

Company: Crestone Peak Resources Operating LLC

Well: Sam 30-25H-M166

Field: Wattenberg

County: Weld State: Colorado

Cement Bond Log
Surface Casing

Weld				
Field:	Wattenberg			
Location:	SWSW 25 1N 66W			
Well:	Sam 30-25H-M166			
Company:	Crestone Peak Resources Operating LLC			
Location:	SWSW 25 1N 66W	Elev.: K.B. 5093.00 ft		
	1273' FSL & 309' FWL	G.L. 5080.00 ft		
		D.F. 5093.00 ft		
	Permanent Datum:	Ground Level	Elev.:	5080.00 f
	Log Measured From:	Kelly Bushing	13.00 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing			
	API Serial No.	Section:	Township:	Range:
	05-123-46133	25	1N	66W
Logging Date	25-Jun-2018			

Run Number	One			
Depth Driller	2500.00 ft			
Schlumberger Depth	2316.00 ft			
Bottom Log Interval	2316.00 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	96 degF			
Logger on Bottom	Time	15:25:00		
Unit Number	Location:	Fort Morgan		
Recorded By	Alan Moreno / Rob Stelter			
Witnessed By	Satch Bo			

Disclaimer

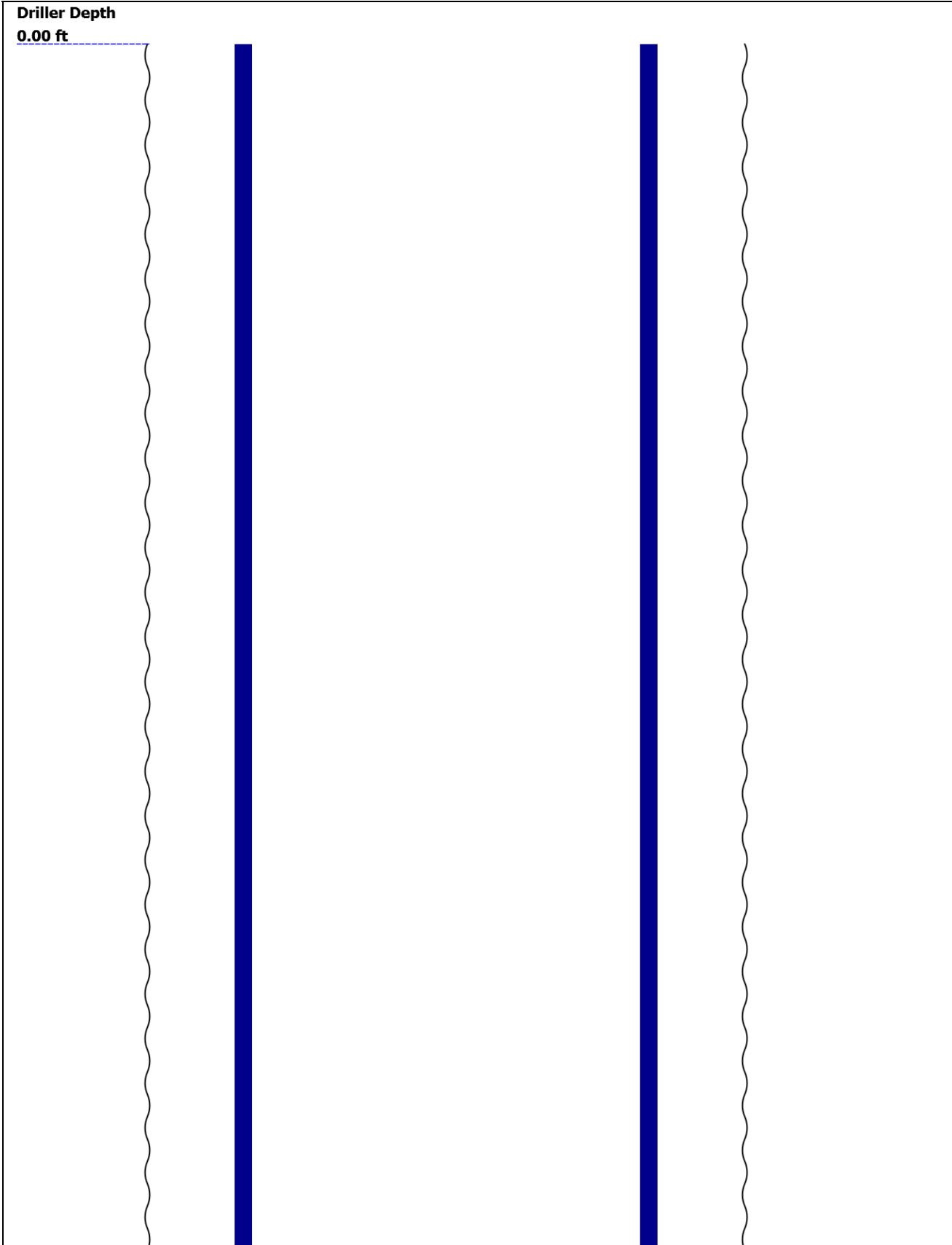
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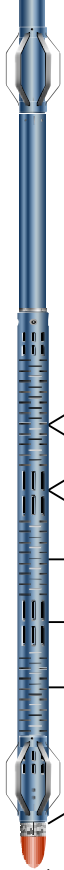
Contents

- 1. Header
- 2. Disclaimer
- 3. Contents
- 4. Well Sketch
- 5. Borehole Size/Casing/Tubing Record
- 6. Remarks and Equipment Summary
- 7. Depth Summary
- 8. One
 - 8.1 Integration Summary
 - 8.2 Software Version
 - 8.3 Composite Summary
 - 8.4 Log (Sonic CBL with VDL)
 - 8.5 Parameter Listing
- 9. Calibration Report
- 10. Tail

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Well Sketch





CBL 3ft 8.62
Upper-Near 8.62
VDL 5ft 7.62
Upper-Far 7.62
Delta-T 6.25
Lower-Far 4.88
Lower-Near 3.88

SLS-E Head Tension 0.46
TOOL_ZERO

BNS-STD 0.46

Lengths are in ft
Maximum Outer Diameter = 6.250 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

One

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

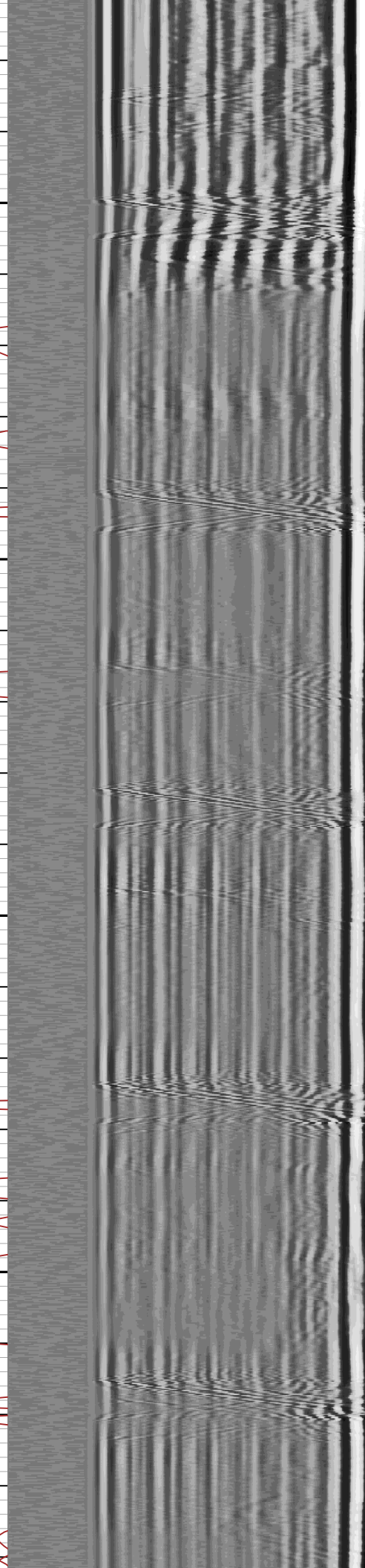
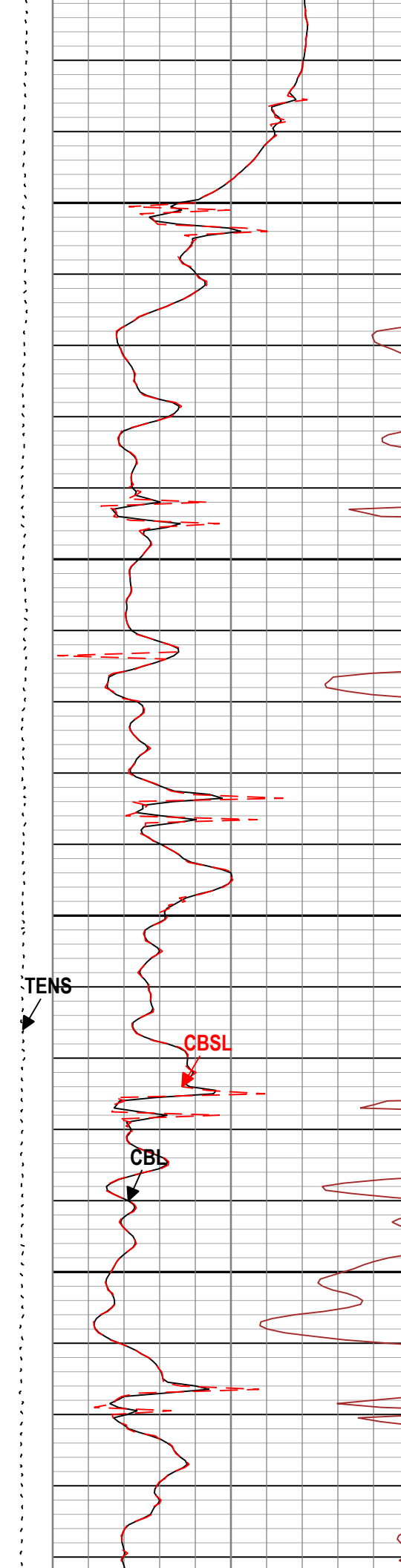
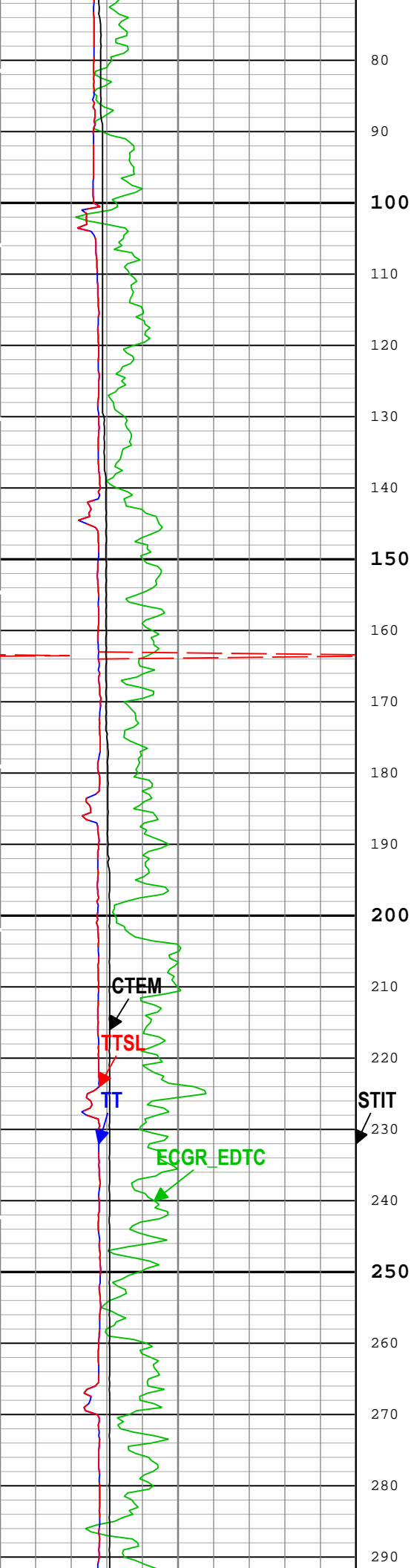
Type	CMTD-B/A
Serial Number	
Calibration Date	
Calibrator Serial Number	
Number of Calibration Points	0

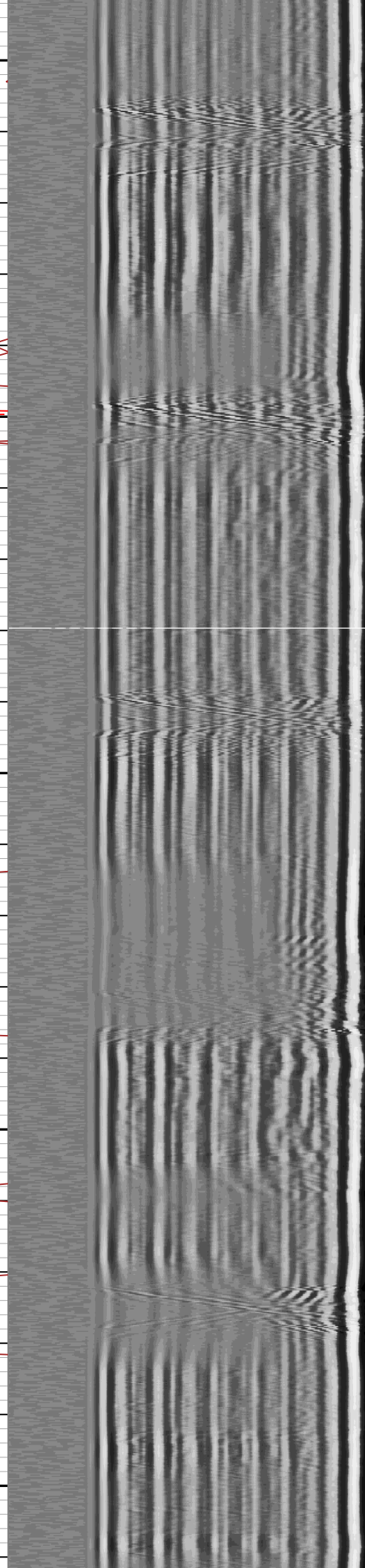
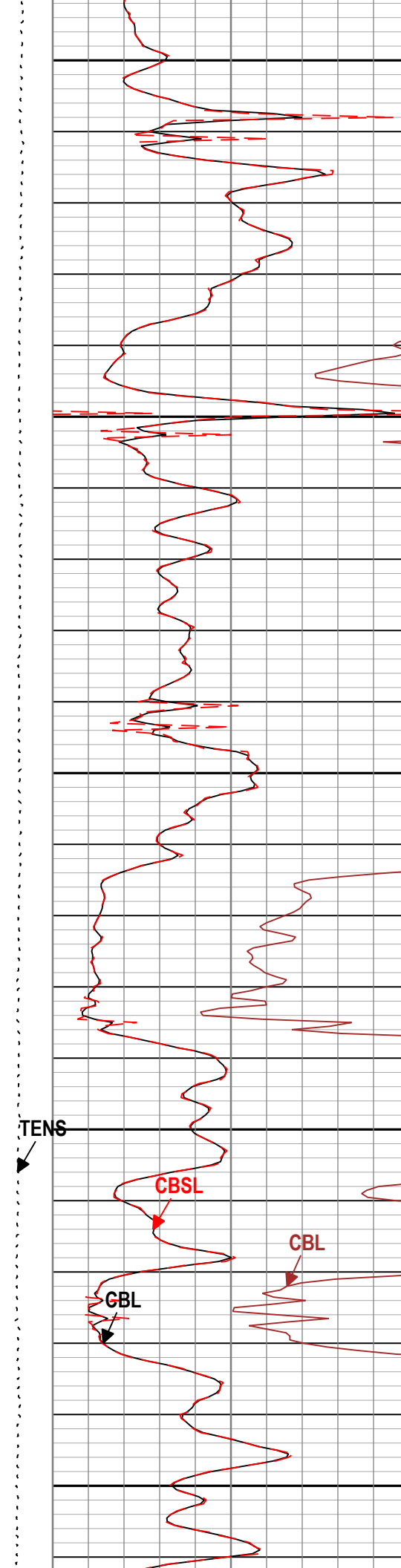
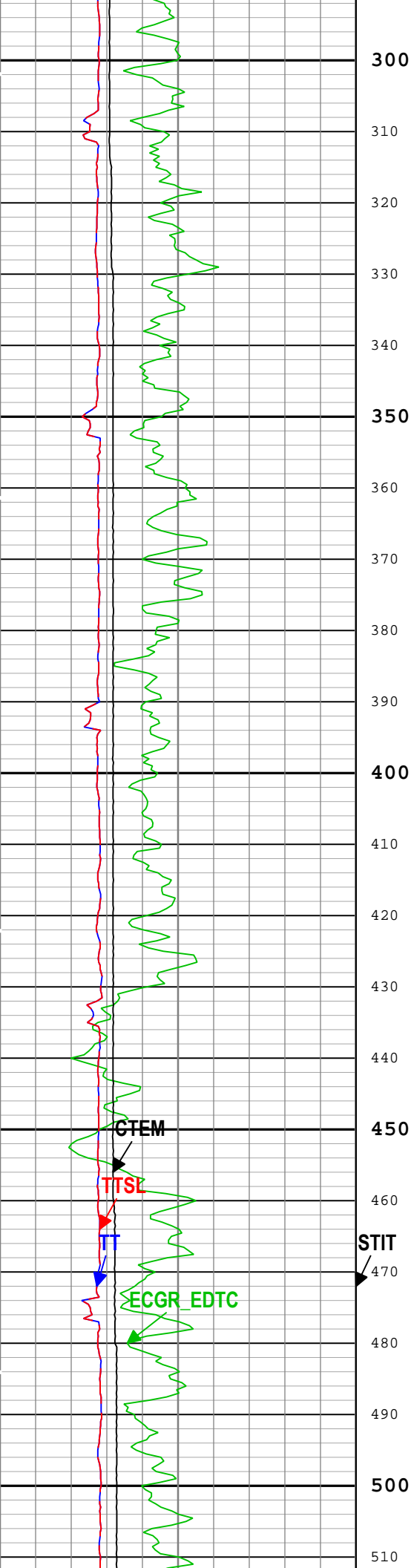
Logging Cable

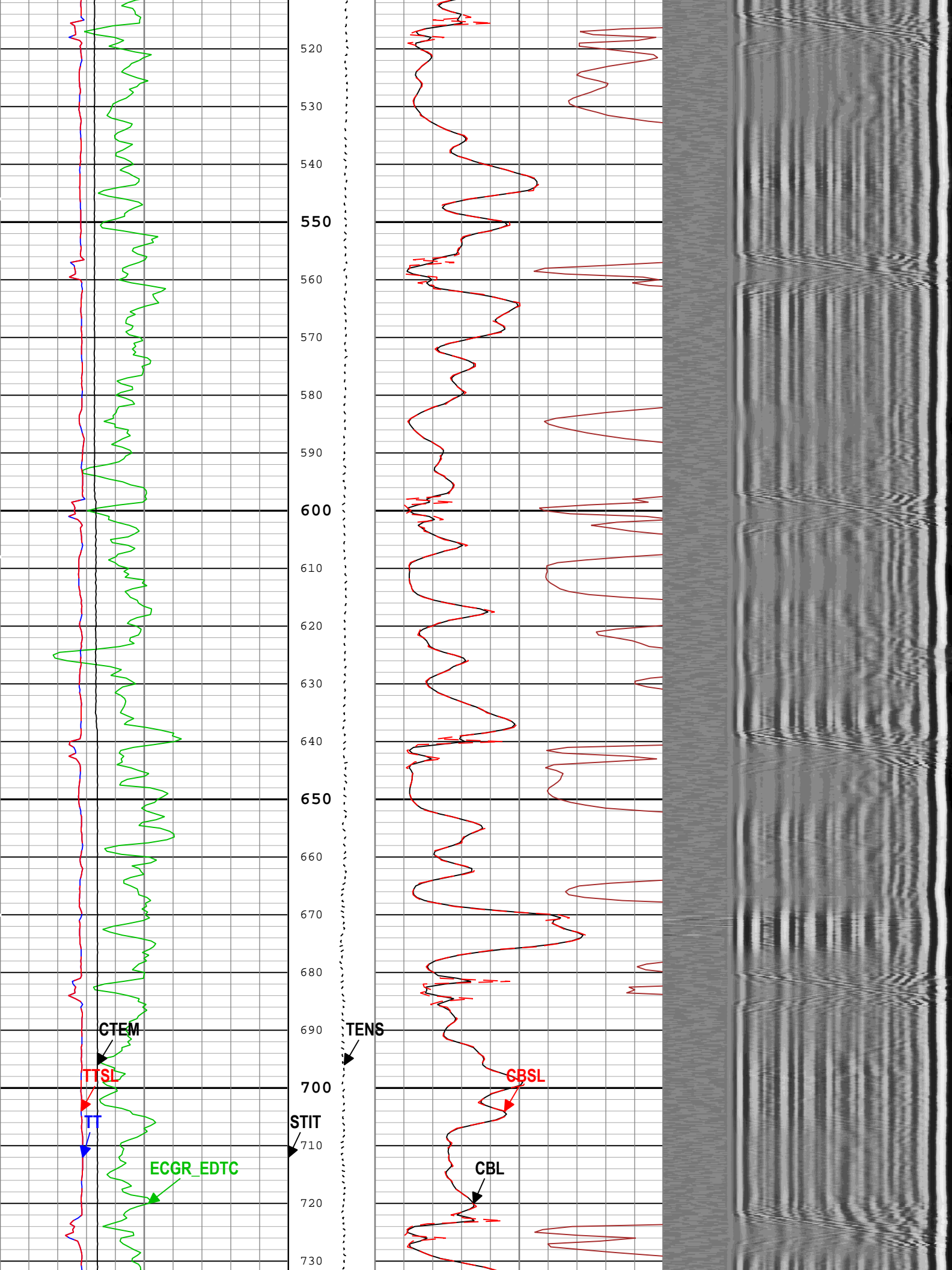
Type	7-46NT-XS
Serial Number	
Length	24000.00 ft
Conveyance Type	Wireline
Rig Type	

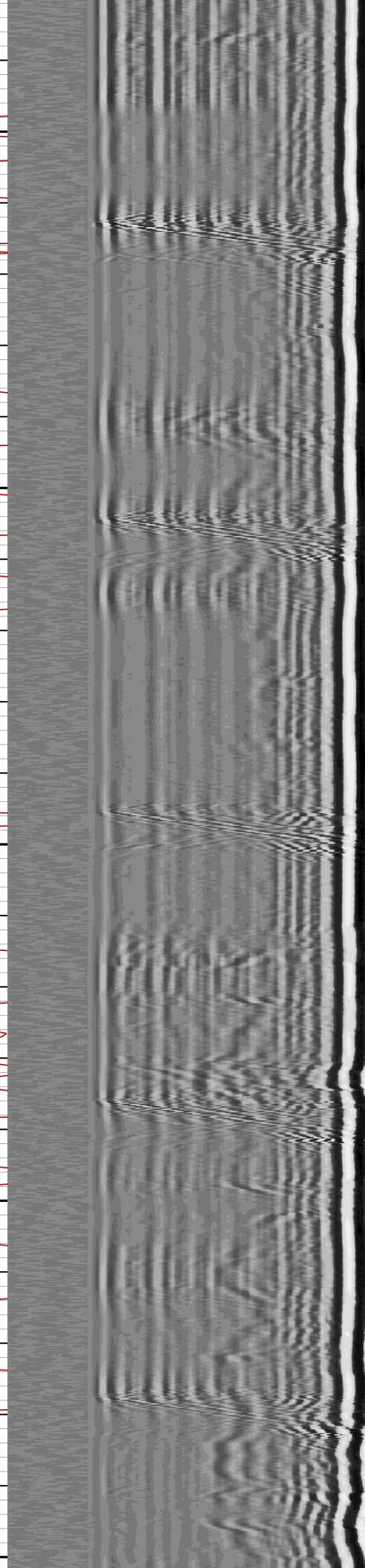
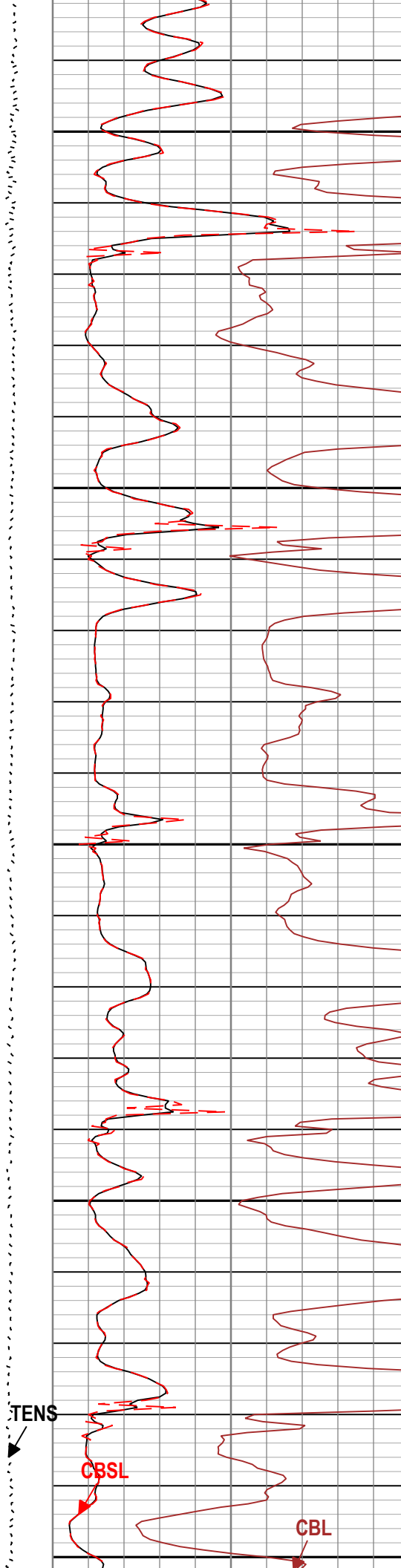
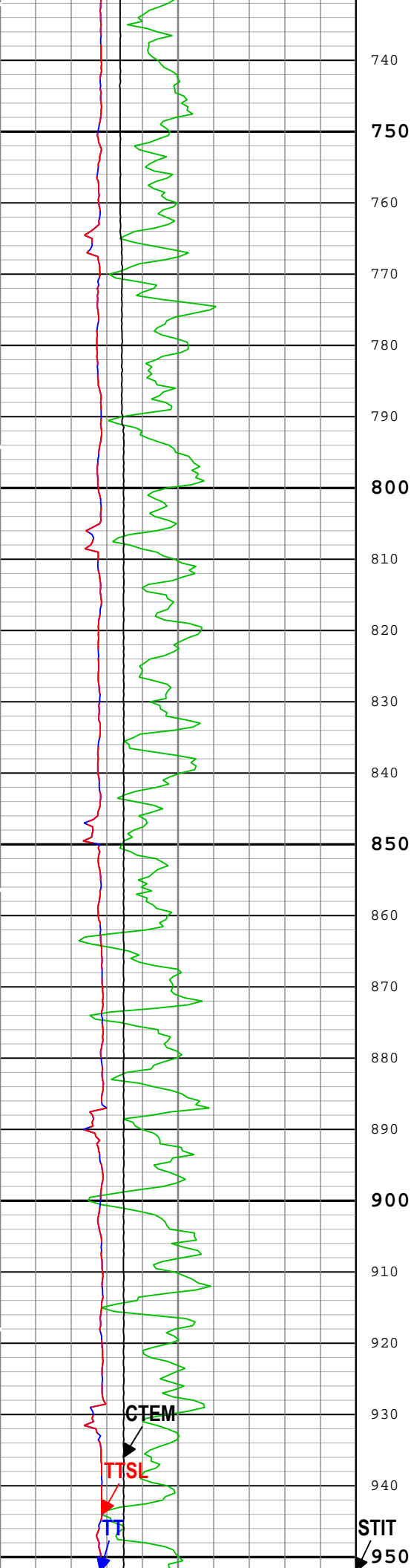
One:Depth Control Parameters

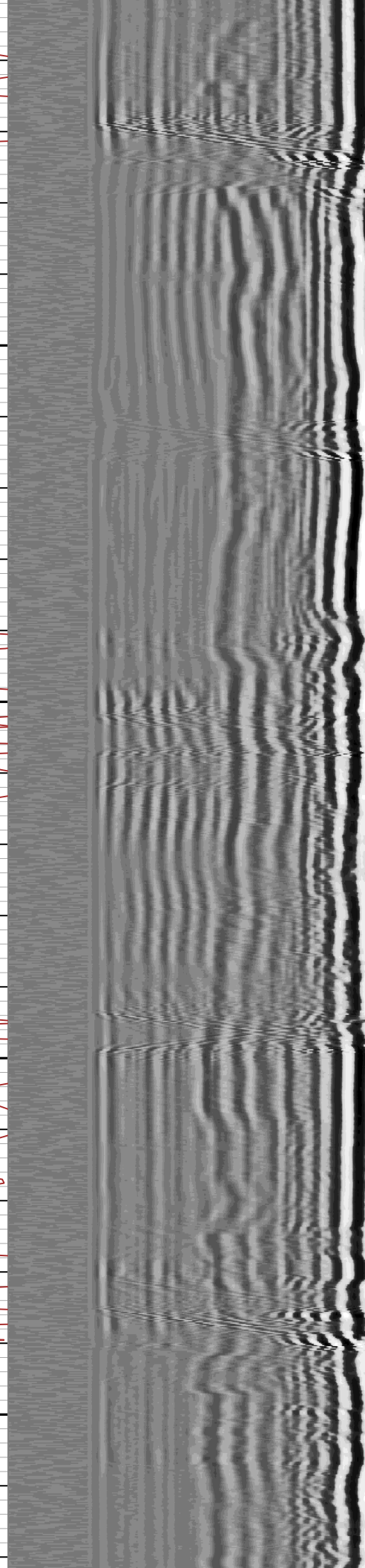
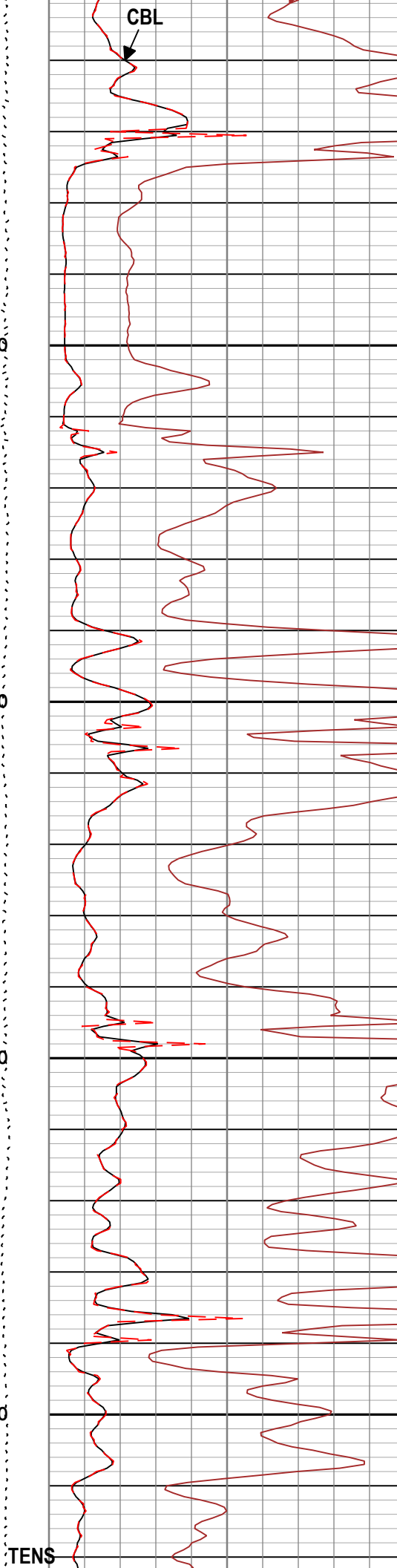
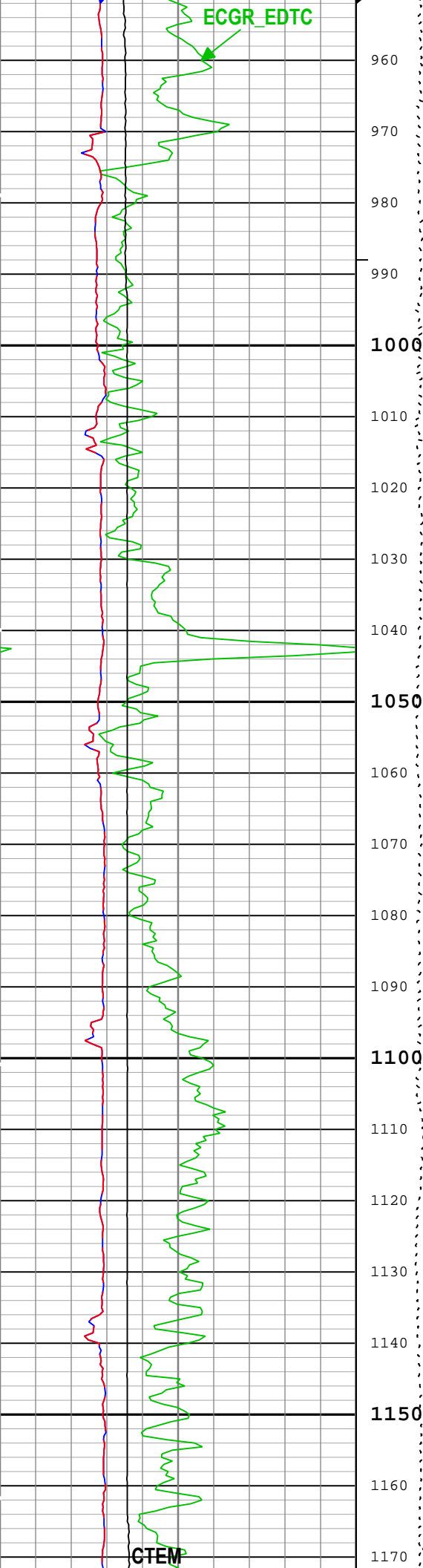
Depth Control Remarks

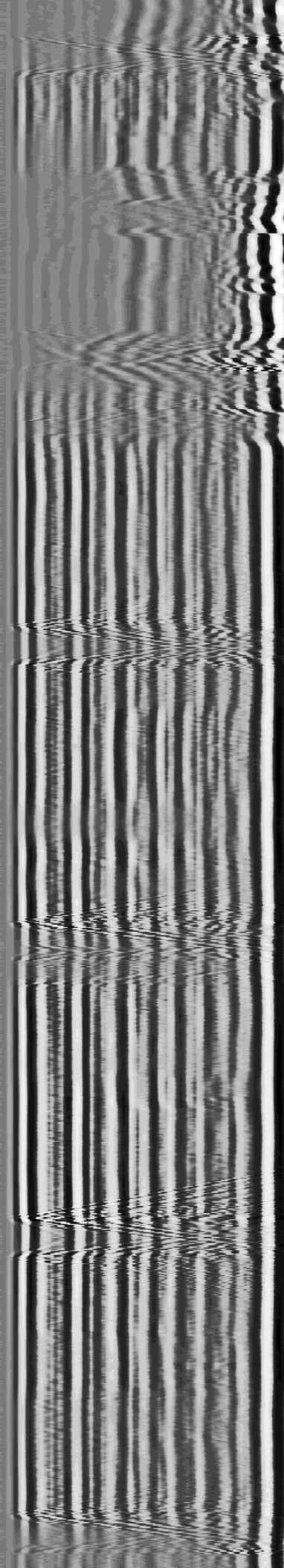
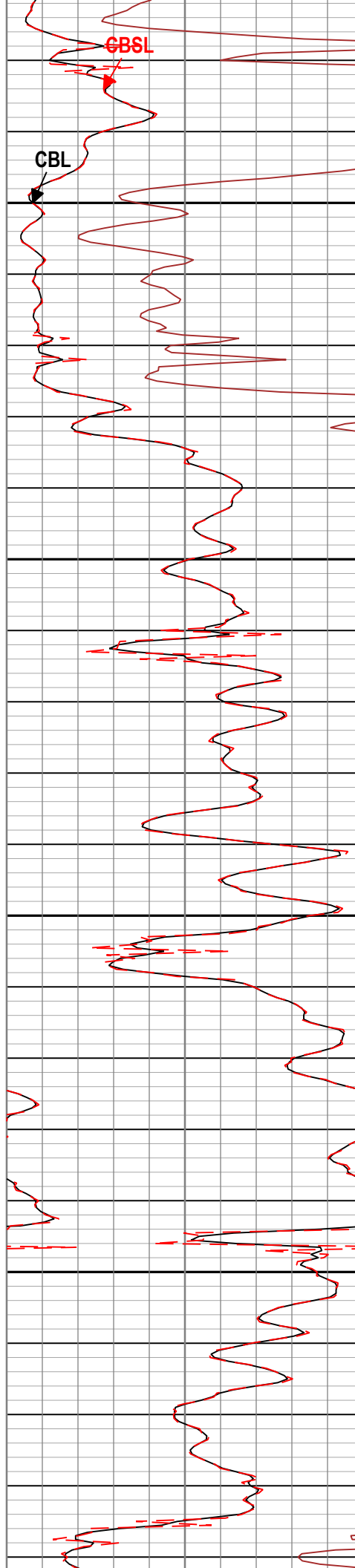
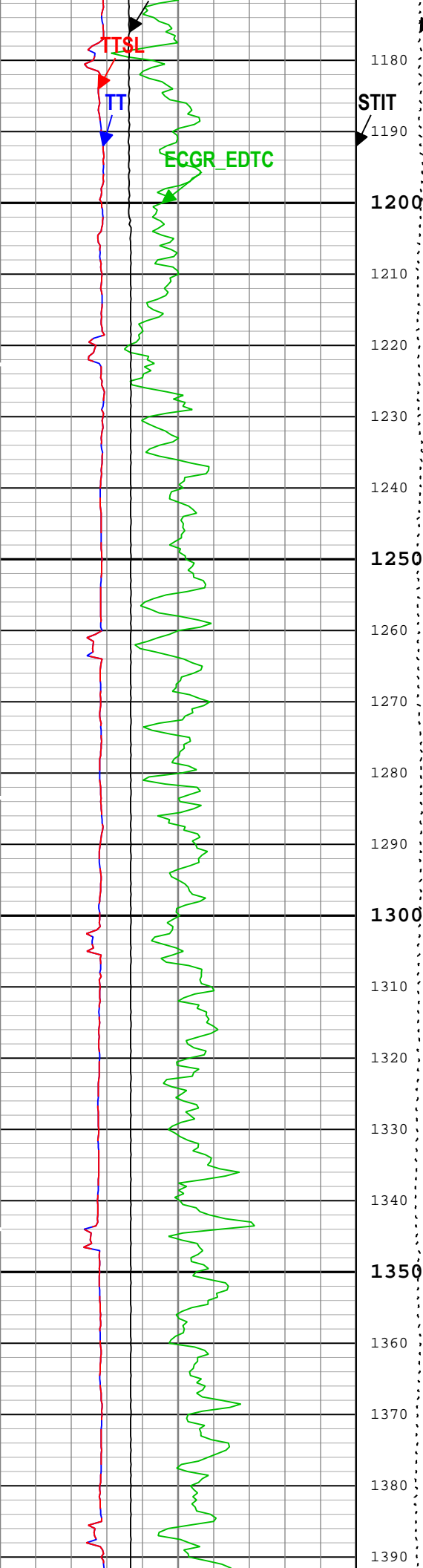


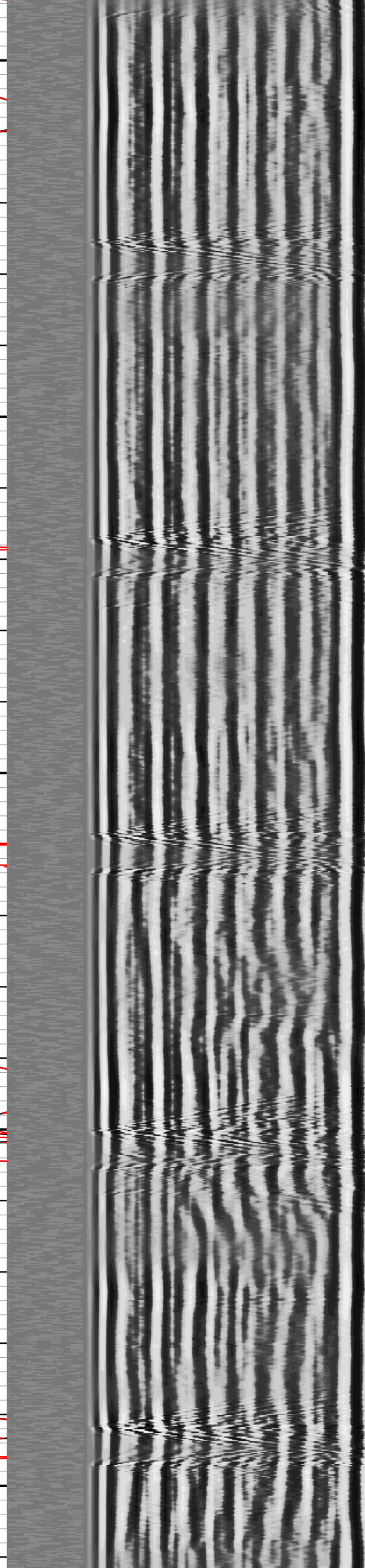
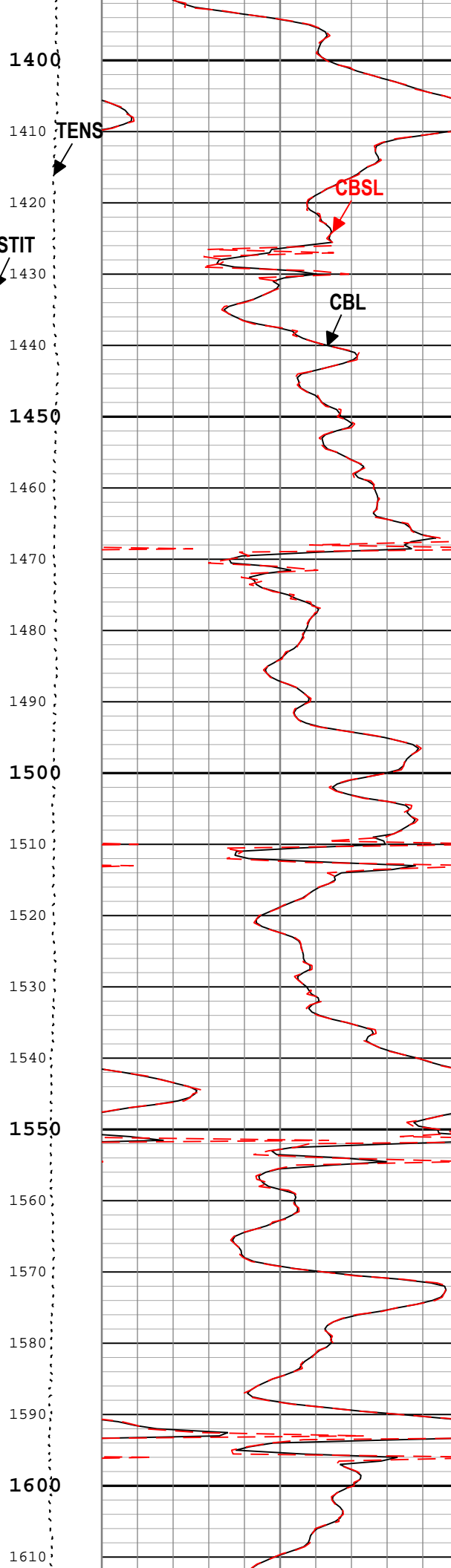
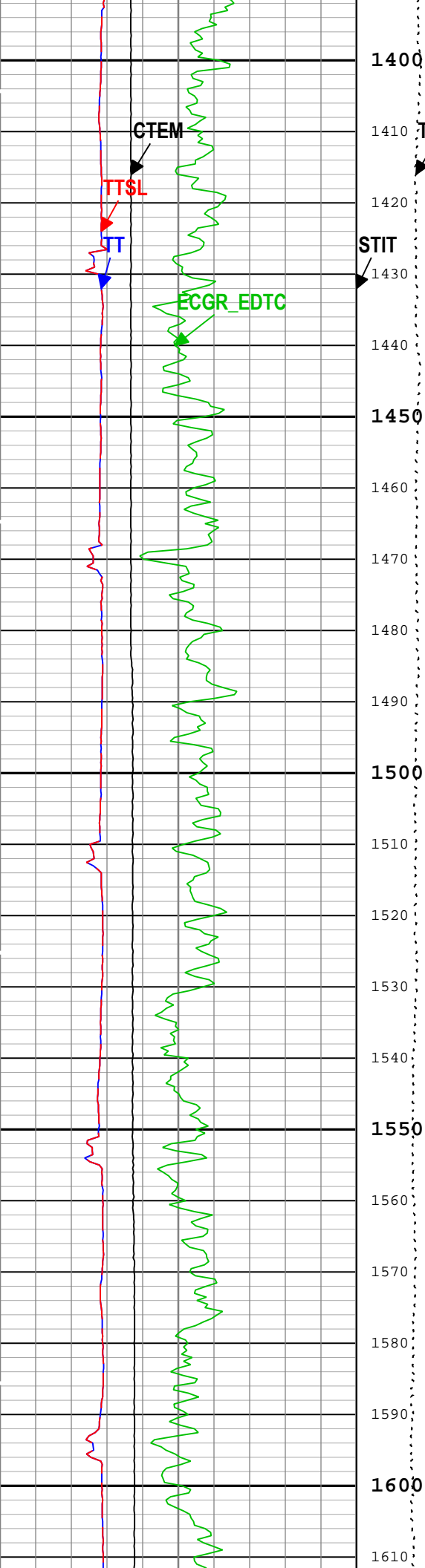


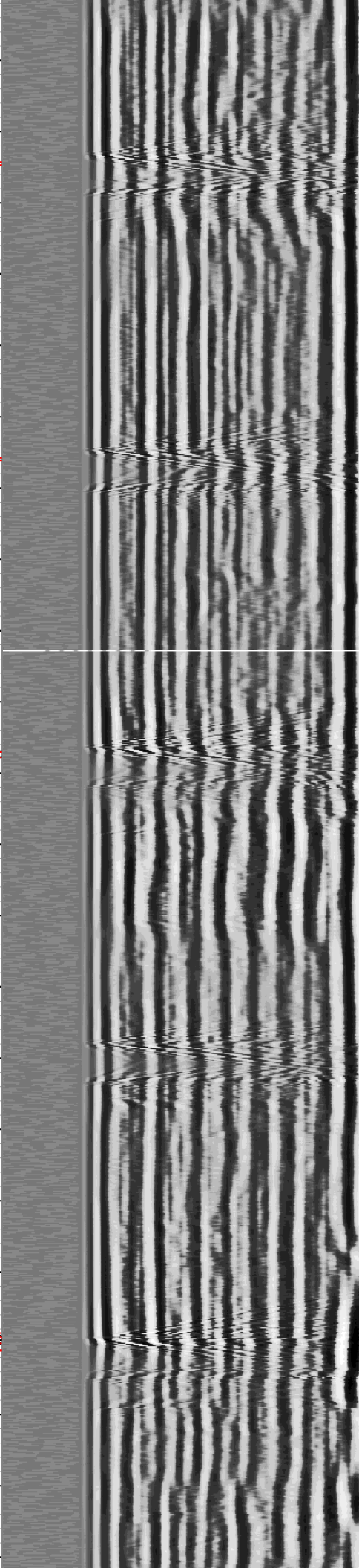
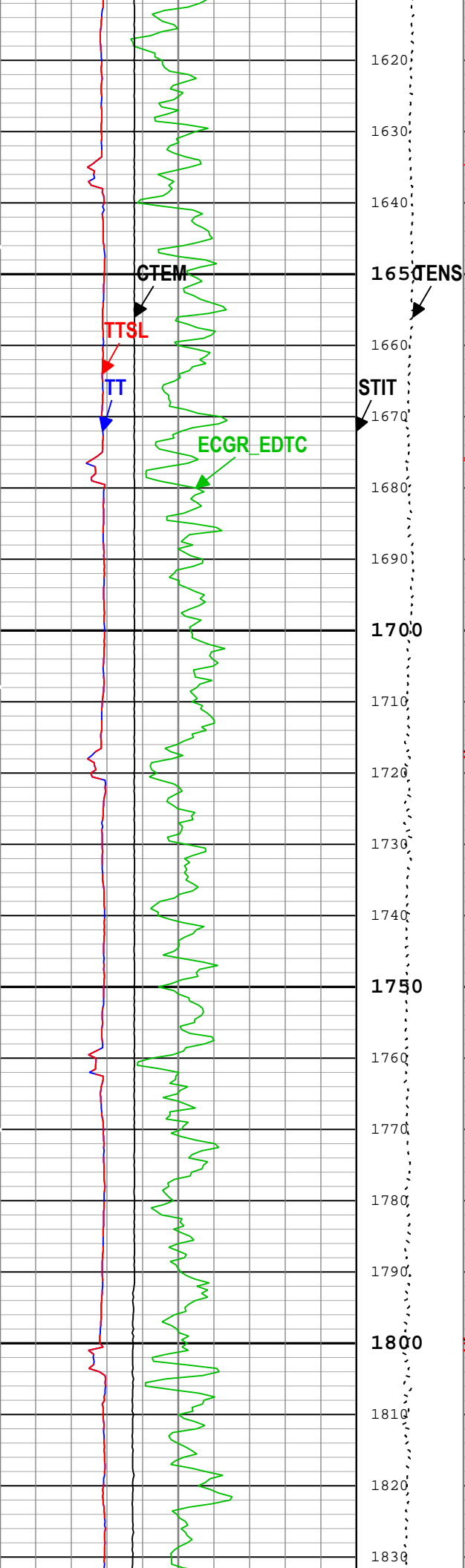


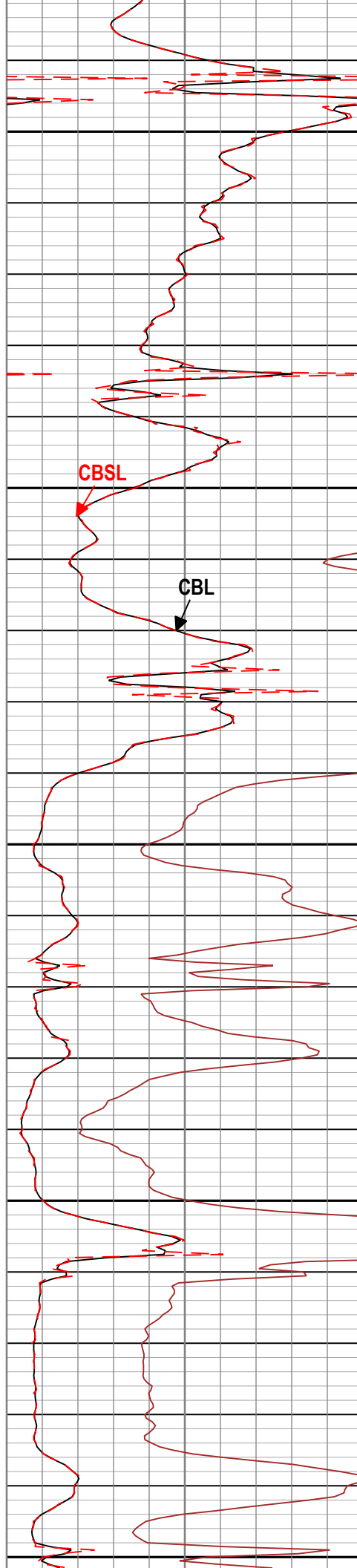
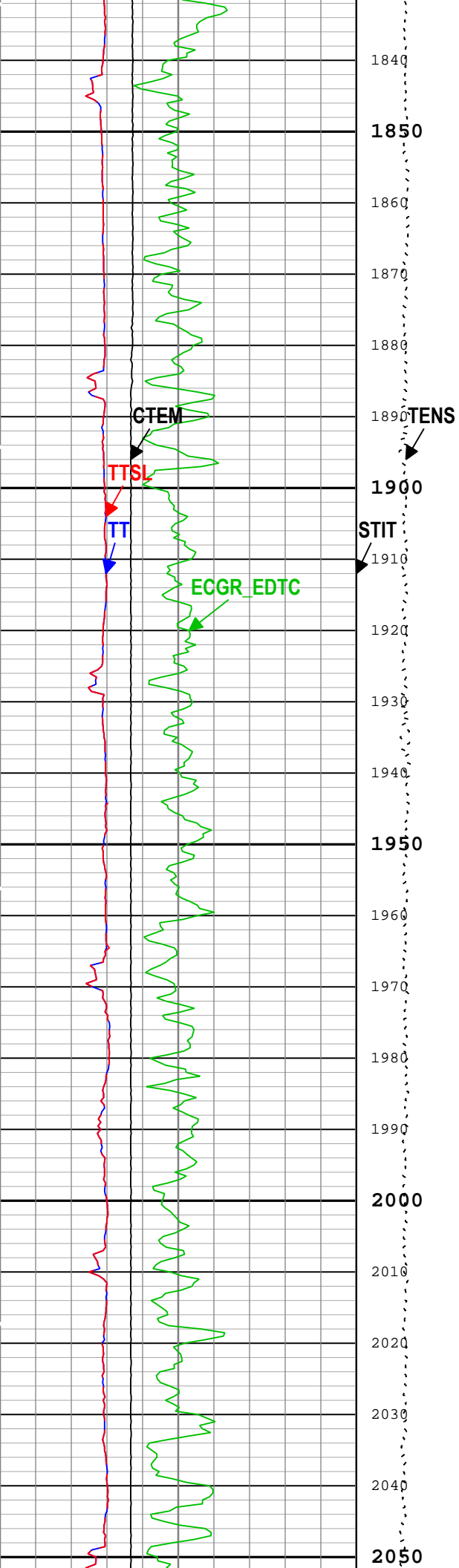


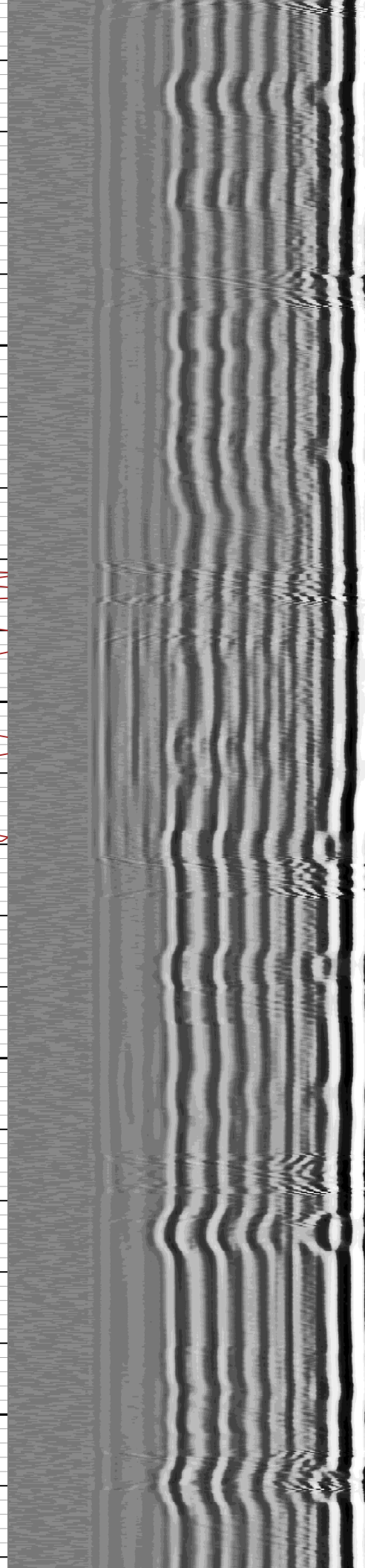
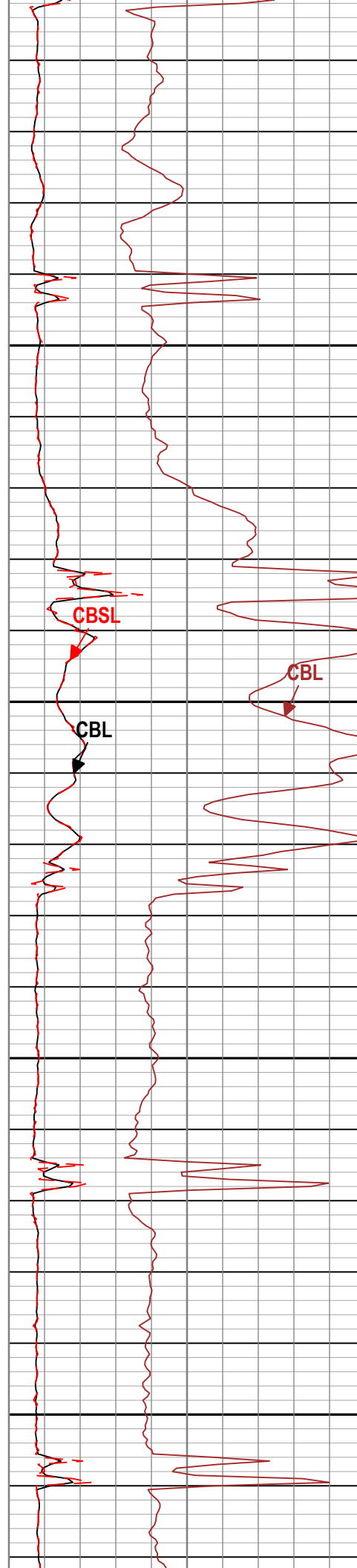
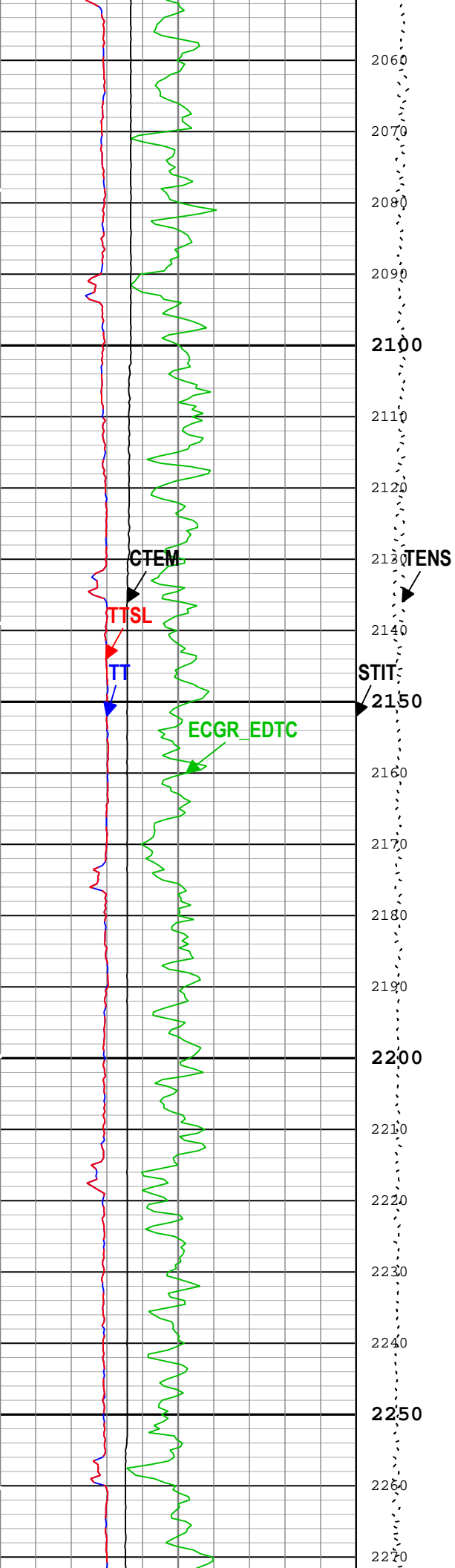


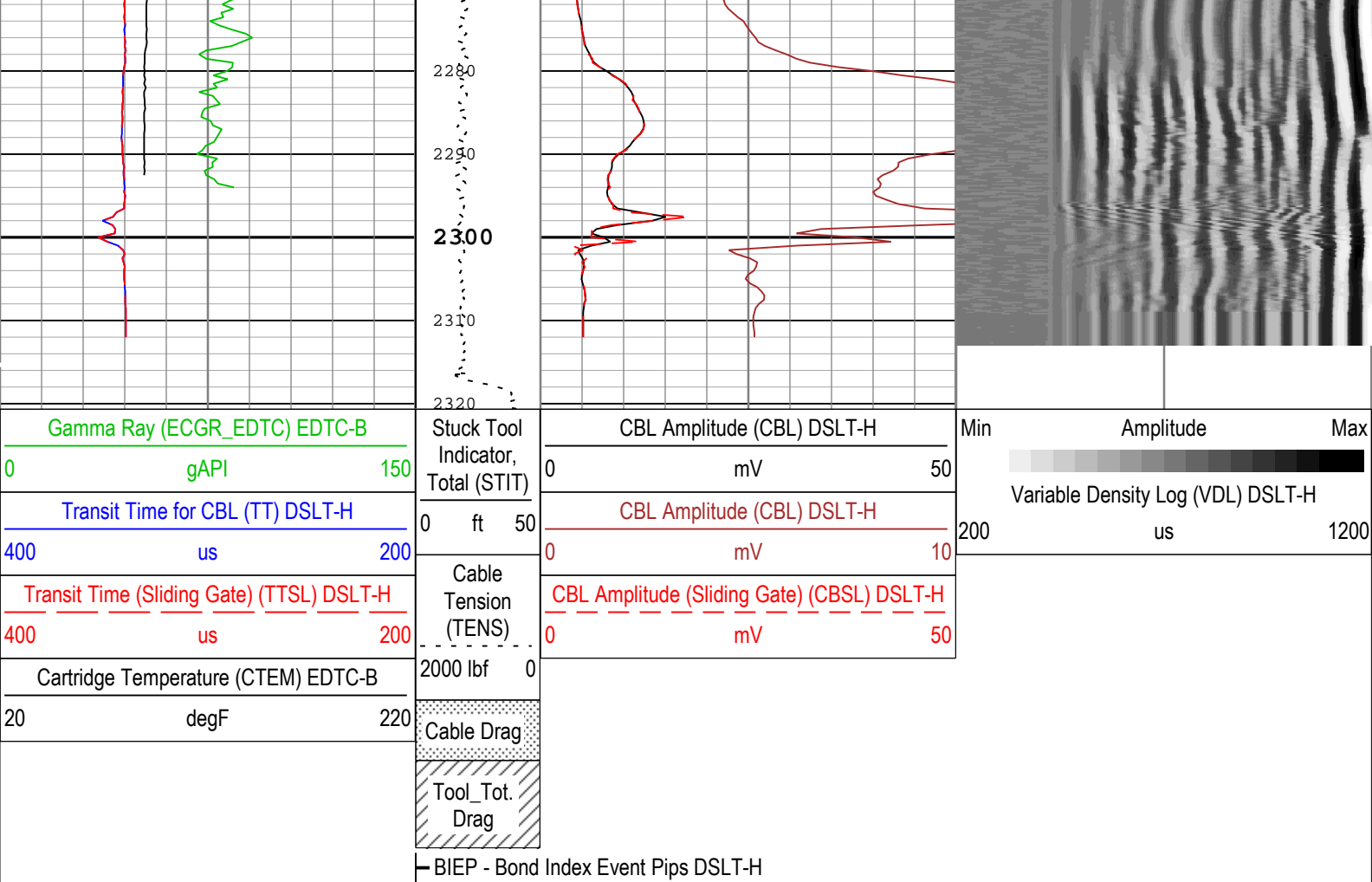












TIME_1900 - Time Marked every 60.00 (s)

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 16:20:18

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	65	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
MNHTR	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	315	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): 12:45:28 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): 12:45:28 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

Schlumberger

Well: Sam 3O-25H-M166

Field: Wattenberg

County:	Weld
State:	Colorado
Cement Bond Log	
Surface Casing	