

Company: ENCANA OIL & GAS (USA) INC

Well: HAGEN FEDERAL 22-1AA (PC22)

Field: SOUTH PARACHUTE

County: GARFIELD State: COLORADO

SLIM CEMENT MAPPING LOG
CBL-VDL
GR-CCL

County: GARFIELD

Field: SOUTH PARACHUTE

Location: SHL: 643 FNL & 1808 FWL

Well: HAGEN FEDERAL 22-1AA (PC22)

Company: ENCANA OIL & GAS (USA) INC

LOCATION			
SHL: 643 FNL & 1808 FWL BHL: 450 FNL & 522 FEL	Elev.: K.B. 6543.00 ft G.L. 6521.00 ft D.F. 6542.00 ft		
Permanent Datum: _____	GROUND LEVEL _____ Elev.: 6521.00 ft		
Log Measured From: _____	KELLY BUSHING _____ 22.00 ft above Perm. Datum		
Drilling Measured From: _____	KELLY BUSHING _____		
API Serial No. 05-045-21945-0C	Section 22	Township 7S	Range 95W

	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	22-Oct-2013		
Run Number	1		
Depth Driller	8735 ft		
Schlumberger Depth	8655 ft		
Bottom Log Interval	8646 ft		
Top Log Interval	60 ft		
Casing Fluid Type	FRESH WATER		
Salinity			
Density	8.4 lbm/gal		
Fluid Level	60 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.750 in		
From	22 ft		
To	8735 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	S-80		
From	22 ft		
To	8716 ft		
Maximum Recorded Temperatures	223 degF		
Logger On Bottom	22-Oct-2013	2:45	
Unit Number	391	GRAND JUNCTION	
Recorded By	KIRSTIE BUNTING		
Witnessed By	SHANE		

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

DEPTH SUMMARY LISTING

Date Created: 14-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	Conveyance Method:	Wireline
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10	Rig Type:	LAND
Wheel Correction 1:	-5	Calibration RMS:	3		
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.

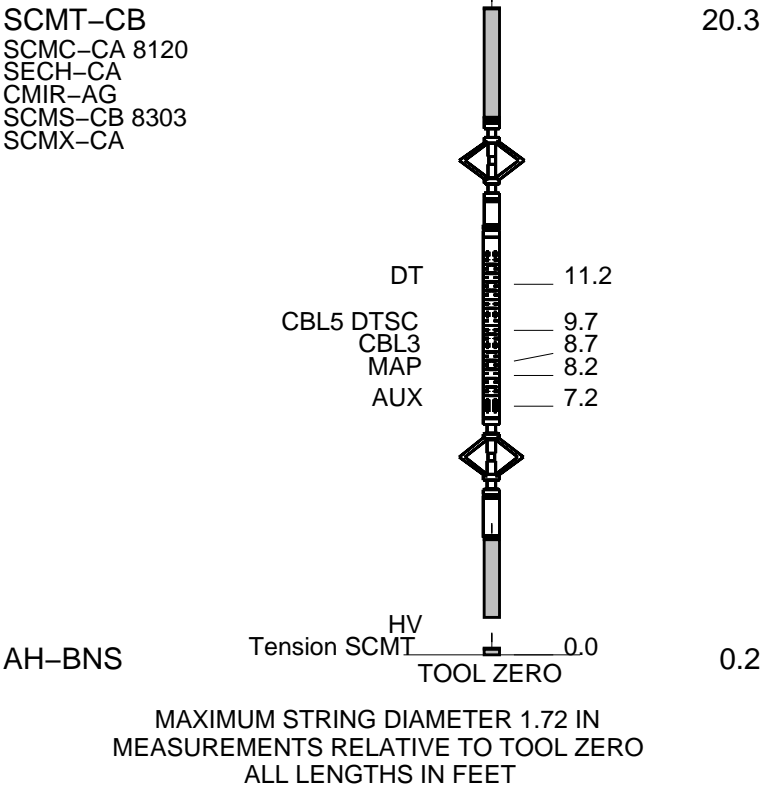
DISCLAIMER

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: GR-CCL	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRELATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE TIME: 2:15	
TIME ON BOTTOM: 2:45	
EXIT TIME: 5:00	

MAXIMUM RECORDED TEMPERATURE: 223 DEGF					
MAXIMUM RECORDED PRESSURE: 3324 PSIA					
EXPECTED CBL AMPLITUDE IN FREE PIPE IS 80 MV					
MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE					
SHORT JOINTS : 6255 FT & 7290 FT					
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY					
CREW: KBUNTING, KIRWIN, WAZIZ, KJOHNS					
<div> <div>RUN 1</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> <div> <div>CGF9-00158</div> <div>19C0-187</div> <div>60 ft</div> </div> </div>			<div> <div>RUN 2</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> </div>		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		
<div> <div>SURFACE EQUIPMENT</div> <div> <div>WITM-A</div> <div>PSC_16MHZ</div> </div> </div>					
<div> <div>DOWNHOLE EQUIPMENT</div> <div> <div> <div> <div>MH-22</div> <div>MH-22</div> <div> <div> <div>Detail MT</div> <div>TelStatus</div> <div>CTEM</div> </div> <div> <div>53.4</div> </div> </div> </div> <div> <div> <div>AH-38</div> <div> <div>51.8</div> </div> </div> <div> <div> <div>PSPT</div> <div> <div>51.5</div> </div> </div> </div> <div> <div> <div> <div>PSC-A</div> <div>PSPT-B 928</div> <div>PSTC-A</div> <div>PBMS-B</div> <div>CQG_F_Mano</div> <div>RTD_Thermometer</div> <div>GR</div> <div>CCL</div> <div>PBMS</div> </div> <div> <div>GR</div> <div>Well_Temp</div> <div>CQG Manom</div> <div>CCL</div> <div>PBMS PSTC</div> </div> <div> <div>47.8</div> <div>44.8</div> <div>44.5</div> <div>44.0</div> <div>43.3</div> </div> </div> </div> <div> <div> <div> <div>RST-C</div> <div>RSCH-A 197</div> <div>RSC-E</div> <div>RSS-A 378</div> <div>RSXH-A 425</div> <div>RSX-E</div> </div> <div> <div>43.3</div> </div> </div> </div> <div> <div> <div> <div>RSC-A Far</div> <div>RSC-A PNG</div> <div>RSC-A Nea</div> <div>RSX-A PNG</div> </div> <div> <div>34.2</div> <div>33.7</div> </div> </div> </div> </div> </div> </div></div>					



Schlumberger

MAIN PASS CBL VDL

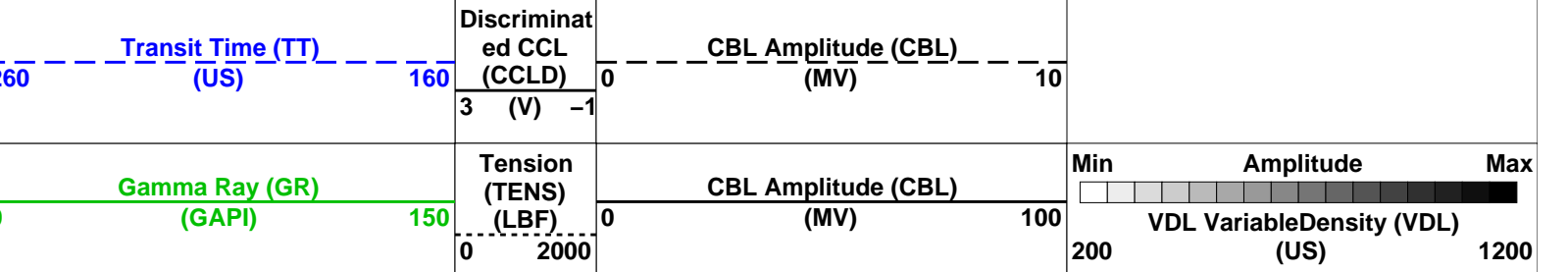
MAXIS Field Log

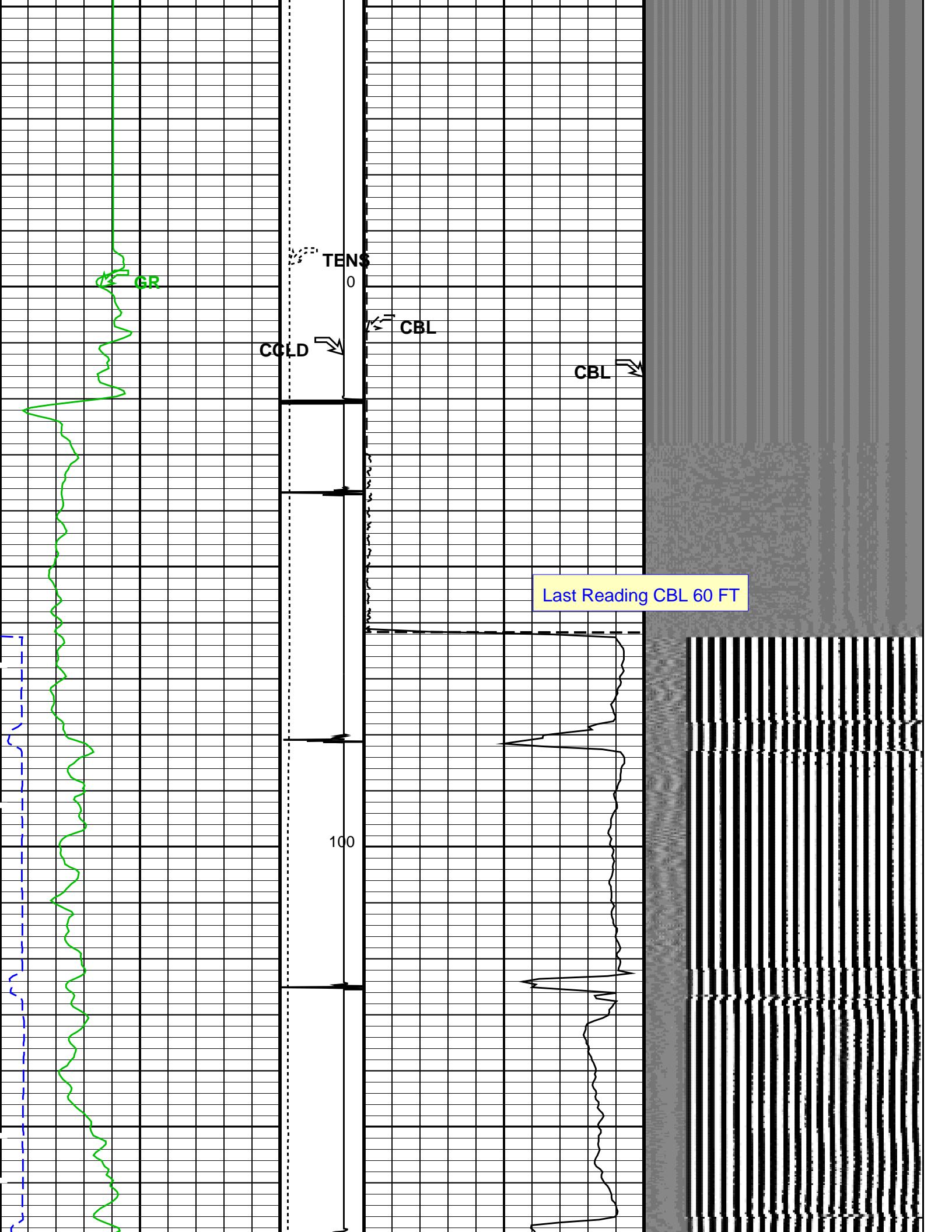
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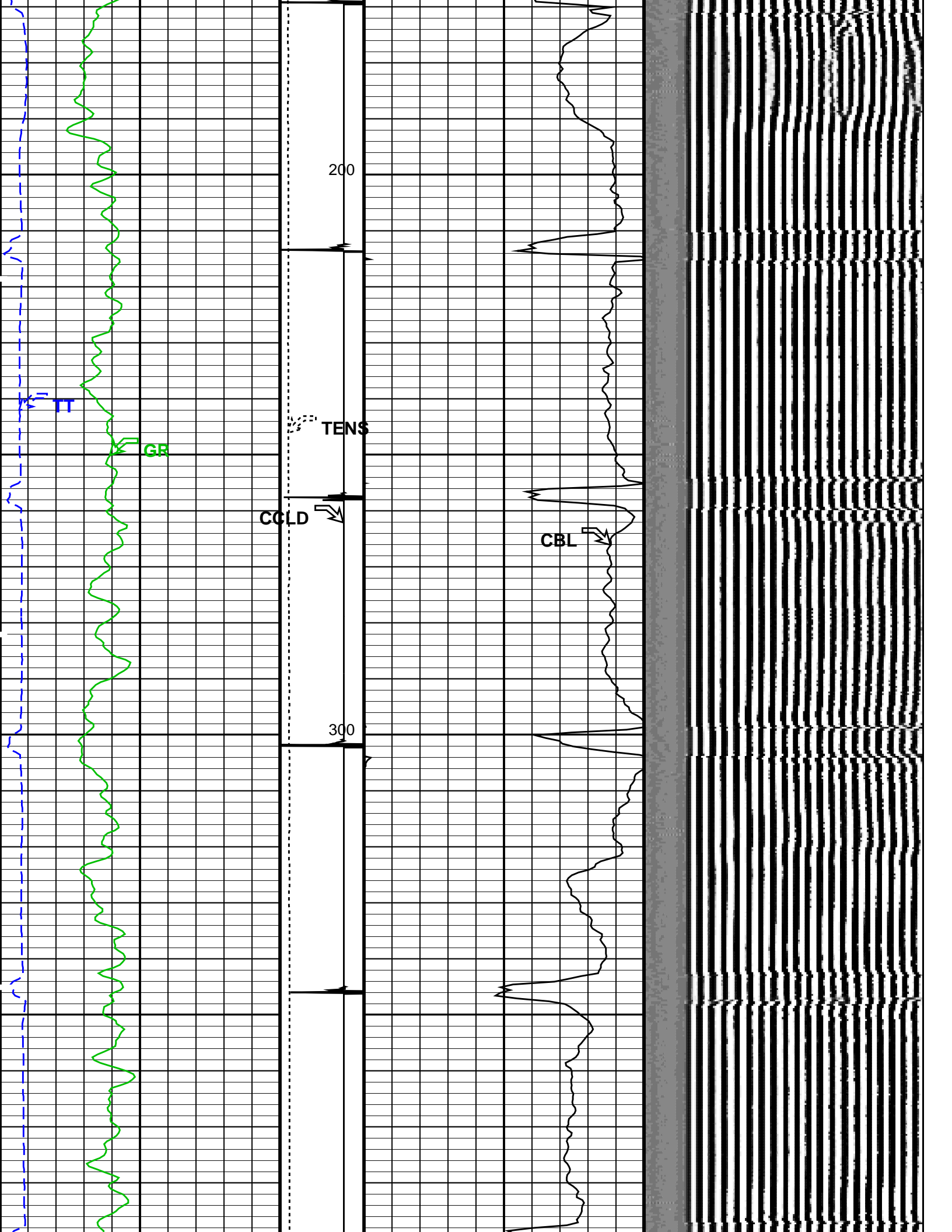
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Output DLIS Files						
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OP System Version: 19C0-187						
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PSPT	SRPC-5214-H2-2012-OP1					

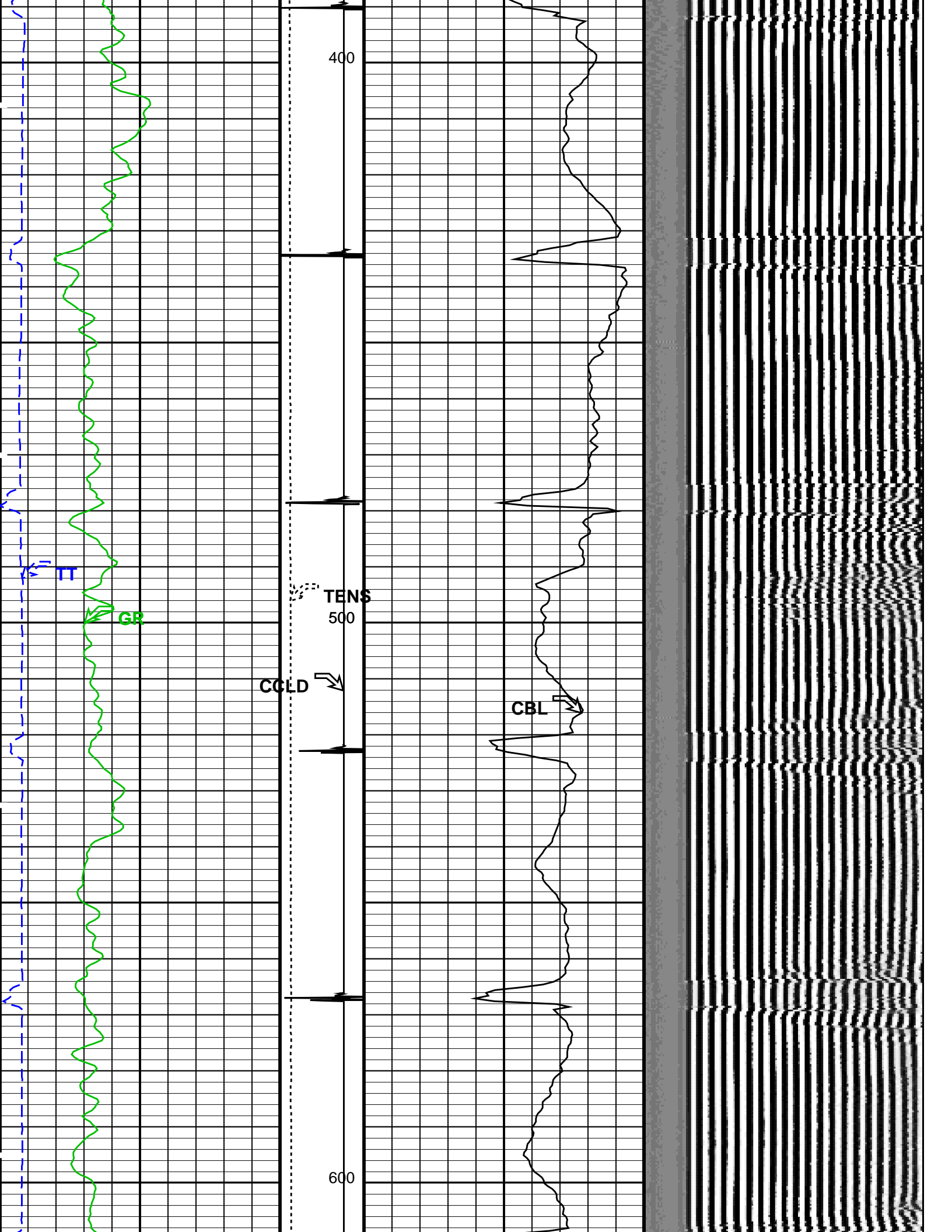
PIP SUMMARY

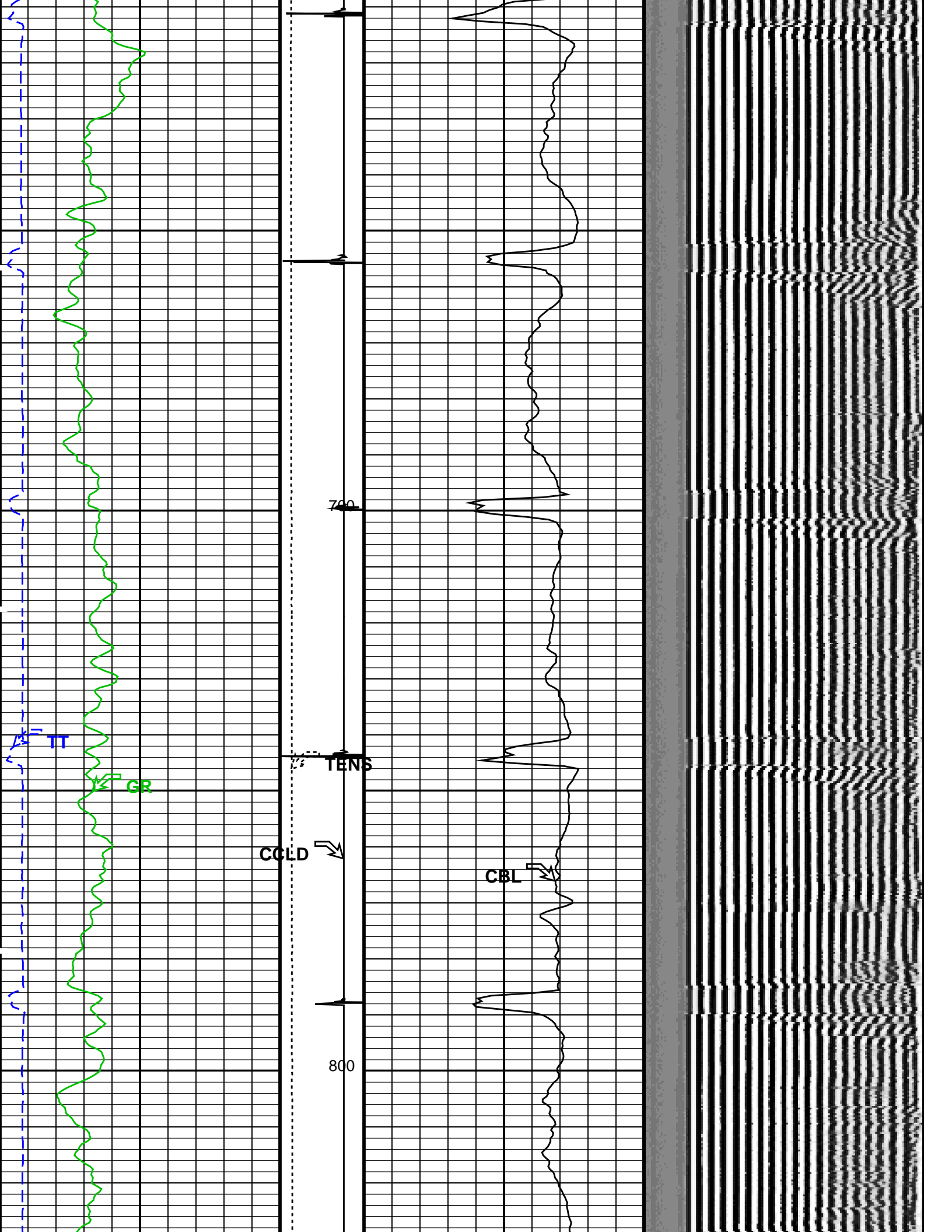
☒ Time Mark Every 60 S

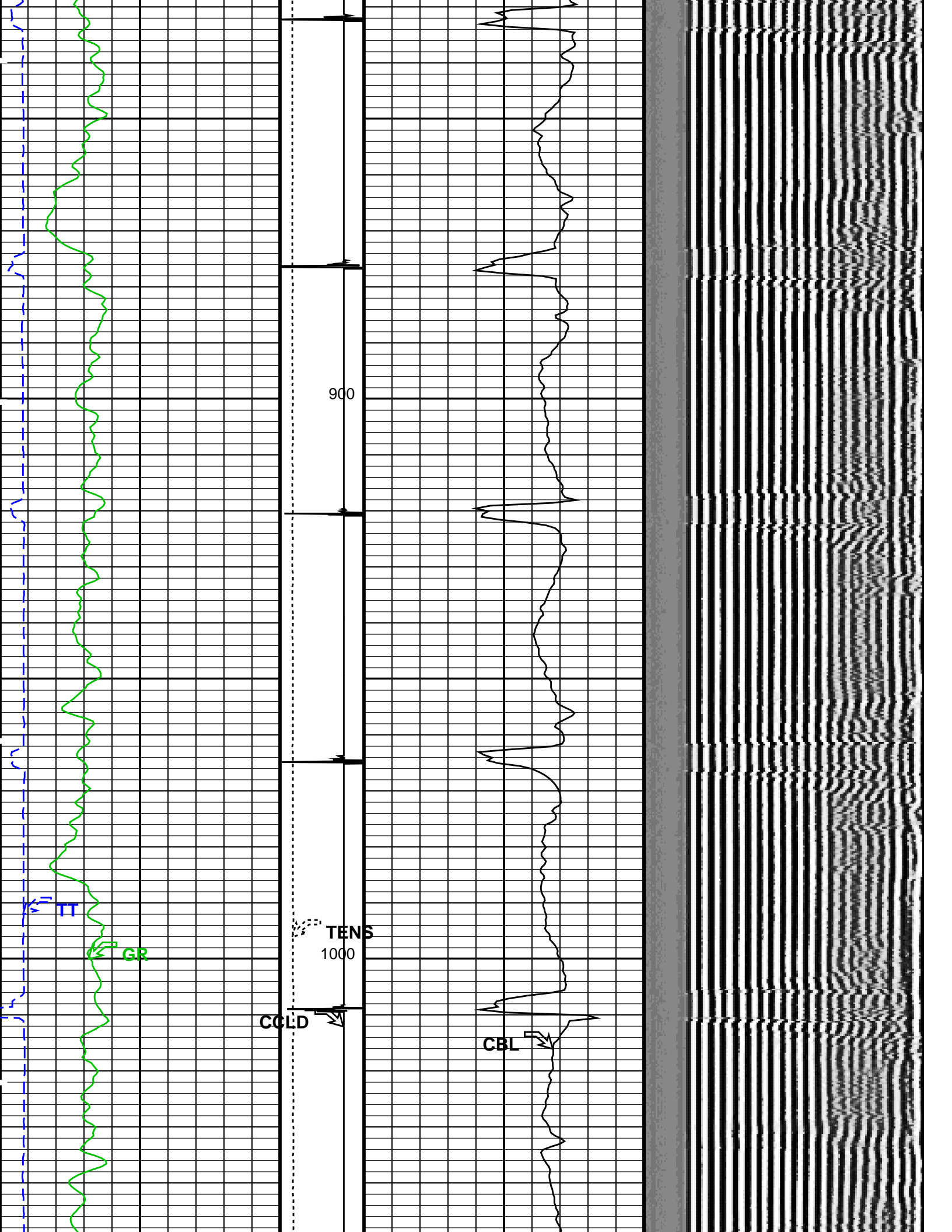


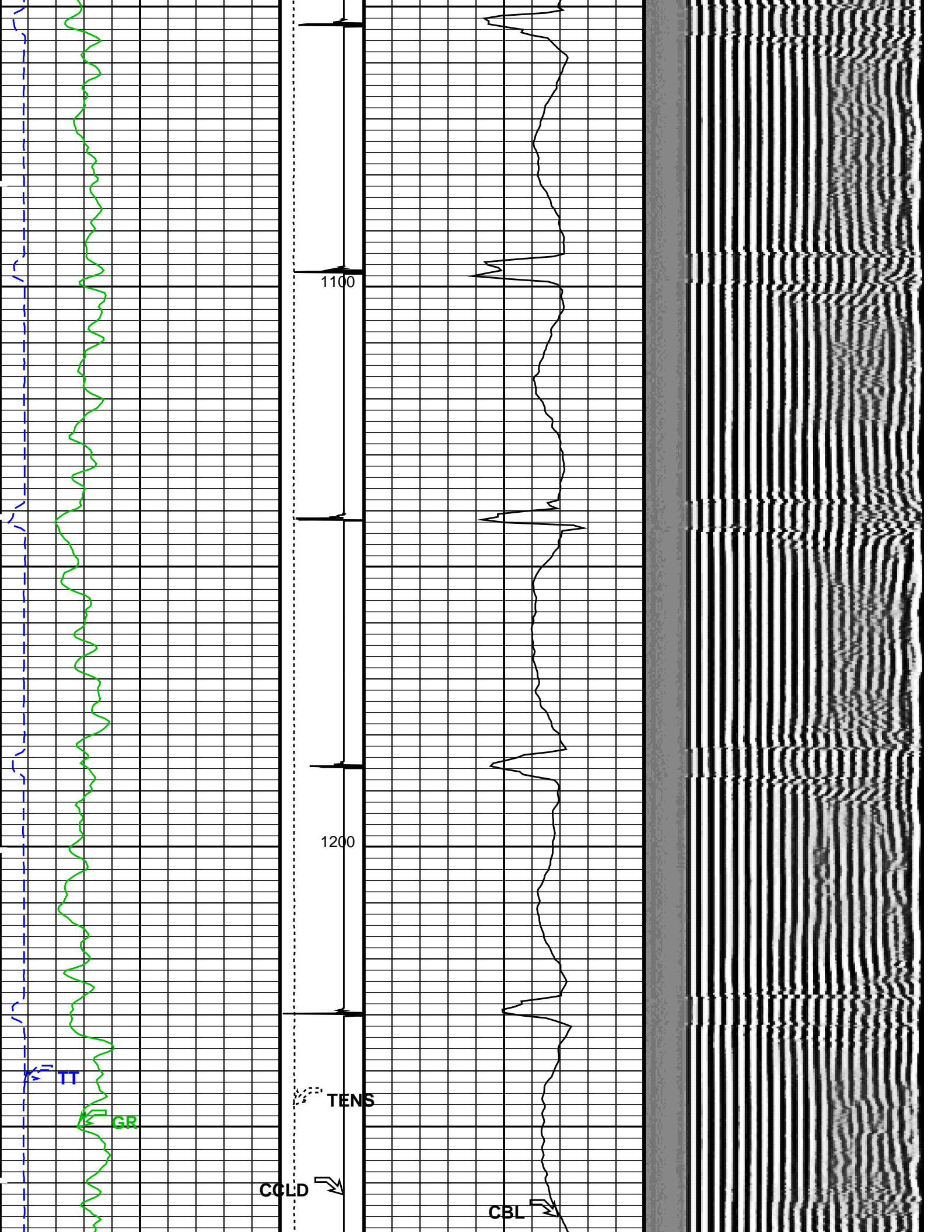


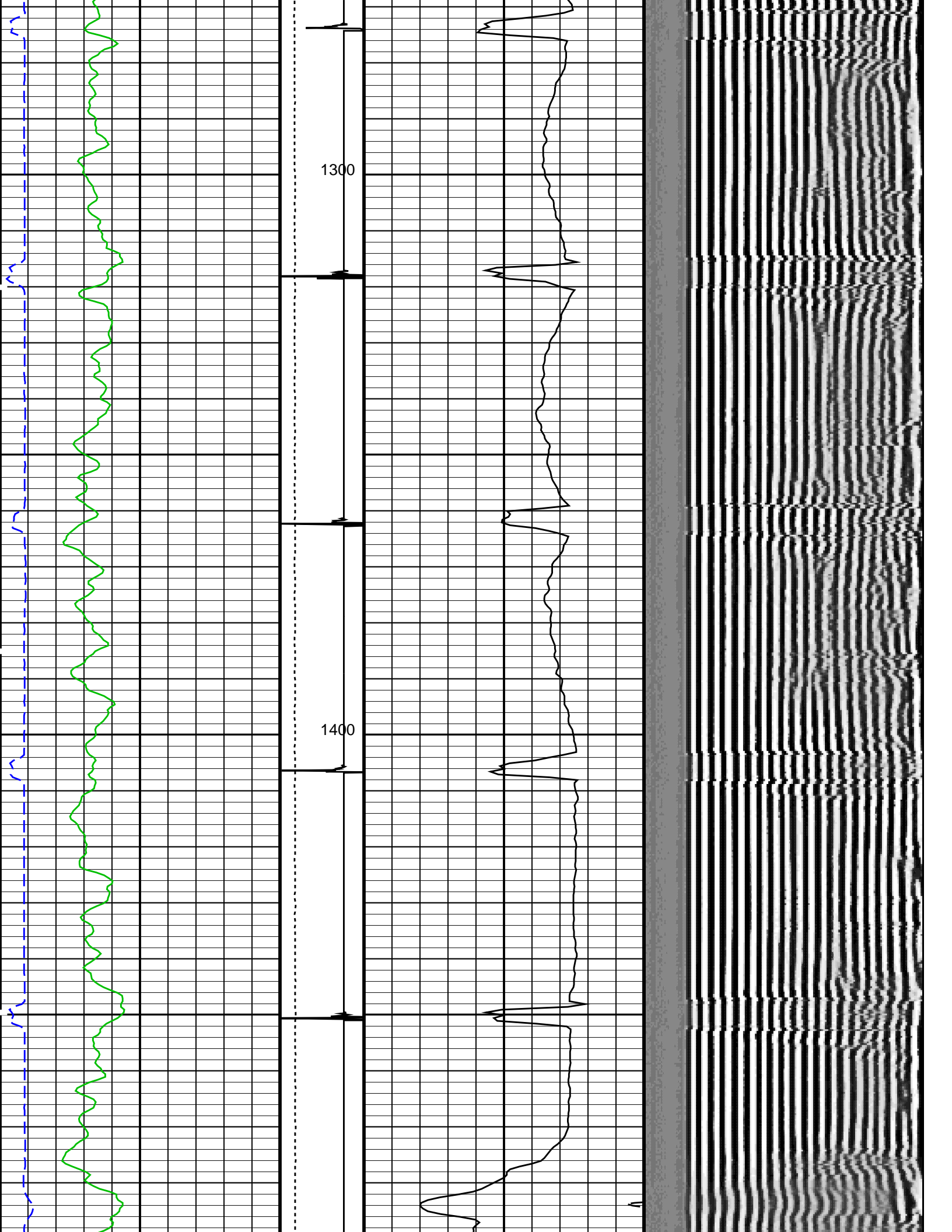


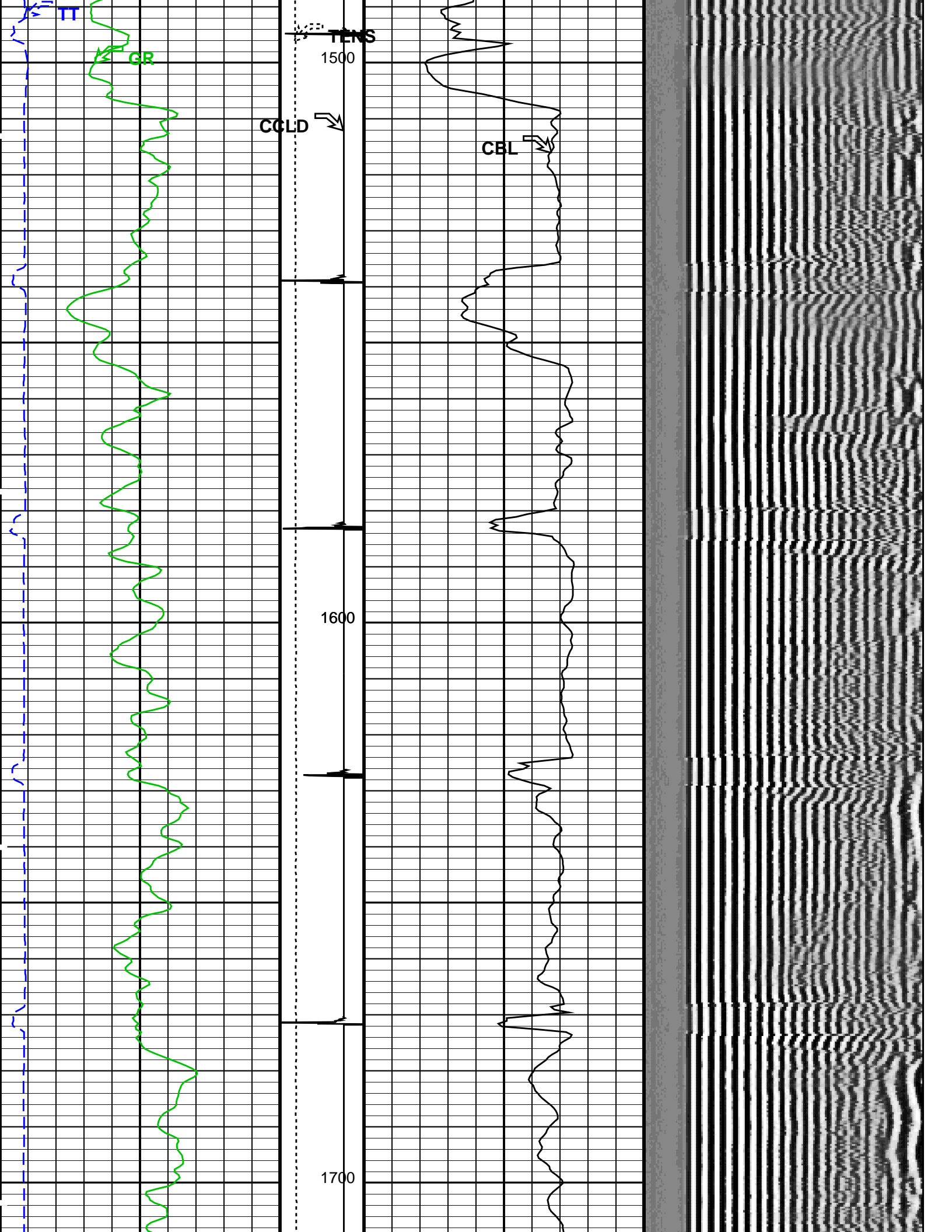


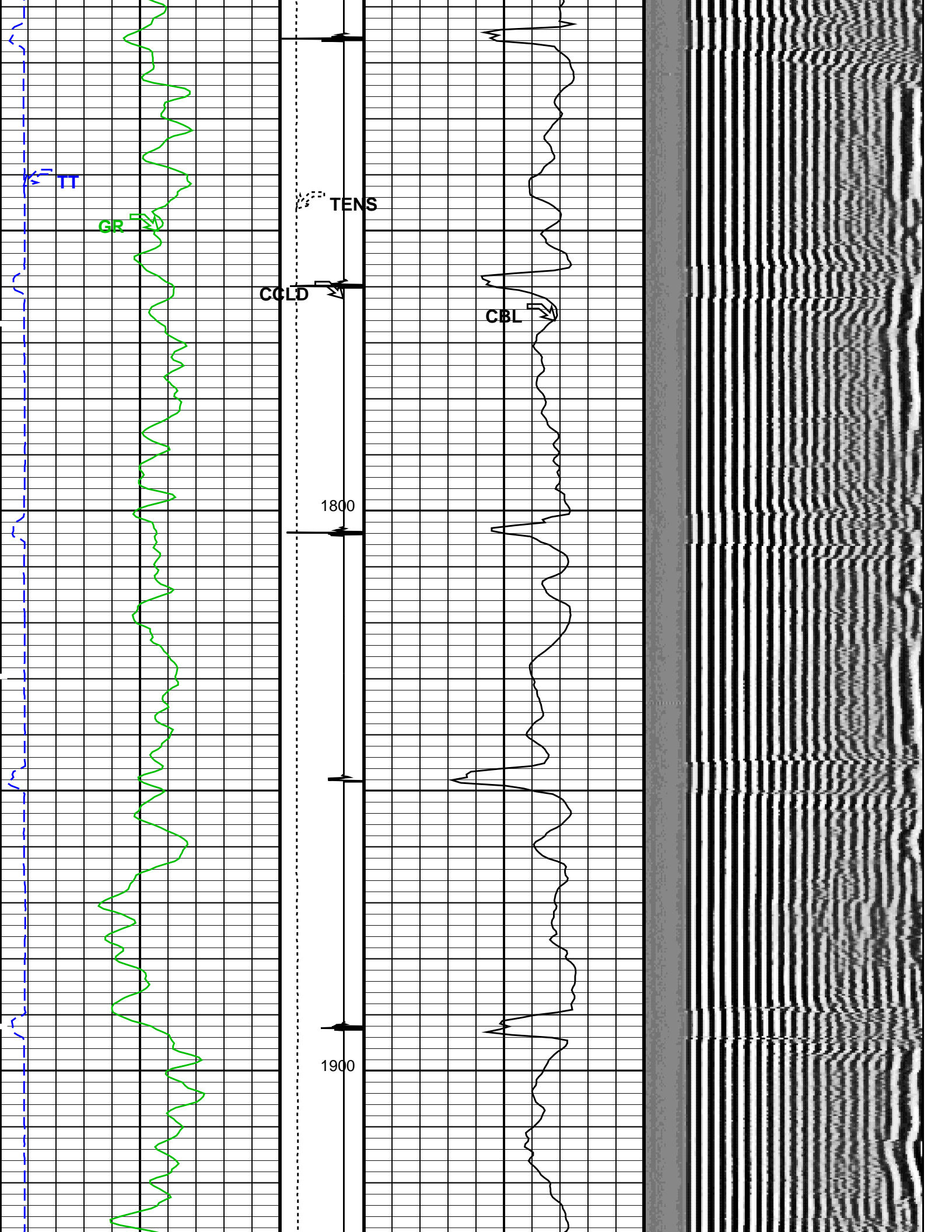


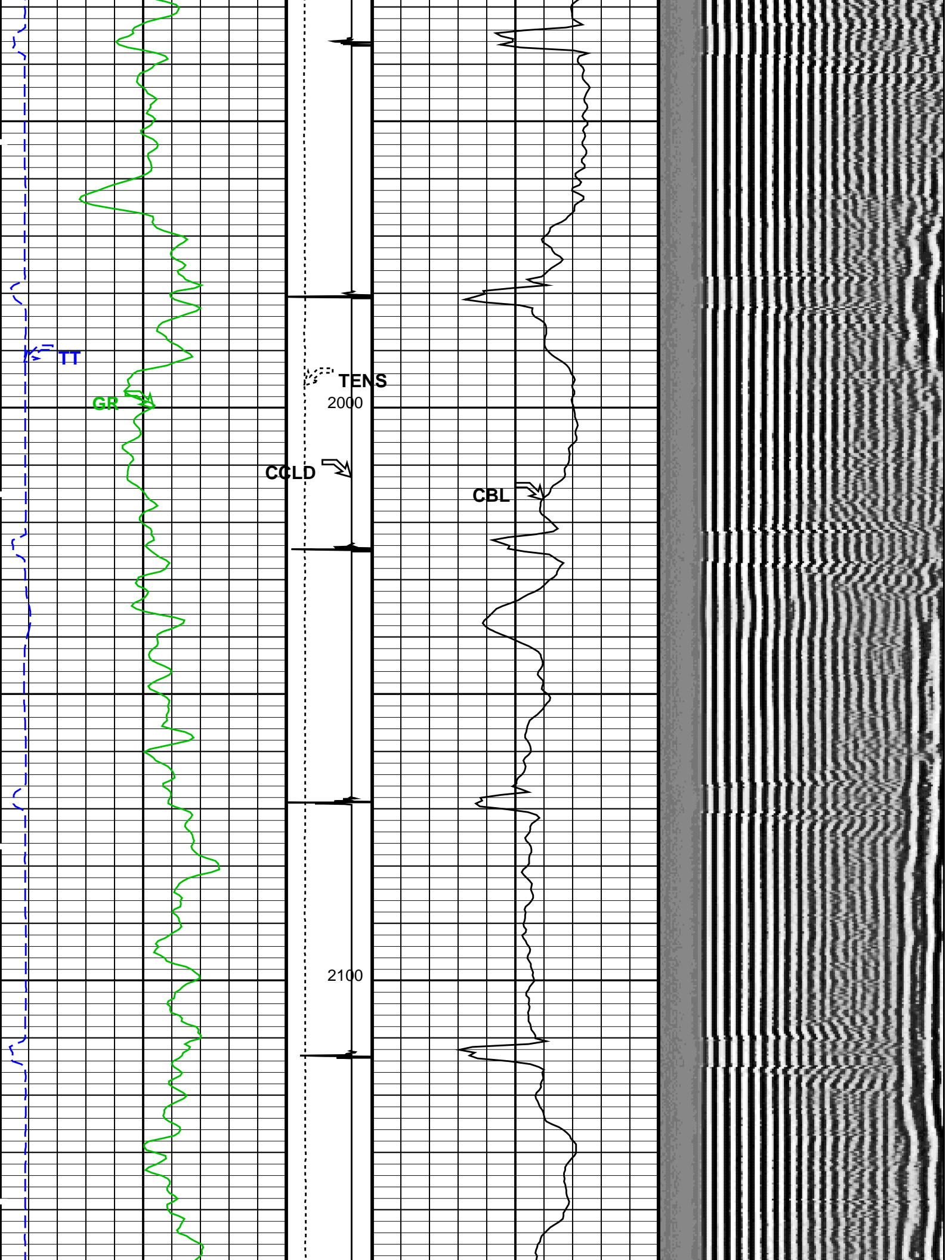


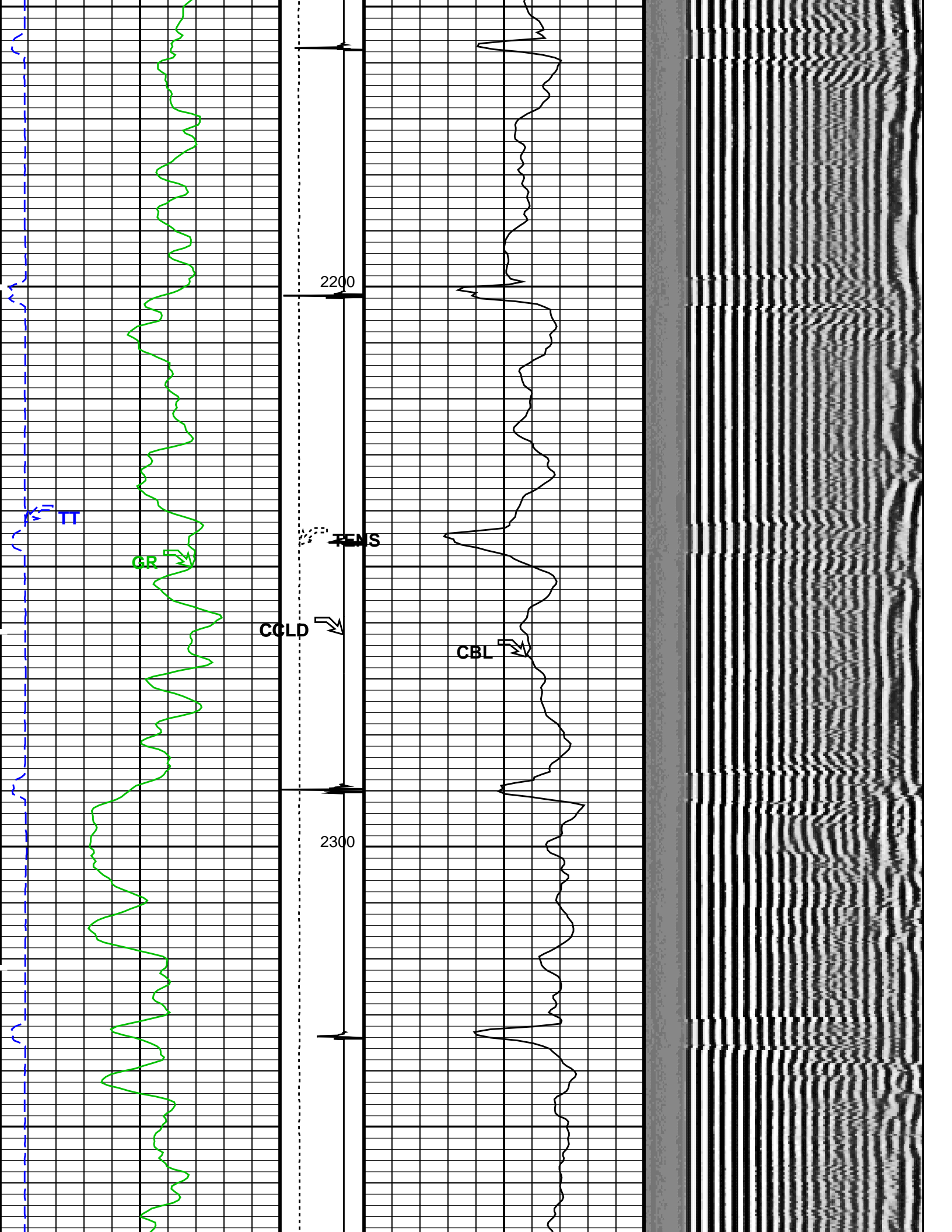


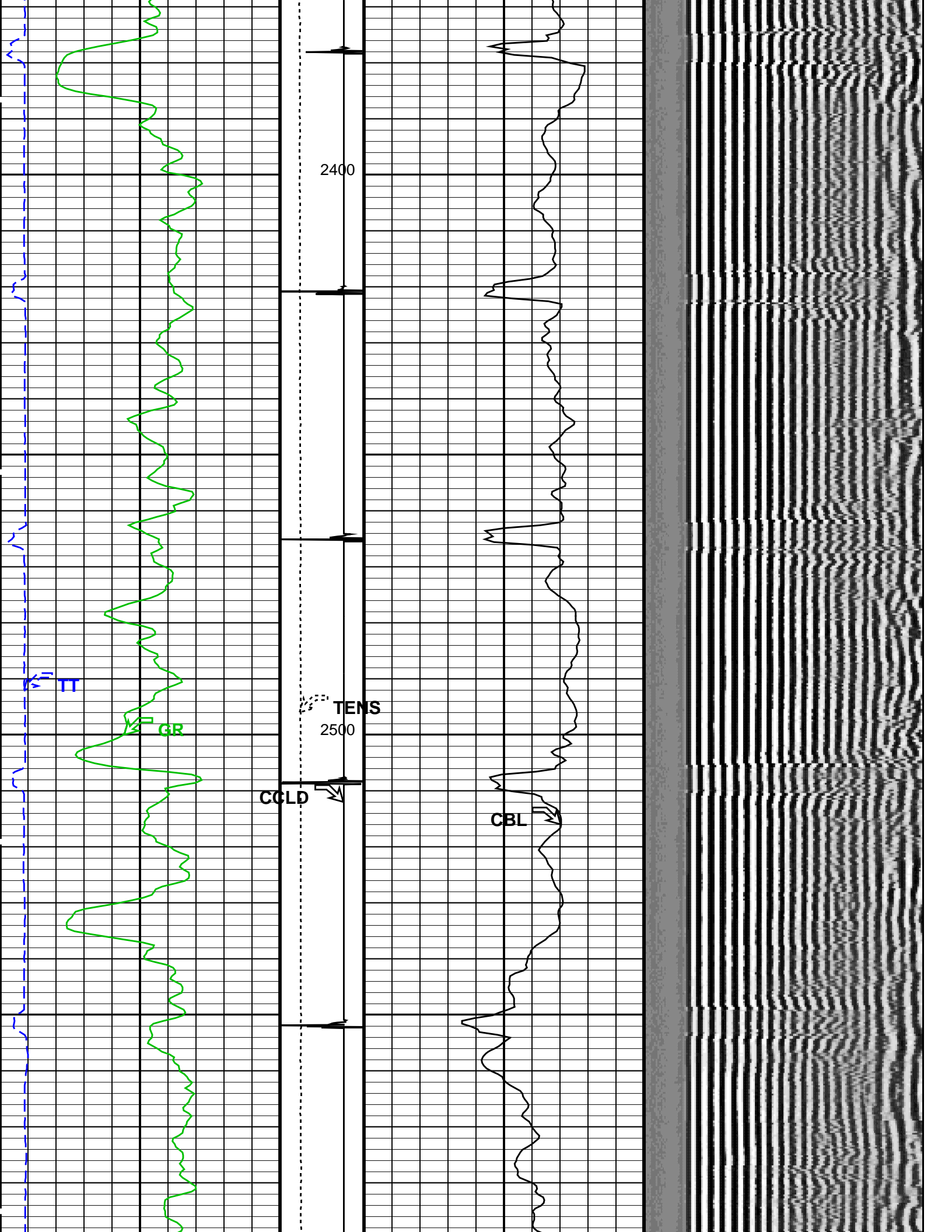


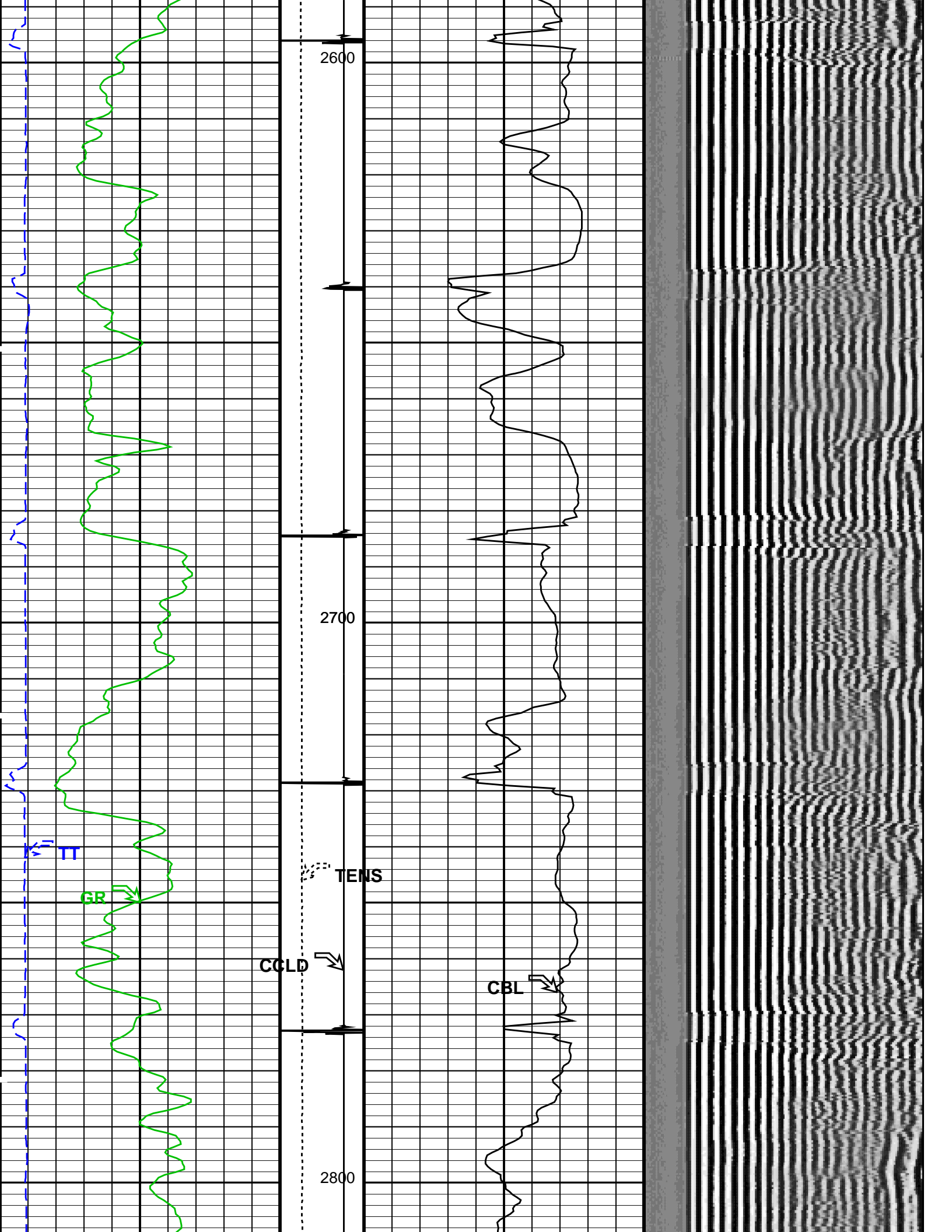


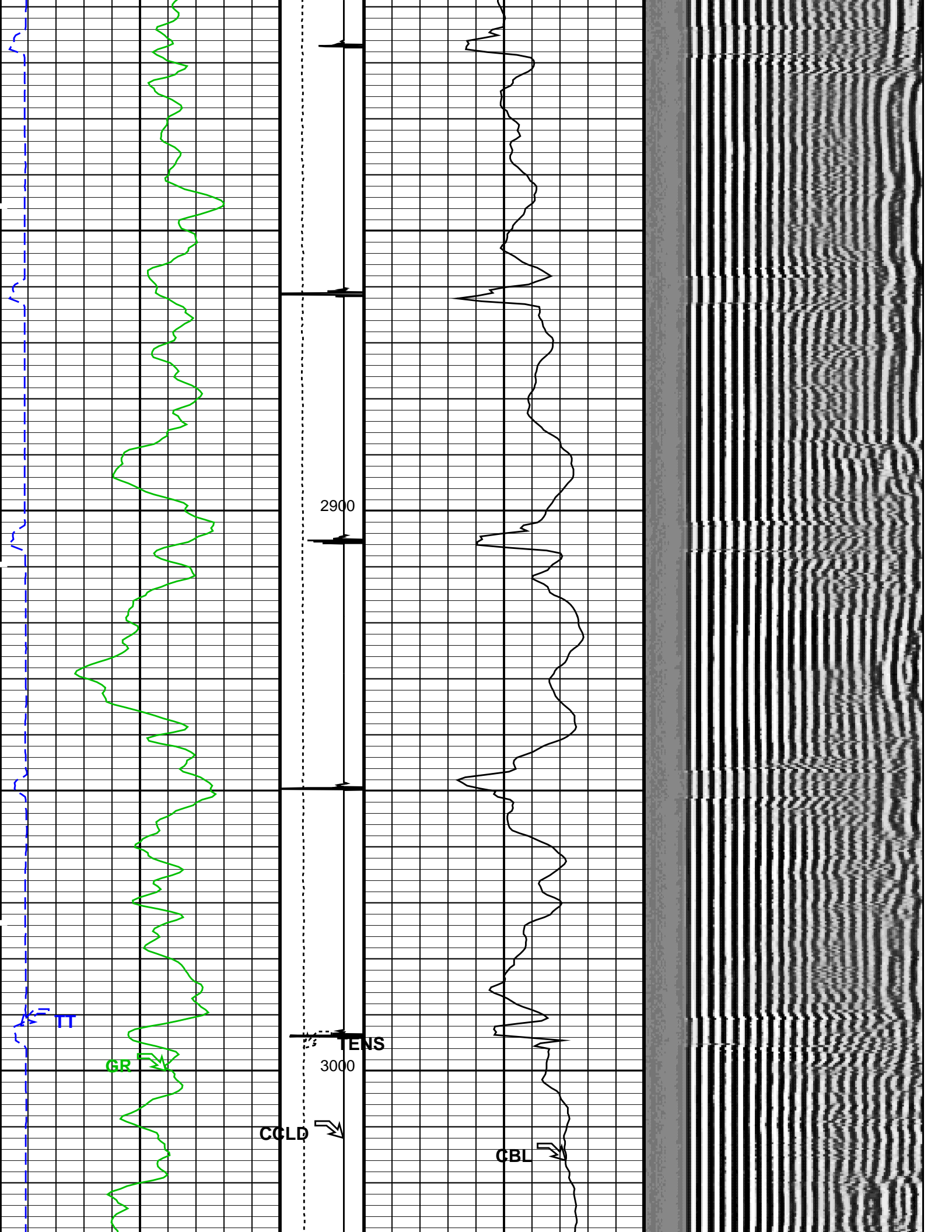


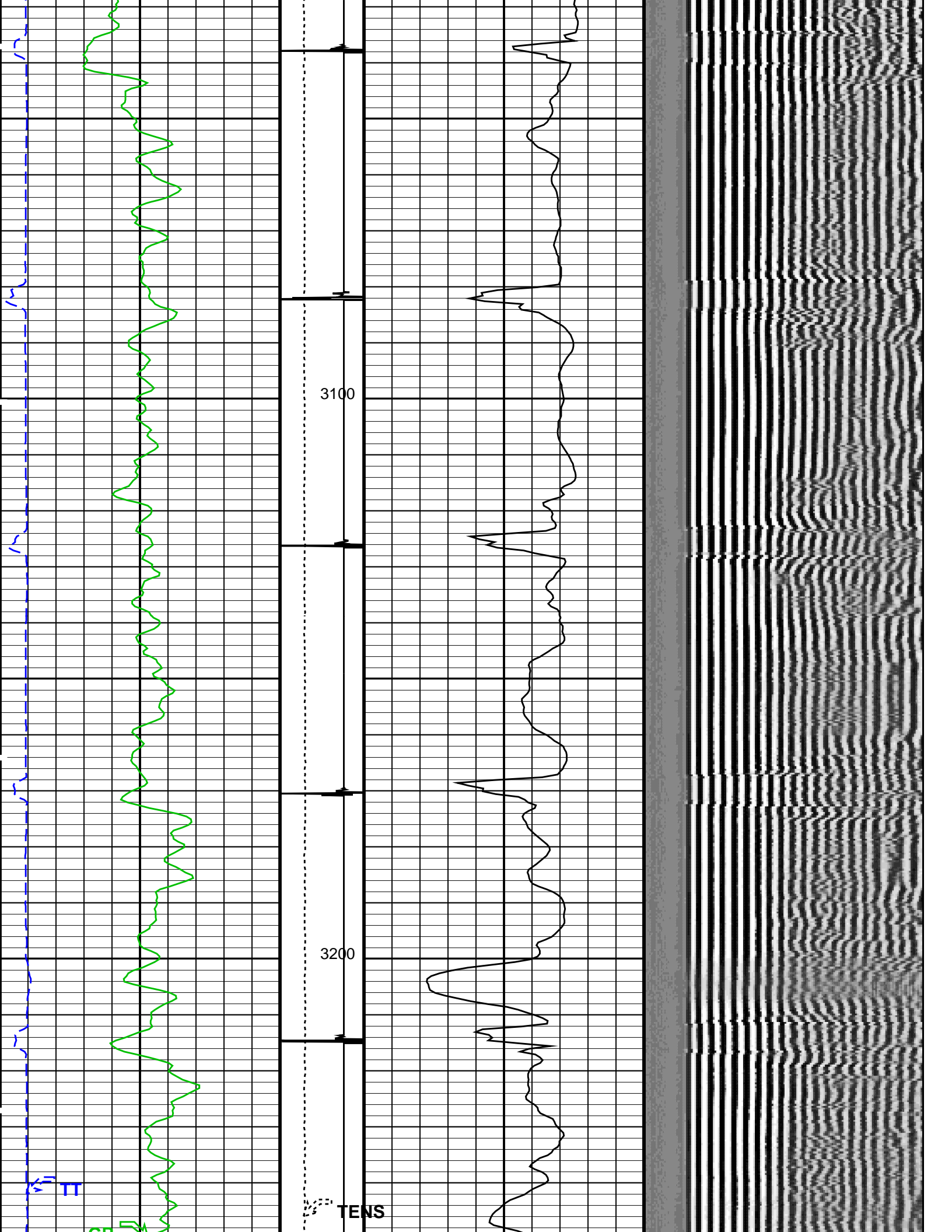


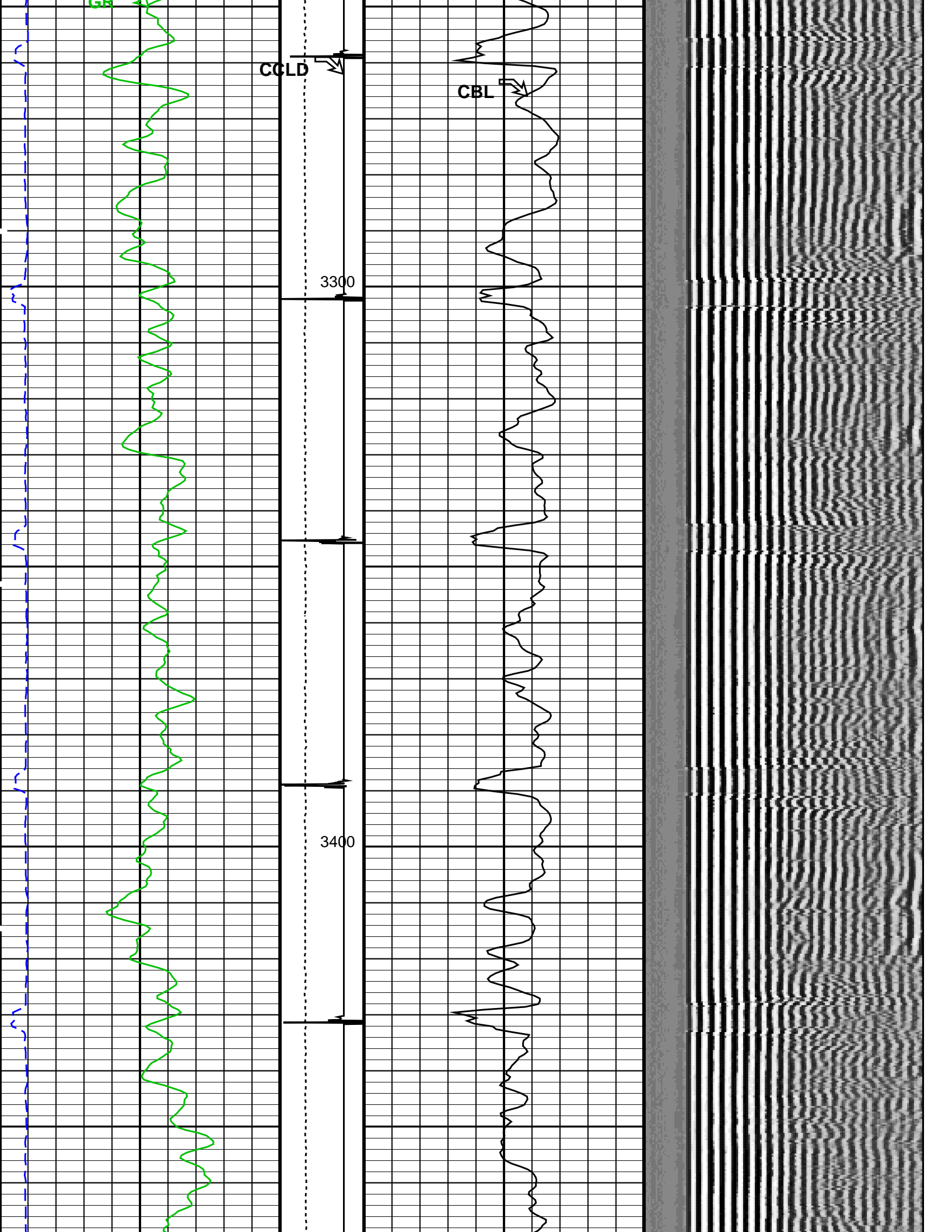


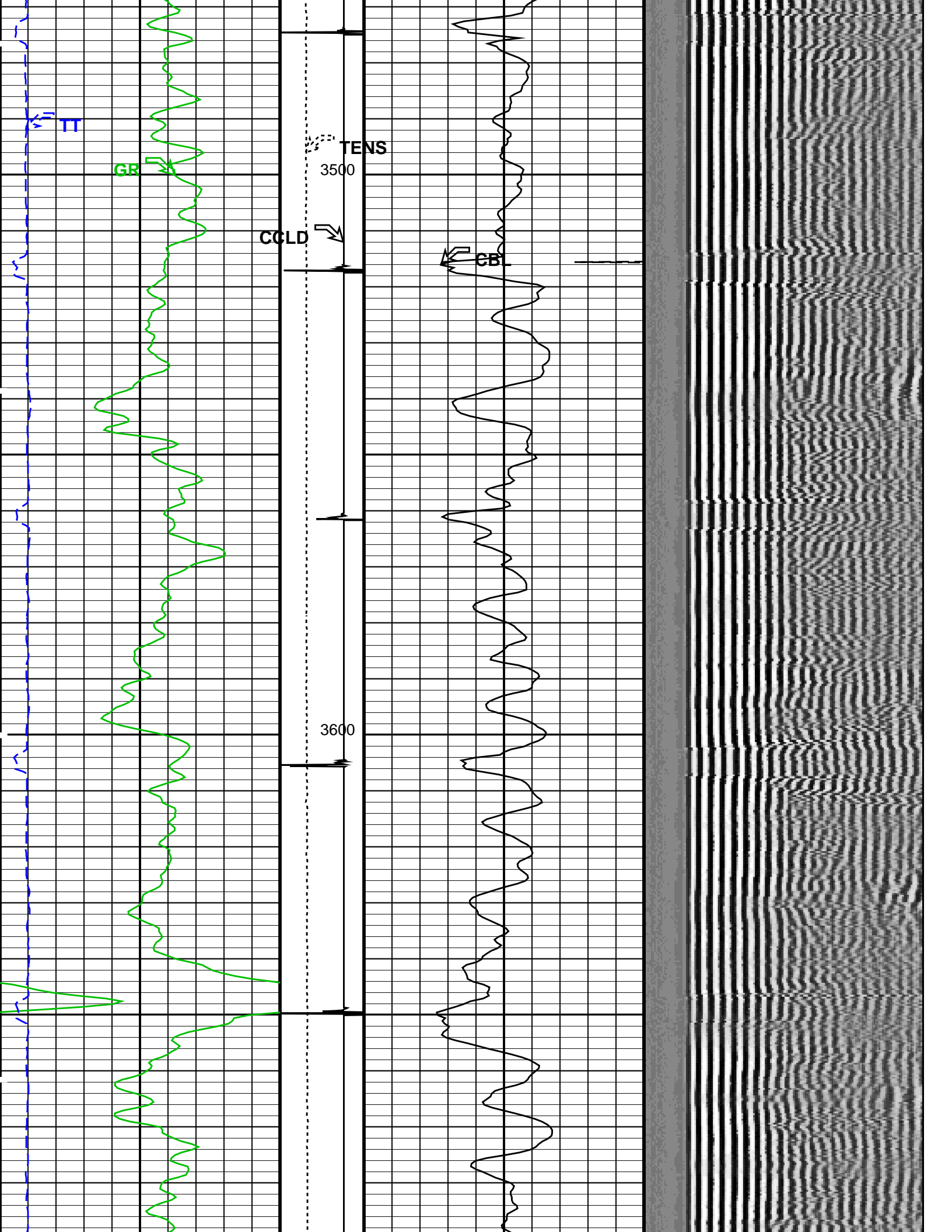


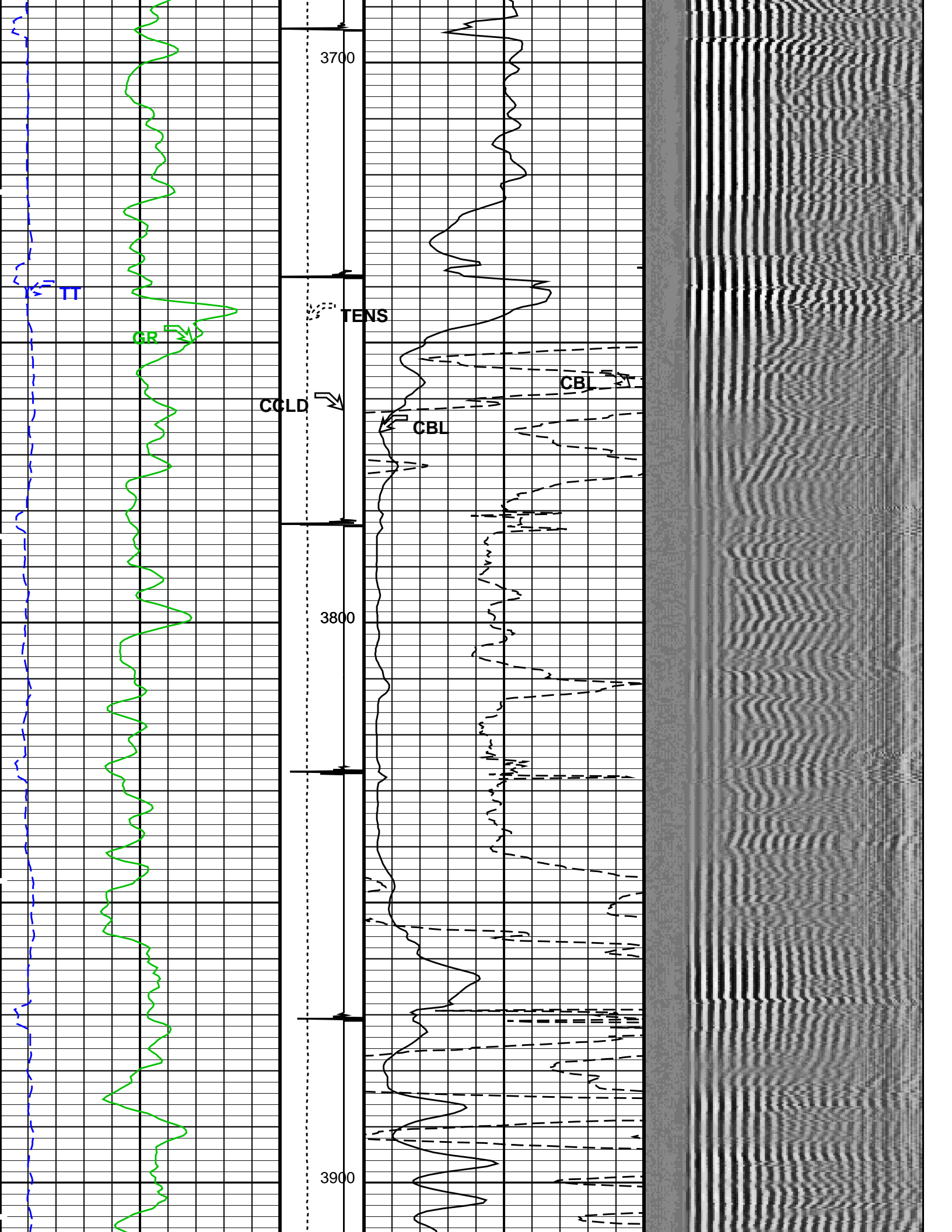


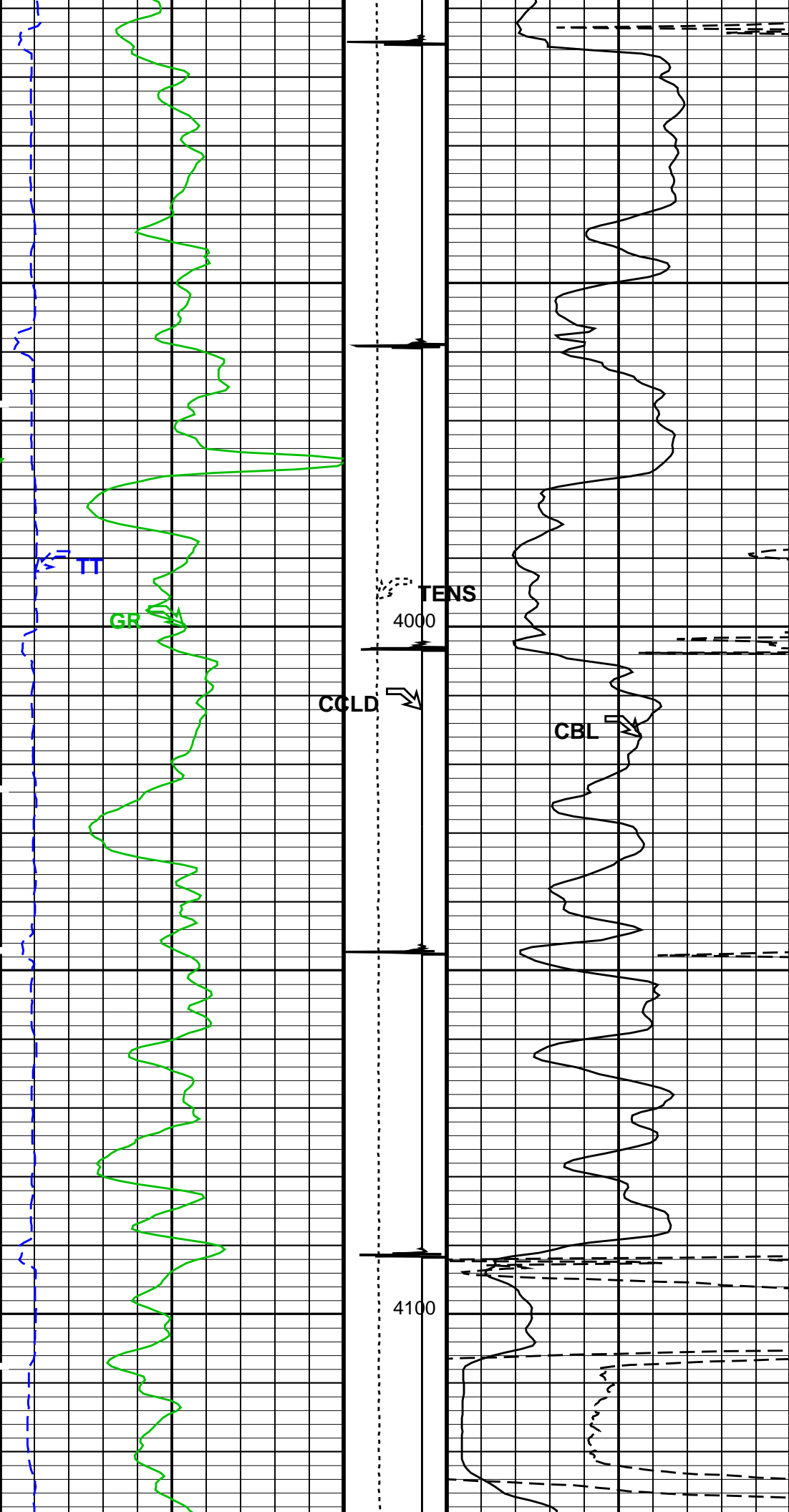


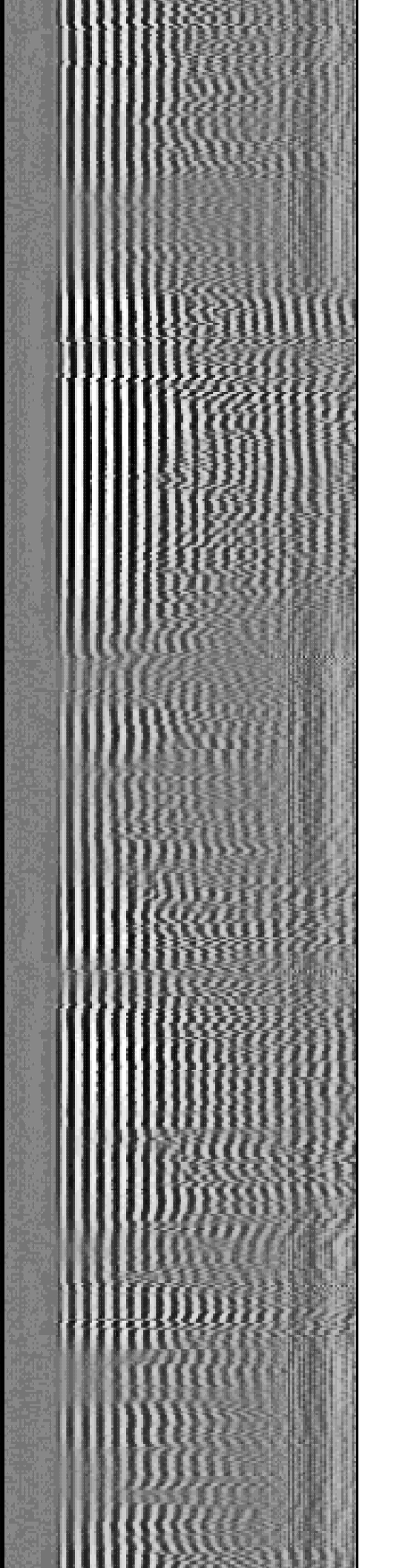
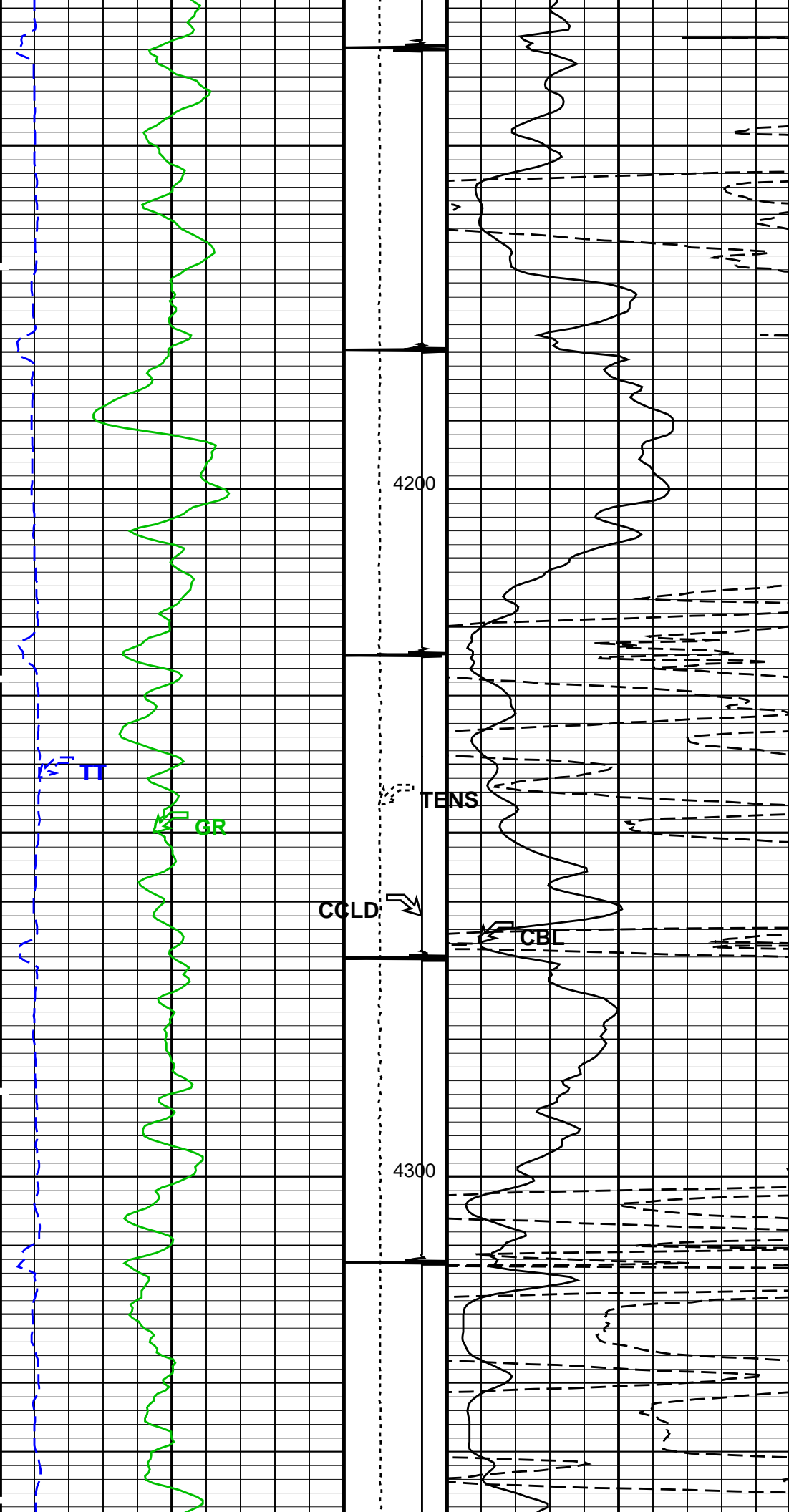


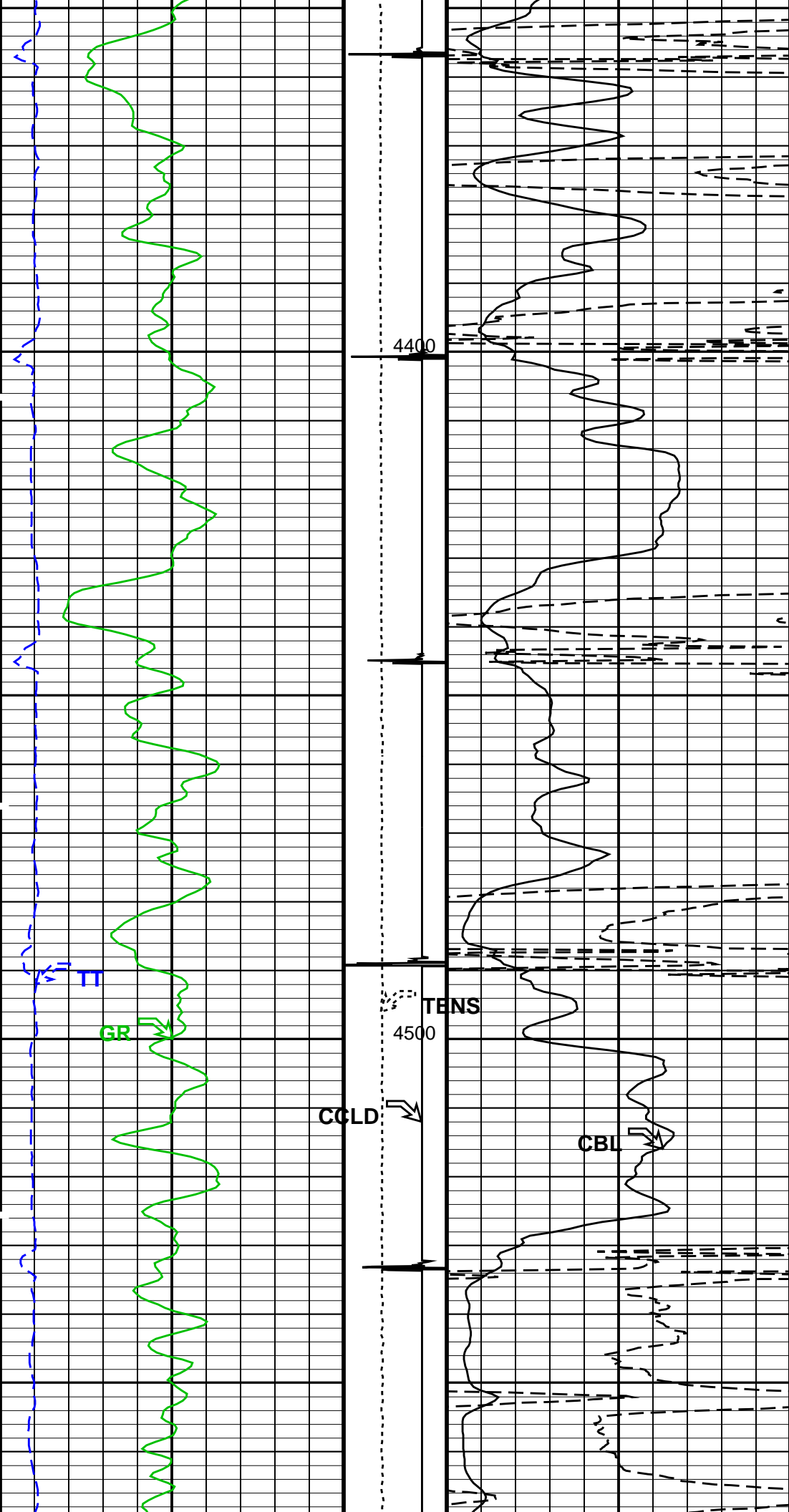


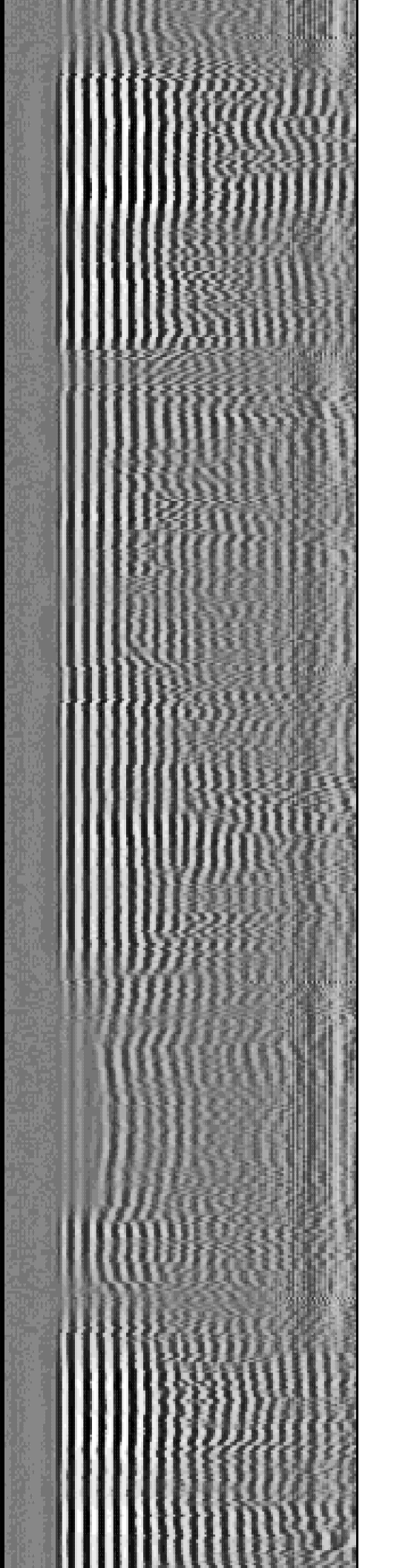
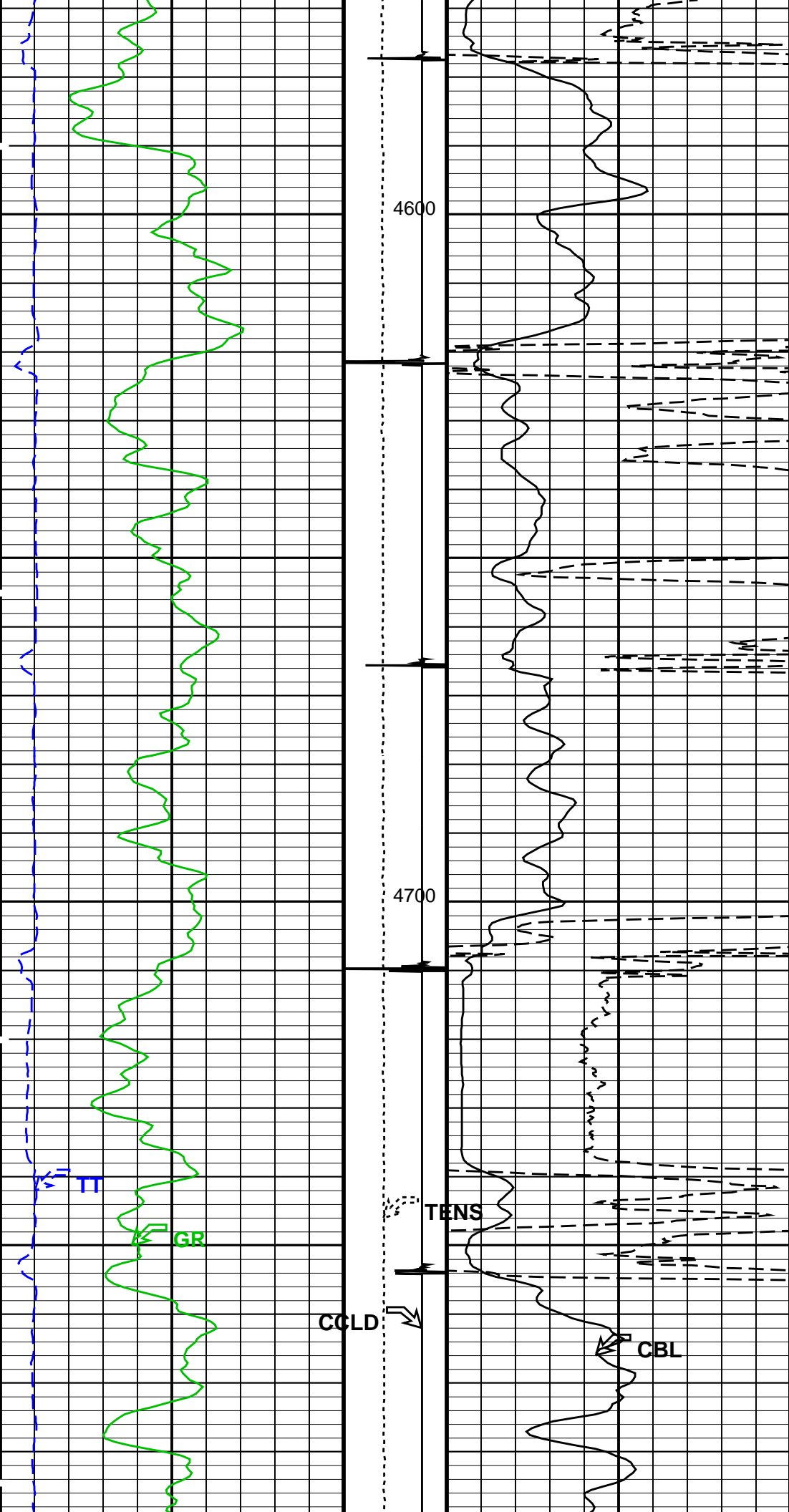


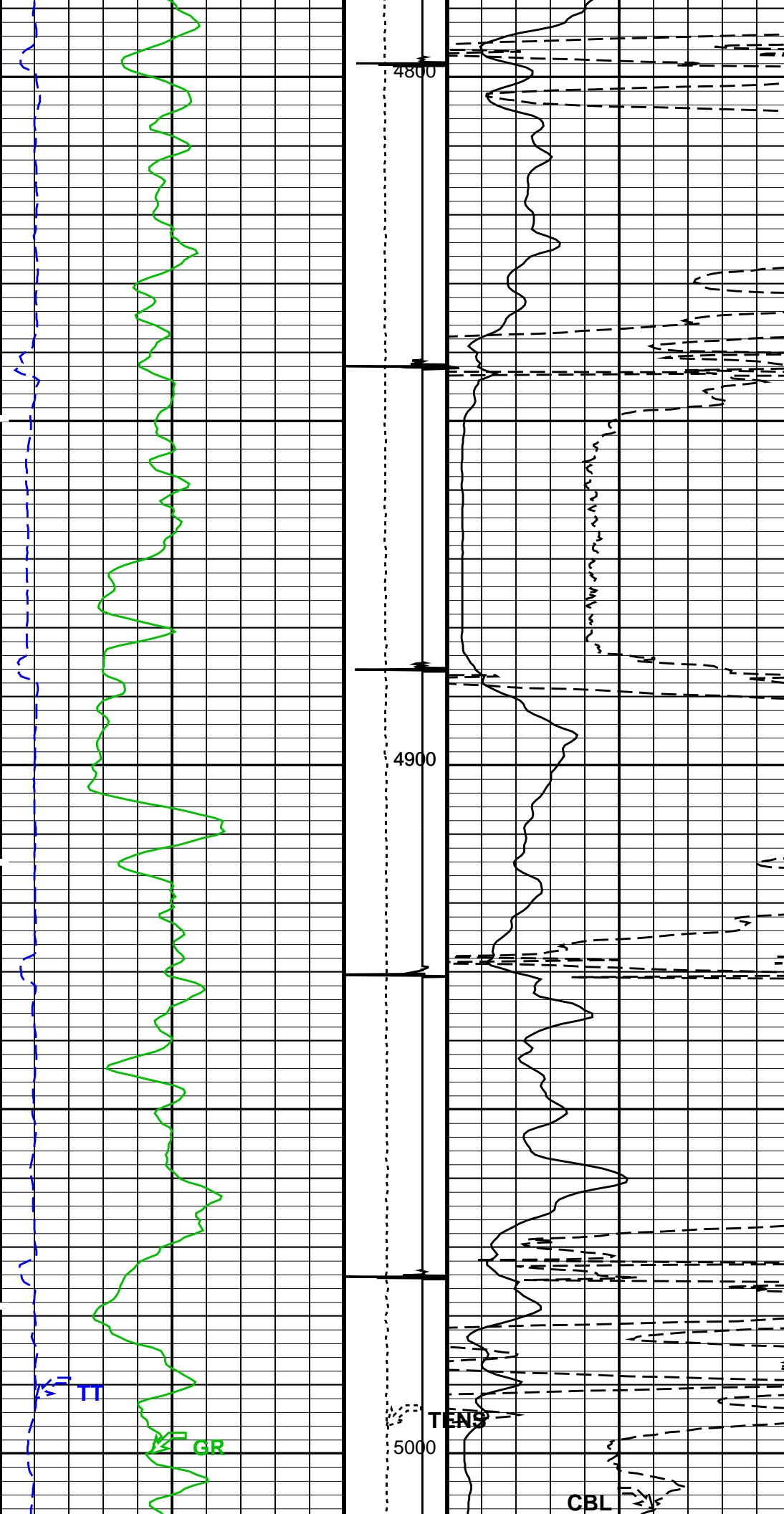


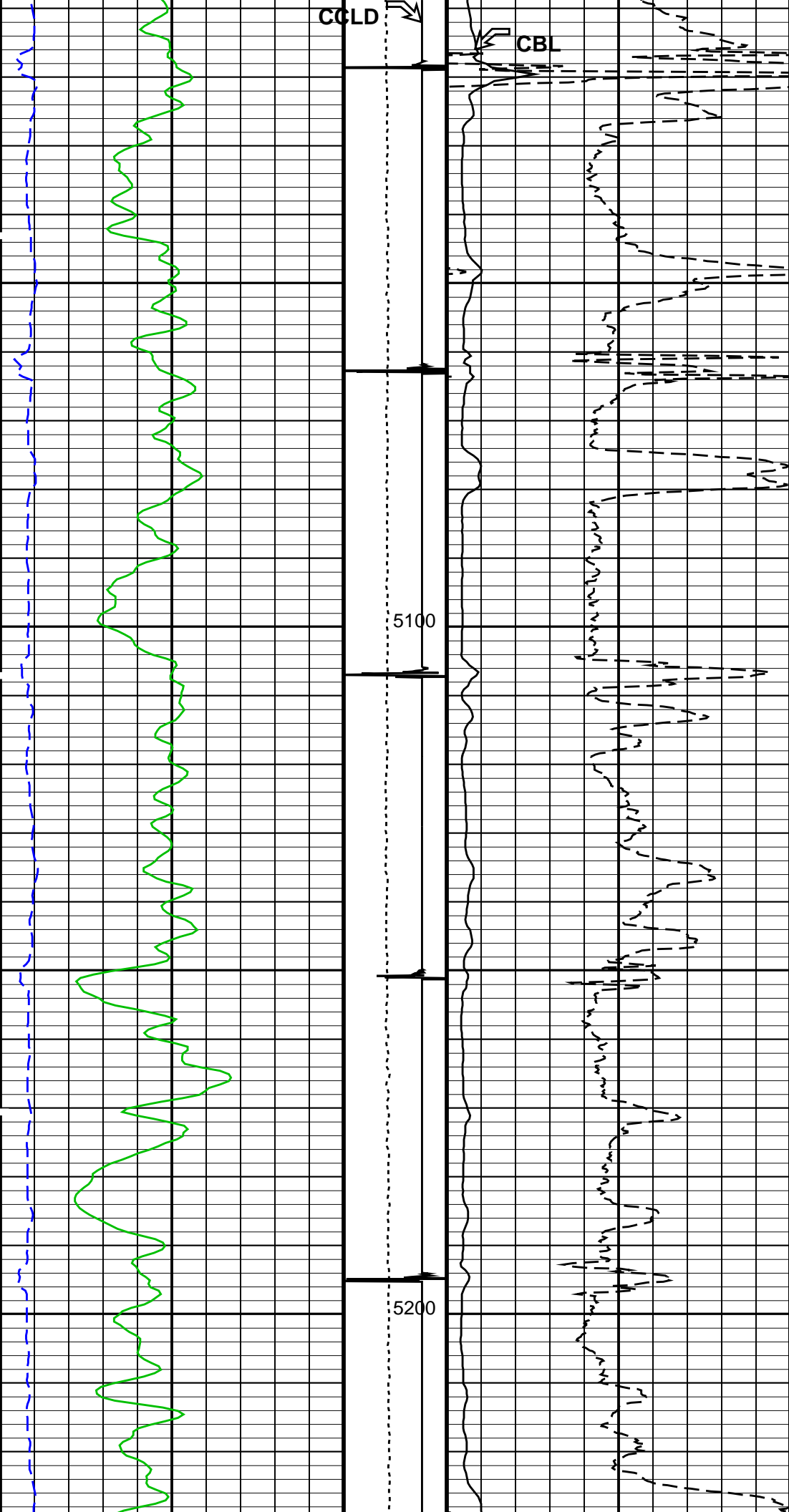


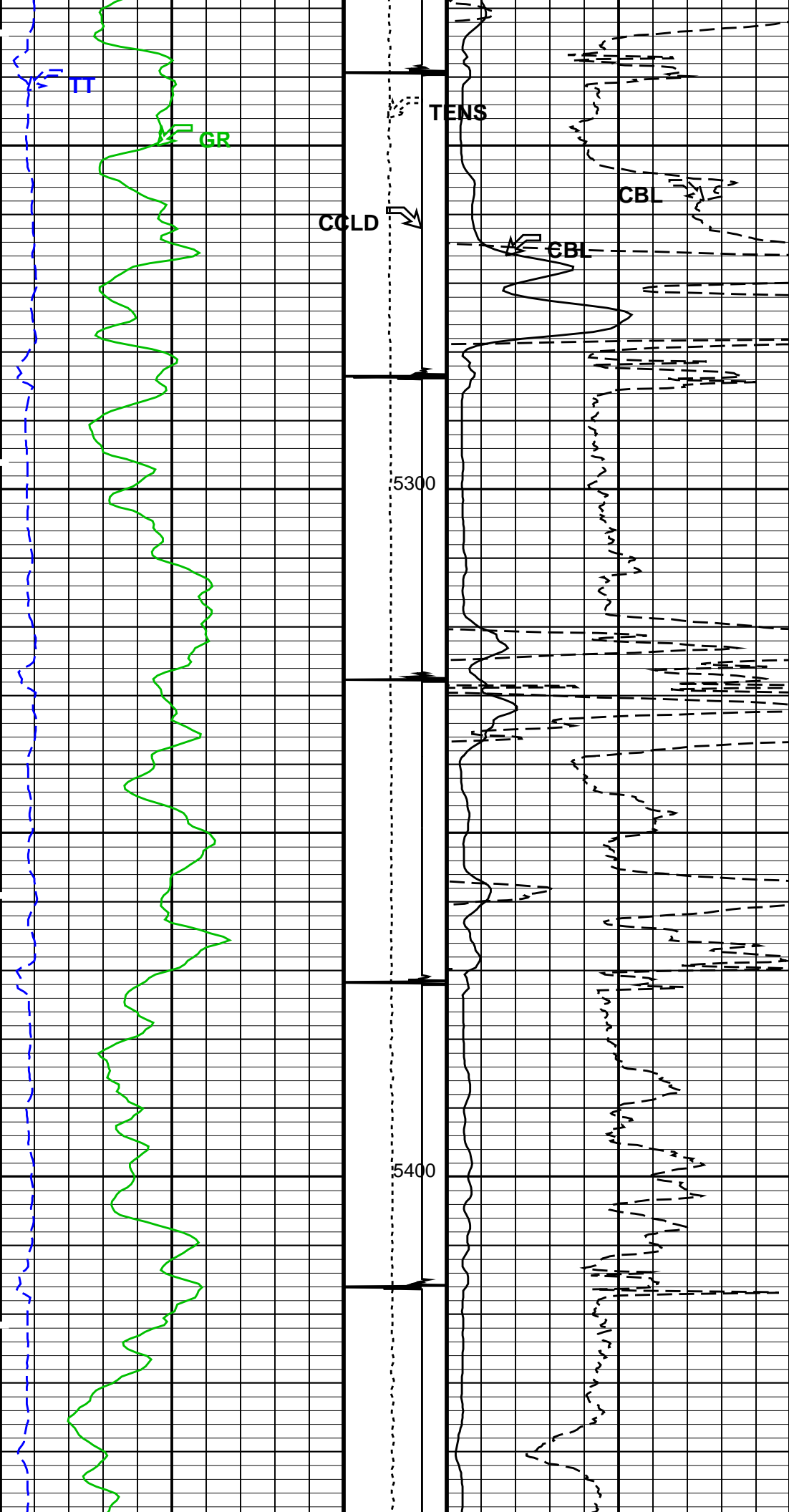


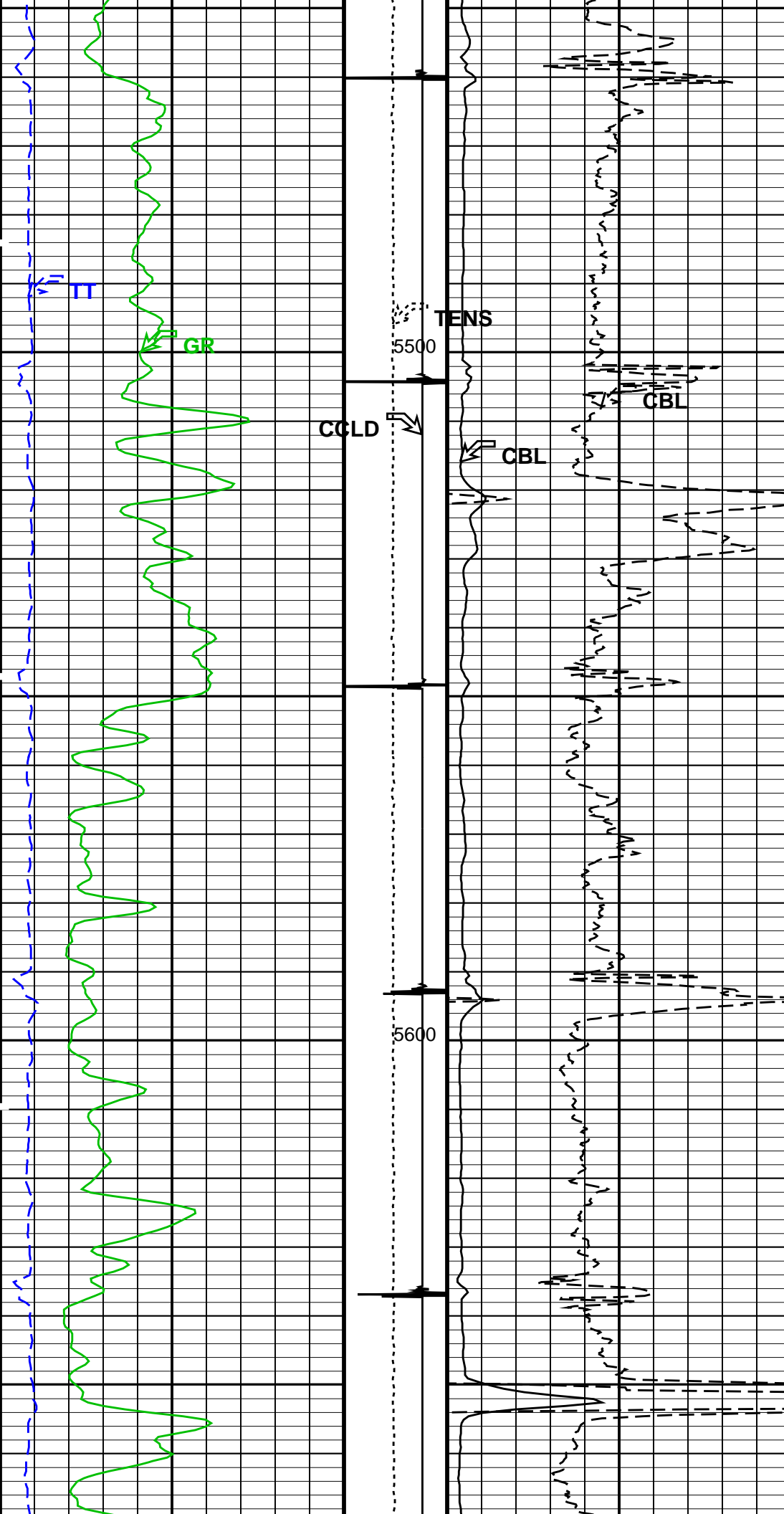


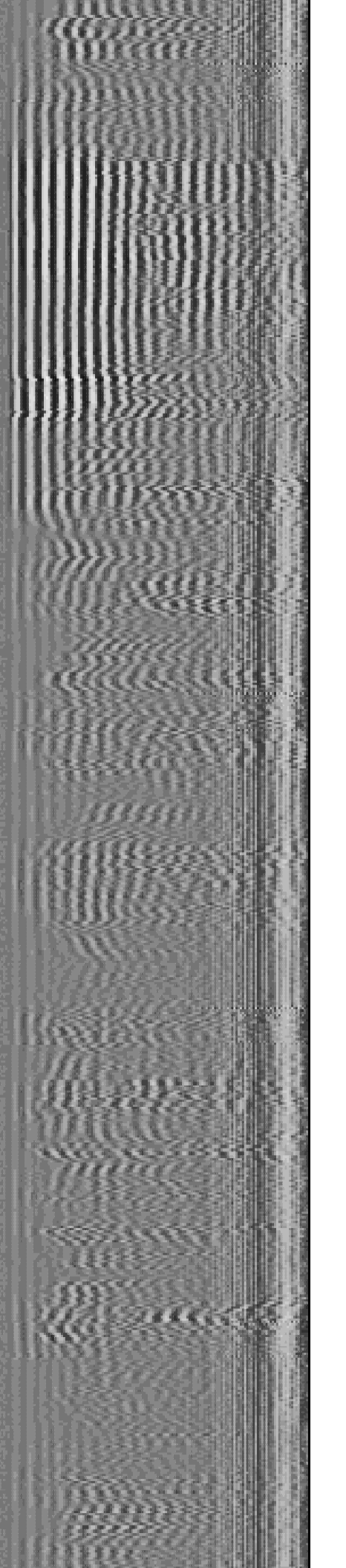
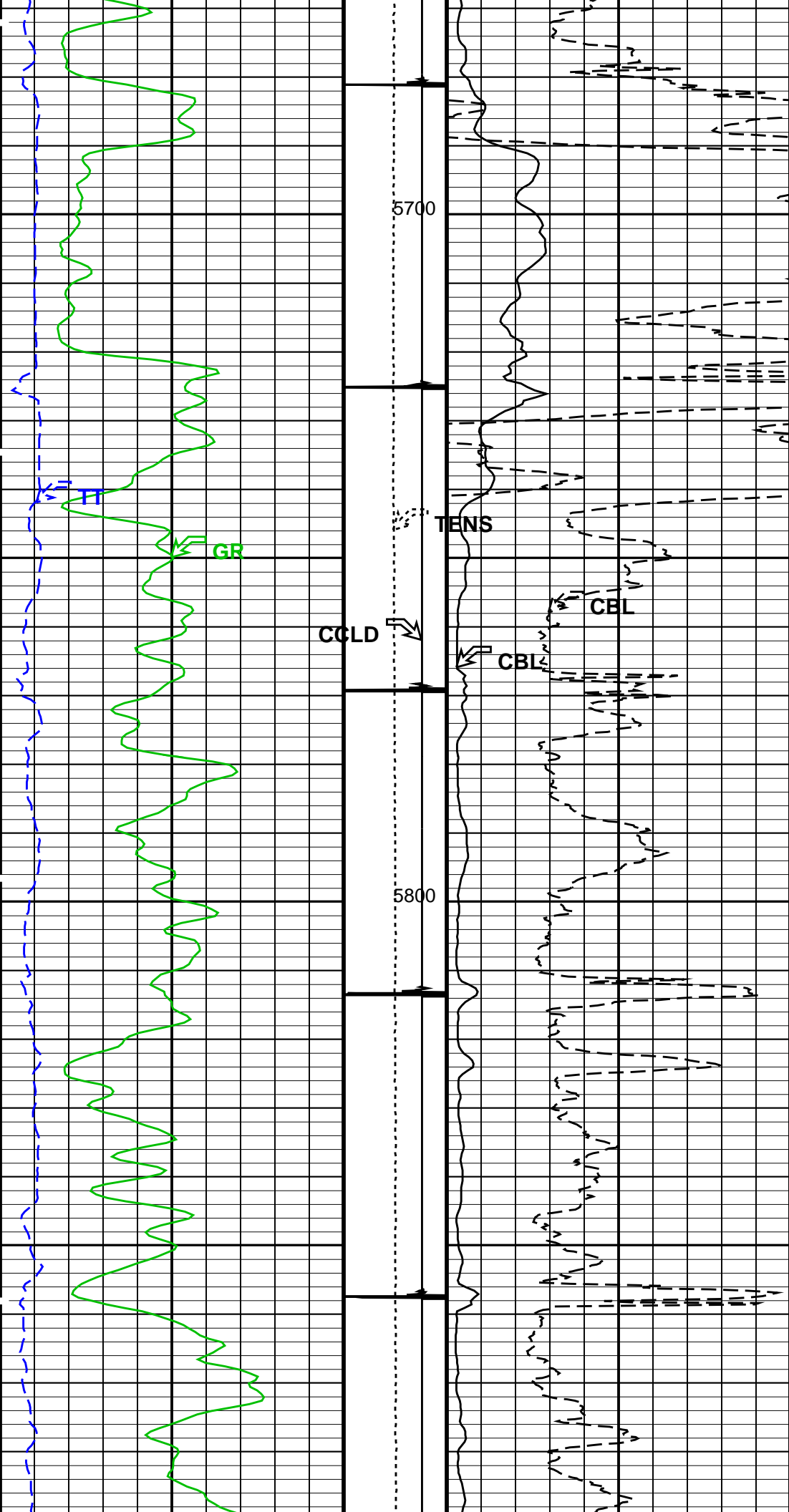


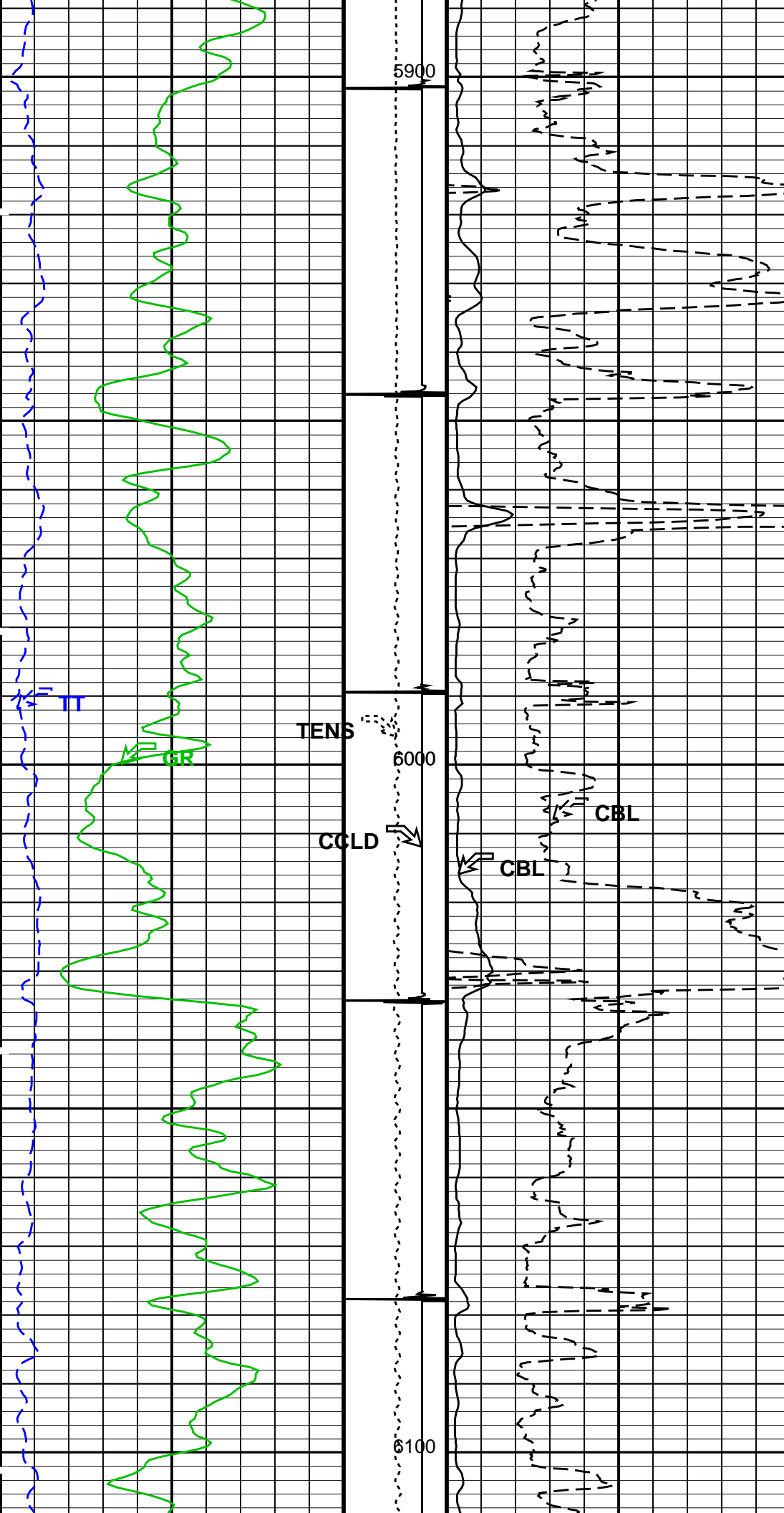


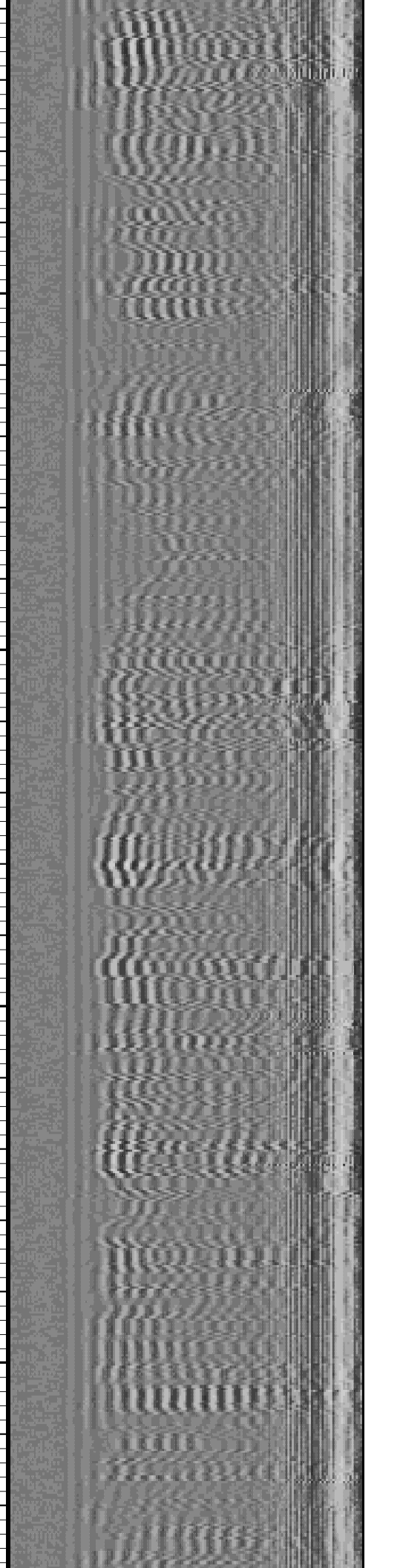
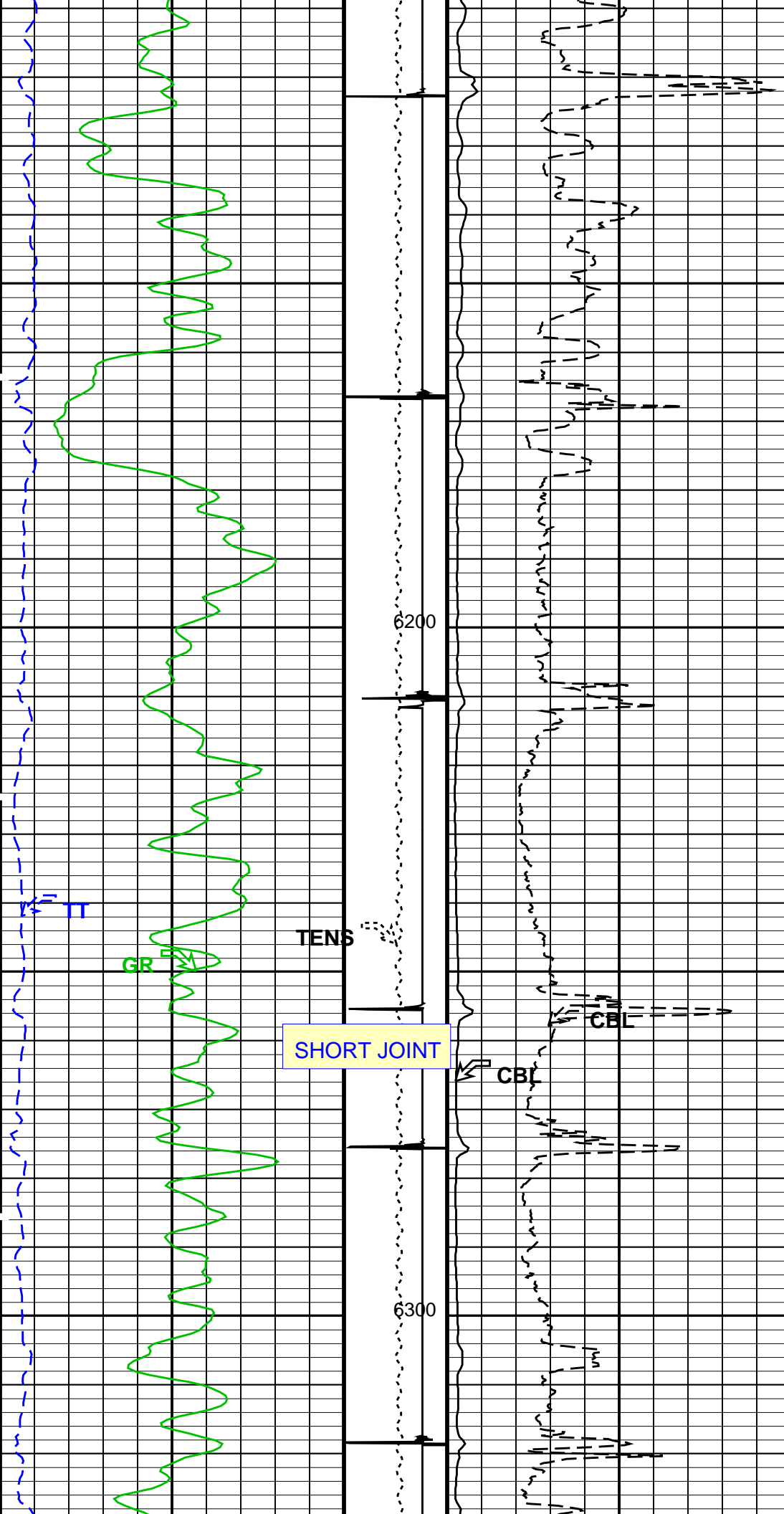


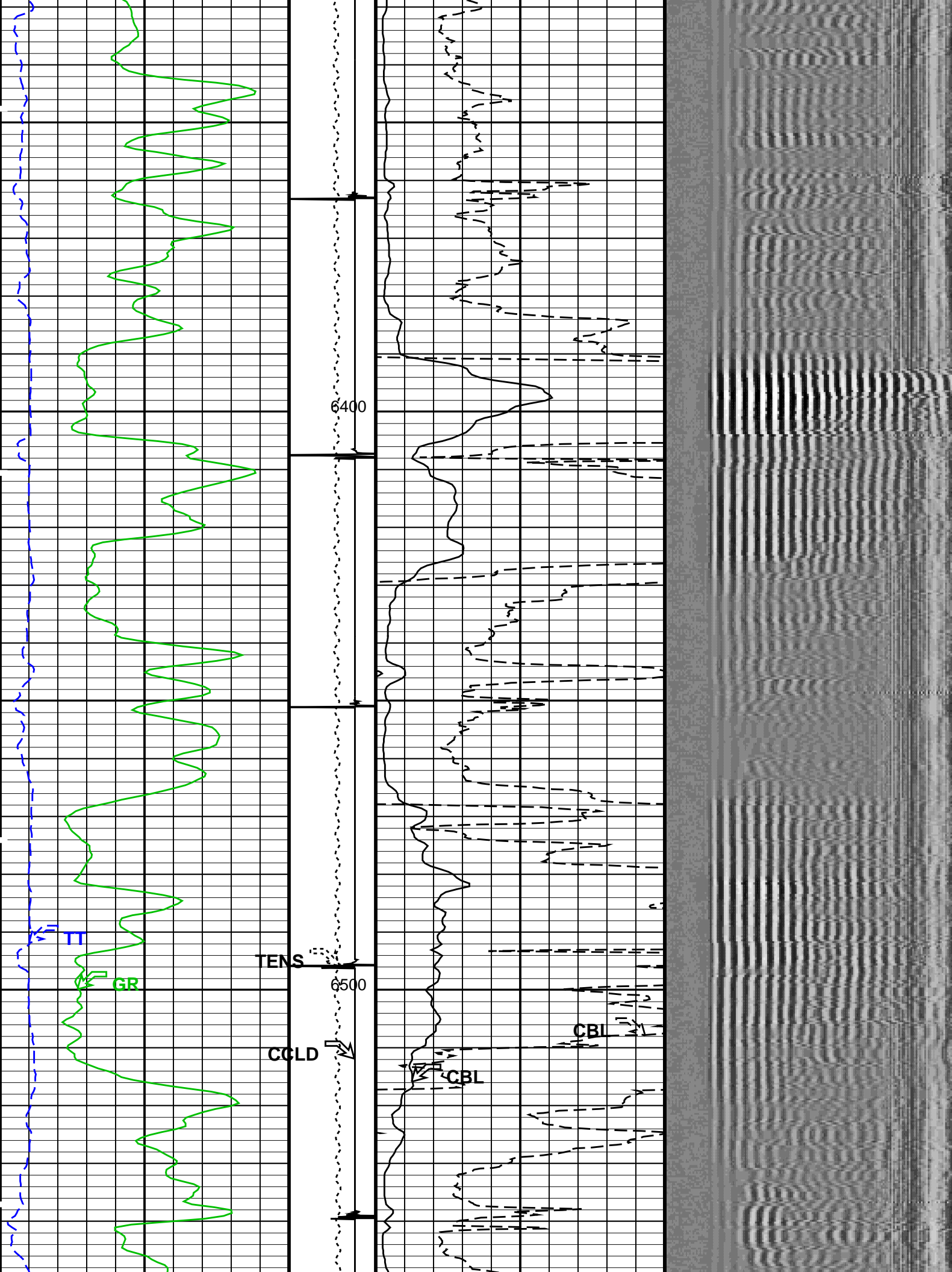


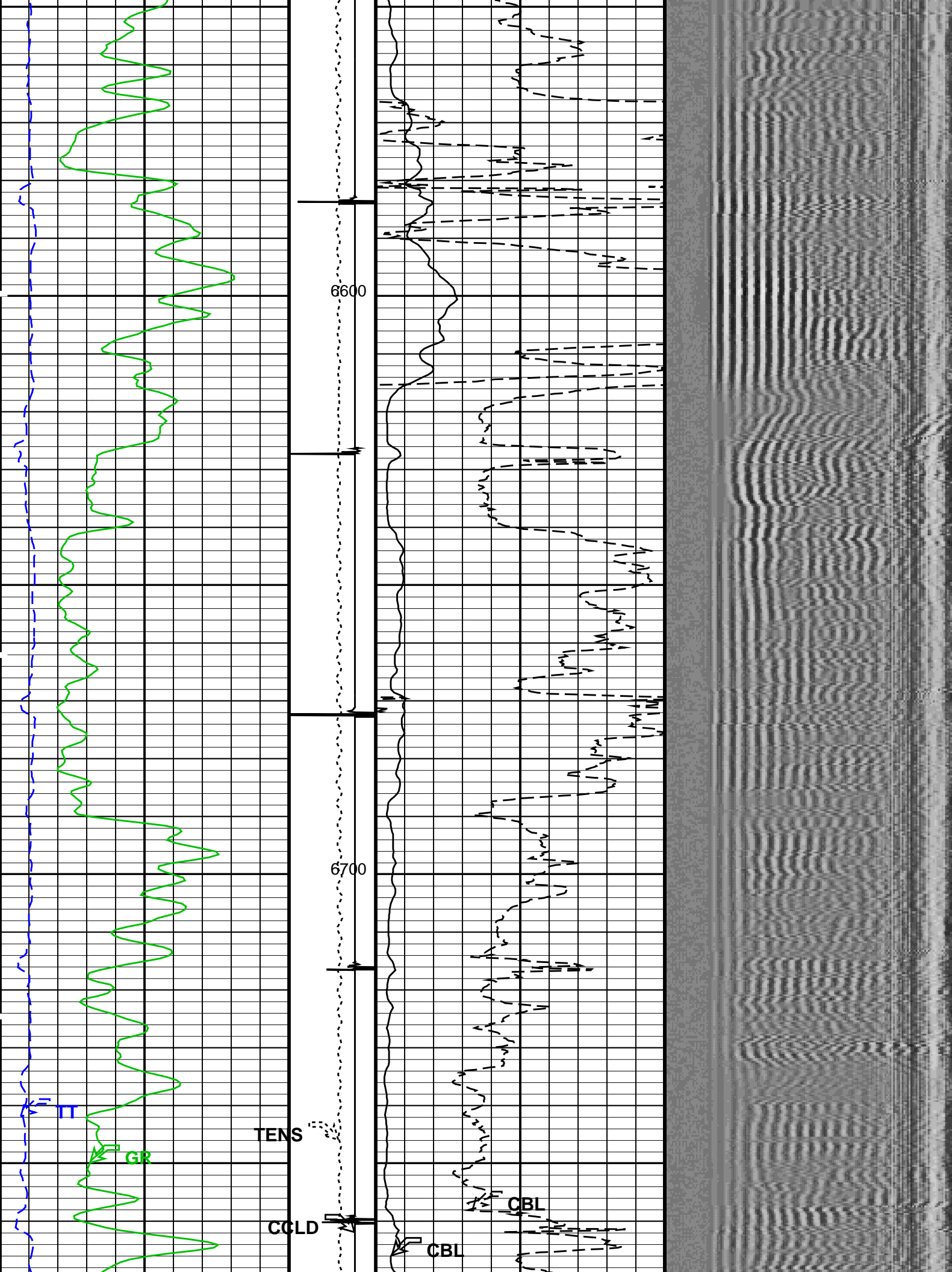


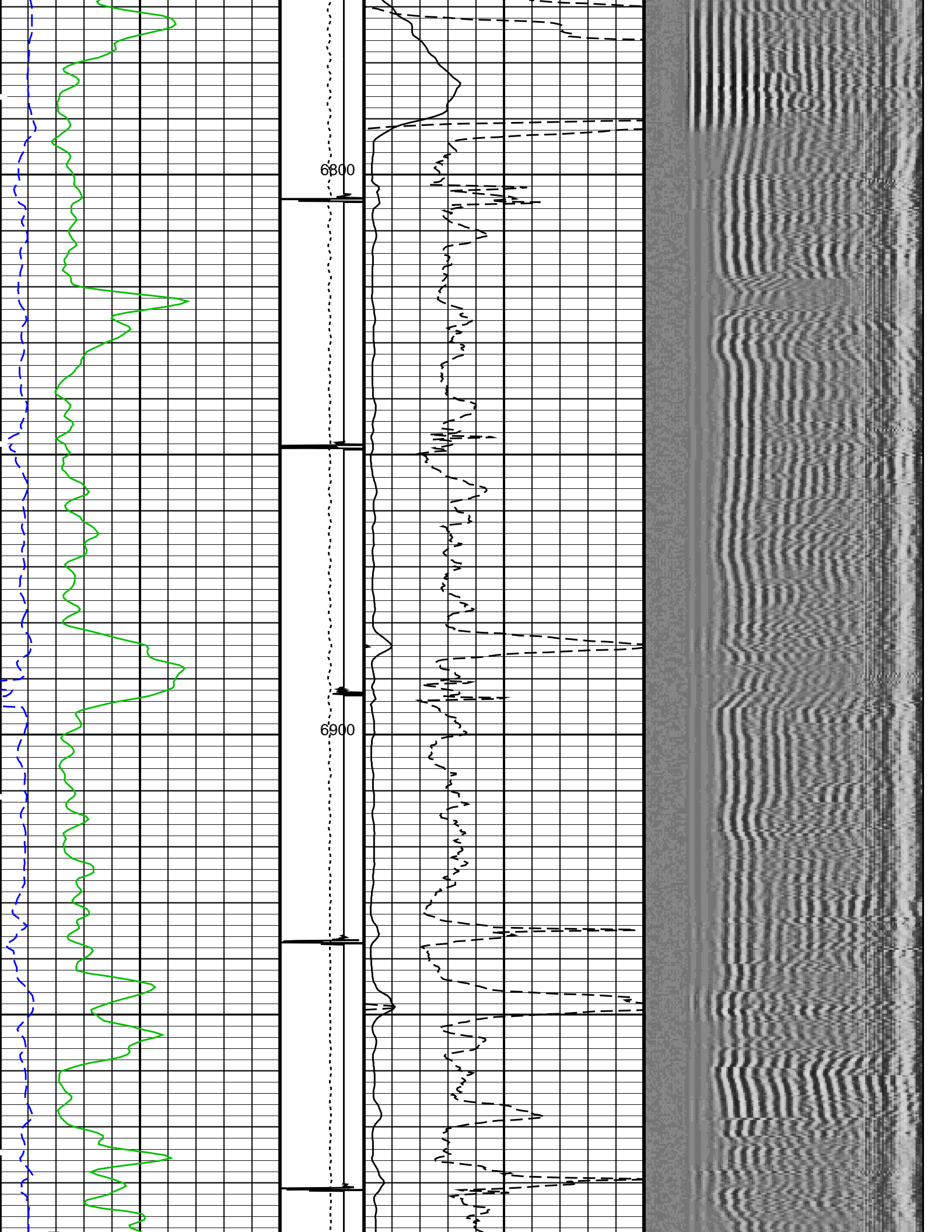


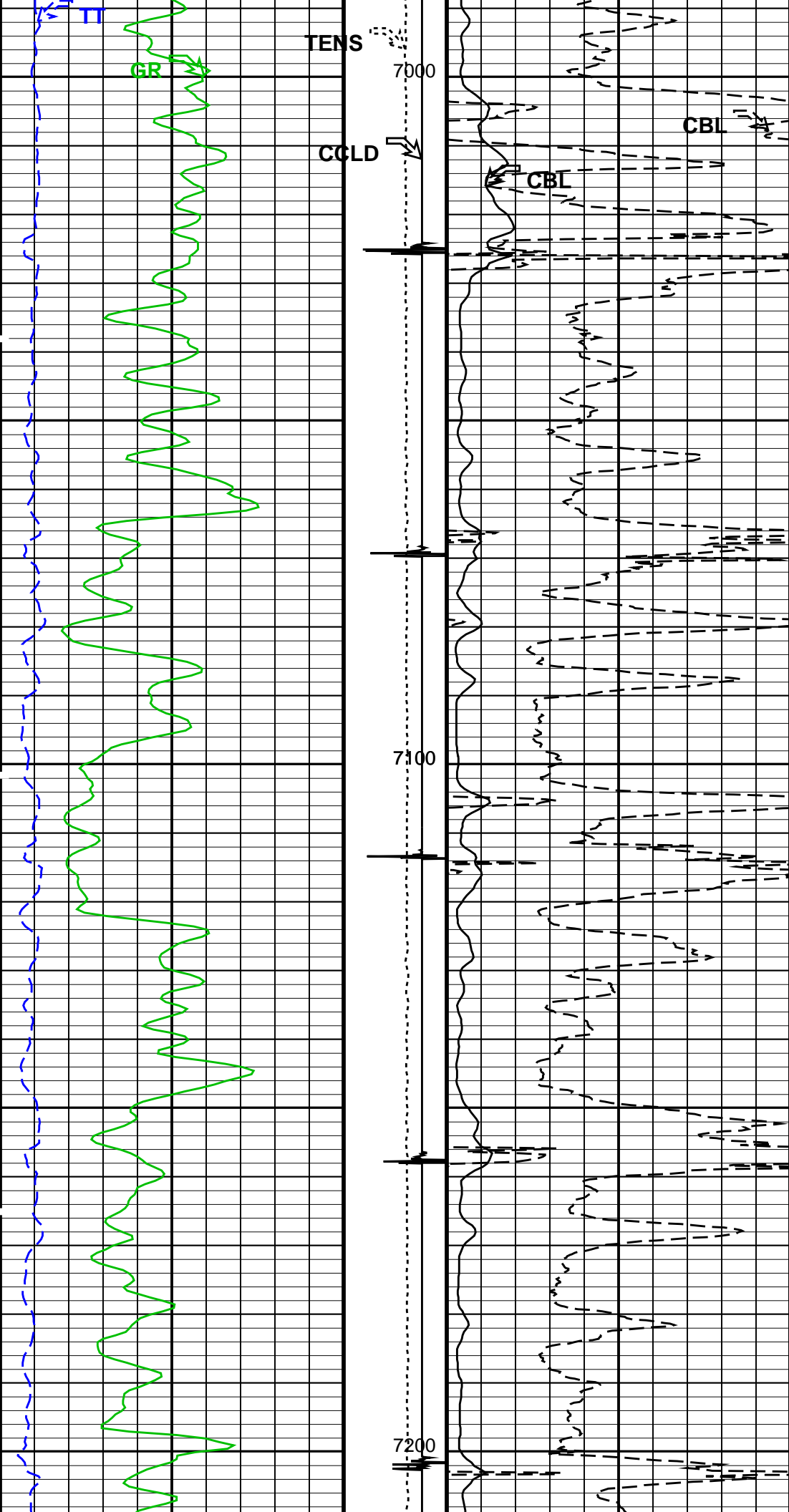


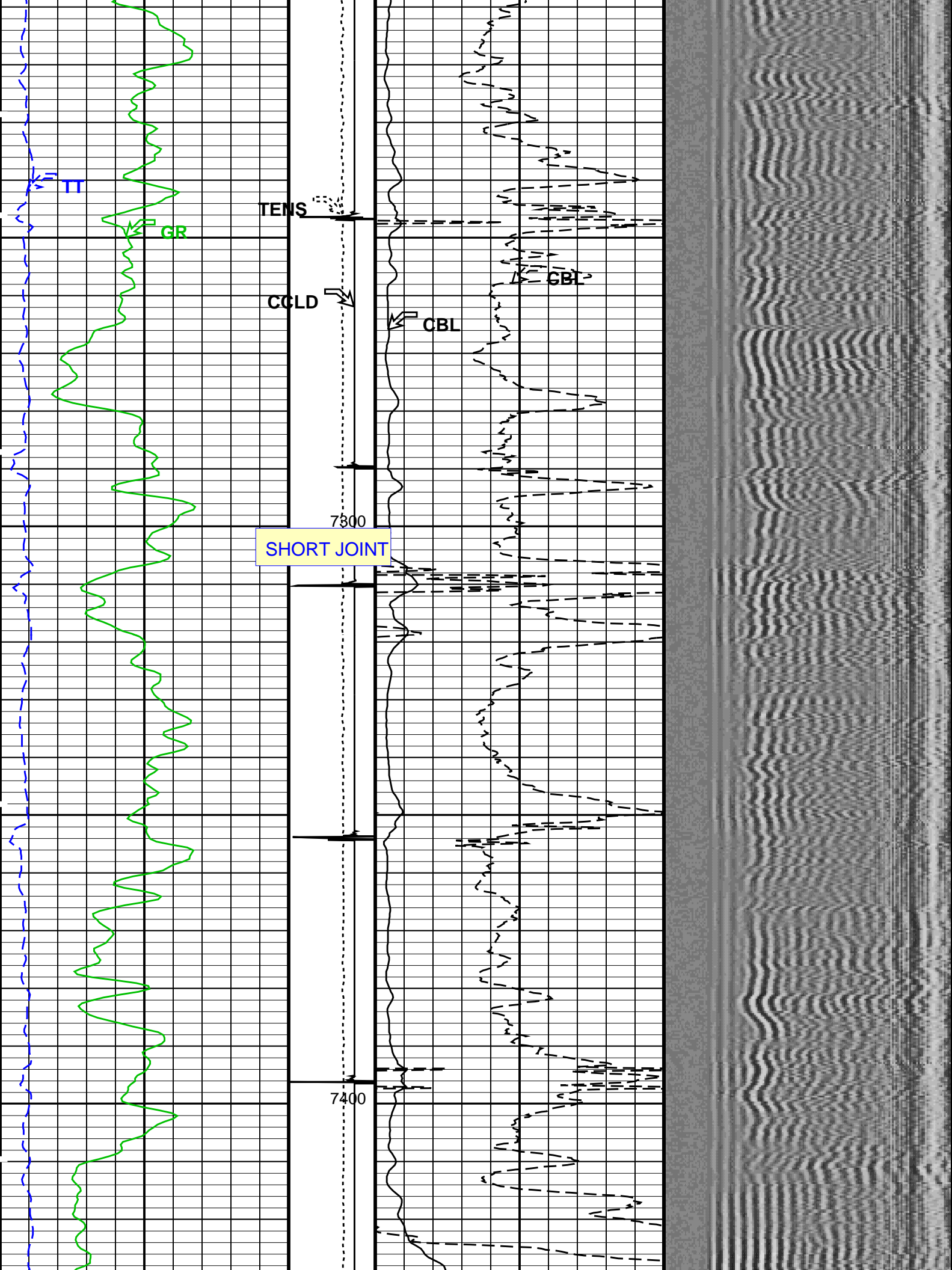


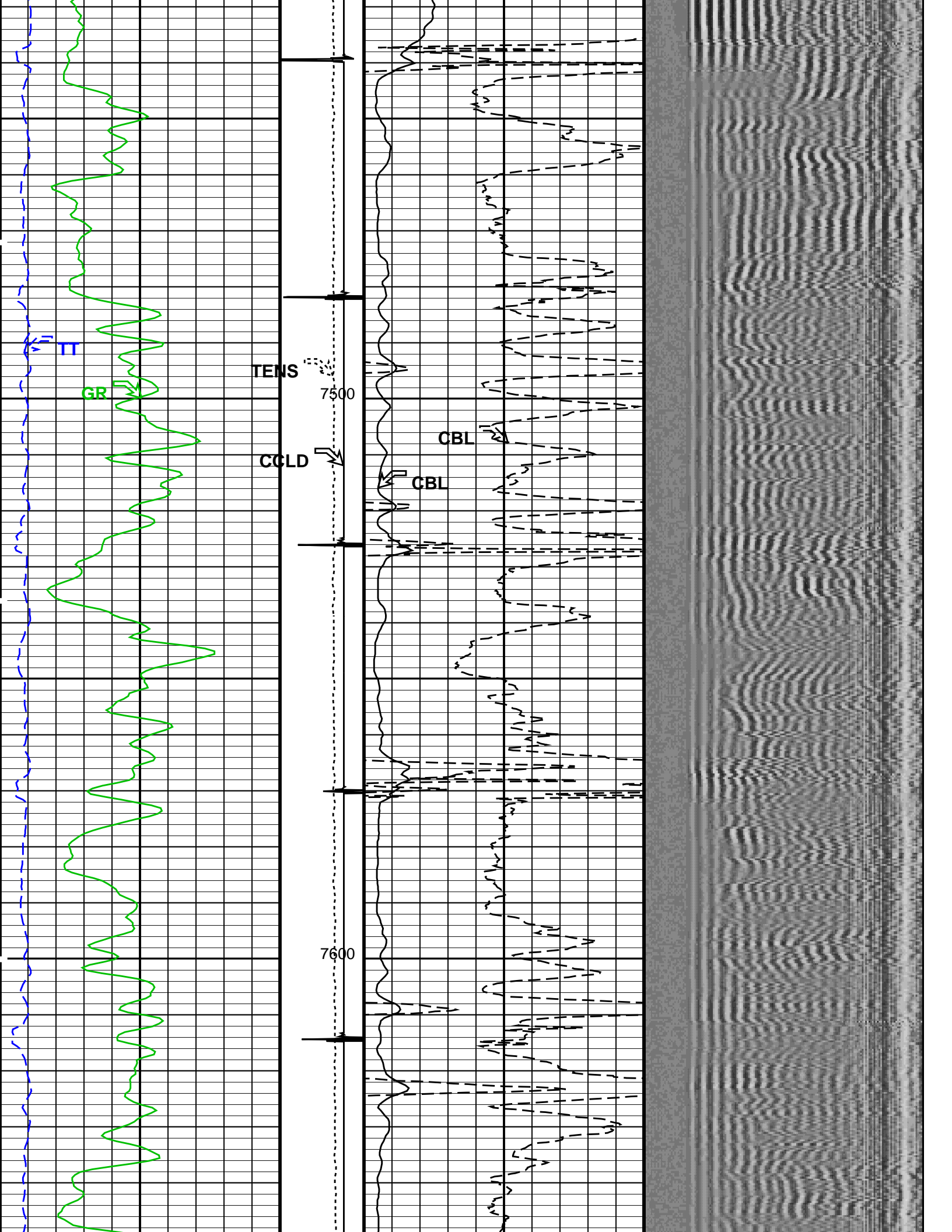


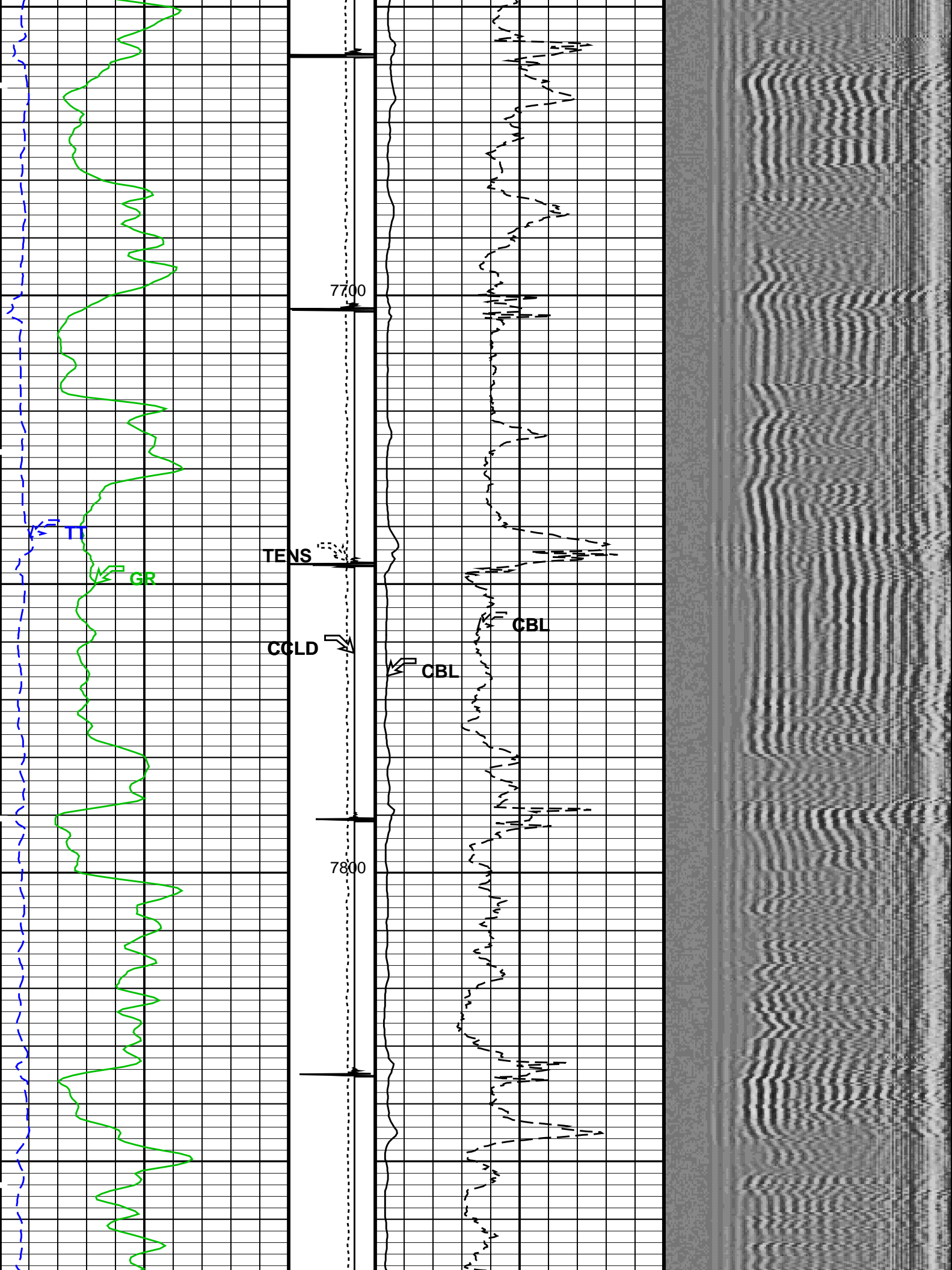


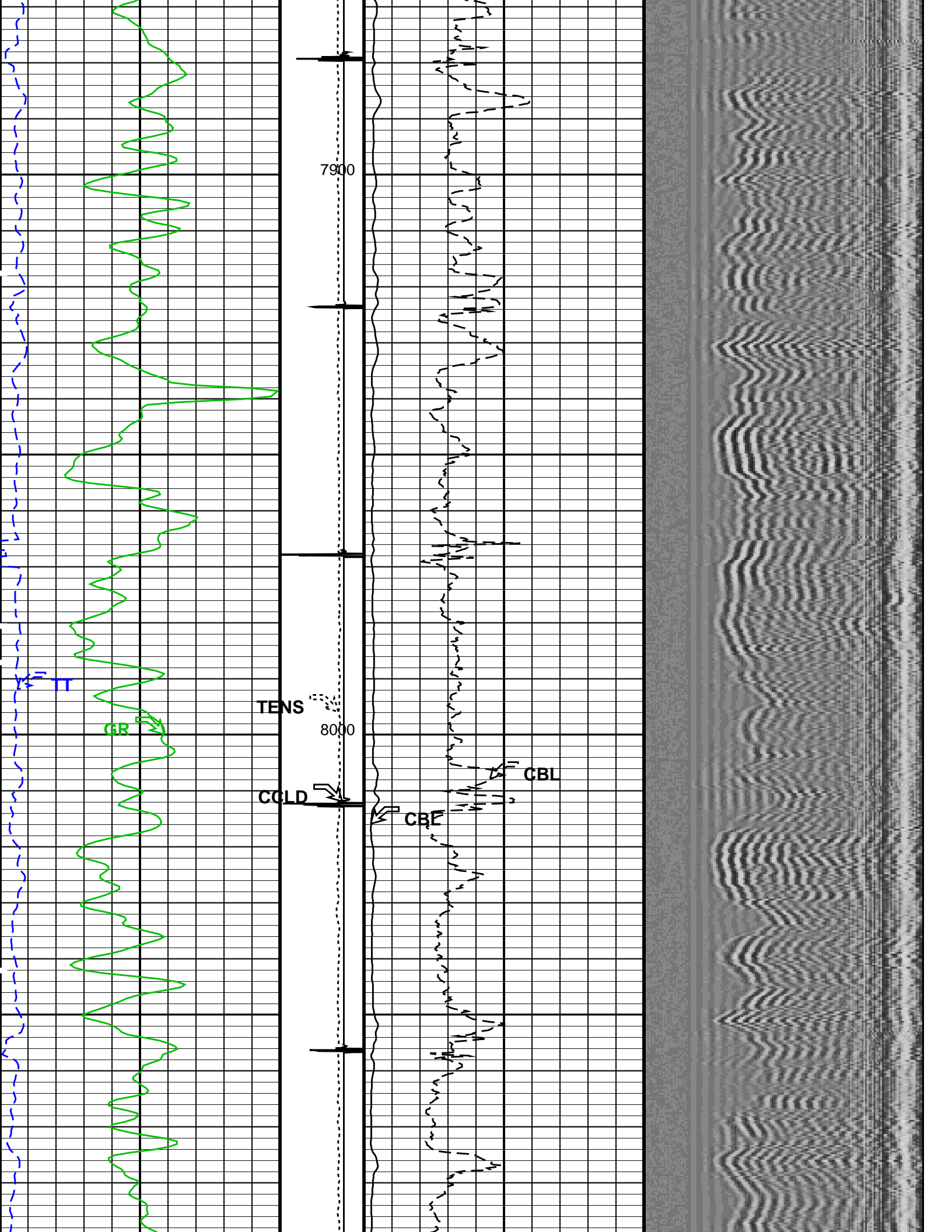


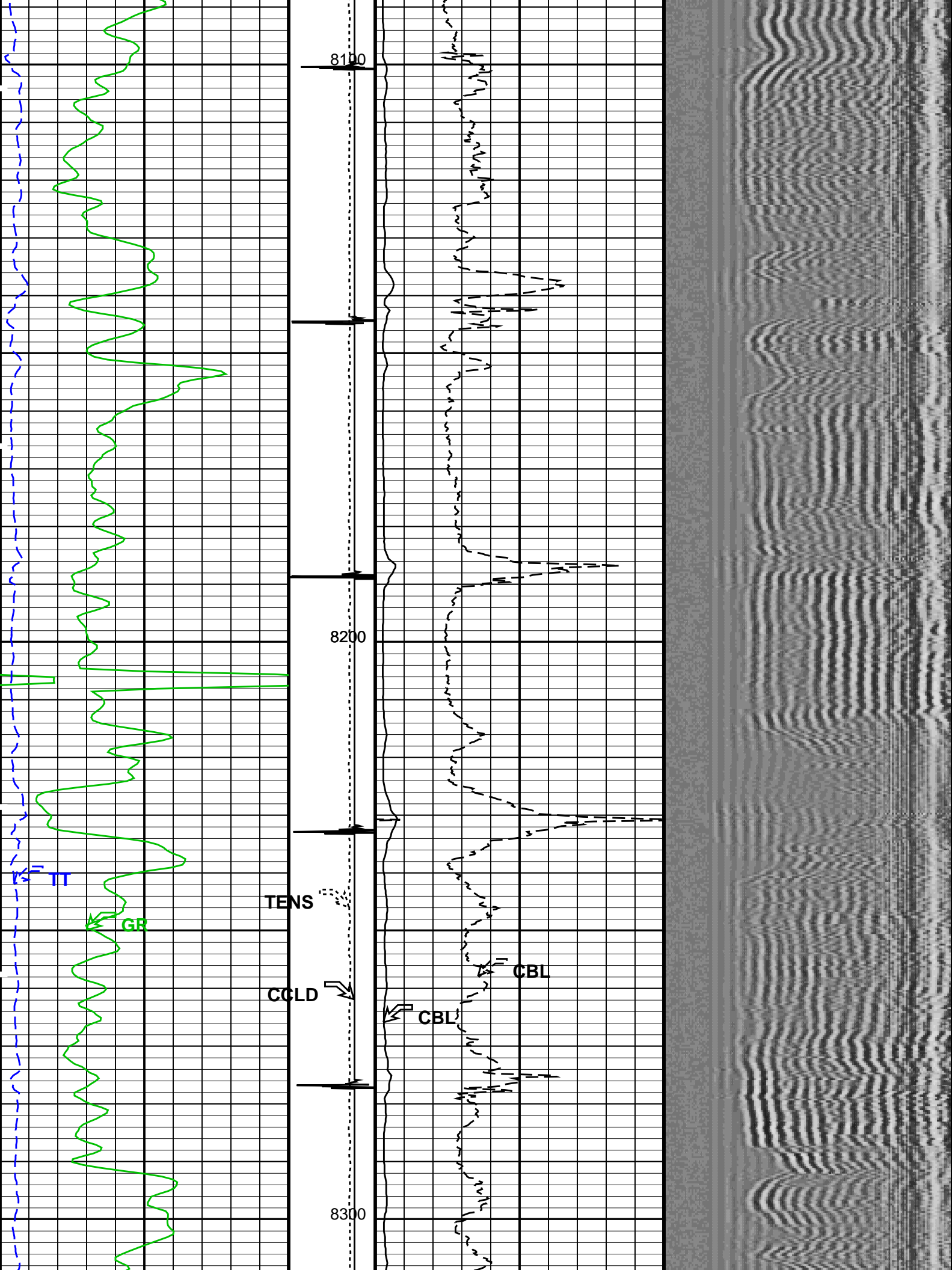


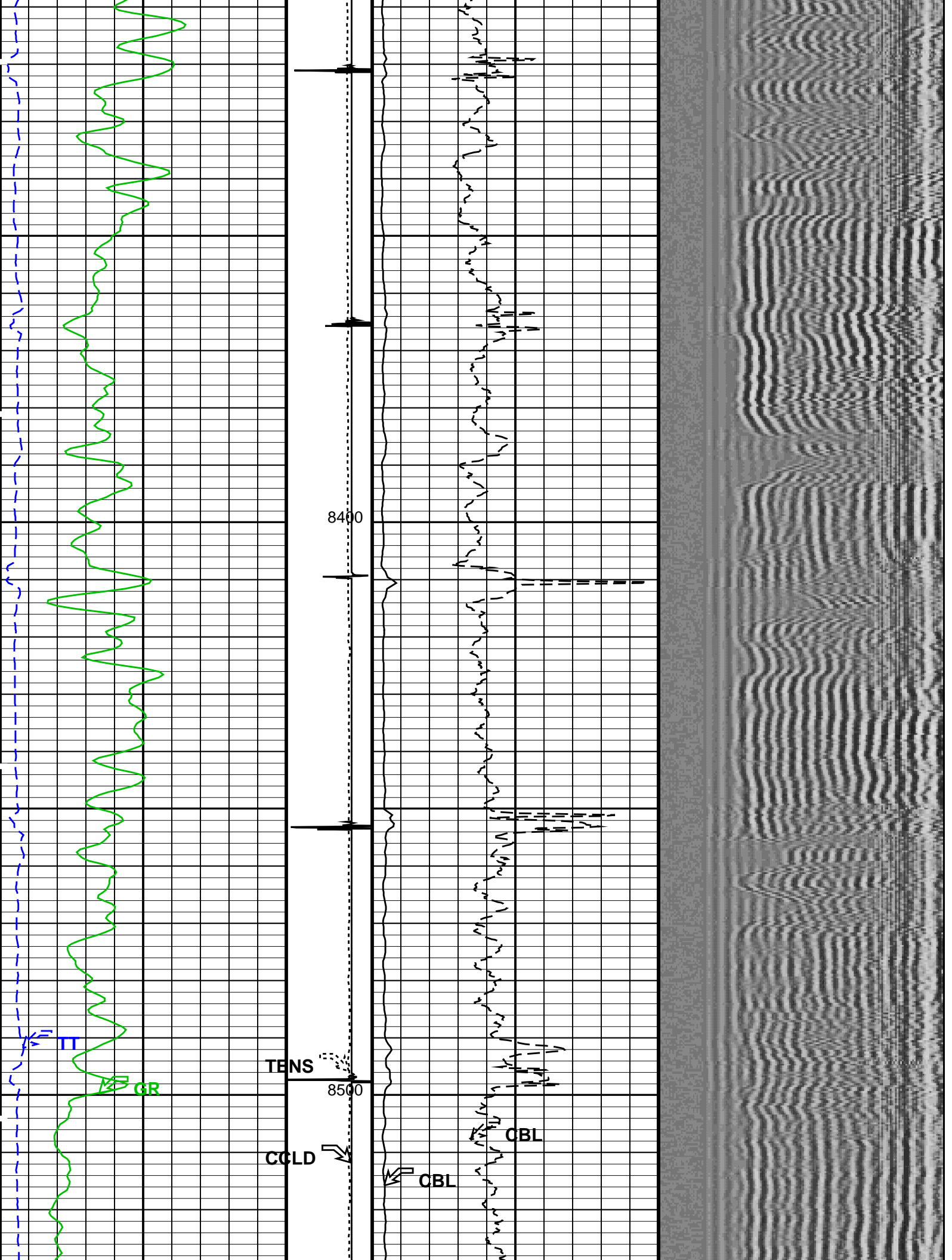


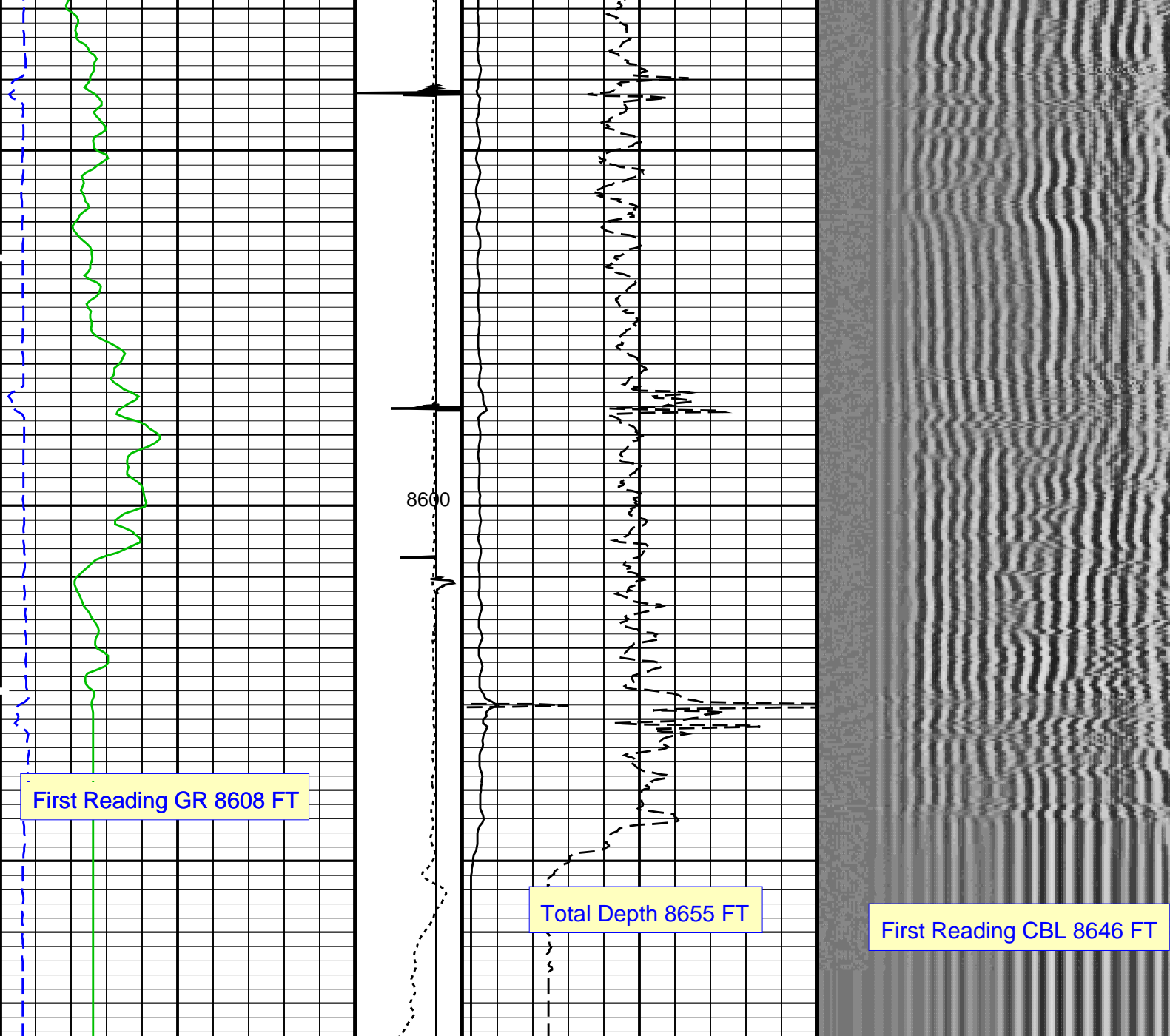












<p>Gamma Ray (GR) (GAPI)</p> <p>0 150</p>	<p>Tension (TENS) (LBF)</p> <p>0 2000</p>	<p>CBL Amplitude (CBL) (MV)</p> <p>0 100</p>	<p>Min Amplitude Max</p> <p>200 VDL VariableDensity (VDL) (US) 1200</p>
<p>Transit Time (TT) (US)</p> <p>260 160</p>	<p>Discriminat ed CCL (CCLD) (V)</p> <p>3 -1</p>	<p>CBL 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: 22-Oct-2013 05:28

OP System Version: 19C0-187

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

<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number SCMS-CB 8303

Current Casing Size	4.50000 IN		
Casing Weight	11.6000 LB/F		
Expected CBL Amplitude in Free Pipe Section	80 MV	Minimum Sonic Amplitude	0.579149 MV (100% Cement) 1.55185 MV (80% Cement)
		MAP Minimum Sonic Amplitude	4.32284 MV (100% Cement) 8.10244 MV (80% Cement)
Master Calibration (Normalization)		Before Calibration (Adjustment)	
Date of Master Calibration	7-SEP-2012		
CBL Correction Factor	0.0756720	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.136845	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.165126		
MAP 3 Correction Factor	0.125717		
MAP 4 Correction Factor	0.196395		
MAP 5 Correction Factor	0.147692		
MAP 6 Correction Factor	0.128887		
MAP 7 Correction Factor	0.150775		
MAP 8 Correction Factor	0.144577		

Parameters			
DLIS Name	Description	Value	
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD			
BILI	Bond Index Level for Zone Isolation	0.8	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	45	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta-T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
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	7.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8655	FT

Input DLIS Files						
DEFAULT	SCMT_RST_PSP_057LUP	FN:53	PRODUCER	22-Oct-2013 02:47	8668.0 FT	-14.5 FT
Output DLIS Files						
DEFAULT	SCMT_RST_PSP_060PUP	FN:56	PRODUCER	22-Oct-2013 05:28		

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: HAGEN FEDERAL 22-1AA (PC22)

Input DLIS Files

DEFAULT	SCMT_RST_PSP_055LUP	FN:51	PRODUCER	22-Oct-2013 02:30	6440.0 FT	6113.5 FT
DEFAULT	SCMT_RST_PSP_060PUP	FN:56	PRODUCER	22-Oct-2013 05:28	8675.0 FT	-52.0 FT

Output DLIS Files

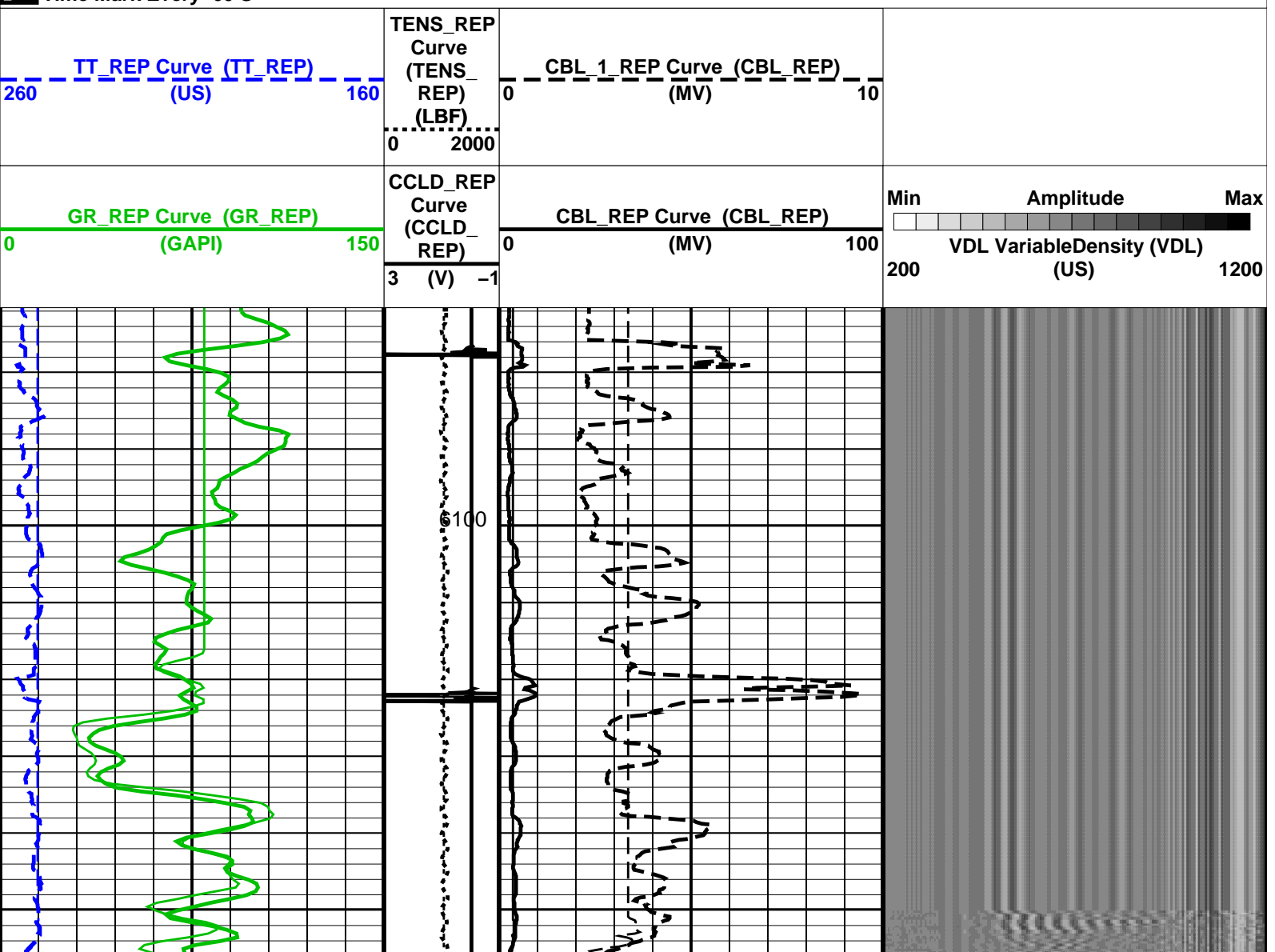
DEFAULT	SCMT_RST_PSP_061PUP	FN:57	PRODUCER	22-Oct-2013 05:35	6442.0 FT	6071.0 FT
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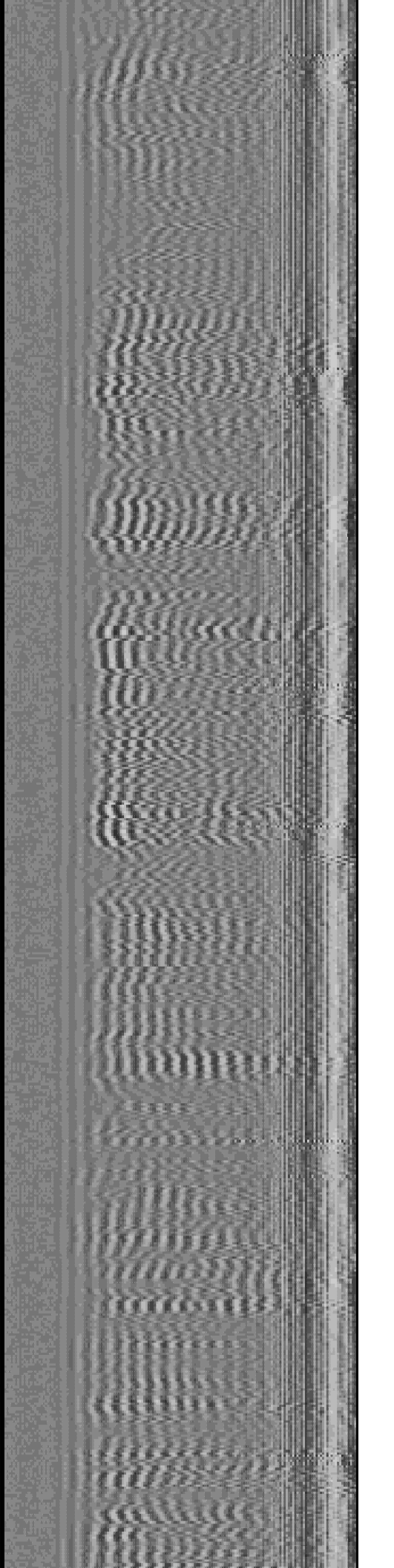
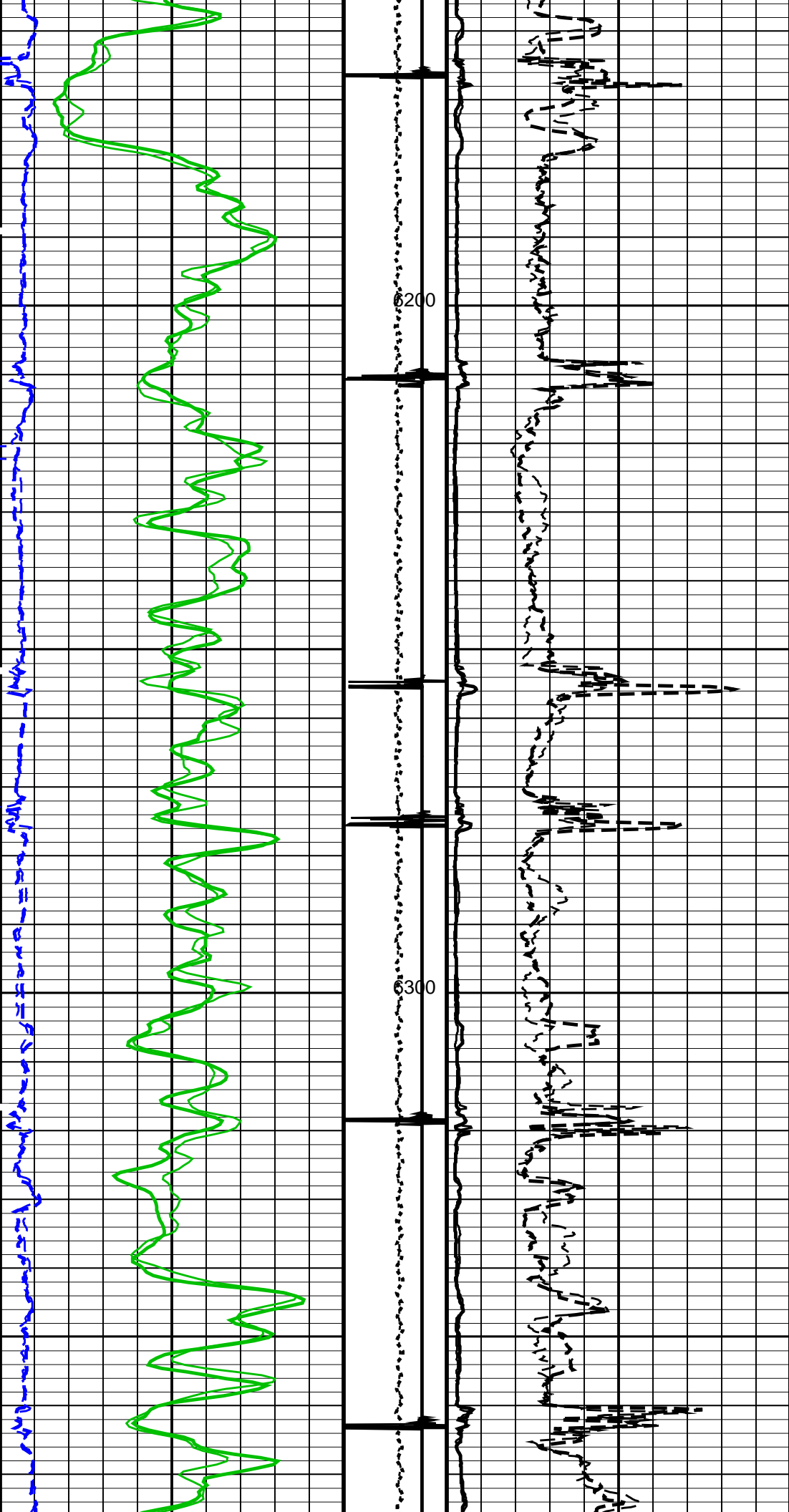
OP System Version: 19C0-187

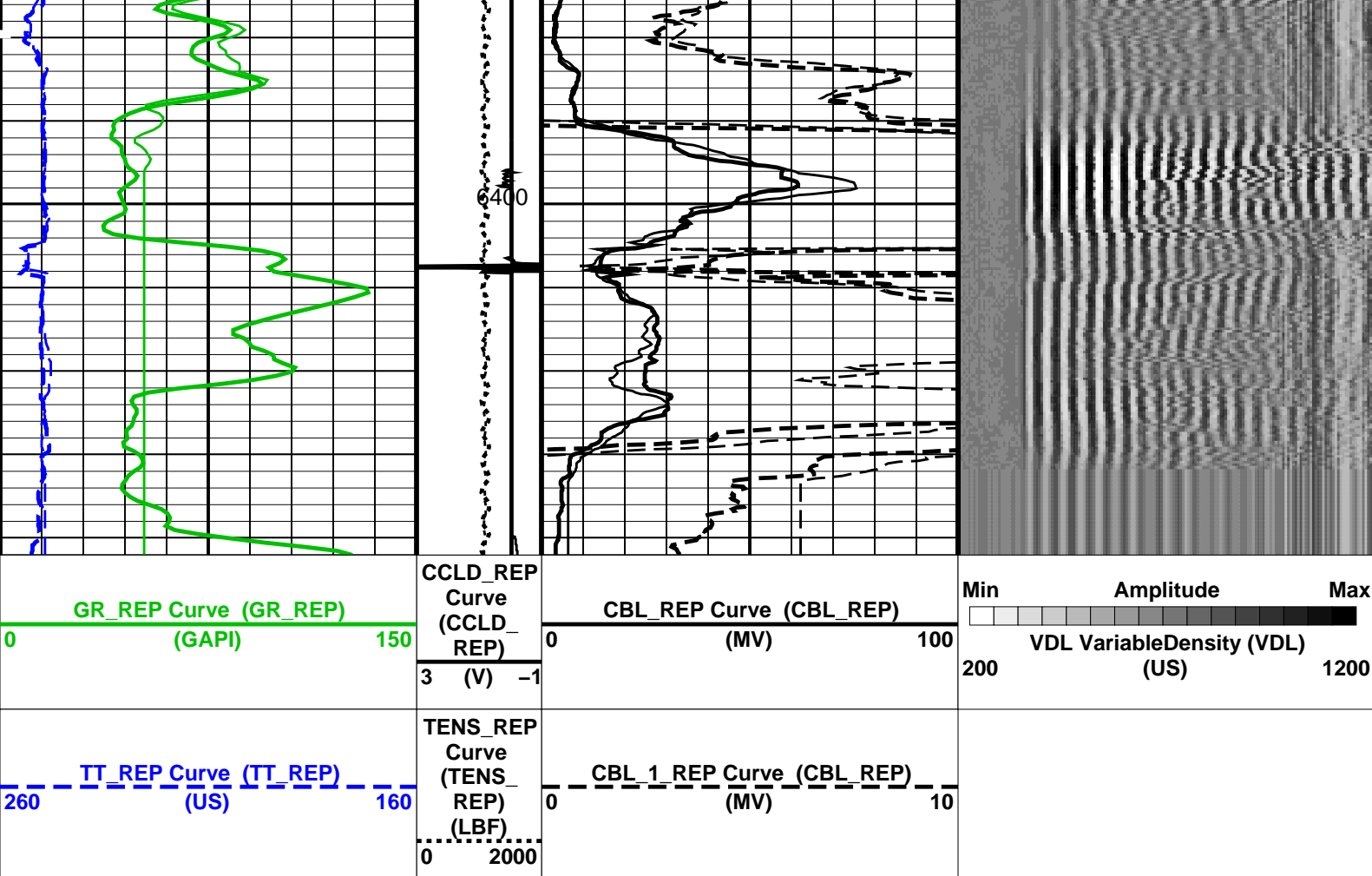
SCMT-CB	SRPC-5214-H2-2012-OP1!	RST-C	SRPC-5214-H2-2012-OP1!
PSPT	SRPC-5214-H2-2012-OP1!		

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: 22-Oct-2013 05:35

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 80 MV
in Free Pipe Section

Minimum Sonic Amplitude 0.579149 MV (100% Cement)
1.55185 MV (80% Cement)
MAP Minimum Sonic Amplitude 4.32284 MV (100% Cement)
8.10244 MV (80% Cement)

Master Calibration (Normalization)

Before Calibration (Adjustment)

Date of Master Calibration 7-SEP-2012

CBL Correction Factor 0.0756720

CBL Adjustment Factor (CBAF) 1.0

MAP 1 Correction Factor 0.136845

MAP Adjustment Factor (MPAF) 1.0

MAP 2 Correction Factor 0.165126

MAP 3 Correction Factor 0.125717

MAP 4 Correction Factor 0.196395

MAP 5 Correction Factor 0.147692

MAP 6 Correction Factor 0.128887

MAP 7 Correction Factor 0.150775

MAP 8 Correction Factor 0.144577

Parameters

DLIS Name	Description	Value
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD		
BILI	Bond Index Level for Zone Isolation	0.8
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559 US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20 MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559 US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20 MV
CBLG	CBL Gate Width	45 US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80 MV
CMCF	CBL Cement Type Compensation Factor	1
CMTc	SCMT Slow Channel Multiplexer Mode	SCAN
CMTM	SCMT Operating Mode	LOG
CSCS	SCMT Slow Channel Index	VCC
CTHI	Casing Thickness	0.255617 IN
DTF	Delta-T Fluid	189 US/F
FATT	Acoustic Attenuation due to Fluid	0 DB/F
FCF	CBL Fluid Compensation Factor	0.924277
GOBO	Good Bond	1.55185 MV
MAPD	SCMT MAP Peak Detection Mode	PEAK
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559 US
MAPT	SCMT MAP Fixed Threshold Level	30 MV
MATT	Maximum Attenuation	16.5449 DB/F
MCCF	MAP Cement Type Compensation Factor	1
MCI	Minimum Cemented Interval for Isolation	1.25 FT
MMSA	MAP Minimum Sonic Amplitude	4.32284 MV
MSA	Minimum Sonic Amplitude	0.579149 MV
PEDE	Peak Detection On/Off Switch in Playback	OFF
VDLG	VDL Manual Gain	5
ZCMT	Acoustic Impedance of Cement	6.8 MRAY
System and Miscellaneous		
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	8655 FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_055LUP	FN:51	PRODUCER	22-Oct-2013 02:30	6440.0 FT	6113.5 FT
DEFAULT	SCMT_RST_PSP_060PUP	FN:56	PRODUCER	22-Oct-2013 05:28	8675.0 FT	-52.0 FT

Output DLIS Files

DEFAULT	SCMT_RST_PSP_061PUP	FN:57	PRODUCER	22-Oct-2013 05:35
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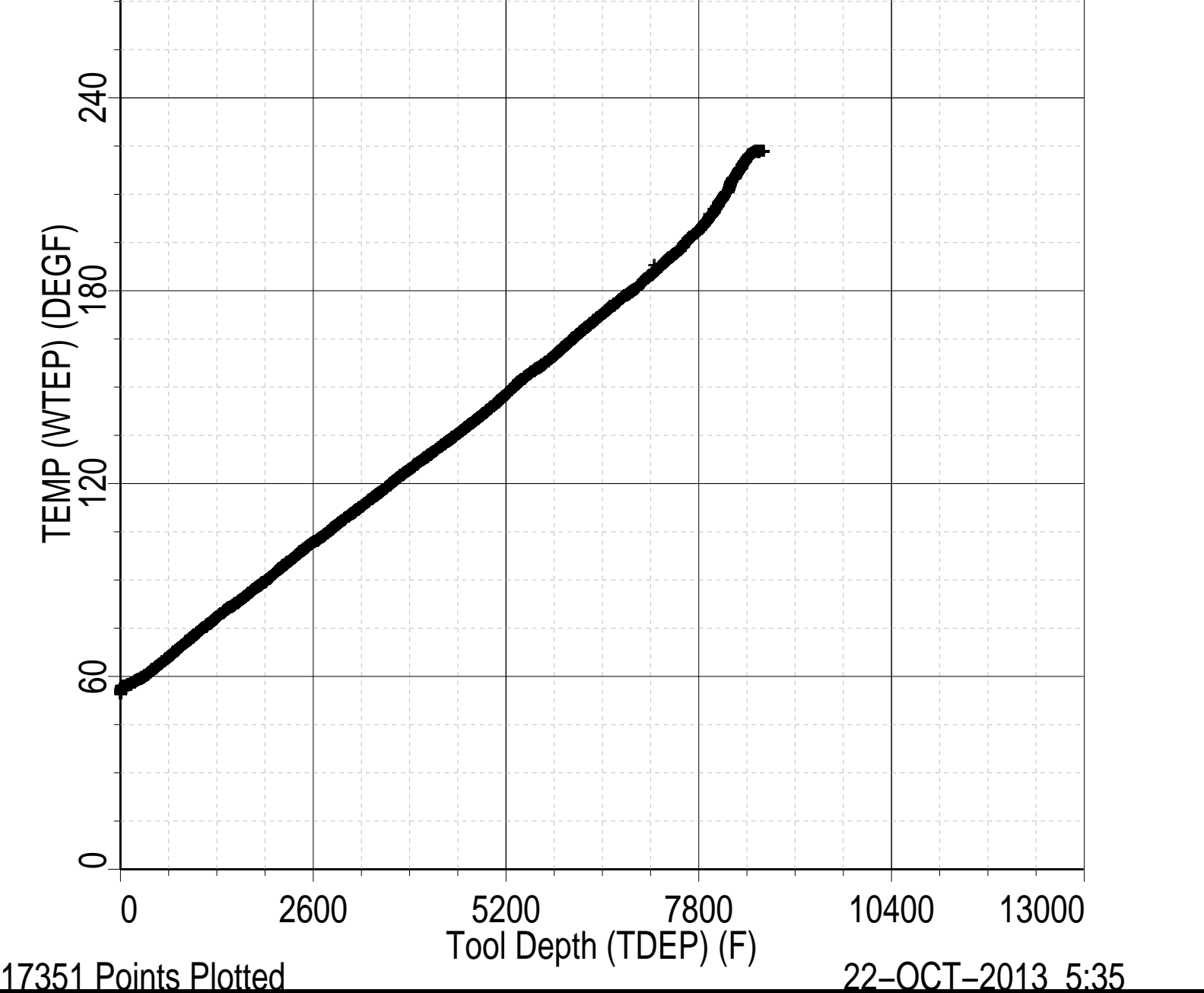
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TEMPERATURE PLOT

MAXIS Field Log

Index: 8675.0 - -52.0 FT





Schlumberger

PBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
Field: SOUTH PARACHUTE
Well: HAGEN FEDERAL 22-1AA (PC22)
Run date: 22-Oct-2013

Tool: PSP
Sub Type: PBMS
Sensor: GR

PBMS Gamma Ray

Sonde Serial NB

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

Sensor Serial NB 33223
Calib Date ddmmyy 090800
Matrix Size 12
Coeff CRC CFE2

GR HV Rt

Rt**0

Rt**1

Rt**0

+.182000000000e+04

+.332000000000e+04

Client: ENCANA OIL & GAS (USA) INC
Field: SOUTH PARACHUTE
Well: HAGEN FEDERAL 22-1AA (PC22)
Run date: 22-Oct-2013

Tool: PSP
Sub Type: PBMS
Sensor: WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB COEFFICIENTS FOR RTD THERMOMETER PBMS-B.928 S/N:
Sensor Serial NB 928
Calib Date ddmmyy 280612
Matrix Size 16
Coeff CRC A24E

WTemp Coeff

Tt**0

Tt**1

Tt**2

Tt**0

-.391987973189E+03

+.191346892512E+03

-.440920753451E+02

Tt**3

Tt**4

Tt**5

Tt**0

+.957191300908E+01

-.711421725686E+00

0.0

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

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

928

280612

66

9DC3

Pres Coeff

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

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

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

:

928

280612

66

283B

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+117016867873E+03	-284359629614E-03	+604391180345E-08
Fb**1	-598309140812E-02	+182731130848E-07	+160166486172E-12
Fb**2	-307621454576E-07	+300601550309E-12	+311233548560E-17
Fb**3	-112252722727E-12	+117172722222E-17	0.0

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

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

8303

Slim Cement Mapping Cartridge

SCMC – CA

8120










Auxiliary Equipment:

Slim Electronics Cartridge Housing

SECH – CA

Slim Cement Mapping Tool, 1–11/16 OD Master Calibration

SCMT CBL and MAP Amplitude Normalization in SFT–155/–255

Phase	MAP 1 Amplitude Plus MV			Value	Phase	MAP 2 Amplitude Plus MV			Value
Master				876.9	Master				726.7
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)			500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)	
Phase	MAP 3 Amplitude Plus MV			Value	Phase	MAP 4 Amplitude Plus MV			Value
Master				954.5	Master				611.0
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)			500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)	
Phase	MAP 5 Amplitude Plus MV			Value	Phase	MAP 6 Amplitude Plus MV			Value
Master				812.5	Master				931.0
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)			500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)	
Phase	MAP 7 Amplitude Plus MV			Value	Phase	MAP 8 Amplitude Plus MV			Value
Master				795.9	Master				830.0
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)			500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)	
Phase	CBL Amplitude Plus MV			Value					
Master				1269					
	1000 (Minimum)	1350 (Nominal)	1700 (Maximum)						
Master: Calibration out of date 7-Sep-2012 16:30									

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

Schlumberger

Well: **HAGEN FEDERAL 22–1AA (PC22)**Field: **SOUTH PARACHUTE**County: **GARFIELD**State: **COLORADO**

SLIM CEMENT MAPPING LOG

CBL VDI

CBL-VDL
GR-CCL