Schlumberger

Company: Caerus Piceance LLC

Well: Puckett 42A-2

Field: Wildcat

County: Garfield State: Colorado

Slim Cement Mapping Tool

CBL-VDL

County: Garfield
Field: Wildcat
Location: SHL: S2, T7S, R97W
Well: Puckett 42A-2
Company: Caerus Piceance LLC

Location:
SHL: S2, T7S, R97W
2190' FNL & 654' FEL
LAT: 39.475778 / LONG: -108.180319

Elev.: K.B. 8509.00 ft
G.L. 8479.00 ft
D.F. 8509.00 ft

Permanent Datum: Ground Level Elev.: 8479.00 f
Log Measured From: Kelly Bushing 30.00 ft above Perm.Datum
Drilling Measured From: Kelly Bushing

API Serial No.	Section:	Township:	Range:
05-045-22632	2	7S	97W

Logging Date		23-Jul-2015	
Run Number		ONE	
Depth Driller		8930.00 ft	
Schlumberger Depth		8865.00 ft	
Bottom Log Interval		8865.00 ft	
Top Log Interval		2500.00 ft	
Casing Fluid Type		3% KCl	
Salinity			
Density		9 lbm/gal	
Fluid Level		0.00 ft	
BIT/CASING/TUBING STRING			
Bit Size		8.75 in	
From		2505.00 ft	
To		8930.00 ft	
Casing/Tubing Size		4.5 in	
Weight		11.6 lbm/ft	
Grade		P110	
From		0.00 ft	
To		8925.00 ft	
Max Recorded Temperatures		235 degF	
Logger on Bottom	Time	24-Jul-2015 00:32:00	
Unit Number	Location:	2135 Fort Morgan, CO	
Recorded By		Benjamin Marmon	
Witnessed By		Natalie Naeve	

Disclaimer

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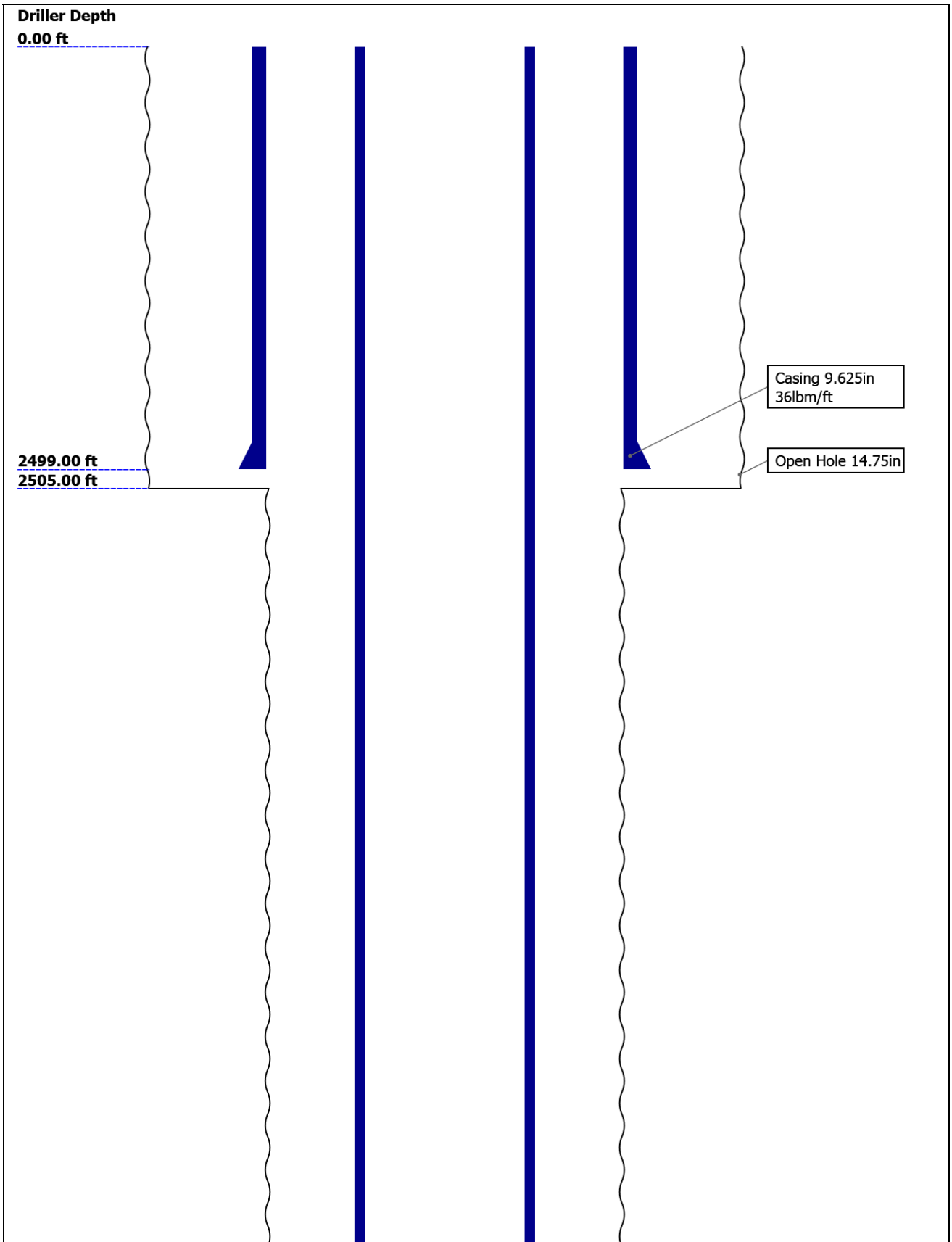
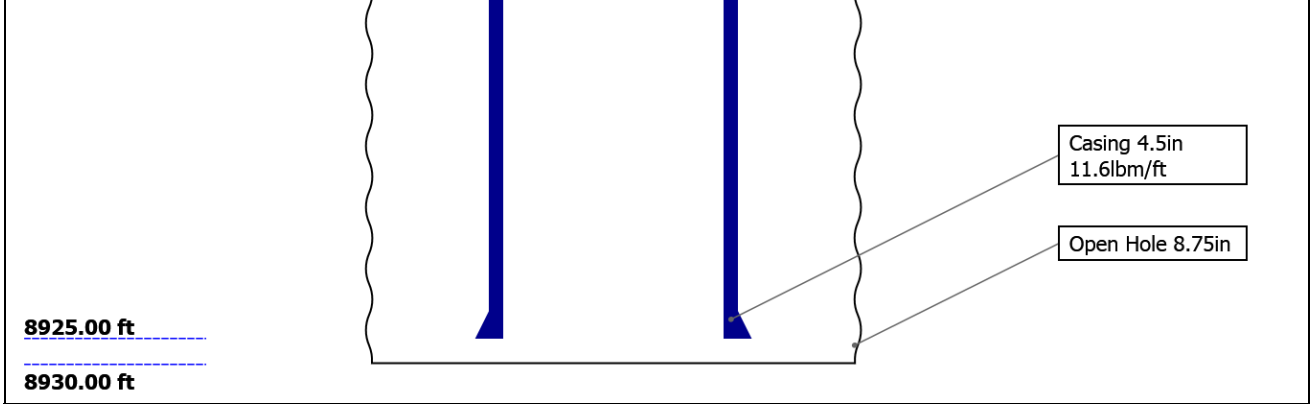
Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	14.75	8.75				
Top Driller (ft)	0	2505				
Top Logger (ft)	0	2505				
Bottom Driller (ft)	2505	8930				
Bottom Logger (ft)	2505	8930				
Casing						
Size (in)	9.625	4.5				
Weight (lbm/ft)	36	11.6				
Inner Diameter (in)	8.921	4				
Grade	J55	P110				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	2499	8925				
Bottom Logger (ft)	2499	8925				

Operational Run Summary

Parameter (unit)	ONE					
Date Log Started	23-Jul-2015					
Time Log Started	22:13:28					
Date Log Finished	24-Jul-2015					
Time Log Finished	05:38:12					
Top Log Interval (ft)	2500.00					
Bottom Log Interval (ft)	8865.00					
Total Depth (ft)	8865.00					
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	8.750					
Logging Unit Number	2135					
Logging Unit Location	Fort Morgan, CO					
Recorded By	Benjamin Marmon					

Witnessed By	Natalie Naeve					
Service Order Number	D5ND-00074					

Remarks and Equipment Summary

ONE: Toolstring

Equip name	Length	MP name	Offset
LEH-QT	**58.39**		
LEH-QT			
AH-63	**55.47**		
AH-79	**55.16**		
PSTP-A:1963	**54.32**		
PSC-A			
PSTC-A			
PBMS-A:1963			
Sapphire 10k PSI			
		GR	**50.62**
		PSTC	**50.32**
		PSTC Tool String Bottom	**0.00**
		Temperature	**47.53**
		Sapphire Pressure	**47.42**
		CCL	**46.81**
		PBMS	**46.06**
RST-C:1787	**46.06**		
RSCH-A:374			
RSC-E:381			
RSS-A:254			
MNTR-F:1			
RSXH-A:275			
RSX-E:1787			
		RSC-E	**39.7**
		Far	**36.94**
		Near	**36.44**
		RSX-E	**23.03**
SCMT-BB:8002	**23.03**		
SECH-CA			
SCMC-BB			
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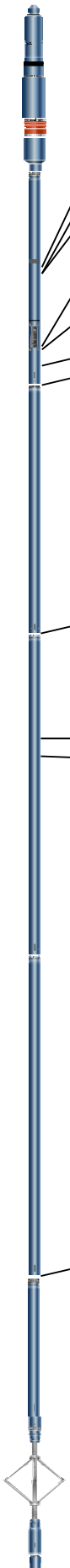
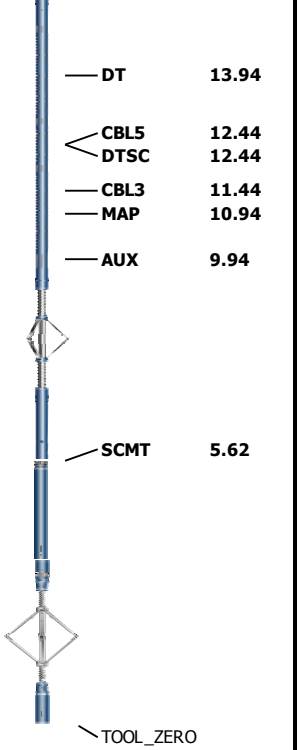
SCMX-BA			
LTCR-D			



ONE: Remarks

Tool ran as per tool sketch.
This is the first run in the hole.
Main and Repeat passes are correlated to
RST ran in Sigma mode.
Matrix: Sandstone, 2.68 g/cc
Tagged float collar at 8865'.
Reapeat pass is done with 0 psi.
Main pass logged with 2500 psi.
Logged stopped at 2500' as per client request.



Lengths are in ft
Maximum Outer Diameter = 3.375 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	7-46A-XS		
Serial Number			
Length	21000.00 ft		
Conveyance Type	Wireline		
Rig Type	Crane		

ONE:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	All Schlumberger depth control procedures followed during logging operations.
Rig Up Length At Surface		IDW used as primary depth control.
Rig Up Length At Bottom		Z-Chart used as secondary depth control

Rig Up Length At Bottom

Rig Up Length Correction

Stretch Correction

Tool Zero Check At Surface

Z-Chart used as secondary depth control.

ONE

Main Pass 2500 PSI

Software Version

Acquisition System	Version
Maxwell 2016	6.0.47569.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[4]:Up	Up	2360.48 ft	8880.90 ft	24-Jul-2015 1:18:37 AM	24-Jul-2015 5:02:44 AM	ON	4.95 ft	Yes

All depths are referenced to toolstring zero

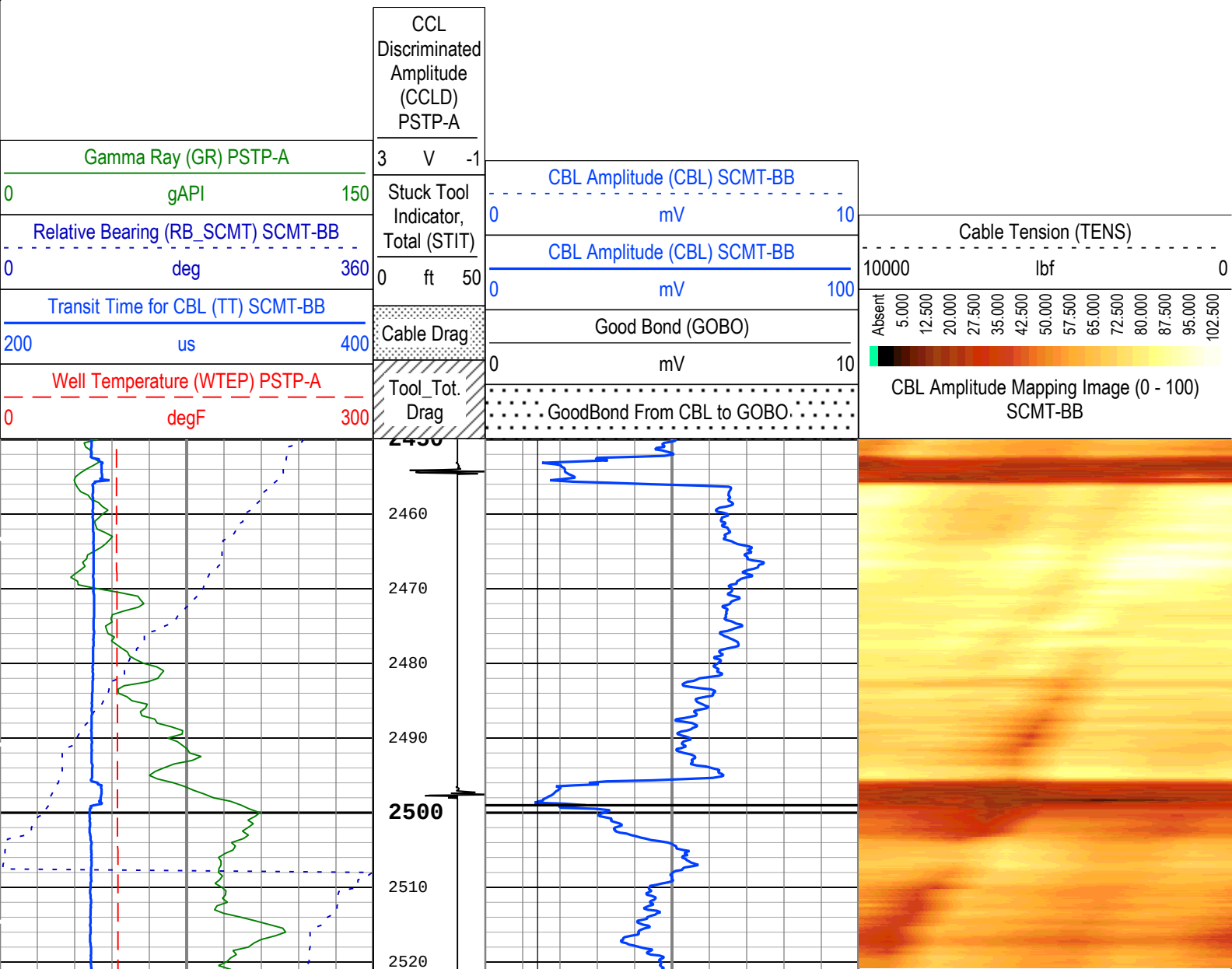
Log

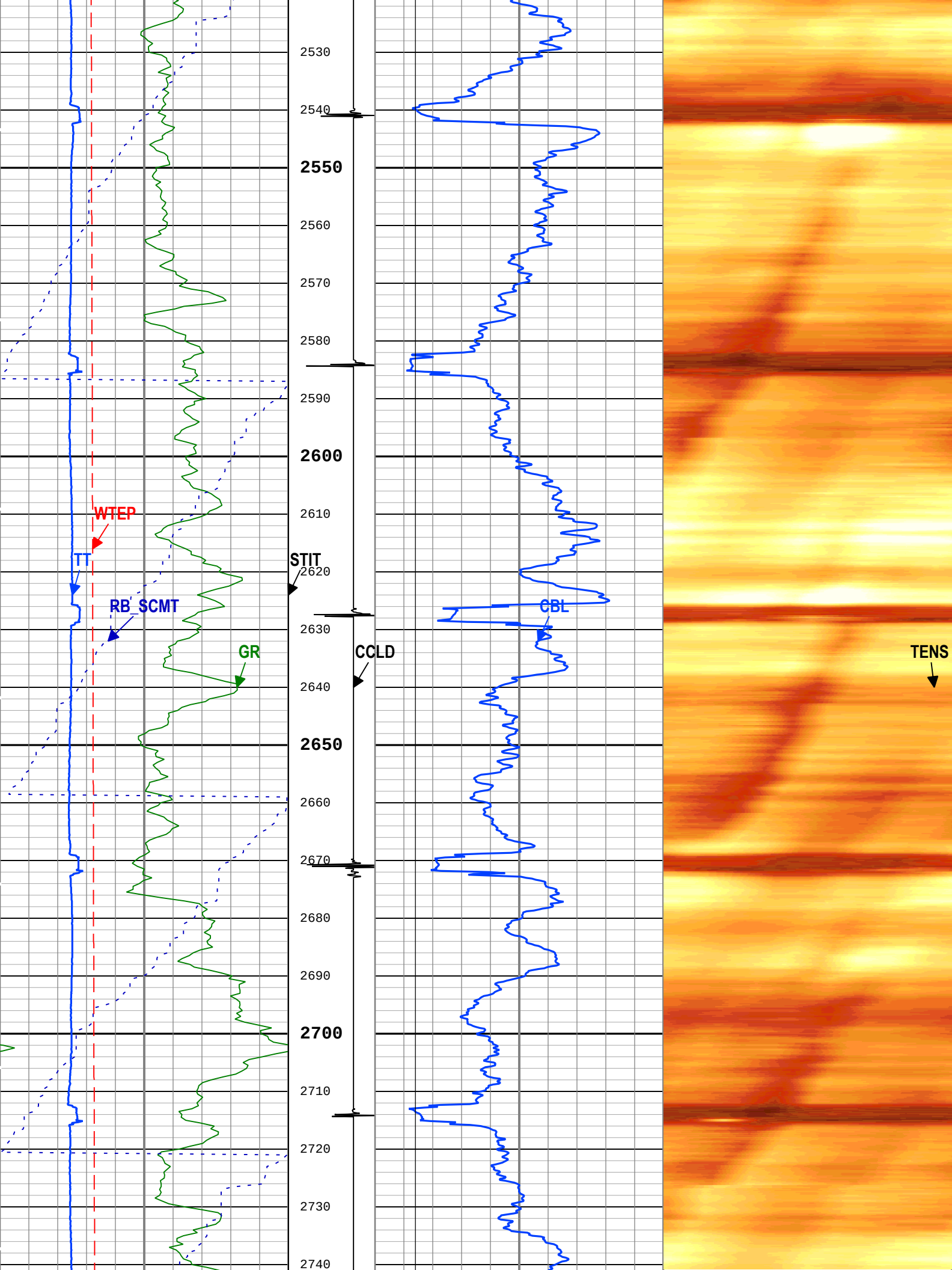
Company:Caerus Piceance LLC Well:Puckett 42A-2

ONE: Log[4]:Up:S017

Description: SCMT Amplitudes and MAP Image Format: Log (SCMT_Amp_Image_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Aug-2015 12:04:18

TIME_1900 - Time Marked every 60.00 (s)

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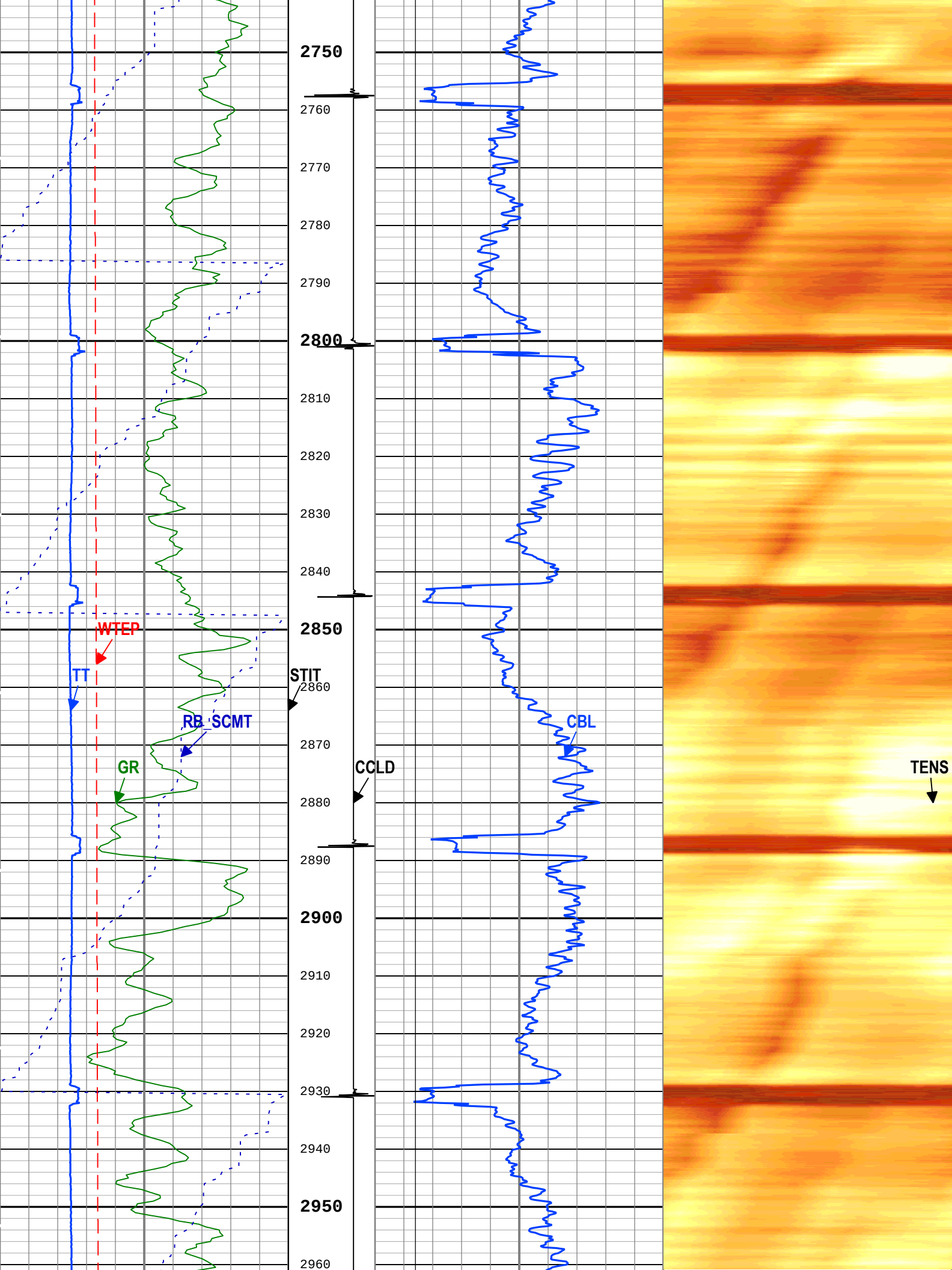
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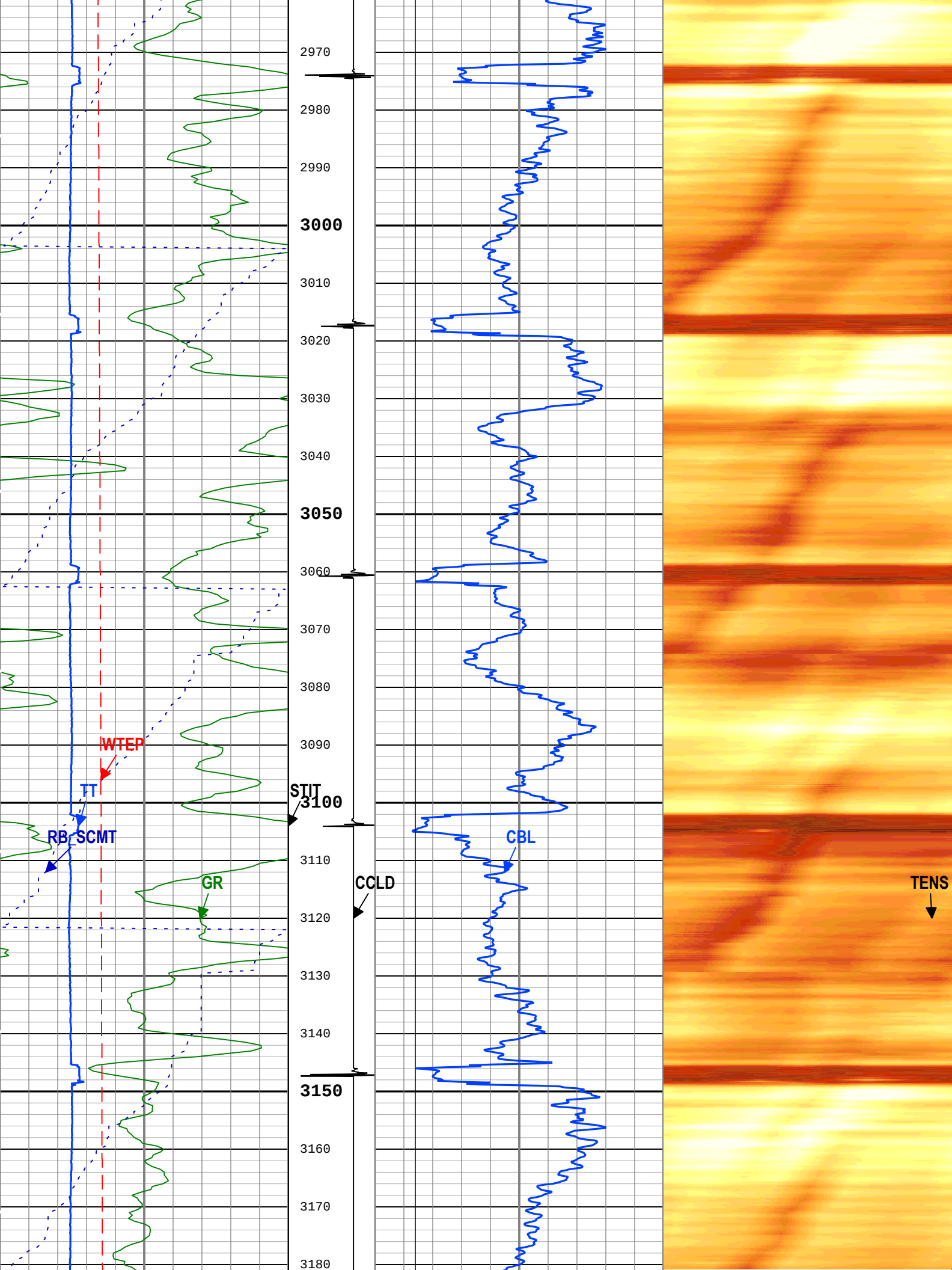
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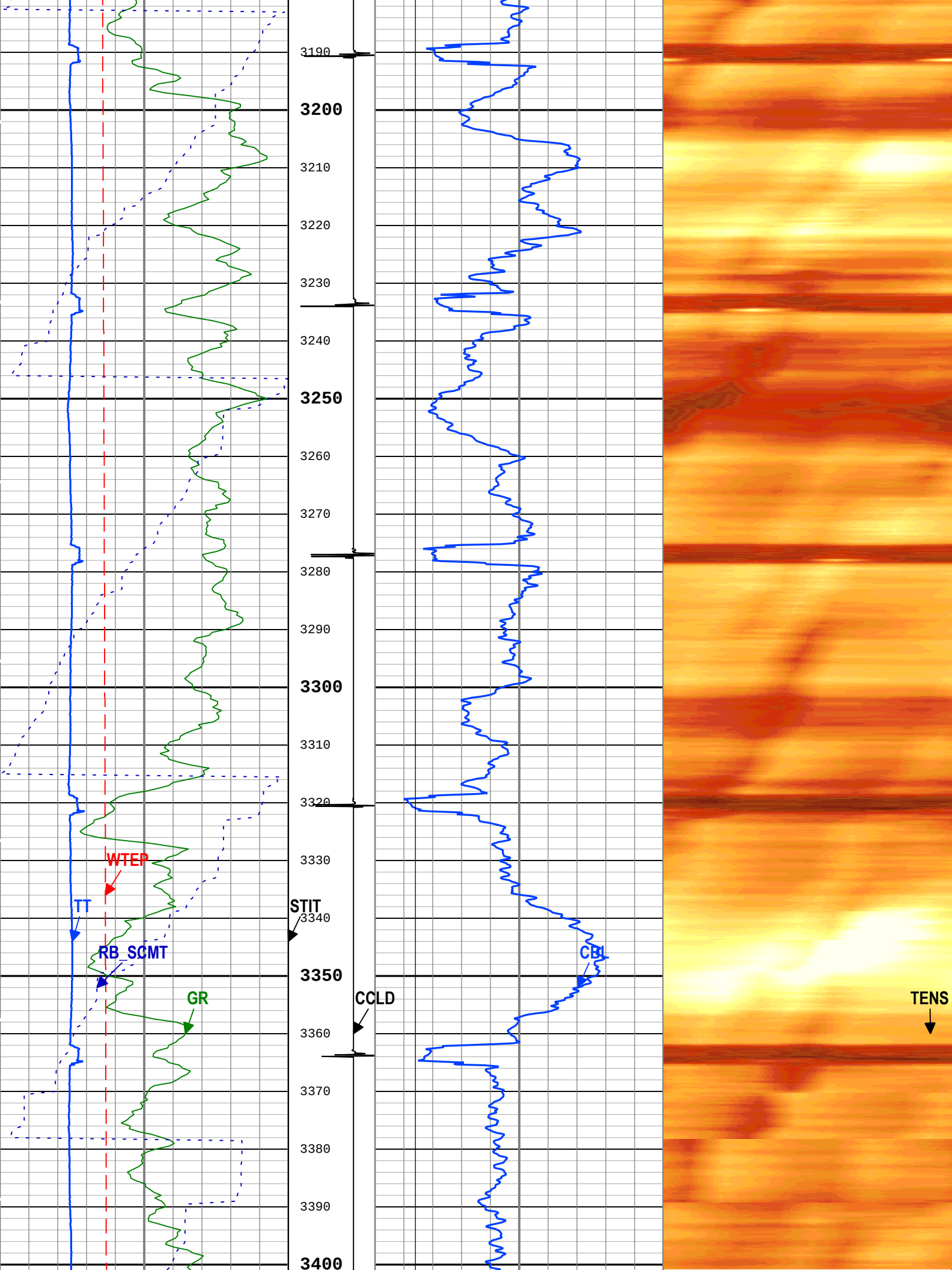
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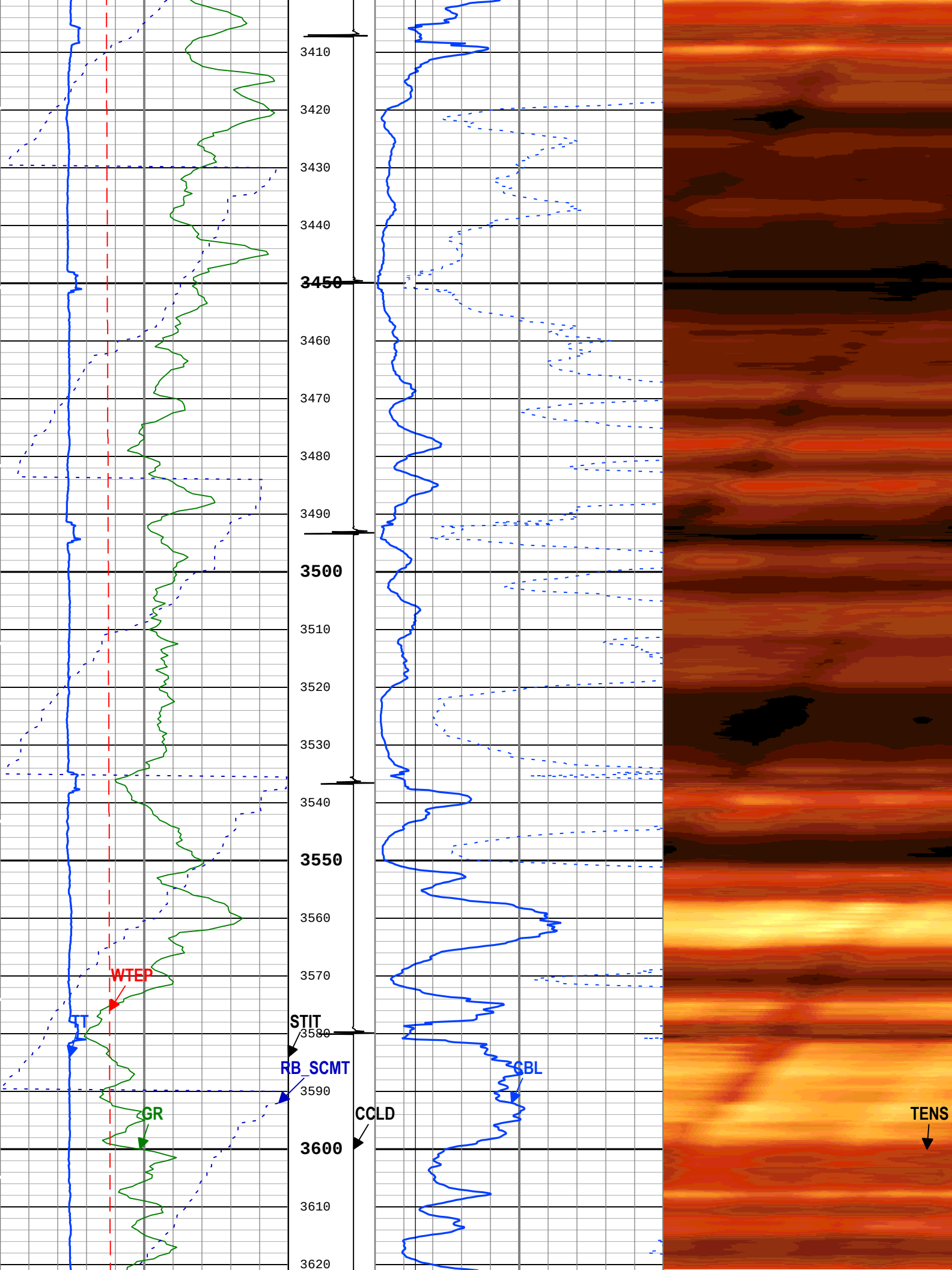
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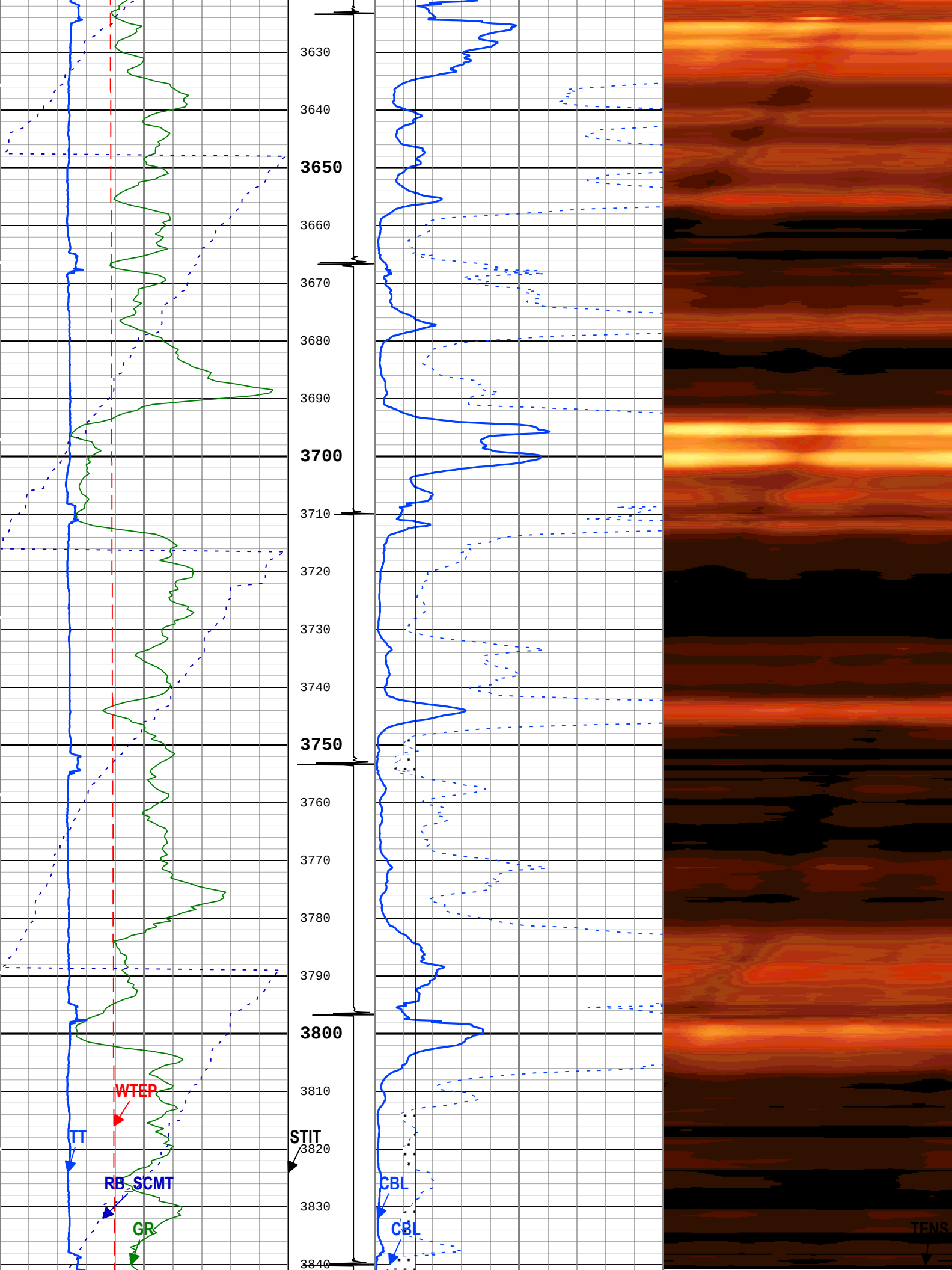
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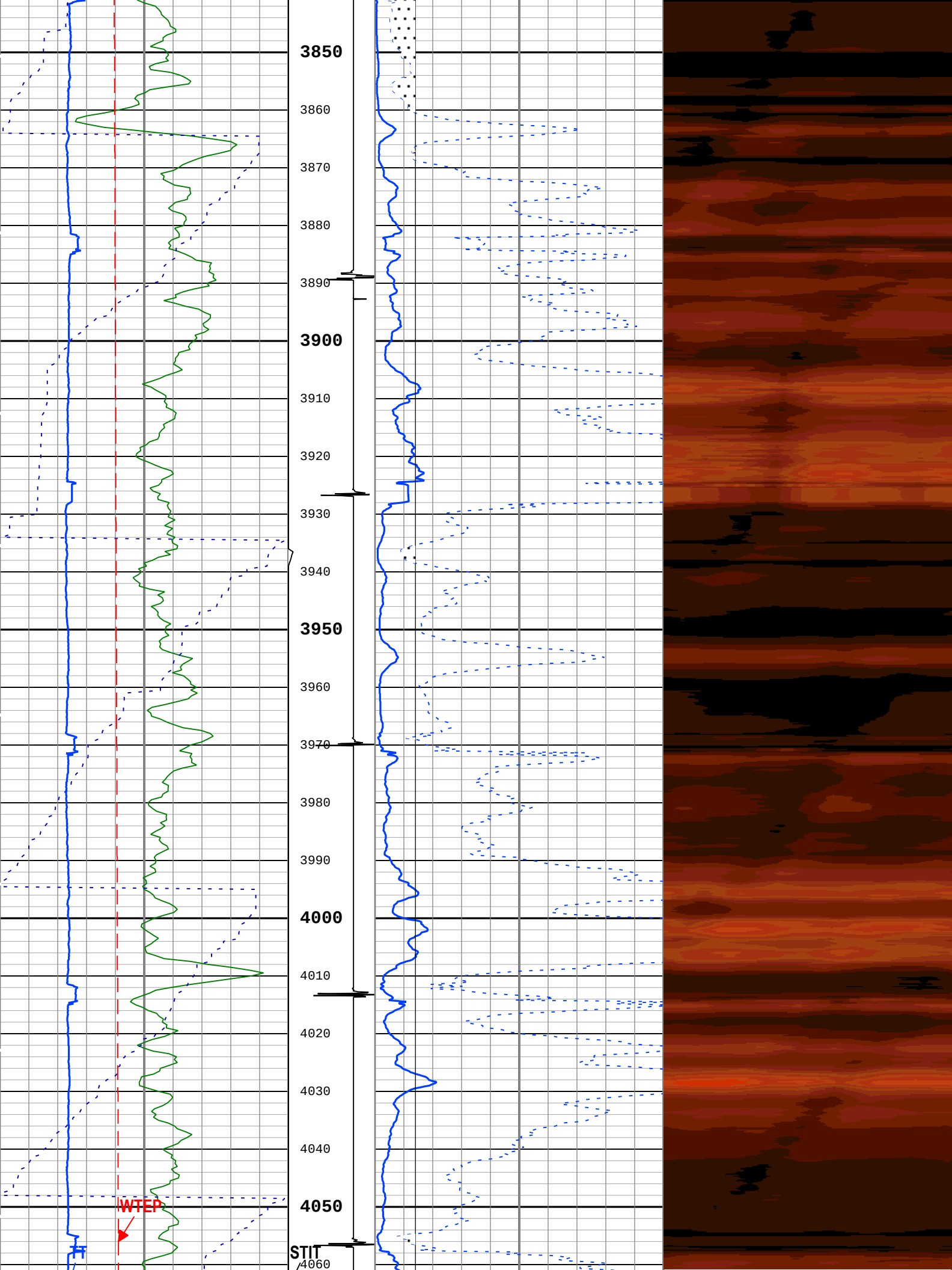
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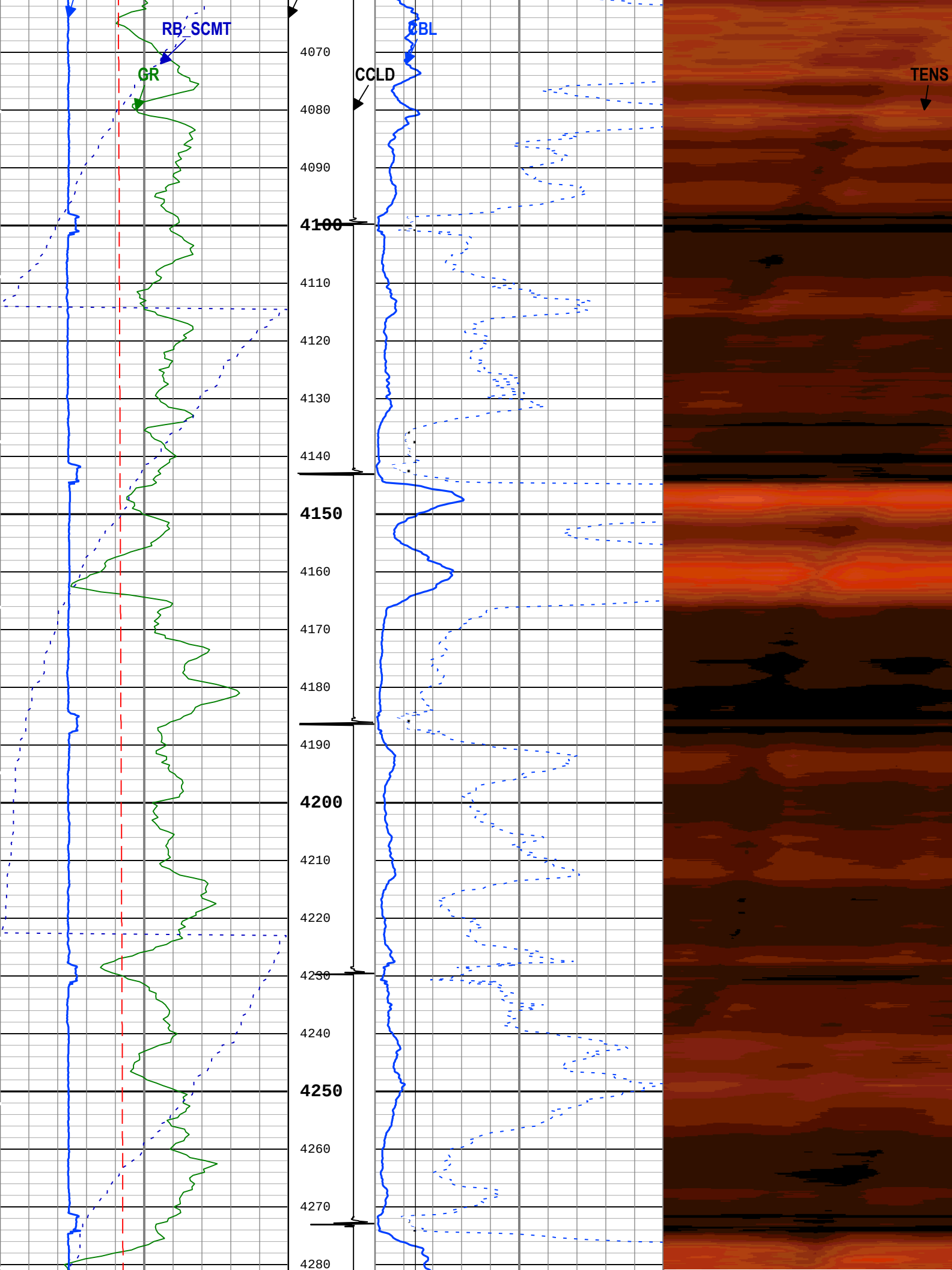
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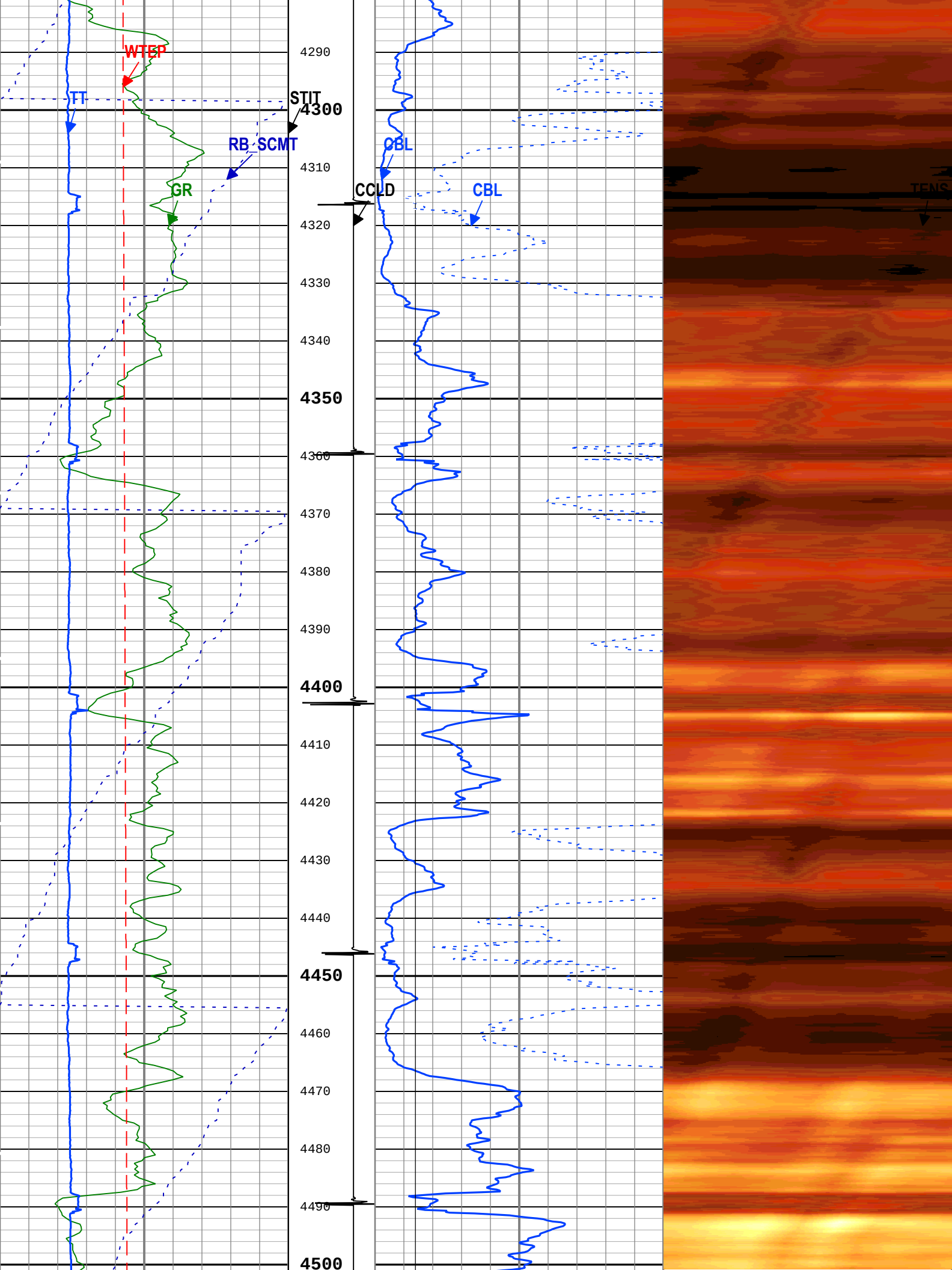
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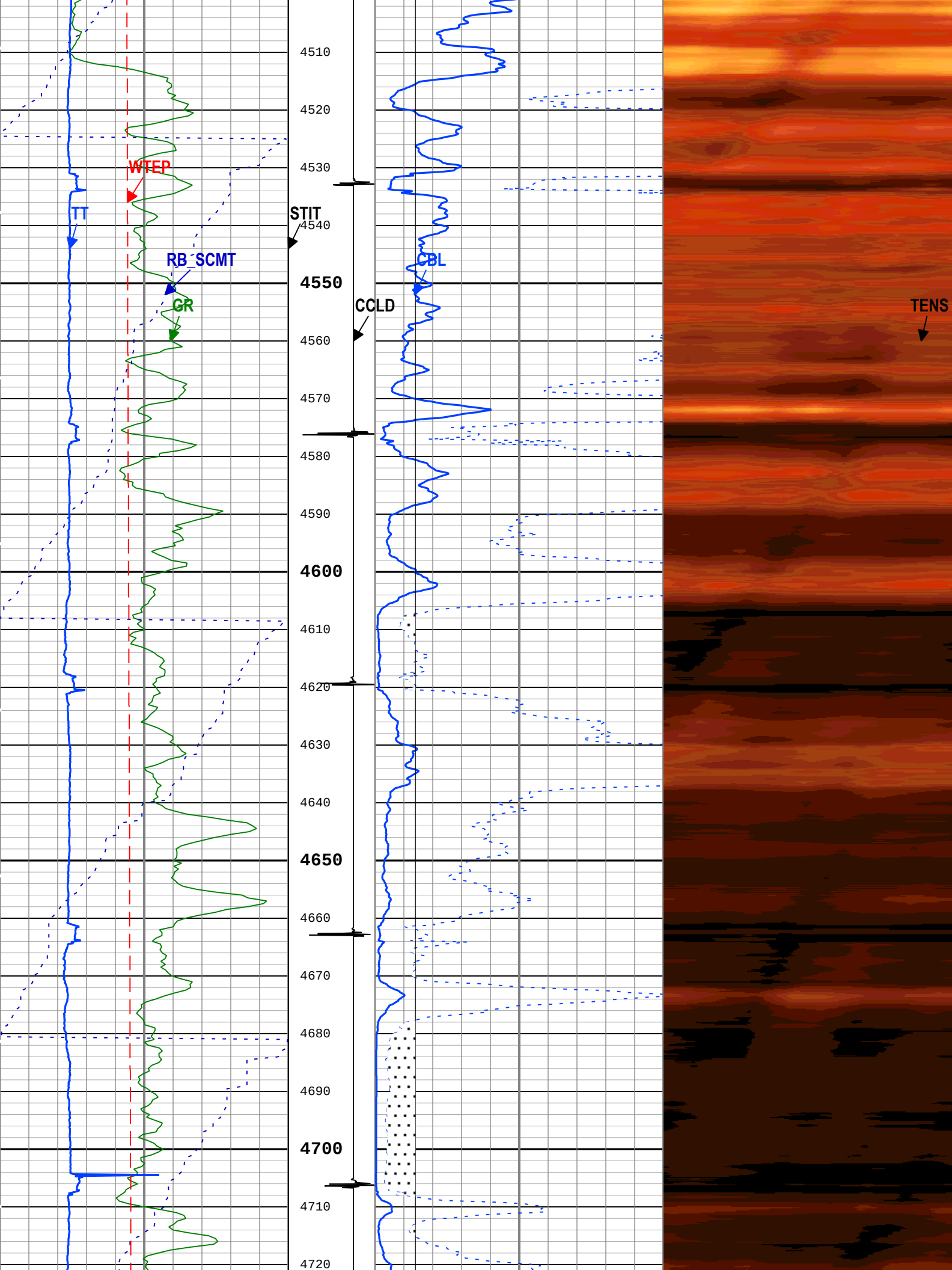
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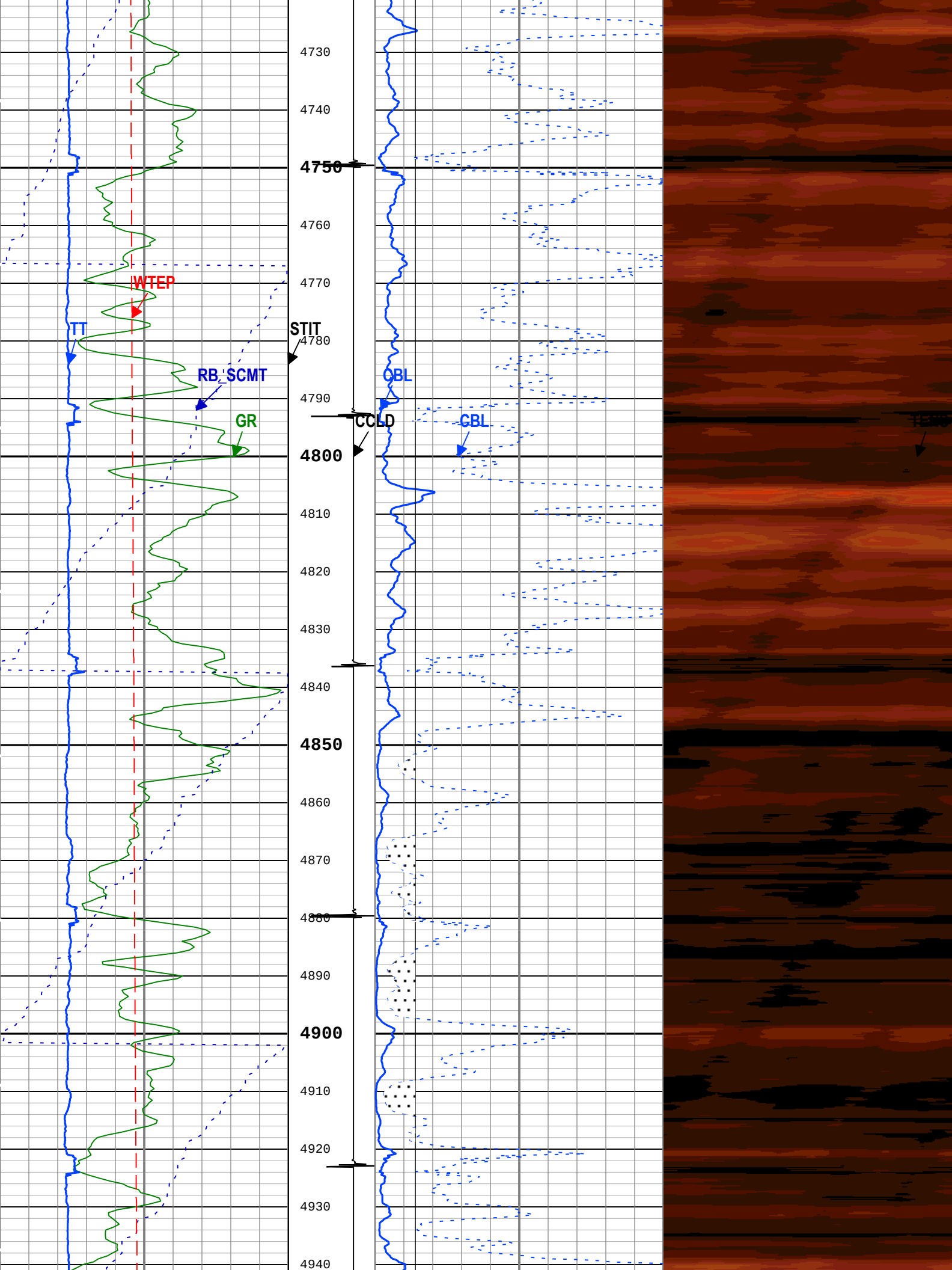
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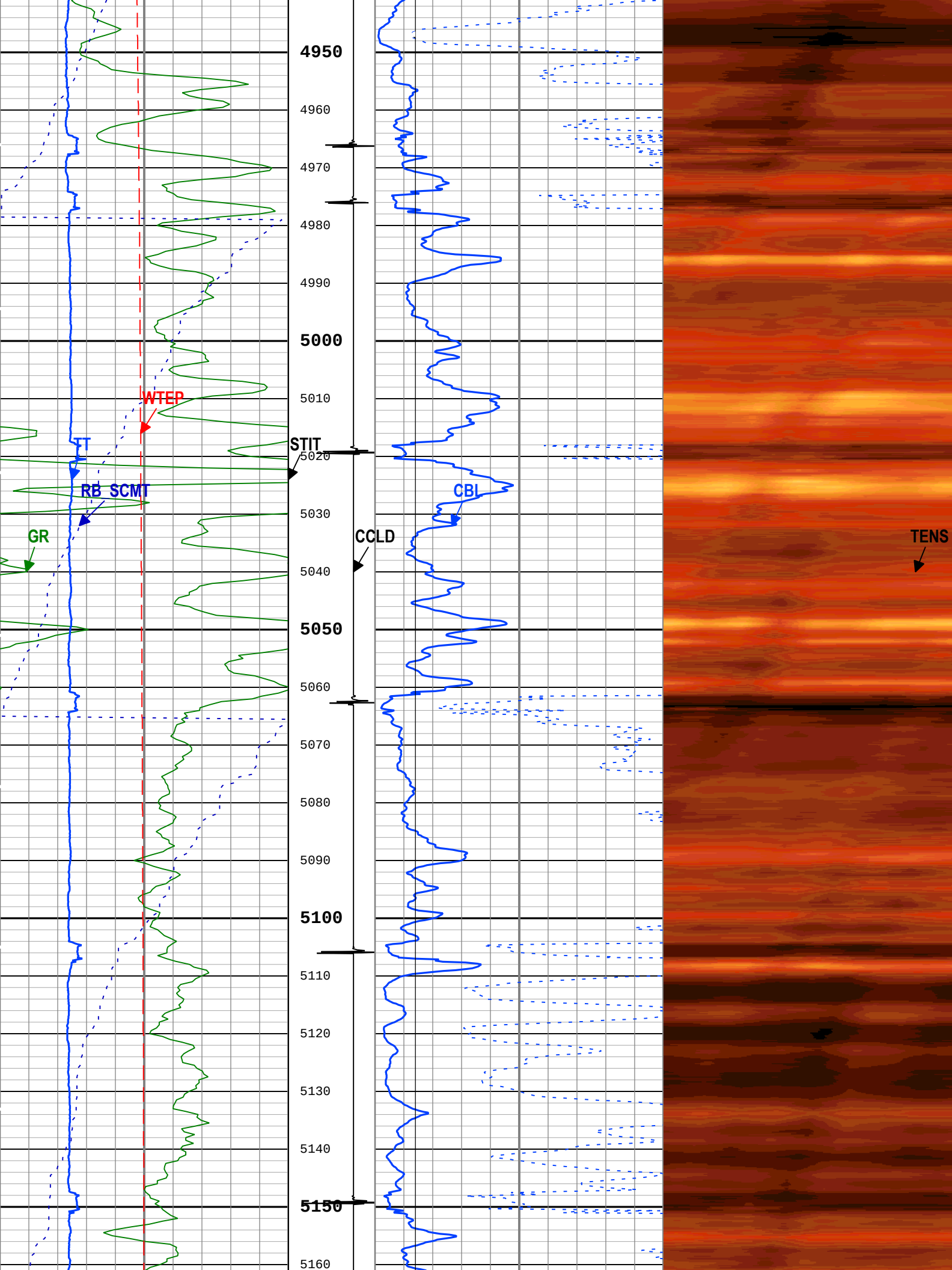
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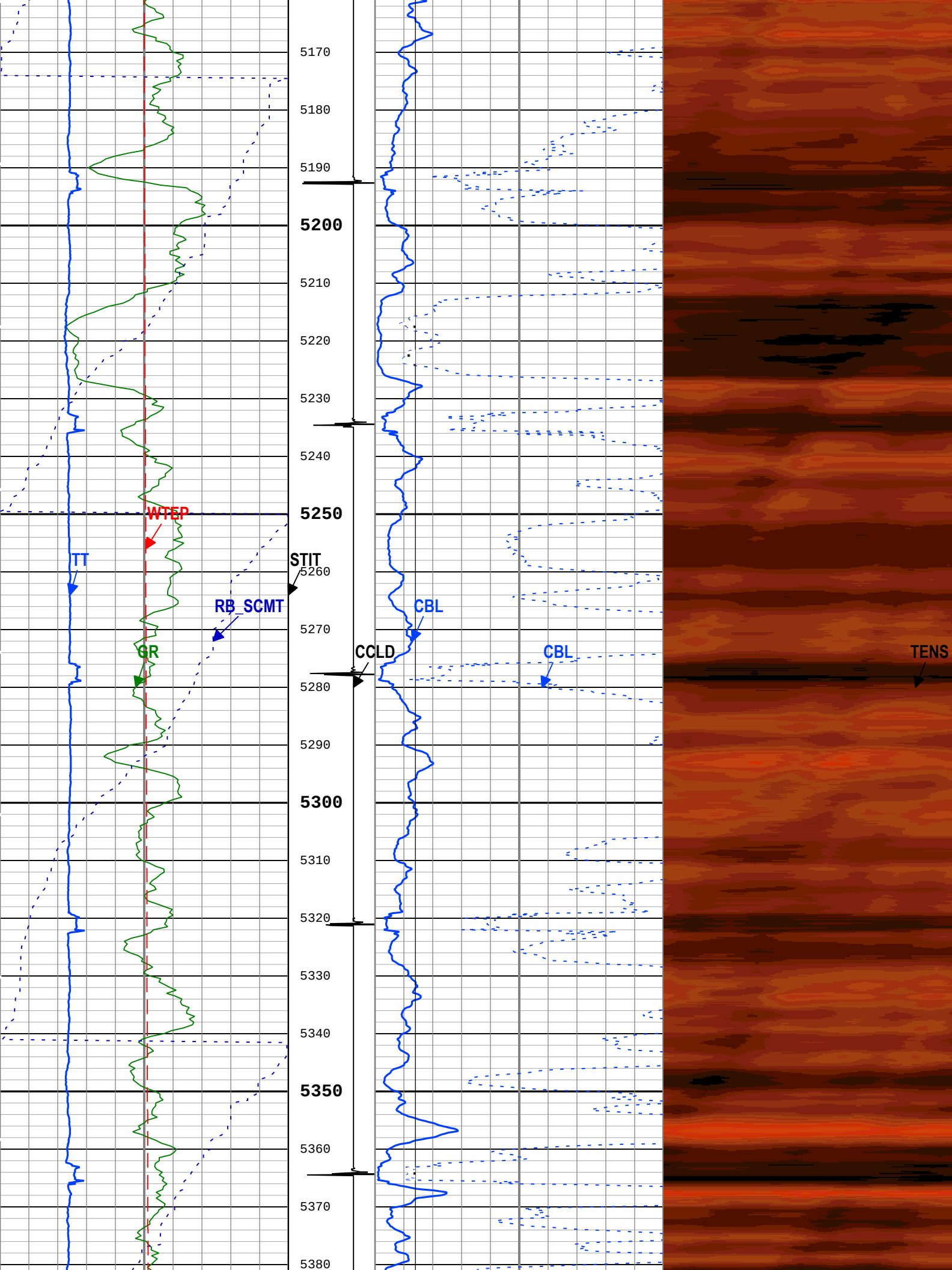
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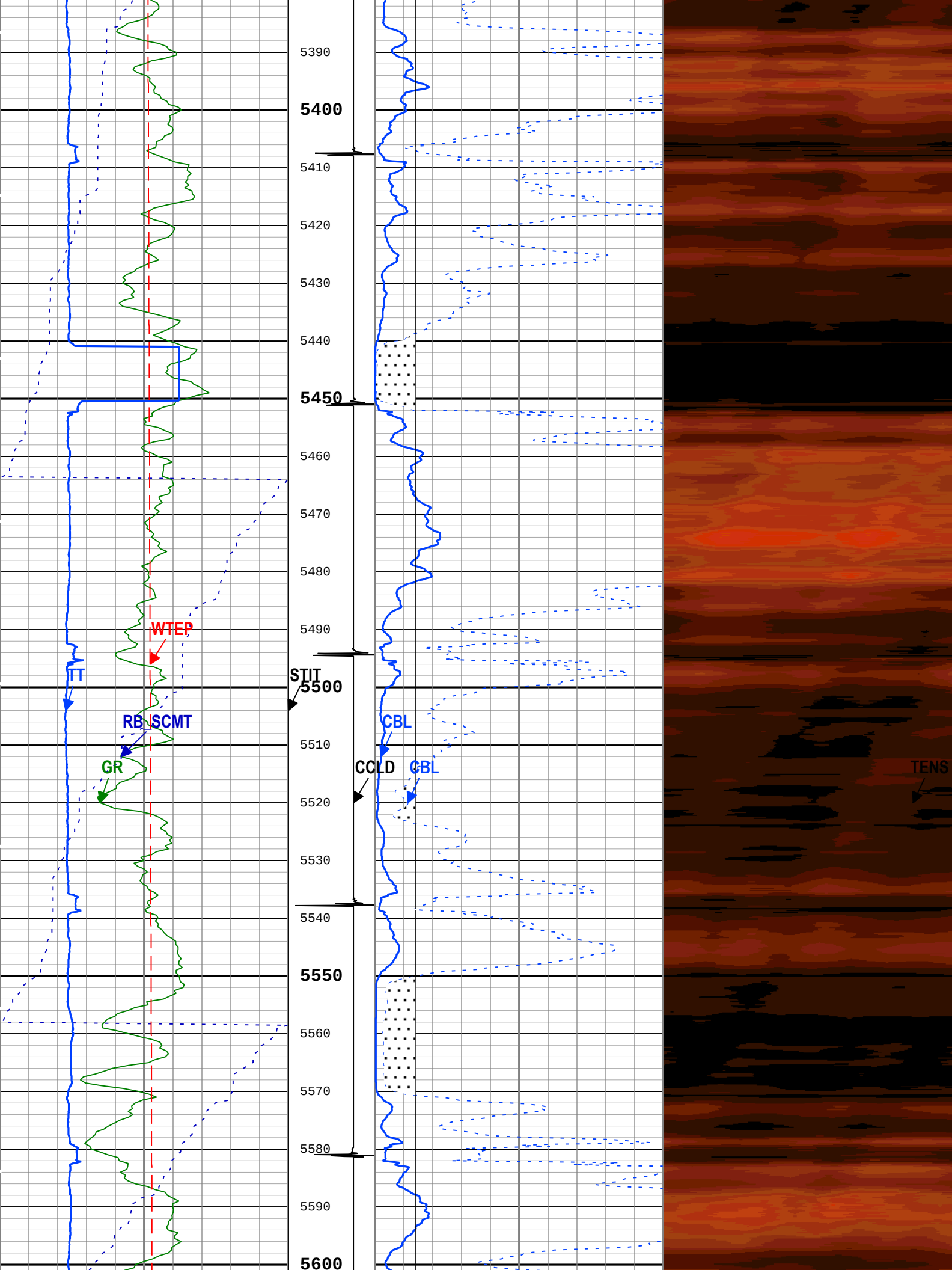
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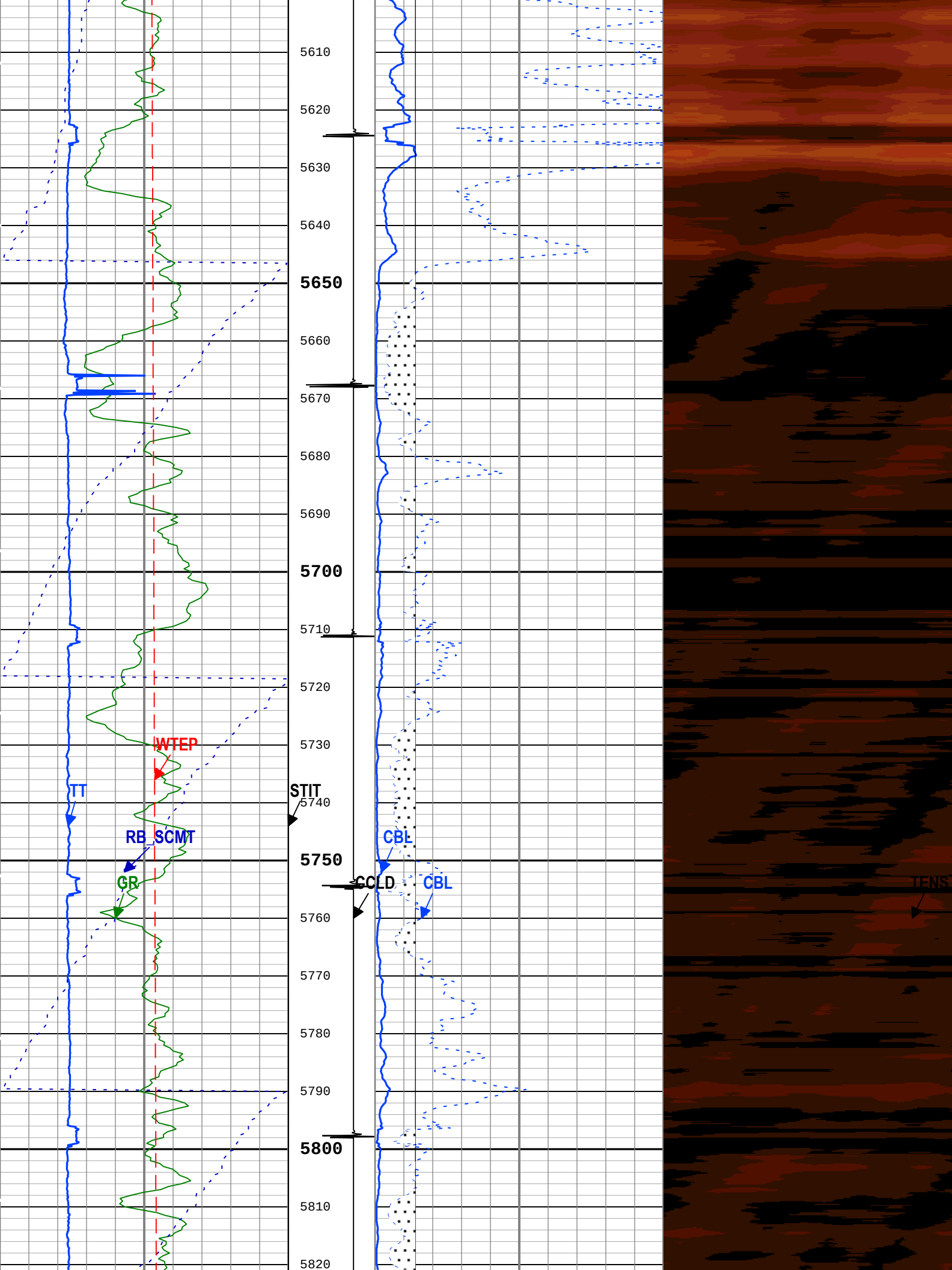
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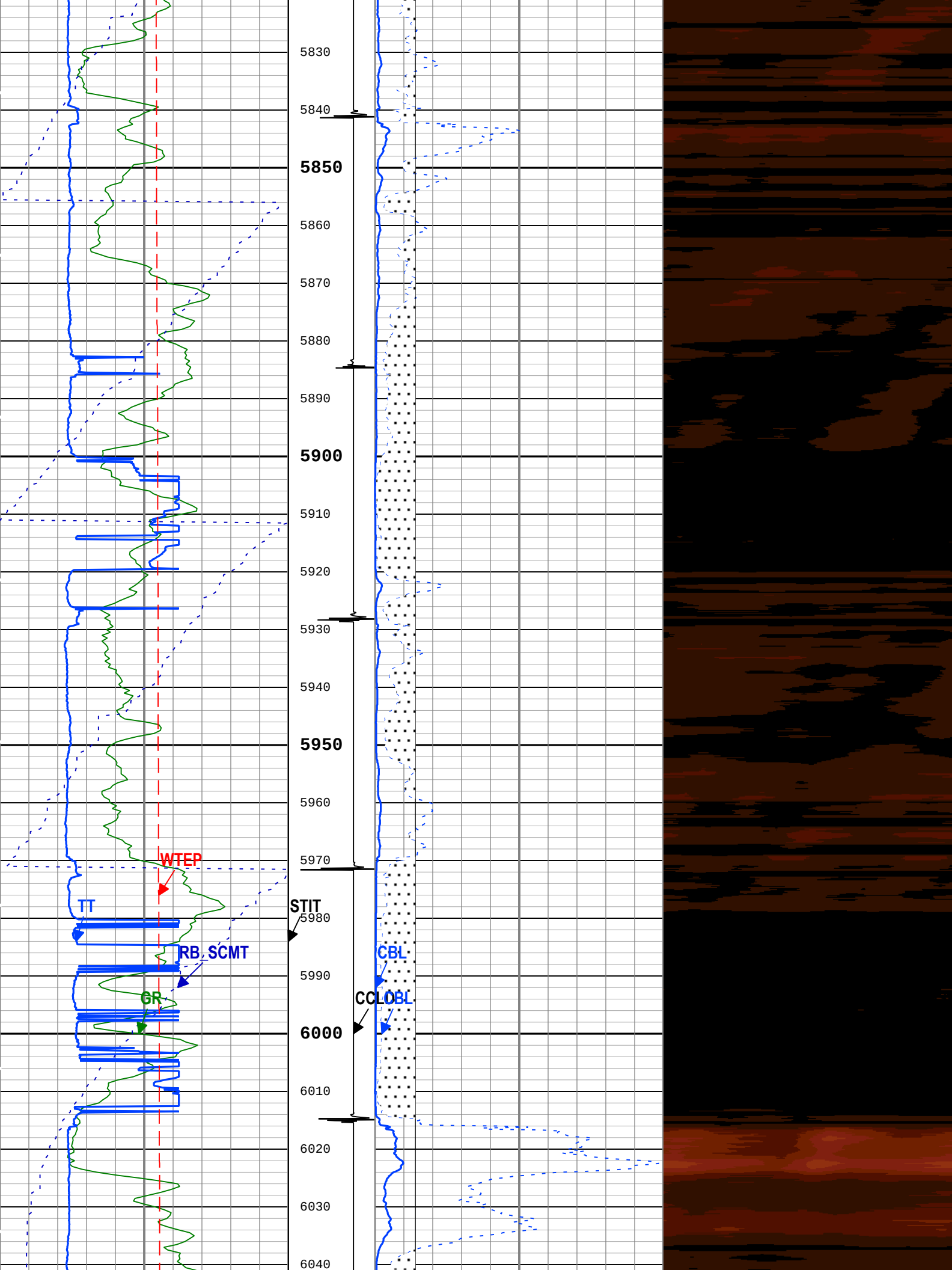
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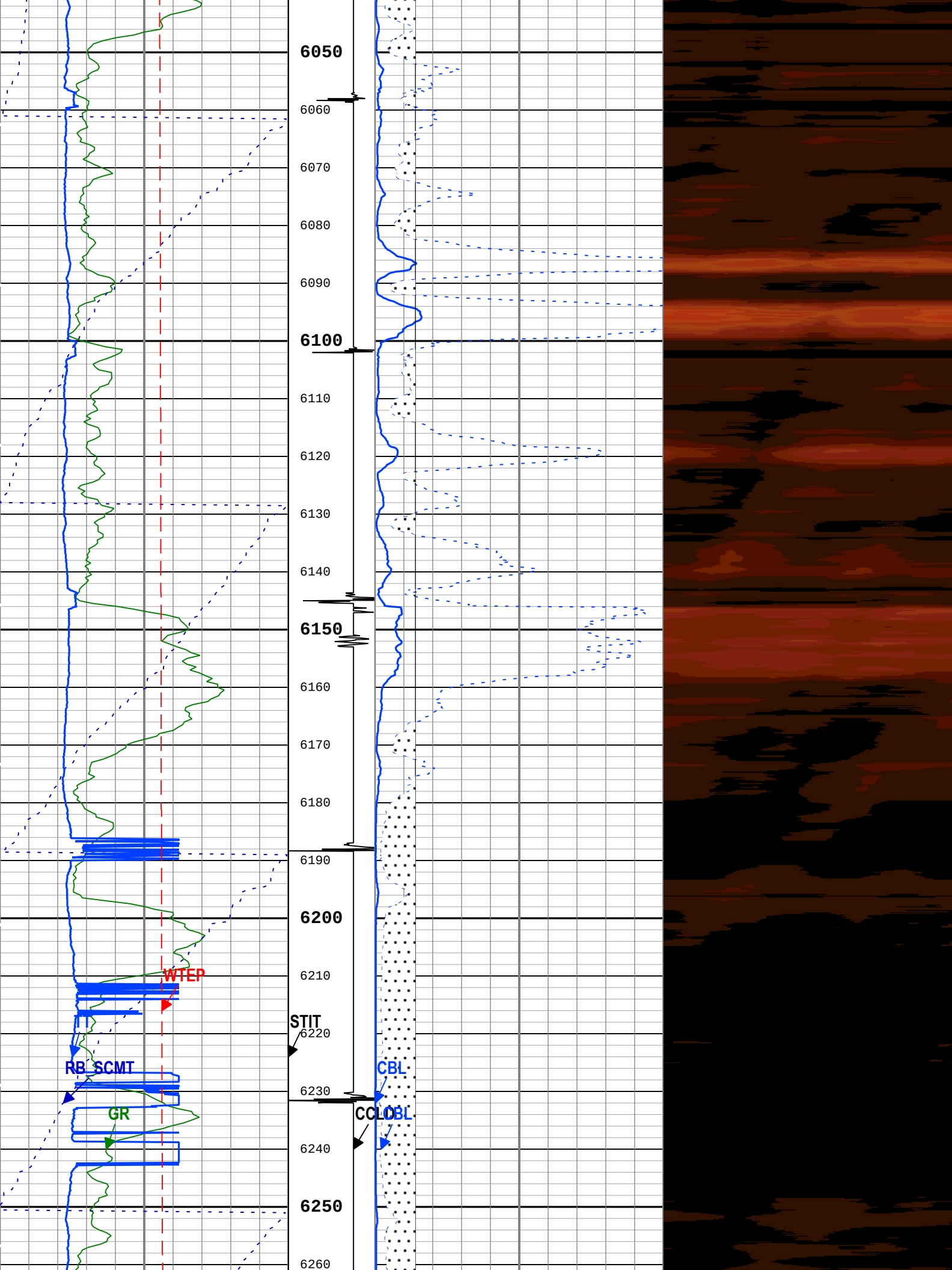
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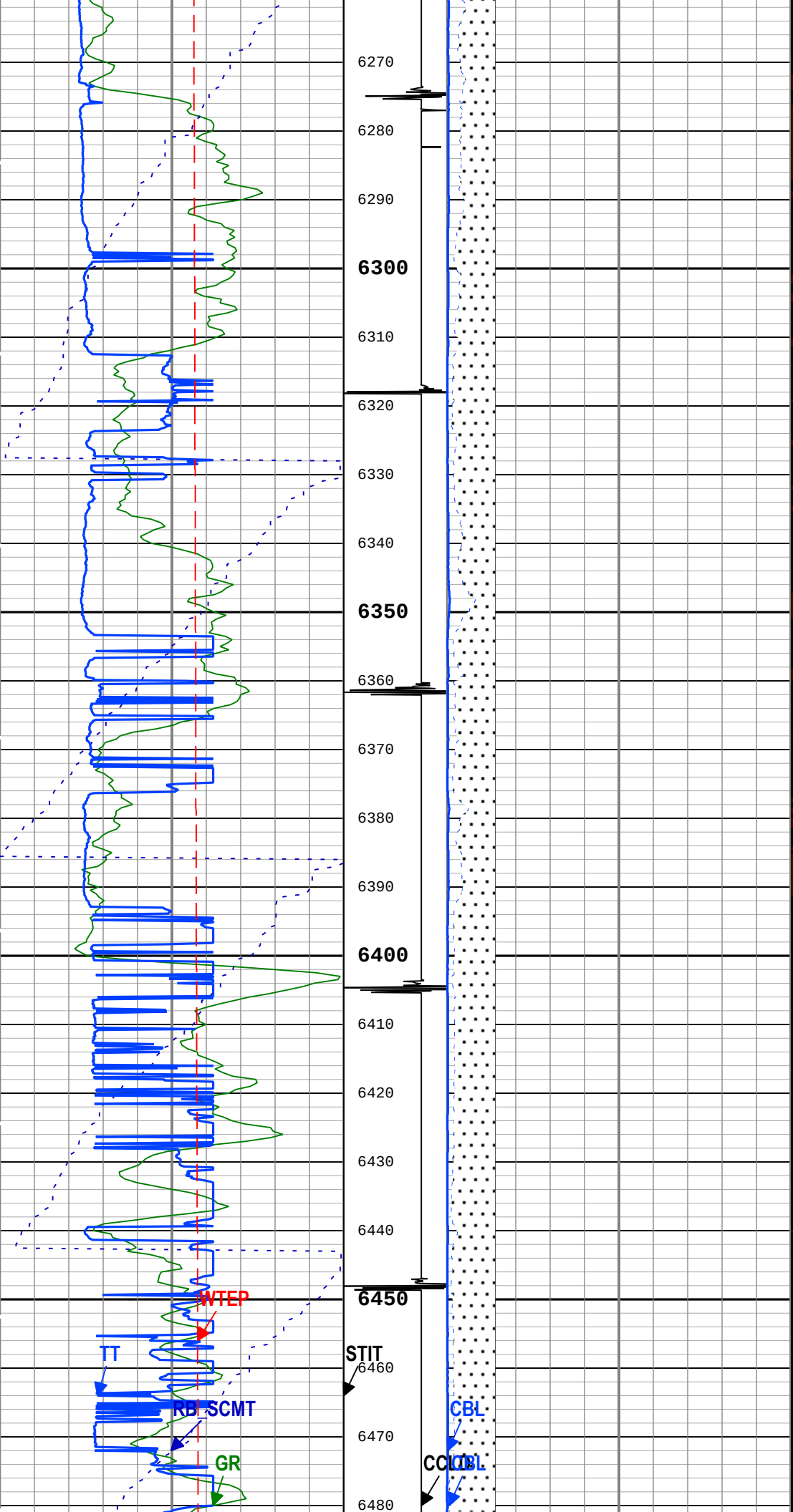
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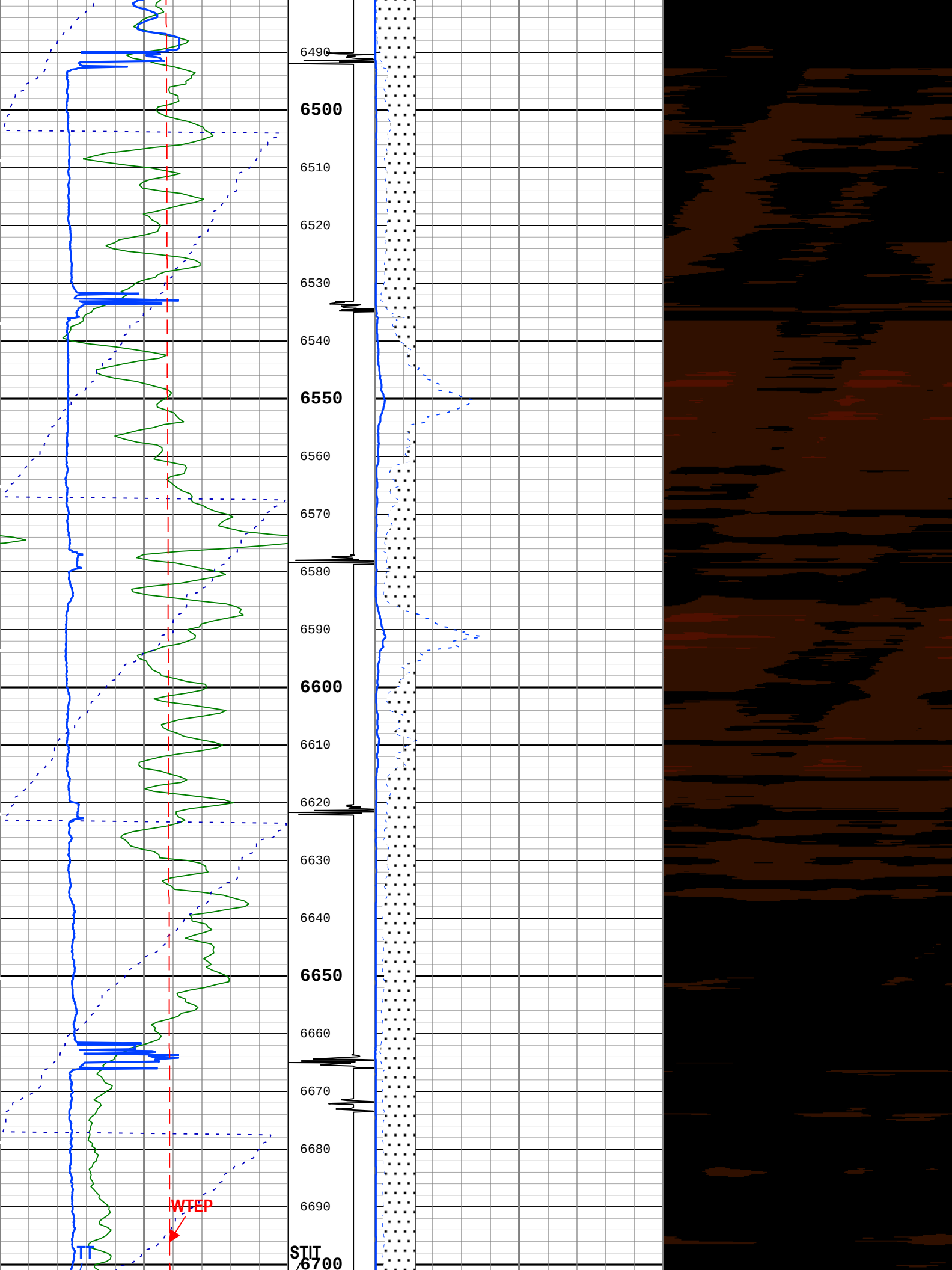
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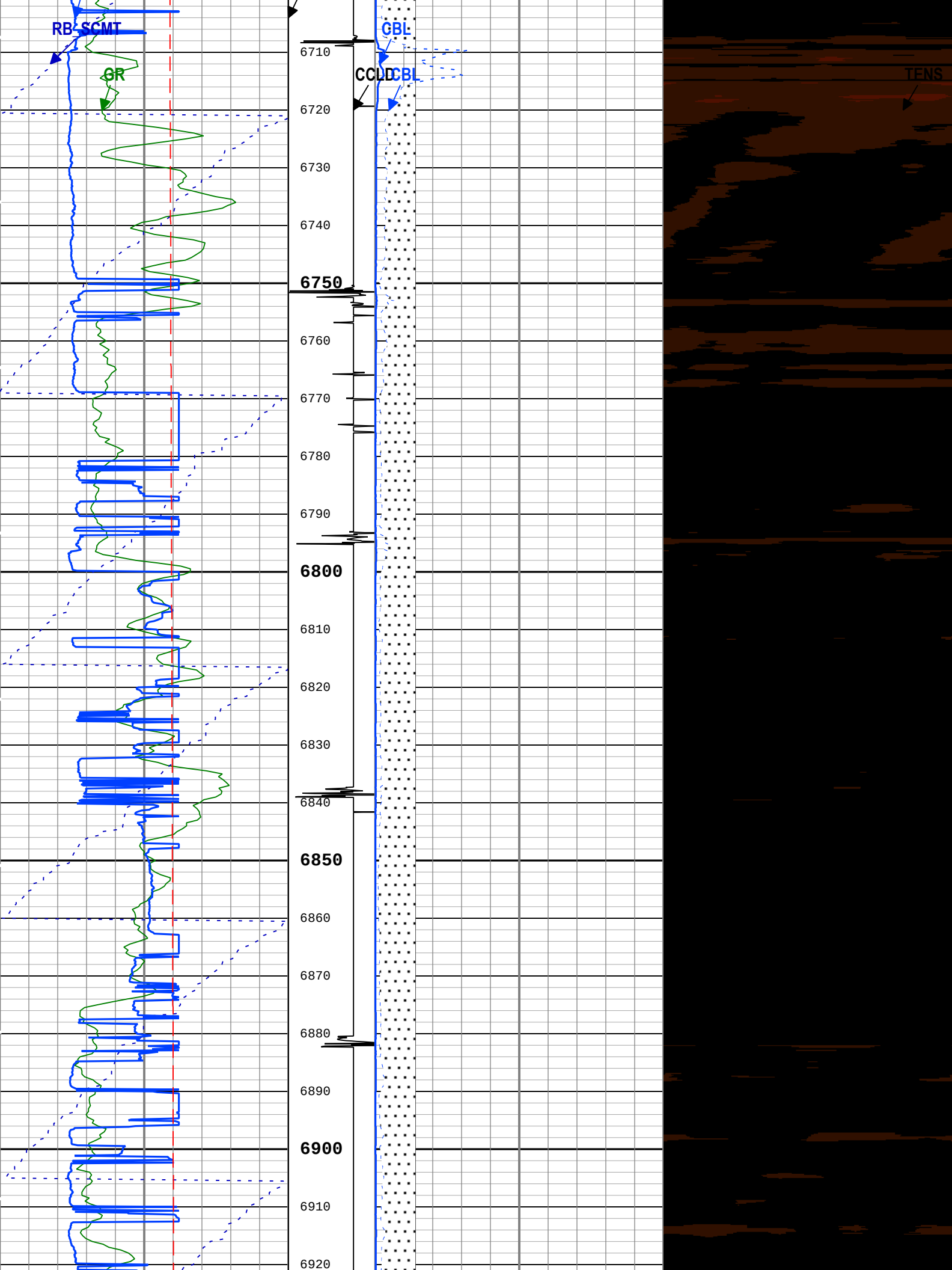
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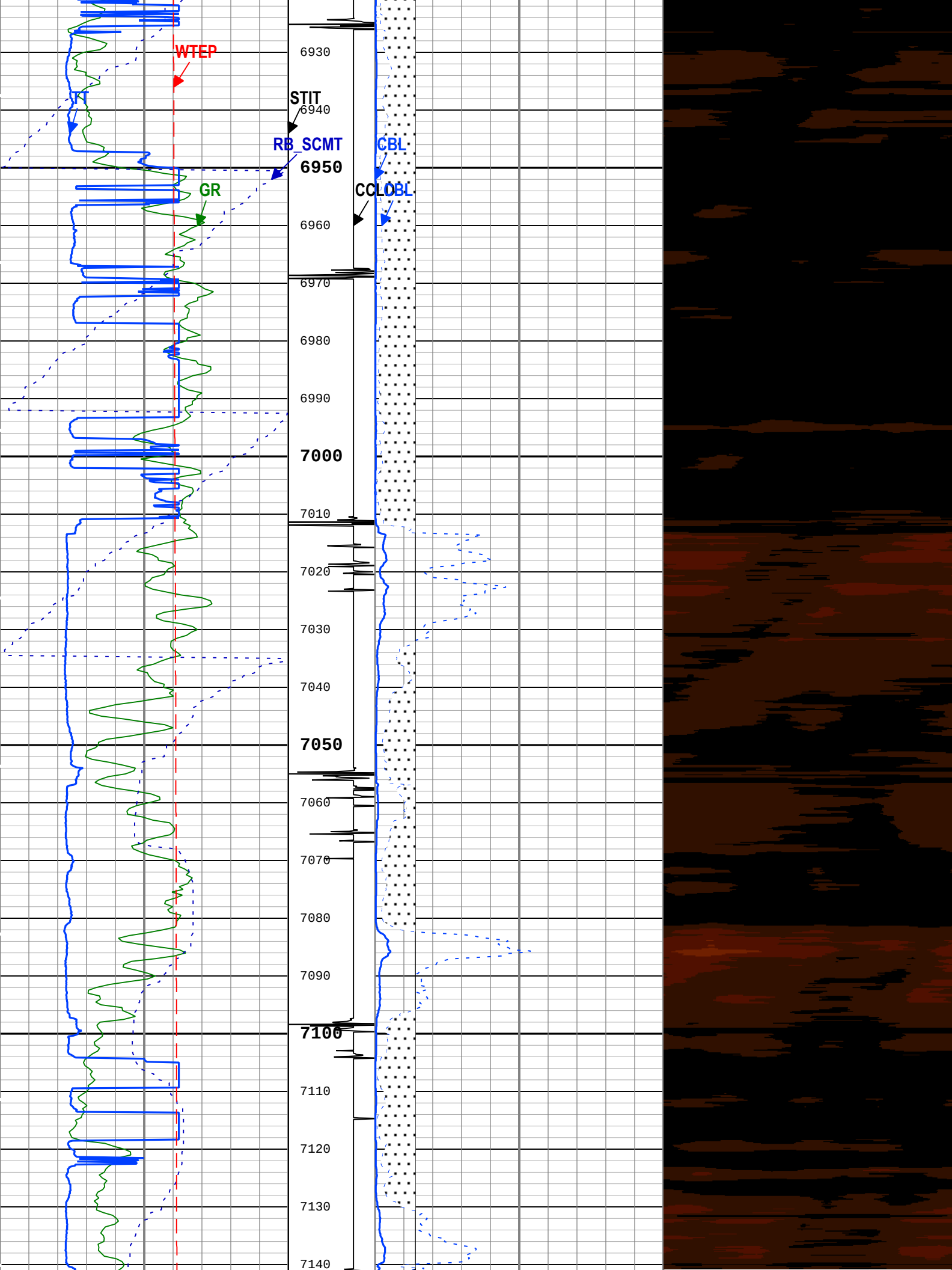
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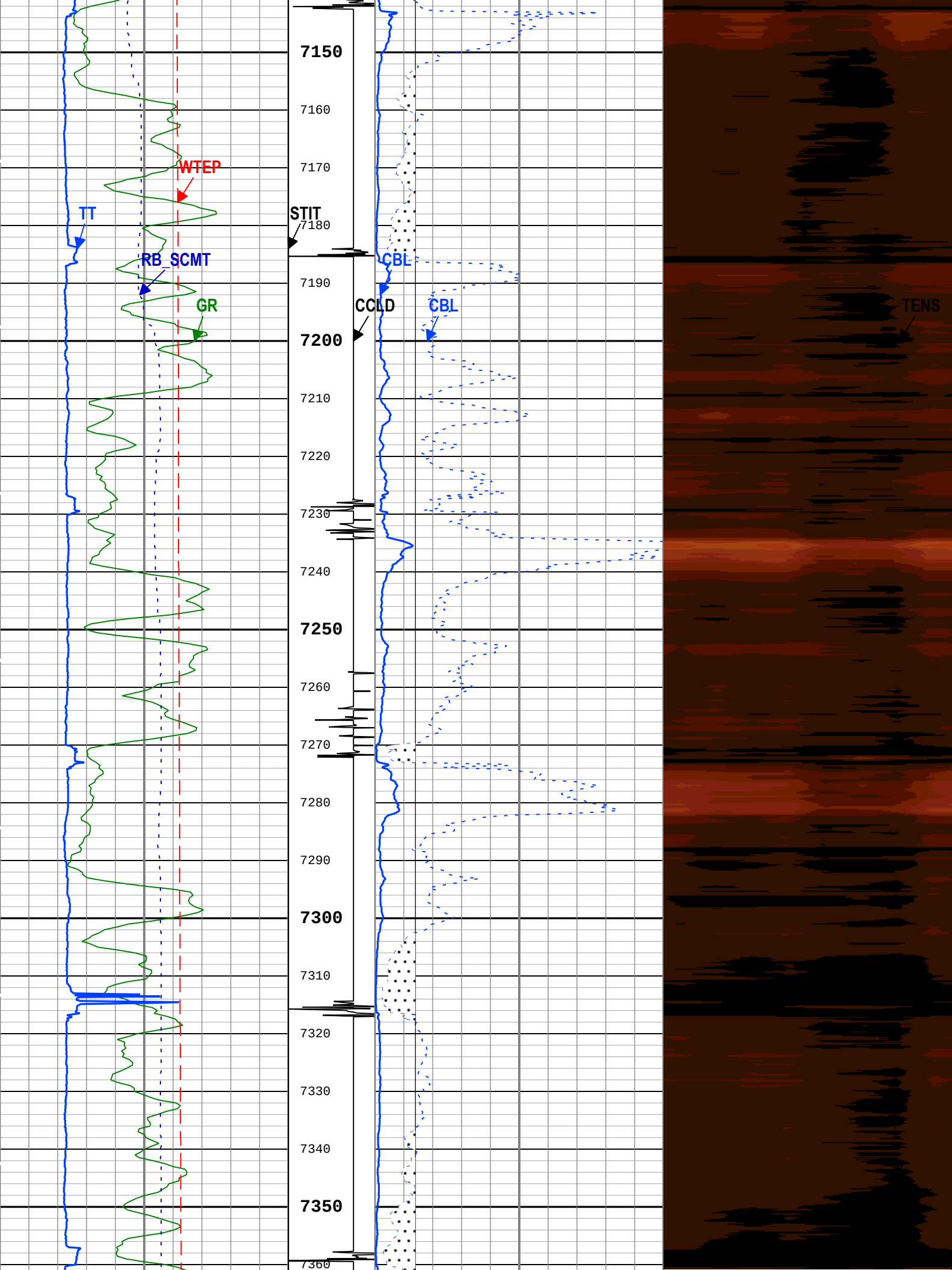
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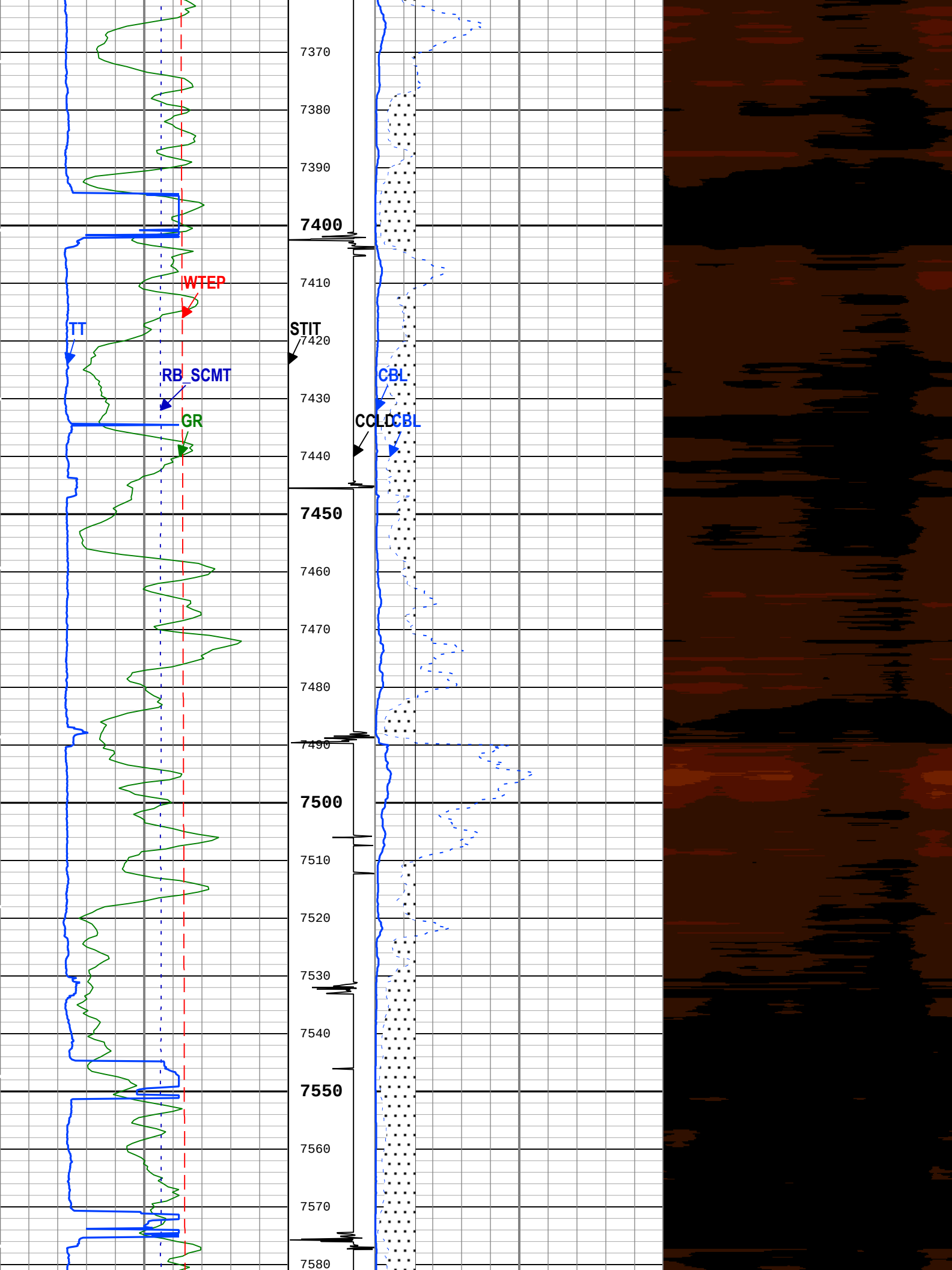
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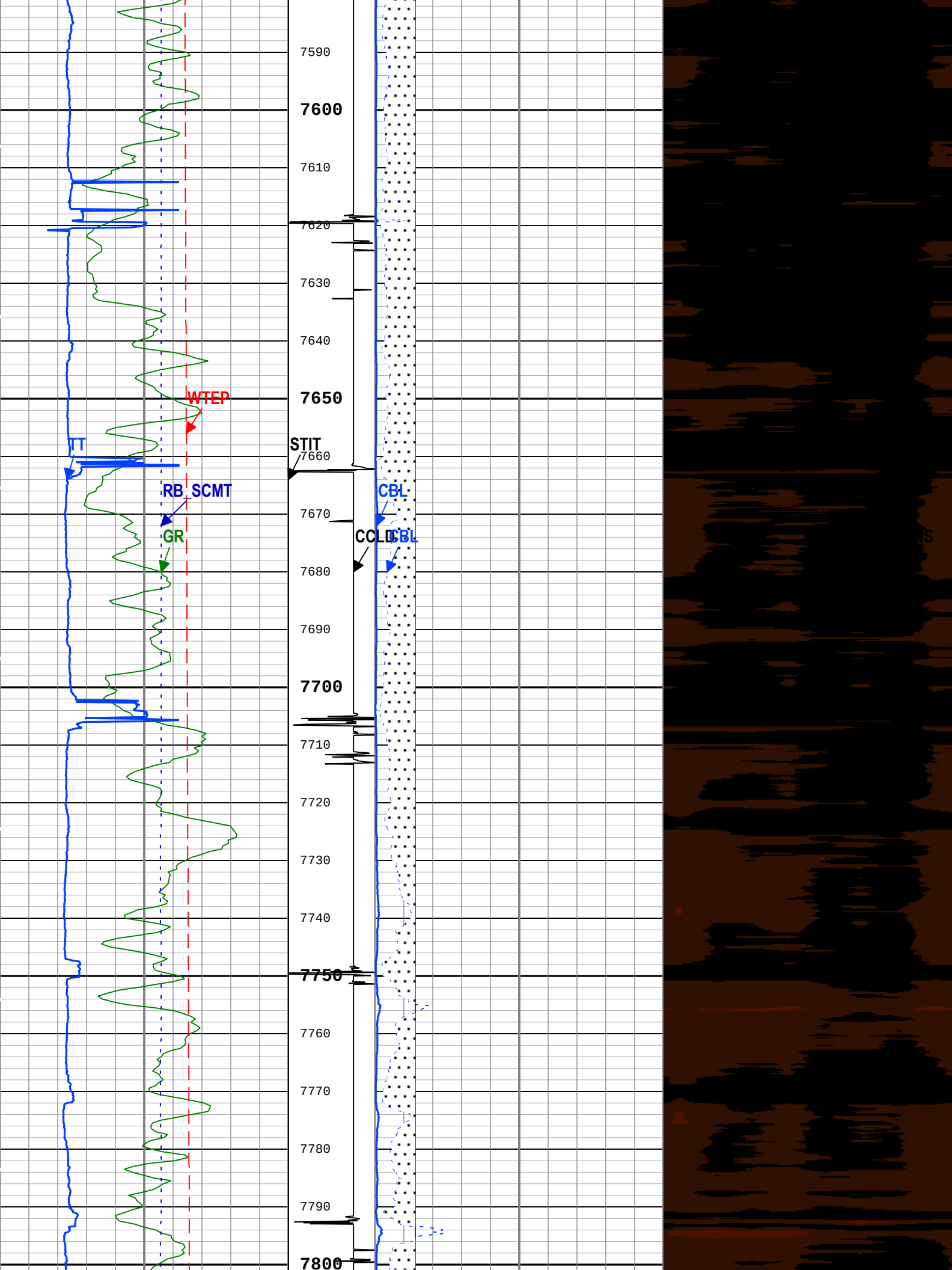
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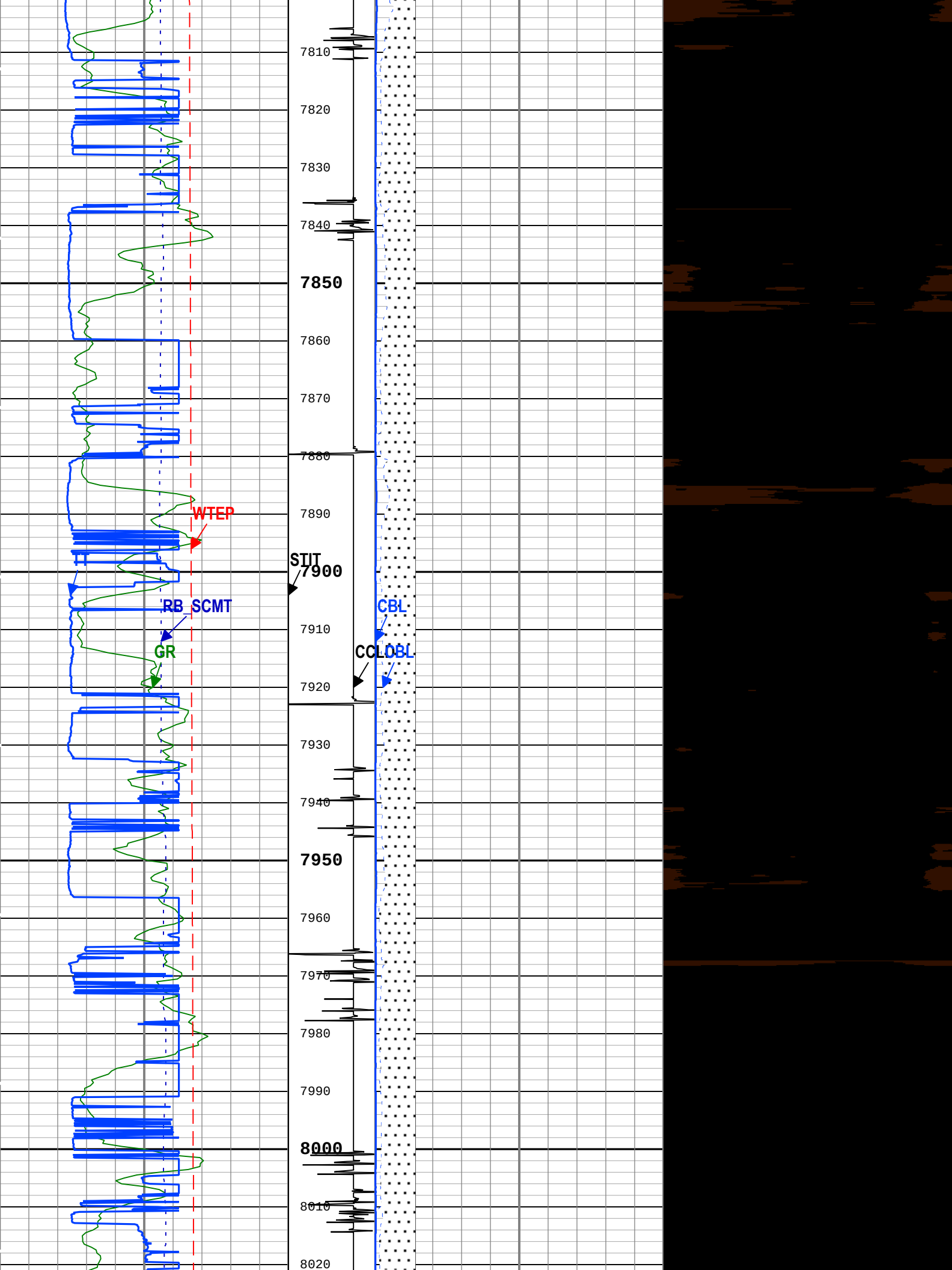
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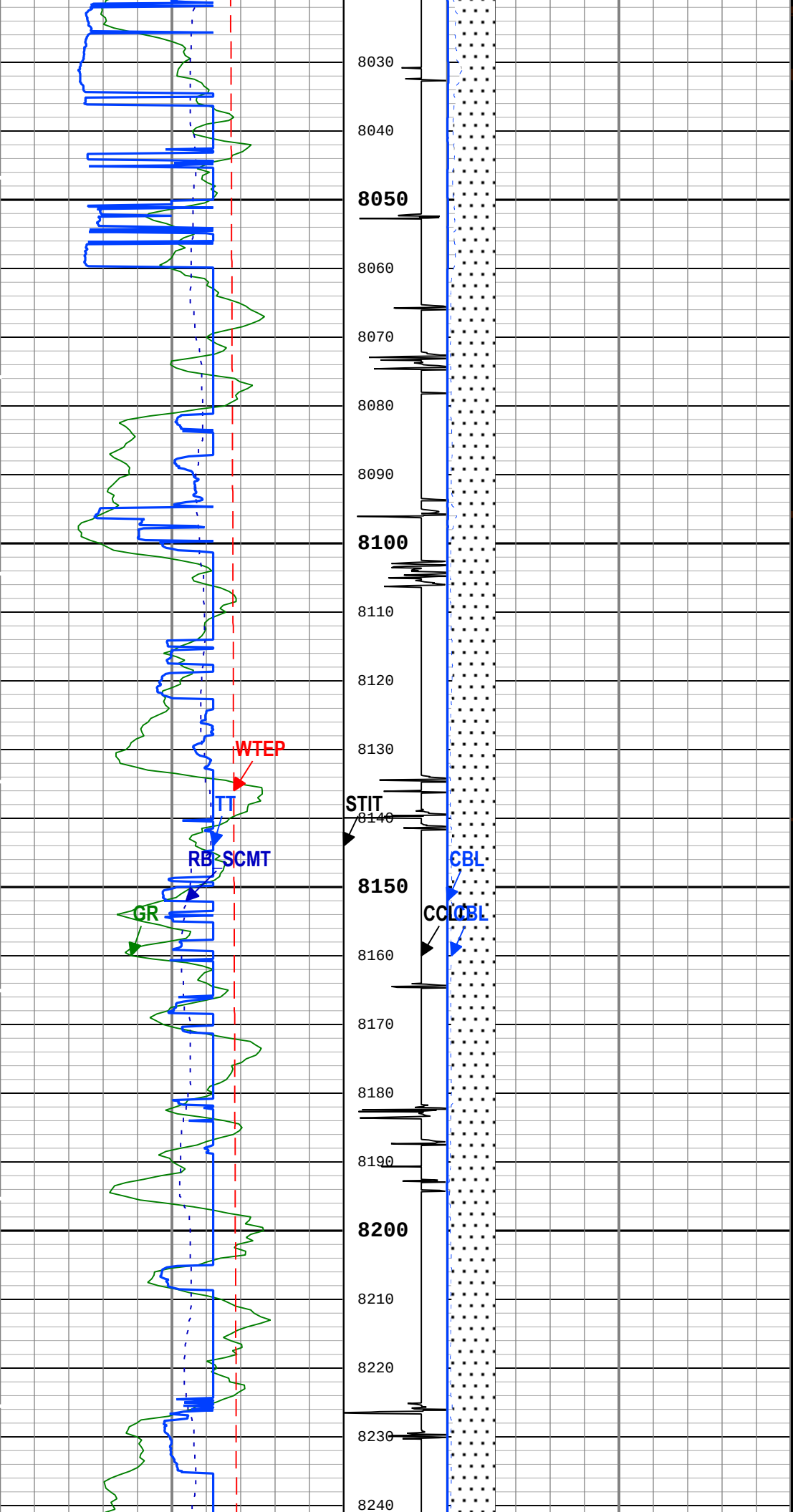
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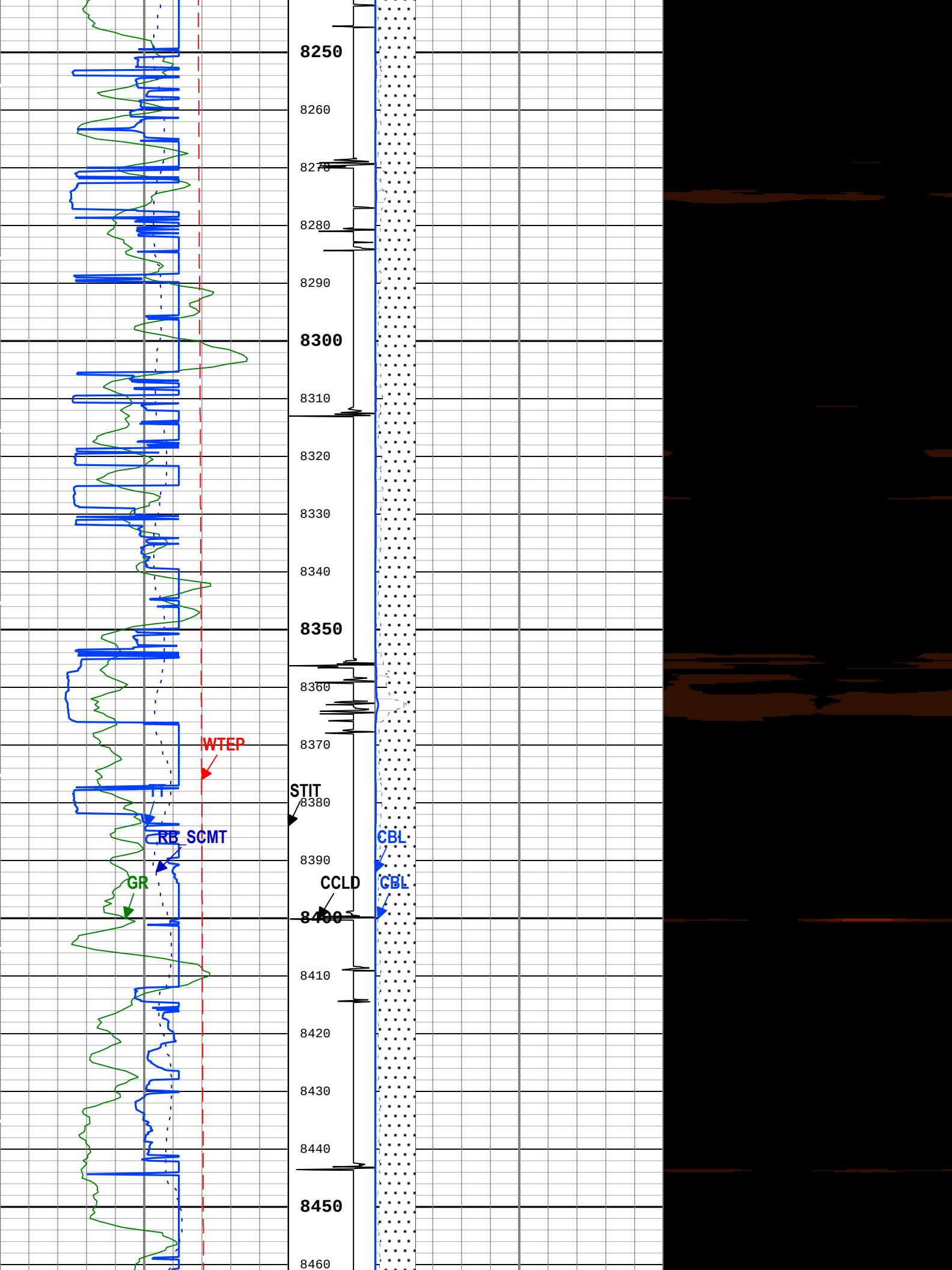
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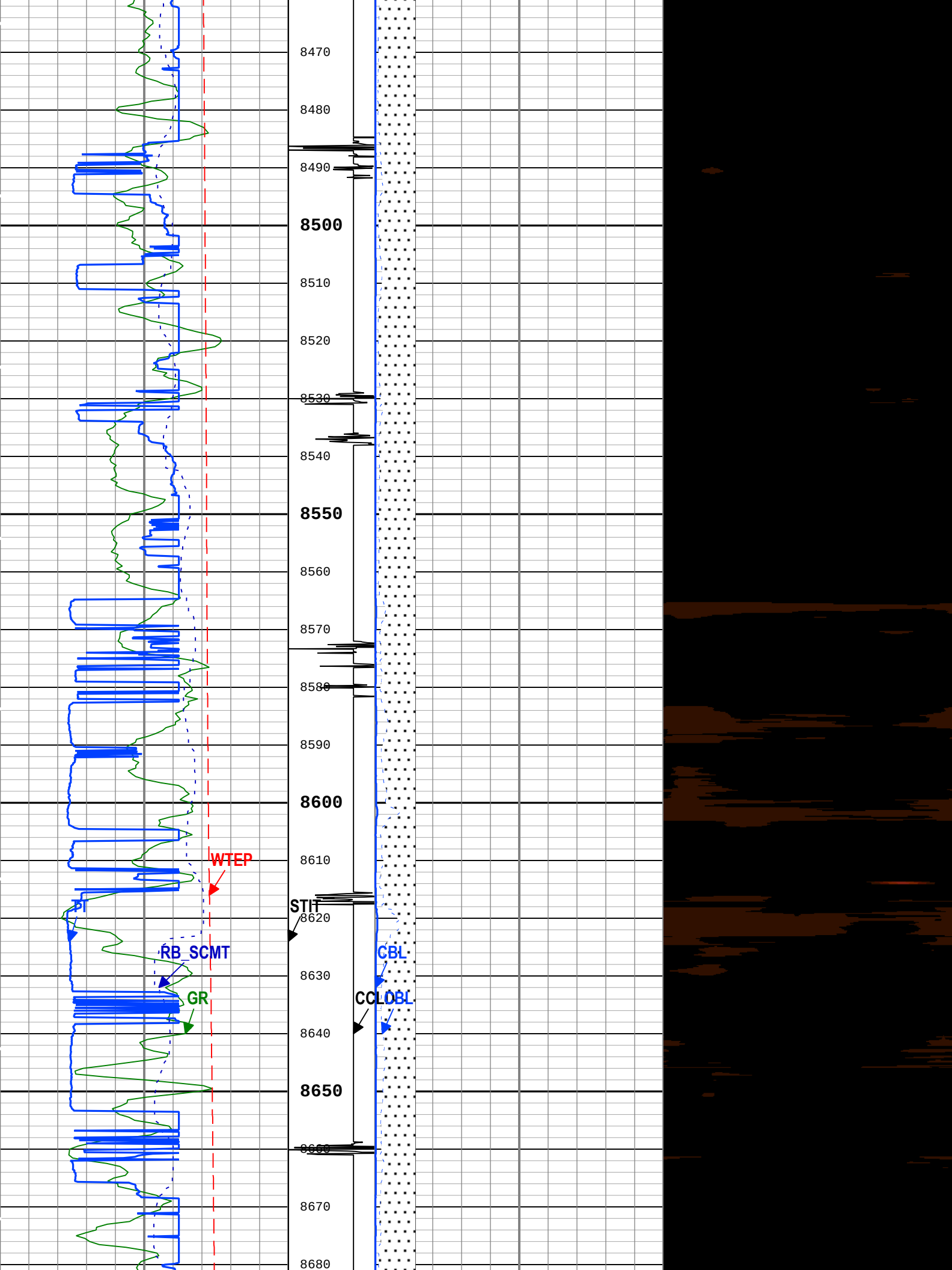
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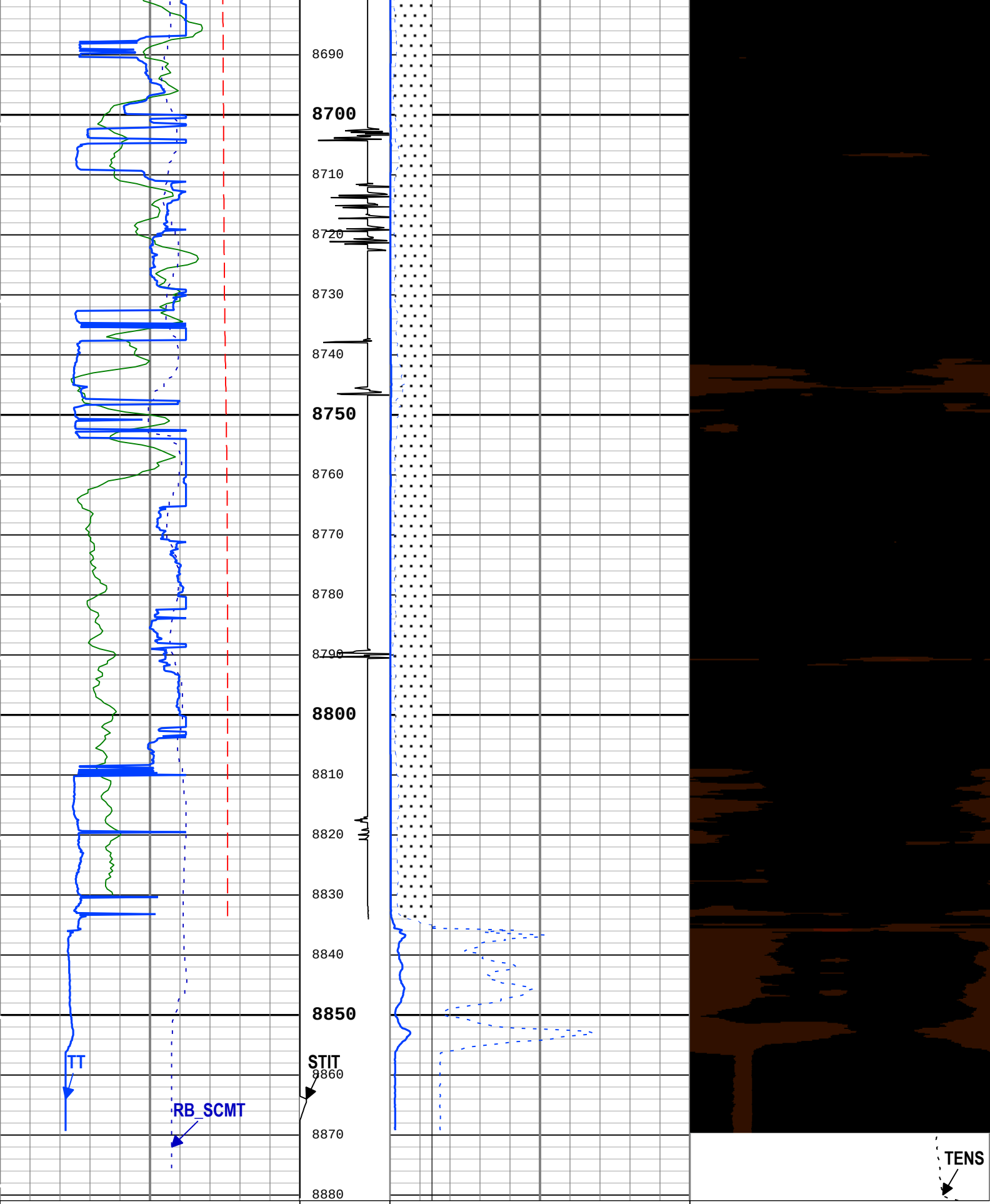
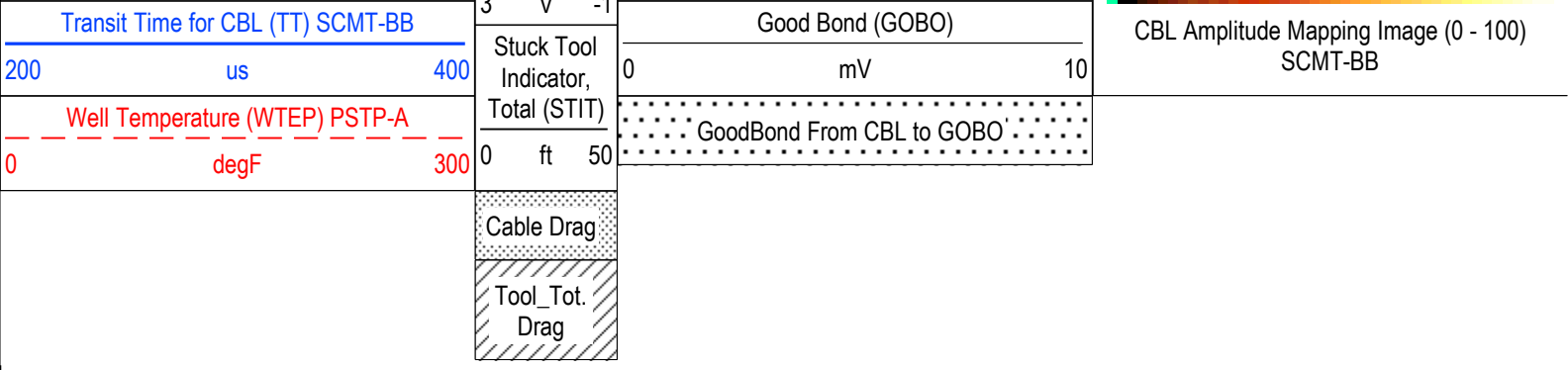


Gamma Ray (GR) PSTP-A	CCL Discriminated Amplitude (CCLD) PSTP-A	CBL Amplitude (CBL) SCMT-BB	Cable Tension (TENS)
0 gAPI 150		0 mV 10	10000 lbf 0
Relative Bearing (RB_SCMT) SCMT-BB		CBL Amplitude (CBL) SCMT-BB	Absent 5.000 12.500 20.000 27.500 35.000 42.500 50.000 57.500 65.000 72.500 80.000 87.500 95.000 102.500
0 deg 360		0 mV 100	



Description: SCMT Amplitudes and MAP Image Format: Log (SCMT_Amp_Image_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Aug-2015 12:04:18

Channel Processing Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	235	degF
CB3D	SCMT CBL 3 ft Peak Detection Mode	SCMT-BB	Peak	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-BB	224	us
CB3T	SCMT CBL 3 ft Fixed Threshold Level	SCMT-BB	20	mV
CBLG	CBL Gate Width	SCMT-BB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-BB	80	mV
CMCF	CBL Cement Type Compensation Factor	SCMT-BB	0.12	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.25	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	196	us/ft
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	30	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	8479	ft
ETEM	HP Estimated Temperature	PSTP-A	212	degF
FCF	CBL Fluid Compensation Factor	SCMT-BB	0.89	
GGRD	Geothermal Gradient	Borehole	1	0.01 degF/ft
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	GTEM_LINEST	
M1EF	MAP sensitivity equalization factor of receiver 1	SCMT-BB	1.16	
M2EF	MAP sensitivity equalization factor of receiver 2	SCMT-BB	1.89	
M3EF	MAP sensitivity equalization factor of receiver 3	SCMT-BB	1.43	
M4EF	MAP sensitivity equalization factor of receiver 4	SCMT-BB	0.64	
M5EF	MAP sensitivity equalization factor of receiver 5	SCMT-BB	0.54	
M6EF	MAP sensitivity equalization factor of receiver 6	SCMT-BB	0.64	
M7EF	MAP sensitivity equalization factor of receiver 7	SCMT-BB	0.97	
M8EF	MAP sensitivity equalization factor of receiver 8	SCMT-BB	1.22	
MAPD	SCMT MAP Peak Detection Mode	SCMT-BB	Peak	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	SCMT-BB	167	us
MAPT	SCMT MAP Fixed Threshold Level	SCMT-BB	30	mV
MCCF	MAP Cement Type Compensation Factor	SCMT-BB	0.25	
MMSA	MAP Minimum Sonic Amplitude	SCMT-BB	3.98	mV
MSA	Minimum Sonic Amplitude	SCMT-BB	0.51	mV
PTCO	PBMS Pressure Temperature Correction Option	PSTP-A	Gauge Temperature	
PDAT	Permanent Datum	WLSESSION	GL	
RRC	Relative Bearing Correction Allow/Disallow	SCMT-BB	Allow	

RBC	Relative Bearing Correction Allow/Disallow	SCMT-BB	Allow	
RUN_SNUM	Run Sequence Number	WSDRUN	2	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	8865	ft

Tool Control Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-BB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	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	36 dB	24-Jul-2015 01:18:37	24-Jul-2015 02:52:52	8880.9	6149.13
PCCG	12 dB	24-Jul-2015 02:52:52	24-Jul-2015 02:54:19	6149.13	6109.07
PCCG	24 dB	24-Jul-2015 02:54:19	24-Jul-2015 05:02:44	6109.07	2360.48

All depth are at tool zero.

ONE

Repeat Pass 0 PSI

Software Version

Acquisition System	Version
Maxwell 2016	6.0.47569.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[3]:Up	Up	8521.49 ft	8878.97 ft	24-Jul-2015 12:36:04 AM	24-Jul-2015 12:48:44 AM	ON	3.39 ft	Yes

All depths are referenced to toolstring zero

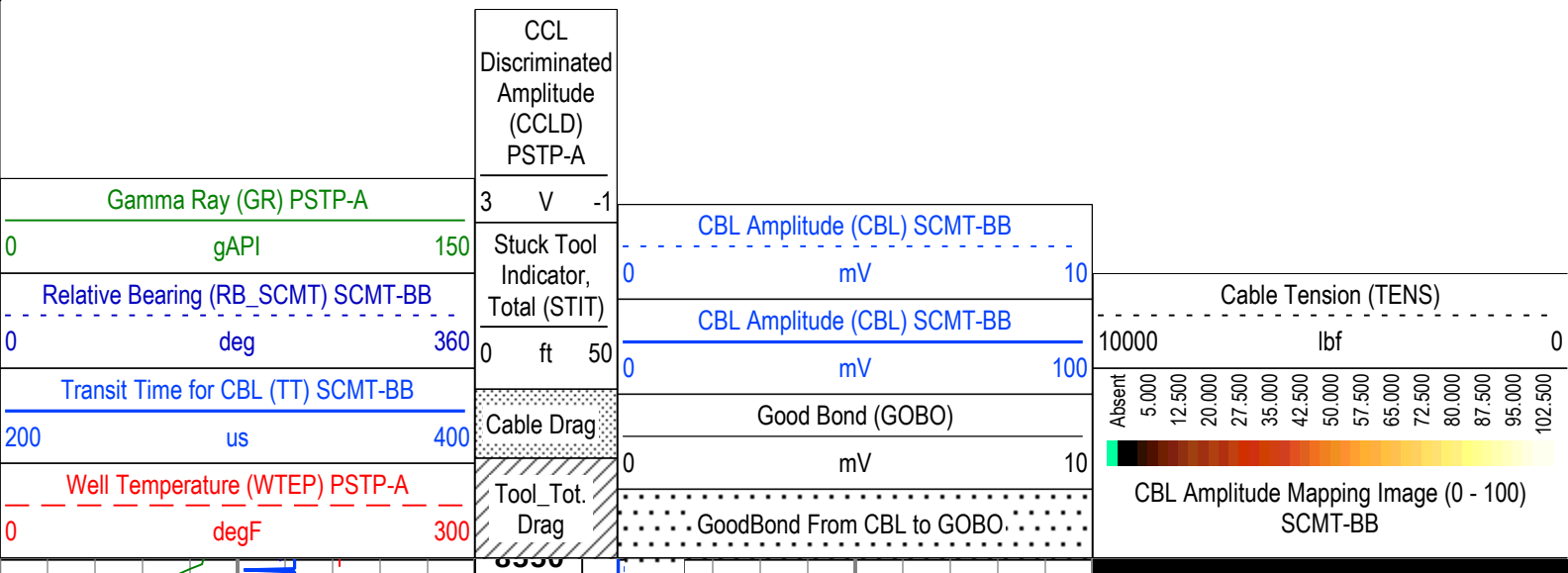
Log

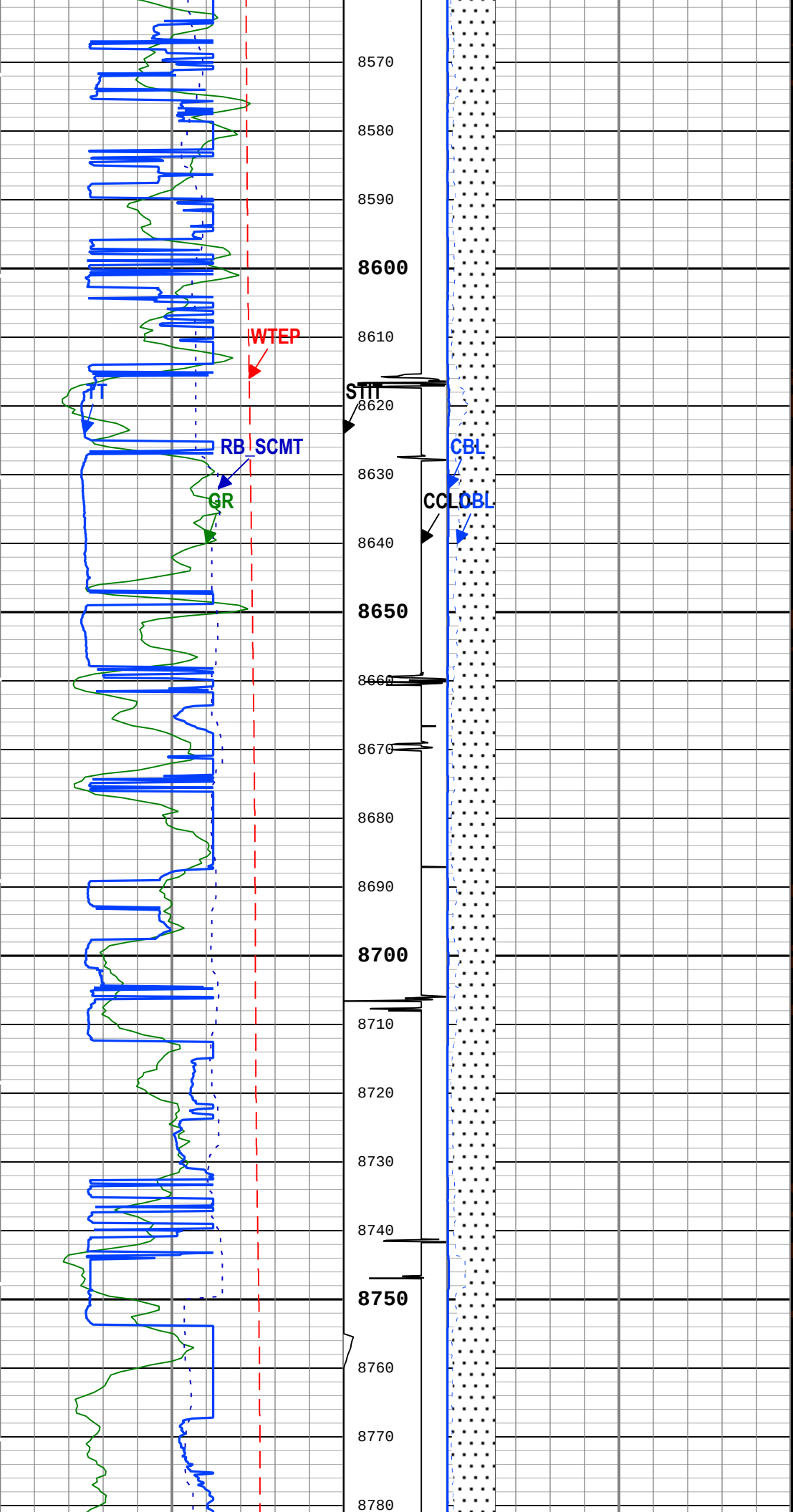
Company:Caerus Piceance LLC Well:Puckett 42A-2

ONE: Log[3]:Up:S017

Description: SCMT Amplitudes and MAP Image Format: Log (SCMT_Amp_Image_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Aug-2015 12:04:24

TIME_1900 - Time Marked every 60.00 (s)

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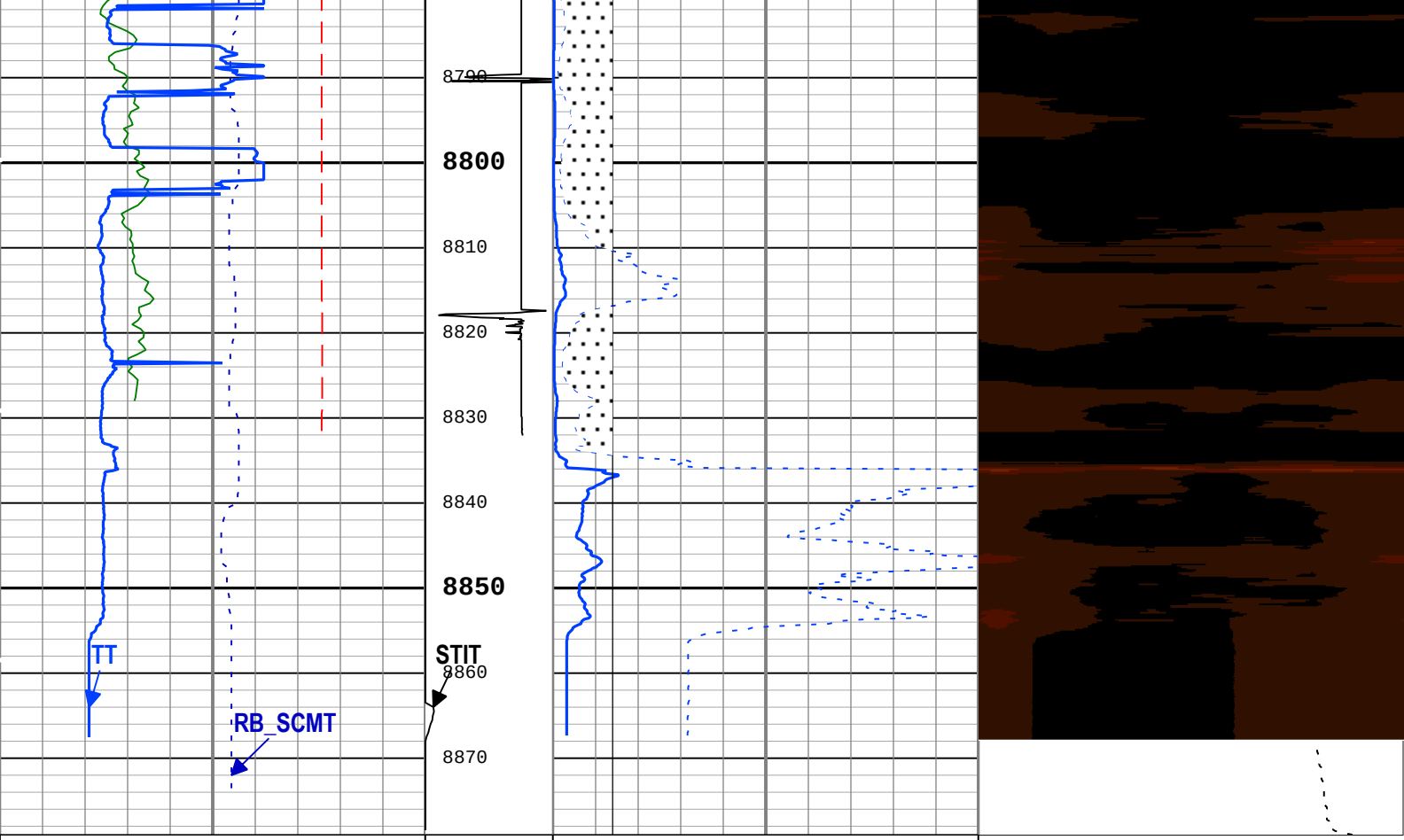


Gamma Ray (GR) PSTP-A
0 gAPI 150

Relative Bearing (RB_SCMT) SCMT-BB
0 deg 360

Transit Time for CBL (TT) SCMT-BB
200 us 400

Well Temperature (WTEP) PSTP-A
0 degF 300

CCL Discriminated Amplitude (CCLD) PSTP-A
3 V -1

Stuck Tool Indicator, Total (STIT)
0 ft 50

Cable Drag

Tool_Tot. Drag

CBL Amplitude (CBL) SCMT-BB
0 mV 10

CBL Amplitude (CBL) SCMT-BB
0 mV 100

Good Bond (GOBO)
0 mV 10

GoodBond From CBL to GOBO

Cable Tension (TENS)
10000 lbf 0

Absent 5.000 12.500 20.000 27.500 35.000 42.500 50.000 57.500 65.000 72.500 80.000 87.500 95.000 102.500

CBL Amplitude Mapping Image (0 - 100) SCMT-BB

TIME_1900 - Time Marked every 60.00 (s)

Description: SCMT Amplitudes and MAP Image Format: Log (SCMT_Amp_Image_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Aug-2015 12:04:24

Channel Processing Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	235	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-BB	224	us
CBLG	CBL Gate Width	SCMT-BB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-BB	80	mV
CMCF	CBL Cement Type Compensation Factor	SCMT-BB	0.12	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.25	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal

DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	196	us/ft
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	30	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	8479	ft
GGRD	Geothermal Gradient	Borehole	1	0.01 degF/ft
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	GTEM_LINEST	
M1EF	MAP sensitivity equalization factor of receiver 1	SCMT-BB	1.16	
M2EF	MAP sensitivity equalization factor of receiver 2	SCMT-BB	1.89	
M3EF	MAP sensitivity equalization factor of receiver 3	SCMT-BB	1.43	
M4EF	MAP sensitivity equalization factor of receiver 4	SCMT-BB	0.64	
M5EF	MAP sensitivity equalization factor of receiver 5	SCMT-BB	0.54	
M6EF	MAP sensitivity equalization factor of receiver 6	SCMT-BB	0.64	
M7EF	MAP sensitivity equalization factor of receiver 7	SCMT-BB	0.97	
M8EF	MAP sensitivity equalization factor of receiver 8	SCMT-BB	1.22	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	SCMT-BB	167	us
MCCF	MAP Cement Type Compensation Factor	SCMT-BB	0.25	
MMSA	MAP Minimum Sonic Amplitude	SCMT-BB	3.98	mV
MSA	Minimum Sonic Amplitude	SCMT-BB	0.51	mV
PDAT	Permanent Datum	WLSESSION	GL	
RUN_SNUM	Run Sequence Number	WSDRUN	2	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	8865	ft

Tool Control Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-BB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	36 dB	

ONE

Main Pass 2500 PSI

Software Version

Acquisition System	Version
Maxwell 2016	6.0.47569.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[4]:Up	Up	2360.48 ft	8880.90 ft	24-Jul-2015 1:18:37 AM	24-Jul-2015 5:02:44 AM	ON	4.95 ft	Yes

All depths are referenced to toolstring zero

Log

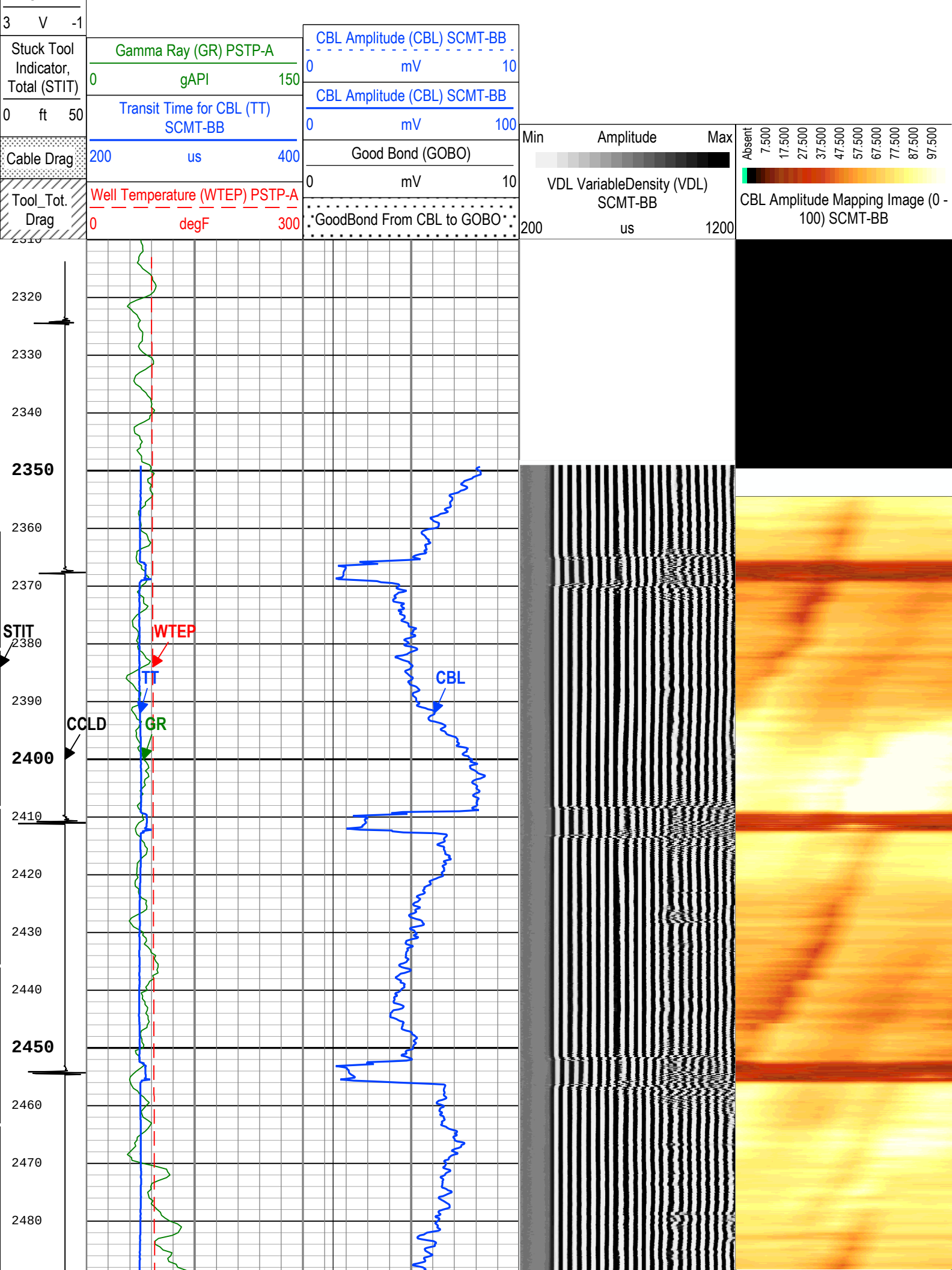
Company:Caerus Piceance LLC Well:Puckett 42A-2

ONE: Log[4]:Up:S017

Description: SCMT VDL Image Format: Log (SCMT_VDL_Image_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Aug-2015 12:04:26

TIME_1900 - Time Marked every 60.00 (s)

CCL Discriminated Amplitude (CCLD) PSTP-A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Stuck Tool Indicator, Total (STIT)
0 ft 50
Cable Drag
Tool_Tot. Drag
Gamma Ray (GR) PSTP-A
0 gAPI 150
Transit Time for CBL (TT) SCMT-BB
200 us 400
Well Temperature (WTEP) PSTP-A
0 degF 300
CBL Amplitude (CBL) SCMT-BB
0 mV 10
CBL Amplitude (CBL) SCMT-BB
0 mV 100
Good Bond (GOBO)
0 mV 10
GoodBond From CBL to GOBO
Min Amplitude Max
VDL VariableDensity (VDL) SCMT-BB
200 us 1200
Absent 7.500 17.500 27.500 37.500 47.500 57.500 67.500 77.500 87.500 97.500
CBL Amplitude Mapping Image (0 - 100) SCMT-BB
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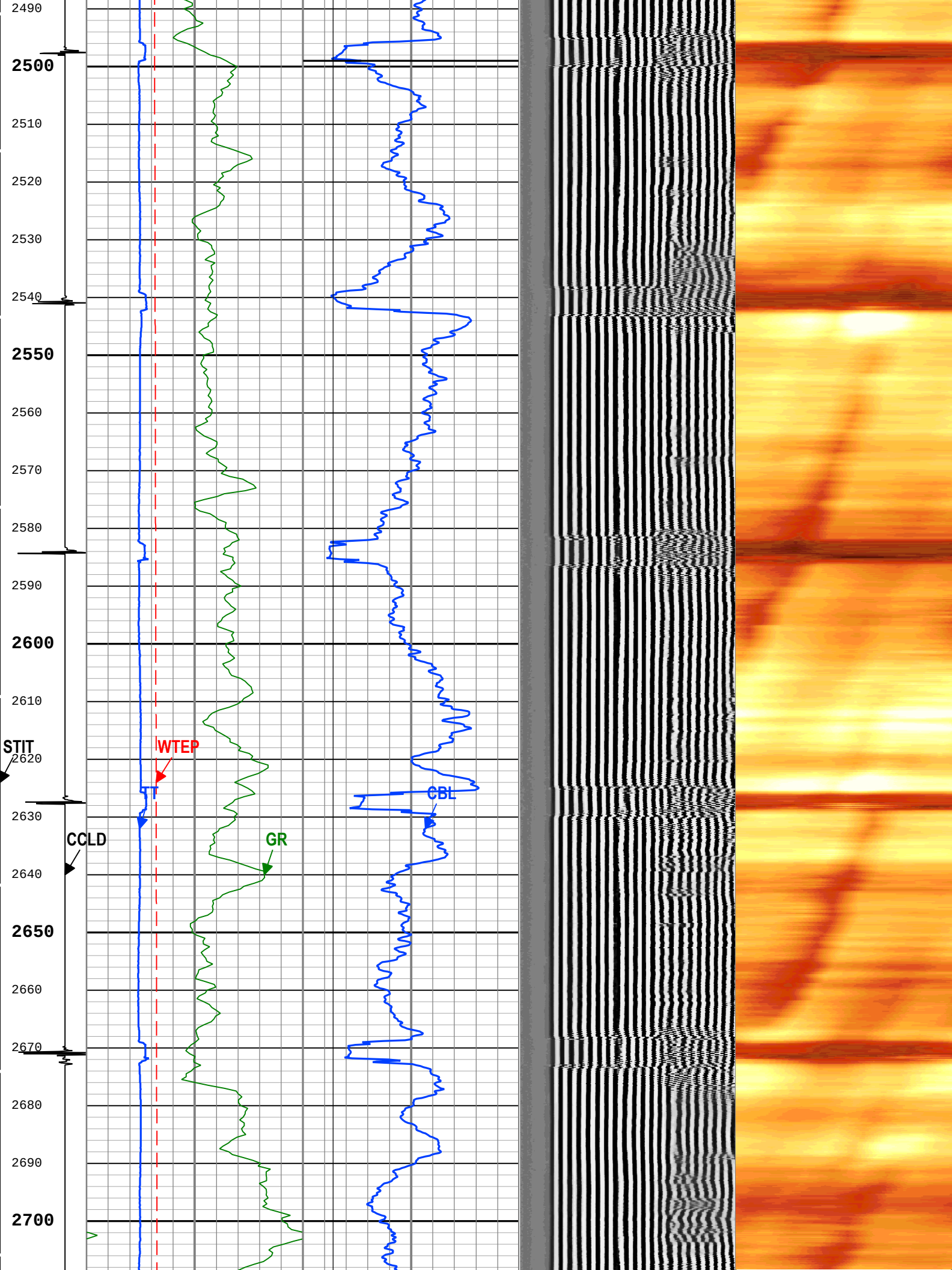
TT
GR
CBL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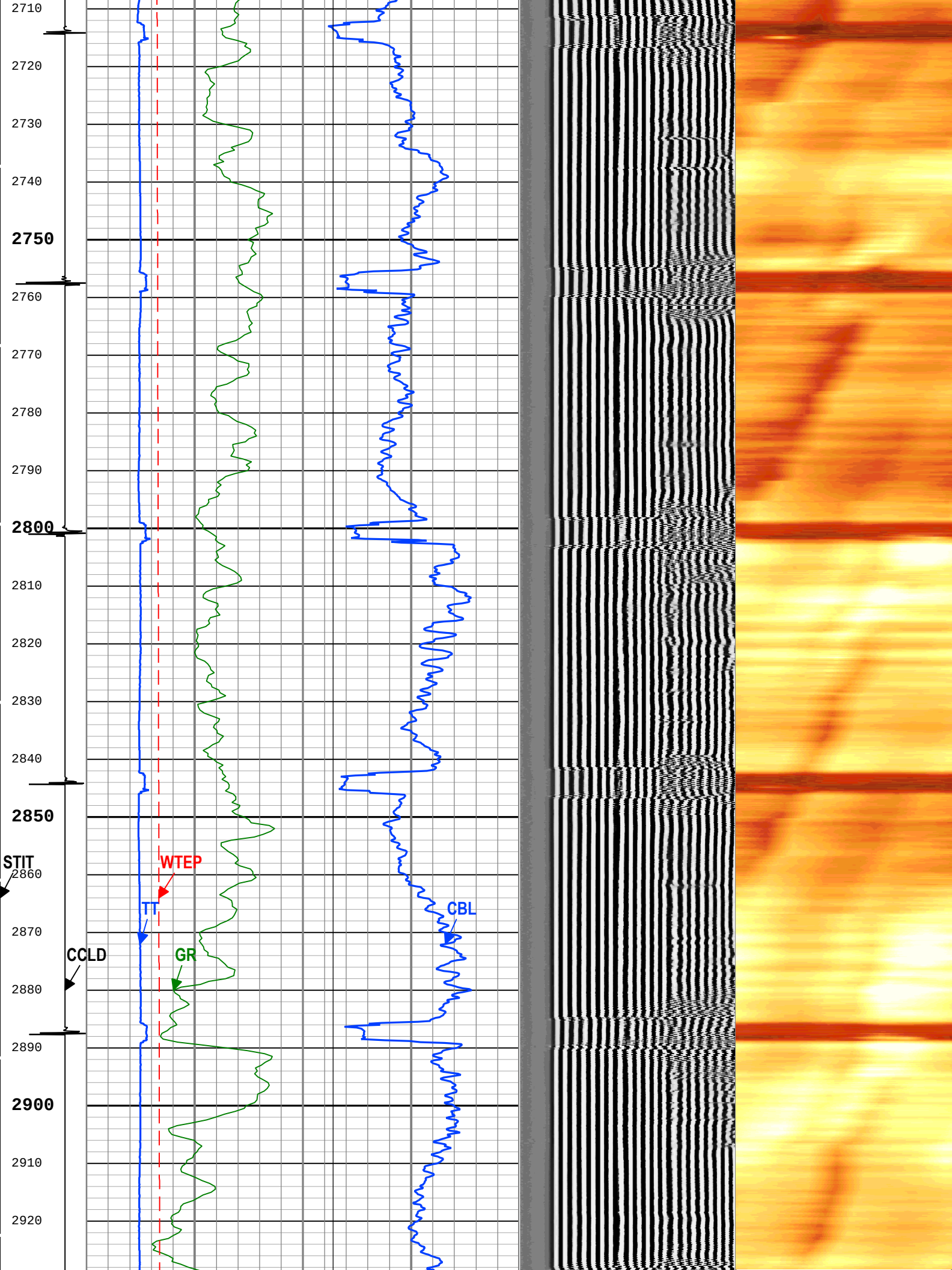
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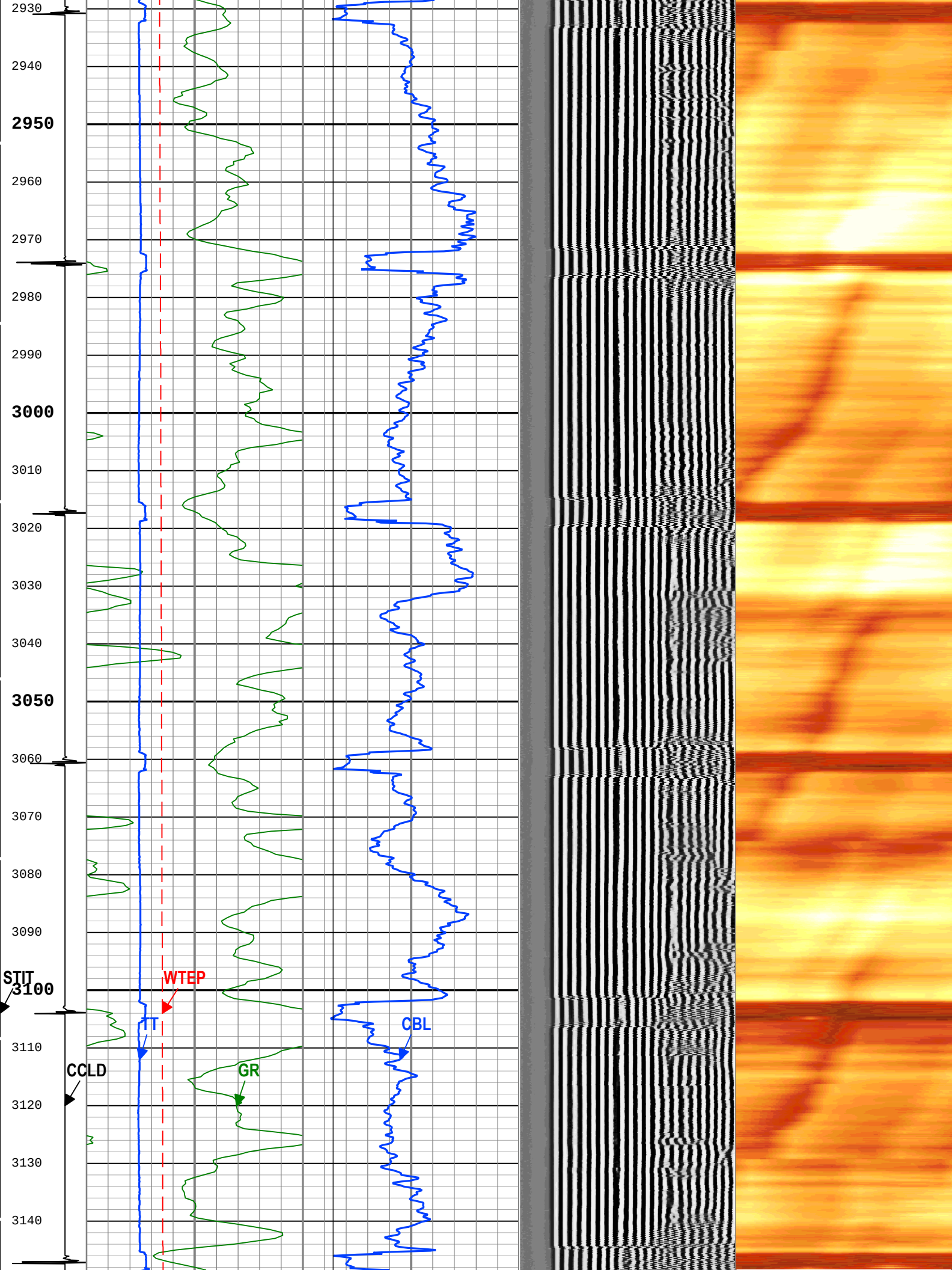
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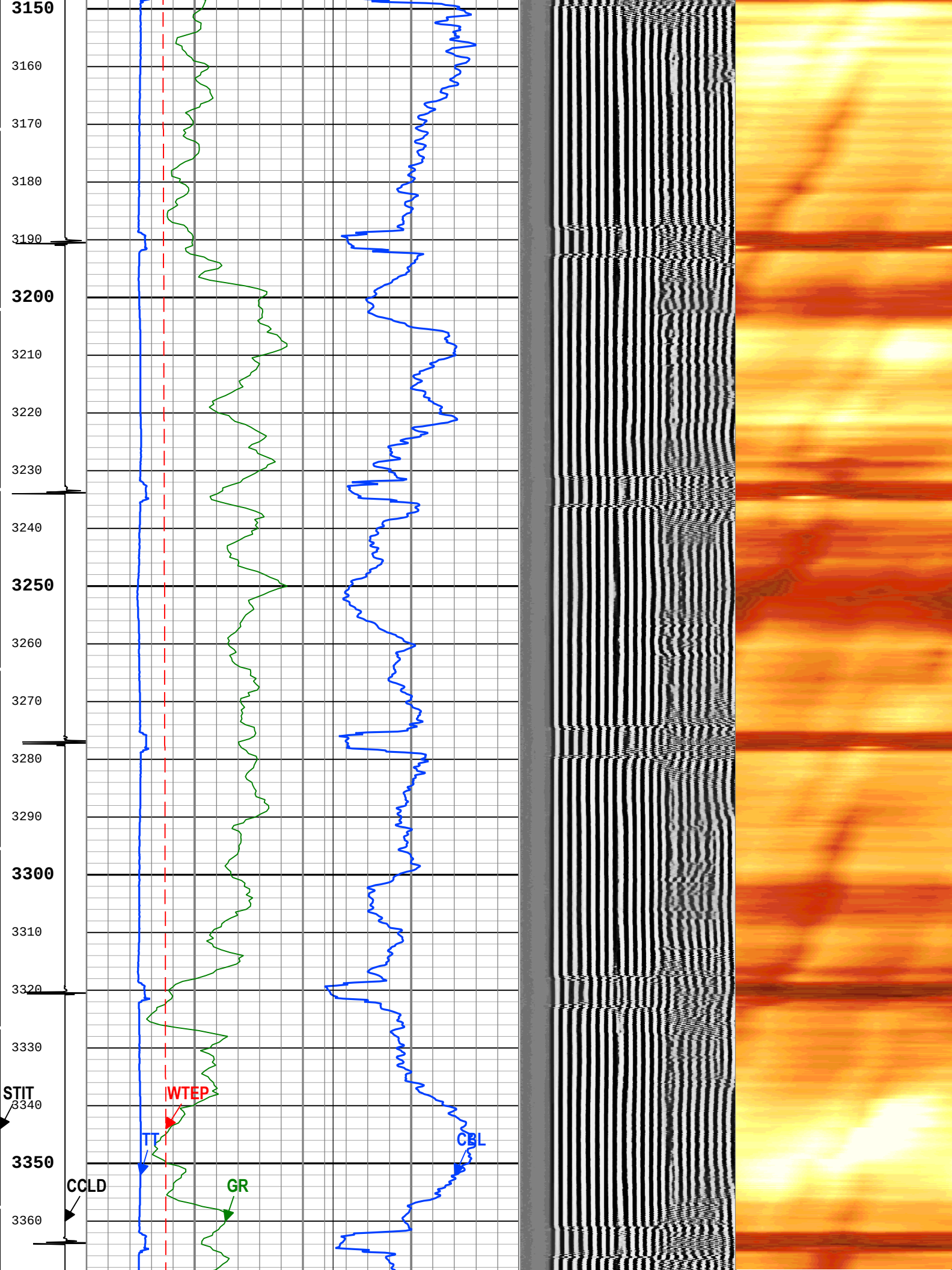
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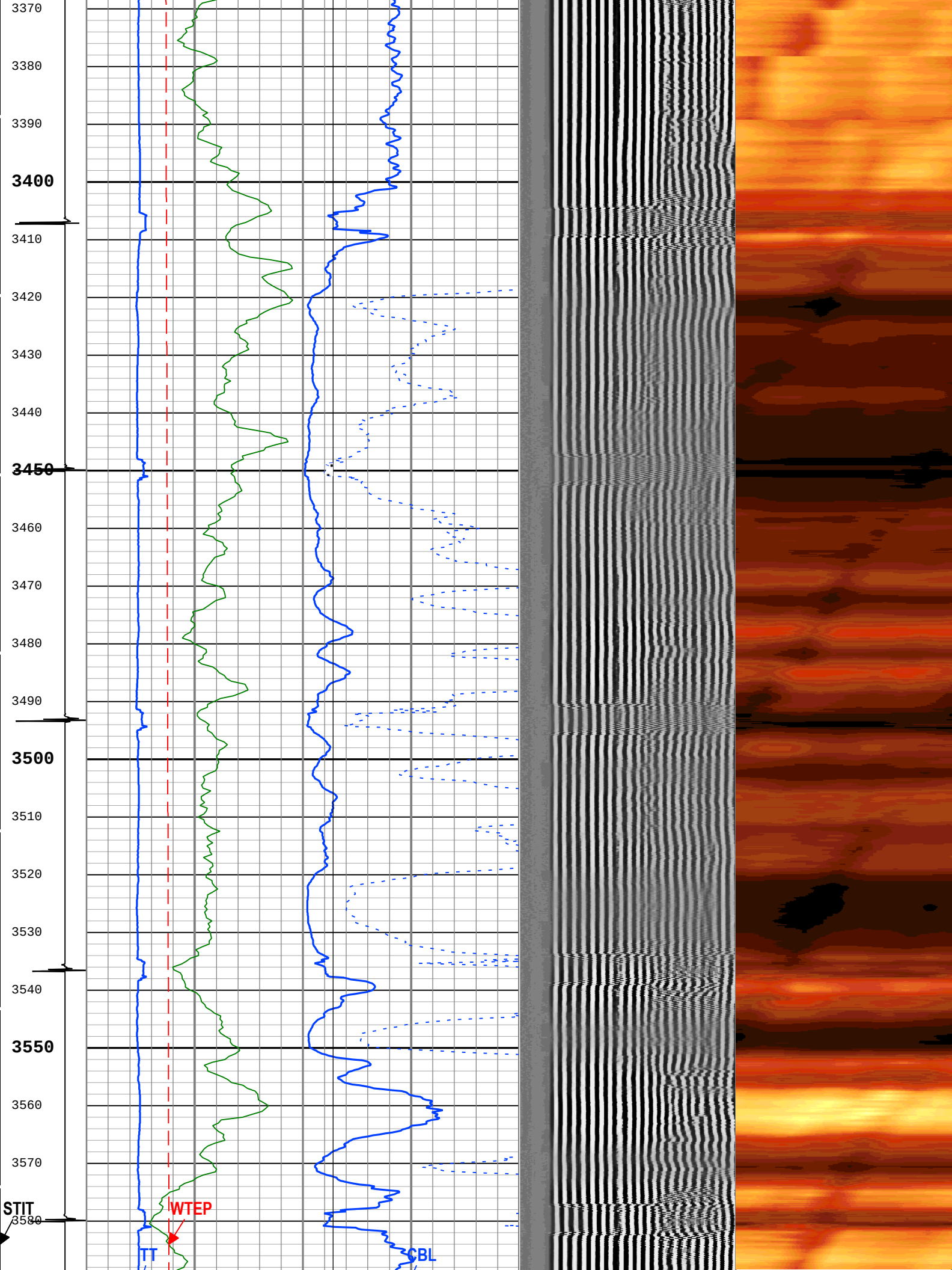
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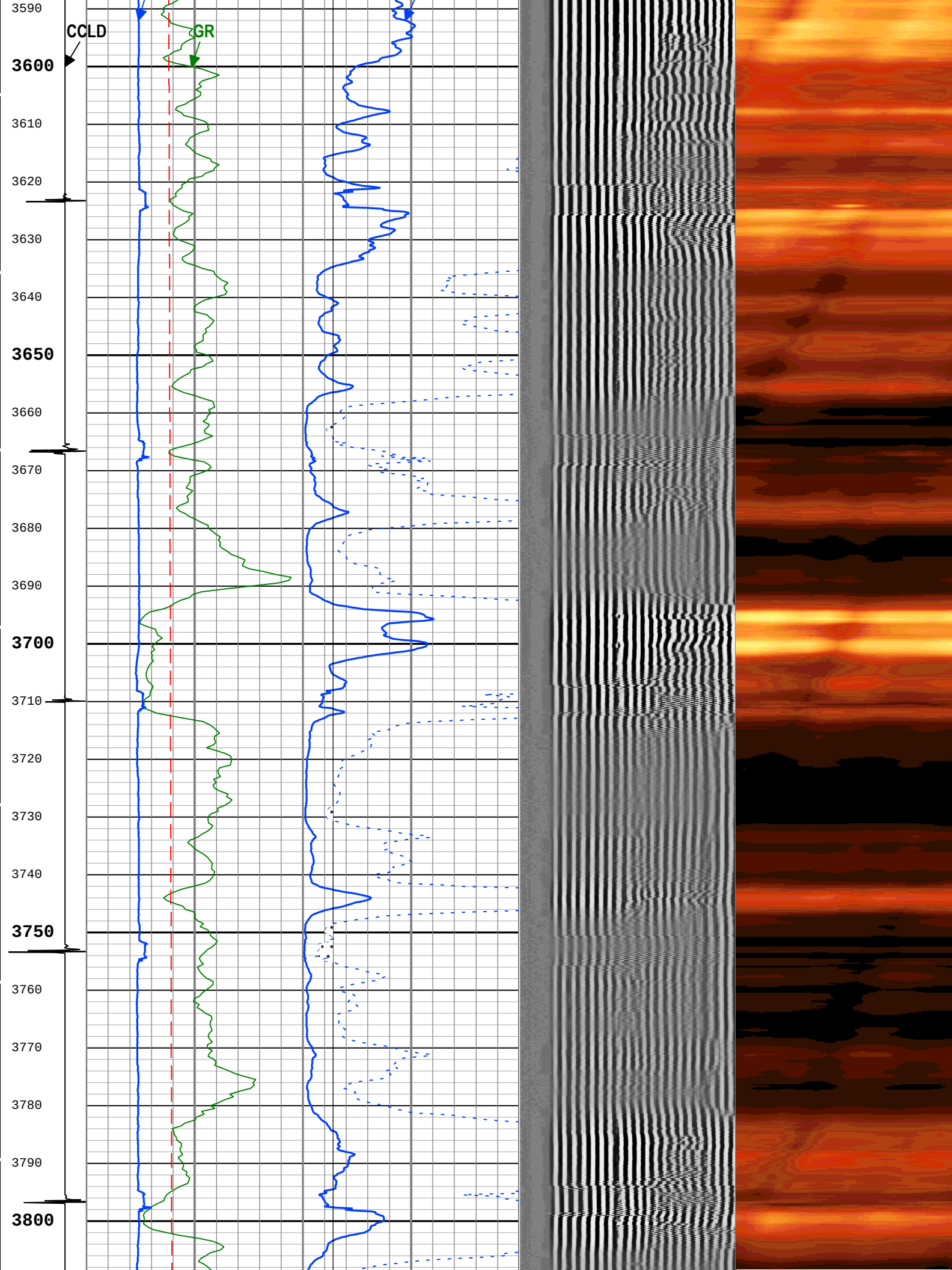
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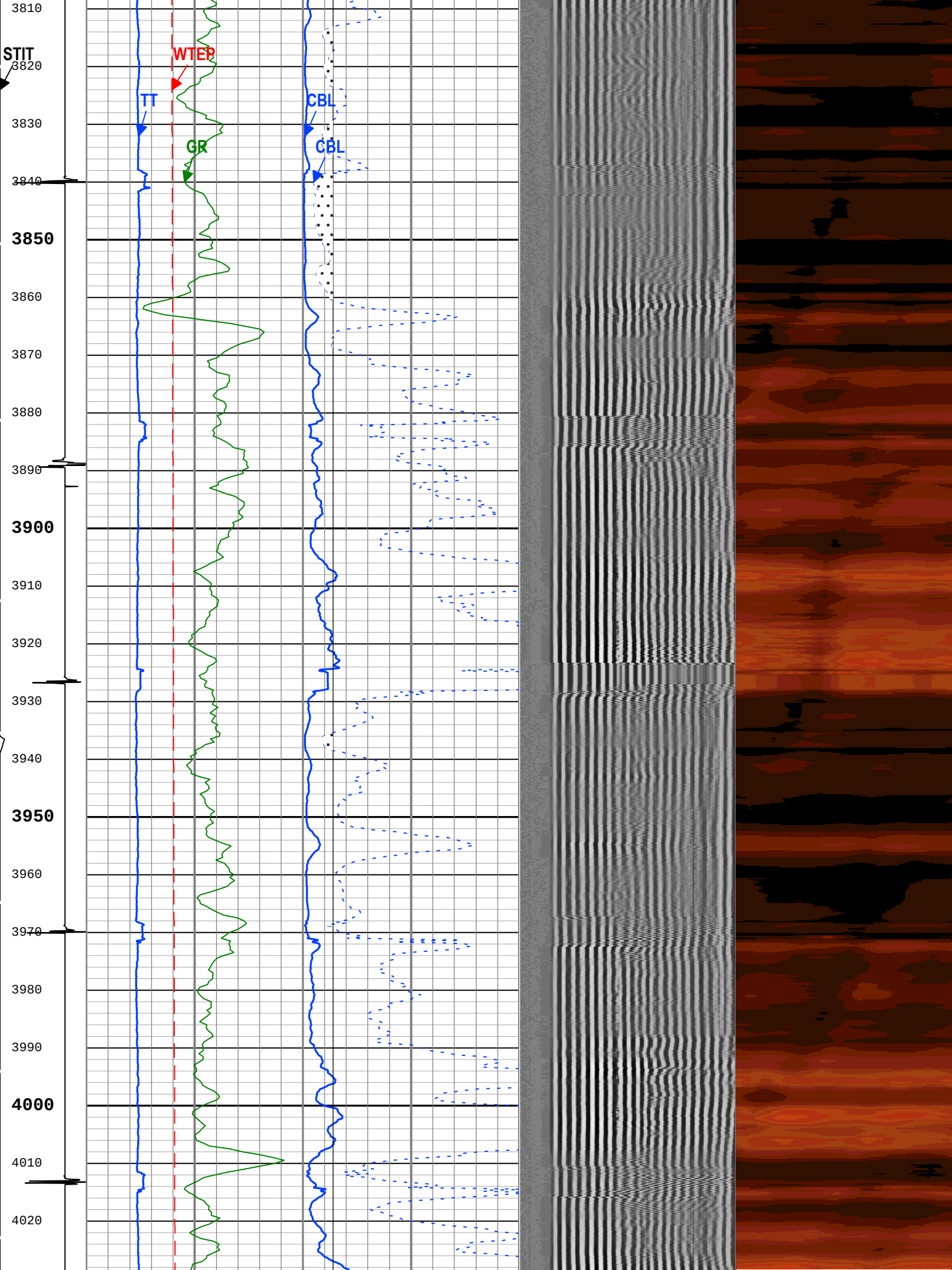
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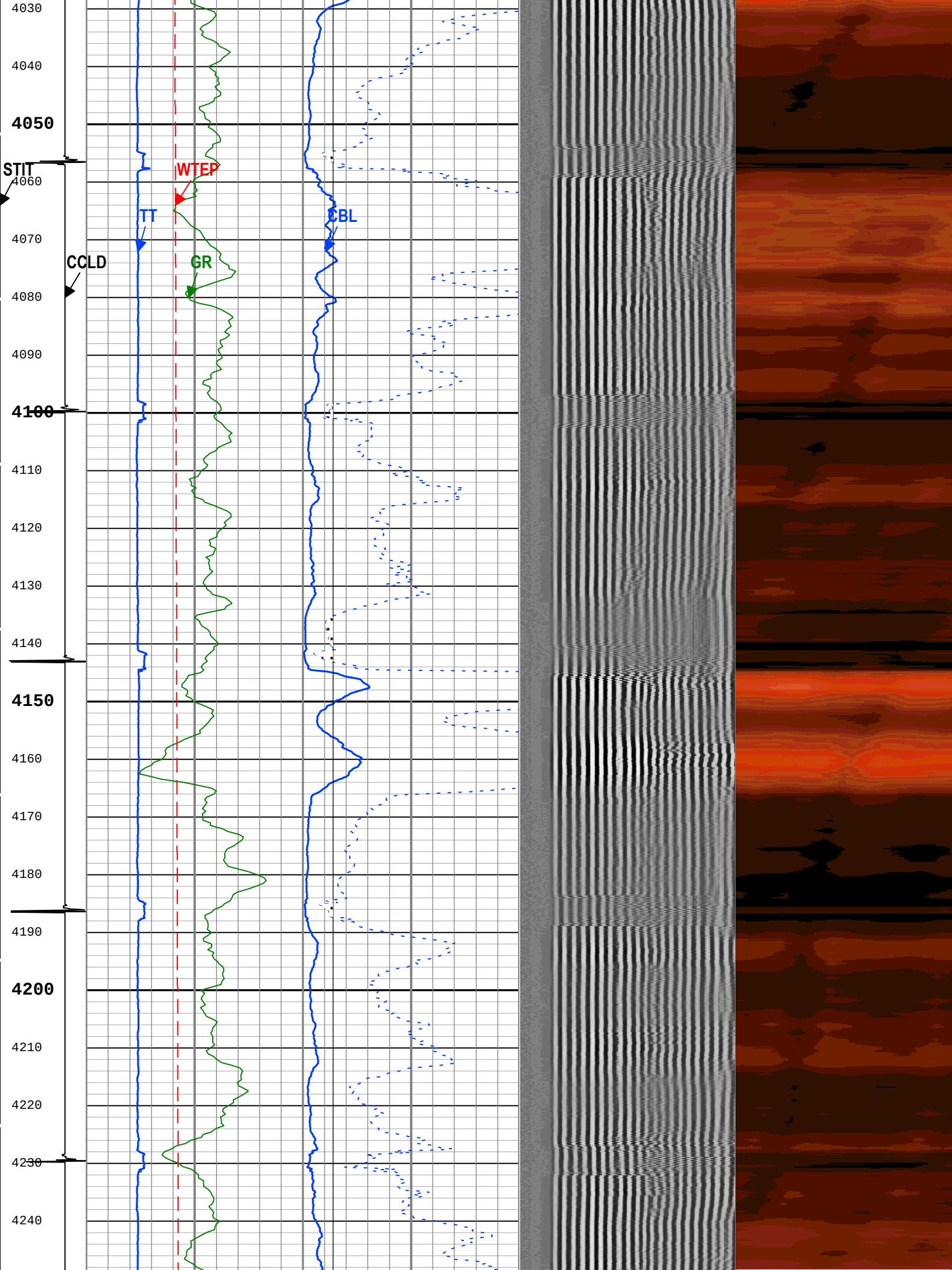
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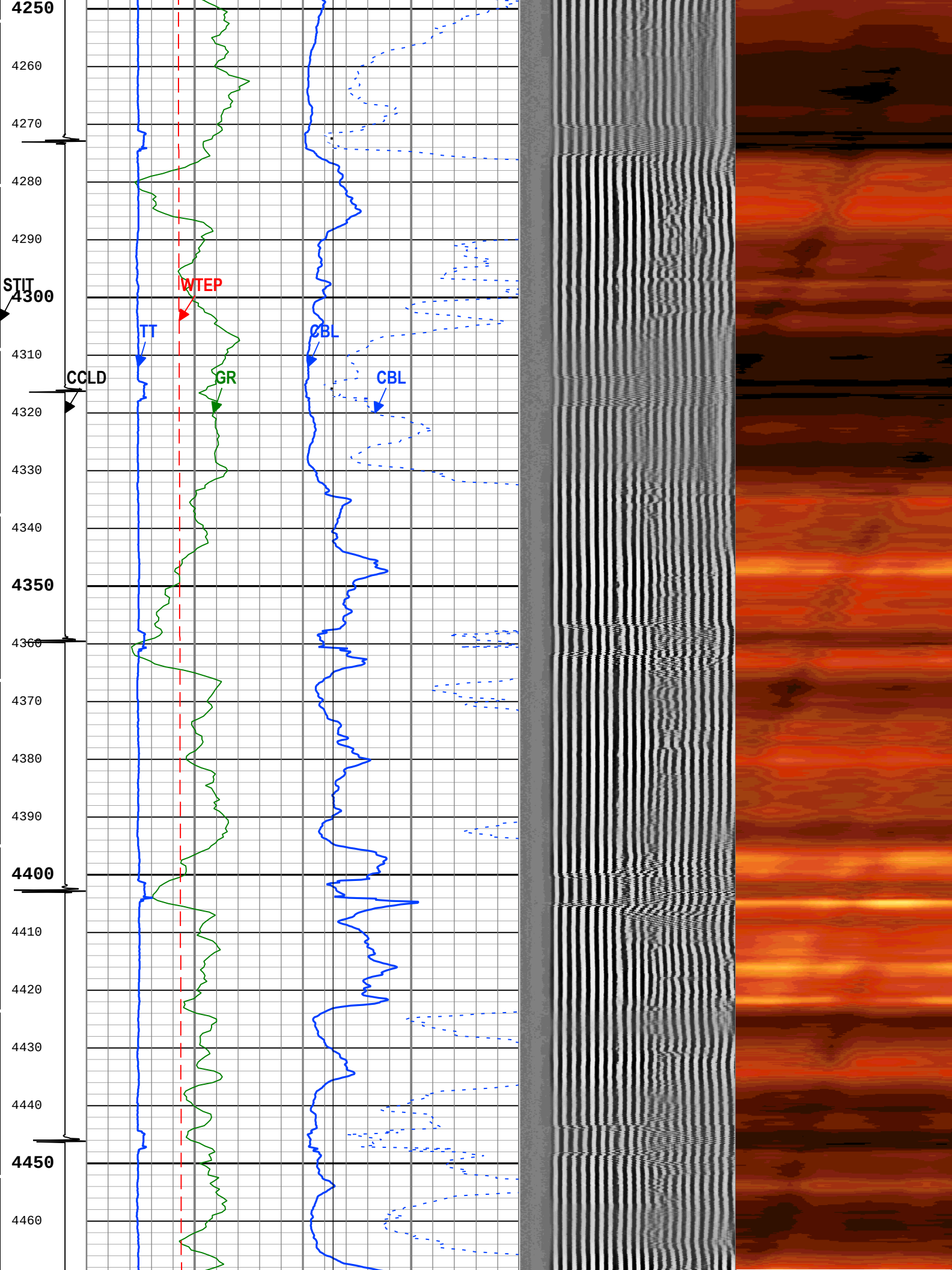
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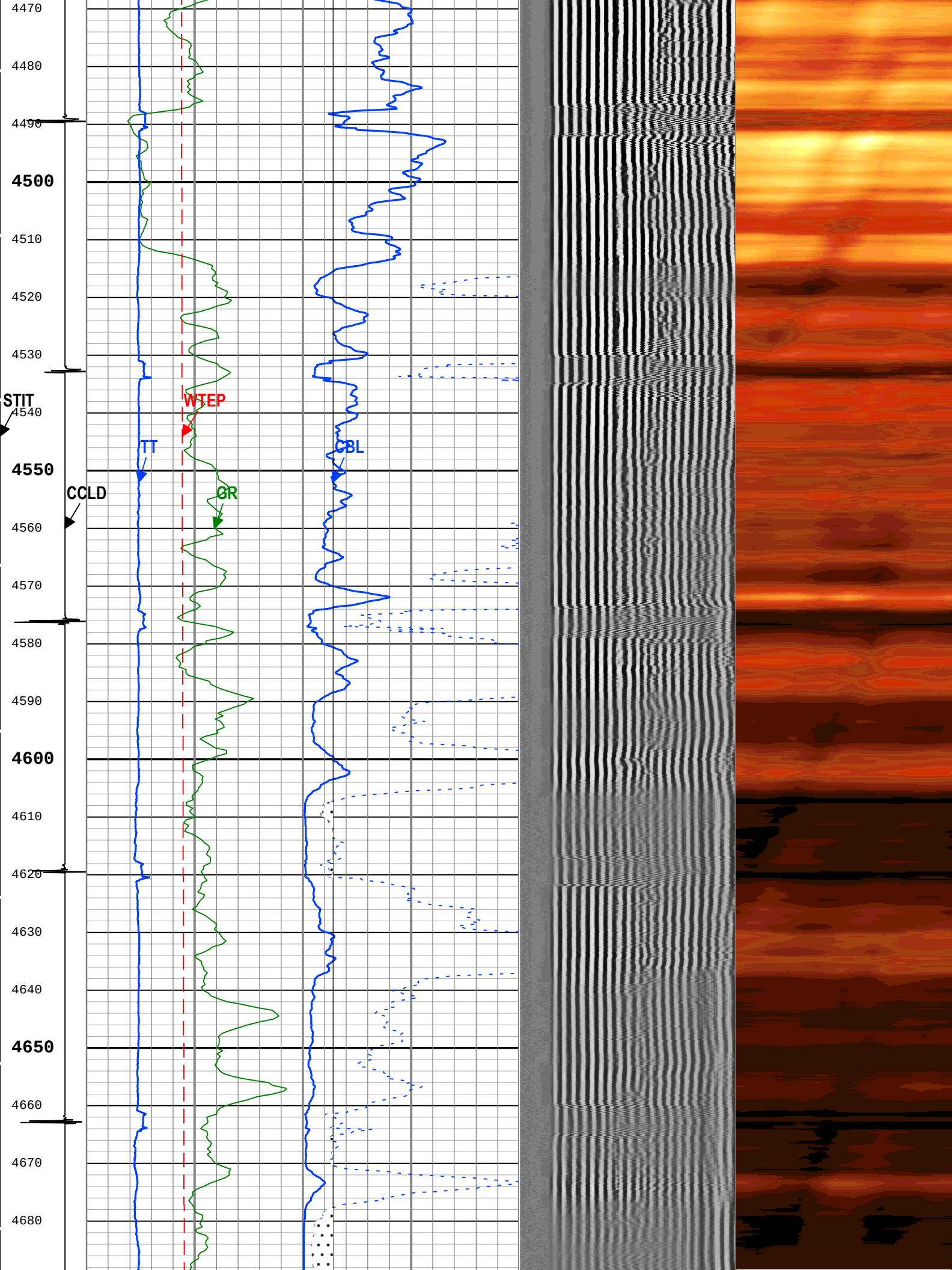
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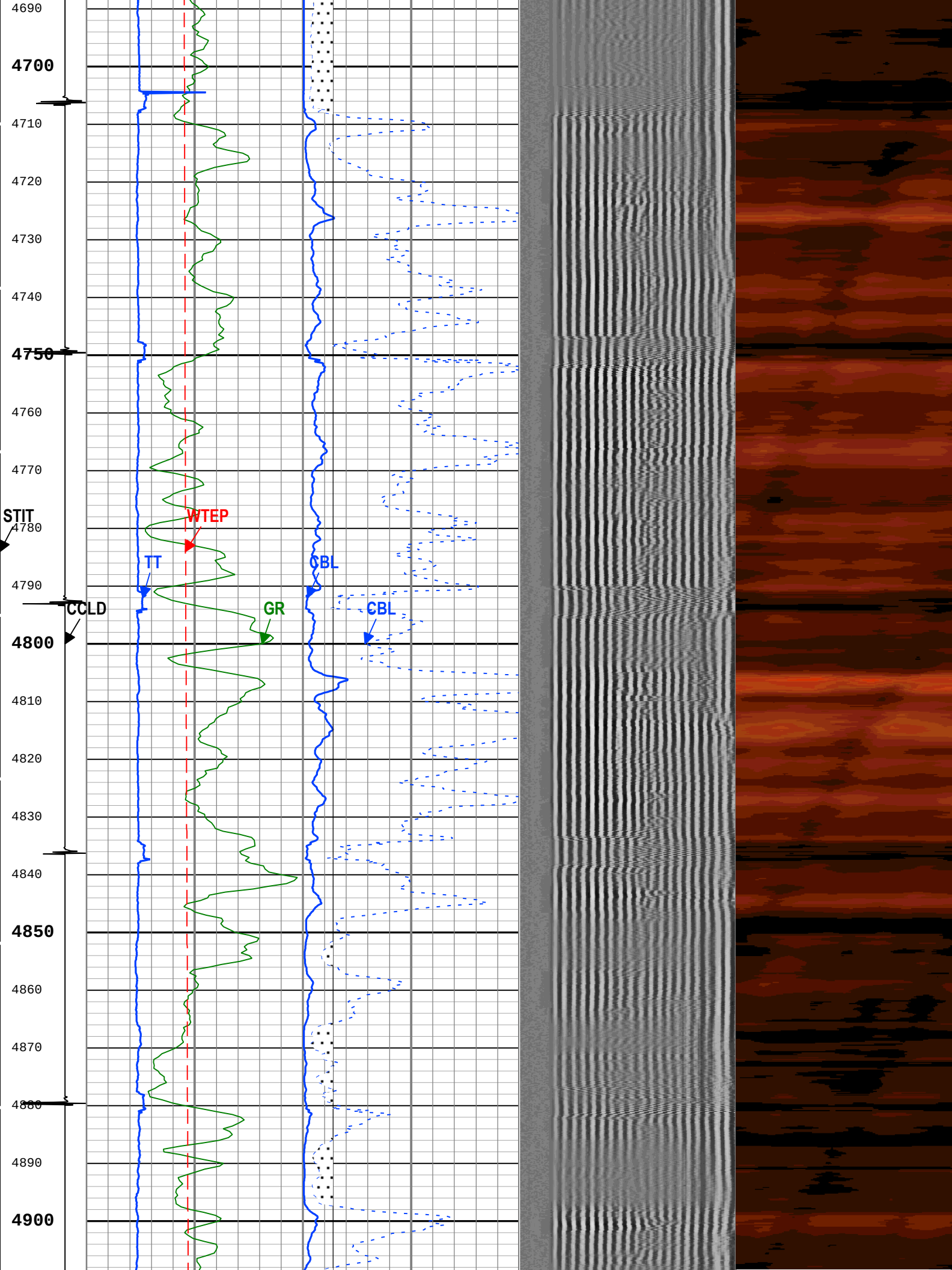
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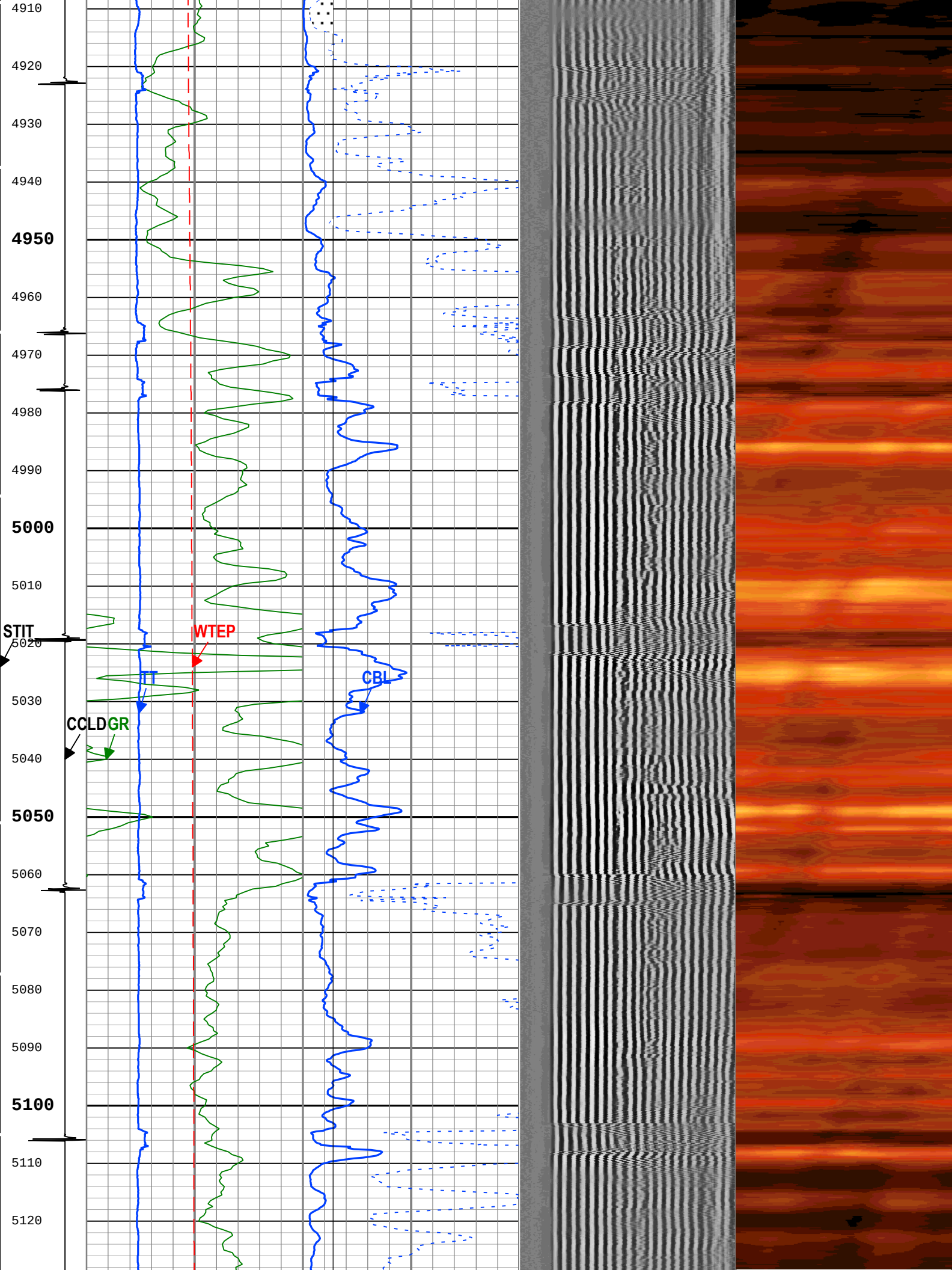
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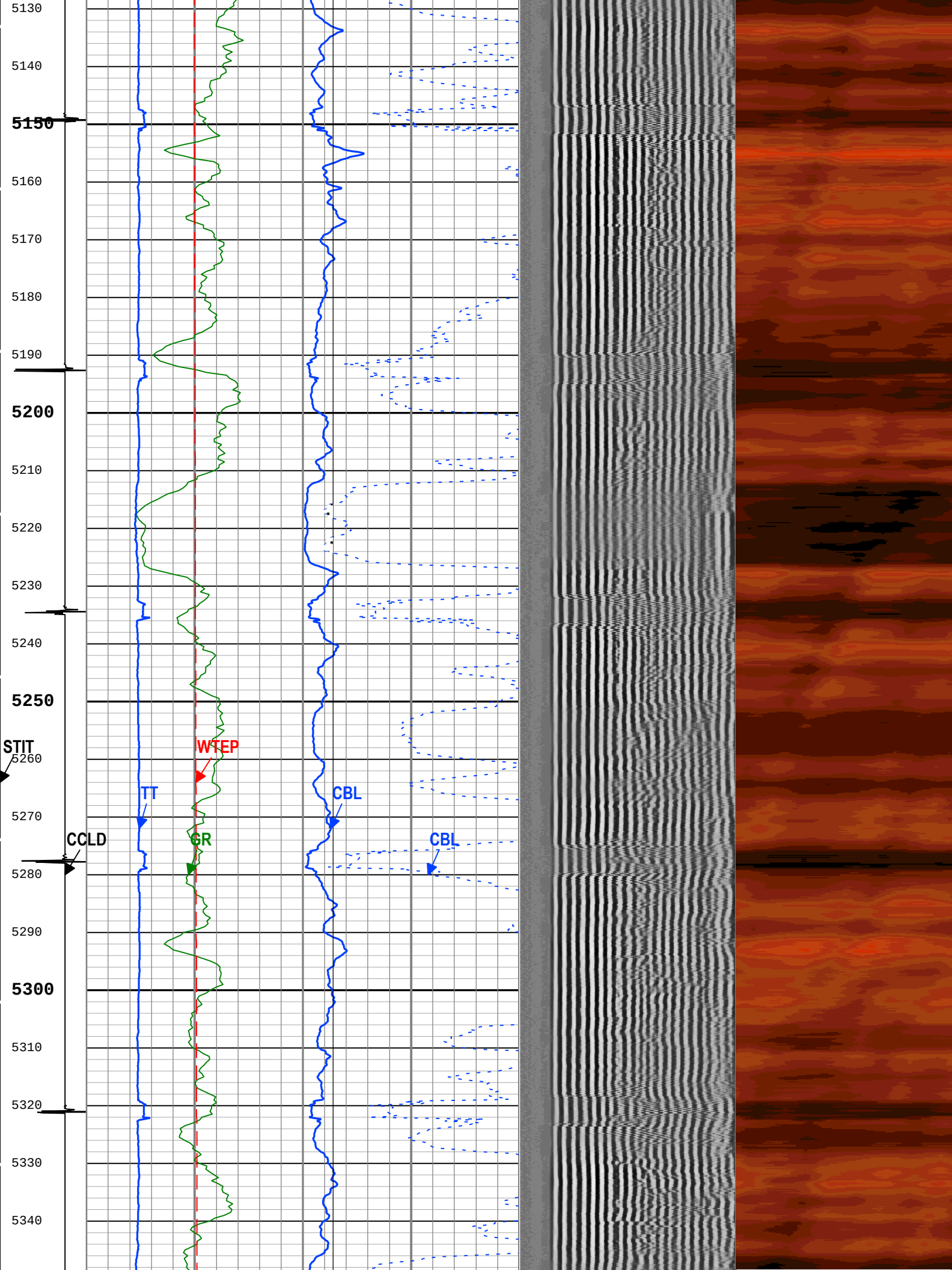
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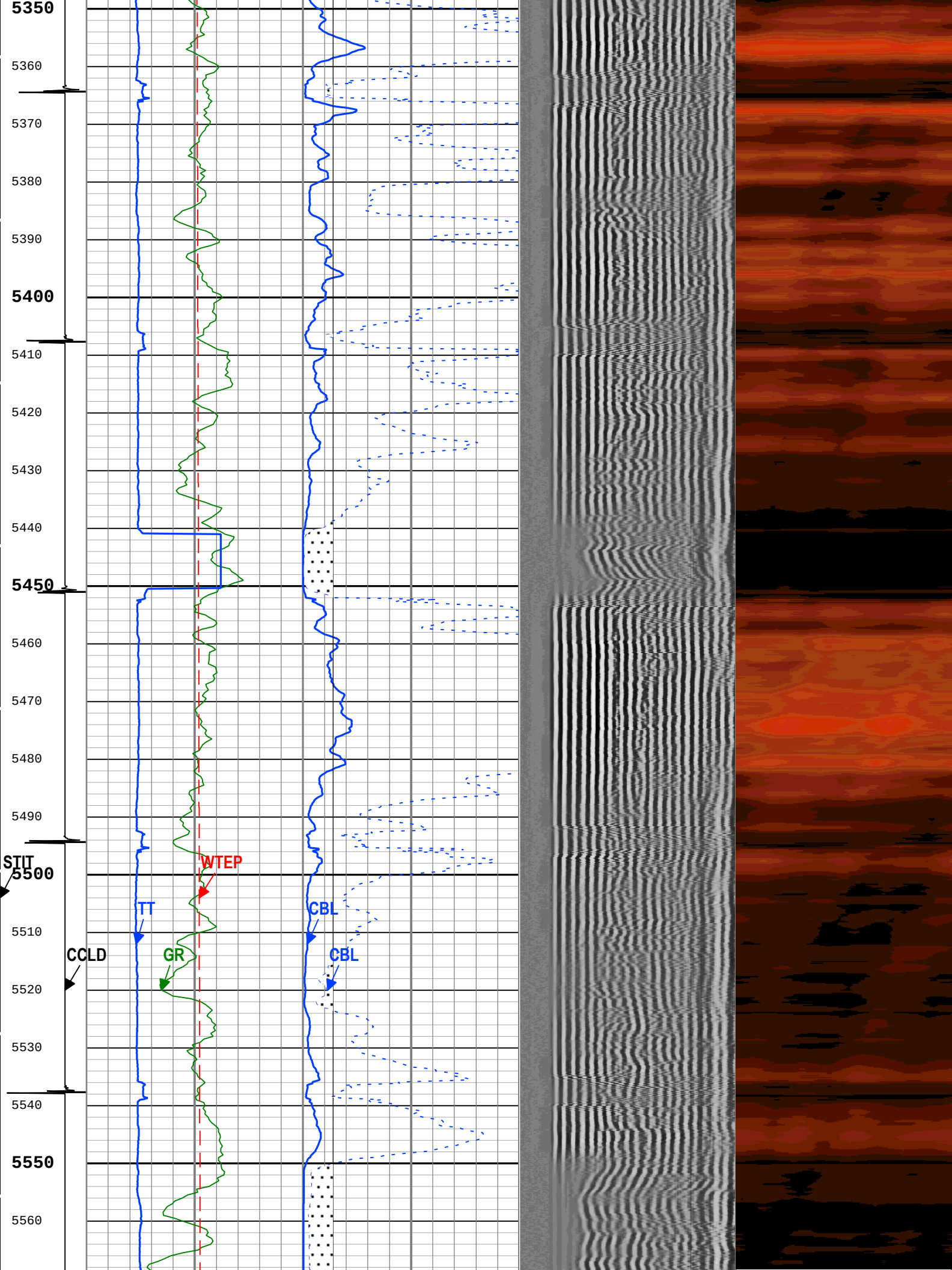
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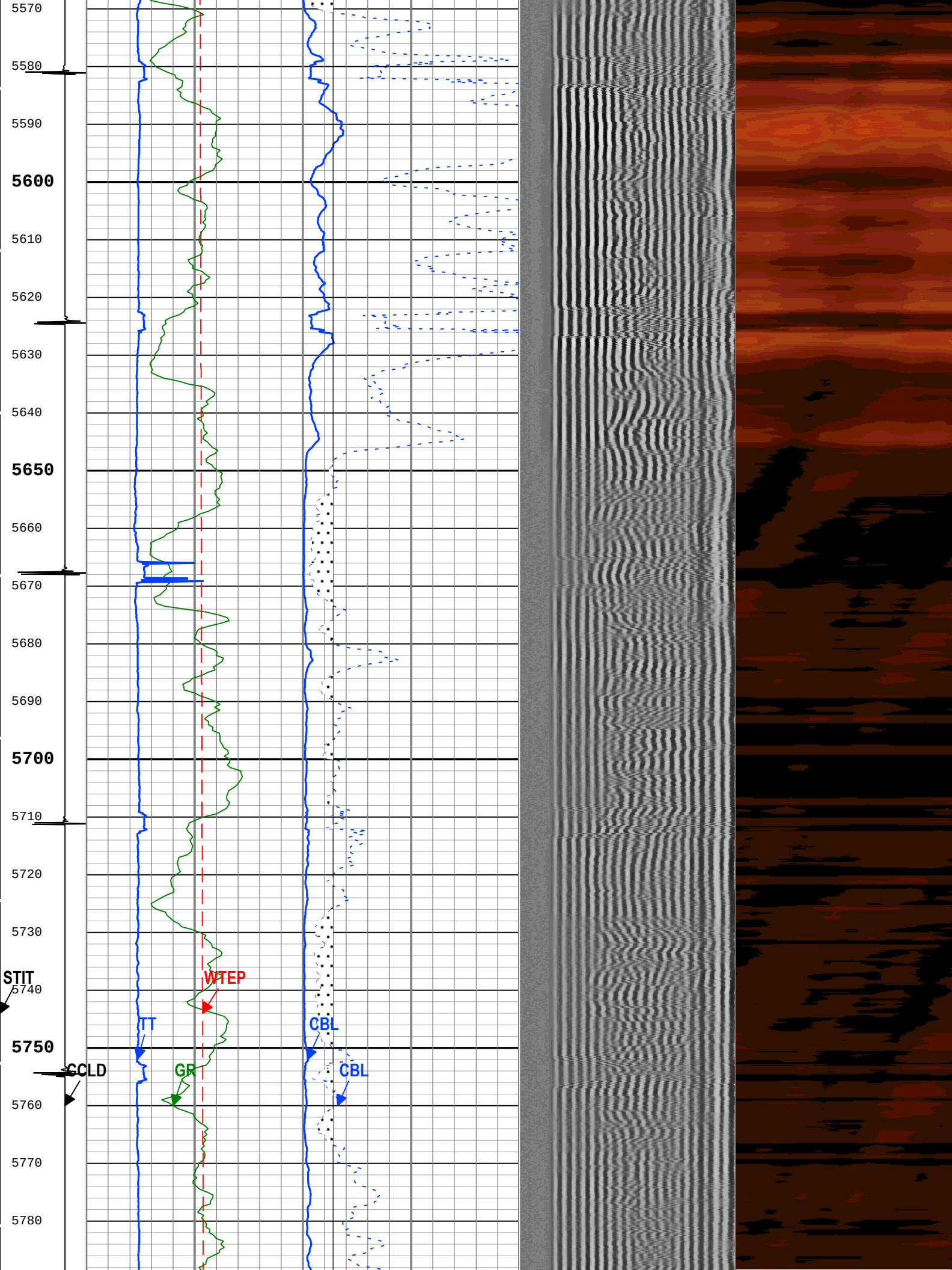
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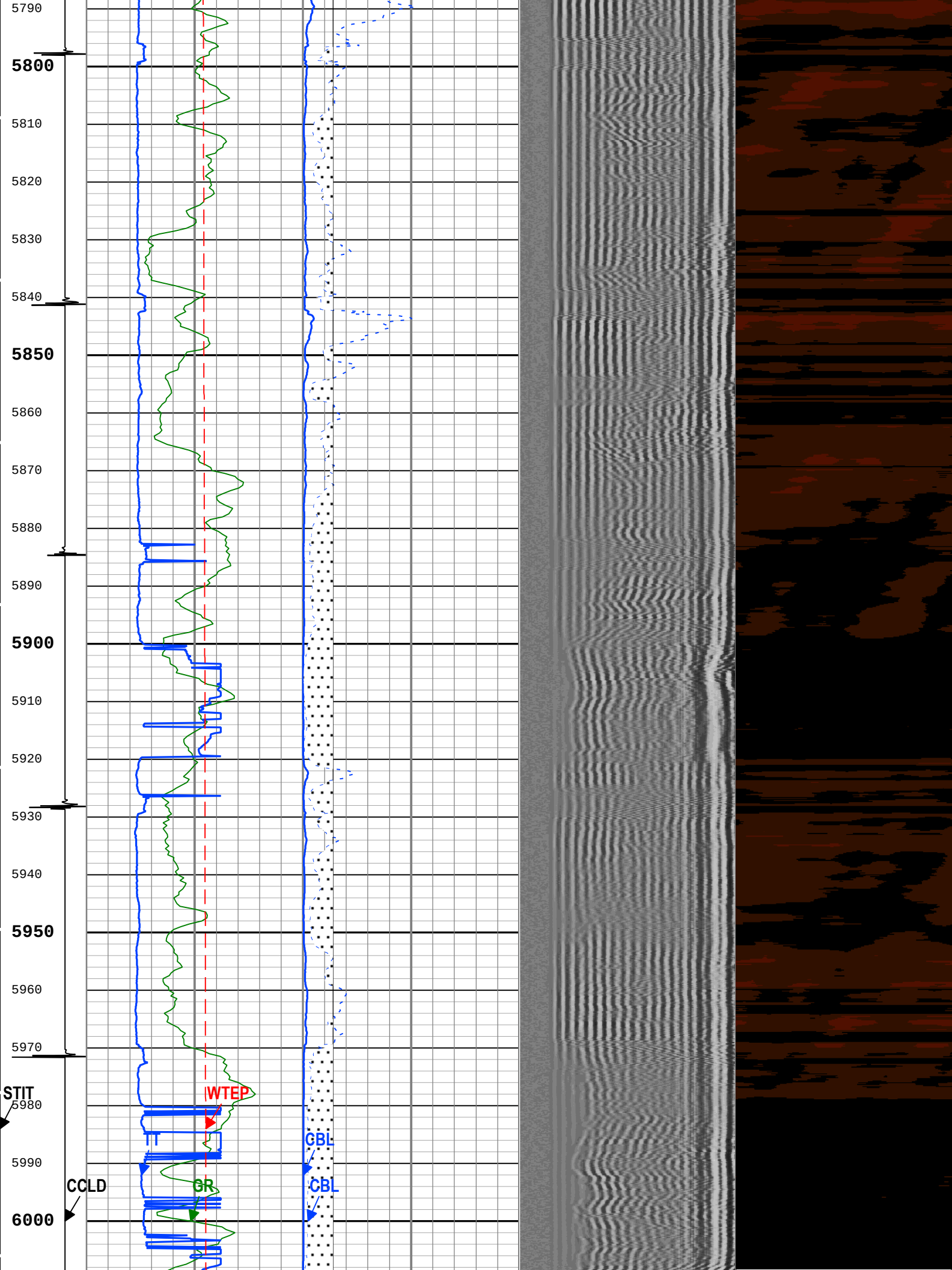
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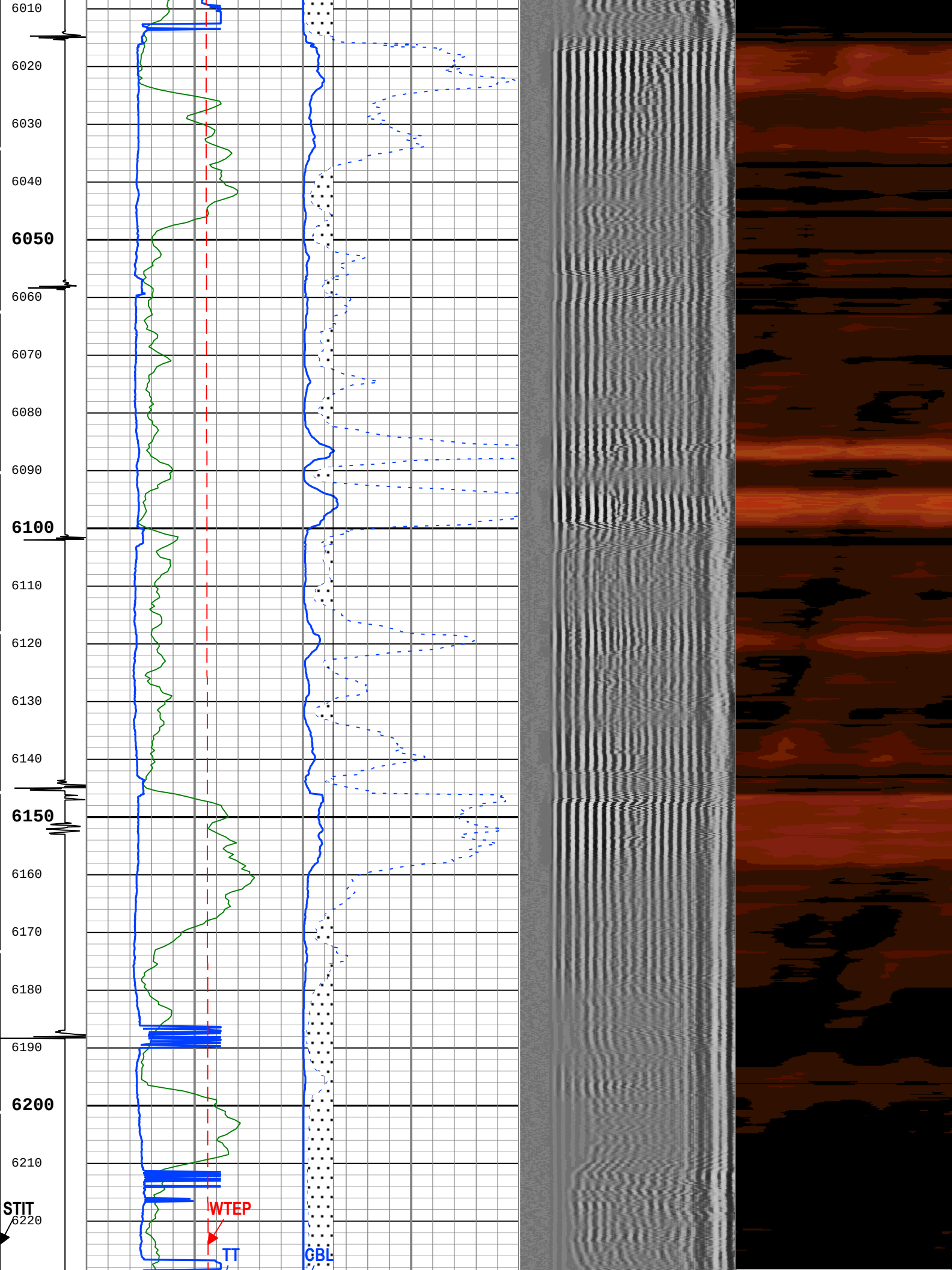
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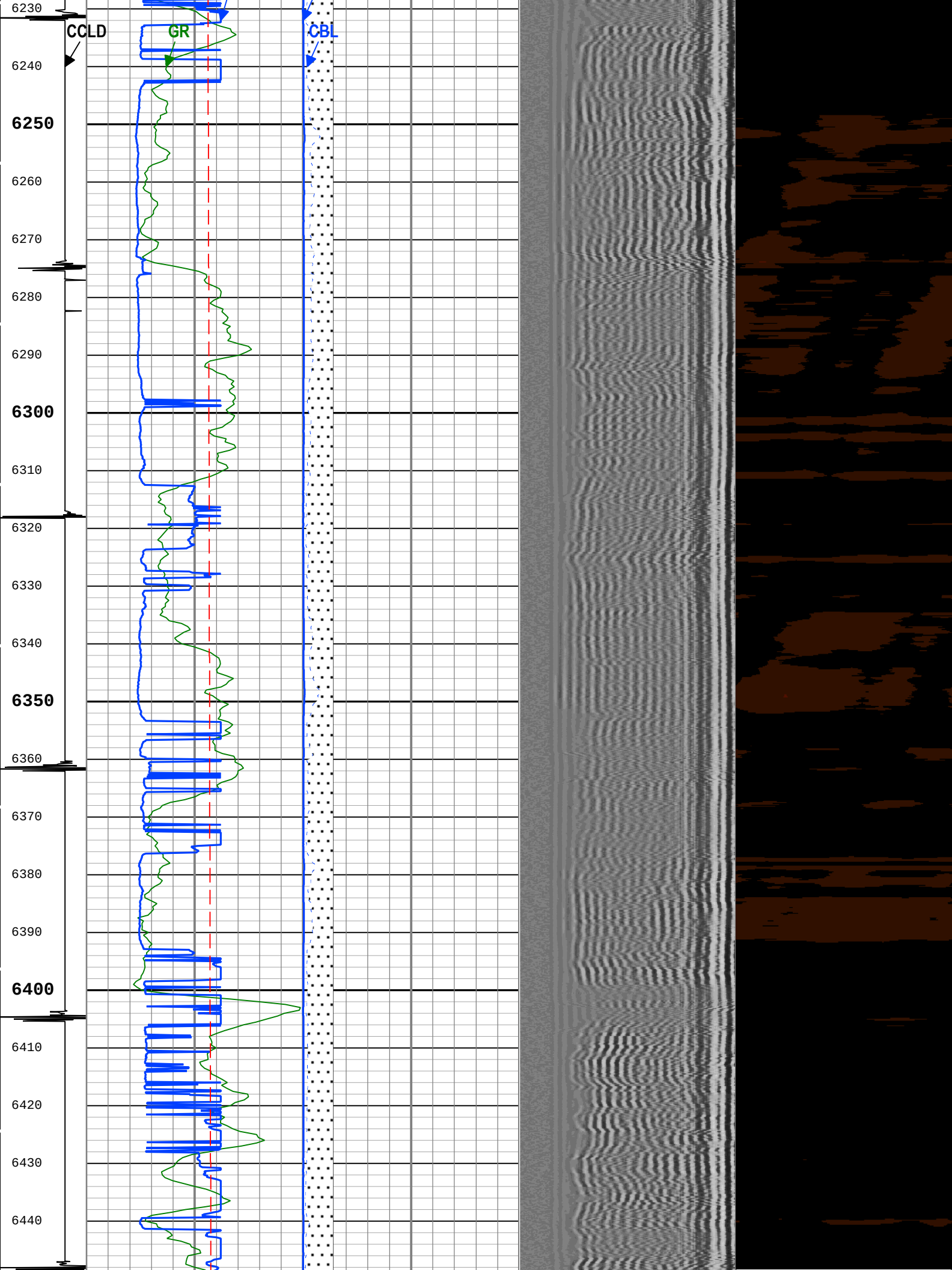
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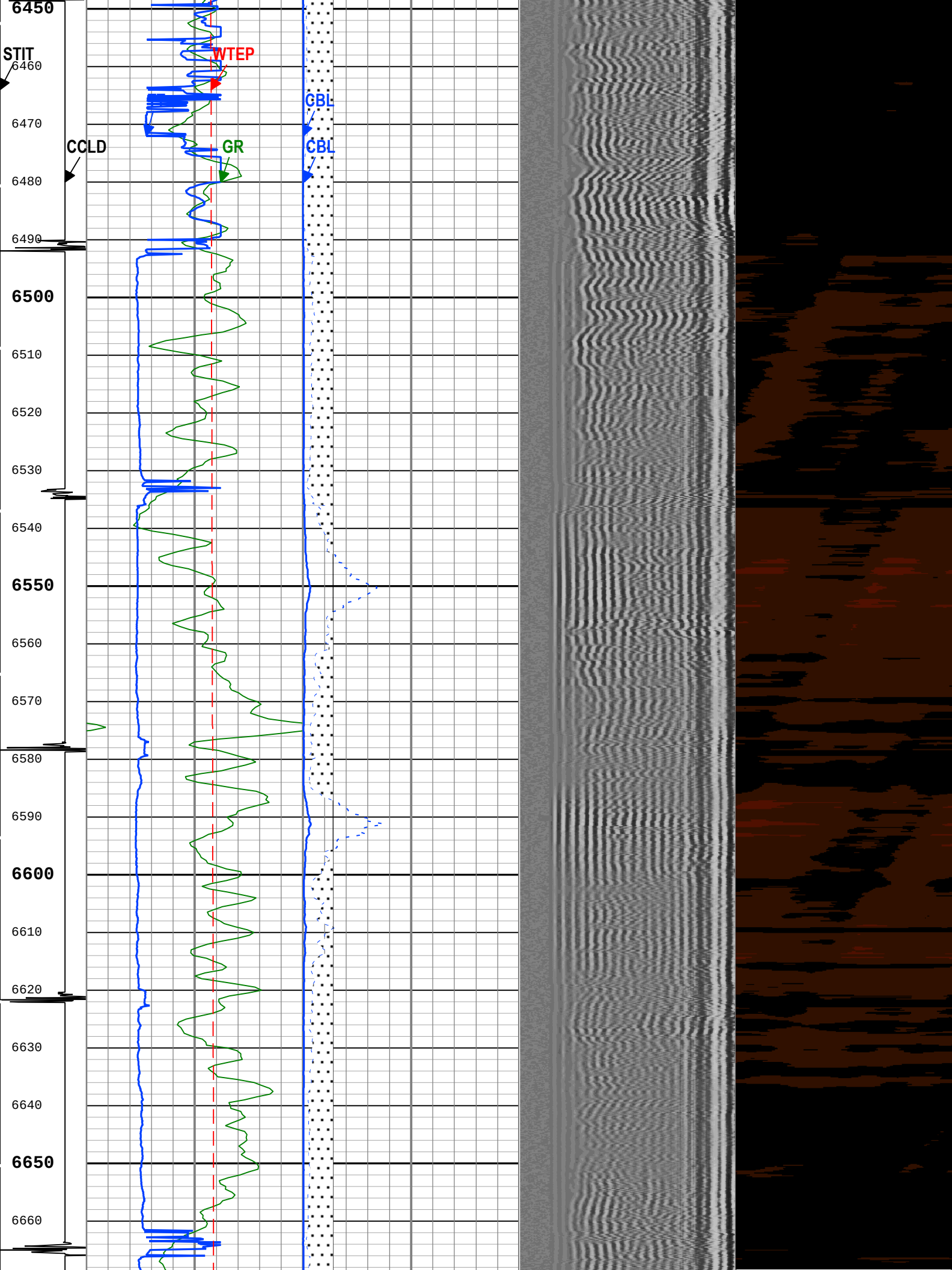
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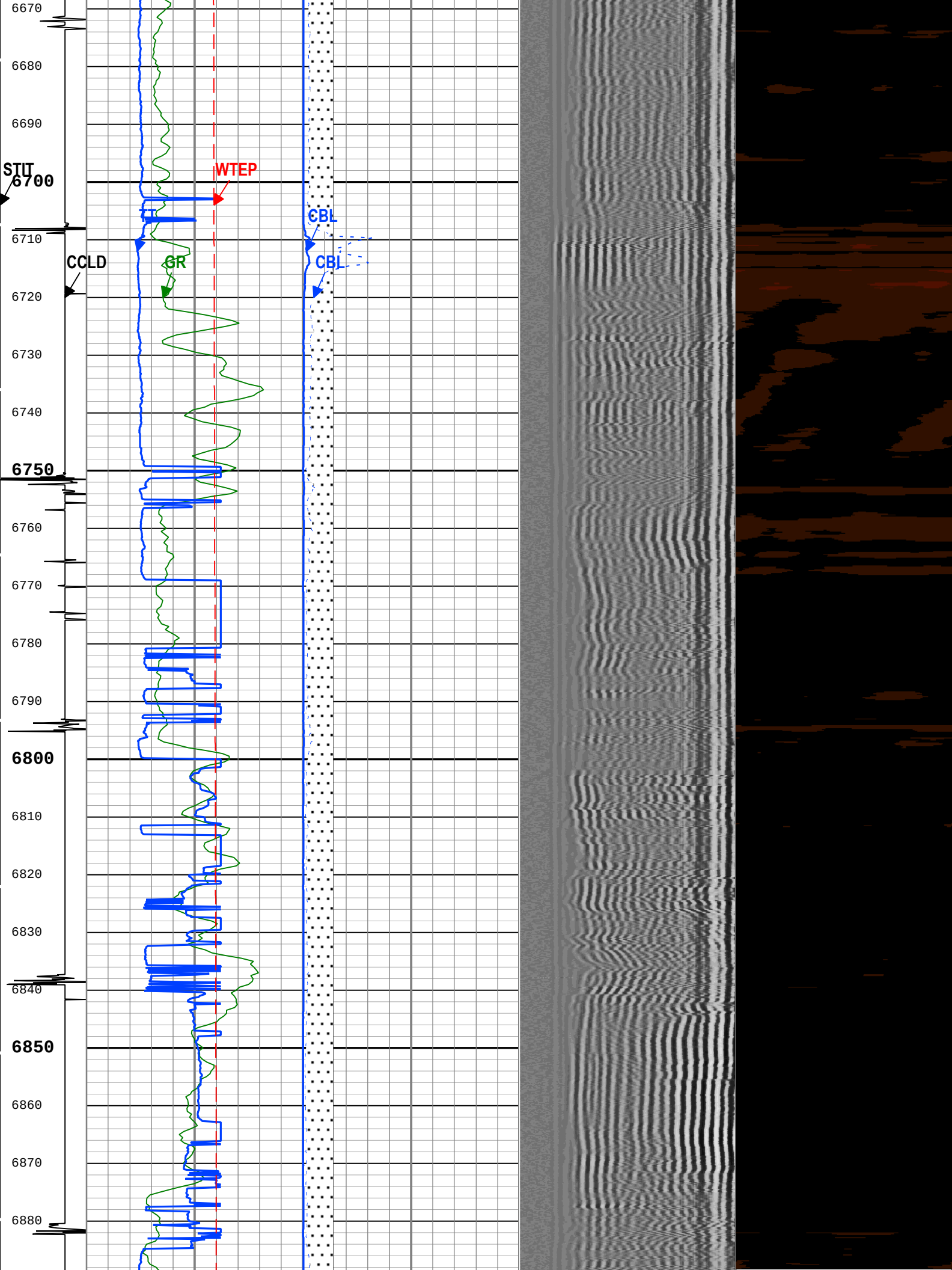
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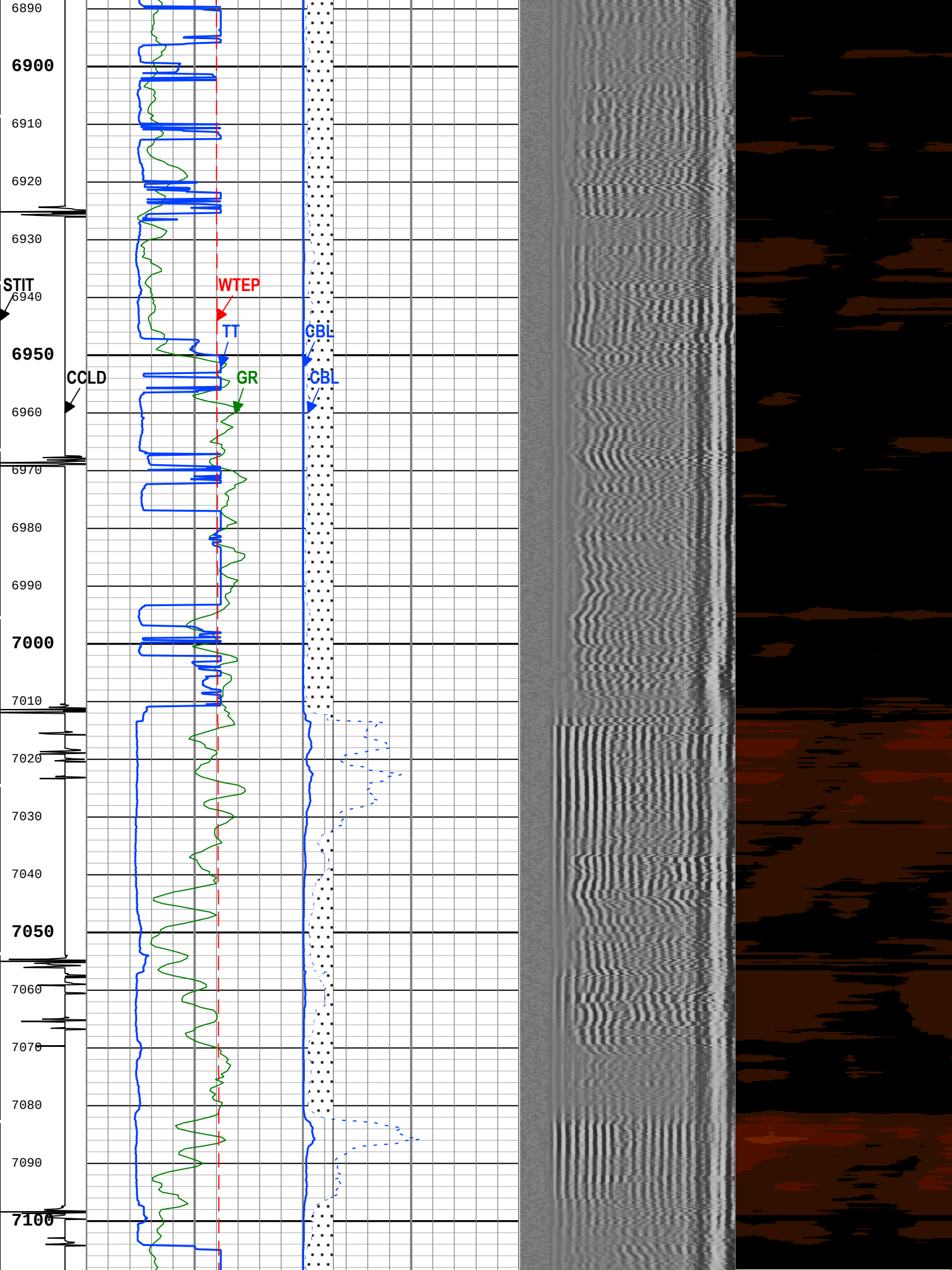
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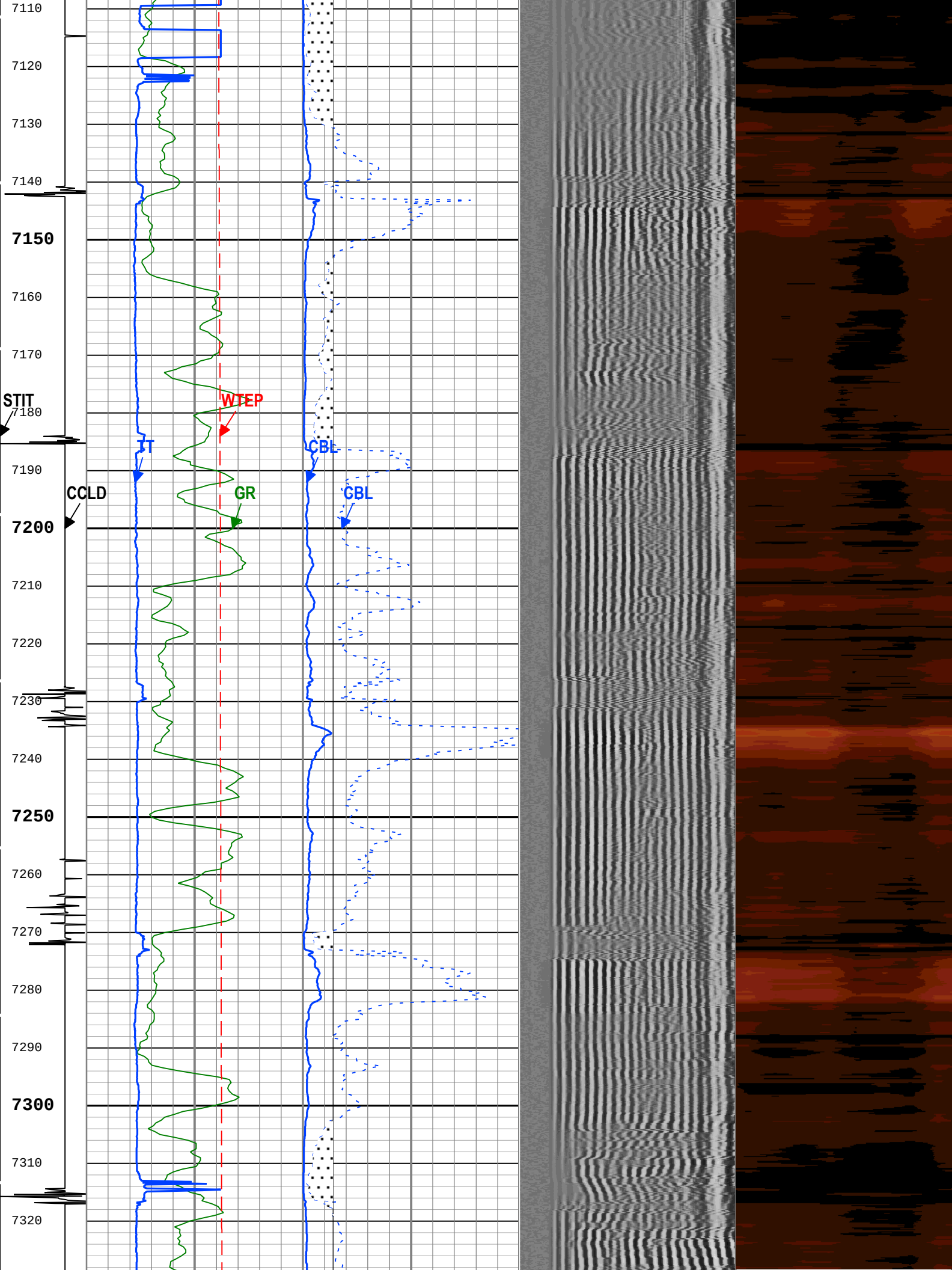
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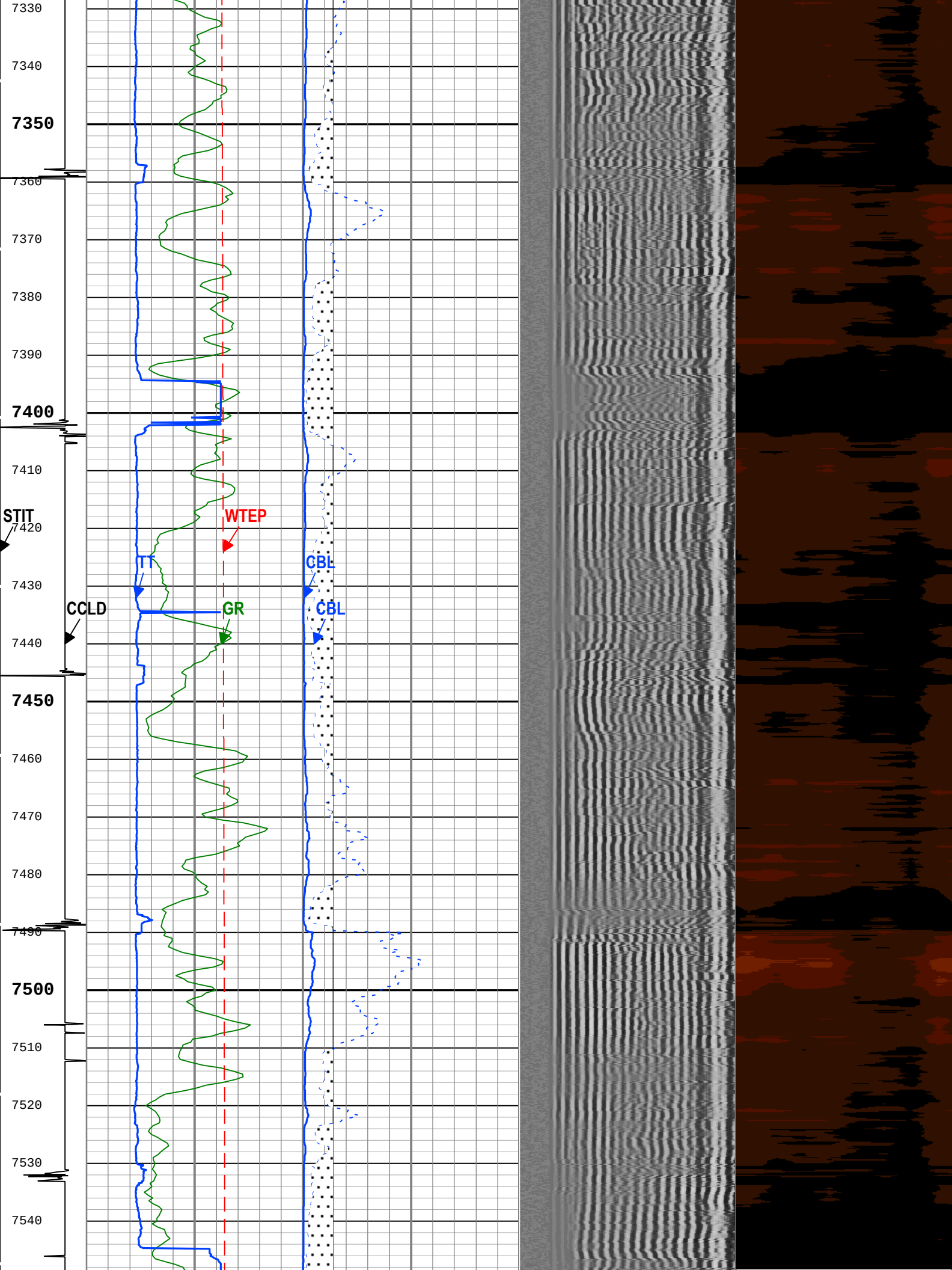
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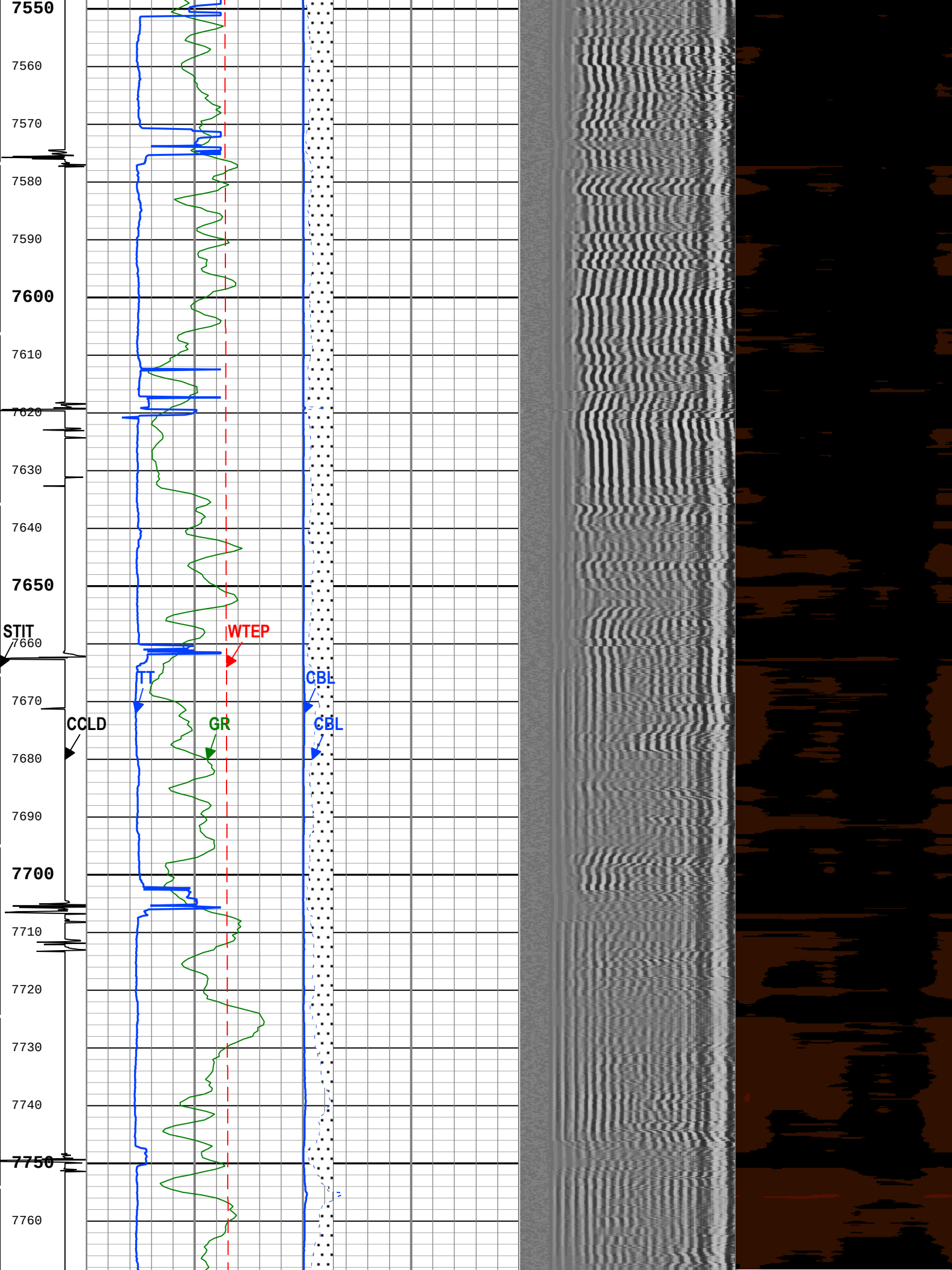
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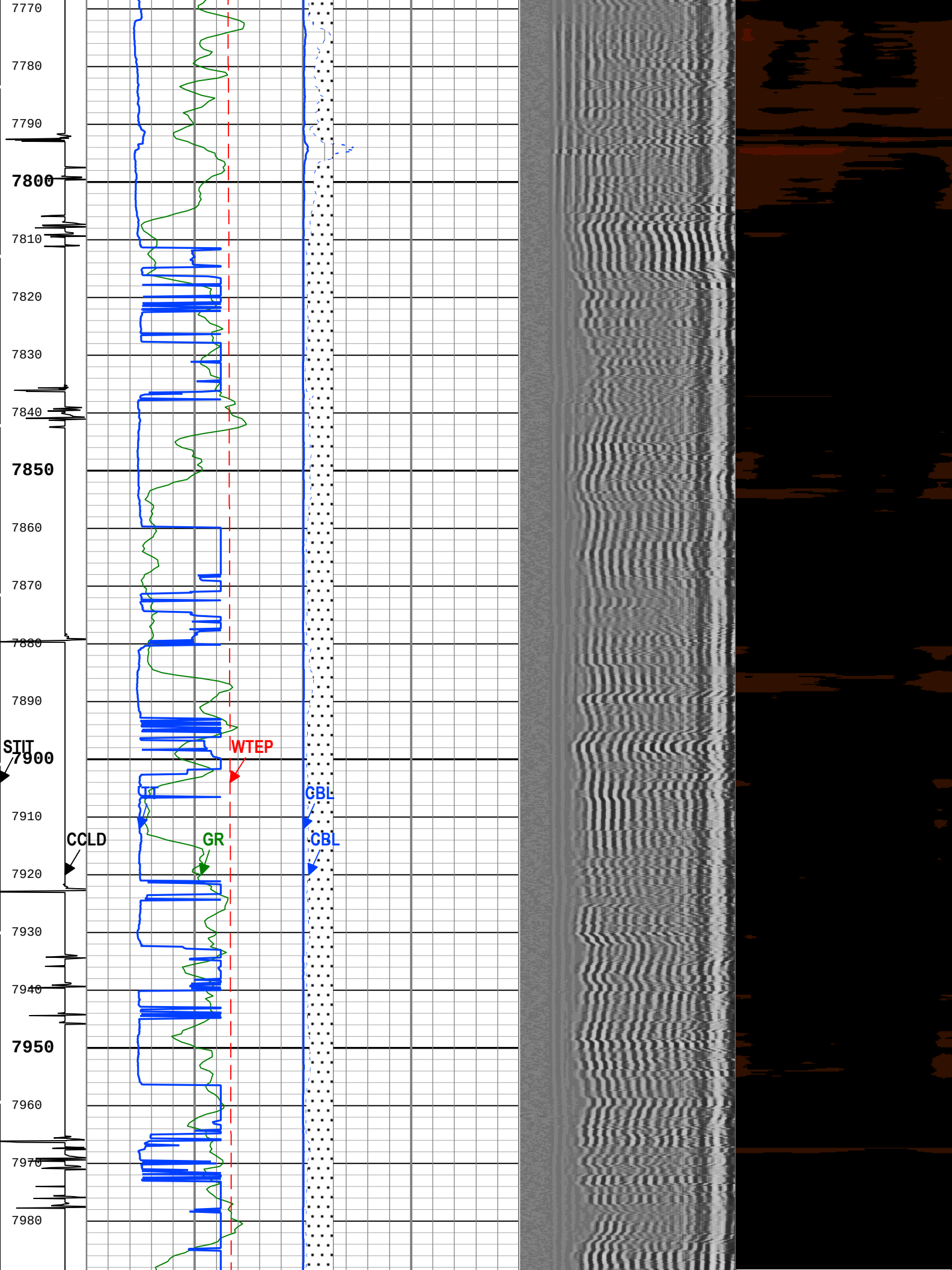
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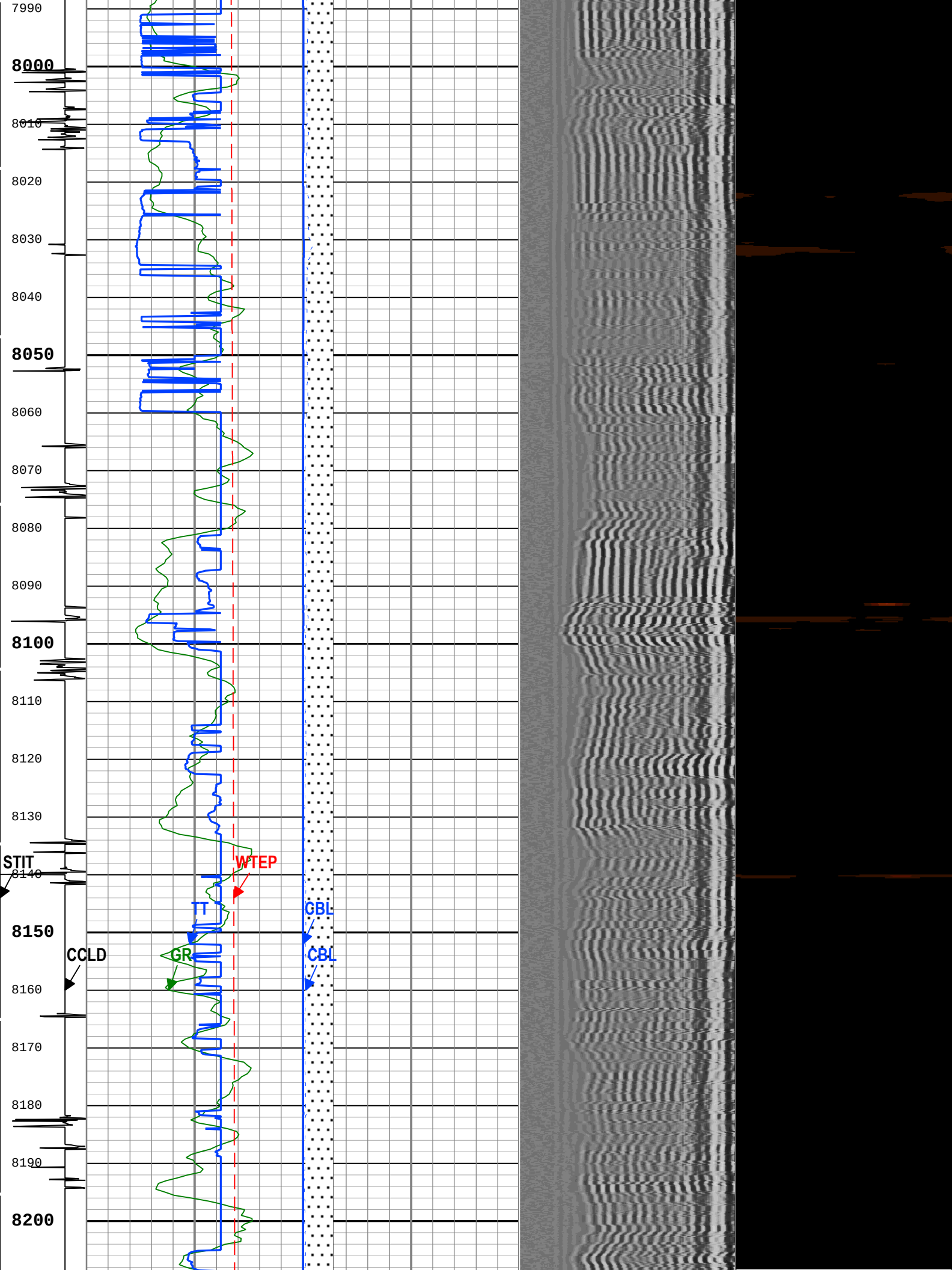
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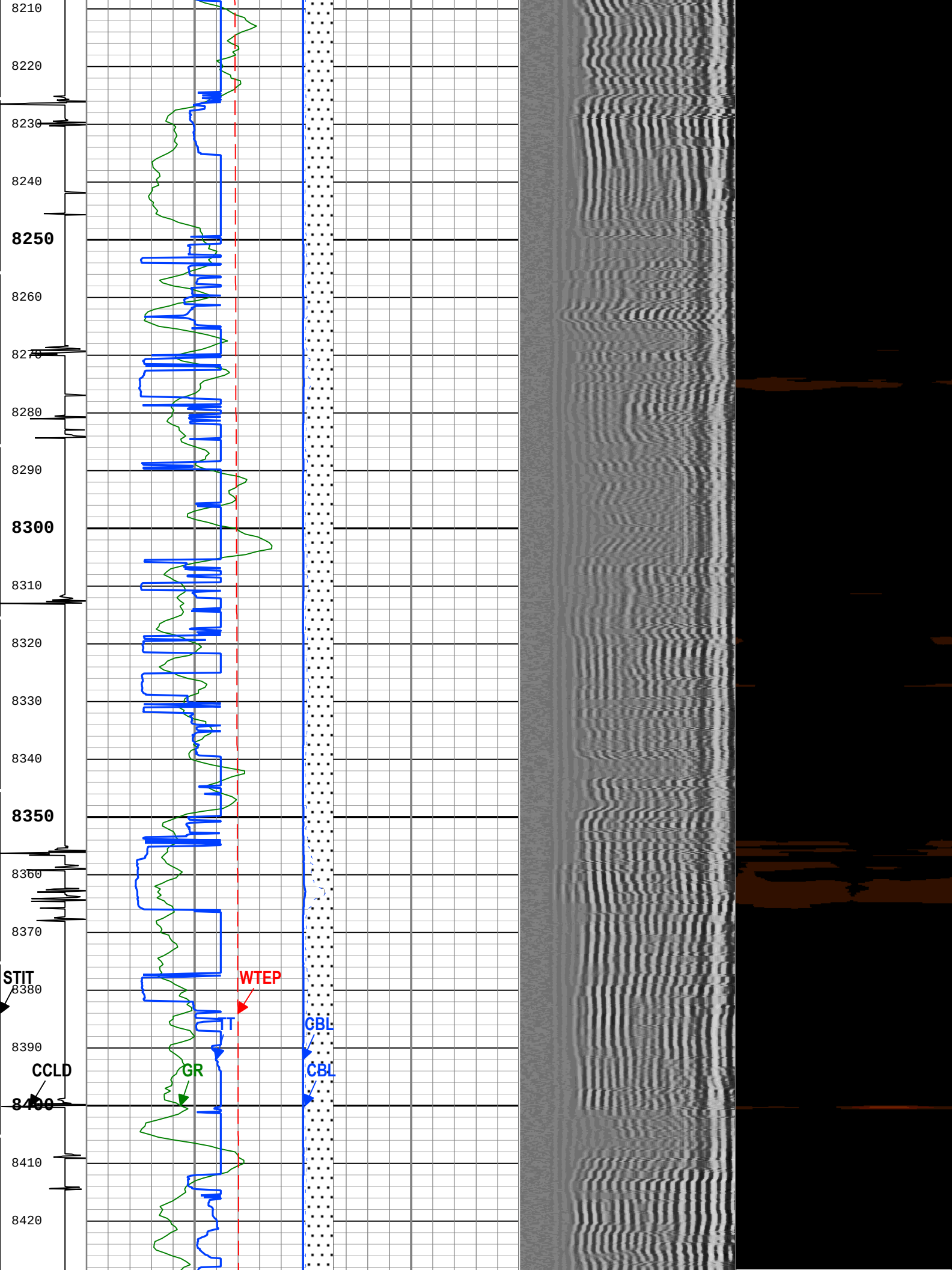
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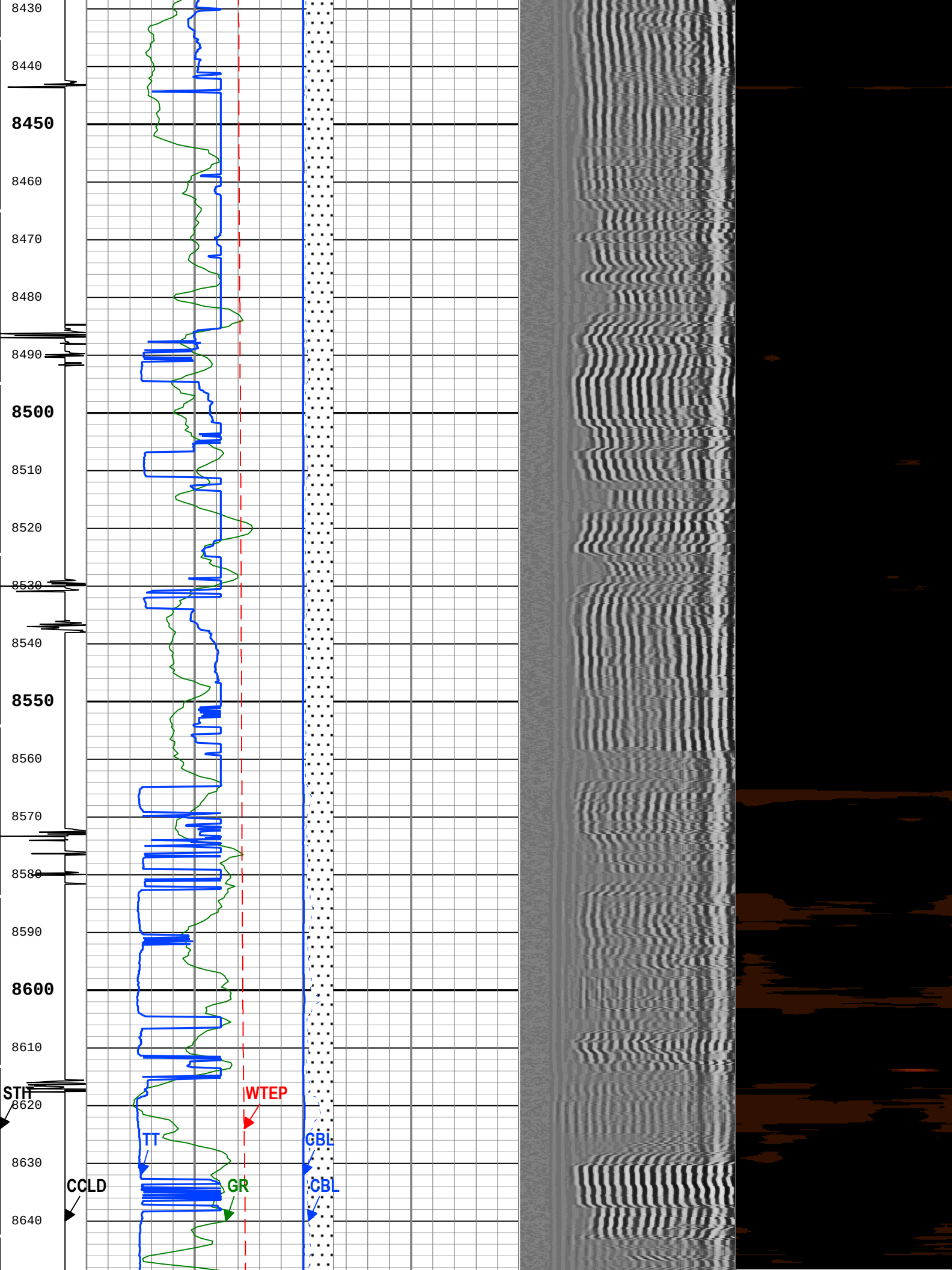
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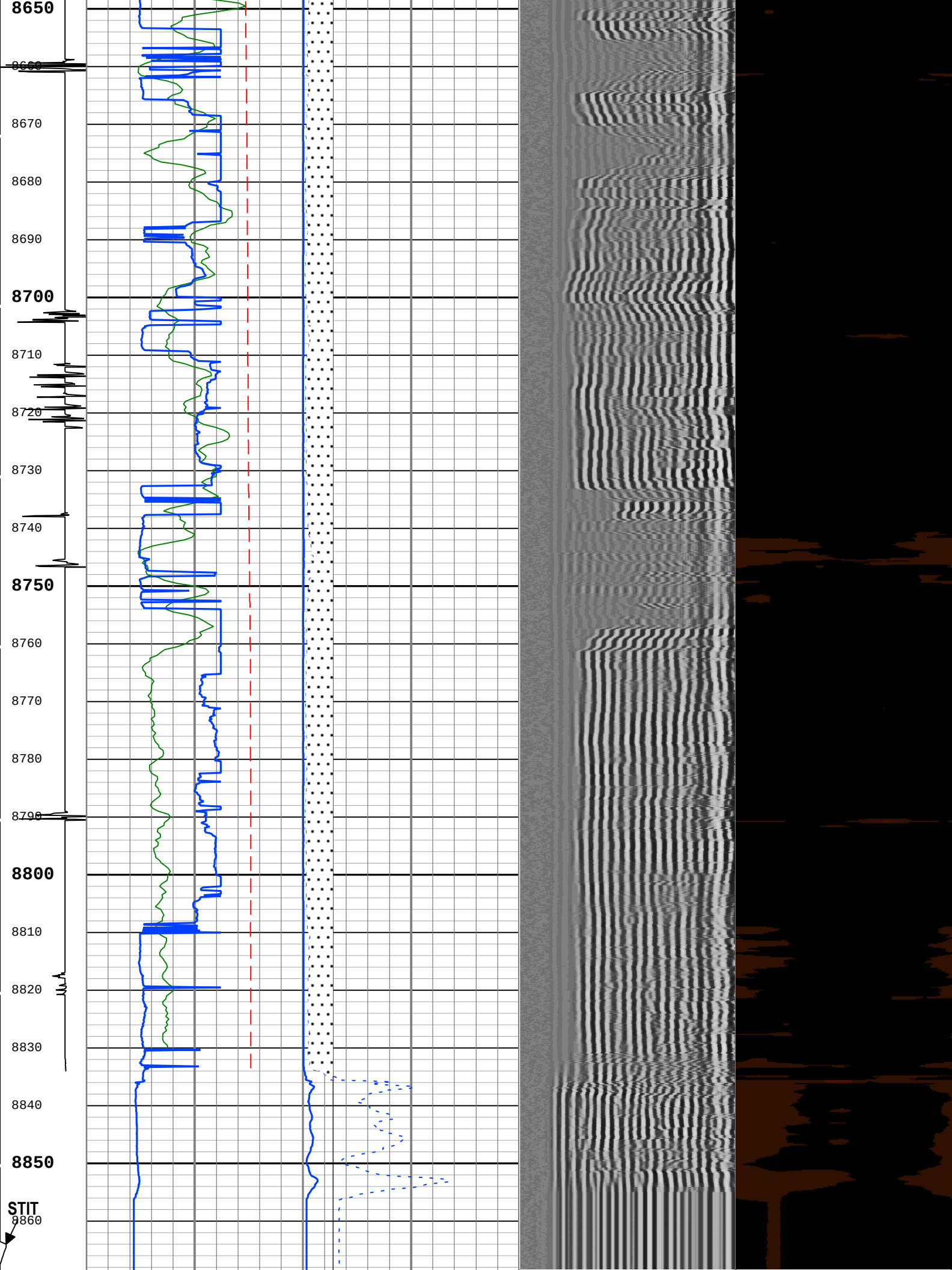
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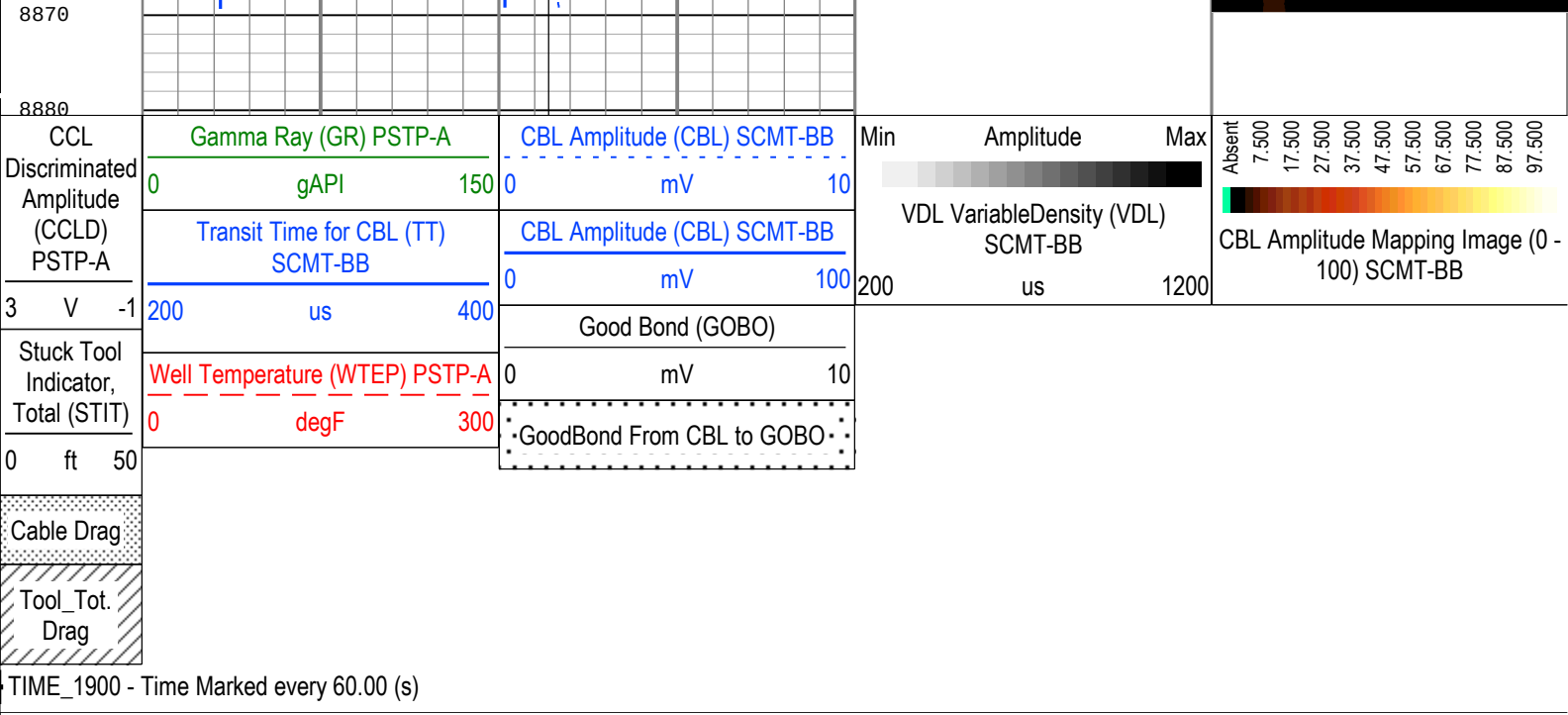


TIME_1900 - Time Marked every 60.00 (s)

Description: SCMT VDL Image Format: Log (SCMT_VDL_Image_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Aug-2015 12:04:26

Channel Processing Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	235	degF
CB3D	SCMT CBL 3 ft Peak Detection Mode	SCMT-BB	Peak	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-BB	224	us
CB3T	SCMT CBL 3 ft Fixed Threshold Level	SCMT-BB	20	mV
CBLG	CBL Gate Width	SCMT-BB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-BB	80	mV
CMCF	CBL Cement Type Compensation Factor	SCMT-BB	0.12	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.25	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	196	us/ft
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	30	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	8479	ft
ETEM	HP Estimated Temperature	PSTP-A	212	degF
FCF	CBL Fluid Compensation Factor	SCMT-BB	0.89	
GGRD	Geothermal Gradient	Borehole	1	0.01 degF/ft
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	GTEM_LINEST	
M1EF	MAP sensitivity equalization factor of receiver 1	SCMT-BB	1.16	
M2EF	MAP sensitivity equalization factor of receiver 2	SCMT-BB	1.89	
M3EF	MAP sensitivity equalization factor of receiver 3	SCMT-BB	1.43	
M4EF	MAP sensitivity equalization factor of receiver 4	SCMT-BB	0.64	
M5EF	MAP sensitivity equalization factor of receiver 5	SCMT-BB	0.54	
M6EF	MAP sensitivity equalization factor of receiver 6	SCMT-BB	0.64	
M7EF	MAP sensitivity equalization factor of receiver 7	SCMT-BB	0.97	
M8EF	MAP sensitivity equalization factor of receiver 8	SCMT-BB	1.22	
MAPD	SCMT MAP Peak Detection Mode	SCMT-BB	Peak	

MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	SCMT-BB	167	us
MAPT	SCMT MAP Fixed Threshold Level	SCMT-BB	30	mV
MCCF	MAP Cement Type Compensation Factor	SCMT-BB	0.25	
MMSA	MAP Minimum Sonic Amplitude	SCMT-BB	3.98	mV
MSA	Minimum Sonic Amplitude	SCMT-BB	0.51	mV
PTCO	PBMS Pressure Temperature Correction Option	PSTP-A	Gauge Temperature	
PDAT	Permanent Datum	WLSESSION	GL	
RBC	Relative Bearing Correction Allow/Disallow	SCMT-BB	Allow	
RUN_SNUM	Run Sequence Number	WSDRUN	2	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	8865	ft
VDLG	VDL Manual Gain	SCMT-BB	5	

Tool Control Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-BB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	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	36 dB	24-Jul-2015 01:18:37	24-Jul-2015 02:52:52	8880.9	6149.13
PCCG	12 dB	24-Jul-2015 02:52:52	24-Jul-2015 02:54:19	6149.13	6109.07
PCCG	24 dB	24-Jul-2015 02:54:19	24-Jul-2015 05:02:44	6109.07	2360.48

All depth are at tool zero.

ONE

Repeat Pass 0 PSI

Software Version

Acquisition System	Version
Maxwell 2016	6.0.47569.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[3]:Up	Up	8521.49 ft	8878.97 ft	24-Jul-2015 12:36:04 AM	24-Jul-2015 12:48:44 AM	ON	3.39 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Caerus Piceance LLC Well:Puckett 42A-2

ONE: Log[3]:Up:S017

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: 07-Aug-2015 12:04:34

TIME_1900 - Time Marked every 60.00 (s)

CCL Discriminated Amplitude (CCLD) PSTP-A

3 V -1

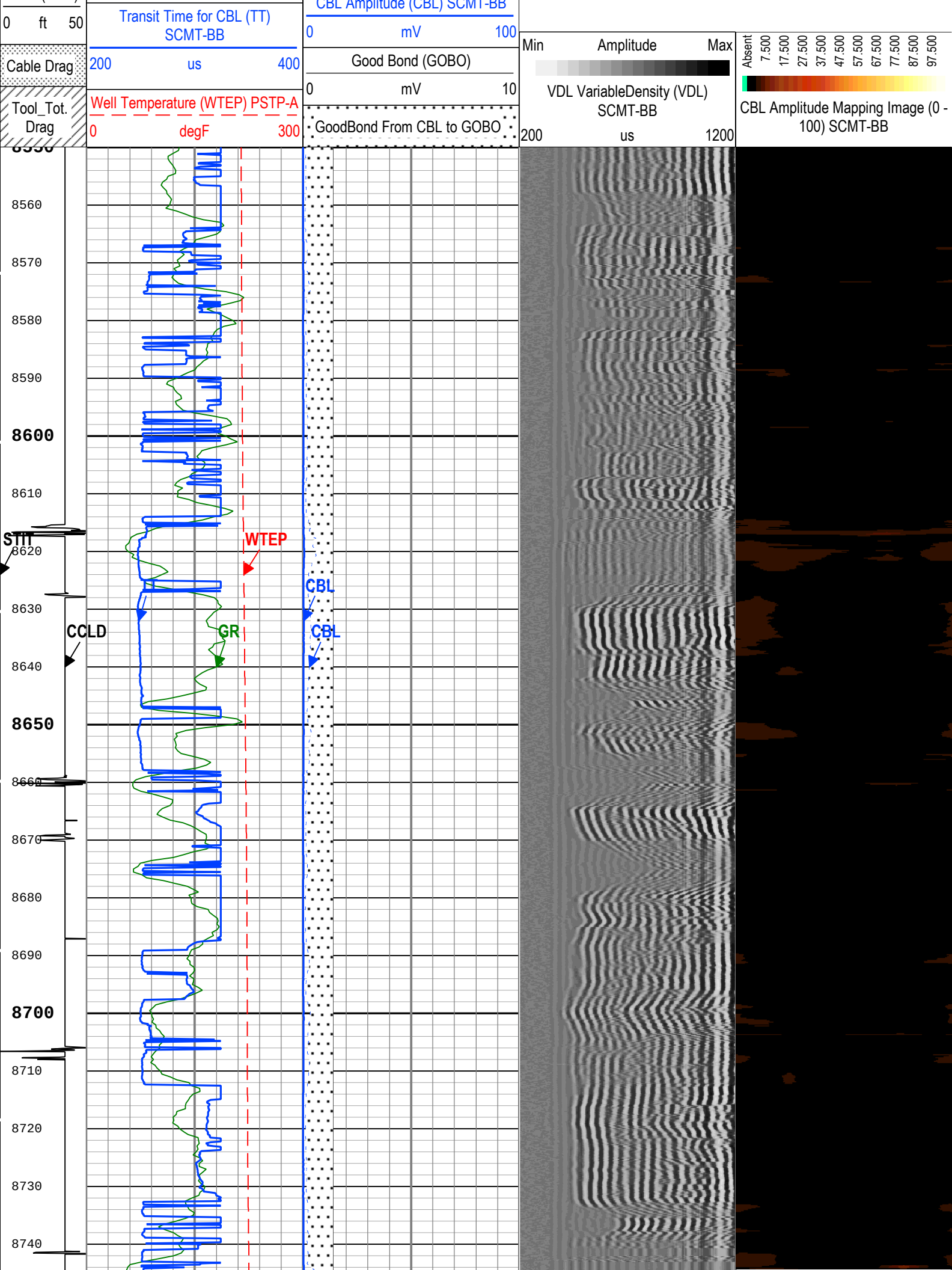
Stuck Tool Indicator, Total (STIT)

Gamma Ray (GR) PSTP-A

0 gAPI 150

CBL Amplitude (CBL) SCMT-BB

0 mV 10


0 ft 50
Cable Drag
Tool_Tot. Drag
Transit Time for CBL (TT) SCMT-BB
200 us 400
Well Temperature (WTEP) PSTP-A
0 degF 300
CBL Amplitude (CBL) SCMT-BB
0 mV 100
Good Bond (GOBO)
0 mV 10
GoodBond From CBL to GOBO
Min Amplitude Max
VDL VariableDensity (VDL) SCMT-BB
200 us 1200
Absent 7.500 17.500 27.500 37.500 47.500 57.500 67.500 77.500 87.500 97.500
CBL Amplitude Mapping Image (0 - 100) SCMT-BB
8560
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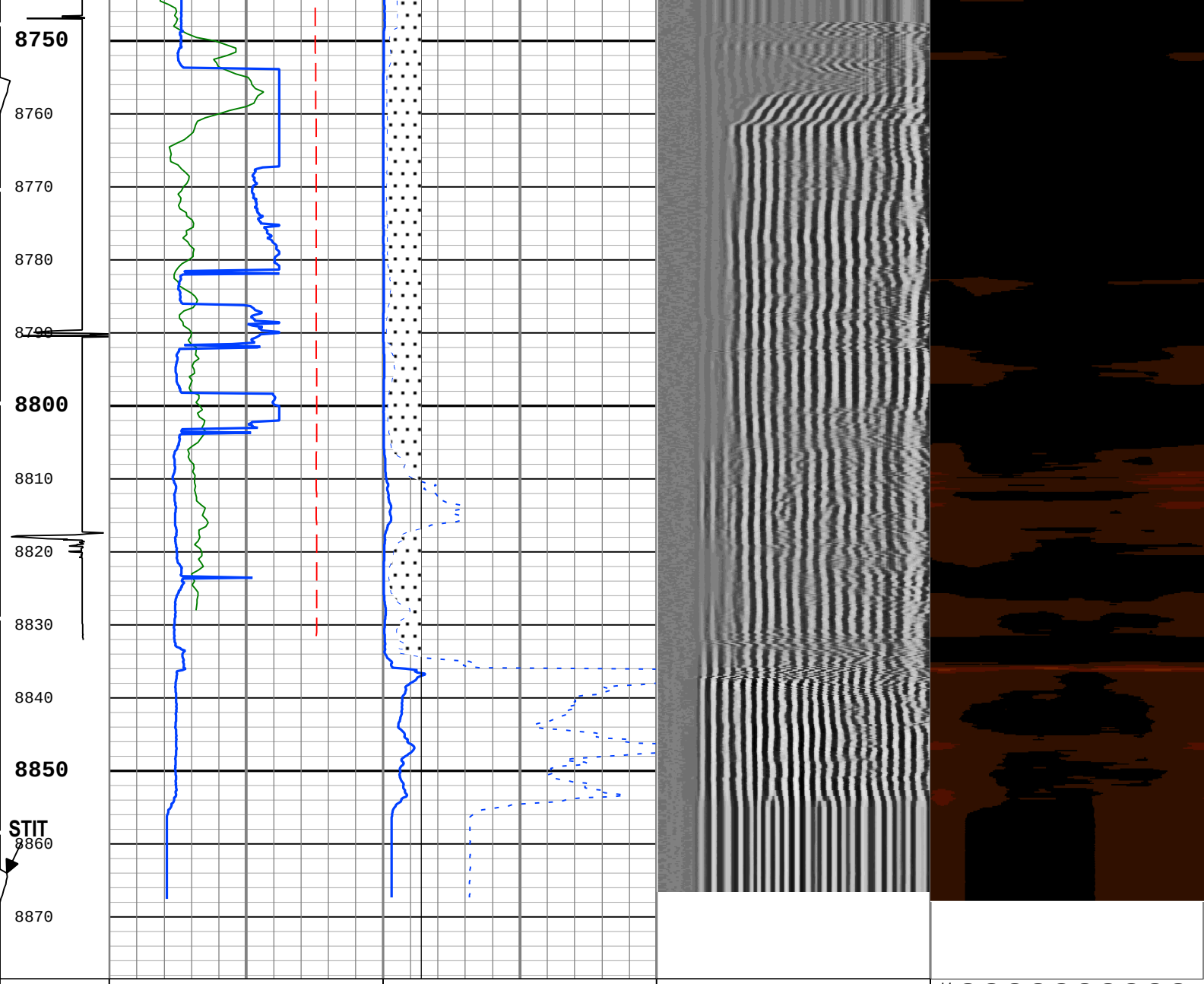

CCL Discriminated Amplitude (CCLD) PSTP-A
3 V -1

Stuck Tool Indicator, Total (STIT)
0 ft 50

Cable Drag

Tool_Tot. Drag

Gamma Ray (GR) PSTP-A
0 gAPI 150

Transit Time for CBL (TT) SCMT-BB
200 us 400

Well Temperature (WTEP) PSTP-A
0 degF 300

CBL Amplitude (CBL) SCMT-BB
0 mV 10

CBL Amplitude (CBL) SCMT-BB
0 mV 100

Good Bond (GOBO)
0 mV 10

GoodBond From CBL to GOBO

Min Amplitude Max

VDL VariableDensity (VDL) SCMT-BB
200 us 1200

Absent 7.500 17.500 27.500 37.500 47.500 57.500 67.500 77.500 87.500 97.500

CBL Amplitude Mapping Image (0 - 100) SCMT-BB

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: 07-Aug-2015 12:04:34

Channel Processing Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit

BHT	Bottom Hole Temperature	Borehole	235	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-BB	224	us
CBLG	CBL Gate Width	SCMT-BB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-BB	80	mV
CMCF	CBL Cement Type Compensation Factor	SCMT-BB	0.12	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.25	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	196	us/ft
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	30	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	8479	ft
GGRD	Geothermal Gradient	Borehole	1	0.01 degF/ft
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	GTEM_LINEST	
M1EF	MAP sensitivity equalization factor of receiver 1	SCMT-BB	1.16	
M2EF	MAP sensitivity equalization factor of receiver 2	SCMT-BB	1.89	
M3EF	MAP sensitivity equalization factor of receiver 3	SCMT-BB	1.43	
M4EF	MAP sensitivity equalization factor of receiver 4	SCMT-BB	0.64	
M5EF	MAP sensitivity equalization factor of receiver 5	SCMT-BB	0.54	
M6EF	MAP sensitivity equalization factor of receiver 6	SCMT-BB	0.64	
M7EF	MAP sensitivity equalization factor of receiver 7	SCMT-BB	0.97	
M8EF	MAP sensitivity equalization factor of receiver 8	SCMT-BB	1.22	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	SCMT-BB	167	us
MCCF	MAP Cement Type Compensation Factor	SCMT-BB	0.25	
MMSA	MAP Minimum Sonic Amplitude	SCMT-BB	3.98	mV
MSA	Minimum Sonic Amplitude	SCMT-BB	0.51	mV
PDAT	Permanent Datum	WLSESSION	GL	
RUN_SNUM	Run Sequence Number	WSDRUN	2	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	8865	ft

Tool Control Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-BB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	36 dB	

Calibration Report

SCMT-BB (Slim Cement Mapping Tool, 1-11/16 OD) Calibration - Run ONE

Primary Equipment :

Slim Cement Mapping Sonde SCMS-BB 8002

CBL and MAP Amplitude Adjustment - Measurements

Before (Manual Entry): 11:55:53 07-Aug-2015

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): 11:55:53 07-Aug-2015

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CBL Adjustment Factor		Before			0.950		
CBL LQC Reference Amplitude in Free Pipe	mV	Before			80.00		
MAP Adjustment Factor		Before			1.009		
Depth of Before Calibration	ft	Before			876.26		

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

Primary Equipment :

PBMS-A PBMS-A 1963

Calibration Parameter :

JIG-BKGD (Jig minus background reference) 150

PBMS Well Temp Master Calibration

Master (EEPROM): 00:00:00 12-May-2005

PBMS_RTD_THERM (Master) RTD Coefficients

	Tt**0	Tt**1	Tt**2	Tt**3	Tt**4	Tt**5
Tt**0	-1418.501	1118.407	-362.1241	56.89739	-3.317989	0

PBMS Gamma Ray Master Calibration

Master (EEPROM): 00:00:00 01-Dec-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 12-May-2005

PBMS_REF_CLOCK (Master) PBMS A Clock Coefficients

	Temp**0	Temp**1	Temp**2	Temp**3	Temp**4	Temp**5
Temp**0	45.0069	-9.445683	-0.02744274	0.0002354008	3.654205E-06	0

PBMS A Sapphire Master Calibration

Master (EEPROM): 00:00:00 12-May-2005

PBMS_P_GAUGE_PRES (Master) Sapphire Pressure Model Coefficients

	Tt**0	Tt**1	Tt**2	Tt**3	Tt**4	Tt**5
Tp**0	4187.029	-3429.79	773.3541	-119.1729	7.244876	0
Tp**1	698.9312	545.2234	21.97955	-3.948855	0.2235462	0
Tp**2	-6.430802	9.633142	-3.005254	0	0	0
Tp**3	-2.550163	0.6971294	0	0	0	0
Tp**4	0	0	0	0	0	0
Tp**5	0	0	0	0	0	0

PBMS_P_GAUGE_TEMP (Master) Sapphire Temperature Model Coefficients

	Tp**0	Tp**1	Tp**2	Tp**3	Tp**4	Tp**5
Tt**0	-293.9637	10.31608	-5.693609	1.308318	-0.1107738	0
Tt**1	63.53009	-2.347224	1.230874	-0.2610083	0.02165993	0
Tt**2	8.593975	0.03386374	-0.01621674	0	0	0

Tt**3	-0.487141	0.005250175	0	0	0	0
Tt**4	0	0	0	0	0	0
Tt**5	0	0	0	0	0	0

Well:	Puckett 42A-2
Field:	Wildcat
County:	Garfield
State:	Colorado

Slim Cement Mapping Tool

CBL-VDL