD-purified-qPCR	95.4		P	50 - 175
2023263	GFD-purified-qPCR	44.8		F	50 - 175
2023264	GFD-purified-qPCR	66.9		P	50 - 175
2023265	GFD-purified-qPCR	106		P	50 - 175
2023266	GFD-purified-qPCR	131		P	50 - 175
2023267	GFD-purified-qPCR	160		P	50 - 175

Reference Method: SOP-PCR-1.4

Batch ID: P351148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2017120	BacR-qPCR	64.8		P	50 - 175
2020738	BacR-qPCR	69.9		P	50 - 175
2020739	BacR-qPCR	83.5		P	50 - 175
2023260	BacR-qPCR	103		P	50 - 175
2023261	BacR-qPCR	80.7	91.0	P/P	50 - 175
2023262	BacR-qPCR	89.4		P	50 - 175
2023263	BacR-qPCR	76.7		P	50 - 175
2023264	BacR-qPCR	68.4		P	50 - 175
2023265	BacR-qPCR	101		P	50 - 175
2023266	BacR-qPCR	85.9		P	50 - 175
2023267	BacR-qPCR	86.6		P	50 - 175

Reference Method: SOP-PCR-1.5

Batch ID: P351148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023260	DG3-qPCR	77.7		P	50 - 175
2023261	DG3-qPCR	86.4	103	P/P	50 - 175
2023262	DG3-qPCR	82.6		P	50 - 175
2023263	DG3-qPCR	80.1		P	50 - 175
2023264	DG3-qPCR	93.6		P	50 - 175
2023265	DG3-qPCR	97.6		P	50 - 175
2023266	DG3-qPCR	82.3		P	50 - 175
2023267	DG3-qPCR	80.7		P	50 - 175

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
 Batch ID: P352162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023190	Chlorophyll-a, Uncorrected	4.90	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
 Batch ID: P351148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023261	HF183-qPCR	200	Spike	F	0 - 25

Reference Method: SOP-PCR-1.2
 Batch ID: P351148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023261	GULL2-qPCR	0.131	Spike	P	0 - 25

Reference Method: SOP-PCR-1.3
 Batch ID: P351074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023261	GFD-purified-qPCR	13.4	Spike	P	0 - 25

Reference Method: SOP-PCR-1.4
 Batch ID: P351148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023261	BacR-qPCR	12.0	Spike	P	0 - 25

Reference Method: SOP-PCR-1.5
 Batch ID: P351148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023261	DG3-qPCR	18.0	Spike	P	0 - 25

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
 Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2023260
 Field Sample ID: GTMGR3NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	117	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	105	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	181	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 2023260
Field Sample ID: GTMGR3NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.5	SKETA-qPCR	107	P	50 - 300

Lab Sample ID: 2023261
Field Sample ID: GTMGRNUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	118	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	111	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	188	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	113	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	109	P	50 - 300

Lab Sample ID: 2023262
Field Sample ID: GTMGR1NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	115	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	103	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	180	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	107	P	50 - 300

Lab Sample ID: 2023263
Field Sample ID: GTMGL4NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	123	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	109	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	199	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	108	P	50 - 300

Lab Sample ID: 2023264
Field Sample ID: GTMLMNUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	60.2	P	50 - 300
SOP-PCR-1.0	SKETA-qPCR	120	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	107	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	202	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	107	P	50 - 300

Lab Sample ID: 2023265
Field Sample ID: GTMGL2NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	113	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	97.6	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	180	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	95.8	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 2023266
Field Sample ID: GTMGL1NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	124	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	111	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	191	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	104	P	50 - 300

Lab Sample ID: 2023267
Field Sample ID: Field Blank

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	124	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	108	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	188	P	50 - 300
SOP-PCR-1.5	SKETA-qPCR	107	P	50 - 300

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
SM 10200 H (mod.)	Chlorophyll-a, Corrected	91.6							
	Chlorophyll-a, Uncorrected							4.90	
SOP-PCR-1.0	HF183-qPCR	137	94.9	87.3	103	81.3			200
				93.2					
SOP-PCR-1.2	GULL2-qPCR	160	135	142	115	110			0.131
				108					
SOP-PCR-1.3	GFD-purified-qPCR	49.7	121	172	177	157			13.4
				50.0					
SOP-PCR-1.4	BacR-qPCR	244	101	69.9	83.5	103			12.0
				80.7					
SOP-PCR-1.5	DG3-qPCR	145	100	77.7	86.4	103			18.0
				82.6					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
ASTM D650399 / E82502	Enterococci by Enterolert Quanti-Tray Method by ALS Environmental Laboratory in Jacksonville	2023252, 2023253, 2023254, 2023255, 2023256, 2023257, 2023258
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2023245, 2023246, 2023247, 2023248, 2023249, 2023250, 2023251
SM 9222 D / E82502	Fecal coliforms by membrane filter method by ALS Environmental Laboratories in Jacksonville	2023252, 2023253, 2023254, 2023255, 2023256, 2023257, 2023258
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267
SOP-PCR-1.2 / E31780	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267
SOP-PCR-1.3 / E31780	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267
SOP-PCR-1.4 / E31780	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267
SOP-PCR-1.5 / E31780	Detection and quantification of canine-specific DG3 Bacteroides genetic marker with quantitative polymerase chain reaction	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
ASTM D650399	09/06/2018	09/06/2018 17:36		09/07/2018 17:41	ALS Environmental, Jax	2023252, 2023253, 2023254, 2023255, 2023256, 2023257, 2023258
SM 10200 H (mod.)	09/07/2018	09/07/2018 14:14	Mariam Hanna	09/19/2018 09:40	Peterson Janvier	2023245, 2023246, 2023247, 2023248, 2023249, 2023250, 2023251
SM 9222 D	09/06/2018	09/06/2018 18:04		09/07/2018 16:51	ALS Environmental, Jax	2023252, 2023253, 2023254, 2023255, 2023256, 2023257, 2023258
SOP-PCR-1.0	09/07/2018	09/07/2018 13:10	Sarah Menz	09/10/2018 14:20	Mailin Lopez	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267
SOP-PCR-1.2	09/07/2018	09/07/2018 13:10	Sarah Menz	09/14/2018 09:08	Mailin Lopez	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267
SOP-PCR-1.3	09/07/2018	09/07/2018 13:10	Sarah Menz	09/13/2018 15:38	Sarah Menz	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267
SOP-PCR-1.4	09/07/2018	09/07/2018 13:10	Sarah Menz	09/11/2018 13:01	Mailin Lopez	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267
SOP-PCR-1.5	09/07/2018	09/07/2018 13:10	Sarah Menz	09/14/2018 11:13	Sarah Menz	2023260, 2023261, 2023262, 2023263, 2023264, 2023265, 2023266, 2023267