

Company: ENCANA OIL & GAS (USA) INC

Well: MCU FEE 22-12C (N22W)

Field: MAMM CREEK

County: GARFIELD State: COLORADO

SLIM CEMENT MAPPING LOG
CBL – VDL
GAMMA RAY – CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 645 FSL 2088 FWL

Well: MCU FEE 22-12C (N22W)

Company: ENCANA OIL & GAS (USA) INC

LOCATION			
SHL: 645 FSL 2088 FWL	Elev.: K.B.	7048.00 ft	
BHL: 1625 FSL 702 FWL	G.L.	7026.00 ft	
	D.F.	7047.00 ft	
Permanent Datum:	GROUND LEVEL	Elev.: 7026.00 ft	
Log Measured From:	KELLY BUSHING	22.00 ft above Perm. Datum	
Drilling Measured From:	KELLY BUSHING		
API Serial No.		Section	Township
05 045 21453 00		22	7S
			Range
			93W

	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	18.7 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	9407 ft		
Schlumberger Depth	9332 ft		
Bottom Log Interval	9323 ft		
Top Log Interval	180 ft		
Casing Fluid Type	Fresh Water		
Salinity			
Density	8.4 lbm/gal		
Fluid Level			
BIT/CASING/TUBING STRING			
Bit Size	8.750 in		
From	22 ft		
To	9407 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	S-80		
From	22 ft		
To	9388 ft		
Maximum Recorded Temperatures	250 degF		
Logger On Bottom	23-Sep-2012	21:30	
Unit Number	391	Grand Junction	
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			
Unit Number			
Recorded By			
Witnessed By			

DEPTH SUMMARY LISTING

Date Created: 23-SEP-2012 23:13:57

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:	4.00 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: 20:15	
TIME LOGGER AT BLI: 21:30	
EXIT TIME: 01:00	
TOOL RUN WITH PCE FOR POTENTIAL PRESSURE	

MAXIMUM RECORDED TEMPERATURE: 250 DEGF	
MAXIMUM RECORDED PRESSURE: 3862 PSI	
EXPECTED CBL AMP IN FREE PIPE 80 MV	
CYCLE SKIPPING DUE TO GOOD BOND	
MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE	
CREW: KBUNTING; ATERHUNE; JBARRY; WAZIZ; CARNOLD; KJOHNS	
THANK YOU FOR CHOOSING E&P WIRELINE – A SCHLUMBERGER COMPANY	

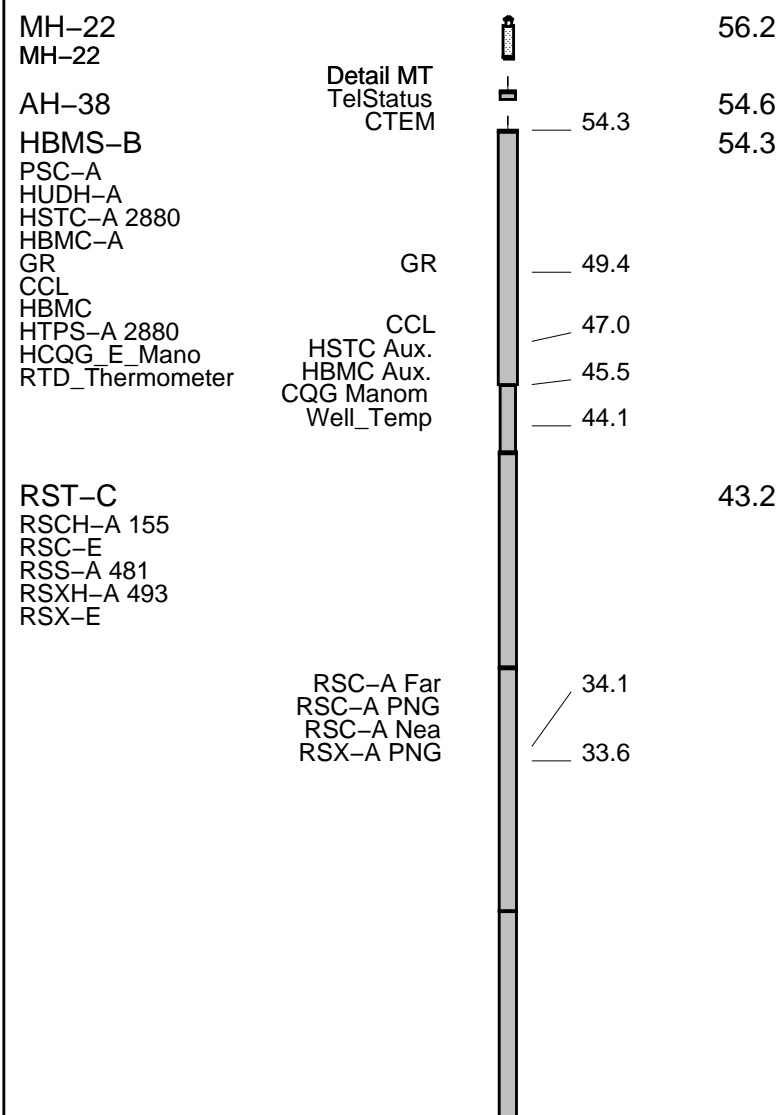
RUN 1 SERVICE ORDER #: C49N-00020 PROGRAM VERSION: 19C0-187 FLUID LEVEL:			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

[illegible]

	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
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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



MAIN PASS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC Well: MCU FEE 22-12C (N22W)

Input DLIS Files

DEFAULT Splice_SCMT_RST_047CUP FN:1 PRODUCER 24-Sep-2012 01:22 9338.5 FT 150.1 FT

Output DLIS Files

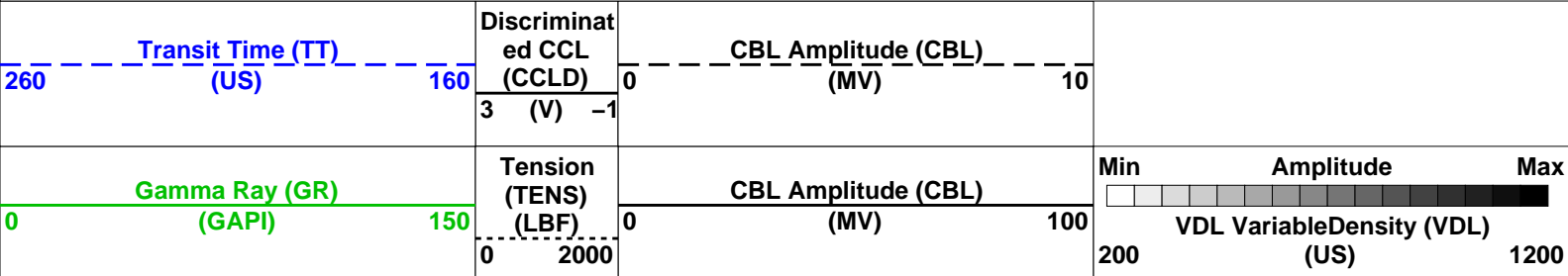
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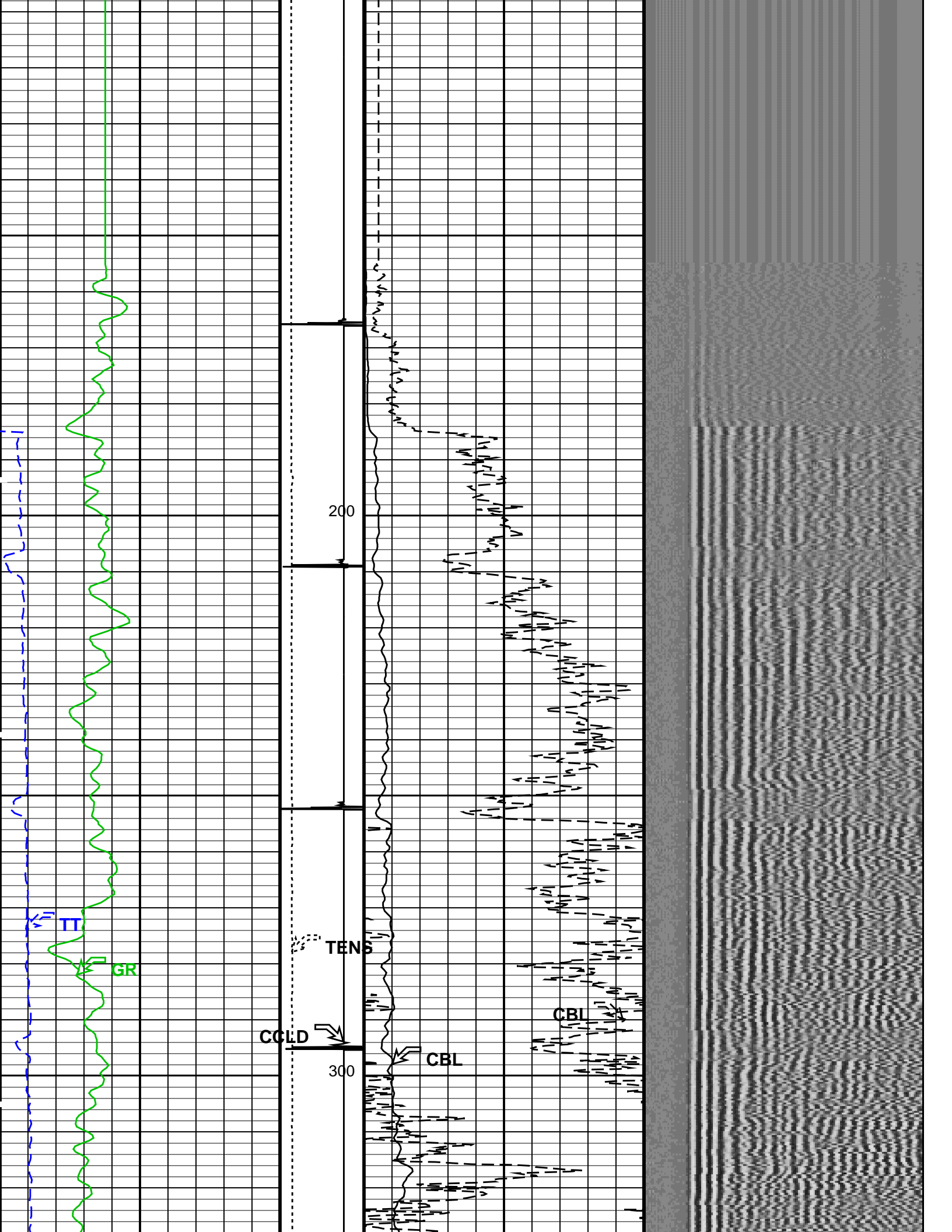
OP System Version: 19C0-187

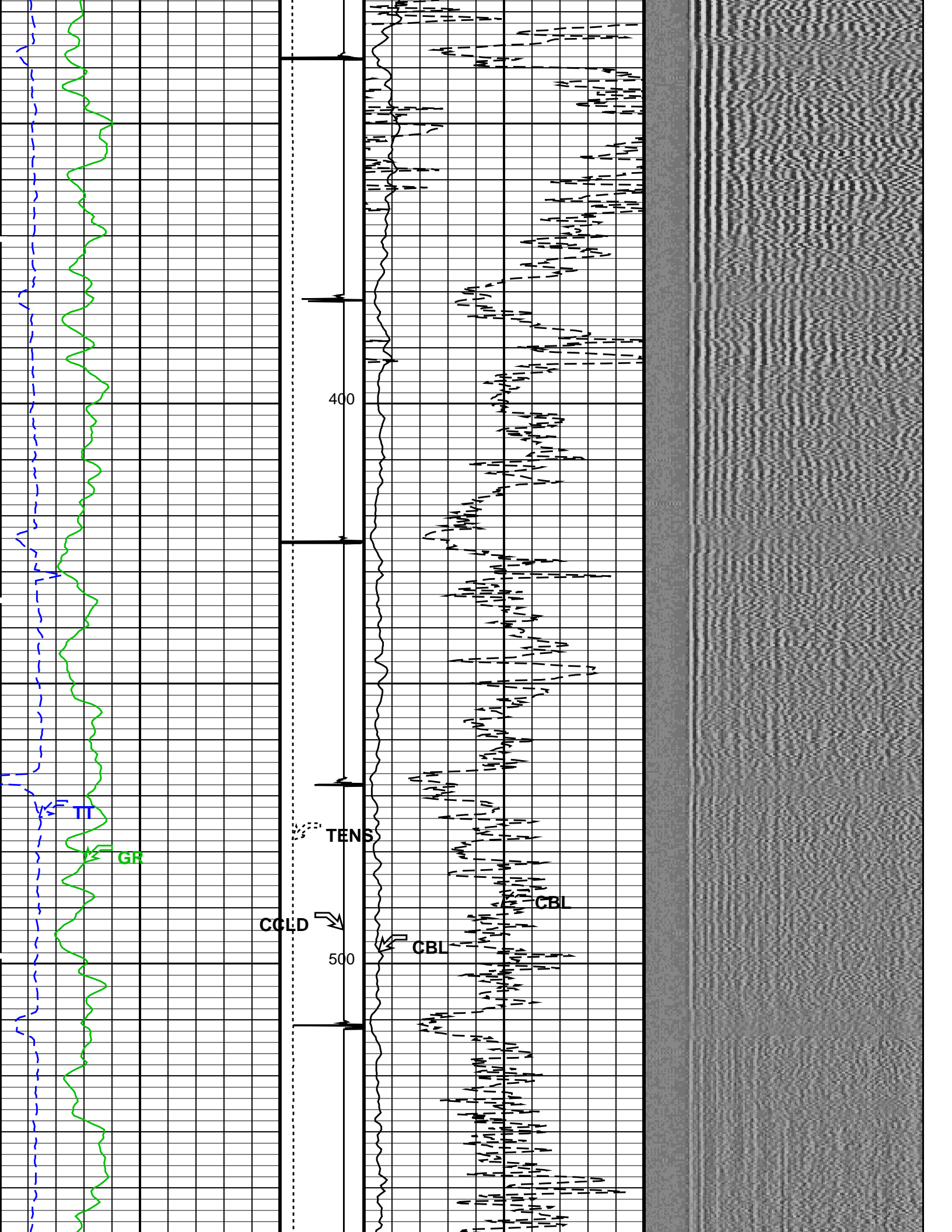
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HBMS-B SRPC-5214-H2-2012-OP1

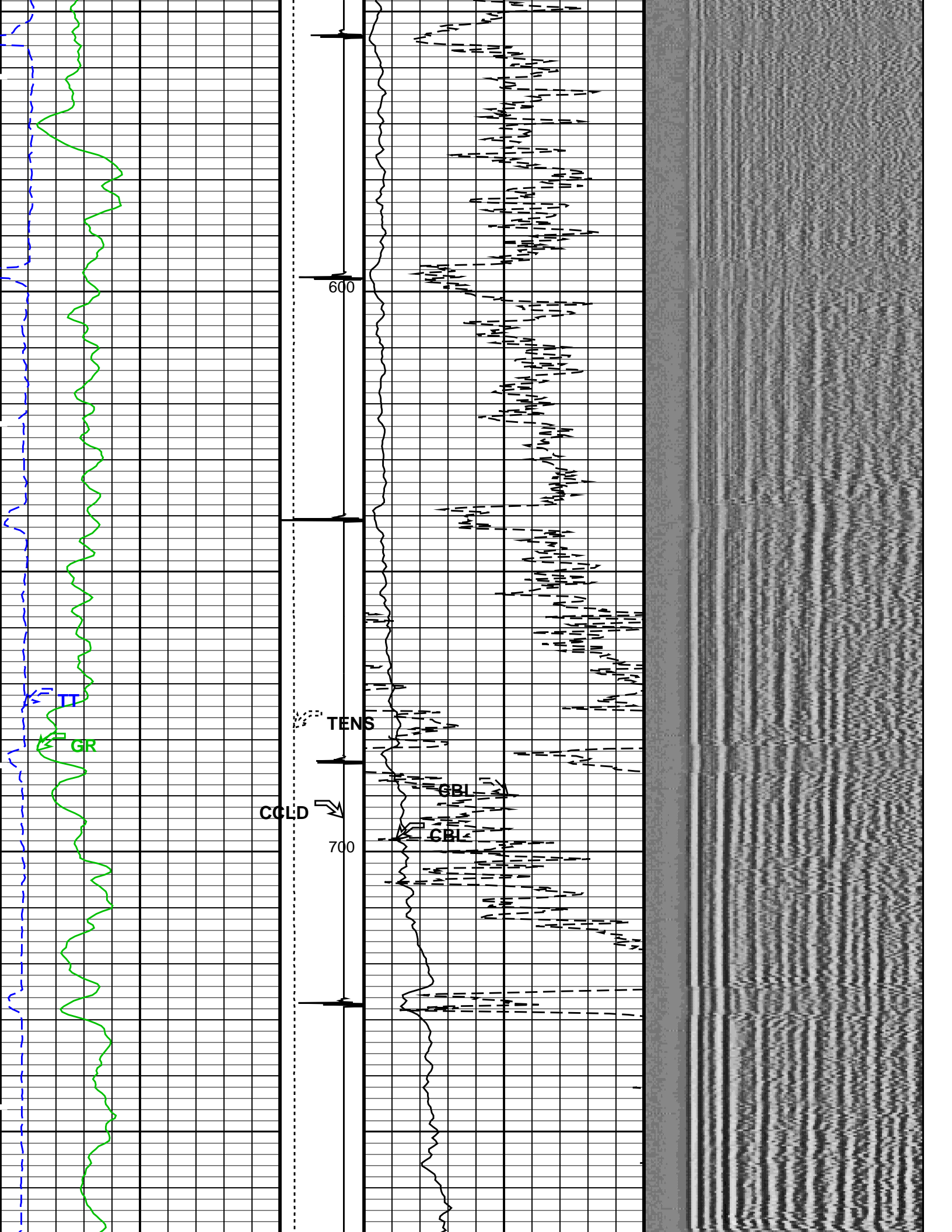
PIP SUMMARY

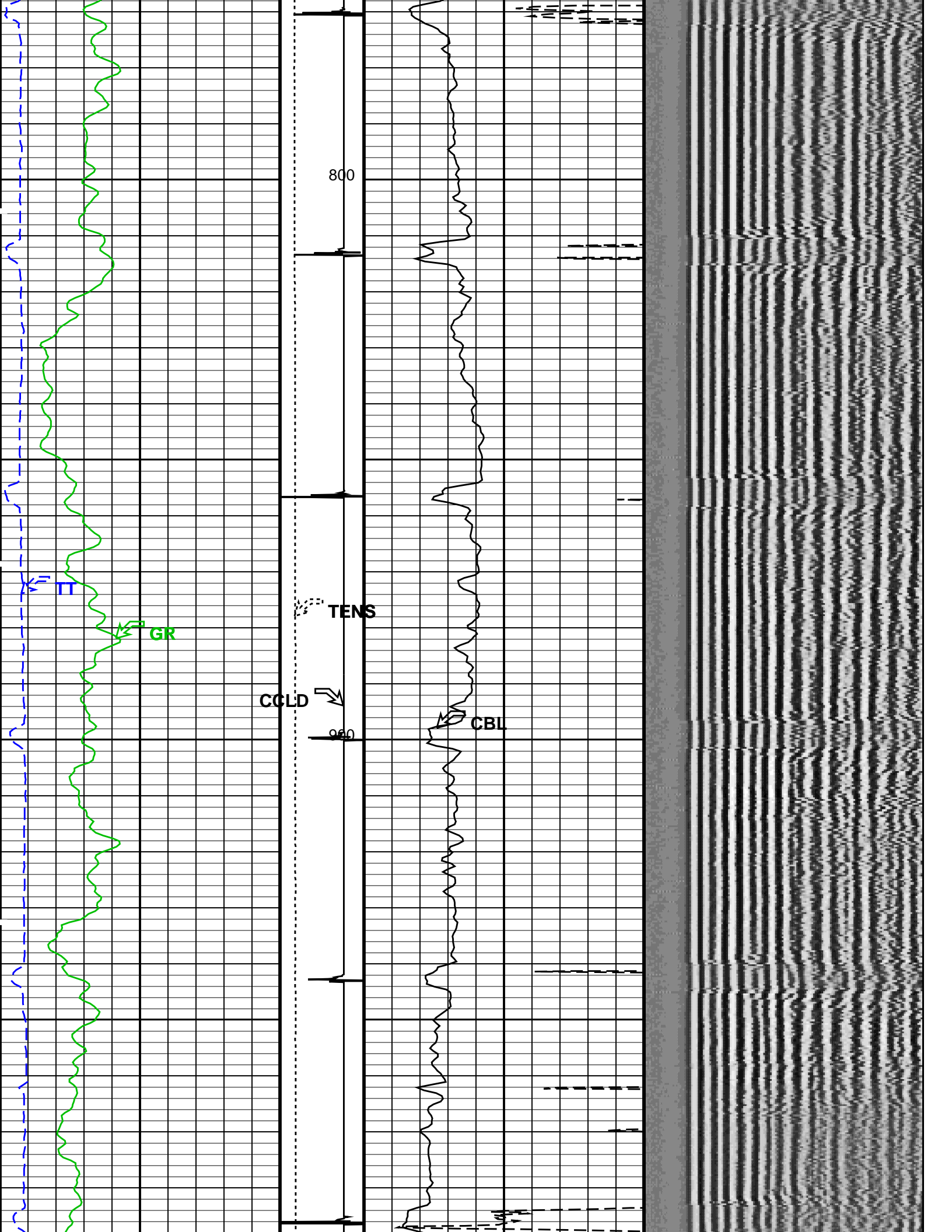
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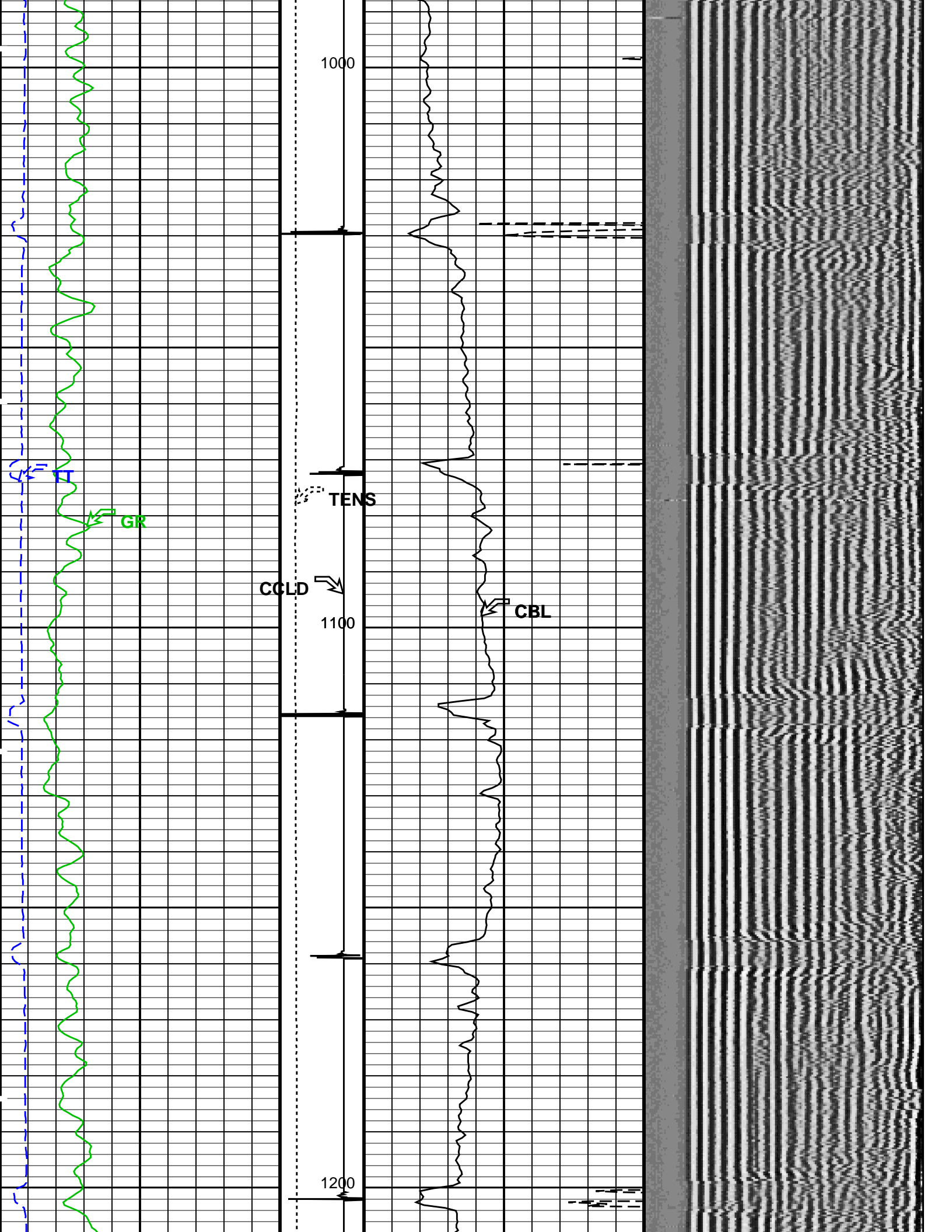


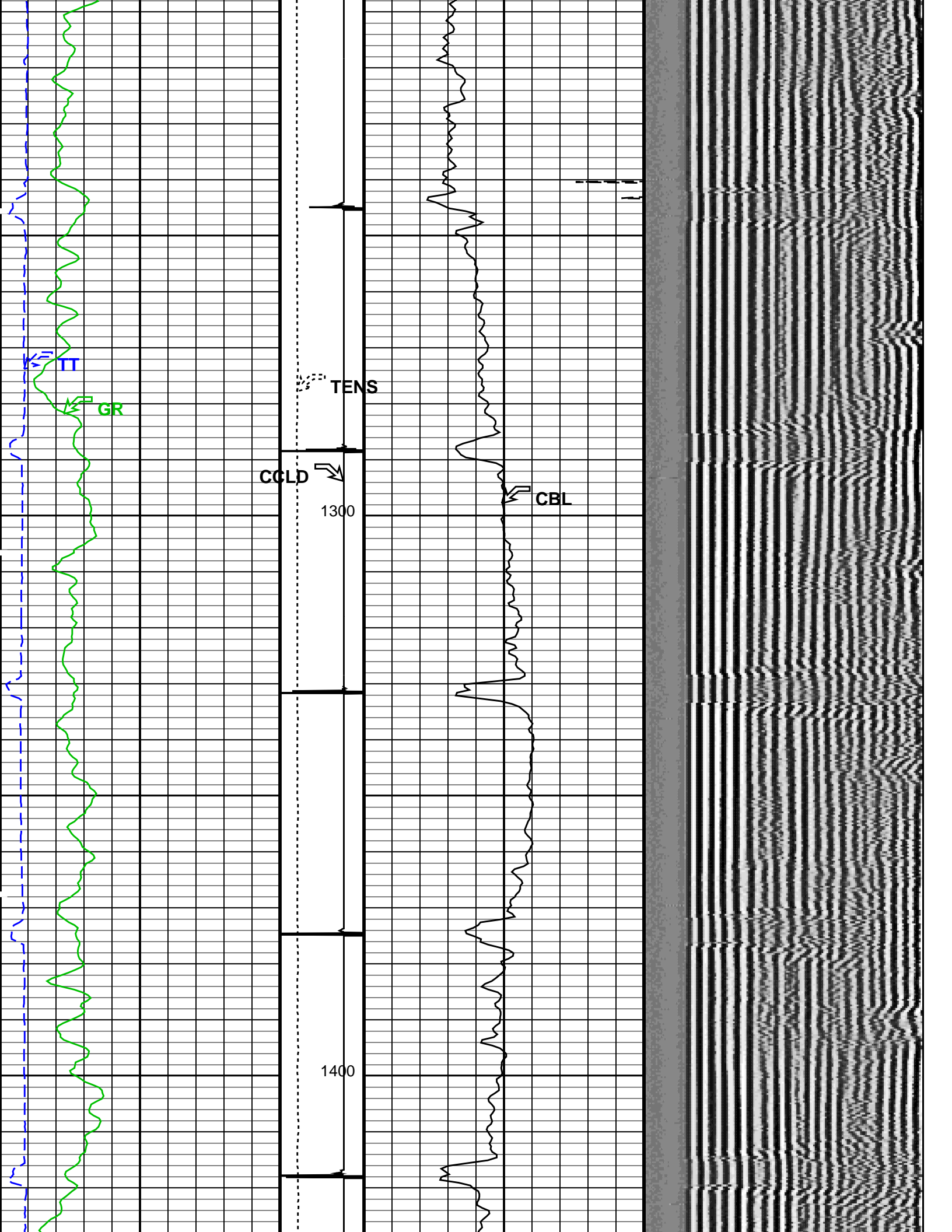


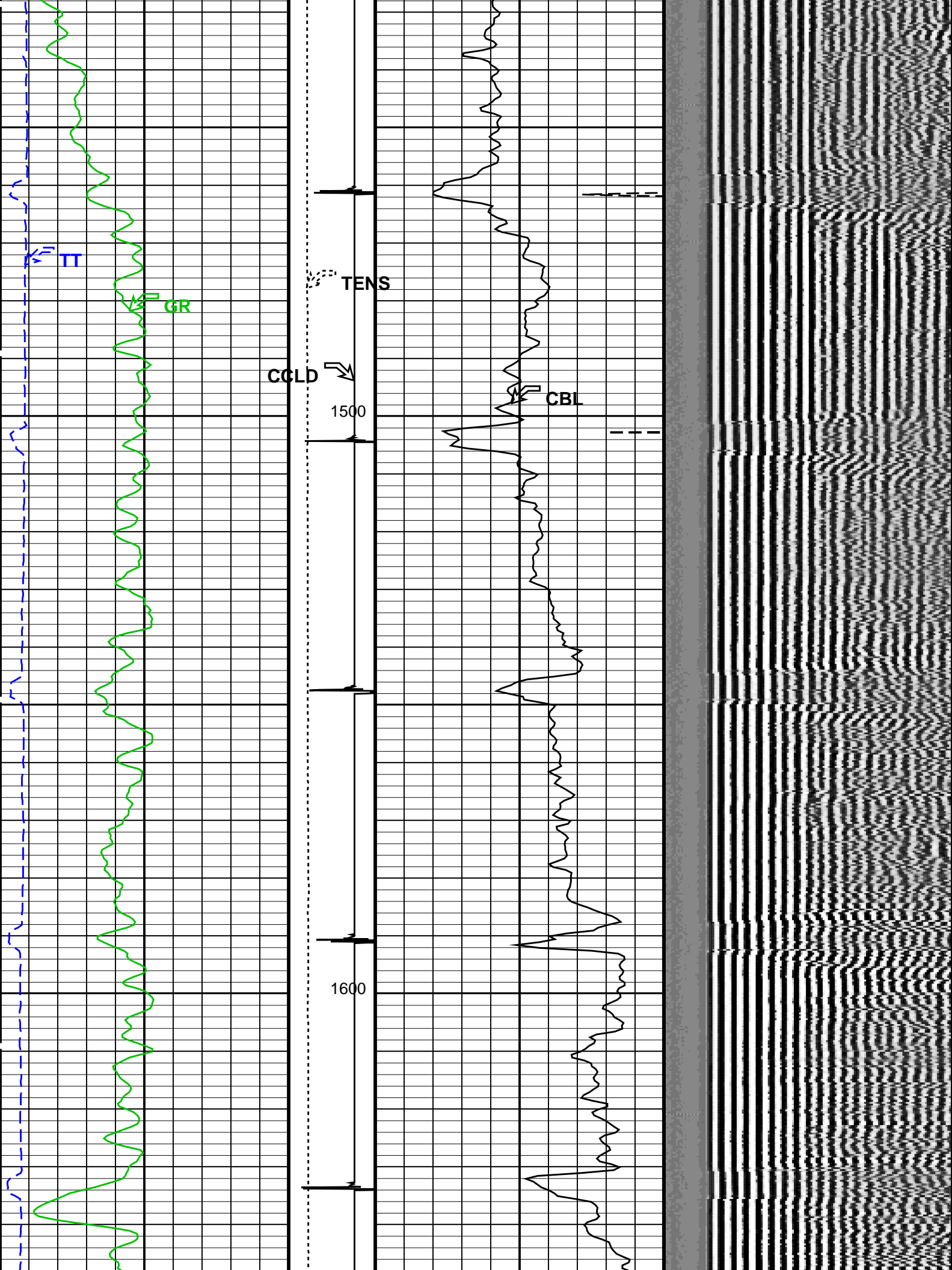


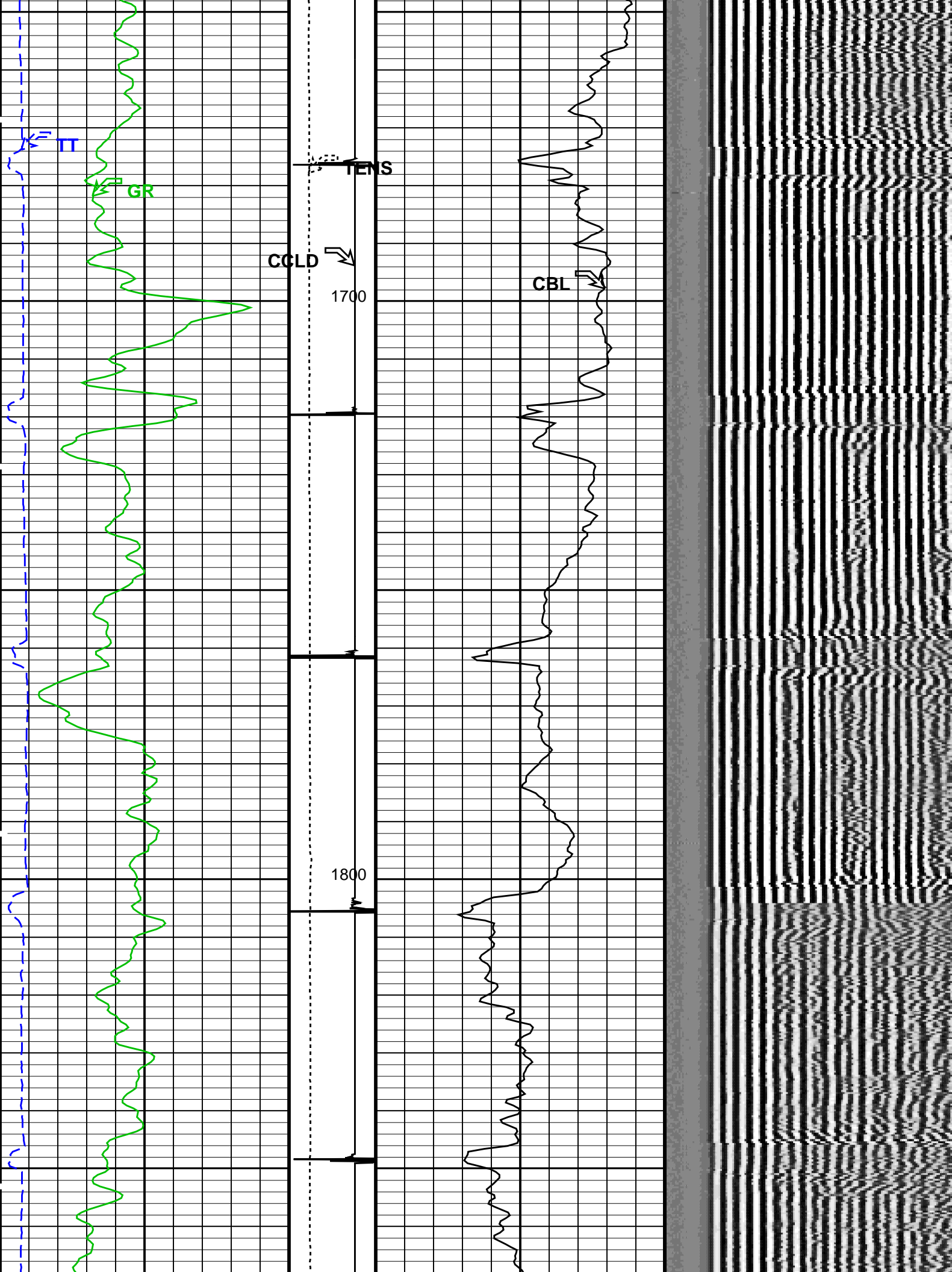


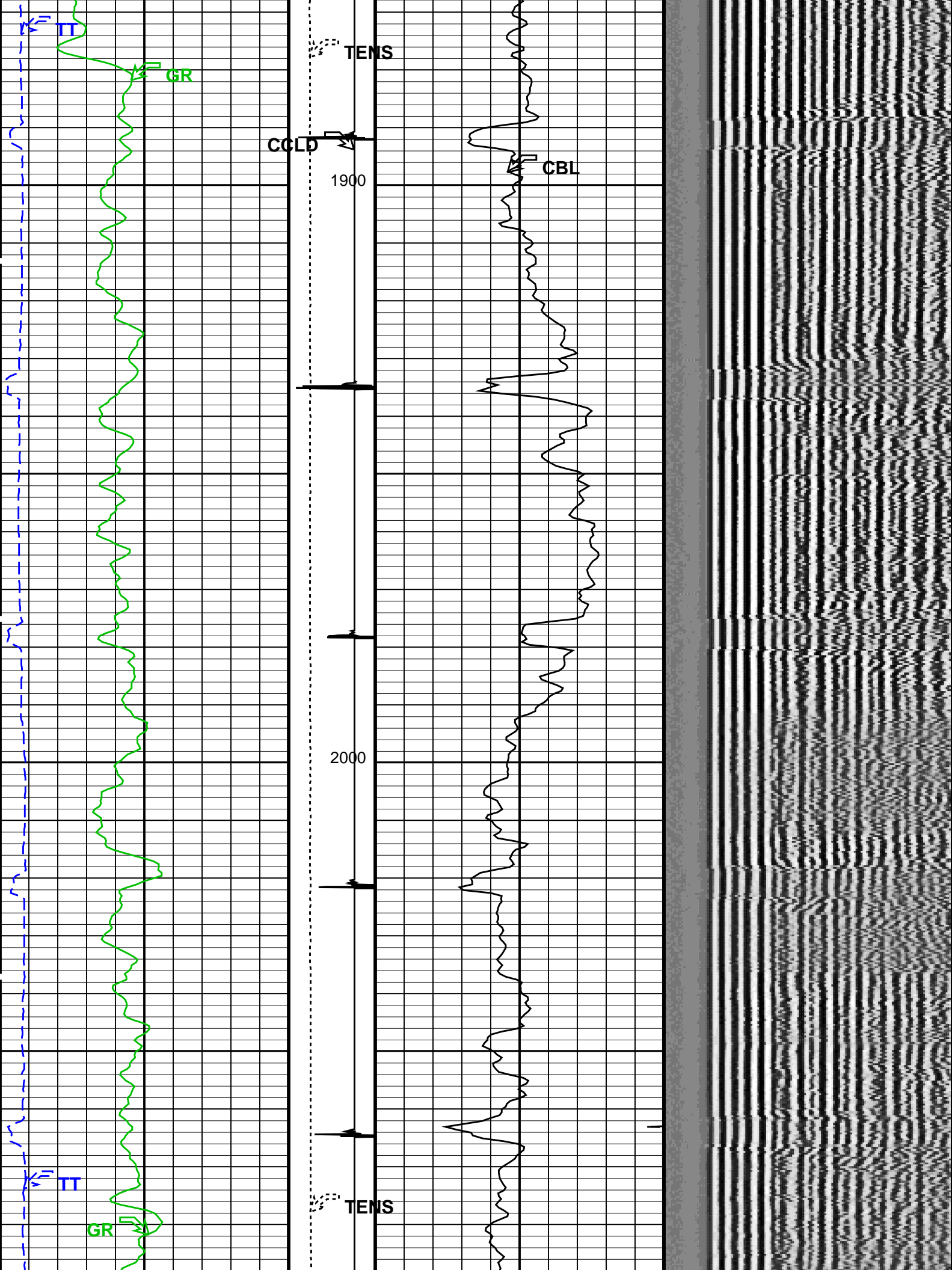


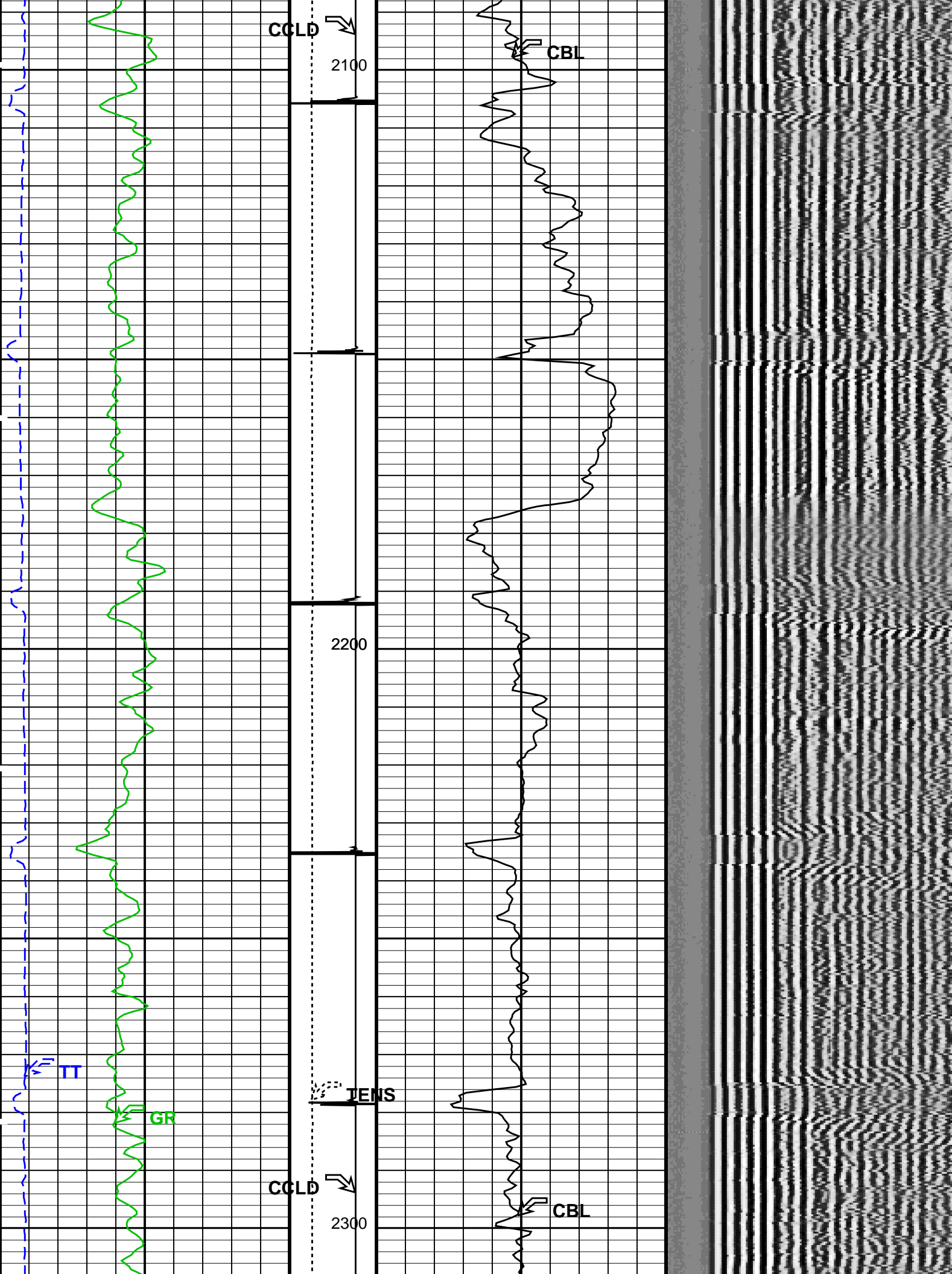


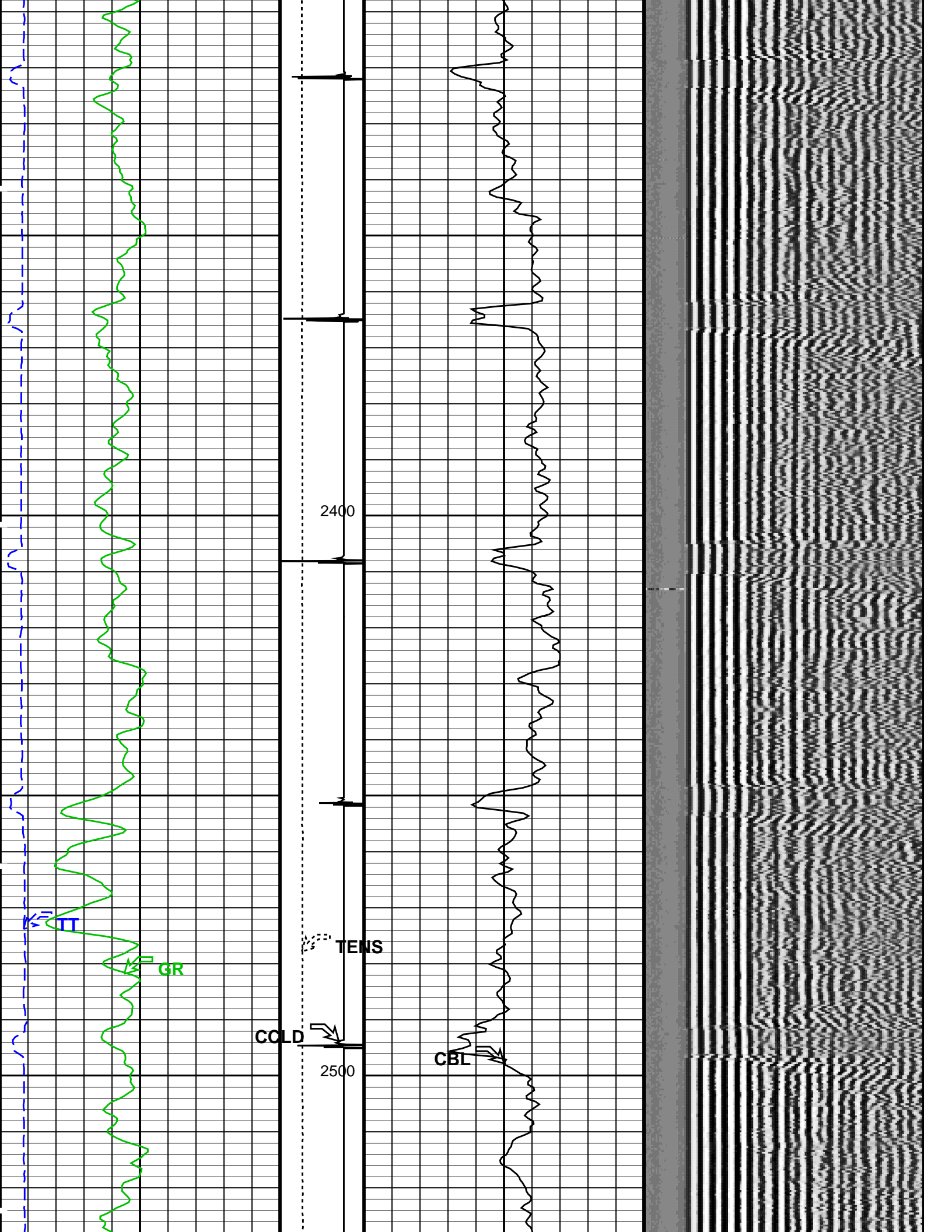


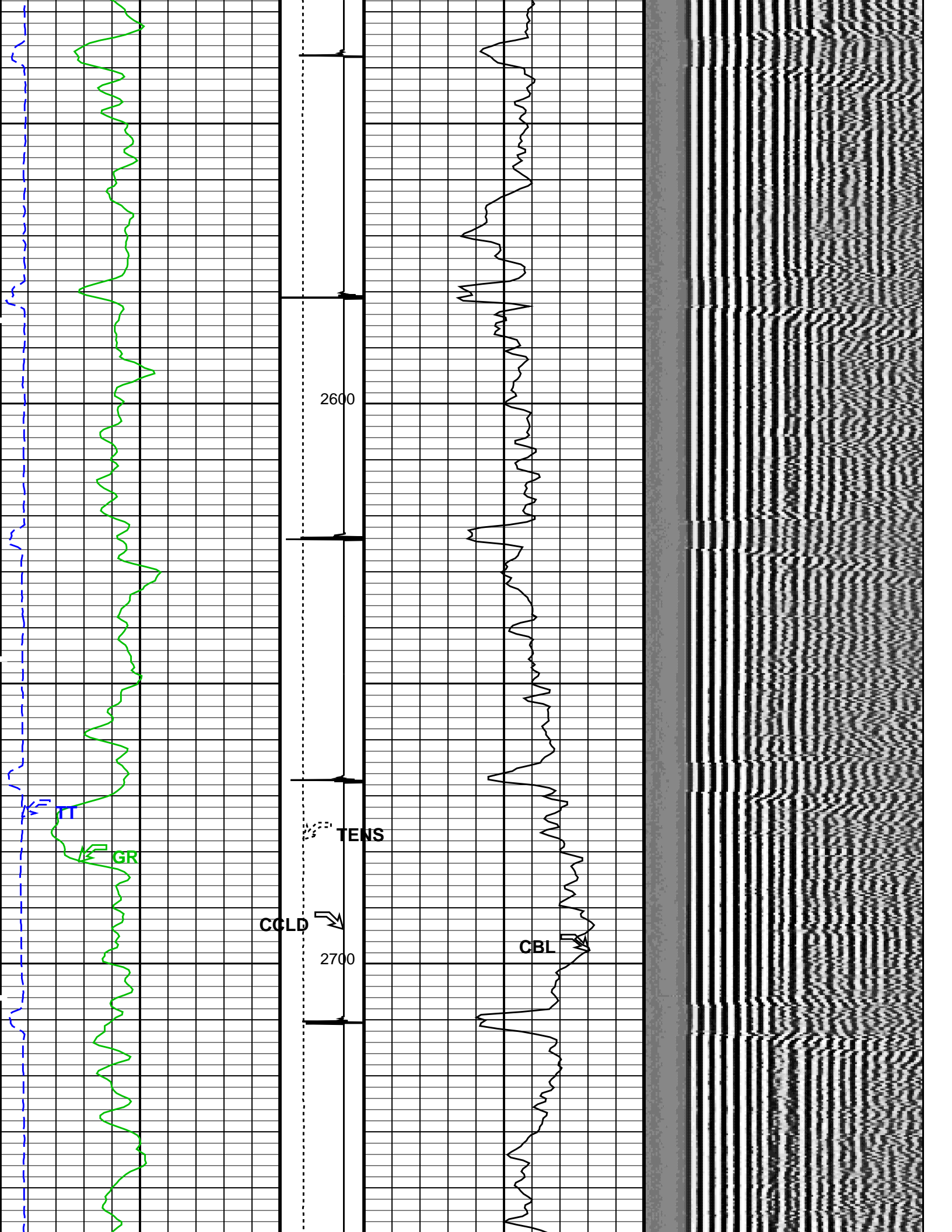


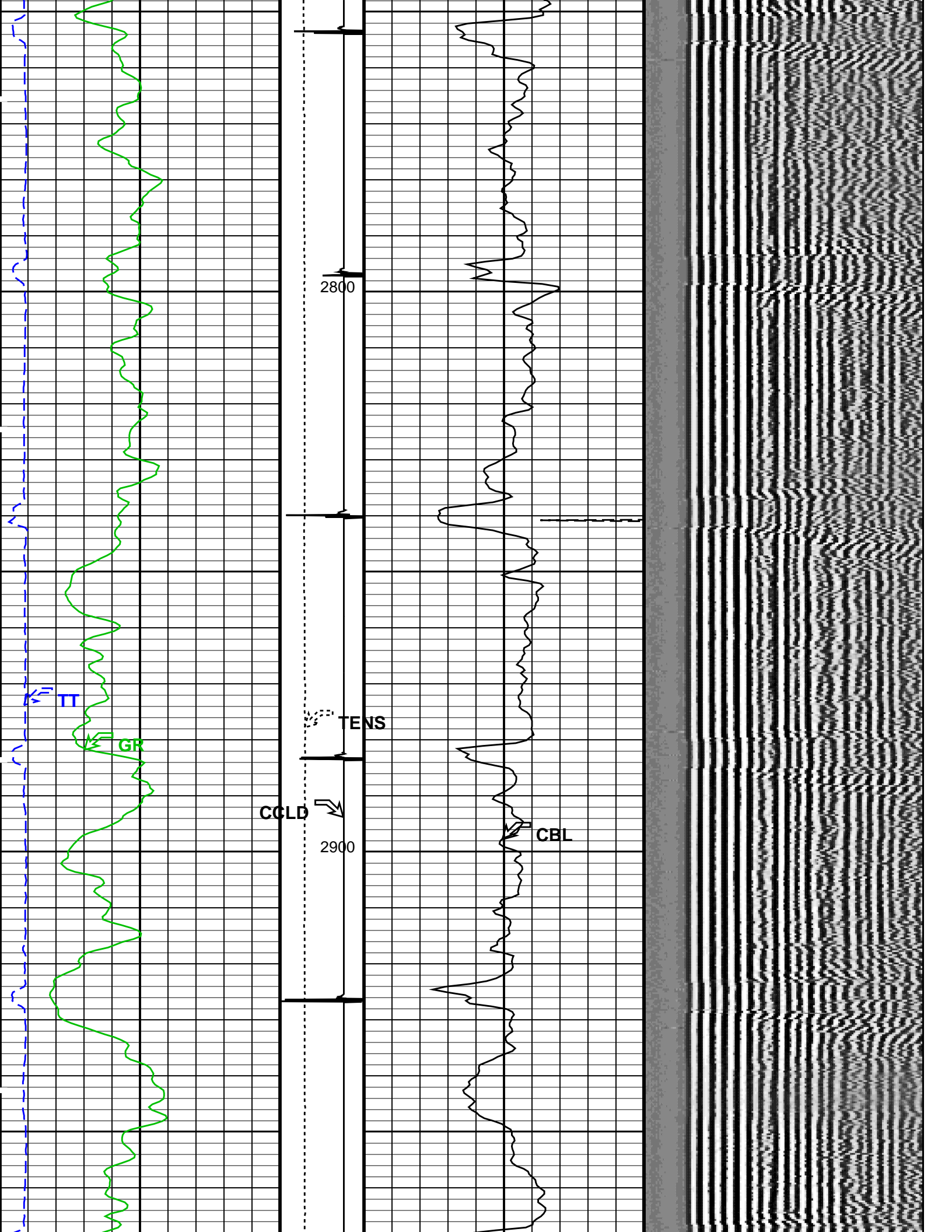


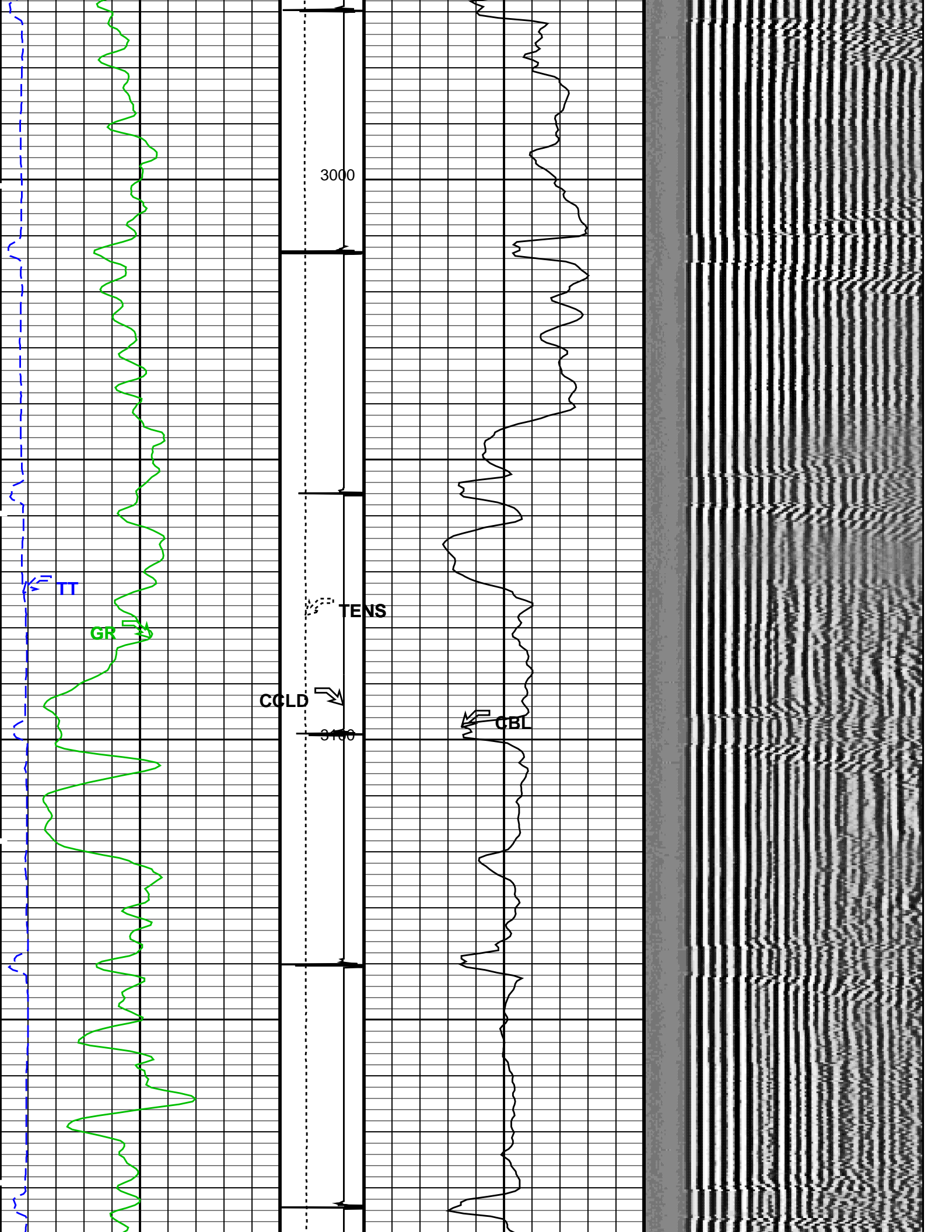


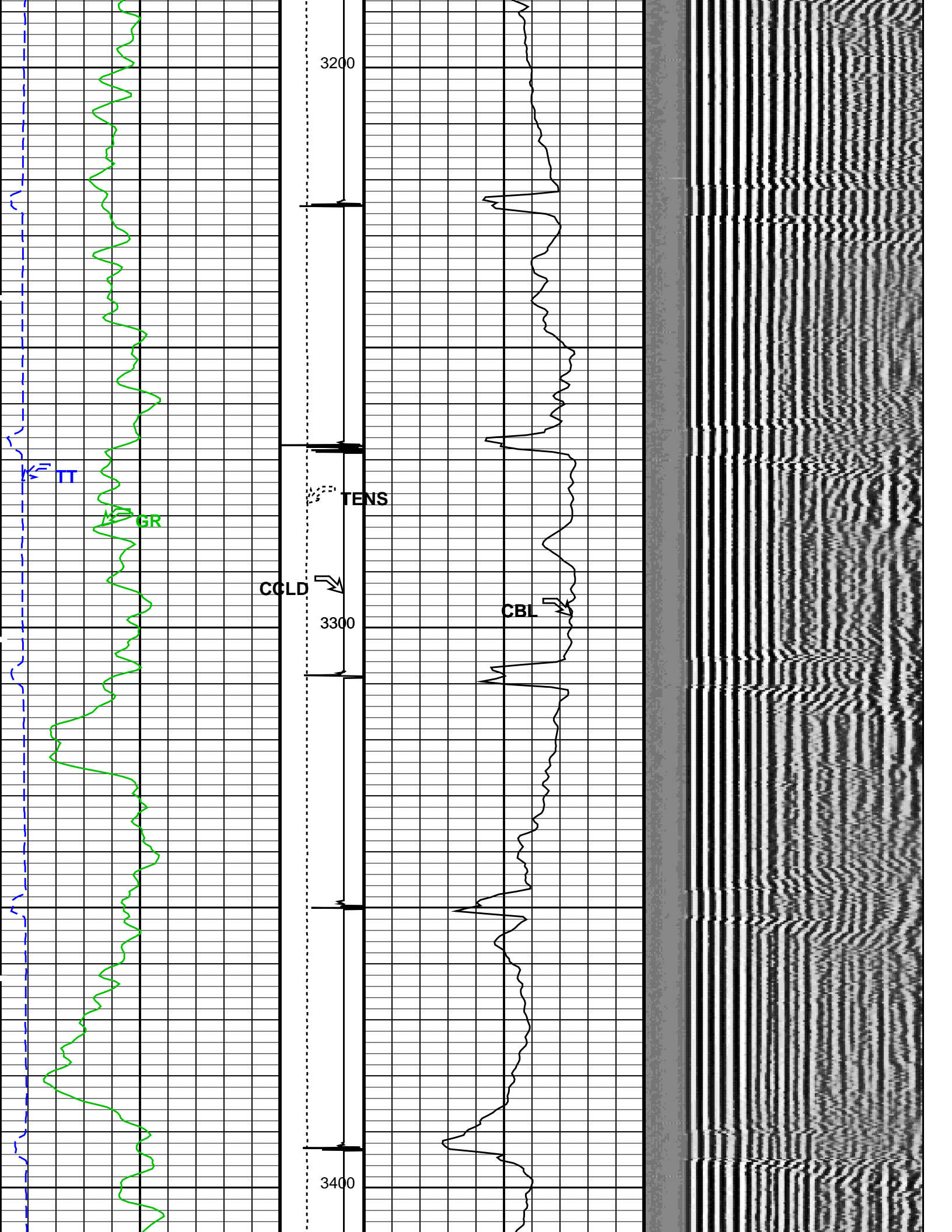


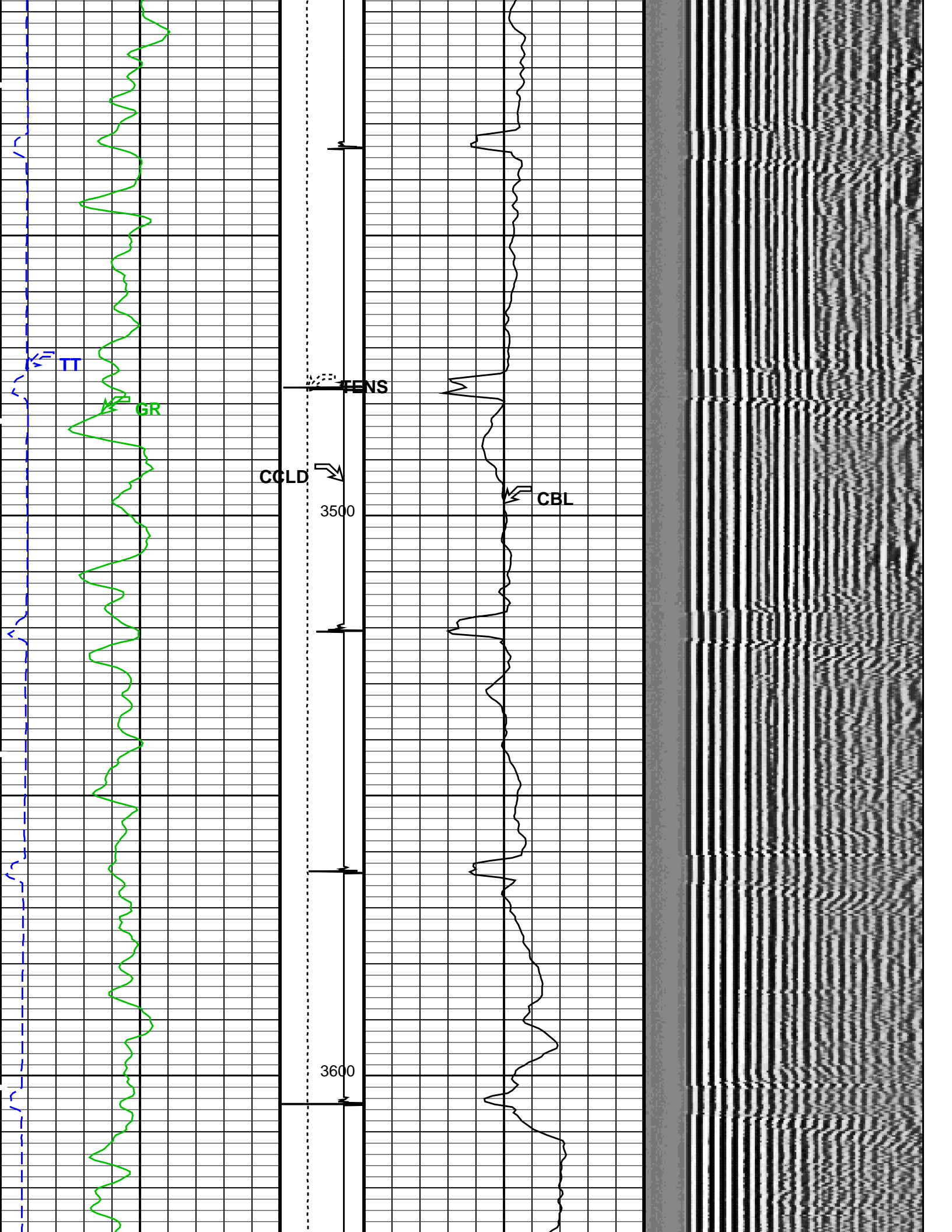


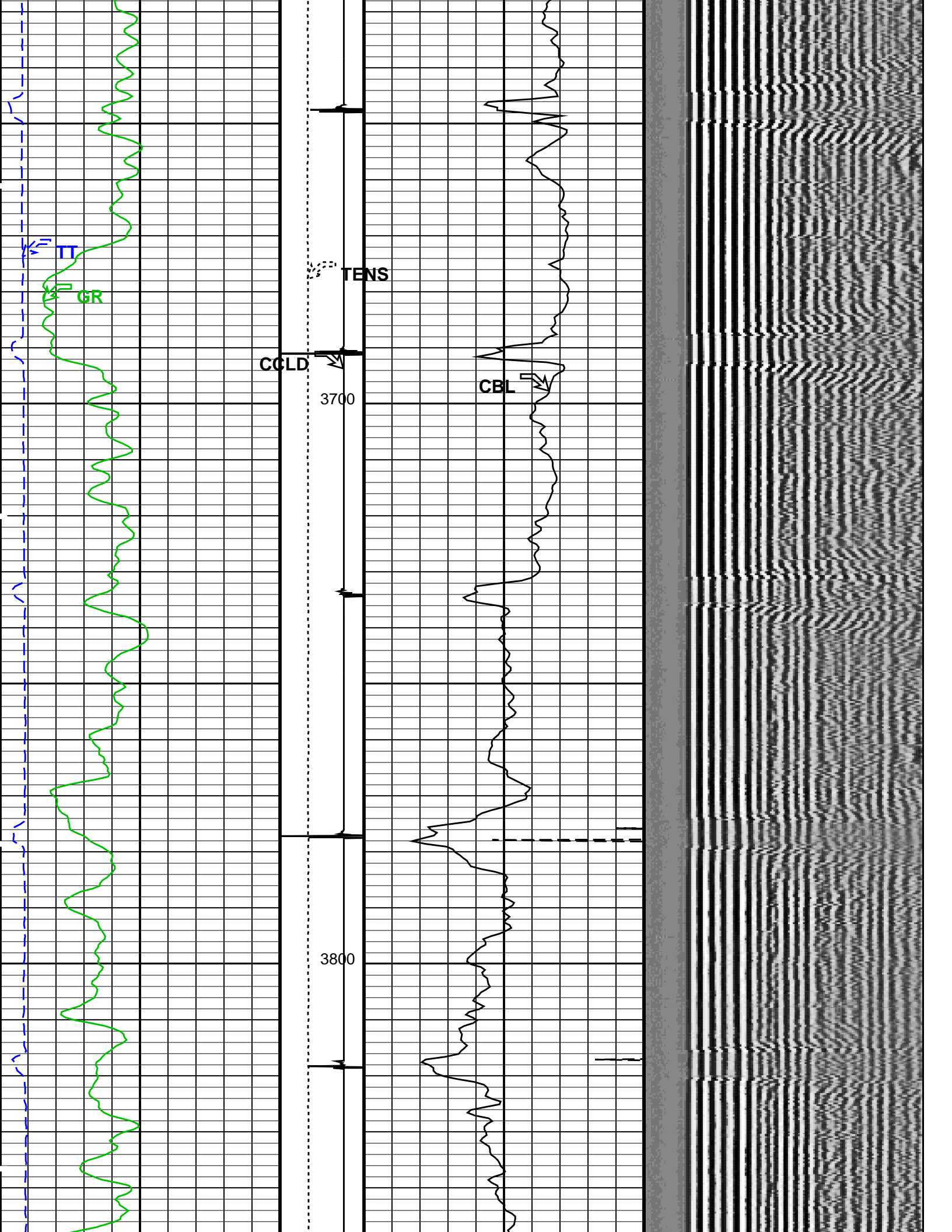


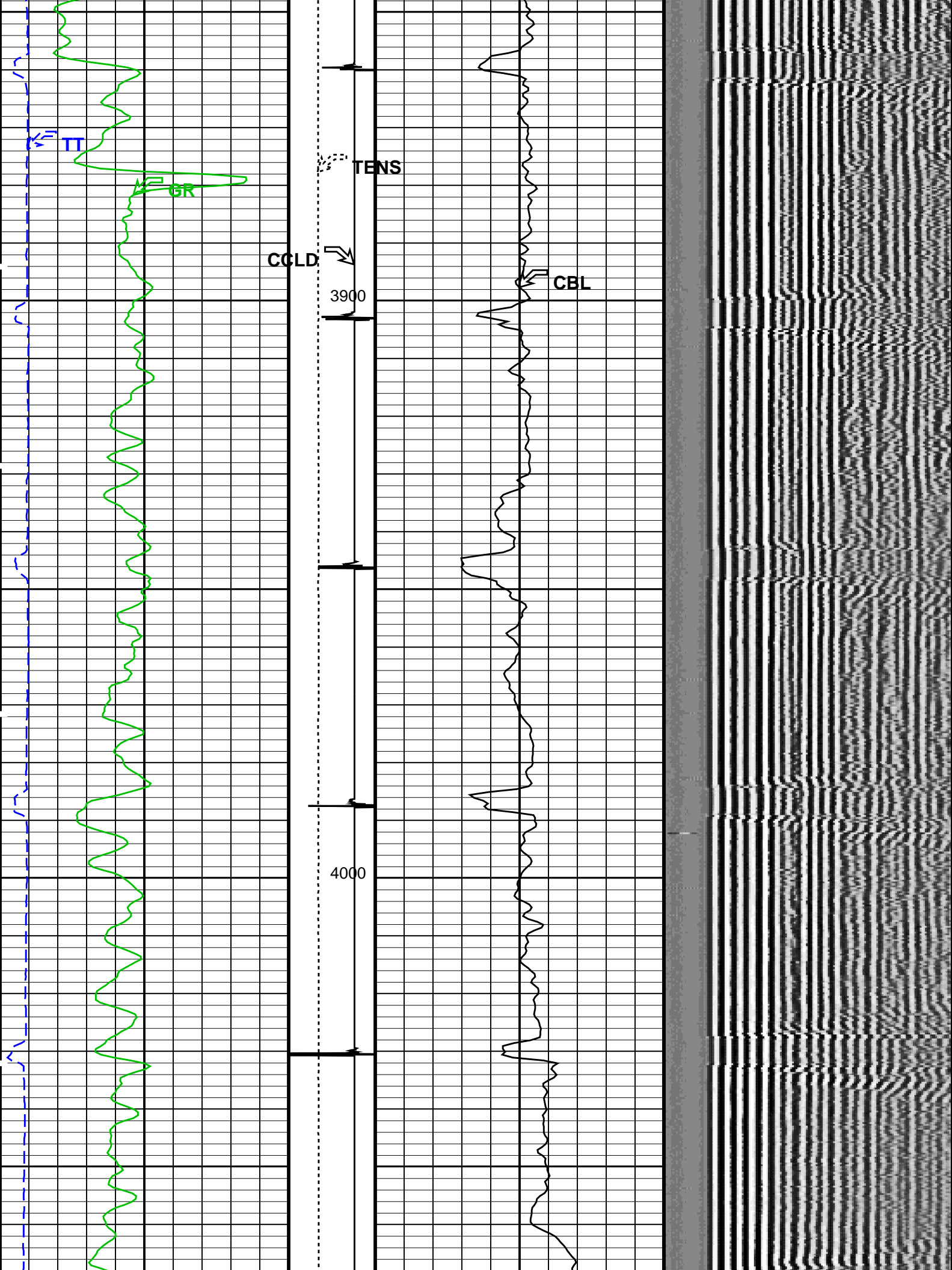


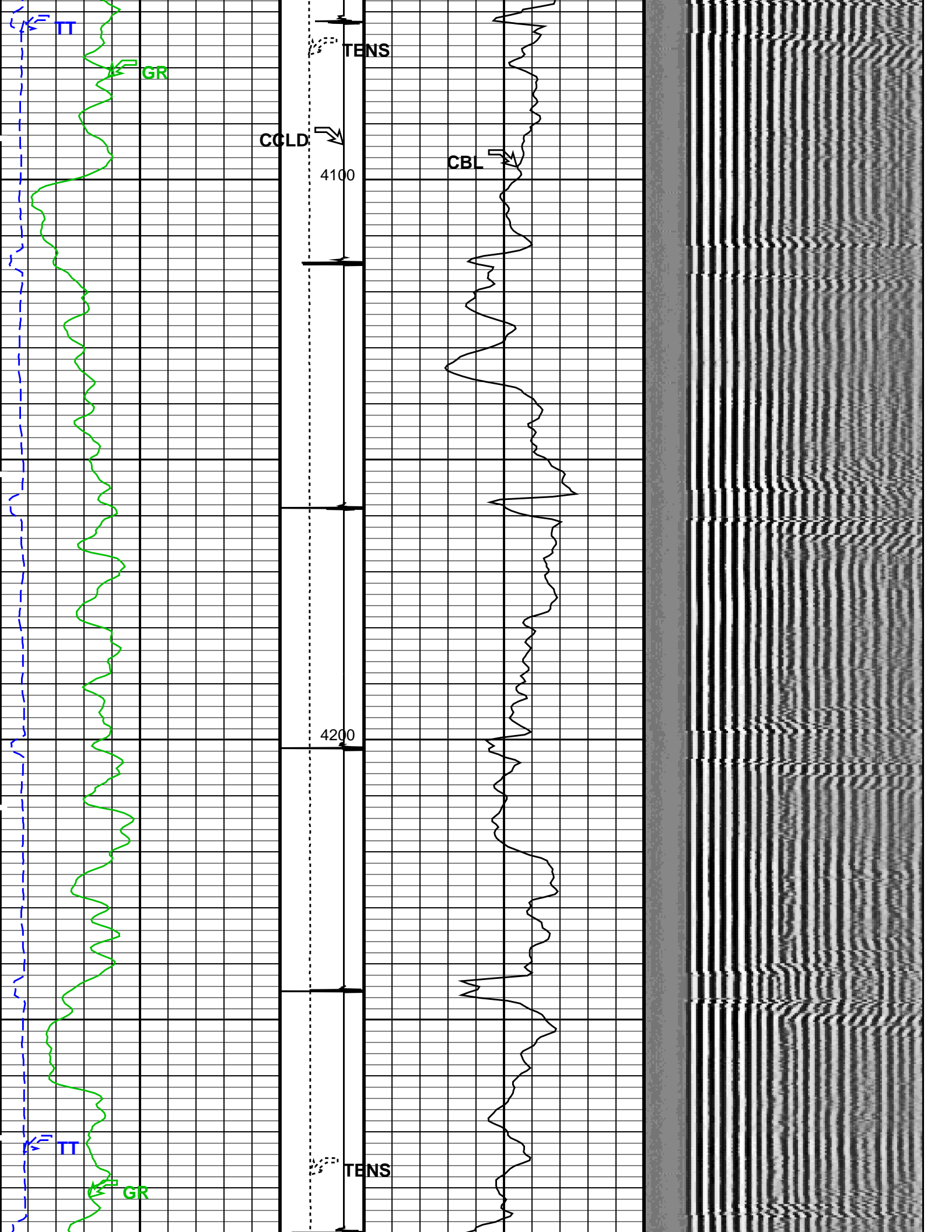


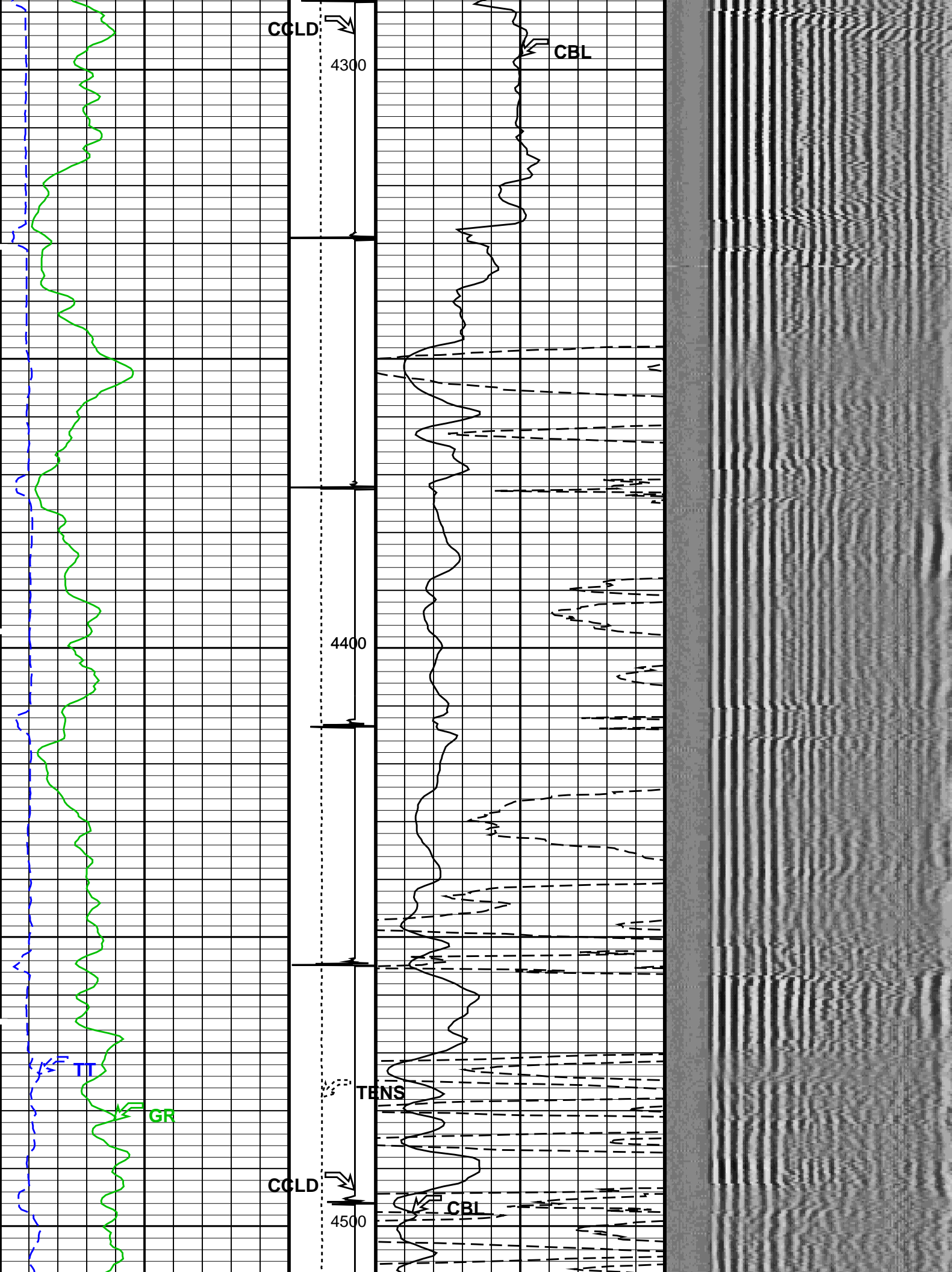


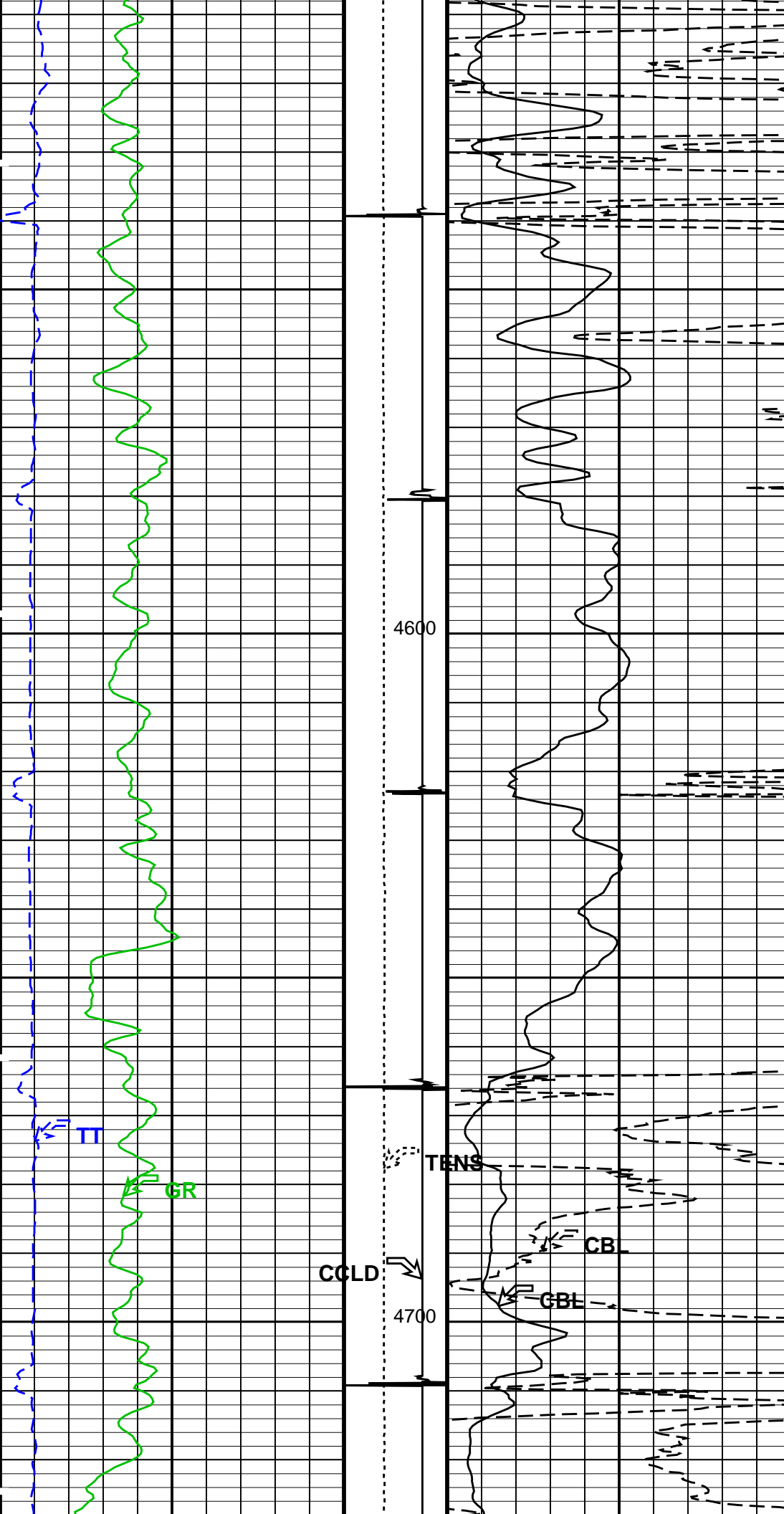


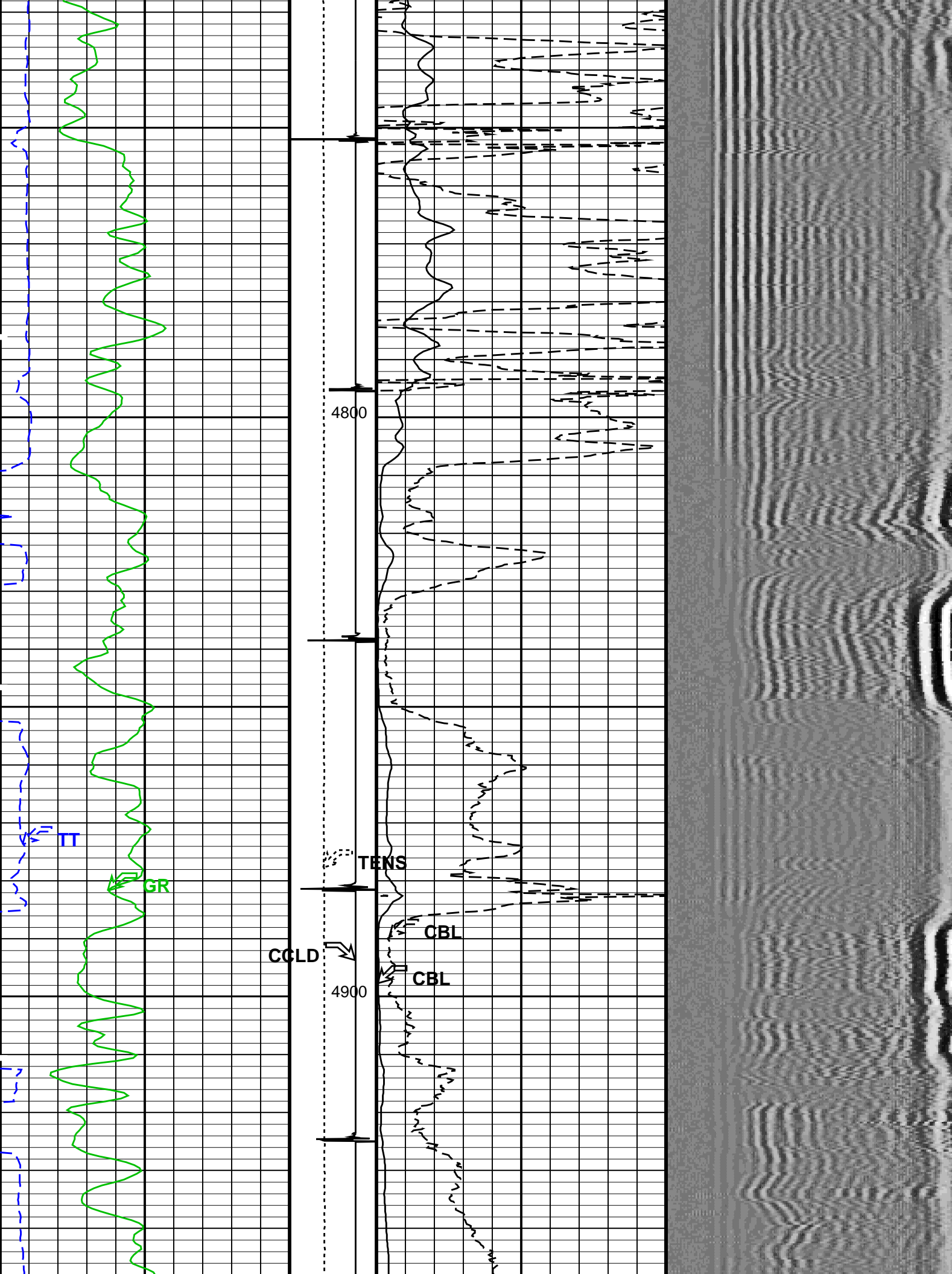


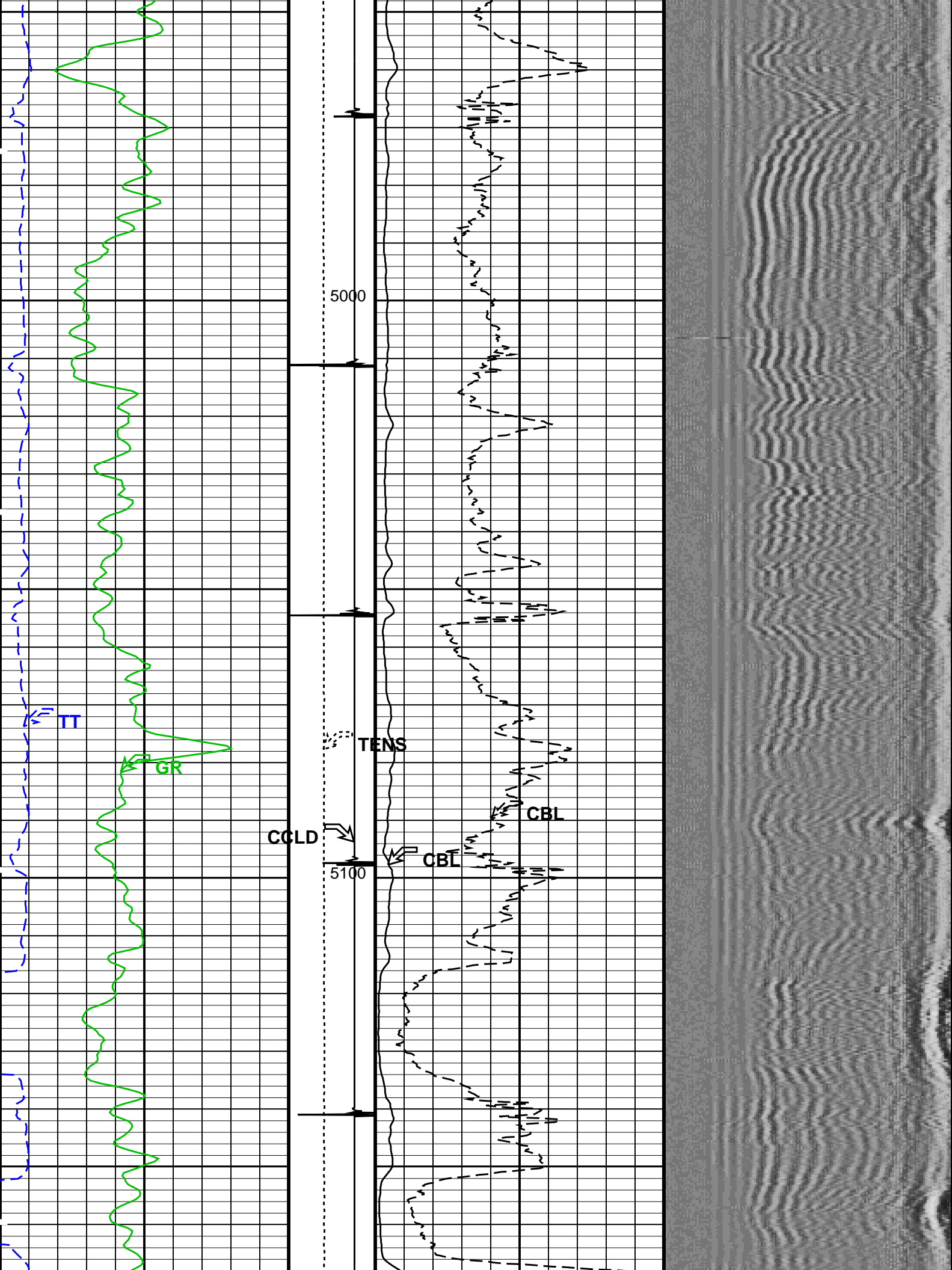


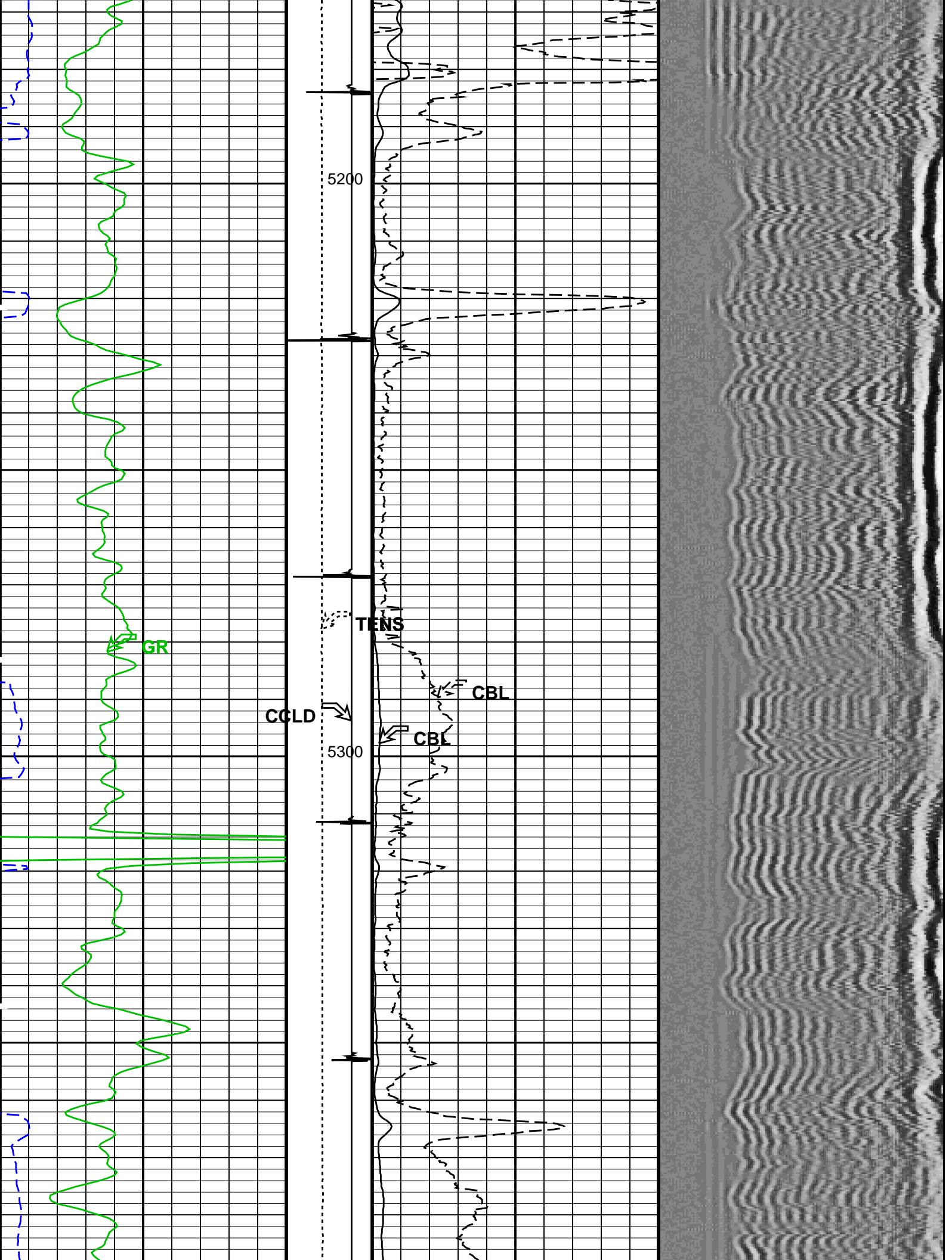


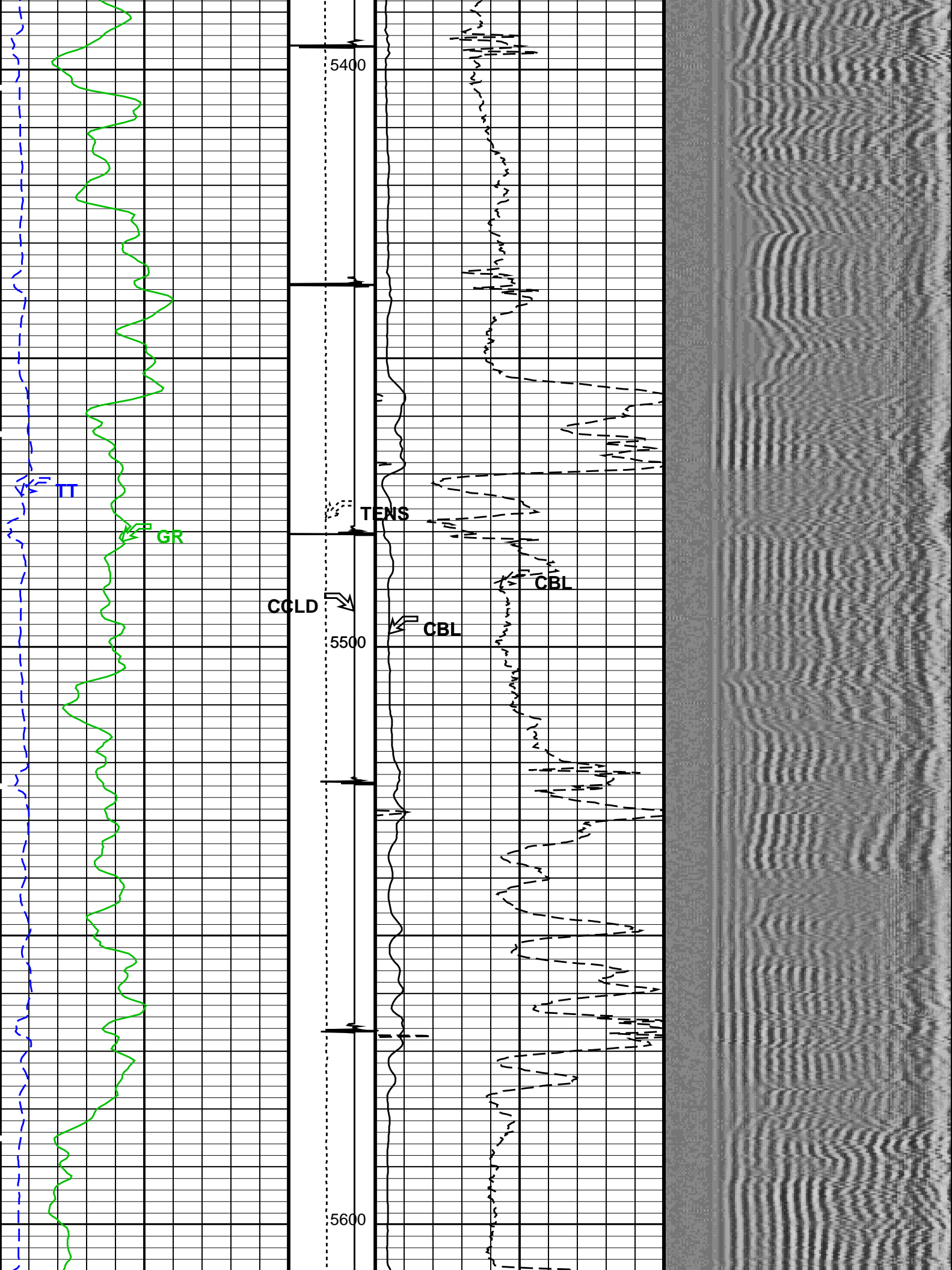


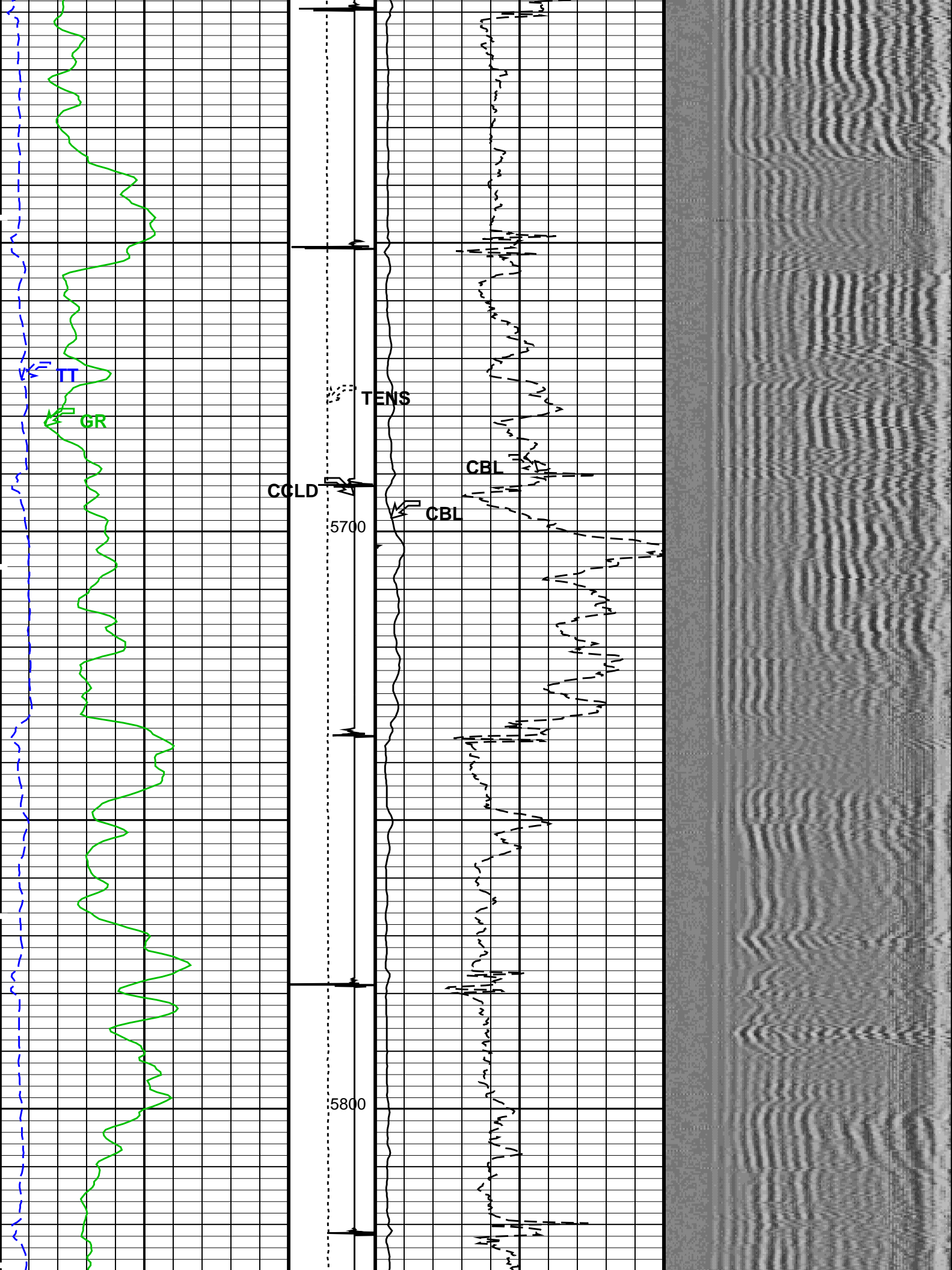


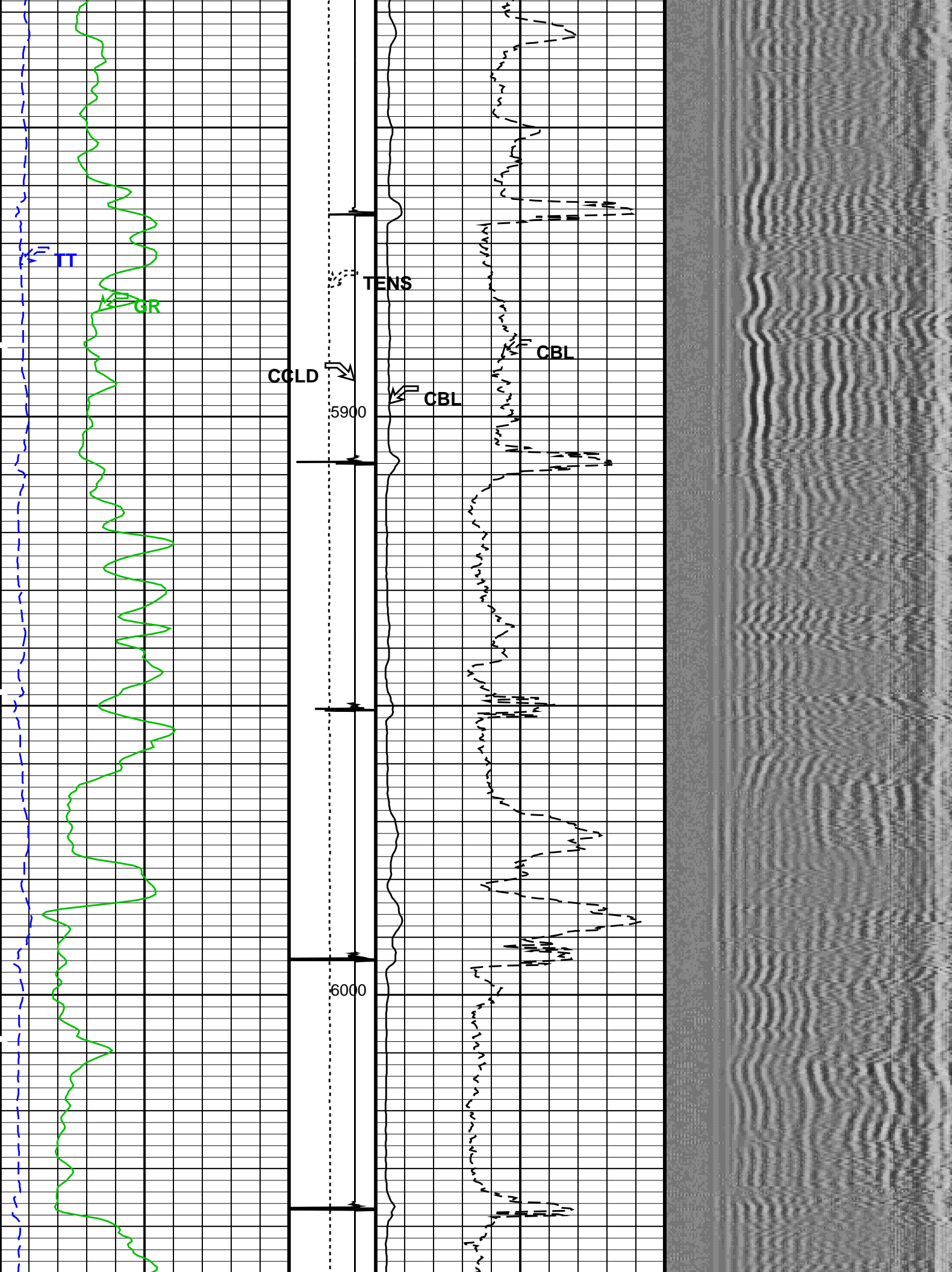


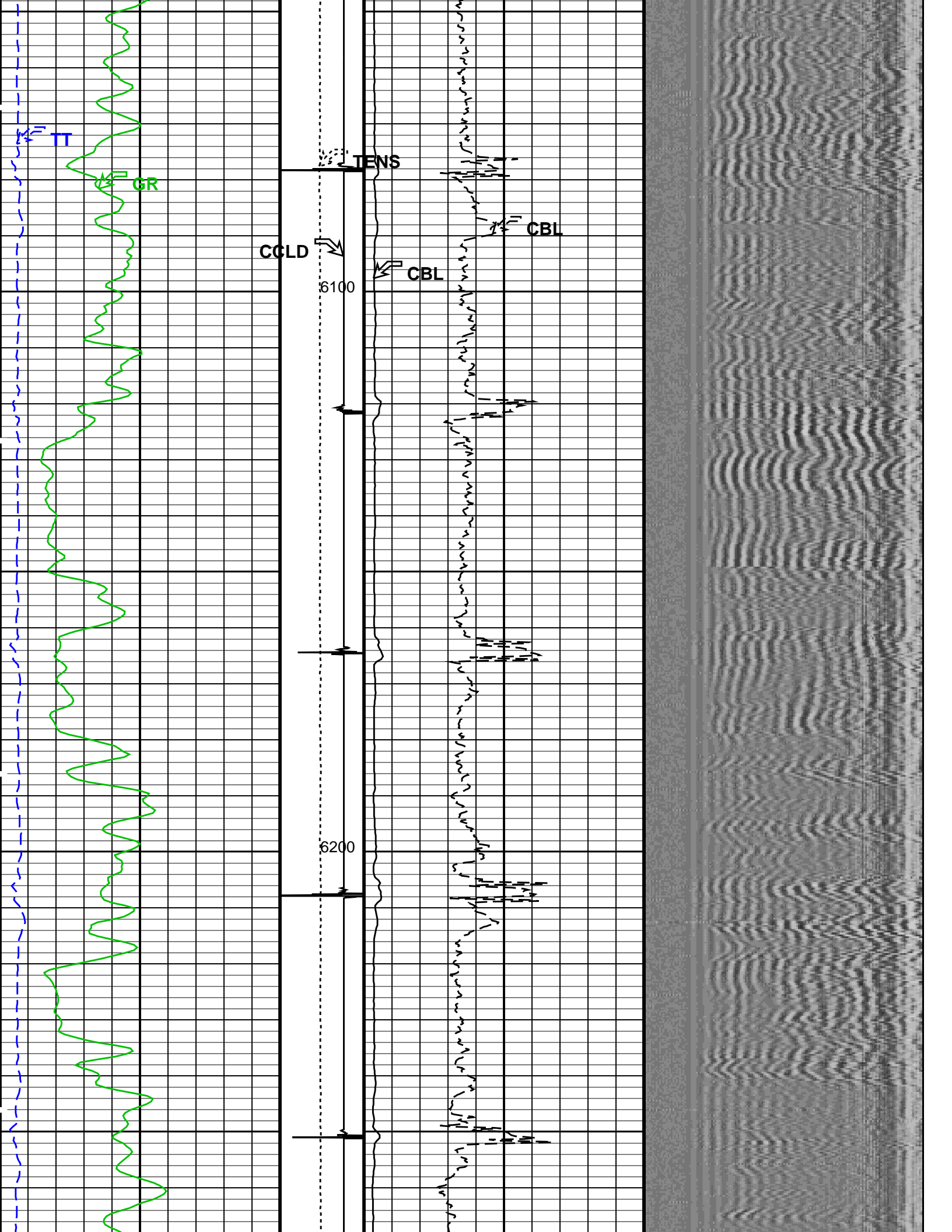


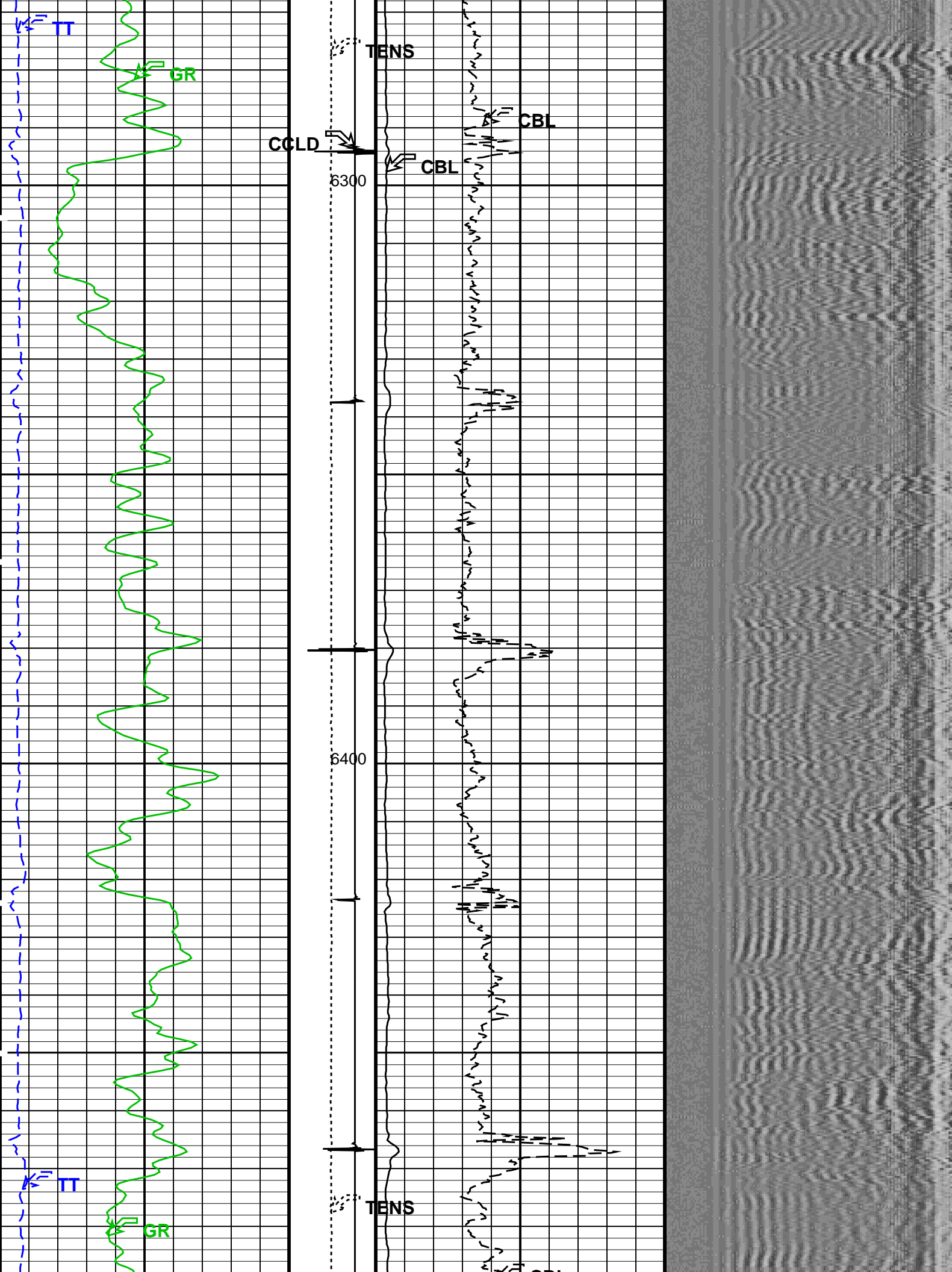


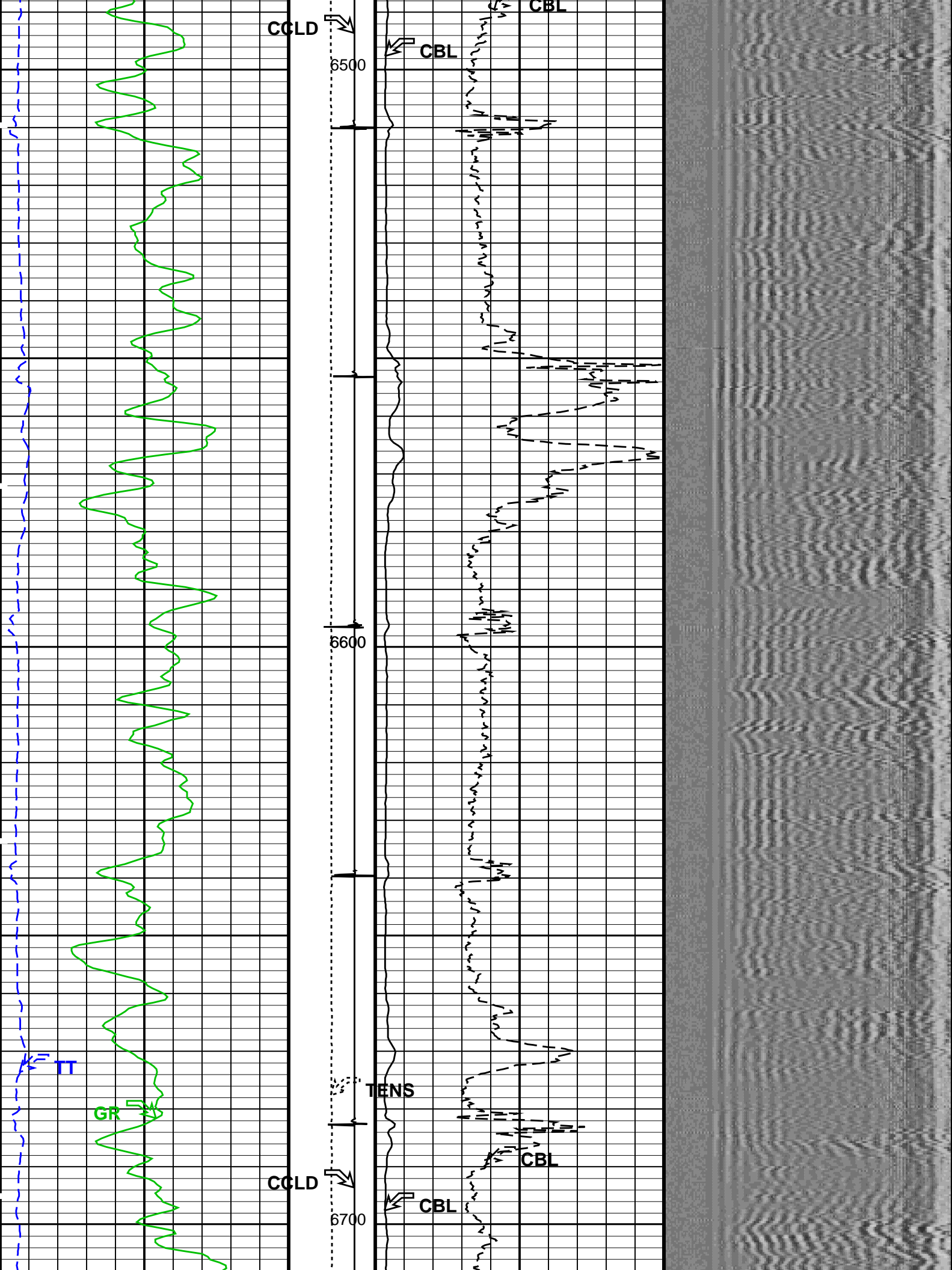


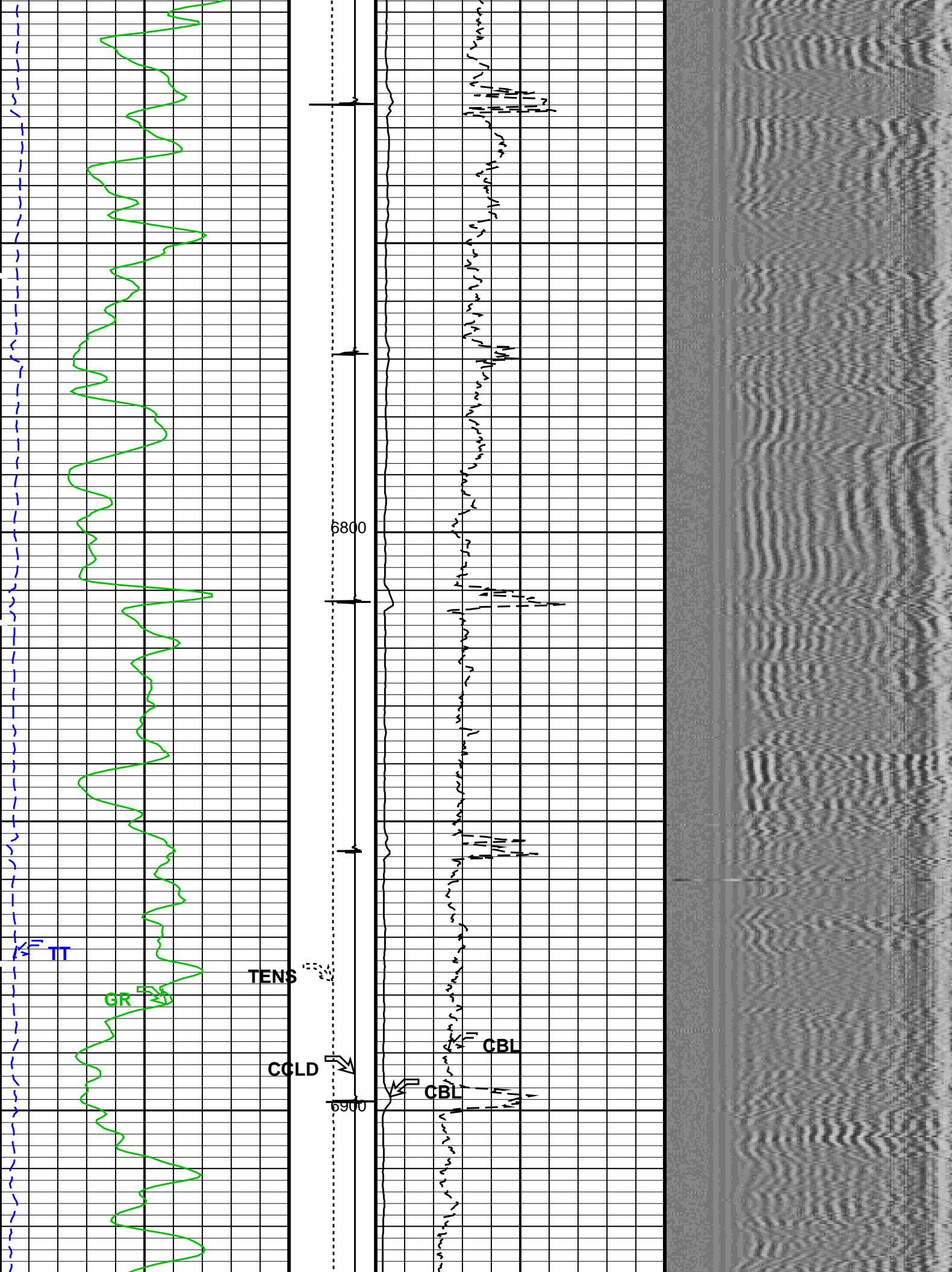


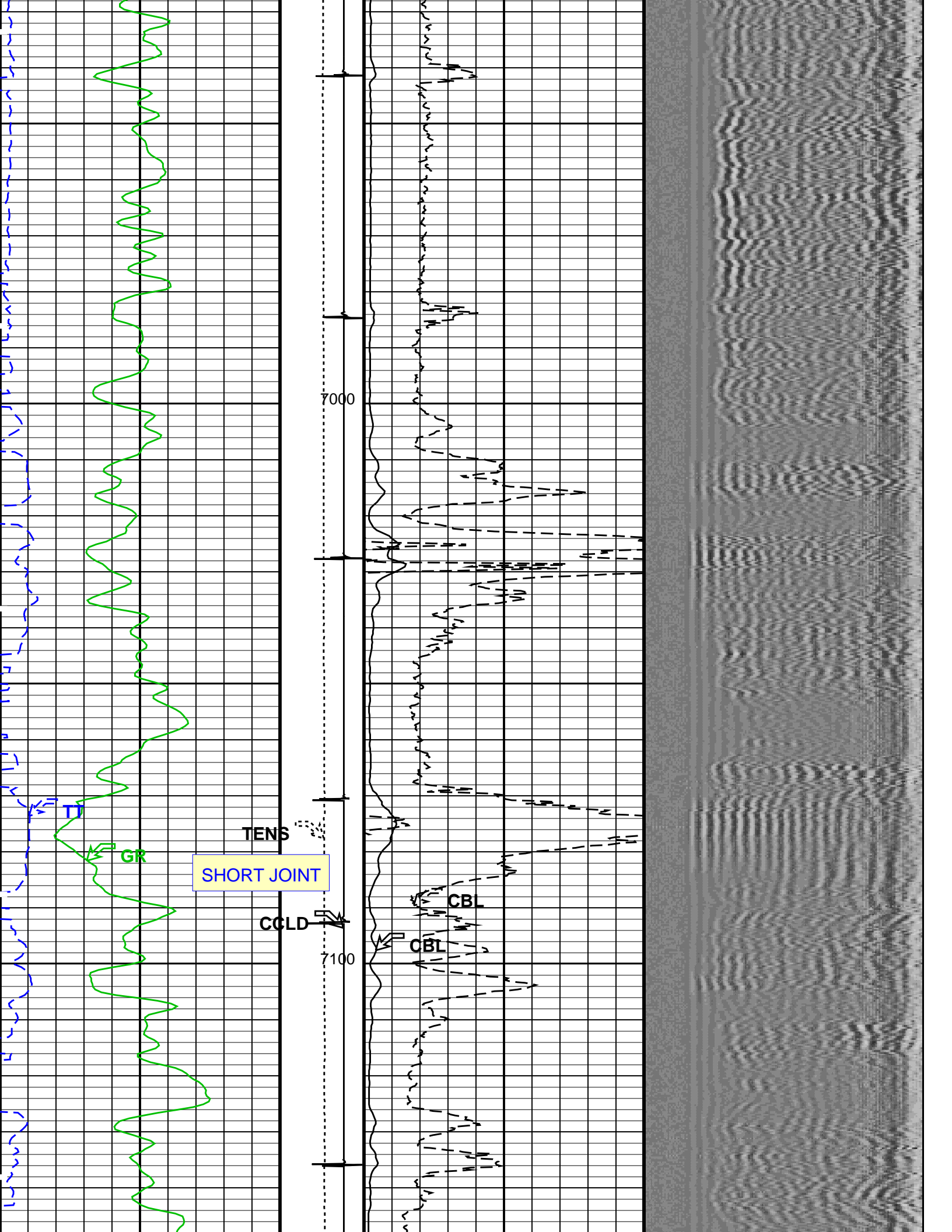


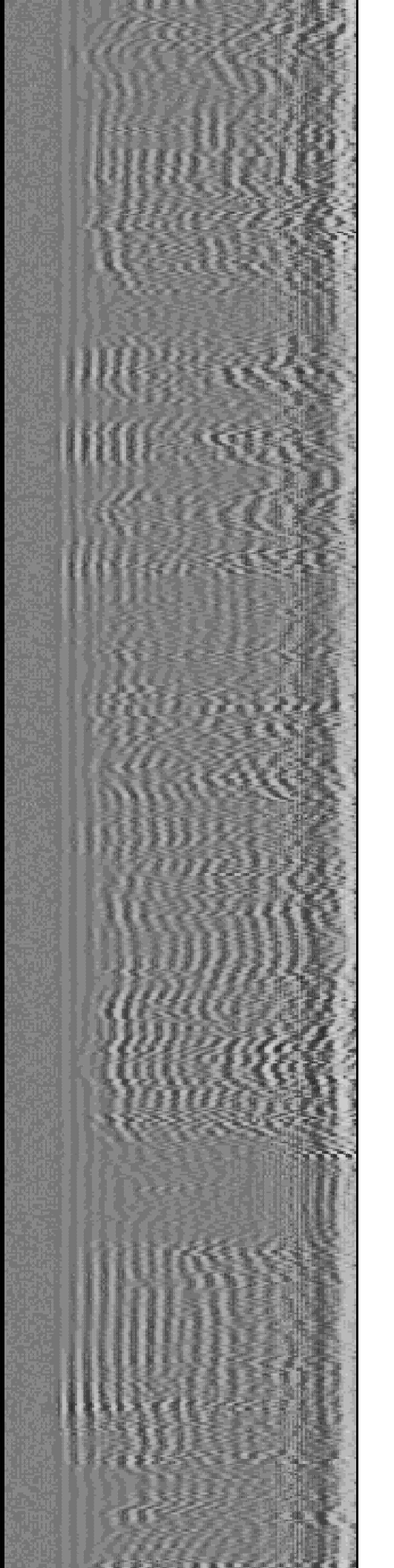
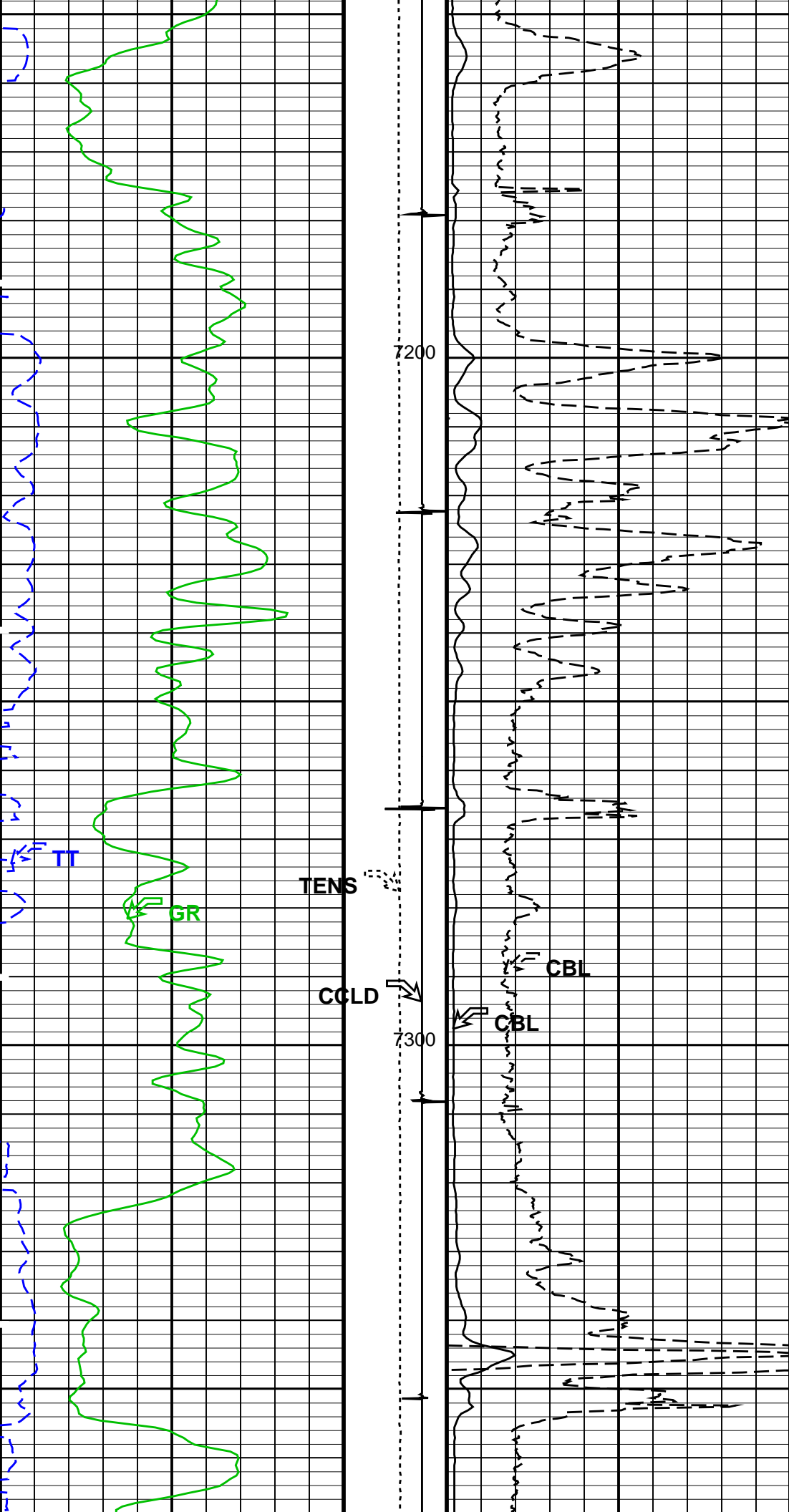


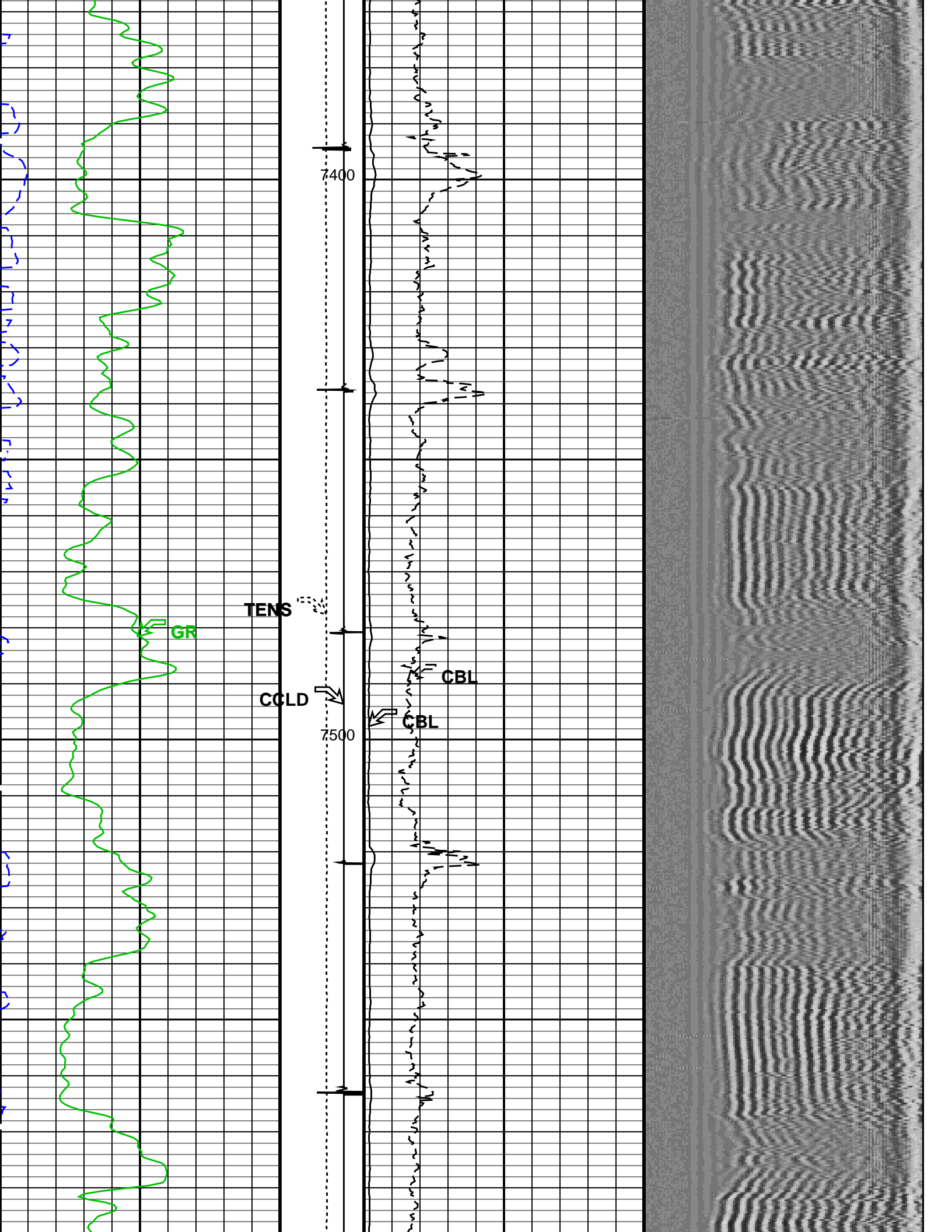


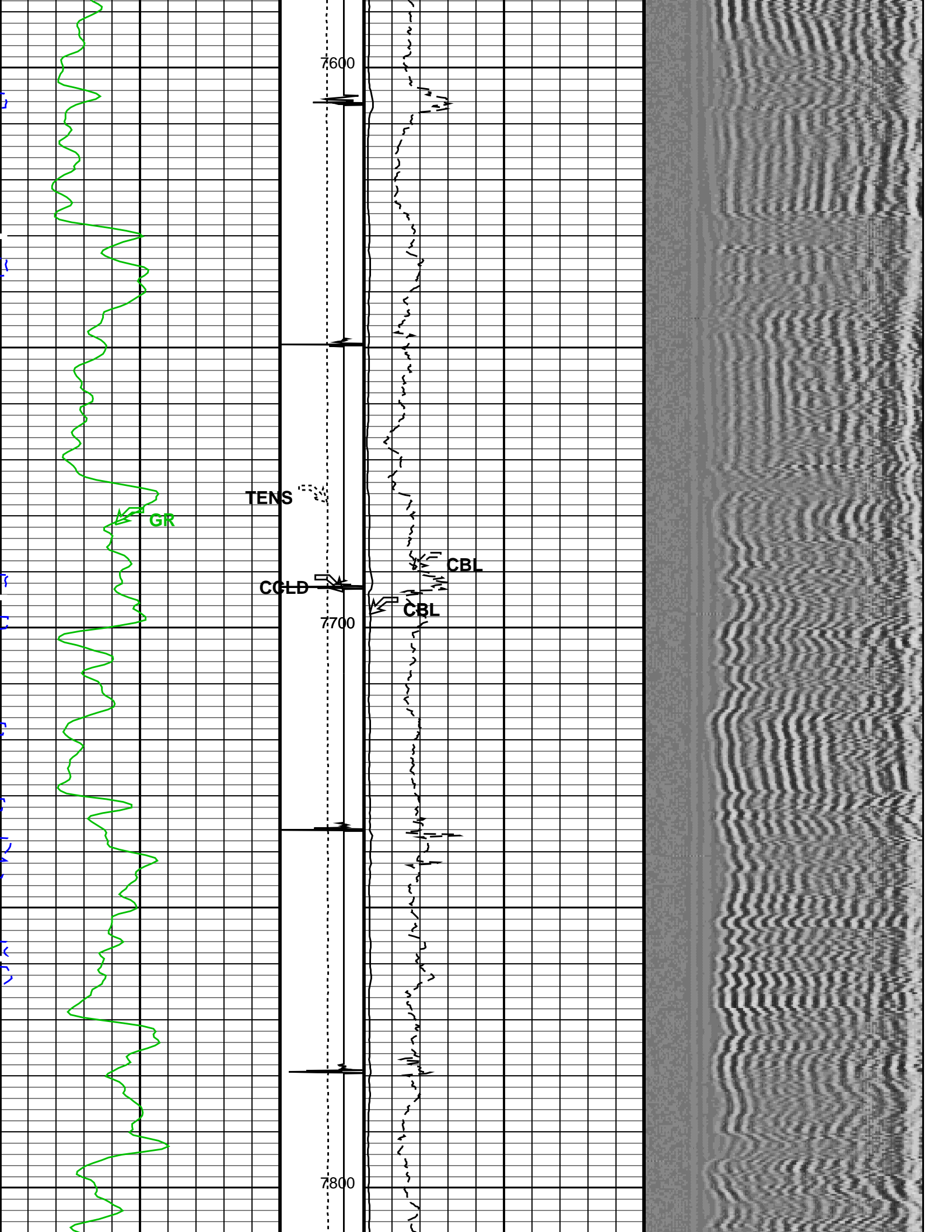


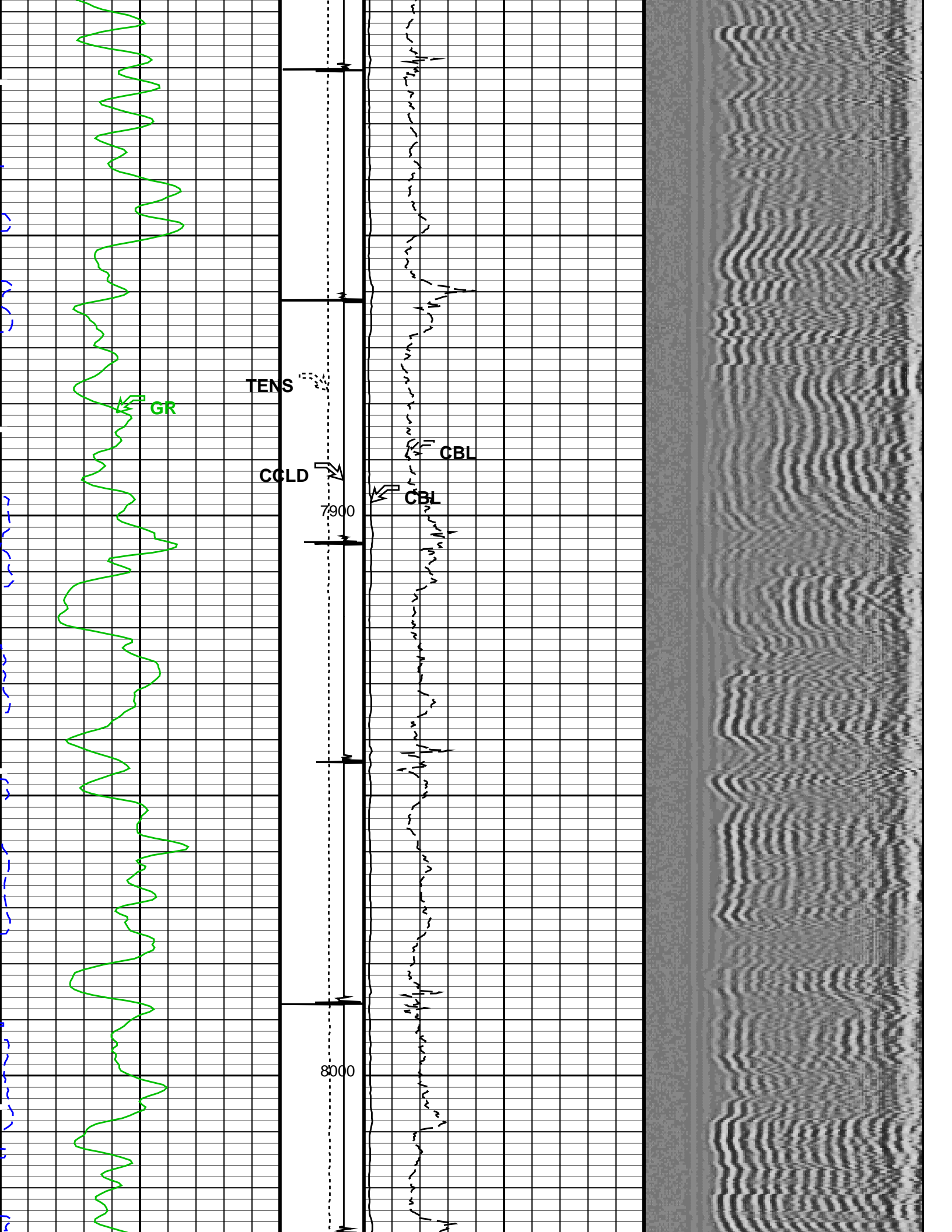


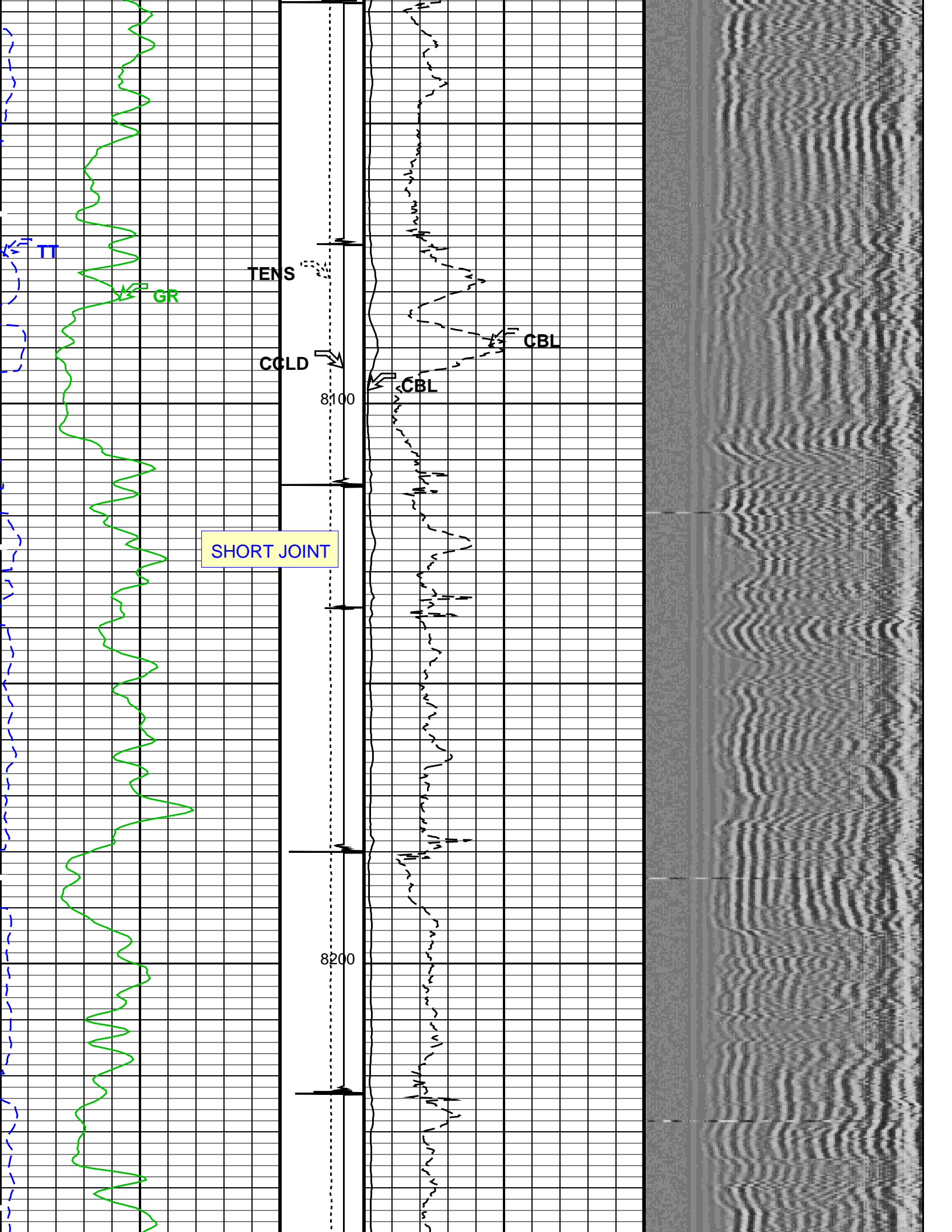


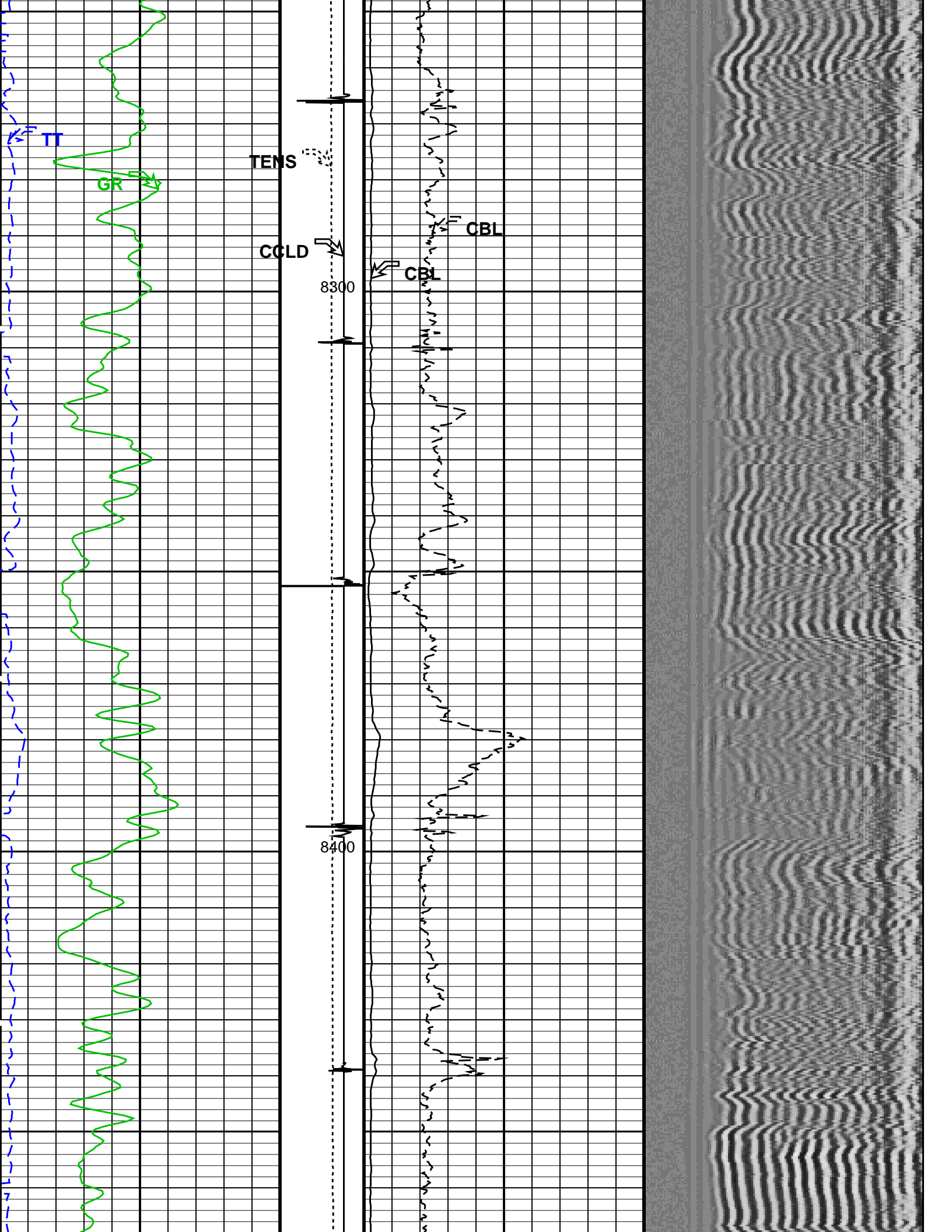


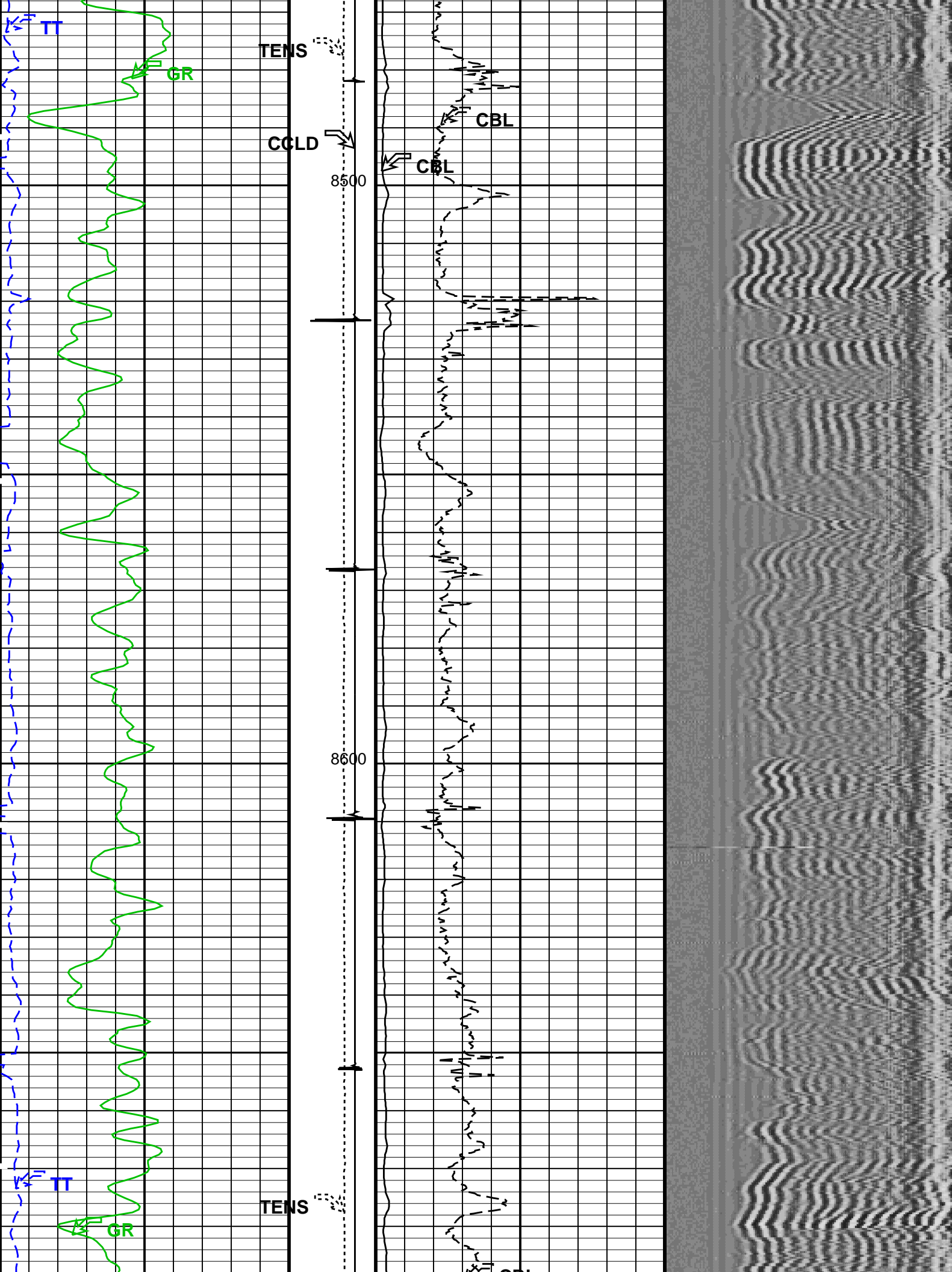


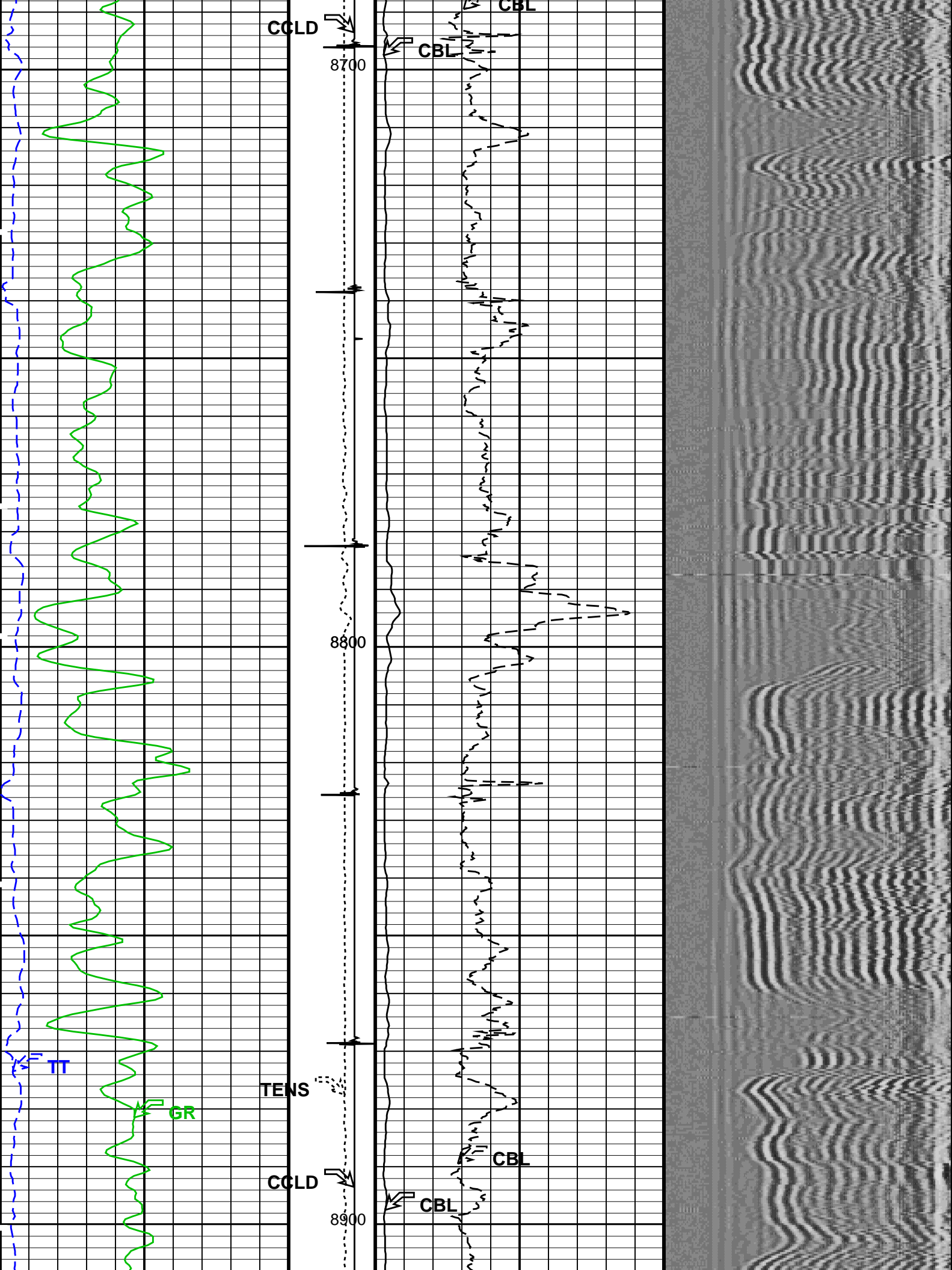


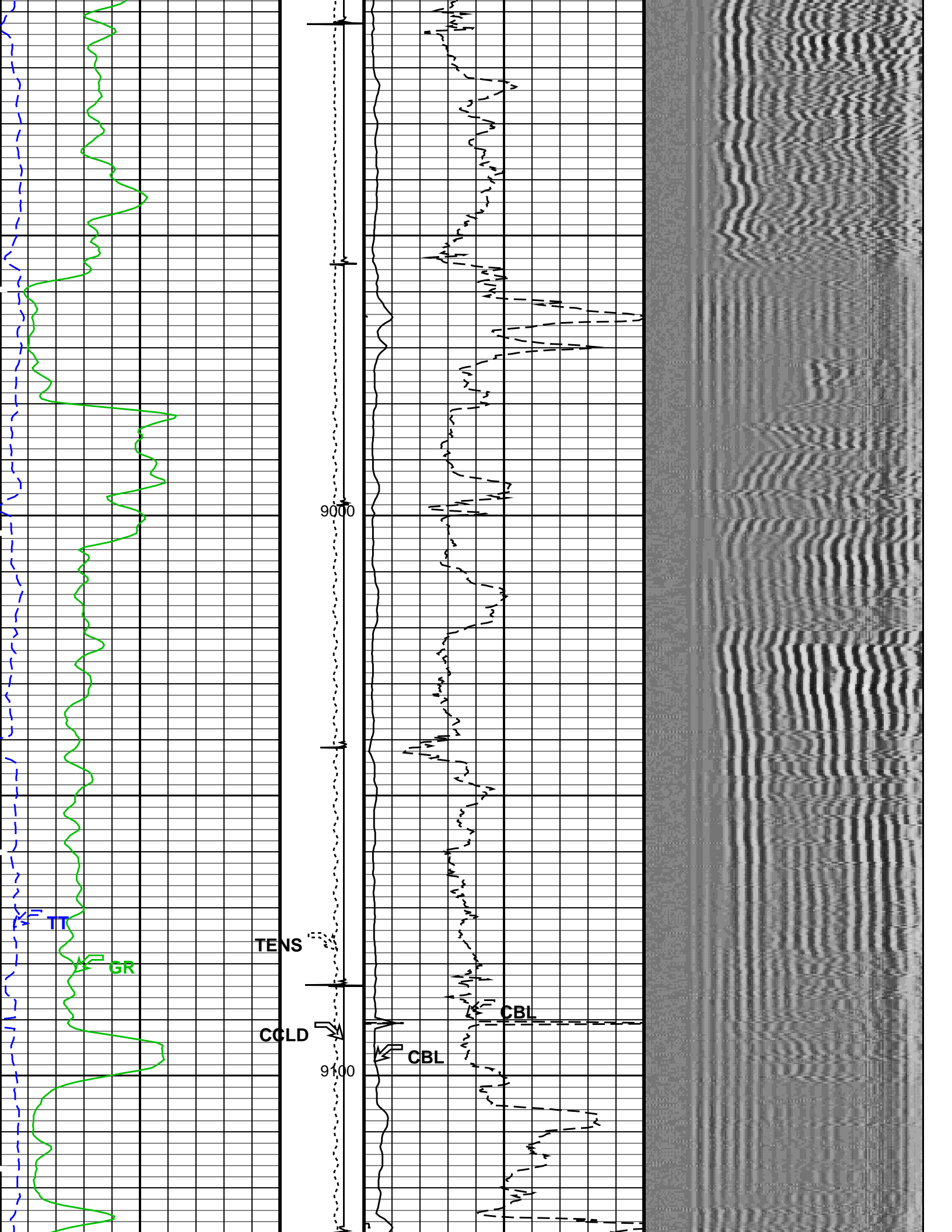


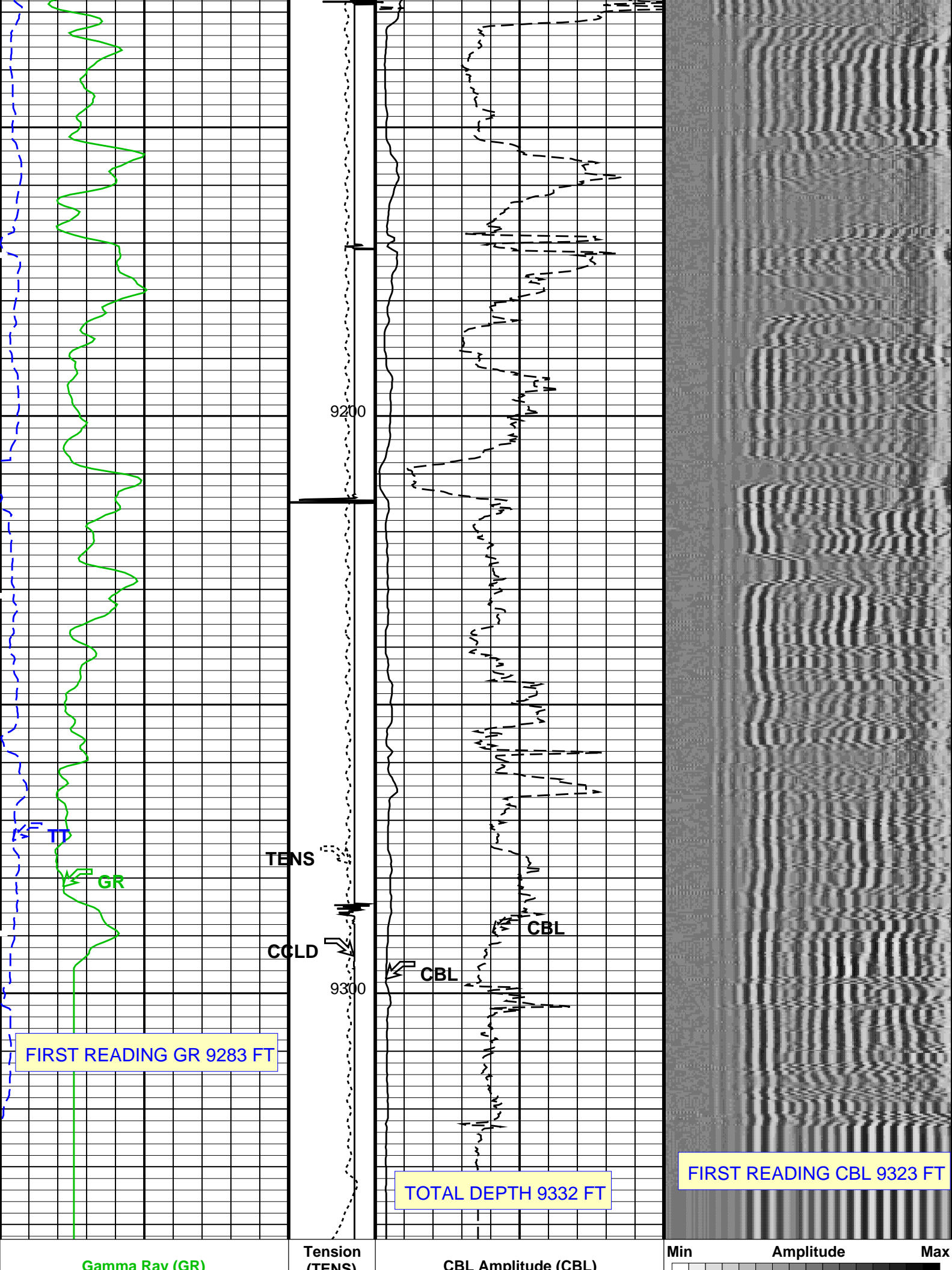












FIRST READING GR 9283 FT

TOTAL DEPTH 9332 FT

FIRST READING CBL 9323 FT

Gamma Ray (GR)

Tension (TENS)

CBL Amplitude (CBL)

Min

Amplitude

Max

0 (GAPI) 150		(TENS) (LBF)	0 (MV) 100	VDL VariableDensity (VDL) (US) 1200	
0 2000		Discriminat ed CCL (CCLD)	0 CBL Amplitude (CBL) (MV) 10		
260 Transit Time (TT) (US) 160		3 (V) -1			
PIP SUMMARY					
Time Mark Every 60 S					
Format: CBL_VDL Vertical Scale: 5" per 100'			Graphics File Created: 24-Sep-2012 01:31		
OP System Version: 19C0-187					
SCMT-CB HBMS-B		SRPC-5214-H2-2012-OP1 SRPC-5214-H2-2012-OP1		RST-C 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					
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
DO	Depth Offset for Playback	4.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	9332	FT

Input DLIS Files

DEFAULT Splice_SCMT_RST_047CUP FN:1 PRODUCER 24-Sep-2012 01:22 9338.5 FT 150.1 FT

Output DLIS Files

DEFAULT SCMT_RST_HBMS_049PUP FN:47 PRODUCER 24-Sep-2012 01:31

Schlumberger

REPEAT ANALYSIS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC Well: MCU FEE 22-12C (N22W)

Input DLIS Files

DEFAULT SCMT_RST_HBMS_043LUP FN:42 PRODUCER 23-Sep-2012 20:55 7247.5 FT 6891.0 FT
 DEFAULT Splice_SCMT_RST_047CUP FN:1 PRODUCER 24-Sep-2012 01:22 9338.5 FT 150.1 FT

Output DLIS Files

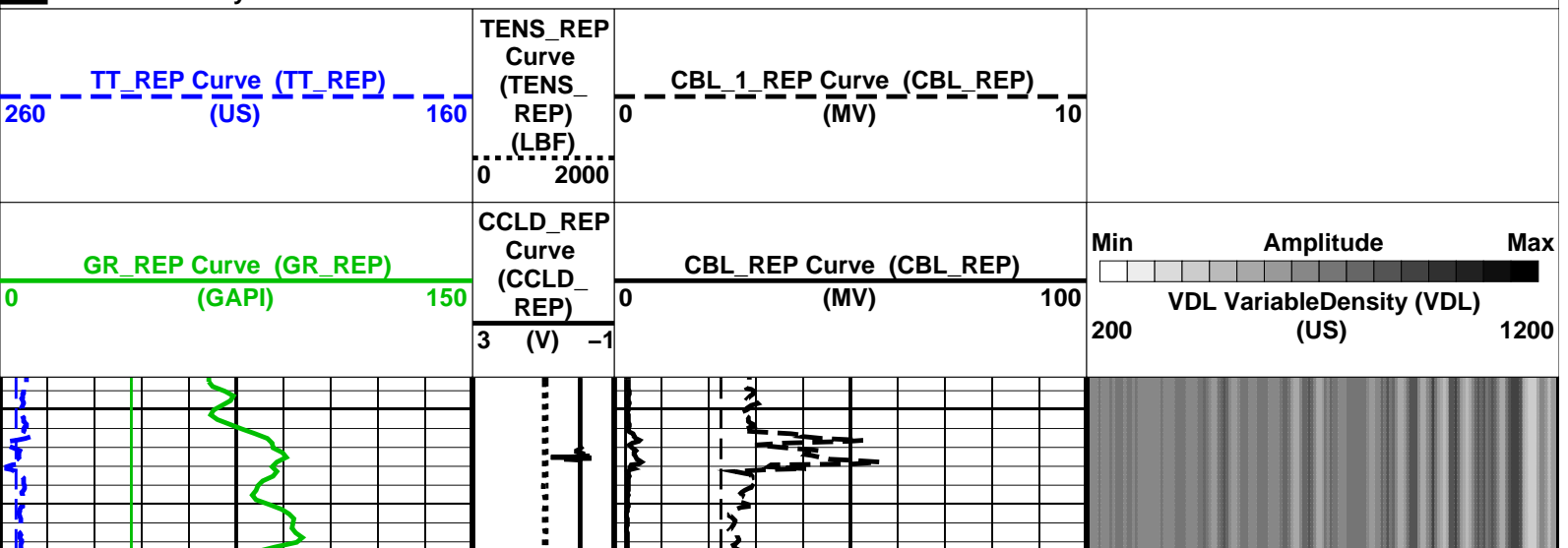
DEFAULT SCMT_RST_HBMS_052PUP FN:50 PRODUCER 24-Sep-2012 01:44 7250.0 FT 6846.0 FT

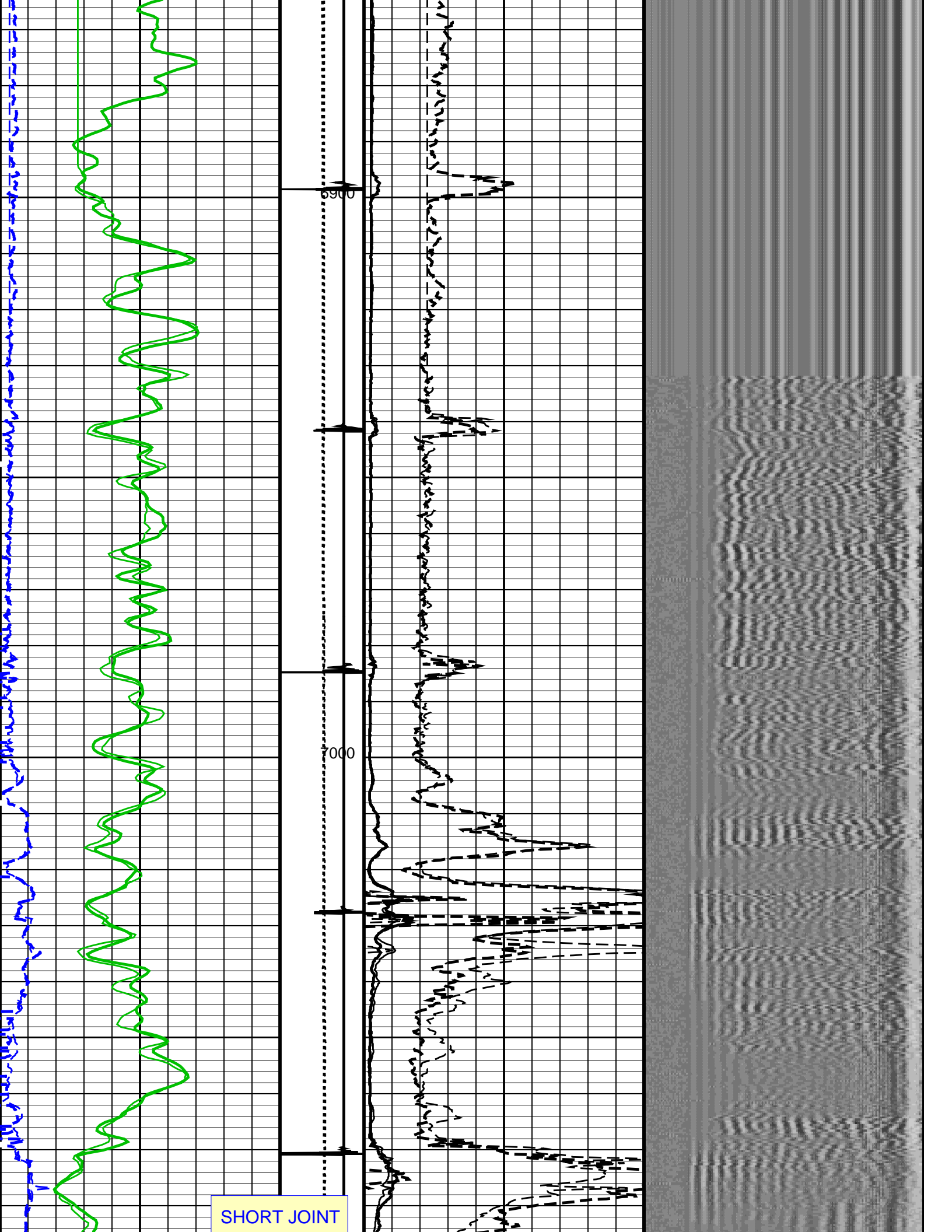
OP System Version: 19C0-187

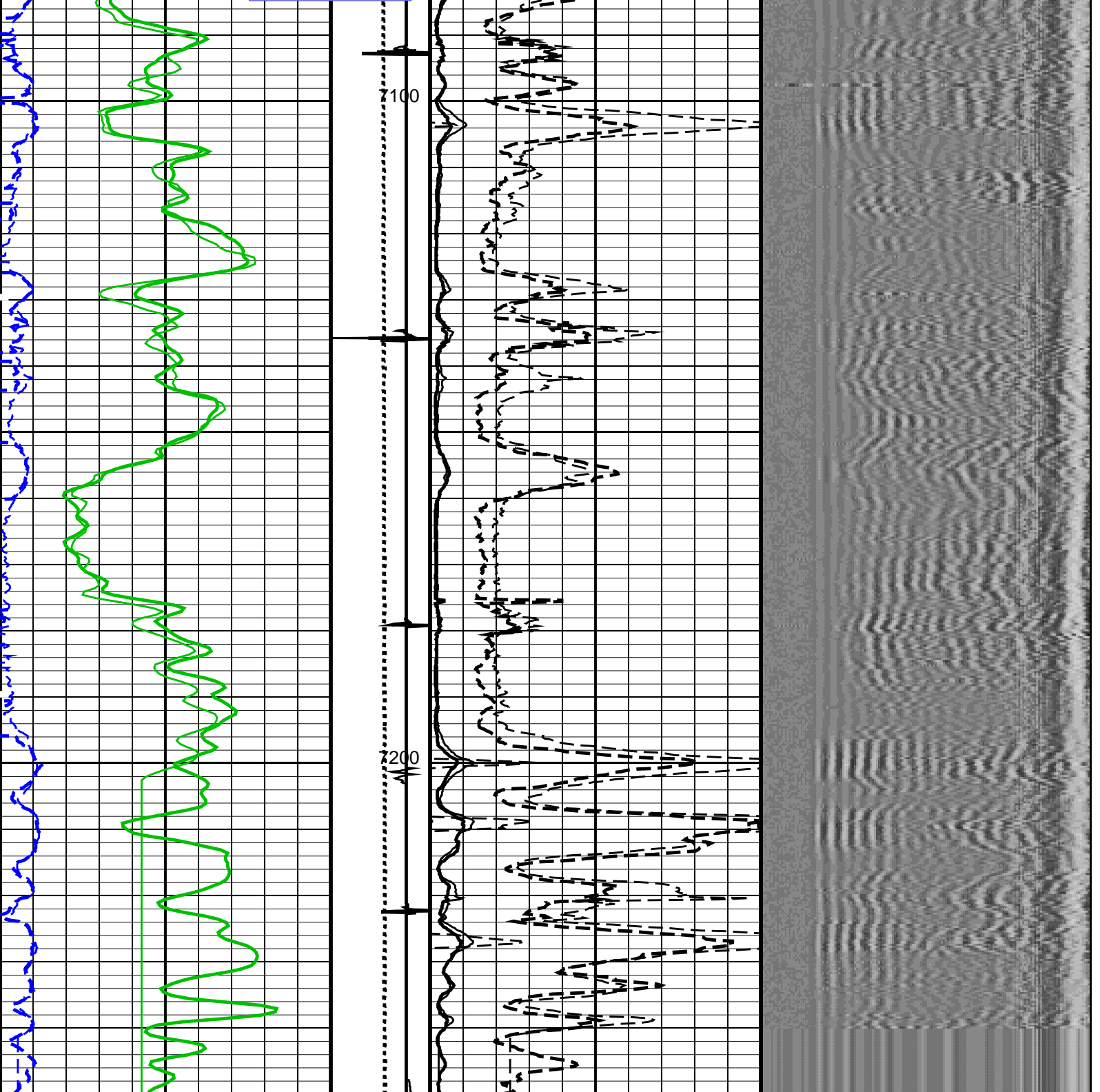
SCMT-CB SRPC-5214-H2-2012-OP1! RST-C SRPC-5214-H2-2012-OP1!
 HBMS-B SRPC-5214-H2-2012-OP1!

PIP SUMMARY

Time Mark Every 60 S







<p>GR_REP Curve (GR_REP) (GAPI)</p> <p>0 150</p>	<p>CCLD_REP Curve (CCLD_REP) (V)</p> <p>3 -1</p>	<p>CBL_REP Curve (CBL_REP) (MV)</p> <p>0 100</p>	<p>Min Amplitude Max</p> <p>200 VDL VariableDensity (VDL) (US) 1200</p>
<p>TT_REP Curve (TT_REP) (US)</p> <p>260 160</p>	<p>TENS_REP Curve (TENS_REP) (LBF)</p> <p>0 2000</p>	<p>CBL_1_REP Curve (CBL_REP) (MV)</p> <p>0 10</p>	

PIP SUMMARY

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

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
DO	Depth Offset for Playback	2.5	FT
DORL	Depth Offset for Repeat Analysis	4.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	9332	FT

Input DLIS Files

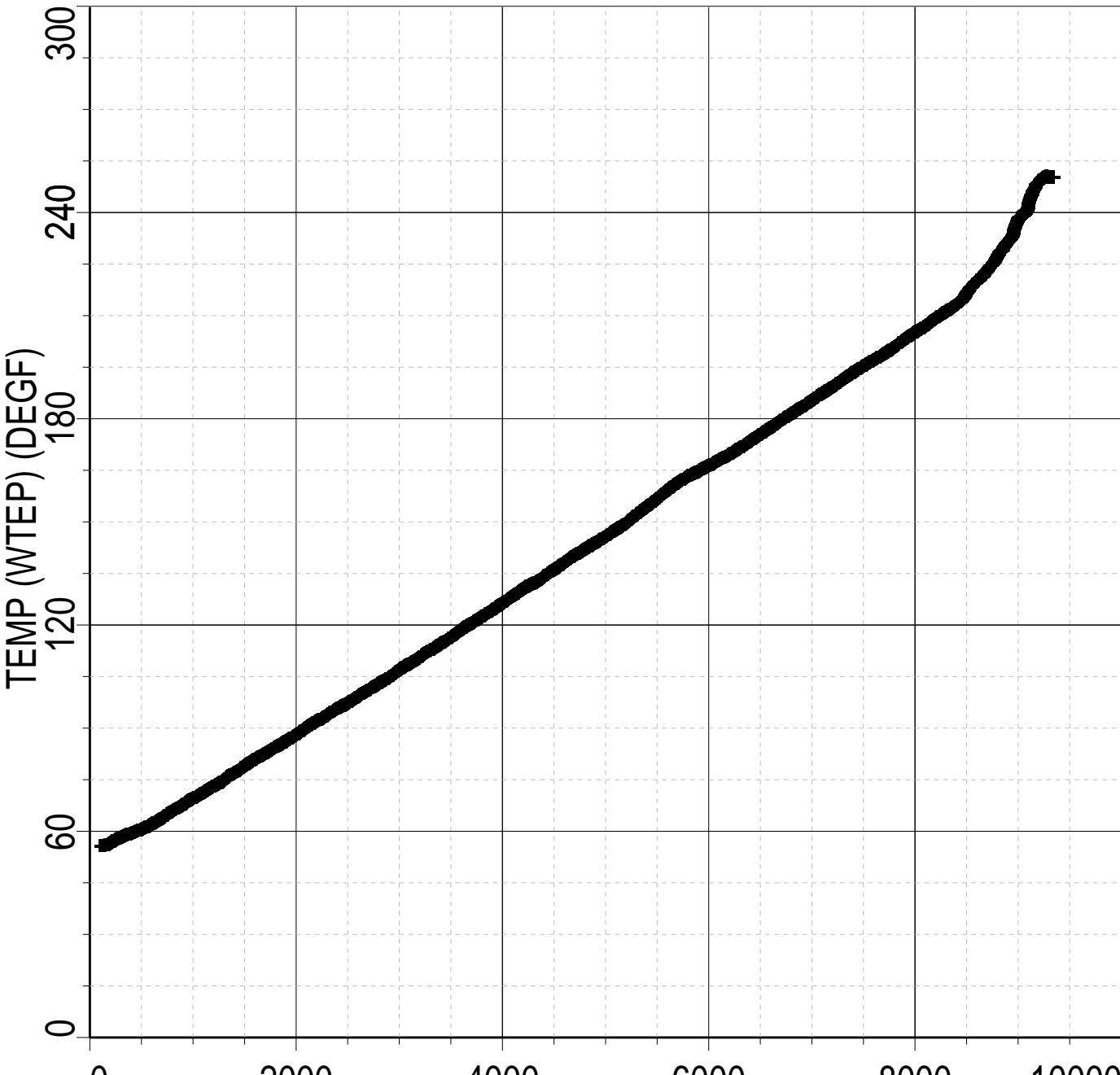
Output DLIS Files



TEMPERATURE PLOT

MAXIS Field Log

Index: 9342.5 – 107.0 FT





PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: MCU FEE 22-12C (N22W)
Run date: 23-Sep-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: MAMM CREEK
Well: MCU FEE 22-12C (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.2880 S/N:

2880

260408

16

A3AF

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	-.104337336008E+04	+.798824971753E+03	-.251944021281E+03
	Tt**3	Tt**4	Tt**5
Tt**0	+.406192777109E+02	-.240958437264E+01	0.0

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: MCU FEE 22-12C (N22W)

Run date: 23-Sep-2012

Tool:

Sub Type:

Sensor:

PSP

PBMS

CQG

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR CQG PBMS-B.2880 S/N:

2880

260408

66

66B8

Pres Coeff

	Fb**0	Fb**1	Fb**2
Fc**0	+.694668499013E+04	+.138137467574E-01	-.206148488488E-06
Fc**1	-.104285125976E+01	-.125721589078E-04	-.971577899959E-10
Fc**2	+.101045175546E-05	+.480801816357E-10	+.889110474366E-15
Fc**3	+.127326781620E-11	+.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	-.802395356069E-10	-.148392899370E-14	-.162952476494E-19
Fc**1	+.114970383999E-15	+.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

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')**1	+.374212122122E-12	+.736357125222E-17	+.175227151722E-19

(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



MASTER CALIBRATION

MAXIS Field Log

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 22-12C (N22W)**

Field: **MAMM CREEK**

County: **GARFIELD**

State: **COLORADO**

SLIM CEMENT MAPPING LOG

CBL – VDL

GAMMA RAY – CCL