

Biological Analysis Report

NE-DIST-2017-10-05-02

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

Overflow Analyses Performed By:
Advanced Environmental Laboratories - Gainesville
6815 SW Archer Road
Gainesville, Florida 32608
DOH Accreditation E82001

Event Description: **Suwannee 2**
Request ID: **RQ-2017-09-11-13**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Cheryl Swanson - Administrator
J. Marshall Faircloth - Aquatic Toxicology
Jacqueline Savage - Bench Biology
Jacqueline Savage - Microbiology
Puja Jasrotia, Ph.D. - Molecular Biology
Jennifer Walters - Taxonomy (Invertebrate & Algal)
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8177

Certified by: Puja Jasrotia, Environmental Manager

Date Certified: 19-APR-2018 13:55



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: Mill Creek @ Bellamy-Alligator Rd.

Collection Date/Time: 10/04/2017 12:10

Field ID: G1NE0605 10042017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1934540	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.1	I	ug/L	P333189	
		Phaeophytin-a	0.80	U	ug/L	P333189	
		Chlorophyll-a, Uncorrected	2.4	I	ug/L	P333189	
1934543	EPA 1603	Escherichia coli-Membrane Filter	1800	B	cfu/100 mL		
1934547	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P334196	
	SOP-PCR-1.2	GULL2-qPCR**	8.4E+03	U	TSC/100 mL	P334196	
	SOP-PCR-1.3	GFD-purified-qPCR**	22	T	TSC/100 mL	P334197	LCS, MS, RPD
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P334196	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				

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: No amplification of HF183 marker.

SOP-PCR-1.2: No amplification of GULL2 marker.

SOP-PCR-1.4: No amplification of BACR marker. Precision data unavailable.

Sample Location: Olustee Creek @ CR 238

Collection Date/Time: 10/04/2017 10:55

Field ID: G1NE0332 10042016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1934539	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.55	U	ug/L	P333189	
		Phaeophytin-a	0.40	U	ug/L	P333189	
		Chlorophyll-a, Uncorrected	0.40	U	ug/L	P333189	
1934542	EPA 1603	Escherichia coli-Membrane Filter	70	BQ	cfu/100 mL		
1934546	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P332549	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Below Threshold				

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: No amplification of HF183 marker.

Sample Location: Cannon Crk @ Cannon Crk Rd W CR 47

Collection Date/Time: 10/04/2017 10:30

Field ID: G1NE0617 10042016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1934544	EPA 1603	Escherichia coli-Membrane Filter	300	BQ	cfu/100 mL		
1934548	SOP-PCR-1.0	HF183-qPCR**	280	U	GEU/100 mL	P332549	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Below Threshold				

Ref. Method and Comment:

SOP-PCR-1.0: No amplification of HF183 marker.

Sample Location: Cannon Crk @ Cannon S Ward St.

Collection Date/Time: 10/04/2017 10:15

Field ID: G1NE0500 10042016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1934541	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.90	I	ug/L	P333189	
		Phaeophytin-a	0.40	U	ug/L	P333189	
		Chlorophyll-a, Uncorrected	0.98	I	ug/L	P333189	

Field ID: G1NE0500 10042016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1934550	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P334196	
	SOP-PCR-1.3	GFD-purified-qPCR**	17	T	TSC/100 mL	P331945	LCS, MS, RPD
	SOP-PCR-1.4	BacR-qPCR**	2.7E+03	I	TSC/100 mL	P334196	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Above Threshold				
1940863	EPA 1603	Escherichia coli-Membrane Filter	550	Q	cfu/100 mL		

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: No amplification of HF183 marker.

SOP-PCR-1.4: Precision data unavailable.

Sample Location: Cow Creek @ 138

Collection Date/Time: 10/04/2017 11:30

Field ID: G1NE0565

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1934545	EPA 1603	Escherichia coli-Membrane Filter	90	B	cfu/100 mL		
1934549	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P332549	
	SOP-PCR-4.0	HF183 - Human Source Marker**	Below Threshold				

Ref. Method and Comment:

SOP-PCR-1.0: No amplification of HF183 marker.

Quality Assurance Report Method Blank Results

Reference Method: SM 10200 H (mod.)

Batch ID: P333189

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Chlorophyll-a, Uncorrected	0.40	U	ug/L
Phaeophytin-a	0.40	U	ug/L

Reference Method: SOP-PCR-1.0

Batch ID: P332549

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

Reference Method: SOP-PCR-1.0

Batch ID: P334196

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

Reference Method: SOP-PCR-1.2

Batch ID: P334196

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

Quality Assurance Report Method Blank Results

Reference Method: SOP-PCR-1.3
Batch ID: P331945

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

Reference Method: SOP-PCR-1.3
Batch ID: P334197

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

Reference Method: SOP-PCR-1.4
Batch ID: P334196

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P333189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	105		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P332549

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	94.4	104	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P334196

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	142	105	P/P	50 - 175
HF183-qPCR	101	87.5	P/P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P334196

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	98.8	122	P/P	50 - 300

Reference Method: SOP-PCR-1.3
Batch ID: P331945

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-purified-qPCR	72.4	15.0	P/F	50 - 175

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SOP-PCR-1.3

Batch ID: P334197

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-purified-qPCR	24.9	149	F/P	50 - 175
GFD-purified-qPCR	87.9	149	P/P	50 - 175
GFD-purified-qPCR	11.5	24.9	F/F	50 - 175

Reference Method: SOP-PCR-1.4

Batch ID: P334196

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	123	88.4	P/P	50 - 175
BacR-qPCR	155	95.3	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0

Batch ID: P332549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1928362	HF183-qPCR	74.9	74.5	P	50 - 175
1929672	HF183-qPCR	76.7		P	50 - 175
1931498	HF183-qPCR	74.7		P	50 - 175
1933151	HF183-qPCR	76.4		P/P	50 - 175
1933152	HF183-qPCR	76.0		P	50 - 175
1933658	HF183-qPCR	73.2		P	50 - 175
1934434	HF183-qPCR	83.4		P	50 - 175
1934435	HF183-qPCR	78.2		P	50 - 175
1934479	HF183-qPCR	83.9		P	50 - 175
1934480	HF183-qPCR	85.0		P	50 - 175
1934546	HF183-qPCR	69.3		P	50 - 175
1934548	HF183-qPCR	82.6		P	50 - 175
1934549	HF183-qPCR	56.4		P	50 - 175

Reference Method: SOP-PCR-1.0

Batch ID: P334196

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1934547	HF183-qPCR	97.0	91.5	P	50 - 175
1934550	HF183-qPCR	92.3		P	50 - 175
1940827	HF183-qPCR	72.0		P	50 - 175
1940858	HF183-qPCR	92.3		P/P	50 - 175
1940859	HF183-qPCR	93.3		P	50 - 175
1940860	HF183-qPCR	60.9		P	50 - 175
1940861	HF183-qPCR	85.5		P	50 - 175
1941072	HF183-qPCR	96.8		P	50 - 175
1941080	HF183-qPCR	57.3		P	50 - 175
1941103	HF183-qPCR	95.7		P	50 - 175
1941104	HF183-qPCR	63.4		P	50 - 175
1941985	HF183-qPCR	74.0		P	50 - 175
1941986	HF183-qPCR	90.4		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.2

Batch ID: P334196

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1934547	GULL2-qPCR	101		P	50 - 300
1940858	GULL2-qPCR	100	100	P/P	50 - 300
1940859	GULL2-qPCR	96.5		P	50 - 300
1940860	GULL2-qPCR	99.8		P	50 - 300
1940861	GULL2-qPCR	92.1		P	50 - 300
1940862	GULL2-qPCR	89.4		P	50 - 300

Reference Method: SOP-PCR-1.3

Batch ID: P331945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1926085	GFD-purified-qPCR	87.4		P	50 - 175
1927146	GFD-purified-qPCR	67.2		P	50 - 175
1930313	GFD-purified-qPCR	176		F	50 - 175
1932535	GFD-purified-qPCR	88.2	151	P/P	50 - 175
1933162	GFD-purified-qPCR	22.3		F	50 - 175
1933846	GFD-purified-qPCR	57.7		P	50 - 175
1934550	GFD-purified-qPCR	70.6		P	50 - 175
1935003	GFD-purified-qPCR	56.4		P	50 - 175
1935006	GFD-purified-qPCR	70.1		P	50 - 175

Reference Method: SOP-PCR-1.3

Batch ID: P334197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1934547	GFD-purified-qPCR	95.4		P	50 - 175
1935007	GFD-purified-qPCR	96.6		P	50 - 175
1935457	GFD-purified-qPCR	77.0		P	50 - 175
1938788	GFD-purified-qPCR	106	106	P/P	50 - 175
1940825	GFD-purified-qPCR	102		P	50 - 175
1940826	GFD-purified-qPCR	13.6		F	50 - 175
1940827	GFD-purified-qPCR	142		P	50 - 175
1940858	GFD-purified-qPCR	81.1	88.9	P/P	50 - 175
1940860	GFD-purified-qPCR	36.5		F	50 - 175
1940861	GFD-purified-qPCR	108		P	50 - 175
1940862	GFD-purified-qPCR	52.2		P	50 - 175
1941076	GFD-purified-qPCR	115		P	50 - 175
1942583	GFD-purified-qPCR	126		P	50 - 175
1942883	GFD-purified-qPCR	124		P	50 - 175
1942884	GFD-purified-qPCR	118		P	50 - 175
1942953	GFD-purified-qPCR	135		P	50 - 175
1943019	GFD-purified-qPCR	123		P	50 - 175

Reference Method: SOP-PCR-1.4

Batch ID: P334196

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1934547	BacR-qPCR	89.0		P	50 - 175
1934550	BacR-qPCR	84.1		P	50 - 175
1940859	BacR-qPCR	89.7		P	50 - 175
1940860	BacR-qPCR	68.4		P	50 - 175
1941072	BacR-qPCR	86.8		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.4
Batch ID: P334196

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941076	BacR-qPCR	87.3		P	50 - 175

Quality Assurance Report Precision

Reference Method: SOP-PCR-1.0
Batch ID: P332549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1933151	HF183-qPCR	2.51	Spike	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P334196

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940858	HF183-qPCR	0.866	Spike	P	0 - 25
1943571	HF183-qPCR	5.40	Spike	P	0 - 25

Reference Method: SOP-PCR-1.2
Batch ID: P334196

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940858	GULL2-qPCR	0.240	Spike	P	0 - 25

Reference Method: SOP-PCR-1.3
Batch ID: P331945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1932535	GFD-purified-qPCR	52.5	Spike	F	0 - 25

Reference Method: SOP-PCR-1.3
Batch ID: P334197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940858	GFD-purified-qPCR	9.16	Spike	P	0 - 25
1946394	GFD-purified-qPCR	13.5	Sample	P	0 - 25
1946394	GFD-purified-qPCR	126	Spike	F	0 - 25

Reference Method: SOP-PCR-1.4
Batch ID: P334196

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948645	BacR-qPCR	15.3	Spike	P	0 - 25

Quality Assurance Report Precision

* 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: 1934546
 Field Sample ID: G1NE0332 10042016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	76.0	P	50 - 300

Lab Sample ID: 1934547
 Field Sample ID: G1NE0605 10042017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	90.1	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	96.9	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	93.9	P	50 - 300

Lab Sample ID: 1934548
 Field Sample ID: G1NE0617 10042016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	71.1	P	50 - 300

Lab Sample ID: 1934549
 Field Sample ID: G1NE0565

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	57.2	P	50 - 300

Lab Sample ID: 1934550
 Field Sample ID: G1NE0500 10042016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	95.9	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	94.5	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	105								
SOP-PCR-1.0	HF183-qPCR	104	94.4		74.9	76.7	74.7		2.51	
	HF183-qPCR	142	87.5	101	92.3	91.5	93.3		0.866	
		105			60.9				5.40	
SOP-PCR-1.2	GULL2-qPCR	122	98.8		100	100	96.5		0.240	
					99.8					
SOP-PCR-1.3	GFD-purified-qPCR	15.0	72.4		176	88.2	151		52.5	
					22.3					
	GFD-purified-qPCR	24.9	149	24.9	106	106	102	13.5	126	
		149			13.6				9.16	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery			MS % Recovery			LCS	Precision SMP	MS
SOP-PCR-1.4	BacR-qPCR	123	95.3	155	89.0	84.1	86.8			15.3
		88.4			87.3					

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 1603 / E82001	Escherichia coli by membrane filter method using modified mTEC by Advanced Environmental Gainesville Overflow Laboratories for NED	1934542, 1934543, 1934544, 1934545, 1940863
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	1934539, 1934540, 1934541
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	1934546, 1934547, 1934548, 1934549, 1934550
SOP-PCR-1.2 / E31780	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	1934547
SOP-PCR-1.3 / E31780	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	1934547, 1934550
SOP-PCR-1.4 / E31780	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	1934547, 1934550
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	1934546, 1934547, 1934548, 1934549, 1934550

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 1603	10/04/2017	10/04/2017 19:14		10/05/2017 19:25	AEL - Gainesville	1934542, 1934543, 1934544, 1934545, 1940863
SM 10200 H (mod.)	10/05/2017	10/05/2017 13:11	Cathy Sherrer	10/11/2017 08:05	Kim M. Spencer	1934539, 1934540, 1934541
SOP-PCR-1.0	10/05/2017	10/05/2017 14:00	Puja Jasrotia	10/12/2017 13:51	Sarah Menz	1934546, 1934548, 1934549
	10/05/2017	10/05/2017 14:00	Sarah Menz	11/06/2017 15:40	Sarah Menz	1934547, 1934550
SOP-PCR-1.2	10/05/2017	10/05/2017 14:00	Sarah Menz	11/08/2017 09:21	Sarah Menz	1934547
SOP-PCR-1.3	10/05/2017	10/05/2017 14:00	Avril Wood	10/10/2017 09:46	Sarah Menz	1934550
	10/05/2017	10/05/2017 14:00	Sarah Menz	11/13/2017 09:27	Sarah Menz	1934547
SOP-PCR-1.4	10/05/2017	10/05/2017 14:00	Sarah Menz	11/07/2017 11:01	Sarah Menz	1934547, 1934550
SOP-PCR-4.0	10/05/2017	10/05/2017 14:00	Avril Wood	10/30/2017 16:41	Puja Jasrotia	1934546, 1934547, 1934548, 1934549, 1934550