

Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-12D (J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

SLIM CEMENT MAPPING LOG  
CBL-VDL  
GAMMA RAY-CCL

County:	GARFIELD		
Field:	MAMM CREEK		
Location:	SHL: 1957 FSL & 1931 FEL		
Well:	HMU 6-12D (J6SEB)		
Company:	ENCANA OIL & GAS (USA) INC		
	LOCATION		
	SHL: 1957 FSL & 1931 FEL BHL: 1795 FSL & 751 FWL	Elev.: K.B. 7166.00 ft G.L. 7144.00 ft D.F. 7165.00 ft	
	Permanent Datum: _____ Log Measured From: _____ Drilling Measured From: _____	GROUND LEVEL _____ KELLY BUSHING _____ KELLY BUSHING _____	Elev.: 7144.00 ft 22.00 ft above Perm. Datum
	API Serial No. _____ 05-045-21939-000C		Section 6 Township 8S 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	25-Nov-2013		
Run Number	1		
Depth Driller	8988 ft		
Schlumberger Depth	8907 ft		
Bottom Log Interval	8898 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	7171 ft		
To	8988 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	S-80		
From	22 ft		
To	8968 ft		
Maximum Recorded Temperatures	246 degF		
Logger On Bottom	25-Nov-2013	14:45	
Unit Number	Location		
Recorded By	KIRSTIE BUNTING		
Witnessed By	JIM DYKEMAN		

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	Location		
Recorded By			
Witnessed By			

## DEPTH SUMMARY LISTING

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

## Depth System Equipment

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

## Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
Stretch Correction:	
Tool Zero Check At Surface:	

### Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SPWT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
- 4.
- 5.
- 6.

## DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1	OTHER SERVICES2
OS1: RESERVOIR SATURATION	OS1:
OS2: LOG	OS2:
OS3: SIGMA MODE	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRLEATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE: 14:00	
TIME ON BOTTOM: 14:45	
EXIT: 17:30	

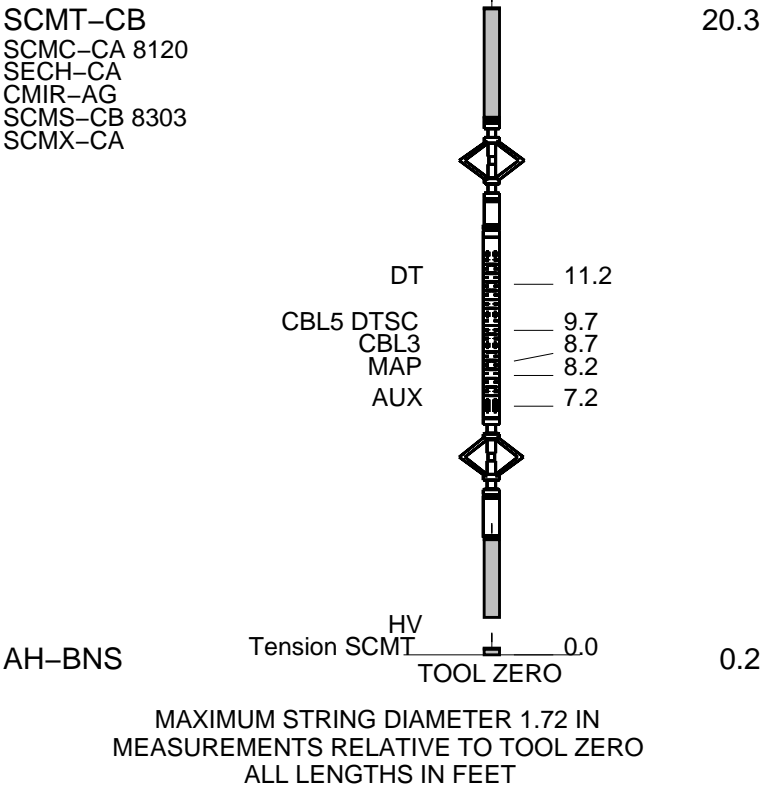
MAXIMUM RECORDED TEMPERATURE: 246 DEGF	
MAXIMUM RECORDED PRESSURE: 3717 PSIA	
SHORT JOINTS: 6794 FT & 7785 FT	
MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE	
EXPECTED CBL AMPLITUDE IN FREE PIPE IS 80 MV	
CREW: KBUNTING, WAZIZ, KJOHNS, KBOZARTH	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	

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

	EQUIPMENT	DESCRIPTION	
RUN 1			RUN 2

SURFACE EQUIPMENT		
WITM-A		
PSC_16MHZ		

DOWNHOLE EQUIPMENT			
MH-22			53.4
MH-22			
Detail MT			
AH-38	TelStatus		51.8
PSPT	CTEM		51.5
PSC-A			51.5
PSPT-B			
PSTC-A			
PBMS-B 928	GR		47.8
CQG_F_Mano			
RTD_Thermometer			
GR	Well_Temp		44.8
CCL	CQG Manom		44.5
PBMS	CCL		44.0
	PBMS PSTC		43.3
RST-C			43.3
RSCH-A			
RSC-E 374			
RSS-A 350			
RSXH-A			
RSX-E 220			
	RSC-A Far		34.2
	RSC-A PNG		
	RSC-A Nea		
	RSX-A PNG		33.7



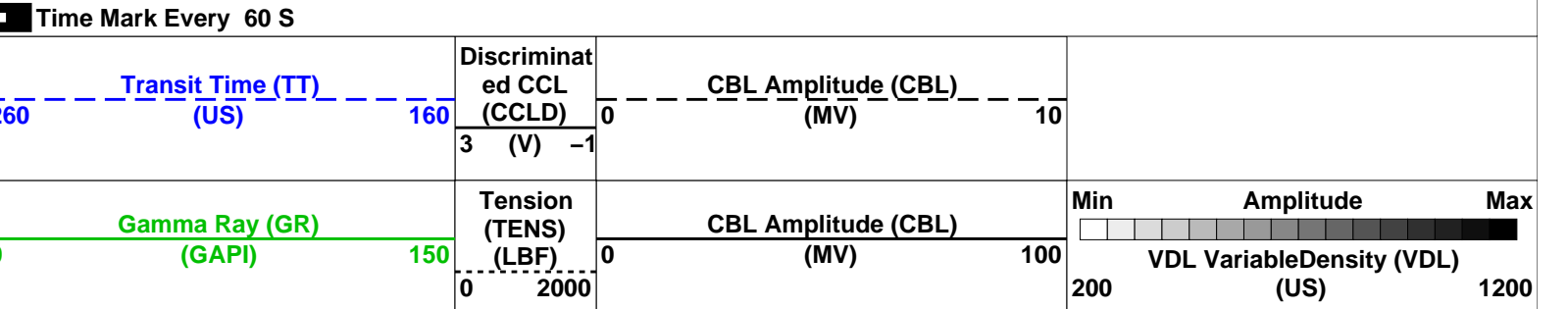
Schlumberger

MAIN PASS CBL VDL

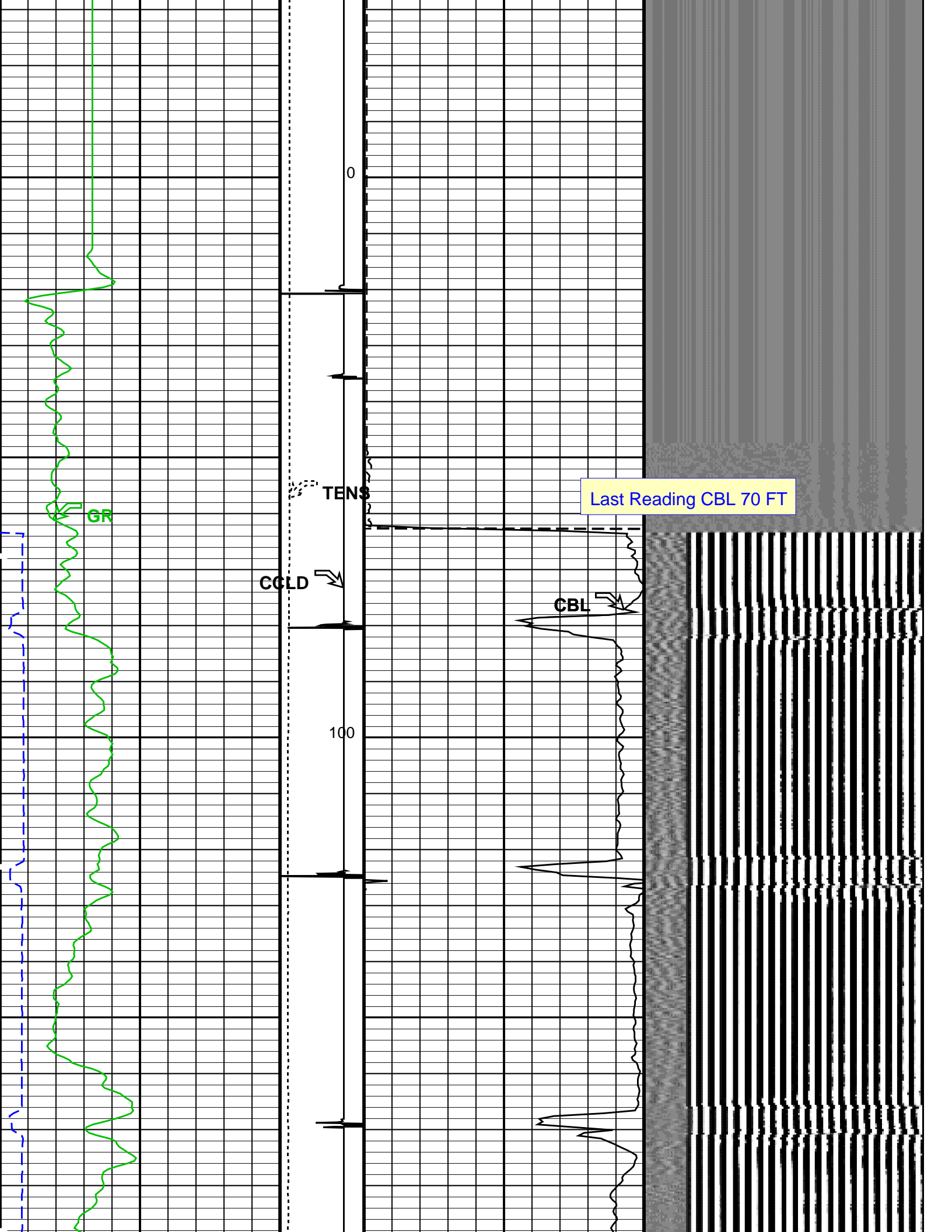
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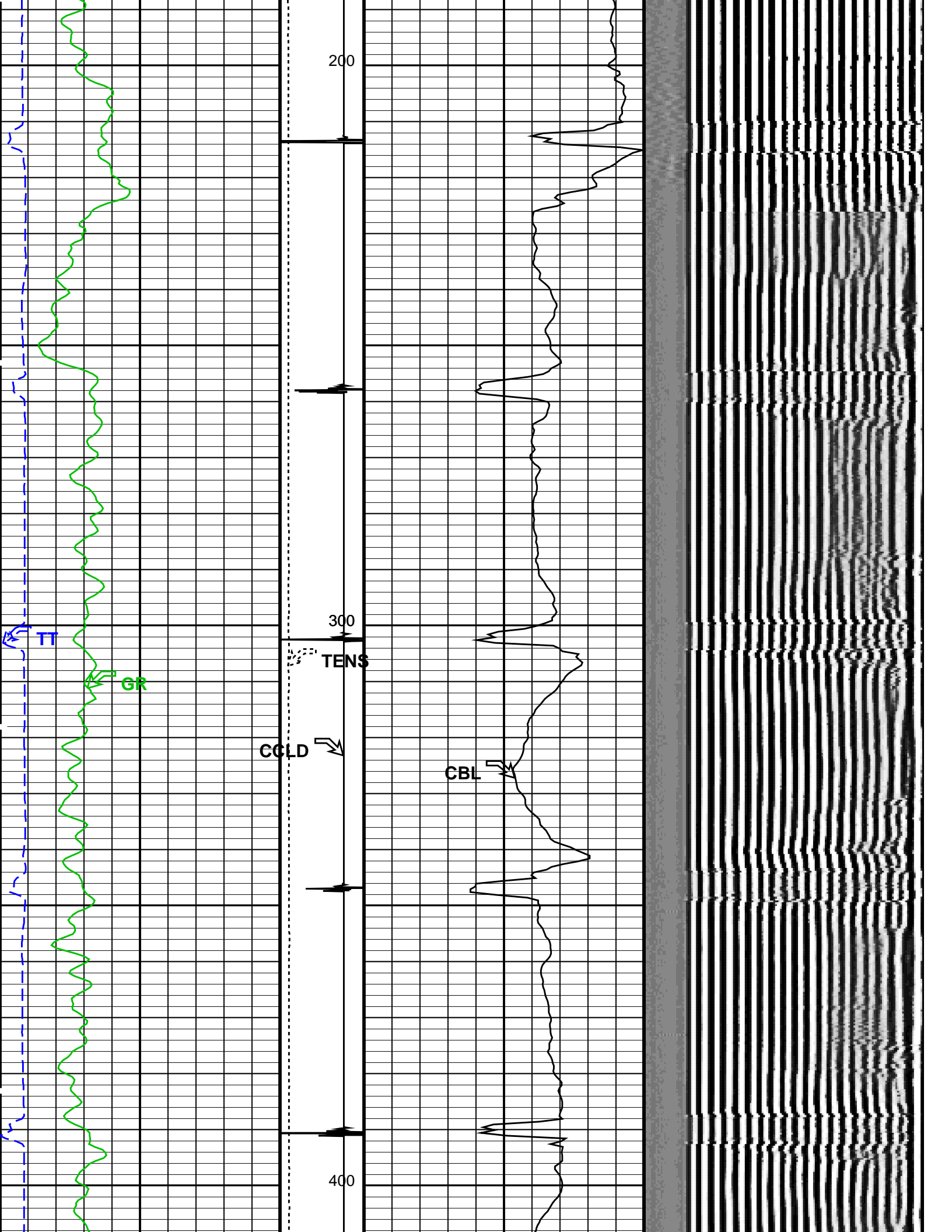
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Input DLIS Files						
DEFAULT	SCMT_RST_PSP_027LUP	FN:25	PRODUCER	25-Nov-2013 14:48	8912.0 FT	9.0 FT
Output DLIS Files						
DEFAULT	SCMT_RST_PSP_030PUP	FN:28	PRODUCER	25-Nov-2013 17:12	8915.0 FT	-32.5 FT
OP System Version: 19C0-187						
SCMT-CB	SRPC-5214-H2-2012-OP1		RST-C	SRPC-5214-H2-2012-OP1		
PSPT	SRPC-5214-H2-2012-OP1					

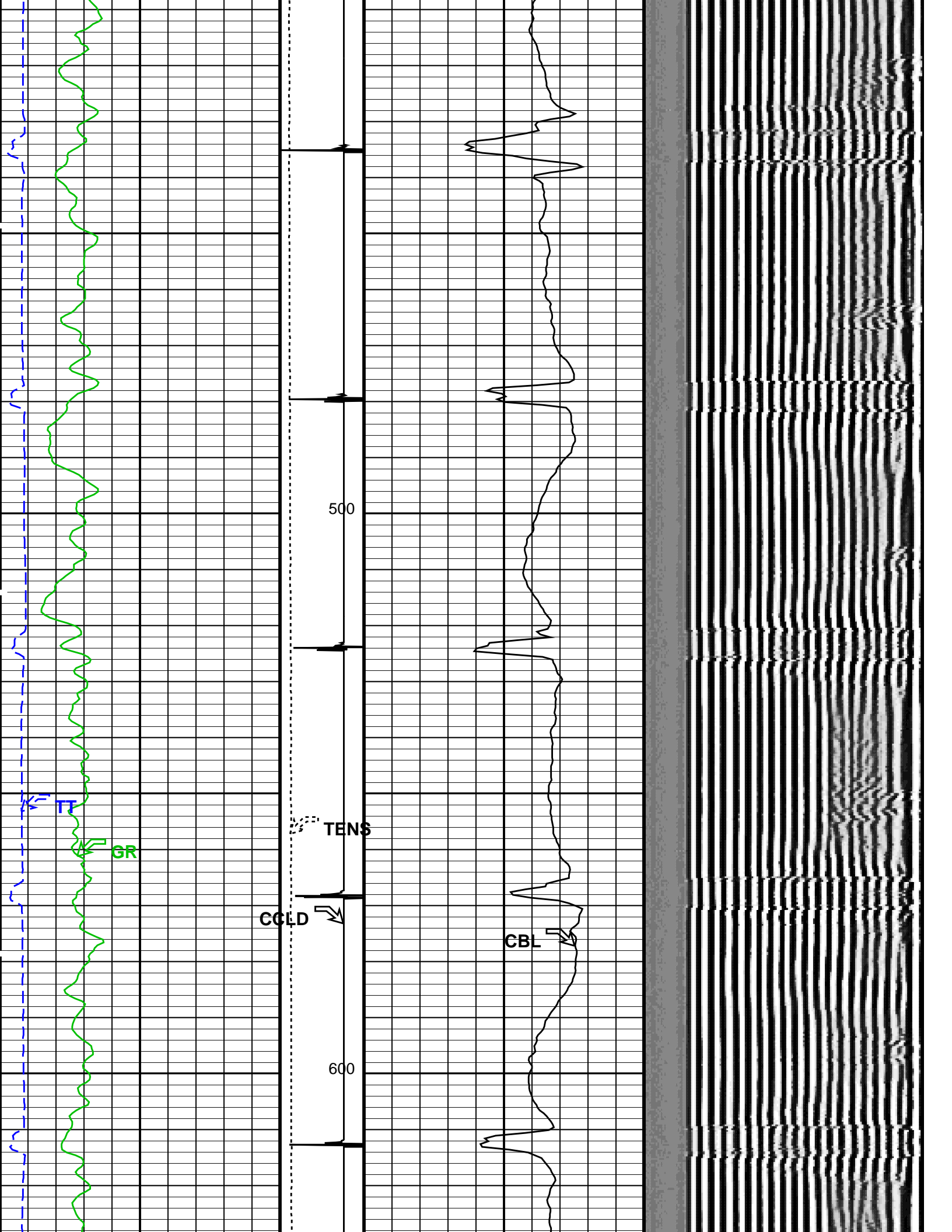
PIP SUMMARY

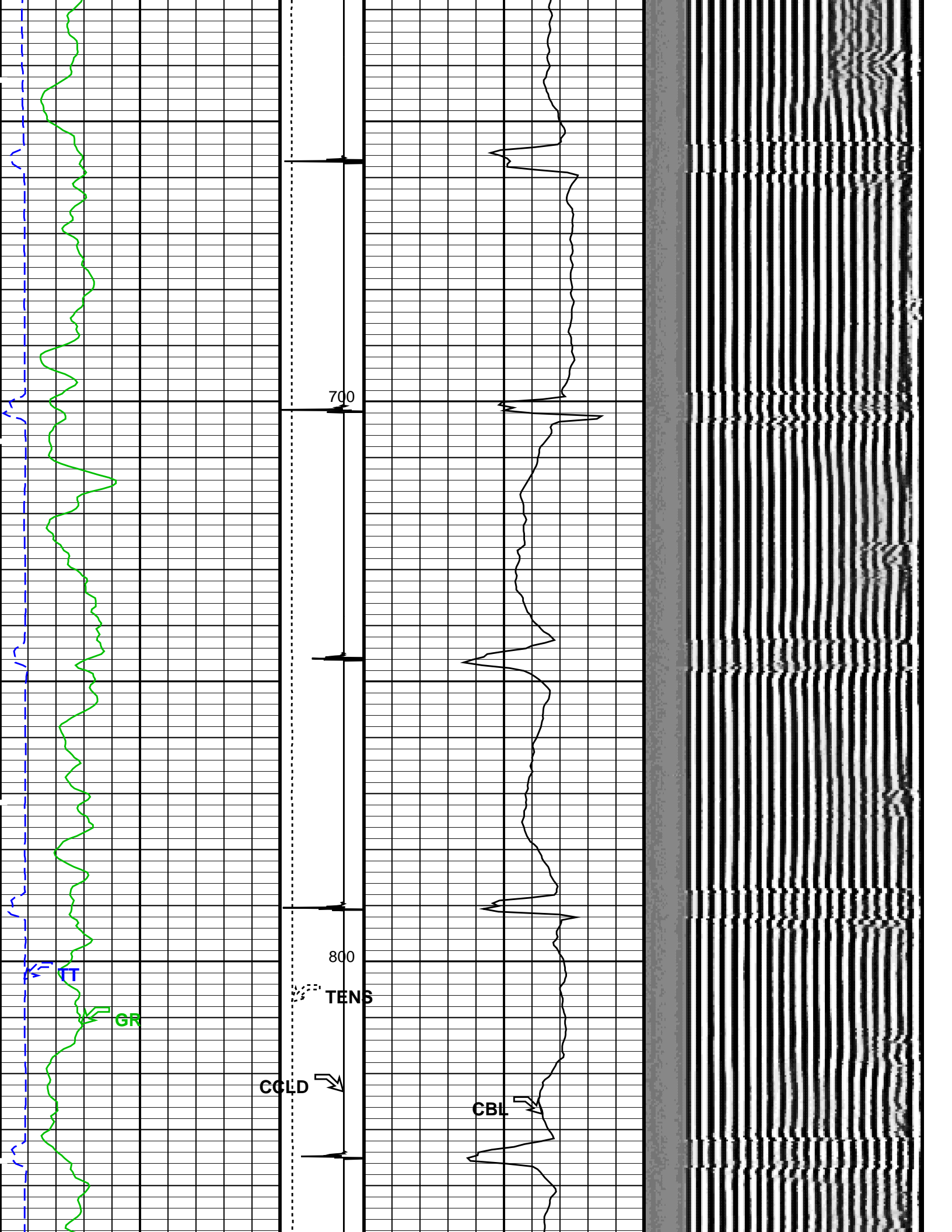


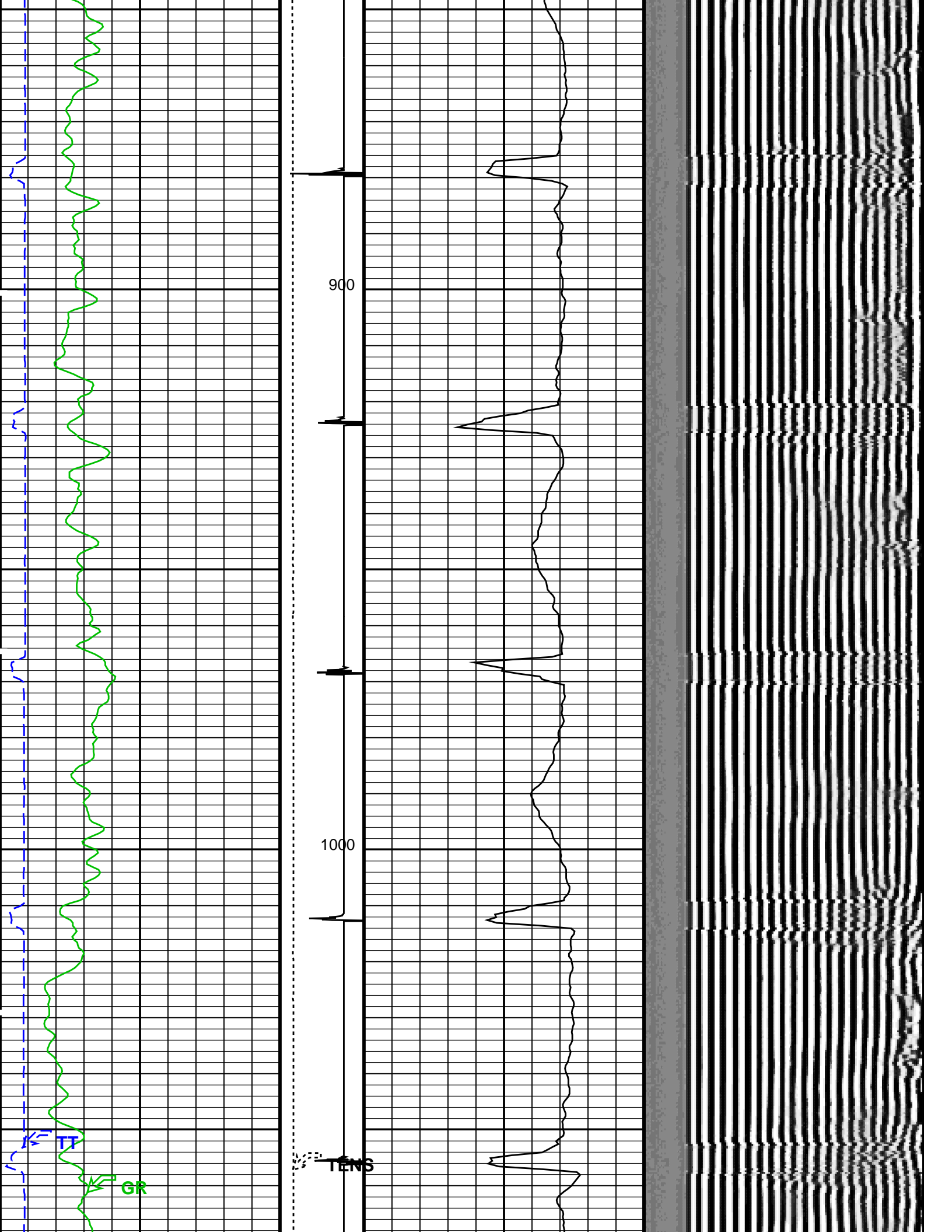




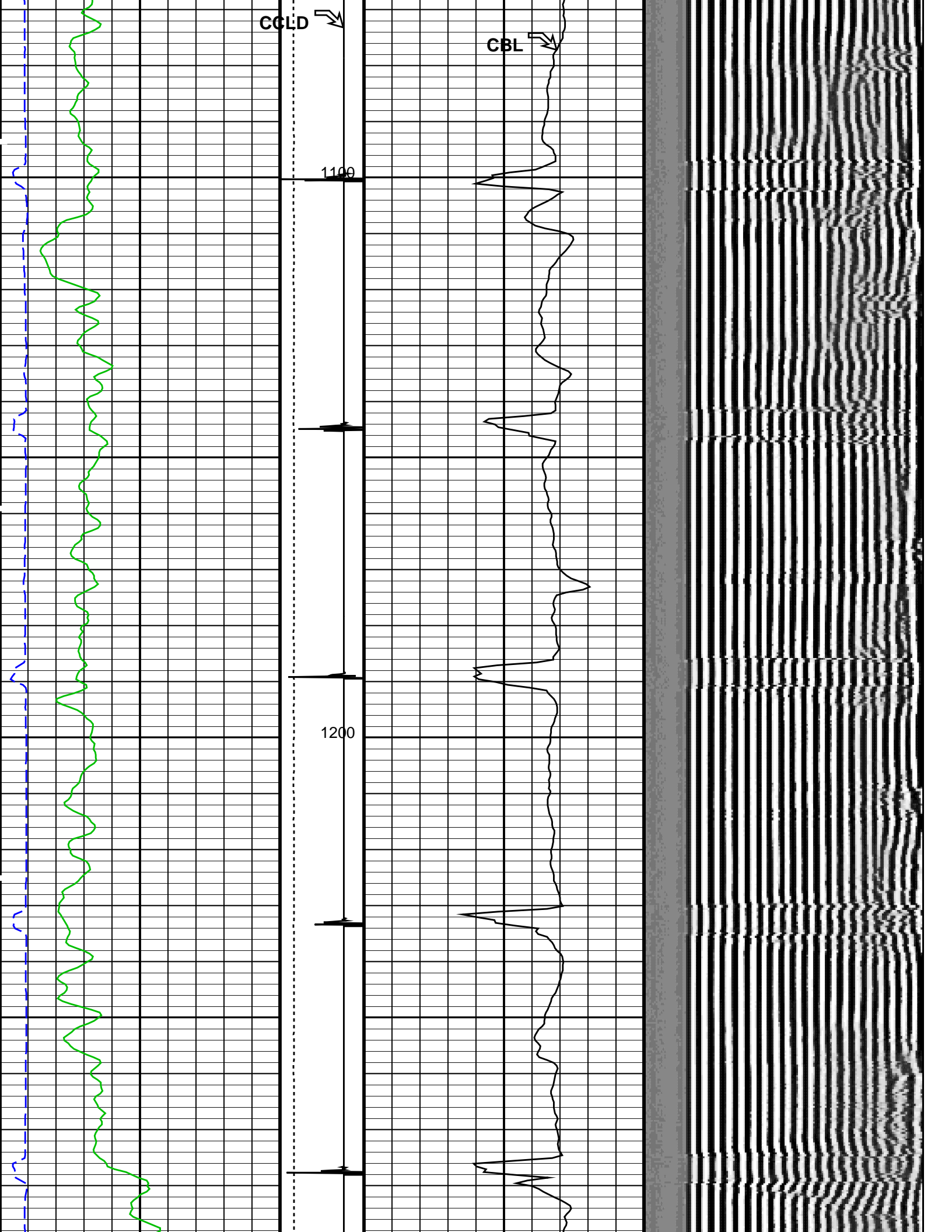


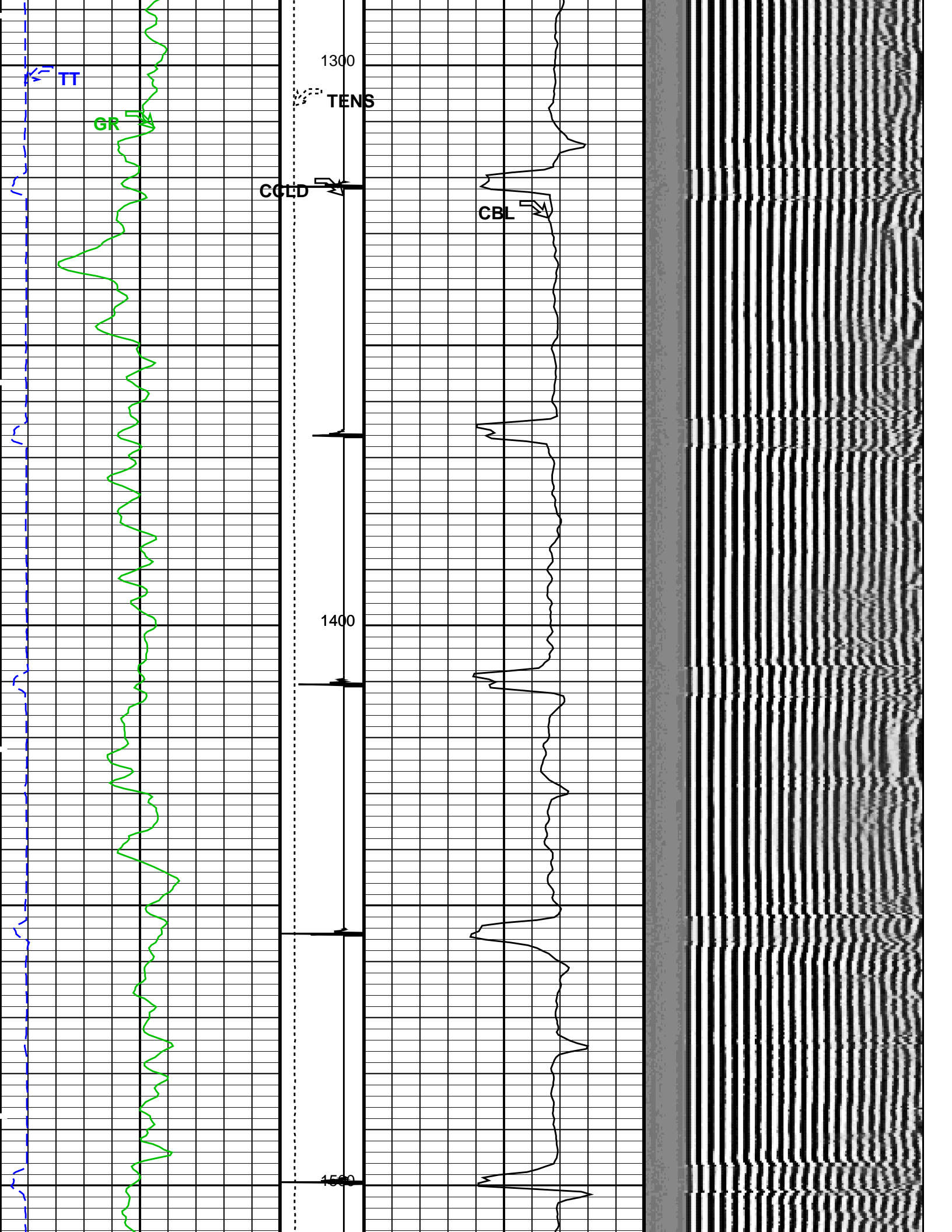


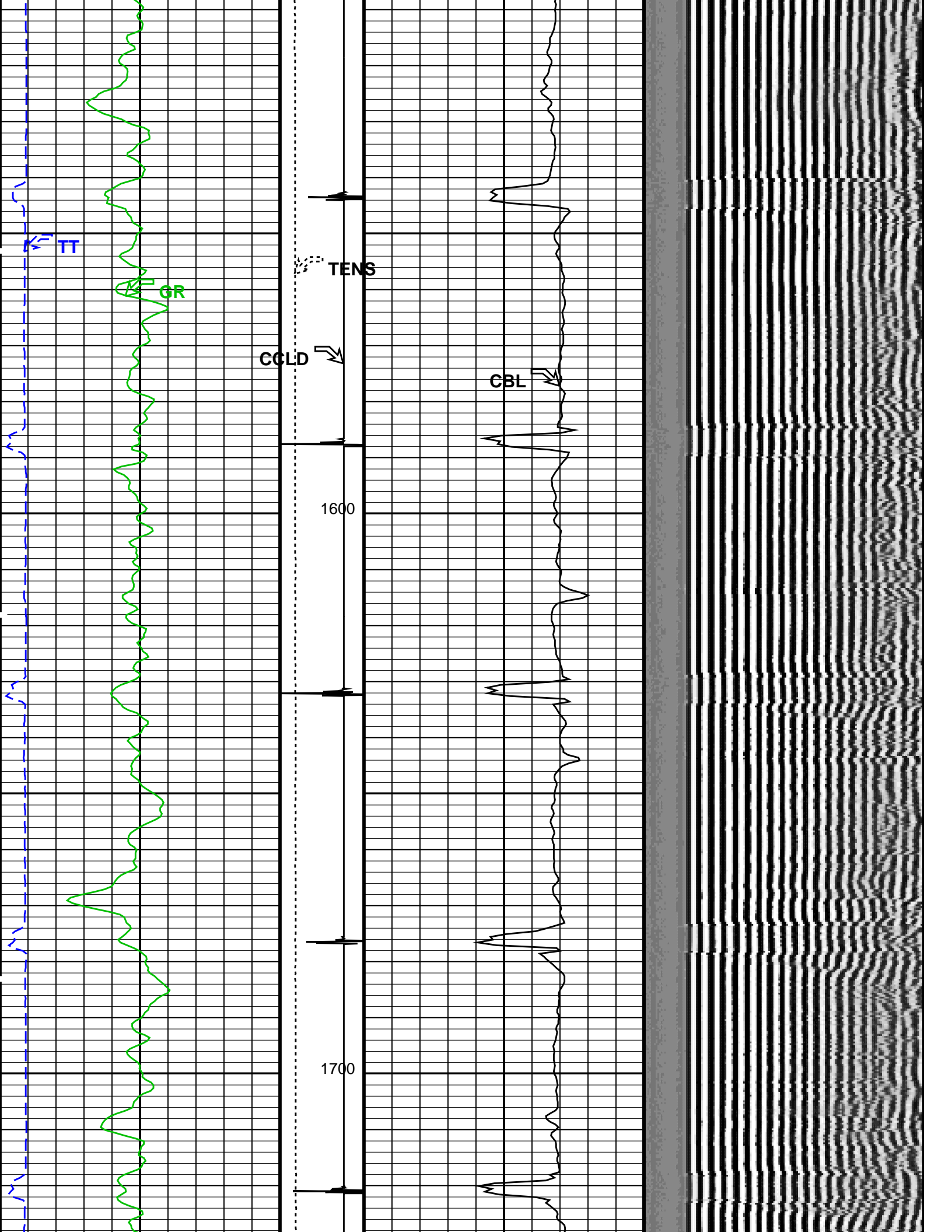




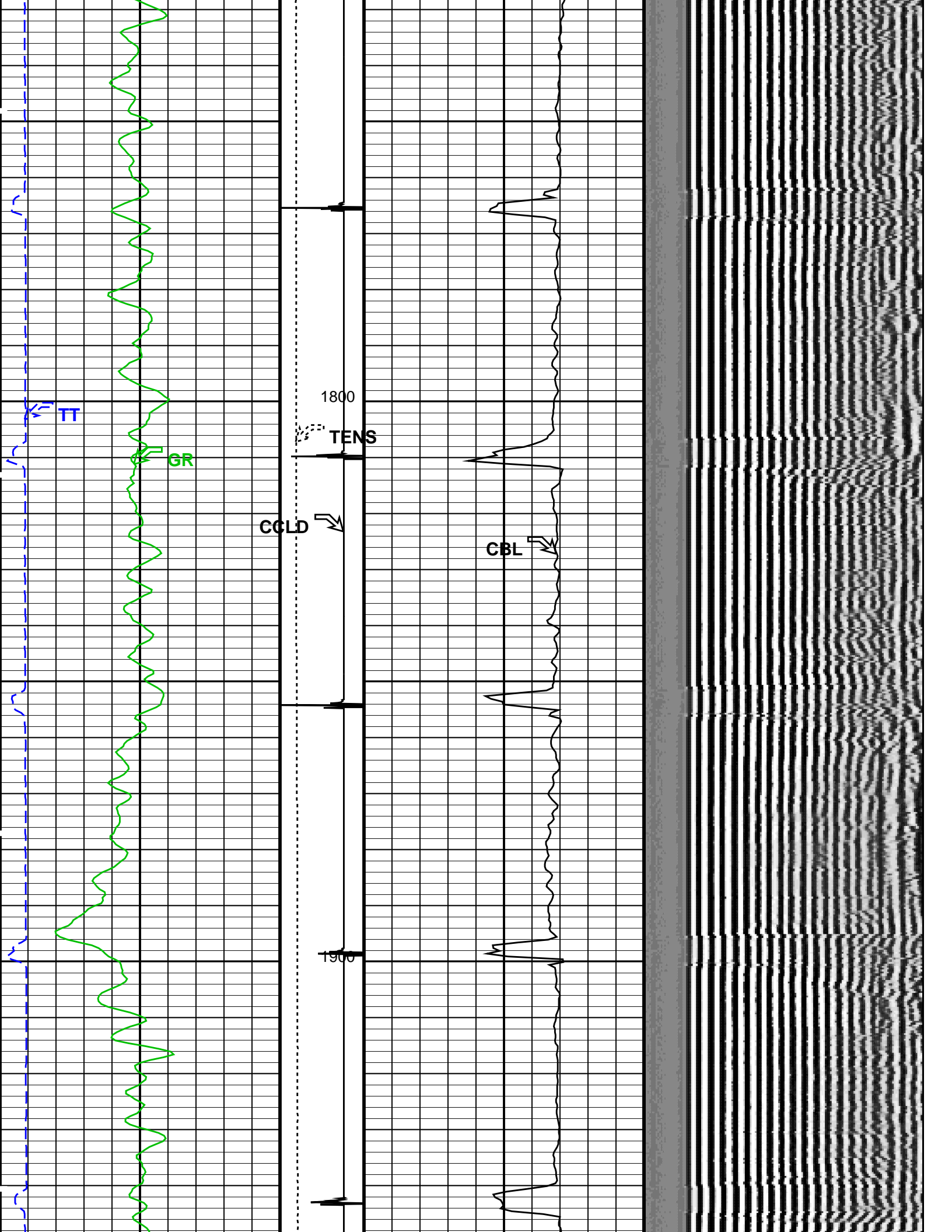


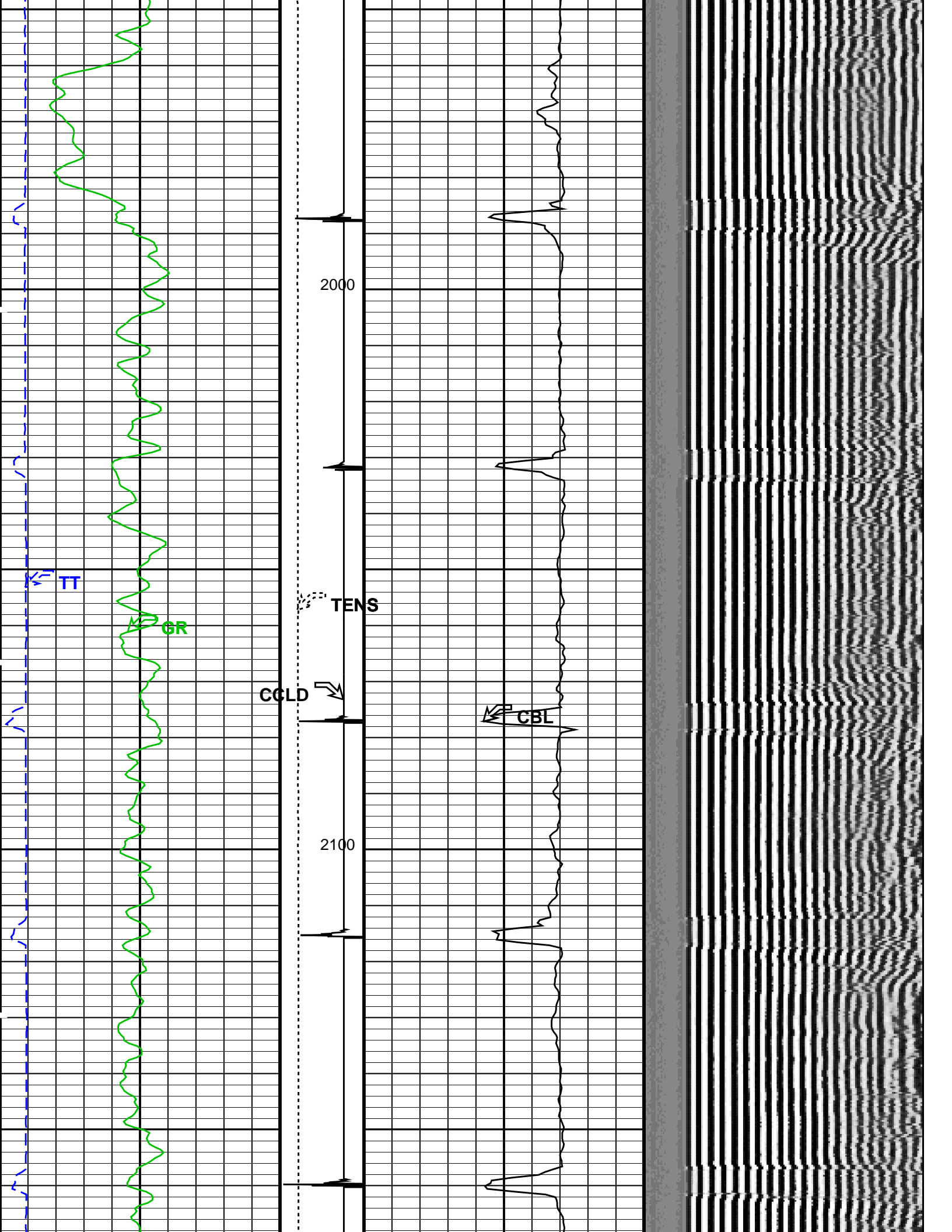


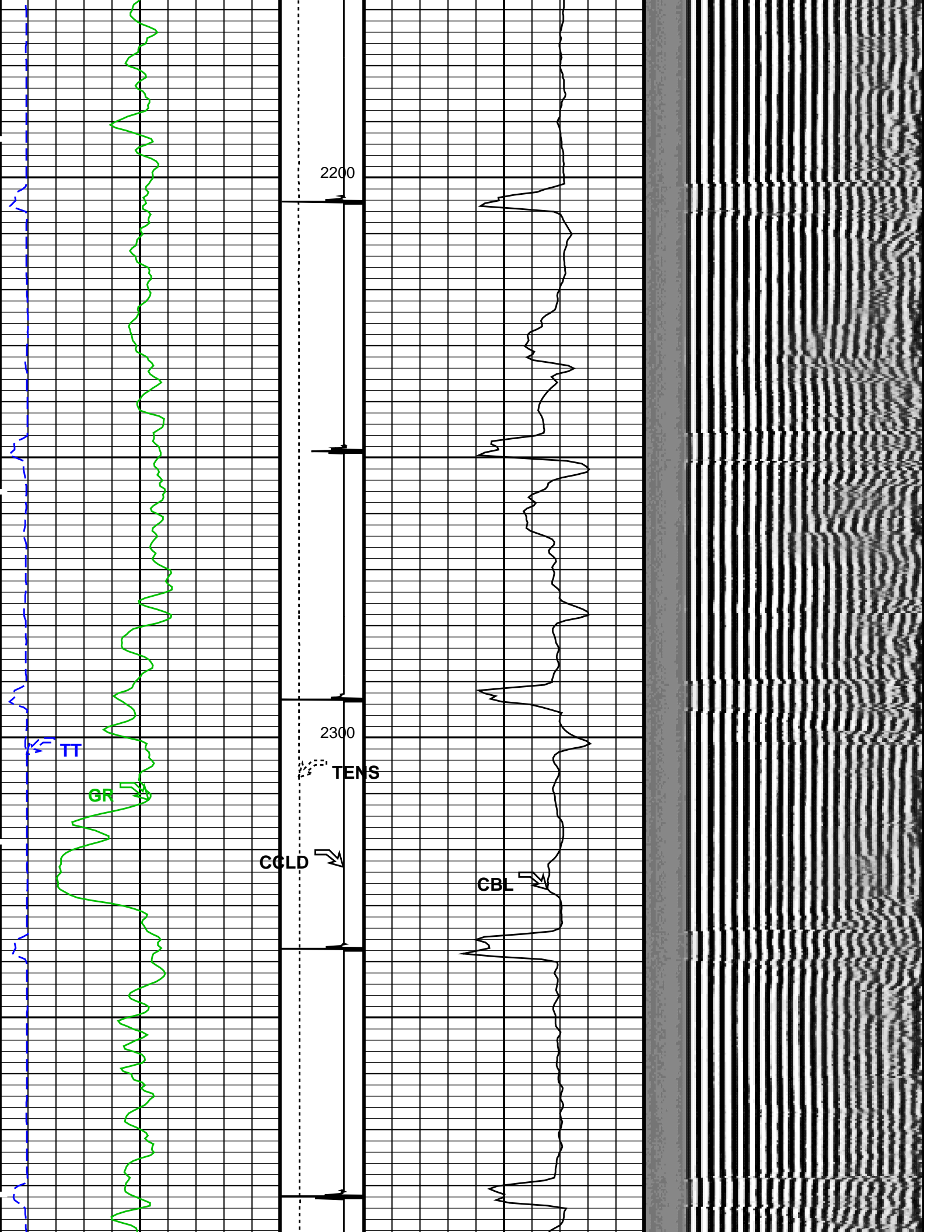


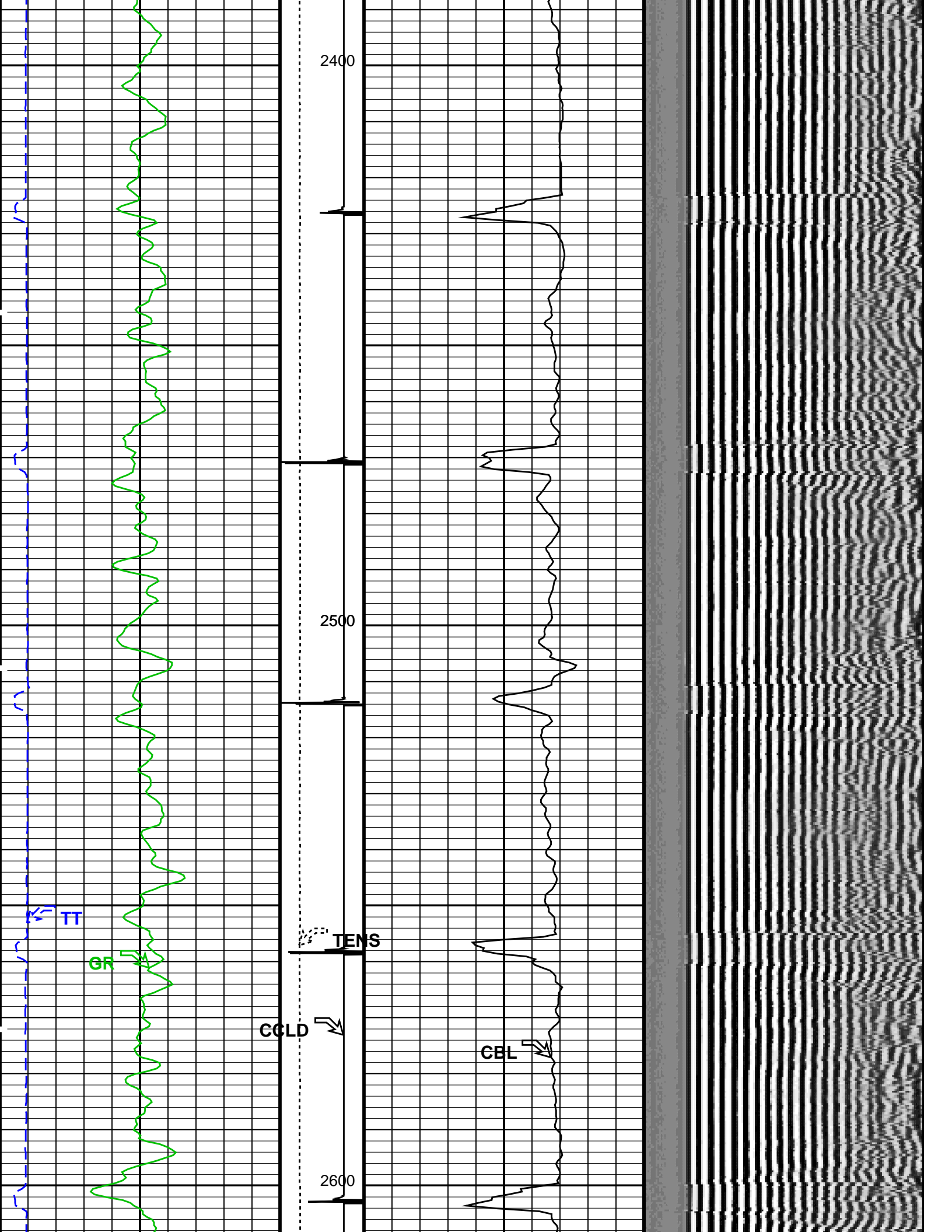




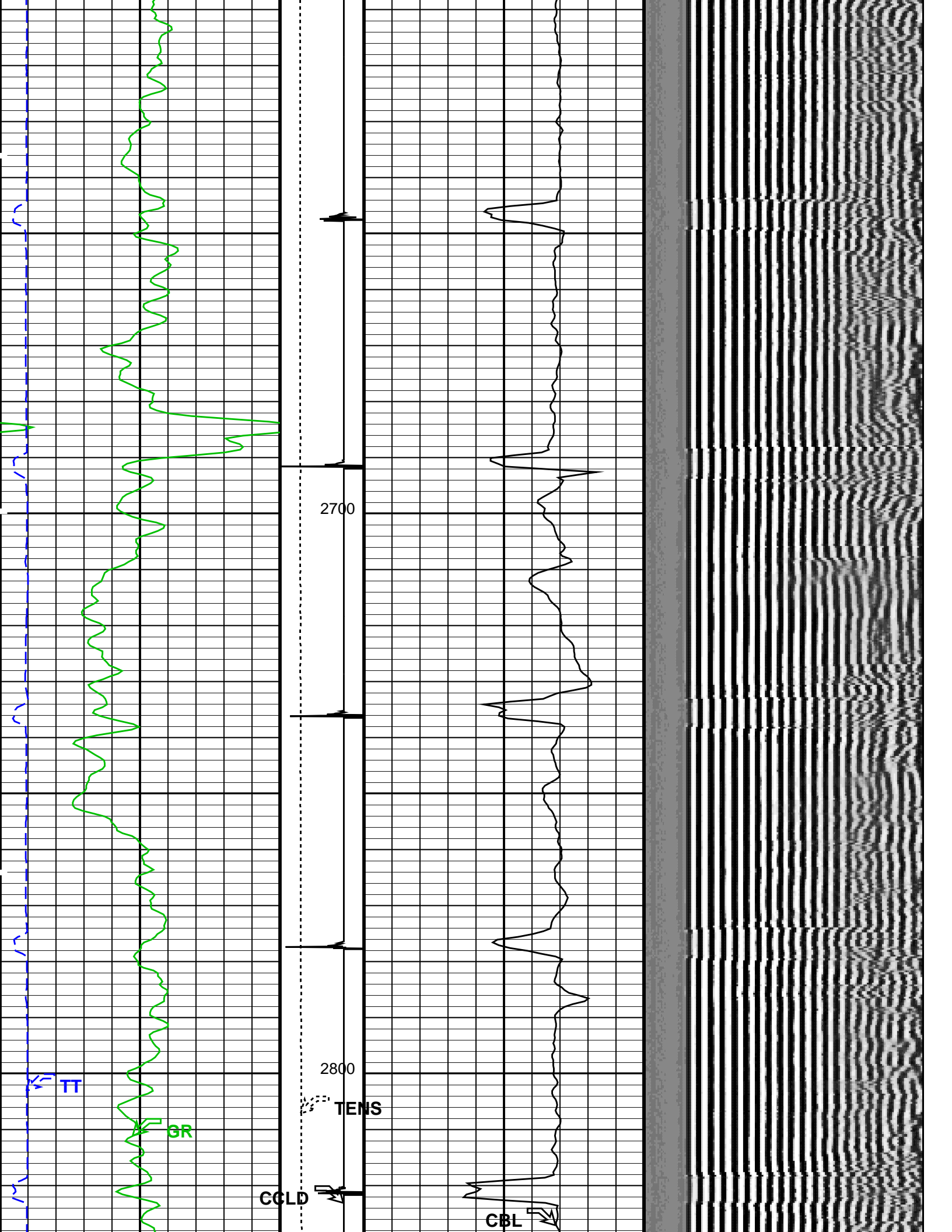


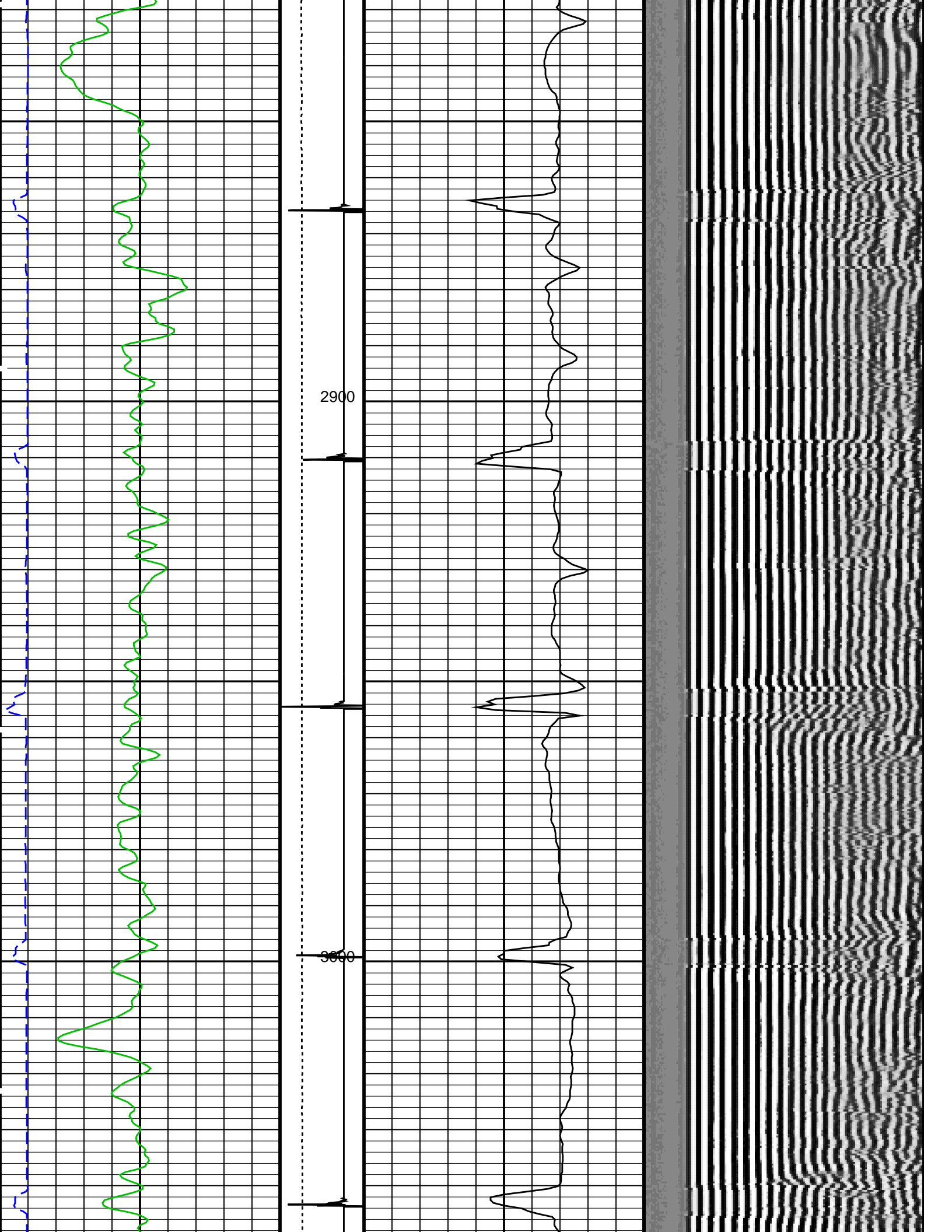


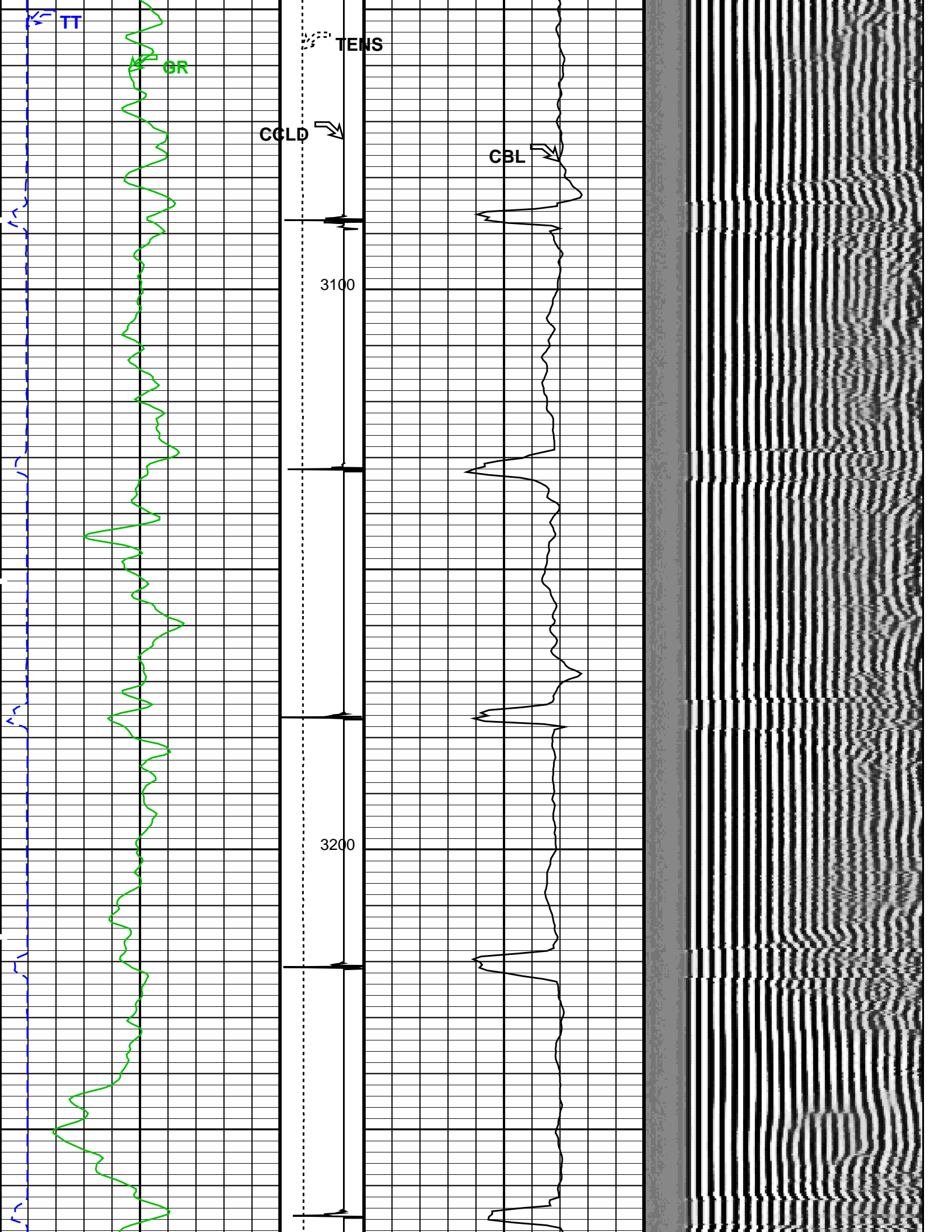


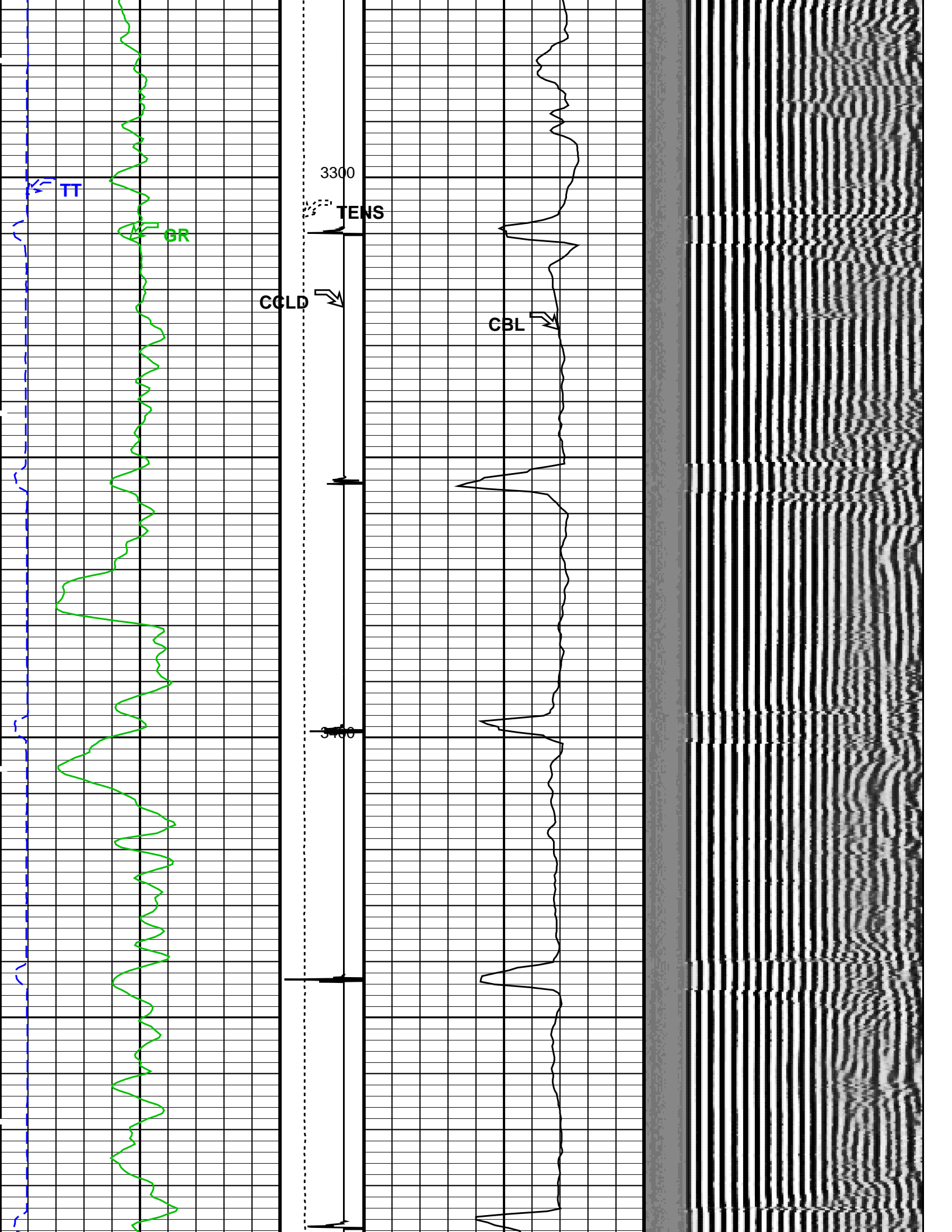




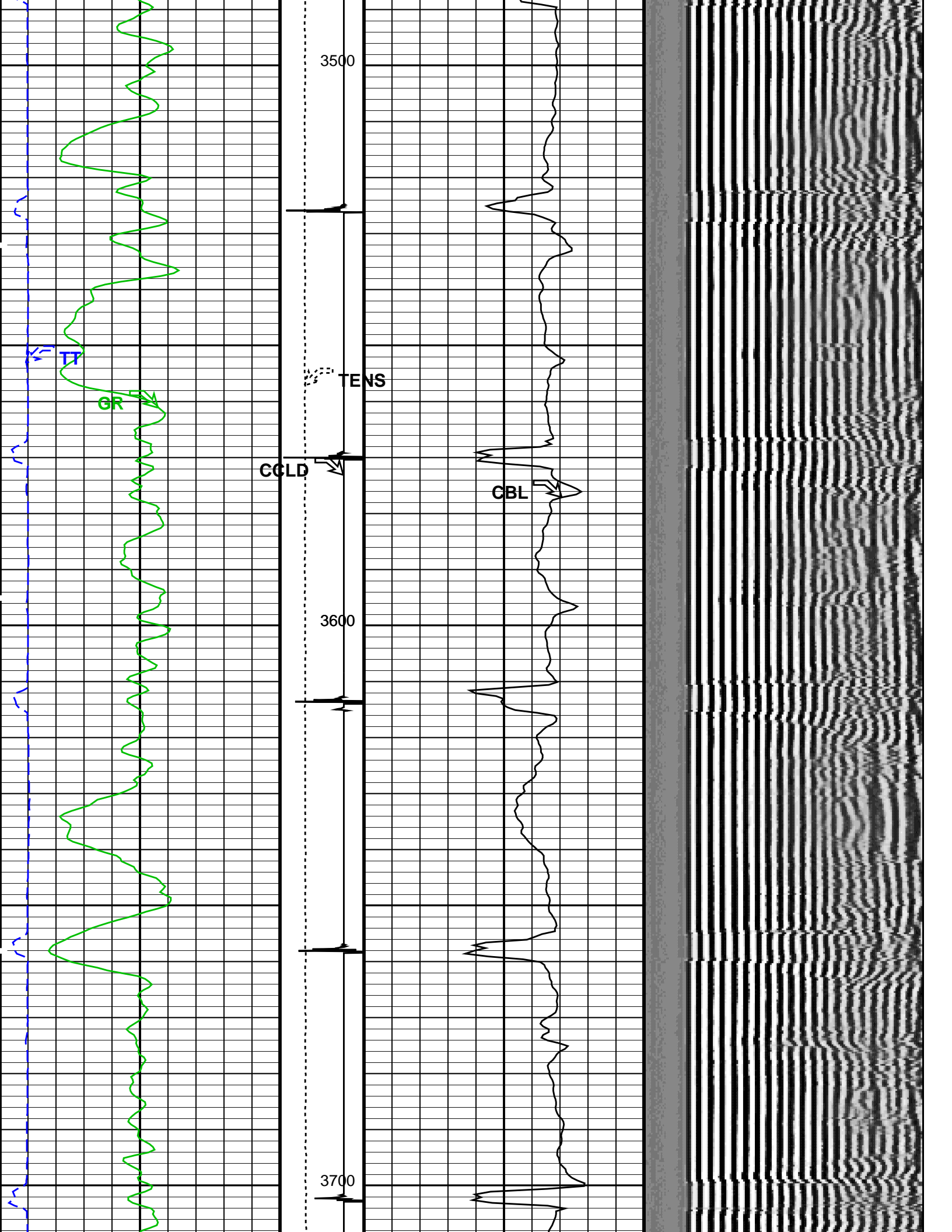


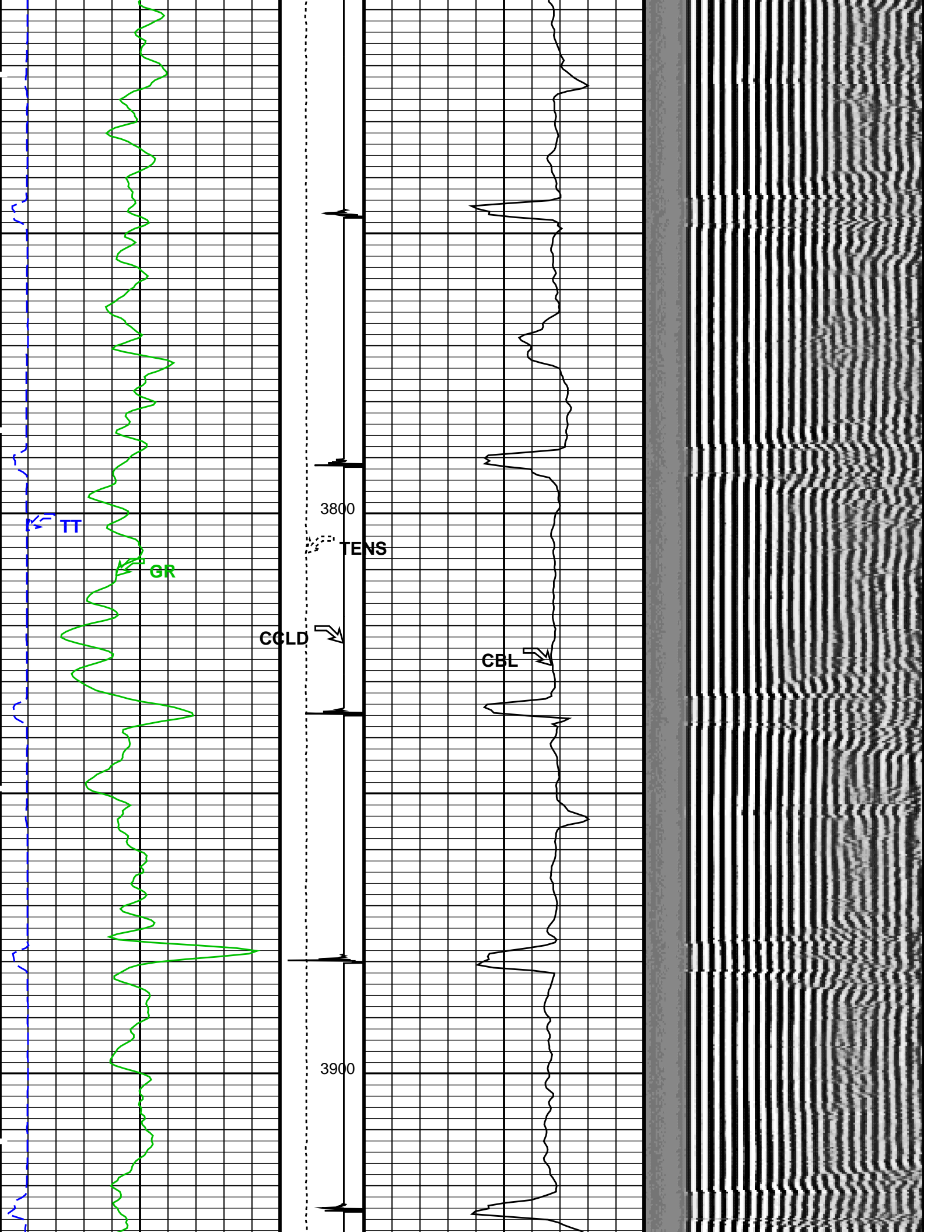


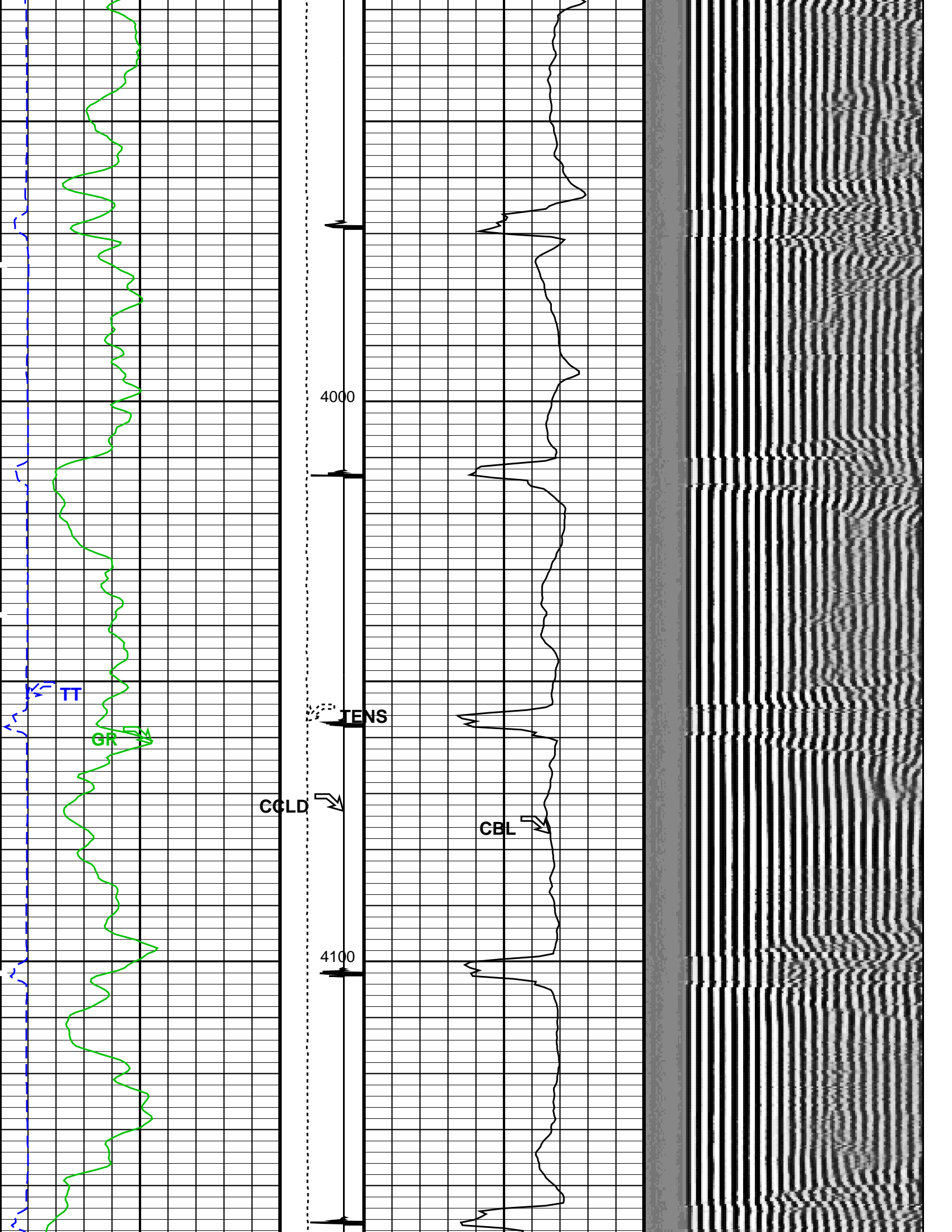


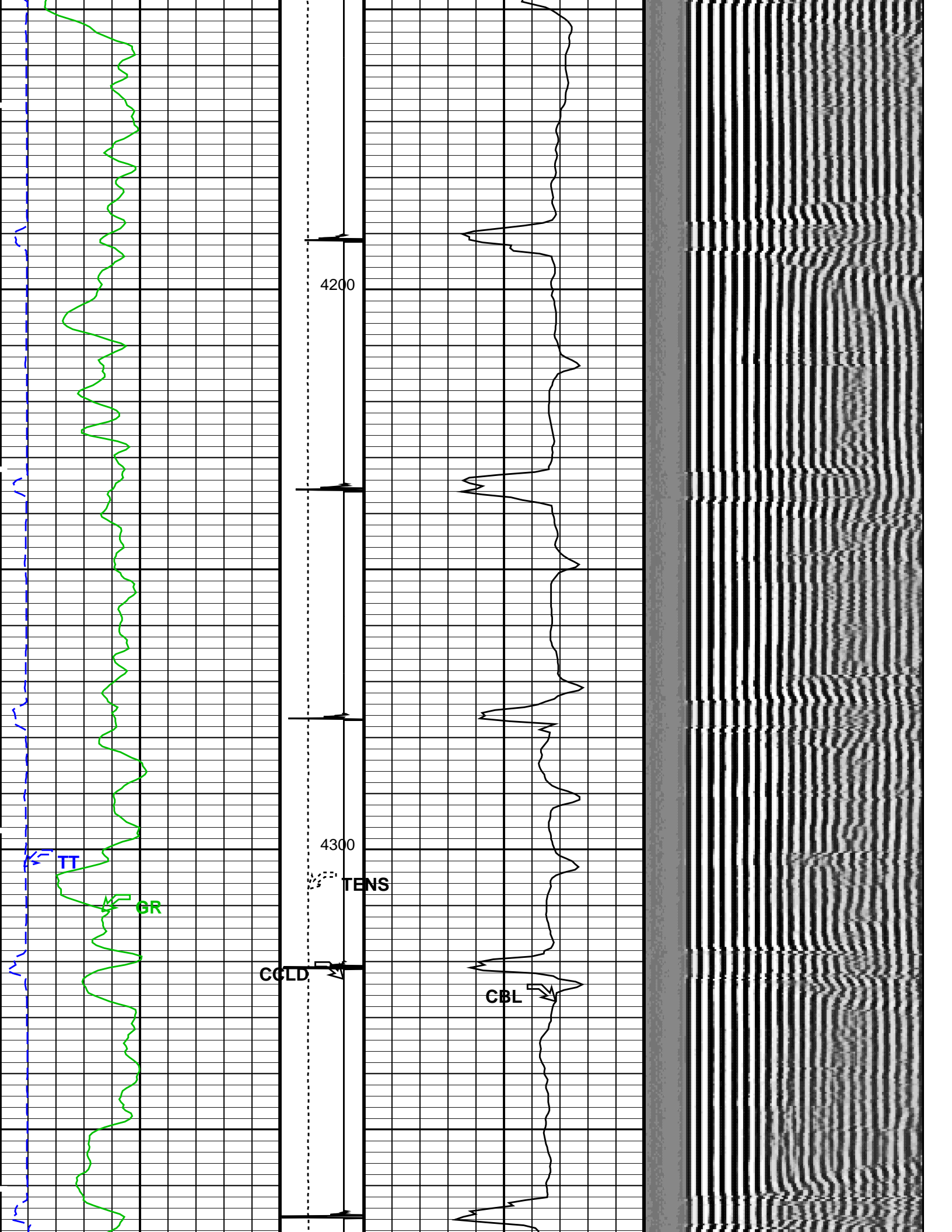




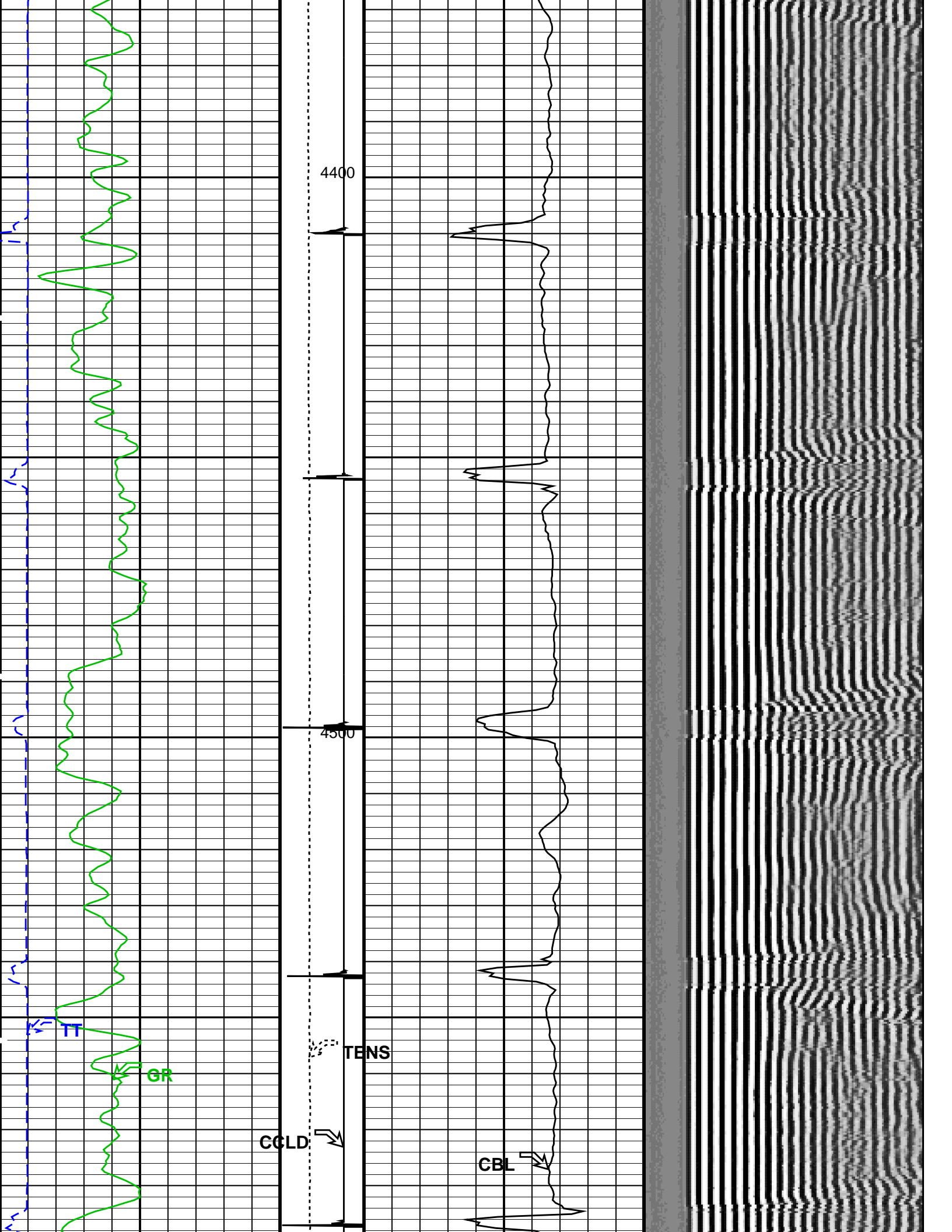


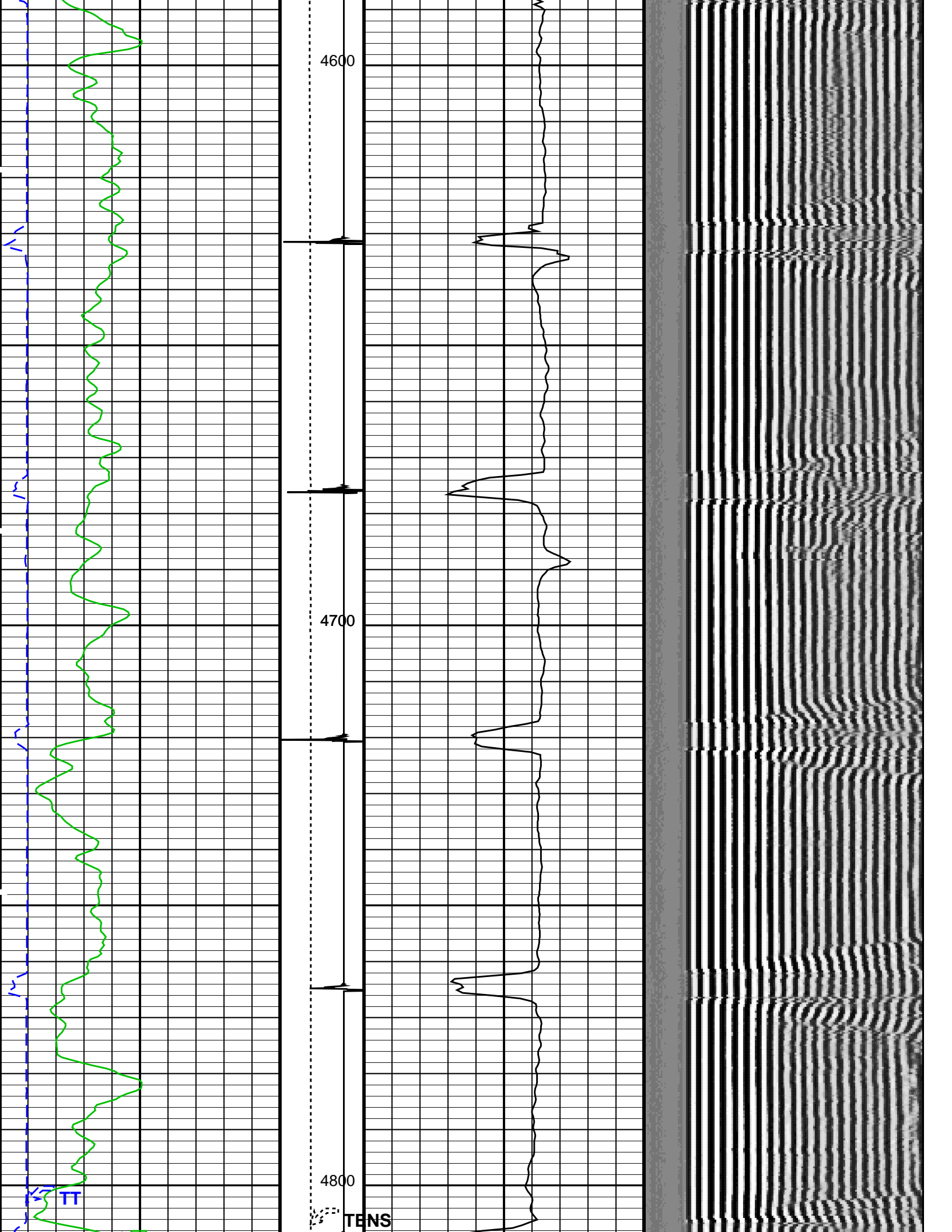


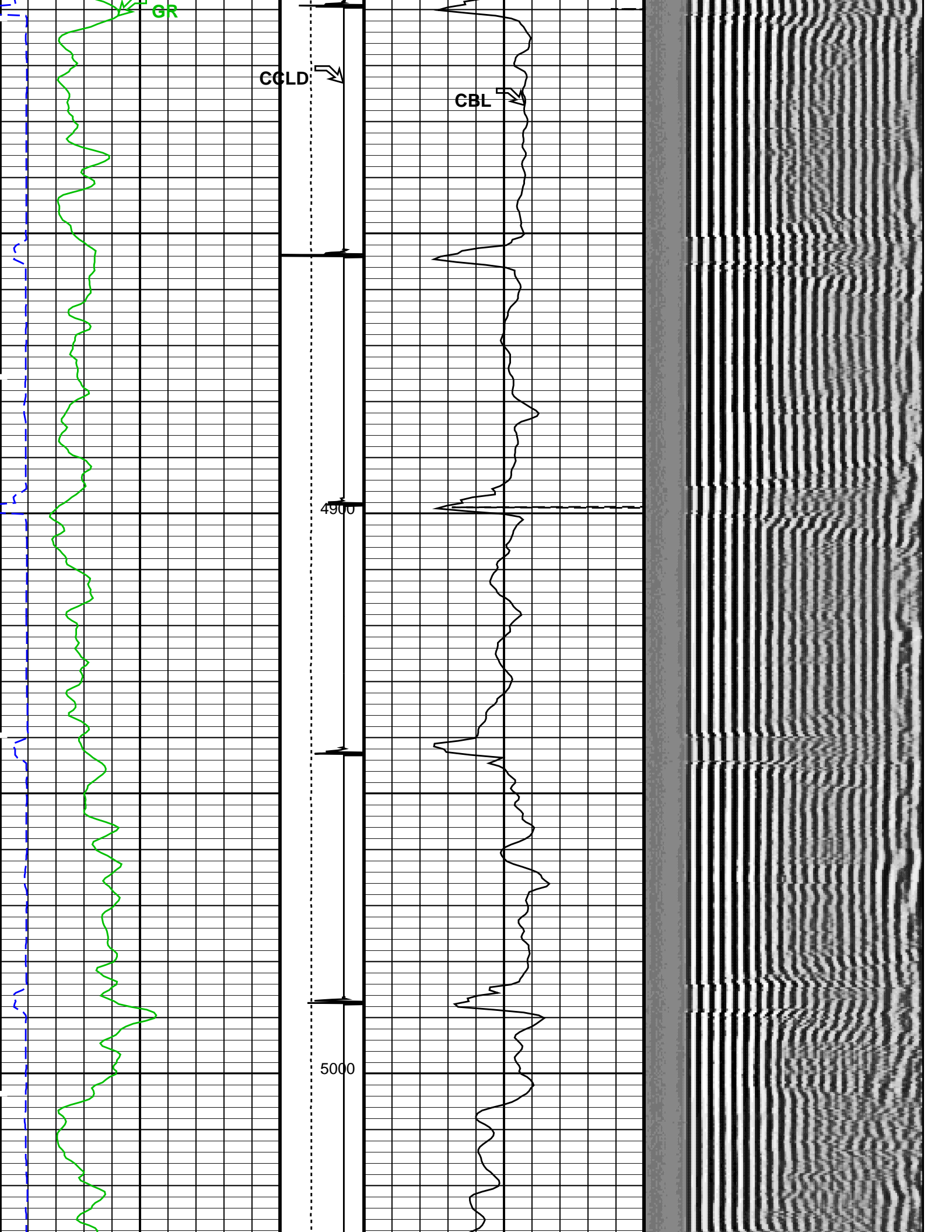


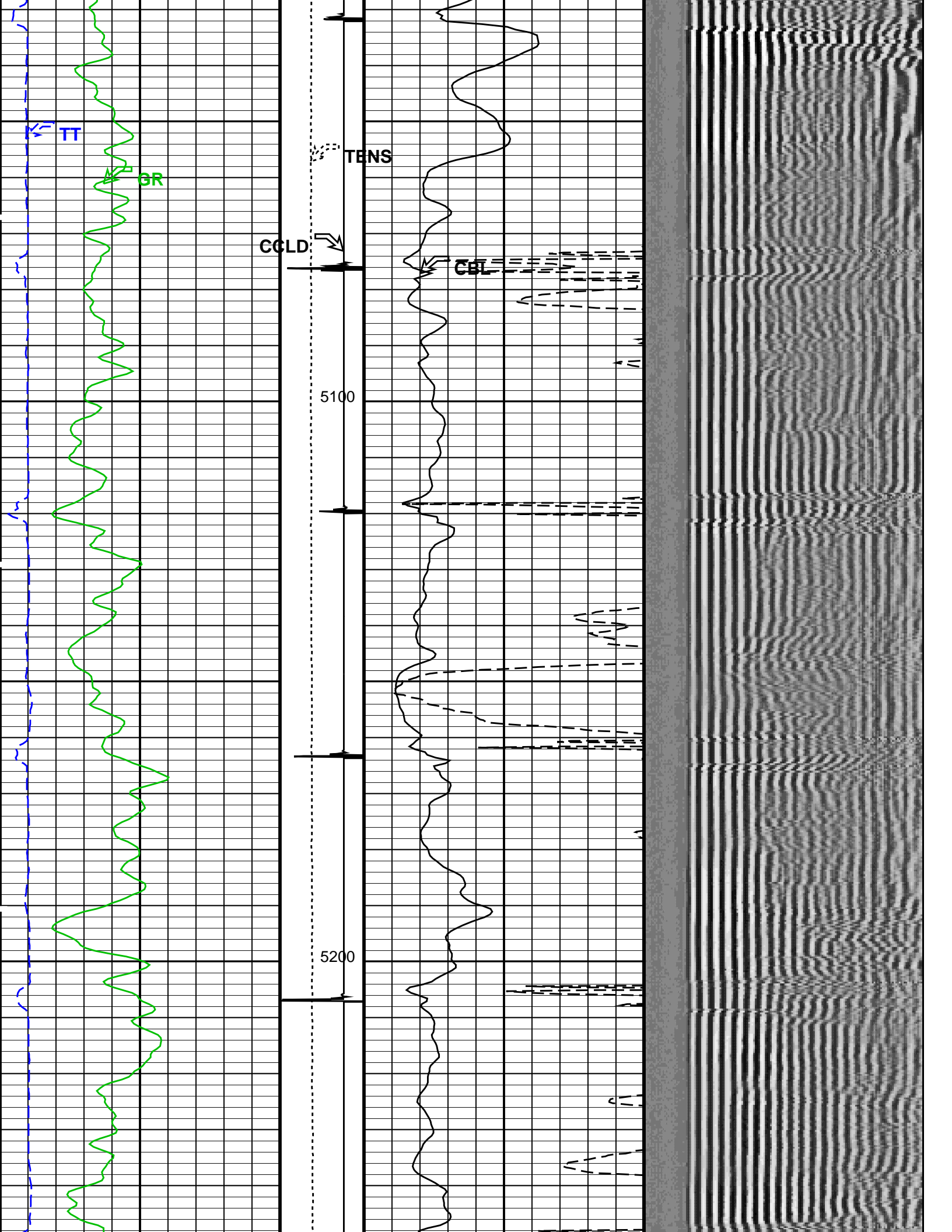




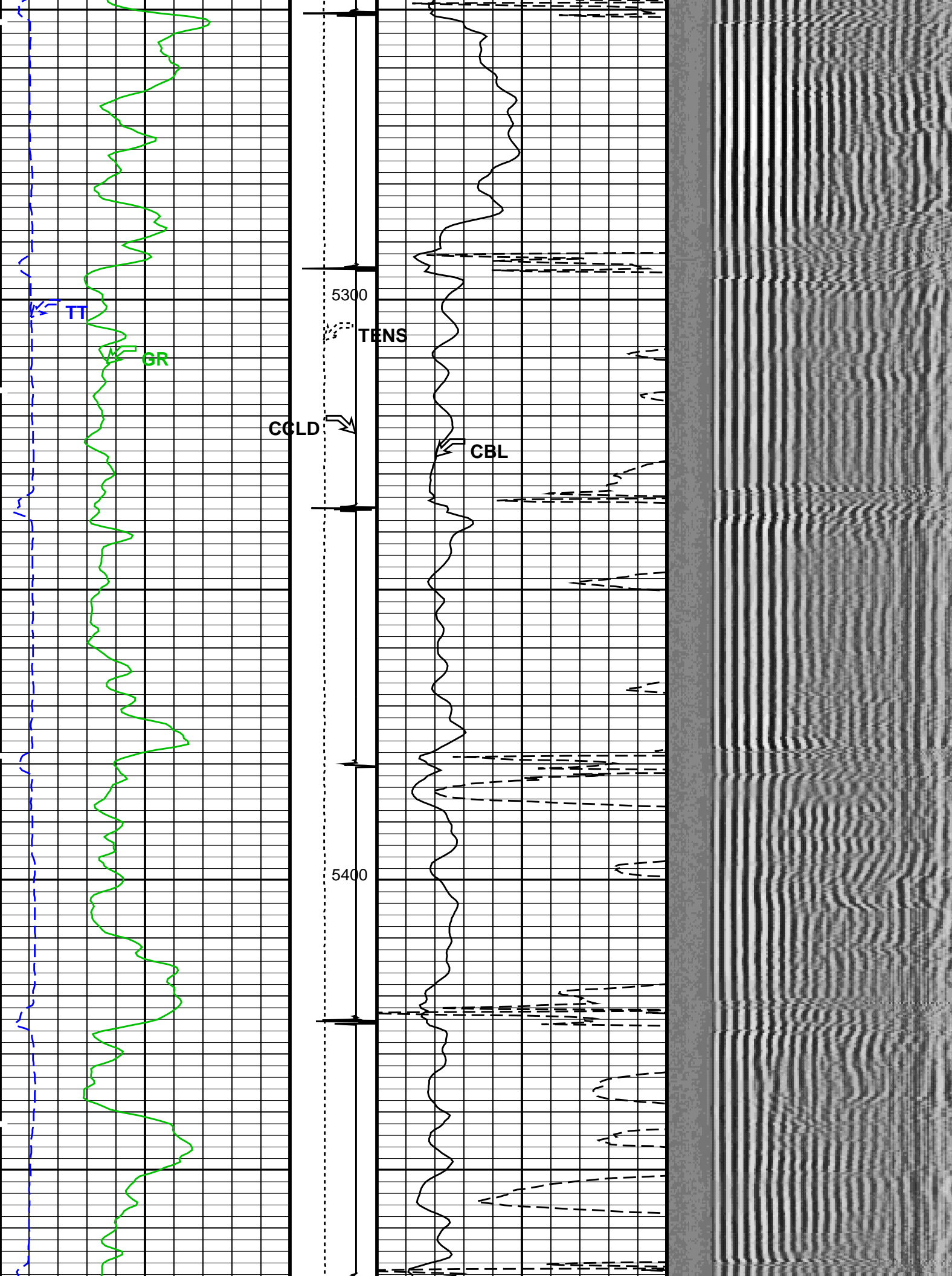


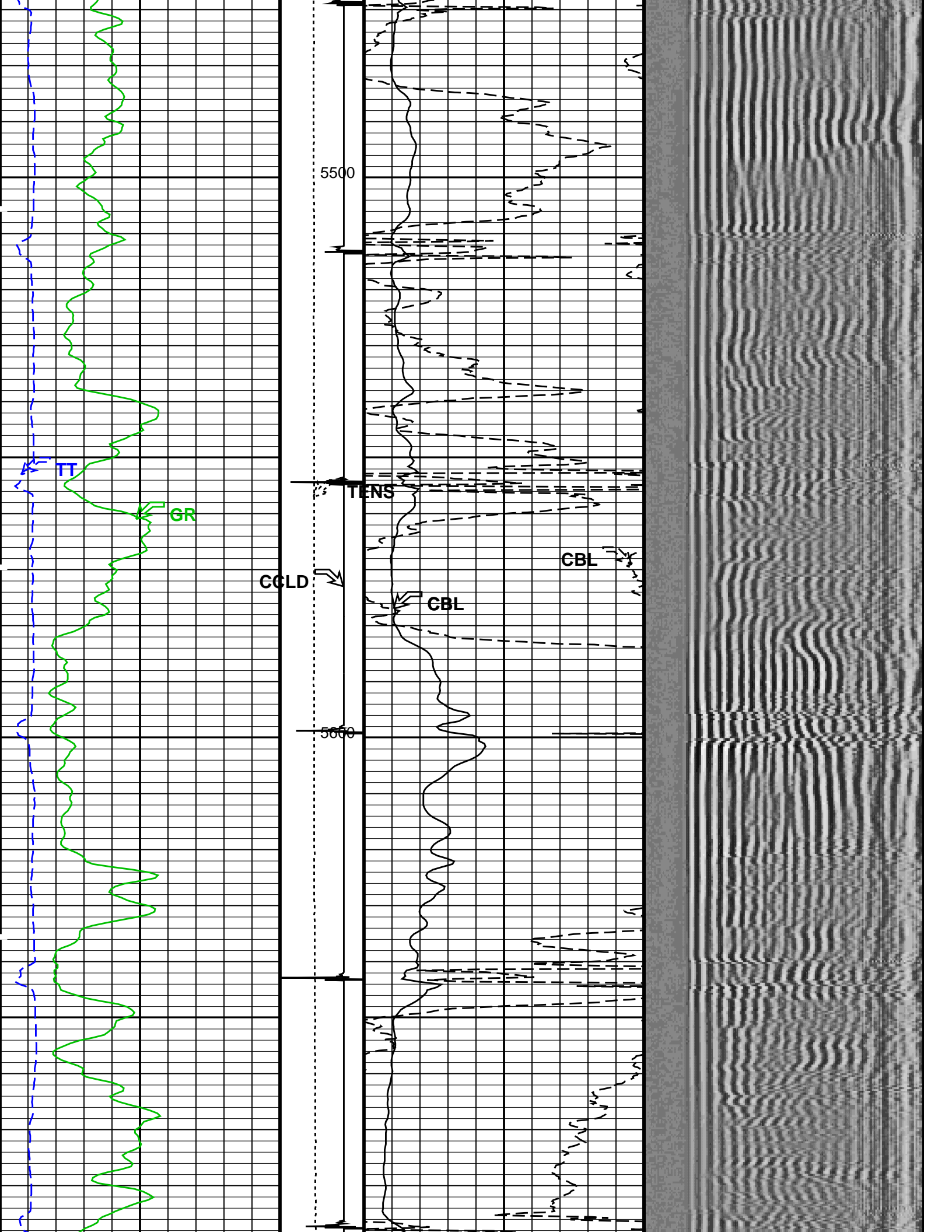


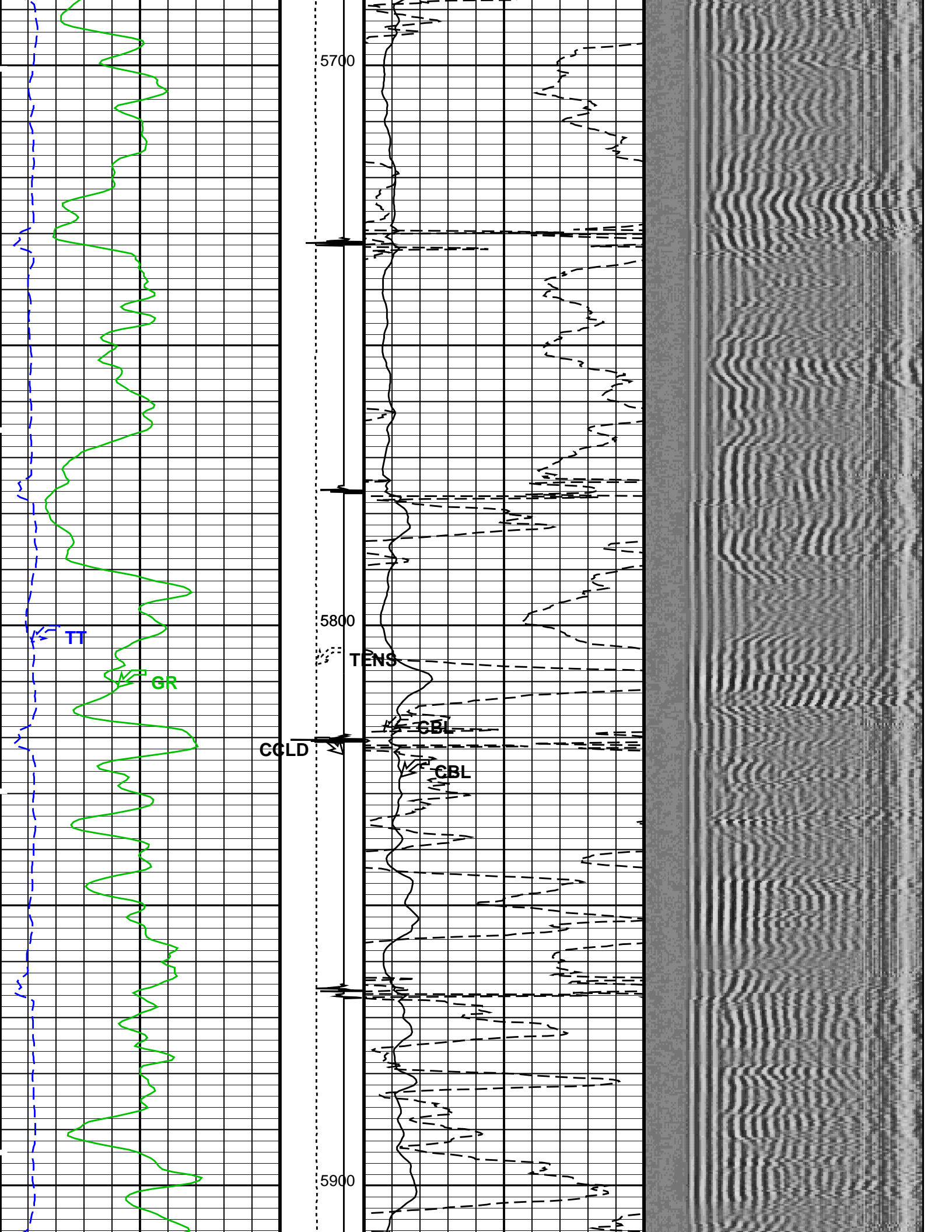


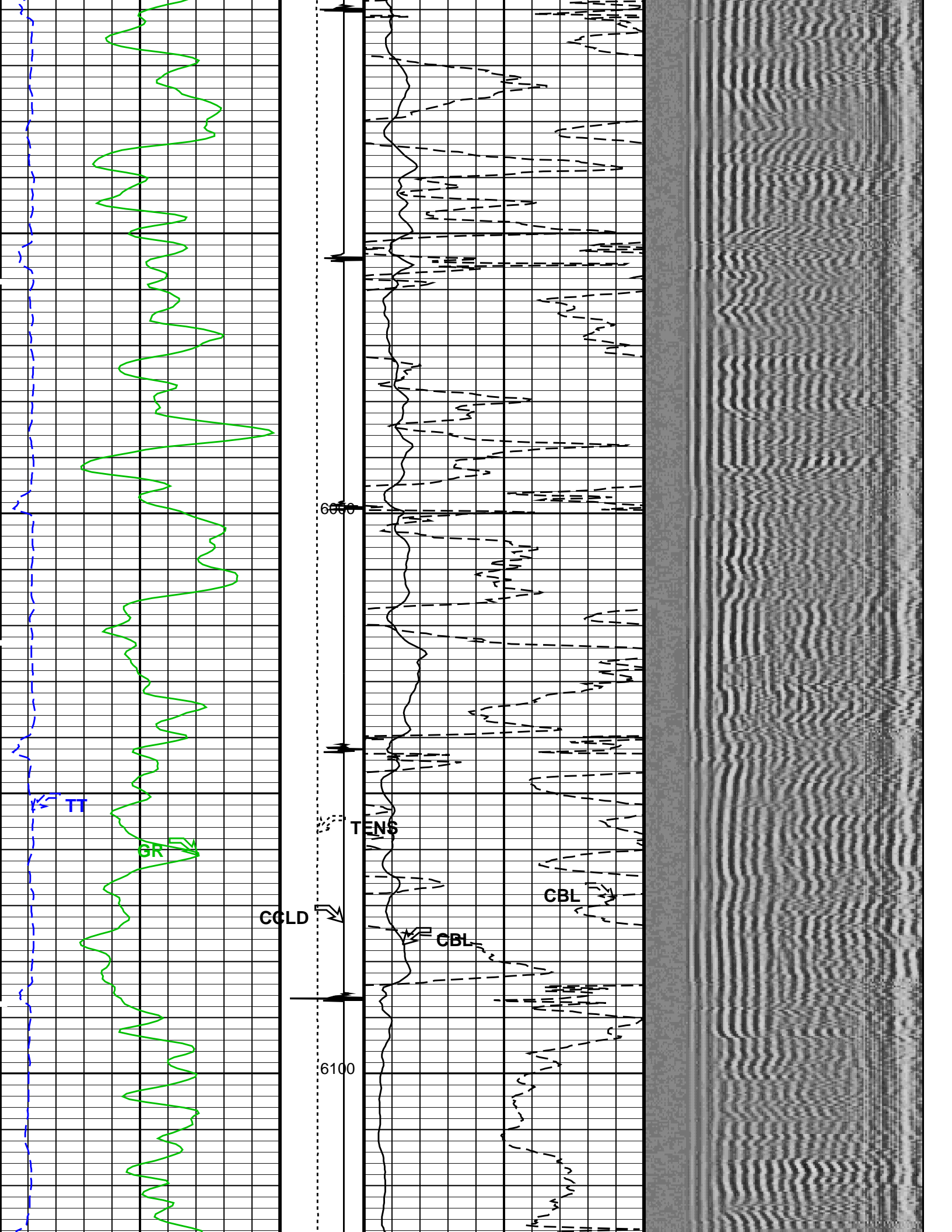




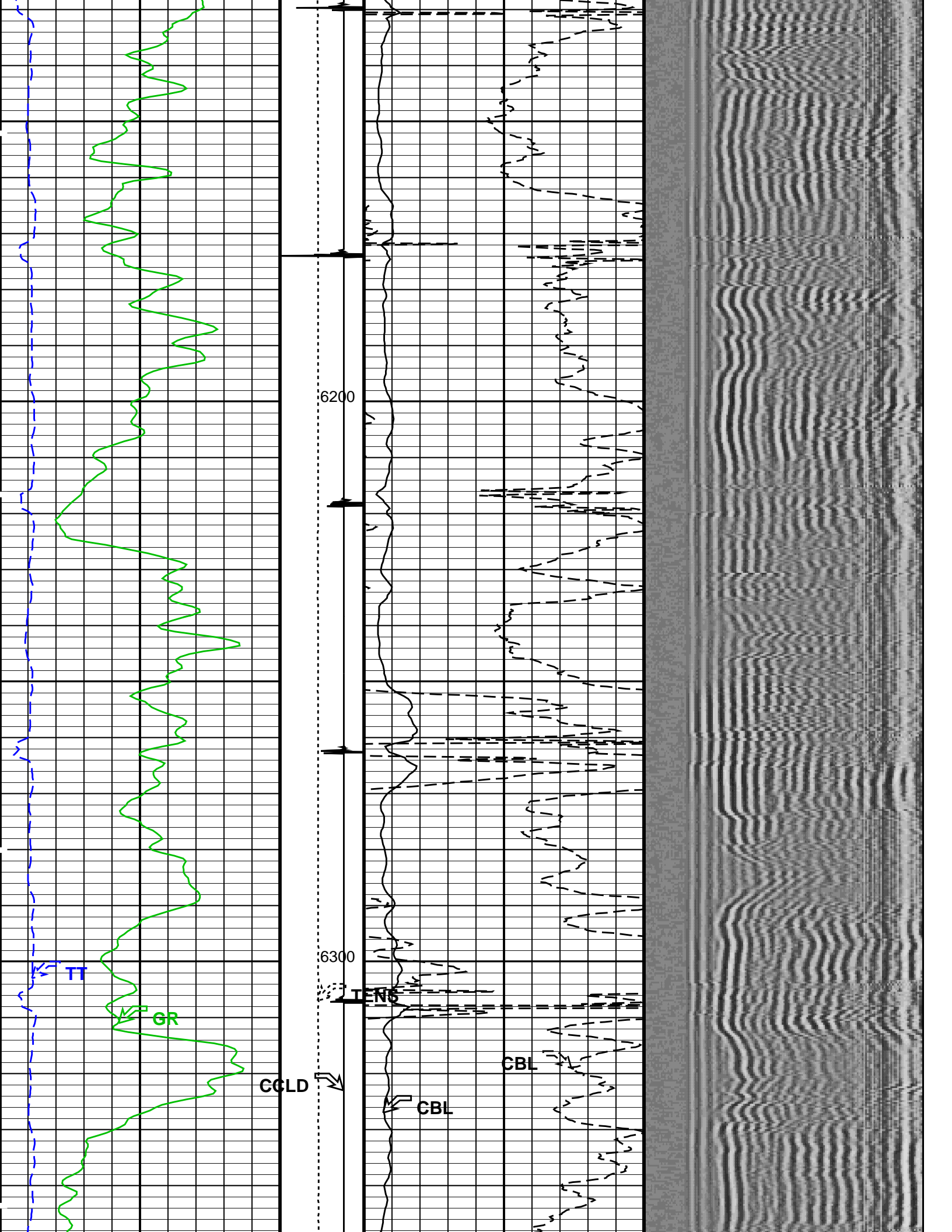


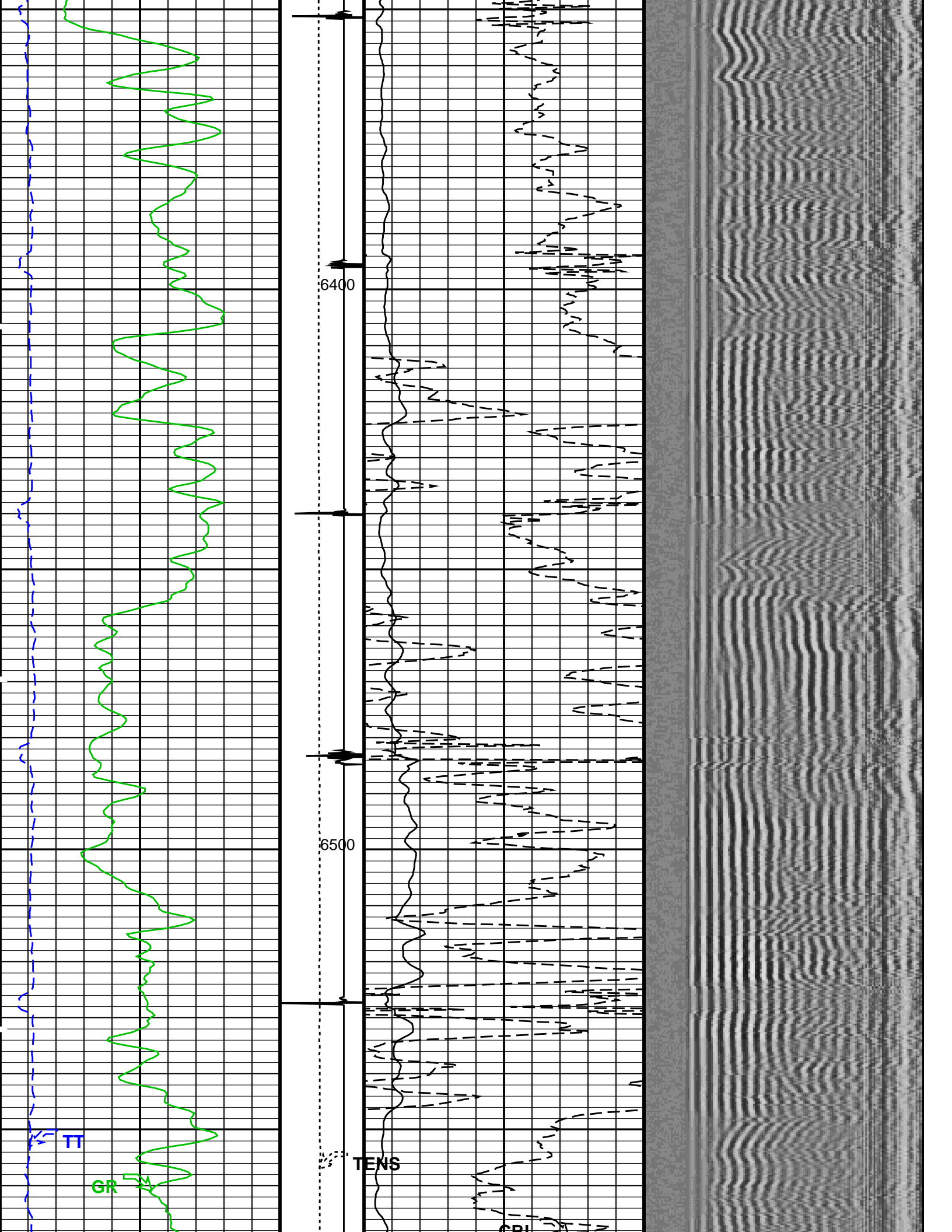


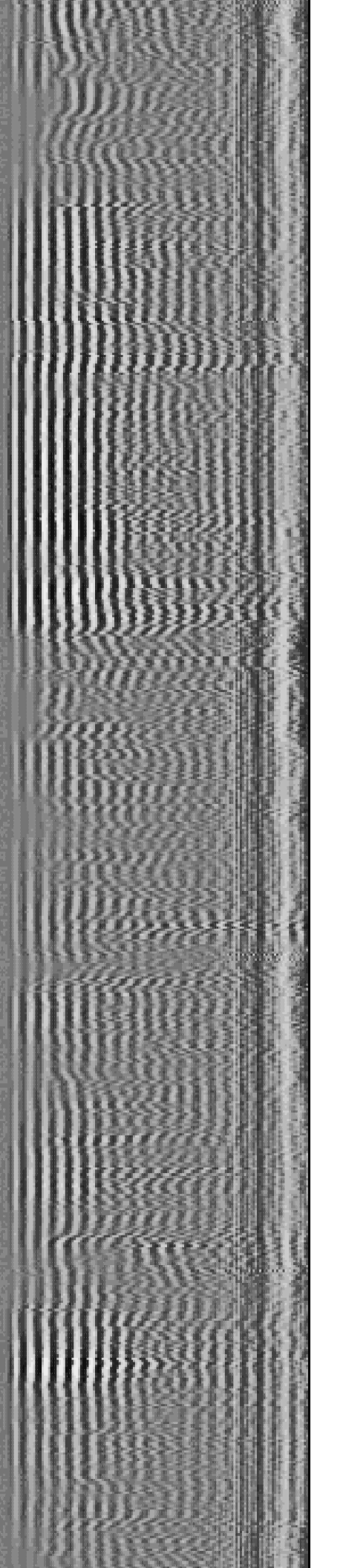
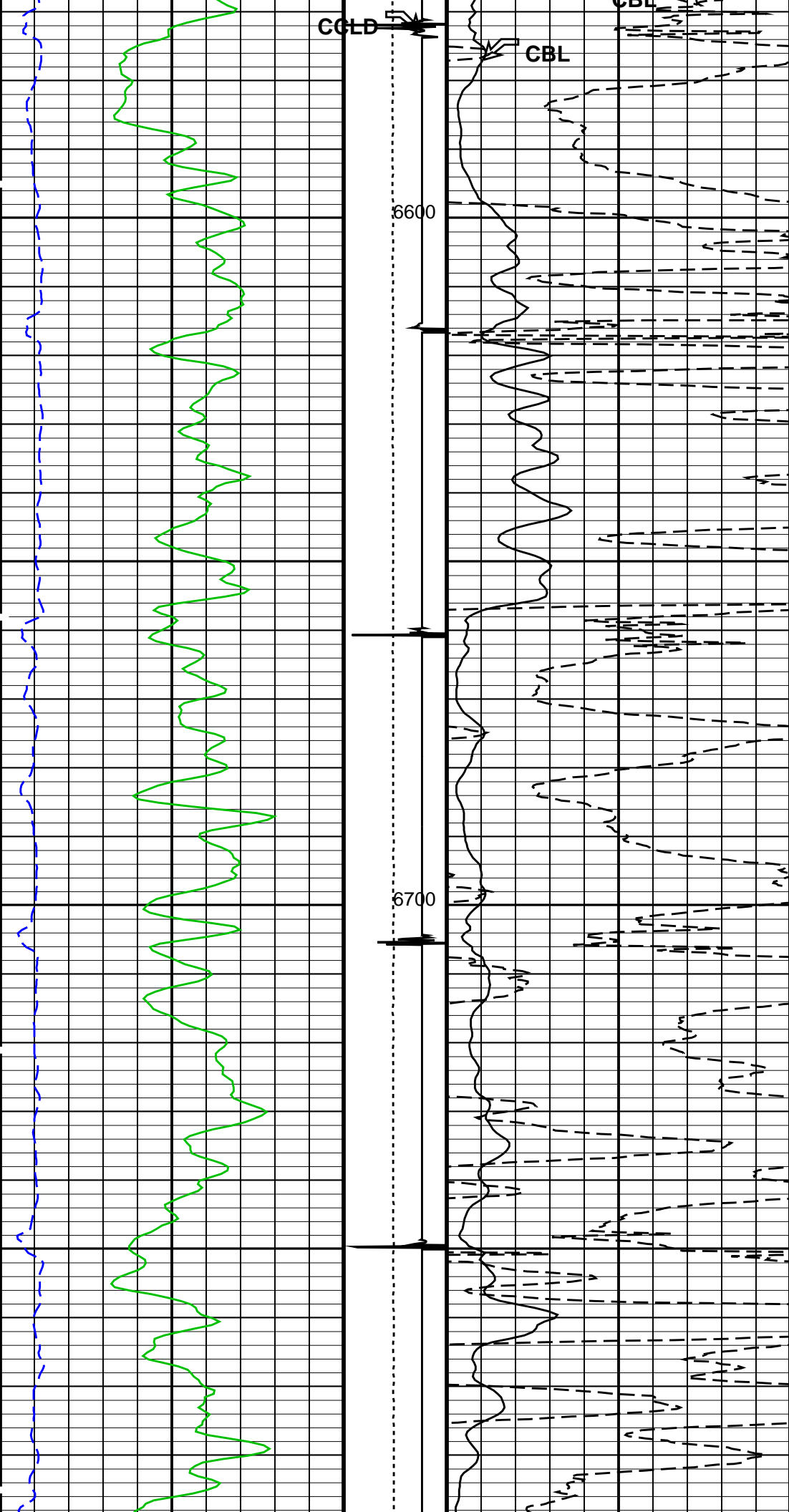




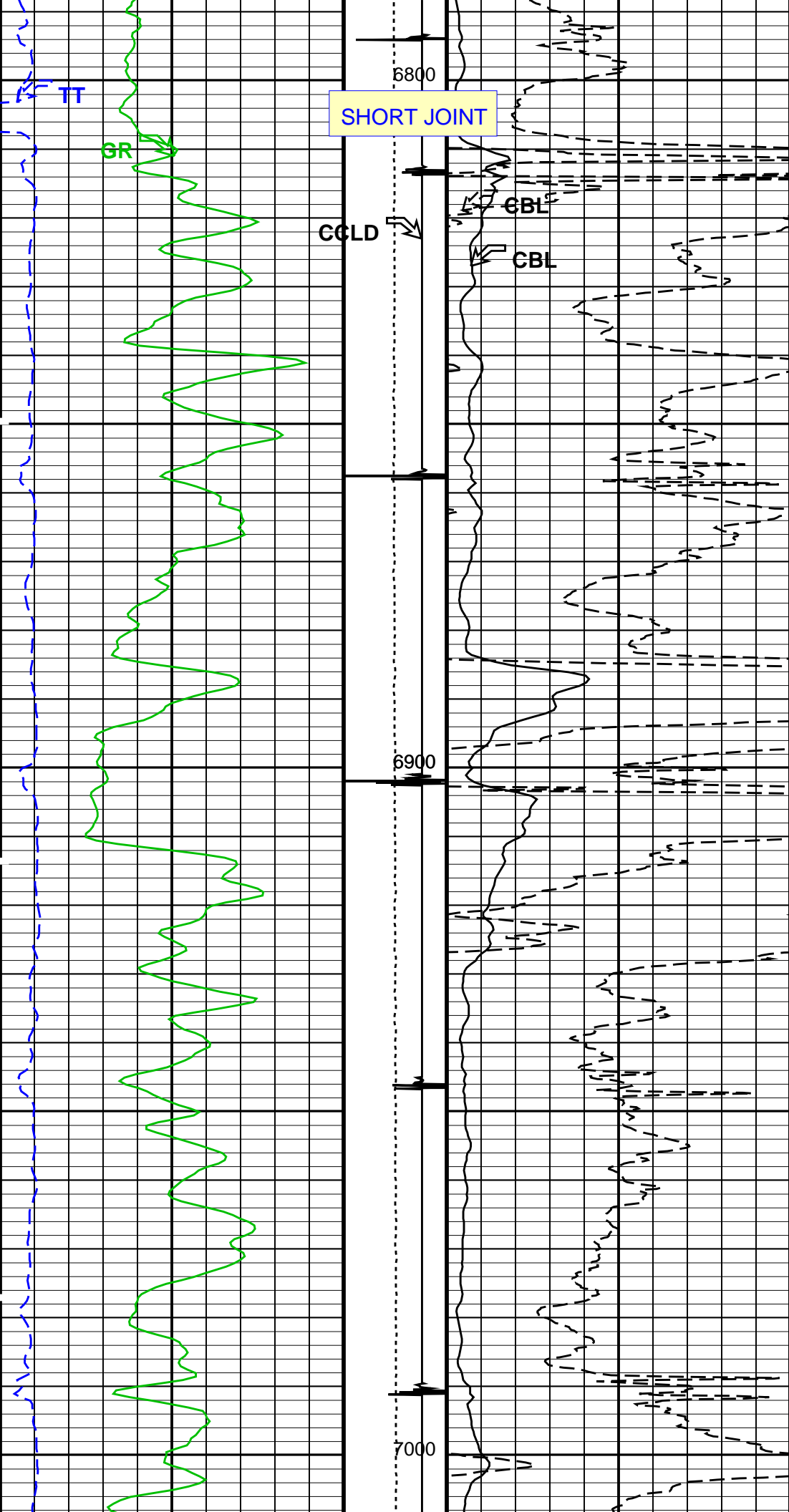






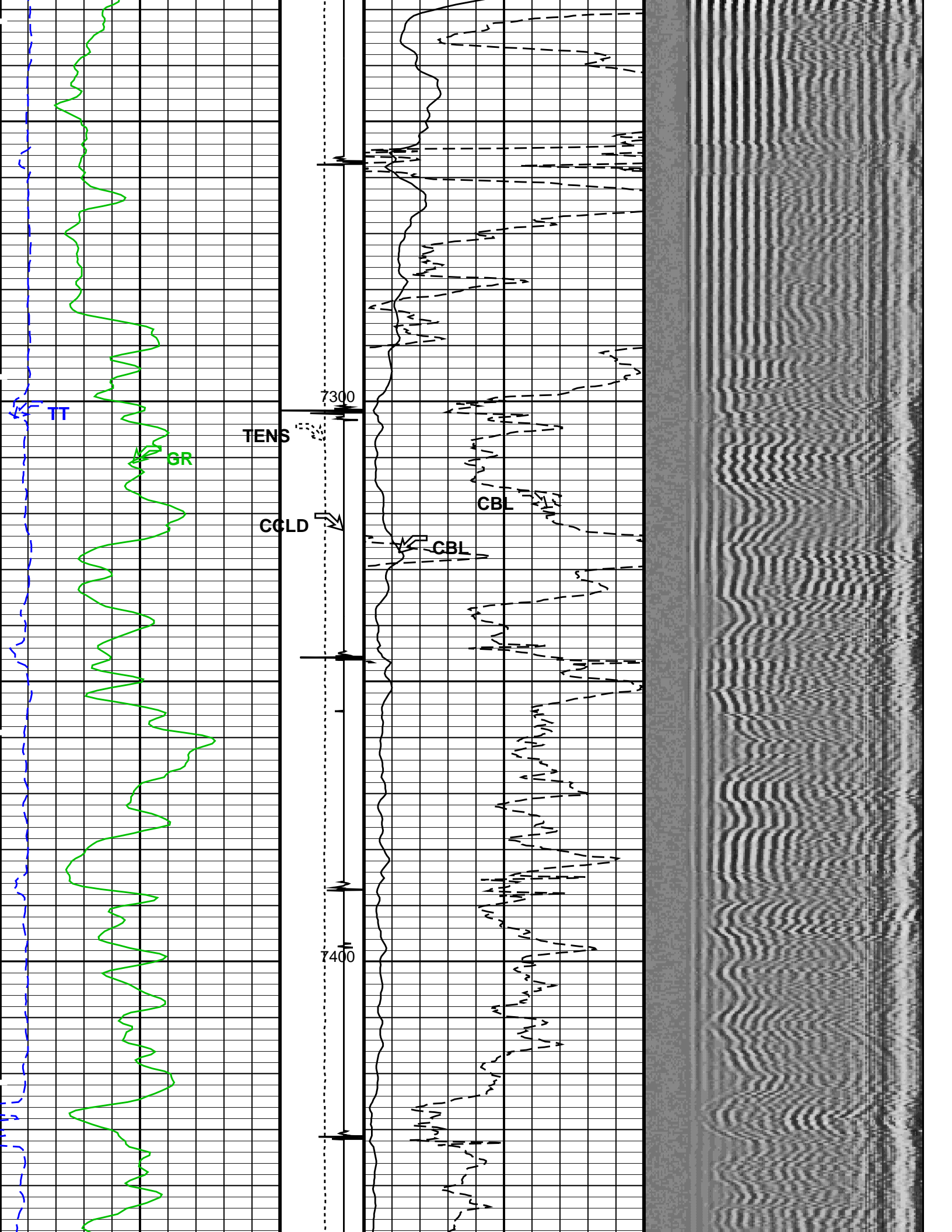


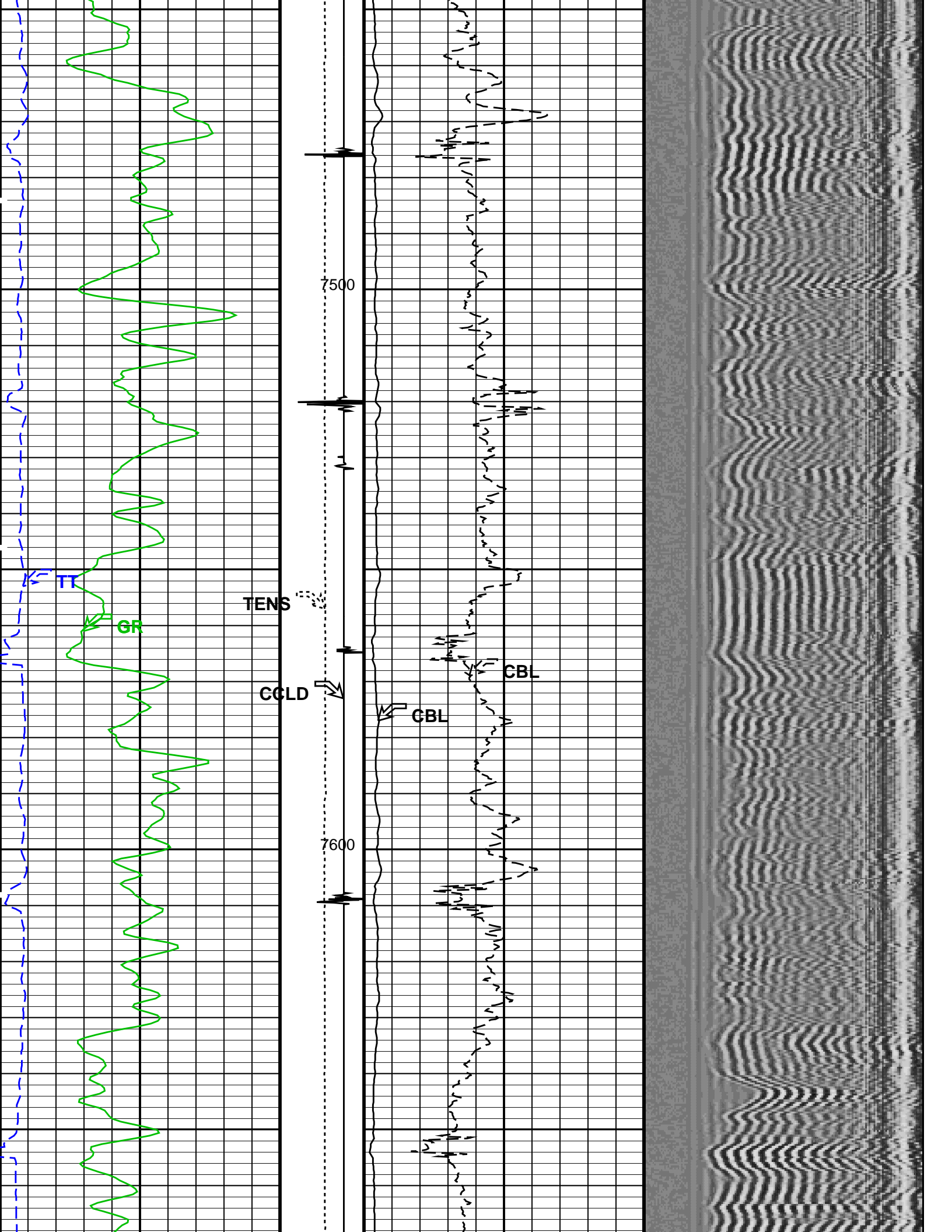




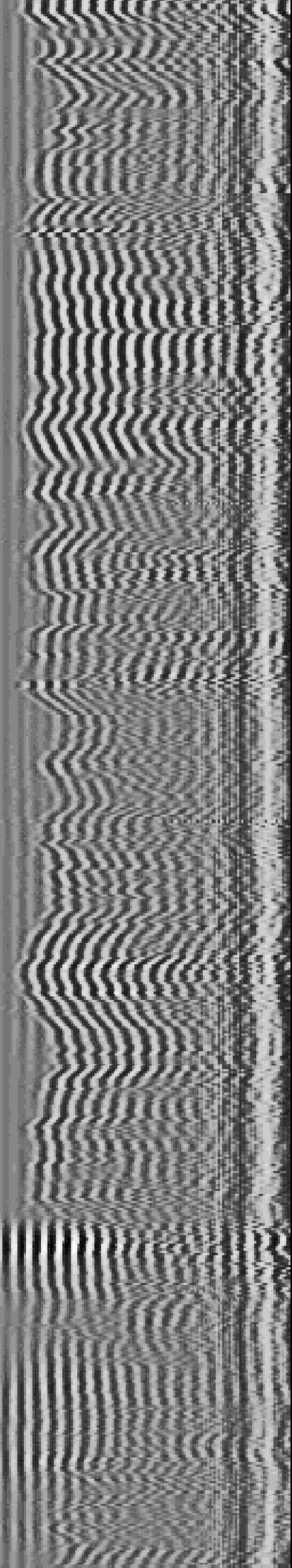
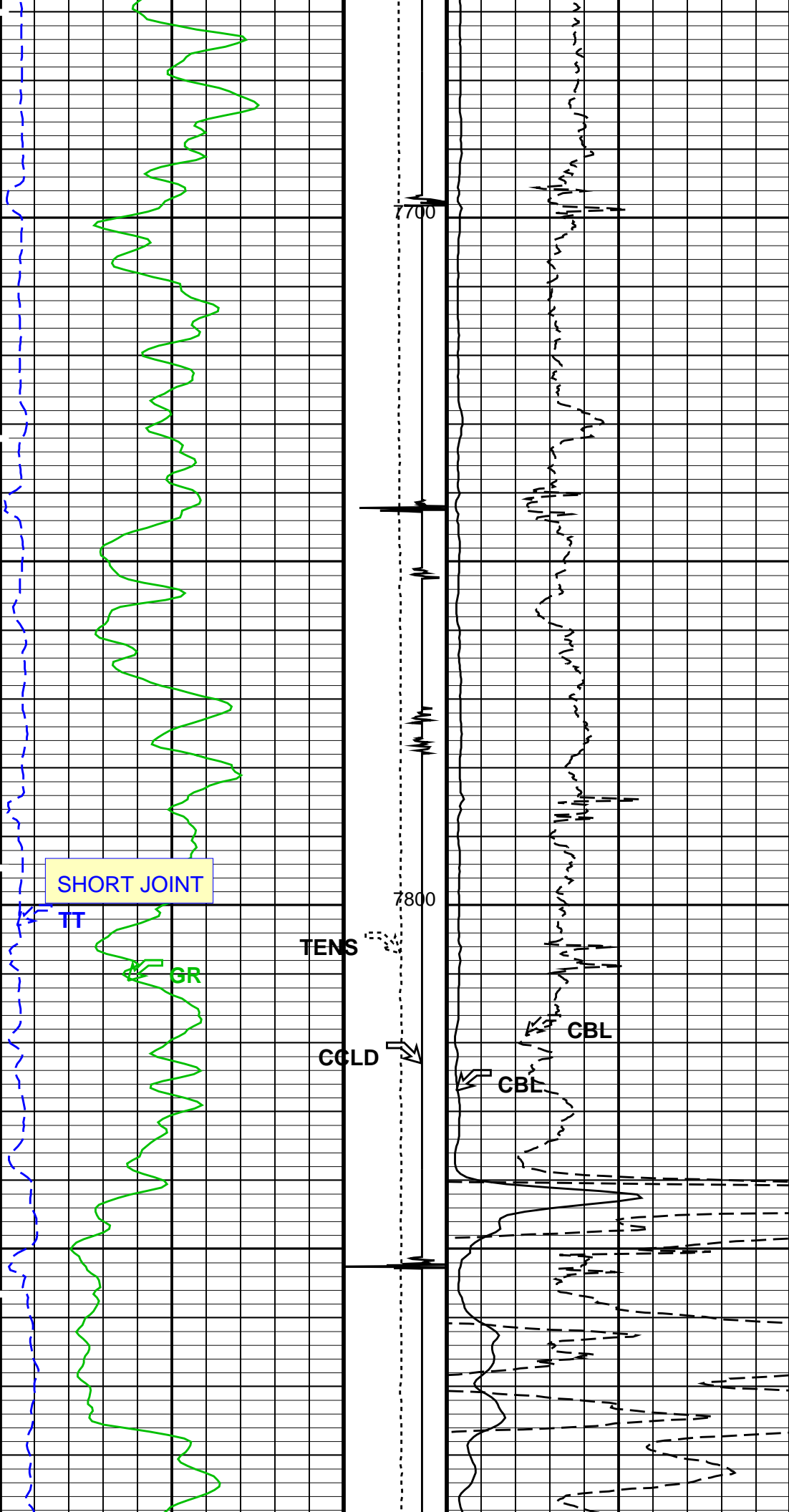


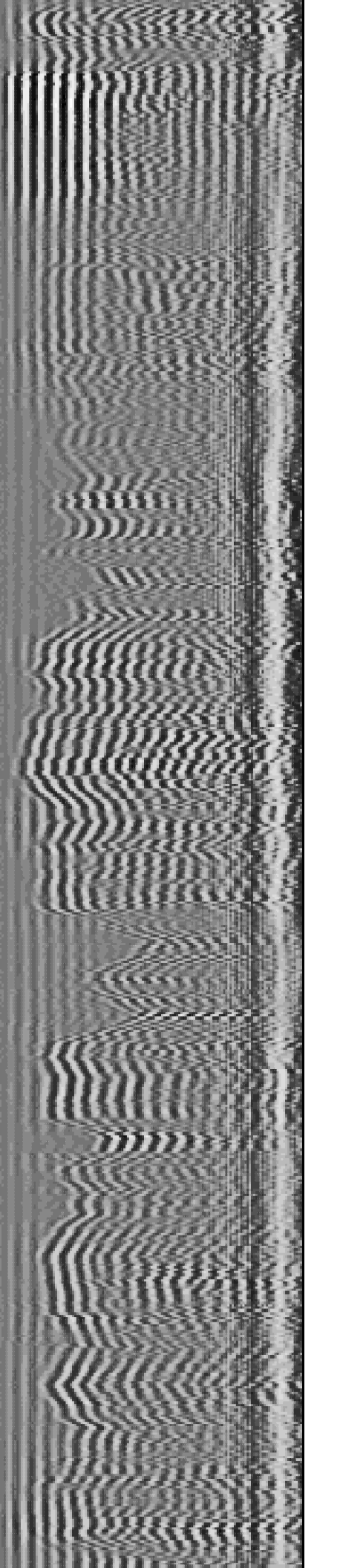
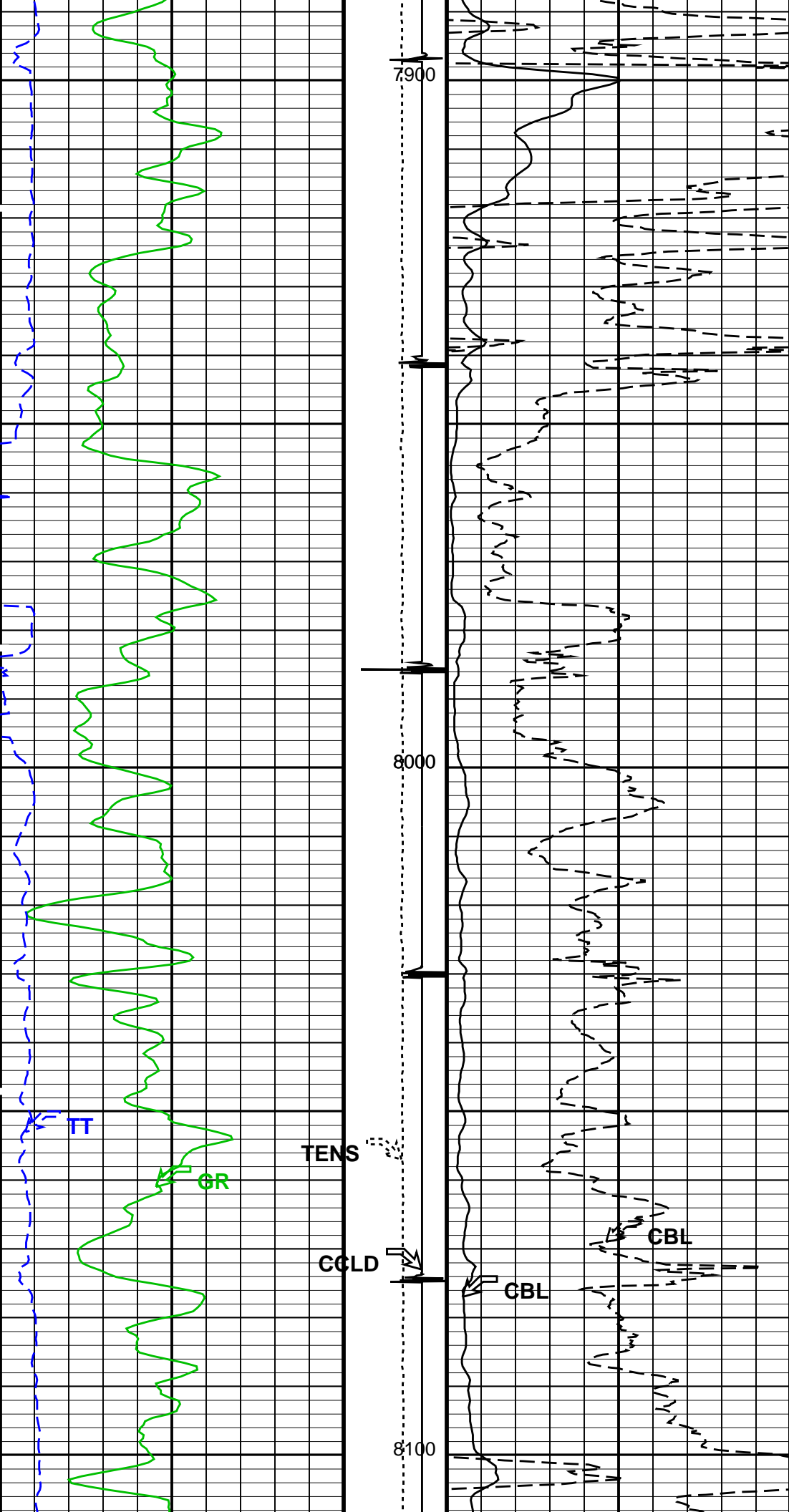




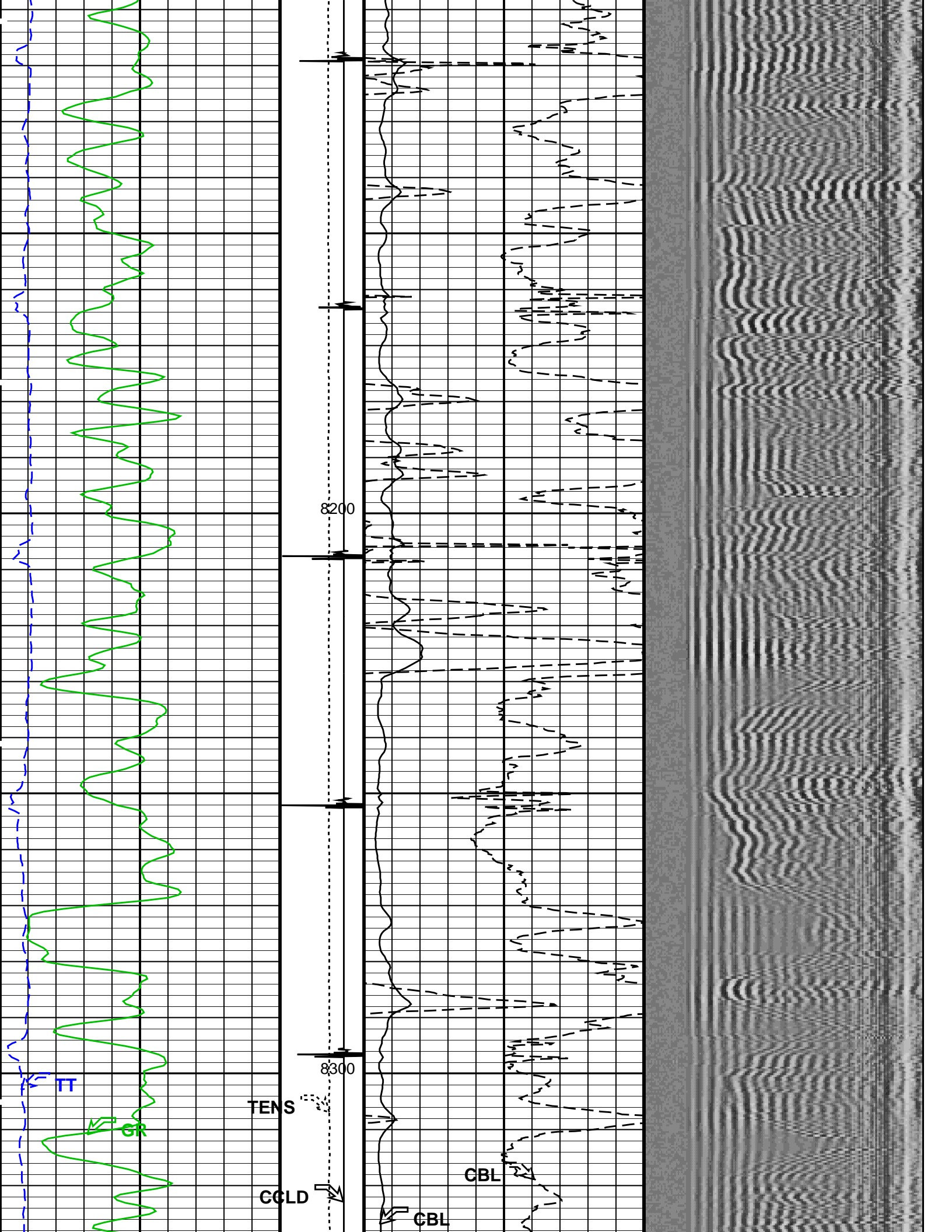


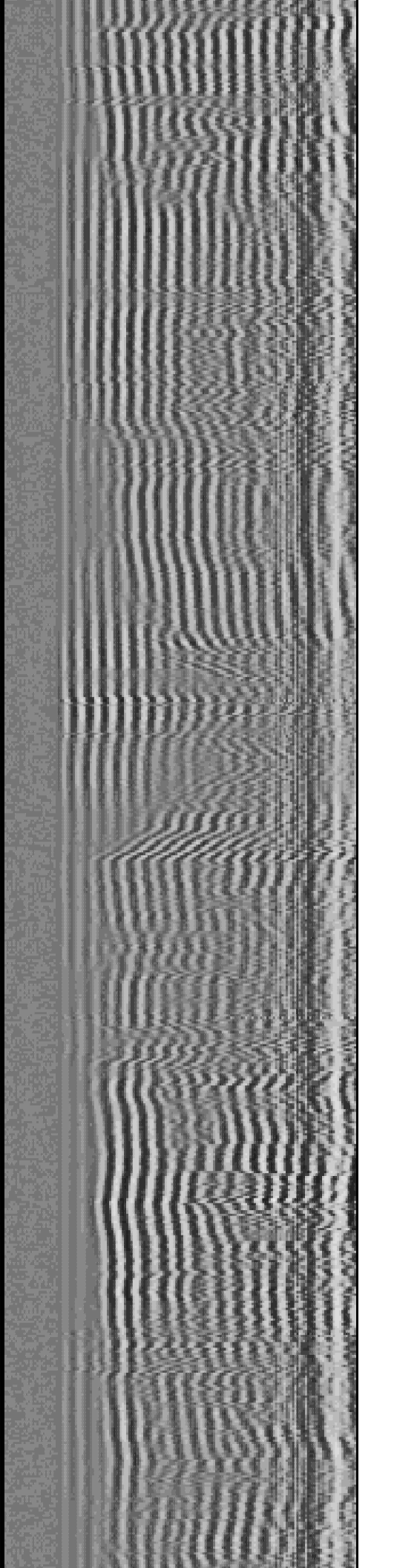
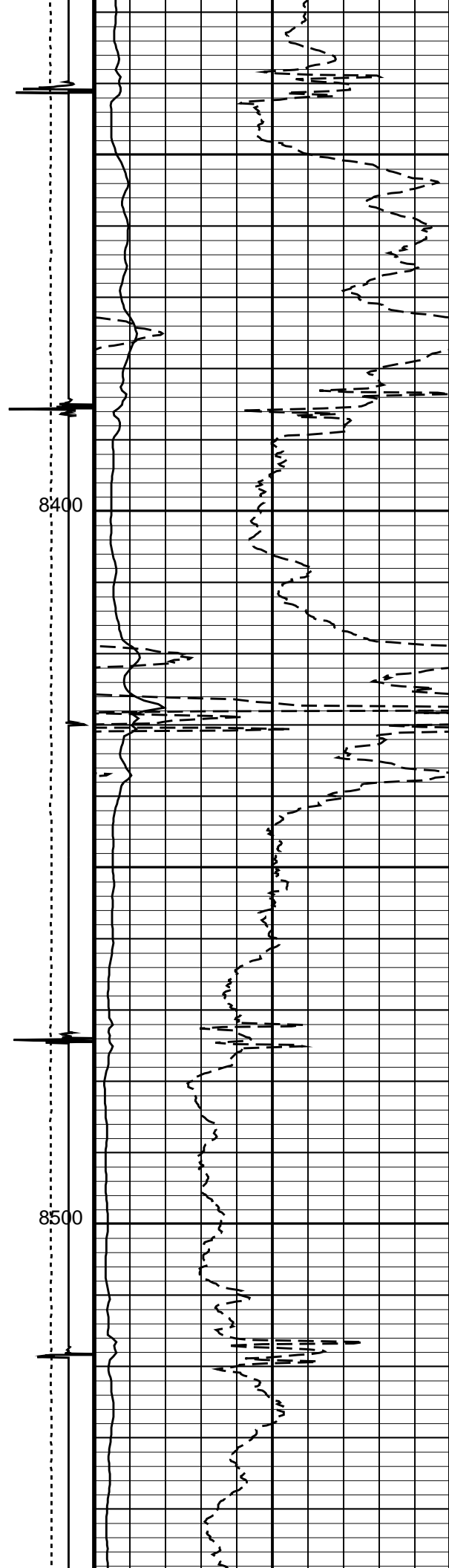
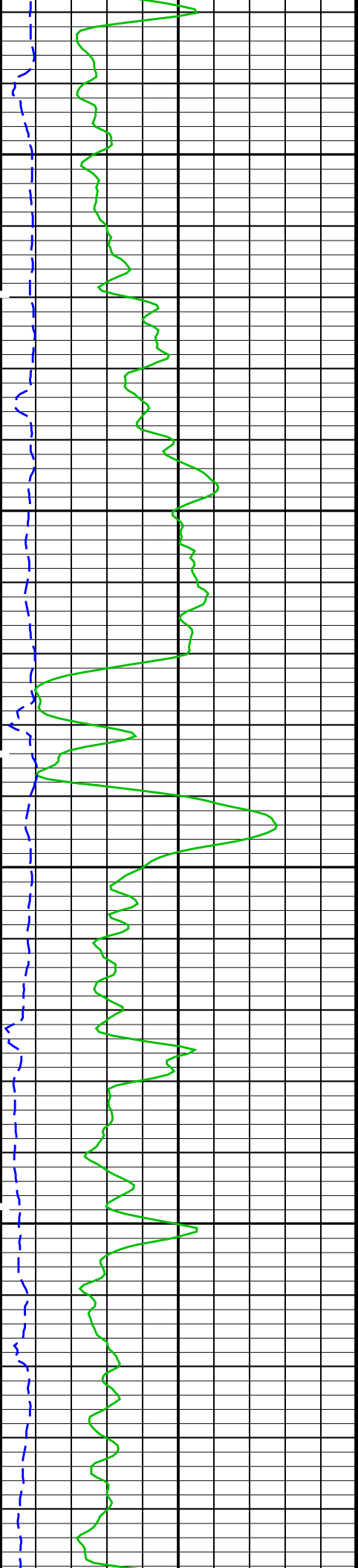


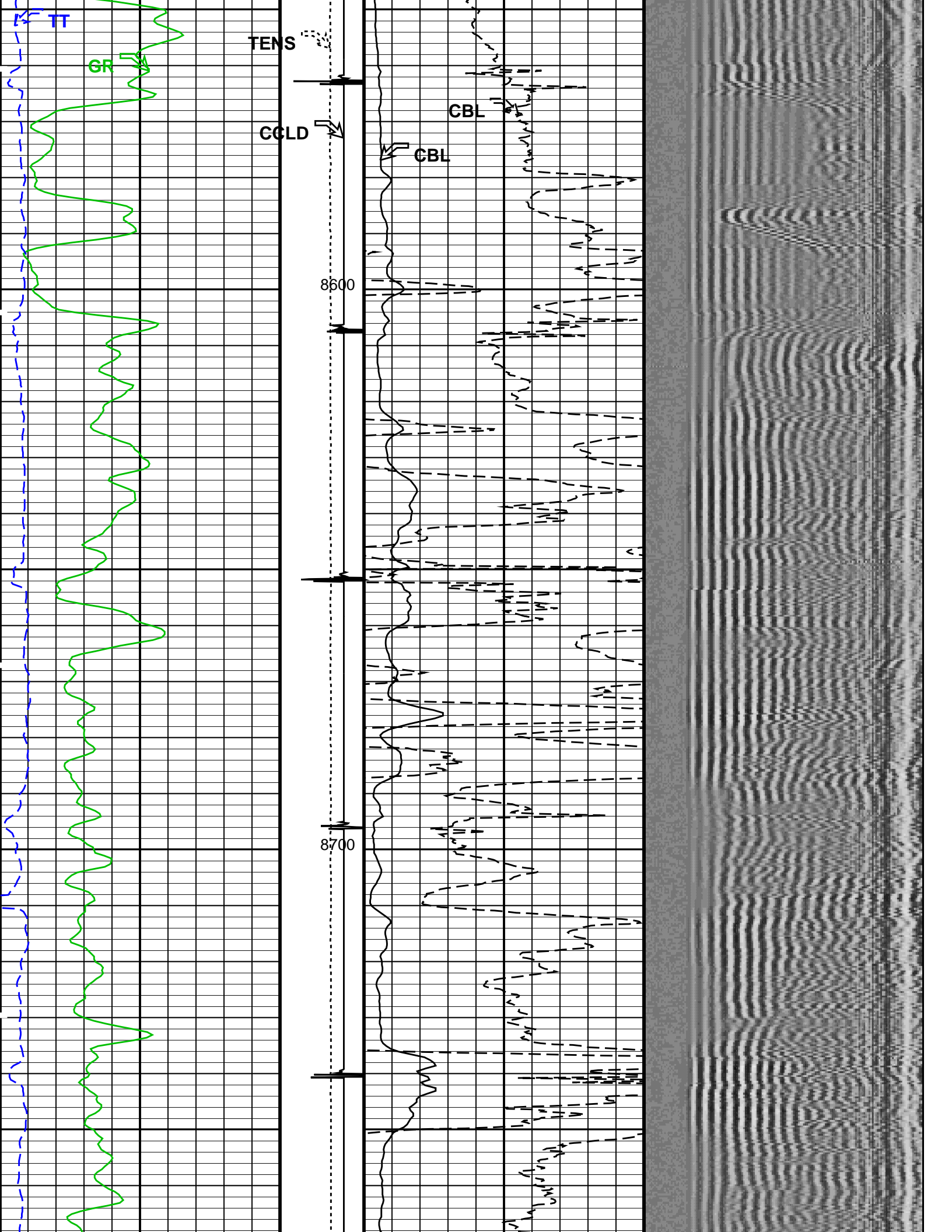


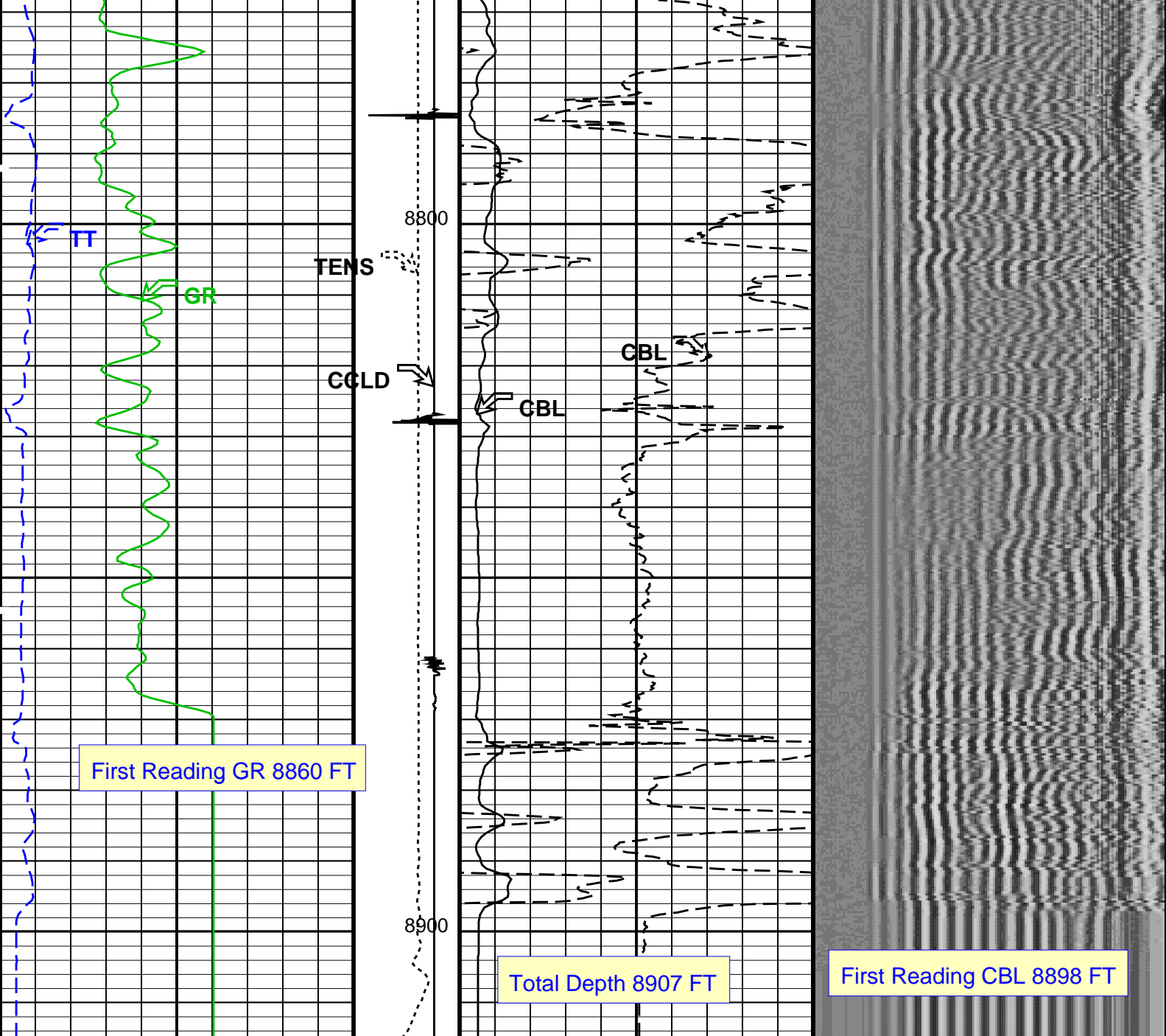












<p>Gamma Ray (GR) (GAPI)</p> <p>0 150</p>	<p>Tension (TENS) (LBF)</p> <p>0 2000</p>	<p>CBL Amplitude (CBL) (MV)</p> <p>0 100</p>	<p>Min Amplitude Max</p> <p>200 VDL VariableDensity (VDL) (US) 1200</p>
<p>Transit Time (TT) (US)</p> <p>260 160</p>	<p>Discriminat ed CCL (CCLD)</p> <p>3 (V) -1</p>	<p>CBL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

#### PIP SUMMARY

Time Mark Every 60 S

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

Graphics File Created: 25-Nov-2013 17:12

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	19–NOV–2013		
CBL Correction Factor	0.0743678	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.127925	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.120622		
MAP 3 Correction Factor	0.153607		
MAP 4 Correction Factor	0.159414		
MAP 5 Correction Factor	0.164508		
MAP 6 Correction Factor	0.182220		
MAP 7 Correction Factor	0.190086		
MAP 8 Correction Factor	0.182177		

Parameters			
DLIS Name	Description	Value	
	SCMT–CB: Slim Cement Mapping Tool, 1–11/16 OD		
BILI	Bond Index Level for Zone Isolation	0.8	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	45	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta–T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
	System and Miscellaneous		
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	3.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8907	FT

Input DLIS Files						
DEFAULT	SCMT_RST_PSP_027LUP	FN:25	PRODUCER	25–Nov–2013 14:48	8912.0 FT	9.0 FT
Output DLIS Files						
DEFAULT	SCMT_RST_PSP_030PUP	FN:28	PRODUCER	25–Nov–2013 17:12		



Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-12D (J6SEB)

**Input DLIS Files**

DEFAULT	SCMT_RST_PSP_025LUP	FN:23	PRODUCER	25-Nov-2013 14:31	6910.5 FT	6604.2 FT
DEFAULT	SCMT_RST_PSP_030PUP	FN:28	PRODUCER	25-Nov-2013 17:12	8915.0 FT	-32.5 FT

**Output DLIS Files**

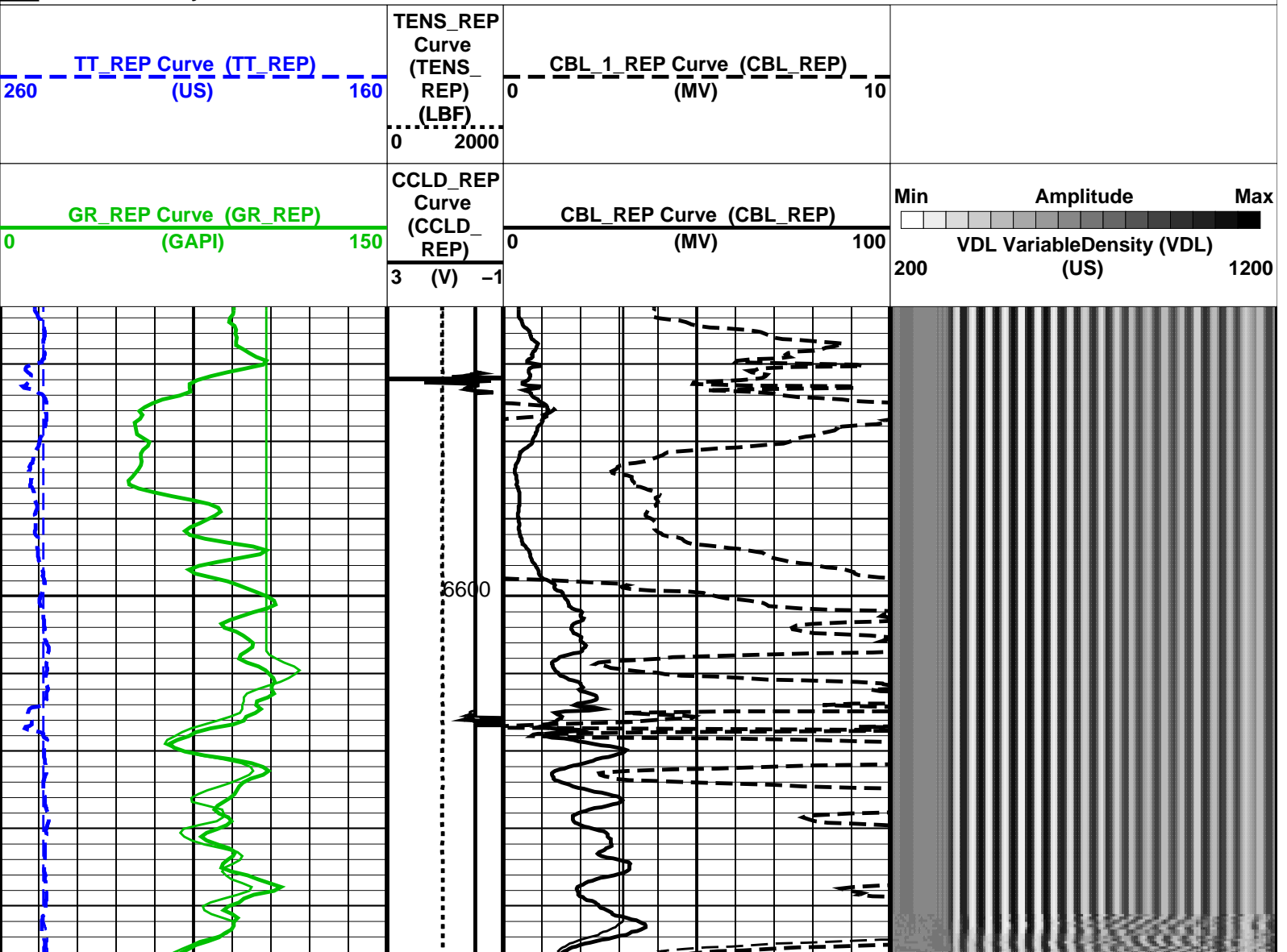
DEFAULT	SCMT_RST_PSP_034PUP	FN:32	PRODUCER	25-Nov-2013 17:19	6912.5 FT	6562.0 FT
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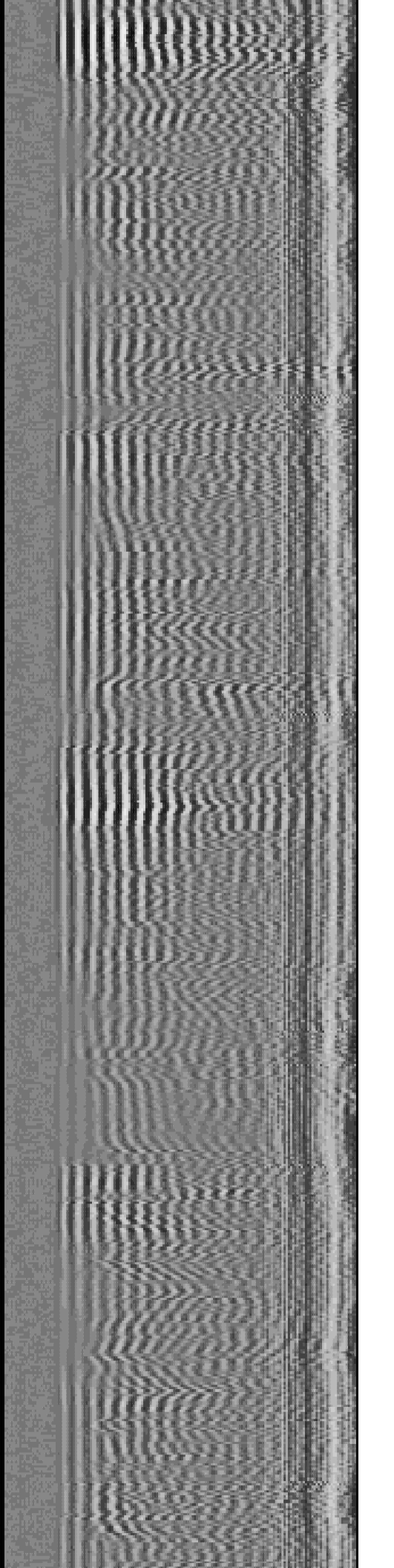
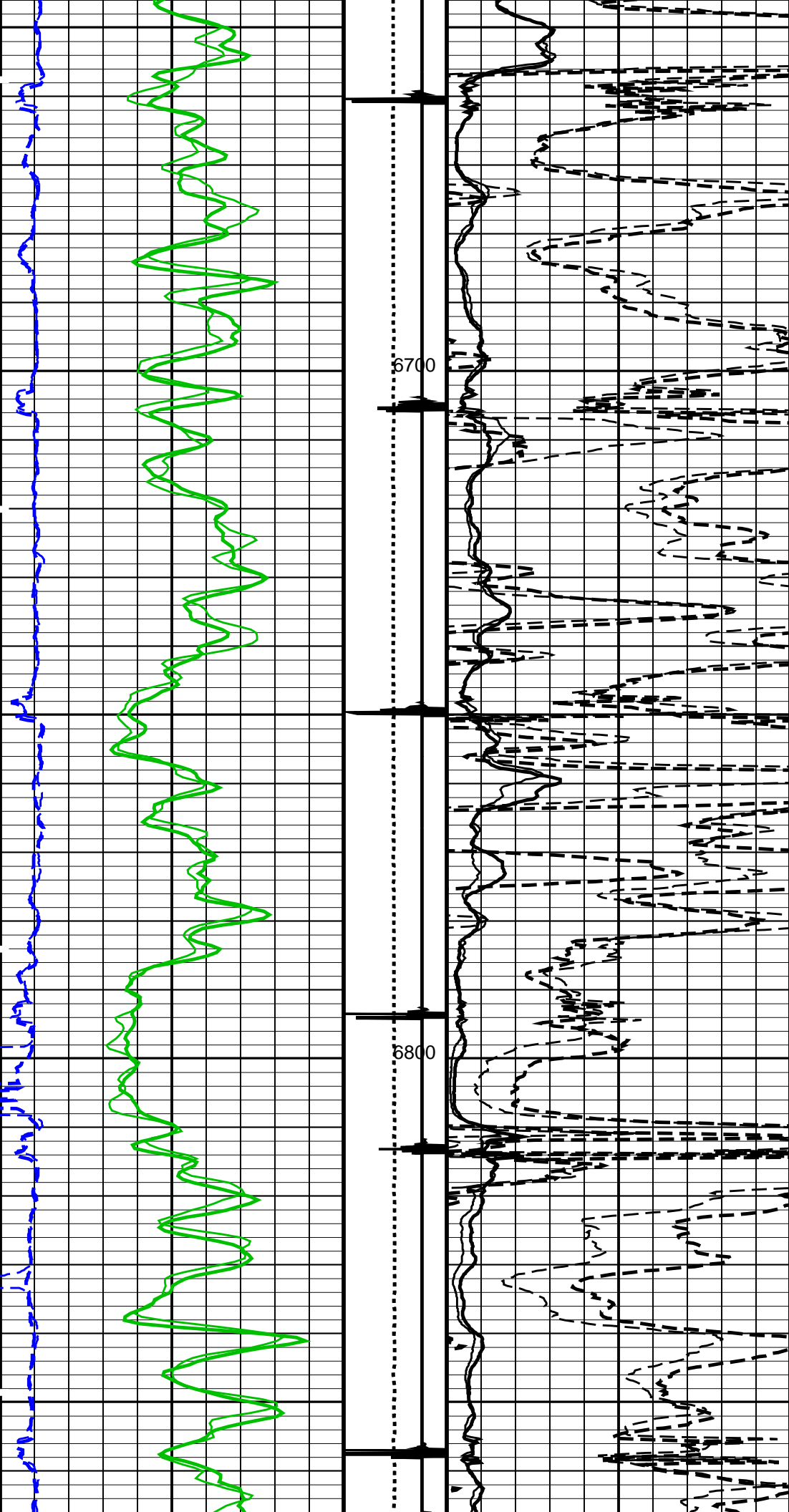
**OP System Version: 19C0-187**

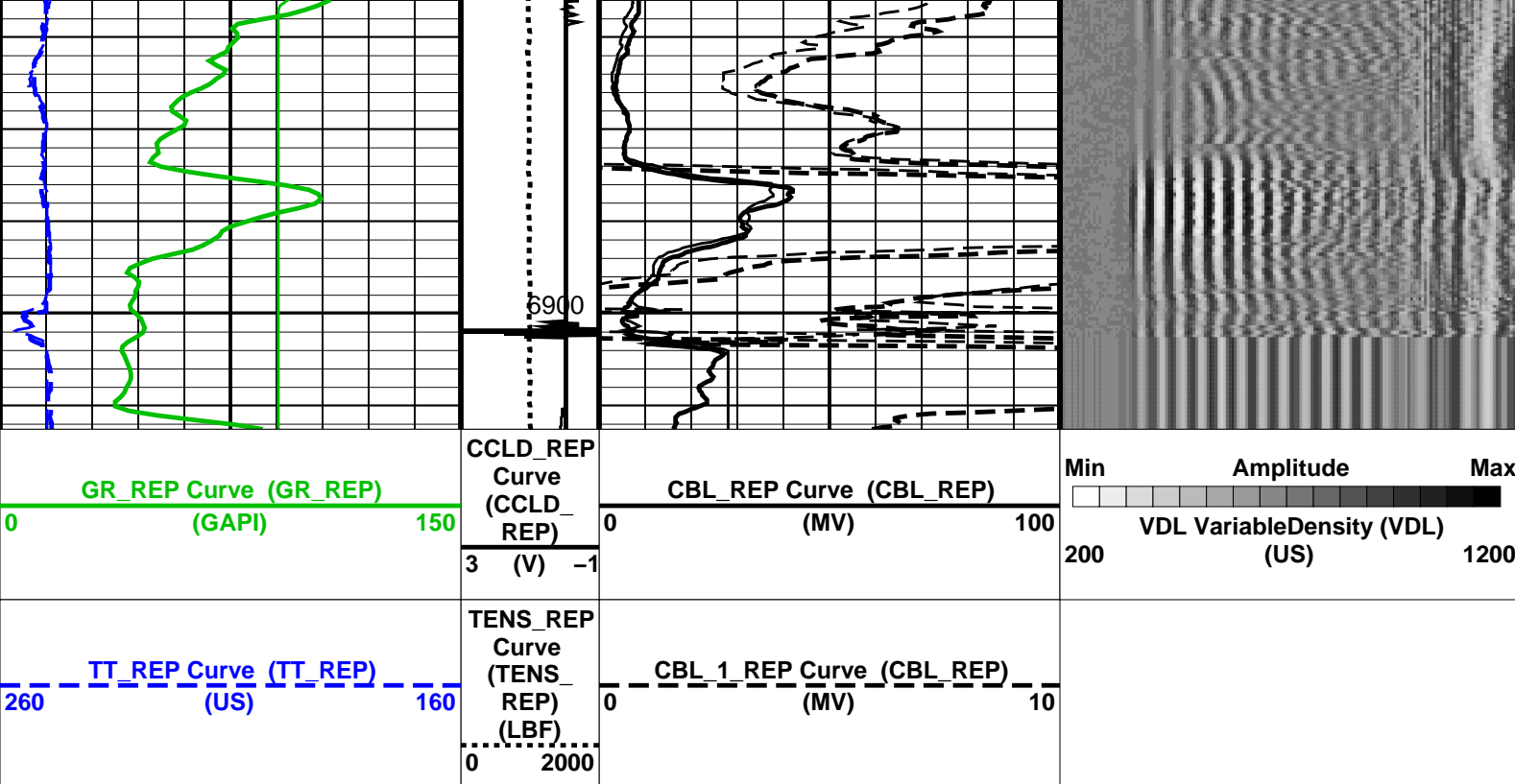
SCMT-CB	SRPC-5214-H2-2012-OP1!	RST-C	SRPC-5214-H2-2012-OP1!
PSPT	SRPC-5214-H2-2012-OP1!		

**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: 25-Nov-2013 17:20

### 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	19-NOV-2013		
CBL Correction Factor	0.0743678	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.127925	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.120622		
MAP 3 Correction Factor	0.153607		
MAP 4 Correction Factor	0.159414		
MAP 5 Correction Factor	0.164508		
MAP 6 Correction Factor	0.182220		
MAP 7 Correction Factor	0.190086		
MAP 8 Correction Factor	0.182177		

### Parameters

DLIS Name	Description	Value
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BILI	SCMT-CB: Slim Cement Mapping Tool, 1-1/16 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	
CMTC		SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM		SCMT Operating Mode	LOG	
CSCS		SCMT Slow Channel Index	VCC	
CTHI		Casing Thickness	0.255617	IN
DTF		Delta-T Fluid	189	US/F
FATT		Acoustic Attenuation due to Fluid	0	DB/F
FCF		CBL Fluid Compensation Factor	0.924277	
GOBO		Good Bond	1.55185	MV
MAPD		SCMT MAP Peak Detection Mode	PEAK	
MAPG		SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT		SCMT MAP Fixed Threshold Level	30	MV
MATT		Maximum Attenuation	16.5449	DB/F
MCCF		MAP Cement Type Compensation Factor	1	
MCI		Minimum Cemented Interval for Isolation	1.25	FT
MMSA		MAP Minimum Sonic Amplitude	4.32284	MV
MSA		Minimum Sonic Amplitude	0.579149	MV
PEDE		Peak Detection On/Off Switch in Playback	OFF	
VDLG		VDL Manual Gain	5	
ZCMT		Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous				
CSIZ		Current Casing Size	4.500	IN
CWEI		Casing Weight	11.60	LB/F
DFD		Drilling Fluid Density	8.40	LB/G
DO		Depth Offset for Playback	2.0	FT
DORL		Depth Offset for Repeat Analysis	0.0	FT
PP		Playback Processing	RECOMPUTE	
TD		Total Depth	8907	FT

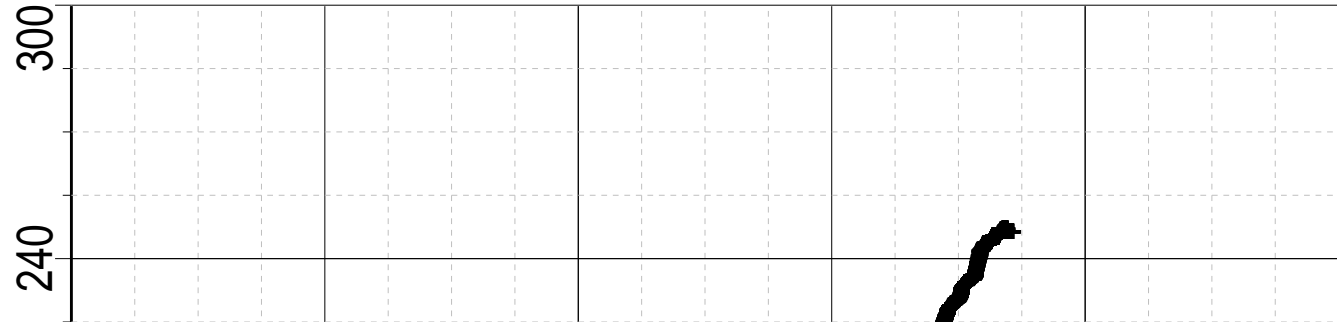
Input DLIS Files						
DEFAULT	SCMT_RST_PSP_025LUP	FN:23	PRODUCER	25-Nov-2013 14:31	6910.5 FT	6604.2 FT
DEFAULT	SCMT_RST_PSP_030PUP	FN:28	PRODUCER	25-Nov-2013 17:12	8915.0 FT	-32.5 FT
Output DLIS Files						
DEFAULT	SCMT_RST_PSP_034PUP	FN:32	PRODUCER	25-Nov-2013 17:19		

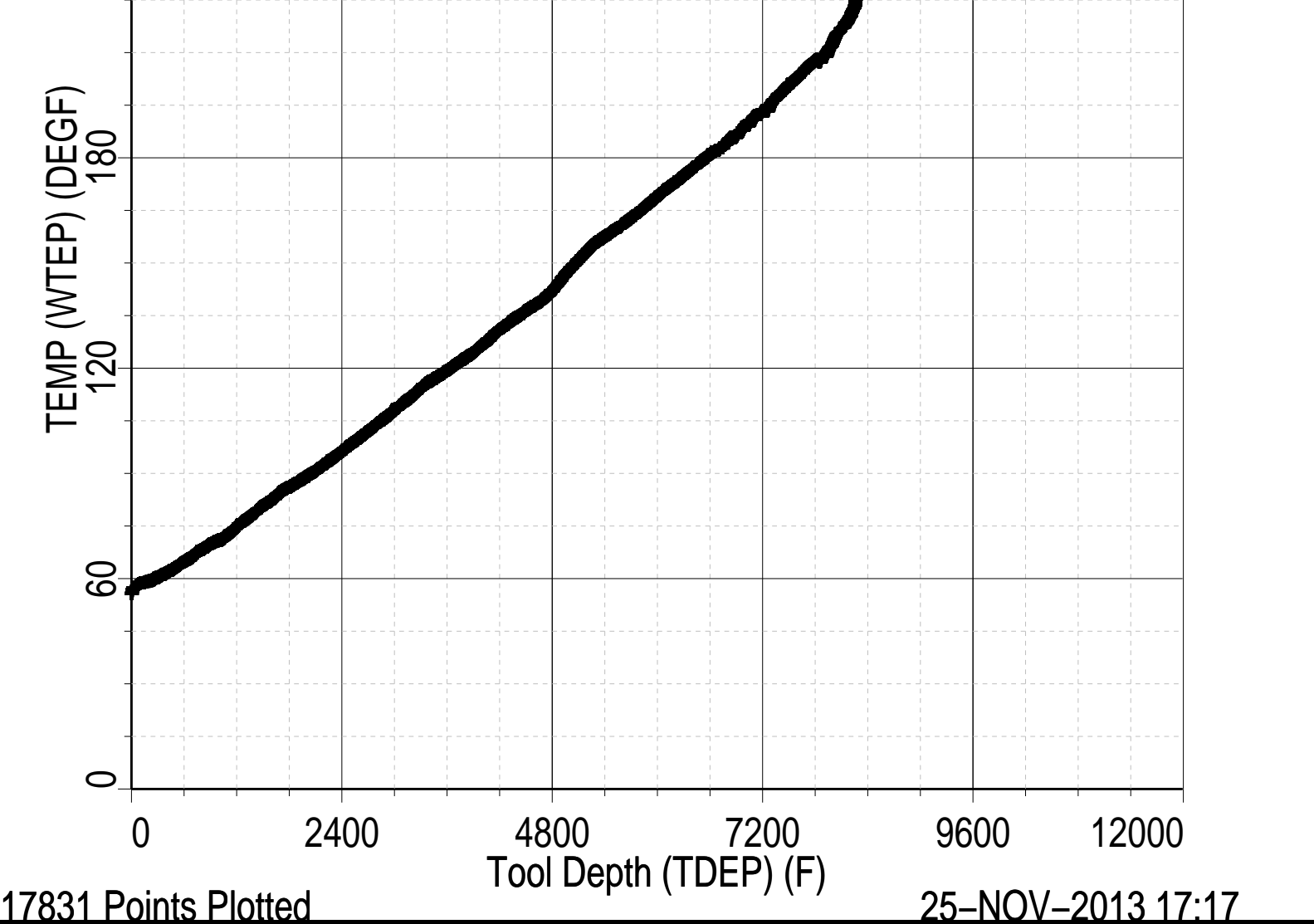


# TEMPERATURE PLOT

MAXIS Field Log

Index: 8915.0 – -32.5 FT





**Schlumberger**

## PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC  
Field: MAMM CREEK  
Well: HMU 6-12D (J6SEB)  
Run date: 25-Nov-2013

Tool: PSP  
Sub Type: PBMS  
Sensor: GR

PBMS Gamma Ray  
Sonde Serial NB  
Sensor Serial NB  
Calib Date ddmmyy  
Matrix Size  
Coeff CRC

RESISTORS FOR GR SENSOR N.33223, TOOL PBMS-BA0928. SENSOR S/N:  
33223  
090800  
12  
CFE2

GR HV Rt



	Rt**0	Rt**1
Rt**0	+.182000000000e+04	+.332000000000e+04

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMM CREEK	Sub Type:	PBMS
Well:	HMU 6–12D (J6SEB)	Sensor:	WellTemp RTD
Run date:	25–Nov–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:	HMU 6–12D (J6SEB)	Sensor:	CQG
Run date:	25–Nov–2013		

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

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

928

280612

66

9DC3

Pres Coeff

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

	Fb**3	Fb**4	Fb**5
Fc**0	-746577997611E-10	-588773826860E-15	-622250441458E-19
Fc**1	-120636521092E-15	+400325894750E-19	0.0
Fc**2	0.0	0.0	0.0
Fc**3	0.0	0.0	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

:

928

280612

66

283B

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+117016867873E+03	-284359629614E-03	+604391180345E-08
Fb**1	-598309140812E-02	+182731130848E-07	+160166486172E-12
Fb**2	-307621454576E-07	+300601550309E-12	+311233548560E-17
Fb**3	-419658736767E-12	+117473708647E-16	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

	Fc**3	Fc**4	Fc**5

Fb**0	+ .114322792679E-12	+ .153807711176E-17	- .736714260866E-21
Fb**1	- .528037875456E-18	- .220337637519E-21	0.0
Fb**2	0.0	0.0	0.0
Fb**3	0.0	0.0	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

PBMS Quartz Gauge type F

Sonde Serial NB :  
Sensor Serial NB 928  
Calib Date ddmmyy 280612  
Matrix Size 16  
Coeff CRC 093F

Clock Freq Coeff

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

PBMS Quartz Gauge type F

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

Clock Temp Coeff

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

## 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	<div><div></div></div>		938.0	Master	<div><div></div></div>		994.8
	500.0 (Minimum)	1075 (Nominal)1650 (Maximum)			500.0 (Minimum)	1075 (Nominal)1650 (Maximum)	
Phase	MAP 3 Amplitude Plus MV		Value	Phase	MAP 4 Amplitude Plus MV		Value
Master	<div><div></div></div>		781.2	Master	<div><div></div></div>		752.8
	500.0 (Minimum)	1075 (Nominal)1650 (Maximum)			500.0 (Minimum)	1075 (Nominal)1650 (Maximum)	
Phase	MAP 5 Amplitude Plus MV		Value	Phase	MAP 6 Amplitude Plus MV		Value
Master	<div><div></div></div>		729.4	Master	<div><div></div></div>		658.5
	500.0 (Minimum)	1075 (Nominal)1650 (Maximum)			500.0 (Minimum)	1075 (Nominal)1650 (Maximum)	
Phase	MAP 7 Amplitude Plus MV		Value	Phase	MAP 8 Amplitude Plus MV		Value
Master	<div><div></div></div>		631.3	Master	<div><div></div></div>		658.7
	500.0 (Minimum)	1075 (Nominal)1650 (Maximum)			500.0 (Minimum)	1075 (Nominal)1650 (Maximum)	
Phase	CBL Amplitude Plus MV		Value				
Master	<div><div></div></div>		1291				
	1000 (Minimum)	1350 (Nominal)1700 (Maximum)					
Master: 19–Nov–2013 13:46							

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

**Schlumberger**

Well: **HMU 6–12D (J6SEB)**

Field: **MAMM CREEK**

County: **GARFIELD**

State: **COLORADO**

SLIM CEMENT MAPPING LOG  
 CBL–VDL  
 GAMMA RAY–CCL