

Company: Crestone Peak Resources and Operating LLC

Well: Echeverria 2H-2H-D267

Field: Wattenberg

County: Weld State: Colorado

Slim Cement Mapping Tool

Cement Evaluation

Gamma Ray - CCL Log

County:	Weld		
Field:	Wattenberg		
Location:	NWNW Sec. 2, T2N, R67W		
Well:	Echeverria 2H-2H-D267		
Company:	Crestone Peak Resources and Operating LLC		
Location:	NWNW Sec. 2, T2N, R67W	Elev.:	K.B. 4910.00 ft
	SHL: 898' FNL & 629' FWL		G.L. 4882.00 ft
	Lat/Long: 40.172031 \ -104.864721		D.F. 4910.00 ft
	Permanent Datum:	Ground Level	Elev.: 4882.00 f
	Log Measured From:	Kelly Bushing	28.00 ft above Perm.Datum
Drilling Measured From:	Kelly Bushing		
	API Serial No.	Section:	Township:
	05-123-48749	2	2N
Logging Date	21-May-2019		Range: 67W

Run Number	Two	
Depth Driller	12102.00 ft	
Schlumberger Depth	12102.00 ft	
Bottom Log Interval	66970.00 ft	
Top Log Interval	85.00 ft	
Casing Fluid Type	Brine	
Salinity		
Density	8.4 lbm/gal	
Fluid Level	8.00 ft	
BIT/CASING/TUBING STRING		
Bit Size	8.50 in	
From	2361.00 ft	
To	12102.00 ft	
Casing/Tubing Size	5.5 in	
Weight	20 lbm/ft	
Grade	N/A	
From	0.00 ft	
To	12091.00 ft	
Max Recorded Temperatures	201.13 degF	
Logger on Bottom	23-May-2019	09:48:00
Unit Number	9111	Fort Morgan
Recorded By	A.Blochowicz/A. Alkindi	
Witnessed By	John Ansbor	

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 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.

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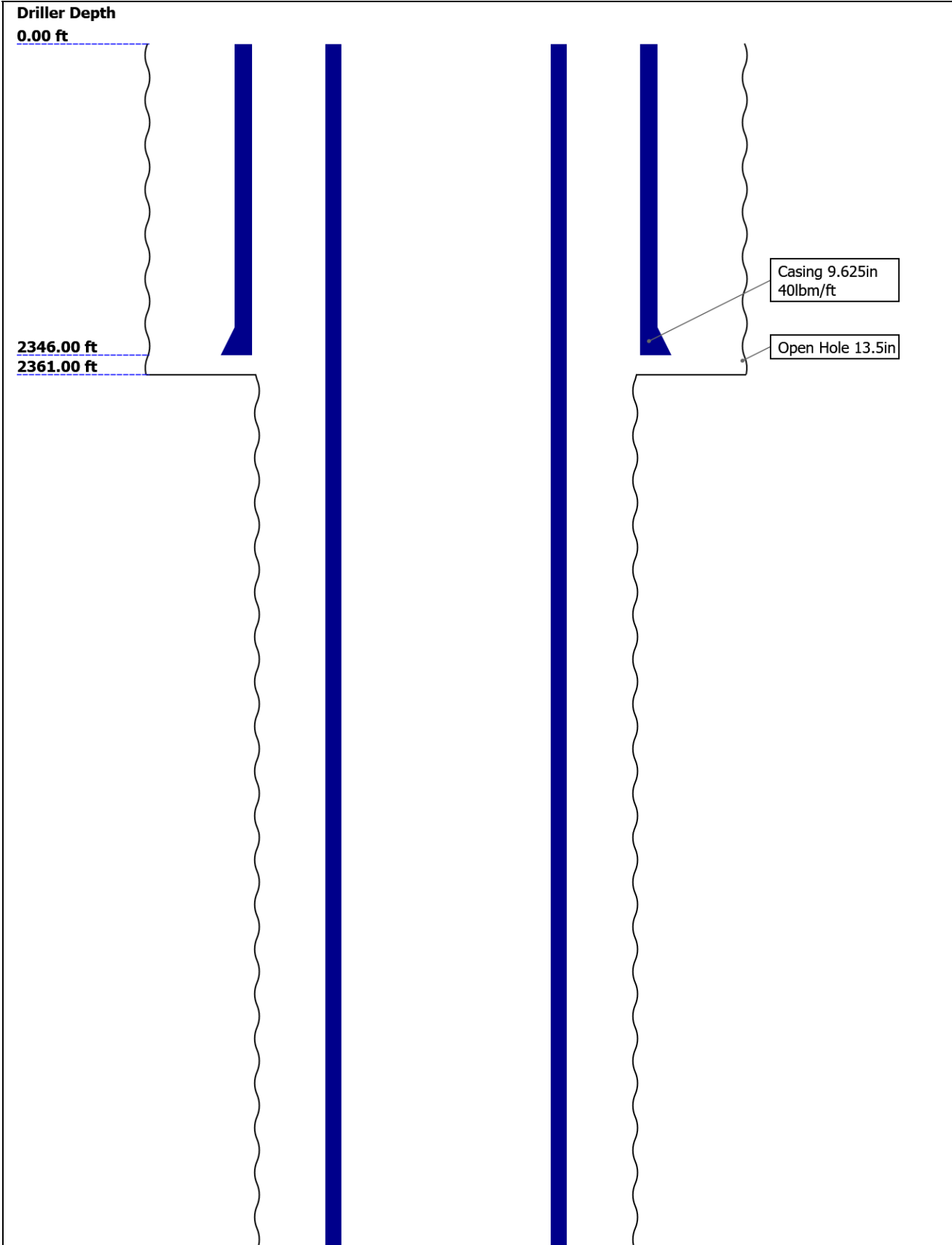
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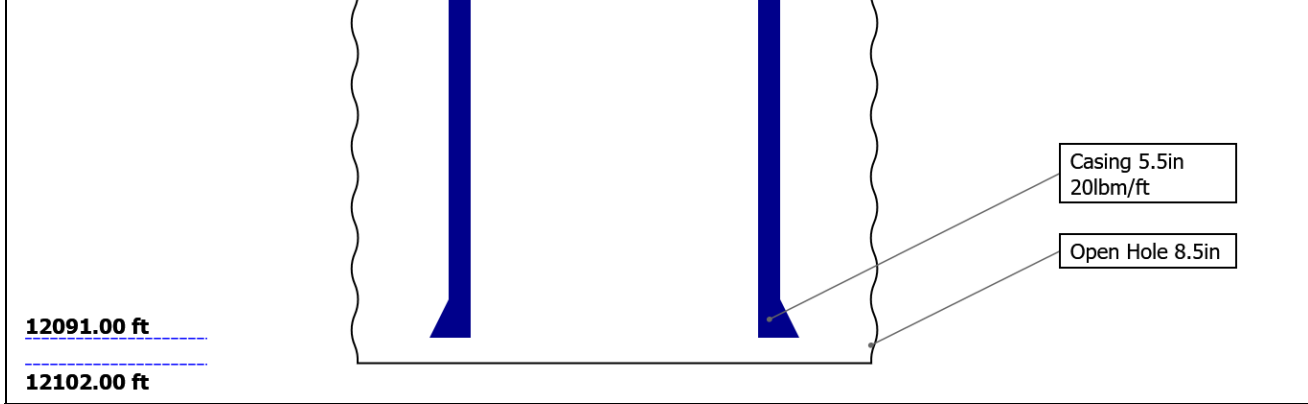
11. Import of External Image

12. Calibration Report

13. Tail

Well Sketch





12091.00 ft

12102.00 ft

Casing 5.5in  
20lbm/ft

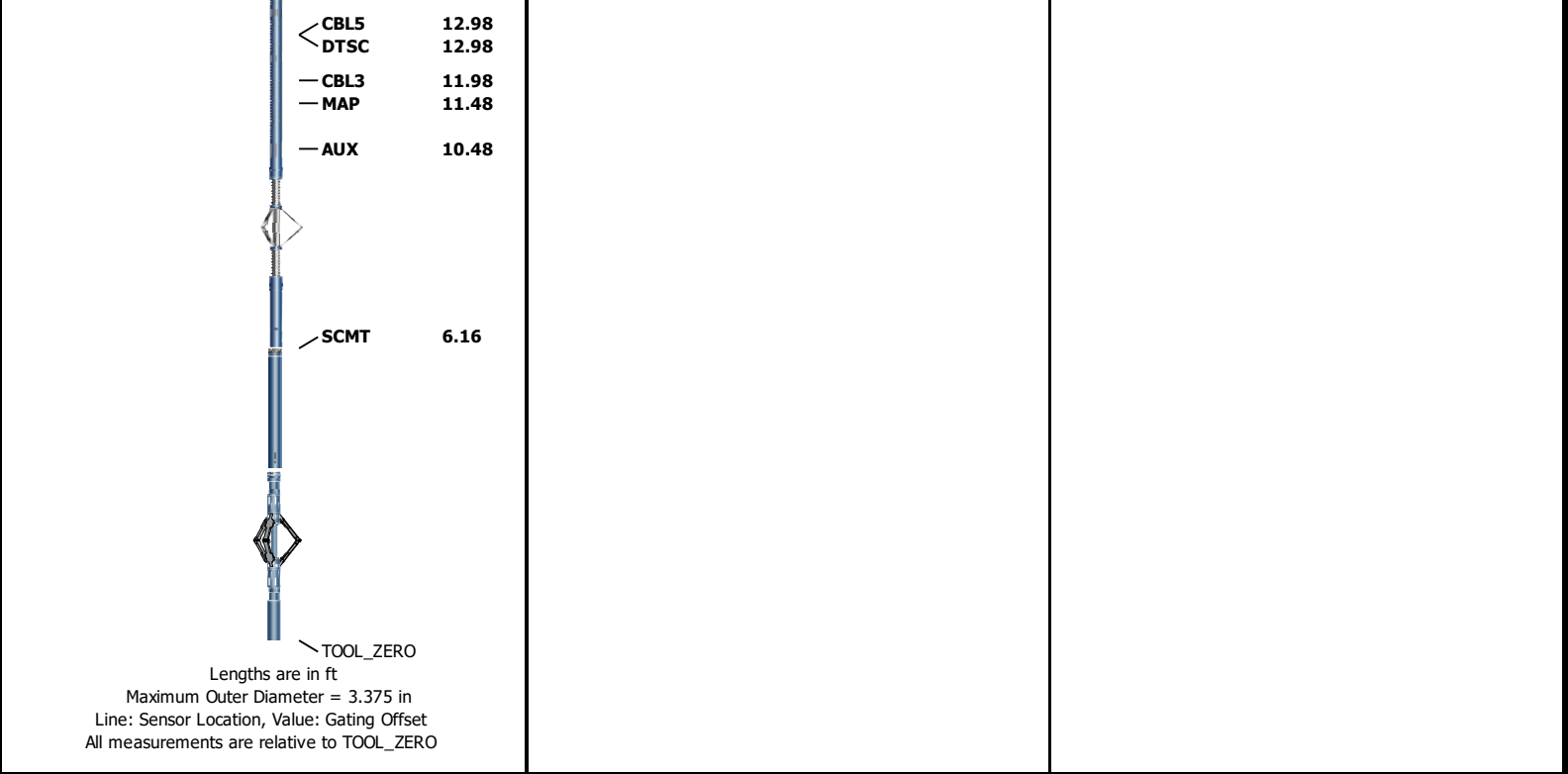
Open Hole 8.5in

## Borehole Size/Casing/Tubing Record

Bit						
Bit Size ( in )	13.5	8.5				
Top Driller ( ft )	0	2361				
Top Logger ( ft )	0	2361				
Bottom Driller ( ft )	2361	12102				
Bottom Logger ( ft )	2361	12102				
Casing						
Size ( in )	9.625	5.5				
Weight ( lbm/ft )	40	20				
Inner Diameter ( in )	8.835	4.778				
Grade	N/A	N/A				
Top Driller ( ft )	0	0				
Top Logger ( ft )	0	0				
Bottom Driller ( ft )	2346	12091				
Bottom Logger ( ft )	2346	12091				

## Remarks and Equipment Summary

Two: Toolstring				Two: Remarks	
Equip name	Length	MP name	Offset	Thank you for choosing Schlumberger!	
LEH-QT	32.49			Toolstring run centralized as per toolsketch	
LEH-QT				Log run under 0 psi	
AH-323	29.00			Lead Cement 12.5 ppg	
AH-329	28.57			Tail Cement Density: 13.5 ppg	
PSTP-A:192	28.27			Spacer Density: 11 ppg	
5				Log correlated to Isolation Scanner log at 6804ft	
PSC-A:2776				Crew: Alex Schaab	
PSTC-A:2776					
PBMS-A:1925					
Sapphire 10kP					
SI:2776					
SCMT-CB:82	20.01				
58					
SECH-CA					
SCMC-CA:814					
0					
SCMS-CB:825					
8					
SCMX-CA:821					
3					
CMIR-AG					
— DT					



Depth Summary			
	Two		
Depth Measuring Device			
Type	IDW-JA		
Serial Number	6241		
Calibration Date	30-Apr-2019		
Calibrator Serial Number	IDWC-C-57		
Calibration Cable Type	7-46 PXS		
Wheel Correction 1	-1		
Wheel Correction 2	-2		
Tension Device			
Type	CMTD-B/A		
Serial Number	161		
Calibration Date	13-May-2019		
Calibrator Serial Number	1148		
Number of Calibration Points	10		
Calibration Root Mean Square Error	6		
Calibration Peak Error	10		
Logging Cable			
Type	7-46P-XS		
Serial Number	U712020		
Length	23245.00 ft		
Conveyance Type	Wireline		
Rig Type	Crane		
Two:Depth Control Parameters		Depth Control Remarks	
Log Sequence	Subsequent Log In the Well	All Schlumberger depth control procedures were followed	
Reference Log Name	Isolation Scanner	IDW used as primary depth control.	



Two

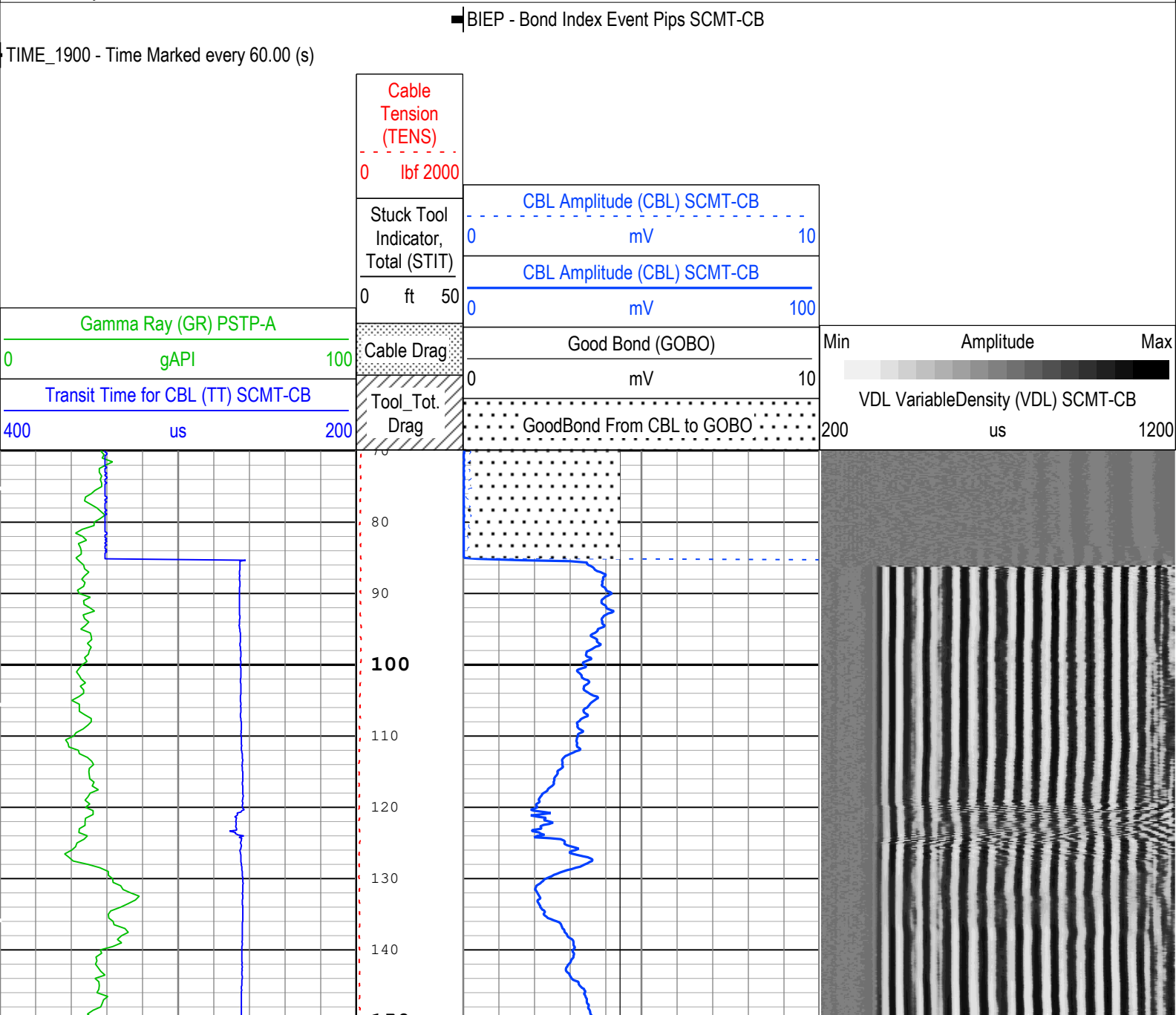
Main Pass

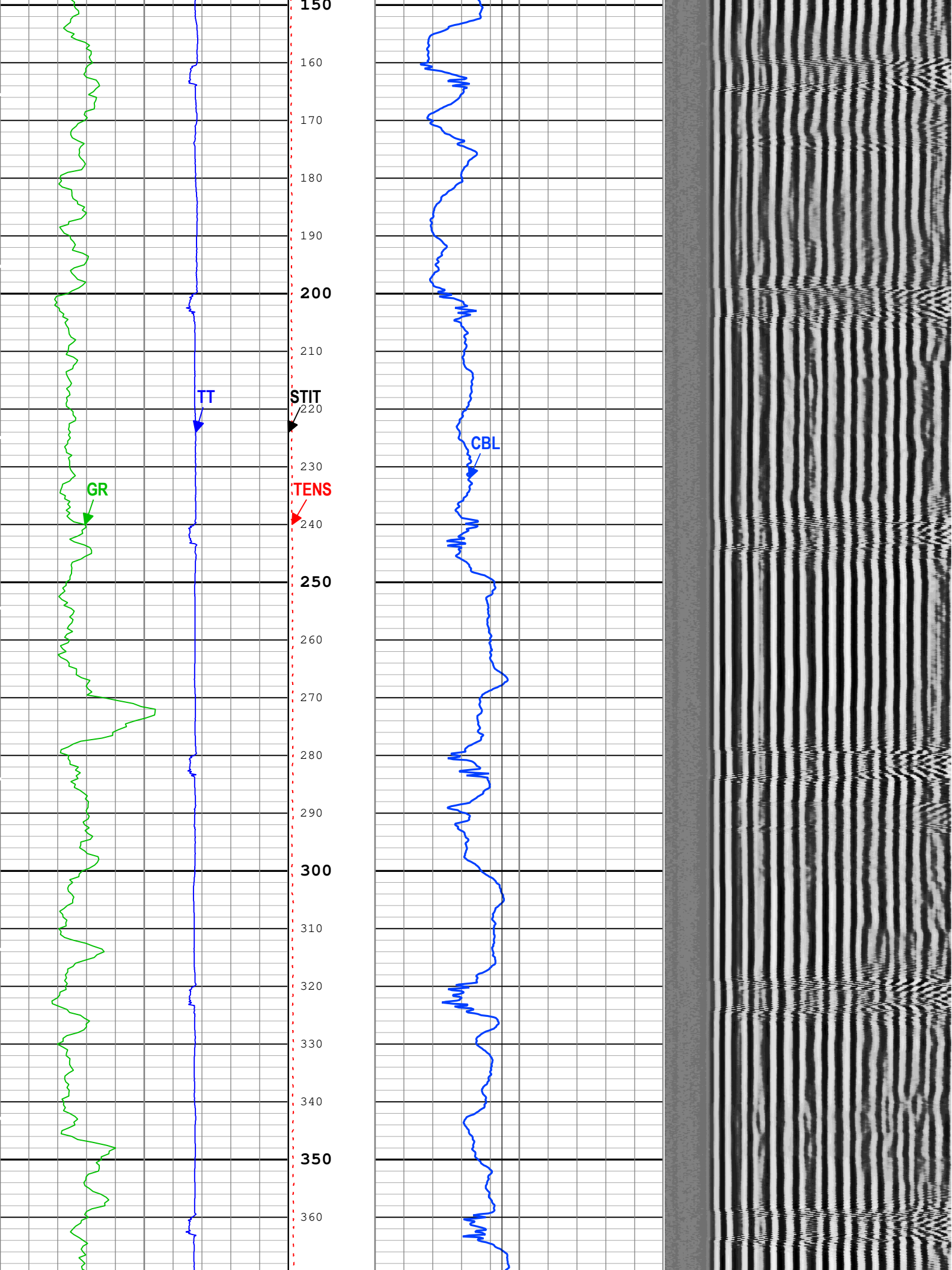
Software Version	
Acquisition System	Version
Maxwell 2019	9.0.106845.3100

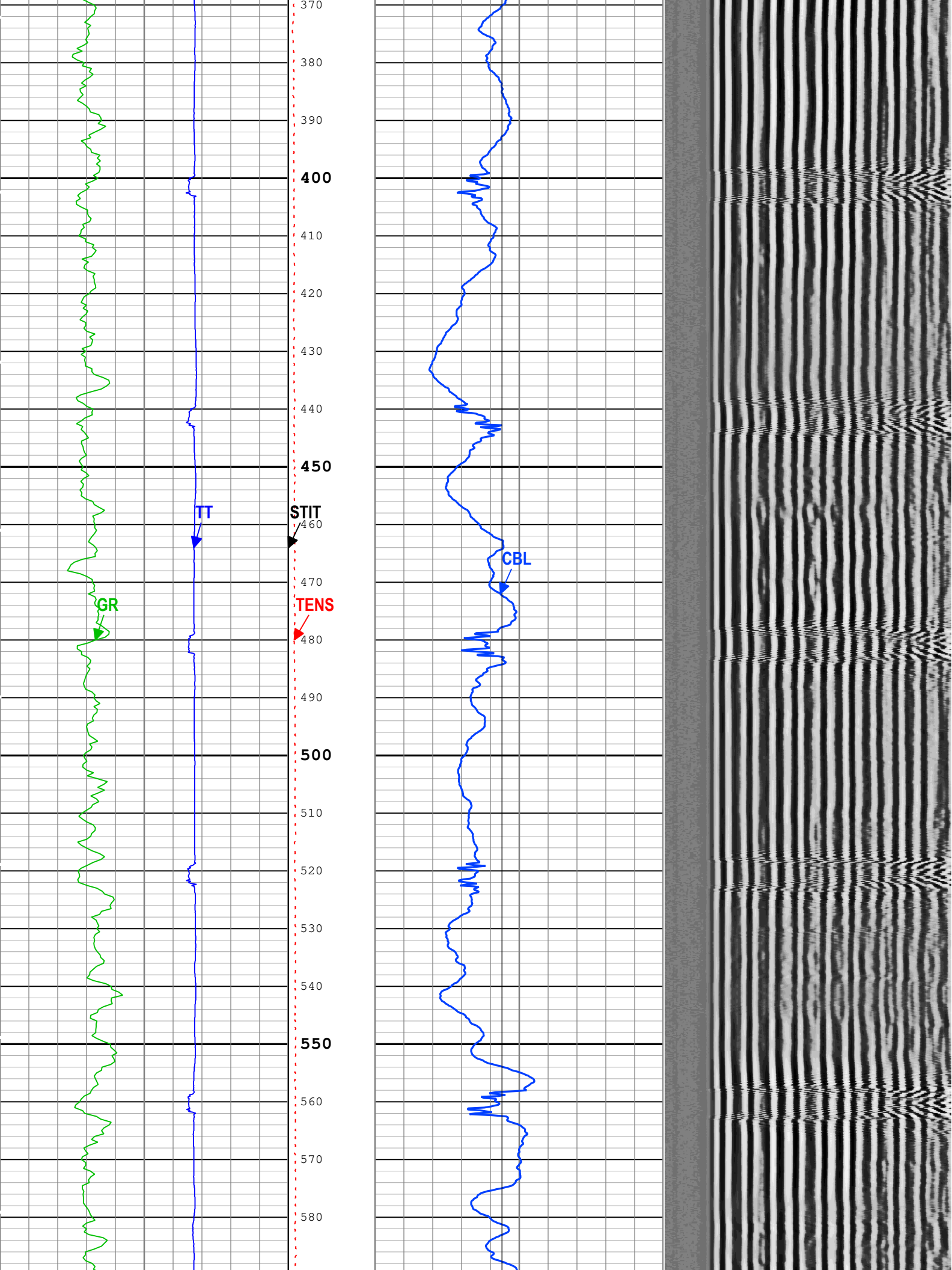
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[2]:Up	Up	24.63 ft	7005.94 ft	21-May-2019 8:34:56 AM	21-May-2019 12:40:45 PM	ON	5.84 ft	Yes
All depths are referenced to toolstring zero									

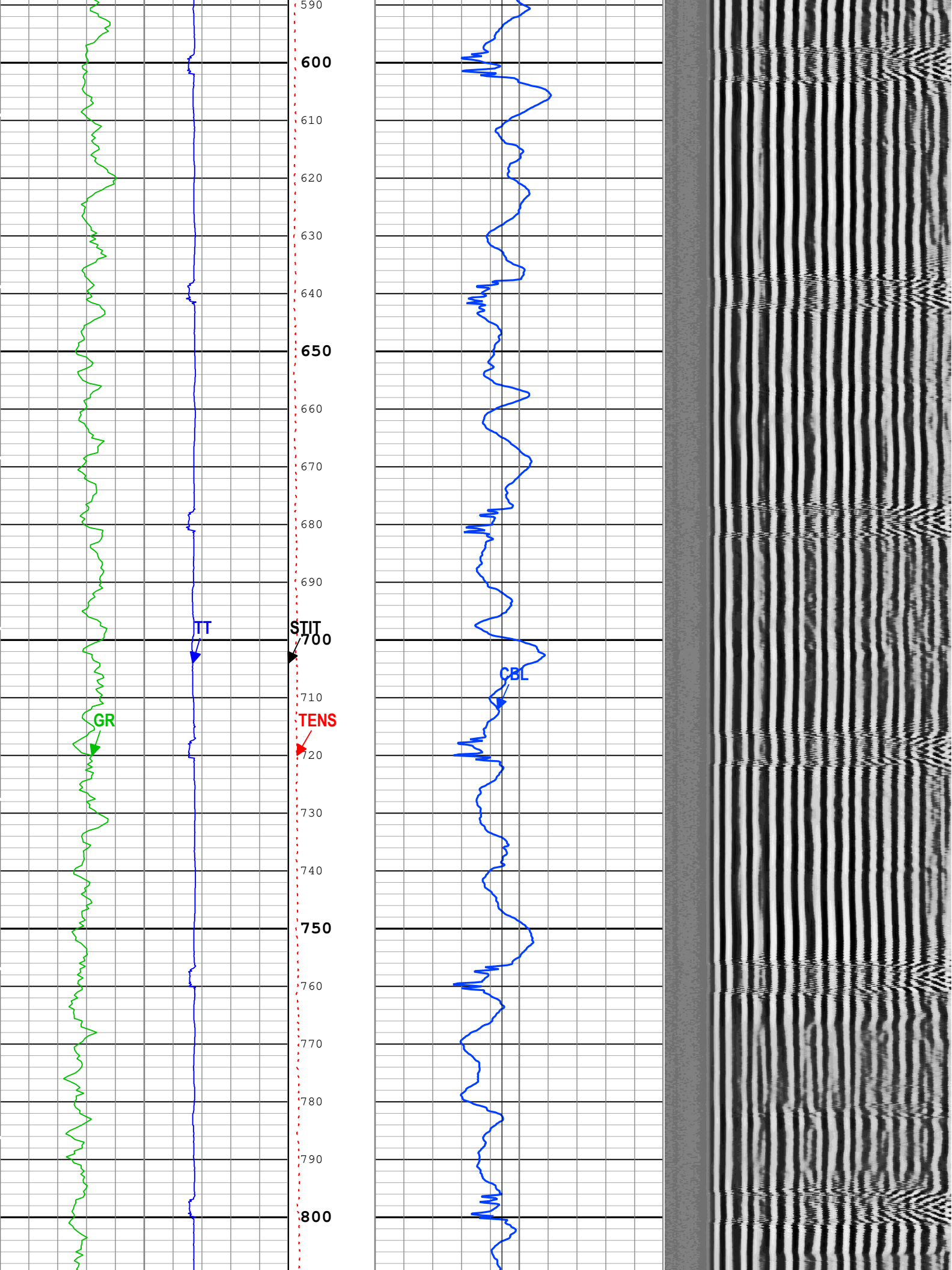
Log	Company:Crestone Peak Resources and Operating LLC	Well:Echeverria 2H-2H-D267
Two: Log[2]:Up:S019		

Description: Sonic CBL with VDL    Format: Log ( Sonic CBL with VDL )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 23-May-2019 15:25:55

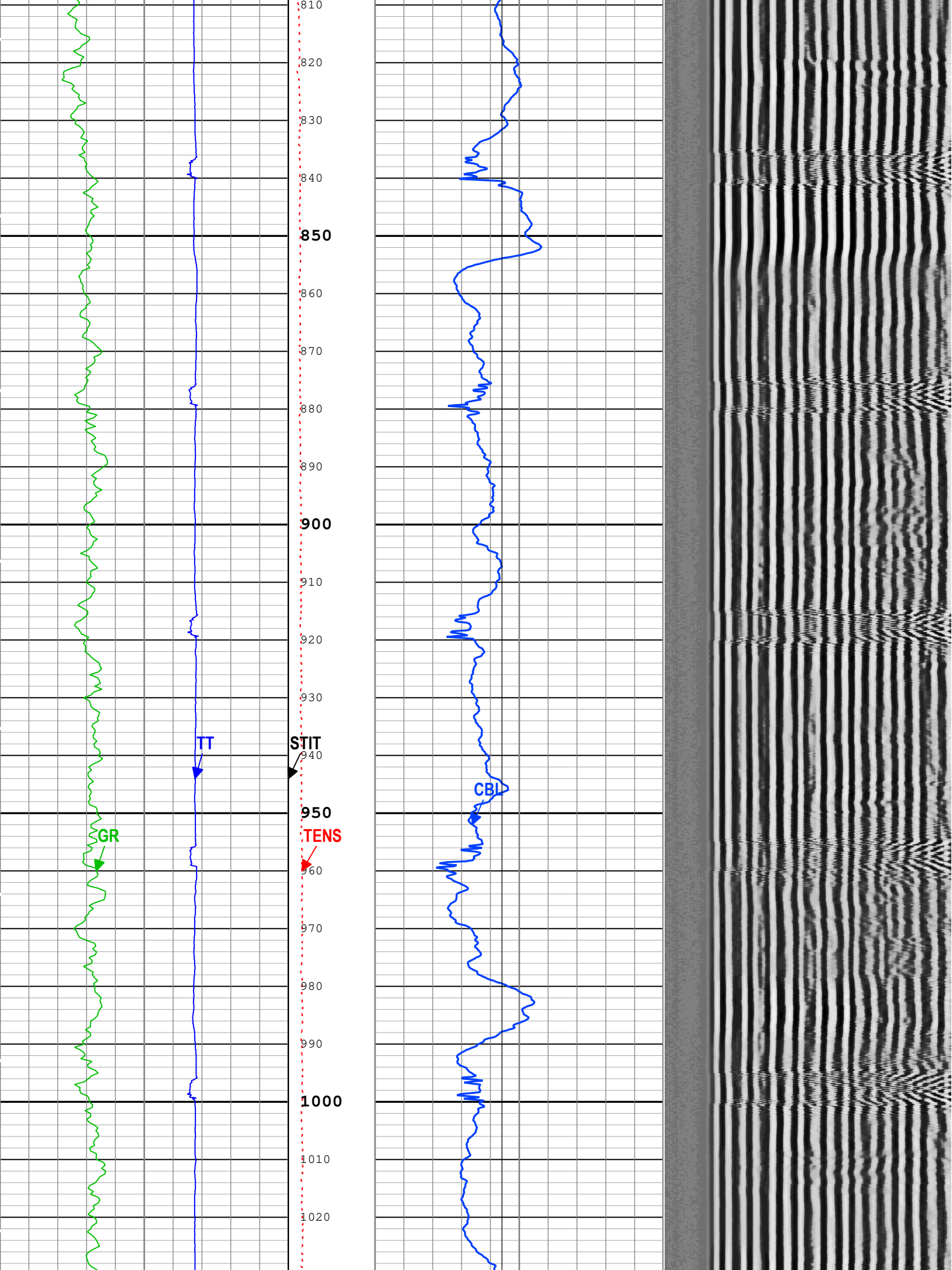


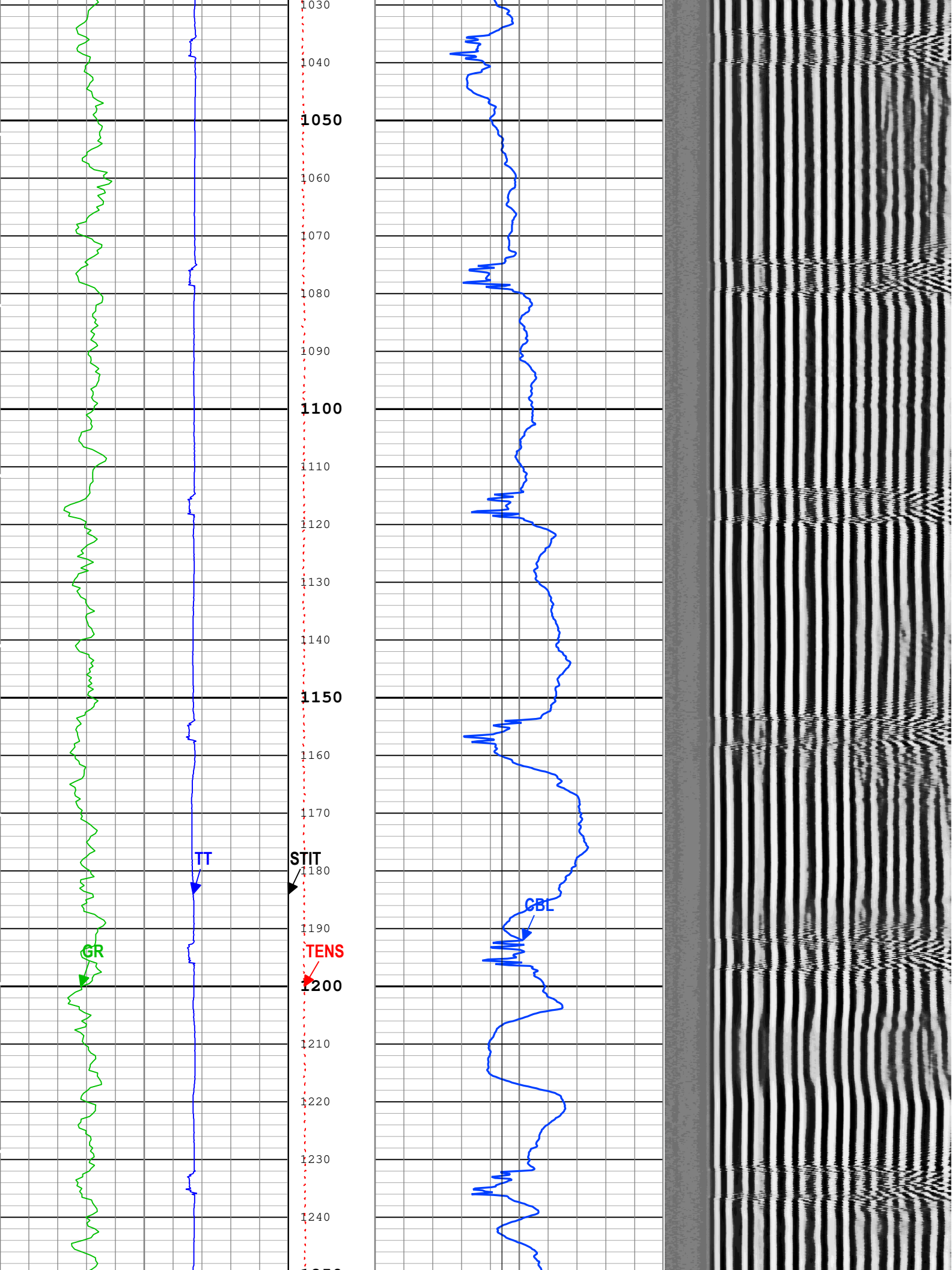


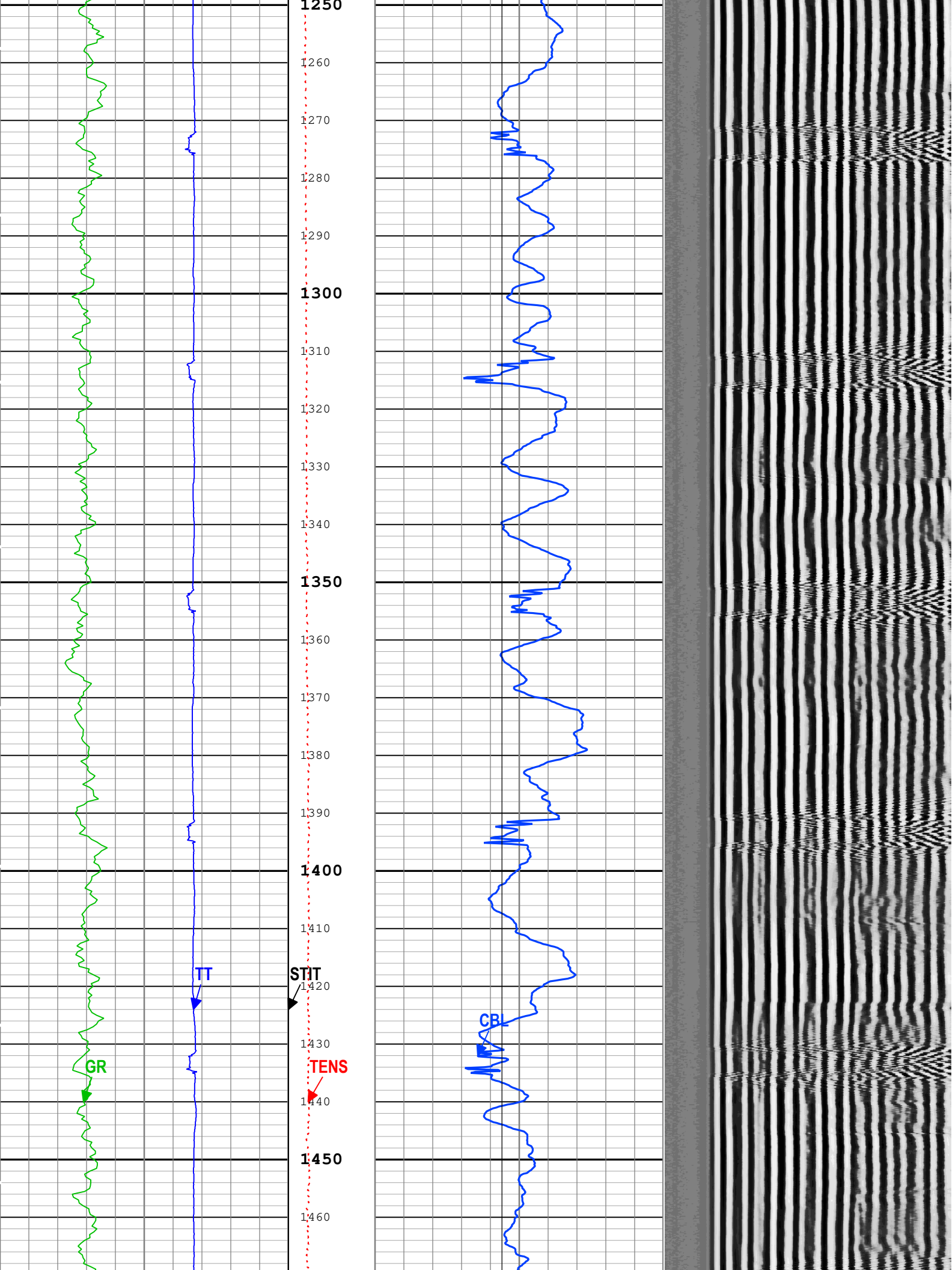




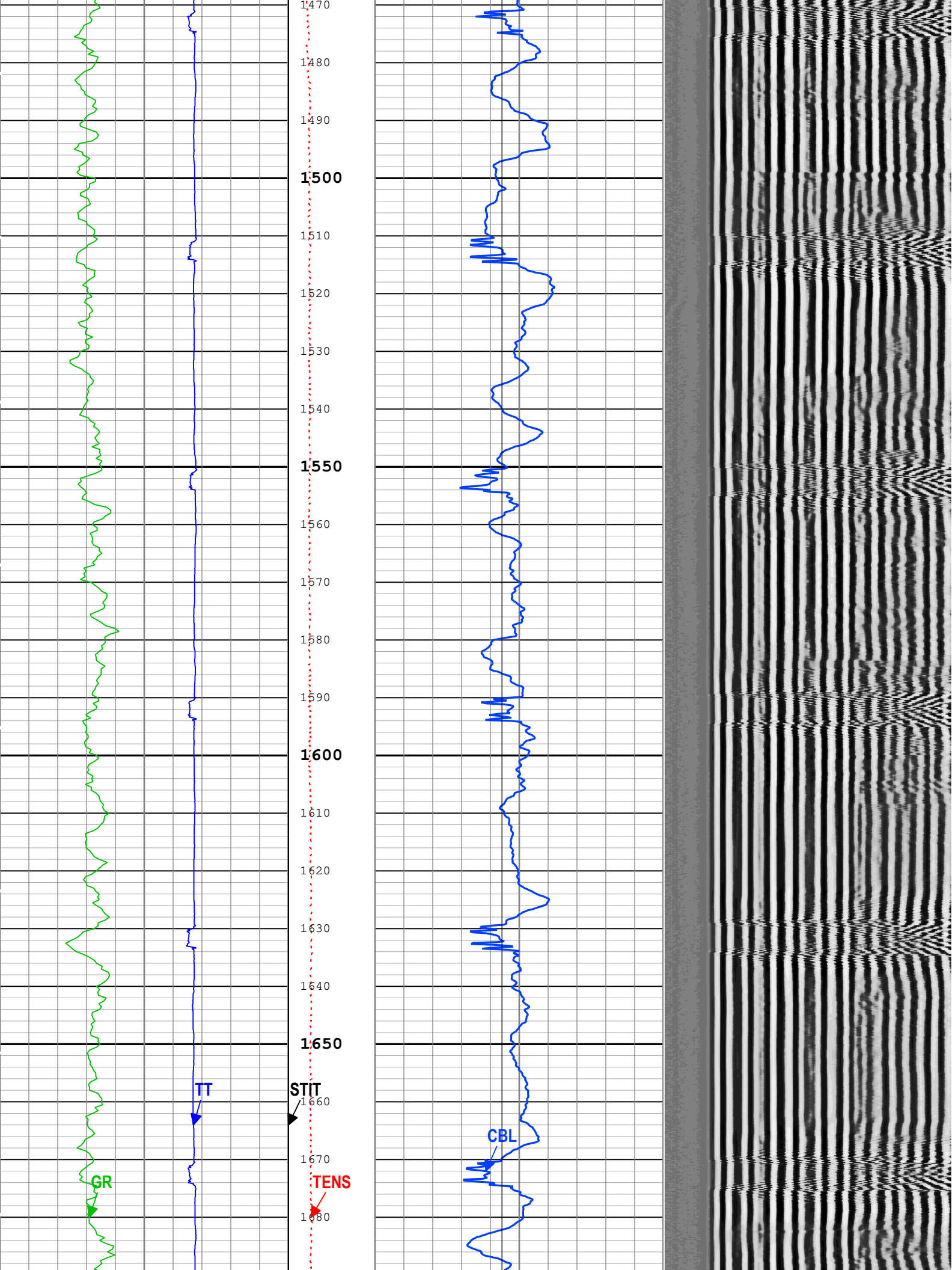




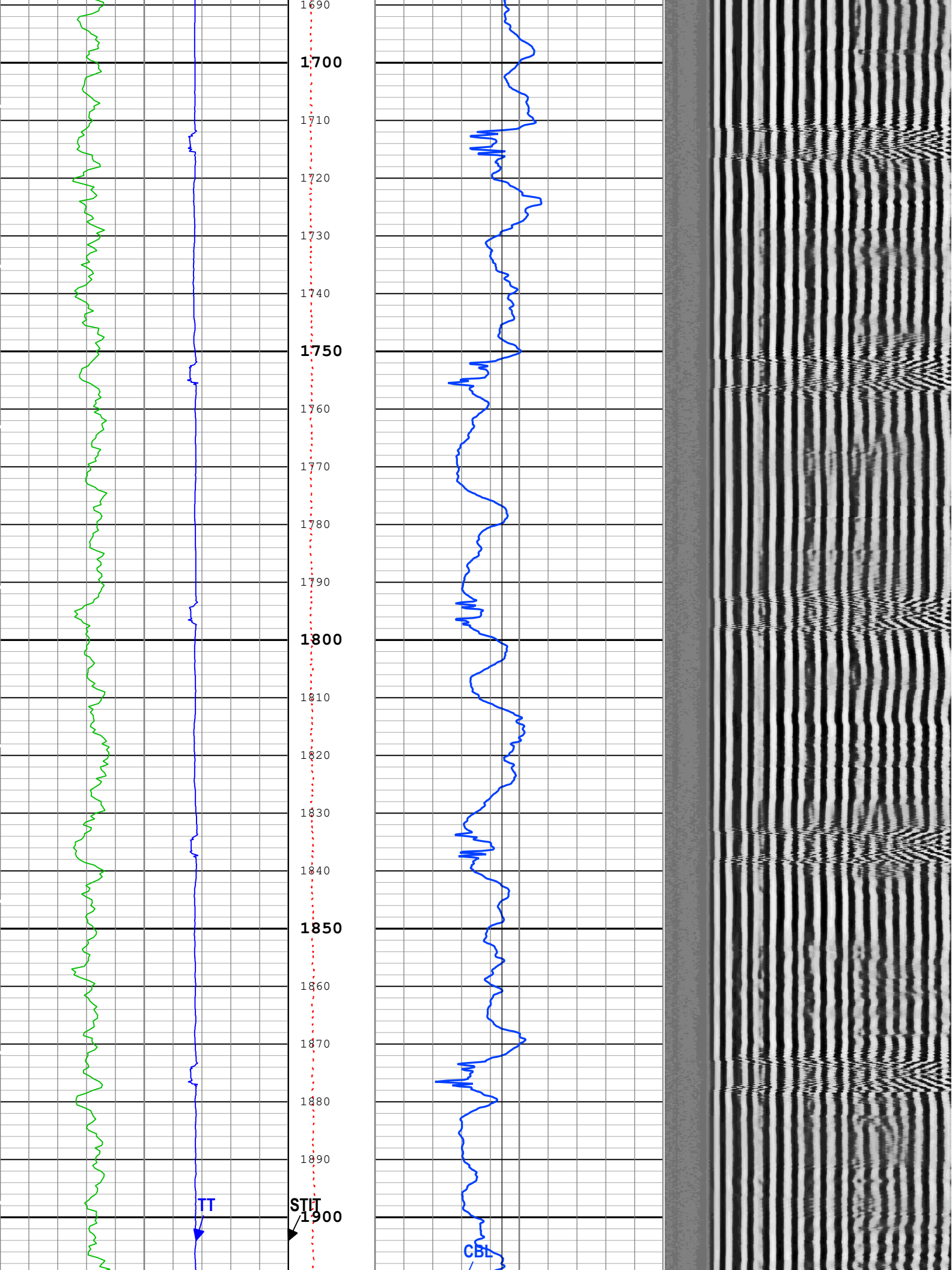


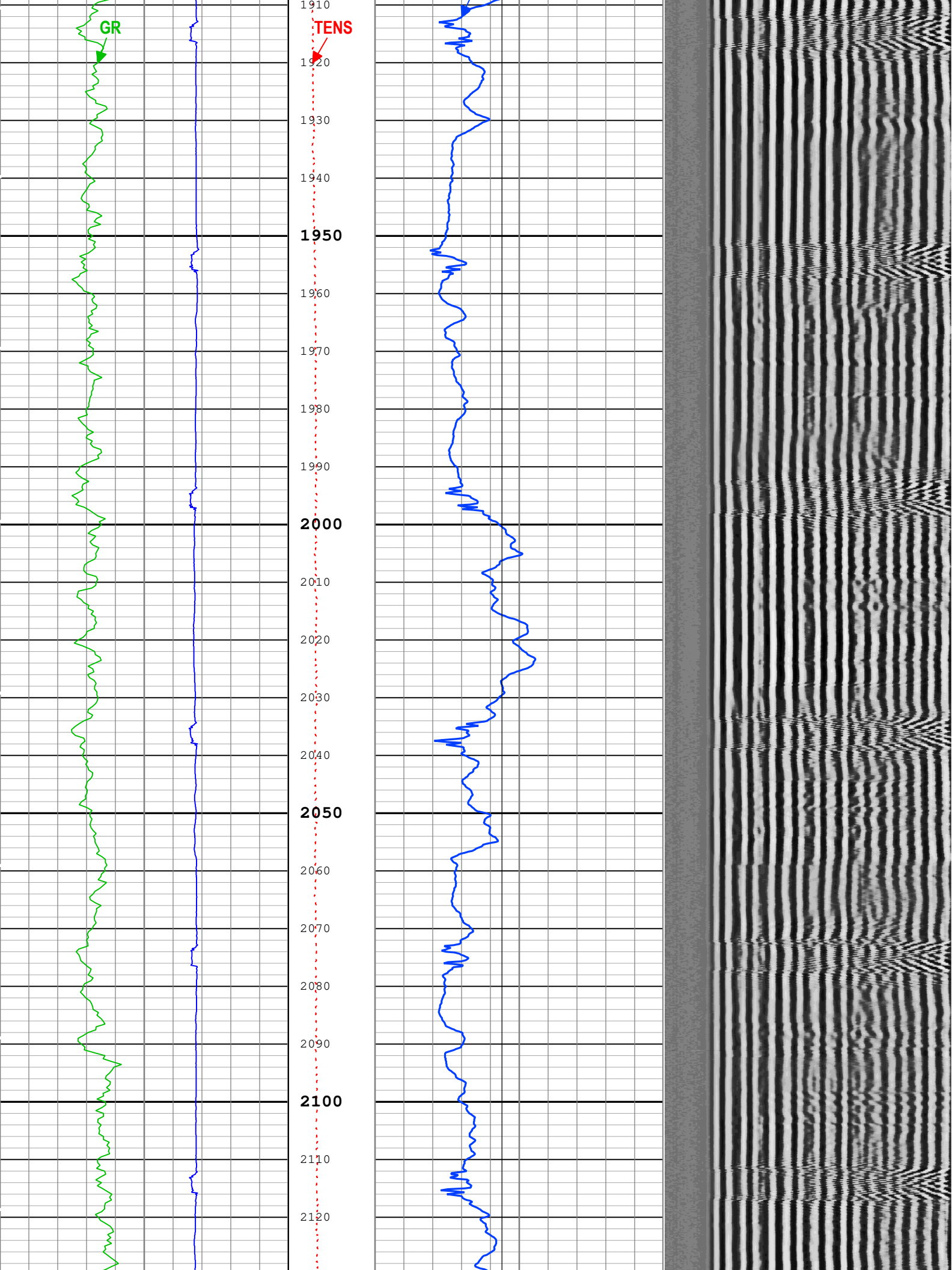


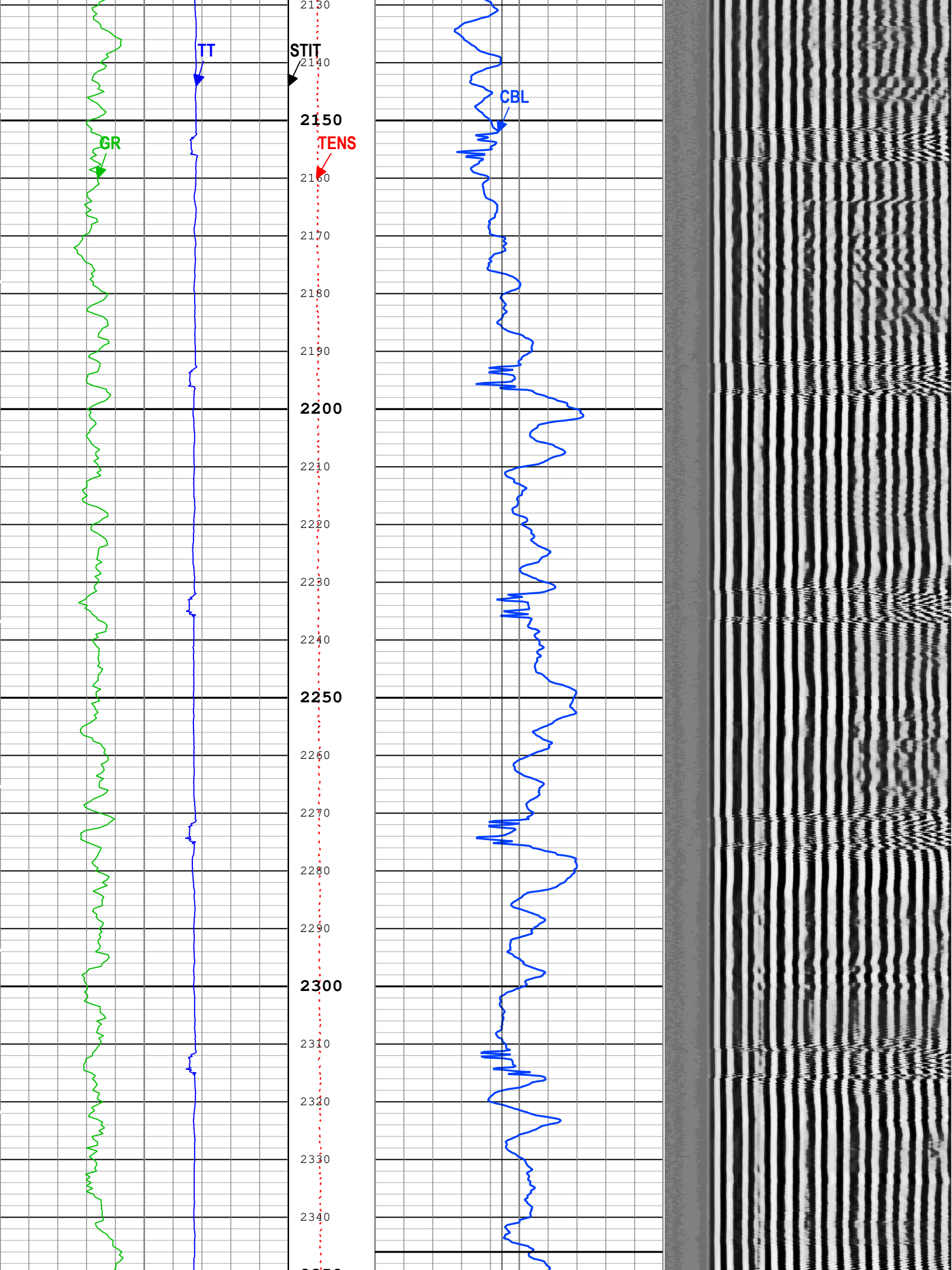




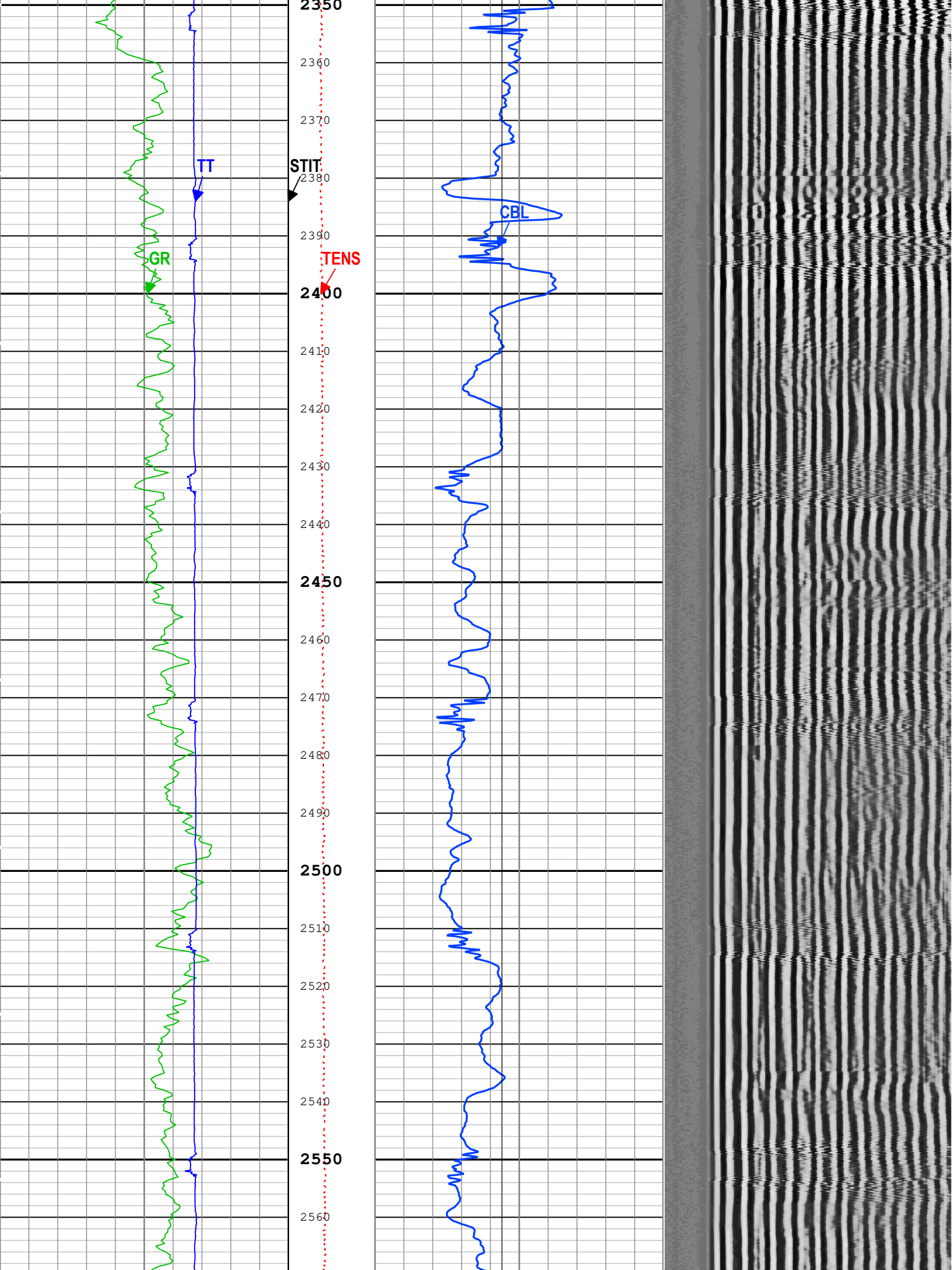


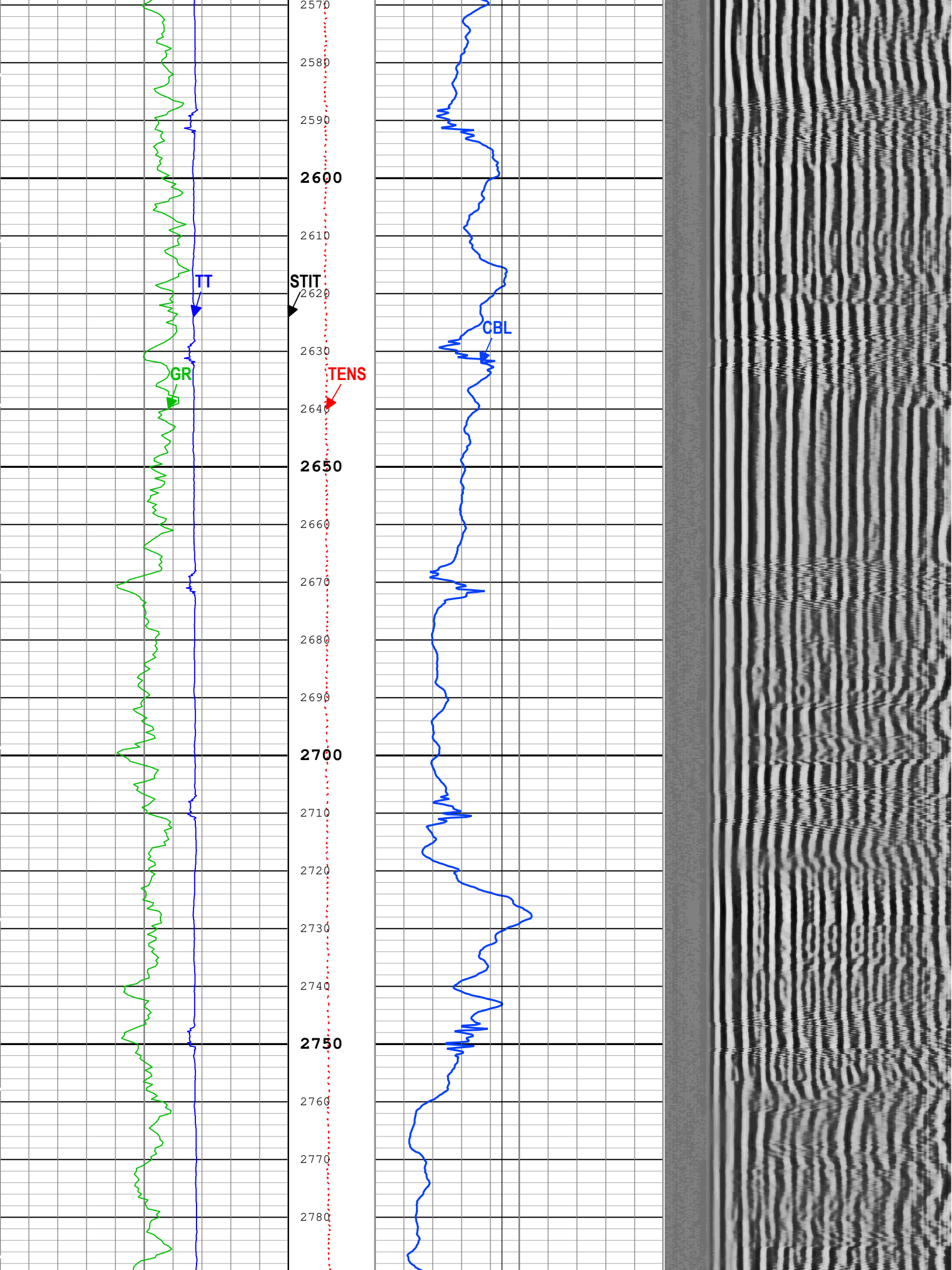


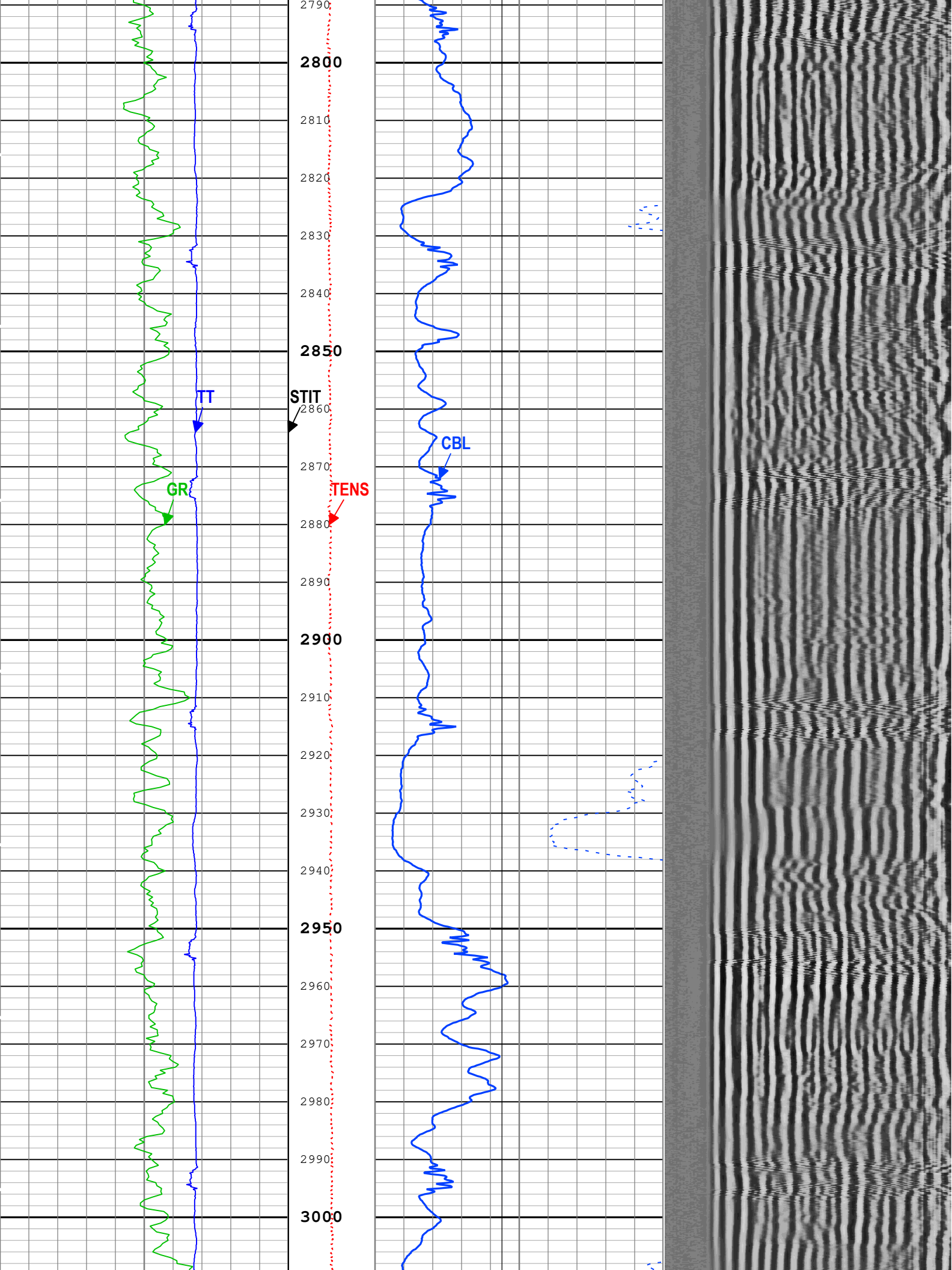




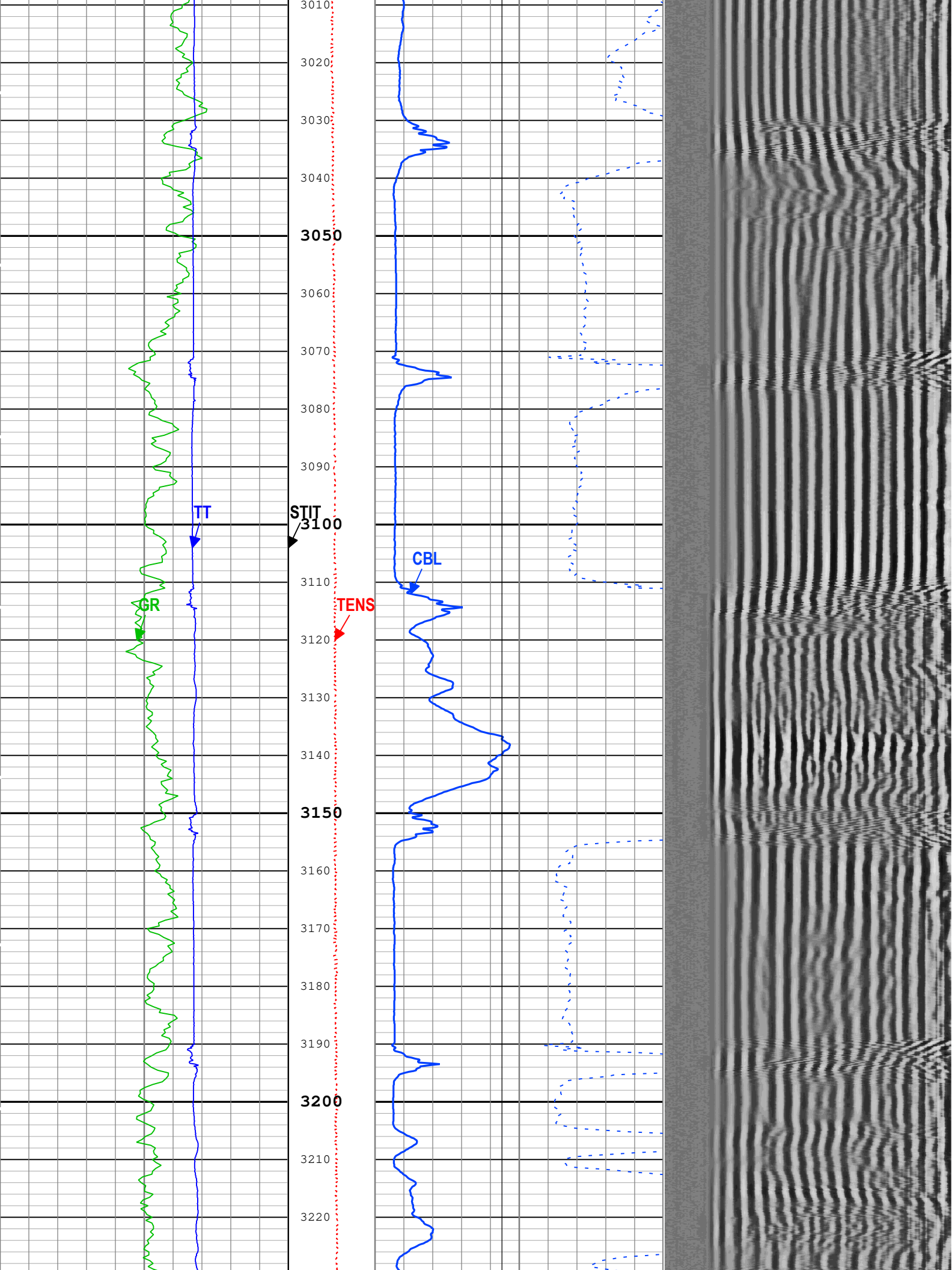


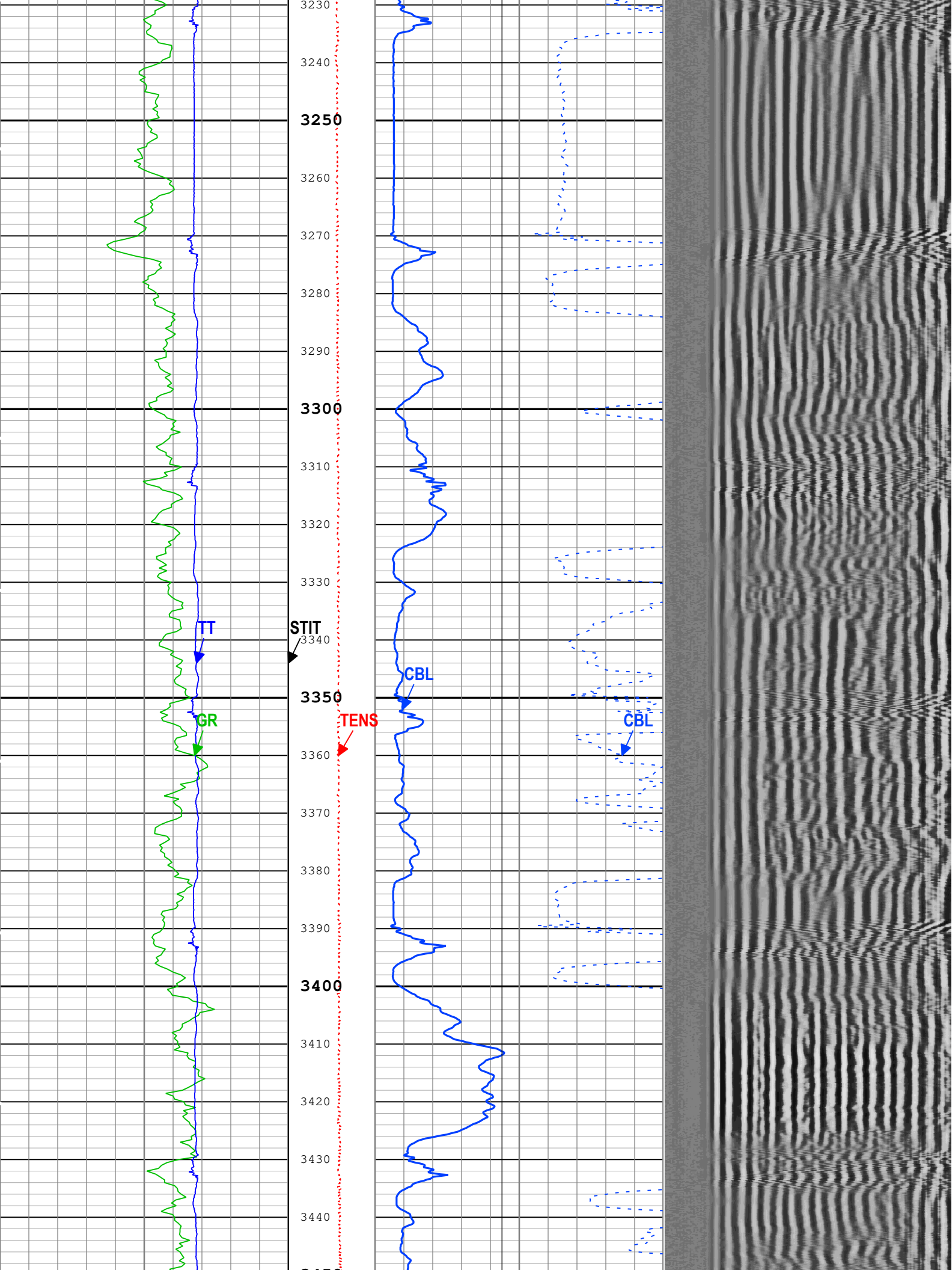




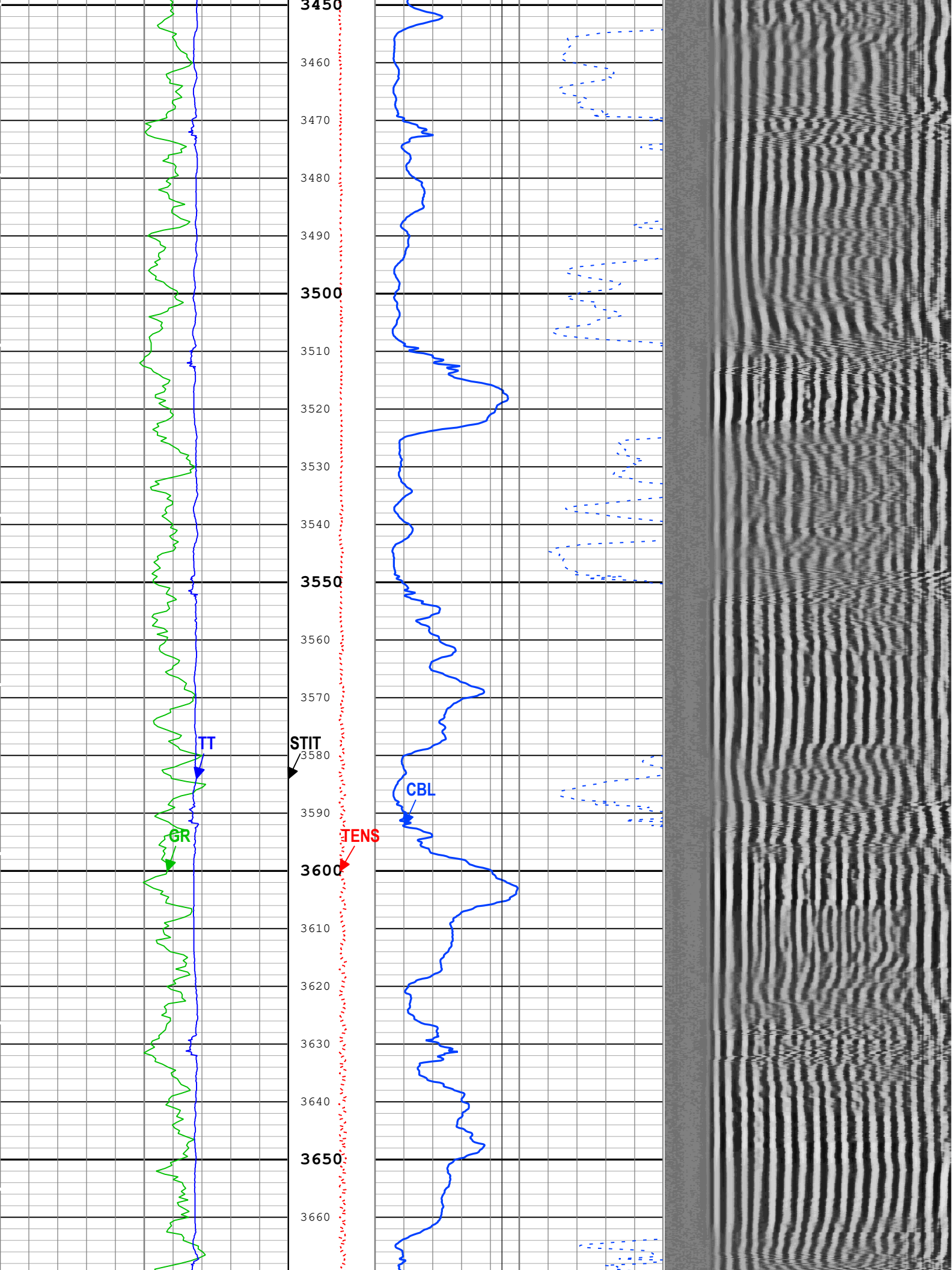


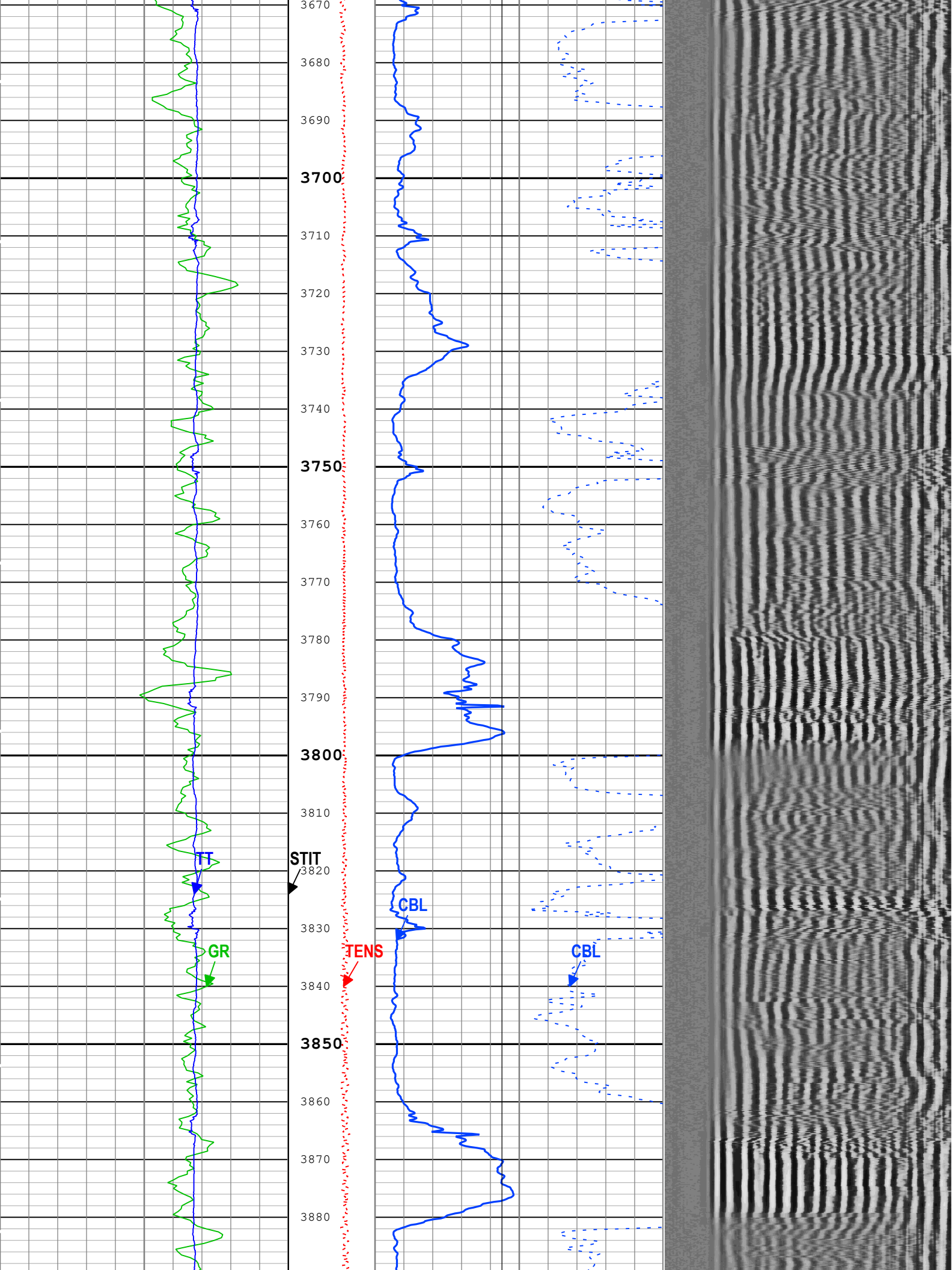


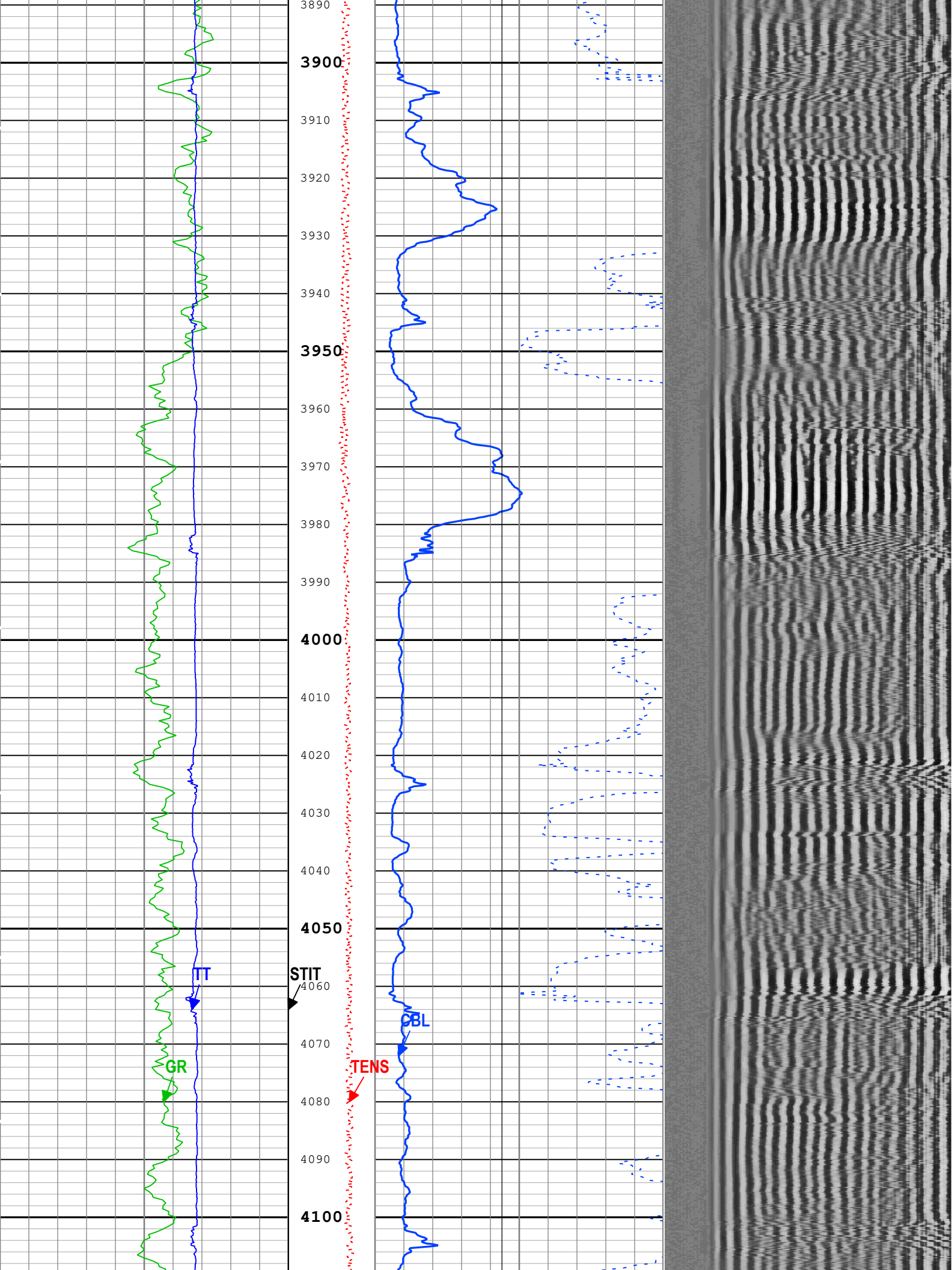




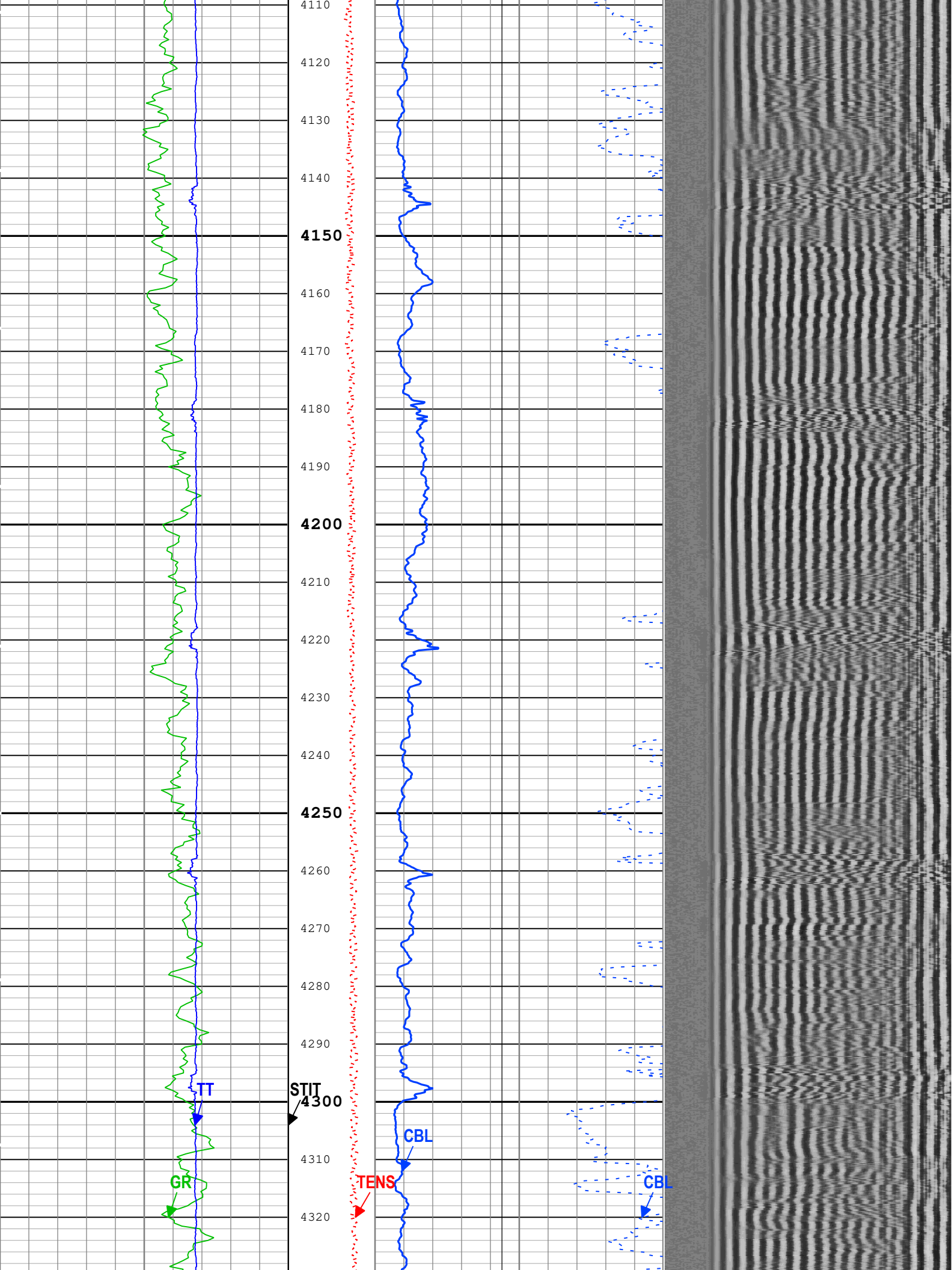


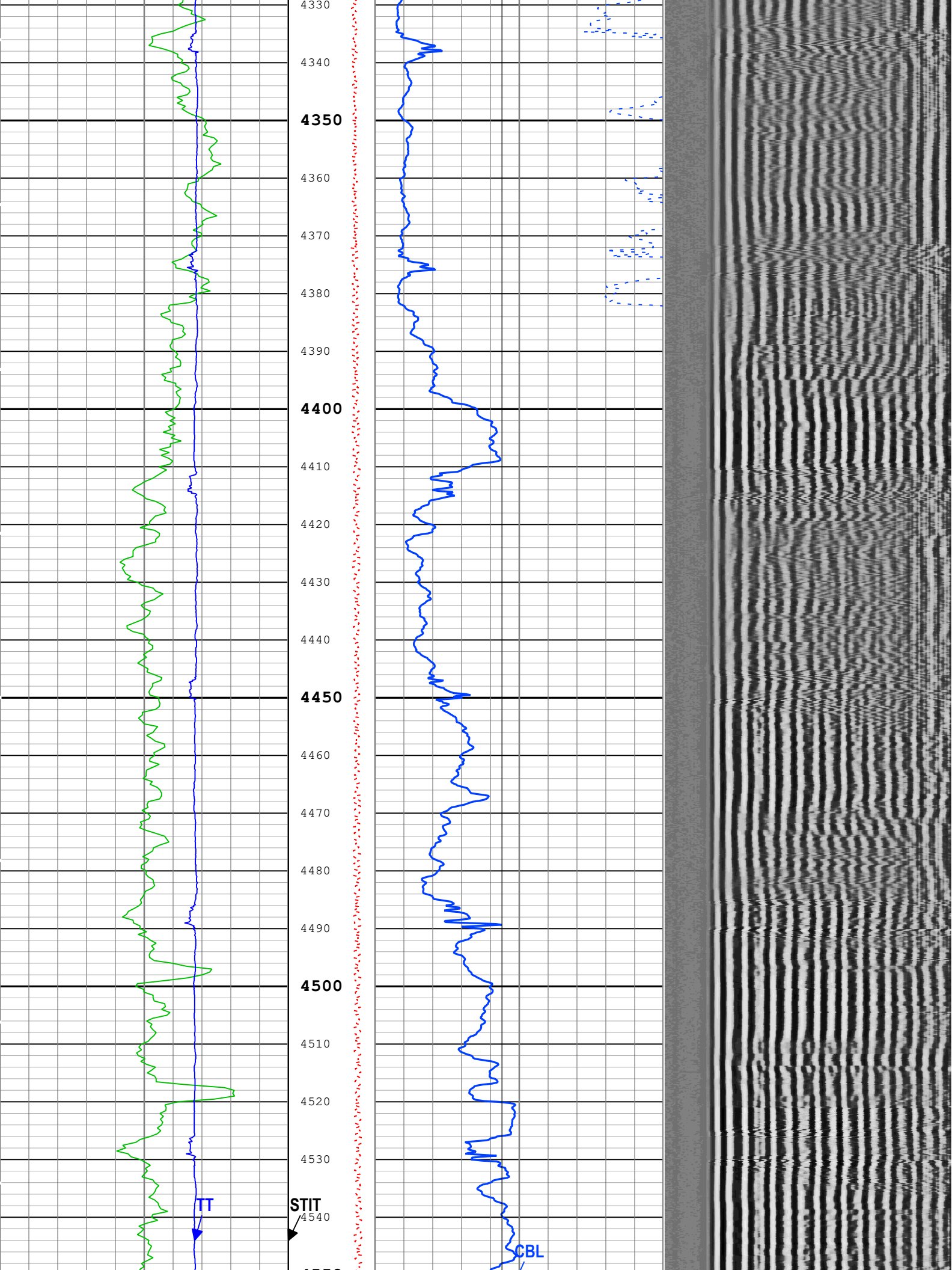


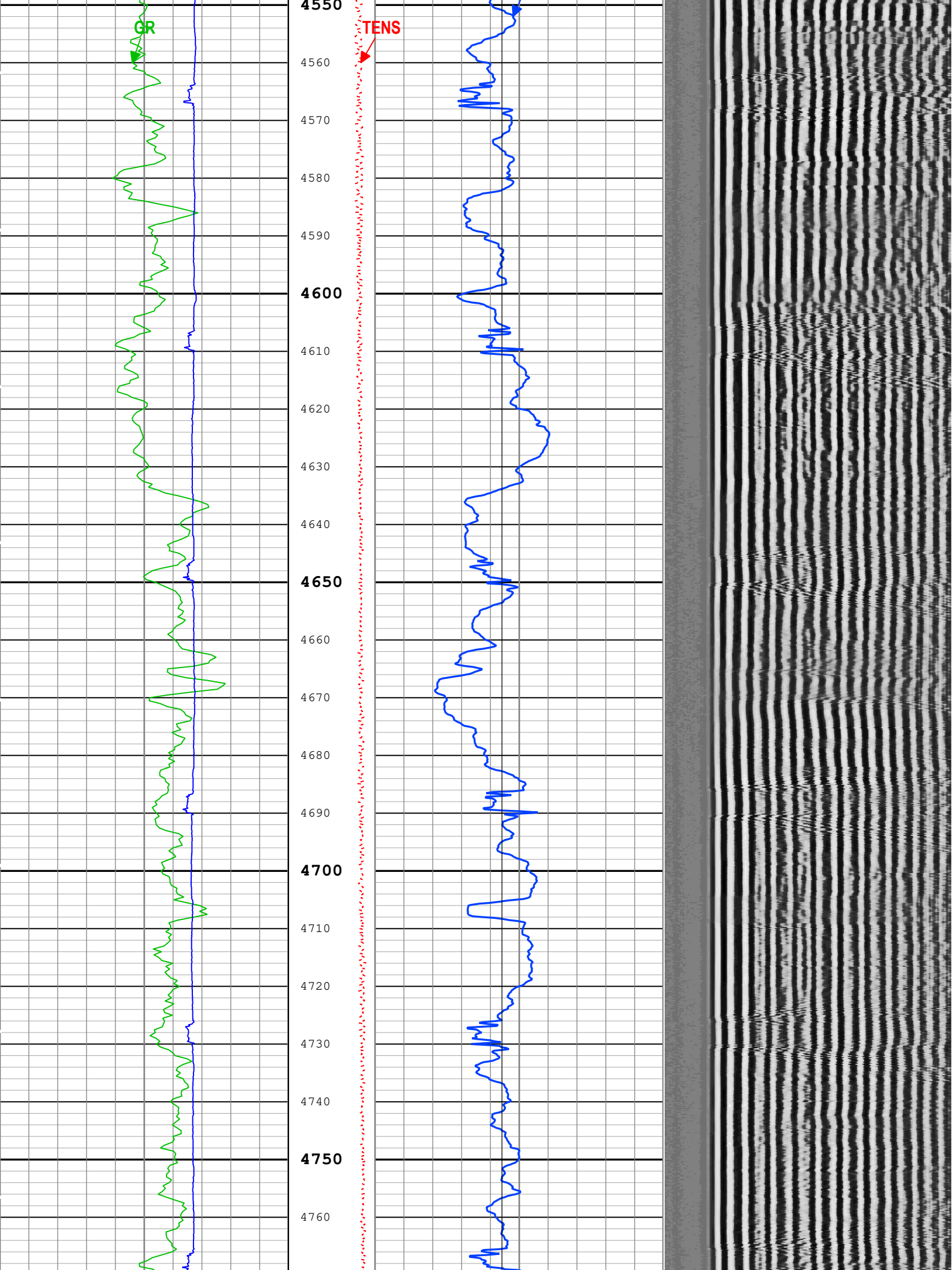




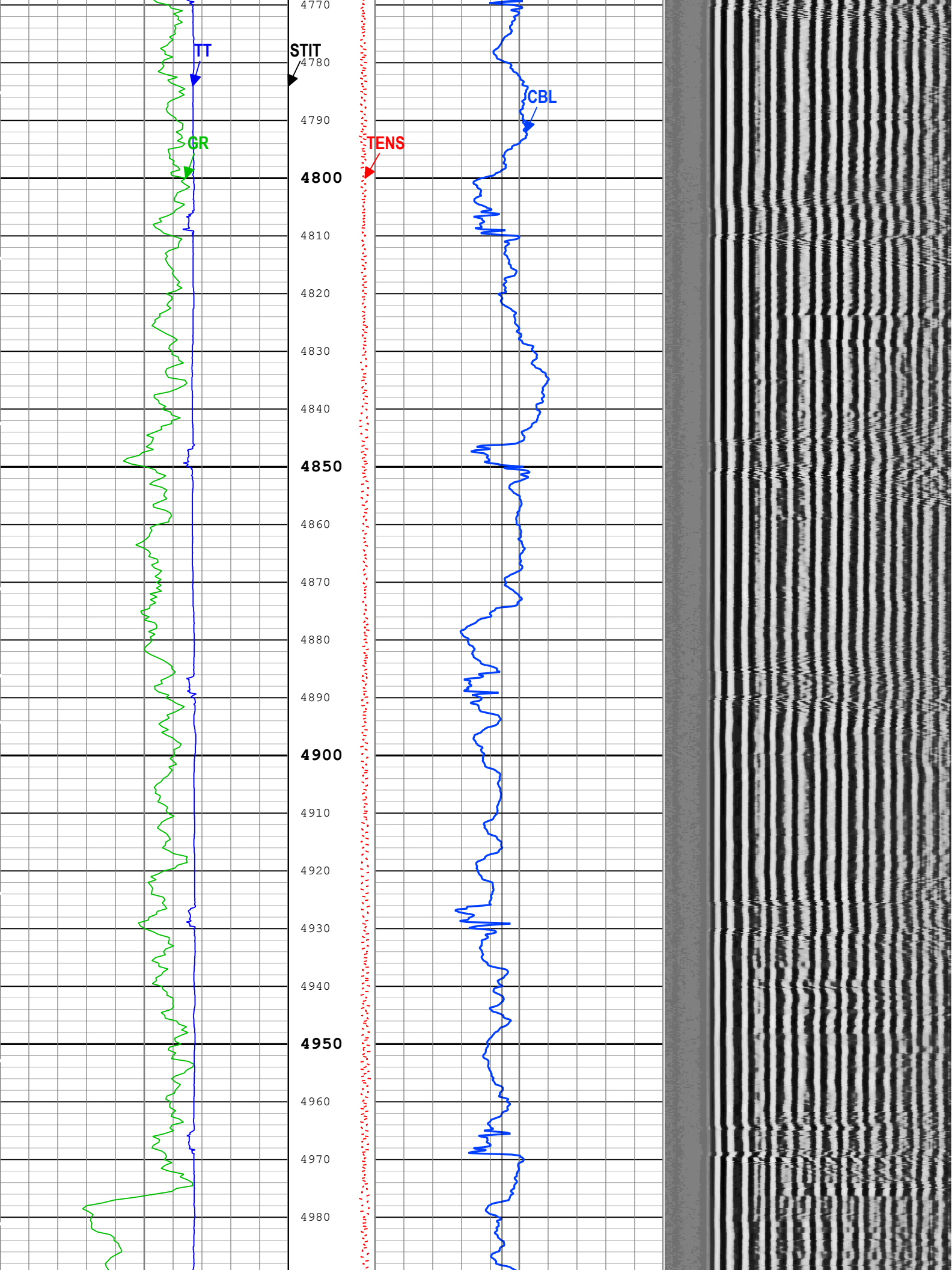


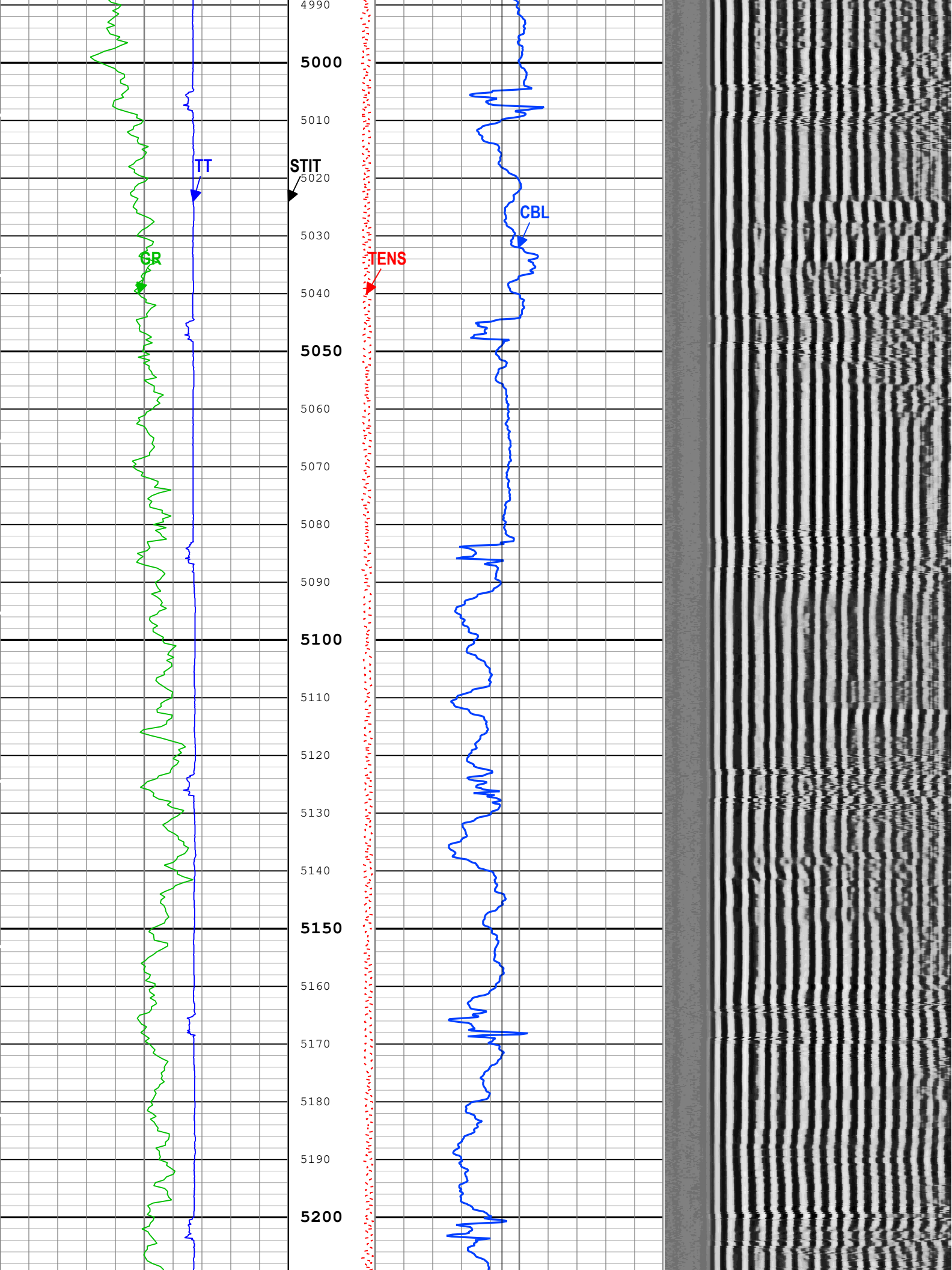




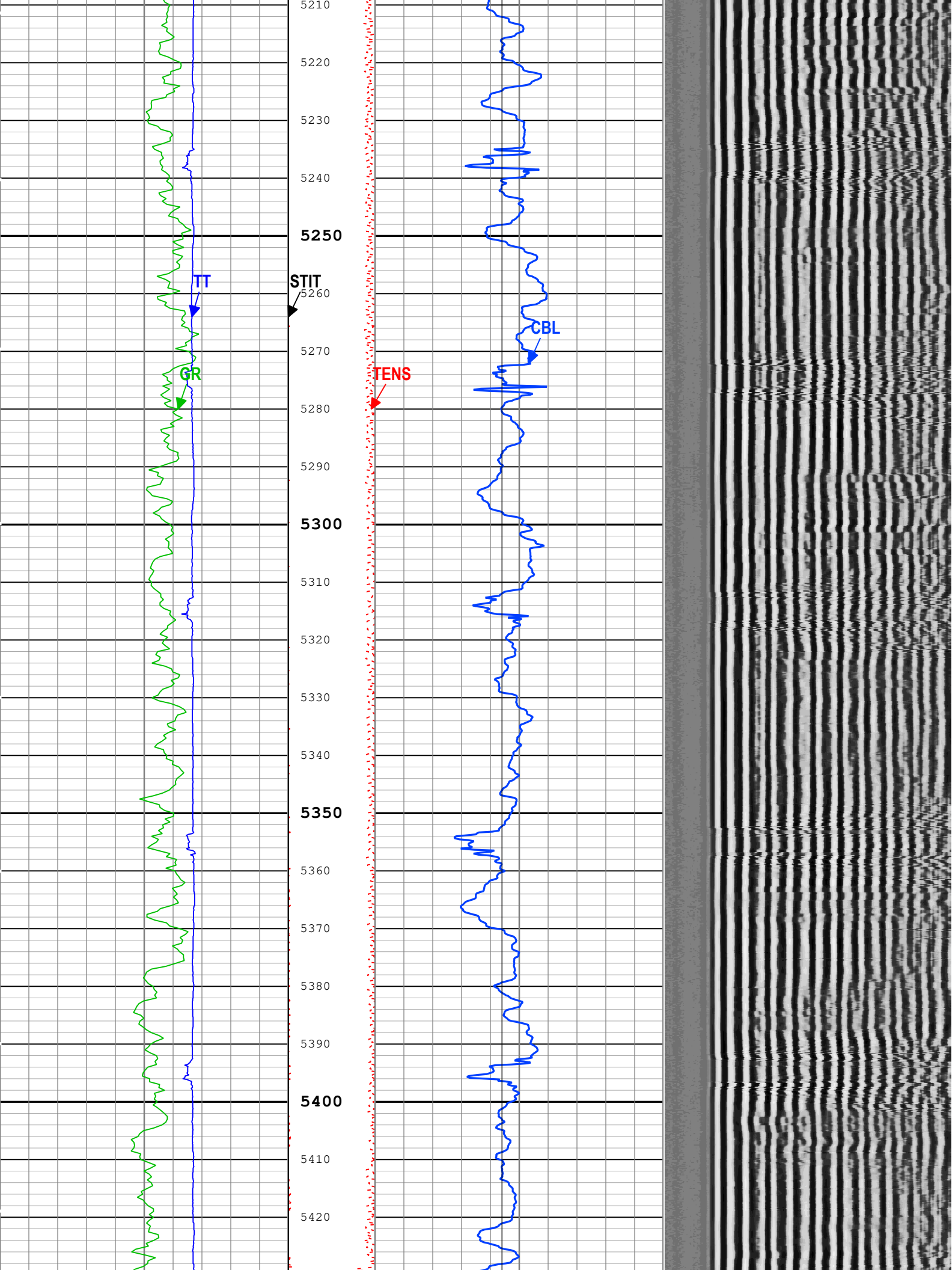


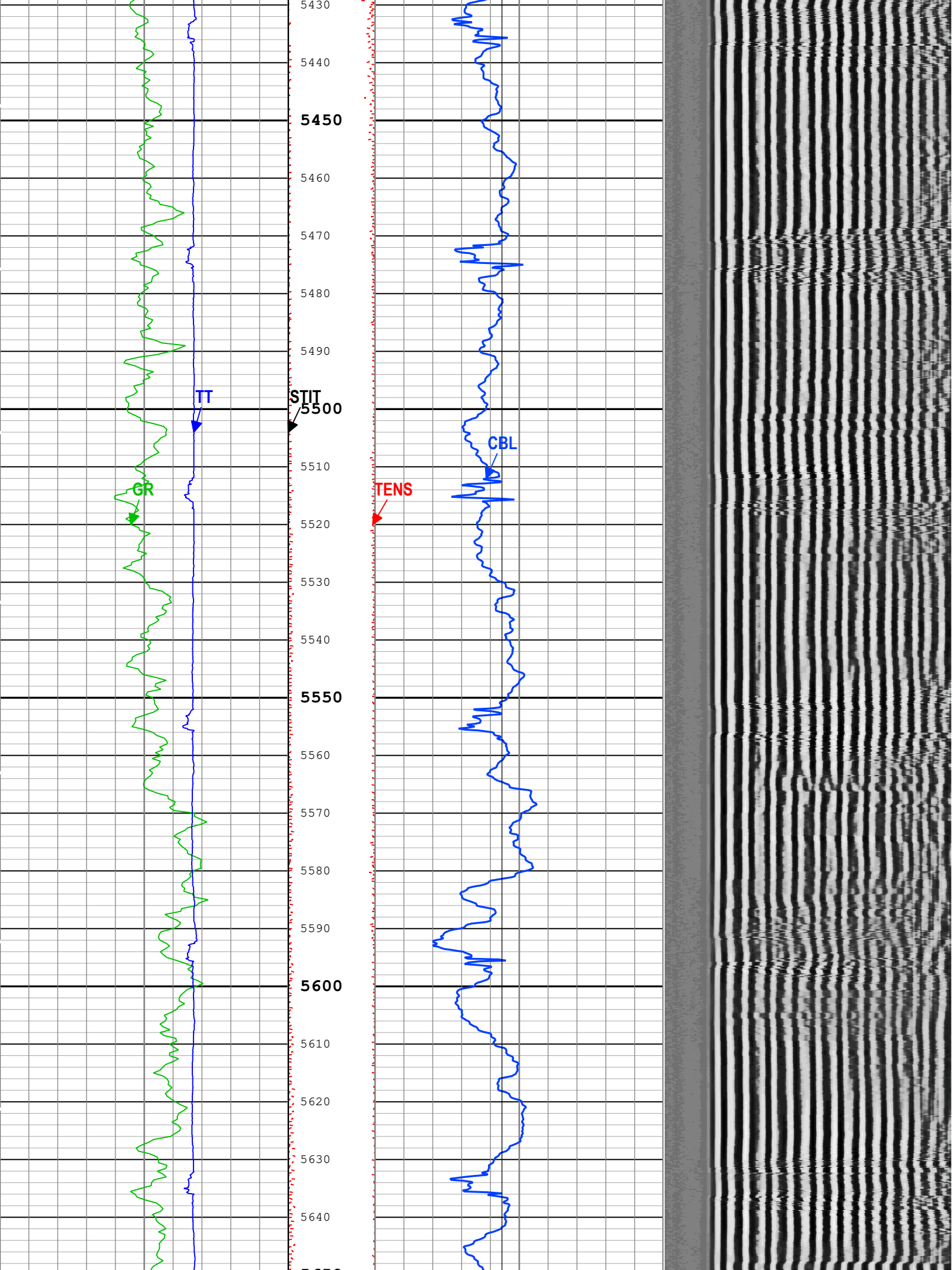


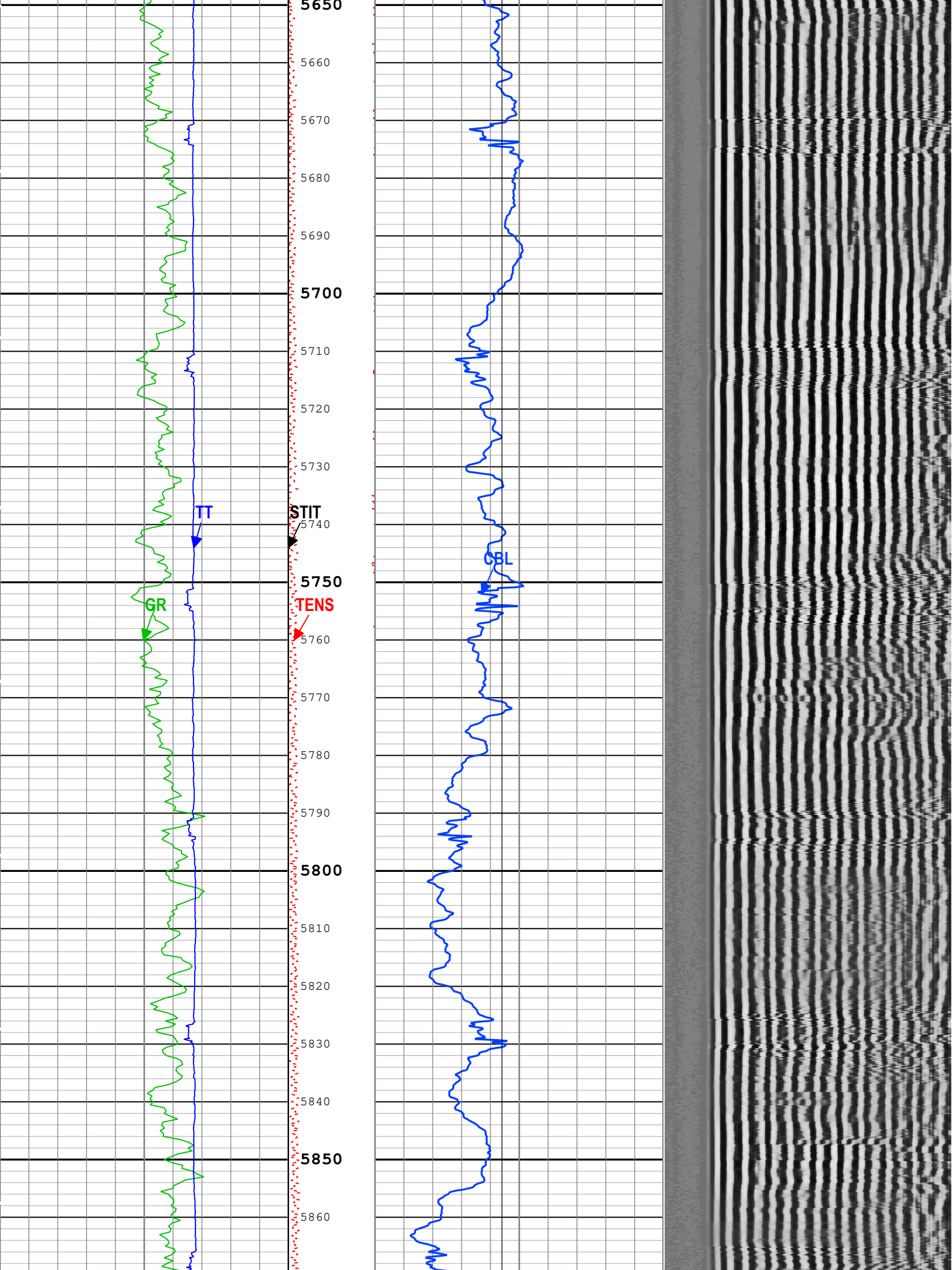




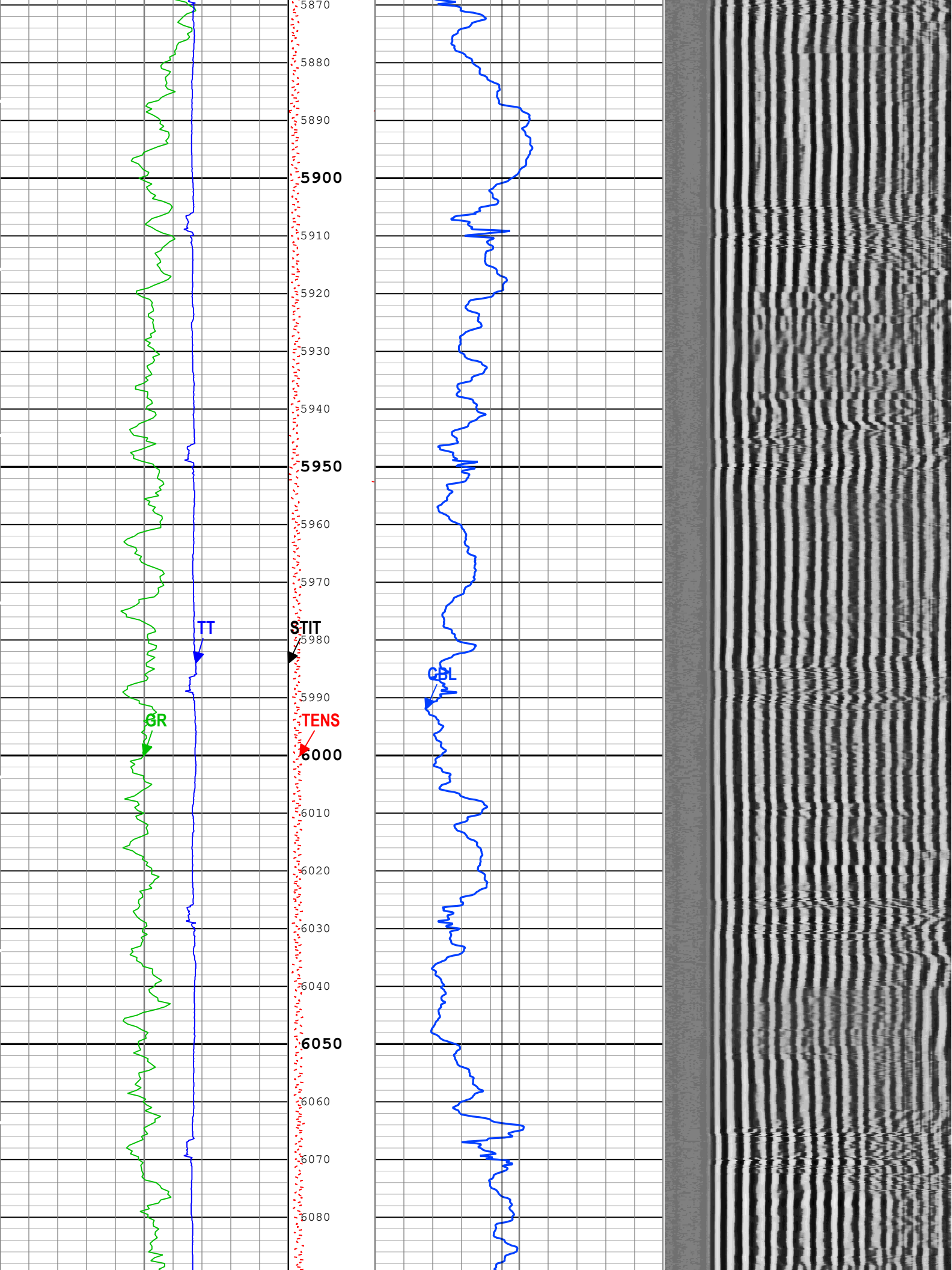


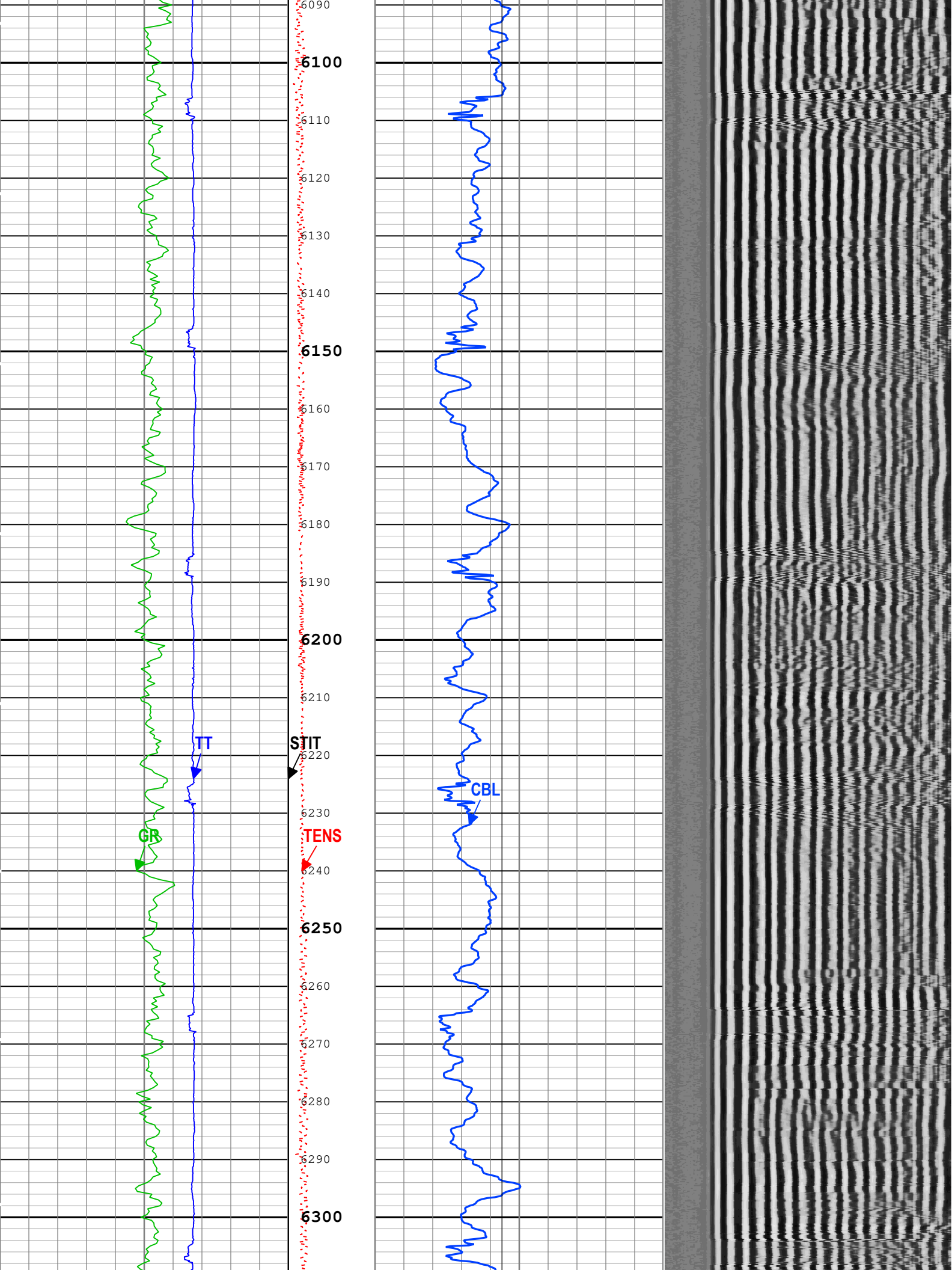


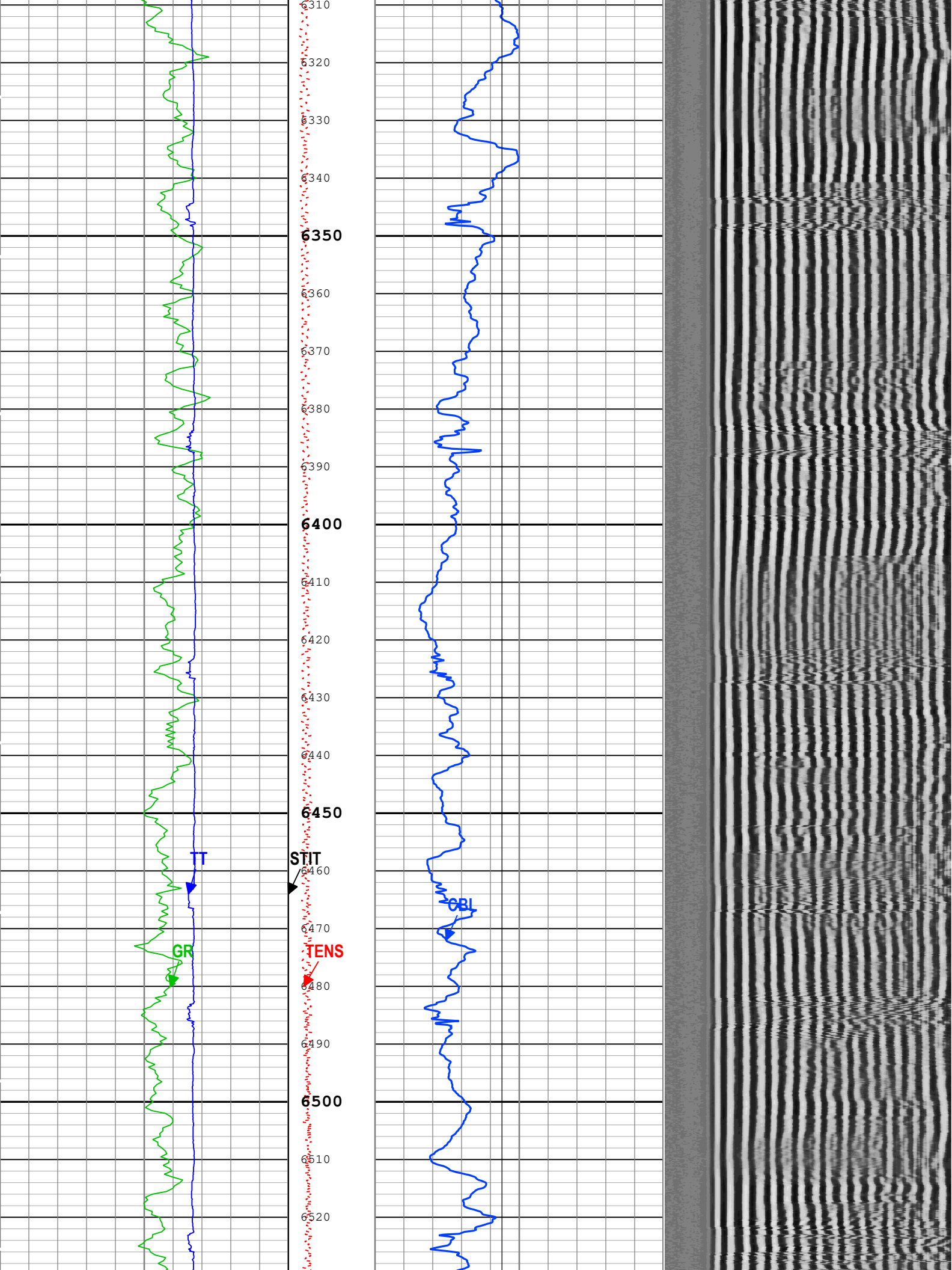




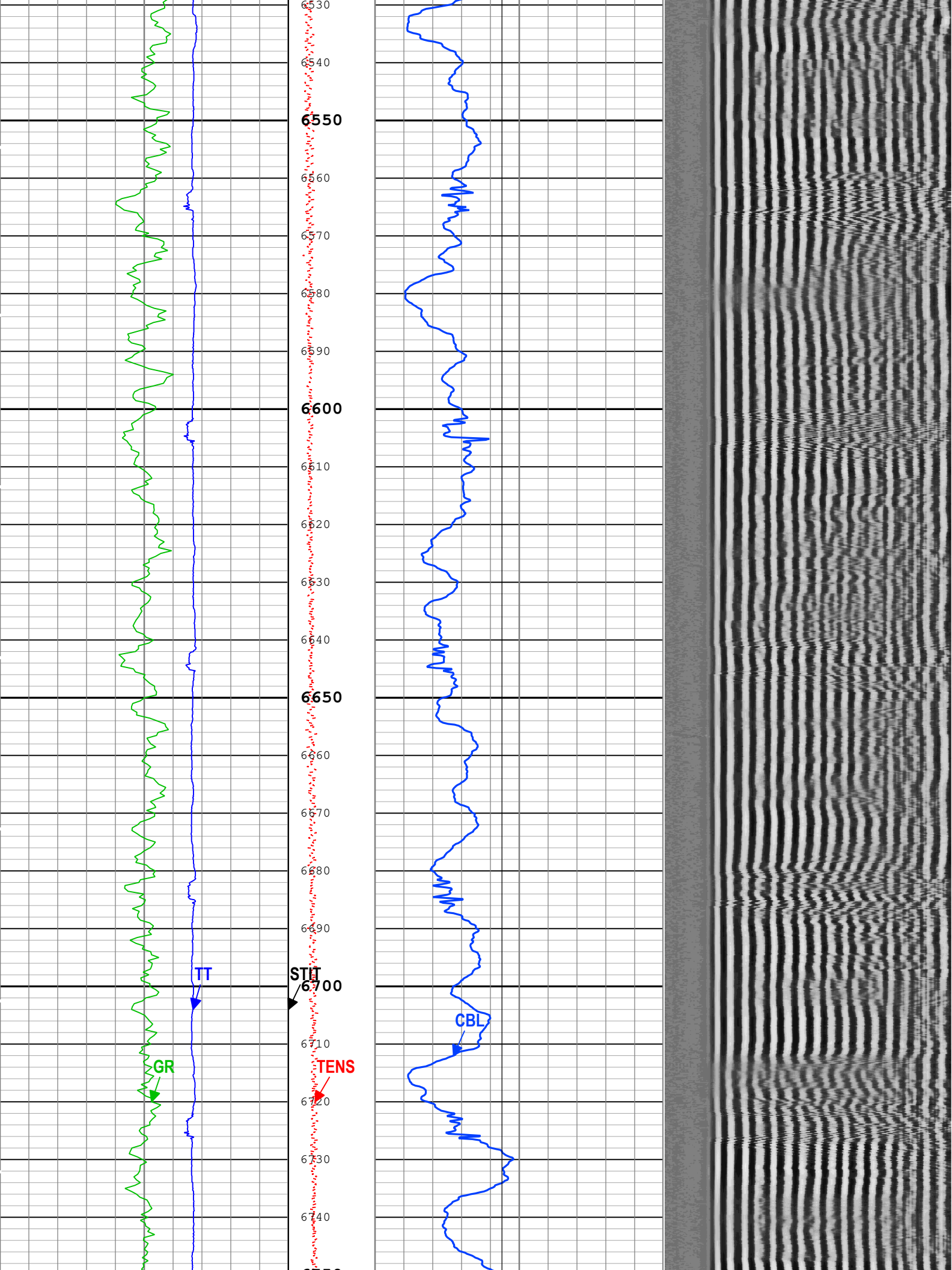


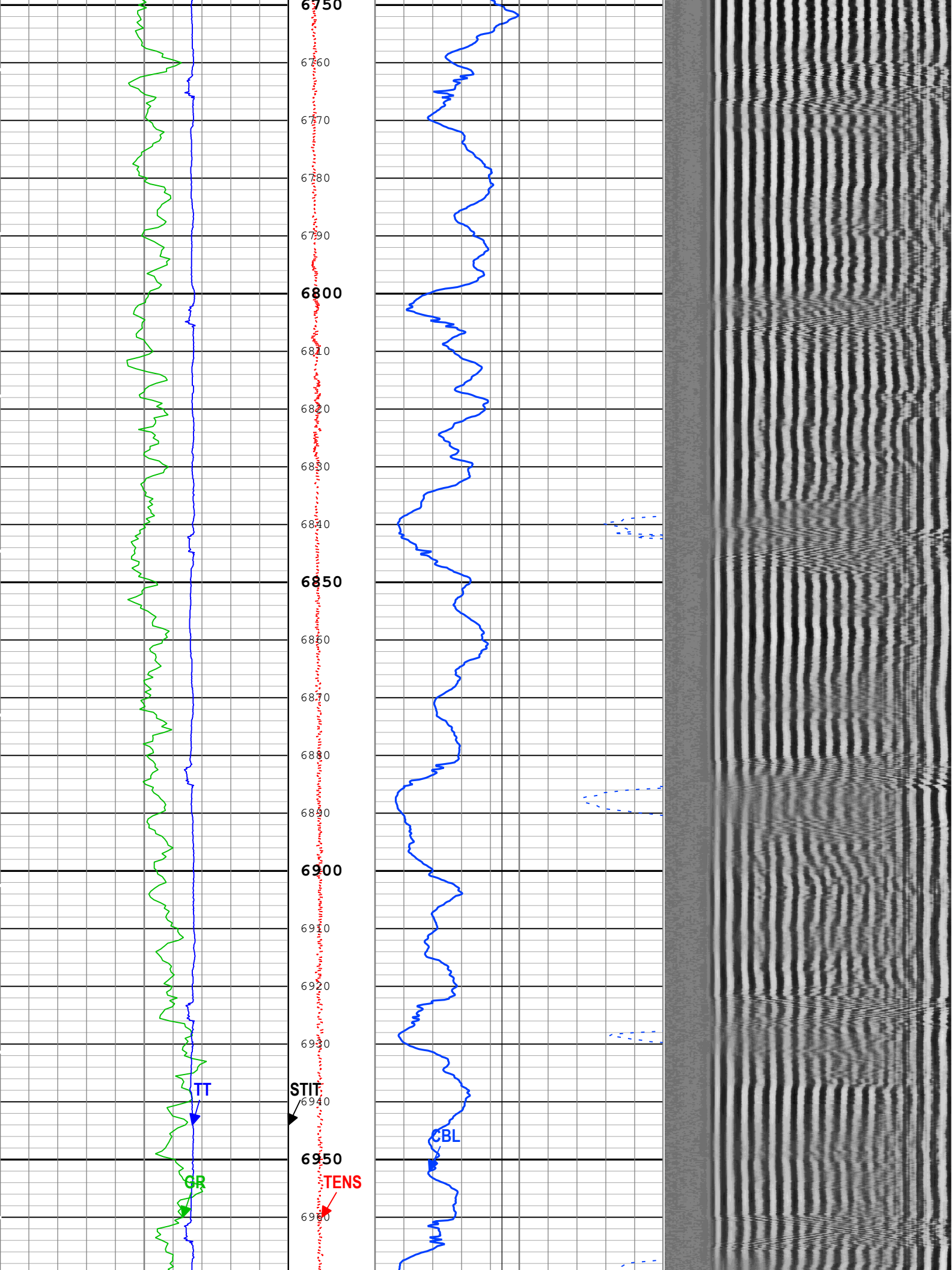




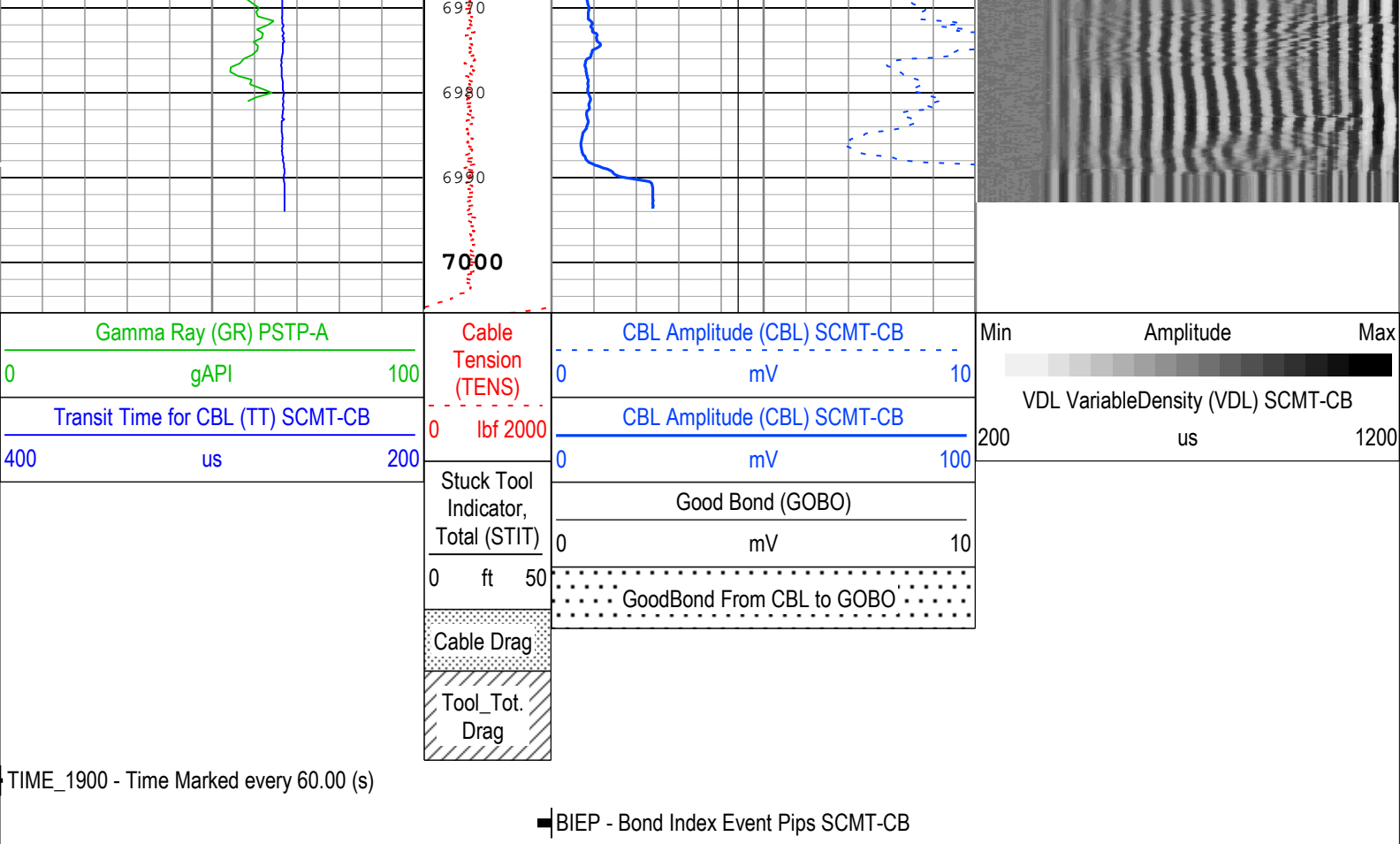












Description: Sonic CBL with VDL    Format: Log ( Sonic CBL with VDL )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 23-May-2019 15:25:55

## Channel Processing Parameters

### Two: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	193.22	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	Time Zoned	us
CBLG	CBL Gate Width	SCMT-CB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	72	mV
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.361	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
GOBO_CURR	Good Bond in Arbitrary Cement	SCMT-CB	4.4	mV
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	WTEP	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-CB	11.85	dB/ft
MCI	Minimum Cemented Interval for Isolation	SCMT-CB	Depth Zoned	ft
MSA	Minimum Sonic Amplitude	SCMT-CB	2.19	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	SCMT-CB	2.19	mV
RUN_SNUM	Run Sequence Number	WSDRUN	3	

### Depth Zone Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
MCI	14.81	70	2346
MCI	4.75	2346	7005.92

All depth are actual.

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
CB3G	235.54	21-May-2019 08:34:56	21-May-2019 12:17:01	7005.94	727.07
CB3G	240.38	21-May-2019 12:17:01	21-May-2019 12:40:45	727.07	24.63

All depth are at tool zero.

Tool Control Parameters

Two: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-CB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	12 dB	

Two

Main Pass

Software Version

Acquisition System	Version
Maxwell 2019	9.0.106845.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[2]:Up	Up	24.63 ft	7005.94 ft	21-May-2019 8:34:56 AM	21-May-2019 12:40:45 PM	ON	5.84 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Crestone Peak Resources and Operating LLC      Well:Echeverria 2H-2H-D267

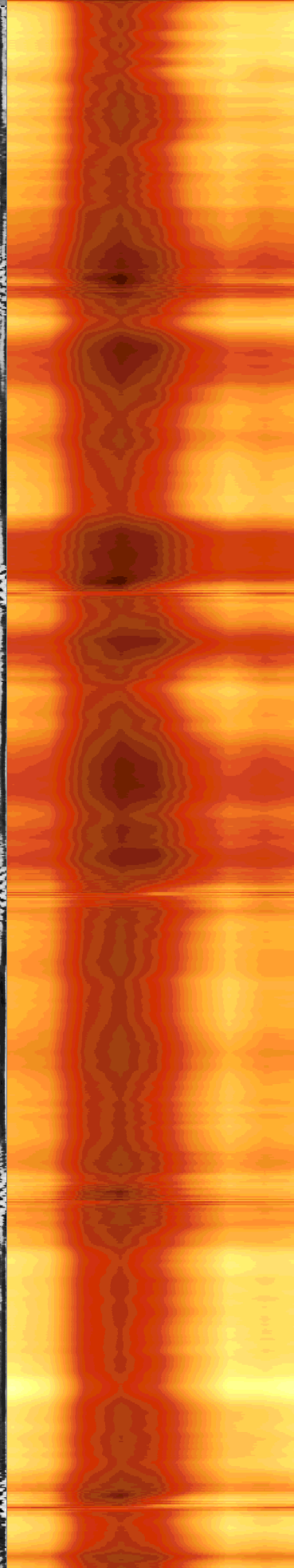
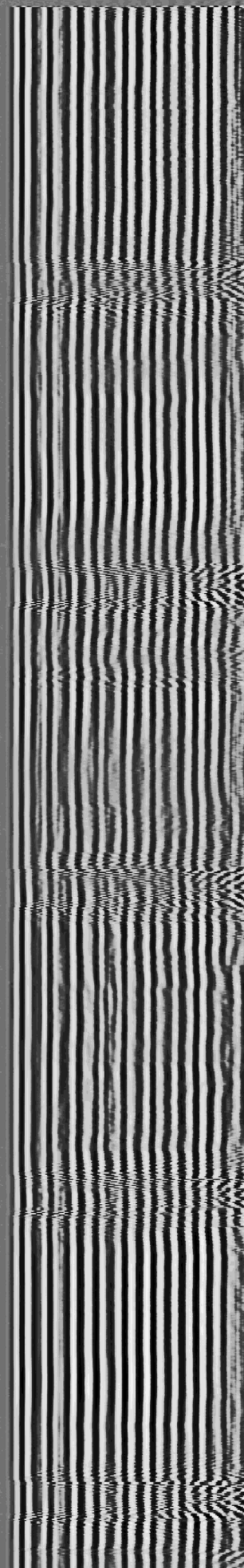
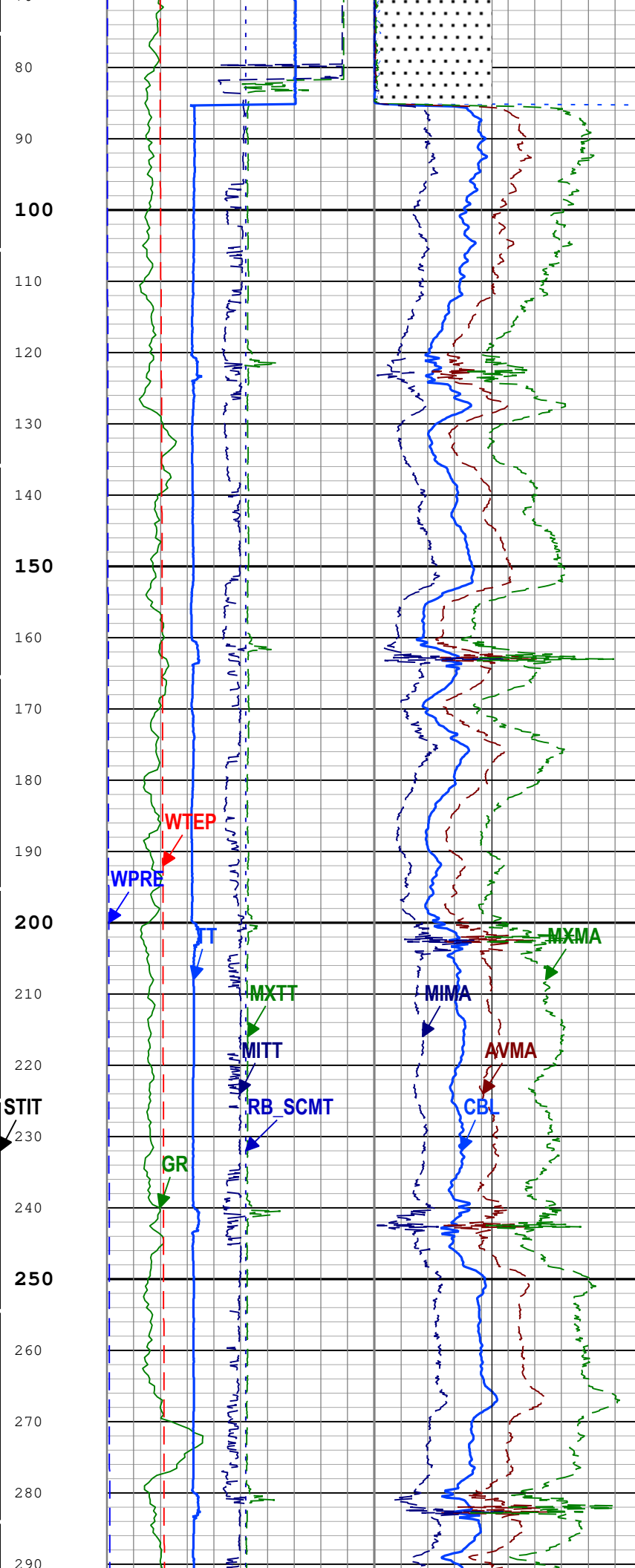
Two: Log[2]:Up:S019

Description: SCMT VDL Image    Format: Log ( SCMT\_VDL\_Image )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 23-May-2019 15:26:05

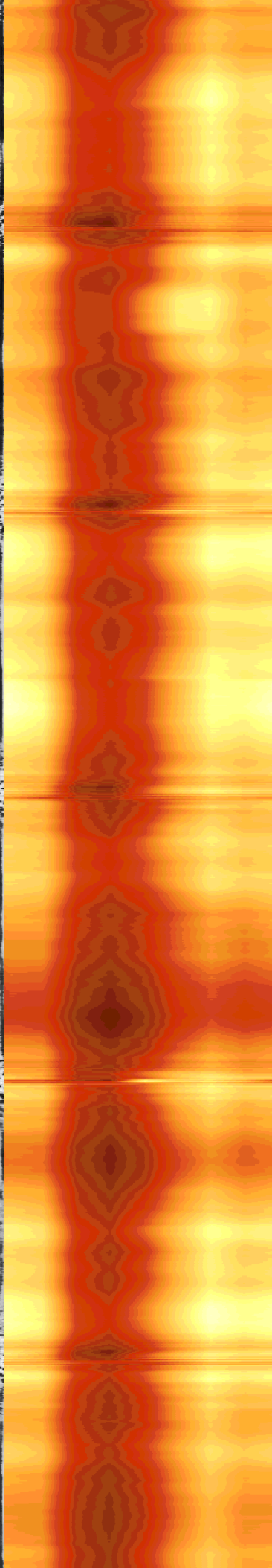
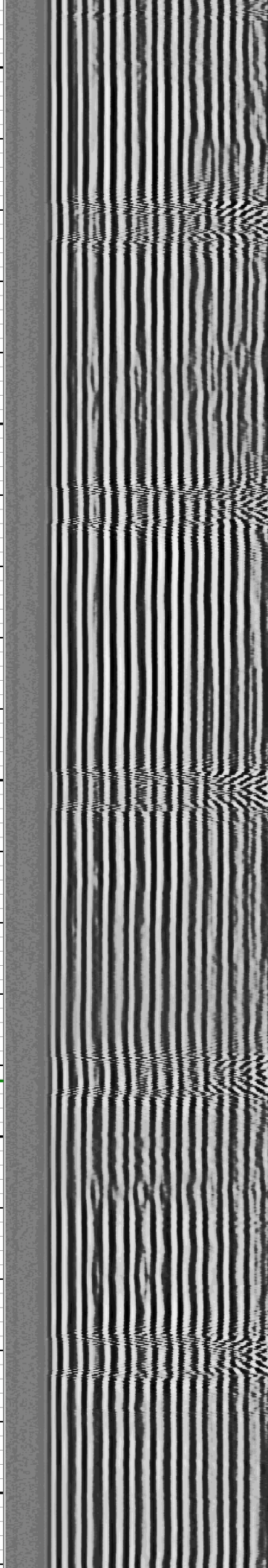
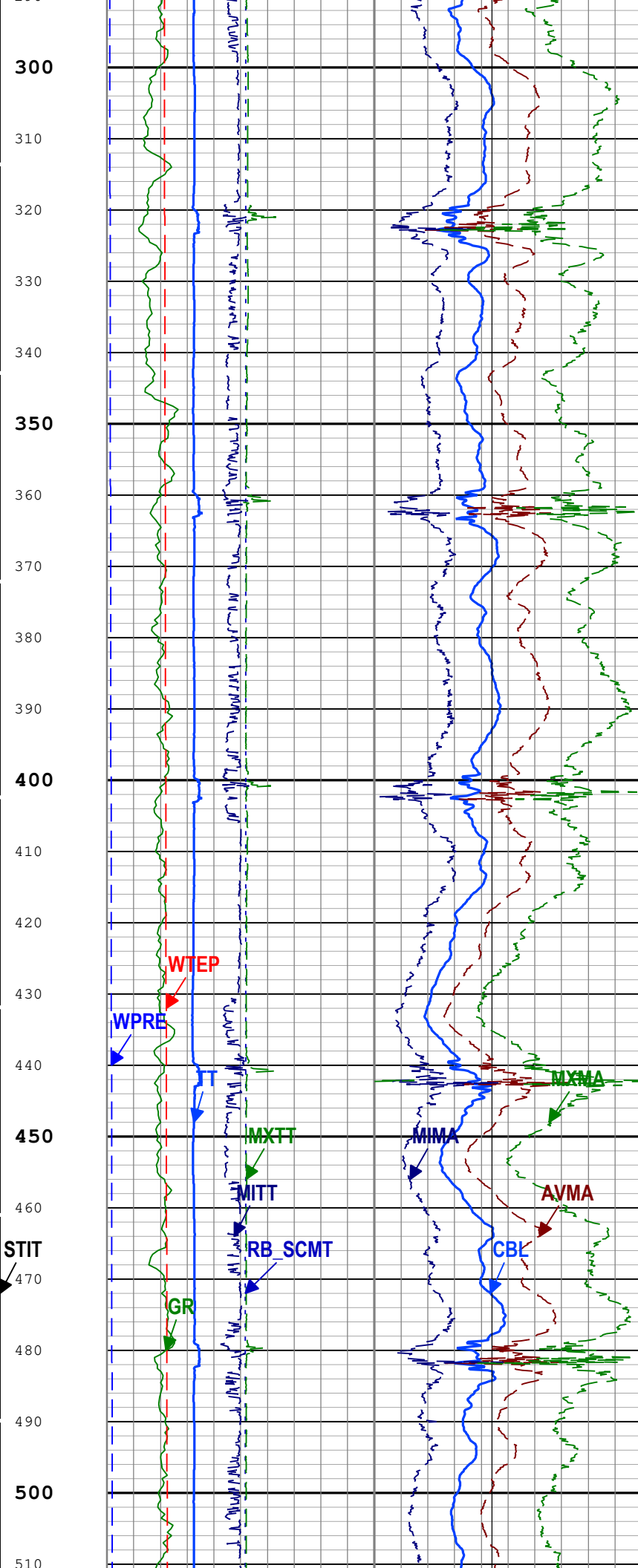
TIME\_1900 - Time Marked every 60.00 (s)

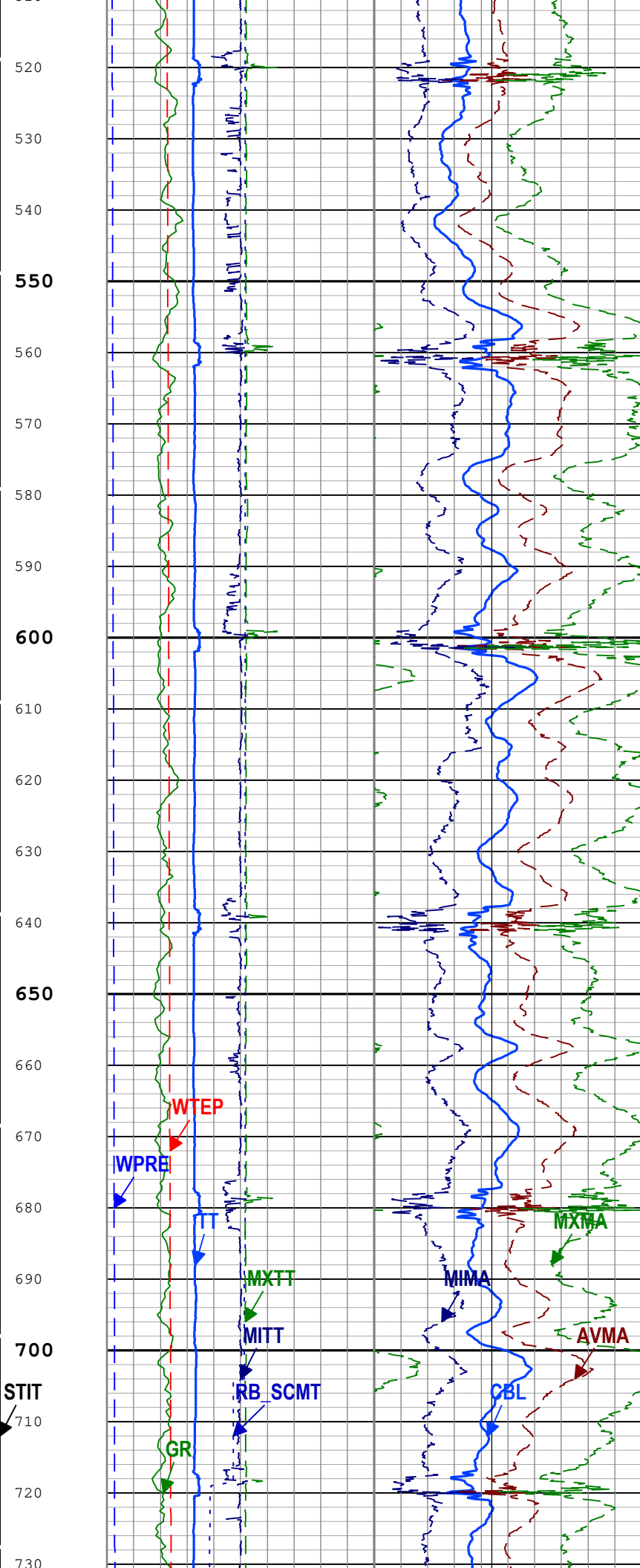
<div>Stuck Tool Indicator, Total (STIT)</div> <div>0 ft 50</div>	<div>Gamma Ray (GR) PSTP-A</div> <div>0 gAPI 150</div>	<div>CBL Amplitude (CBL) SCMT-CB</div> <div>0 mV 10</div>	<div>CBL Amplitude (CBL) SCMT-CB</div> <div>0 mV 100</div>	<div>Good Bond (GOBO)</div> <div>0 mV 10</div>	<div>Normalized Average MAP Amplitude (AVMA) SCMT-CB</div> <div>0 mV 100</div>
	<div>Relative Bearing (RB_SCMT) SCMT-CB</div> <div>0 deg 360</div>				
	<div>Minimum MAP Transit Time (MITT) SCMT-CB</div> <div>100 us 300</div>				
	<div>Maximum MAP Transit Time (MXTT) SCMT-CB</div> <div>100 us 300</div>				
	<div>Transit Time for CBL (TT) SCMT-CB</div> <div>200 us 400</div>				
	<div>Well Pressure (WPRES) PSTP-A</div> <div>0 psi 10000</div>				
<div>Cable Drag</div> <div>0</div>	<div>Normalized Maximum MAP Amplitude (MXMA) SCMT-CB</div> <div>0 mV 100</div>	<div>Min Amplitude Max</div> <div>VDL VariableDensity (VDL) SCMT-CB</div> <div>200 us 1200</div>	<div>Absent 7.500 17.500 27.500 37.500 47.500 57.500 67.500 77.500 87.500 97.500</div> <div>CBL Amplitude Mapping Image (0 - 100) SCMT-CB</div>		
<div>Tool_Tot. Drag</div> <div>0</div>	<div>Well Temperature (WTEP) PSTP-A</div> <div>0 degF 300</div>				

GoodBond From CBL to GOBO

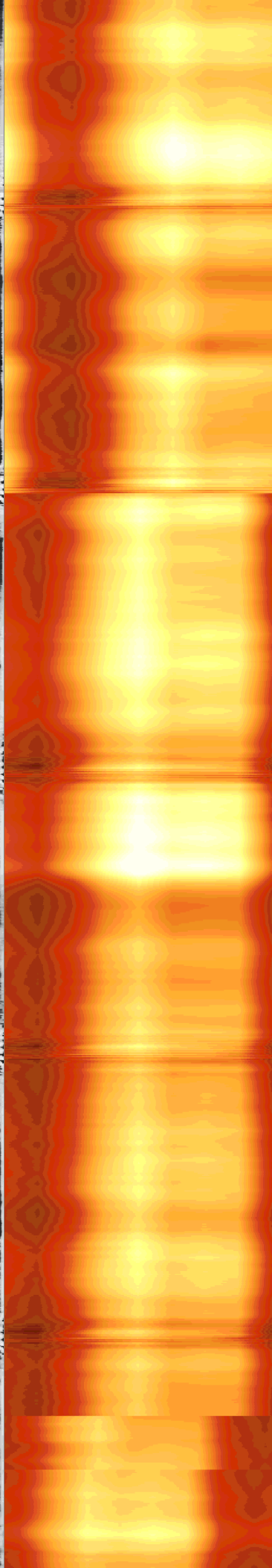
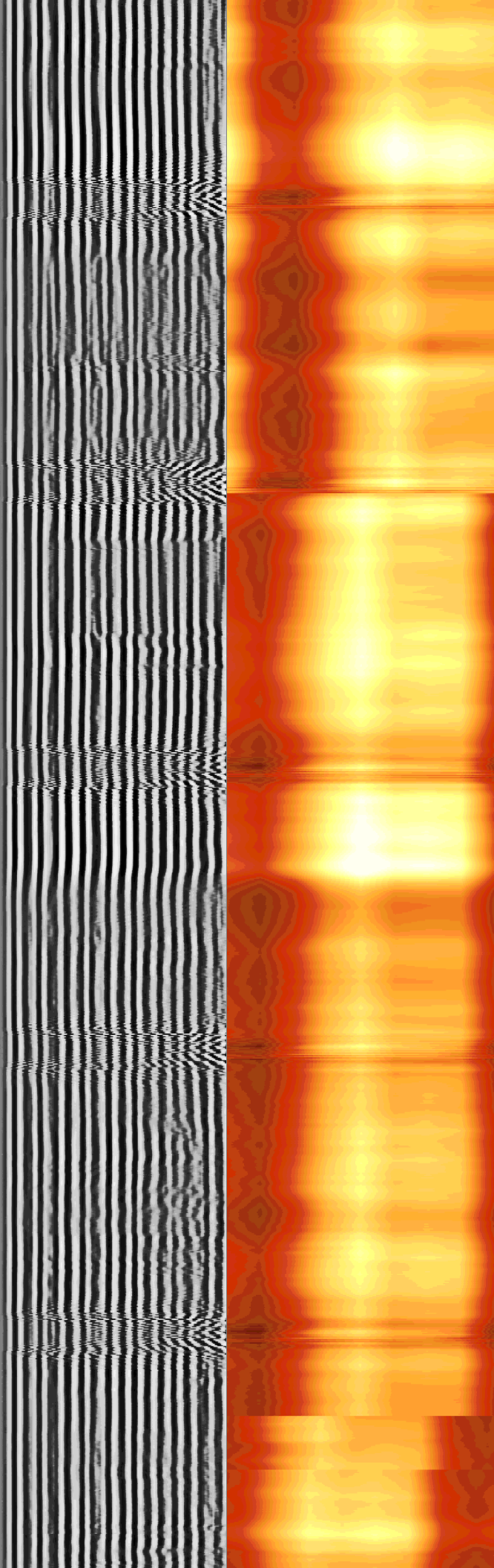
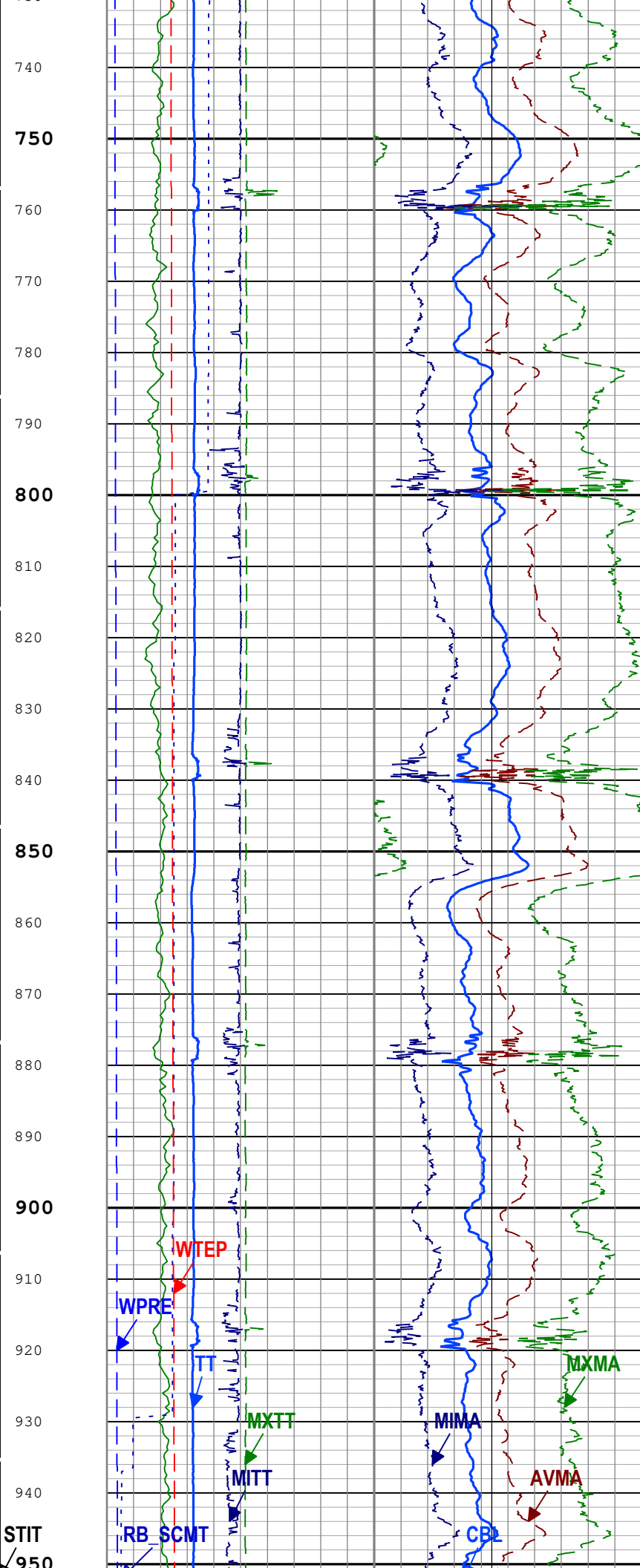




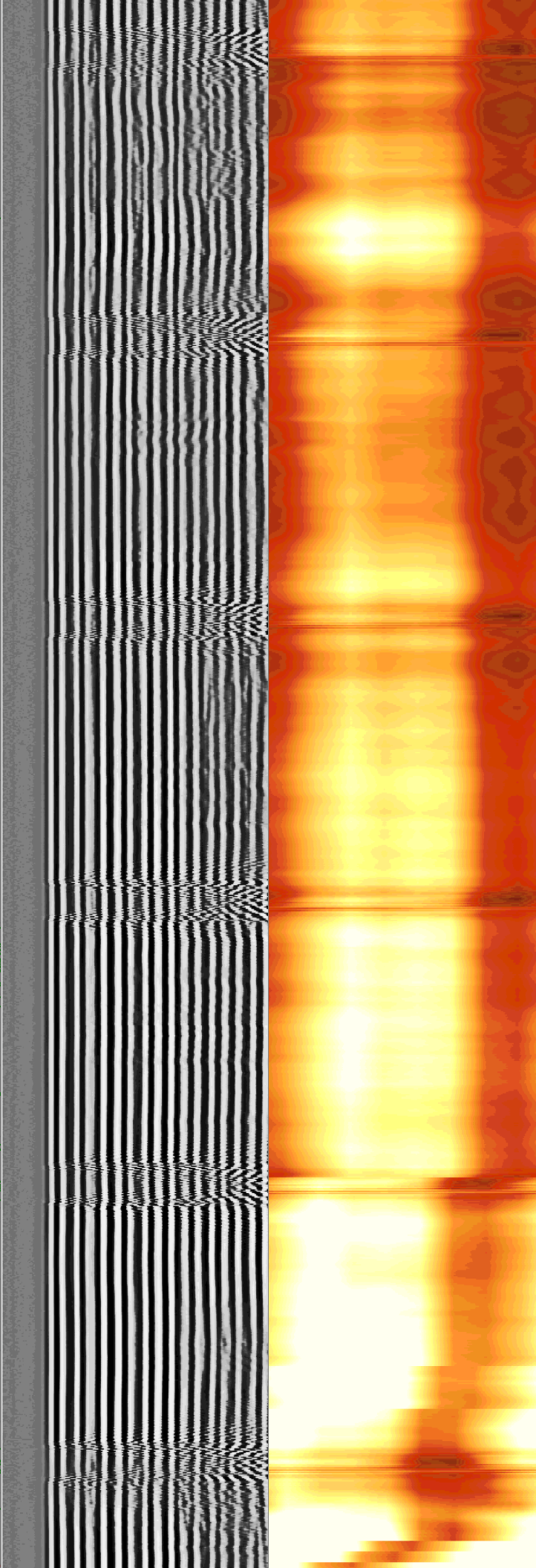
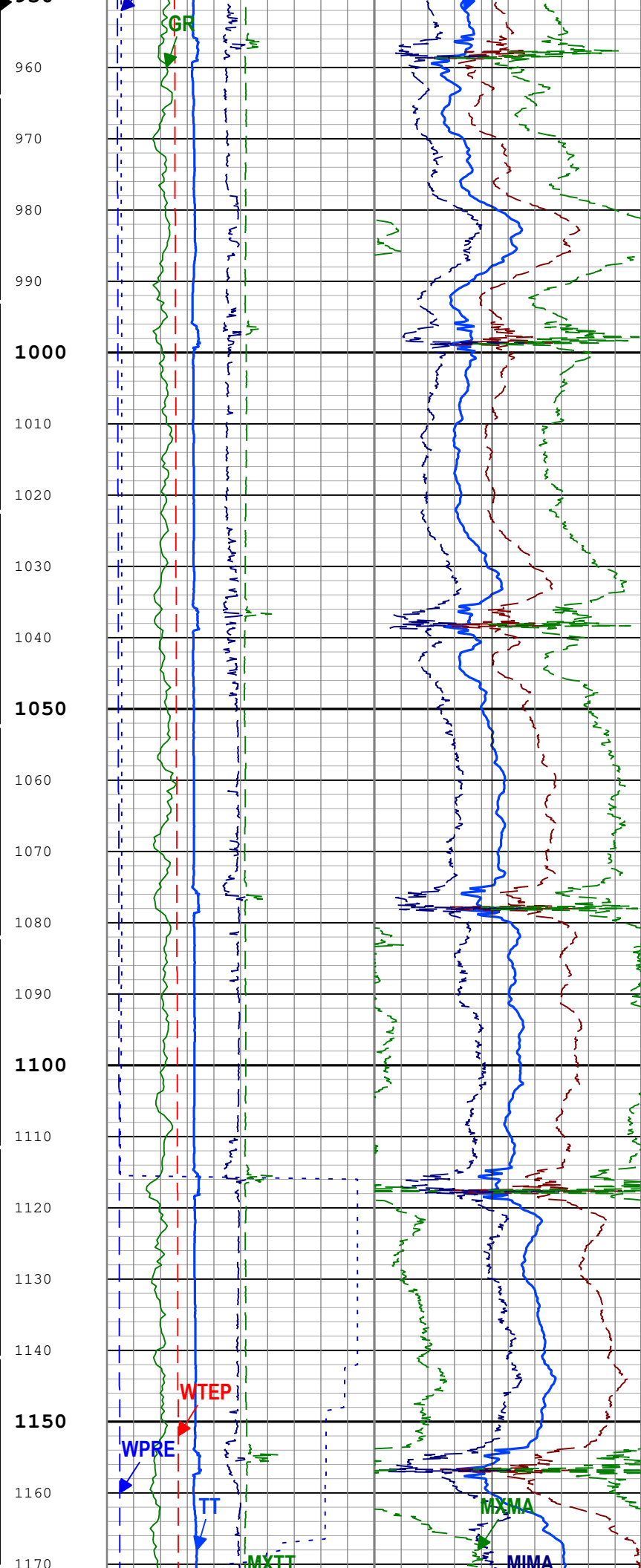


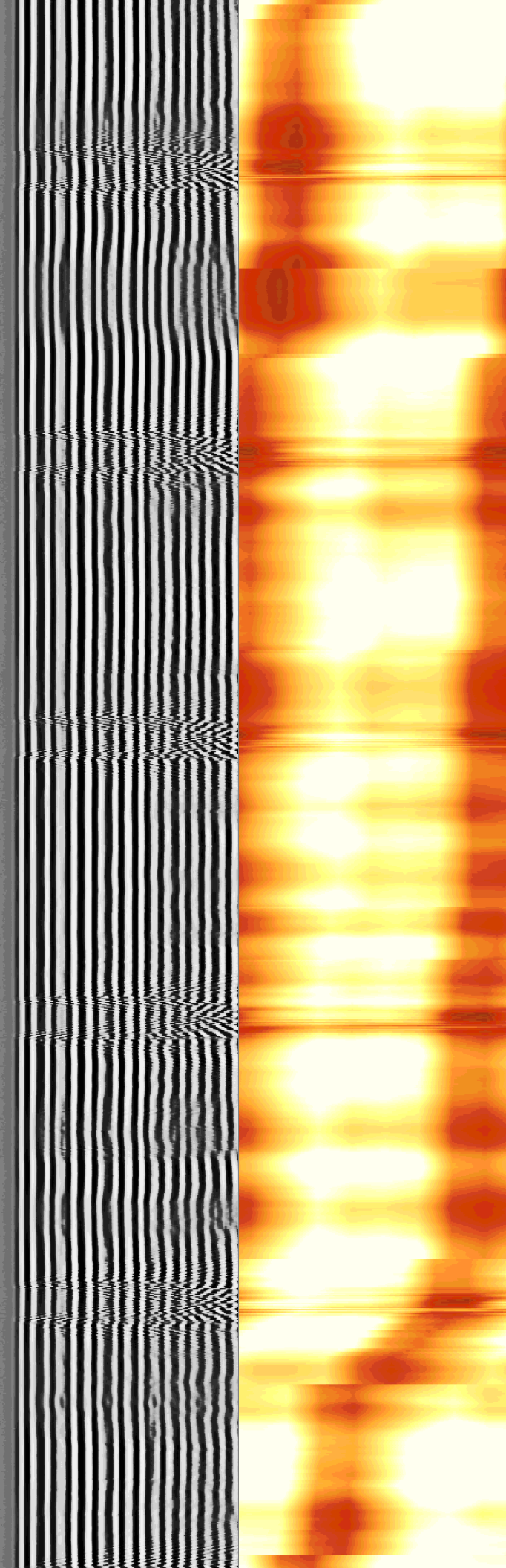
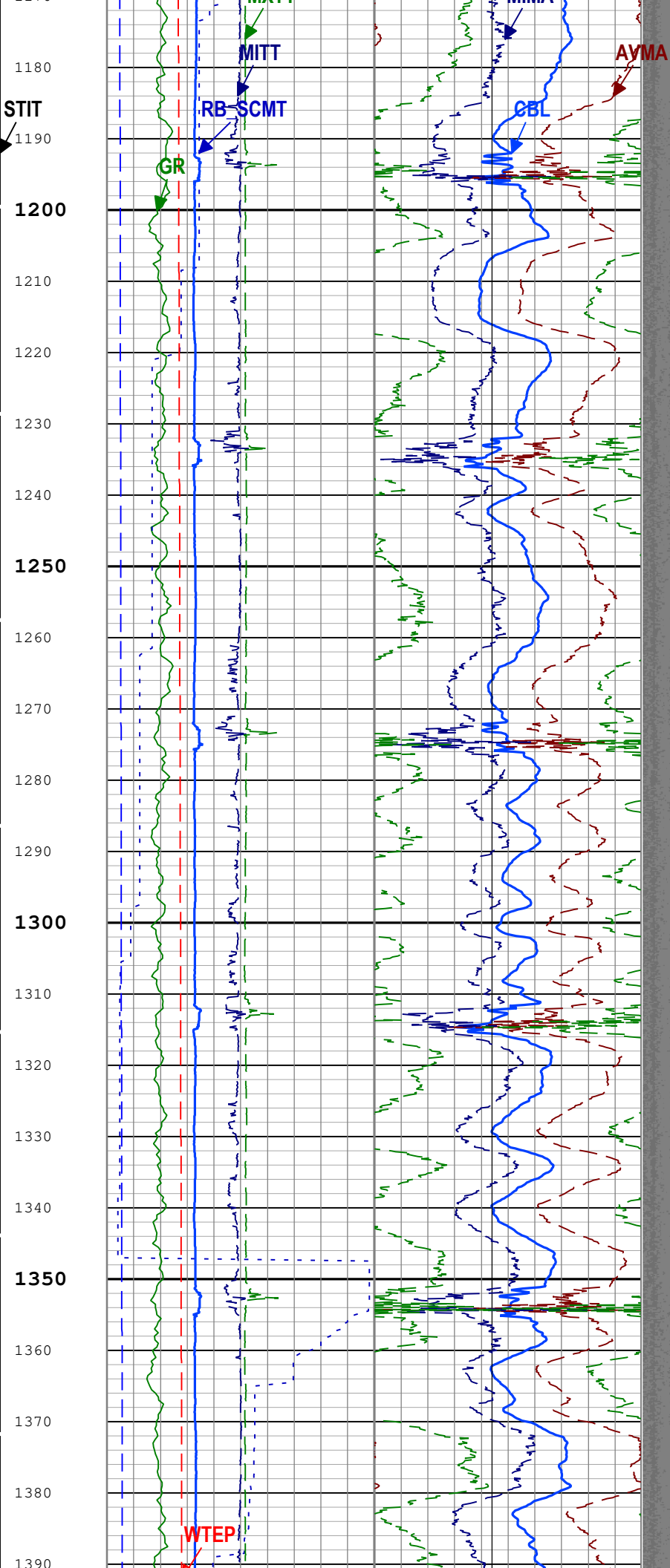




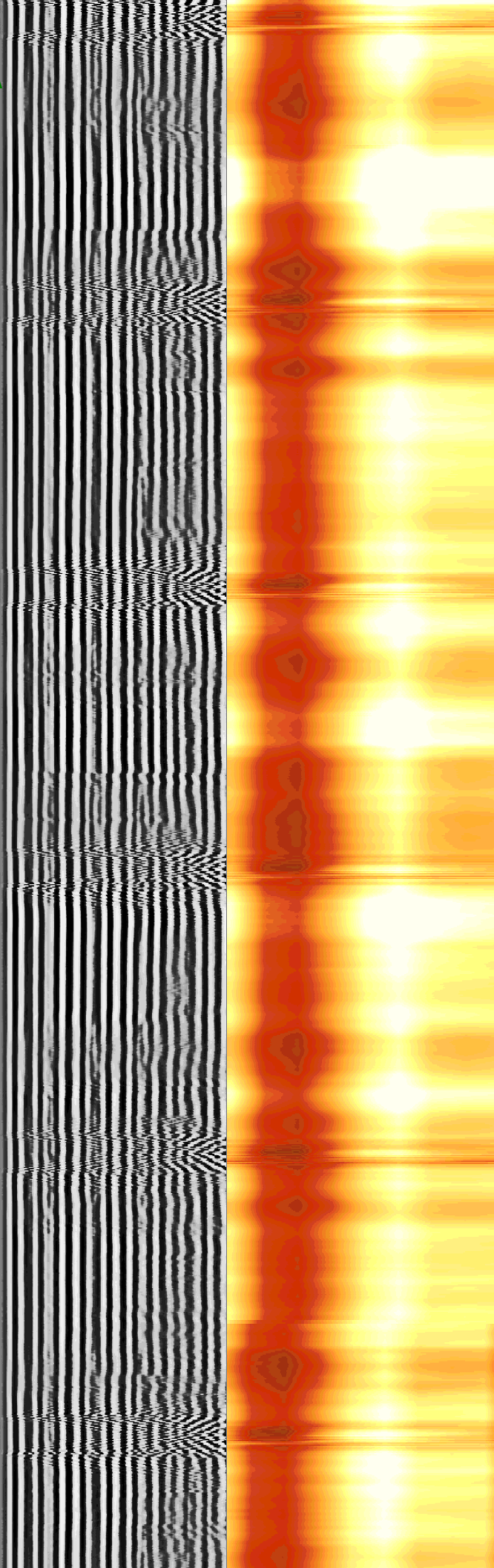
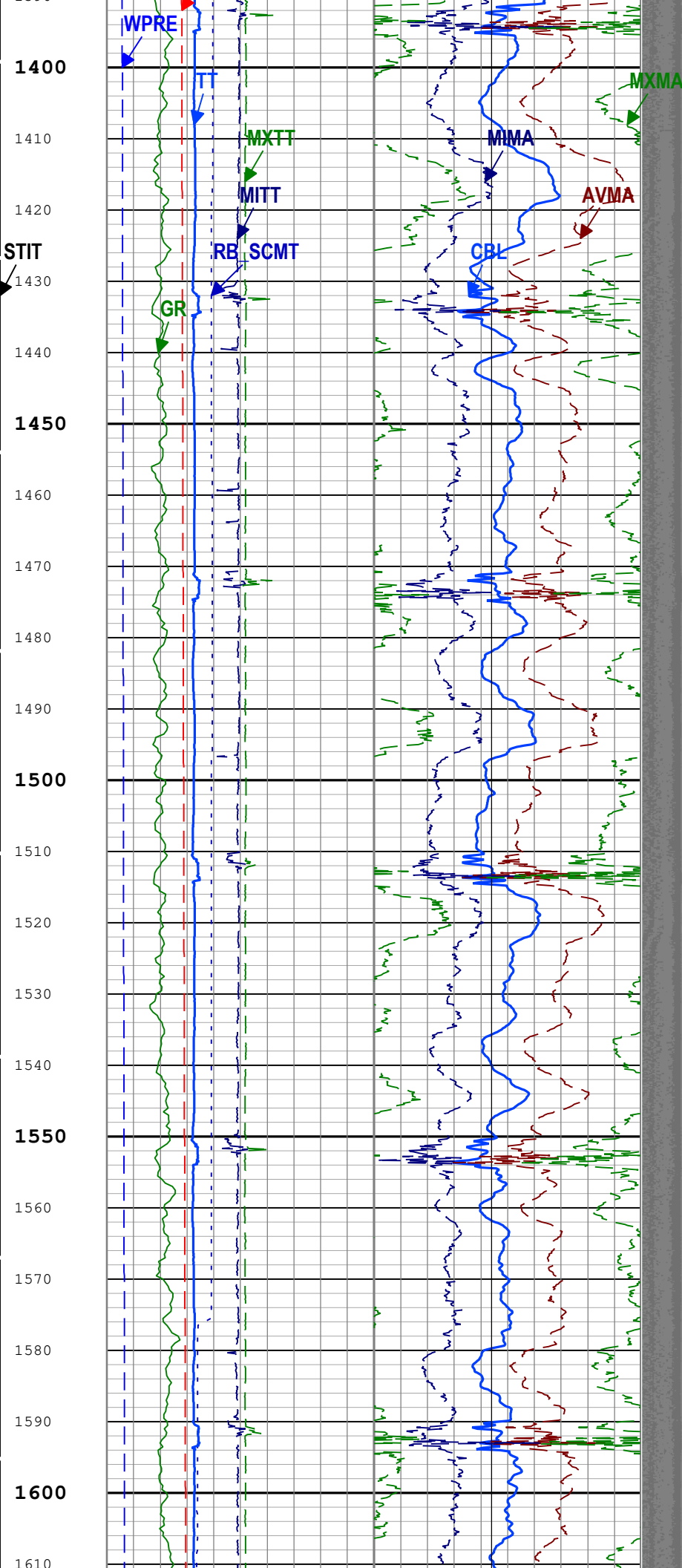




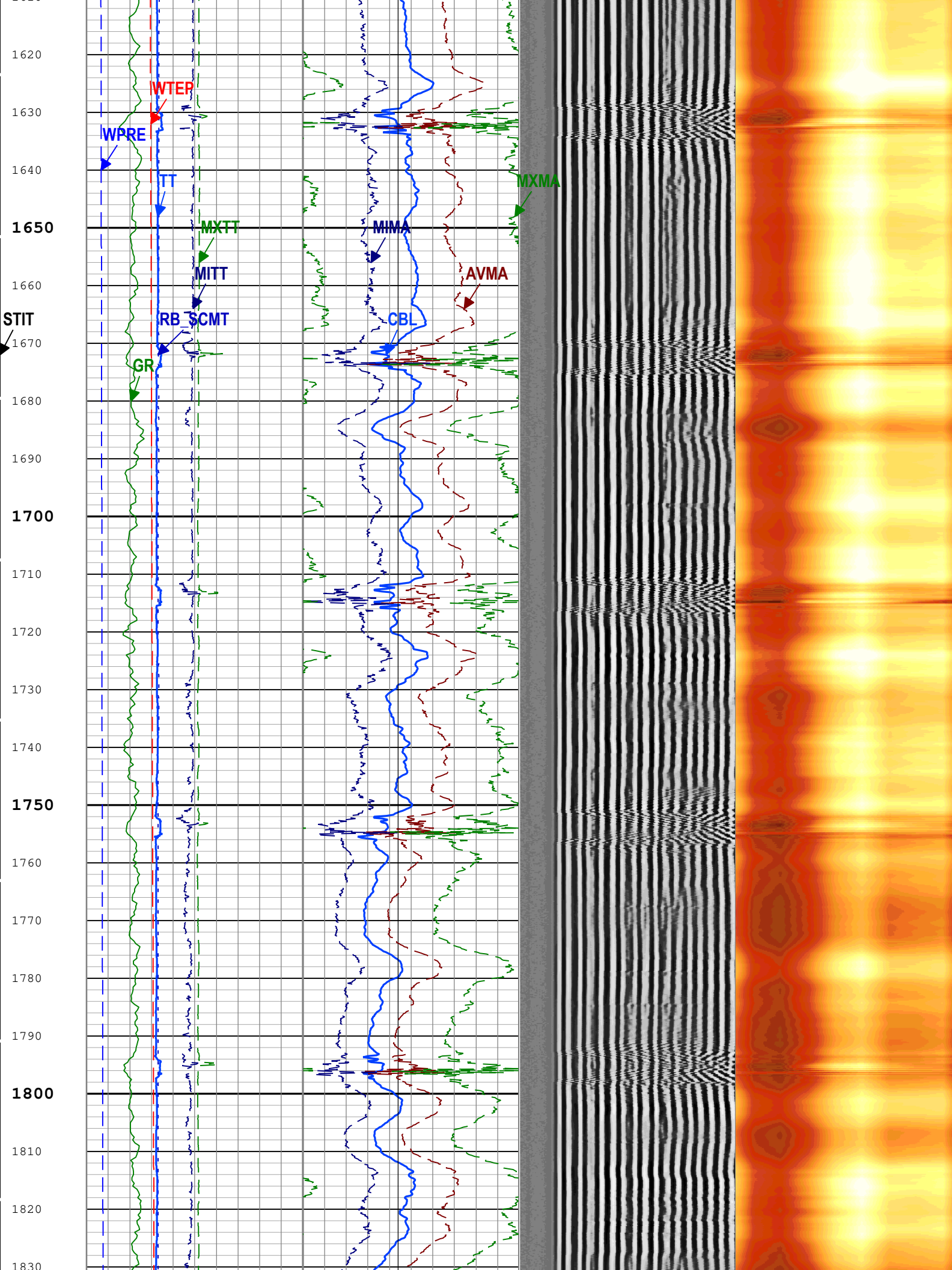


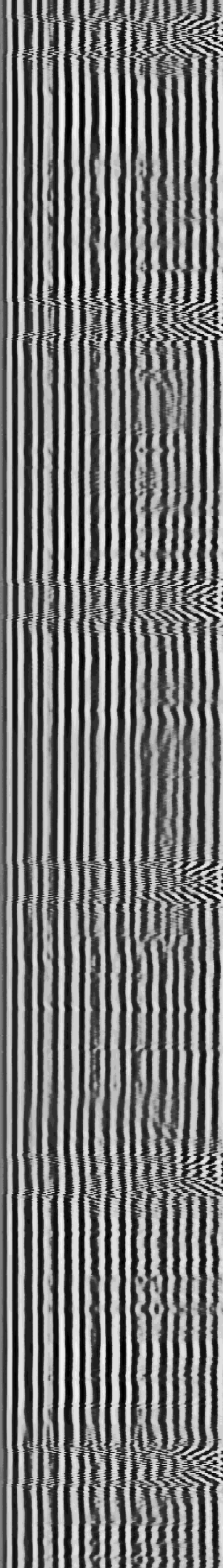
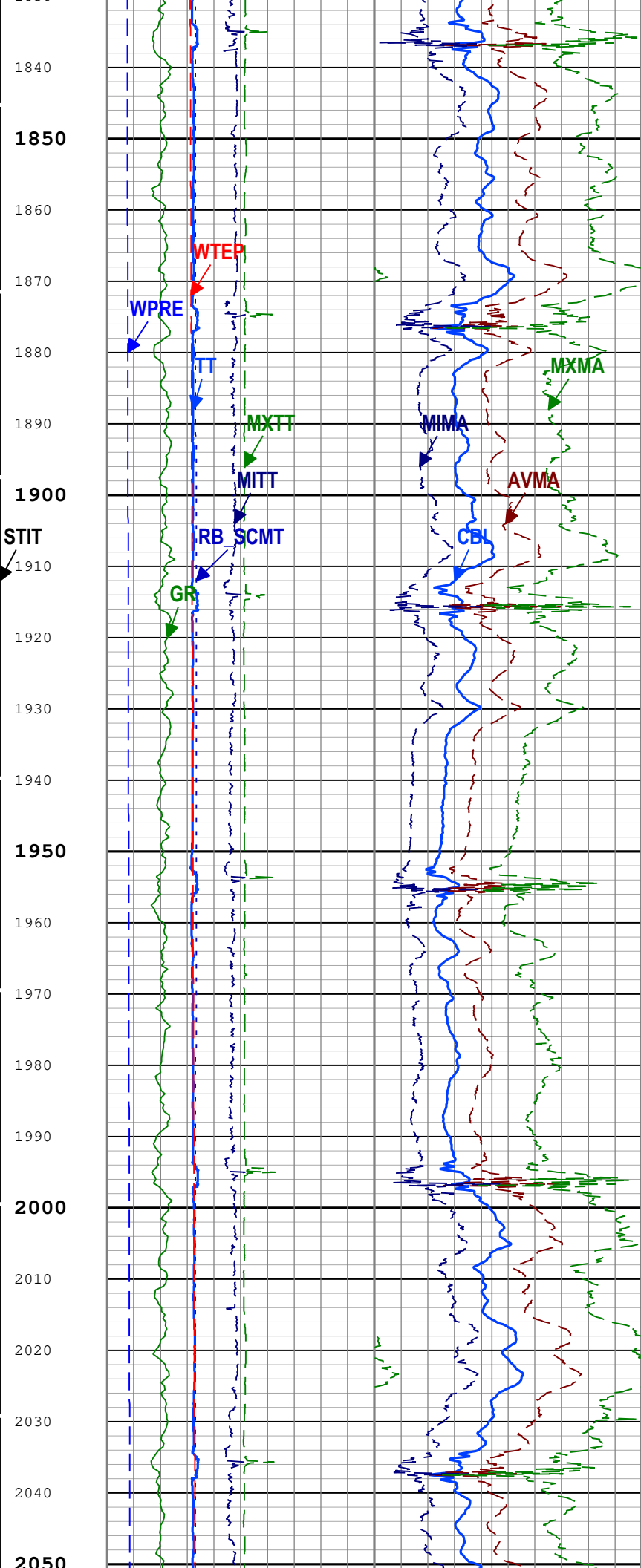




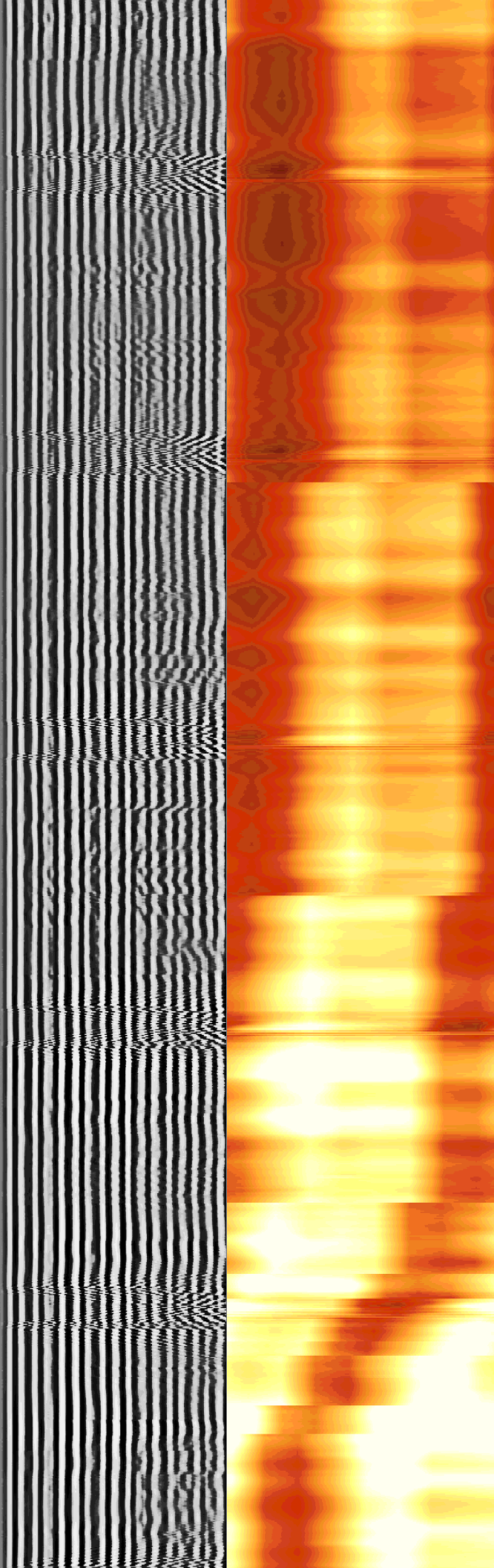
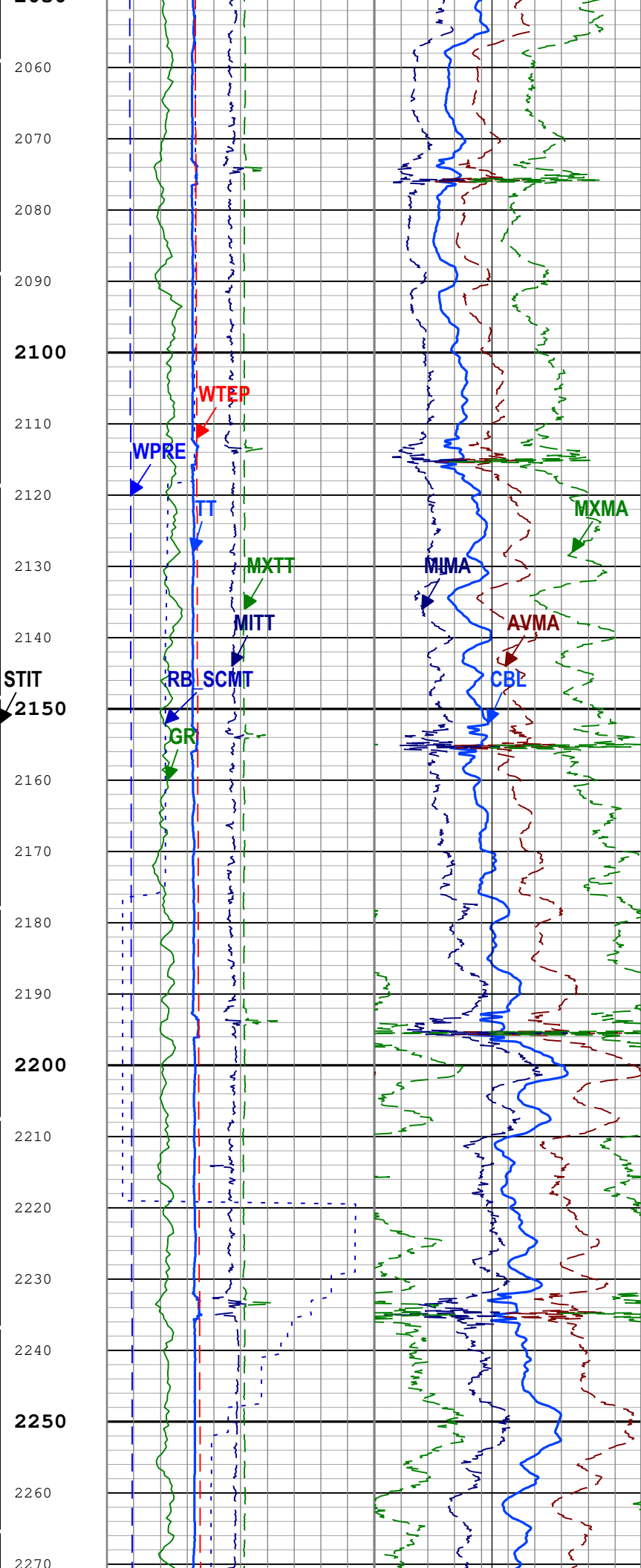




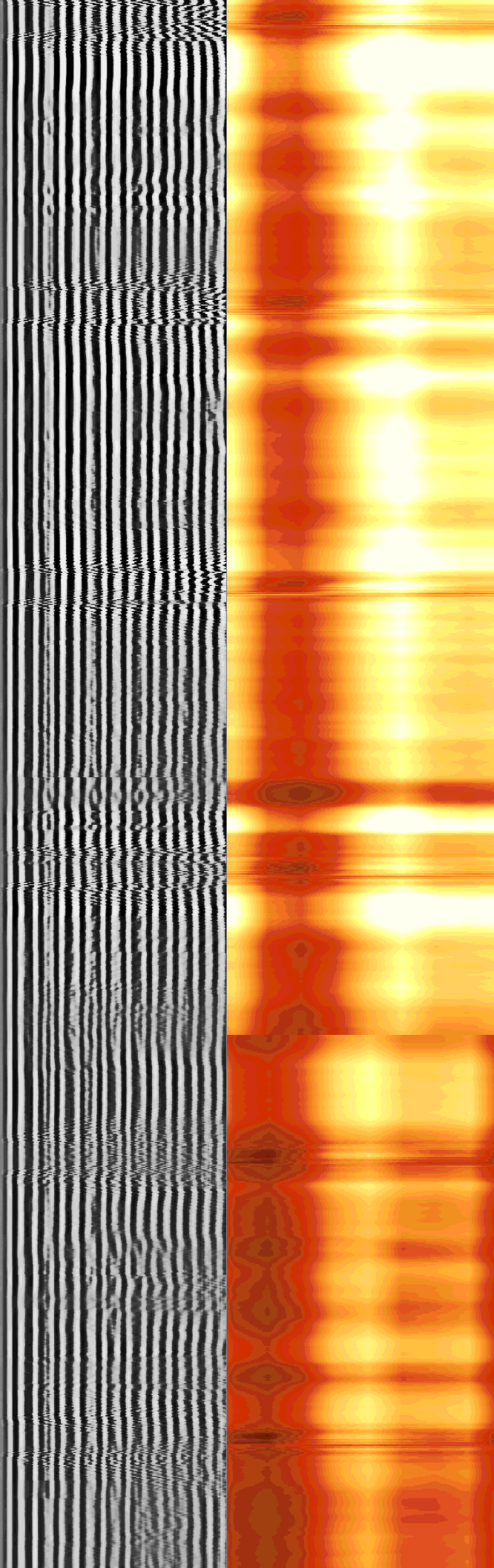
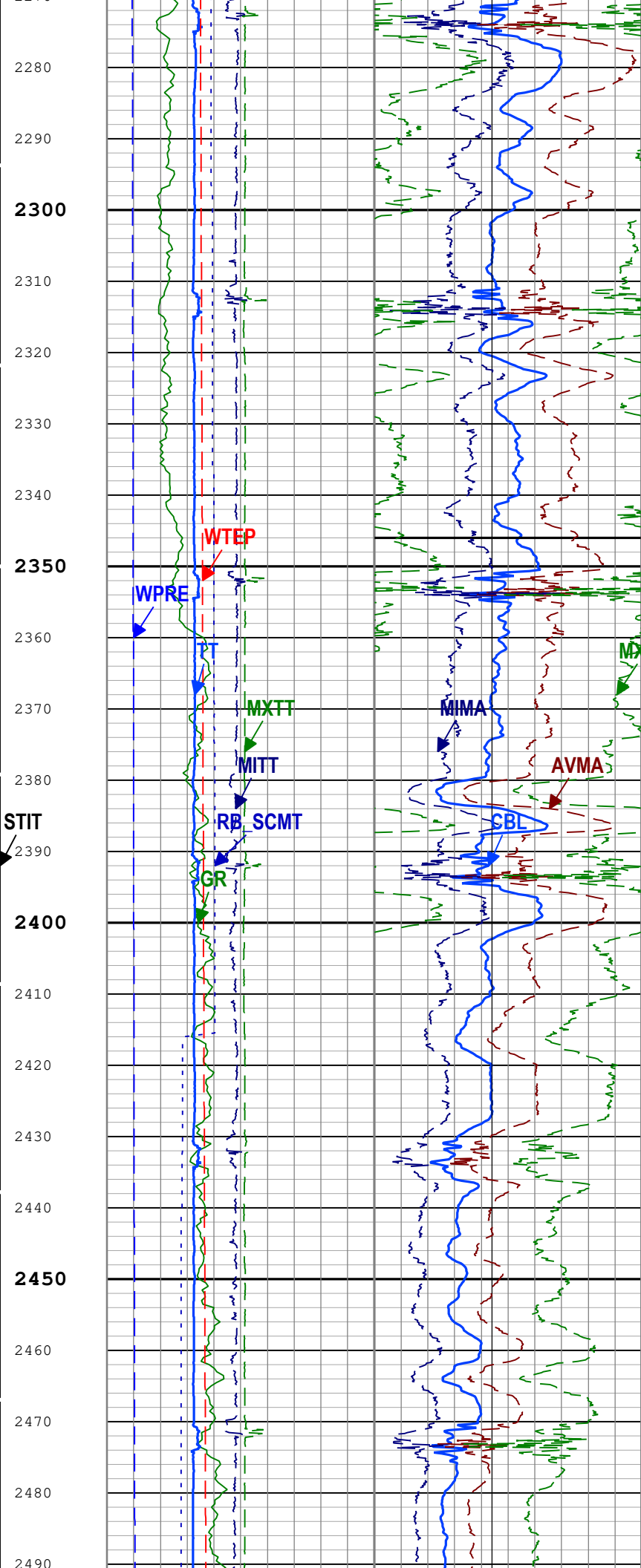


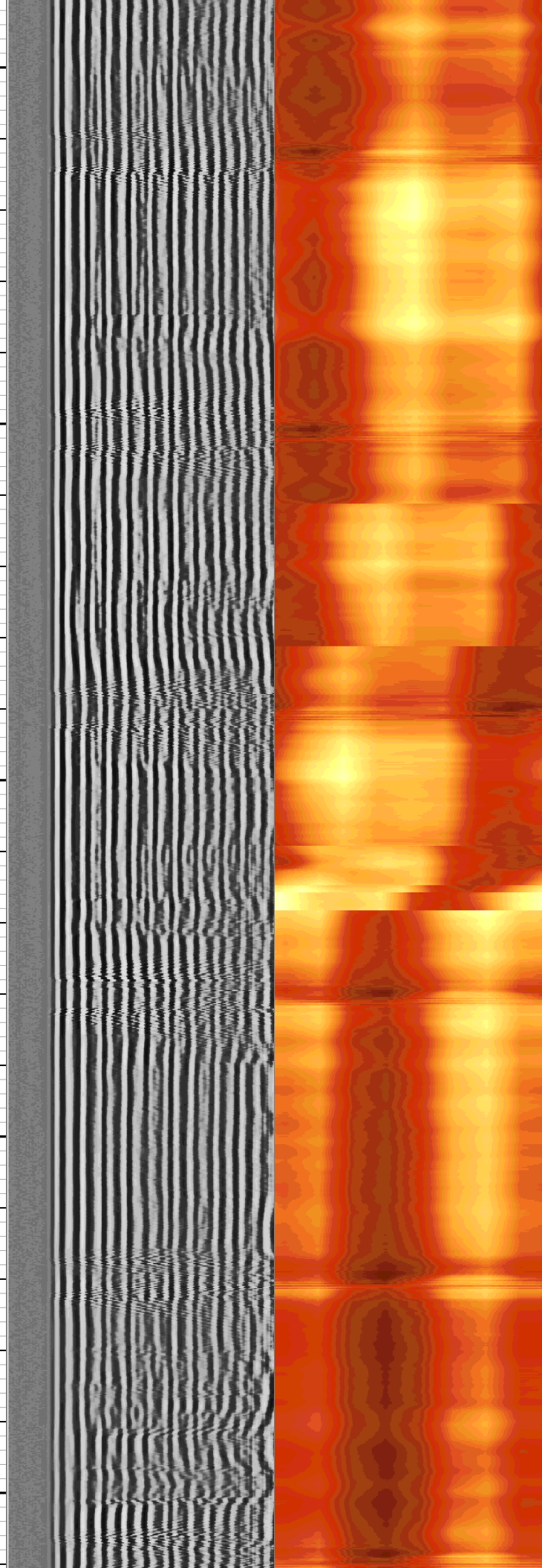
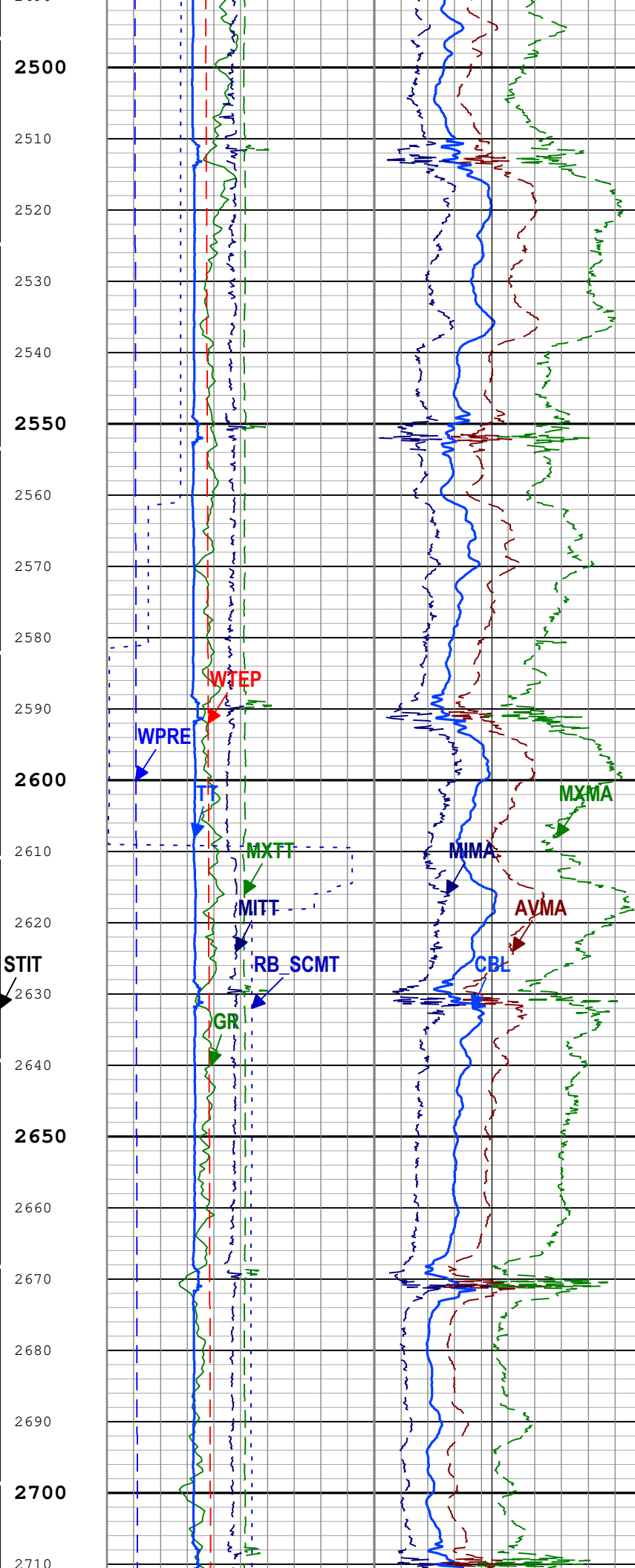




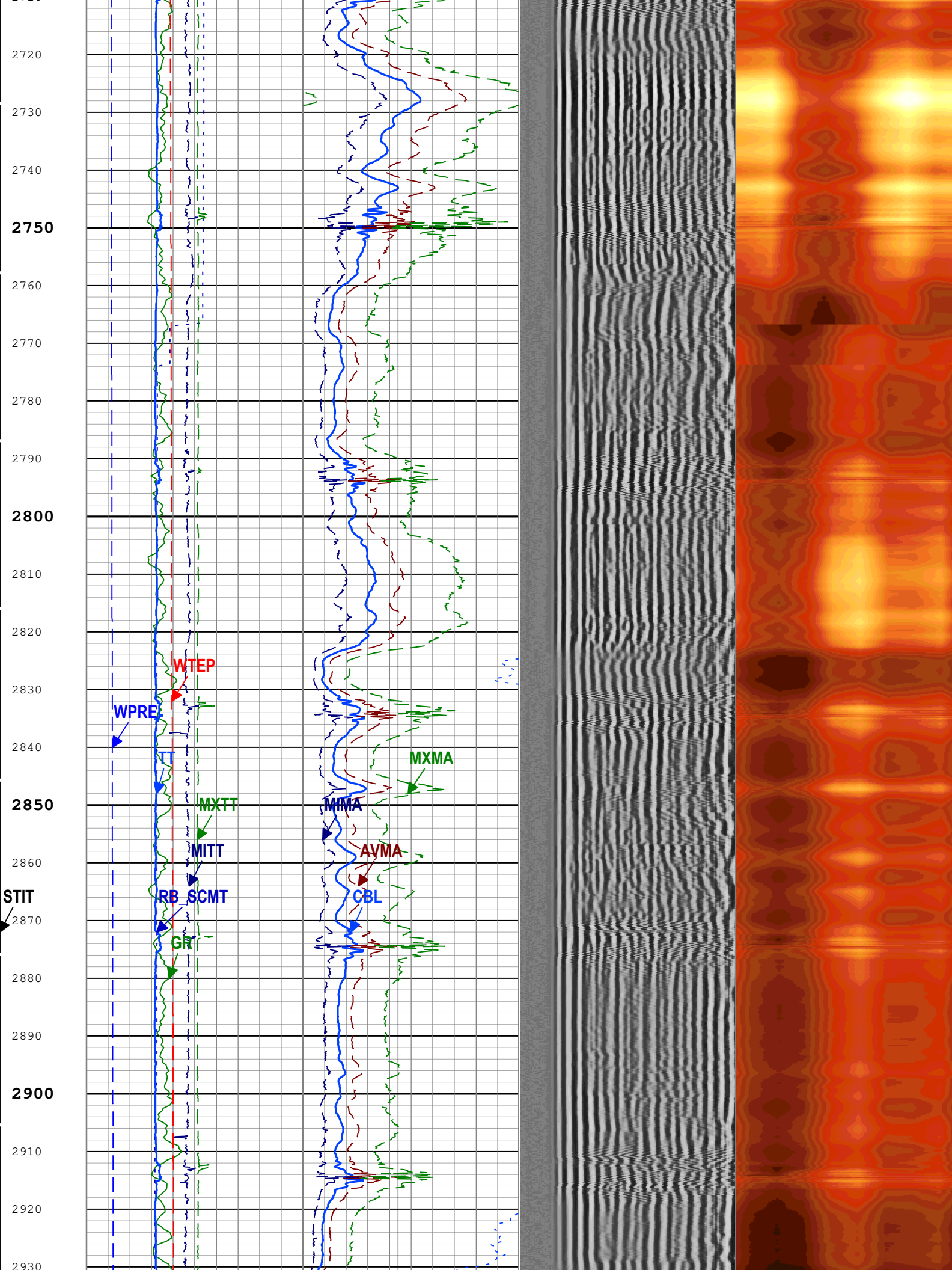




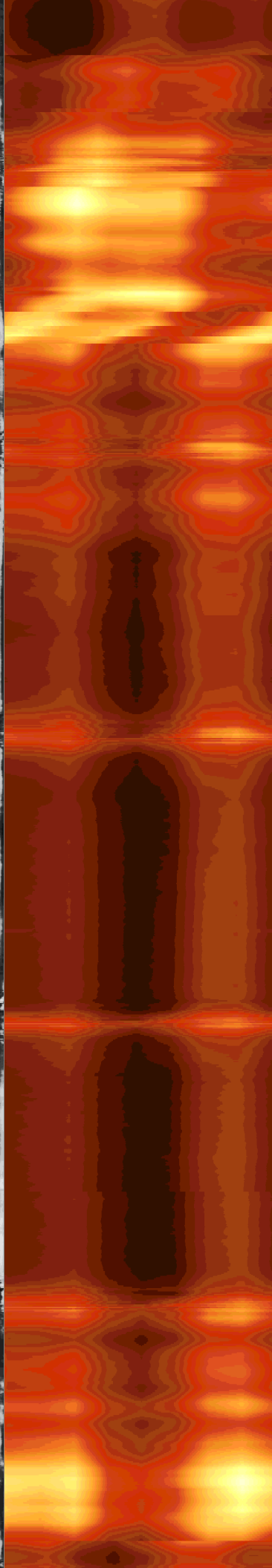
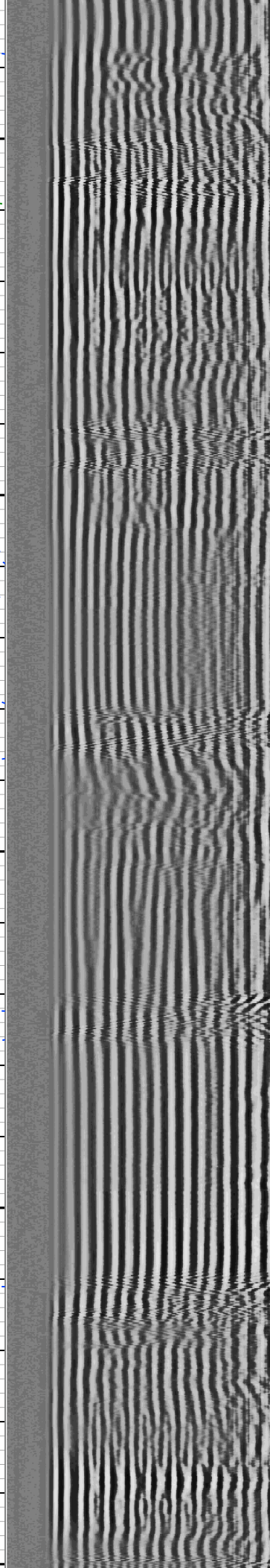
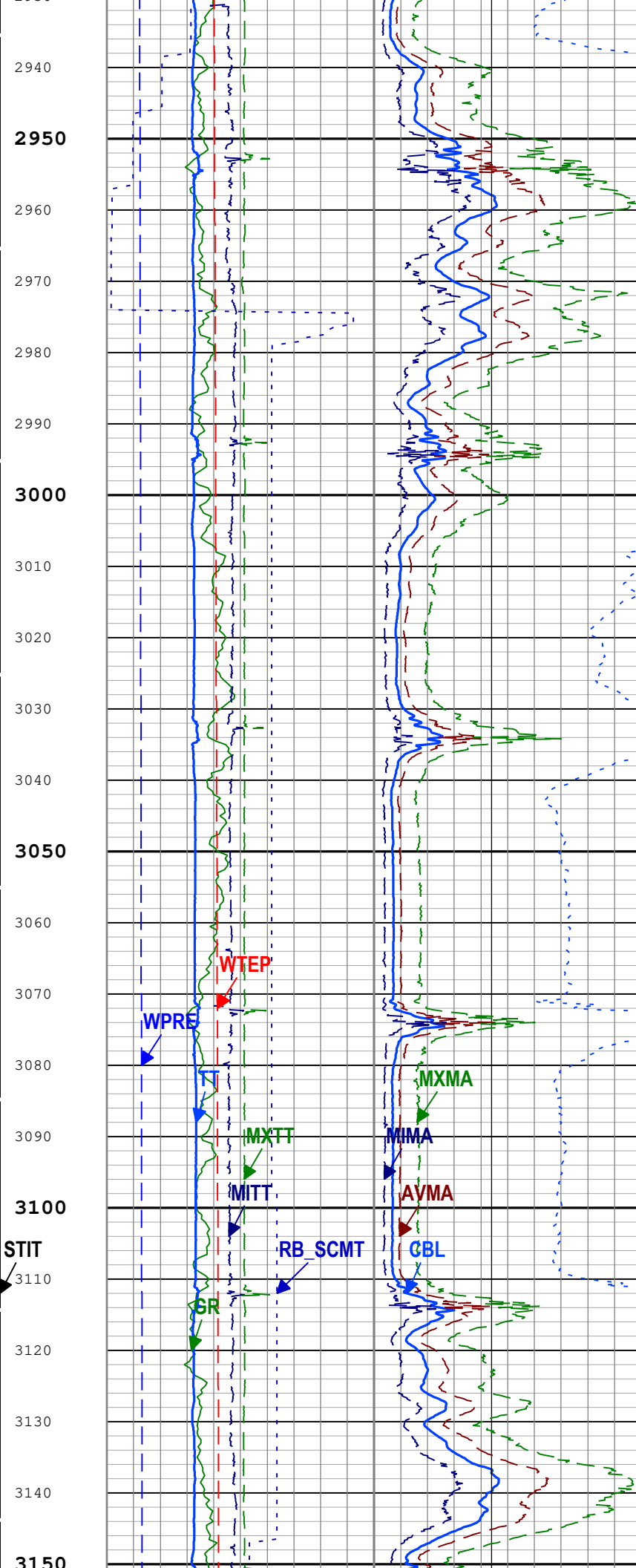


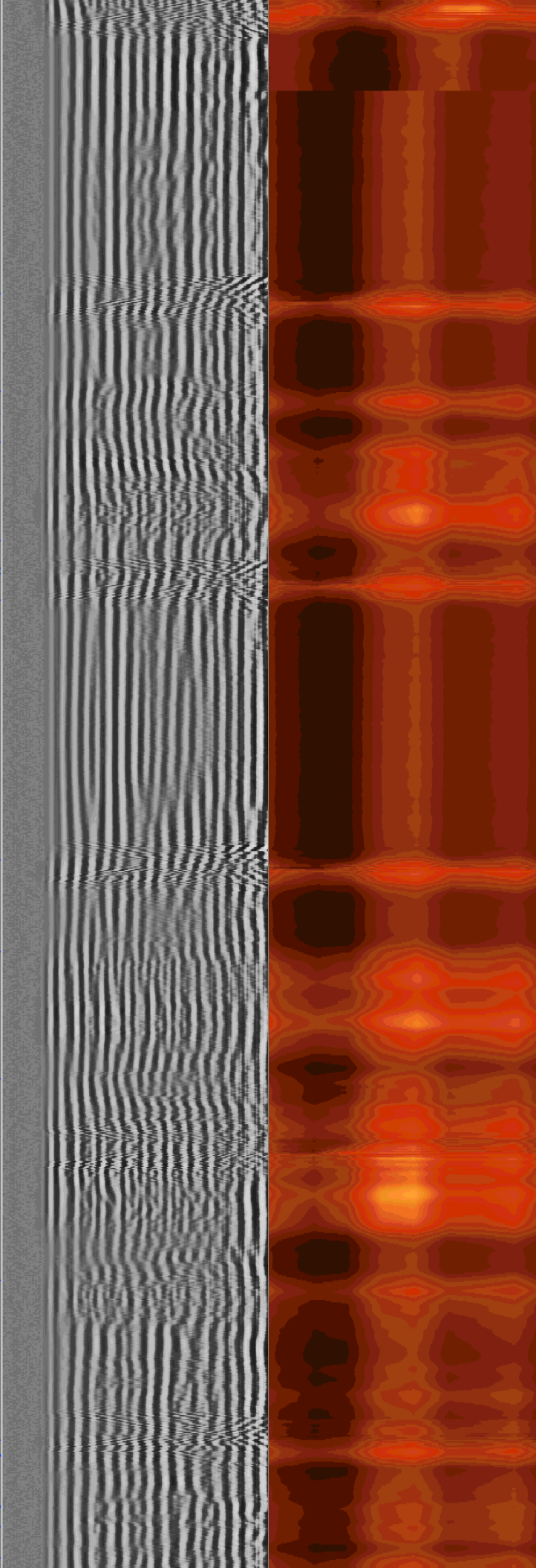
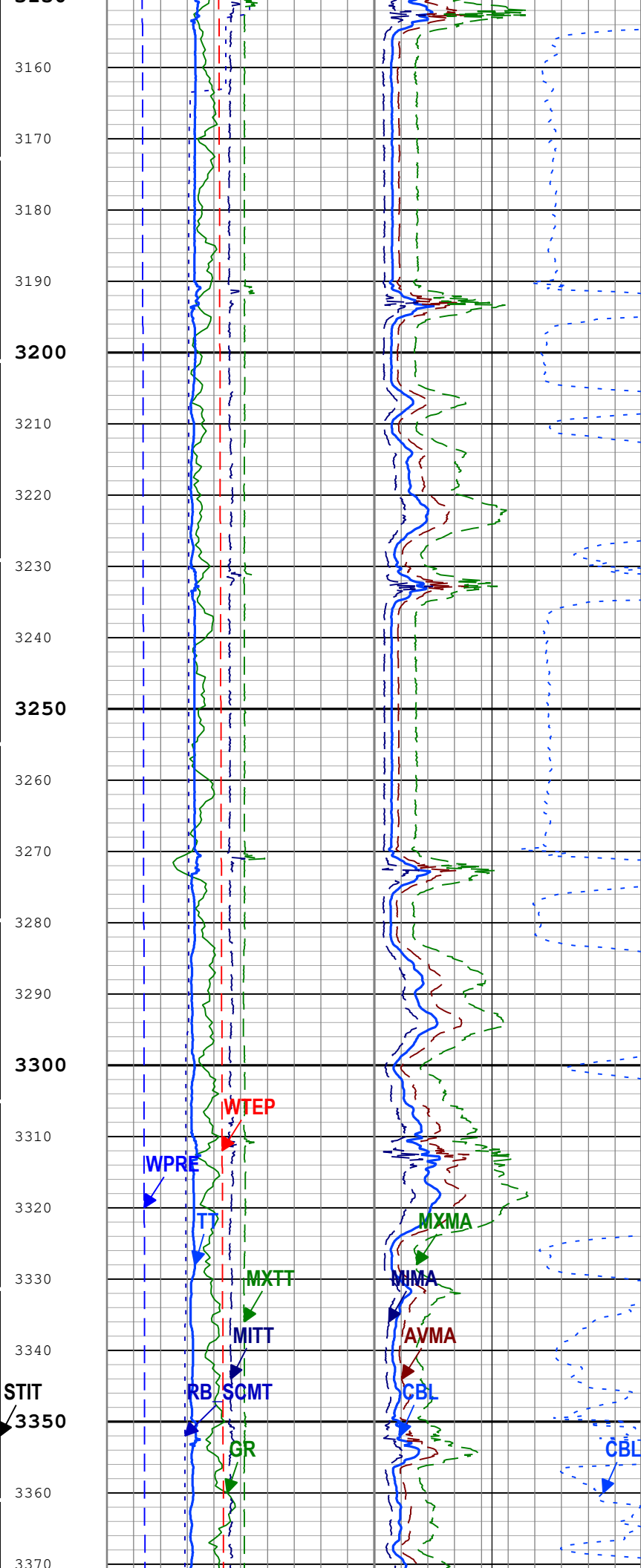




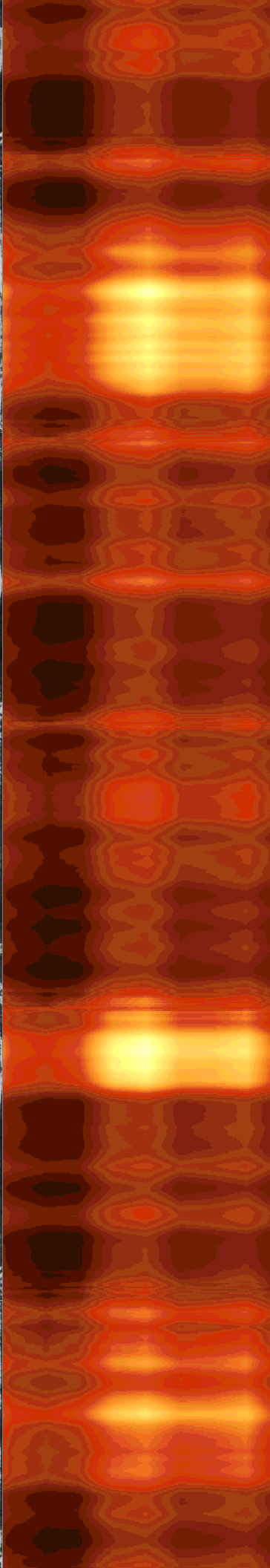
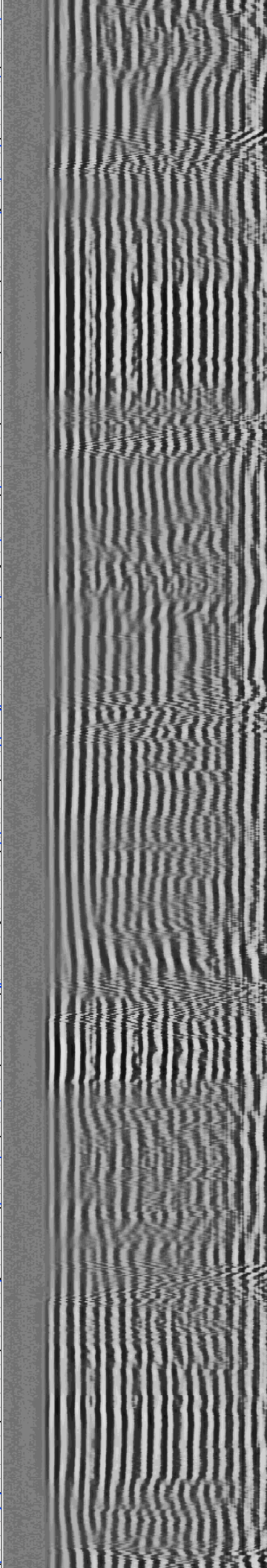
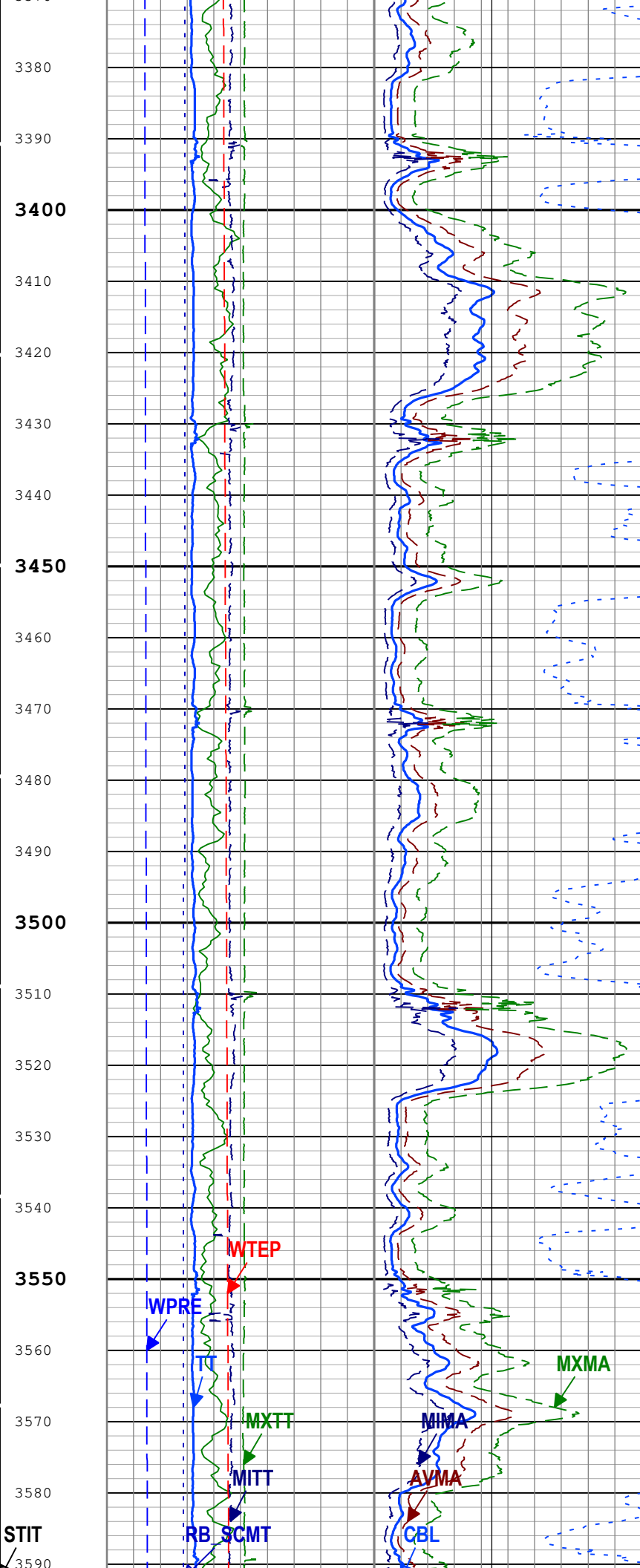




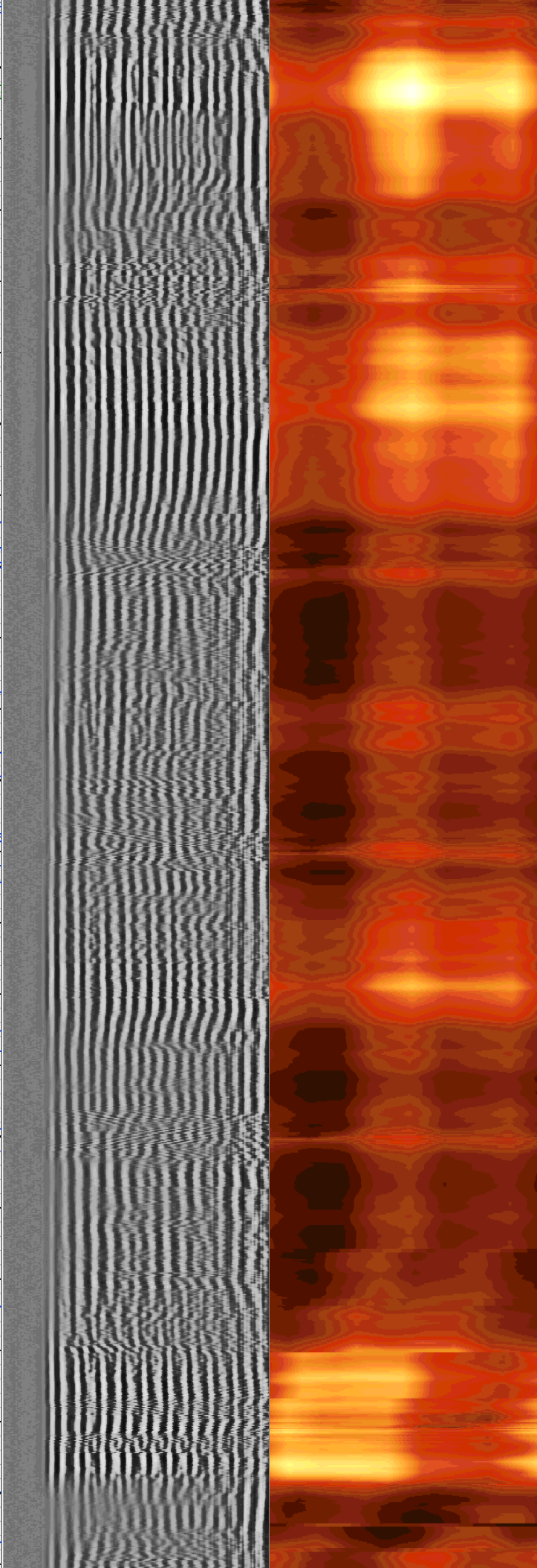
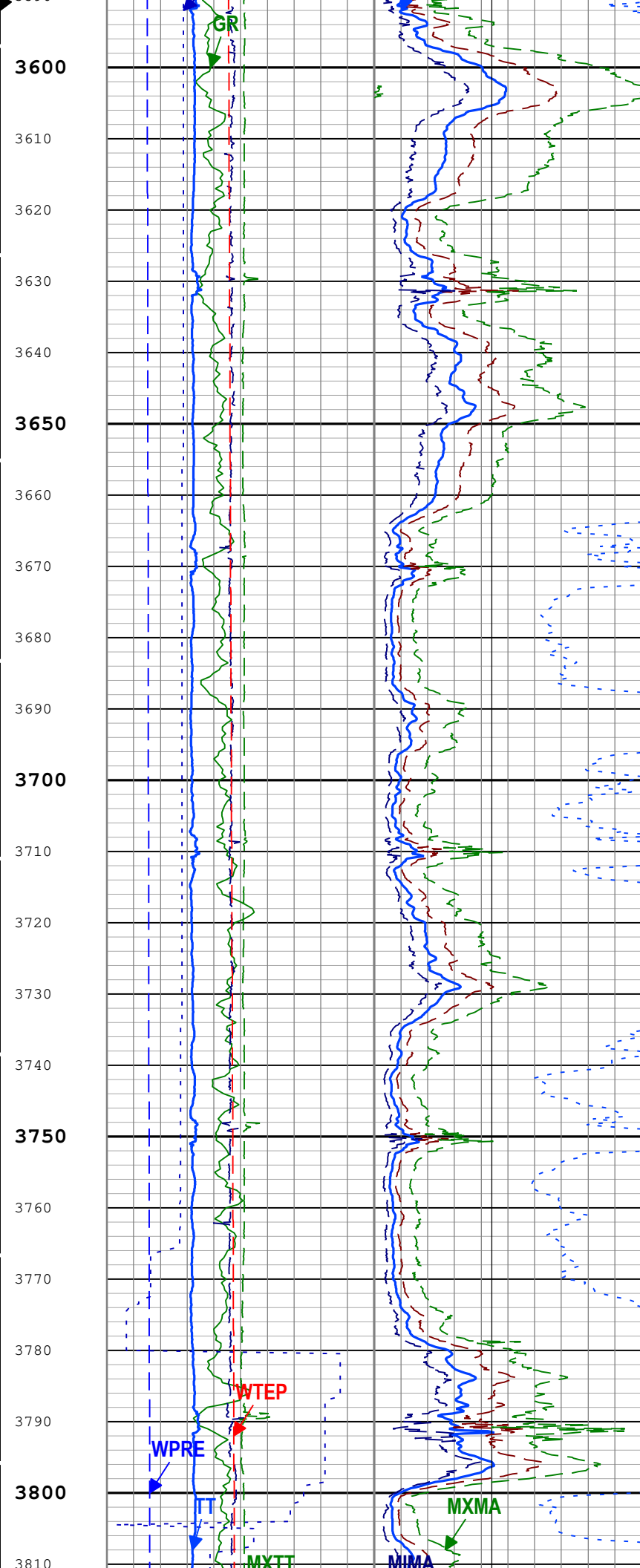


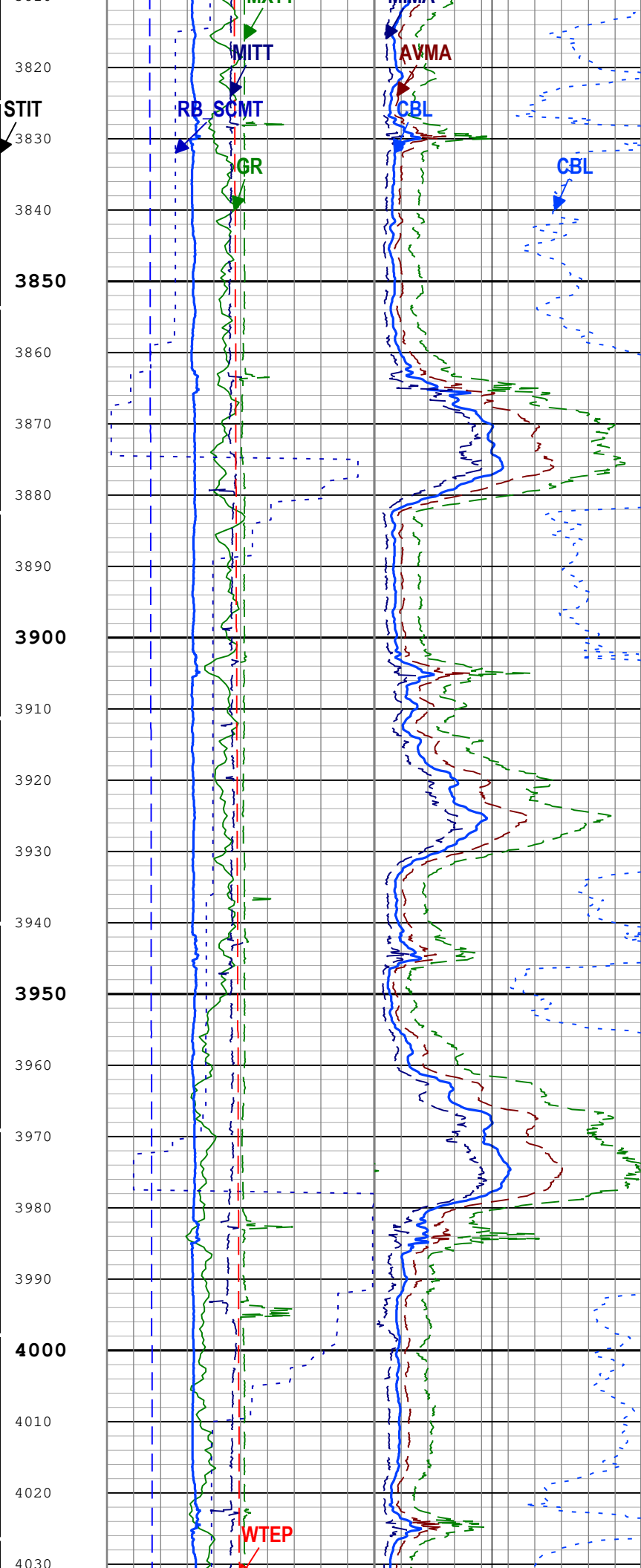




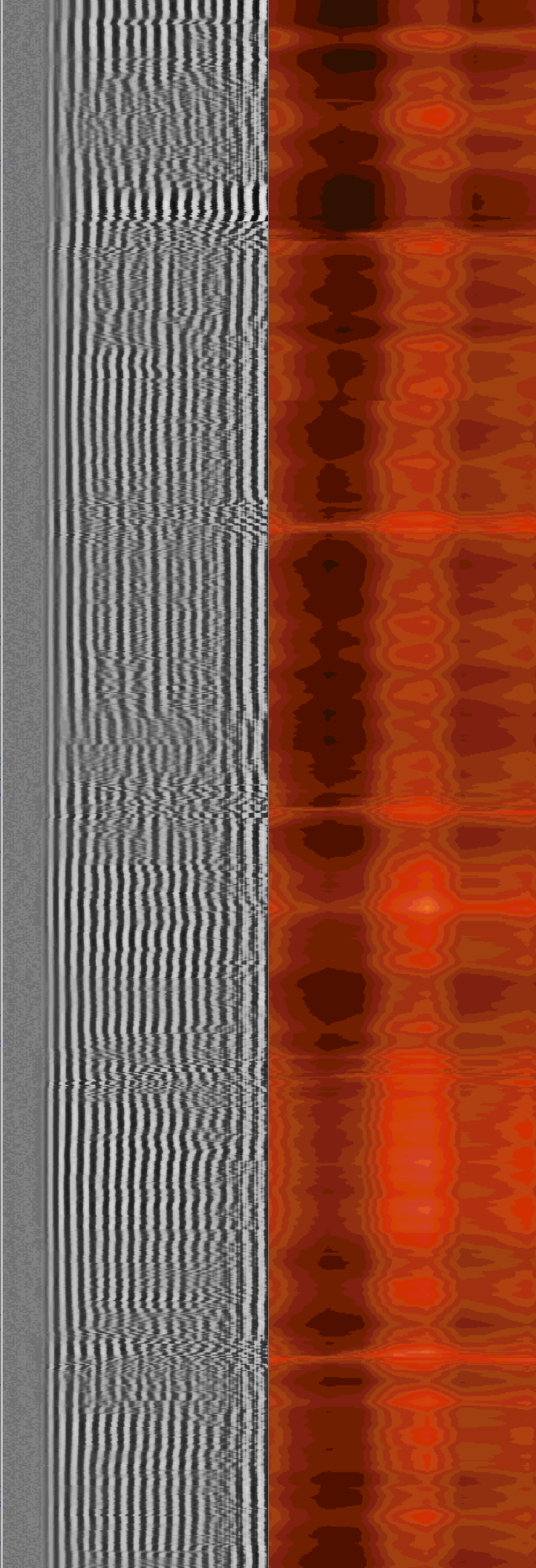
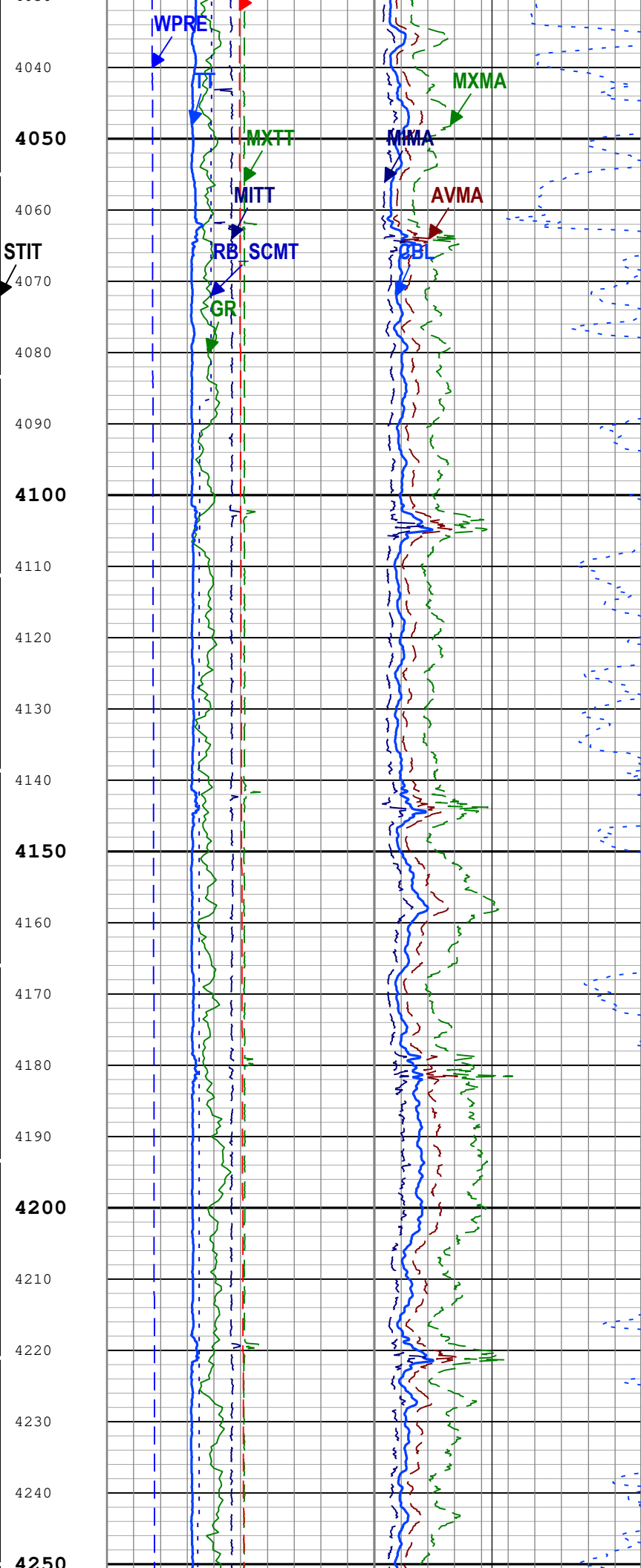




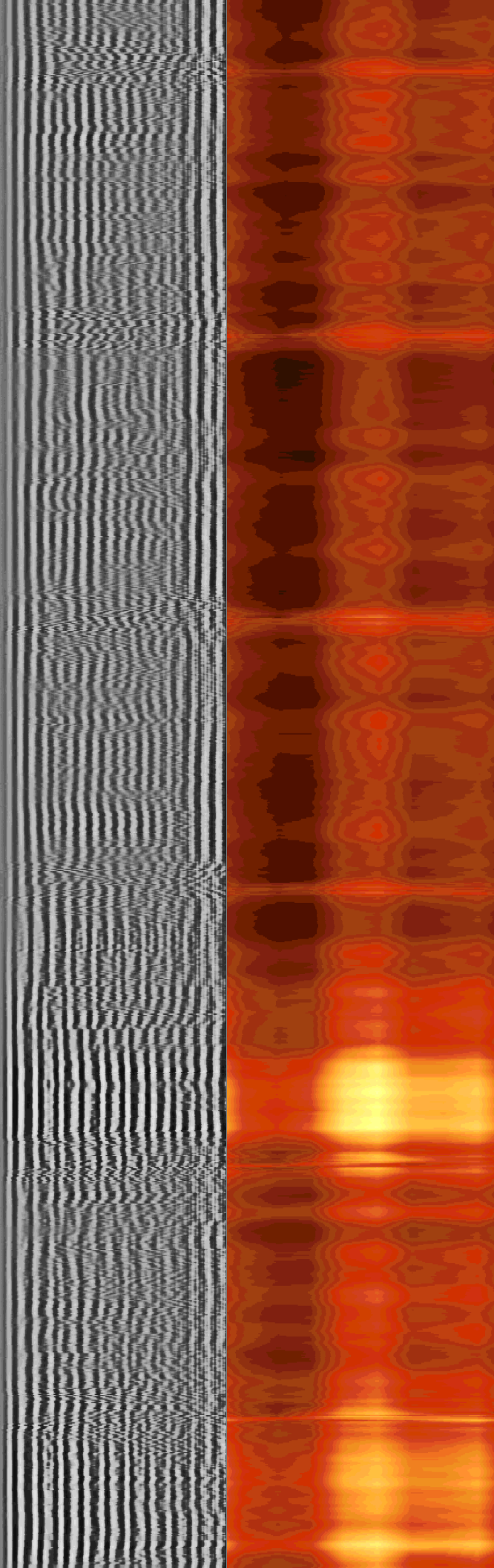
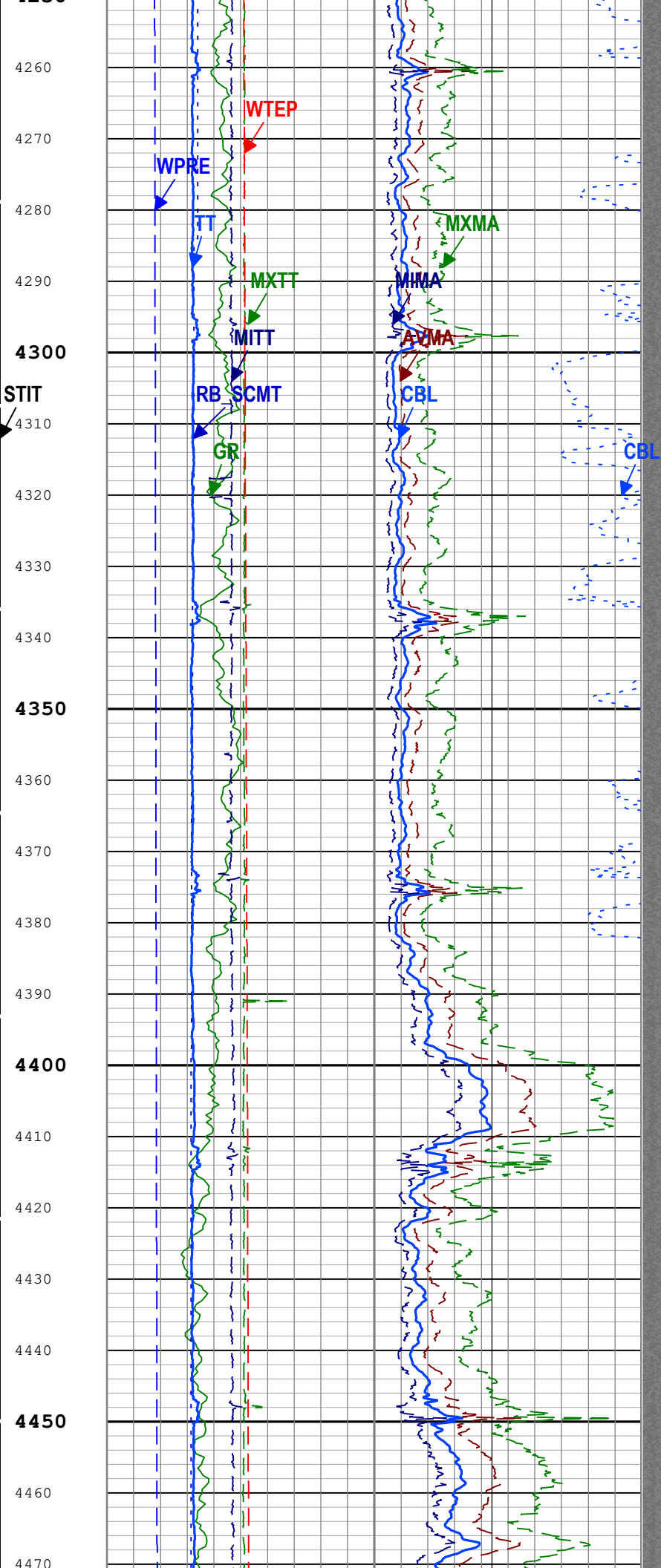


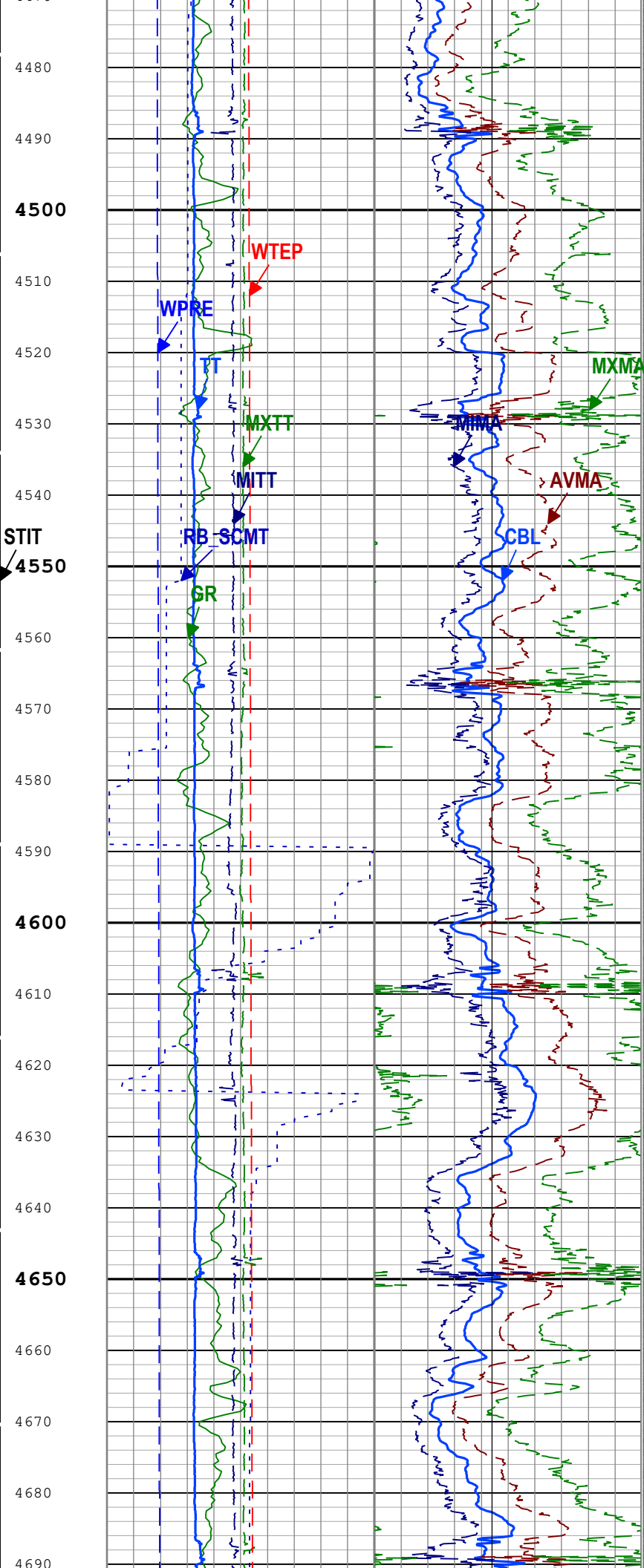




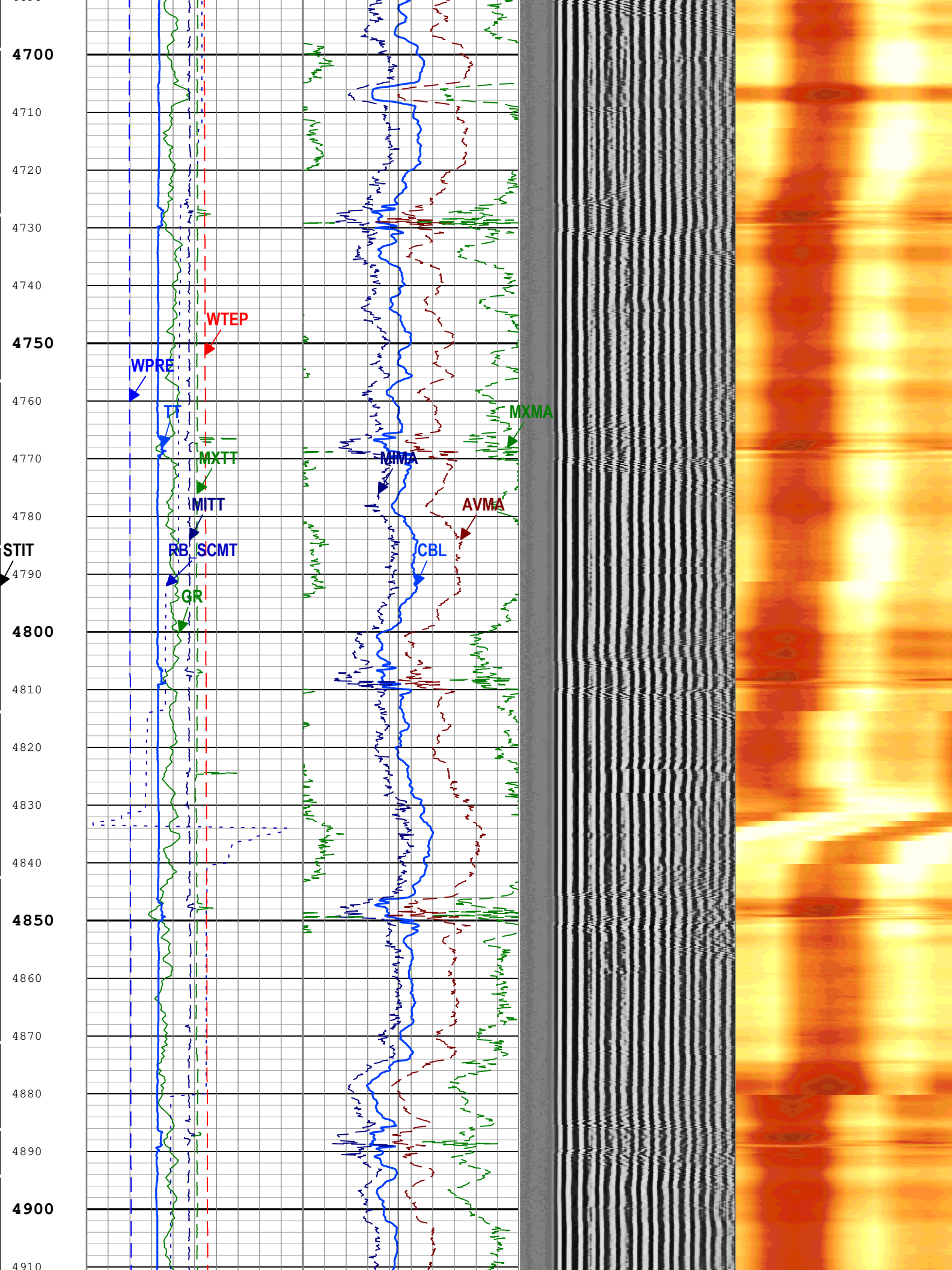




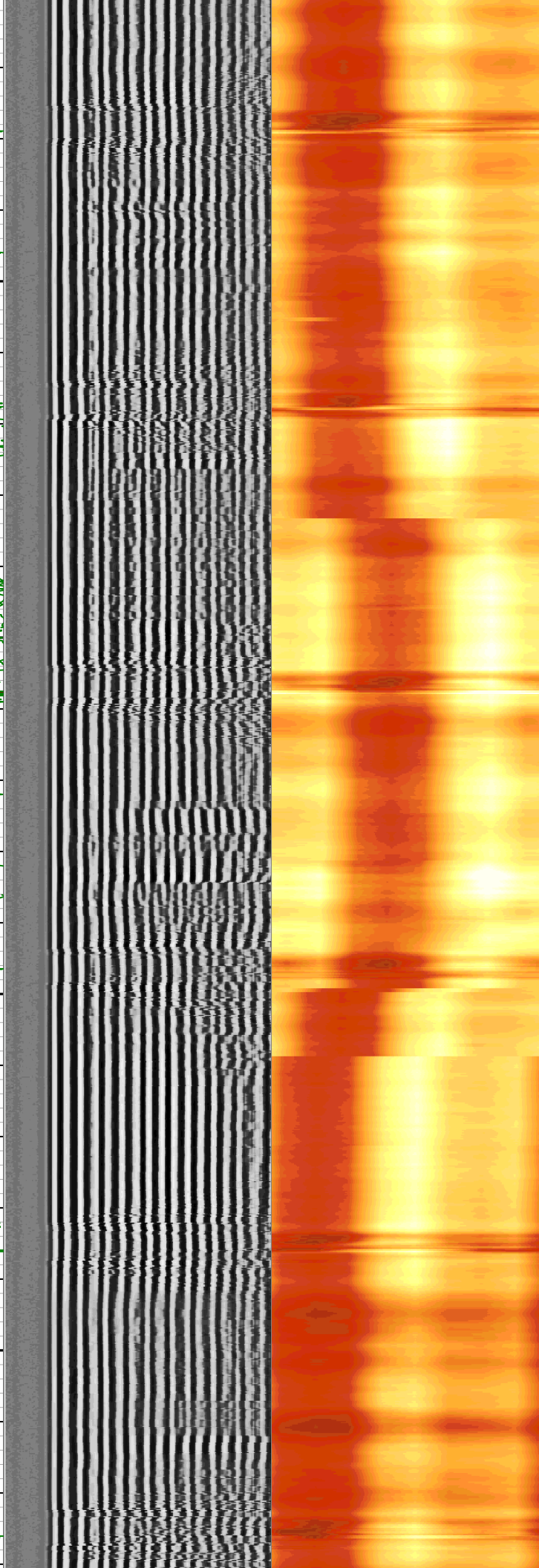
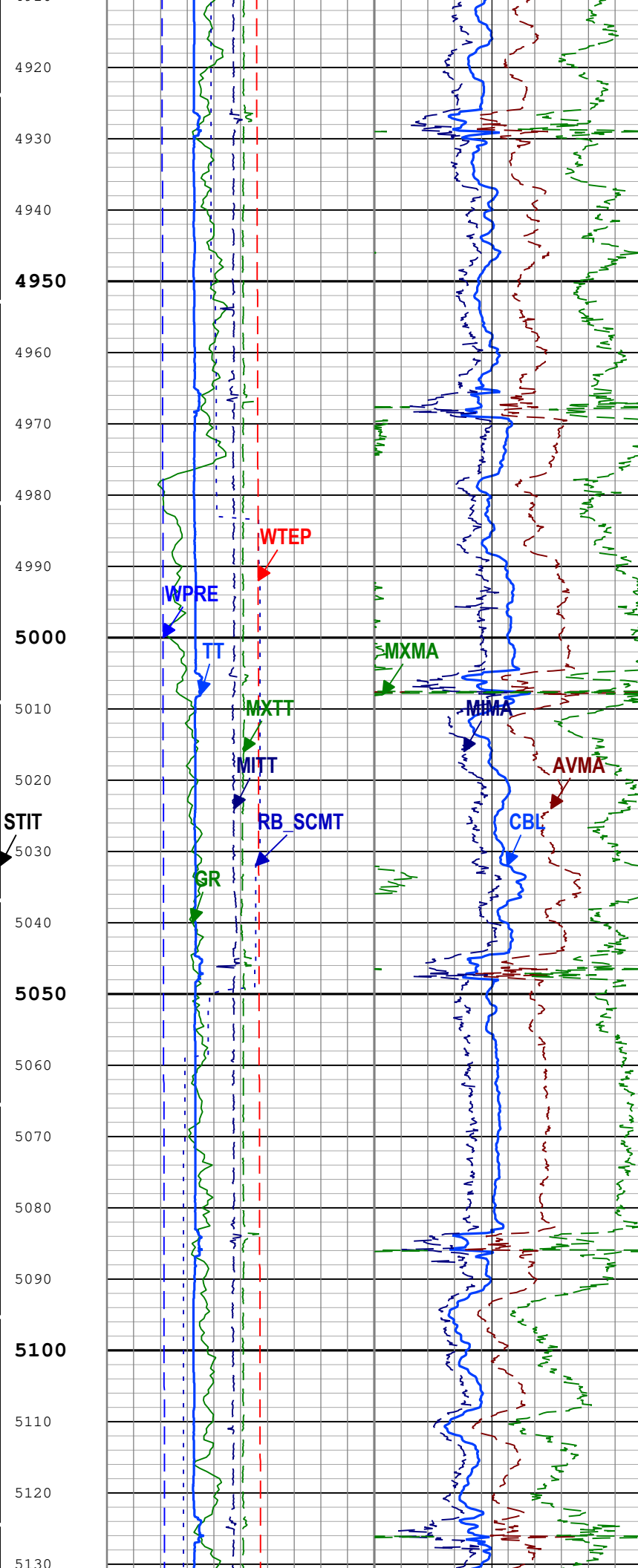


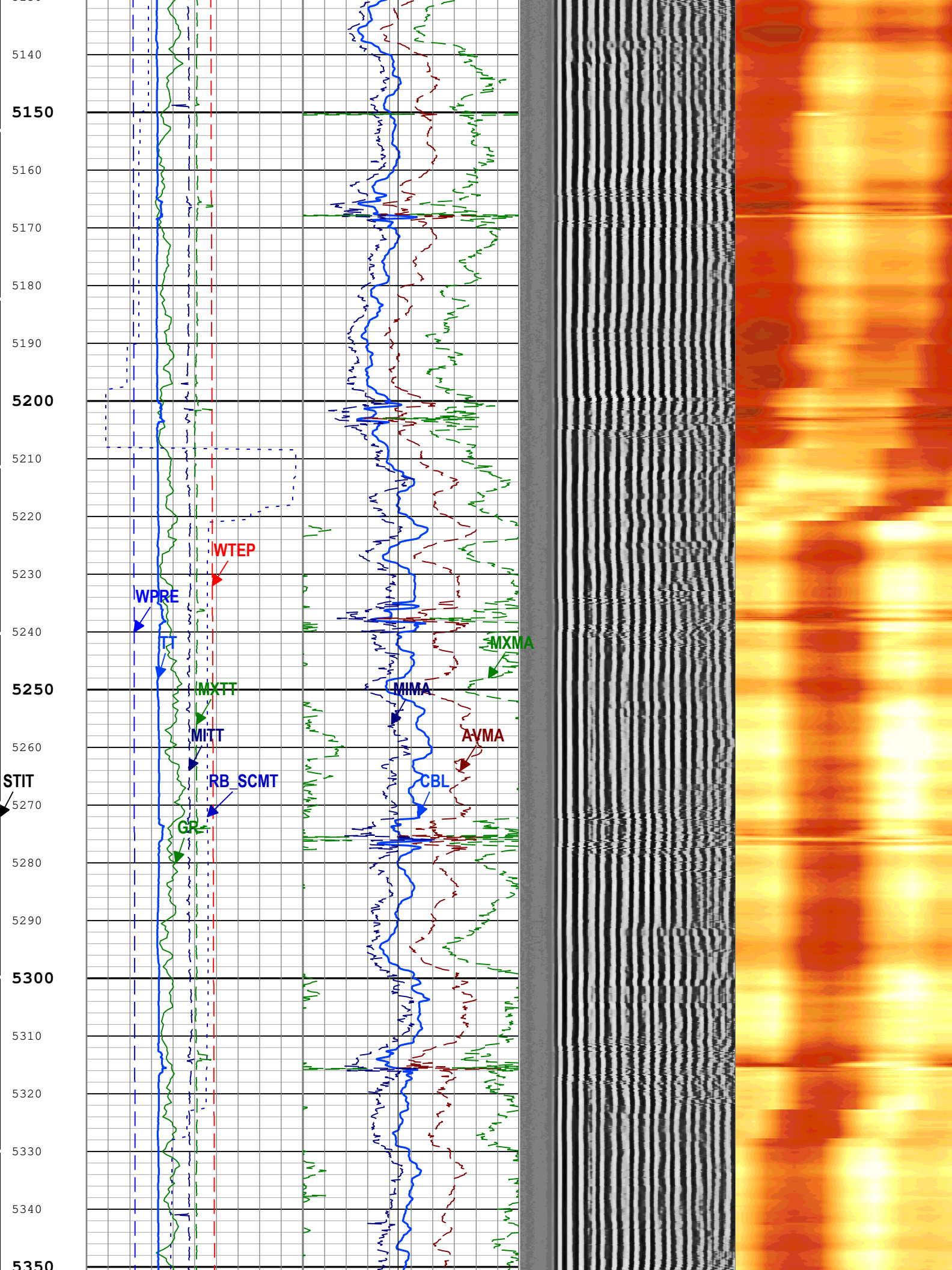




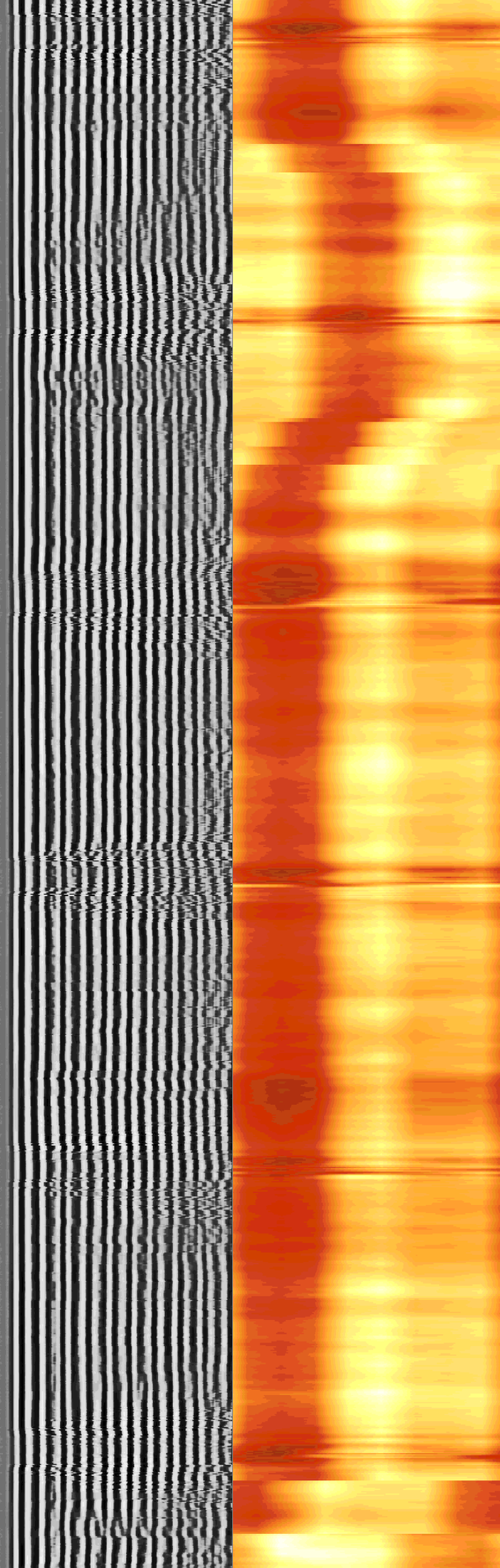
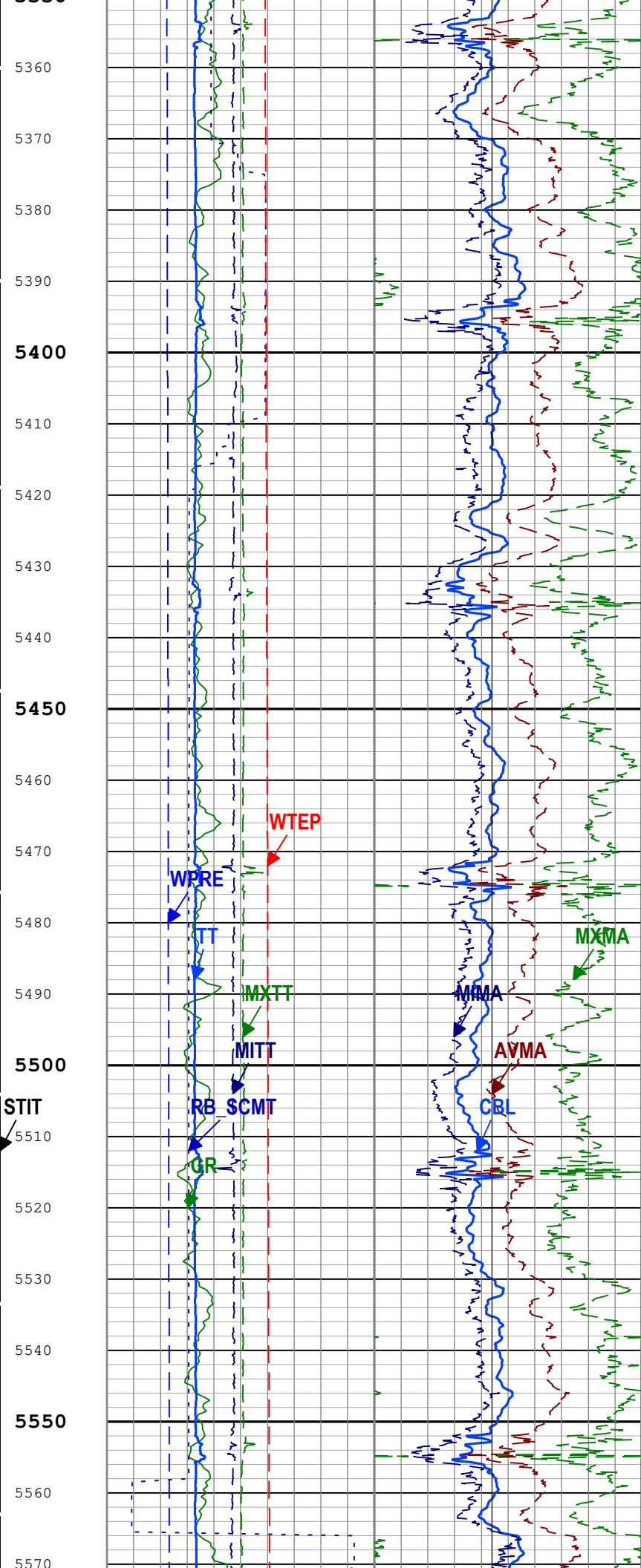




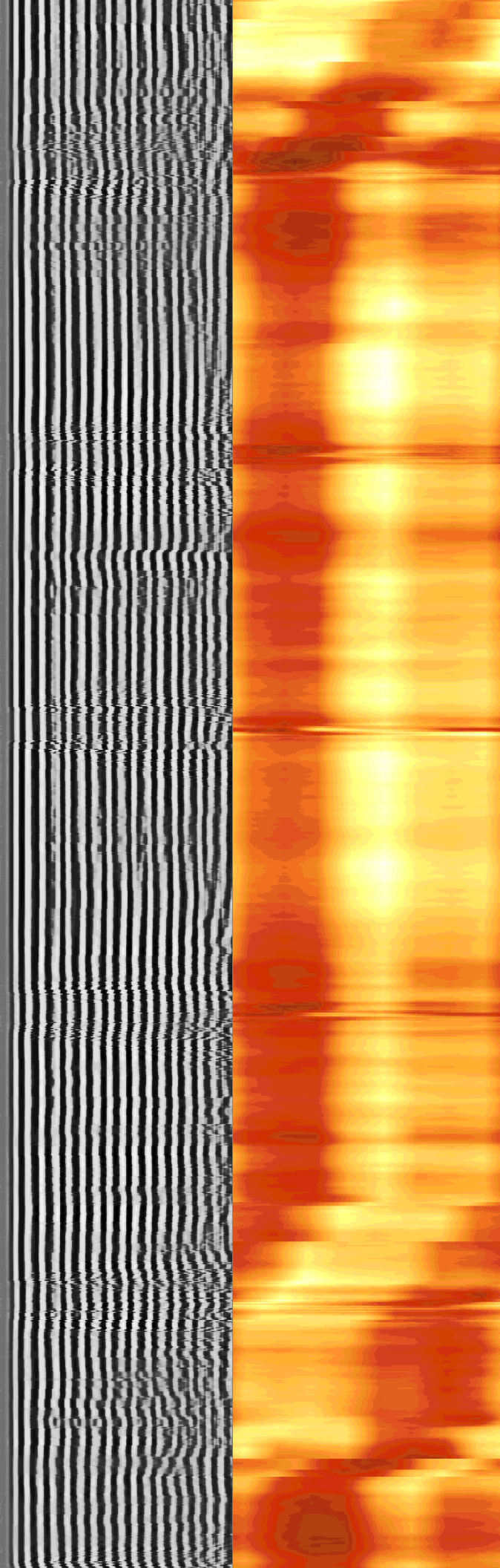
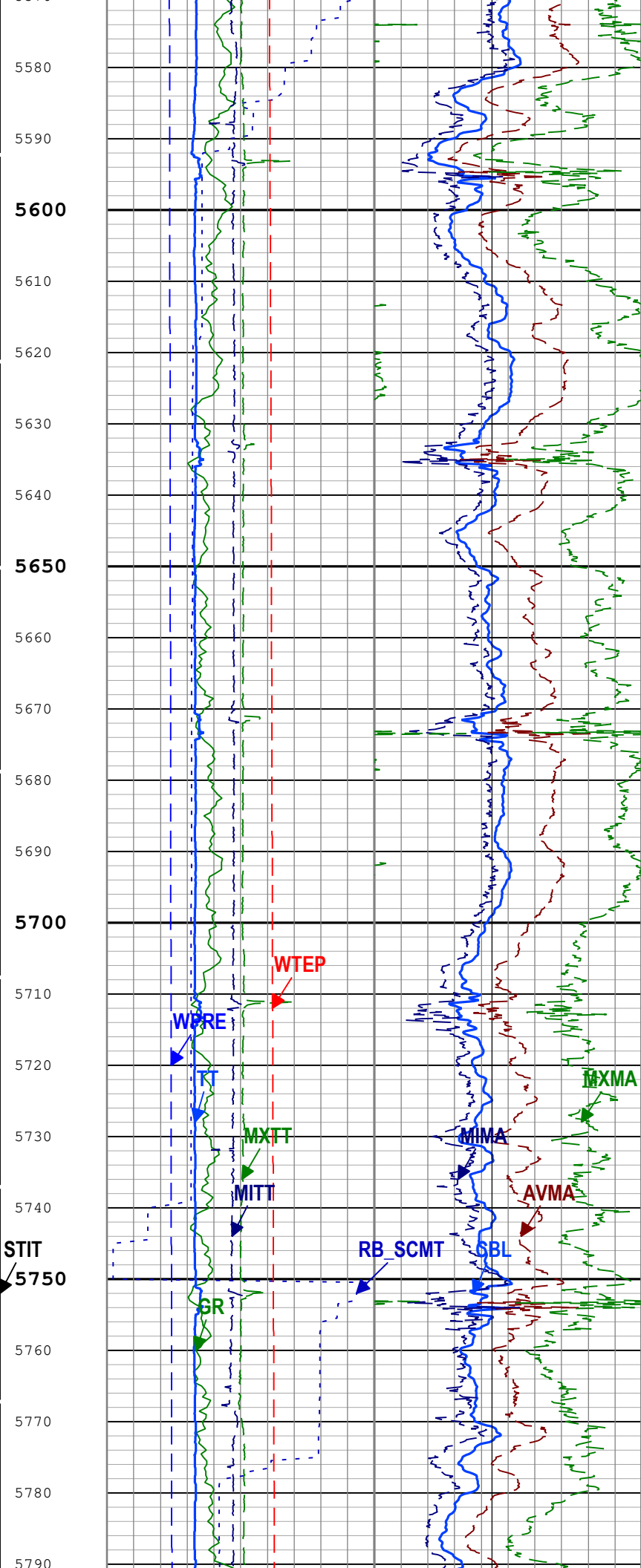


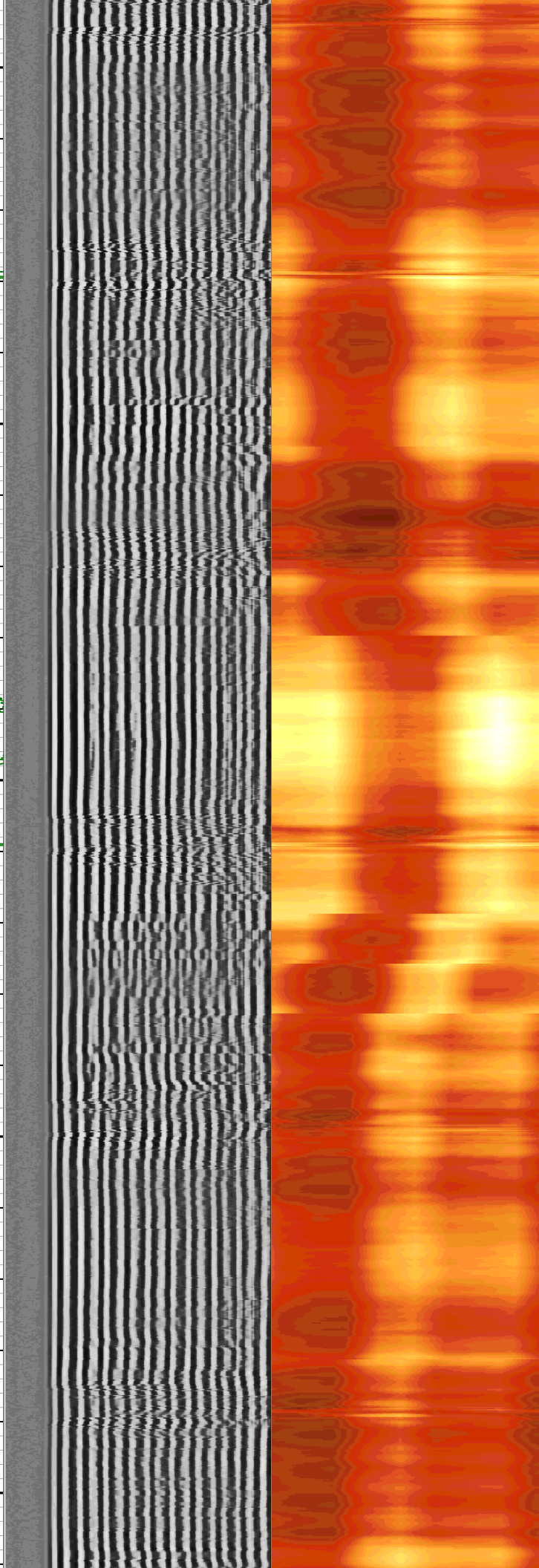
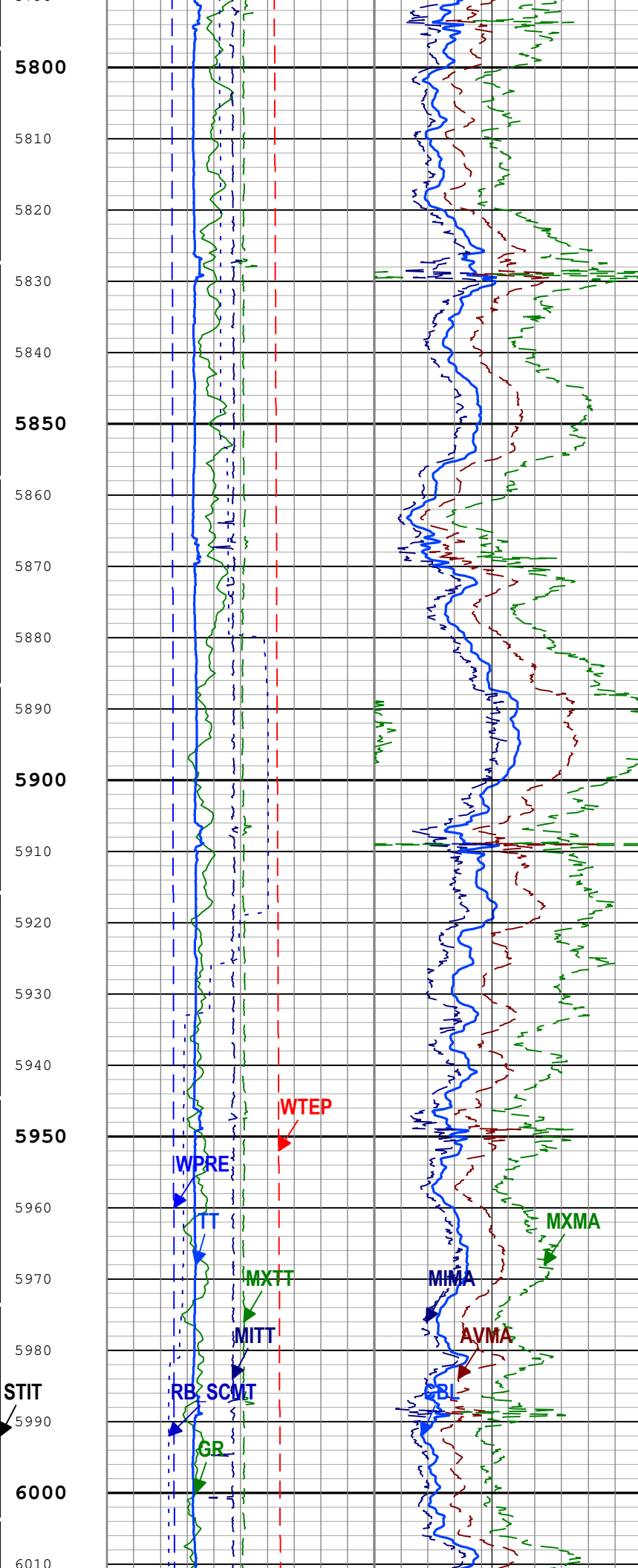




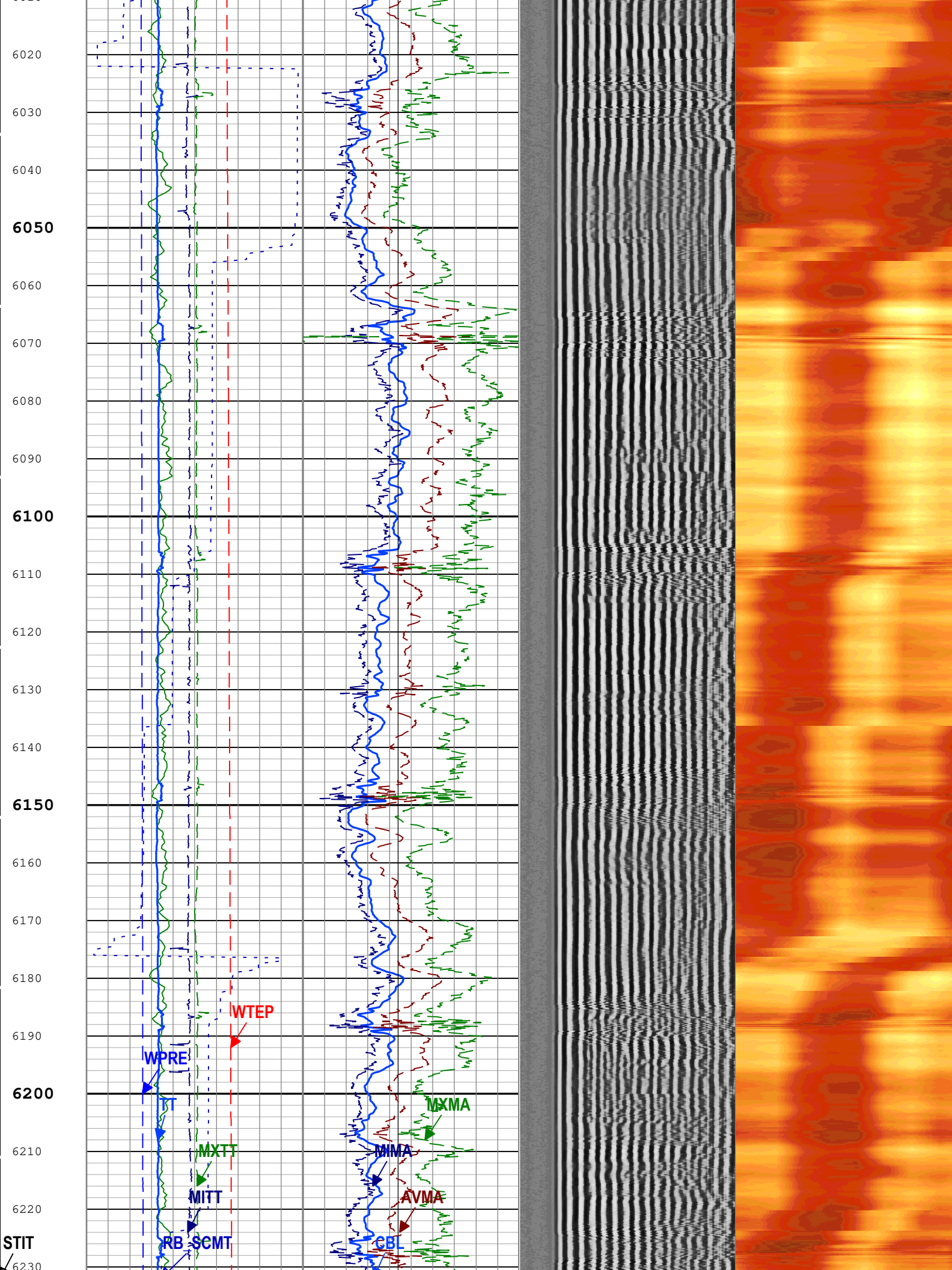




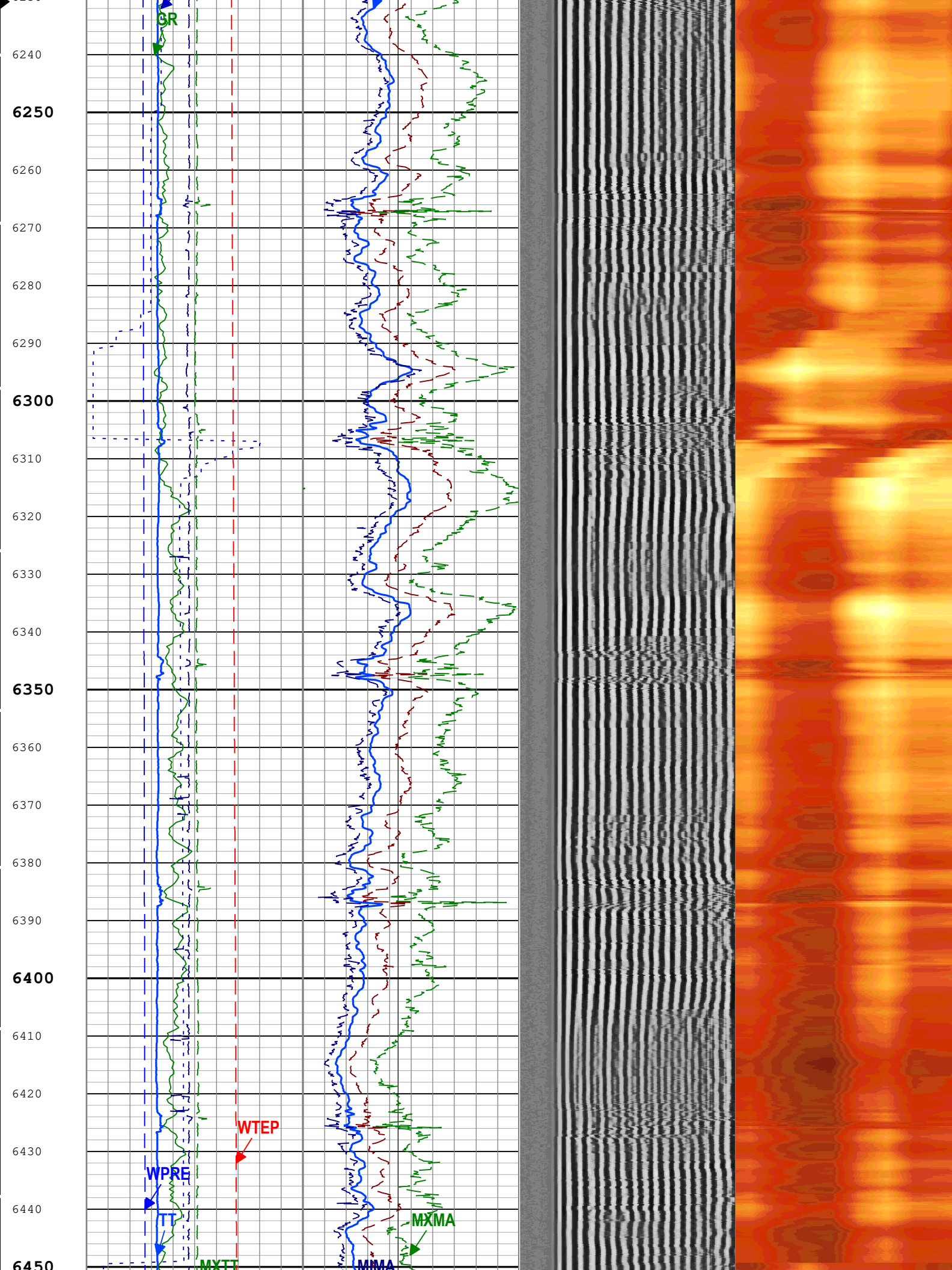


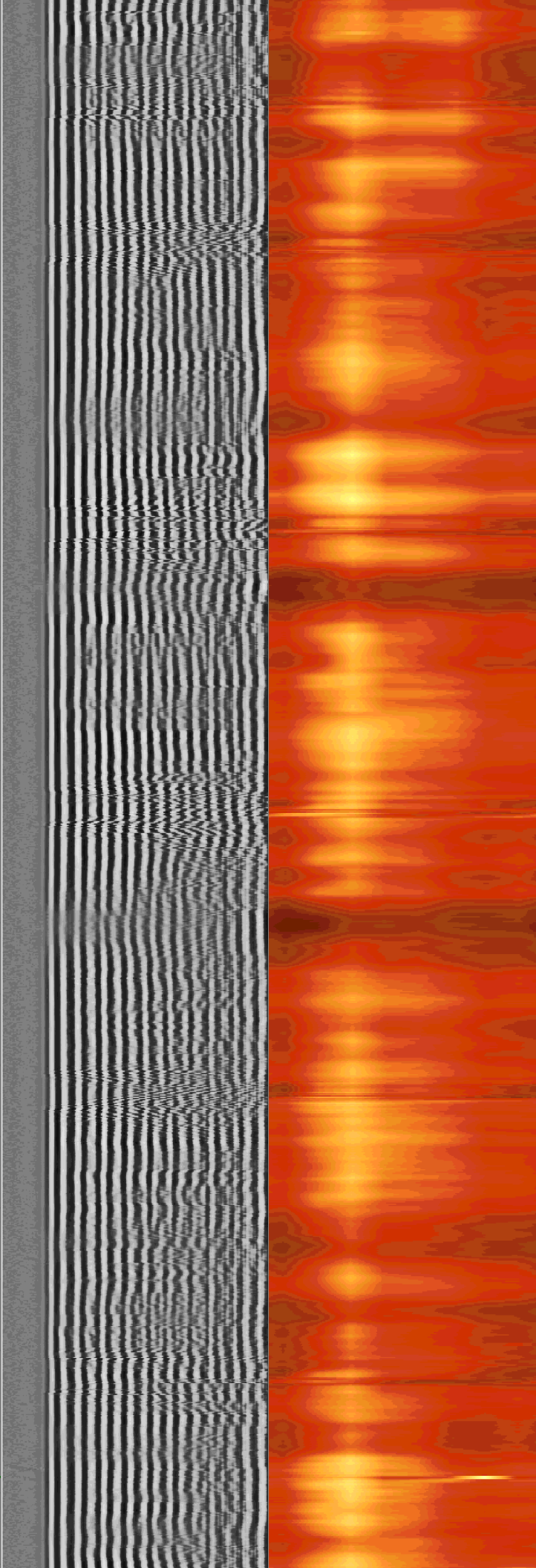
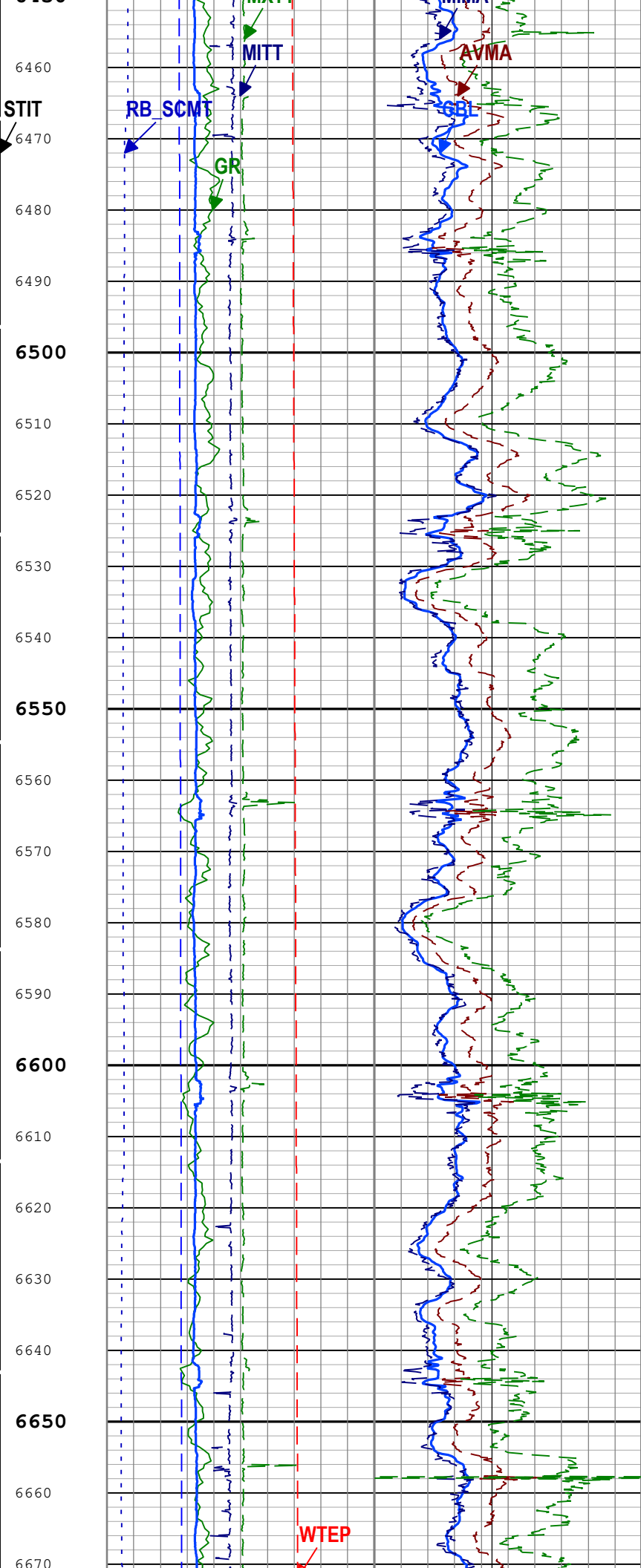




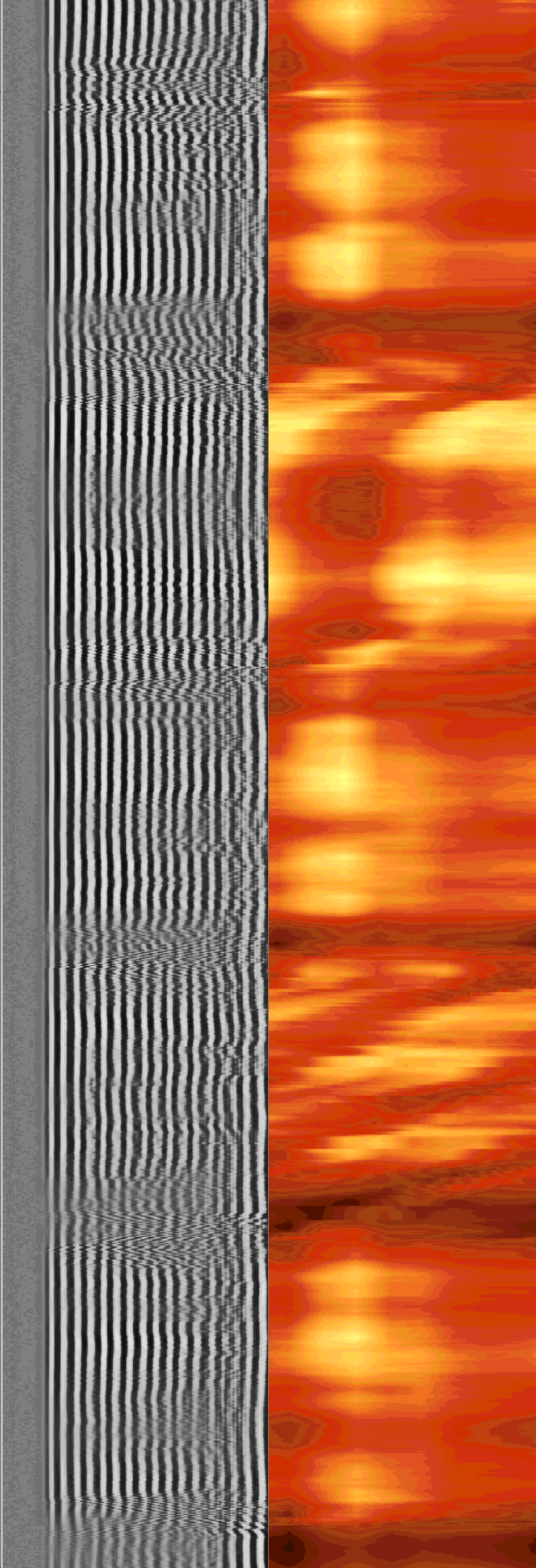
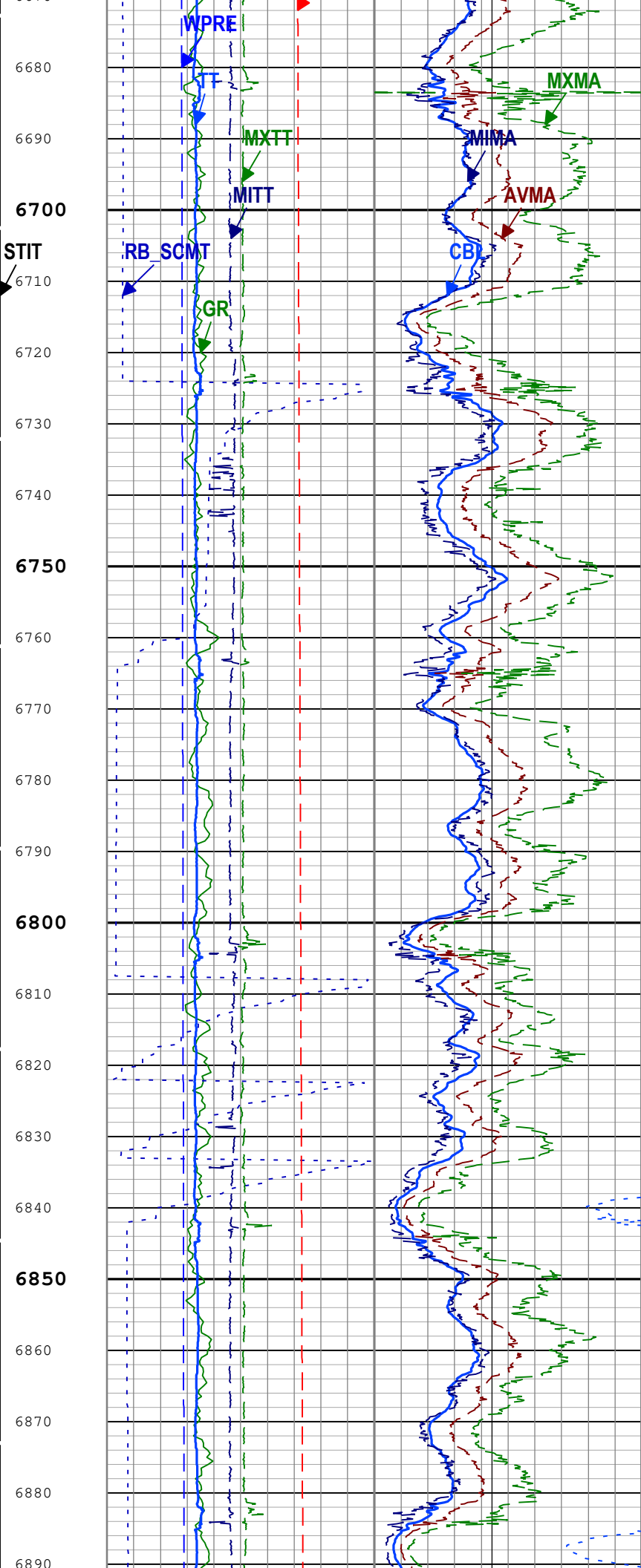




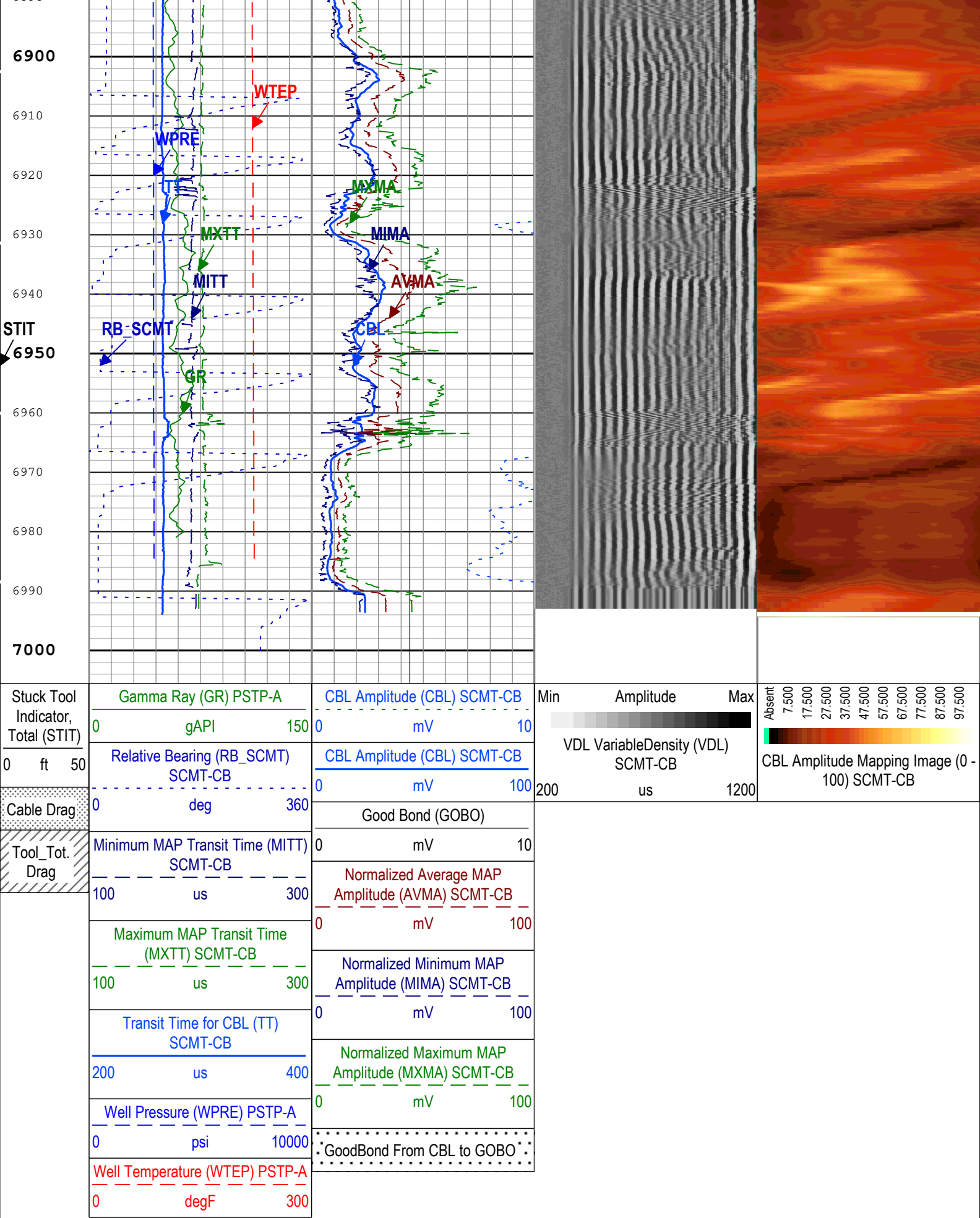












TIME\_1900 - Time Marked every 60.00 (s)

Description: SCMT VDL Image Format: Log ( SCMT\_VDL\_Image ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2019 15:26:05

Channel Processing Parameters

# Channel Processing Parameters

## Two: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	193.22	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	Time Zoned	us
CBLG	CBL Gate Width	SCMT-CB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	72	mV
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.361	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	WTPE	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	SCMT-CB	176.77	us
MMSA	MAP Minimum Sonic Amplitude	SCMT-CB	10.85	mV
MSA	Minimum Sonic Amplitude	SCMT-CB	2.19	mV
RUN_SNUM	Run Sequence Number	WSDRUN	3	

## Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
CB3G	235.54	21-May-2019 08:34:56	21-May-2019 12:17:01	7005.94	727.07
CB3G	240.38	21-May-2019 12:17:01	21-May-2019 12:40:45	727.07	24.63

All depth are at tool zero.

## Tool Control Parameters

## Two: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-CB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	12 dB	

## Import of External Image

TWO

## Repeat Pass

## Software Version

Acquisition System	Version
Maxwell 2019	9.0.106845.3100

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
TWO	Log[2]:Up	Up	2196.05 ft	2423.11 ft	21-May-2019 6:29:46 AM	21-May-2019 6:37:44 AM	ON	6.09 ft	Yes

All depths are referenced to toolstring zero

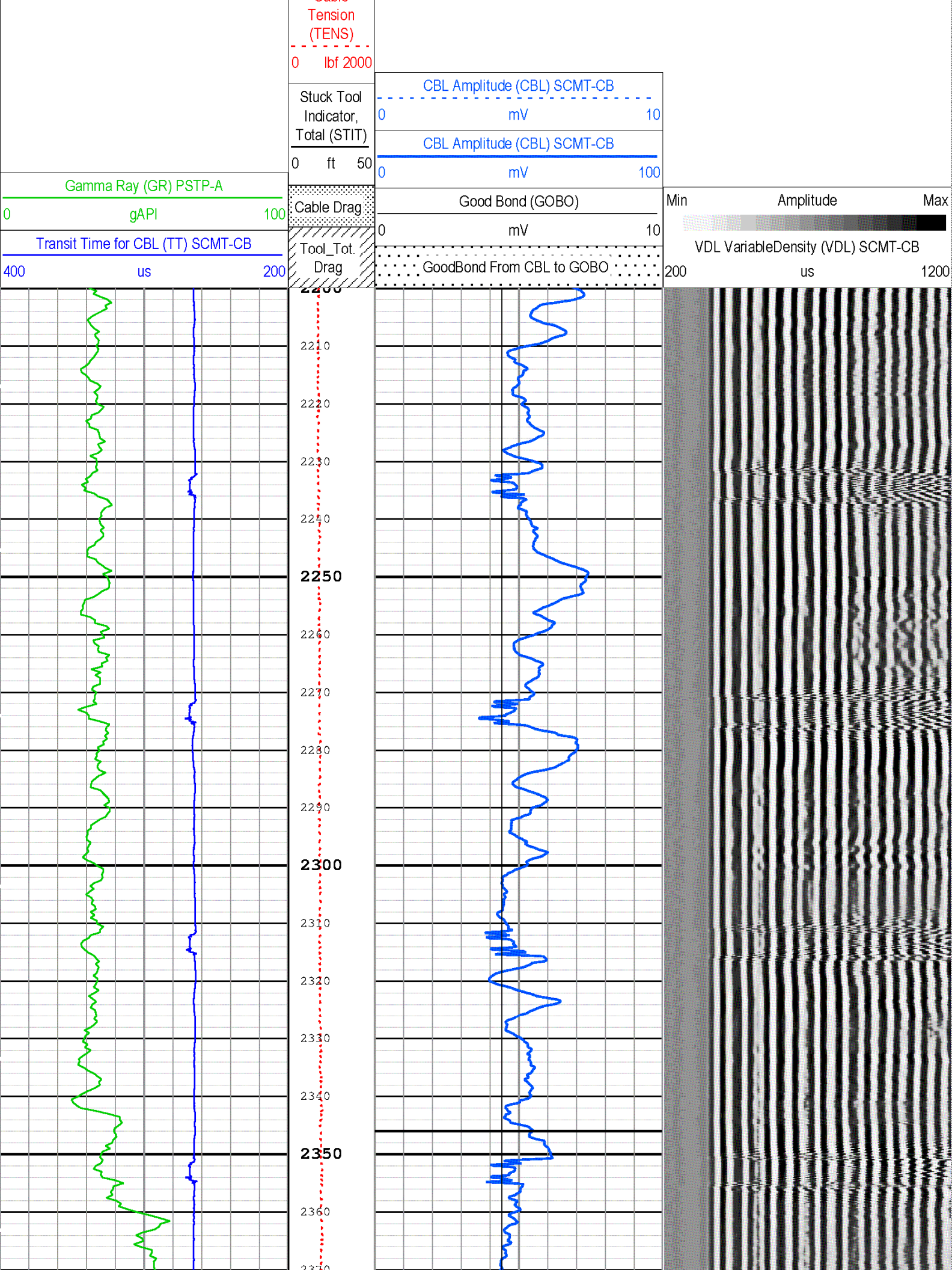
Log	Company:Crestone Peak Resources and Operating LLC	Well:Echeverria 2H-2H-D267
		TWO: Log[2]:Up:S019

Description: Sonic CBL with VDL    Format: Log ( Sonic CBL with VDL )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 23-May-2019 15:22:42

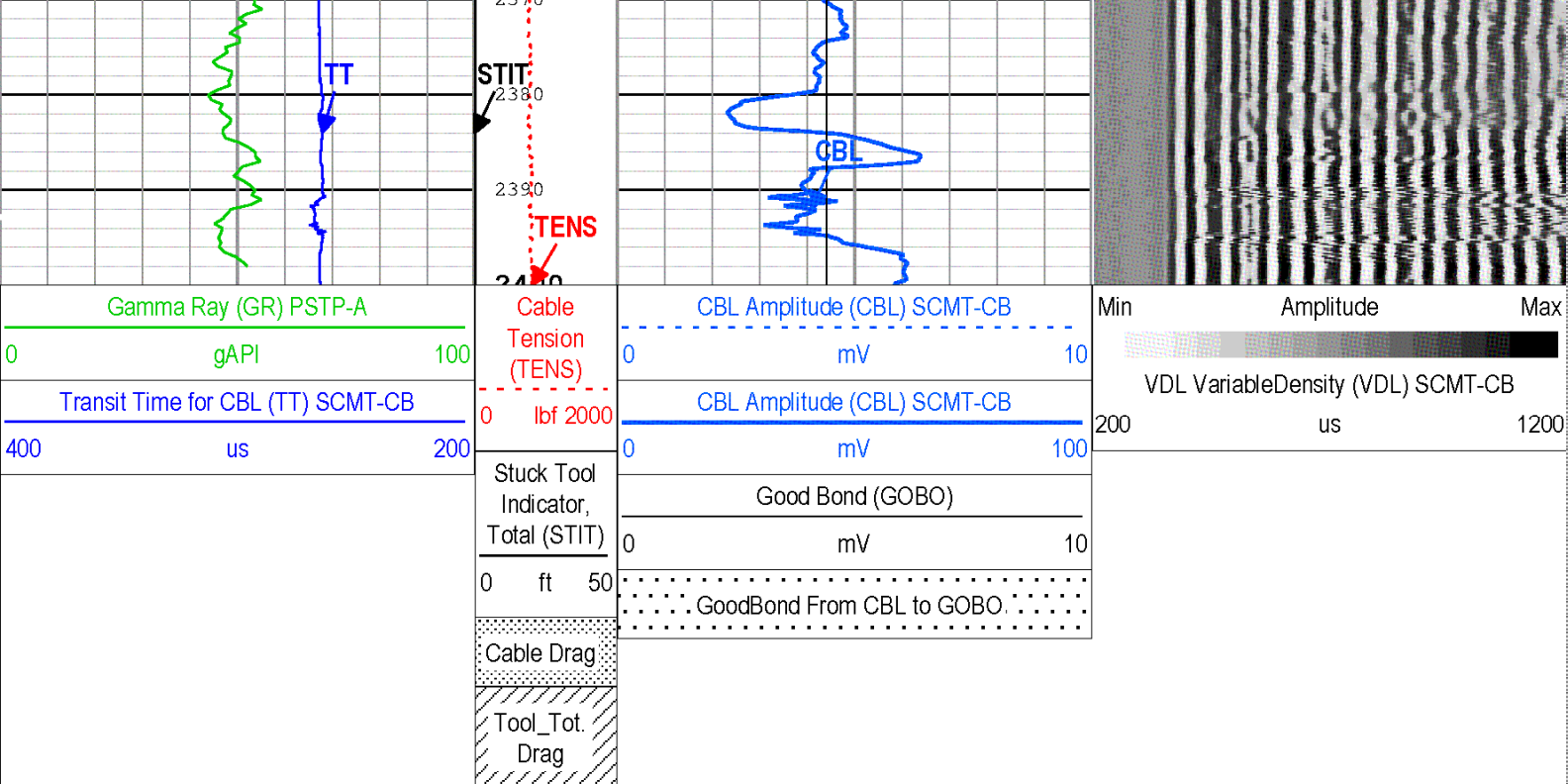
■ BIEP - Bond Index Event Pips SCMT-CB

TIME\_1900 - Time Marked every 60.00 (s)

Cable







TIME\_1900 - Time Marked every 60.00 (s)

■ BIEP - Bond Index Event Pips SCMT-CB

Description: Sonic CBL with VDL   Format: Log ( Sonic CBL with VDL )   Index Scale: 5 in per 100 ft   Index Unit: ft   Index Type: Measured Depth   Creation Date: 23-May-2019 15:22:42

## Channel Processing Parameters

### TWO: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	193.22	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	239.93	us
CBLG	CBL Gate Width	SCMT-CB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	72	mV
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
GOBO_CURR	Good Bond in Arbitrary Cement	SCMT-CB	4.4	mV
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	WTPE	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-CB	11.85	dB/ft
MCI	Minimum Cemented Interval for Isolation	SCMT-CB	Depth Zoned	ft
MSA	Minimum Sonic Amplitude	SCMT-CB	2.19	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	SCMT-CB	2.19	mV
RUN_SNUM	Run Sequence Number	WSDRUN	2	

### Depth Zone Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
MCI	14.81	2200	2346
MCI	4.75	2346	2400

All depth are actual.

## Tool Control Parameters

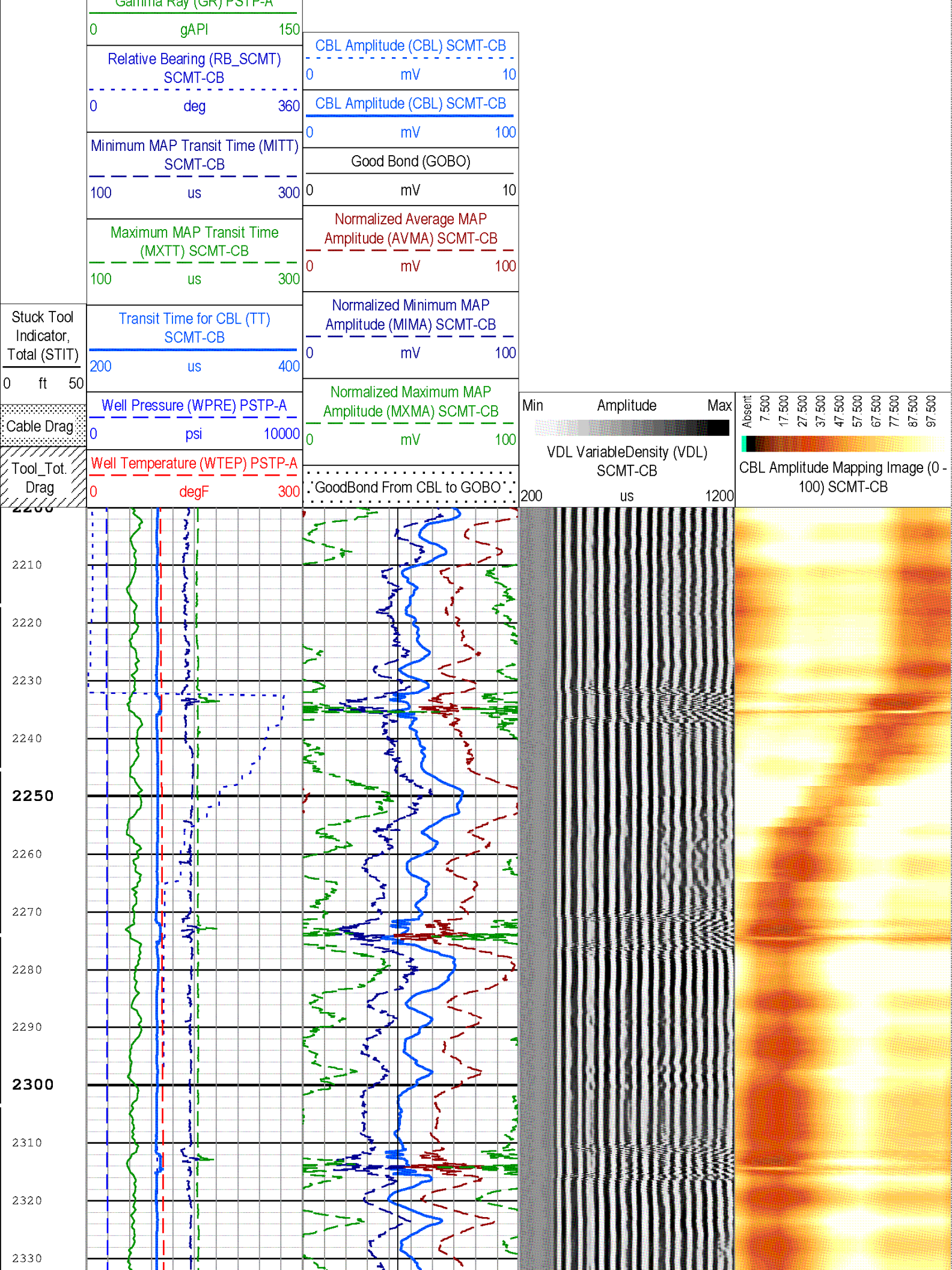
### TWO: Parameters

Parameter	Description	Tool	Value	Unit
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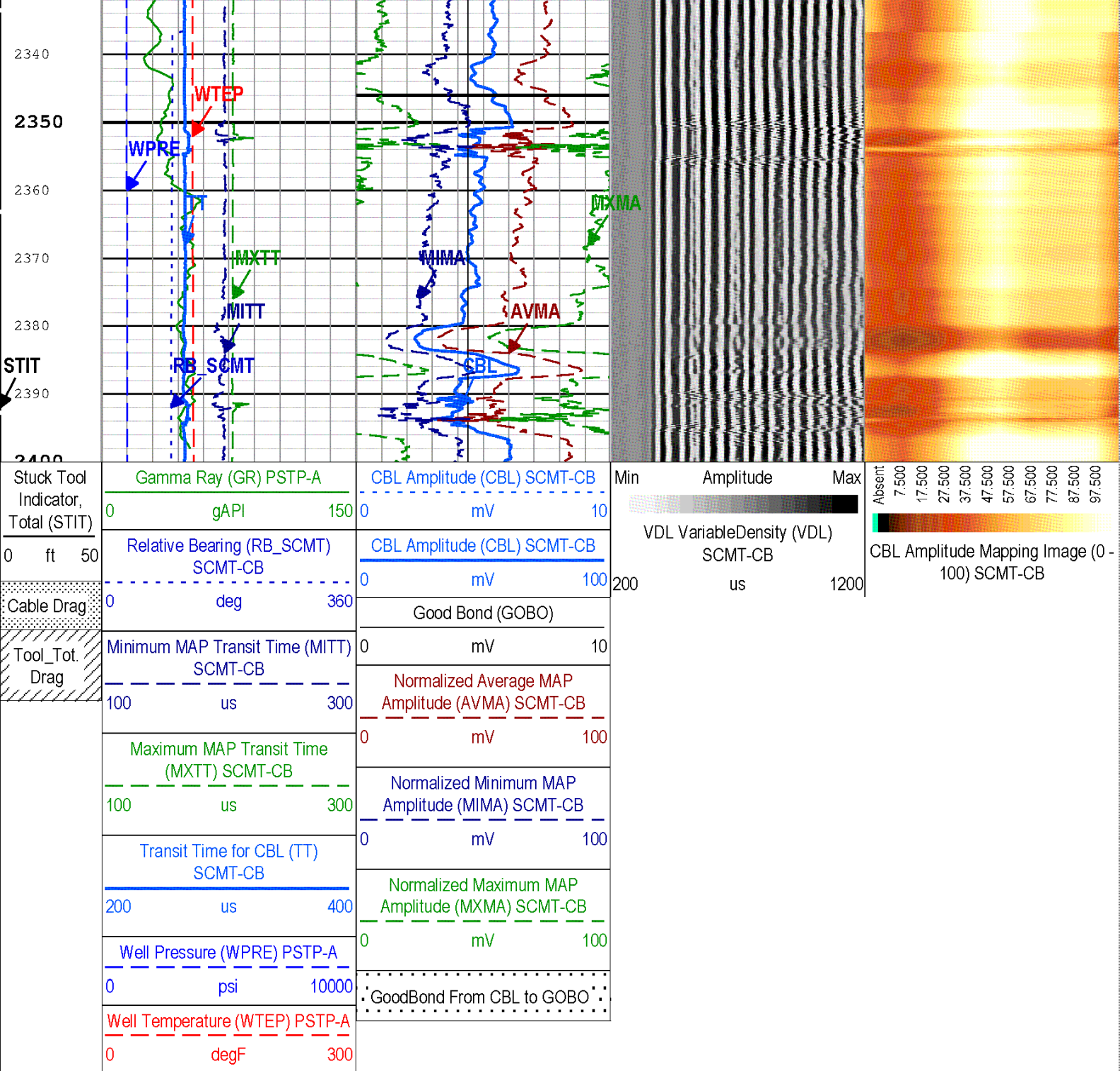
CMTM	SCMT Operating Mode	SCMT-CB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	Time Zoned	

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
PCCG	12 dB	21-May-2019 06:29:46	21-May-2019 06:33:28	2423.11	2319.09
PCCG	24 dB	21-May-2019 06:33:28	21-May-2019 06:35:52	2319.09	2249.14
PCCG	12 dB	21-May-2019 06:35:52	21-May-2019 06:37:44	2249.14	2196.05
All depth are at tool zero.					

Import of External Image									
TWO									
Repeat Pass									
Software Version									
Acquisition System						Version			
Maxwell 2019						9.0.106845.3100			
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
TWO	Log[2]:Up	Up	2196.05 ft	2423.11 ft	21-May-2019 6:29:46 AM	21-May-2019 6:37:44 AM	ON	6.09 ft	Yes
All depths are referenced to toolstring zero									
Log	Company:Crestone Peak Resources and Operating LLC						Well:Echeverria 2H-2H-D267		
TWO: Log[2]:Up:S019									
Description: SCMT VDL Image   Format: Log ( SCMT_VDL_Image )   Index Scale: 5 in per 100 ft   Index Unit: ft   Index Type: Measured Depth   Creation Date: 23-May-2019 15:23:39									







TIME\_1900 - Time Marked every 60.00 (s)

Description: SCMT VDL Image Format: Log ( SCMT\_VDL\_Image ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 23-May-2019 15:23:39

## Channel Processing Parameters

### TWO: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	193.22	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	239.93	us
CBLG	CBL Gate Width	SCMT-CB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	72	mV
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.361	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFL_CATEGORY	Drilling Fluid Type	Borehole	Water	

DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
GOBO_CURR	Good Bond in Arbitrary Cement	SCMT-CB	4.4	mV
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	WTEP	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	SCMT-CB	181.63	us
MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-CB	11.85	dB/ft
MCI	Minimum Cemented Interval for Isolation	SCMT-CB	Depth Zoned	ft
MMSA	MAP Minimum Sonic Amplitude	SCMT-CB	10.85	mV
MSA	Minimum Sonic Amplitude	SCMT-CB	2.19	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	SCMT-CB	2.19	mV
RUN_SNUM	Run Sequence Number	WSDRUN	2	

## Depth Zone Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
MCI	14.81	2200	2346
MCI	4.75	2346	2400

All depth are actual.

## Tool Control Parameters

### TWO: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-CB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	Time Zoned	

## Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
PCCG	12 dB	21-May-2019 06:29:46	21-May-2019 06:33:28	2423.11	2319.09
PCCG	24 dB	21-May-2019 06:33:28	21-May-2019 06:35:52	2319.09	2249.14
PCCG	12 dB	21-May-2019 06:35:52	21-May-2019 06:37:44	2249.14	2196.05

All depth are at tool zero.

## Calibration Report

### SCMT-CB (Slim Cement Mapping Tool, 1-11/16 OD) Calibration - Run Two

Primary Equipment :		
Slim Cement Mapping Sonde	SCMS-CB	8258

### CBL and MAP Amplitude Normalization - Measurements

Master (Measured): 20:16:15 09-Oct-2018

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CBL 3 ft Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1350.000	1000.000	1179.675	1700.000	
MAP 1 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	1218.098	1650.000	
MAP 2 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	1093.785	1650.000	
MAP 3 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	807.772	1650.000	
MAP 4 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	882.819	1650.000	
MAP 5 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	964.949	1650.000	
MAP 6 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	1086.432	1650.000	
MAP 7 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	1188.826	1650.000	

MAP 7 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	1188.836	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 8 Temperature/Pressure Compensated Raw Amplitude (at 0 degree)	mV	Master	1075.000	500.000	1282.034	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
CBL 3 ft Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1350.000	1000.000	1178.190	1700.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 1 Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1075.000	500.000	1054.282	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 2 Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1075.000	500.000	965.417	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 3 Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1075.000	500.000	760.428	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 4 Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1075.000	500.000	942.255	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 5 Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1075.000	500.000	1117.953	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 6 Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1075.000	500.000	1289.531	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 7 Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1075.000	500.000	1273.549	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 8 Temperature/Pressure Compensated Raw Amplitude (at 90 degree)	mV	Master	1075.000	500.000	1172.603	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
CBL 3 ft Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1350.000	1000.000	1177.369	1700.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 1 Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1075.000	500.000	995.650	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 2 Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1075.000	500.000	998.660	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 3 Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1075.000	500.000	861.659	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 4 Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1075.000	500.000	1085.633	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 5 Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1075.000	500.000	1238.145	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 6 Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1075.000	500.000	1300.507	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 7 Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1075.000	500.000	1172.184	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 8 Temperature/Pressure Compensated Raw Amplitude (at 180 degree)	mV	Master	1075.000	500.000	1036.327	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
CBL 3 ft Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1350.000	1000.000	1174.563	1700.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 1 Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1075.000	500.000	1078.665	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 2 Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1075.000	500.000	1119.866	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 3 Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1075.000	500.000	955.836	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 4 Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1075.000	500.000	1120.067	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 5 Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1075.000	500.000	1171.587	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 6 Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1075.000	500.000	1166.519	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 7 Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1075.000	500.000	1067.010	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 8 Temperature/Pressure Compensated Raw Amplitude (at 270 degree)	mV	Master	1075.000	500.000	1043.943	1650.000	<div><div></div><div></div><div></div><div></div><div></div></div>

CBL and MAP Amplitude Normalization - Coefficients							
Master (Measured):		20:16:15 09-Oct-2018					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div><div></div><div></div></div>
Normalization Temperature in SFT Tube	degF	Master			64.00		<div><div></div><div></div><div></div><div></div><div></div></div>
CBL Correction Factor		Master	0		0.082		<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 1 Correction Factor		Master	0		0.110		<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 2 Correction Factor		Master	0		0.115		<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 3 Correction Factor		Master	0		0.142		<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 4 Correction Factor		Master	0		0.119		<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 5 Correction Factor		Master	0		0.107		<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 6 Correction Factor		Master	0		0.099		<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 7 Correction Factor		Master	0		0.102		<div><div></div><div></div><div></div><div></div><div></div></div>
MAP 8 Correction Factor		Master	0		0.106		<div><div></div><div></div><div></div><div></div><div></div></div>



CBL and MAP Amplitude Adjustment - Measurements

Before (Manual Entry): 13:46:43 23-May-2019							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CBL Amplitude - 0	mV	Before	----	----	----	----	
Average MAP Amplitude (Fluid Compensated) - 0	mV	Before	----	----	----	----	
Measurement Depth - 0	ft	Before	----	----	----	----	

CBL and MAP Amplitude Adjustment - Coefficients

Before (Manual Entry): 13:46:43 23-May-2019							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CBL Adjustment Factor		Before			0.961		
CBL LQC Reference Amplitude in Free Pipe	mV	Before			72.00		
MAP Adjustment Factor		Before			0.621		
Depth of Before Calibration	ft	Before			1443.83		

PSTP-A (PSP Telemetry Platform A - Sapphire) Calibration - Run Two

Primary Equipment :		
PBMS-A	PBMS-A	1925
Calibration Parameter :		
JIG-BKGD		

PBMS Well Temp Master Calibration

Master (EEPROM): 00:00:00 22-Oct-2018						
PBMS_RTD_THERM (Master) RTD Coefficients						
	Tt**0	Tt**1	Tt**2	Tt**3	Tt**4	Tt**5
Tt**0	-410.1011	188.1116	-36.84356	7.122567	-0.4733946	0

PBMS Gamma Ray Master Calibration

Master (EEPROM): 00:00:00 07-Mar-2003		
PBMS_GR_MODEL (Master) GR Coefficients		
	Rt**0	Rt**1
Rt**0	2000	4740

PBMS A Reference Clock Master Calibration

Master (EEPROM): 00:00:00 22-Oct-2018						
PBMS_REF_CLOCK (Master) PBMS A Clock Coefficients						
	Temp**0	Temp**1	Temp**2	Temp**3	Temp**4	Temp**5
Temp**0	-53.18935	-7.201934	-0.02214573	0.0001183733	4.091469E-06	0

PBMS A Sapphire Master Calibration

Master (EEPROM): 00:00:00 22-Oct-2018						
PBMS_P_GAUGE_PRES (Master) Sapphire Pressure Model Coefficients						
	Tt**0	Tt**1	Tt**2	Tt**3	Tt**4	Tt**5
Tp**0	-25691.09	17029.96	-5075.791	726.4449	-40.75964	0
Tp**1	19132.39	-12381.02	3822.557	-563.1737	32.42202	0
Tp**2	-179.7185	65.96684	-6.392941	0	0	0
Tp**3	3.901225	-0.8302976	0	0	0	0

Tp**3	0	0	0	0	0	0
Tp**4	0	0	0	0	0	0
Tp**5	0	0	0	0	0	0
PBMS_P_GAUGE_TEMP    Sapphire   Temperature Model Coefficients (Master)						
	Tp**0	Tp**1	Tp**2	Tp**3	Tp**4	Tp**5
Tt**0	2139.044	0.9065338	-1.614862	0.4019501	-0.0426815	0
Tt**1	-1249.353	0.4641727	0.3407869	-0.06403436	0.007093906	0
Tt**2	256.6918	-0.2288171	-0.01679745	0	0	0
Tt**3	-18.59611	0.0234225	0	0	0	0
Tt**4	0	0	0	0	0	0
Tt**5	0	0	0	0	0	0

Company:	Crestone Peak Resources and Operating LLC	Schlumberger
Well:	Echeverria 2H-2H-D267	
Field:	Wattenberg	
County:	Weld	
State:	Colorado	
Slim Cement Mapping Tool		
Cement Evaluation		
Gamma Ray - CCL Log		