

Company: ENCANA OIL & GAS (USA) INC

Well: MCU FEE 22-12B (N22W)

Field: MAMM CREEK

County: GARFIELD State: COLORADO

SLIM CEMENT MAPPING LOG
CBL – VDL
GAMMA RAY – CCL

County:	GARFIELD		
Field:	MAMM CREEK		
Location:	SHL: 653 FSL 2080 FWL		
Well:	MCU FEE 22-12B (N22W)		
Company:	ENCANA OIL & GAS (USA) INC		
	LOCATION		
	SHL: 653 FSL 2080 FWL BHL: 1950 FSL 730 FWL	Elev.: K.B. 7048.00 ft G.L. 7026.00 ft D.F. 7047.00 ft	
	Permanent Datum: _____ Log Measured From: KELLY BUSHING _____ Drilling Measured From: KELLY BUSHING _____	Elev.: 7026.00 ft _____ 22.00 ft above Perm. Datum	
	API Serial No. 05 045 21455 00	Section 22	Township 7S Range 93W

	Run 1	Run 2	Run 3
Oil Density			
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bg			
Bubble Point Pressure			
Bubble Point Temperature			
Solution GOR			
Maximum Deviation	13.8 deg		
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	23-Sep-2012		
Run Number	1		
Depth Driller	9460 ft		
Schlumberger Depth	9379 ft		
Bottom Log Interval	9370 ft		
Top Log Interval	64 ft		
Casing Fluid Type	Fresh Water		
Salinity			
Density	8.4 lbm/gal		
Fluid Level	64 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.750 in		
From	22 ft		
To	9460 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	S-80		
From	22 ft		
To	9441 ft		
Maximum Recorded Temperatures	251 degF		
Logger On Bottom	23-Sep-2012	Time 11:45	
Unit Number	391	Location	
Recorded By	Kirstie Bunting		
Witnessed By	Unwitnessed		

Logging Date			
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Fluid Type			
Salinity			
Density			
Fluid Level			
BIT/CASING/TUBING STRING			
Bit Size			
From			
To			
Casing/Tubing Size			
Weight			
Grade			
From			
To			
Maximum Recorded Temperatures			
Logger On Bottom		Time	
Unit Number		Location	
Recorded By			
Witnessed By			

DEPTH SUMMARY LISTING

Date Created: 23-SEP-2012 14:54:54

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-C	Type:	1-25ZT
Serial Number:	6214	Serial Number:	5006	Serial Number:	
Calibration Date:	24-APR-2012	Calibration Date:	20-SEP-2011	Length:	16000 FT
Calibrator Serial Number:		Calibrator Serial Number:	174878	Conveyance Method:	Wireline
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10	Rig Type:	Rigless
Wheel Correction 1:	-3	Calibration RMS:	7		
Wheel Correction 2:	-4	Calibration Peak Error:	15		

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	
Rig Up Length At Bottom:	
Rig Up Length Correction:	
Stretch Correction:	3.00 FT
Tool Zero Check At Surface:	

Depth Control Remarks

1. All Schlumberger Depth Control Procedures Used
2. Primary Depth Control: IDW
3. Secondary Depth Control: Drum Counter (SWPT)
- 4.
- 5.
- 6.

DISCLAIMER

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OTHER SERVICES1	OTHER SERVICES2
OS1: RESERVOIR SATURATION	OS1:
OS2: LOG- SIGMA MODE	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRELATED TO DOWN LOG	
TOOL RUN AS PER TOOL SKETCH	
ENTRANCE TIME: 10:30	
TIME LOGGER AT BLI: 11:45	
EXIT TIME: 14:30	
MAXIMUM RECORDED TEMPERATURE: 251 DEGF	
MAXIMUM RECORDED PRESSURE: 3881PSI	

EXPECTED CBL AMP IN FREE PIPE 80 MV	
CYCLE SKIPPING DUE TO GOOD BOND	
MAIN PASS RAN UNDER ZERO SURFACE PRESSURE	
CREW: KBUNTING; ATERHUNE; JBARRY; WAZIZ; CARNOLD; KJOHNS	
THANK YOU FOR CHOOSING E&P WIRELINE – A SCHLUMBERGER COMPANY	

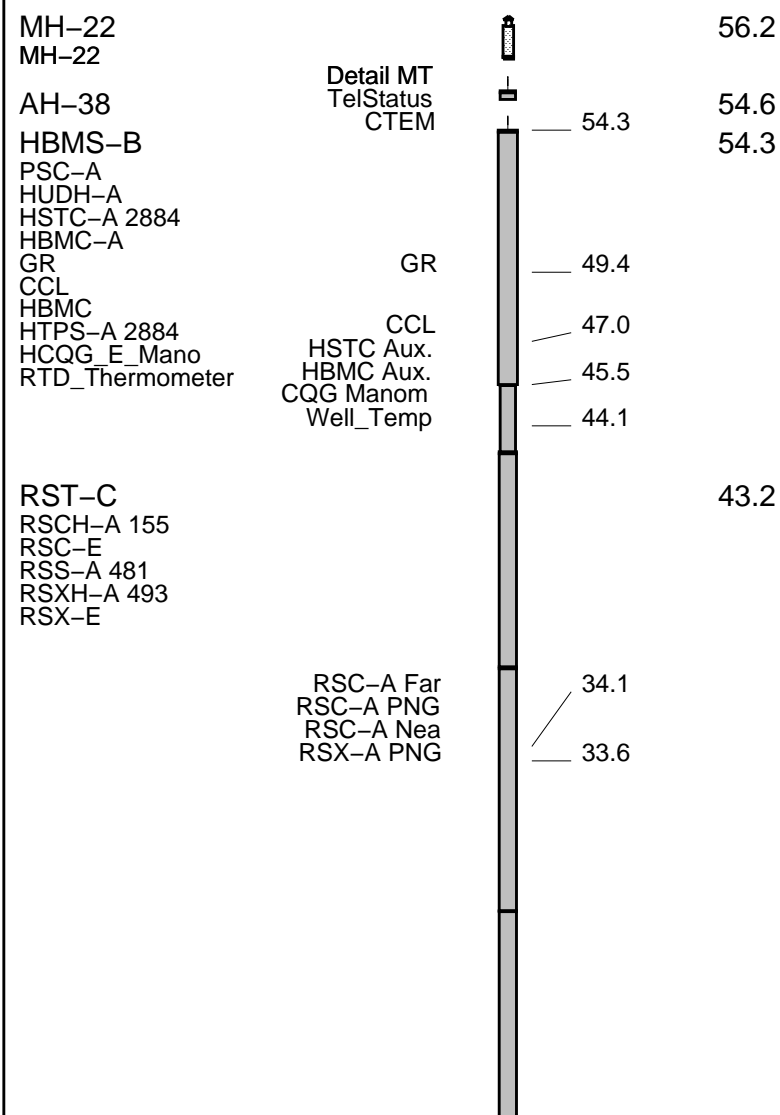
RUN 1 SERVICE ORDER #: C49N-00019 PROGRAM VERSION: 19C0-187 FLUID LEVEL: 64 ft			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT	DESCRIPTION

	RUN 1	RUN 2
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
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96	1	1
97	1	1
98	1	1
99	1	1
100	1	1

SURFACE EQUIPMENT	
WITM-A PSC_16MHZ	

DOWNHOLE EQUIPMENT



SCMT-CB
SCMC-CA 8120
SECH-CA
CMIR-AG
SCMS-CB 8179
SCMX-CA

20.2

DT 11.1
CBL5 DTSC 9.6
CBL3 8.6
MAP 8.1
AUX 7.1

0.2
AH-Bottom Nose Tension SCMT HV
TOOL ZERO 0.0

MAXIMUM STRING DIAMETER 2.07 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

MAIN PASS CBL VDL

MAXIS Field Log

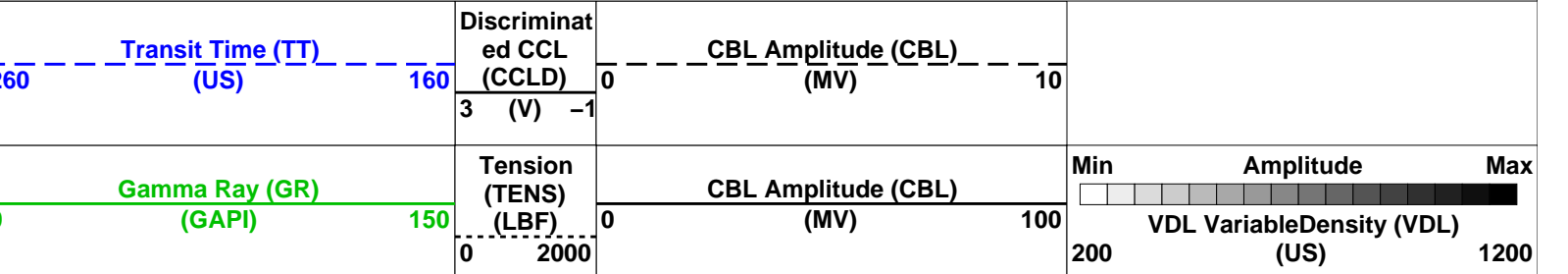
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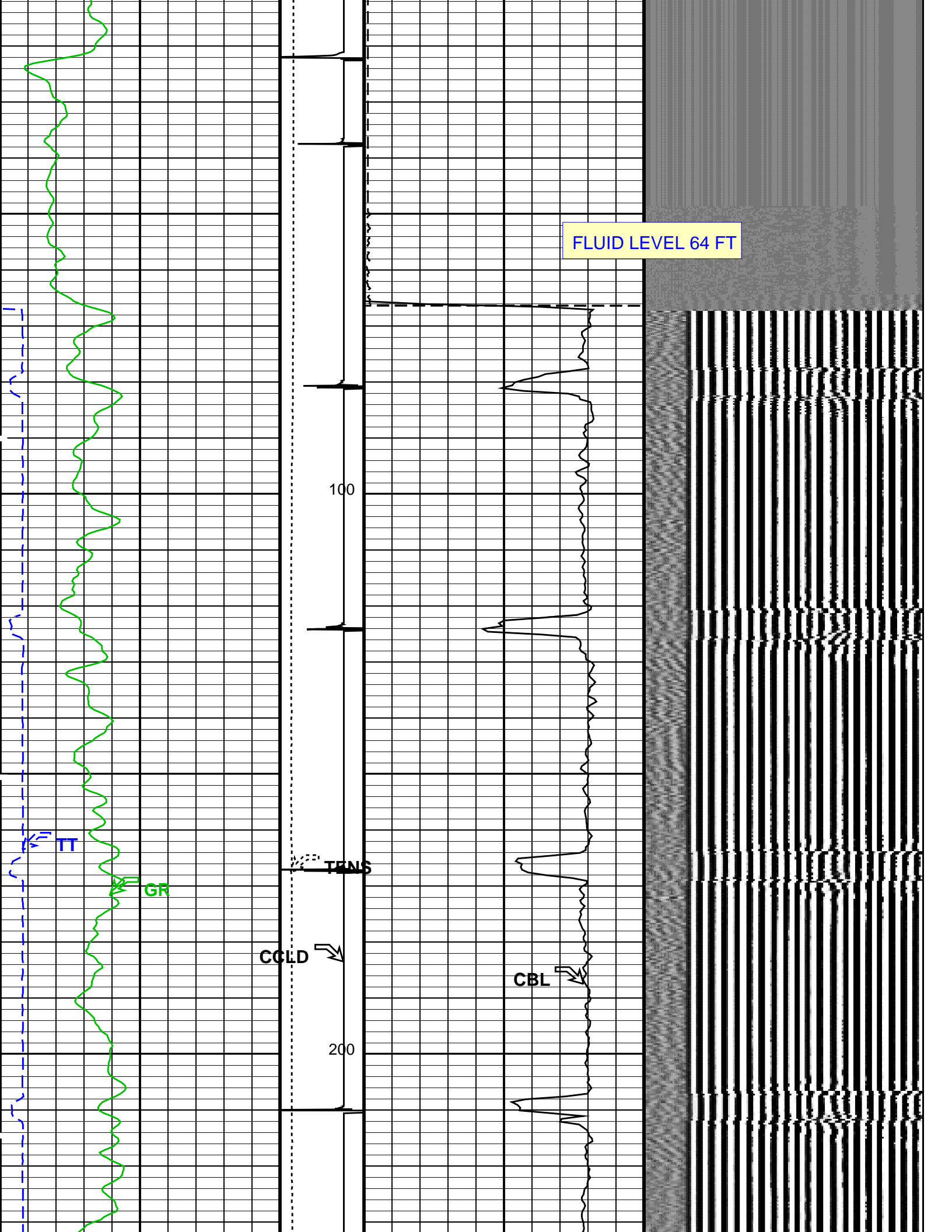
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DEFAULT	SCMT_RST_HBMS_031LUP	FN:30	PRODUCER	23-Sep-2012 11:44	9385.5 FT	8.0 FT

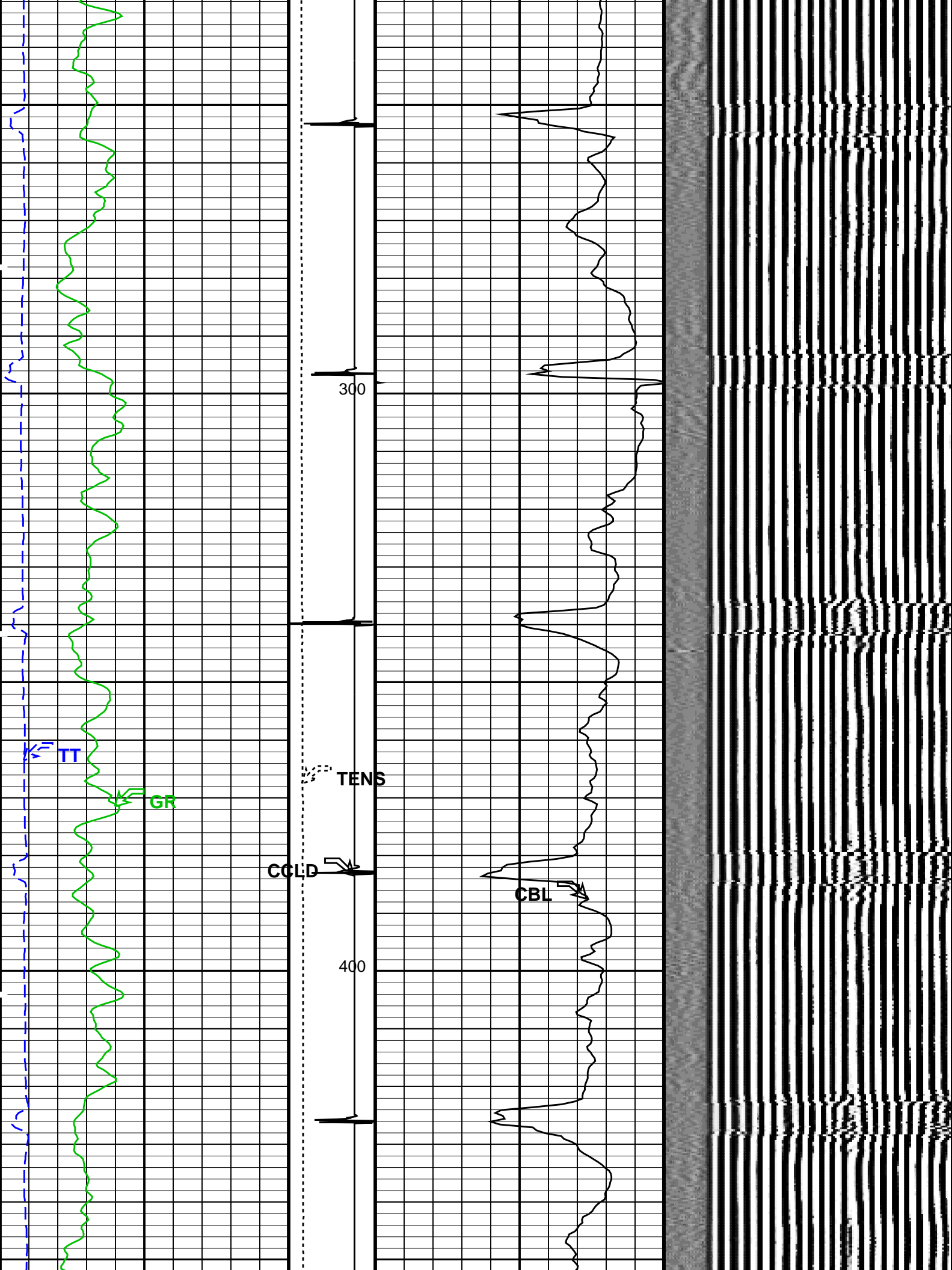
Output DLIS Files						
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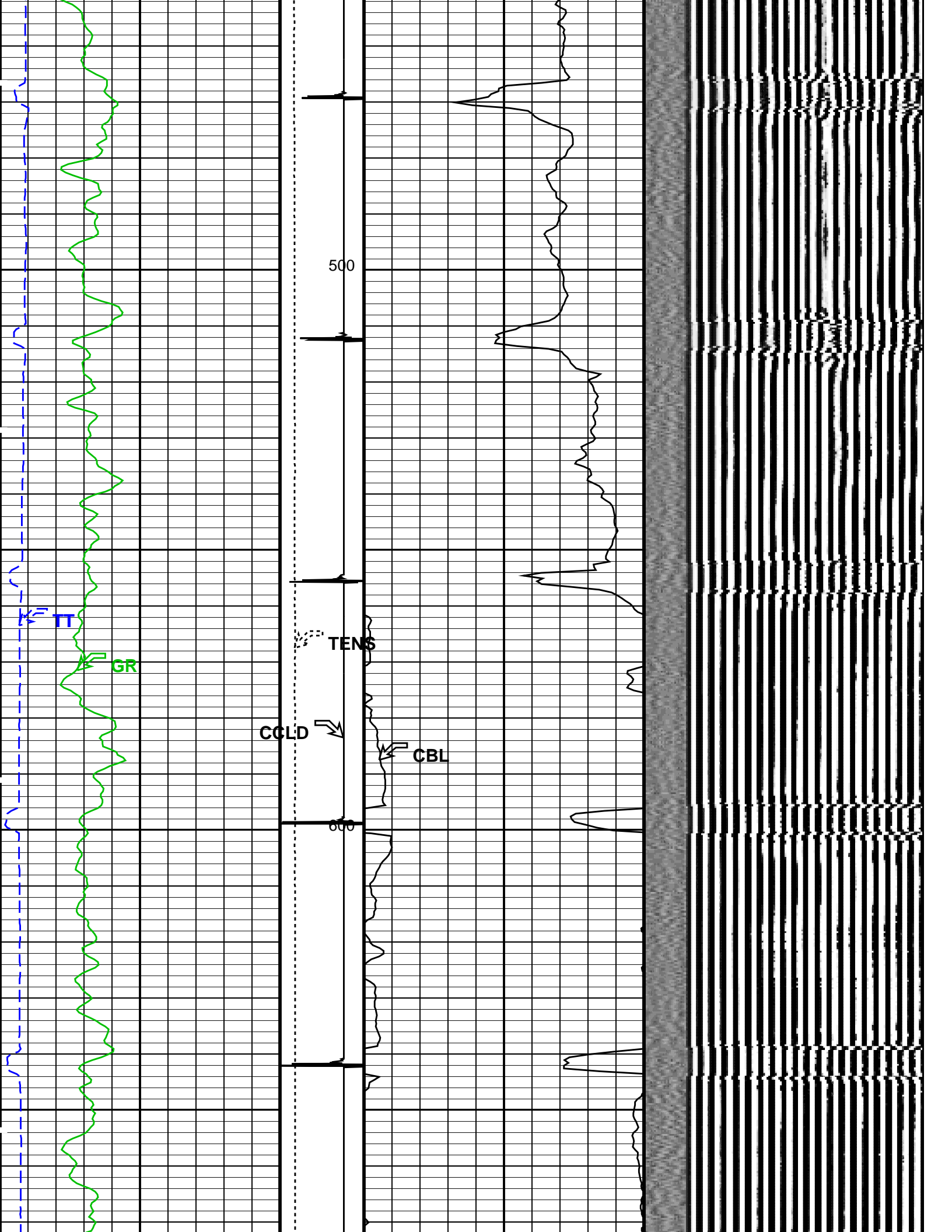
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SCMT-CB	SRPC-5214-H2-2012-OP1	RST-C	SRPC-5214-H2-2012-OP1
HBMS-B	SRPC-5214-H2-2012-OP1		

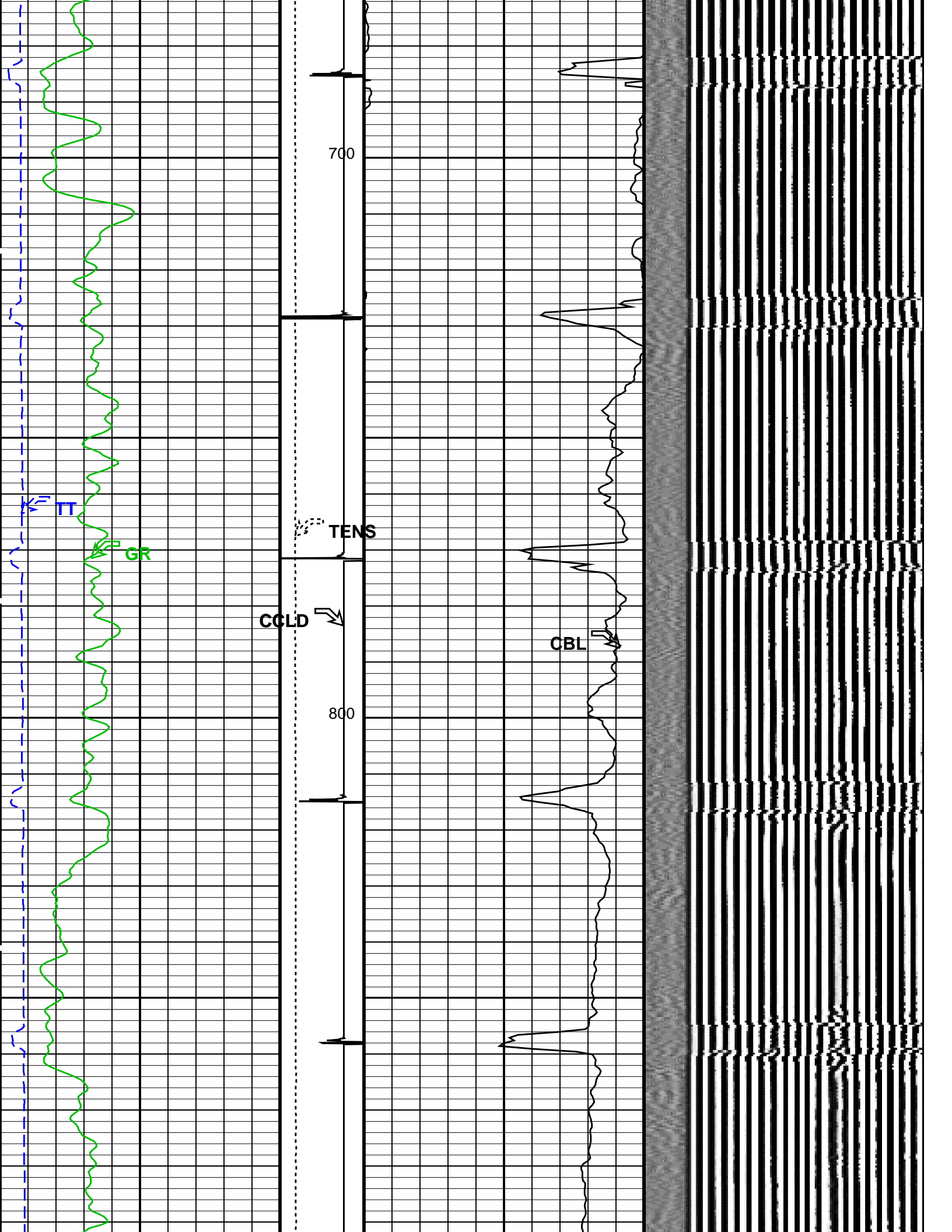
PIP SUMMARY			
Time Mark Every 60 S			

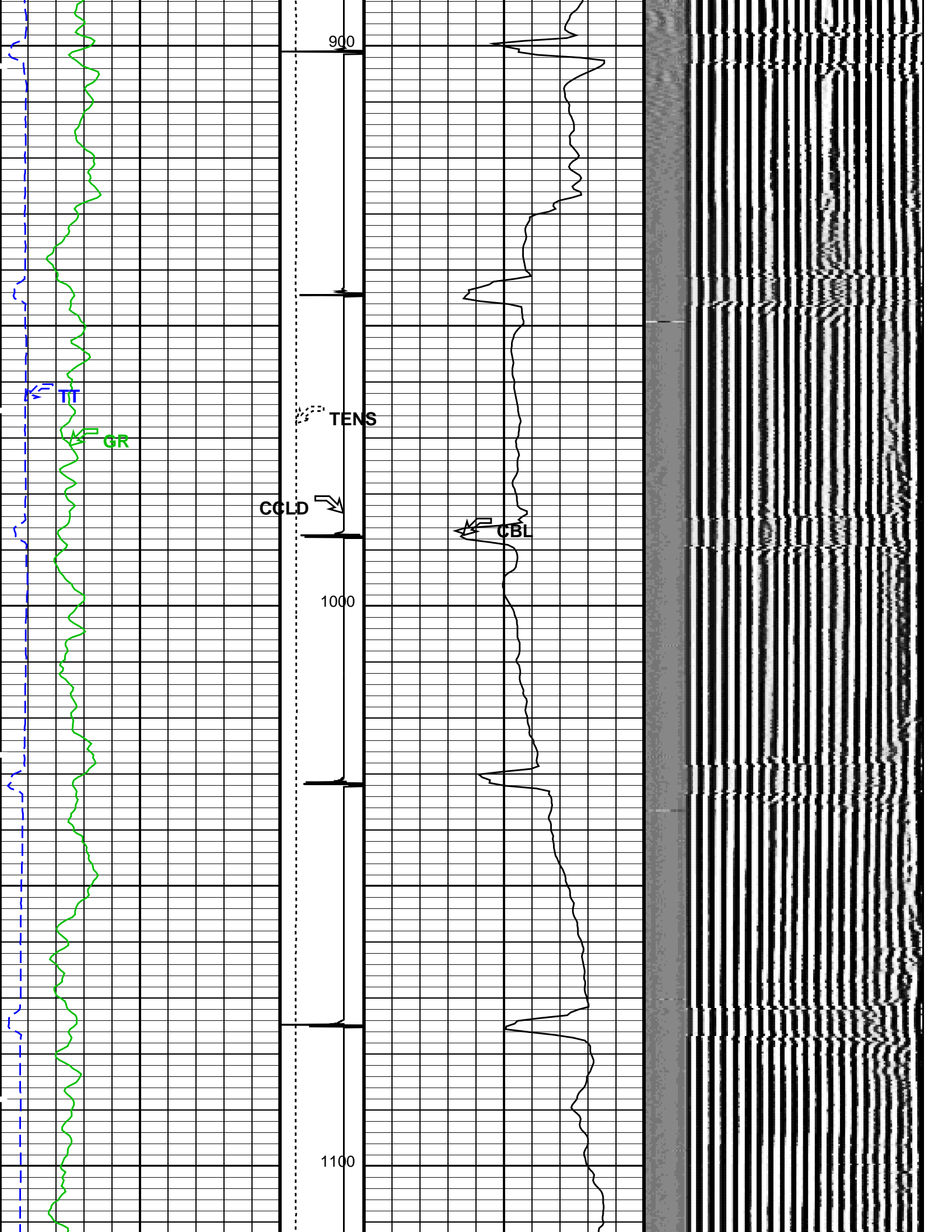


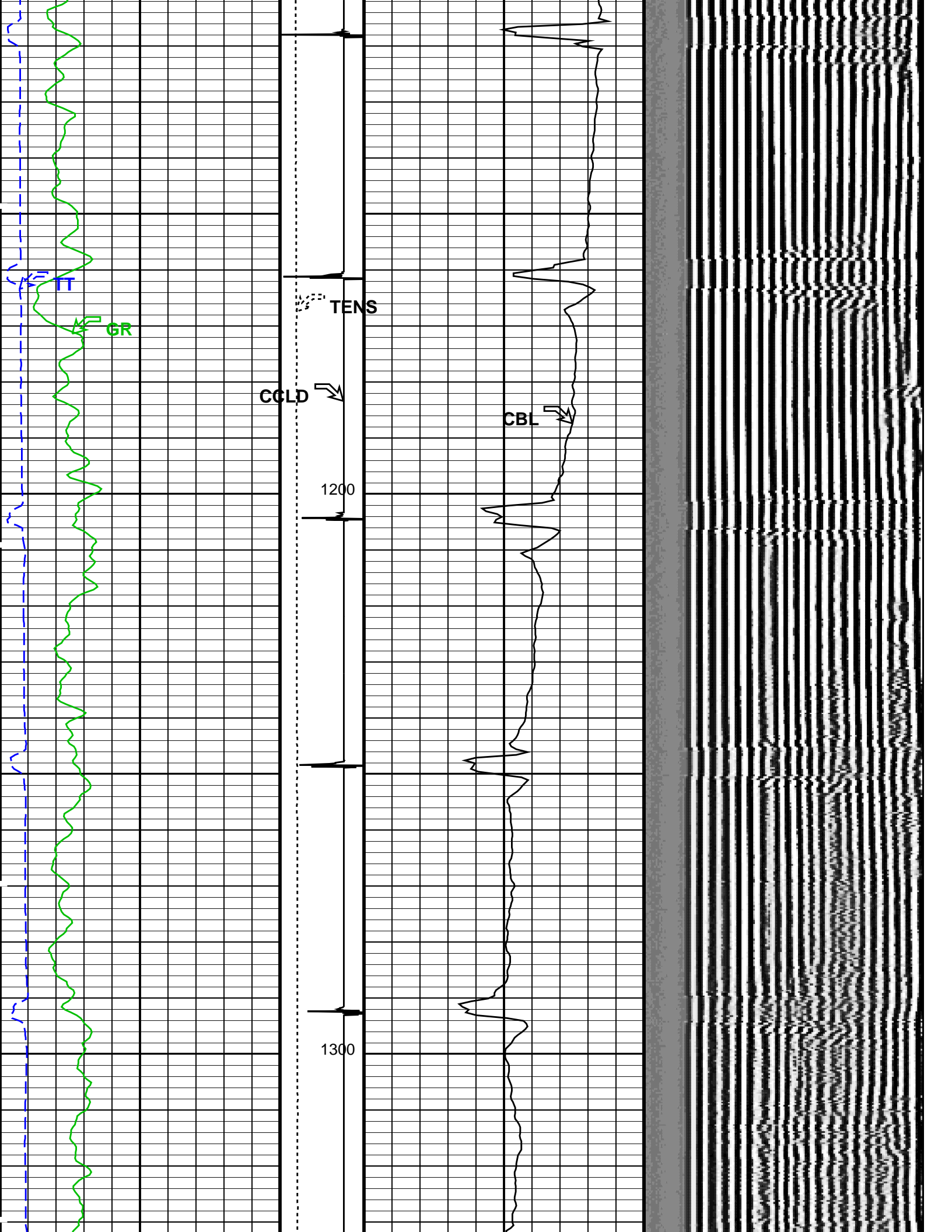


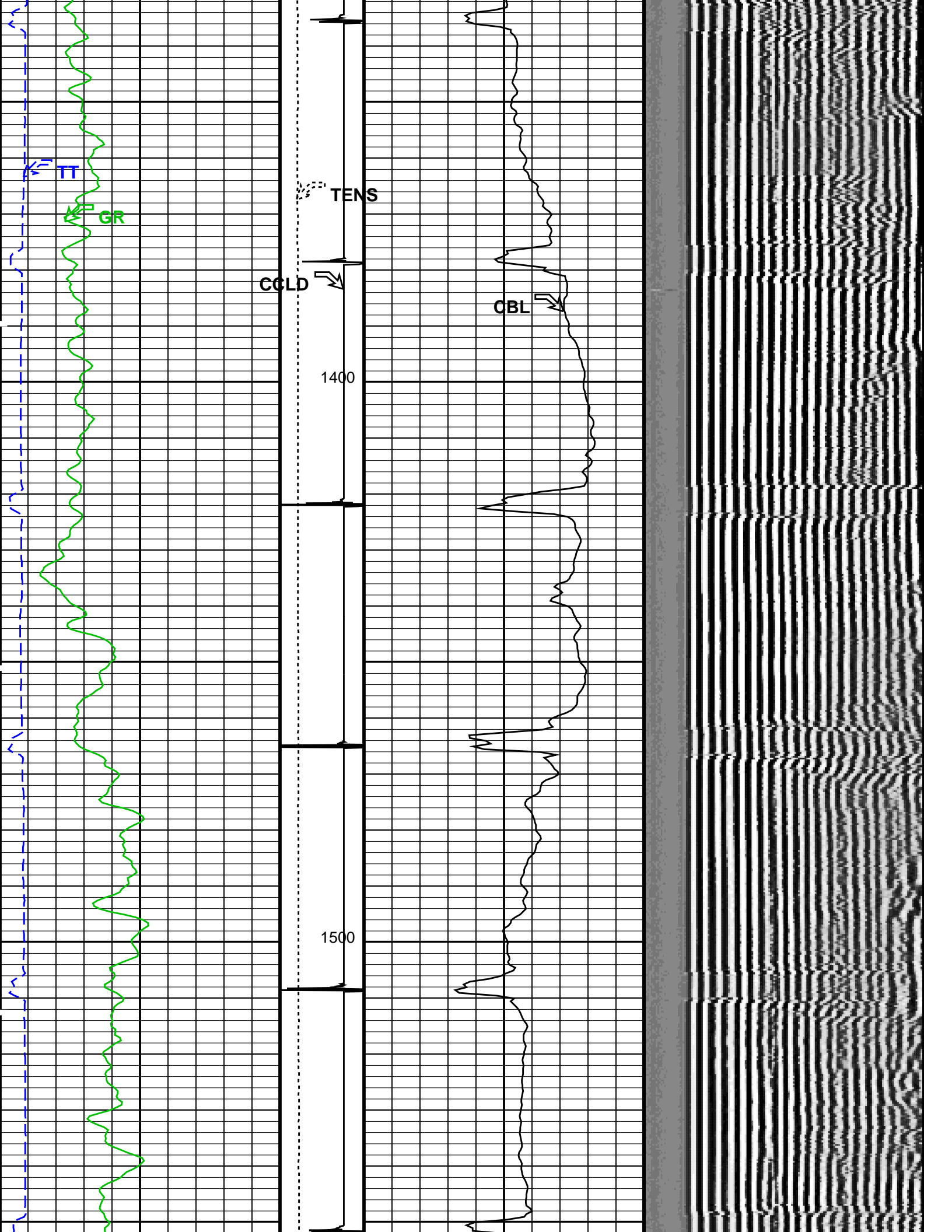


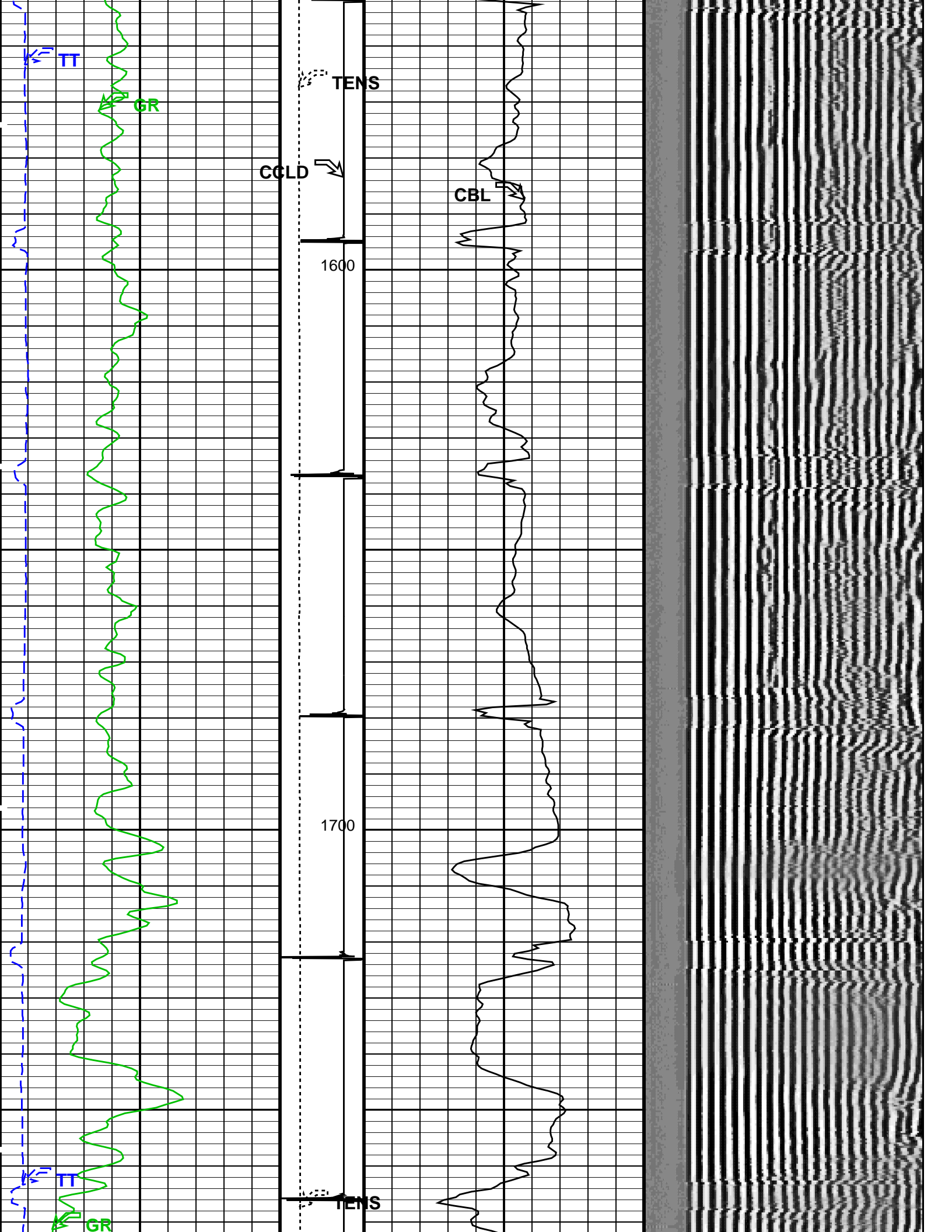


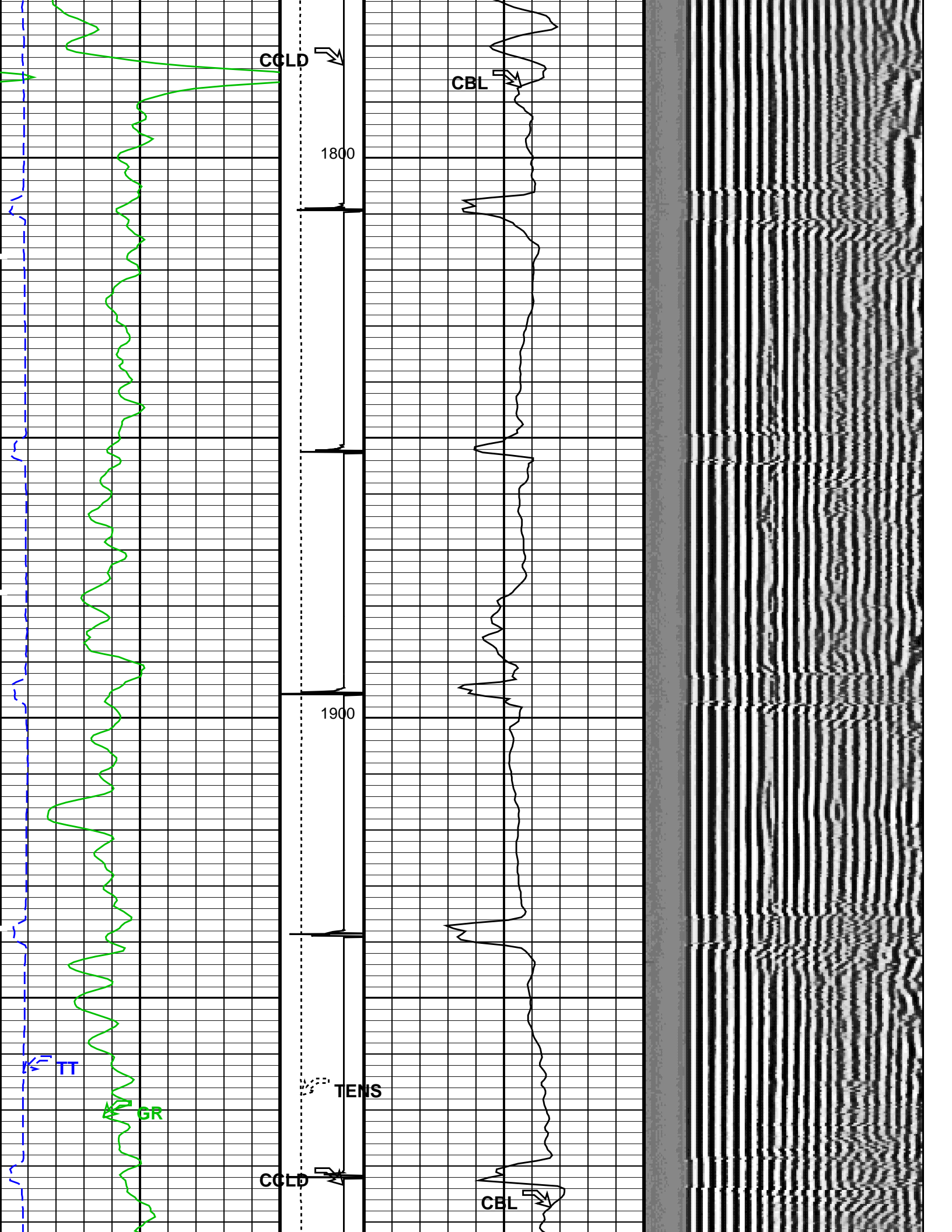


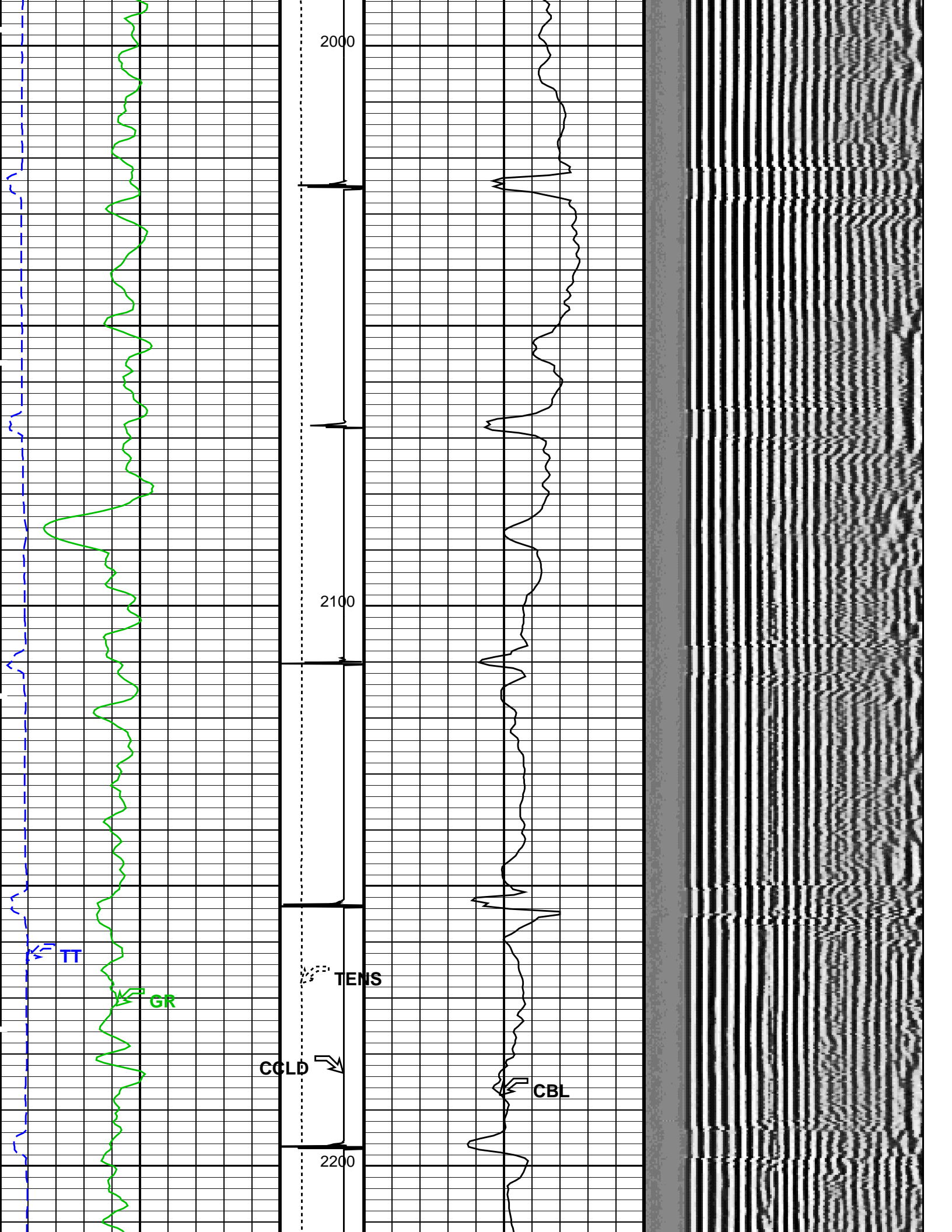


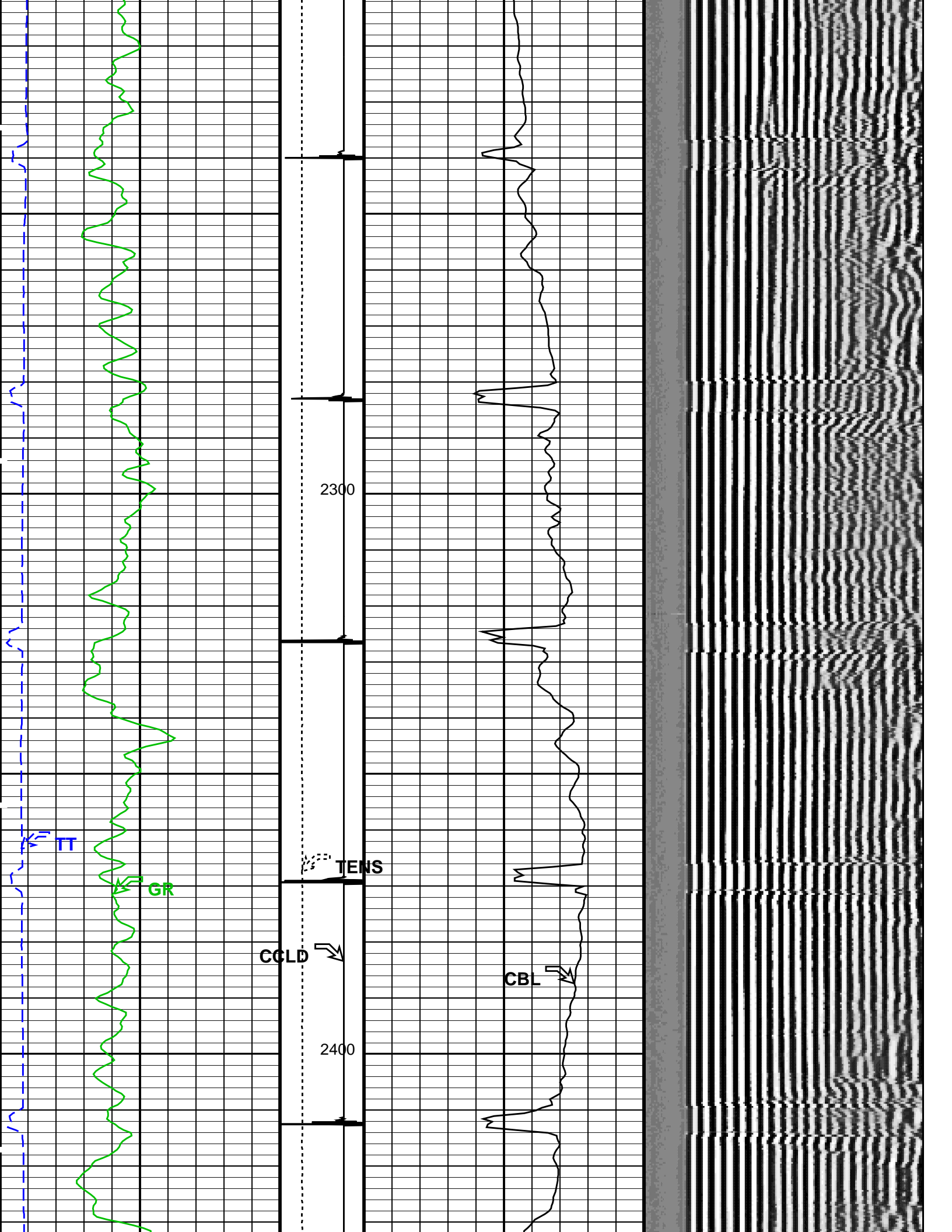


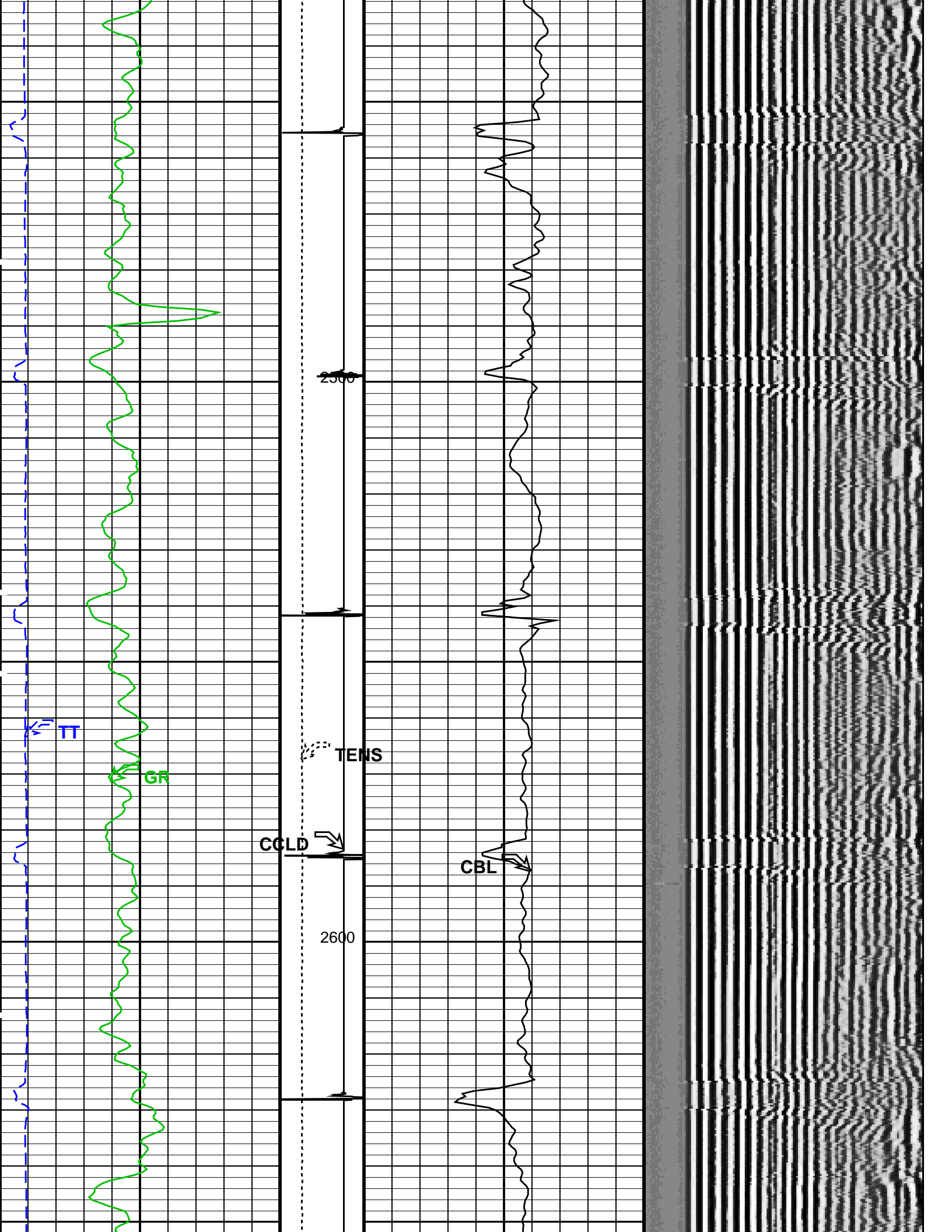


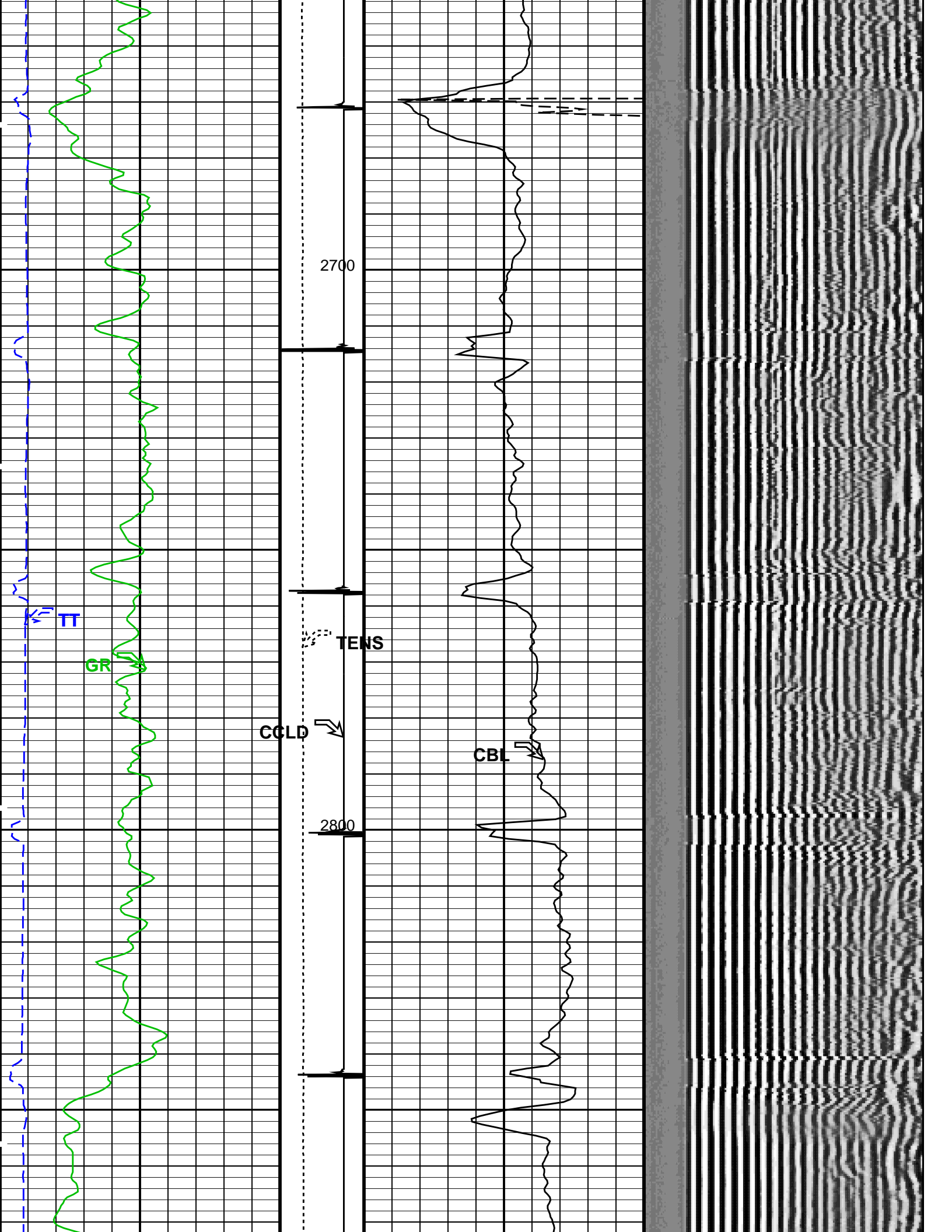


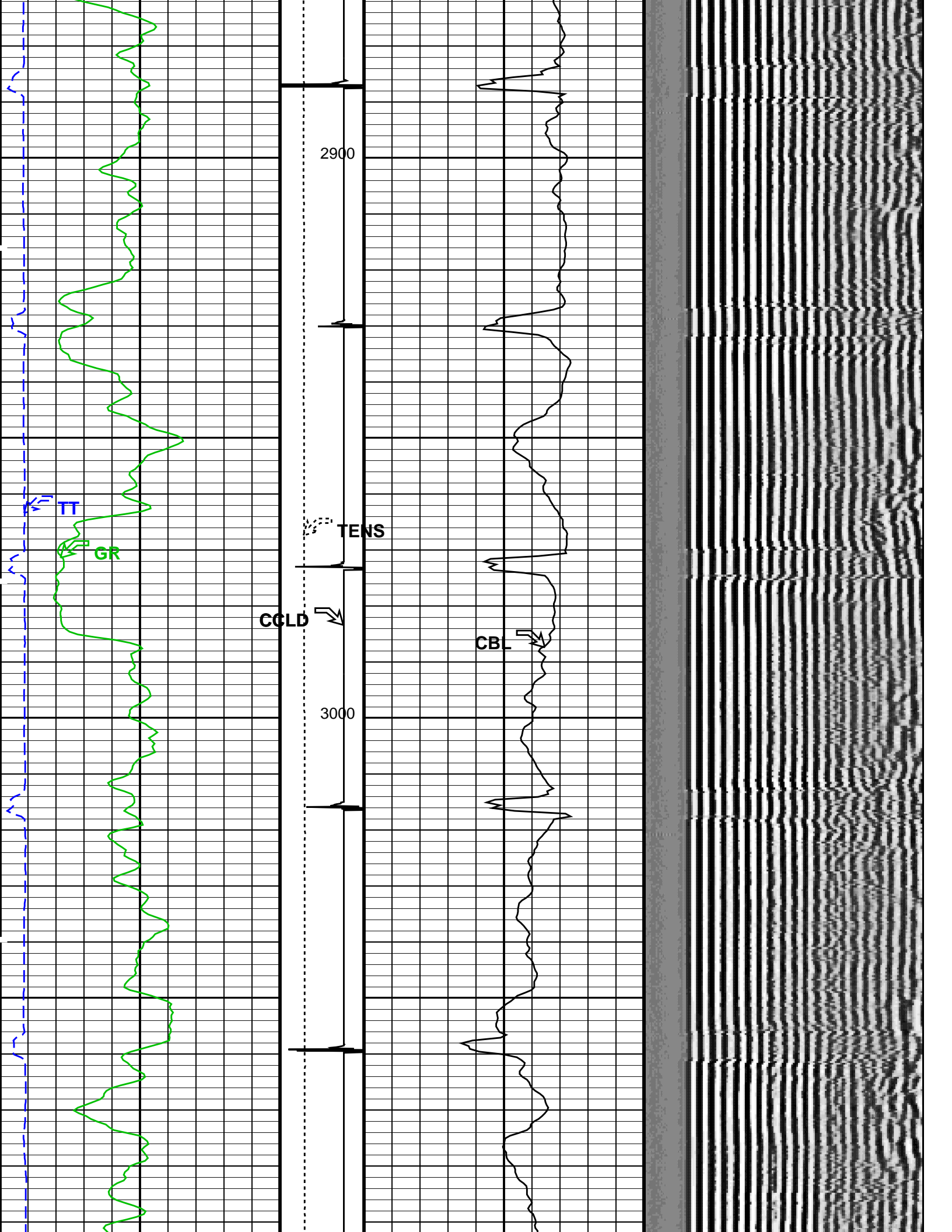


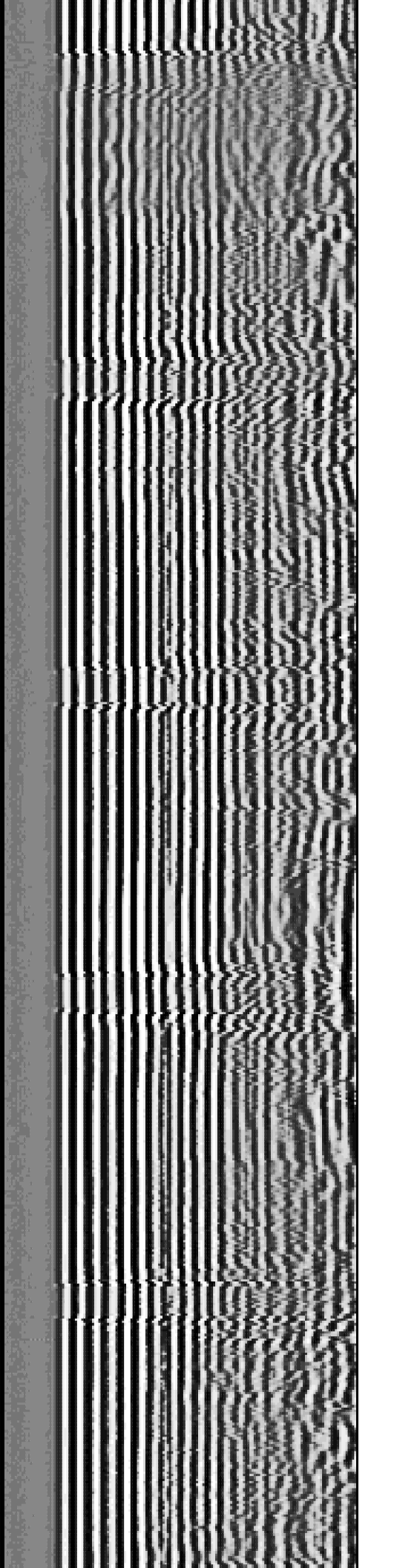
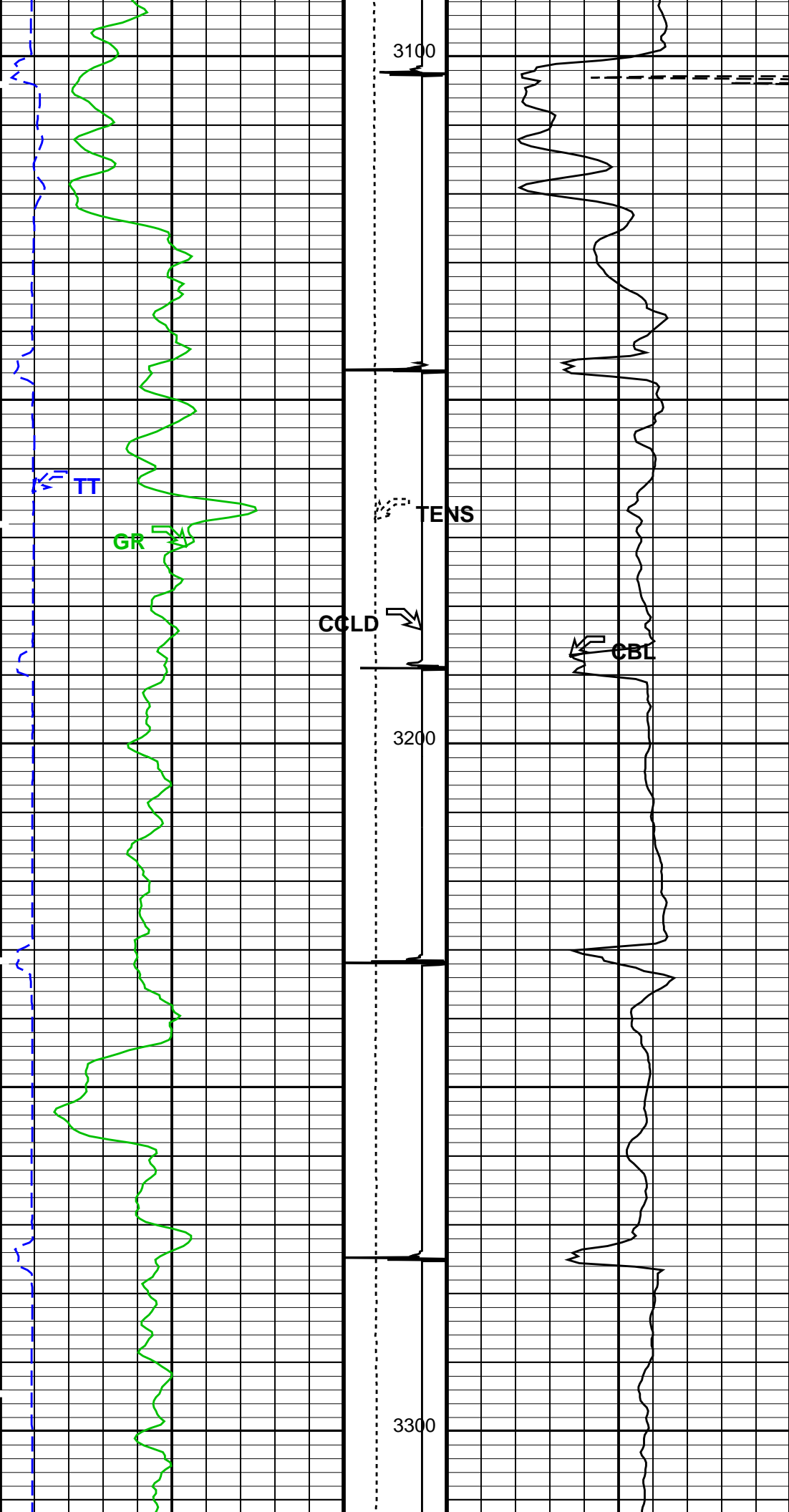


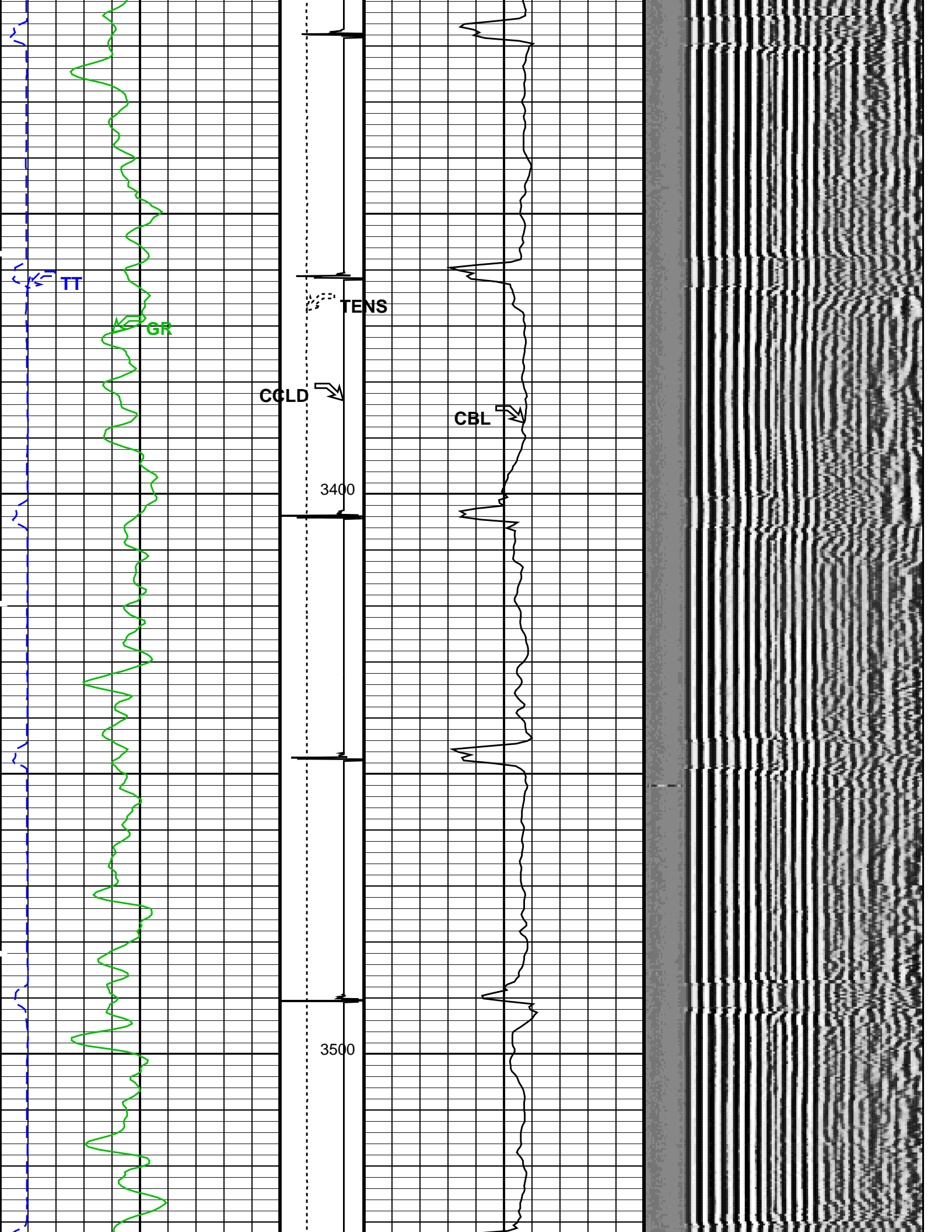


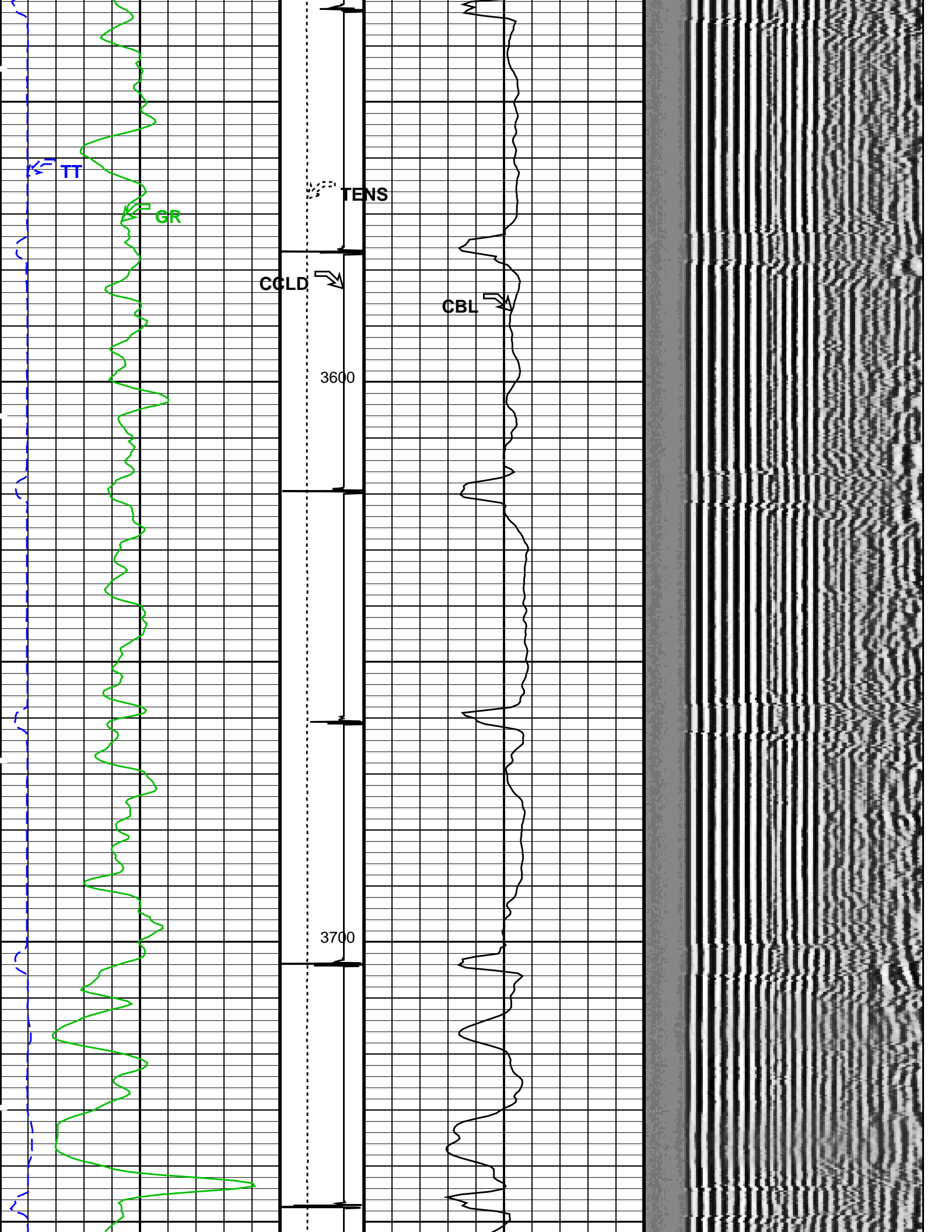


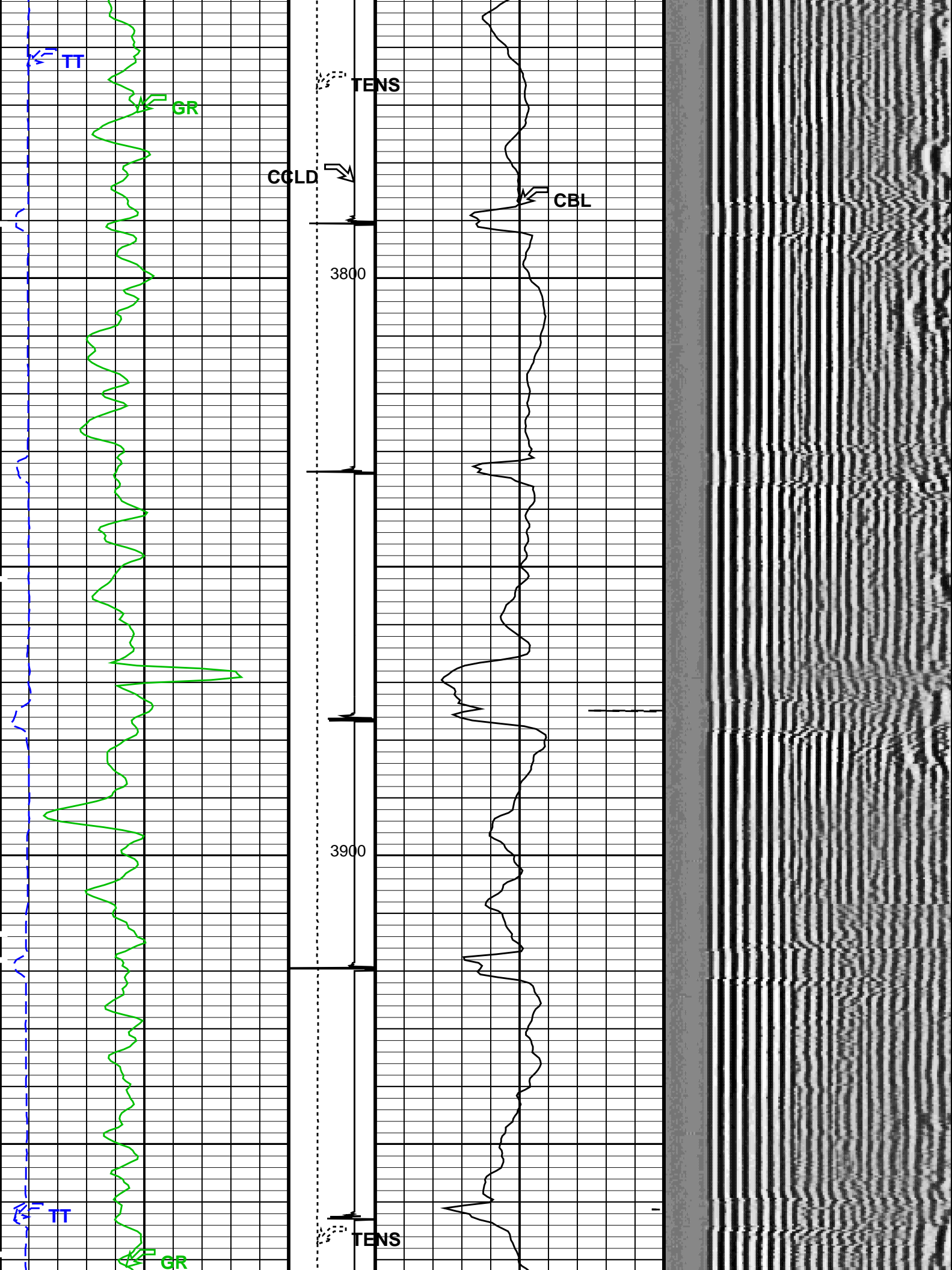


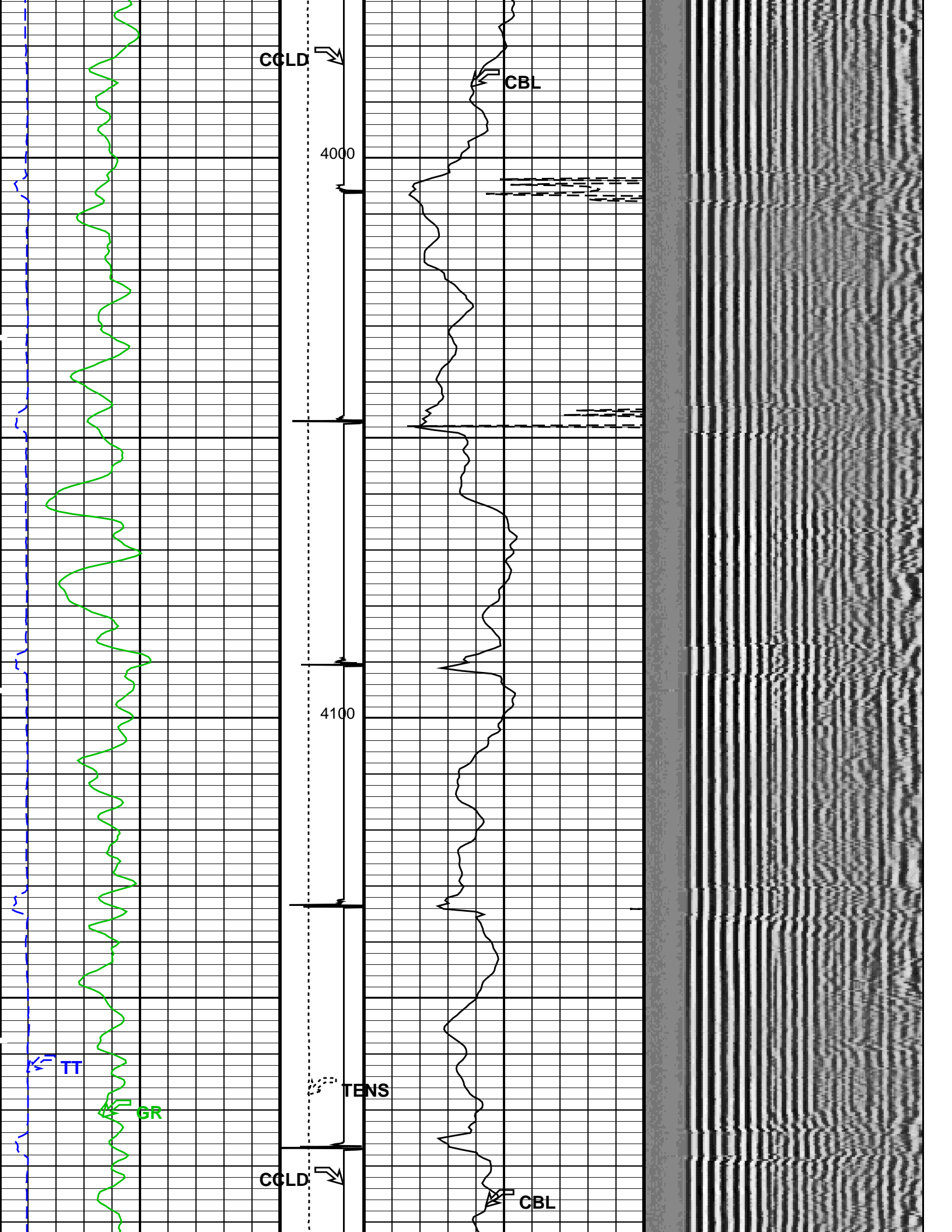


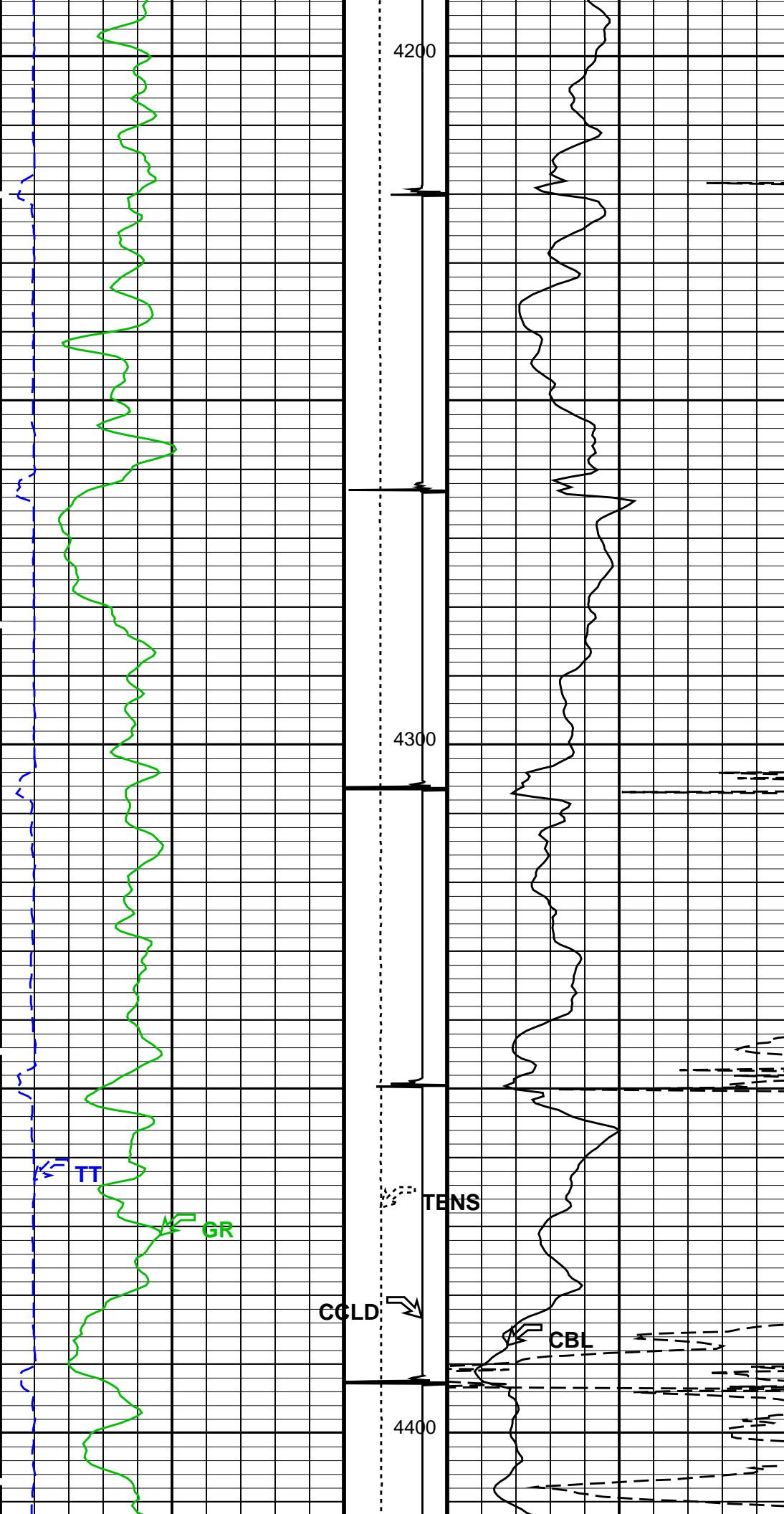


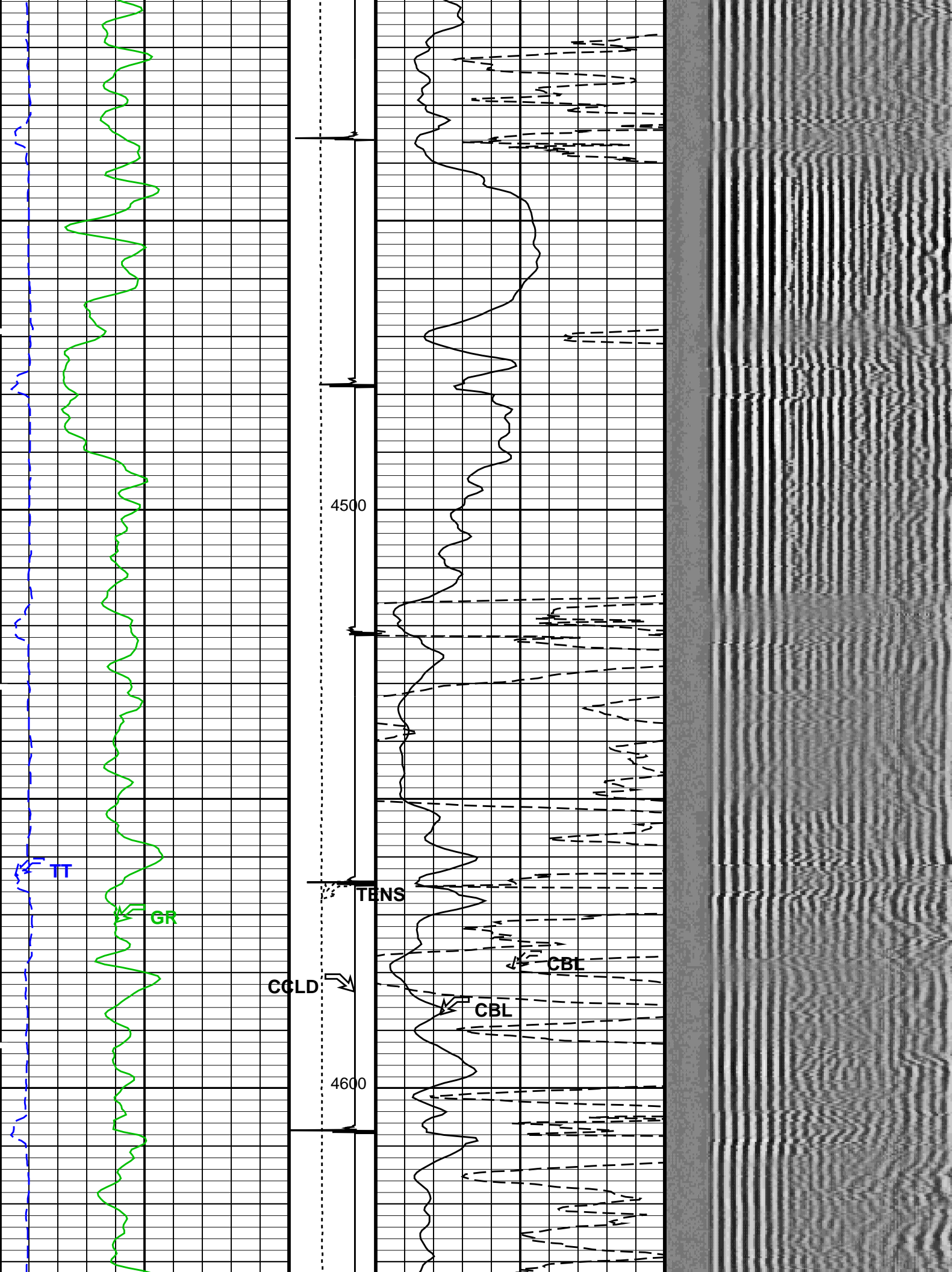


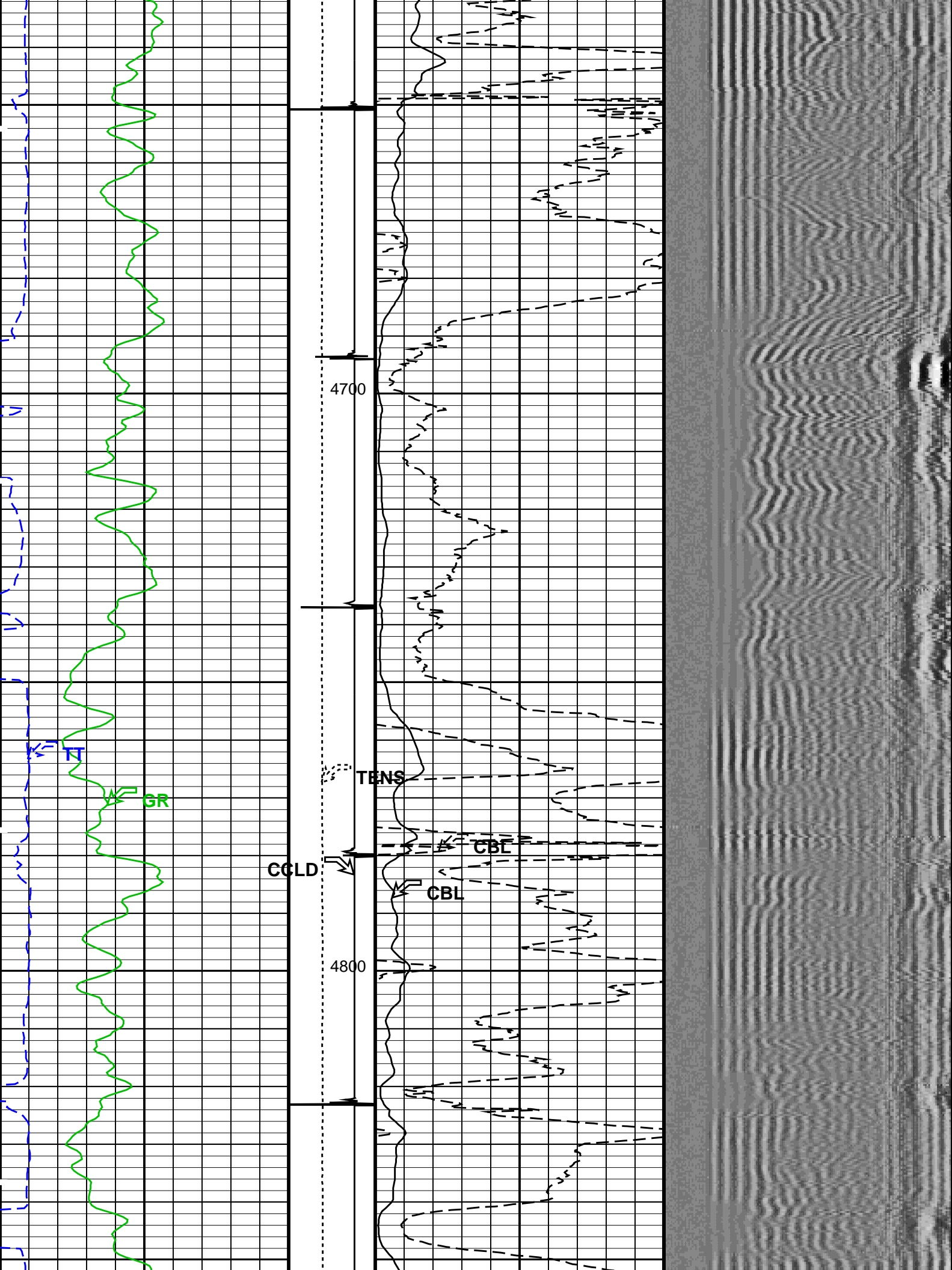


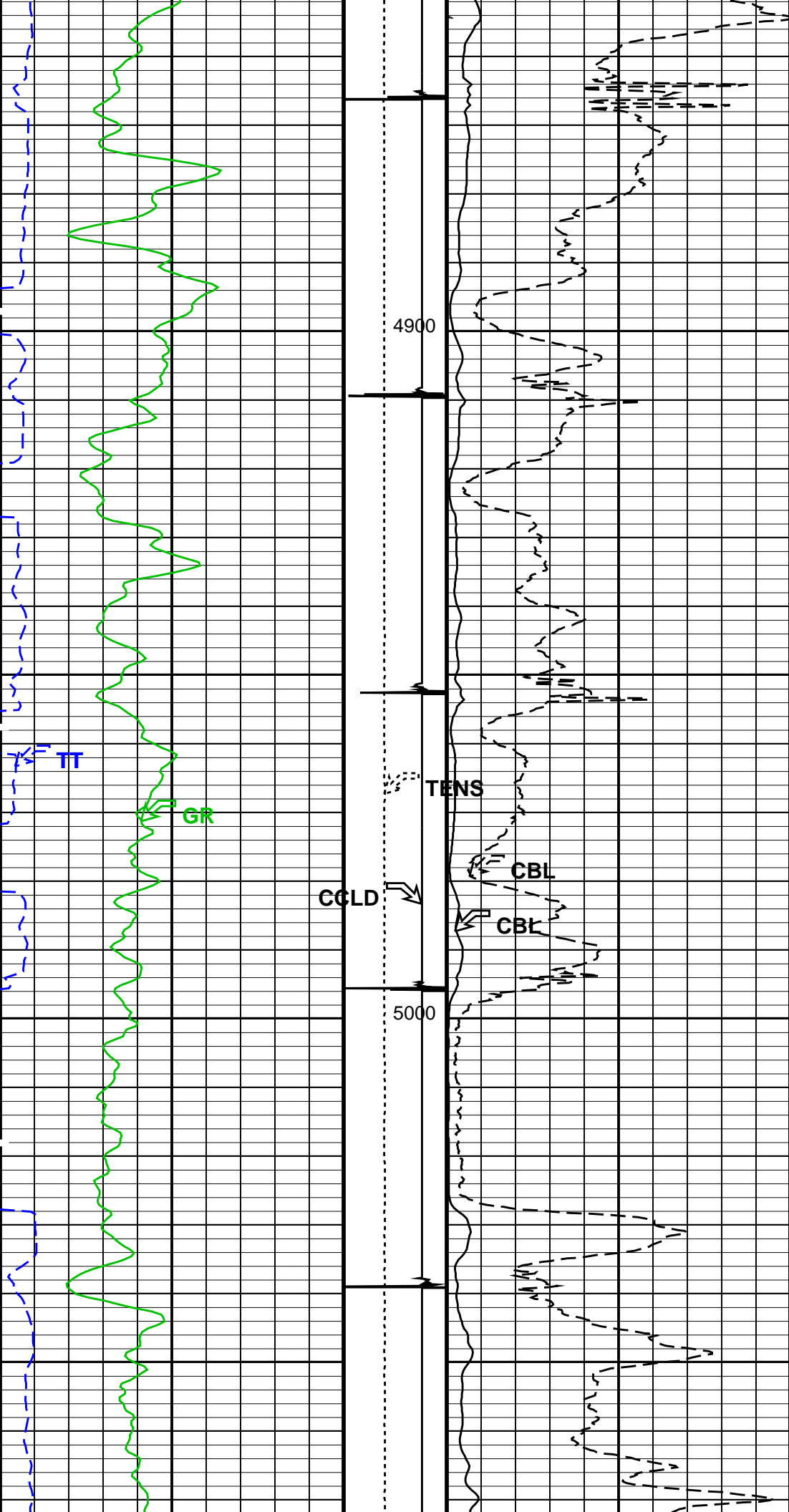


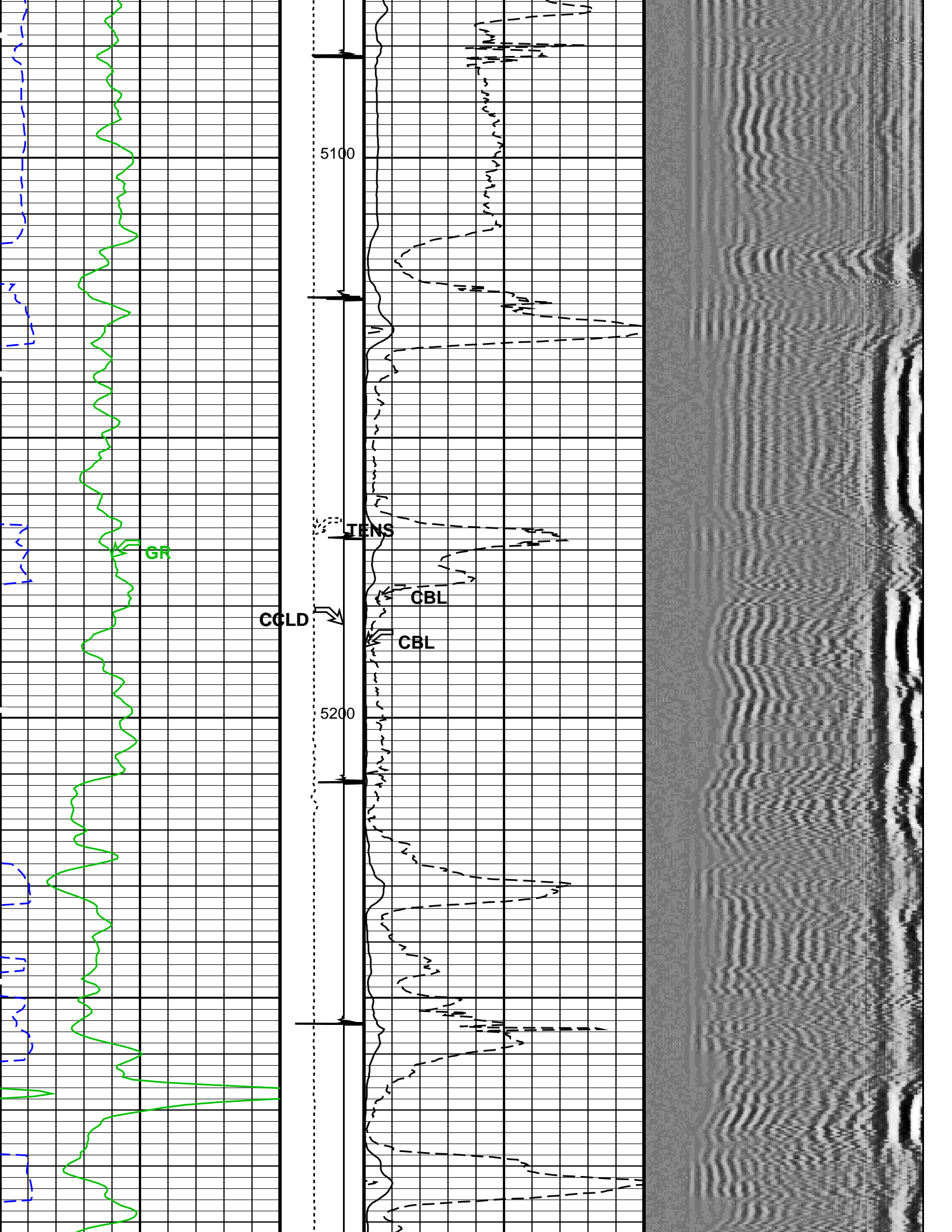


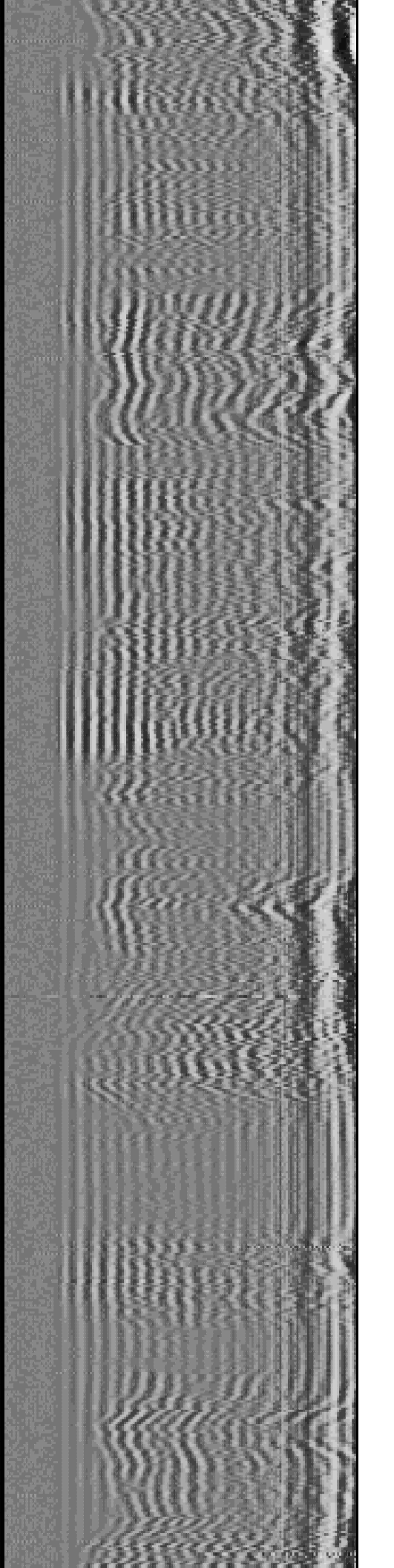
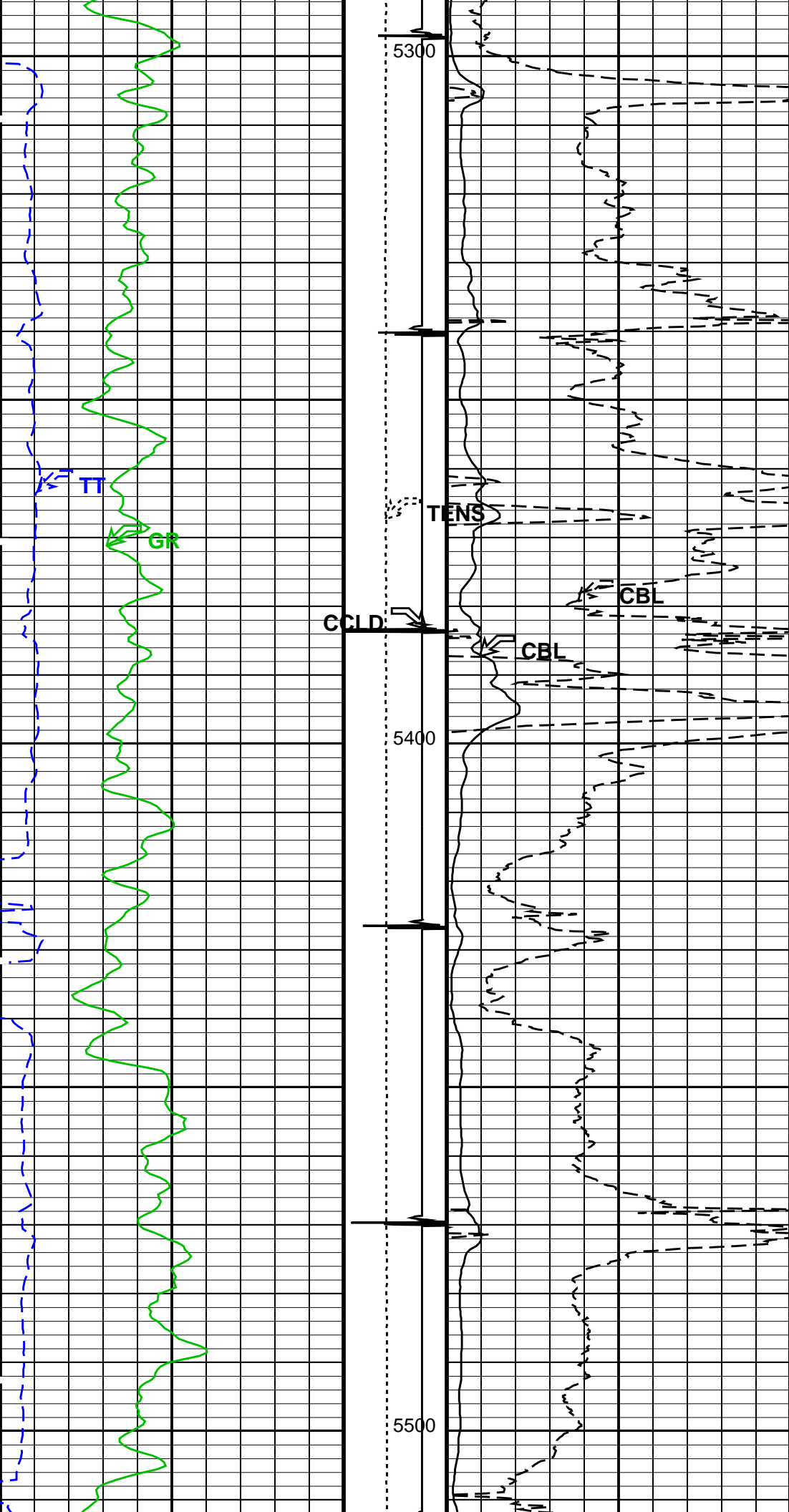


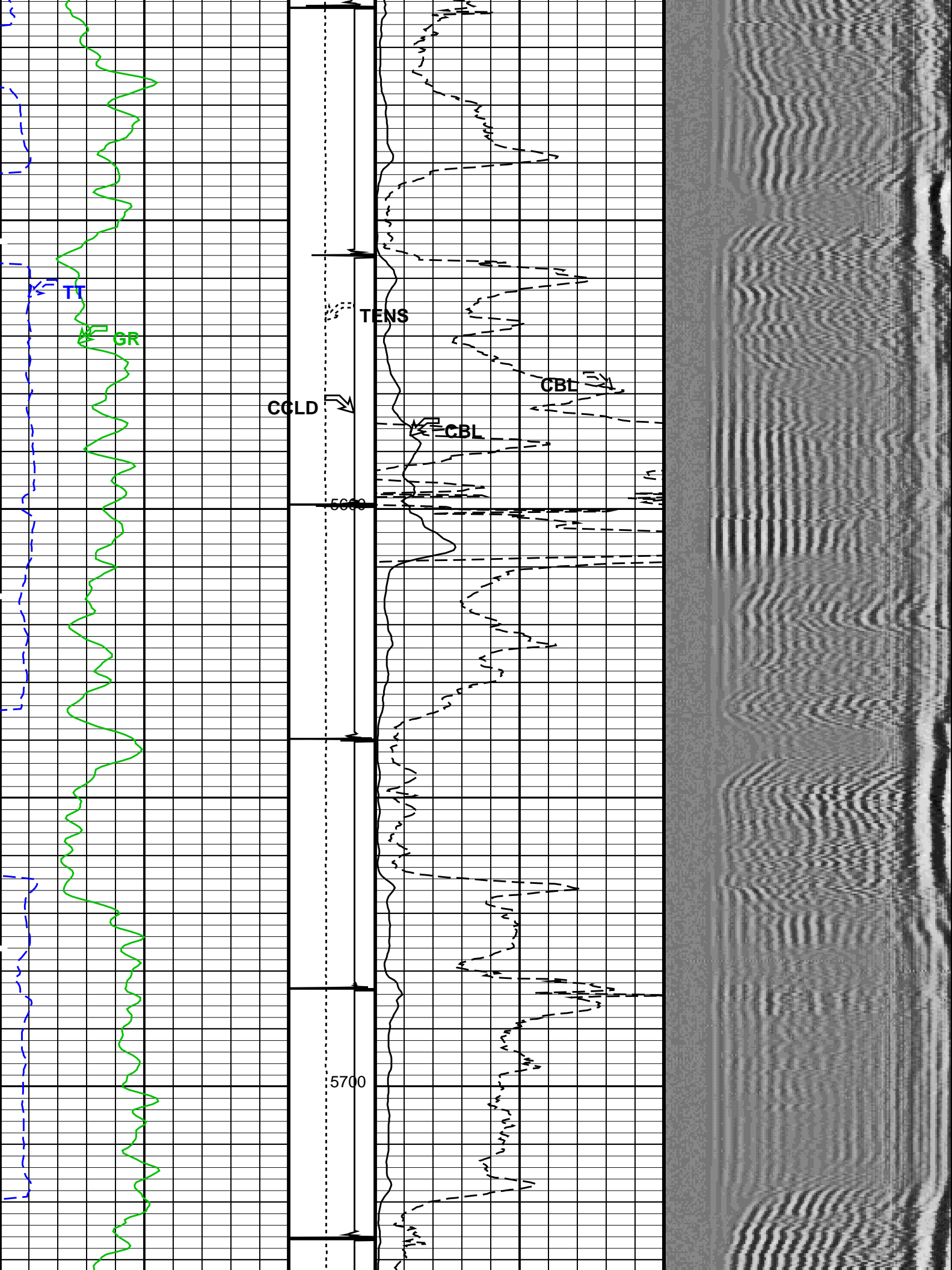


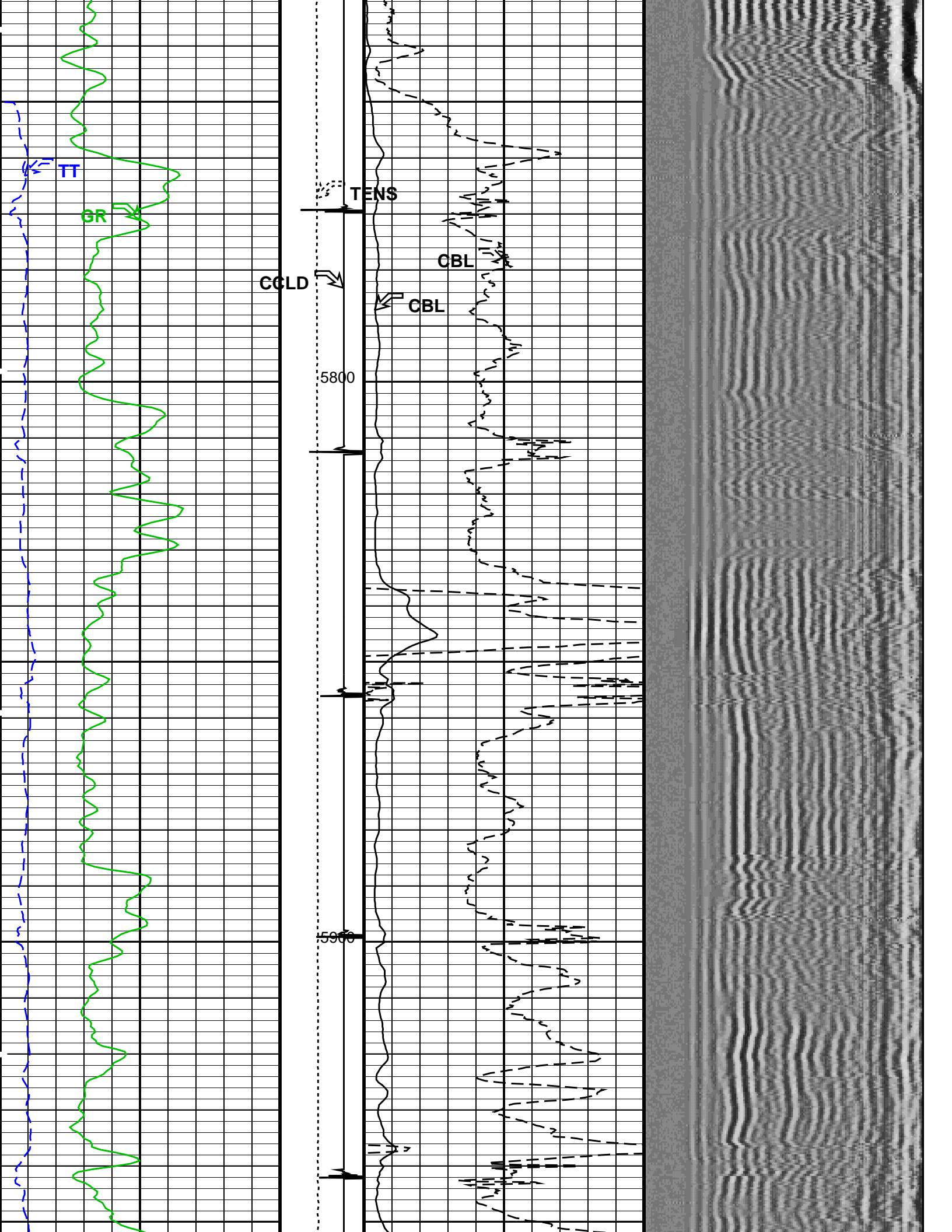


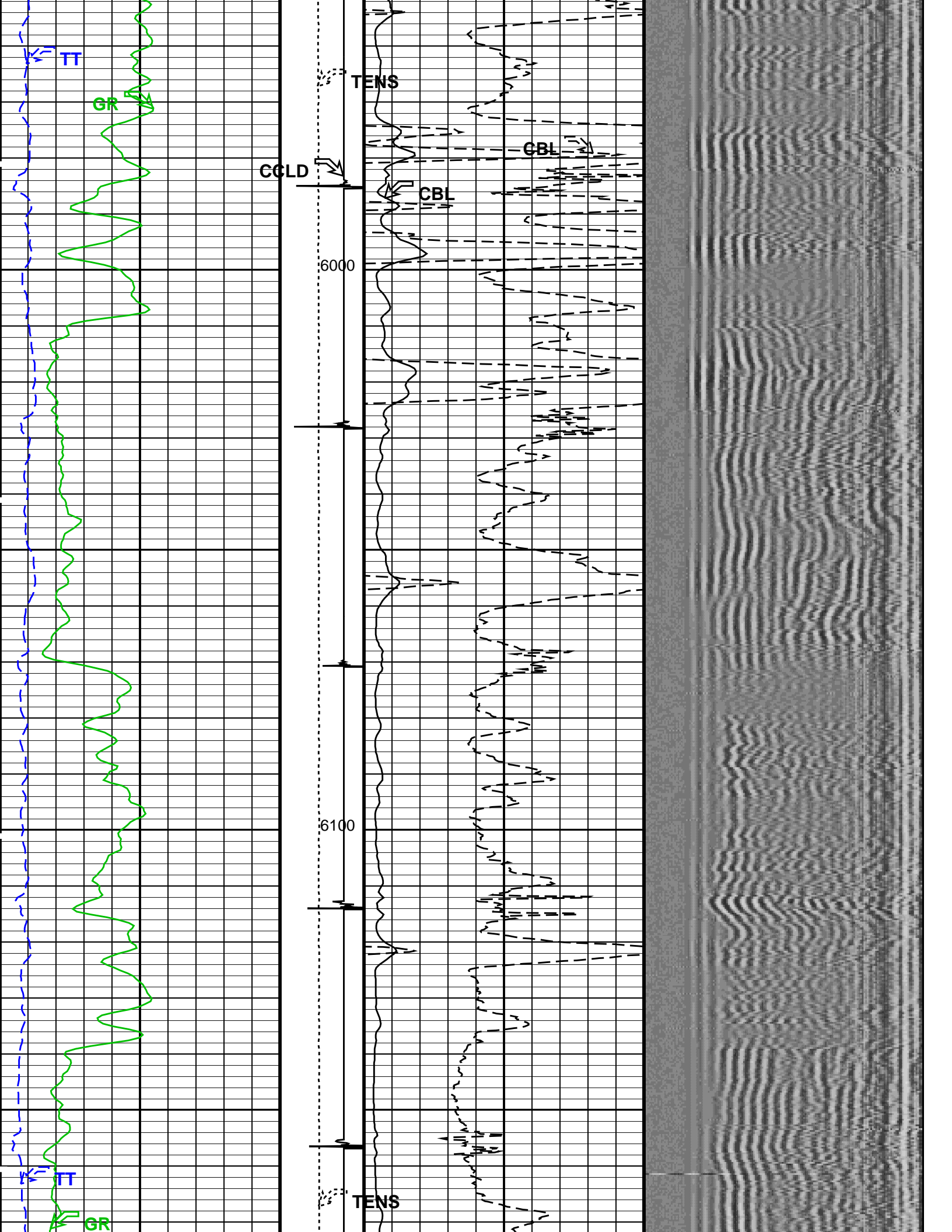


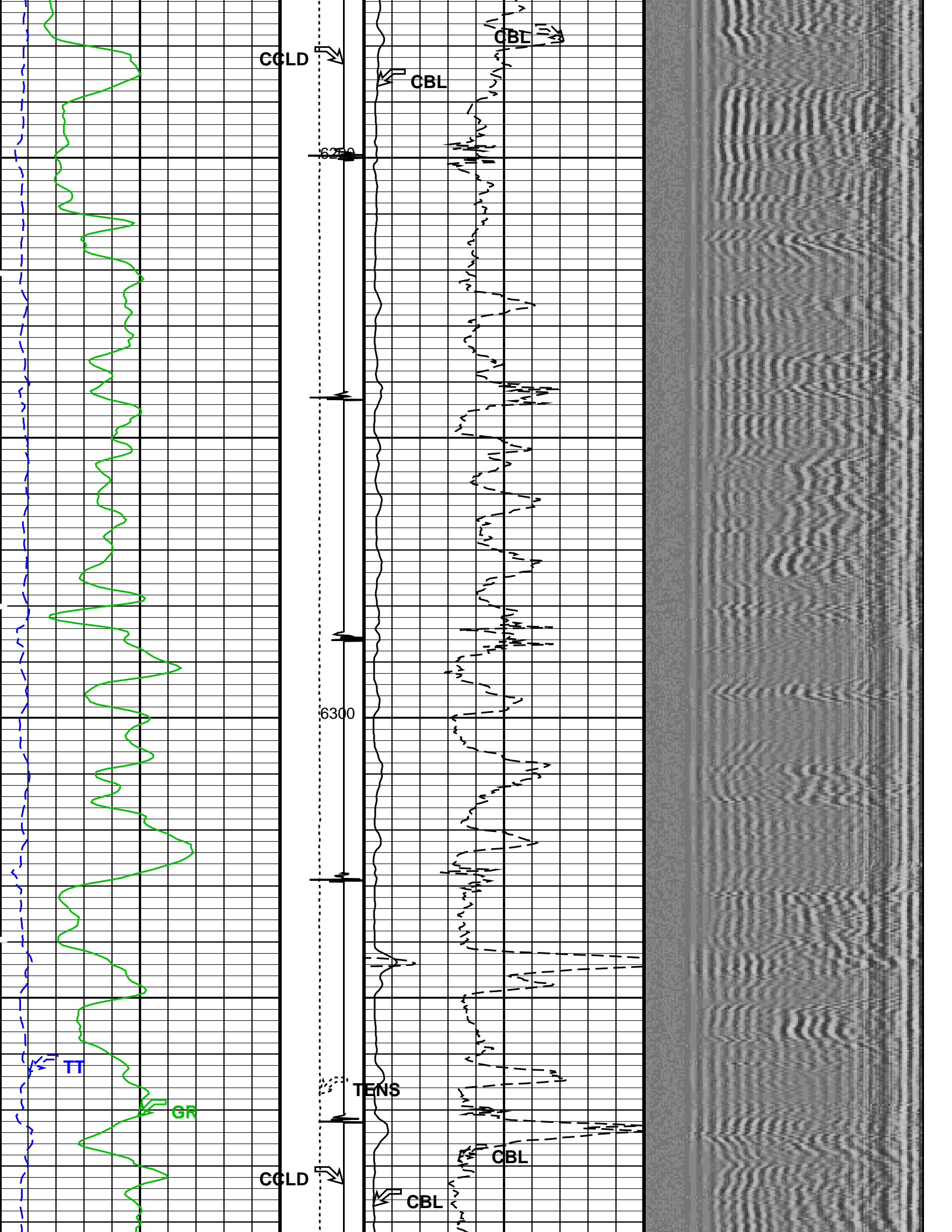


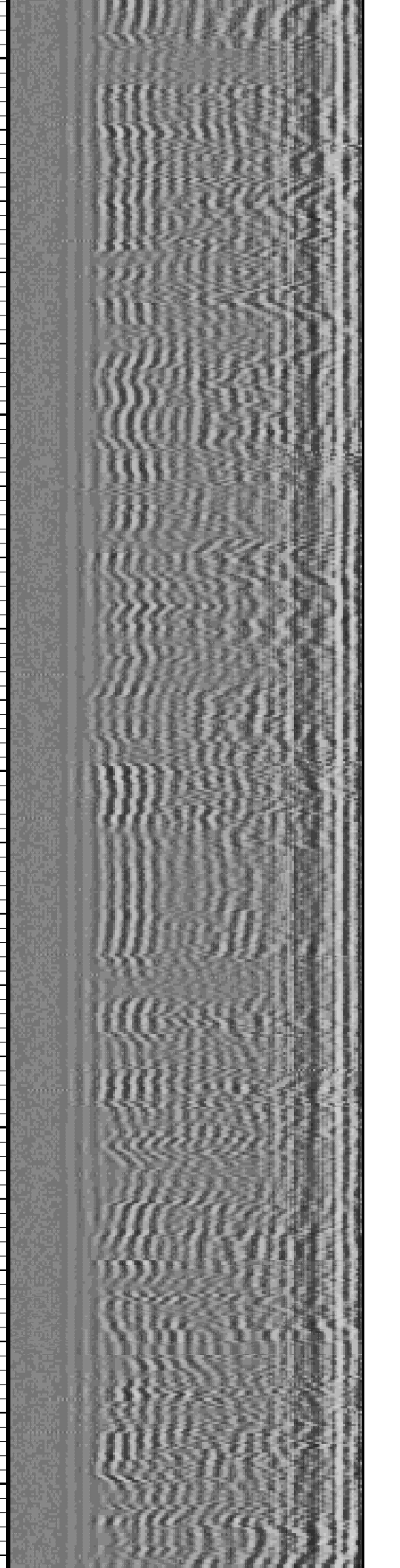
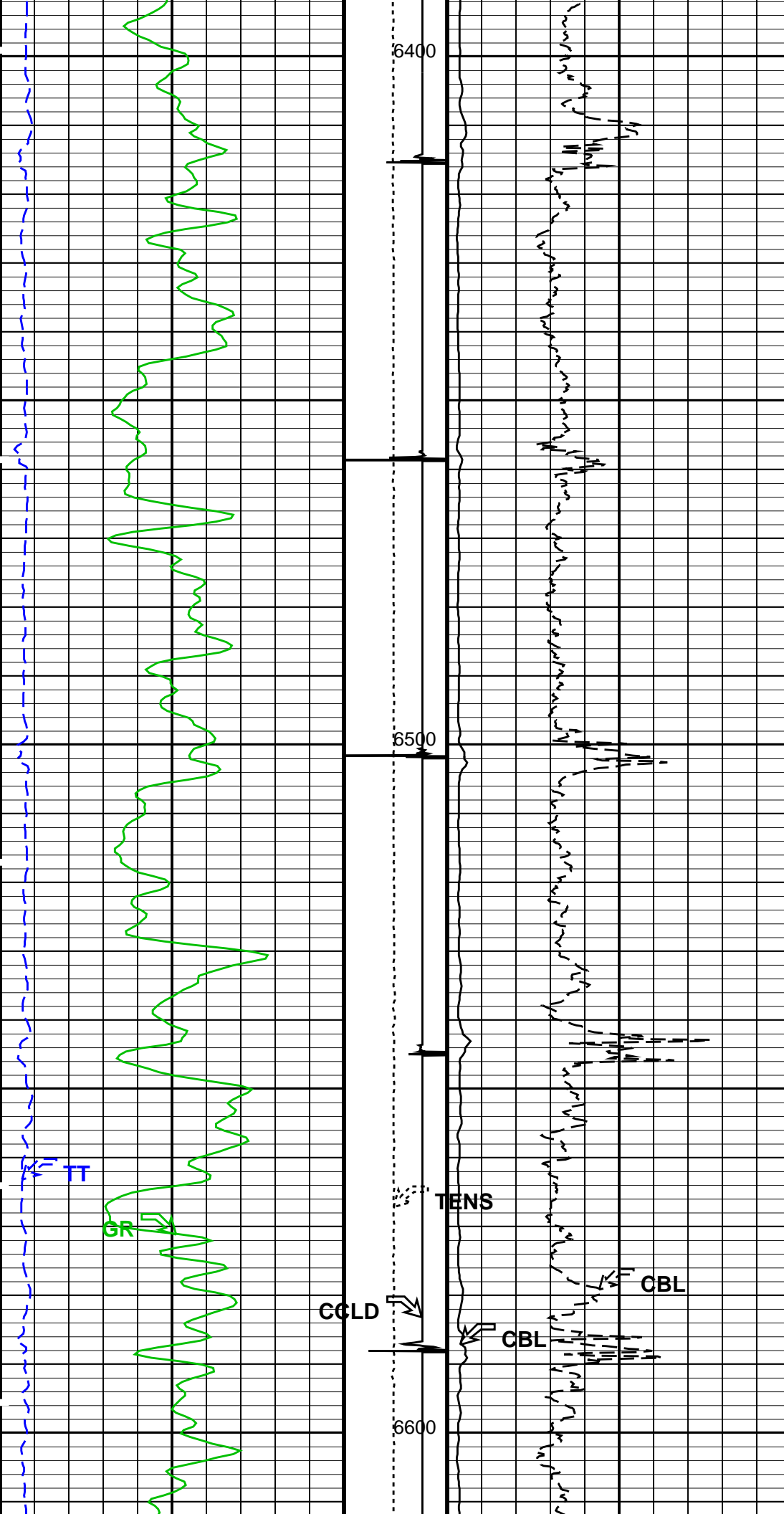


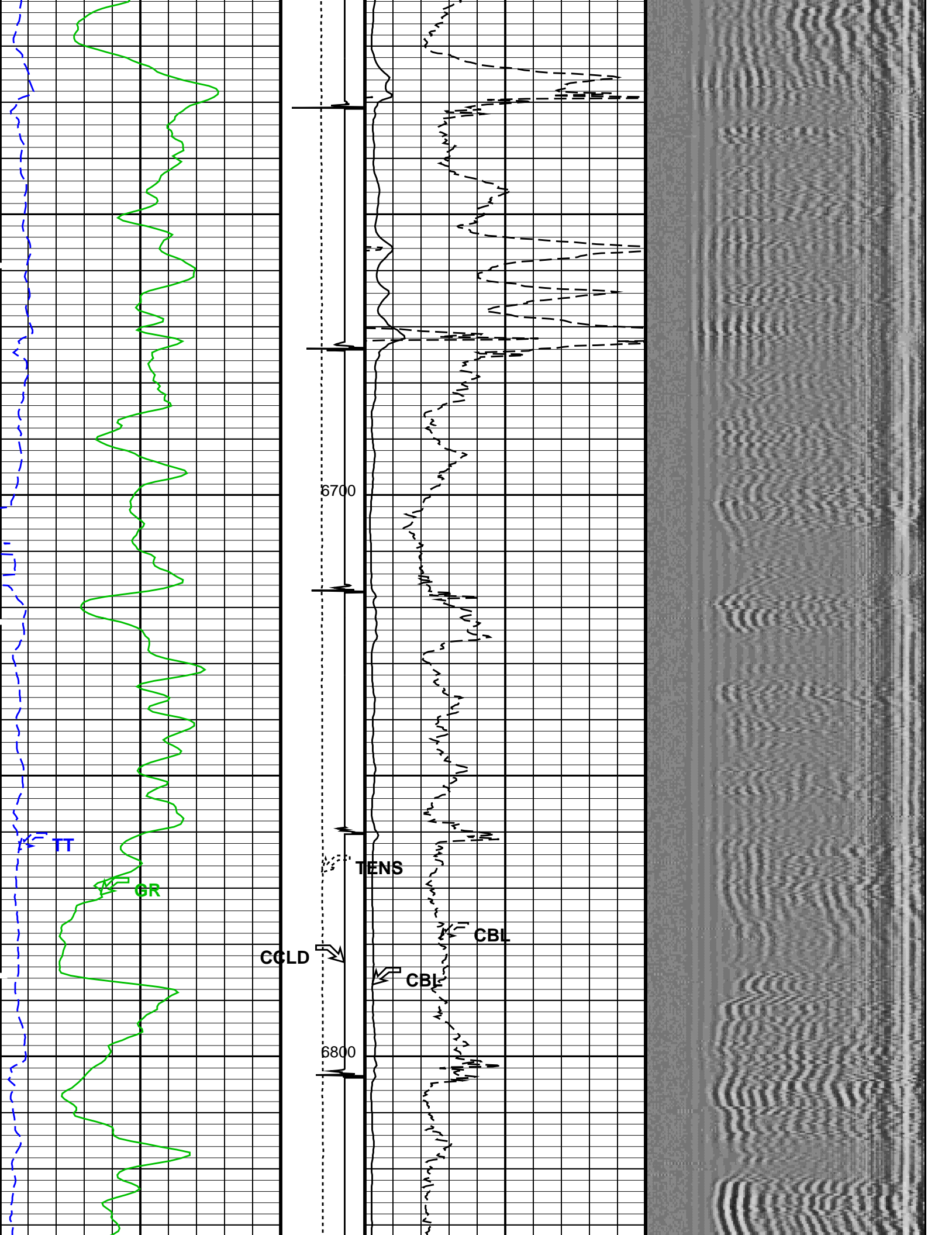


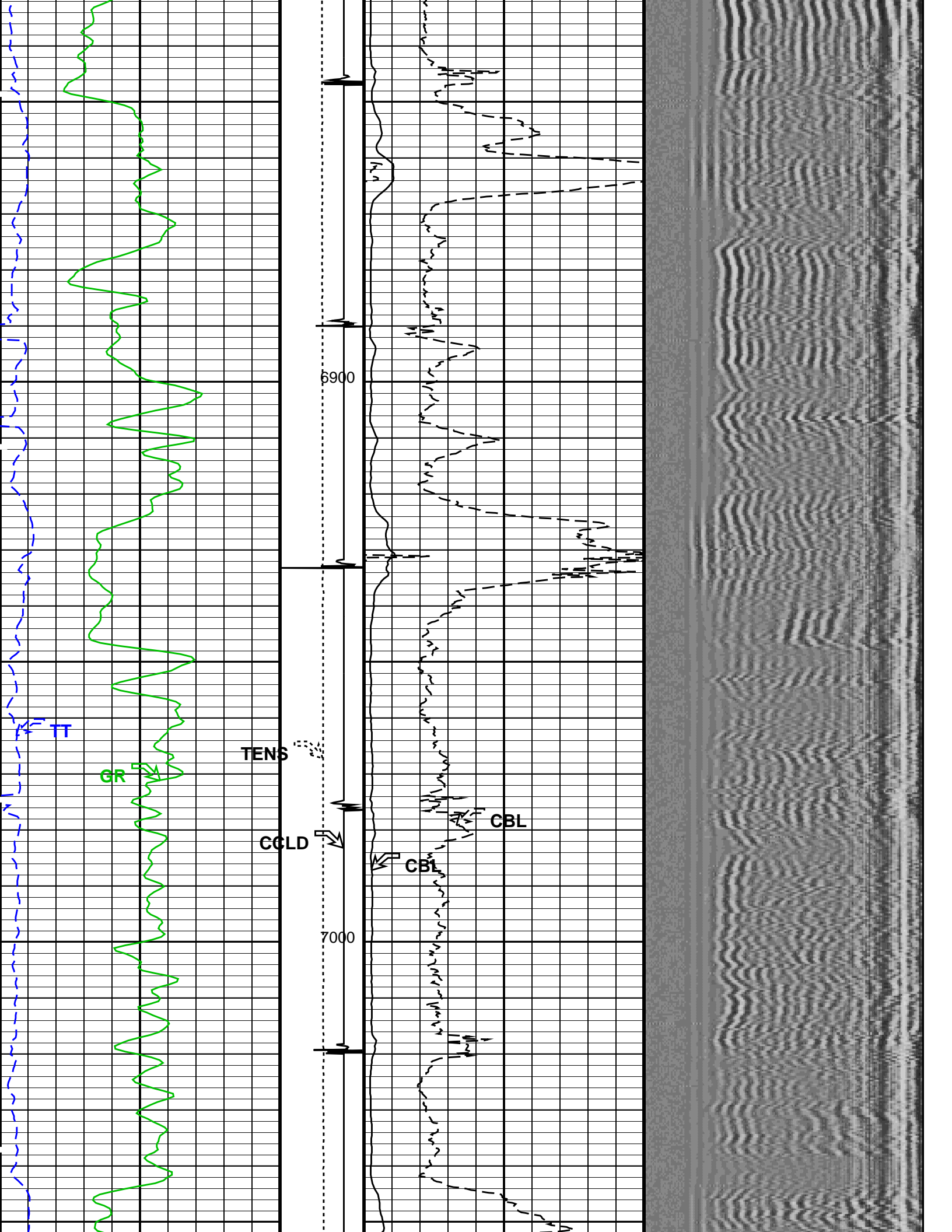


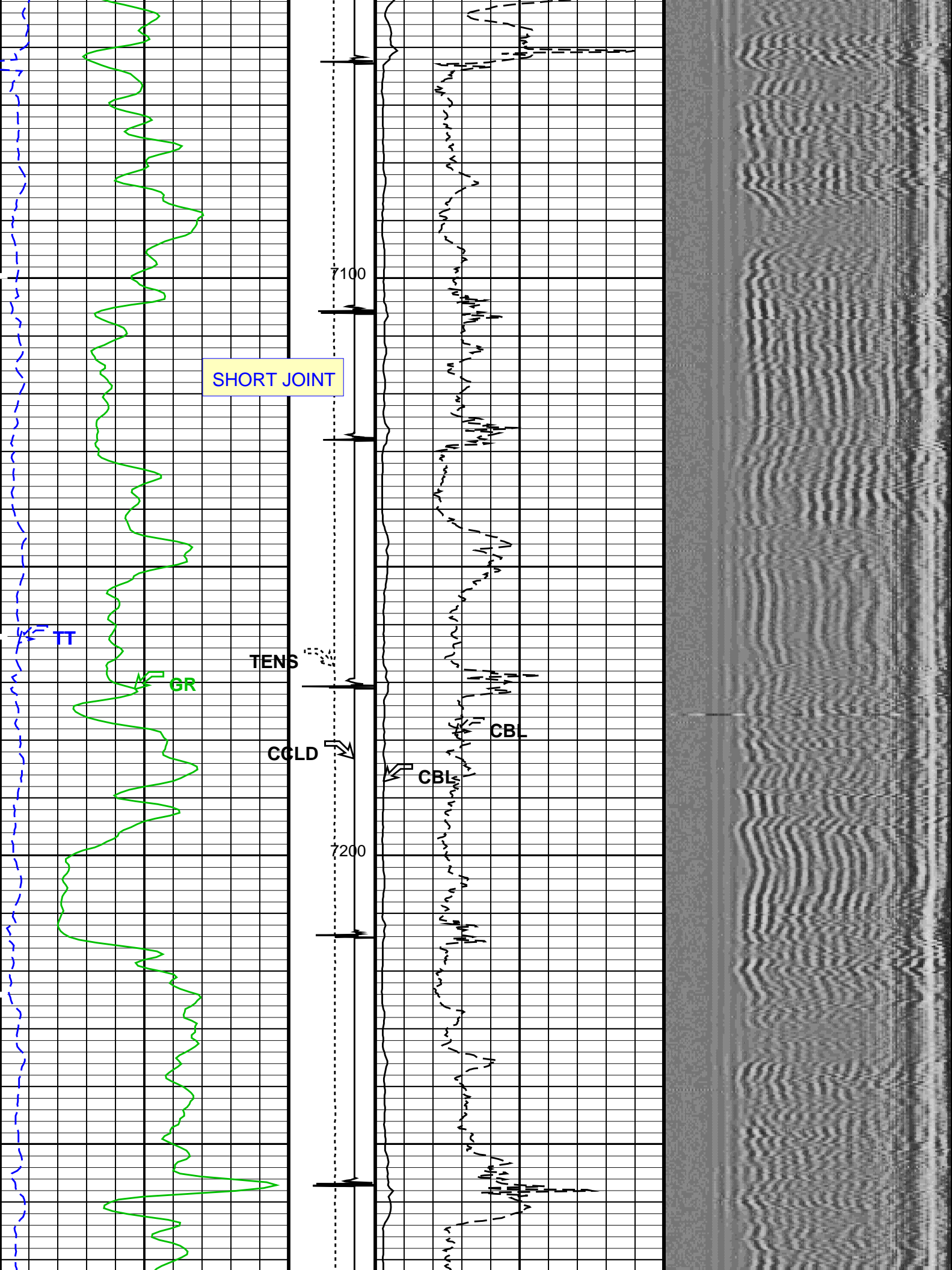


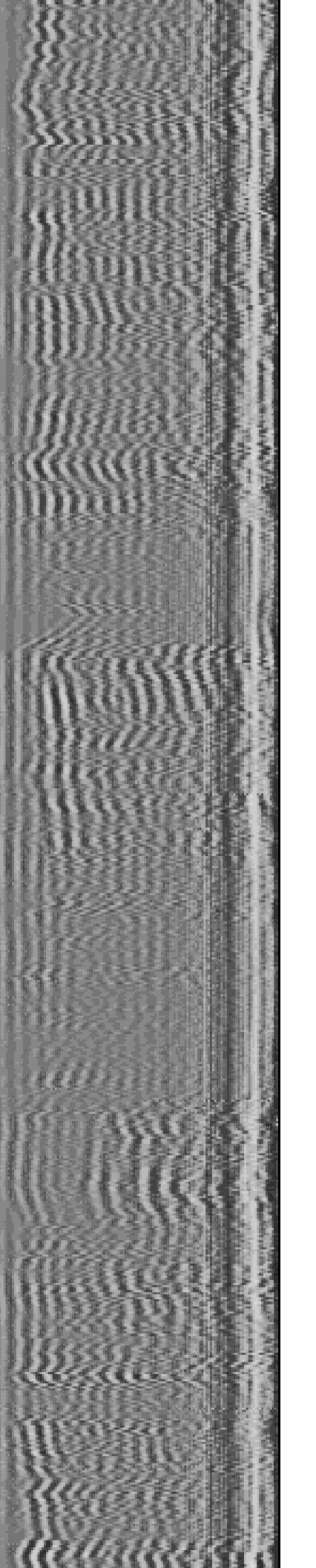
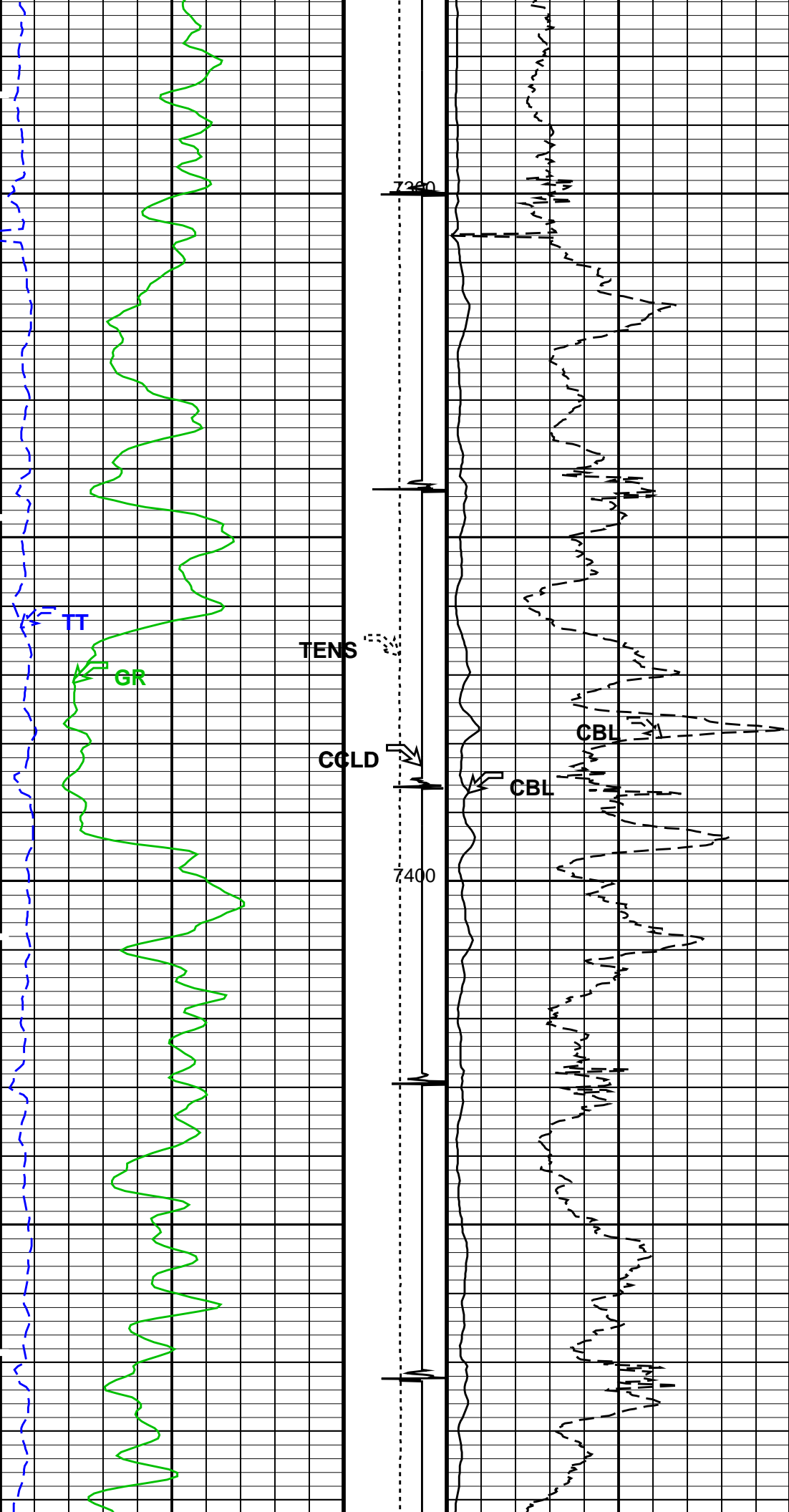


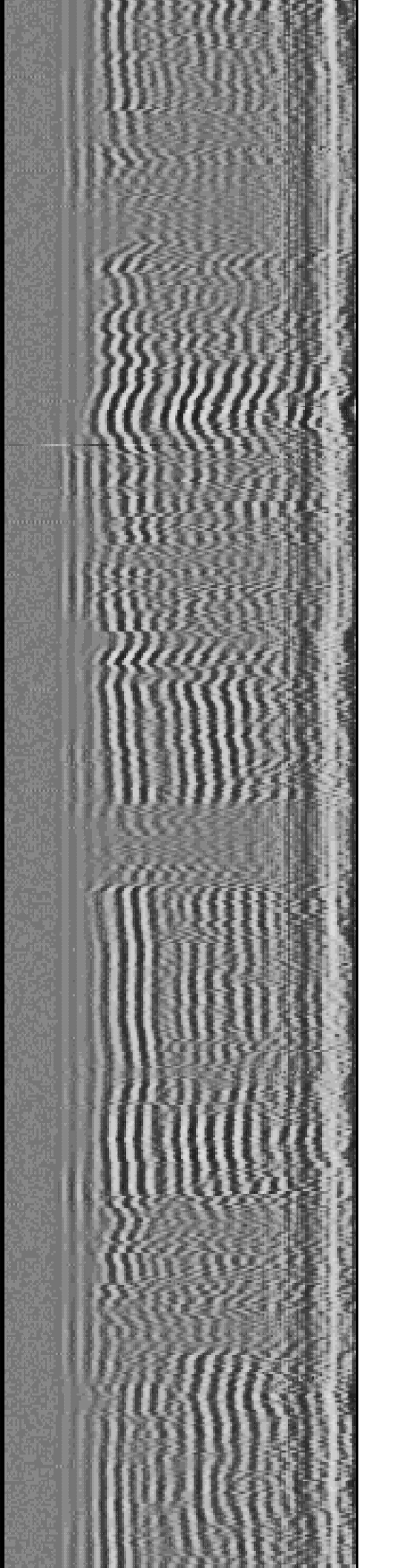
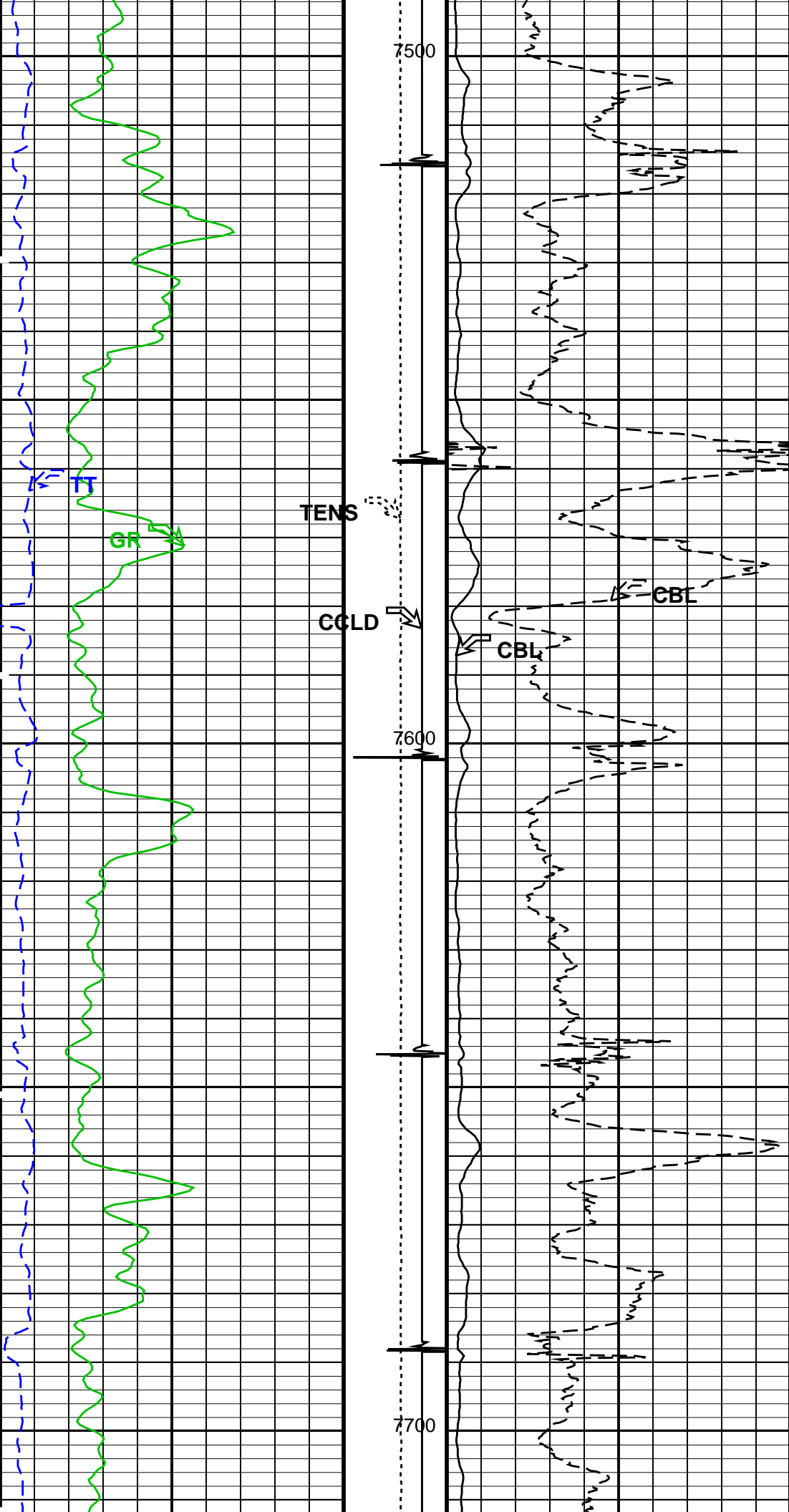


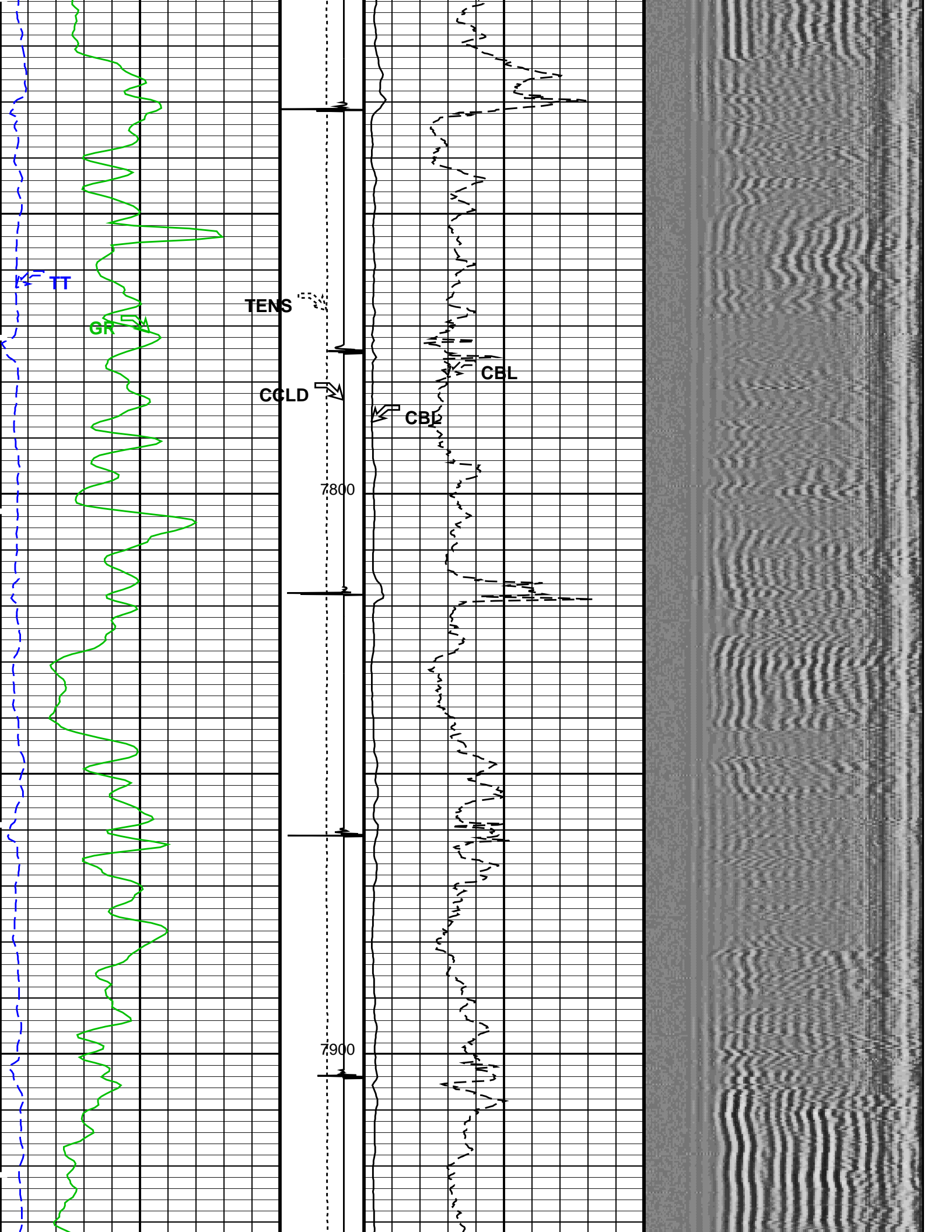


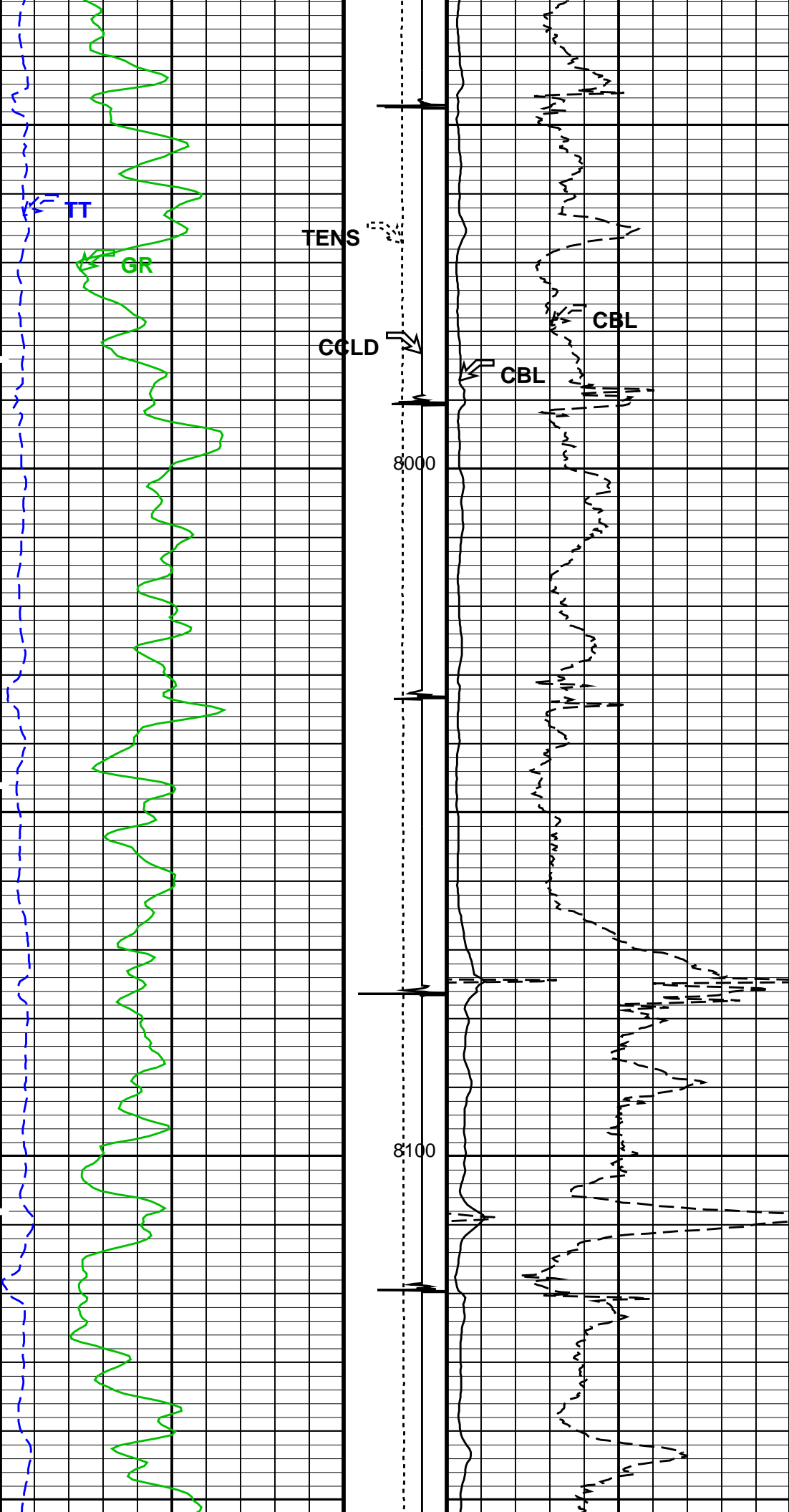


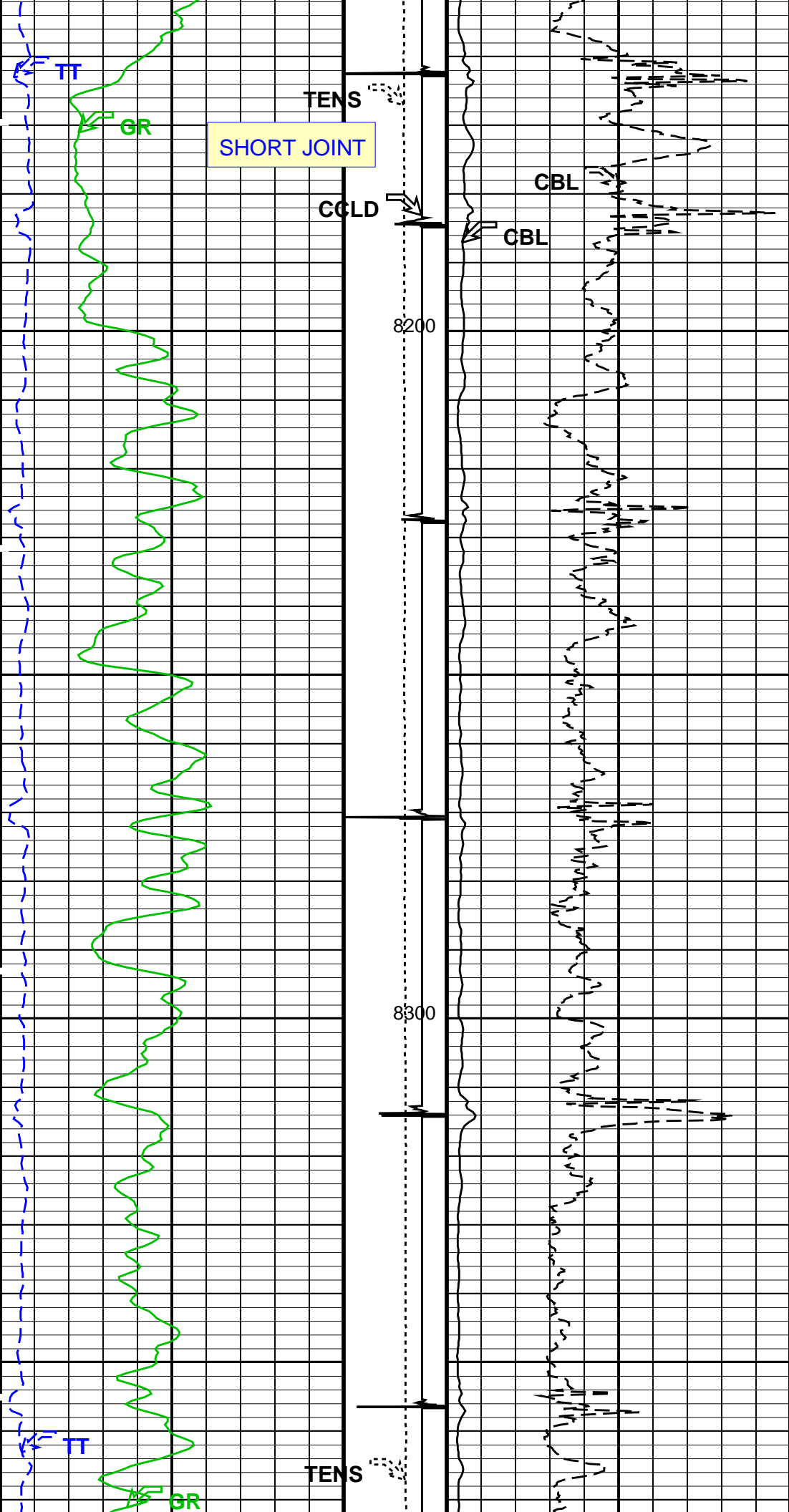


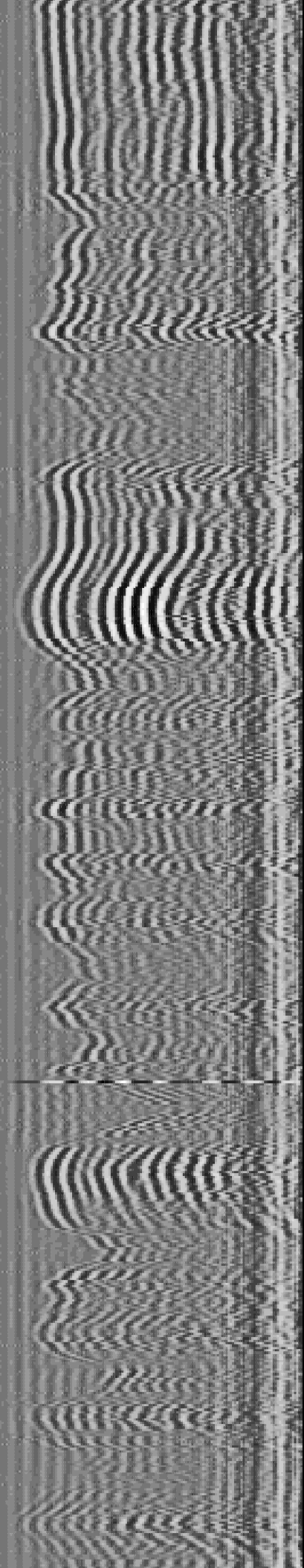
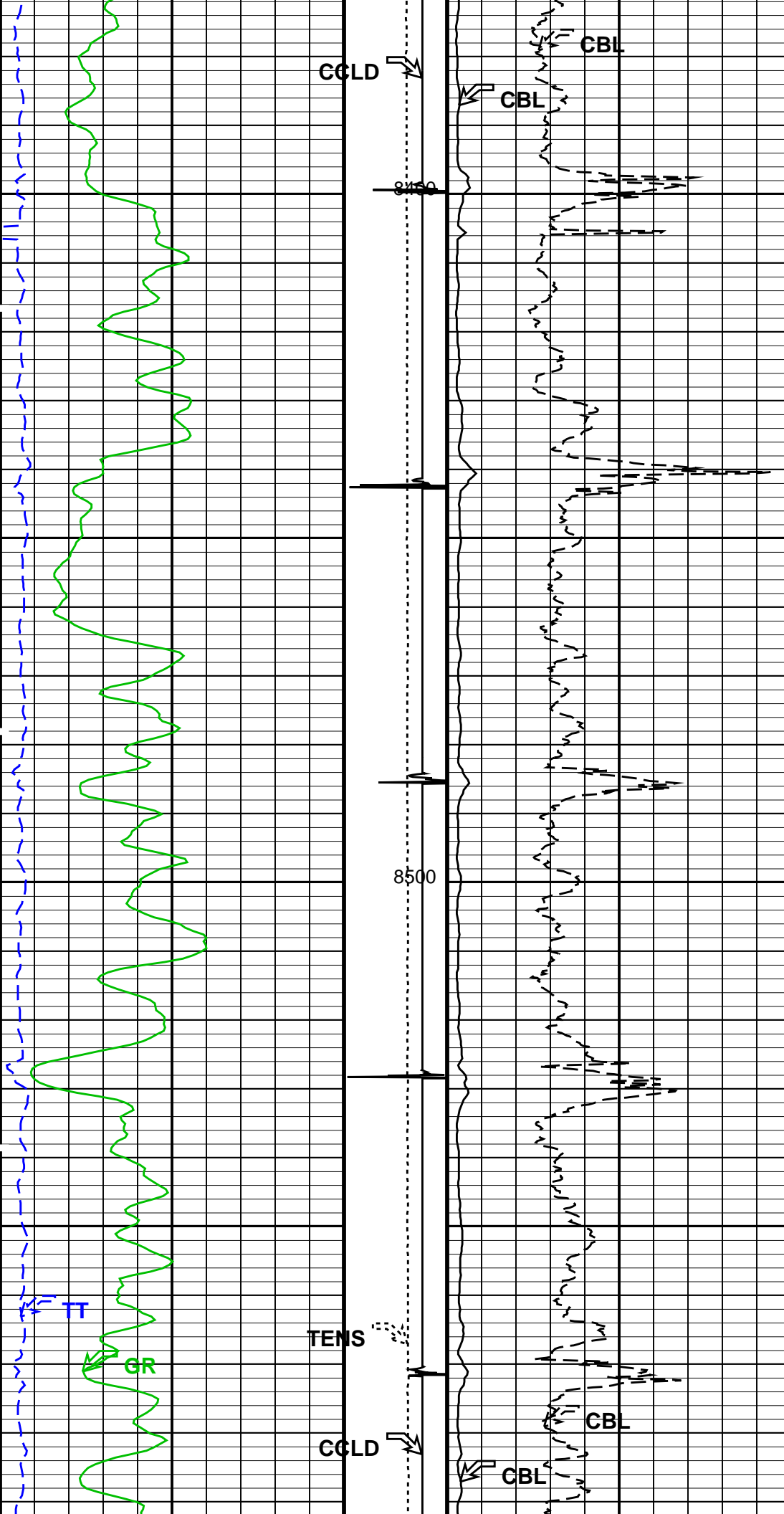


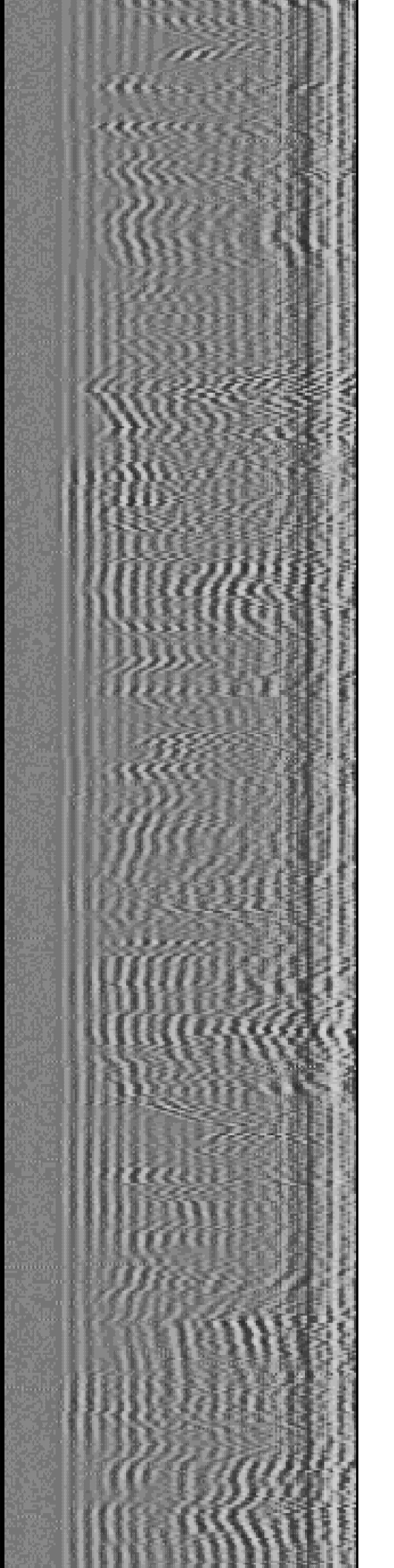
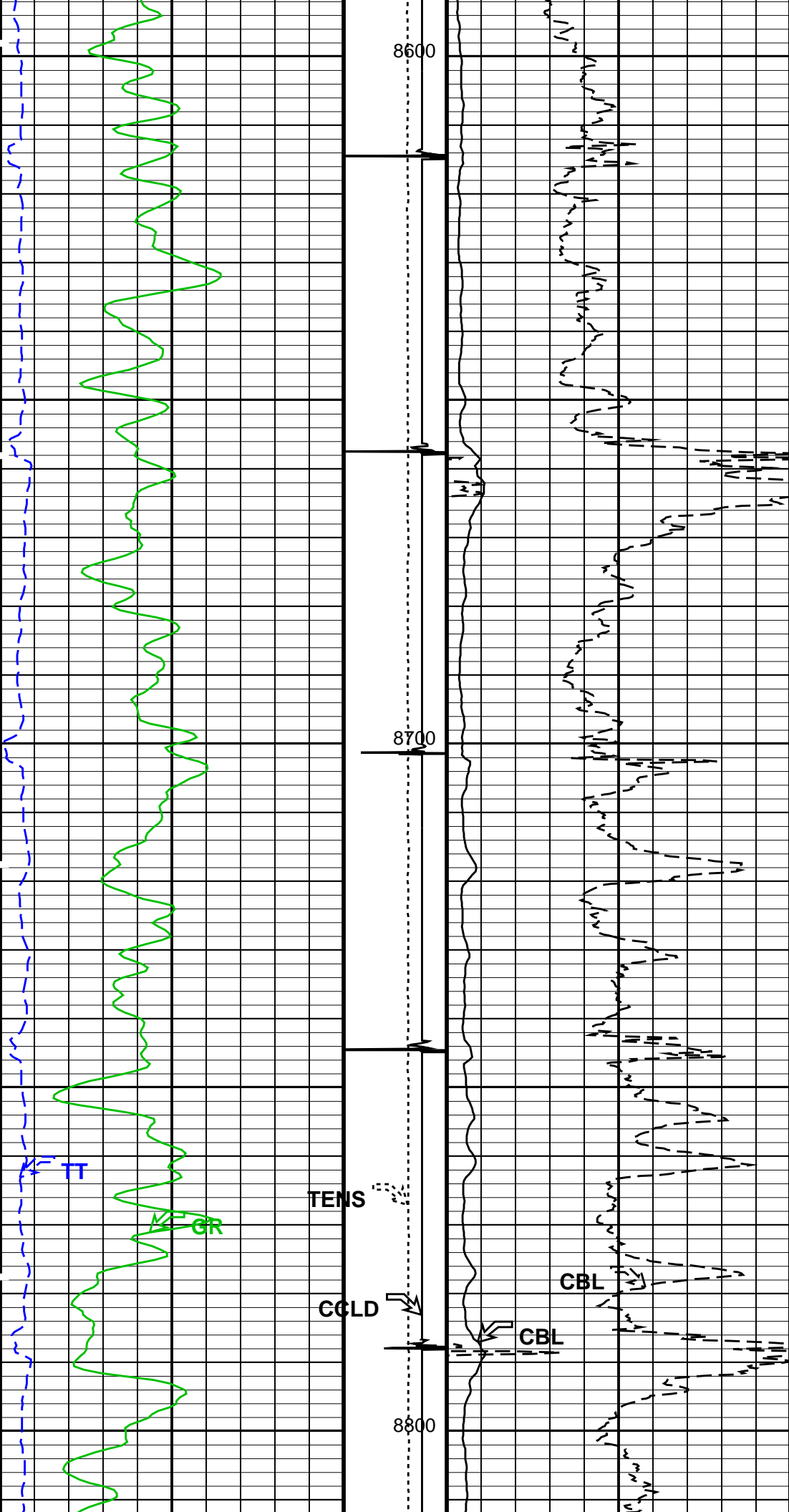


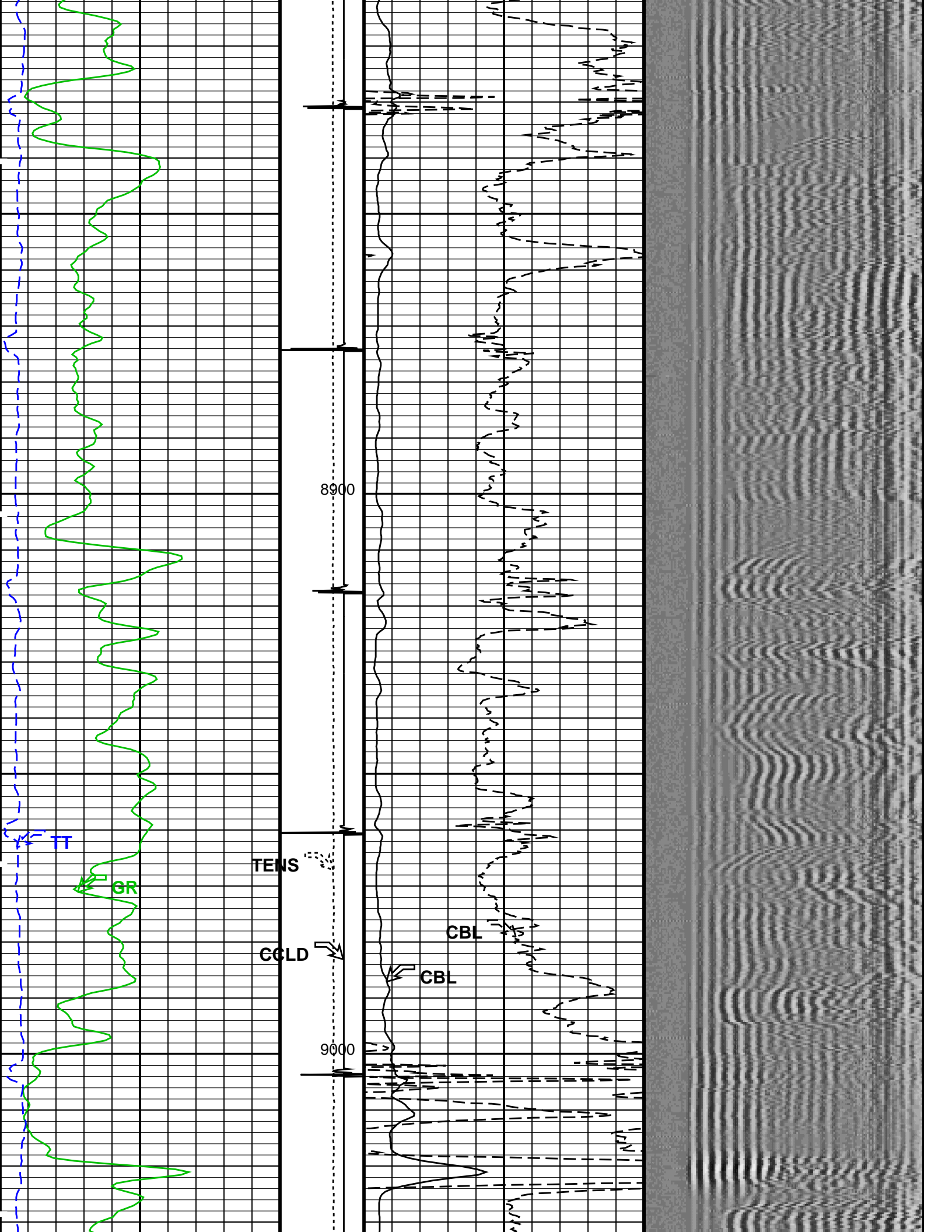


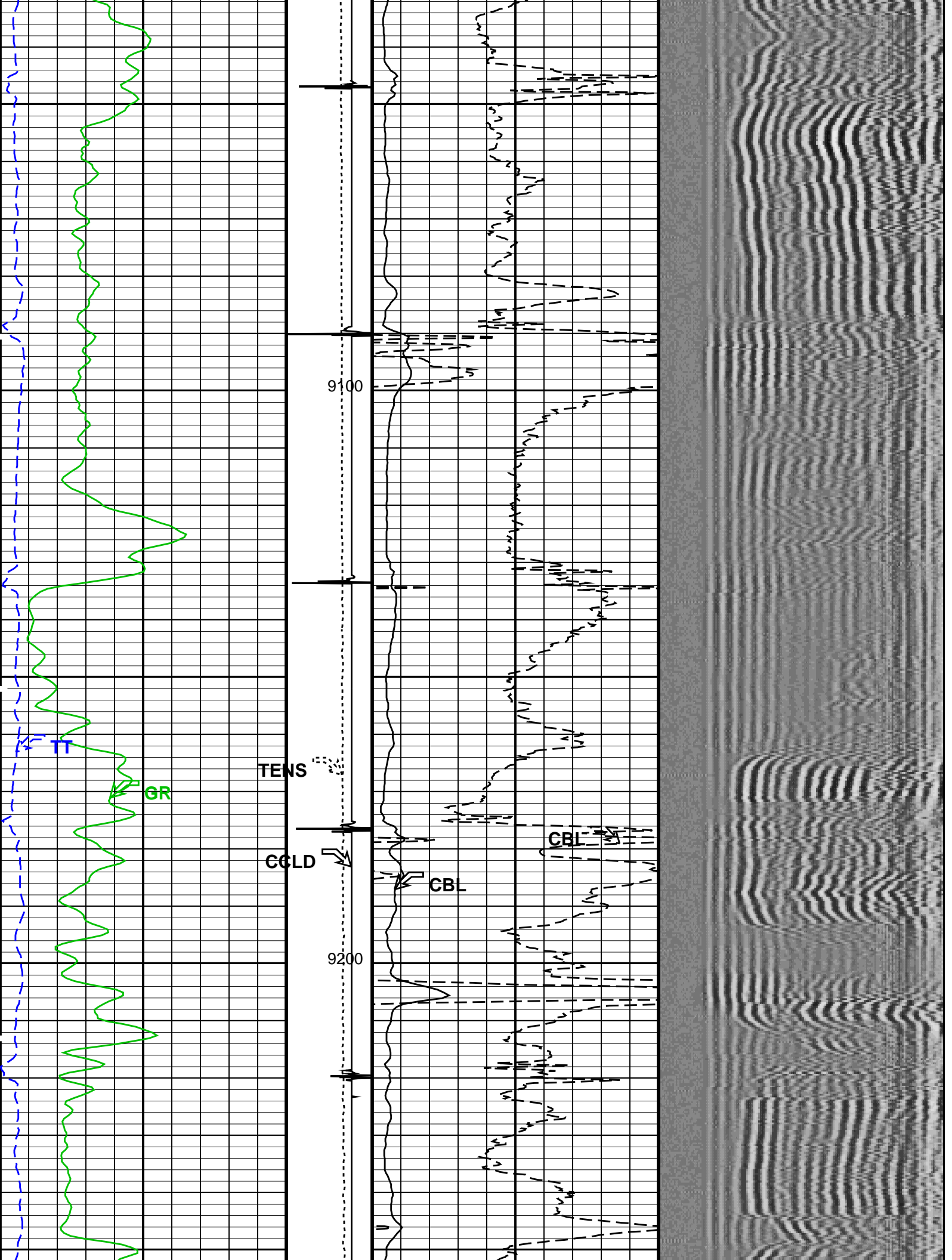


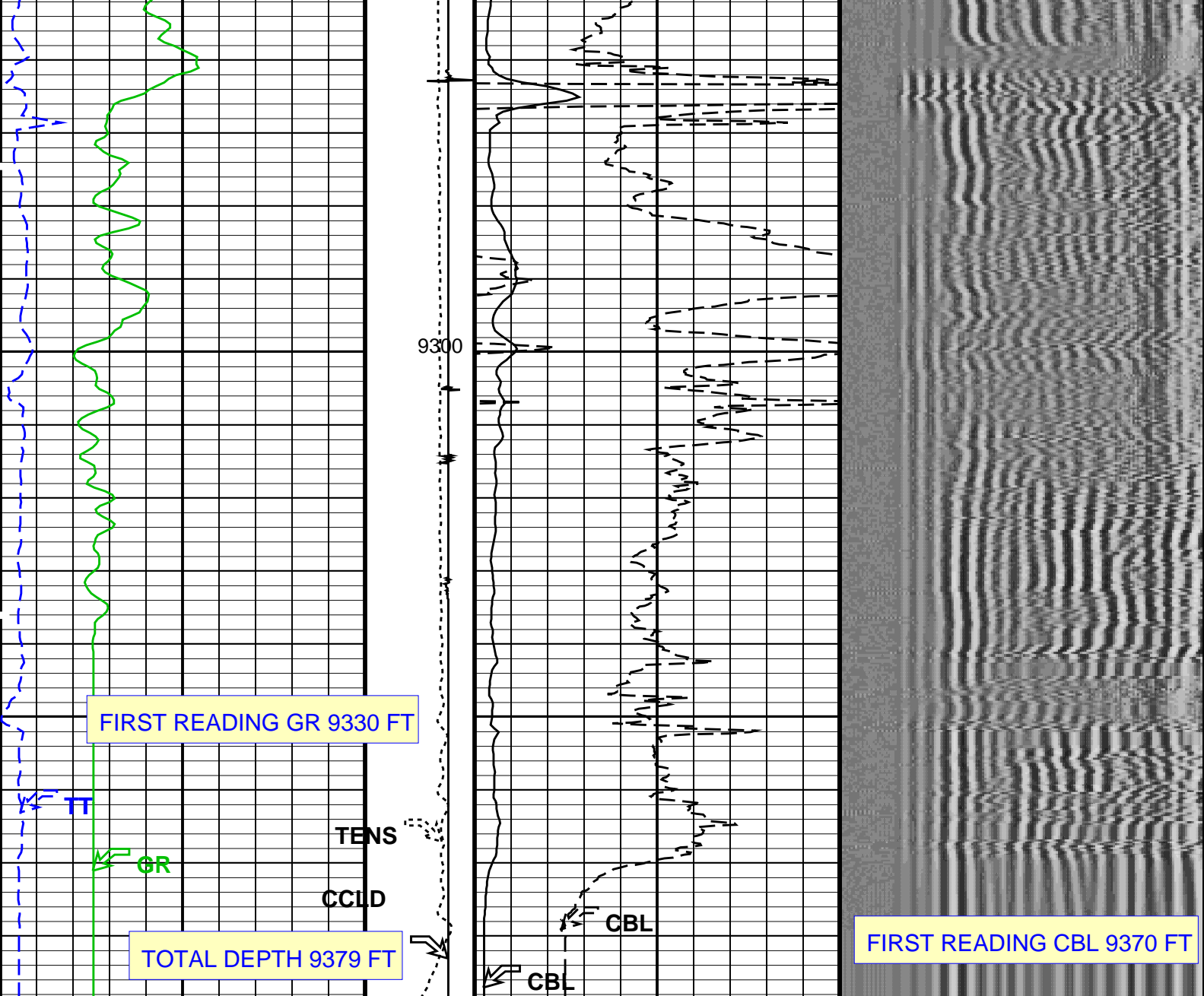












Gamma Ray (GR) (GAPI)	Tension (TENS) (LBF)	CBL Amplitude (CBL) (MV)	Min	Amplitude	Max
0	0	0	200		1200
150	2000	100		VDL VariableDensity (VDL) (US)	
Transit Time (TT) (US)	Discriminat ed CCL (CCLD) (V)	CBL Amplitude (CBL) (MV)			
260	3	0			
160	-1	10			

PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL Vertical Scale: 5" per 100'

Graphics File Created: 23-Sep-2012 14:48

OP System Version: 19C0-187

SCMT-CB	SRPC-5214-H2-2012-OP1	RST-C	SRPC-5214-H2-2012-OP1
HBMS-B	SRPC-5214-H2-2012-OP1		

<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number	SCMS-CB 8179
Current Casing Size	4.5000 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)	
Date of Master Calibration	6-MAR-2012		
CBL Correction Factor	0.0704263	CBL Adjustment Factor (CBAF)	1.0
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	40	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	9379	FT

Input DLIS Files

DEFAULT	SCMT_RST_HBMS_031LUP	FN:30	PRODUCER	23-Sep-2012 11:44	9385.5 FT	8.0 FT
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Output DLIS Files

DEFAULT	SCMT_RST_HBMS_034PUP	FN:33	PRODUCER	23-Sep-2012 14:48
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MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: MCU FEE 22-12B (N22W)

Input DLIS Files

DEFAULT	SCMT_RST_HBMS_029LUP	FN:28	PRODUCER	23-Sep-2012 11:15	7290.0 FT	6924.0 FT
DEFAULT	SCMT_RST_HBMS_031LUP	FN:30	PRODUCER	23-Sep-2012 11:44	9385.5 FT	8.0 FT

Output DLIS Files

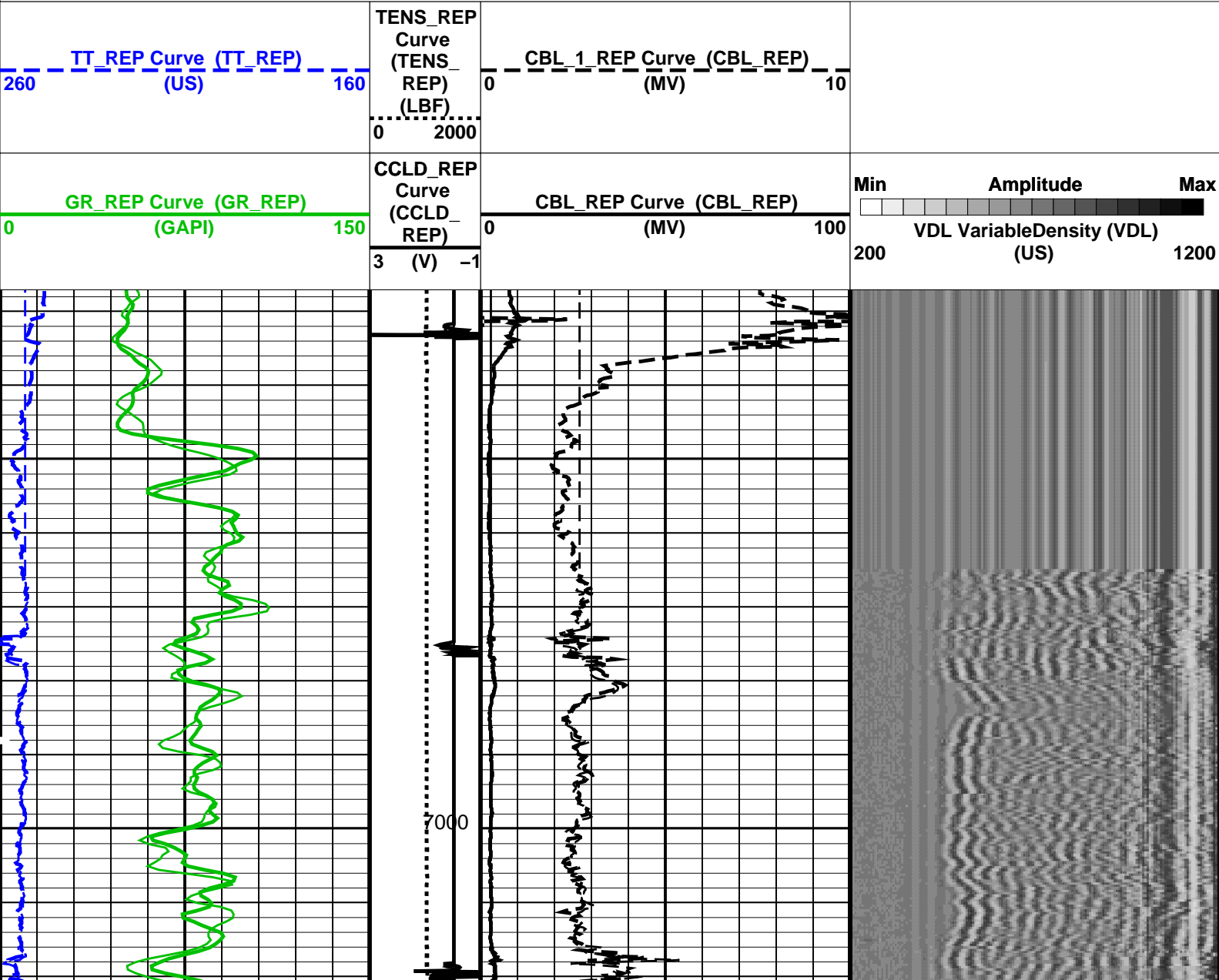
DEFAULT	SCMT_RST_HBMS_039PUP	FN:38	PRODUCER	23-Sep-2012 15:05	7292.5 FT	6926.5 FT
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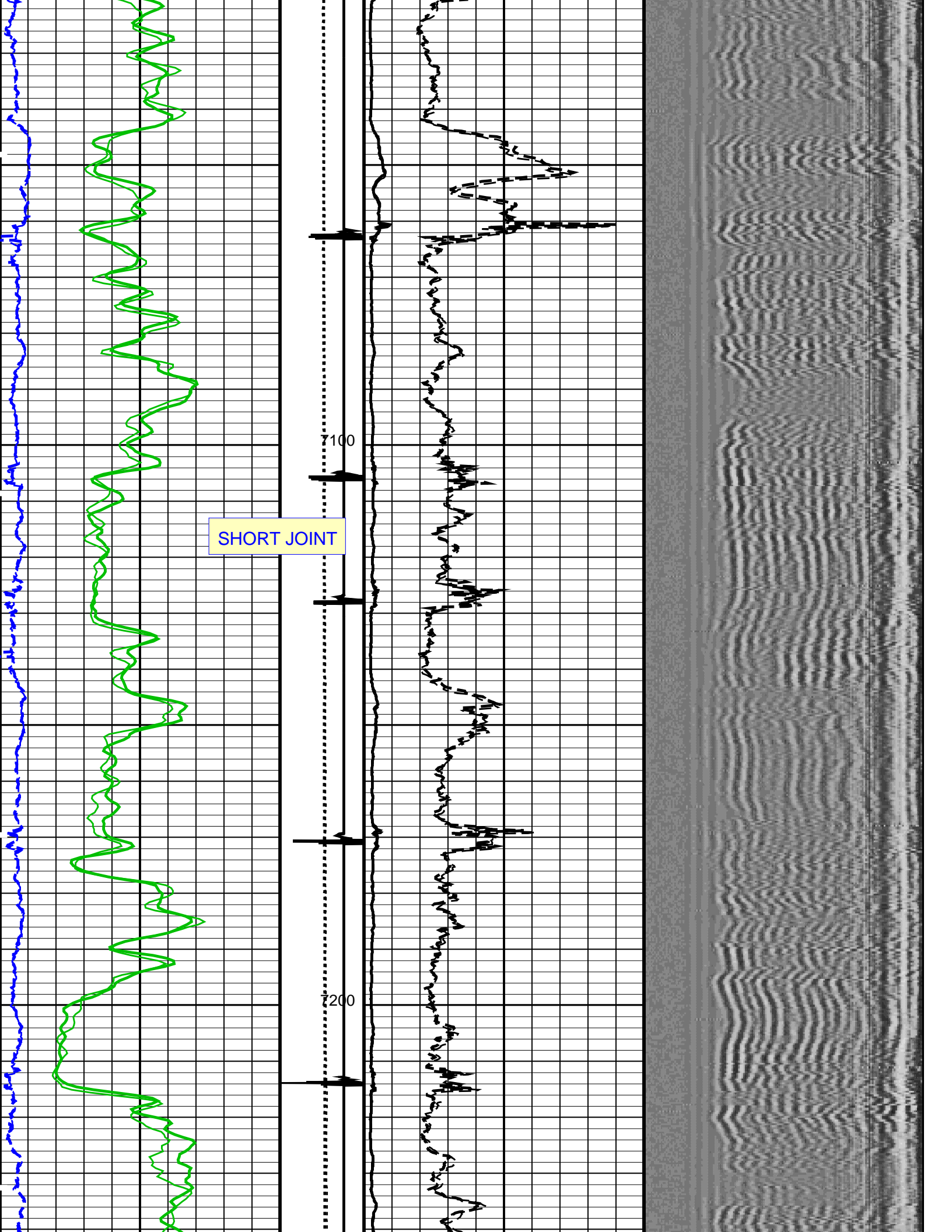
OP System Version: 19C0-187

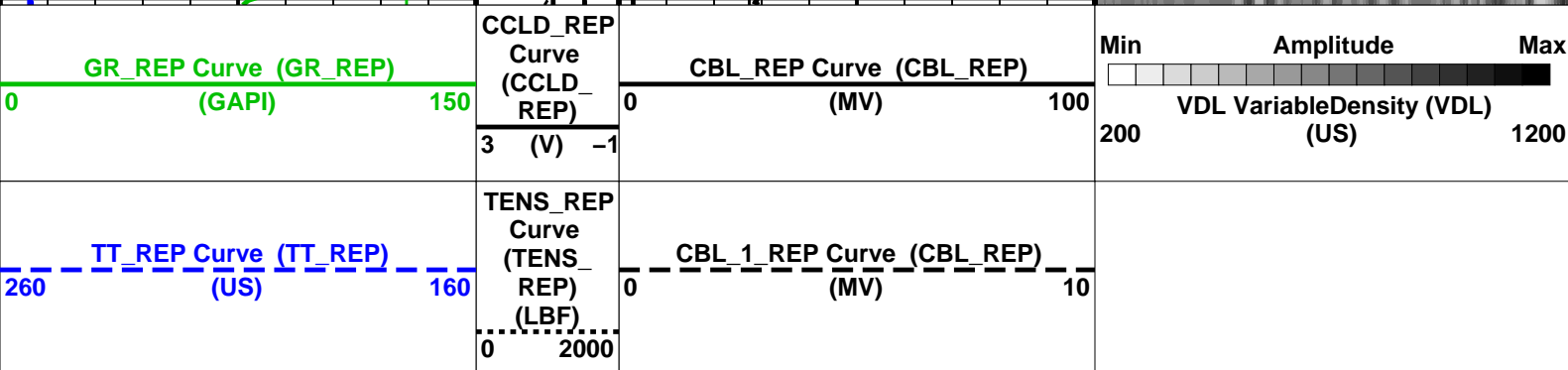
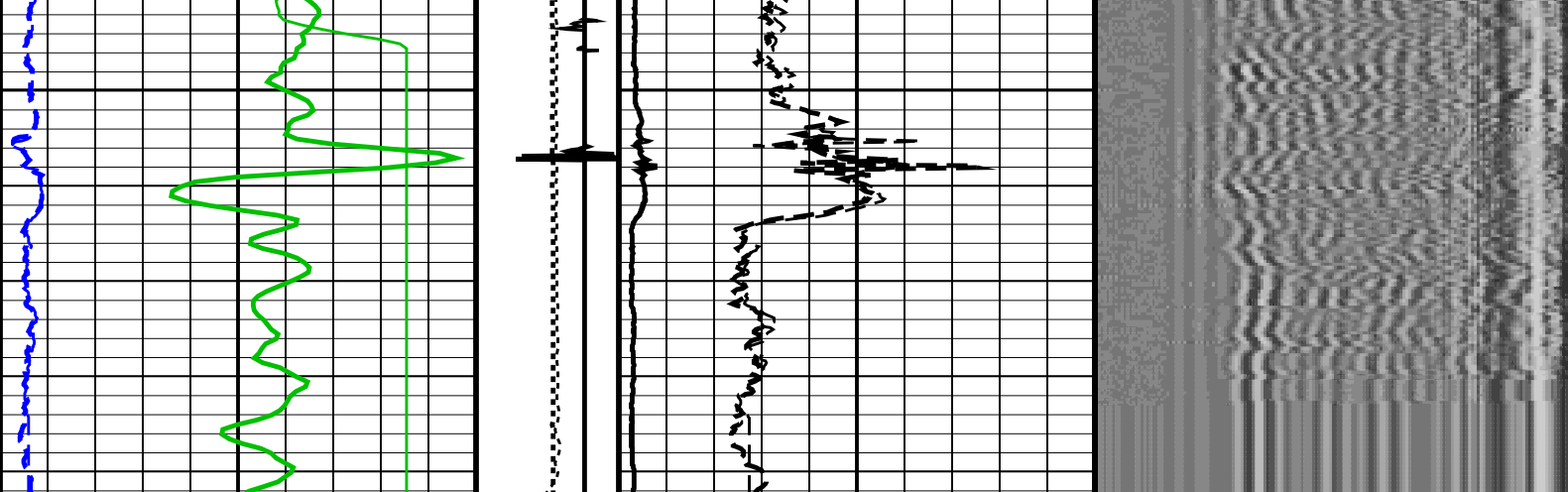
SCMT-CB	SRPC-5214-H2-2012-OP1!	RST-C	SRPC-5214-H2-2012-OP1!
HBMS-B	SRPC-5214-H2-2012-OP1!		

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: 23-Sep-2012 15:05

OP System Version: 19C0-187

SCMT-CB	SRPC-5214-H2-2012-OP1	RST-C	SRPC-5214-H2-2012-OP1
HBMS-B	SRPC-5214-H2-2012-OP1		

<<<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 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	6-MAR-2012		
CBL Correction Factor	0.0704263	CBL Adjustment Factor (CBAF)	1.0
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

PLS Name	Description	Value
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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	40	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
DO	Depth Offset for Playback	2.5	FT
DORL	Depth Offset for Repeat Analysis	3.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	9379	FT

Input DLIS Files

DEFAULT	SCMT_RST_HBMS_029LUP	FN:28	PRODUCER	23-Sep-2012 11:15	7290.0 FT	6924.0 FT
DEFAULT	SCMT_RST_HBMS_031LUP	FN:30	PRODUCER	23-Sep-2012 11:44	9385.5 FT	8.0 FT

Output DLIS Files

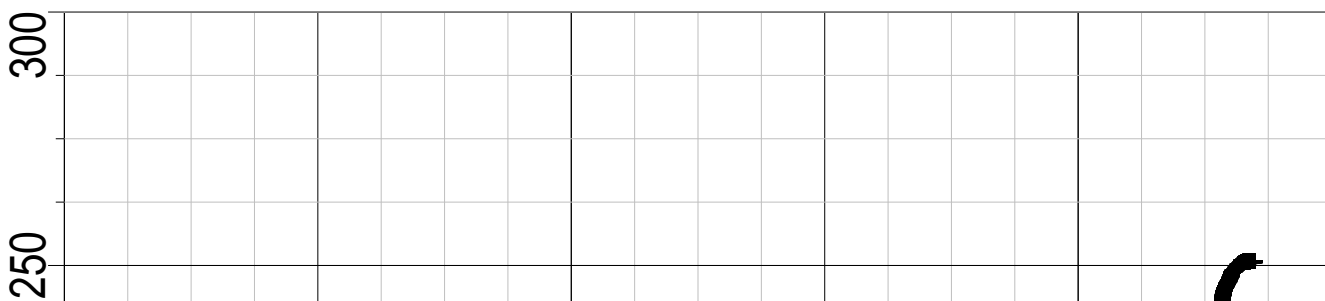
DEFAULT	SCMT_RST_HBMS_039PUP	FN:38	PRODUCER	23-Sep-2012 15:05
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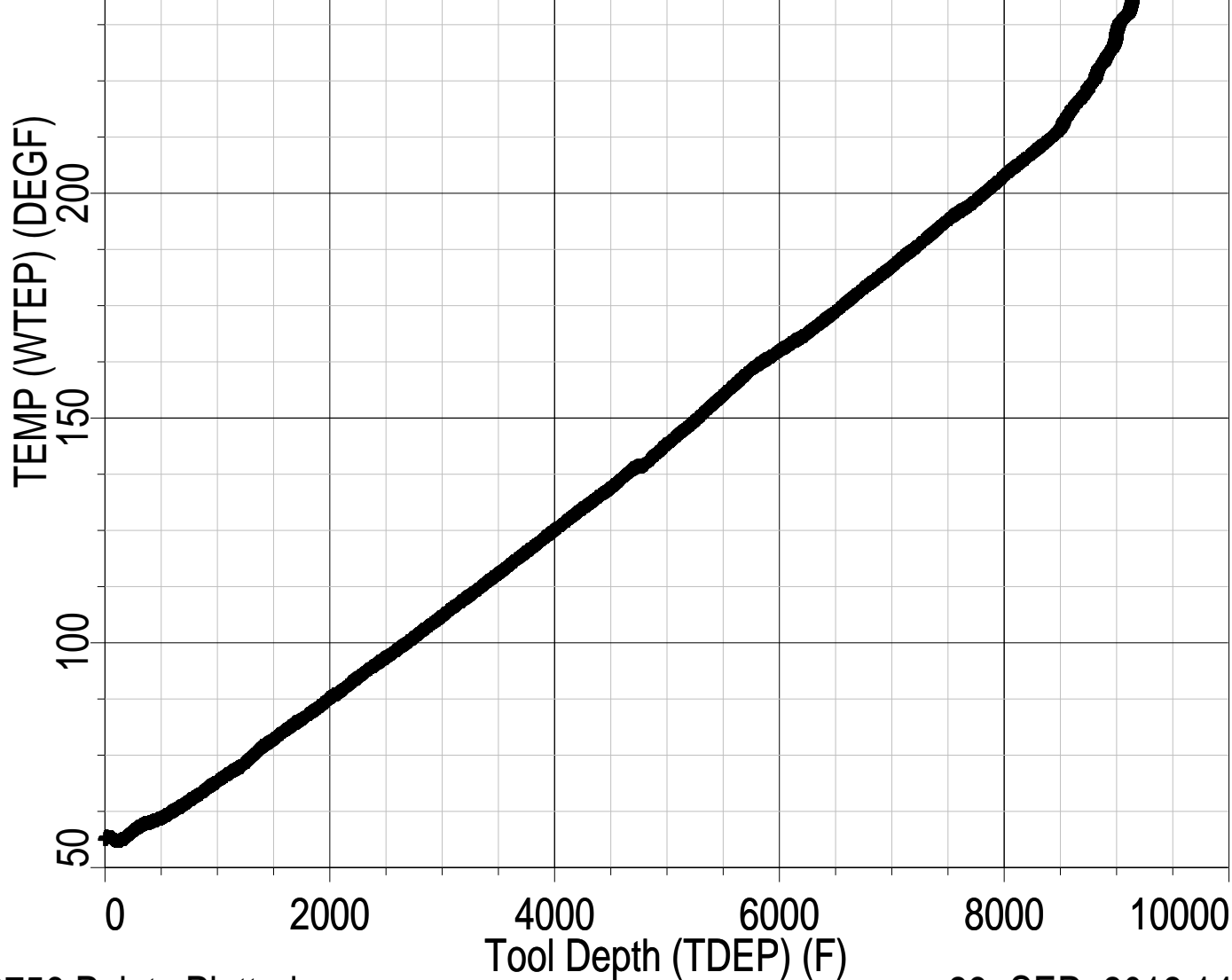
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 9388.5 – 11.0 FT





18756 Points Plotted

23-SEP-2012 14:55

Schlumberger

PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: MCU FEE 22-12B (N22W)
Run date: 23-Sep-2012

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.34473, TOOL HBMS-BA2884. SENSOR S/N:
34473
090506
12
0708

GR HV Rt

Rt**0

Rt**1

Rt**0

+.200000000000e+04

+.190000000000e+04

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: MCU FEE 22-12B (N22W)
Run date: 23-Sep-2012

Tool: PSP
Sub Type: PBMS
Sensor: WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS-B.2884 S/N:

2884

290706

16

B134

WTemp Coeff

Tt**0

Tt**1

Tt**2

Tt**0

-.111322977181E+04

+.870150832462E+03

-.279503665762E+03

Tt**3

Tt**4

Tt**5

Tt**0

+.449965652060E+02

-.264920434334E+01

0.0

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: MCU FEE 22-12B (N22W)

Tool: PSP
Sub Type: PBMS
Sensor: CQG

PBMS Quartz Gauge type F

Sonde Serial NB
Sensor Serial NB
Calib Date ddmmyy
Matrix Size
Coeff CRC

COEFFICIENTS FOR CQG PBMS-B.2884 S/N:
2884
290706
66
CA7A

Pres Coeff

	Fb**0	Fb**1	Fb**2
Fc**0	+.746225778248E+04	+.221418944849E-01	-.210426289152E-06
Fc**1	-.104881478055E+01	-.124860716120E-04	-.949662972749E-10
Fc**2	+.872904863754E-06	+.426833452654E-10	+.759423319181E-15
Fc**3	+.239319347612E-11	+.290279345385E-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	-.812091932516E-10	-.147717591127E-14	-.150620854654E-19
Fc**1	+.145644303959E-15	+.160803895109E-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

:
2884
290706
66
F21E

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+.113897507996E+03	-.324965333678E-03	+.697134219555E-08
Fb**1	-.601014483015E-02	+.175847256148E-07	+.180458009797E-12
Fb**2	-.317240807344E-07	+.374112953741E-12	+.133653042149E-17
Fb**3	-.236568542854E-12	+.787205826536E-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	+881675188724E-13	-.146952444192E-16	-.415359060767E-21
Fb**1	-.553774805449E-18	-.739378844697E-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 2884
 Calib Date ddmmyy 290706
 Matrix Size 16
 Coeff CRC 72C9

Clock Freq Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+310161623072E+05	+363878692519E-02	+311171630292E-06
	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	-.277965051815E-10	-.181738305366E-14	-.633170122188E-20

PBMS Quartz Gauge type F

Sonde Serial NB :
 Sensor Serial NB 2884
 Calib Date ddmmyy 290706
 Matrix Size 16
 Coeff CRC 3E80

Clock Temp Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+111177101155E+03	-.545261137223E-02	-.112186276799E-06
	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	+756690675632E-11	-.207457772298E-16	-.121623071907E-19










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	8120

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 (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			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: **MCU FEE 22–12B (N22W)**Field: **MAMM CREEK**County: **GARFIELD**State: **COLORADO**

SLIM CEMENT MAPPING LOG

CBL – VDL

GAMMA RAY – CCL