Schlumberger

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

Well: **SG 8504D−36 (D36 496)**
Field: **STORY GULCH**
County: **GARFIELD** State: **COLORADO**

SLIM CEMENT MAPPING LOG
CBL−VDL
GR−CCL

County: GARFIELD
Field: STORY GULCH
Location: SHL: 366 FNL & 1064 FWL
Well: SG 8504D−36 (D36 496)
Company: ENCANA OIL & GAS (USA) INC

LOCATION

SHL: 366 FNL & 1064 FWL
BHL: 920 FNL & 672 FWL

Elev.: K.B. 8320.00 ft
G.L. 8290.00 ft
D.F. 8319.00 ft

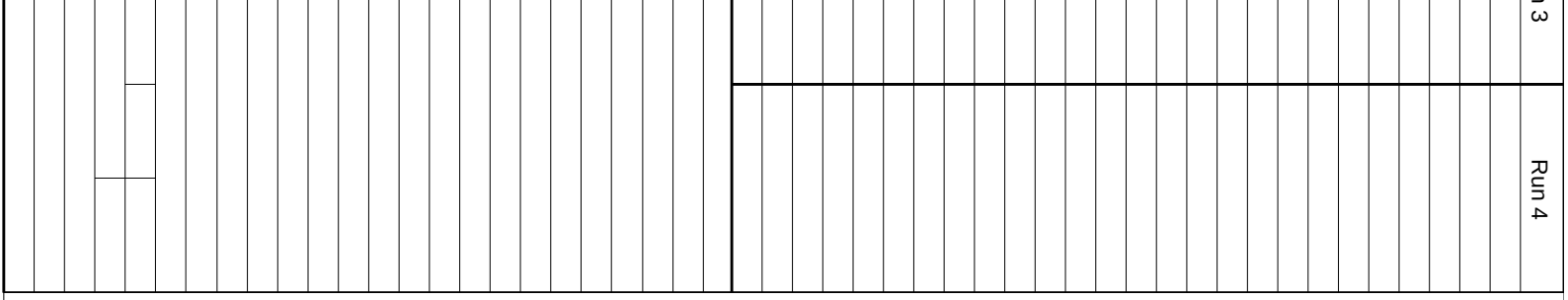
Permanent Datum: GROUND LEVEL Elev.: 8290.00 ft
Log Measured From: KELLY BUSHING 30.00 ft above Perm. Datum
Drilling Measured From: KELLY BUSHING

API Serial No.	Section	Township	Range
05−045−20914−0(	36	4S	96W

Logging Date		11−Apr−2013						
Run Number		1						
Depth Driller		11989 ft						
Schlumberger Depth		11934 ft						
Bottom Log Interval		11925 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		9817 ft						
To		11989 ft						
Casing/Tubing Size		4.500 in						
Weight		11.6 lbm/ft						
Grade								
From		30 ft						
To		11969 ft						
Maximum Recorded Temperatures		286 degF						
Logger On Bottom	Time	11−Apr−2013	17:15					
Unit Number	Location	391	GRAND JUNCTION					
Recorded By		KIRSTIE BUNTING						
Witnessed By		JOHN MILLER						

		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: NONE	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	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	
MAXIMUM RECORDED TEMPERATURE = 286 DEGF	
MAXIMUM RECORDED PRESSURE = 5016 PSIA	
SHORT JOINTS = 7458 FT & 10461 FT	

ENTRANCE TIME = 16:30	
LOGGER ON BOTTOM = 17:15	
EXIT TIME = 20:15	
MAIN PASS LOGGED WITH ZERO SURFACE PRESSURE	
EXPECTED CBL AMPLITUDE IN FREE PIPE 80MV	
CYCLE SKIPPING DUE TO GOOD BOND	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	
YOUR CREW, K. BUNTING, W. AZIZ, K. JOHNS	

RUN 1		RUN 2	
SERVICE ORDER #:	CGF9−00040	SERVICE ORDER #:	
PROGRAM VERSION:	19C0−187	PROGRAM VERSION:	
FLUID LEVEL:	70 ft	FLUID LEVEL:	

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

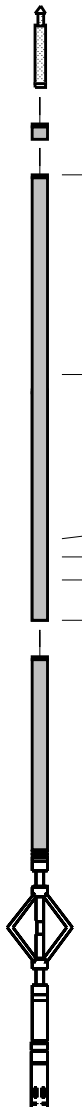
EQUIPMENT DESCRIPTION

RUN 1 RUN 2

SURFACE EQUIPMENT

WITM−A
PSC_16MHZ

DOWNHOLE EQUIPMENT

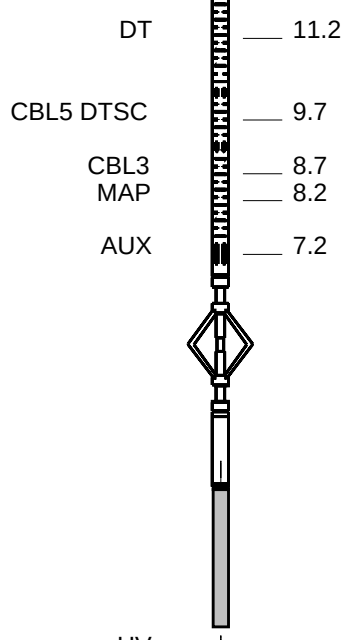


MH−22
MH−22

AH−38

PSPT
PSC−A
PSPT−B 928
PSTC−A
PBMS−B
CQG_F_Mano
RTD_Thermometer
GR
CCL
PBMS

SCMT−CB
SCMC−CA 8120
SECH−CA
CMIR−AG
SCMS−CB 8317
SCMX−CA



AH−BNS

0.2

MAXIMUM STRING DIAMETER 1.69 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: SG 8504D−36 (D36 496)**

Input DLIS Files

DEFAULT	SCMT_PSP_035LUP	FN:34	PRODUCER	11−Apr−2013 17:07	11941.5 FT	25.7 FT

Output DLIS Files

DEFAULT	SCMT_PSP_039PUP	FN:38	PRODUCER	11−Apr−2013 20:16	11945.5 FT	1.0 FT

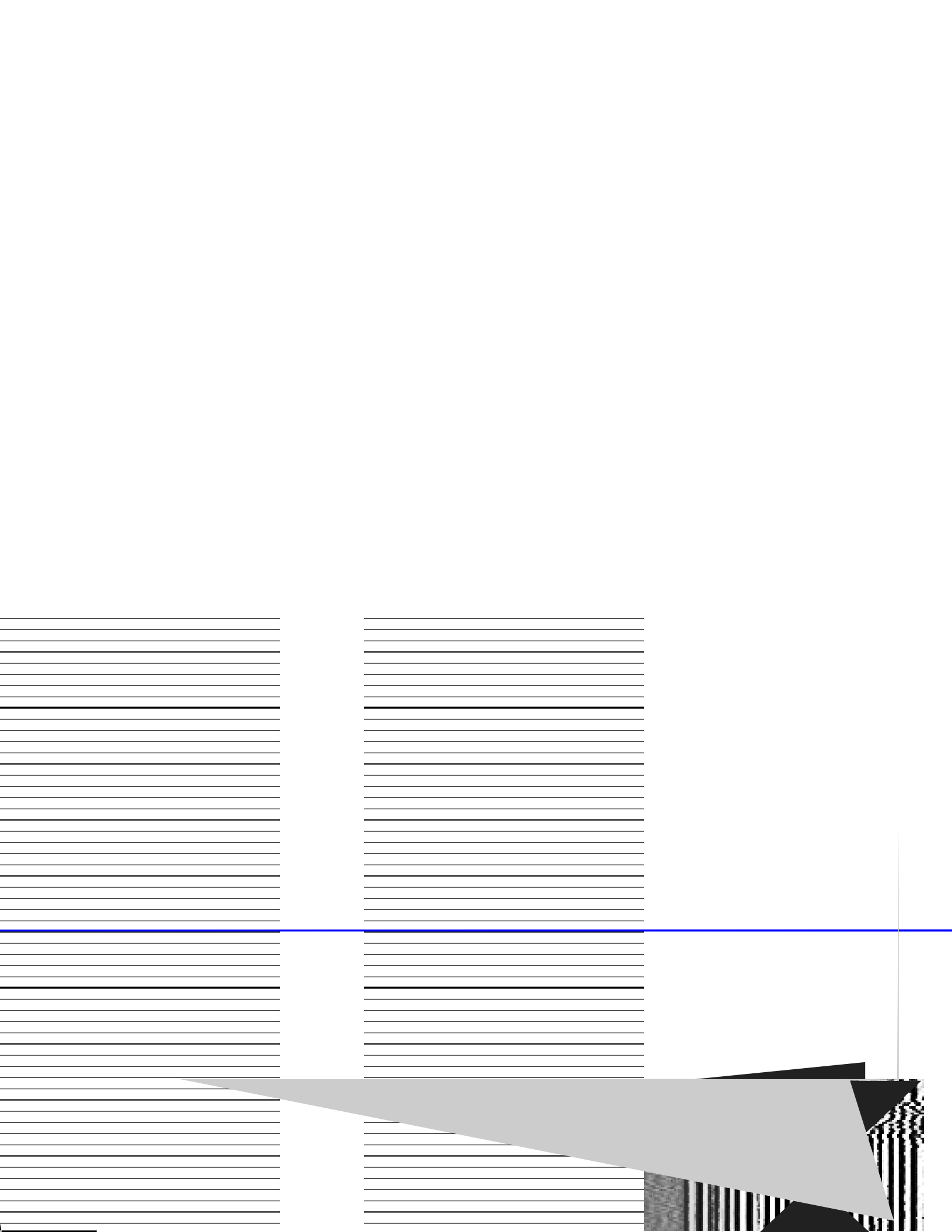
OP System Version: 19C0−187

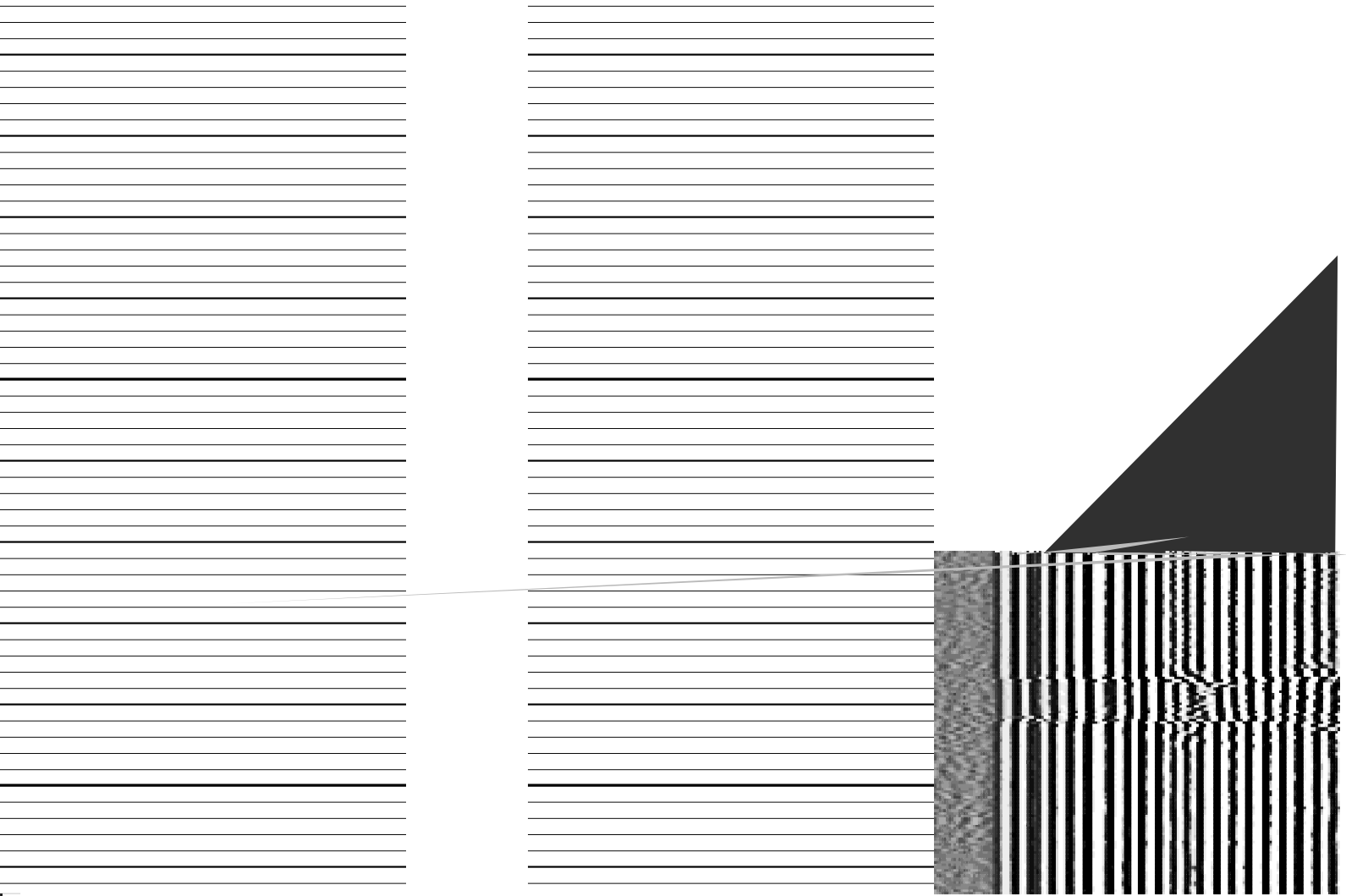
SCMT−CB	SRPC−5214−H2−2012−OP1	PSPT	SRPC−5214−H2−2012−OP1

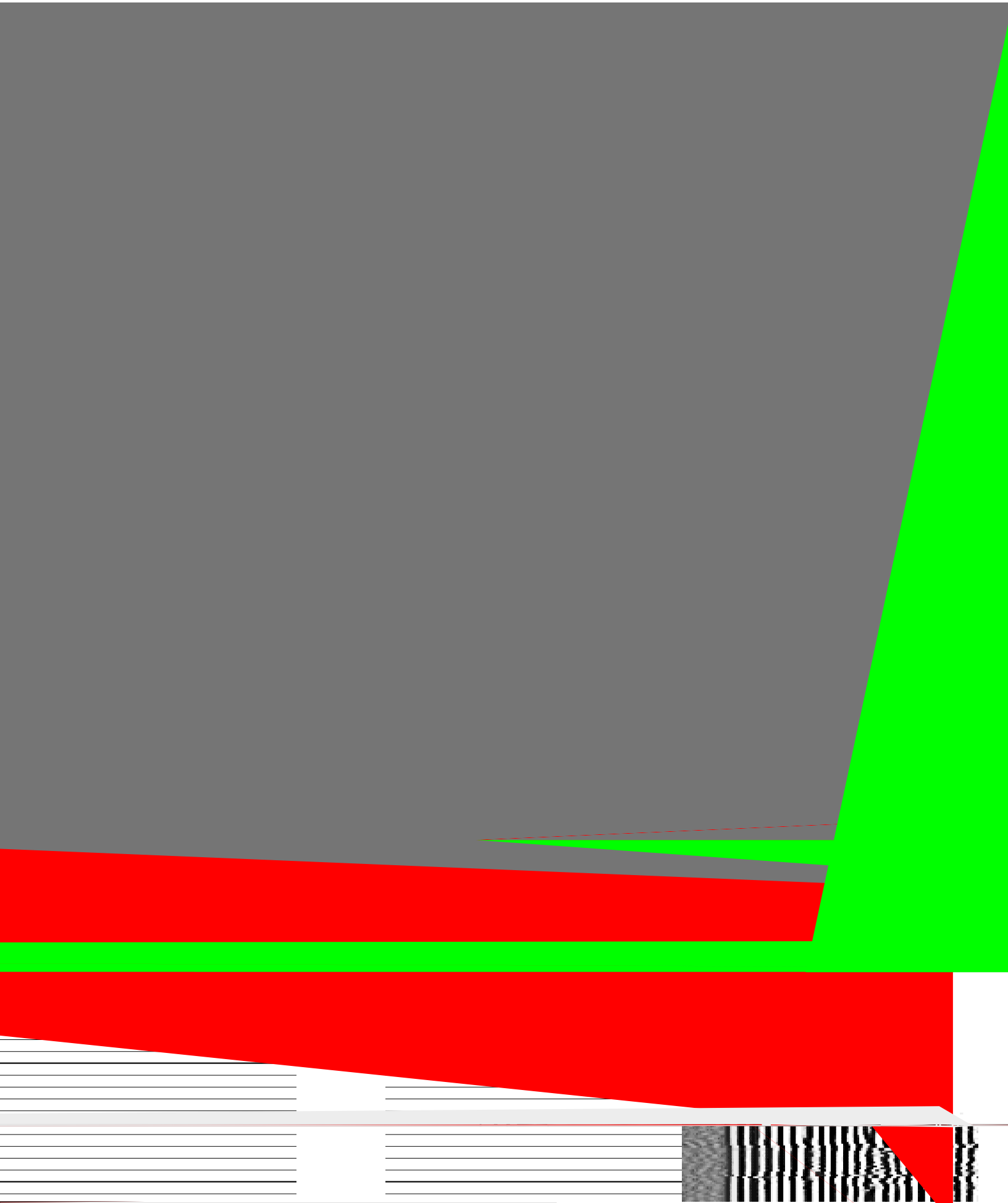
PIP SUMMARY

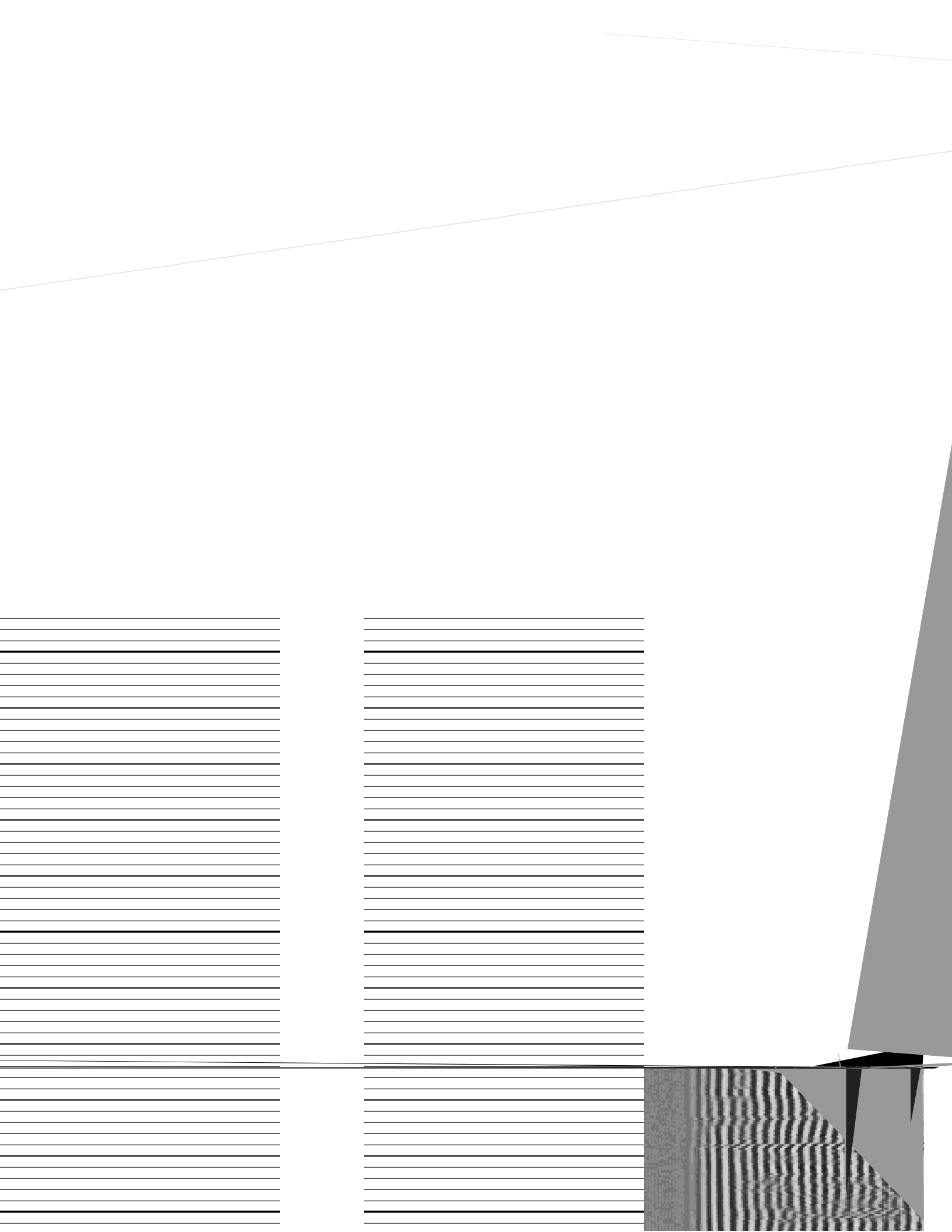
Time Mark Every 60 S

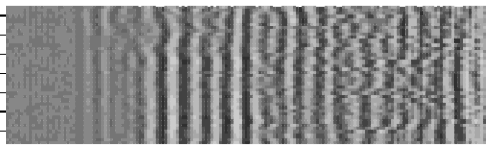
Transit Time (TT) 260 (US) 160	Discriminated CCL (CCLD) 3 (V) −1	CBL Amplitude (CBL) 0 (MV) 10	
Gamma Ray (GR) 0 (GAPI) 150	Tension (TENS) (LBF) 0 2000	CBL Amplitude (CBL) 0 (MV) 100	Min Amplitude Max VDL VariableDensity (VDL) 200 (US) 1200

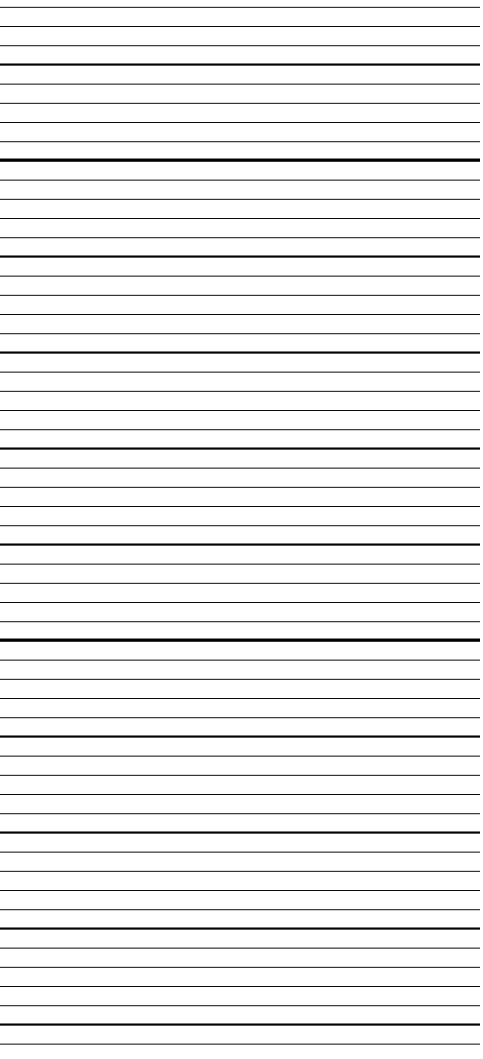
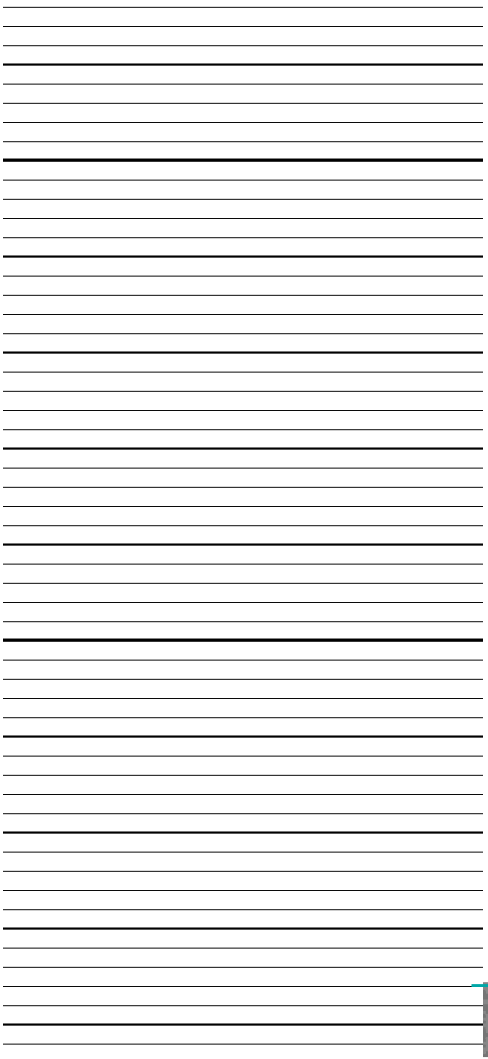
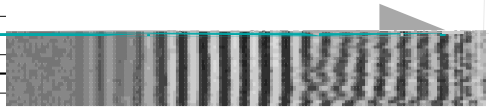


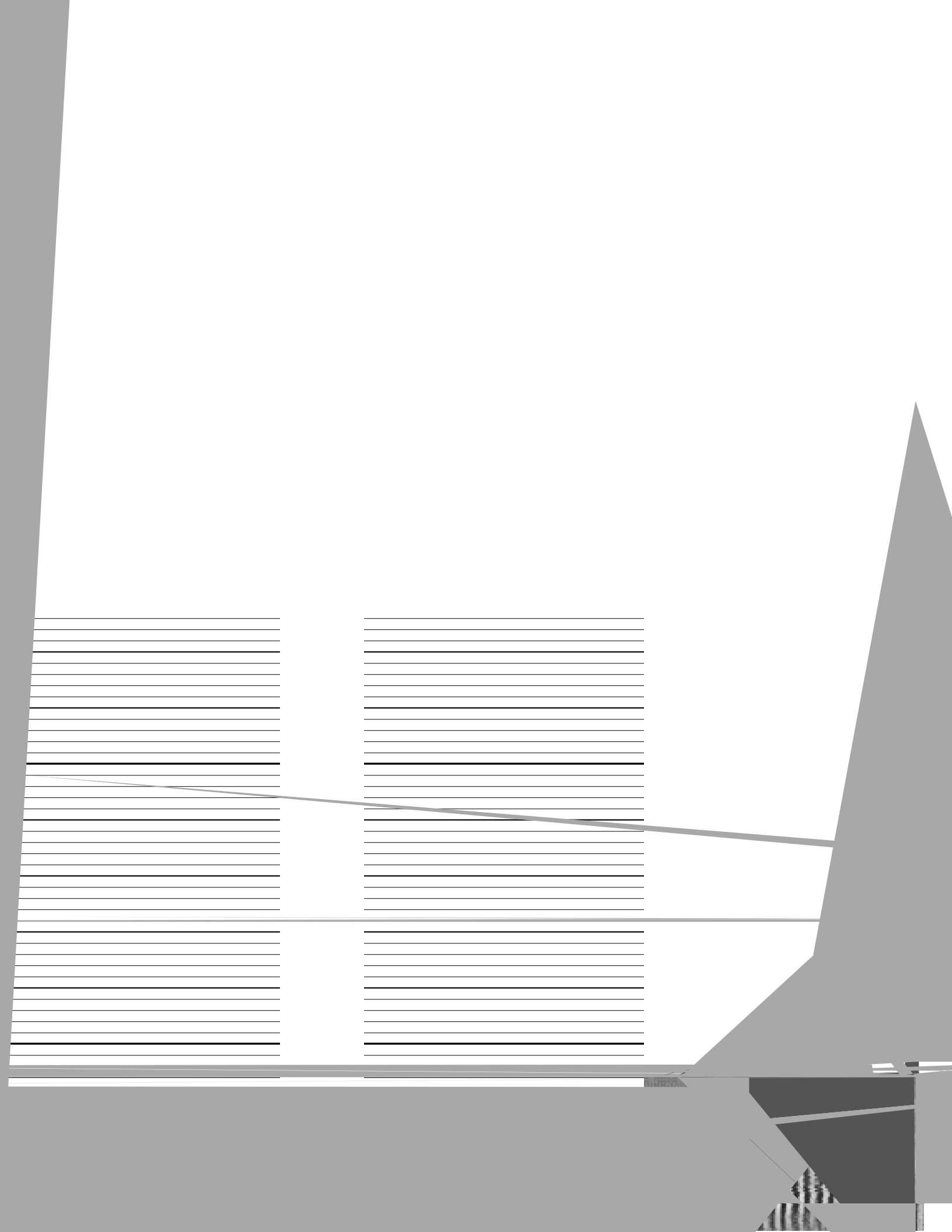


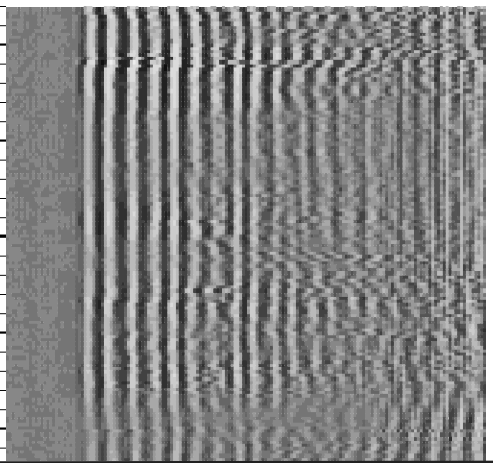


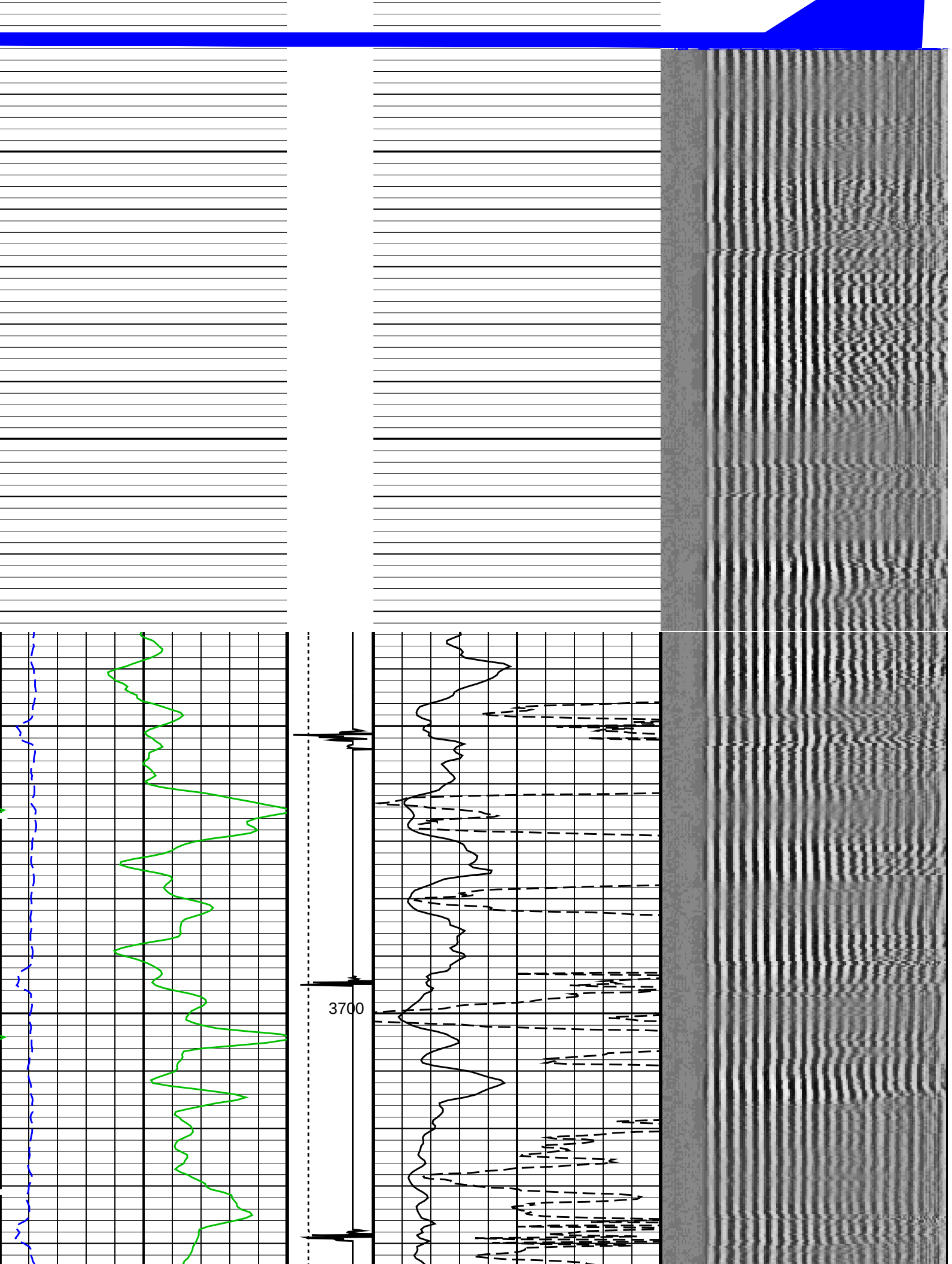






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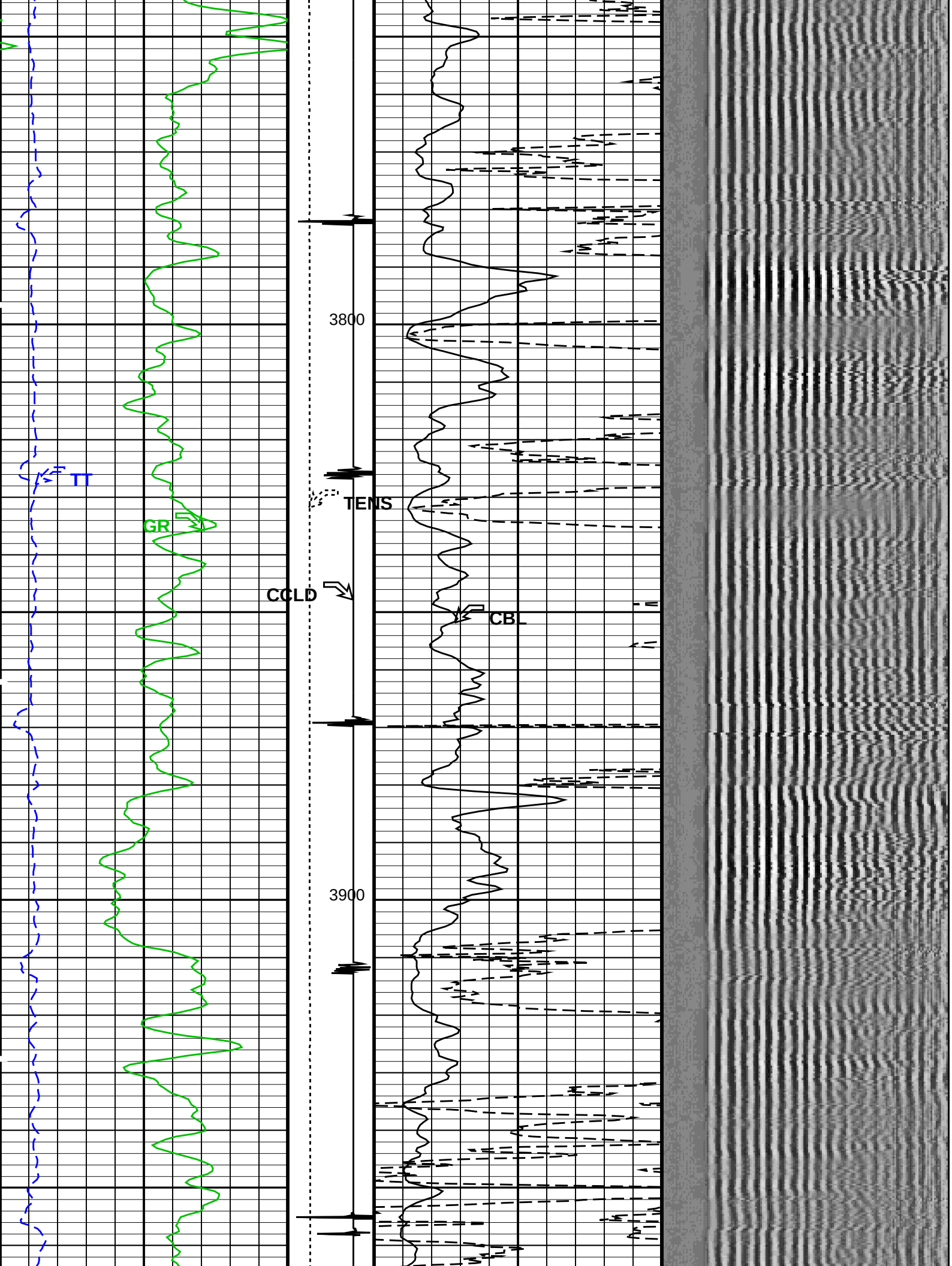
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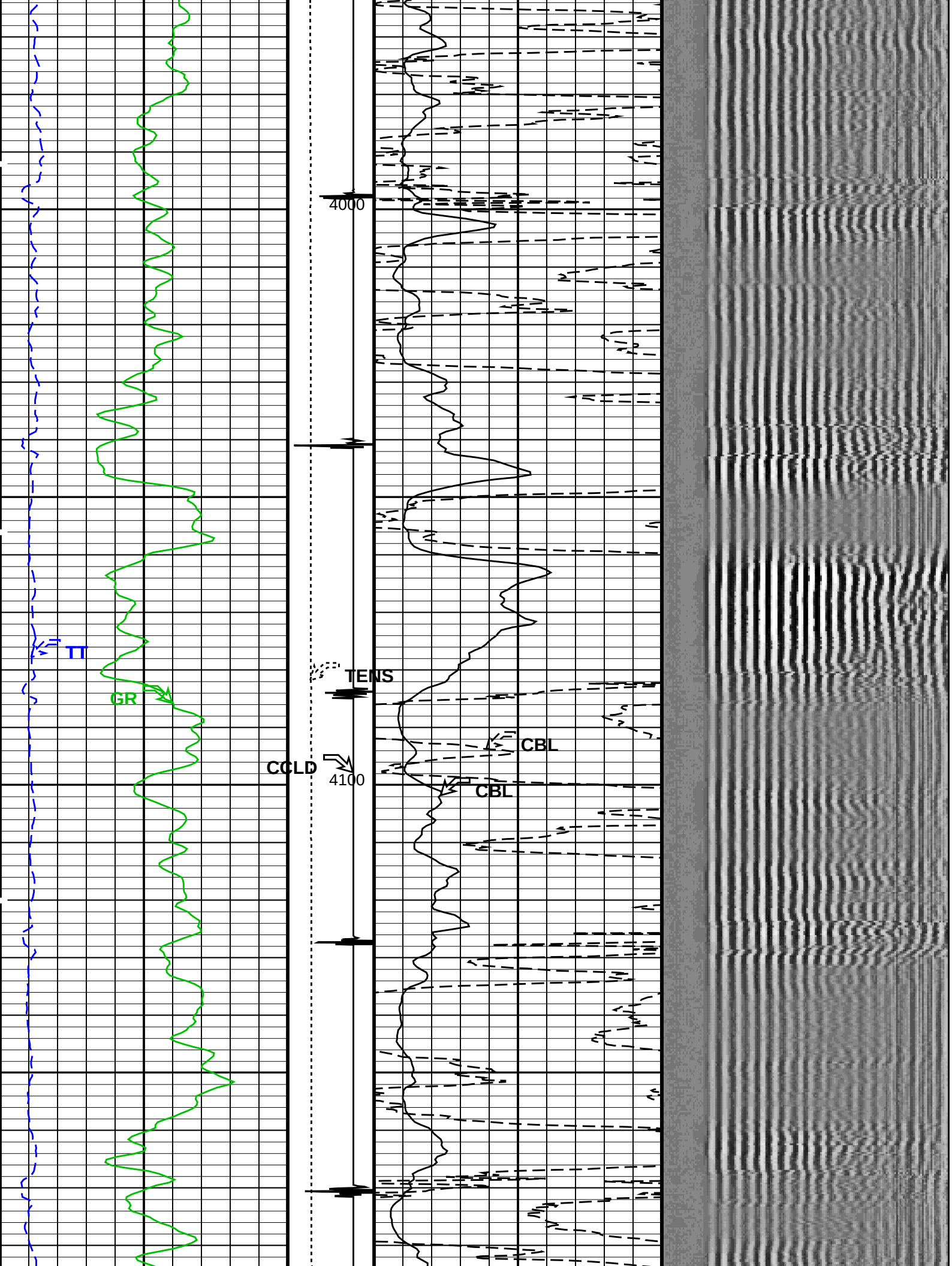
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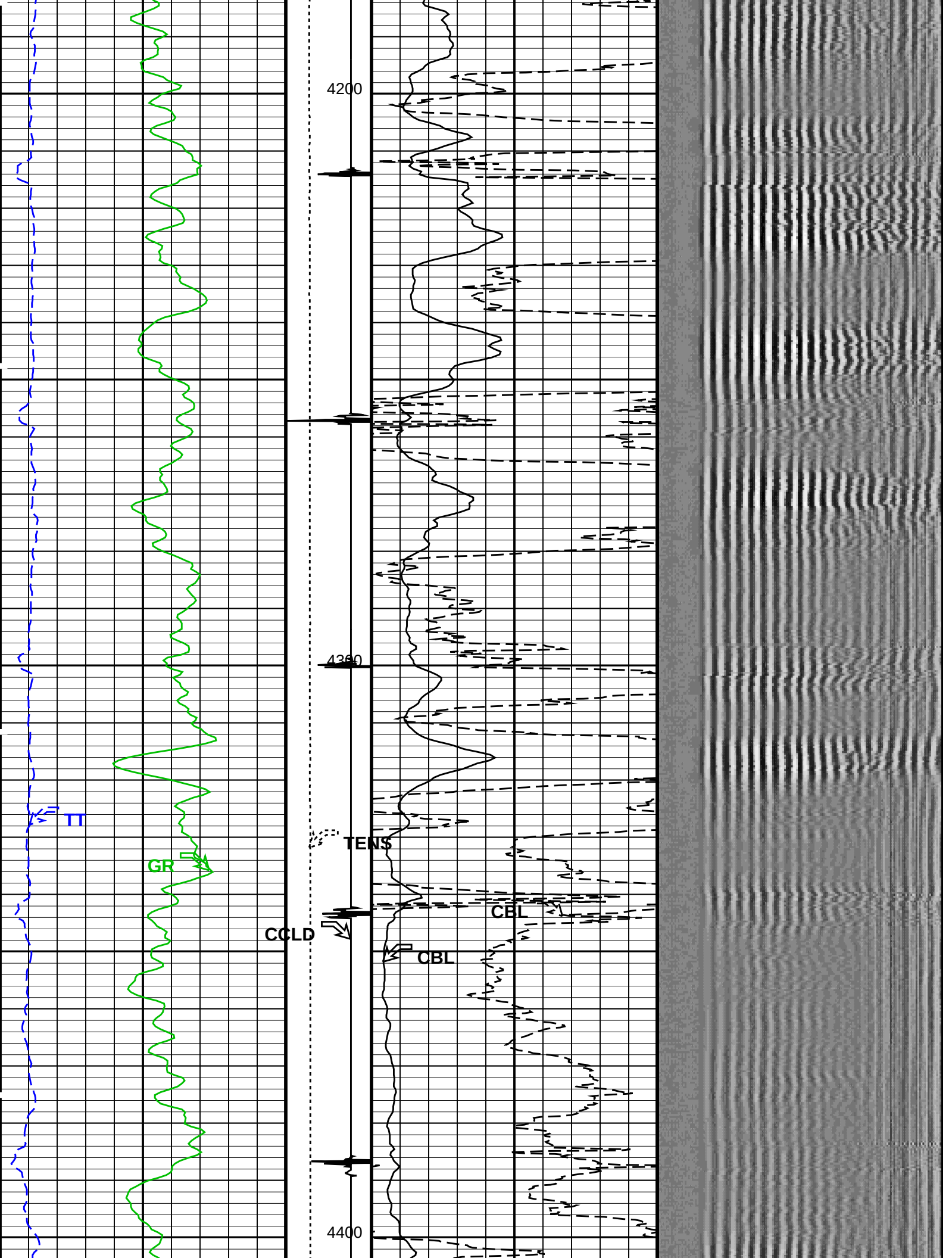
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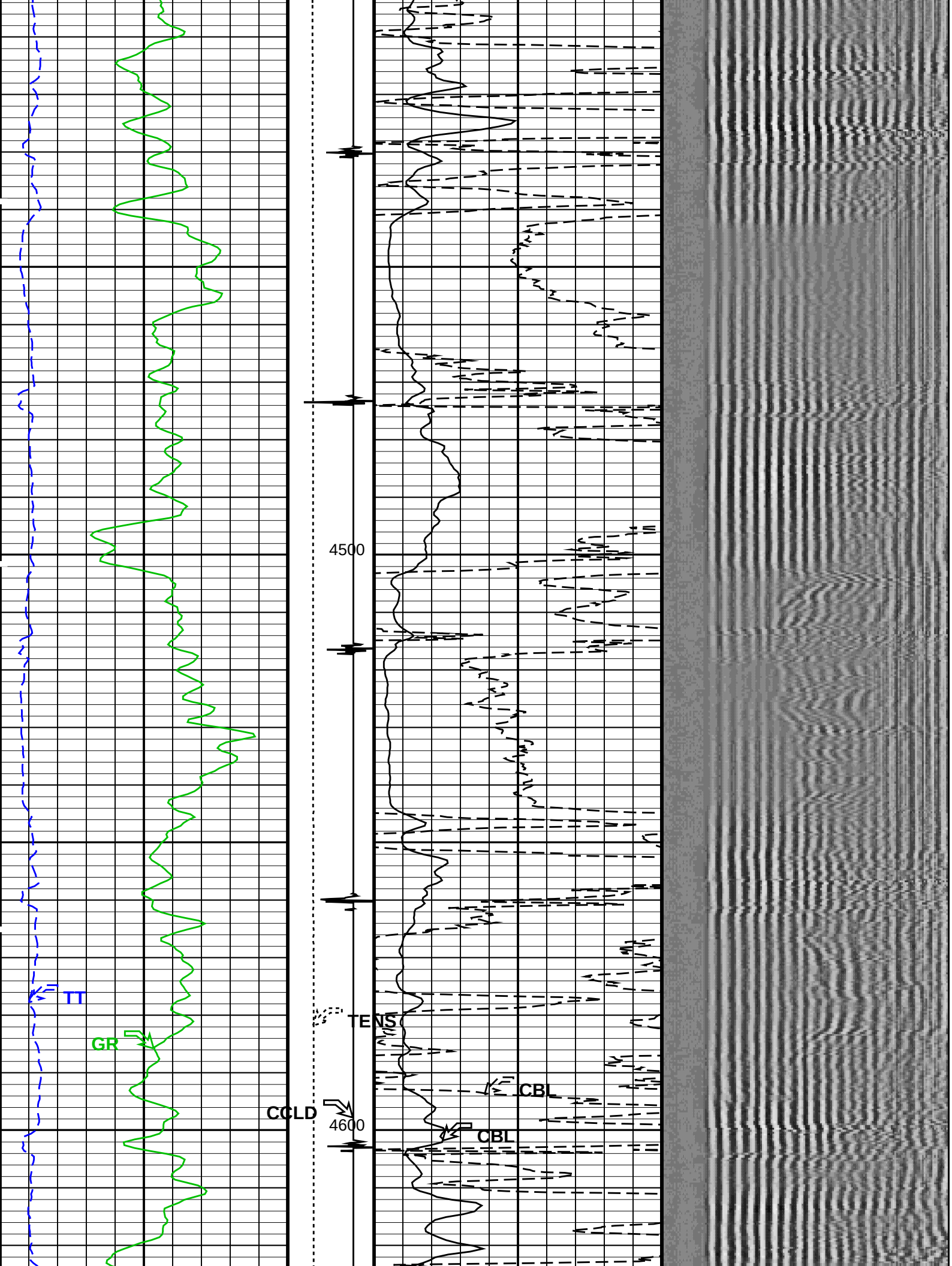
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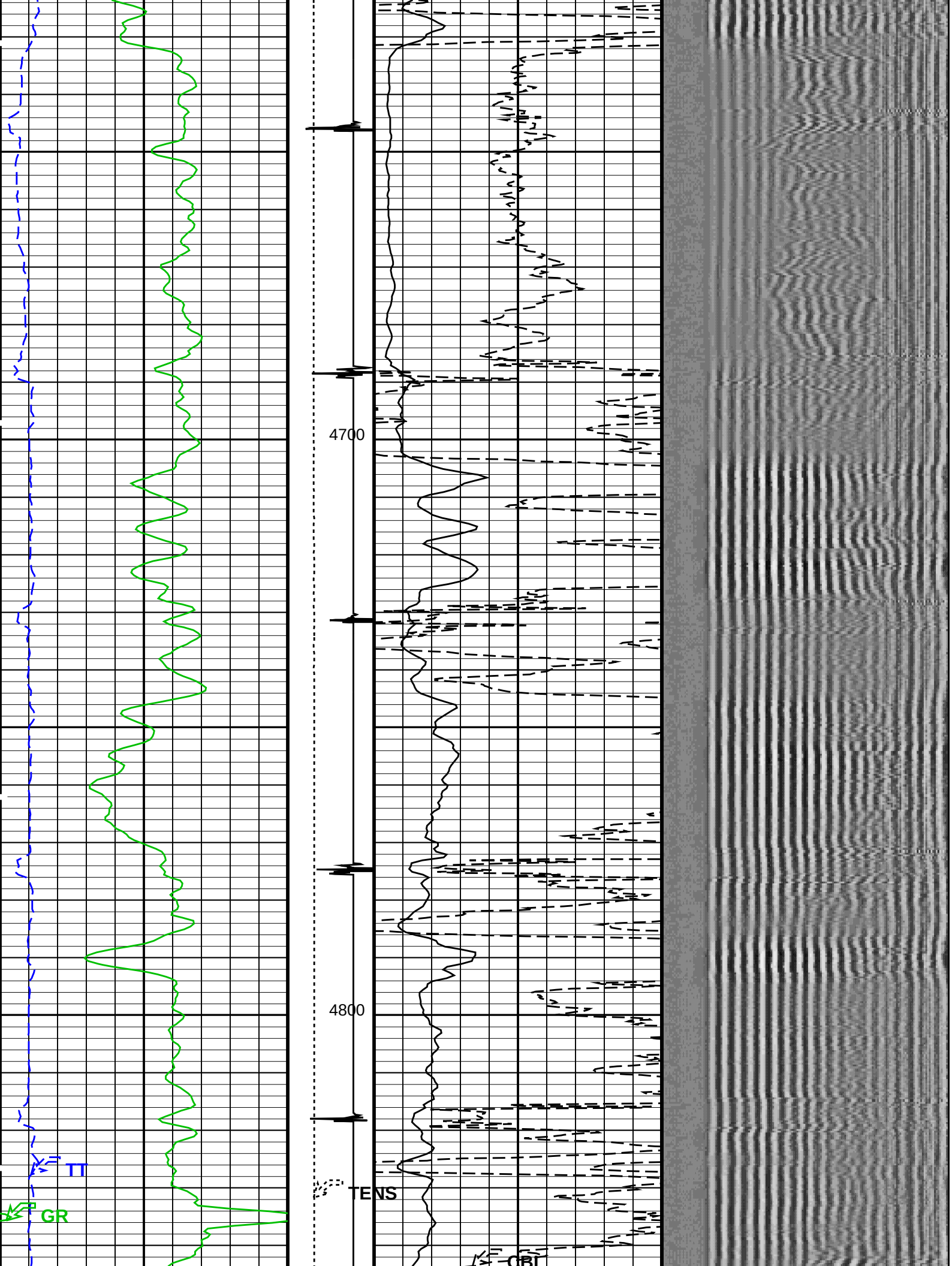
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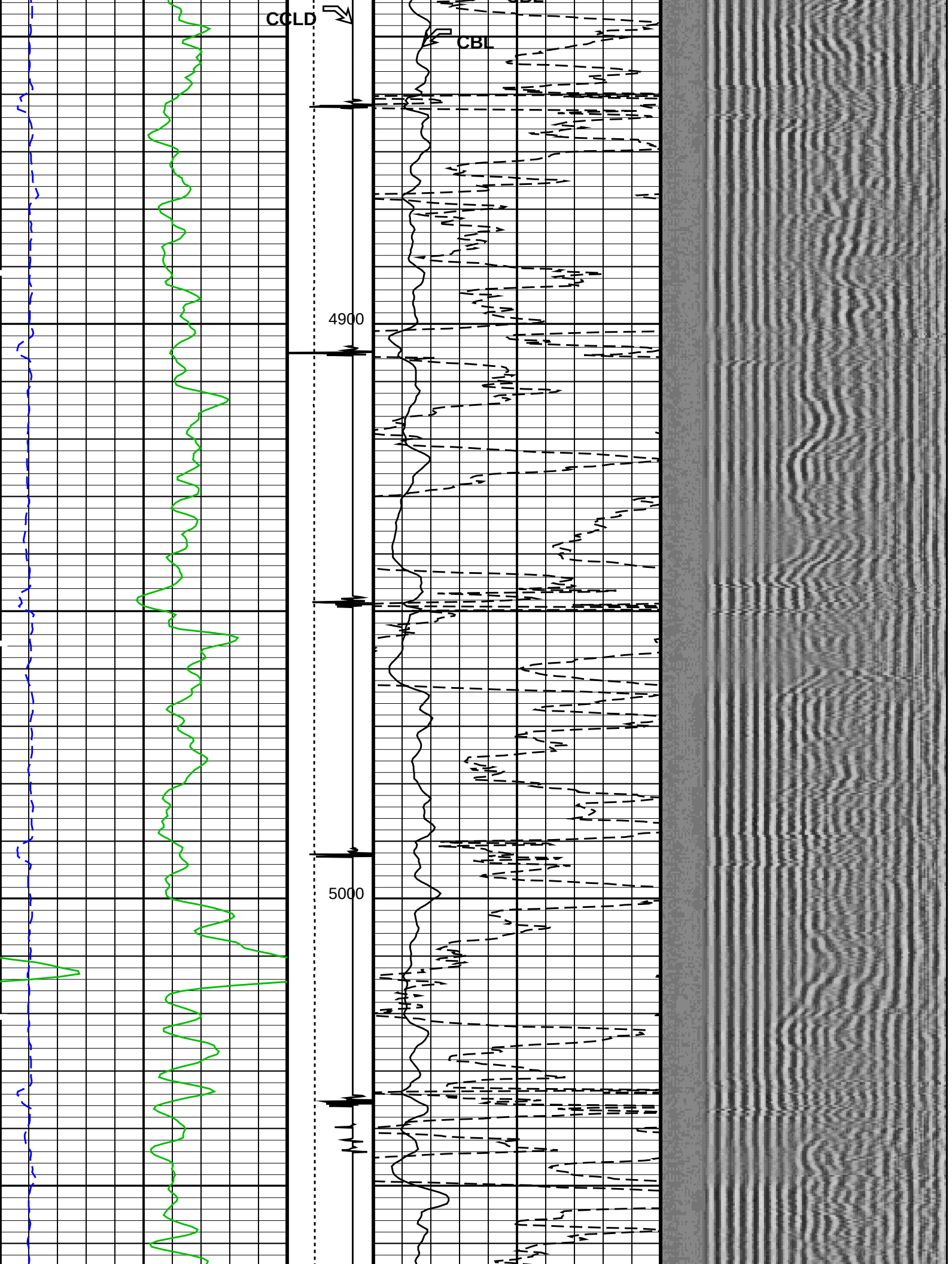
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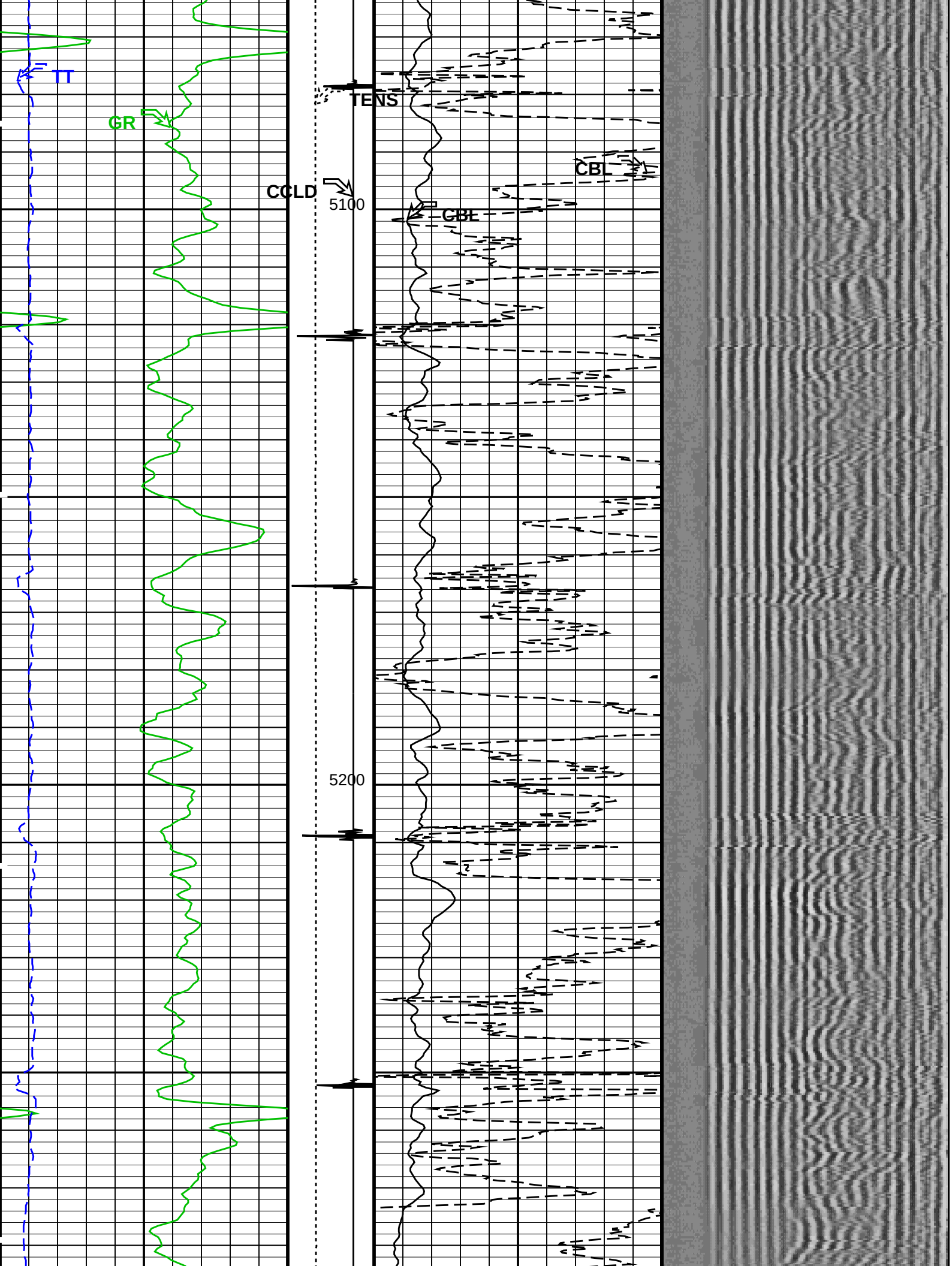
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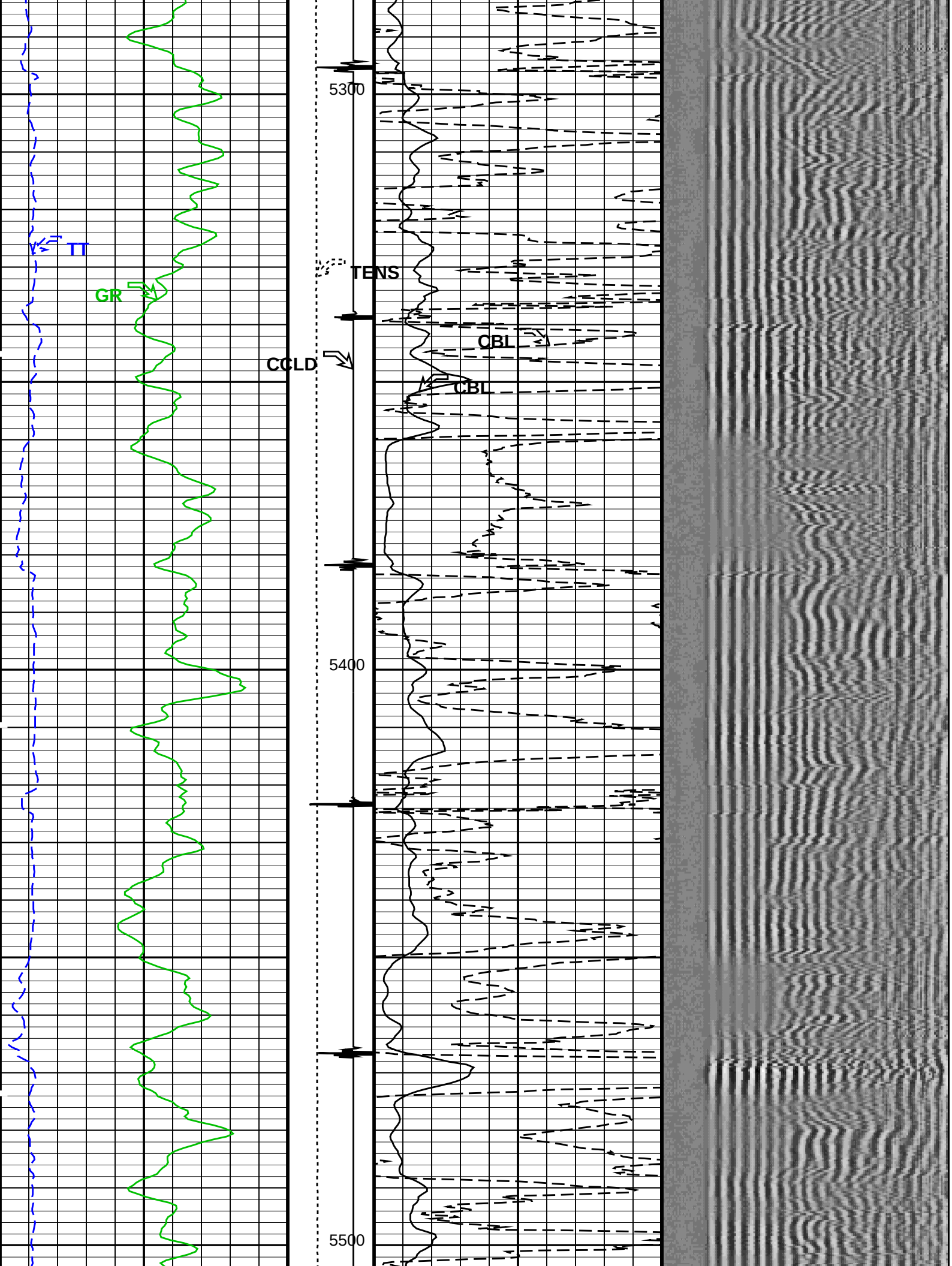
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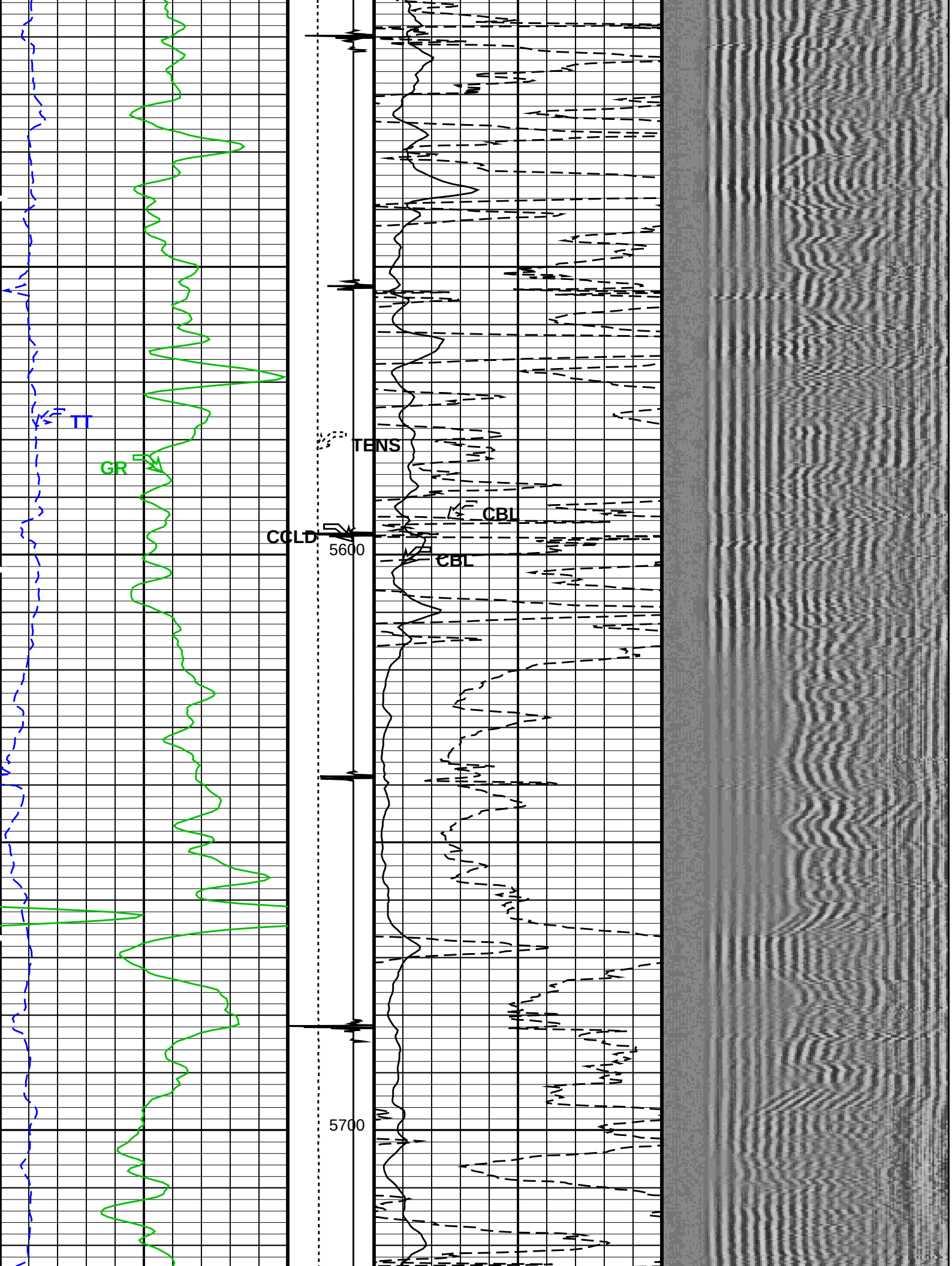
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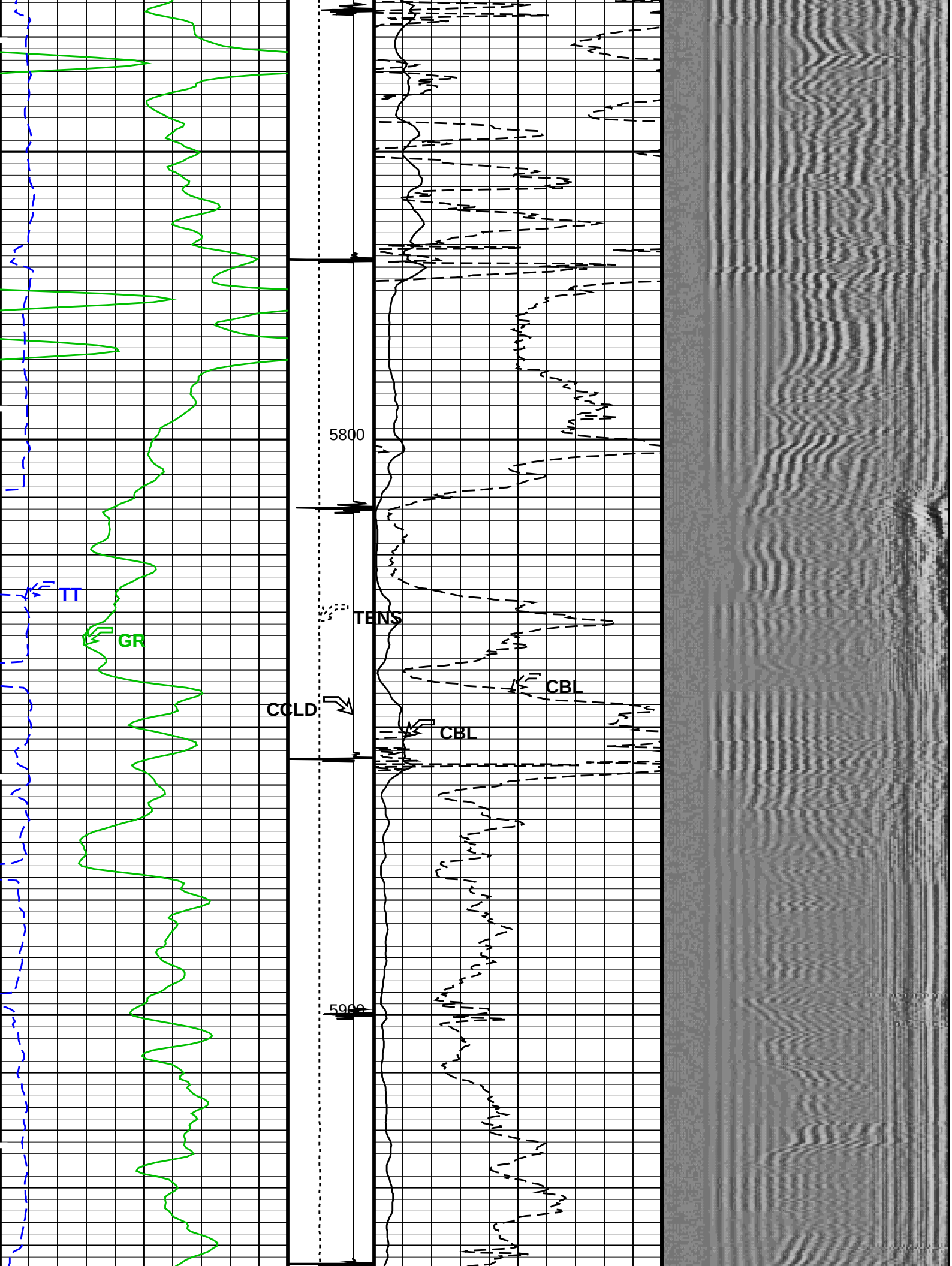
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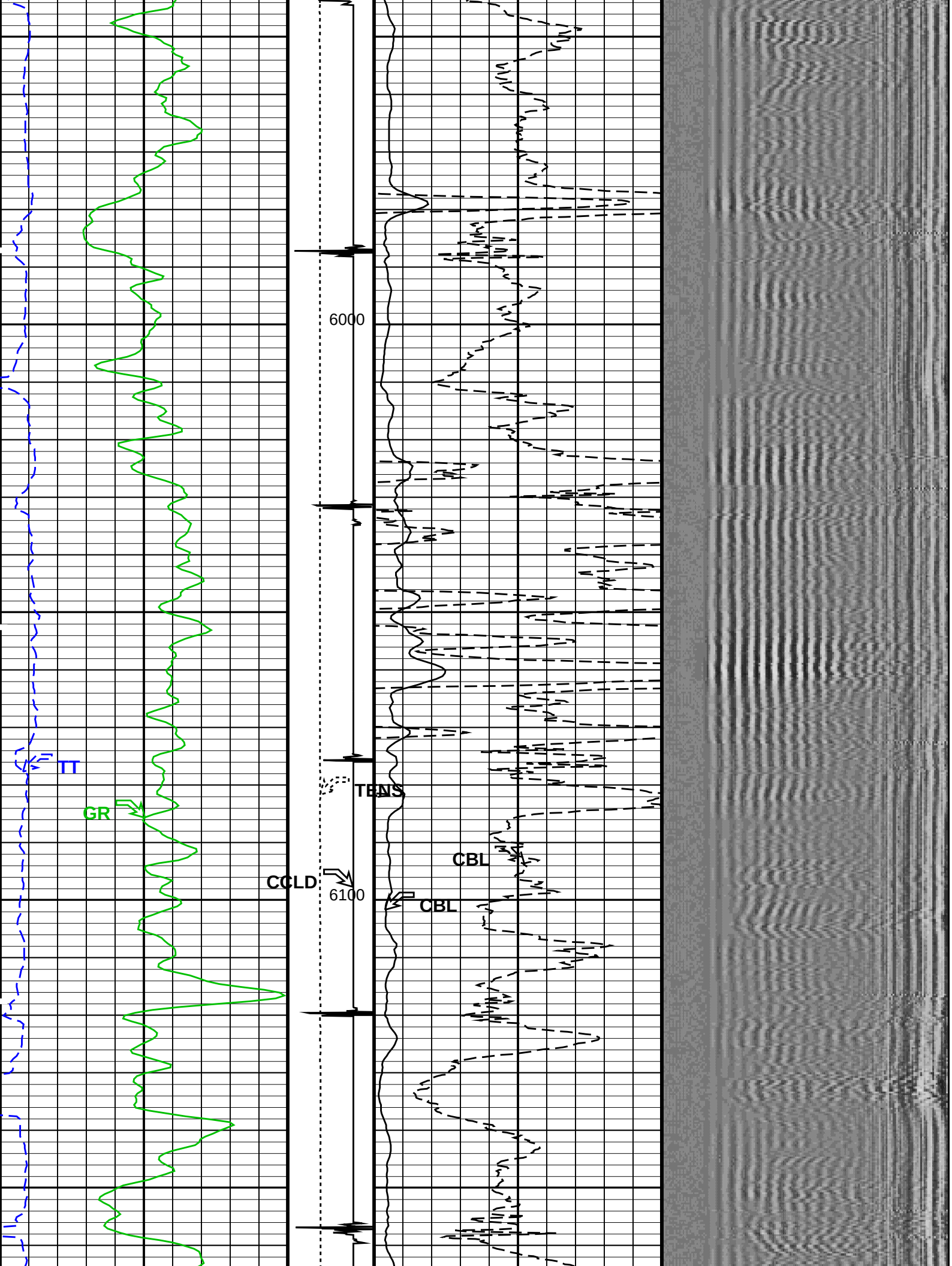
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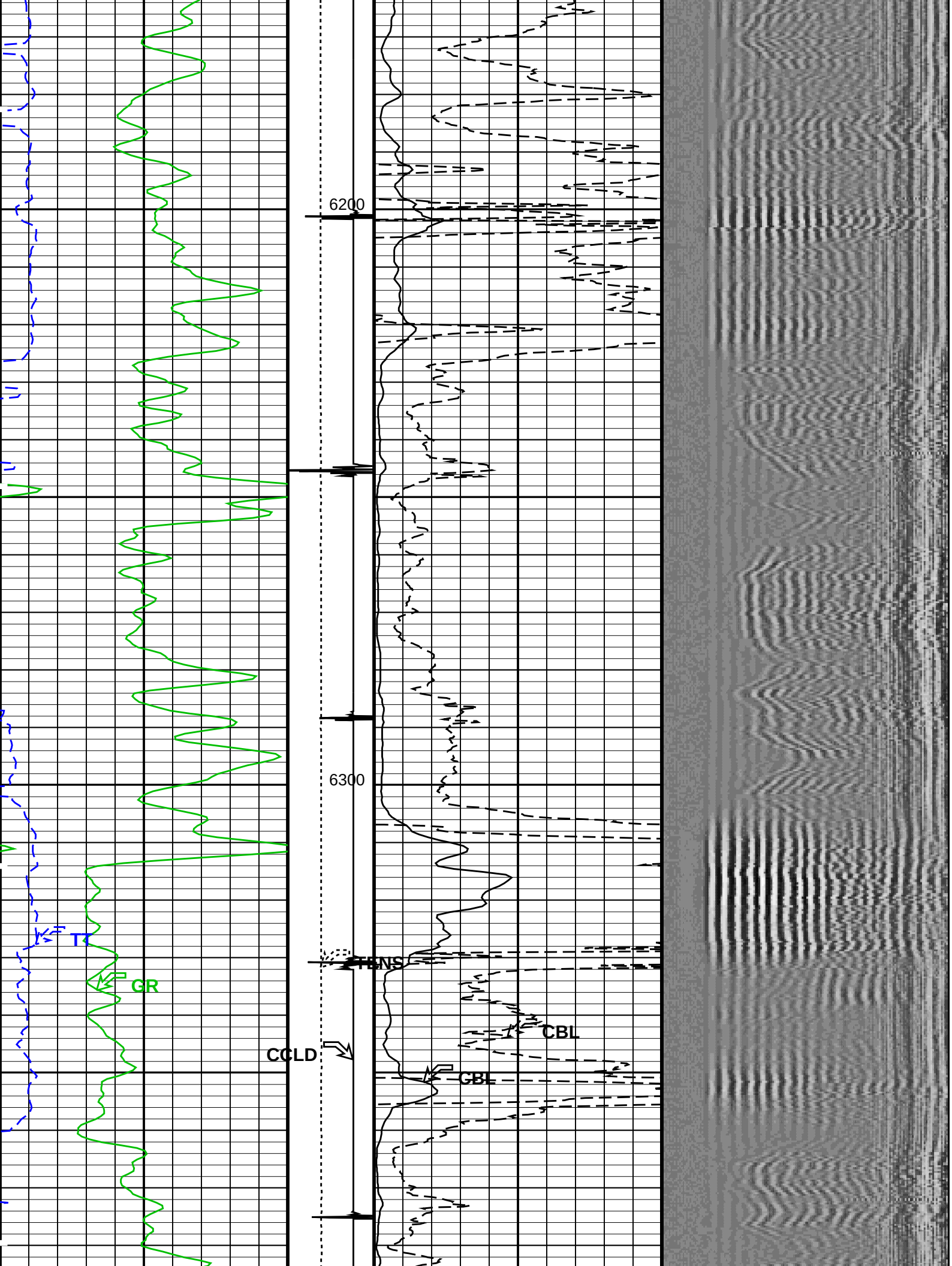
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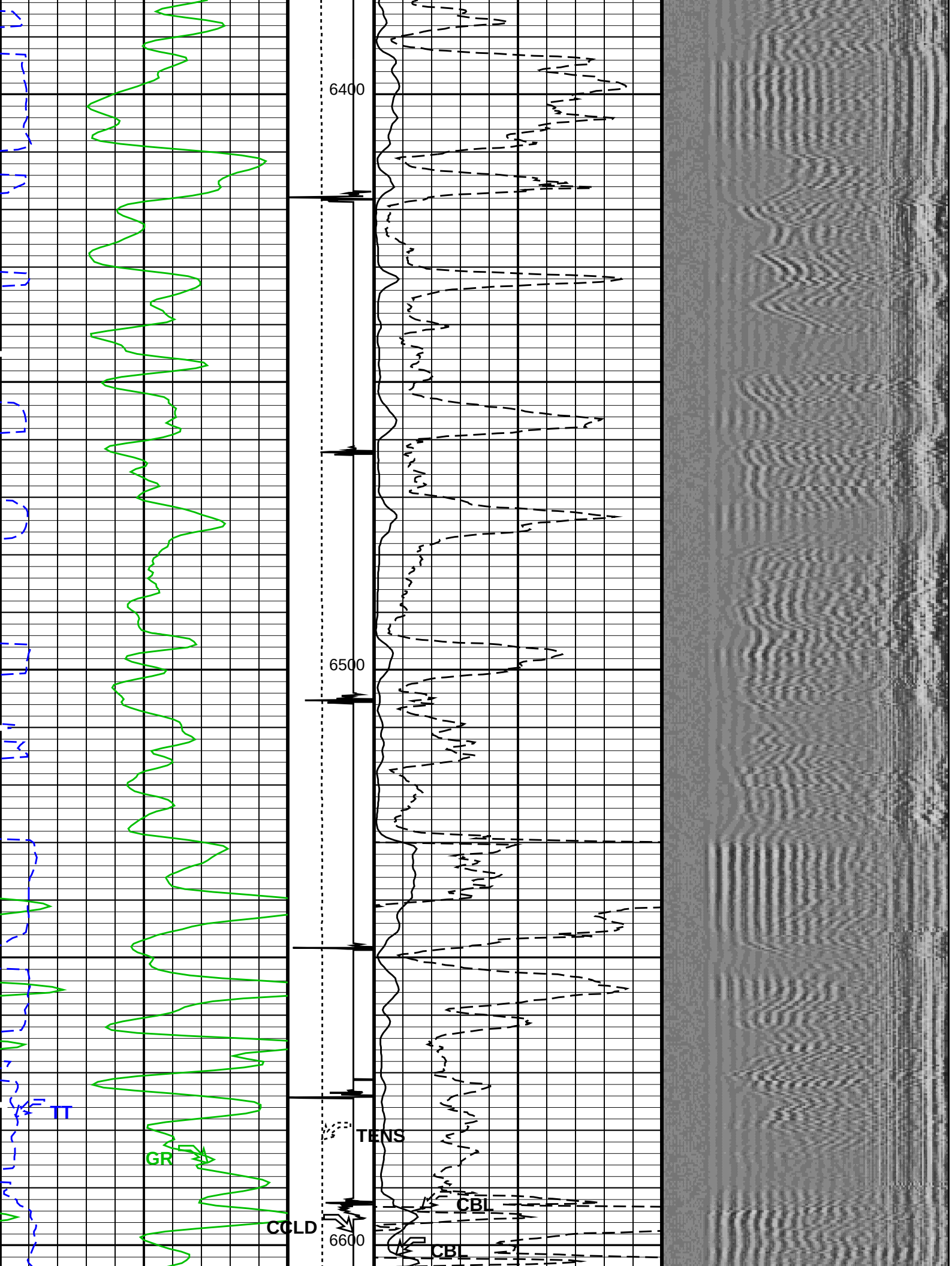
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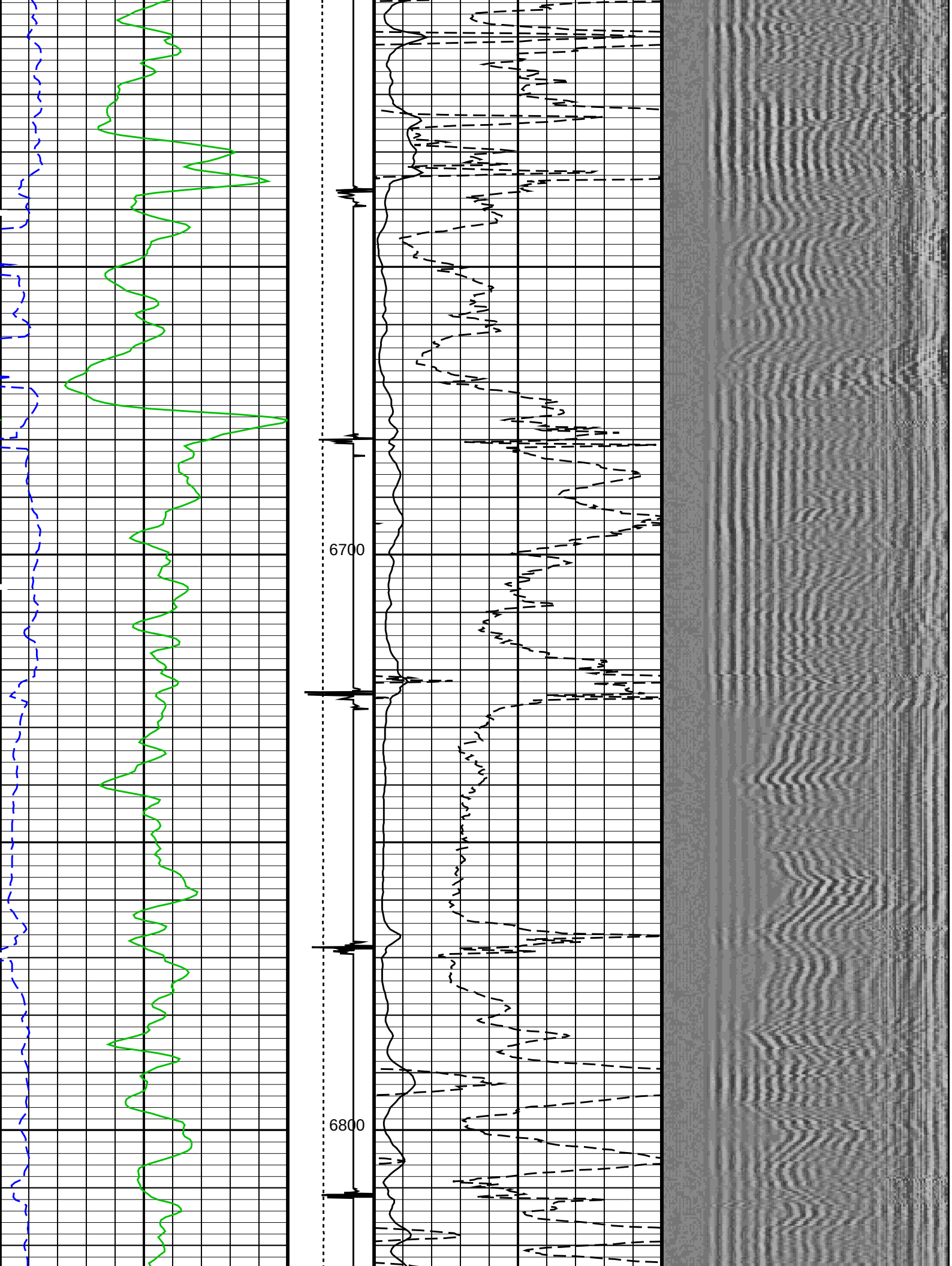
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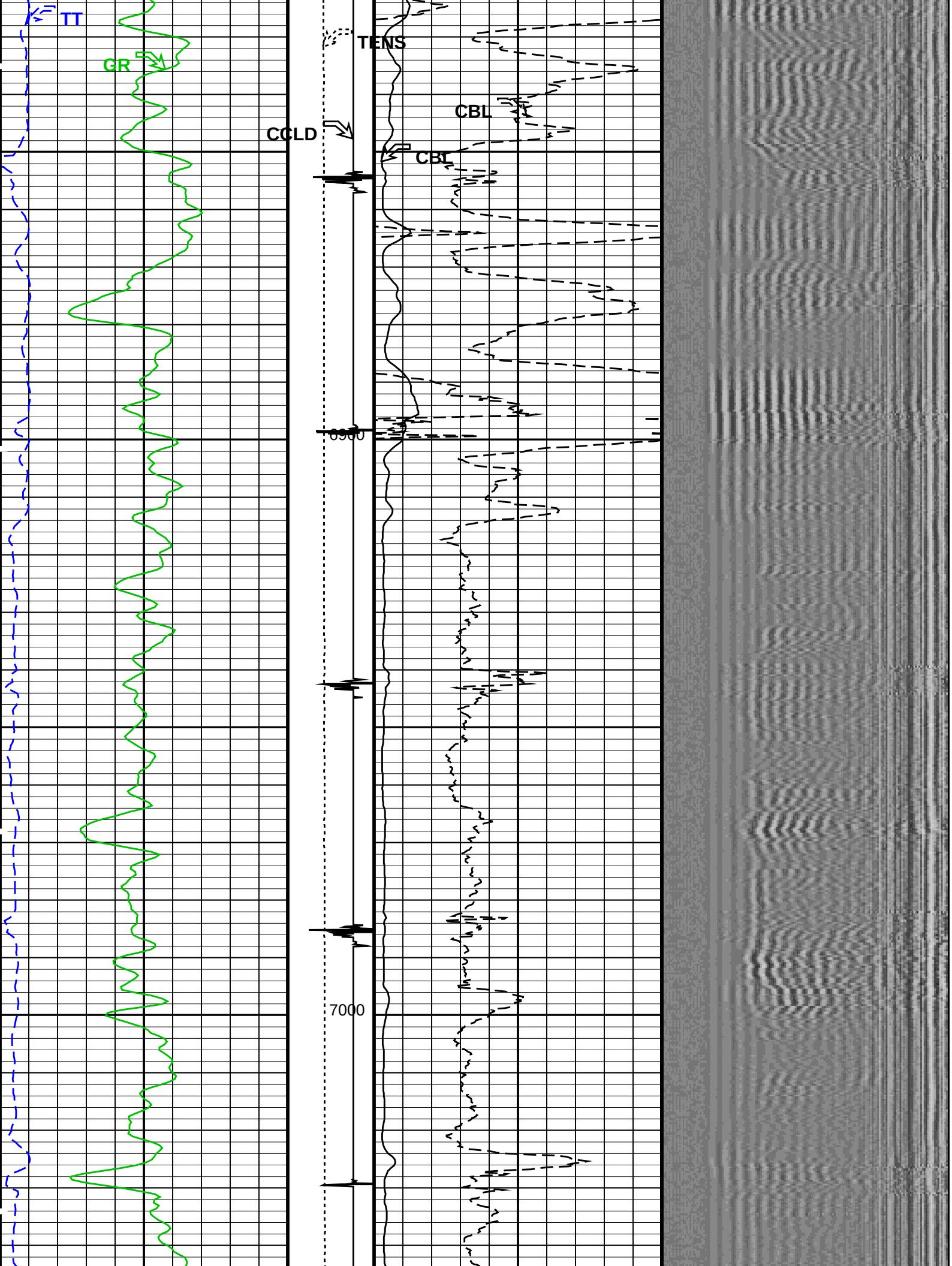
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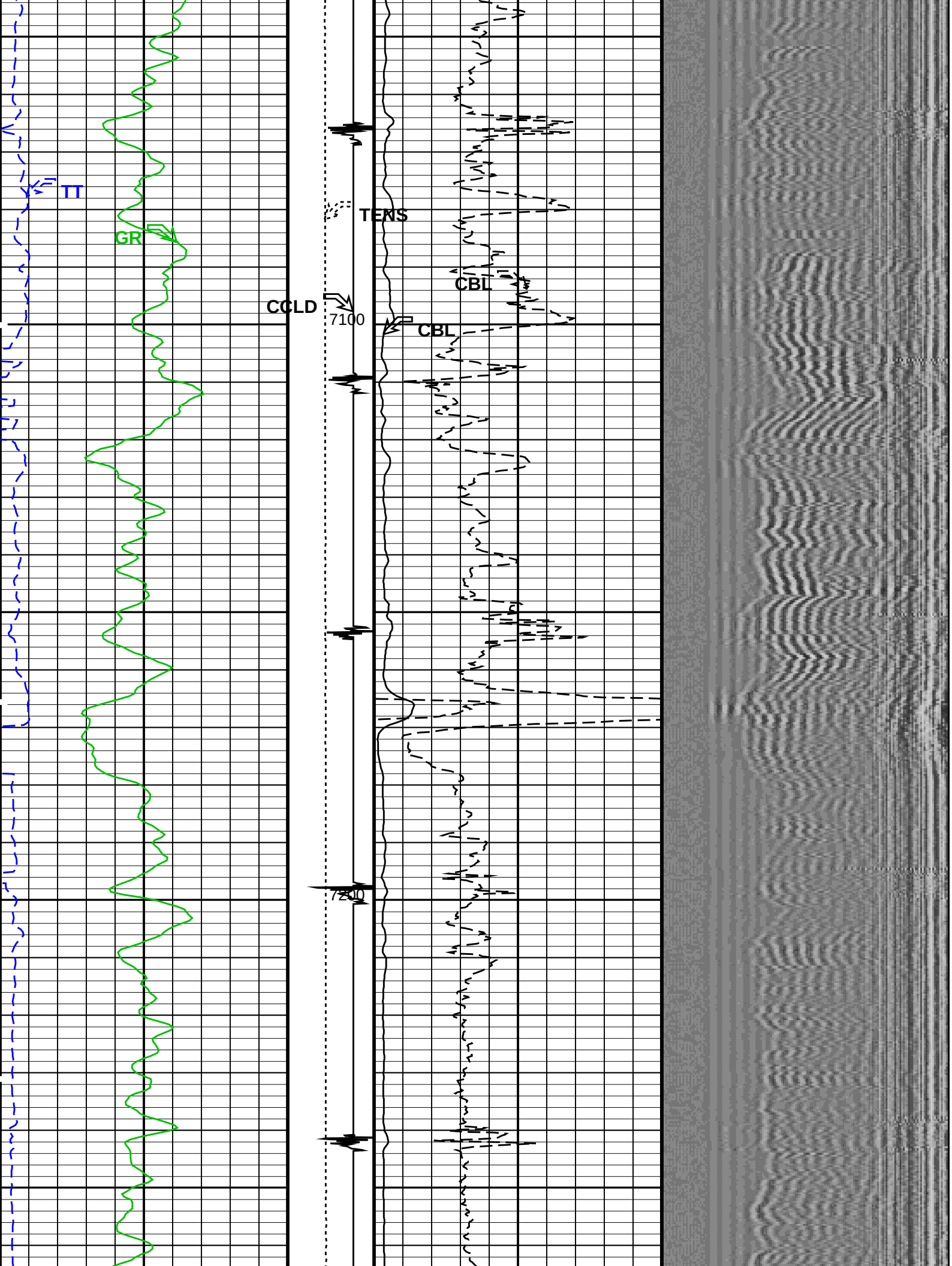
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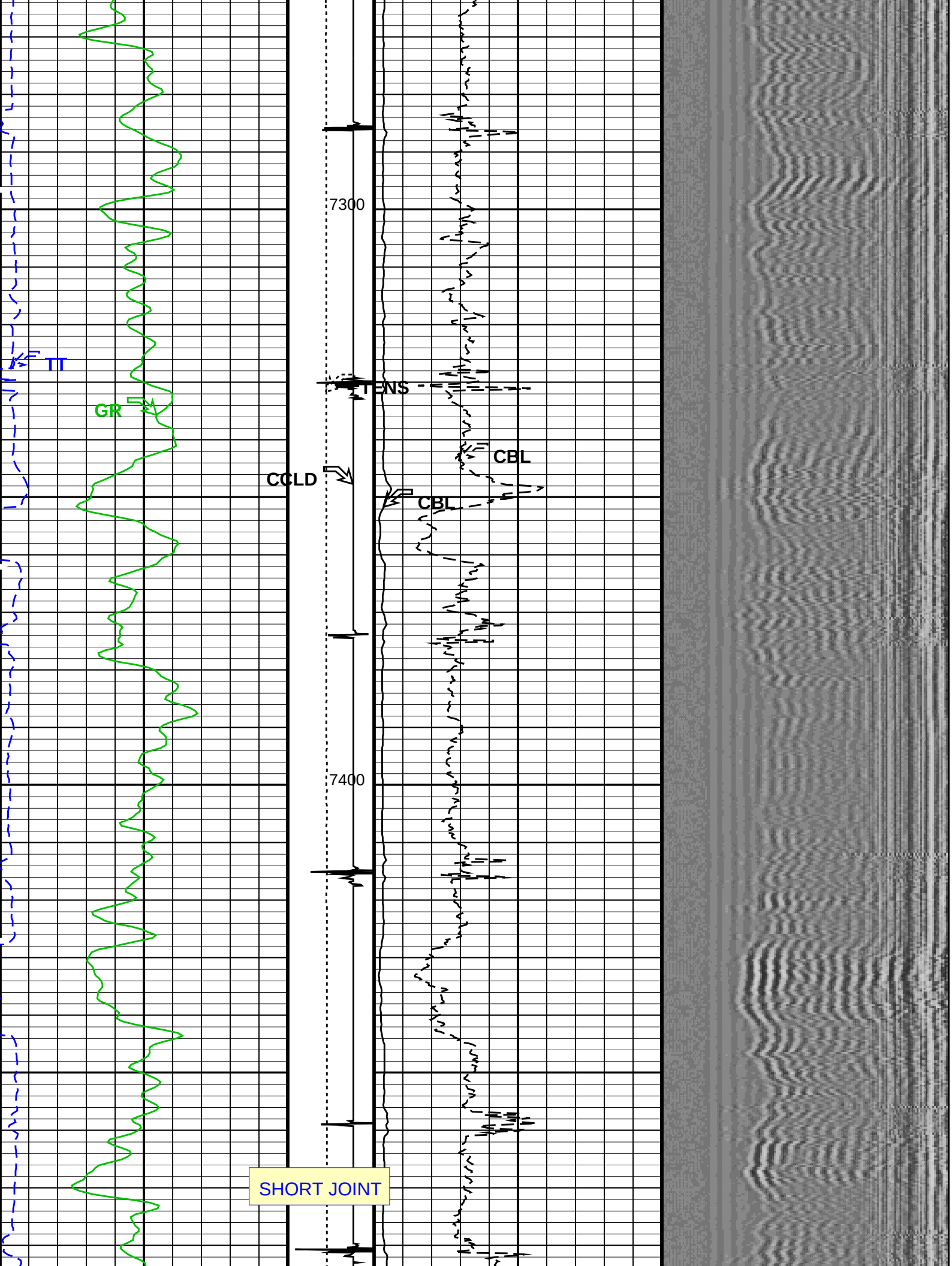
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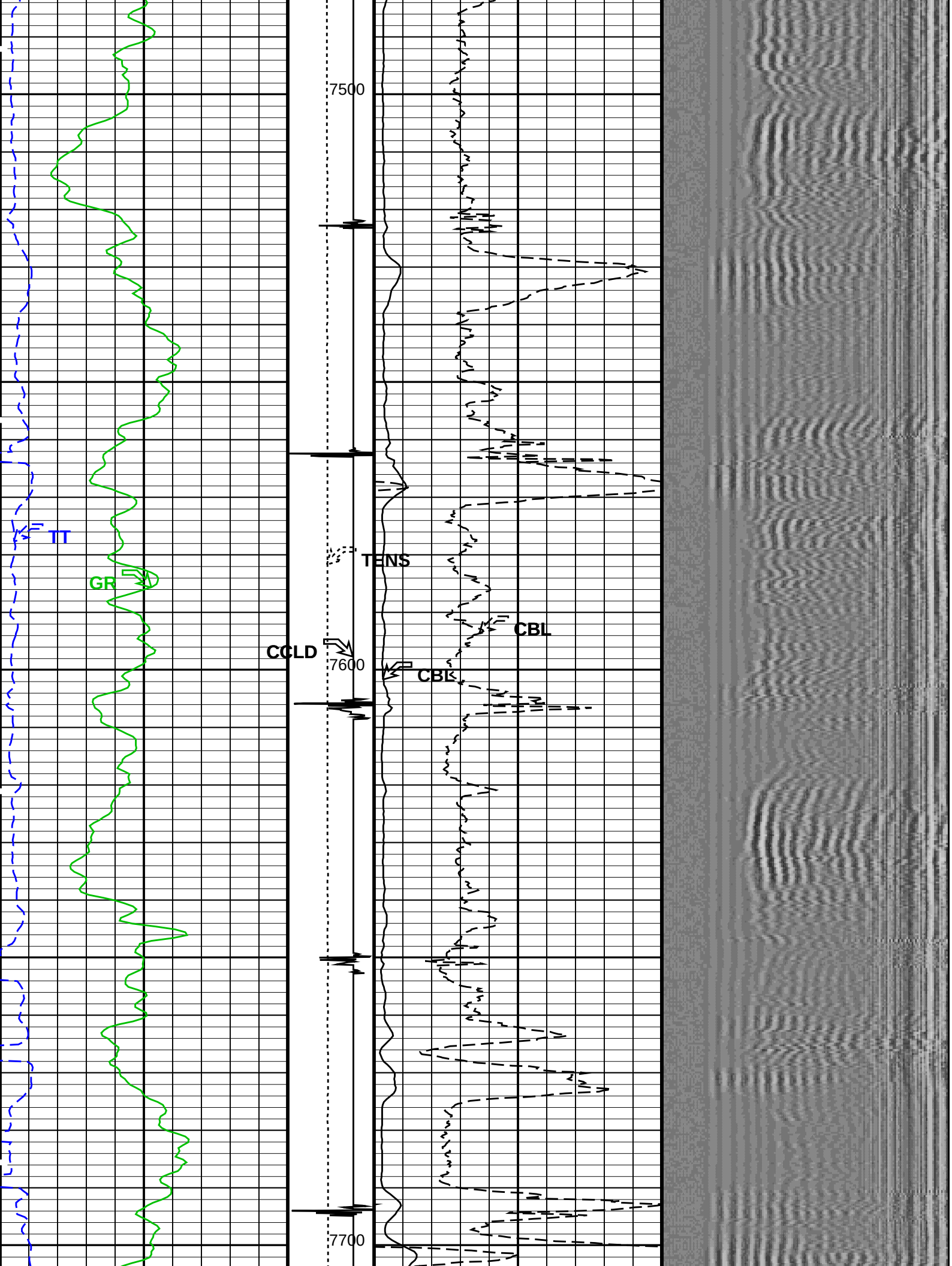
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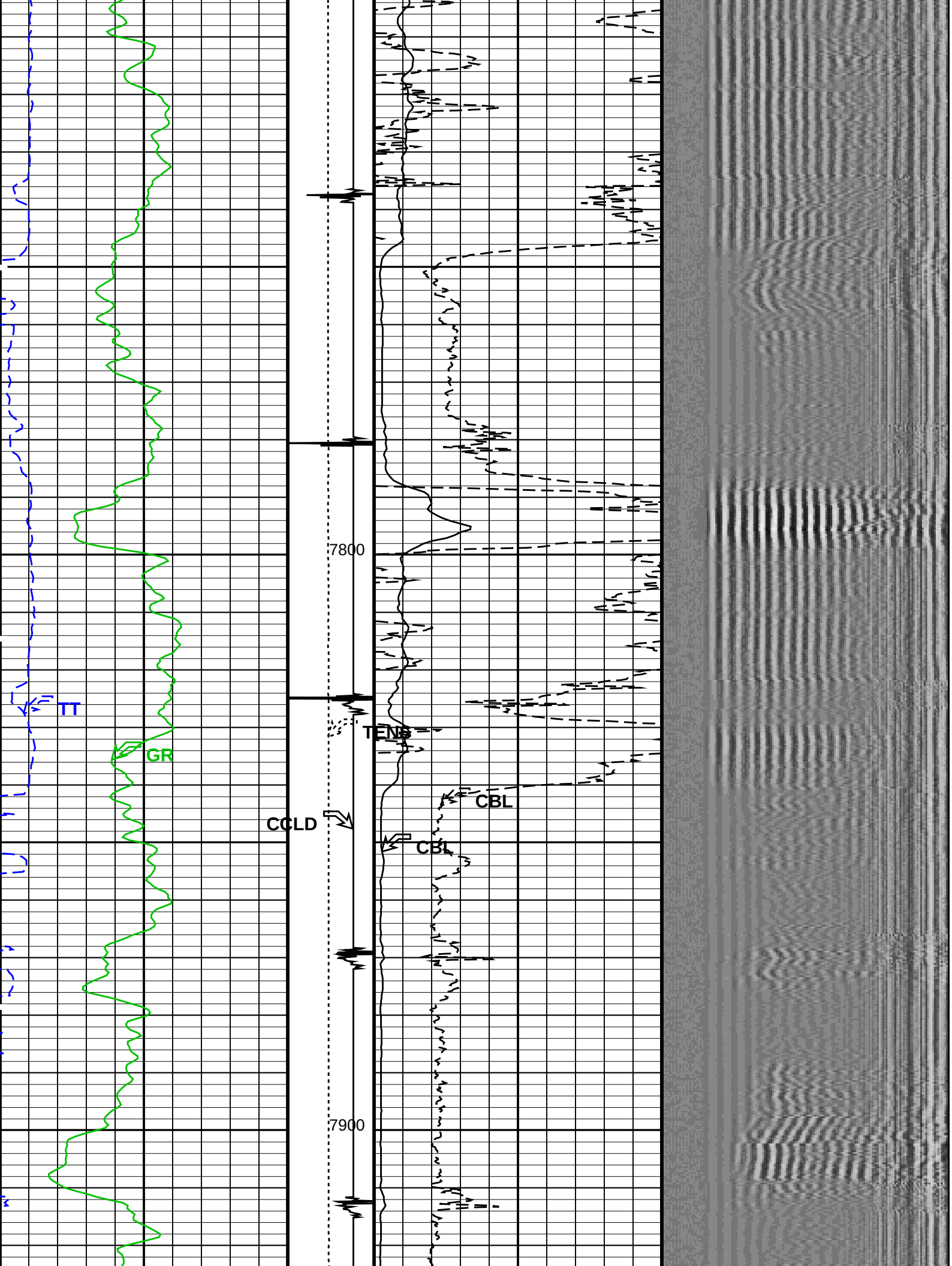
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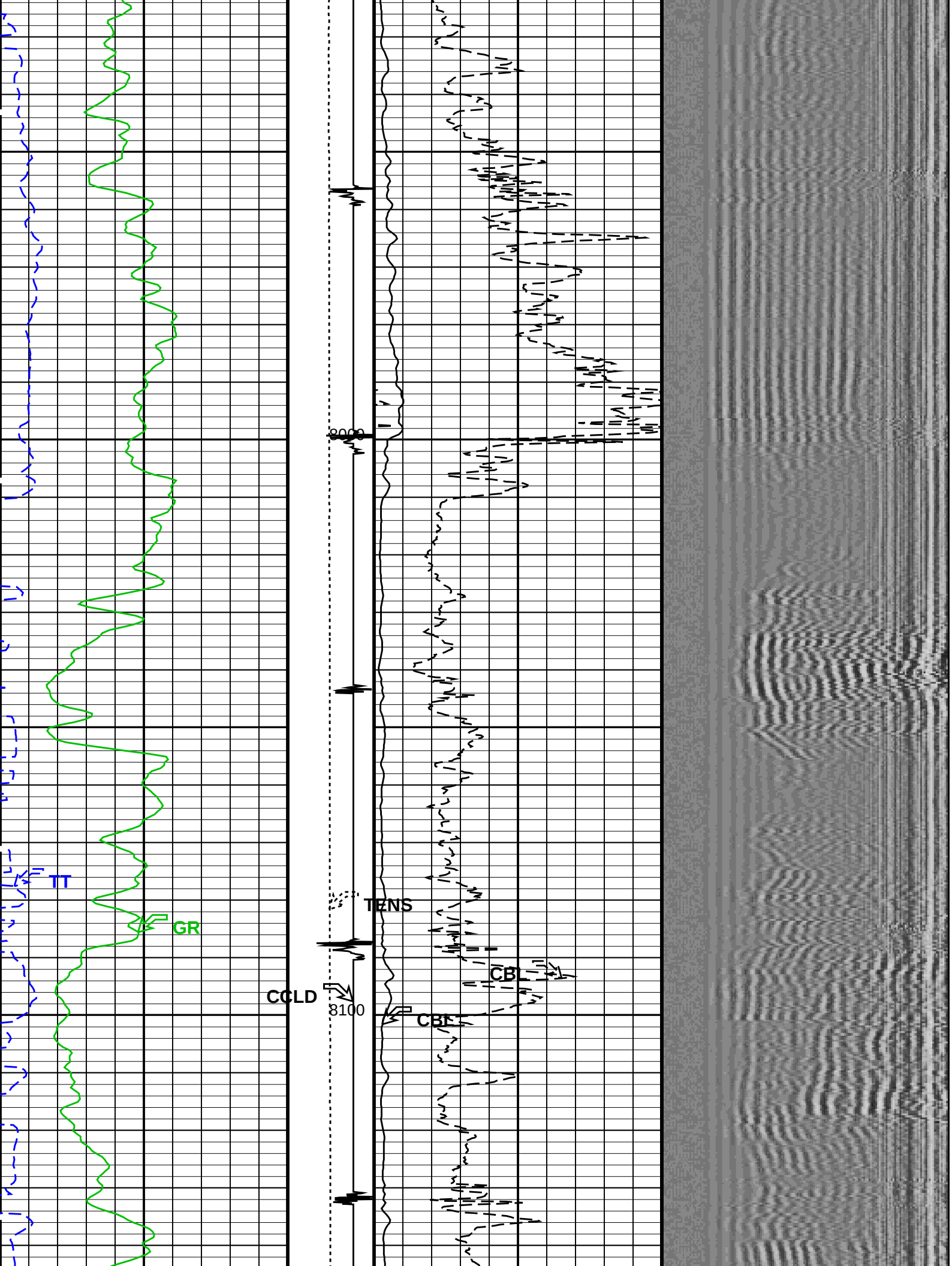
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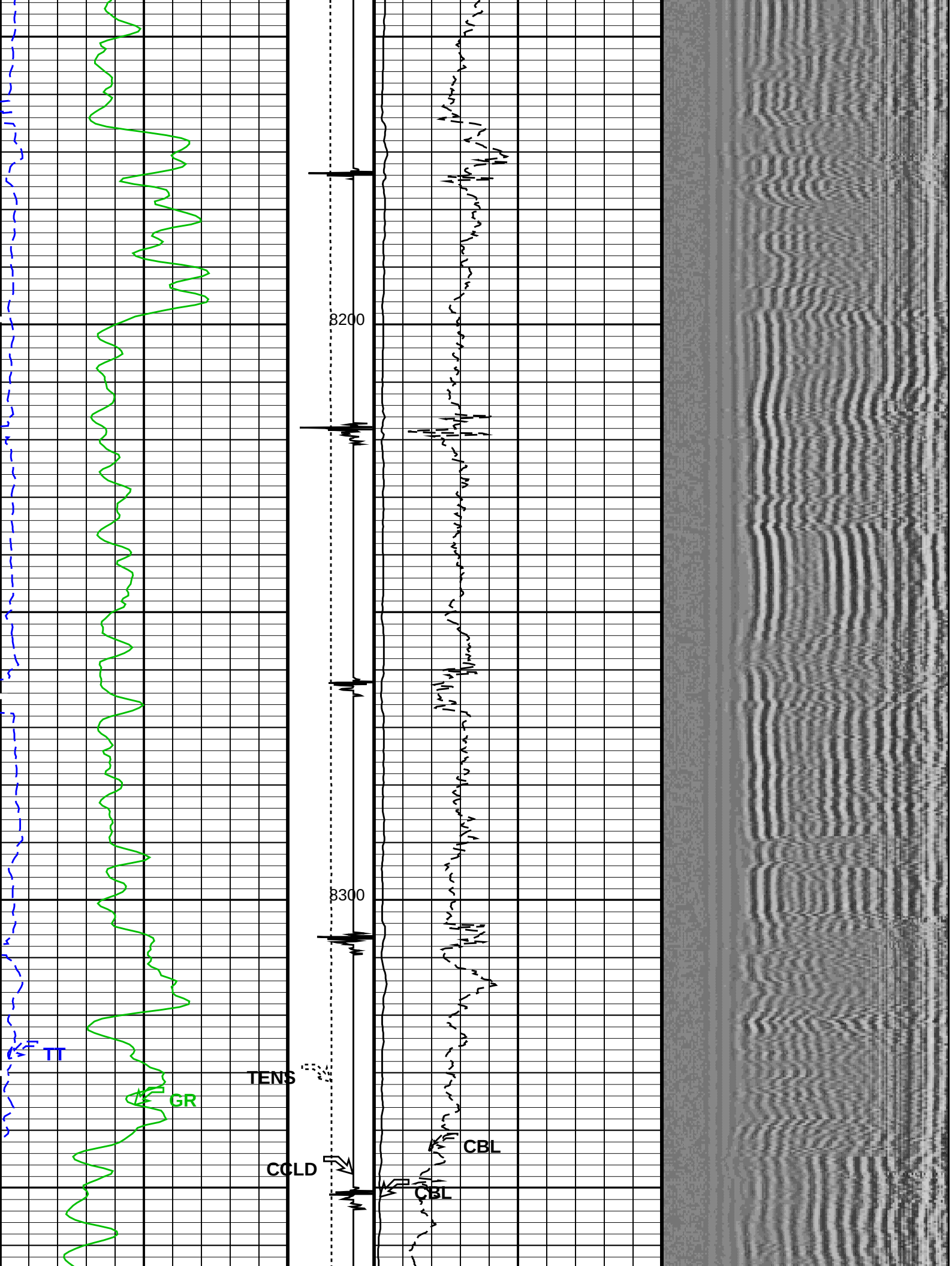
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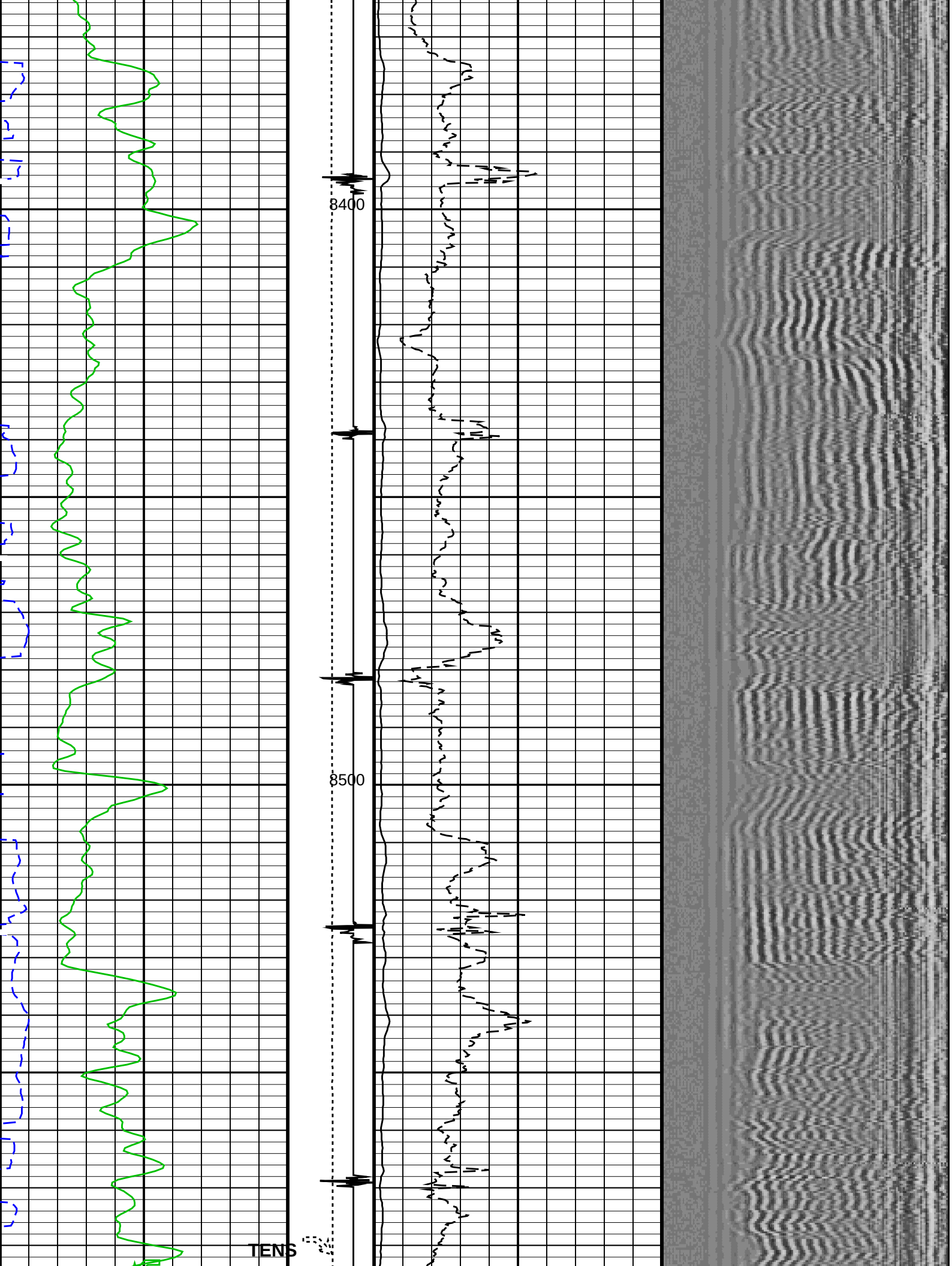
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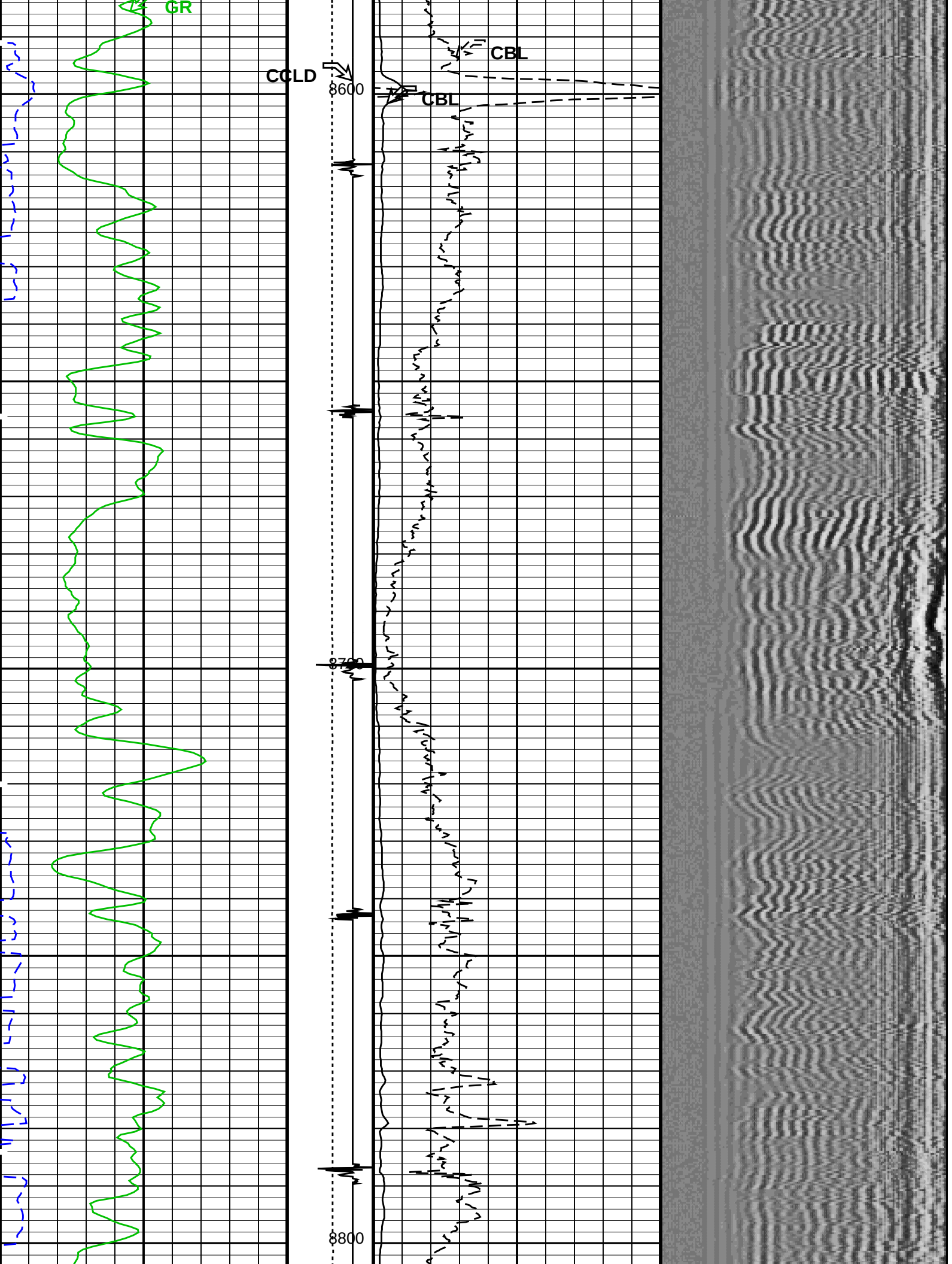
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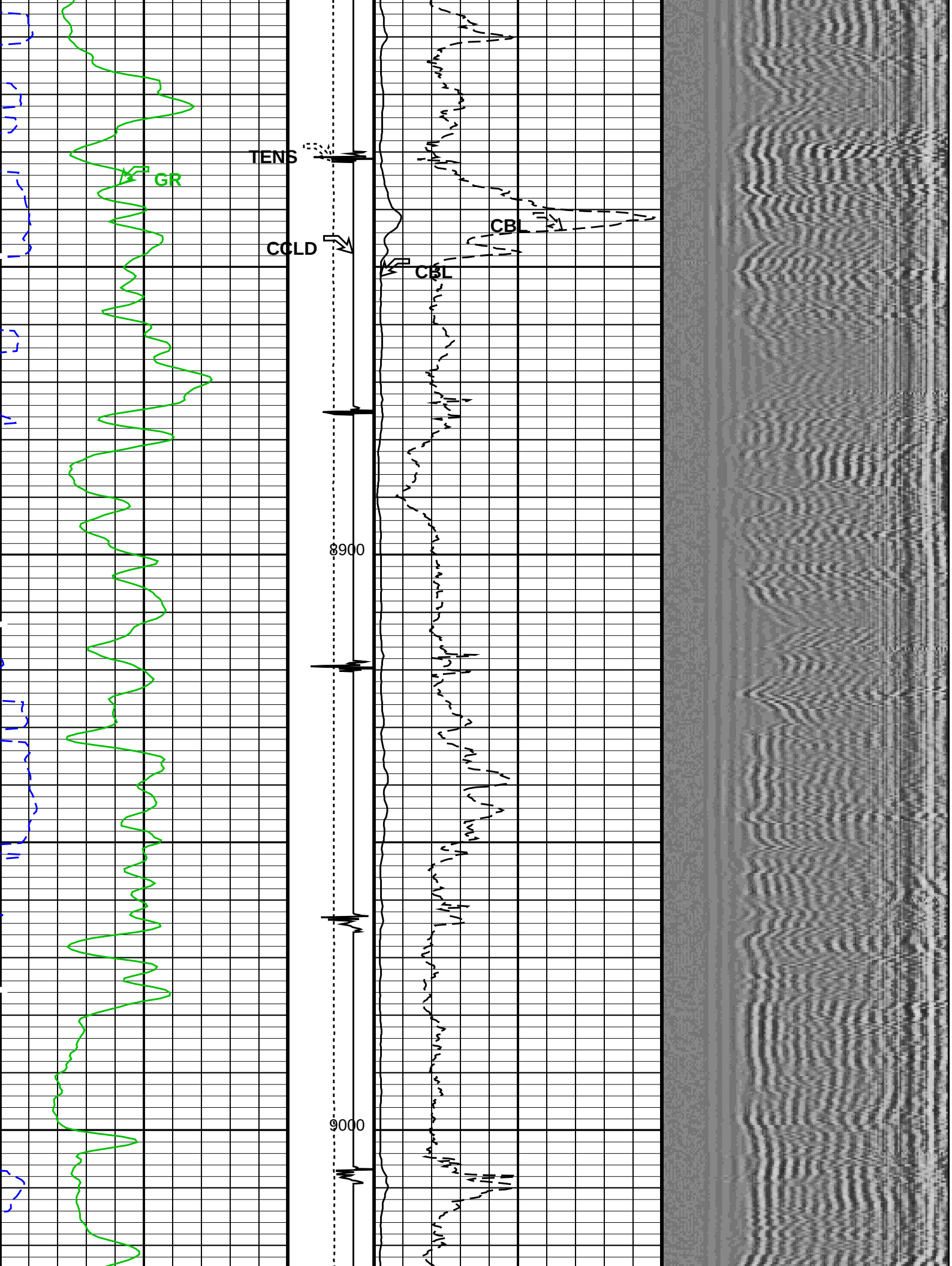
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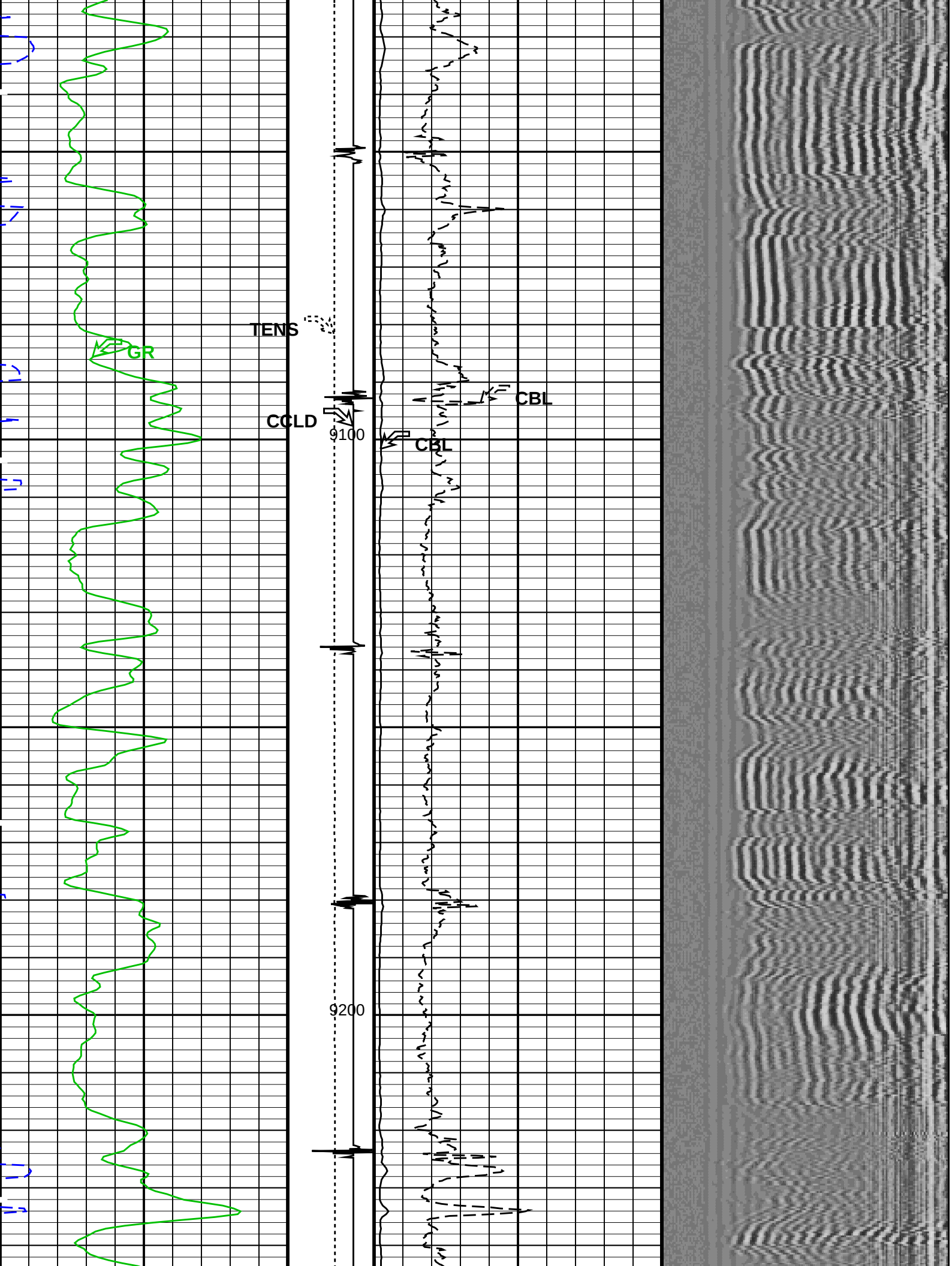
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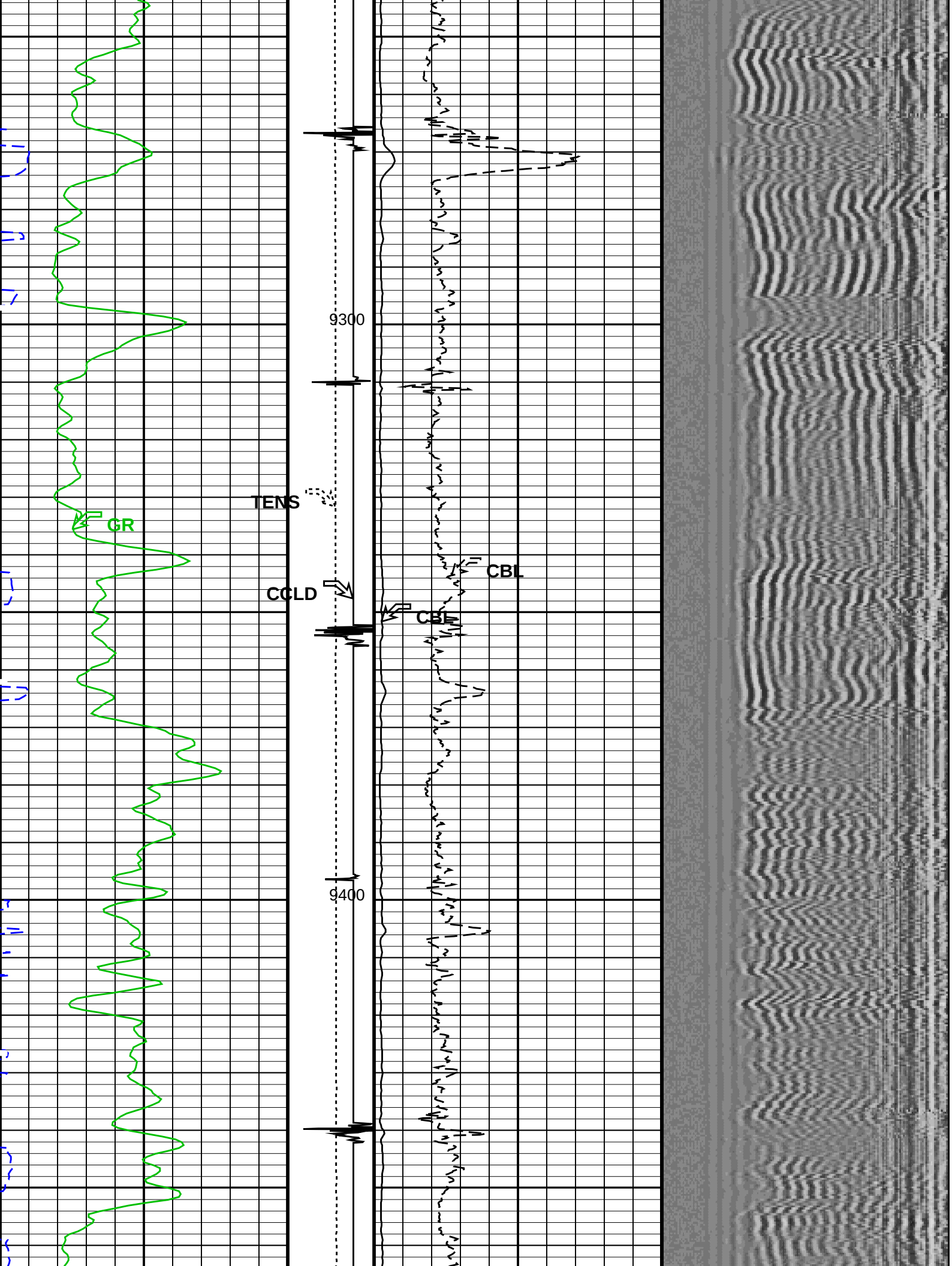
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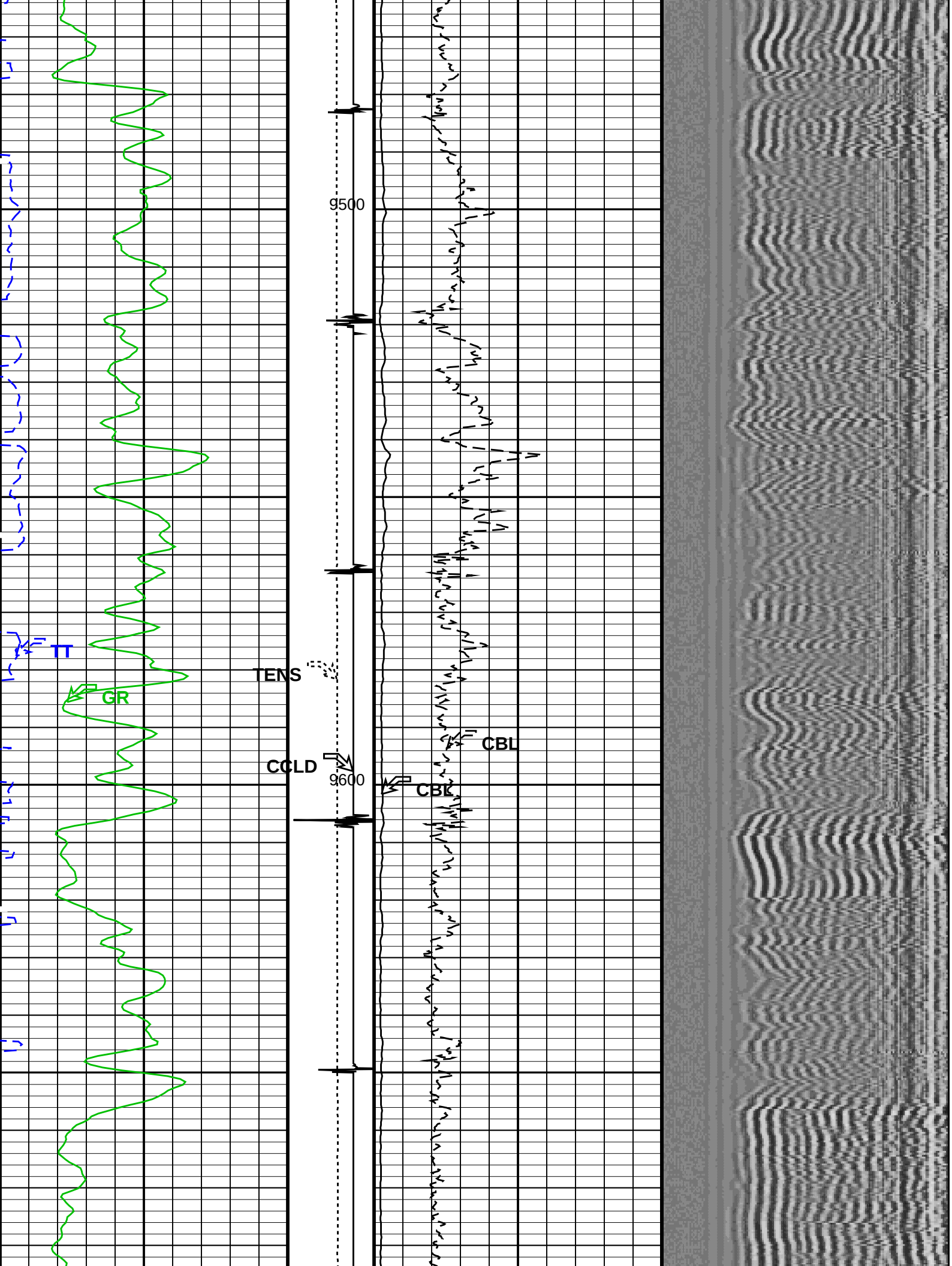
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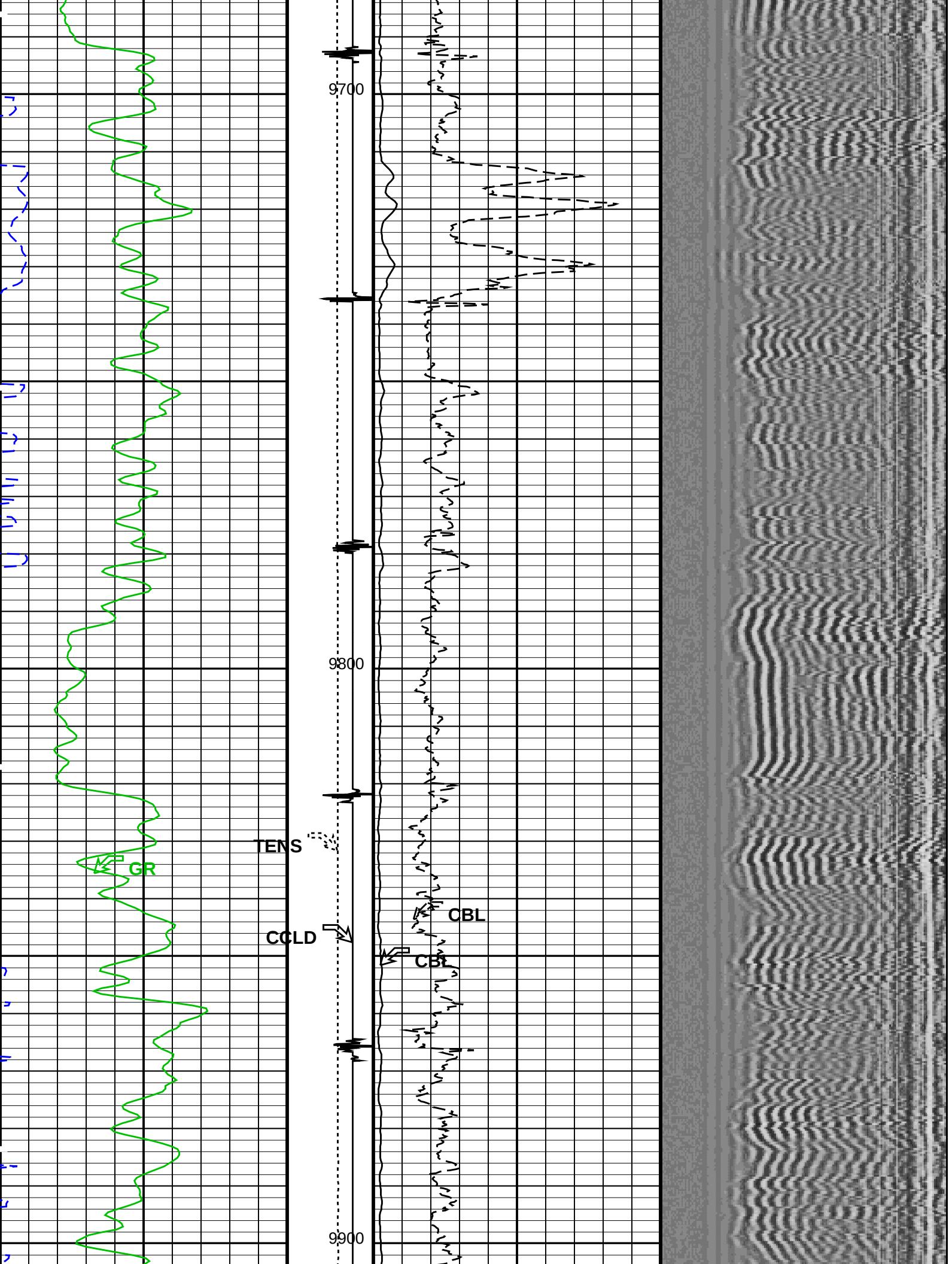
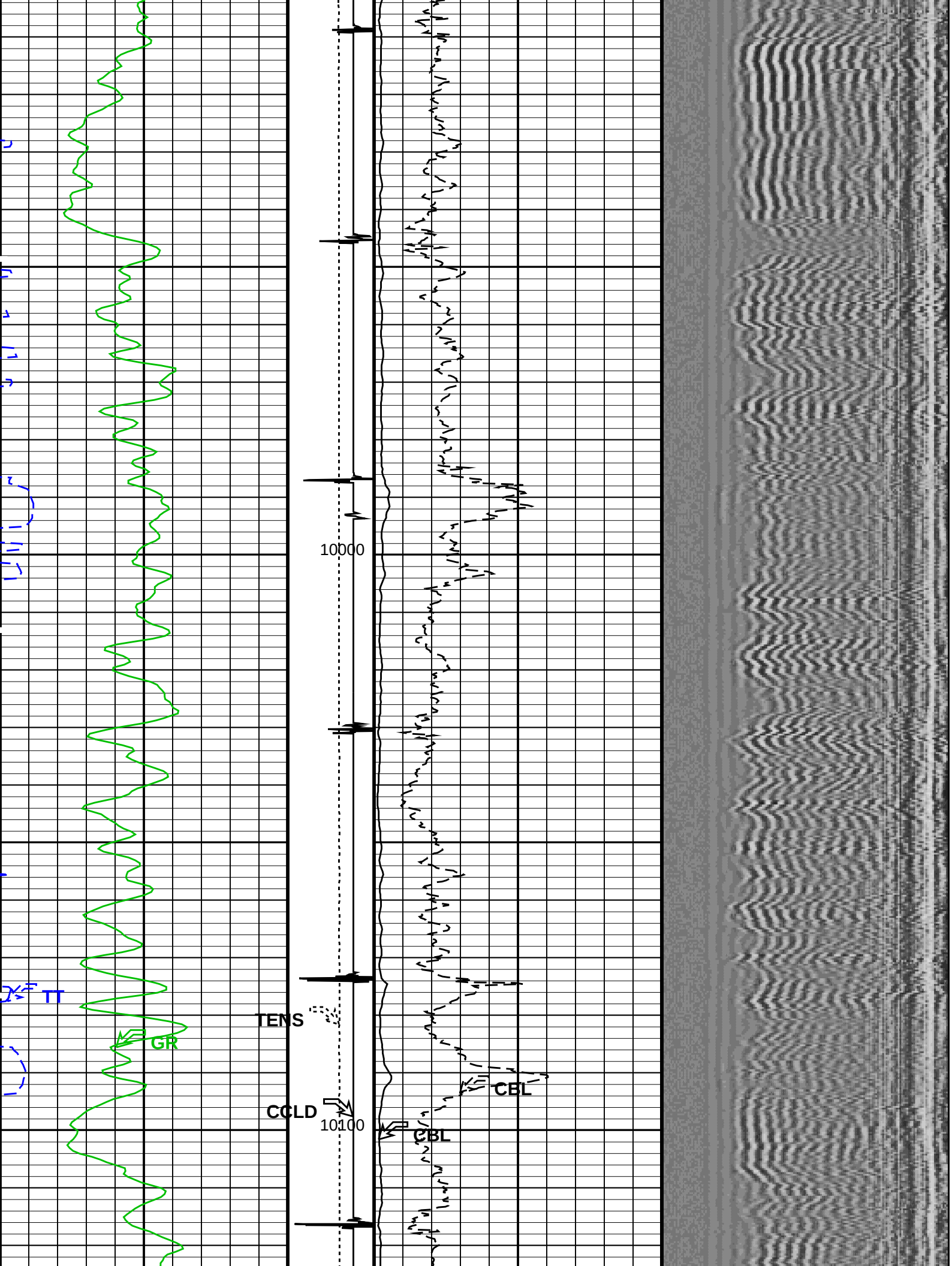
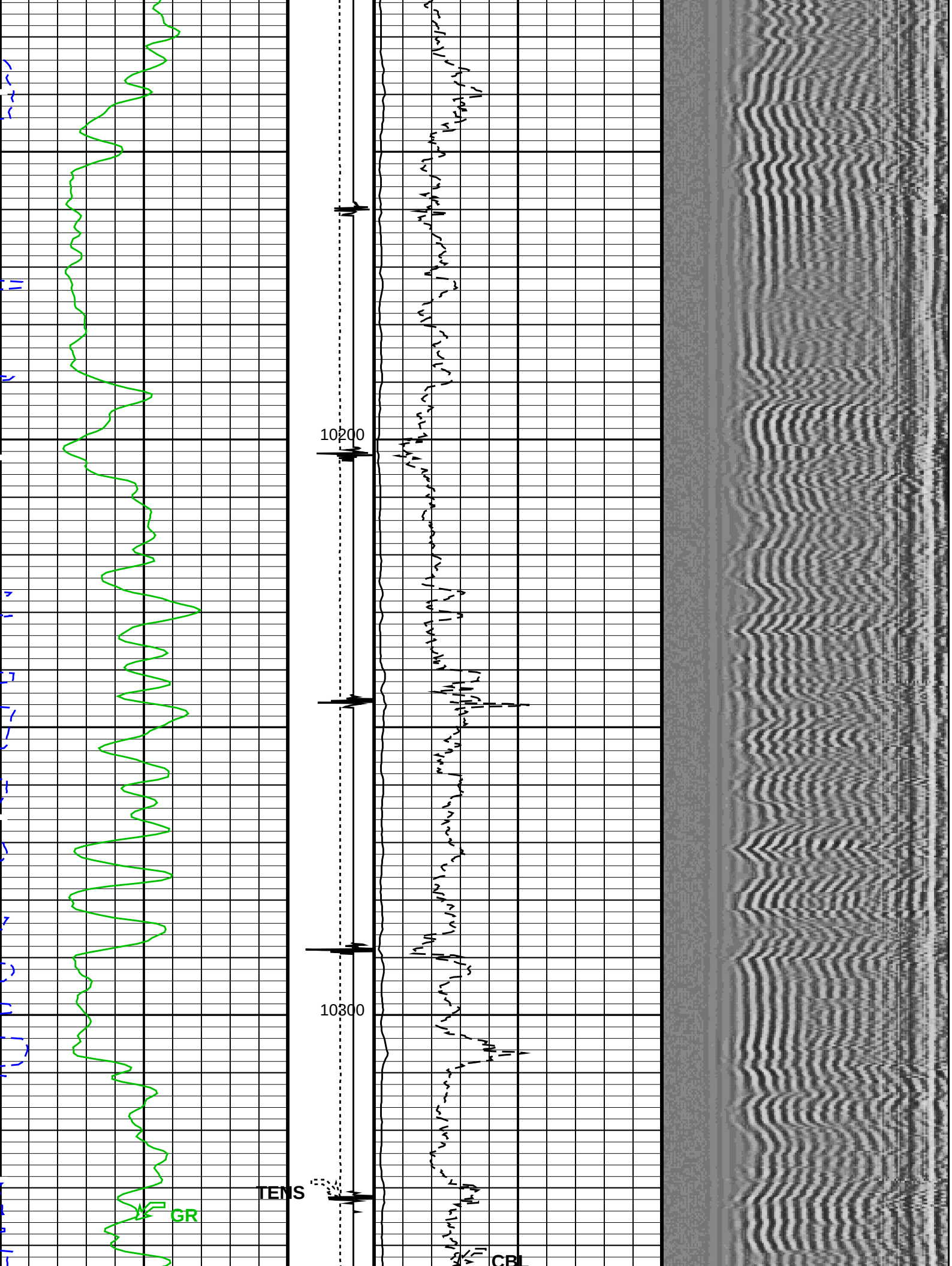
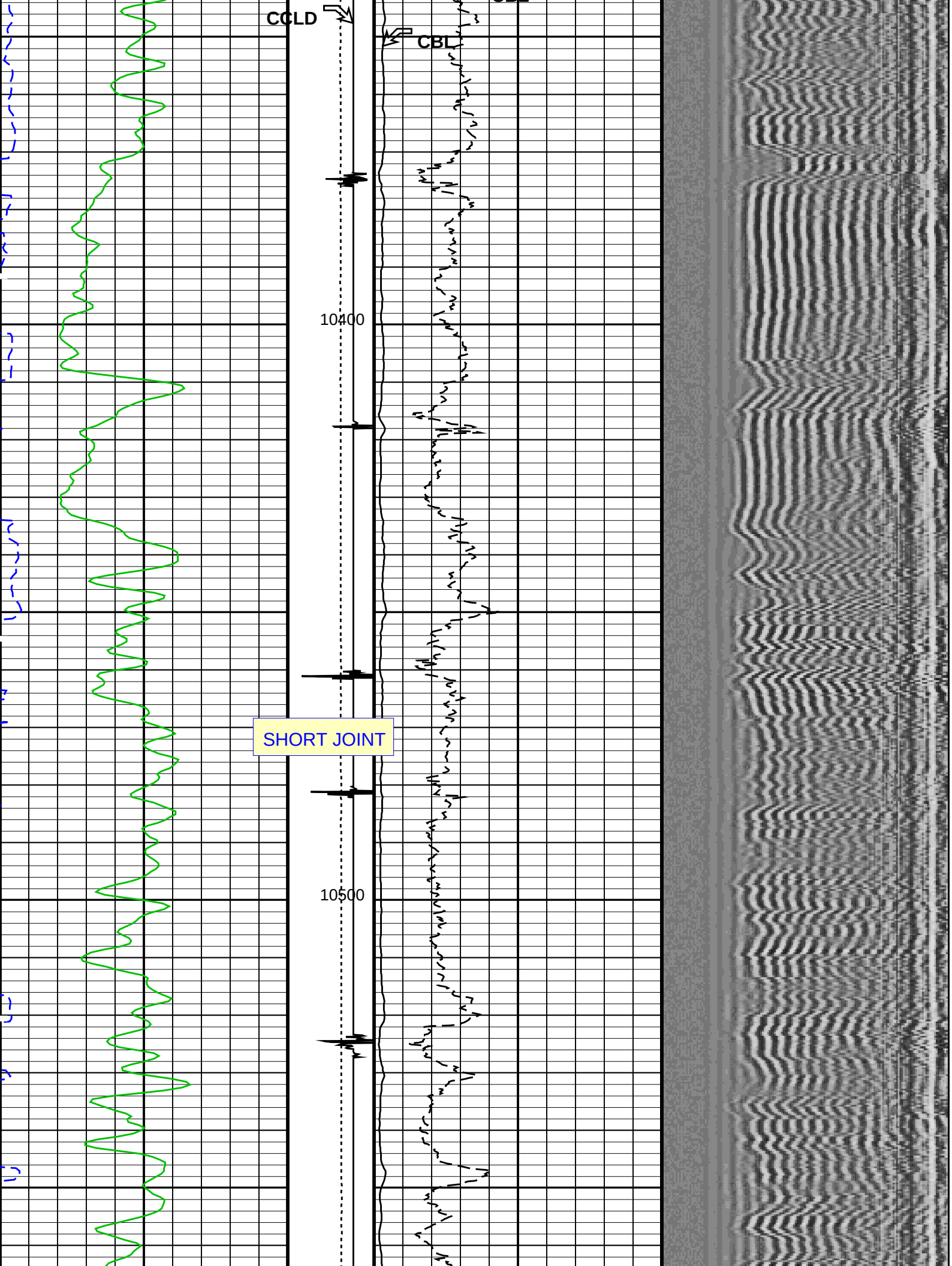
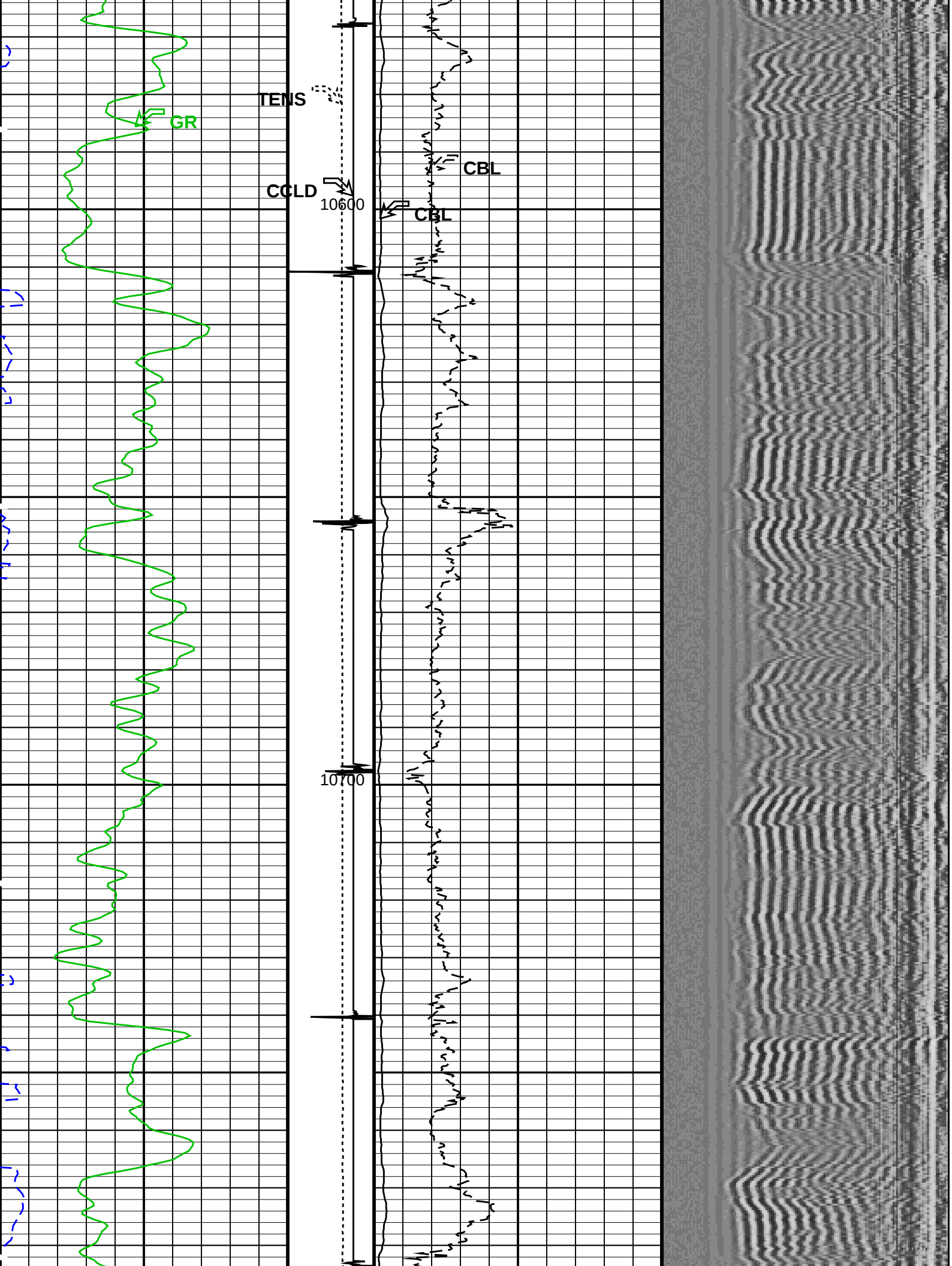
9600
CBL

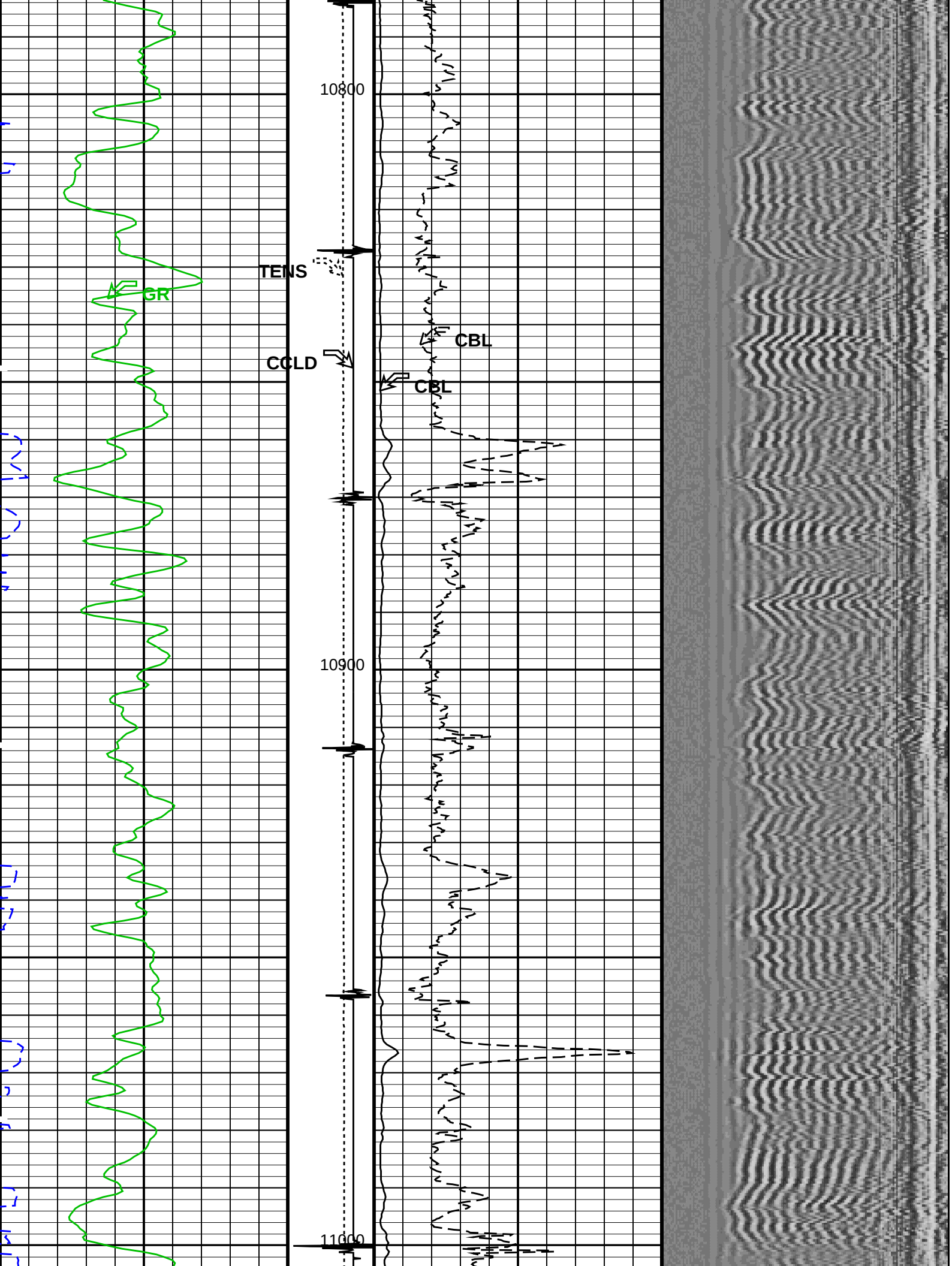

9700
9800
9900
TENS
GR
CBL
CCLD
CBL

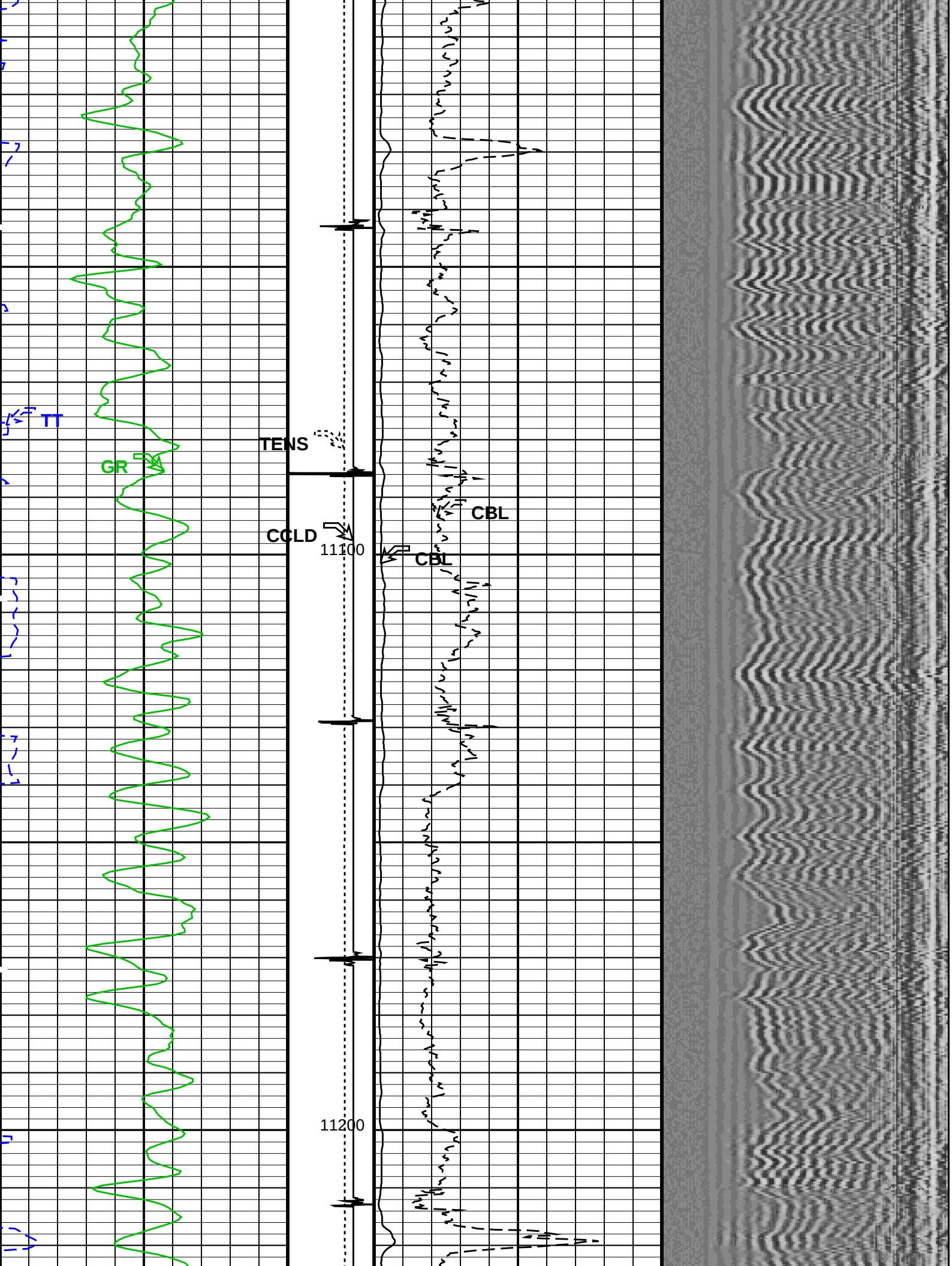

10000
TT
TENS
GR
CBL
CCLD
10100
CBL

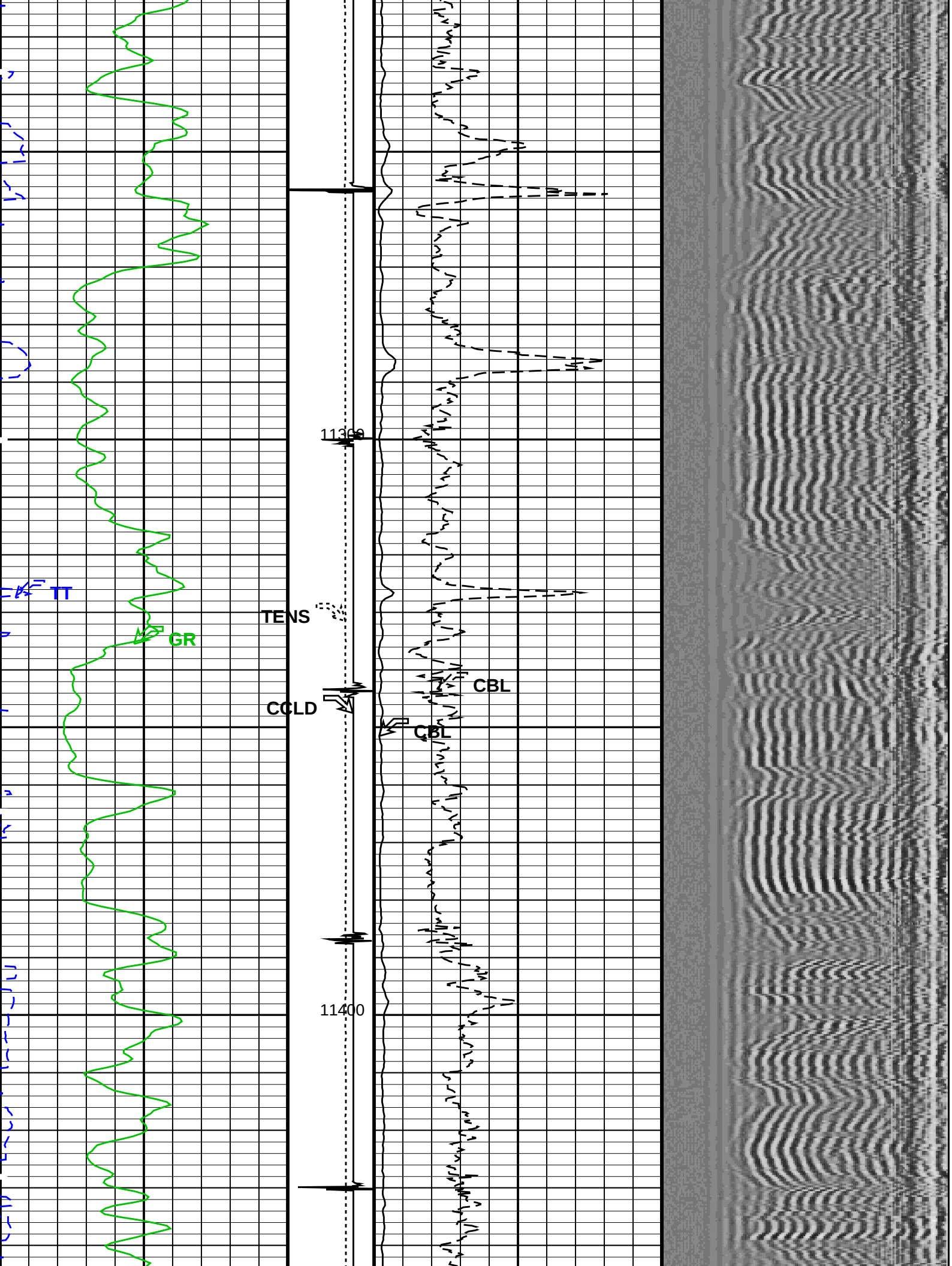

10200
10300
TENS
GR
CBL

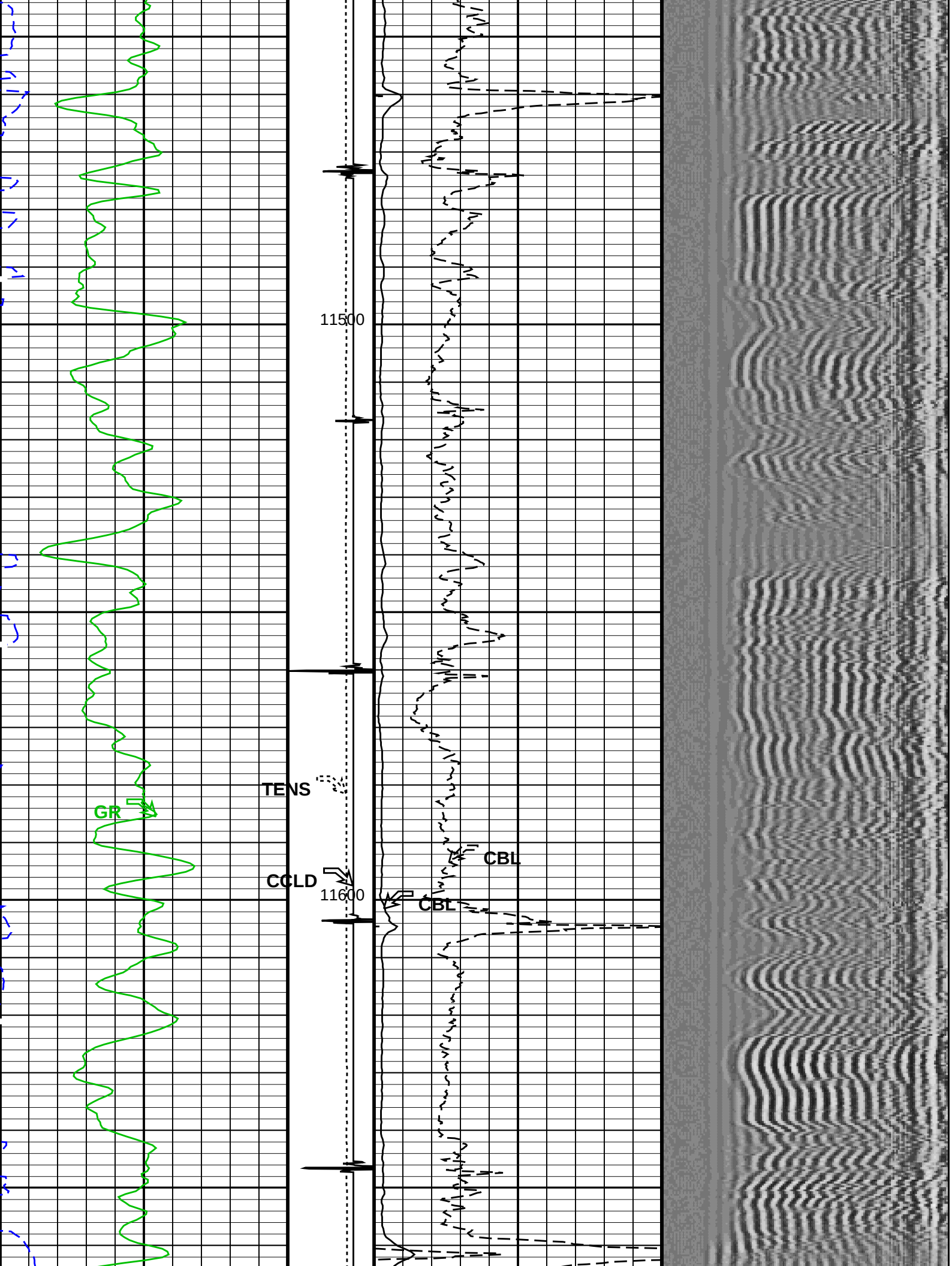

CCLD
CBL
10400
SHORT JOINT
10500

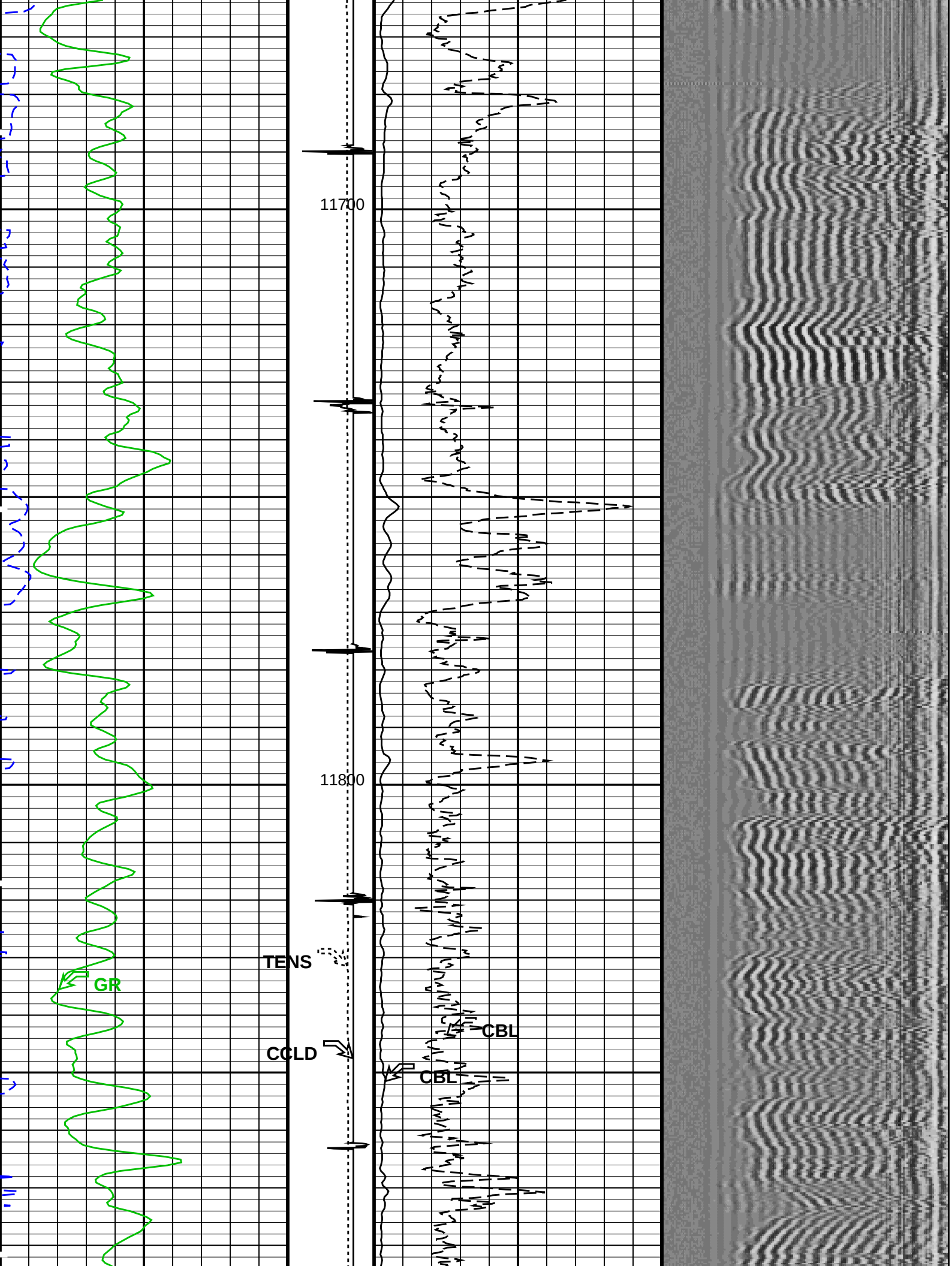

TENS
GR
CBL
CCLD
10600
CBL
10700

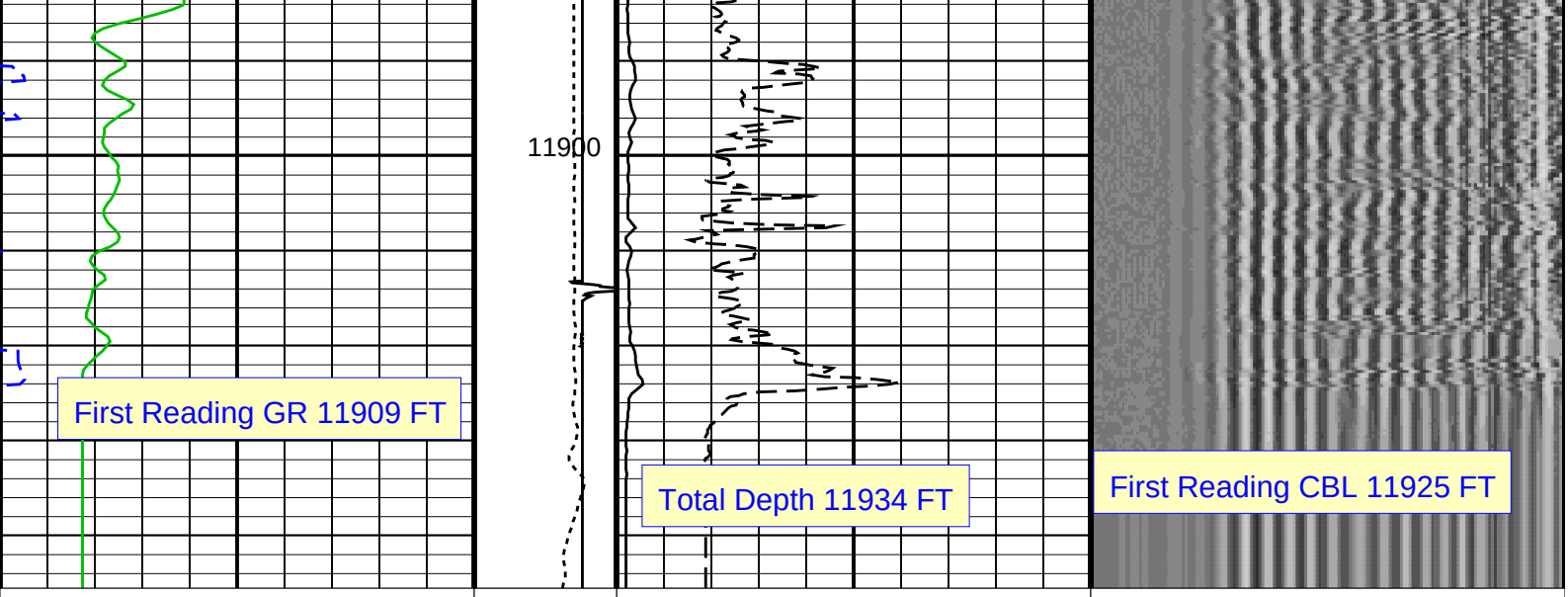

10800
TENS
GR
CBL
CCLD
CBL
10900
11000


TT
GR
TENS
CCLD
CBL
CBL
11100
11200


TT
GR
TENS
CCLD
CBL
CBL
11300
11400


11500
TENS
GR
CBL
CCLD
11600
CBL


11700
11800
TENS
GR
CCLD
CBL
CBL



Gamma Ray (GR)	Tension (TENS)	CBL Amplitude (CBL)	Min Amplitude Max
0 (GAPI) 150	(LBF) 0 2000	0 (MV) 100	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: 11−Apr−2013 20:17

OP System Version: 19C0−187

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

<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number	SCMS−CB 8317		
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	26−SEP−2012		
CBL Correction Factor	0.0719381	CBL Adjustment Factor (CBAF)	1.20000
MAP 1 Correction Factor	0.116622	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.138771		
MAP 3 Correction Factor	0.154480		
MAP 4 Correction Factor	0.126474		
MAP 5 Correction Factor	0.116062		
MAP 6 Correction Factor	0.126351		
MAP 7 Correction Factor	0.134711		
MAP 8 Correction Factor	0.138445		

Parameters

DLIS Name	Description	Value

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	4.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	11934	FT

Input DLIS Files

DEFAULT	SCMT_PSP_035LUP	FN:34	PRODUCER	11−Apr−2013 17:07	11941.5 FT	25.7 FT

Output DLIS Files

DEFAULT	SCMT_PSP_039PUP	FN:38	PRODUCER	11−Apr−2013 20:16		

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REPEAT ANALYSIS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC — Well: SG 8504D−36 (D36 496)

Input DLIS Files

DEFAULT	SCMT_PSP_033LUP	FN:32	PRODUCER	11−Apr−2013 16:49	7561.0 FT	7228.0 FT
DEFAULT	SCMT_PSP_039PUP	FN:38	PRODUCER	11−Apr−2013 20:16	11945.5 FT	1.0 FT

Output DLIS Files

DEFAULT	SCMT_PSP_040PUP	FN:39	PRODUCER	11−Apr−2013 20:25	7562.0 FT	7200.0 FT

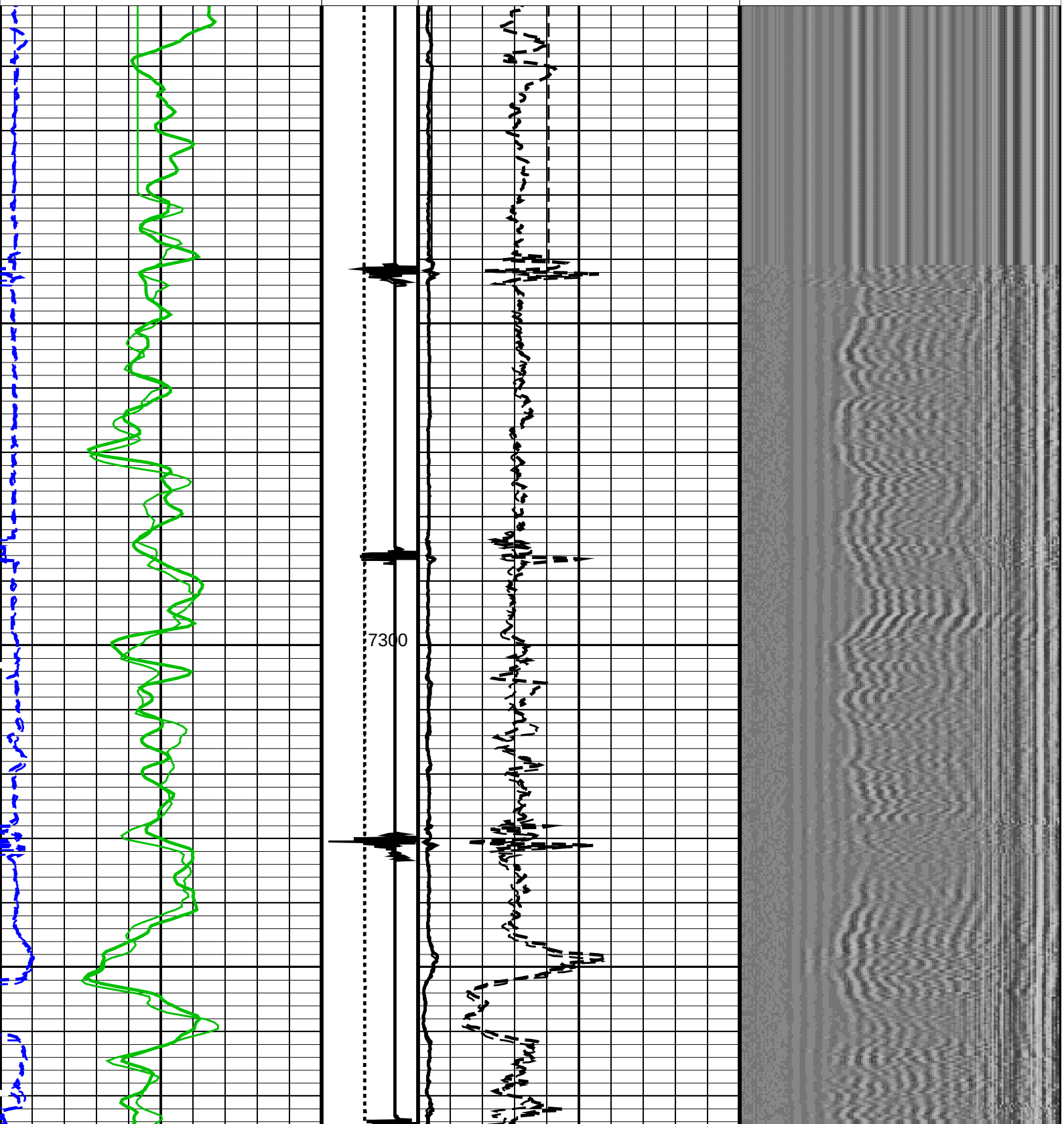
OP System Version: 19C0−187

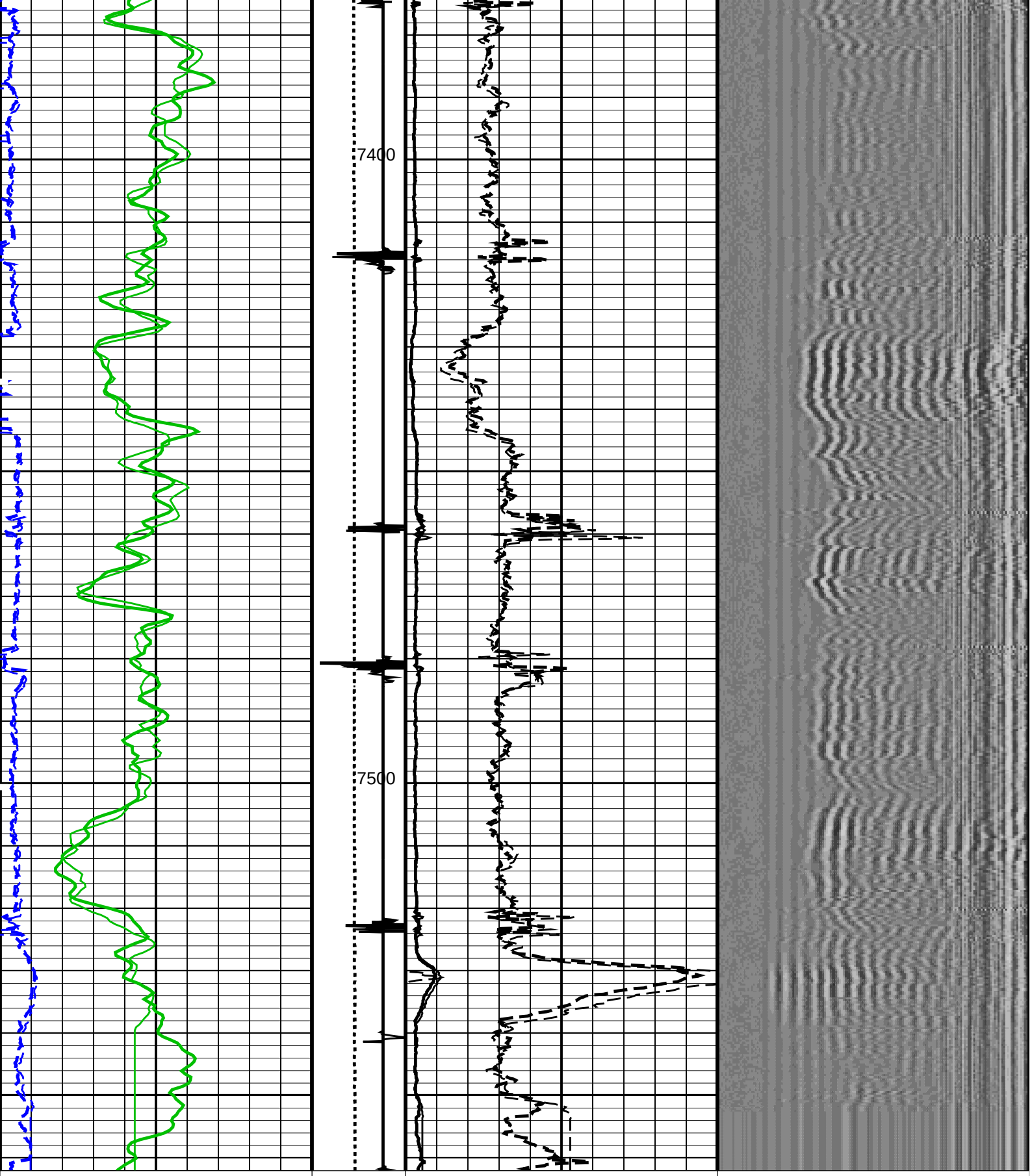
SCMT−CB	SRPC−5214−H2−2012−OP1	PSPT	SRPC−5214−H2−2012−OP1

PIP SUMMARY

Time Mark Every 60 S

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	
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





GR_REP Curve (GR_REP)
0 (GAPI) 150

CCLD_REP Curve (CCLD_REP)
3 (V) −1

CBL_REP Curve (CBL_REP)
0 (MV) 100

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

TT_REP Curve (TT_REP)
260 (US) 160

TENS_REP Curve (TENS_REP)

CBL_1_REP Curve (CBL_REP)
0 (MV) 10

(LBF)
0 2000

PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL_REP **Vertical Scale: 5" per 100'** **Graphics File Created: 11−Apr−2013 20:25**

OP System Version: 19C0−187

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

<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number	**SCMS−CB 8317**		
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	**26−SEP−2012**		
CBL Correction Factor	**0.0719381**	**CBL Adjustment Factor (CBAF)**	**1.20000**
MAP 1 Correction Factor	**0.116622**	**MAP Adjustment Factor (MPAF)**	**1.0**
MAP 2 Correction Factor	**0.138771**		
MAP 3 Correction Factor	**0.154480**		
MAP 4 Correction Factor	**0.126474**		
MAP 5 Correction Factor	**0.116062**		
MAP 6 Correction Factor	**0.126351**		
MAP 7 Correction Factor	**0.134711**		
MAP 8 Correction Factor	**0.138445**		

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**

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	11934	FT

Input DLIS Files

DEFAULT	SCMT_PSP_033LUP	FN:32	PRODUCER	11−Apr−2013 16:49	7561.0 FT	7228.0 FT
DEFAULT	SCMT_PSP_039PUP	FN:38	PRODUCER	11−Apr−2013 20:16	11945.5 FT	1.0 FT

Output DLIS Files

DEFAULT	SCMT_PSP_040PUP	FN:39	PRODUCER	11−Apr−2013 20:25

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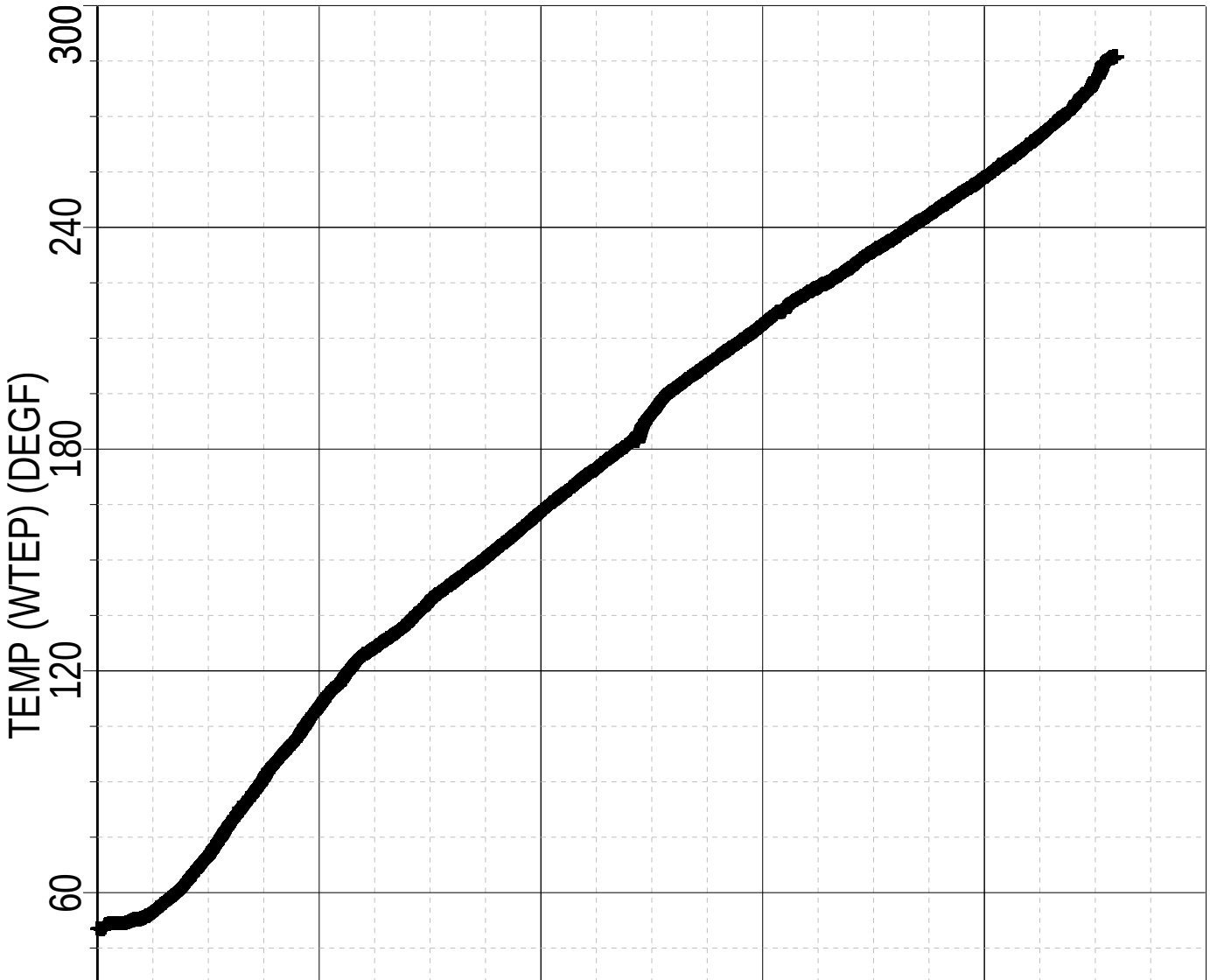
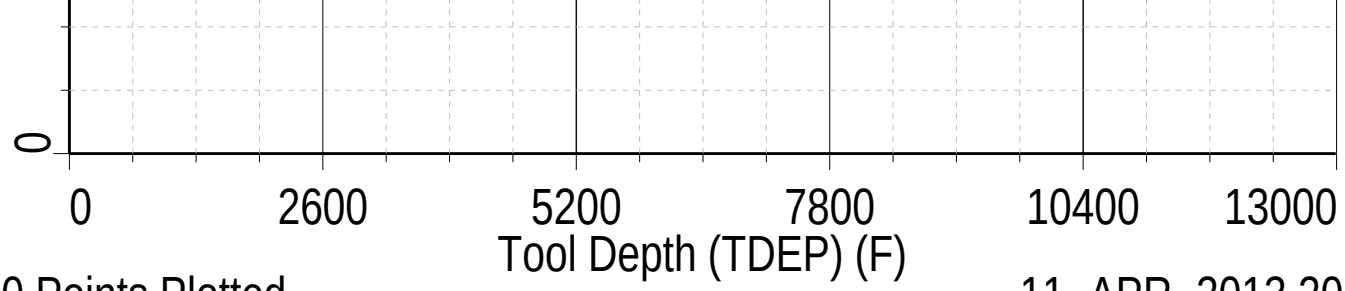
TEMPERATURE PLOT

MAXIS Field Log

Index: 11945.5 − 1.0 FT





23890 Points Plotted

11−APR−2013 20:23

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PBMS COEFFICIENTS

MAXIS Field Log

Client:	**ENCANA OIL & GAS (USA) INC**	**Tool:**	**PSP**
Field:	**STORY GULCH**	**Sub Type:**	**PBMS**
Well:	**SG 8504D−36 (D36 496)**	**Sensor:**	**GR**
Run date:	**11−Apr−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:	**STORY GULCH**	**Sub Type:**	**PBMS**
Well:	**SG 8504D−36 (D36 496)**	**Sensor:**	**WellTemp RTD**

Well: SG 8504D−36 (D36 496) Sensor: WellTemp RTD
Run date: 11−Apr−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
Tt**0	−.391987973189E+03	+.191346892512E+03	−.440920753451E+02

	Tt**3	Tt**4	Tt**5
Tt**0	+.957191300908E+01	−.711421725686E+00	0.0

Client: ENCANA OIL & GAS (USA) INC Tool: PSP
Field: STORY GULCH Sub Type: PBMS
Well: SG 8504D−36 (D36 496) Sensor: CQG
Run date: 11−Apr−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
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 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

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	8317
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		1029
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 2 Amplitude Plus MV	Value
Master		864.7
500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)

Phase	MAP 3 Amplitude Plus MV	Value
Master		776.8

Phase	MAP 4 Amplitude Plus MV	Value
Master		948.8

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

Phase	MAP 5 Amplitude Plus MV	Value
Master		1034
	500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)	

Phase	MAP 6 Amplitude Plus MV	Value
Master		949.7
	500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)	

Phase	MAP 7 Amplitude Plus MV	Value
Master		890.8
	500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)	

Phase	MAP 8 Amplitude Plus MV	Value
Master		866.8
	500.0 (Minimum) 1075 (Nominal) 1650 (Maximum)	

Phase	CBL Amplitude Plus MV	Value
Master		1334
	1000 (Minimum) 1350 (Nominal) 1700 (Maximum)	

Master: 26−Sep−2012 14:15

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

Schlumberger

Well: **SG 8504D−36 (D36 496)**
Field: **STORY GULCH**
County: **GARFIELD**
State: **COLORADO**

SLIM CEMENT MAPPING LOG
CBL−VDL
GR−CCL