

Company: ENCANA OIL & GAS (USA) INC

Well: HAGEN FEDERAL 22-1A (PC22)

Field: SOUTH PARACHUTE

County: GARFIELD State: COLORADO

SLIM CEMENT MAPPING LOG
CBL-VDL
GR-CCL

County: GARFIELD
Field: SOUTH PARACHUTE
Location: SHL: 642 FNL & 1797 FWL
Well: HAGEN FEDERAL 22-1A (PC22)
Company: ENCANA OIL & GAS (USA) INC

County:		GARFIELD		SHL: 642 FNL & 1797 FWL		Elev.: K.B. 6543.00 ft			
Field:		SOUTH PARACH		BHL: 133 FNL & 464 FEL		G.L. 6521.00 ft			
Location:		SHL: 642 FNL &				D.F. 6542.00 ft			
Well:		HAGEN FEDERA							
Company:		ENCANA OIL & C							
Logging Date		LOCATION		Permanent Datum:		GROUND LEVEL		Elev.: 6521.00 ft	
				Log Measured From:		KELLY BUSHING		22.00 ft above Perm. Datum	
		Drilling Measured From:		KELLY BUSHING					
Run Number		API Serial No. 05-045-22016-0C		Section 22		Township 7S		Range 95W	
Depth Driller		22-Oct-2013							
		1							
Schlumberger Depth		8730 ft							
		8640 ft							
Bottom Log Interval		8631 ft							
		60 ft							
Top Log Interval		60 ft							
		FRESH WATER							
Casing Fluid Type									
Salinity									
Density		8.4 lbm/gal							
Fluid Level		60 ft							
BIT/CASING/TUBING STRING									
Bit Size		8.750 in							
From		22 ft							
To		8730 ft							
Casing/Tubing Size		4.500 in							
Weight		11.6 lbm/ft							
Grade		S-80							
From		22 ft							
To		8672 ft							
Maximum Recorded Temperatures		223 degF							
Logger On Bottom		22-Oct-2013				6:15			
Unit Number		Location							
Recorded By		KIRSTIE BUNTING							
Witnessed By		SHANE							

PVT DATA				Run 1	Run 2	Run 3
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						
Unit Number						
Recorded By						
Witnessed By						

DEPTH SUMMARY LISTING

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

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-JB	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	6349	Serial Number:	3421	Serial Number:	112136
Calibration Date:	7-31-2013	Calibration Date:	14-AUG-201	Length:	19000 FT
Calibrator Serial Number:		Calibrator Serial Number:	174878	<div>Conveyance Method: Wireline</div> <div>Rig Type: LAND</div>	
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10		
Wheel Correction 1:	-5	Calibration RMS:	3		
Wheel Correction 2:	-4	Calibration Peak Error:	8		

Depth Control Parameters

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:	

Depth Control Remarks

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.

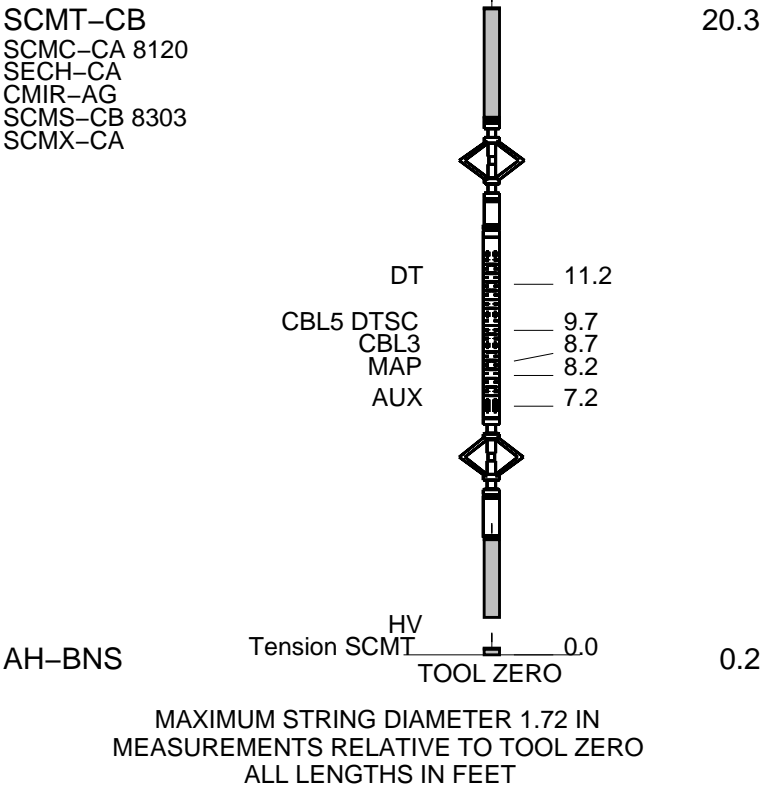
DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE 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 SERVICES1	OTHER SERVICES2
OS1: RESERVOIR SATURATION	OS1:
OS2: LOG	OS2:
OS3: SIGMA MODE	OS3:
OS4: GR-CCL	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRELATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE TIME: 5:30	
TIME ON BOTTOM: 6:15	
EXIT TIME: 8:30	

MAXIMUM RECORDED TEMPERATURE: 223 DEGF					
MAXIMUM RECORDED PRESSURE: 3308 PSIA					
EXPECTED CBL AMPLITUDE IN FREE PIPE IS 80 MV					
MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE					
SHORT JOINTS : 6197 FT & 7268 FT					
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY					
CREW: KBUNTING, KIRWIN, WAZIZ, KJOHNS					
<div> <div>RUN 1</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> <div> <div>CGF9-00159</div> <div>19C0-187</div> <div>60 ft</div> </div> </div>			<div> <div>RUN 2</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> </div>		
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> <div>Detail MT</div> <div>TelStatus</div> <div>CTEM</div> </div> <div> <div>53.4</div> </div> </div> <div> <div> <div>AH-38</div> <div> <div>51.8</div> </div> </div> <div> <div> <div>PSPT</div> <div> <div>51.5</div> </div> </div> </div> </div> </div>					
<div> <div> <div> <div>PSC-A</div> <div>PSPT-B 928</div> <div>PSTC-A</div> <div>PBMS-B</div> <div>CQG_F_Mano</div> <div>RTD_Thermometer</div> <div>GR</div> <div>CCL</div> <div>PBMS</div> </div> <div> <div>GR</div> <div>CQG Manom</div> <div>CCL</div> <div>PBMS PSTC</div> </div> <div> <div>44.8</div> <div>44.5</div> <div>44.0</div> <div>43.3</div> </div> </div> </div>					
<div> <div> <div>RST-C</div> <div>RSCH-A 197</div> <div>RSC-E</div> <div>RSS-A 378</div> <div>RSXH-A 425</div> <div>RSX-E</div> </div> <div> <div>43.3</div> </div> </div>					
<div> <div> <div> <div>RSC-A Far</div> <div>RSC-A PNG</div> <div>RSC-A Nea</div> <div>RSX-A PNG</div> </div> <div> <div>34.2</div> <div>33.7</div> </div> </div> </div>					



Schlumberger

MAIN PASS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC Well: HAGEN FEDERAL 22-1A (PC22)

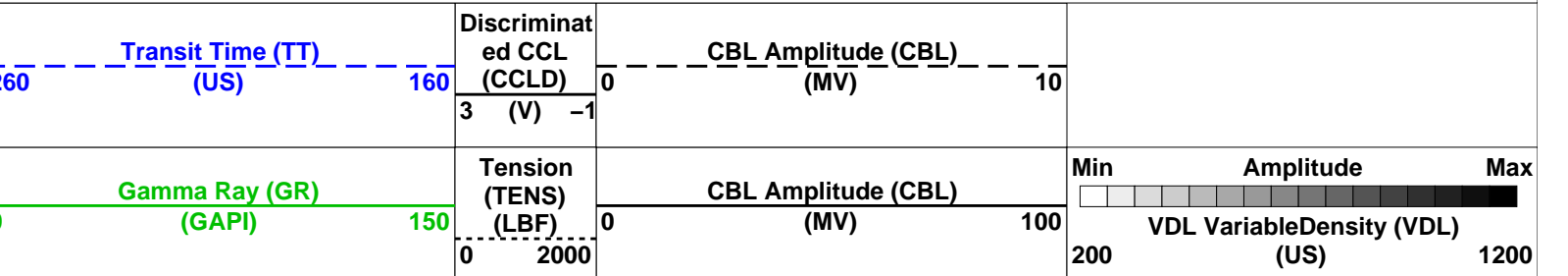
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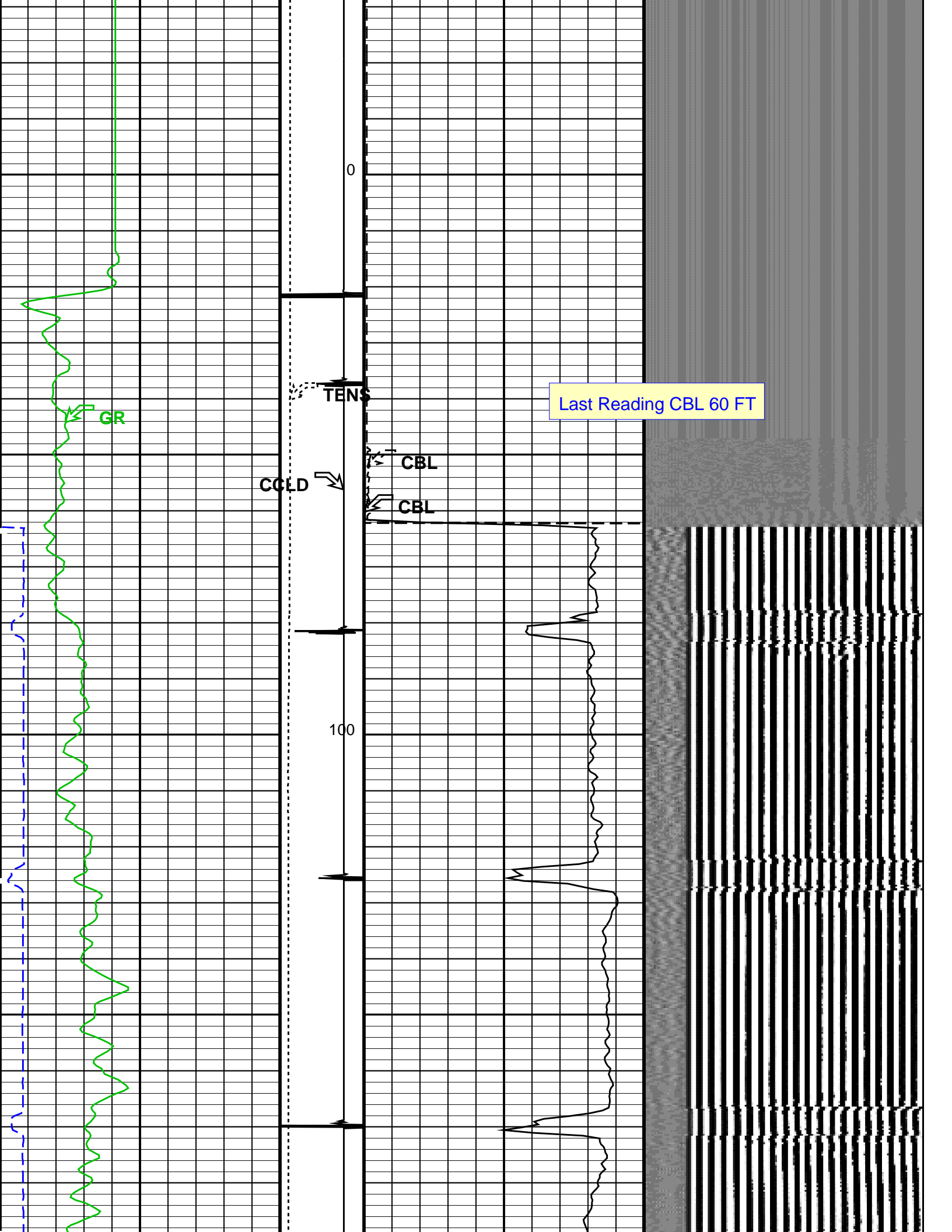
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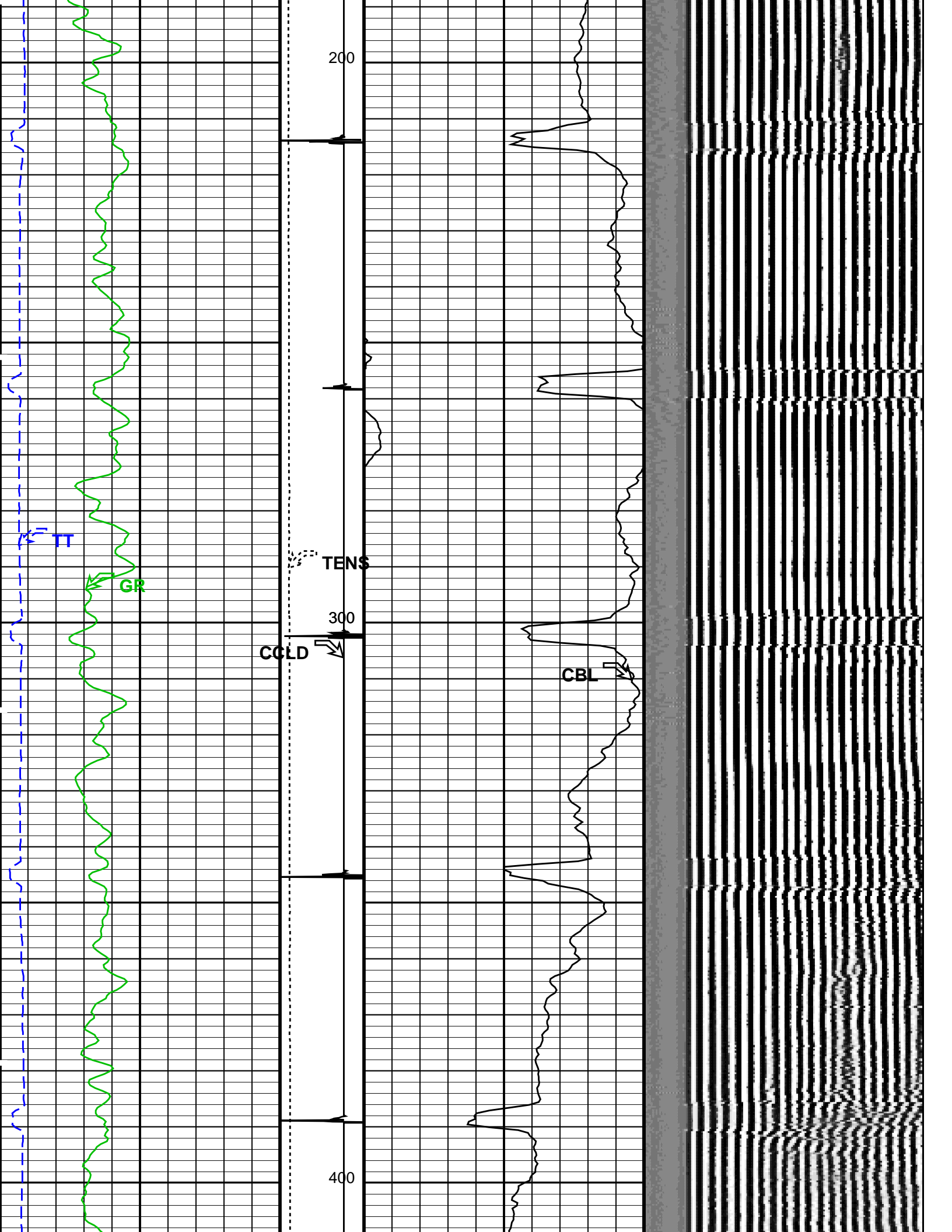
OP System Version: 19C0-187			
SCMT-CB	SRPC-5214-H2-2012-OP1	RST-C	SRPC-5214-H2-2012-OP1
PSPT	SRPC-5214-H2-2012-OP1		

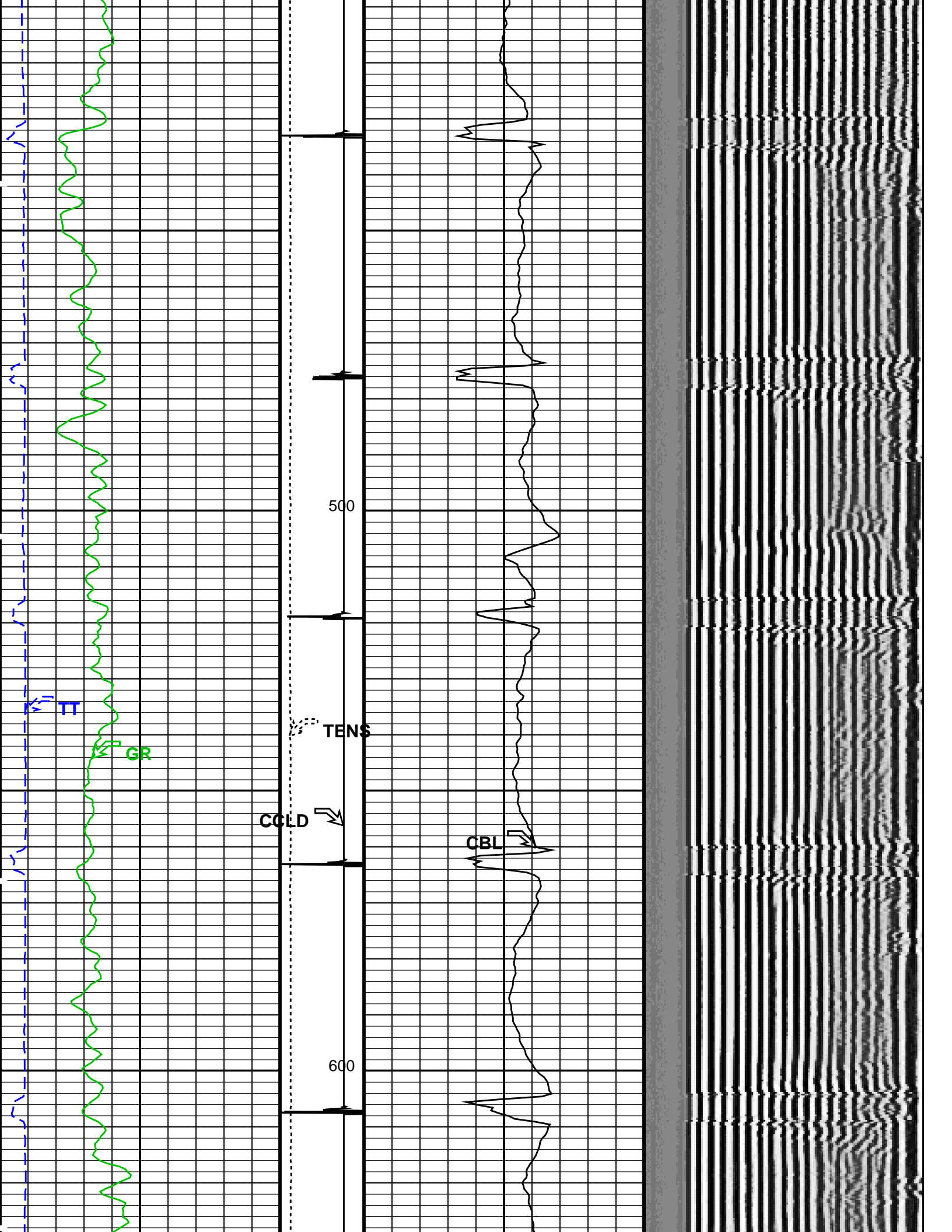
PIP SUMMARY

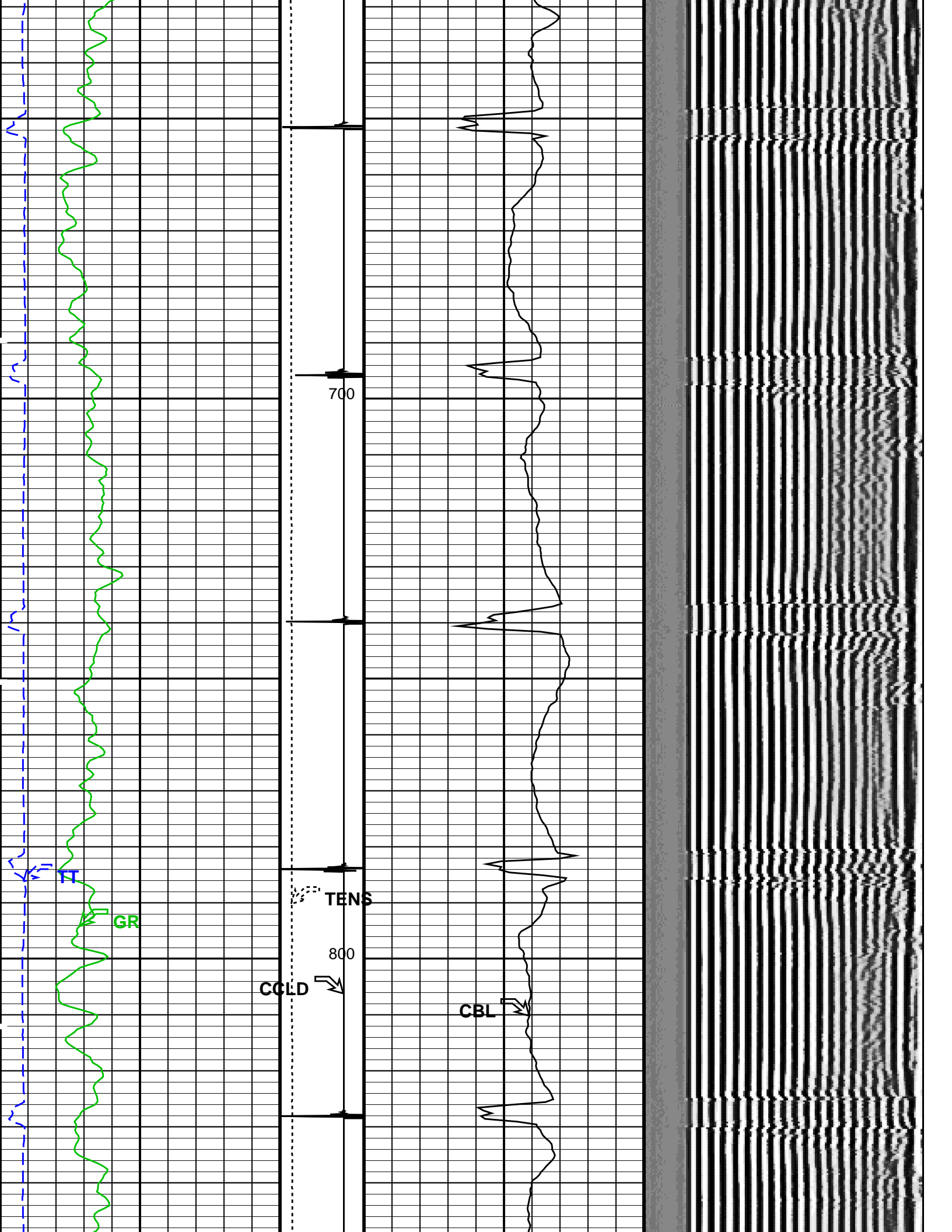
☒ Time Mark Every 60 S

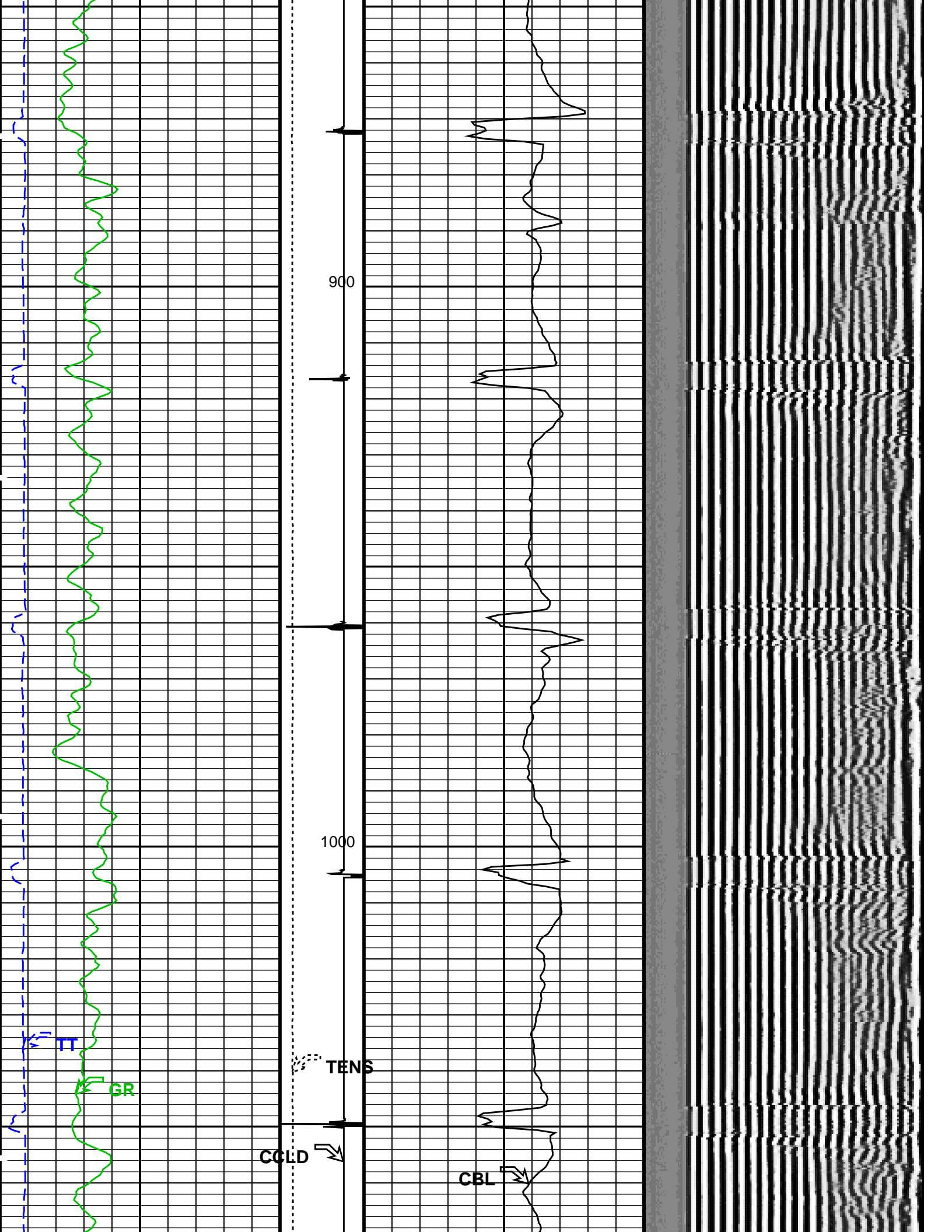


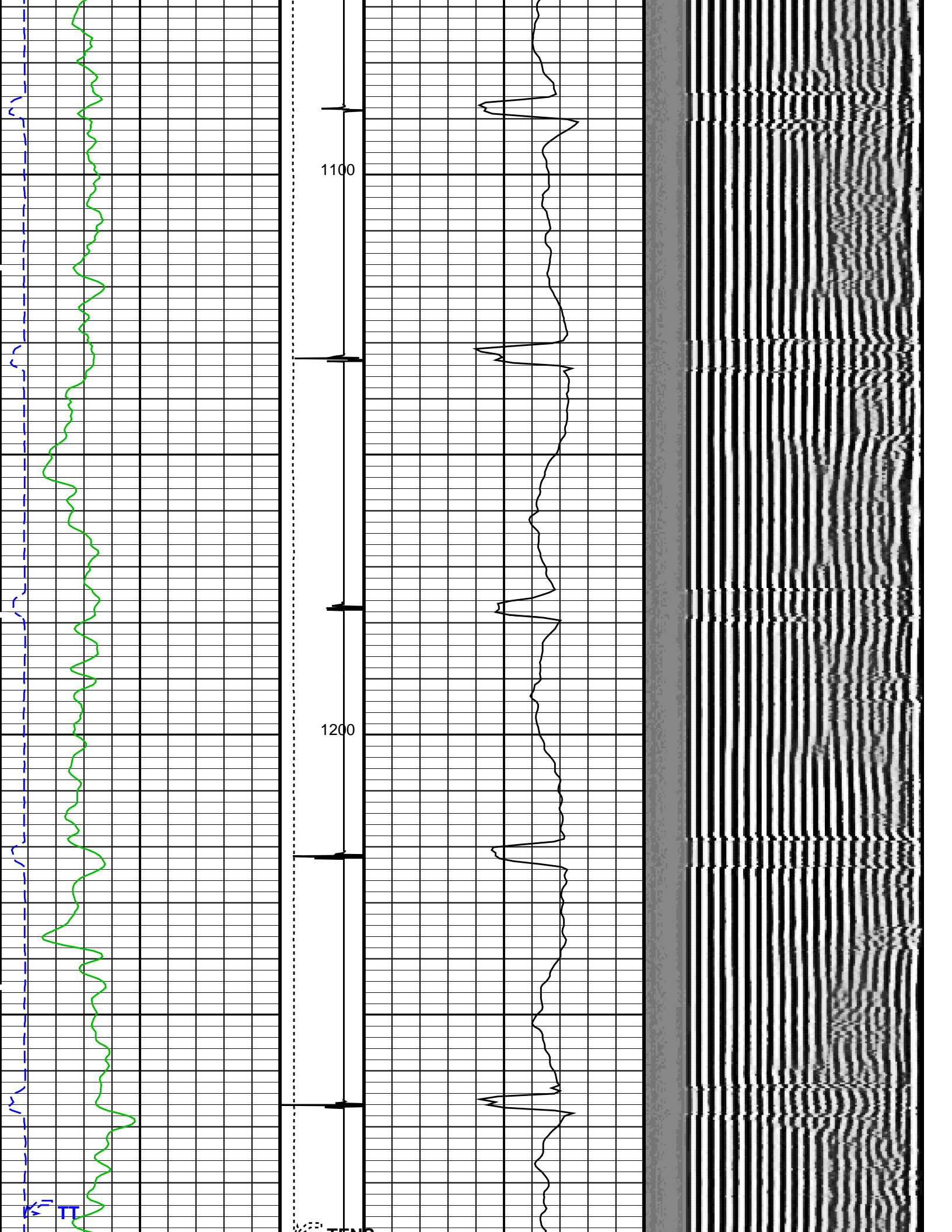


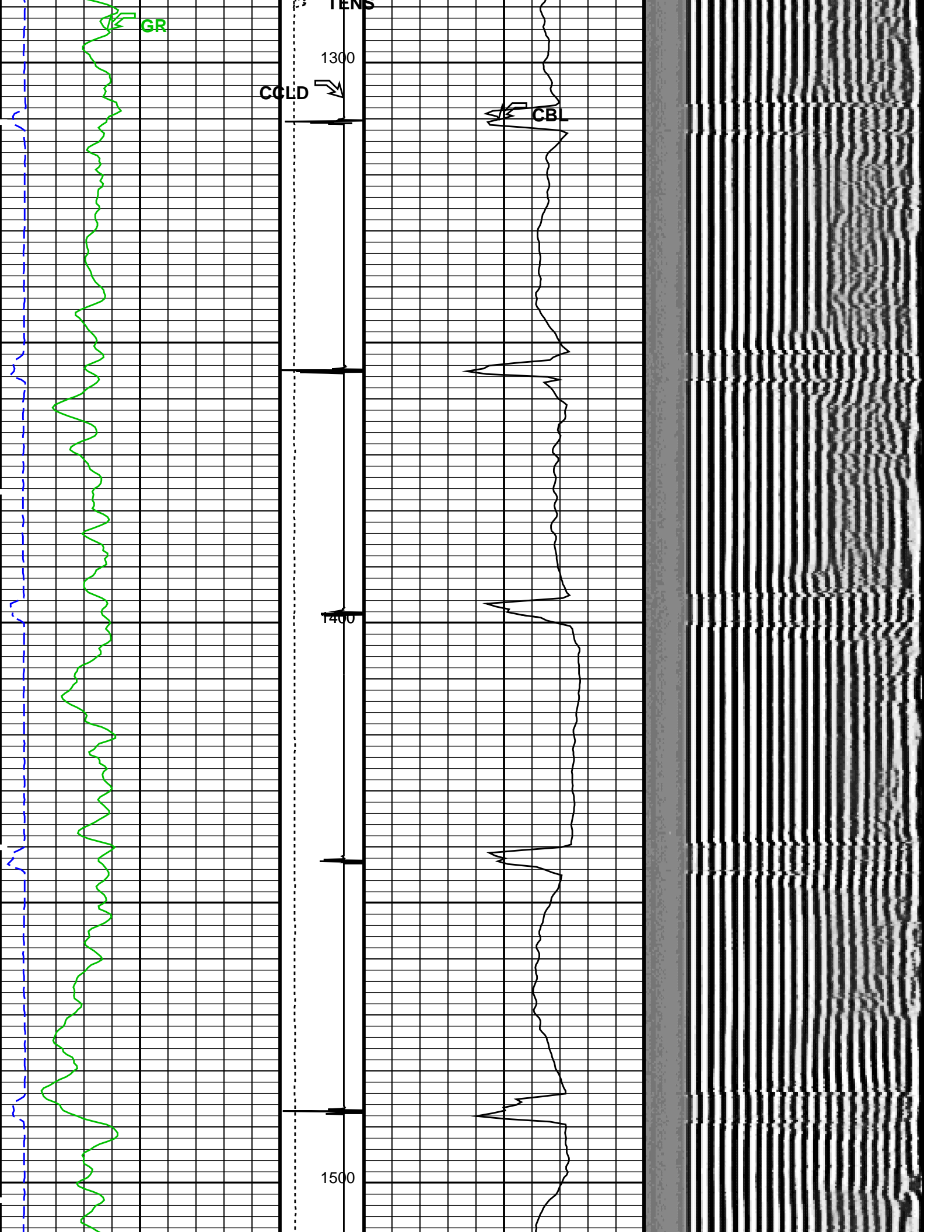


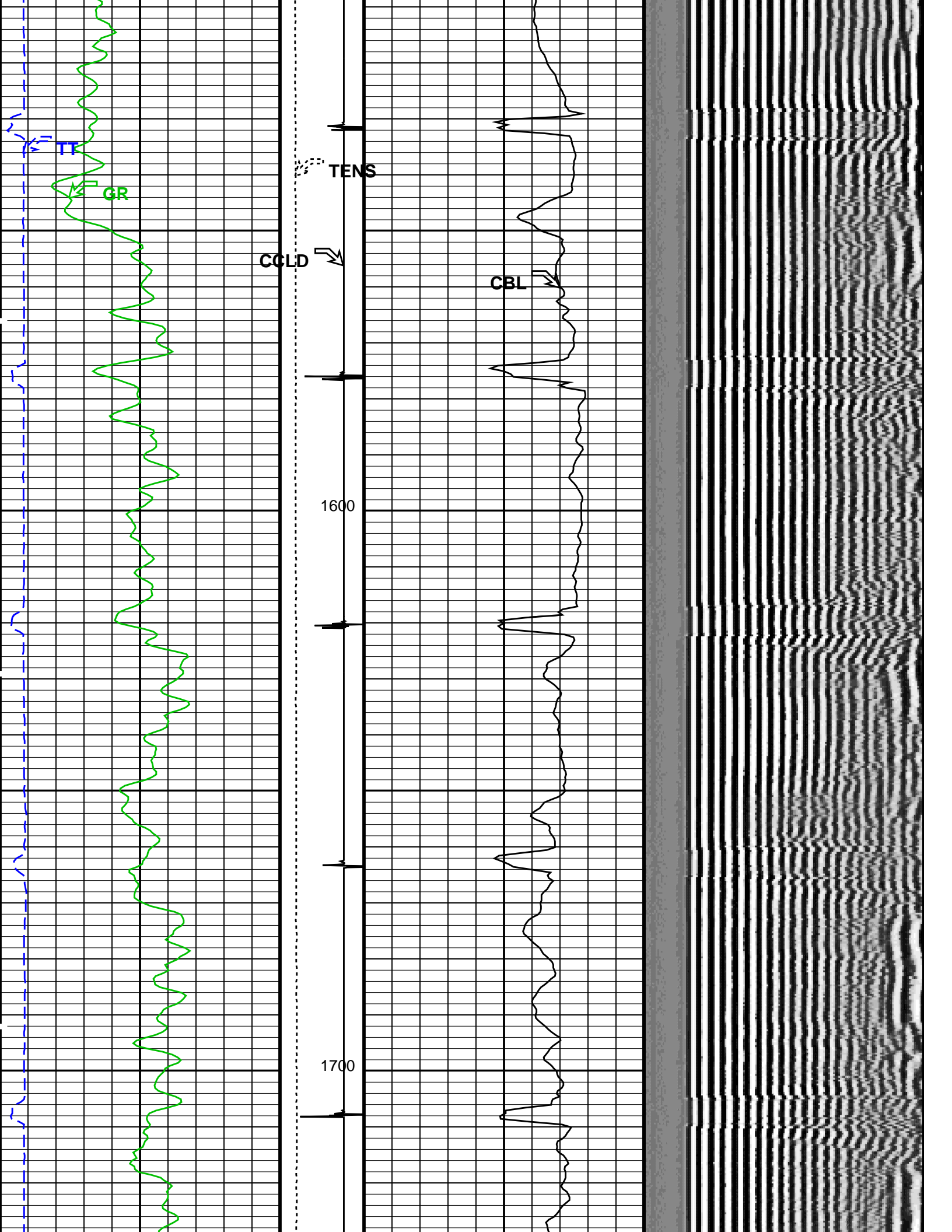


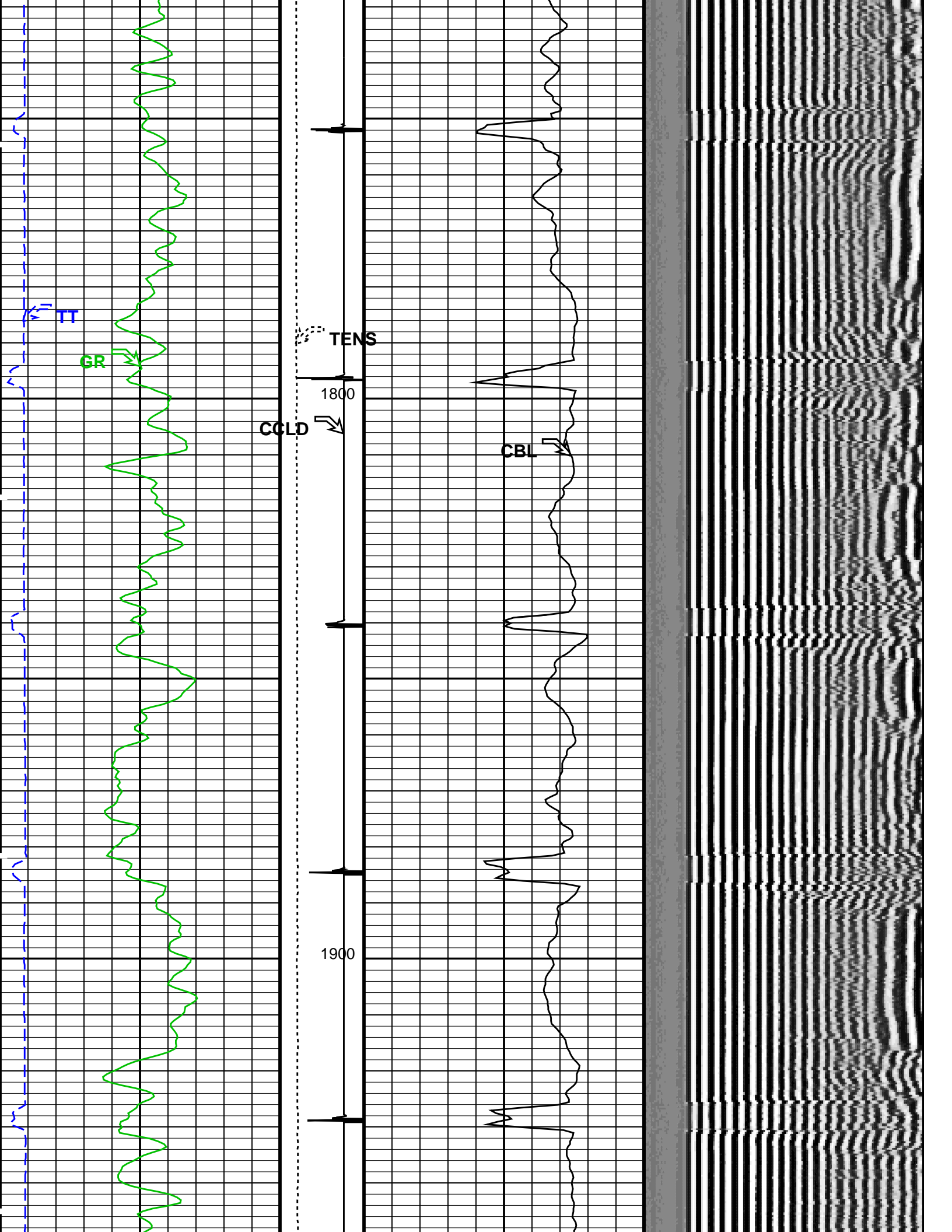


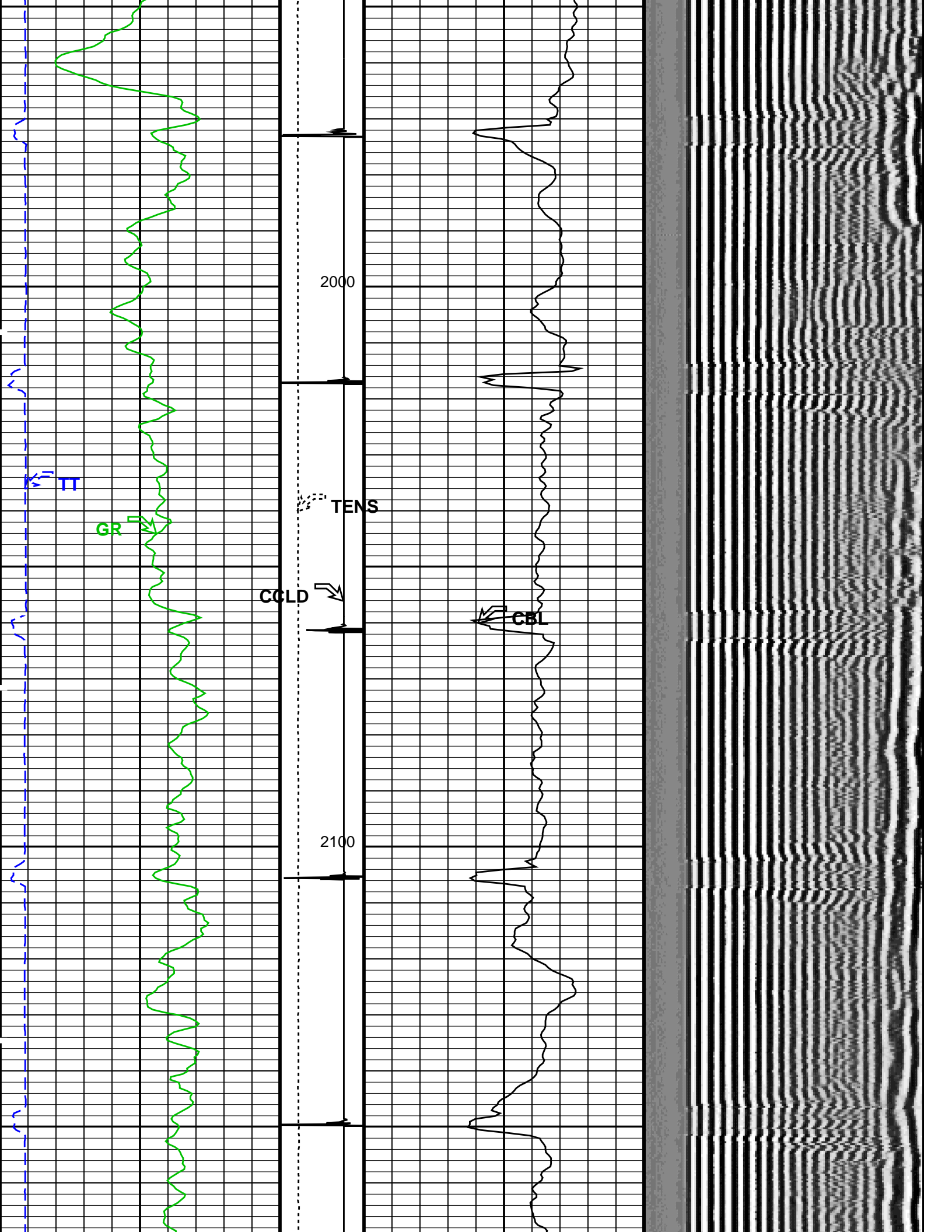


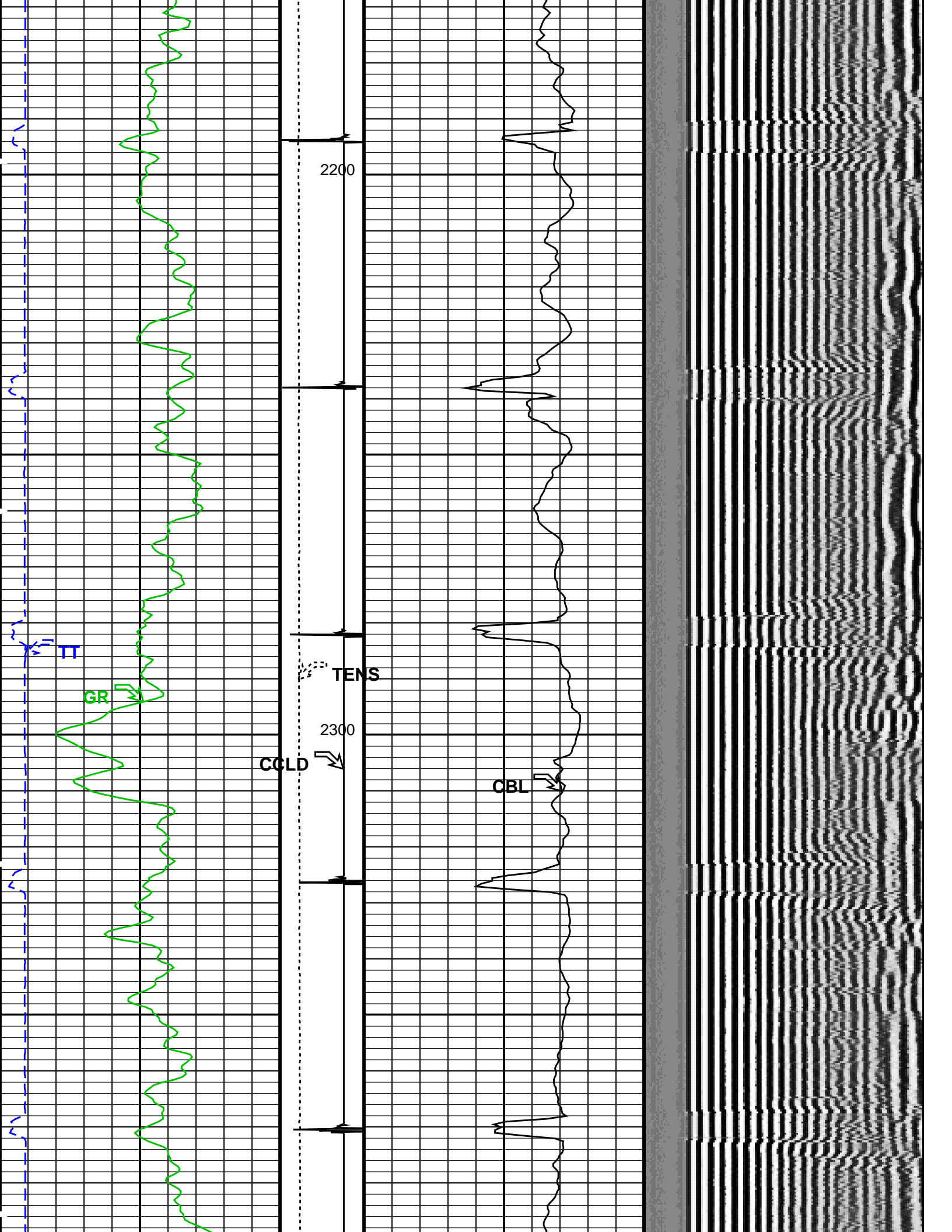


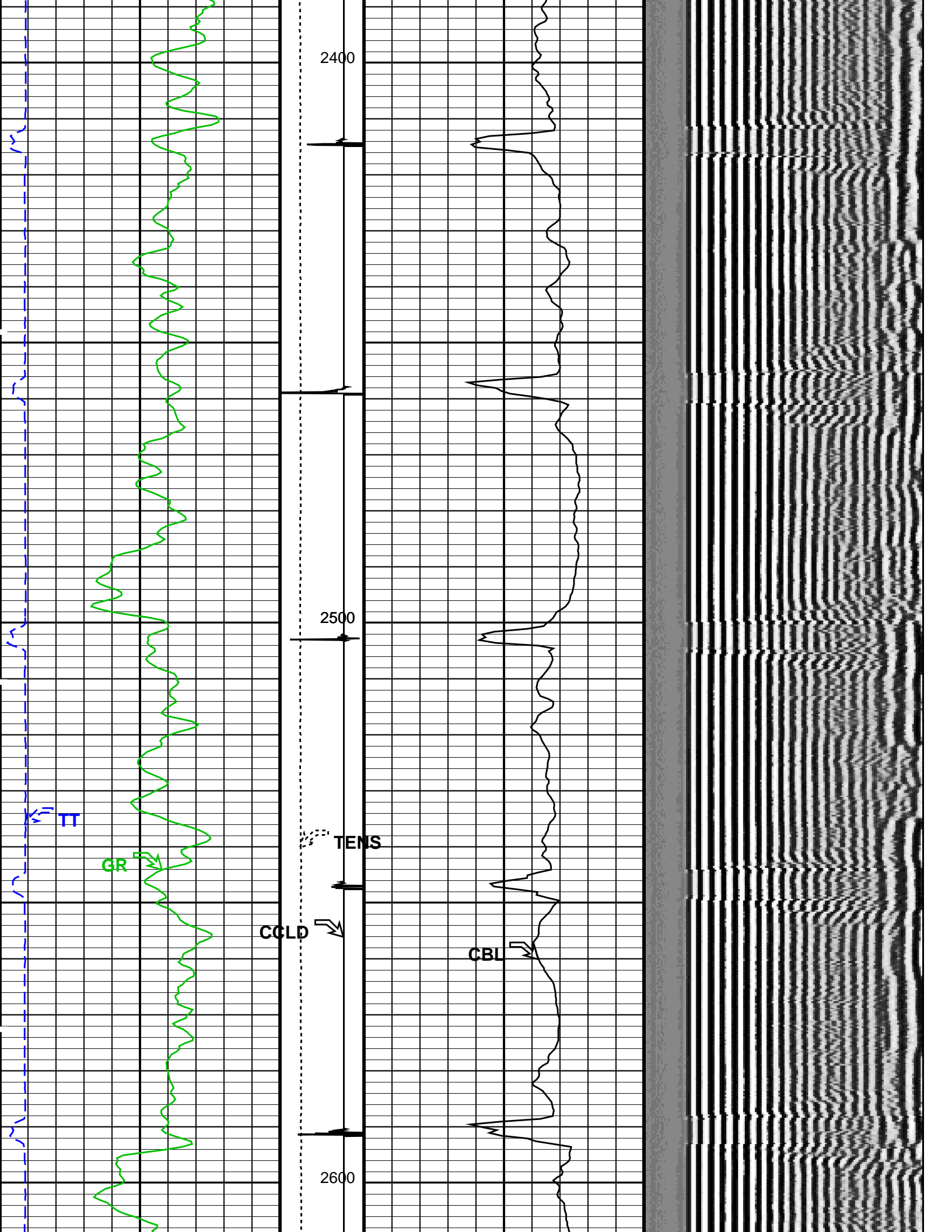


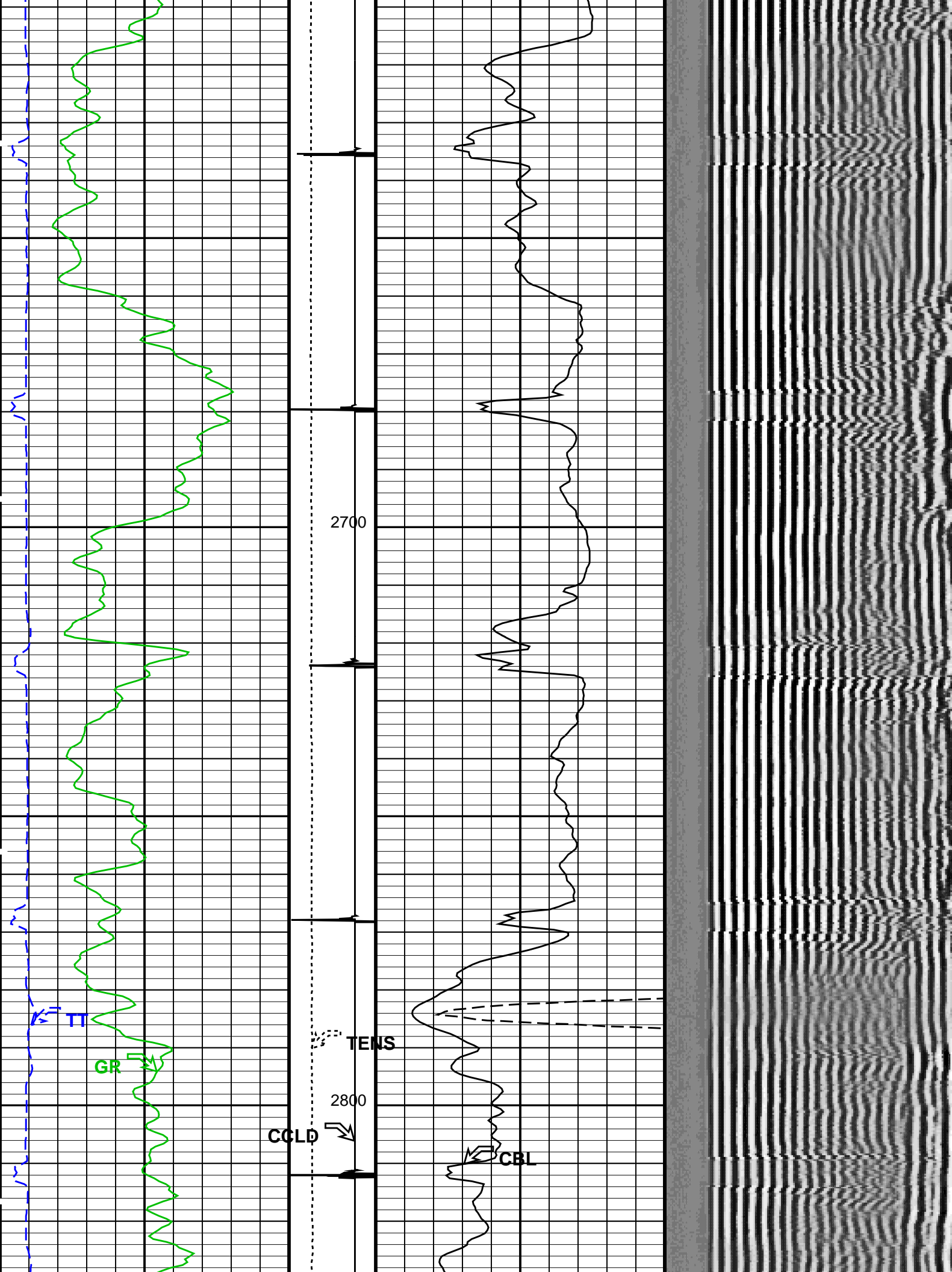


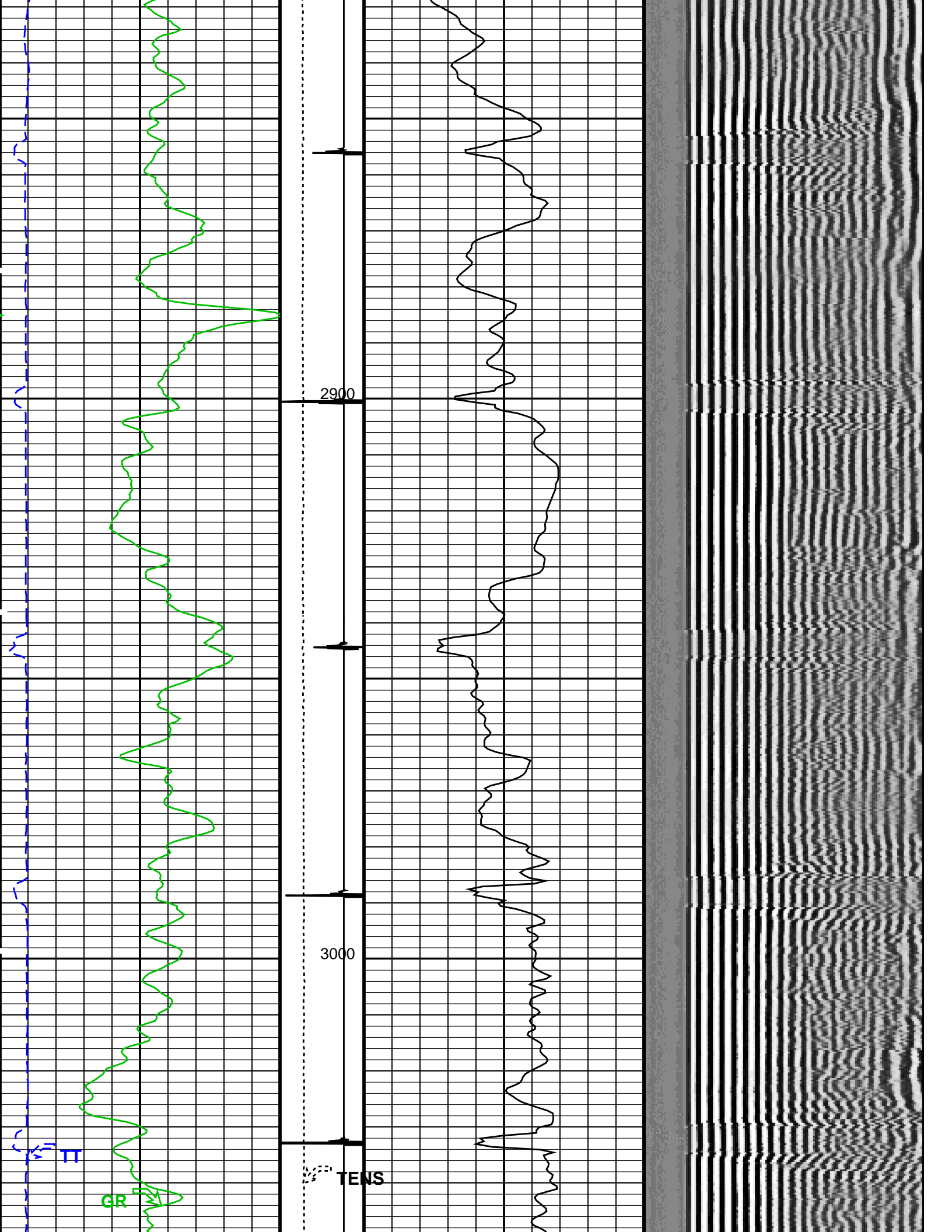


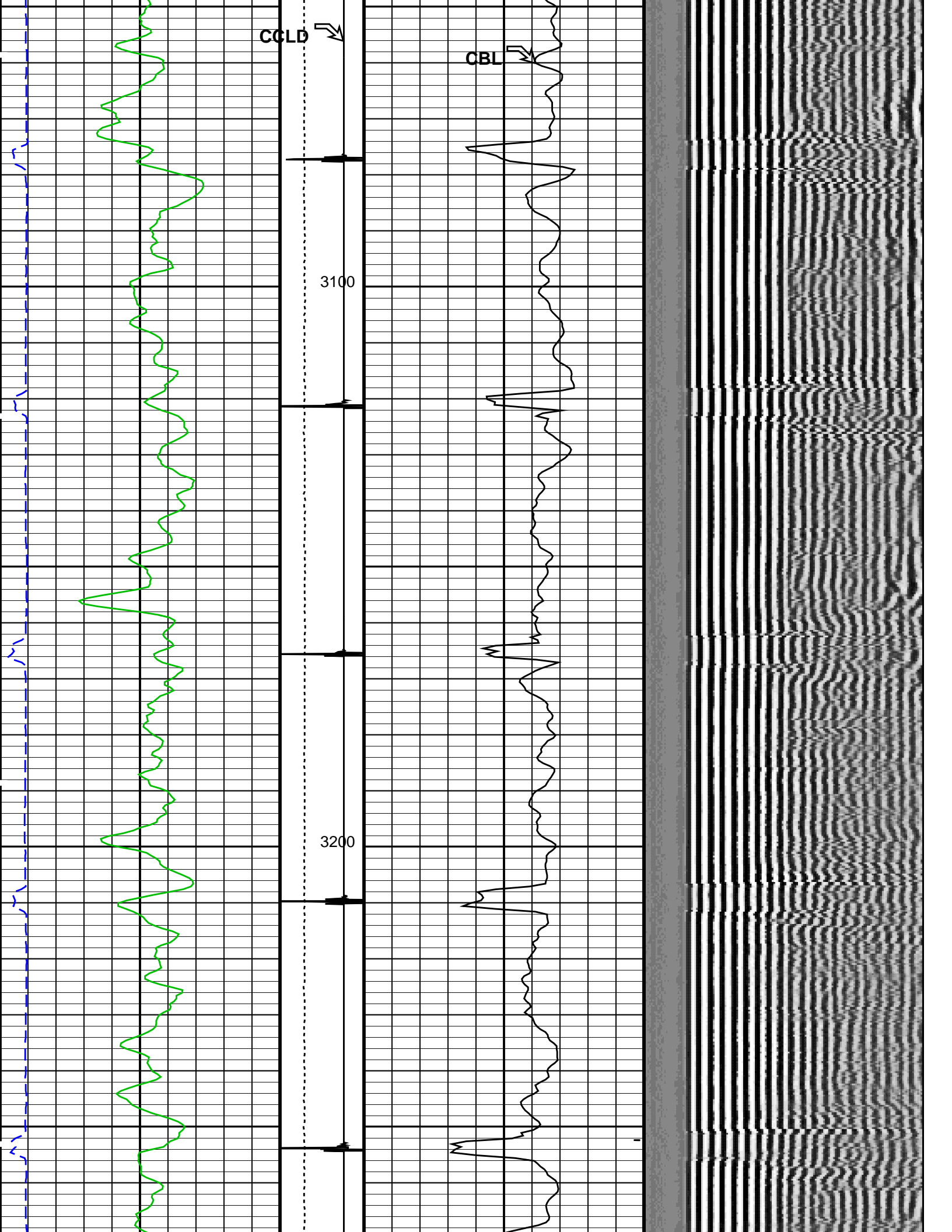


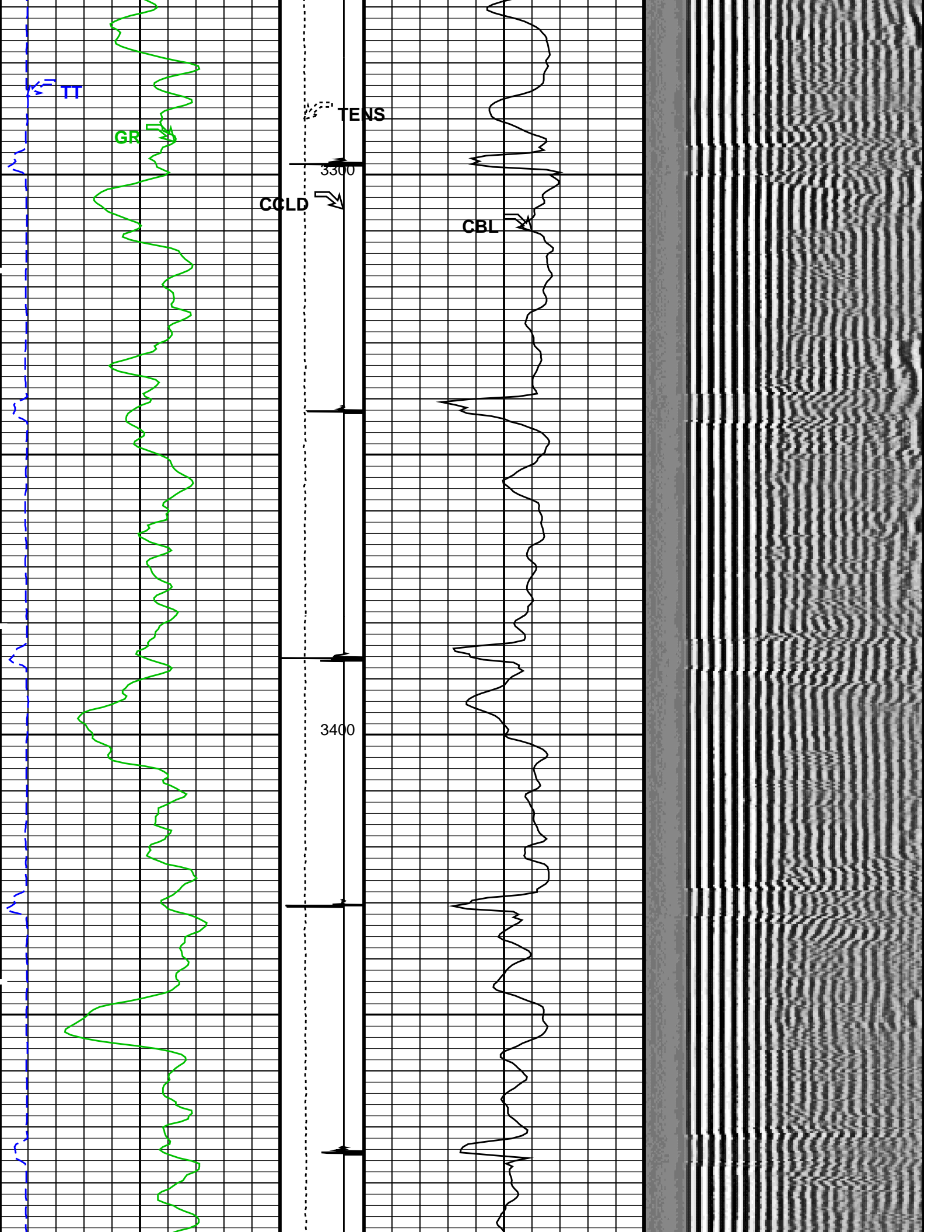


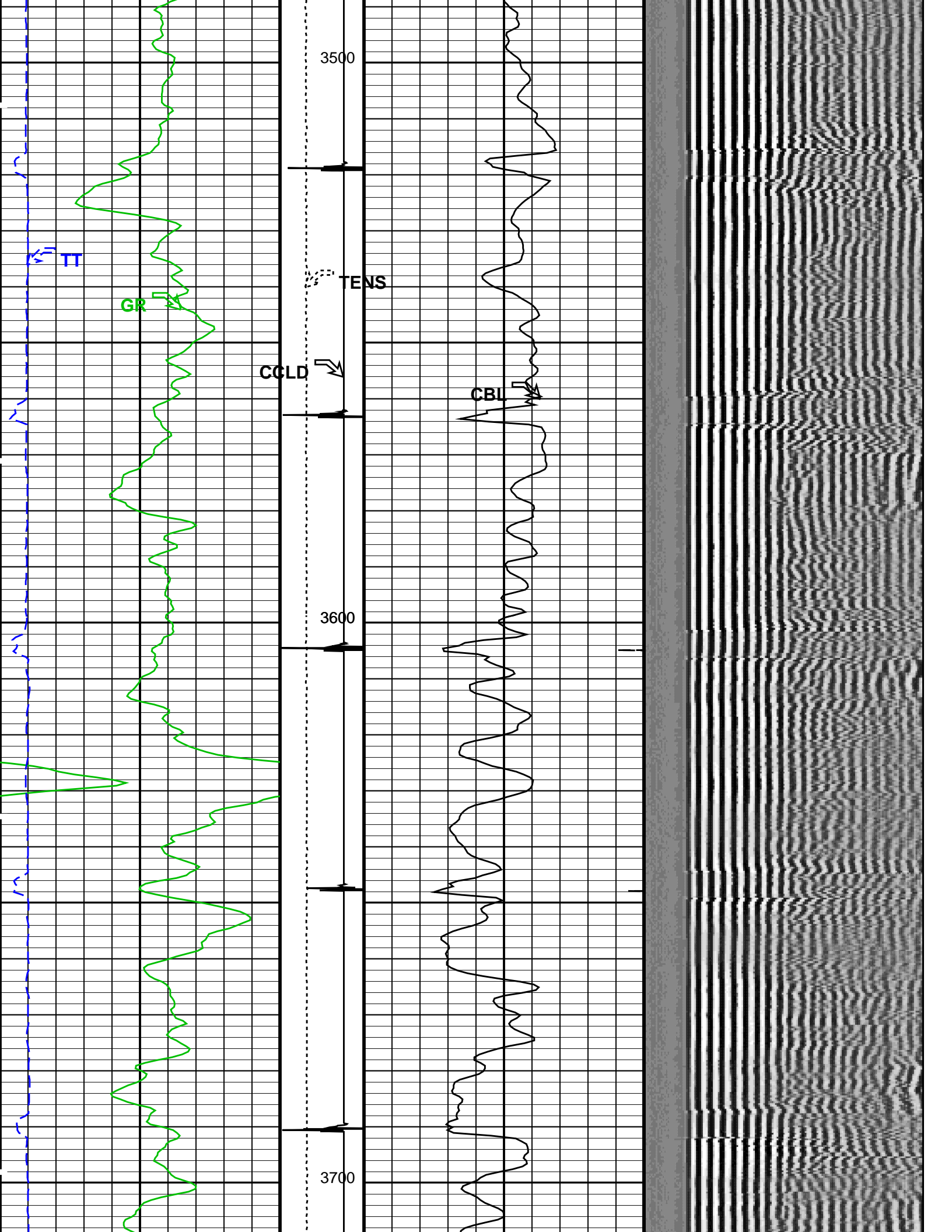


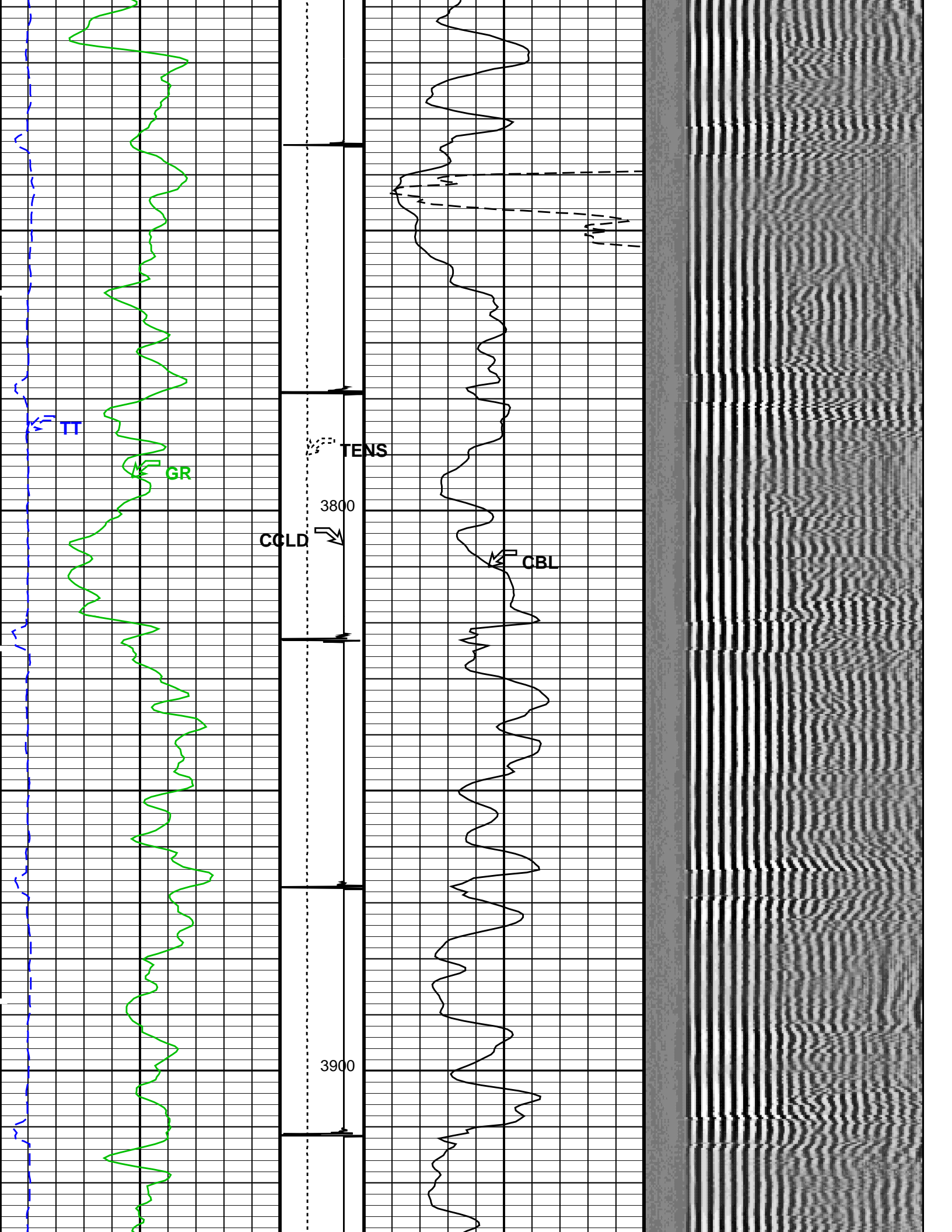


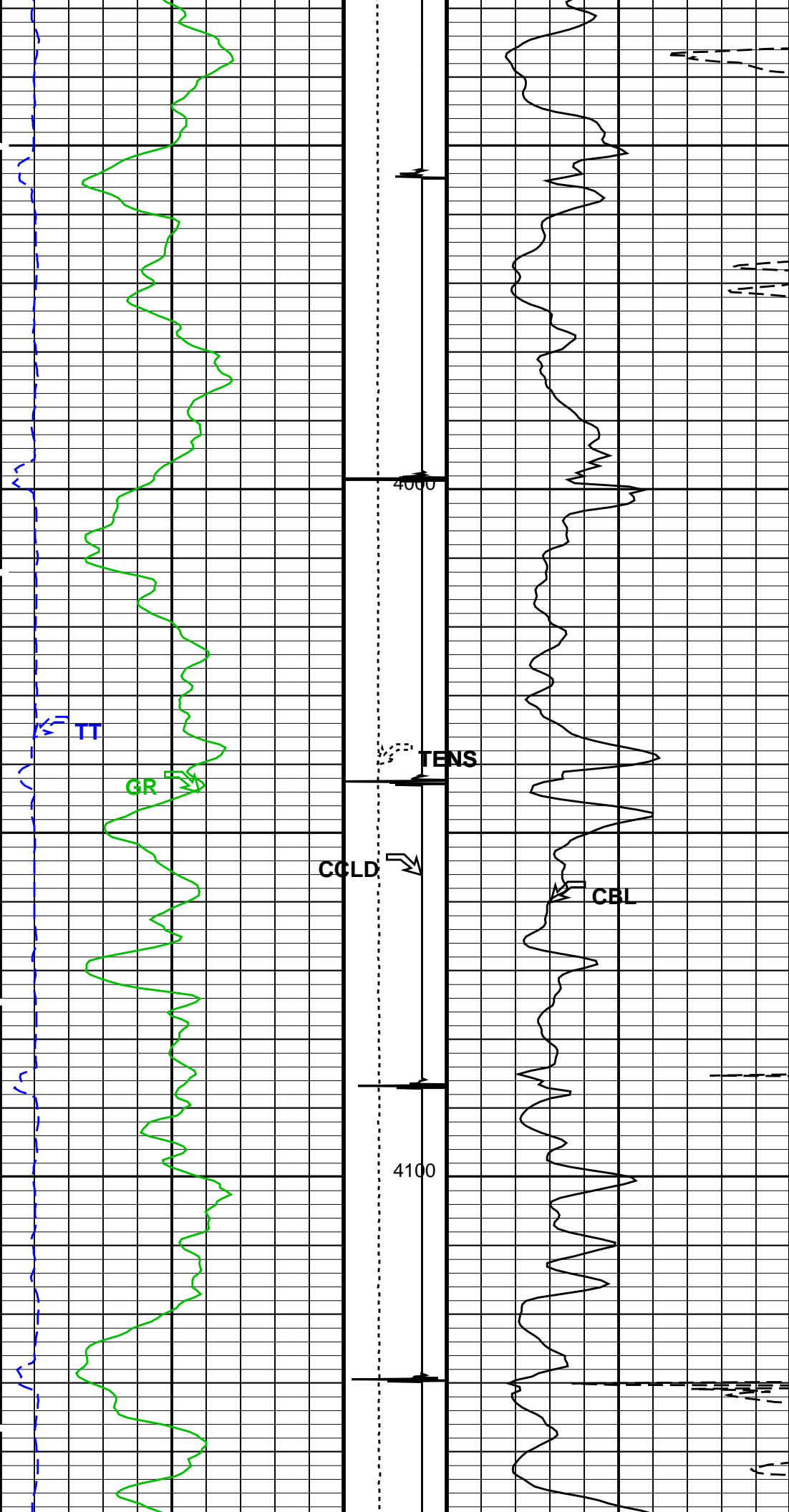


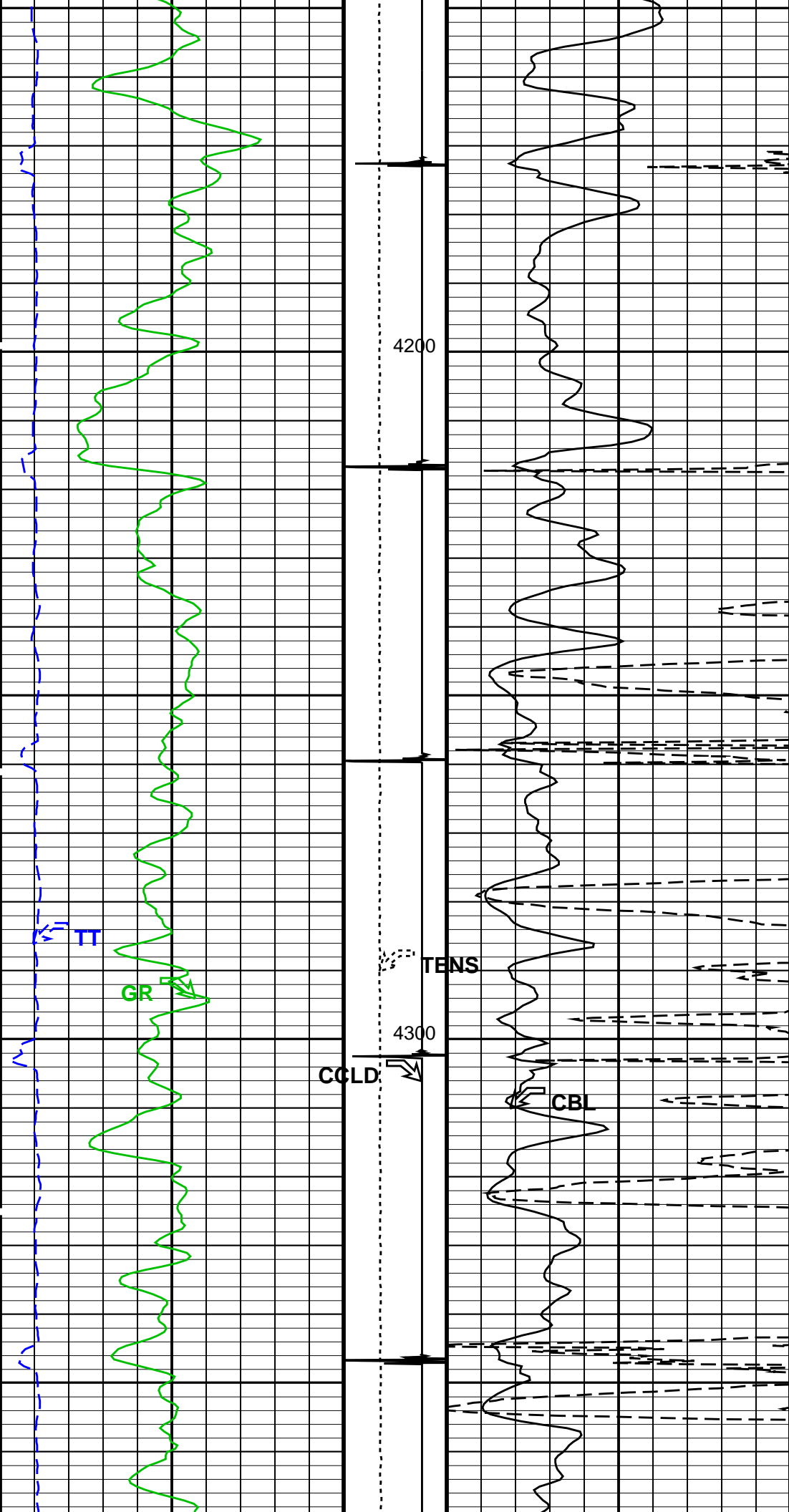


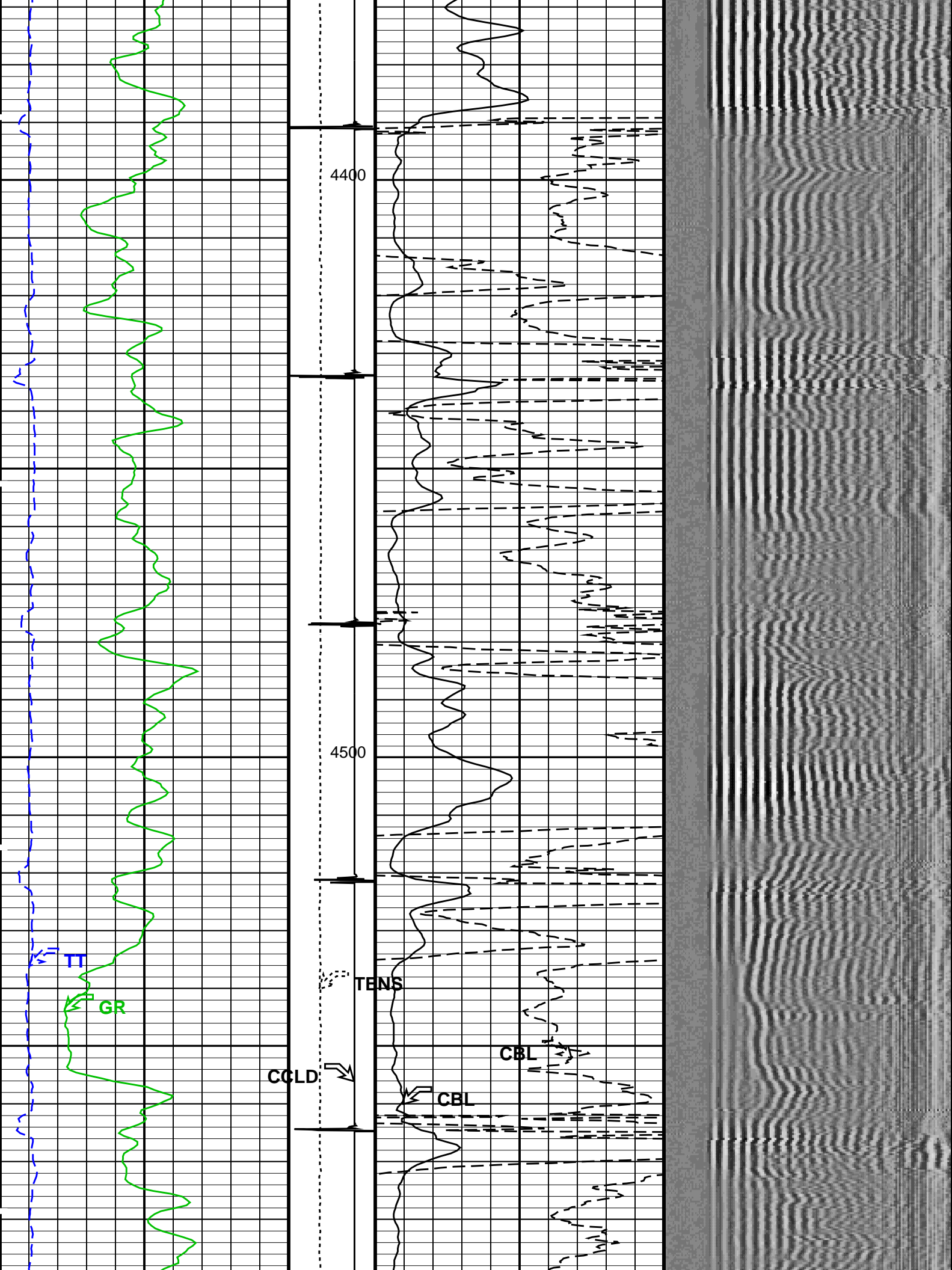


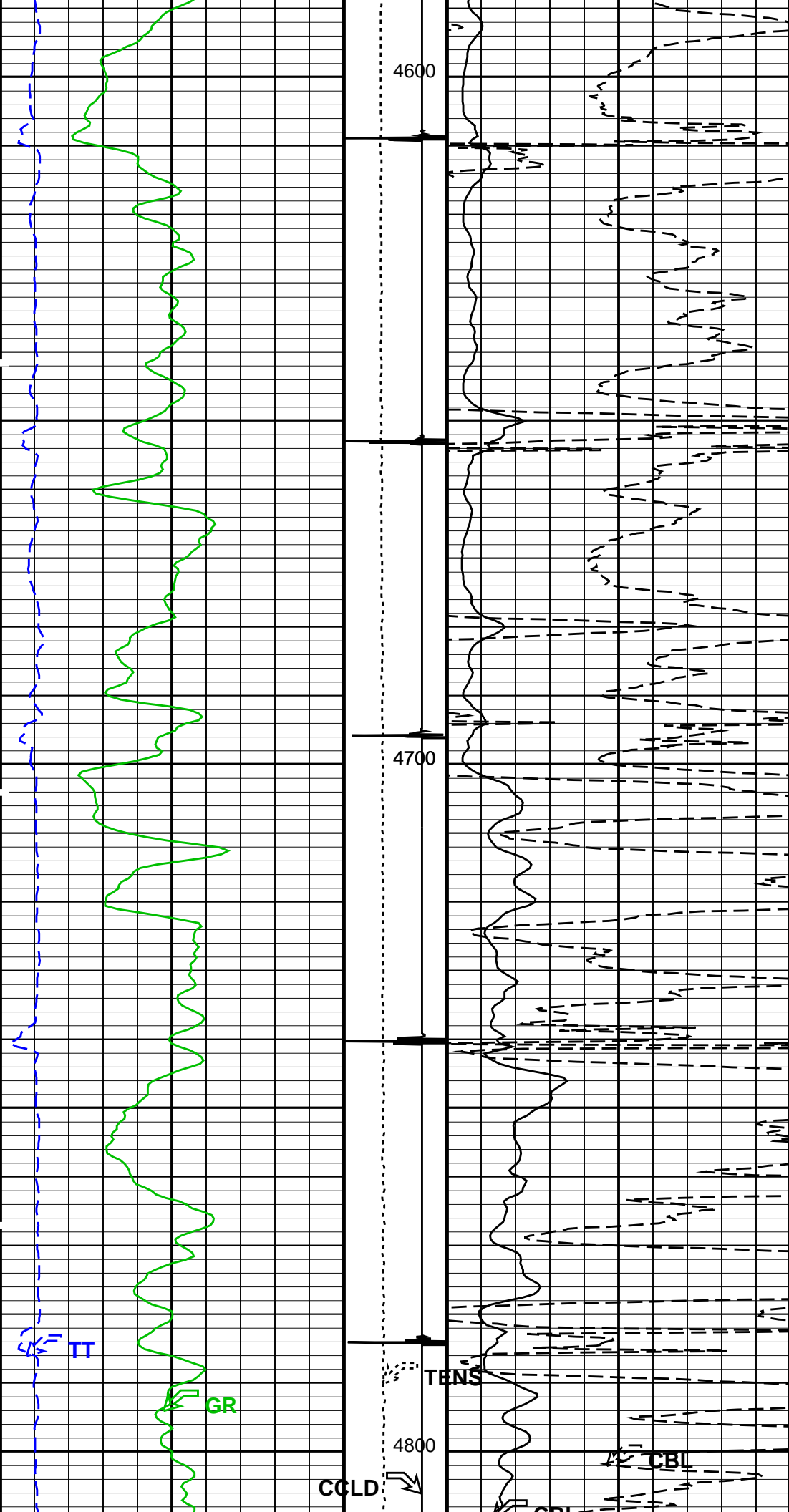












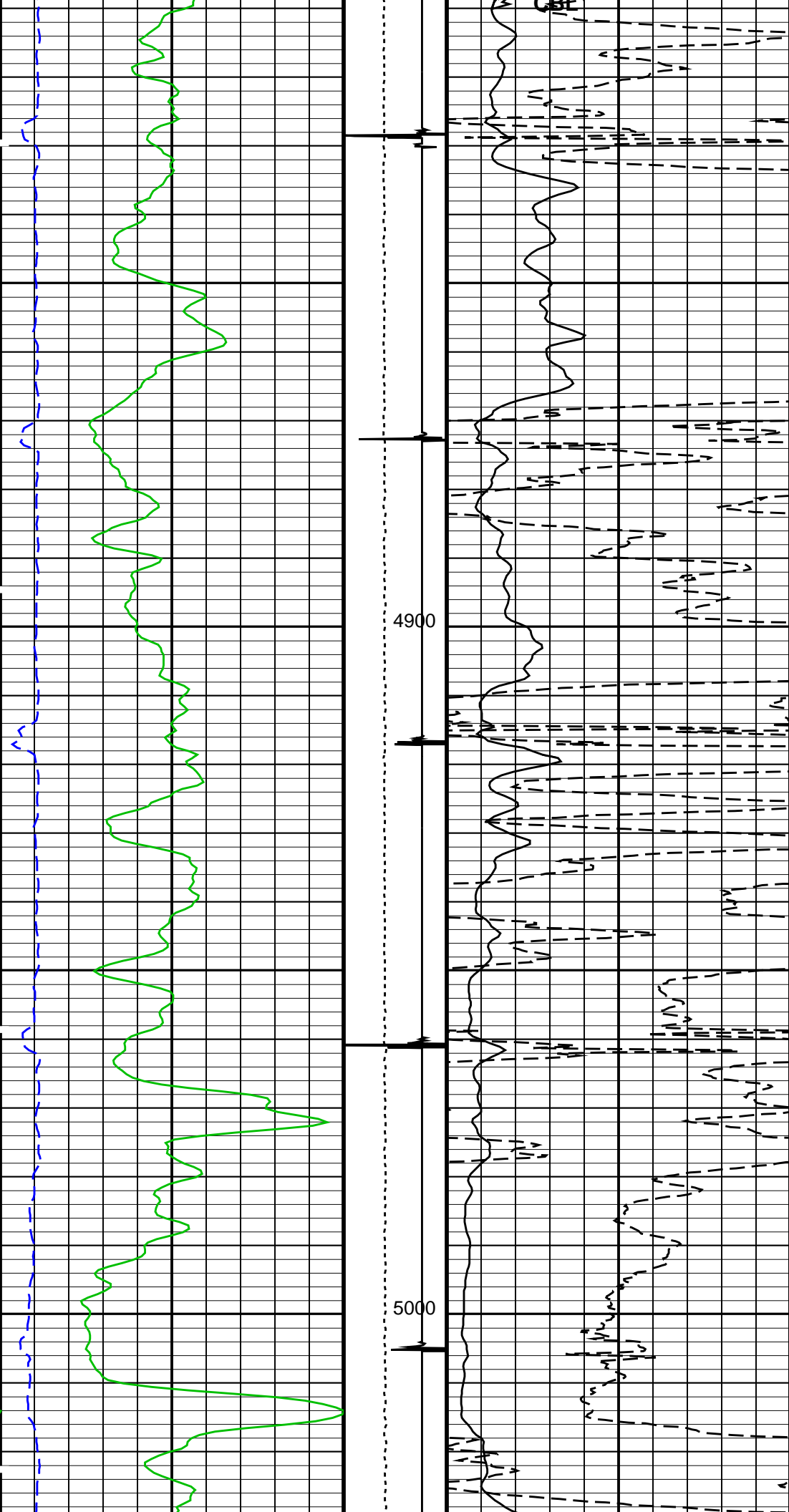
CCLD

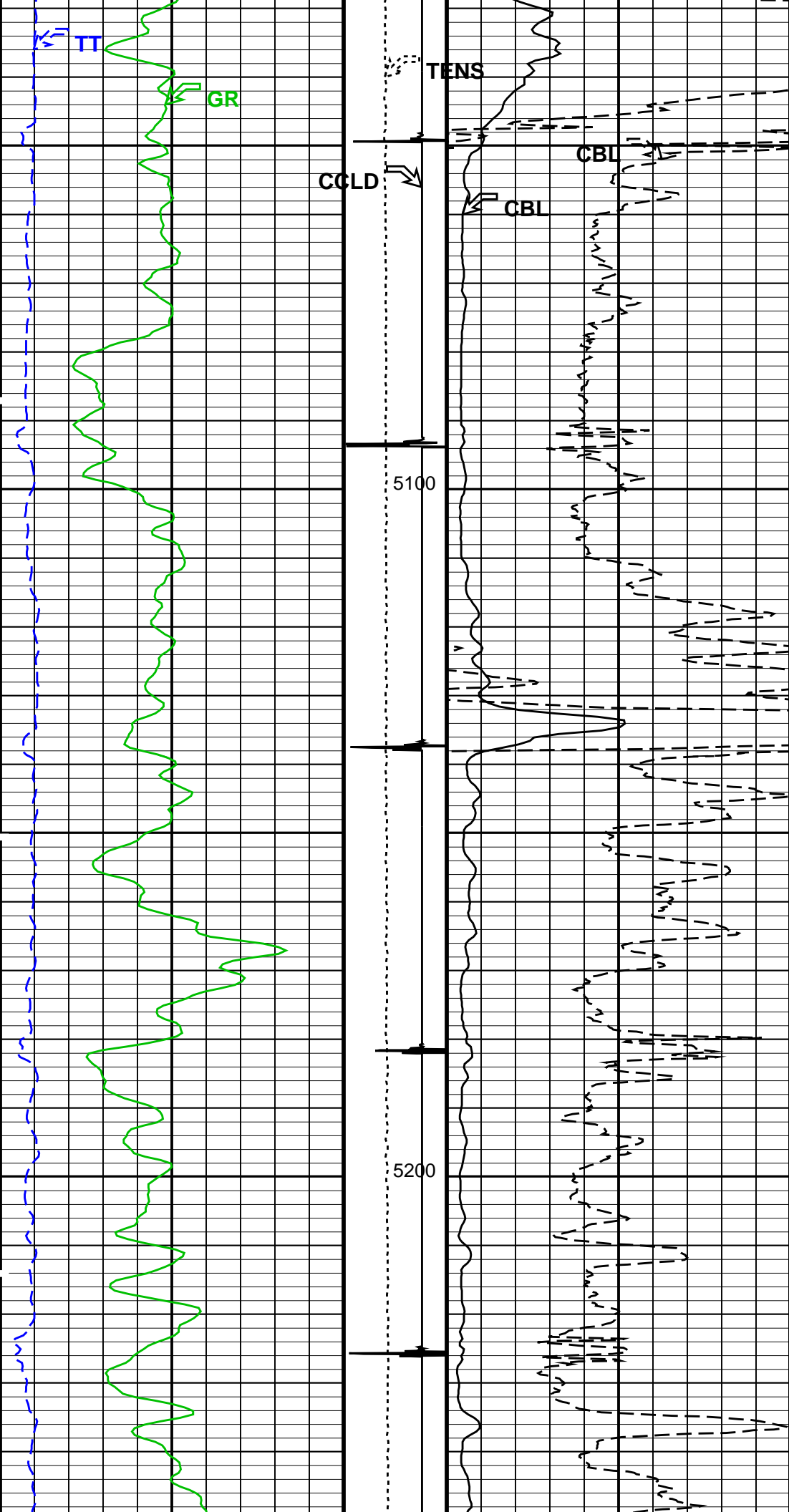
TENS

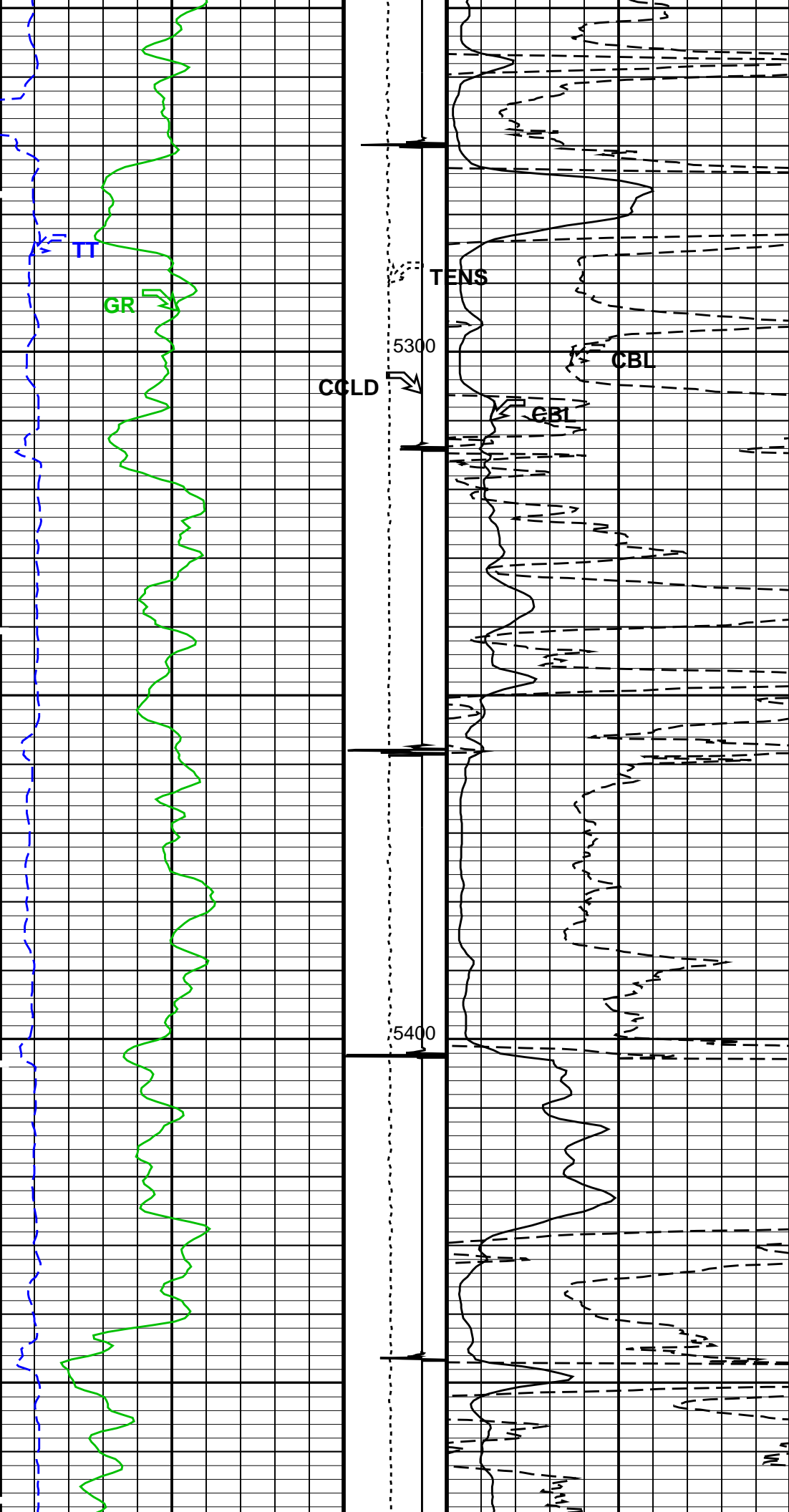
CBL

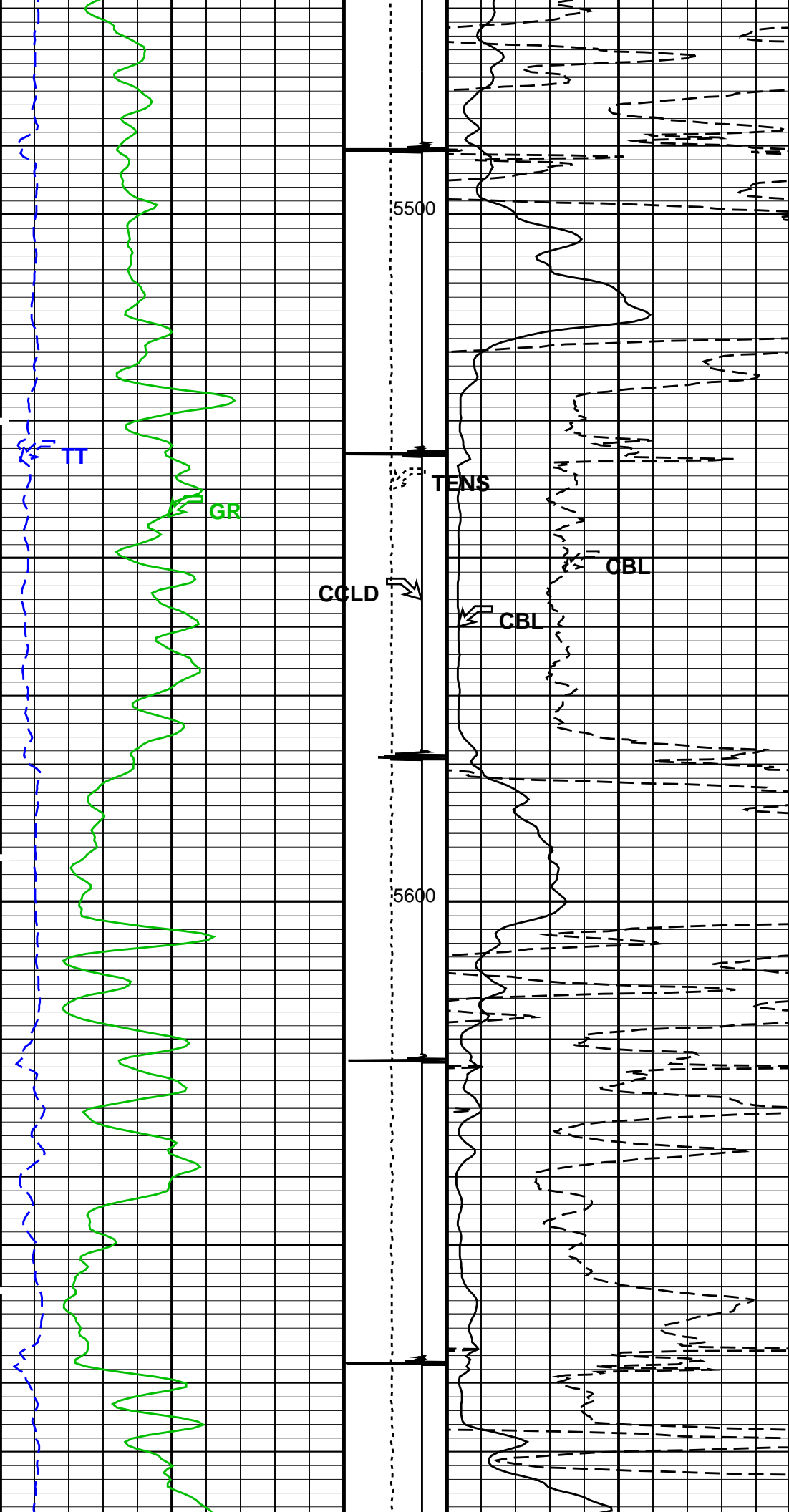
GR

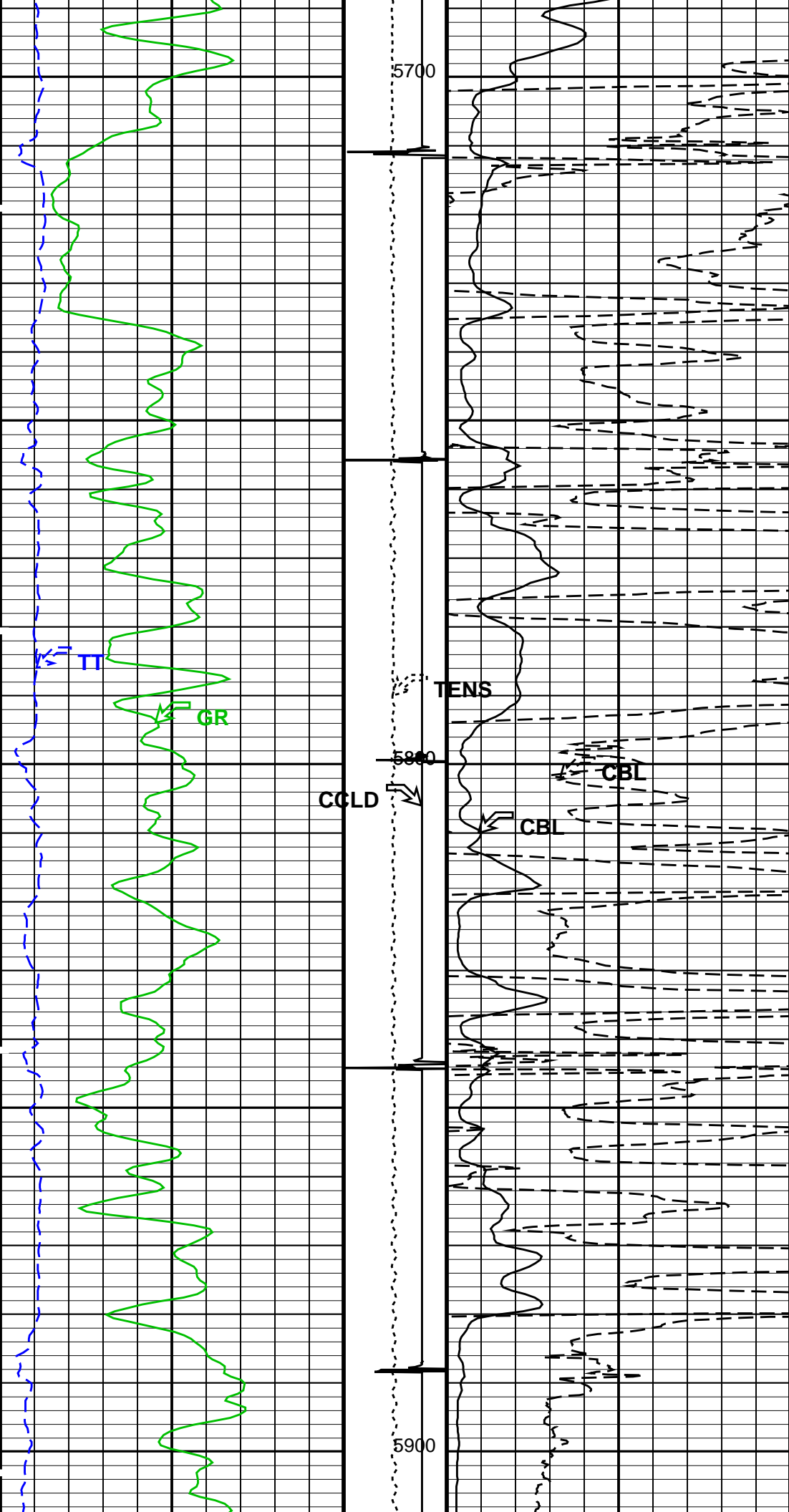
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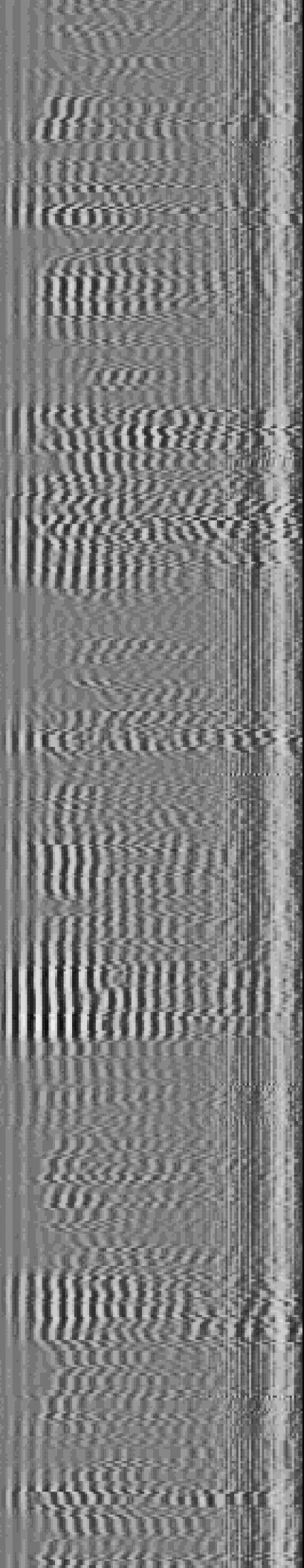
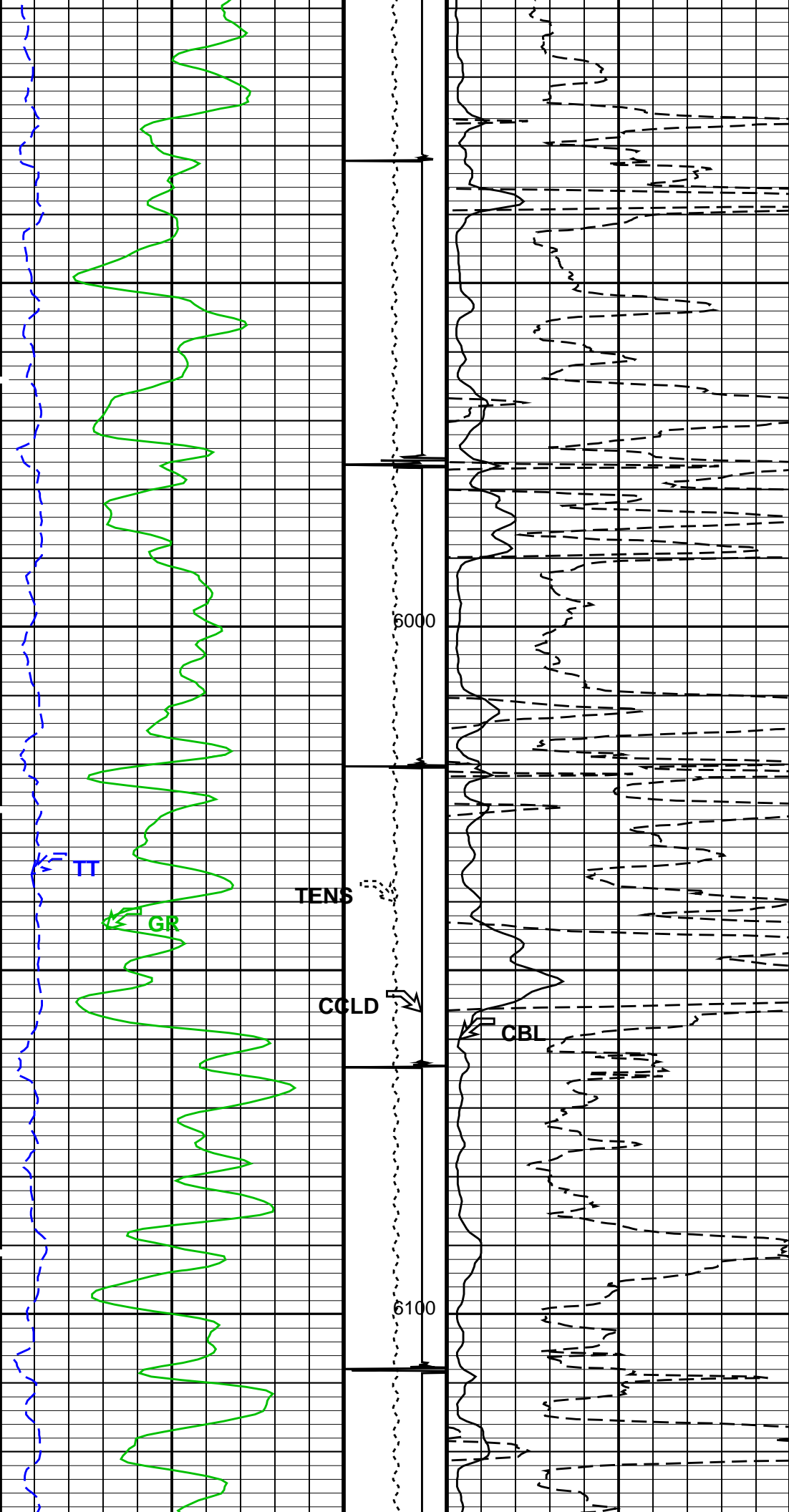


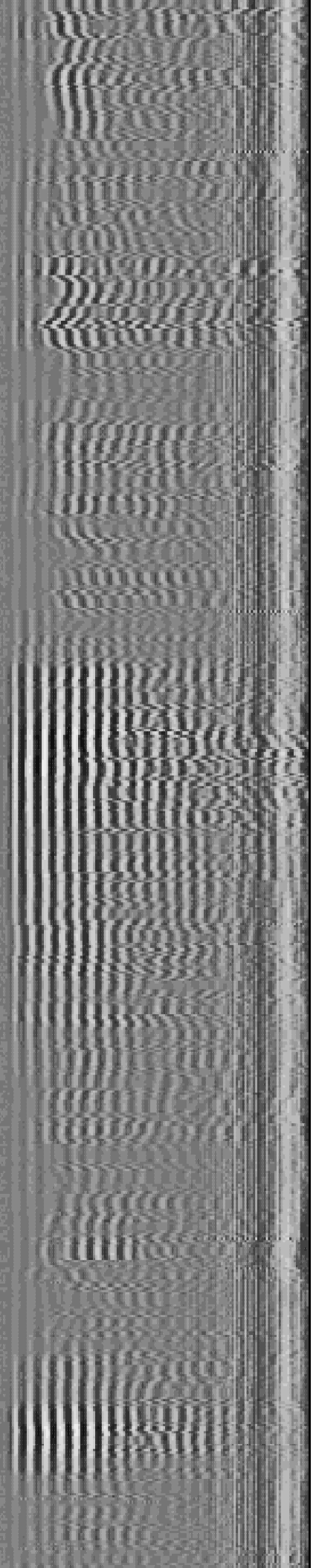
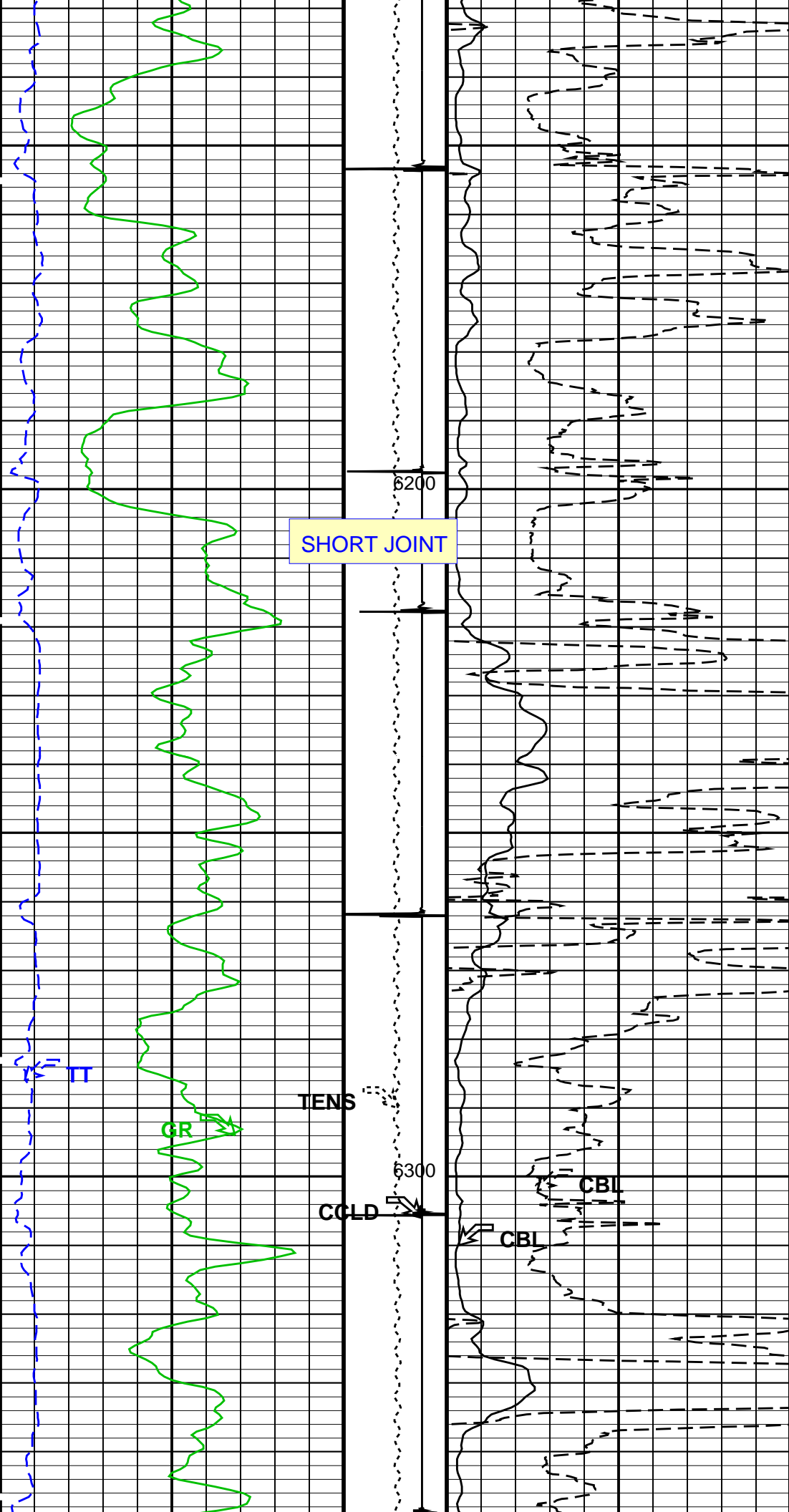


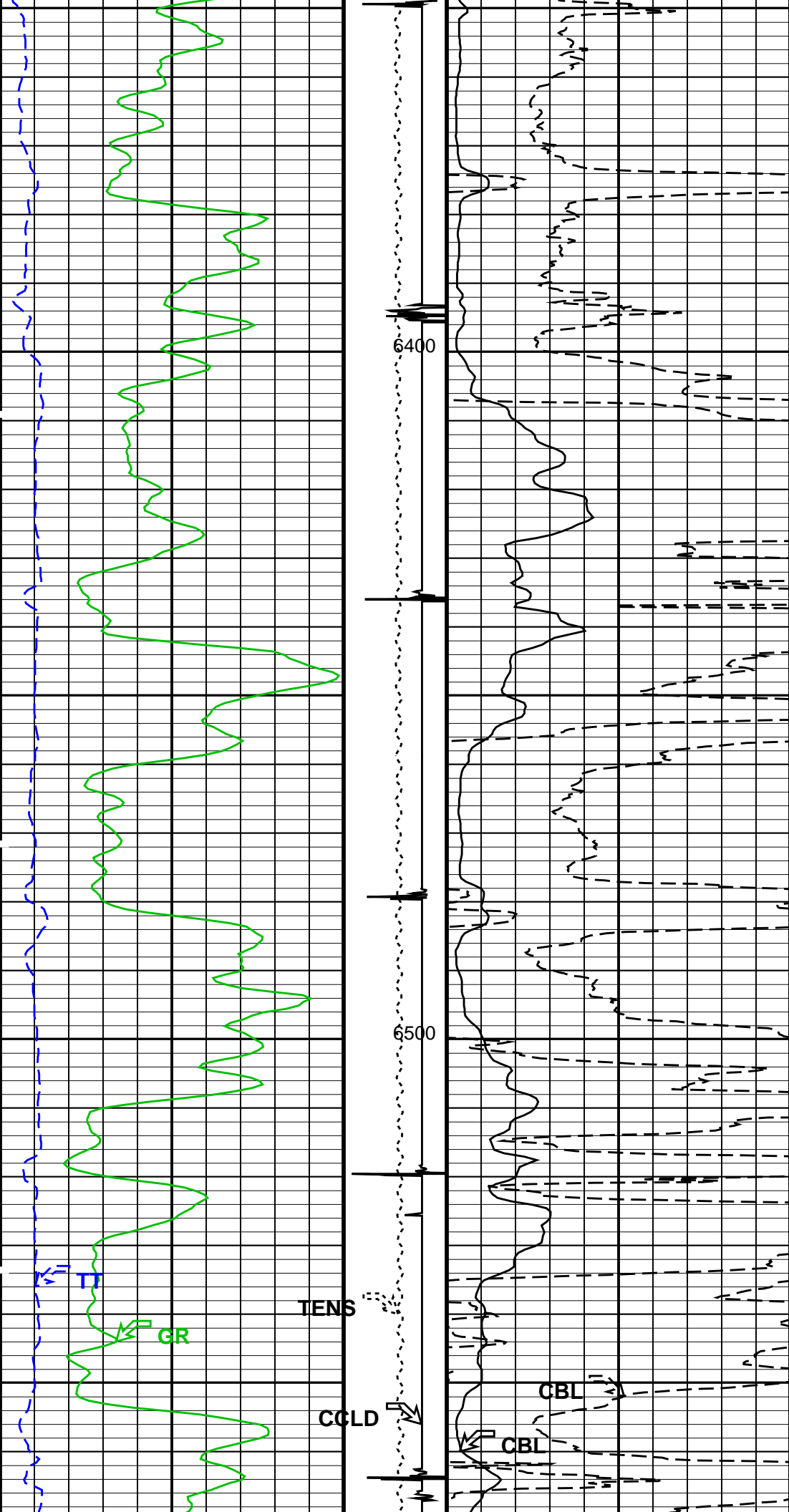


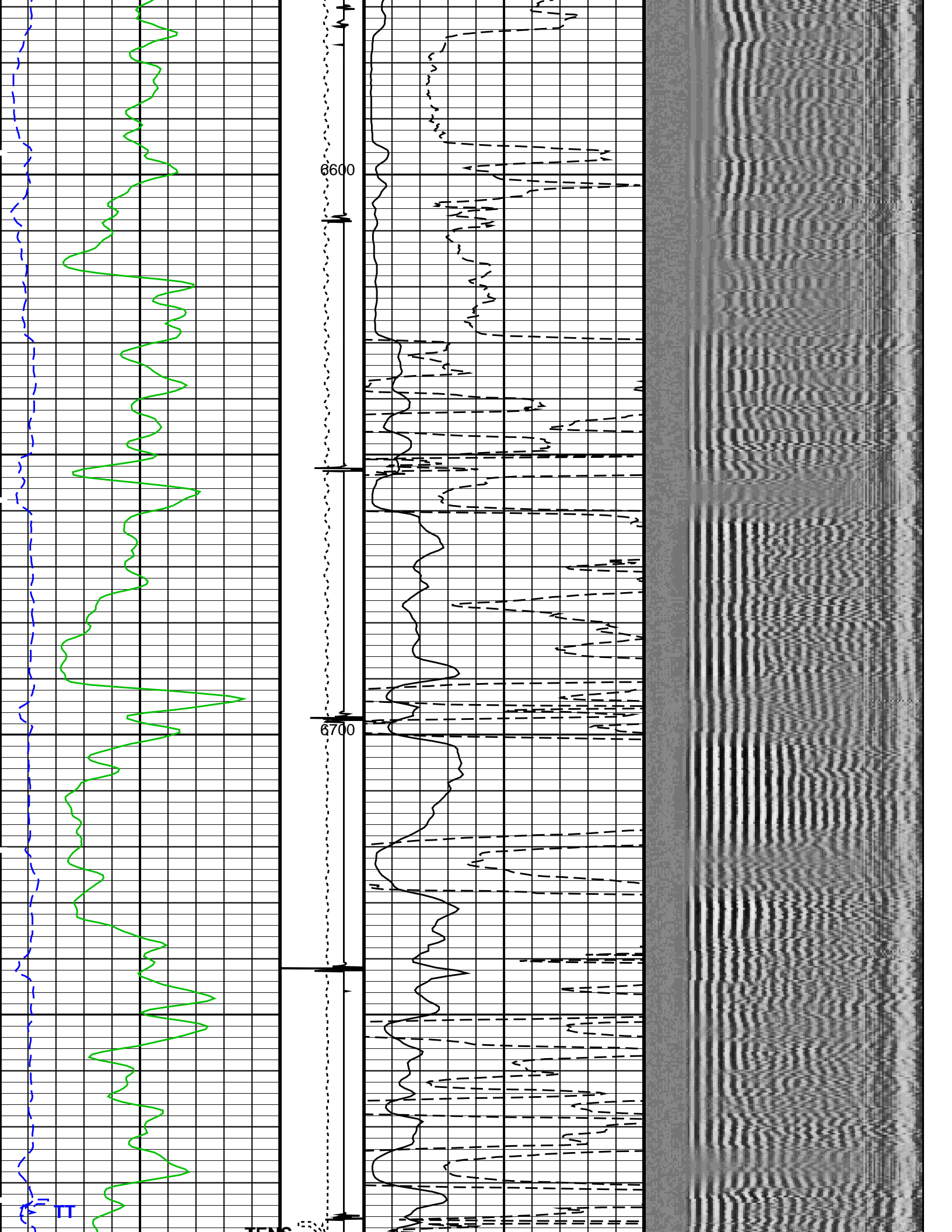


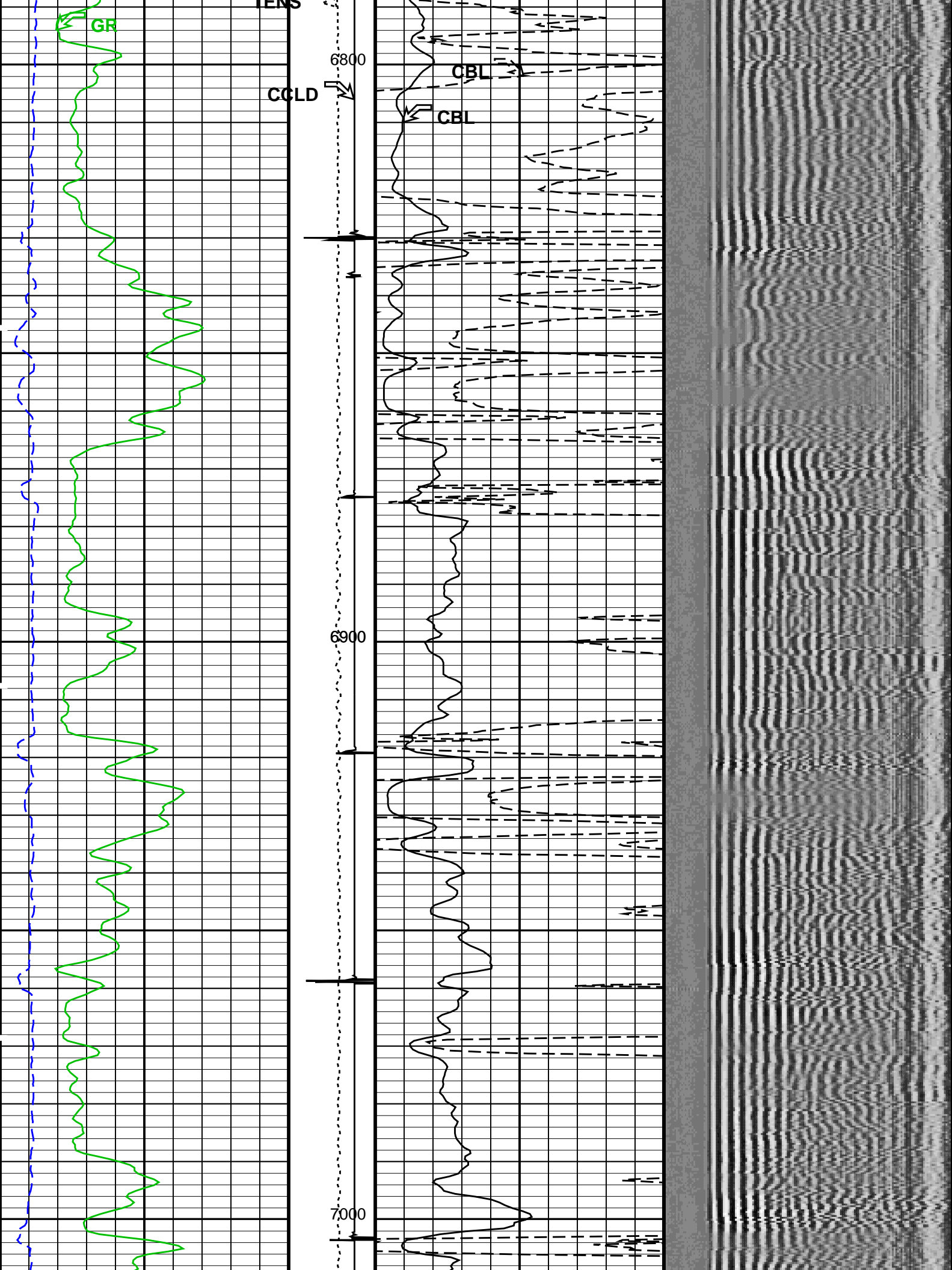


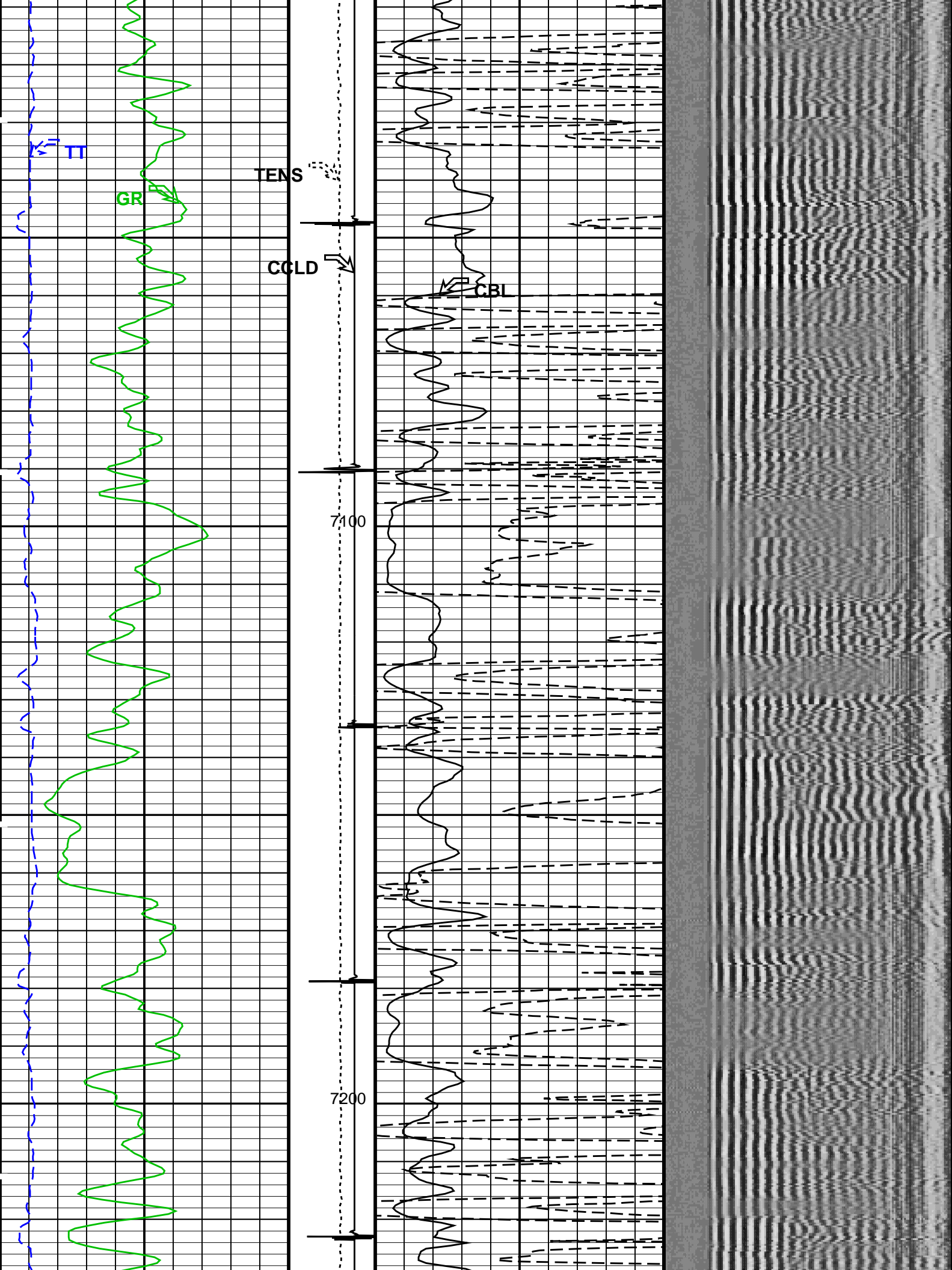


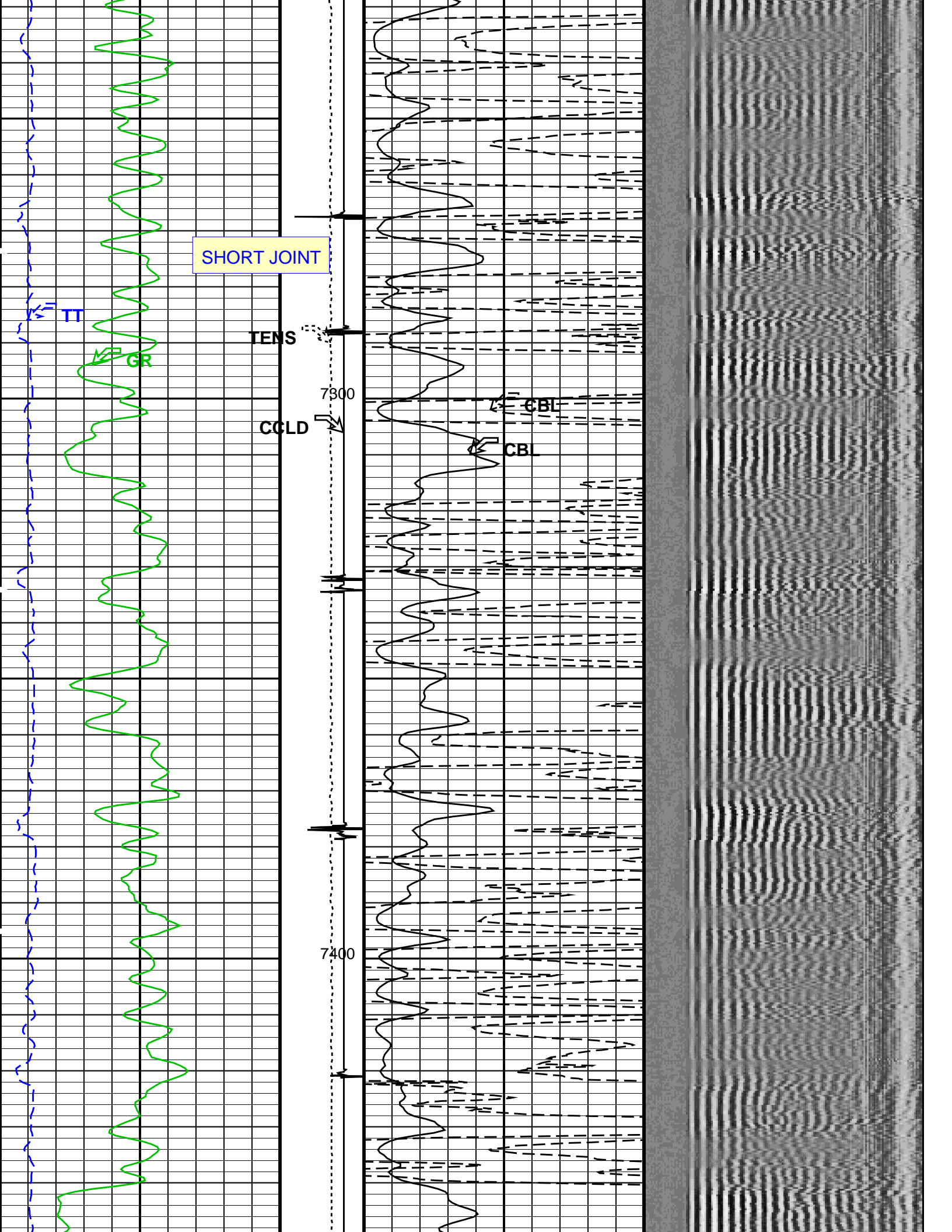


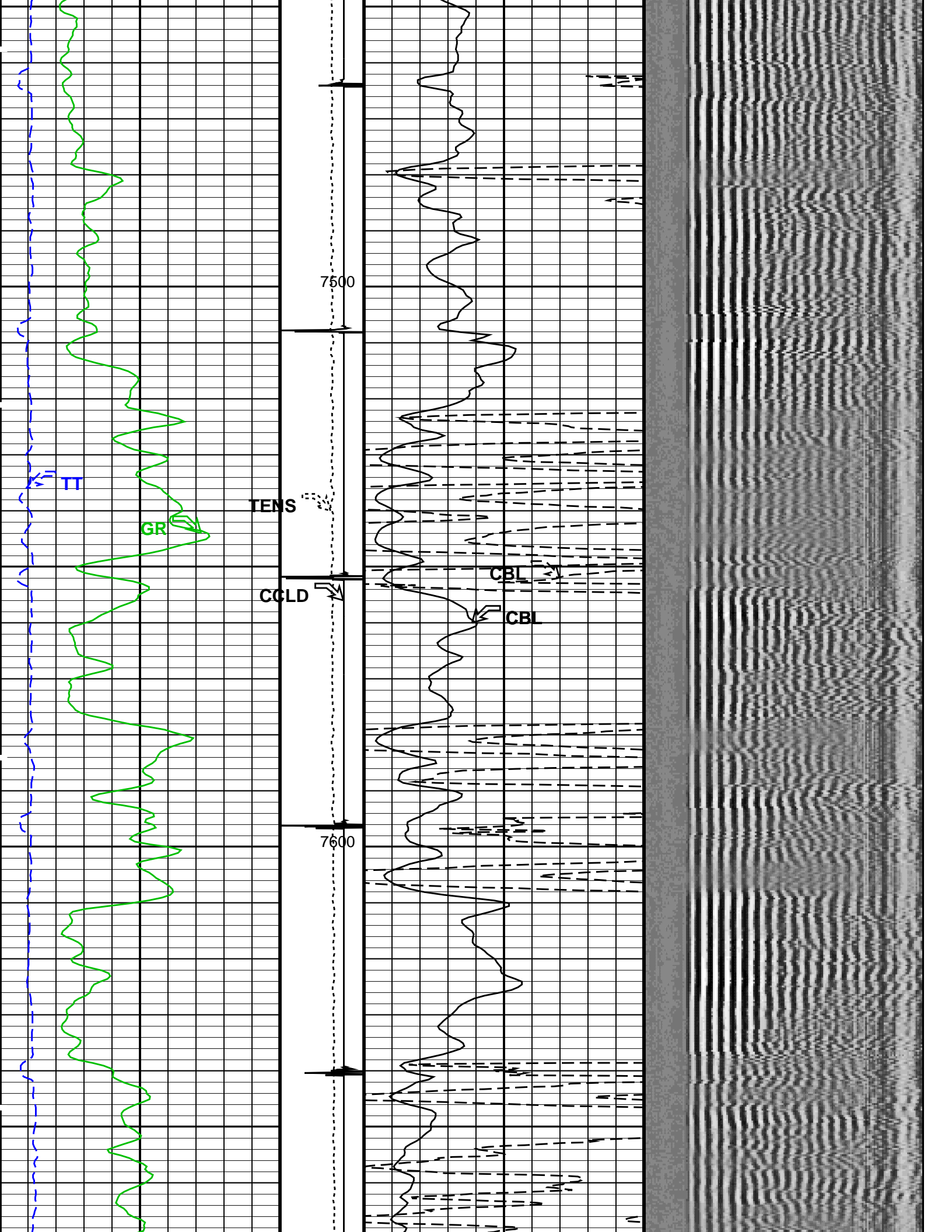


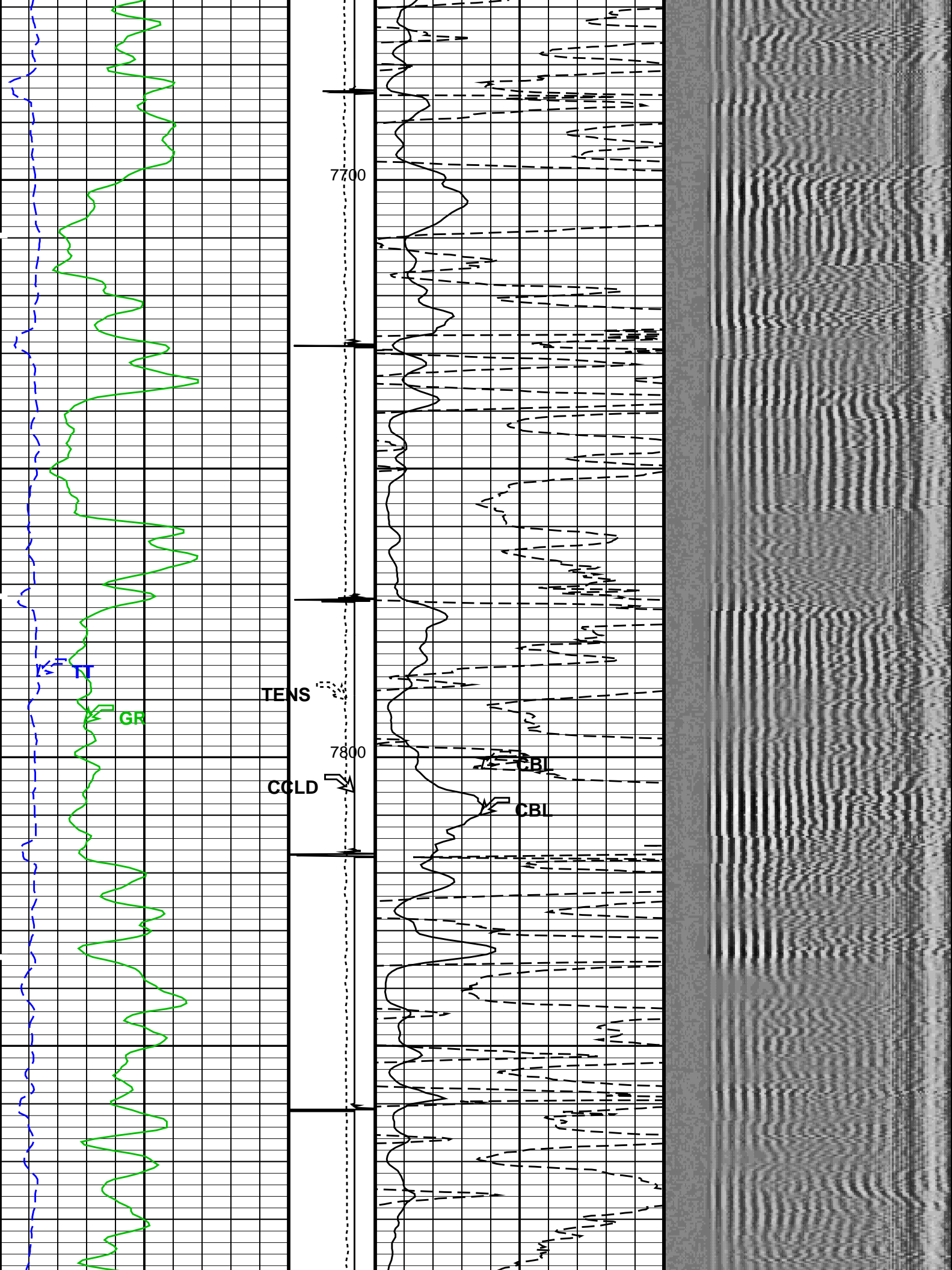


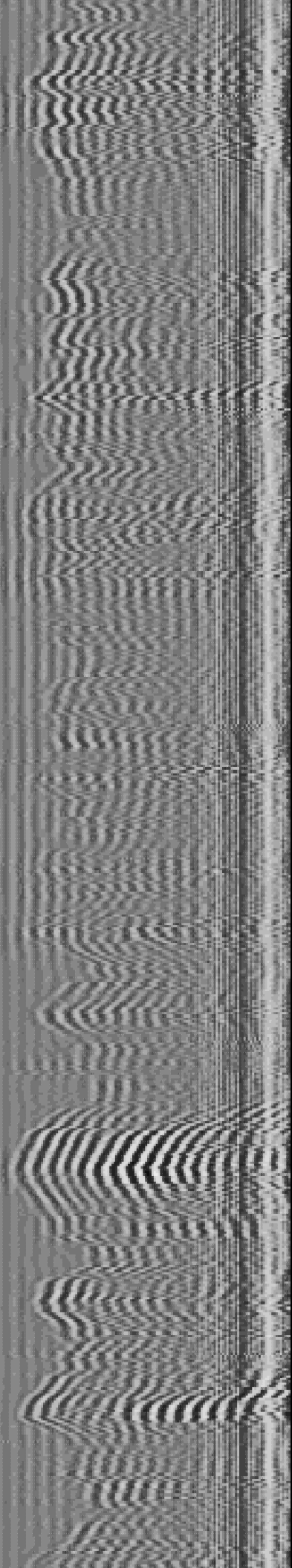
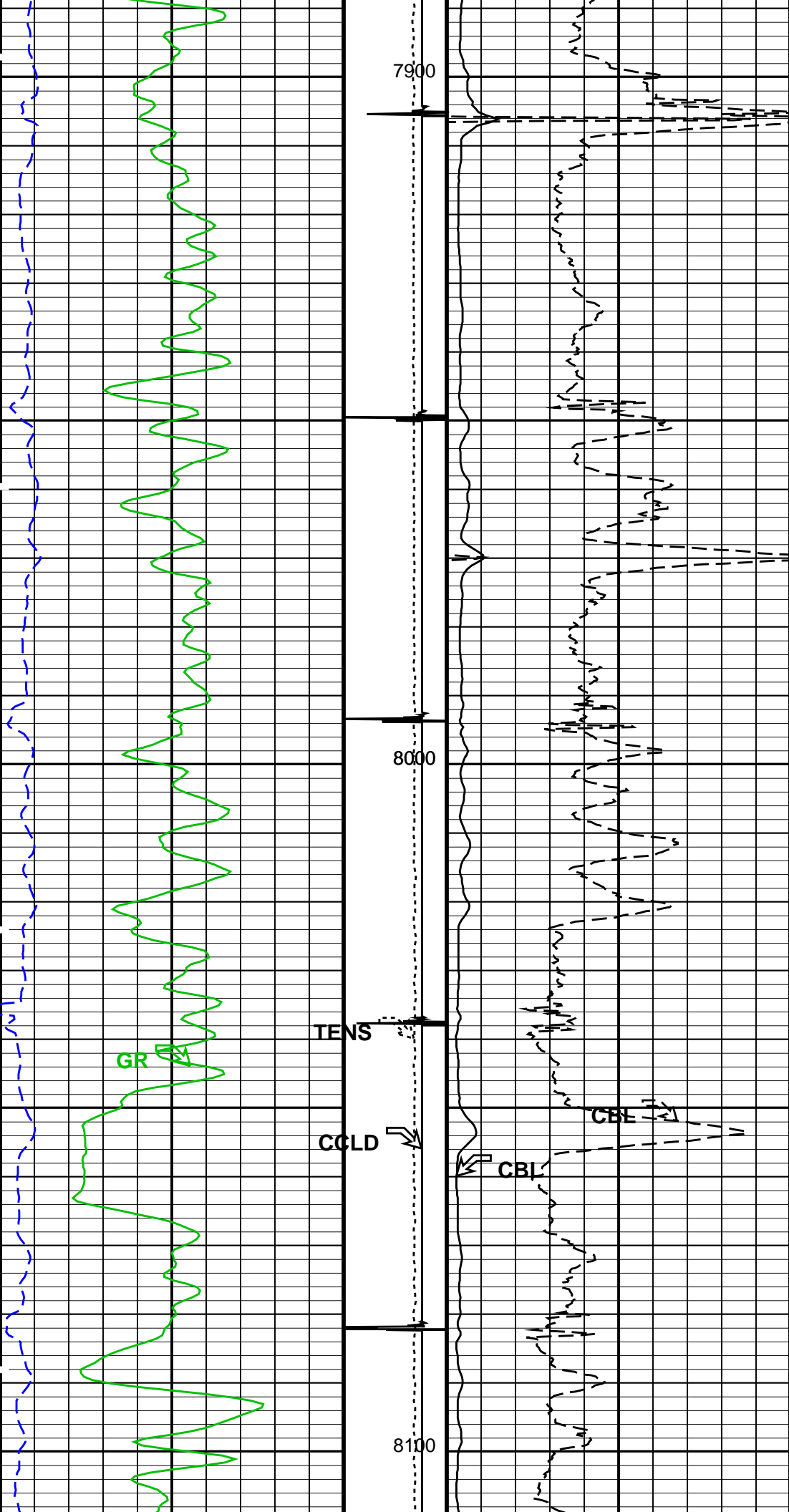


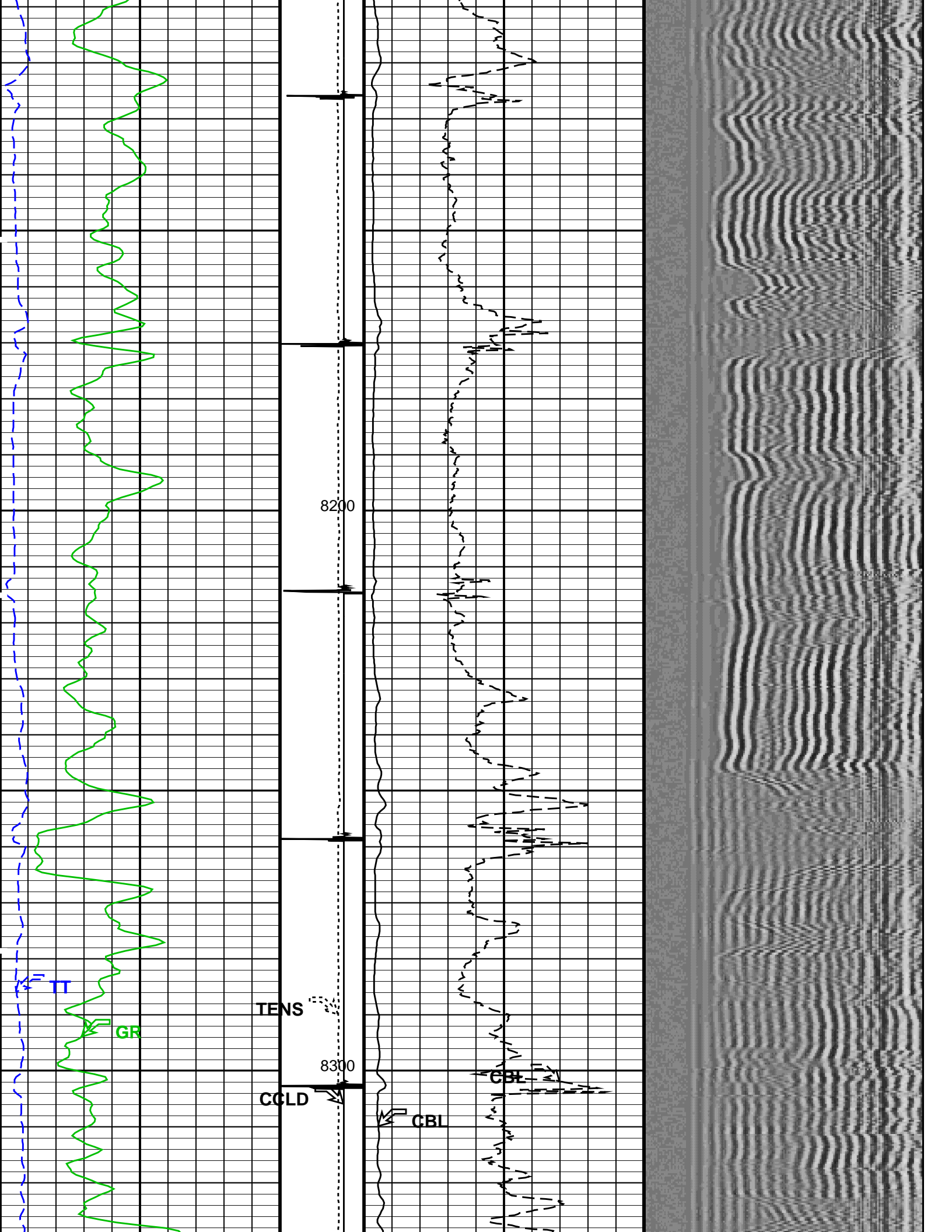


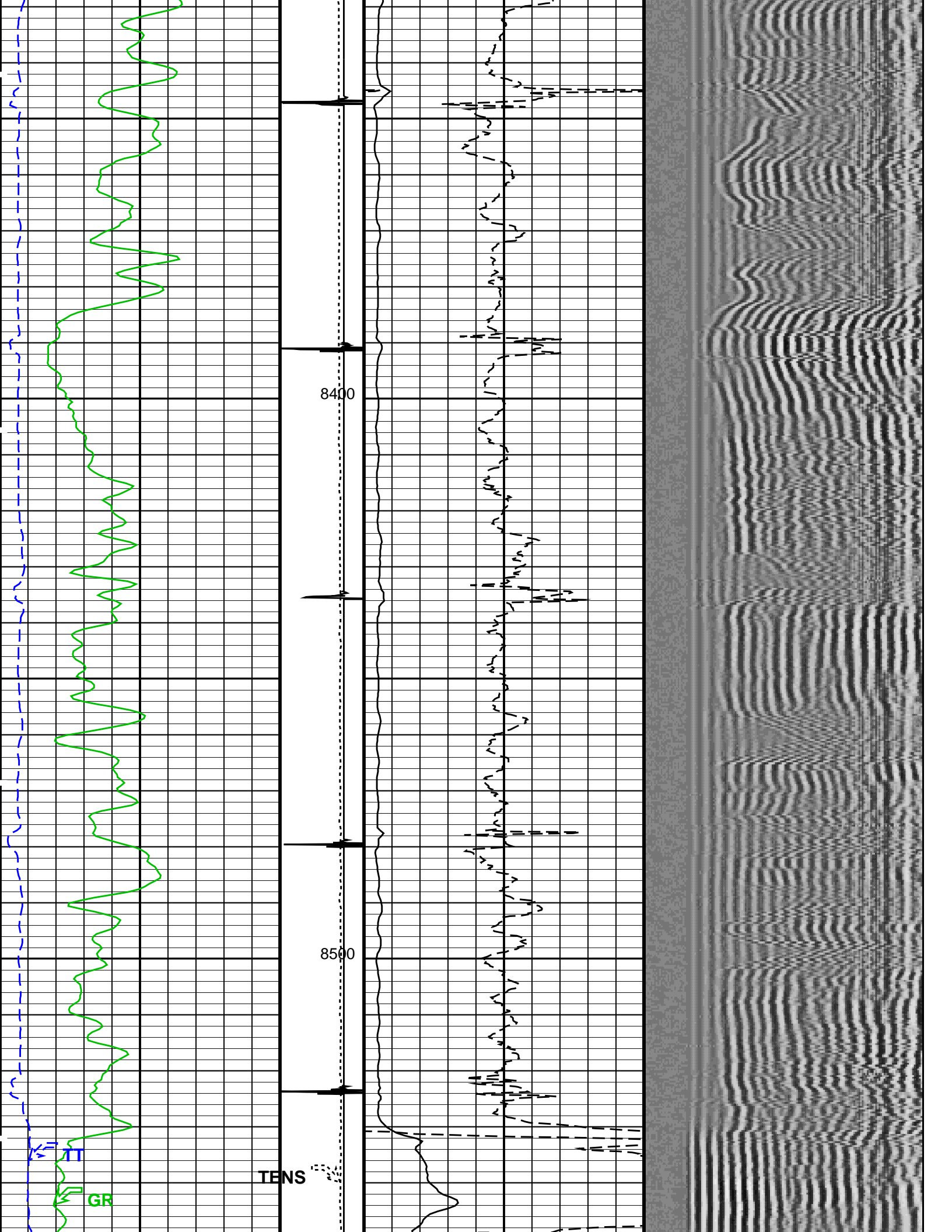


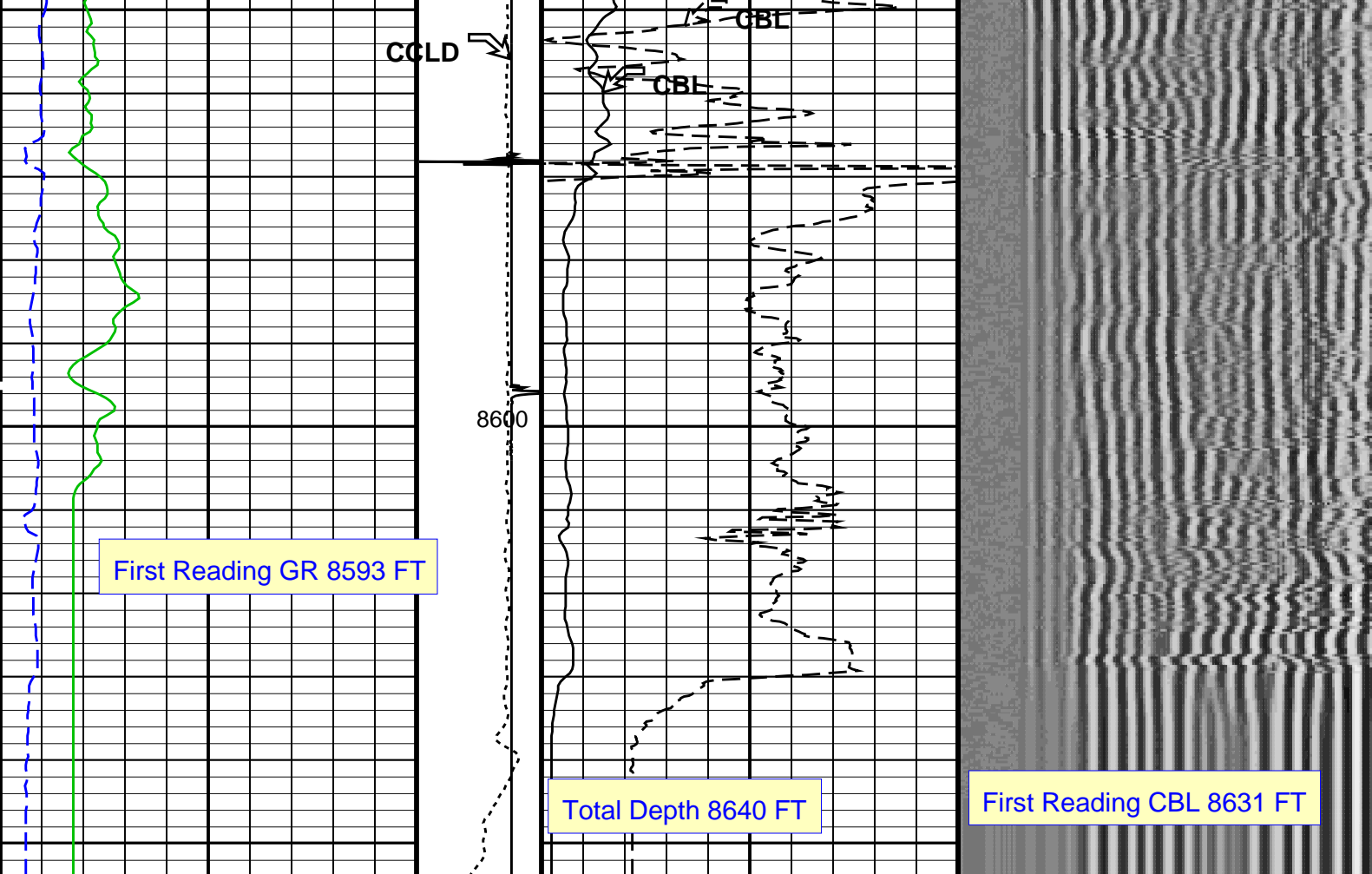












Gamma Ray (GR) (GAPI)	Tension (TENS) (LBF)	CBL Amplitude (CBL) (MV)	Min 200	Amplitude Max	Max 1200
0	0	0	200		1200
150	2000	100			
				VDL Variable Density (VDL) (US)	
Transit Time (TT) (US)	Discriminated CCL (CCLD) (V)	CBL Amplitude (CBL) (MV)			
260	3	0			
160	-1	10			

PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL Vertical Scale: 5" per 100'

Graphics File Created: 22-Oct-2013 08:28

OP System Version: 19C0-187

SCMT-CB SRPC-5214-H2-2012-OP1 RST-C SRPC-5214-H2-2012-OP1
PSPT SRPC-5214-H2-2012-OP1

<<<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	7-SEP-2012		
CBL Correction Factor	0.0756720	CBL Adjustment Factor (CBAF)	1.0

MAP 1 Correction Factor	0.136845	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.165126		
MAP 3 Correction Factor	0.125717		
MAP 4 Correction Factor	0.196395		
MAP 5 Correction Factor	0.147692		
MAP 6 Correction Factor	0.128887		
MAP 7 Correction Factor	0.150775		
MAP 8 Correction Factor	0.144577		

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	6.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8640	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_065LUP	FN:61	PRODUCER	22-Oct-2013 06:05	8648.0 FT	6.2 FT
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Output DLIS Files

DEFAULT	SCMT_RST_PSP_068PUP	FN:64	PRODUCER	22-Oct-2013 08:28
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Schlumberger

REPEAT ANALYSIS CBL VDL

MAXIS Field Log

Input DLIS Files

DEFAULT	SCMT_RST_PSP_063LUP	FN:59	PRODUCER	22-Oct-2013 05:48	6415.0 FT	6039.5 FT
DEFAULT	SCMT_RST_PSP_068PUP	FN:64	PRODUCER	22-Oct-2013 08:28	8654.0 FT	-32.0 FT

Output DLIS Files

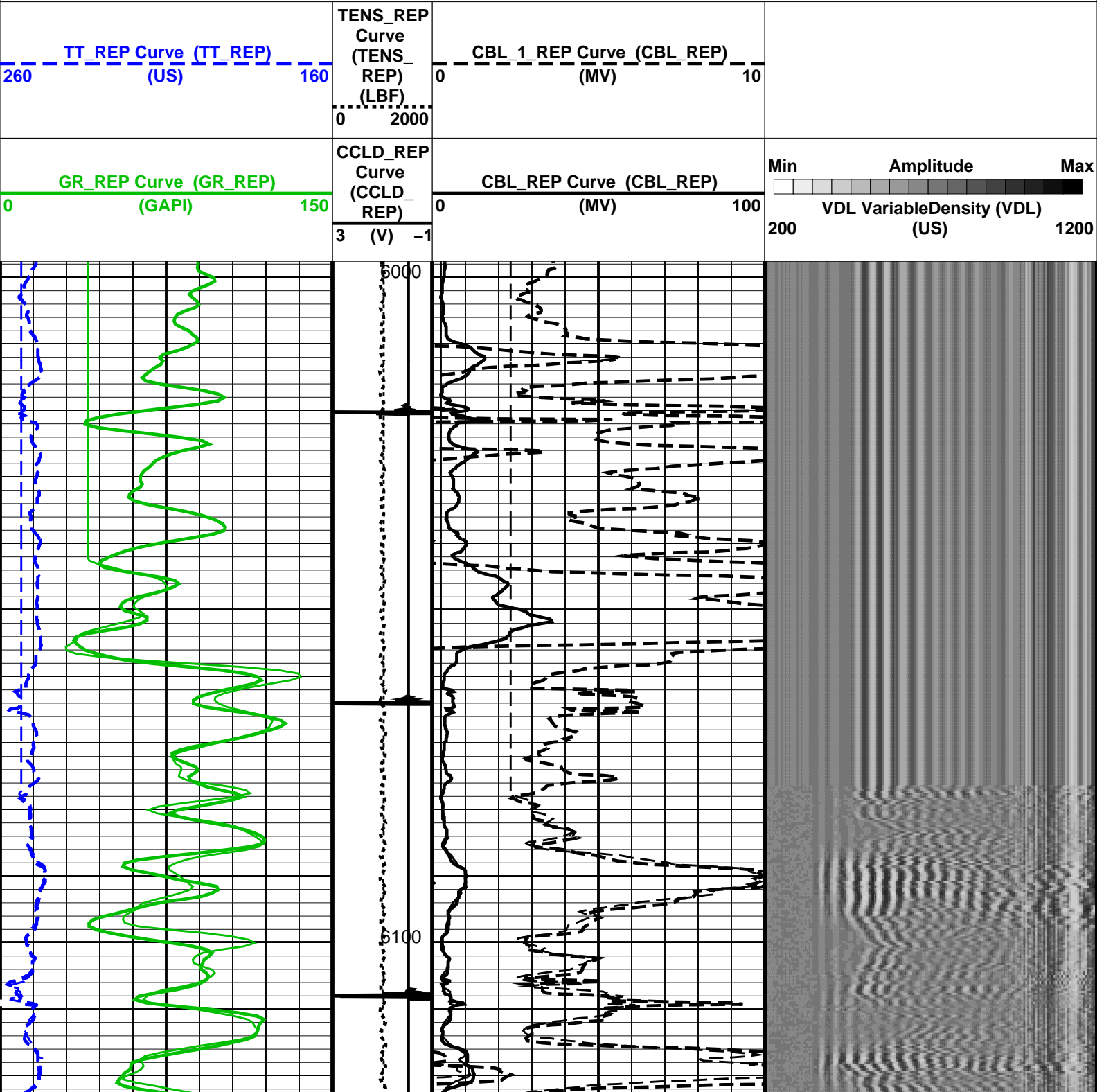
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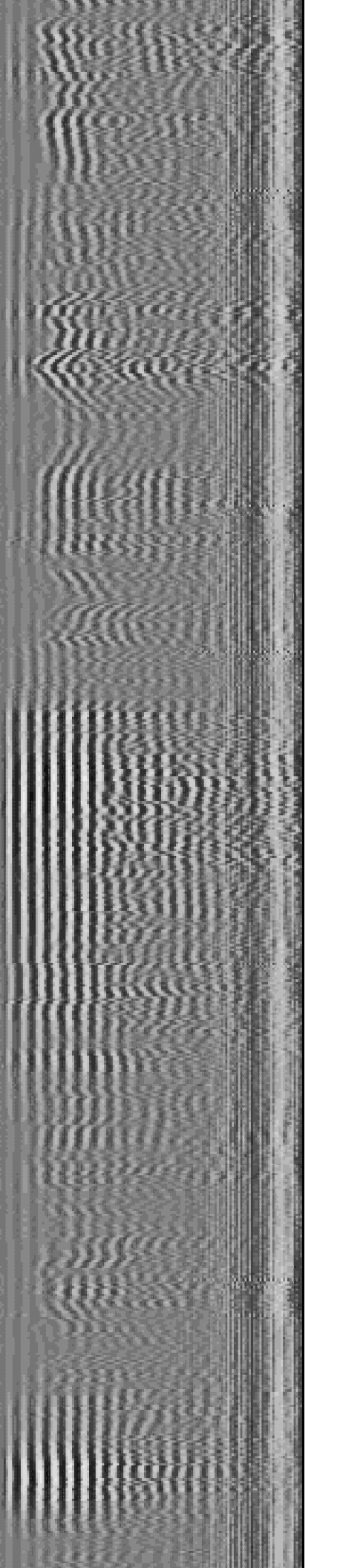
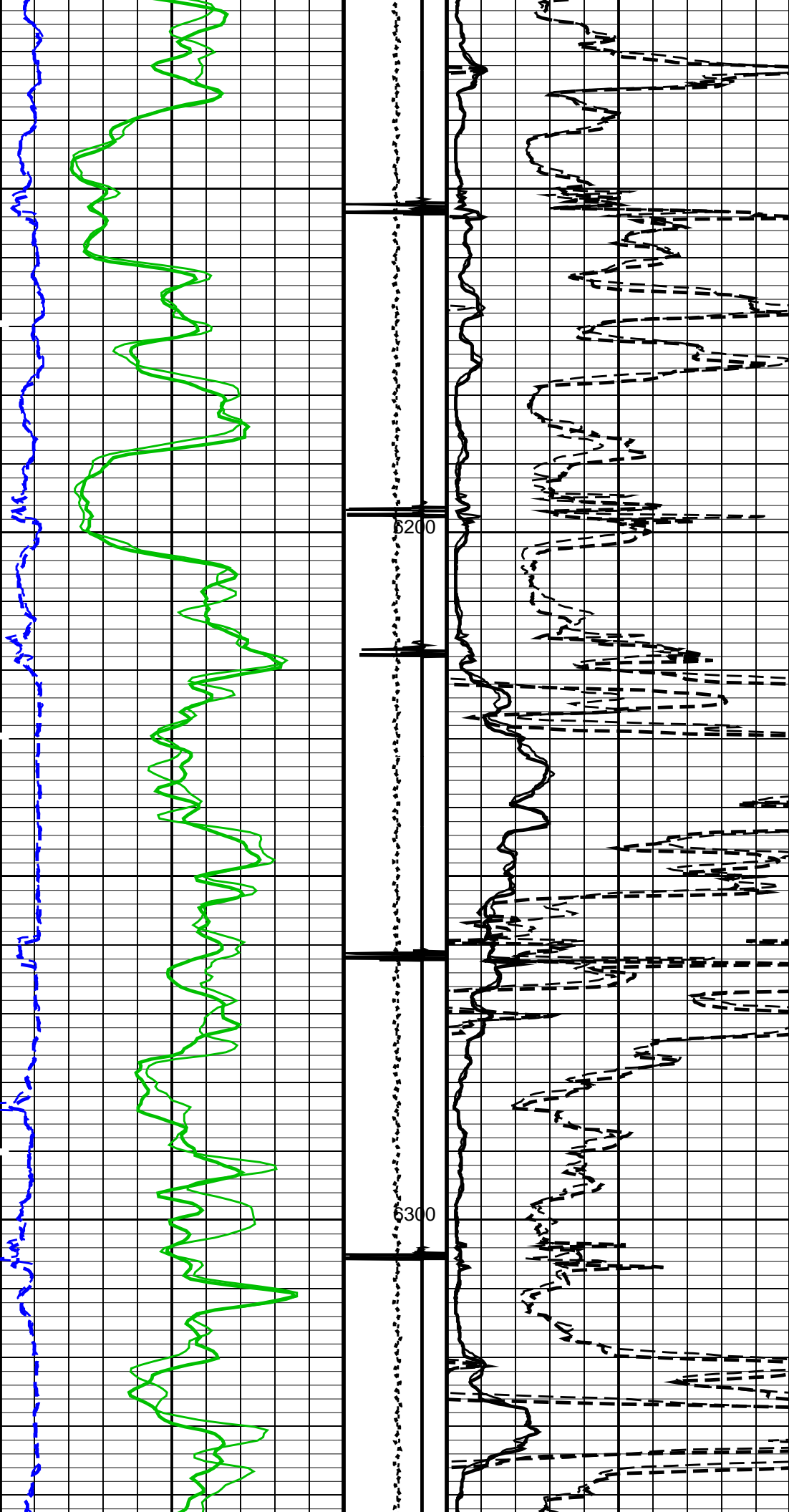
OP System Version: 19C0-187

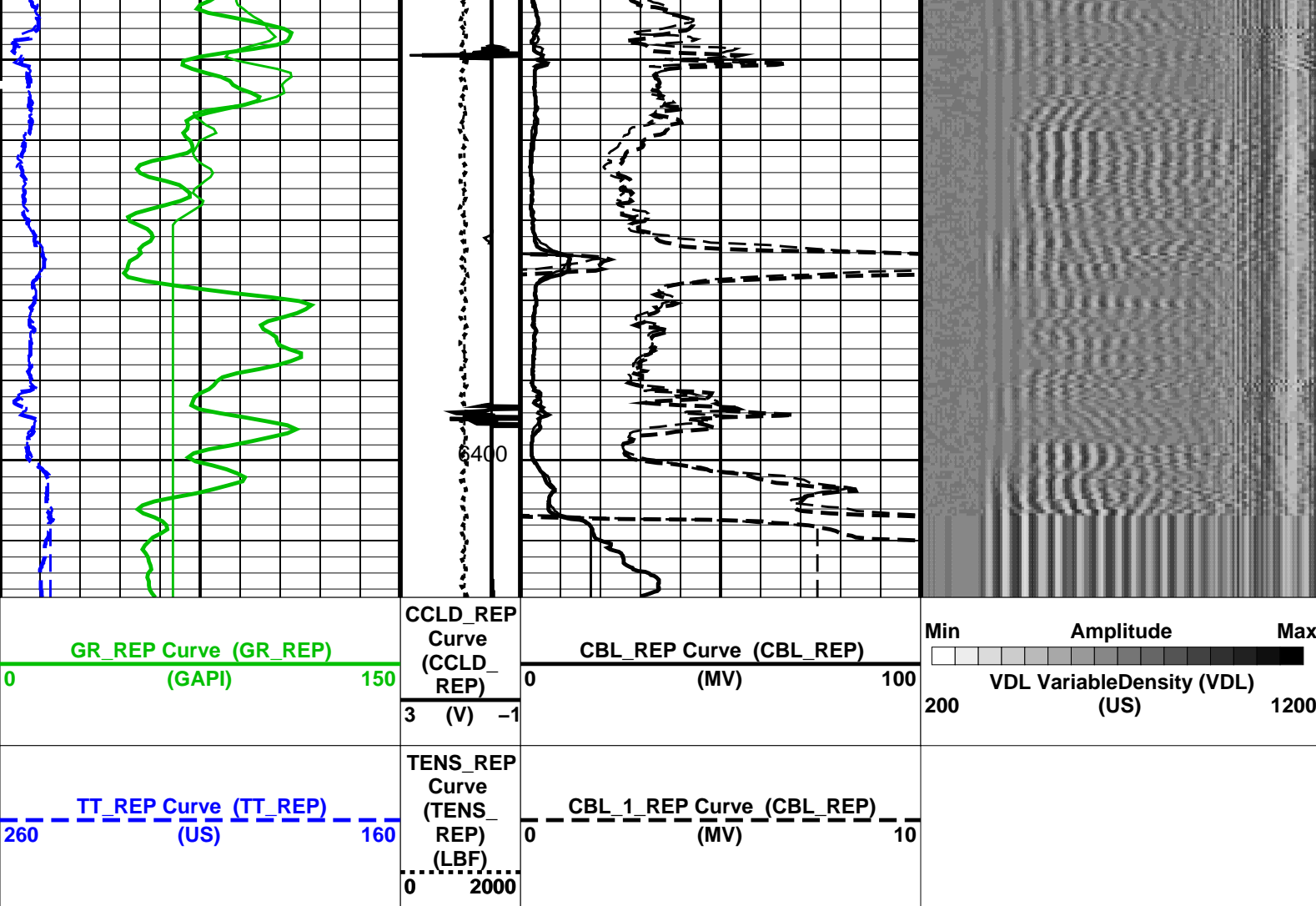
SCMT-CB	SRPC-5214-H2-2012-OP1:	RST-C	SRPC-5214-H2-2012-OP1:
PSPT	SRPC-5214-H2-2012-OP1:		

PIP SUMMARY

Time Mark Every 60 S







PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL_REP Vertical Scale: 5" per 100'

Graphics File Created: 22-Oct-2013 08:39

OP System Version: 19C0-187

SCMT-CB SRPC-5214-H2-2012-OP1 RST-C SRPC-5214-H2-2012-OP1
PSPT SRPC-5214-H2-2012-OP1

<<<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
in Free Pipe Section

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 7-SEP-2012

CBL Correction Factor 0.0756720

CBL Adjustment Factor (CBAF) 1.0

MAP 1 Correction Factor 0.136845

MAP Adjustment Factor (MPAF) 1.0

MAP 2 Correction Factor 0.165126

MAP 3 Correction Factor 0.125717

MAP 4 Correction Factor 0.196395

MAP 5 Correction Factor 0.147692

MAP 6 Correction Factor 0.128887

MAP 6 Correction Factor 0.128887
MAP 7 Correction Factor 0.150775
MAP 8 Correction Factor 0.144577

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	2.0 FT
DORL	Depth Offset for Repeat Analysis	0.0 FT
PP	Playback Processing	RECOMPUTE
TD	Total Depth	8640 FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_063LUP	FN:59	PRODUCER	22-Oct-2013 05:48	6415.0 FT	6039.5 FT
DEFAULT	SCMT_RST_PSP_068PUP	FN:64	PRODUCER	22-Oct-2013 08:28	8654.0 FT	-32.0 FT

Output DLIS Files

DEFAULT	SCMT_RST_PSP_070PUP	FN:66	PRODUCER	22-Oct-2013 08:39
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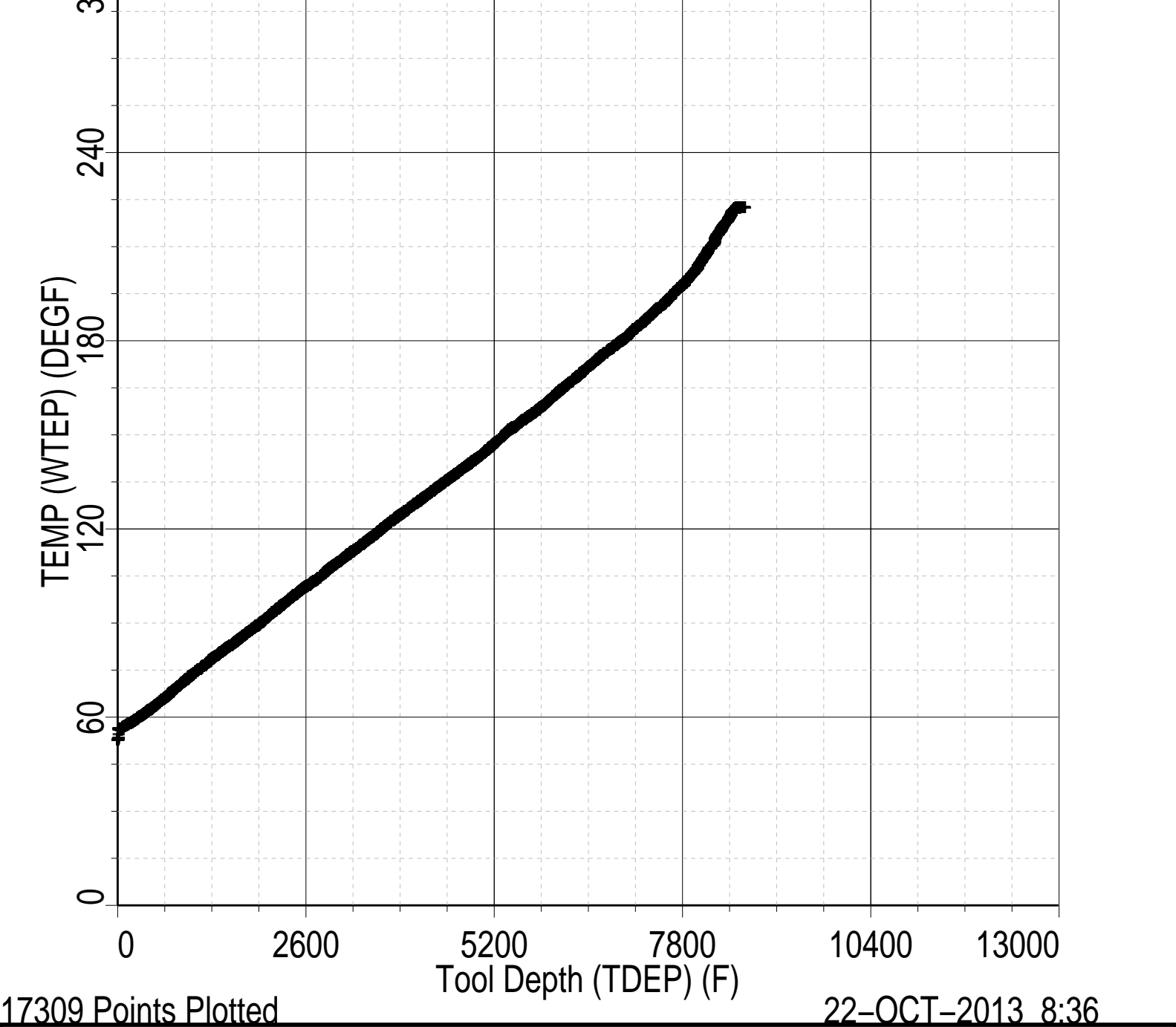
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 8654.0 - -32.0 FT





Schlumberger

PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
Field: SOUTH PARACHUTE
Well: HAGEN FEDERAL 22-1A (PC22)
Run date: 22-Oct-2013

Tool: PSP
Sub Type: PBMS
Sensor: GR

PBMS Gamma Ray

Sonde Serial NB RESISTORS FOR GR SENSOR N.33223, TOOL PBMS-BA0928. SENSOR S/N:
Sensor Serial NB 33223
Calib Date ddmmyy 090800
Matrix Size 12
Coeff CRC CFE2

GR HV Rt

Rt**0

Rt**1

Rt**0

+.182000000000e+04

+.332000000000e+04

Client: ENCANA OIL & GAS (USA) INC
Field: SOUTH PARACHUTE
Well: HAGEN FEDERAL 22-1A (PC22)
Run date: 22-Oct-2013

Tool: PSP
Sub Type: PBMS
Sensor: WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB COEFFICIENTS FOR RTD THERMOMETER PBMS-B.928 S/N:
Sensor Serial NB 928
Calib Date ddmmyy 280612
Matrix Size 16
Coeff CRC A24E

WTemp Coeff

Tt**0

Tt**1

Tt**2

Tt**0

-.391987973189E+03

+.191346892512E+03

-.440920753451E+02

Tt**3

Tt**4

Tt**5

Tt**0

+.957191300908E+01

-.711421725686E+00

0.0

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	SOUTH PARACHUTE	Sub Type:	PBMS
Well:	HAGEN FEDERAL 22-1A (PC22)	Sensor:	CQG
Run date:	22-Oct-2013		

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR CQG PBMS-B.928 S/N:

928

280612

66

9DC3

Pres Coeff

	Fb**0	Fb**1	Fb**2
Fc**0	+.714463802232E+04	+.183434658655E-01	-.156620073569E-06
Fc**1	-.100638308957E+01	-.119899563644E-04	-.912155899025E-10
Fc**2	+.936268101283E-06	+.423898071451E-10	+.958076371919E-15
Fc**3	+.185123362373E-11	+.203107925433E-15	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

	Fb**3	Fb**4	Fb**5
Fc**0	-.746577997611E-10	-.588773826860E-15	-.622250441458E-19
Fc**1	-.120636521092E-15	+.400325894750E-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

Calib Date ddmmyy

Matrix Size

Coeff CRC

:

928

280612

66

283B

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+.117016867873E+03	-.284359629614E-03	+.604391180345E-08
Fb**1	-.598309140812E-02	+.182731130848E-07	+.160166486172E-12

Fb**2	−.307621454576E−07	+300601550309E−12	+311233548560E−17
Fb**3	−.419658736767E−12	+117473708647E−16	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0
	Fc**3	Fc**4	Fc**5
Fb**0	+114322792679E−12	+153807711176E−17	−.736714260866E−21
Fb**1	−.528037875456E−18	−.220337637519E−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 928
Calib Date ddmmyy 280612
Matrix Size 16
Coeff CRC 093F

Clock Freq Coeff

	(Fb'−Fc')**0	(Fb'−Fc')**1	(Fb'−Fc')**2
(Fb'−Fc')**0	+310874009898E+05	+288920923041E−02	+697940727038E−06
	(Fb'−Fc')**3	(Fb'−Fc')**4	(Fb'−Fc')**5
(Fb'−Fc')**0	−.657432344763E−10	−.412920638782E−15	+213369826099E−20

PBMS Quartz Gauge type F

Sonde Serial NB :
Sensor Serial NB 928
Calib Date ddmmyy 280612
Matrix Size 16
Coeff CRC 8419

Clock Temp Coeff

	(Fb'−Fc')**0	(Fb'−Fc')**1	(Fb'−Fc')**2
(Fb'−Fc')**0	+115369519827E+03	−.565338877075E−02	−.333717531829E−07
	(Fb'−Fc')**3	(Fb'−Fc')**4	(Fb'−Fc')**5
(Fb'−Fc')**0	−.124387135327E−12	+713102327208E−16	−.316084316842E−20



MASTER CALIBRATION

MAXIS Field Log

Slim Cement Mapping Tool, 1–11/16 OD / Equipment Identification

Primary Equipment:

Slim Cement Mapping Xmitter Electronics

Slim Cement Mapping Sonde

Slim Cement Mapping Cartridge

SCMX – CA

SCMS – CB

SCMC – CA










8303

8120

Auxiliary Equipment:

Slim Electronics Cartridge Housing

SECH – CA

Slim Cement Mapping Tool, 1–11/16 OD Master Calibration							
SCMT CBL and MAP Amplitude Normalization in SFT–155/–255							
Phase	MAP 1 Amplitude Plus MV		Value	Phase	MAP 2 Amplitude Plus MV		Value
Master			876.9	Master			726.7
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)		500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)
Phase	MAP 3 Amplitude Plus MV		Value	Phase	MAP 4 Amplitude Plus MV		Value
Master			954.5	Master			611.0
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)		500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)
Phase	MAP 5 Amplitude Plus MV		Value	Phase	MAP 6 Amplitude Plus MV		Value
Master			812.5	Master			931.0
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)		500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)
Phase	MAP 7 Amplitude Plus MV		Value	Phase	MAP 8 Amplitude Plus MV		Value
Master			795.9	Master			830.0
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)		500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)
Phase	CBL Amplitude Plus MV		Value				
Master			1269				
	1000 (Minimum)	1350 (Nominal)	1700 (Maximum)				
Master: Calibration out of date 7–Sep–2012 16:30							

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

Well: **HAGEN FEDERAL 22–1A (PC22)**

Field: **SOUTH PARACHUTE**

County: **GARFIELD**

State: **COLORADO**



SLIM CEMENT MAPPING LOG

CBL-VDL

GR-CCL