

# Schlumberger

Company: ENCANA OIL & GAS (USA) INC.

Well: SG 8511D-22 (N22496)

Field: Story Gulch

County: Garfield

State: Colorado

## SLIM CEMENT MAPPING TOOL

CBL - VDL

GAMMA RAY - CCL

SLIM CEMENT MAPPING TOOL			
CBL - VDL			
GAMMA RAY - CCL			
LOCATION			
SHL: 1209 FSL 1962 FWL BHL: 1716 FSL 1337 FWL 39.683878N 108.157169W	Elev.: K.B. 7607.00 ft G.L. 7585.00 ft D.F. 7607.00 ft		
Permanent Datum: _____ Log Measured From: _____ Drilling Measured From: _____	GROUND LEVEL KELLY BUSHING KELLY BUSHING		
API Serial No. 05-045-21 034-00	Section 22	Township 4S	Range 96W

Logging Date	13-Jul-2012			
Run Number	1			
Depth Driller	11255 ft			
Schlumberger Depth	11196 ft			
Bottom Log Interval	11187 ft			
Top Log Interval	200 ft			
Casing Fluid Type	FRESH WATER			
Salinity				
Density	8.6 lbm/gal			
Fluid Level	22 ft			
BIT/CASING/TUBING STRING				
Bit Size	8.750 in			
From	0 ft			
To	11255 ft			
Casing/Tubing Size	4.500 in			
Weight	11.6 lbm/ft			
Grade	P-110			
From	0 ft			
To	11235 ft			
Maximum Recorded Temperatures				
Logger On Bottom	Time			
	13-Jul-2012		9:45	
Unit Number	Location			
Recorded By	Kirstie Bunting			
Witnessed By	SCOTT PITT			

PVT DATA				Run 1	Run 2	Run
Oil Density						
Water Salinity						
Gas Gravity						
Bo						
Bw						
1/Bq						
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: 10-JUL-2012 13:51:17

### Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	OMTD-B/A	Type:	1-25ZT
Serial Number:	5873	Serial Number:	5006	Serial Number:	391
Calibration Date:	20-DEC-2011	Calibration Date:	21-JUN-2012	Length:	24000 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	174878	Conveyance Method: Wireline Rig Type: LAND	
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10		
Wheel Correction 1:	-3	Calibration RMS:	15		
Wheel Correction 2:	-3	Calibration Peak Error:	9		

### Depth Control Parameters

Log Sequence: First Log In the Well

Rig Up Length At Surface: 200.00 FT

Rig Up Length At Bottom: 200.00 FT

Rig Up Length Correction: 0.00 FT

Stretch Correction: 0.00 FT

Tool Zero Check At Surface: 0.00 FT

### Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH PROCEDURES USED
2. PRIMARY DEPTH CONTROL: IDW
3. SECONDARY DEPTH CONTROL: DRUM COUNTER (SWPT)
- 4.
- 5.
- 6.

#### DISCLAIMER

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#### OTHER SERVICES1

OS1: NONE

OS2:

OS3:

OS4:

OS5:

#### OTHER SERVICES2

OS1:

OS2:

OS3:

OS4:

OS5:

REMARKS: RUN NUMBER 1

FIRST RUN IN HOLE CORRELATED TO DOWN LOG

TOOL RAN AS PER TOOL SKETCH

ENTRANCE TIME: 09:00

TIME AT BOTTOM: 9:45

EXIT TIME: 13:00

TOTAL DEPTH = 11196 FT

REMARKS: RUN NUMBER 2

ESTIMATED TOP OF CEMENT = 300 FT	
MAX RECORDED TEMPERATURE = 285 DEGF	
MAX RECORDED PRESSURE = 4711 PSIA	
STRETCH CORRECTION = 4 FT	
CBAF = .90	
CYCLE SKIPPING DUE TO GOOD BOND	
EXPECTED CBL AMP IN FREE PIPE 80 MV	
MAIN LOG RAN WITH ZERO SURFACE PRESSURE	

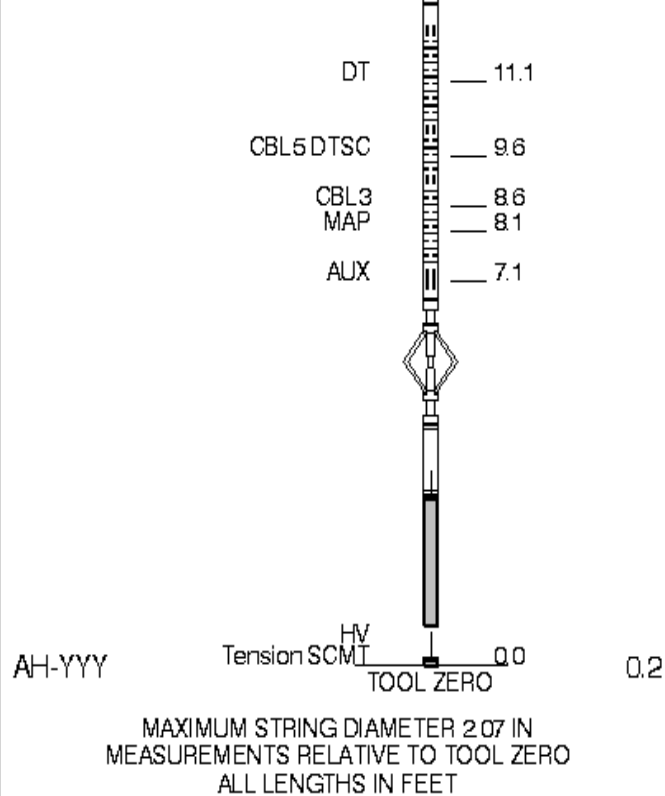
THANK YOU FOR CHOOSING SCHLUMBERGER!	
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RUN 1			RUN 2		
SERVICE ORDER #:		C8Q2-00022	SERVICE ORDER #:		
PROGRAM VERSION:		19C0-187	PROGRAM VERSION:		
FLUID LEVEL:		22 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT	
WITM-A	
PSC_16MHZ	

DOWNHOLE EQUIPMENT	
MH-22	33.2
MH-22	
<div> <div> <div>Detail MT</div> <div>TelStatus</div> <div>CTEM</div> </div> <div> <div>31.3</div> <div>31.6</div> <div>31.3</div> </div> </div>	
<div> <div> <div>HBMS-B</div> <div>PSC-A</div> <div>HUDH-A</div> <div>HSTC-A</div> <div>HBMC-A</div> <div>GR</div> <div>CCL</div> <div>HBMC</div> <div>HTPS-A 2884</div> <div>HCQG E_Mano</div> <div>RTD_Thermometer</div> </div> <div> <div>GR</div> <div>26.4</div> </div> </div>	
<div> <div> <div>CCL</div> <div>24.0</div> </div> <div> <div> <div>HSTC Aux.</div> <div>HBMC Aux.</div> </div> <div> <div>22.5</div> </div> </div> </div>	
<div> <div> <div>CQG Manom</div> <div>Well_Temp</div> </div> <div> <div>21.1</div> </div> </div>	
<div> <div> <div>SCMT-CB</div> <div>SCMC-CA 8172</div> <div>SECH-CA</div> <div>CMIR-AG</div> <div>SCMS-CB 8179</div> <div>SCMX-CA</div> </div> <div> <div>20.2</div> </div> </div>	



MAIN PASS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC. Well: SG 8511 D-22 (N22496)

Input DLIS Files

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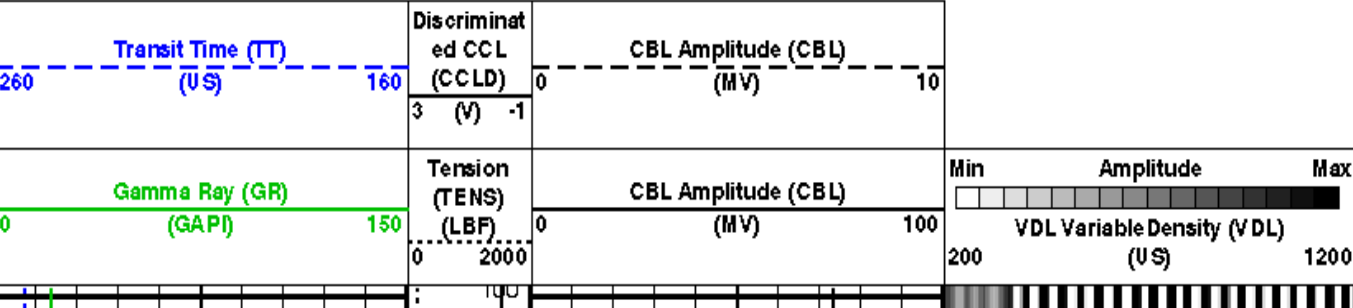
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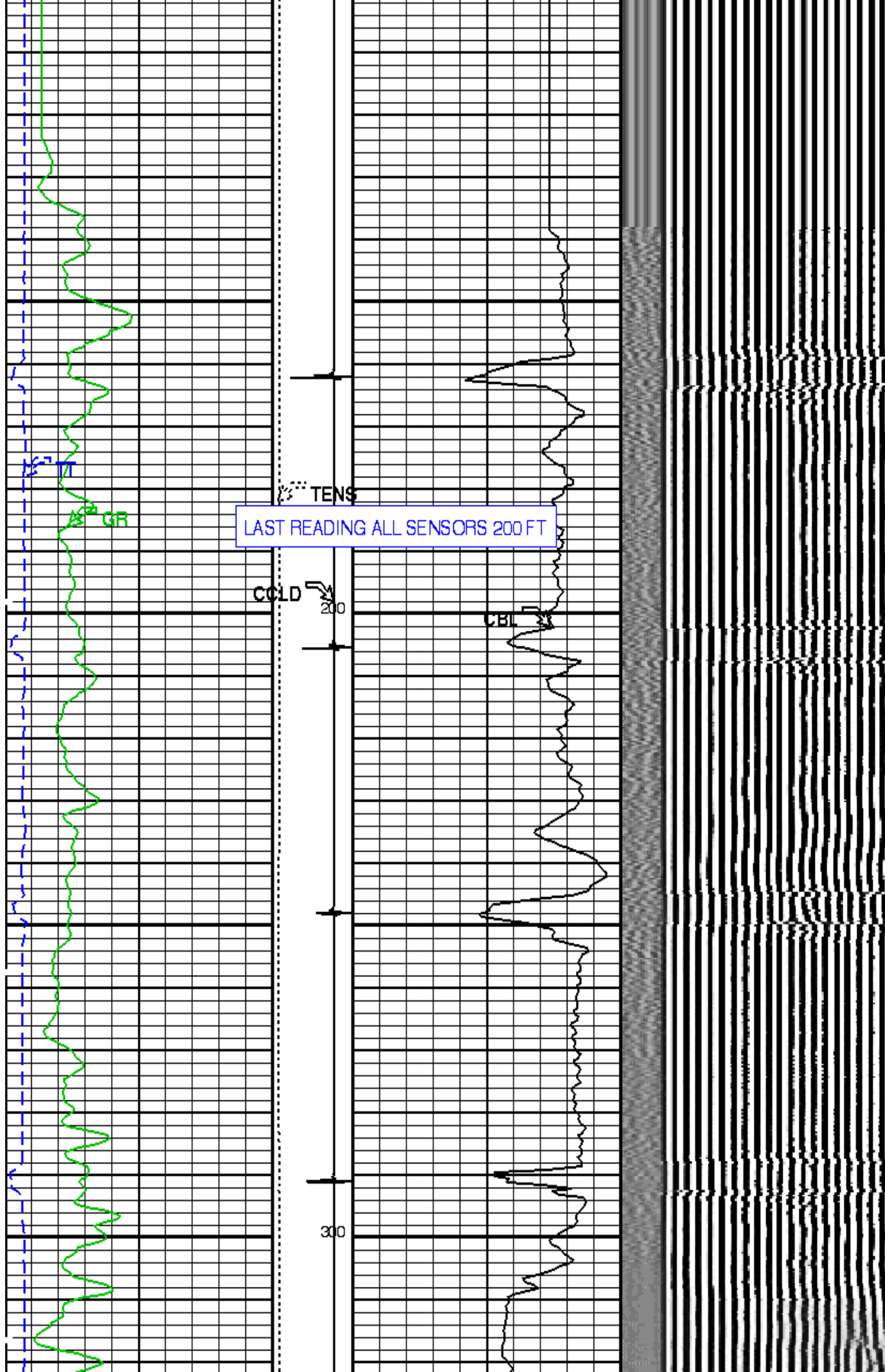
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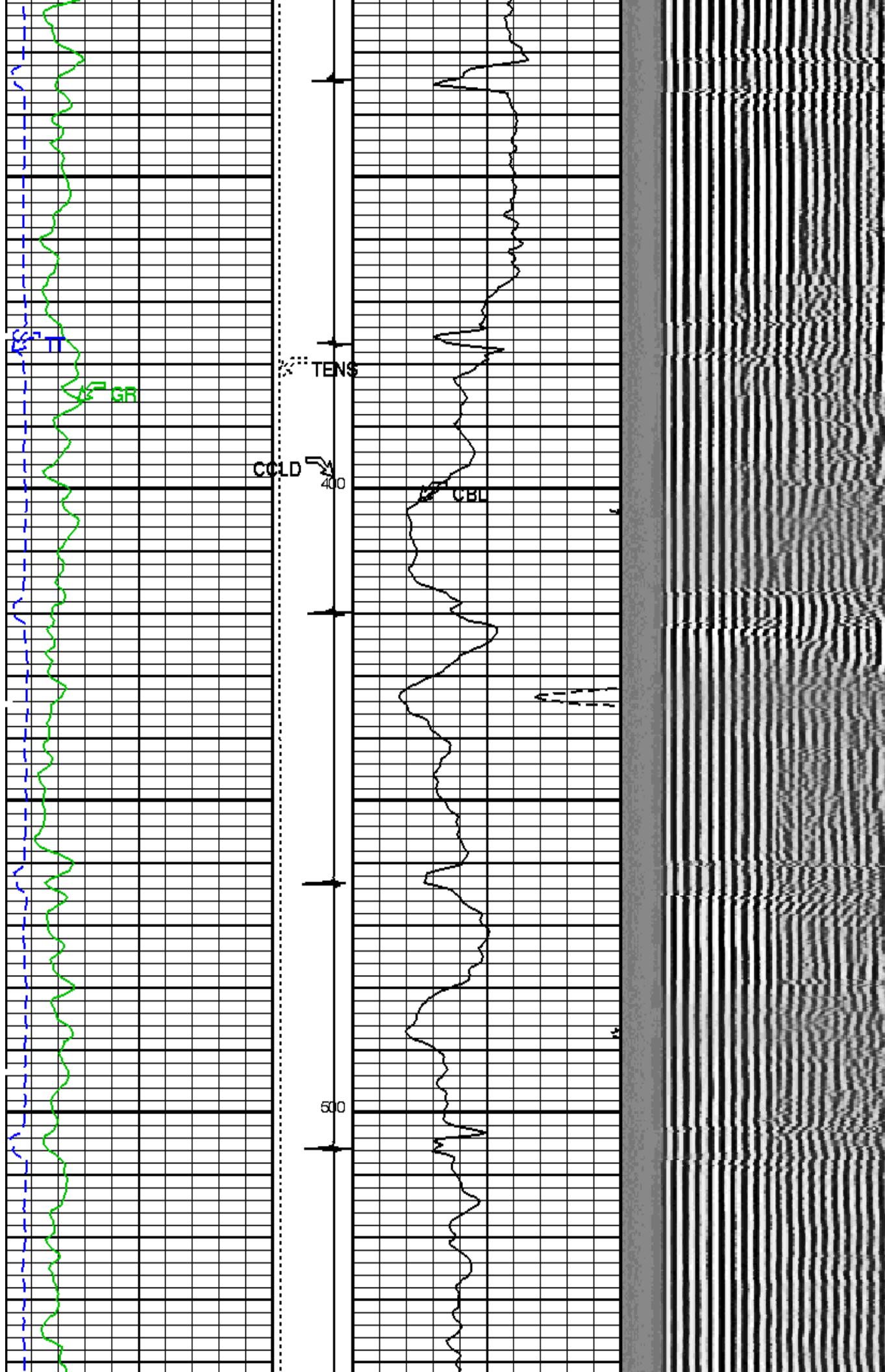
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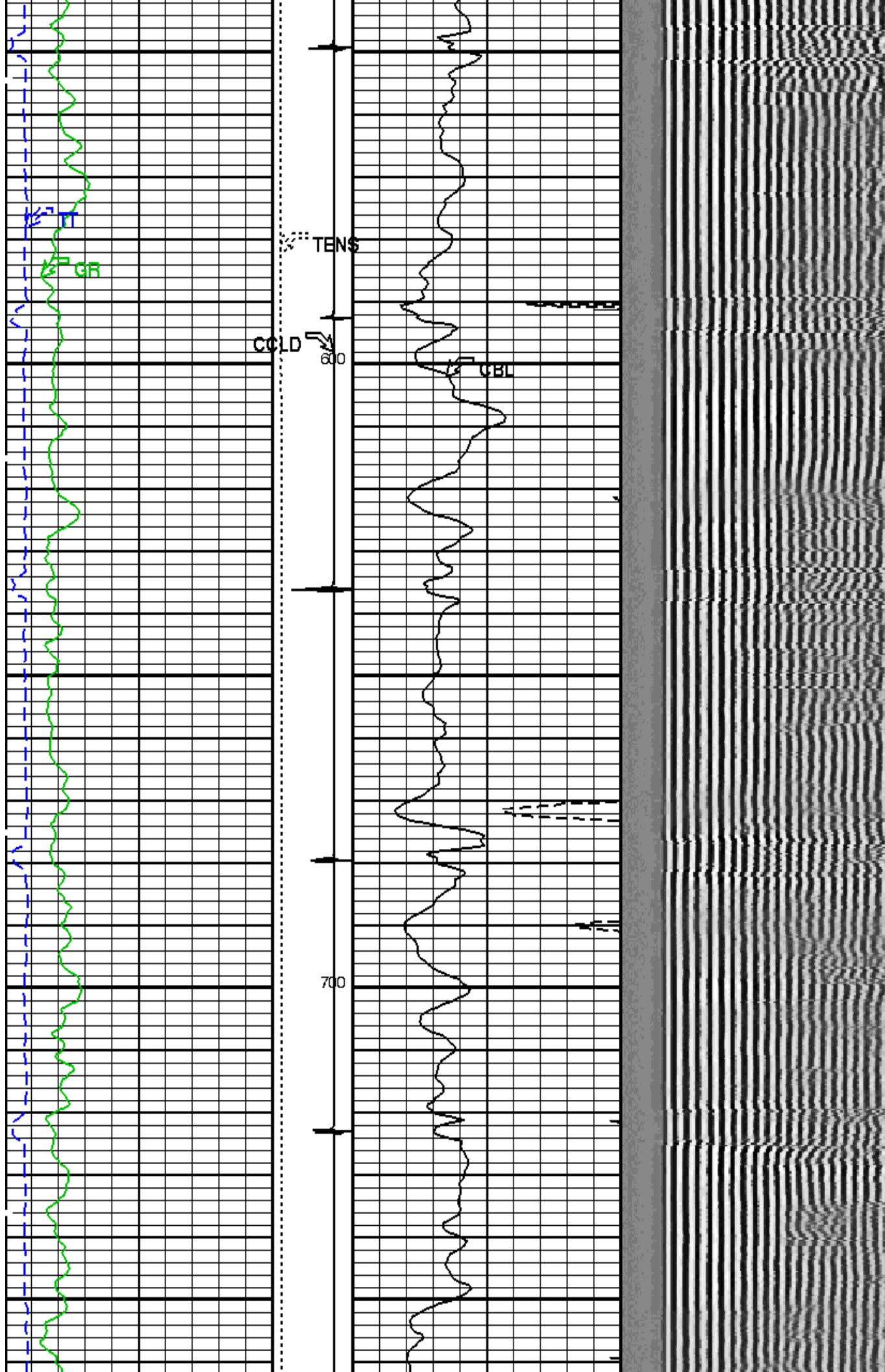
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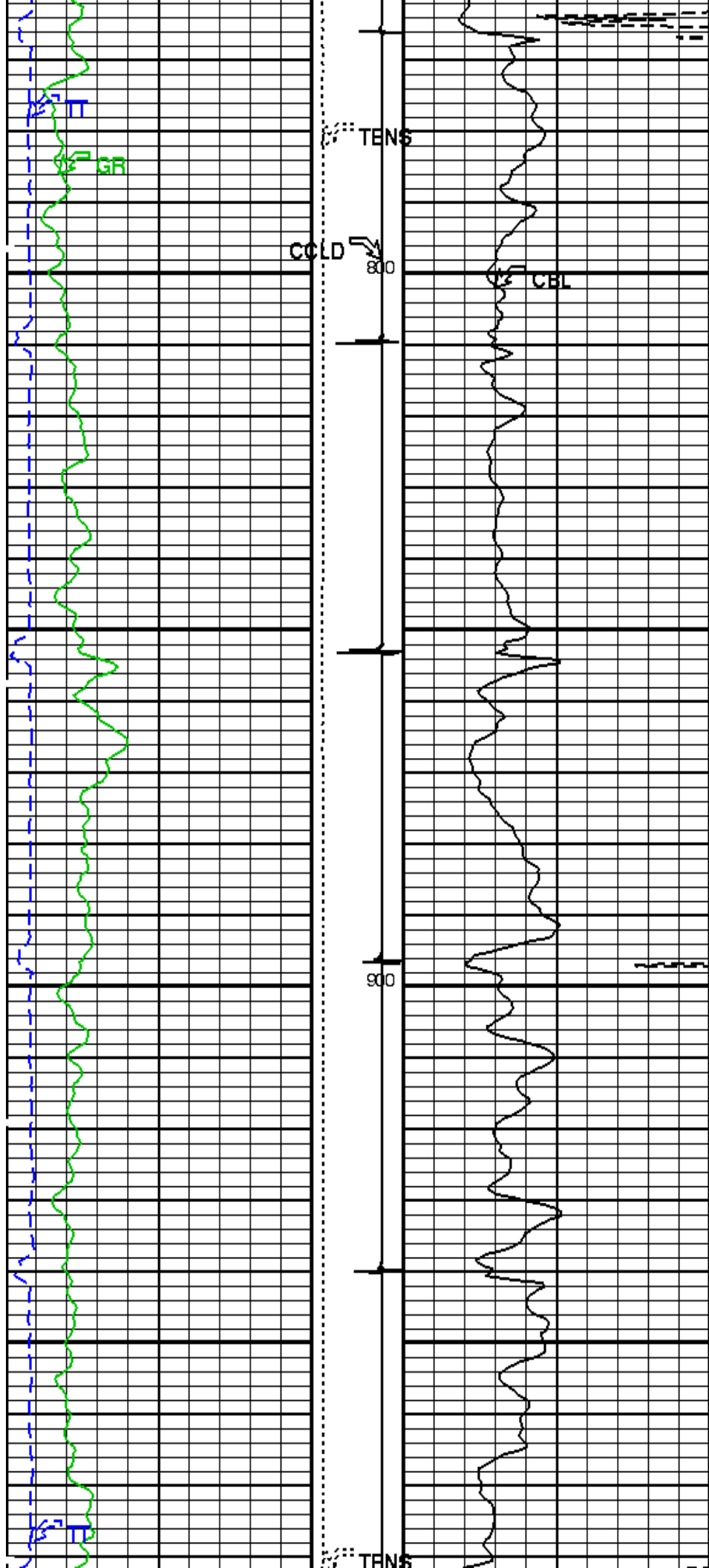
Time Mark Every 60 S



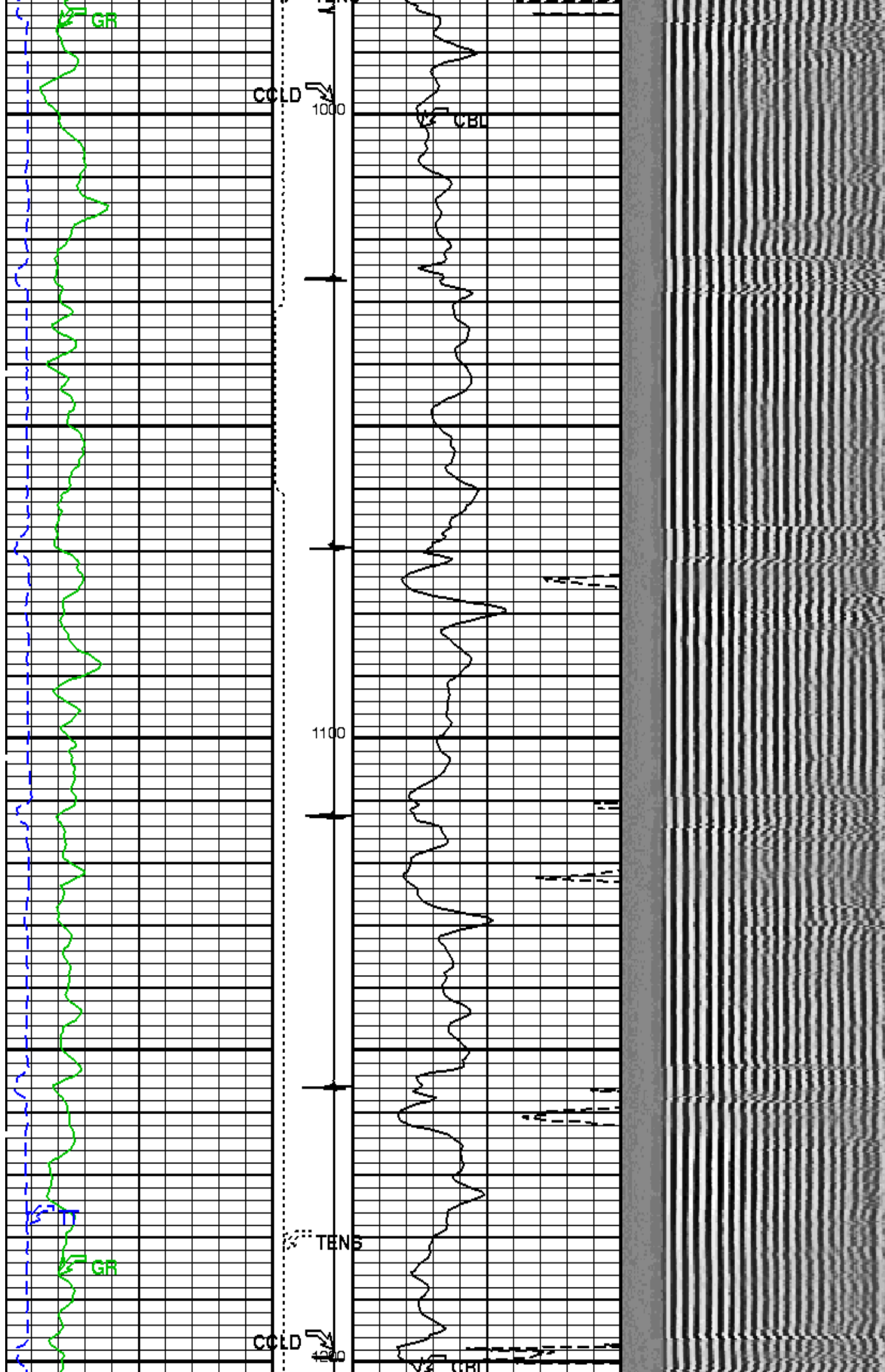


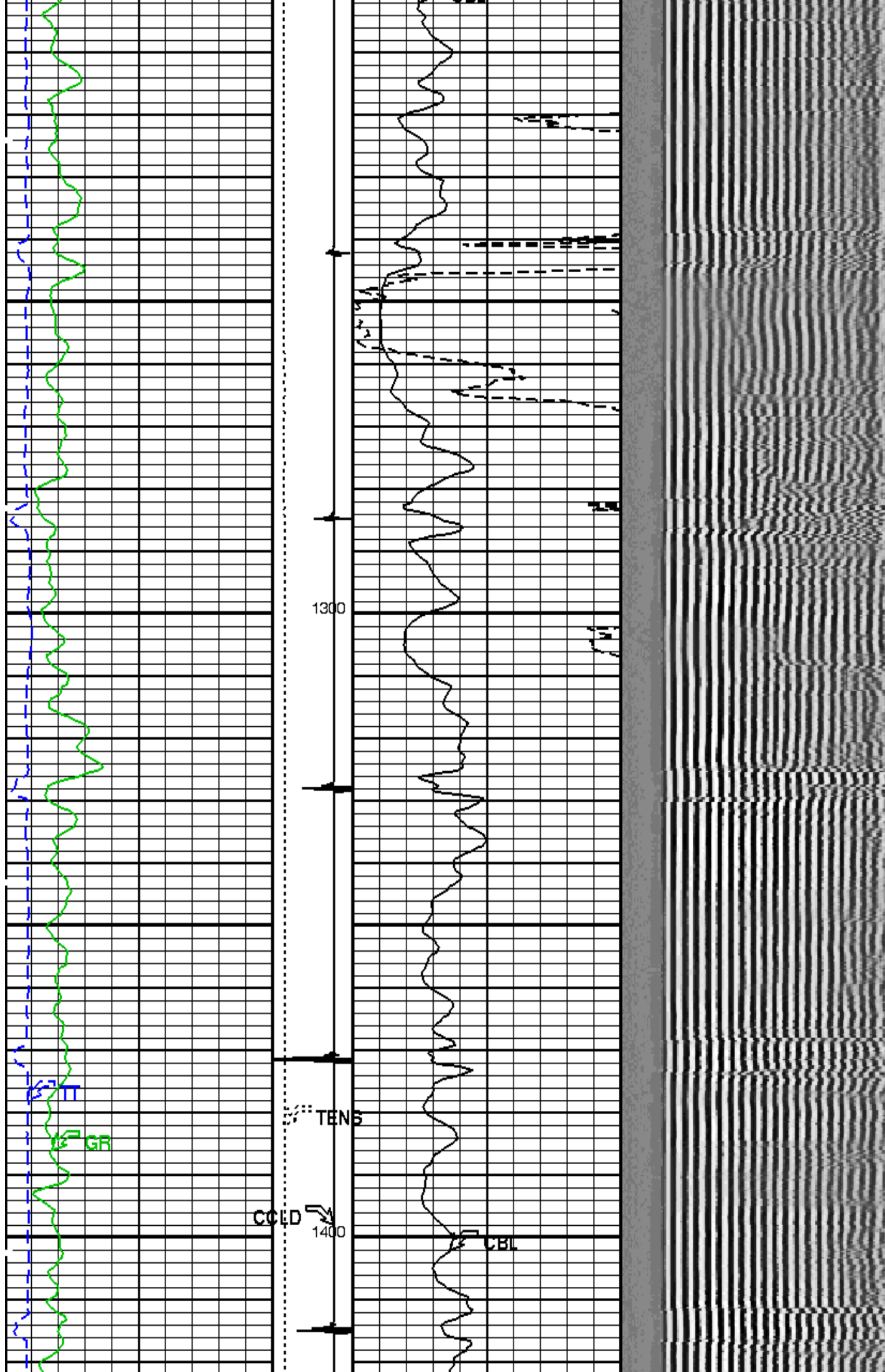


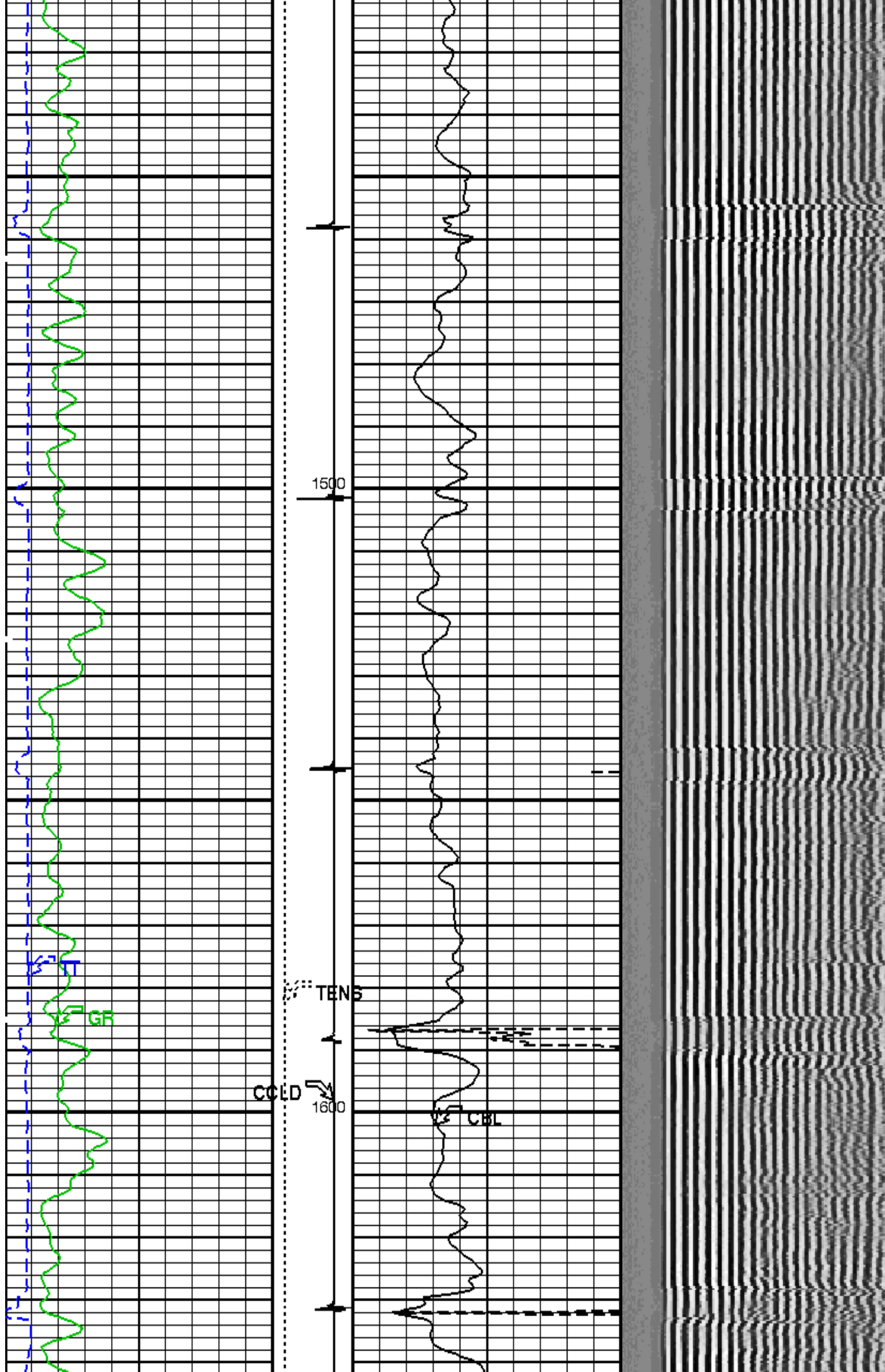


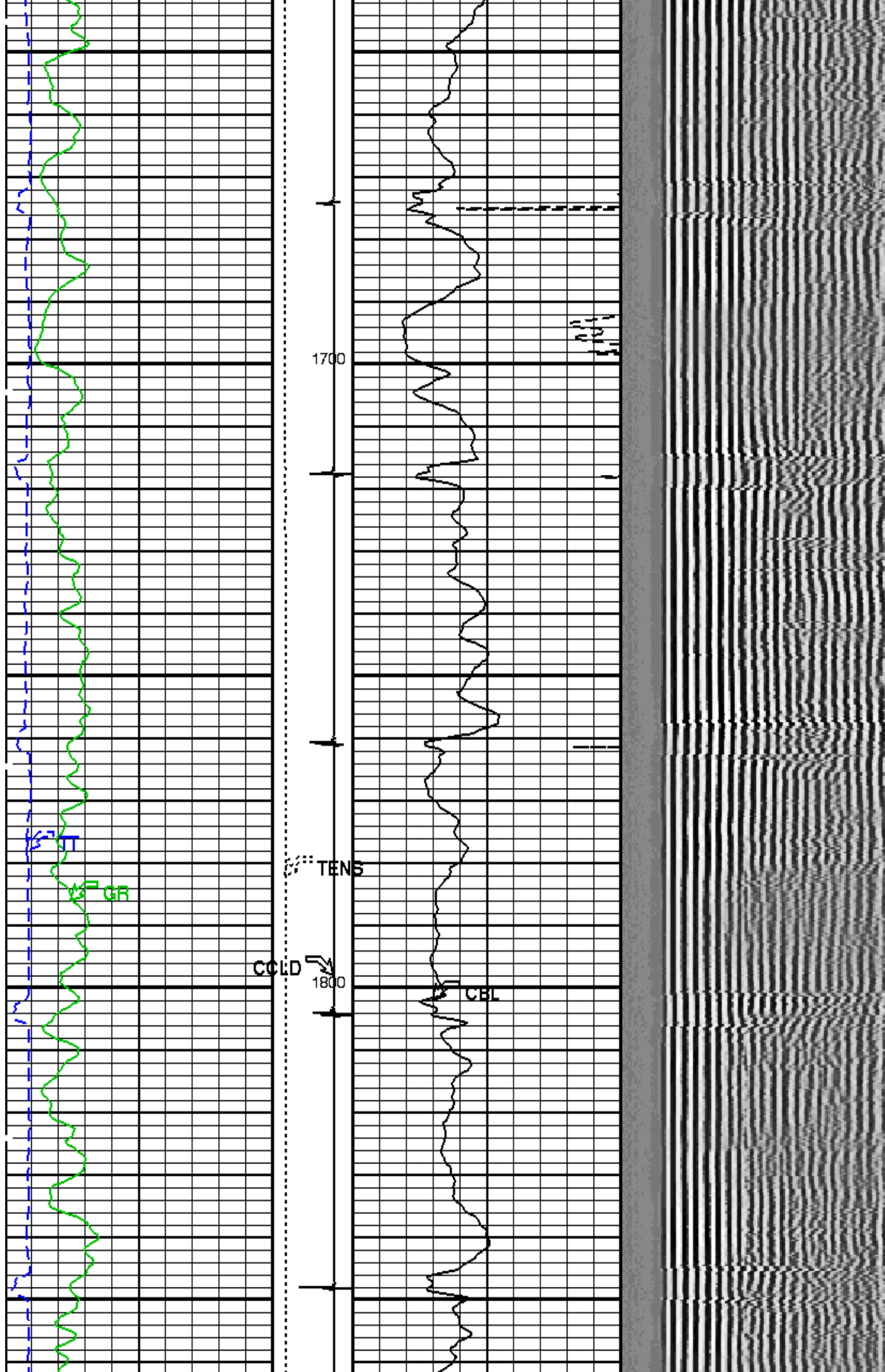




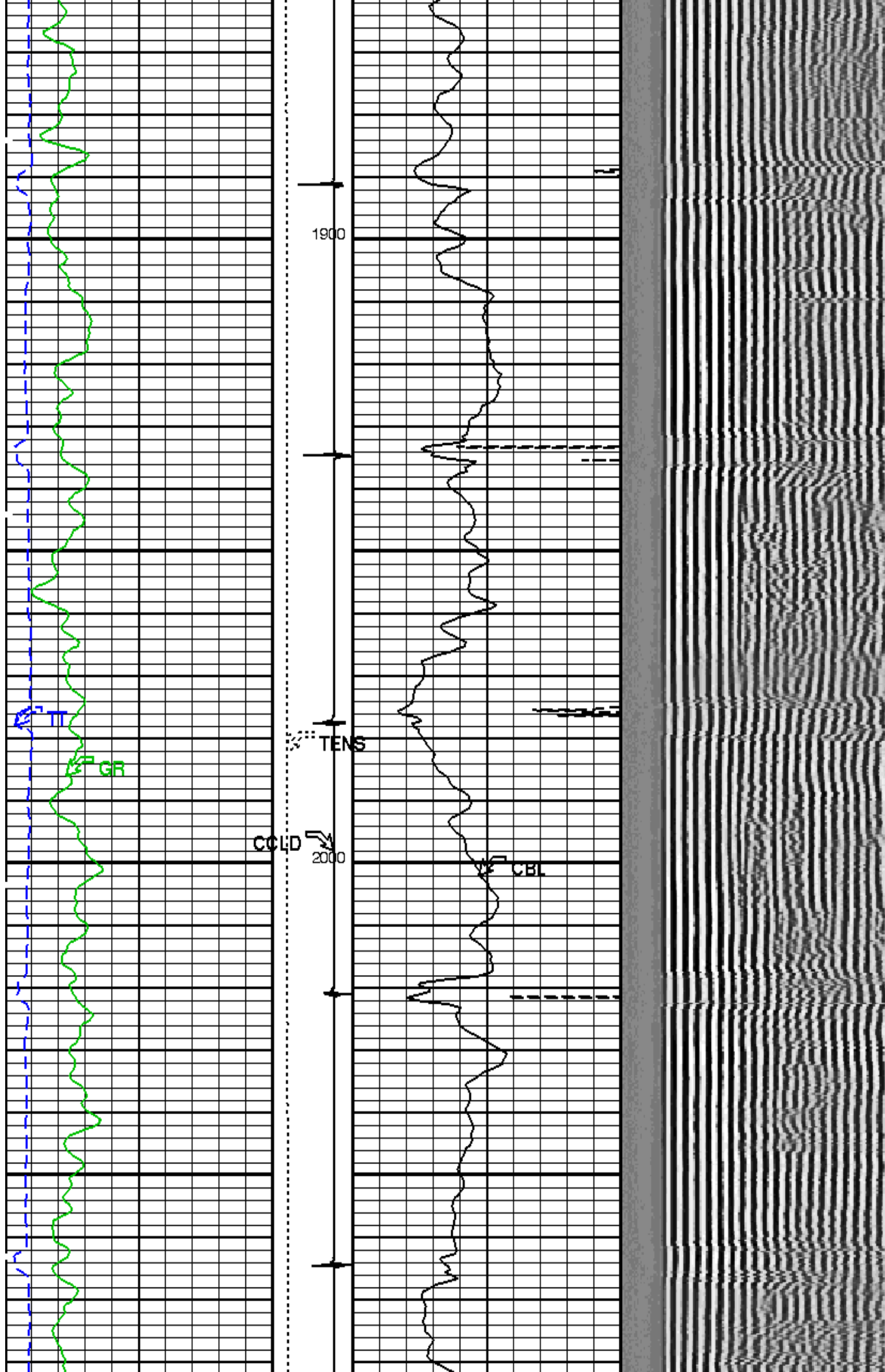


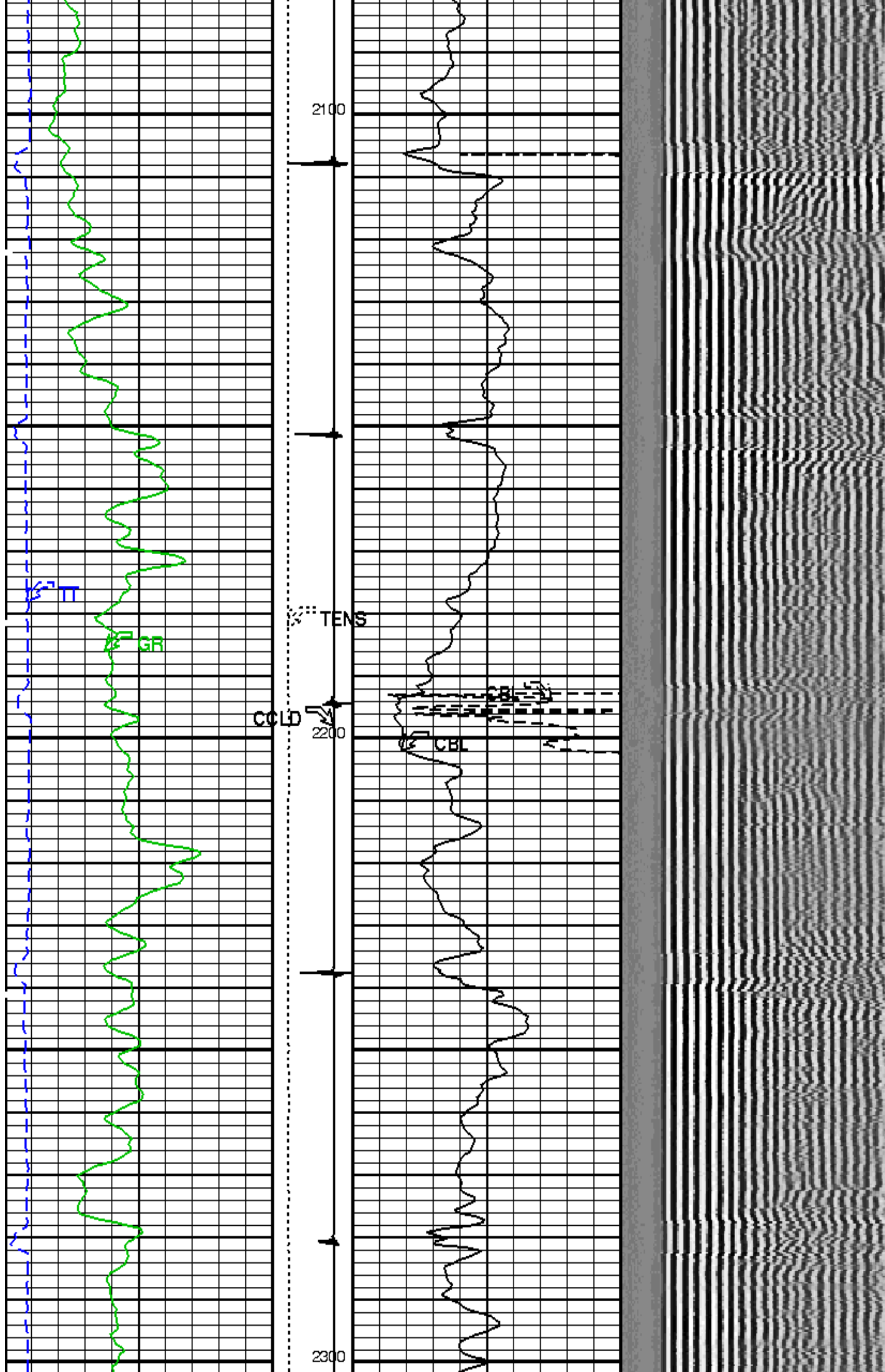


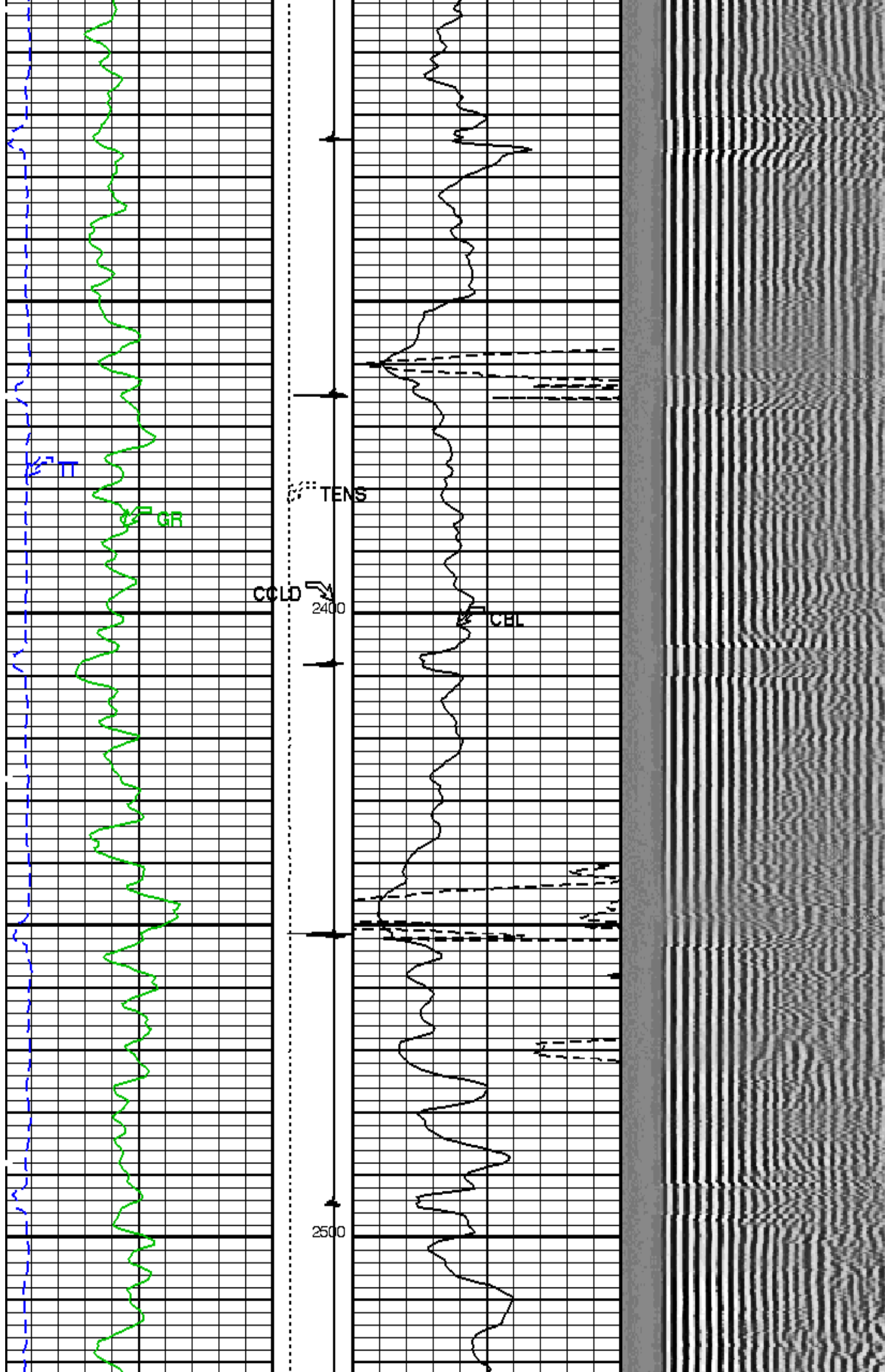


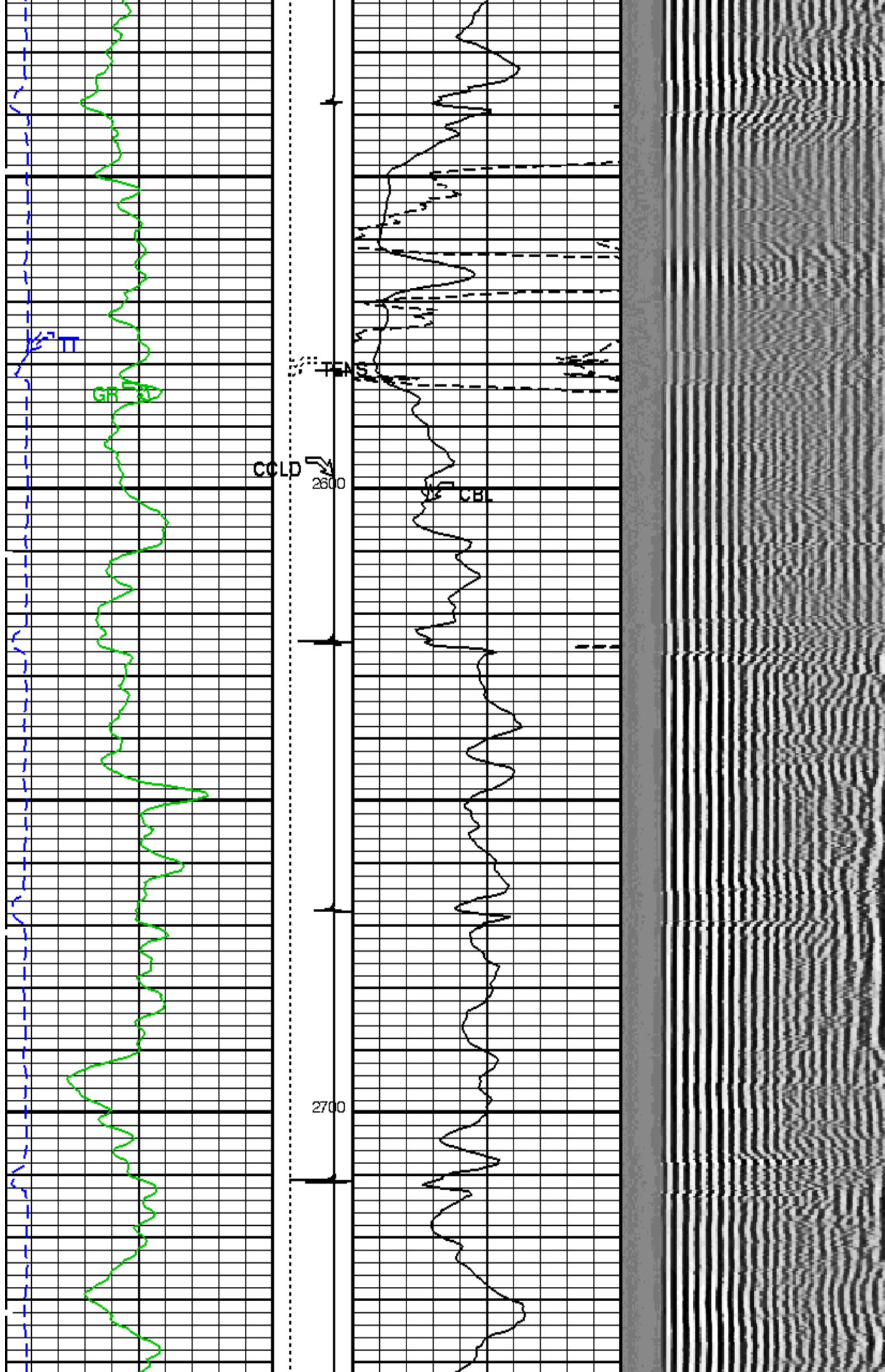




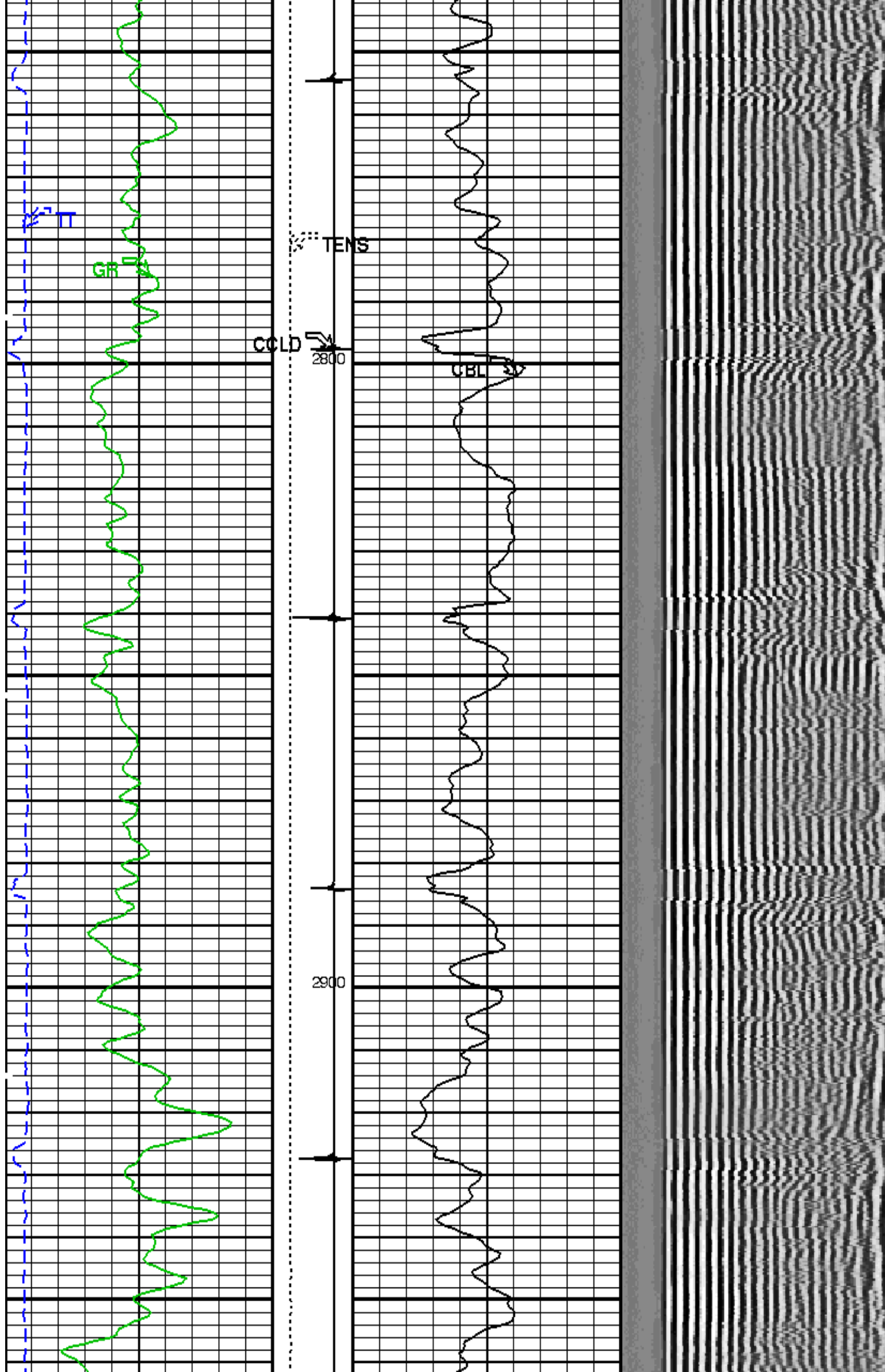


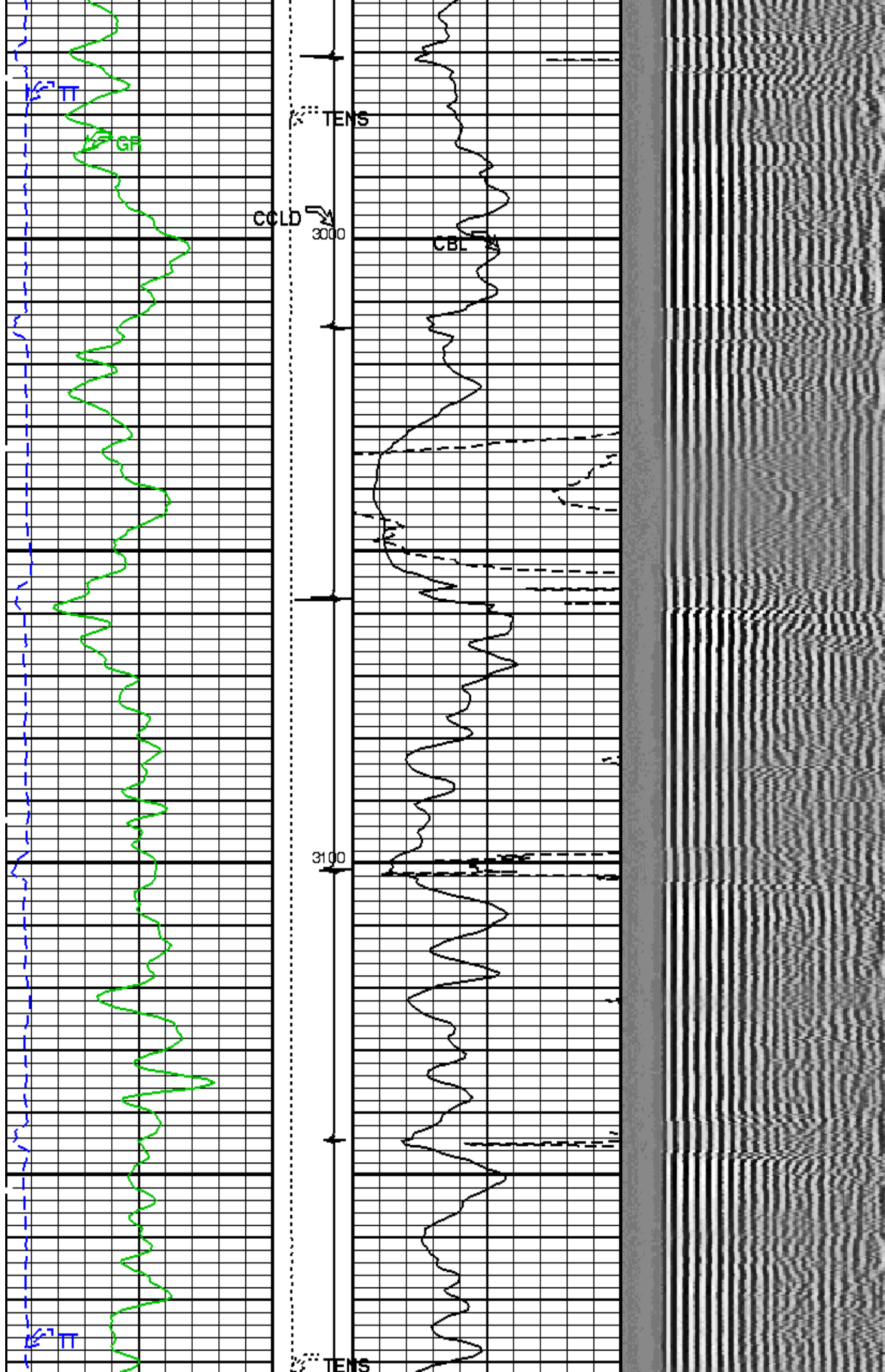


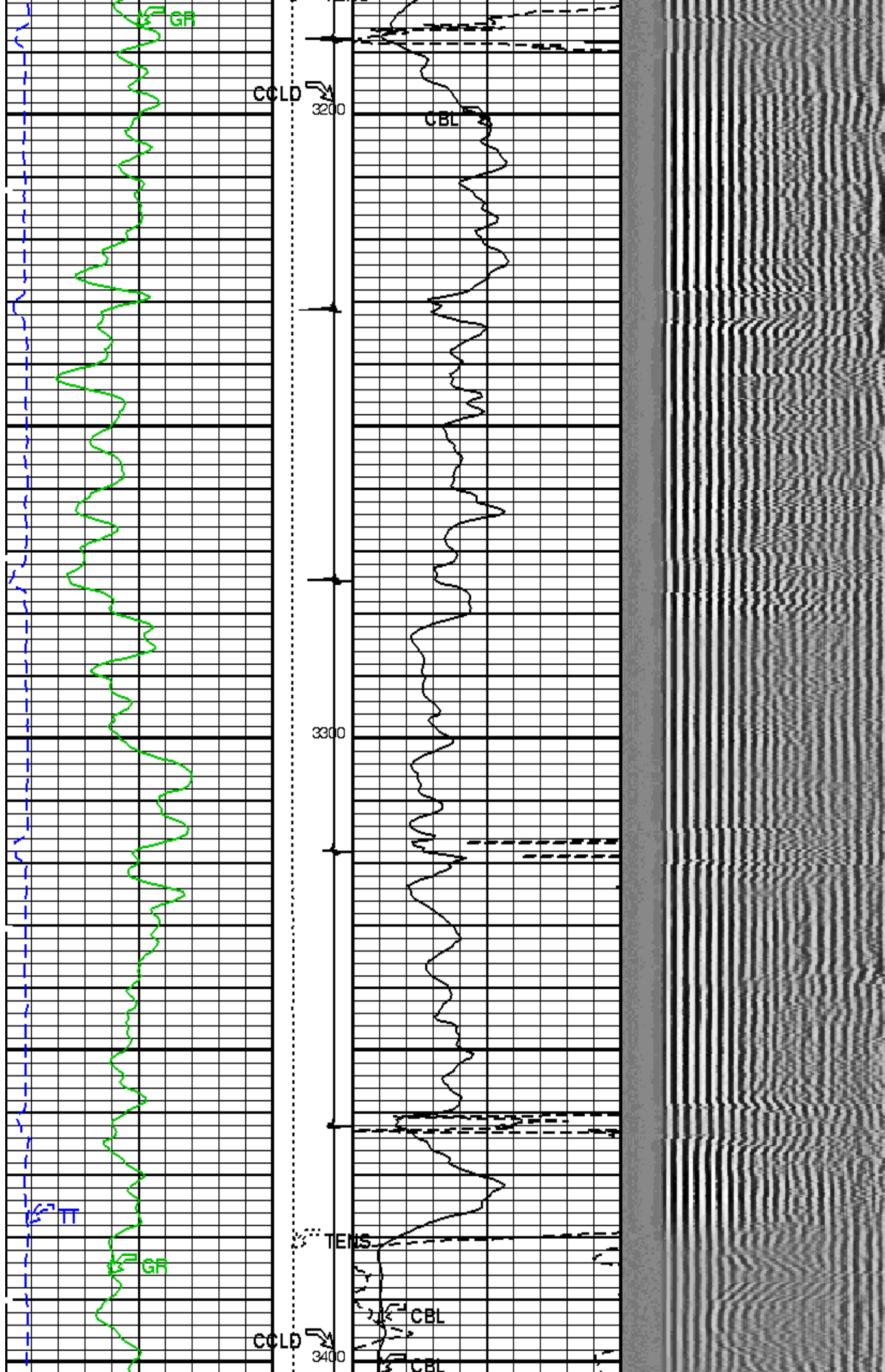


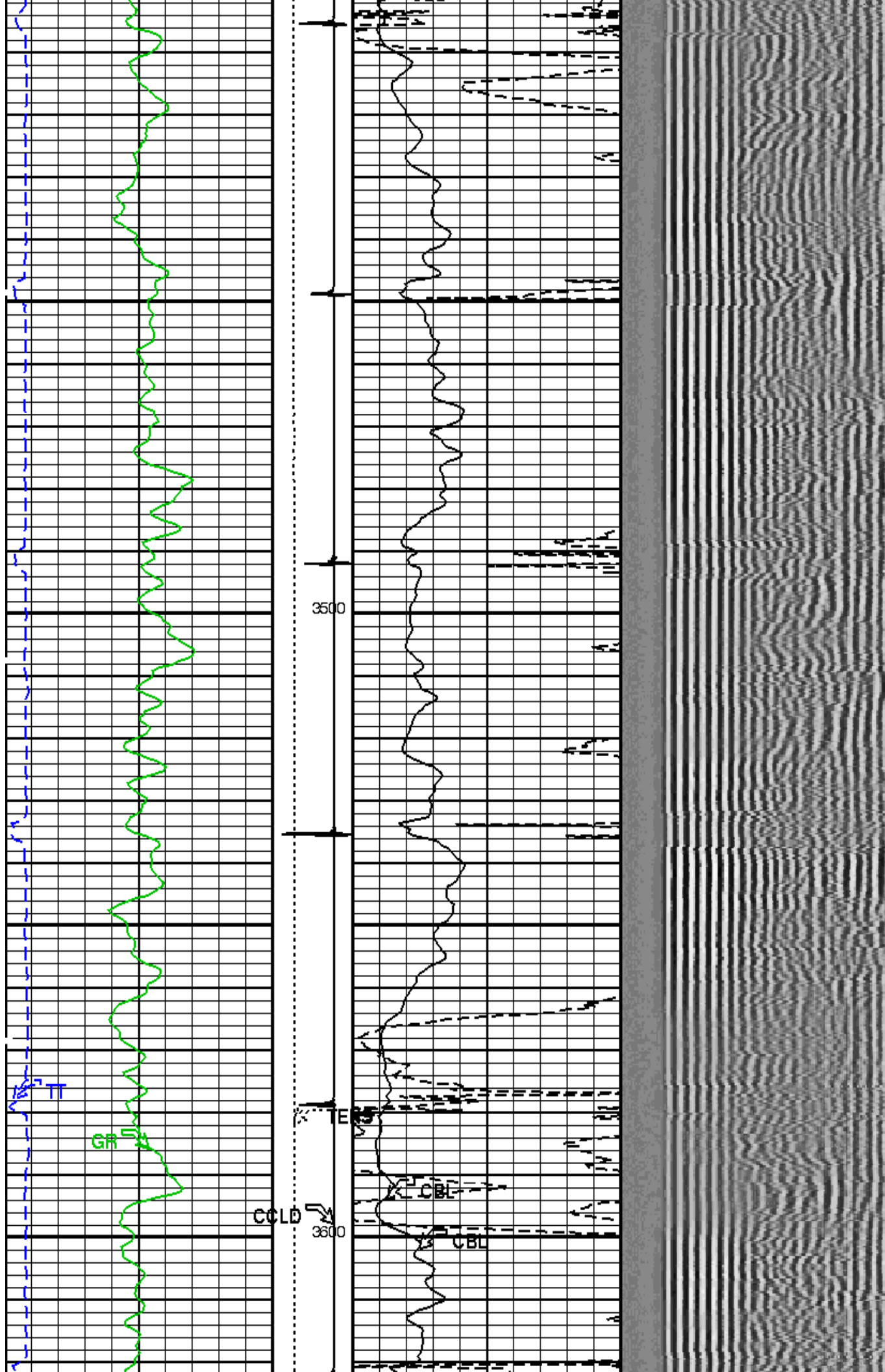




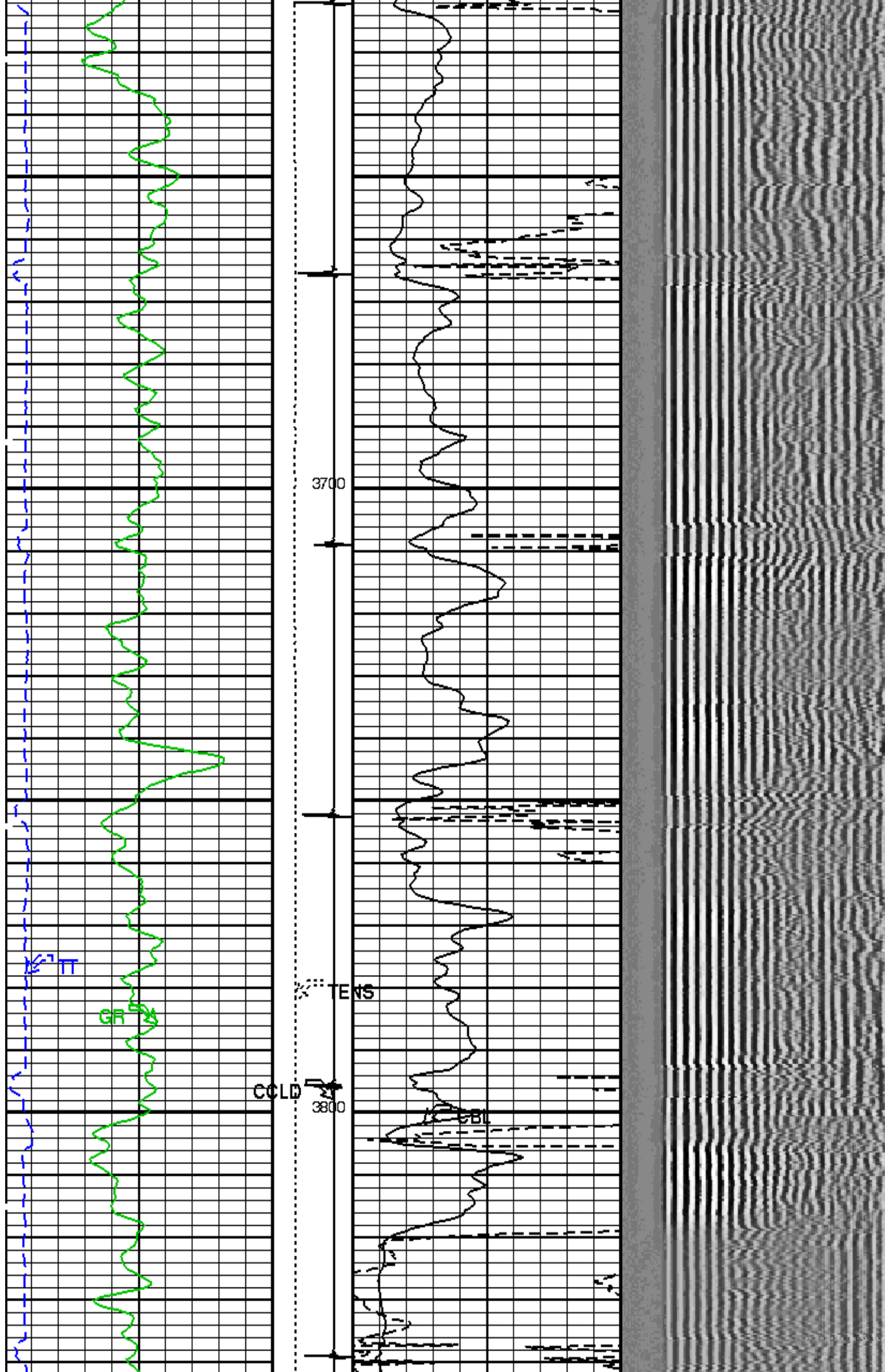


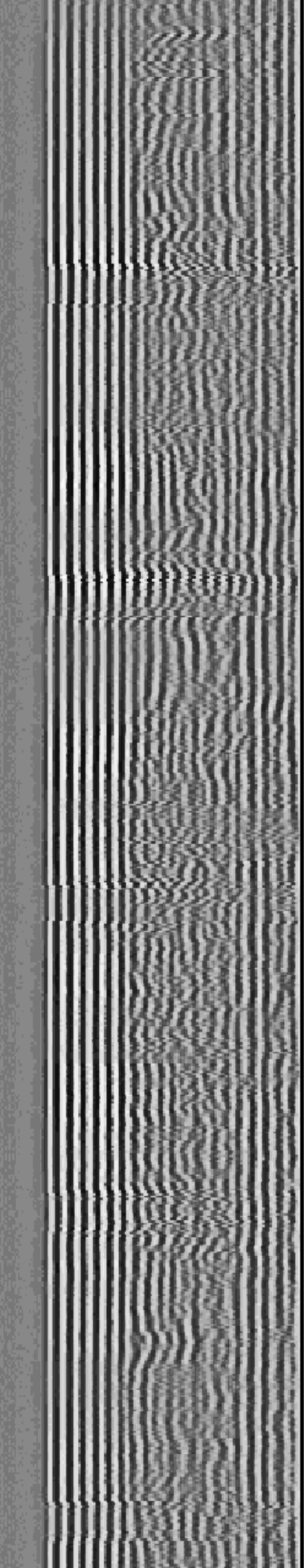
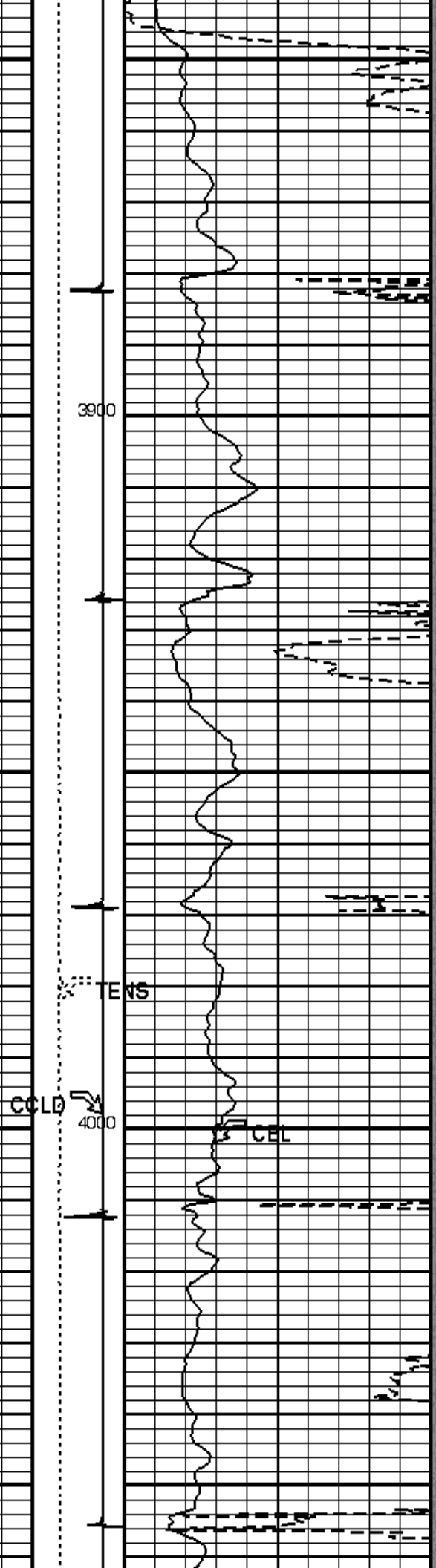
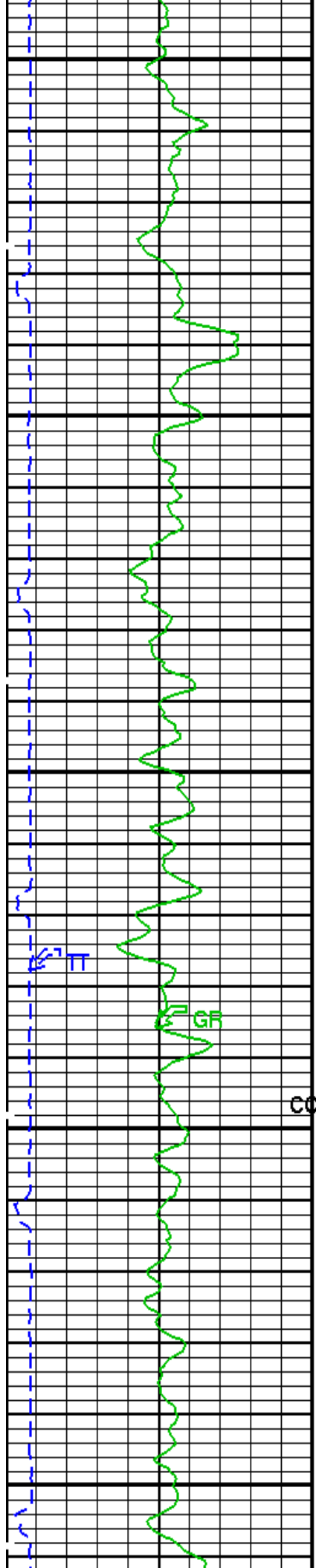


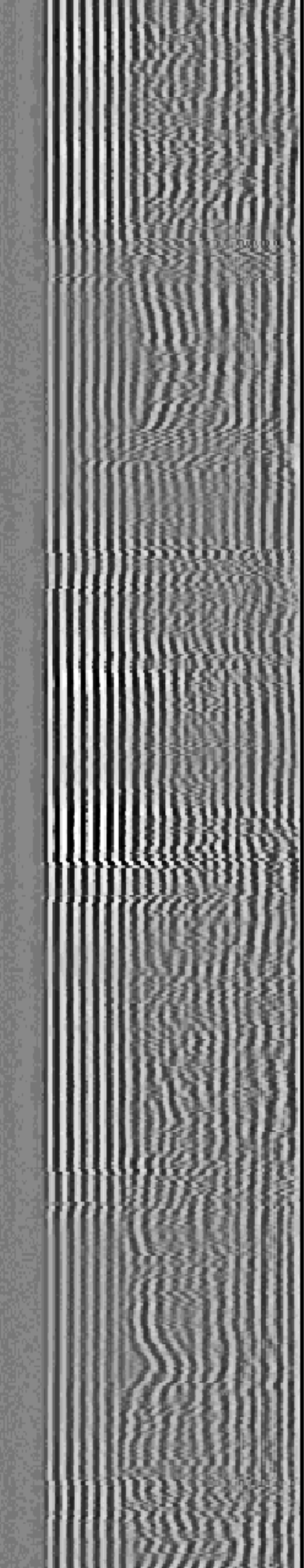
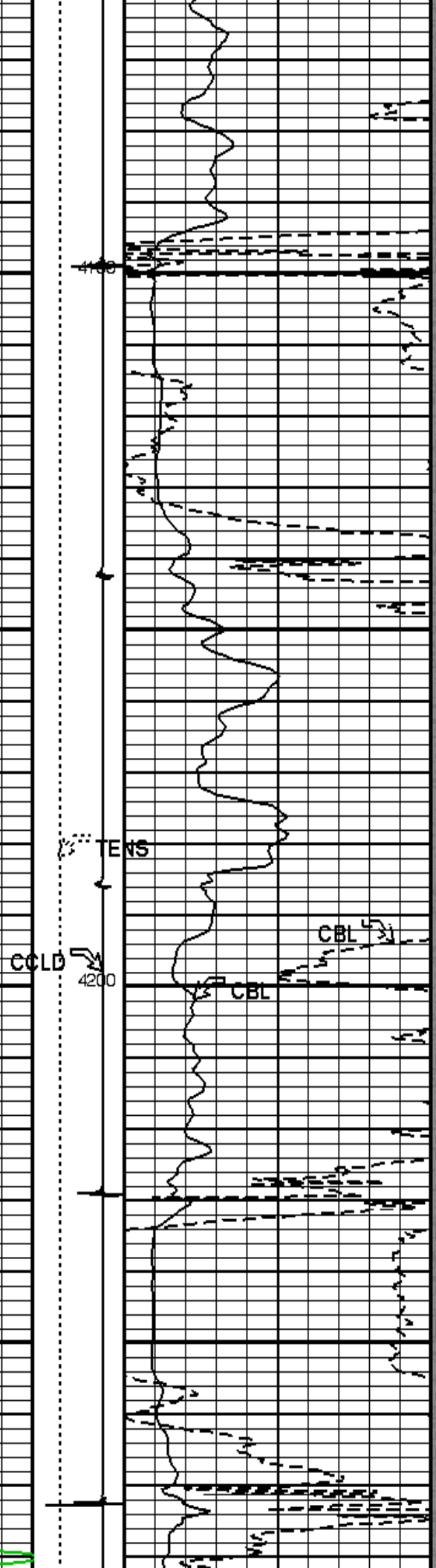
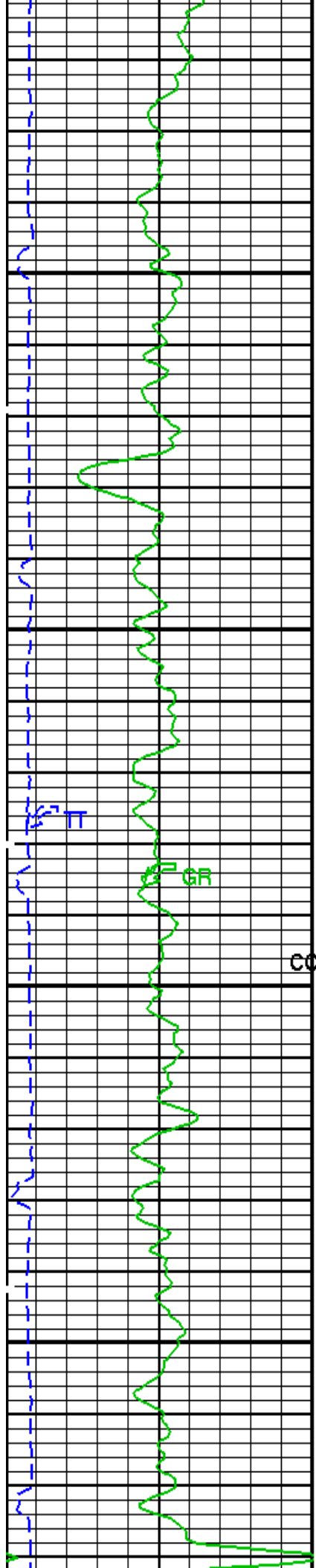


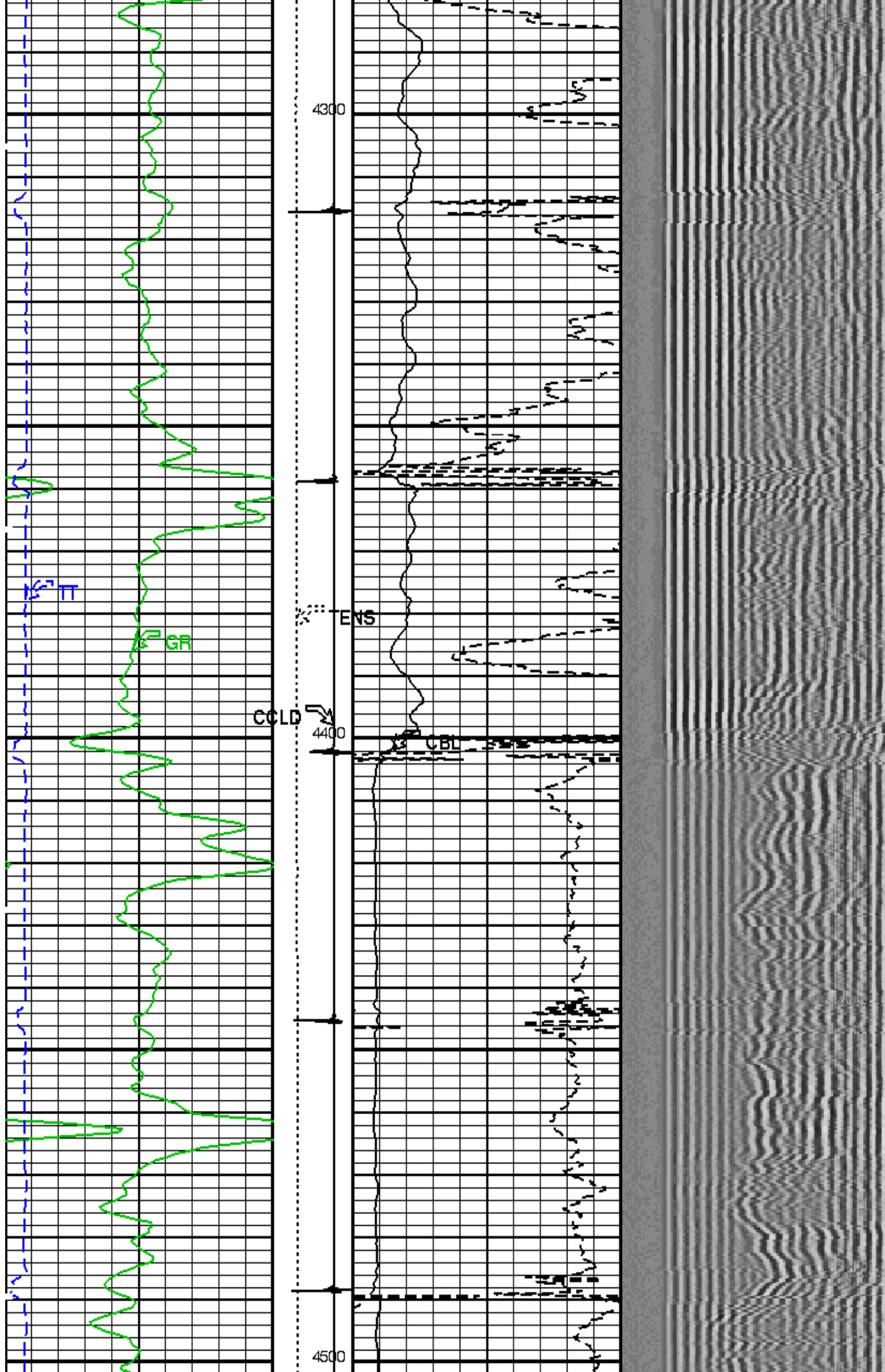




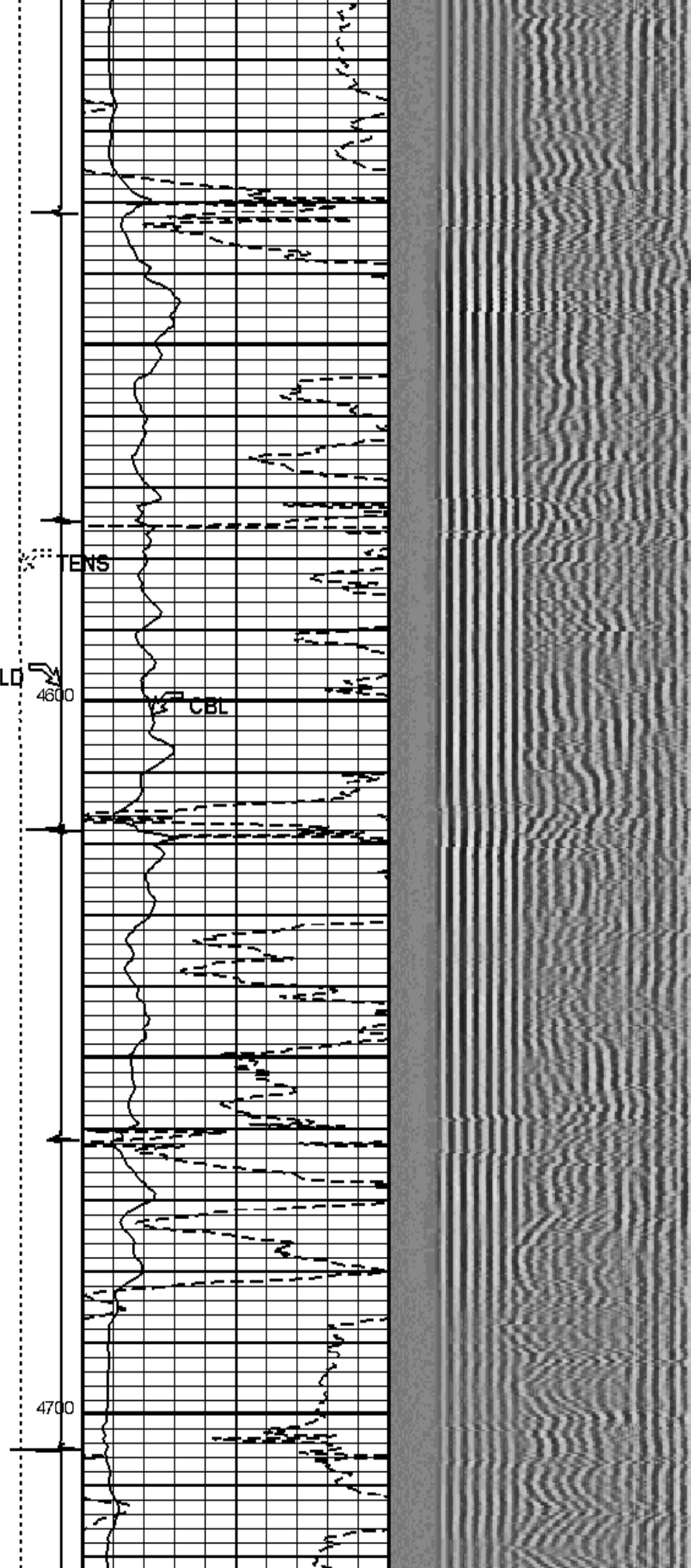
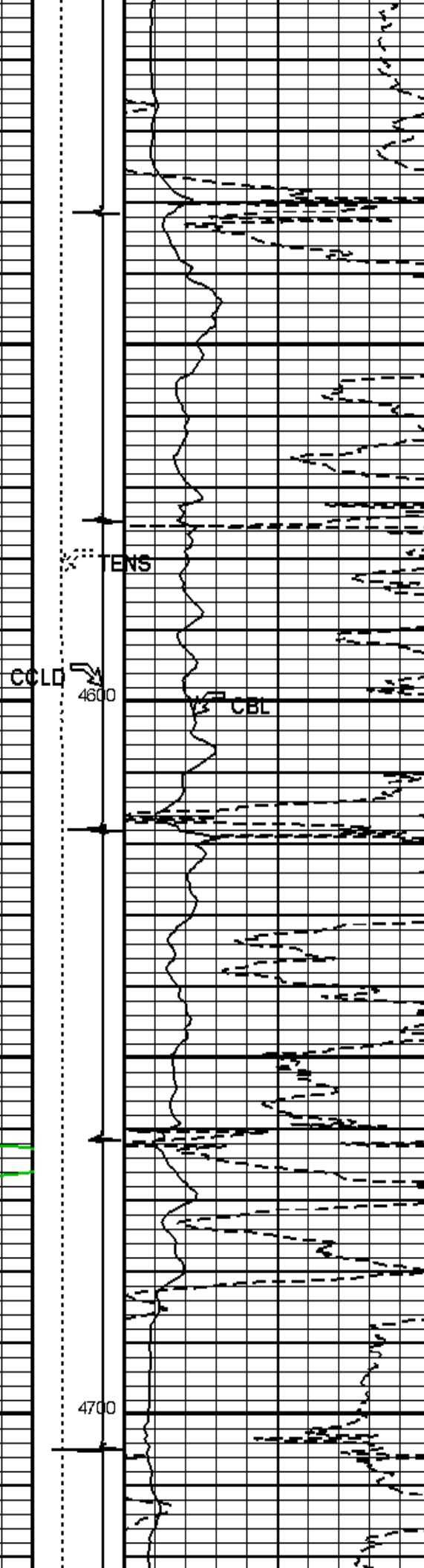
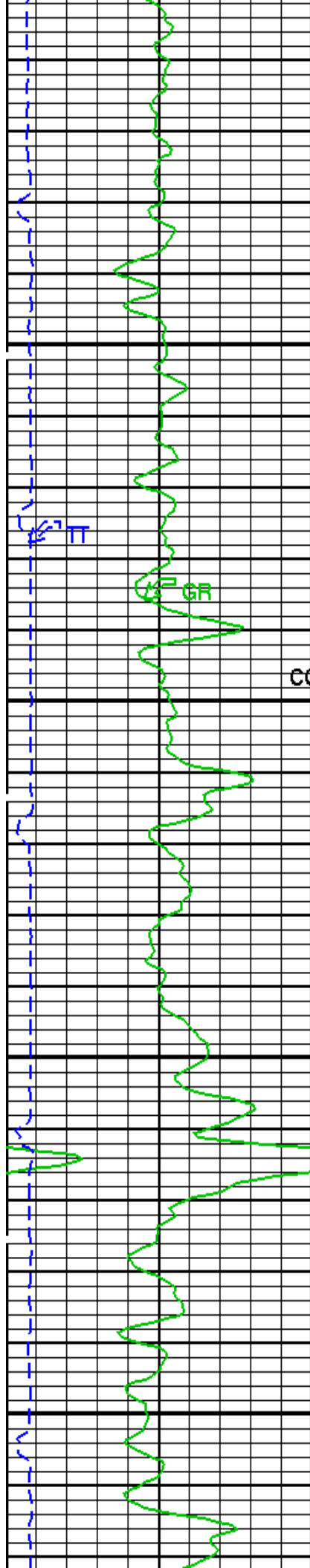


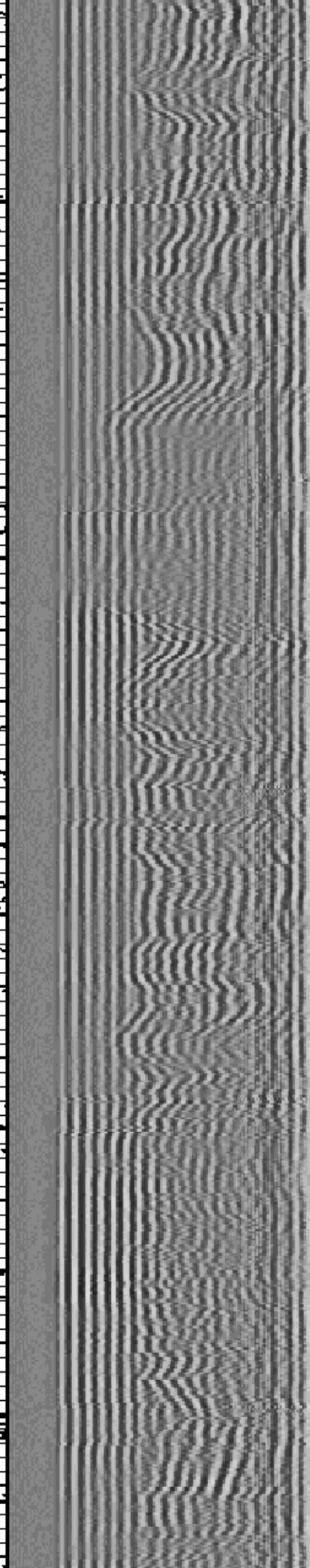
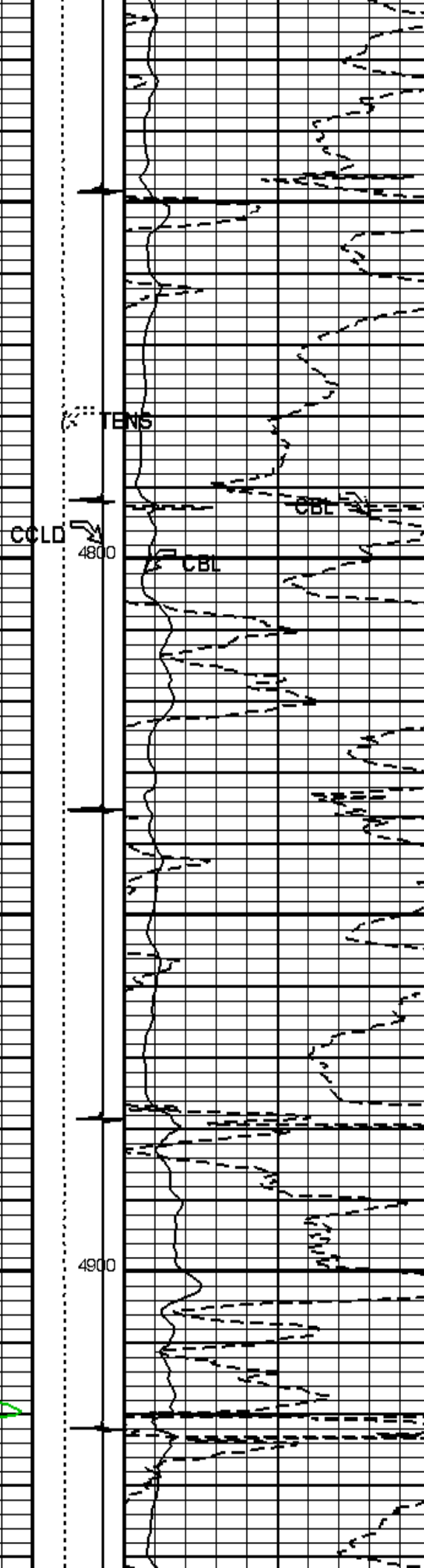
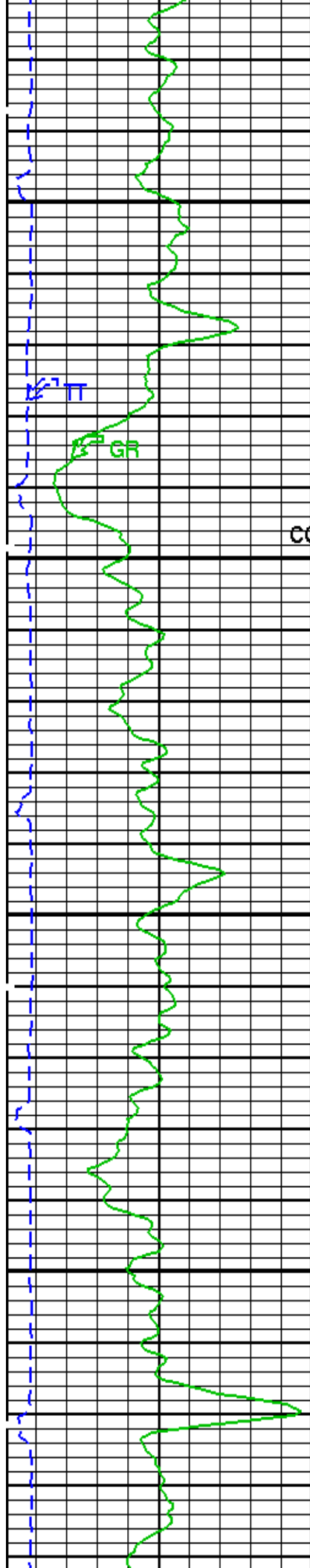


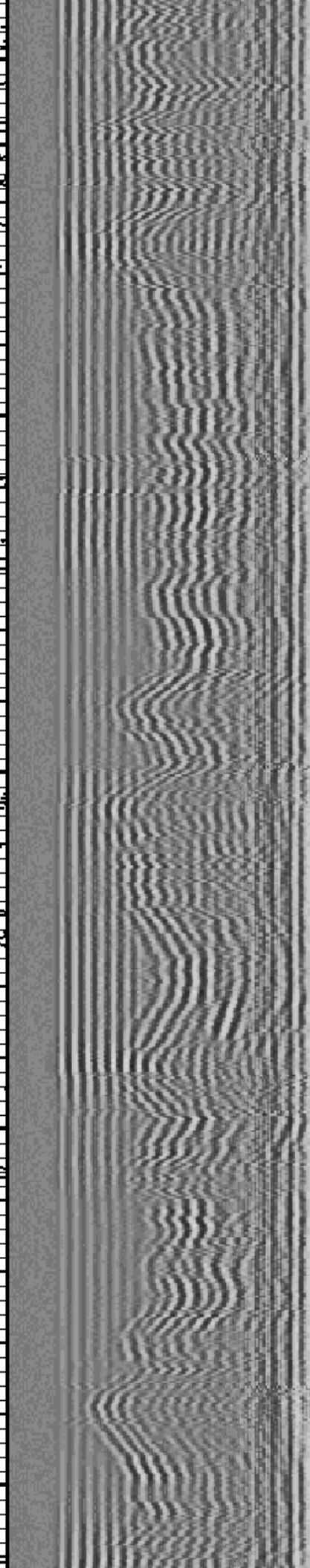
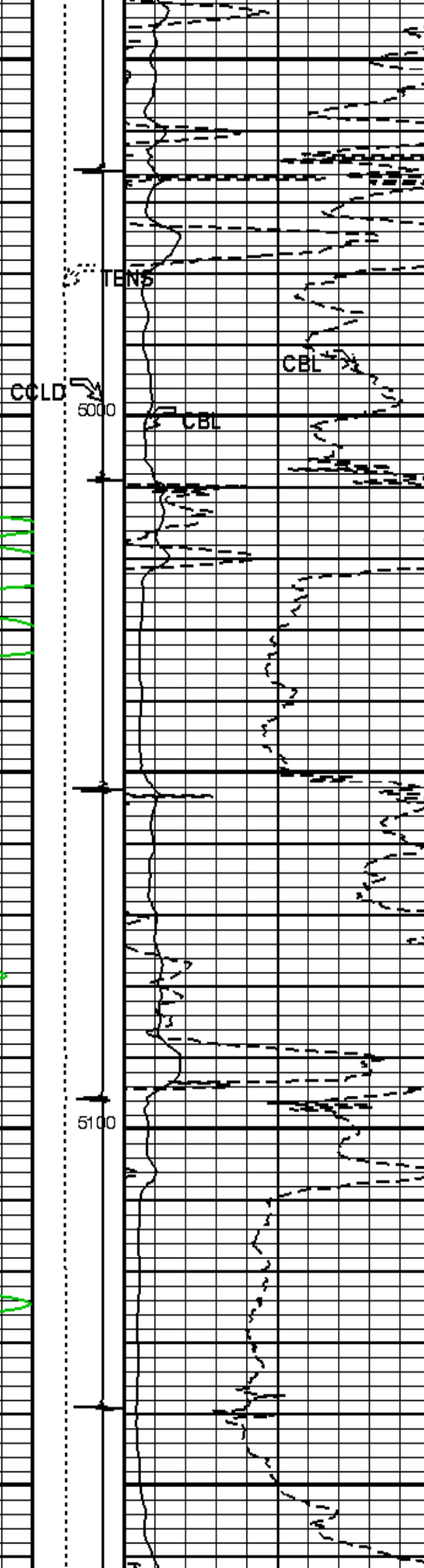
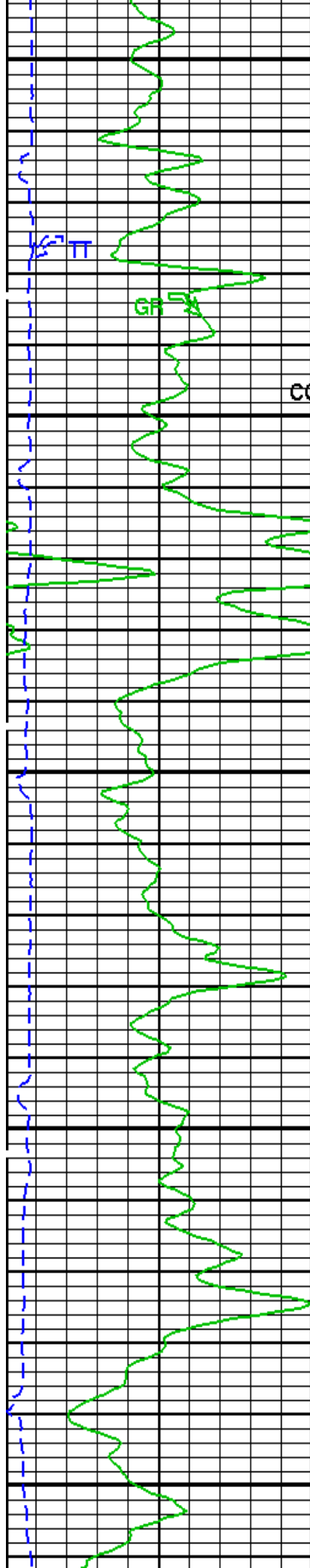


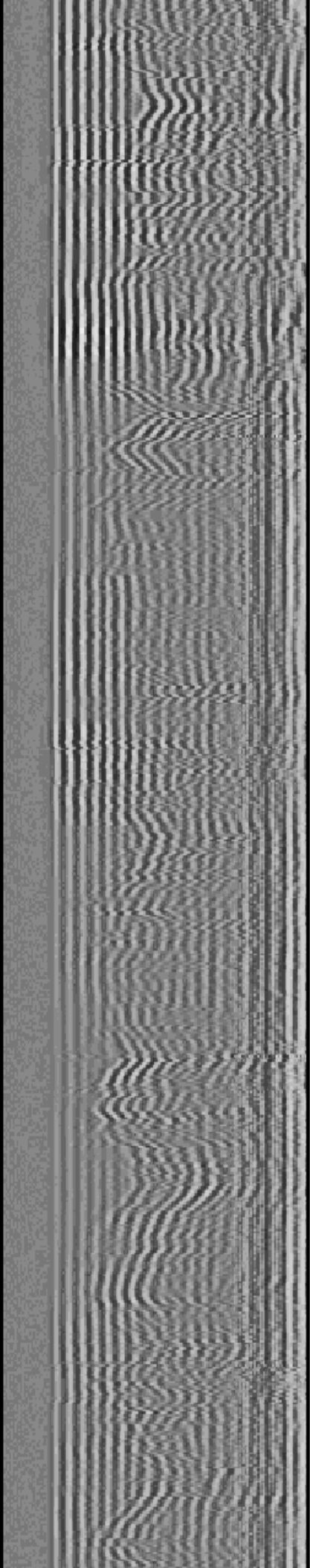
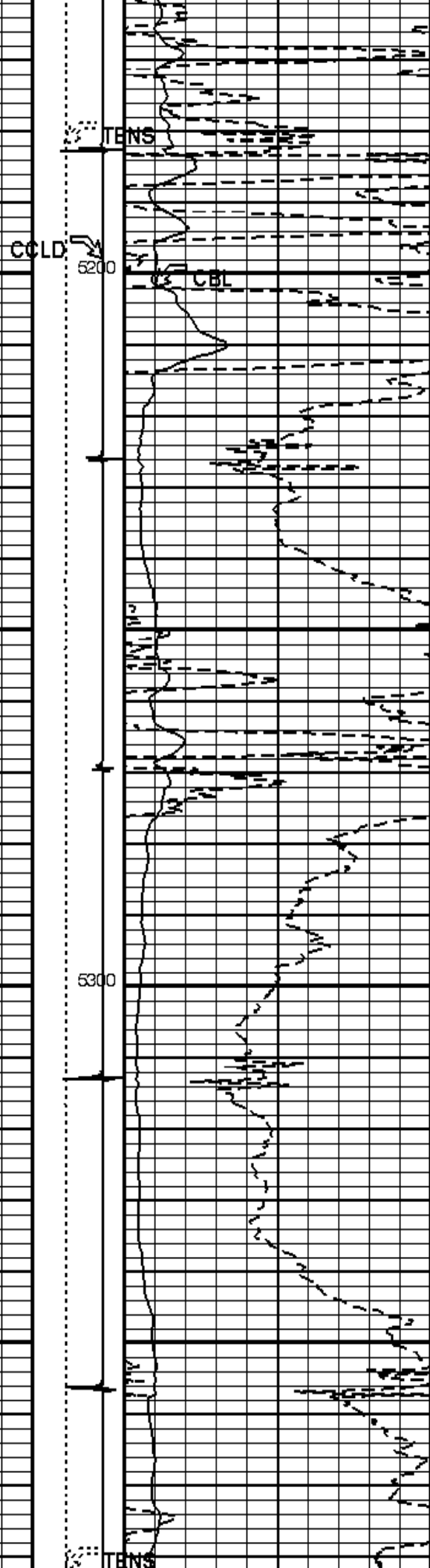
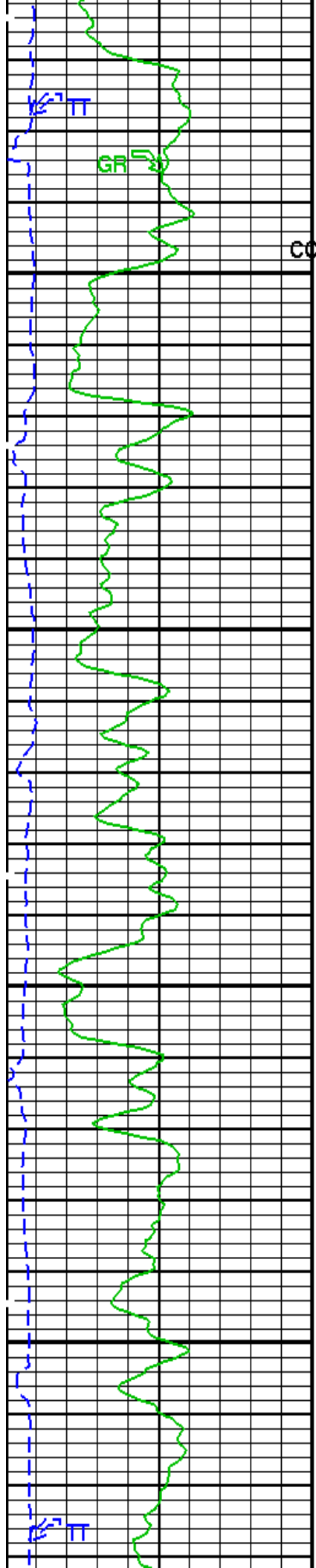




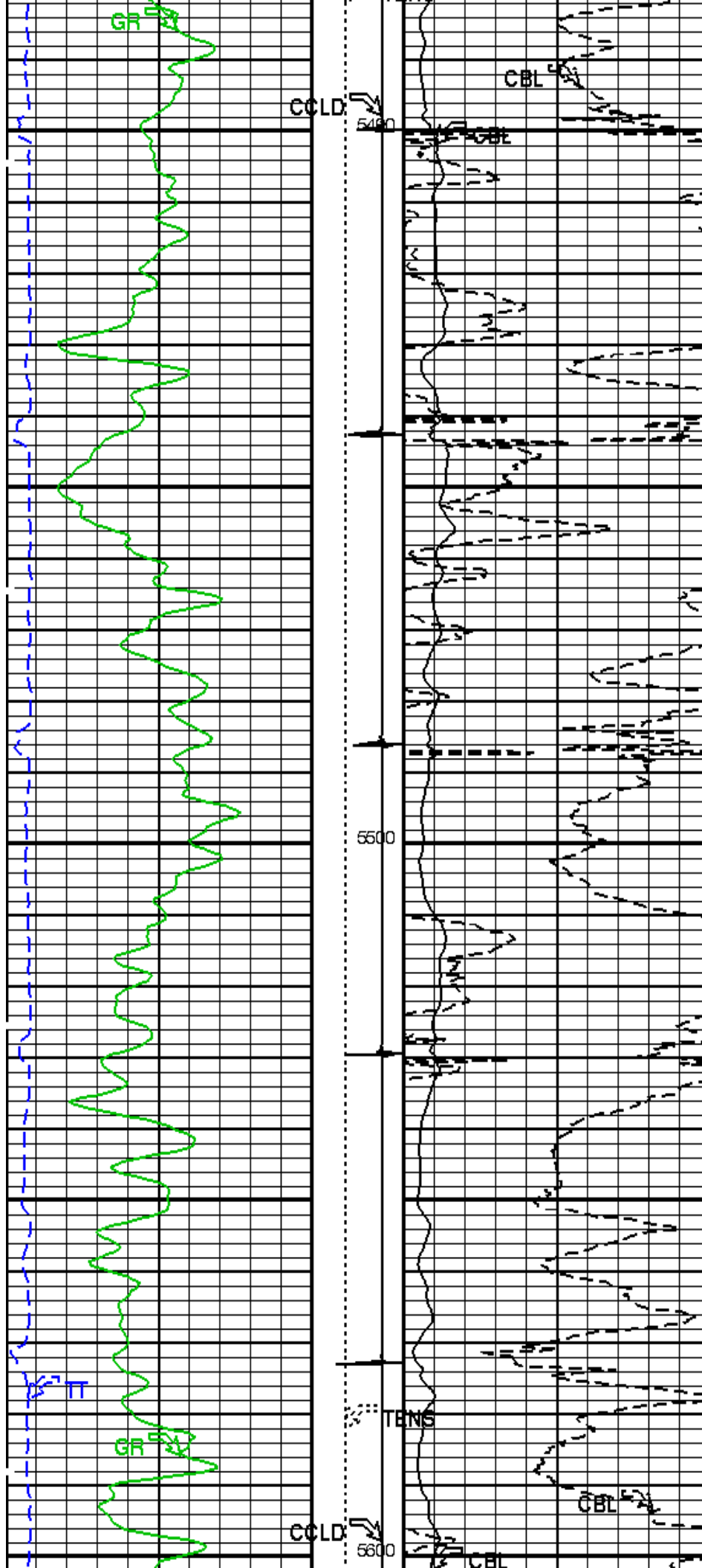


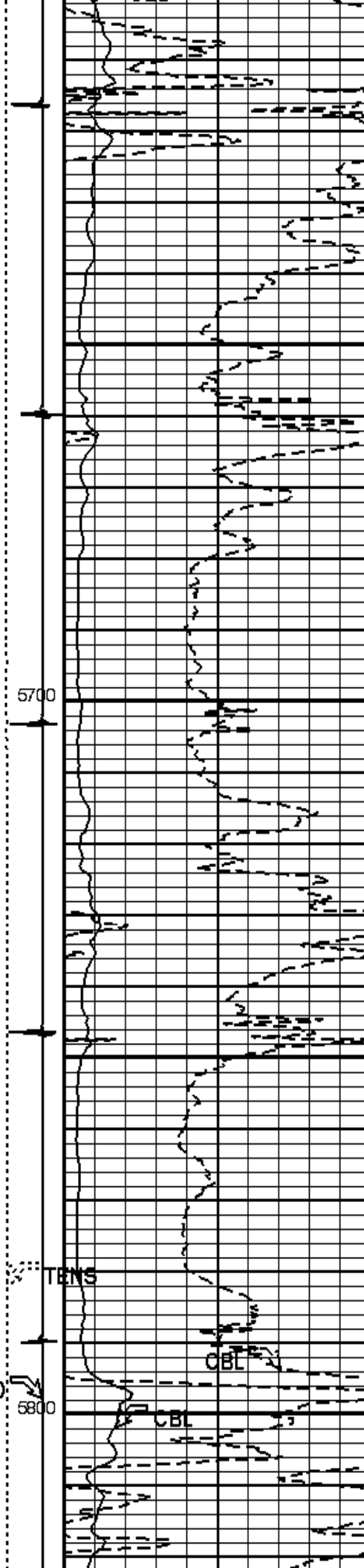
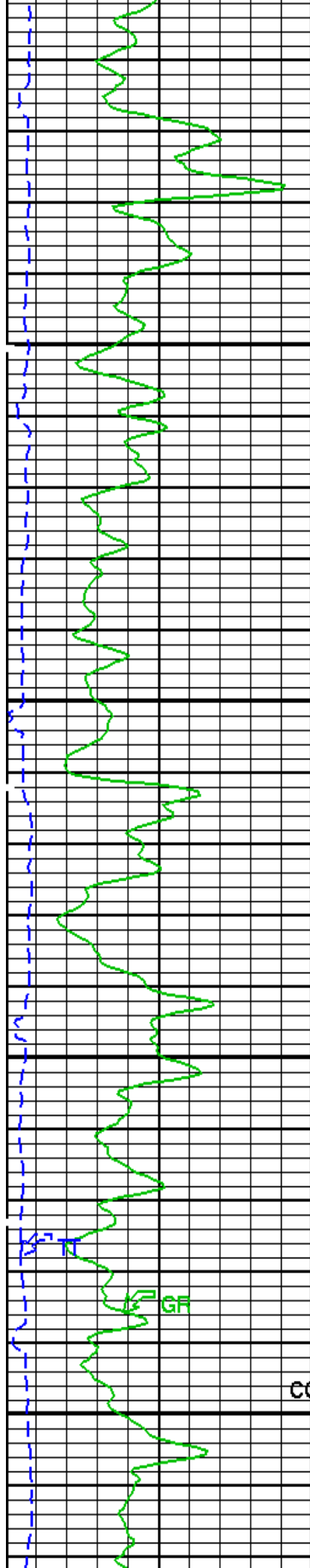












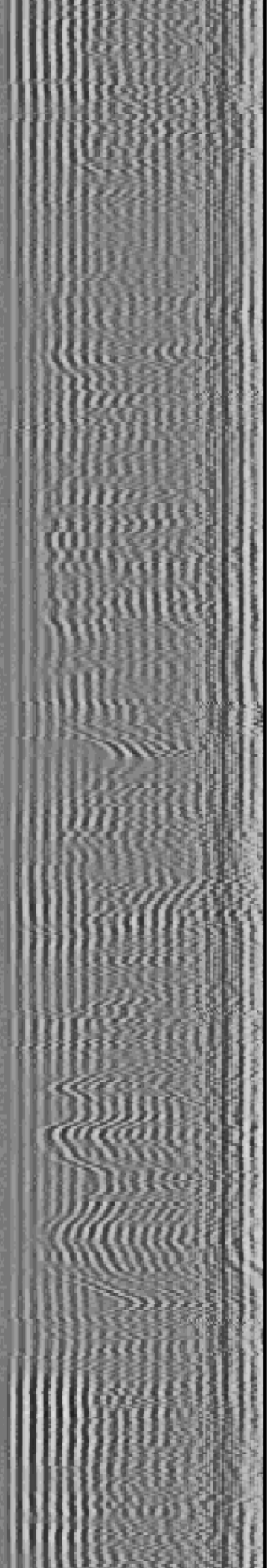
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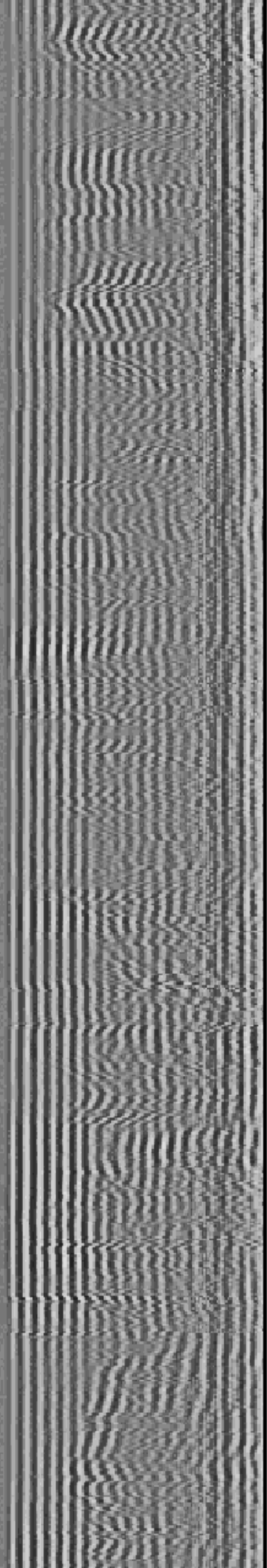
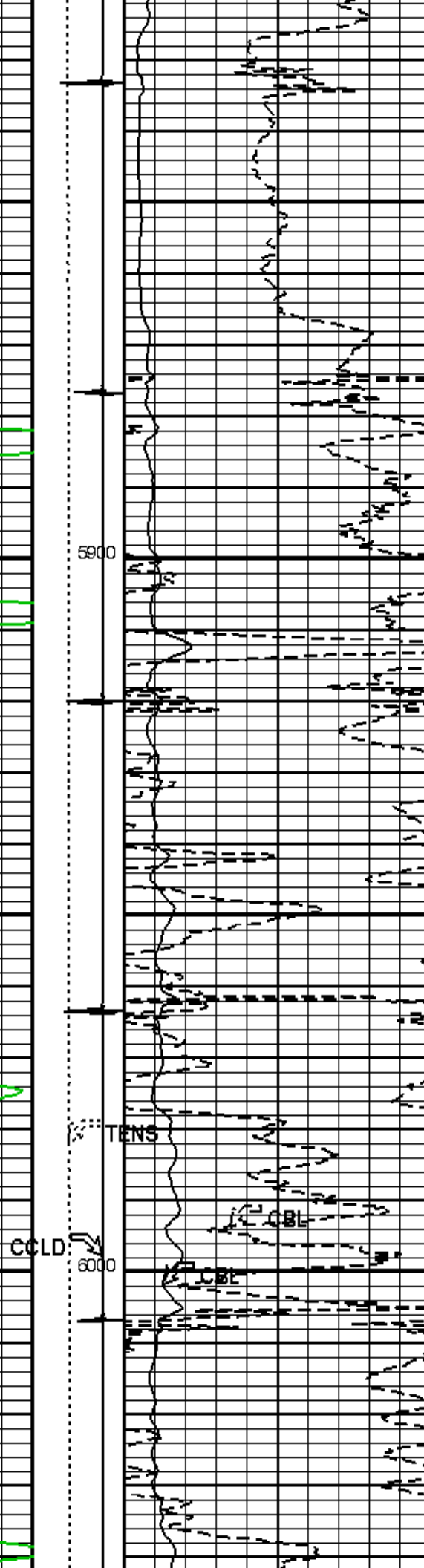
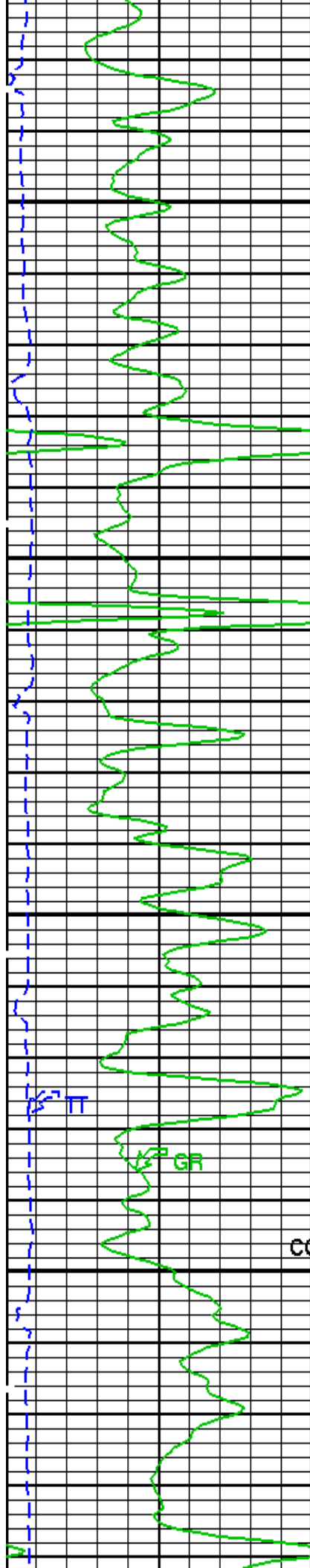
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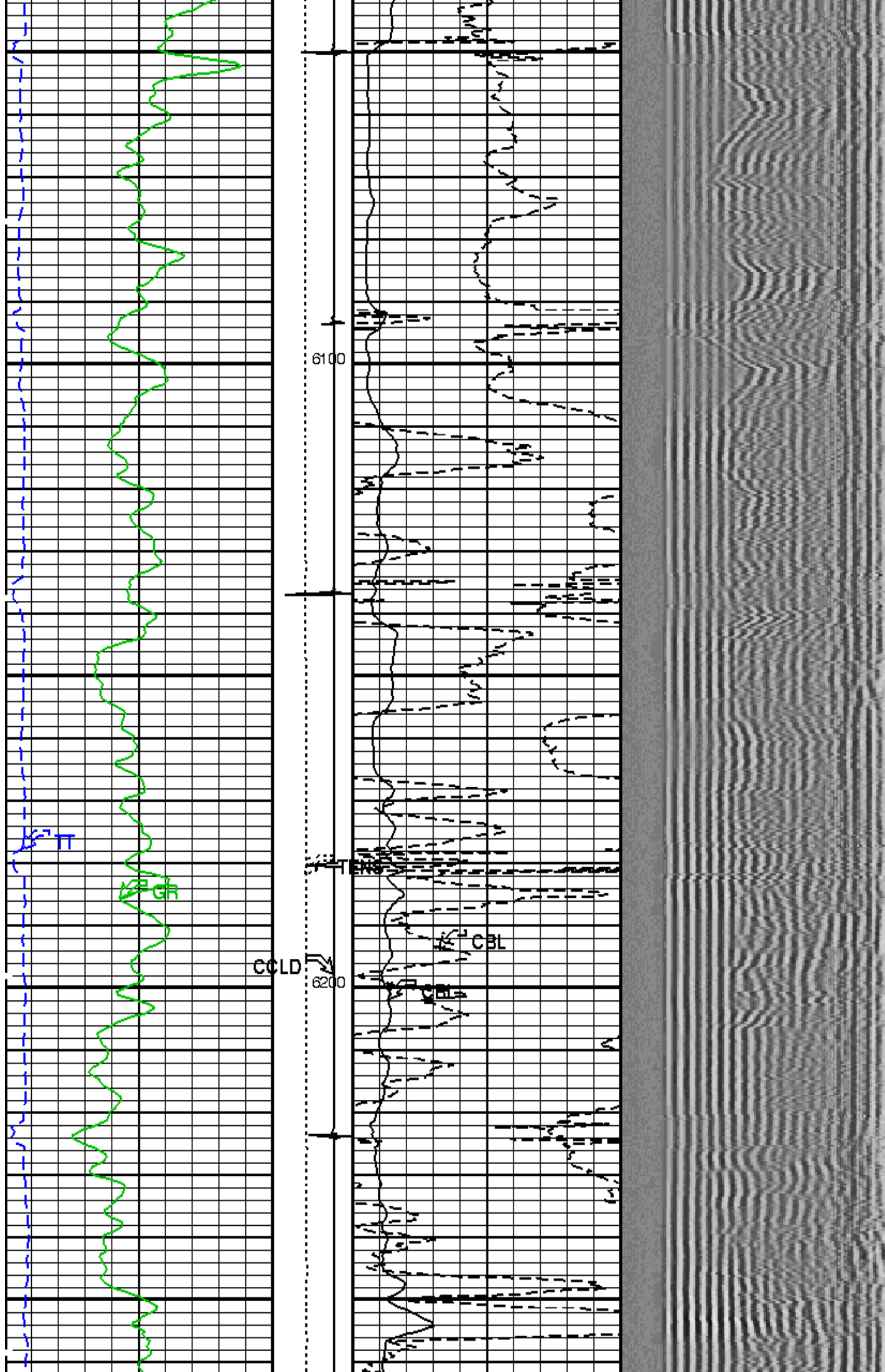
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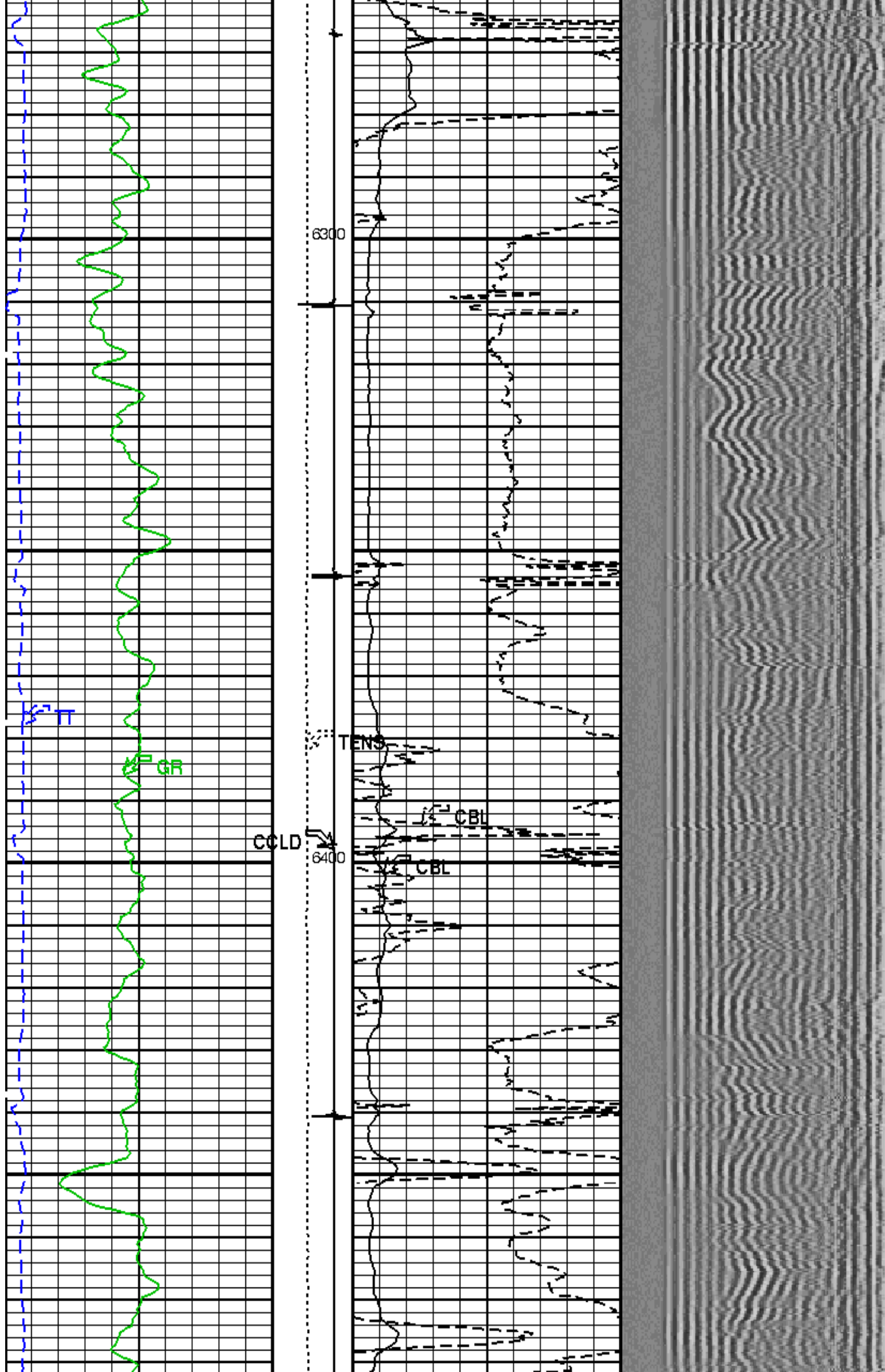
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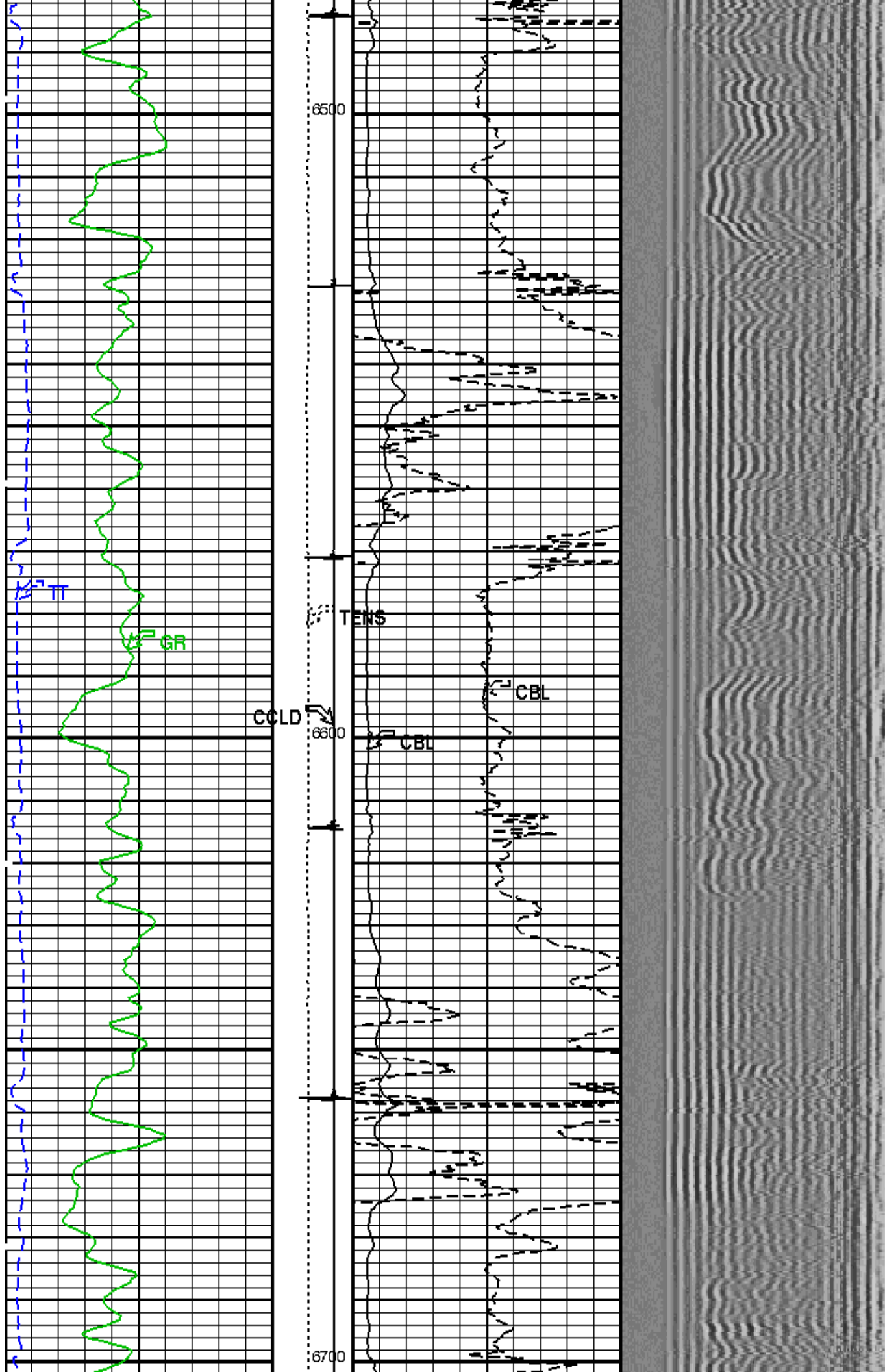


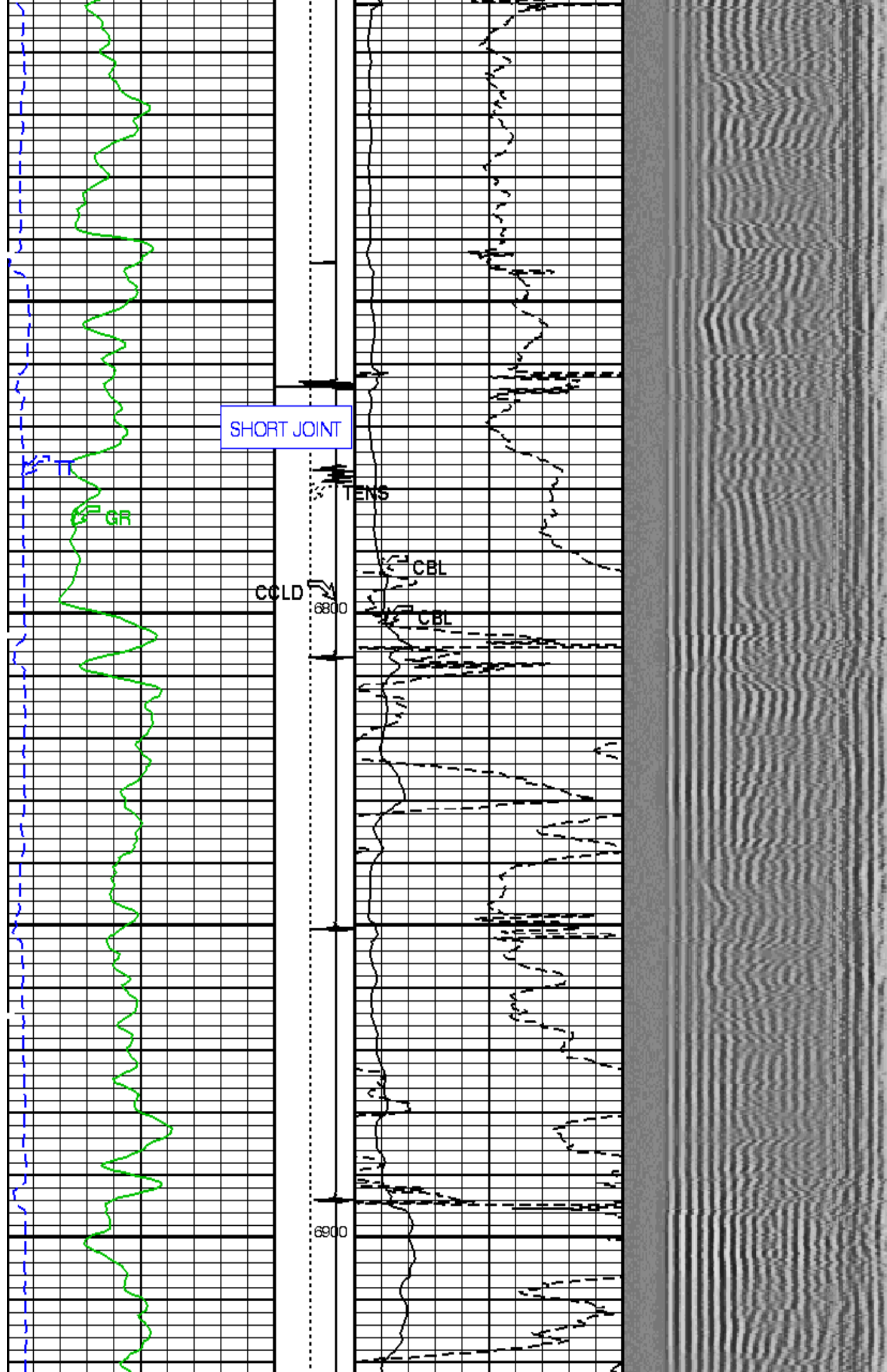


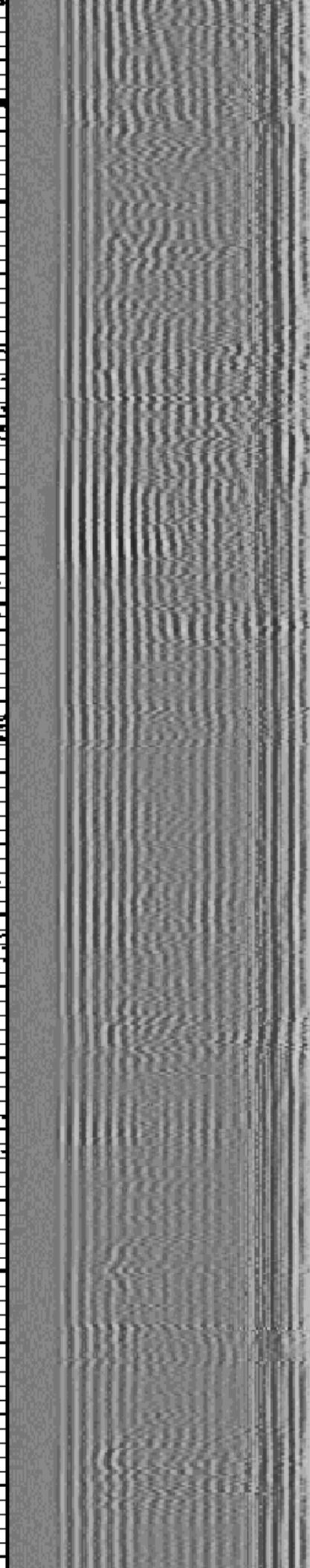
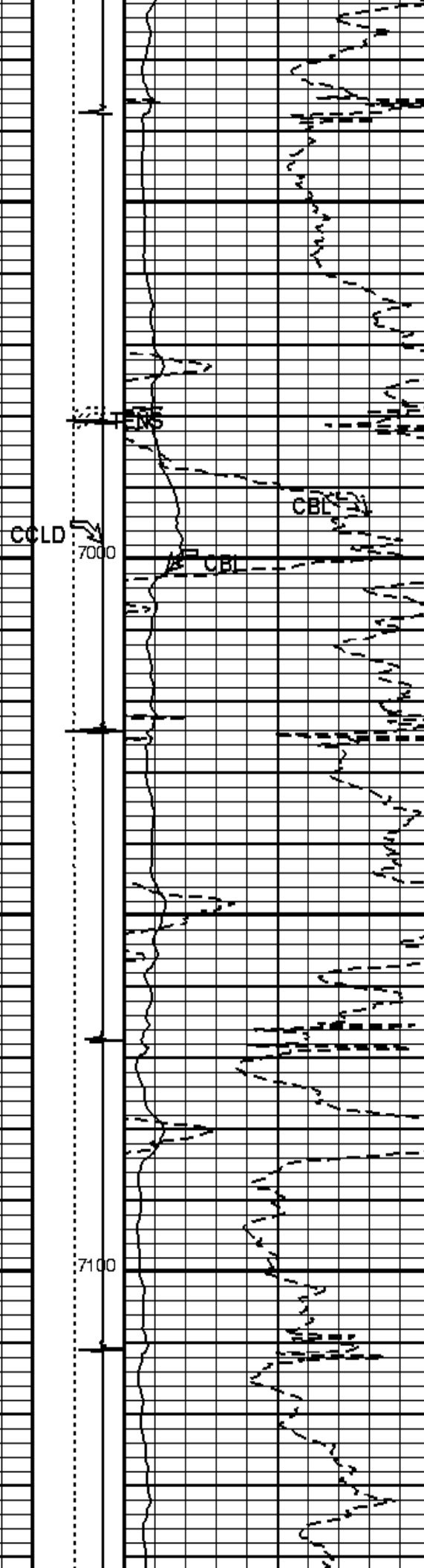
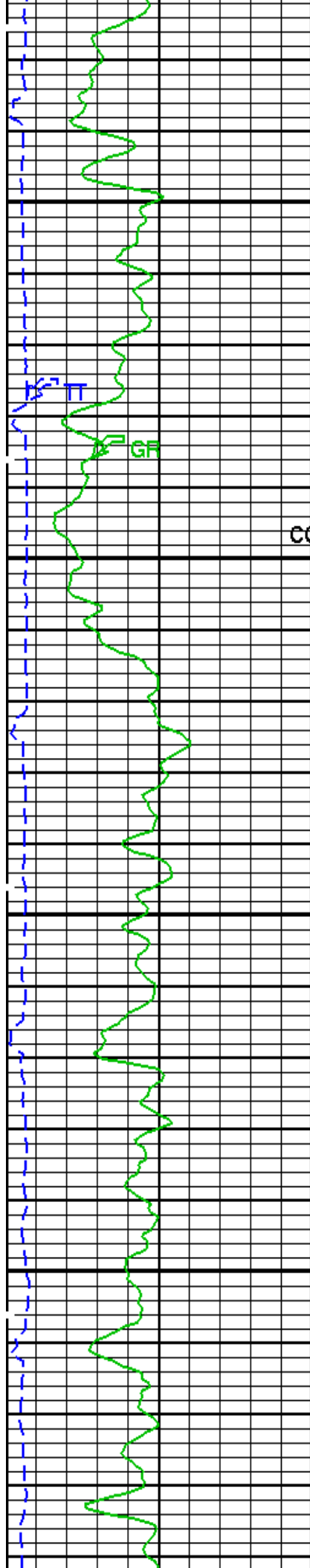




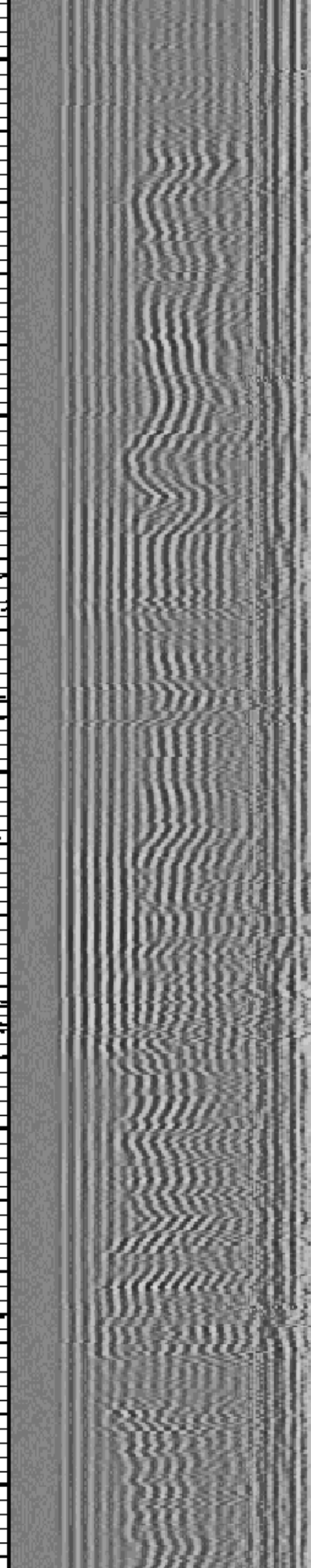
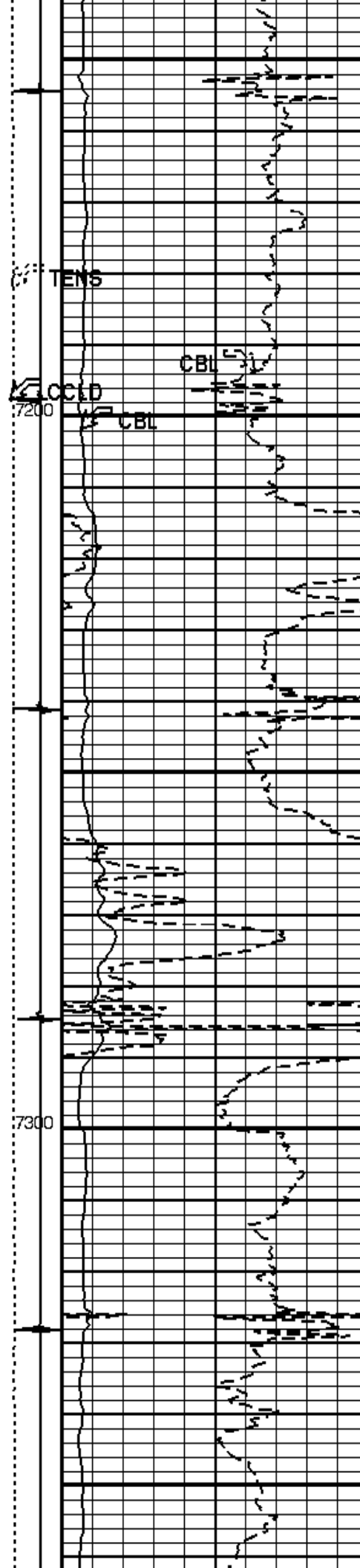
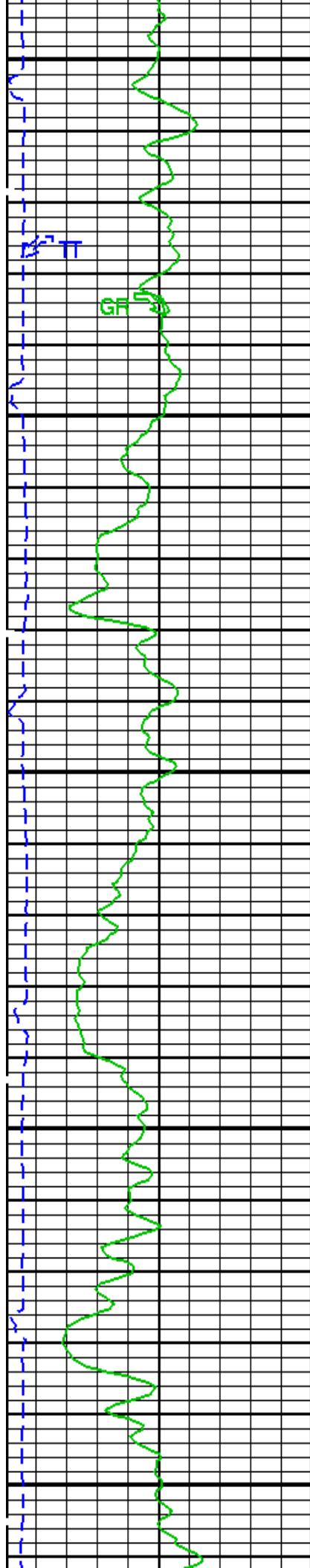


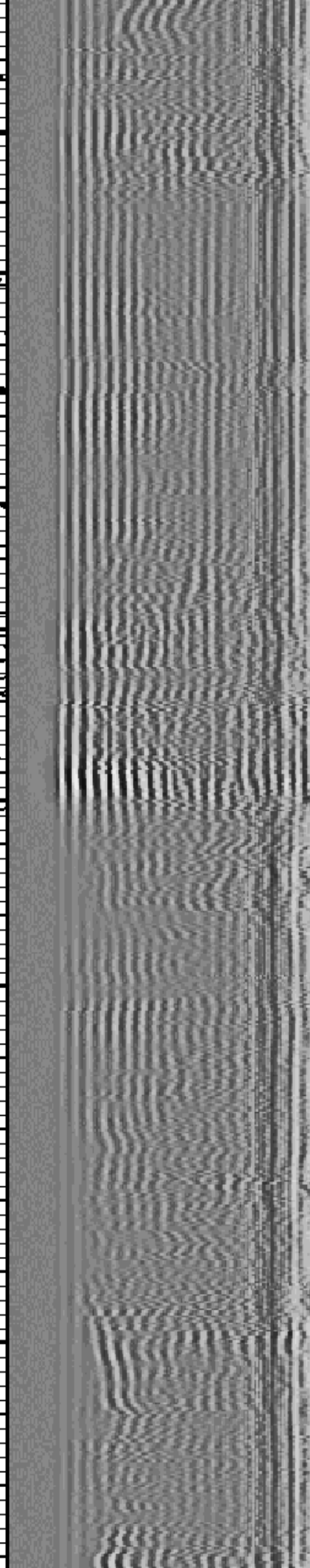
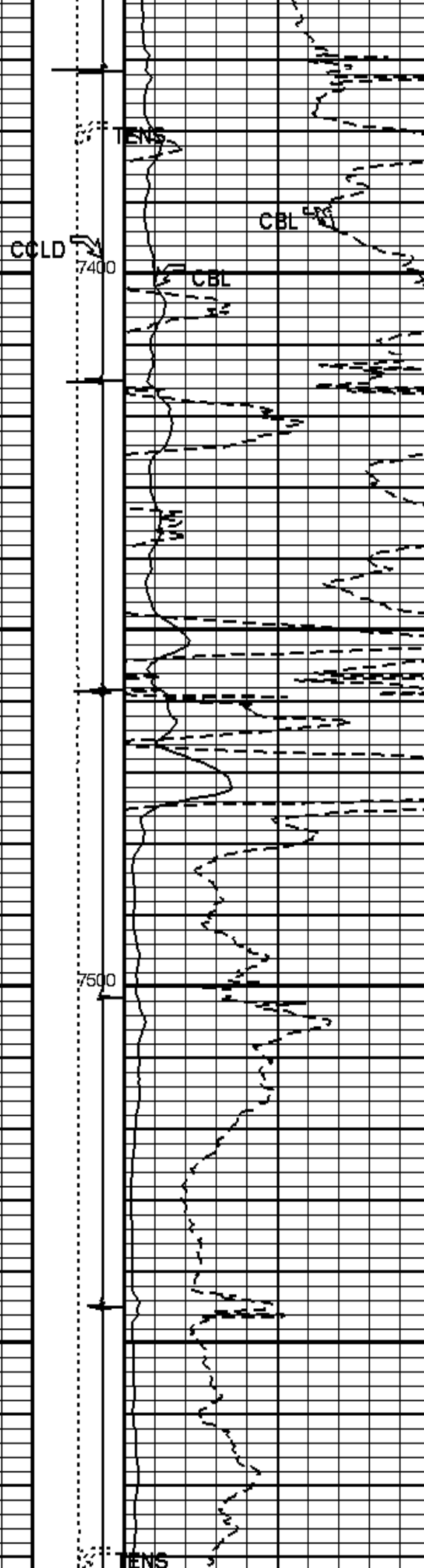
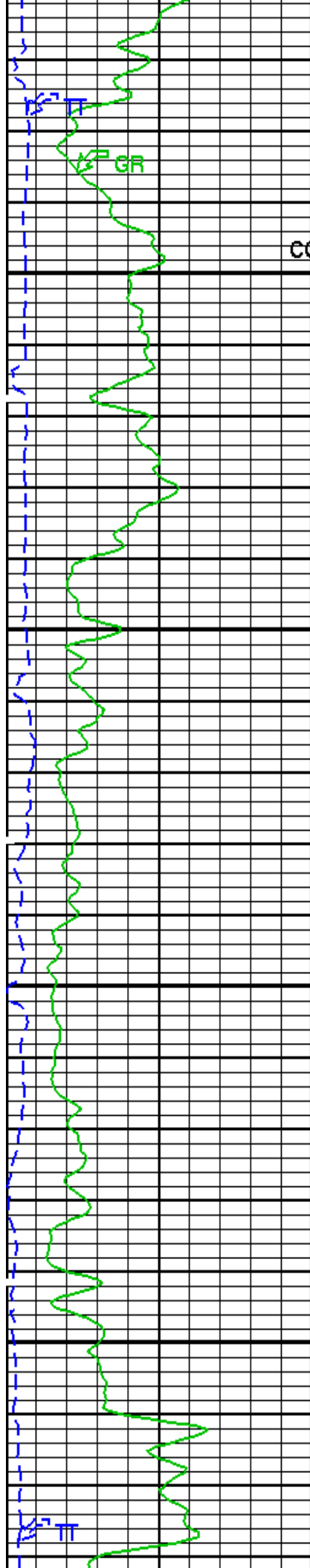


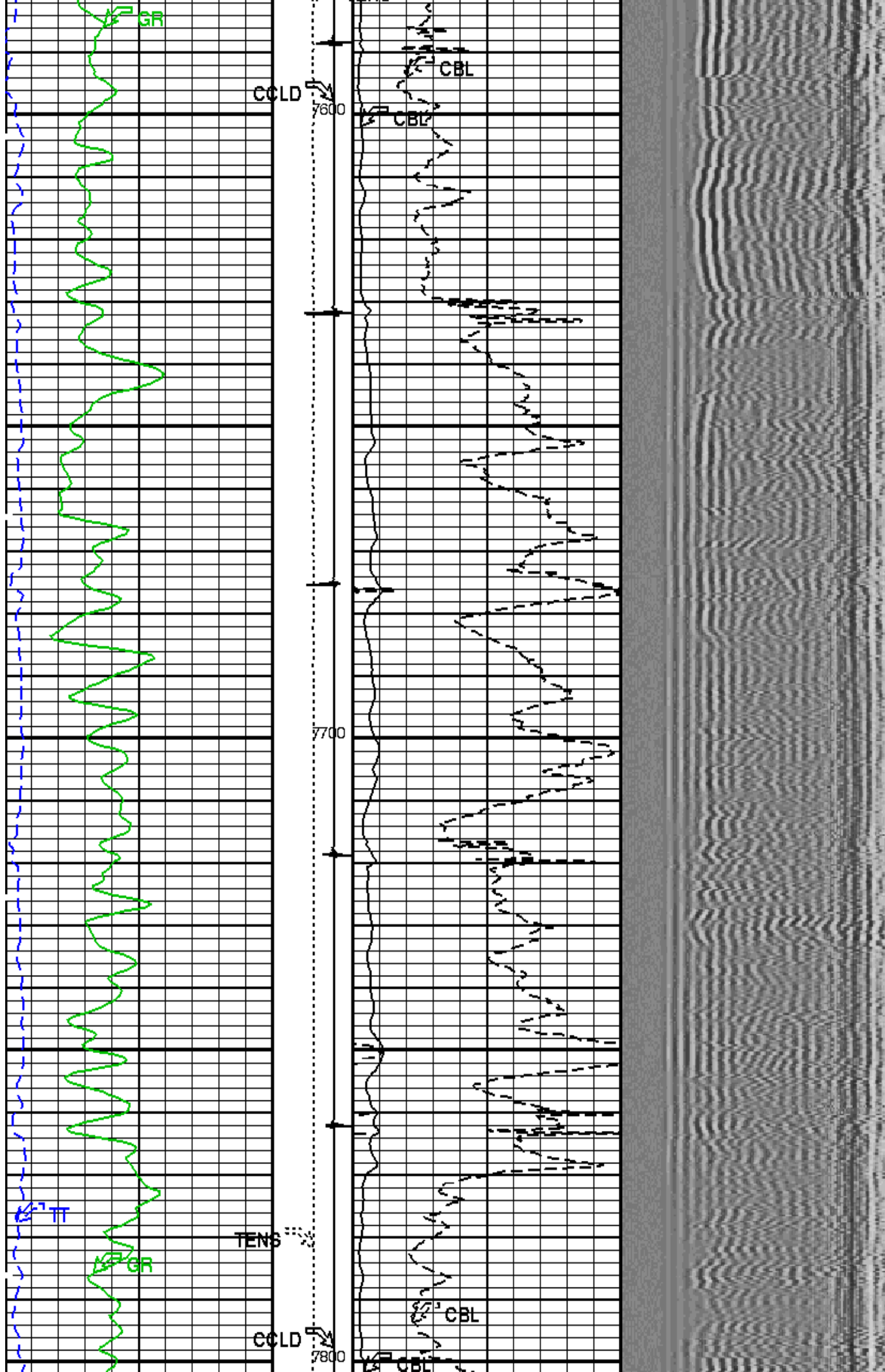


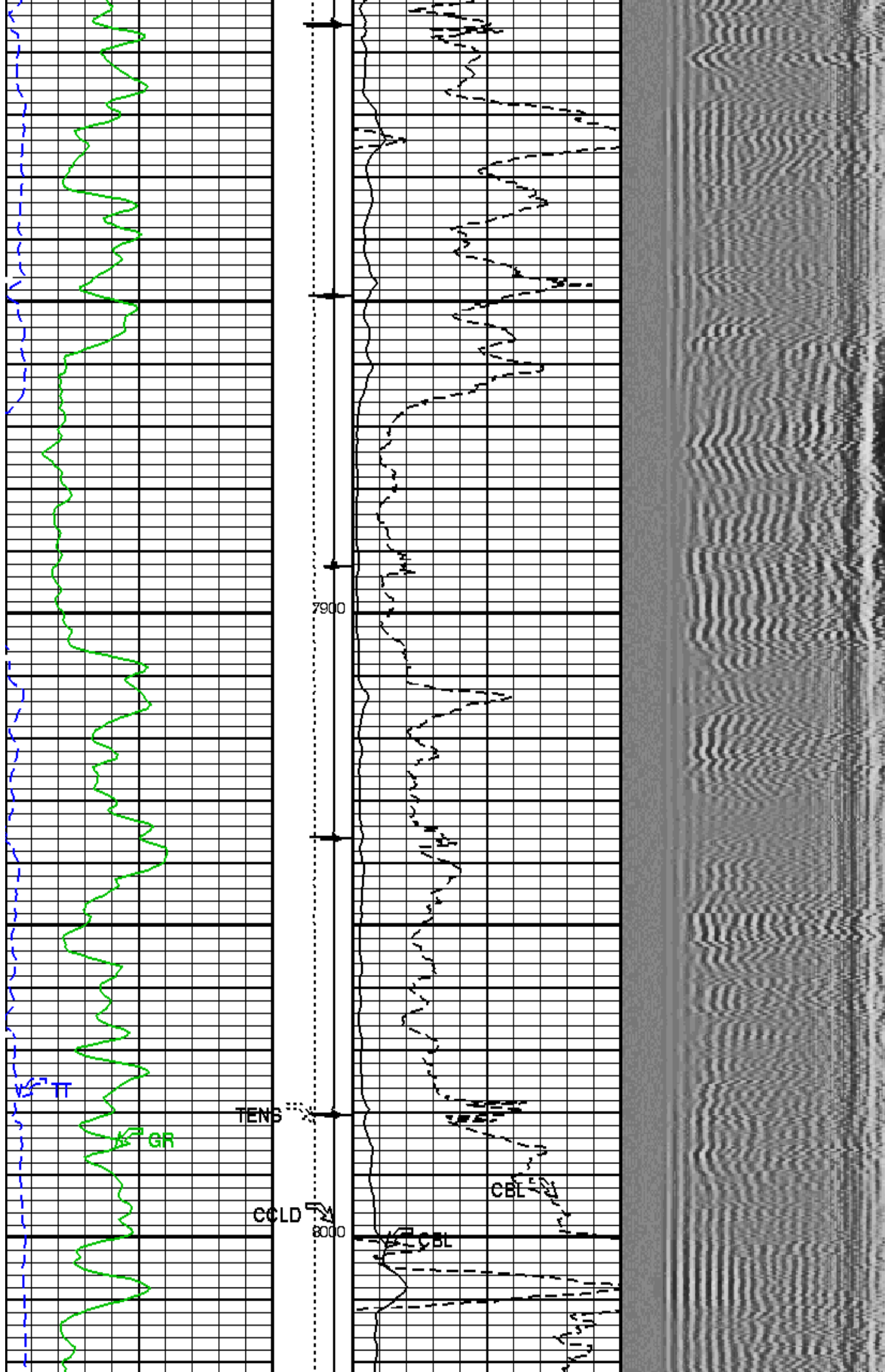




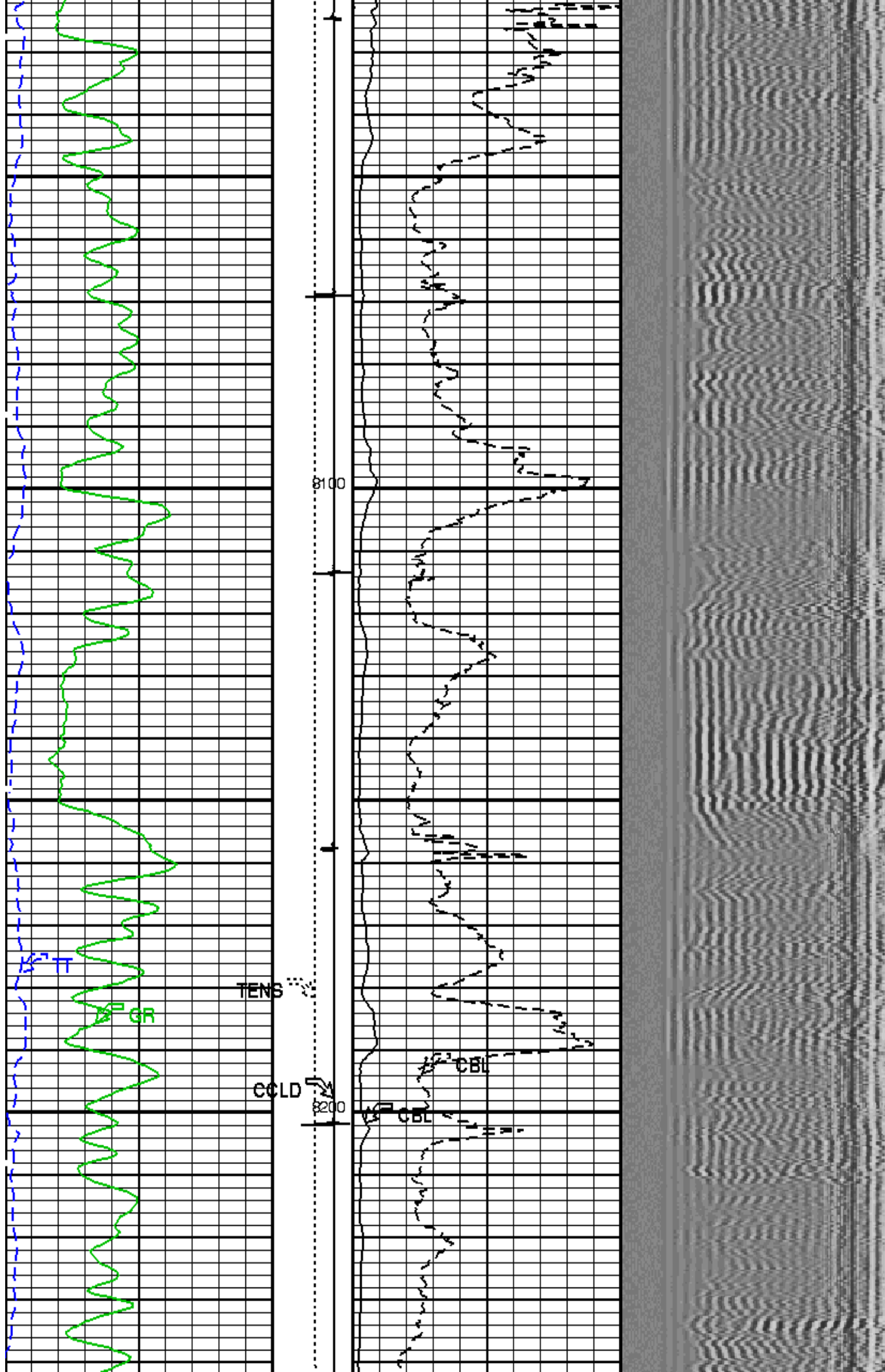


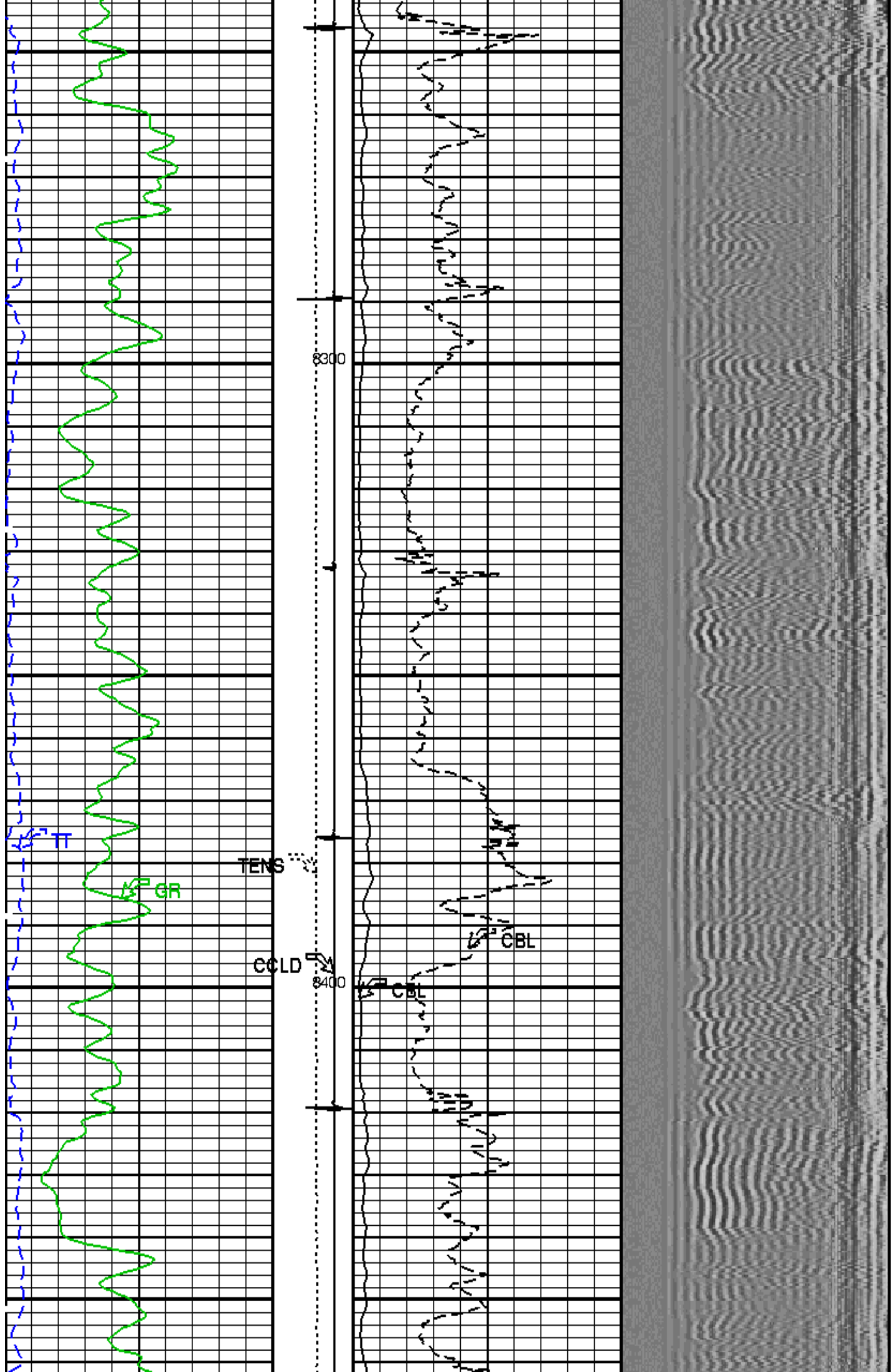


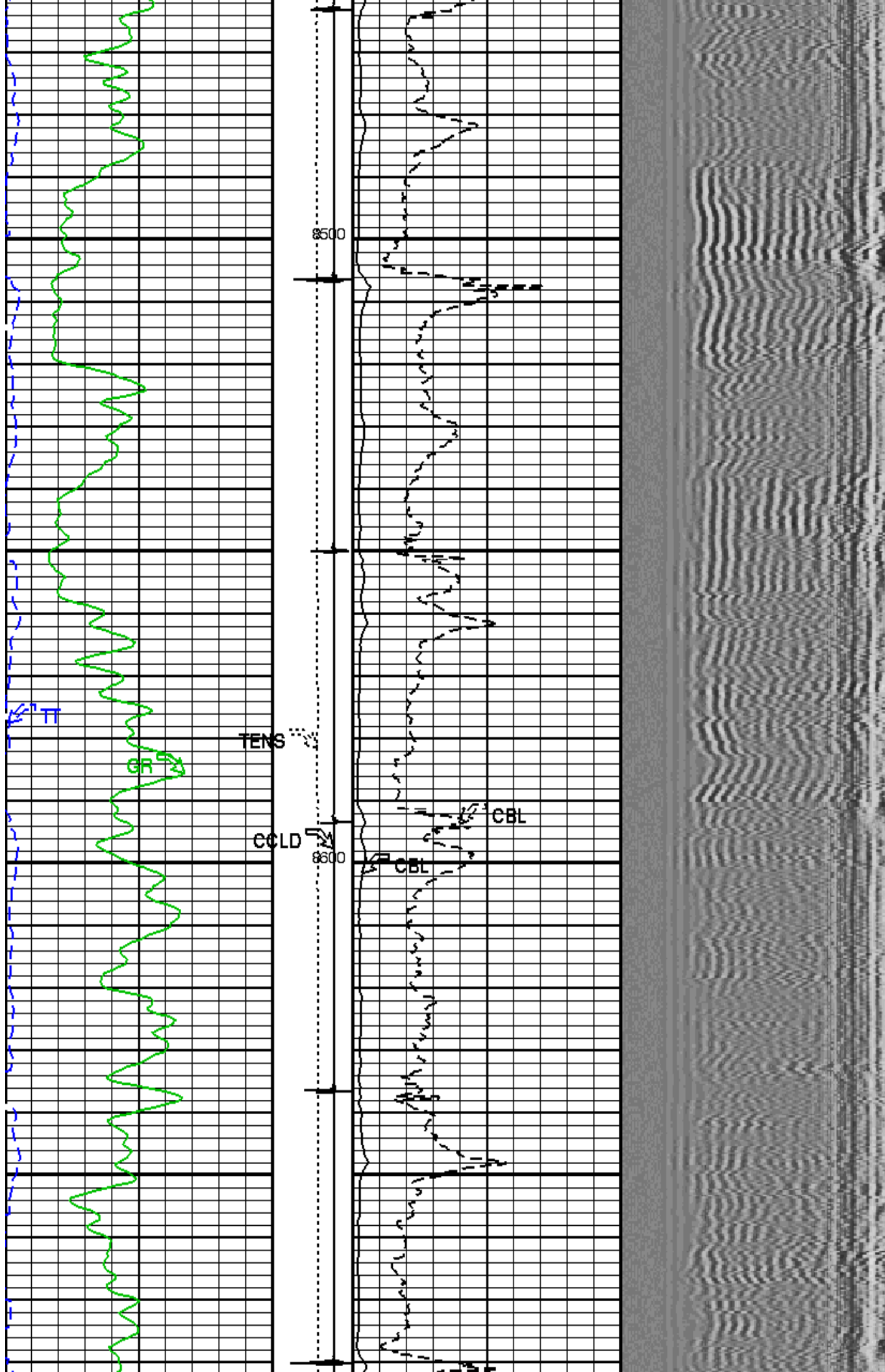


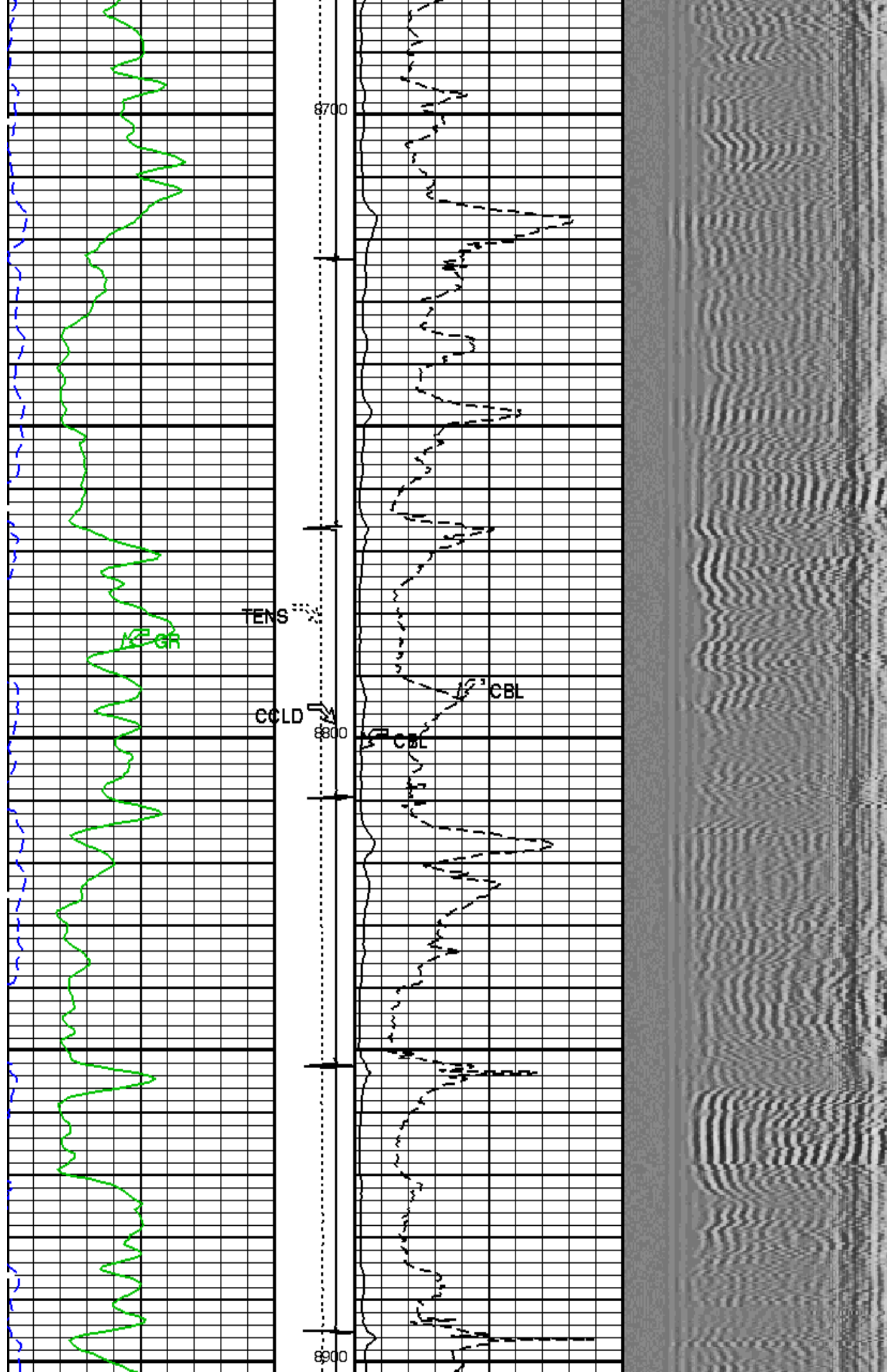




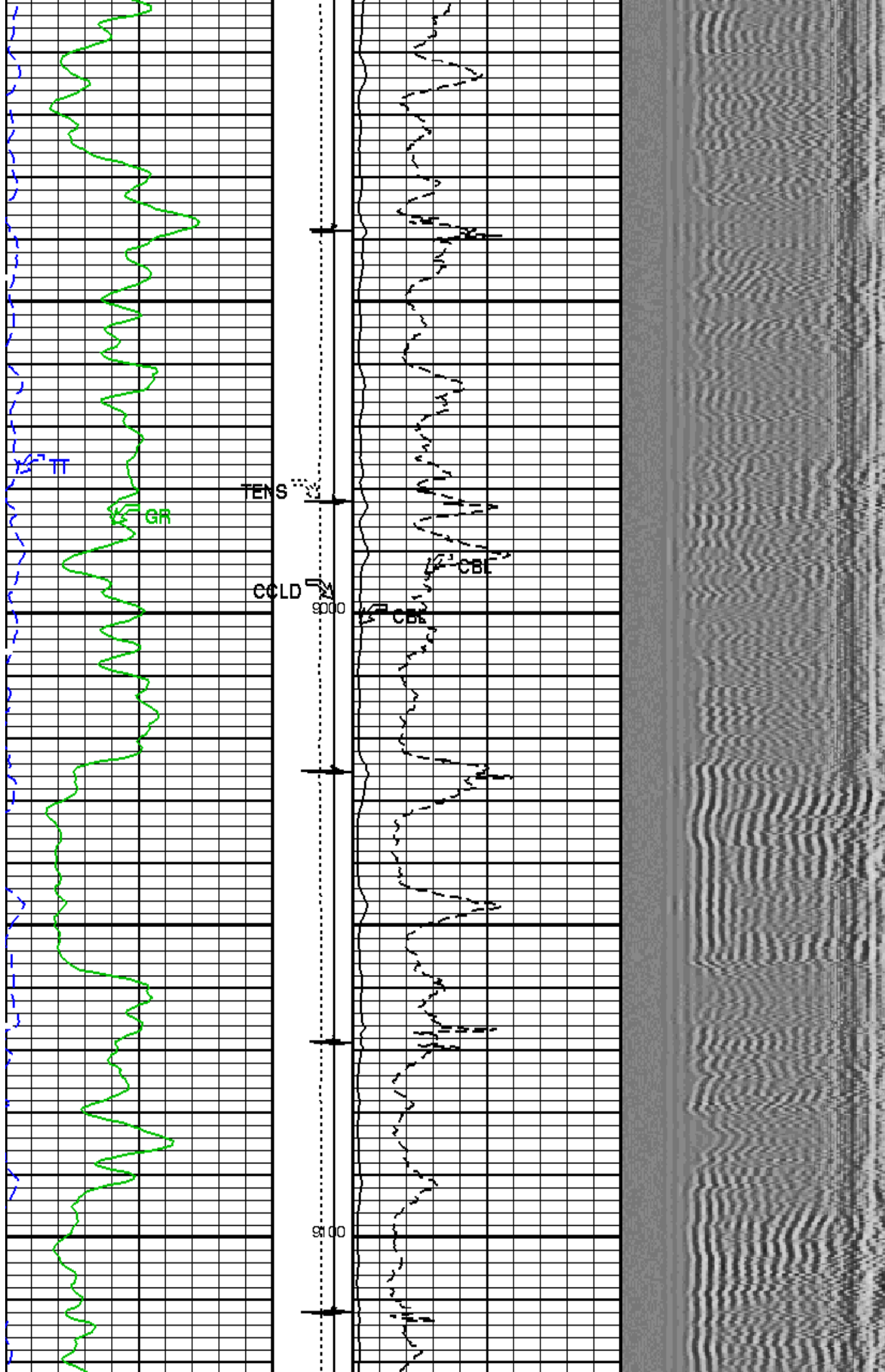




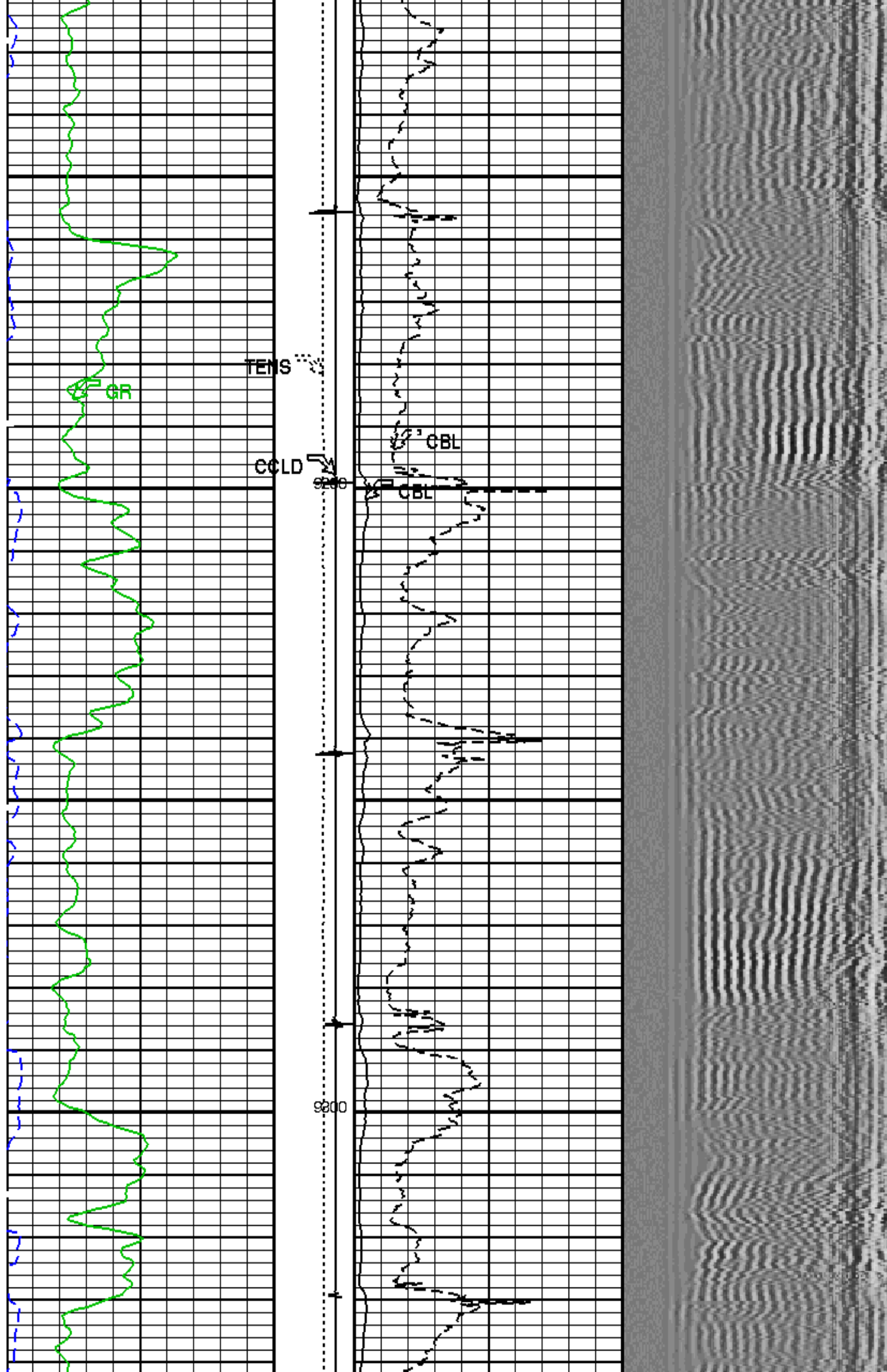


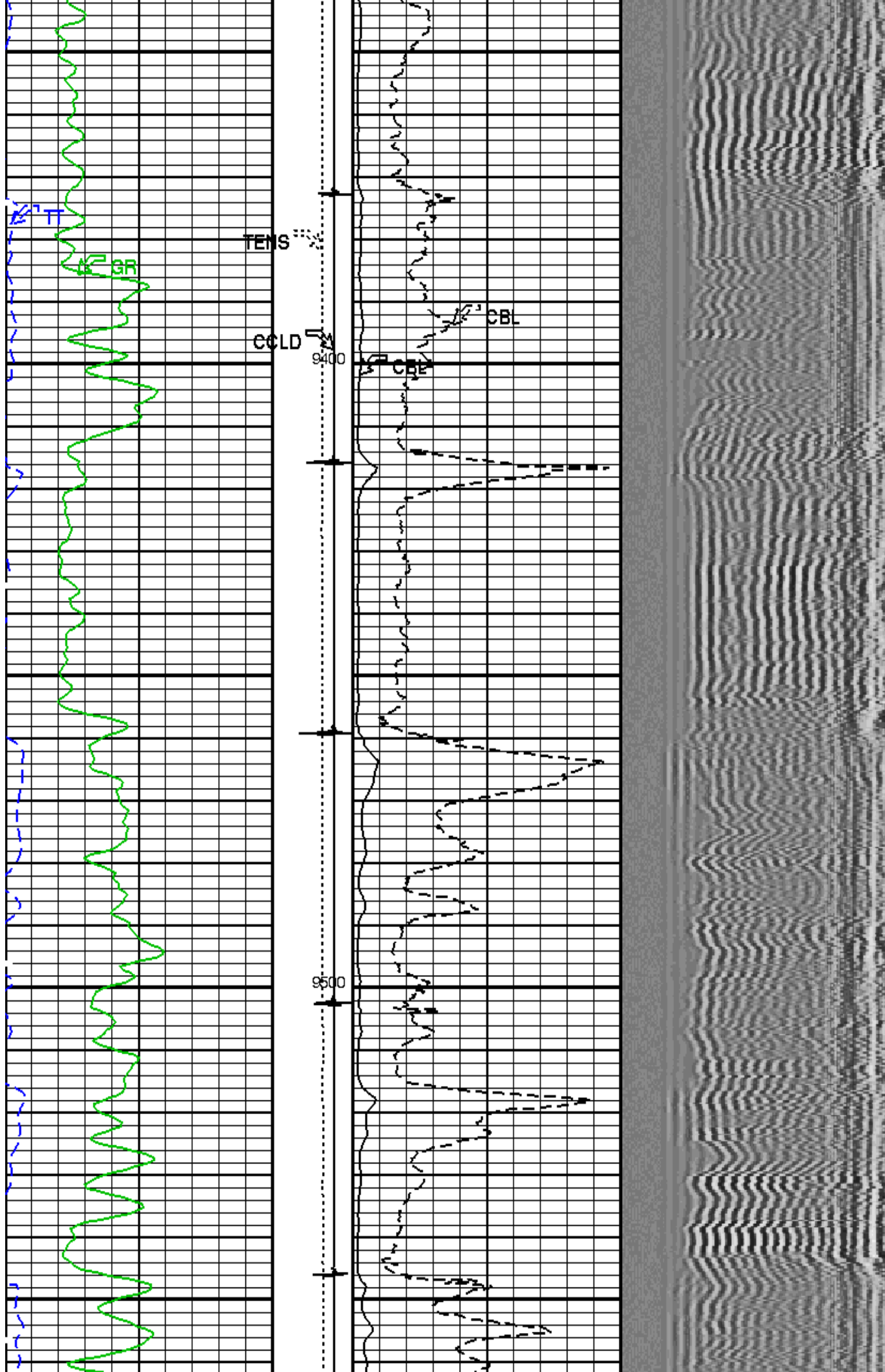


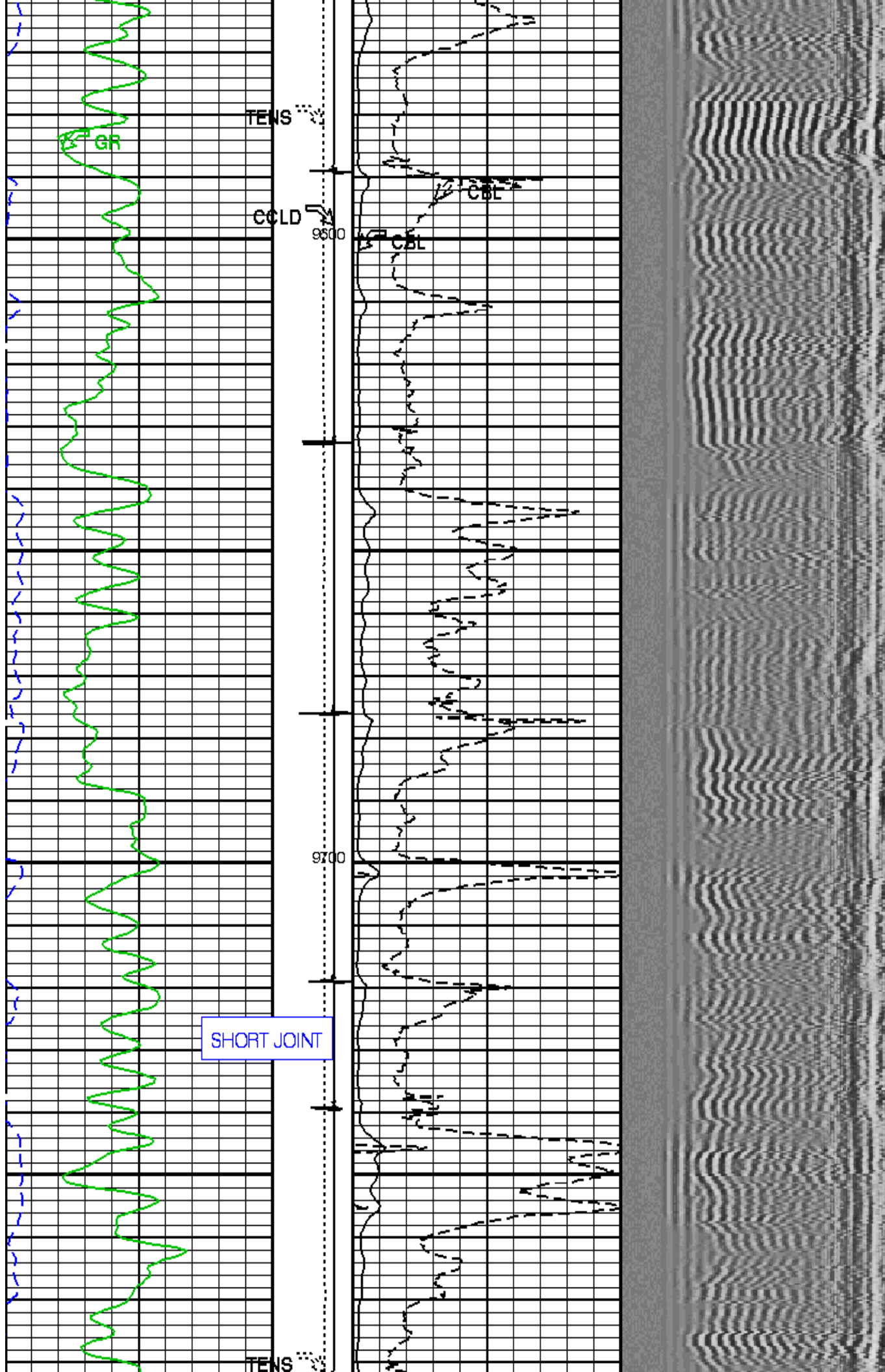


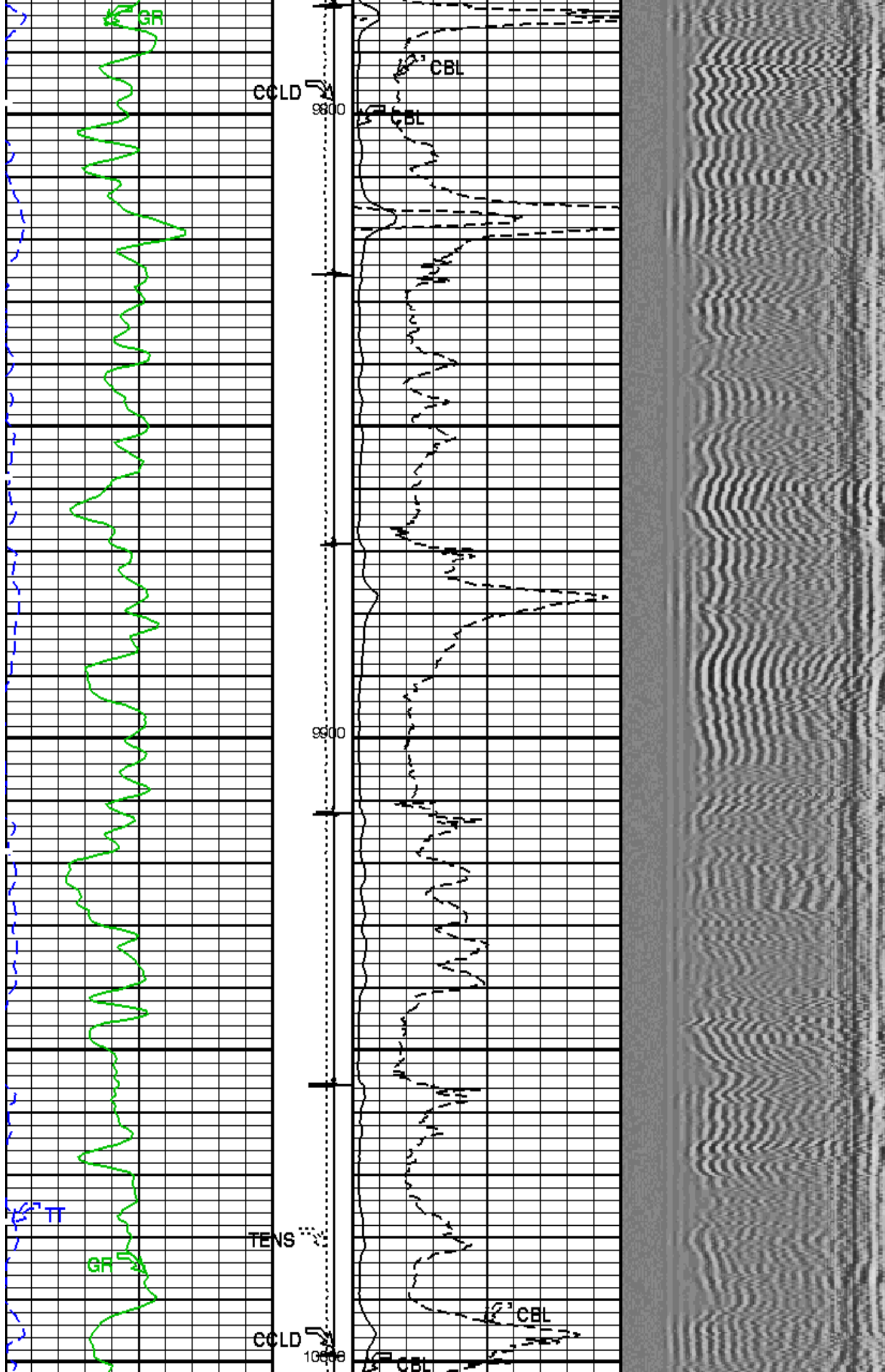




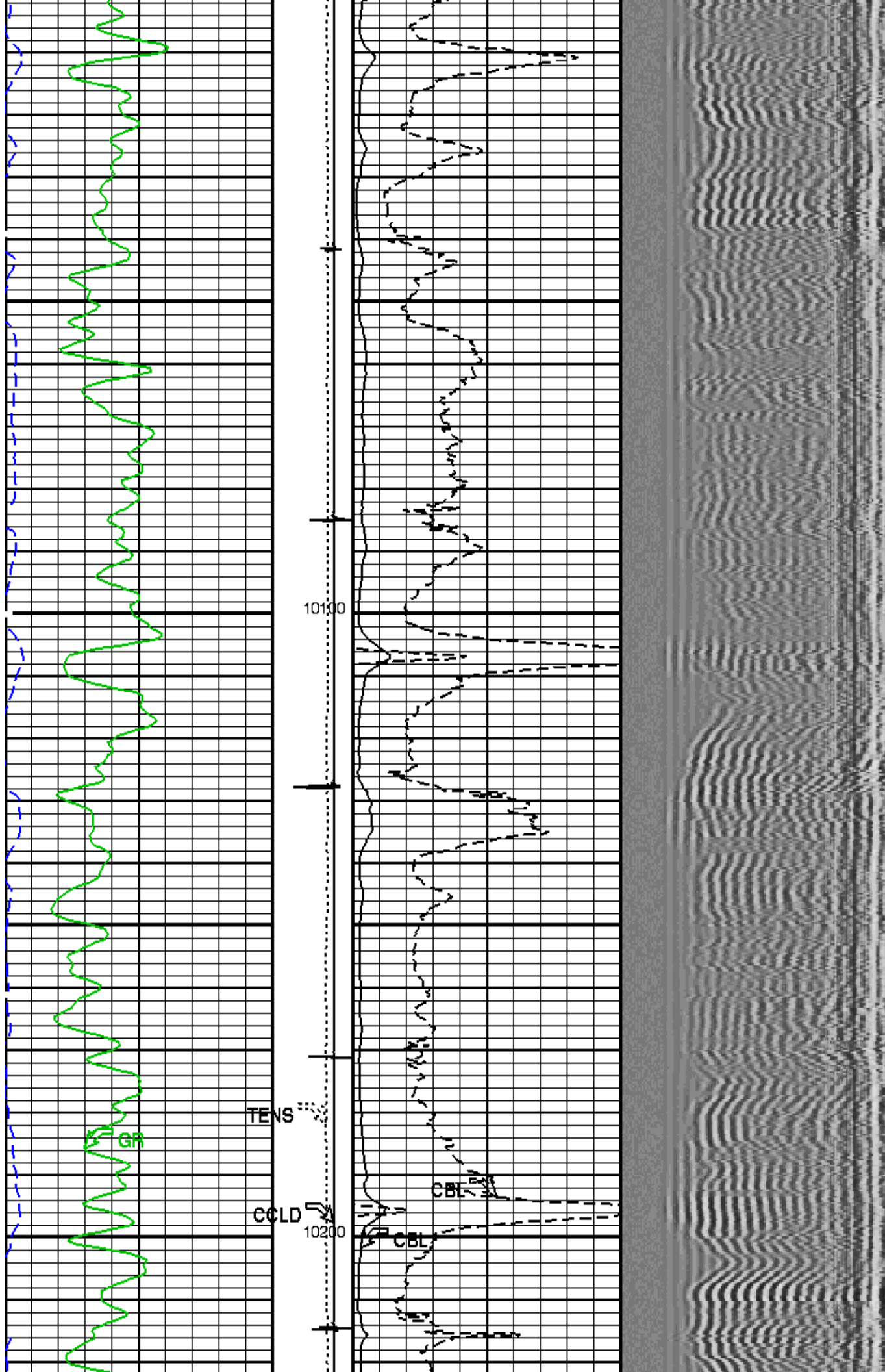




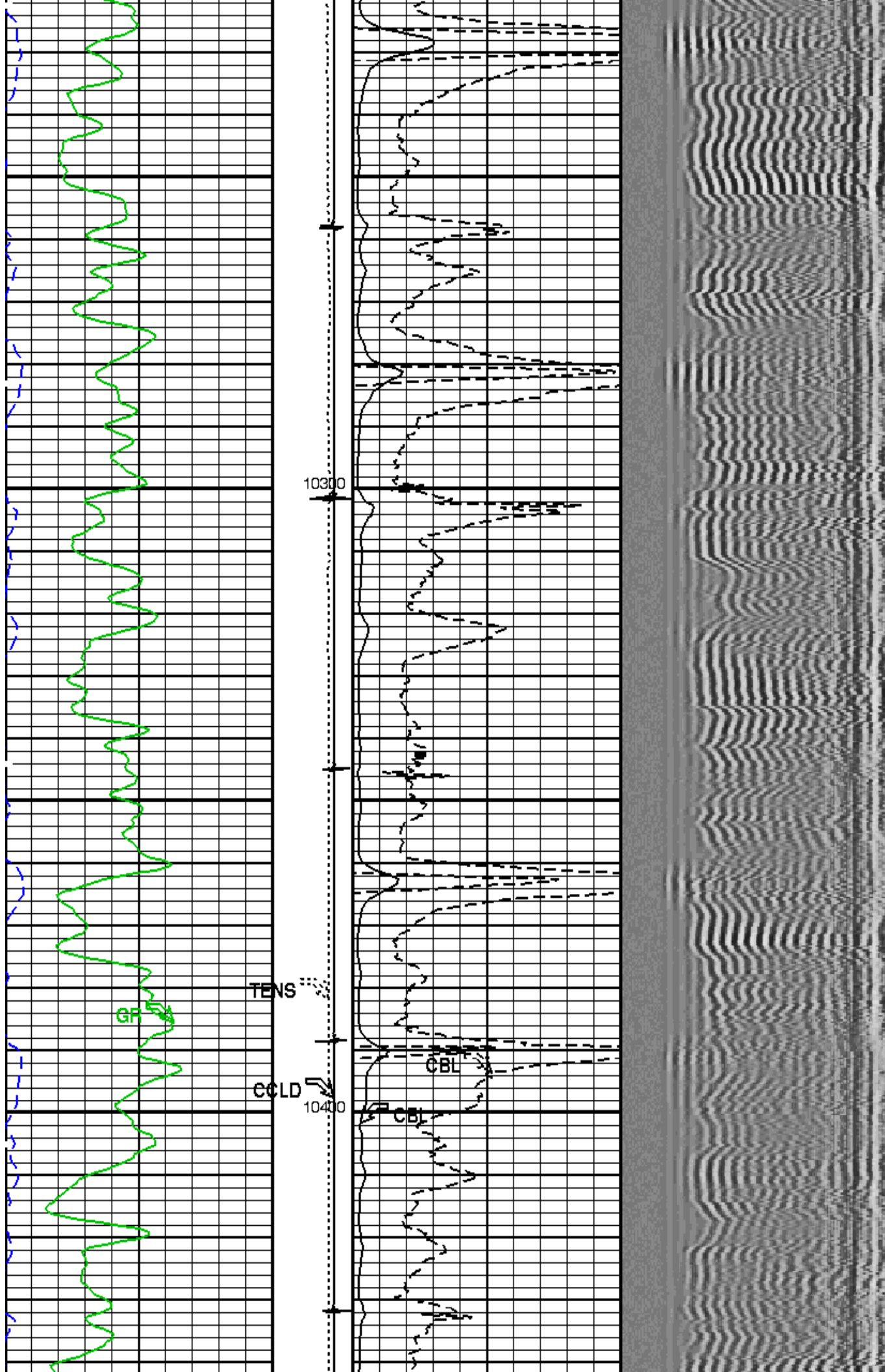


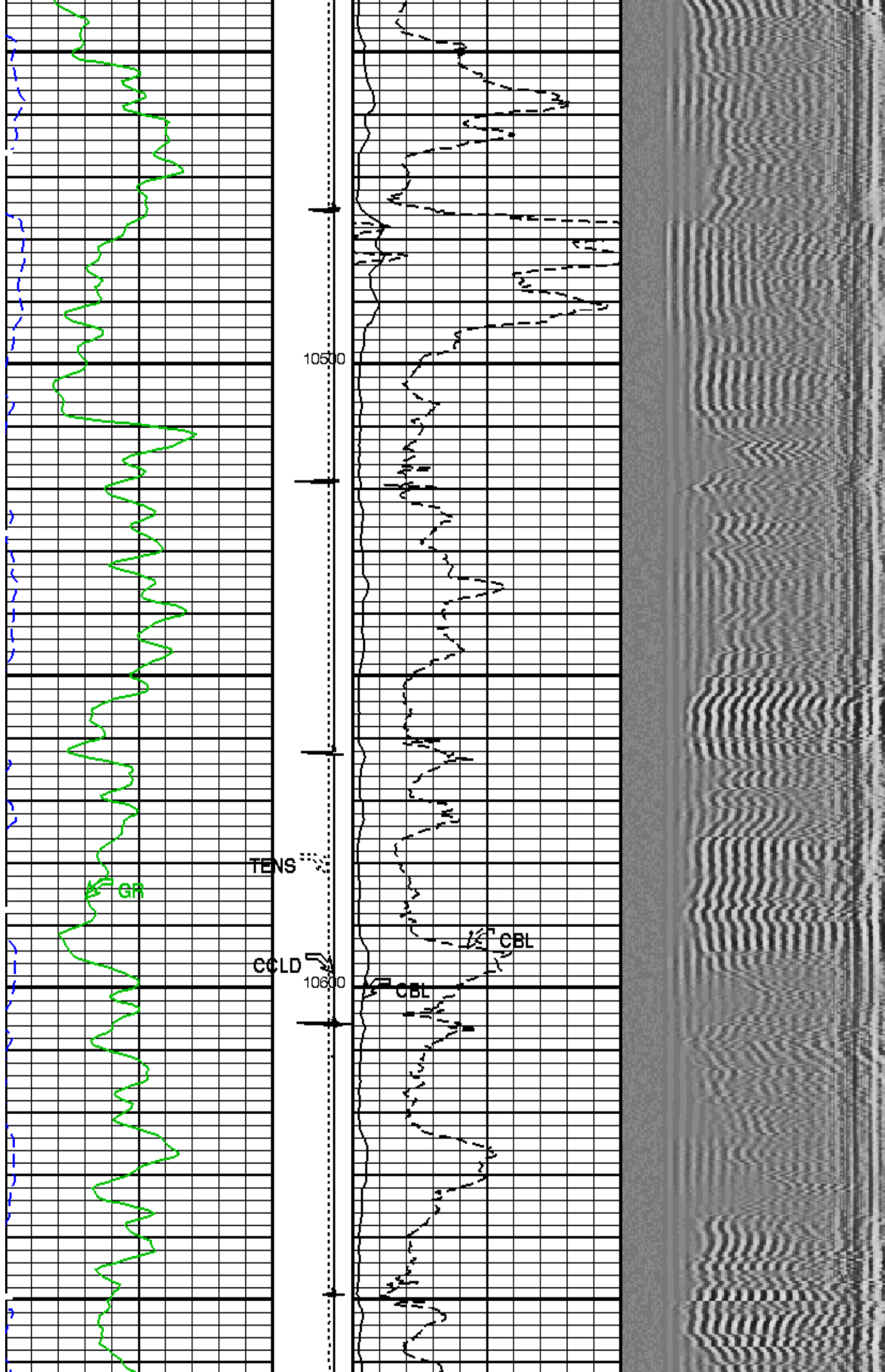


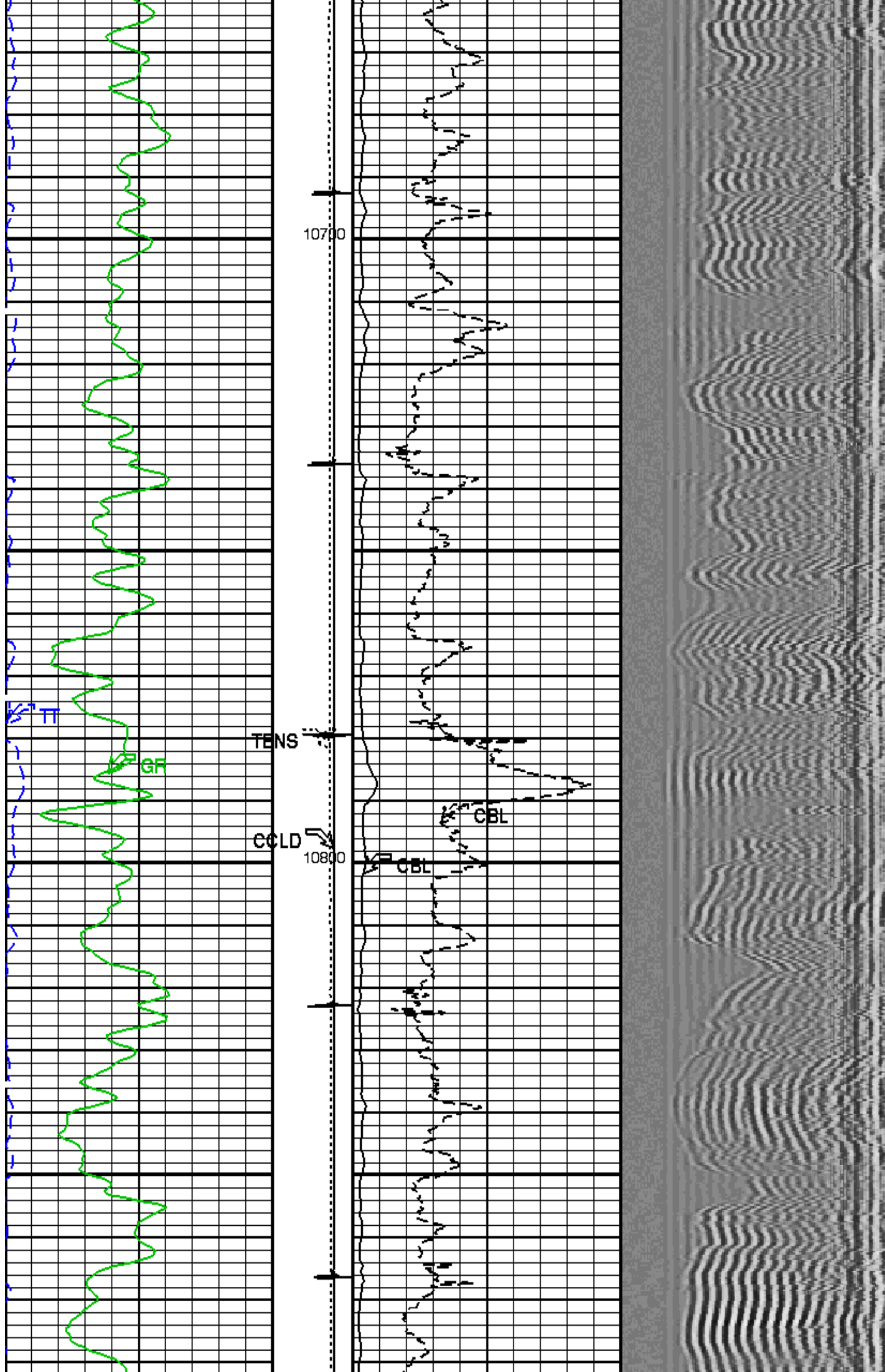


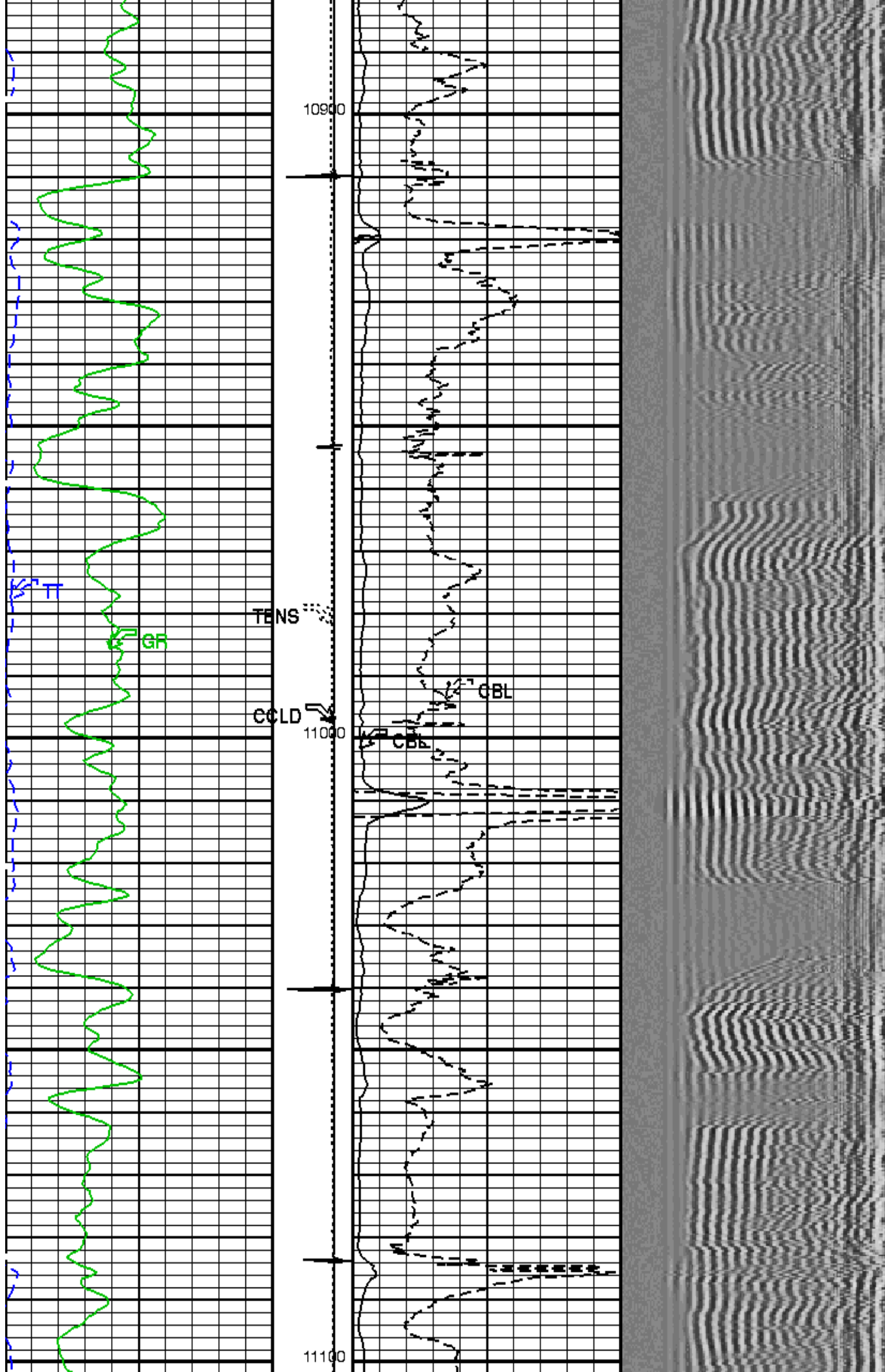


















MAP 1 Correction Factor	0.09009101
MAP 2 Correction Factor	0.0941329
MAP 3 Correction Factor	0.101552
MAP 4 Correction Factor	0.114415
MAP 5 Correction Factor	0.127992
MAP 6 Correction Factor	0.121190
MAP 7 Correction Factor	0.112867
MAP 8 Correction Factor	0.102913

## 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	
CMT	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	0.902782	
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	8.60	LB/G
DO	Depth Offset for Playback	4.0	FT
DORL	Depth Offset for Repeat Analysis	1.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	11196	FT

## Input DLIS Files

DEFAULT	SCMT_HBMS_148LUP	FN:137	PRODUCER	13-Jul-2012 09:53	11202.5 FT	119.0 FT
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## Output DLIS Files

DEFAULT	SCMT_HBMS_150PUP	FN:139	PRODUCER	13-Jul-2012 13:08
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**Schlumberger**

**REPEAT ANALYSIS CBL VDL**

MAXIS Field Log

## Input DLIS Files

DEFAULT	SCMT_HBMS_148LUP	FN:137	PRODUCER	13-Jul-2012 09:53	11202.5 FT	119.0 FT
DEFAULT	SCMT_HBMS_146LUP	FN:135	PRODUCER	13-Jul-2012 09:21	6827.5 FT	6571.5 FT

## Output DLIS Files

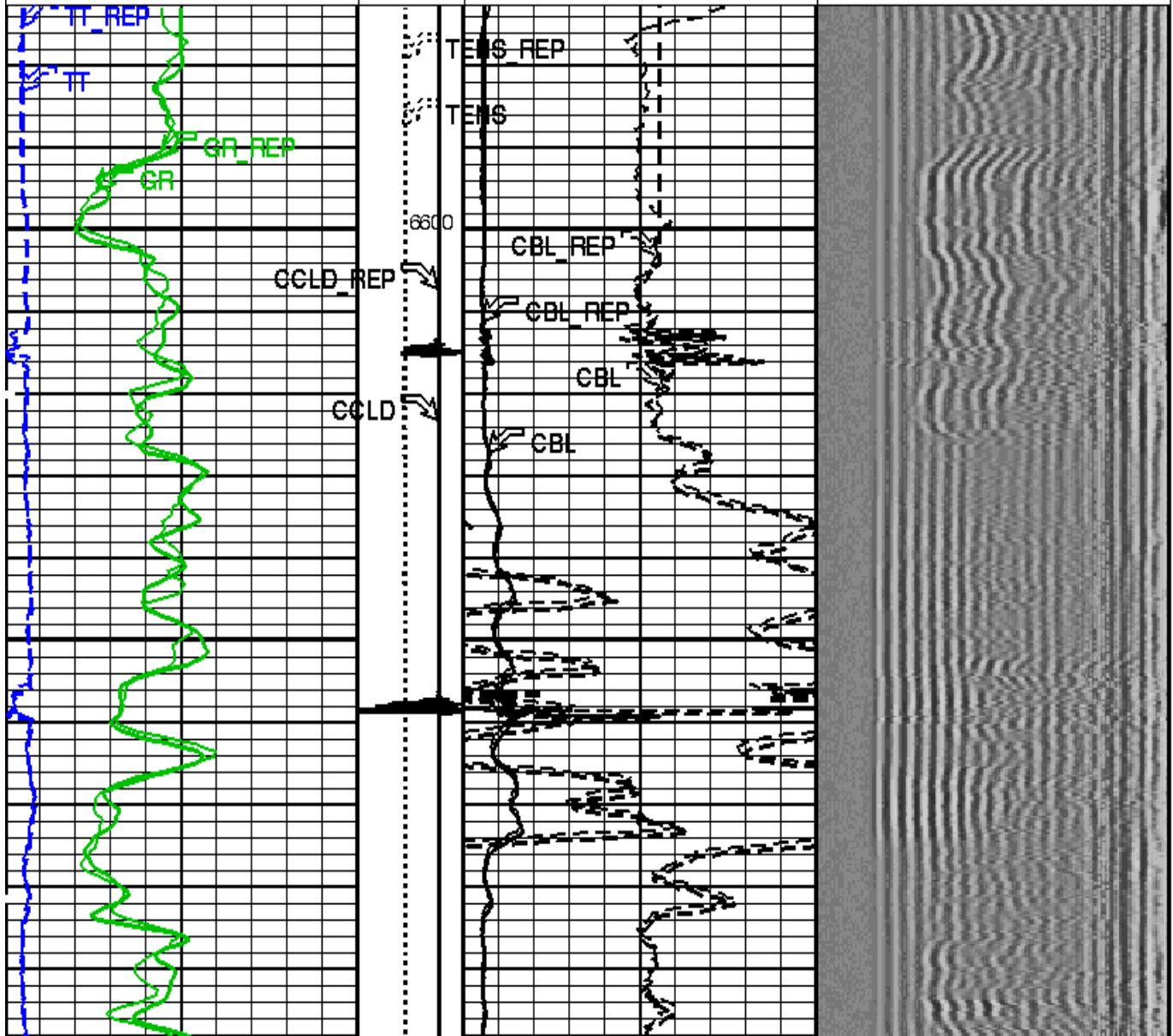
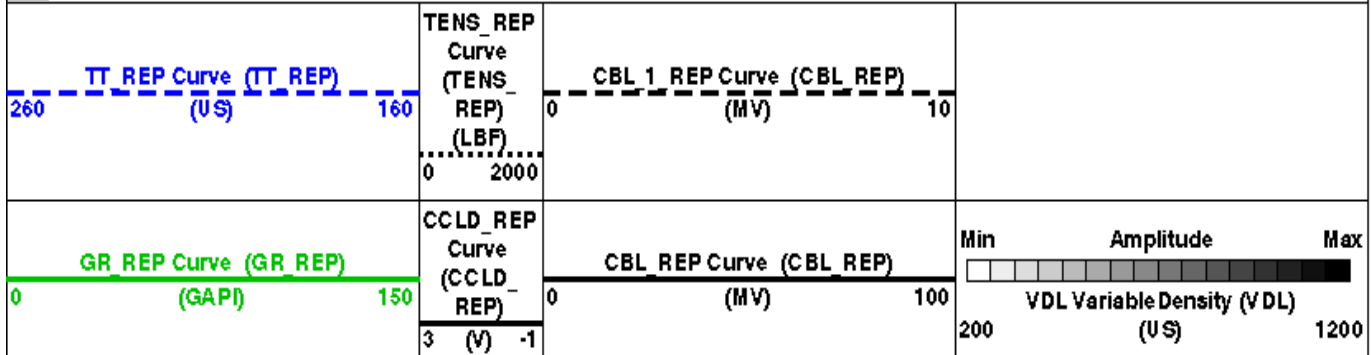
DEFAULT	SCMT_HBMS_150PUP	FN:139	PRODUCER	13-Jul-2012 13:08
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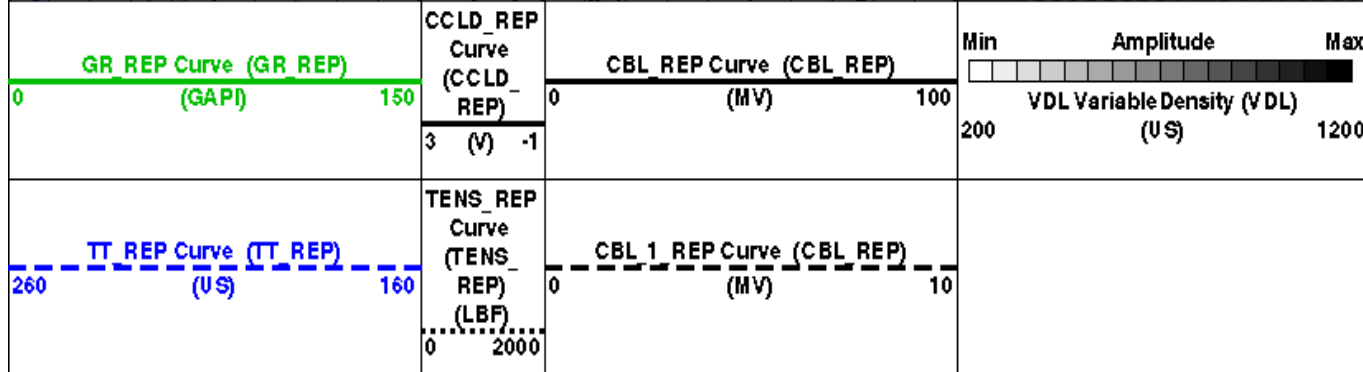
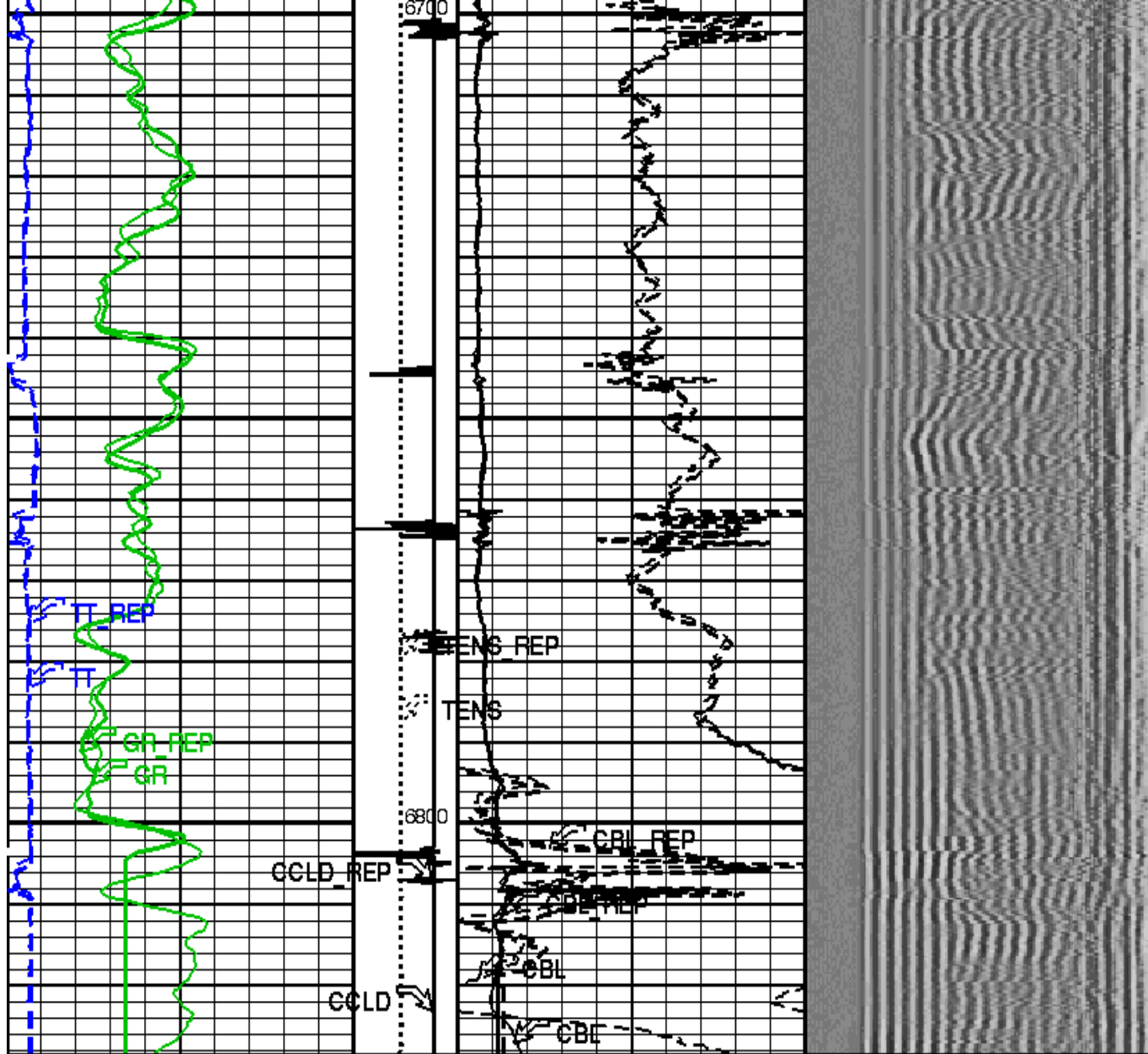
## OP System Version: 19C0-187

SCMT-CB	SRPC-5095-H2-2011-OP19	HBMS-B	19C0-187
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### 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: 13-Jul-2012 13:08

### OP System Version: 19C0-187

SCMT-CB SRPC-5095-H2-2011-OP19 HBMS-B 19C0-187

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

Sonde Serial Number SCMS-CB 8179

Current Casing Size 4.50000 IN

Casing Weight 11.6000 LB/F

Expected CBL Amplitude	80 MV	Minimum Sonic Amplitude	0.579149 MV (100% Cement)
in Free Pipe Section			1.55185 MV (80% Cement)
		MAP Minimum Sonic Amplitude	4.32284 MV (100% Cement)
			8.10244 MV (80% Cement)

Master Calibration (Normalization)	Before Calibration (Adjustment)
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Date of Master Calibration	6-MAR-2012		
CBL Correction Factor	0.0704263	CBL Adjustment Factor (CBAF)	0.900000
MAP 1 Correction Factor	0.0993191	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.0941329		
MAP 3 Correction Factor	0.101552		
MAP 4 Correction Factor	0.114415		
MAP 5 Correction Factor	0.127992		
MAP 6 Correction Factor	0.121190		
MAP 7 Correction Factor	0.112867		
MAP 8 Correction Factor	0.102913		

## 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	0.902782	
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			
CSZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.60	LB/G
DO	Depth Offset for Playback	4.0	FT
DORL	Depth Offset for Repeat Analysis	1.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	11196	FT

## Input DLIS Files

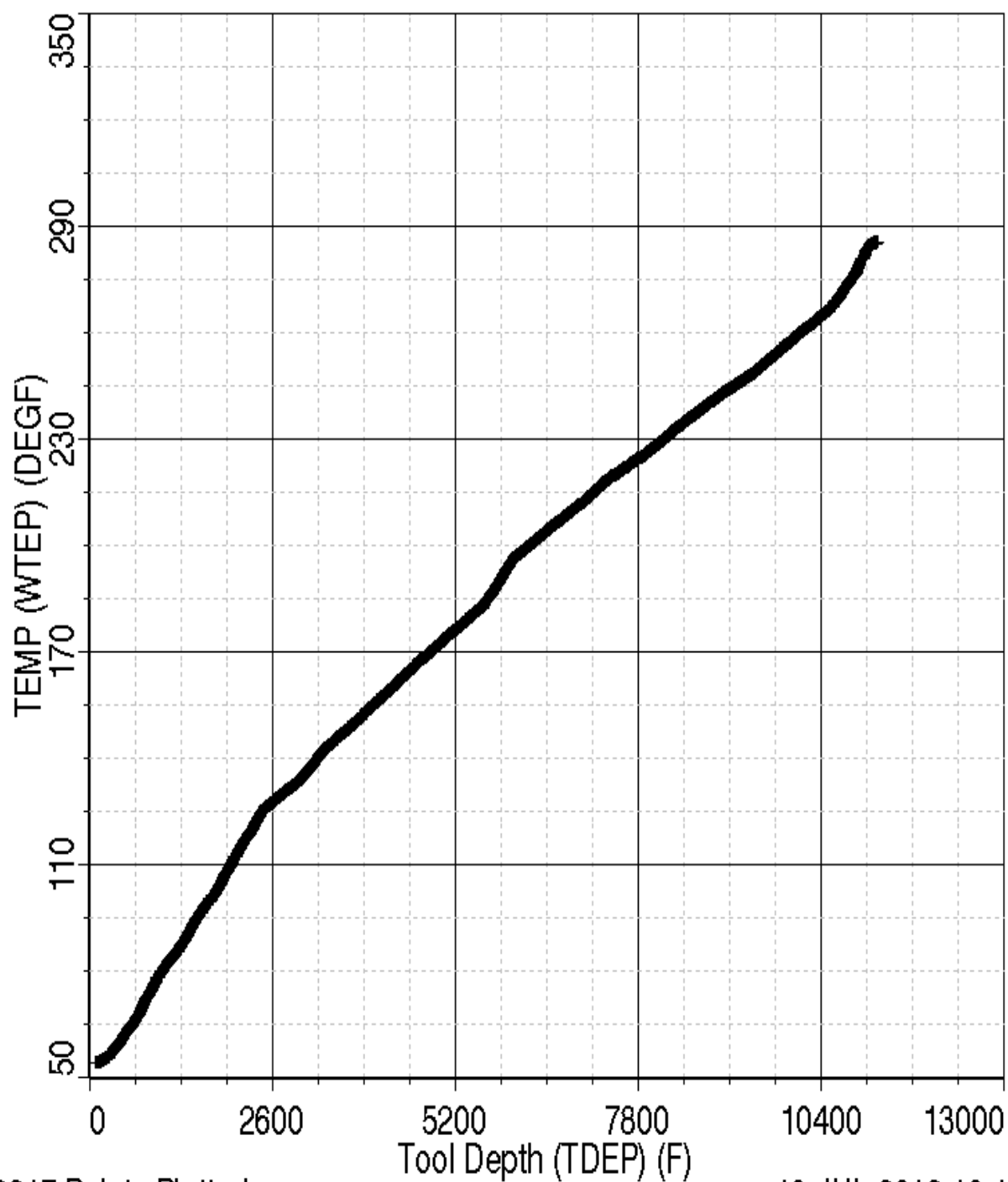
DEFAULT	SCMT_HBMS_148LUP	FN:137	PRODUCER	13-Jul-2012 09:53	11202.5 FT	119.0 FT
DEFAULT	SCMT_HBMS_146LUP	FN:135	PRODUCER	13-Jul-2012 09:21	6827.5 FT	6571.5 FT

## Output DLIS Files

DEFAULT	SCMT_HBMS_150PUP	FN:139	PRODUCER	13-Jul-2012 13:08
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MAXIS Field Log

Index: 11206.5 - 98.5 FT



22217 Points Plotted

13-JUL-2012 13:16



## MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC.  
Field: Story Gulch  
Well: SG 8514B-22 (N22496)  
Run date: 12-Jul-2012

Tool: PSP  
Sub Type: PBMS  
Sensor: GR

## PBMS Gamma Ray

Sonde Serial NB RESISTORS FOR GR SENSOR N.34384, TOOL HBMS-BA2880. SENSOR S/N:  
Sensor Serial NB 34384  
Calib Date ddmmyy 160206  
Matrix Size 12  
Coeff CRC D8B5

## GR HV Rt

Rt\*\*0

Rt\*\*1

Rt\*\*0

+.200000000000e+04

+.173000000000e+04

Client: ENCANA OIL & GAS (USA) INC.  
Field: Story Gulch  
Well: SG 8514B-22 (N22496)  
Run date: 12-Jul-2012

Tool: PSP  
Sub Type: PBMS  
Sensor: WellTemp RTD

## PBMS RTD Well Thermometer

Sonde Serial NB COEFFICIENTS FOR RTD THERMOMETER PBMS-B.2880 S/N:  
Sensor Serial NB 2880  
Calib Date ddmmyy 260408  
Matrix Size 16  
Coeff CRC A3AF

## WTemp Coeff

Tt\*\*0

Tt\*\*1

Tt\*\*2

Ti**0	-1.04337336008E+04	+7.98824971753E+03	-2.51944021281E+03
	Ti**3	Ti**4	Ti**5
Ti**0	+4.06192777109E+02	-2.40958437264E+01	0.0

Client: ENCANA OIL & GAS (USA) INC.  
Field: Story Gulch  
Well: SG 8514B-22 (N22496)  
Run date: 12-Jul-2012

Tool: PSP  
Sub Type: PBMS  
Sensor: CQG

PBMS Quartz Gauge type F

Sonde Serial NB COEFFICIENTS FOR CQG PBMS-B.2880 S/N:  
Sensor Serial NB 2880  
Calib Date ddmmyy 260408  
Matrix Size 66  
Coeff CRC 66B8

Pres Coeff

	Fb**0	Fb**1	Fb**2
Fc**0	+6.94668499013E+04	+1.138137467574E-01	-2.06148488488E-06
Fc**1	-1.04285125976E+01	-1.125721589078E-04	-9.71577899959E-10
Fc**2	+1.101045175546E-05	+4.80801816357E-10	+8.89110474366E-15
Fc**3	+1.127326781620E-11	+1.130693902354E-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	-8.02395356069E-10	-1.48392899370E-14	-1.162952476494E-19
Fc**1	+1.114970383999E-15	+1.186330526680E-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 2880  
 Calib Date ddmmyy 260408  
 Matrix Size 66  
 Coeff CRC 3690

## Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+114978632240E+03	-318843725686E-03	+651766172344E-08
Fb**1	-590205352250E-02	+168686572404E-07	+162345150354E-12
Fb**2	-362996279263E-07	+407654559315E-12	+452411391342E-17
Fb**3	-276281361281E-12	+871817059405E-17	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	+199118144093E-13	-260997933236E-18	+618908211390E-21
Fb**1	+250084591851E-17	+455070709200E-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

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## PBMS Quartz Gauge type F

Sonde Serial NB :  
 Sensor Serial NB 2880  
 Calib Date ddmmyy 260408  
 Matrix Size 16  
 Coeff CRC 71B5

## Clock Freq Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+310736316923E+05	+273670214709E-02	+731815197856E-06
	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	-654219198492E-10	-150585137208E-15	-117697151708E-19

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## PBMS Quartz Gauge type F

Sonde Serial NB :  
 Sensor Serial NB 2880

Calib Date ddmmyy 260408  
Matrix Size 16  
Coeff CRC ECB5

Clock Temp Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+ .116053417872E+03	-.554118045908E-02	-.348241454518E-07
	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	+ .207992675474E-12	-.353168788938E-17	-.345142848607E-21

Schlumberger

## MASTER CALIBRATION

MAXIS Field Log

### Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
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Slim Cement Mapping Tool, 1-11/16 OD Master Calibration - SCMT CBL and MAP Amplitude Normalization in SFT-155/-255

Master: 6-Mar-2012 15:06

MAP 1 Amplitude Plus	1075	1208	-	-	-	-	MV
MAP 2 Amplitude Plus	1075	1275	-	-	-	-	MV
MAP 3 Amplitude Plus	1075	1182	-	-	-	-	MV
MAP 4 Amplitude Plus	1075	1049	-	-	-	-	MV
MAP 5 Amplitude Plus	1075	937.6	-	-	-	-	MV
MAP 6 Amplitude Plus	1075	990.2	-	-	-	-	MV
MAP 7 Amplitude Plus	1075	1063	-	-	-	-	MV
MAP 8 Amplitude Plus	1075	1166	-	-	-	-	MV
CBL Amplitude Plus	1350	1363	-	-	-	-	MV

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

Primary Equipment:





Slim Cement Mapping Xmitter Electronics	SCMX - CA	
Slim Cement Mapping Sonde	SCMS - CB	8179
Slim Cement Mapping Cartridge	SCMC - CA	8172






Auxiliary Equipment:

Slim Electronics Cartridge Housing	SECH - CA
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### 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		1208	Master		1275
	500.0 1075 1650 (Minimum) (Nominal) (Maximum)			500.0 1075 1650 (Minimum) (Nominal) (Maximum)	
Phase	MAP 3 Amplitude Plus MV	Value	Phase	MAP 4 Amplitude Plus MV	Value
Master		1182	Master		1049

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						937.6		Master						990.2			
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						1063		Master						1166			
500.0 (Minimum)			1075 (Nominal)			1650 (Maximum)			500.0 (Minimum)			1075 (Nominal)			1650 (Maximum)		
Phase	CBL Amplitude Plus MV					Value											
Master						1363											
1000 (Minimum)			1350 (Nominal)			1700 (Maximum)											
Master: 6-Mar-2012 15:06																	

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

**Schlumberger**

Well: **SG 8511D-22 (N22496)**

Field: **Story Gulch**

County: **Garfield**

State: **Colorado**

SLIM CEMENT MAPPING TOOL

CBL - VDL

GAMMA RAY - CCL