

Company: ENCANA OIL & GAS (USA) INC

Well: SHIDELER 30-3B (O19EB)

Field: MAMM CREEK

County: GARFIELD State: COLORADO

SLIM CEMENT MAPPING LOG
CBL – VDL
GR-CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 583 FSL & 1648 FEL

Well: SHIDELER 30-3B (O19EB)

Company: ENCANA OIL & GAS (USA) INC

LOCATION	
SHL: 583 FSL & 1648 FEL BHL: 580 FNL & 1050 FWL	Elev.: K.B. 6631.00 ft G.L. 6509.00 ft D.F. 6530.00 ft
Permanent Datum: _____	GROUND LEVEL _____
Log Measured From: _____	KELLY BUSHING _____
Drilling Measured From: _____	KELLY BUSHING _____
API Serial No. _____	Section 19
05-045-21841-000C	Township 7S
	Range 92W

	Run 1	Run 2	Run 3
PVT DATA			
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	28-Apr-2013
Run Number	1
Depth Driller	8340 ft
Schlumberger Depth	8215 ft
Bottom Log Interval	8206 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	6705 ft
To	8340 ft
Casing/Tubing Size	4.500 in
Weight	11.6 lbm/ft
Grade	
From	22 ft
To	8288 ft
Maximum Recorded Temperatures	233 degF
Logger On Bottom	28-Apr-2013
Unit Number	391
Recorded By	JASON BARRY
Witnessed By	BILLY MYERS

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-MAR-2013 10:41:08

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	6214	Serial Number:	3421	Serial Number:	112136
Calibration Date:	24-APR-2012	Calibration Date:	20-FEB-2011	Length:	19500 FT
Calibrator Serial Number:		Calibrator Serial Number:	174878	Conveyance Method:	Wireline
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10	Rig Type:	LAND
Wheel Correction 1:	-3	Calibration RMS:	4		
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 POLICIES APPLIED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SWPT 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 CORRELATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
MAXIMUM RECORDED TEMPERATURE= 233 DEGF	
MAXIMUM RECORDED PRESSURE= 3339 PSIA	
ENTRANCE TIME= 15:45	

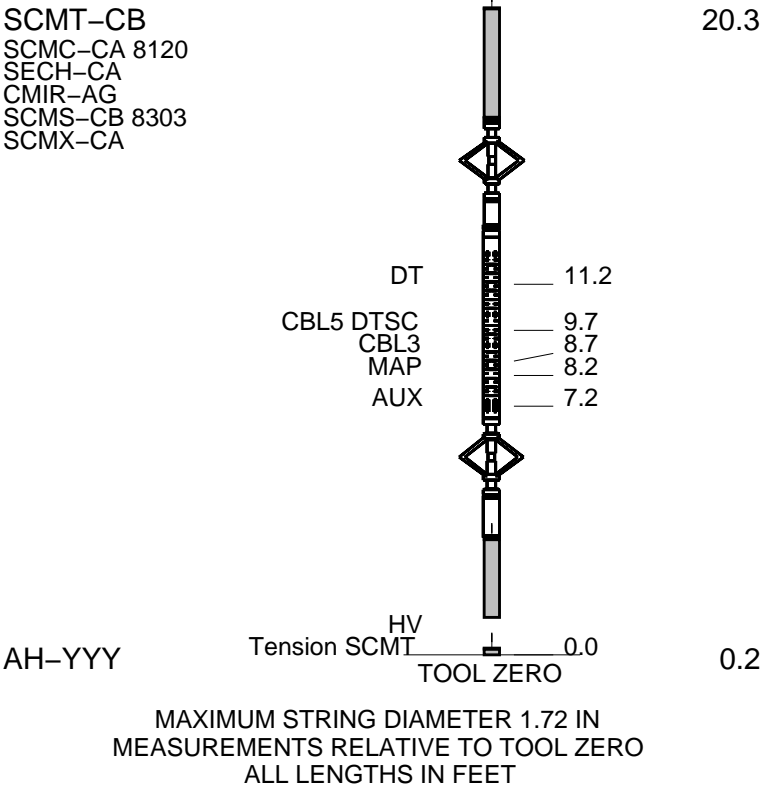
TIME ON BOTTOM= 16:15					
EXIT TIME= 18:15					
SHORT JOINTS: 5871 FT & 6855 FT					
MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE					
EXPECTED CBL AMP IN FREE PIPE = 80MV					
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGR COMPANY					
CREW: KBUNTING JBARRY KJOHNS JMANN					
RUN 1			RUN 2		
SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
CGF9-00049 19C0-187 70 ft					
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

RUN 2

<div>SURFACE EQUIPMENT</div> <div>WITM-A</div> <div>PSC_16MHZ</div>	
<div>DOWNHOLE EQUIPMENT</div> <div> <div> <div>MH-22</div> <div>MH-22</div> <div>53.4</div> </div> <div> <div> <div>Detail MT</div> <div>TelStatus</div> <div>CTEM</div> </div> <div> <div>AH-38</div> <div>51.5</div> <div>51.8</div> </div> <div> <div>PSPT</div> <div>51.5</div> </div> <div> <div> <div>PSC-A</div> <div>PSPT-B</div> <div>PSTC-A</div> <div>PBMS-B 928</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>Well_Temp</div> <div>CQG Manom</div> <div>CCL</div> <div>PBMS PSTC</div> </div> <div> <div>47.8</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>43.3</div> </div> <div> <div> <div>RSCH-A 469</div> <div>RSC-E</div> <div>RSS-A 461</div> <div>RSXH-A 493</div> <div>RSX-E</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> </div></div>	



Schlumberger

MAIN PASS CBL VDL

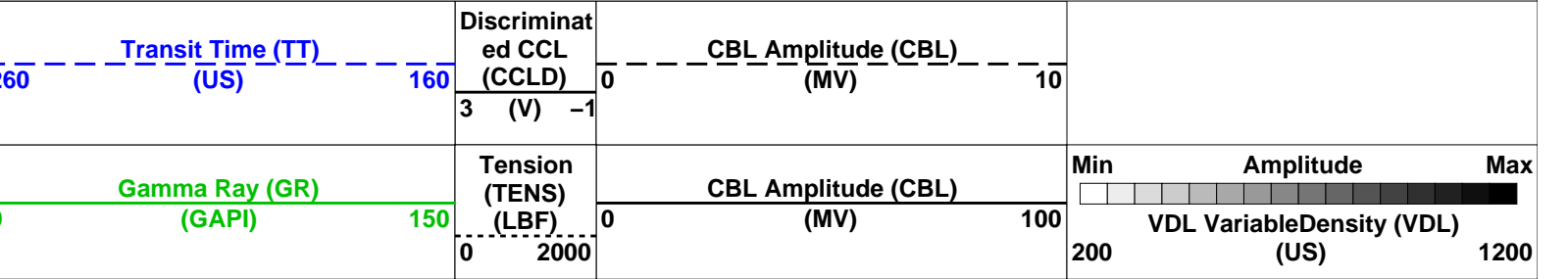
MAXIS Field Log

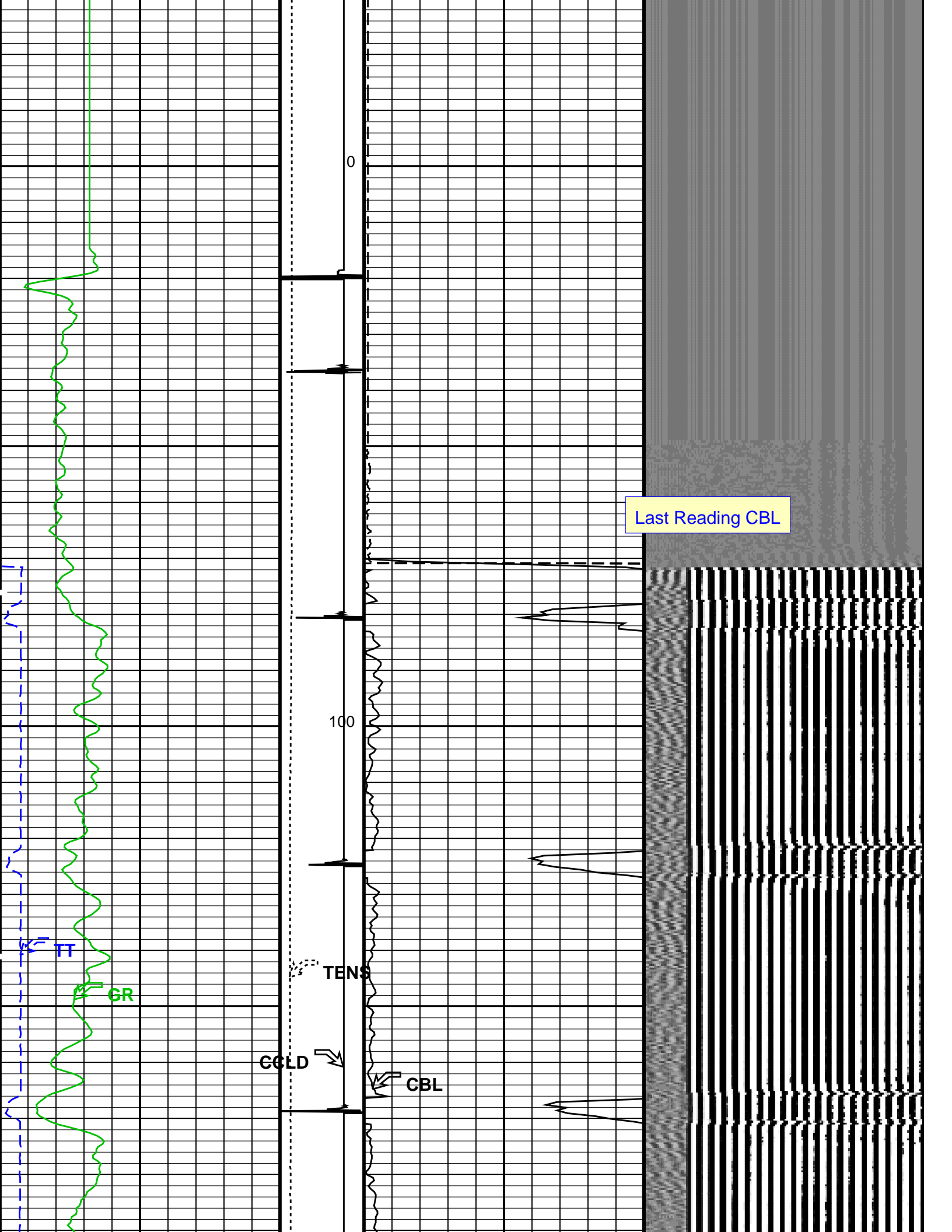
Company: ENCANA OIL & GAS (USA) INC Well: SHIDELER 30-3B (O19EB)

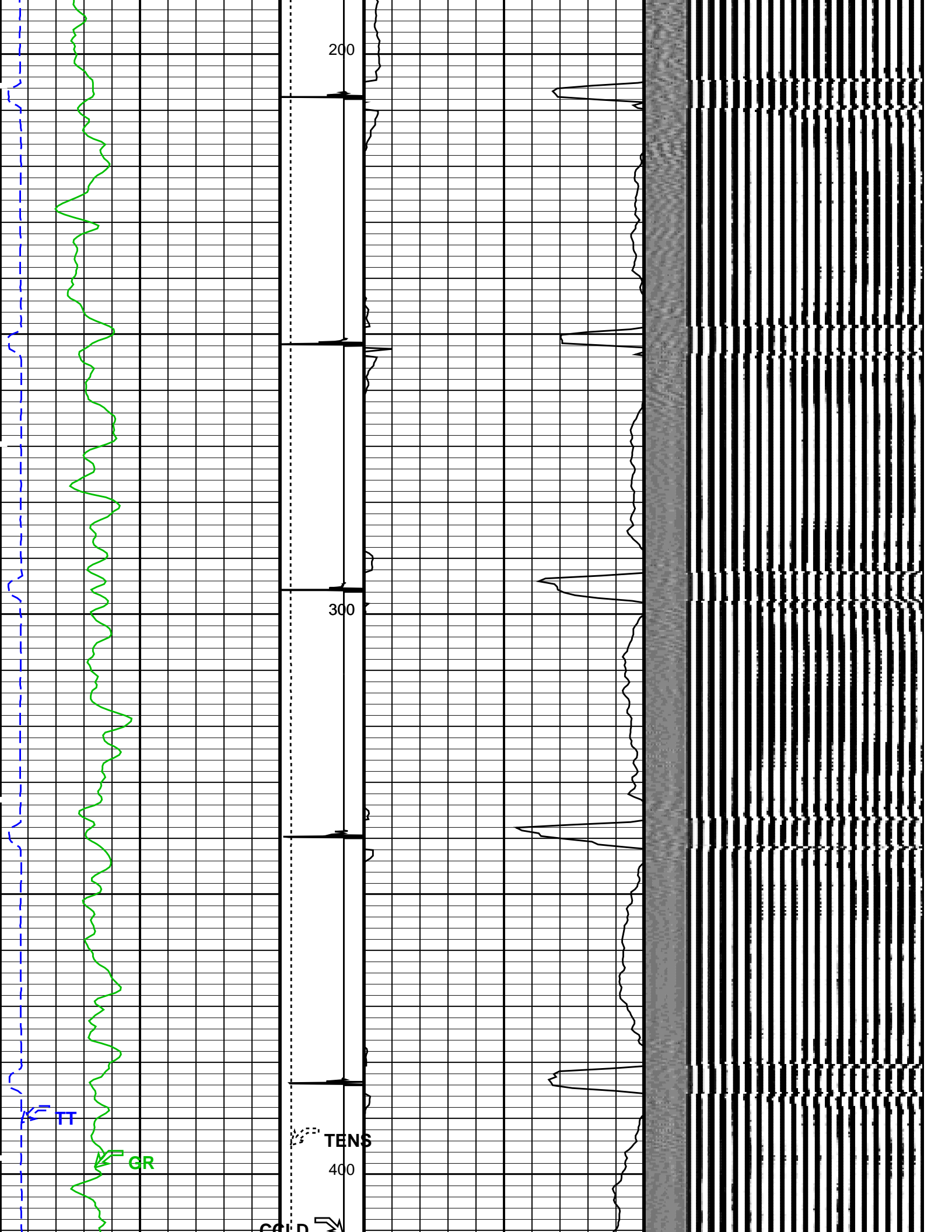
Input DLIS Files						
DEFAULT	SCMT_RST_PSP_083LUP	FN:81	PRODUCER	28-Apr-2013 16:11	8221.5 FT	11.0 FT
Output DLIS Files						
DEFAULT	SCMT_RST_PSP_086PUP	FN:84	PRODUCER	28-Apr-2013 18:31	8224.5 FT	-30.5 FT
OP System Version: 19C0-187						
SCMT-CB	SRPC-5214-H2-2012-OP1	RST-C		SRPC-5214-H2-2012-OP1		
PSPT	SRPC-5214-H2-2012-OP1					

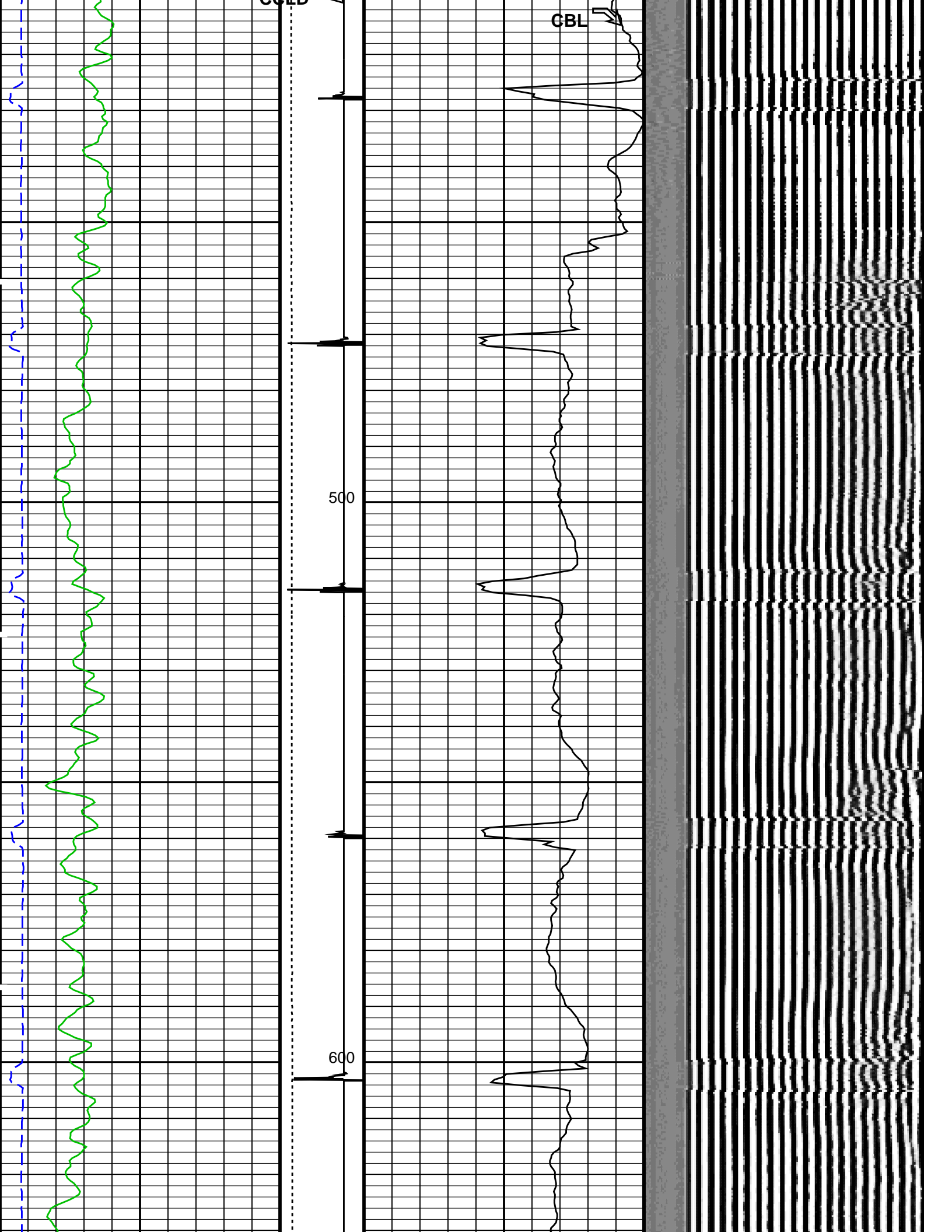
PIP SUMMARY

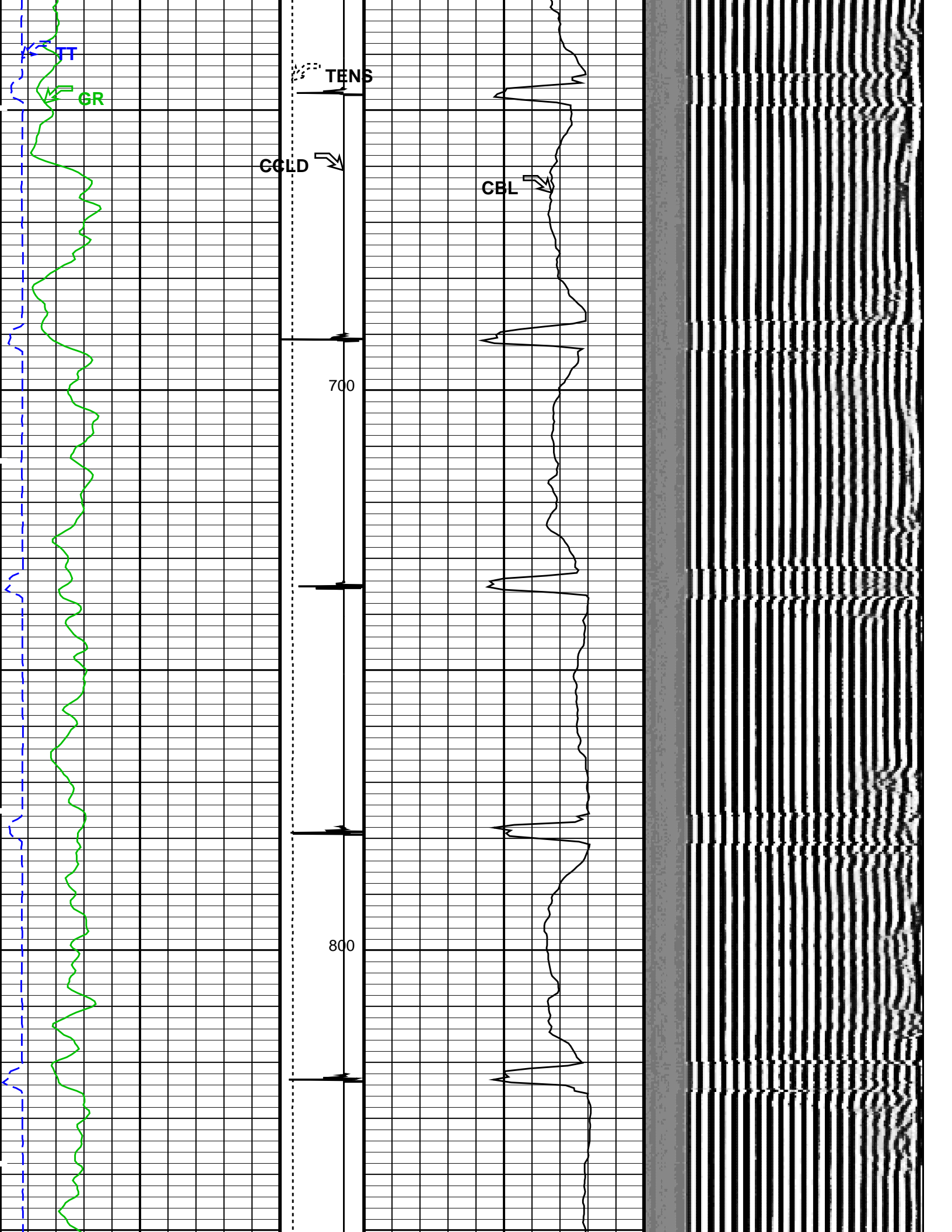
☒ Time Mark Every 60 S

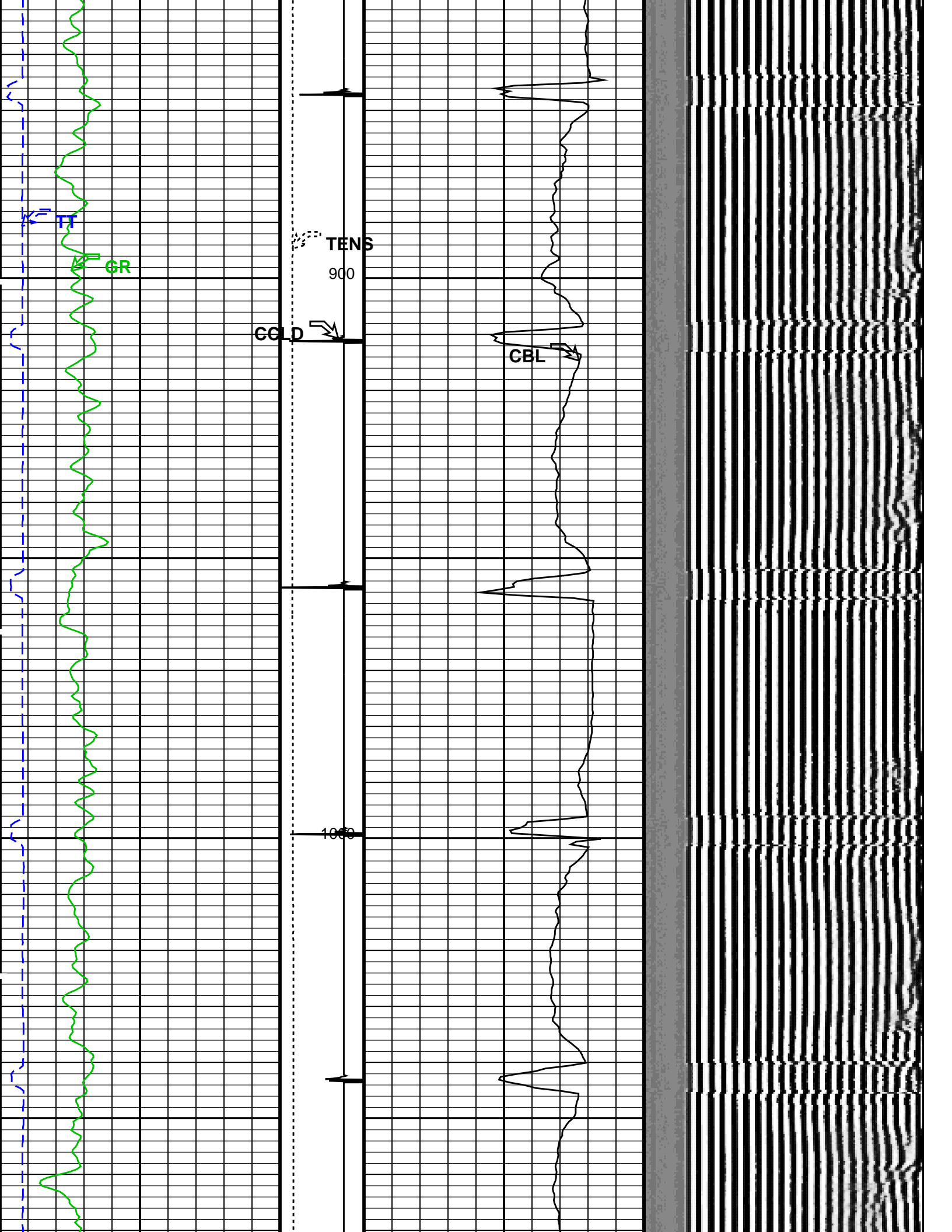


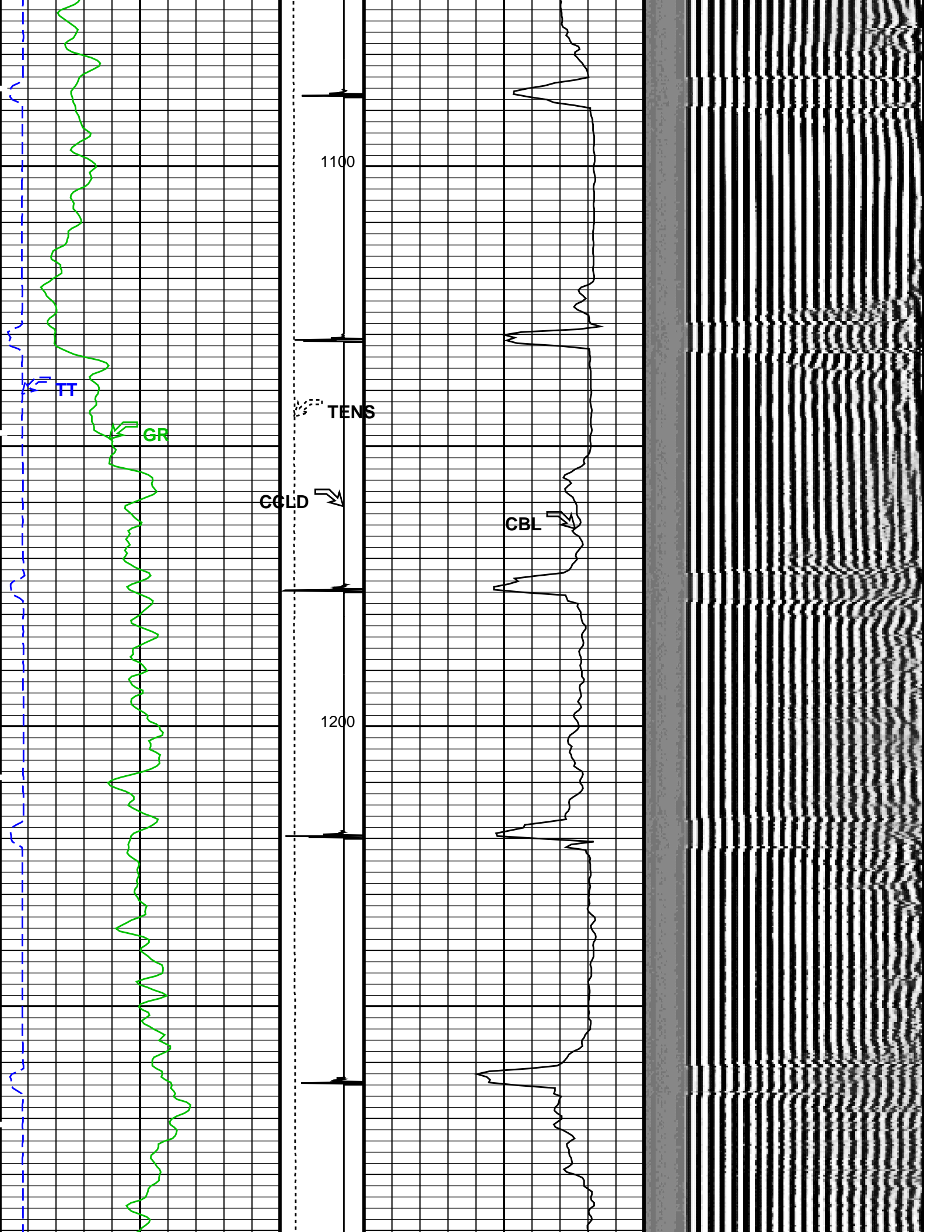


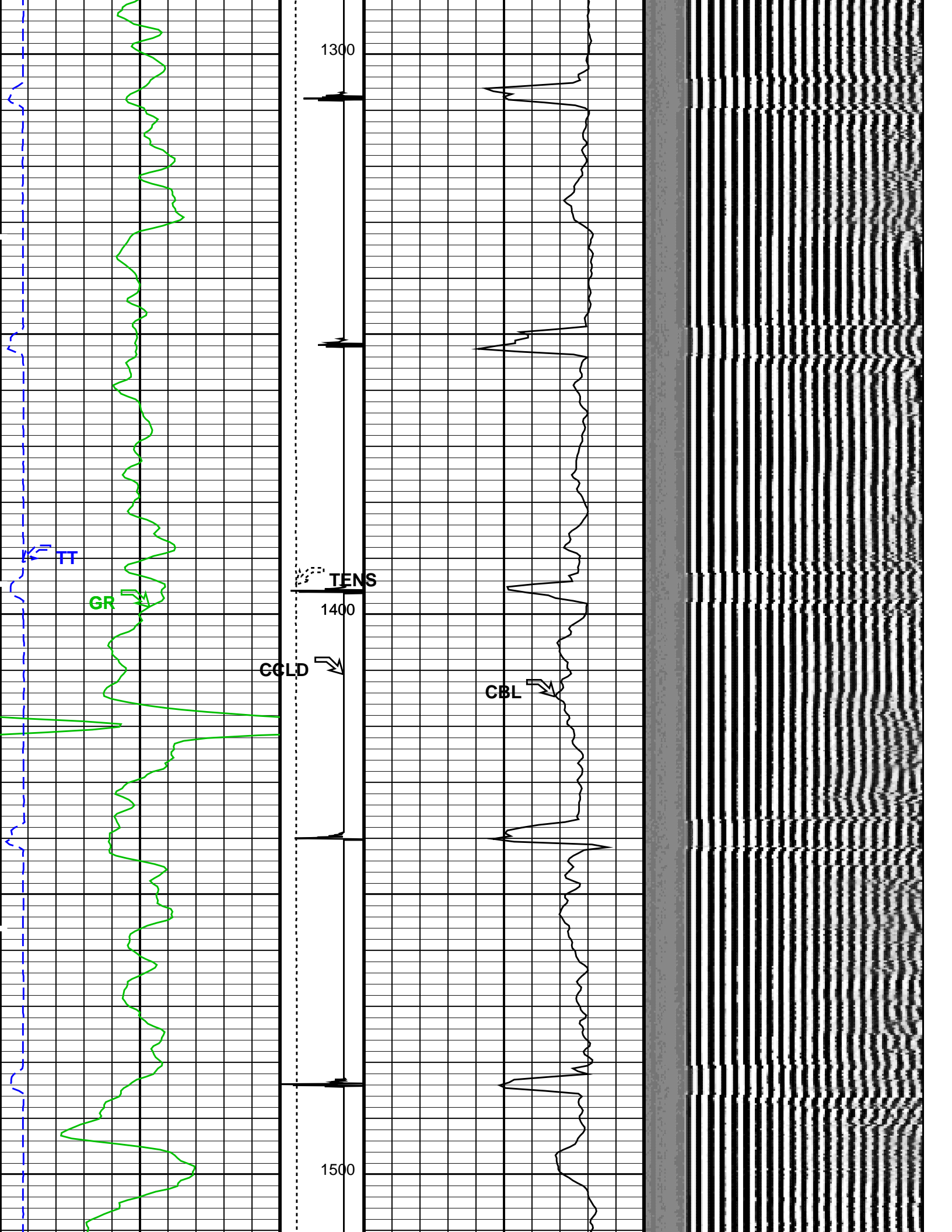


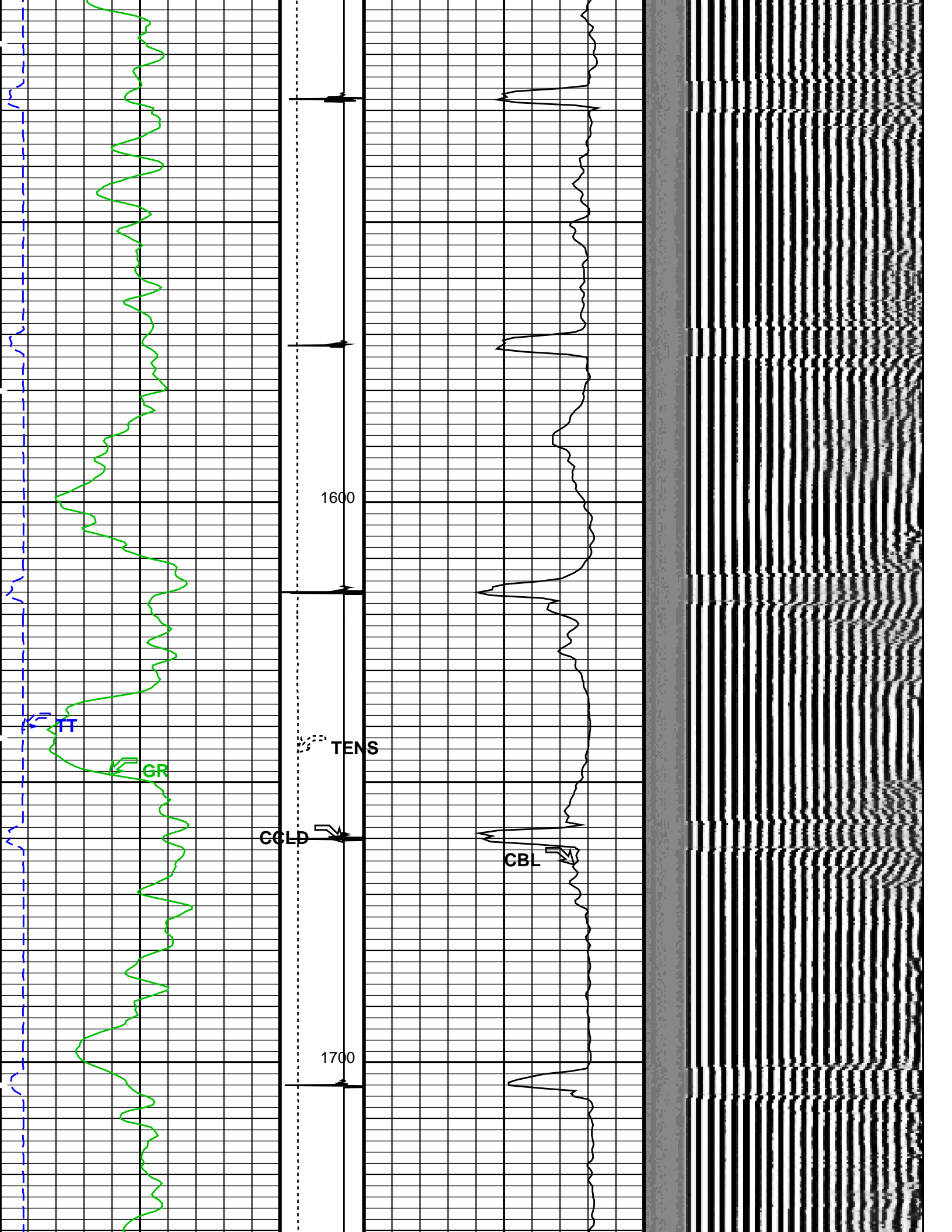


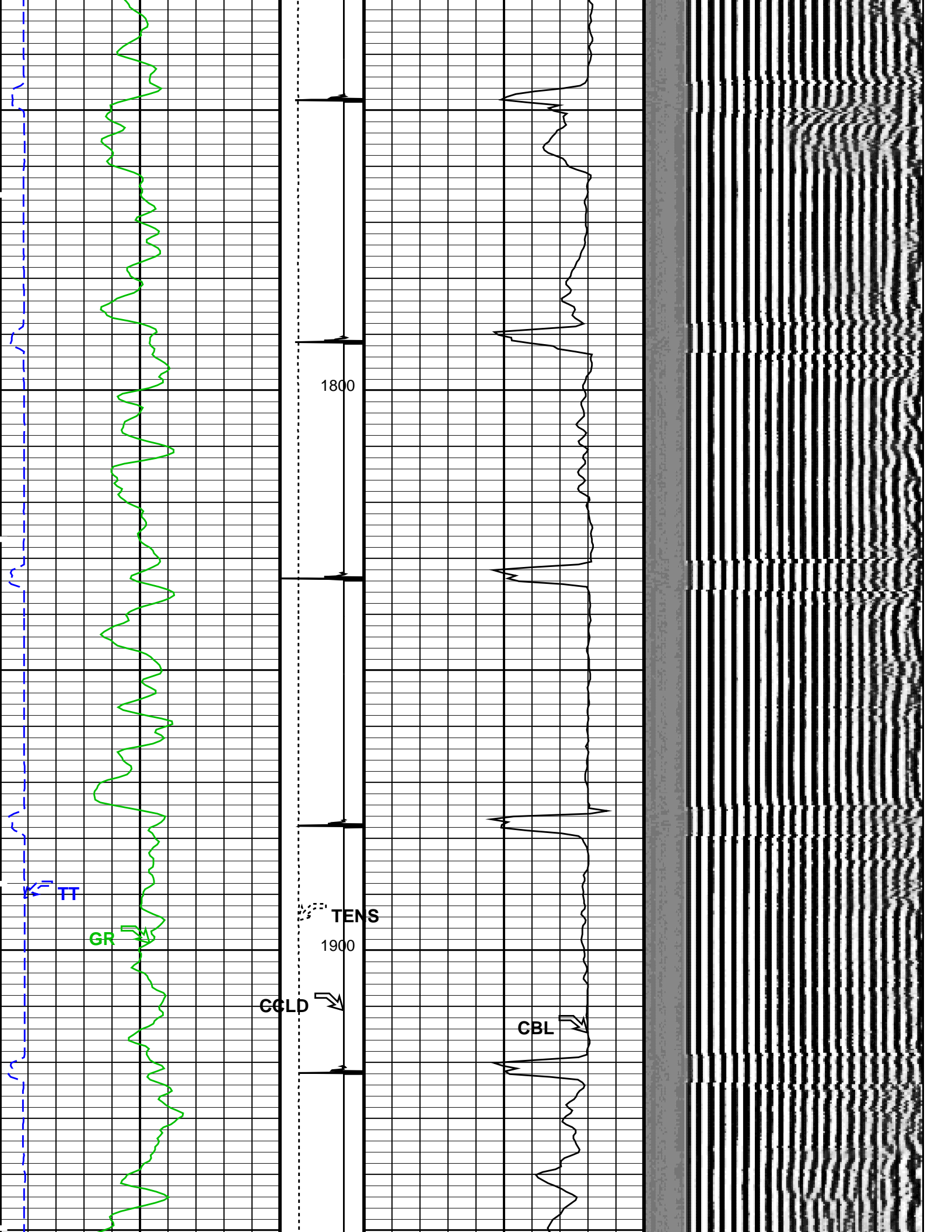


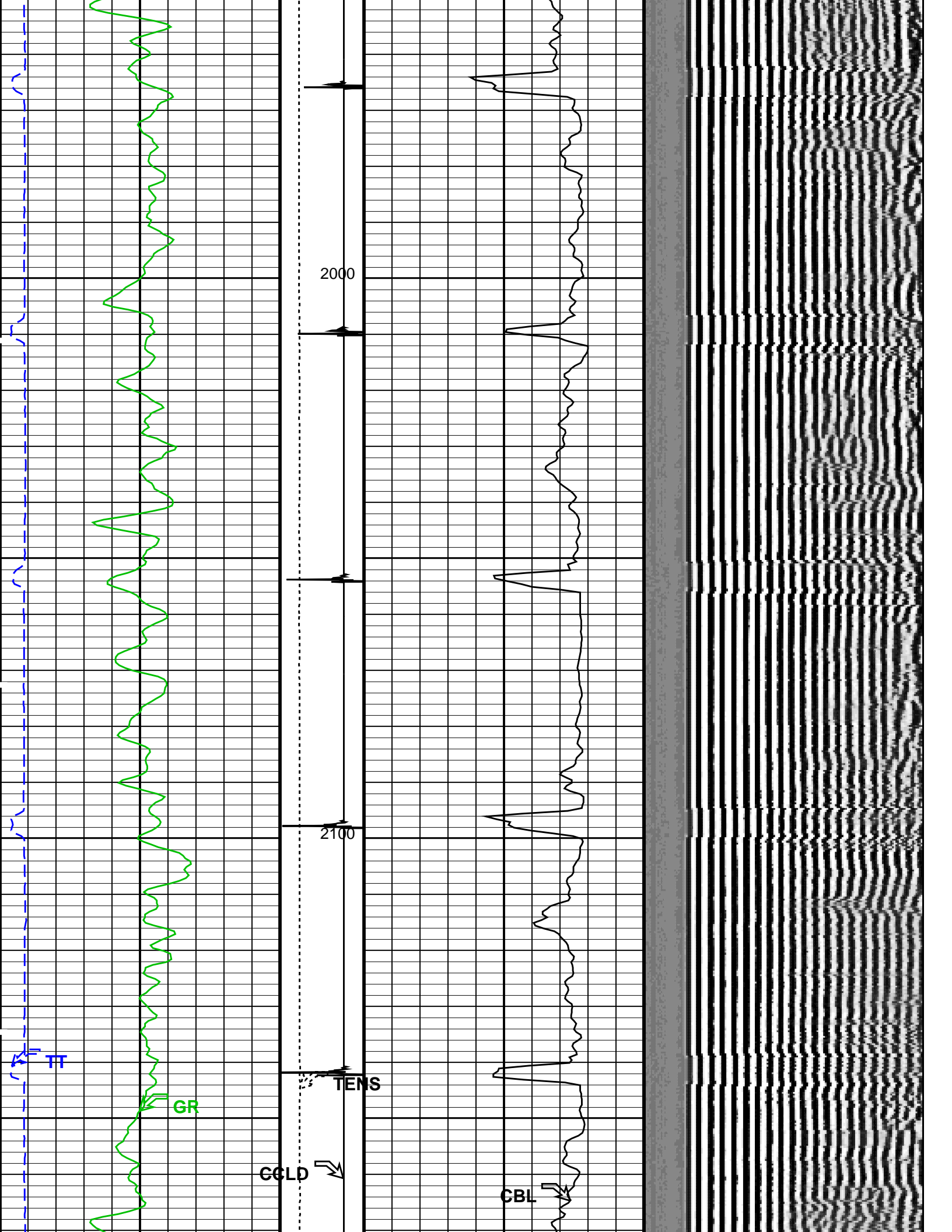


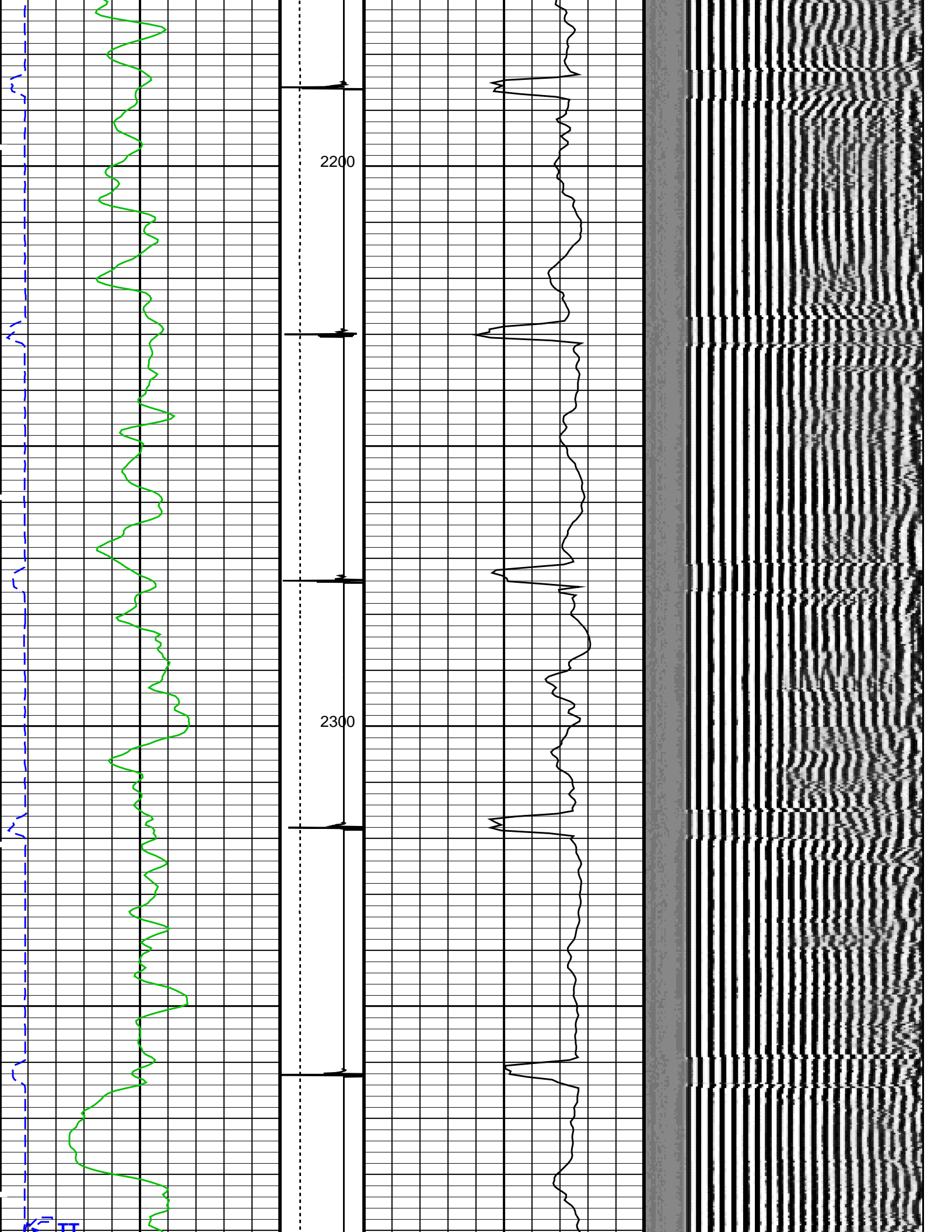


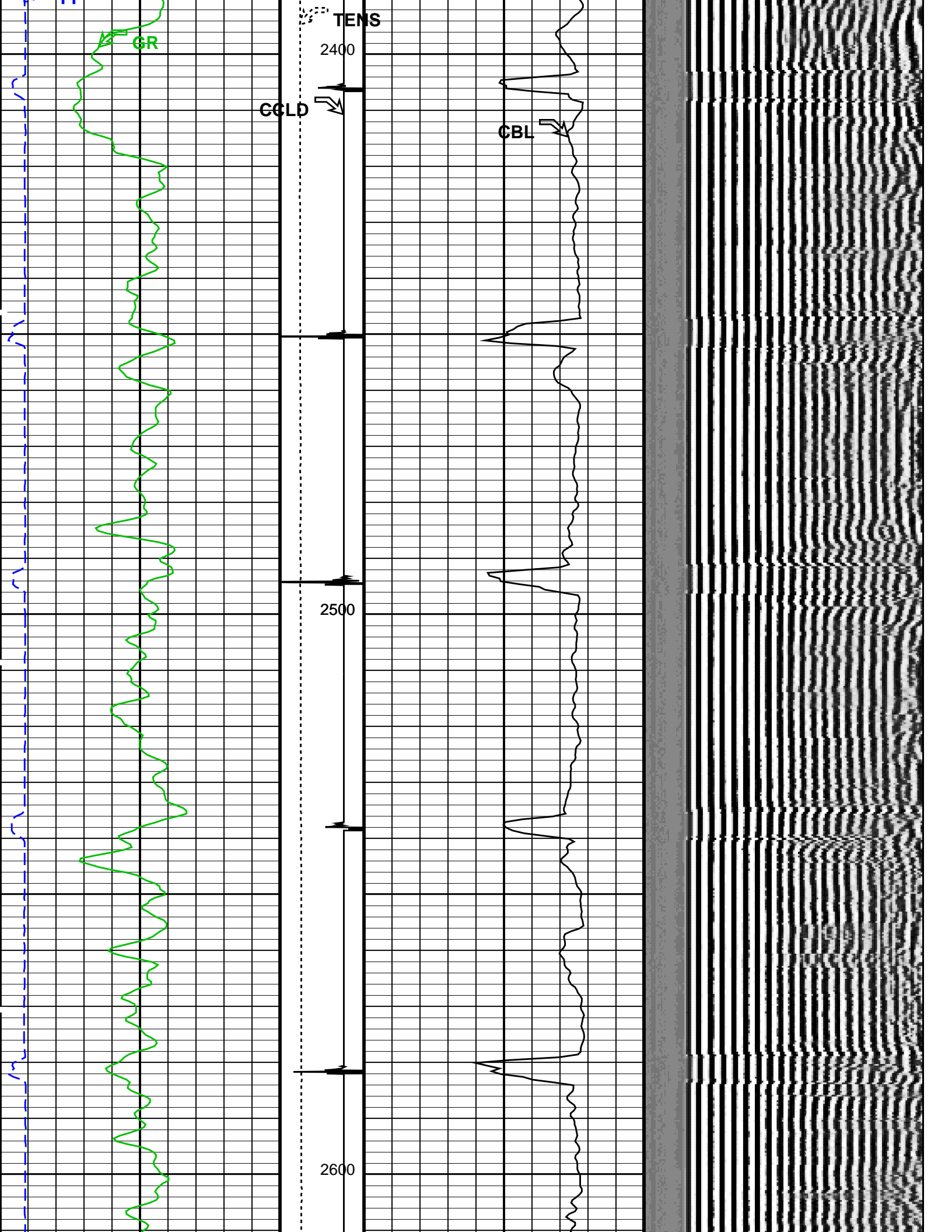


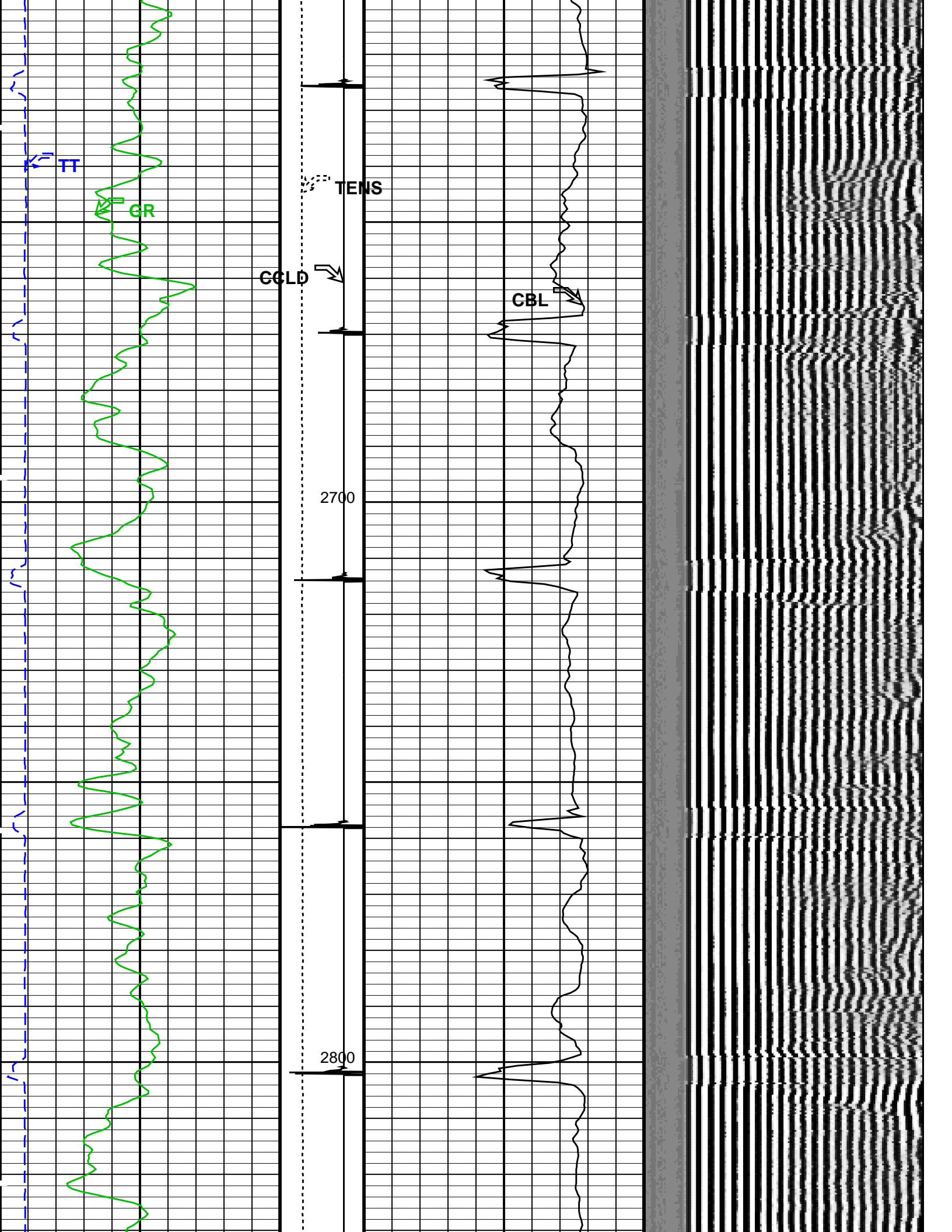


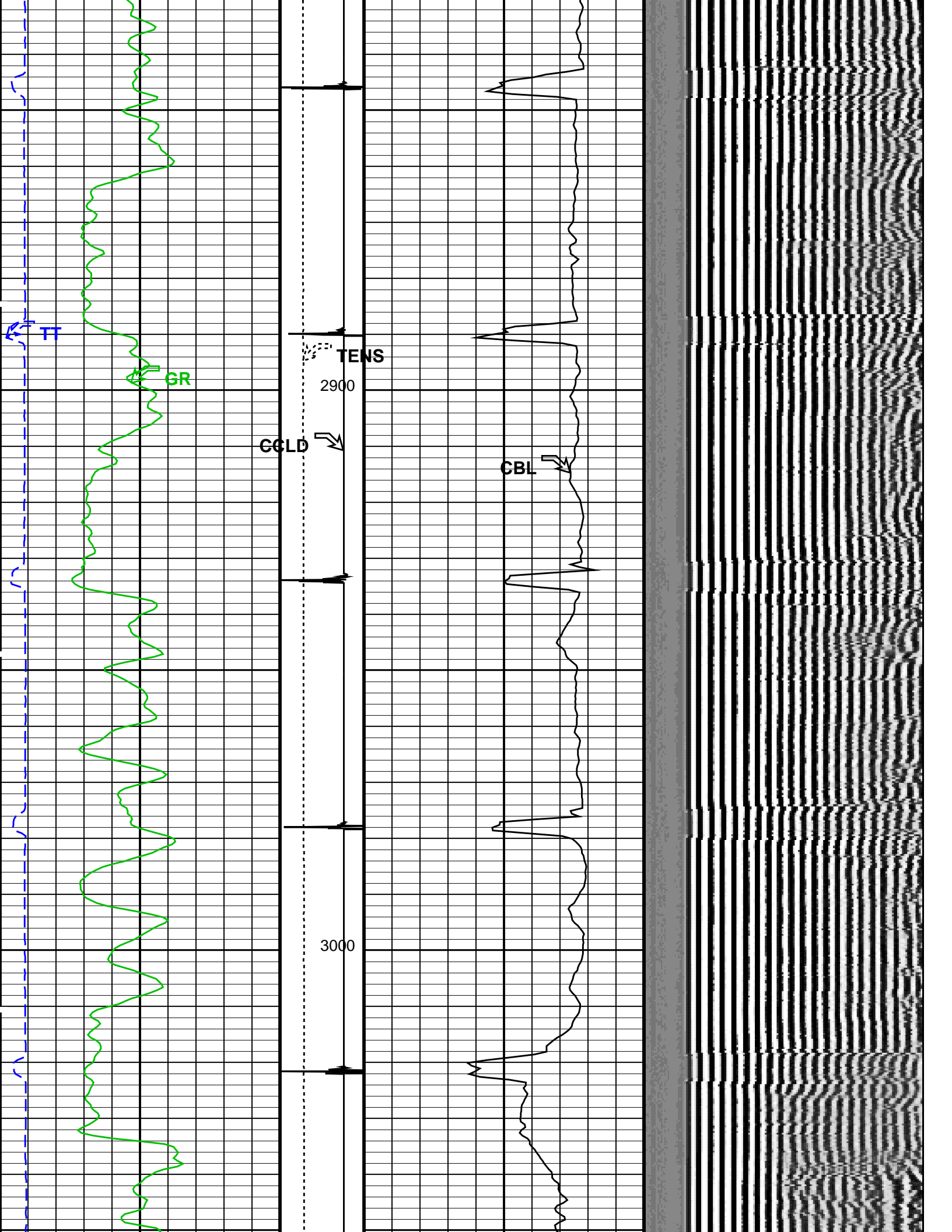


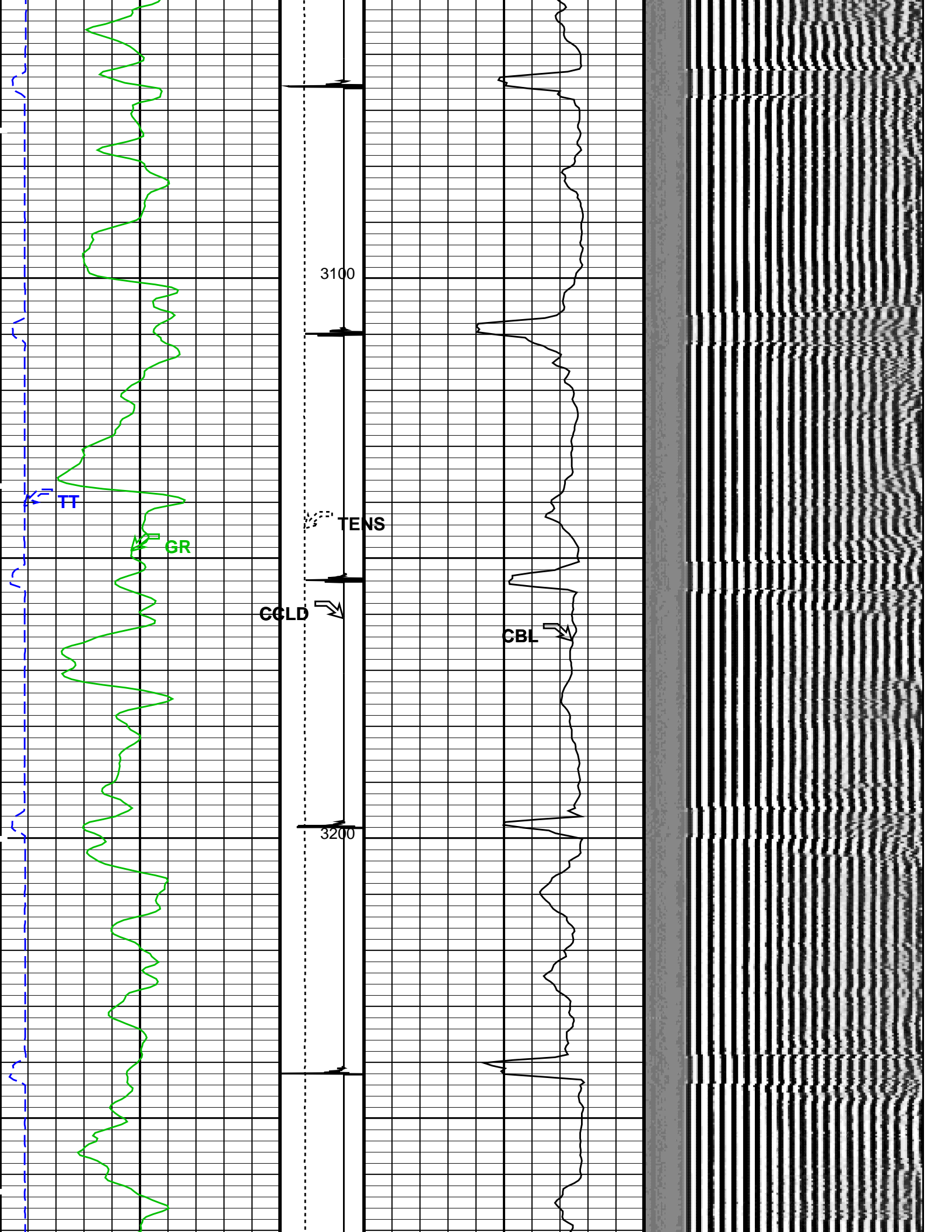


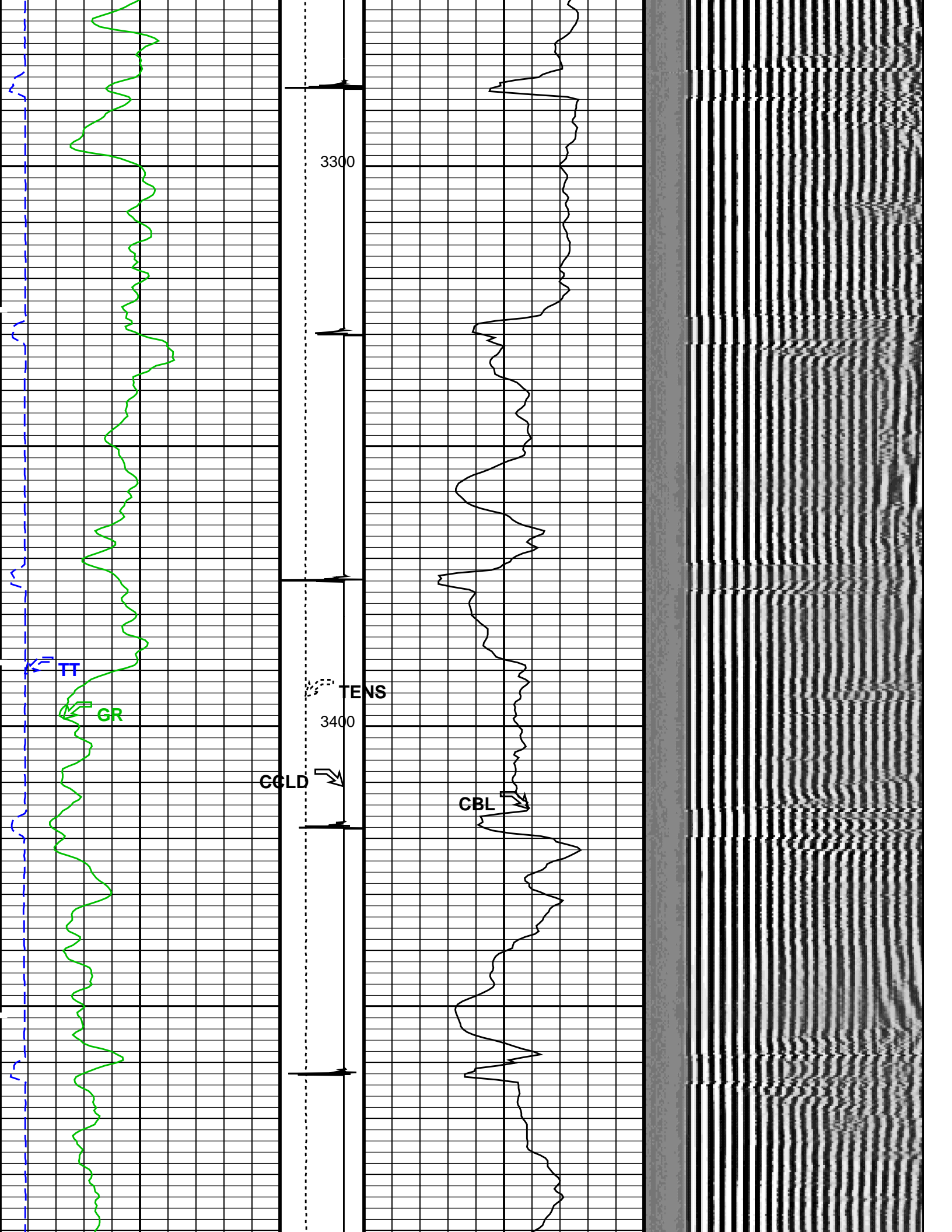


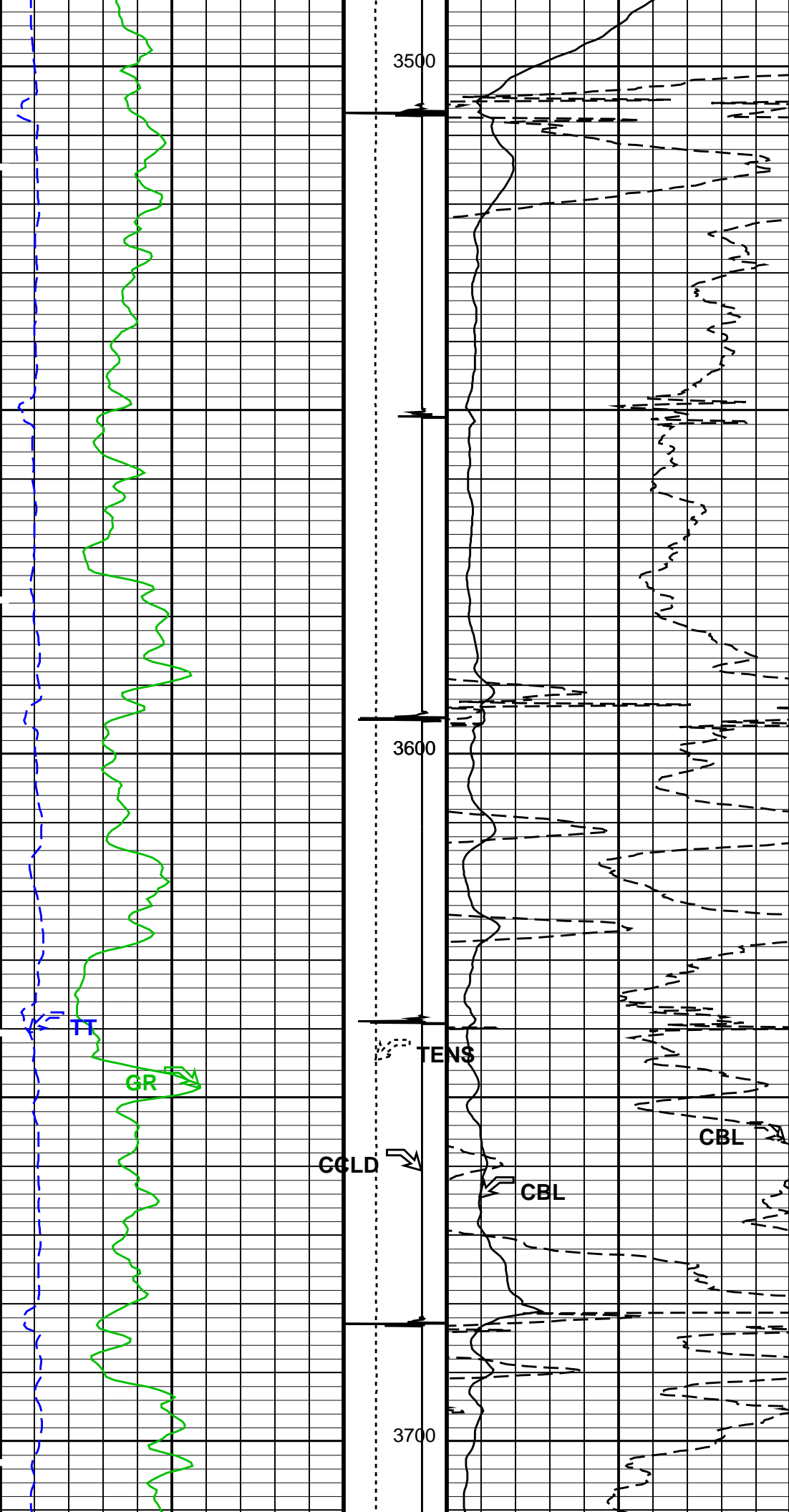


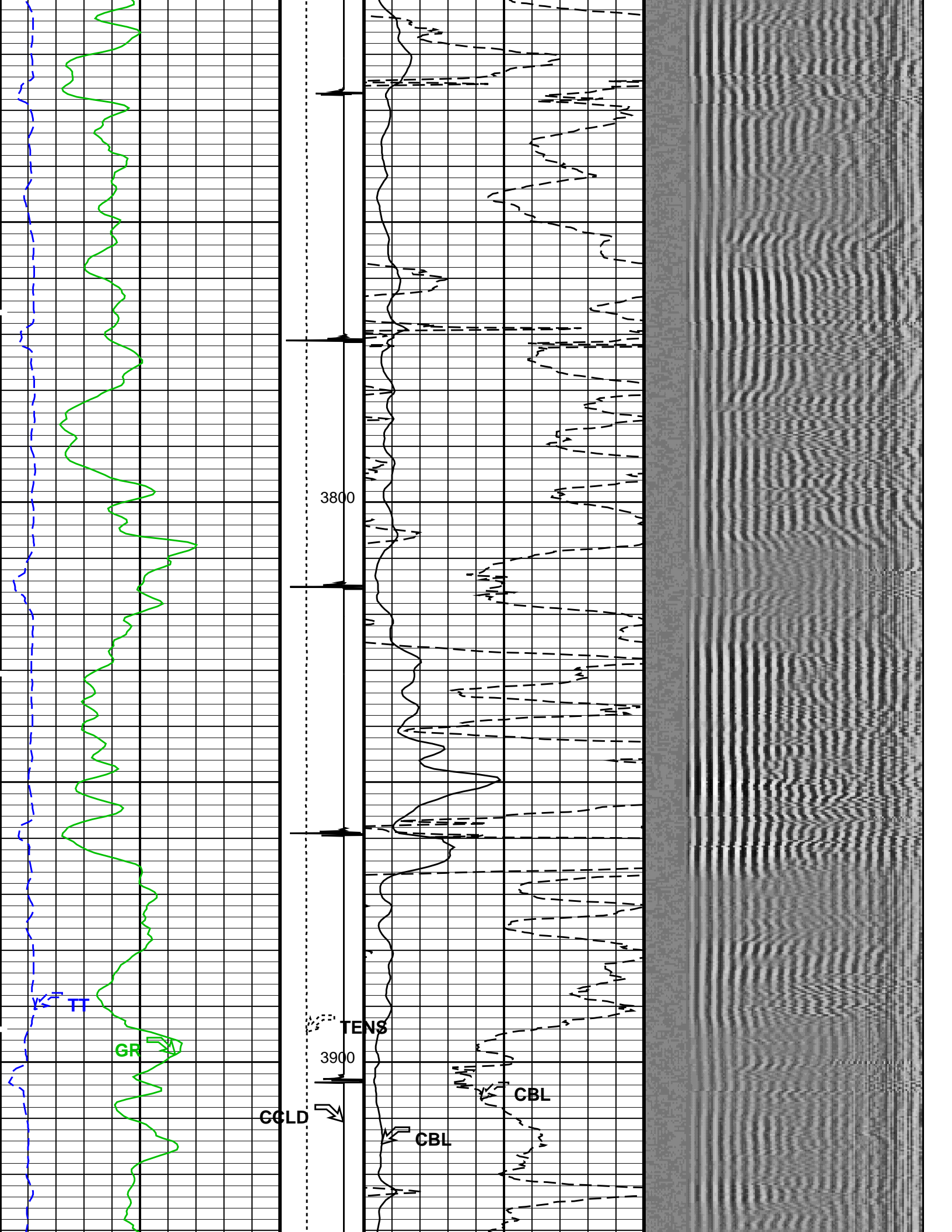


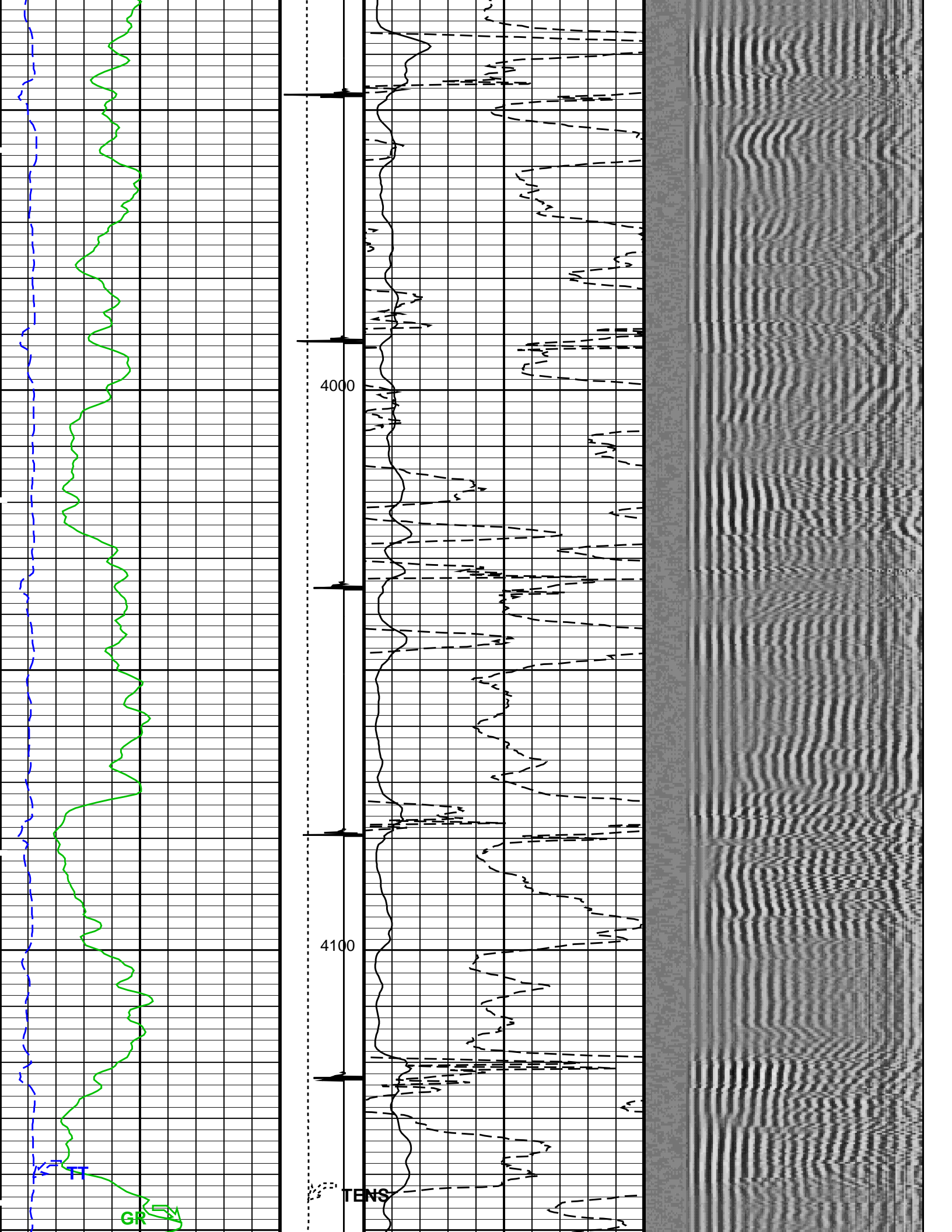


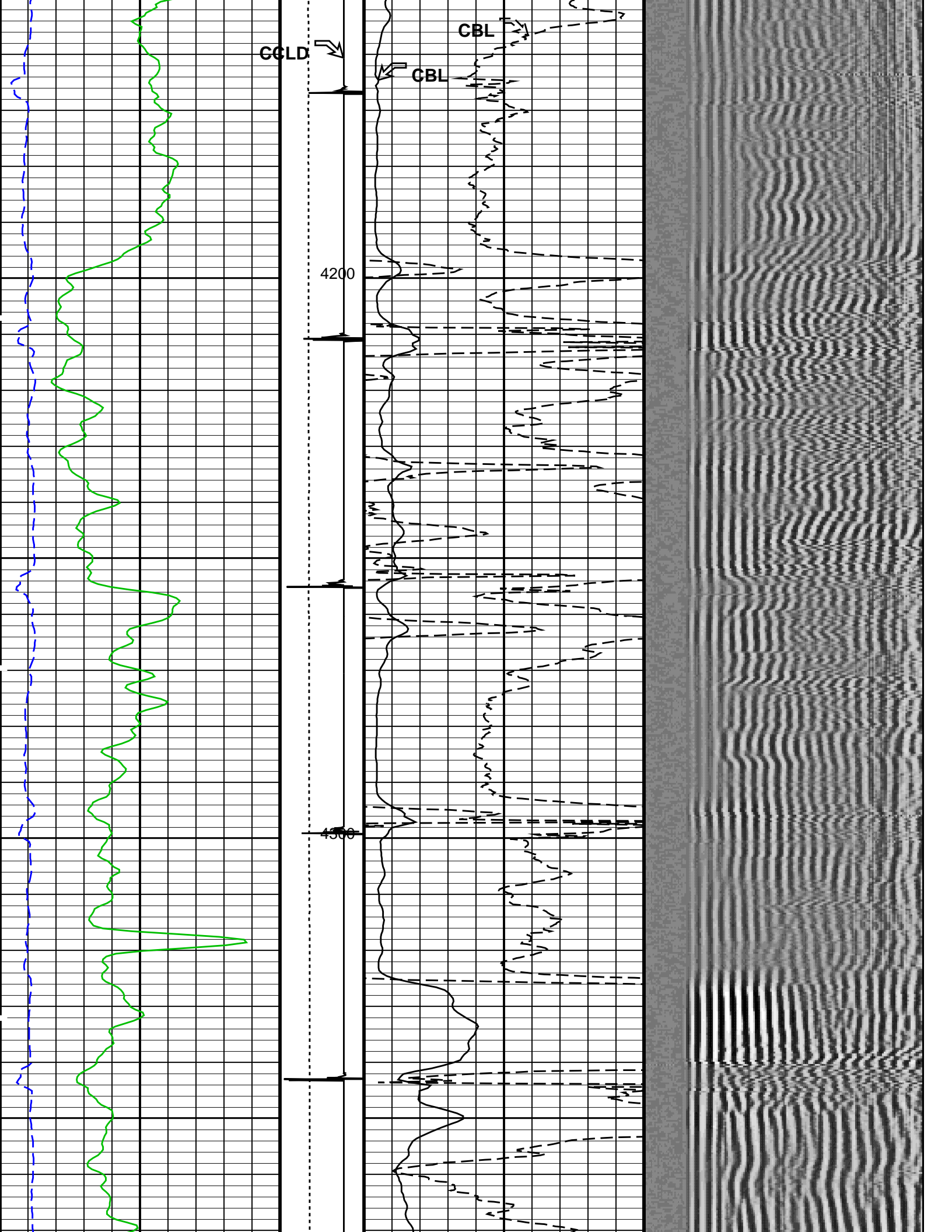


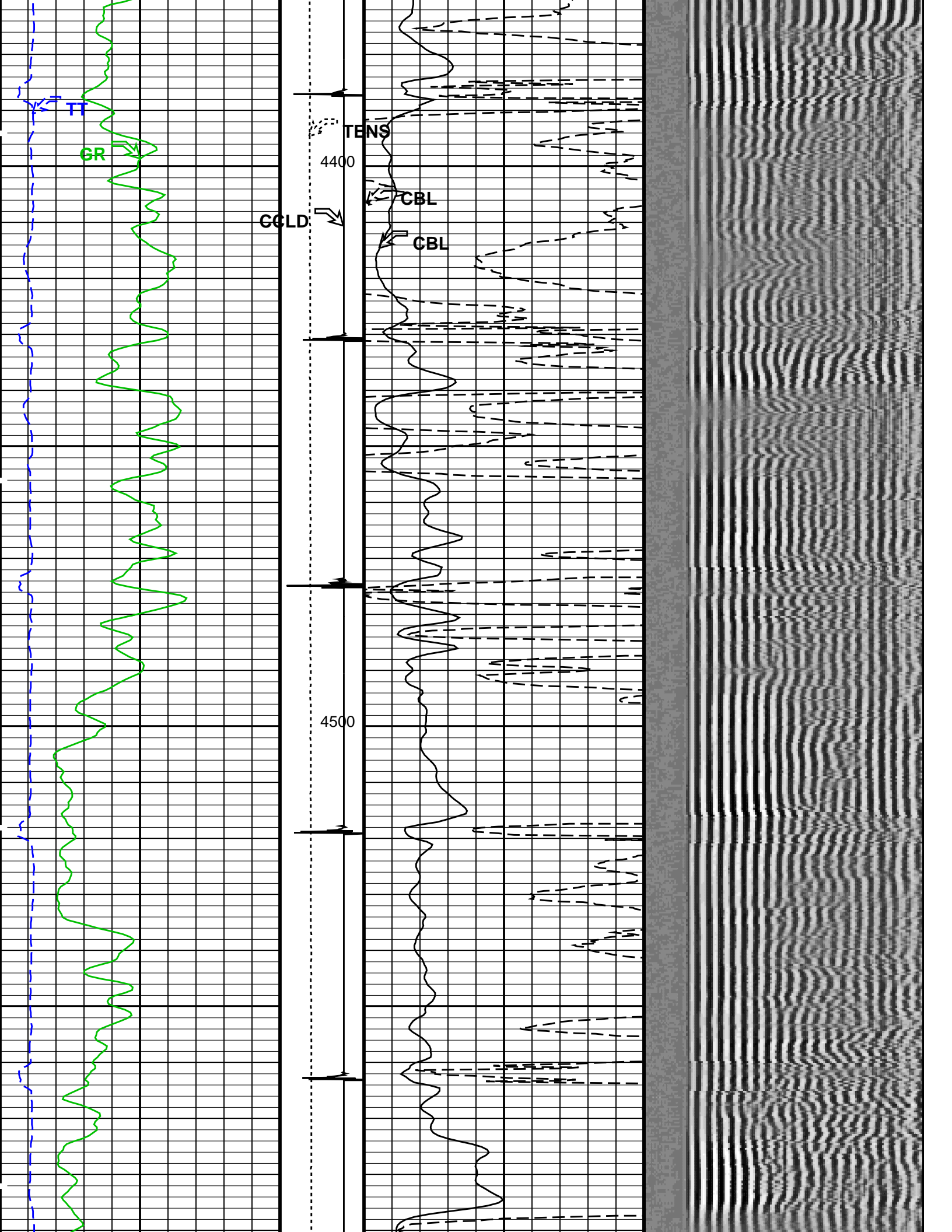


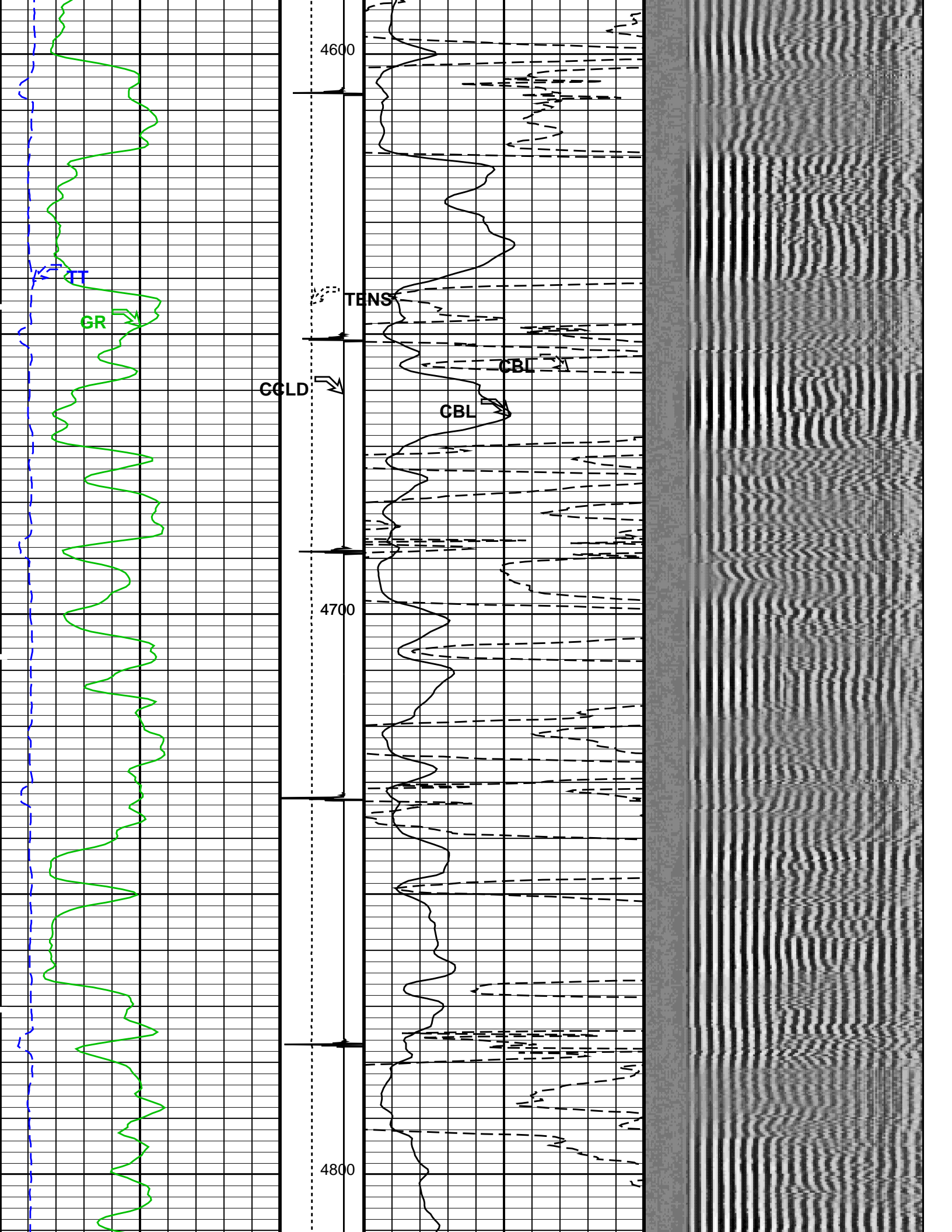


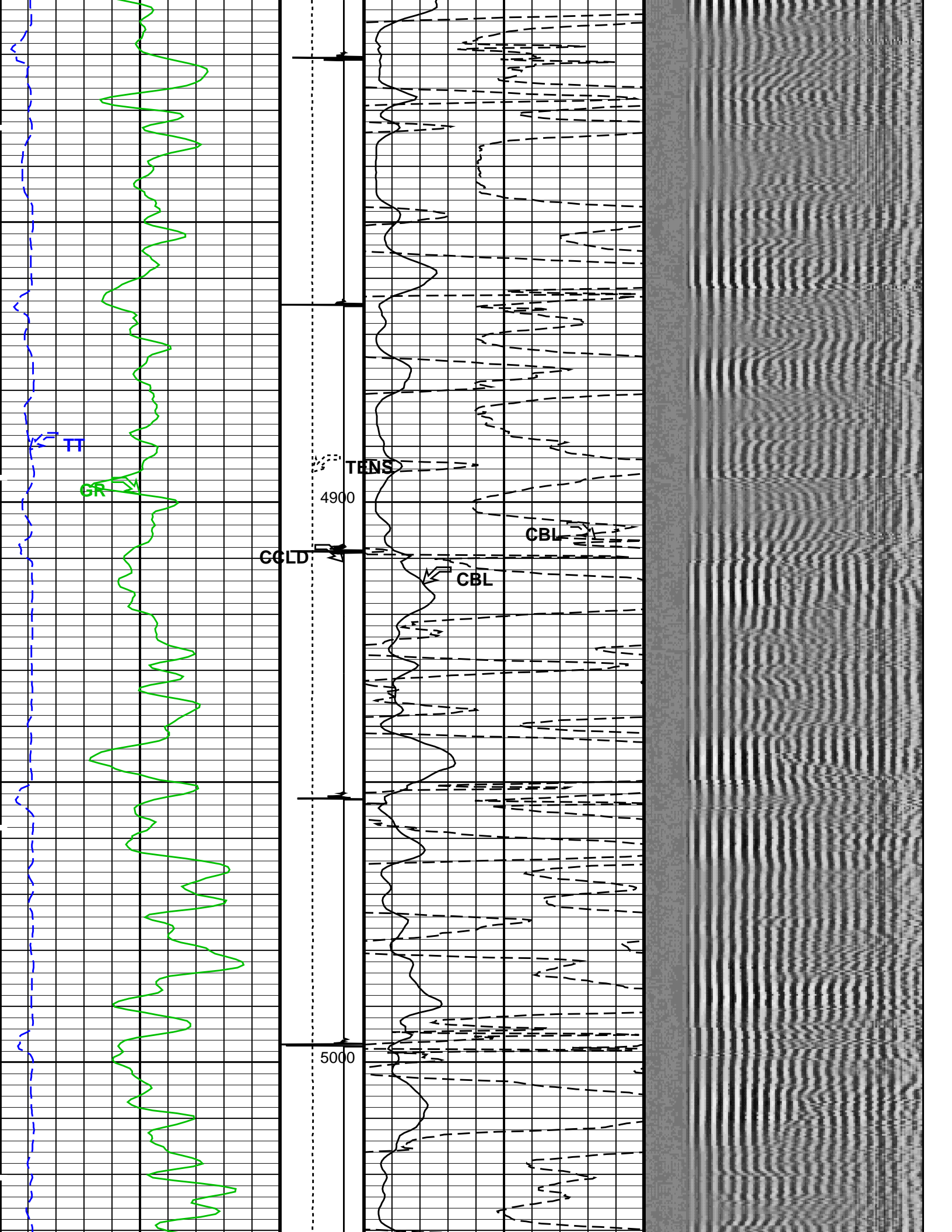


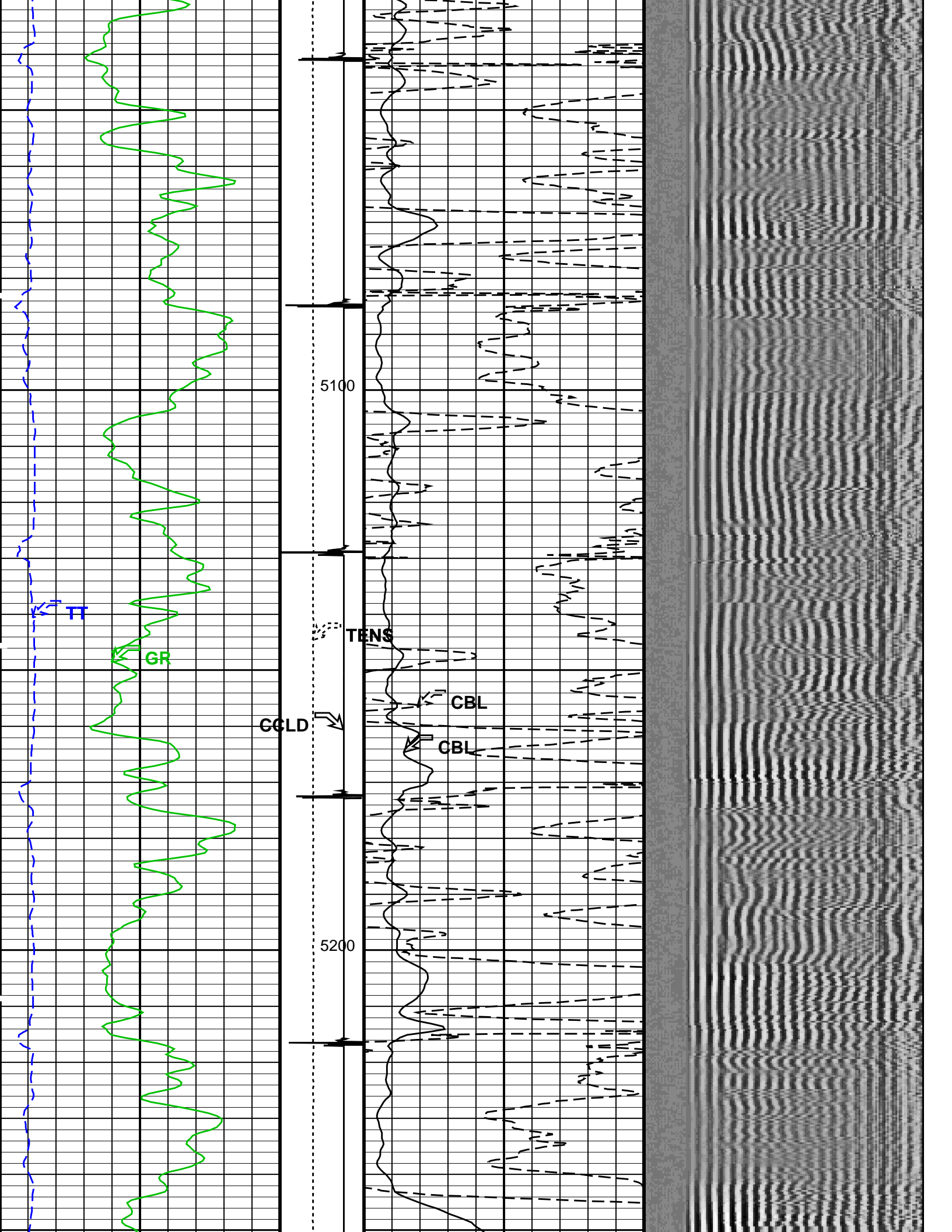


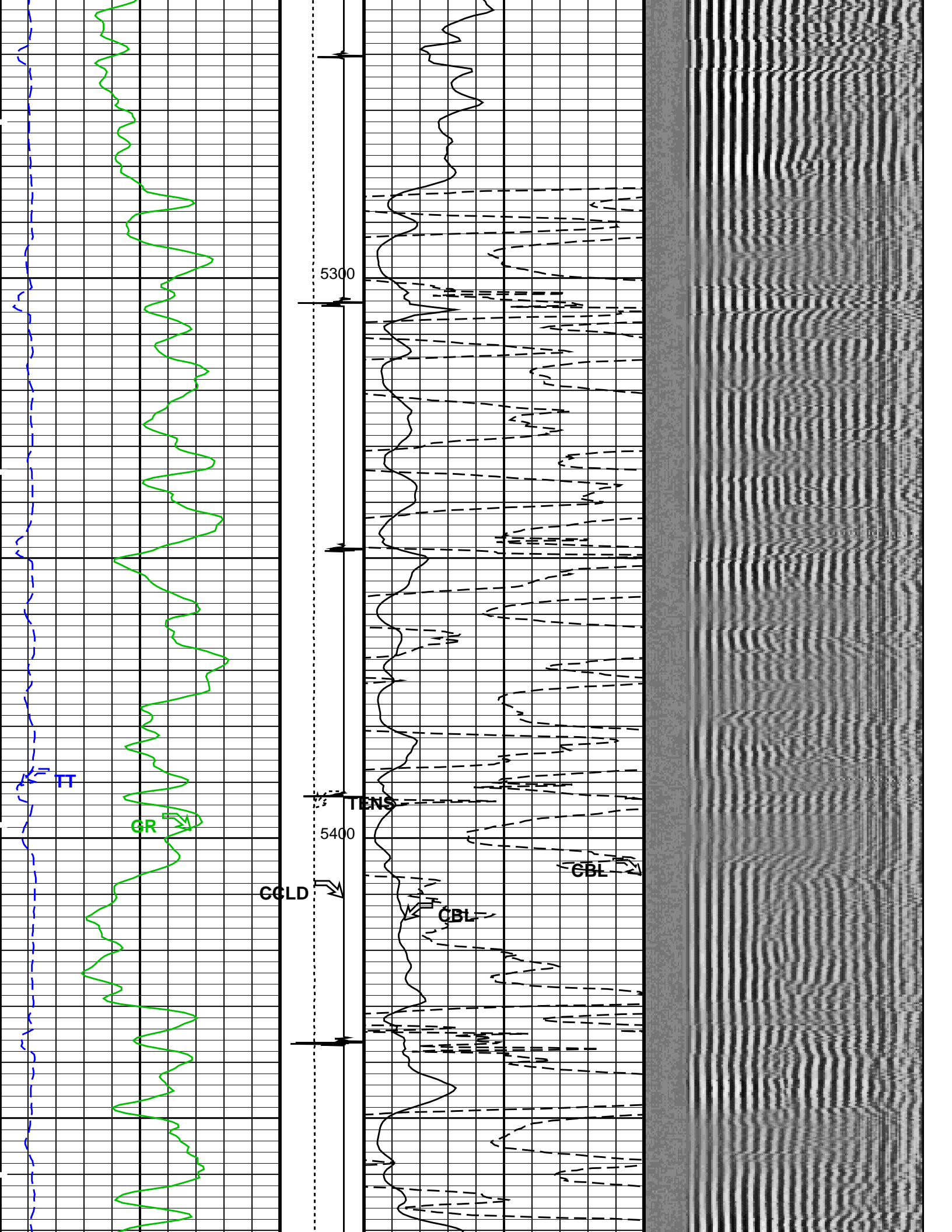


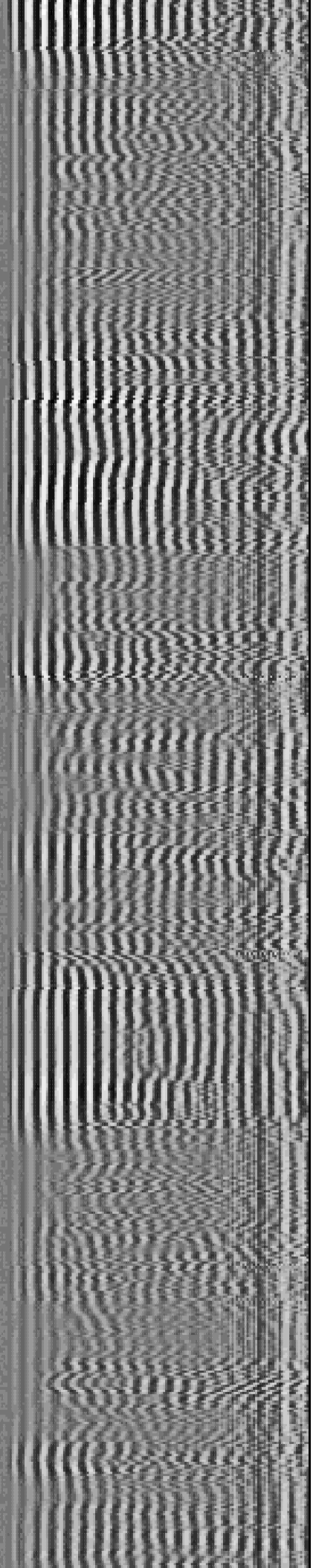
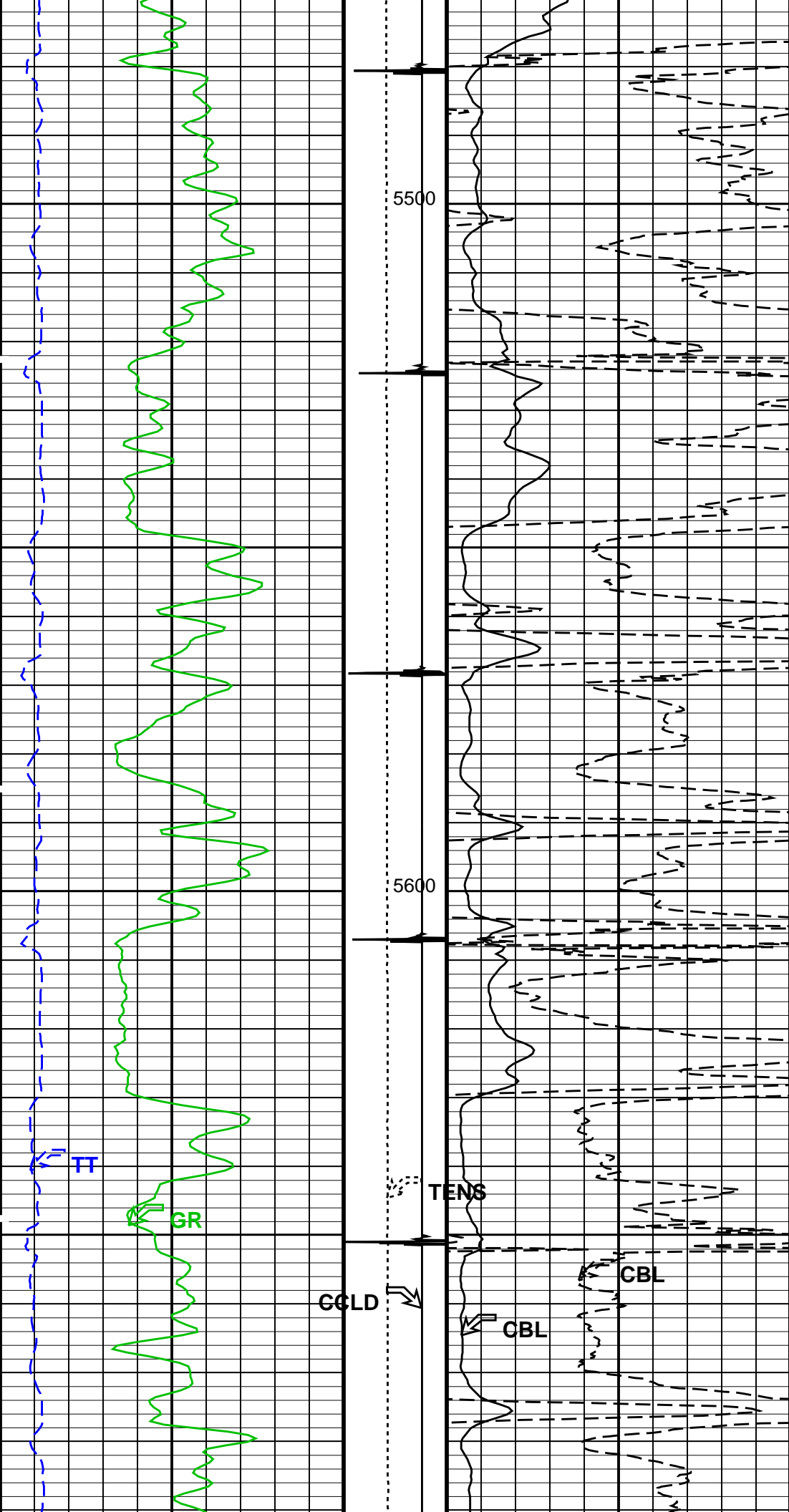


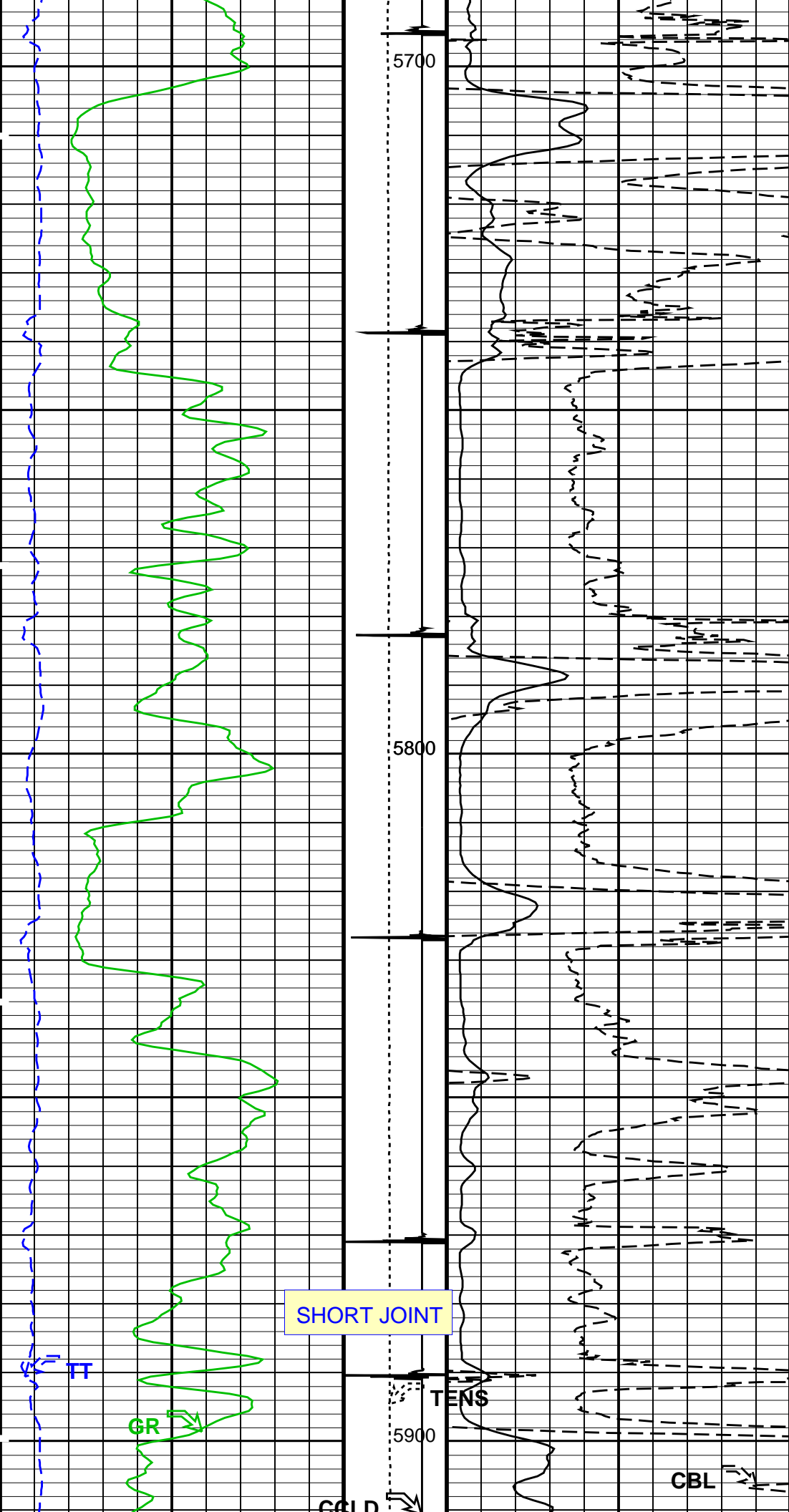


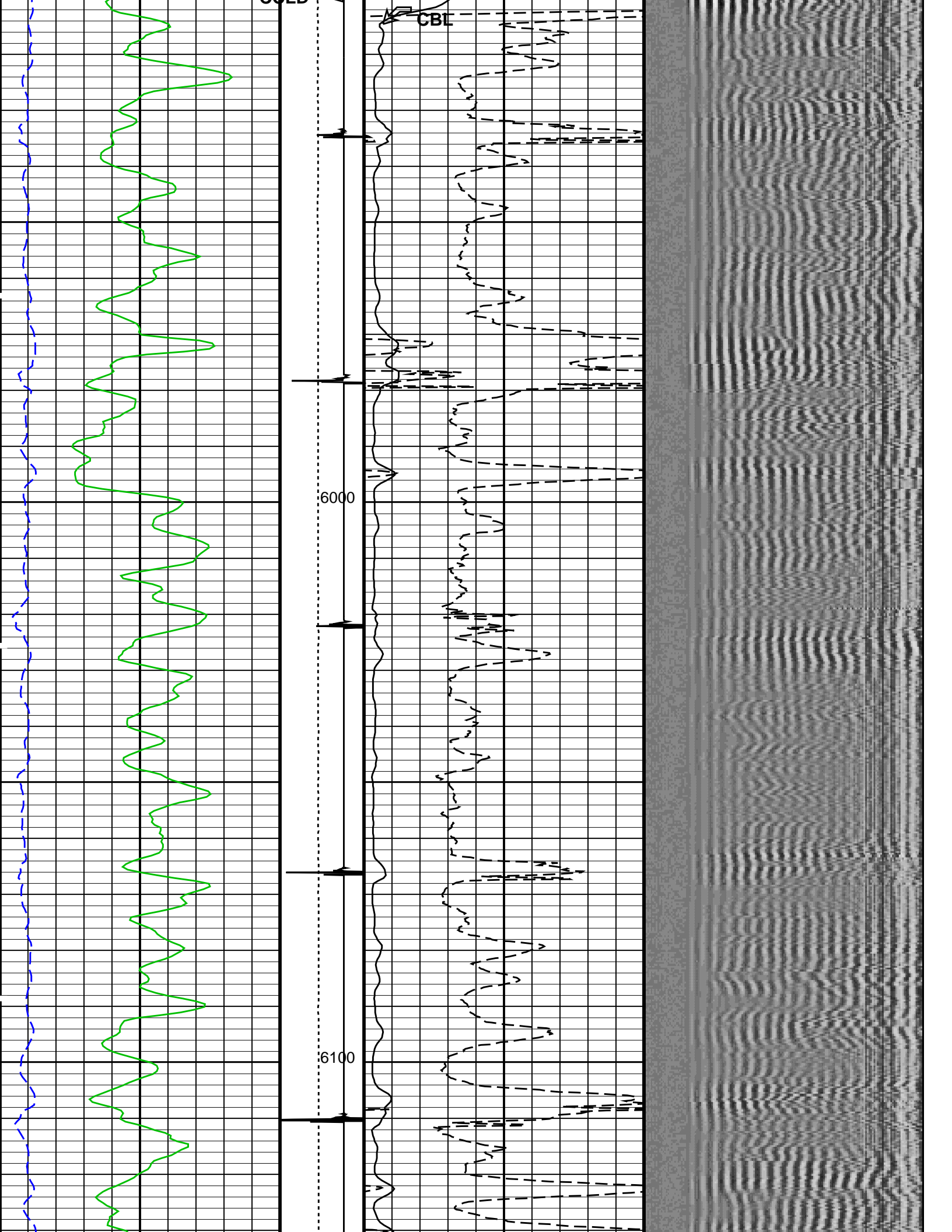


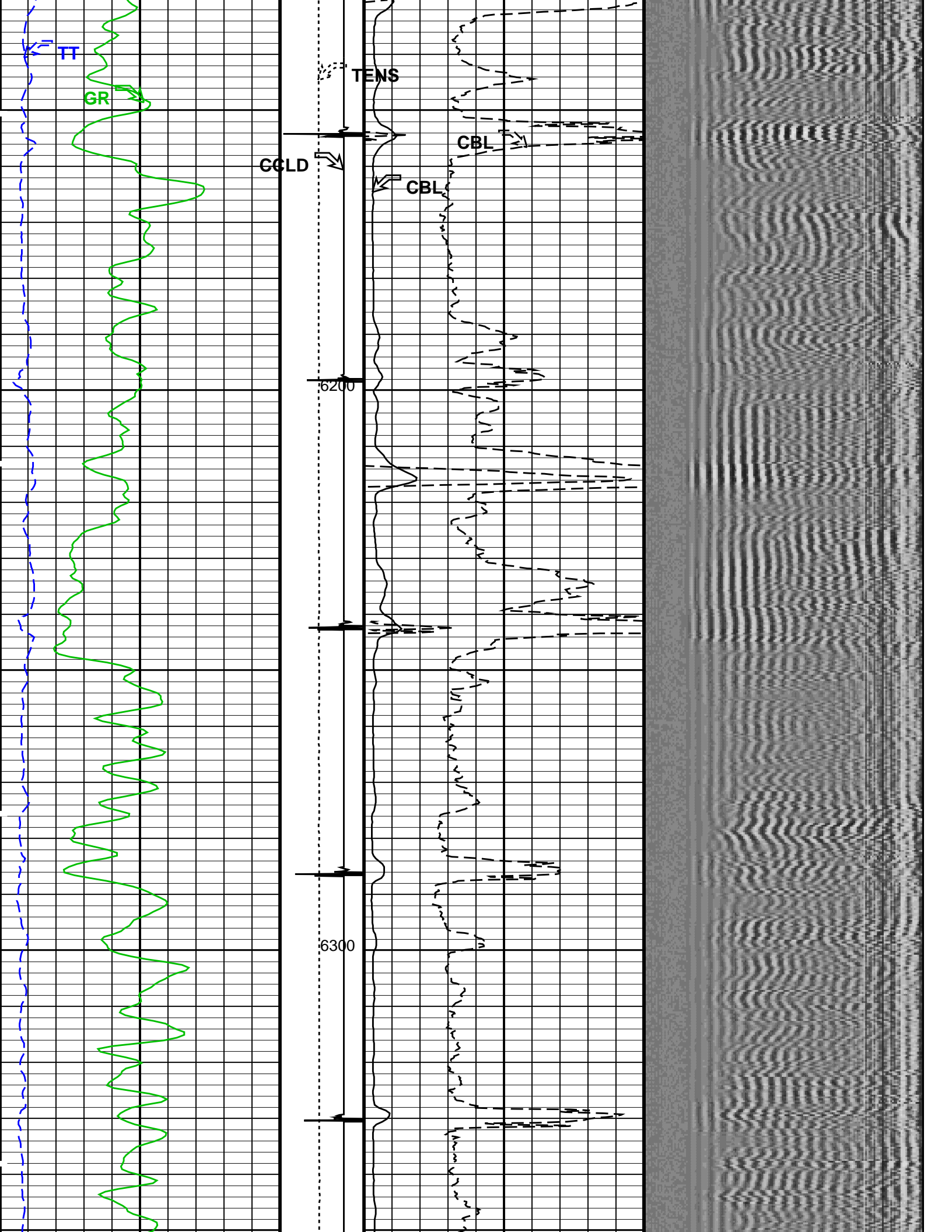


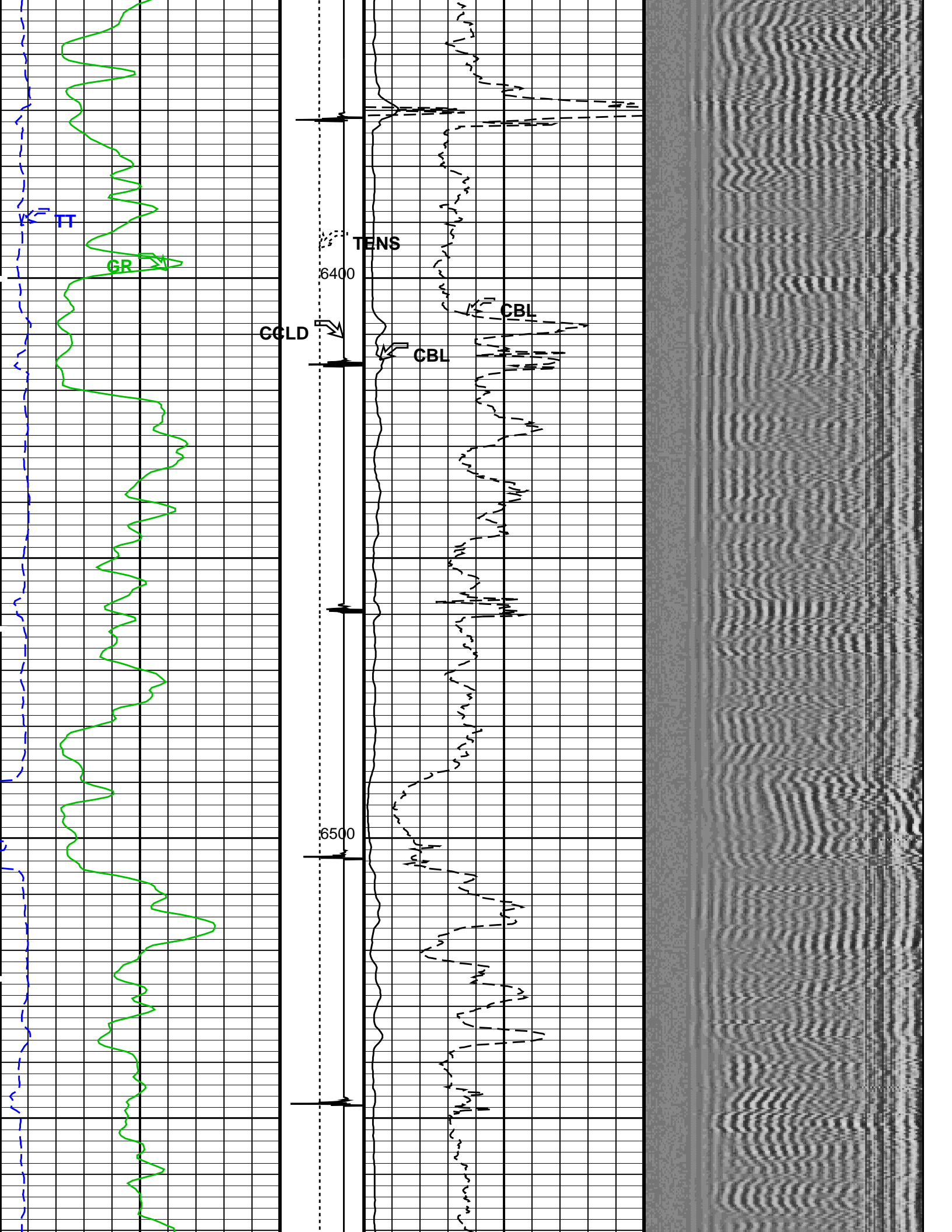


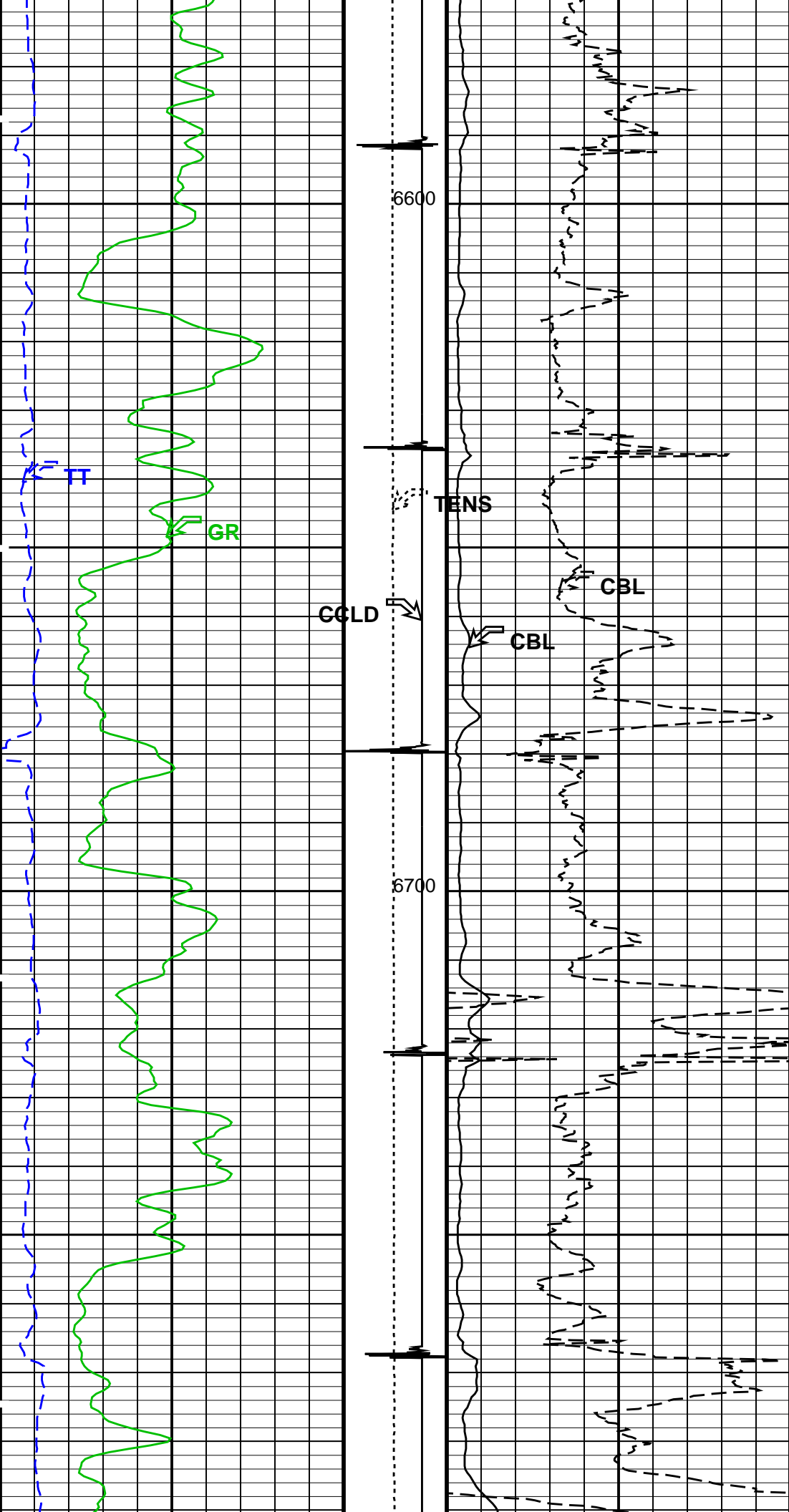


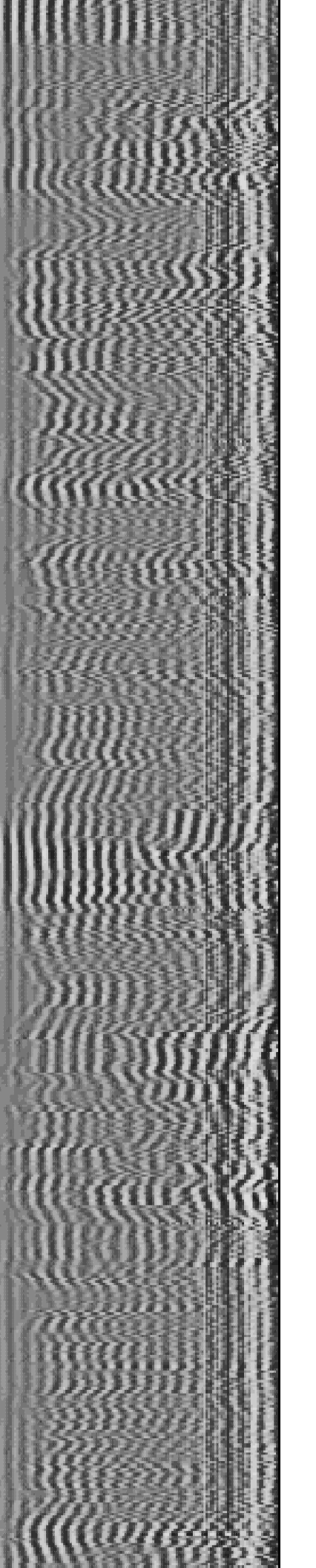
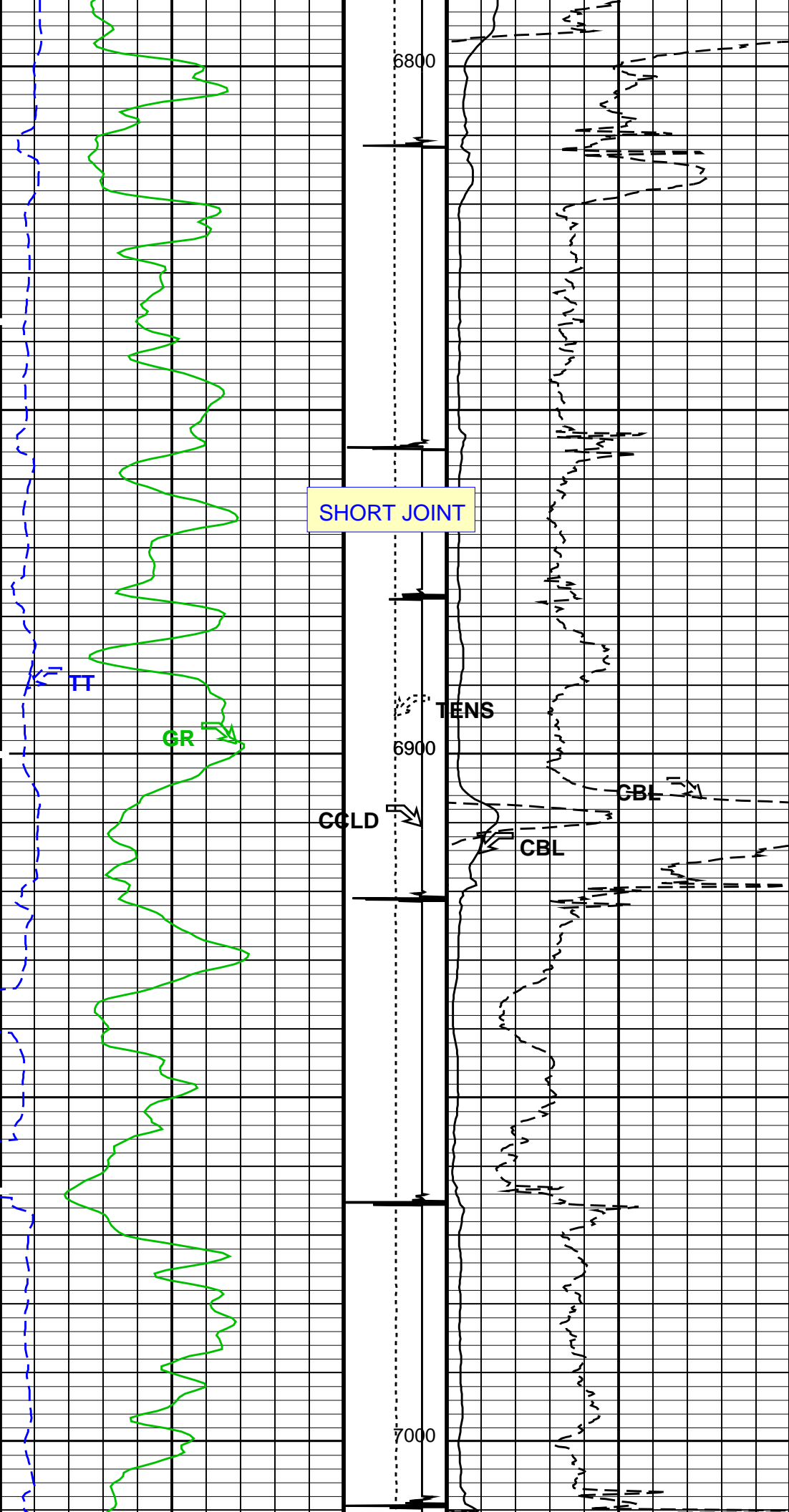


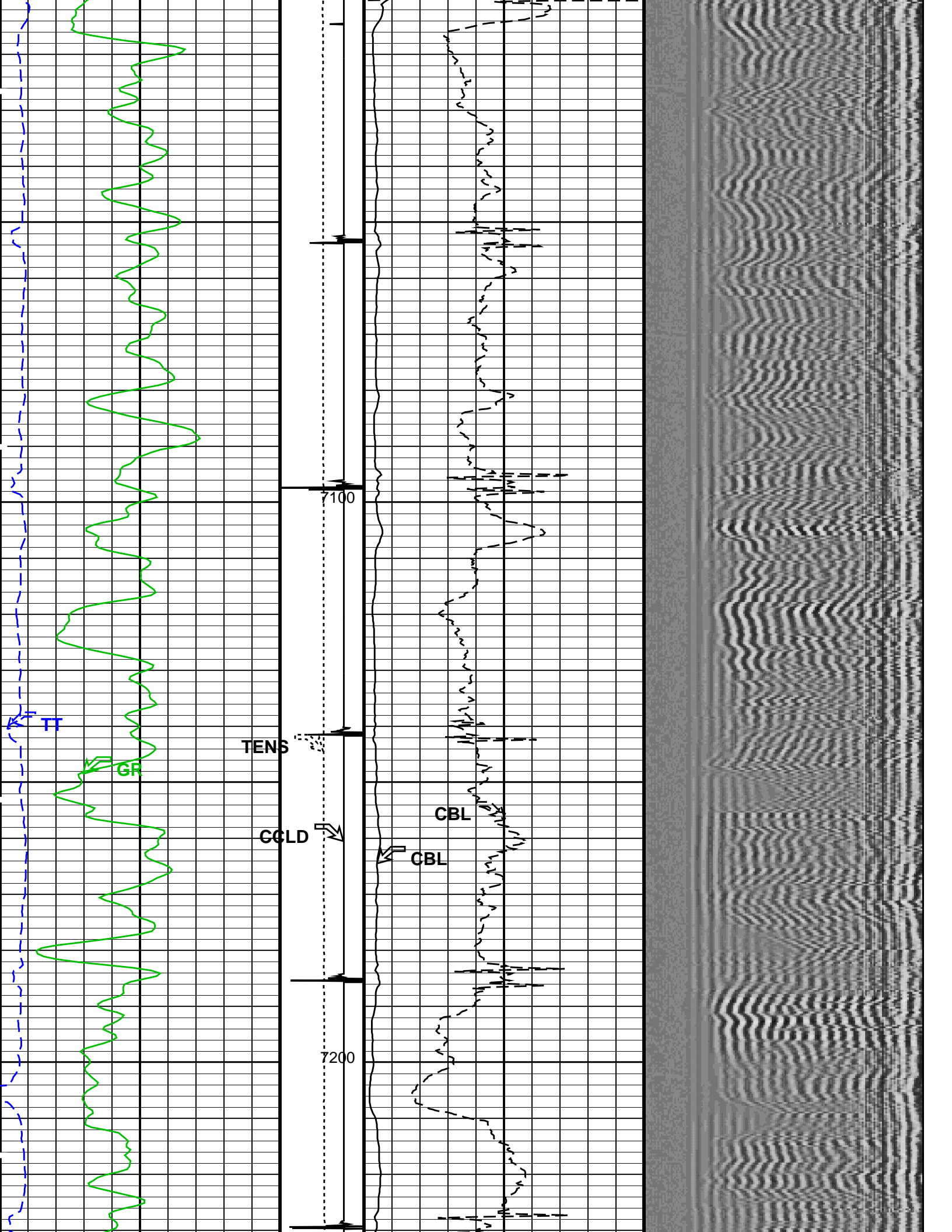


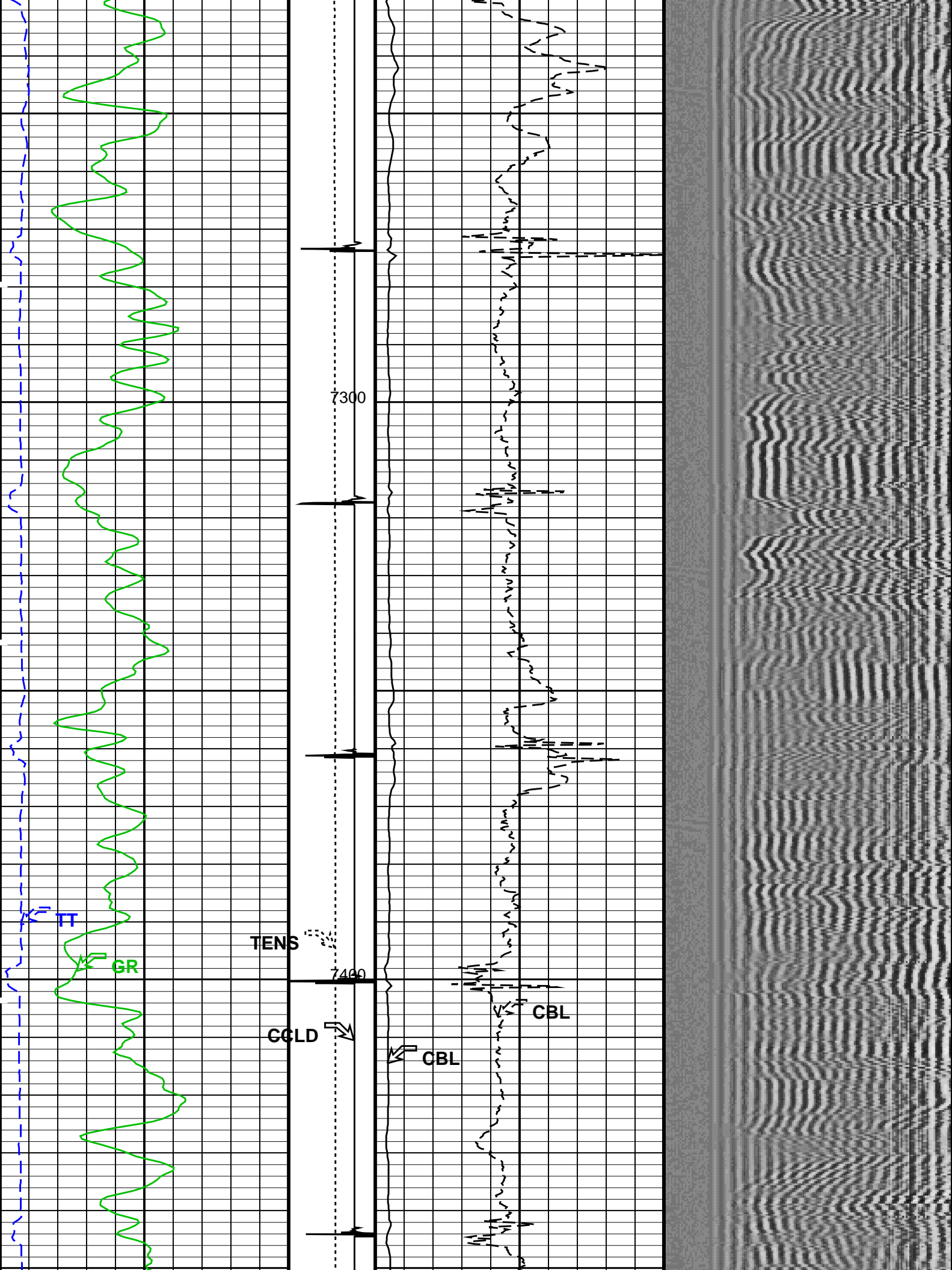


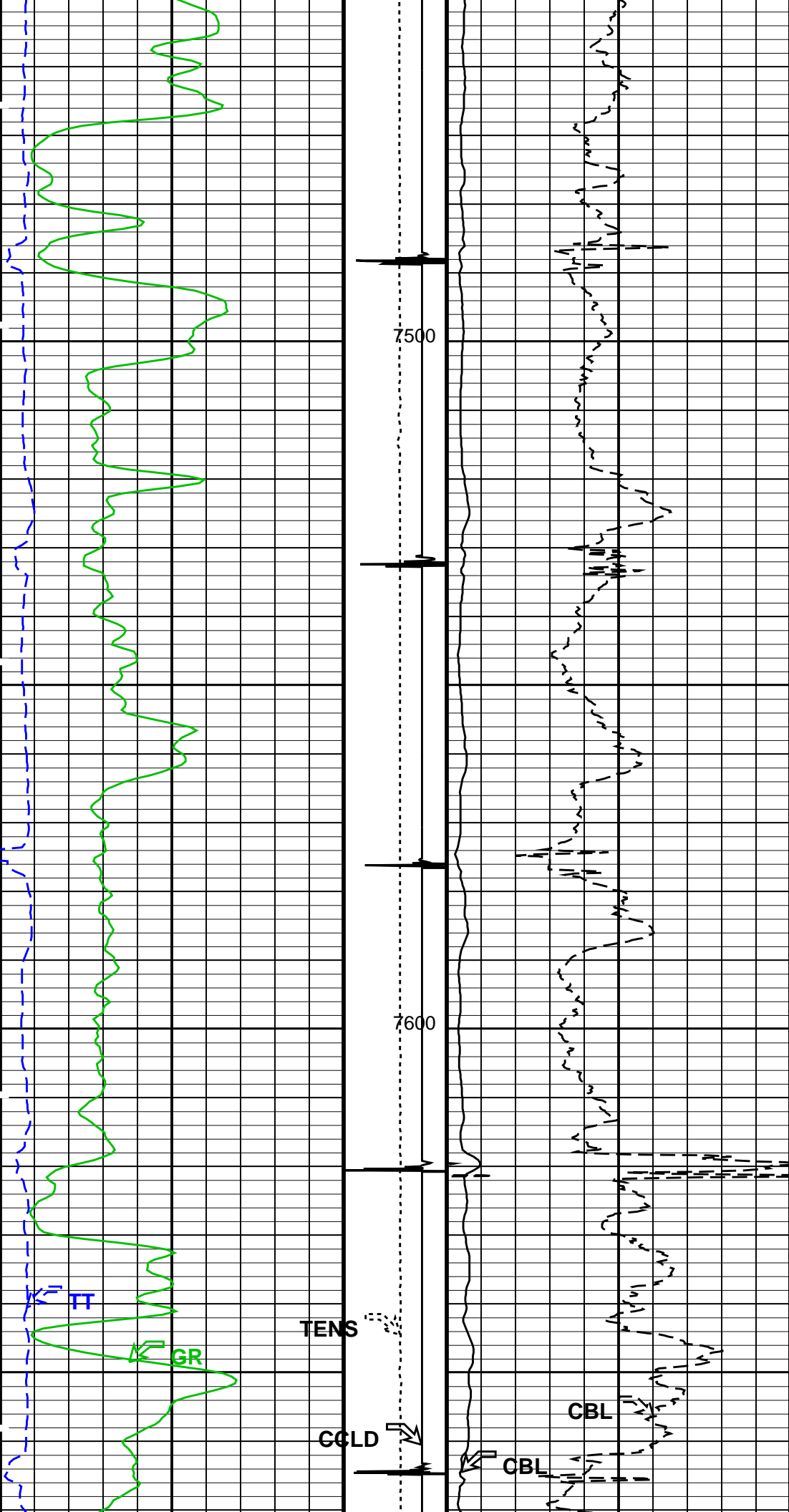


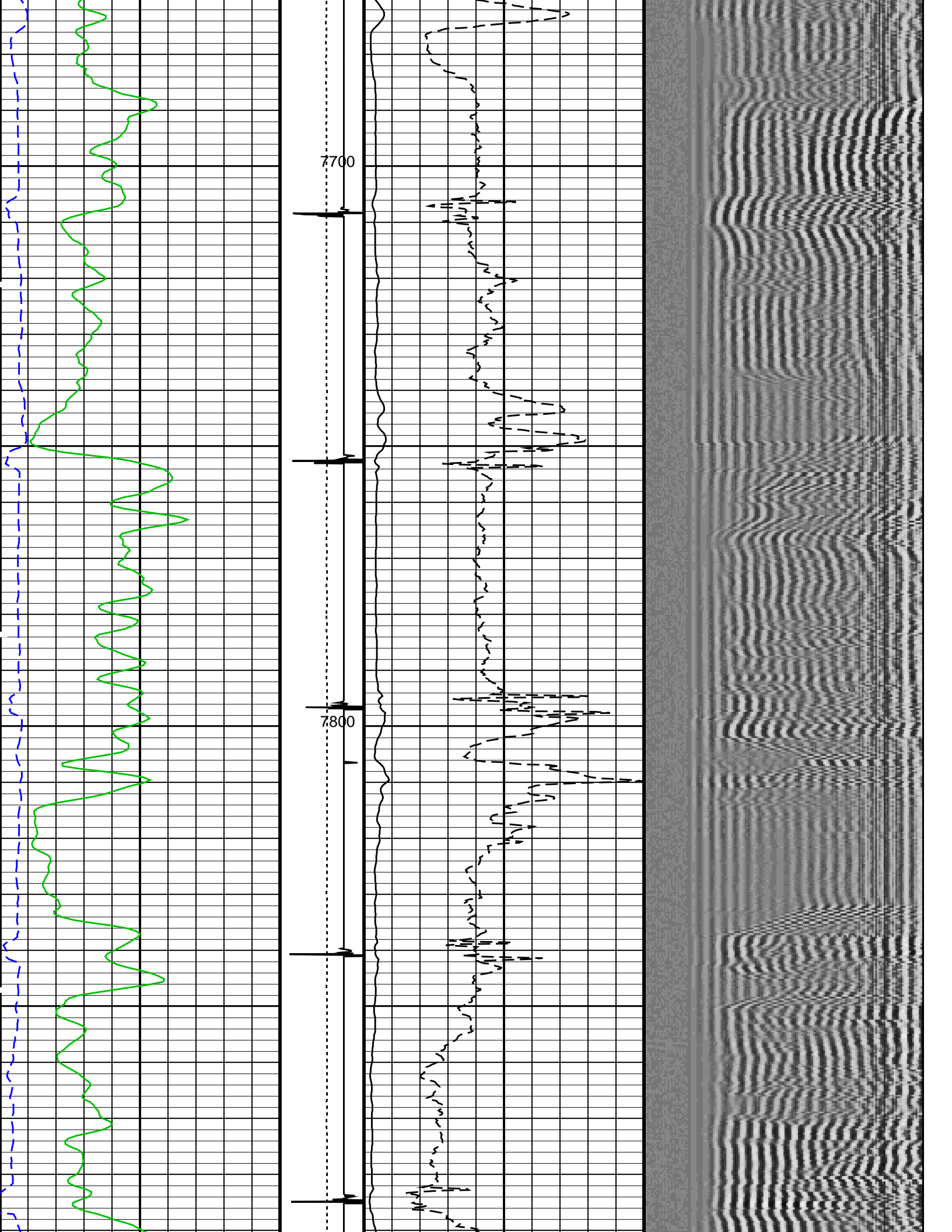


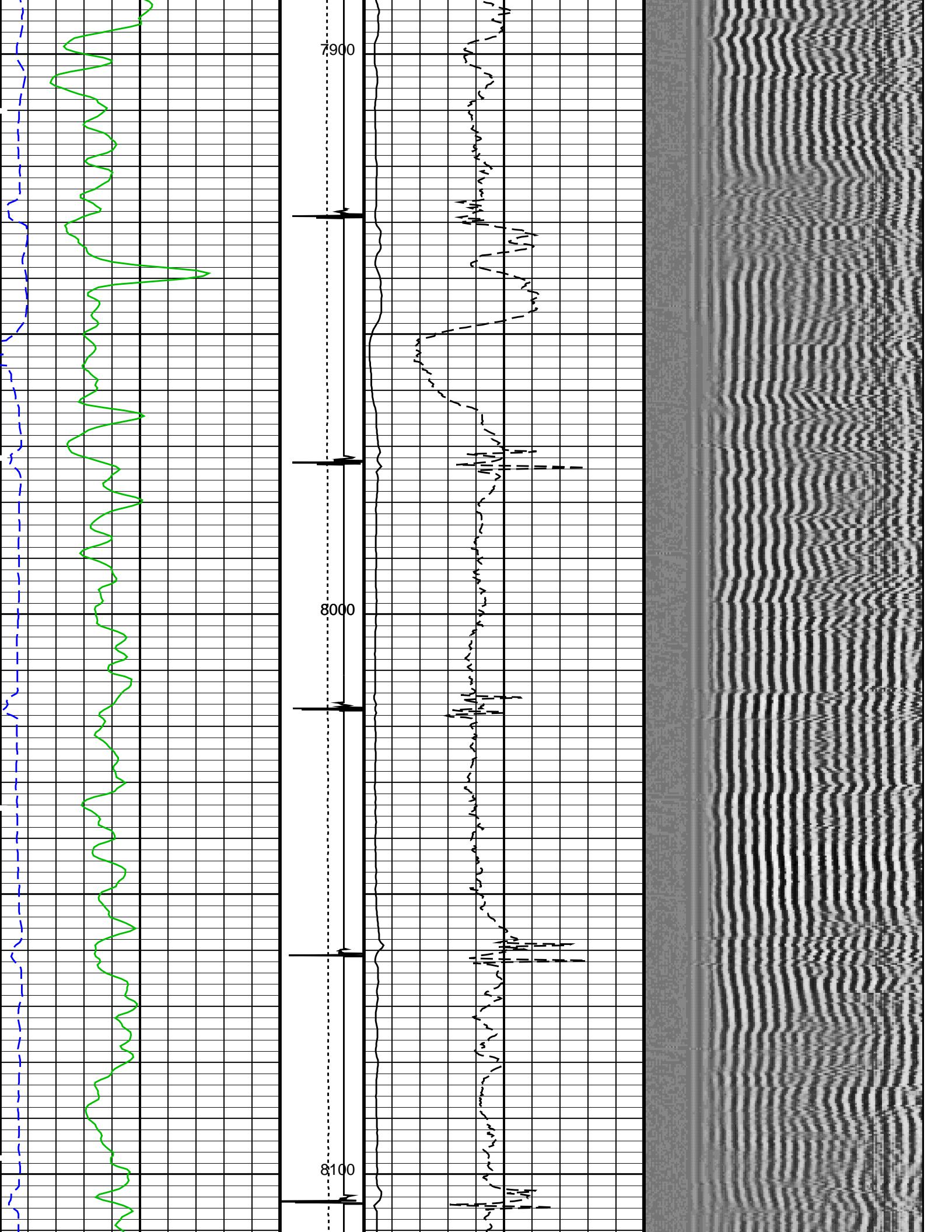


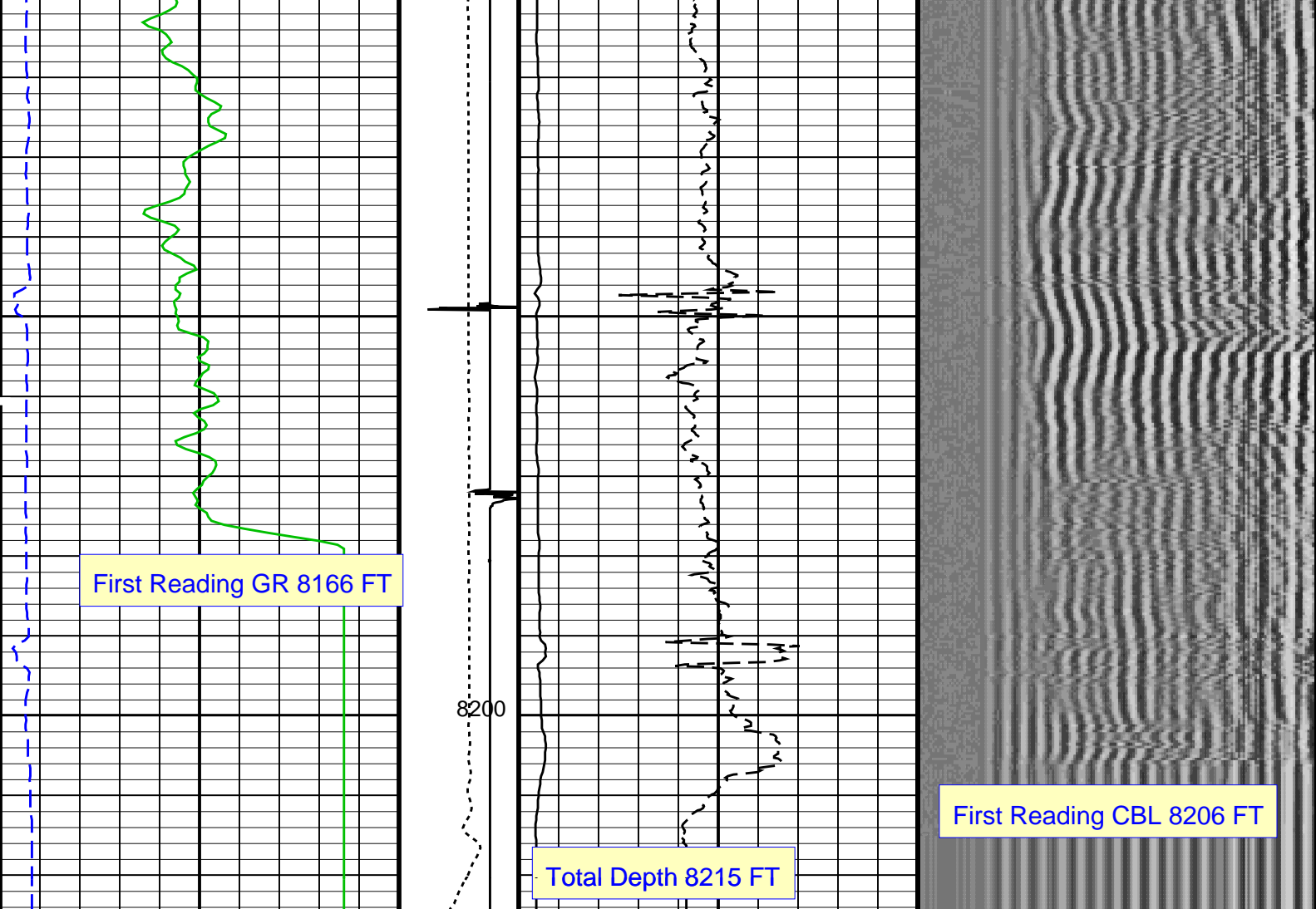












Gamma Ray (GR) (GAPI)		Tension (TENS) (LBF)	CBL Amplitude (CBL) (MV)	Min	Amplitude	Max
0		0	0	VDL VariableDensity (VDL) (US)		
150		2000	100	200		
Transit Time (TT) (US)		Discriminat ed CCL (CCLD)	CBL Amplitude (CBL) (MV)	1200		
260		3 (V) -1	10			
160						

PIP SUMMARY

Time Mark Every 60 S
Format: CBL_VDL Vertical Scale: 5" per 100' Graphics File Created: 28-Apr-2013 18:31

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)	

CBL Correction Factor	0.0756720	CBL Adjustment Factor (CBAF)	0.900000
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	
CMTM	SCMT Slow Channel Multiplexer Mode	SCAN	
CSCS	SCMT Operating Mode	LOG	
CTHI	SCMT Slow Channel Index	VCC	
DTF	Casing Thickness	0.255617	IN
FATT	Delta-T Fluid	189	US/F
FCF	Acoustic Attenuation due to Fluid	0	DB/F
GOBO	CBL Fluid Compensation Factor	0.924277	
MAPD	Good Bond	1.55185	MV
MAPG	SCMT MAP Peak Detection Mode	PEAK	
MAPT	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MATT	SCMT MAP Fixed Threshold Level	30	MV
MCCF	Maximum Attenuation	16.5449	DB/F
MCI	MAP Cement Type Compensation Factor	1	
MMSA	Minimum Cemented Interval for Isolation	1.25	FT
MSA	MAP Minimum Sonic Amplitude	4.32284	MV
PEDE	Minimum Sonic Amplitude	0.579149	MV
VDLG	Peak Detection On/Off Switch in Playback	OFF	
ZCMT	VDL Manual Gain	5	
	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	3.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8215	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_083LUP	FN:81	PRODUCER	28-Apr-2013 16:11	8221.5 FT	11.0 FT
---------	---------------------	-------	----------	-------------------	-----------	---------

Output DLIS Files

DEFAULT	SCMT_RST_PSP_086PUP	FN:84	PRODUCER	28-Apr-2013 18:31
---------	---------------------	-------	----------	-------------------



REPEAT ANALYSIS CBL VDL

Input DLIS Files

DEFAULT	SCMT_RST_PSP_081LUP	FN:79	PRODUCER	28-Apr-2013 15:51	6005.0 FT	5667.5 FT
DEFAULT	SCMT_RST_PSP_086PUP	FN:84	PRODUCER	28-Apr-2013 18:31	8224.5 FT	-30.5 FT

Output DLIS Files

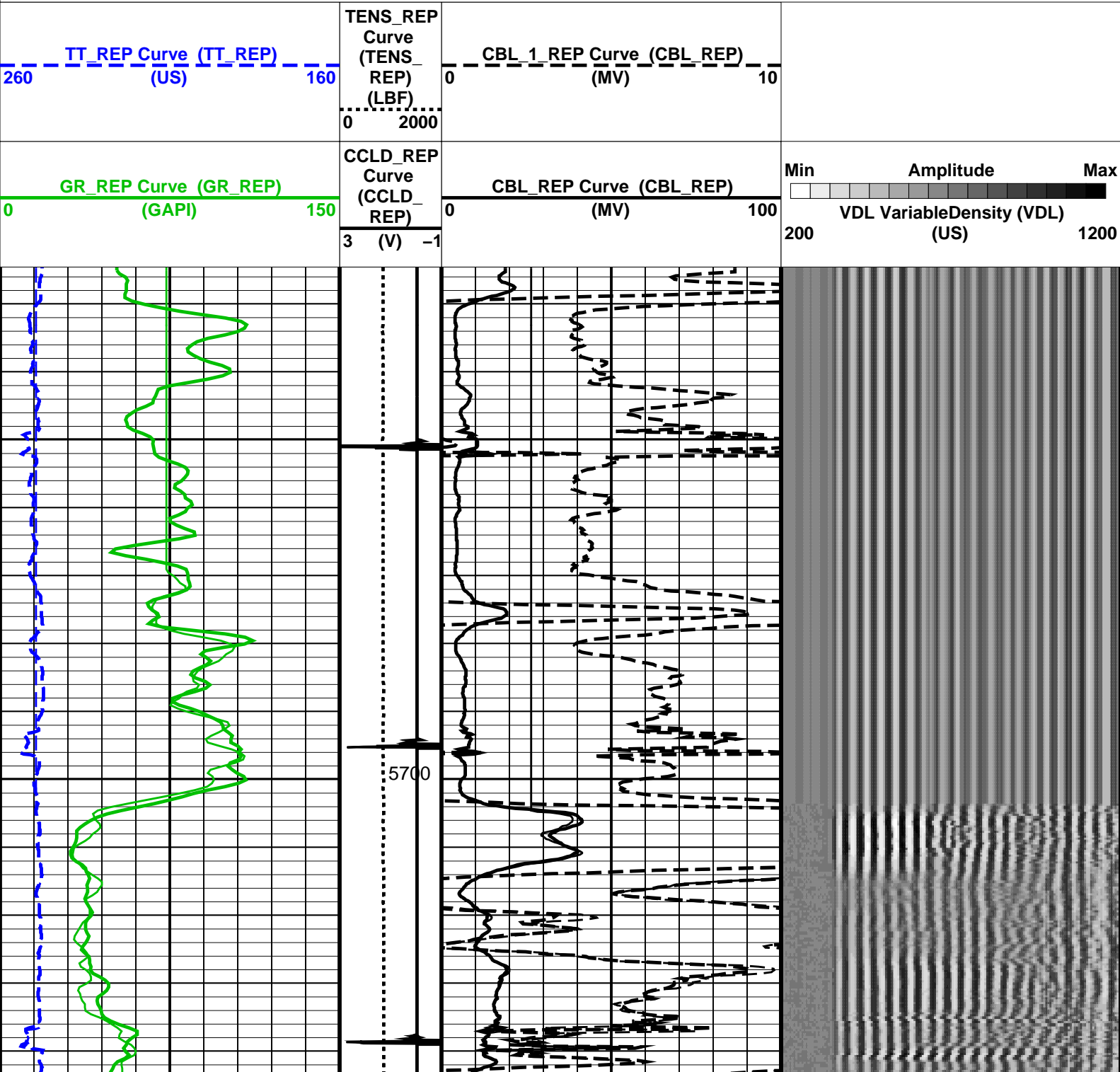
DEFAULT	SCMT_RST_PSP_087PUP	FN:85	PRODUCER	28-Apr-2013 18:38	6006.0 FT	5624.0 FT
---------	---------------------	-------	----------	-------------------	-----------	-----------

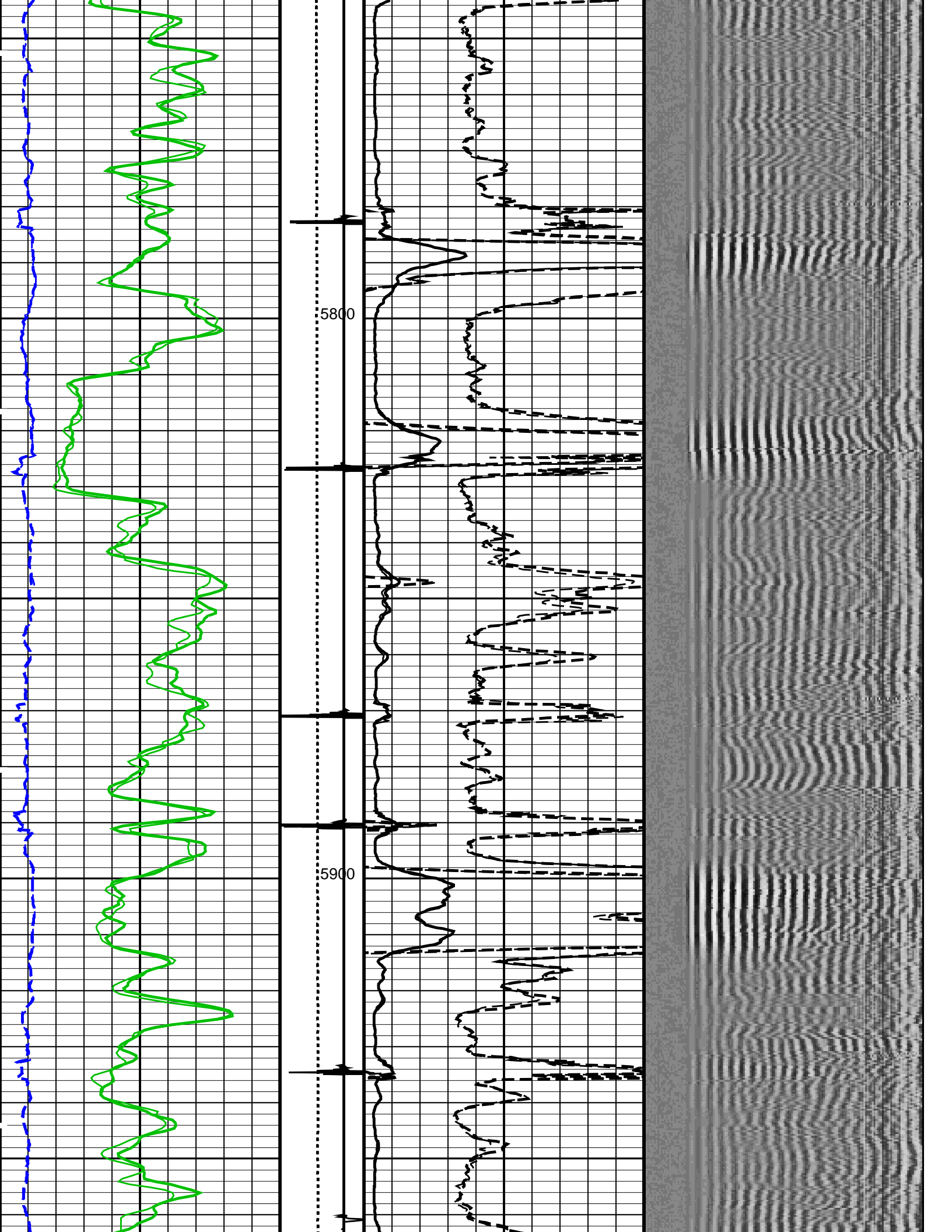
OP System Version: 19C0-187

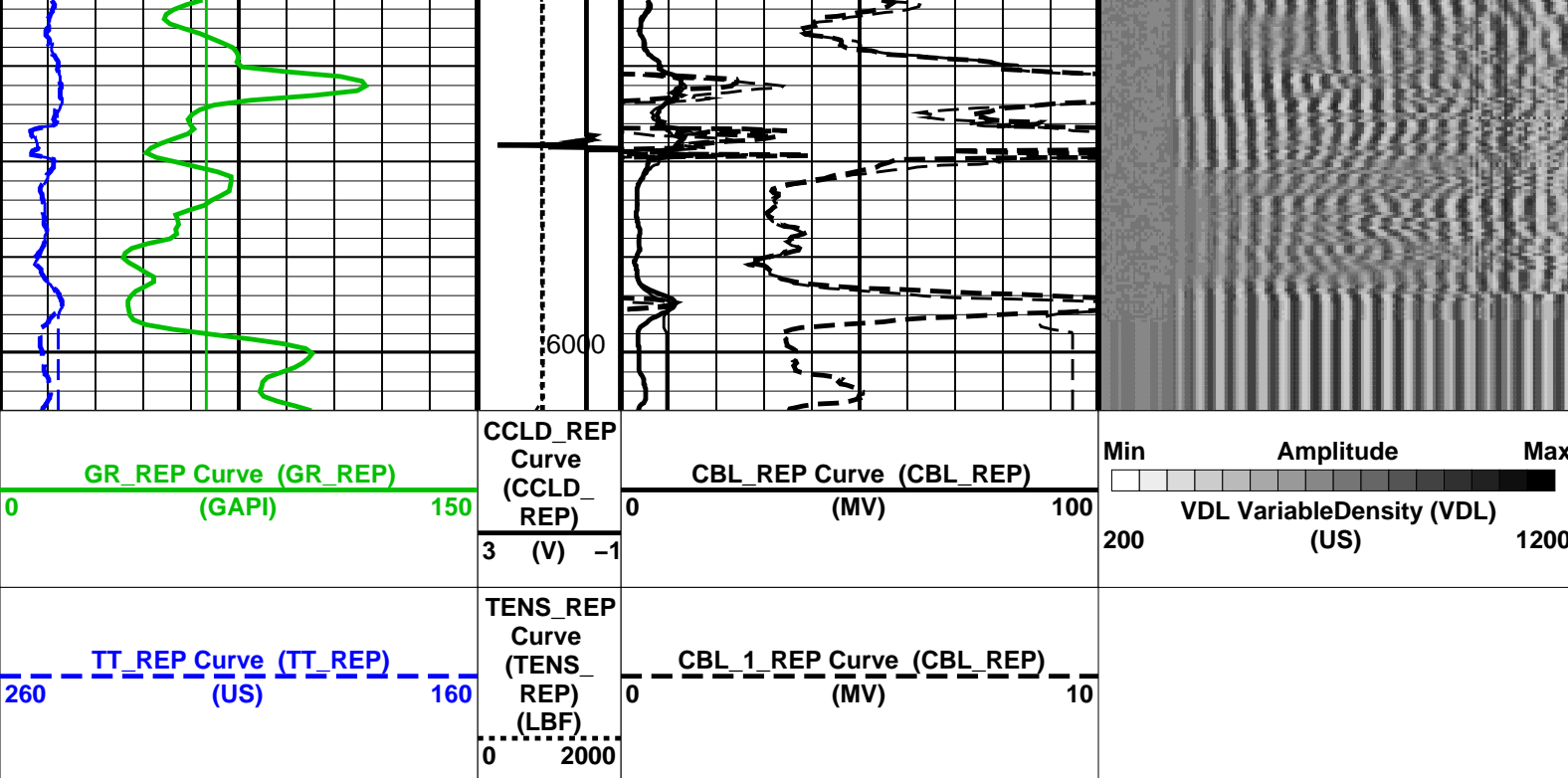
SCMT-CB PSPT	SRPC-5214-H2-2012-OP1! SRPC-5214-H2-2012-OP1!	RST-C	SRPC-5214-H2-2012-OP1!
-----------------	--	-------	------------------------

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: 28-Apr-2013 18:39

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)

Date of Master Calibration 7-SEP-2012

CBL Correction Factor 0.0756720

MAP 1 Correction Factor 0.136845

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

Before Calibration (Adjustment)

CBL Adjustment Factor (CBAF) 0.900000

MAP Adjustment Factor (MPAF) 1.0

Parameters

DLIS Name	Description	Value
-----------	-------------	-------

BILI	SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD 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	
CMT C	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			
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	1.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8215	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_081LUP	FN:79	PRODUCER	28-Apr-2013 15:51	6005.0 FT	5667.5 FT
DEFAULT	SCMT_RST_PSP_086PUP	FN:84	PRODUCER	28-Apr-2013 18:31	8224.5 FT	-30.5 FT

Output DLIS Files

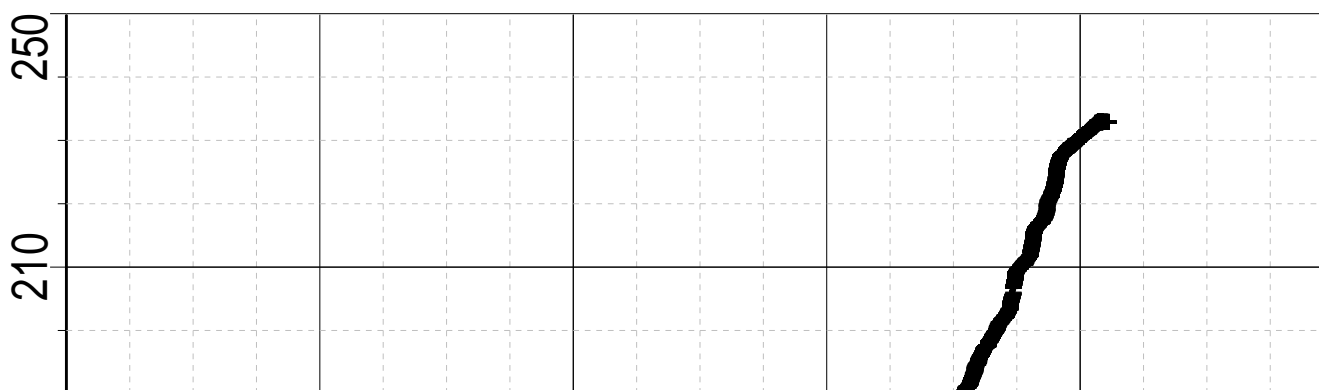
DEFAULT	SCMT_RST_PSP_087PUP	FN:85	PRODUCER	28-Apr-2013 18:38
---------	---------------------	-------	----------	-------------------

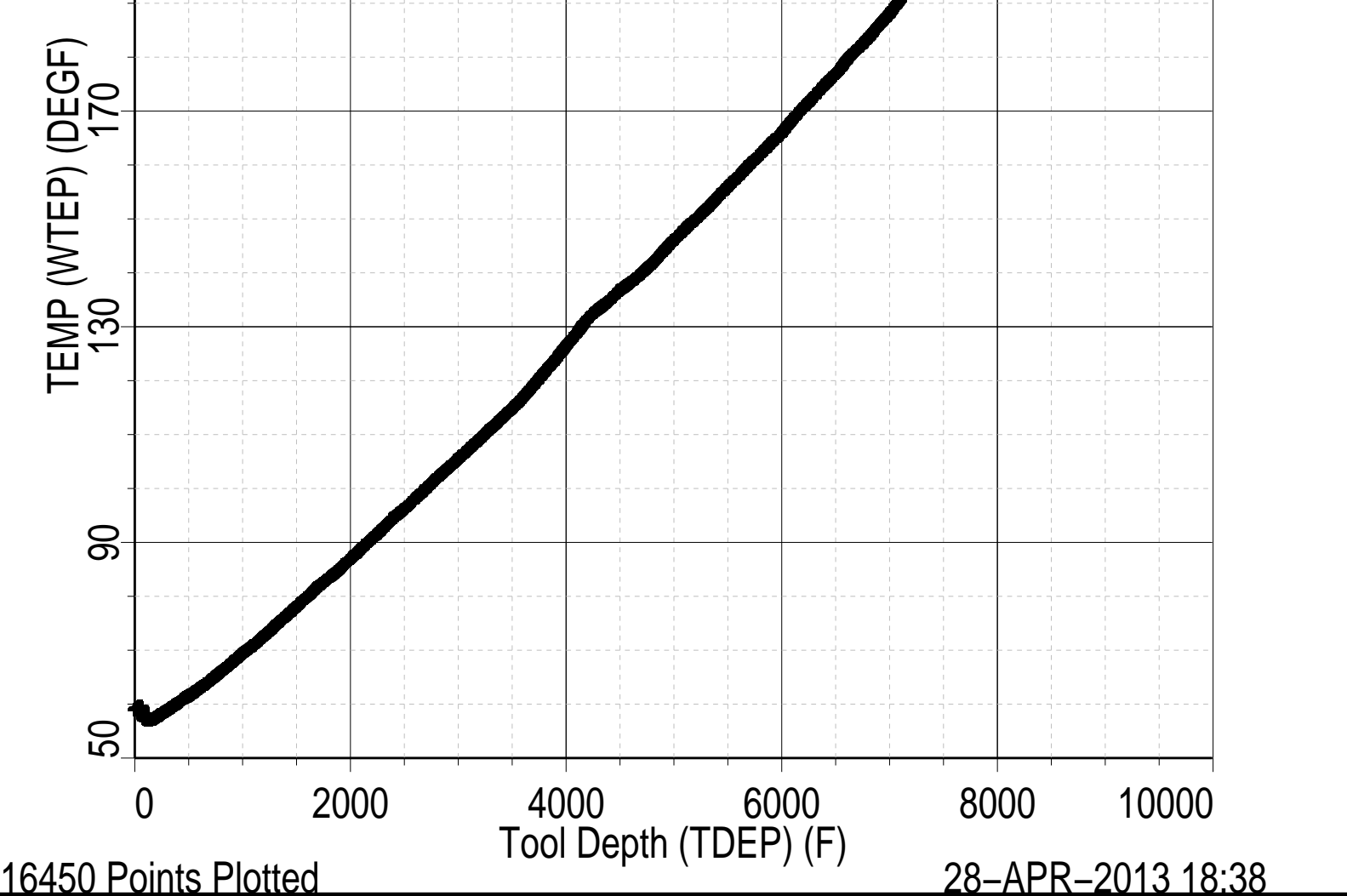
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 8224.5 – -30.5 FT





Schlumberger

PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: SHIDELER 30-3B (O19EB)
Run date: 28-Apr-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	+.182000000000e+04	+.332000000000e+04
-------	--------------------	--------------------

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMM CREEK	Sub Type:	PBMS
Well:	SHIDELER 30-3B (O19EB)	Sensor:	WellTemp RTD
Run date:	28-Apr-2013		

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:	SHIDELER 30-3B (O19EB)	Sensor:	CQG
Run date:	28-Apr-2013		

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

928

280612

66

9DC3

COEFFICIENTS FOR CQG PBMS–B.928 S/N:

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
Calib Date ddmmyy
Matrix Size
Coeff CRC

:
928
280612
16
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
Calib Date ddmmyy
Matrix Size
Coeff CRC

:
928
280612
16
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

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

Primary Equipment:




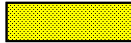





Slim Cement Mapping Xmitter Electronics
 Slim Cement Mapping Sonde
 Slim Cement Mapping Cartridge

SCMX – CA
 SCMS – CB 8303
 SCMC – CA 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: 7–Sep–2012 16:30							

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

Schlumberger

Well: **SHIDELER 30-3B (O19EB)**

Field: **MAMM CREEK**

County: **GARFIELD**

State: **COLORADO**

SLIM CEMENT MAPPING LOG

CBL – VDL

GR-CCL