

Company: ENCANA OIL & GAS (USA) INC

Well: SHIDELER 30-1C (O19EB)

Field: MAMM CREEK

County: GARFIELD State: COLORADO

SLIM CEMENT MAPPING LOG  
CBL – VDL  
GR-CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 609 FSL & 1628 FEL

Well: SHIDELER 30-1C (O19EB)

Company: ENCANA OIL & GAS (USA) INC

LOCATION	
SHL: 609 FSL & 1628 FEL BHL: 1113 FNL & 575 FEL	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
05-045-21833-000C	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			
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			

Logging Date	28-Apr-2013
Run Number	1
Depth Driller	7856 ft
Schlumberger Depth	7794 ft
Bottom Log Interval	7785 ft
Top Log Interval	60 ft
Casing Fluid Type	FRESH WATER
Salinity	
Density	8.4 lbm/gal
Fluid Level	60 ft
BIT/CASING/TUBING STRING	
Bit Size	7.875 in
From	6151 ft
To	7856 ft
Casing/Tubing Size	4.500 in
Weight	11.6 lbm/ft
Grade	
From	22 ft
To	7855 ft
Maximum Recorded Temperatures	224 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= 224 DEGF	
MAXIMUM RECORDED PRESSURE= 3137 PSIA	
ENTRANCE TIME= 3:30	

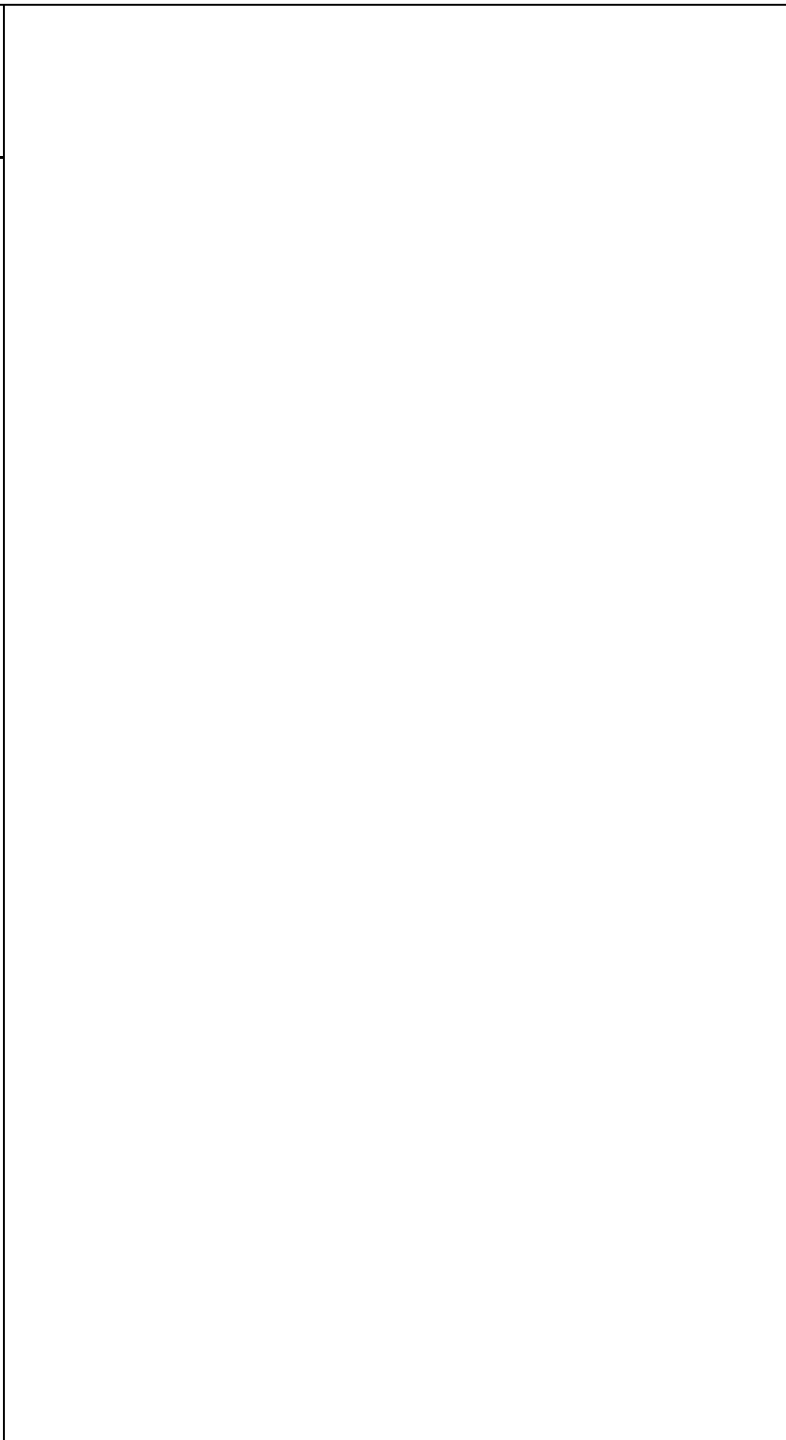
TIME ON BOTTOM= 4:00	
EXIT TIME= 6:15	
SHORT JOINTS: 5396 FT & 6426 FT	
MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE	
EXPECTED CBL AMP IN FREE PIPE = 0MV	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGR COMPANY	
CREW: KBUNTING JBARRY KJOHNS JMANN	

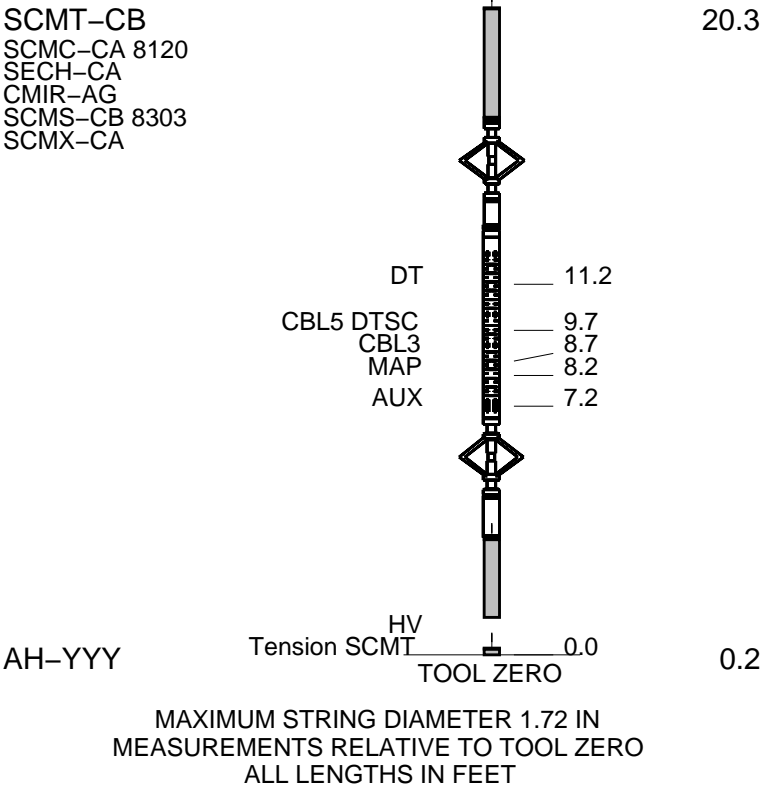
RUN 1			RUN 2		
SERVICE ORDER #:			SERVICE ORDER #:		
PROGRAM VERSION:			PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT	
WITM-A PSC_16MHZ	

DOWNHOLE EQUIPMENT	
MH-22 MH-22	53.4
<div> <div> <div>Detail MT</div> <div>TelStatus</div> <div>CTEM</div> </div> <div> <div>GR</div> <div>Well_Temp</div> <div>CQG Manom</div> <div>CCL</div> <div>PBMS</div> </div> </div>	<div> <div>51.5</div> <div>51.8</div> <div>51.5</div> <div>47.8</div> <div>44.8</div> <div>44.5</div> <div>44.0</div> <div>43.3</div> </div>
<div> <div>PSPT</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>43.3</div> </div>
<div> <div>RST-C</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>34.2</div> <div>33.7</div> </div>





Schlumberger

MAIN PASS CBL VDL

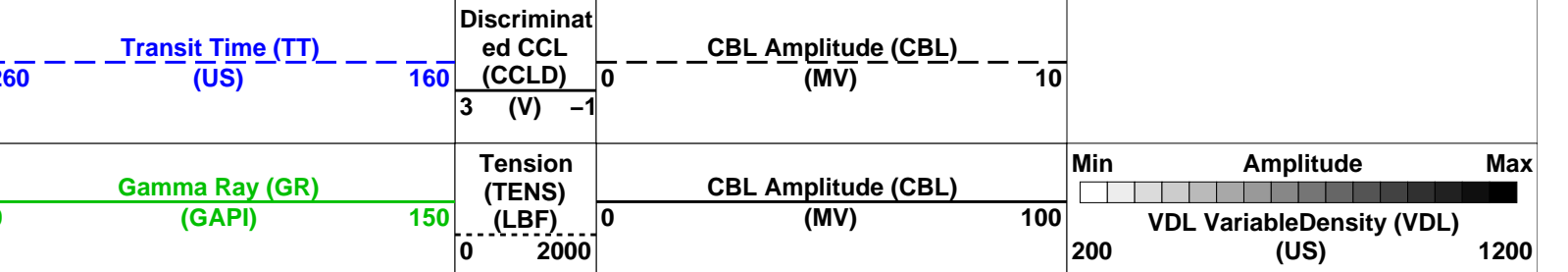
MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC Well: SHIDELER 30-1C (O19EB)

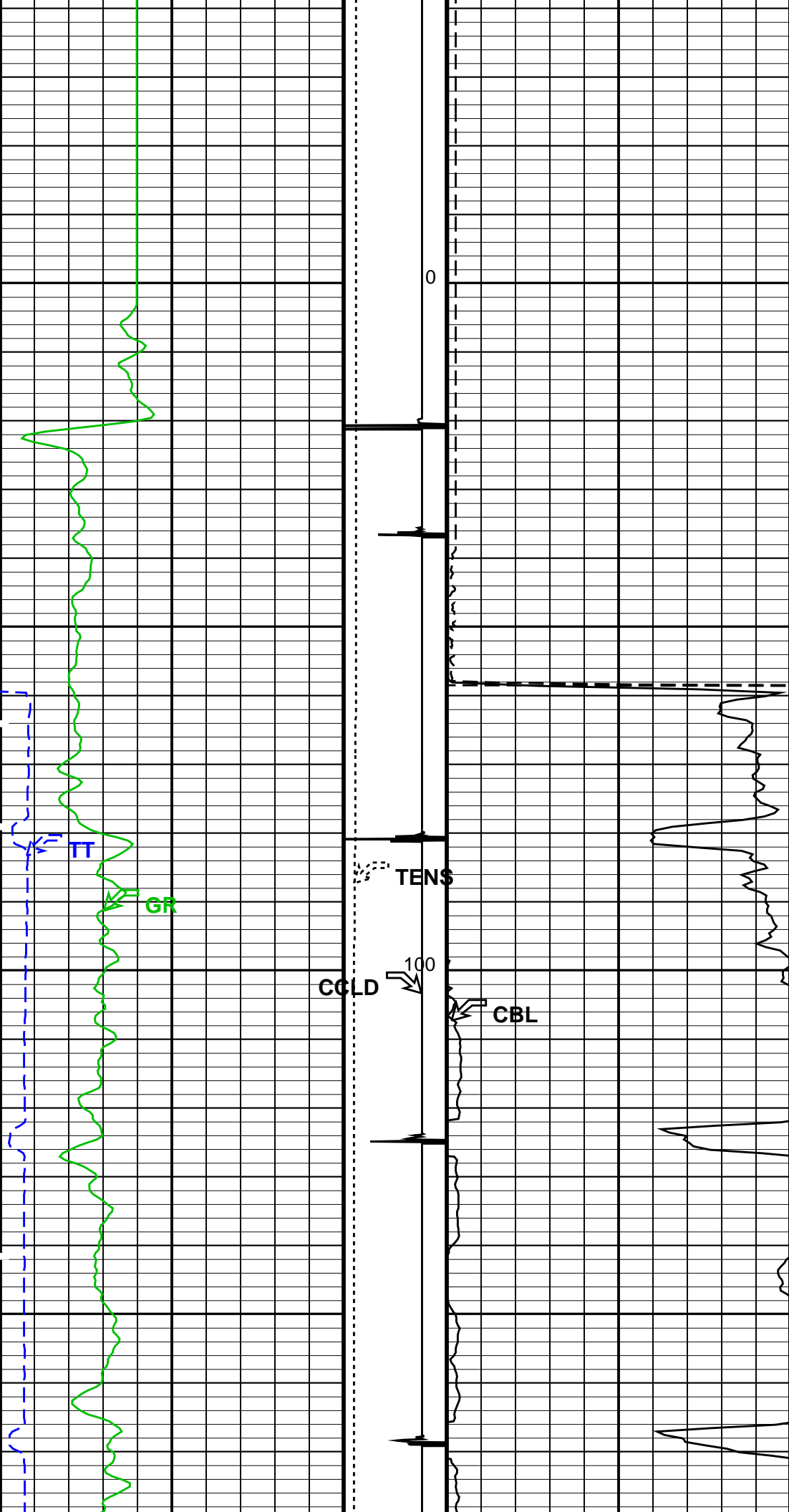
Input DLIS Files						
DEFAULT	SCMT_RST_PSP_053LUP	FN:51	PRODUCER	28-Apr-2013 04:03	7797.0 FT	-1.8 FT
Output DLIS Files						
DEFAULT	SCMT_RST_PSP_056PUP	FN:54	PRODUCER	28-Apr-2013 06:16	7801.0 FT	-42.0 FT
OP System Version: 19C0-187						
SCMT-CB	SRPC-5214-H2-2012-OP1		RST-C	SRPC-5214-H2-2012-OP1		
PSPT	SRPC-5214-H2-2012-OP1					

PIP SUMMARY

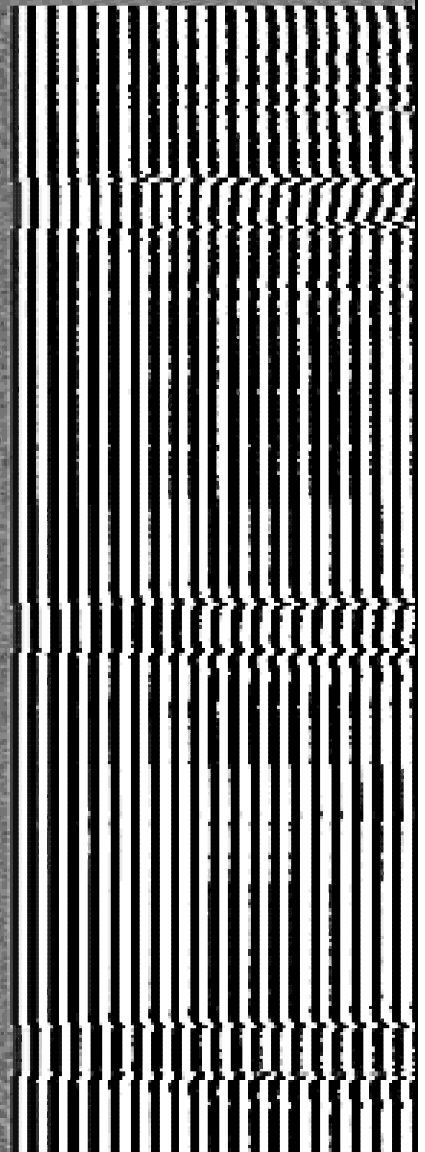
☒ Time Mark Every 60 S

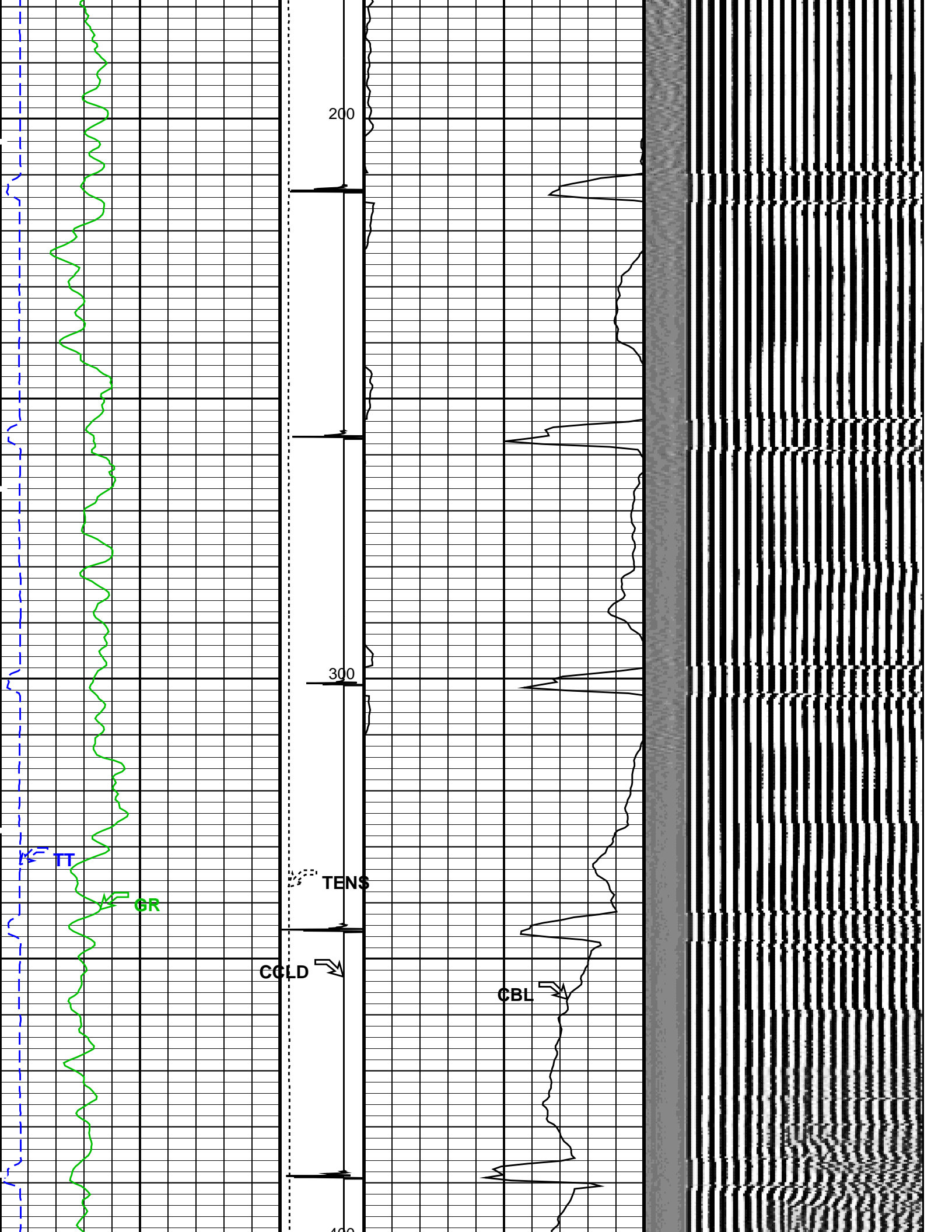


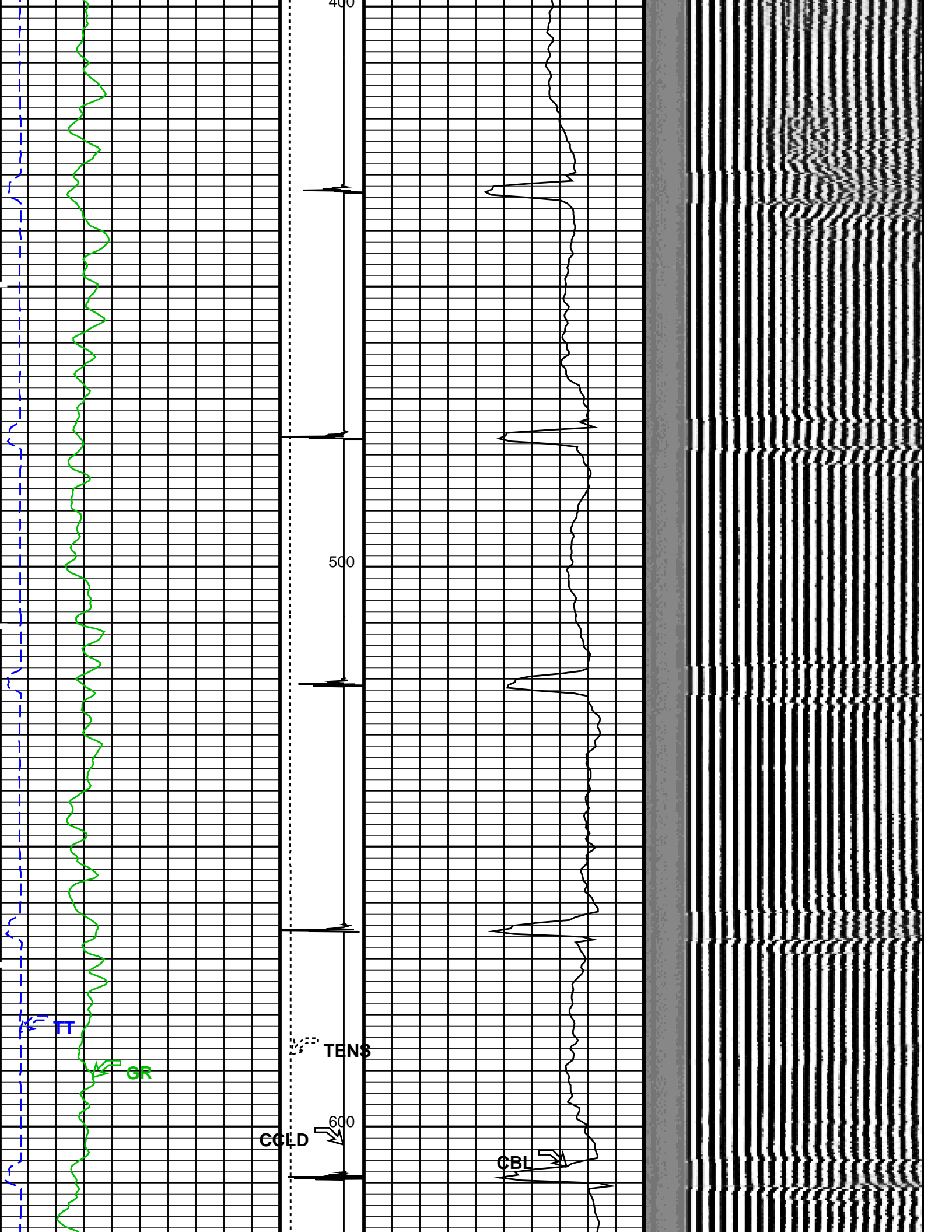


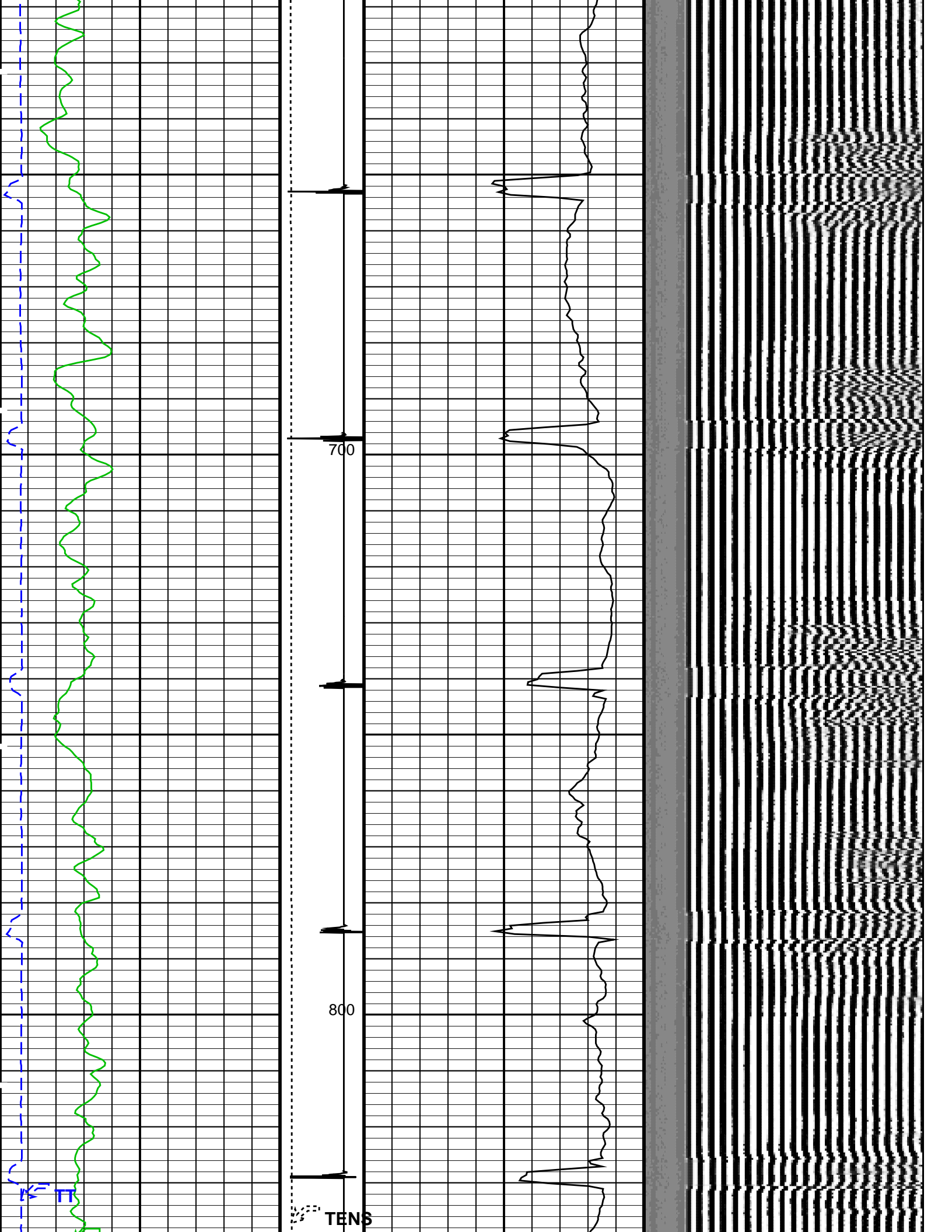


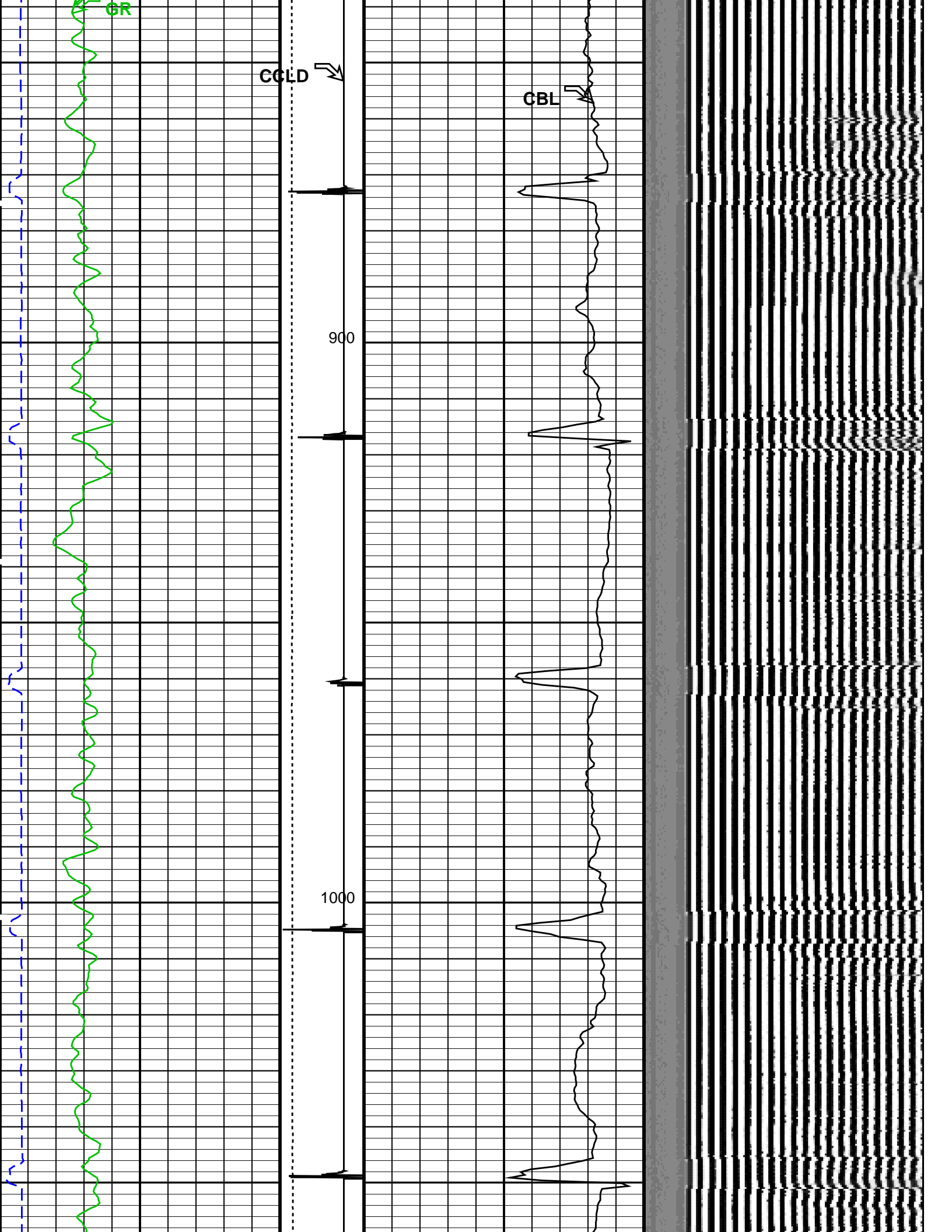
Last Reading CBL





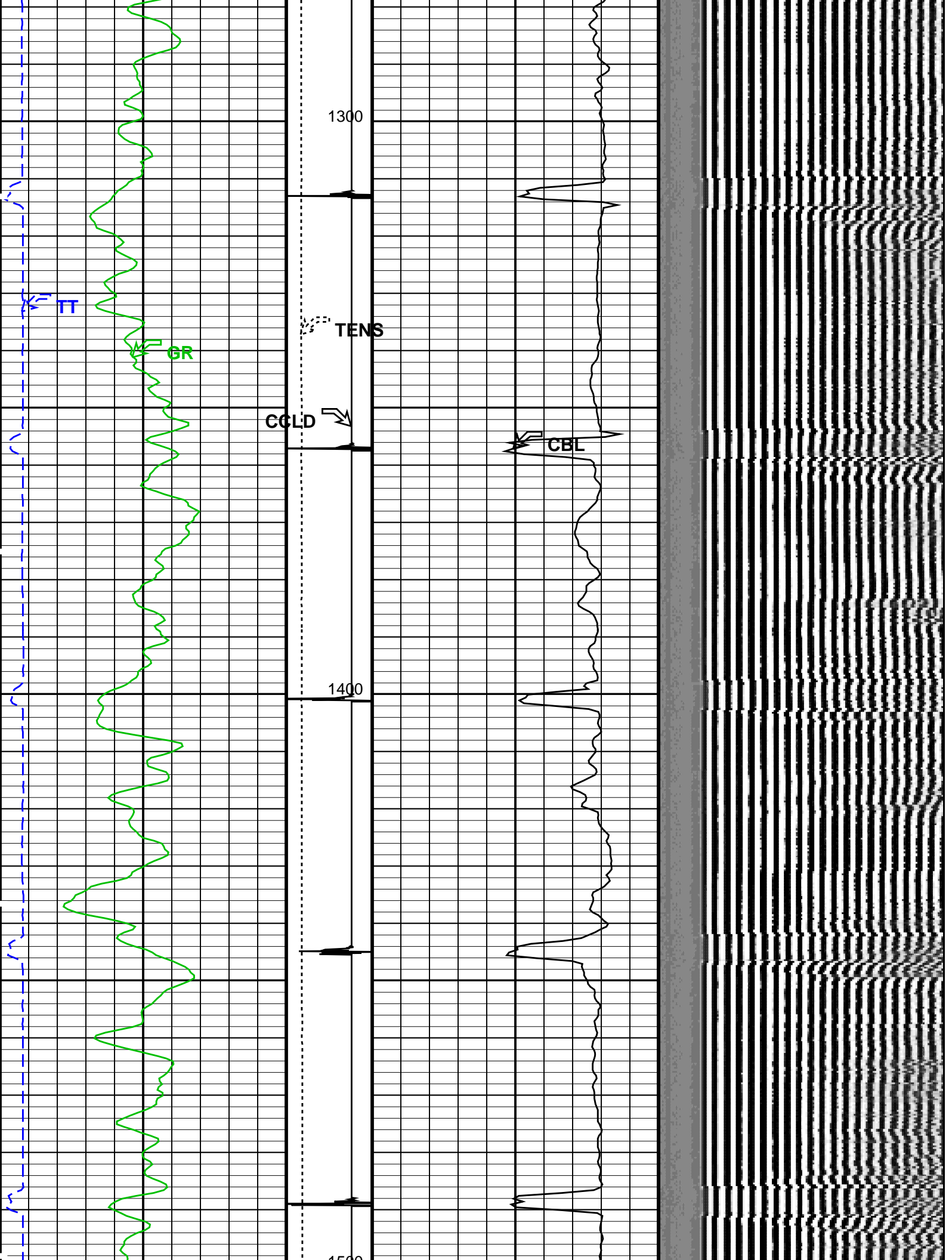


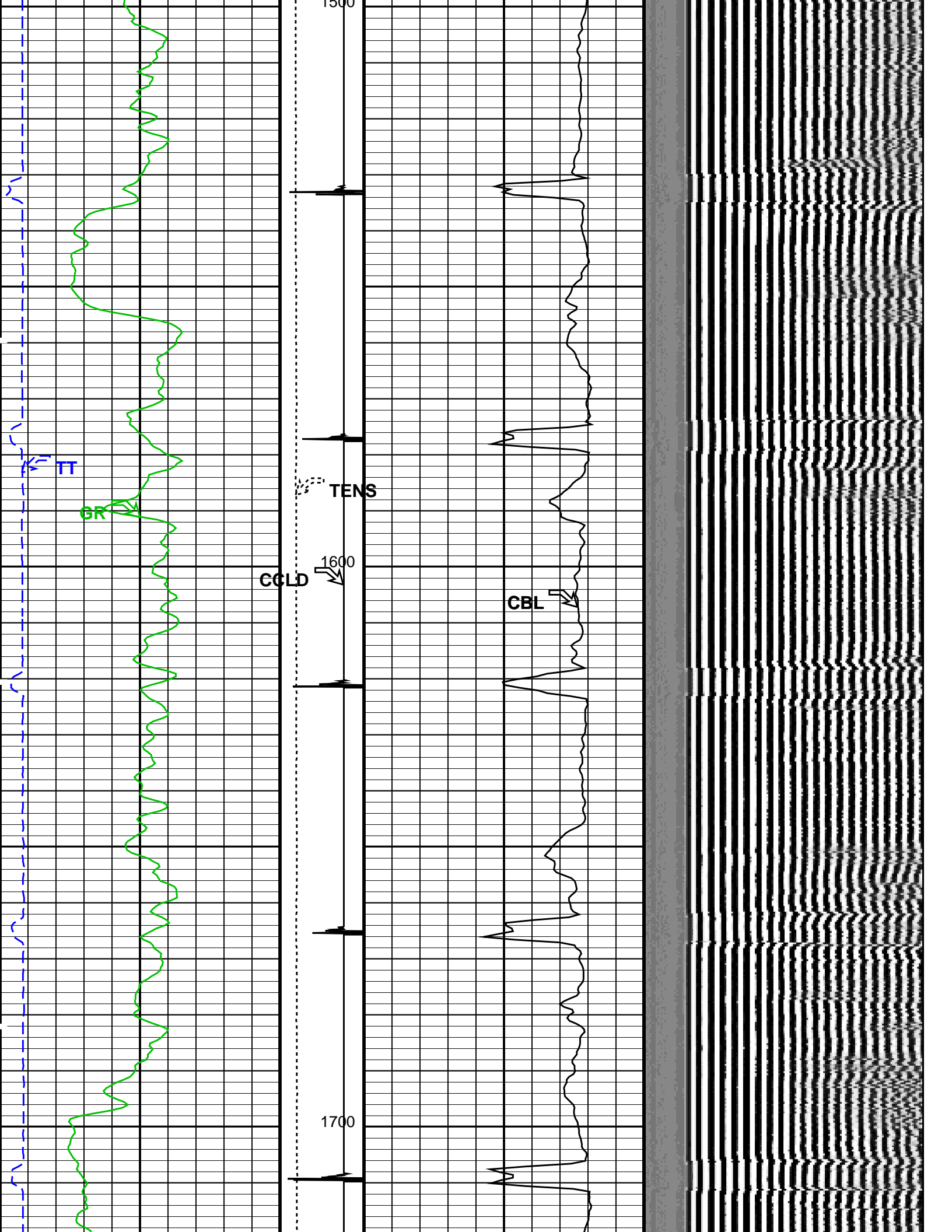




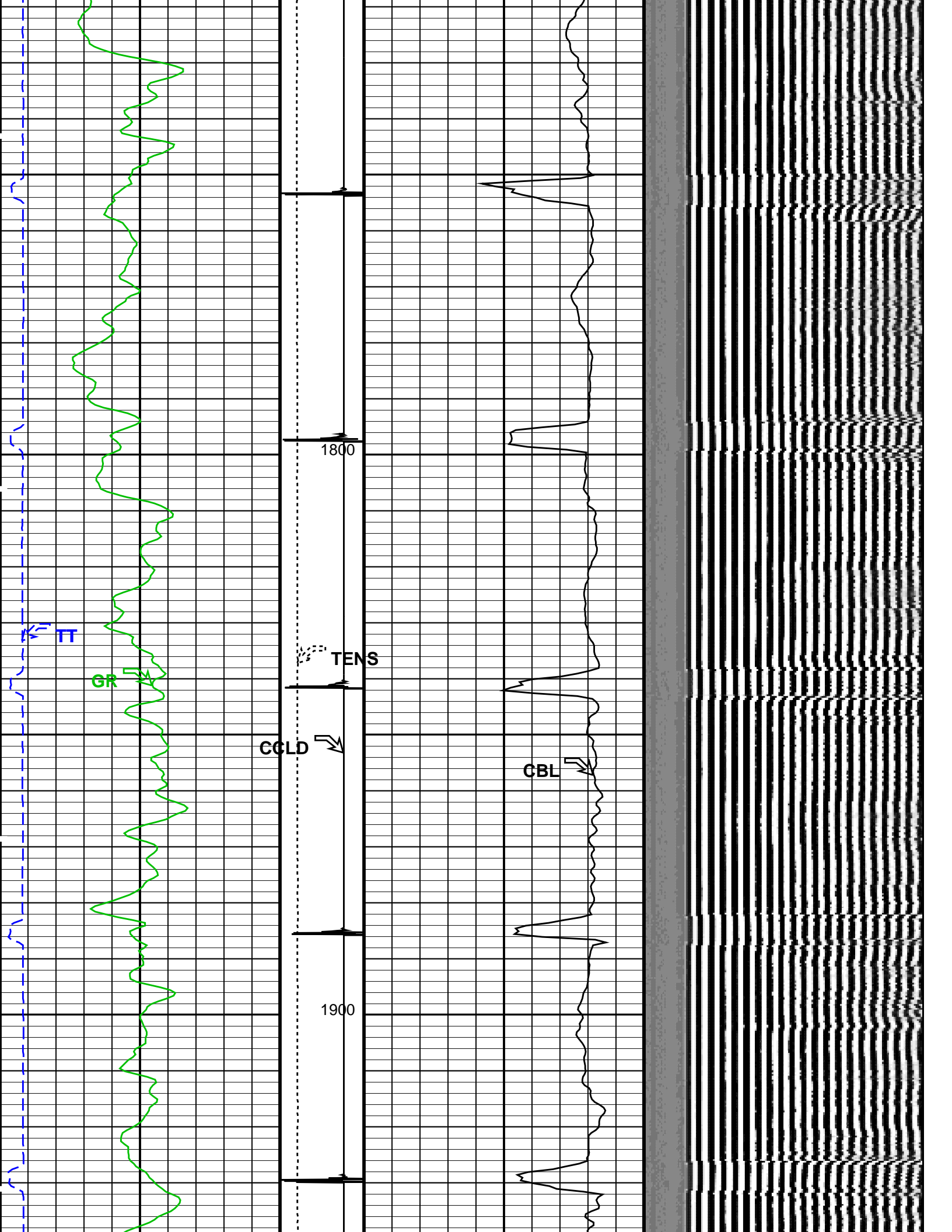


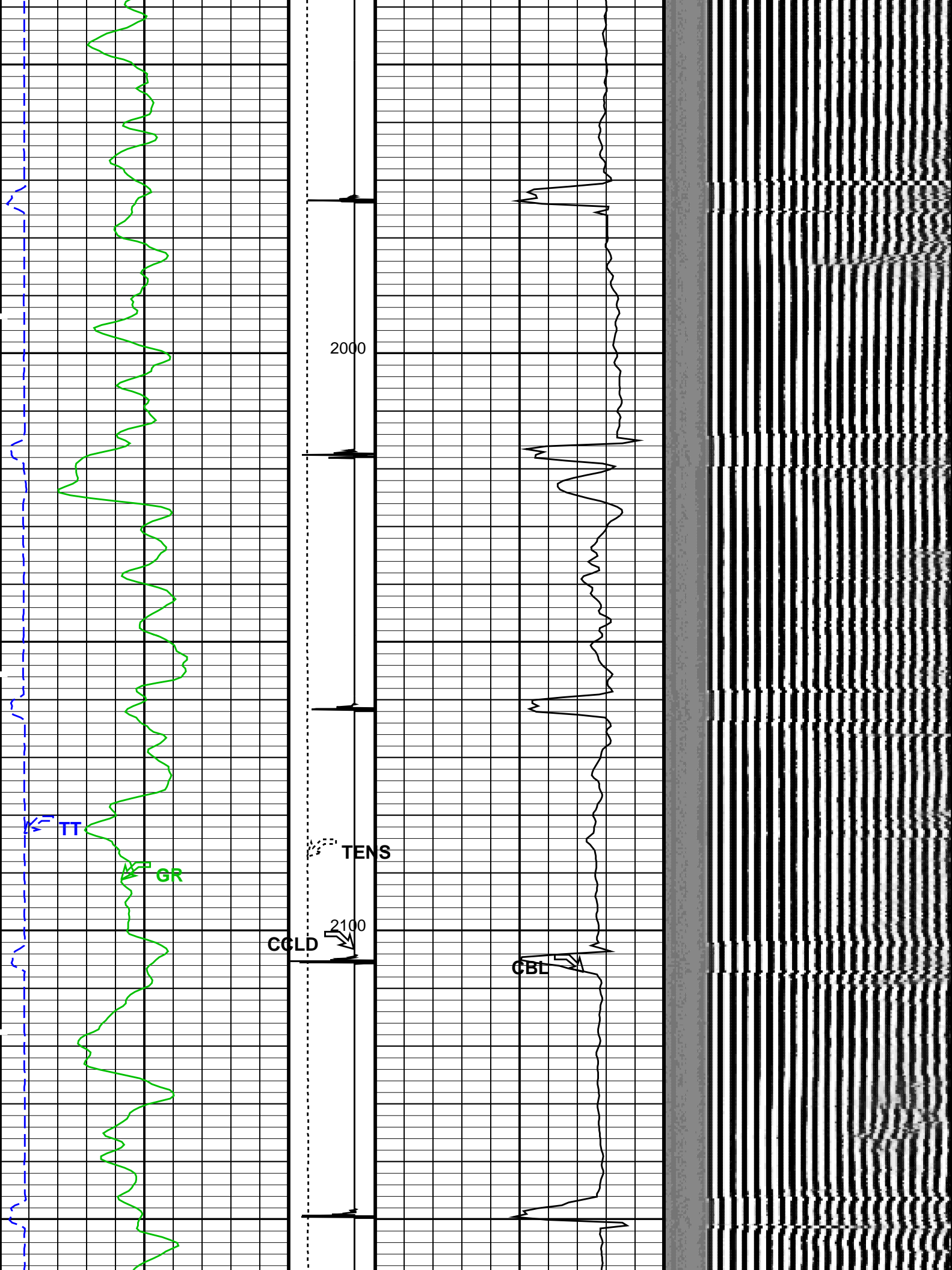


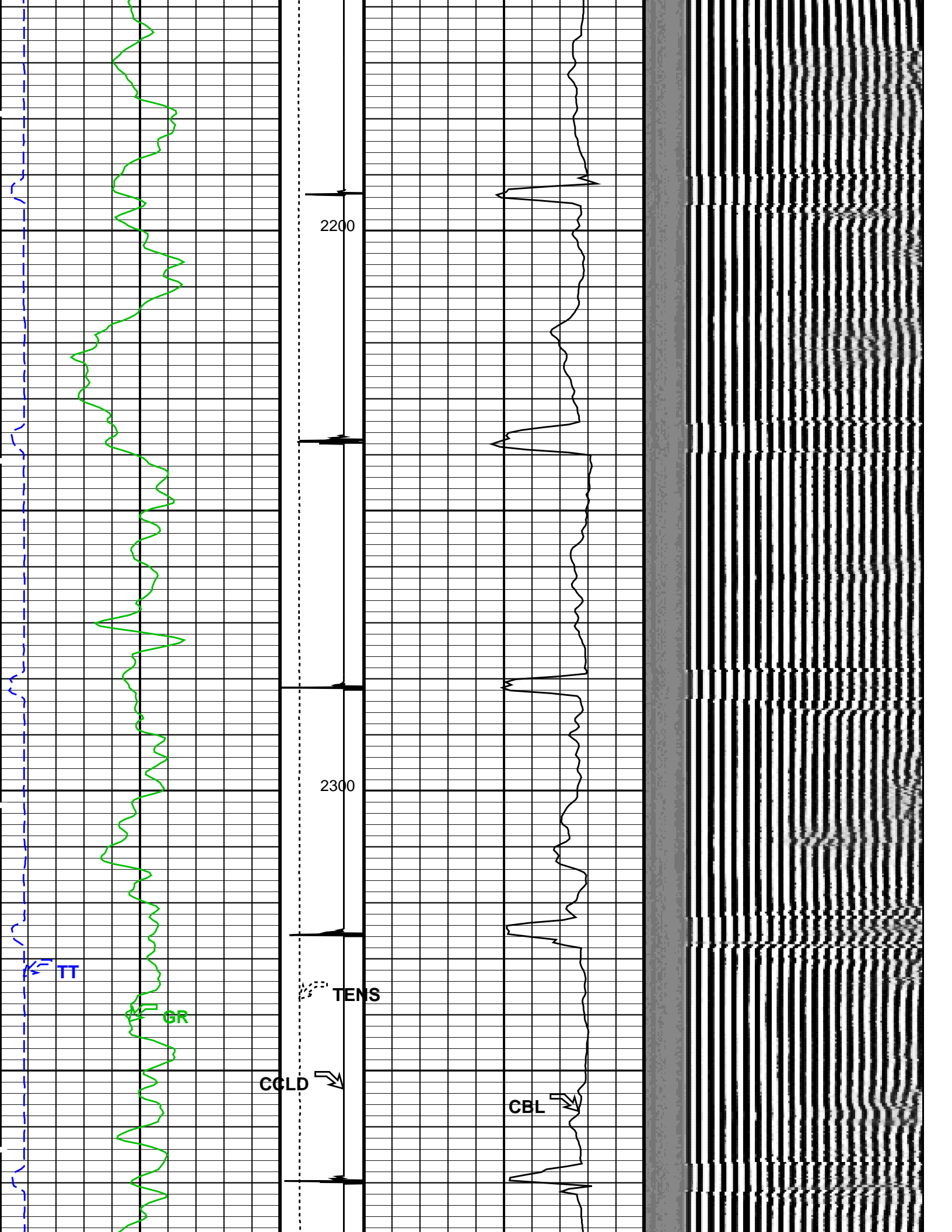


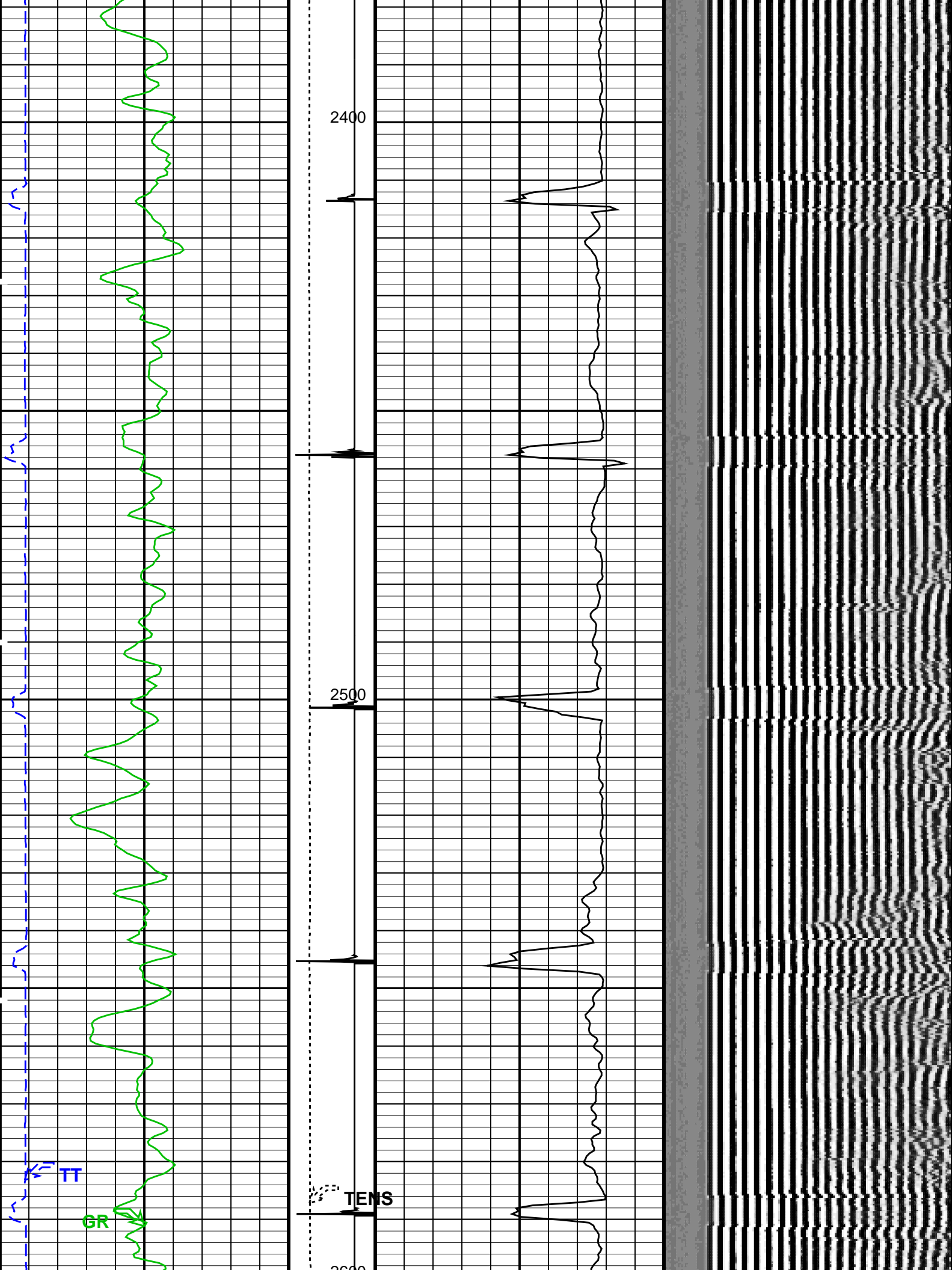


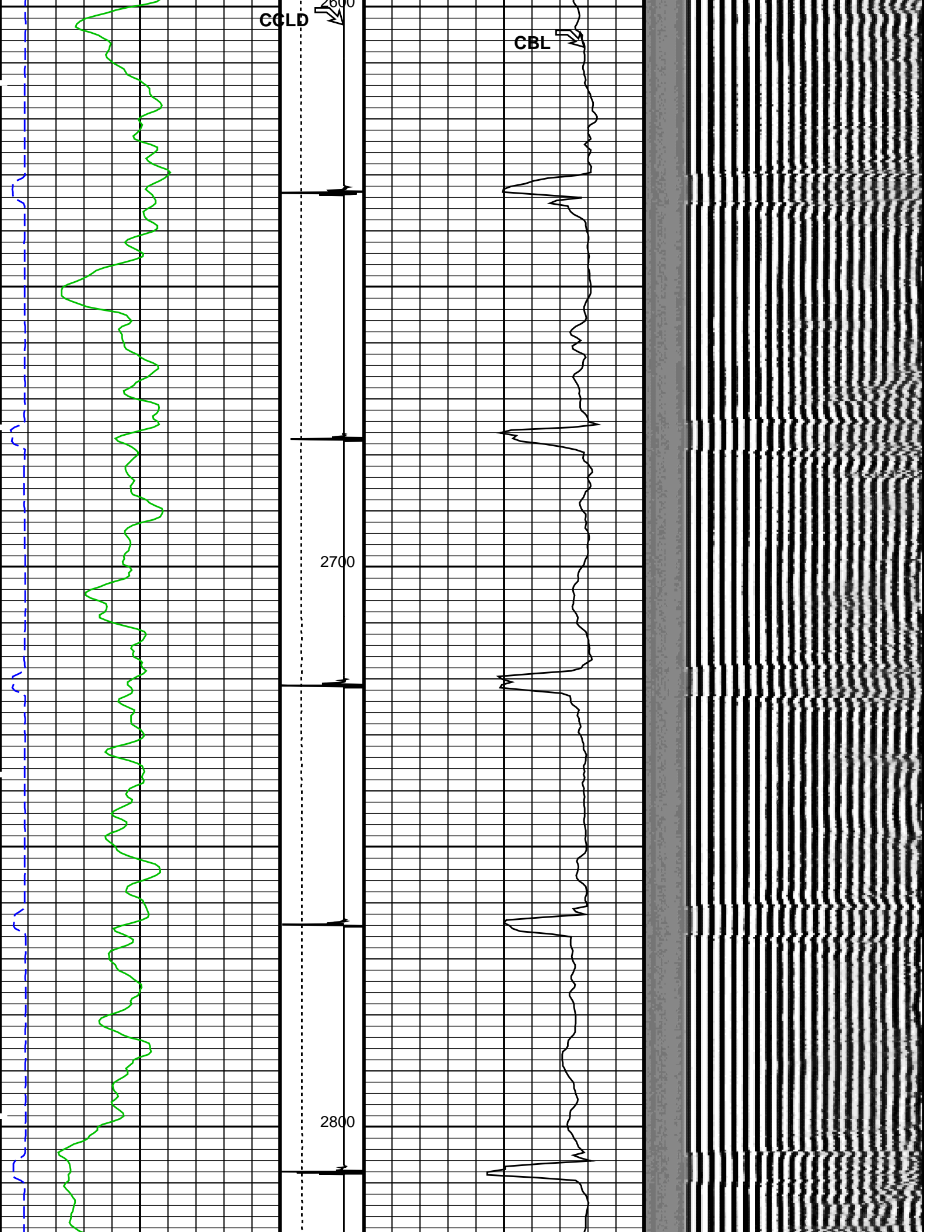




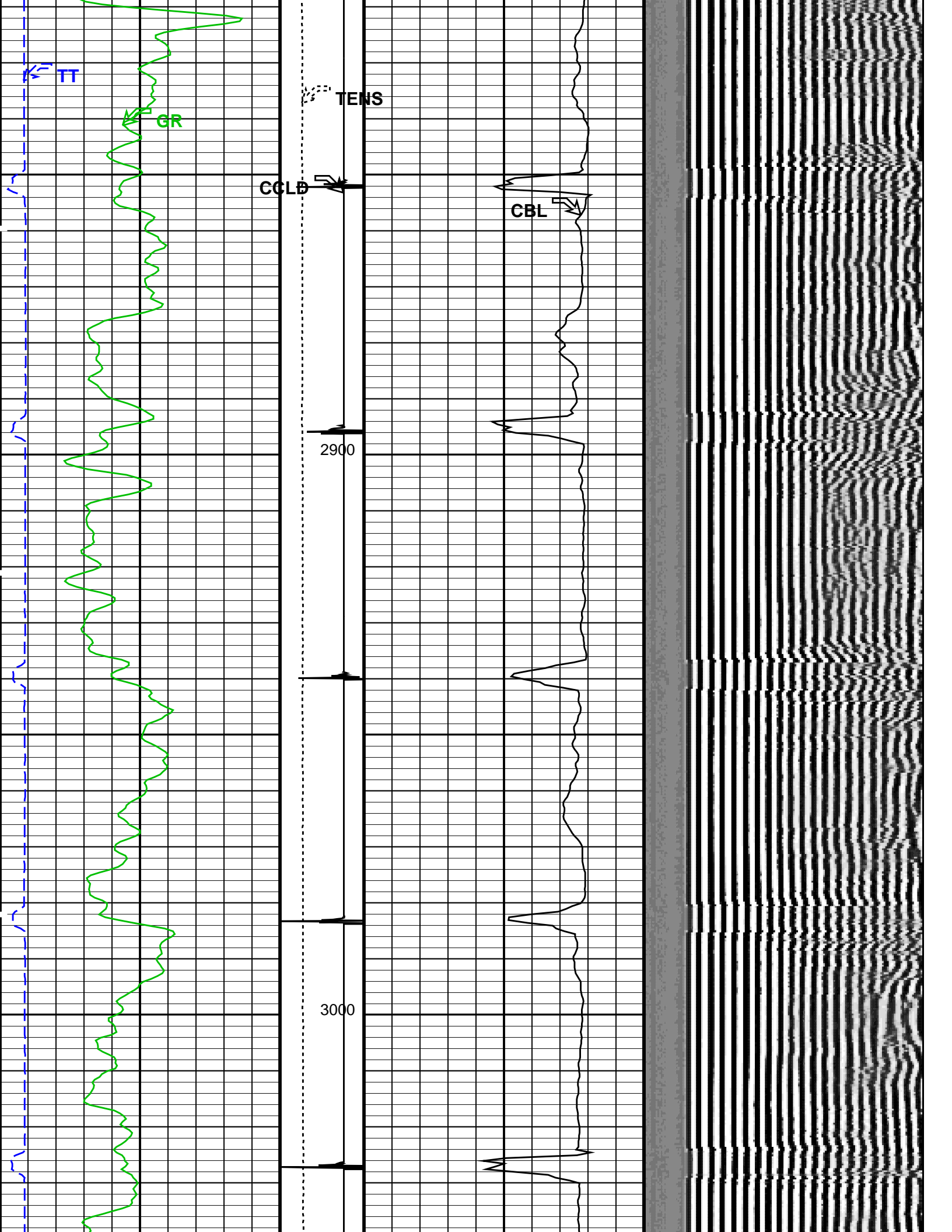


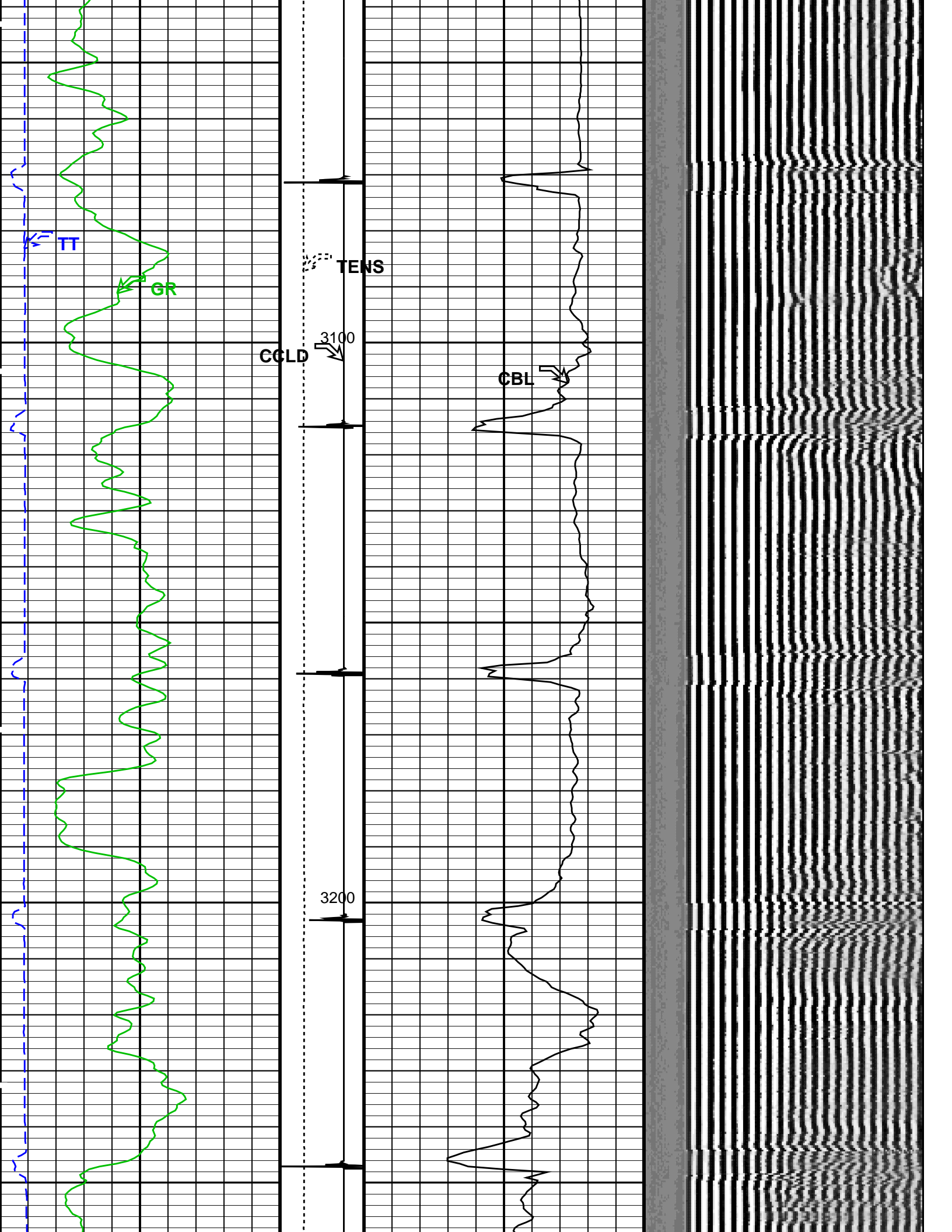


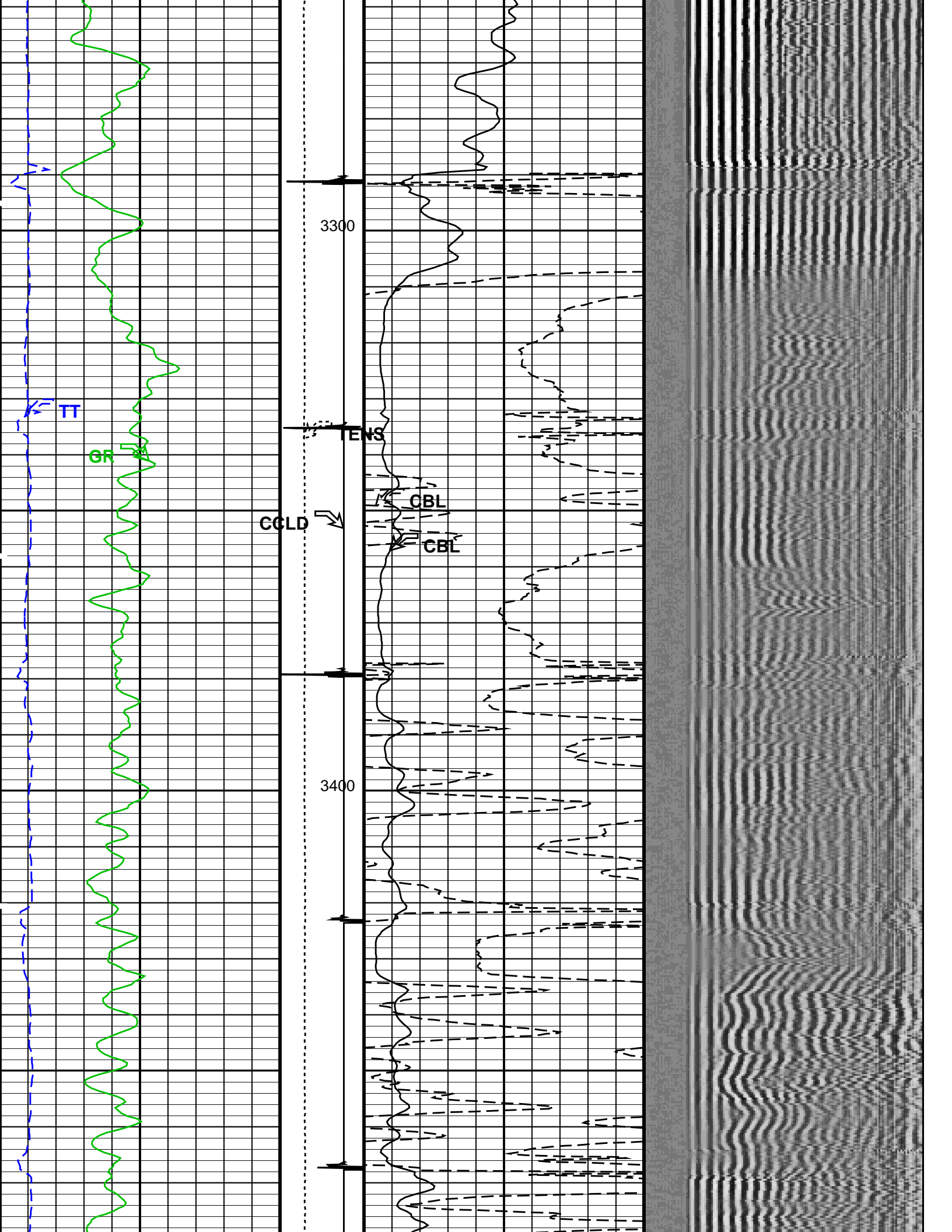




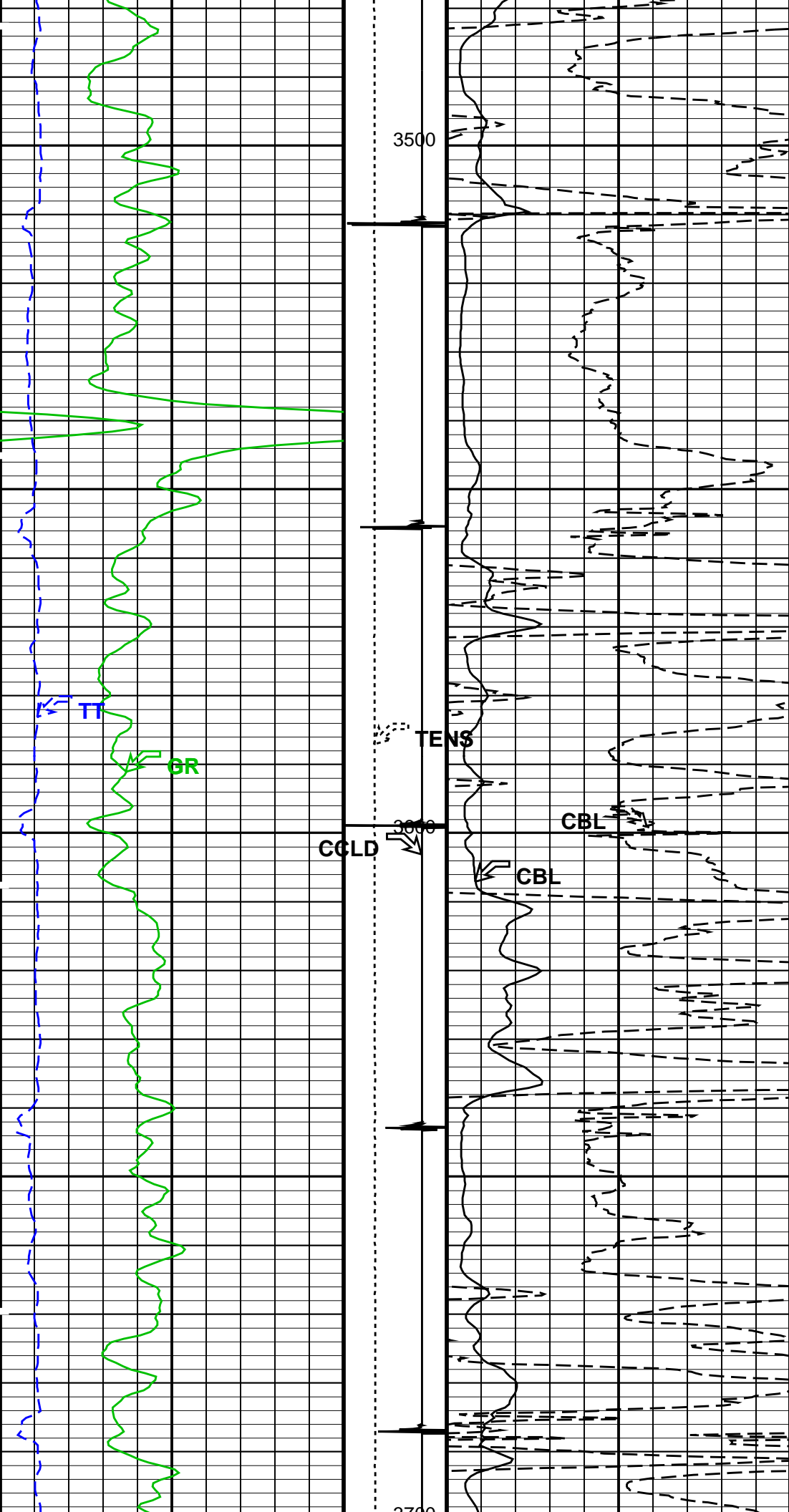


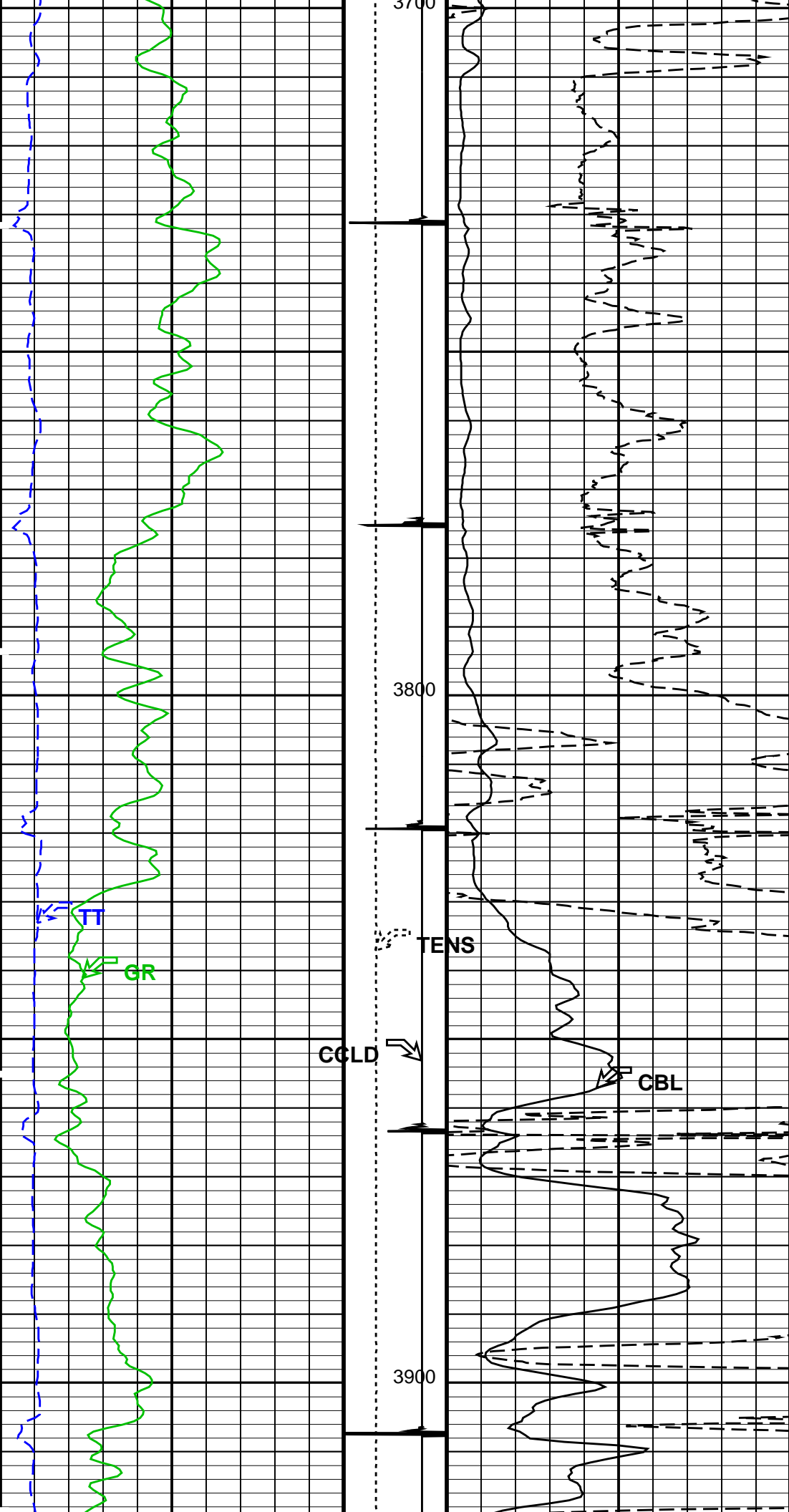


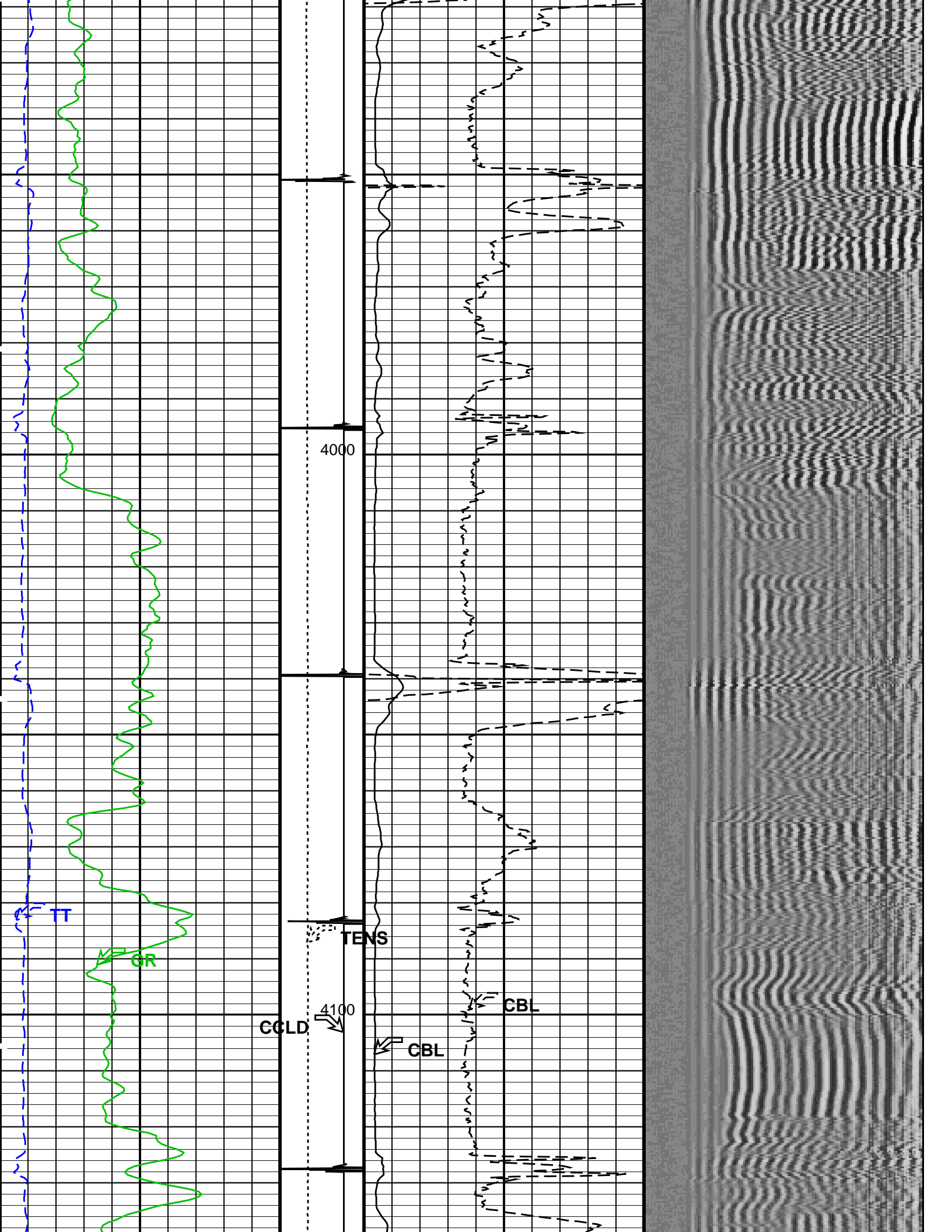


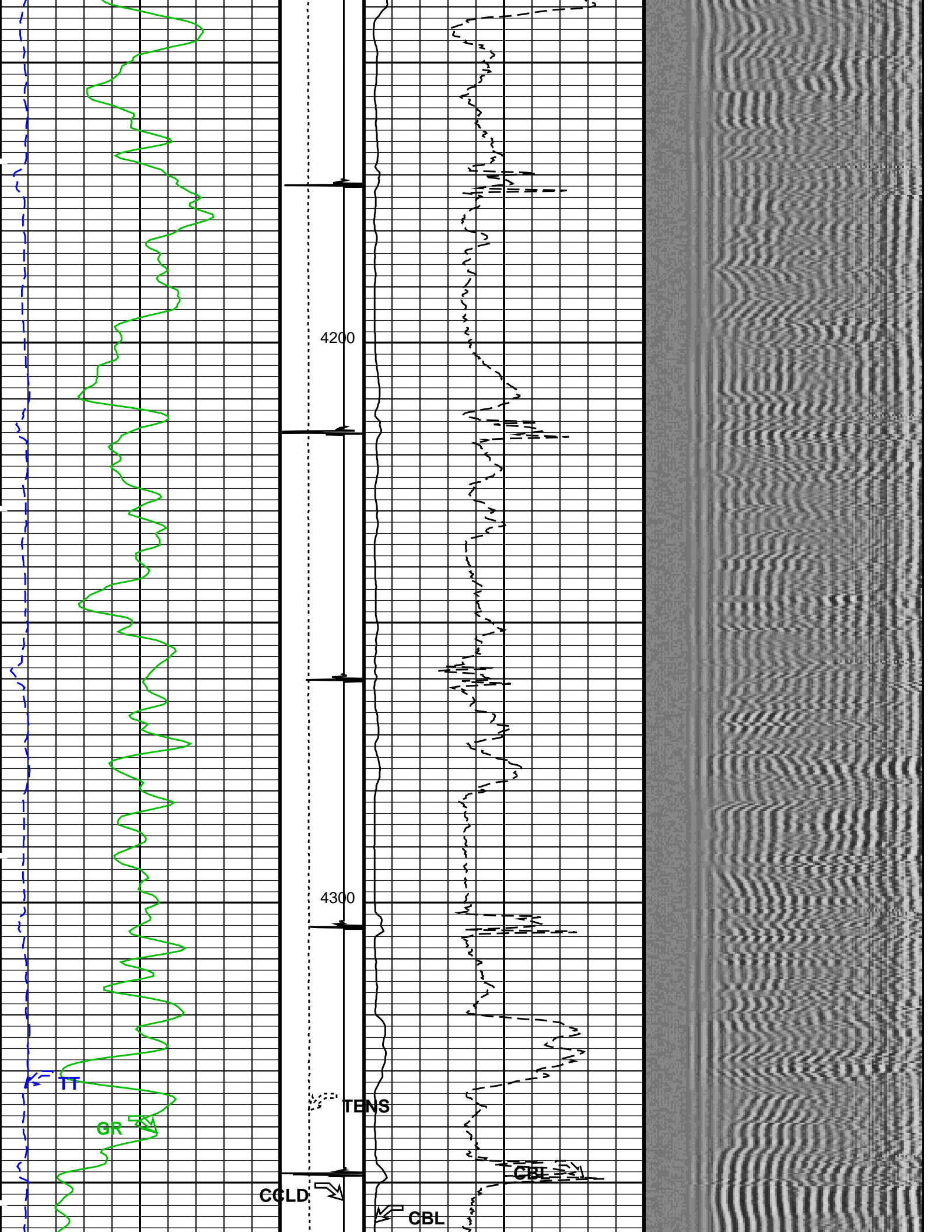




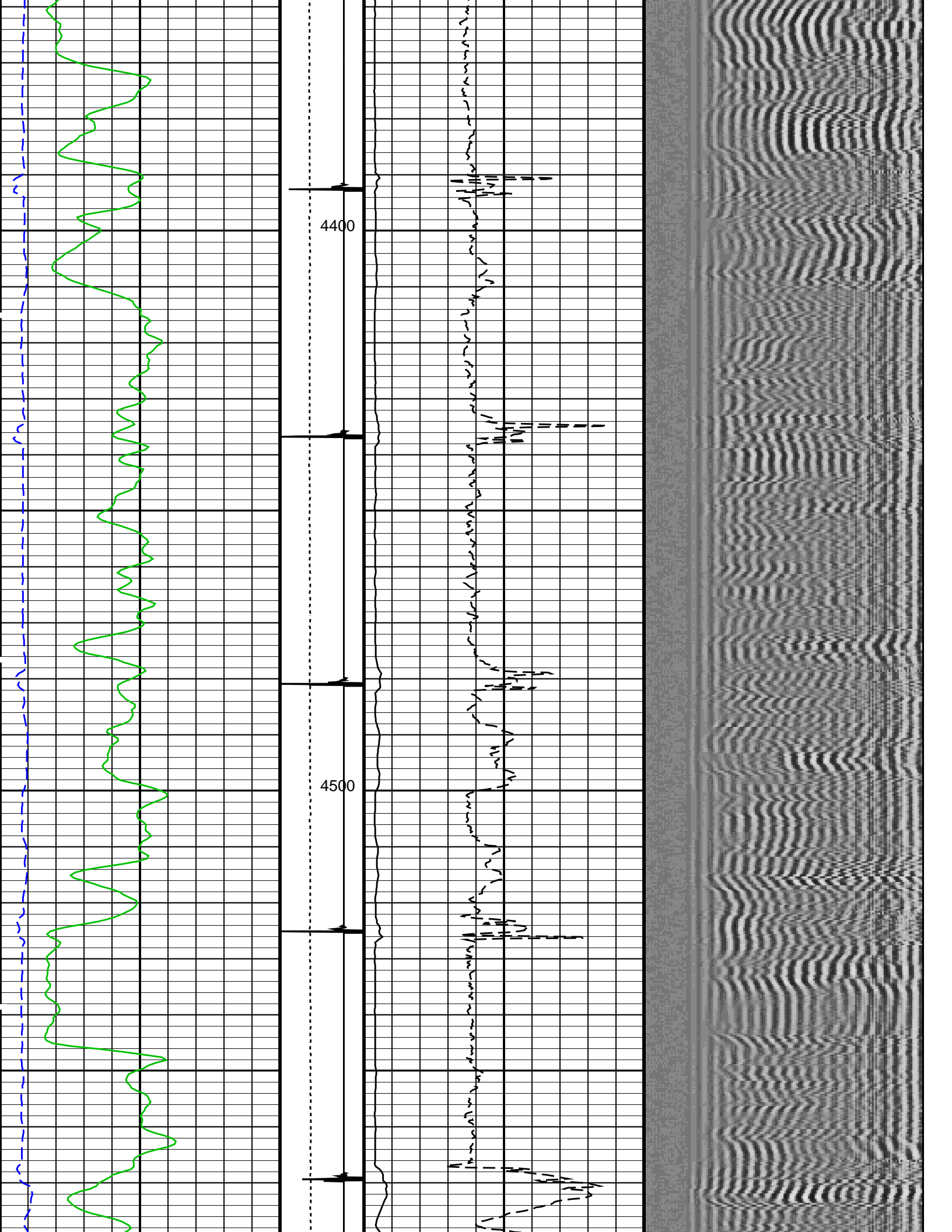


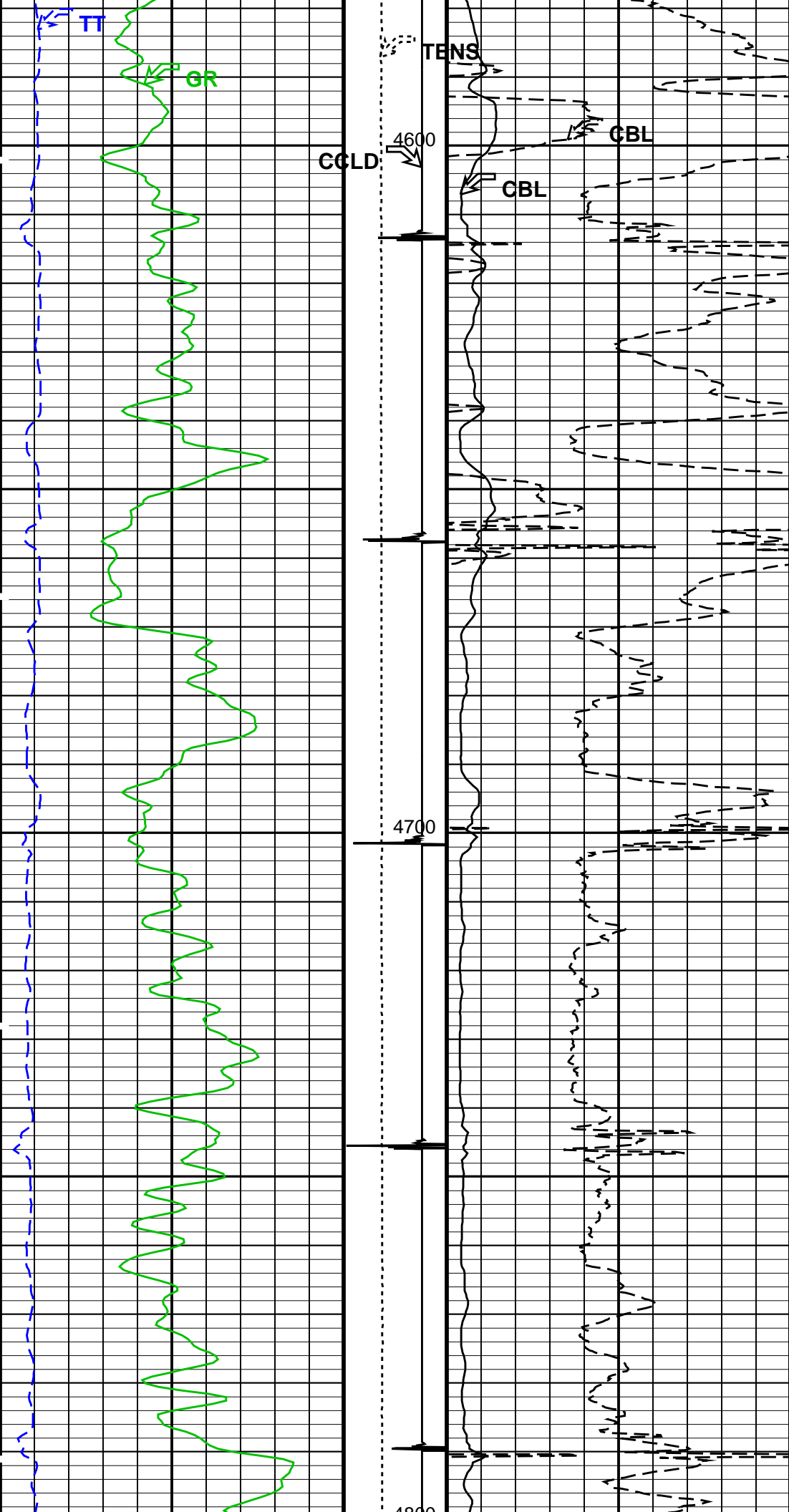


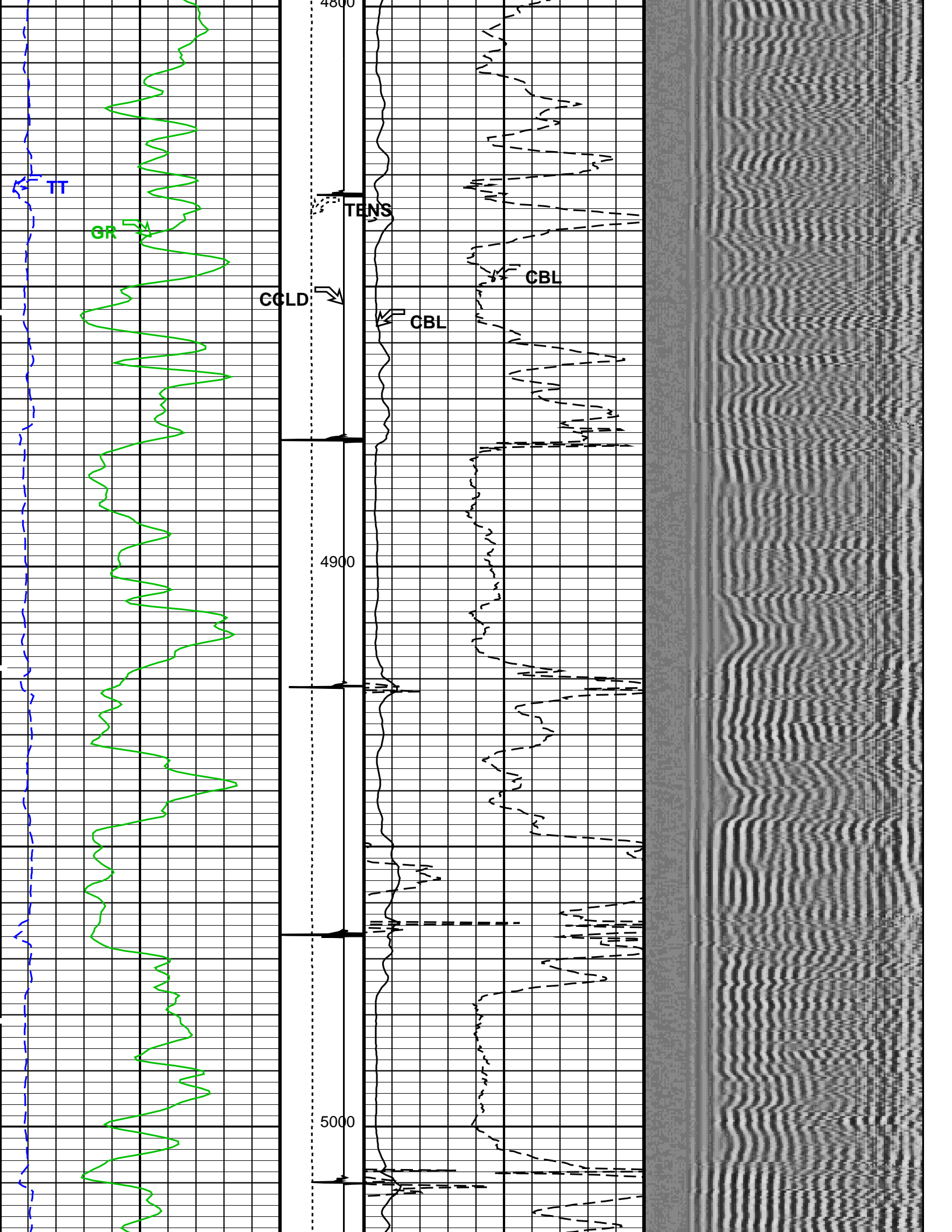




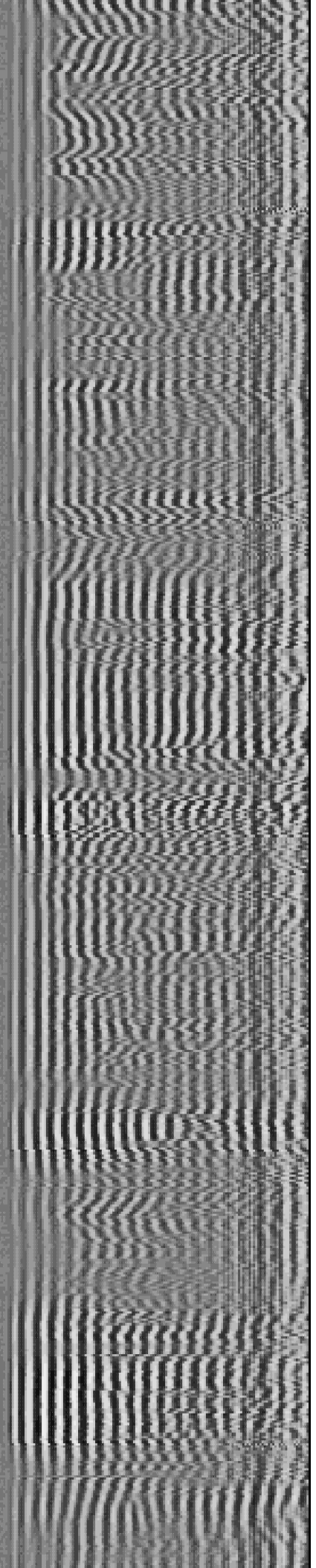
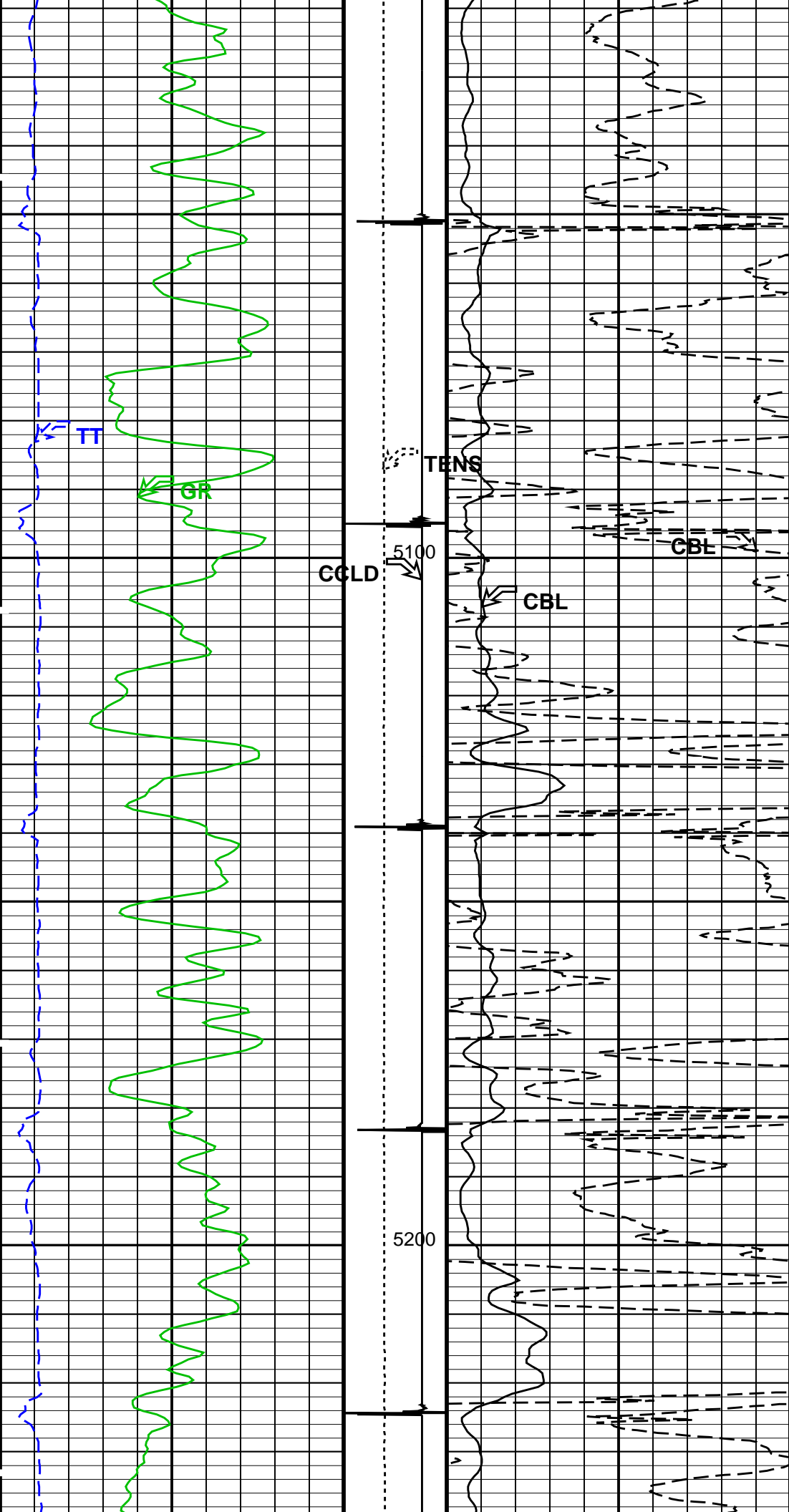




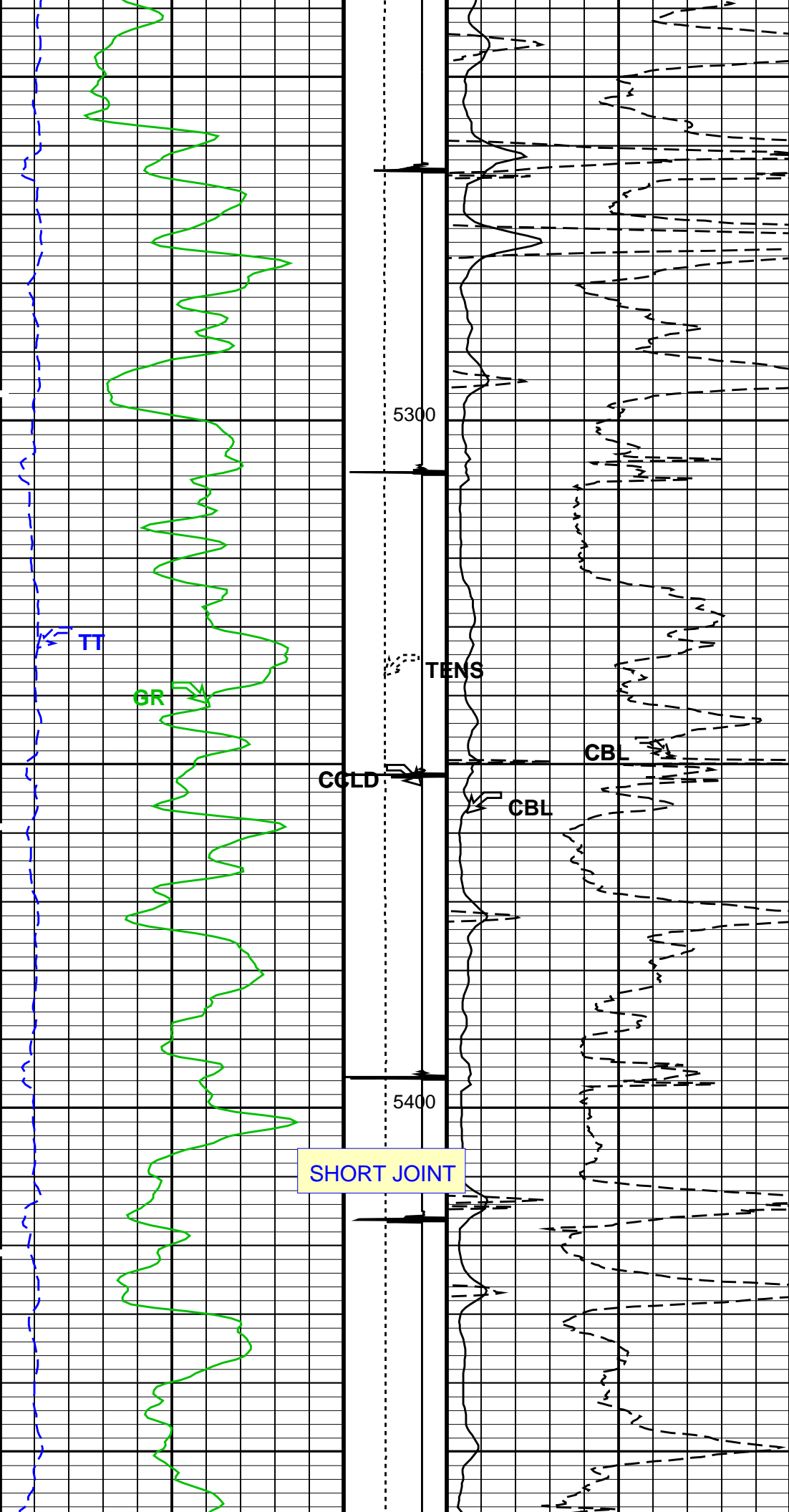


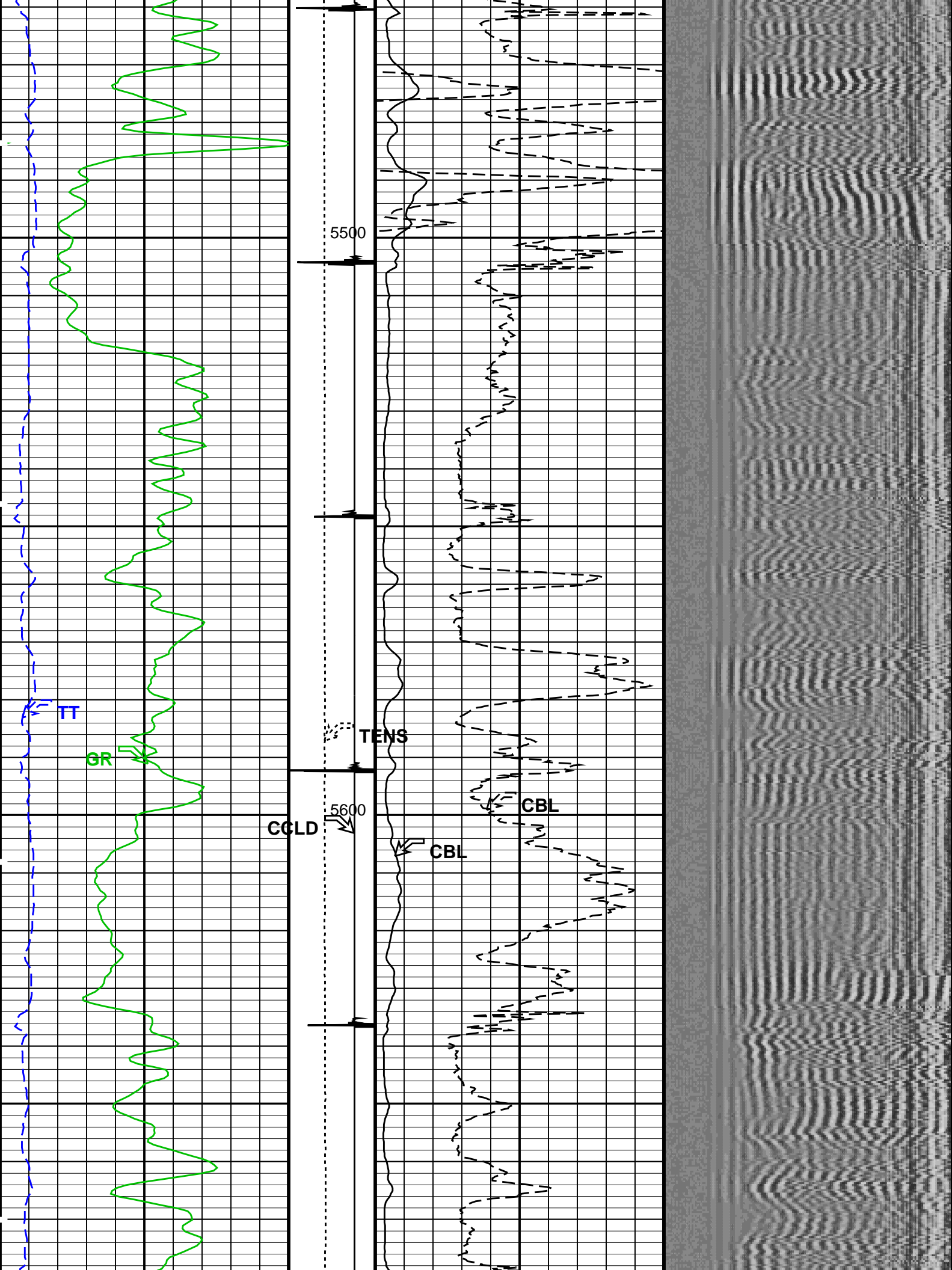


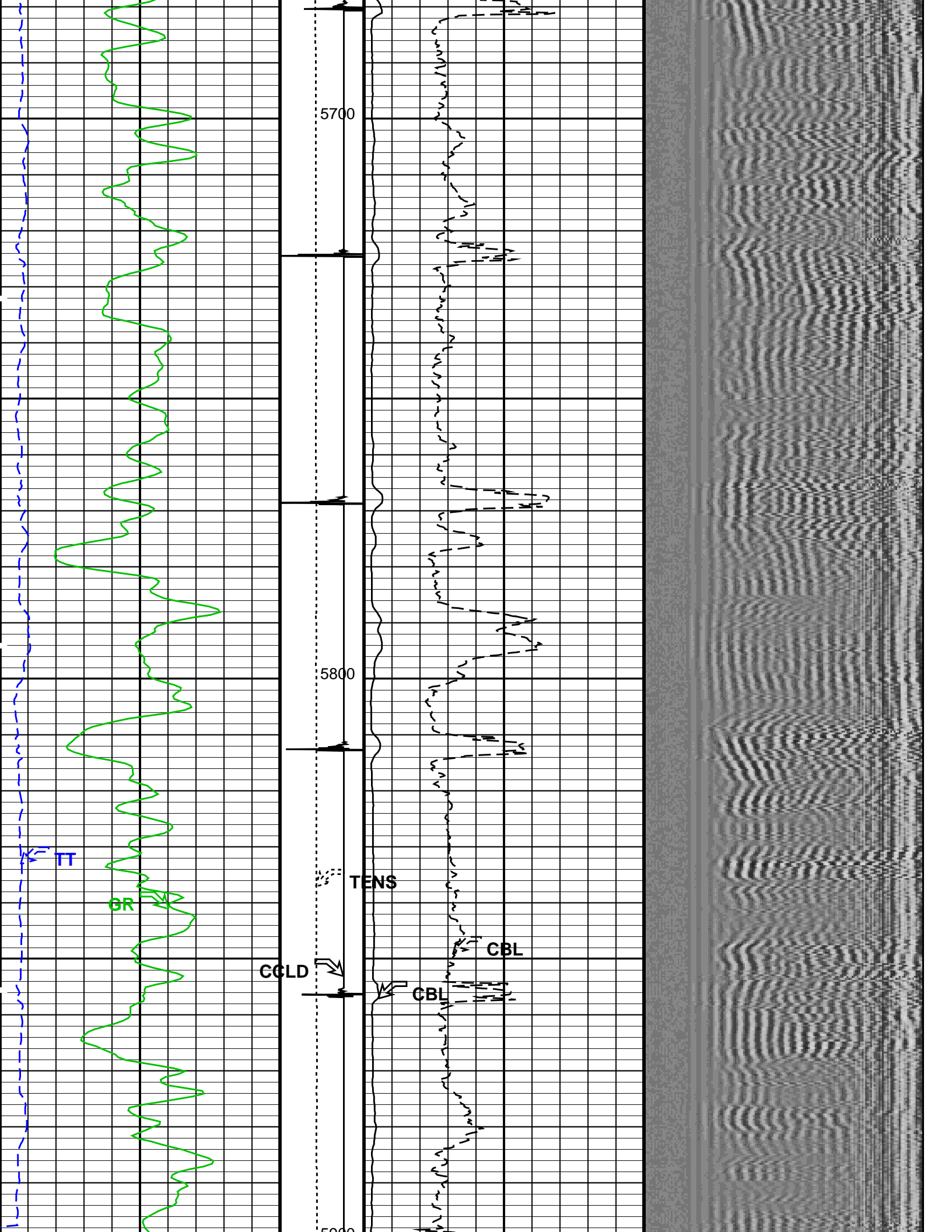


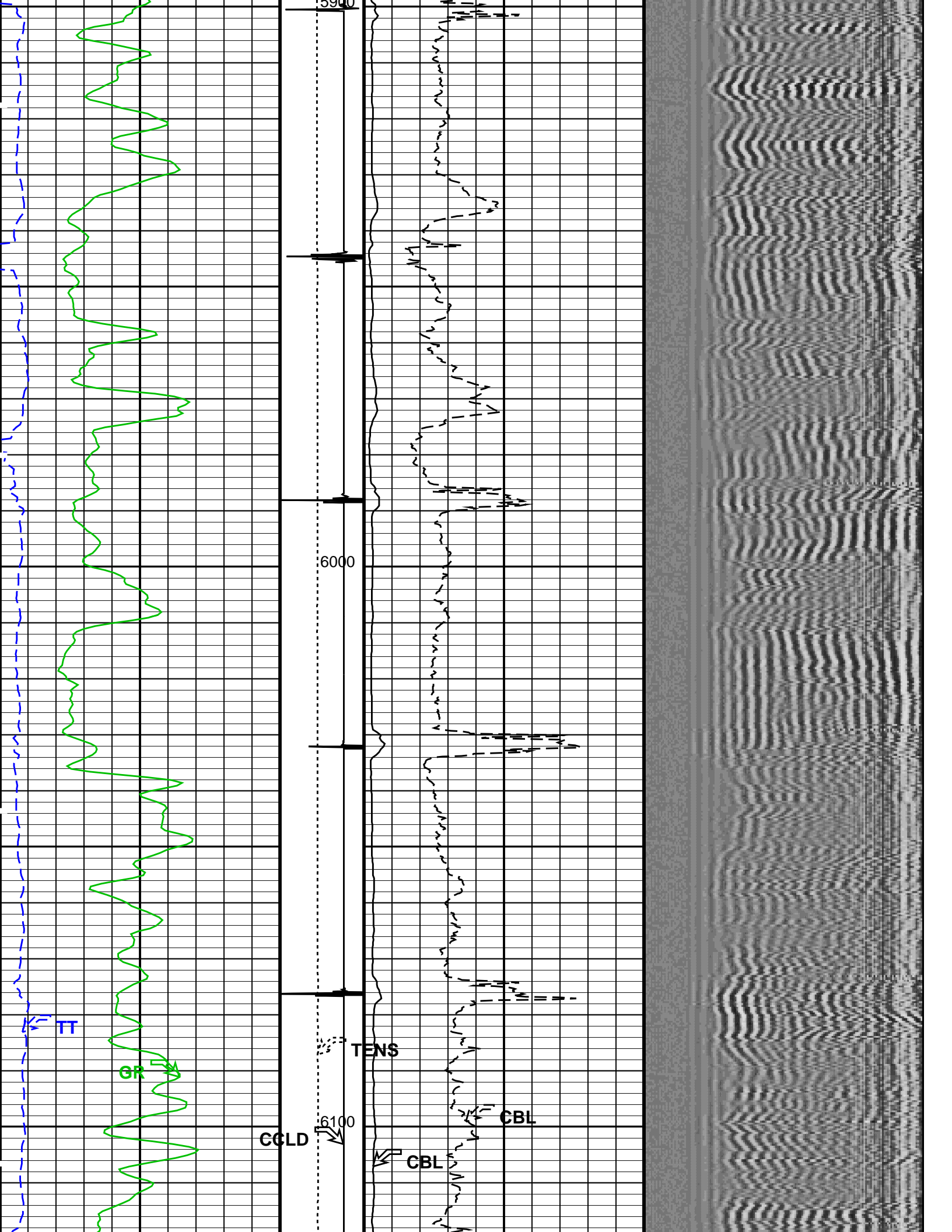




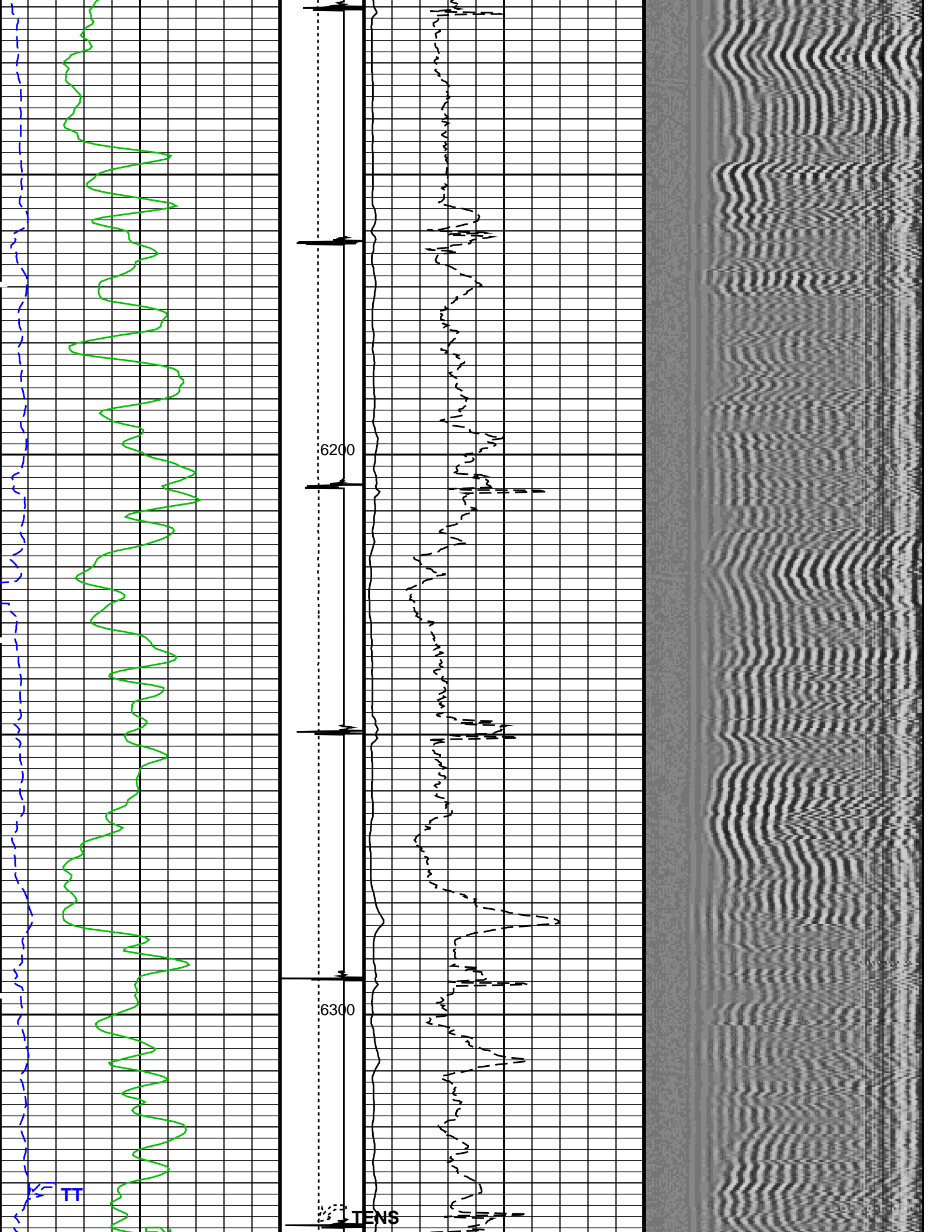


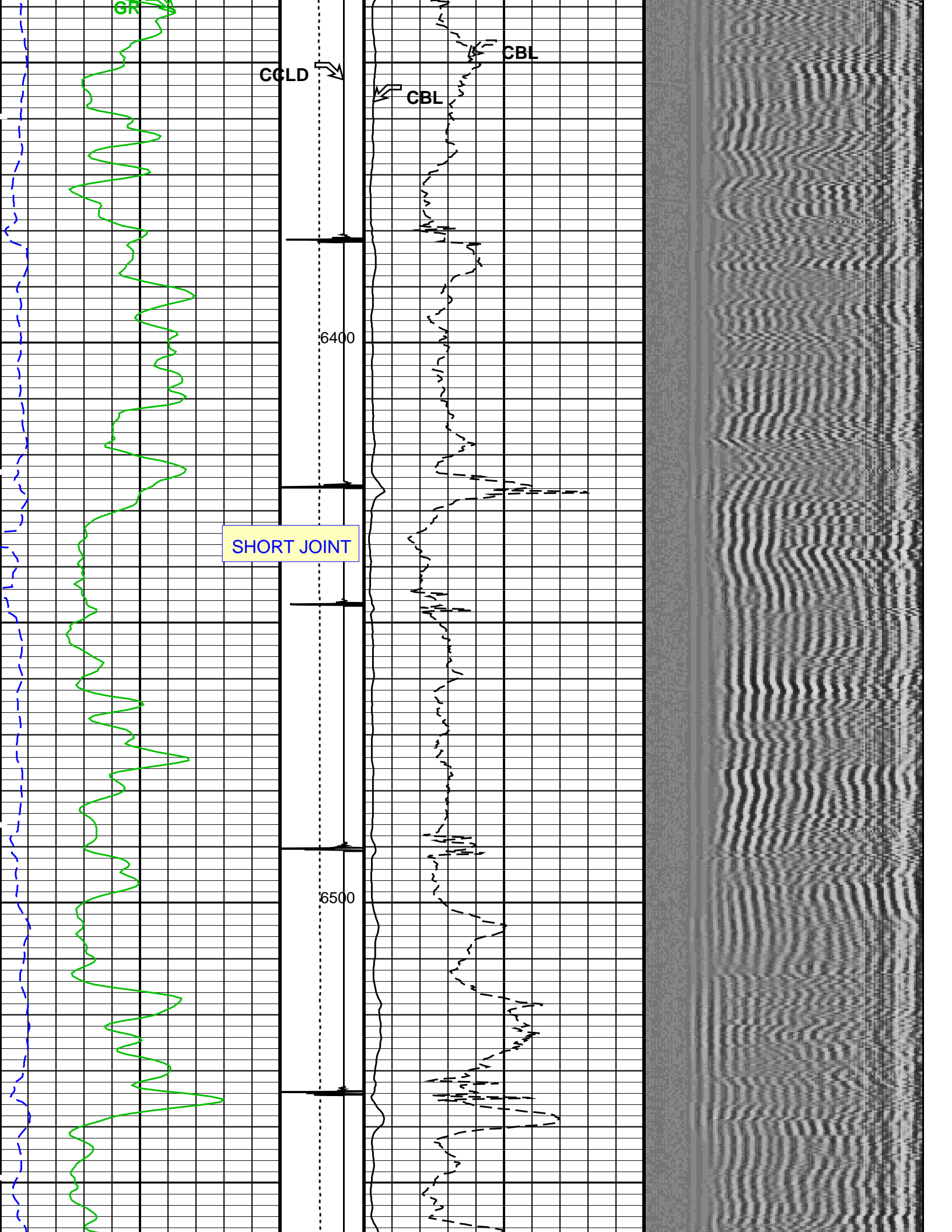


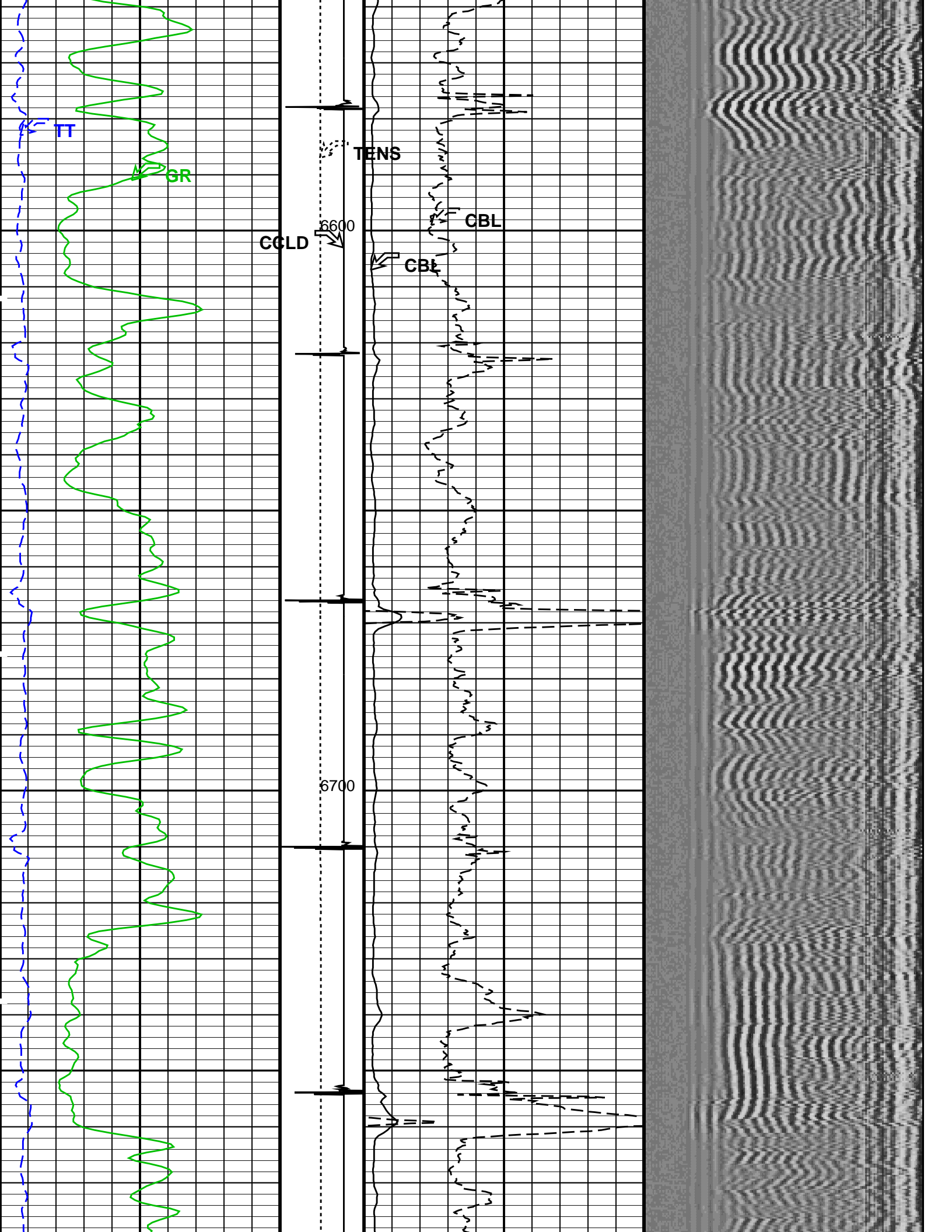


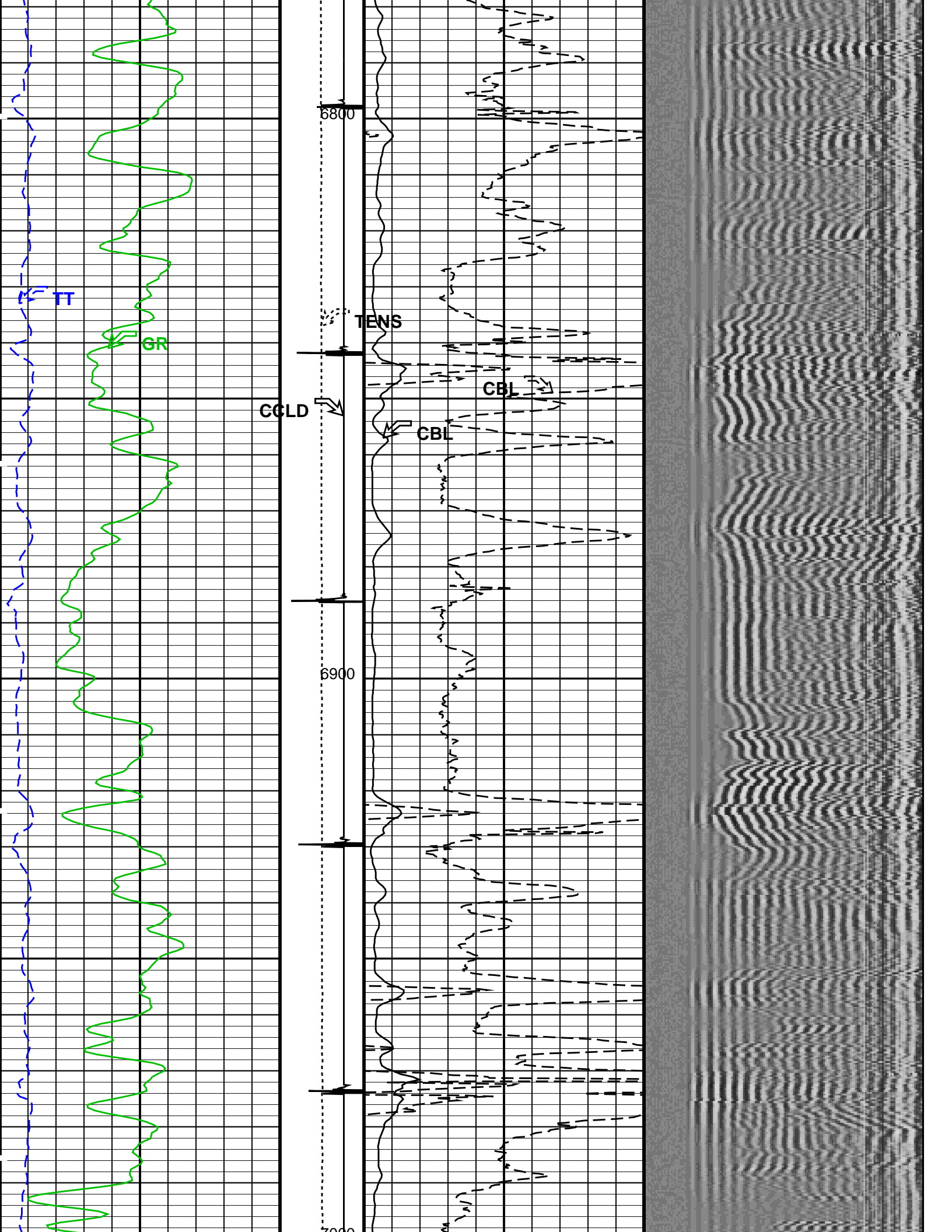




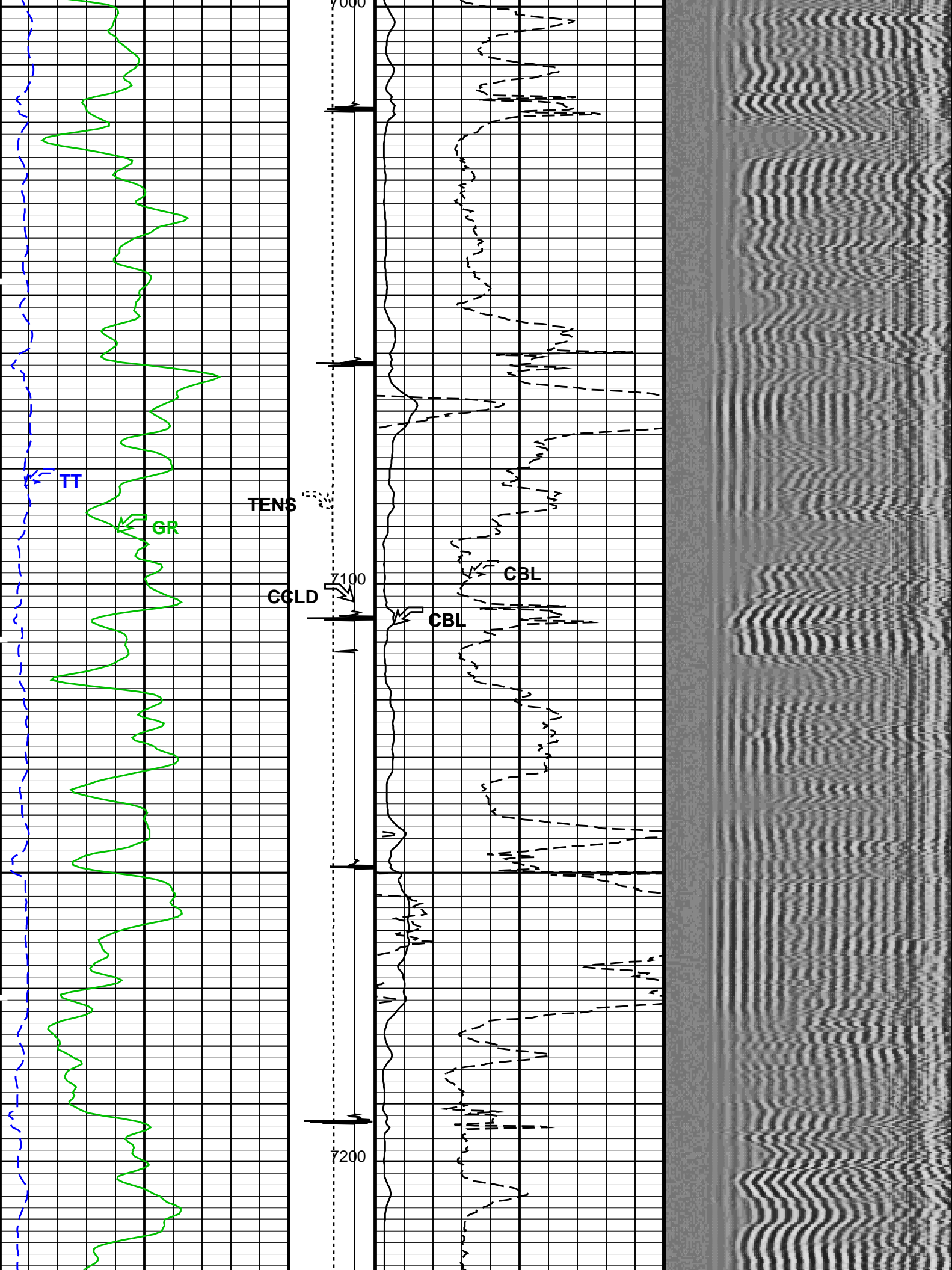


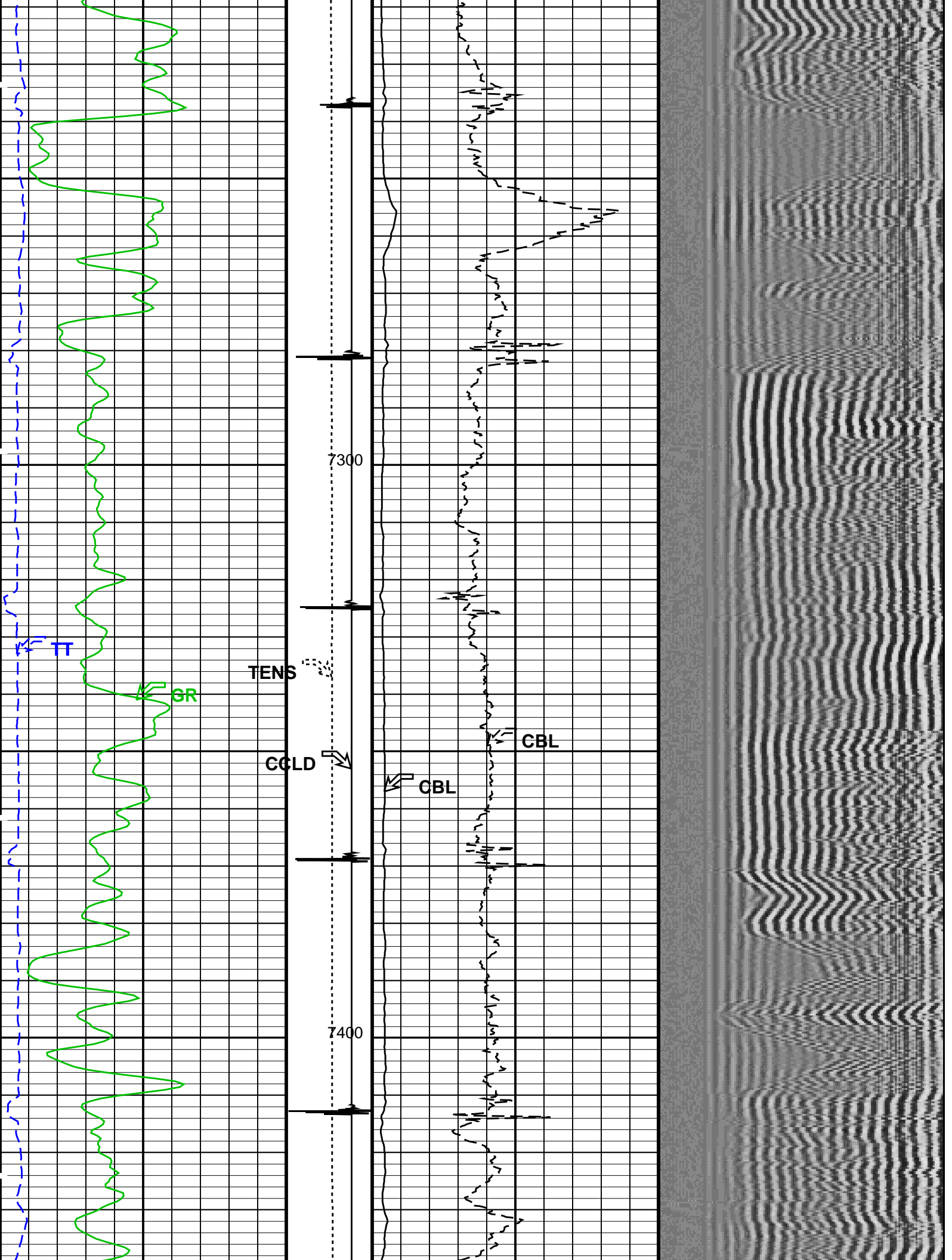


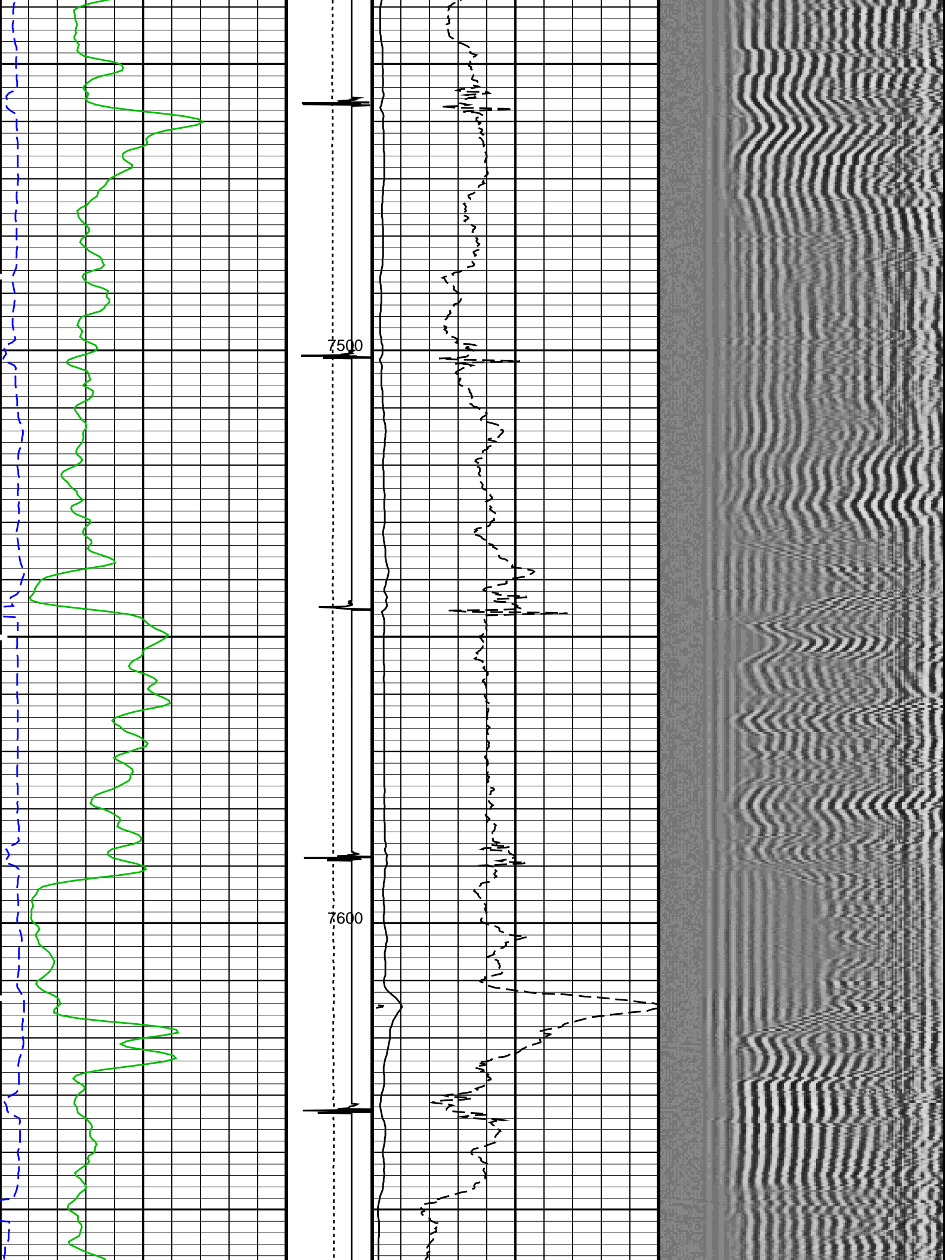


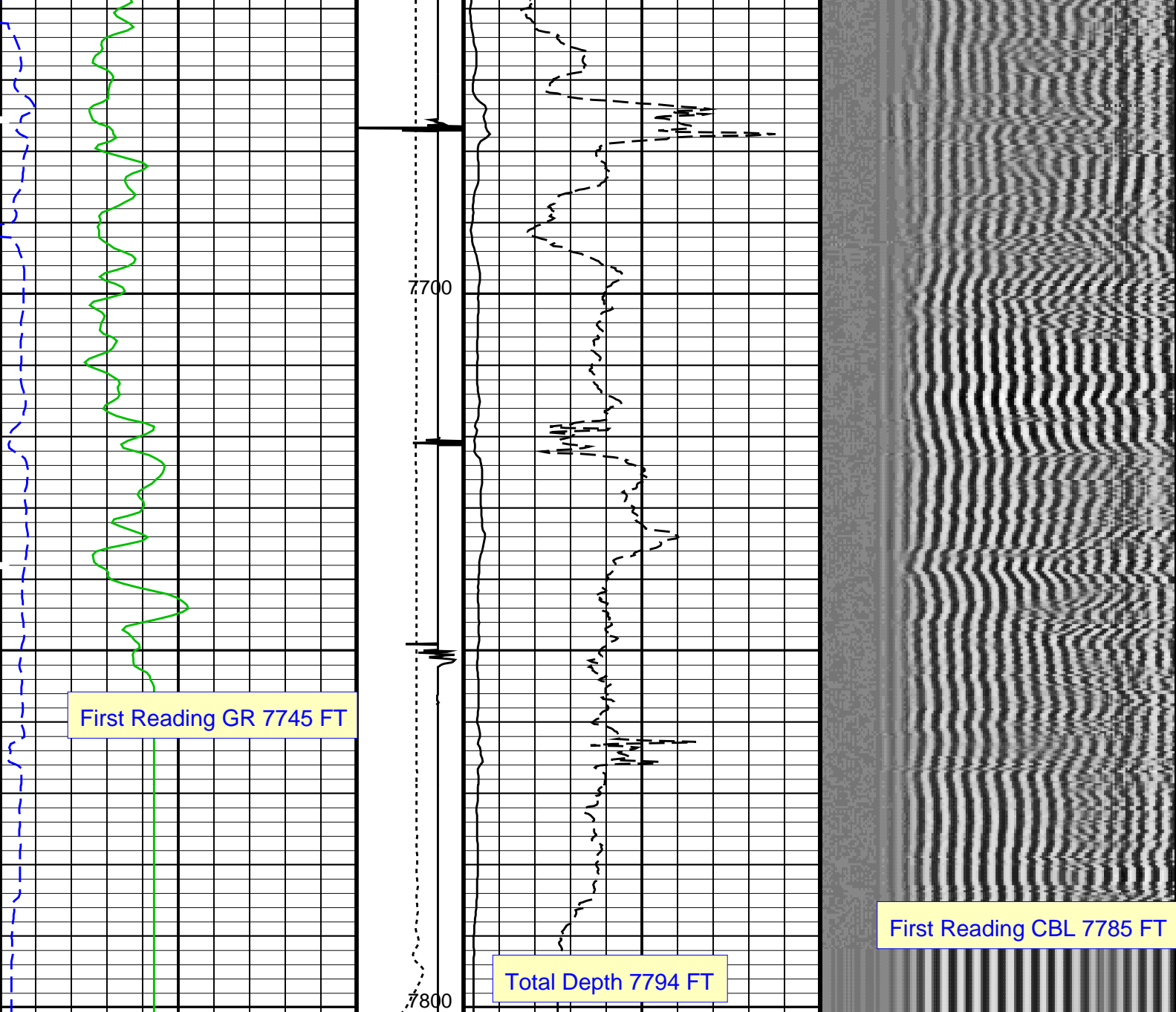












Gamma Ray (GR) (GAPI)		Tension (TENS) (LBF)		CBL Amplitude (CBL) (MV)		Min 200 VDL Variable Density (VDL) (US) Max 1200
0	150	0	2000	0	100	
Transit Time (TT) (US)		Discriminat ed CCL (CCLD) (V)		CBL Amplitude (CBL) (MV)		
260	160	3	-1	0	10	

PIP SUMMARY

Time Mark Every 60 S  
Format: CBL\_VDL    Vertical Scale: 5" per 100'    Graphics File Created: 28-Apr-2013 06:16

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) 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	
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			
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	4.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	7794	FT

## Input DLIS Files

DEFAULT	SCMT_RST_PSP_053LUP	FN:51	PRODUCER	28-Apr-2013 04:03	7797.0 FT	-1.8 FT
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## Output DLIS Files

DEFAULT	SCMT_RST_PSP_056PUP	FN:54	PRODUCER	28-Apr-2013 06:16
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## MAXIS Field Log

Company: ENCANA OIL &amp; GAS (USA) INC

Well: SHIDELER 30-1C (O19EB)

## Input DLIS Files

DEFAULT	SCMT_RST_PSP_051LUP	FN:49	PRODUCER	28-Apr-2013 03:41	5516.5 FT	5173.5 FT
DEFAULT	SCMT_RST_PSP_056PUP	FN:54	PRODUCER	28-Apr-2013 06:16	7801.0 FT	-42.0 FT

## Output DLIS Files

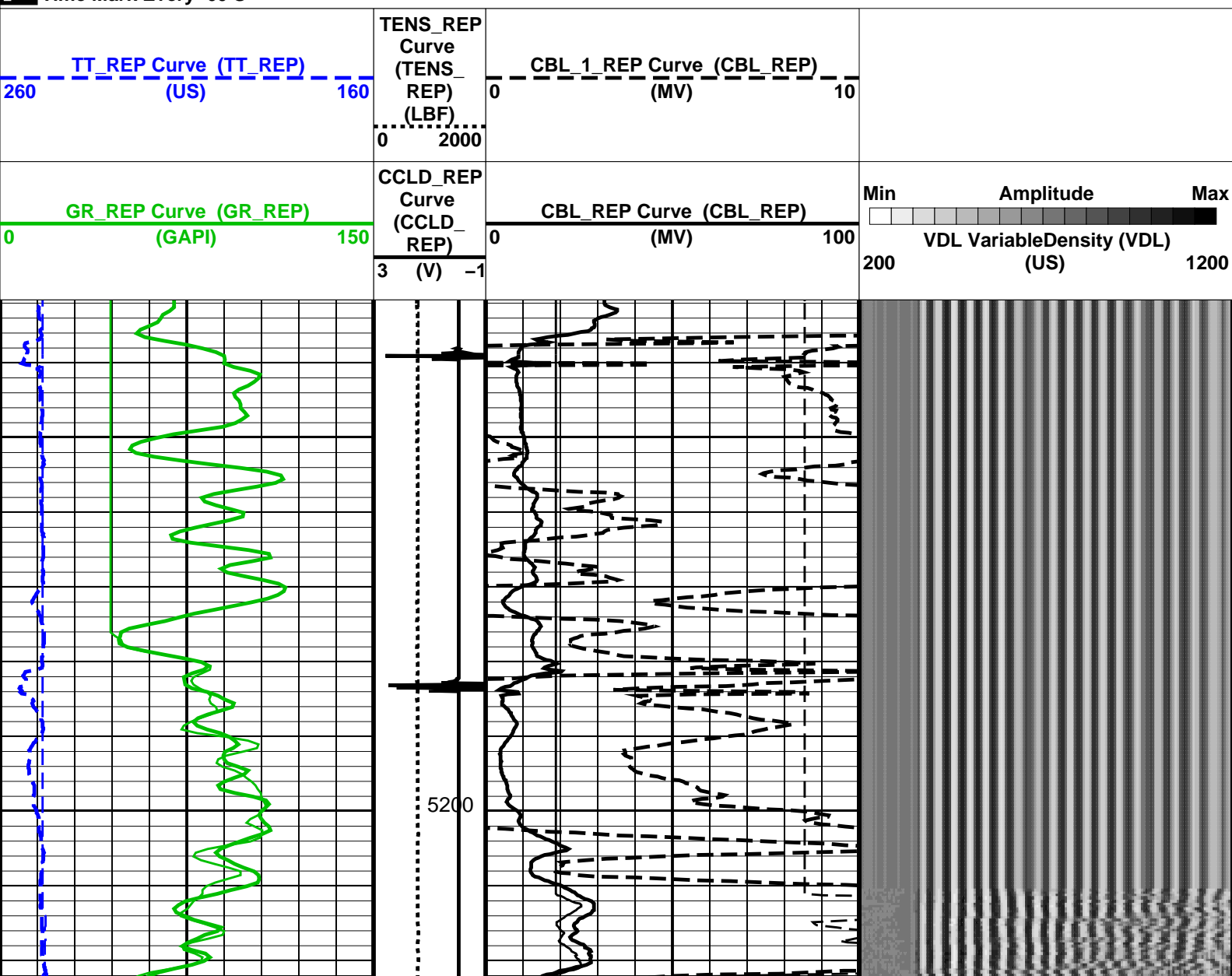
DEFAULT	SCMT_RST_PSP_057PUP	FN:55	PRODUCER	28-Apr-2013 06:24	5518.5 FT	5131.0 FT
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## OP System Version: 19C0-187

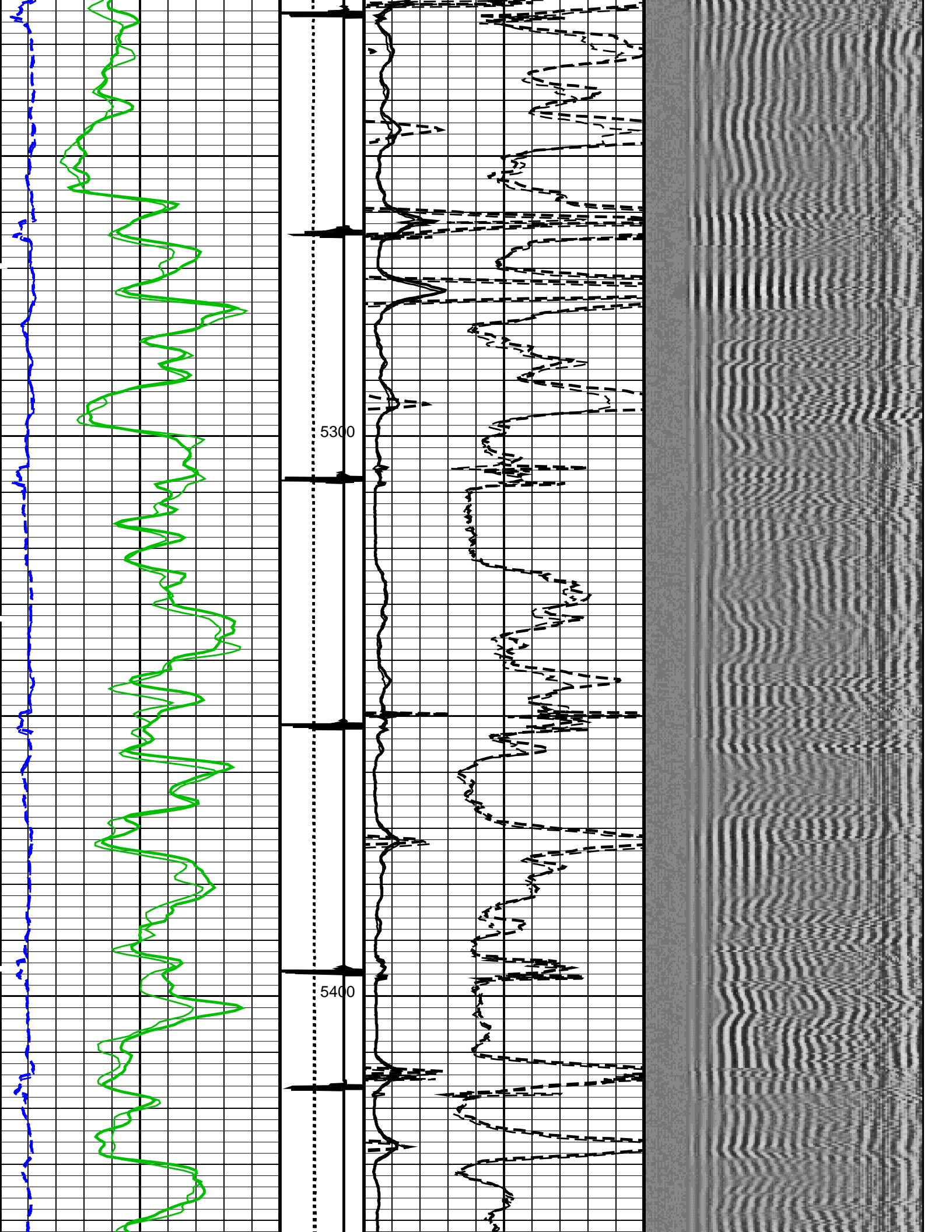
SCMT-CB	SRPC-5214-H2-2012-OP1!	RST-C	SRPC-5214-H2-2012-OP1!
PSPT	SRPC-5214-H2-2012-OP1!		

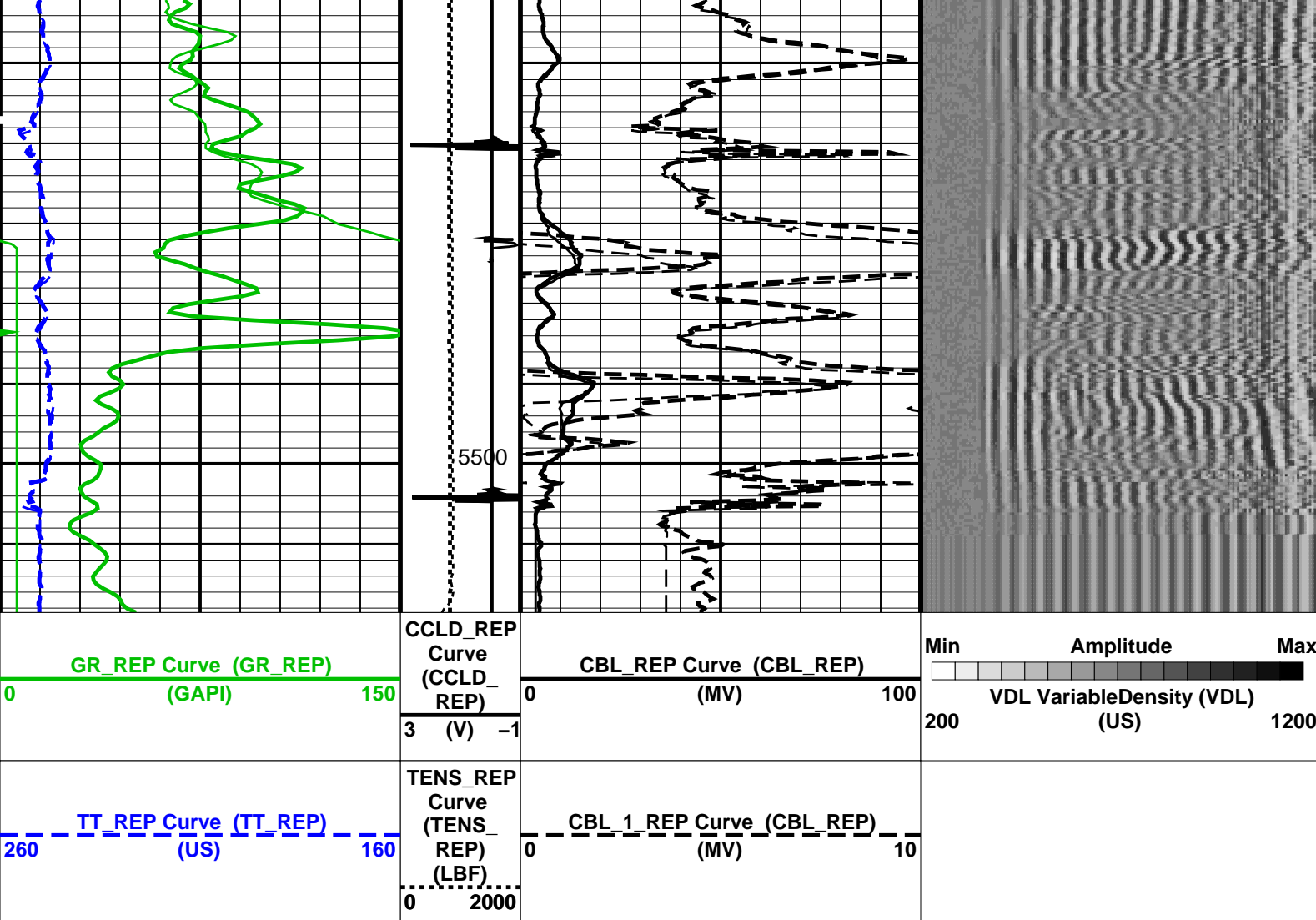
## PIP SUMMARY

Time Mark Every 60 S









#### PIP SUMMARY

Time Mark Every 60 S

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

Graphics File Created: 28-Apr-2013 06:24

### 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)	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	
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			
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	7794	FT

## Input DLIS Files

DEFAULT	SCMT_RST_PSP_051LUP	FN:49	PRODUCER	28-Apr-2013 03:41	5516.5 FT	5173.5 FT
DEFAULT	SCMT_RST_PSP_056PUP	FN:54	PRODUCER	28-Apr-2013 06:16	7801.0 FT	-42.0 FT

## Output DLIS Files

DEFAULT	SCMT_RST_PSP_057PUP	FN:55	PRODUCER	28-Apr-2013 06:24
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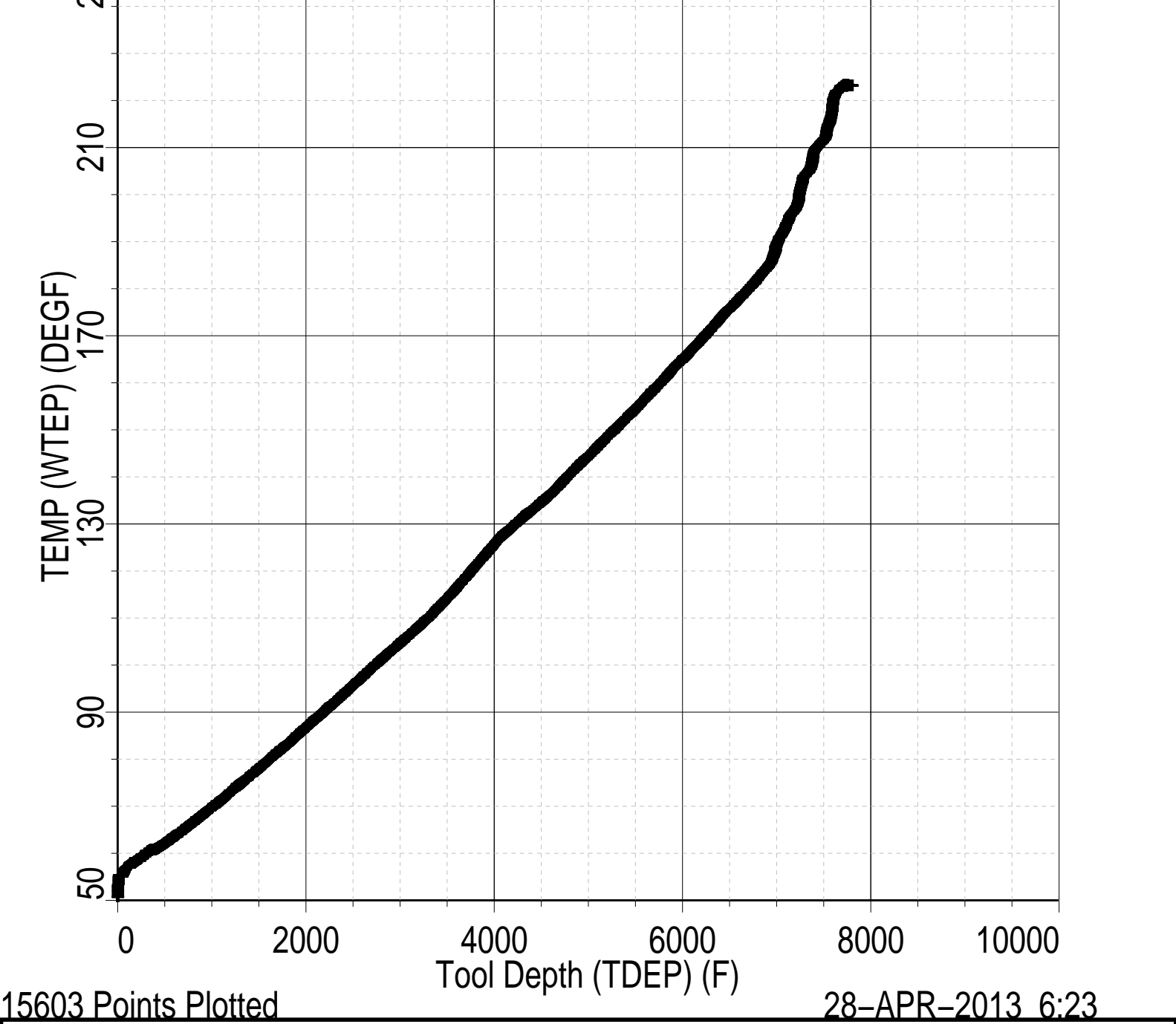
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 7801.0 – -42.0 FT





**Schlumberger**

## PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC  
Field: MAMM CREEK  
Well: SHIDELER 30-1C (O19EB)  
Run date: 28-Apr-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

**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



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	+3.00601550309E−12	+3.11233548560E−17
Fb**3	−.419658736767E−12	+1.17473708647E−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	+1.14322792679E−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
(Fb'−Fc')**0	−.657432344763E−10	−.412920638782E−15	+2.13369826099E−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	+1.15369519827E+03	−.565338877075E−02	−.333717531829E−07
	(Fb'−Fc')**3	(Fb'−Fc')**4	(Fb'−Fc')**5
(Fb'−Fc')**0	−.124387135327E−12	+7.13102327208E−16	−.316084316842E−20

## 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

8303

SCMC – CA

8120




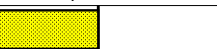

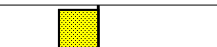

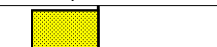

#### Auxiliary Equipment:

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									

Master: 7-Sep-2012 16:30

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

Well: **SHIDELER 30-1C (O19EB)**

Field: **MAMM CREEK**

County: **GARFIELD**

State: **COLORADO**

SLIM CEMENT MAPPING LOG

CBL – VDL

GR-CCL