Schlumberger

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

Well: **HMU 6−13A (J6SEB)**
Field: **MAMM CREEK**
County: **GARFIELD** State: **COLORADO**

County: GARFIELD
Field: MAMM CREEK
Location: SHL: 1945 FSL & 1908 FEL
Well: HMU 6−13A (J6SEB)
Company: ENCANA OIL & GAS (USA) INC

SLIM CEMENT MAPPING LOG
CBL−VDL
GAMMA RAY−CCL

LOCATION

SHL: 1945 FSL & 1908 FEL
BHL: 1198 FSL & 745 FWL

Elev.: K.B. 7166.00 ft
G.L. 7144.00 ft
D.F. 7165.00 ft

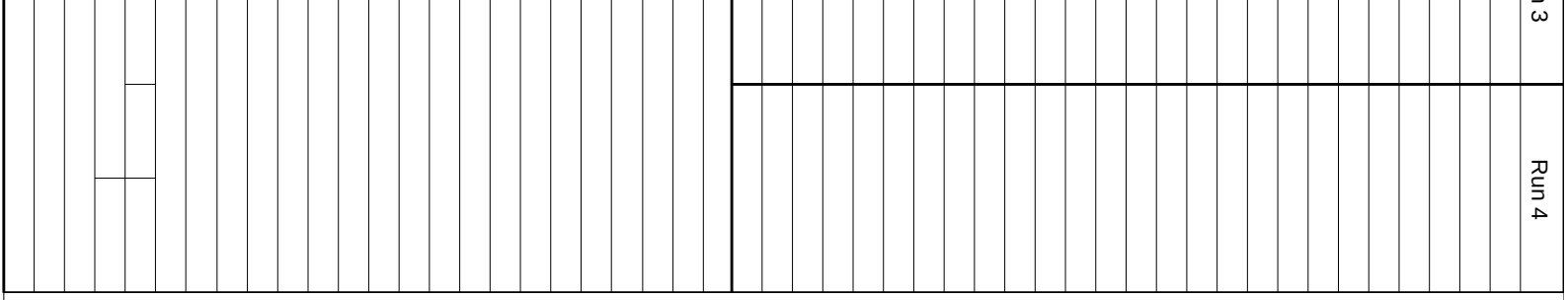
Permanent Datum: GROUND LEVEL Elev.: 7144.00 ft
Log Measured From: KELLY BUSHING 22.00 ft above Perm. Datum
Drilling Measured From: KELLY BUSHING

API Serial No.	Section	Township	Range
05−045−21941−0000	6	8S	92W

Logging Date		25−Nov−2013						
Run Number		1						
Depth Driller		9010 ft						
Schlumberger Depth		8929 ft						
Bottom Log Interval		8920 ft						
Top Log Interval		70 ft						
Casing Fluid Type		FRESH WATER						
Salinity								
Density		8.4 lbm/gal						
Fluid Level		70 ft						
BIT/CASING/TUBING STRING								
Bit Size		7.875 in						
From		6312 ft						
To		9010 ft						
Casing/Tubing Size		4.500 in						
Weight		11.6 lbm/ft						
Grade		S−80						
From		22 ft						
To		8990 ft						
Maximum Recorded Temperatures		249 degF						
Logger On Bottom	Time	25−Nov−2013	21:45					
Unit Number	Location	391	GRAND JUNCTION					
Recorded By		KIRSTIE BUNTING						
Witnessed By		JIM DYKEMAN						

		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−AUG−2013 11:54:57

Depth System Equipment

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

Depth Control Parameters

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

Depth Control Remarks

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

OTHER SERVICES1	OTHER SERVICES2
OS1: RESERVOIR SATURATION	OS1:
OS2: LOG	OS2:
OS3: SIGMA MODE	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
FIRST RUN IN HOLE CORRLEATED TO DOWN LOG	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE: 21:00	
TIME ON BOTTOM: 21:45	
EXIT: 00:00	

MAXIMUM RECORDED TEMPERATURE: 249 DEGF

MAXIMUM RECORDED PRESSURE: 3702 PSIA

SHORT JOINTS: 6833 FT & 7825 FT

MAIN PASS LOGGED UNDER ZERO SURFACE PRESSURE

EXPECTED CBL AMPLITUDE IN FREE PIPE IS 80MV

CREW: KBUNTING, WAZIZ, KJOHNS, KBOZARTH

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

RUN 1			RUN 2		
SERVICE ORDER #:		CGF9−00173	SERVICE ORDER #:		
PROGRAM VERSION:		19C0−187	PROGRAM VERSION:		
FLUID LEVEL:		70 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

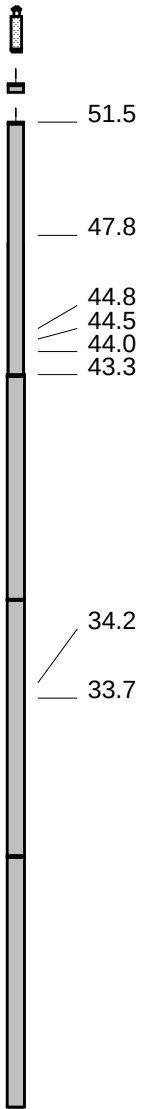
EQUIPMENT DESCRIPTION

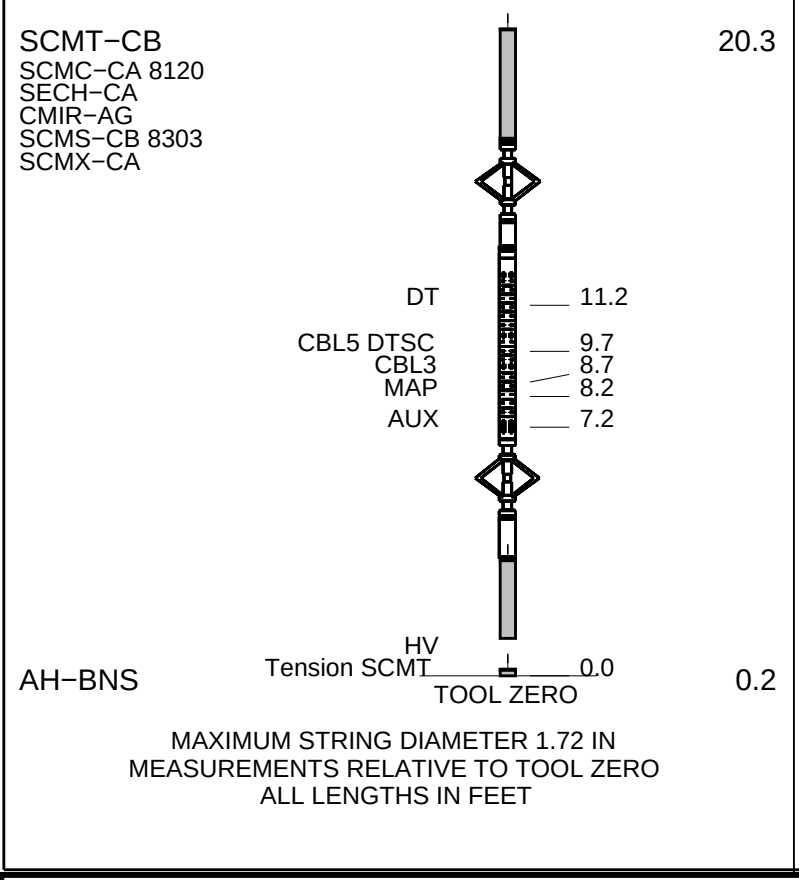
RUN 1 RUN 2

SURFACE EQUIPMENT

WITM−A
PSC_16MHZ

DOWNHOLE EQUIPMENT





Schlumberger

MAIN PASS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC **Well: HMU 6−13A (J6SEB)**

Input DLIS Files

DEFAULT	**Splice_SCMT_RST_PSP_053CUP**	**FN:1**	**PRODUCER**	**26−Nov−2013 00:39**	**8936.0 FT**	**9.5 FT**

Output DLIS Files

DEFAULT	**SCMT_RST_PSP_054PUP**	**FN:51**	**PRODUCER**	**26−Nov−2013 00:41**	**8939.0 FT**	**−39.5 FT**

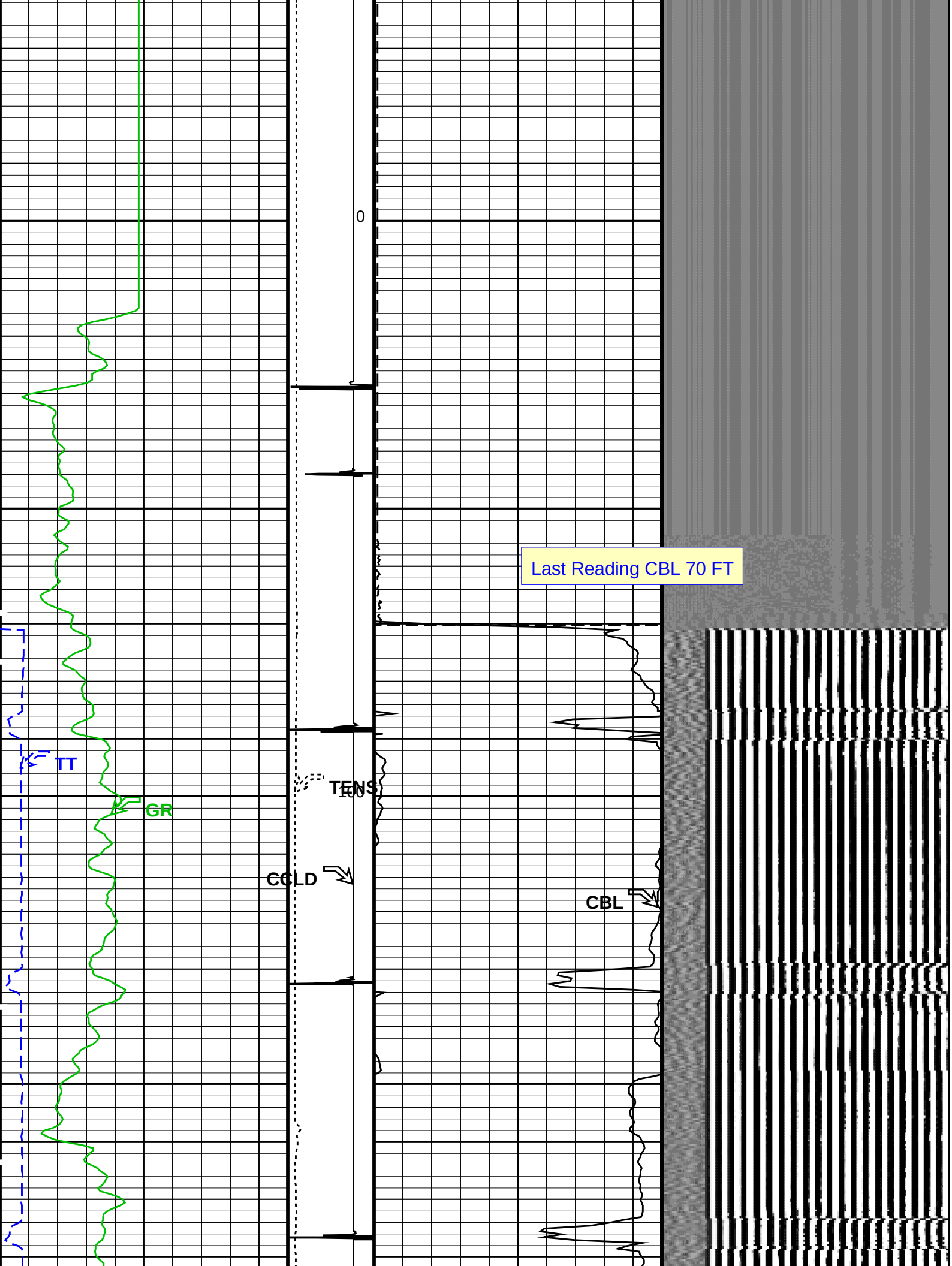
OP System Version: 19C0−187

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

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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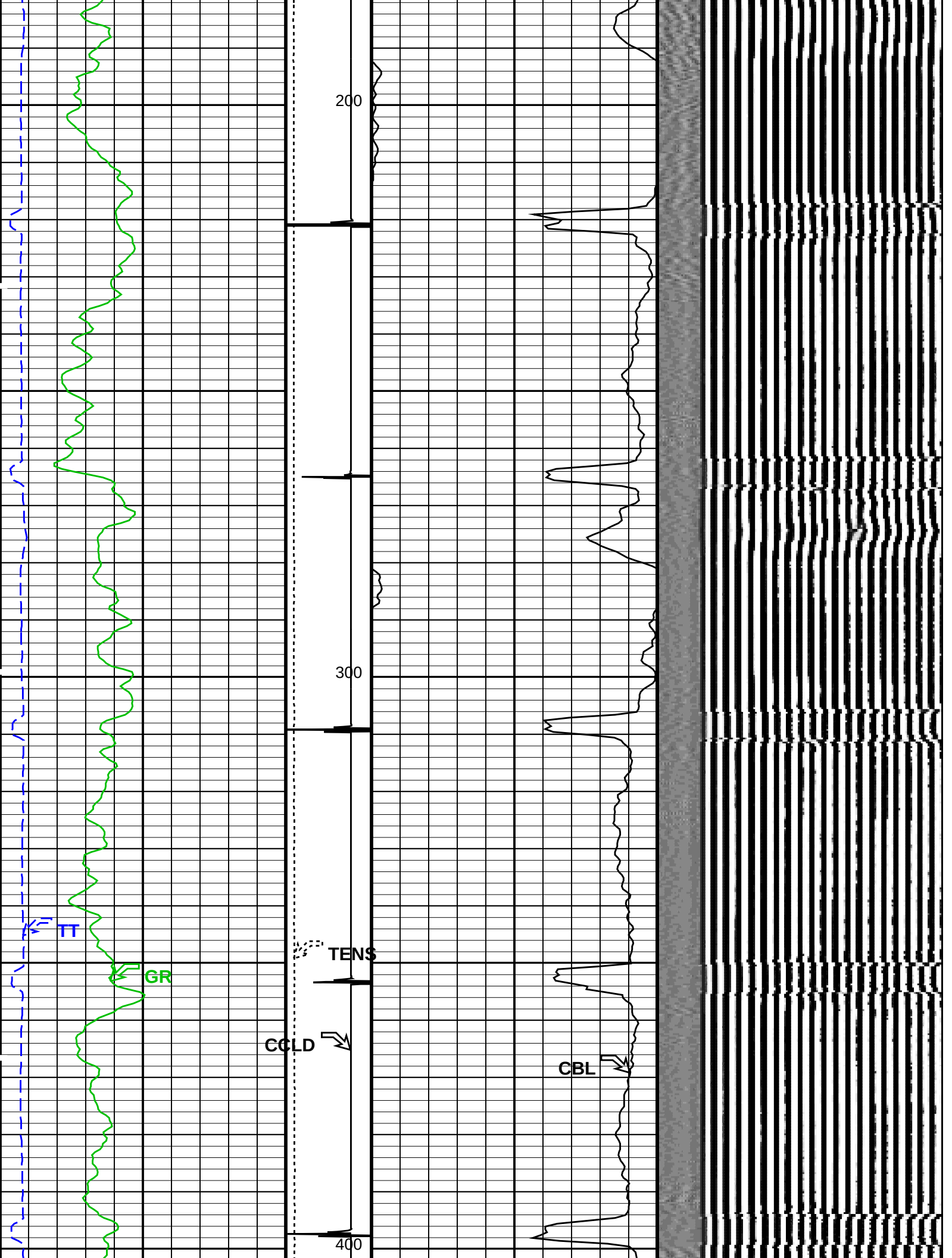
Last Reading CBL 70 FT
TT
GR
TENS
100
CCLD
CBL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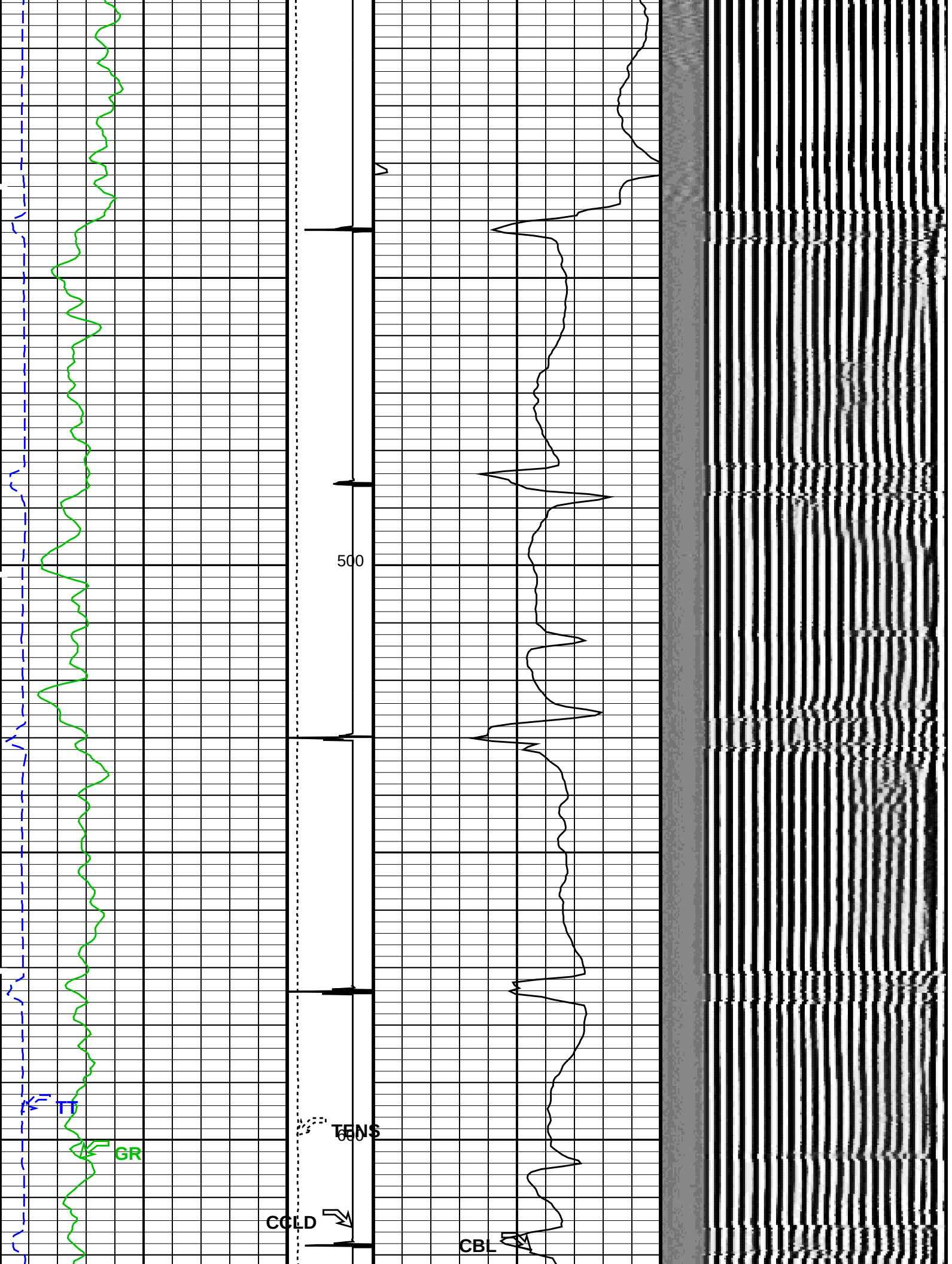
300
400
TT
GR
TENS
CCLD
CBL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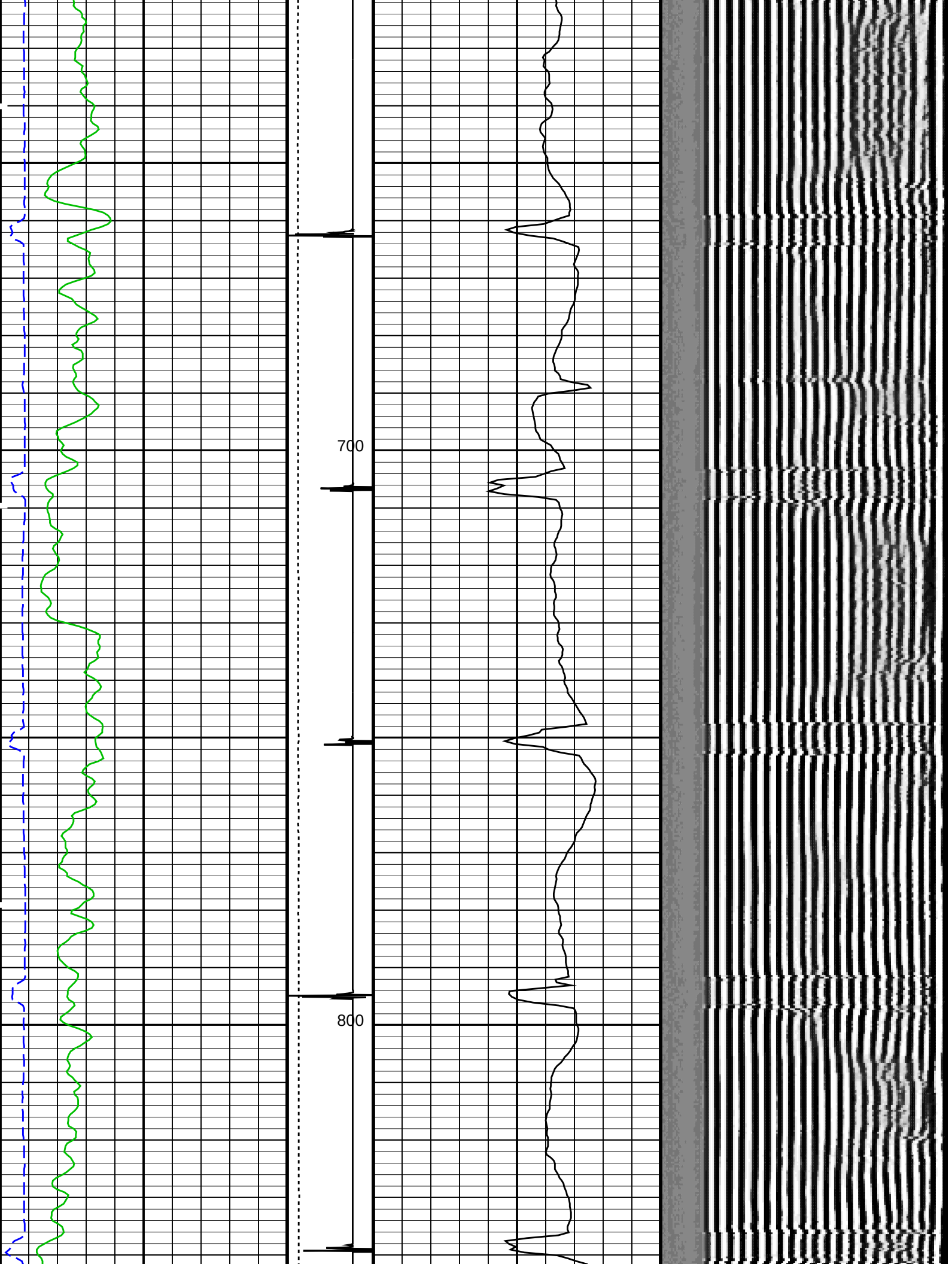
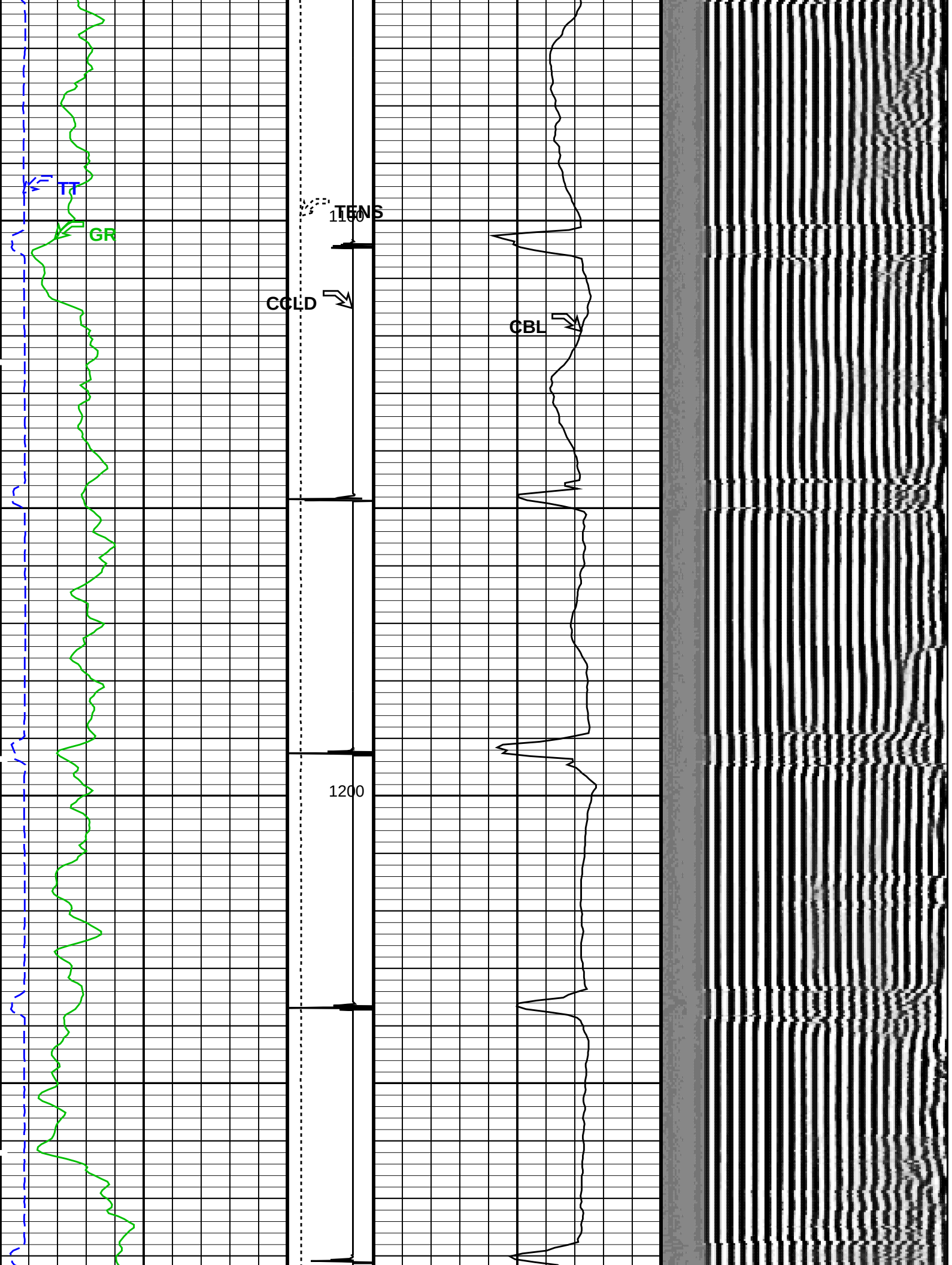
TT
GR
TENS
600
CCLD
CBL


700
800


TT
GR
TENS
CCLD
CBL
900
1000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CBL
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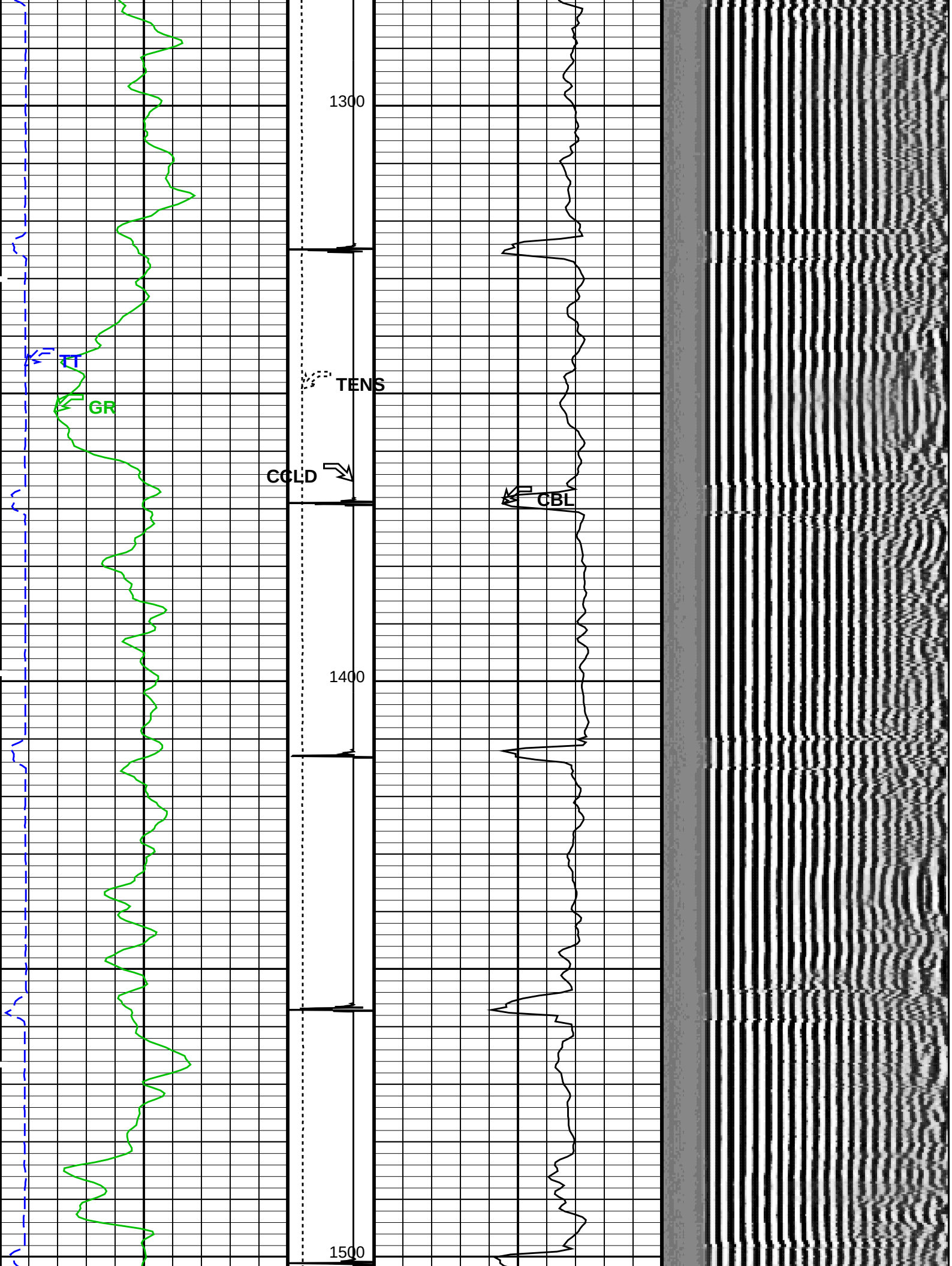
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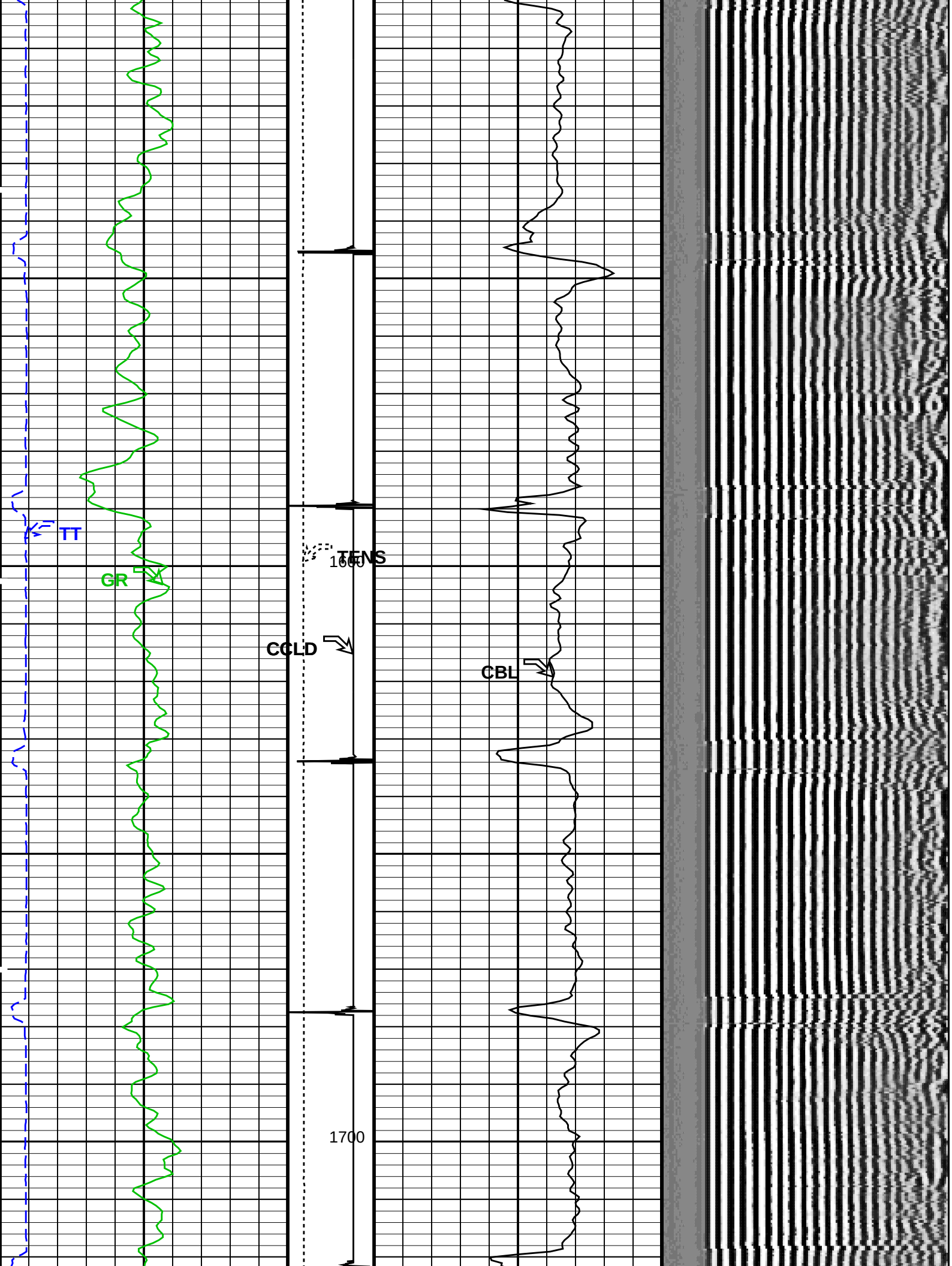
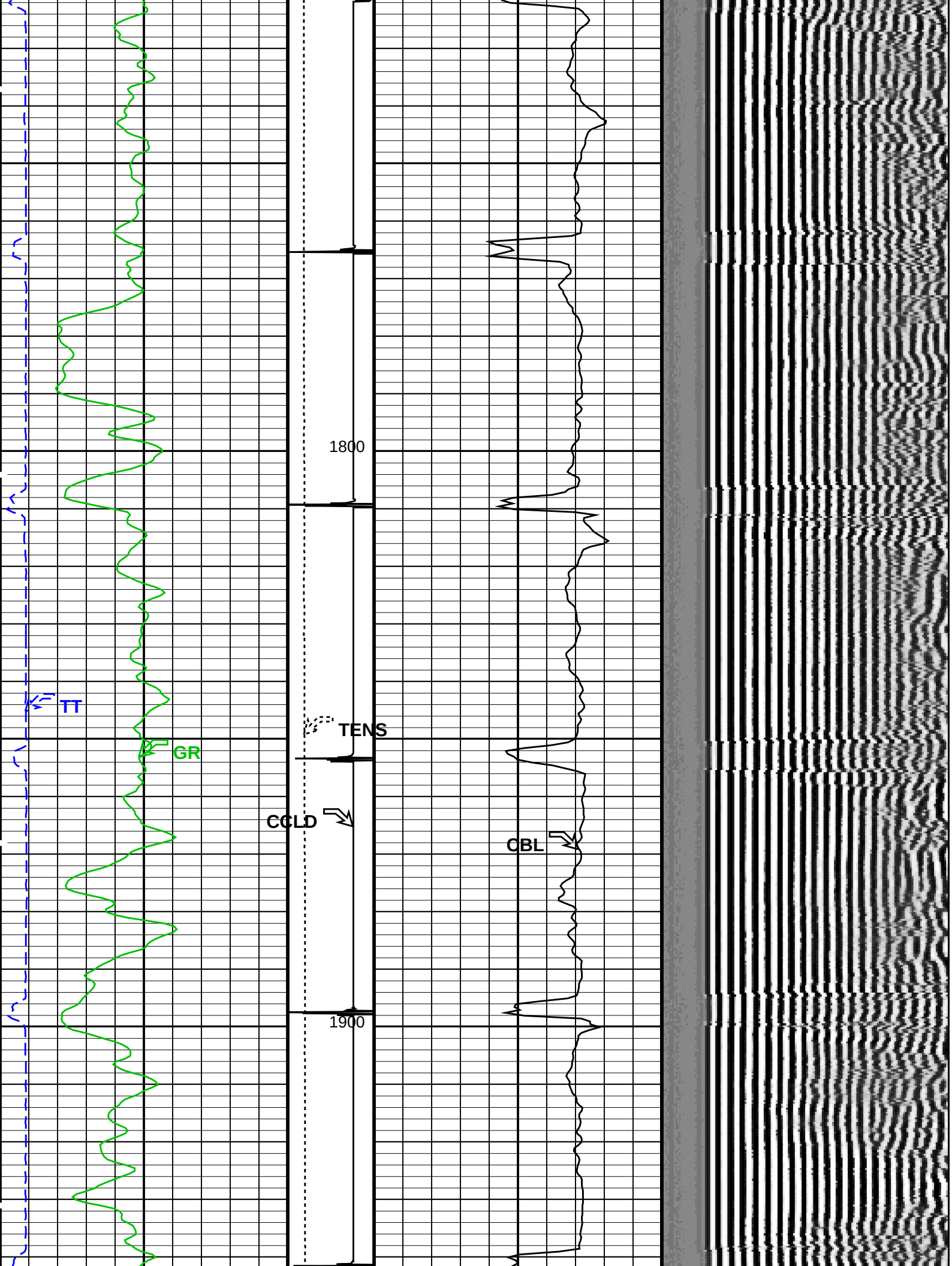
TENS
GR
CCLD
CBL
1400
1500


TT
GR
TENS
1600
CCLD
CBL
1700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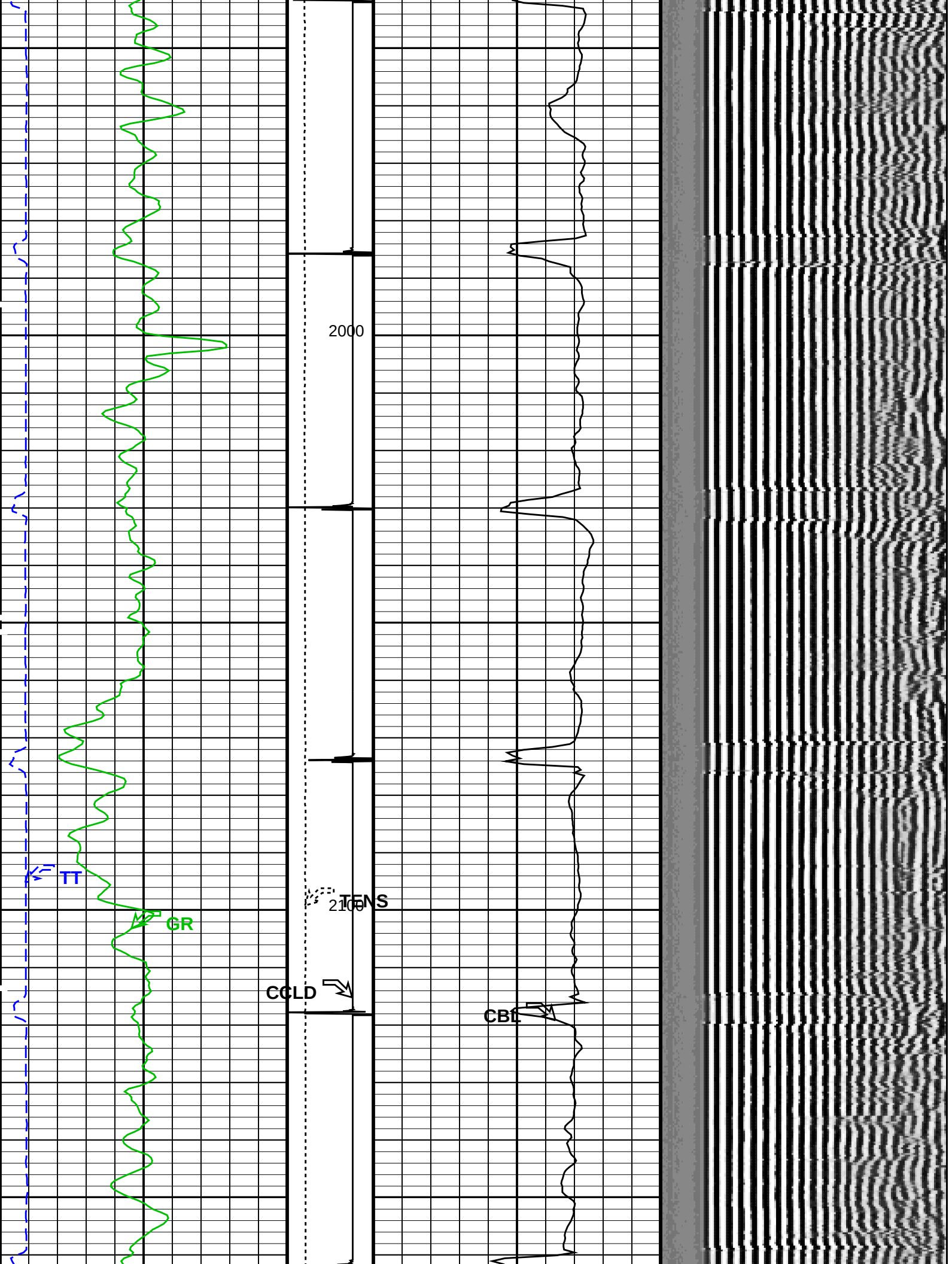
TT
TENS
GR
CCLD
CBL
1900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2100
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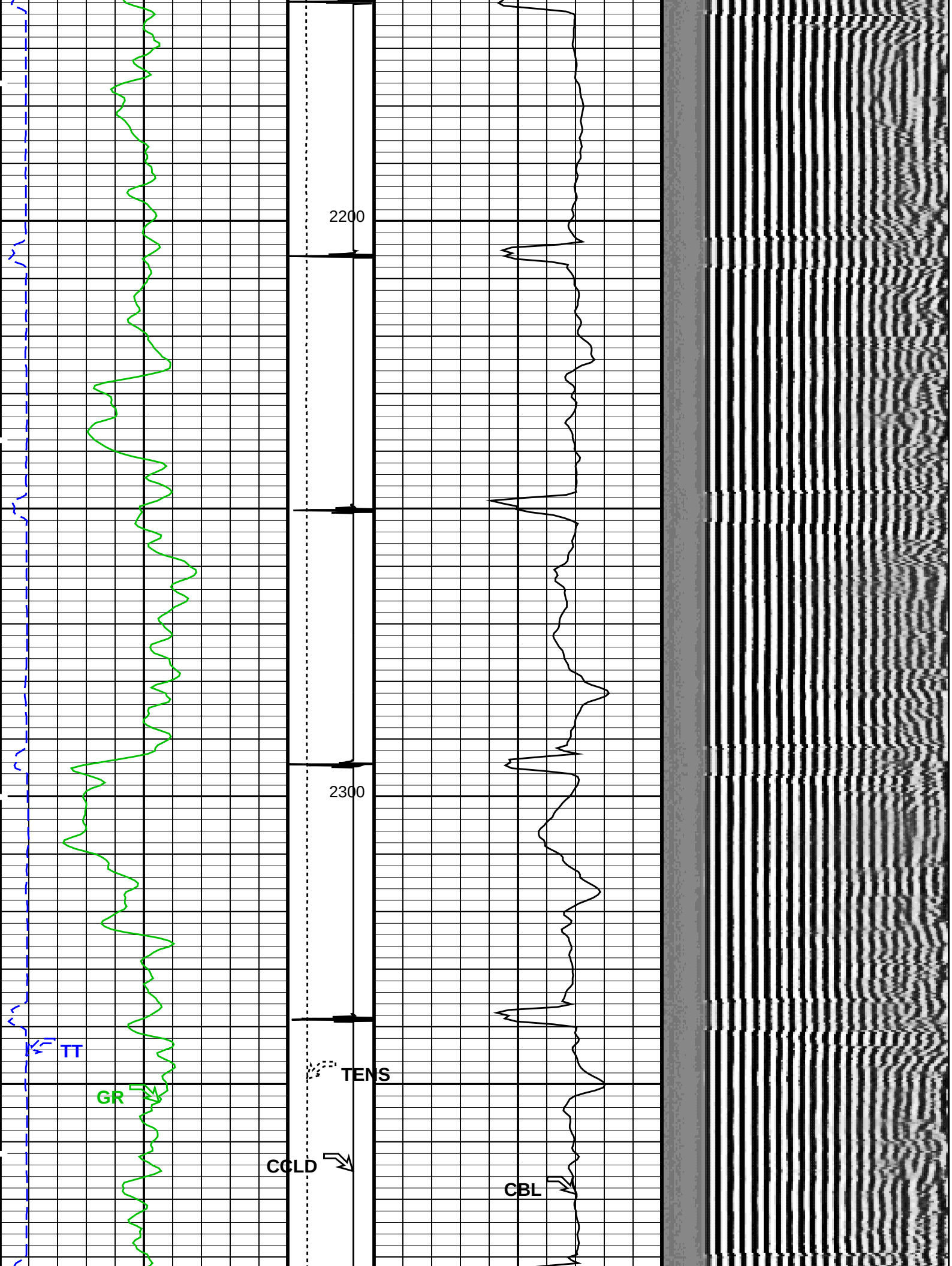
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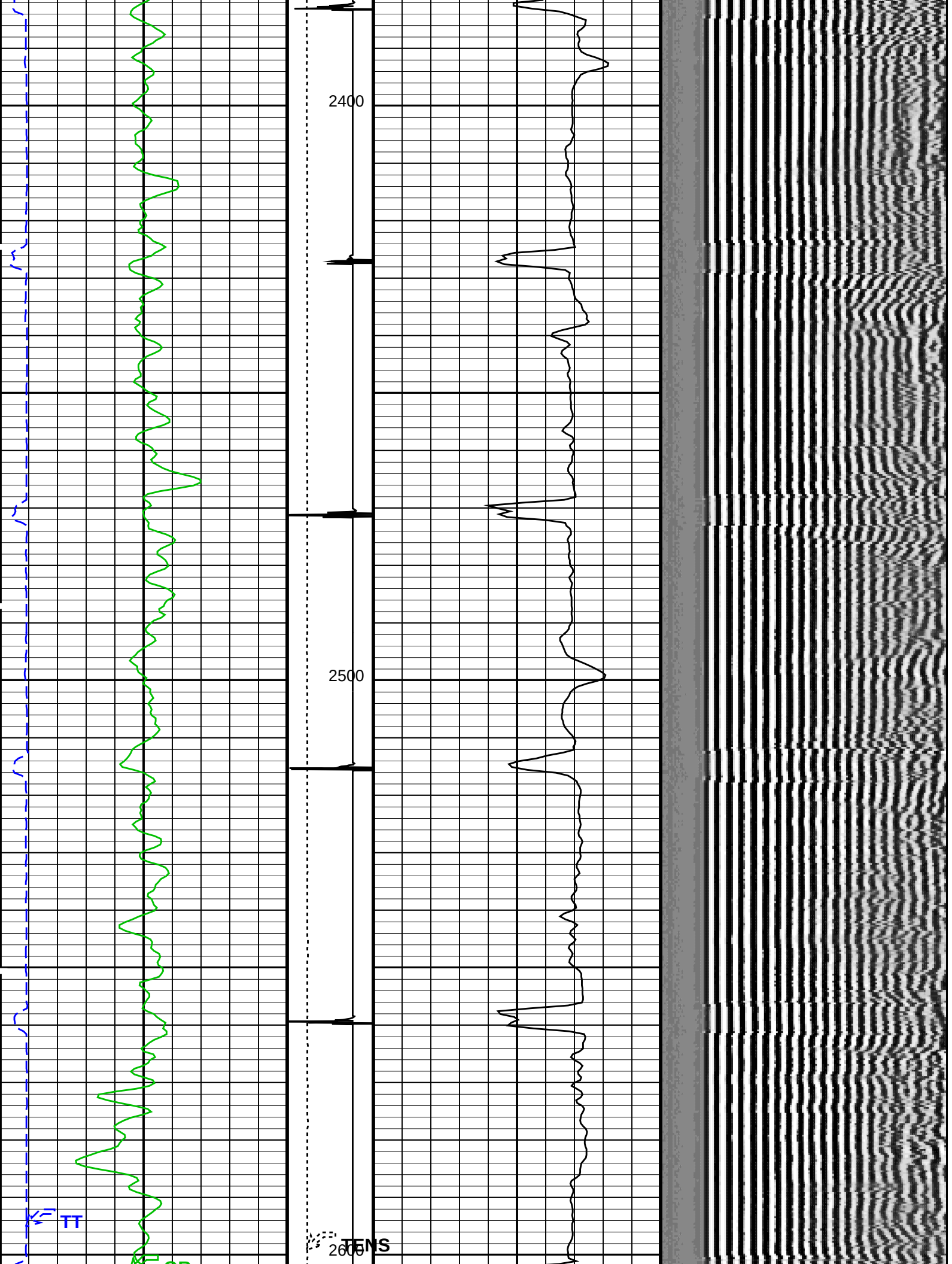
GR
TENS
CCLD
CBL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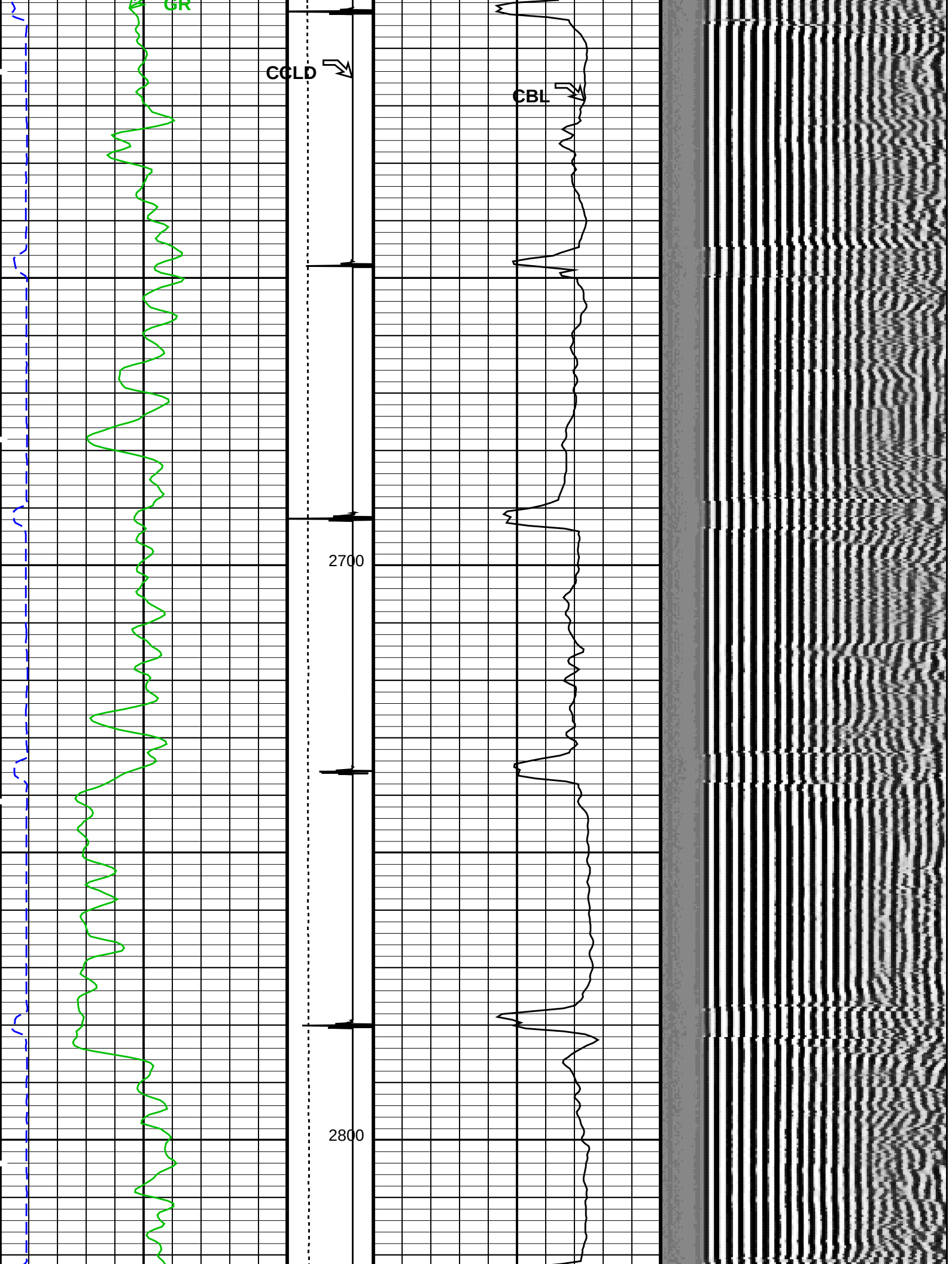
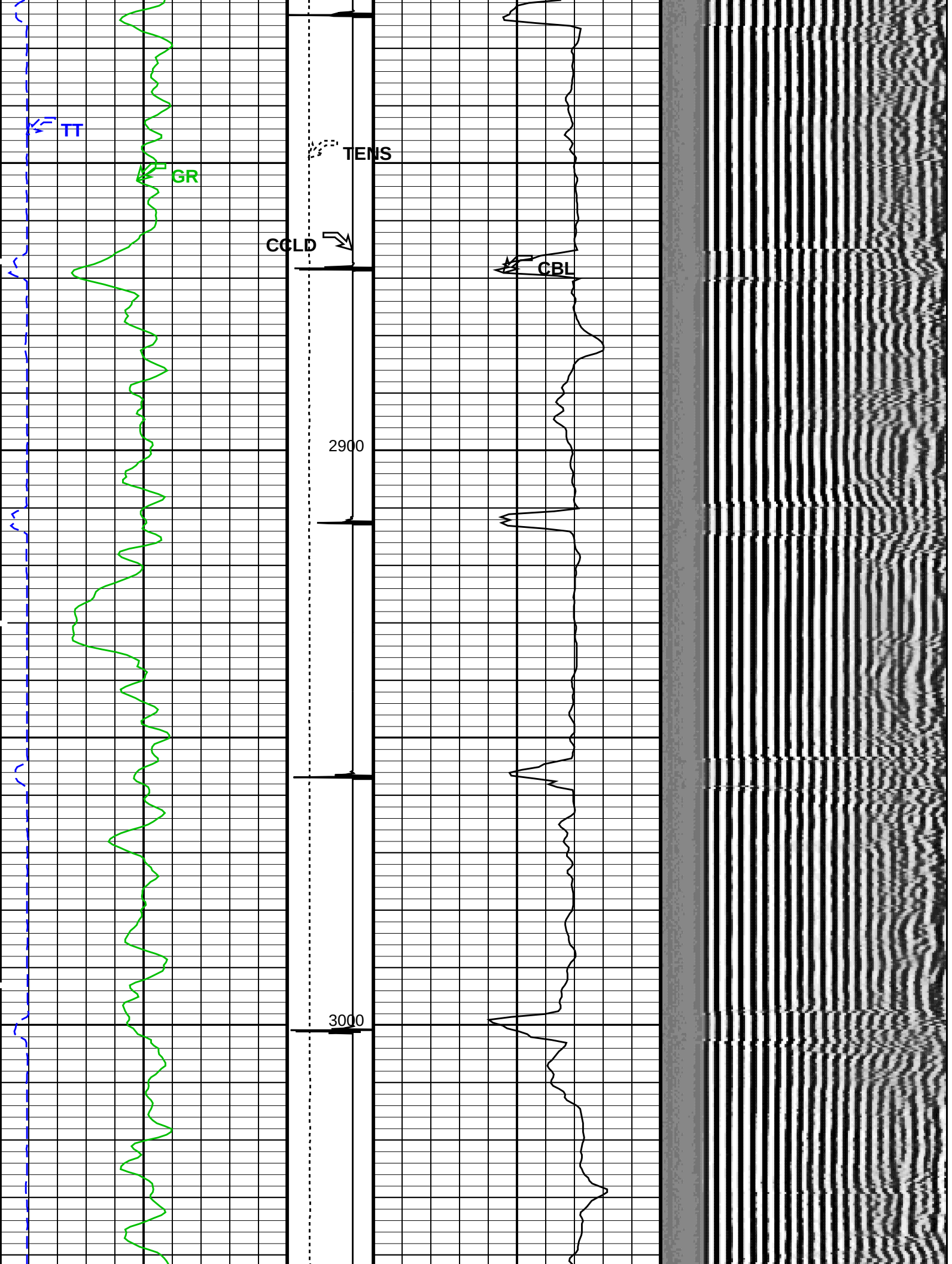
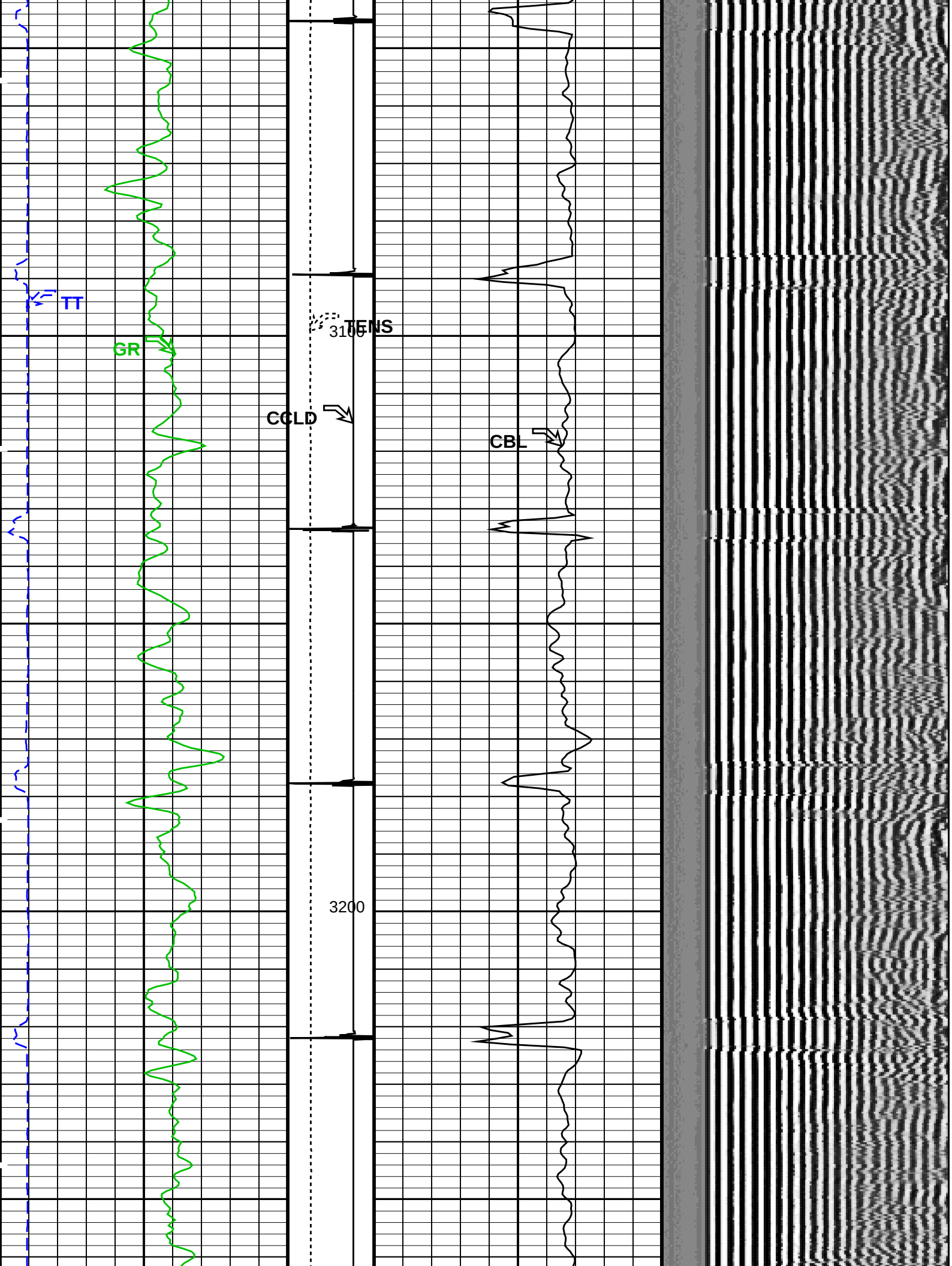
2500
TT
TENS
2600


GR
CCLD
CBL
2700
2800


TT
GR
TENS
CCLD
CBL
2900
3000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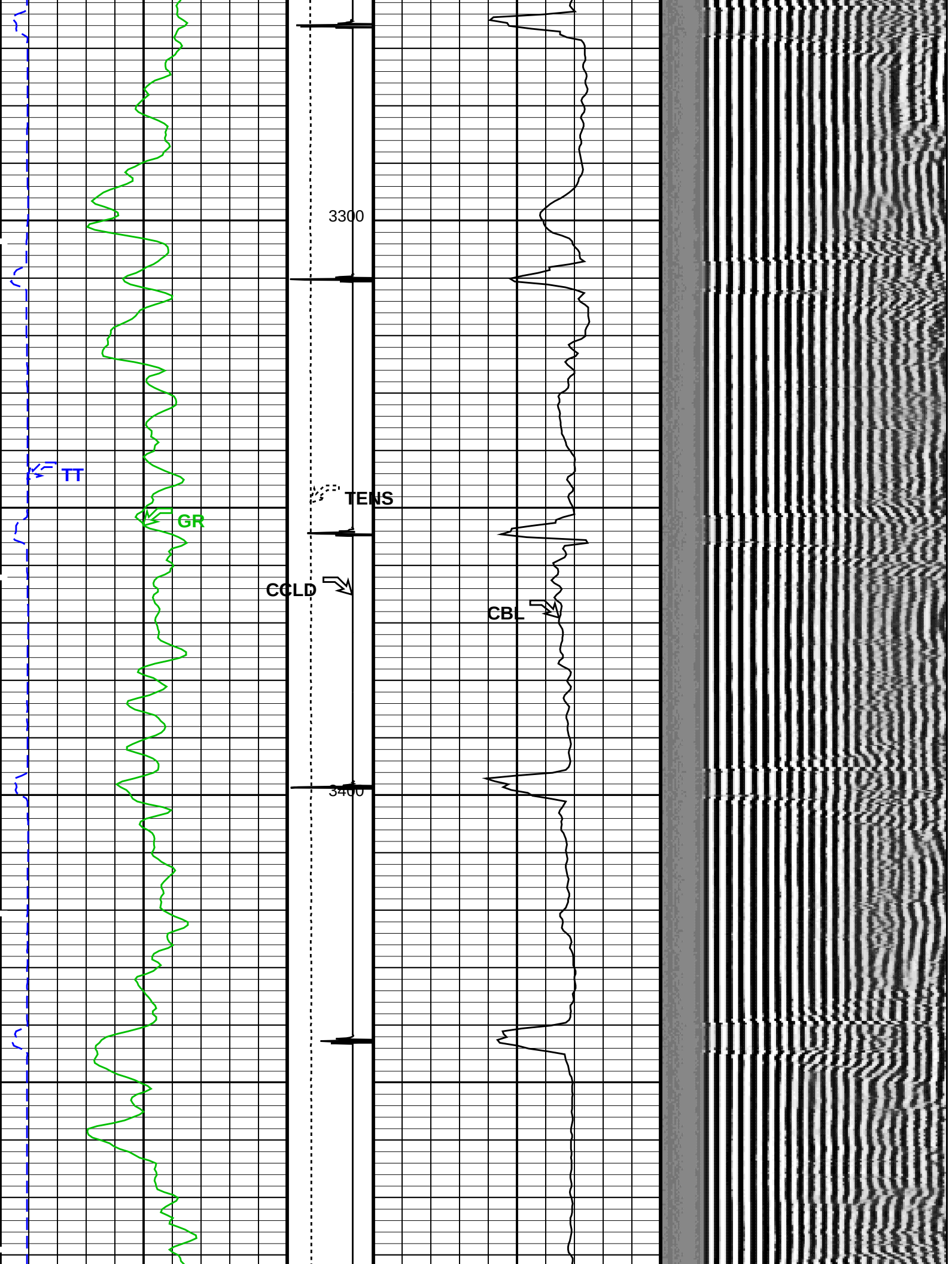
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CCLD
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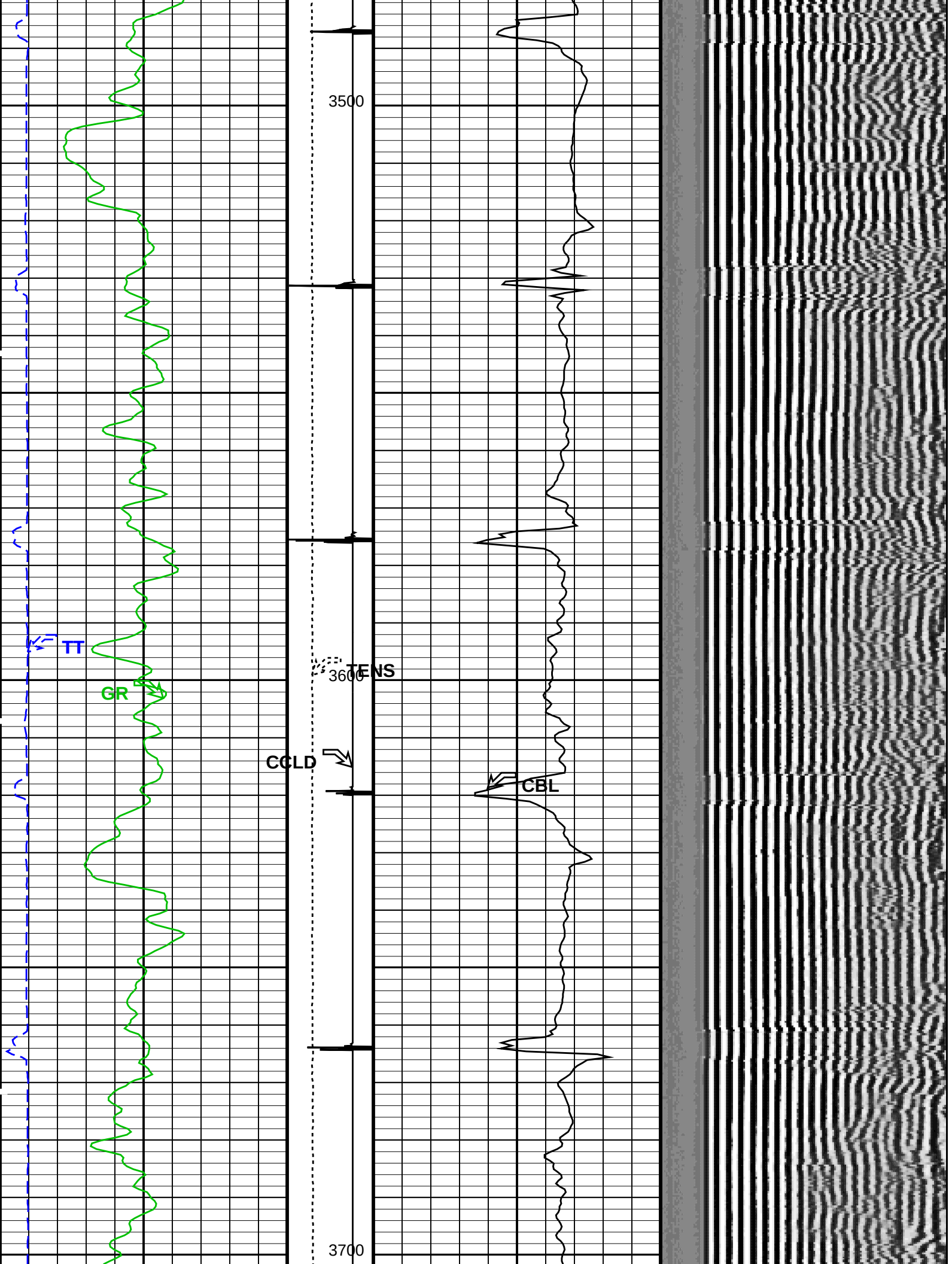
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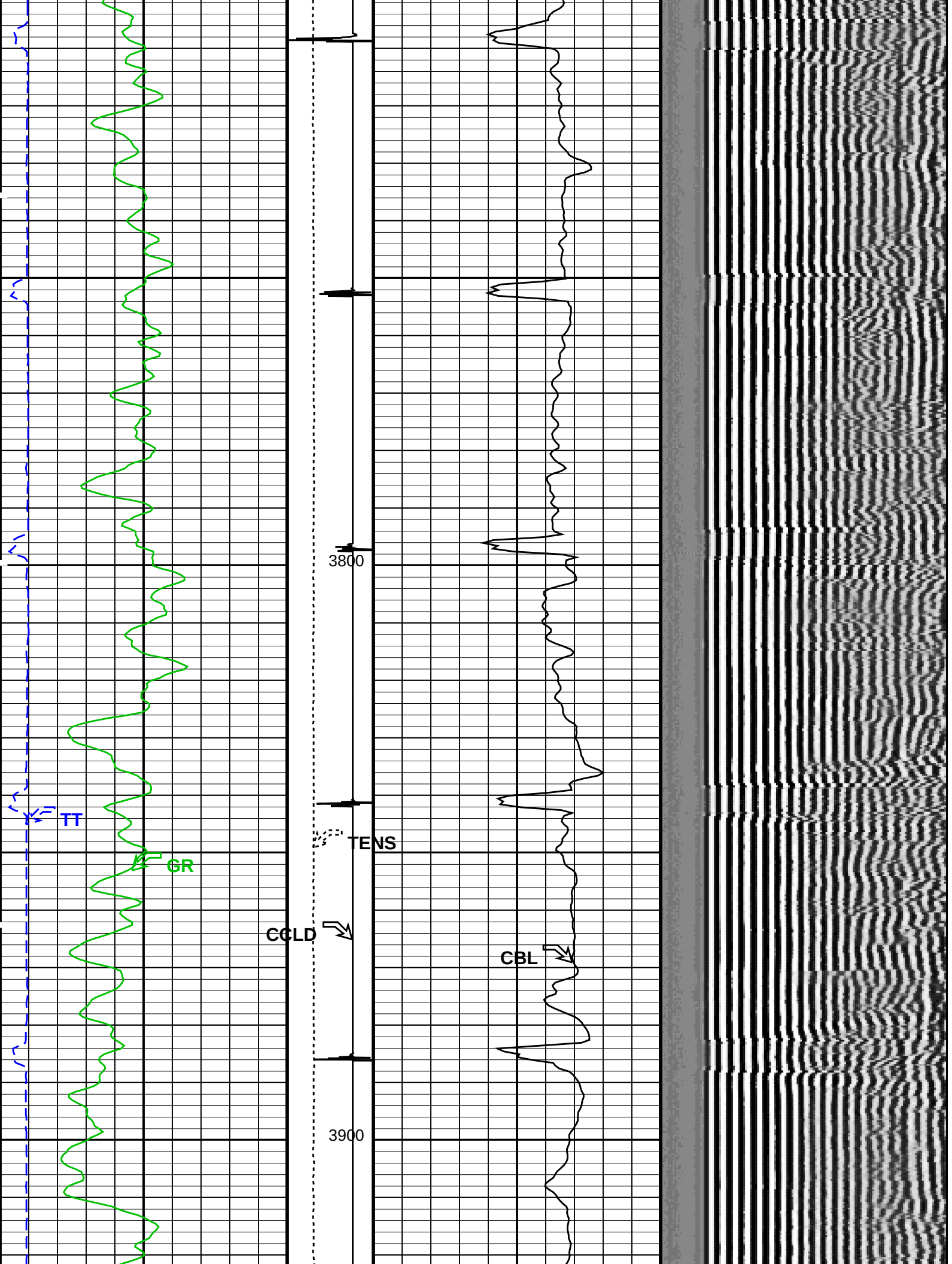
3700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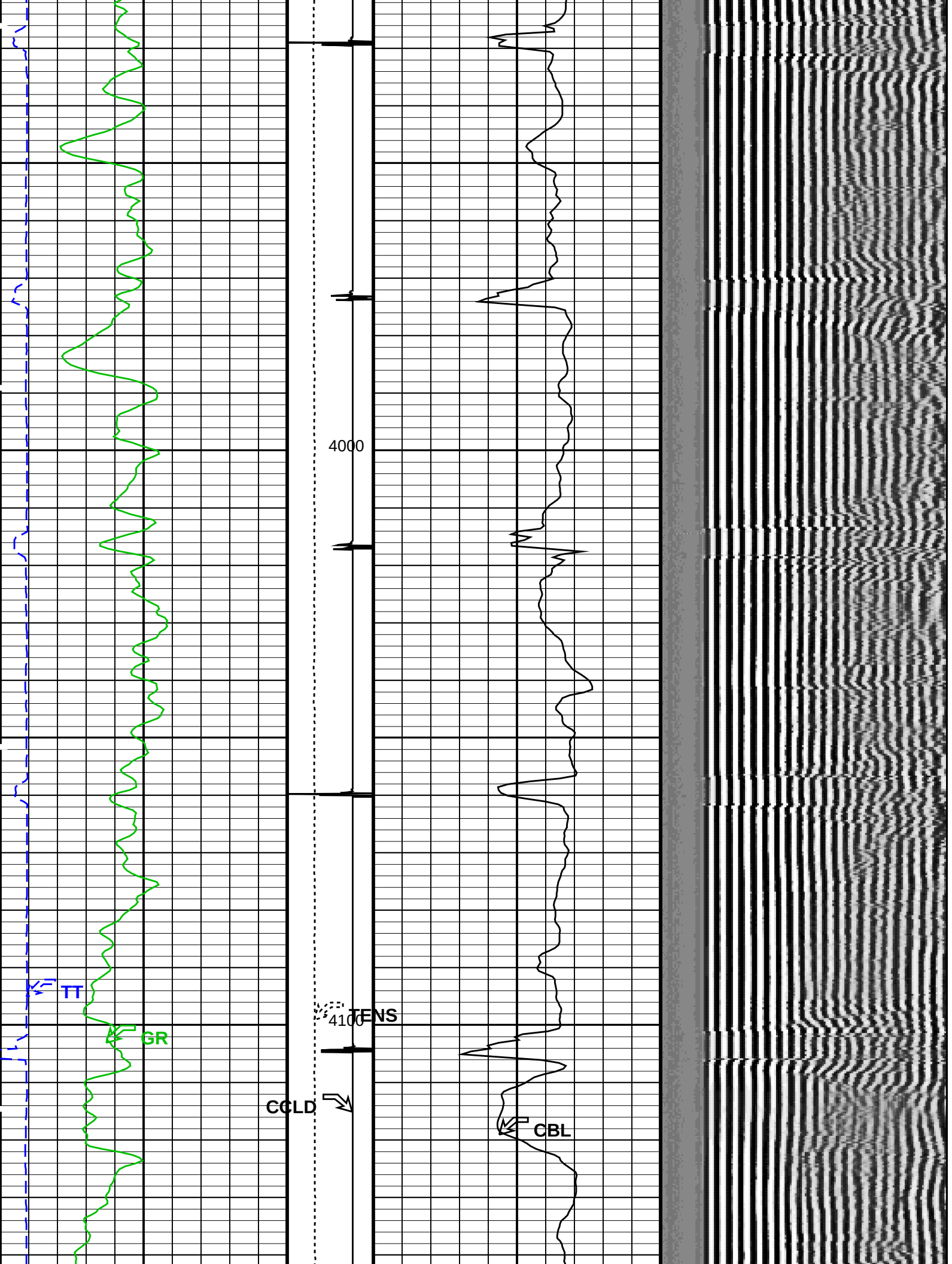
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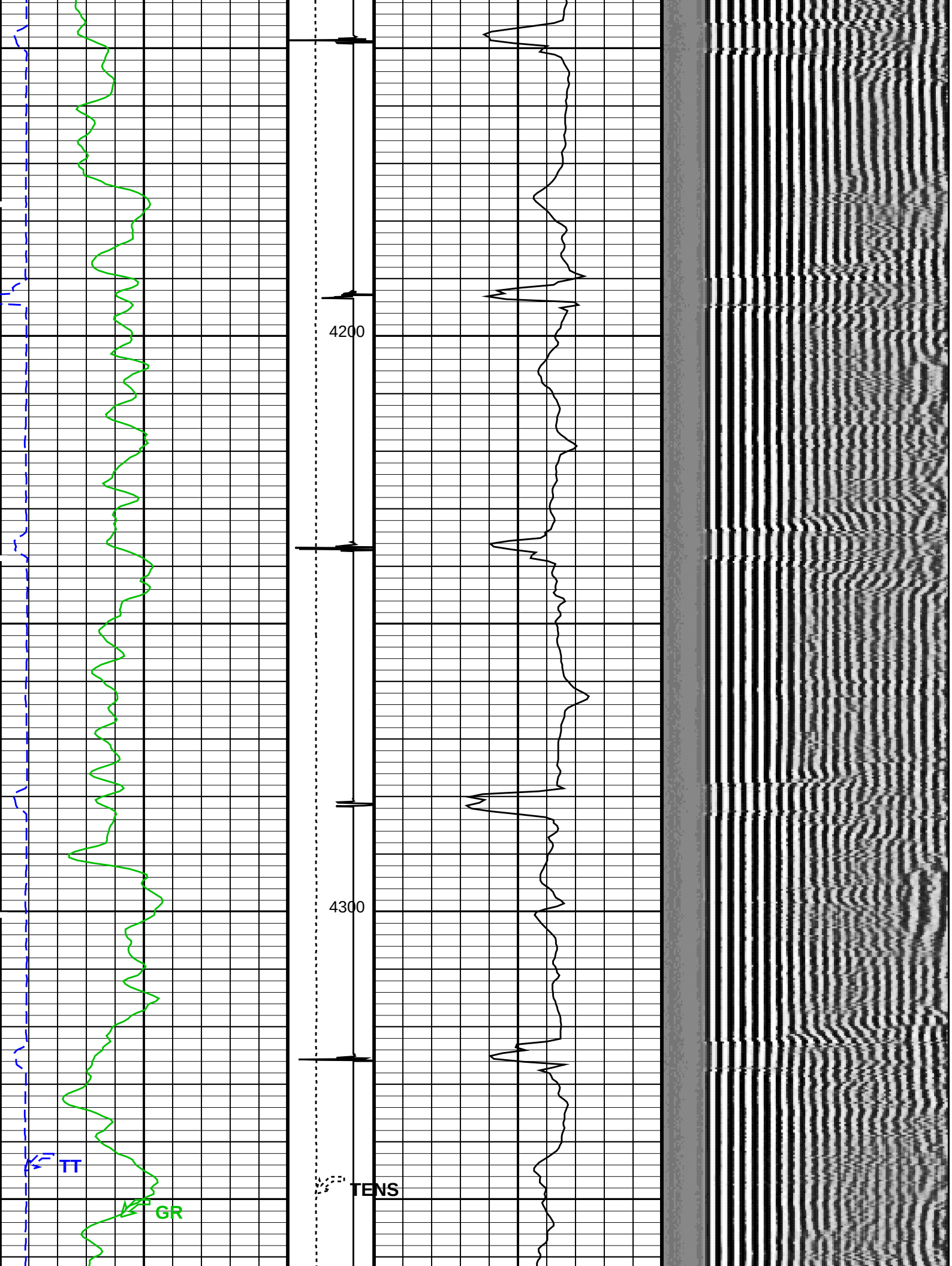
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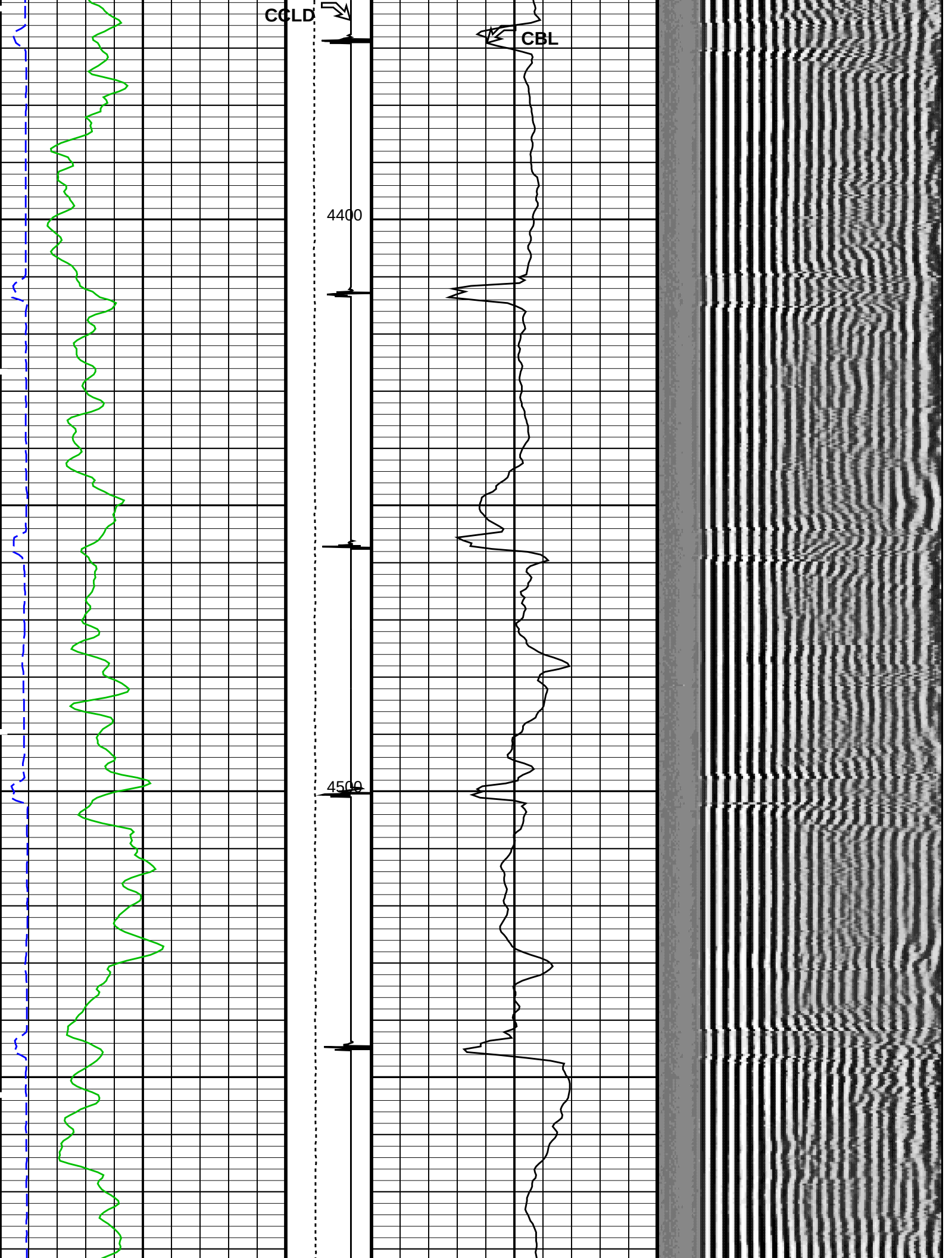
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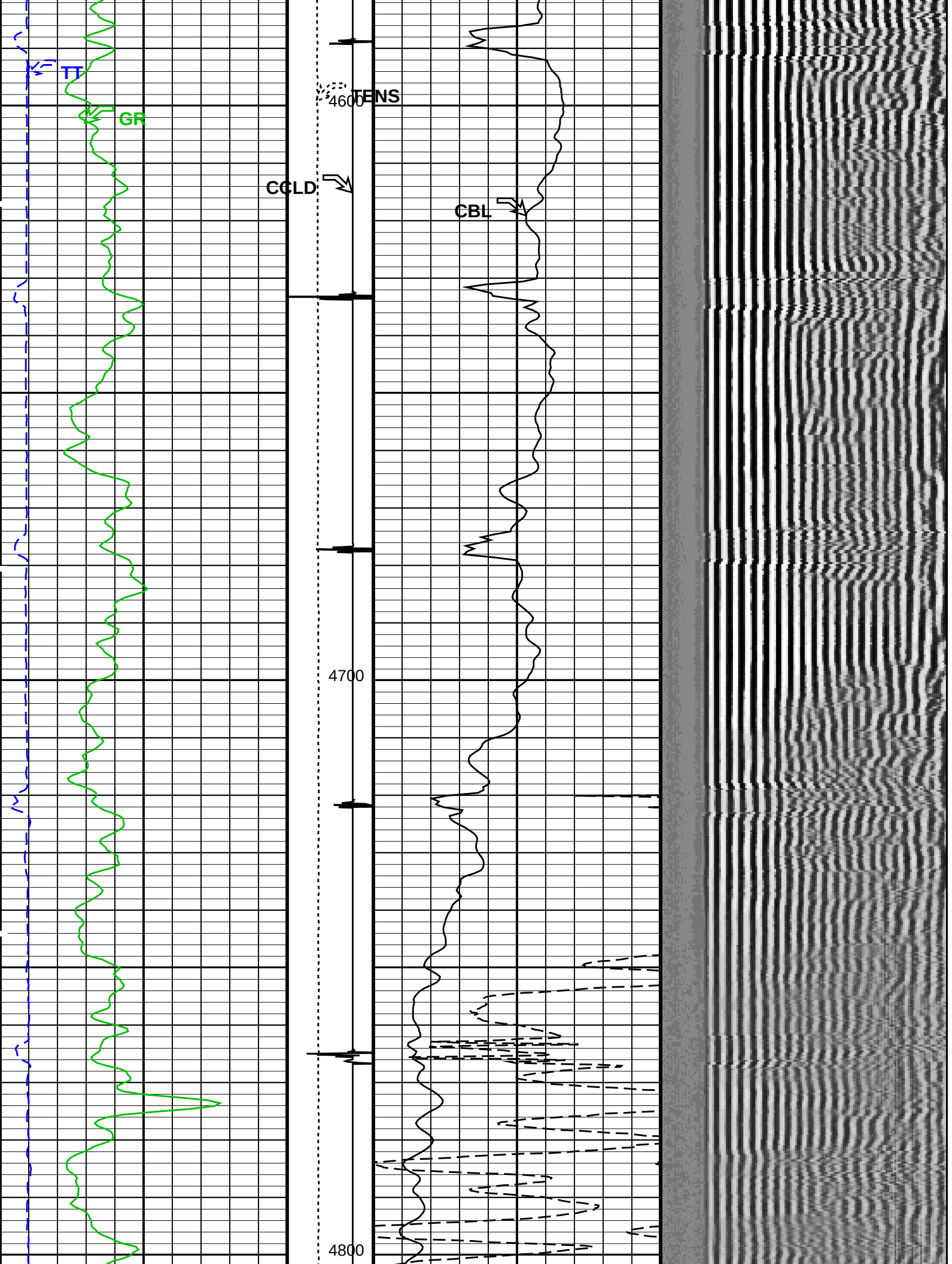
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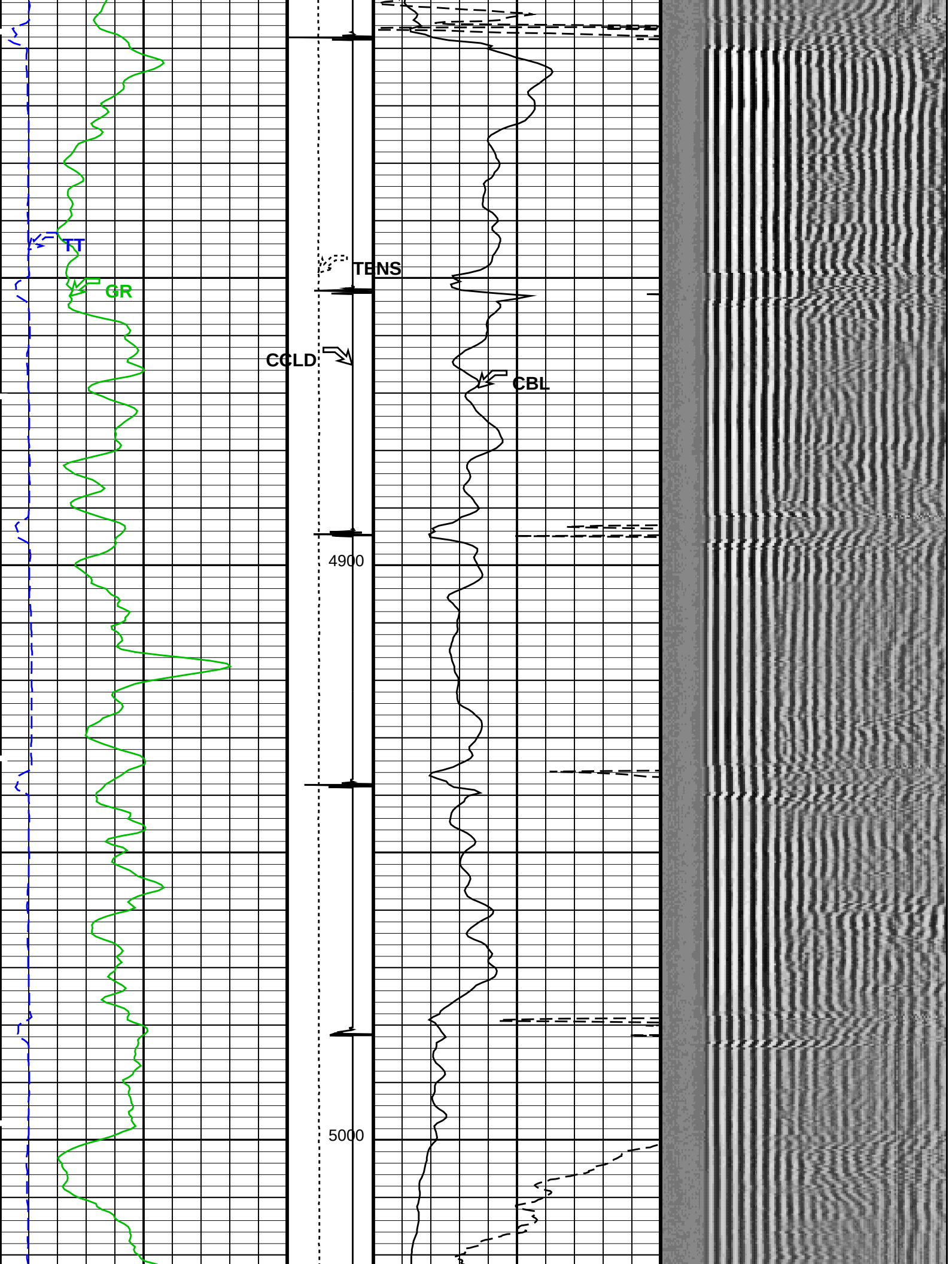
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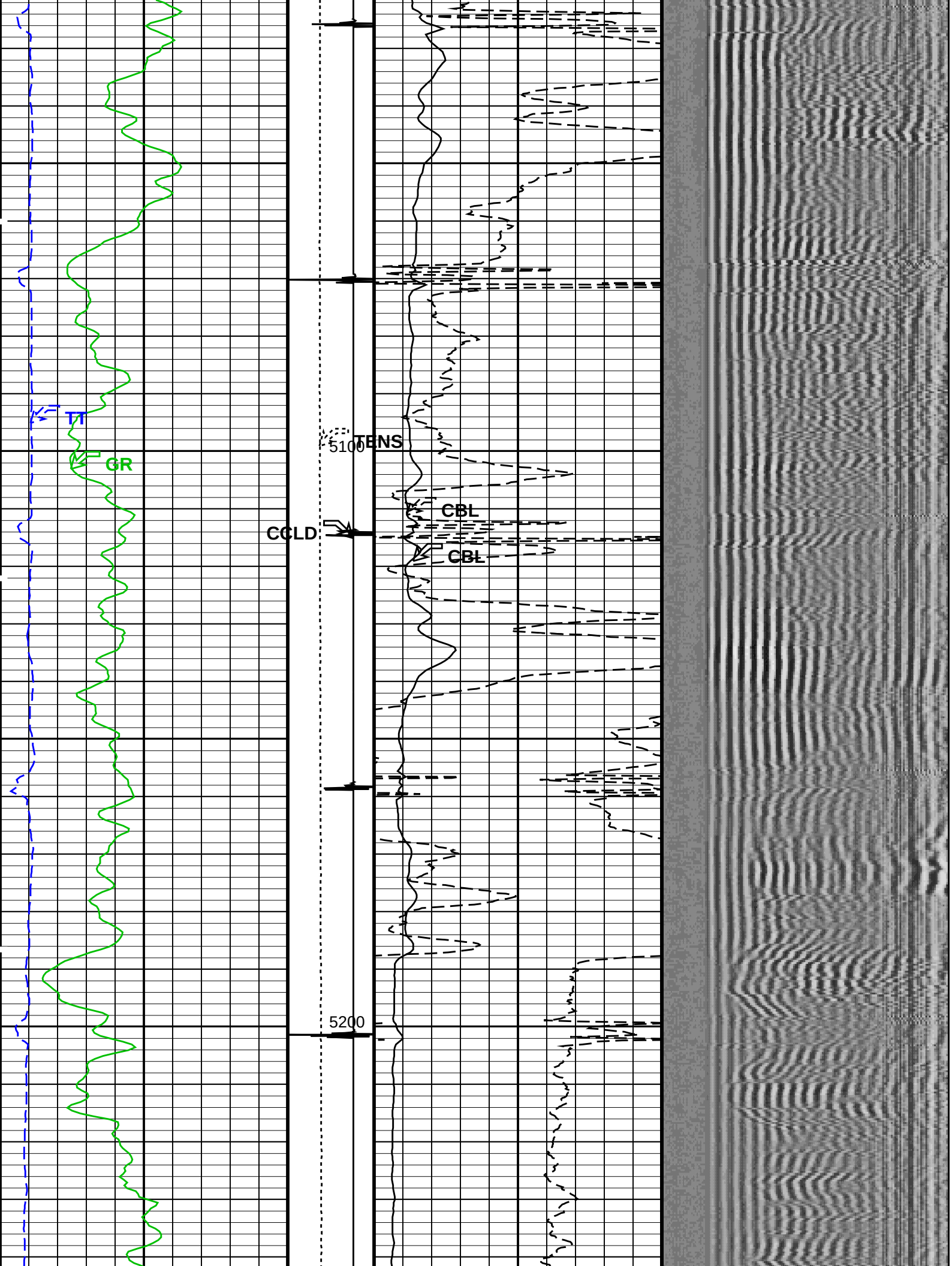
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CBL
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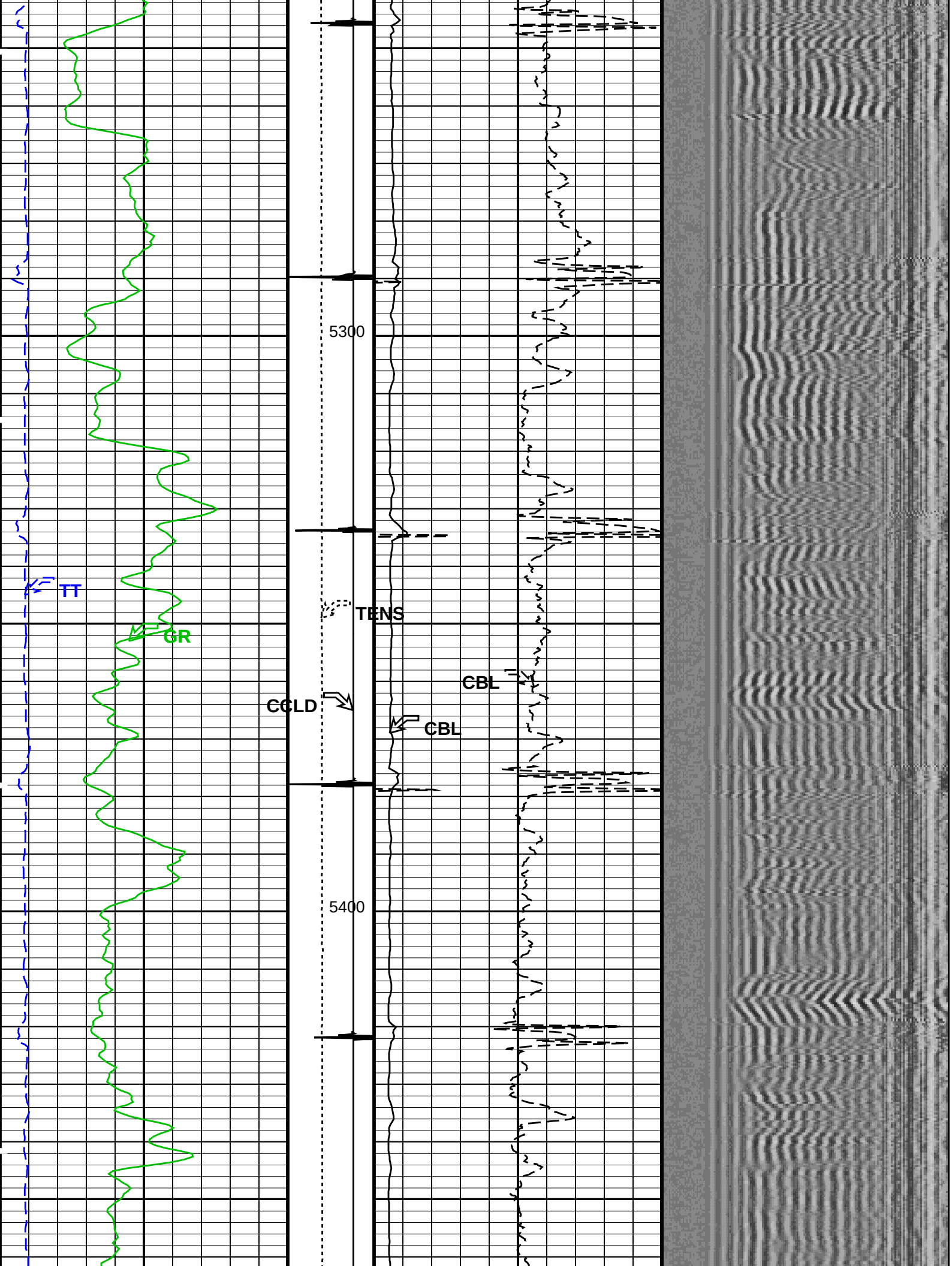
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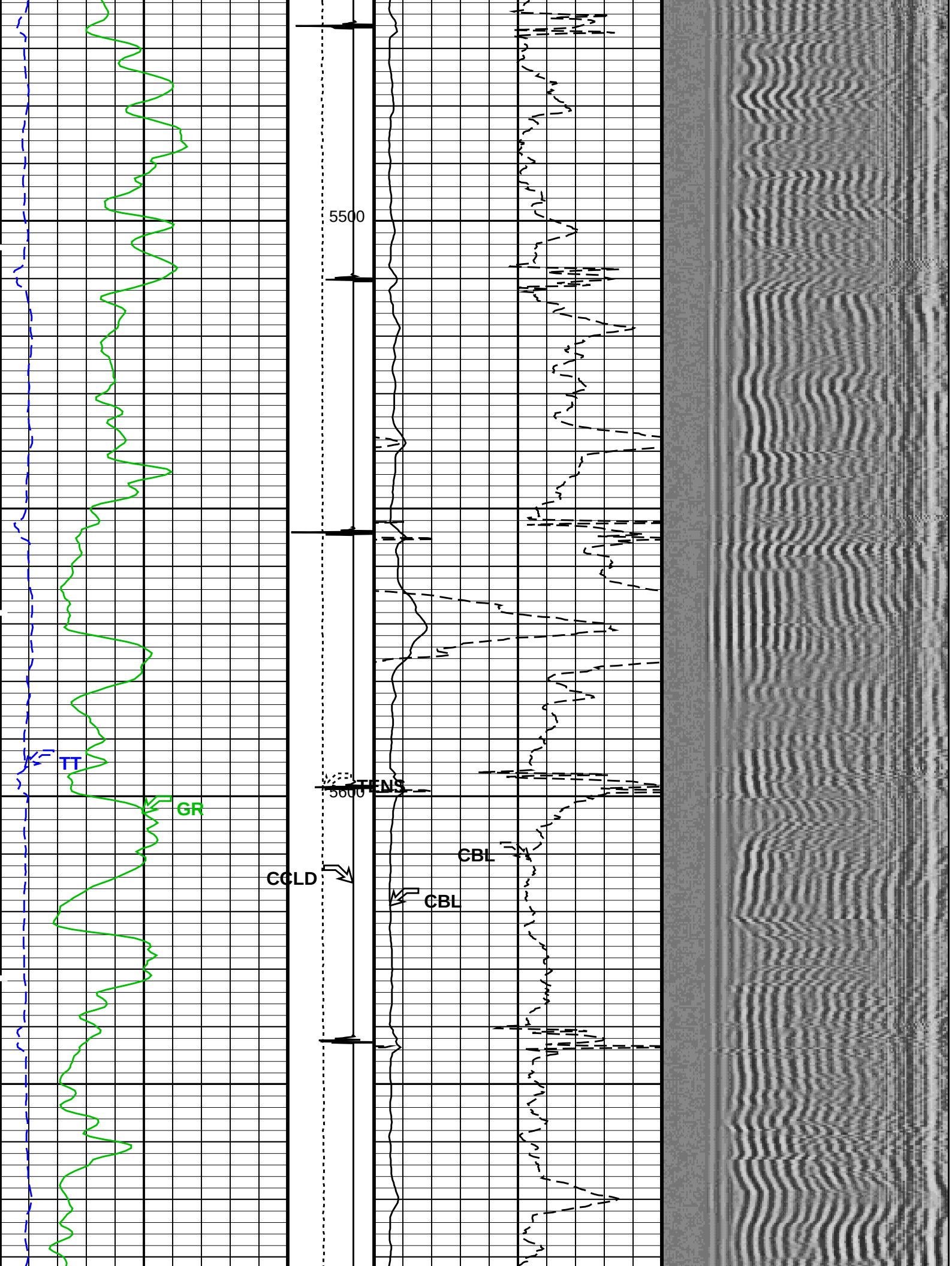
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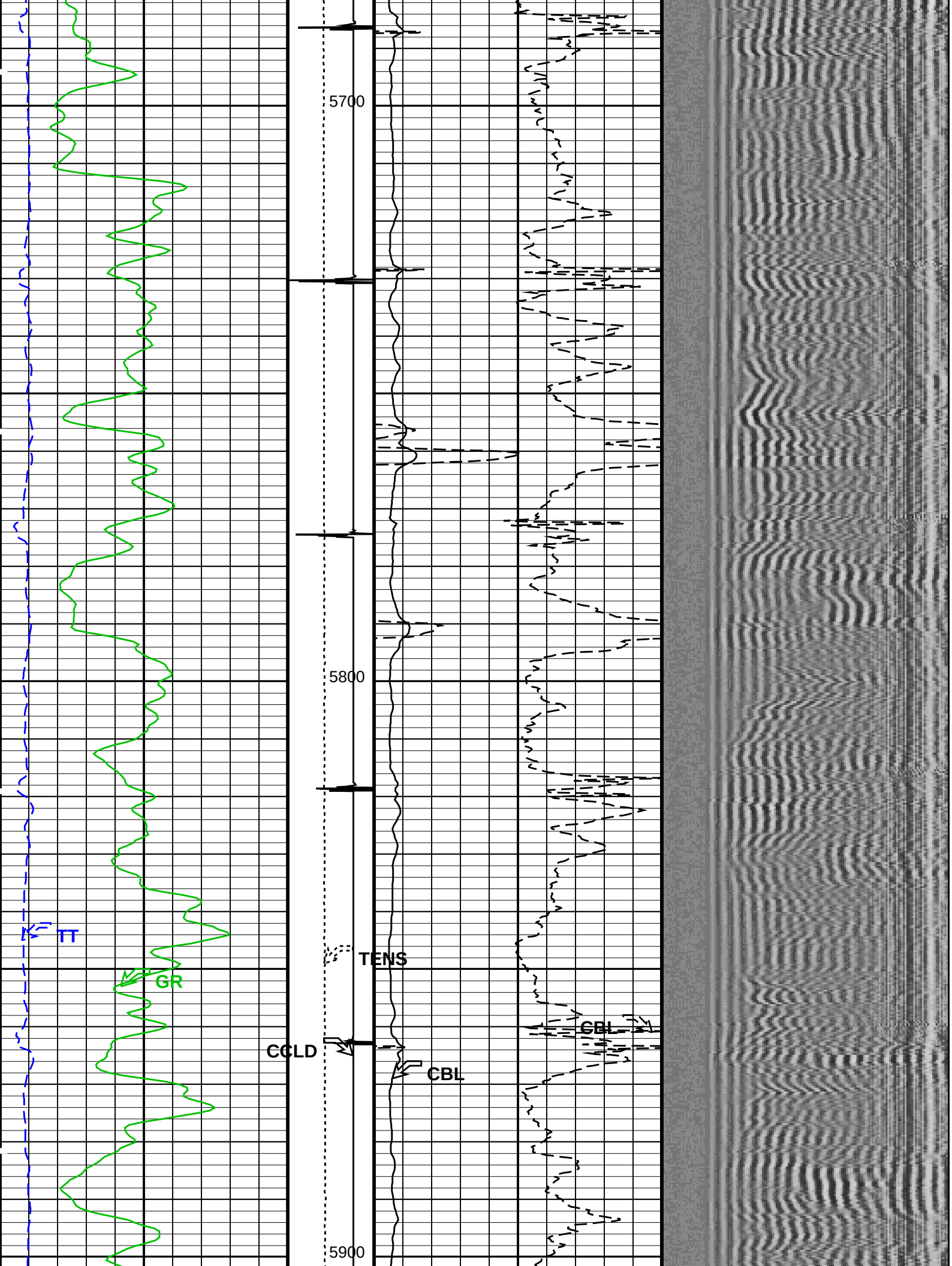
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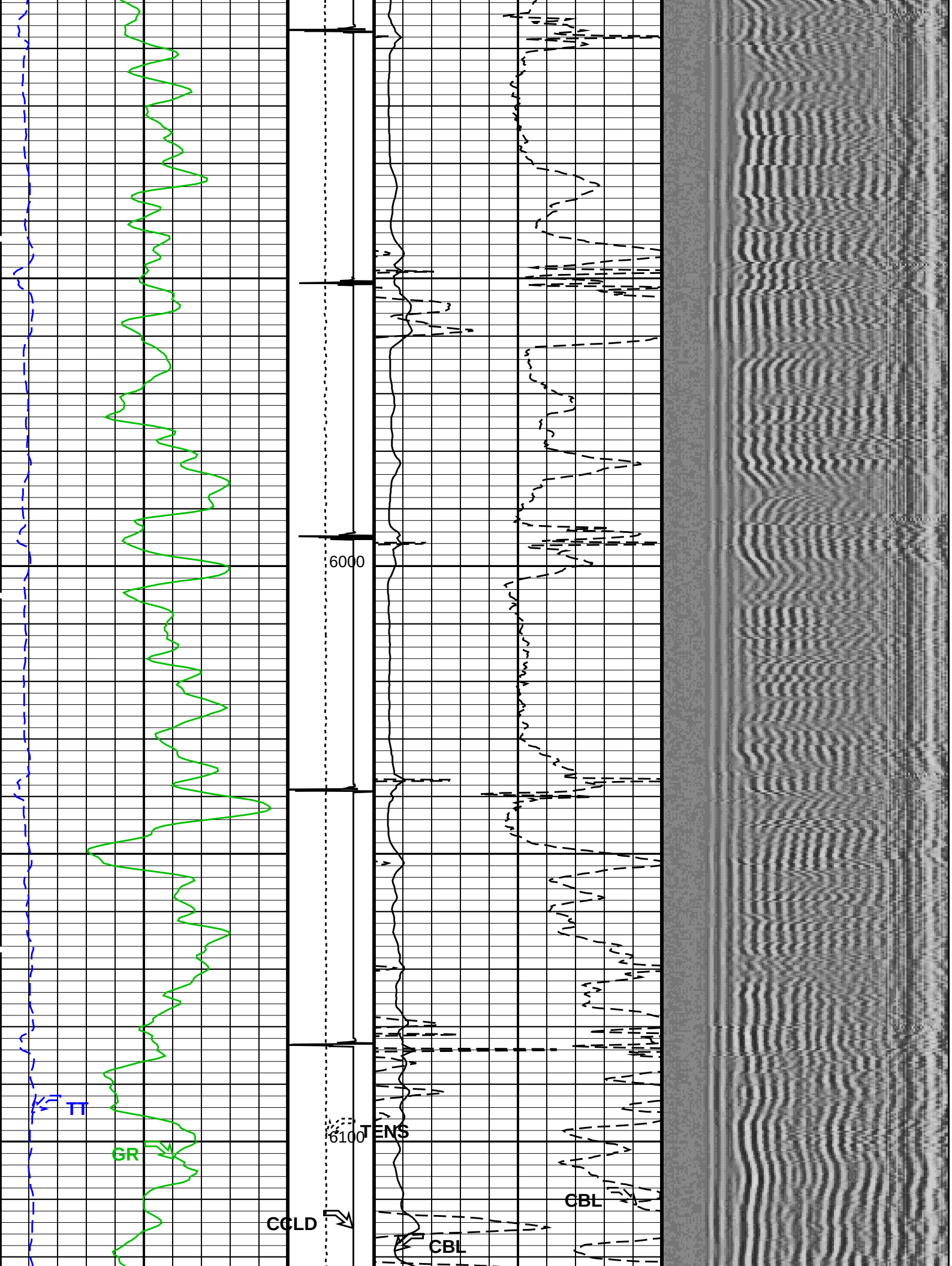
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GR
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TENS
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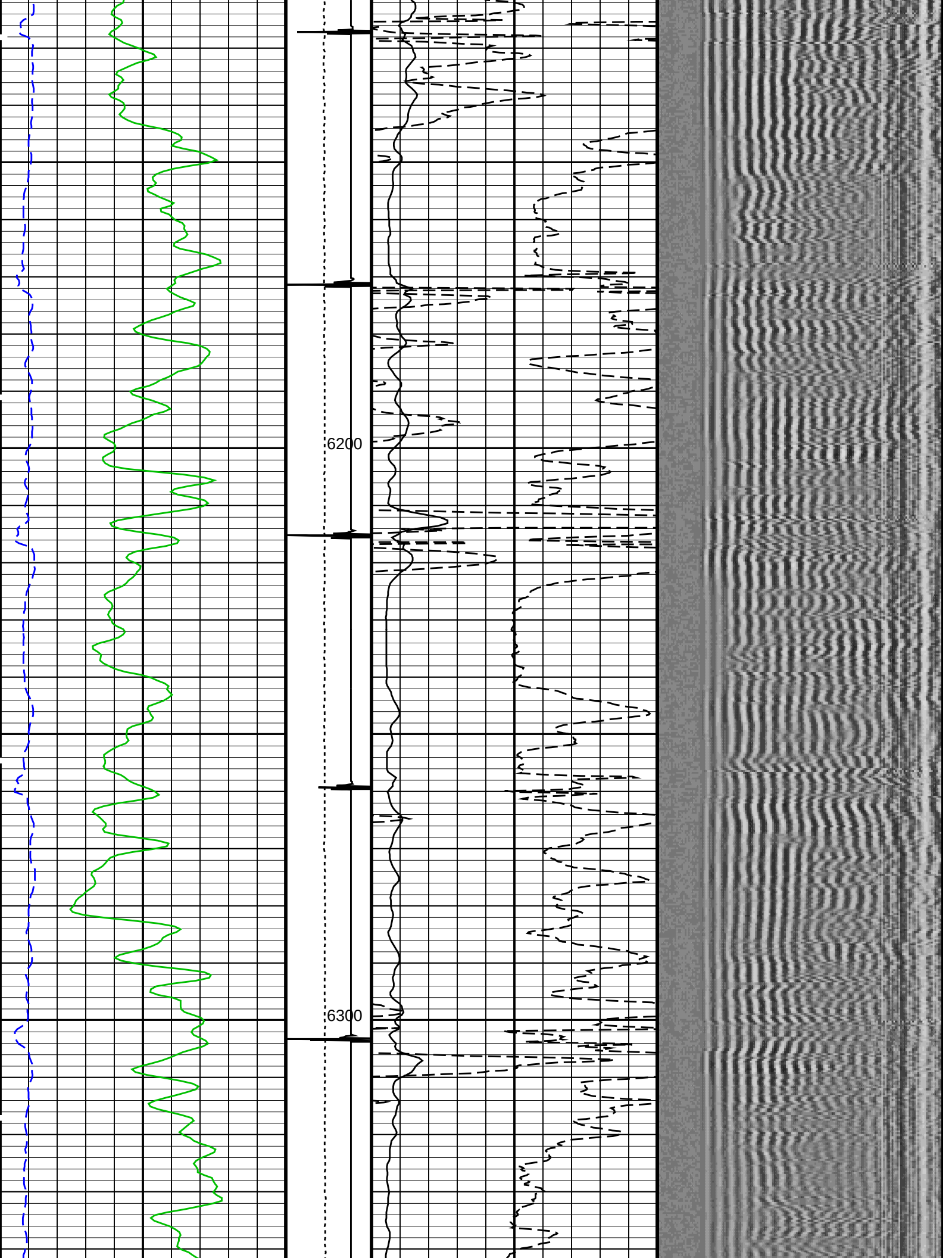
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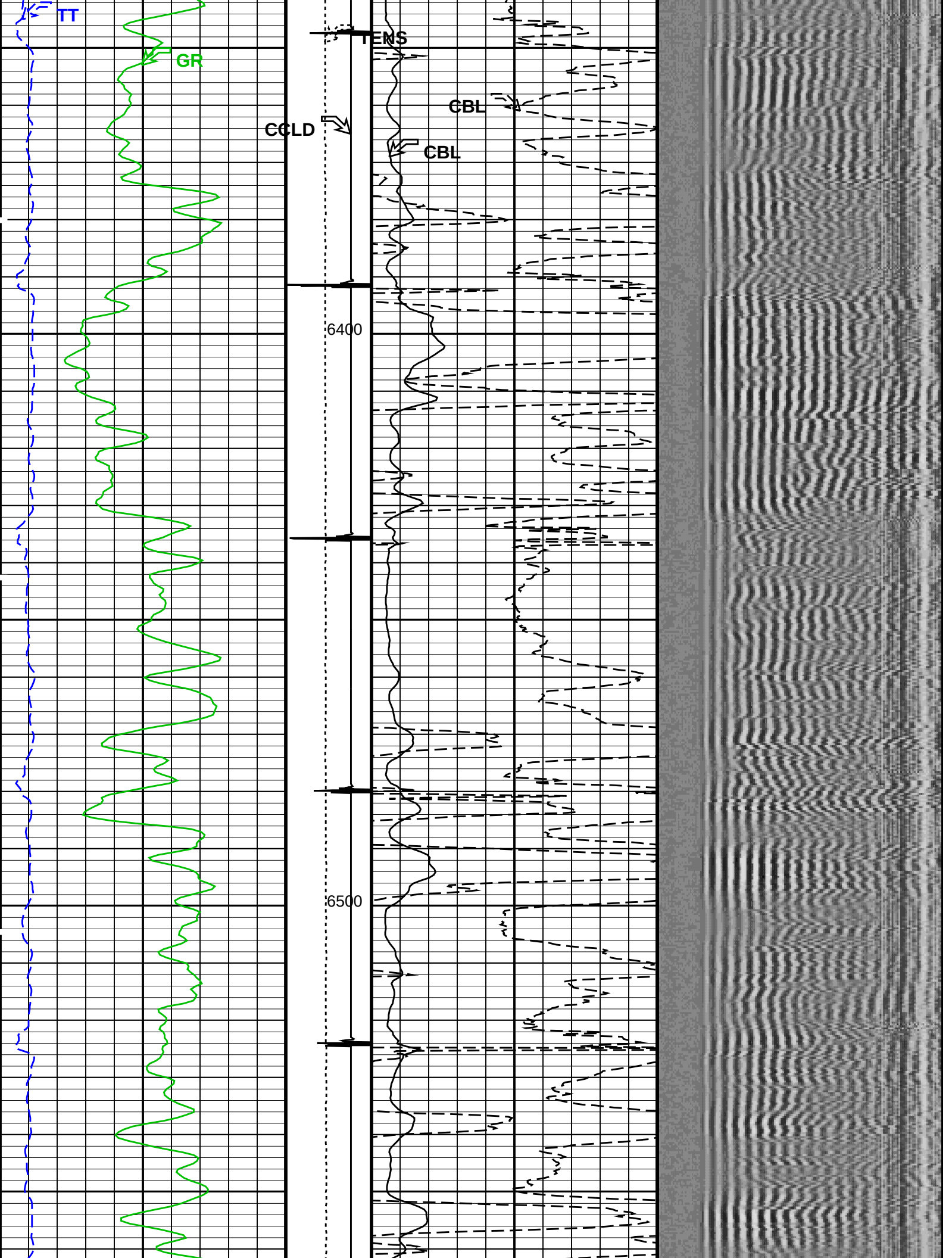
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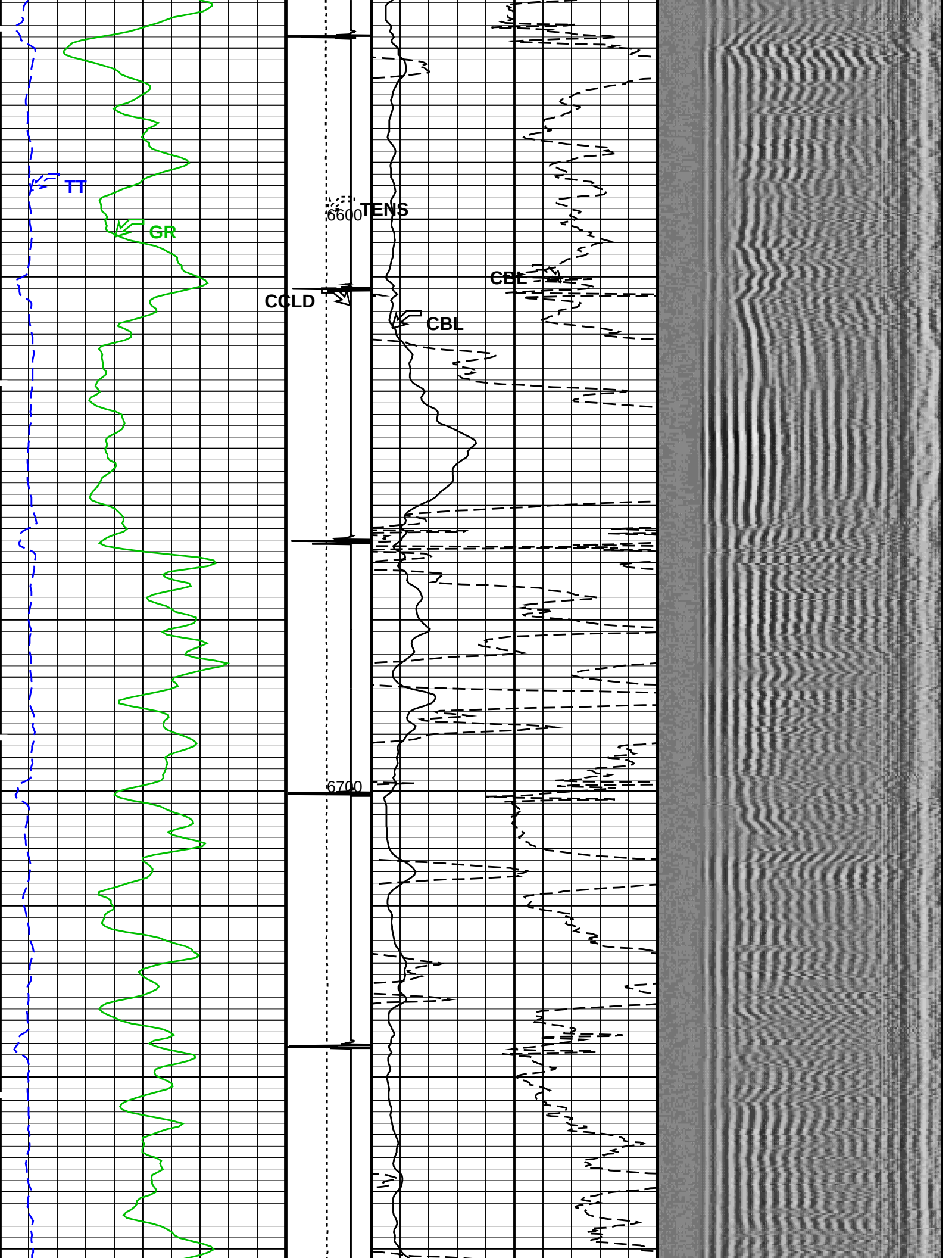
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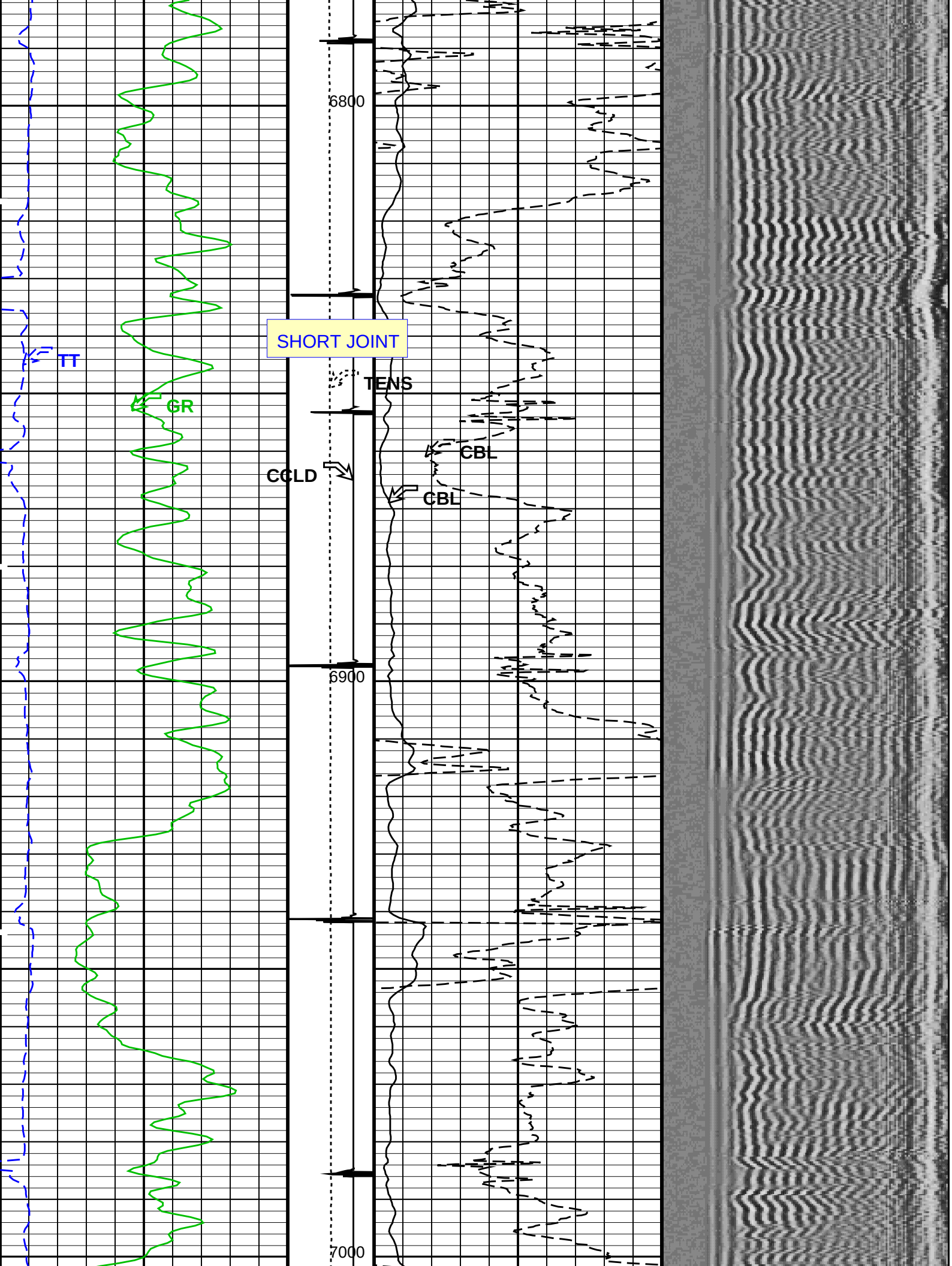
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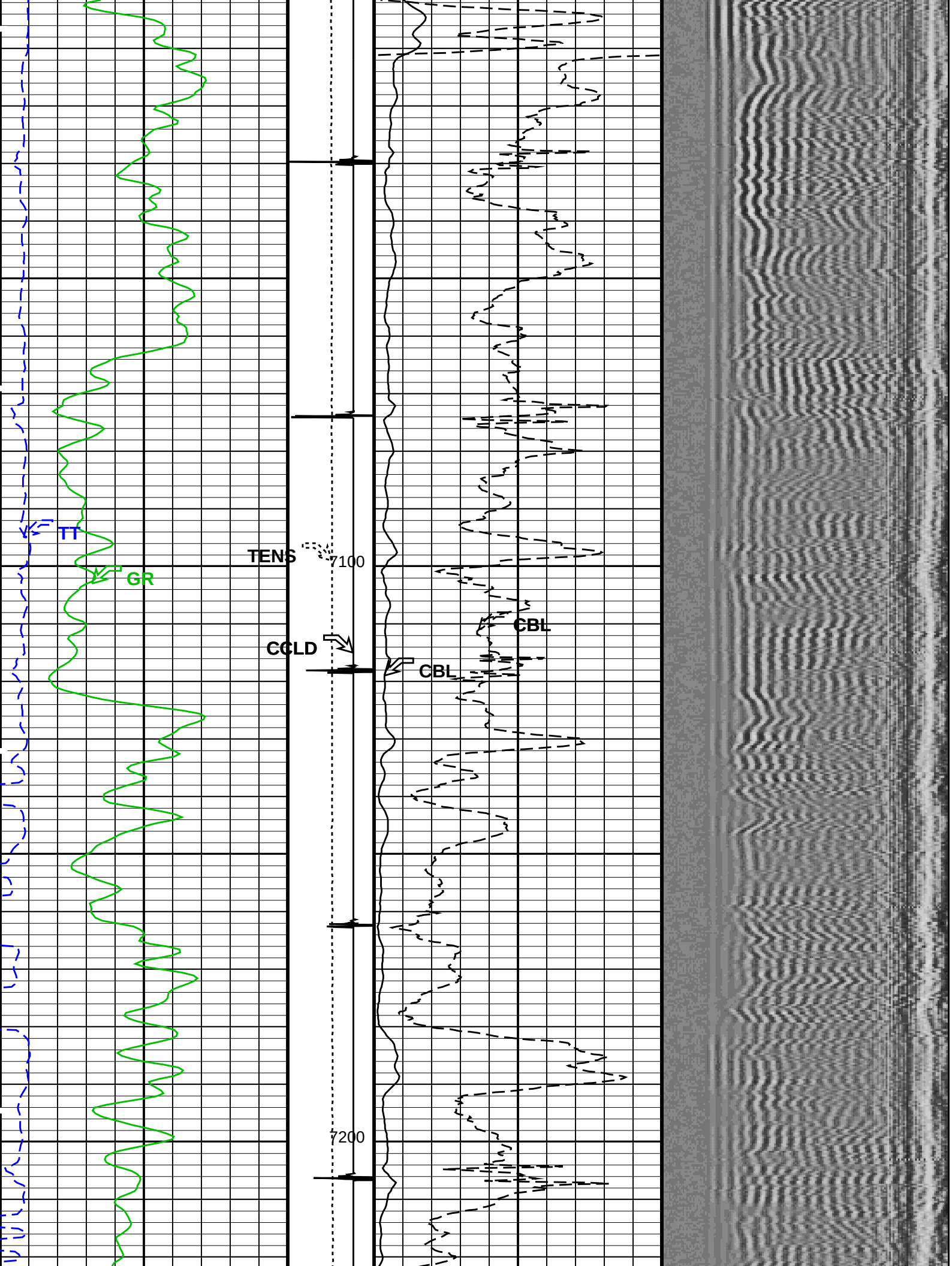
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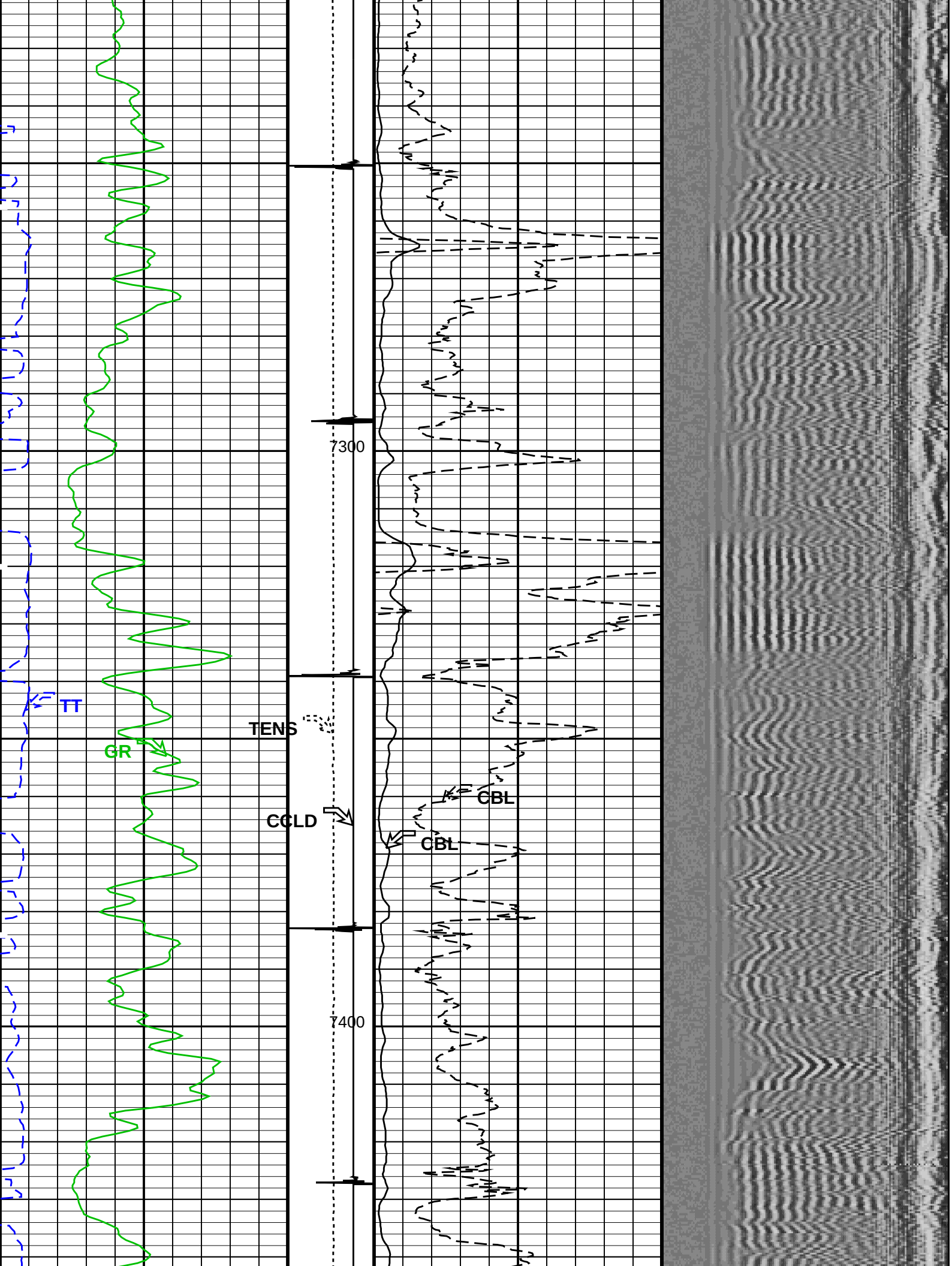
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CBL
CBL
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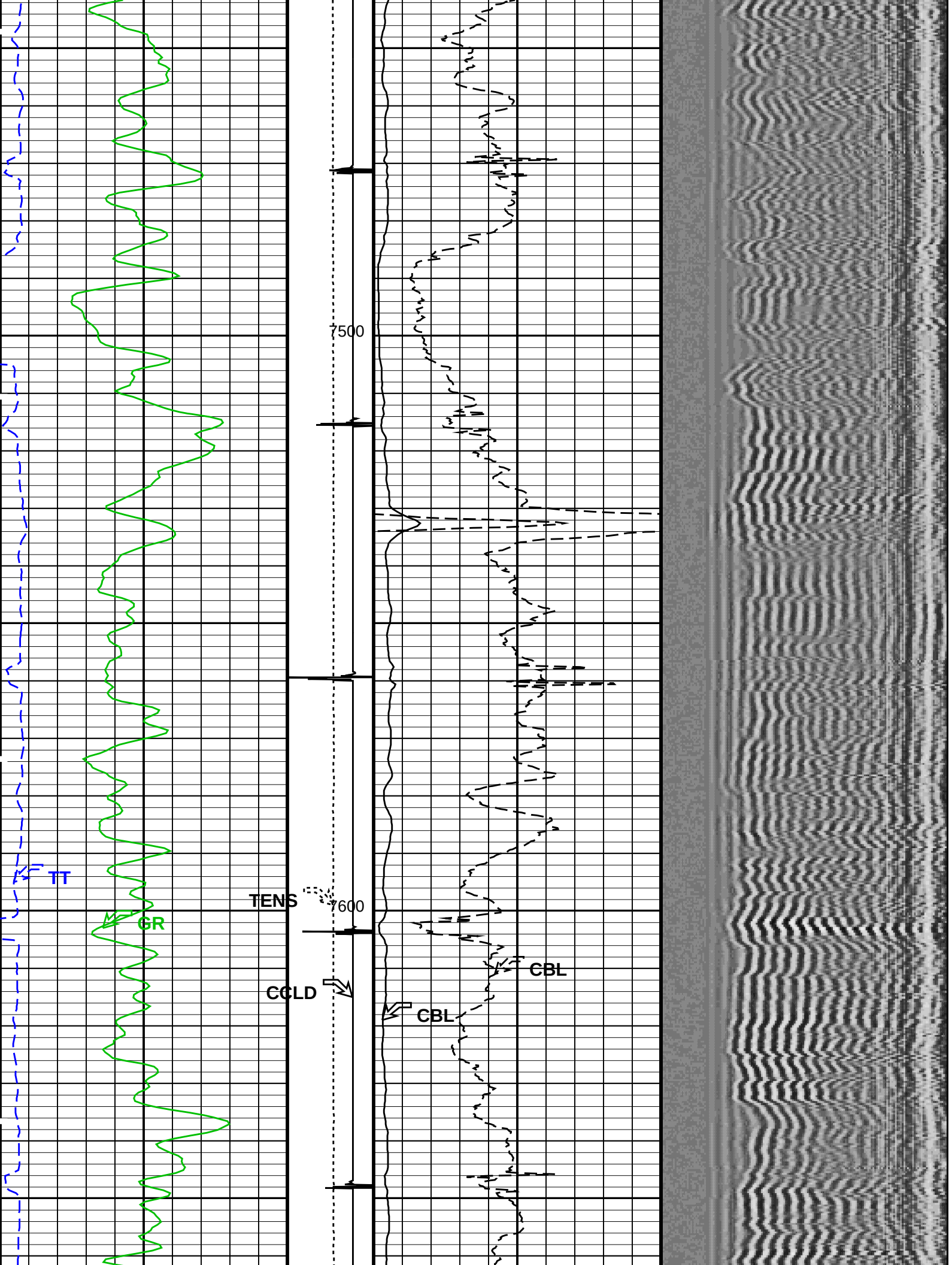
7400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TENS
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CCLD
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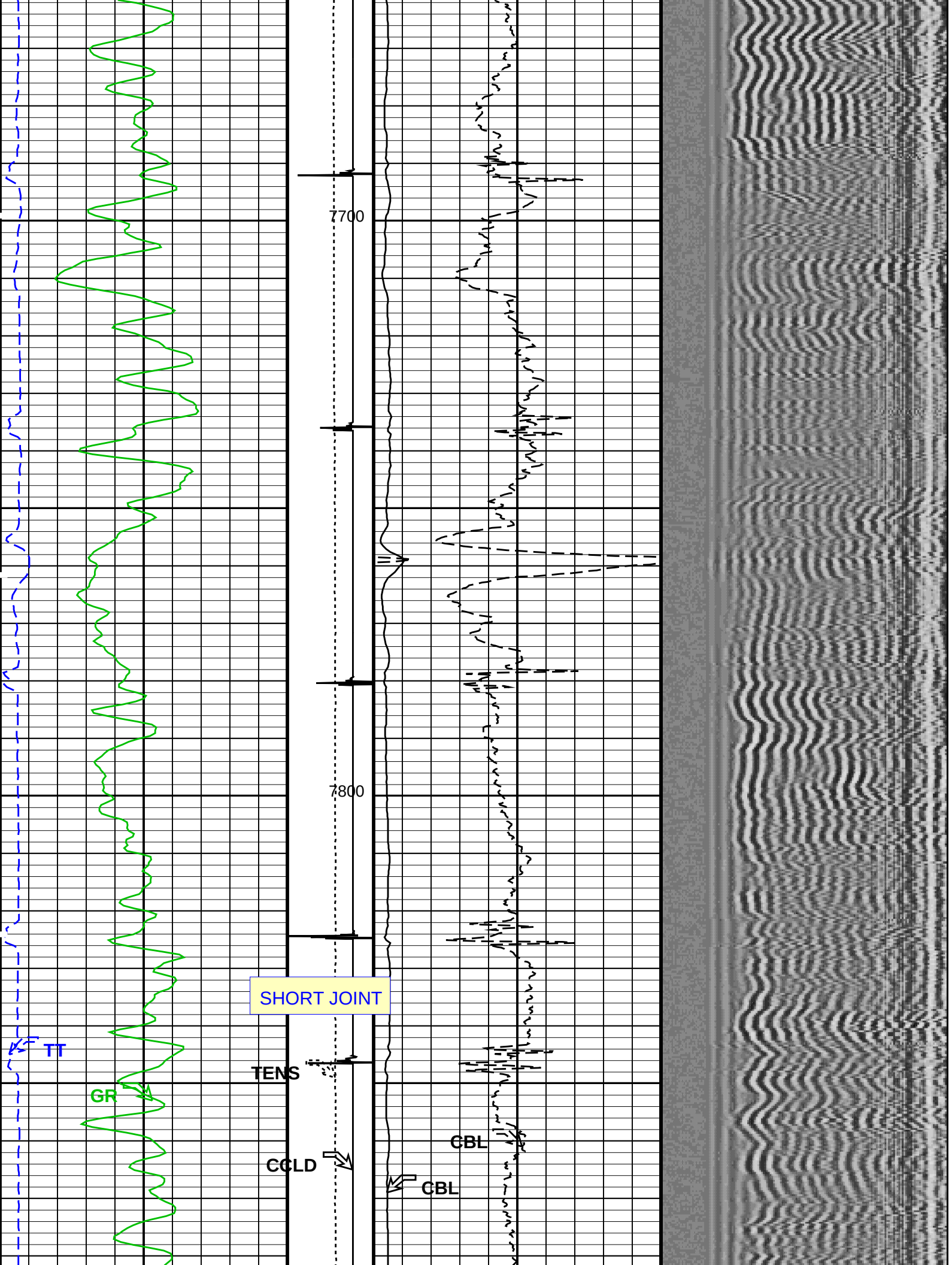
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SHORT JOINT
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CCLD
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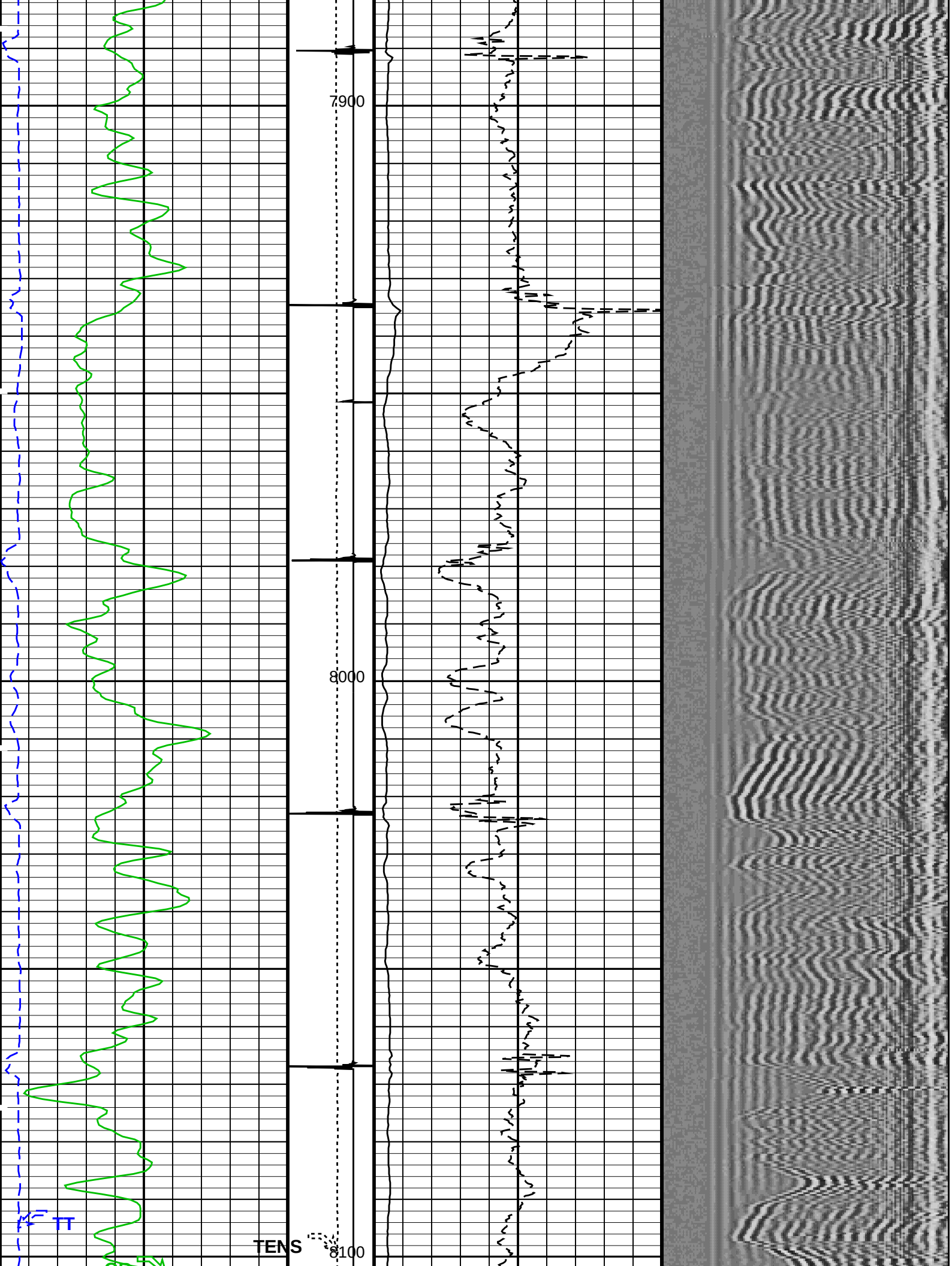
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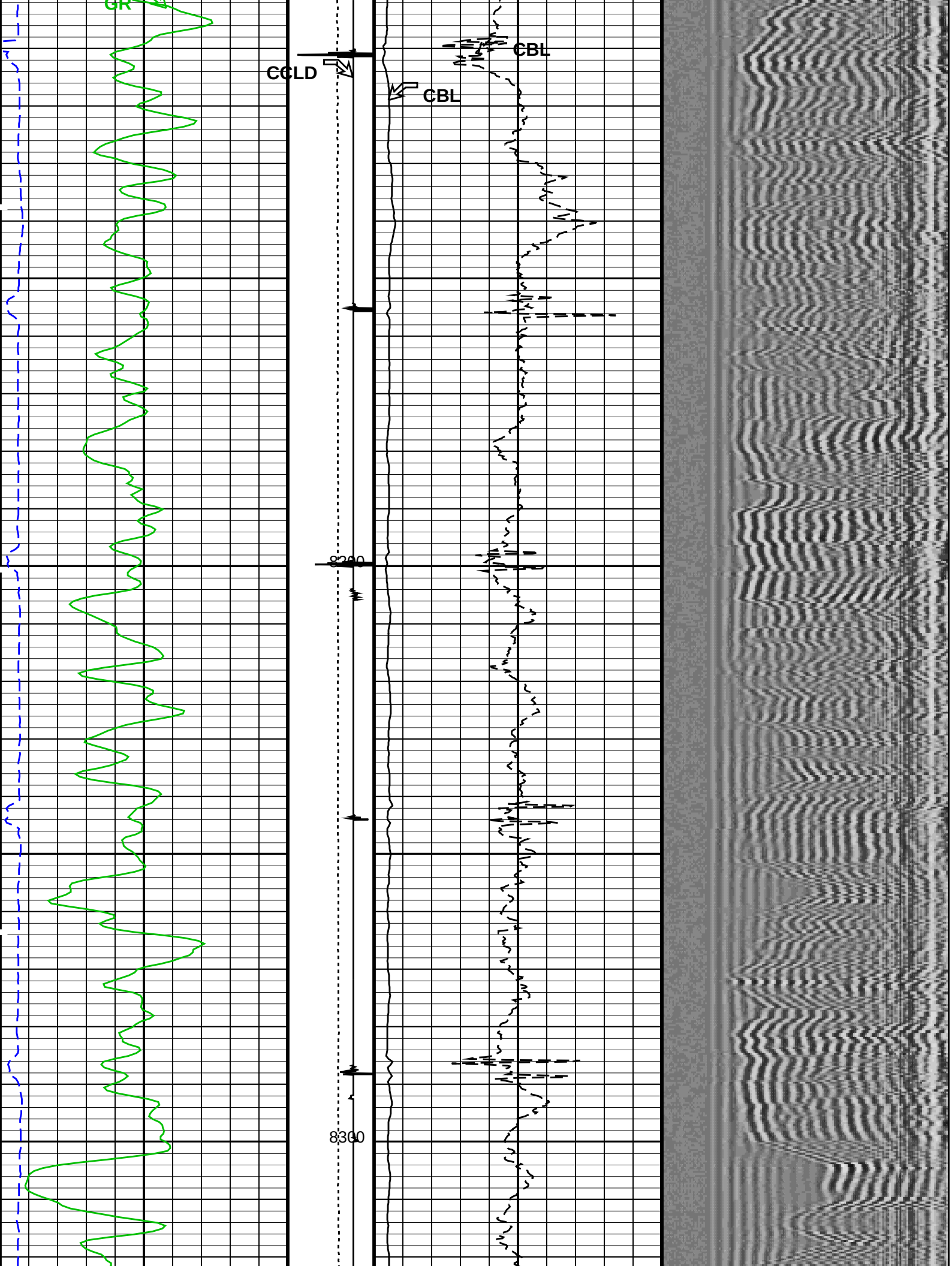
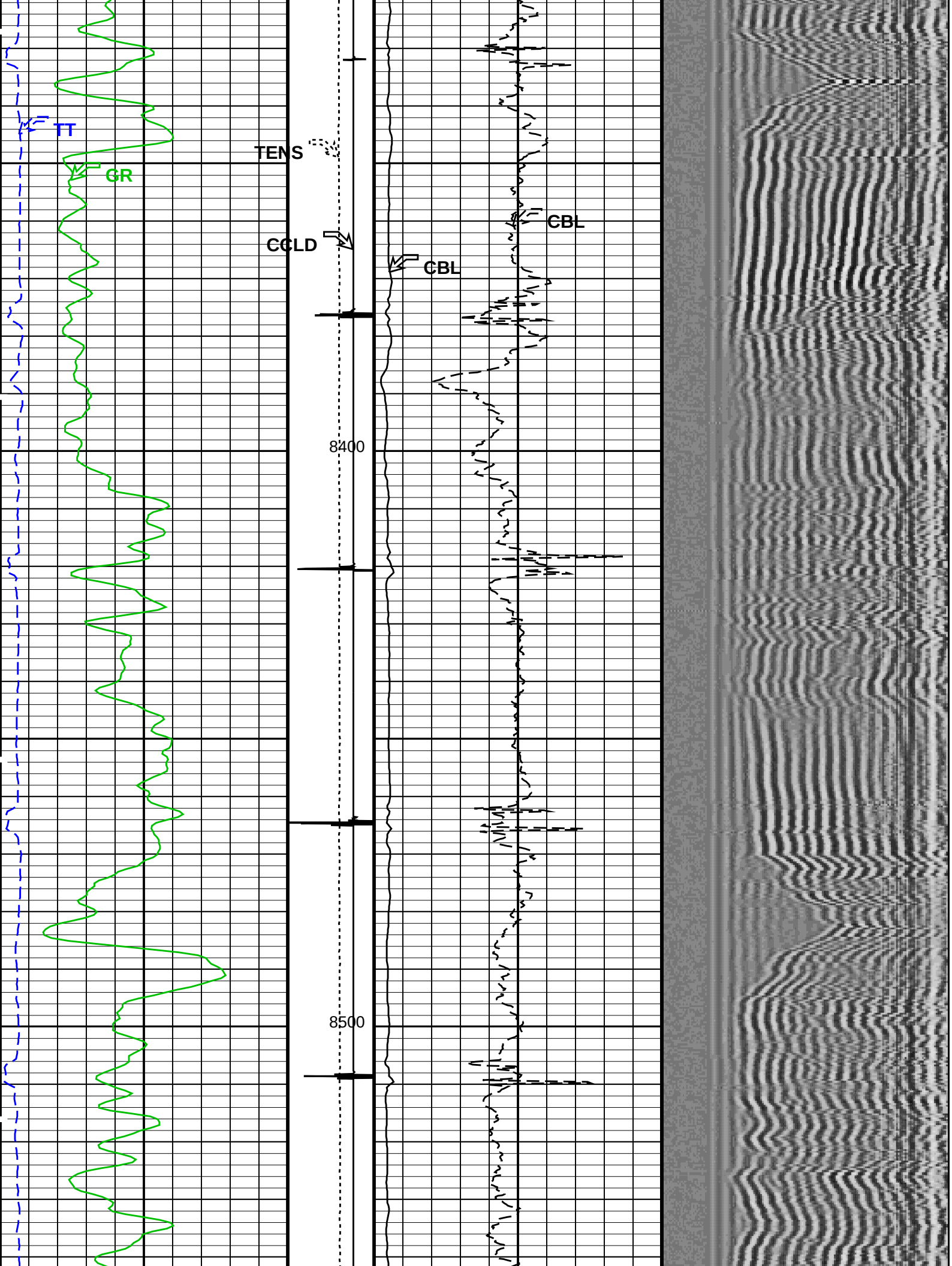
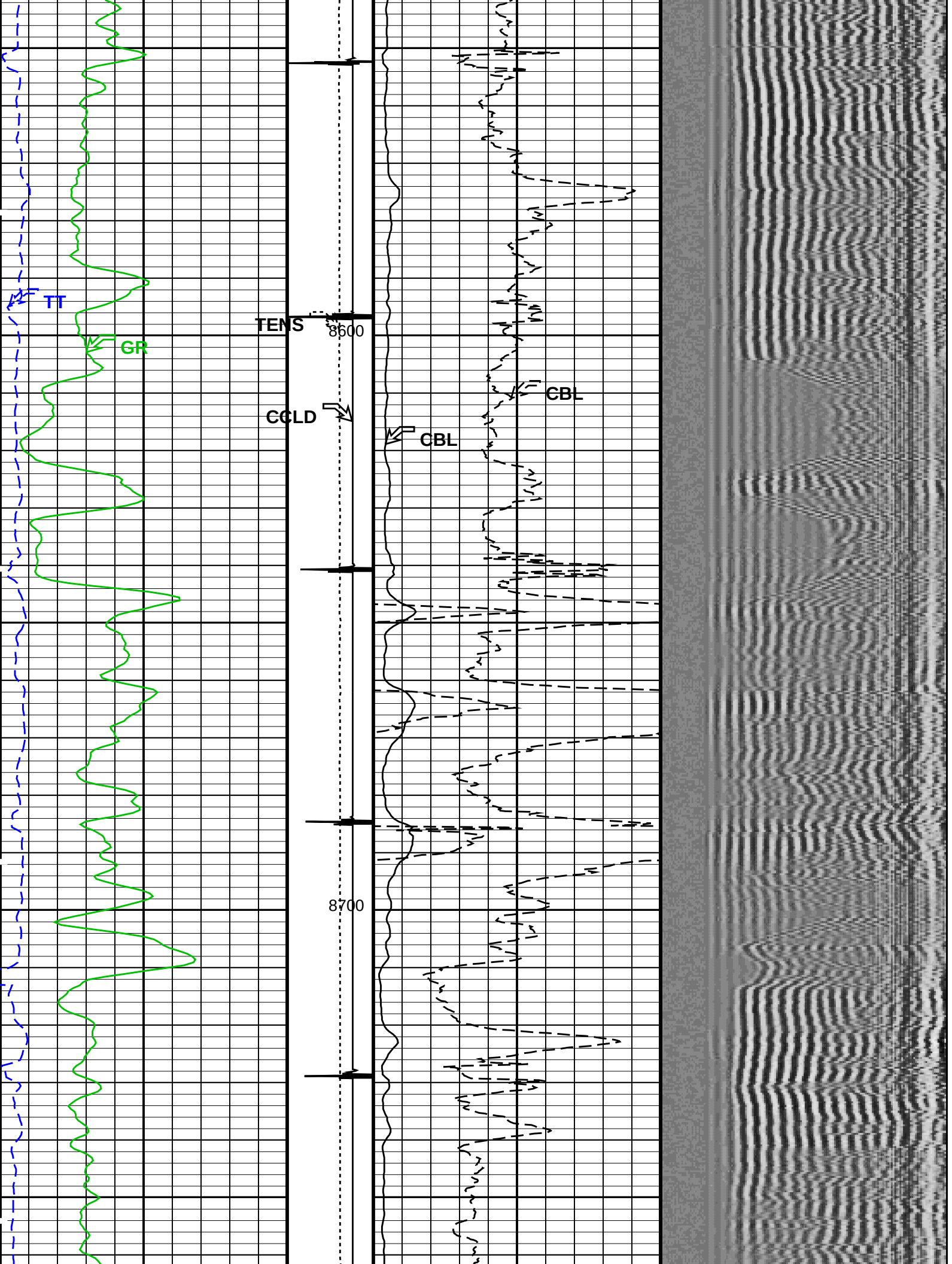
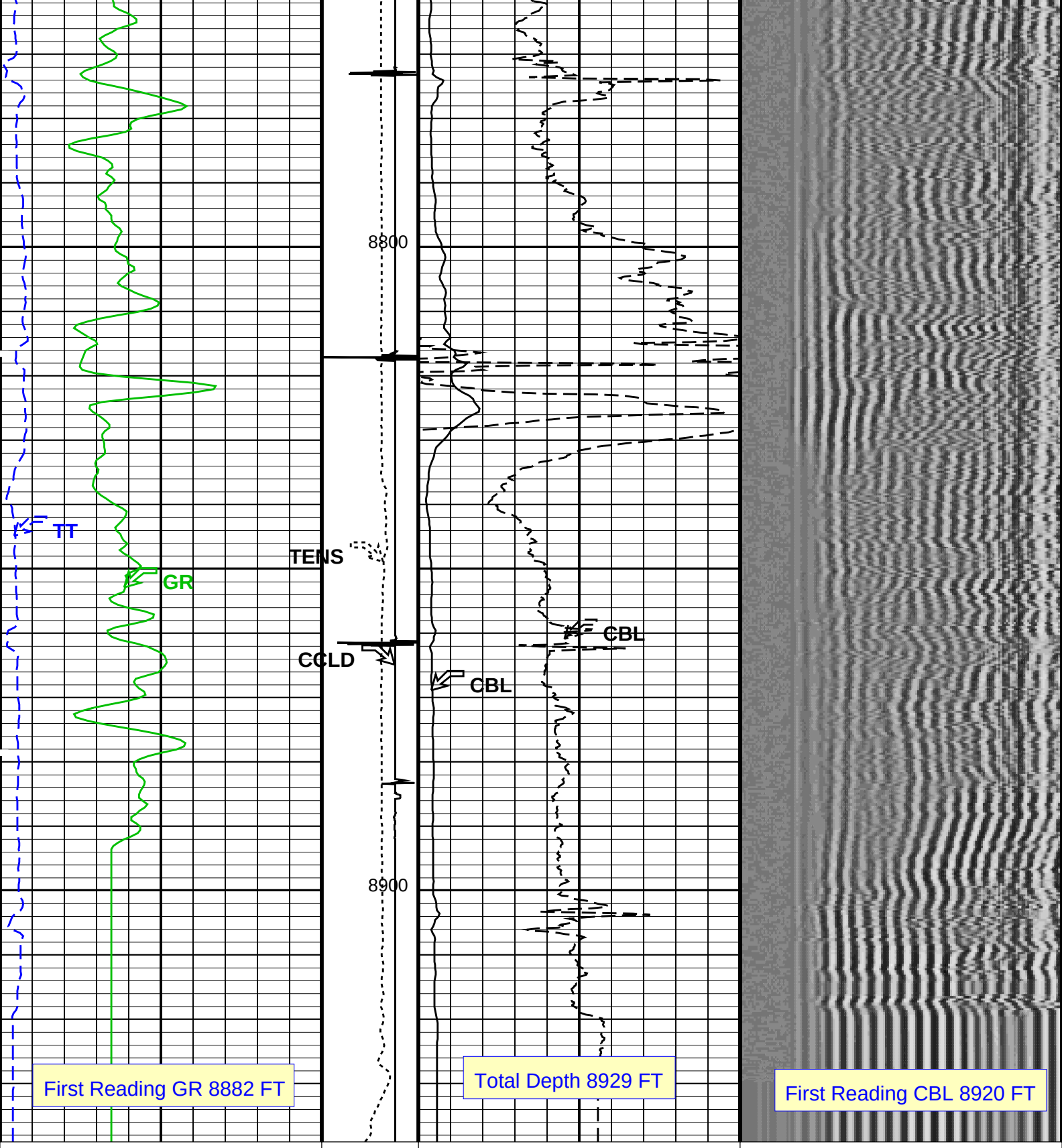
8000
8100
TT
TENS


GR
CCLD
CBL
CBL
8300
8300


TT
GR
TENS
CCLD
CBL
CBL
8400
8500


TT
GR
TENS
8600
CCLD
CBL
CBL
8700



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

PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL Vertical Scale: 5" per 100' Graphics File Created: 26−Nov−2013 00:42

OP System Version: 19C0−187

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

<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number	SCMS−CB 8303		
Current Casing Size	4.50000 IN		
Casing Weight	11.6000 LB/F		
Expected CBL Amplitude in Free Pipe Section	80 MV	Minimum Sonic Amplitude	0.579149 MV (100% Cement) 1.55185 MV (80% Cement)
		MAP Minimum Sonic Amplitude	4.32284 MV (100% Cement) 8.10244 MV (80% Cement)
Master Calibration (Normalization)		Before Calibration (Adjustment)	
Date of Master Calibration	19−NOV−2013		
CBL Correction Factor	0.0743678	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.127925	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.120622		
MAP 3 Correction Factor	0.153607		
MAP 4 Correction Factor	0.159414		
MAP 5 Correction Factor	0.164508		
MAP 6 Correction Factor	0.182220		
MAP 7 Correction Factor	0.190086		
MAP 8 Correction Factor	0.182177		

Parameters

DLIS Name	Description	Value	
	SCMT−CB: Slim Cement Mapping Tool, 1−11/16 OD		
BILI	Bond Index Level for Zone Isolation	0.8	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	45	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta−T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
	System and Miscellaneous		
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	3.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8929	FT

Input DLIS Files

DEFAULT	Splice_SCMT_RST_PSP_053CUP	FN:1	PRODUCER	26−Nov−2013 00:39	8936.0 FT	9.5 FT

Output DLIS Files

DEFAULT	SCMT_RST_PSP_054PUP	FN:51	PRODUCER	26−Nov−2013 00:41		

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REPEAT ANALYSIS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC **Well: HMU 6−13A (J6SEB)**

Input DLIS Files

DEFAULT	SCMT_RST_PSP_045LUP	FN:43	PRODUCER	25−Nov−2013 21:31	6953.5 FT	6646.5 FT
DEFAULT	SCMT_RST_PSP_054PUP	FN:51	PRODUCER	26−Nov−2013 00:41	8939.0 FT	−39.5 FT

Output DLIS Files

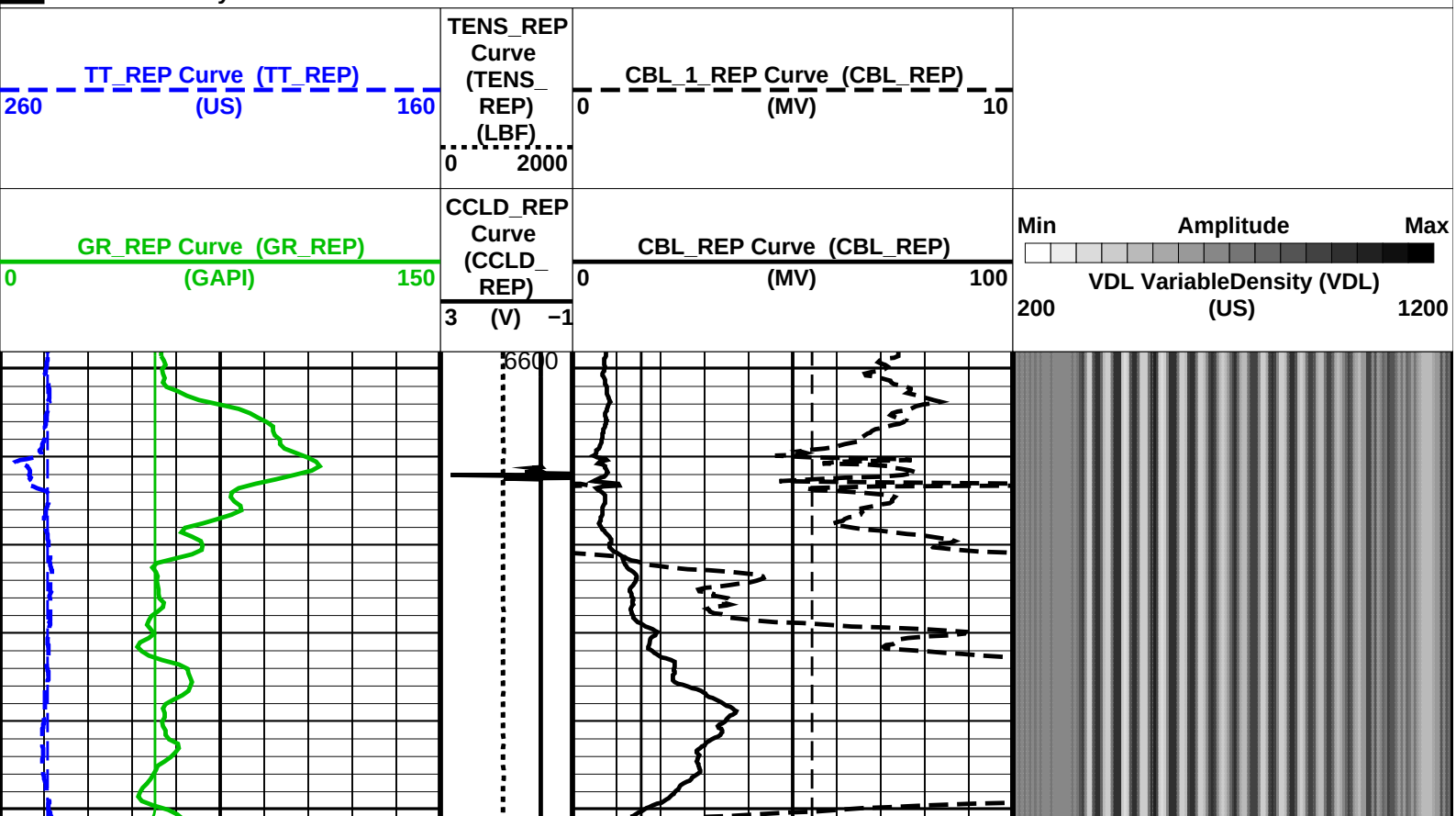
DEFAULT	SCMT_RST_PSP_055PUP	FN:52	PRODUCER	26−Nov−2013 00:47	6956.5 FT	6597.5 FT

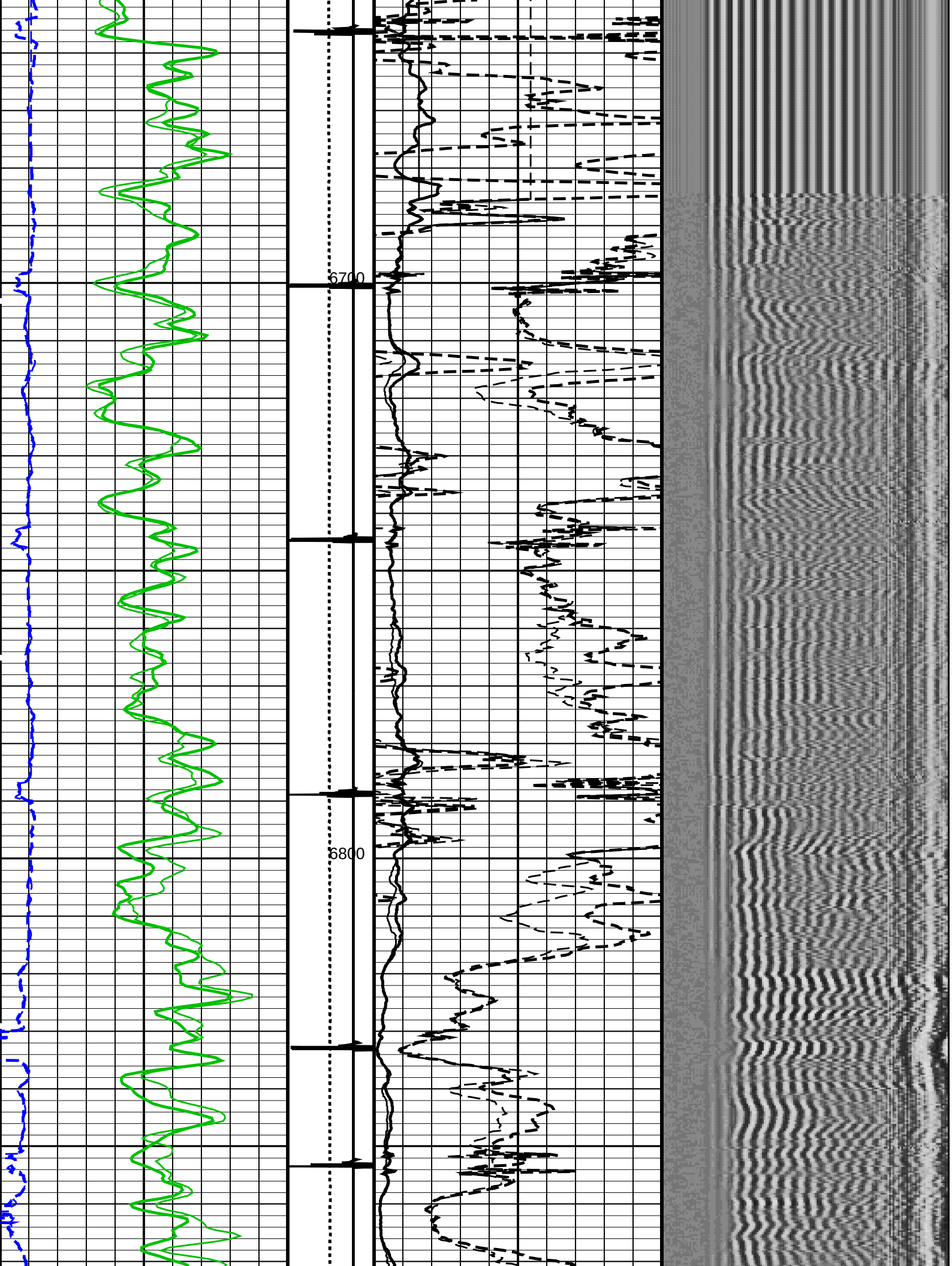
OP System Version: 19C0−187

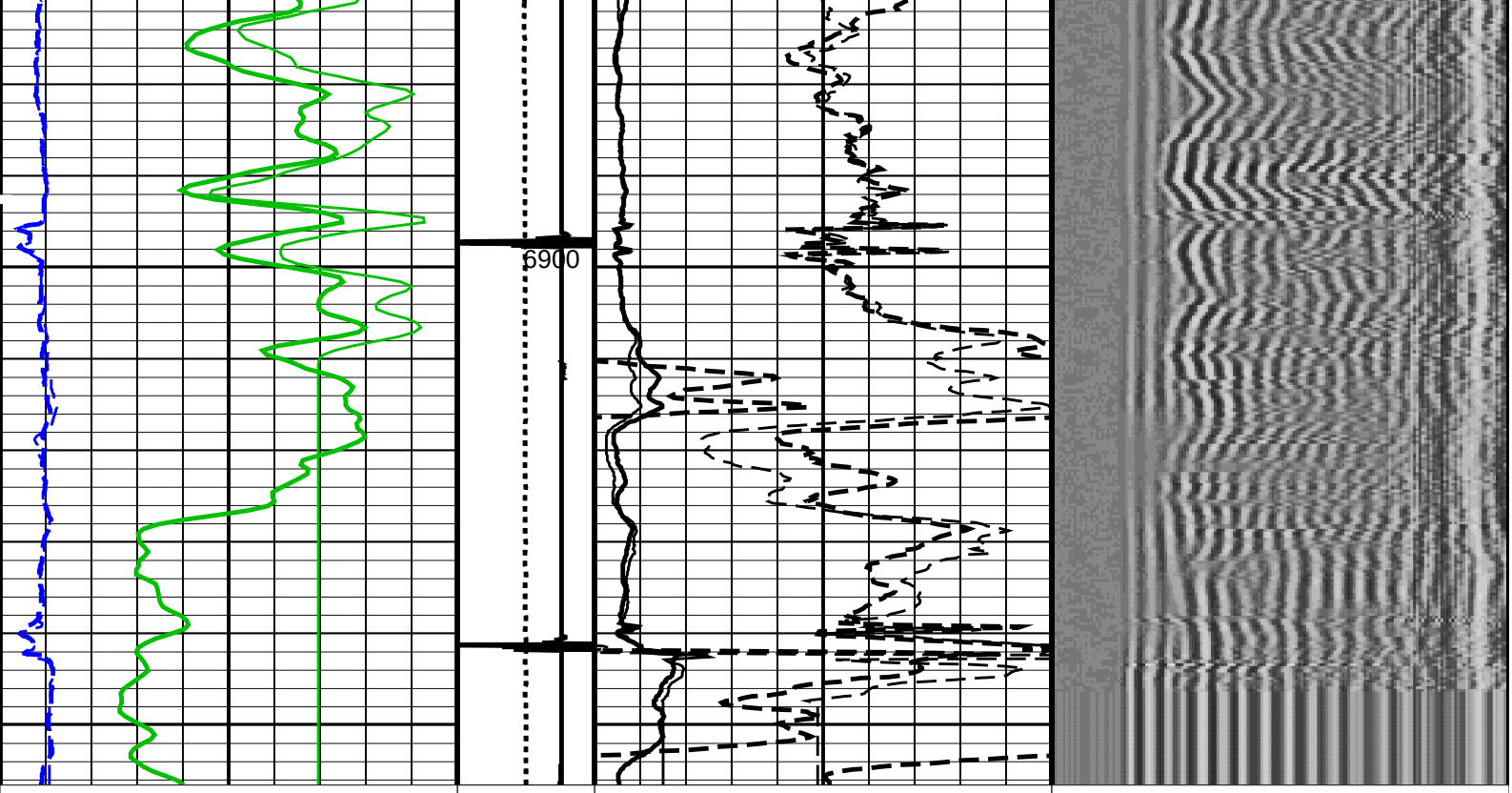
SCMT−CB	SRPC−5214−H2−2012−OP1	RST−C	SRPC−5214−H2−2012−OP1
PSPT	SRPC−5214−H2−2012−OP1		

PIP SUMMARY

Time Mark Every 60 S




6700
6800



GR_REP Curve (GR_REP)	CCLD_REP Curve (CCLD_REP)	CBL_REP Curve (CBL_REP)	Min Amplitude Max
0 (GAPI) 150	3 (V) −1	0 (MV) 100	VDL VariableDensity (VDL) 200 (US) 1200
TT_REP Curve (TT_REP)	TENS_REP Curve (TENS_REP) (LBF)	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: 26−Nov−2013 00:47

OP System Version: 19C0−187

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

<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number	SCMS−CB 8303		
Current Casing Size	4.50000 IN		
Casing Weight	11.6000 LB/F		
Expected CBL Amplitude in Free Pipe Section	80 MV	Minimum Sonic Amplitude	0.579149 MV (100% Cement) 1.55185 MV (80% Cement)
		MAP Minimum Sonic Amplitude	4.32284 MV (100% Cement) 8.10244 MV (80% Cement)
Master Calibration (Normalization)		Before Calibration (Adjustment)	
Date of Master Calibration	19−NOV−2013		
CBL Correction Factor	0.0743678	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.127925	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.120622		
MAP 3 Correction Factor	0.153607		

MAP 4 Correction Factor	0.159414
MAP 5 Correction Factor	0.164508
MAP 6 Correction Factor	0.182220
MAP 7 Correction Factor	0.190086
MAP 8 Correction Factor	0.182177

Parameters

DLIS Name	Description	Value	
	SCMT−CB: Slim Cement Mapping Tool, 1−11/16 OD		
BILI	Bond Index Level for Zone Isolation	0.8	
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK	
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	224.559	US
CB3T	SCMT CBL 3 ft Fixed Threshold Level	20	MV
CB5D	SCMT CBL 5 ft Peak Detection Mode	PEAK	
CB5G	SCMT CBL 5 ft Peak Detection T0_Delay and Noise Gate	338.559	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	45	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	80	MV
CMCF	CBL Cement Type Compensation Factor	1	
CMTC	SCMT Slow Channel Multiplexer Mode	SCAN	
CMTM	SCMT Operating Mode	LOG	
CSCS	SCMT Slow Channel Index	VCC	
CTHI	Casing Thickness	0.255617	IN
DTF	Delta−T Fluid	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
	System and Miscellaneous		
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	3.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	8929	FT

Input DLIS Files

DEFAULT	SCMT_RST_PSP_045LUP	FN:43	PRODUCER	25−Nov−2013 21:31	6953.5 FT	6646.5 FT
DEFAULT	SCMT_RST_PSP_054PUP	FN:51	PRODUCER	26−Nov−2013 00:41	8939.0 FT	−39.5 FT

Output DLIS Files

DEFAULT	SCMT_RST_PSP_055PUP	FN:52	PRODUCER	26−Nov−2013 00:47

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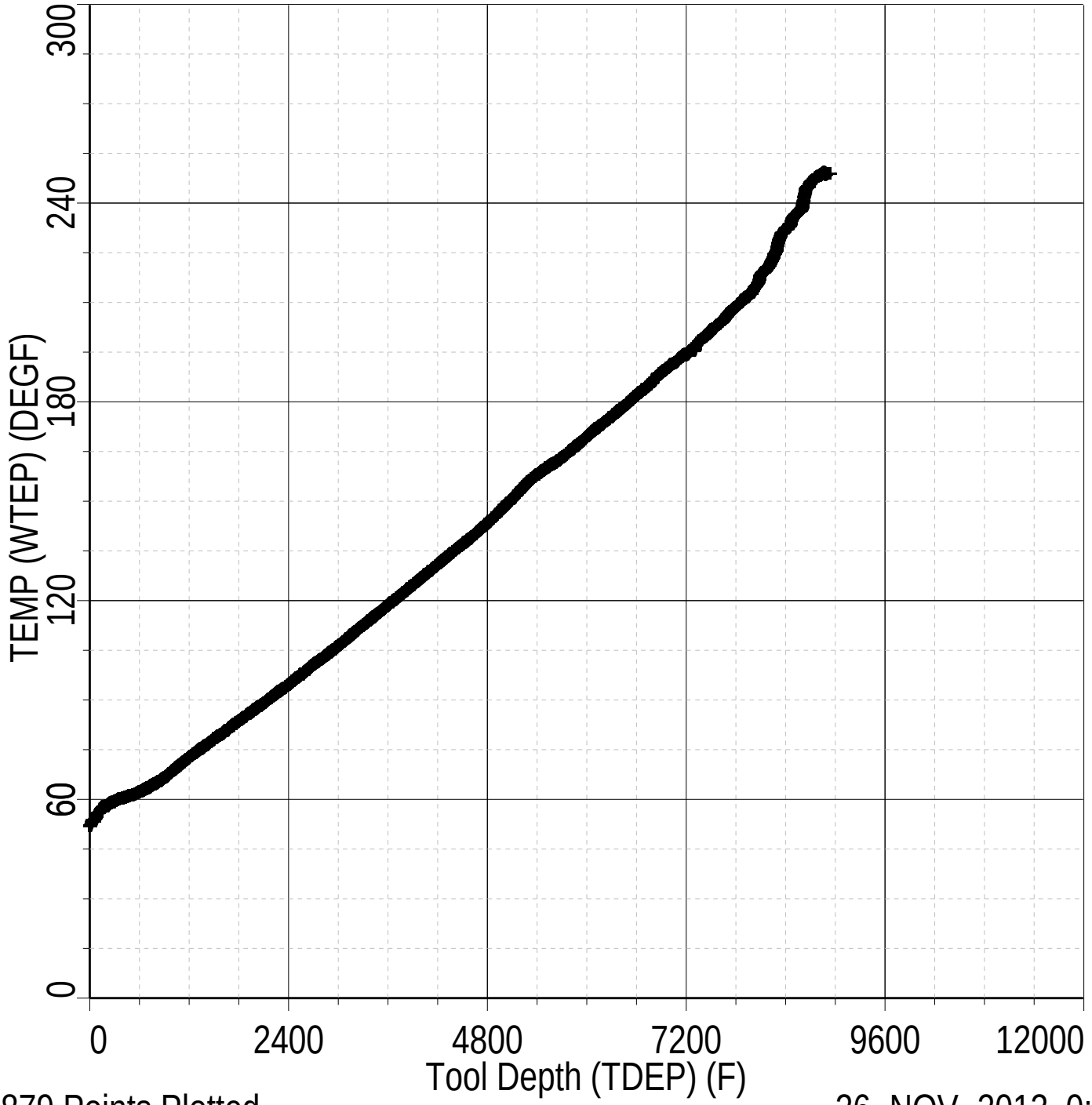
TEMPERATURE PLOT

MAXIS Field Log

Index: 8939.0 − −39.5 FT



17879 Points Plotted

26−NOV−2013 0:46

Schlumberger

PBMS COEFFICIENTS

MAXIS Field Log

Client:	**ENCANA OIL & GAS (USA) INC**	**Tool:**	**PSP**
Field:	**MAMM CREEK**	**Sub Type:**	**PBMS**
Well:	**HMU 6−13A (J6SEB)**	**Sensor:**	**GR**
Run date:	**25−Nov−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

	Rt**0	Rt**1
Rt0**	**+.182000000000e+04**	**+.332000000000e+04**

Client:	**ENCANA OIL & GAS (USA) INC**	**Tool:**	**PSP**
Field:	**MAMM CREEK**	**Sub Type:**	**PBMS**
Well:	**HMU 6−13A (J6SEB)**	**Sensor:**	**WellTemp RTD**
Run date:	**25−Nov−2013**		

PBMS RTD Well Thermometer

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

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt0**	**−.391987973189E+03**	**+.191346892512E+03**	**−.440920753451E+02**

	Tt**3	Tt**4	Tt**5
Tt0**	**+.957191300908E+01**	**−.711421725686E+00**	**0.0**

Client:	**ENCANA OIL & GAS (USA) INC**	**Tool:**	**PSP**
Field:	**MAMM CREEK**	**Sub Type:**	**PBMS**
Well:	**HMU 6−13A (J6SEB)**	**Sensor:**	**CQG**
Run date:	**25−Nov−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

	Fb**0	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**

	Fb**3	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	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
Master		938.0
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 2 Amplitude Plus MV	Value
Master		994.8
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 3 Amplitude Plus MV	Value
Master		781.2
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 4 Amplitude Plus MV	Value
Master		752.8
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 5 Amplitude Plus MV	Value
Master		729.4
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 6 Amplitude Plus MV	Value
Master		658.5
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 7 Amplitude Plus MV	Value
Master		631.3
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 8 Amplitude Plus MV	Value
Master		658.7
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	CBL Amplitude Plus MV	Value
Master		1291
1000 (Minimum)	1350 (Nominal)	1700 (Maximum)

Master: 19−Nov−2013 13:46

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

Schlumberger

Well: **HMU 6−13A (J6SEB)**

Field: **MAMM CREEK**

County:	**GARFIELD**
State:	**COLORADO**

SLIM CEMENT MAPPING LOG
CBL−VDL
GAMMA RAY−CCL