Schlumberger

Company: Noble Energy Inc

Well: Con GQ 07-01

Field: Jupiter

County: Weld State: Colorado

Cement Bond Log

County: Weld
Field: Jupiter
Location: Sec. 7, T10N, R61W NENE
Well: Con GQ 07-01
Company: Noble Energy Inc

Location:	Sec. 7, T10N, R61W NENE SHL: 635 FNL X 687 FEL	Elev. K.B.	5091.00 ft
		G.L.	5078.00 ft
		D.F.	5090.00 ft
Permanent Datum:	Ground Level	Elev.:	5078.00 f
Log Measured From:	Kelly Bushing	13.00 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	Section:	Township:	Range:
05-123-35654-0000	7	10N	61W

Logging Date		18-Jul-2012			
Run Number		3			
Depth Driller		10172.00 ft			
Schlumberger Depth		10381.00 ft			
Bottom Log Interval		9006.00 ft			
Top Log Interval		4400.00 ft			
Casing Driller Size @ Depth		7 in @ 9000.00 ft			
Casing Schlumberger		9006 ft			
Bit Size		6.125 in			
Type Fluid In Hole		Chemical Gel			
MUD Density	Viscosity	8.9 lbm/gal	42 s		
MUD Fluid Loss	PH	8 cm3	11		
MUD Source of Sample		Active Tank			
RM @ Meas Temp		0.52 ohm.m @ 76 degF			
RMF @ Meas Temp		0.4 ohm.m @ 77 degF			
RMC @ Meas Temp		0.66 ohm.m @ 76 degF			
Source RMF	RMC	Pressed	Calculated		
RM @ BHT	RMF @ BHT	0.16 @ 262	0.12 @ 262		
Max Recorded Temperatures		262 degF			
Circulation Stopped Time		17-Jun-2012	03:30:00		
Logger on Bottom Time		18-Jul-2012	02:05:36		
Unit Number	Location:	2153	Fort Morgan		
Recorded By		Allison Johnston			
Witnessed By		Brody Hanson			

Disclaimer

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Contents

Operational Run Summary

Parameter (unit)	Run 2: BHC-FBST					
Date Log Started	18-Jul-2012					
Time Log Started	02:06:19					
Date Log Finished	18-Jul-2012					
Time Log Finished	06:20:23					
Top Log Interval (ft)						
Bottom Log Interval (ft)						
Total Depth (ft)	10381.00					
Max Hole Deviation (deg)						
Azimuth of Max Deviation (deg)						
Bit Size (in)	6.125					
Logging Unit Number	2153					
Logging Unit Location	Fort Morgan					
Recorded By	Allison Johnston					
Witnessed By	Brody Hanson					
Service Order Number	C31T-00027					

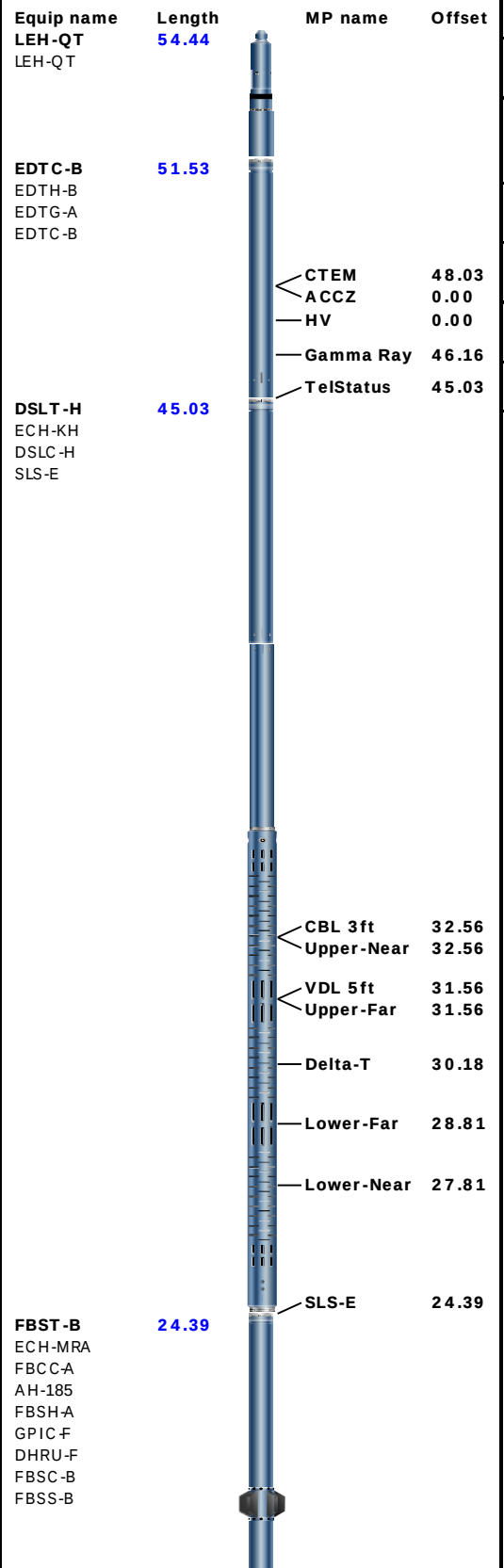
Borehole Fluids

Parameter(unit)	Run 2: BHC-FBST					
Fluid Type	Water					
Fluid Name	Chemical Gel					
Max Recorded Temperatures (degF)	262					
Source of Sample	Active Tank					
Salinity (ppm)	10985.2					
Density (lbm/gal)	8.9					
Funnel Viscosity (s)	42					
Fluid Loss (cm3)	8					
PH	11					
Date/Time Circulation Stopped	17-Jun-2012 03:30:00					
Date Logger on Bottom	18-Jul-2012					
Time Logger on Bottom	02:05:36					
Source RMF	Pressed					
RMC	Calculated					
RM @ Meas Temp (ohm.m@degF)	0.52 @ 76					
RMF @ Meas Temp	0.4 @ 77					

RMF @ Meas Temp (ohm.m@degF)	0.4 @ 77					
RMC @ Meas Temp (ohm.m@degF)	0.66 @ 76					
RM @ BHT (ohm.m@degF)	0.16 @ 262					
RMF @ BHT (ohm.m@degF)	0.12 @ 262					
RMC @ BHT (ohm.m@degF)	0.2 @ 262					
Total Solid (%)						
High Gravity Solids (%)						

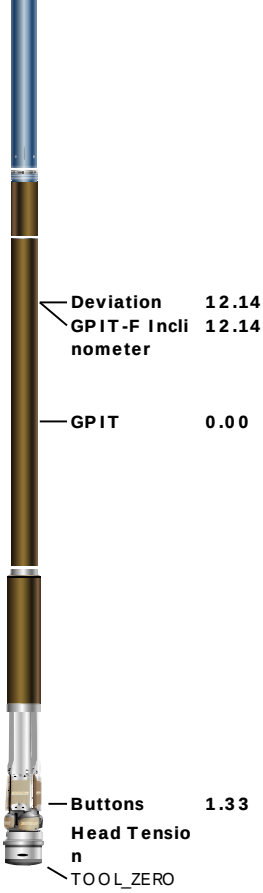
Remarks and Equipment Summary

Run 2: BHC-FBST: Toolstring



Run 2: BHC-FBST: Remarks

Top of cement about 5250'.
Toolstring run as per tool sketch plus three CME-Zs used to centralize the sonic tool
Borehole compensated sonic tool run for compressional data in open hole and for a cement bond log in casing.
Sonic data below 10,000' affected by borehole rugosity.
Logs started at 10175' due to tight spot at 10200' and client request.
Schlumberger crew: Jake Jump, Matt Rocha and Derrick Hunter
Rig: Ensign 136



Lengths are in ft
Maximum Outer Diameter = 5.000 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

Depth Control Parameters	Run 2: BHC-FBST		
Conveyance Type	Wireline		
Log Sequence	Subsequent log in well.		
Rig Up Length at Surface (ft)	0.00		
Rig Up Length at Bottom (ft)	0.00		
Rig Up Length Correction (ft)	0.00		
Tool Zero Reference Check at Surface (ft)	0.00		
Reference Log Date	17-Jul-2012		
Reference Log Name	Schlumberger Triple Combo		
Reference Log Run Number	Run 1		
Rig Type	Land		
Depth Remark Parameters	**Run 2: BHC-FBST**		
Depth Remark 1	This is the second run in hole		
Depth Remark 2	Depth correlated to first run triple combo using gamma ray channel		
Depth Remark 3	All Schlumberger depth procedures followed.		
Depth Measuring Device	**Run 2: BHC-FBST**		
Type	IDW-B		
Serial Number	1134		
Calibration Date	22-Mar-2012		
Calibration Cable Type	7-46-PXS		
Wheel Correction 1	-2		
Wheel Correction 2	-1		
Tension Device	**Run 2: BHC-FBST**		
Type	CMTD-B/A		

Serial Number	1433		
Calibration Date	27-May-2012		
Calibrator Serial Number	100513A		
Calibration Points	10		
Calibration RMS	15		
Calibration Peak Error	32		
Logging Cable	**Run 2: BHC-FBST**		
Type	7-46NT-XS		
Serial Number	U711182		
Logging Cable Length (ft)	24000.00		

Run 2: BHC-FBST

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit

Software Version

Acquisition System	Version
MaxWell	3.0.9609.0
Application Patch	SP-20120409-3.0.9609.1919
	EXP_APL-NEXT-3.0.9609.2018
	EXP_APL-ZAIT-3.0.9609.1965

Computation	Description	Version
CEVAL	Sonic Cement Evaluation Computation Ensemble provides common Parameters and Channels	3.0.9609.1919
DepthCorrection	DepthCorrection	3.0.9609.1919

Tool Elements	Description	Software Version	Firmware Version
SLS-E	Sonic Logging Sonde E supports 3'-5'BHC DT and CBL/VDL	3.0.9609.1919	4.0
EDTC-B	Enhanced Digital Telemetry Cartridge - B	3.0.9609.1919	

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
Run 2: BHC-FBST	Log[4]:Up	Up	4471.50 ft	9067.39 ft	18-Jul-2012 4:05:59 AM	18-Jul-2012 5:57:51 AM	7.29 ft	

All depths are referenced to toolstring zero

Log

Run 2: BHC-FBST: Log[4]:Up C7CC6789-0A93-411F-B0BB-06CF2C6CEDA4

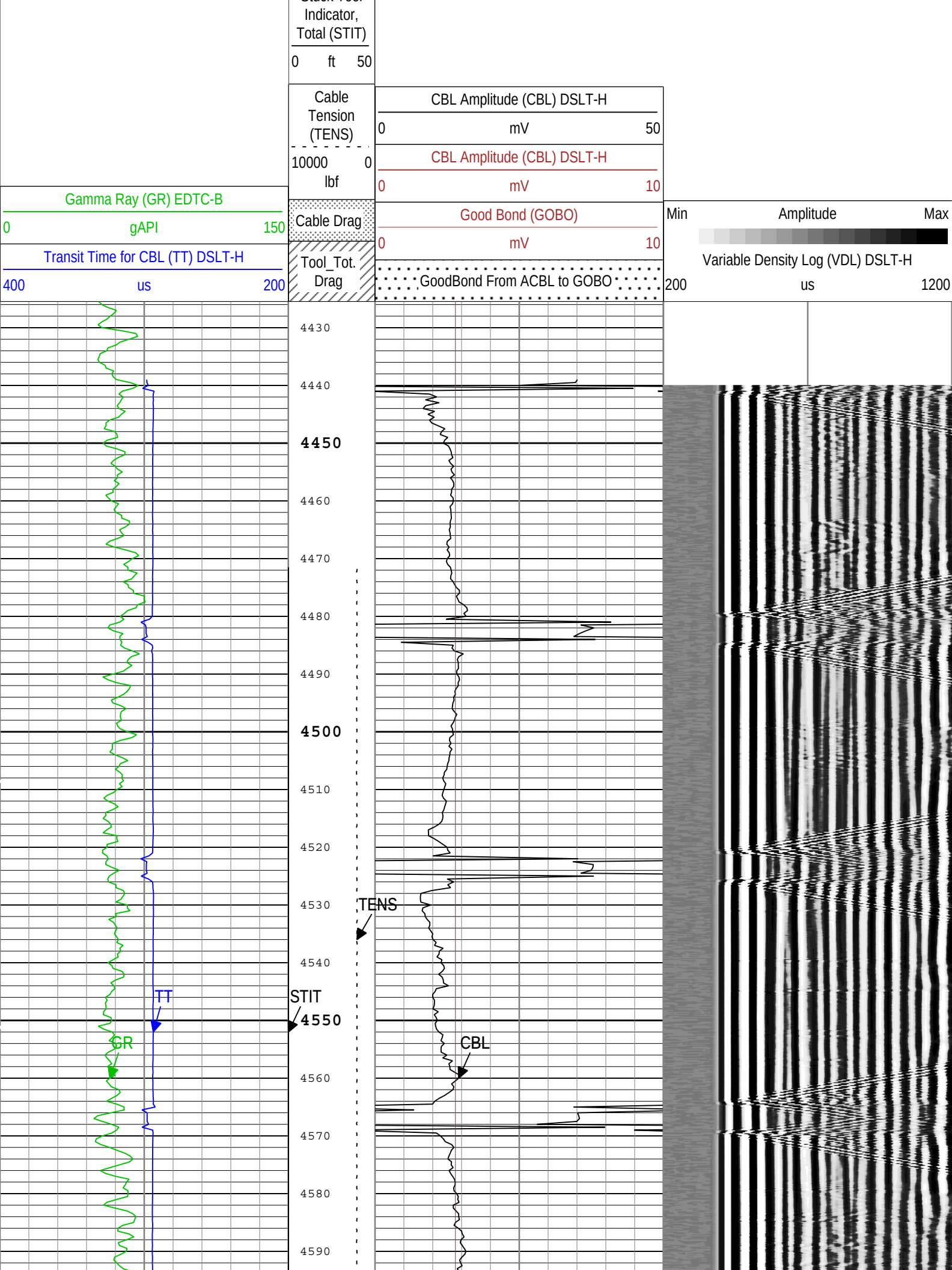
Description: CBL_VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 18-Jul-2012 06:46:26

Channel	Source	Sampling
TT	DSLT-H:SLS-E:SLS-E	6in
BIEP	DSLT-H:SLS-E:SLS-E	6in
CBL	DSLT-H:SLS-E:SLS-E	6in
GR	EDTC-B:EDTC-B:EDTC-B	6in
STIT	DepthCorrection	6in
TENS	WLWorkflow	1in
TIME_1900	WLWorkflow	0.1in

TIME_1900 - Time Marked every 60.00 (s)

BIEP - Bond Index Event Pips DSLT-H

Stuck Tool


Stuck Tool Indicator, Total (STIT)
0 ft 50
Cable Tension (TENS)
10000 0
lbf
Cable Drag
Tool_Tot. Drag
CBL Amplitude (CBL) DSLT-H
0 mV 50
CBL Amplitude (CBL) DSLT-H
0 mV 10
Good Bond (GOBO)
0 mV 10
GoodBond From ACBL to GOBO
Min Amplitude Max
Variable Density Log (VDL) DSLT-H
200 us 1200
Gamma Ray (GR) EDTC-B
0 gAPI 150
Transit Time for CBL (TT) DSLT-H
400 us 200
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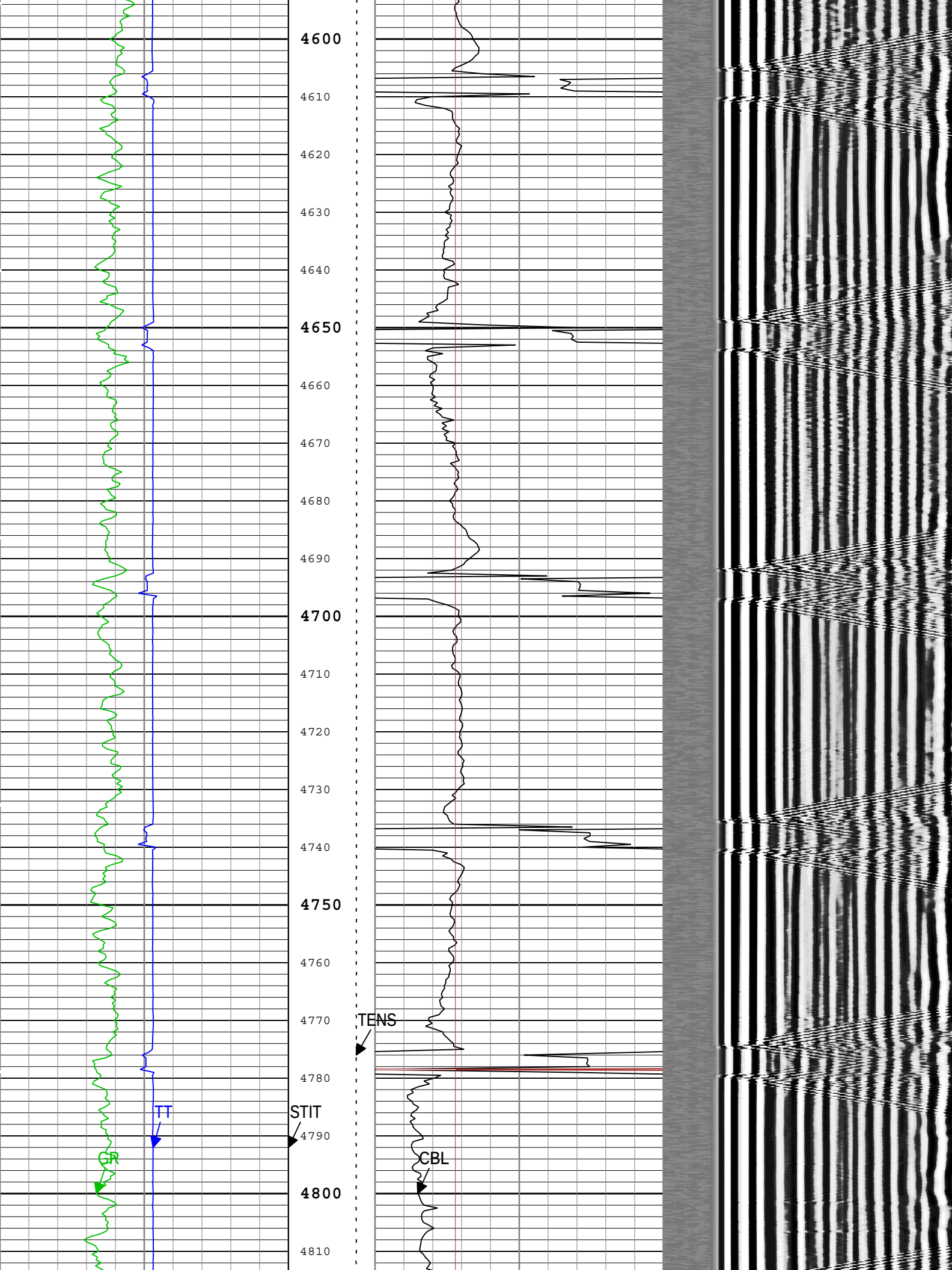
TENS
STIT
TT
GR
CBL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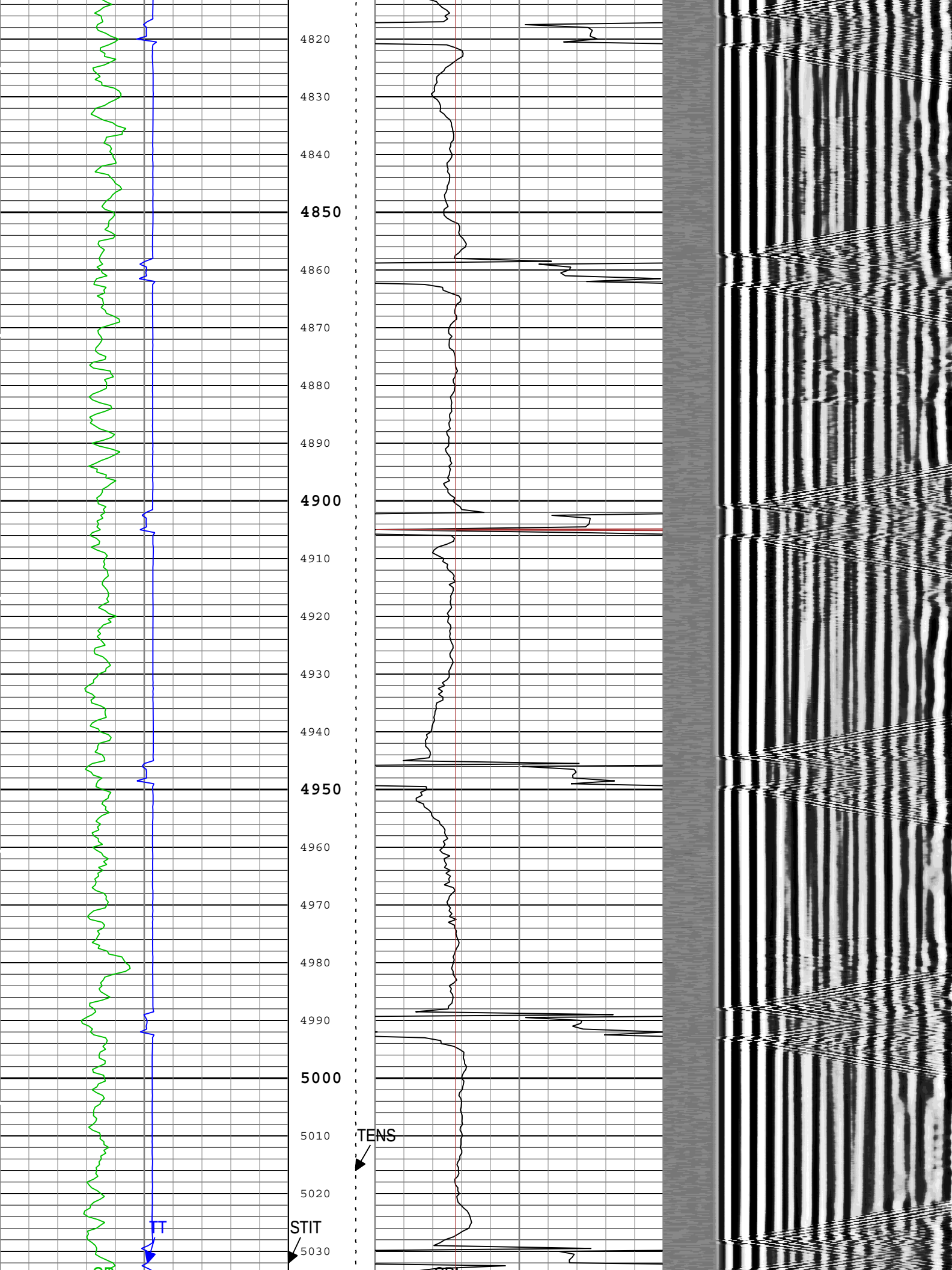
TENS
TT
STIT
GR
CBL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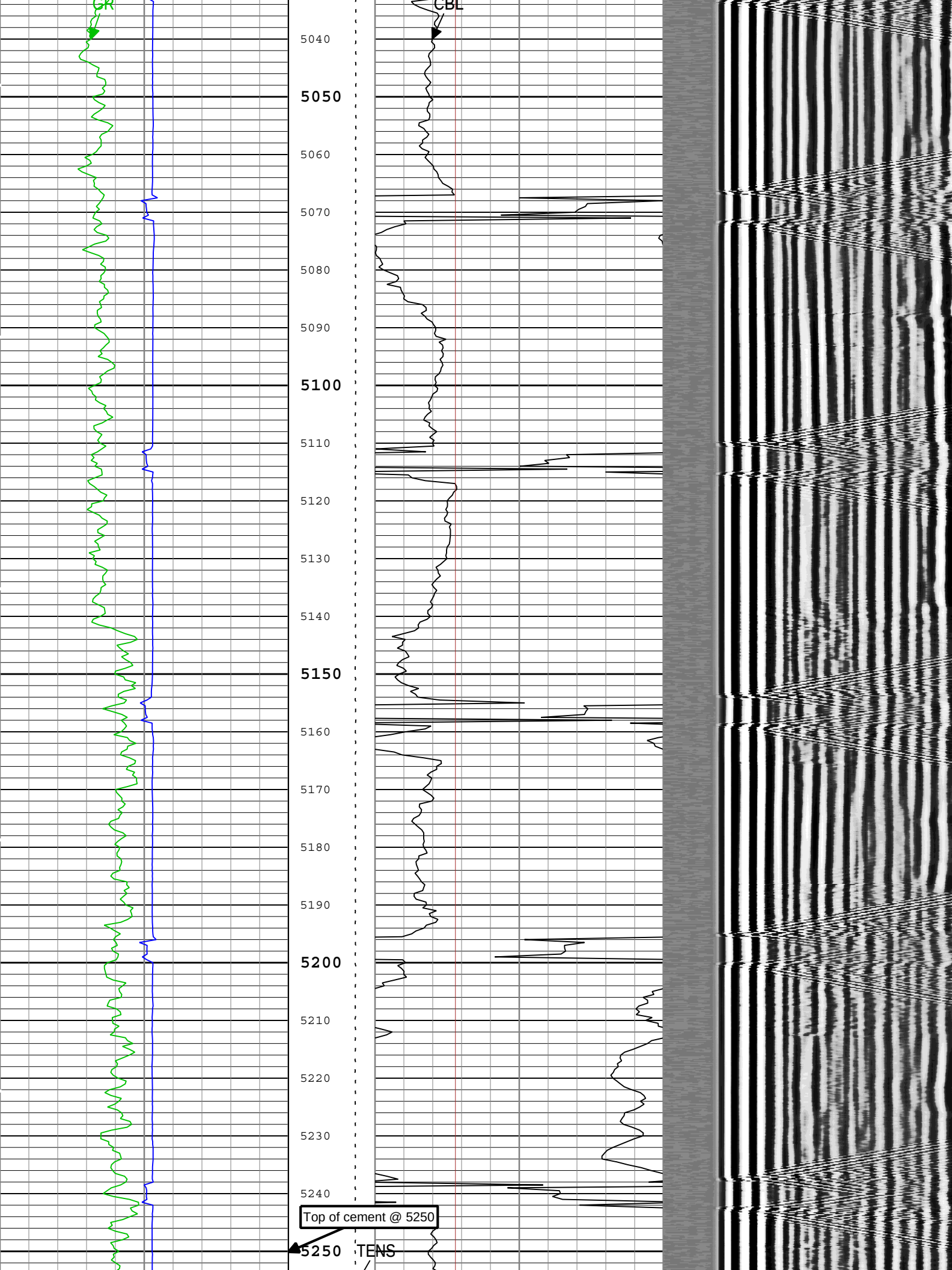
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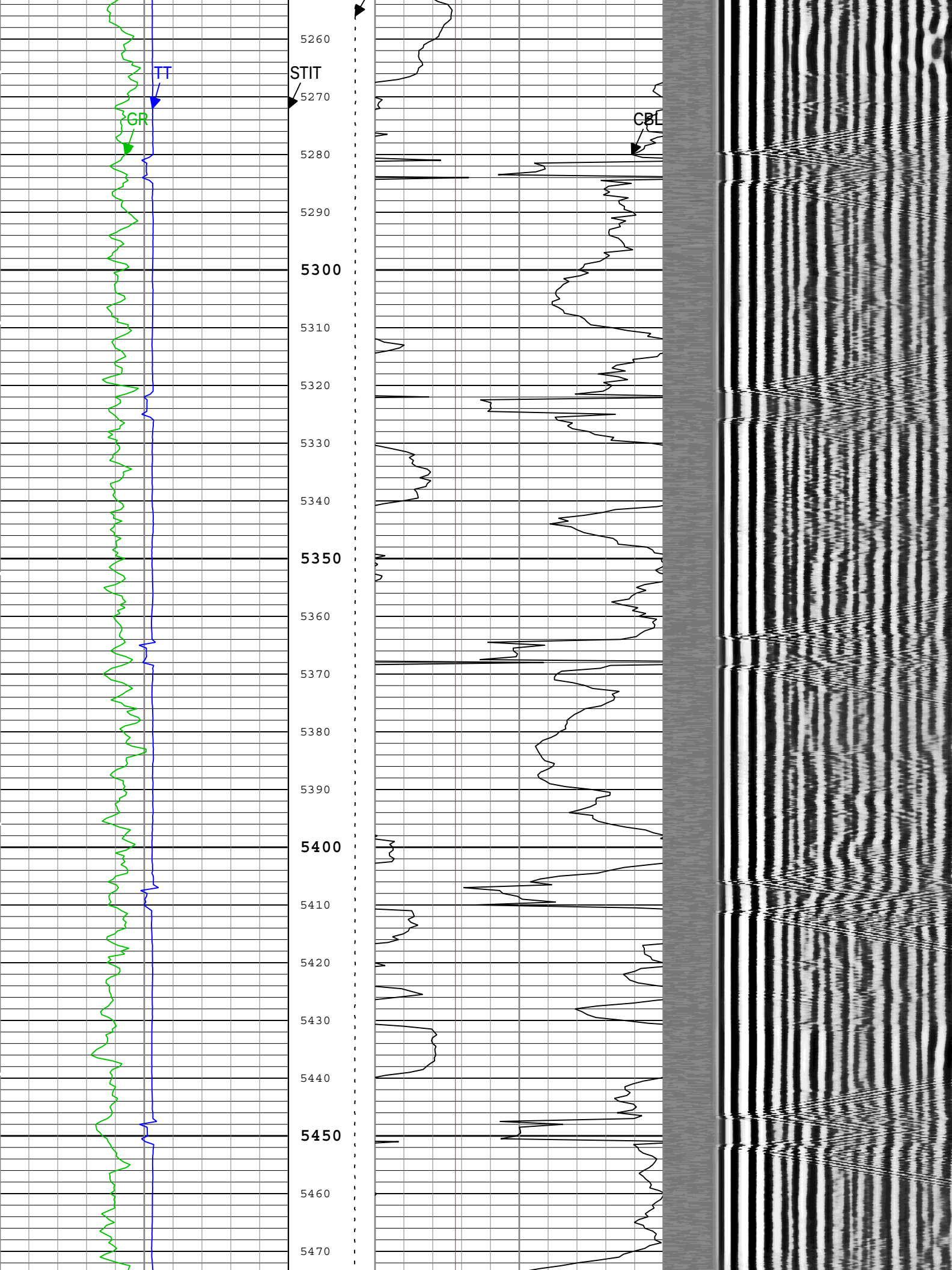
5230
5240
Top of cement @ 5250
5250
TENS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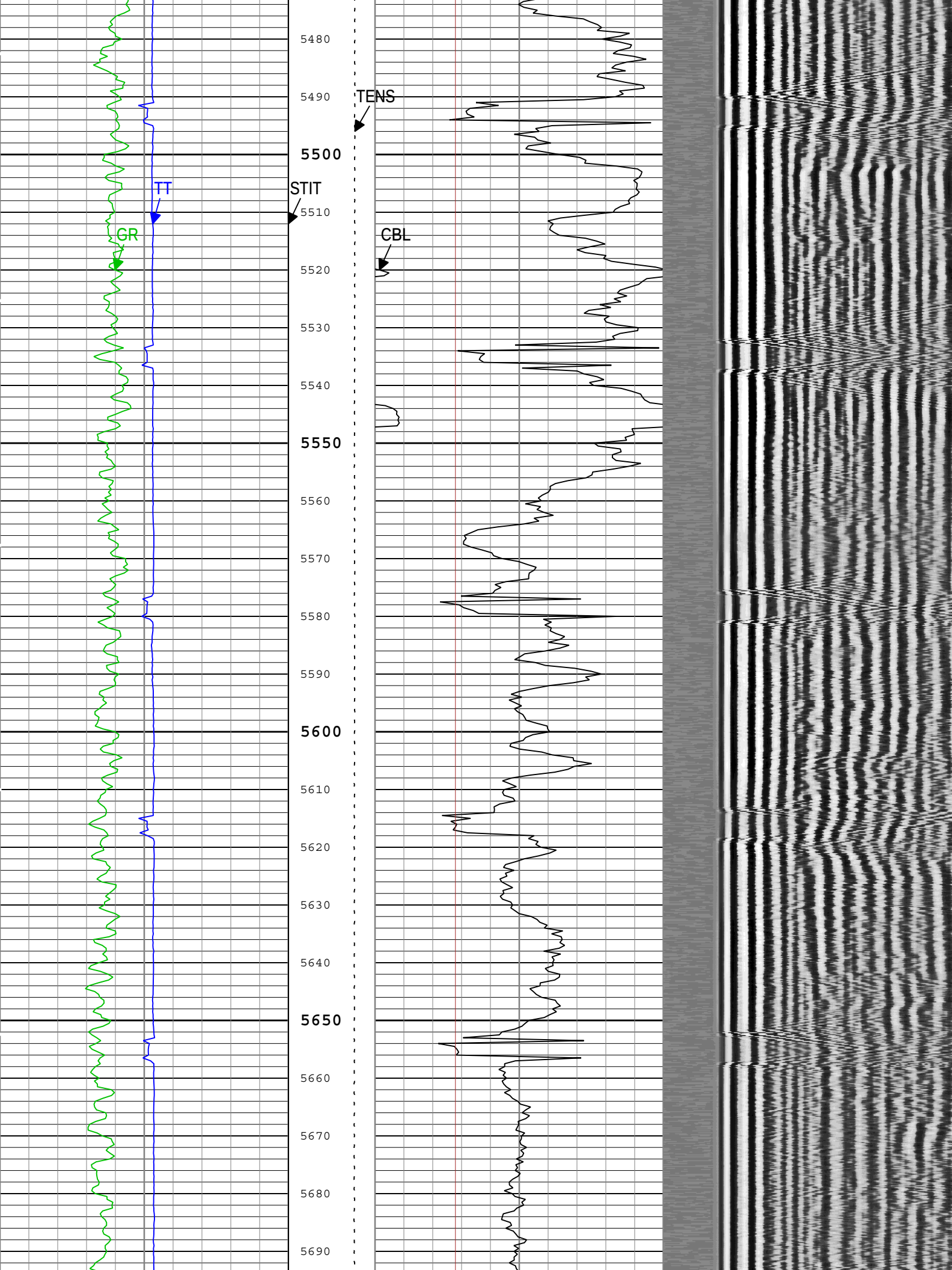
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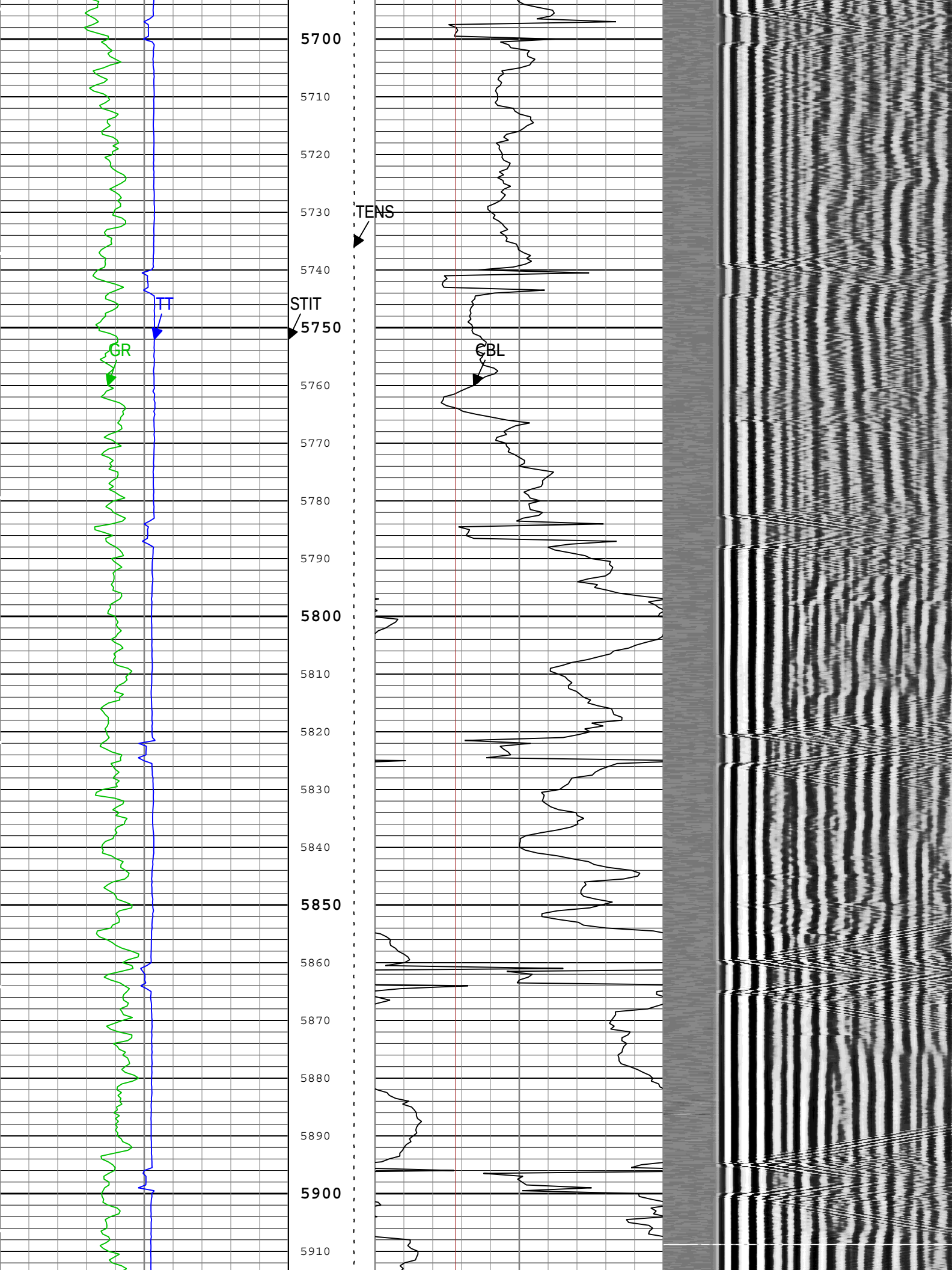
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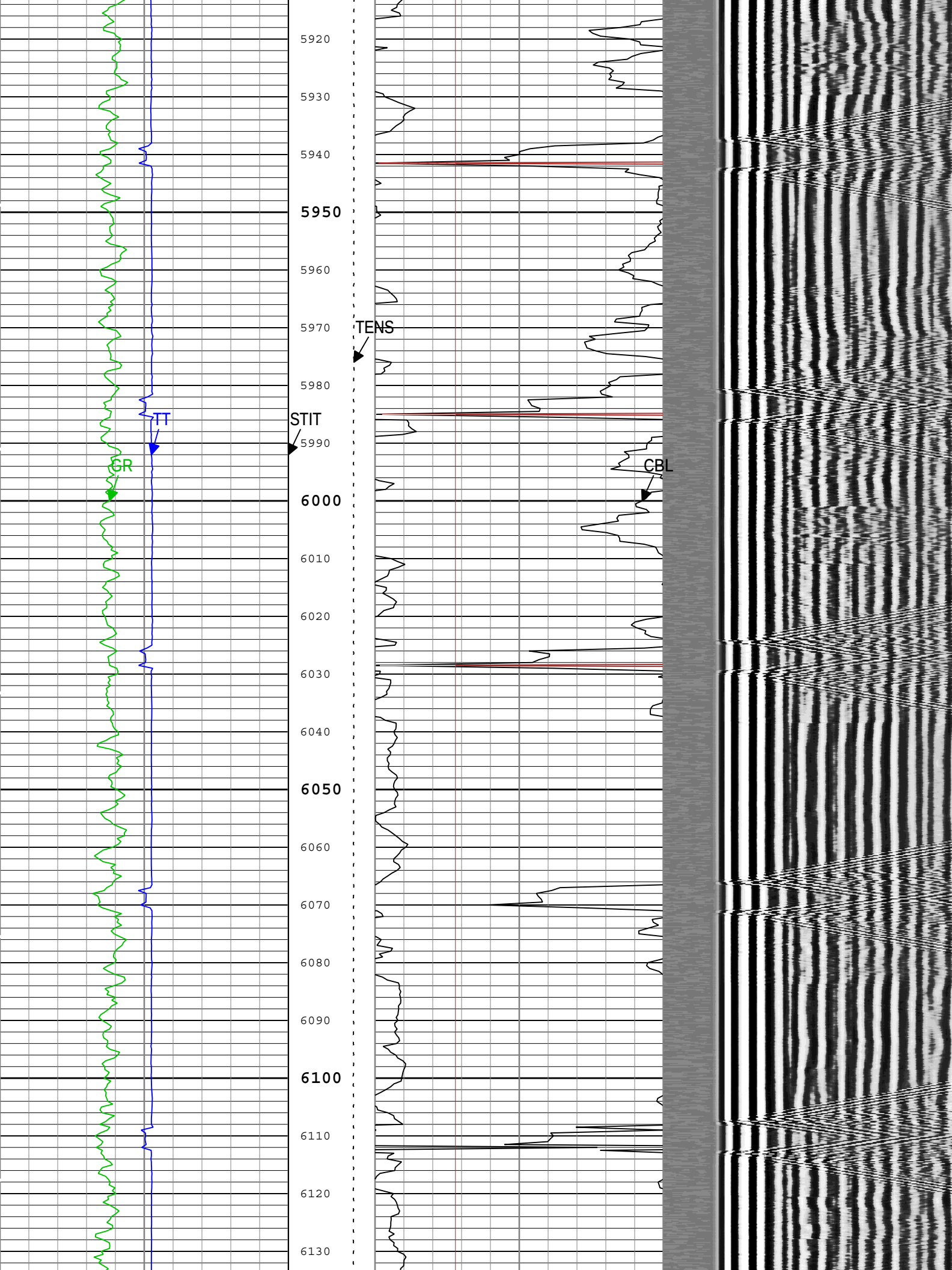
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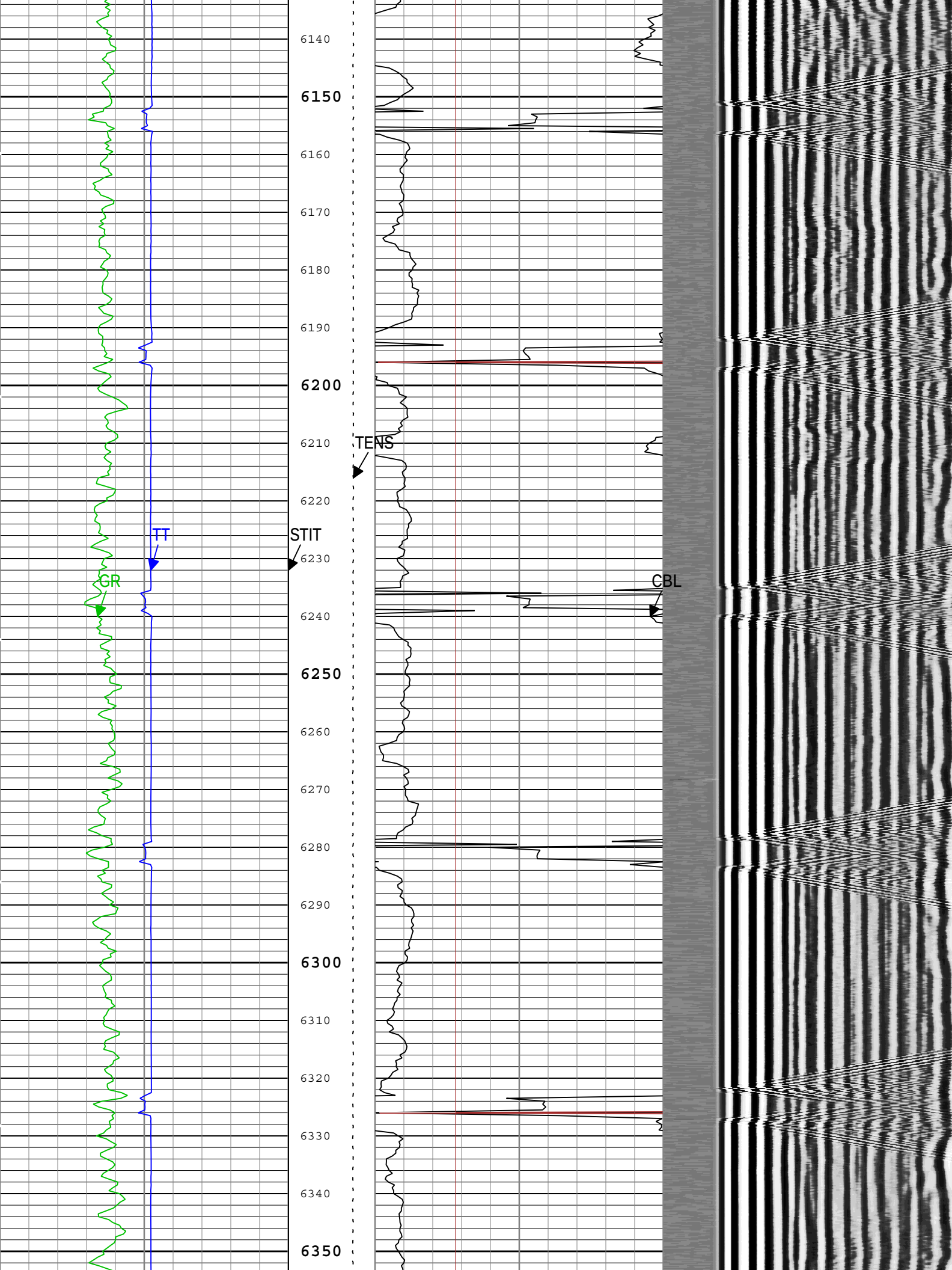
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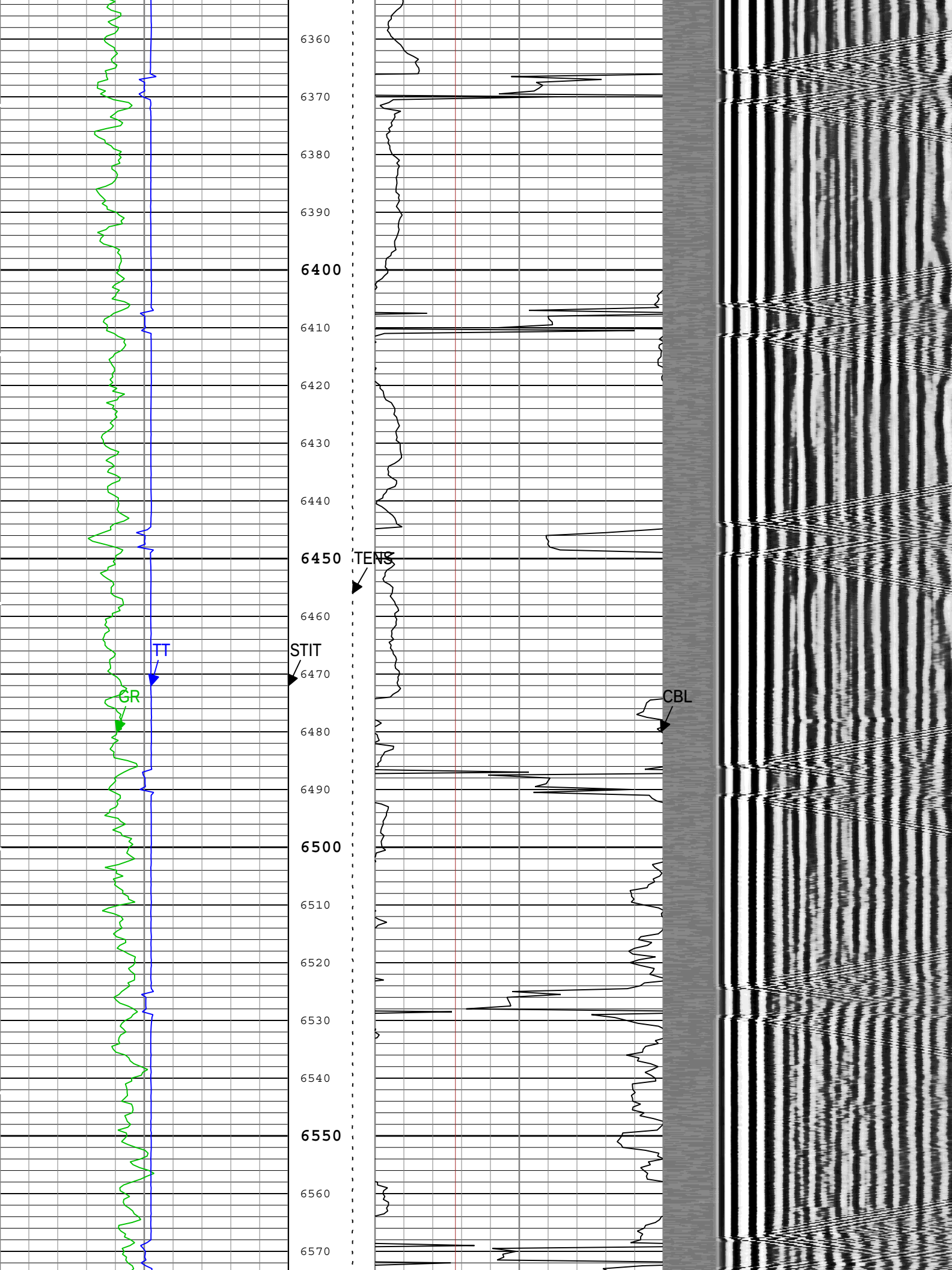
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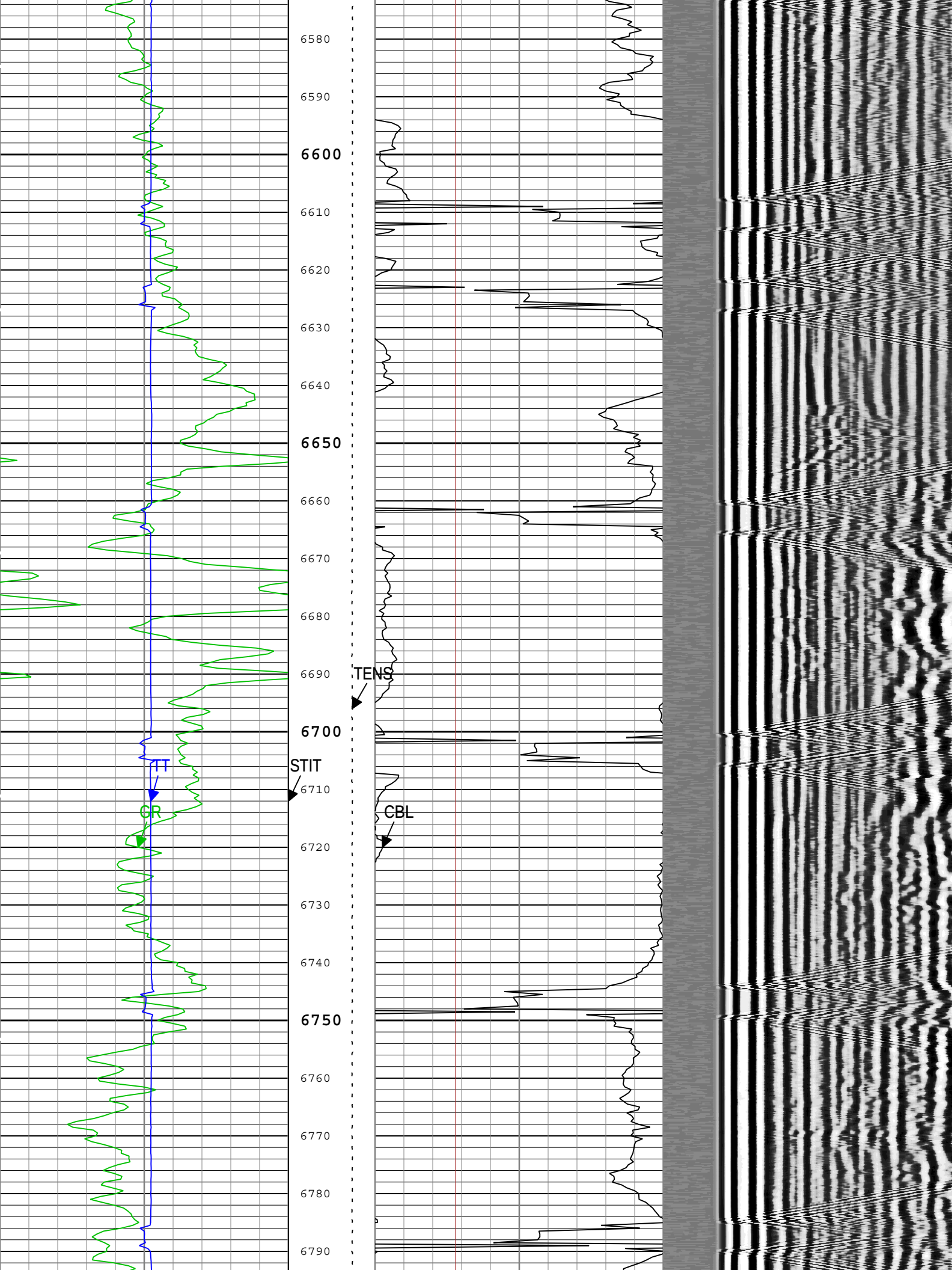
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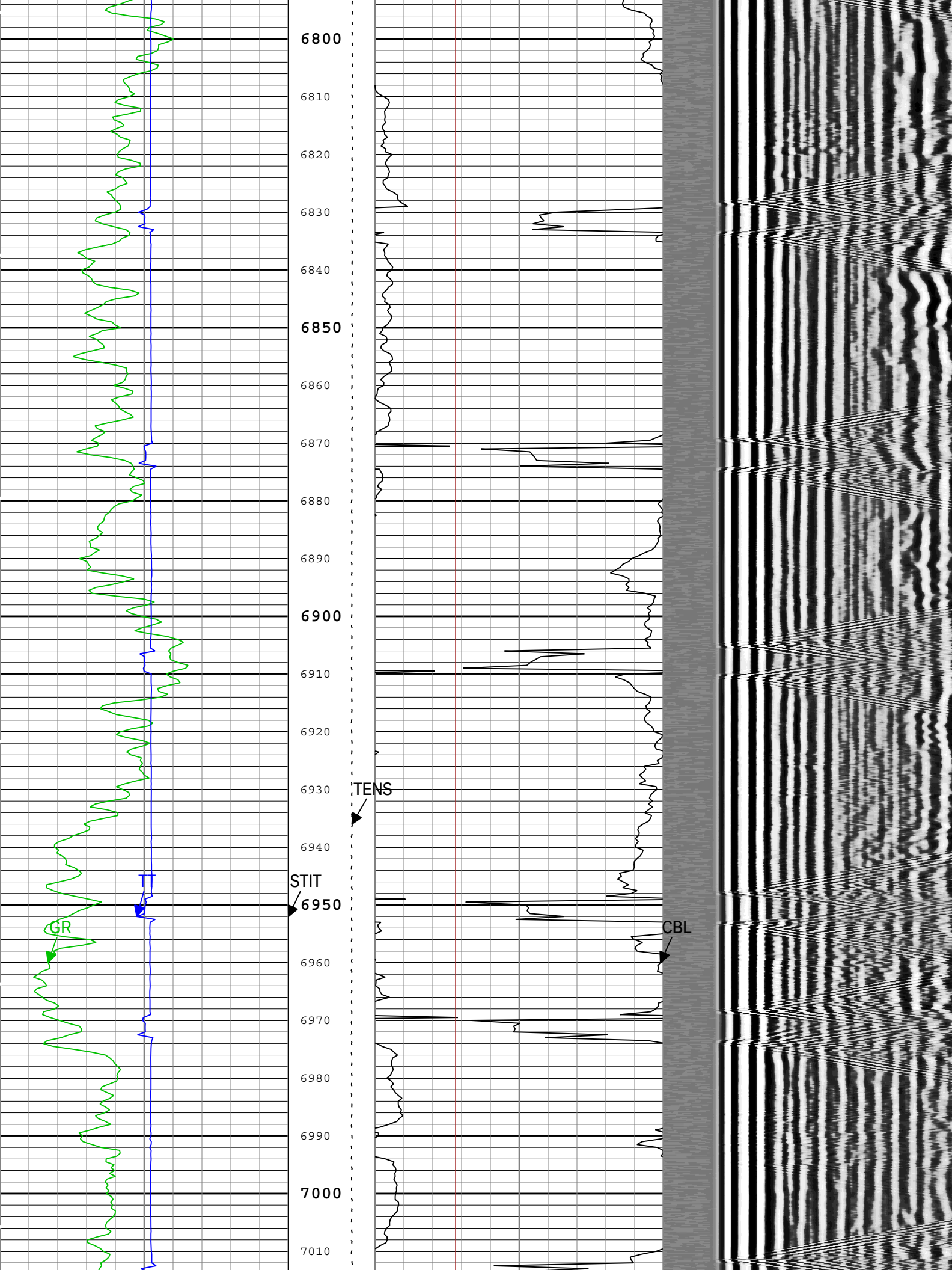
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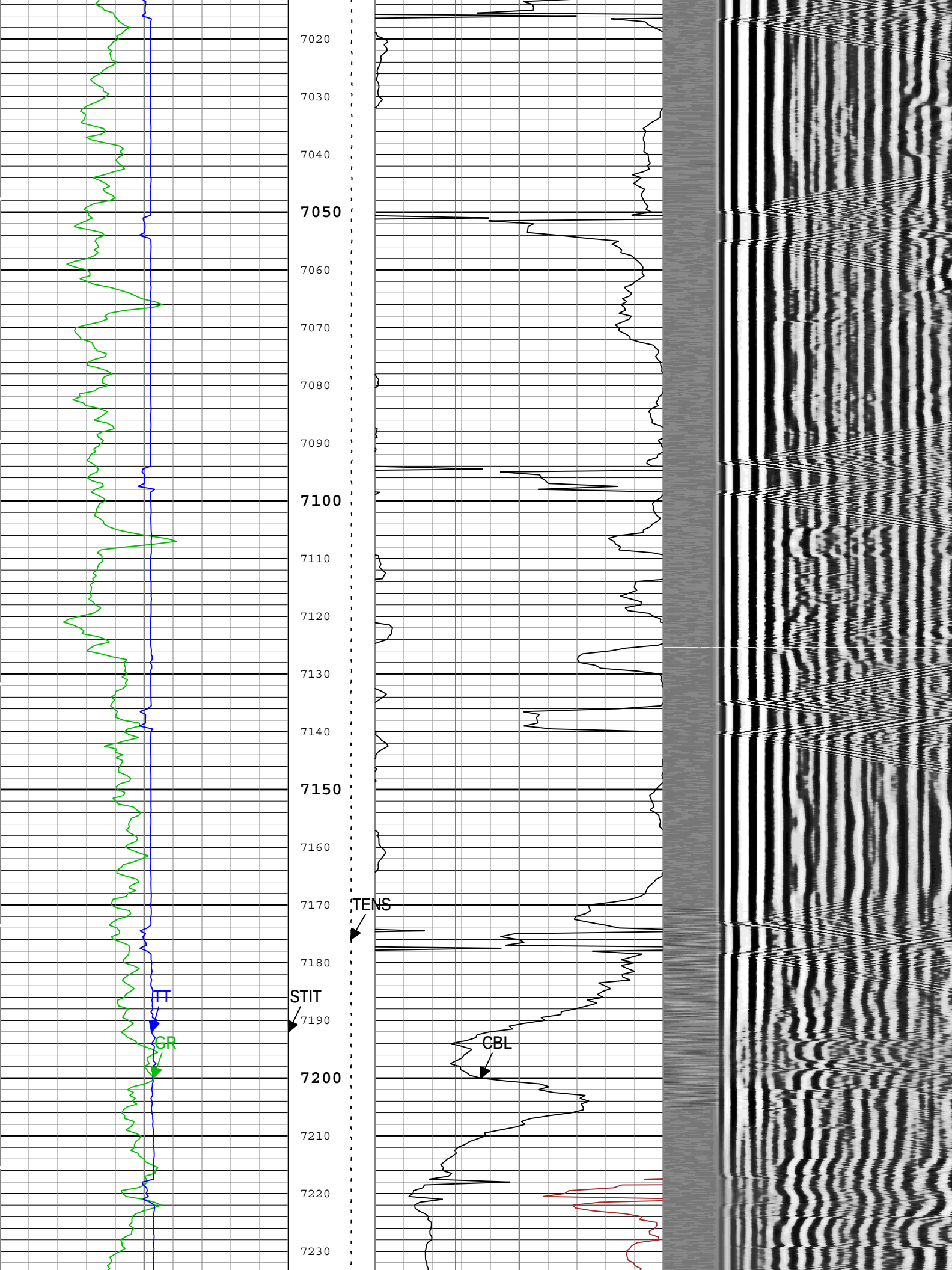
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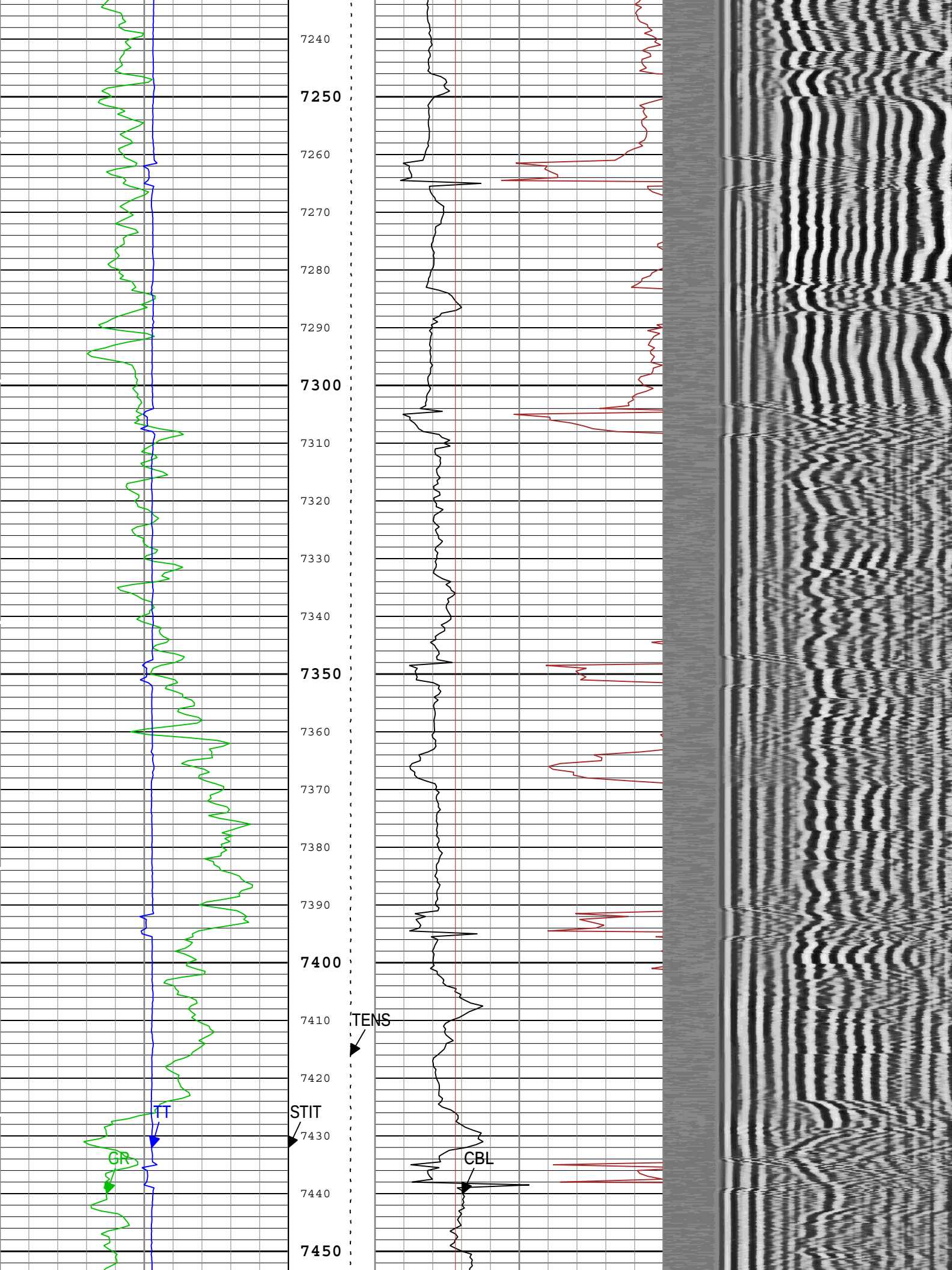
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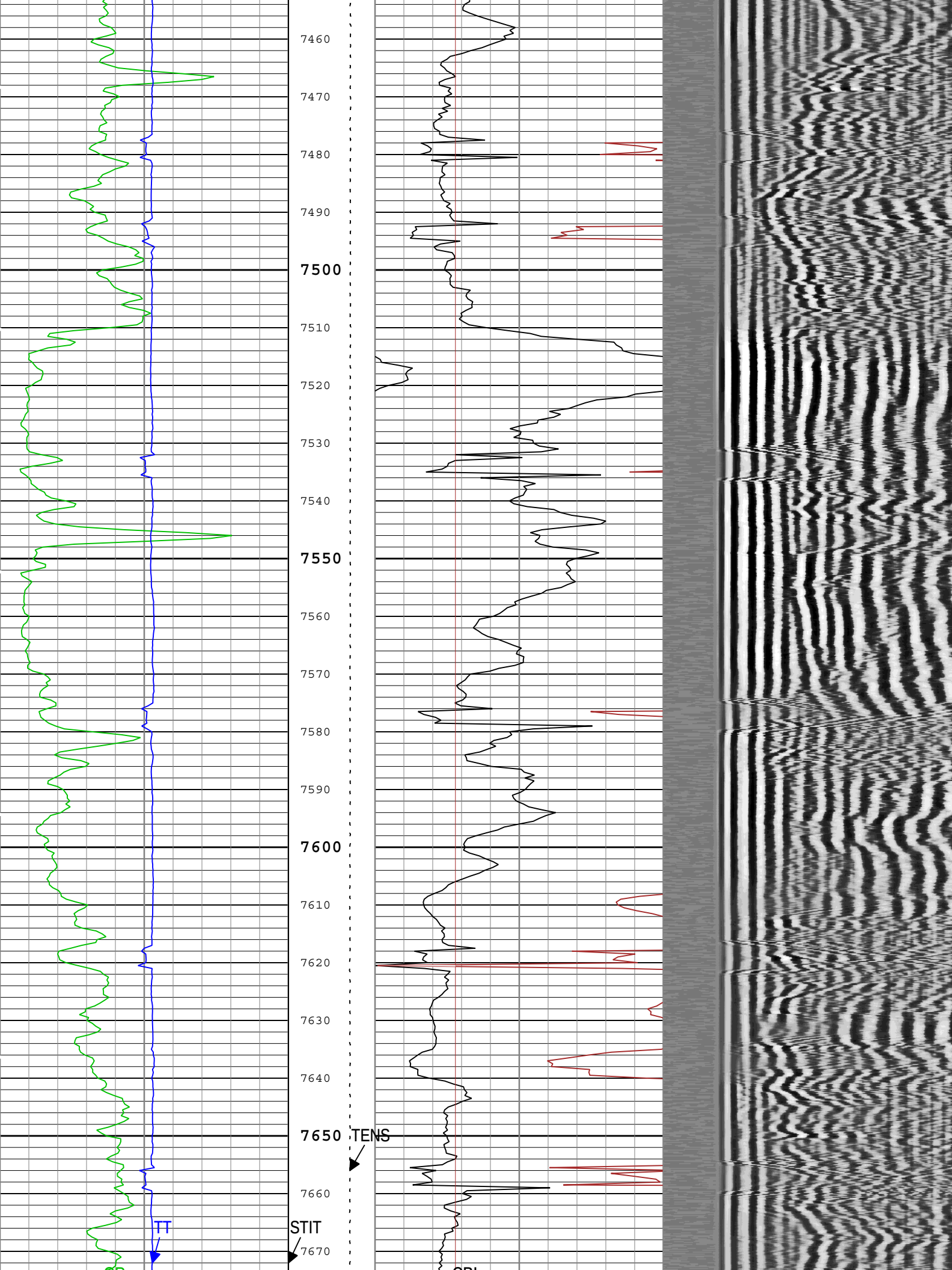
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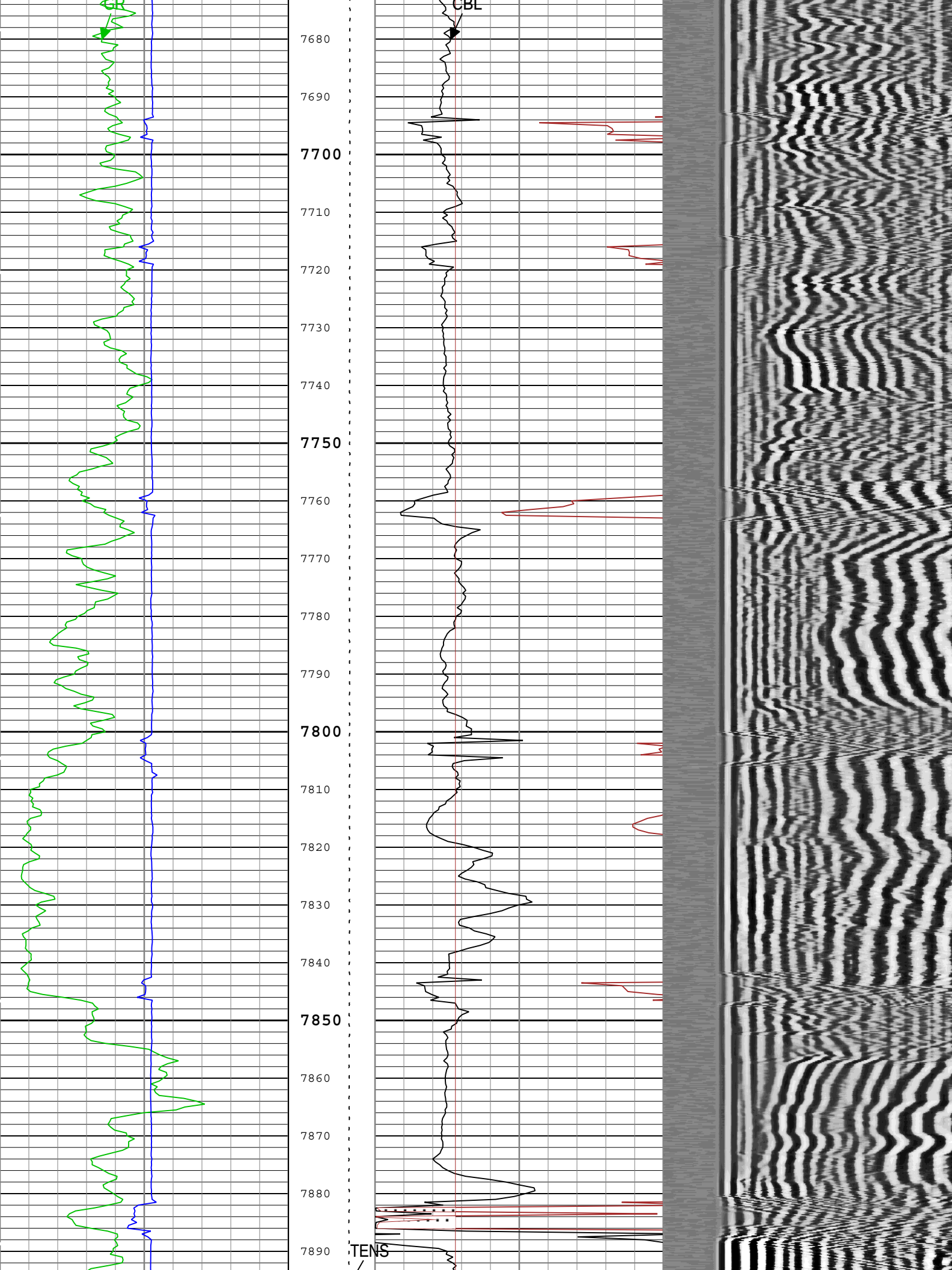
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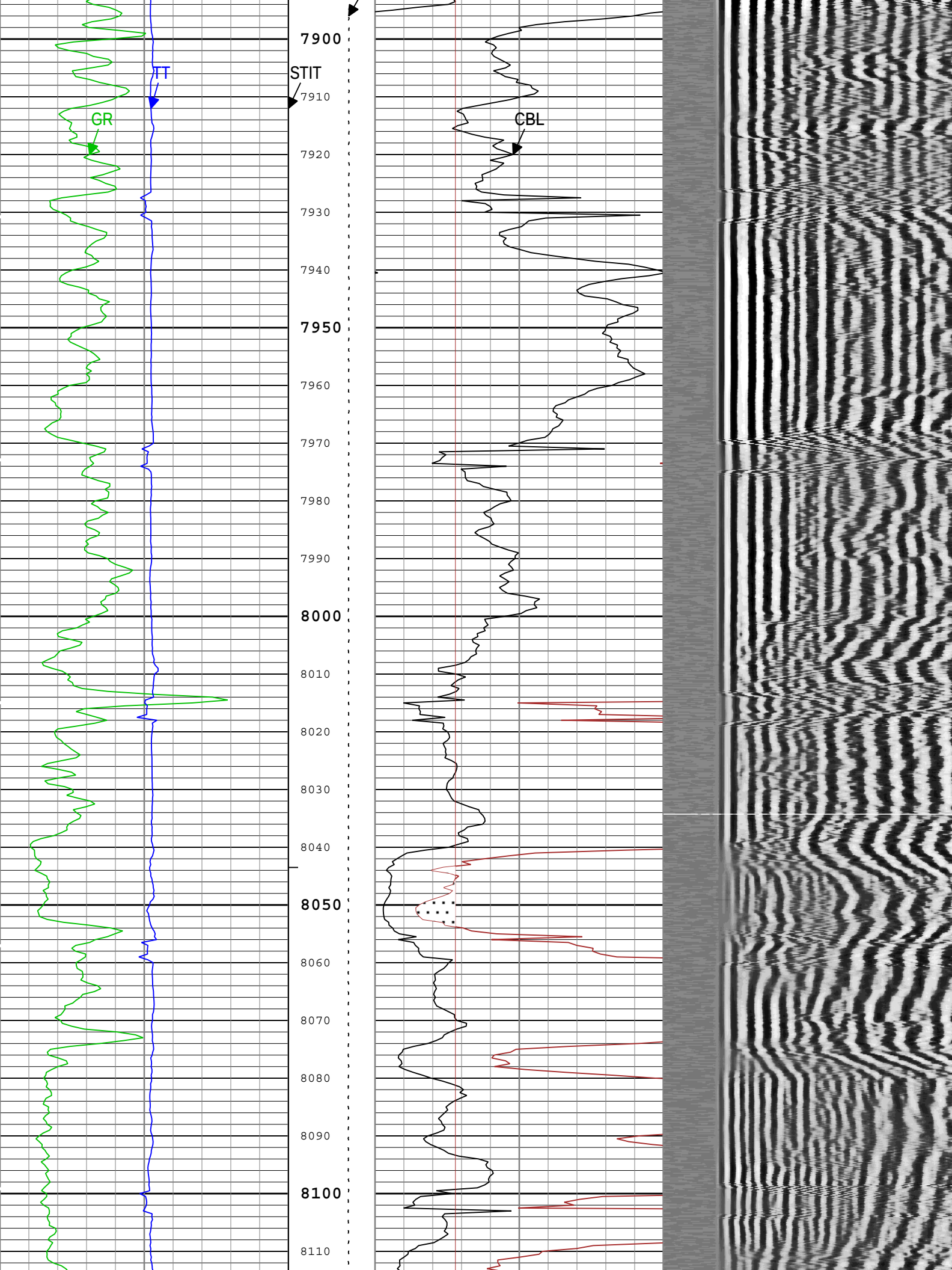
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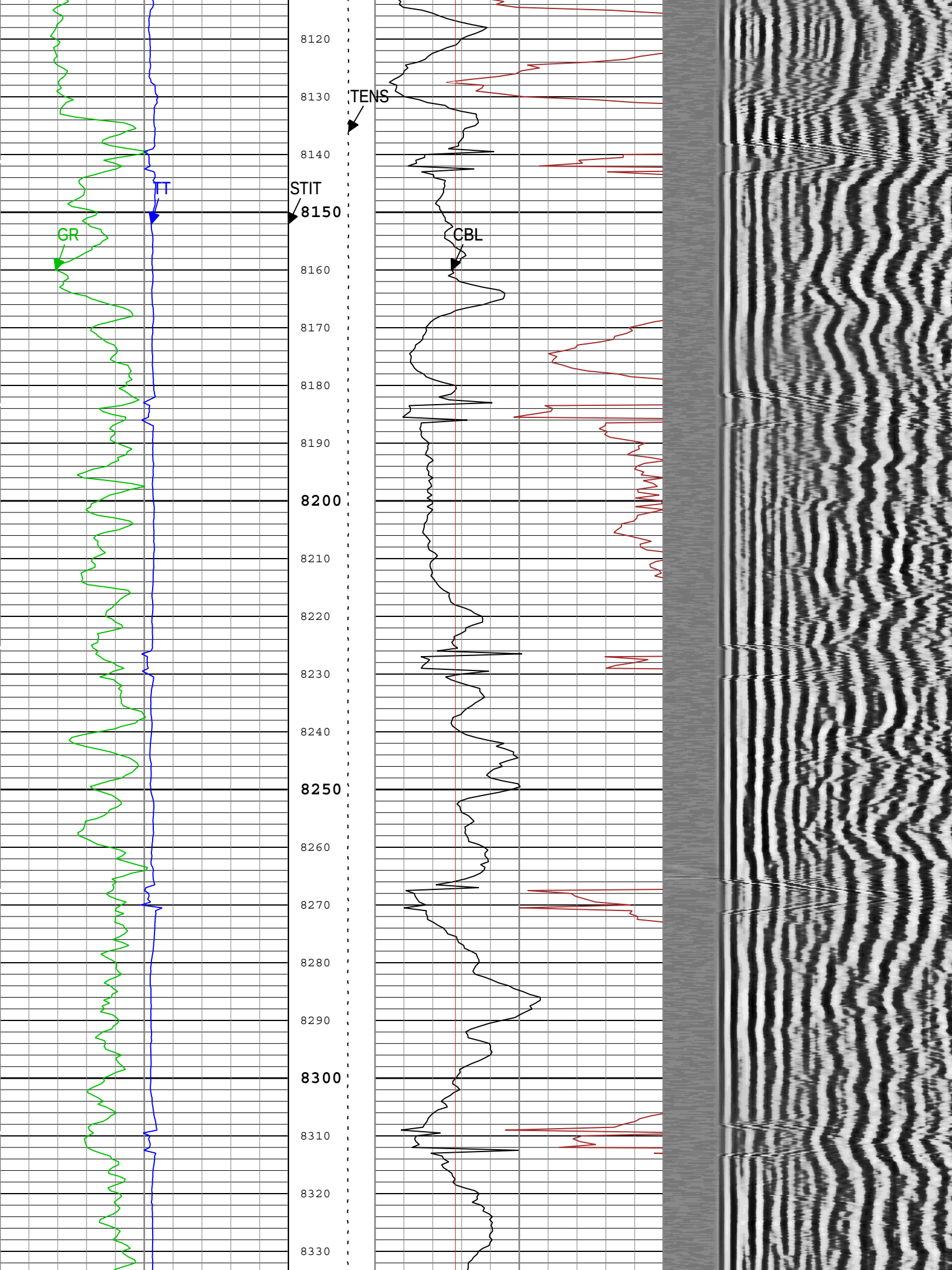
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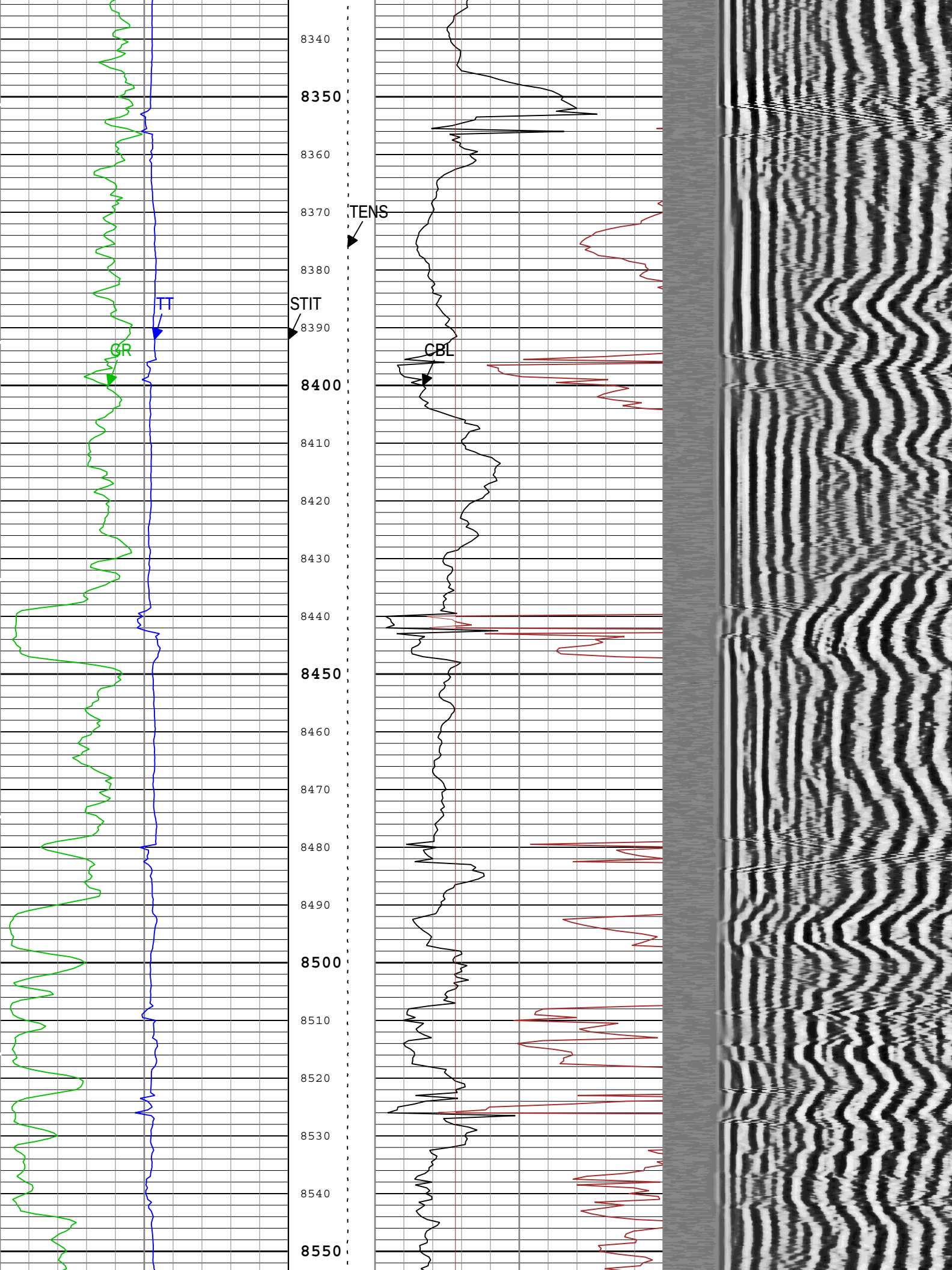
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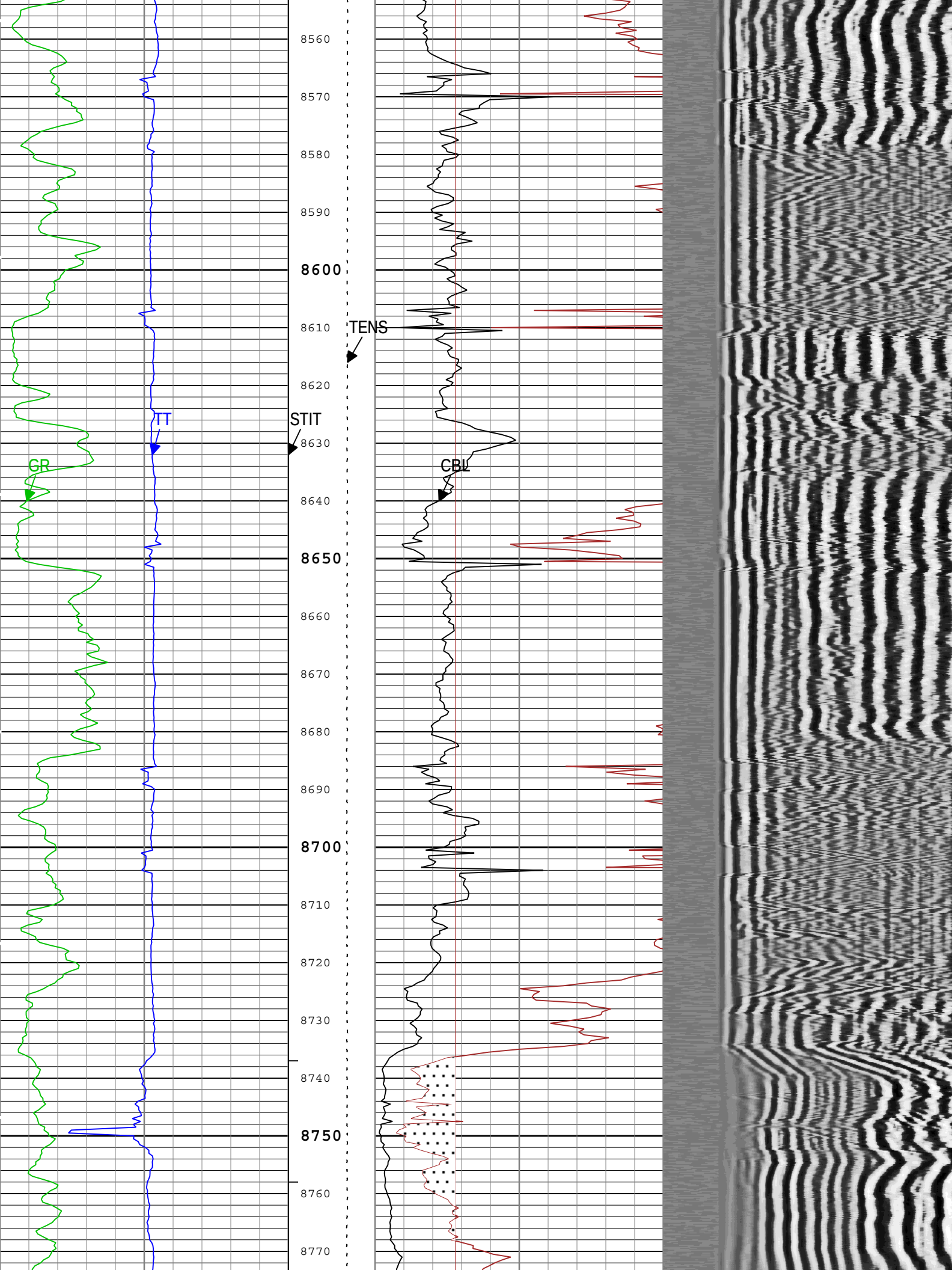
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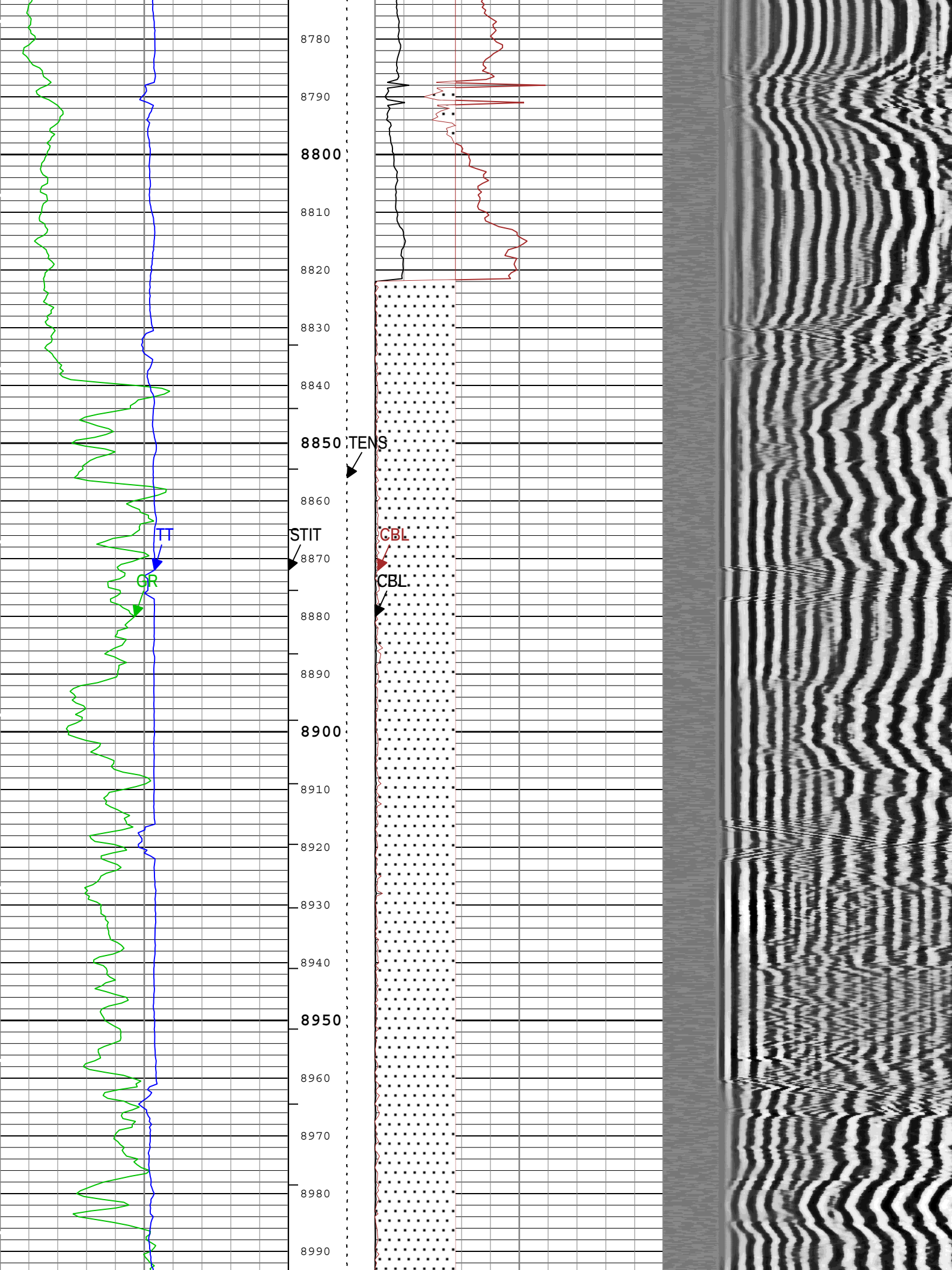
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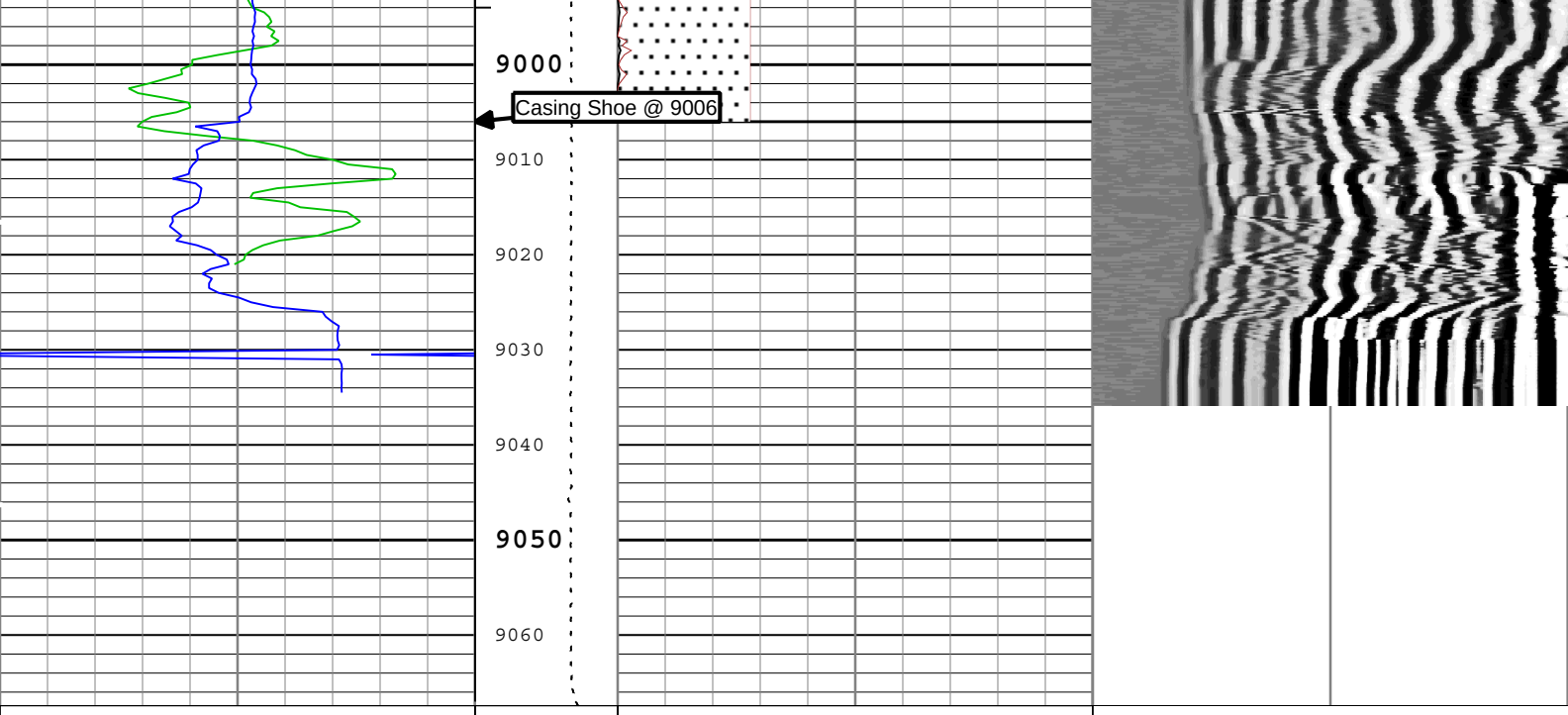

TIME_1900 - Time Marked every 60.00 (s)

Description: CBL_VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 18-Jul-2012 06:46:26

Channel Processing Parameters

Parameter	Description	ToolPath	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	COMPLETION	6.125	in
C1_SHIFT	C1 Caliper Supplementary Offset	FBST-B	0.02	in
C2_SHIFT	C2 Caliper Supplementary Offset	FBST-B	-1.1	in
CBLG	CBL Gate Width	DSLT-H:SLS-E:SLS-E	Time Zoned	us
CBLO	Casing Bottom (Logger)	COMPLETION	9006	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	DSLT-H:SLS-E:SLS-E	Depth Zoned	mV
CDEN	Cement Density	EDTC-B:EDTC-B:EDTC-B	2	g/cm3
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DETE	Delta-T Detection	DSLT-H:SLS-E:SLS-E	E1	
DFD	Drilling Fluid Density	Borehole	8.9	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	C1	

MAHTR	Manual High Threshold Reference for first arrival detection	DSLT-H:SLS-E:SLS-E	120	
MCI	Minimum Cemented Interval for Isolation	DSLT-H:SLS-E:SLS-E	Depth Zoned	ft
MNHTR	Minimum High Threshold Reference for first arrival detection	DSLT-H:SLS-E:SLS-E	100	
MSA	Minimum Sonic Amplitude	DSLT-H:SLS-E:SLS-E	Depth Zoned	mV
NMSG	Near Minimum Sliding Gate	DSLT-H:SLS-E:SLS-E	Time Zoned	us
NMXG	Near Maximum Sliding Gate	DSLT-H:SLS-E:SLS-E	890	us
SGAD	Sliding Gate Status	DSLT-H:SLS-E:SLS-E	Off	
SGDT	Sliding Gate Delta-T	DSLT-H:SLS-E:SLS-E	Time Zoned	us/ft
TD	Total Measured Depth	Borehole	10381	ft

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
CBRA	62	4425.5	9006
CBRA	0	9006	9067.42
MCI	10	4425.5	9006
MCI	0	9006	9067.42
MSA	1.28	4425.5	9006
MSA	0	9006	9067.42

All depth are actual.

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
CBLG	45	18-Jul-2012 04:05:59	18-Jul-2012 04:09:23	9067.39	8974.92
CBLG	100	18-Jul-2012 04:09:23	18-Jul-2012 04:12:17	8974.92	8888.14
CBLG	98	18-Jul-2012 04:12:17	18-Jul-2012 04:12:20	8888.14	8886.86
CBLG	100	18-Jul-2012 04:12:20	18-Jul-2012 04:13:51	8886.86	8841.53
CBLG	93	18-Jul-2012 04:13:51	18-Jul-2012 04:13:54	8841.53	8839.67
CBLG	100	18-Jul-2012 04:13:54	18-Jul-2012 05:57:51	8839.67	4471.5
NMSG	140	18-Jul-2012 04:05:59	18-Jul-2012 04:12:46	9067.39	8874.11
NMSG	146	18-Jul-2012 04:12:46	18-Jul-2012 04:12:57	8874.11	8868.55
NMSG	177	18-Jul-2012 04:12:57	18-Jul-2012 04:13:25	8868.55	8854.48
NMSG	219	18-Jul-2012 04:13:25	18-Jul-2012 05:57:51	8854.48	4471.5
SGDT	57	18-Jul-2012 04:05:59	18-Jul-2012 04:12:14	9067.39	8889.68
SGDT	76	18-Jul-2012 04:12:14	18-Jul-2012 04:12:26	8889.68	8883.68
SGDT	96	18-Jul-2012 04:12:26	18-Jul-2012 04:14:46	8883.68	8813.69
SGDT	87	18-Jul-2012 04:14:46	18-Jul-2012 04:14:56	8813.69	8809.05
SGDT	86	18-Jul-2012 04:14:56	18-Jul-2012 04:15:07	8809.05	8803.27
SGDT	79	18-Jul-2012 04:15:07	18-Jul-2012 05:57:51	8803.27	4471.5

All depth are at tool zero.

Tool Control Parameters

Parameter	Description	ToolPath	Value	Unit
DSLT_MODE	DSLT Acquisition Mode	DSLT-H:SLS-E:SLS-E	CBL	
DSLT_RATE	DSLT Firing Rate	DSLT-H:SLS-E:SLS-E	15 Hz	
DTFS	DSLT Telemetry Frame Size	DSLT-H:SLS-E:SLS-E	536	
FBMV	EMEX Maximum Voltage Calculation	FBST-B	Off	
FLM	Logging Mode	FBST-B	Full Image Mode	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLWorkflow	1800	ft/h
SGAI	Selectable Acquisition Gain	DSLT-H:SLS-E:SLS-E	x1	
XGAI_FBST	Gain Value in Manual Mode	FBST-B:FBCC-A:FBCC-A	00 dB	

XGMO	EMEX and Gain Modes	FBST-B:FBCC-A:FBCC-A	EMEX=Manual and Gain= Manual	
XVOL	EMEX Voltage	FBST-B:FBCC-A:FBCC-A	0	V

Calibration Report

FBST-B (Full-Bore Scanner Tool B) Calibration - Run Run 2: BHC-FBST

Primary Equipment :

GPIT DHRU Sensor Block - F	DHRU-F
FullBore Scanner Sonde	FBSS-B

Calibration Parameter :

Small Ring Size

Large Ring Size

GPIT-F Accelerometers Master Calibration - Signals and Temperature Correction for Accelerometers

Master (EEPROM): 00:00:00 25-Mar-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Accelero X Model[0,0]		Master	-----	-----	0.01004319	-----		
GPIT-F Accelero X Model[0,1]		Master	-----	-----	0.0006686179	-----		
GPIT-F Accelero X Model[1,0]		Master	-----	-----	-0.0002972697	-----		
GPIT-F Accelero X Model[1,1]		Master	-----	-----	-7.547312E-08	-----		
GPIT-F Accelero X Model[2,0]		Master	-----	-----	7.824401E-06	-----		
GPIT-F Accelero X Model[2,1]		Master	-----	-----	5.154787E-10	-----		
GPIT-F Accelero X Model[3,0]		Master	-----	-----	-3.246016E-08	-----		
GPIT-F Accelero X Model[3,1]		Master	-----	-----	-3.303964E-12	-----		
GPIT-F Accelero Y Model[0,0]		Master	-----	-----	0.02524769	-----		
GPIT-F Accelero Y Model[0,1]		Master	-----	-----	-0.0006674989	-----		
GPIT-F Accelero Y Model[1,0]		Master	-----	-----	0.0001102548	-----		
GPIT-F Accelero Y Model[1,1]		Master	-----	-----	7.693811E-08	-----		
GPIT-F Accelero Y Model[2,0]		Master	-----	-----	-6.932212E-06	-----		
GPIT-F Accelero Y Model[2,1]		Master	-----	-----	-5.726046E-10	-----		
GPIT-F Accelero Y Model[3,0]		Master	-----	-----	2.529116E-08	-----		
GPIT-F Accelero Y Model[3,1]		Master	-----	-----	3.513666E-12	-----		
GPIT-F Accelero Z Model[0,0]		Master	-----	-----	0.03320188	-----		
GPIT-F Accelero Z Model[0,1]		Master	-----	-----	0.0006767358	-----		
GPIT-F Accelero Z Model[1,0]		Master	-----	-----	-0.0003085748	-----		
GPIT-F Accelero Z Model[1,1]		Master	-----	-----	-8.402422E-08	-----		
GPIT-F Accelero Z Model[2,0]		Master	-----	-----	5.160325E-06	-----		
GPIT-F Accelero Z Model[2,1]		Master	-----	-----	5.922774E-10	-----		
GPIT-F Accelero Z Model[3,0]		Master	-----	-----	-2.276937E-08	-----		
GPIT-F Accelero Z Model[3,1]		Master	-----	-----	-3.469468E-12	-----		

GPIT-F Accelerometers Master Calibration - Perpendicular Correction for Accelerometers

Master (EEPROM): 00:00:00 25-Mar-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Accelero Axis Model[0,0]		Master	-----	-----	0.001837069	-----		
GPIT-F Accelero Axis Model[0,1]		Master	-----	-----	-0.0004671115	-----		
GPIT-F Accelero Axis Model[0,2]		Master	-----	-----	-0.000807833	-----		
GPIT-F Accelero Axis Model[0,3]		Master	-----	-----	-3.386192E-05	-----		
GPIT-F Accelero Axis Model[0,4]		Master	-----	-----	-1.416227E-05	-----		
GPIT-F Accelero Axis Model[0,5]		Master	-----	-----	0.0004458229	-----		
GPIT-F Accelero Axis Model[0,6]		Master	-----	-----	0	-----		
GPIT-F Accelero Axis Model[1,0]		Master	-----	-----	-2.085266E-06	-----		
GPIT-F Accelero Axis Model[1,1]		Master	-----	-----	-6.003917E-06	-----		
GPIT-F Accelero Axis Model[1,2]		Master	-----	-----	6.579111E-06	-----		
GPIT-F Accelero Axis Model[1,3]		Master	-----	-----	-9.407061E-07	-----		
GPIT-F Accelero Axis Model[1,4]		Master	-----	-----	1.656933E-06	-----		
GPIT-F Accelero Axis Model[1,5]		Master	-----	-----	1.693541E-06	-----		
GPIT-F Accelero Axis Model[1,6]		Master	-----	-----	0	-----		

GPIT-F Magnetometers Master Calibration - Signals and Temperature Correction for Magnetometer

Master (EEPROM): 00:00:00 25-Mar-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
GPIT-F Magneto X Model[0,0]		Master	-----	-----	181.8487	-----		
GPIT-F Magneto X Model[0,1]		Master	-----	-----	4.8654	-----		

GPIT-F Magneto X Model[1,0]		Master	-----	-----	-3.716793	-----	
GPIT-F Magneto X Model[1,1]		Master	-----	-----	-0.0002706179	-----	
GPIT-F Magneto X Model[2,0]		Master	-----	-----	0.05241161	-----	
GPIT-F Magneto X Model[2,1]		Master	-----	-----	4.475129E-06	-----	
GPIT-F Magneto X Model[3,0]		Master	-----	-----	-0.000188024	-----	
GPIT-F Magneto X Model[3,1]		Master	-----	-----	-1.87655E-08	-----	
GPIT-F Magneto Y Model[0,0]		Master	-----	-----	-84.64809	-----	
GPIT-F Magneto Y Model[0,1]		Master	-----	-----	-4.938315	-----	
GPIT-F Magneto Y Model[1,0]		Master	-----	-----	-0.4523515	-----	
GPIT-F Magneto Y Model[1,1]		Master	-----	-----	0.0004073463	-----	
GPIT-F Magneto Y Model[2,0]		Master	-----	-----	0.0152921	-----	
GPIT-F Magneto Y Model[2,1]		Master	-----	-----	-5.572296E-06	-----	
GPIT-F Magneto Y Model[3,0]		Master	-----	-----	-5.747834E-05	-----	
GPIT-F Magneto Y Model[3,1]		Master	-----	-----	2.272307E-08	-----	
GPIT-F Magneto Z Model[0,0]		Master	-----	-----	-79.14816	-----	
GPIT-F Magneto Z Model[0,1]		Master	-----	-----	4.879284	-----	
GPIT-F Magneto Z Model[1,0]		Master	-----	-----	0.5690715	-----	
GPIT-F Magneto Z Model[1,1]		Master	-----	-----	-0.0003812228	-----	
GPIT-F Magneto Z Model[2,0]		Master	-----	-----	-0.02047035	-----	
GPIT-F Magneto Z Model[2,1]		Master	-----	-----	5.572923E-06	-----	
GPIT-F Magneto Z Model[3,0]		Master	-----	-----	6.837992E-05	-----	
GPIT-F Magneto Z Model[3,1]		Master	-----	-----	-2.260472E-08	-----	

GPIT-F Magnetometers Master Calibration - Perpendicular Correction for Magnetometer

Master (EEPROM): 00:00:00 25-Mar-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
GPIT-F Magneto Axis Model[0,0]		Master	-----	-----	-0.0006570763	-----	
GPIT-F Magneto Axis Model[0,1]		Master	-----	-----	0.003885593	-----	
GPIT-F Magneto Axis Model[0,2]		Master	-----	-----	0.001790652	-----	
GPIT-F Magneto Axis Model[0,3]		Master	-----	-----	0.005535198	-----	
GPIT-F Magneto Axis Model[0,4]		Master	-----	-----	7.441429E-05	-----	
GPIT-F Magneto Axis Model[0,5]		Master	-----	-----	-0.005724554	-----	
GPIT-F Magneto Axis Model[0,6]		Master	-----	-----	0	-----	
GPIT-F Magneto Axis Model[1,0]		Master	-----	-----	-3.932758E-06	-----	
GPIT-F Magneto Axis Model[1,1]		Master	-----	-----	-3.185808E-06	-----	
GPIT-F Magneto Axis Model[1,2]		Master	-----	-----	5.509316E-06	-----	
GPIT-F Magneto Axis Model[1,3]		Master	-----	-----	4.485449E-07	-----	
GPIT-F Magneto Axis Model[1,4]		Master	-----	-----	-2.703136E-06	-----	
GPIT-F Magneto Axis Model[1,5]		Master	-----	-----	1.894244E-07	-----	
GPIT-F Magneto Axis Model[1,6]		Master	-----	-----	0	-----	

GPIT-F DHRU102 Master Calibration -

Master (EEPROM): 00:00:00 23-Mar-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
GPIT-F Electronic Coeff 1[0,0]		Master	-----	-----	-0.8952441	-----	
GPIT-F Electronic Coeff 1[0,1]		Master	-----	-----	249.9406	-----	
GPIT-F Electronic Coeff 1[1,0]		Master	-----	-----	0.01395254	-----	
GPIT-F Electronic Coeff 1[1,1]		Master	-----	-----	0.008198394	-----	
GPIT-F Electronic Coeff 1[2,0]		Master	-----	-----	1.390258E-05	-----	
GPIT-F Electronic Coeff 1[2,1]		Master	-----	-----	-0.0002051808	-----	
GPIT-F Electronic Coeff 1[3,0]		Master	-----	-----	-1.841121E-06	-----	
GPIT-F Electronic Coeff 1[3,1]		Master	-----	-----	1.994828E-06	-----	
GPIT-F Electronic Coeff 1[4,0]		Master	-----	-----	9.325712E-09	-----	
GPIT-F Electronic Coeff 1[4,1]		Master	-----	-----	-7.143223E-09	-----	
GPIT-F Electronic Coeff 2[0,0]		Master	-----	-----	-0.5616307	-----	
GPIT-F Electronic Coeff 2[0,1]		Master	-----	-----	249.987	-----	
GPIT-F Electronic Coeff 2[1,0]		Master	-----	-----	0.02799738	-----	
GPIT-F Electronic Coeff 2[1,1]		Master	-----	-----	0.00714351	-----	
GPIT-F Electronic Coeff 2[2,0]		Master	-----	-----	-0.000261922	-----	
GPIT-F Electronic Coeff 2[2,1]		Master	-----	-----	-0.0001818765	-----	
GPIT-F Electronic Coeff 2[3,0]		Master	-----	-----	4.204111E-07	-----	
GPIT-F Electronic Coeff 2[3,1]		Master	-----	-----	1.850542E-06	-----	
GPIT-F Electronic Coeff 2[4,0]		Master	-----	-----	1.83346E-09	-----	
GPIT-F Electronic Coeff 2[4,1]		Master	-----	-----	-6.841118E-09	-----	
GPIT-F Electronic Coeff 3[0,0]		Master	-----	-----	-3.372483	-----	
GPIT-F Electronic Coeff 3[0,1]		Master	-----	-----	249.8171	-----	

GPIT-F Electronic Coeff 3[1,0]		Master	-----	-----	0.02643838	-----	
GPIT-F Electronic Coeff 3[1,1]		Master	-----	-----	0.01735289	-----	
GPIT-F Electronic Coeff 3[2,0]		Master	-----	-----	-0.000118937	-----	
GPIT-F Electronic Coeff 3[2,1]		Master	-----	-----	-0.0003523308	-----	
GPIT-F Electronic Coeff 3[3,0]		Master	-----	-----	-5.30264E-07	-----	
GPIT-F Electronic Coeff 3[3,1]		Master	-----	-----	3.076477E-06	-----	
GPIT-F Electronic Coeff 3[4,0]		Master	-----	-----	4.865397E-09	-----	
GPIT-F Electronic Coeff 3[4,1]		Master	-----	-----	-1.000238E-08	-----	

GPIT-F DHRU102 Master Calibration -

Master (EEPROM): 00:00:00 23-Mar-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
GPIT-F Electronic Coeff 4[0,0]		Master	-----	-----	-0.4944648	-----	
GPIT-F Electronic Coeff 4[0,1]		Master	-----	-----	0.1280312	-----	
GPIT-F Electronic Coeff 4[1,0]		Master	-----	-----	0.02398921	-----	
GPIT-F Electronic Coeff 4[1,1]		Master	-----	-----	4.302098E-06	-----	
GPIT-F Electronic Coeff 4[2,0]		Master	-----	-----	-0.0003839917	-----	
GPIT-F Electronic Coeff 4[2,1]		Master	-----	-----	-1.070642E-07	-----	
GPIT-F Electronic Coeff 4[3,0]		Master	-----	-----	3.06089E-06	-----	
GPIT-F Electronic Coeff 4[3,1]		Master	-----	-----	1.024623E-09	-----	
GPIT-F Electronic Coeff 4[4,0]		Master	-----	-----	-8.51608E-09	-----	
GPIT-F Electronic Coeff 4[4,1]		Master	-----	-----	-3.601946E-12	-----	
GPIT-F Electronic Coeff 5[0,0]		Master	-----	-----	-0.4944648	-----	
GPIT-F Electronic Coeff 5[0,1]		Master	-----	-----	0.1280312	-----	
GPIT-F Electronic Coeff 5[1,0]		Master	-----	-----	0.02398921	-----	
GPIT-F Electronic Coeff 5[1,1]		Master	-----	-----	4.302098E-06	-----	
GPIT-F Electronic Coeff 5[2,0]		Master	-----	-----	-0.0003839917	-----	
GPIT-F Electronic Coeff 5[2,1]		Master	-----	-----	-1.070642E-07	-----	
GPIT-F Electronic Coeff 5[3,0]		Master	-----	-----	3.06089E-06	-----	
GPIT-F Electronic Coeff 5[3,1]		Master	-----	-----	1.024623E-09	-----	
GPIT-F Electronic Coeff 5[4,0]		Master	-----	-----	-8.51608E-09	-----	
GPIT-F Electronic Coeff 5[4,1]		Master	-----	-----	-3.601946E-12	-----	
GPIT-F Electronic Coeff 6[0,0]		Master	-----	-----	-0.4944648	-----	
GPIT-F Electronic Coeff 6[0,1]		Master	-----	-----	0.1280312	-----	
GPIT-F Electronic Coeff 6[1,0]		Master	-----	-----	0.02398921	-----	
GPIT-F Electronic Coeff 6[1,1]		Master	-----	-----	4.302098E-06	-----	
GPIT-F Electronic Coeff 6[2,0]		Master	-----	-----	-0.0003839917	-----	
GPIT-F Electronic Coeff 6[2,1]		Master	-----	-----	-1.070642E-07	-----	
GPIT-F Electronic Coeff 6[3,0]		Master	-----	-----	3.06089E-06	-----	
GPIT-F Electronic Coeff 6[3,1]		Master	-----	-----	1.024623E-09	-----	
GPIT-F Electronic Coeff 6[4,0]		Master	-----	-----	-8.51608E-09	-----	
GPIT-F Electronic Coeff 6[4,1]		Master	-----	-----	-3.601946E-12	-----	

FBST Caliper Calibration - Caliper Accumulations

Before: After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Small Ring RC1	in	Before	-----	-----	NOT DONE	-----	
		After	-----	-----	NOT DONE	-----	
		After-Before	-----	-----	-----	-----	
Small Ring RC2	in	Before	-----	-----	NOT DONE	-----	
		After	-----	-----	NOT DONE	-----	
		After-Before	-----	-----	-----	-----	
Large Ring RC1	in	Before	-----	-----	NOT DONE	-----	
		After	-----	-----	NOT DONE	-----	
		After-Before	-----	-----	-----	-----	
Large Ring RC2	in	Before	-----	-----	NOT DONE	-----	
		After	-----	-----	NOT DONE	-----	
		After-Before	-----	-----	-----	-----	

DSLT-H (Digitizing Sonic Logging Tool - H) Calibration - Run Run 2: BHC-FBST

Primary Equipment :

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

CBL Normalization - CBL Accumulations

Master:

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:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
CBL Correction Factor for UT		Master	3.500	2.700	NOT DONE	4.300
CBL Correction Factor for LT		Master	2.500	1.700	NOT DONE	4.300
VDL Ratio between UT and LT for CBLB Mode		Master	1.000	-----	NOT DONE	-----

CBL Free Pipe Adjustment - Free Pipe Measurement

Before (Measured): 06:07:23 18-Jul-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
CBL Amplitude	mV	Before	-----	-----	38.01	-----
CBL Reference Amplitude (CBRA)	mV	Before	-----	-----	62.00	-----
Measurement Depth	ft	Before	-----	-----	4531.82	-----

CBL Free Pipe Adjustment - CBL Amplitude Coefficient

Before (Measured): 06:07:23 18-Jul-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
CBL Adjustment Factor		Before	-----	-----	1.631	-----
Depth of Before Calibration	ft	Before	-----	-----	4531.82	-----

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run Run 2: BHC-FBST

Primary Equipment :

Enhanced Digital Telemetry Cartridge - B EDTC-B

Calibration Parameter :

Plus Reference

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before (Measured): 01:59:33 18-Jul-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
AZ Vertical Measurement	ft/s2	Before	32.19	31.53	32.15	32.84

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM): 02:06:45 18-Jul-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Initial PMT HV	V	Master	-----	-----	1482.000	-----
Accelerometer Serial Number		Master	-----	-----	696	-----
Accelerometer Coefficients - 0		Master	-----	-----	2.987	-----
Accelerometer Coefficients - 1		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 2		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 3		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 4		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 5		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 6		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 7		Master	-----	-----	-0.007	-----
Accelerometer Coefficients - 8		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 9		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 10		Master	-----	-----	0.000	-----
Accelerometer Coefficients - 11		Master	-----	-----	0.000	-----
Gamma-Ray Detector Serial Number		Master	-----	-----	7792	-----

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured): 02:07:53 18-Jul-2012 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Gamma Ray Gain - 0		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured): 02:07:53 18-Jul-2012 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit

RGR Zero Measurement	gAPI	Before	-----	0	47.939	120.000	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	
RGR Plus Measurement - 0	gAPI	Before	-----	-----	-----	-----	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	

LEH-QT (Logging Equipment Head - QT, 3-3/8 inch 31 pin HPHT with Tension Sensor) Calibration - Run Run 2: BHC-FBST

Primary Equipment :

Logging Equipment Head - QT, 3-3/8 inch 31 pin HPHT with Tension Sensor	LEH-QT

HTEN Master Calibration - HTEN Master Calibration

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
HTEN Shop Gain		Master	1.000	0.800	NOT DONE	1.200	
HTEN Shop Offset	lbf	Master	0	-1000.000	NOT DONE	1000.000	

HTEN Before Calibration - HTEN Before Calibration

Before:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RHTE Zero Measurement - 0	lbf	Before	-----	-----	-----	-----	
RHTE Plus Measurement - 0	lbf	Before	-----	-----	-----	-----	
HTEN Gain - 0		Before	-----	-----	-----	-----	
HTEN Offset - 0	lbf	Before	-----	-----	-----	-----	

Company: Noble Energy Inc

Schlumberger

Well: Con GQ 07-01

Field: Jupiter

County: Weld

State: Colorado

Cement Bond Log