

Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-13D (J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

SLIM CEMENT MAPPING LOG
CBL-VDL
GAMMA RAY-CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 1933 FSL & 1896 FEL

Well: HMU 6-13D (J6SEB)

Company: ENCANA OIL & GAS (USA) INC

LOCATION

SHL: 1933 FSL & 1896 FEL
BHL: 472 FSL & 818 FWL

Elev.: K.B. 7166.00 ft
G.L. 7144.00 ft
D.F. 7165.00 ft

Permanent Datum: _____
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING

GROUND LEVEL _____
Elev.: 7144.00 ft

22.00 ft above Perm. Datum

API Serial No. 05-045-21943-000C

Section 6

Township 8S

Range 92W

Logging Date	26-Nov-2013				
Run Number	1				
Depth Driller	10171 ft				
Schlumberger Depth	10106 ft				
Bottom Log Interval	10097 ft				
Top Log Interval	70 ft				
Casing Fluid Type	FRESH WATER				
Salinity					
Density	8.4 lbm/gal				
Fluid Level	70 ft				
BIT/CASING/TUBING STRING					
Bit Size	7.875 in				
From	7174 ft				
To	10171 ft				
Casing/Tubing Size	4.500 in				
Weight	11.6 lbm/ft				
Grade	S-80				
From	22 ft				
To	10153 ft				
Maximum Recorded Temperatures	271 degF				
Logger On Bottom	26-Nov-2013	Time	5:45		
Unit Number	391	Location	GRAND JUNCTION		
Recorded By	KIRSTIE BUNTING				
Witnessed By	JIM DYKEMAN				

PVT DATA	Oil Density	Run 1	Run 2	Run 3
	Water Salinity			
	Gas Gravity			
	Bo			
	Bw			
PVT DATA	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				

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.

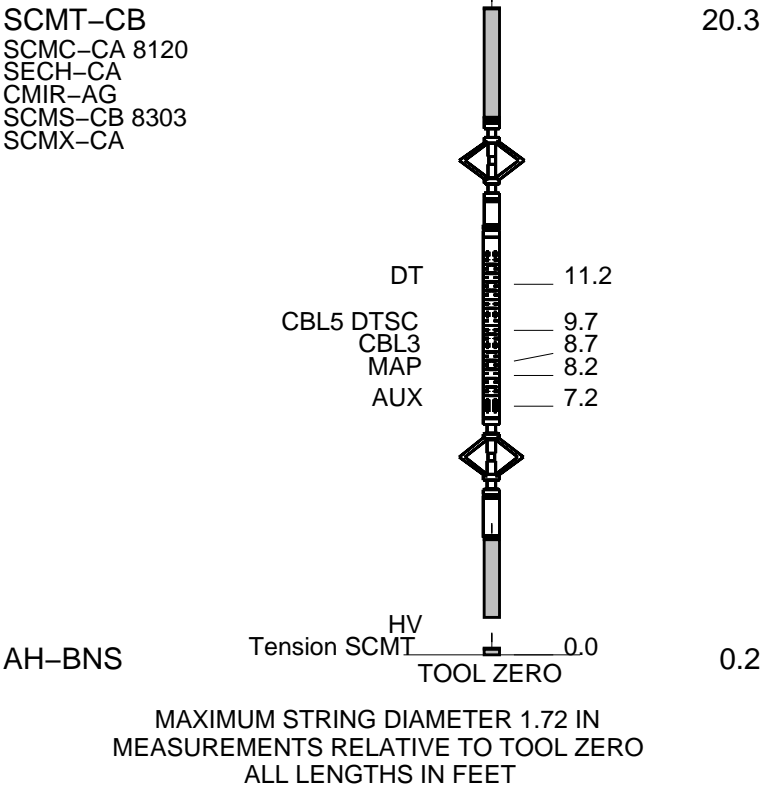
OTHER SERVICES1	OTHER SERVICES2
OS1: RESERVOIR SATURATION	OS1:
OS2: LOG	OS2:
OS3: SIGMA MODE	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRLEATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE: 04:45	
TIME ON BOTTOM: 05:45	
EXIT: 08:30	

MAXIMUM RECORDED TEMPERATURE: 271 DEGF	
MAXIMUM RECORDED PRESSURE: 4137 PSIA	
SHORT JOINTS: 6930 FT & 7945 FT	
MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE	
EXPECTED CBL AMPLITUDE IN FREE PIPE IS 80MV	
CREW: KBUNTING, WAZIZ, KJOHNS, KBOZARTH	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	

RUN 1 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

	EQUIPMENT	DESCRIPTION	
RUN 1			RUN 2

SURFACE EQUIPMENT			
WITM-A PSC_16MHZ			
DOWNHOLE EQUIPMENT			
MH-22			53.4
MH-22			
AH-38	Detail MT		
	TelStatus		51.8
PSPT	CTEM		51.5
PSC-A			
PSPT-B			
PSTC-A			
PBMS-B 928	GR		47.8
CQG_F_Mano			
RTD_Thermometer			
GR	Well_Temp		44.8
CCL	CQG Manom		44.5
PBMS	CCL		44.0
	PBMS PSTC		43.3
RST-C			43.3
RSCH-A			
RSC-E 374			
RSS-A 255			
RSXH-A			
RSX-E 220			
	RSC-A Far		34.2
	RSC-A PNG		
	RSC-A Nea		
	RSX-A PNG		33.7



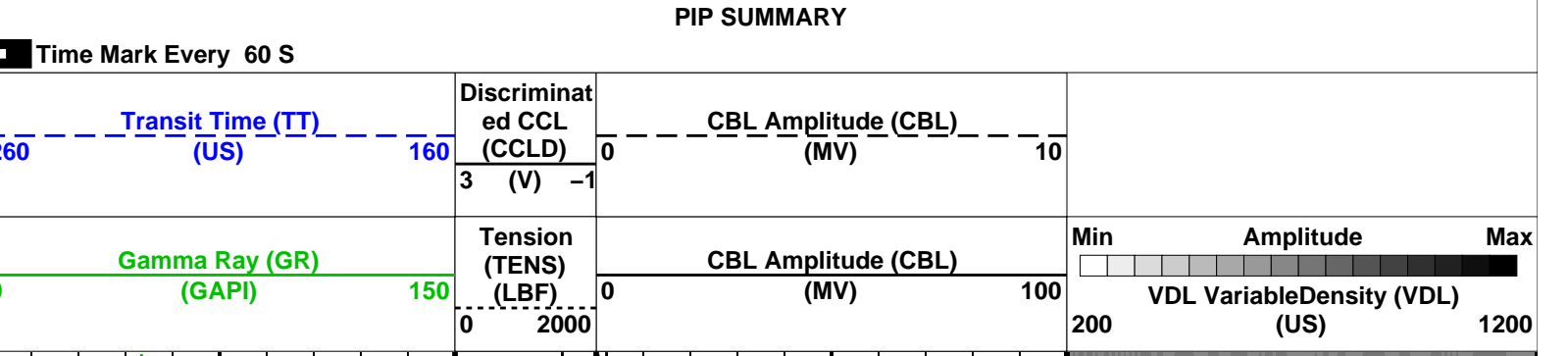
Schlumberger

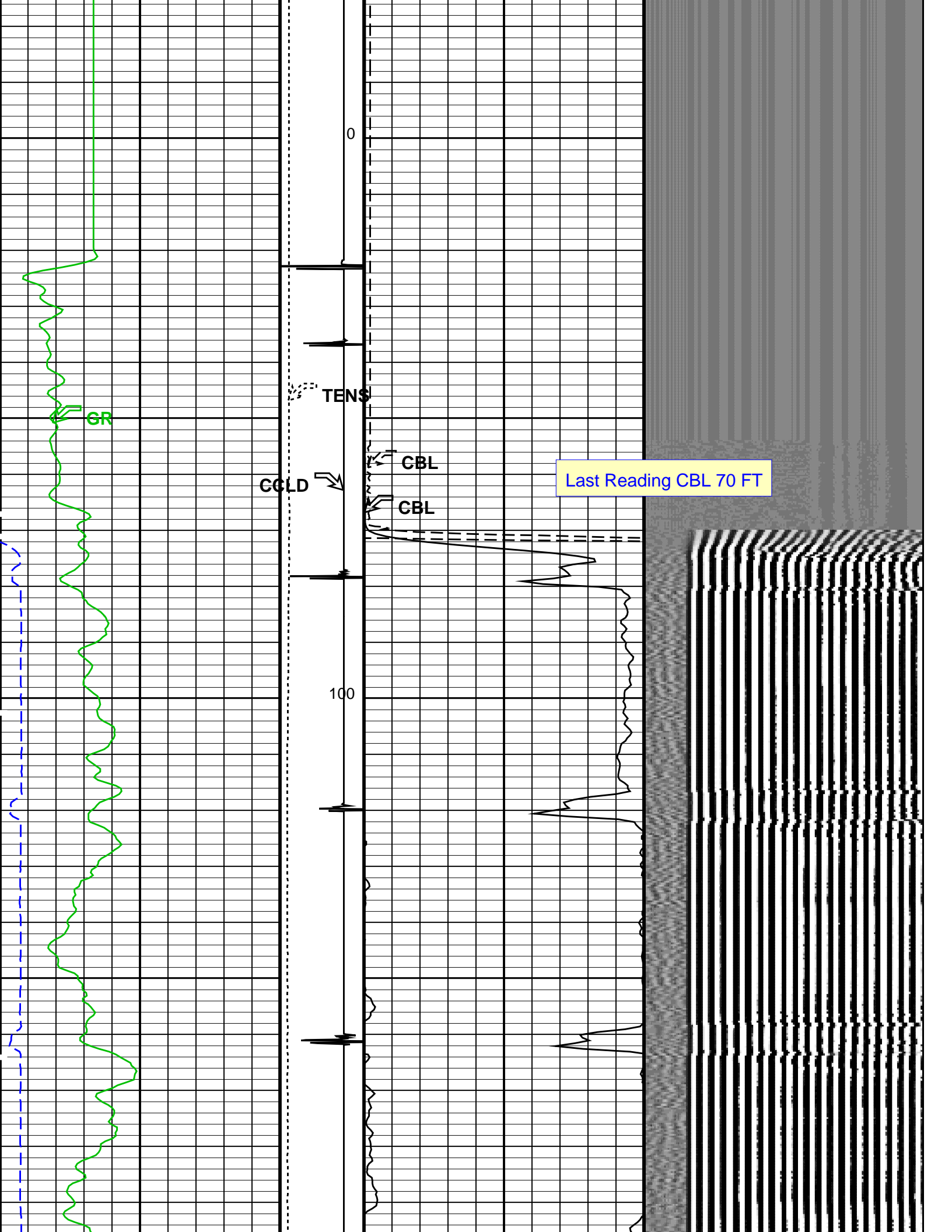
MAIN PASS CBL VDL

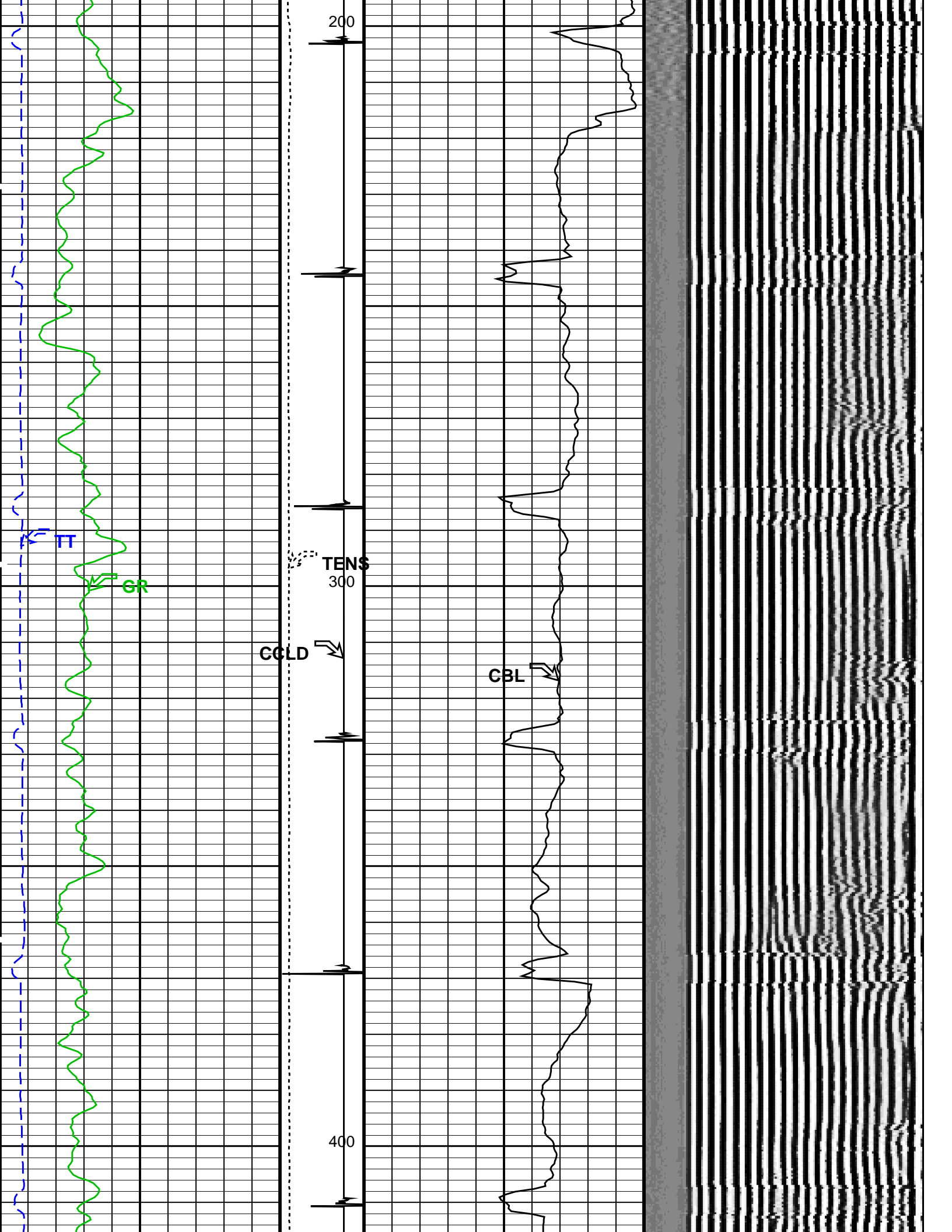
MAXIS Field Log

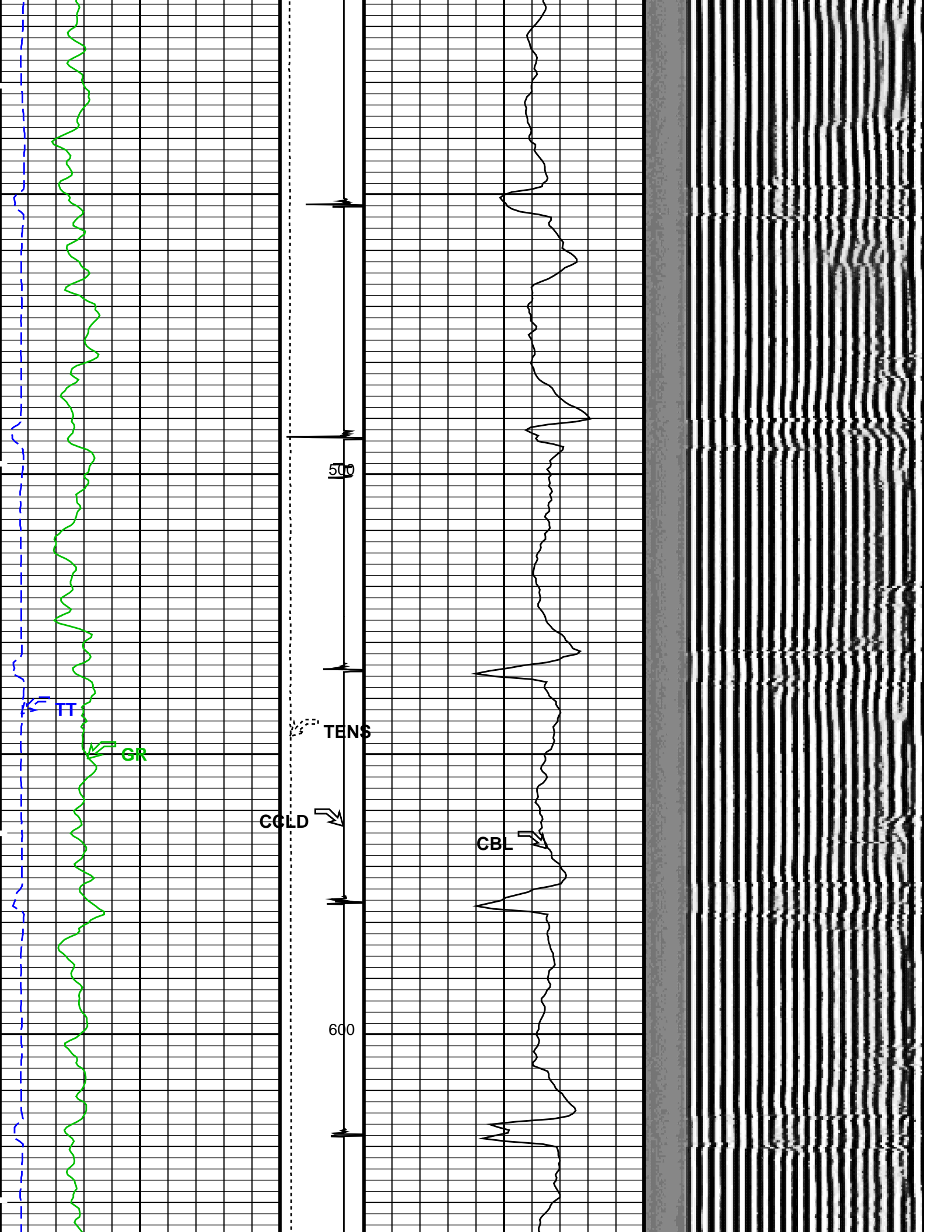
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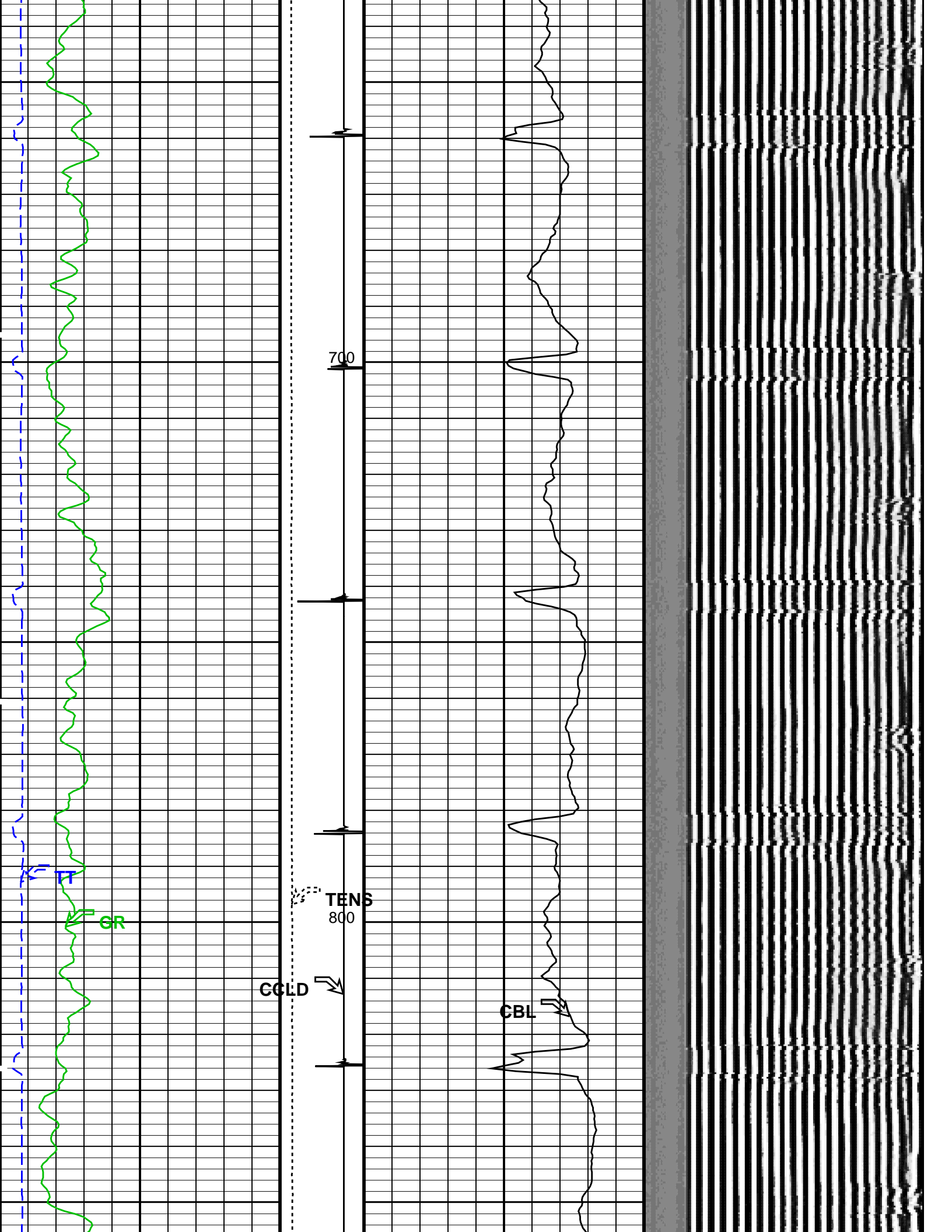
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Output DLIS Files						
DEFAULT	SCMT_RST_PSP_072PUP	FN:69	PRODUCER	26-Nov-2013 08:27	10122.5 FT	-25.5 FT
OP System Version: 19C0-187						
SCMT-CB	SRPC-5214-H2-2012-OP1	RST-C		SRPC-5214-H2-2012-OP1		
PSPT	SRPC-5214-H2-2012-OP1					

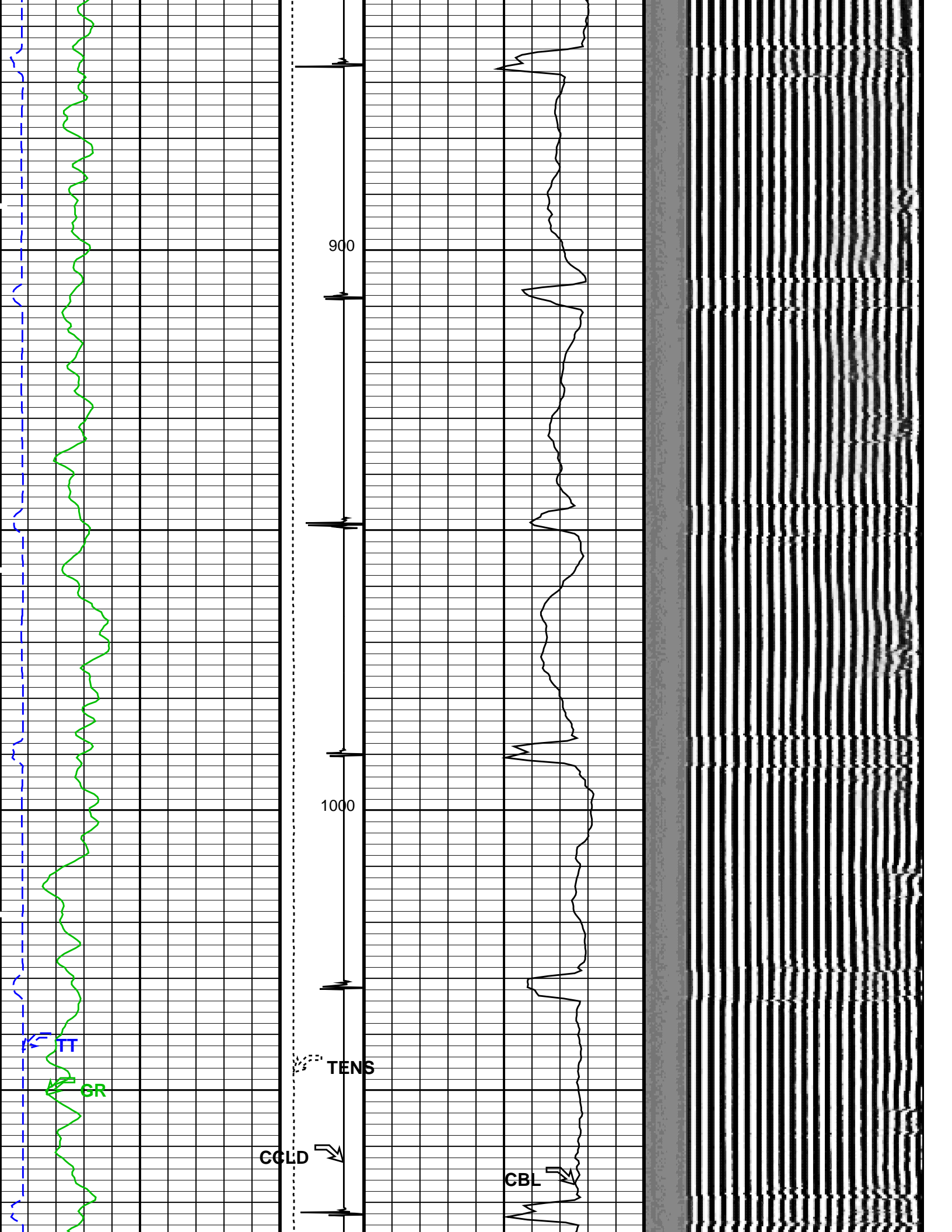


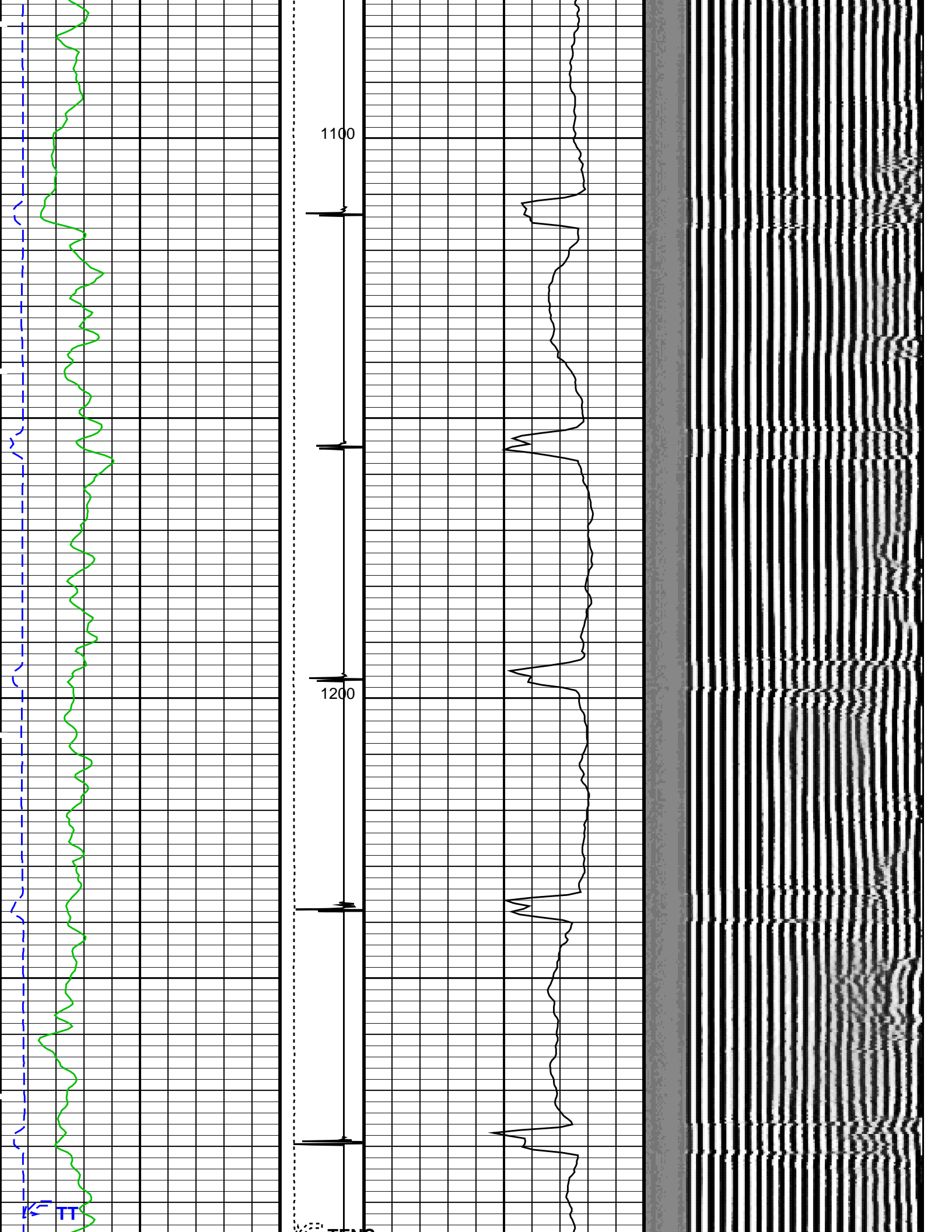


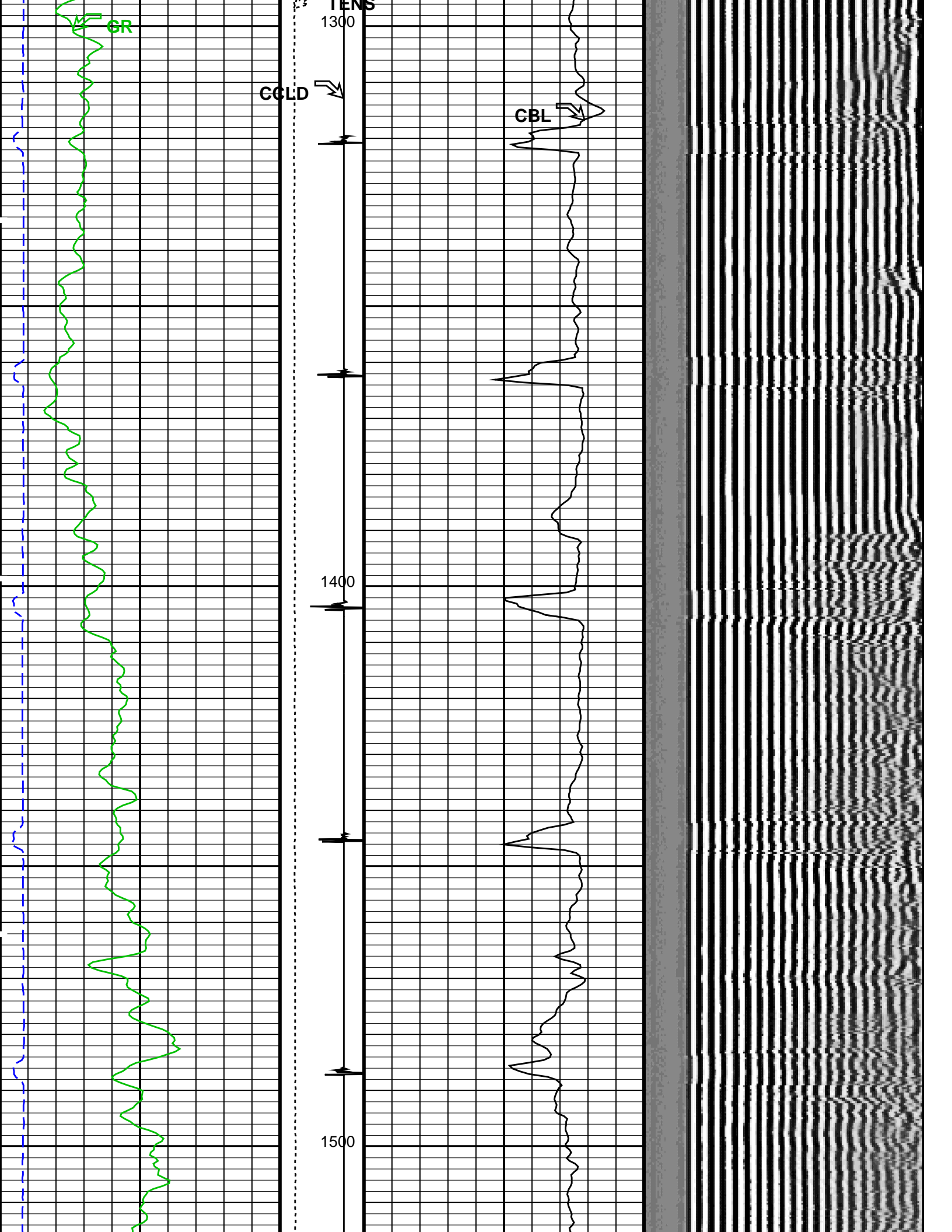


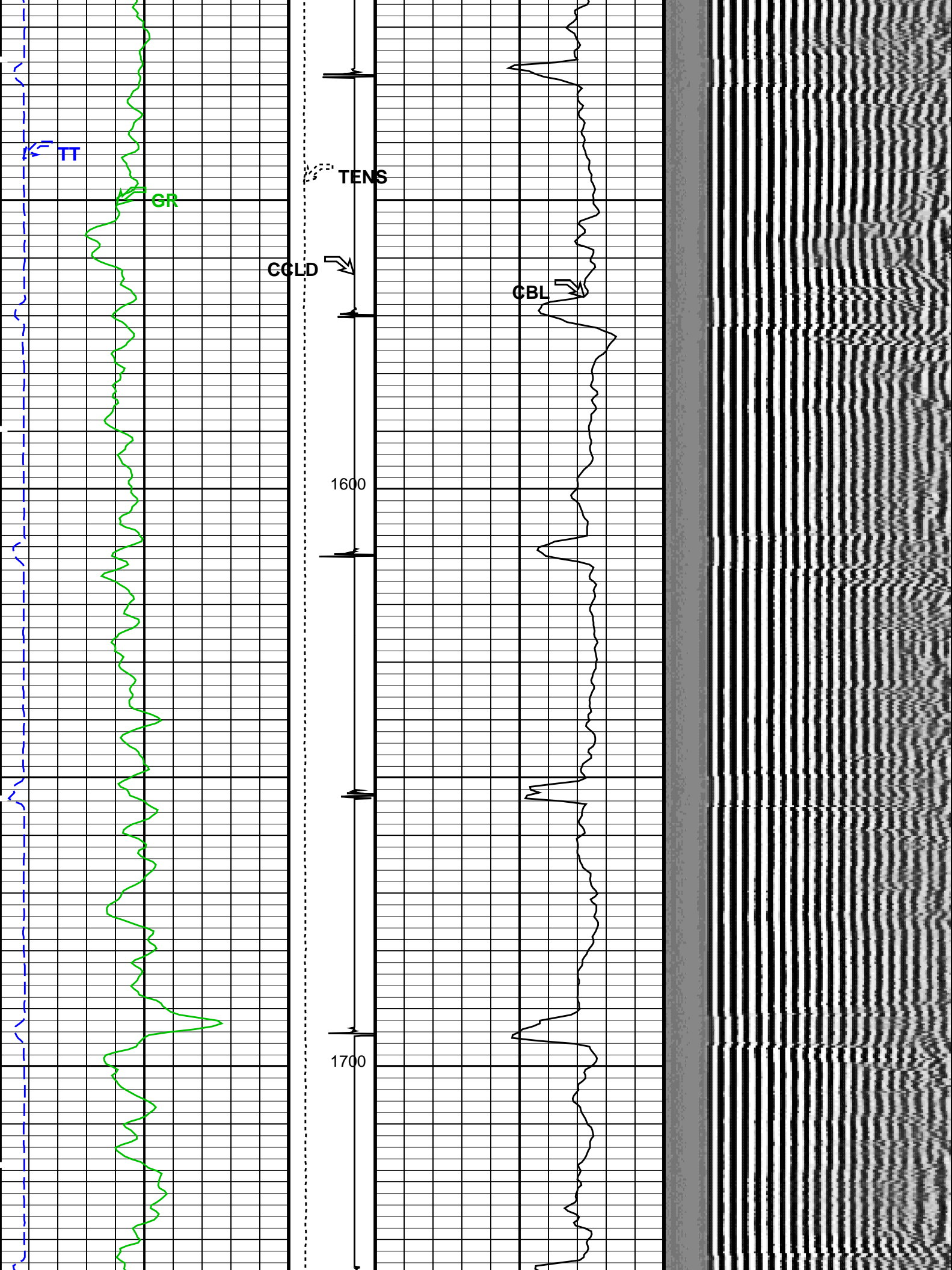


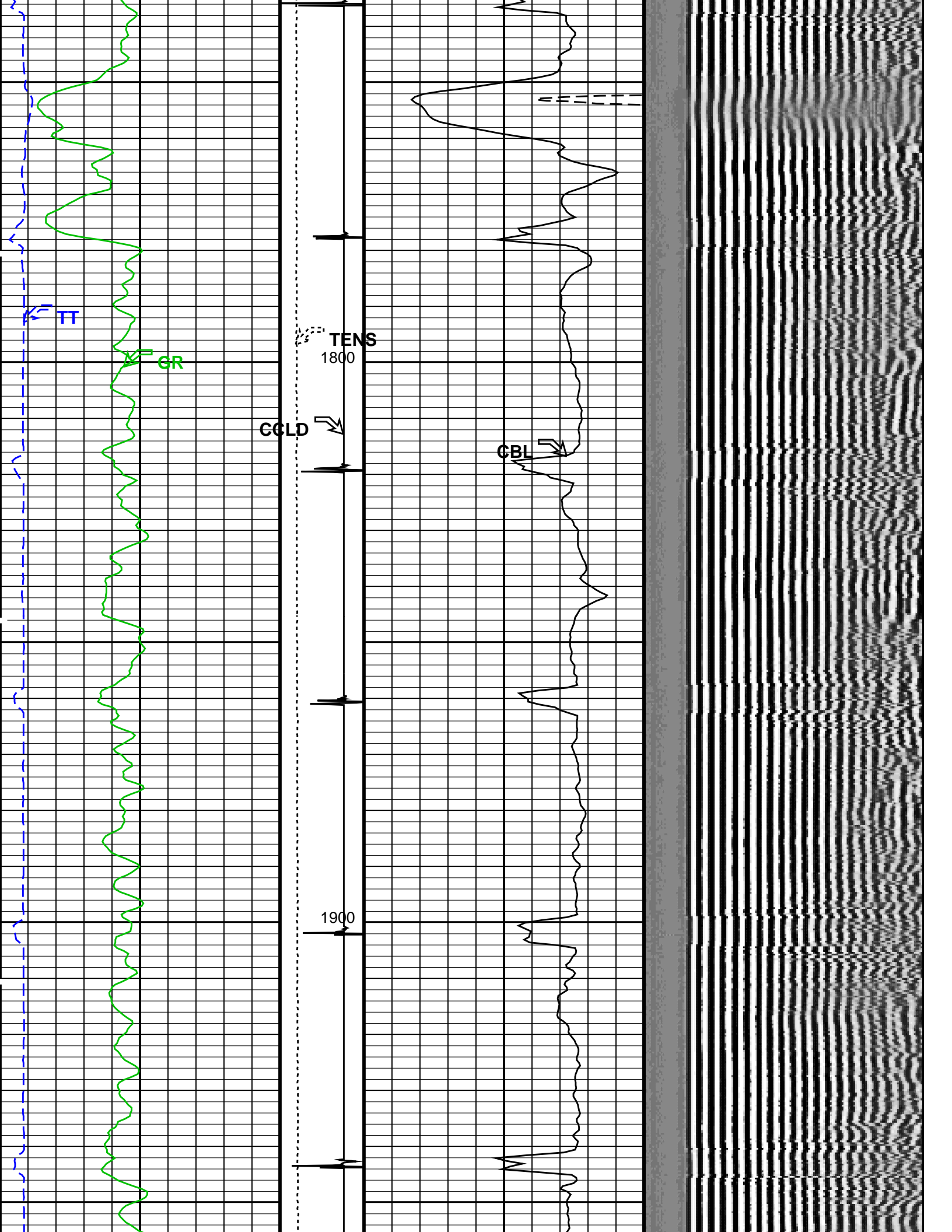


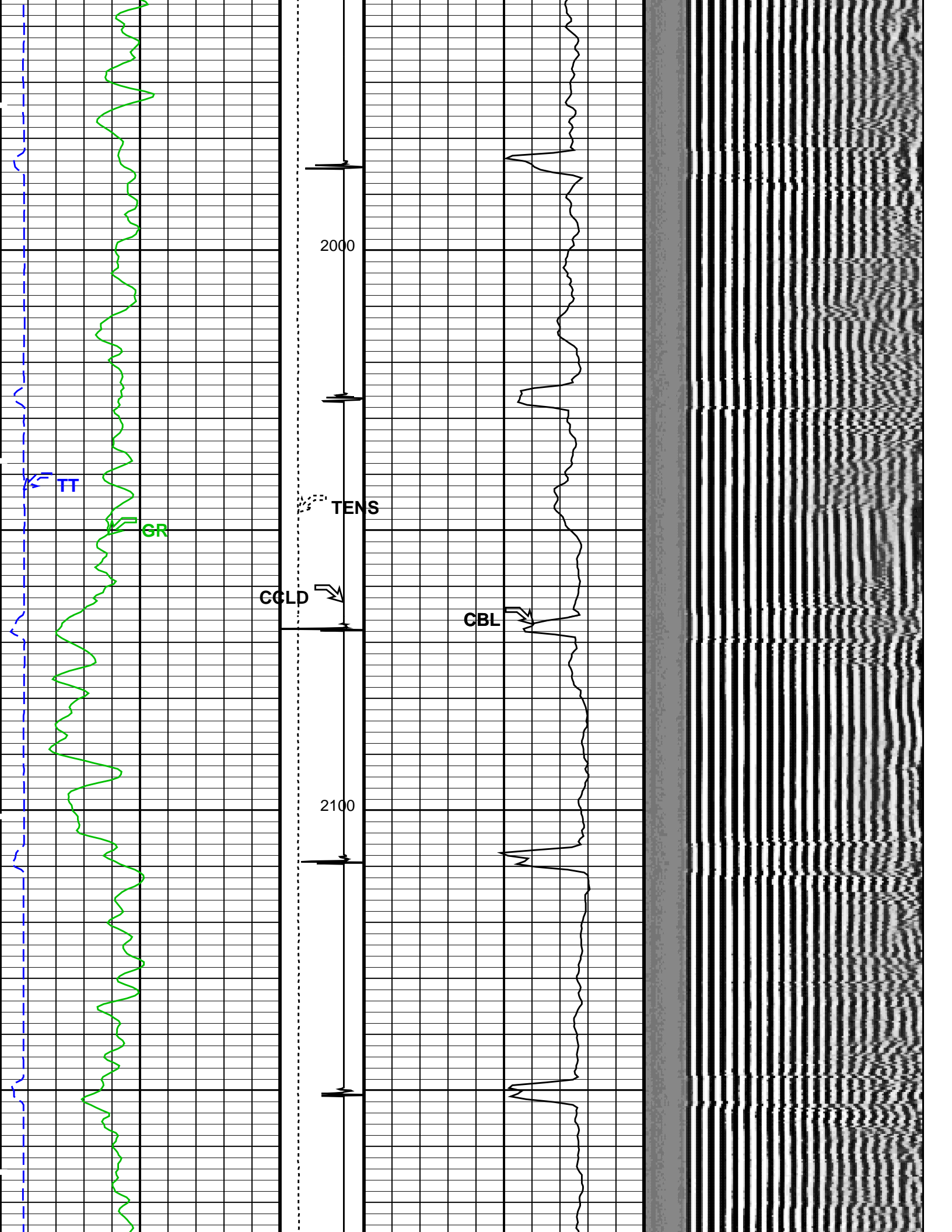


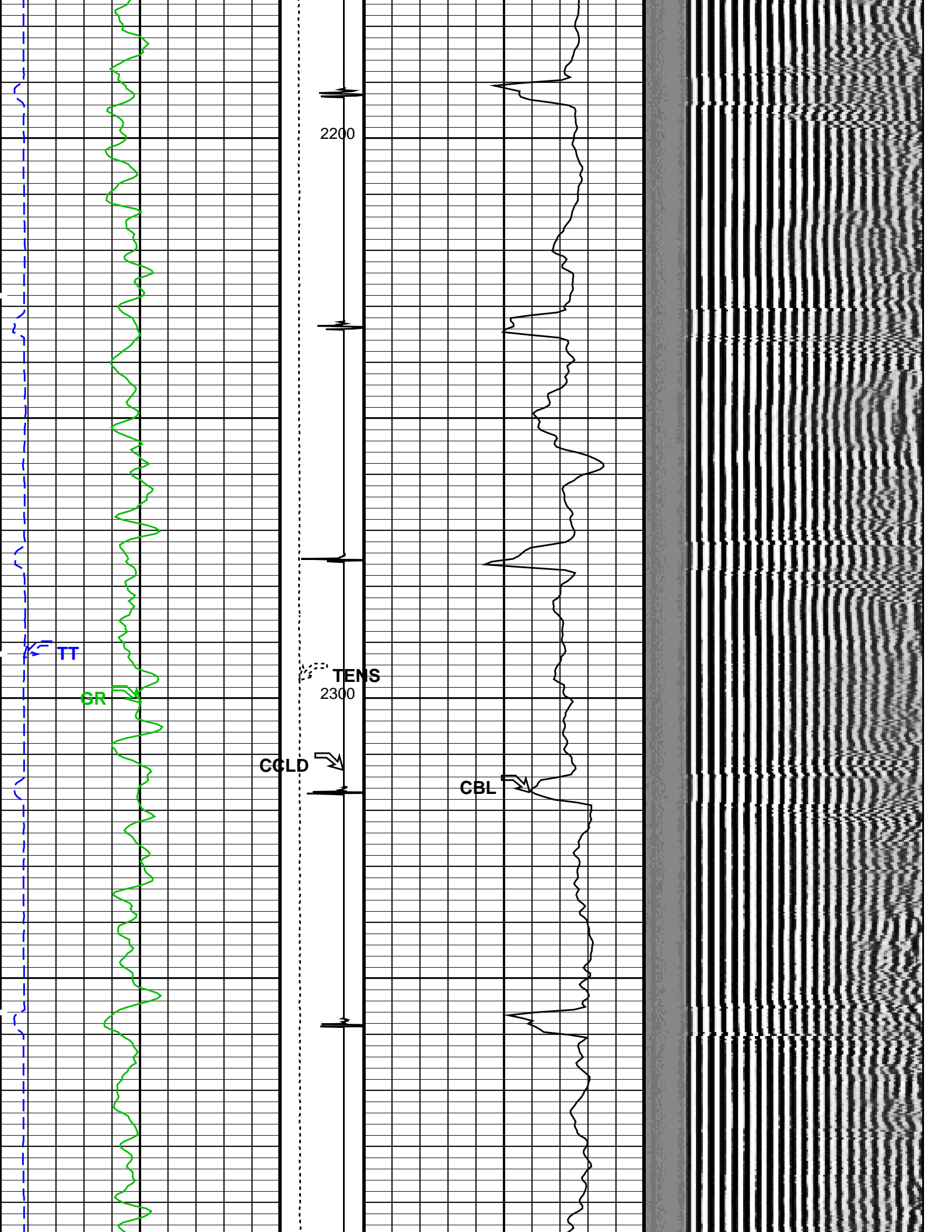


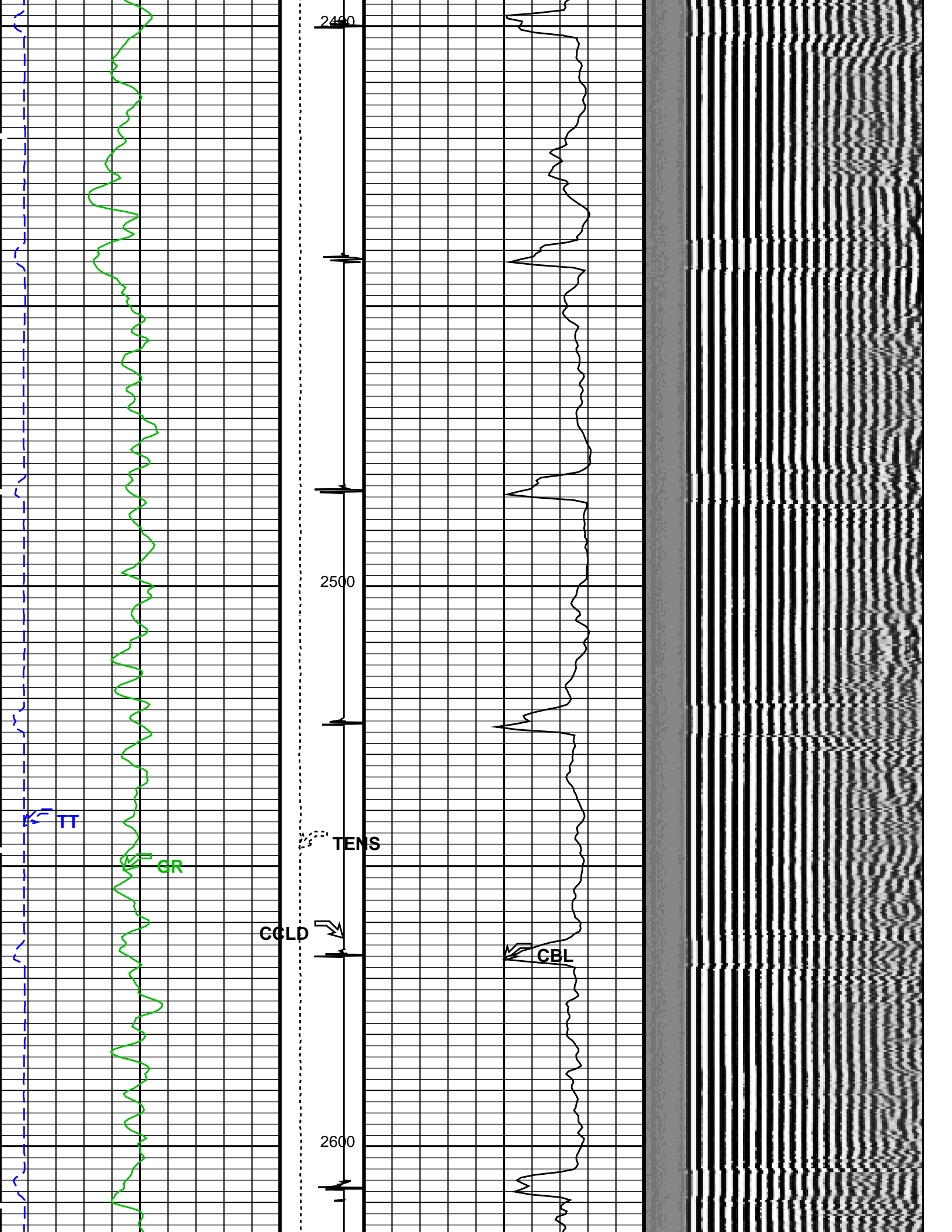


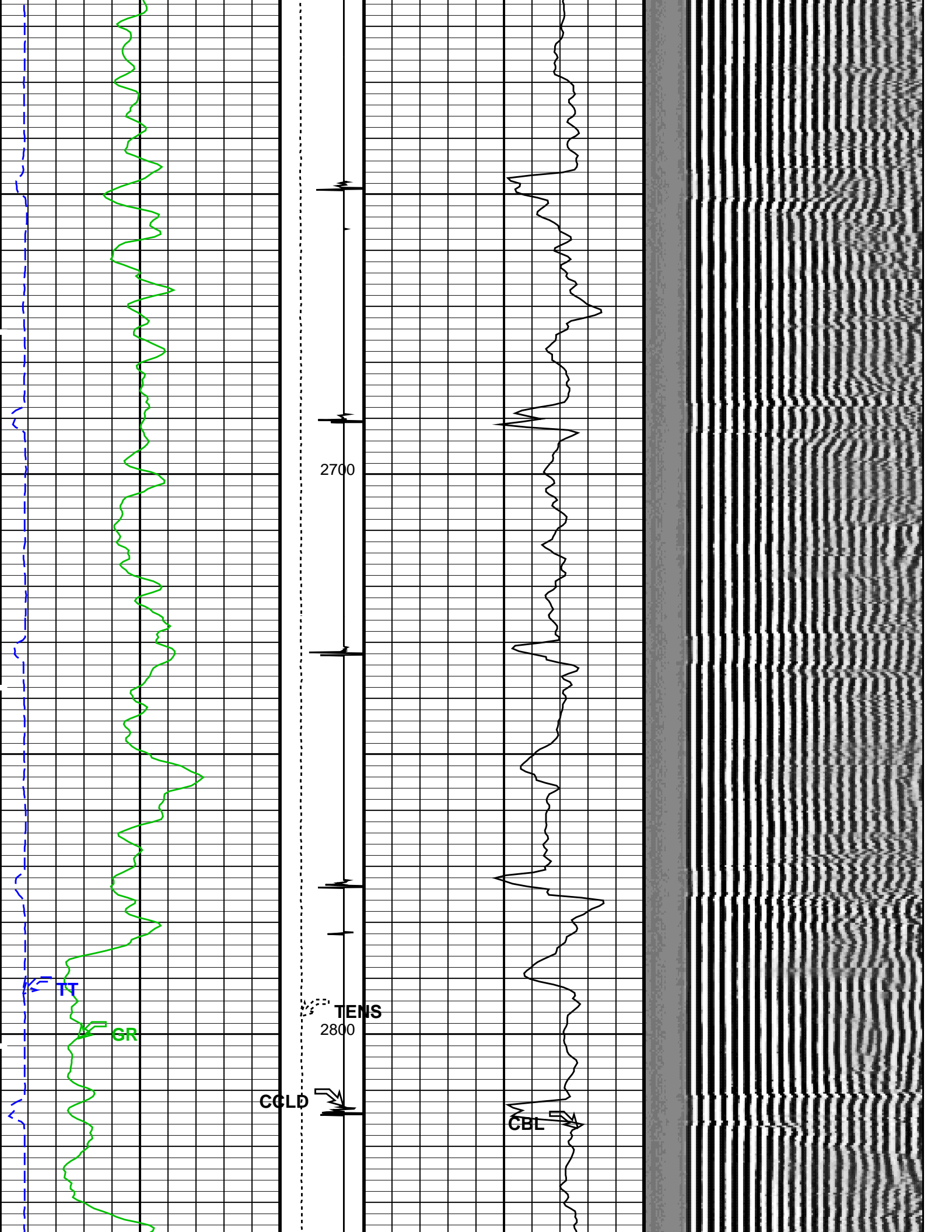


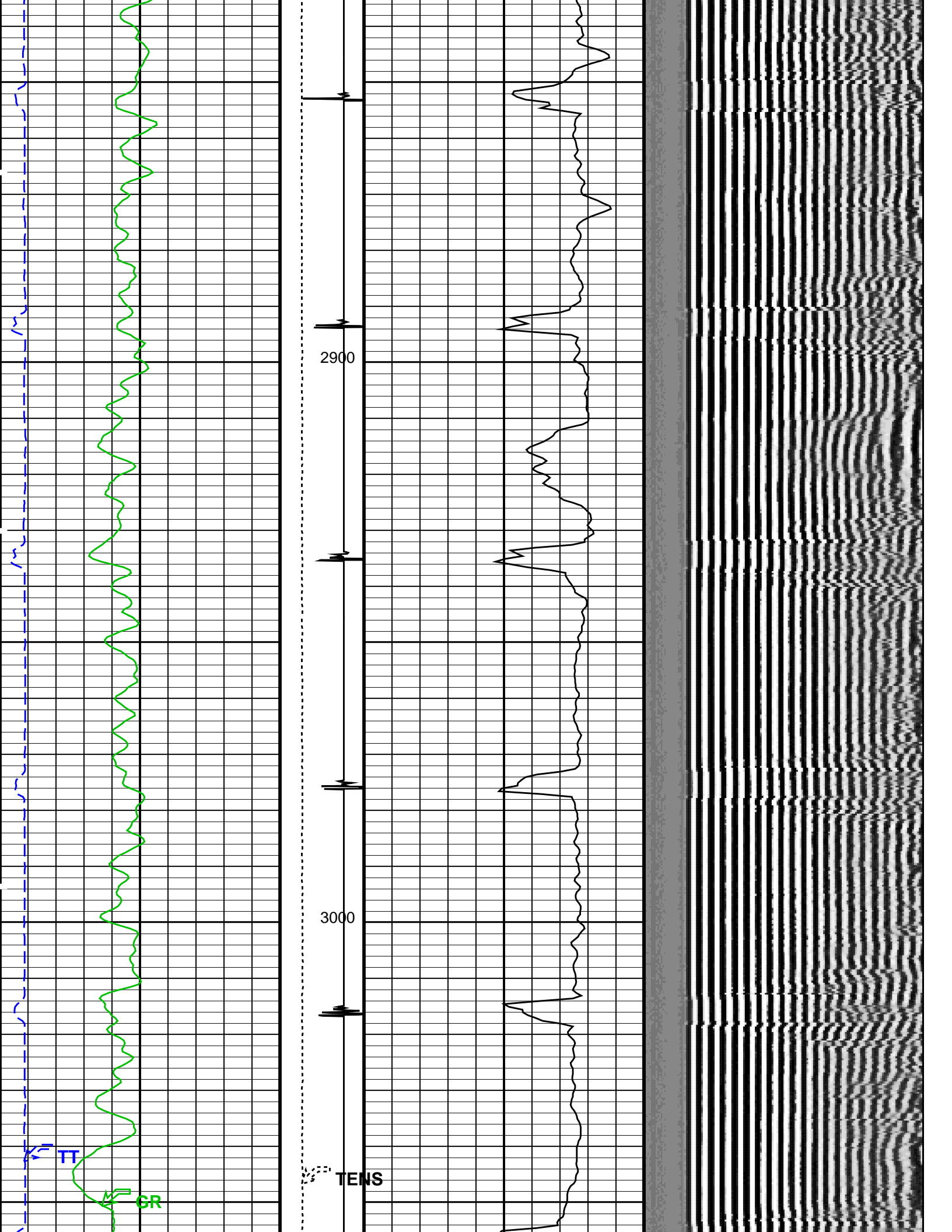


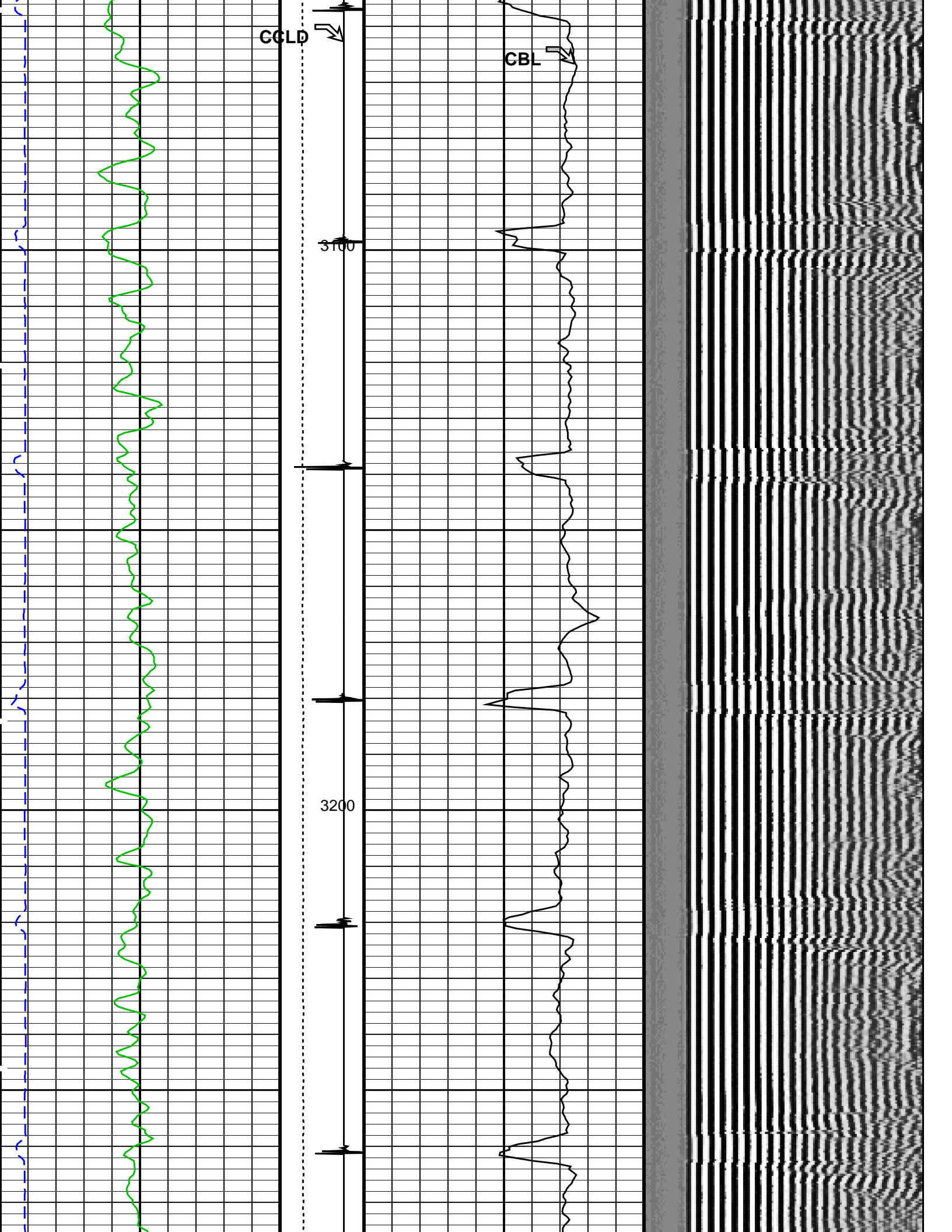


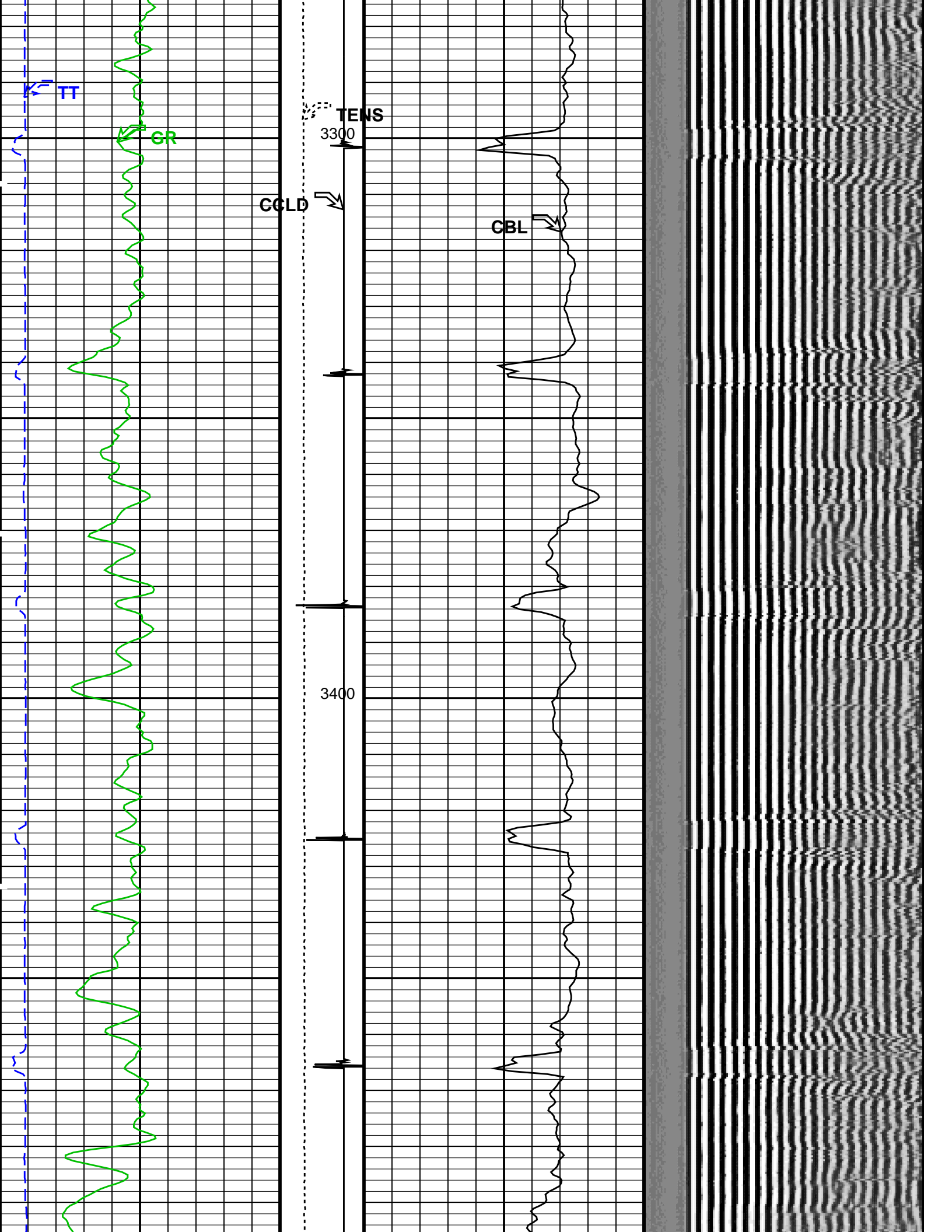


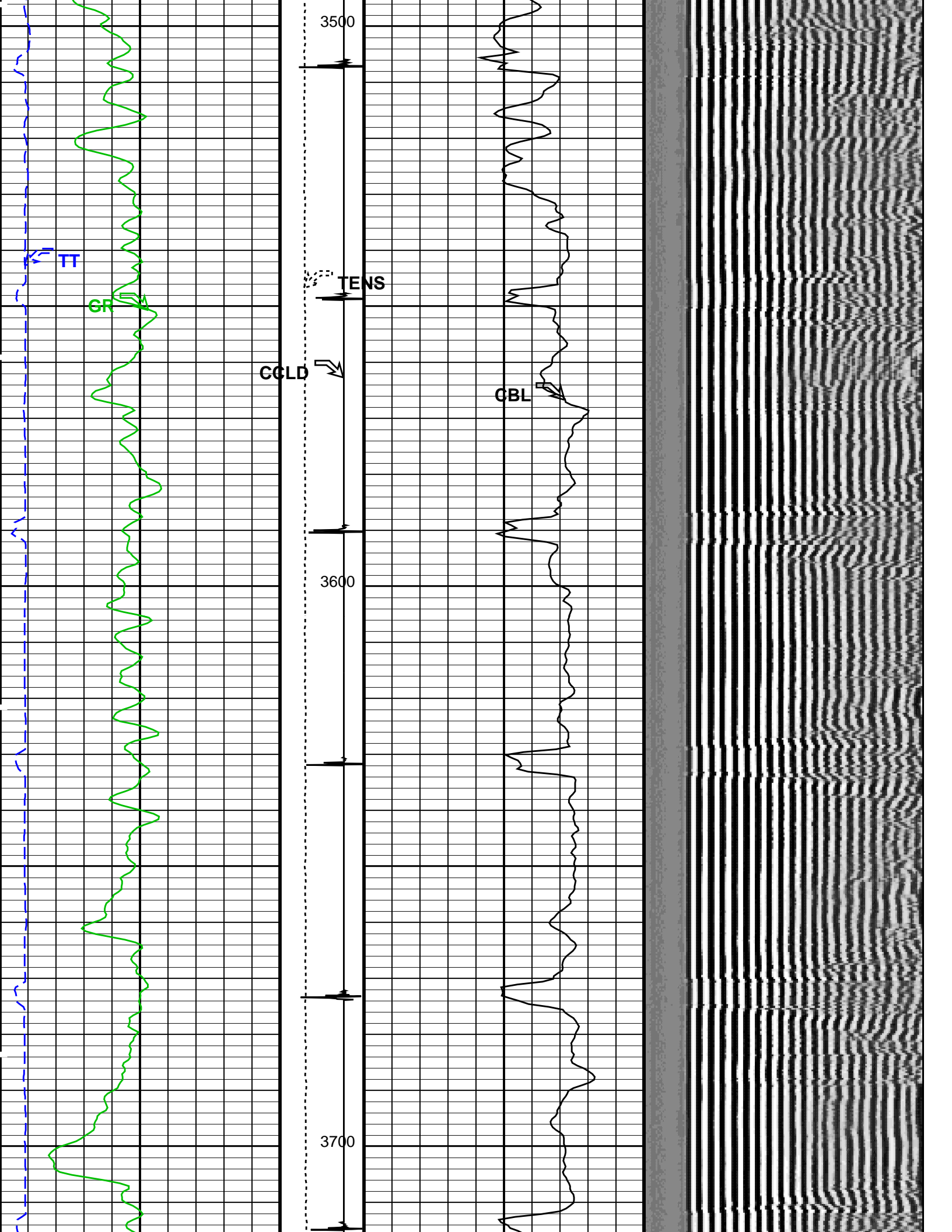


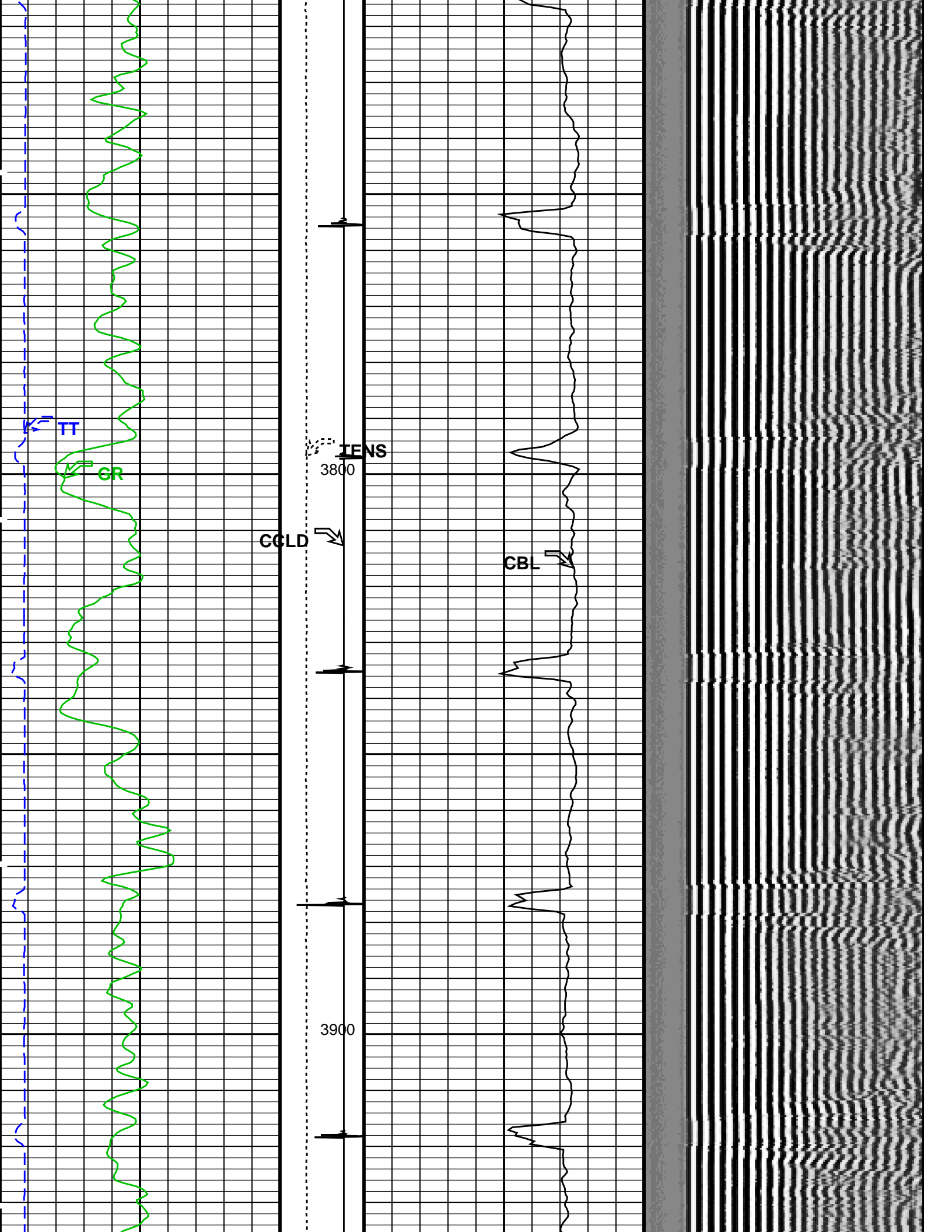


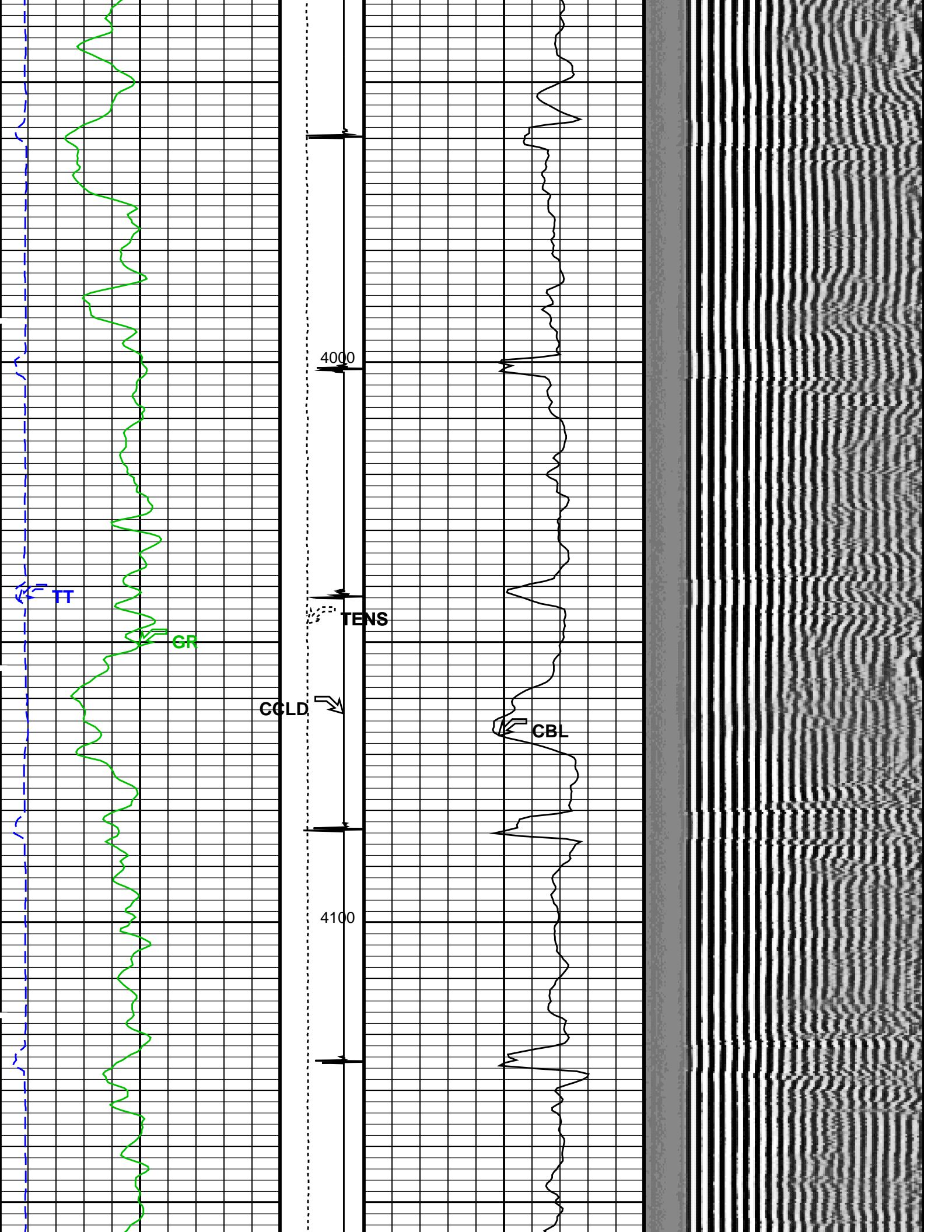


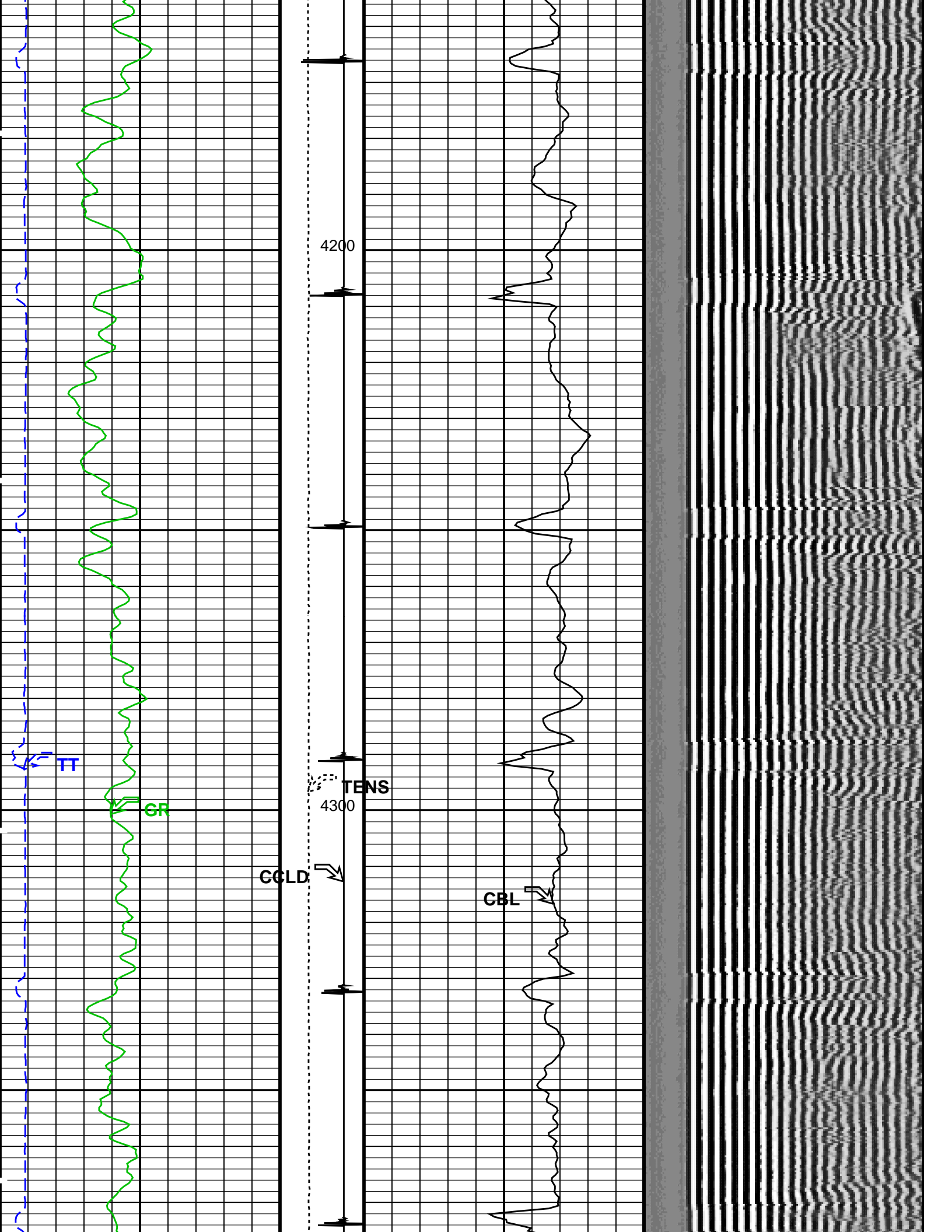


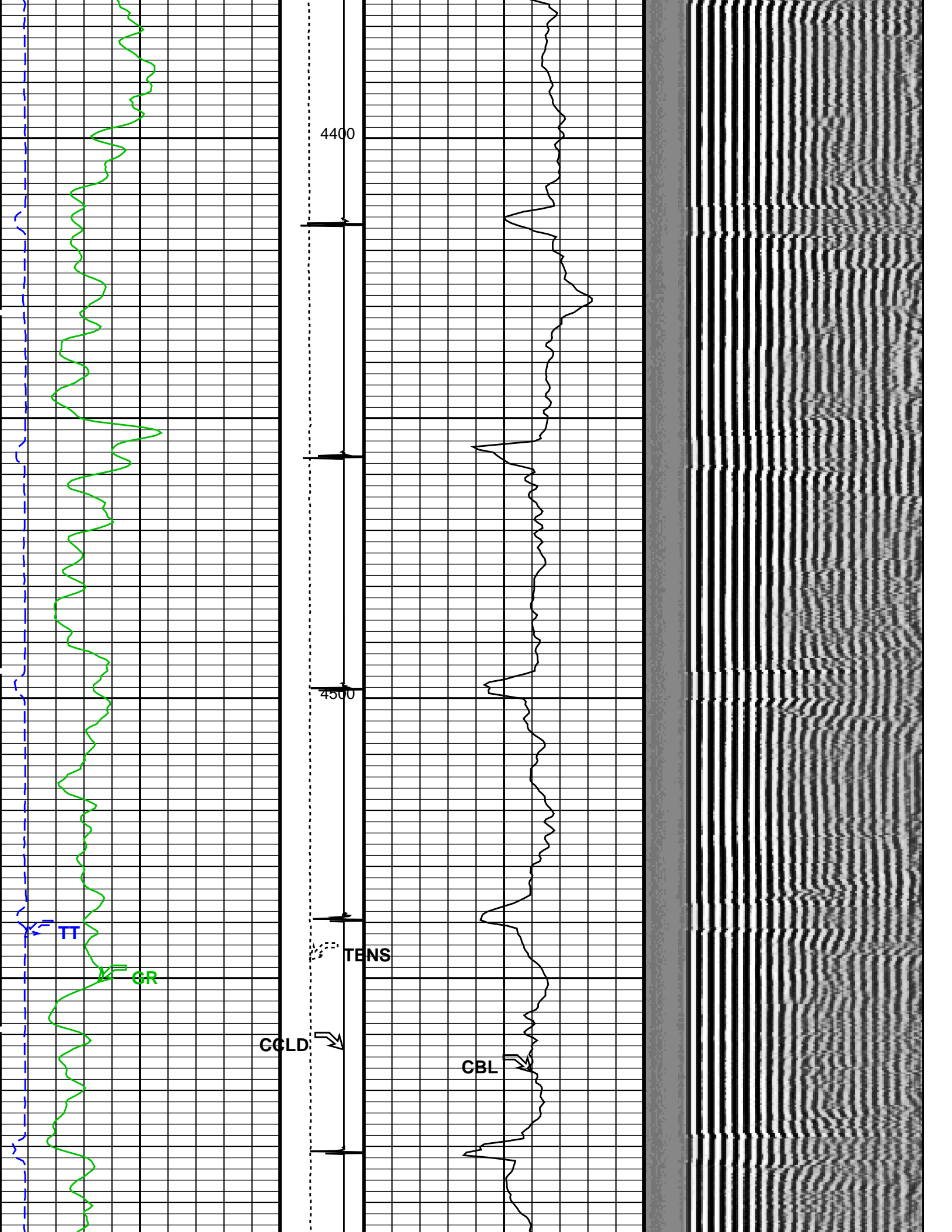


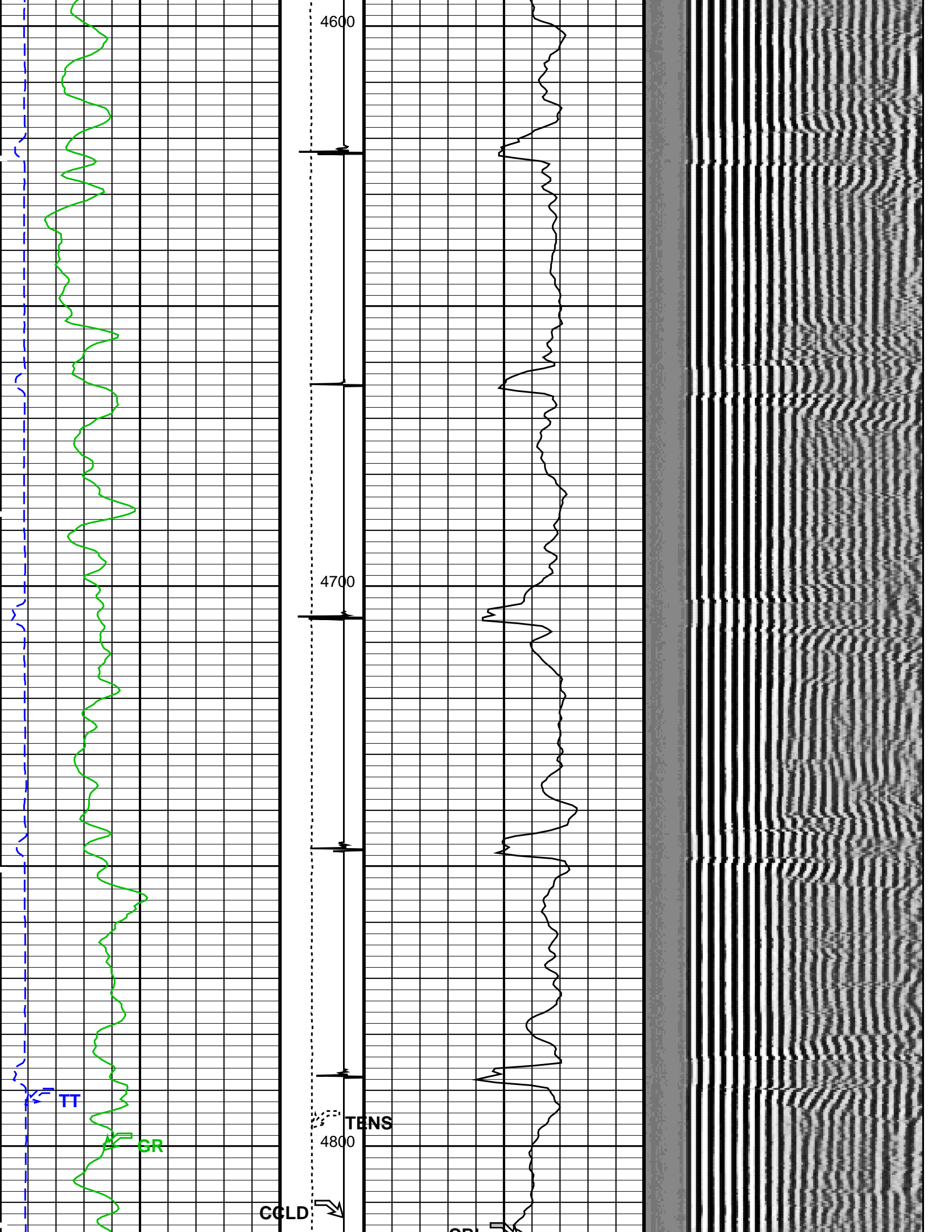


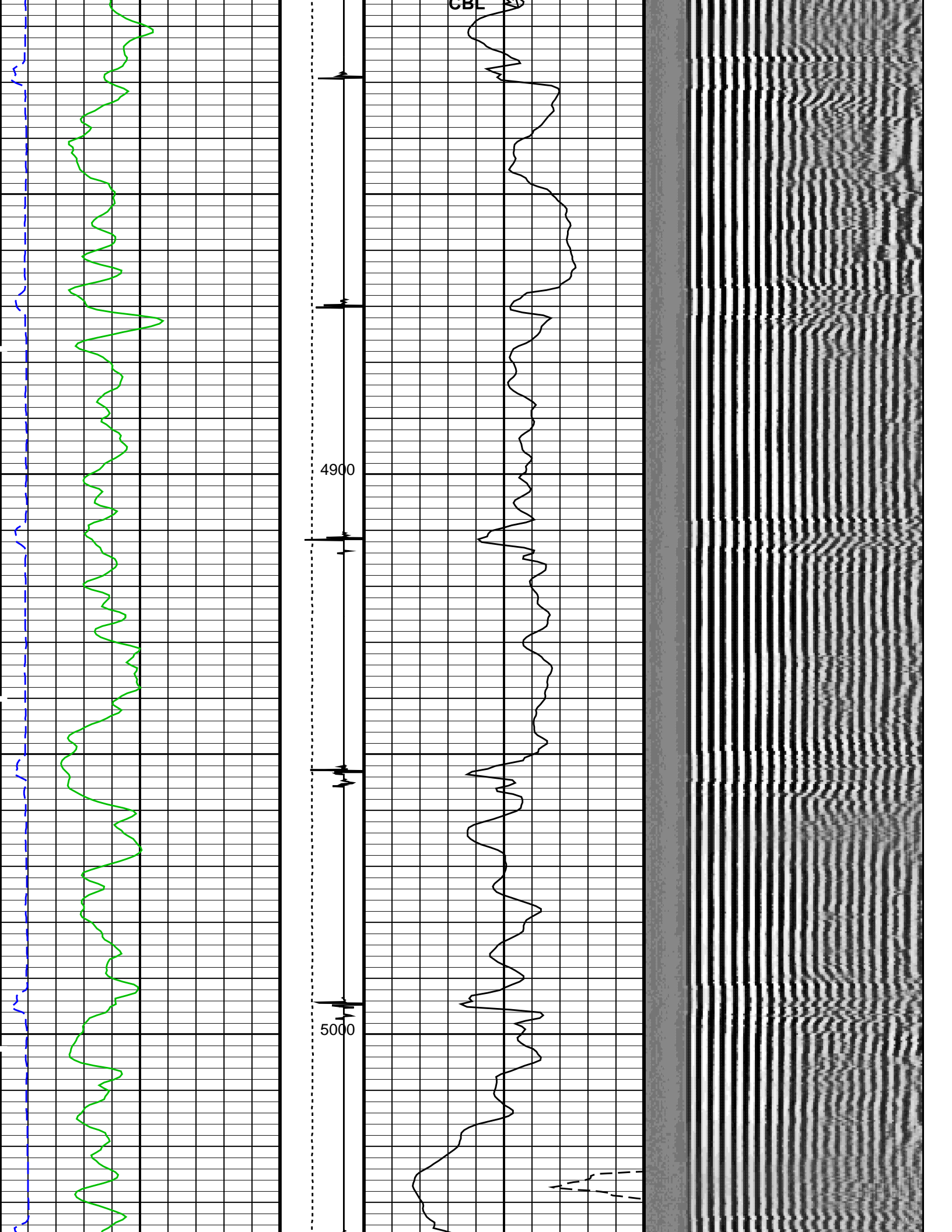


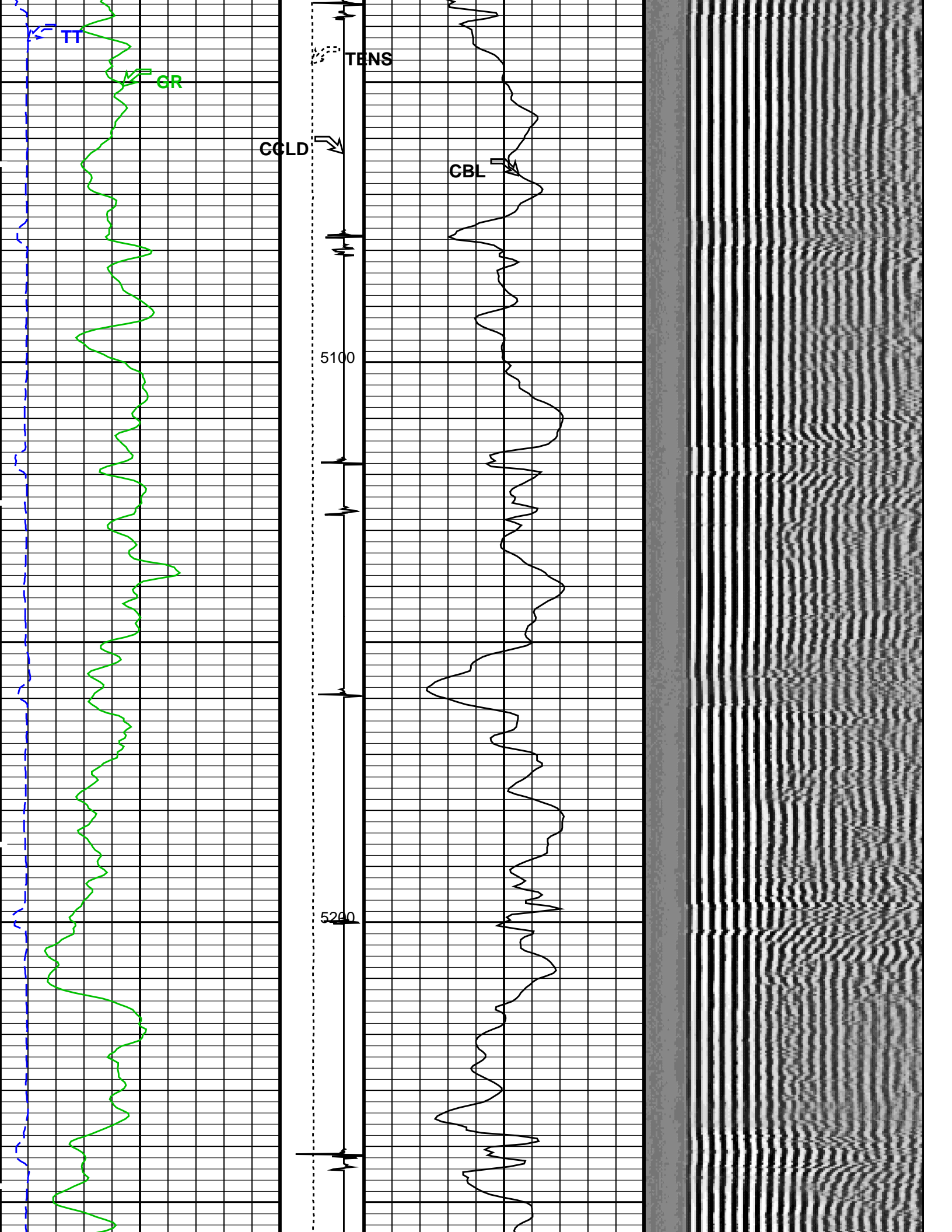


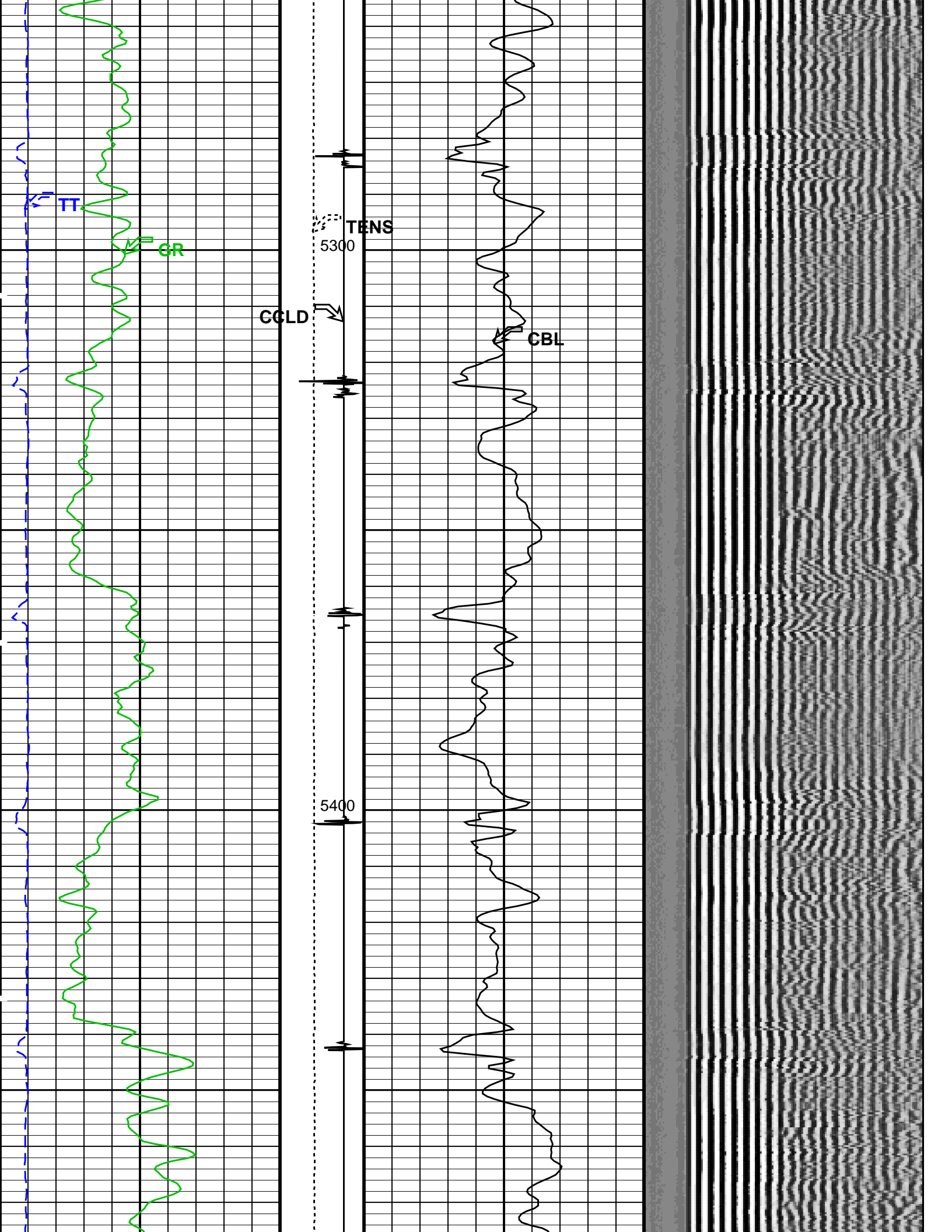


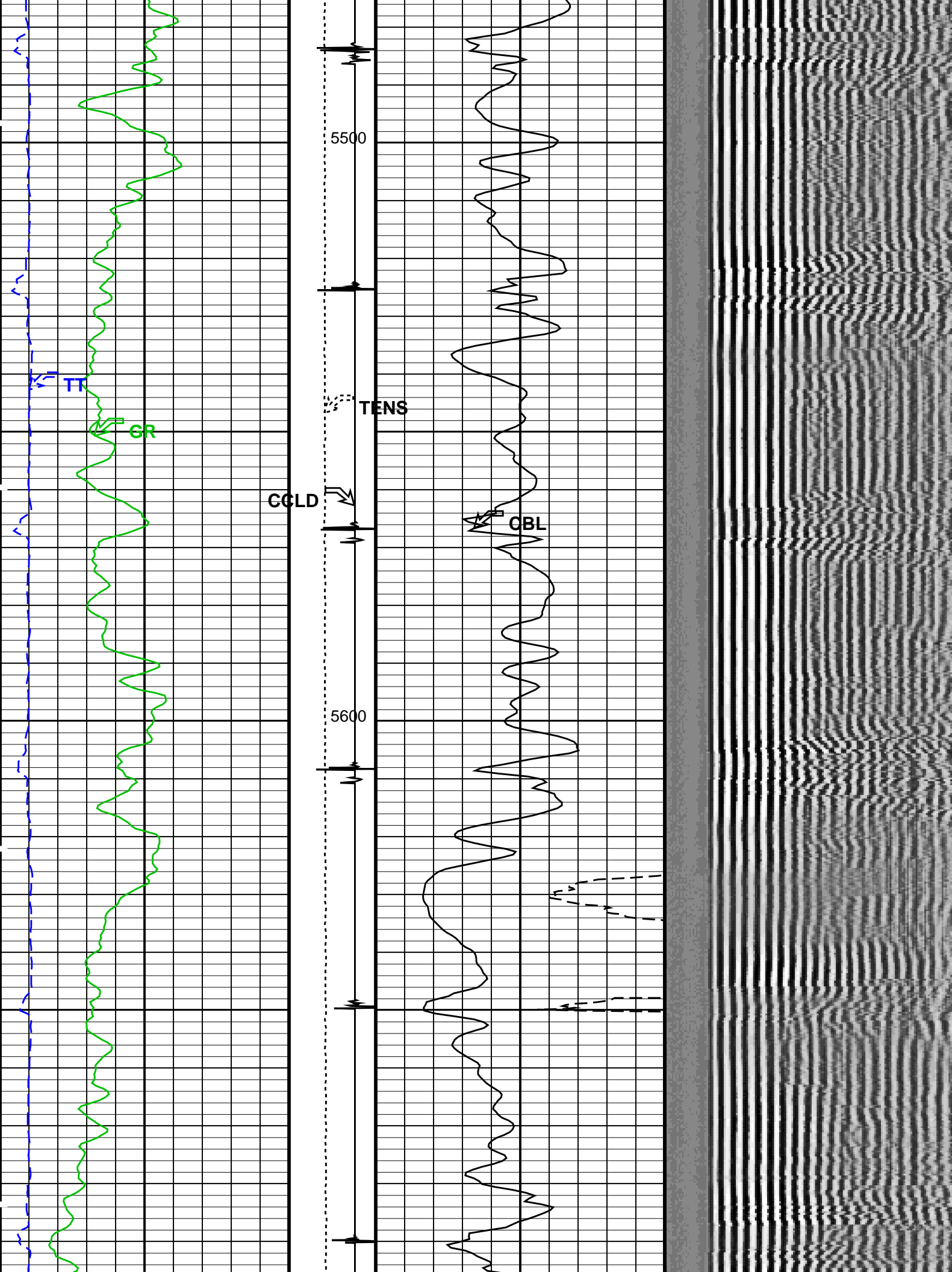


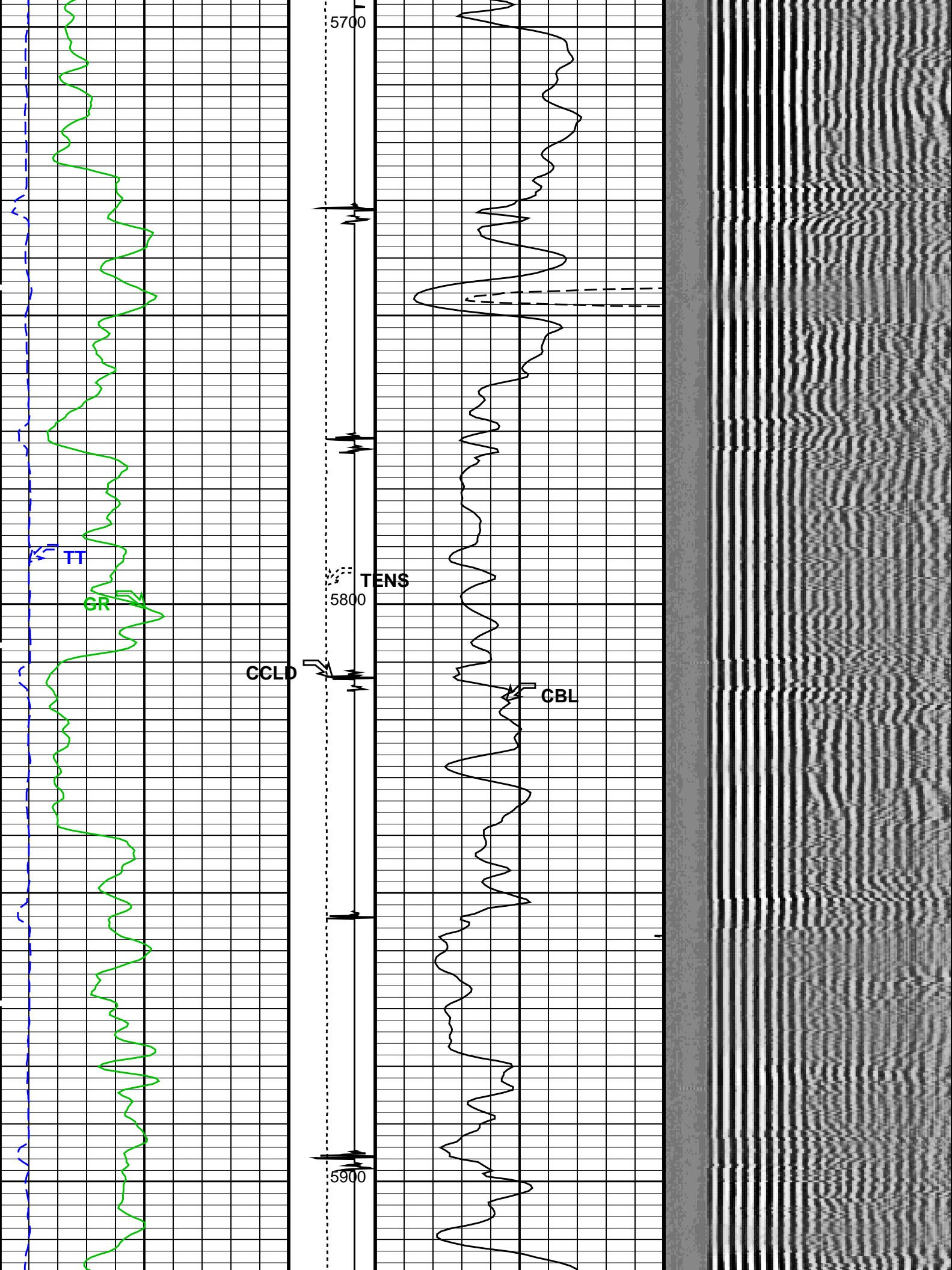


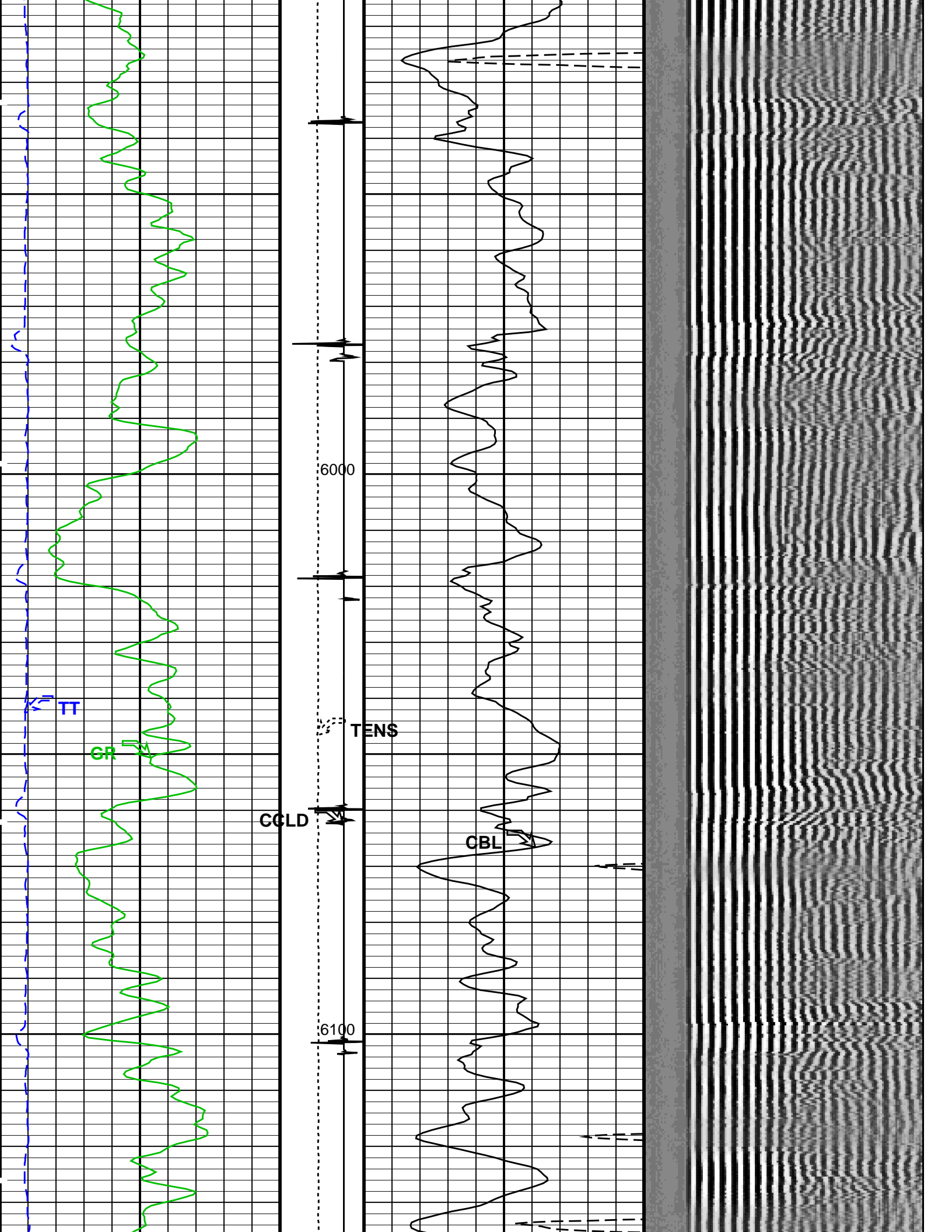


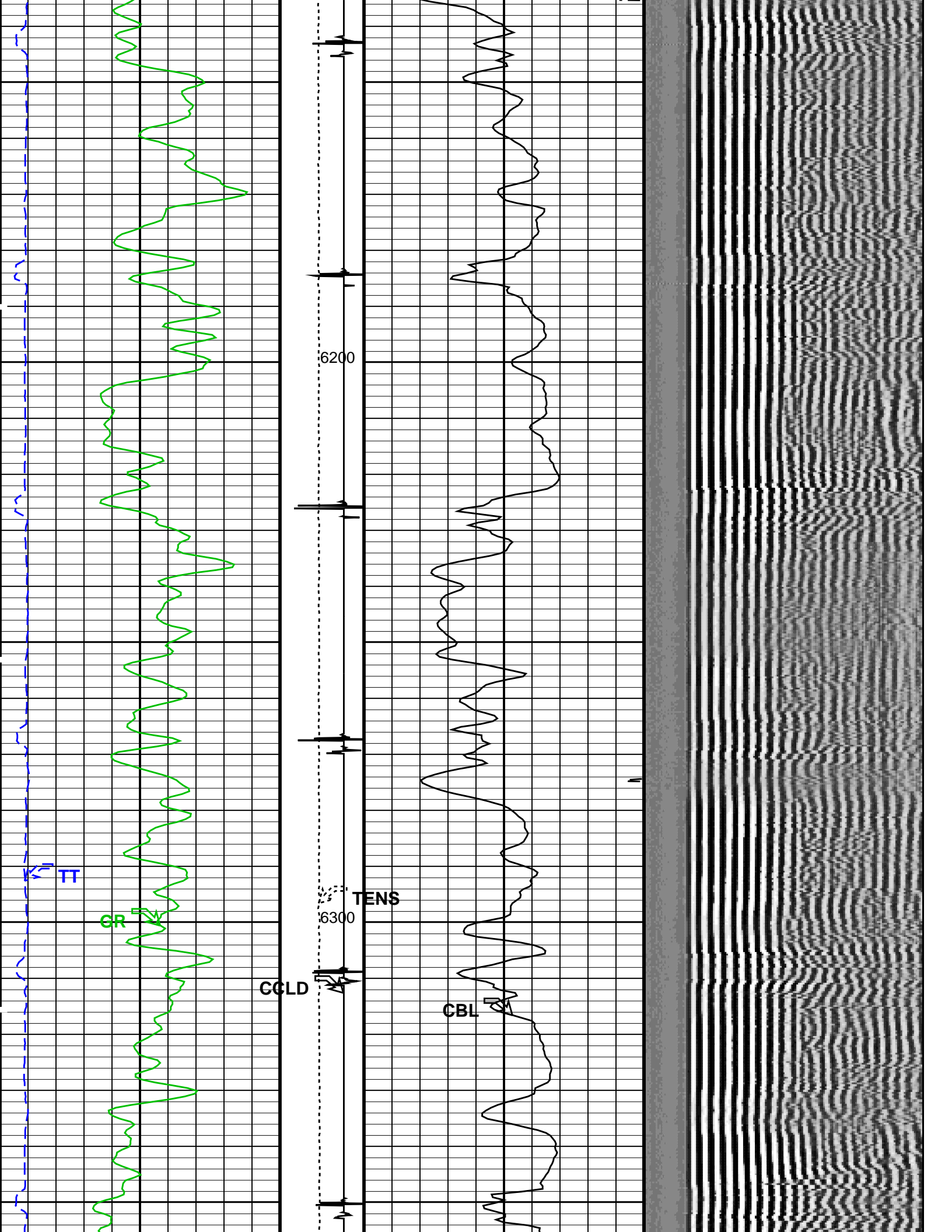


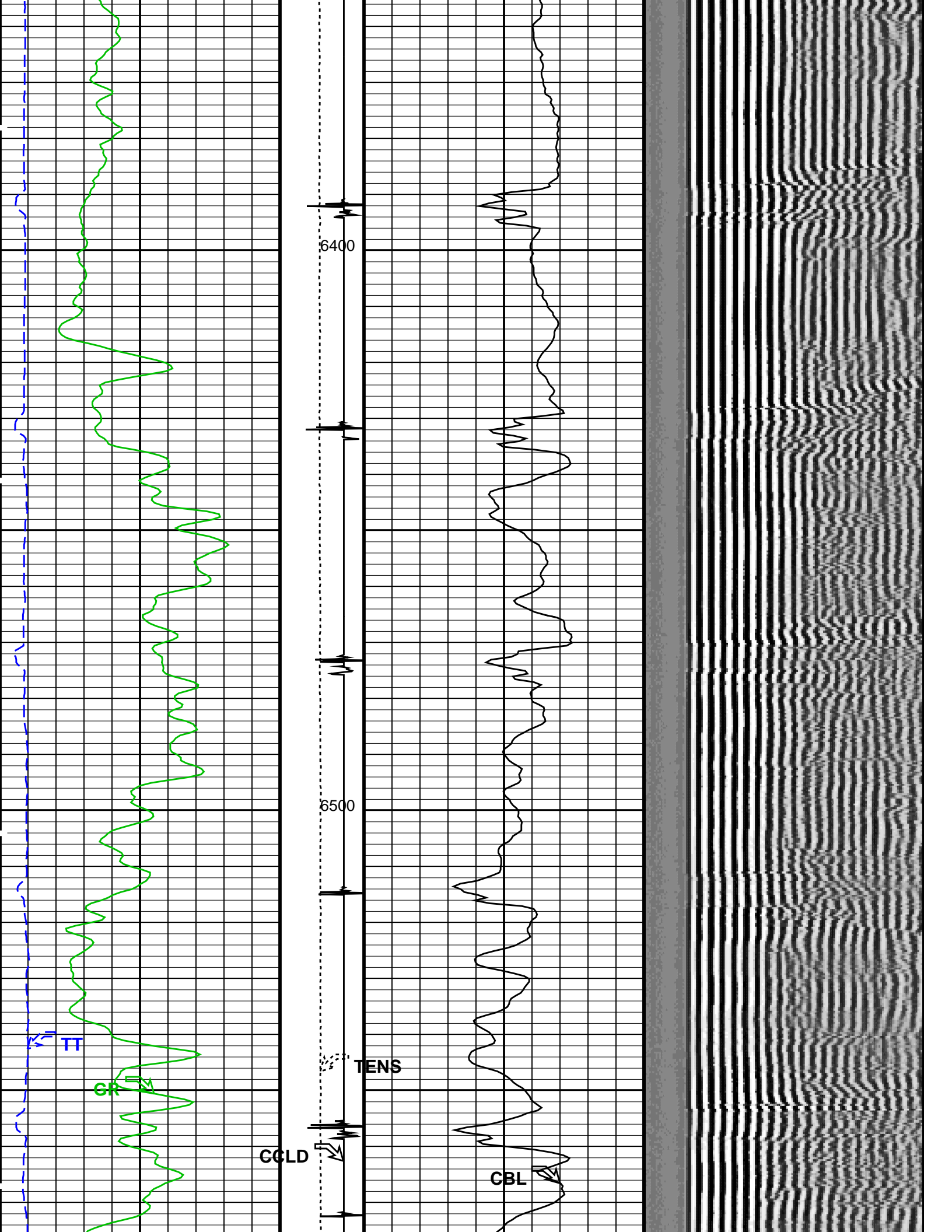


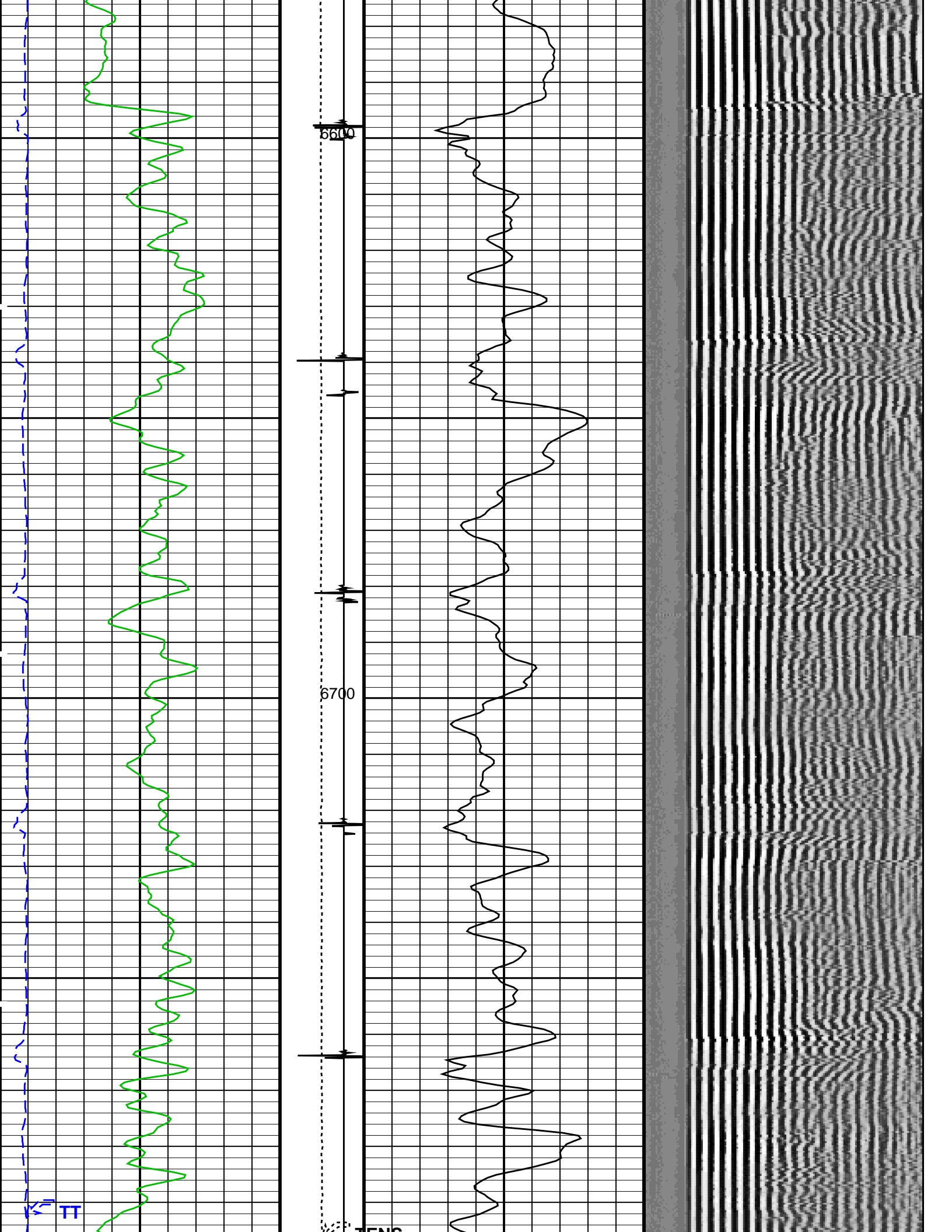


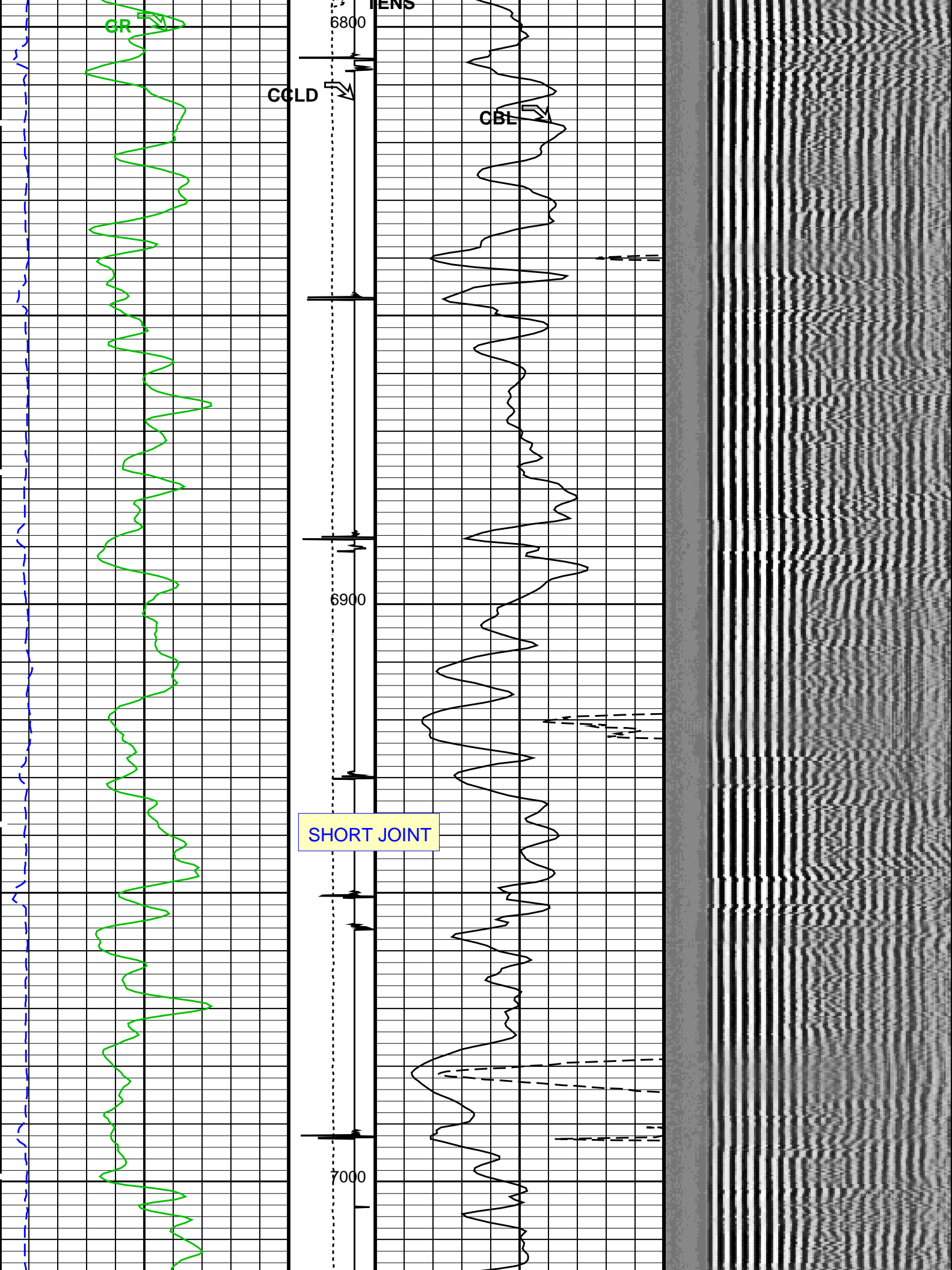


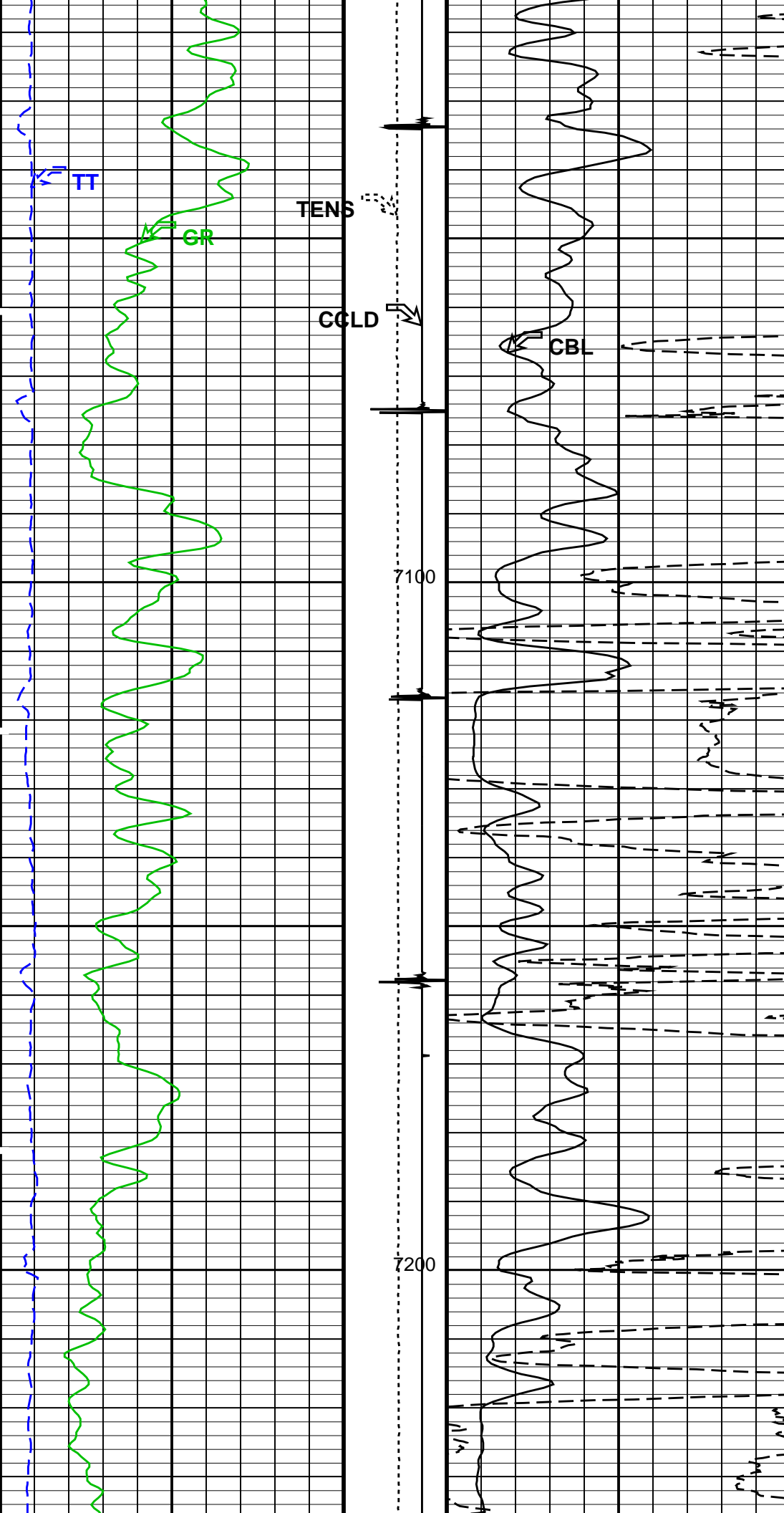


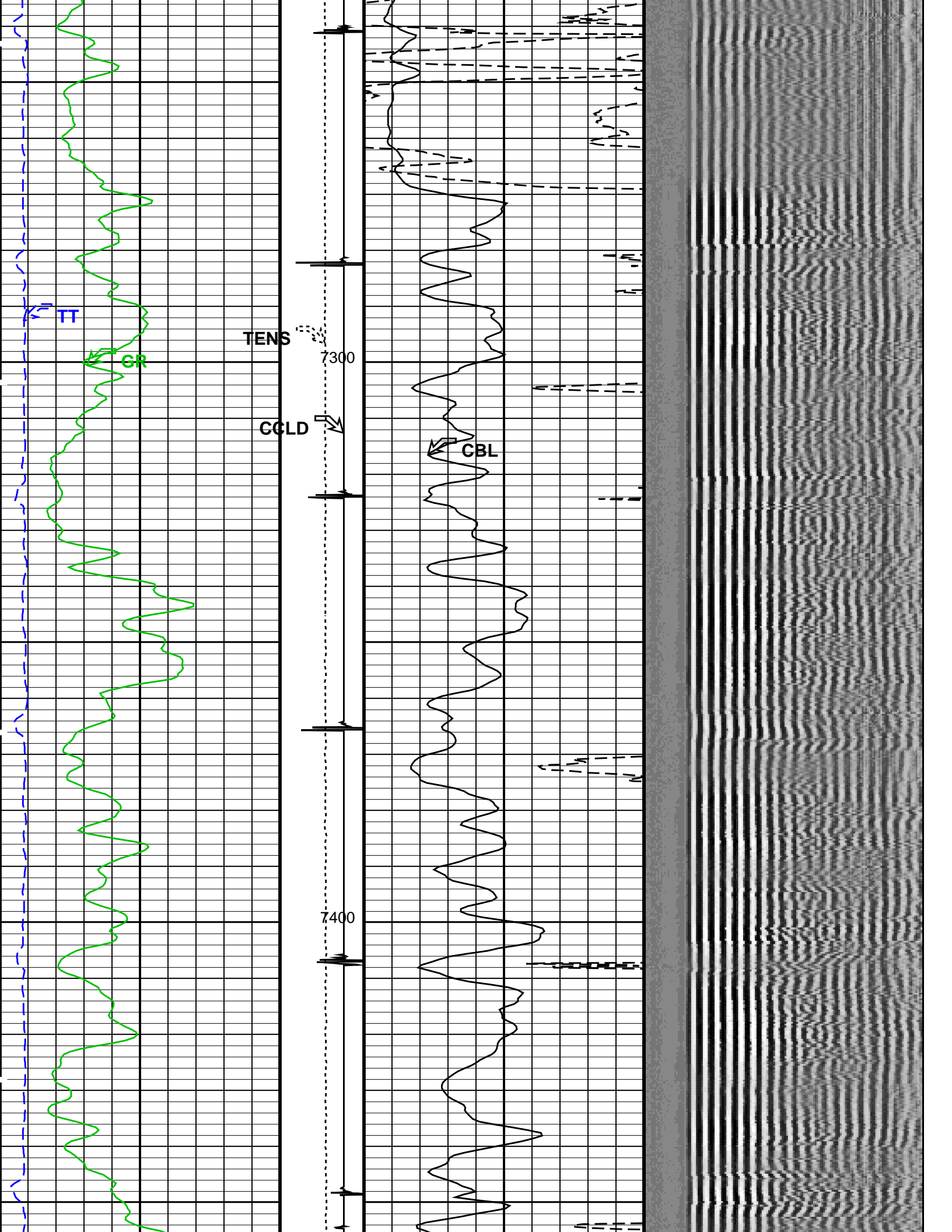


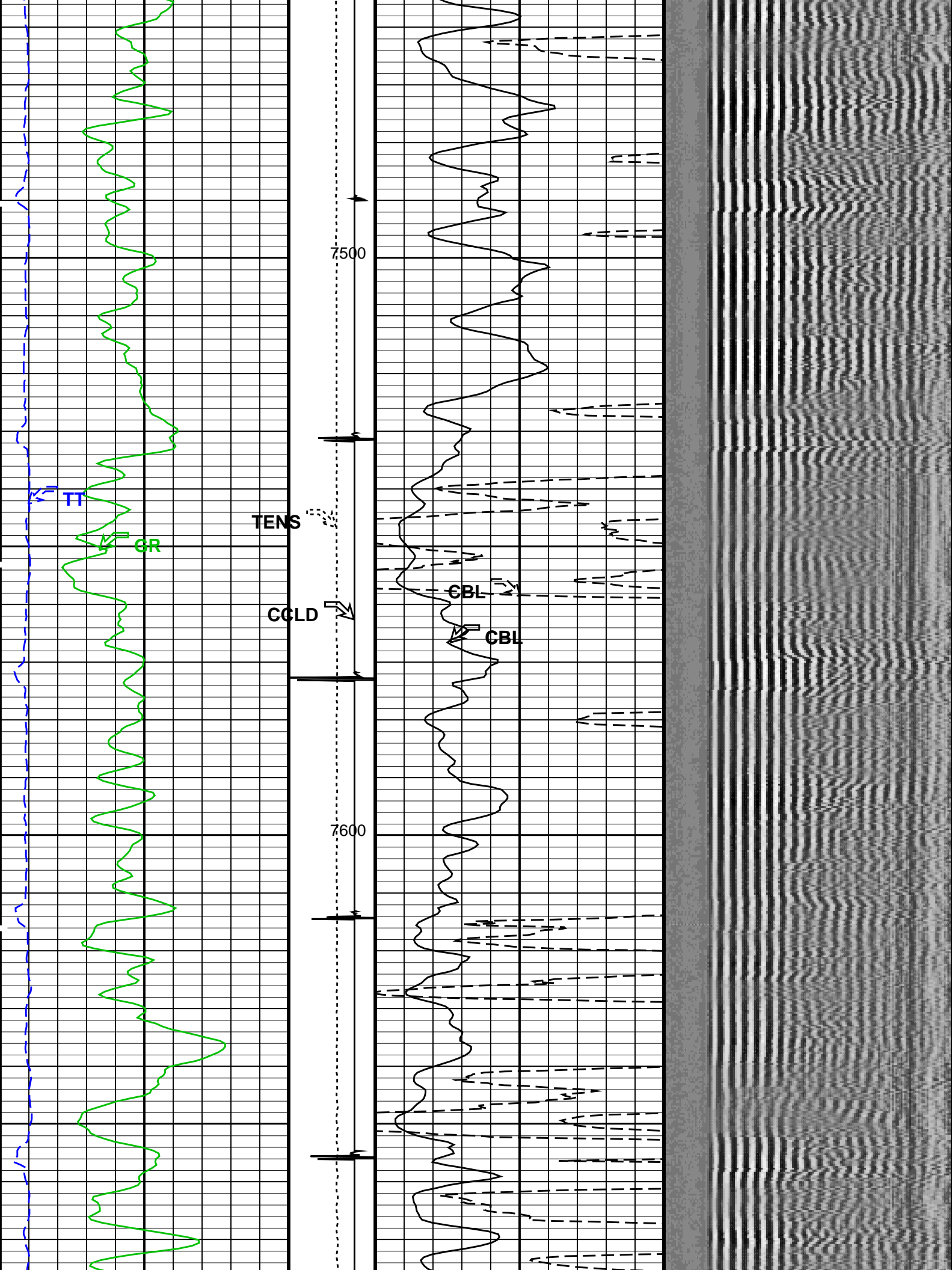


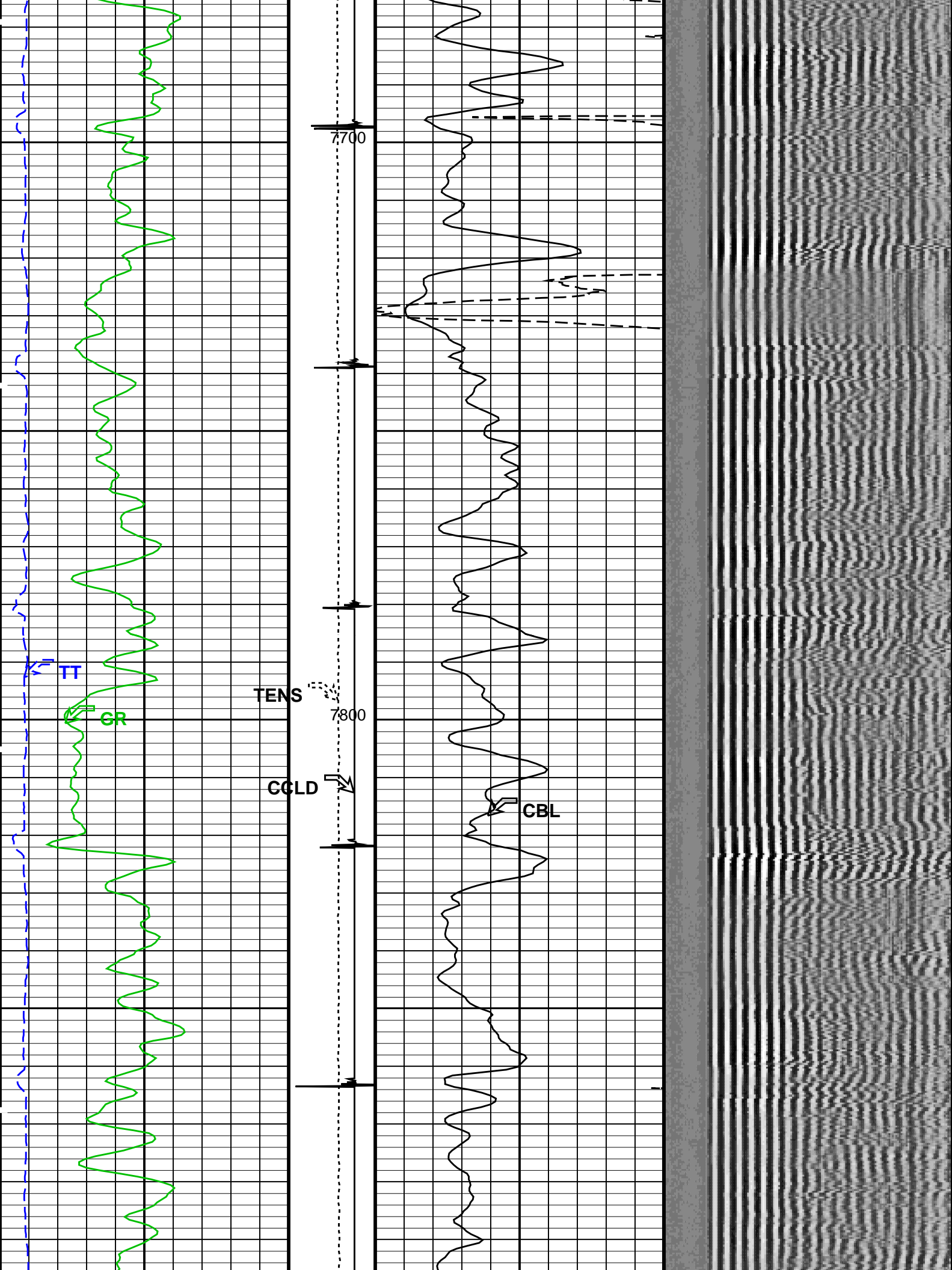


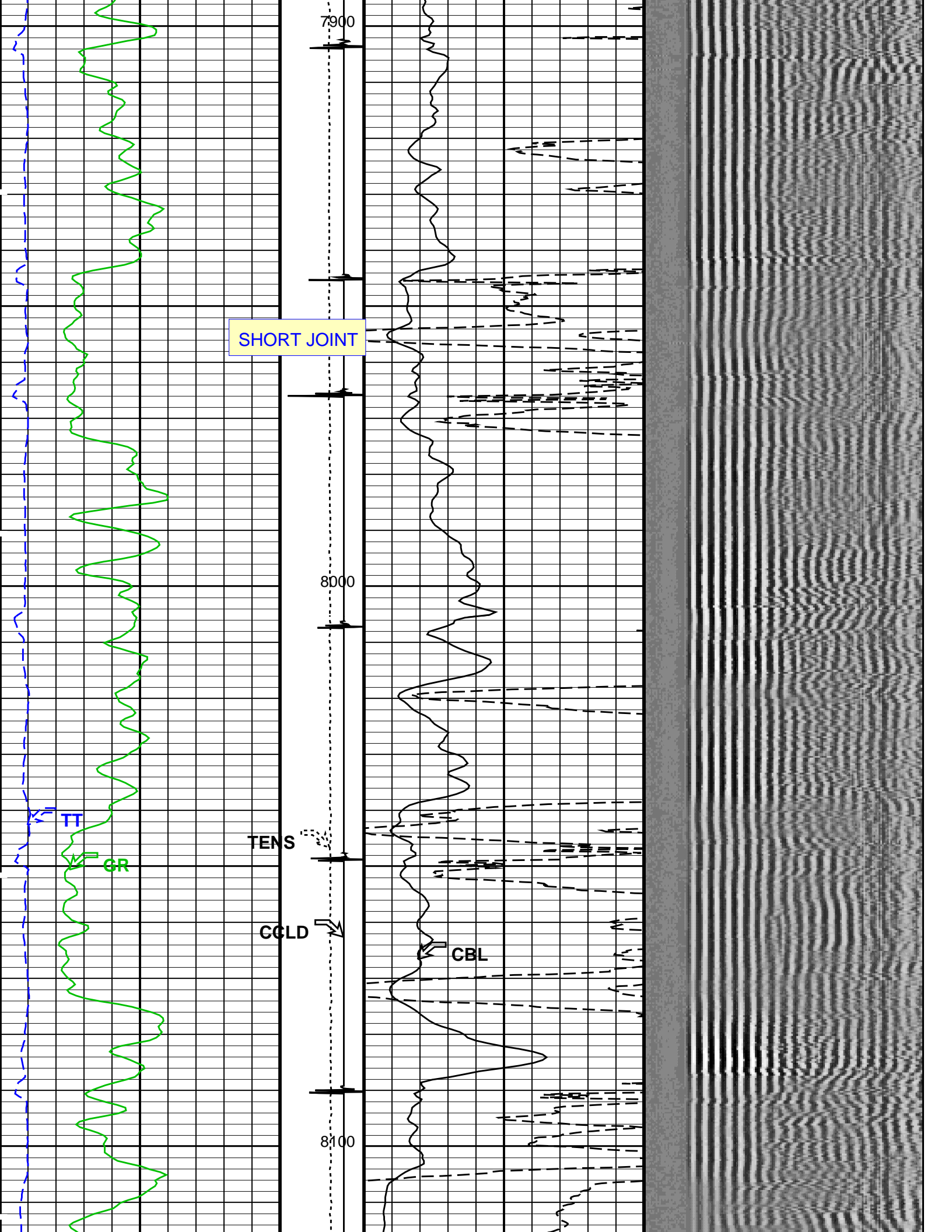


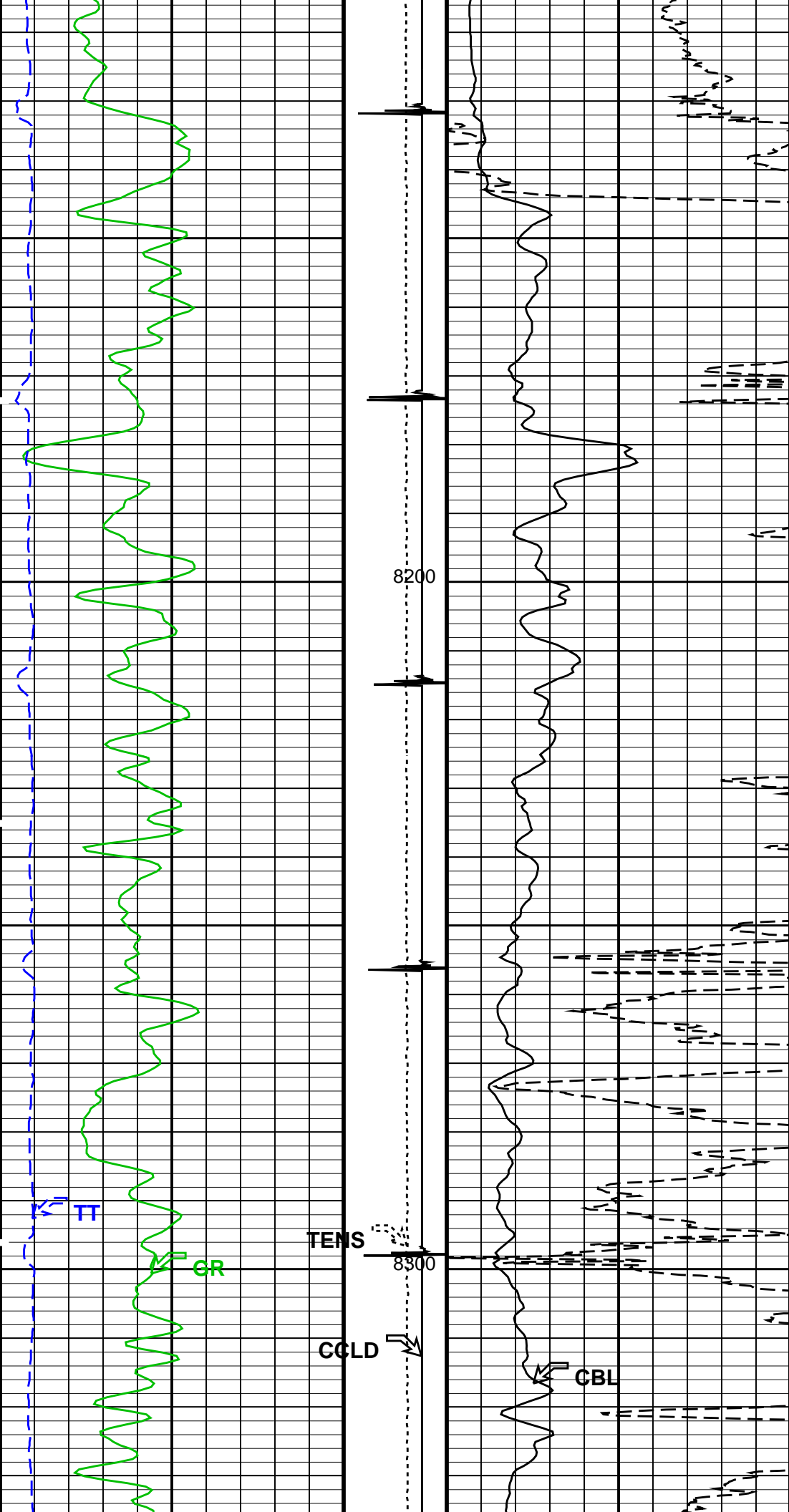


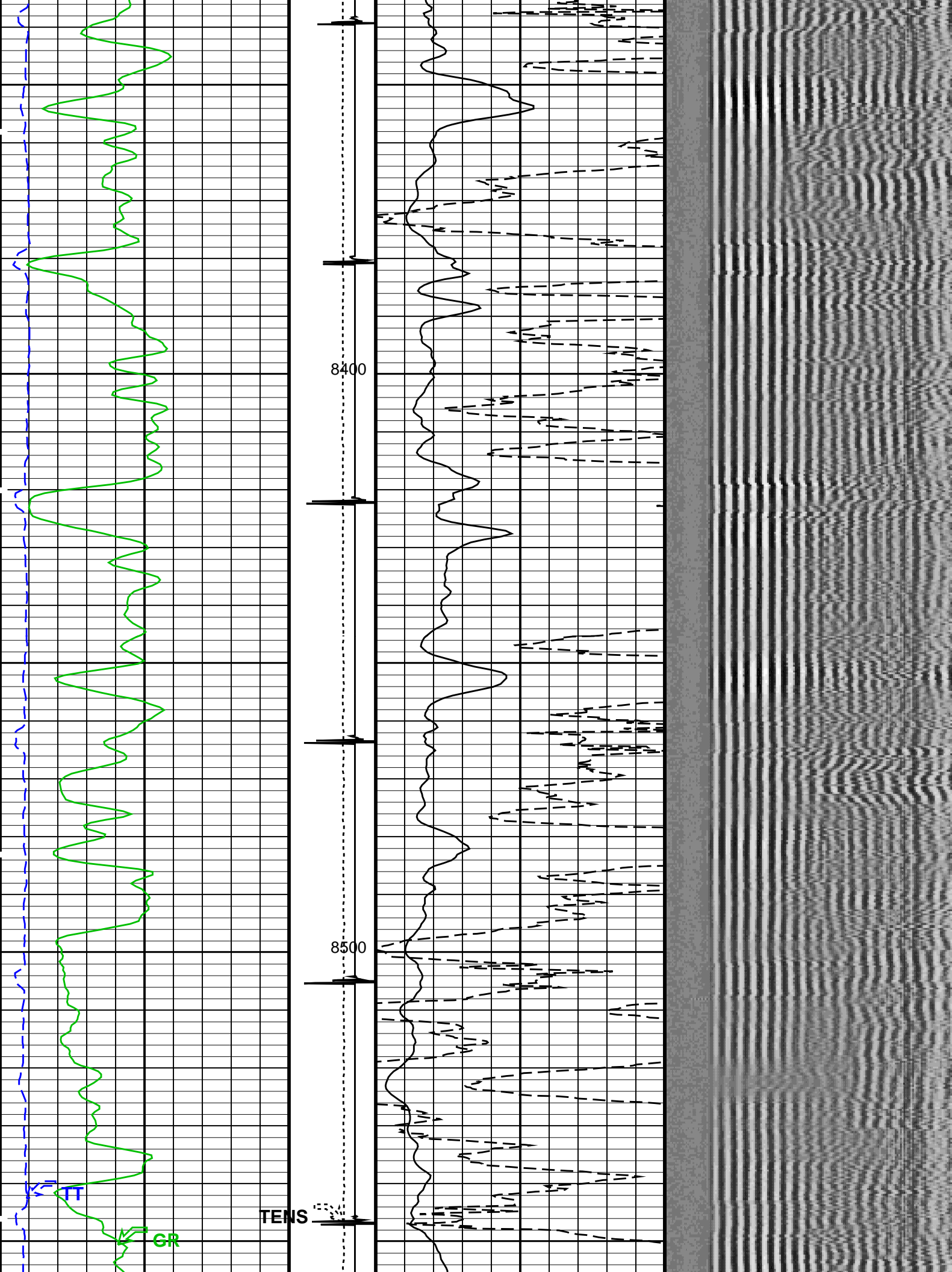


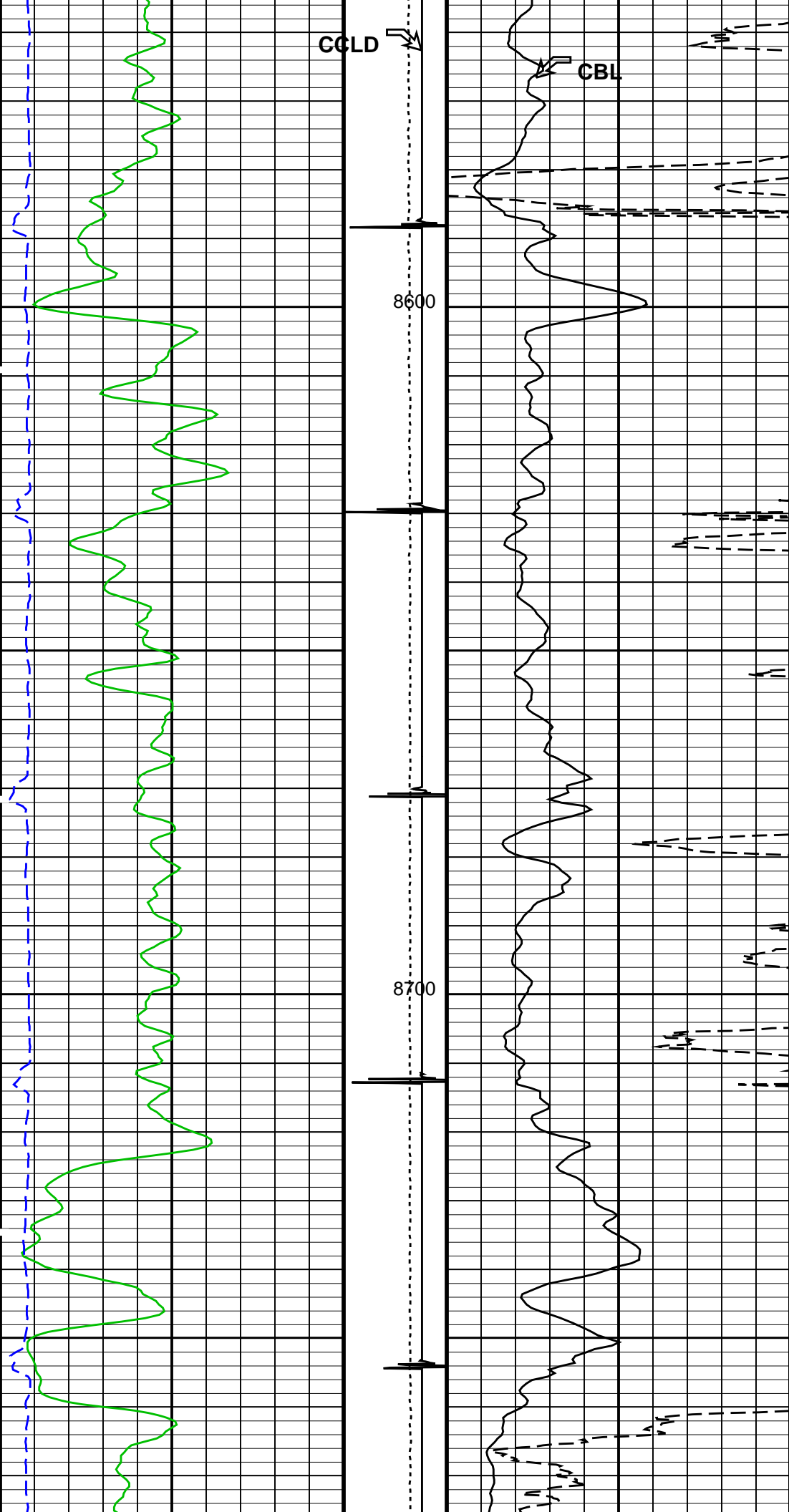


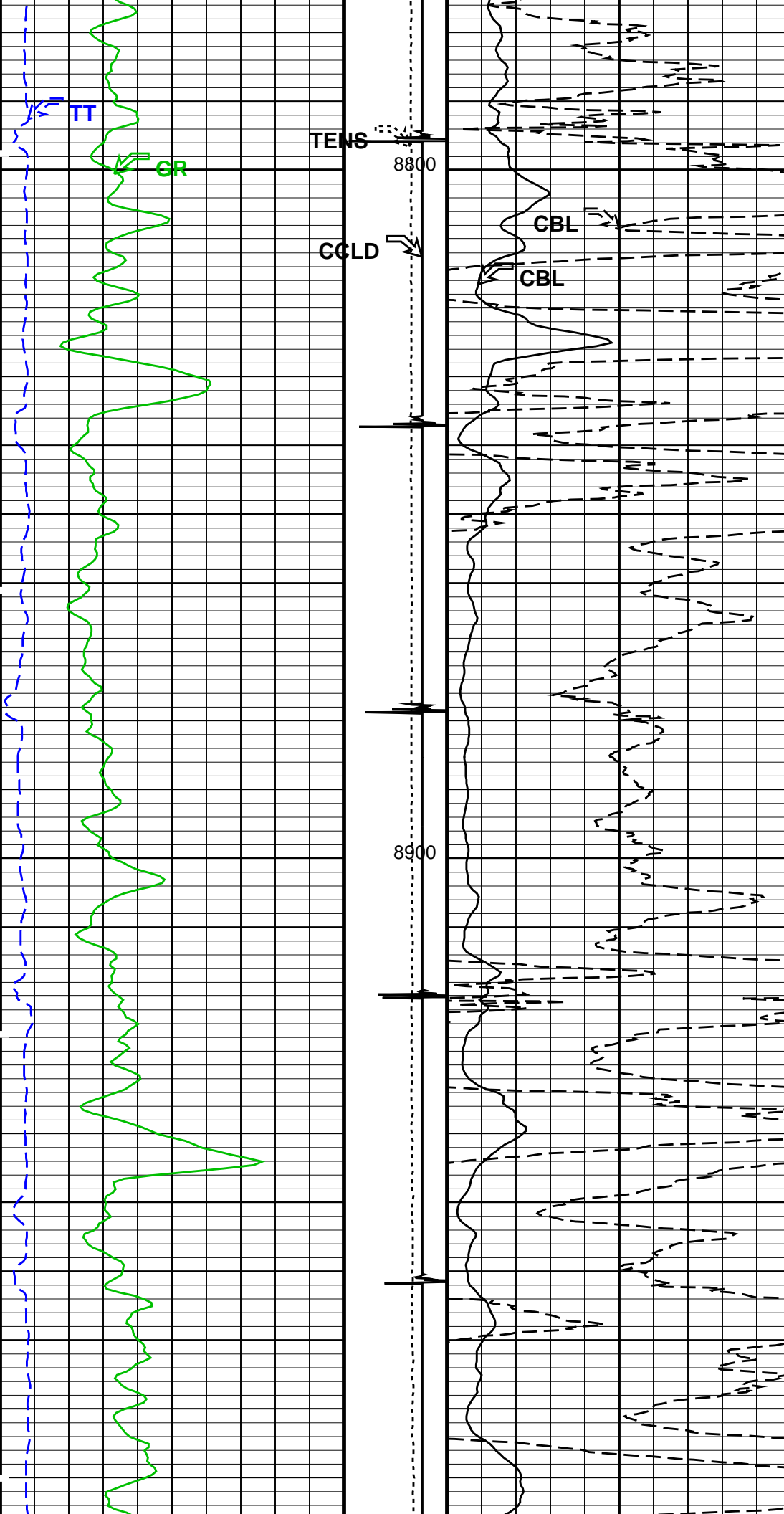


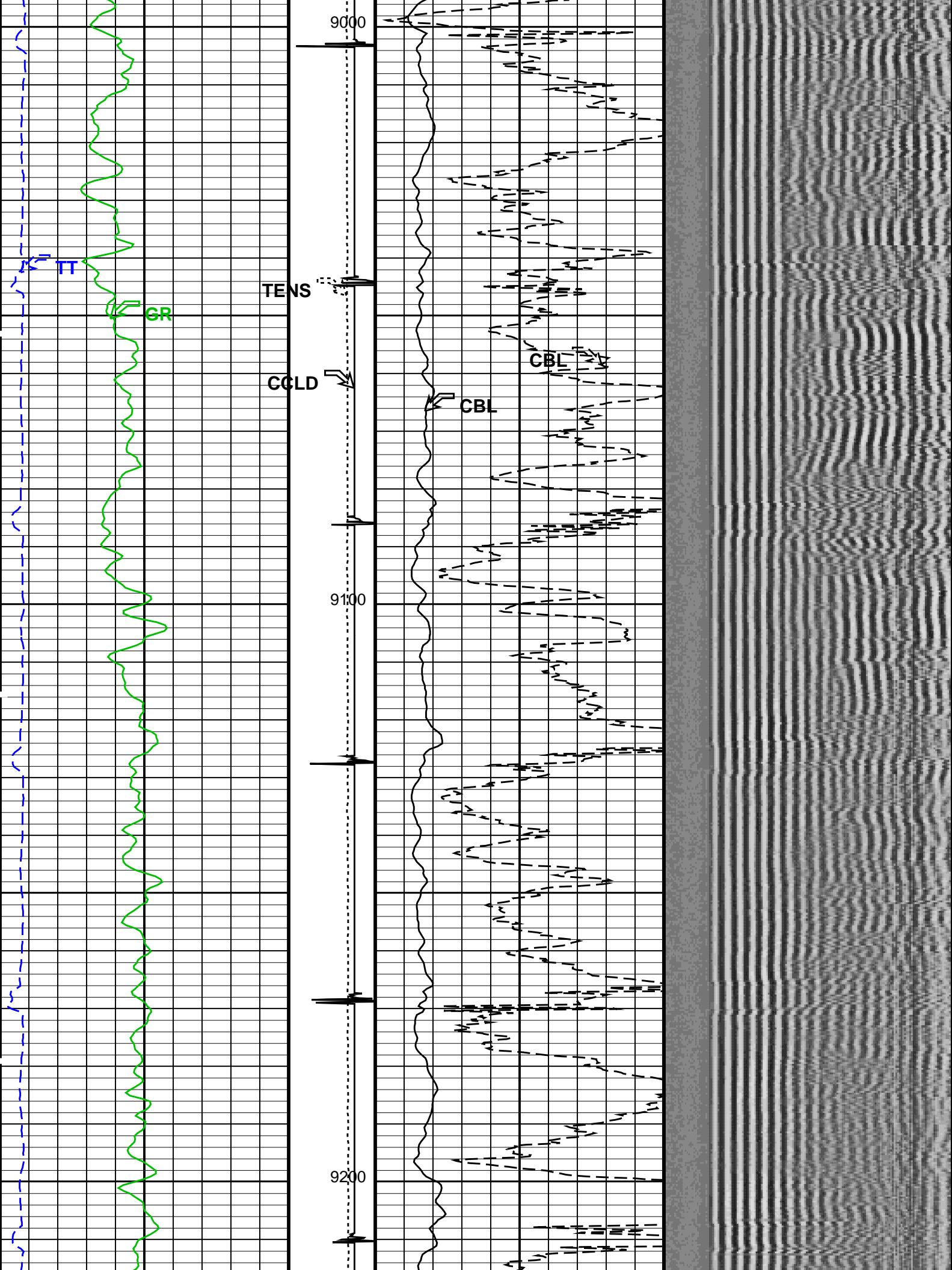


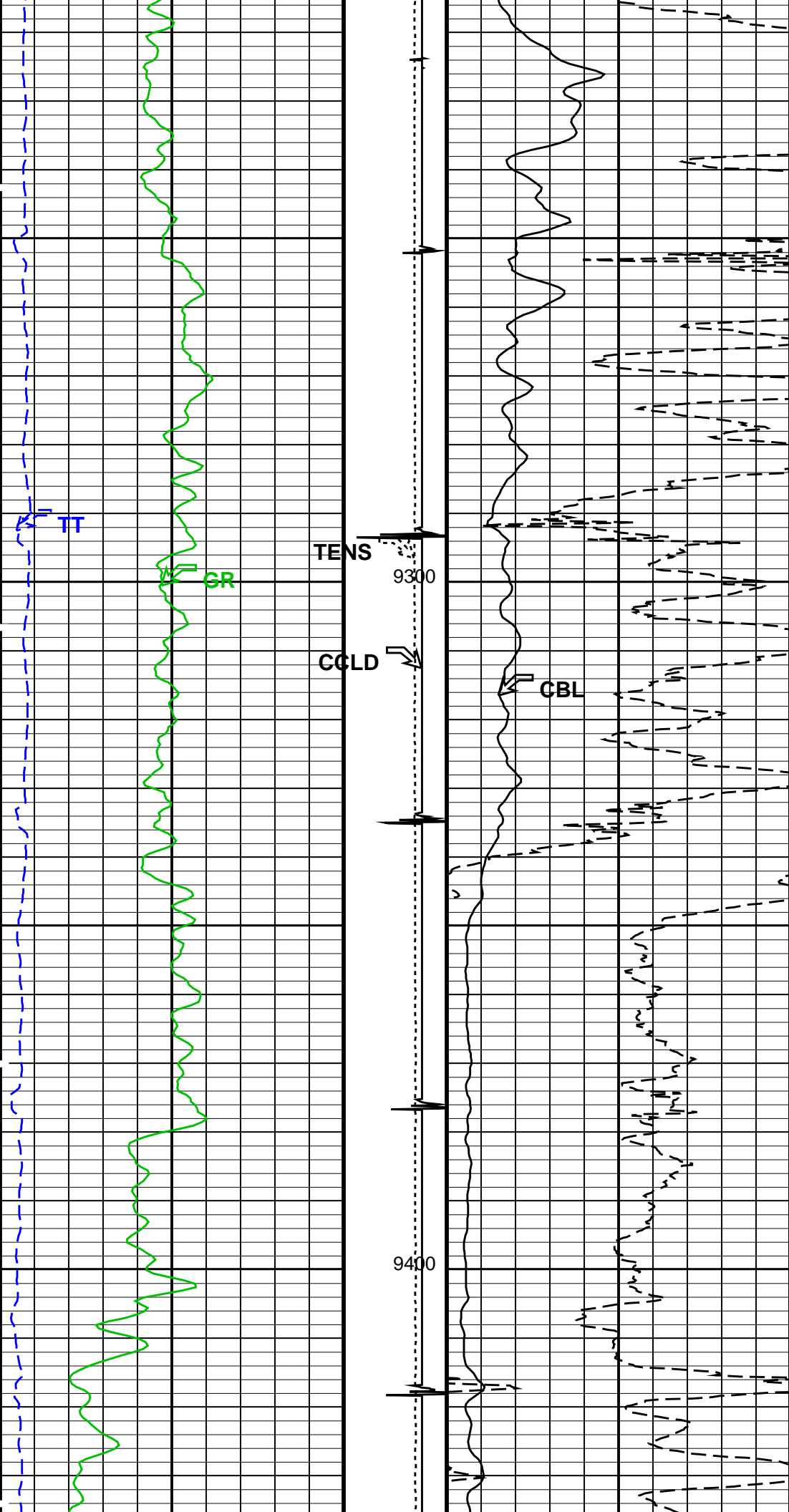


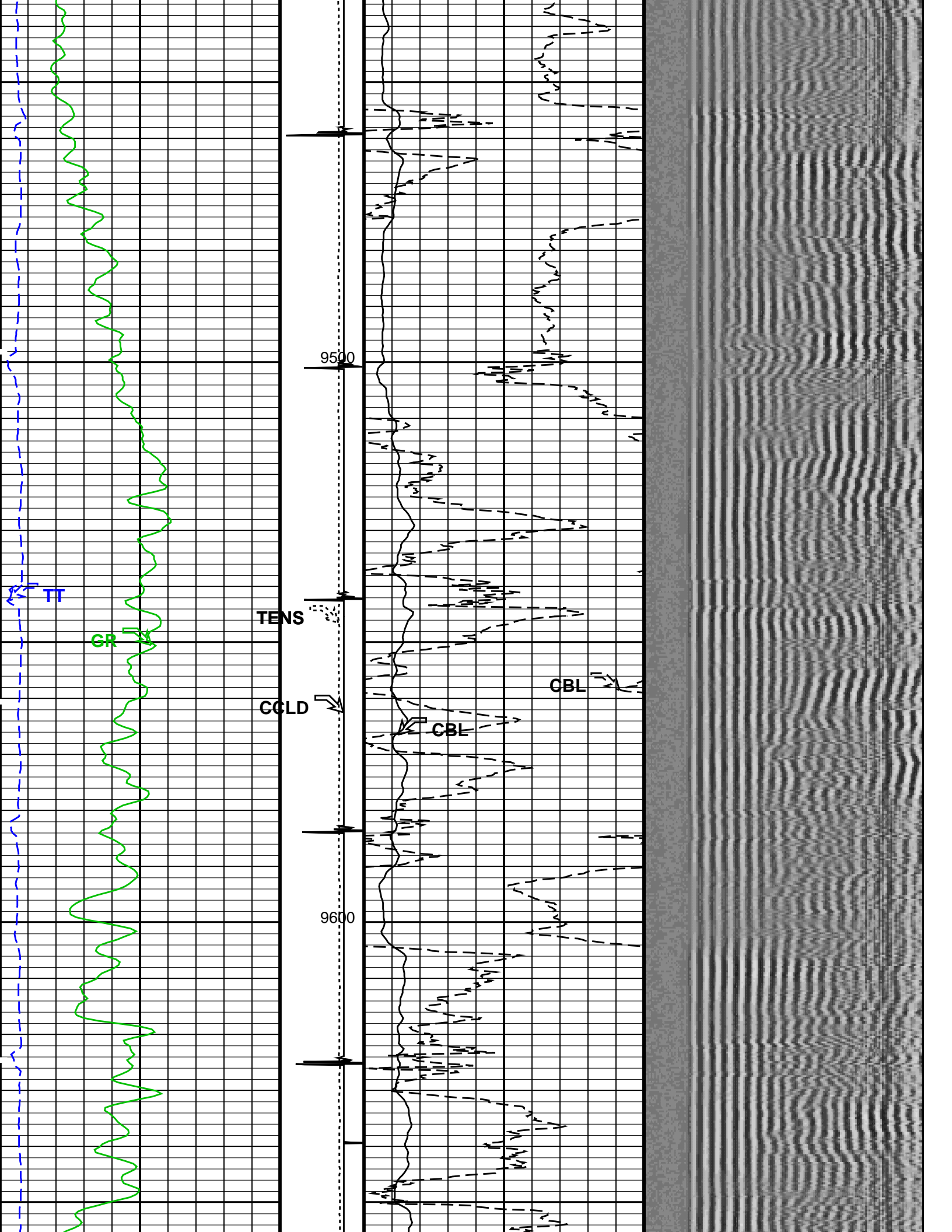


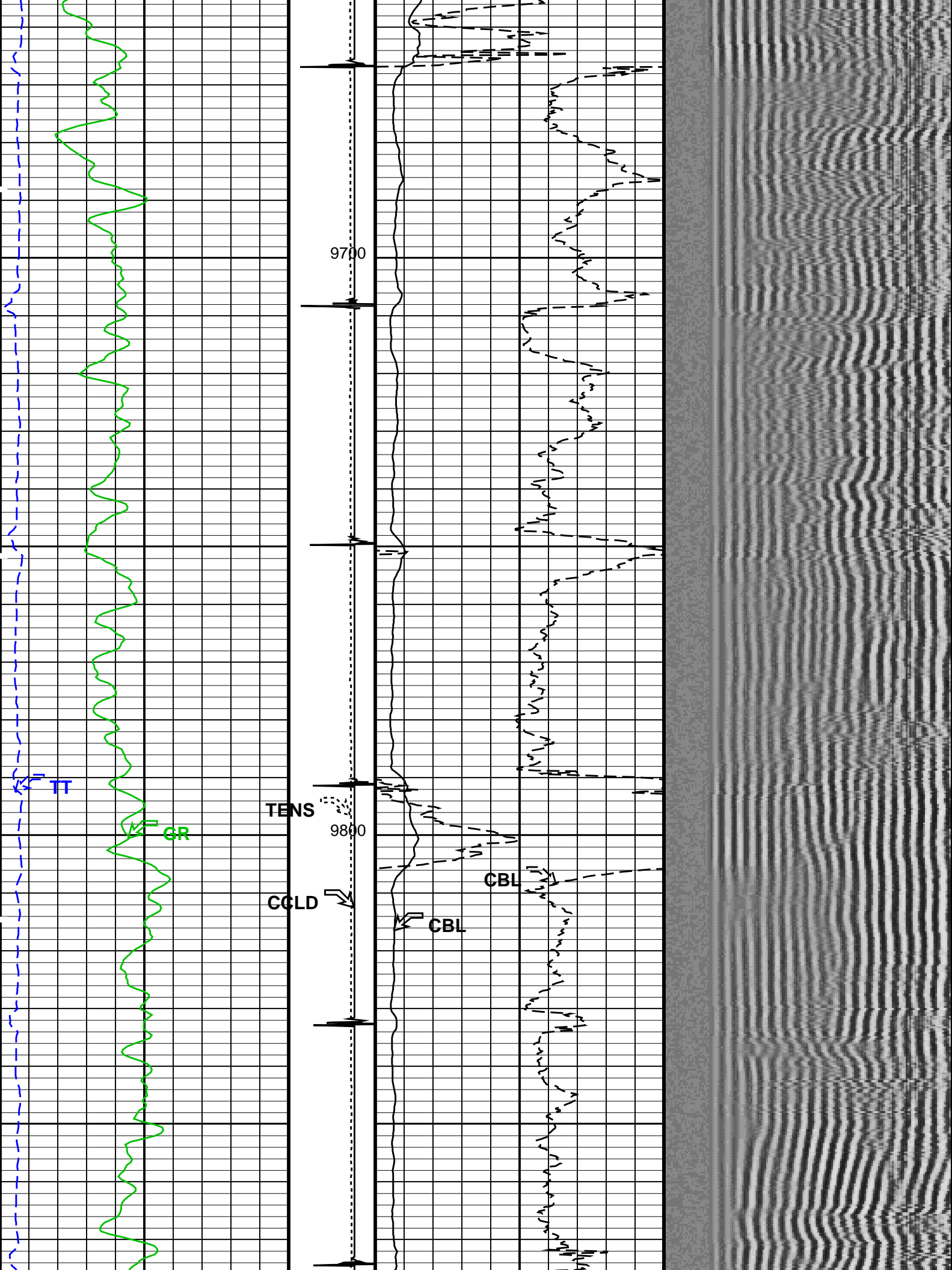


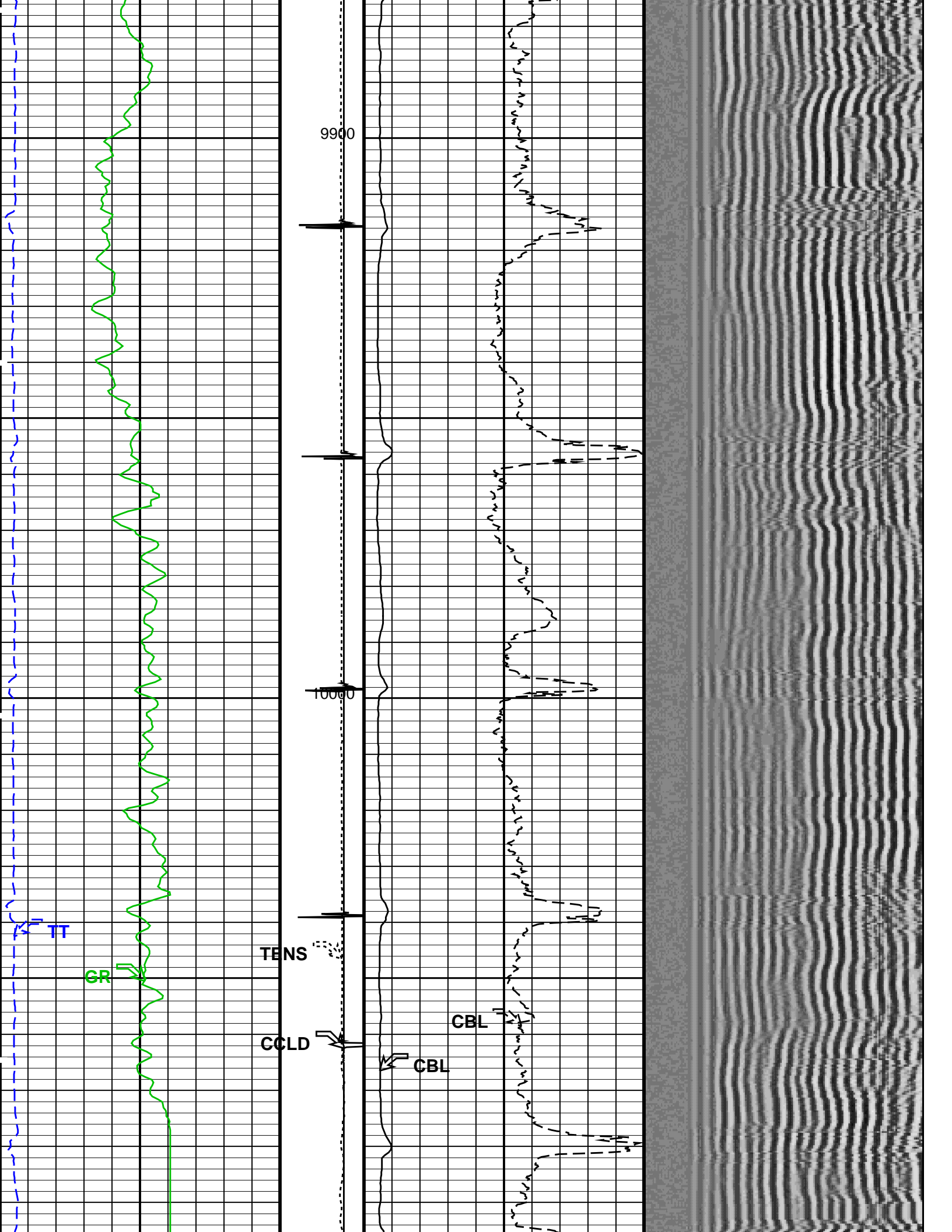


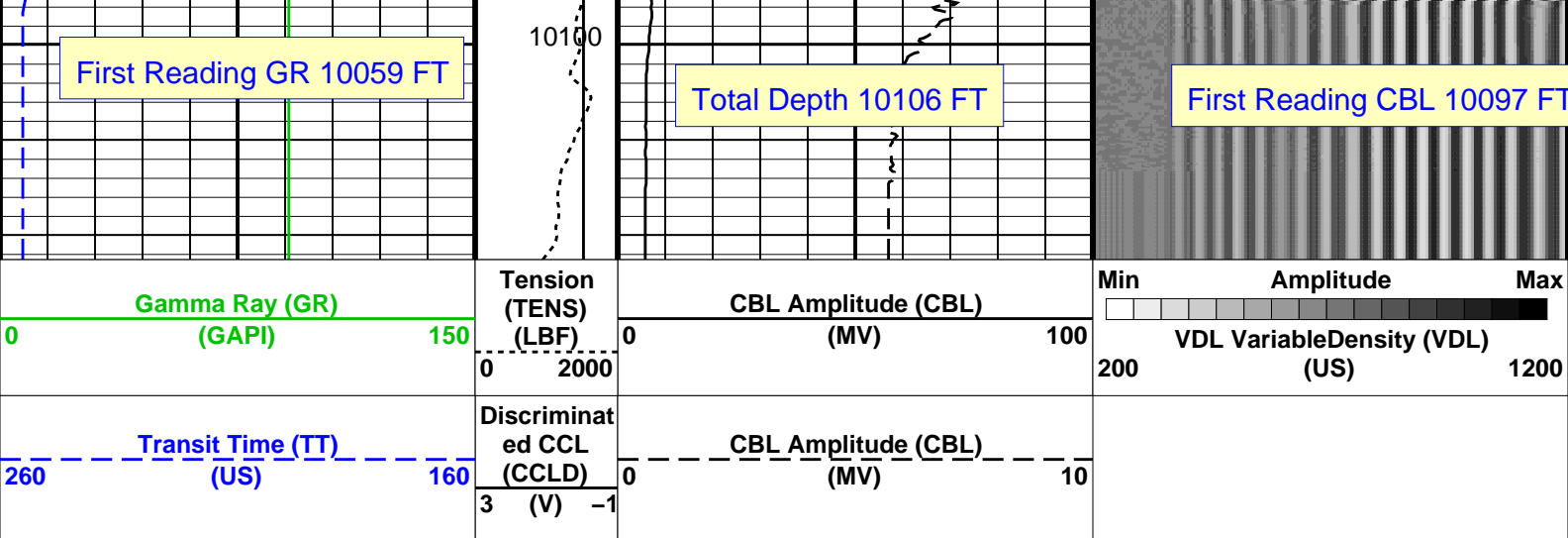












PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL Vertical Scale: 5" per 100'

Graphics File Created: 26-Nov-2013 08:27

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 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	

CMTIC	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	10106	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_068LUP	FN:65	PRODUCER	26-Nov-2013 05:41	10116.5 FT	13.0 FT
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Output DLIS Files

DEFAULT	SCMT_RST_PSP_072PUP	FN:69	PRODUCER	26-Nov-2013 08:27
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Schlumberger

REPEAT ANALYSIS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC	Well: HMU 6-13D (J6SEB)
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Input DLIS Files

DEFAULT	SCMT_RST_PSP_066LUP	FN:63	PRODUCER	26-Nov-2013 05:18	7128.0 FT	6804.5 FT
DEFAULT	SCMT_RST_PSP_072PUP	FN:69	PRODUCER	26-Nov-2013 08:27	10122.5 FT	-25.5 FT

Output DLIS Files

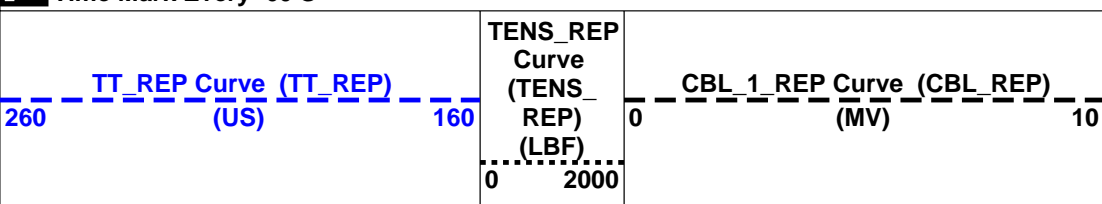
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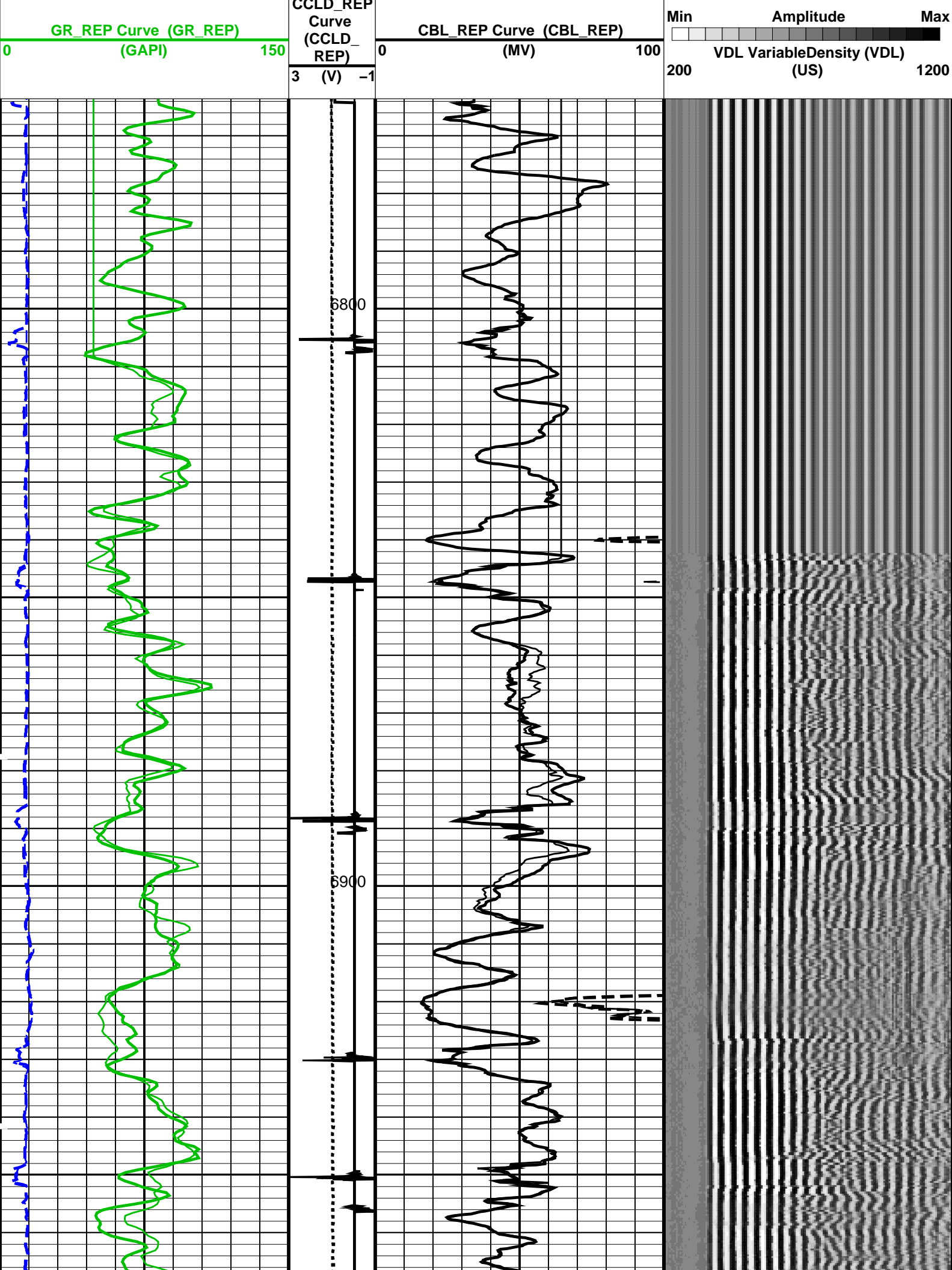
OP System Version: 19C0-187

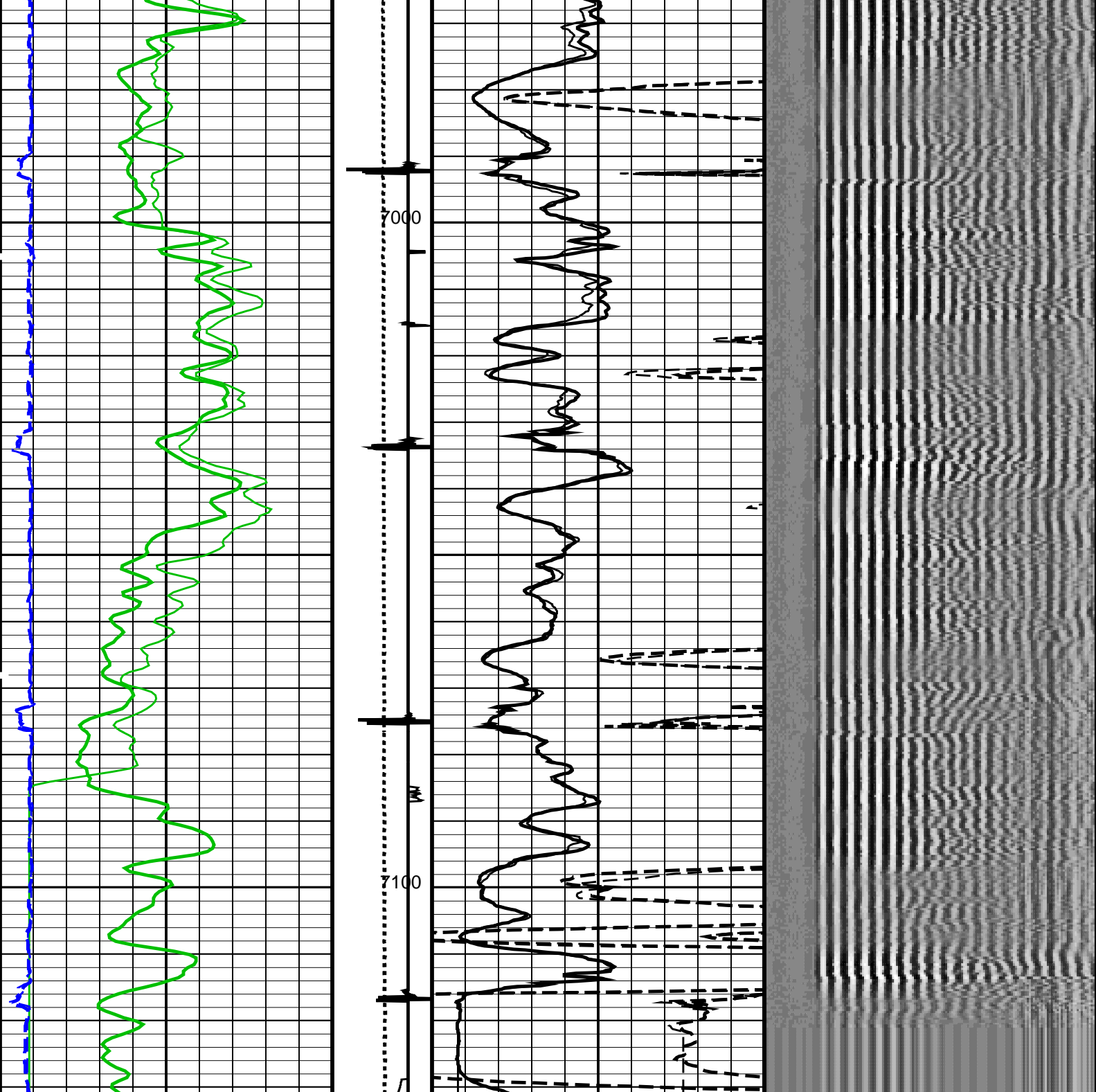
SCMT-CB	SRPC-5214-H2-2012-OP15	RST-C	SRPC-5214-H2-2012-OP15
PSPT	SRPC-5214-H2-2012-OP15		

PIP SUMMARY

Time Mark Every 60 S







<p>GR_REP Curve (GR_REP) (GAPI)</p> <p>0 150</p>	<p>CCLD_REP Curve (CCLD_REP)</p> <p>3 (V) -1</p>	<p>CBL_REP Curve (CBL_REP) (MV)</p> <p>0 100</p>	<p>Min Amplitude Max</p> <p>VDL Variable Density (VDL) (US)</p> <p>200 1200</p>
<p>TT_REP Curve (TT_REP) (US)</p> <p>260 160</p>	<p>TENS_REP Curve (TENS_REP) (LBF)</p> <p>0 2000</p>	<p>CBL_1_REP Curve (CBL_REP) (MV)</p> <p>0 10</p>	

PIP SUMMARY

SCMT-CB PSPT	SRPC-5214-H2-2012-OP1! SRPC-5214-H2-2012-OP1!	RST-C	SRPC-5214-H2-2012-OP1!
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<<<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 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	3.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	10106	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_066LUP	FN:63	PRODUCER	26-Nov-2013 05:18	7128.0 FT	6804.5 FT
DEFAULT	SCMT_RST_PSP_072PUP	FN:69	PRODUCER	26-Nov-2013 08:27	10122.5 FT	-25.5 FT

Output DLIS Files

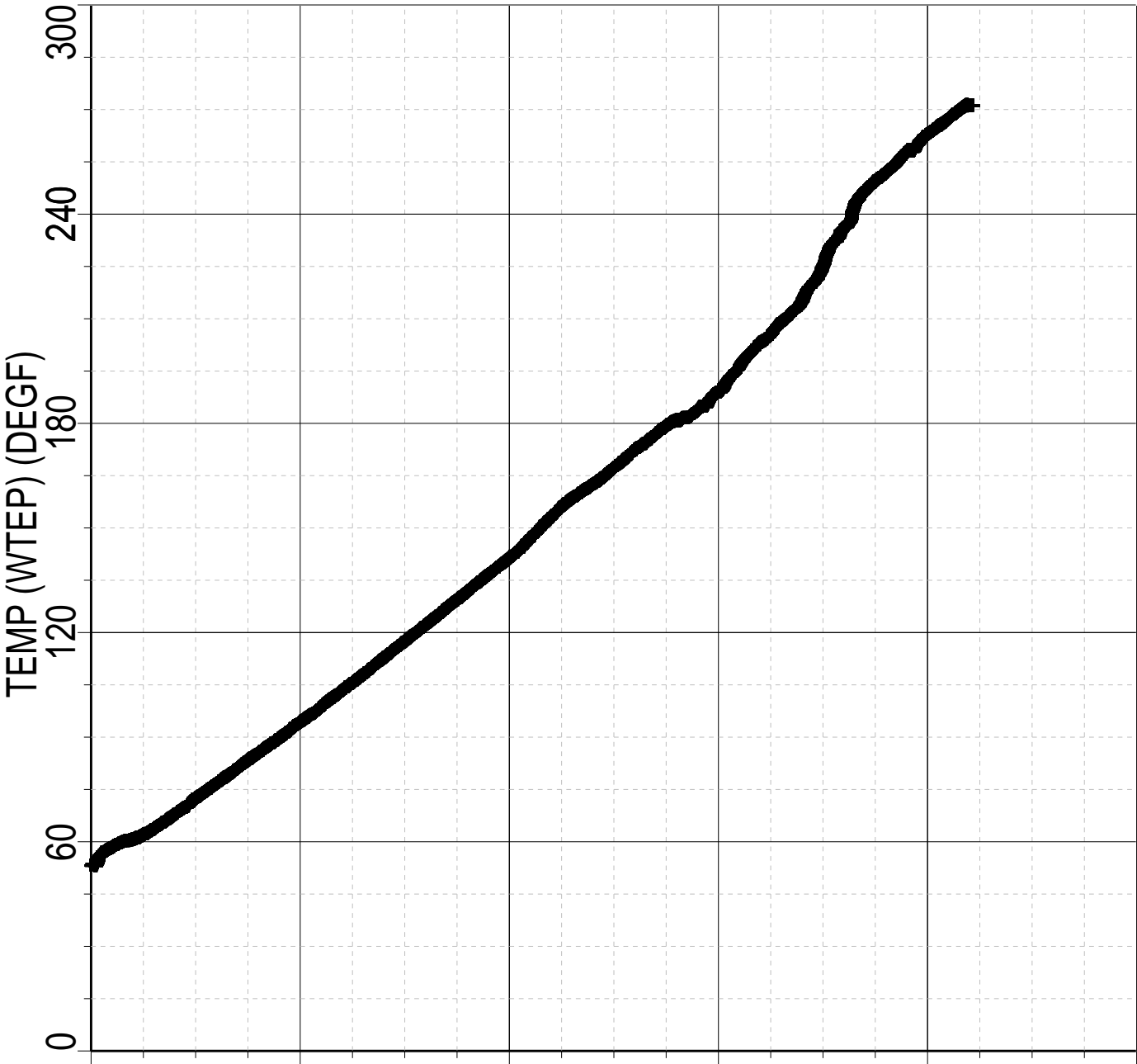
DEFAULT	SCMT_RST_PSP_073PUP	FN:70	PRODUCER	26-Nov-2013 08:33
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TEMPERATURE PLOT

MAXIS Field Log

Index: 10122.5 – -25.5 FT



020246 Points Plotted

26-NOV-2013 8:32

Schlumberger

PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: HMU 6-13D (J6SEB)

Run date: 26-Nov-2013

Tool: PSP

Sub Type: PBMS

Sensor: GR

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

RESISTORS FOR GR SENSOR N.33223,TOOL PBMS-BA0928. SENSOR S/N:

33223

090800

12

CFE2

GR HV Rt		
	Rt**0	Rt**1
Rt**0	+1.1820000000000e+04	+1.3320000000000e+04

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: HMU 6-13D (J6SEB)

Run date: 26-Nov-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:	MAMM CREEK	Sub Type:	PBMS
Well:	HMU 6–13D (J6SEB)	Sensor:	CQG
Run date:	26–Nov–2013		

PBMS Quartz Gauge type F

Sonde Serial NB	COEFFICIENTS FOR CQG PBMS–B.928 S/N:
Sensor Serial NB	928
Calib Date ddmmyy	280612
Matrix Size	66
Coeff CRC	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 928
Calib Date ddmmyy 280612
Matrix Size 66
Coeff CRC 283B

Temp Coeff









	Fc**0	Fc**1	Fc**2
Fb**0	+1.117016867873E+03	−.284359629614E−03	+604391180345E−08
Fb**1	−.598309140812E−02	+1.182731130848E−07	+1.160166486172E−12
Fb**2	−.307621454576E−07	+3.00601550309E−12	+3.11233548560E−17
Fb**3	−.419658736767E−12	+1.117473708647E−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	+1.114322792679E−12	+1.153807711176E−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

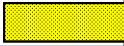
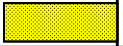

PBMS Quartz Gauge type F

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	+3.10874009898E+05	+2.88920923041E−02	+6.97940727038E−06
	(Fb'−Fc')**3	(Fb'−Fc')**4	(Fb'−Fc')**5

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				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	Phase	MAP 4 Amplitude Plus MV			Value		
Master				781.2	Master				752.8		
	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				729.4	Master				658.5		
	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				675.0	Master				625.0		
	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			631.3	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: **HMU 6-13D (J6SEB)**

Field: **MAMM CREEK**

County: **GARFIELD**

State: **COLORADO**

SLIM CEMENT MAPPING LOG

CBL-VDL

GAMMA RAY-CCL