Schlumberger

Company: **Lamont Doherty**

Well: **Expedition 339, Site U1387 GC−09A**
Field: **Mediterranean Outflow (Portugal)**
Rig: **JOIDES Resolution** Ocean: **Atlantic**

Rig: JOIDES Resolution
Field: Mediterranean Outflow (Portugal)
Location: Latitude: N 36* 48.32'
Well: Expedition 339, Site U1387 GC−09A
Company: Lamont Doherty

FMS Dual Axis Caliper

Gamma Ray

LOCATION

Latitude: N 36* 48.32'
Longitude: W 7* 43.14'

Elev.: K.B. 11.00 m
G.L. −558.80 m
D.F. 11.00 m

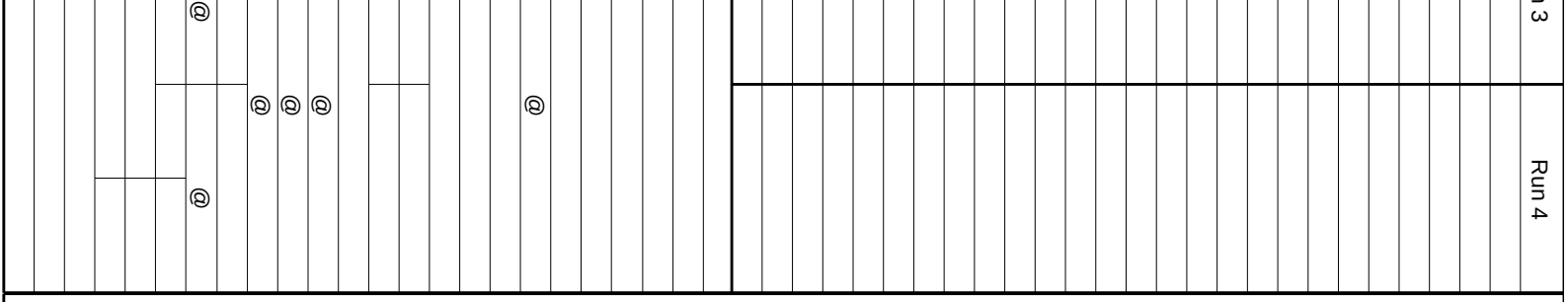
Permanent Datum: Mean Sea Level
Log Measured From: Drill Floor
Drilling Measured From: Drill Floor

Elev.: 0.00 m
11.00 m above Perm. Datum

API Serial No.	Max. Hole Devi. 0 deg	Longitude W 7* 43.14'	Latitude N 36* 48.32

Logging Date			17−Dec−2011						
Run Number			1						
Depth Driller			870 m						
Schlumberger Depth			650 m						
Bottom Log Interval			0 m						
Top Log Interval			0 m						
Casing Driller Size @ Depth			10.750 in	@	104 m		@		
Casing Schlumberger			103 m						
Bit Size			9.875 in						
Type Fluid In Hole			Seawater Gel						
MUD Density	Viscosity		1.25 g/cm3						
MUD Fluid Loss	PH								
MUD Source Of Sample			N/A						
RM @ Measured Temperature				@			@		
RMF @ Measured Temperature				@			@		
RMC @ Measured Temperature				@			@		
Source RMF	RMC		N/A		N/A				
RM @ MRT	RMF @ MRT		@ 21		@ 21		@		@
Maximum Recorded Temperatures			21 degC						
Circulation Stopped	Time		17−Dec−2011		0:00				
Logger On Bottom	Time		17−Dec−2011		4:00				
Unit Number	Location		625003	Houston					
Recorded By			K. Swain						
Witnessed By			T. Williams, J. Lofi						

	Run 1	Run 2	Run
Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth	@		
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
MUD Density	Viscosity		
MUD Fluid Loss	PH		
MUD Source Of Sample			
RM @ Measured Temperature	@		
RMF @ Measured Temperature	@		
RMC @ Measured Temperature	@		
Source RMF	RMC		
RM @ MRT	RMF @ MRT	@	@
Maximum Recorded Temperatures			
Circulation Stopped	Time		
Logger On Bottom	Time		
Unit Number	Location		
Recorded By			
Witnessed By			



DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED−DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED−DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED−DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED−DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1: HRLT/HLDS/HNGS/APS	OS1:
OS2: VSI	OS2:
OS3: FMS	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Hole GC−09A Hole C was drilled with a 9 7/8" RCB bit to TDD of 1440 mbrf. (870m)	
Hole depth referenced from sea floor based on driller measurement is 569.8 m.	
DSI run centralized with 2 MCD centralizers	
SAM2 upper dipole standard frequency	
SAM4 P&S monopole standard frequency	
See log parameters for labeling parameters.	
All logs recorded via wireline thru 5.5" drillpipe and RCB coring BHA.	
consisting of a bit release sub, Kinley sub, drill collars. The rotary coring	
bit was released on bottom prior to logging.	
Logs played back with sea floor reference using drilling depth as the primary	
depth for sea floor. The main Tcombo uplog is the primary wireline log.	

RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:		19C0−187	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

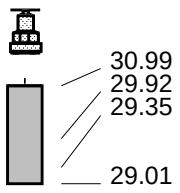
WITM (EDTS)−A 1

DOWNHOLE EQUIPMENT

LEH−QT
LEH−QT 301

EDTC−B
EDTH−B 8528
EDTC−B 8529
EDTG−A/B 77693

MDSB_EDTC
Mud Tempe
CTEM
Gamma Ray
EFTB DIAG
TelStatus
EDTCB Ele



31.88

30.99

AH−MCD
AH−MCD 1

29.01

DSST−B
SPAC−B 16
ECH−SD 16
SMDR−BD 8232
SSIJ−BA 8192
SMDX−AA 8194

26.73

PWF 11.18

AH−MCD
AH−MCD 22

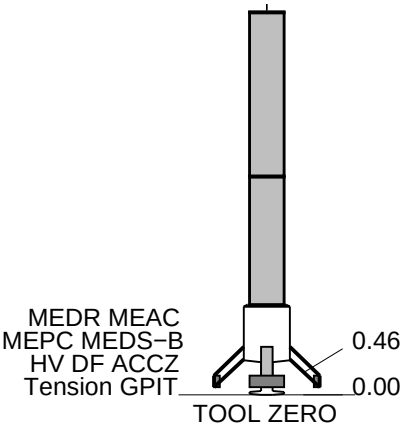
11.18

DTA−A
ECH−KE 8451
DTA−A 8259

8.90

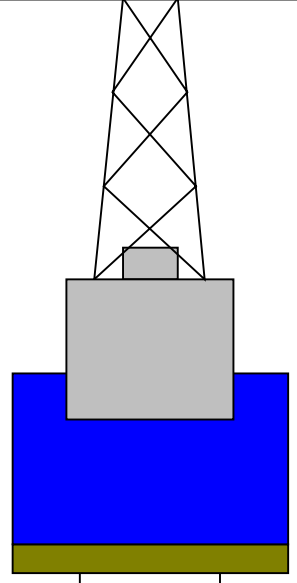
MEST−B
MEAH−B 726
MEAC−A 875
MEPH−A 702
GPIC−A 840
MEPC−AB 807
MEDS−B 770

7.68



MAXIMUM STRING DIAMETER 4.50 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Production String	(in) OD	(in) ID	(M) MD	Well Schematic	(M) MD	(in) OD	(in) ID	Casing String



Kelly Bushing Elevation	−570			
Derrick Floor Elevation	−570			
Mean Sea Level	−559			
		4.1		
	0	3.80	Sea Floor	
	104	9.875	Open Hole	
	650		Total Depth	

Input DLIS Files

DEFAULT	FMS_DSI_047LUP	FN:65	PRODUCER	17−Dec−2011 18:28	848.0 M	661.3 M

Output DLIS Files

DEFAULT	FMS_DSI_080PUP	FN:98	PRODUCER	29−Dec−2011 04:07	278.9 M	92.2 M

OP System Version: 19C0−187

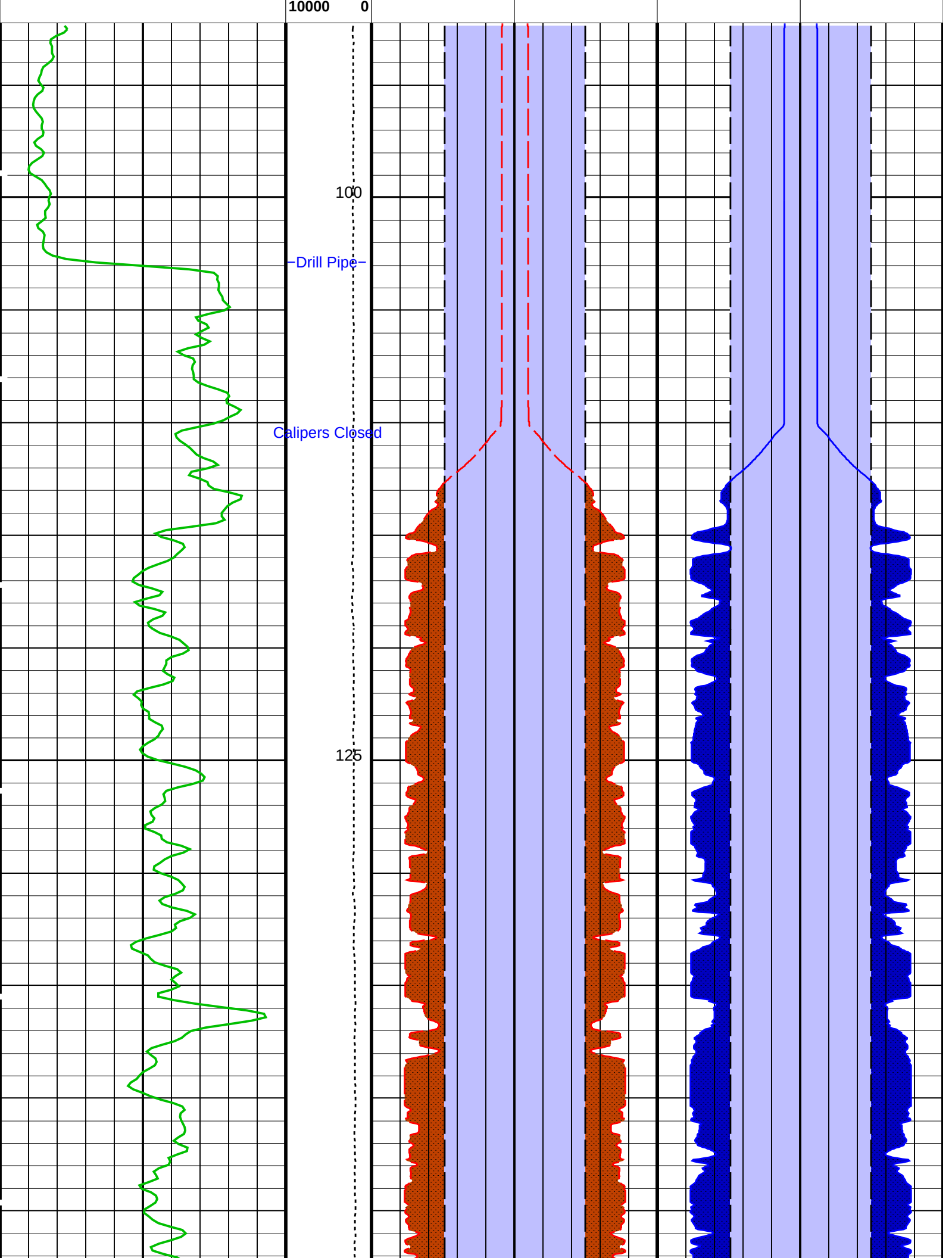
MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	EDTC−B	19C0−187

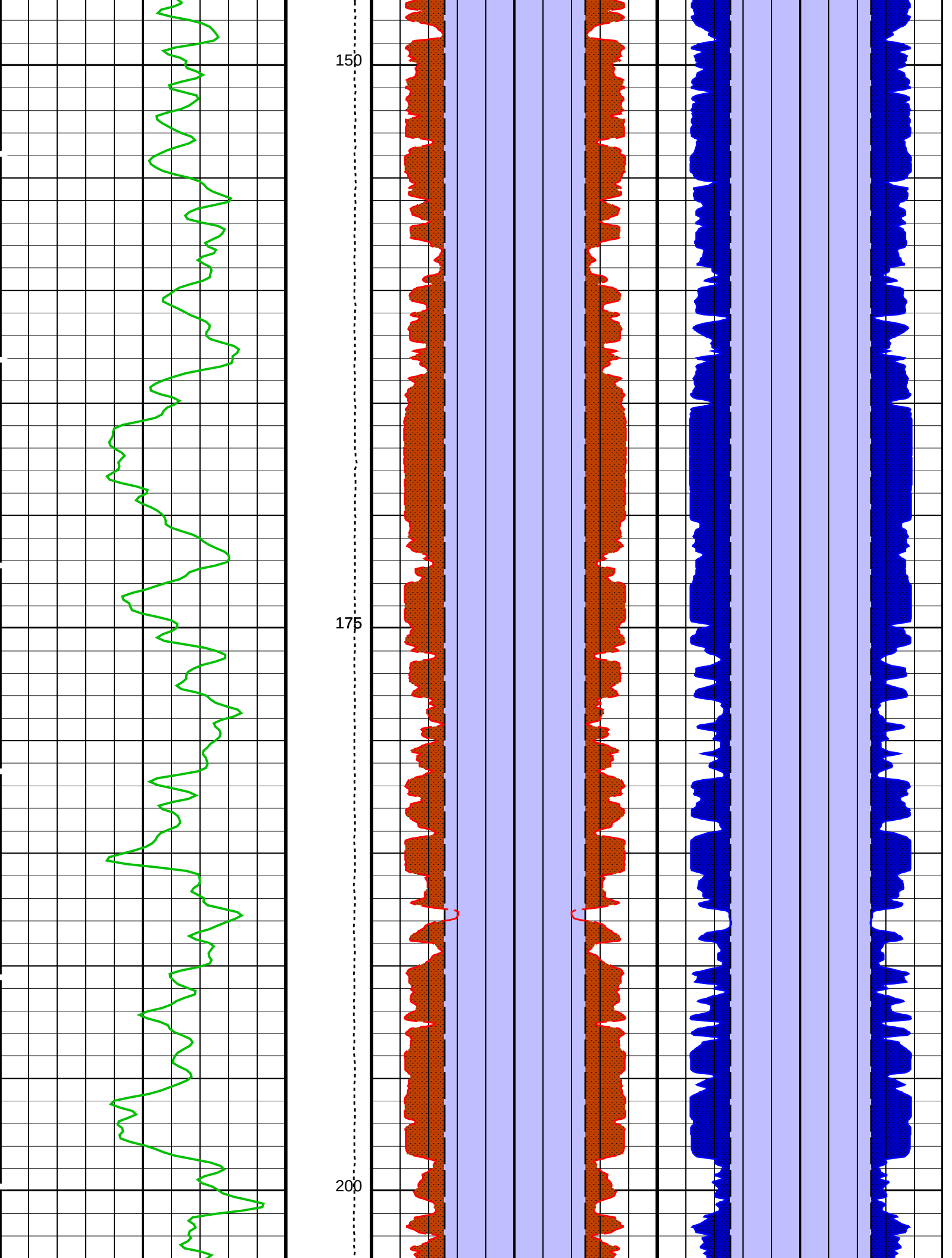
PIP SUMMARY

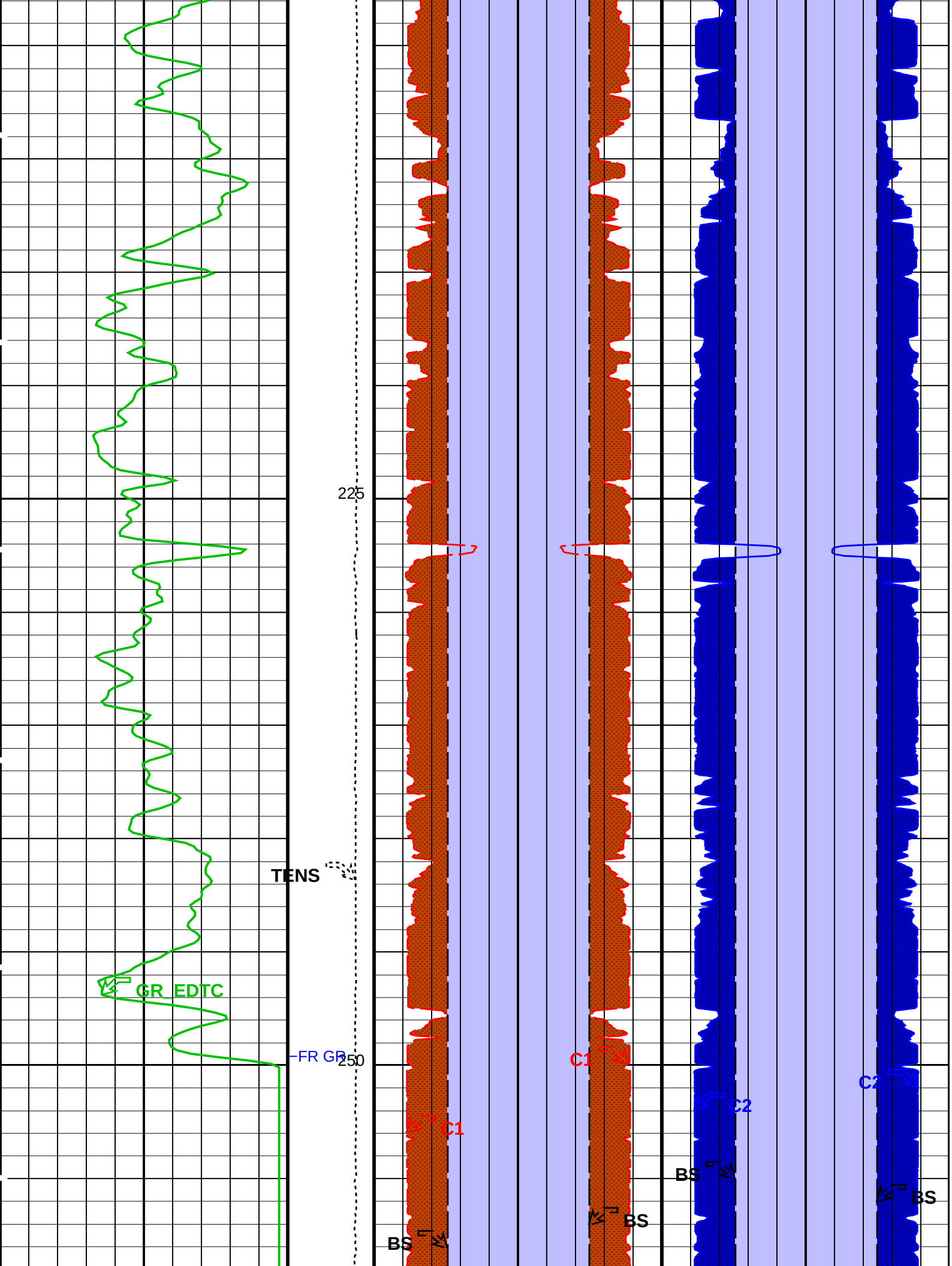
Time Mark Every 60 S

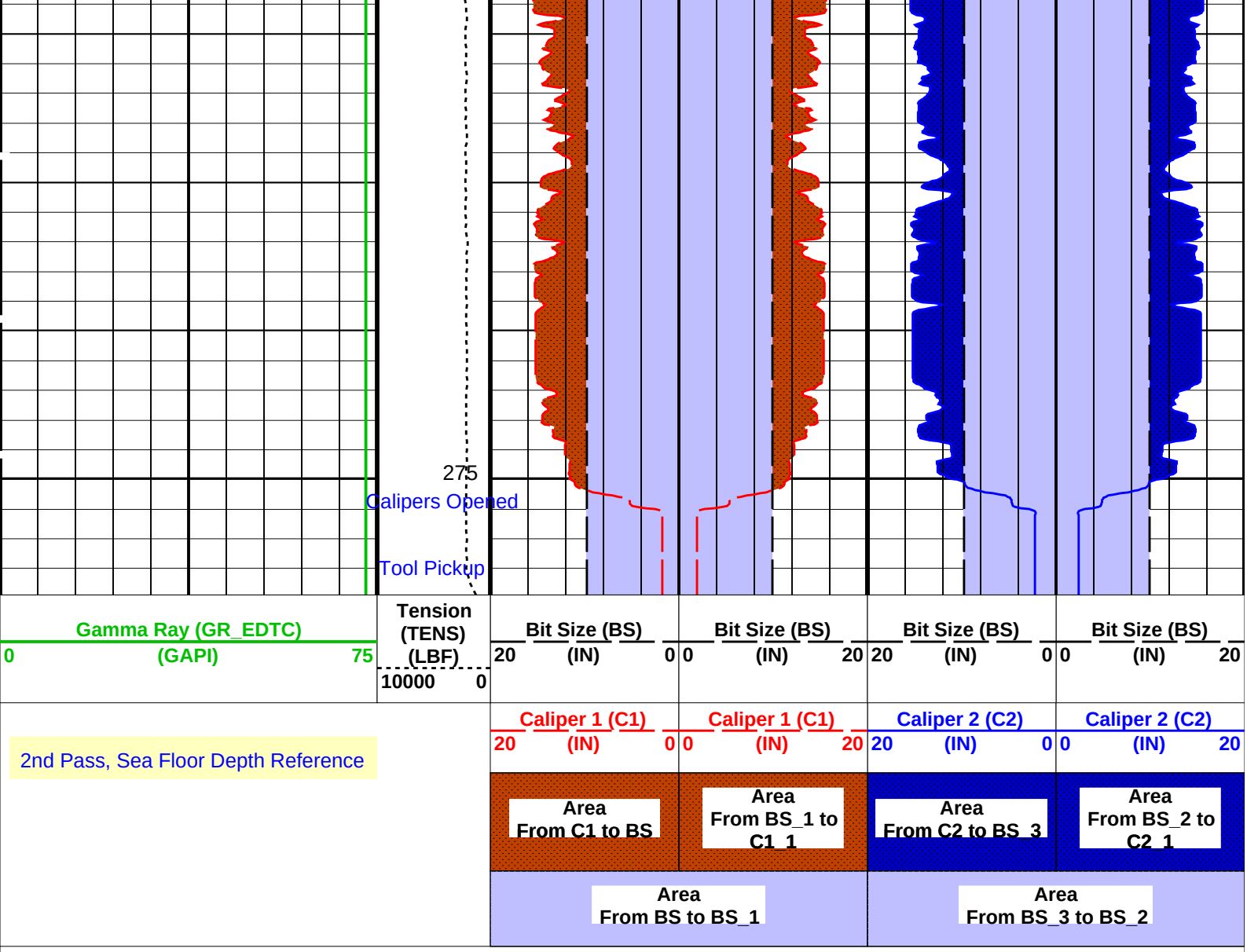
2nd Pass, Sea Floor Depth Reference

Gamma Ray (GR_EDTC)	Tension (TENS)	Area From BS to BS_1		Area From BS_3 to BS_2	
		Area From C1 to BS	Area From BS_1 to C1_1	Area From C2 to BS_3	Area From BS_2 to C2_1
		Caliper 1 (C1)	Caliper 1 (C1)	Caliper 2 (C2)	Caliper 2 (C2)
0 (GAPI) 75	(LBF)	20 (IN) 0	0 (IN) 20	20 (IN) 0	0 (IN) 20
		Bit Size (BS)	Bit Size (BS)	Bit Size (BS)	Bit Size (BS)
		20 (IN) 0	0 (IN) 20	20 (IN) 0	0 (IN) 20


10000
0
100
Drill Pipe
Calipers Closed
125


150
175
200


225
TENS
GR_EDTC
FR GR
250
C1
C1
C2
C2
BS
BS
BS
BS



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DO	Depth Offset for Playback	−569.0	M
PP	Playback Processing	NORMAL	

Format: BHP Vertical Scale: 1:200 Graphics File Created: 29−Dec−2011 04:08

OP System Version: 19C0−187

MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	EDTC−B	19C0−187

Input DLIS Files

DEFAULT	FMS_DSI_047LUP	FN:65	PRODUCER	17−Dec−2011 18:28	848.0 M	661.3 M

Output DLIS Files

DEFAULT	FMS_DSI_080PUP	FN:98	PRODUCER	29−Dec−2011 04:07

Input DLIS Files

DEFAULT	FMS_DSI_046LUP	FN:63	PRODUCER	17−Dec−2011 17:23	905.4 M	560.6 M

Output DLIS Files

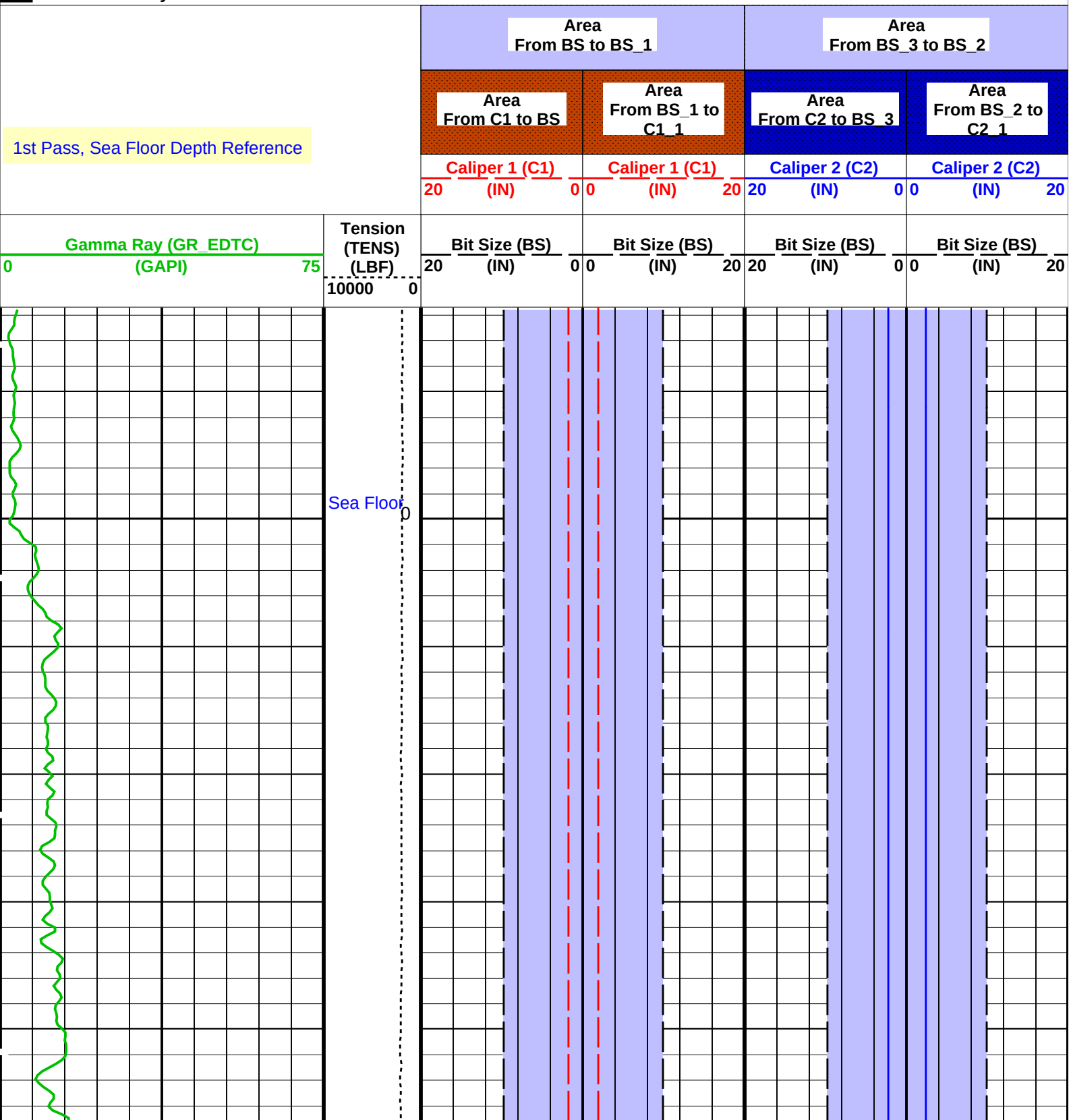
DEFAULT	FMS_DSI_079PUP	FN:97	PRODUCER	29−Dec−2011 03:38	336.3 M	−8.4 M

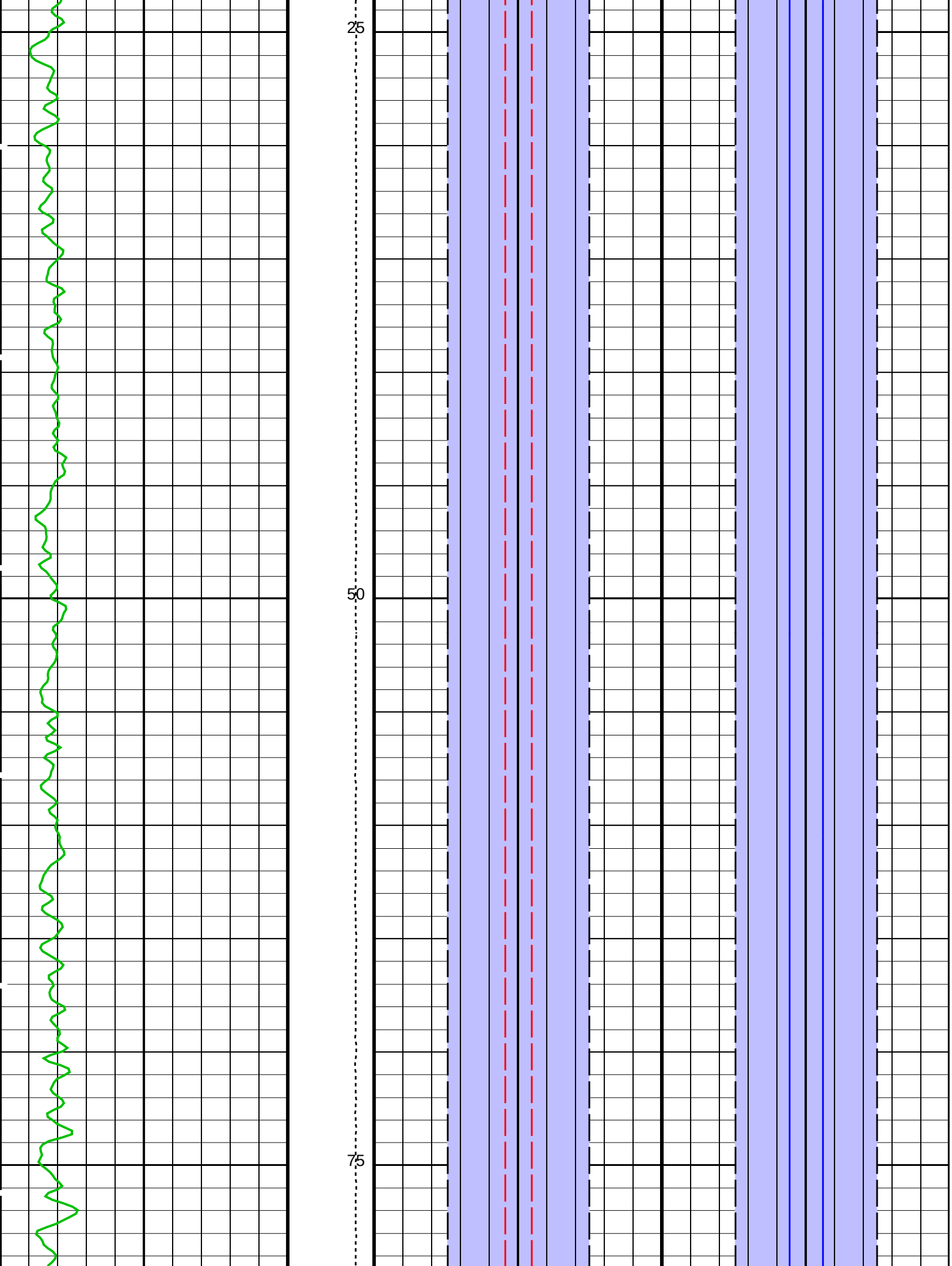
OP System Version: 19C0−187

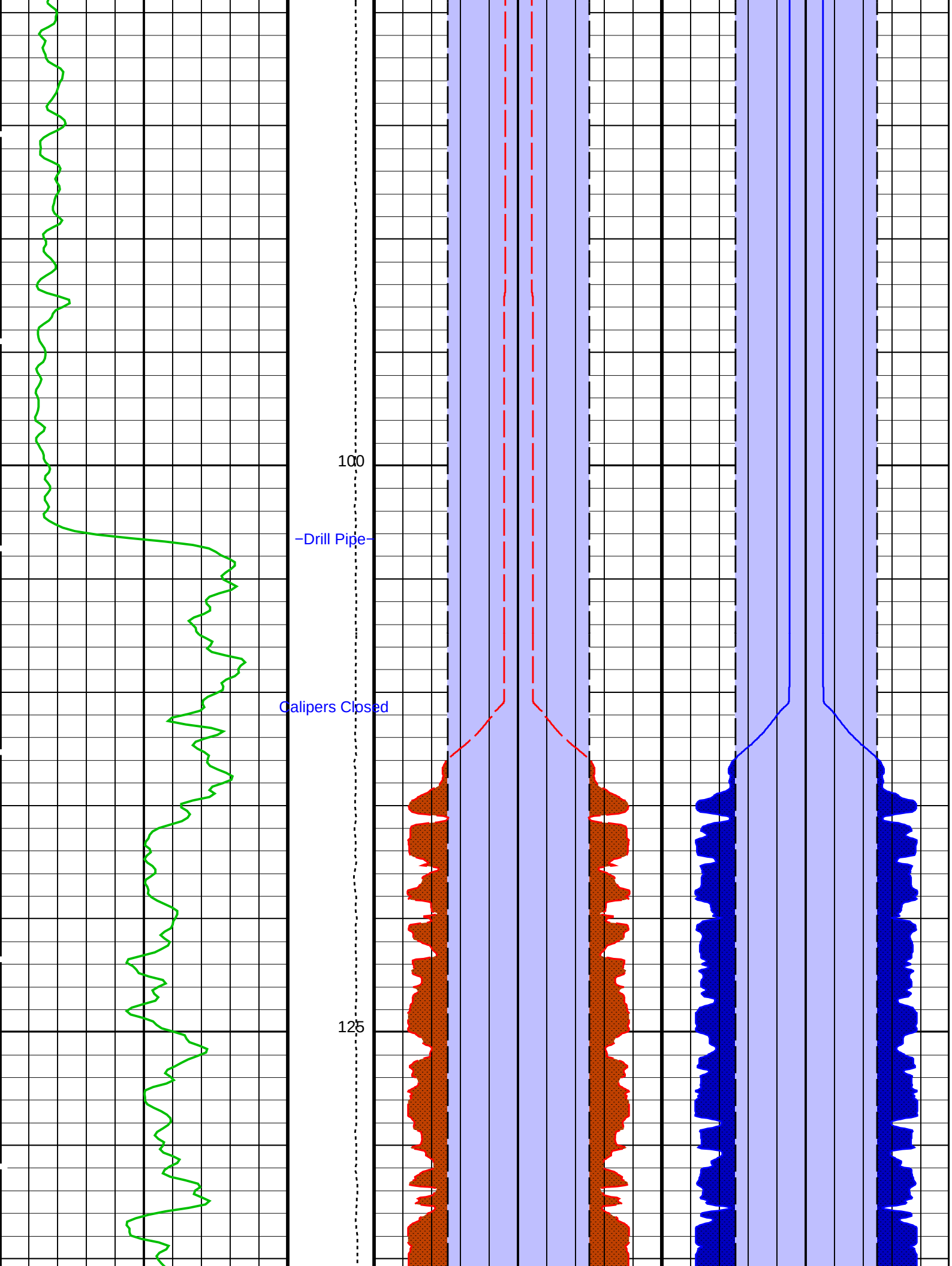
MEST−B	19C0−187	DTA−A	19C0−187
DSST−B	19C0−187	EDTC−B	19C0−187

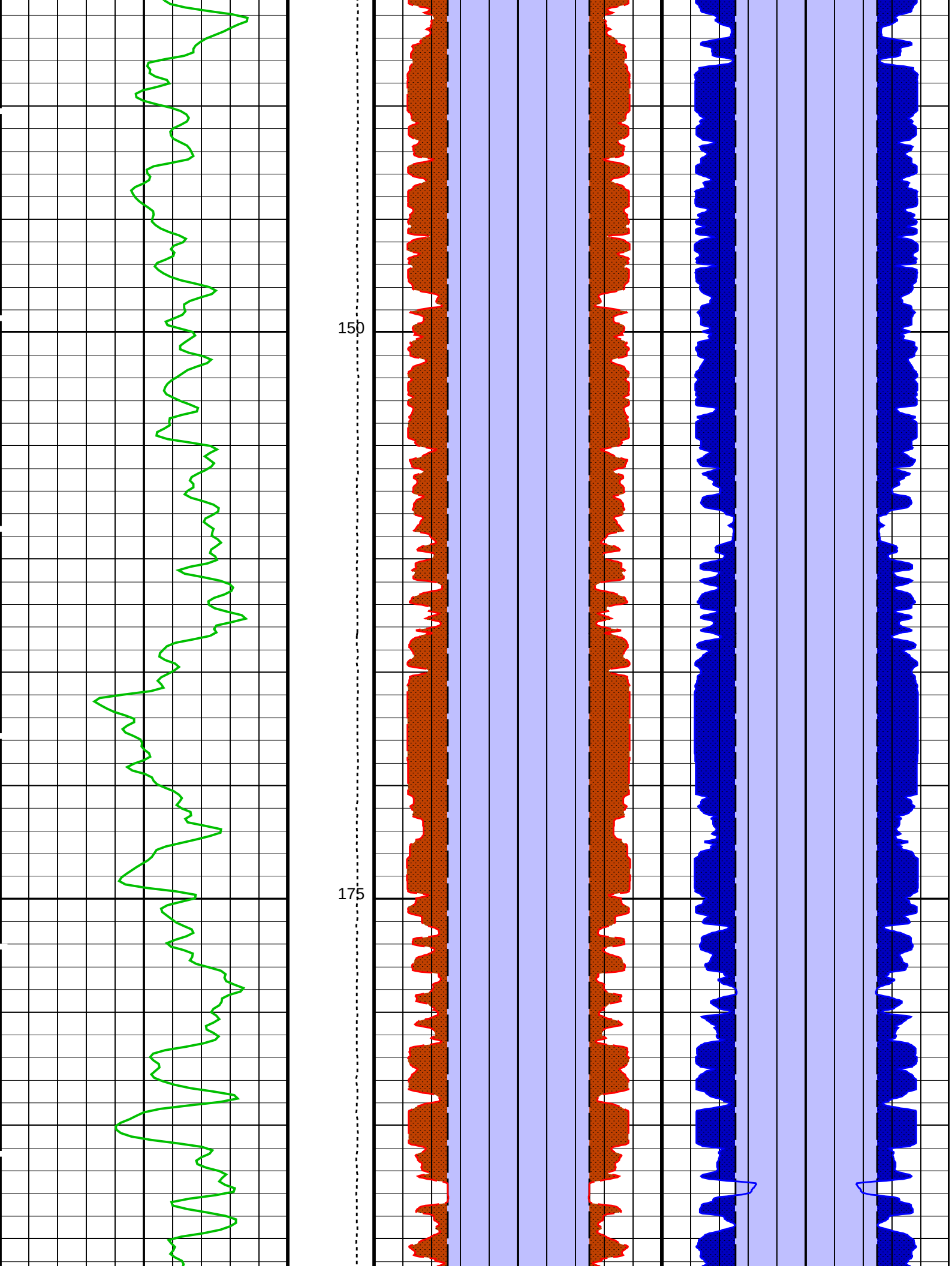
PIP SUMMARY

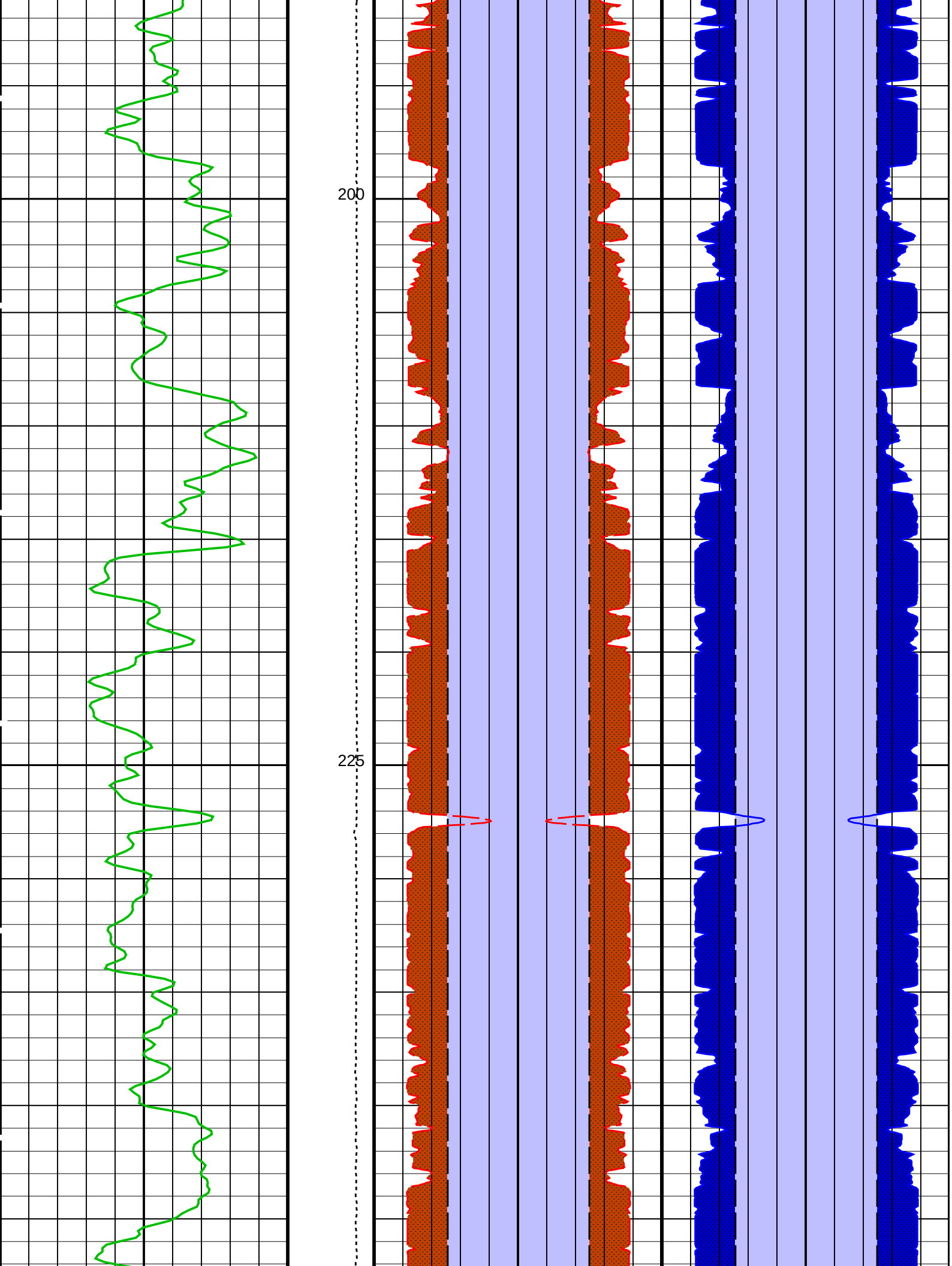
Time Mark Every 60 S

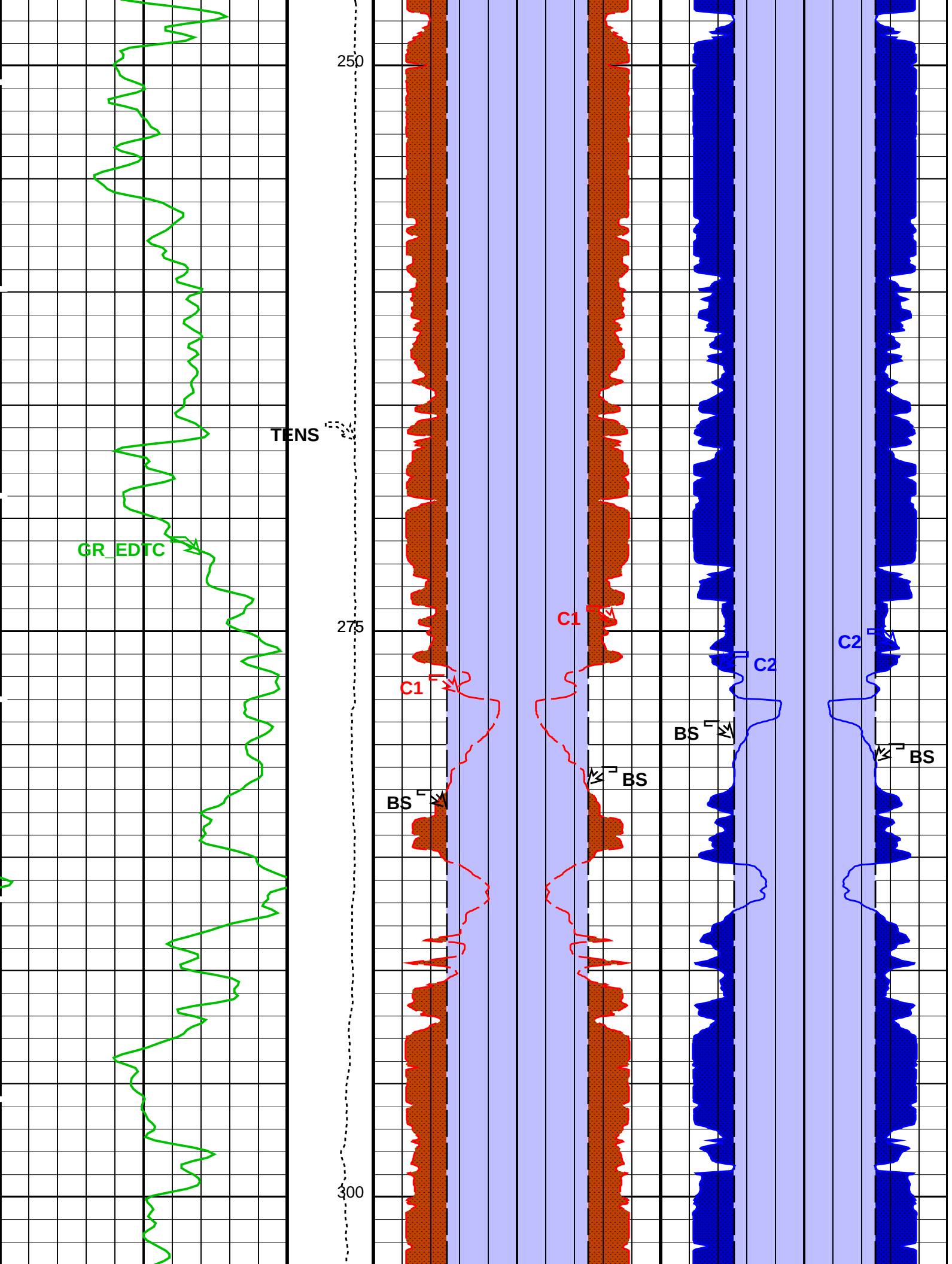


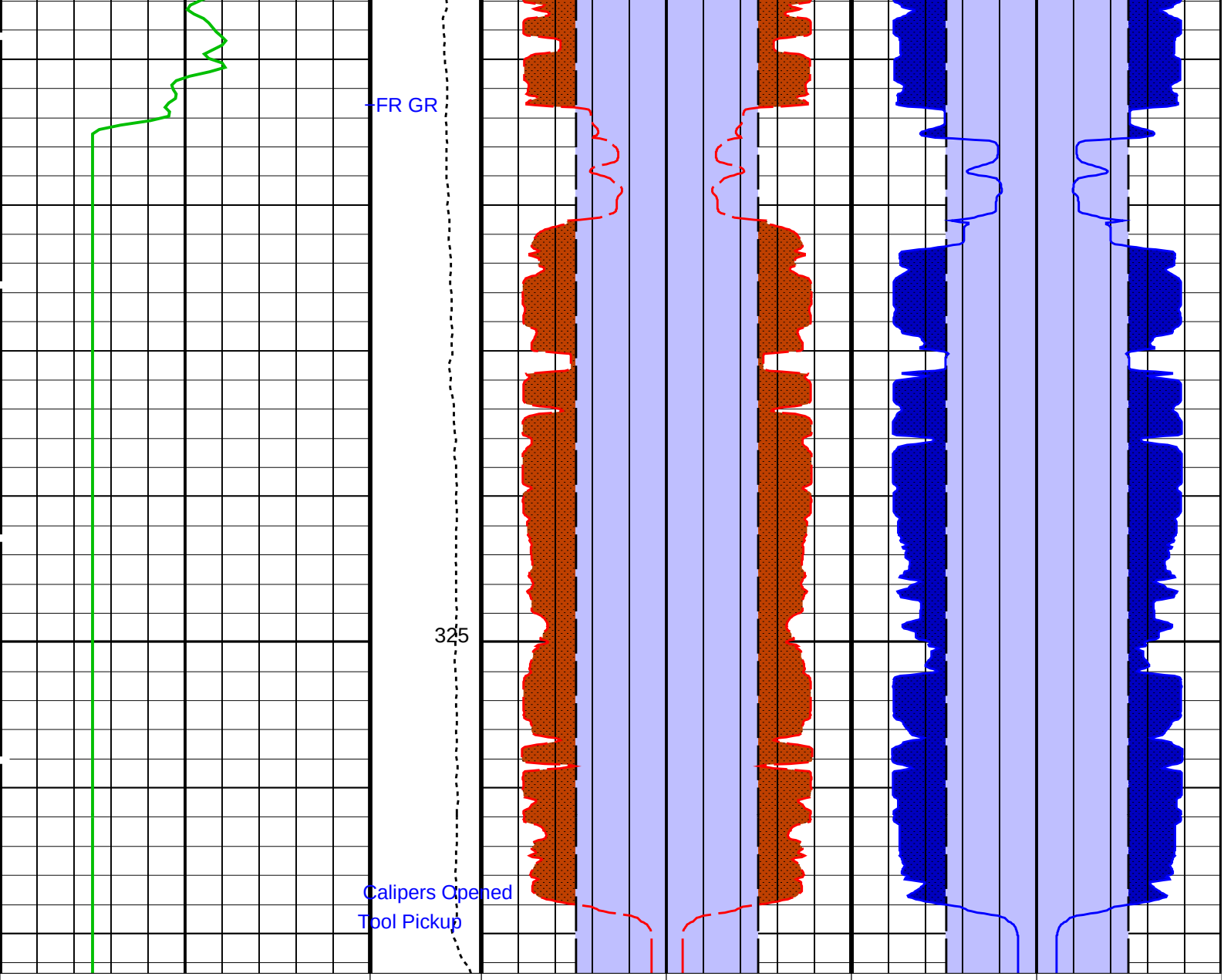

25
50
75


100
−Drill Pipe−
Calipers Closed
125


150
175


200
225


250
TENS
GR_EDTC
275
C1
C1
BS
BS
BS
C2
C2
BS
300



Gamma Ray (GR_EDTC)	Tension (TENS)	Bit Size (BS)	Bit Size (BS)	Bit Size (BS)	Bit Size (BS)
0 (GAPI) 75	(LBF) 10000 0	20 (IN) 0	0 (IN) 20	20 (IN) 0	0 (IN) 20
		Caliper 1 (C1) 20 (IN) 0	Caliper 1 (C1) 0 (IN) 20	Caliper 2 (C2) 20 (IN) 0	Caliper 2 (C2) 0 (IN) 20
		Area From C1 to BS	Area From BS_1 to C1_1	Area From C2 to BS_3	Area From BS_2 to C2_1
		Area From BS to BS_1		Area From BS_3 to BS_2	

1st Pass, Sea Floor Depth Reference

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	System and Miscellaneous		
BS	Bit Size	9.875	IN
DO	Depth Offset for Playback	−569.0	M
PP	Playback Processing	NORMAL	

Format: BHP Vertical Scale: 1:200 Graphics File Created: 29−Dec−2011 03:38

QP System Version: 10C0−187

OP System Version: 19C0−187

MEST−B	**19C0−187**	**DTA−A**	**19C0−187**
DSST−B	**19C0−187**	**EDTC−B**	**19C0−187**

Input DLIS Files

DEFAULT	**FMS_DSI_046LUP**	**FN:63**	**PRODUCER**	**17−Dec−2011 17:23**	**905.4 M**	**560.6 M**

Output DLIS Files

DEFAULT	**FMS_DSI_079PUP**	**FN:97**	**PRODUCER**	**29−Dec−2011 03:38**

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Micro Electrical Scanner − B (Slim) Wellsite Calibration − Caliper Calibration							
Before: Calibration out of date 27−Nov−2011 1:38							
Caliper 1 Zero Measurement	11.88	N/A	11.99	N/A	N/A	N/A	IN
Caliper 2 Zero Measurement	11.88	N/A	12.02	N/A	N/A	N/A	IN
Caliper 1 Plus Measurement	15.19	N/A	15.16	N/A	N/A	N/A	IN
Caliper 2 Plus Measurement	15.19	N/A	15.32	N/A	N/A	N/A	IN
Micro Electrical Scanner − B (Slim) Wellsite Calibration − CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY							
Before: 17−Dec−2011 16:10							
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	99	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	743	N/A	N/A	N/A	
Micro Electrical Scanner − B (Slim) Wellsite Calibration − CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY							
Before: 17−Dec−2011 16:10							
TEMPERATURE REFERENCE :	N/A	N/A	23	N/A	N/A	N/A	DEGC
YEAR OF CALIBRATION :	N/A	N/A	3	N/A	N/A	N/A	
MONTH OF CALIBRATION :	N/A	N/A	9	N/A	N/A	N/A	
SERIAL NUMBER :	N/A	N/A	507	N/A	N/A	N/A	
Enhanced DTS Cartridge Wellsite Calibration − EDTC Accelerometer Calibration							
Before: 17−Dec−2011 16:10							
EDTC Z−Axis Acceleration	9.810	N/A	9.825	N/A	N/A	N/A	M/S2
Enhanced DTS Cartridge Wellsite Calibration − Detector Calibration							
Before: Calibration out of date 26−Nov−2011 0:18							
Gamma Ray (Jig − Bkg)	163.8	N/A	163.8	N/A	N/A	14.89	GAPI
Gamma Ray (Calibrated)	164.0	N/A	164.0	N/A	N/A	15.00	GAPI

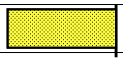
Micro Electrical Scanner − B (Slim) / Equipment Identification

Primary Equipment:		
MEST Sonde − B	MEDS − B	770
MEST Preamplifier Cartridge − AB	MEPC − AB	807
GPIT Cartridge − A	GPIC − A	840
MEST Acquisition Cartridge − A	MEAC − A	875
Auxiliary Equipment:		
MEST−B Preamplifier Cartridge Housing	MEPH − A	702
MEST Acquisition Cartridge Housing (Slim	MEAH − B	726

Enhanced DTS Cartridge / Equipment Identification

Primary Equipment:		
EDTC Gamma Ray Detector	EDTG − A/B	77693
Enhanced DTS Cartridge	EDTC − B	8529
Auxiliary Equipment:		
EDTC Housing	EDTH − B	8528

Enhanced DTS Cartridge Wellsite Calibration		
EDTC Accelerometer Calibration		
Phase	EDTC Z−Axis Acceleration M/S2	Value
Before		9.825
9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 17−Dec−2011 16:10		

Enhanced DTS Cartridge Wellsite Calibration								
Detector Calibration								
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig − Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		9.201	Before		163.8	Before		164.0
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	148.9 (Minimum)	163.8 (Nominal)	178.7 (Maximum)	149.0 (Minimum)	164.0 (Nominal)	179.0 (Maximum)
Before: Calibration out of date 26−Nov−2011 0:18								

Company: **Lamont Doherty**

Schlumberger

Well: **Expedition 339, Site U1387 GC−09A**
Field: **Mediterranean Outflow (Portugal)**
Rig: **JOIDES Resolution**
Ocean: **Atlantic**

FMS Dual Axis Caliper

Gamma Ray