Schlumberger

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

Well: **FEDERAL 22−13CC (PJ21)**
Field: **PARACHUTE**
County: **GARFIELD** State: **COLORADO**

SLIM CEMENT MAPPING LOG
CBL−VDL
GR−CCL

County: GARFIELD
Field: PARACHUTE
Location: SHL: 2105 FSL & 2045 FEL
Well: FEDERAL 22−13CC (PJ21)
Company: ENCANA OIL & GAS (USA) INC

LOCATION

SHL: 2105 FSL & 2045 FEL
BHL: 272 FSL & 110 FWL

Elev.: K.B. 6325.00 ft
G.L. 6303.00 ft
D.F. 6324.00 ft

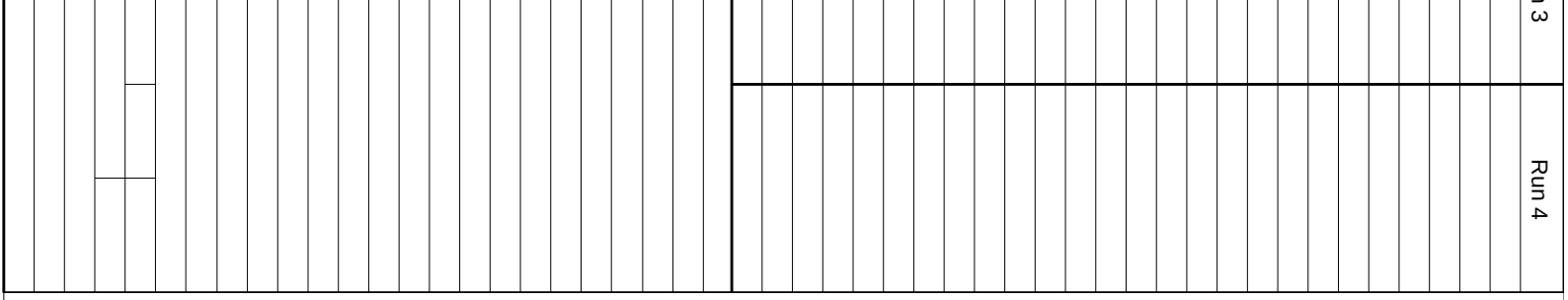
Permanent Datum: GROUND LEVEL Elev.: 6303.00 ft
Log Measured From: KELLY BUSHING 22.00 ft above Perm. Datum
Drilling Measured From: KELLY BUSHING

API Serial No.	Section	Township	Range
05−045−21288−0(	21	7S	95W

Logging Date		29−Mar−2013						
Run Number		1						
Depth Driller		8175 ft						
Schlumberger Depth		8084 ft						
Bottom Log Interval		8075 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		8175 ft						
Casing/Tubing Size		4.500 in						
Weight		11.6 lbm/ft						
Grade		S−80						
From		22 ft						
To		8153 ft						
Maximum Recorded Temperatures		218 degF						
Logger On Bottom	Time	29−Mar−2013	21:00					
Unit Number	Location	391	GRAND JUNCTION					
Recorded By		KIRSTIE BUNTING						
Witnessed By		BILLY MEYERS						

		Run 1	Run 2	Run
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								
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: 14−MAR−2013 10:41:08

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	1−25ZT
Serial Number:	6214	Serial Number:	3421	Serial Number:	112136
Calibration Date:	24−APR−2012	Calibration Date:	20−FEB−201	Length:	19500 FT
Calibrator Serial Number:		Calibrator Serial Number:	174878		
Calibration Cable Type:	1−25ZT	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	−3	Calibration RMS:	4	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 POLICIES APPLIED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SWPT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
4.
5.
6.

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: 20:30	
TIME AT TD: 21:00	
EXIT TIME: 23:15	

MAXIMUM RECORDED TEMPERATURE: 218 DEGF

MAXIMUM RECORDED PRESSURE: 3091 PSIA

SHORT JOINTS: 5807 FT & 6796 FT

EXPECTED CBL AMPLITUDE IN FREE PIPE 80MV

MAIN PASS LOGGED WITH ZERO SURFACE PRESSURE

THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY

CREW: KBUNTING WAZIZ JMANN

RUN 1		RUN 2	
SERVICE ORDER #:	CGF9−00022	SERVICE ORDER #:	
PROGRAM VERSION:	19C0−187	PROGRAM VERSION:	
FLUID LEVEL:	60 ft	FLUID LEVEL:	

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

WITM−A
PSC_16MHZ

DOWNHOLE EQUIPMENT

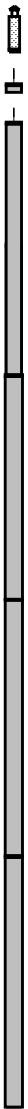
MH−22
MH−22 53.4

Detail MT
TelStatus
AH−38 51.8
CTEM 51.5
PSPT 51.5
PSC−A
PSPT−B 928
PSTC−A 928
PBMS−B 928
CQG_F_Mano
RTD_Thermometer
GR
CCL
PBMS 928

GR 47.8
Well_Temp 44.8
CQG Manom 44.5
CCL 44.0
PBMS PSTC 43.3

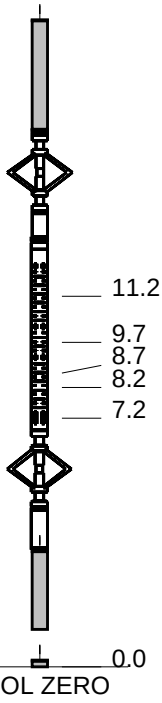
RST−C 43.3
RSCH−A 469
RSC−E
RSS−A 461
RSXH−A 493
RSX−E

RSC−A Far 34.2
RSC−A PNG
RSC−A Nea
RSX−A PNG 33.7



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

20.3



AH−BNS

0.2

MAXIMUM STRING DIAMETER 1.72 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

MAIN PASS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC **Well: FEDERAL 22−13CC (PJ21)**

Input DLIS Files

DEFAULT	**SCMT_RST_PSP_015LUP**	**FN:14**	**PRODUCER**	**29−Mar−2013 20:56**	**8091.5 FT**	**12.5 FT**

Output DLIS Files

DEFAULT	**SCMT_RST_PSP_018PUP**	**FN:17**	**PRODUCER**	**29−Mar−2013 23:08**	**8095.5 FT**	**−28.0 FT**

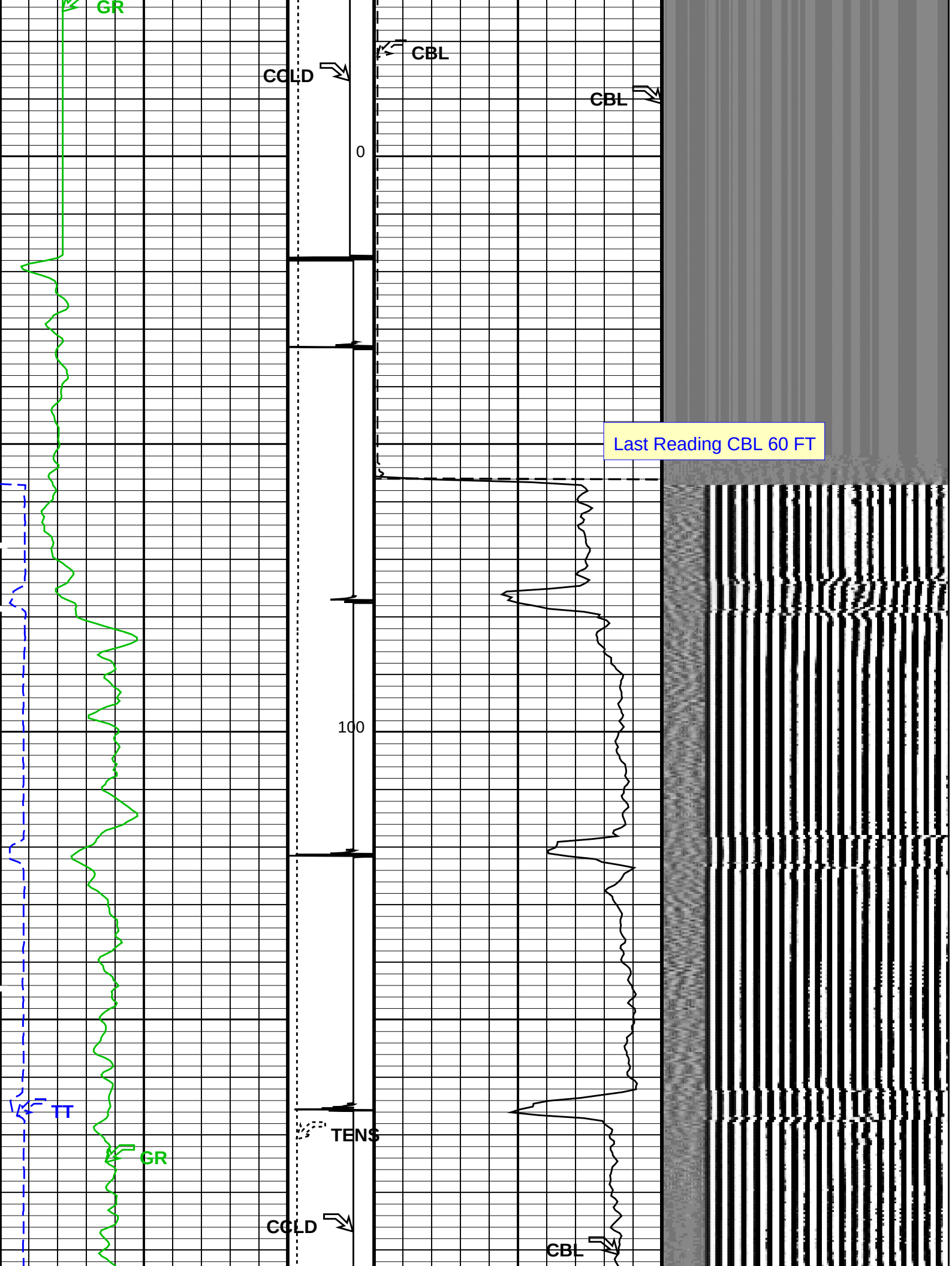
OP System Version: 19C0−187

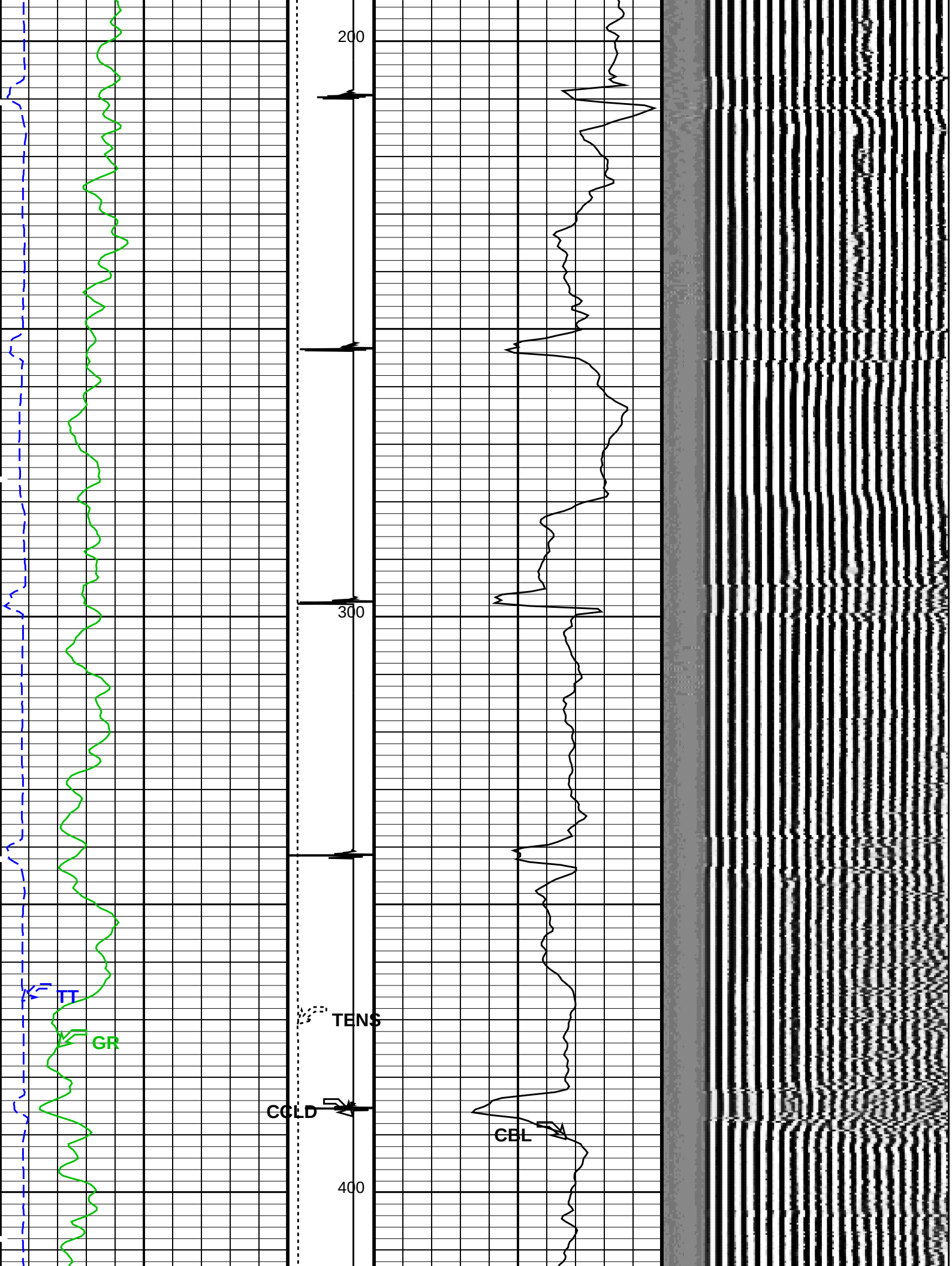
SCMT−CB	**SRPC−5214−H2−2012−OP1**	**RST−C**	**SRPC−5214−H2−2012−OP1**
PSPT	**SRPC−5214−H2−2012−OP1**		

PIP SUMMARY

Time Mark Every 60 S

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


GR
CCLD
CBL
0
CBL
Last Reading CBL 60 FT
100
TT
TENS
GR
CCLD
CBL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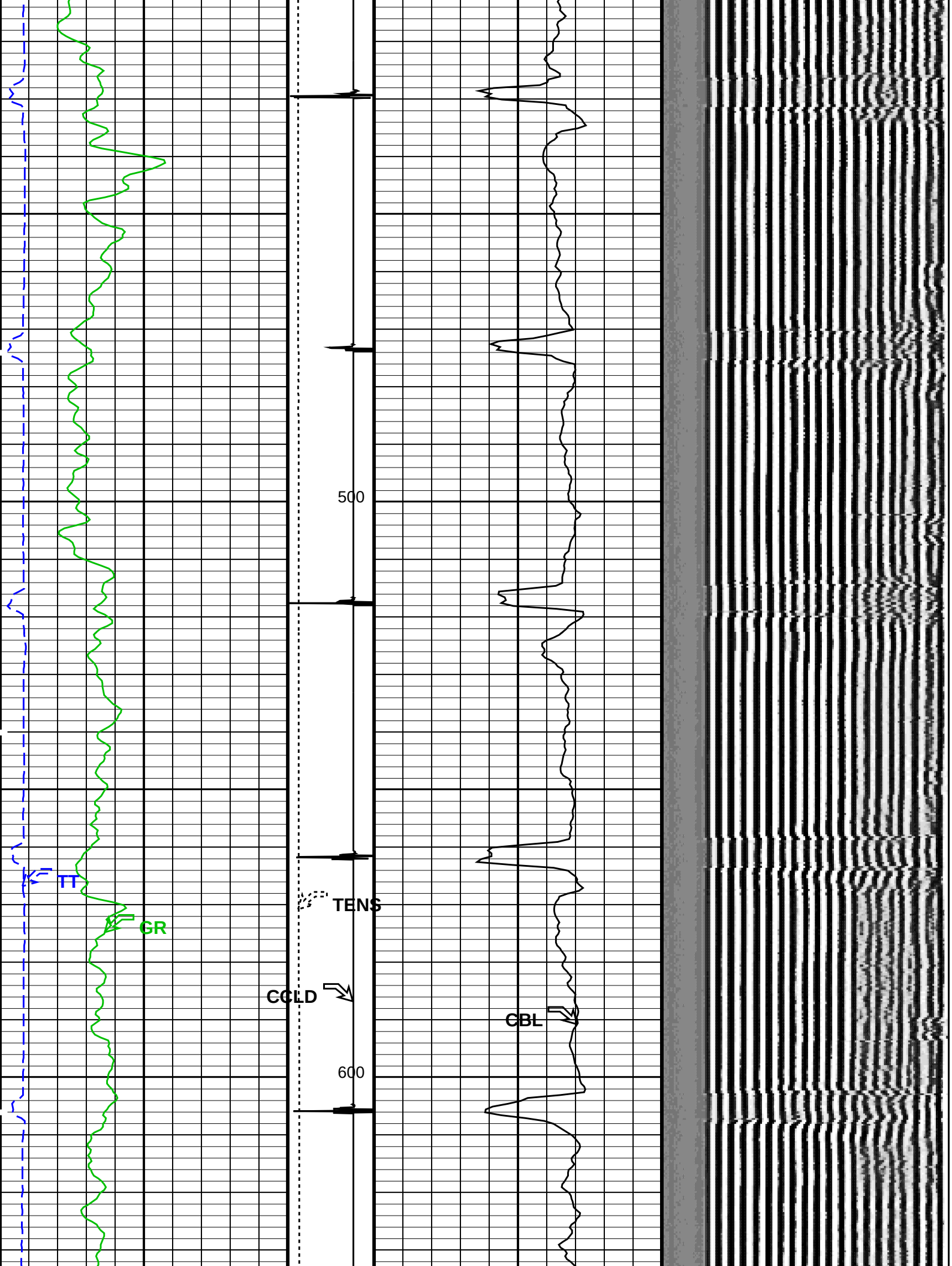
400
TT
GR
TENS
CCLD
CBL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CBL
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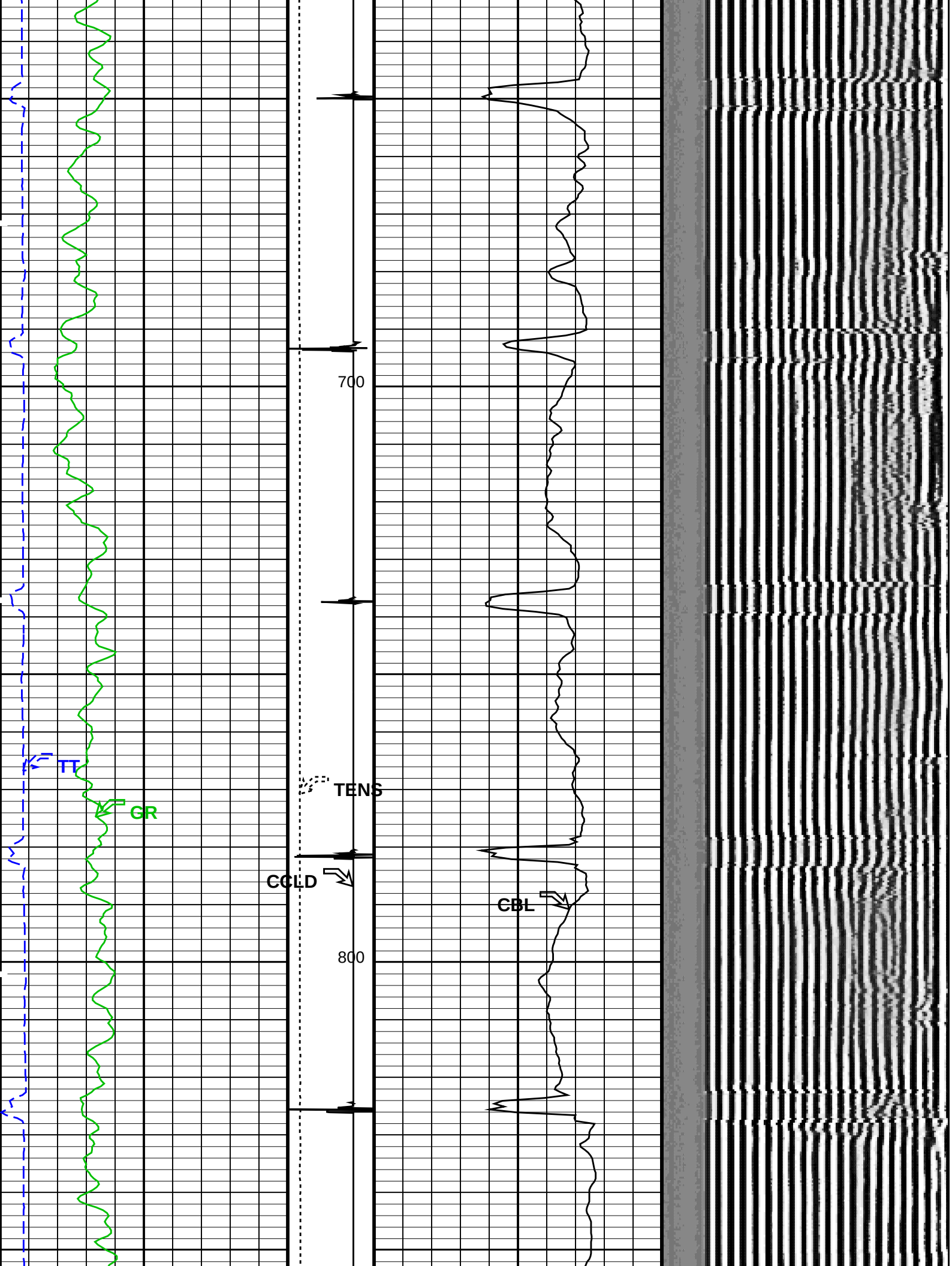
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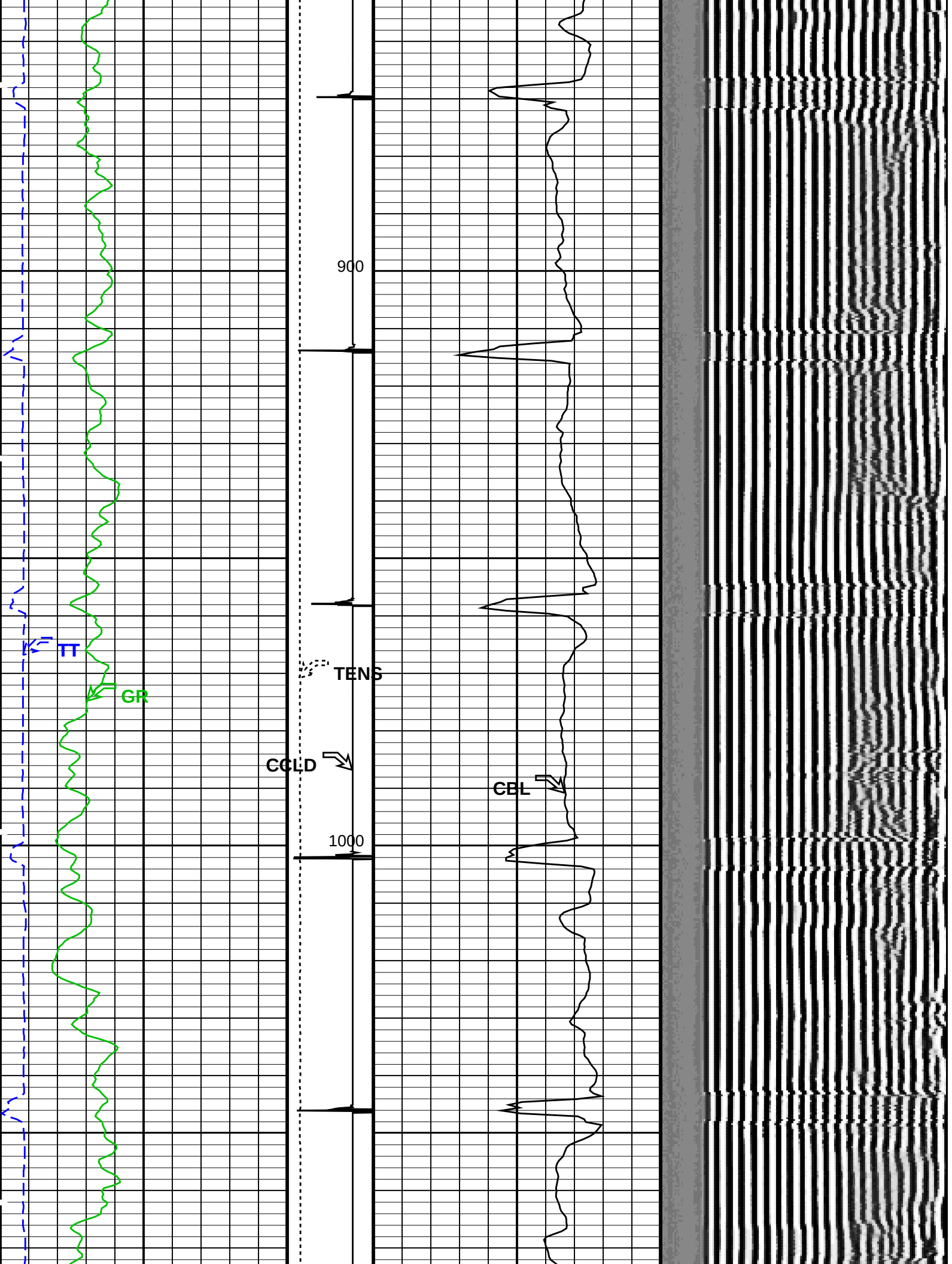
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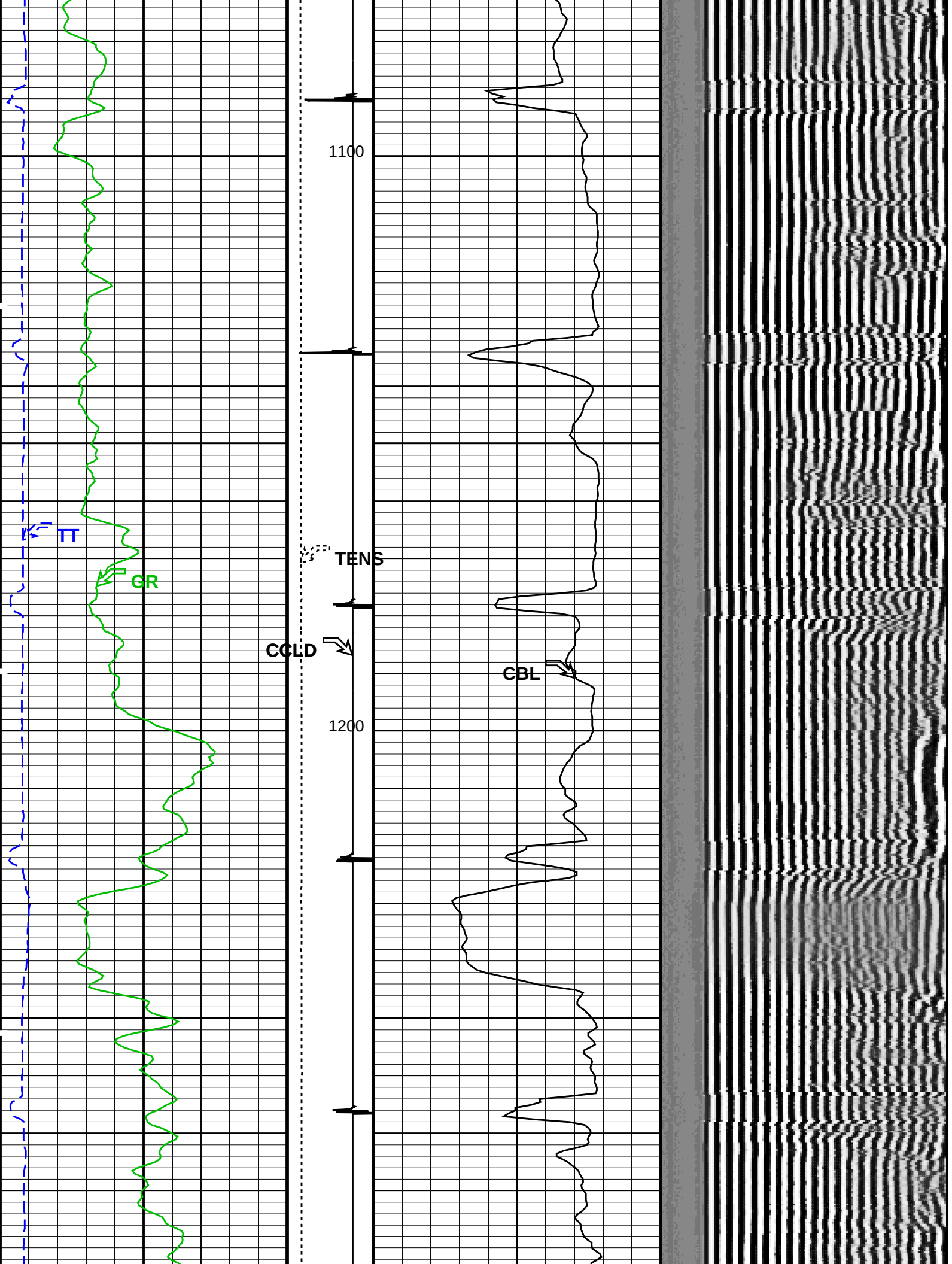
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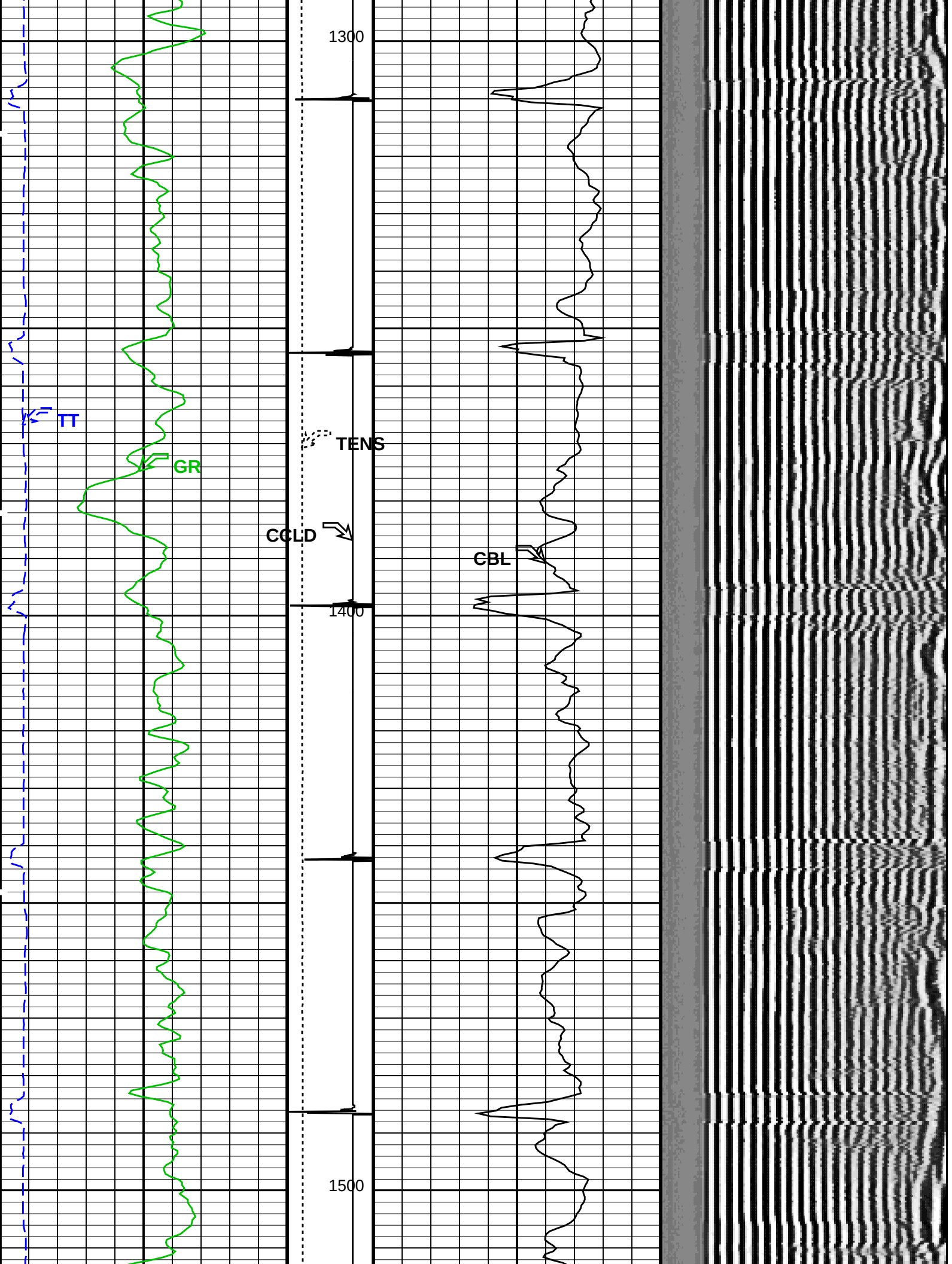
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1400
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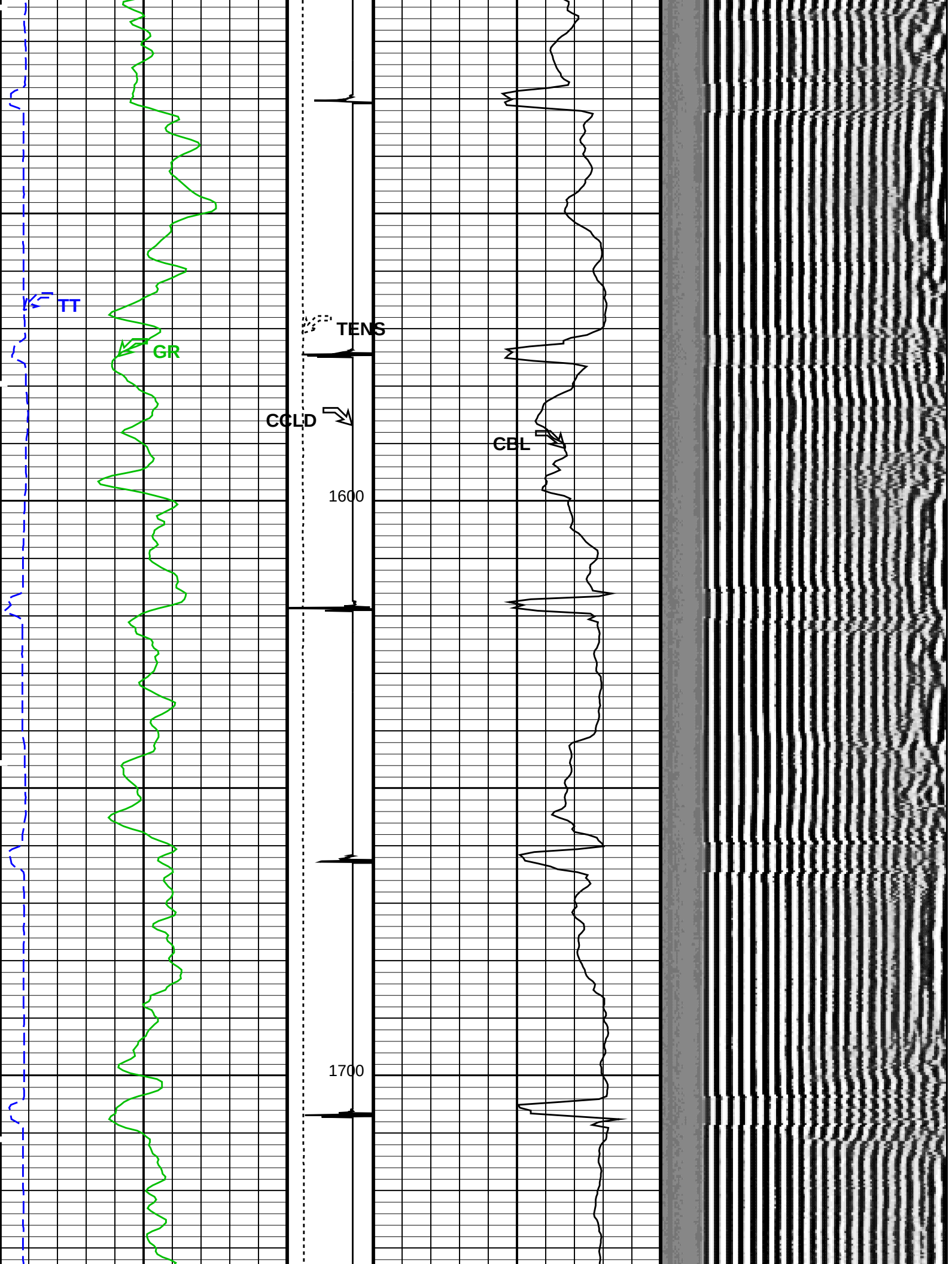
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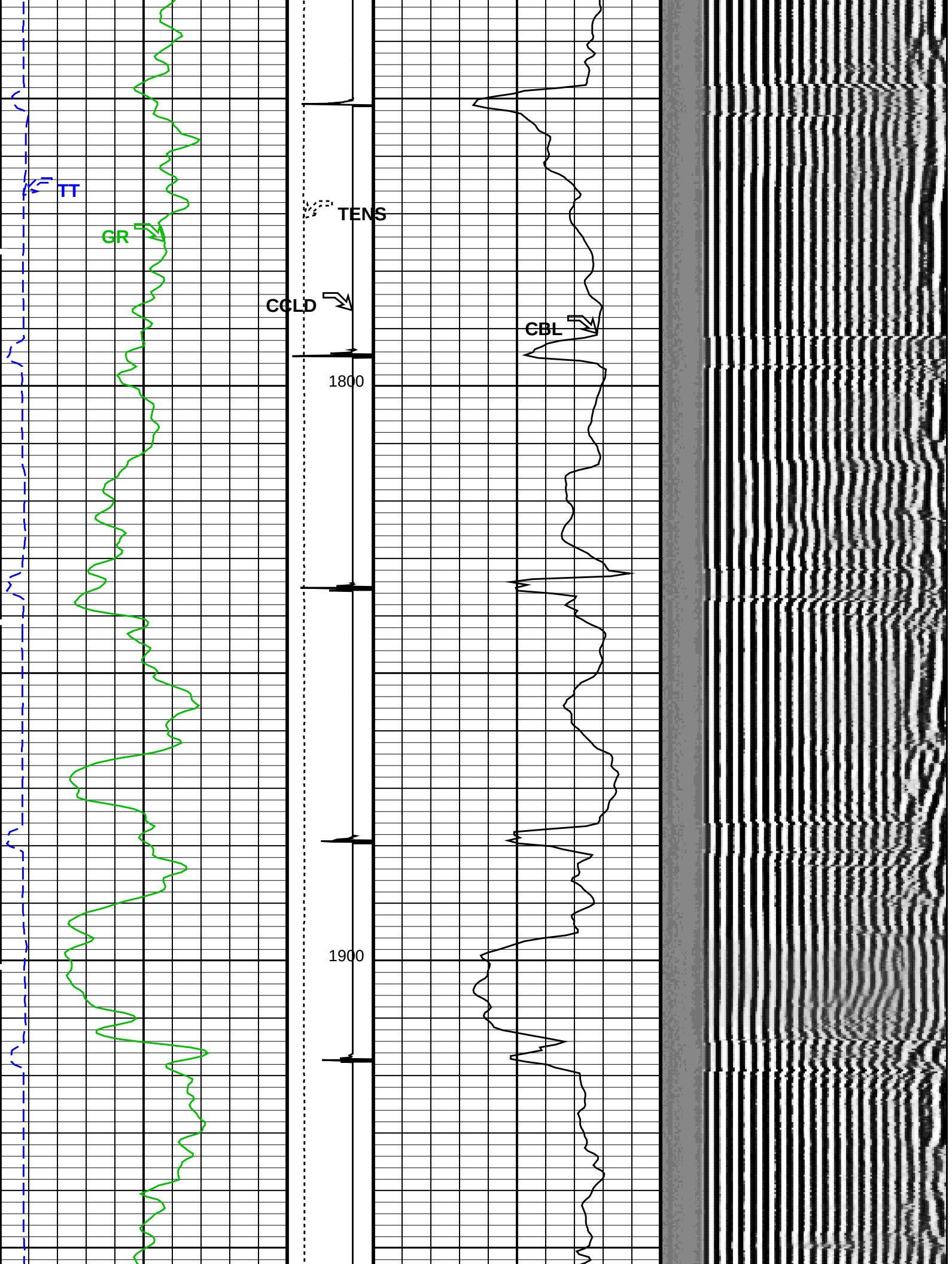
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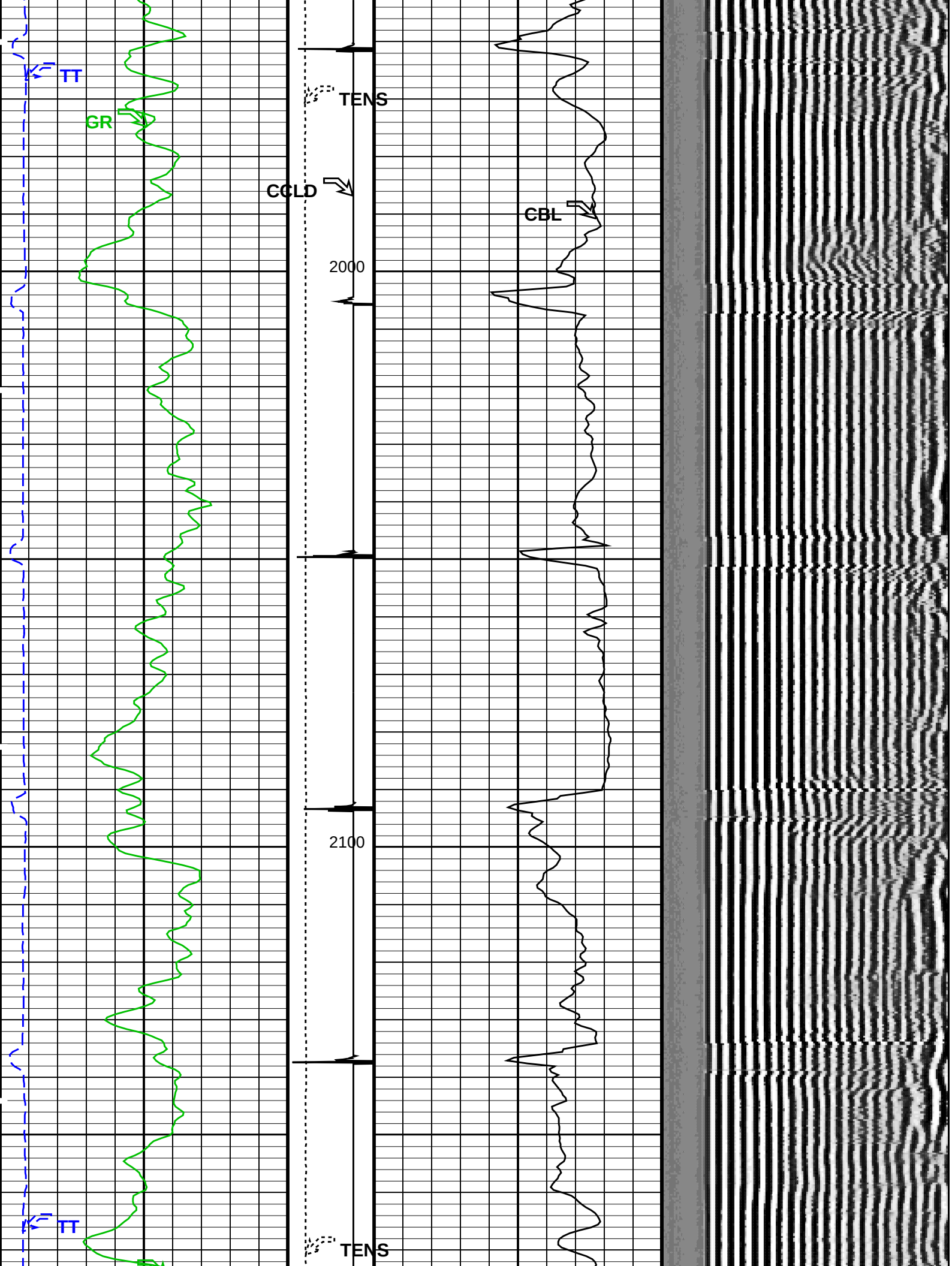
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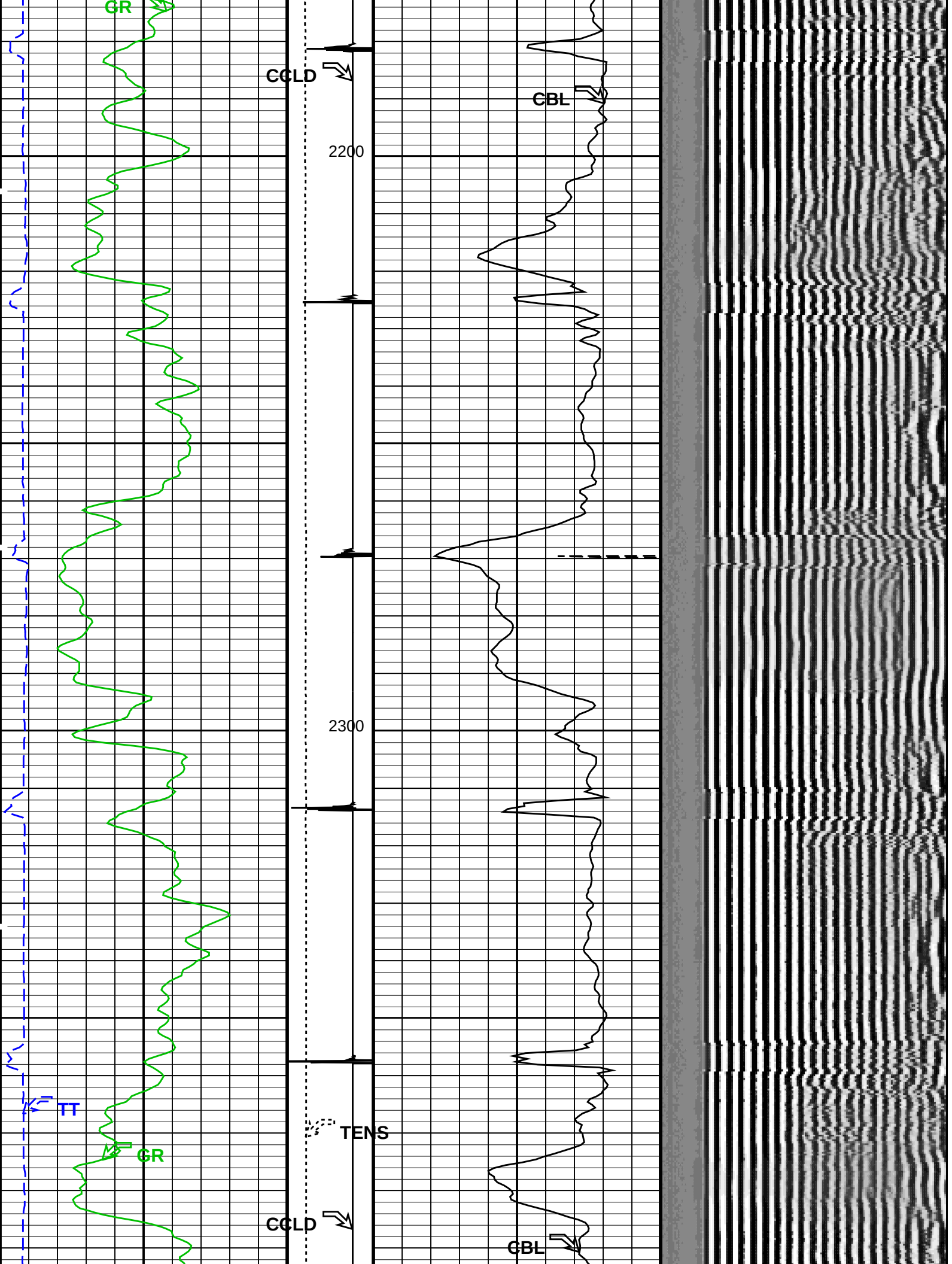
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2300
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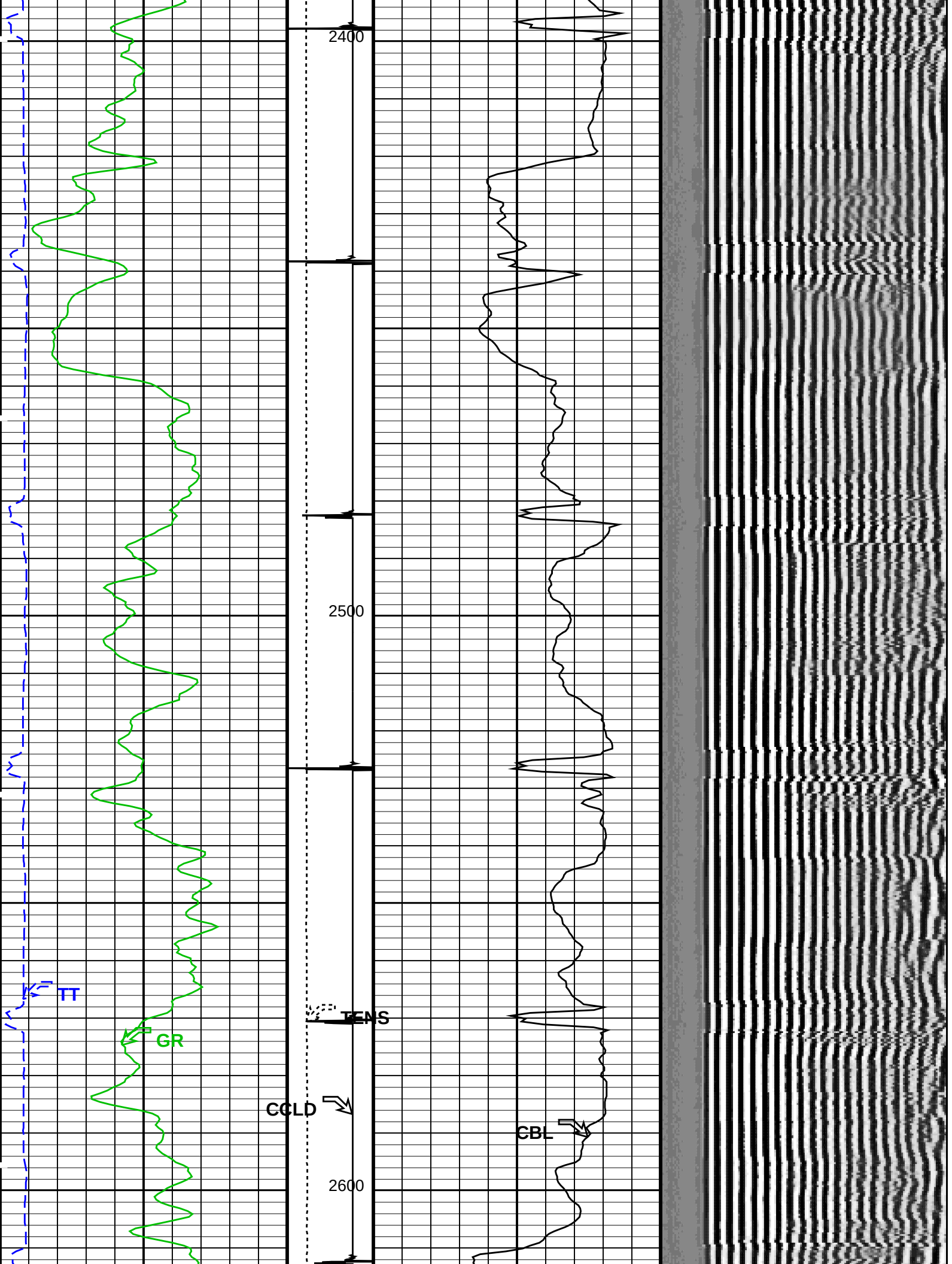
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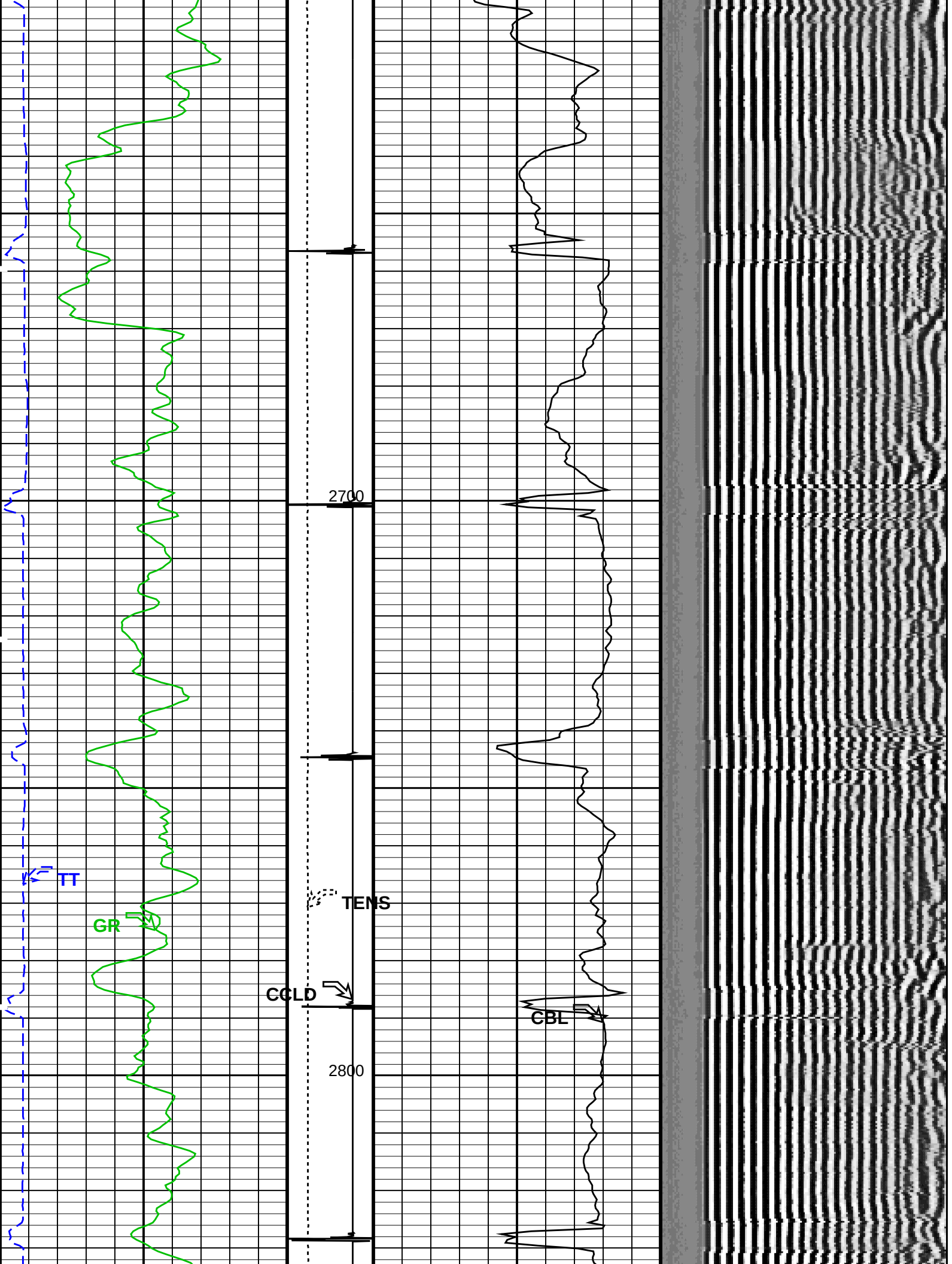
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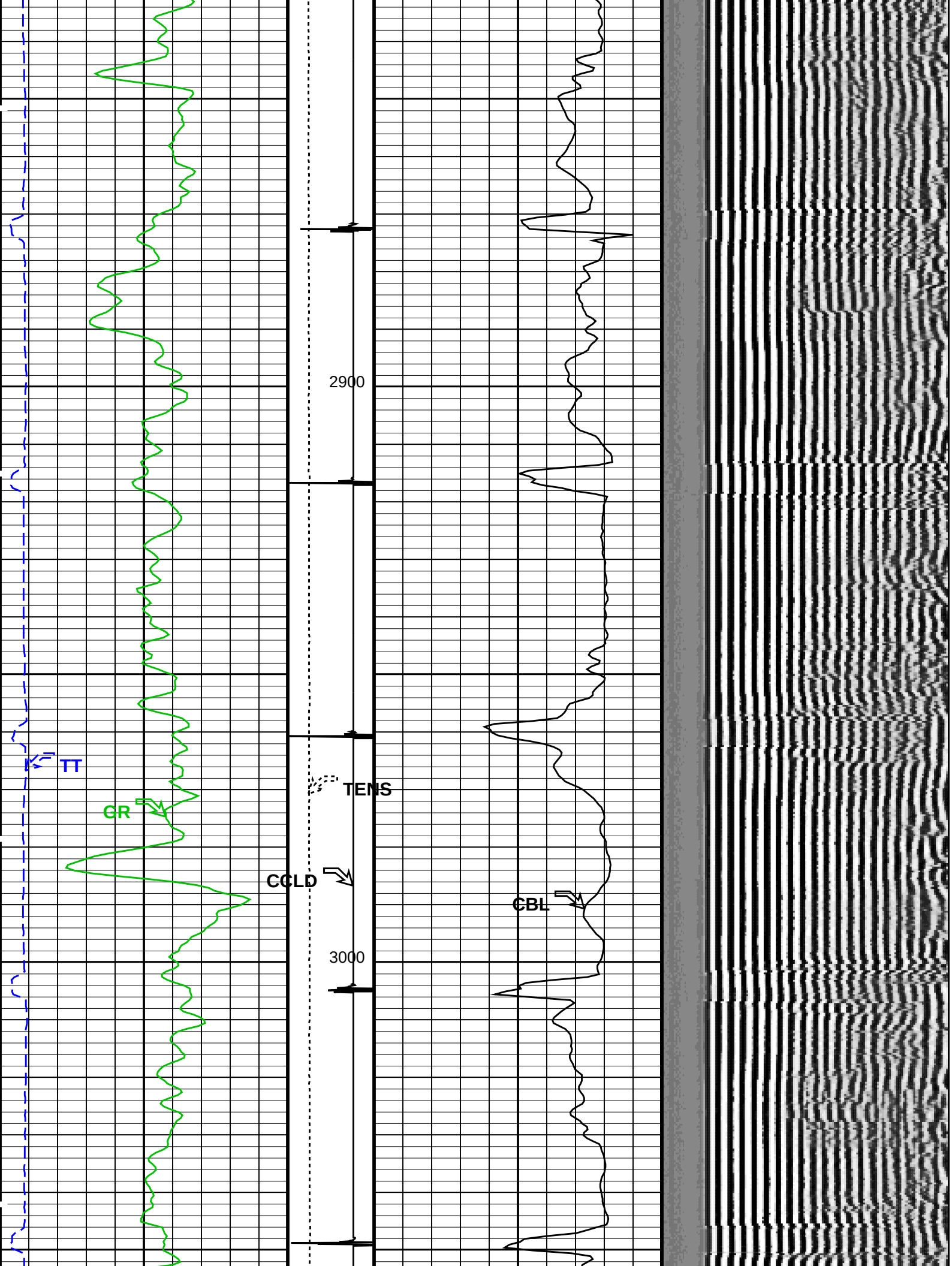
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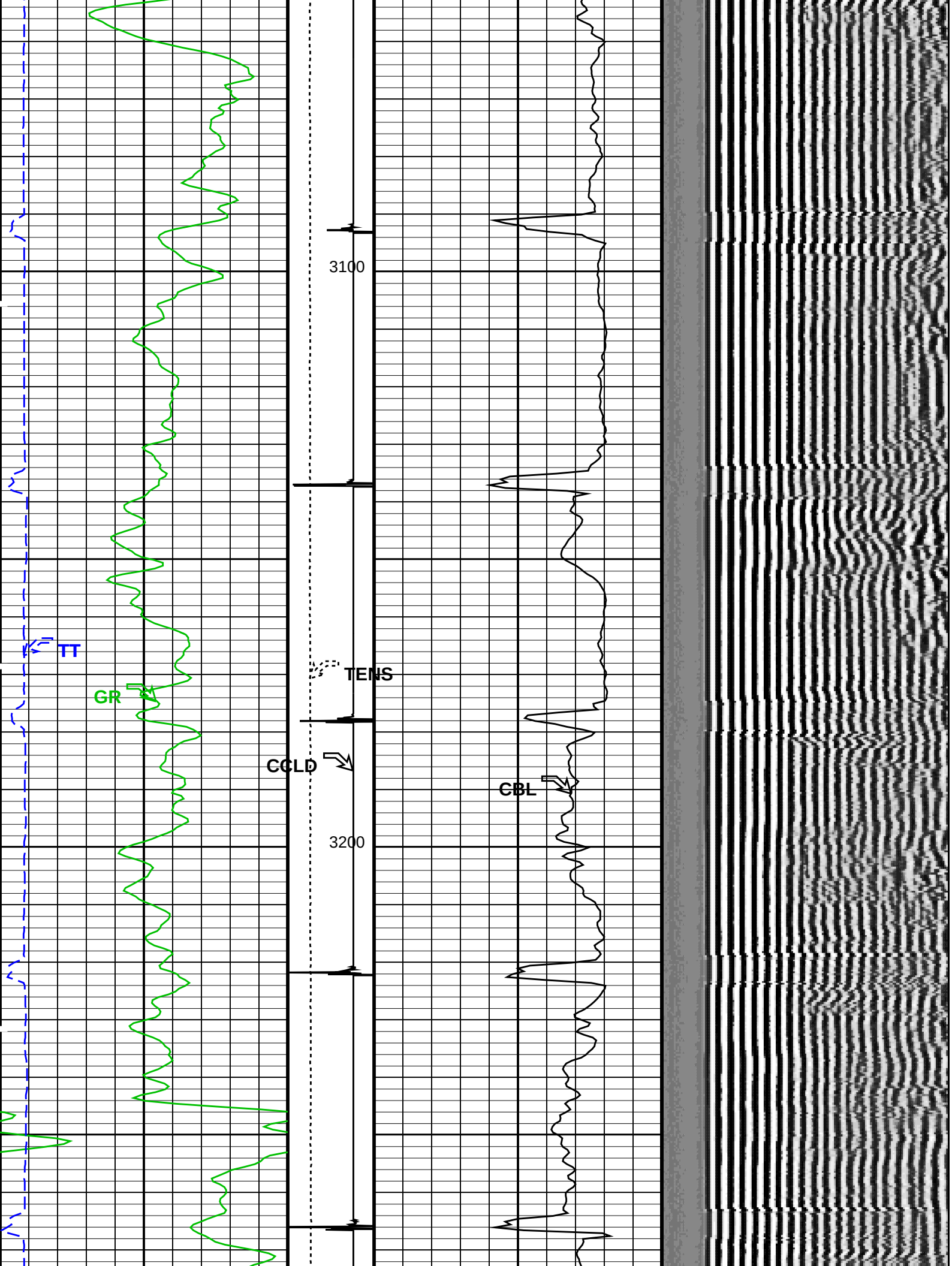
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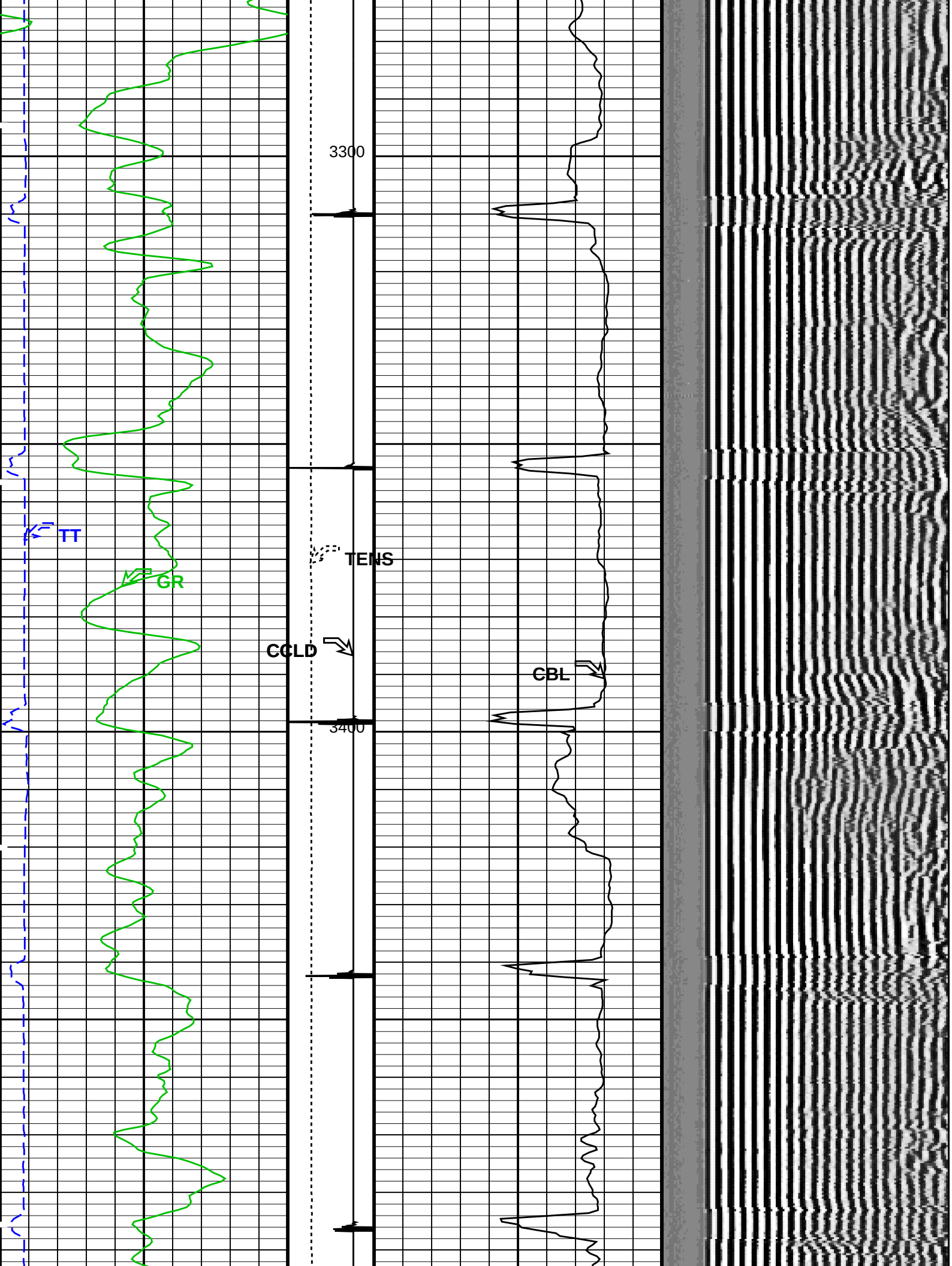
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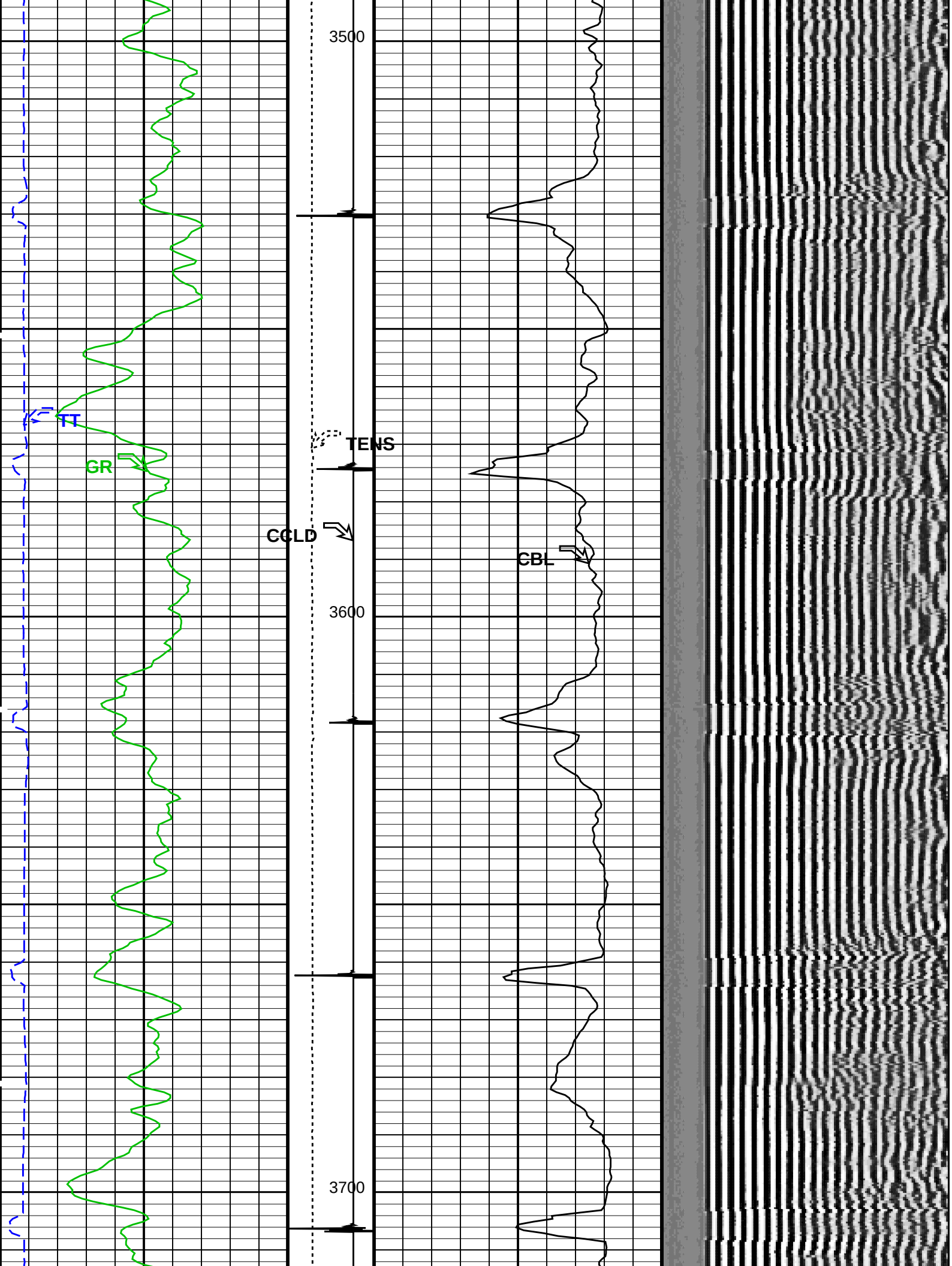
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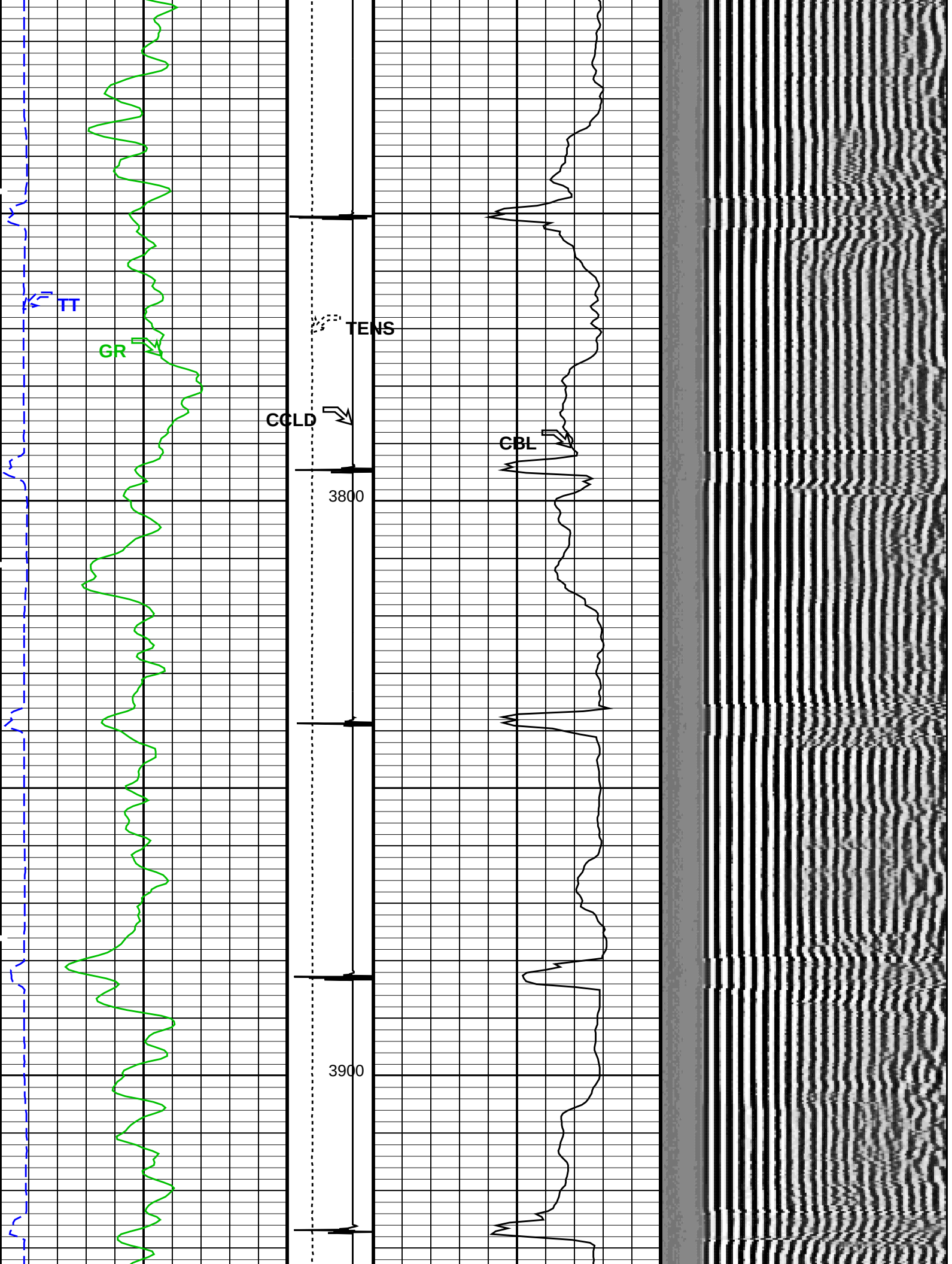
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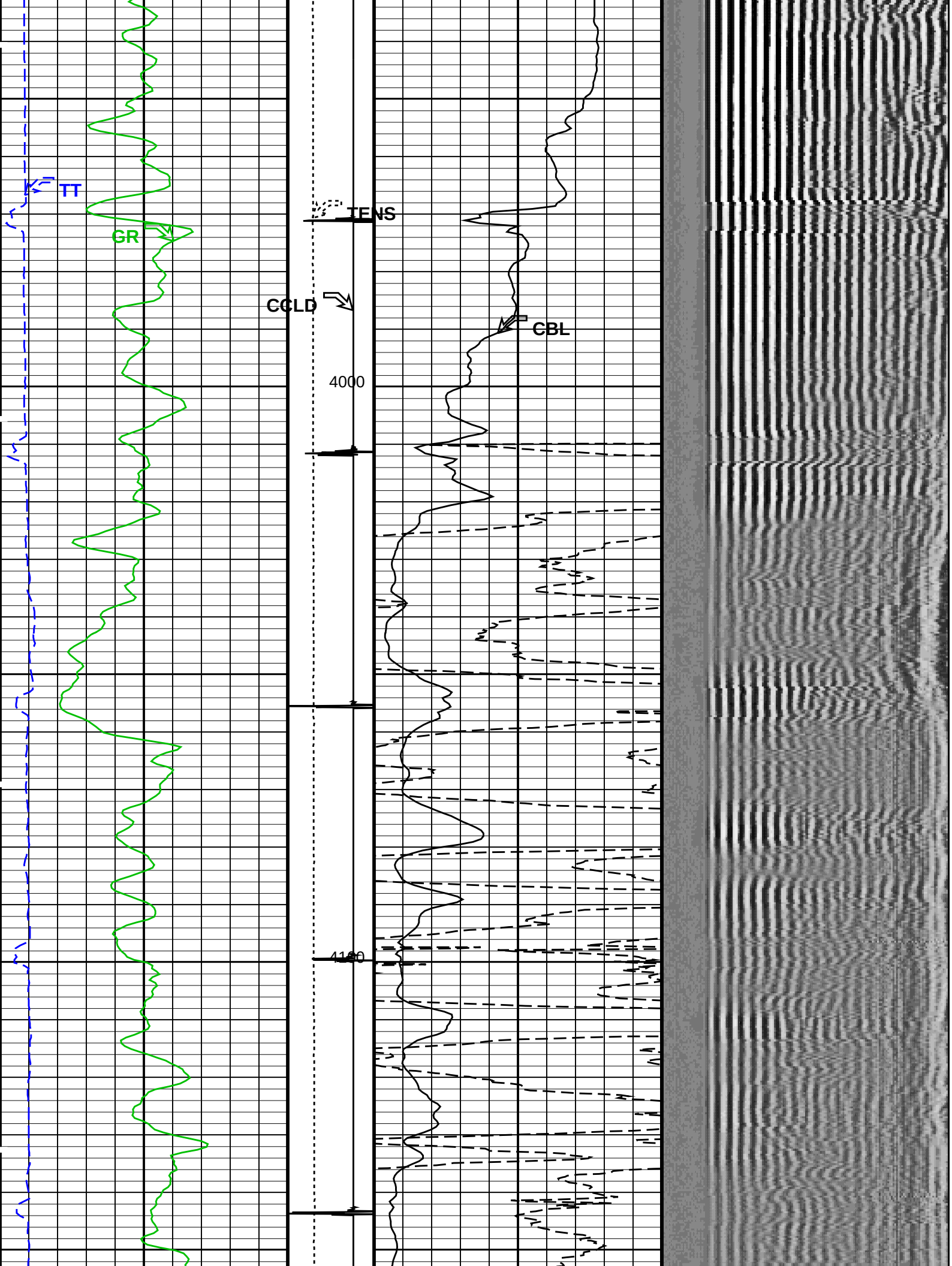
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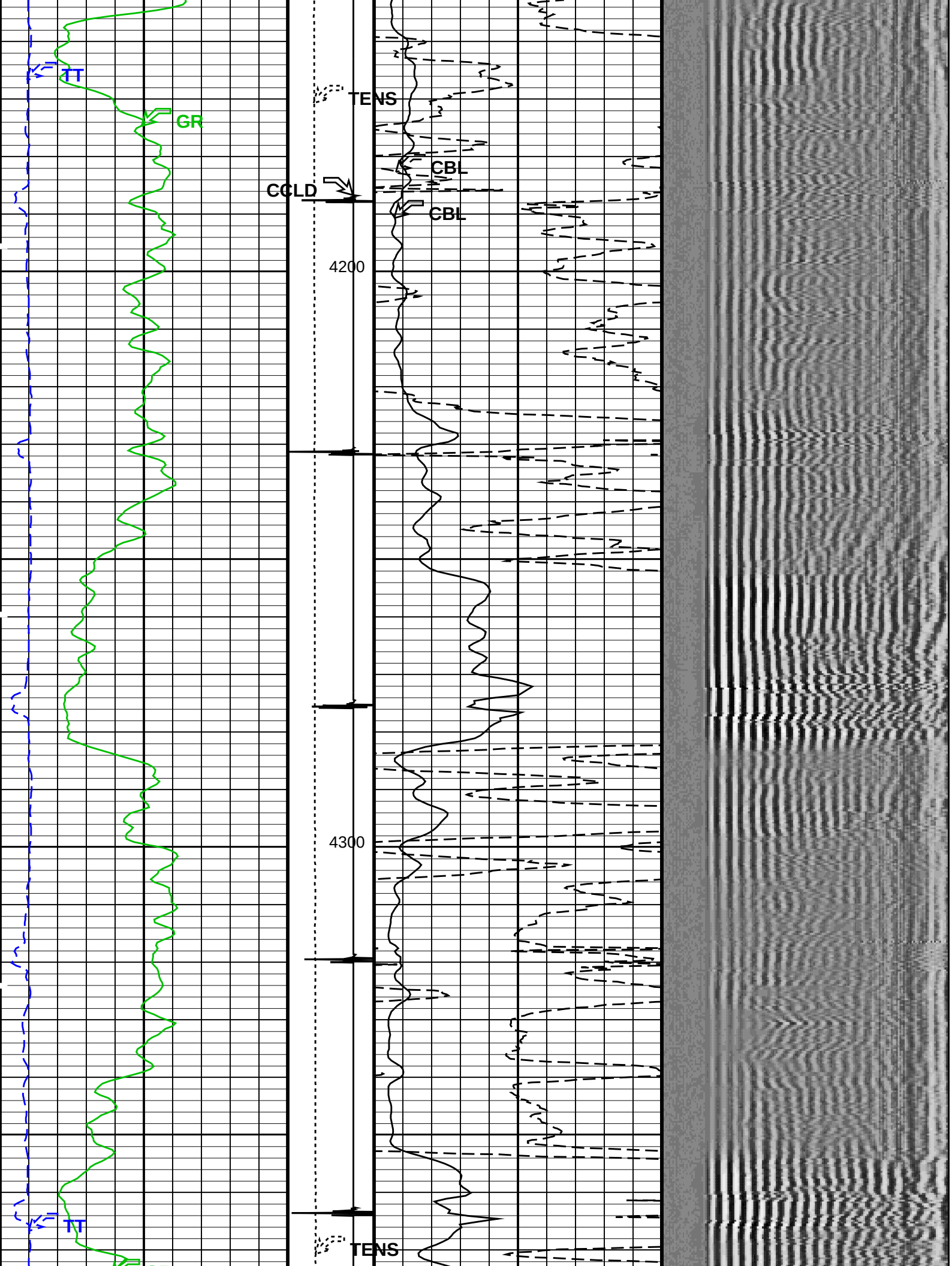
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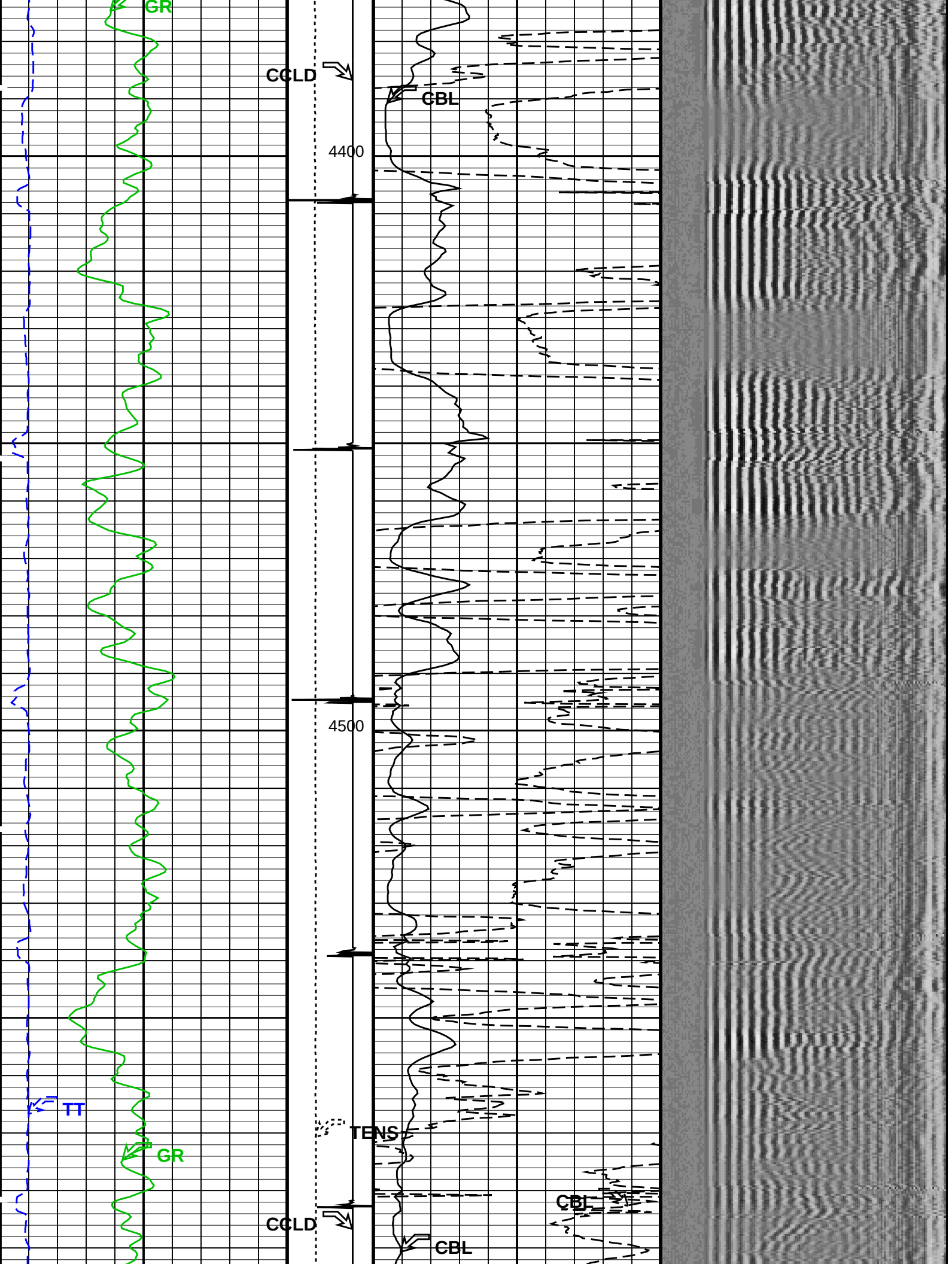
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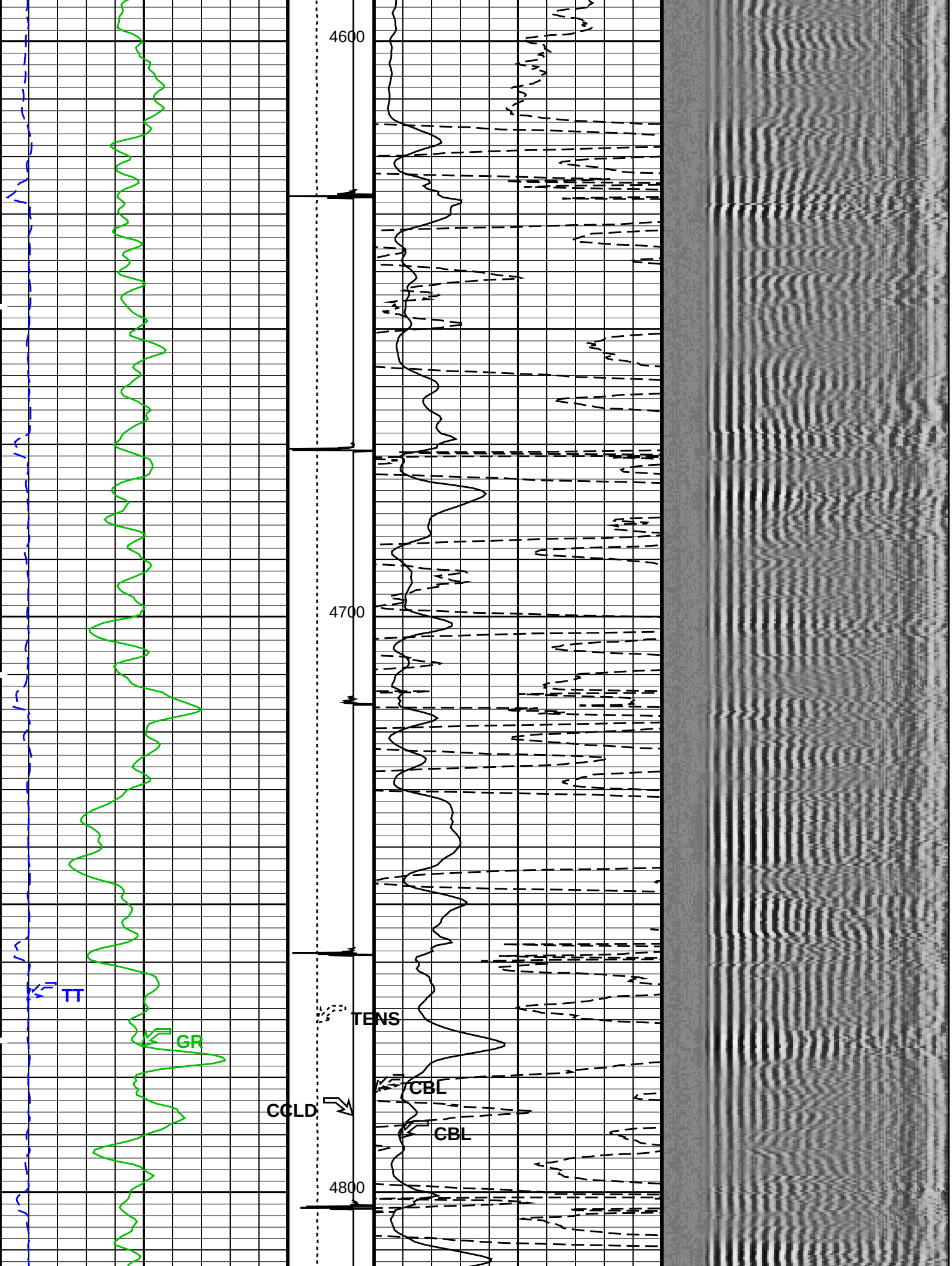
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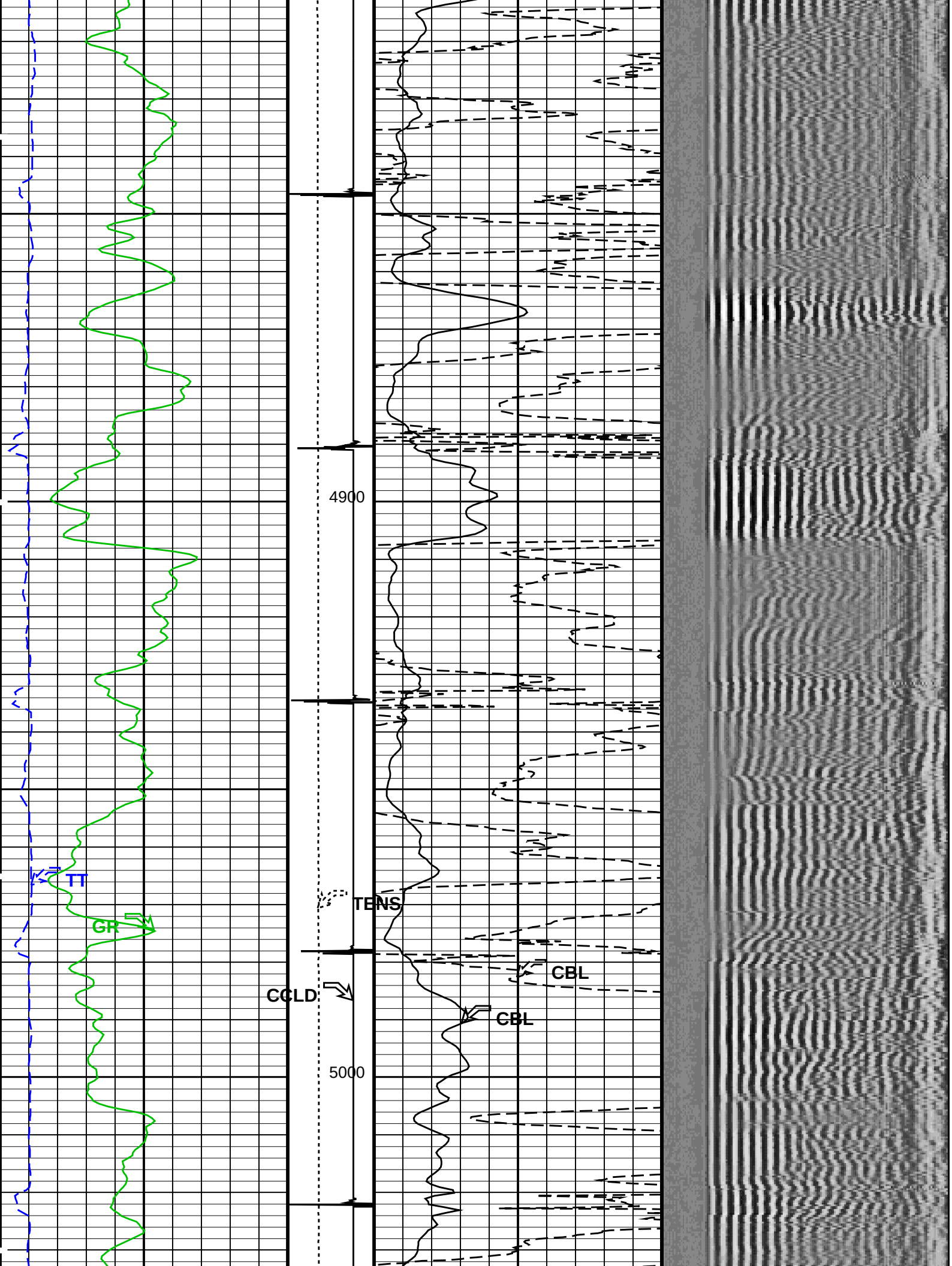
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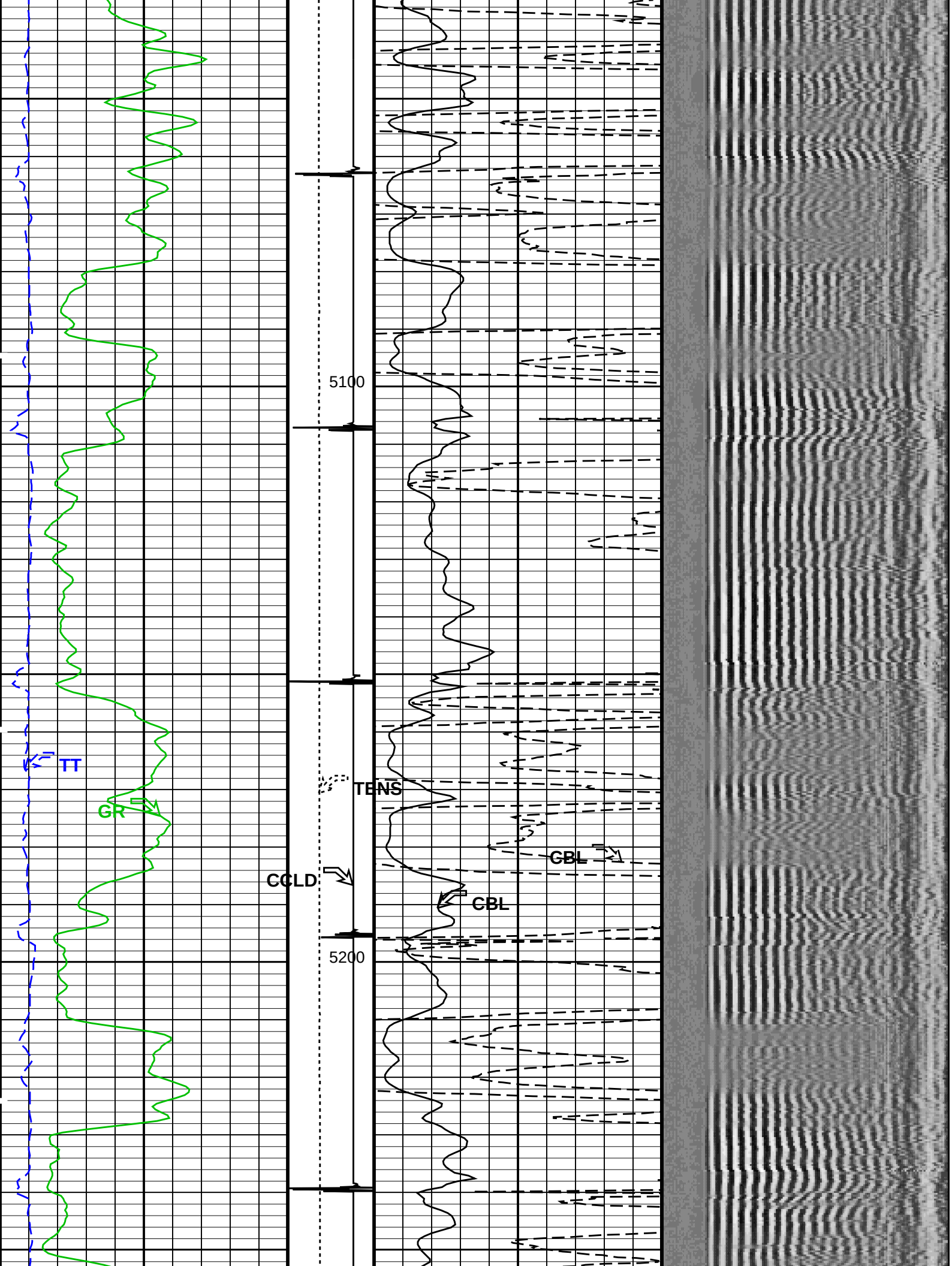
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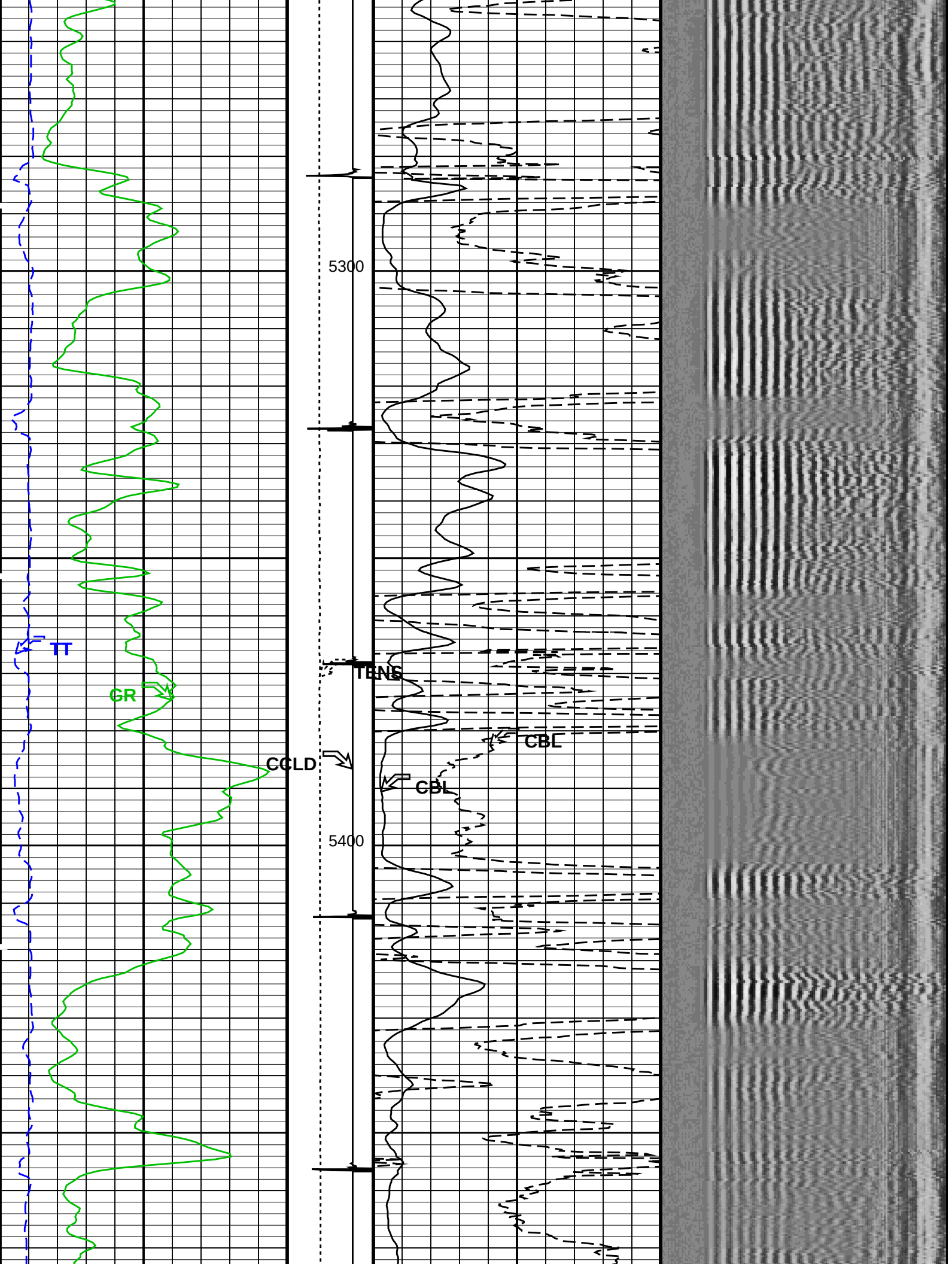
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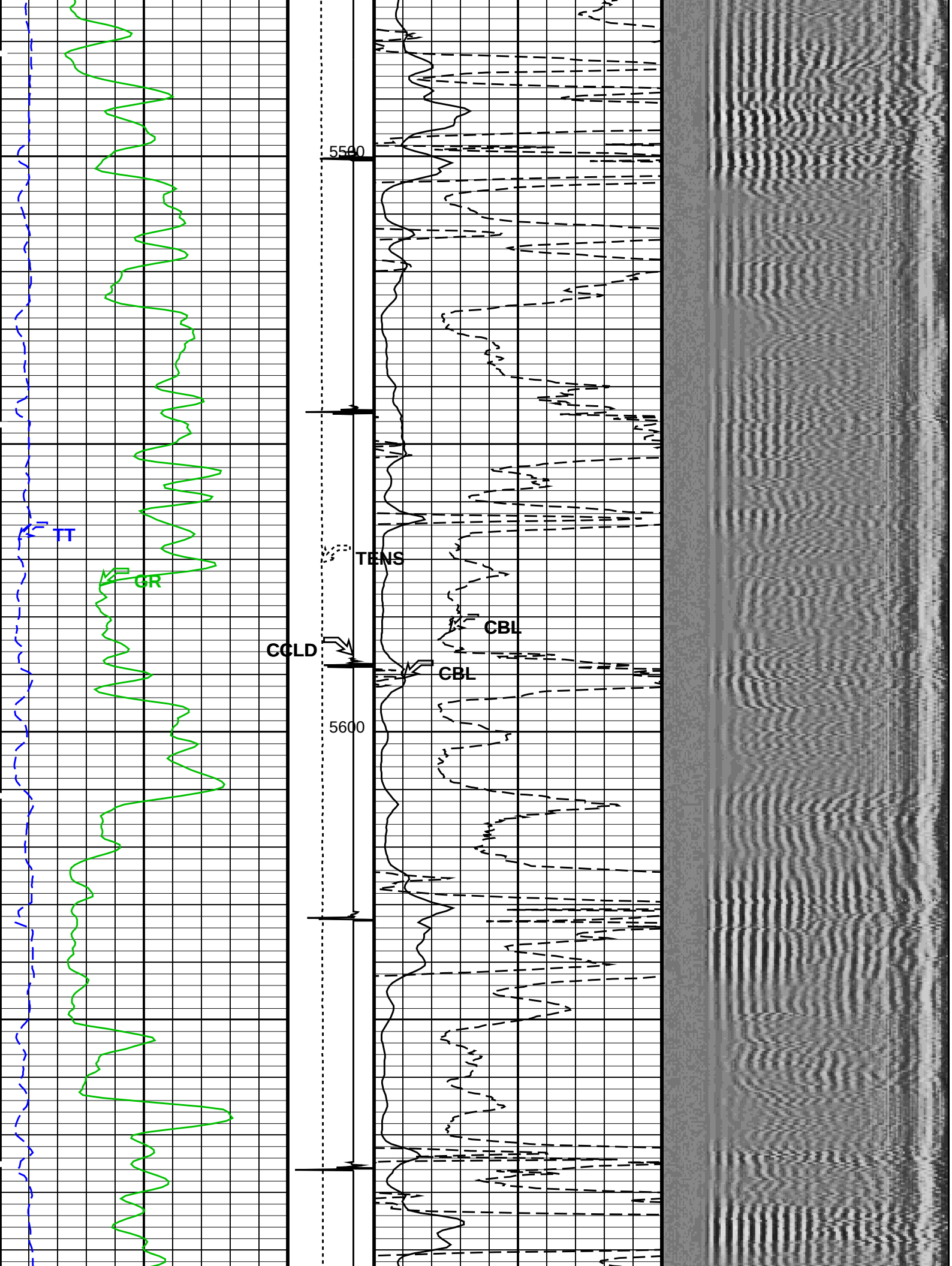
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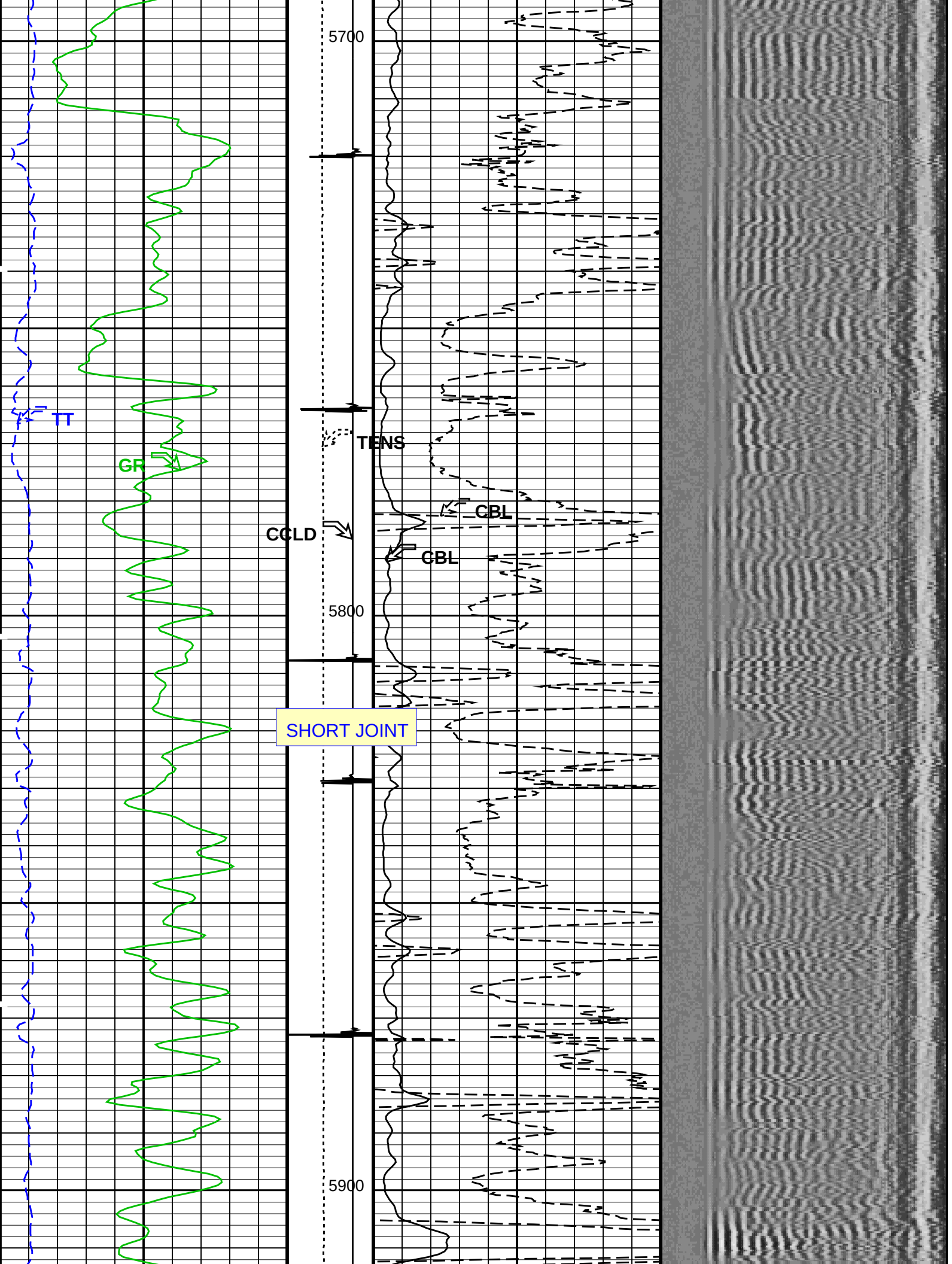
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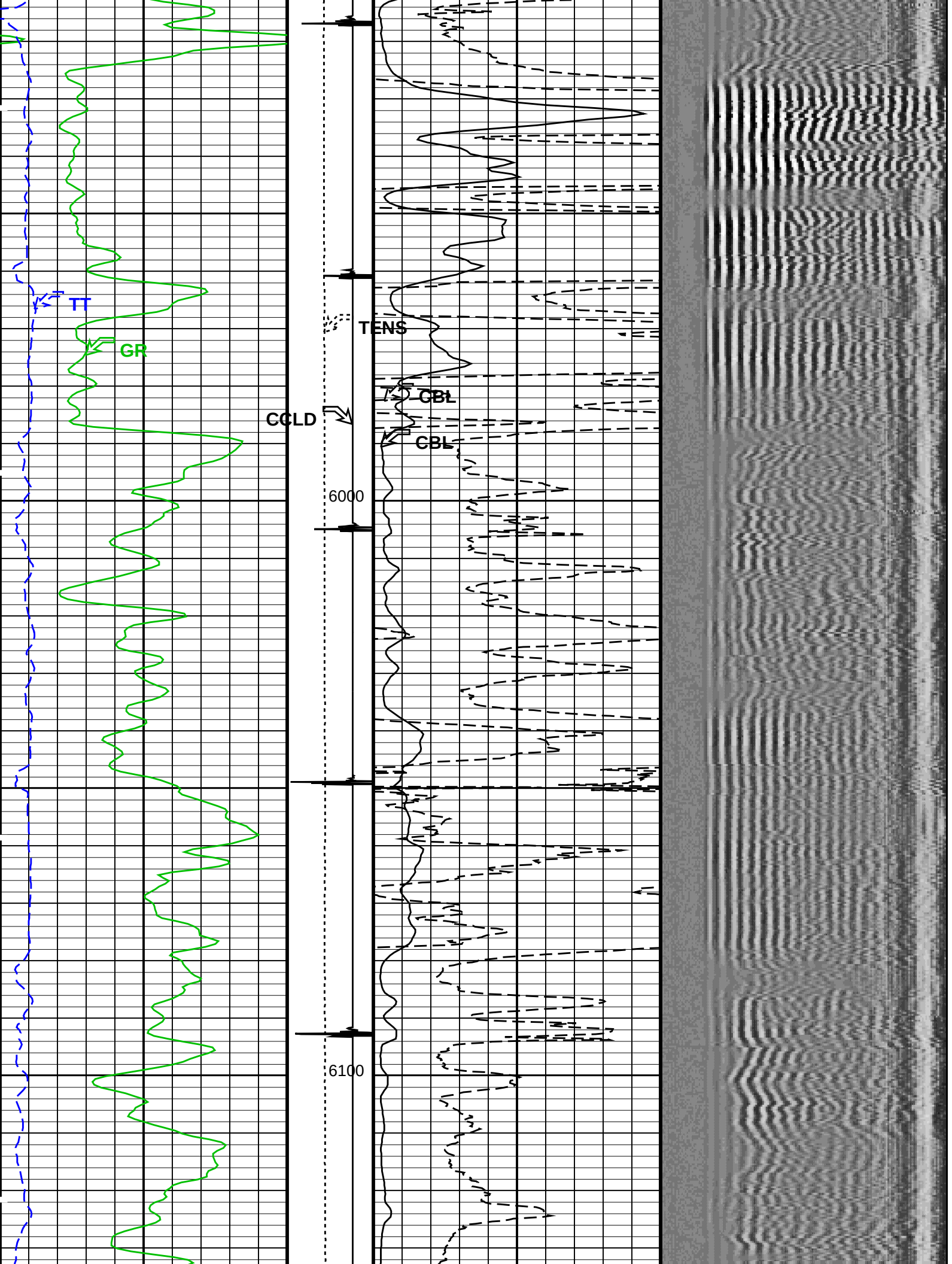
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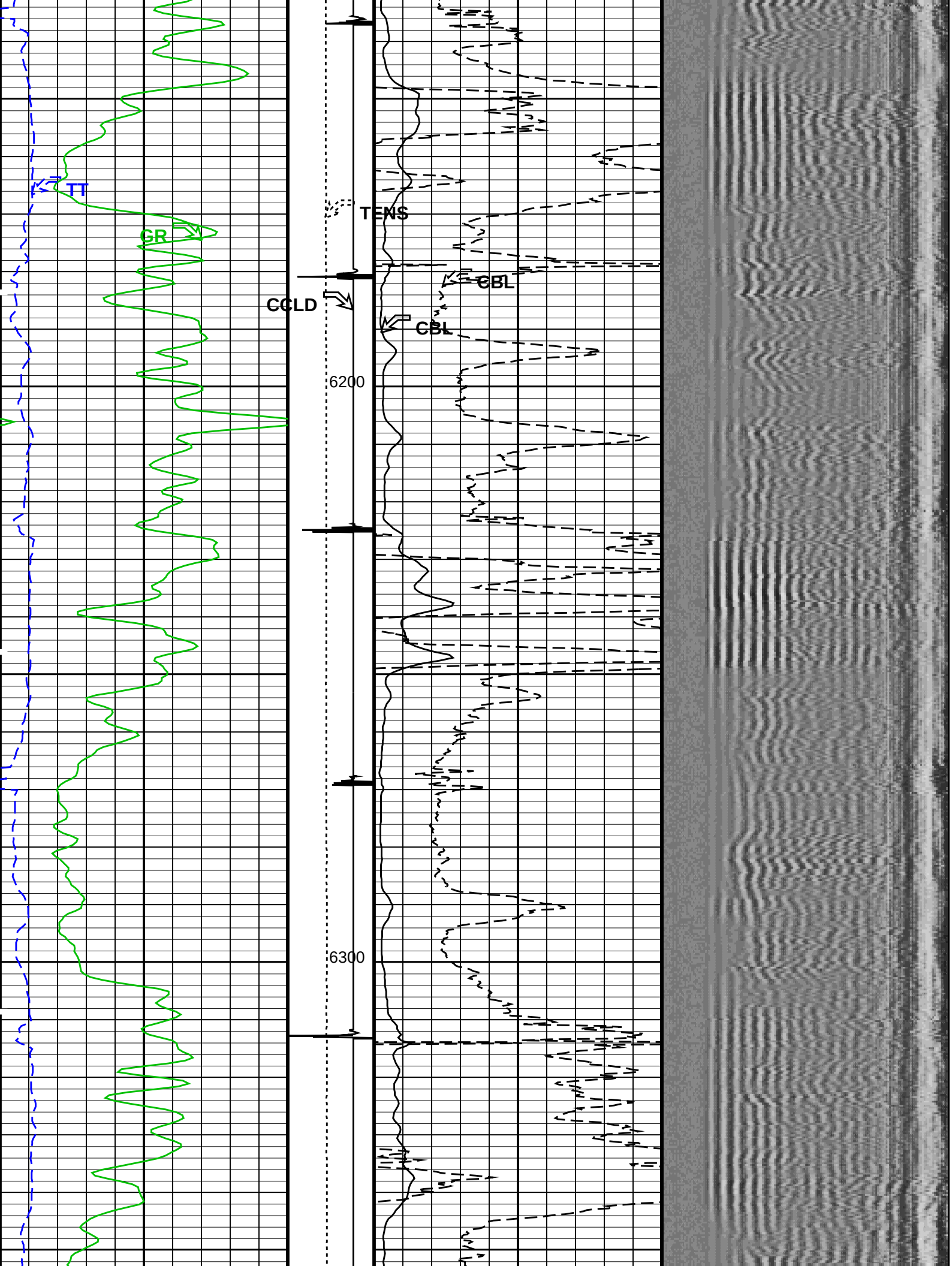
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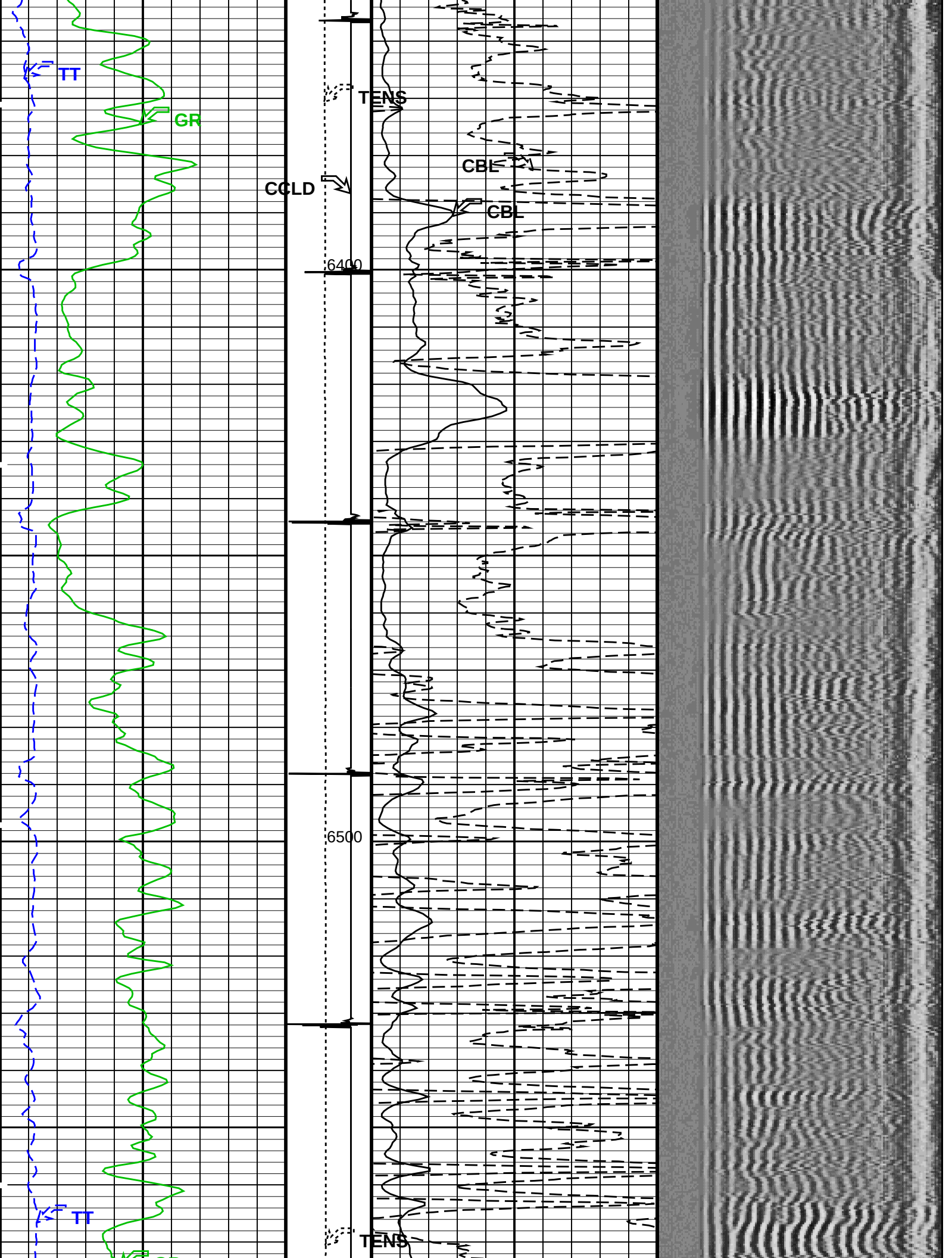
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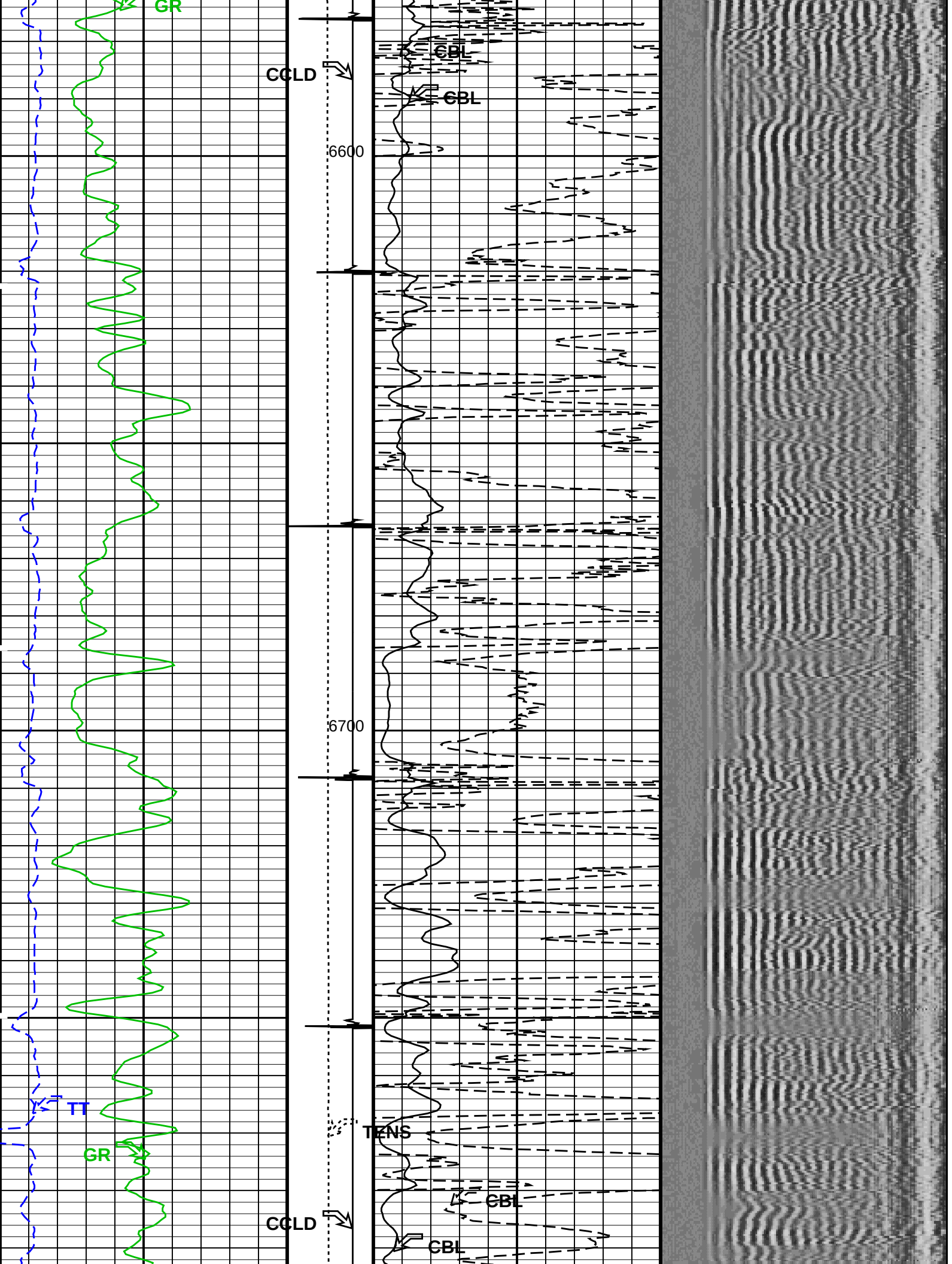
TENS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CCLD
CBL
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6700
TT
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CCLD
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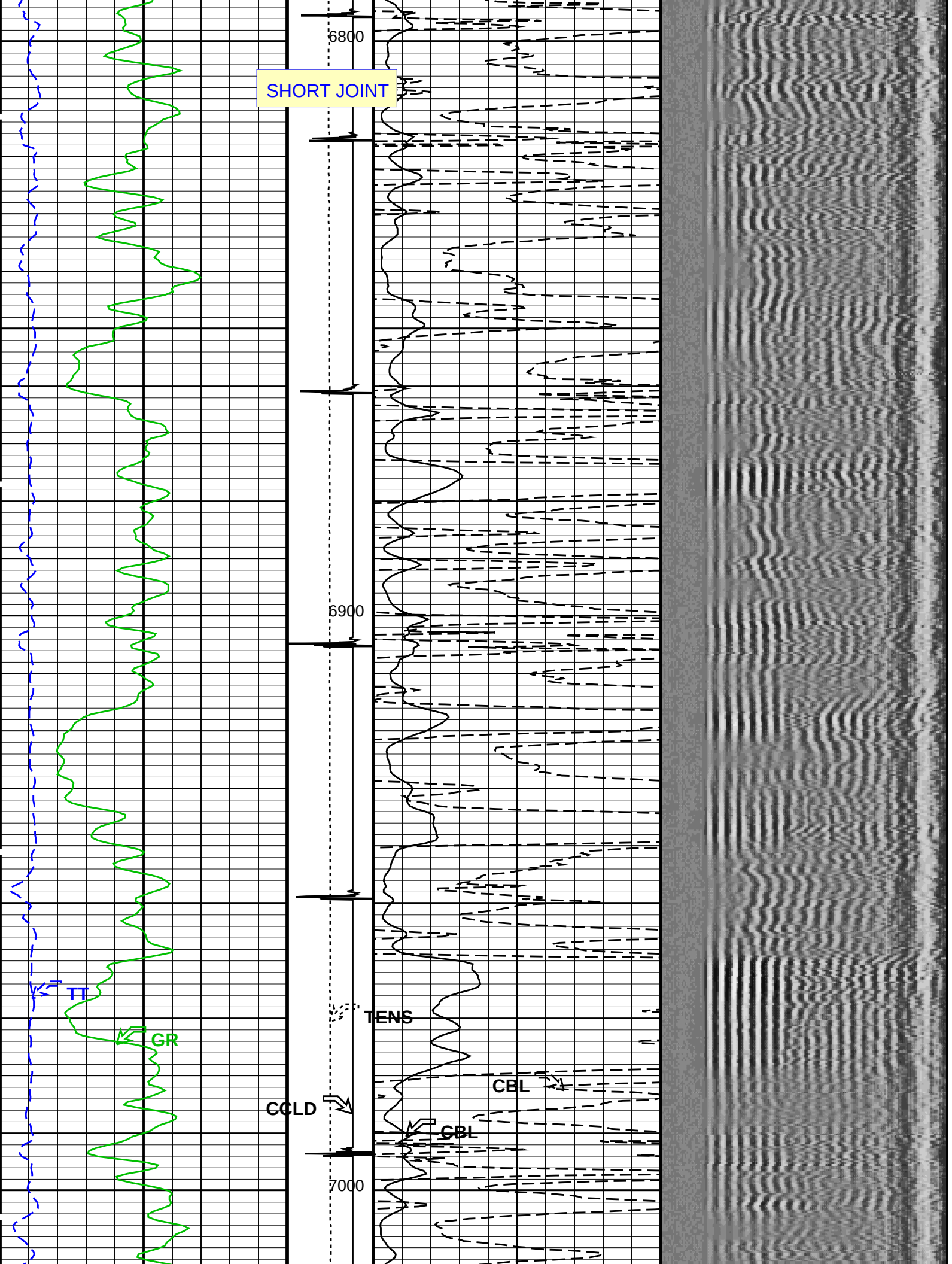
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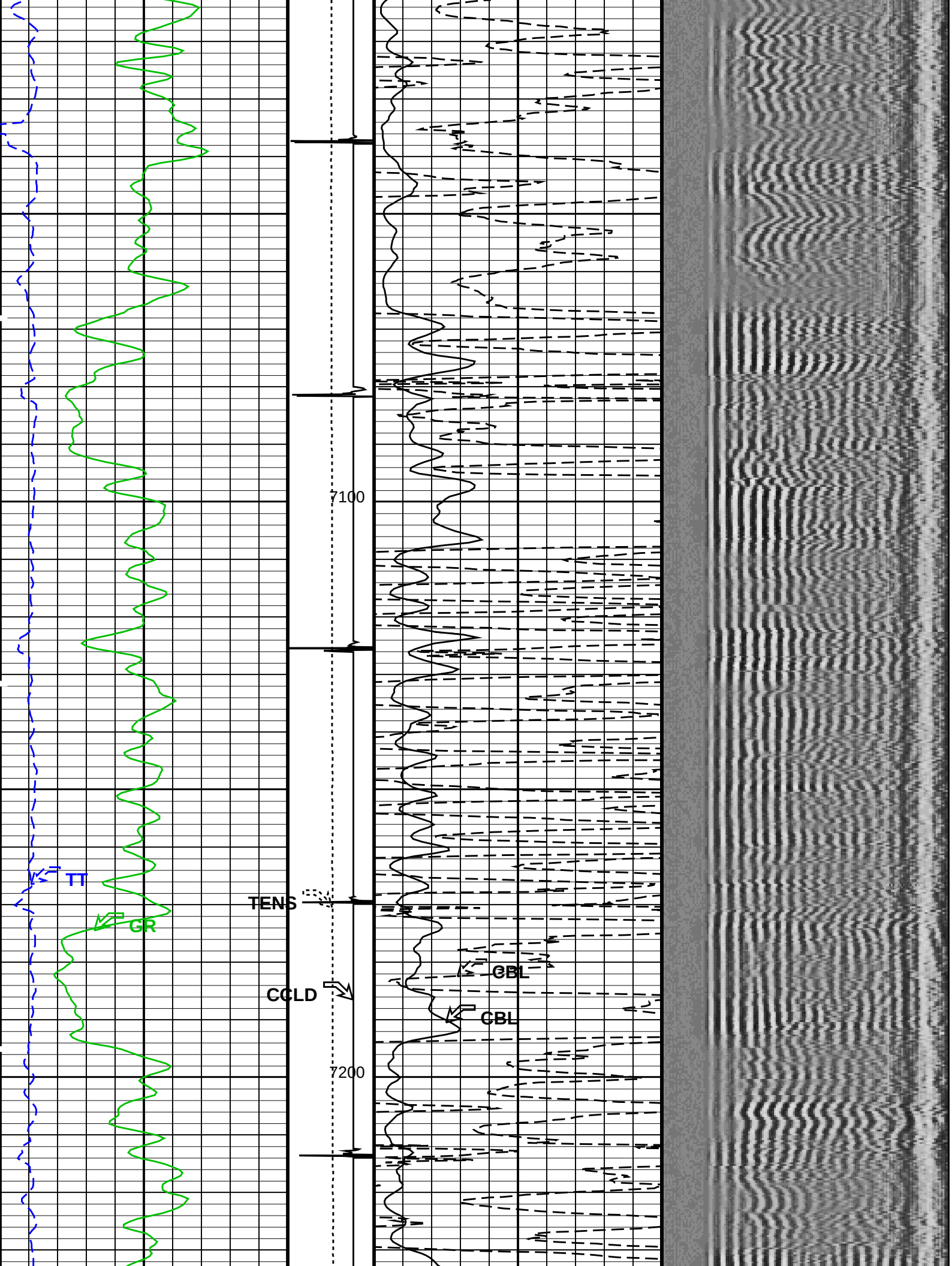
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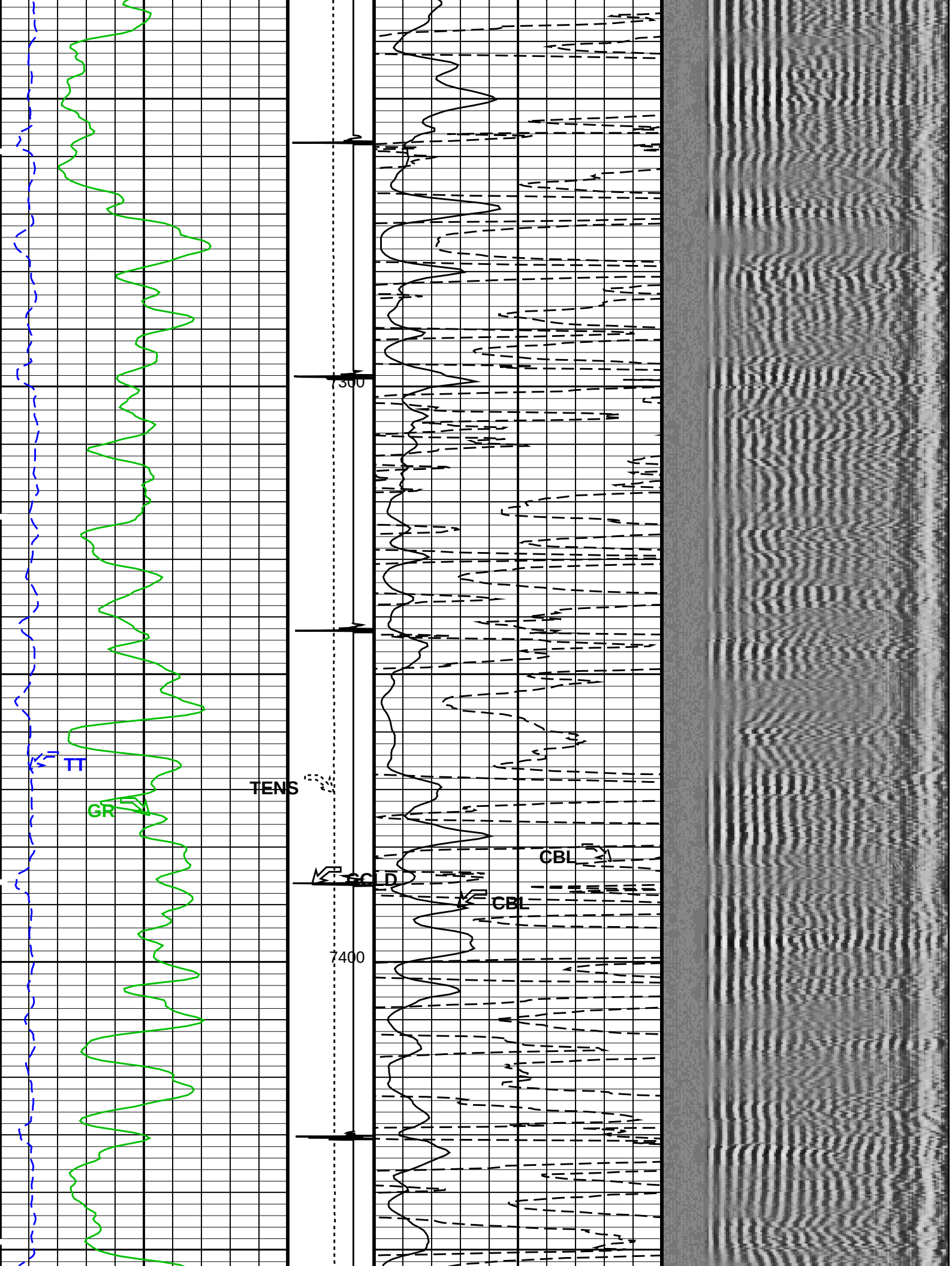
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TENS
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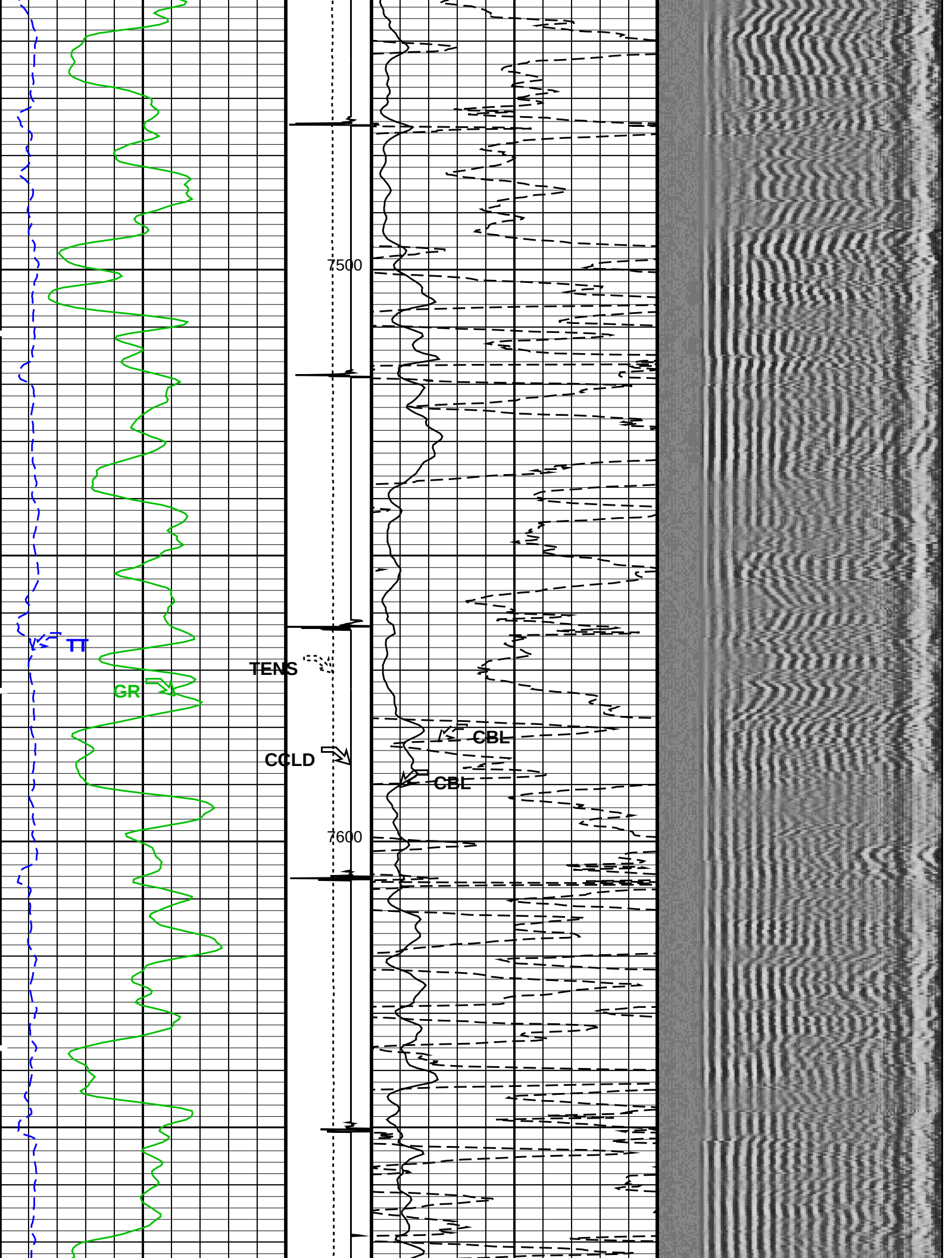
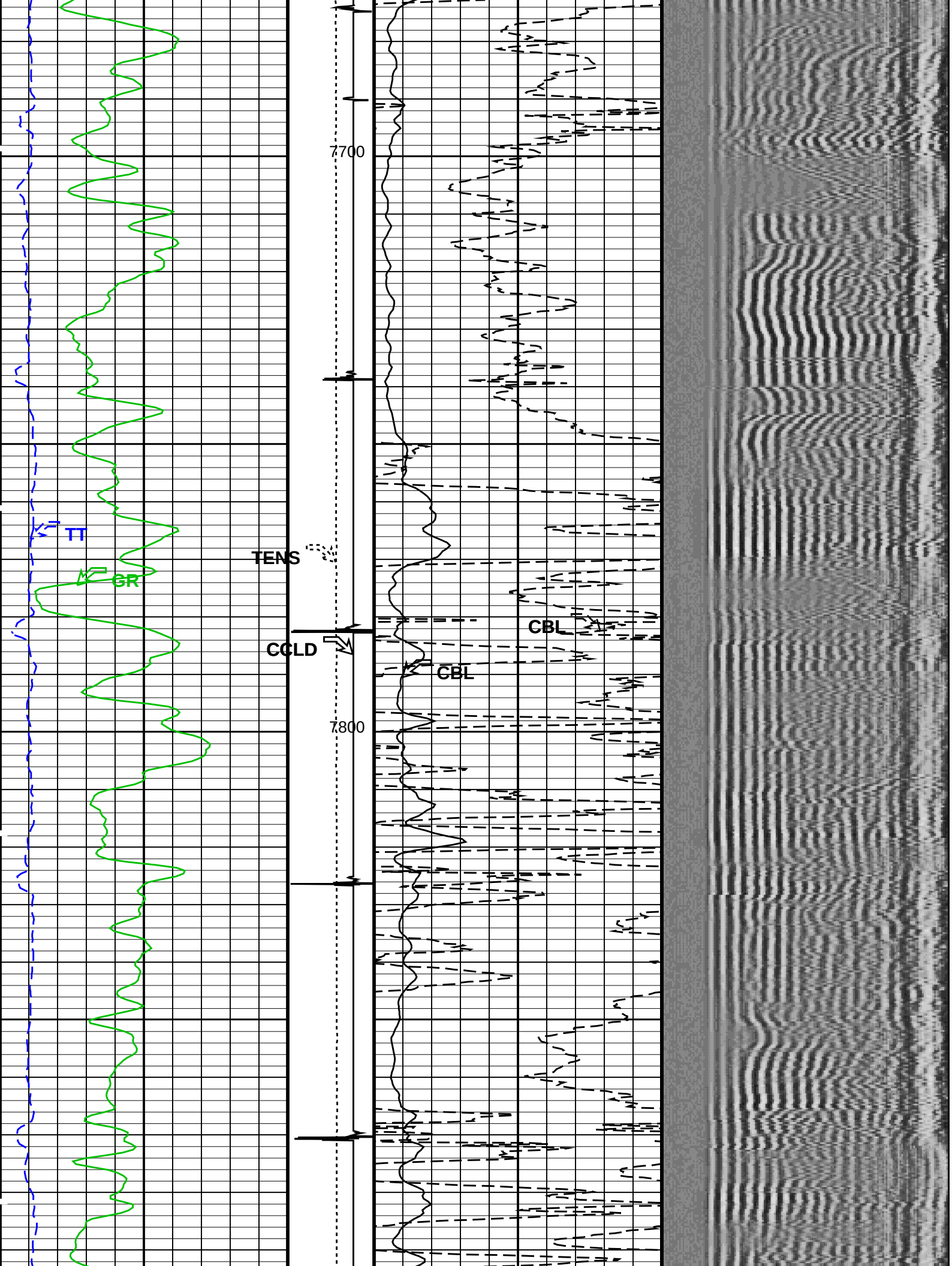
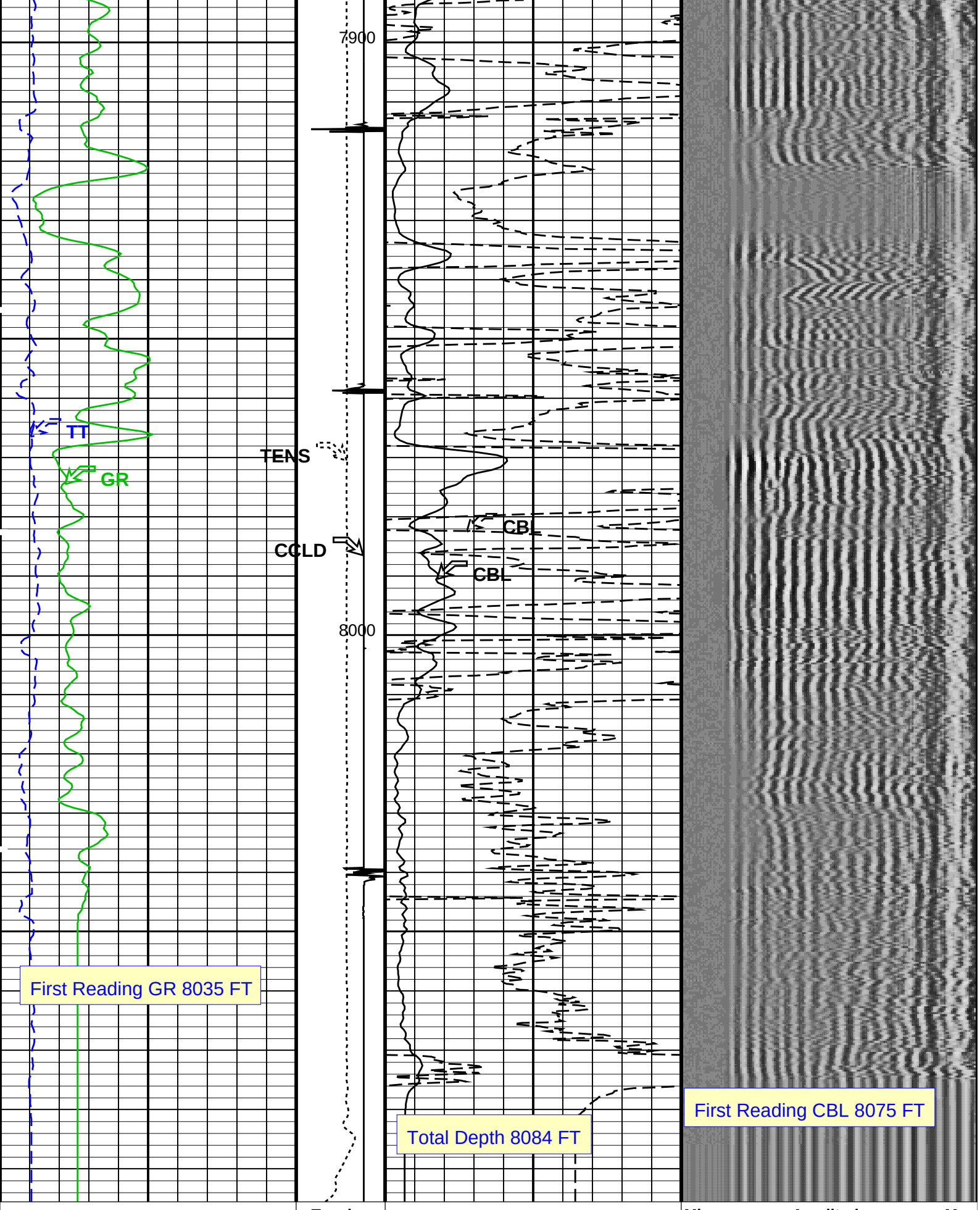
CC
D
CBL
7400


7500
TT
TENS
GR
CBL
CCLD
CBL
7600


7700
TT
GR
TENS
CCLD
CBL
CBL
7800



Gamma Ray (GR)
0 (GAPI) 150

Tension (TENS) (LBF)
0 2000

CBL Amplitude (CBL)
0 (MV) 100

Min Amplitude Max
VDL VariableDensity (VDL)
200 (US) 1200

Discriminat

Transit Time (TT)			ed CCL (CCLD)		CBL Amplitude (CBL)	
260	(US)	160	3 (V) −1	0	(MV)	10

PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL Vertical Scale: 5" per 100' Graphics File Created: 29−Mar−2013 23:08

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 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	2−JAN−2013		
CBL Correction Factor	0.0710826	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.103584	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.0974321		
MAP 3 Correction Factor	0.0970306		
MAP 4 Correction Factor	0.107300		
MAP 5 Correction Factor	0.113090		
MAP 6 Correction Factor	0.0923740		
MAP 7 Correction Factor	0.0954019		
MAP 8 Correction Factor	0.0947290		

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	

VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	4.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8084	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_015LUP	FN:14	PRODUCER	29−Mar−2013 20:56	8091.5 FT	12.5 FT

Output DLIS Files

DEFAULT	SCMT_RST_PSP_018PUP	FN:17	PRODUCER	29−Mar−2013 23:08

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REPEAT ANALYSIS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: FEDERAL 22−13CC (PJ21)

Input DLIS Files

DEFAULT	SCMT_RST_PSP_013LUP	FN:12	PRODUCER	29−Mar−2013 20:40	5954.5 FT	5635.0 FT
DEFAULT	SCMT_RST_PSP_018PUP	FN:17	PRODUCER	29−Mar−2013 23:08	8095.5 FT	−28.0 FT

Output DLIS Files

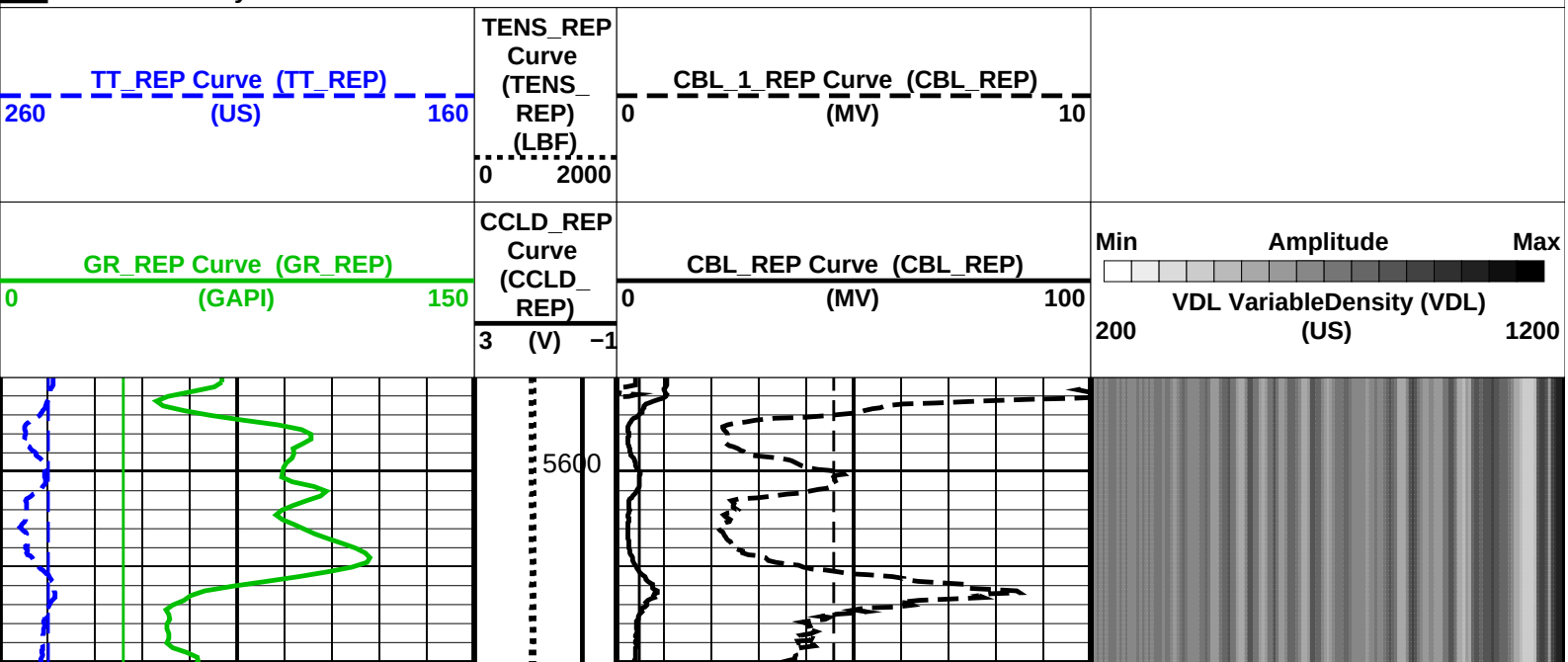
DEFAULT	SCMT_RST_PSP_019PUP	FN:18	PRODUCER	29−Mar−2013 23:20	5953.5 FT	5589.5 FT

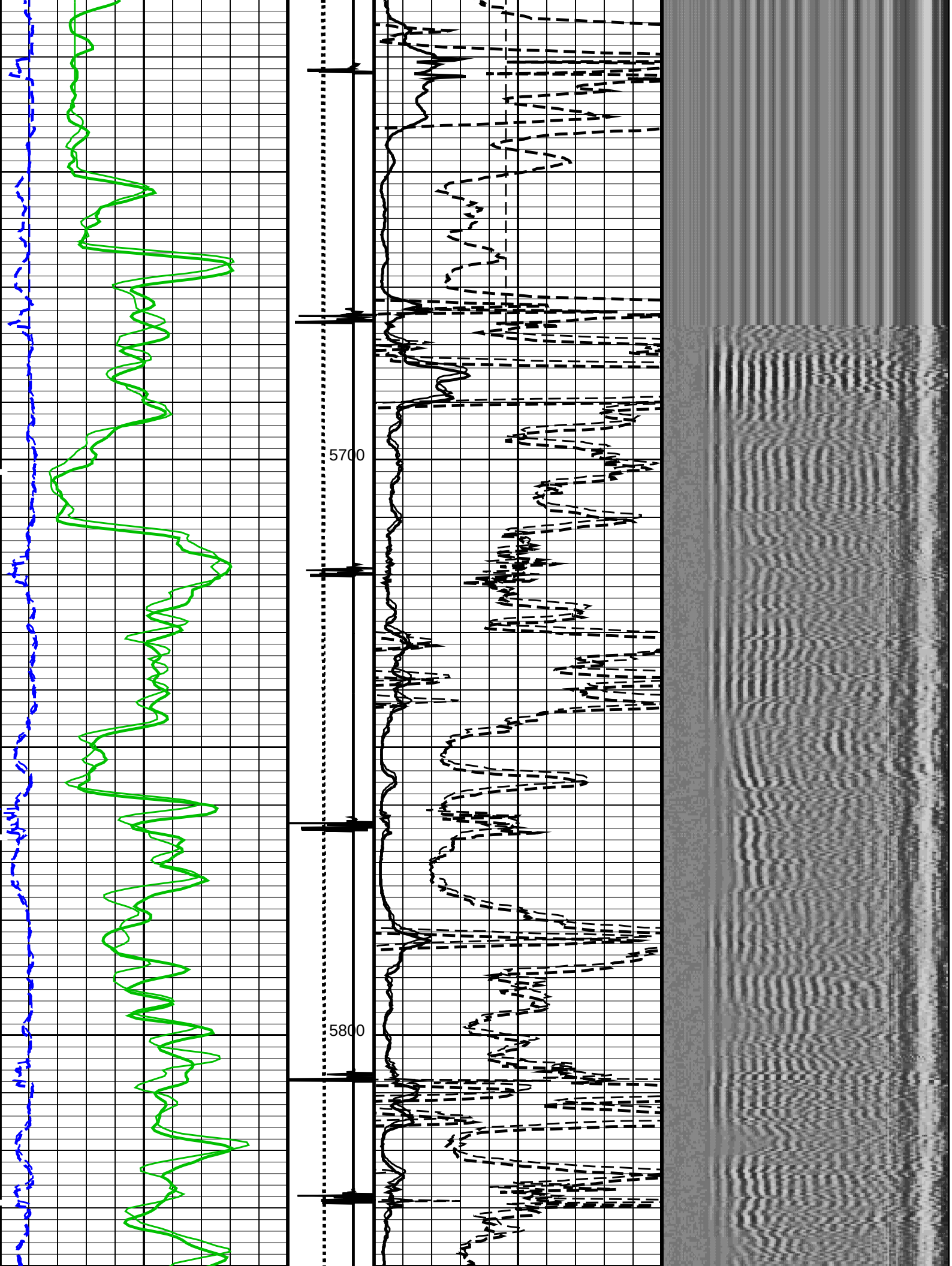
OP System Version: 19C0−187

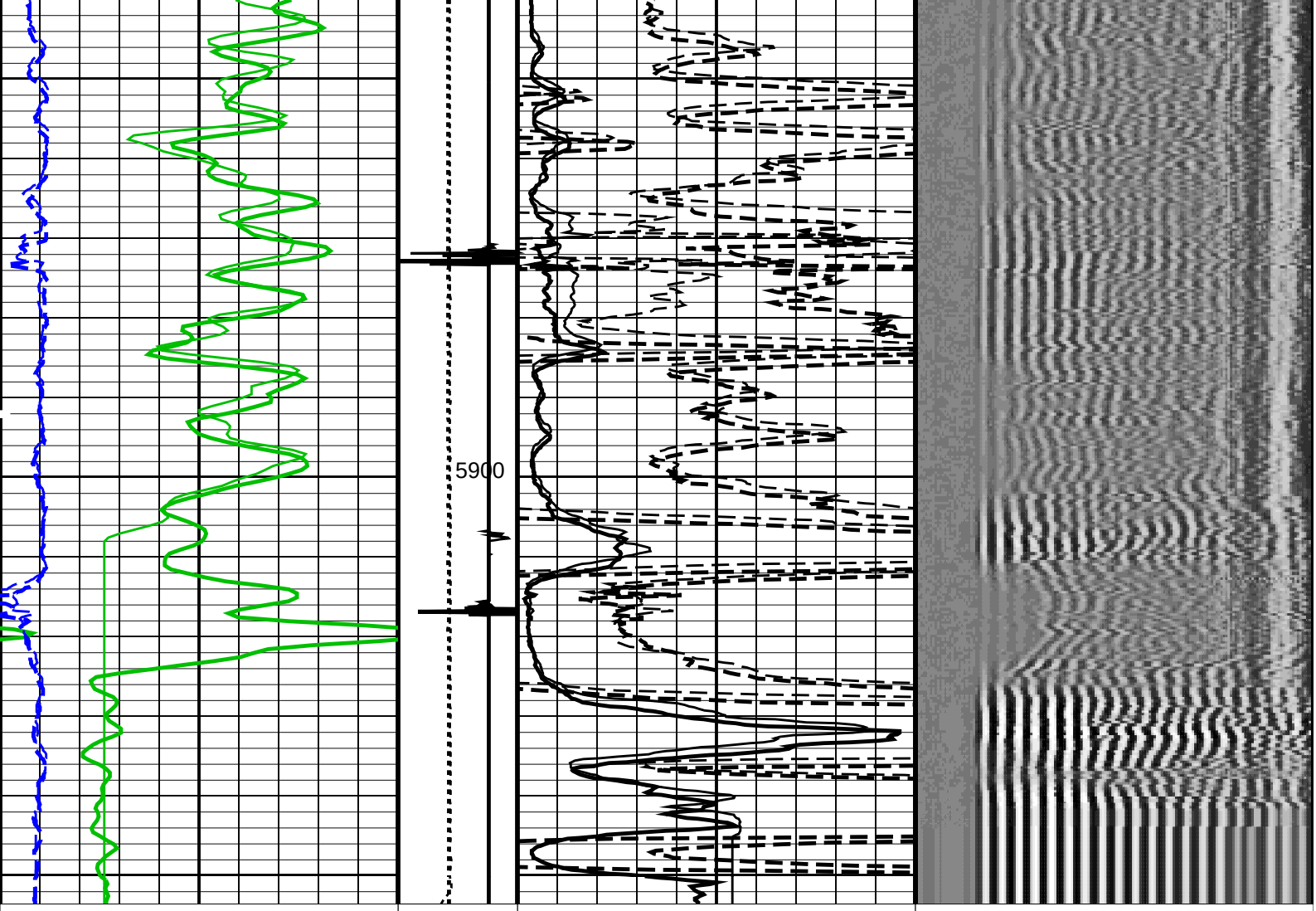
SCMT−CB	SRPC−5214−H2−2012−OP1	RST−C	SRPC−5214−H2−2012−OP1
PSPT	SRPC−5214−H2−2012−OP1		

PIP SUMMARY

Time Mark Every 60 S




5700
5800



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

PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL_REP Vertical Scale: 5" per 100' Graphics File Created: 29−Mar−2013 23:20

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 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	**2−JAN−2013**		
CBL Correction Factor	**0.0710826**	**CBL Adjustment Factor (CBAF)**	**1.0**
MAP 1 Correction Factor	**0.103584**	**MAP Adjustment Factor (MPAF)**	**1.0**
MAP 2 Correction Factor	**0.0974321**		
MAP 3 Correction Factor	**0.0970306**		
MAP 4 Correction Factor	**0.107300**		
MAP 5 Correction Factor	**0.113090**		
MAP 6 Correction Factor	**0.0923740**		
MAP 7 Correction Factor	**0.0954019**		
MAP 8 Correction Factor	**0.0947290**		

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		
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	−1.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8084	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_013LUP	FN:12	PRODUCER	29−Mar−2013 20:40	5954.5 FT	5635.0 FT
DEFAULT	SCMT_RST_PSP_018PUP	FN:17	PRODUCER	29−Mar−2013 23:08	8095.5 FT	−28.0 FT

Output DLIS Files

DEFAULT	SCMT_RST_PSP_019PUP	FN:18	PRODUCER	29−Mar−2013 23:20

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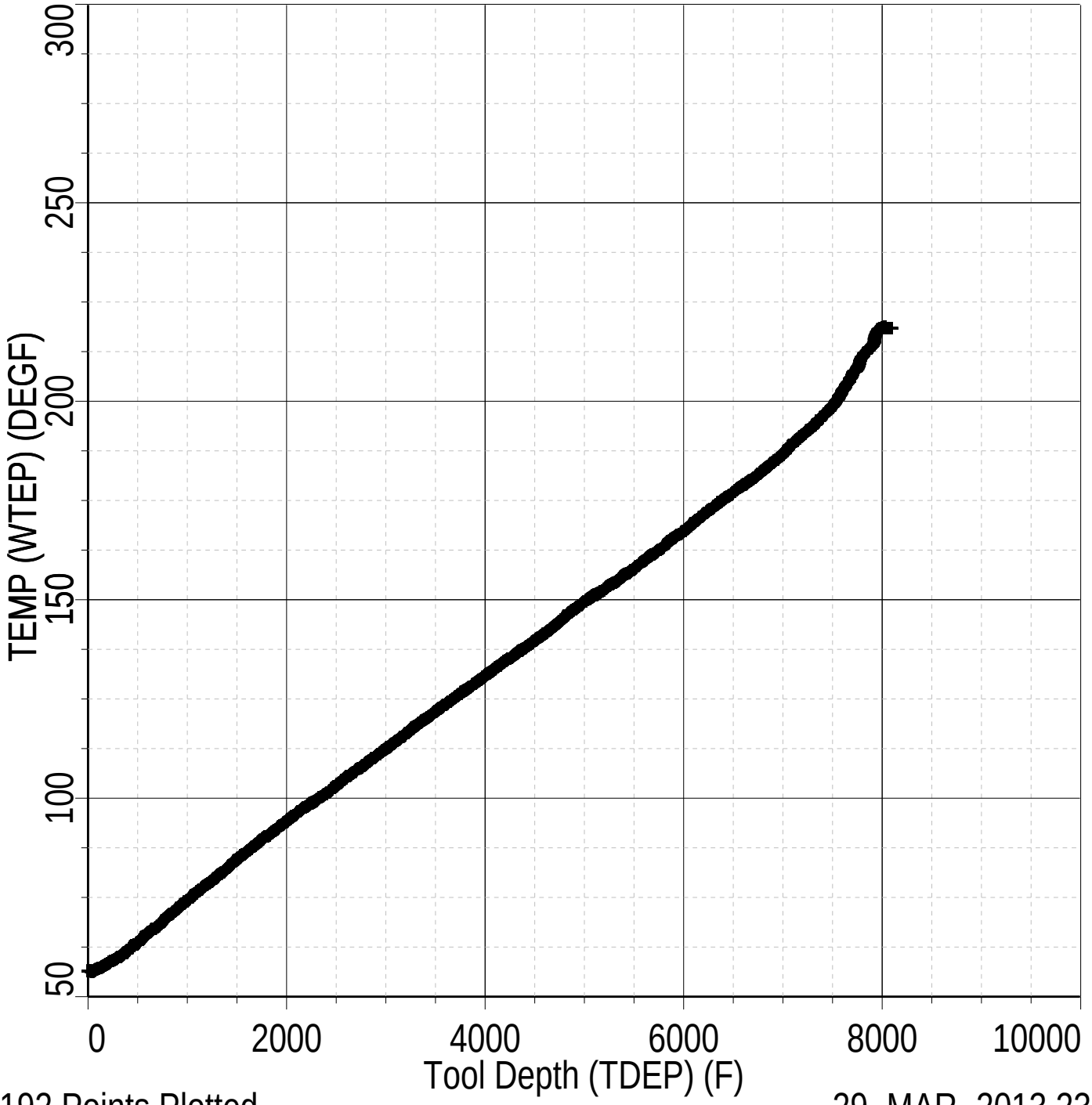
TEMPERATURE PLOT

Index: 8095.5 – −28.0 FT



16192 Points Plotted

29−MAR−2013 23:19

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PBMS COEFFICIENTS

Client:	**ENCANA OIL & GAS (USA) INC**	**Tool:**	**PSP**
Field:	**PARACHUTE**	**Sub Type:**	**PBMS**
Well:	**FEDERAL 22−13CC (PJ21)**	**Sensor:**	**GR**
Run date:	**29−Mar−2013**		

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

	Rt0**	**Rt**1**
Rt0**	**+.182000000000e+04**	**+.332000000000e+04**

Client:	**ENCANA OIL & GAS (USA) INC**	**Tool:**	**PSP**
Field:	**PARACHUTE**	**Sub Type:**	**PBMS**
Well:	**FEDERAL 22−13CC (PJ21)**	**Sensor:**	**WellTemp RTD**
Run date:	**29−Mar−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

	Tt0**	**Tt**1**	**Tt**2**
Tt0**	**−.391987973189E+03**	**+.191346892512E+03**	**−.440920753451E+02**

	Tt3**	**Tt**4**	**Tt**5**
Tt0**	**+.957191300908E+01**	**−.711421725686E+00**	**0.0**

Client:	**ENCANA OIL & GAS (USA) INC**	**Tool:**	**PSP**
Field:	**PARACHUTE**	**Sub Type:**	**PBMS**
Well:	**FEDERAL 22−13CC (PJ21)**	**Sensor:**	**CQG**
Run date:	**29−Mar−2013**		

PBMS Quartz Gauge type F

Sonde Serial NB	**COEFFICIENTS FOR CQG PBMS−B.928 S/N:**
Sensor Serial NB	**928**
Calib Date ddmmyy	**280612**
Matrix Size	**66**
Coeff CRC	**9DC3**

Pres Coeff

	Fb0**	**Fb**1**	**Fb**2**
Fc0**	**+.714463802232E+04**	**+.183434658655E−01**	**−.156620073569E−06**
Fc1**	**−.100638308957E+01**	**−.119899563644E−04**	**−.912155899025E−10**
Fc2**	**+.936268101283E−06**	**+.423898071451E−10**	**+.958076371919E−15**
Fc3**	**+.185123362373E−11**	**+.203107925433E−15**	**0.0**
Fc4**	**0.0**	**0.0**	**0.0**
Fc5**	**0.0**	**0.0**	**0.0**

	Fb3**	**Fb**4**	**Fb**5**
Fc0**	**−.746577997611E−10**	**−.588773826860E−15**	**−.622250441458E−19**
Fc1**	**−.120636521092E−15**	**+.400325894750E−19**	**0.0**
Fc2**	**0.0**	**0.0**	**0.0**
Fc3**	**0.0**	**0.0**	**0.0**
Fc4**	**0.0**	**0.0**	**0.0**
Fc5**	**0.0**	**0.0**	**0.0**

PBMS Quartz Gauge type F

Sonde Serial NB	**:**
Sensor Serial NB	**928**

Calib Date ddmmyy 280612
Matrix Size 66
Coeff CRC 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

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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	

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
Master		1158
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 2 Amplitude Plus MV	Value
Master		1232
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 3 Amplitude Plus MV	Value
Master		1237
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 4 Amplitude Plus MV	Value
Master		1118
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 5 Amplitude Plus MV	Value
Master		1061
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 6 Amplitude Plus MV	Value
Master		1299
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 7 Amplitude Plus MV	Value
Master		1258
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 8 Amplitude Plus MV	Value
Master		1267
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	CBL Amplitude Plus MV	Value
Master		1351
1000 (Minimum)	1350 (Nominal)	1700 (Maximum)

Master: 2−Jan−2013 15:55

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

Schlumberger

Well: **FEDERAL 22−13CC (PJ21)**
Field: **PARACHUTE**
County: **GARFIELD**
State: **COLORADO**

SLIM CEMENT MAPPING LOG
CBL−VDL
GR−CCL