

Biological Analysis Report

NW-DIST-2018-12-11-01

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

Overflow Analyses Performed By:
University of West Florida
11000 University Parkway
Pensacola, FL 32514
DOH Accreditation E71969

Event Description: **Bayou Chico BMAP Source**
Request ID: **RQ-2018-11-12-26**
Customer: **NW-DIST**
Project ID: **BMAP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Jacqueline Savage, Environmental Administrator

Date Certified: 10-JAN-2019 11:41

A handwritten signature in black ink that reads "Jackie Savage". The signature is written in a cursive, flowing style.

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: BAYOU CHICO AT W ST. BRIDGE

Collection Date/Time: 12/10/2018 14:20

Field ID: 33020JF1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2047672	SM 10200 H (mod.)	Chlorophyll-a, Corrected	5.1		ug/L	P356689	
		Phaeophytin-a	1.1	I	ug/L	P356689	
		Chlorophyll-a, Uncorrected	6.0		ug/L	P356689	
2047680	Enterolert/QT	Enterococci-Quanti-Tray	243		MPN/100 mL		
2047687	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P355488	
	SOP-PCR-1.2	GULL2-qPCR**	8.4E+03	U	TSC/100 mL	P355488	
	SOP-PCR-1.3	GFD-purified-qPCR**	4.55E+04	J	TSC/100 mL	P356164	LCS, MS
	SOP-PCR-1.4	BacR-qPCR**	1.5E+03	U	TSC/100 mL	P355488	
	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-1.2: Precision data unavailable for Analysis Batch A88610.

SOP-PCR-1.3: Quality control failure(s) observed. See QA report for details.

SOP-PCR-1.4: Precision data unavailable for Analysis Batch A88592

Sample Location: BAYOU CHICO AT NAVY BLVD BRIDGE

Collection Date/Time: 12/10/2018 13:55

Field ID: 3302JE20

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2047673	SM 10200 H (mod.)	Chlorophyll-a, Corrected	3.1		ug/L	P356689	
		Phaeophytin-a	0.87	I	ug/L	P356689	
		Chlorophyll-a, Uncorrected	3.7		ug/L	P356689	
2047681	Enterolert/QT	Enterococci-Quanti-Tray	201		MPN/100 mL		
2047688	SOP-PCR-1.0	HF183-qPCR**	1.00E+03		GEU/100 mL	P355488	
	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.

Sample Location: JACKSON CREEK AT OLD CORRY ROAD

Collection Date/Time: 12/10/2018 11:45

Field ID: 33020221

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2047674	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.55	U	ug/L	P356689	
		Phaeophytin-a	0.60	U	ug/L	P356689	
		Chlorophyll-a, Uncorrected	0.40	U	ug/L	P356689	
2047682	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	189		MPN/100 mL		
2047689	SOP-PCR-1.0	HF183-qPCR**	620		GEU/100 mL	P355929	
	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.

Sample Location: JONES CREEK UPSTREAM OF NEW WARRINGTON RD

Collection Date/Time: 12/10/2018 12:30

Field ID: 33020117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: 33020117

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2047675	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.55	U	ug/L	P356689	
		Phaeophytin-a	0.60	U	ug/L	P356689	
		Chlorophyll-a, Uncorrected	0.48	I	ug/L	P356689	
2047683	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	98		MPN/100 mL		
2047690	SOP-PCR-1.0	HF183-qPCR**	140	U	GEU/100 mL	P355929	
	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.

Sample Location: PENSACOLA BAY AT SANDERS BEACH

Collection Date/Time: 12/10/2018 10:10

Field ID: 33020J10

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2047676	SM 10200 H (mod.)	Chlorophyll-a, Corrected	2.5		ug/L	P356689	
		Phaeophytin-a	0.82	U	ug/L	P356689	
		Chlorophyll-a, Uncorrected	2.6		ug/L	P356689	

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: BAYOU CHICO AT MANDALAY DRIVE

Collection Date/Time: 12/10/2018 10:40

Field ID: 33020JD4

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2047677	SM 10200 H (mod.)	Chlorophyll-a, Corrected	1.1	I	ug/L	P356689	
		Phaeophytin-a	0.60	U	ug/L	P356689	
		Chlorophyll-a, Uncorrected	1.4		ug/L	P356689	
2047684	Enterolert/QT	Enterococci-Quanti-Tray	309		MPN/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.

Sample Location: JONES CREEK AT OLD CORRY ROAD

Collection Date/Time: 12/10/2018 11:10

Field ID: 33020118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2047678	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.55	U	ug/L	P356689	
		Phaeophytin-a	0.60	U	ug/L	P356689	
		Chlorophyll-a, Uncorrected	0.45	I	ug/L	P356689	
2047685	Enterolert/QT	Enterococci-Quanti-Tray	63		MPN/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.

Sample Location: JACKSON CREEK AT NEW WARRINGTON ROAD

Collection Date/Time: 12/10/2018 12:05

Field ID: 33020222

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: 33020222

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2047679	SM 10200 H (mod.)	Chlorophyll-a, Corrected	0.55	U	ug/L	P356689	
		Phaeophytin-a	0.60	U	ug/L	P356689	
		Chlorophyll-a, Uncorrected	0.40	U	ug/L	P356689	
2047686	SM 9223 B Quanti-Tray	Escherichia Coli-Quanti-Tray	145		MPN/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.

Quality Assurance Report

Method Blank Results

Reference Method: SM 10200 H (mod.)
Batch ID: P356689

Component	Result	Code	Units
Chlorophyll-a, Corrected	0.55	U	ug/L
Chlorophyll-a, Uncorrected	0.40	U	ug/L
Phaeophytin-a	0.60	U	ug/L

Reference Method: SOP-PCR-1.0
Batch ID: P355488

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

Reference Method: SOP-PCR-1.0
Batch ID: P355929

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

Reference Method: SOP-PCR-1.2
Batch ID: P355488

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

Reference Method: SOP-PCR-1.3
Batch ID: P356164

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

Reference Method: SOP-PCR-1.4
Batch ID: P355488

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 10200 H (mod.)
Batch ID: P356689

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorophyll-a, Corrected	104		P	84 - 116

Reference Method: SOP-PCR-1.0
Batch ID: P355488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	119	175	P/P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P355929

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
HF183-qPCR	124	122	P/P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P355488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GULL2-qPCR	194	129	P/P	50 - 300
GULL2-qPCR	124	126	P/P	50 - 300

Reference Method: SOP-PCR-1.3
Batch ID: P356164

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
GFD-purified-qPCR	160	40.2	P/F	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P355488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
BacR-qPCR	124	134	P/P	50 - 175
BacR-qPCR	112	92.6	P/P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P355488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041028	HF183-qPCR	105		P	50 - 175
2041029	HF183-qPCR	84.0		P	50 - 175
2041033	HF183-qPCR	112		P	50 - 175
2043413	HF183-qPCR	107	119	P/P	50 - 175
2043526	HF183-qPCR	95.2		P	50 - 175
2043527	HF183-qPCR	94.9		P	50 - 175
2044593	HF183-qPCR	115		P	50 - 175
2044594	HF183-qPCR	117		P	50 - 175
2044595	HF183-qPCR	119		P	50 - 175
2044596	HF183-qPCR	123		P	50 - 175

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SOP-PCR-1.0
Batch ID: P355488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2047259	HF183-qPCR	109		P	50 - 175
2047687	HF183-qPCR	115		P	50 - 175
2047688	HF183-qPCR	119		P	50 - 175

Reference Method: SOP-PCR-1.0
Batch ID: P355929

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2042239	HF183-qPCR	97.2		P	50 - 175
2043901	HF183-qPCR	91.1		P	50 - 175
2043903	HF183-qPCR	87.3		P	50 - 175
2045166	HF183-qPCR	95.3		P	50 - 175
2045167	HF183-qPCR	86.1		P	50 - 175
2045168	HF183-qPCR	85.9		P	50 - 175
2045170	HF183-qPCR	89.8		P	50 - 175
2046824	HF183-qPCR	86.1		P	50 - 175
2047689	HF183-qPCR	97.9		P	50 - 175
2047690	HF183-qPCR	87.6	91.3	P/P	50 - 175
2048939	HF183-qPCR	69.5		P	50 - 175

Reference Method: SOP-PCR-1.2
Batch ID: P355488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044594	GULL2-qPCR	119		P	50 - 300
2047687	GULL2-qPCR	112		P	50 - 300

Reference Method: SOP-PCR-1.3
Batch ID: P356164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043901	GFD-purified-qPCR	297		F	50 - 175
2043903	GFD-purified-qPCR	333		F	50 - 175
2044594	GFD-purified-qPCR	315		F	50 - 175
2045167	GFD-purified-qPCR	201		F	50 - 175
2045168	GFD-purified-qPCR	333		F	50 - 175
2045170	GFD-purified-qPCR	371		F	50 - 175
2047687	GFD-purified-qPCR	271		F	50 - 175
2048939	GFD-purified-qPCR	322	313	F/F	50 - 175

Reference Method: SOP-PCR-1.4
Batch ID: P355488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2041028	BacR-qPCR	67.2		P	50 - 175
2044594	BacR-qPCR	78.3		P	50 - 175
2047687	BacR-qPCR	80.3		P	50 - 175

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: SM 10200 H (mod.)
Batch ID: P356689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2047270	Chlorophyll-a, Corrected	7.82	Sample	P	0 - 25
2047270	Chlorophyll-a, Uncorrected	7.34	Sample	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P355488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043413	HF183-qPCR	10.2	Spike	P	0 - 25

Reference Method: SOP-PCR-1.0
Batch ID: P355929

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2047690	HF183-qPCR	4.17	Spike	P	0 - 25

Reference Method: SOP-PCR-1.3
Batch ID: P356164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2048939	GFD-purified-qPCR	2.81	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: 2047687
Field Sample ID: 33020JF1

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	100	P	50 - 300
SOP-PCR-1.2	SKETA-qPCR	85.8	P	50 - 300
SOP-PCR-1.4	SKETA-qPCR	137	P	50 - 300

Lab Sample ID: 2047688
Field Sample ID: 3302JE20

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	107	P	50 - 300

Lab Sample ID: 2047689
Field Sample ID: 33020221

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	99.2	P	50 - 300

Quality Assurance Report Surrogates

Lab Sample ID: 2047690
 Field Sample ID: 33020117

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
SOP-PCR-1.0	SKETA-qPCR	93.9	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	104			7.82	
	Chlorophyll-a, Uncorrected				7.34	
SOP-PCR-1.0	HF183-qPCR	175 119	95.2 94.9 109			10.2
	HF183-qPCR	122 124	87.6 91.3 97.9			4.17
SOP-PCR-1.2	GULL2-qPCR	194 126 124	119 112			
SOP-PCR-1.3	GFD-purified-qPCR	40.2 160	322 313 297			2.81
SOP-PCR-1.4	BacR-qPCR	124 92.6 112	80.3 67.2 78.3			

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
Enterolert/QT / E71969	Enterococci by Enterolert Quanti-Tray method by UWF Laboratory in Pensacola	2047680, 2047681, 2047684, 2047685
SM 10200 H (mod.) / E31780	Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry	2047672, 2047673, 2047674, 2047675, 2047676, 2047677, 2047678, 2047679
SM 9223 B Quanti-Tray / E71969	Escherichia coli by Colilert 18 Quanti-Tray method by UWF Laboratory in Pensacola	2047682, 2047683, 2047686
SOP-PCR-1.0 / E31780	Detection and quantification of human-specific HF183 Bacteroides genetic marker with quantitative polymerase chain reaction	2047687, 2047688, 2047689, 2047690
SOP-PCR-1.2 / E31780	Detection and quantification of coastal bird specific Catellicoccus marimammalium Gull2 genetic marker with quantitative polymerase chain reaction	2047687
SOP-PCR-1.3 / E31780	Detection and quantification of bird specific Helicobacter GFD genetic marker with quantitative polymerase chain reaction	2047687
SOP-PCR-1.4 / E31780	Detection and quantification of Ruminant specific Bacteroidetes BacR genetic marker with quantitative polymerase chain reaction	2047687
SOP-PCR-4.0 / E31780	Preparation of Samples by Filtration and held for qPCR Analysis	2047687, 2047688, 2047689, 2047690

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
Enterolert/QT	12/10/2018	12/10/2018 16:50		12/11/2018 17:15	UWF Lab	2047680, 2047681, 2047684, 2047685
SM 10200 H (mod.)	12/11/2018	12/11/2018 14:44	Jennifer Mihalic	12/27/2018 11:00	Peterson Janvier	2047672, 2047673, 2047674, 2047675, 2047676, 2047677, 2047678, 2047679
SM 9223 B Quanti-Tray	12/10/2018	12/10/2018 17:05		12/11/2018 13:15	UWF Lab	2047682, 2047683, 2047686
SOP-PCR-1.0	12/11/2018	12/11/2018 13:05	Angela Smith	12/18/2018 14:17	Mailin Lopez	2047689, 2047690
	12/11/2018	12/11/2018 13:05	Sarah Menz	12/12/2018 11:46	Mailin Lopez	2047687, 2047688
SOP-PCR-1.2	12/11/2018	12/11/2018 13:05	Sarah Menz	01/03/2019 11:41	Sarah Menz	2047687
SOP-PCR-1.3	12/11/2018	12/11/2018 13:05	Angela Smith	01/04/2019 12:28	Sarah Menz	2047687
SOP-PCR-1.4	12/11/2018	12/11/2018 13:05	Sarah Menz	01/02/2019 17:29	Mailin Lopez	2047687
SOP-PCR-4.0	12/11/2018	12/11/2018 13:05	Angela Smith	12/21/2018 09:09	Sarah Menz	2047687, 2047688, 2047689, 2047690