

Company: Crestone Peak Resources Operating LLC

Well: Sam 3N-25H-M166

Field: Wattenberg

County: Weld State: Colorado

Cement Bond Log
Surface Casing

Surface Casing				
Location:				
SQSW 25 1N 66W		Elev.: K.B. 5093.00 ft		
1283' FSL & 309' FWL		G.L. 5080.00 ft		
		D.F. 5093.00 ft		
Permanent Datum:		Ground Level		
Log Measured From:		Kelly Bushing		
Drilling Measured From:		Kelly Bushing		
Elev.: 5080.00 f		above Perm.Datum		
API Serial No.	Section:	Township:	Range:	
05-123-46122	25	1N	66W	

Logging Date		25-Jun-2018		
Run Number		One		
Depth Driller		2500.00 ft		
Schlumberger Depth		2077.00 ft		
Bottom Log Interval		2077.00 ft		
Top Log Interval		50.00 ft		
Casing Fluid Type		Water		
Salinity				
Density		8.4 lbm/gal		
Fluid Level		8.00 ft		
BIT/CASING/TUBING STRING				
Bit Size		13.50 in		
From		0.00 ft		
To		2500.00 ft		
Casing/Tubing Size		9.625 in		
Weight		40 lbm/ft		
Grade		N/A		
From		0.00 ft		
To		2500.00 ft		
Max Recorded Temperatures		88 degF		
Logger on Bottom		Time		
Unit Number		Location:		
Recorded By		Alan Moreno / Rob Stelter		
Witnessed By		Satch Bo		

Disclaimer

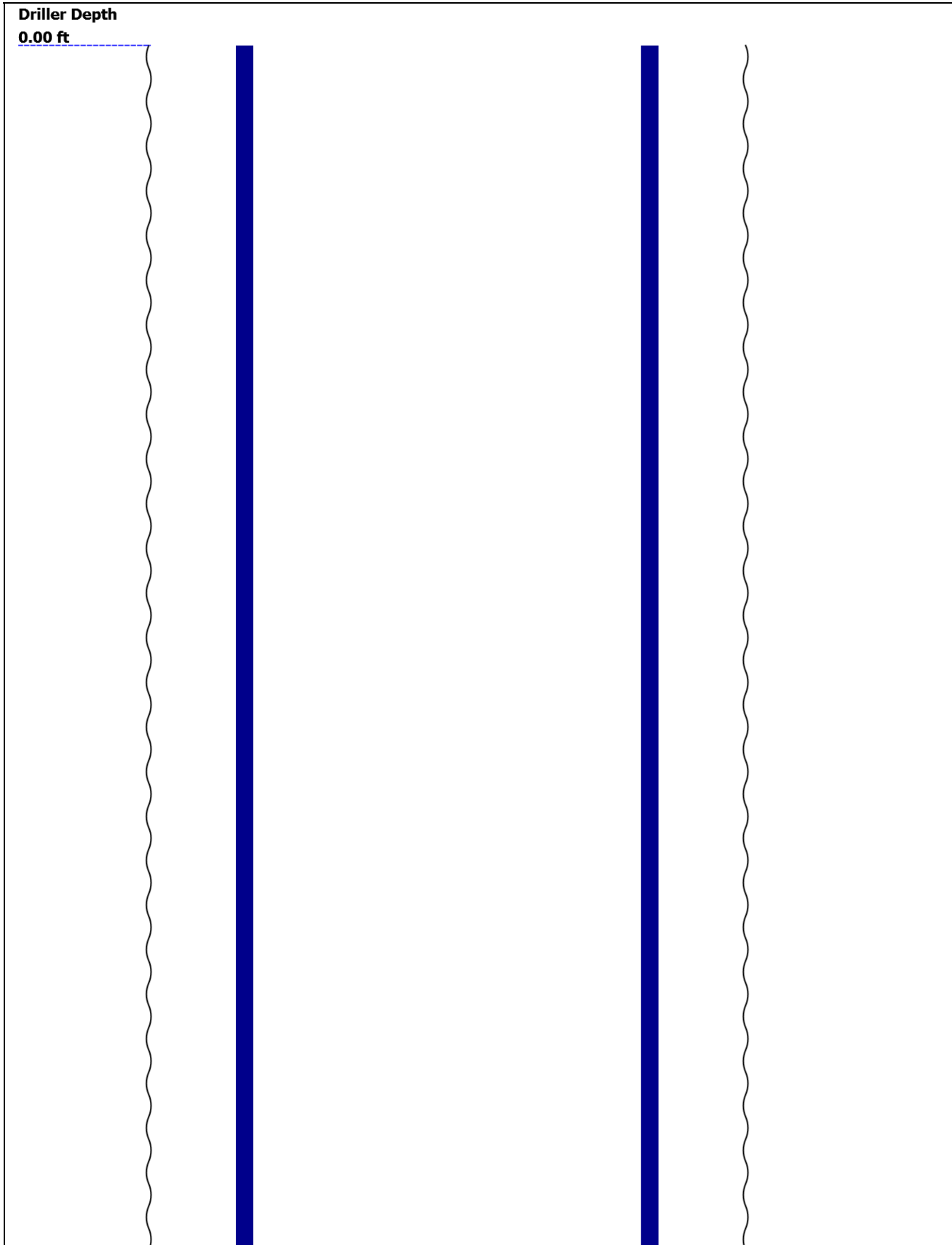
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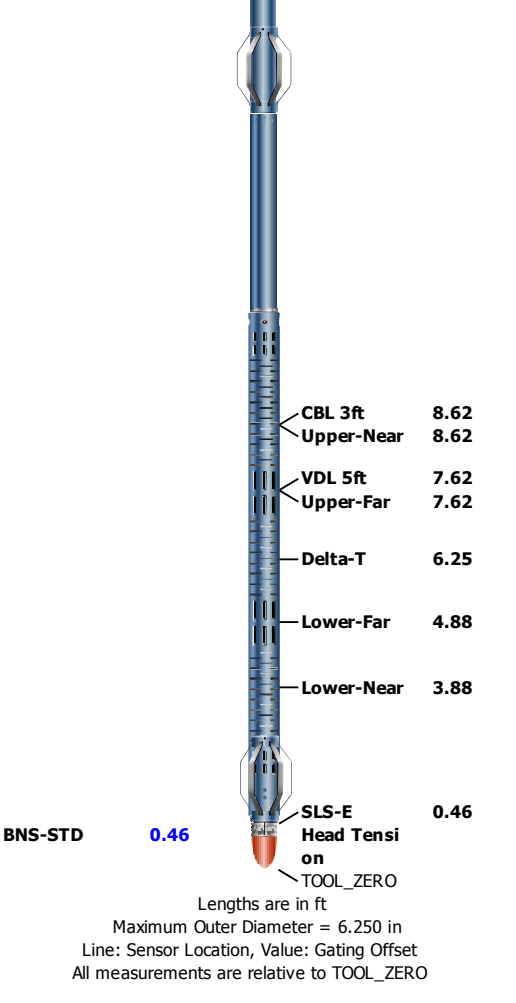
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Well Sketch





Depth Summary

	One		
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Depth Measuring Device

Type	IDW-B		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Calibration Cable Type			
Wheel Correction 1	0		
Wheel Correction 2	0		

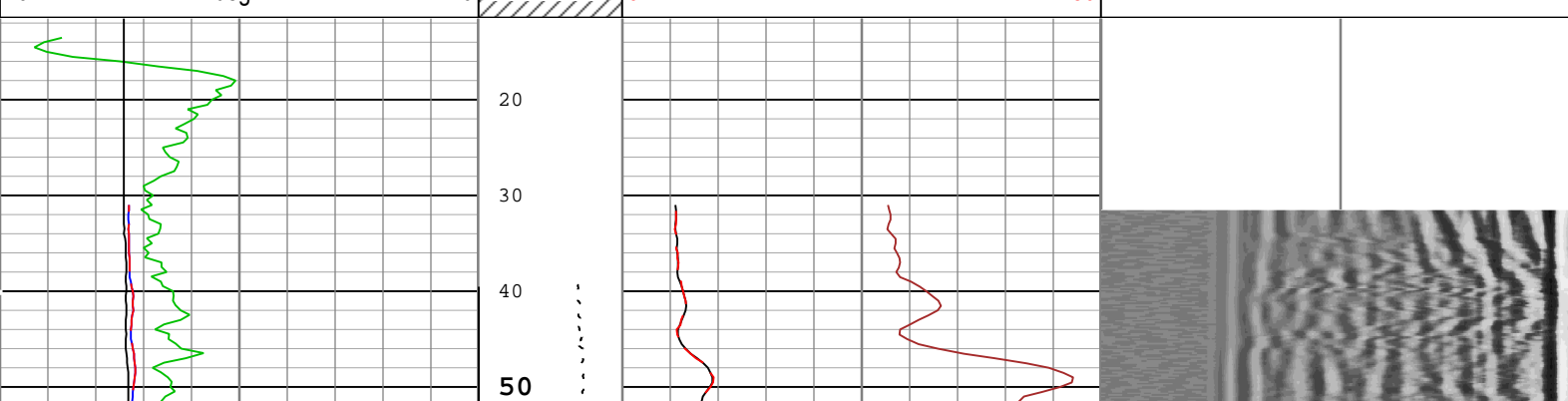
Tension Device

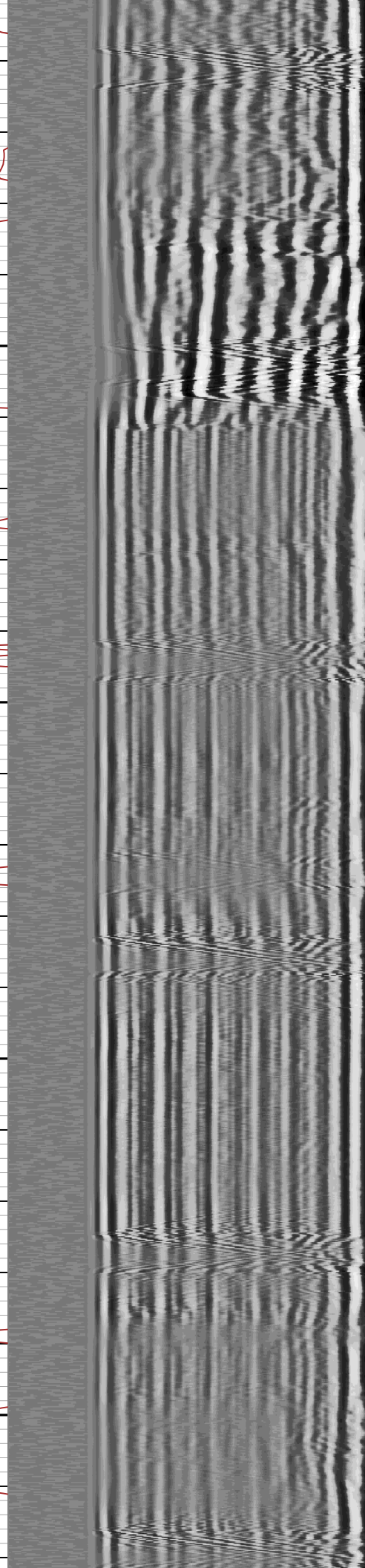
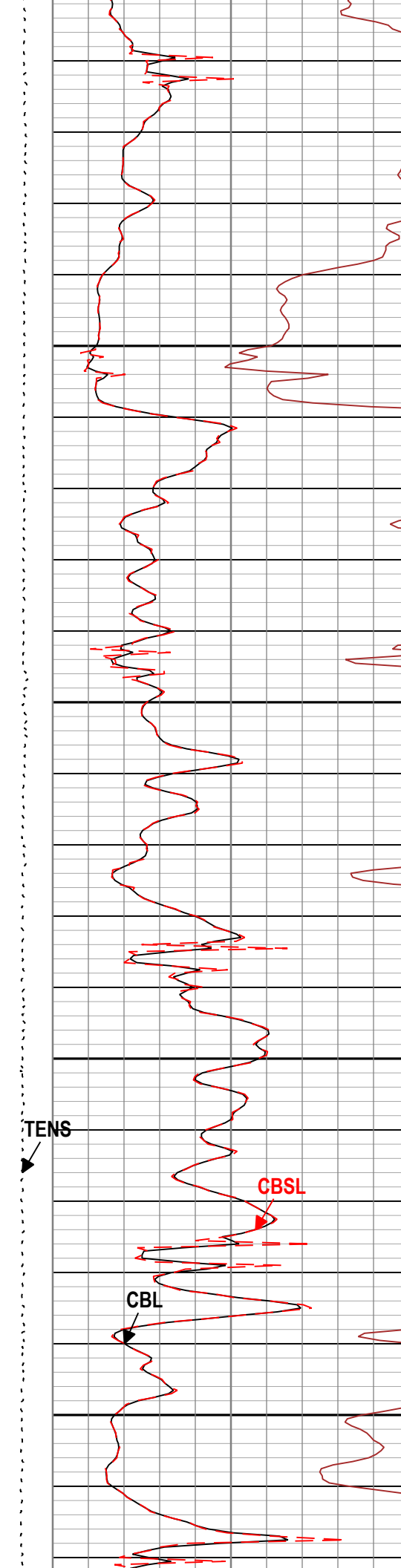
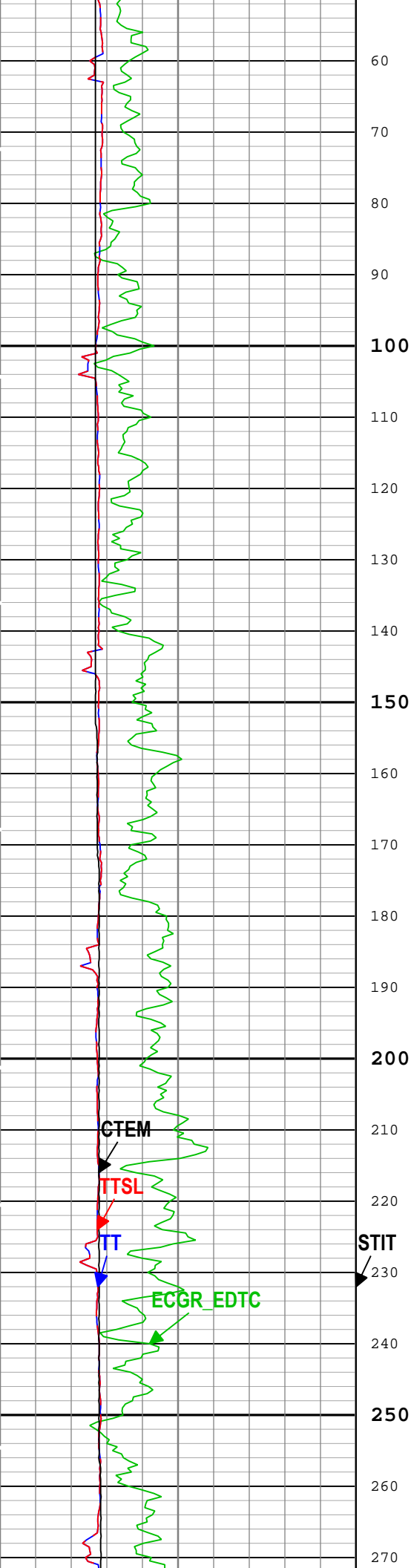
Type	CMTD-B/A		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		

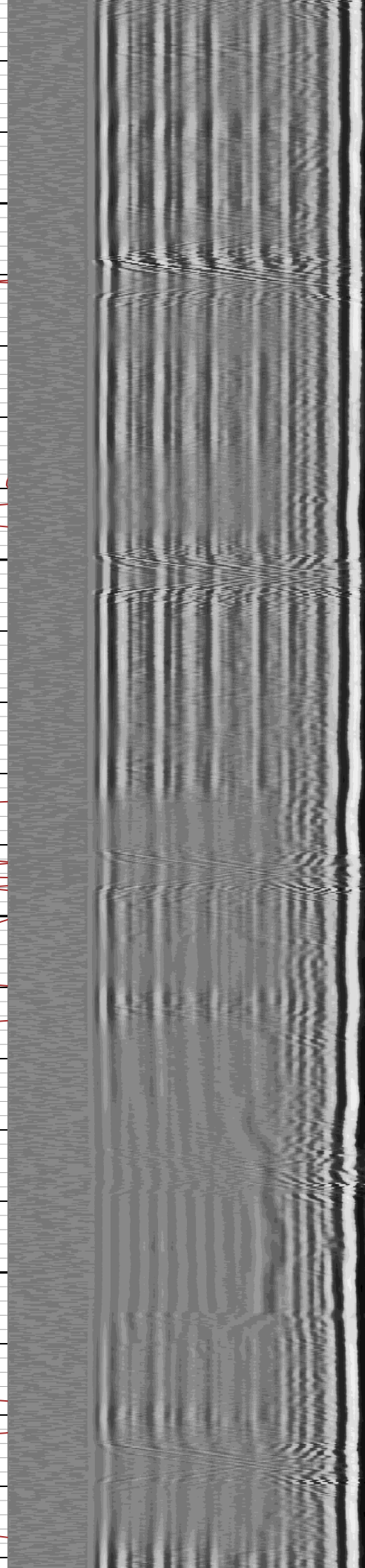
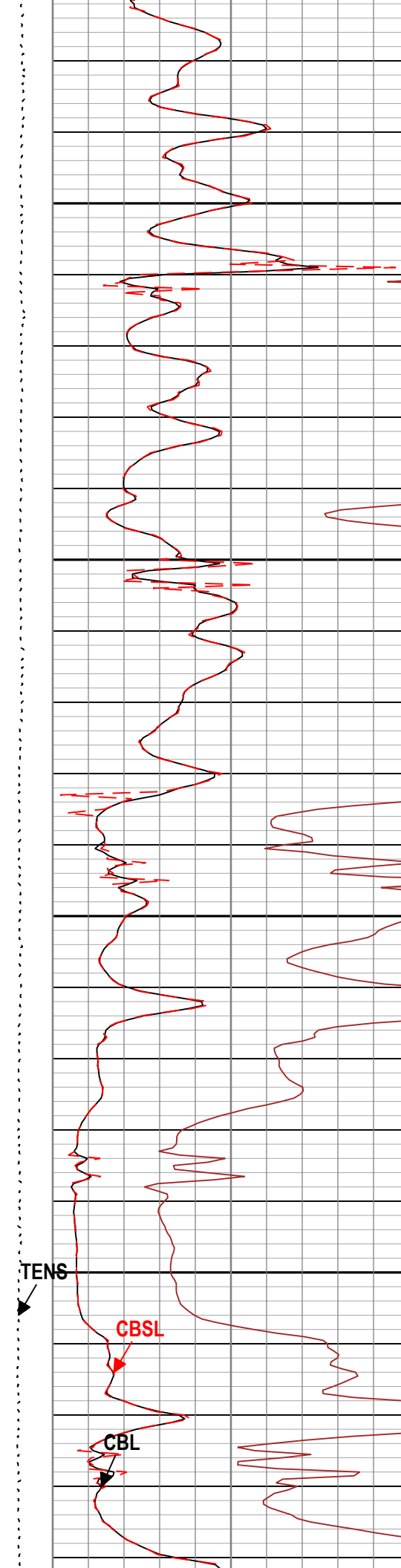
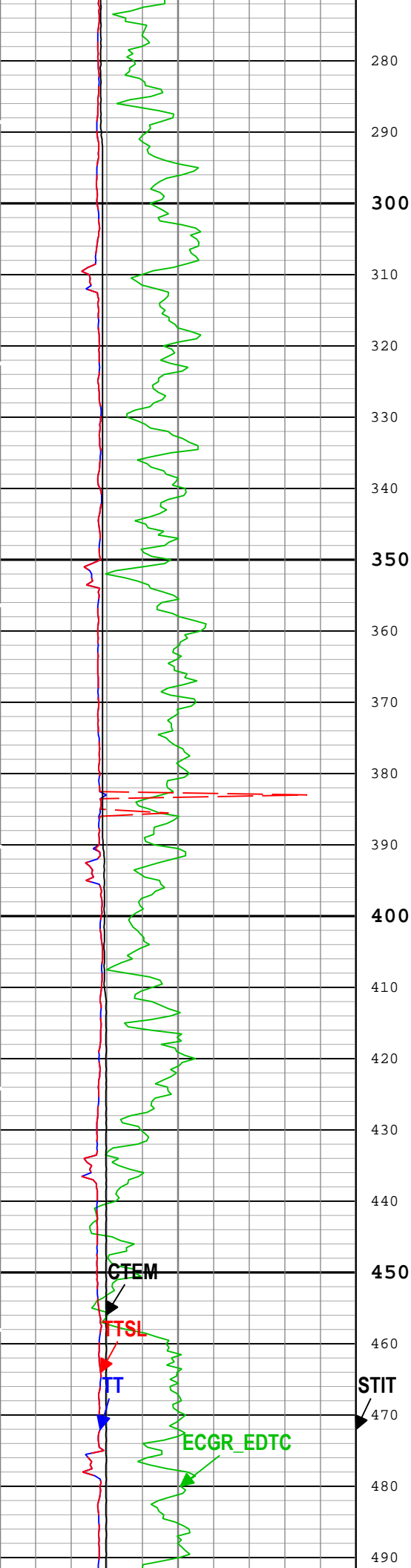
Logging Cable

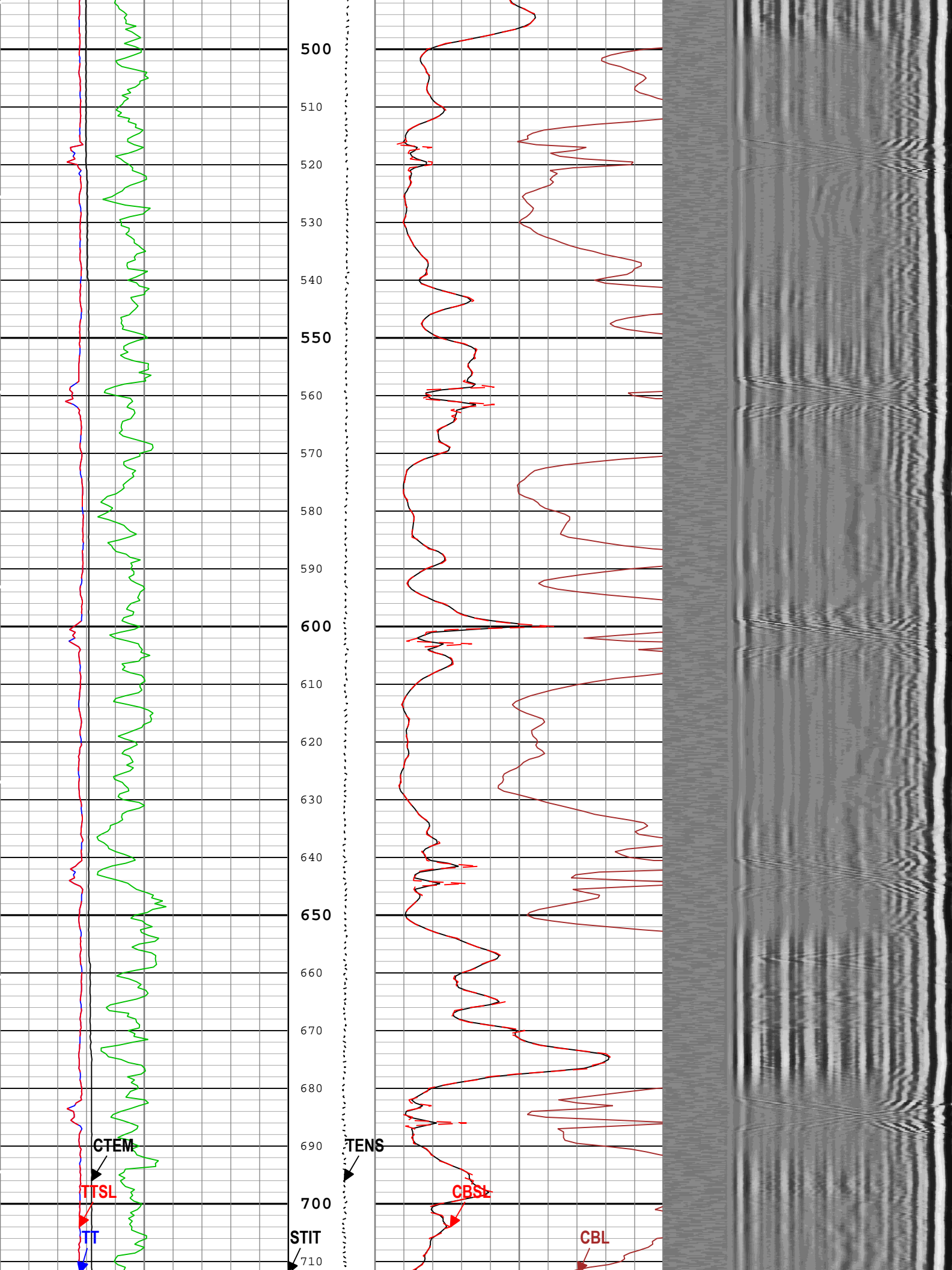
Type	7-46NT-XS		
Serial Number			
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type			

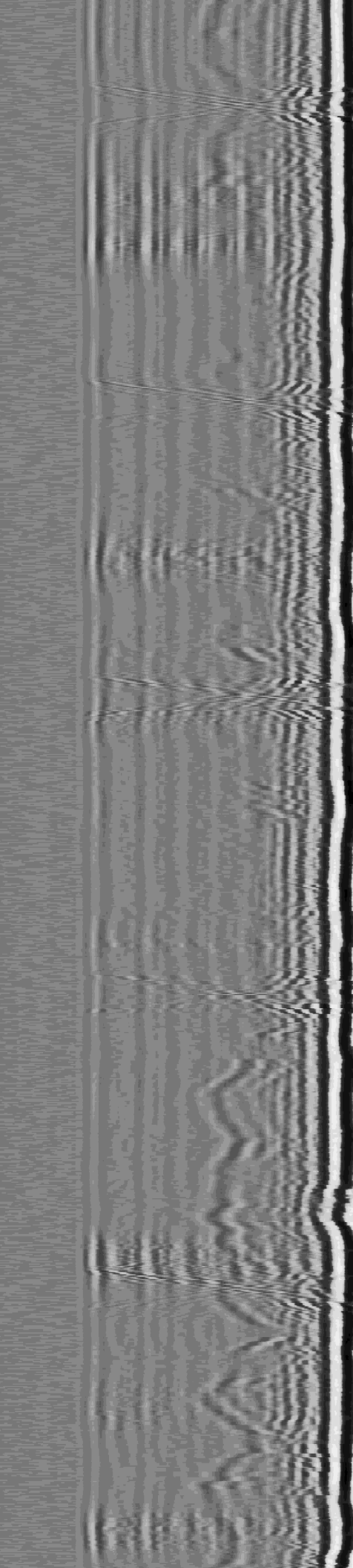
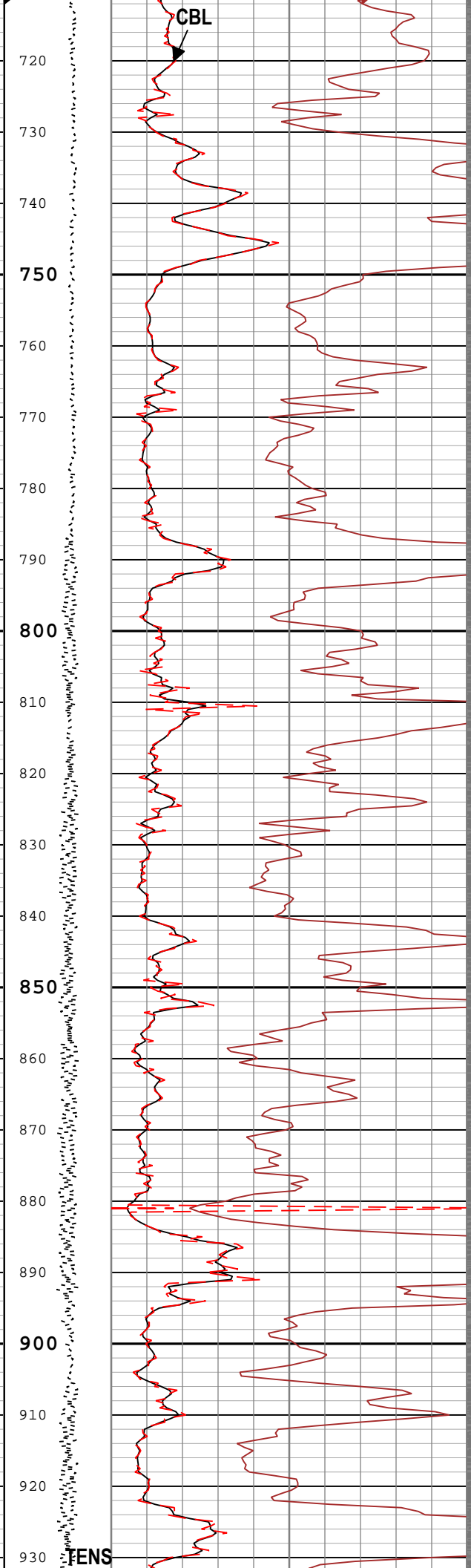
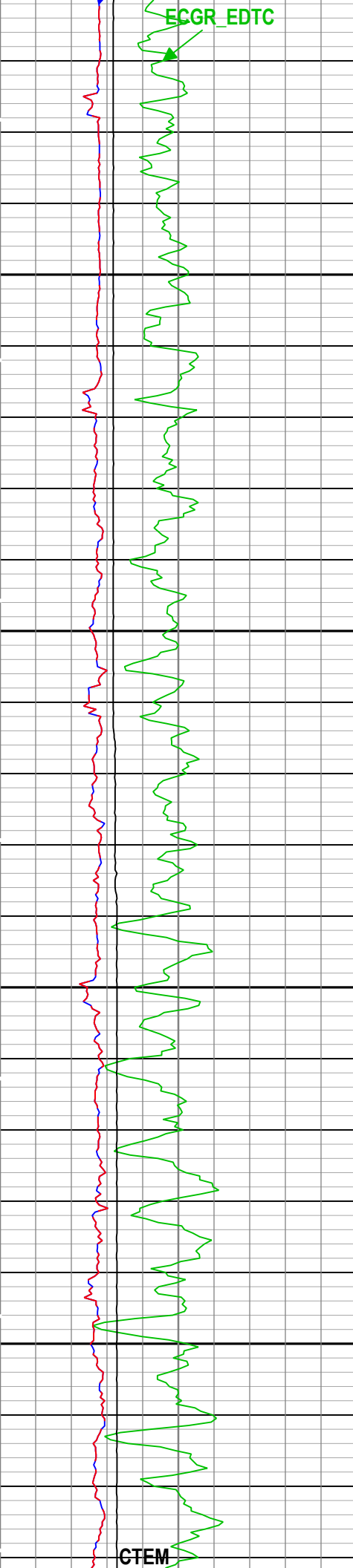
One:Depth Control Parameters	Depth Control Remarks
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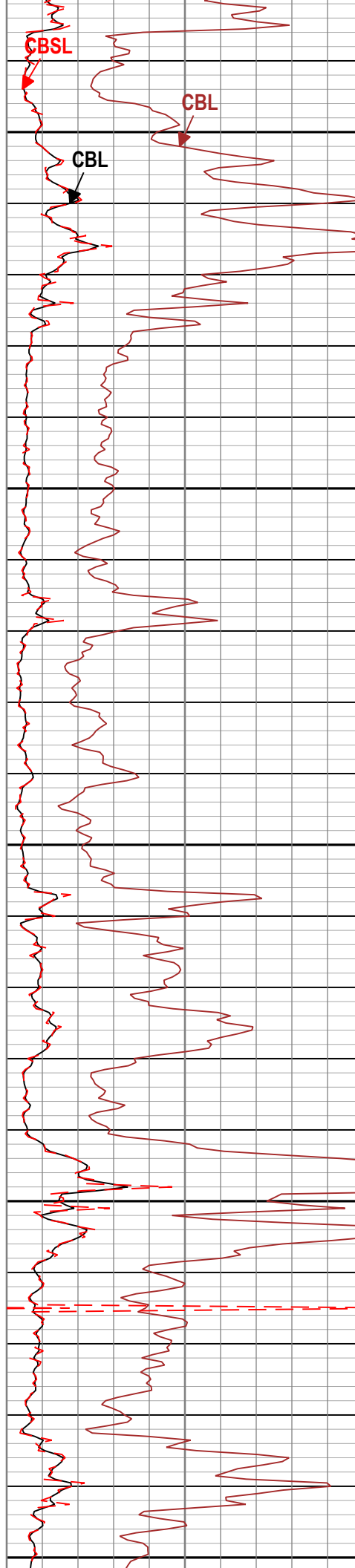
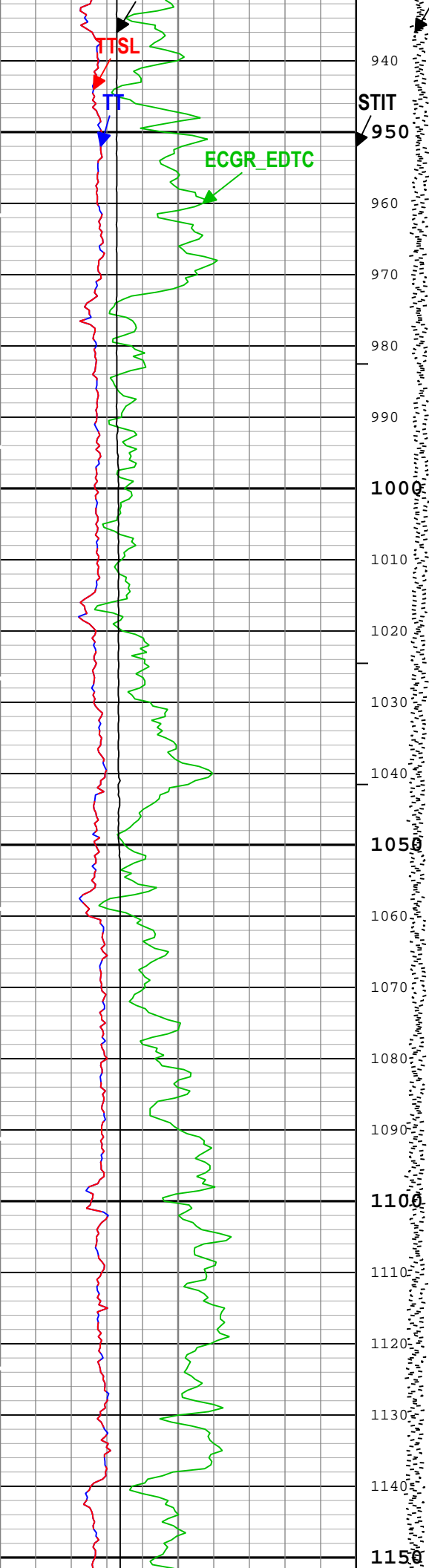


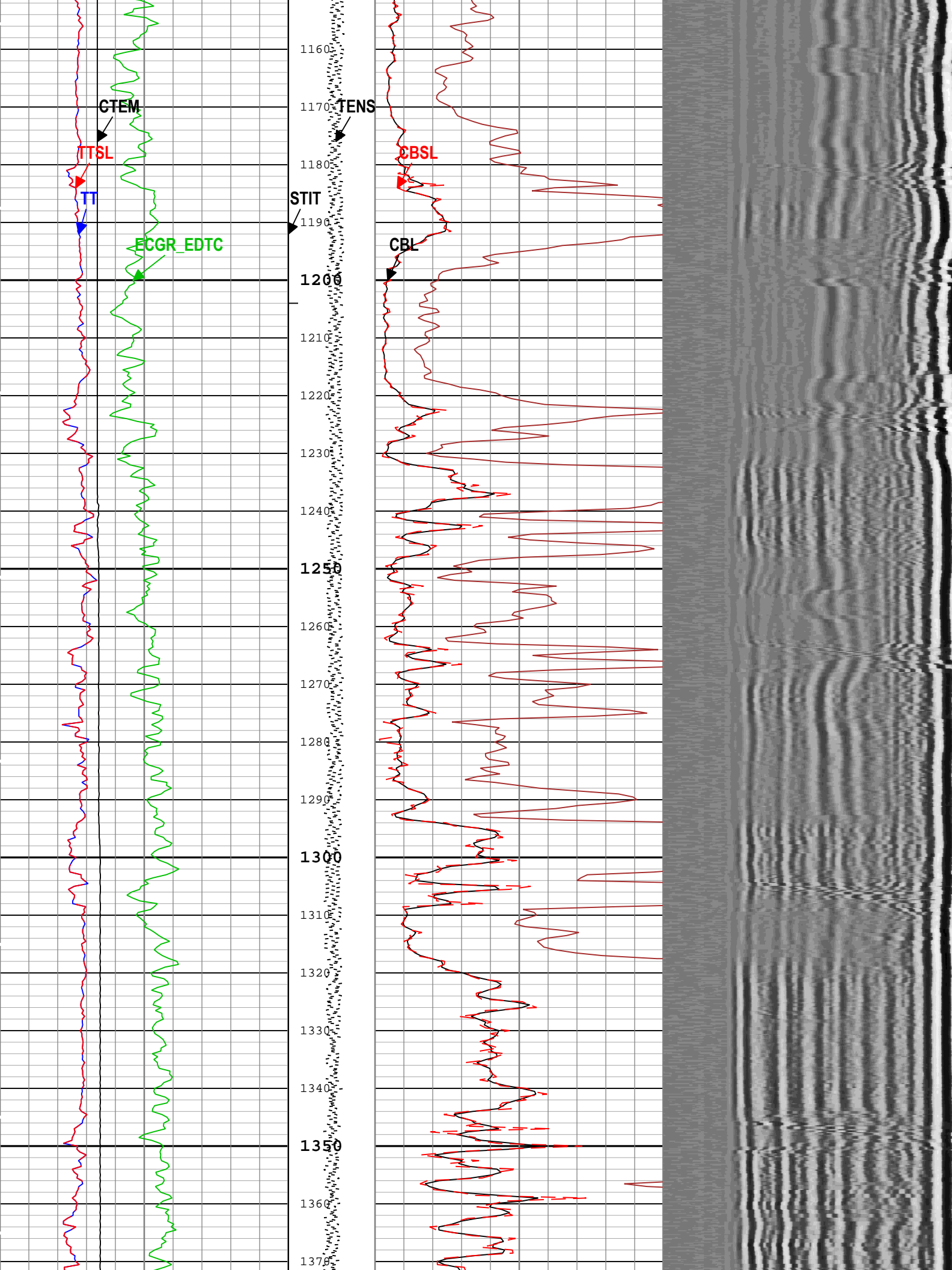


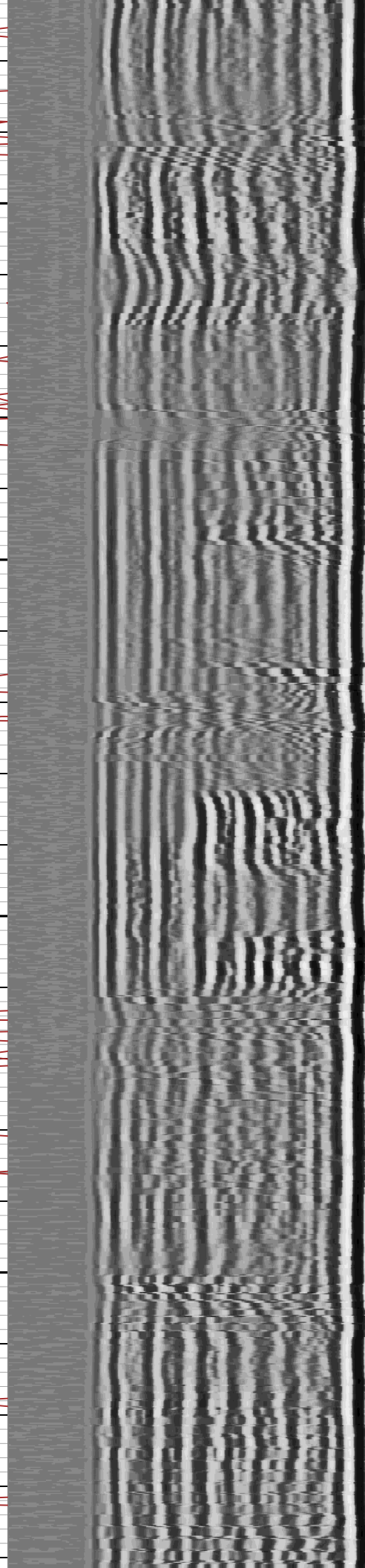
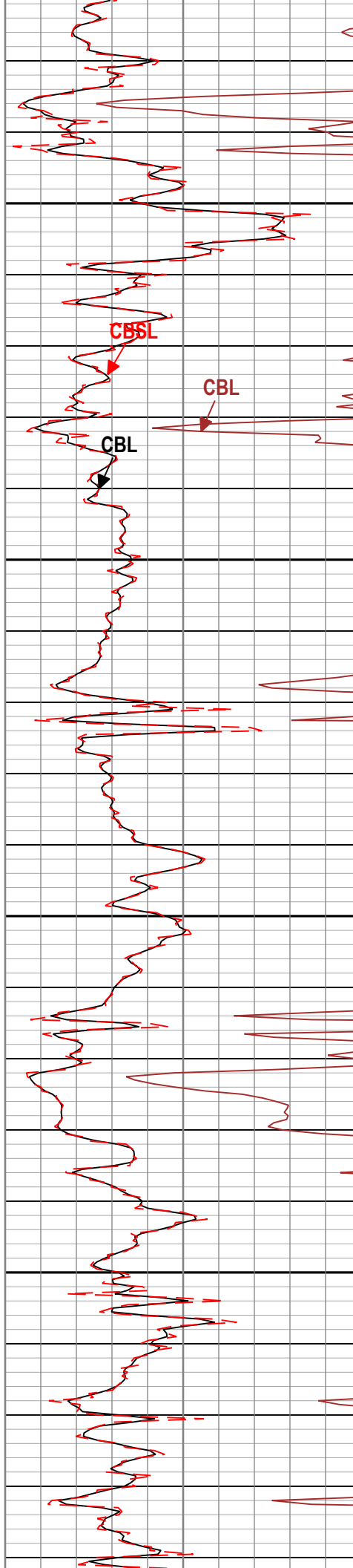
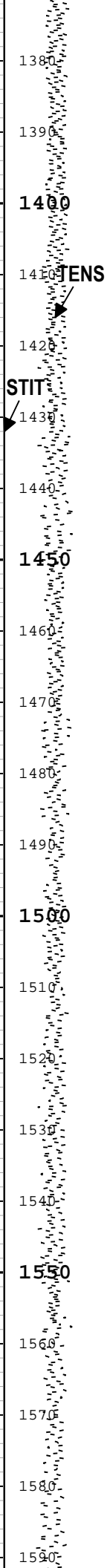
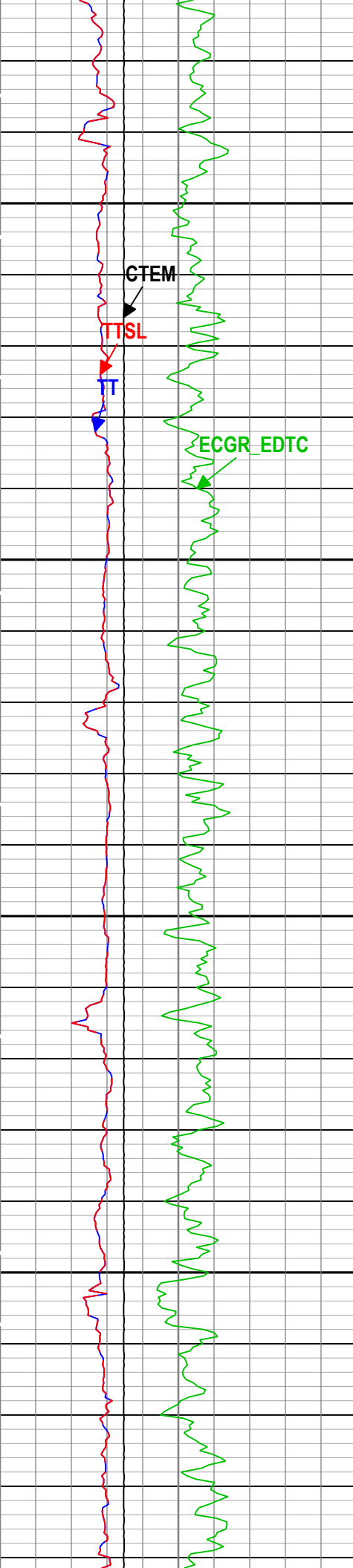


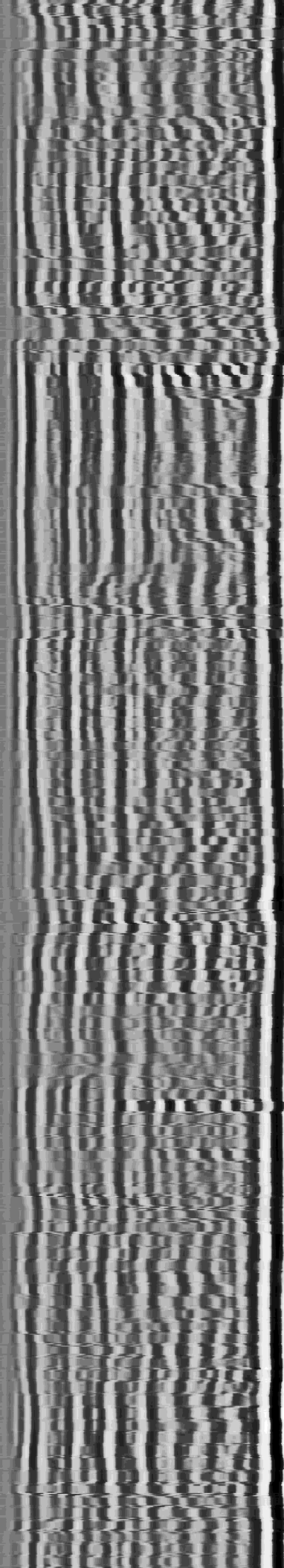
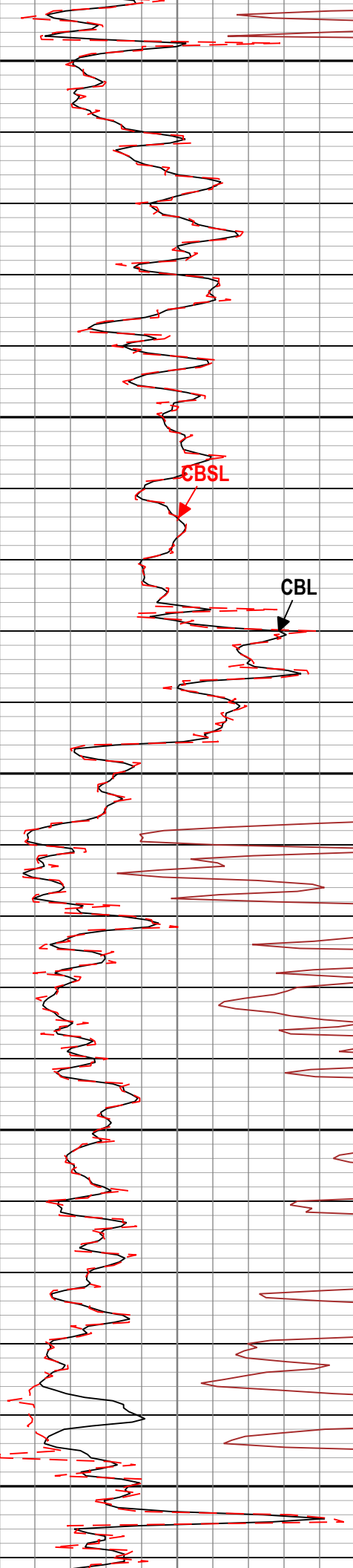
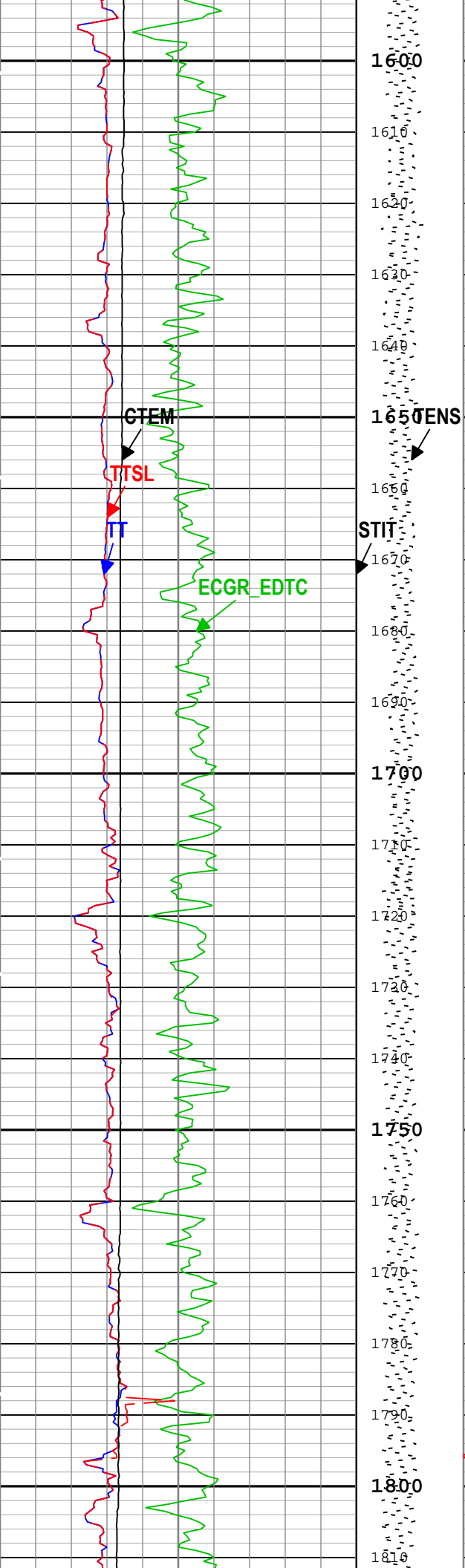


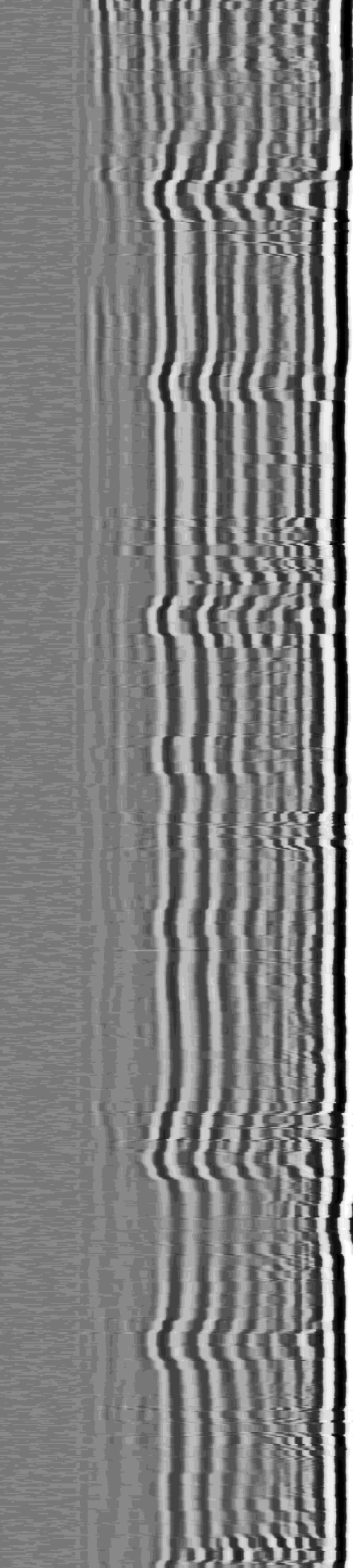
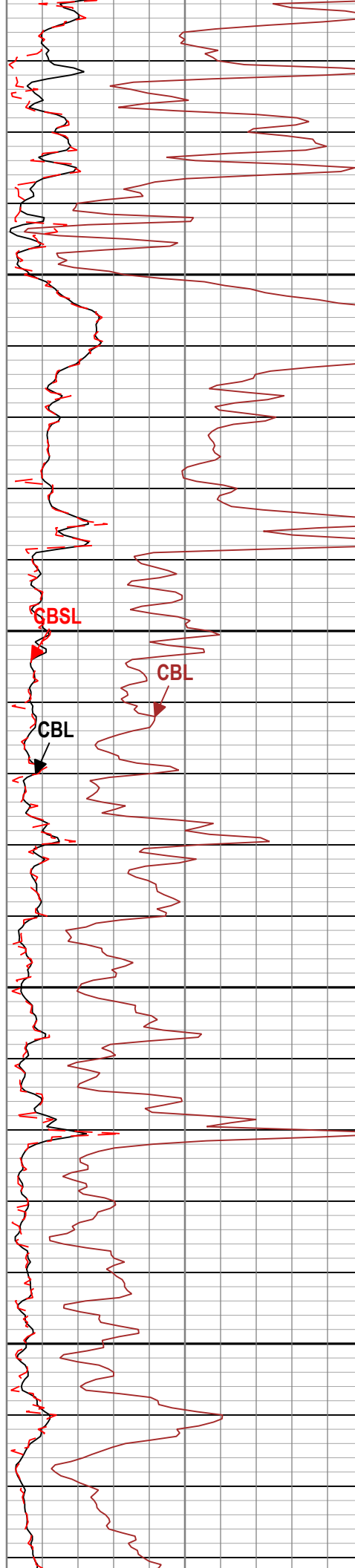
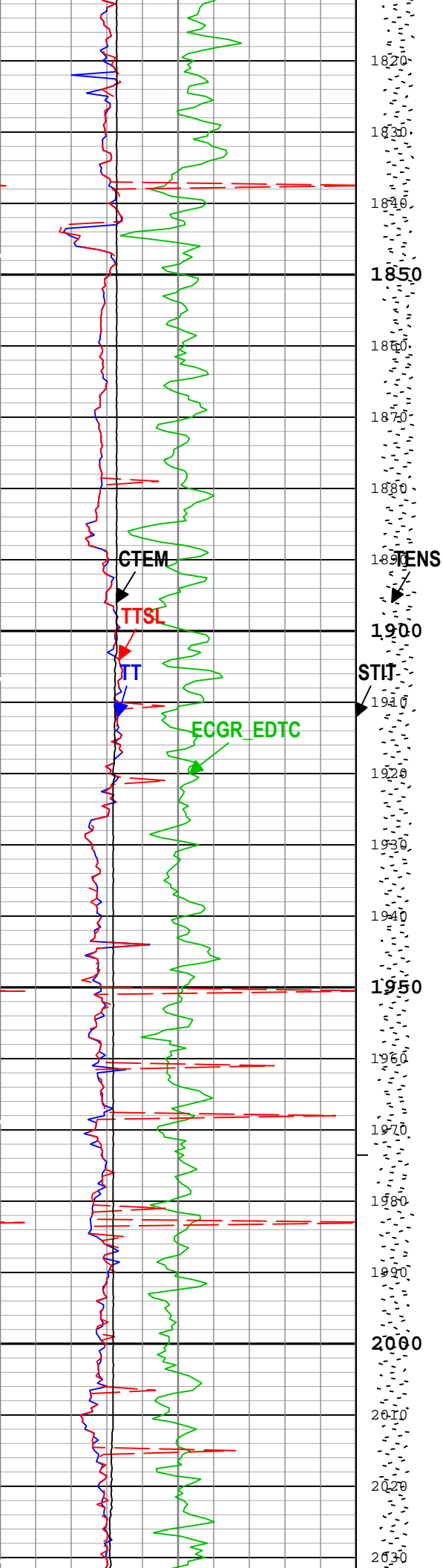


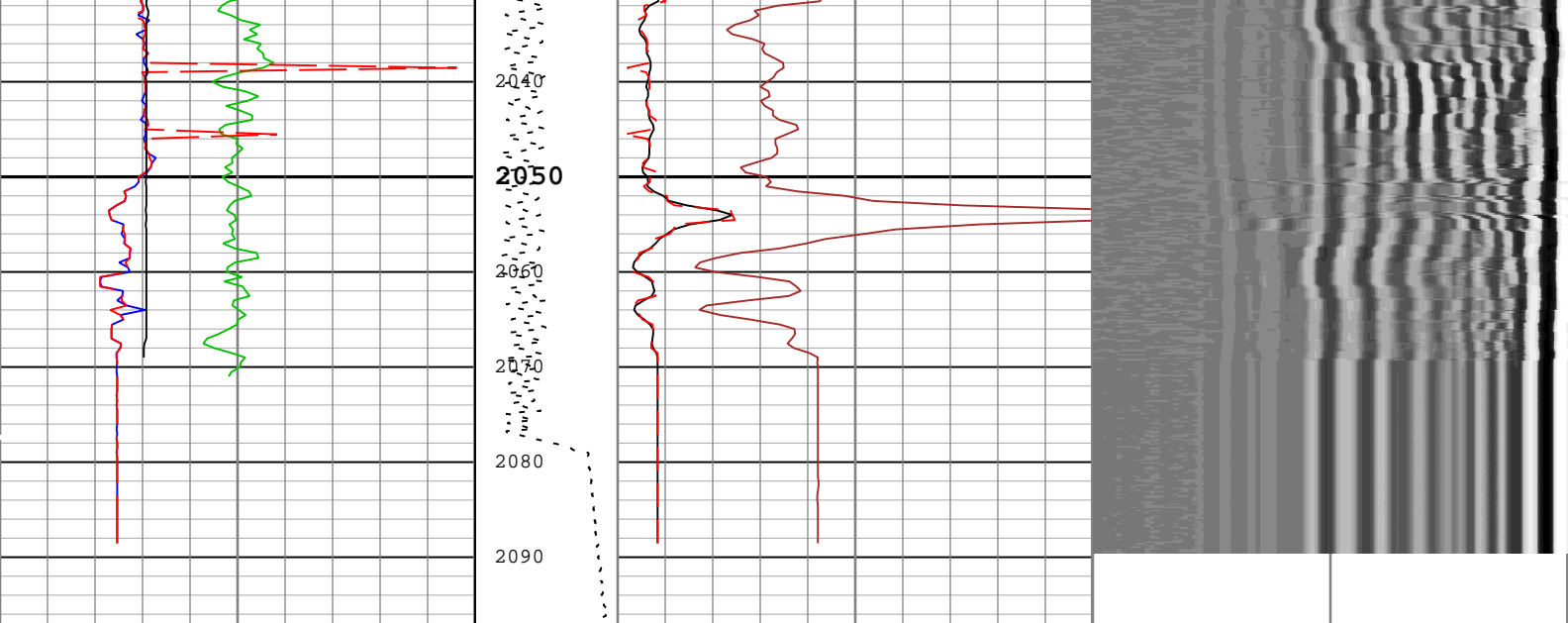












Gamma Ray (ECGR_EDTC) EDTC-B	Stuck Tool Indicator, Total (STIT)	CBL Amplitude (CBL) DSLT-H	Min	Amplitude	Max
0 gAPI 150	0 ft 50	0 mV 50	200	us	1200
Transit Time for CBL (TT) DSLT-H	Cable Tension (TENS)	CBL Amplitude (CBL) DSLT-H	Variable Density Log (VDL) DSLT-H		
400 us 200	2000 lbf 0	0 mV 10			
Transit Time (Sliding Gate) (TTSL) DSLT-H	Cable Drag	CBL Amplitude (Sliding Gate) (CBSL) DSLT-H			
400 us 200	Tool_Tot. Drag	0 mV 50			
Cartridge Temperature (CTEM) EDTC-B	BIEP - Bond Index Event Pips DSLT-H				
20 degF 220					

TIME_1900 - Time Marked every 60.00 (s)

Description: CBL_VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Jun-2018 14:40:23

Channel Processing Parameters				
One: Parameters				
Parameter	Description	Tool	Value	Unit
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	13.5	in
CBLG	CBL Gate Width	DSLTH	63	us
CBLO	Casing Bottom (Logger)	WLSESSION	2500	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	DSLTH	52	mV
CDEN	Cement Density	EDTC-B	2	g/cm3
DETE	Delta-T Detection	DSLTH	E1	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
GOBO_CURR	Good Bond in Arbitrary Cement	DSLTH	3.09	mV
MAHTR	Manual High Threshold Reference for first arrival detection	DSLTH	120	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	DSLTH	10.91	dB/ft
MCI	Minimum Cemented Interval for Isolation	DSLTH	14.81	ft
MINUTE	Minimum High Threshold Reference for first arrival detection	DSLTH	120	

MNHTTR	Minimum High Threshold Reference for first arrival detection	DSLTH	100	
MSA	Minimum Sonic Amplitude	DSLTH	1.53	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	DSLTH	1.53	mV
NMSG	Near Minimum Sliding Gate	DSLTH	310	us
SGAD	Sliding Gate Status	DSLTH	Off	
SGDT	Sliding Gate Delta-T	DSLTH	57	us/ft
TD	Total Measured Depth	Borehole	2400	ft
VDLG	VDL Manual Gain	DSLTH	2.26	

Tool Control Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
MODE	DSLTH Acquisition Mode	DSLTH	CBL	
RATE	DSLTH Firing Rate	DSLTH	15 Hz	
DTFS	DSLTH Telemetry Frame Size	DSLTH	536	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	5000	ft/h
SGAI	Selectable Acquisition Gain	DSLTH	x1	

Calibration Report

DSLTH (Digitizing Sonic Logging Tool - H) Calibration - Run One

Primary Equipment :

Sonic Logging Sonde E supports 3'-5'BHC DT and CBL/VDL SLS-E 1563

CBL Normalization - CBL Accumulations

Master (Manual Entry): 12:37:57 23-Jun-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Upper Far Amplitude - 0		Master	----	----	----	----	
Upper Near Raw Amplitude - 0	mV	Master	----	----	----	----	
Lower Far Amplitude - 0		Master	----	----	----	----	
Lower Near Raw Amplitude - 0	mV	Master	----	----	----	----	

CBL Normalization - CBL/VDL Coefficients

Master (Manual Entry): 12:37:57 23-Jun-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CBL Correction Factor for UT		Master	3.500	2.700	3.431	4.300	
CBL Correction Factor for LT		Master	2.500	1.700	2.712	4.300	
VDL Ratio between UT and LT for CBLB Mode		Master	1.000		1.350		

CBL Free Pipe Adjustment - Free Pipe Measurement


Before (Manual Entry): 11:29:11 24-Jun-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CBL Amplitude - 0	mV	Before	----	----	----	----	
CBL Reference Amplitude (CBRA) - 0	mV	Before	----	----	----	----	
Measurement Depth - 0	ft	Before	----	----	----	----	

CBL Free Pipe Adjustment - CBL Amplitude Coefficient

Before (Manual Entry): 11:29:11 24-Jun-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CBL Adjustment Factor		Before	1.000	0.200	0.980	5.000	
Depth of Before Calibration	ft	Before			50.72		

Company:	Crestone Peak Resources Operating LLC	
Well:	Sam 3N-25H-M166	
Field:	Wattenberg	
County:	Weld	
State:	Colorado	

Cement Bond Log

Surface Casing

