



Company: ENCANA OIL & GAS (USA) INC

Well: ROSE 22-11B (K22W)

Field: MAMM CREEK

County: GARFIELD State: COLORADO

SLIM CEMENT MAPPING LOG  
CBL-VDL  
GAMMA RAY-CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 2328 FSL & 2218 FWL

Well: ROSE 22-11B (K22W)

Company: ENCANA OIL & GAS (USA) INC

LOCATION			
SHL: 2328 FSL & 2218 FWL	Elev.:	K.B.	6973.00 ft
BHL: 2513 FSL & 1544 FWL		G.L.	6951.00 ft
		D.F.	6972.00 ft
Permanent Datum:	GROUND LEVEL		
Log Measured From:	KELLY BUSHING		
Drilling Measured From:	KELLY BUSHING		
API Serial No.	Section	Township	Range
05-045-22117-0C	22	7S	93W

Logging Date	4-Jan-2014		
Run Number	1		
Depth Driller	9140 ft		
Schlumberger Depth	9035 ft		
Bottom Log Interval	9026 ft		
Top Log Interval	100 ft		
Casing Fluid Type	FRESH WATER		
Salinity			
Density	8.4 lbm/gal		
Fluid Level	100 ft		
BIT/CASING/TUBING STRING			
Bit Size	7.875 in		
From	7158 ft		
To	9140 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	S-80		
From	22 ft		
To	9114 ft		
Maximum Recorded Temperatures	249 degF		
Logger On Bottom	4-Jan-2014	Time	19:00
Unit Number	391	Location	GRAND JUNCTION
Recorded By	KIRSTIE BUNTING		
Witnessed By	UNWITNESSED		

PVT DATA				Run 1	Run 2	R
Oil Density						
Water Salinity						
Gas Gravity						
Bo						
Bw						
1/Bg						
Bubble Point Pressure						
Bubble Point Temperature						
Solution GOR						
Maximum Deviation						
CEMENTING DATA						
Primary/Squeeze				Primary		
Casing String No						
Lead Cement Type						
Volume						
Density						
Water Loss						
Additives						
Tail Cement Type						
Volume						
Density						
Water Loss						
Additives						
Expected Cement Top						
Logging Date						
Run Number						
Depth Driller						
Schlumberger Depth						
Bottom Log Interval						
Top Log Interval						
Casing Fluid Type						
Salinity						
Density						
Fluid Level						
BIT/CASING/TUBING STRING						
Bit Size						
From						
To						
Casing/Tubing Size						
Weight						
Grade						
From						
To						
Maximum Recorded Temperatures						
Logger On Bottom				Time		
Unit Number				Location		
Recorded By						
Witnessed By						

## Date Created: 14-AUG-2013 11:54:57

## Logging Cable

Type:	1-25ZT
Serial Number:	112136
Length:	19000 FT
Conveyance Method:	Wireline
Rig Type:	LAND

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
Stretch Correction:	
Tool Zero Check At Surface:	

1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SPWT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
- 4.
- 5.
- 6.

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 OF 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.

OTHER SERVICES2  
OS1:  
OS2:  
OS3:  
OS4:  
OS5:

REMARKS: RUN NUMBER 2

TOOL RAN AS PER TOOL SKETCH

TIME ON BOTTOM: 19:00

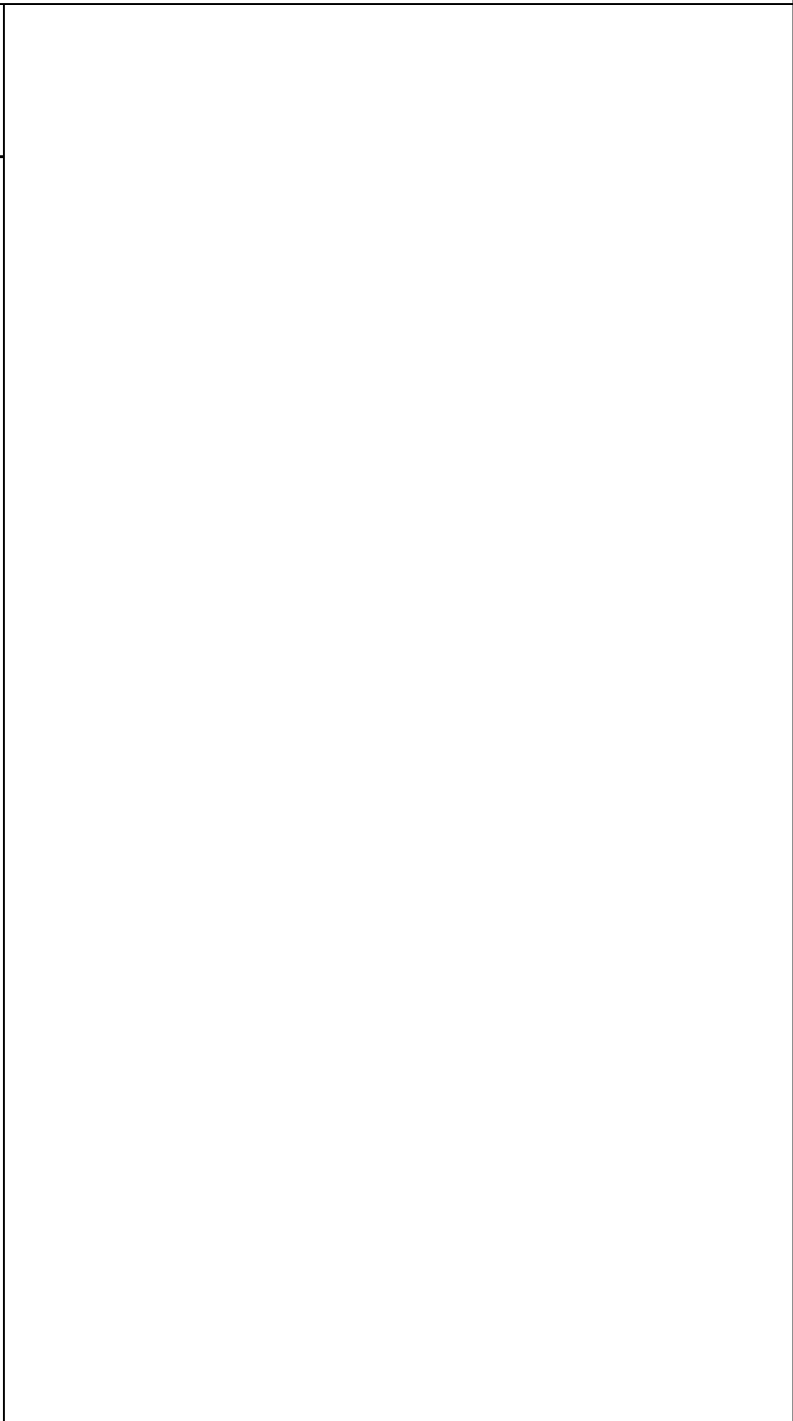
EXIT: 21:30

MAXIMUM RECORDED TEMPERATURE: 249 DEGF					
MAXIMUM RECORDED PRESSURE: 3828 PSIA					
SHORT JOINTS: 6795 FT & 7789 FT					
MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE					
EXPECTED CBL AMPLITUDE IN FREE PIPE IS 80MV					
CREW: KBUNTING, KJOHNS, JMANN, SKRAMER					
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY					
RUN 1			RUN 2		
SERVICE ORDER #:		CGF9-00194	SERVICE ORDER #:		
PROGRAM VERSION:		19C0-187	PROGRAM VERSION:		
FLUID LEVEL:		100 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT	
WITM-A PSC_16MHZ	

DOWNHOLE EQUIPMENT	
<div> <div> <div>MH-22</div> <div>MH-22</div> <div>AH-38</div> <div>HBMS-B</div> <div>PSC-A</div> <div>HUDH-A</div> <div>HSTC-A</div> <div>HBMC-A</div> <div>GR</div> <div>CCL</div> <div>HBMC</div> <div>HTPS-A</div> <div>HCQG_E_Mano</div> <div>RTD_Thermometer</div> <div>RST-C</div> <div>RSCH-A 303</div> <div>RSC-E</div> <div>RSS-A 308</div> <div>RSXH-A 425</div> <div>RSX-E</div> </div> <div> <div>Detail MT</div> <div>TelStatus</div> <div>CTEM</div> <div>GR</div> <div>CCL</div> <div>HSTC Aux.</div> <div>HBMC Aux.</div> <div>CQG Manom</div> <div>Well_Temp</div> <div>RSC-A Far</div> <div>RSC-A PNG</div> <div>RSC-A Nea</div> <div>RSX-A PNG</div> </div> <div> <div>56.2</div> <div>54.6</div> <div>54.3</div> <div>49.4</div> <div>47.0</div> <div>45.5</div> <div>44.1</div> <div>43.2</div> <div>34.1</div> <div>33.6</div> </div> </div>	



SCMT-CB  
SCMC-CA 8120  
SECH-CA  
CMIR-AG  
SCMS-CB 8303  
SCMX-CA

20.2

DT 11.1  
CBL5 DTSC 9.6  
CBL3 8.6  
MAP 8.1  
AUX 7.1

AH-BNS

HV  
Tension SCMT 0.0  
TOOL ZERO

0.2

MAXIMUM STRING DIAMETER 2.07 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN FEET



MAIN PASS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC Well: ROSE 22-11B (K22W)

Input DLIS Files

SCMT\_RST\_HBMS\_019LUP FN:18 04-Jan-2014 18:56 9038.0 FT -17.0 FT

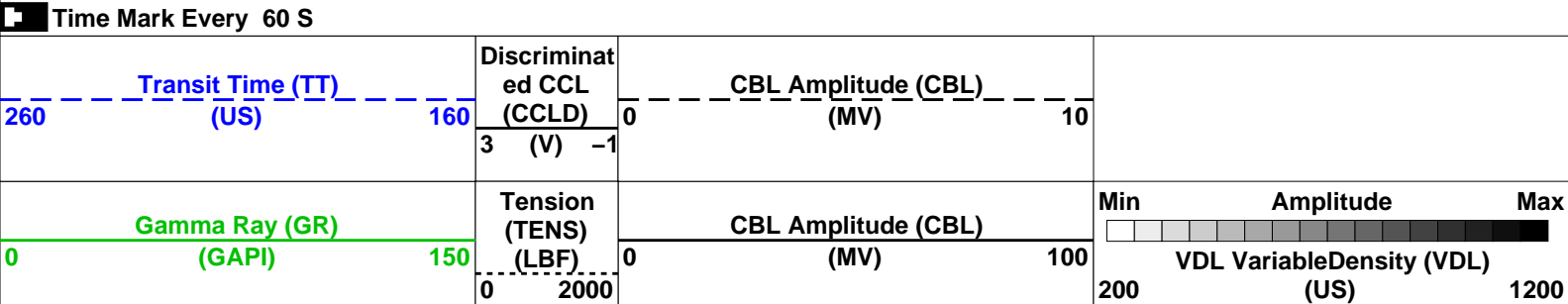
Output DLIS Files

DEFAULT SCMT\_RST\_HBMS\_024PUP FN:23 PRODUCER 04-Jan-2014 21:32 9043.0 FT -59.5 FT

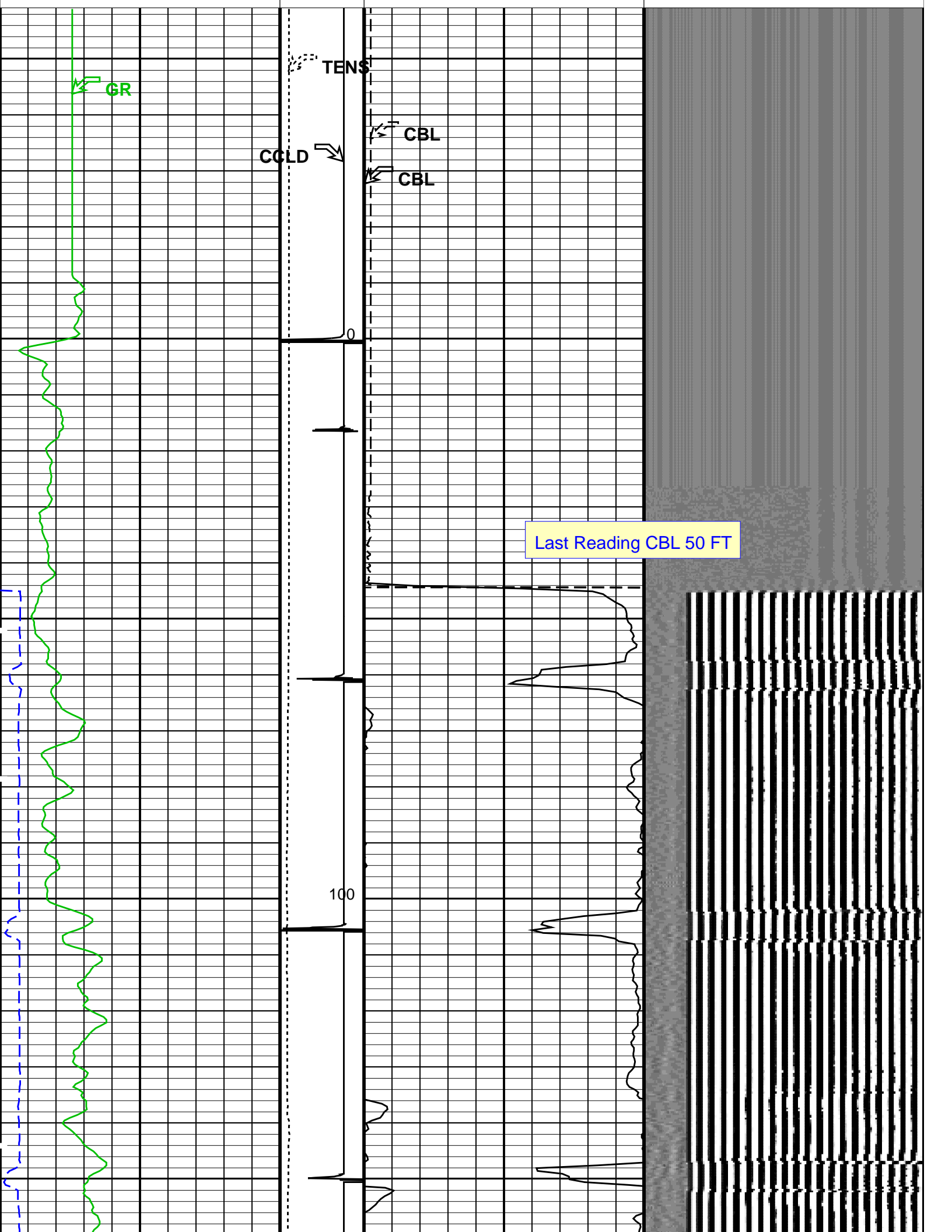
OP System Version: 19C0-187

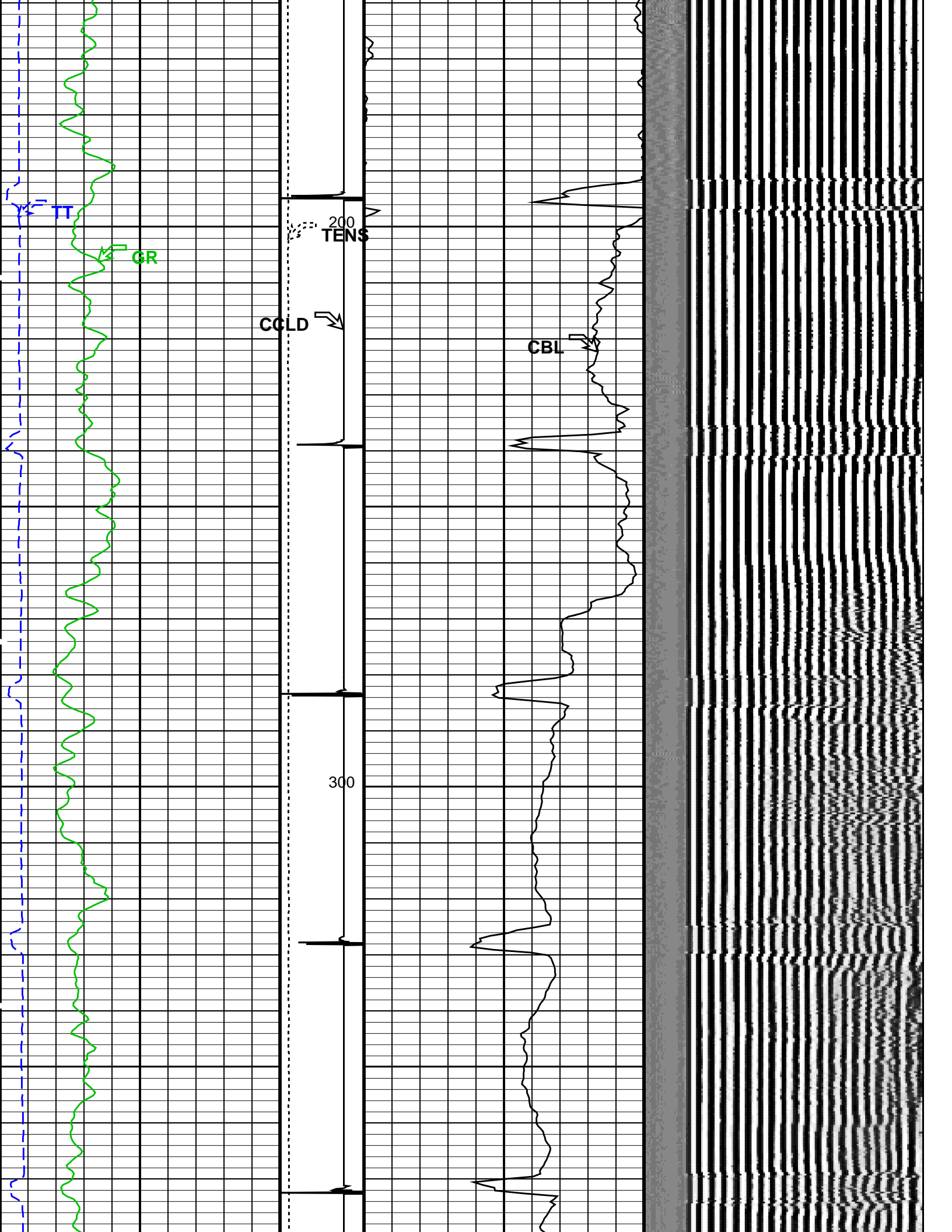
SCMT-CB 19C0-187 RST-C 19C0-187  
HBMS-B 19C0-187

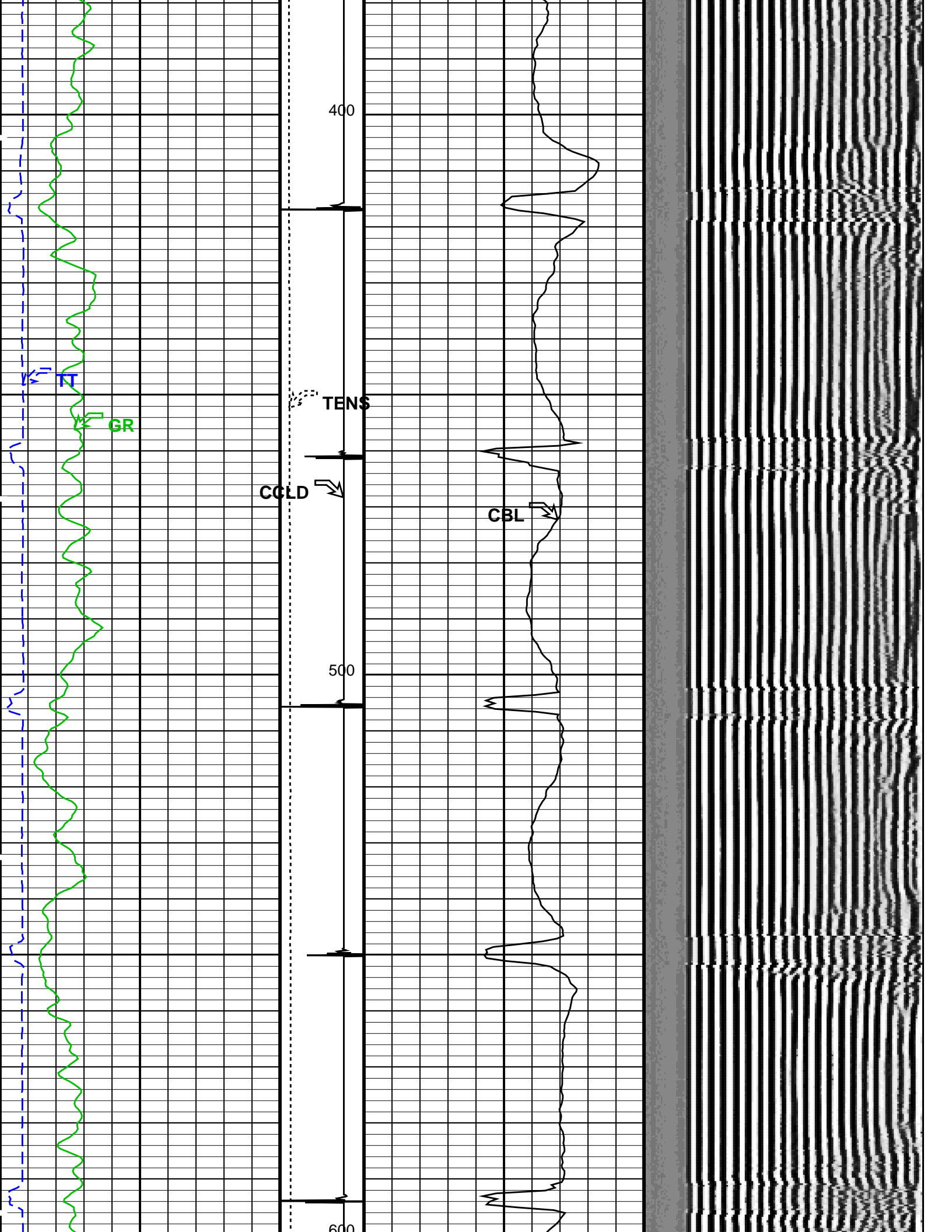
PIP SUMMARY

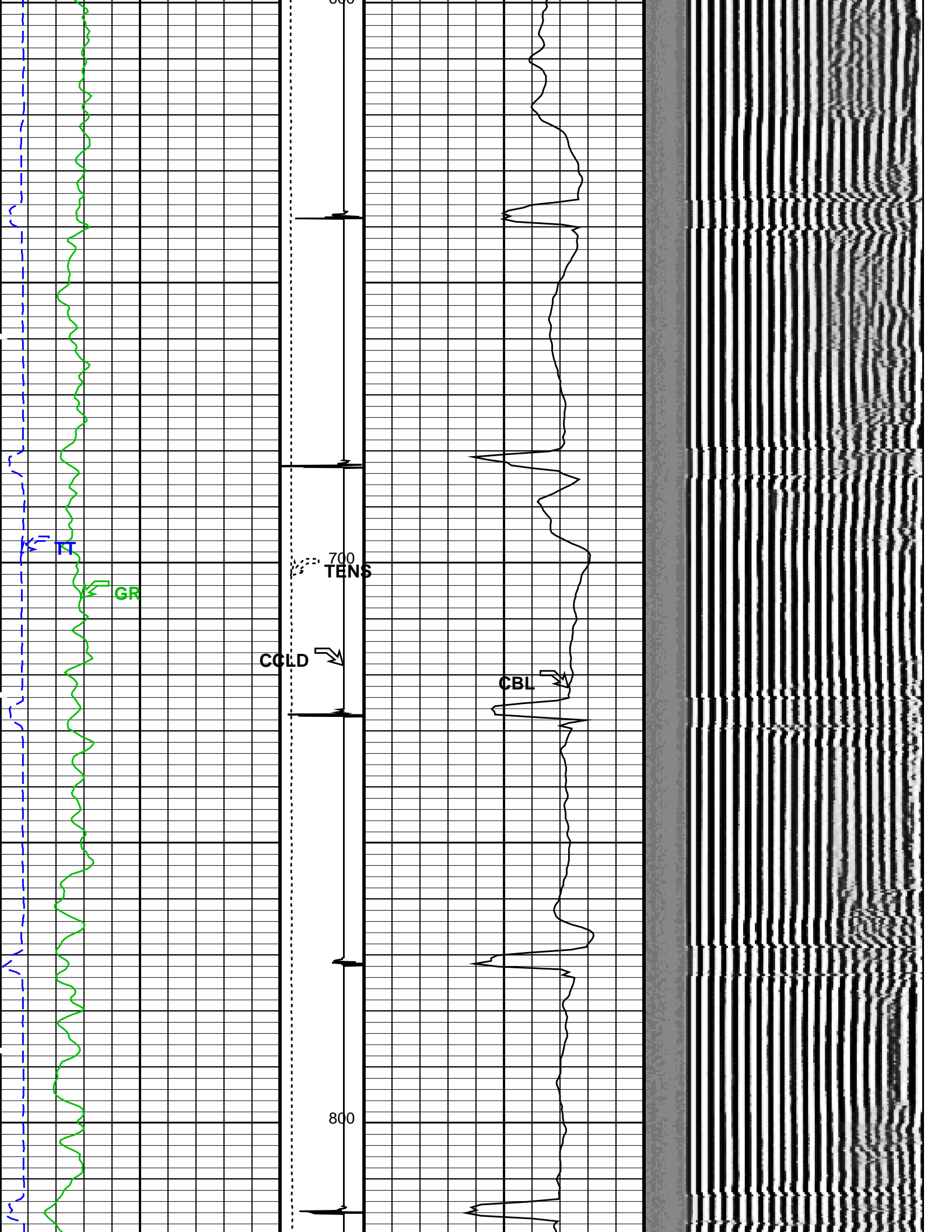


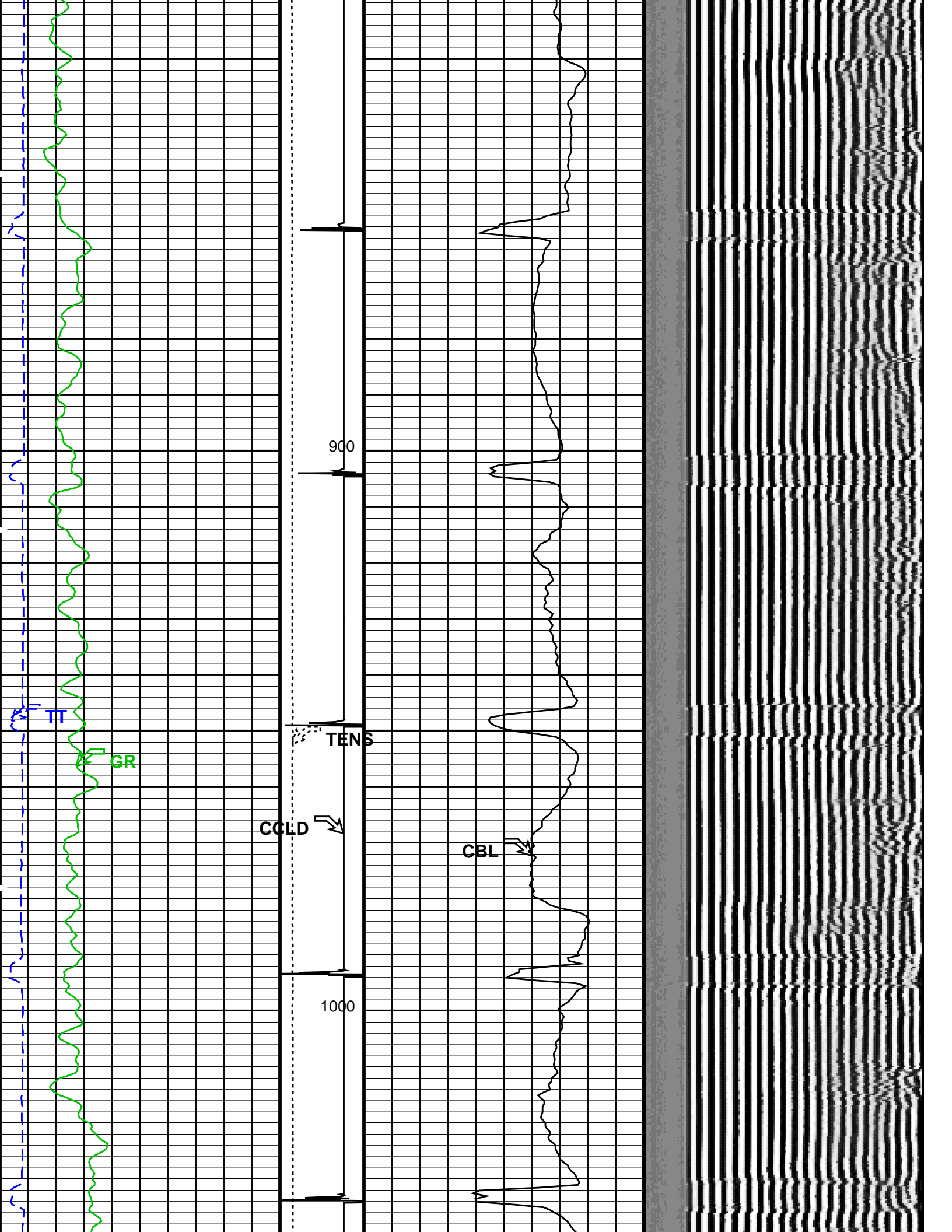




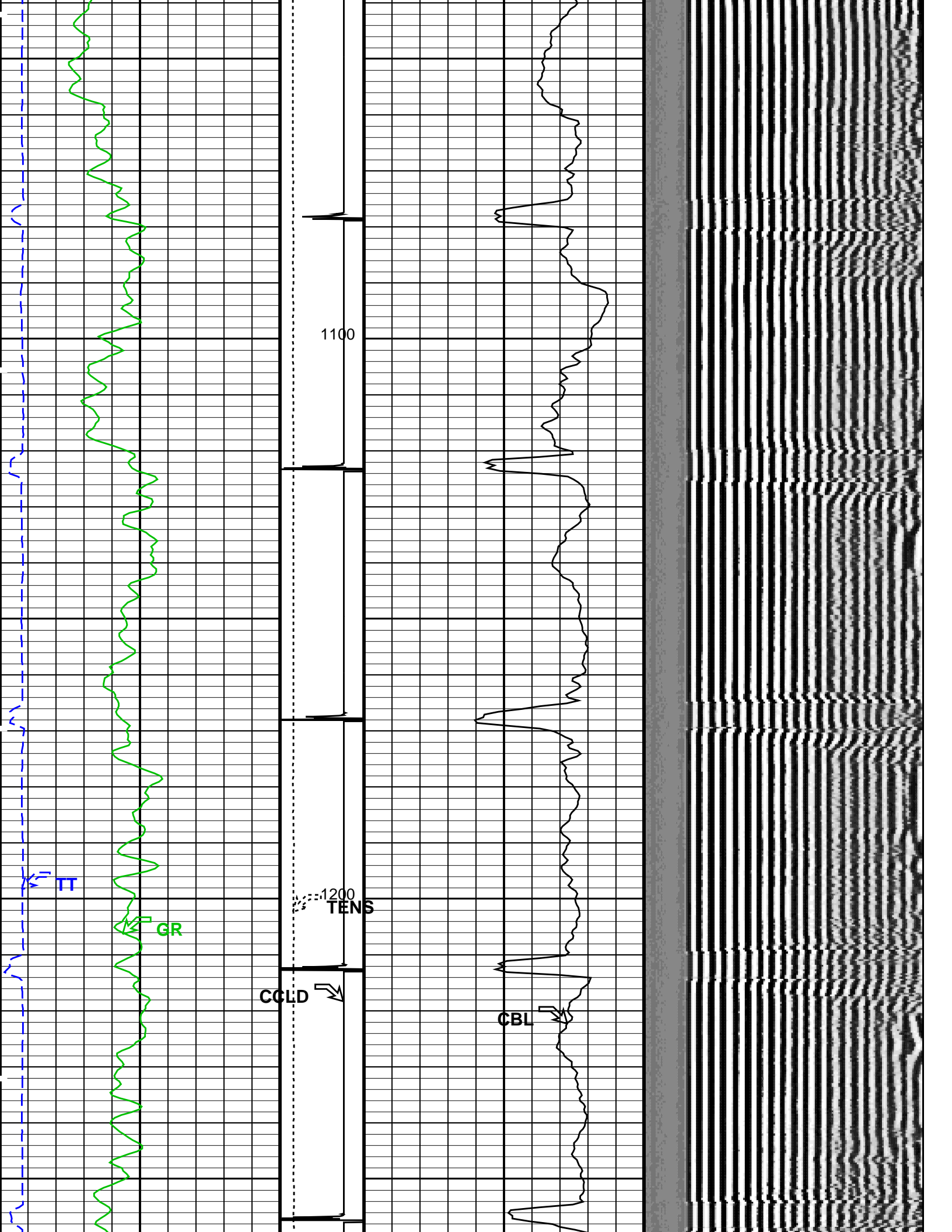


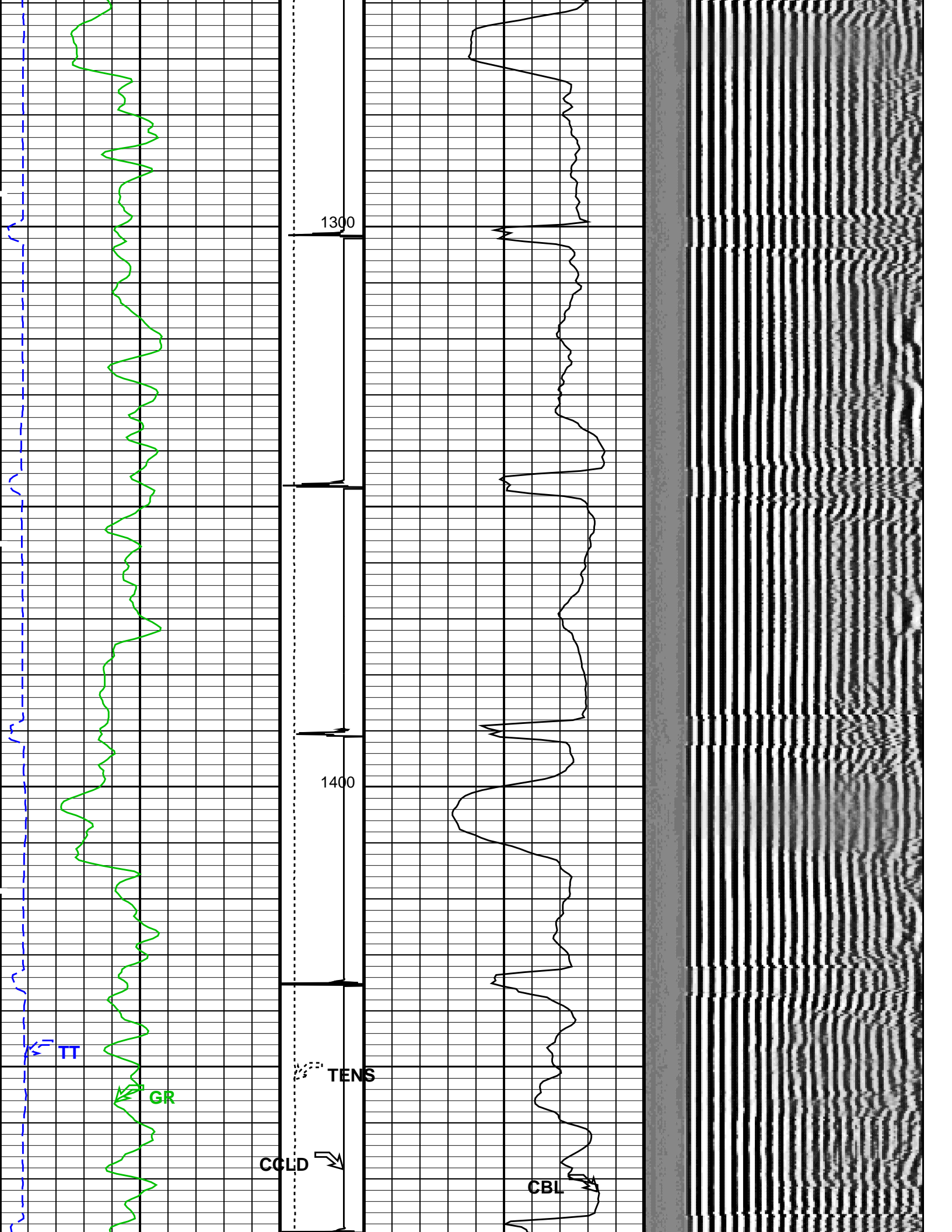


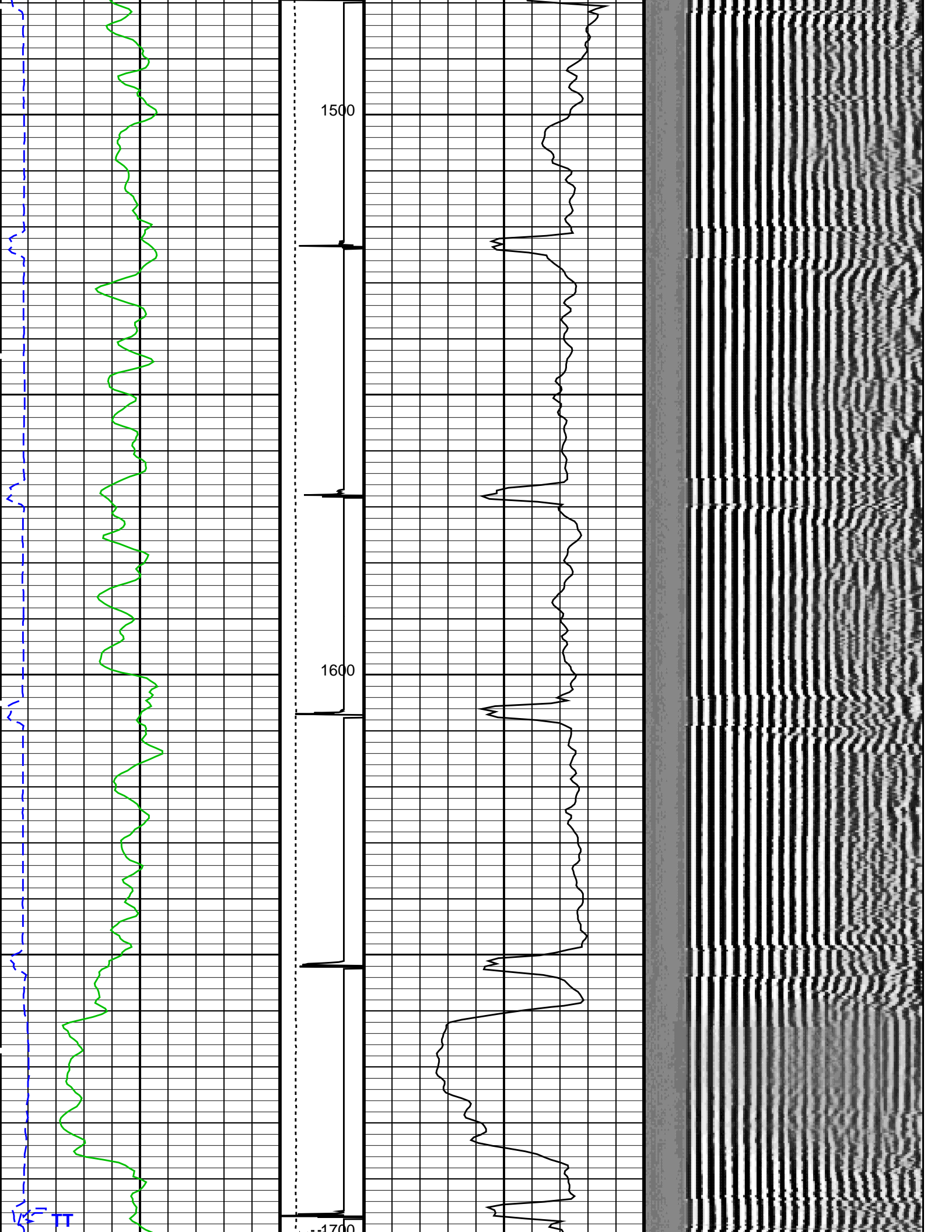




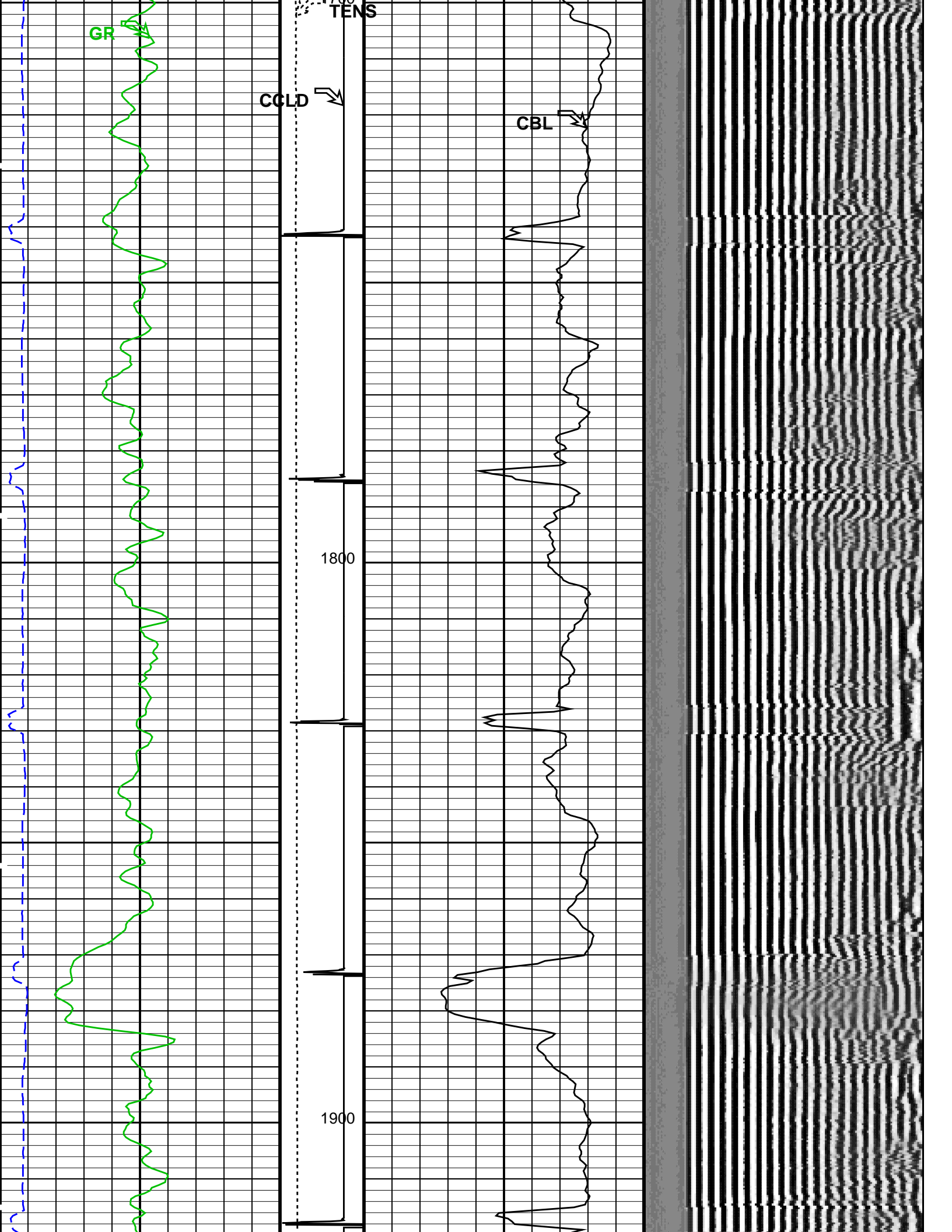


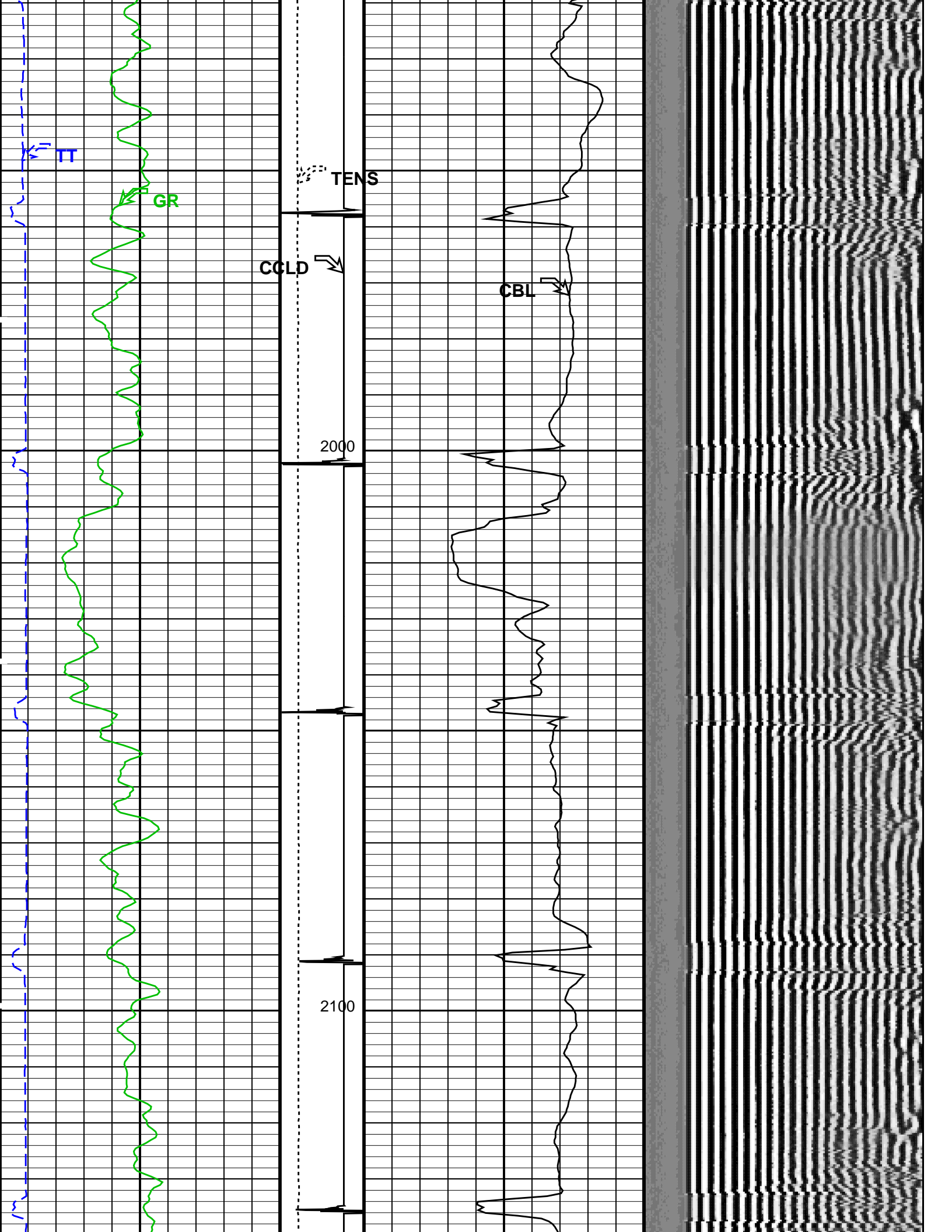


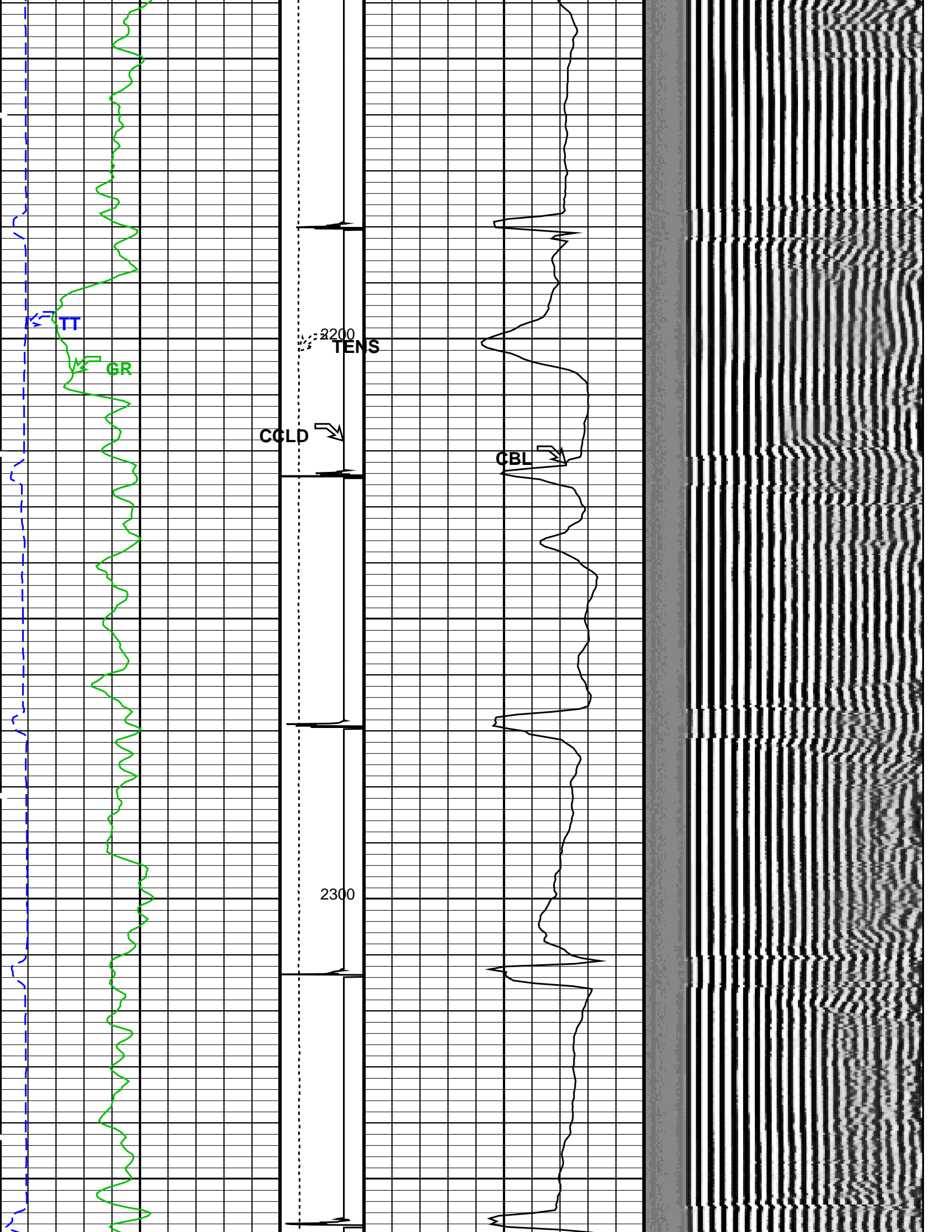


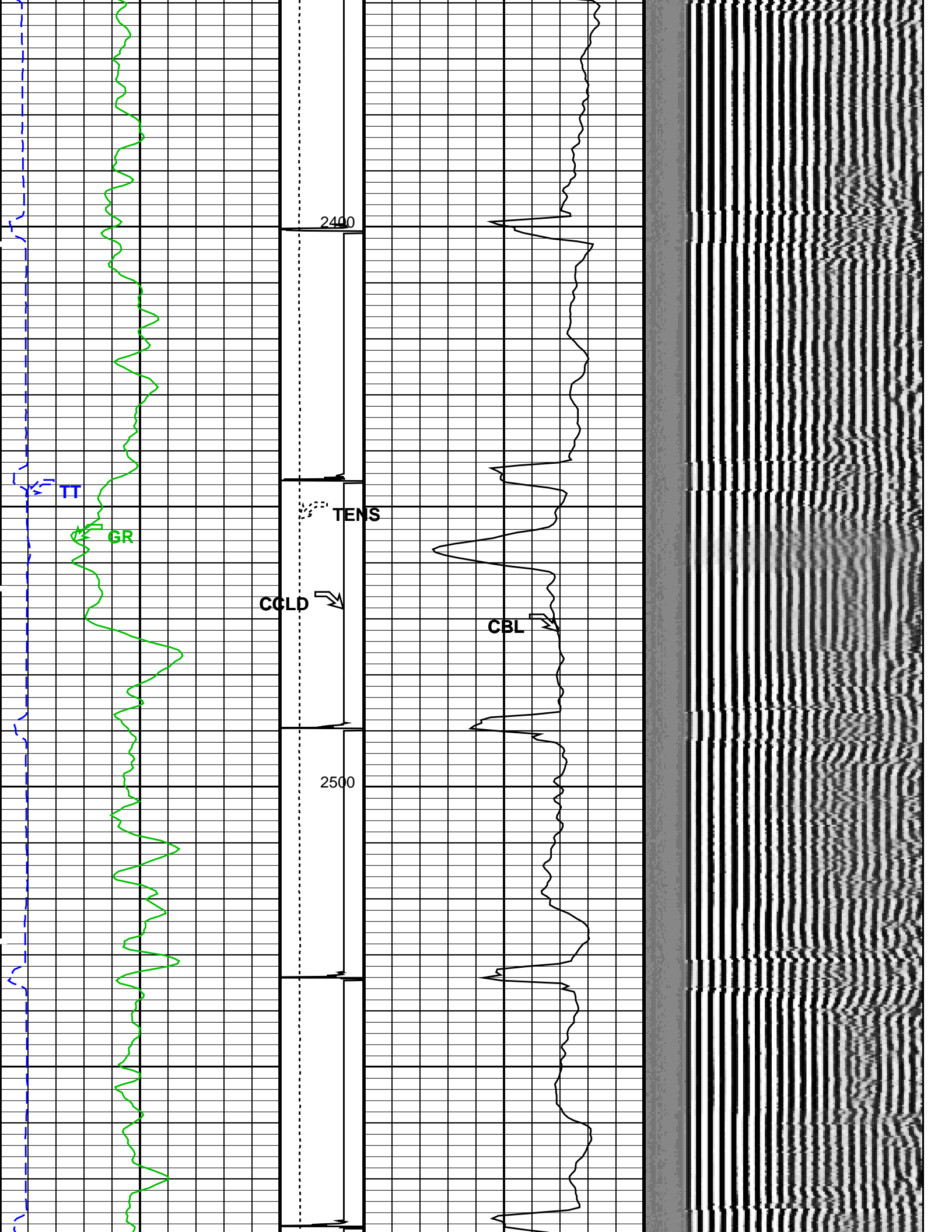




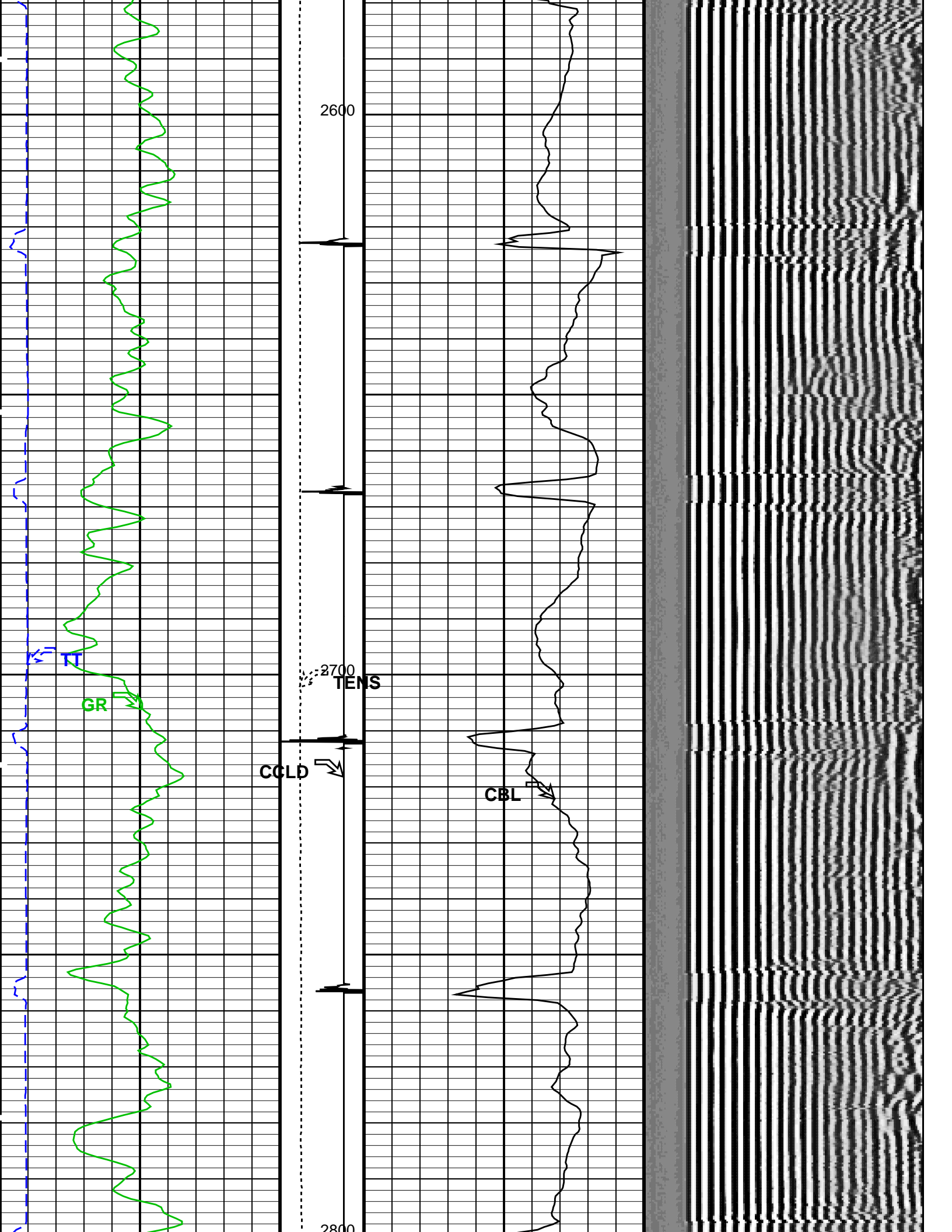


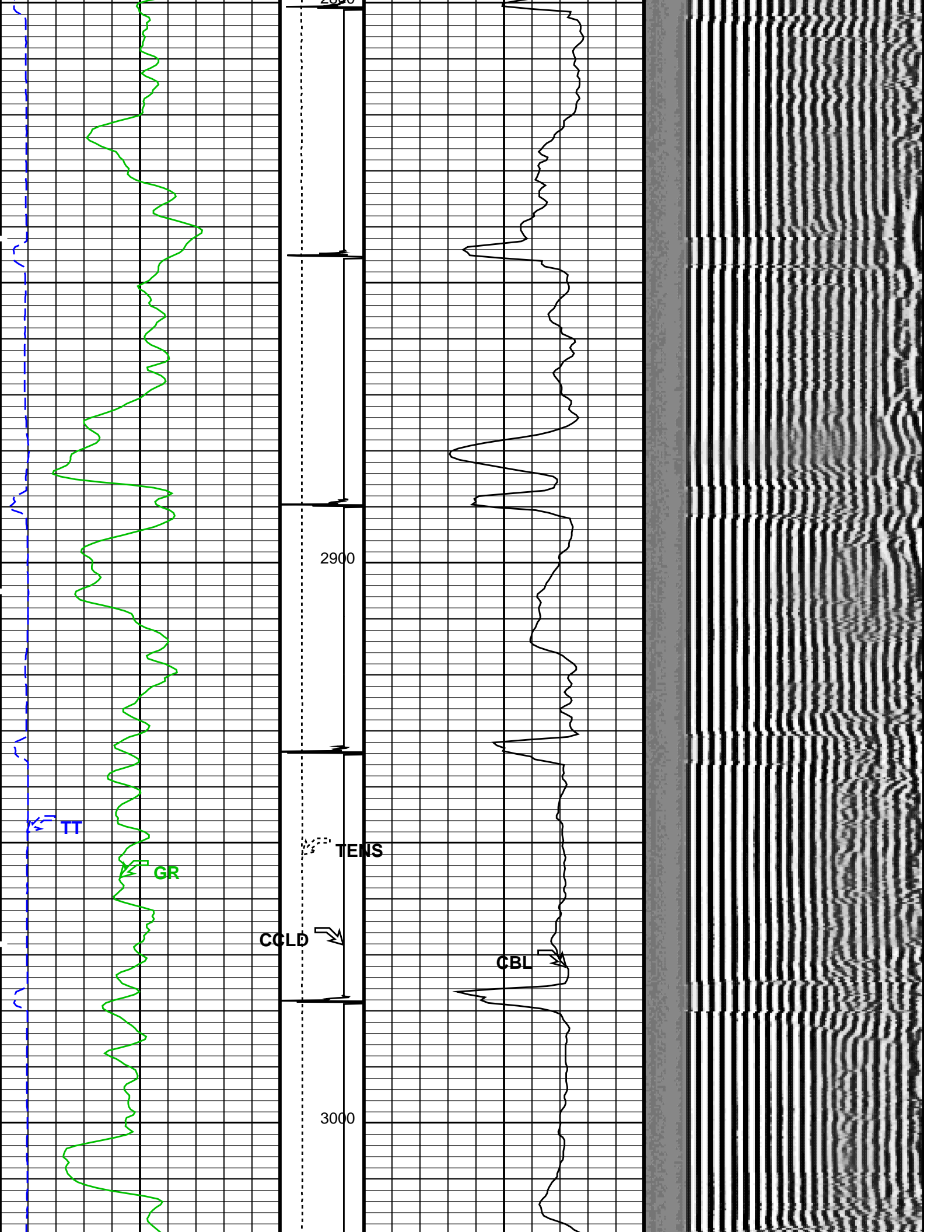


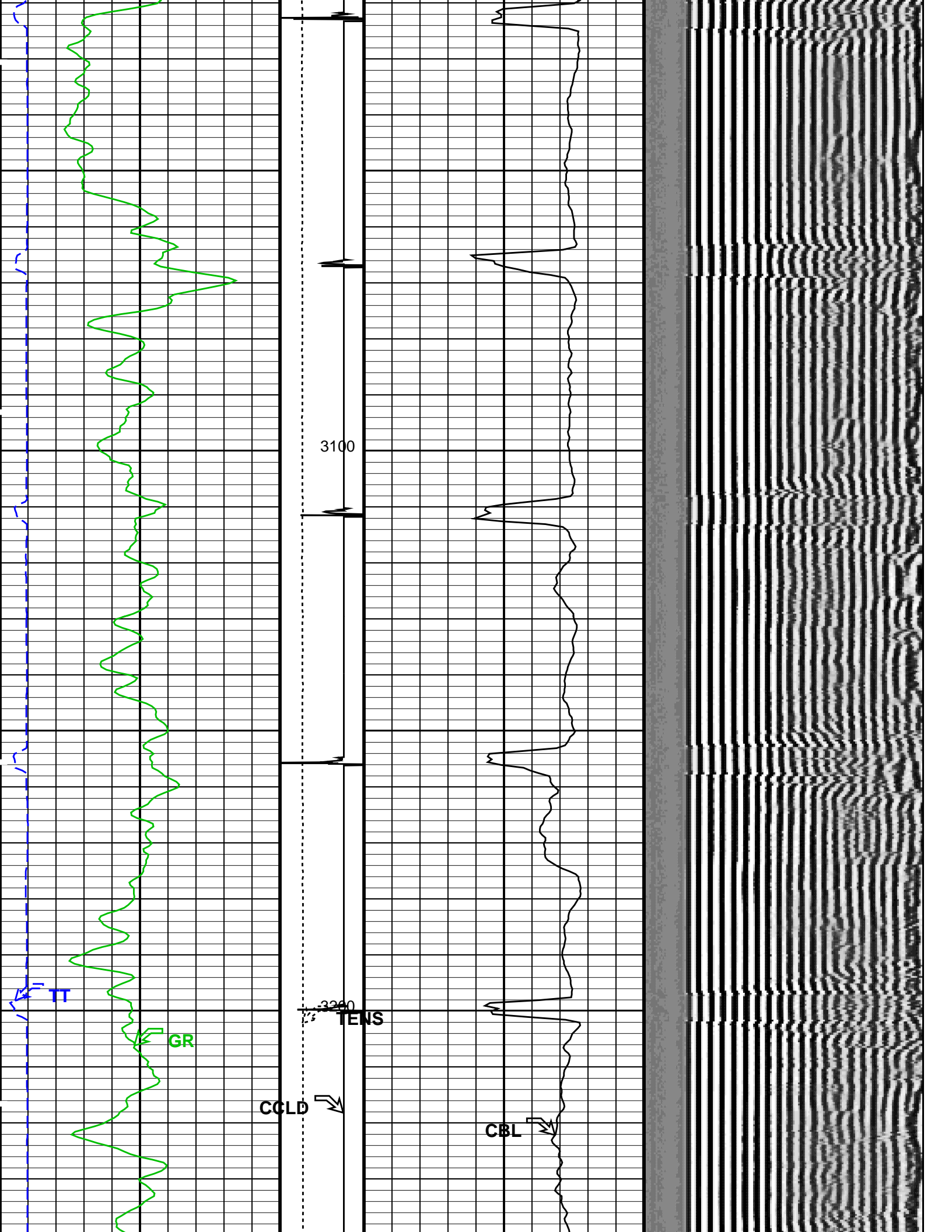


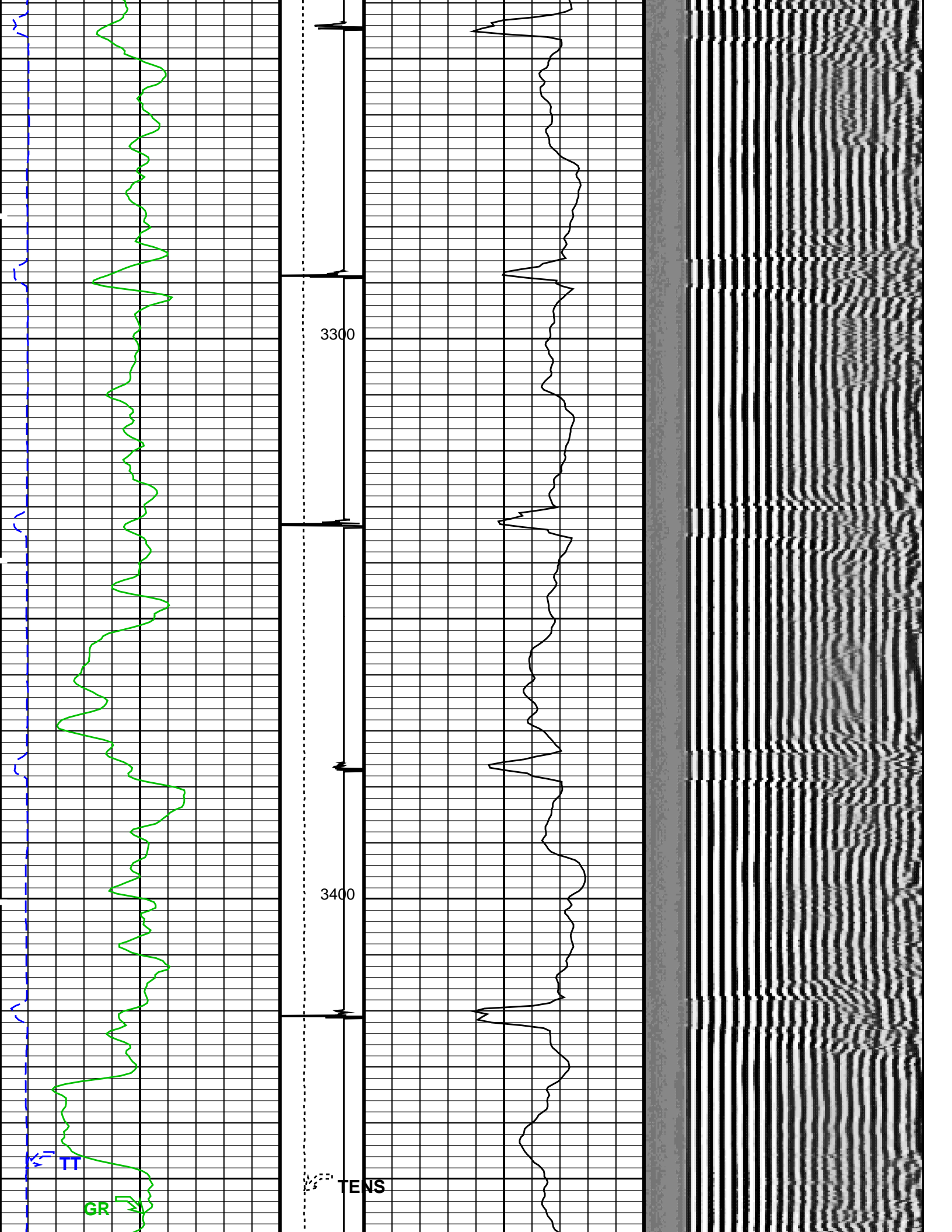




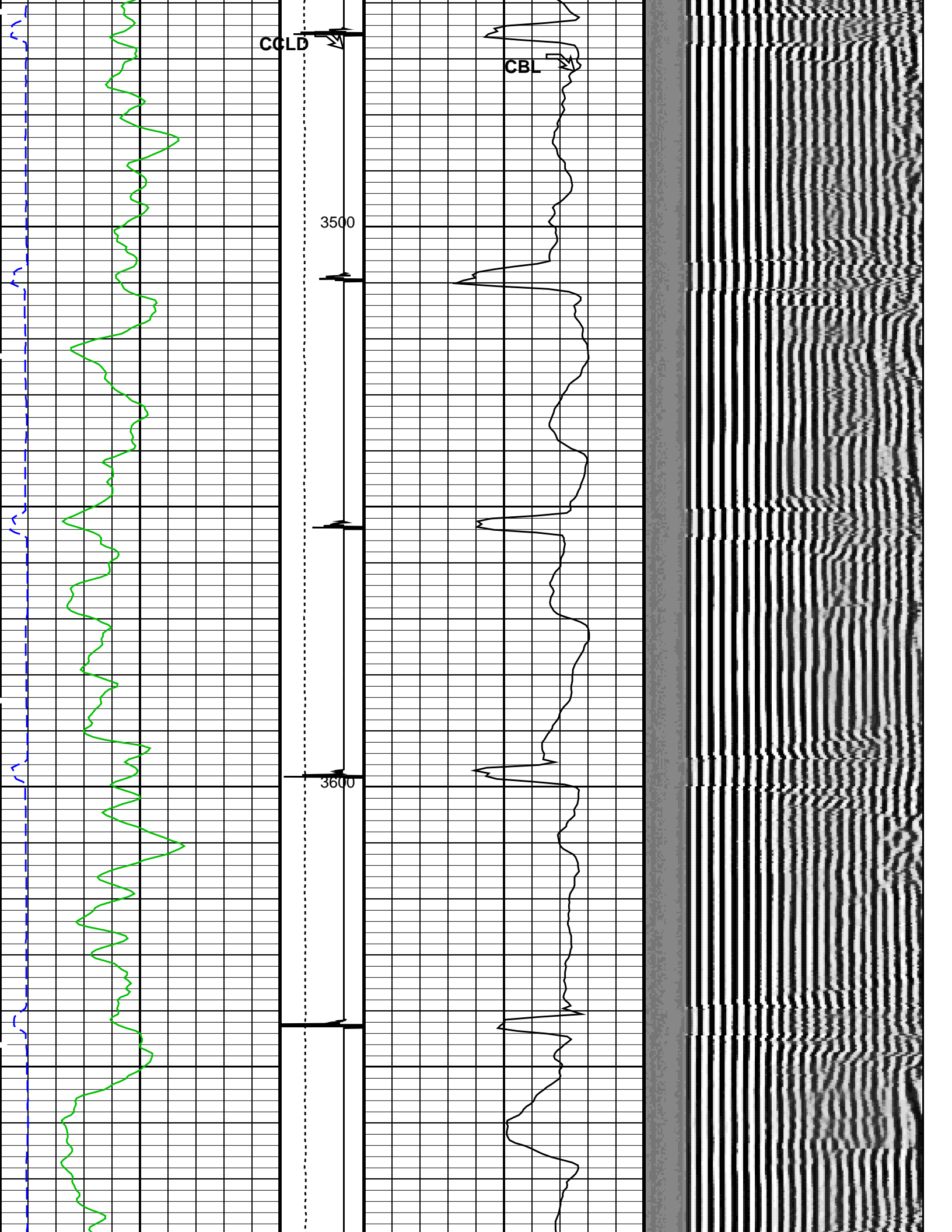


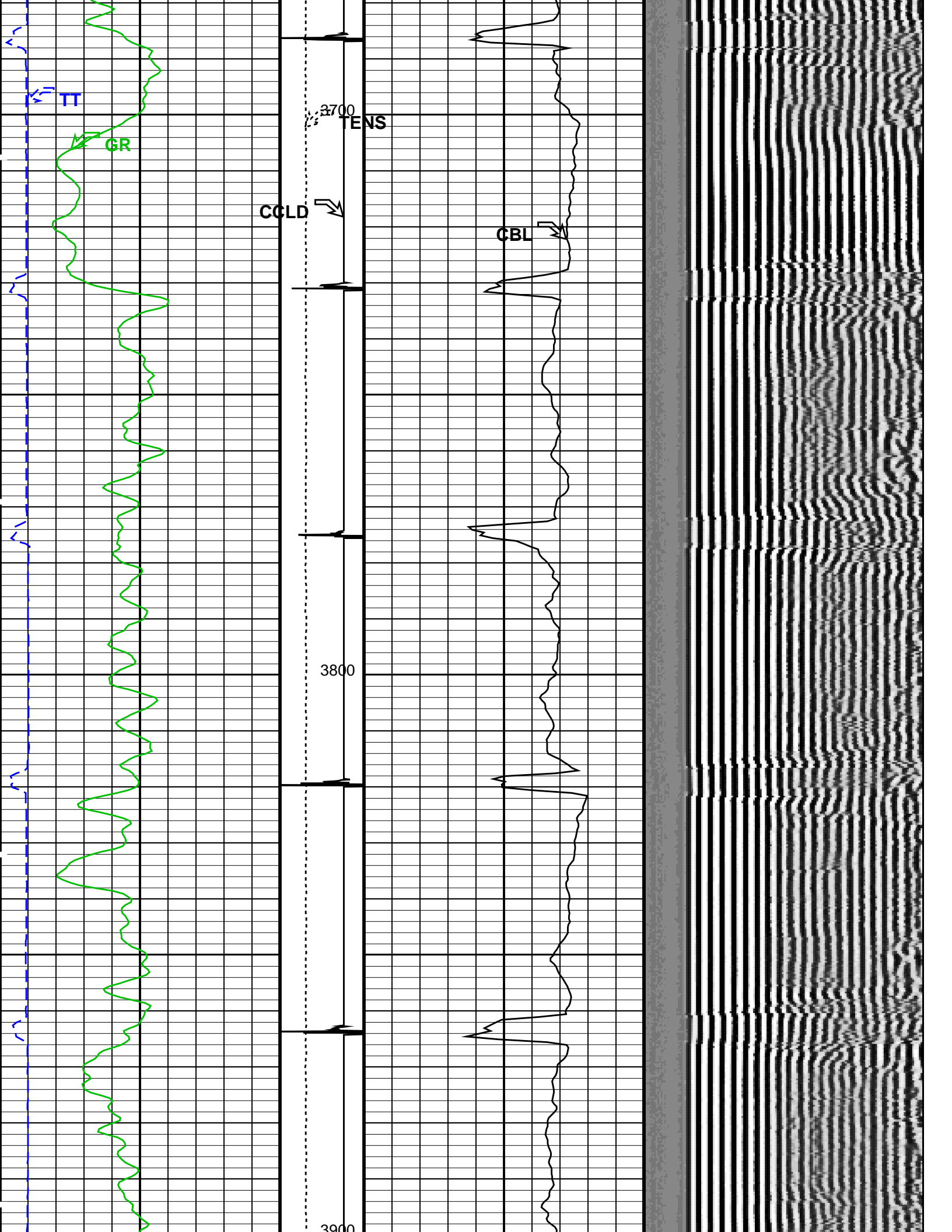


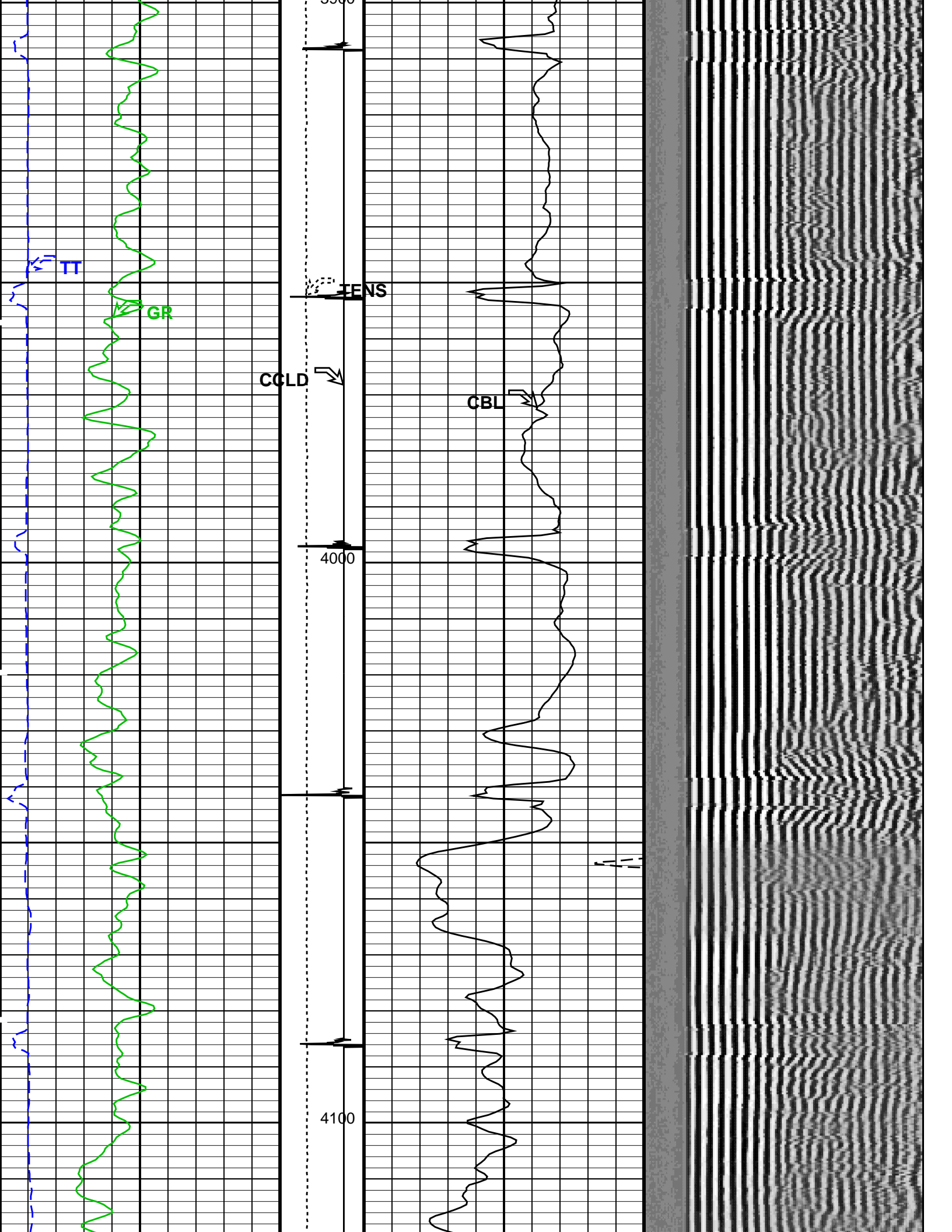


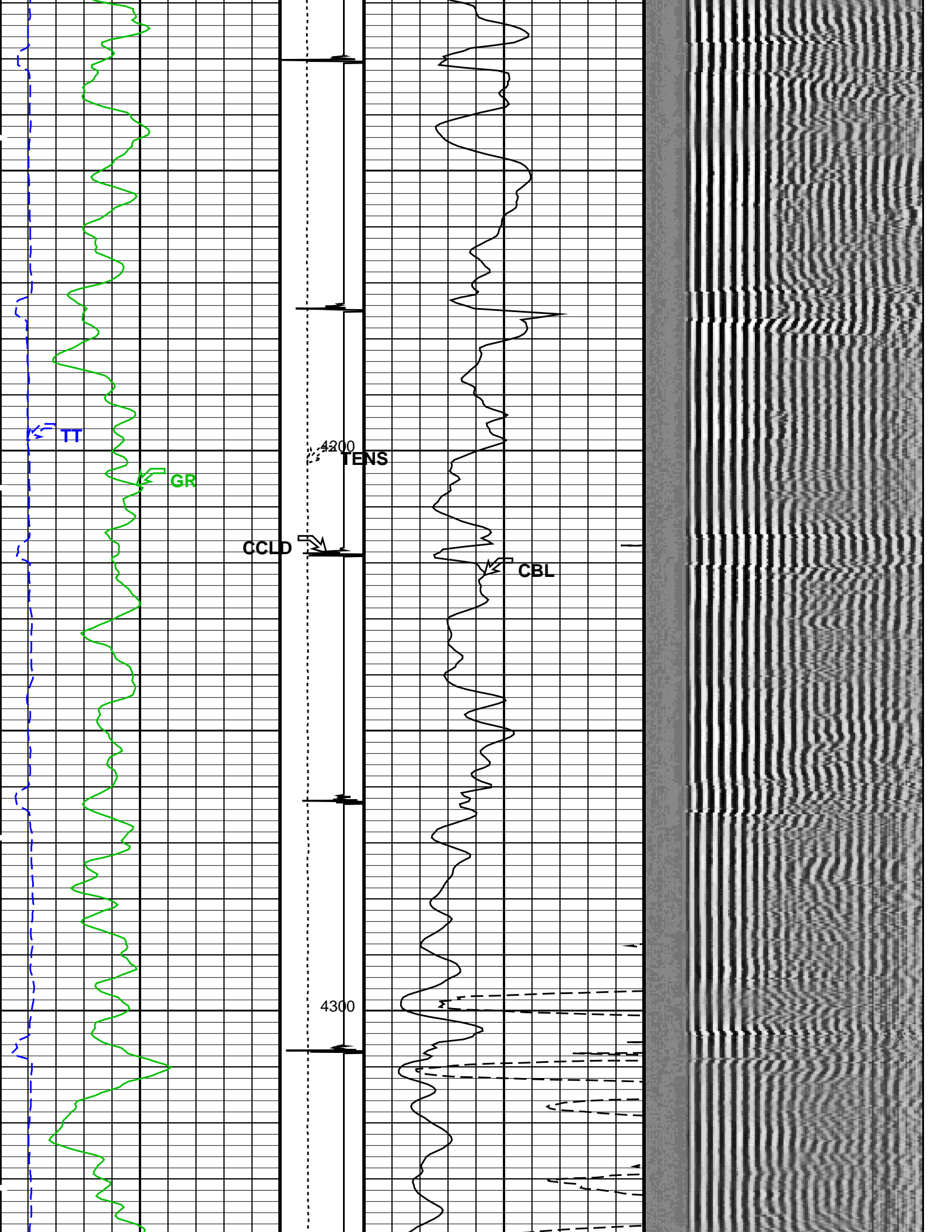




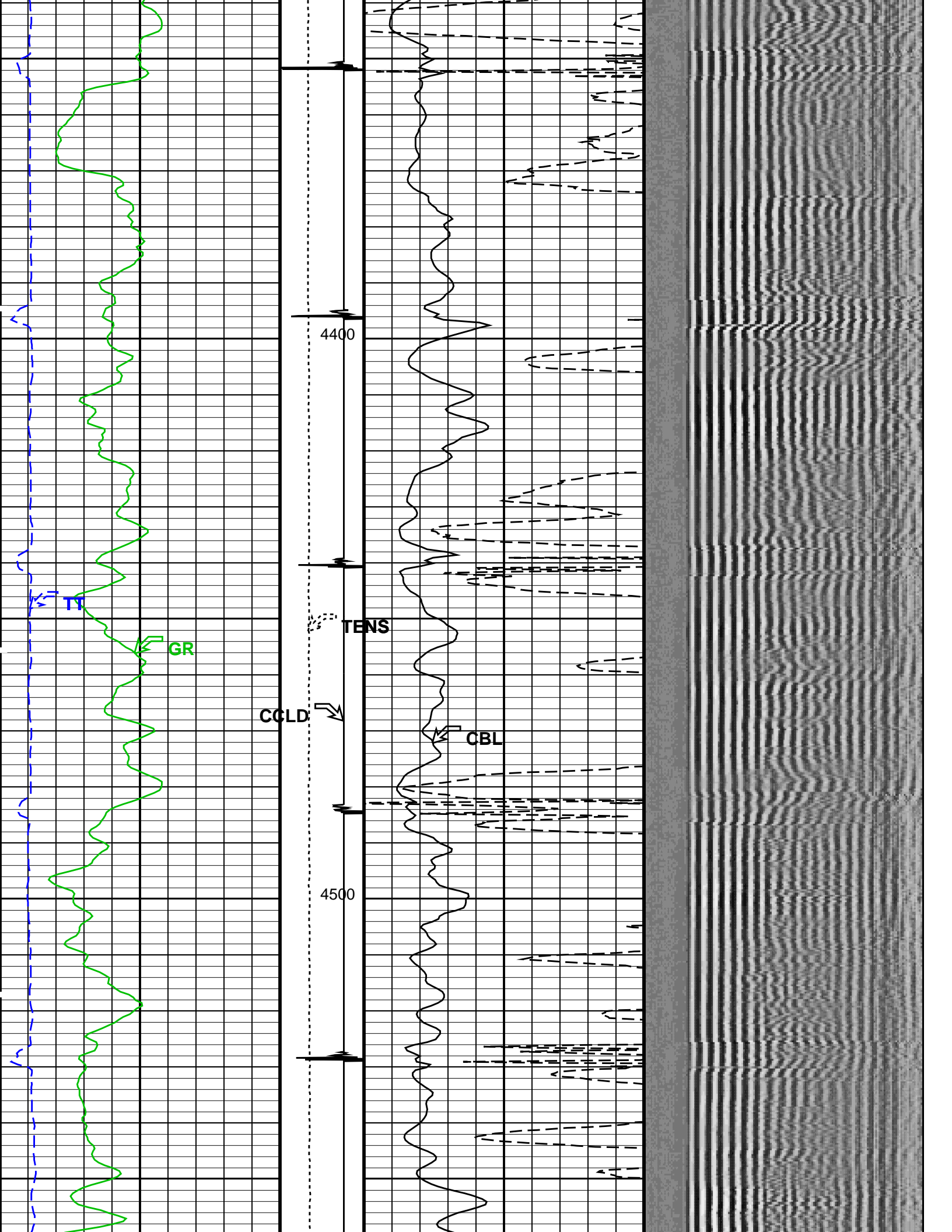


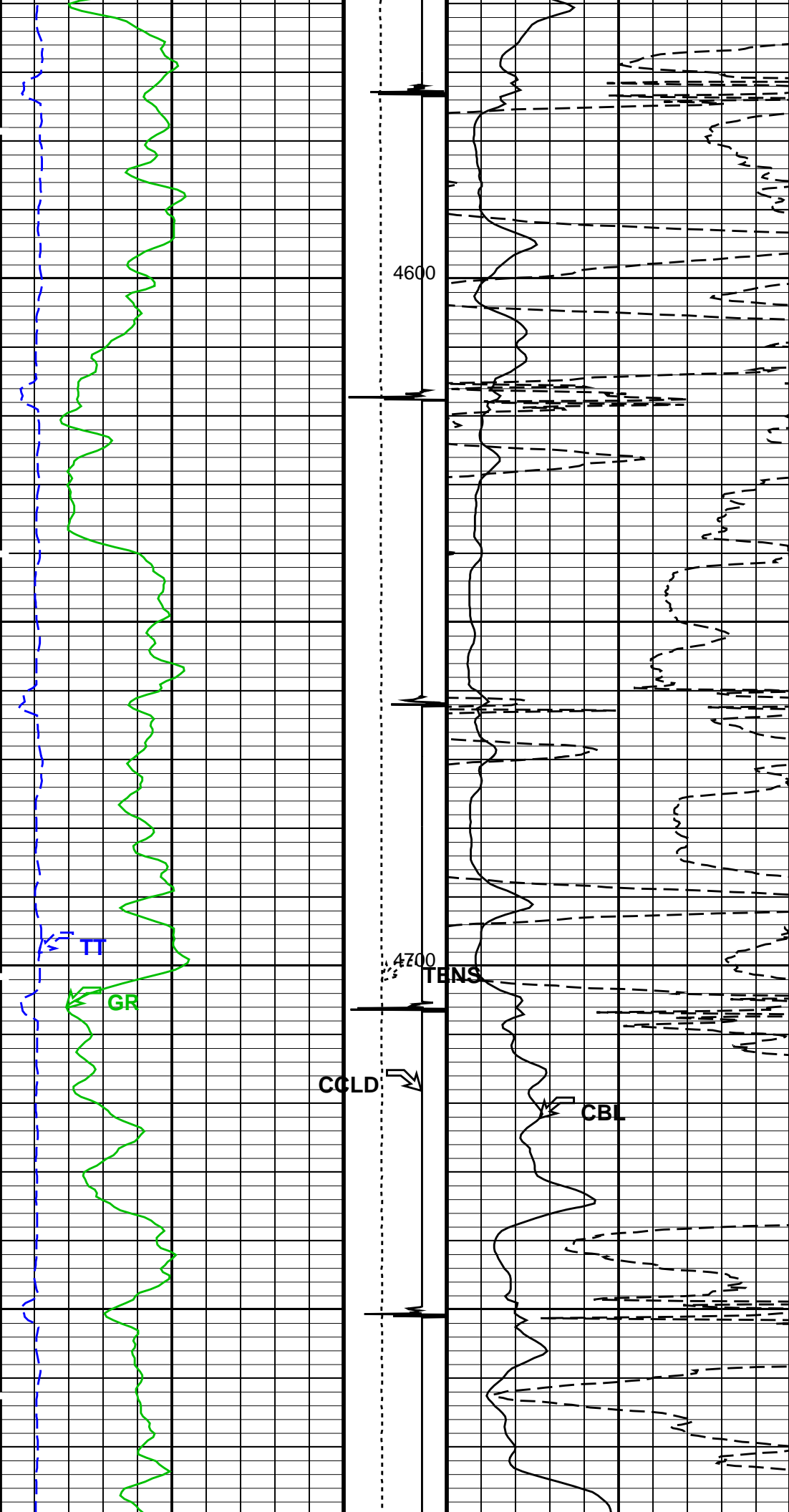


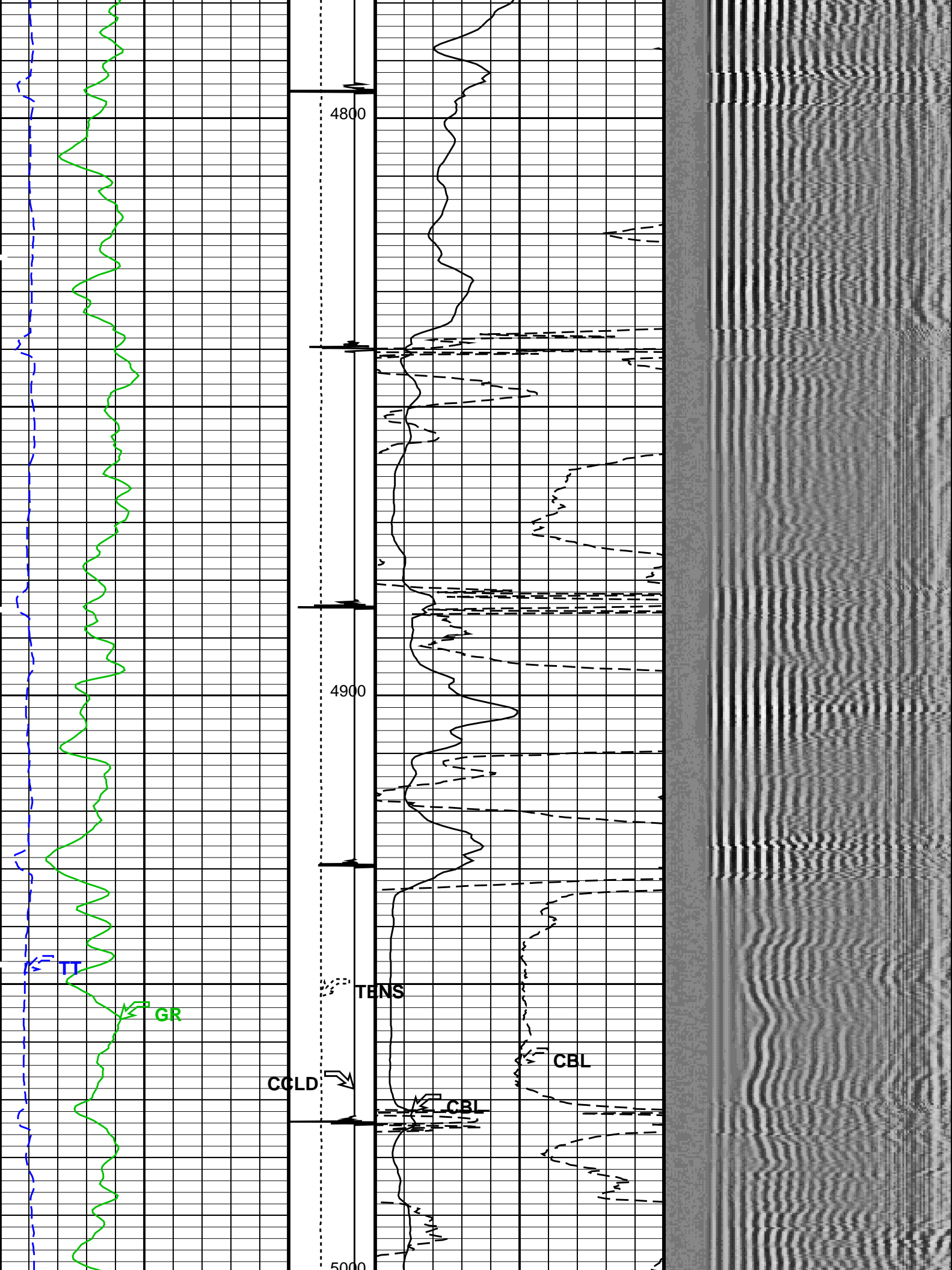


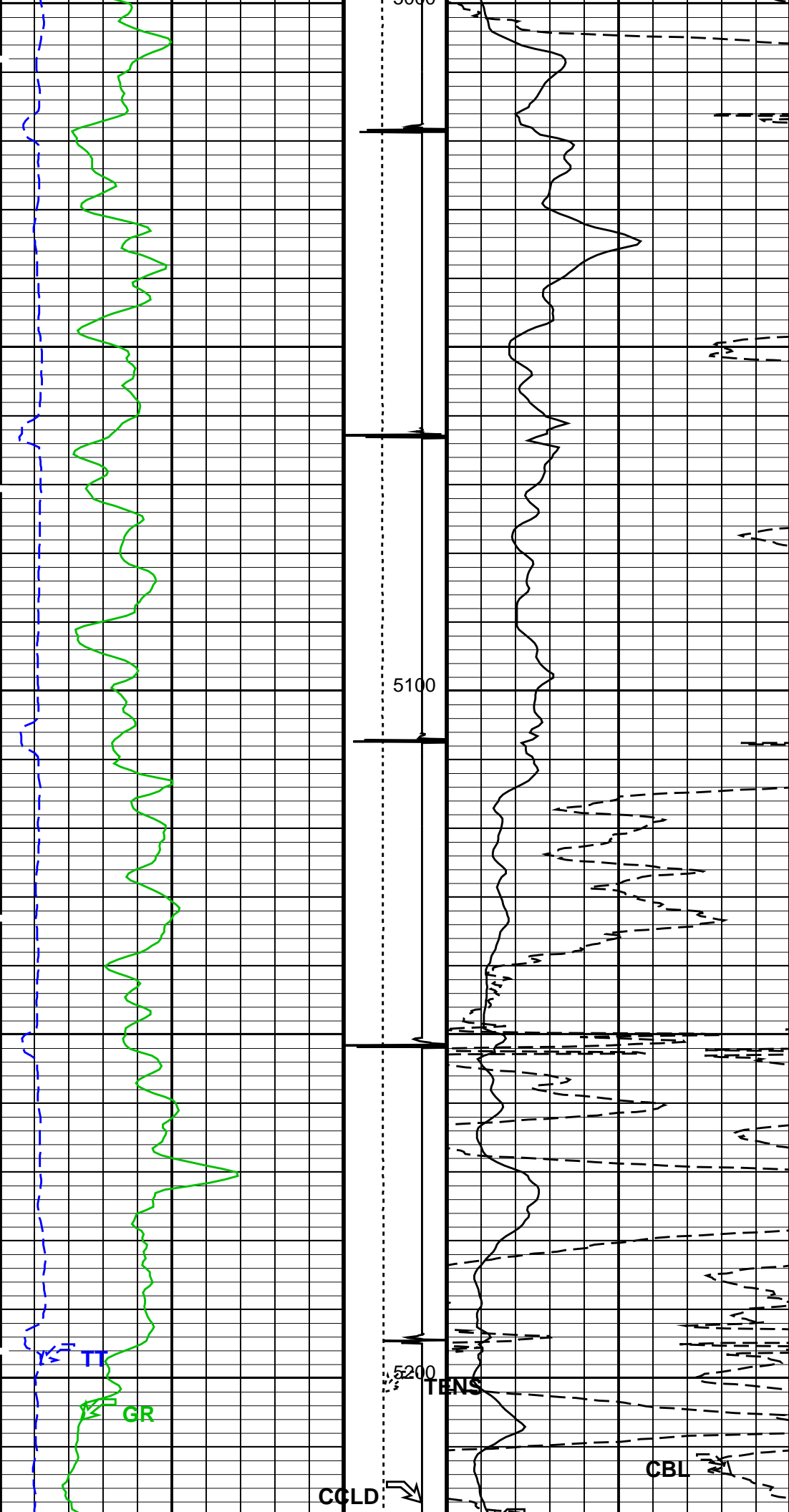




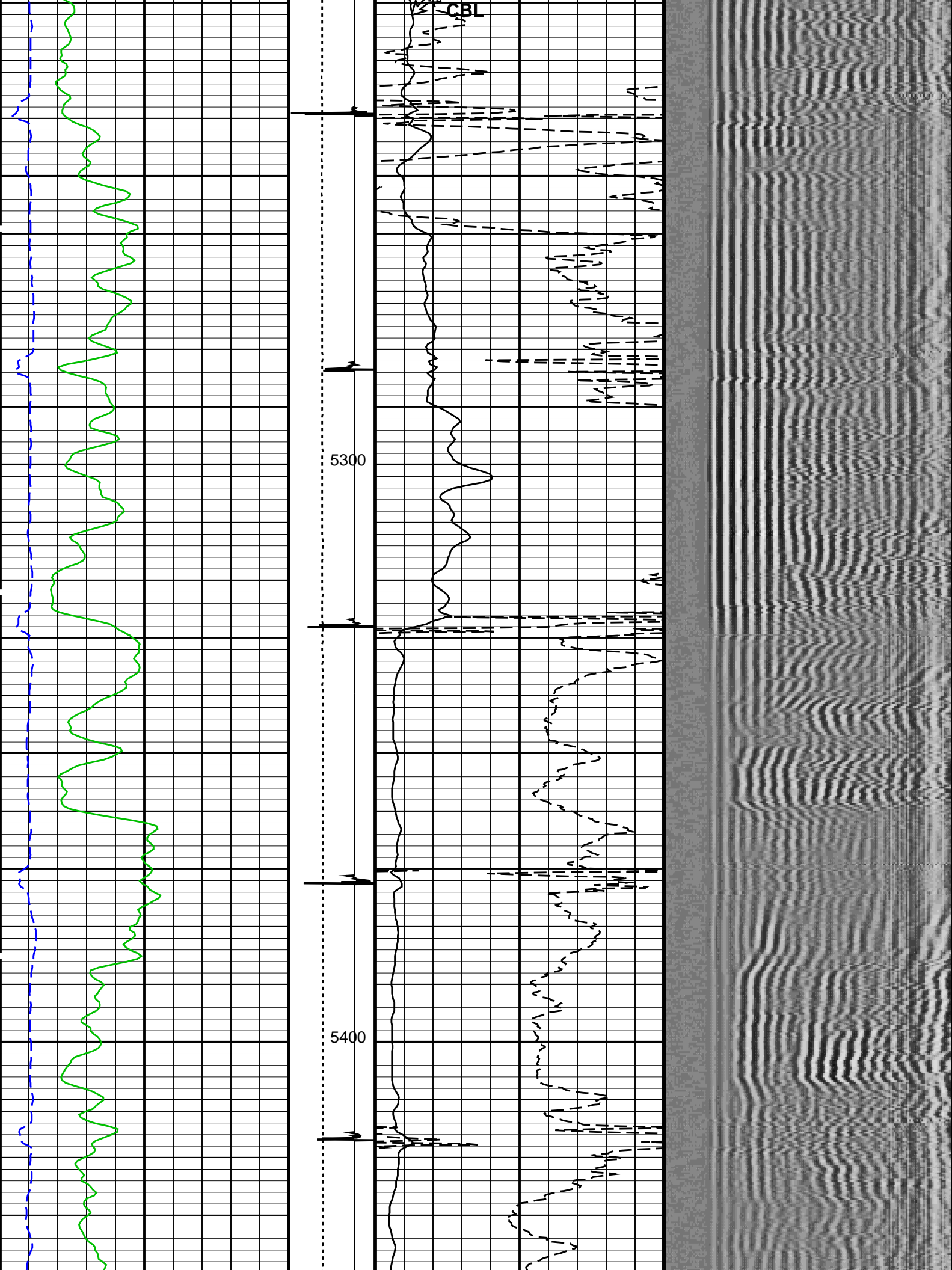


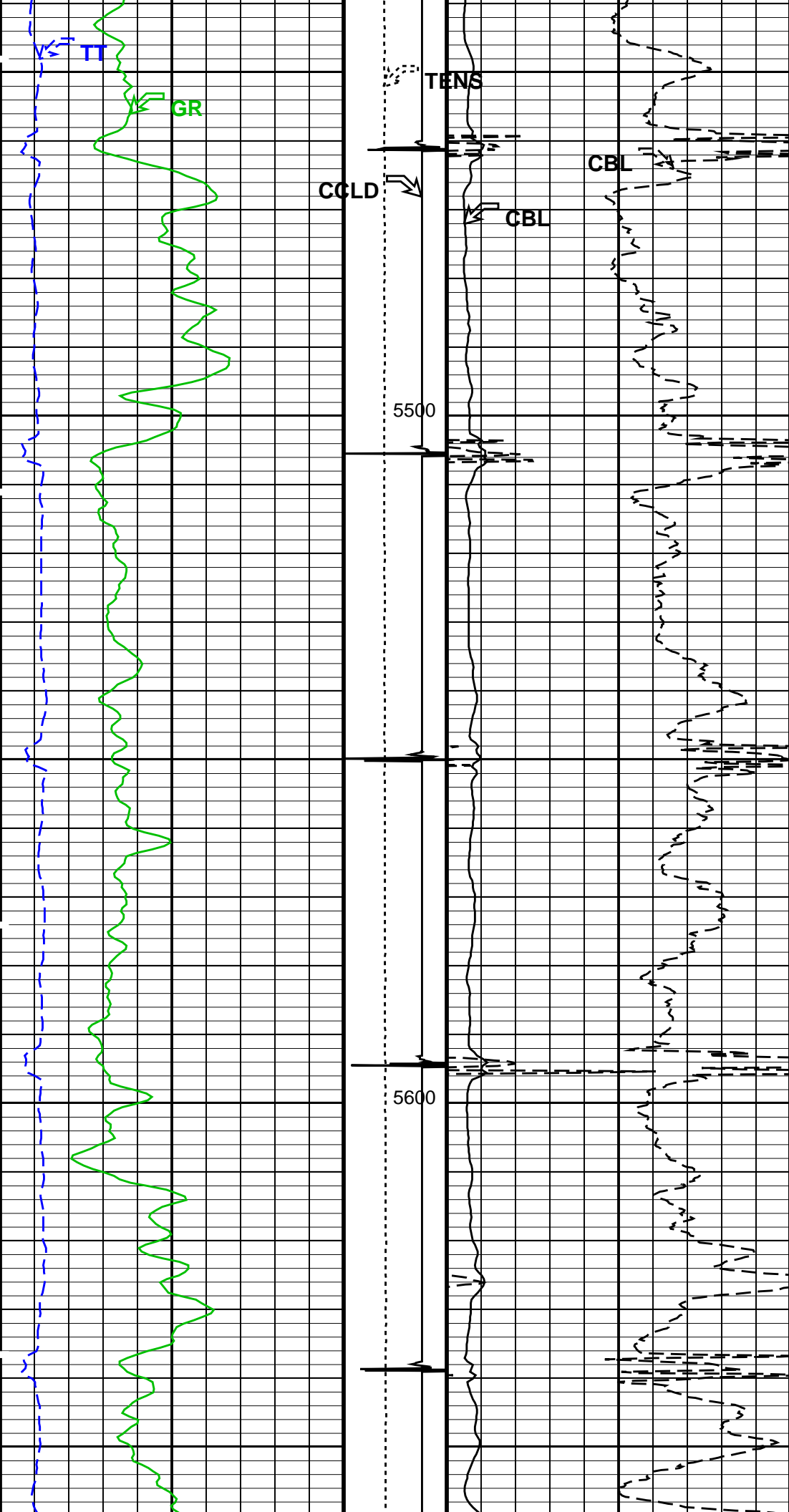


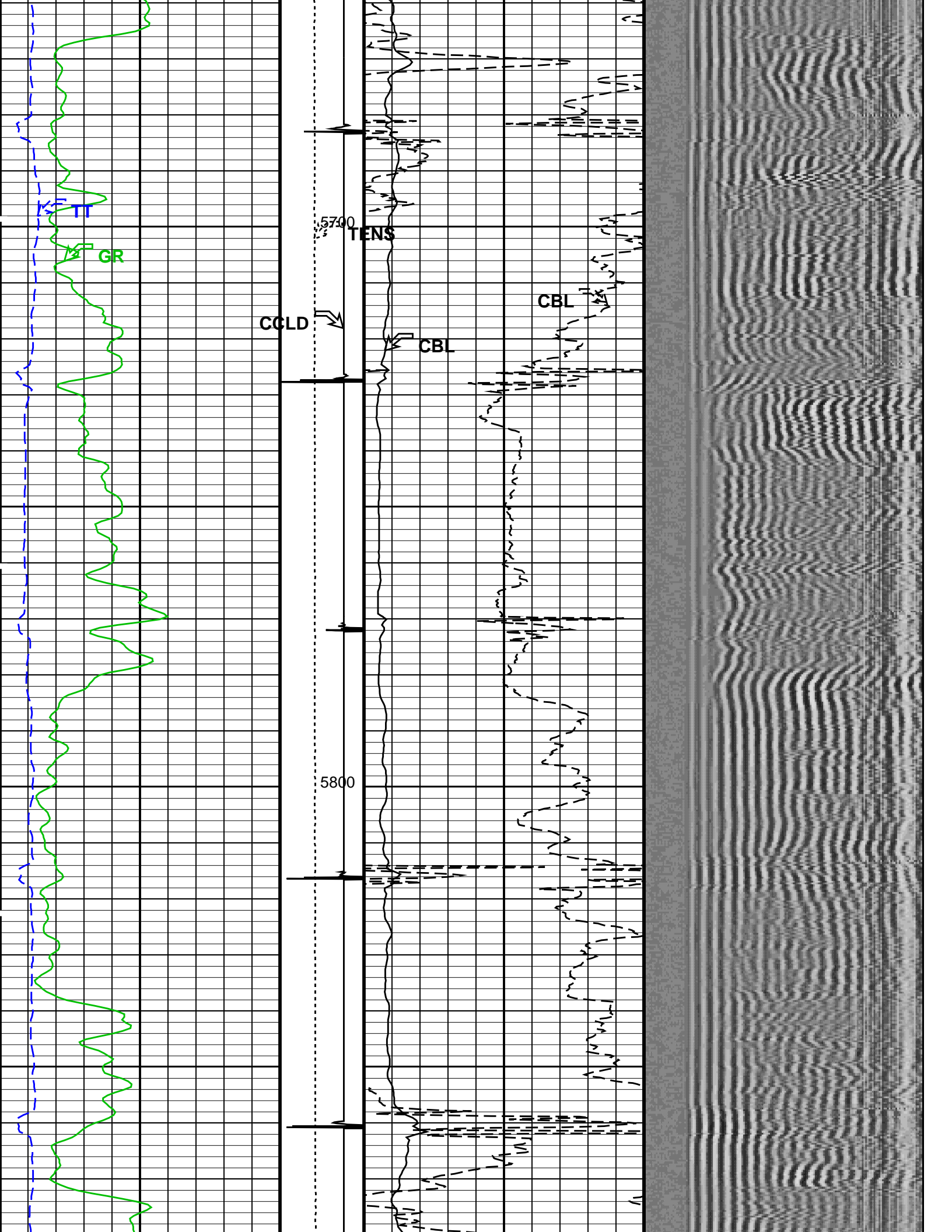


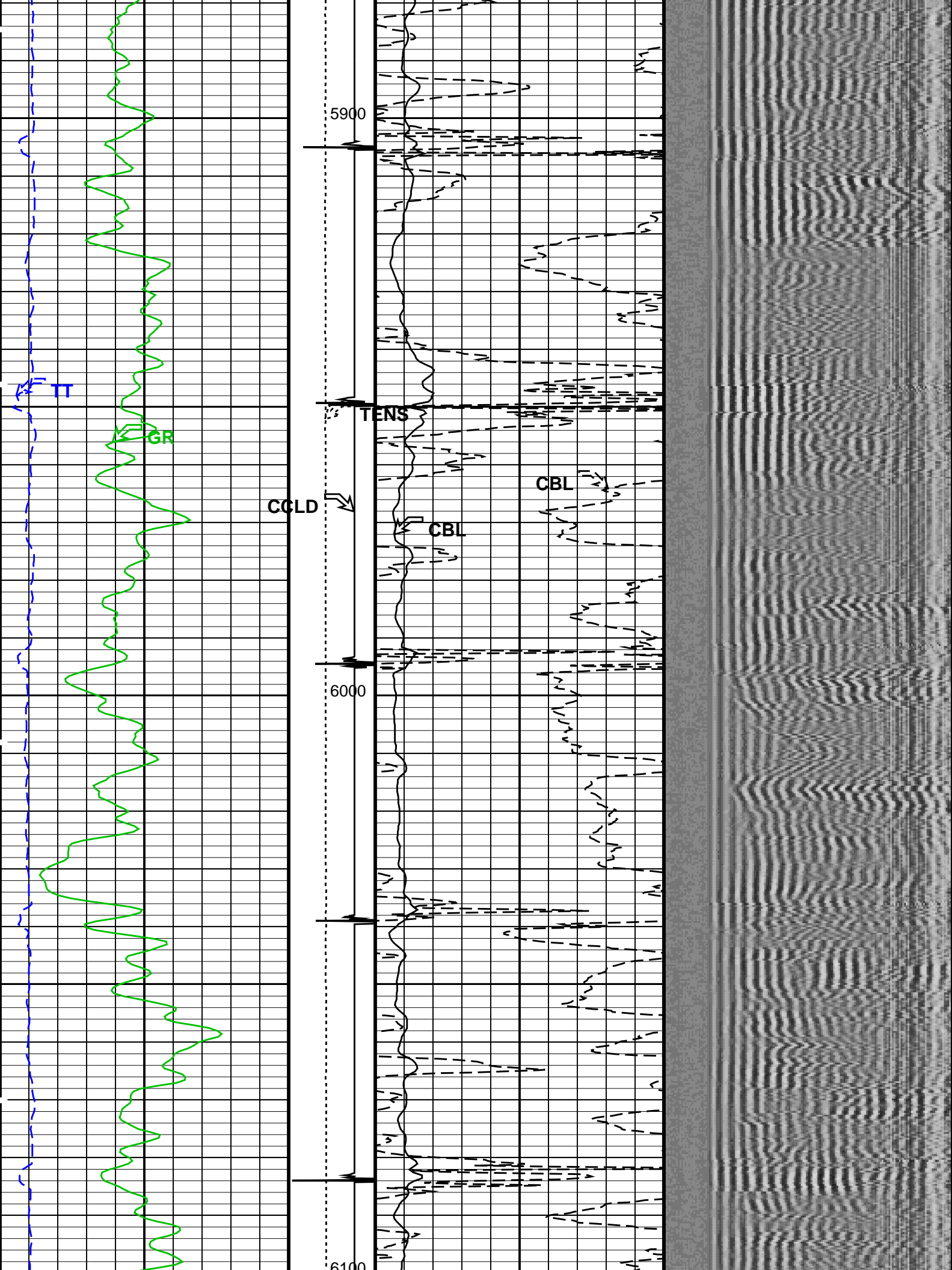




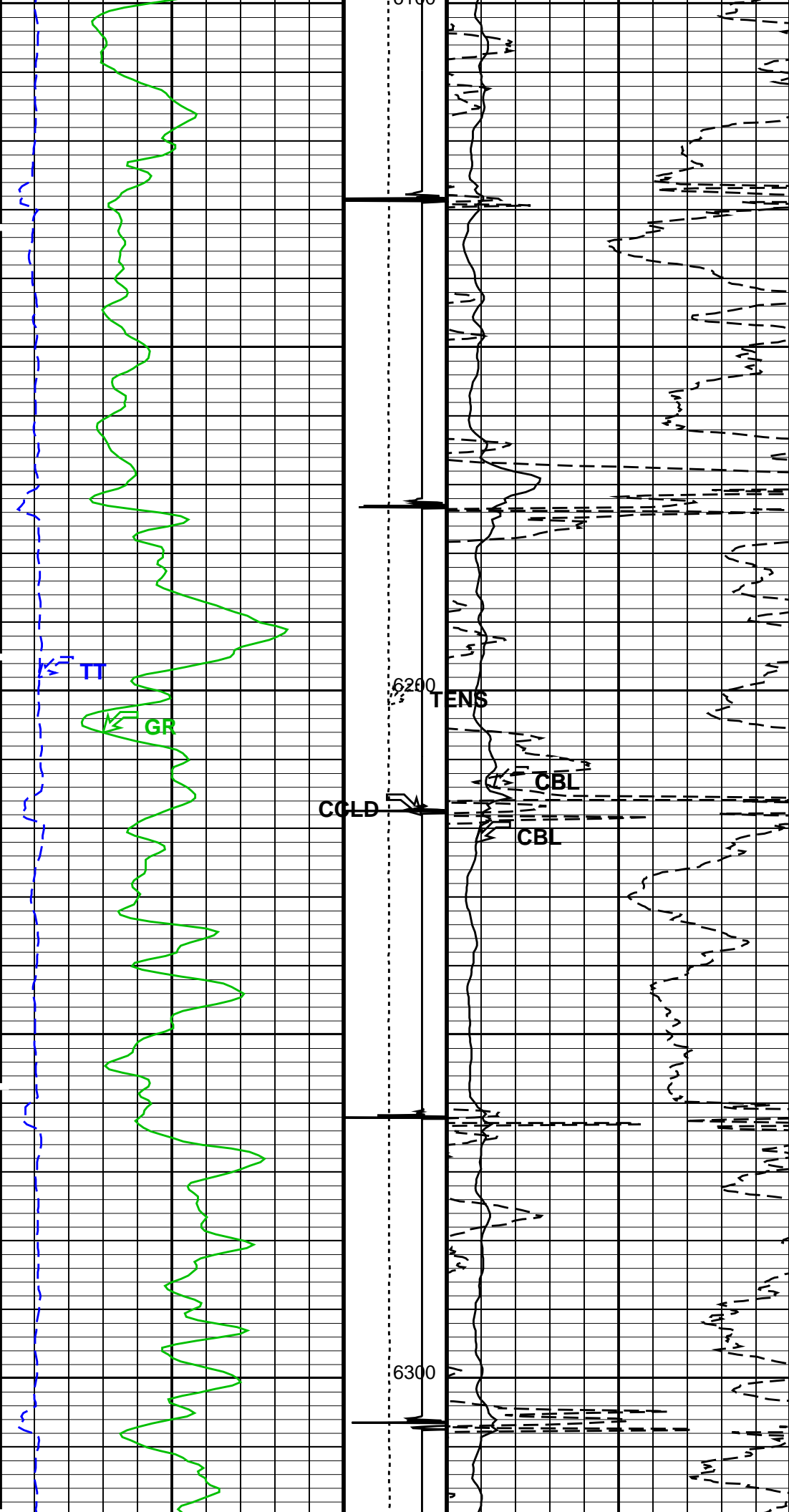


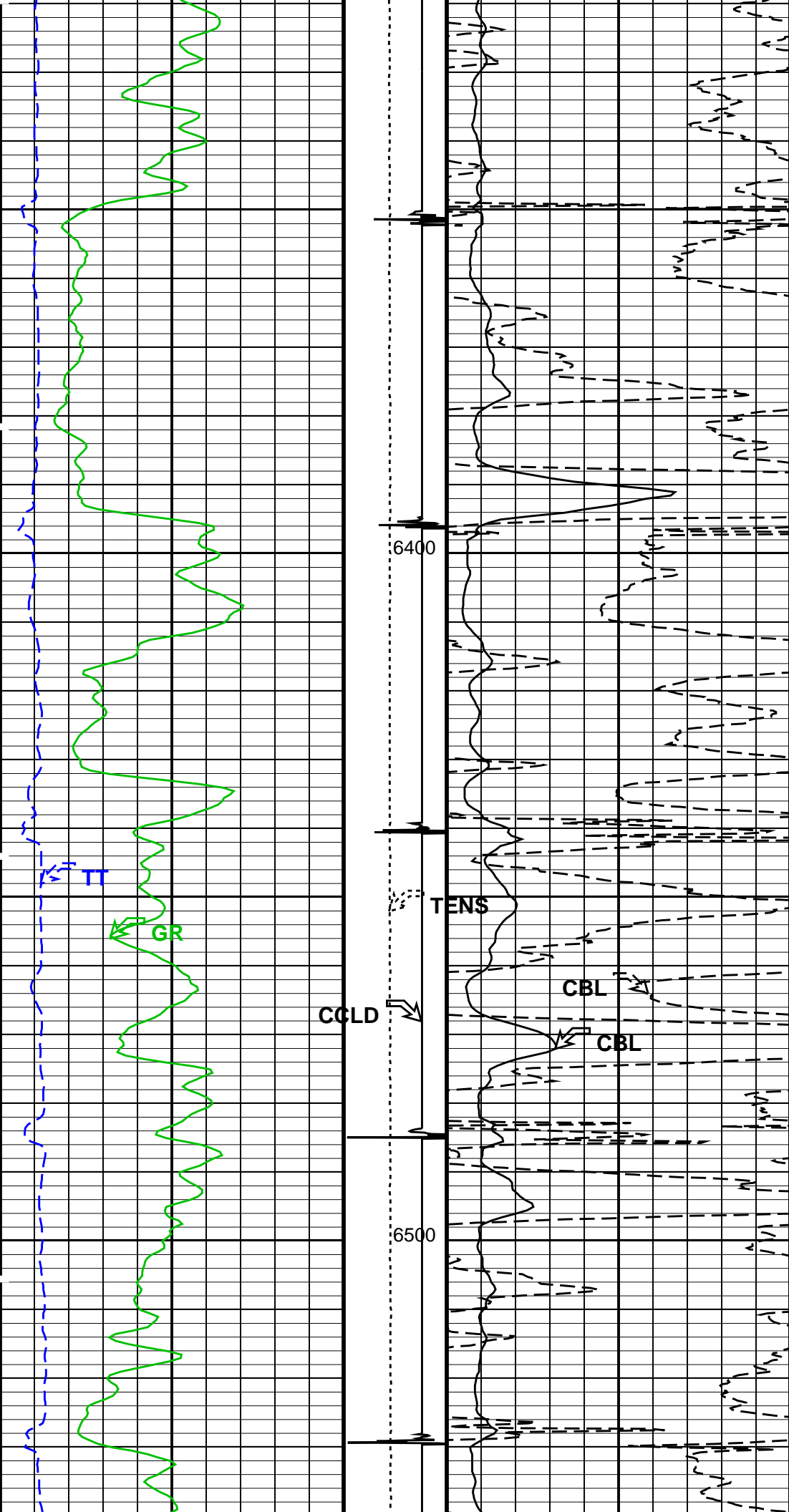


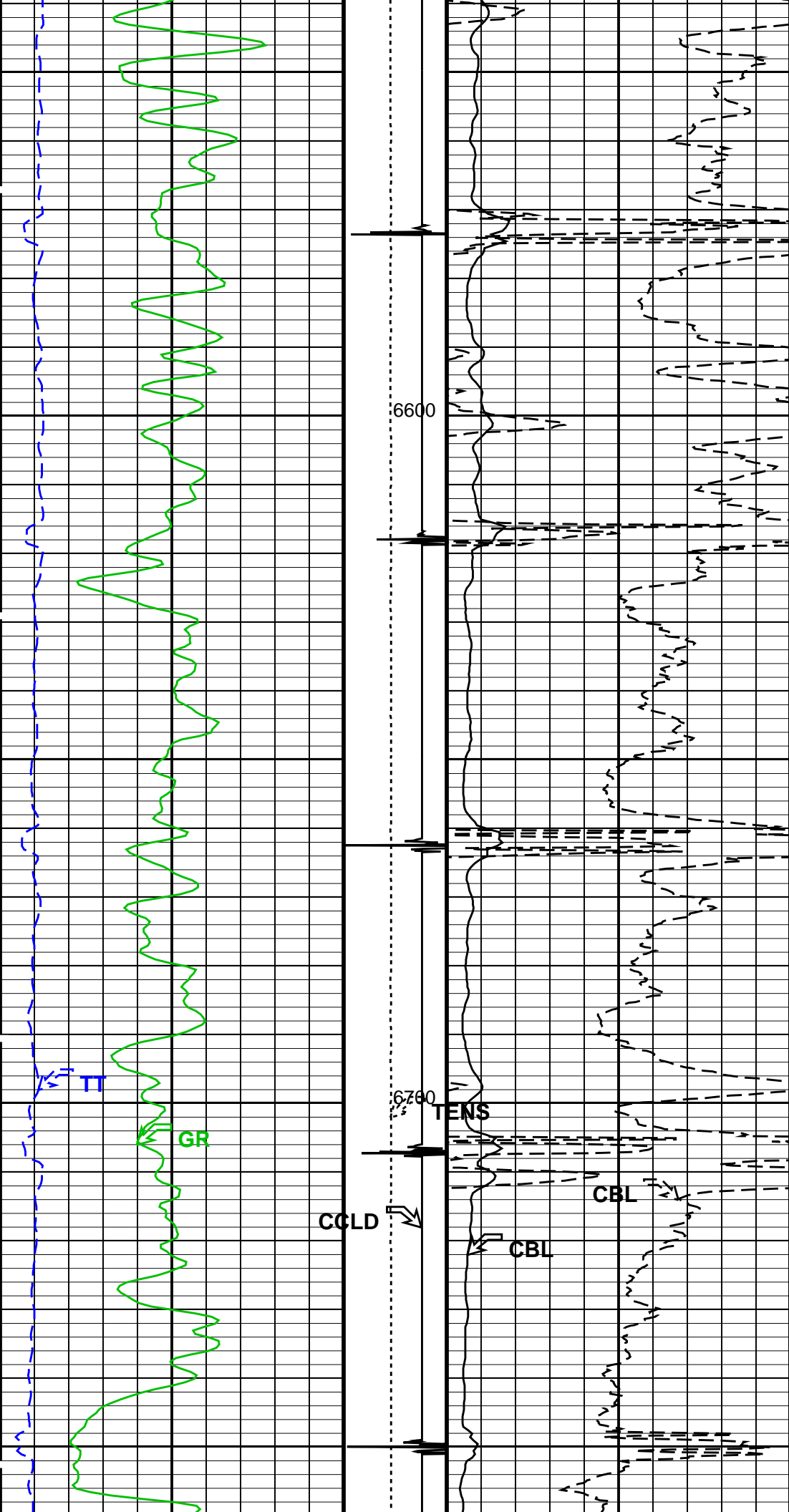




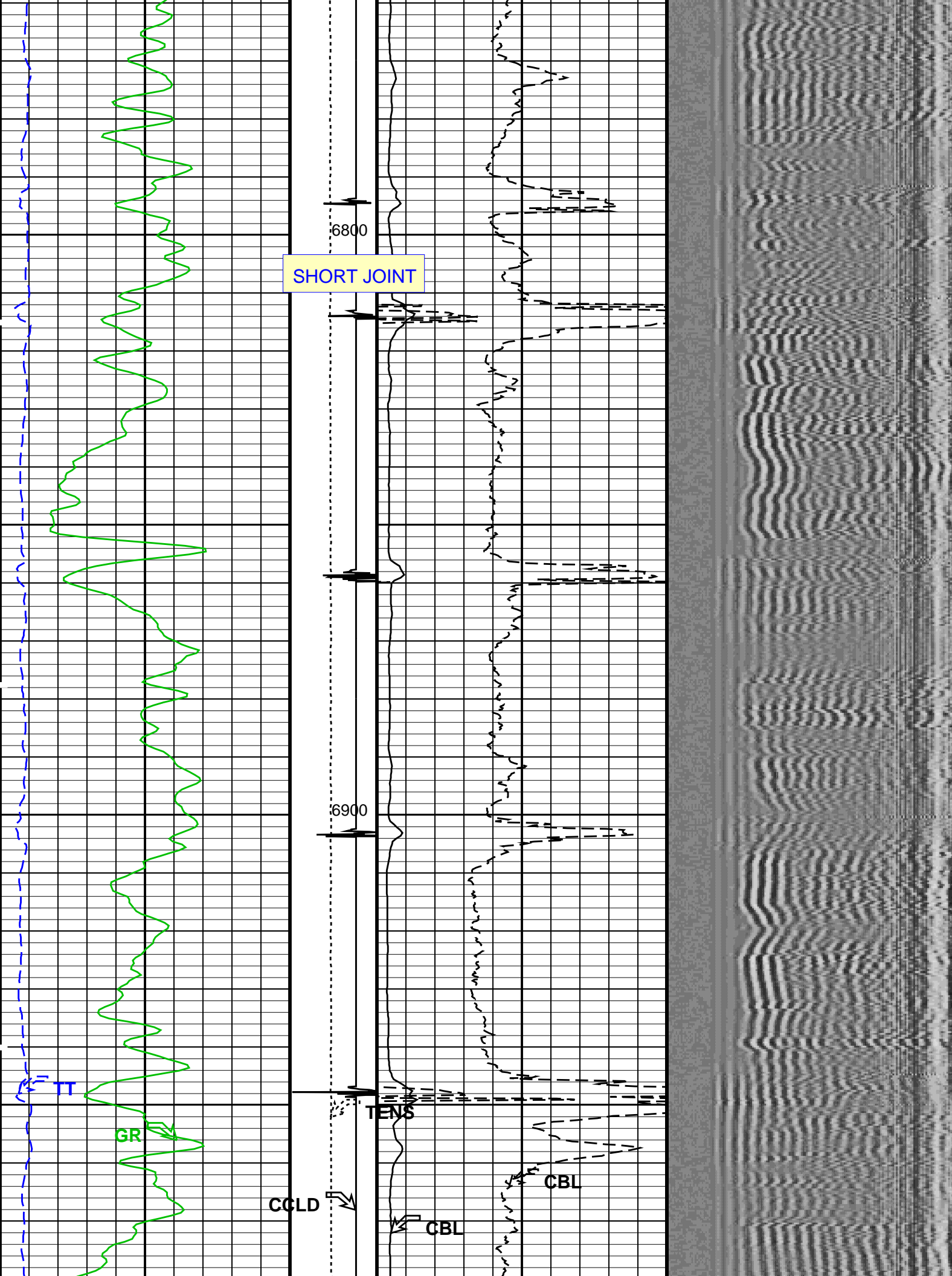




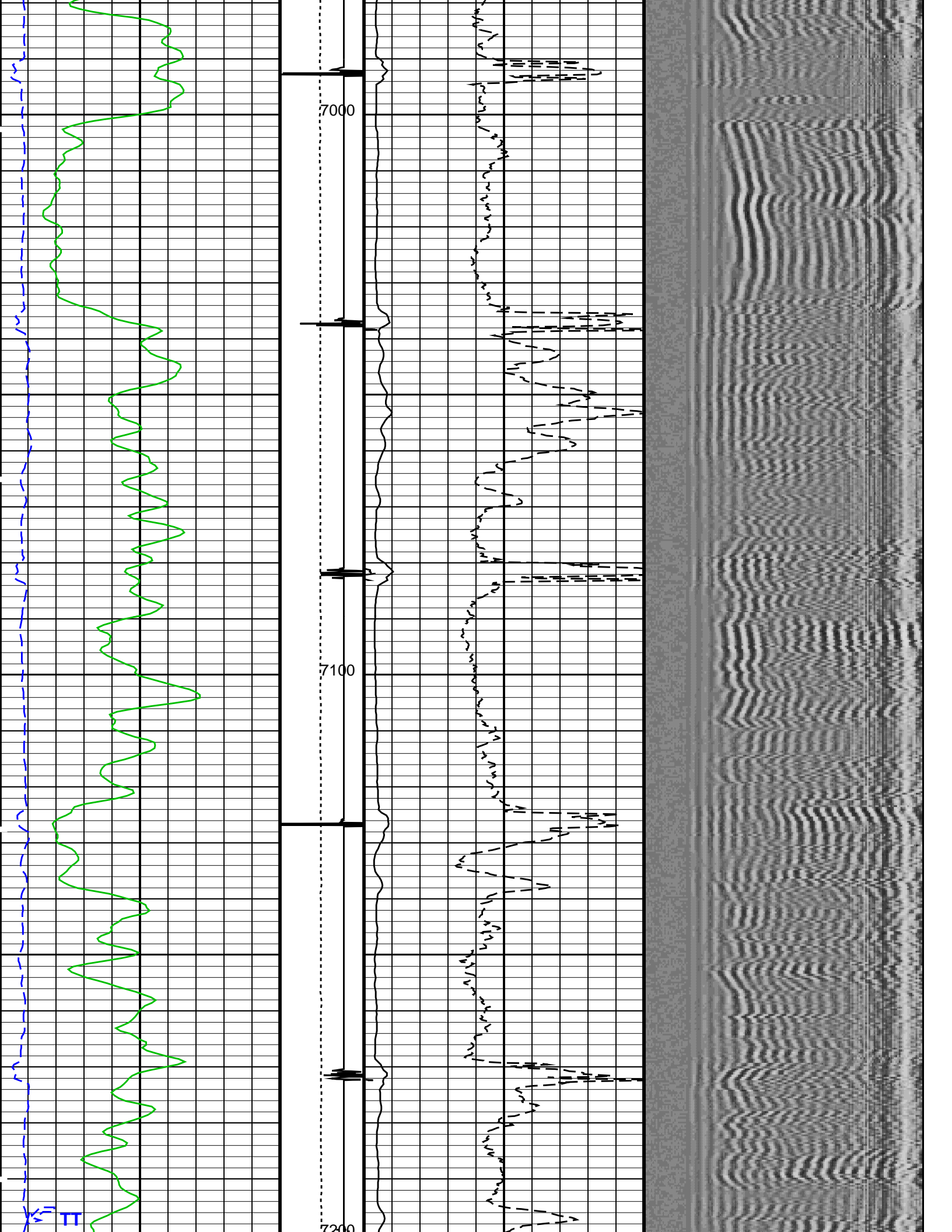


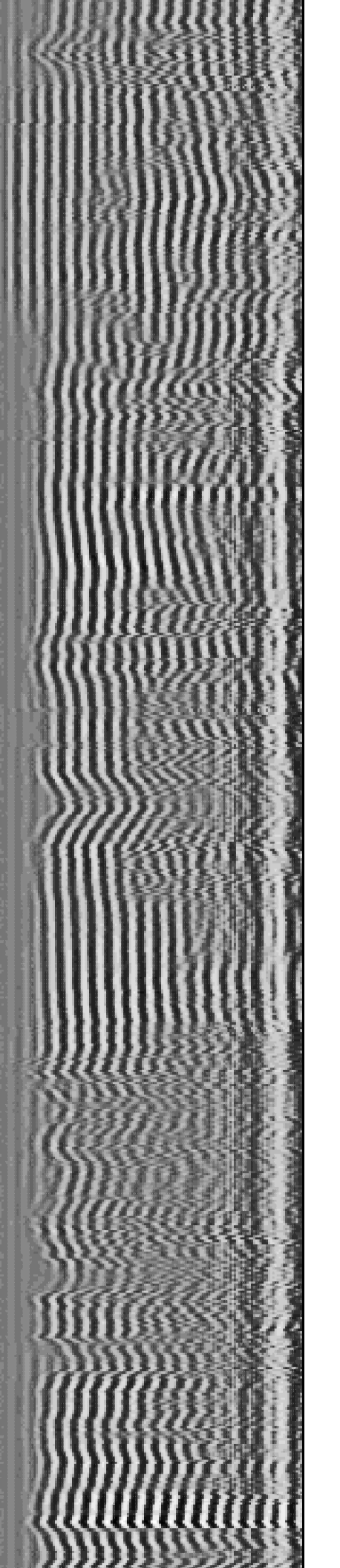
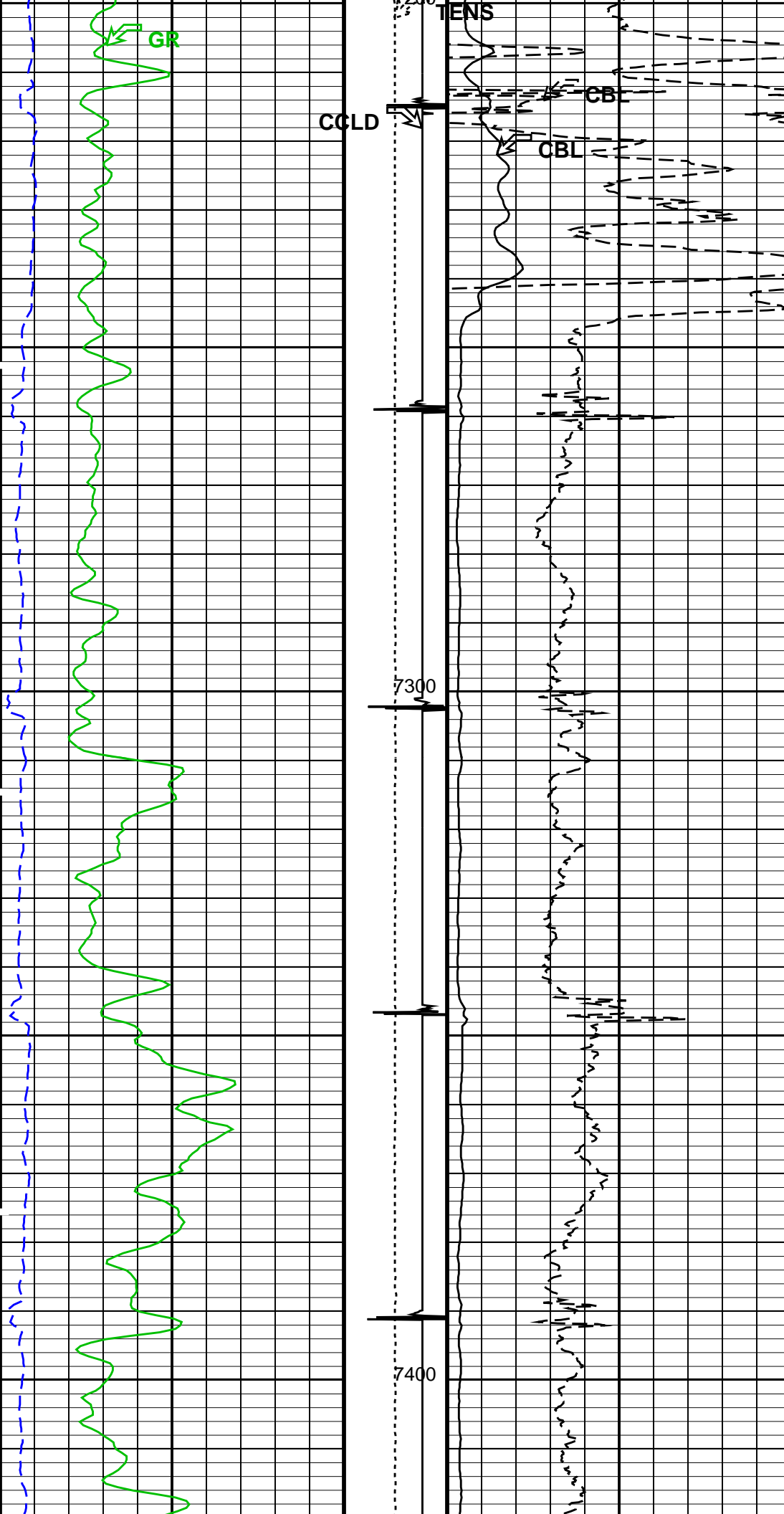


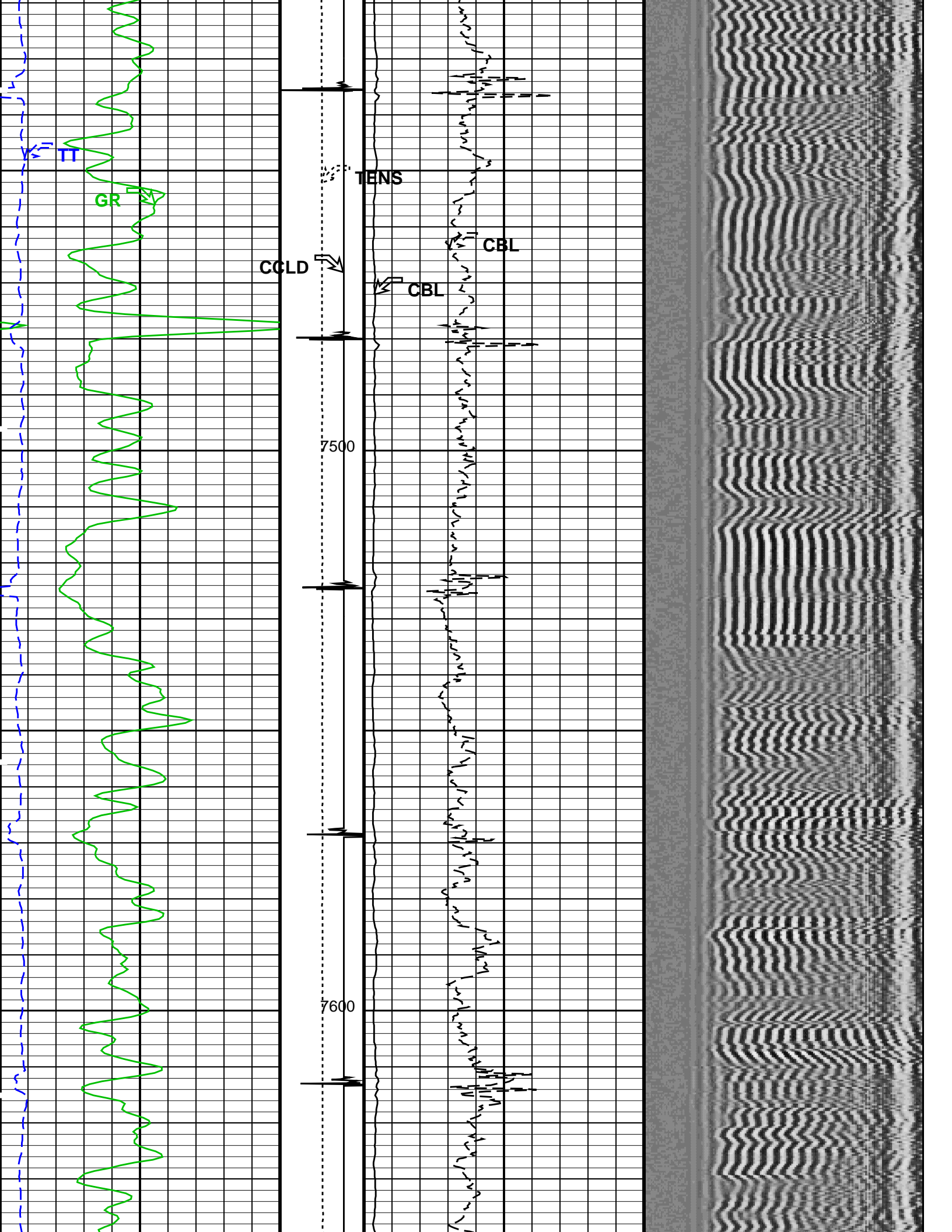




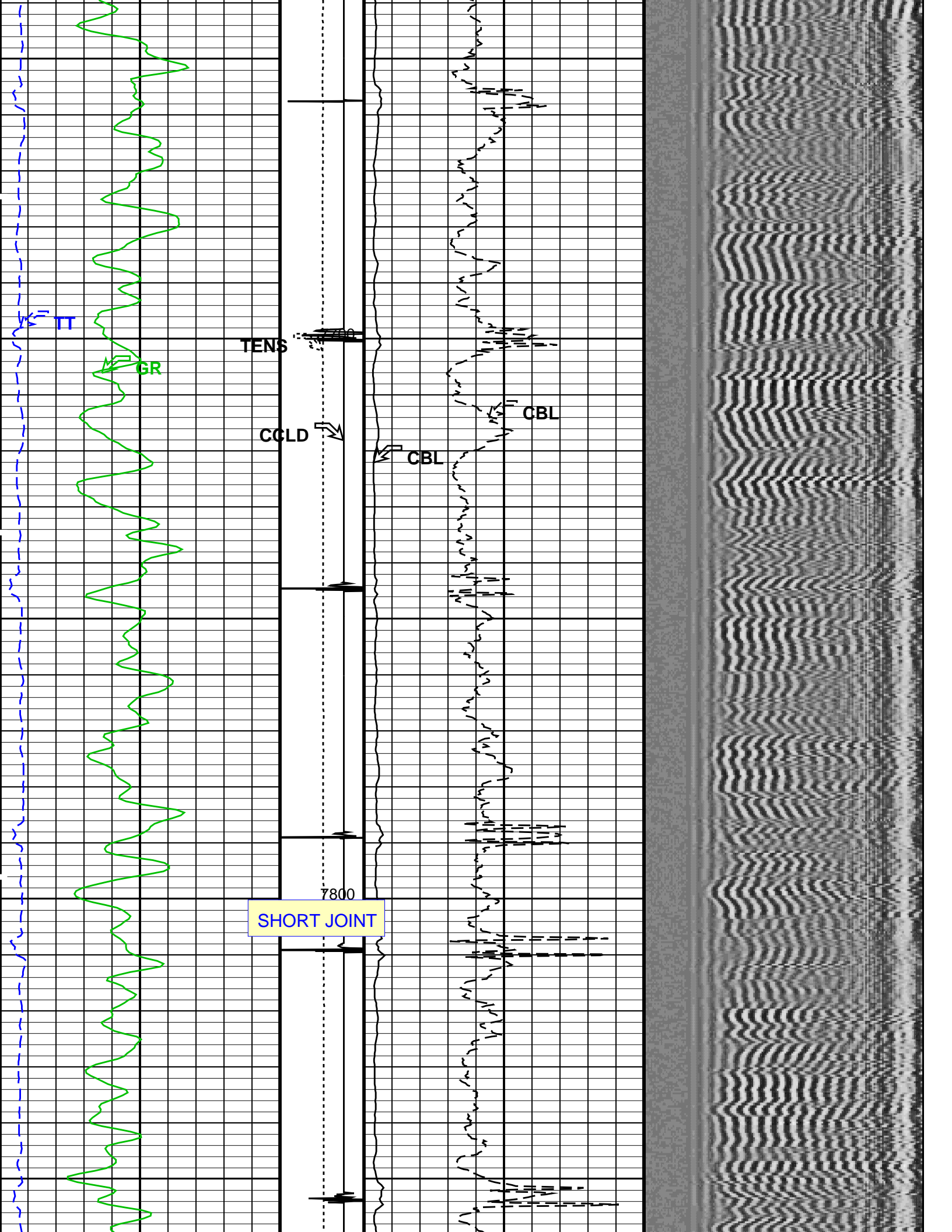


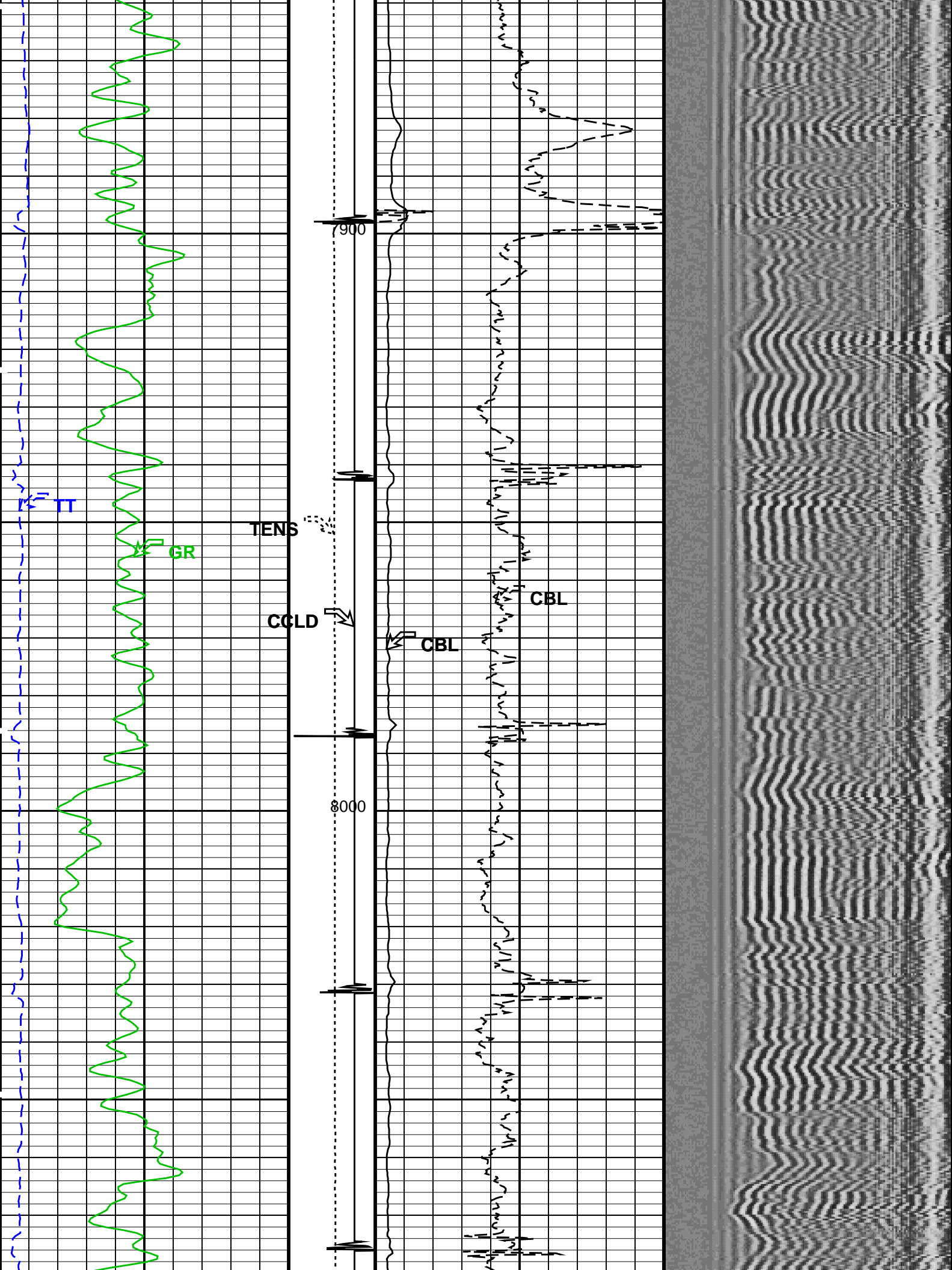




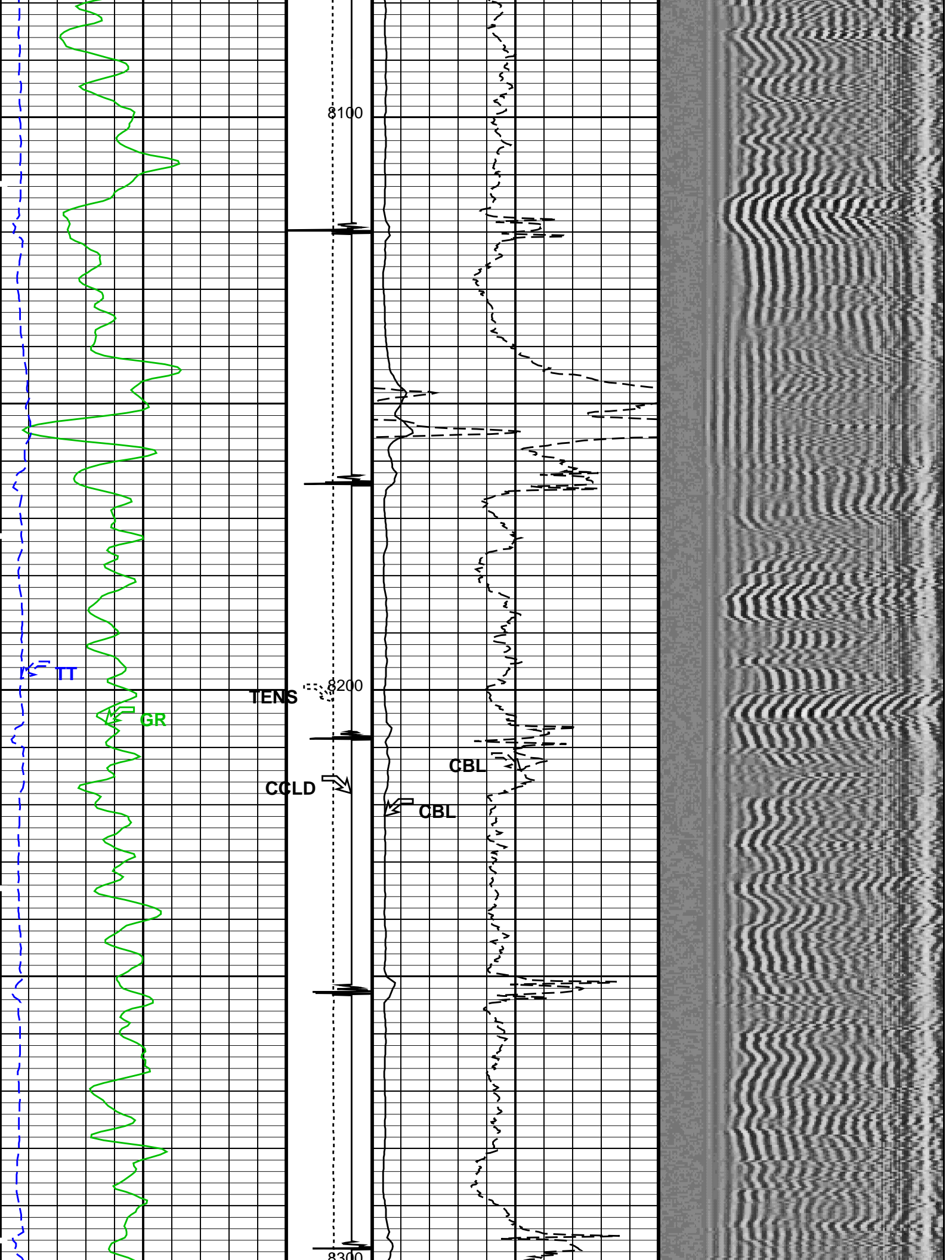


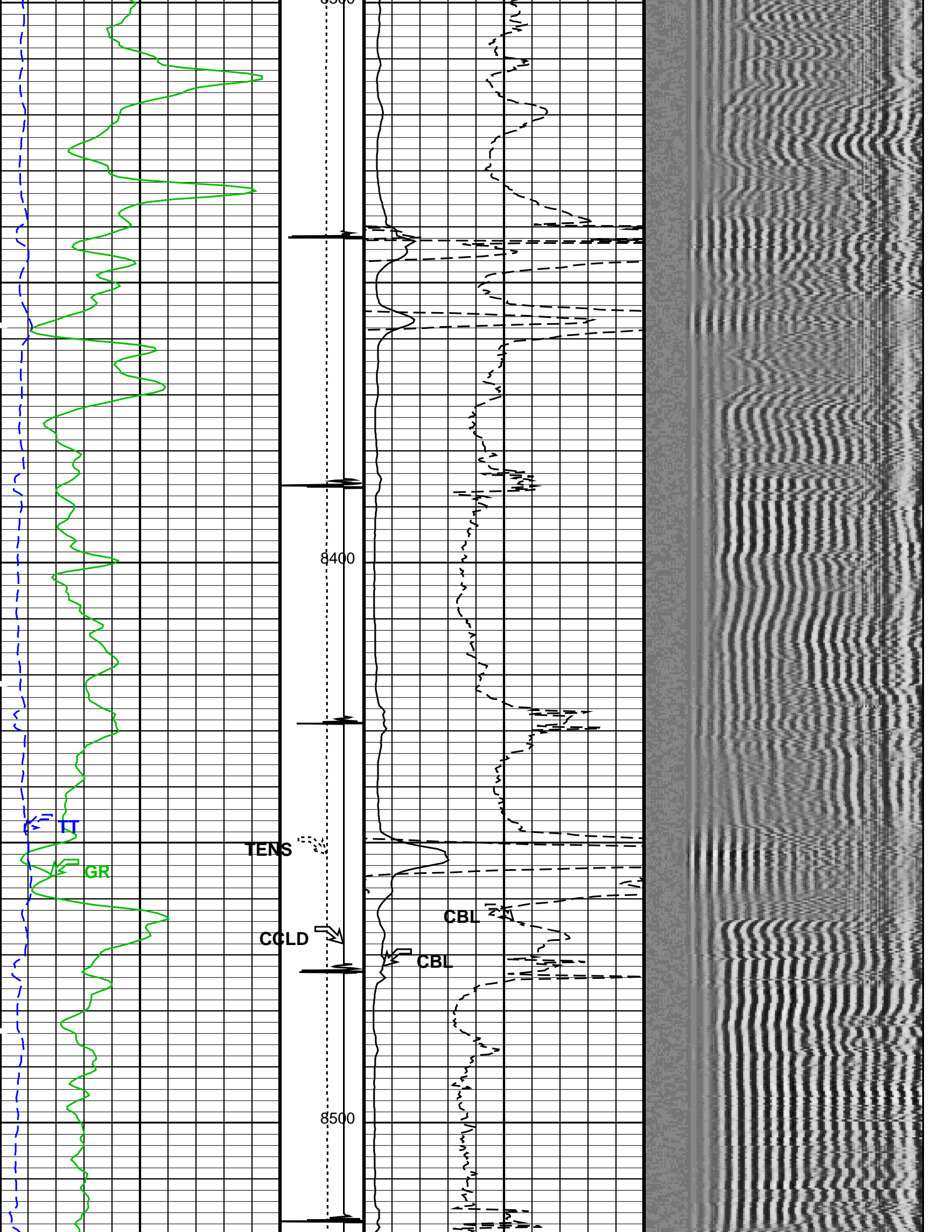


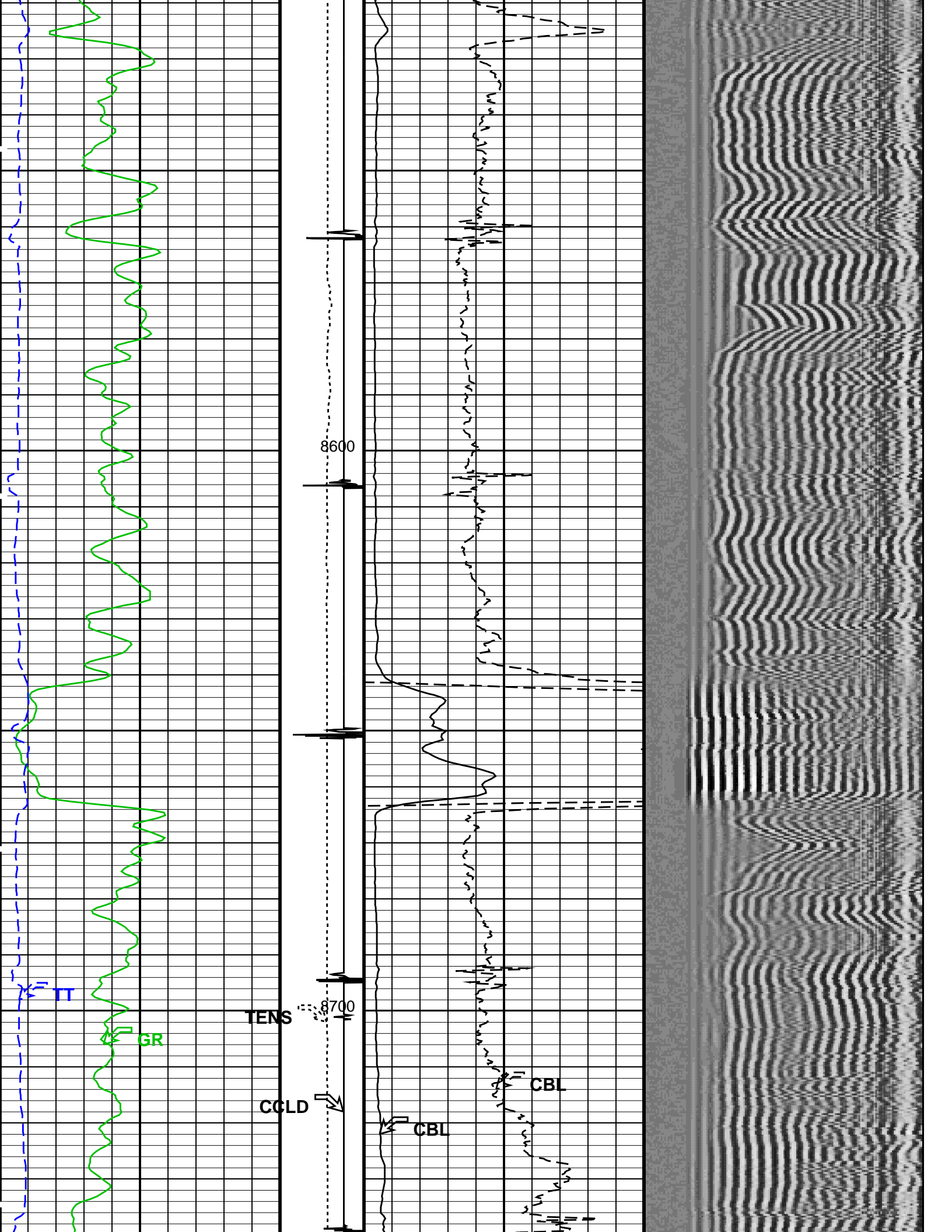


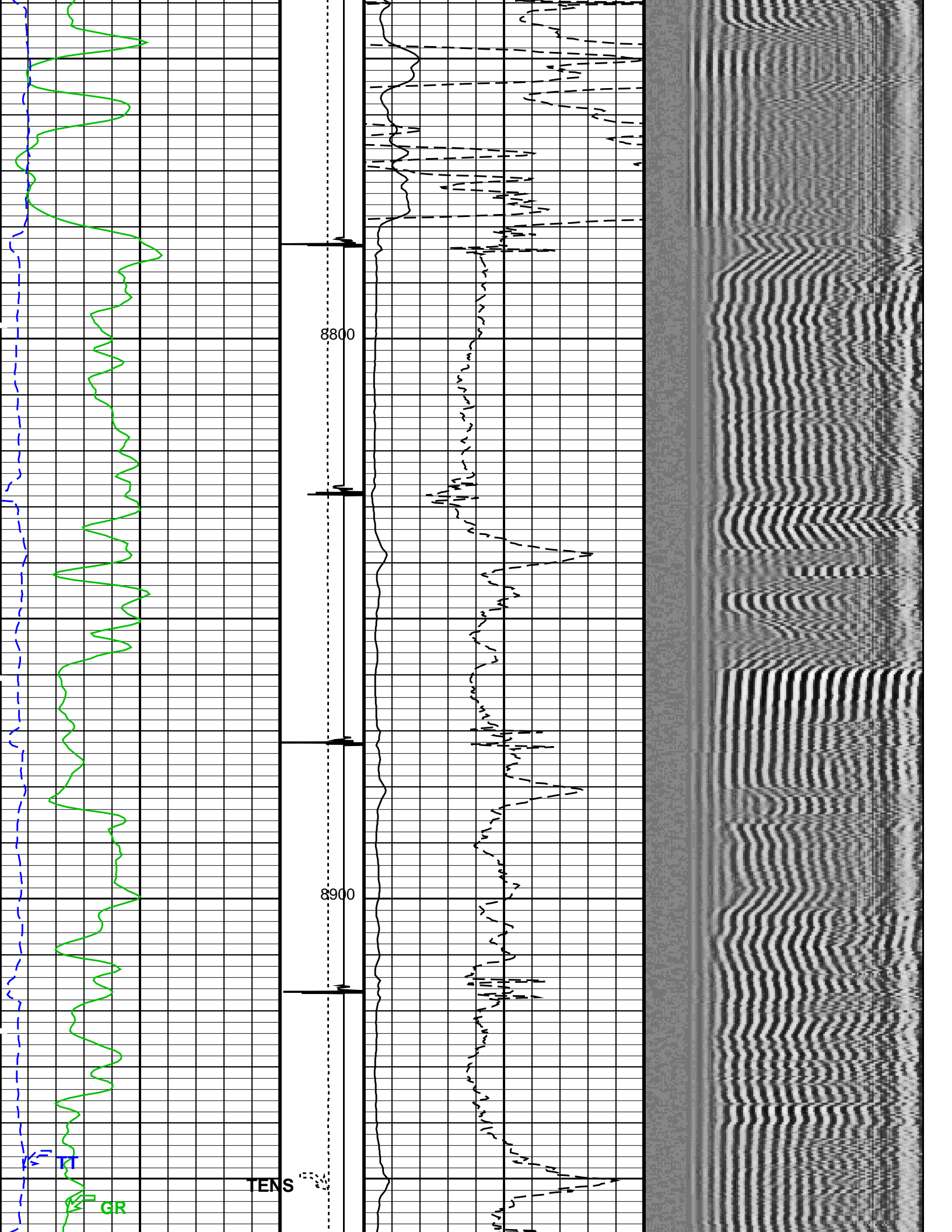




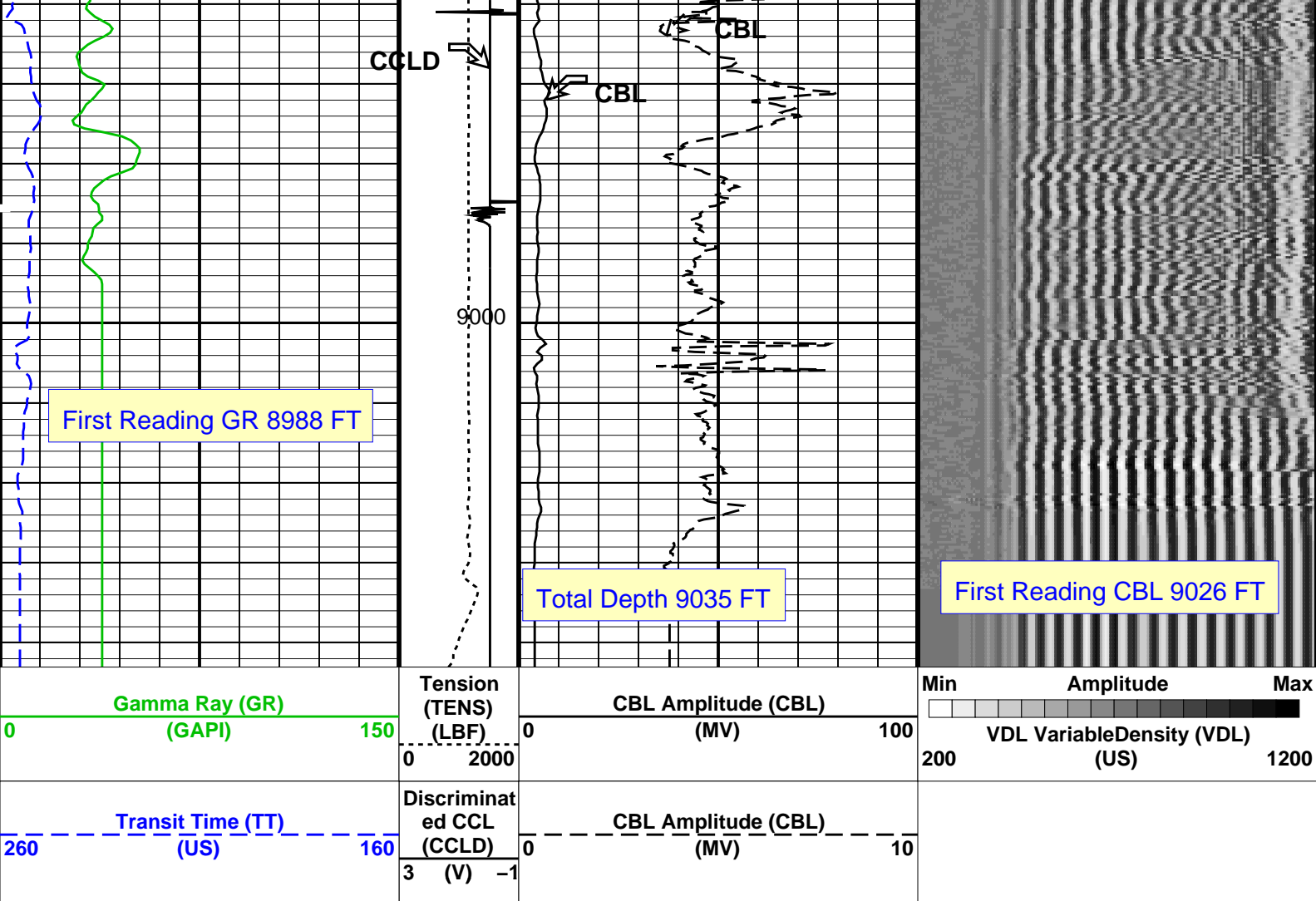












#### PIP SUMMARY

Time Mark Every 60 S

Format: CBL\_VDL Vertical Scale: 5" per 100'

Graphics File Created: 04-Jan-2014 21:32

### OP System Version: 19C0-187

SCMT-CB 19C0-187 RST-C 19C0-187  
HBMS-B 19C0-187

#### <<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number SCMS-CB 8303

Current Casing Size 4.50000 IN

Casing Weight 11.6000 LB/F

Expected CBL Amplitude  
in Free Pipe Section 80 MV

Minimum Sonic Amplitude 0.579149 MV (100% Cement)  
1.55185 MV (80% Cement)  
MAP Minimum Sonic Amplitude 4.32284 MV (100% Cement)  
8.10244 MV (80% Cement)

#### Master Calibration (Normalization)

#### Before Calibration (Adjustment)

Date of Master Calibration 19-NOV-2013

CBL Correction Factor 0.0743678

CBL Adjustment Factor (CBAF) 1.0

MAP 1 Correction Factor 0.127925

MAP Adjustment Factor (MPAF) 1.0

MAP 2 Correction Factor 0.120622

MAP 3 Correction Factor 0.153607

MAP 4 Correction Factor 0.159414

MAP 5 Correction Factor 0.164508

MAP 6 Correction Factor 0.182220

MAP 6 Correction Factor 0.162220  
MAP 7 Correction Factor 0.190086  
MAP 8 Correction Factor 0.182177

## Parameters

DLIS Name	Description	Value	
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD			
BILI	Bond Index Level for Zone Isolation	0.8	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	45	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTc	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta-T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	5.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	9035	FT

## Input DLIS Files

SCMT\_RST\_HBMS\_019LUP      FN:18      04-Jan-2014 18:56      9038.0 FT      -17.0 FT

## Output DLIS Files

DEFAULT      SCMT\_RST\_HBMS\_024PUP      FN:23      PRODUCER      04-Jan-2014 21:32

**Schlumberger**

**REPEAT ANALYSIS CBL VDL**

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: ROSE 22-11B (K22W)

## Input DLIS Files

DEFAULT      SCMT\_RST\_PSP\_005LUP      FN:4      PRODUCER      04-Jan-2014 15:03      6945.5 FT      6644.0 FT  
DEFAULT      SCMT\_RST\_HBMS\_024PUP      FN:23      PRODUCER      04-Jan-2014 21:32      9043.0 FT      -59.5 FT

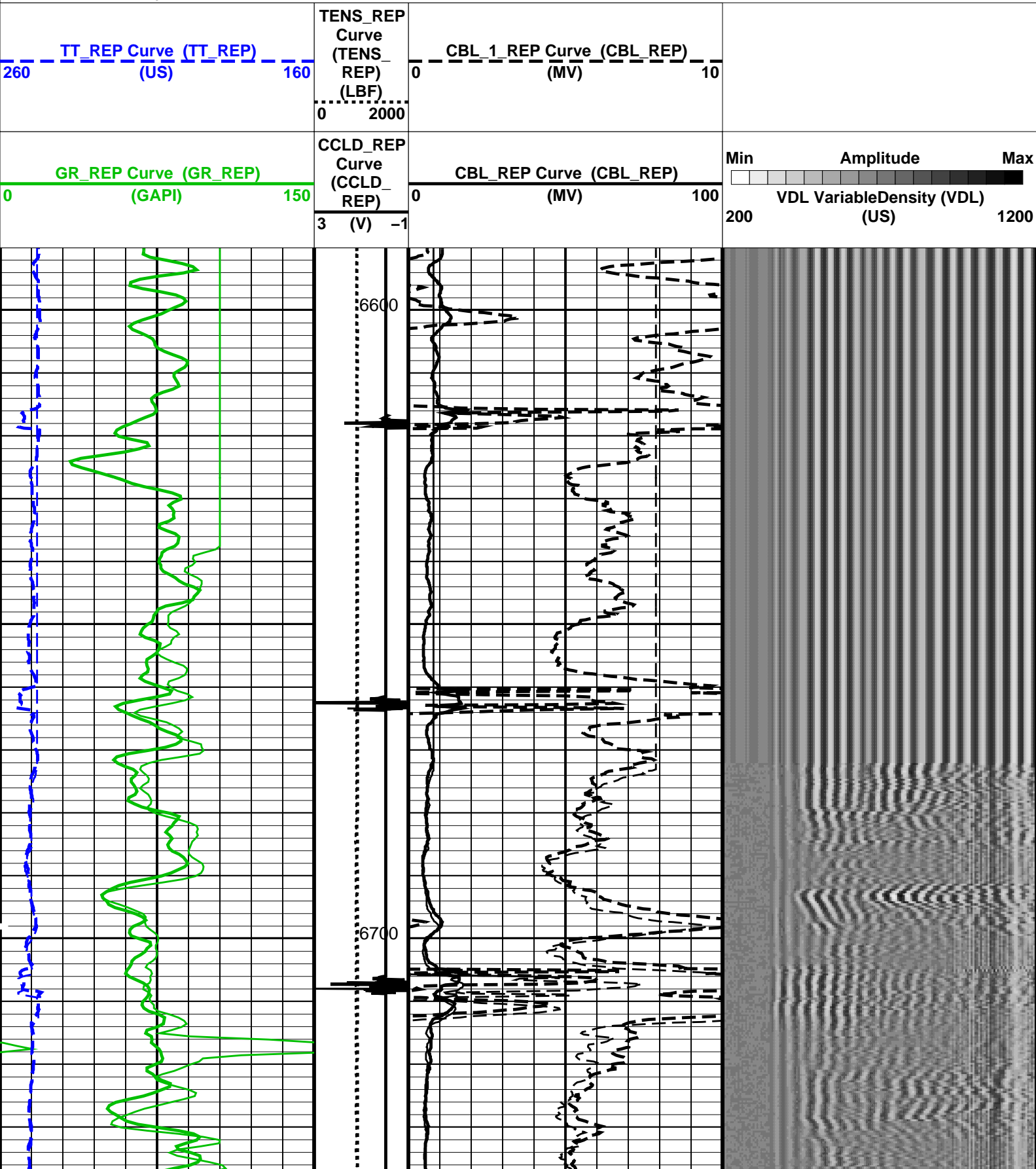
## Output DLIS Files

# OP System Version: 19C0-187

SCMT-CB 19C0-187 RST-C 19C0-187  
 HBMS-B 19C0-187

## PIP SUMMARY

Time Mark Every 60 S





GR\_REP Curve (GR\_REP)  
(GAPI)

0 150

CCLD REP  
Curve  
(CCLD\_  
REP)

3 (V) -1

CBL\_REP Curve (CBL\_REP)  
(MV)

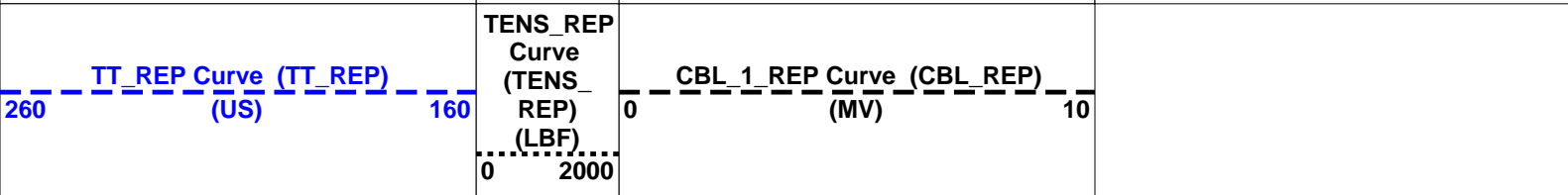
0 100

Min Amplitude Max

VDL VariableDensity (VDL)  
(US)

200 1200





# PIP SUMMARY

Time Mark Every 60 S

Format: CBL\_VDL\_REP Vertical Scale: 5" per 100'

Graphics File Created: 04-Jan-2014 21:37

## OP System Version: 19C0-187

SCMT-CB 19C0-187 RST-C 19C0-187  
HBMS-B 19C0-187

### <<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number SCMS-CB 8303

Current Casing Size 4.50000 IN

Casing Weight 11.6000 LB/F

Expected CBL Amplitude 80 MV Minimum Sonic Amplitude 0.579149 MV (100% Cement)

in Free Pipe Section 1.55185 MV (80% Cement)

MAP Minimum Sonic Amplitude 4.32284 MV (100% Cement)

8.10244 MV (80% Cement)

### Master Calibration (Normalization)

### Before Calibration (Adjustment)

Date of Master Calibration 19-NOV-2013

CBL Correction Factor 0.0743678 CBL Adjustment Factor (CBAF) 1.0

MAP 1 Correction Factor 0.127925 MAP Adjustment Factor (MPAF) 1.0

MAP 2 Correction Factor 0.120622

MAP 3 Correction Factor 0.153607

MAP 4 Correction Factor 0.159414

MAP 5 Correction Factor 0.164508

MAP 6 Correction Factor 0.182220

MAP 7 Correction Factor 0.190086

MAP 8 Correction Factor 0.182177

## Parameters

DLIS Name	Description	Value
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD		
BILI	Bond Index Level for Zone Isolation	0.8
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559 US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20 MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559 US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20 MV
CBLG	CBL Gate Width	45 US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80 MV
CMCF	CBL Cement Type Compensation Factor	1
CMTG	SCMT Slow Channel Multiplexer Mode	SCAN
CMTM	SCMT Operating Mode	LOG
CSCS	SCMT Slow Channel Index	VCC
CTHI	Casing Thickness	0.255617 IN
DTF	Delta-T Fluid	189 US/F
FATT	Acoustic Attenuation due to Fluid	0 DB/F
FCF	CBL Fluid Compensation Factor	0.924277
GOBO	Good Bond	1.55185 MV
MAPD	SCMT MAP Peak Detection Mode	PEAK
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559 US
MAPT	SCMT MAP Fixed Threshold Level	30 MV
MATT	Maximum Attenuation	16.5449 DB/F
MCCF	MAP Cement Type Compensation Factor	1
MCI	Minimum Cemented Interval for Isolation	1.25 FT
MMCA	MAP Minimum Sonic Amplitude	4.32284 MV

MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	-7.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	9035	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_005LUP	FN:4	PRODUCER	04-Jan-2014 15:03	6945.5 FT	6644.0 FT
DEFAULT	SCMT_RST_HBMS_024PUP	FN:23	PRODUCER	04-Jan-2014 21:32	9043.0 FT	-59.5 FT

Output DLIS Files

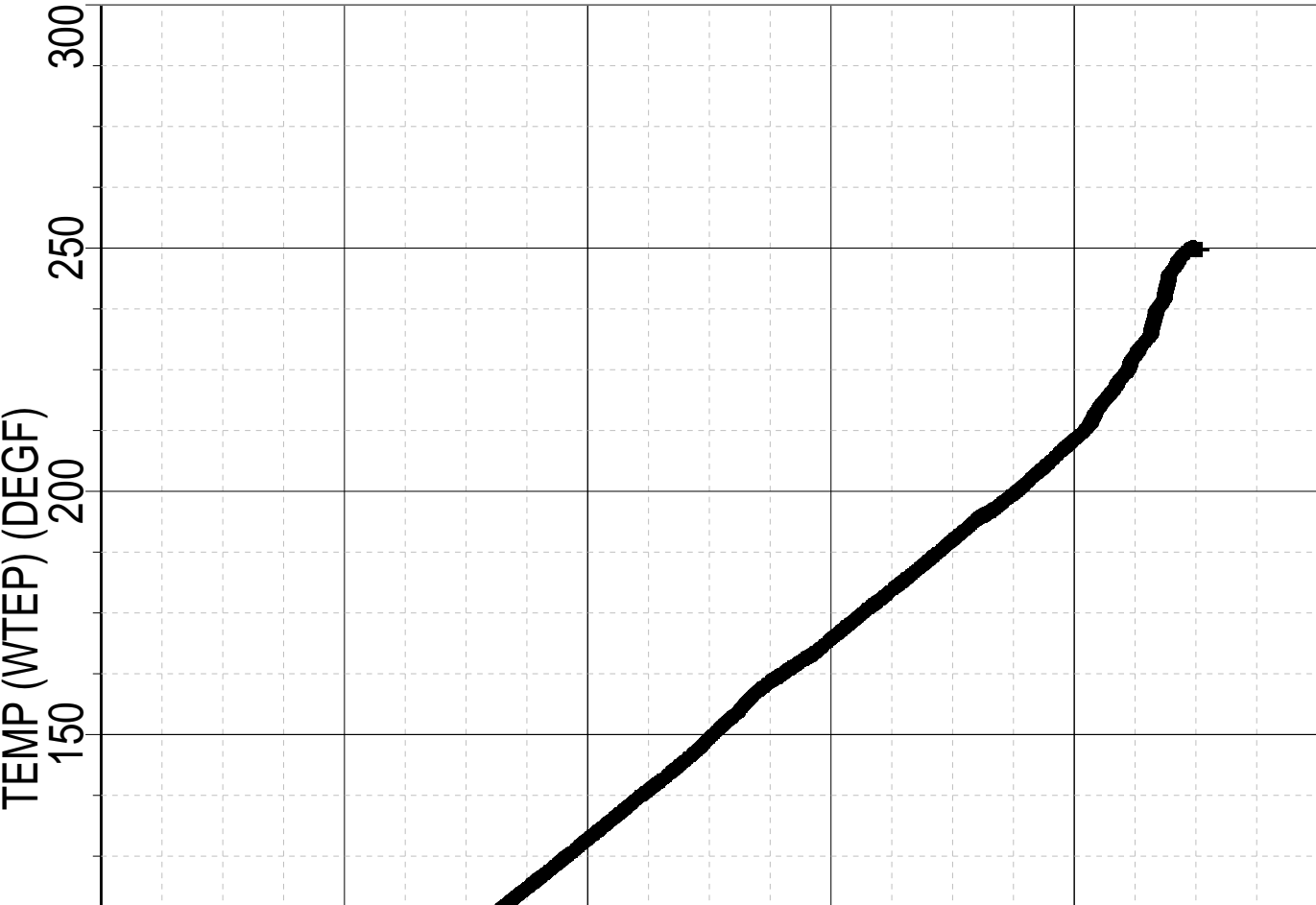
DEFAULT	SCMT_RST_HBMS_025PUP	FN:24	PRODUCER	04-Jan-2014 21:37
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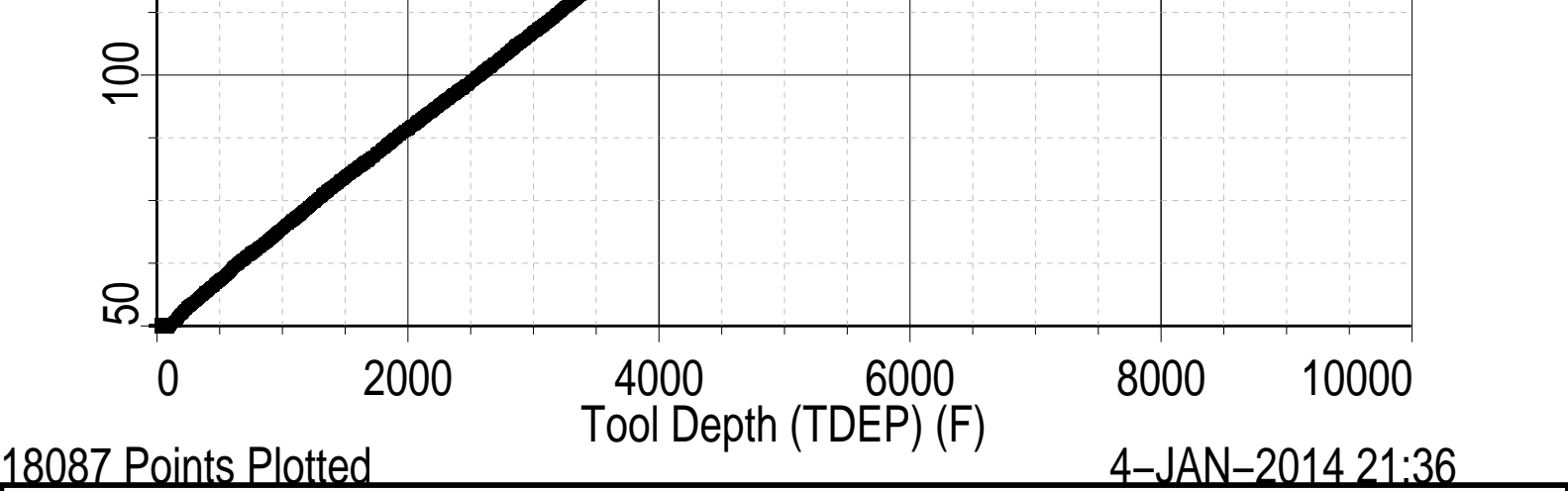


TEMPERATURE PLOT

MAXIS Field Log

Index: 9043.0 – -59.5 FT





# HBMS COEFFICIENTS

MAXIS Field Log

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMM CREEK	Sub Type:	PBMS
Well:	ROSE 22-11B (K22W)	Sensor:	GR
Run date:	4-Jan-2014		

PBMS Gamma Ray

Sonde Serial NB                      RESISTORS FOR GR SENSOR N.37166,TOOL HBMS-BA2955. SENSOR S/N:

Sensor Serial NB                      37166

Calib Date ddmmyy                    280912

Matrix Size                            12

Coeff CRC                              6646

GR HV Rt		
	Rt**0	Rt**1
Rt**0	+.200000000000e+04	+.193000000000e+04

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: ROSE 22-11B (K22W)

Run date: 4-Jan-2014

Tool: PSP

Sub Type: PBMS

Sensor: WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS-B.2955 S/N:

2955

140513

16

9ABB

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	-.579466850375E+03	+.321000211776E+03	-.769493413393E+02
	Tt**3	Tt**4	Tt**5
Tt**0	+.118371810108E+02	-.654027317127E+00	0.0

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: ROSE 22-11B (K22W)

Run date: 4-Jan-2014

Tool: PSP

Sub Type: PBMS

Sensor: CQG

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR CQG PBMS-B.2955 S/N:

2955

140513

66

AD6E

Pres Coeff

	Fb**0	Fb**1	Fb**2
Fc**0	+.805218055799E+04	+.230687803777E-01	+.120020876821E-07
Fc**1	-.107970514637E+01	-.131245085272E-04	-.102678735701E-09
Fc**2	+.111466223414E-05	+.524200534425E-10	+.949904926223E-15



Fc**2	+1.111480223414E-03	+1.324200334423E-10	+1.949904920223E-13
Fc**3	+2.55809900188E-11	+1.60726360322E-15	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0
<div> <div>Fb**3</div> <div>Fb**4</div> <div>Fb**5</div> </div>			
Fc**0	-.772560939667E-10	-.145379238115E-14	-.218737246914E-19
Fc**1	+9.68642492374E-16	+2.23810216552E-19	0.0
Fc**2	0.0	0.0	0.0
Fc**3	0.0	0.0	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

PBMS Quartz Gauge type F

Sonde Serial NB

:

Sensor Serial NB

2955

Calib Date ddmmyy

140513

Matrix Size

66

Coeff CRC

EC8A

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+1.120725065588E+03	-.313379211795E-03	+7.08634488020E-08
Fb**1	-.596235012256E-02	+1.182626448637E-07	+1.104369551702E-12
Fb**2	-.295513003186E-07	+3.341136223414E-12	-.998721617444E-18
Fb**3	-.375208992867E-12	+7.12560466778E-17	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0
<div> <div>Fc**3</div> <div>Fc**4</div> <div>Fc**5</div> </div>			
Fb**0	+1.136541410168E-12	-.403343086990E-17	-.830542374631E-21
Fb**1	-.618398112617E-18	+4.429129395353E-21	0.0
Fb**2	0.0	0.0	0.0
Fb**3	0.0	0.0	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

PBMS Quartz Gauge type F










Sonde Serial NB

:

Sensor Serial NB

2955



Master		938.0	Master		994.8
500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)			500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)		
Phase	MAP 3 Amplitude Plus MV		Value		
Master			781.2		
500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)			500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)		
Phase	MAP 4 Amplitude Plus MV		Value		
Master			752.8		
500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)			500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)		
Phase	MAP 5 Amplitude Plus MV		Value		
Master			729.4		
500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)			500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)		
Phase	MAP 6 Amplitude Plus MV		Value		
Master			658.5		
500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)			500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)		
Phase	MAP 7 Amplitude Plus MV		Value		
Master			631.3		
500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)			500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)		
Phase	MAP 8 Amplitude Plus MV		Value		
Master			658.7		
500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)			500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)		
Phase	CBL Amplitude Plus MV		Value		
Master			1291		
1000 (Minimum) 1350 (Nominal) 1700 (Maximum)					
Master: 19–Nov–2013 13:46					

Company: **ENCANA OIL & GAS (USA) INC**

**Schlumberger**

Well: **ROSE 22–11B (K22W)**

Field: **MAMM CREEK**

County: **GARFIELD**

State: **COLORADO**

SLIM CEMENT MAPPING LOG

CBL–VDL

GAMMA RAY–CCL