

Schlumberger

Company: High Sierra Water Services LLC

Well: High Sierra SWD C7B

Field: Wattenberg

County: Weld State: Colorado

CEMENT BOND  
GAMMA RAY  
CASING COLLAR LOG

County: Weld  
Field: Wattenberg  
Location: SHL: 429 FSL & 431' FEL  
Well: High Sierra SWD C7B  
Company: High Sierra Water Services LLC

LOCATION

SHL: 429 FSL & 431' FEL

Elev.: K.B. 4732.00 ft  
G.L. 4715.00 ft  
D.F.

Permanent Datum: \_\_\_\_\_  
Log Measured From: \_\_\_\_\_  
Drilling Measured From: \_\_\_\_\_

GROUND LEVEL  
KELLY BUSHING  
KELLY BUSHING

Elev.: 4715.00 ft  
17.00 ft above Perm. Datum

API Serial No. 05-123-304520  
Section 34  
Township 7N  
Range 63W

Logging Date	19-Nov-2013			
Run Number	1			
Depth Driller	8810 ft			
Schlumberger Depth	8754 ft			
Bottom Log Interval	8746 ft			
Top Log Interval	950 ft			
Casing Fluid Type	WATER			
Salinity				
Density	8.4 lbm/gal			
Fluid Level				
BIT/CASING/TUBING STRING				
Bit Size	8.750 in			
From				
To				
Casing/Tubing Size	7.000 in			
Weight	26 lbm/ft			
Grade				
From				
To				
Maximum Recorded Temperatures	258 degF			
Logger On Bottom	19-Nov-2013	Time	9:01	
Unit Number	354	Location	FORT MORGAN	
Recorded By	C MARCH			
Witnessed By	TIM SHERWOOD			

PVT DATA					Run 1	Run 2	Run
Oil Density							
Water Salinity							
Gas Gravity							
Bo							
Bw							
1/Bq							
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: 19-NOV-2013 10:21:51

**Depth System Equipment**

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25P
Serial Number:	6220	Serial Number:	1163	Serial Number:	354
Calibration Date:	27-MAR-2013	Calibration Date:	15-OCT-2013	Length:	17000 FT
Calibrator Serial Number:	1	Calibrator Serial Number:	78135	<hr/> Conveyance Method: Wireline Rig Type: LAND	
Calibration Cable Type:	1-25P	Number of Calibration Points:	10		
Wheel Correction 1:	-4	Calibration RMS:	14		
Wheel Correction 2:	-2	Calibration Peak Error:	24		

**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: 1.00 FT

**Depth Control Remarks**

1. IDW WHEELS PRIMARY DEPTH CONTROL
2. DRUM COUNTER USED AS SECONDARY DEPTH CONTROL
- 3.
- 4.
- 5.
- 6.

**DISCLAIMER**

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**OTHER SERVICES1**

OS1: NONE  
OS2:  
OS3:  
OS4:  
OS5:

**OTHER SERVICES2**

OS1:  
OS2:  
OS3:  
OS4:  
OS5:

REMARKS: RUN NUMBER 1

CORRELATED TO TRIPLE COMBO RAN

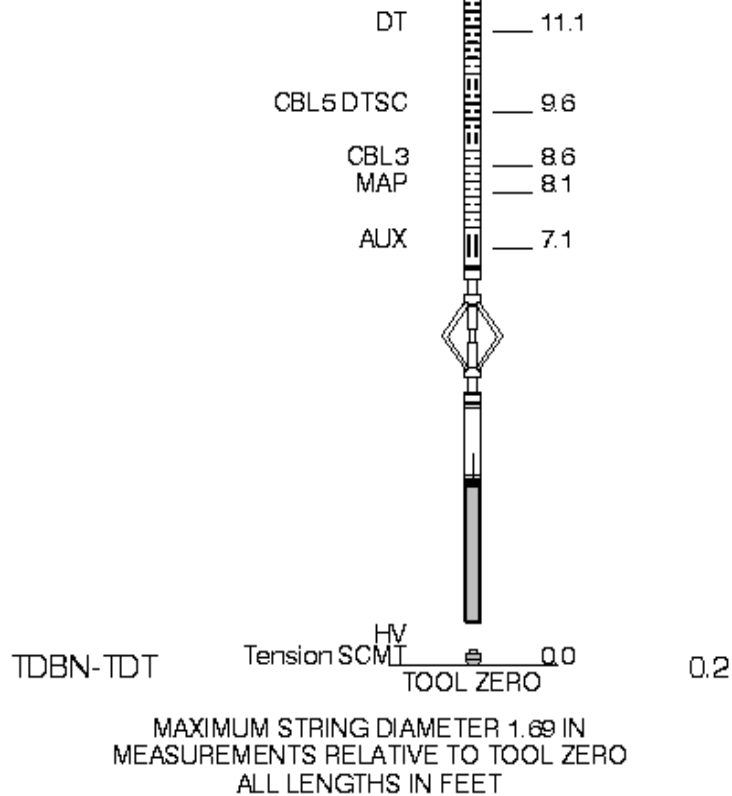
ON 22-OCT-2013 BY SCHLUMBERGER

REMARKS: RUN NUMBER 2

REPEAT AND MAIN PASS RAN

UNDER 0 PSI

LINER TOP AT 8753'					
CREW: WILEY					
THANK YOU					
RUN 1			RUN 2		
SERVICE ORDER #:		CI 70-00133	SERVICE ORDER #:		
PROGRAM VERSION:		19C2-270	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP
EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		
SURFACE EQUIPMENT					
WITM-A					
PSC_16MHZ					
DOWNHOLE EQUIPMENT					
<div> <div> <div>MH-22</div> <div>MH-22</div> </div> <div> <div>AH-38</div> <div>PSPT</div> <div>PSC-A</div> <div>PSPT-A 1765</div> <div>PSTC-A</div> <div>PBMS-A</div> <div>10k Sapphire Mano</div> <div>RTD Thermometer</div> <div>GR</div> <div>CCL</div> <div>PBMS</div> </div> <div> <div>SCMT-CB</div> <div>SCMC-CA 8119</div> <div>SECH-CA</div> <div>CMIR-AG</div> <div>SCMS-CB 8258</div> <div>SCMX-CA</div> </div> </div>			<div> <div> <div> <div>Detail MT</div> <div>TelStatus</div> <div>CTEM</div> </div> <div>GR</div> <div>Well Temp</div> <div>Manometer</div> <div>CCL</div> <div>PBMS PSTC</div> </div> <div> <div>30.3</div> <div>28.7</div> <div>28.4</div> <div>24.7</div> <div>21.7</div> <div>21.5</div> <div>20.9</div> <div>20.2</div> <div>20.2</div> </div> </div>		



**Schlumberger**

**MAIN PASS**

MAXIS Field Log

Company: High Sierra Water Services LLC

Well: High Sierra SWD C7B

### Input DLIS Files

DEFAULT	SCMT_PSP_005LUP	FN:4	PRODUCER	19-Nov-2013 09:54	8769.5 FT	919.7 FT
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### Output DLIS Files

DEFAULT	SCMT_PSP_009PUP	FN:8	PRODUCER	19-Nov-2013 12:02	8769.5 FT	920.0 FT
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### OP System Version: 19C2-270

SCMT-CB	19C2-270	PSPT	19C2-270
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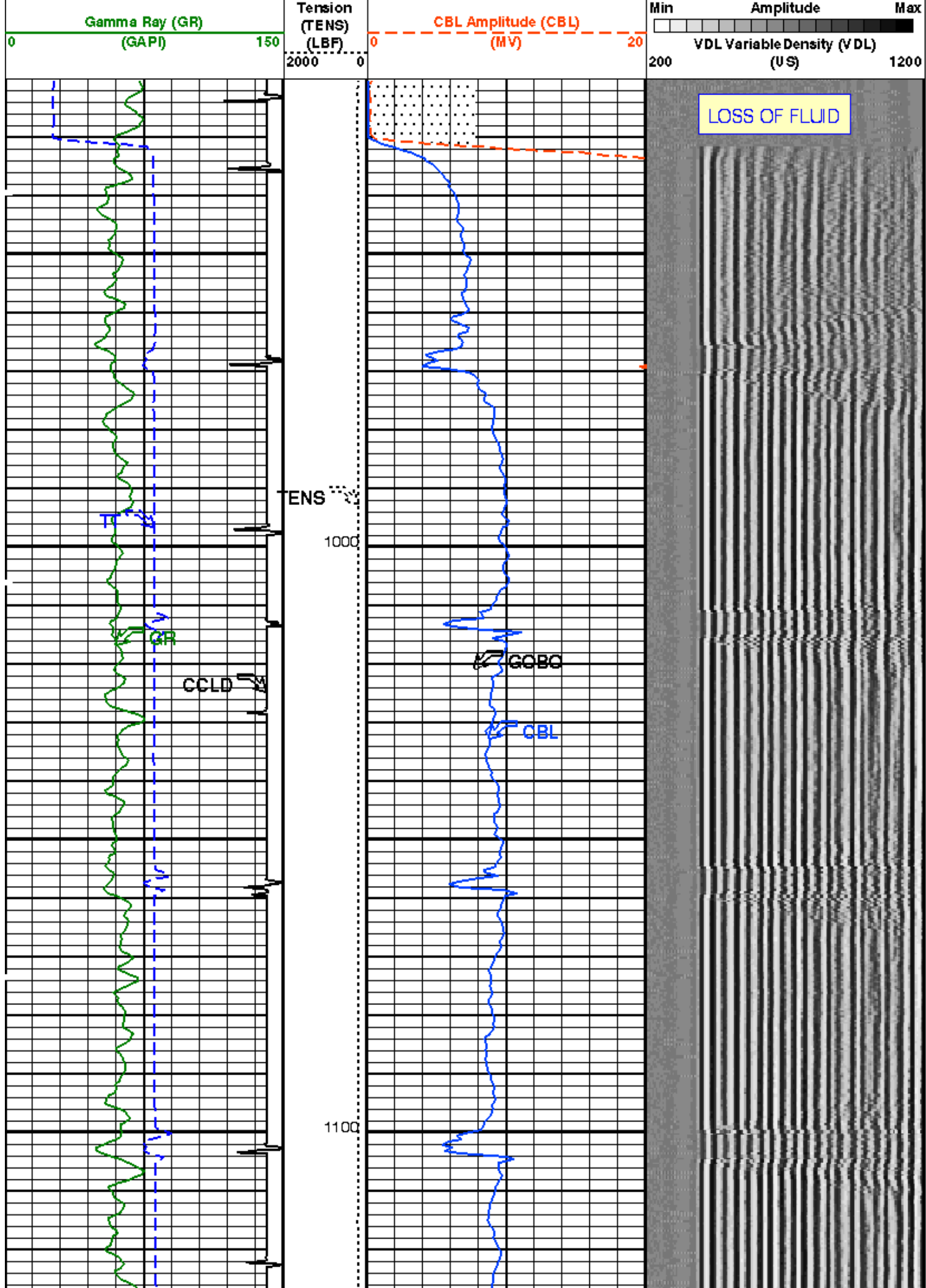
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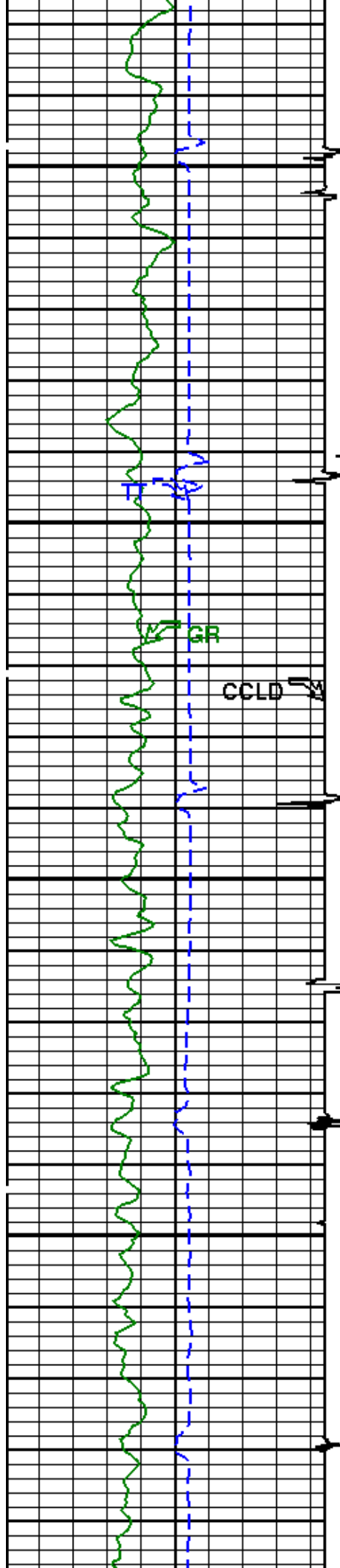
Time Mark Every 60 S

	Discriminated CCL (CCLD)	
	-3.5 (V)	0.5
COLLARS From CCLD to T1		
Transit Time (TT)		
400	(US)	200

CASING PRESSURE 0 PSI

GOOD BOND From ACBL to GOBO		
CBL Amplitude (CBL)		
0	(MV)	100





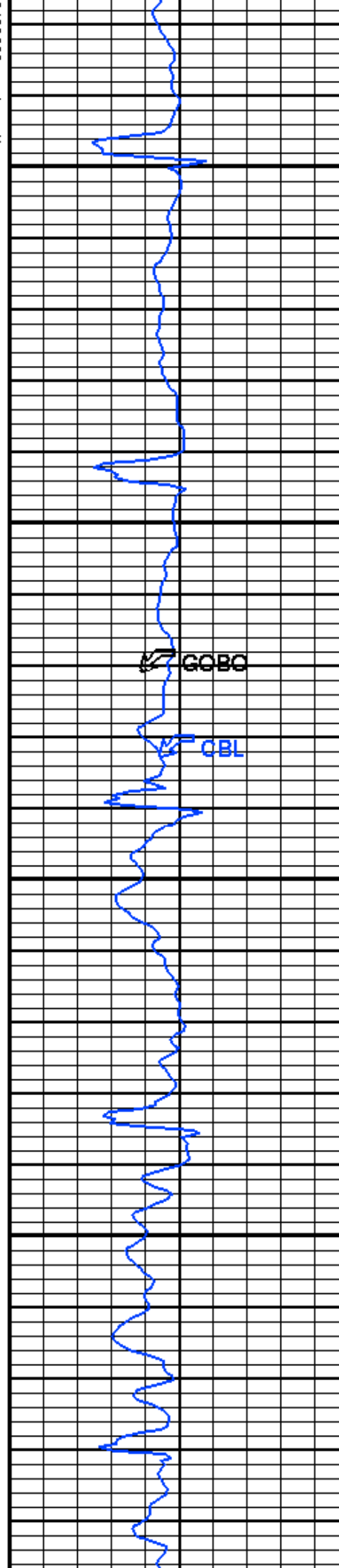
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1200

GR

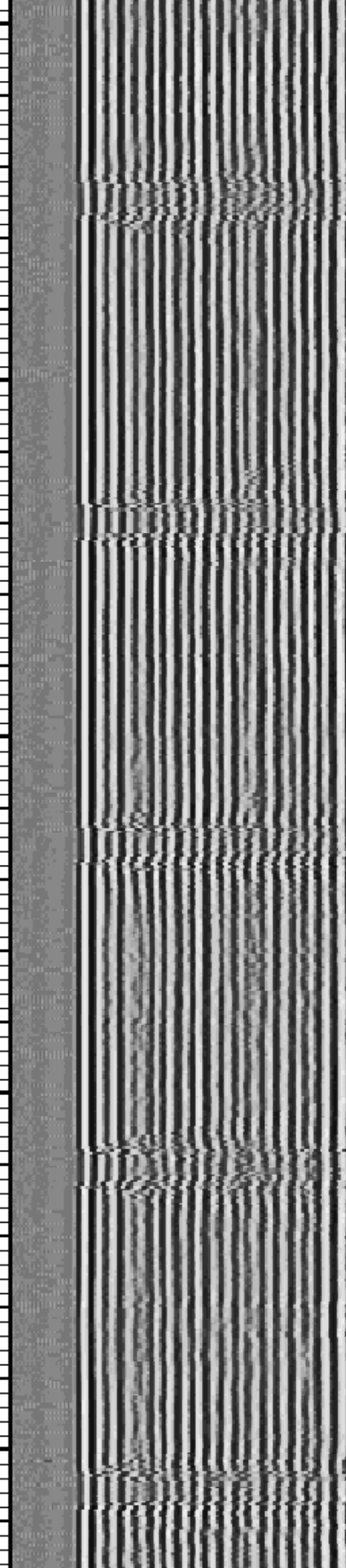
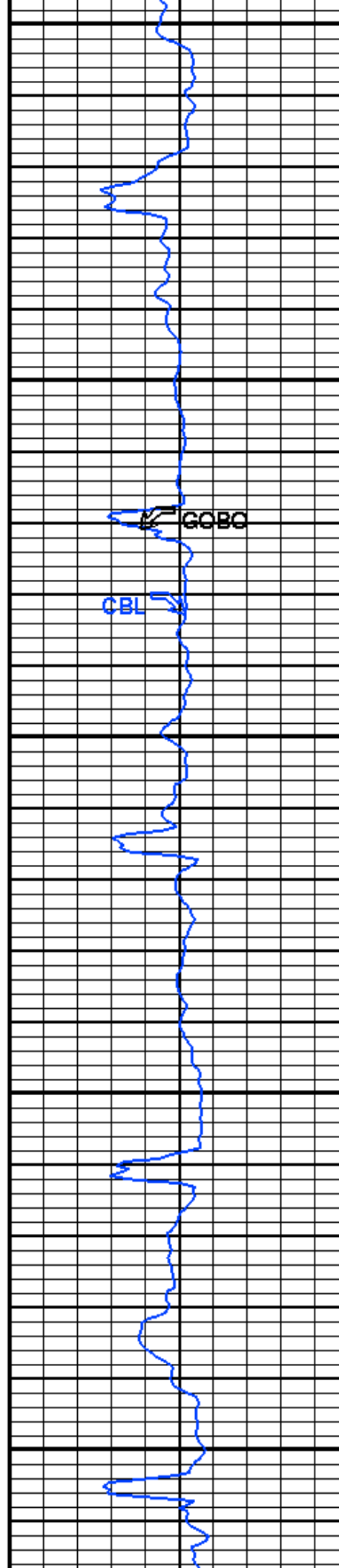
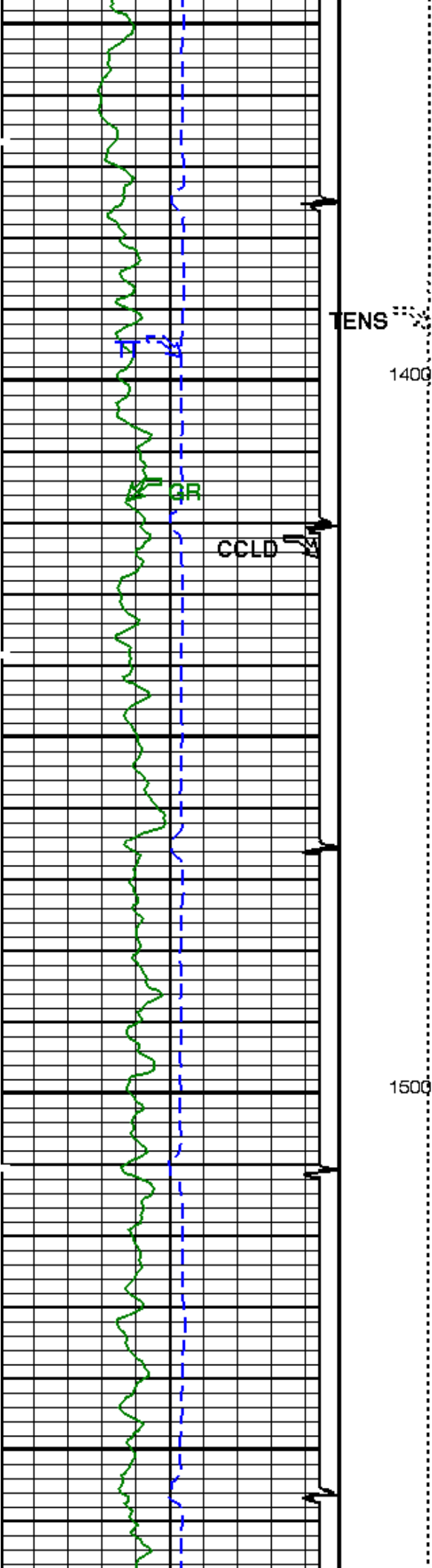
CCLD

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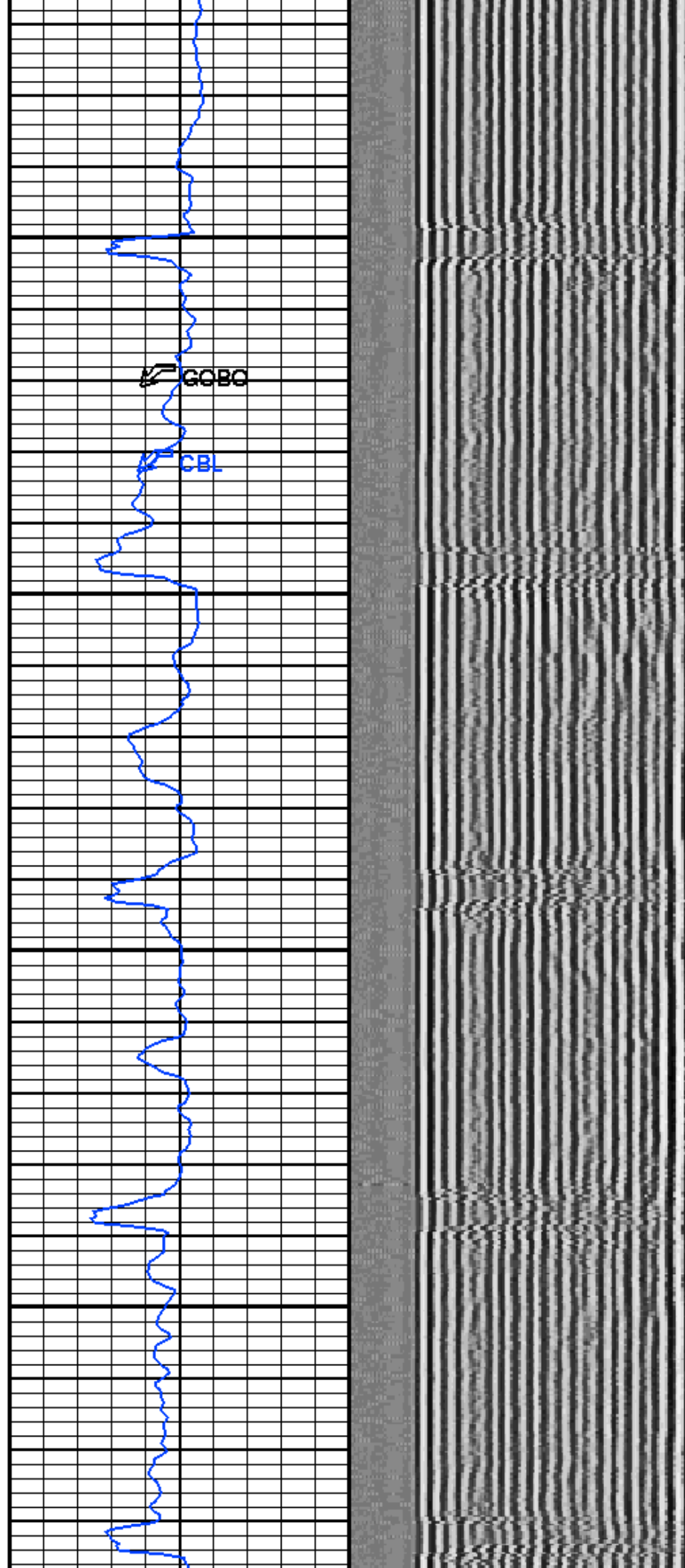
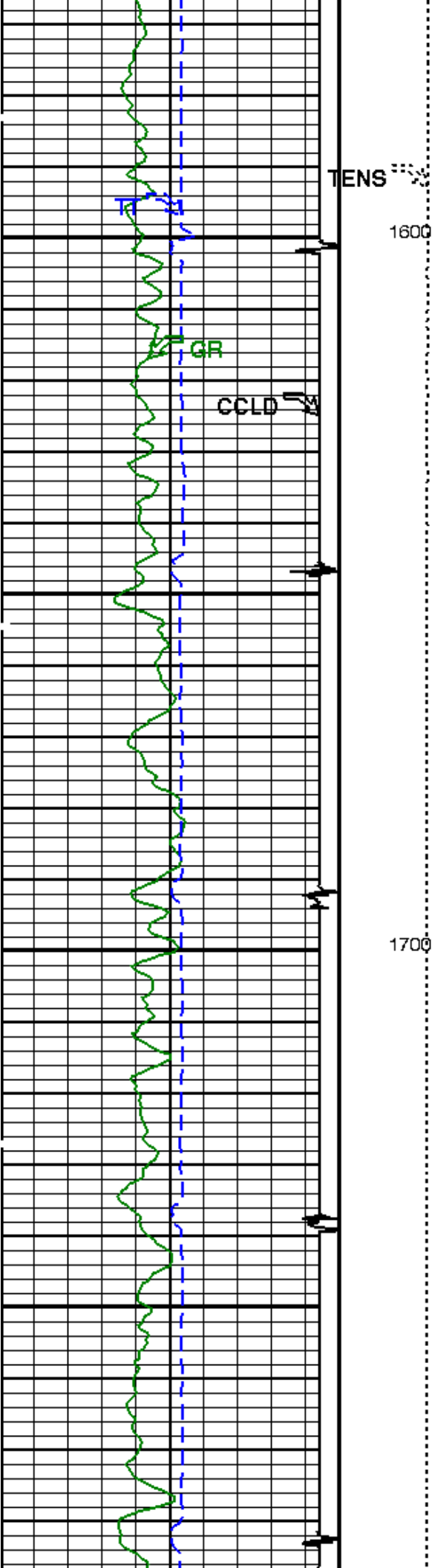


GGBG

CBL









TENS

1800

GR

CCLD

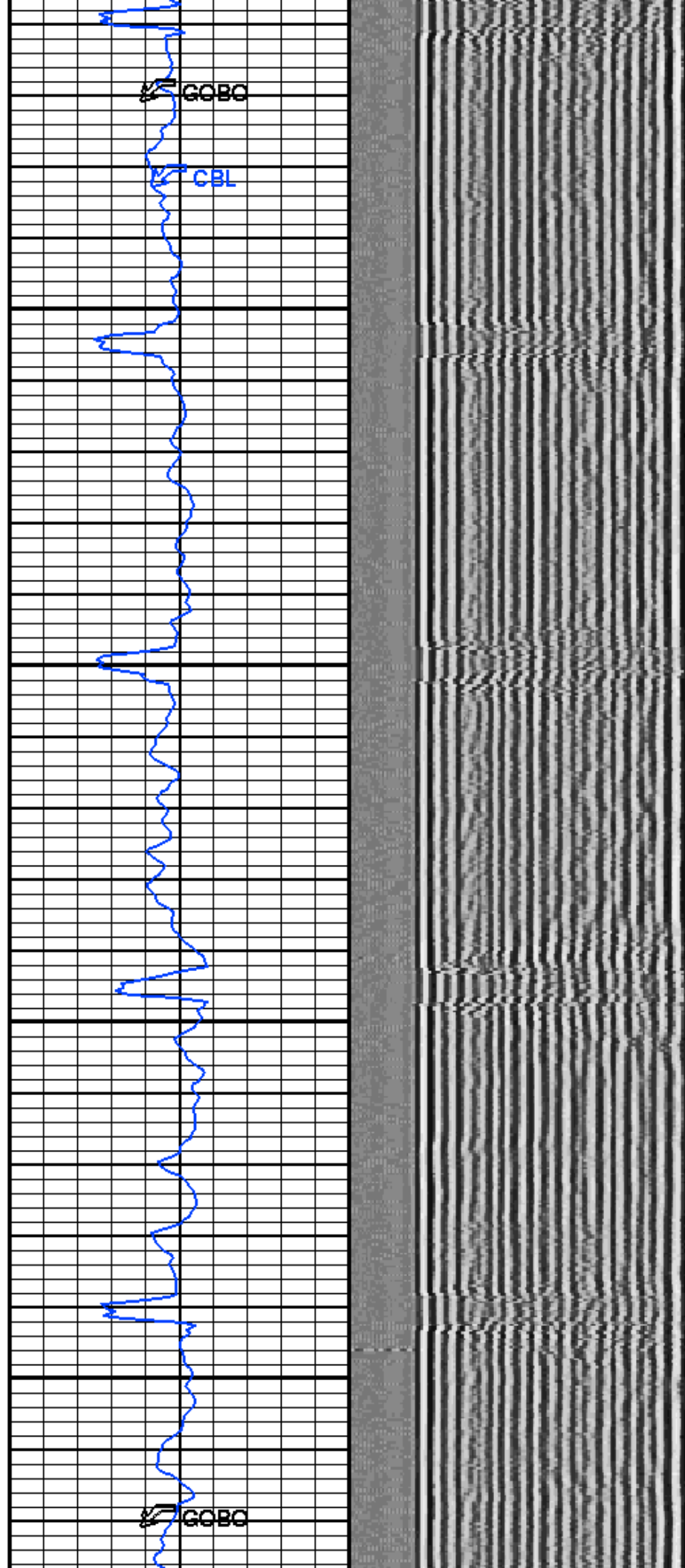
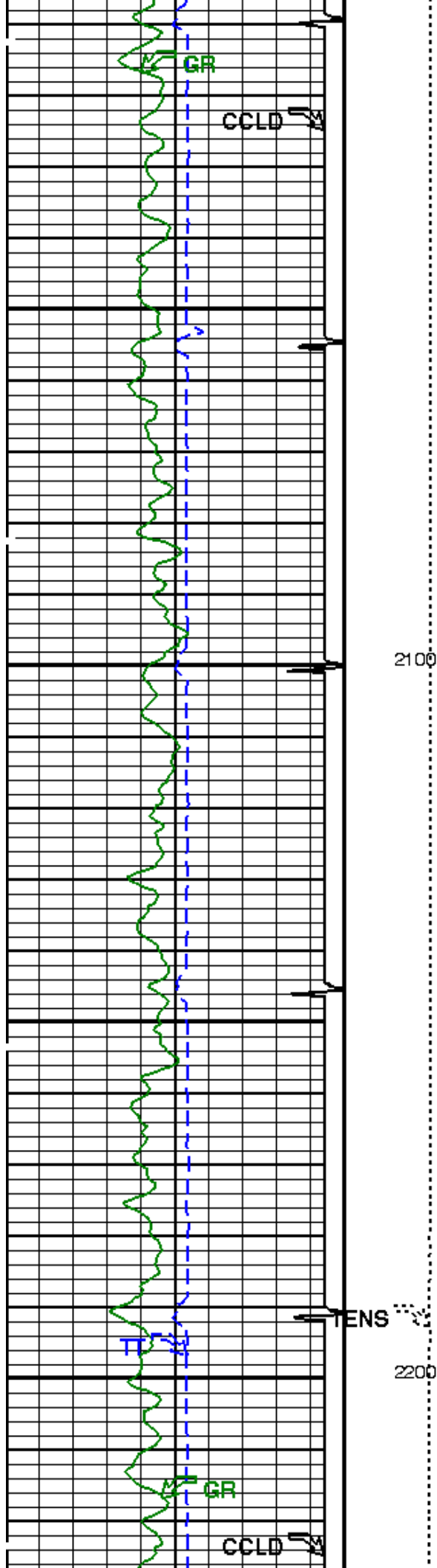
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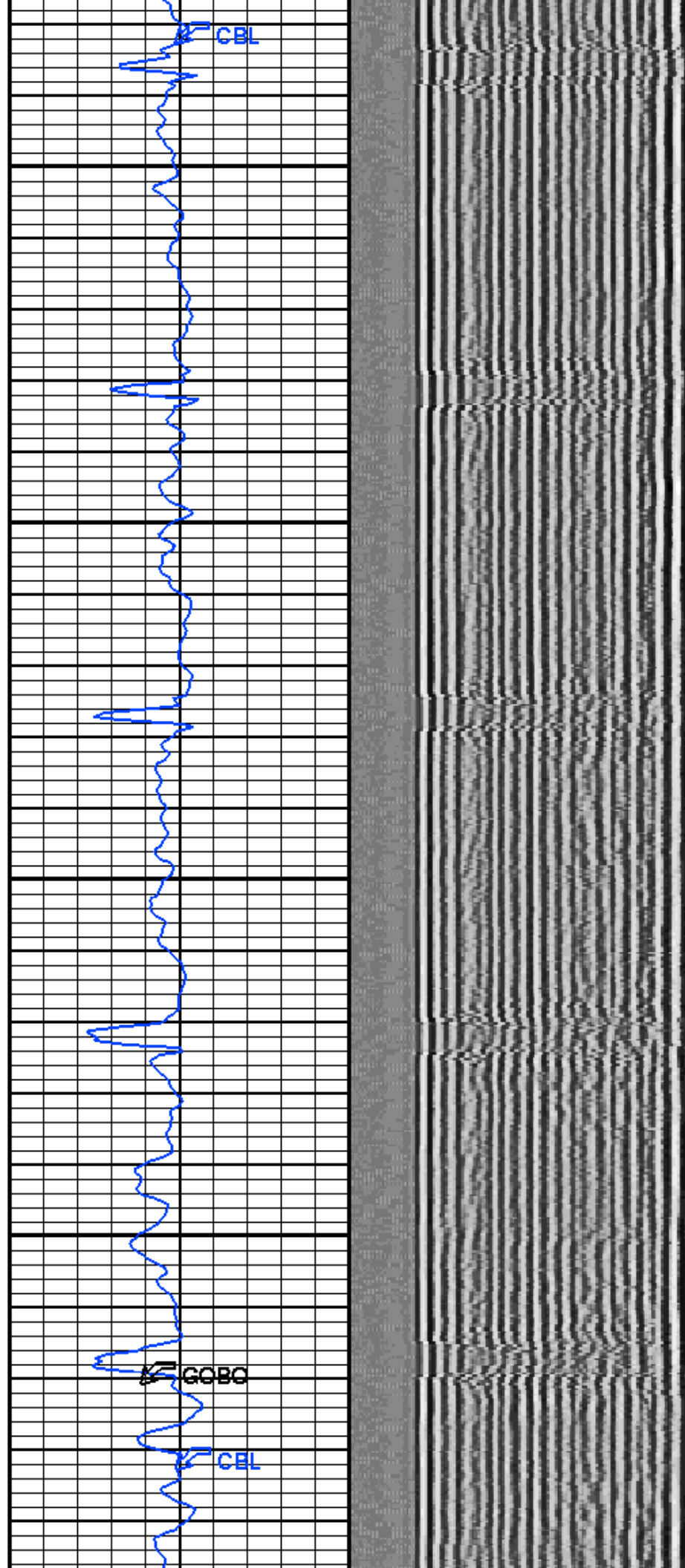
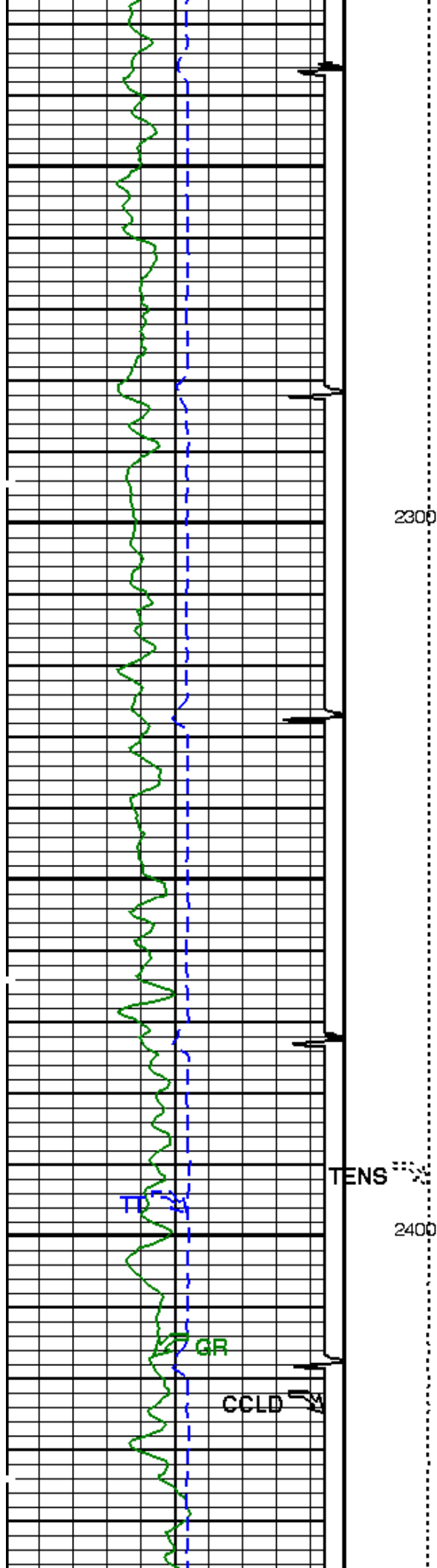
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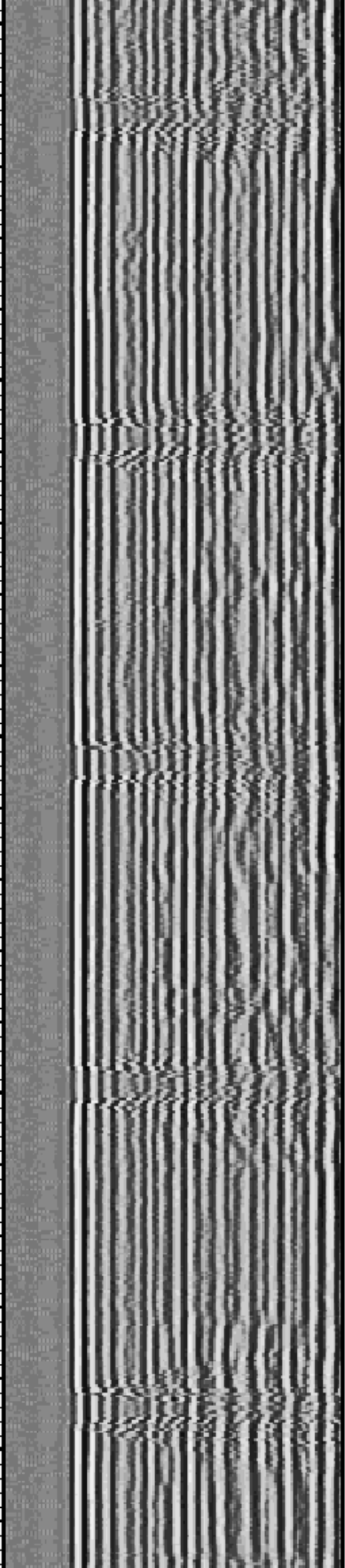
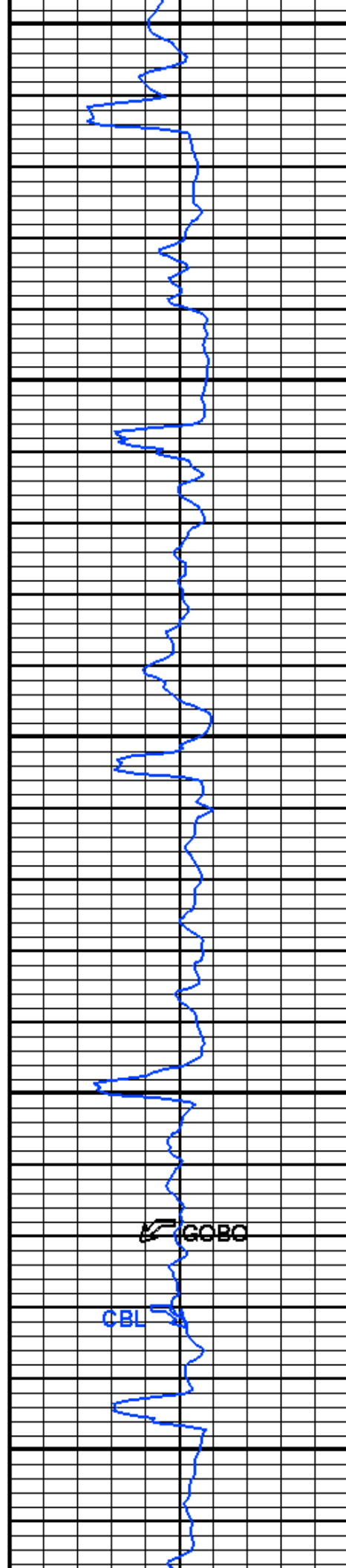
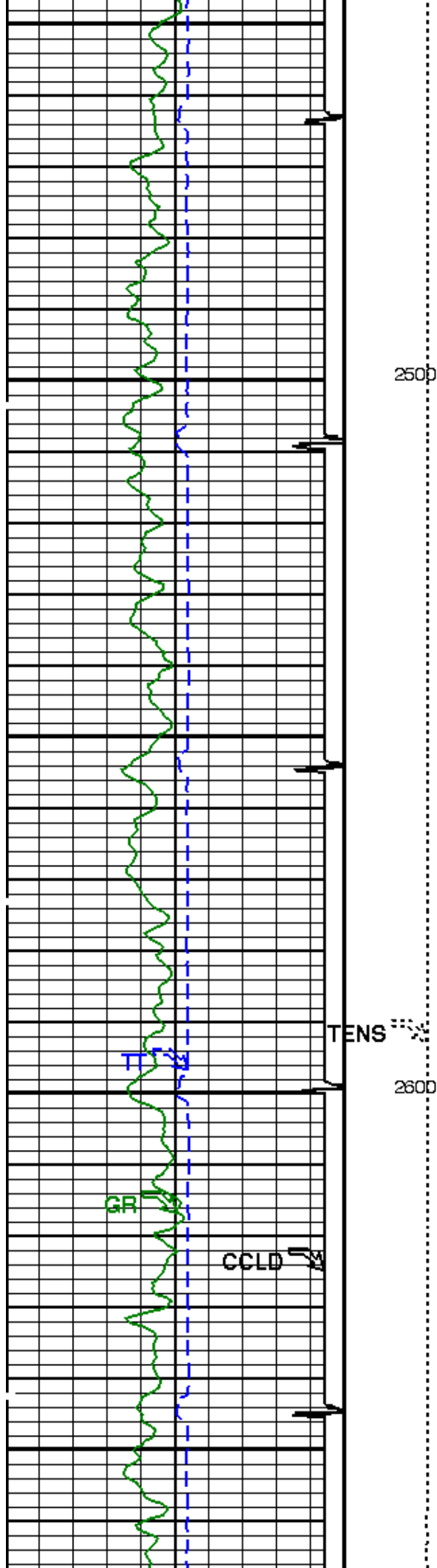
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GGBG

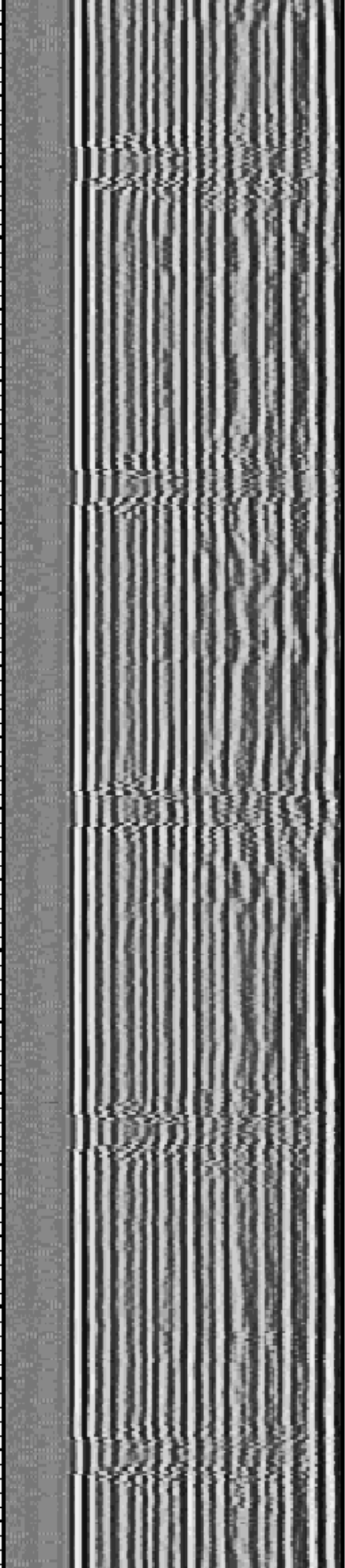
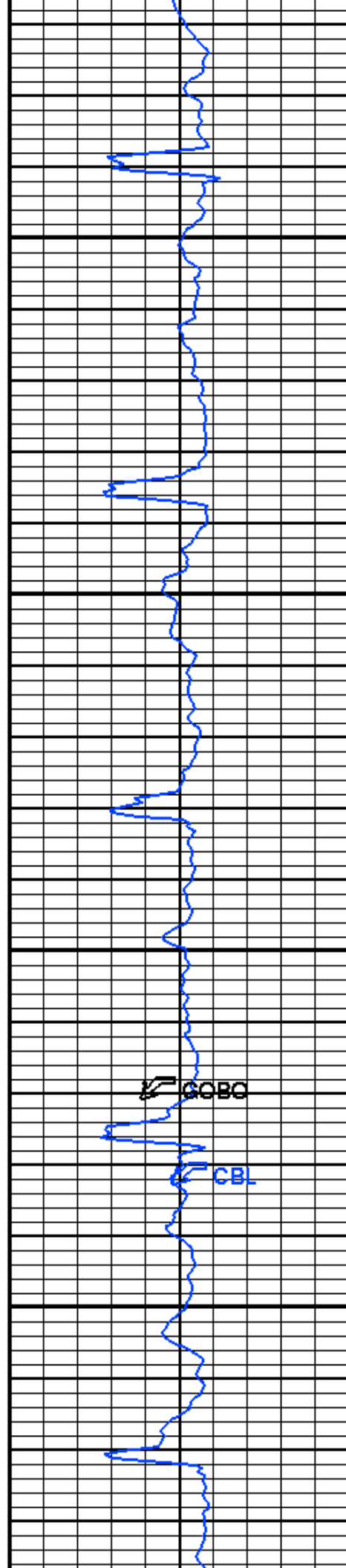
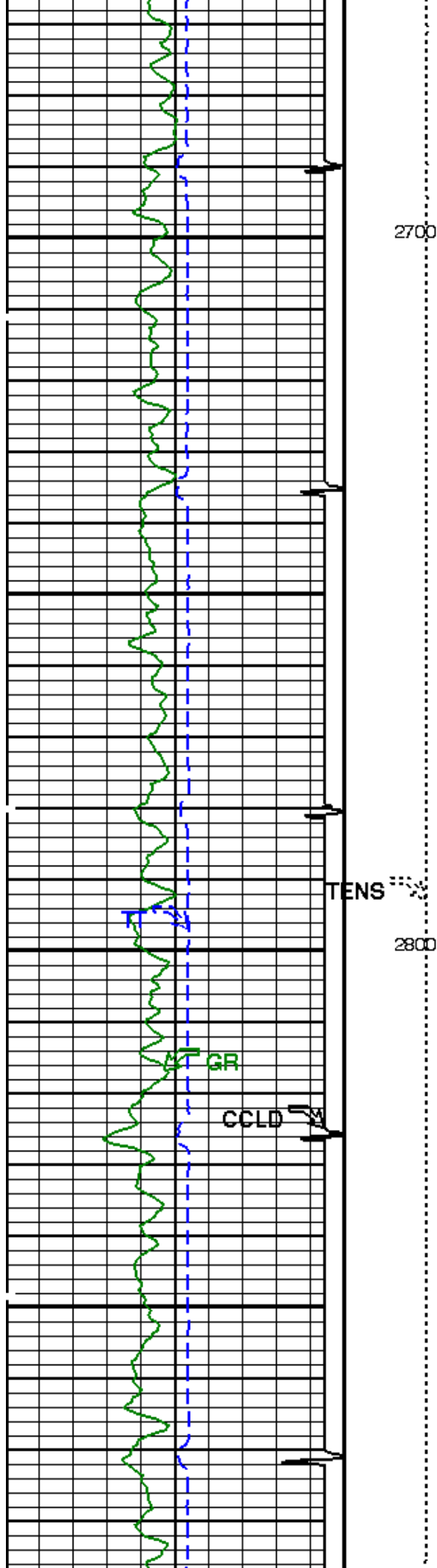
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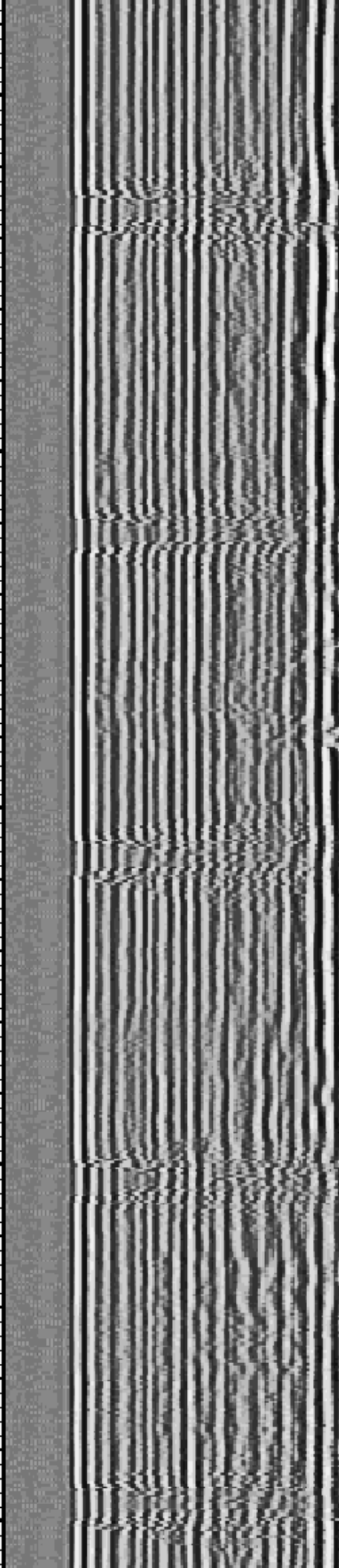
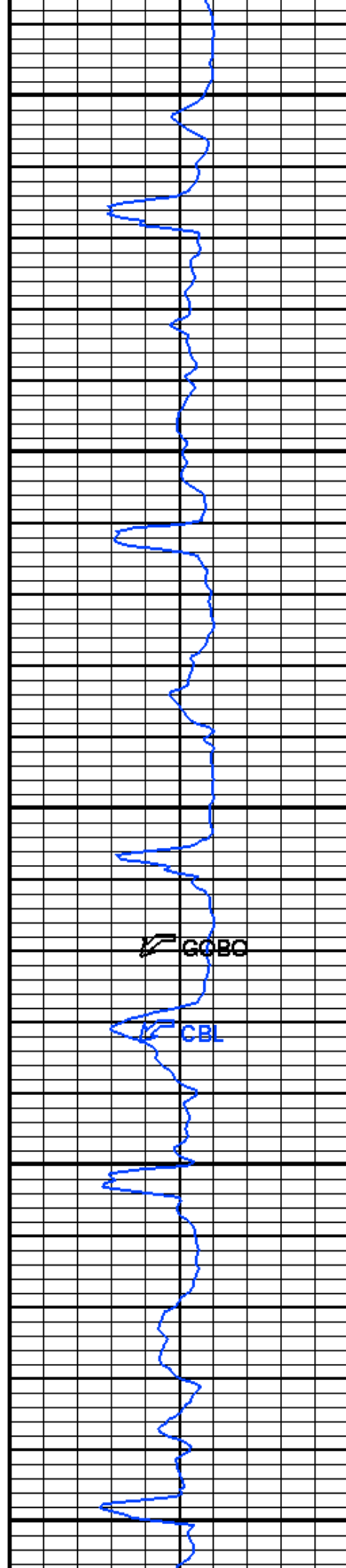
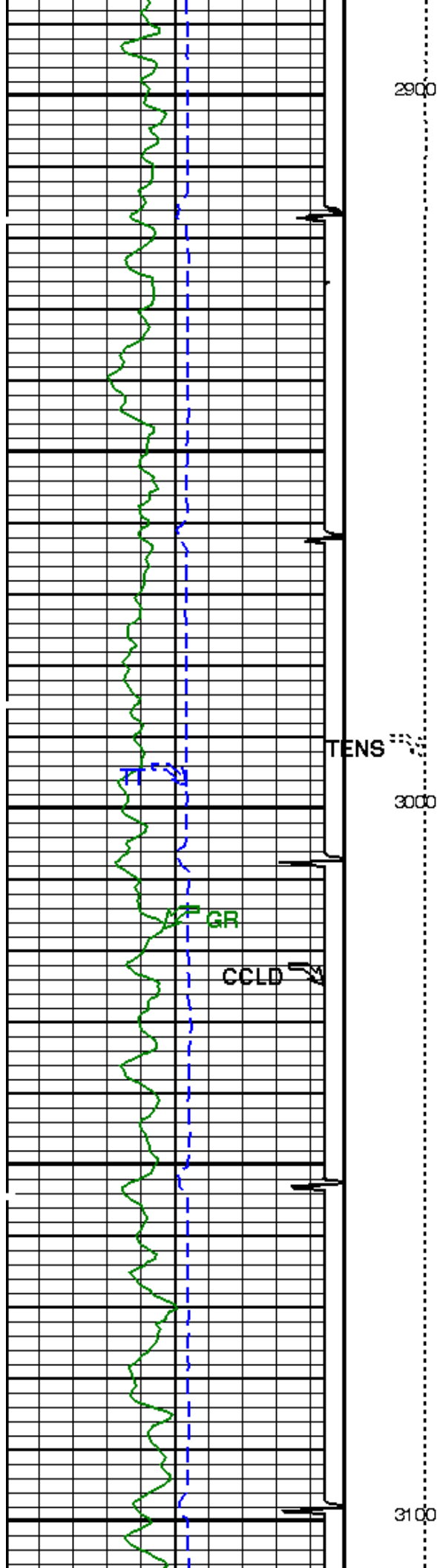


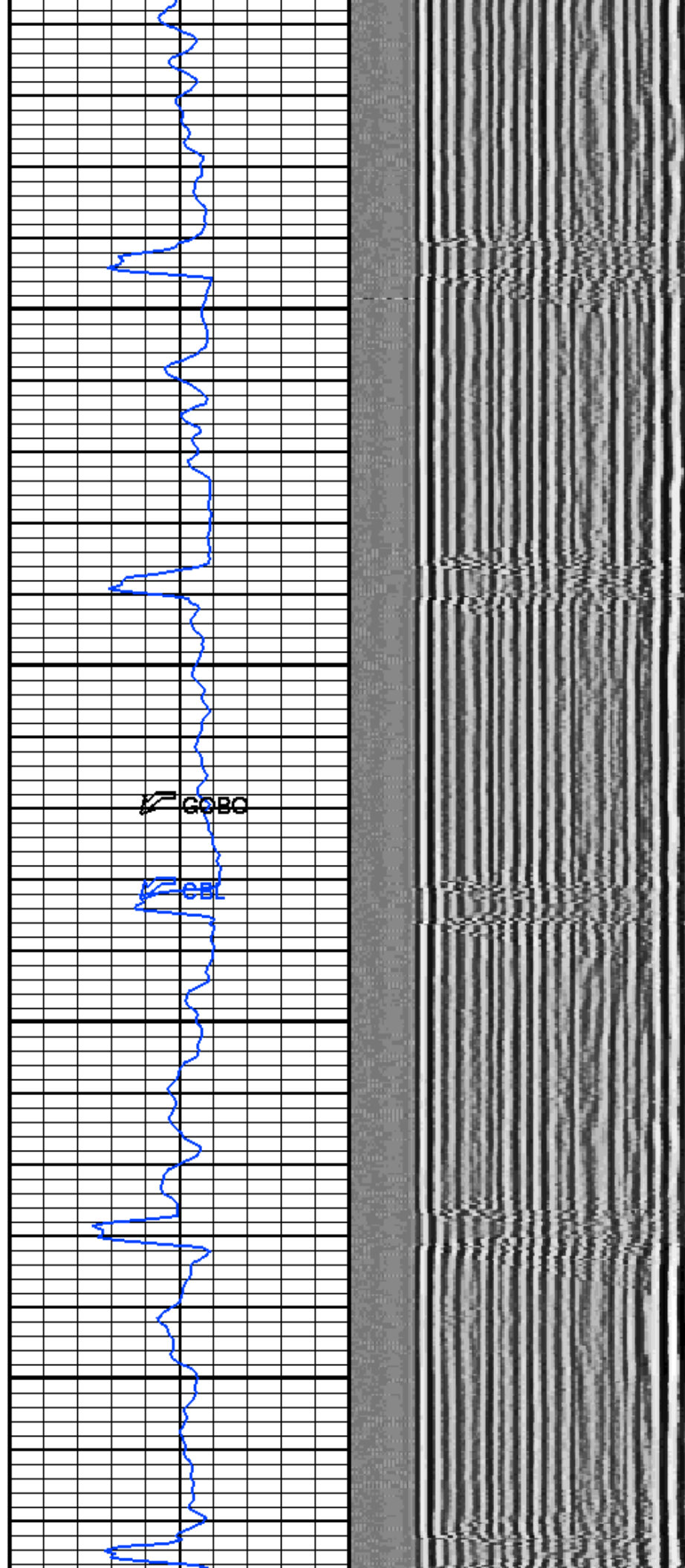
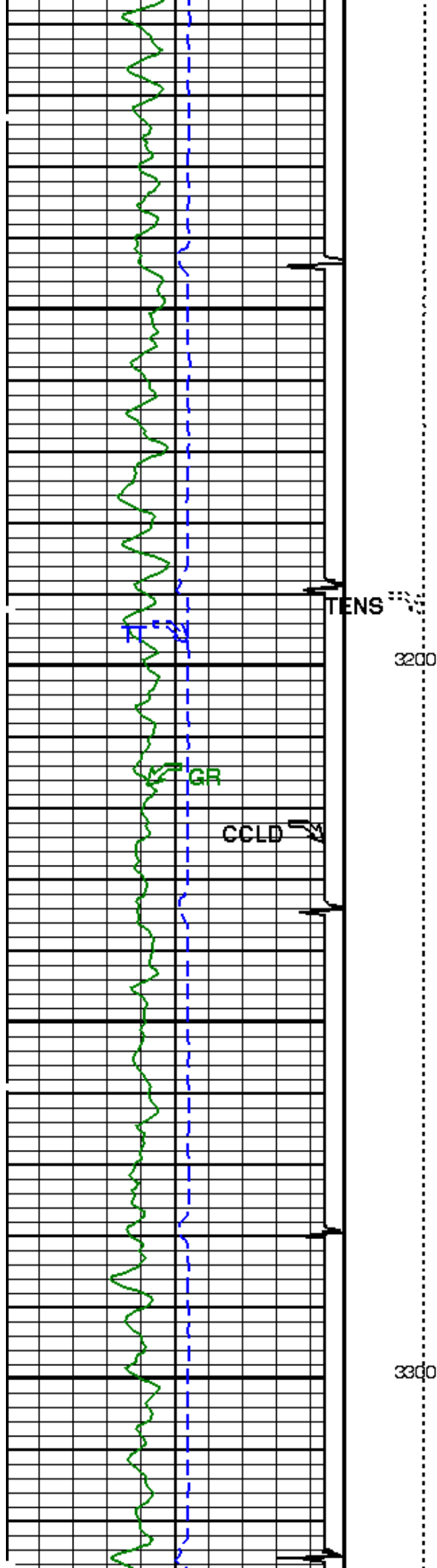




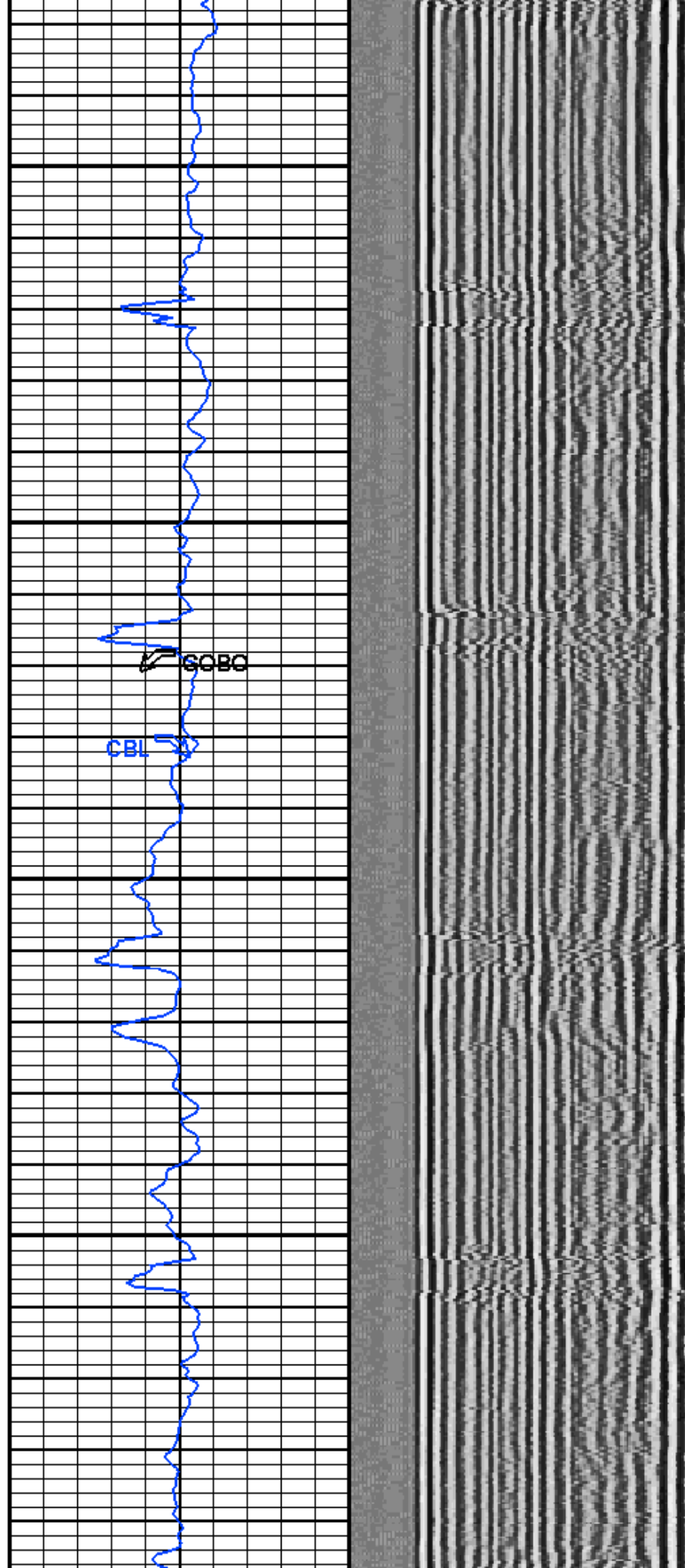
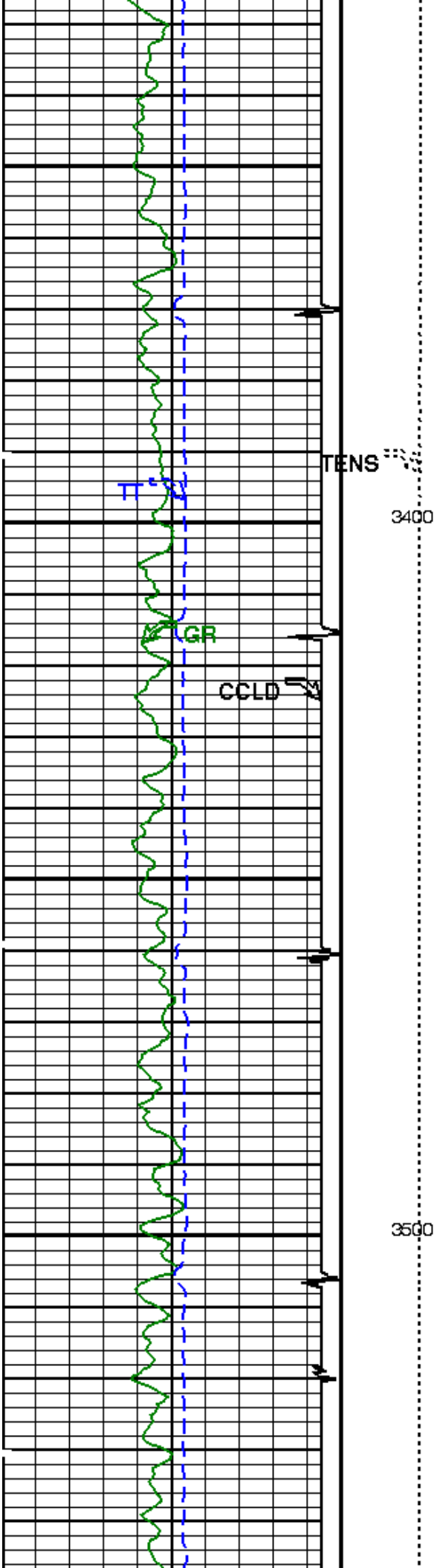


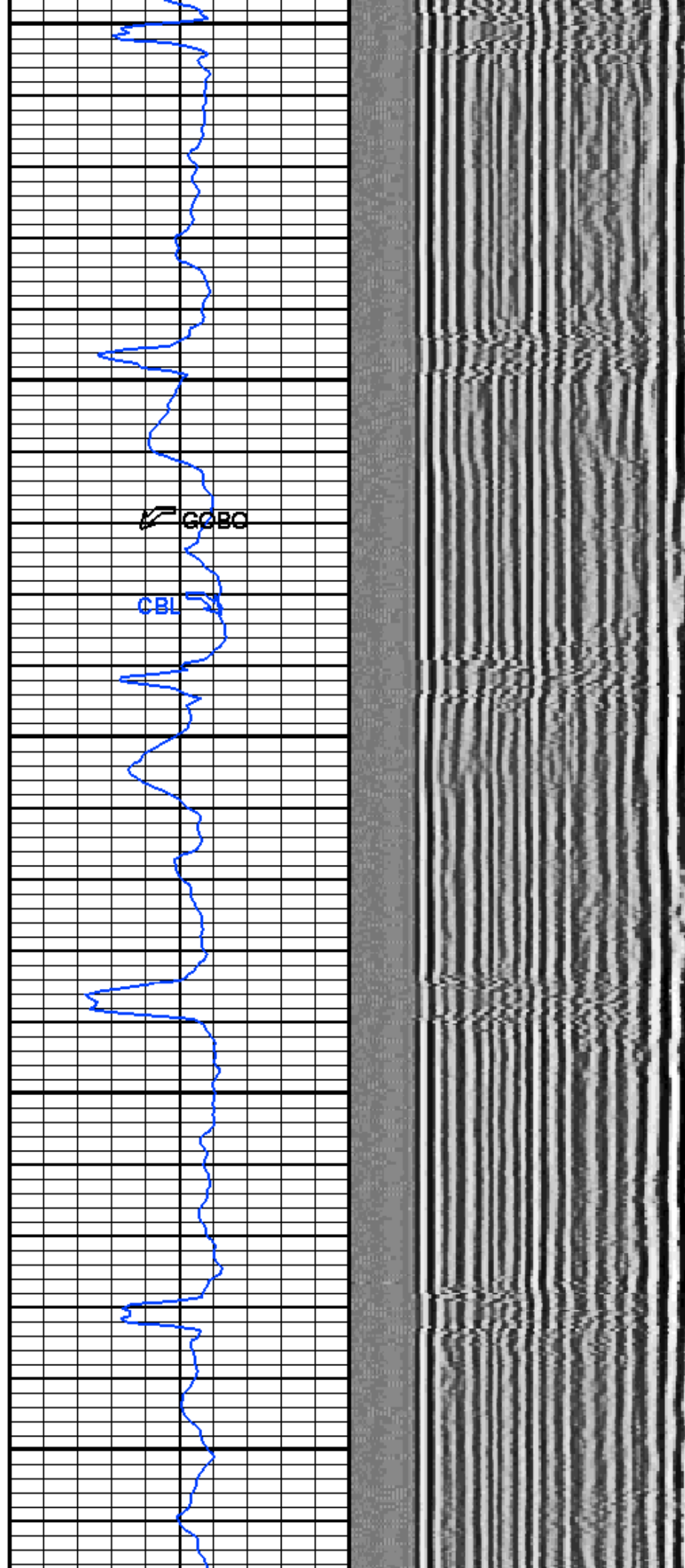
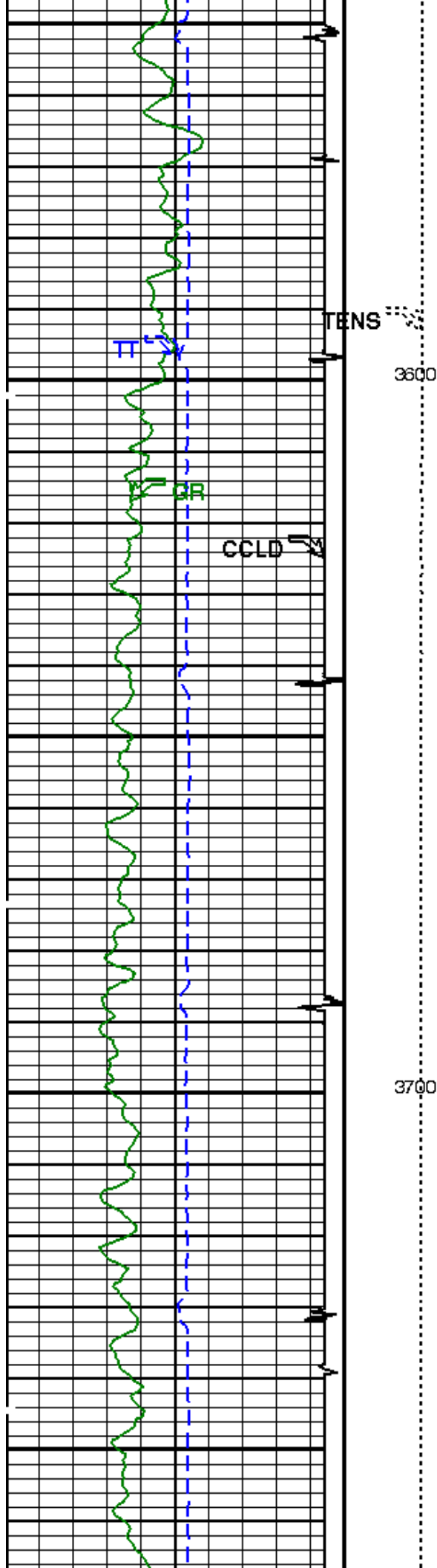


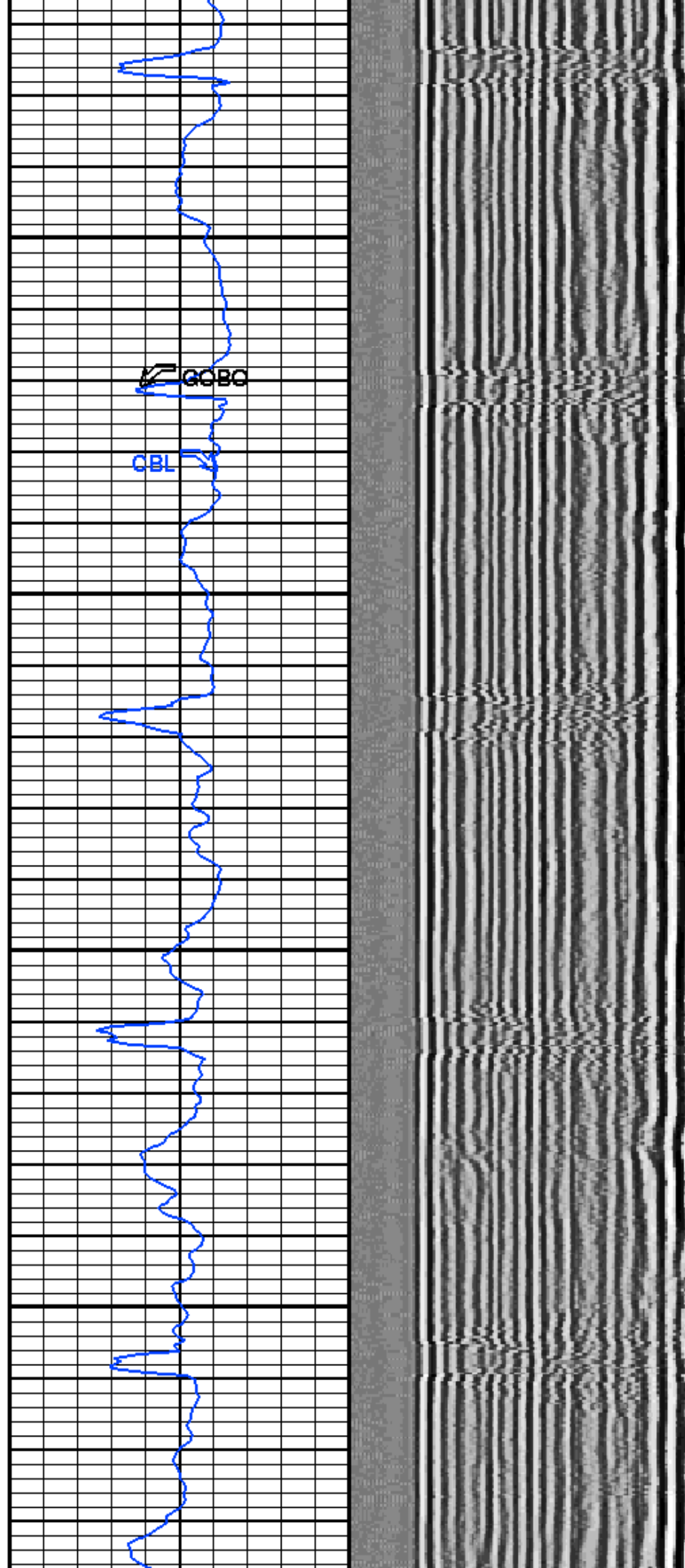
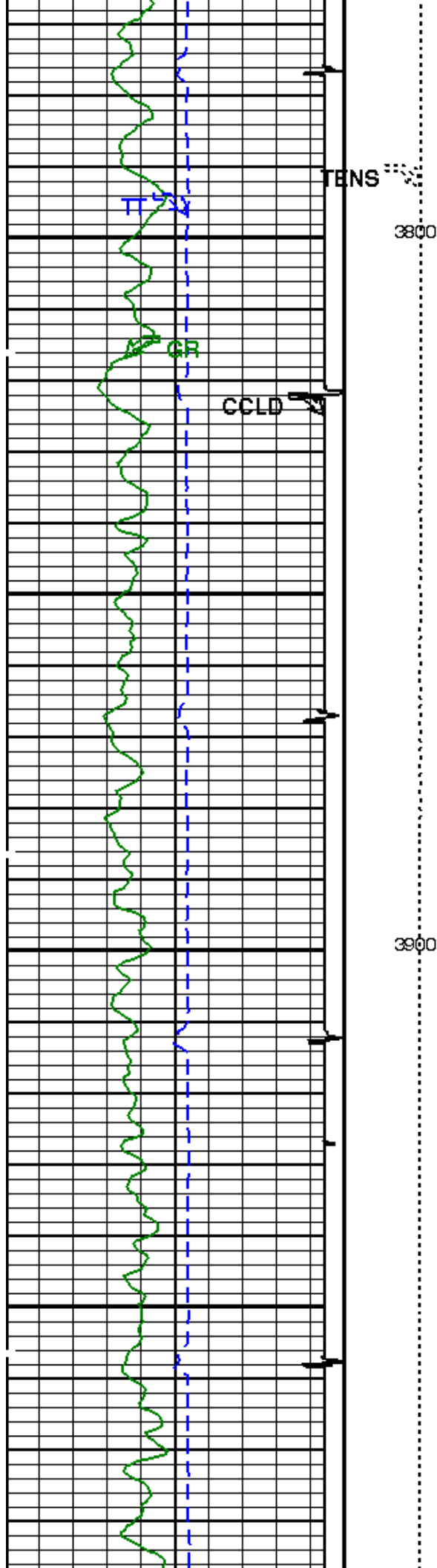


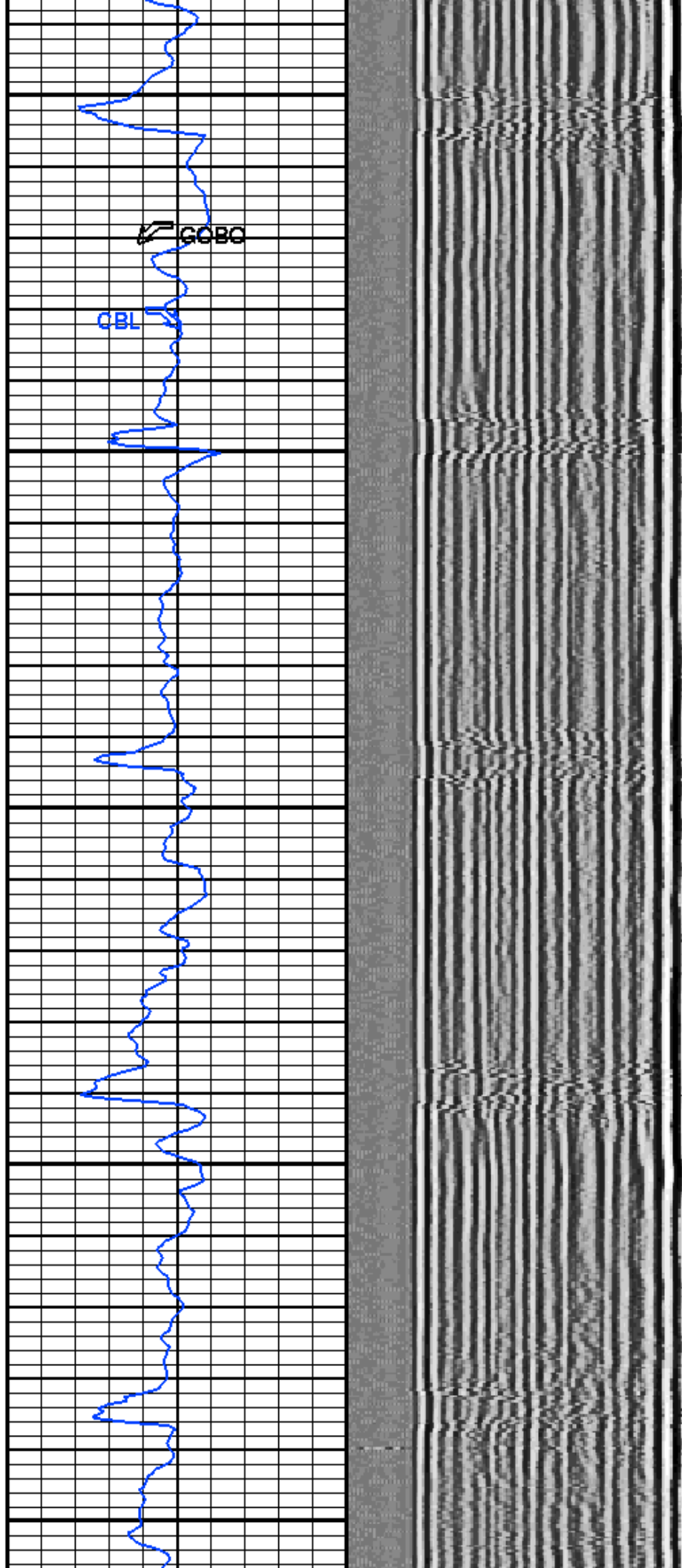
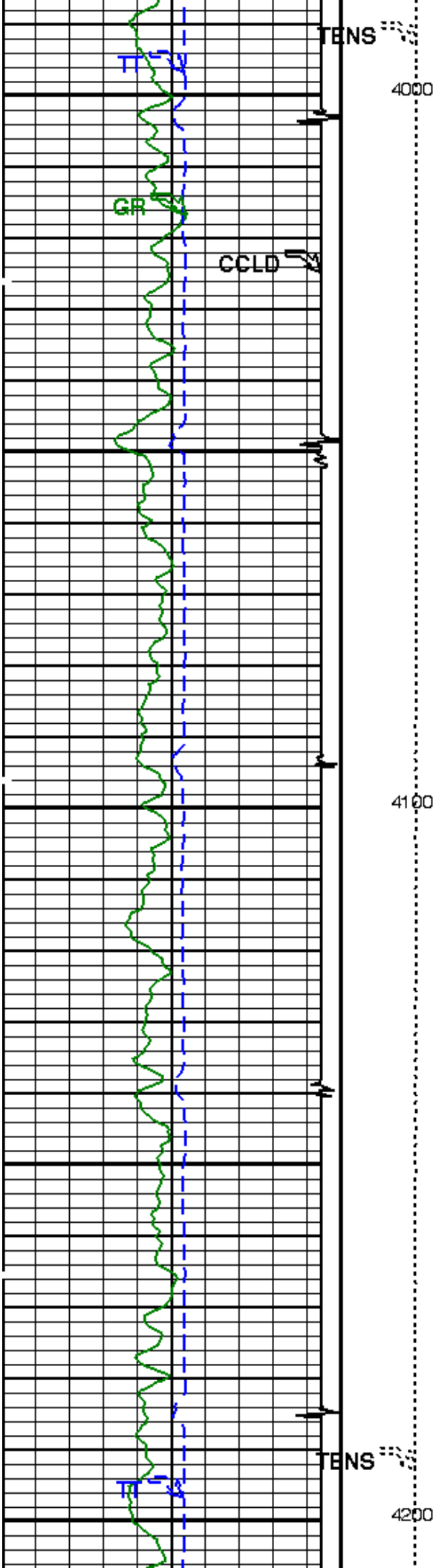




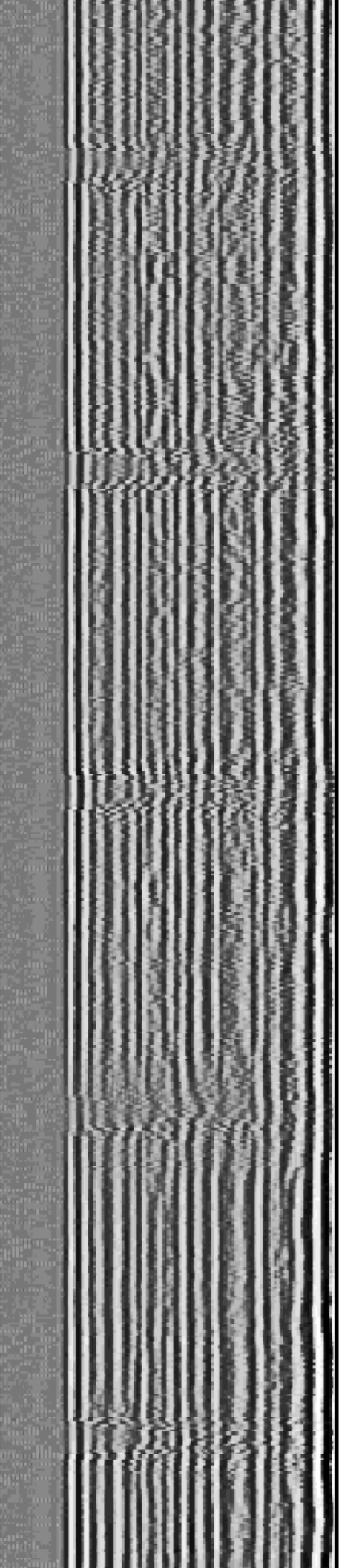
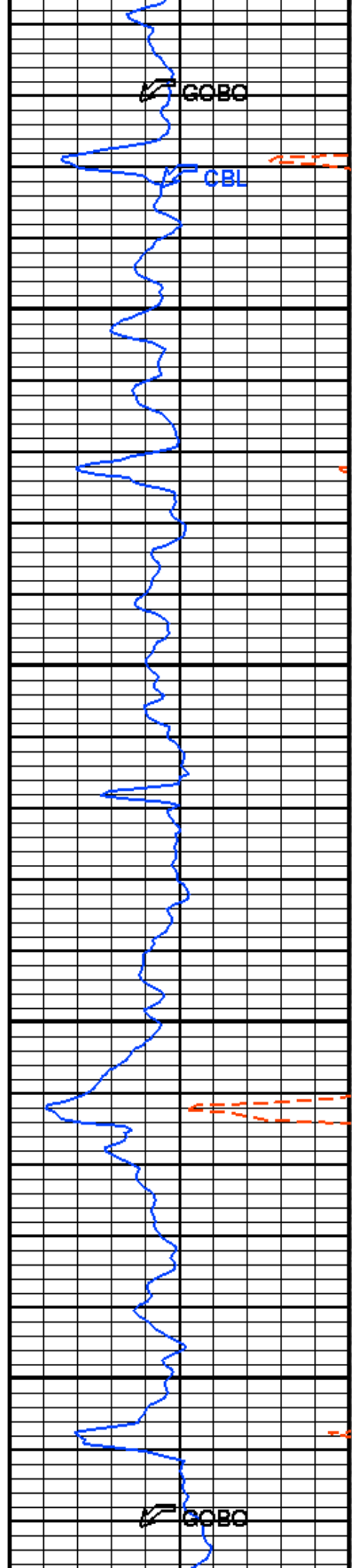
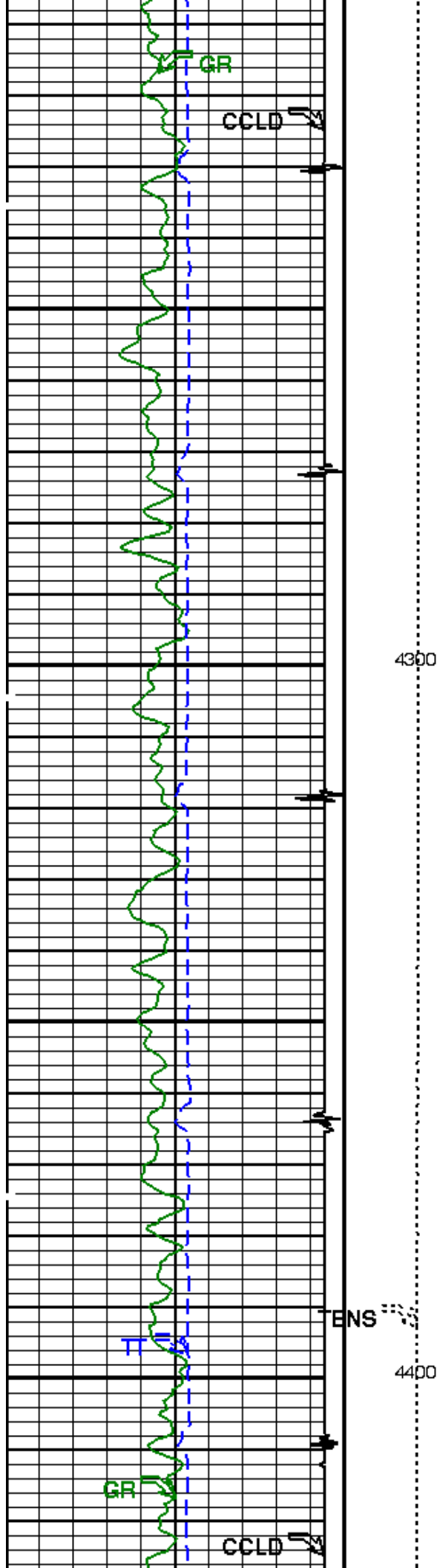


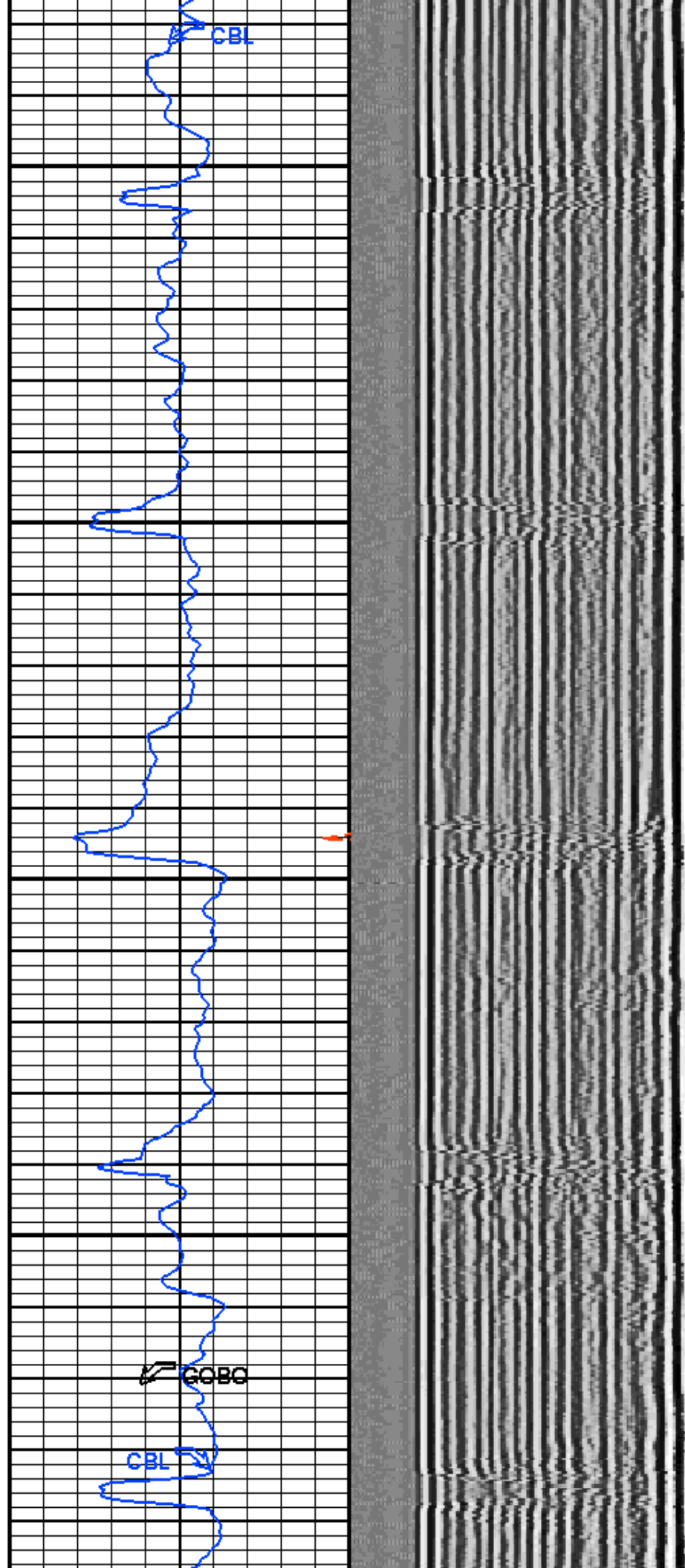
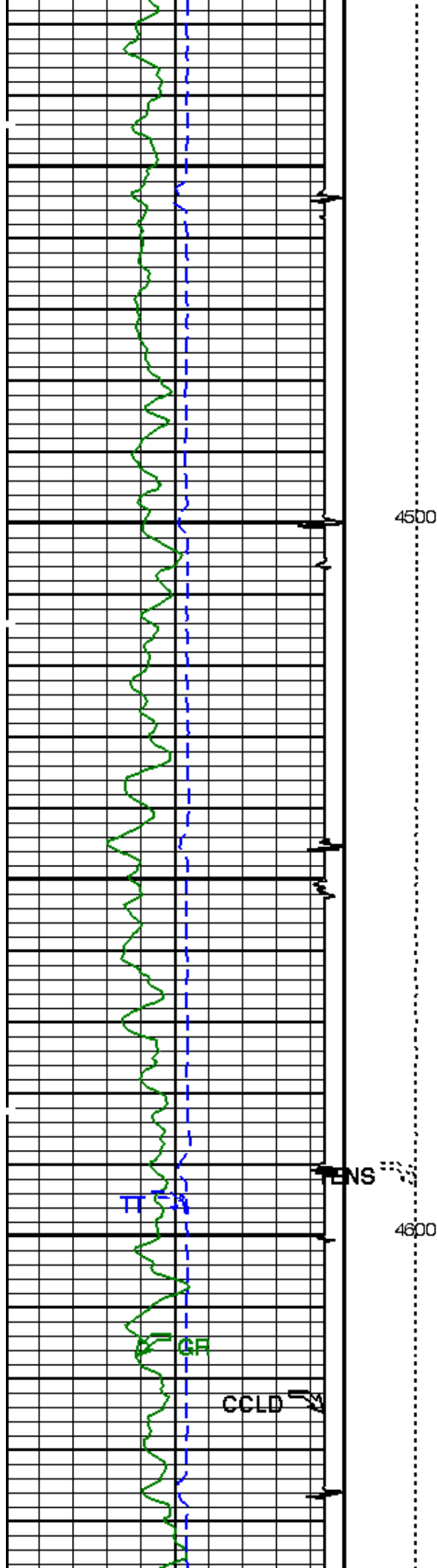


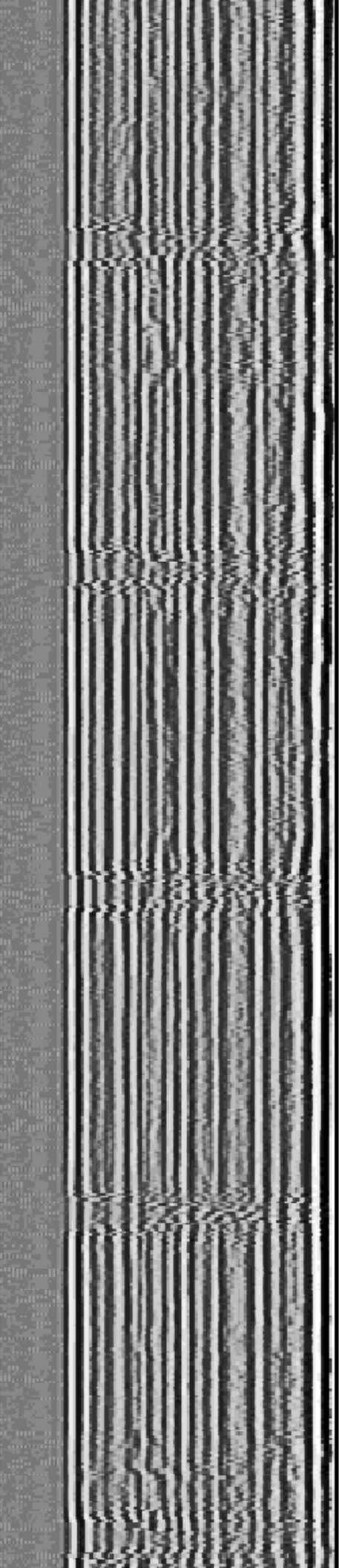
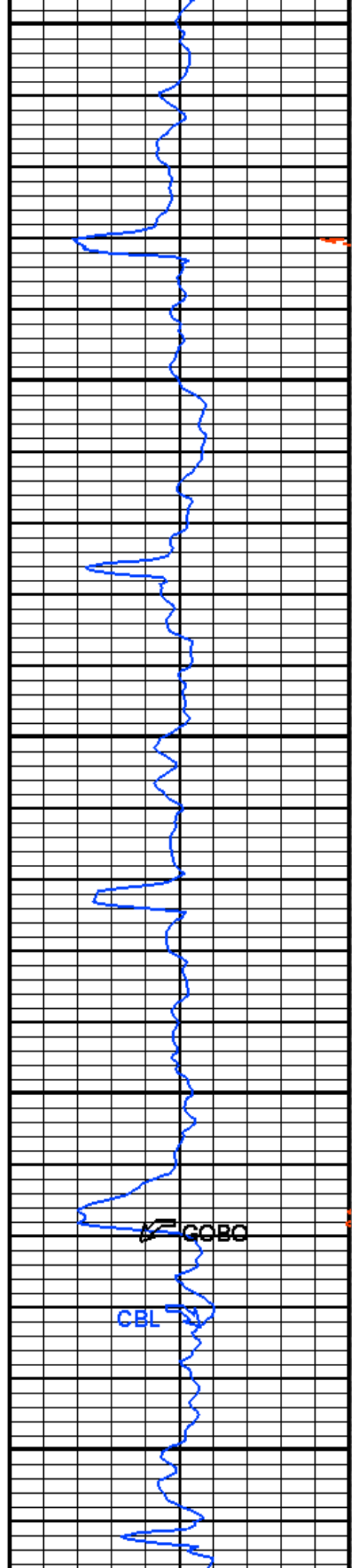
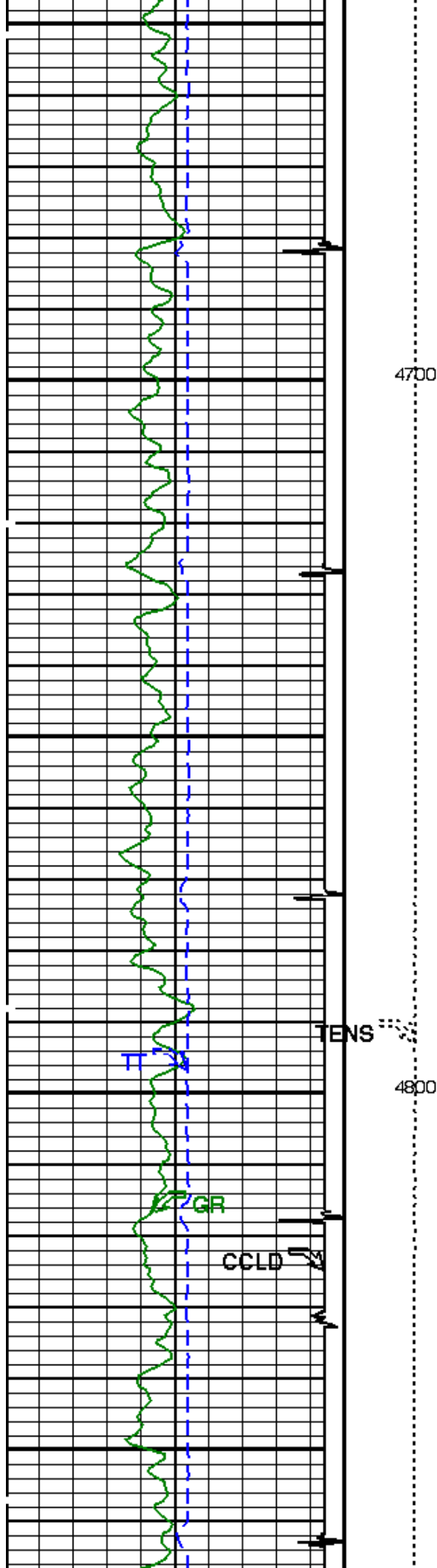




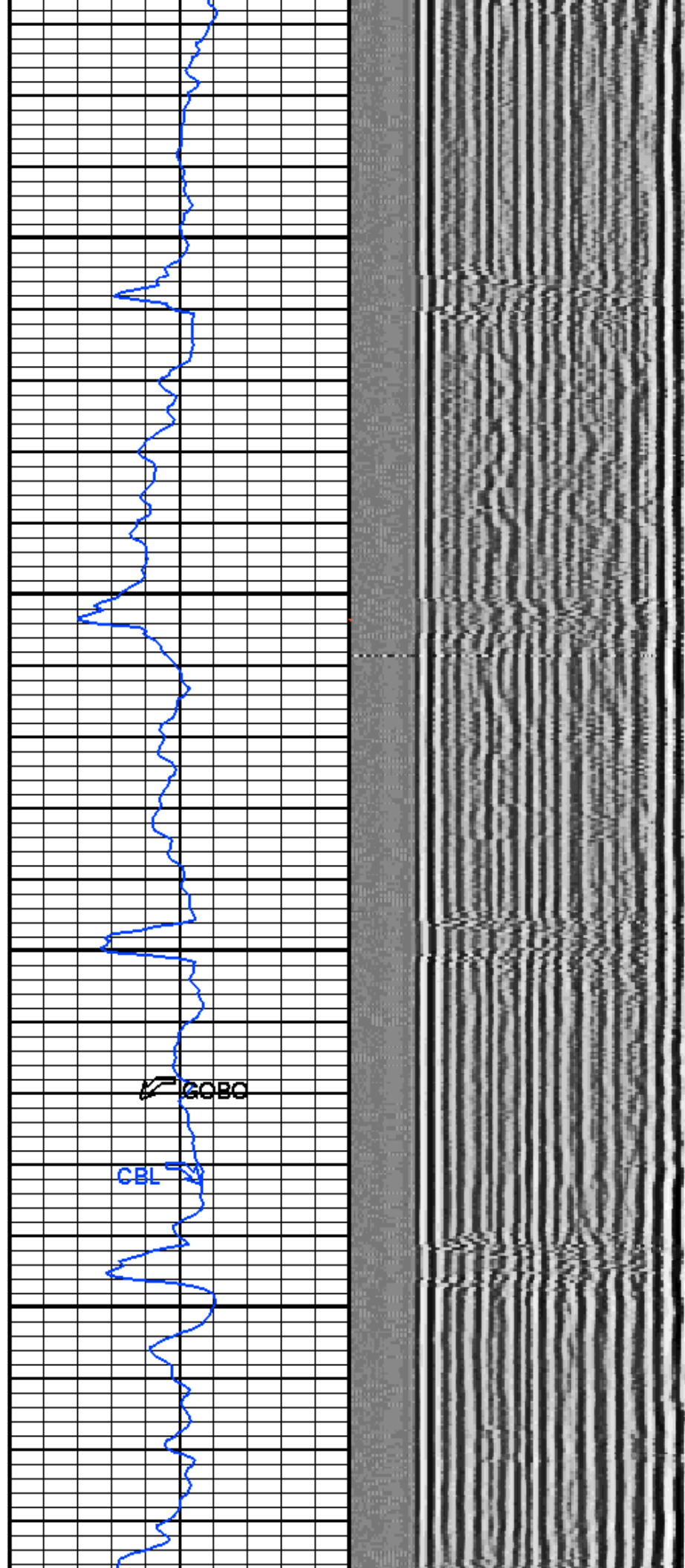
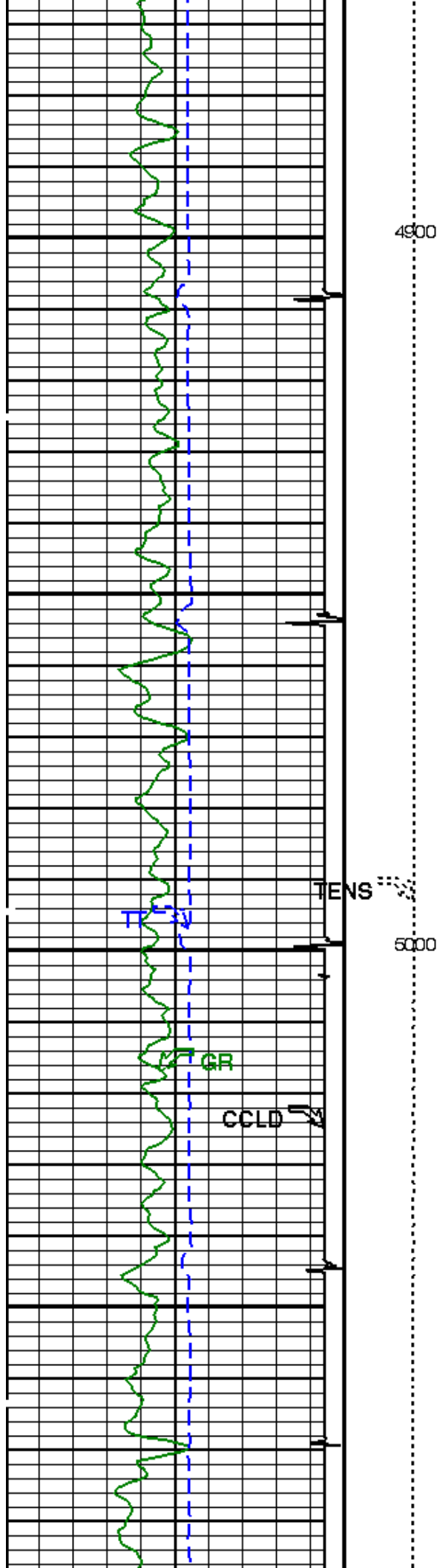


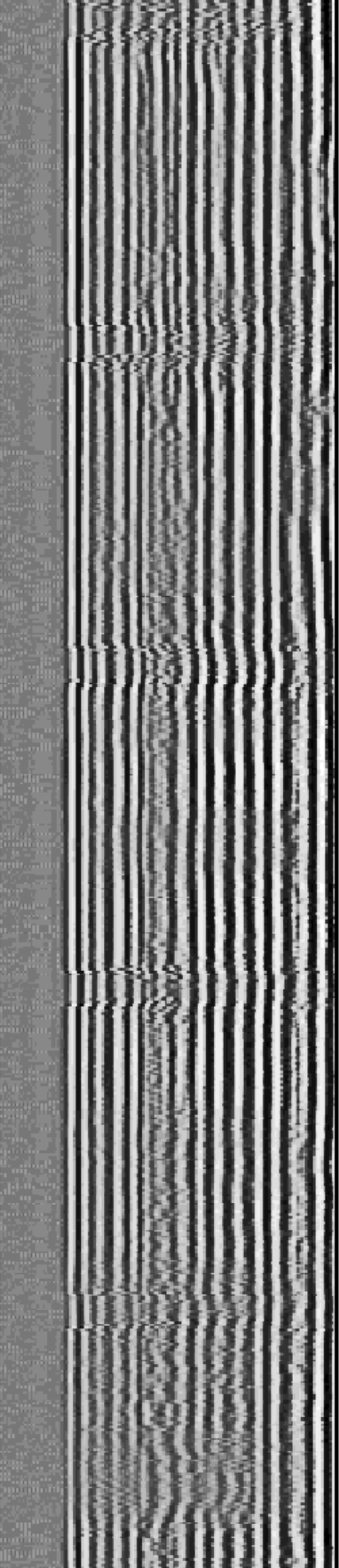
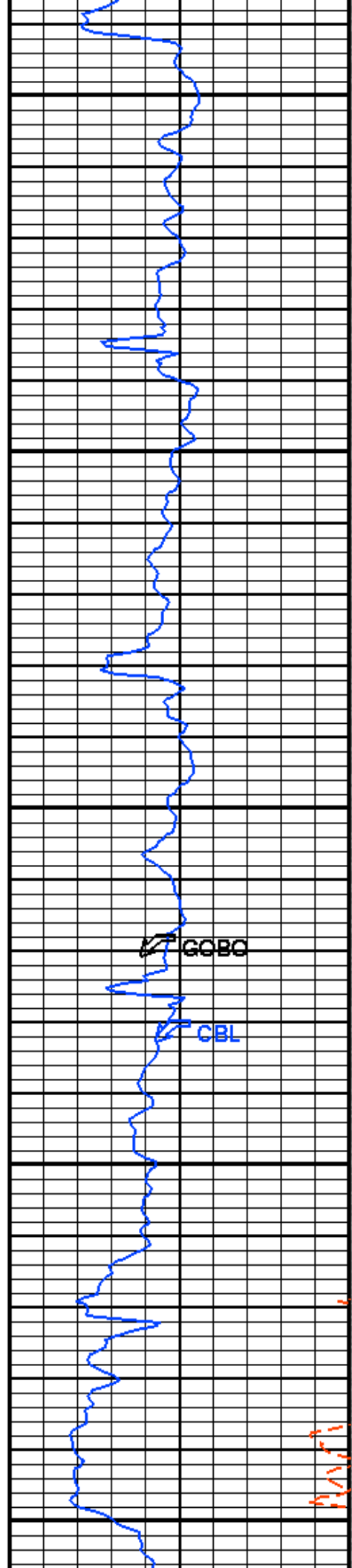
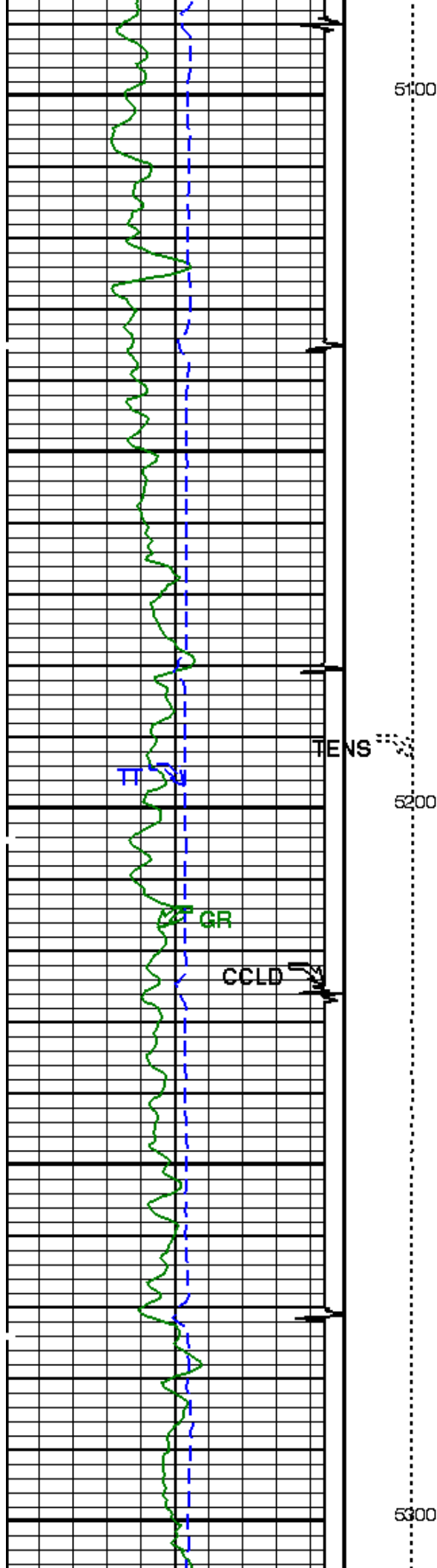


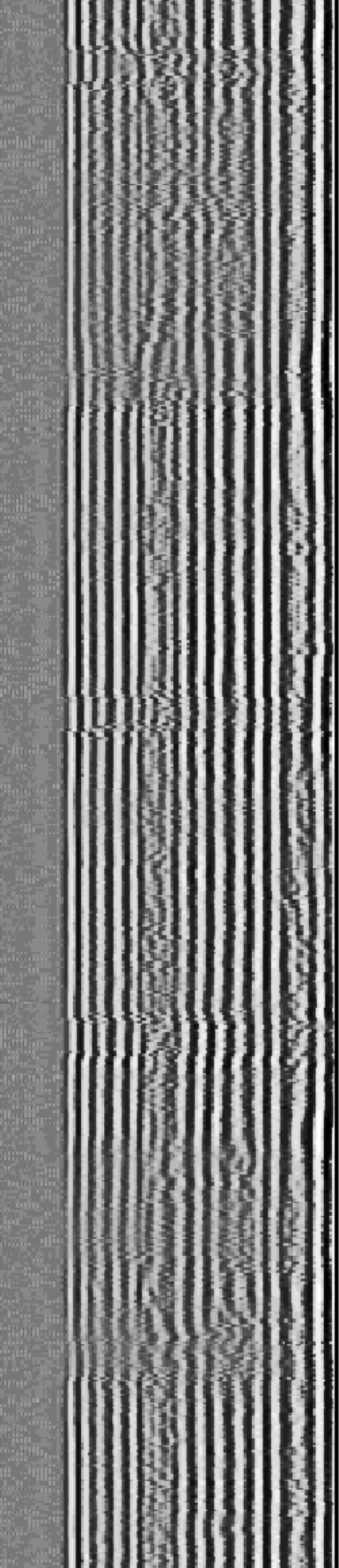
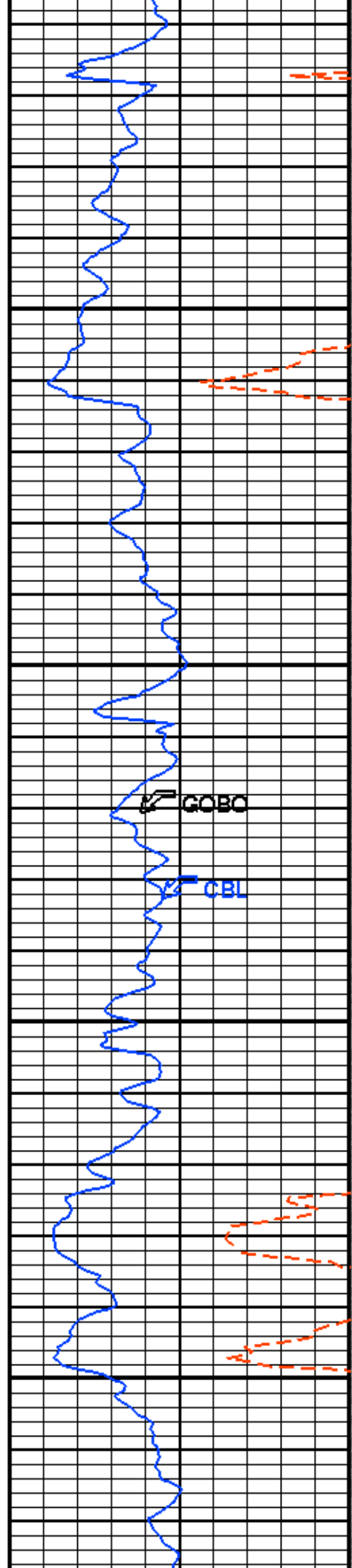
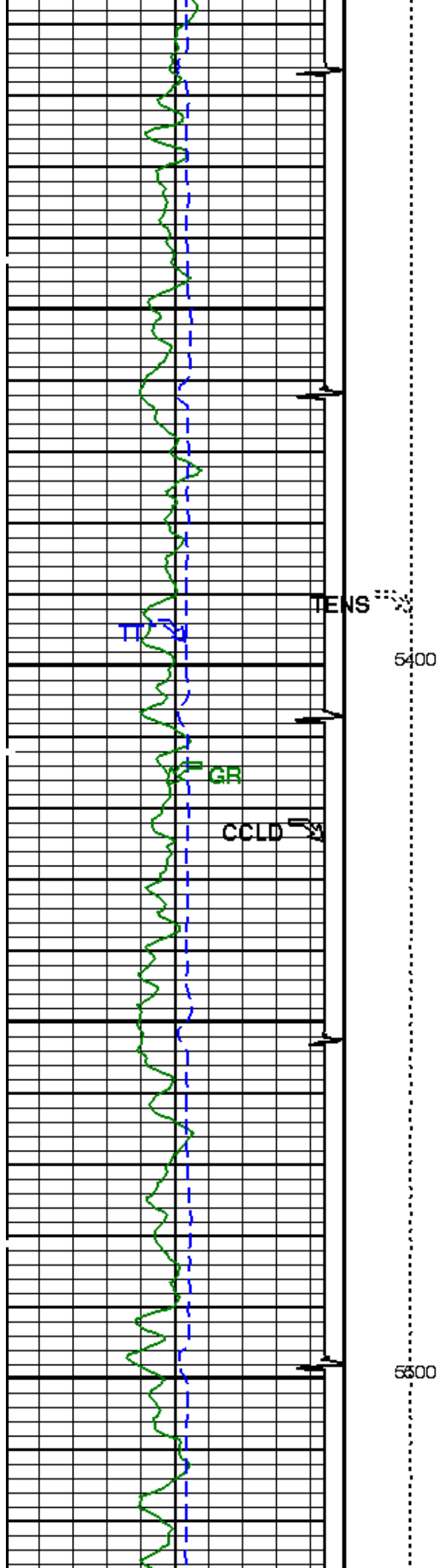


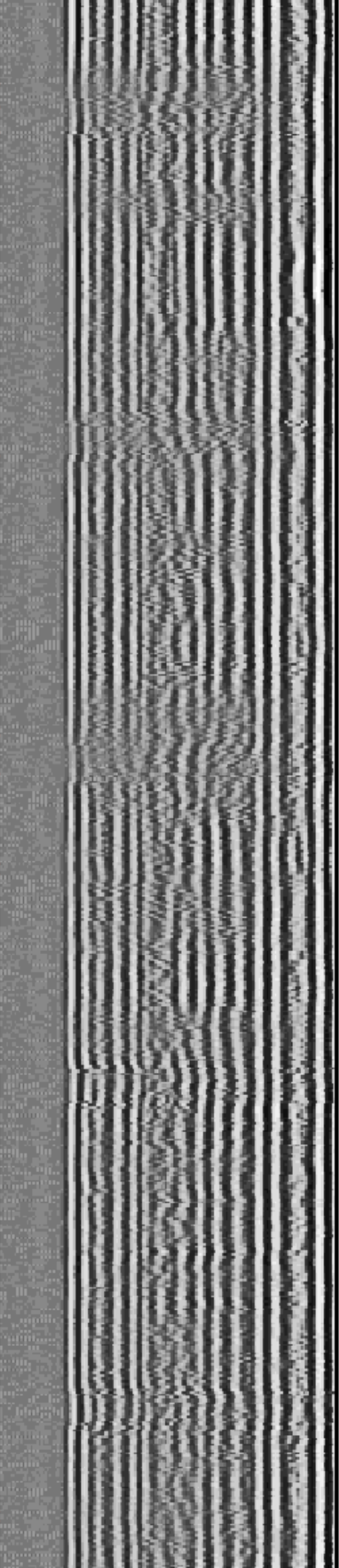
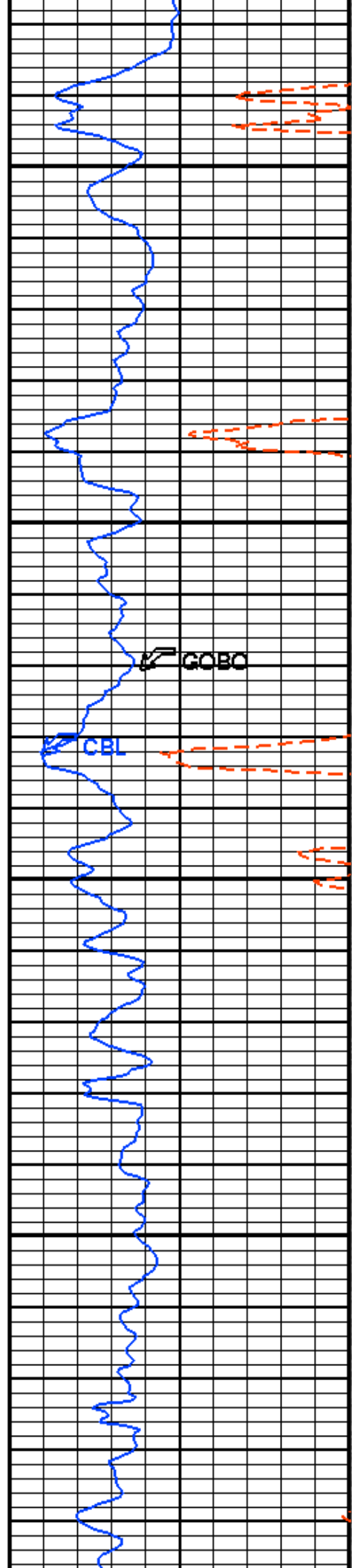
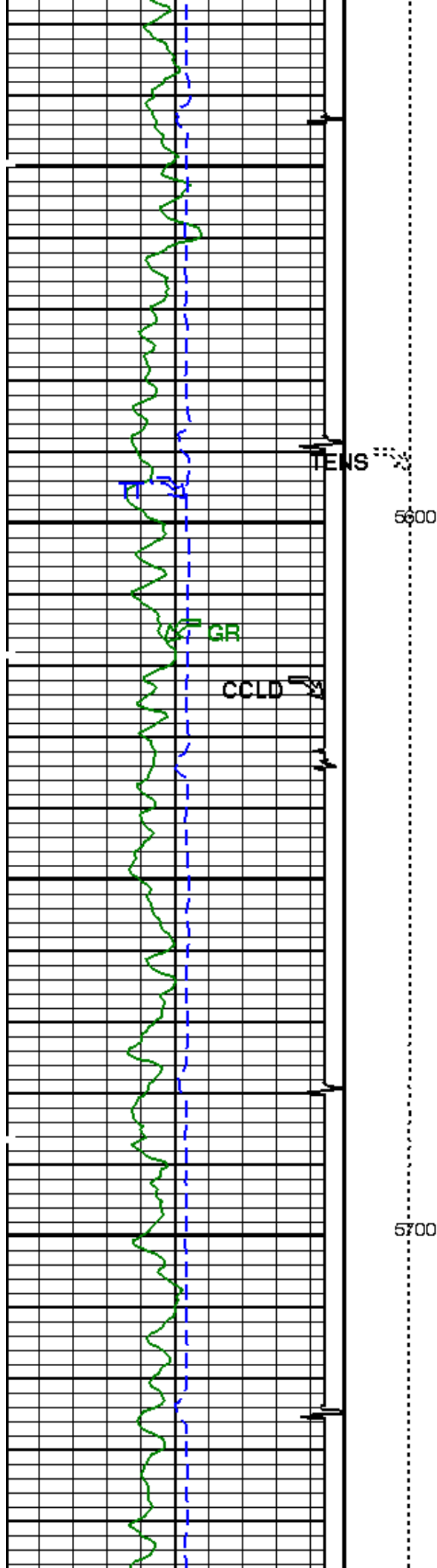




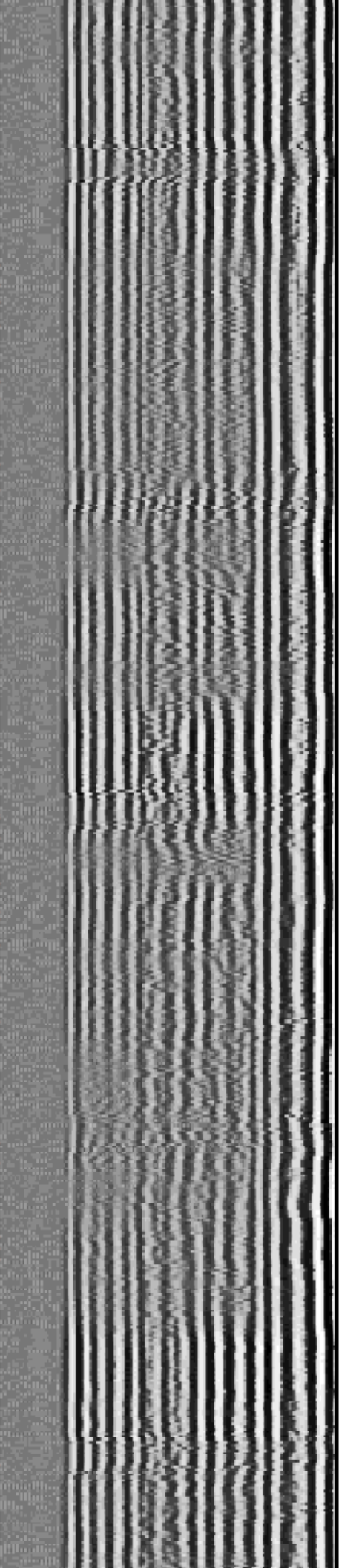
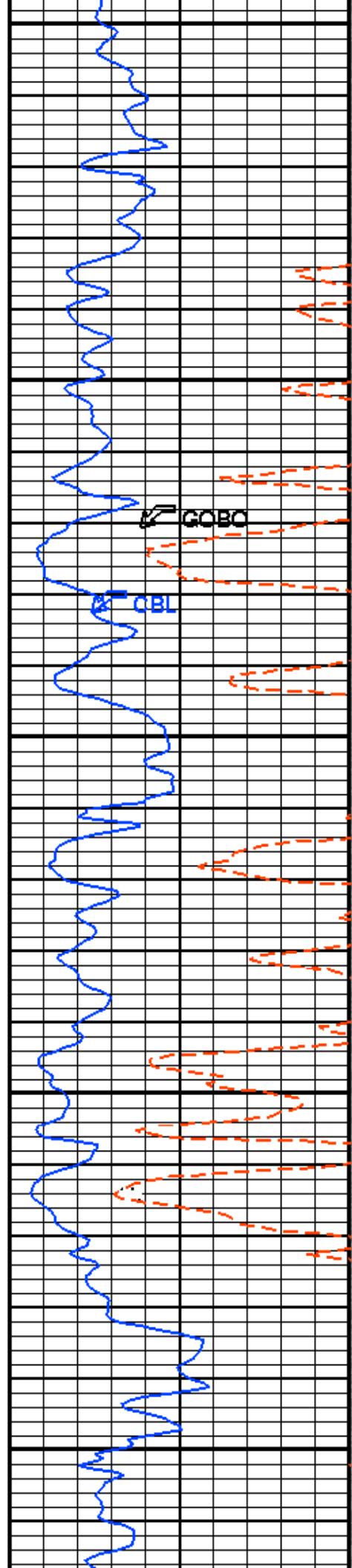
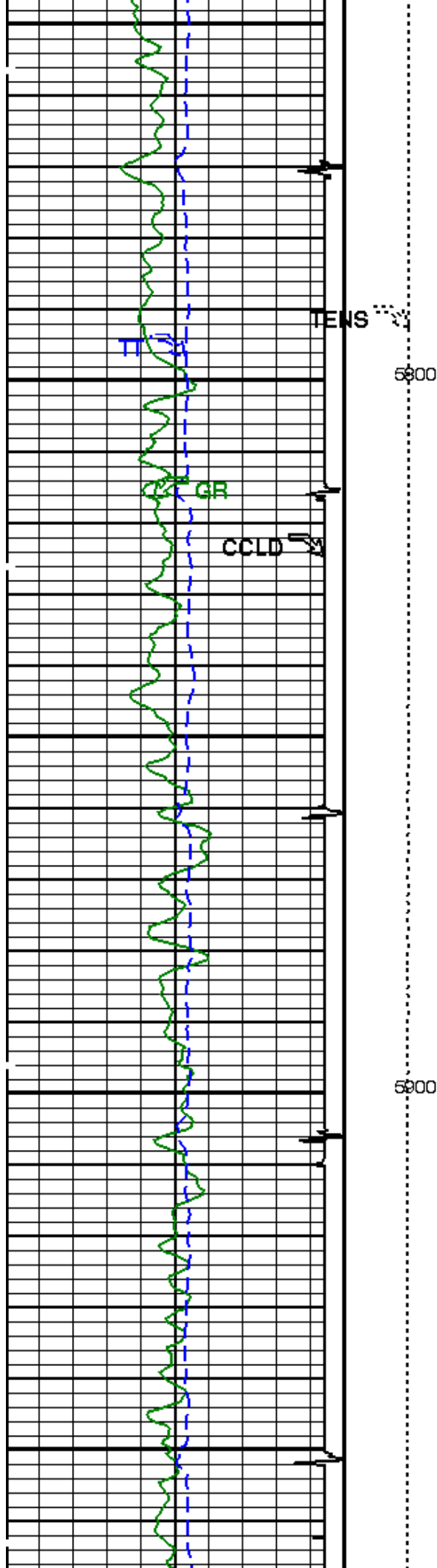


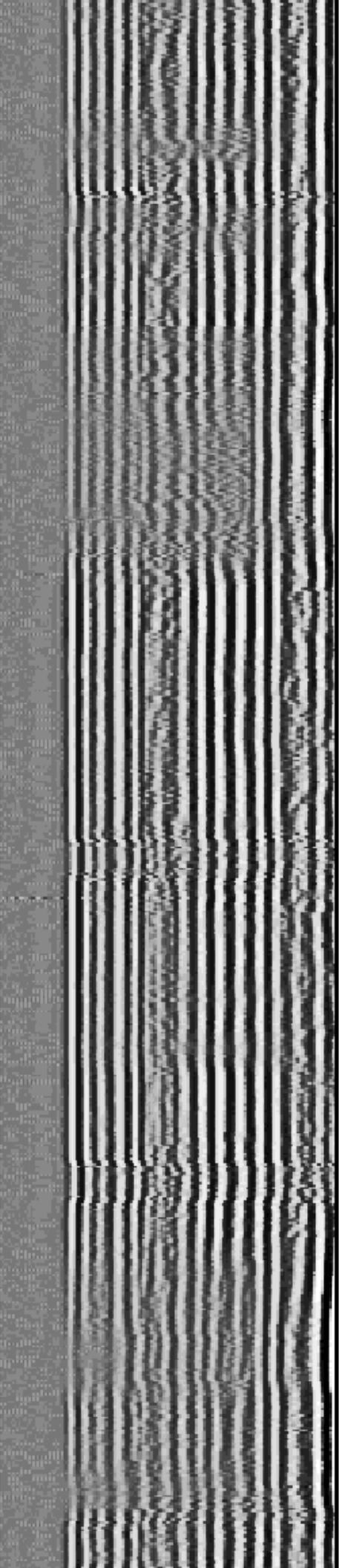
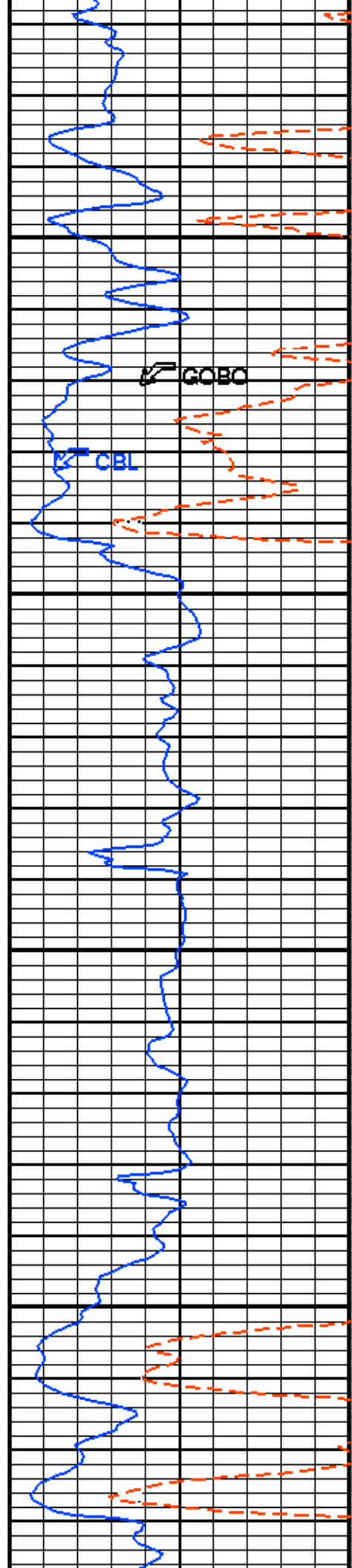
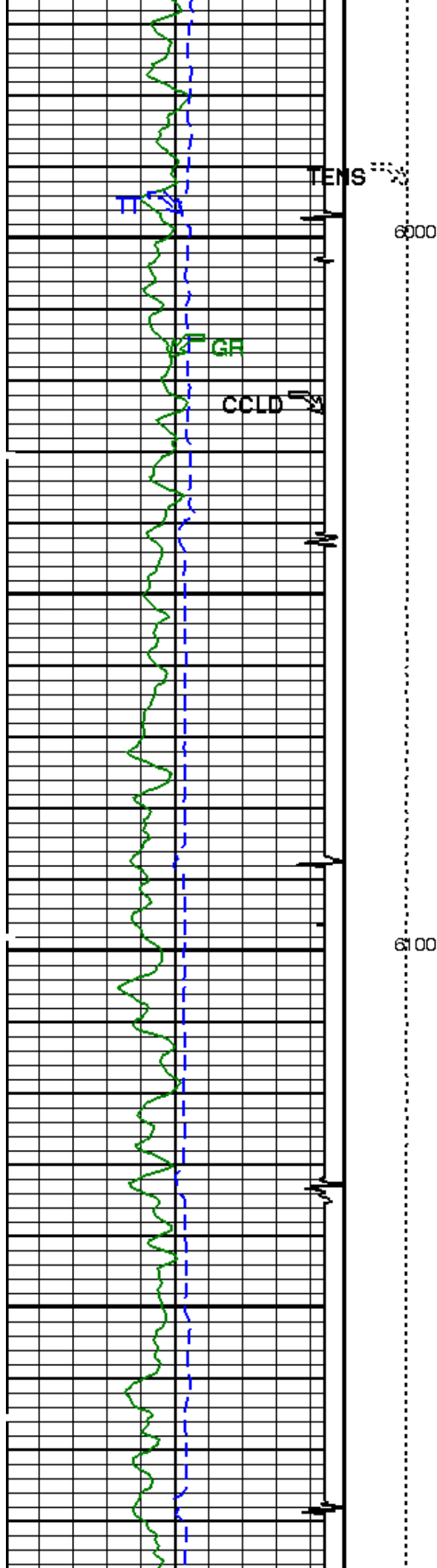


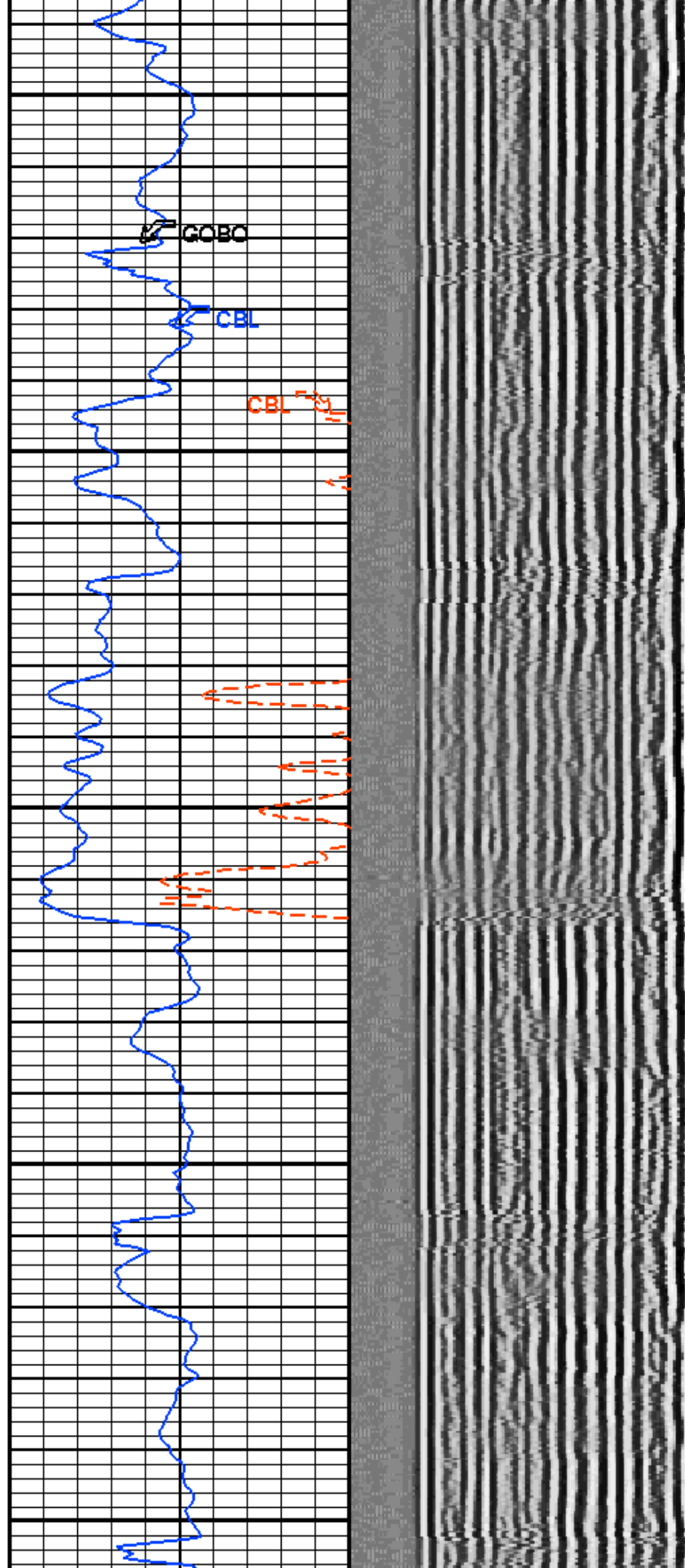
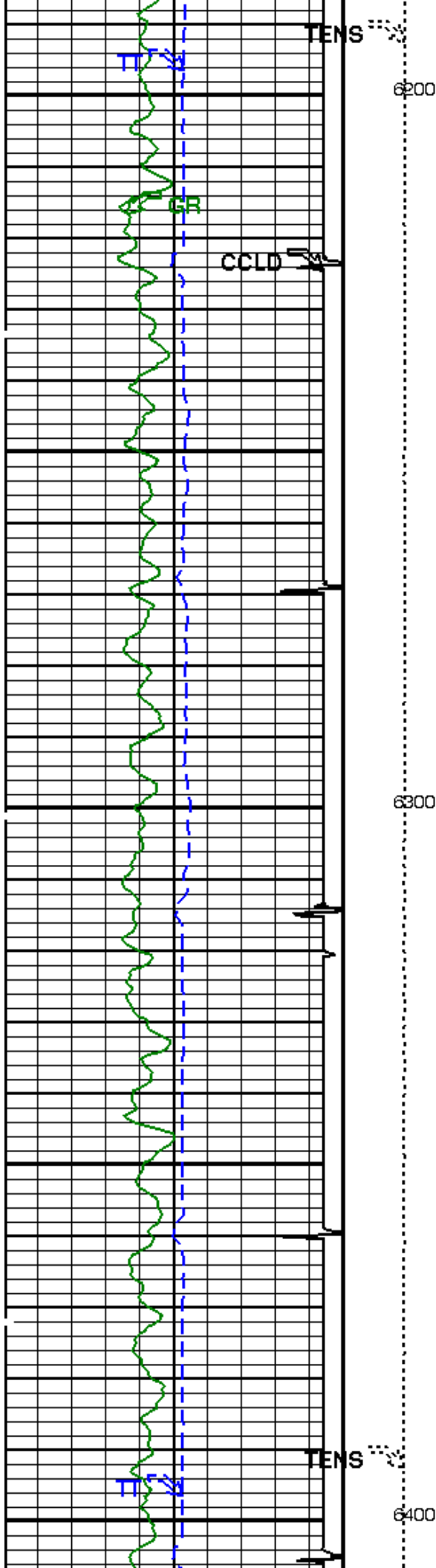




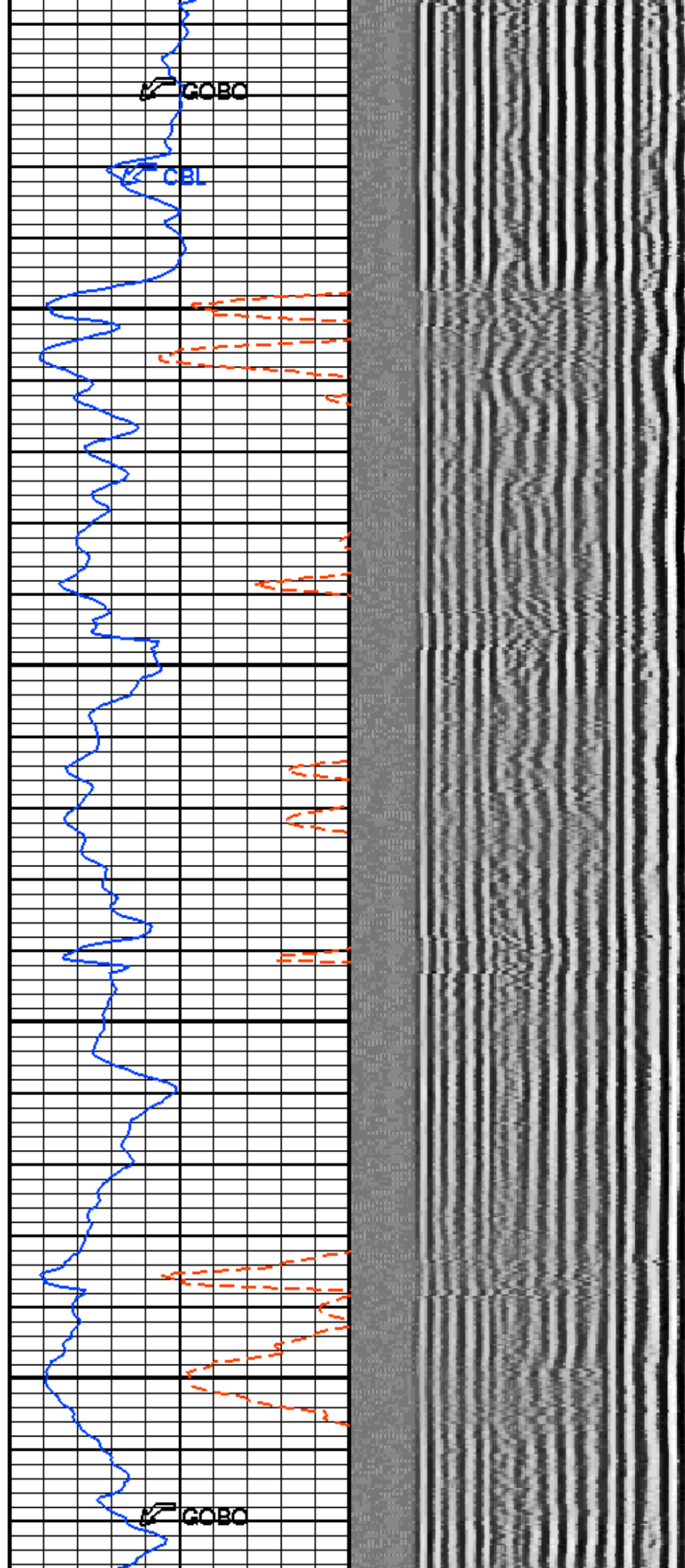
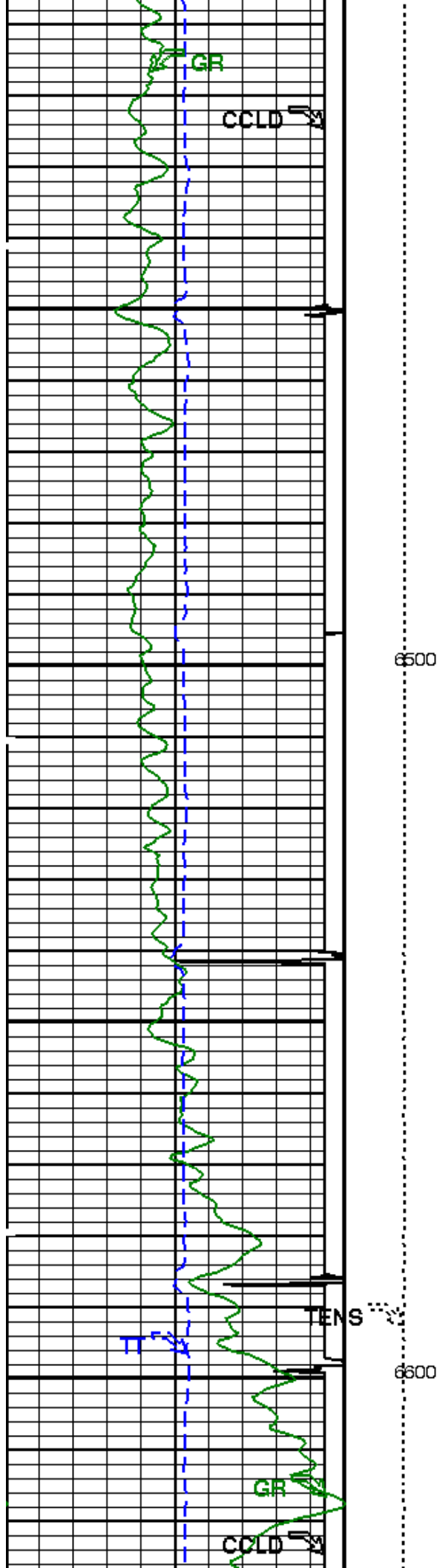


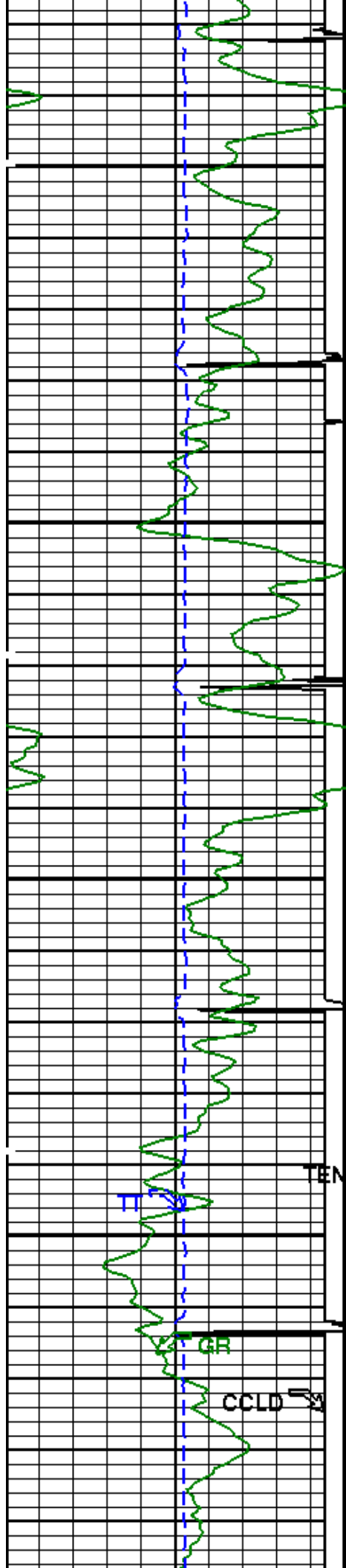










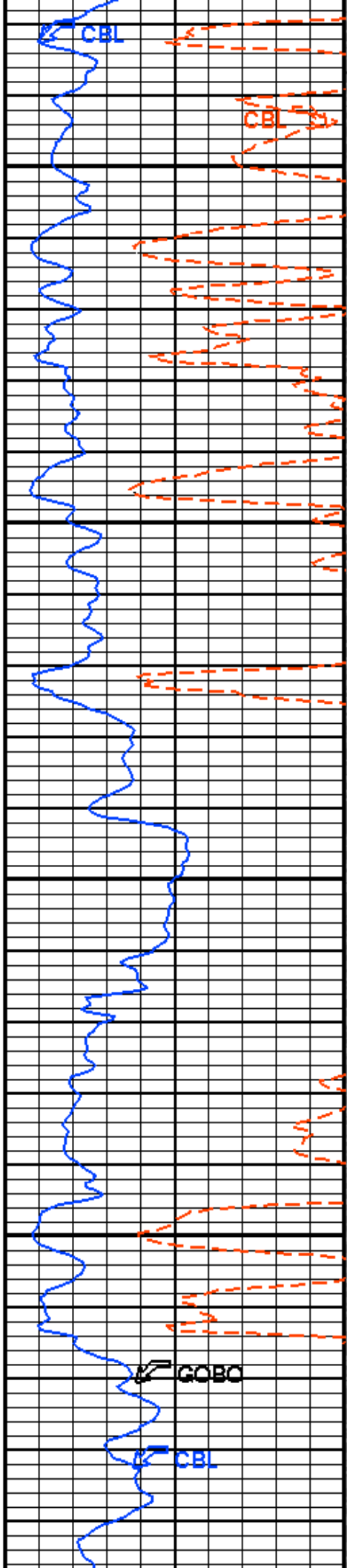


6700

6800

TENS

CCLD

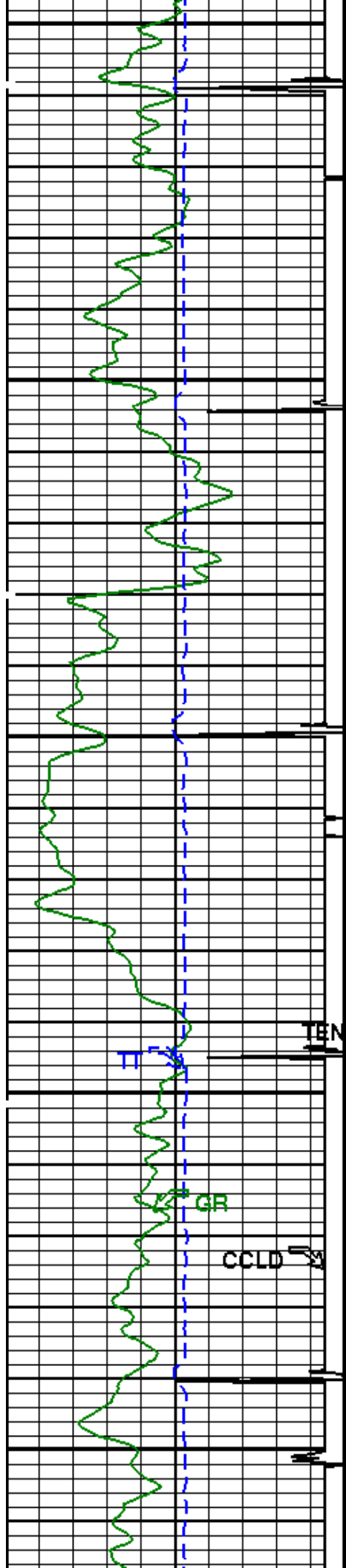


CBL

CBL

GOBO

CBL



6900

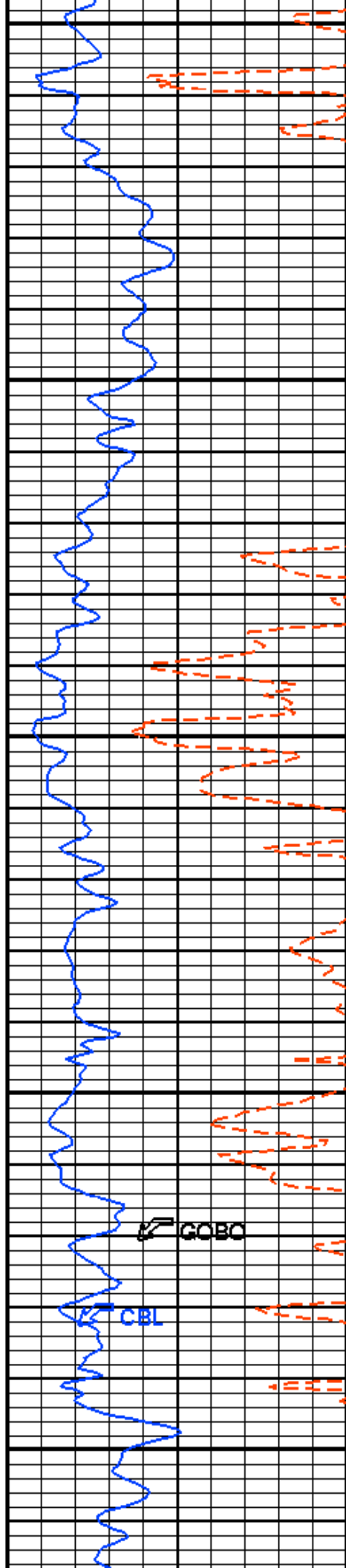
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TENS

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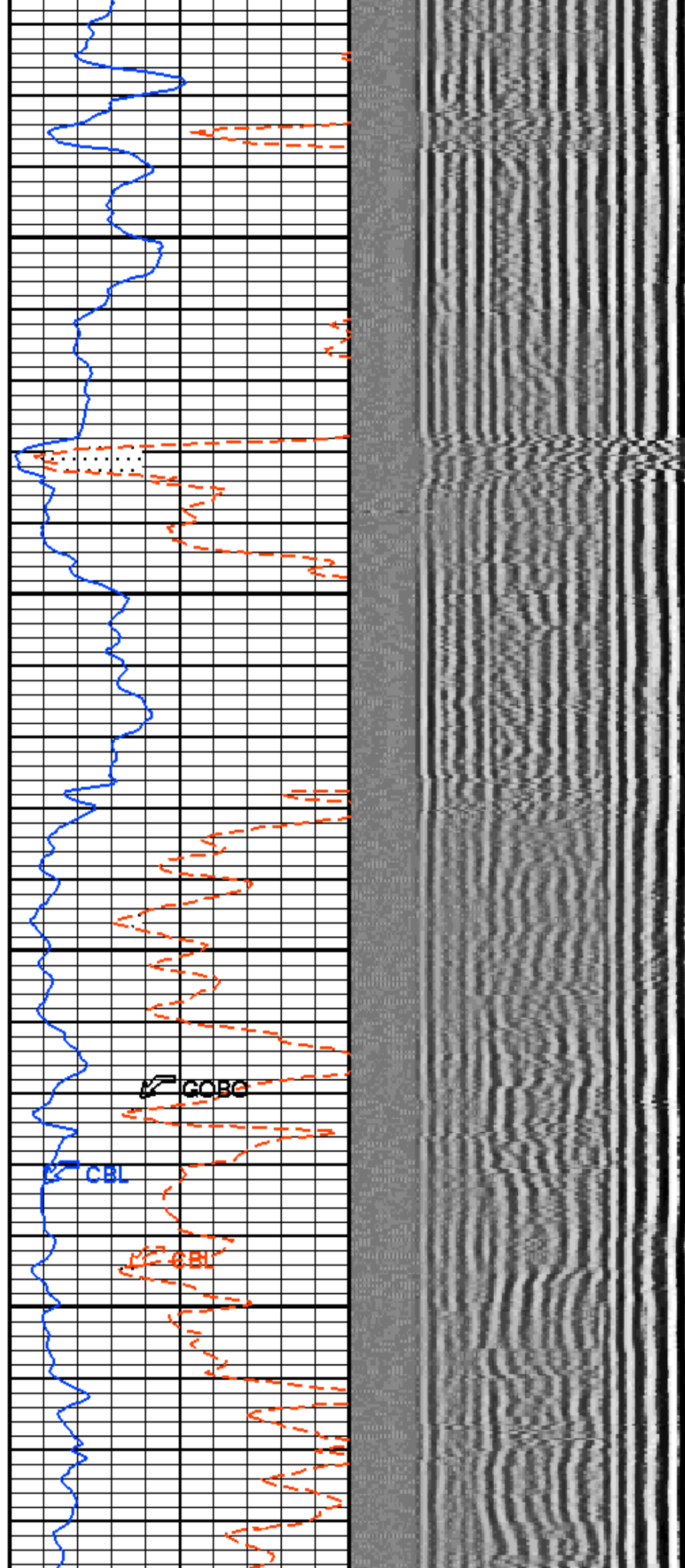
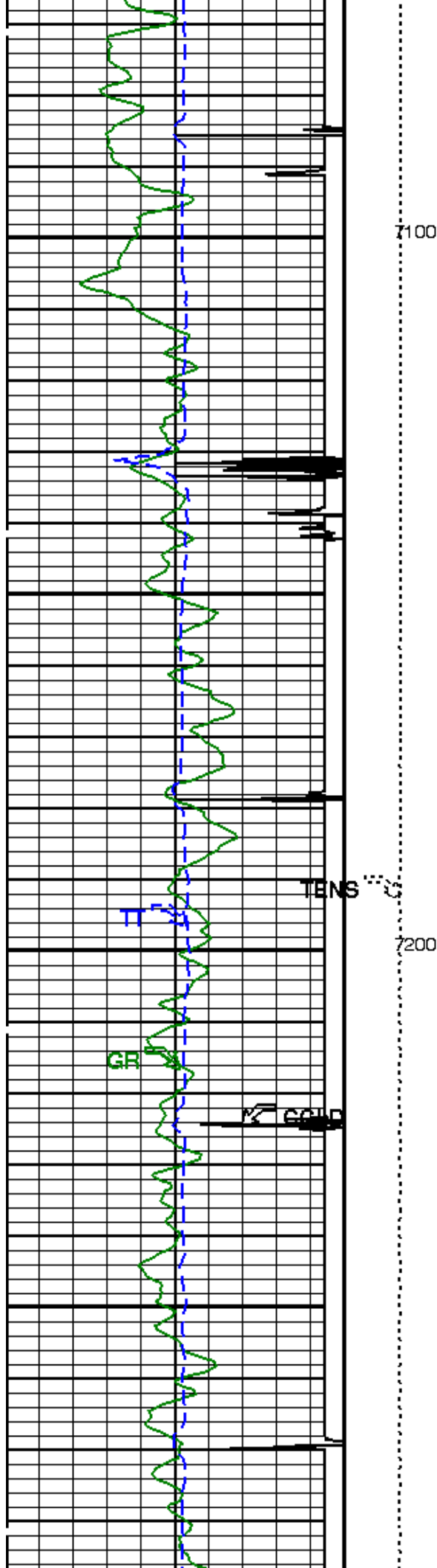
GR

CCLD

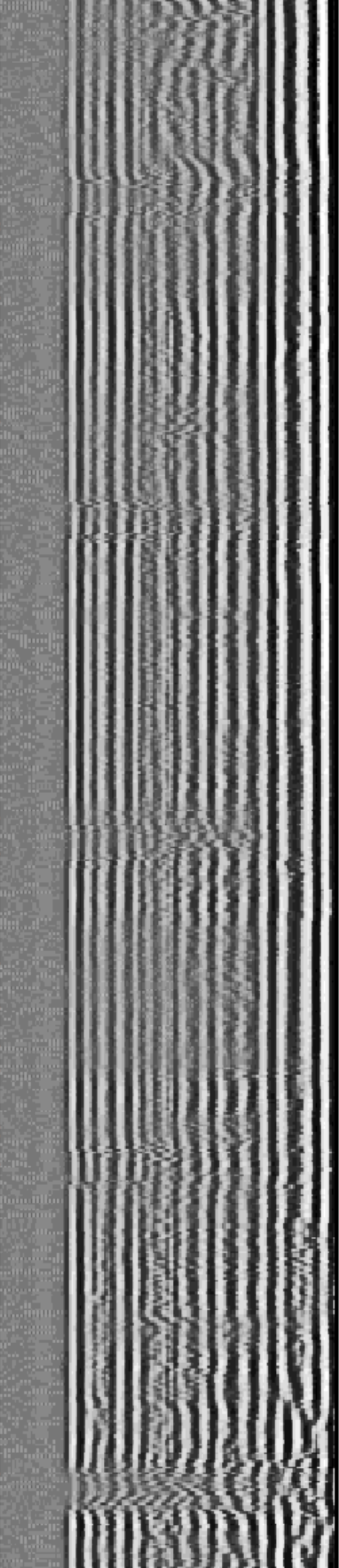
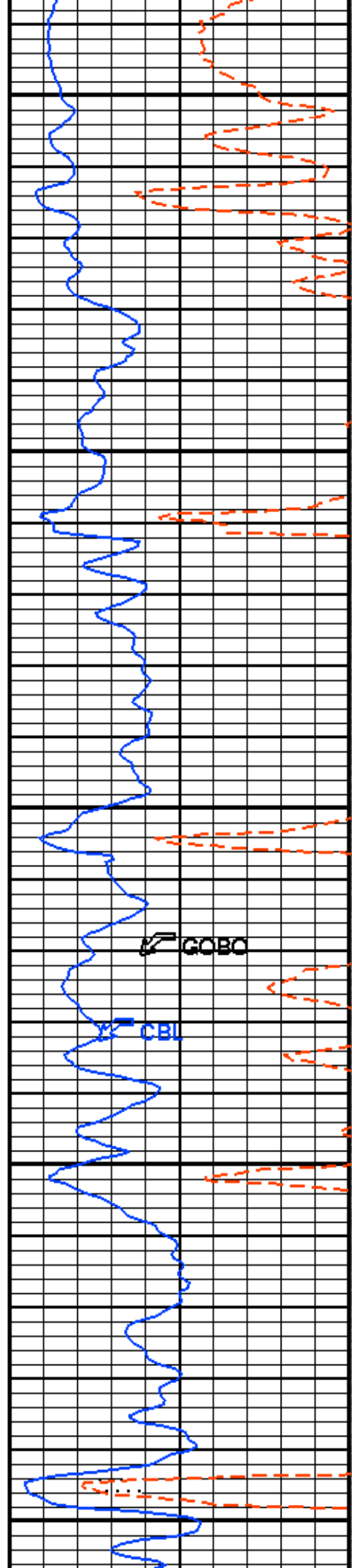
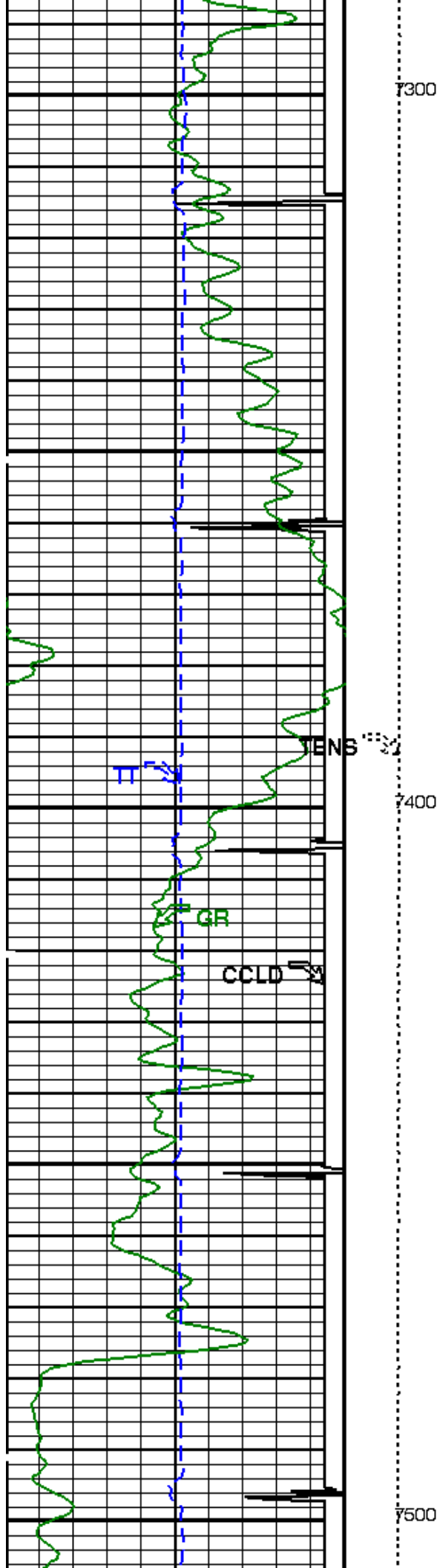


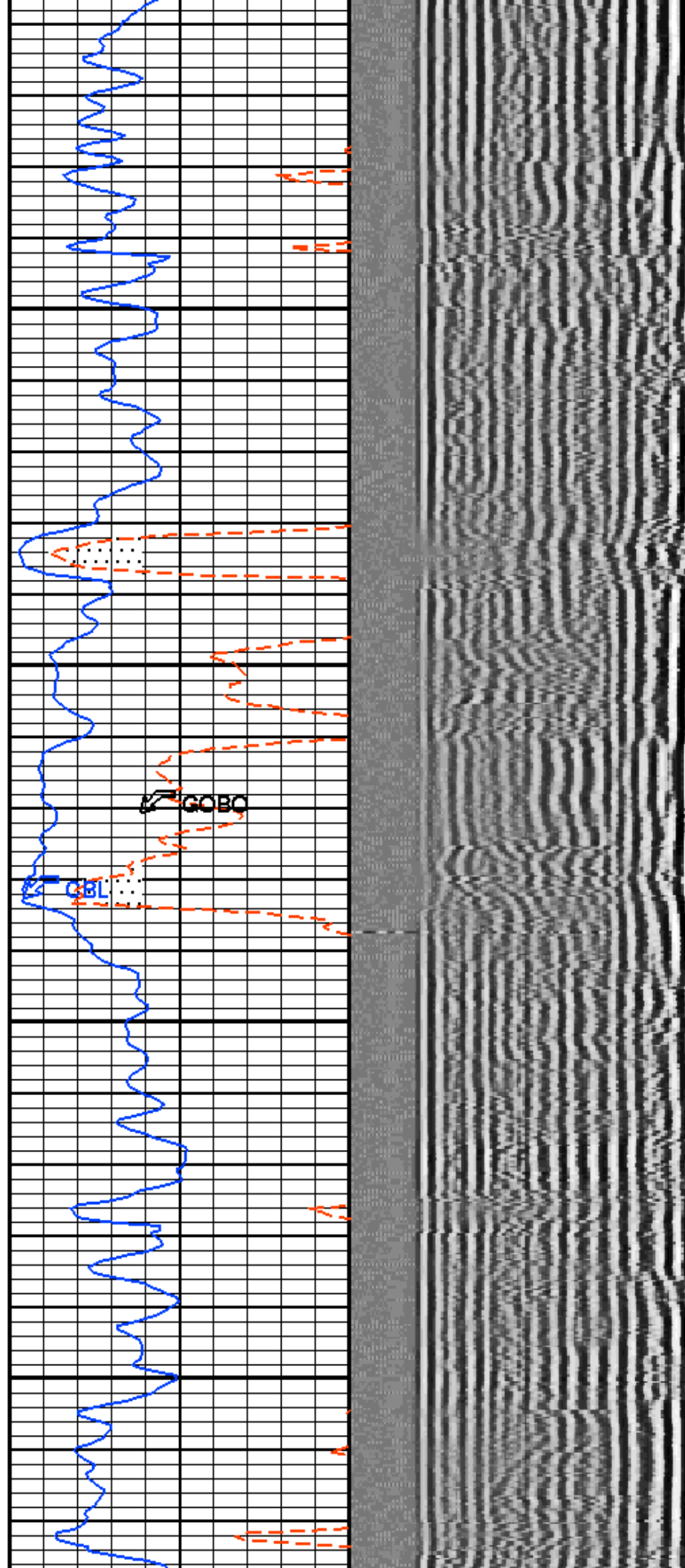
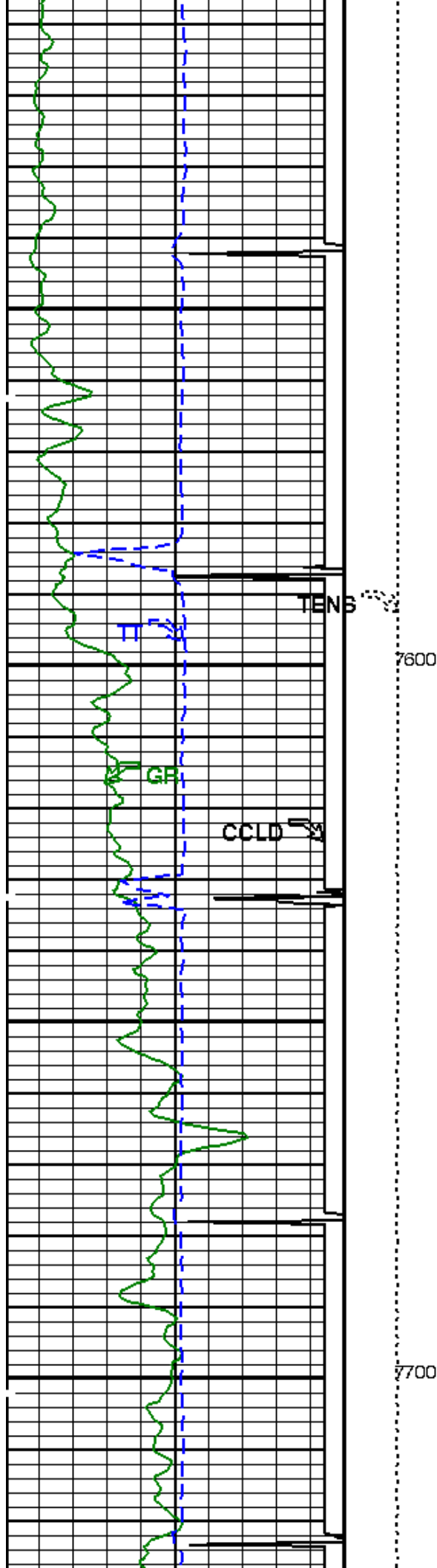
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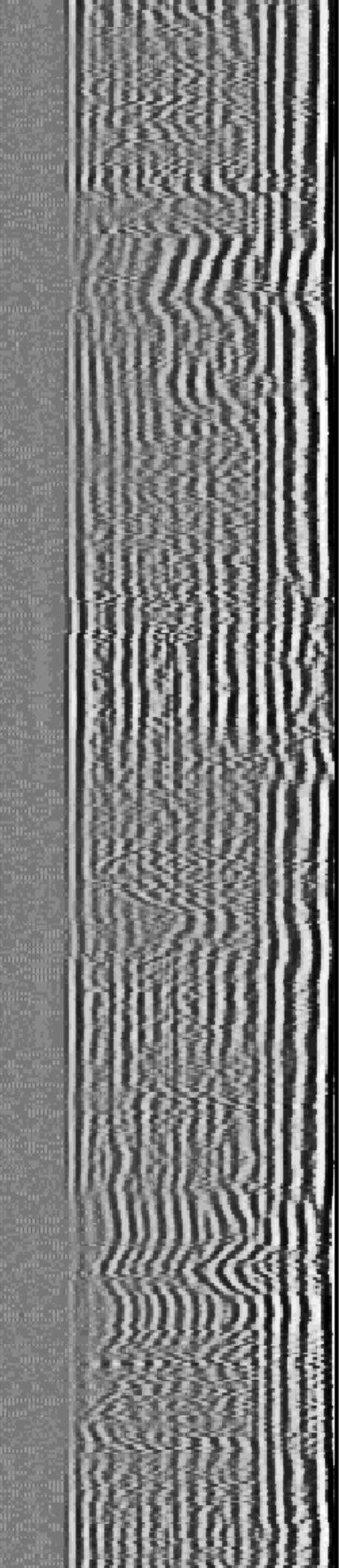
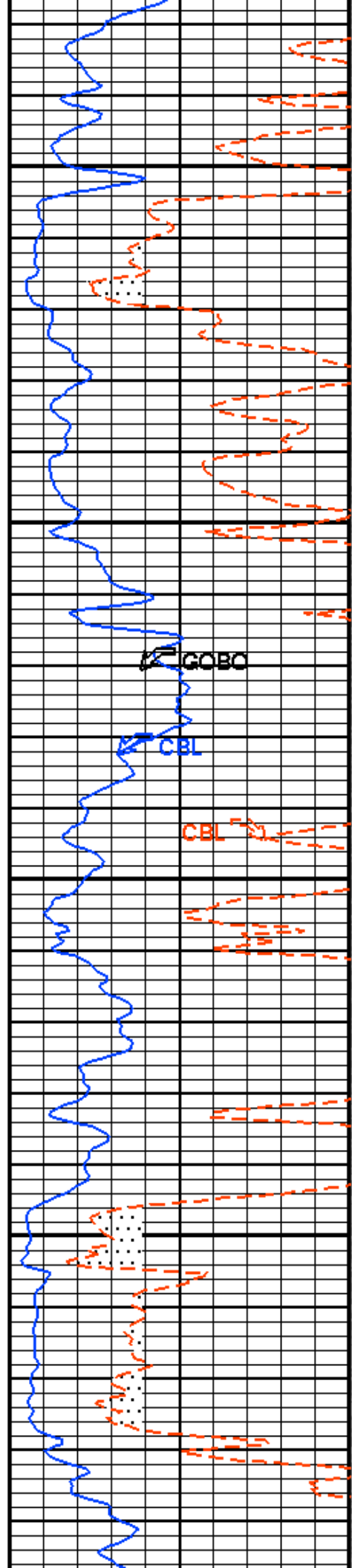
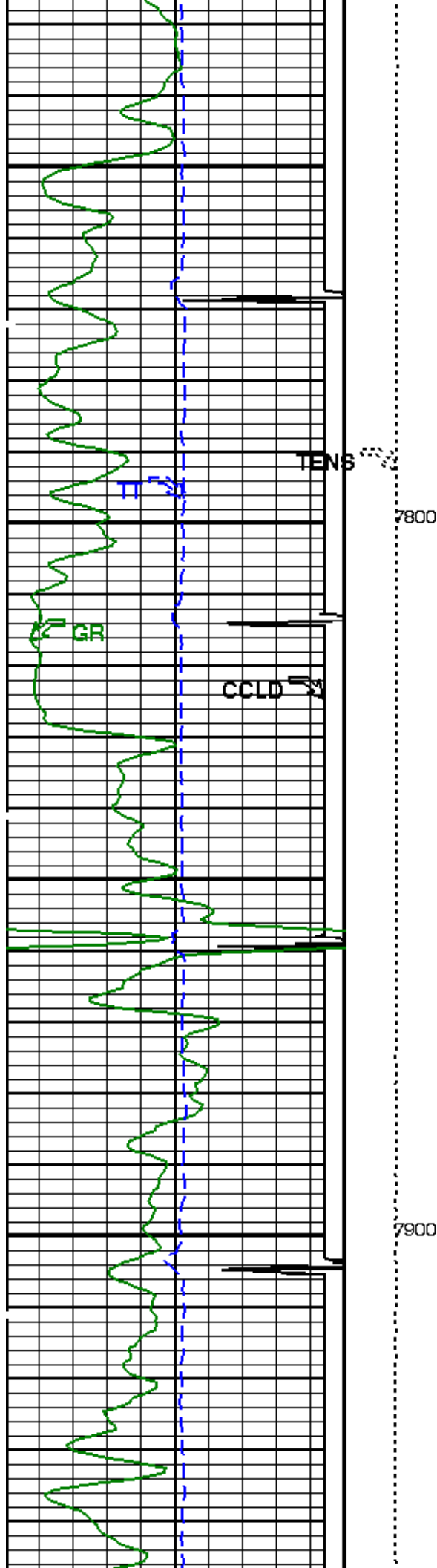
CBL



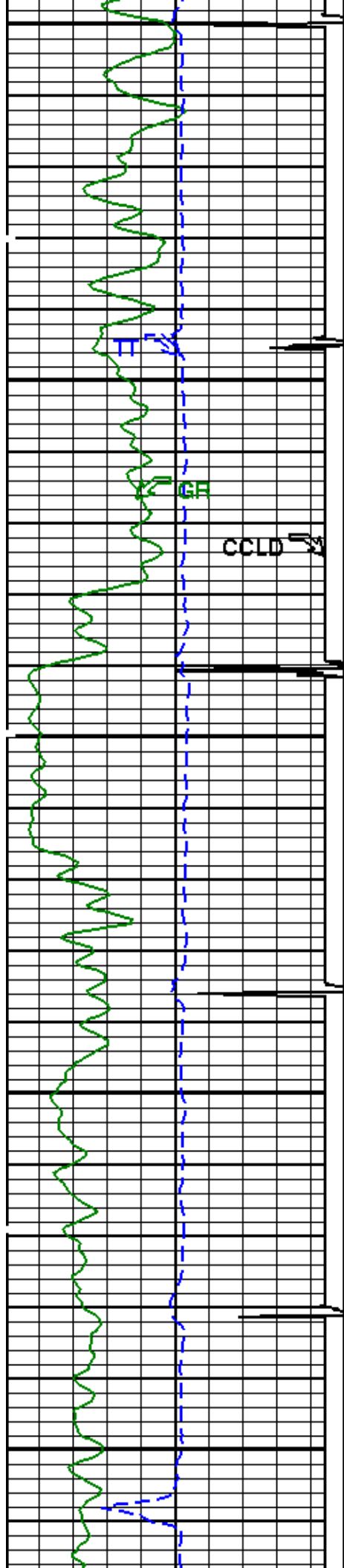












8000

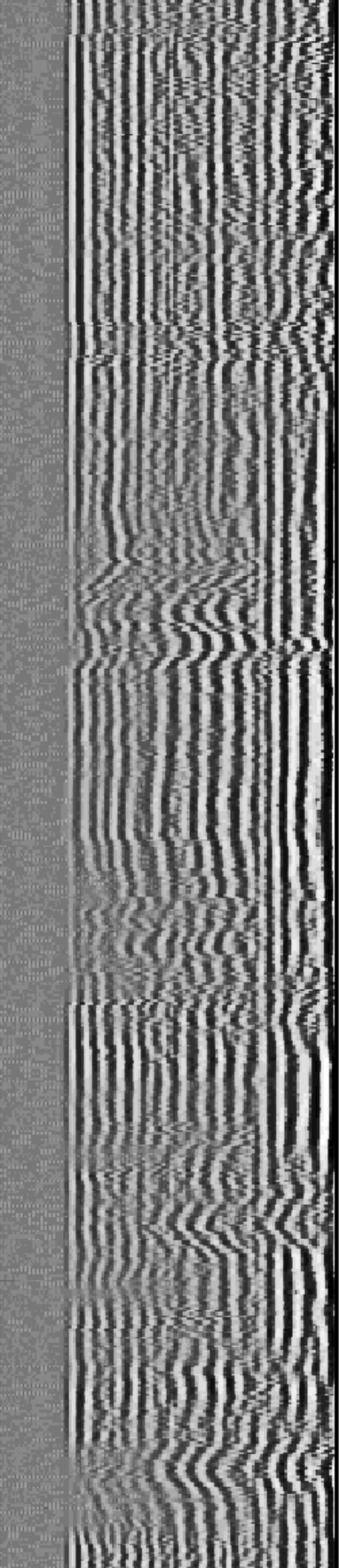
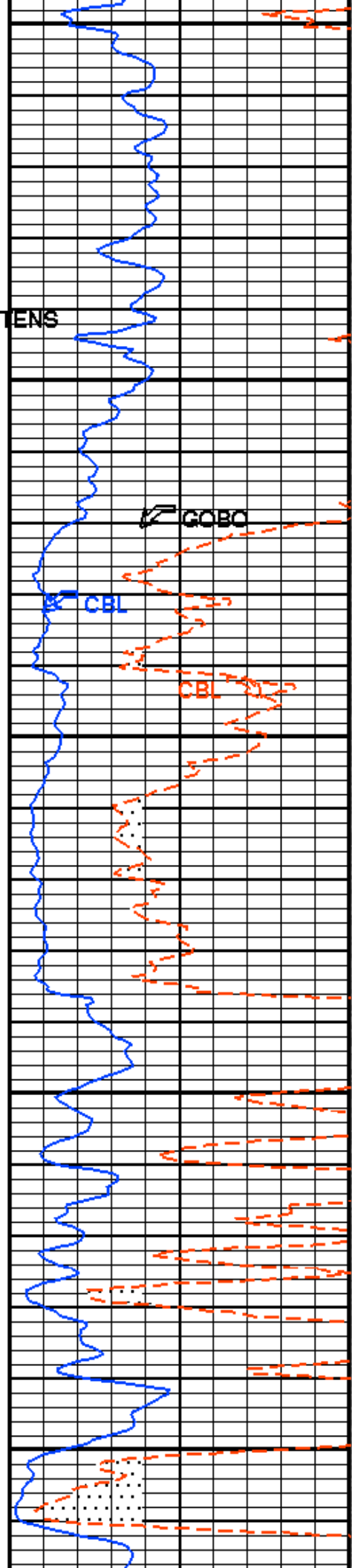
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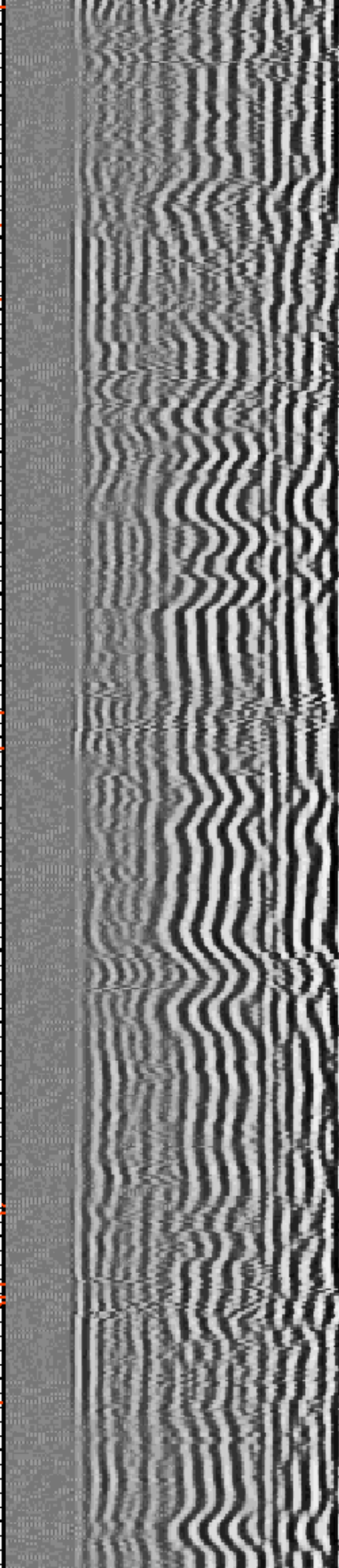
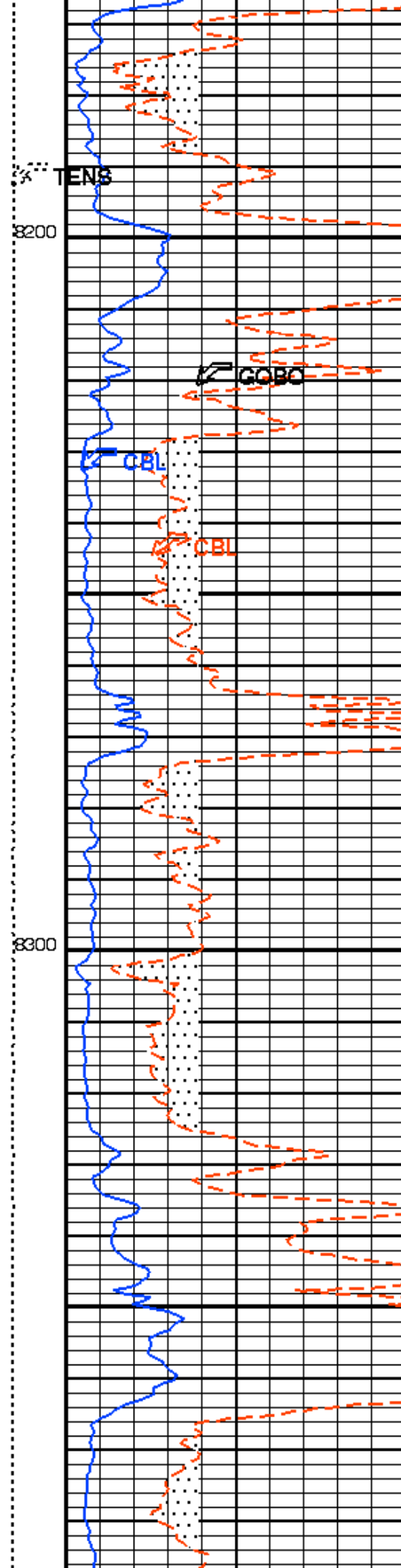
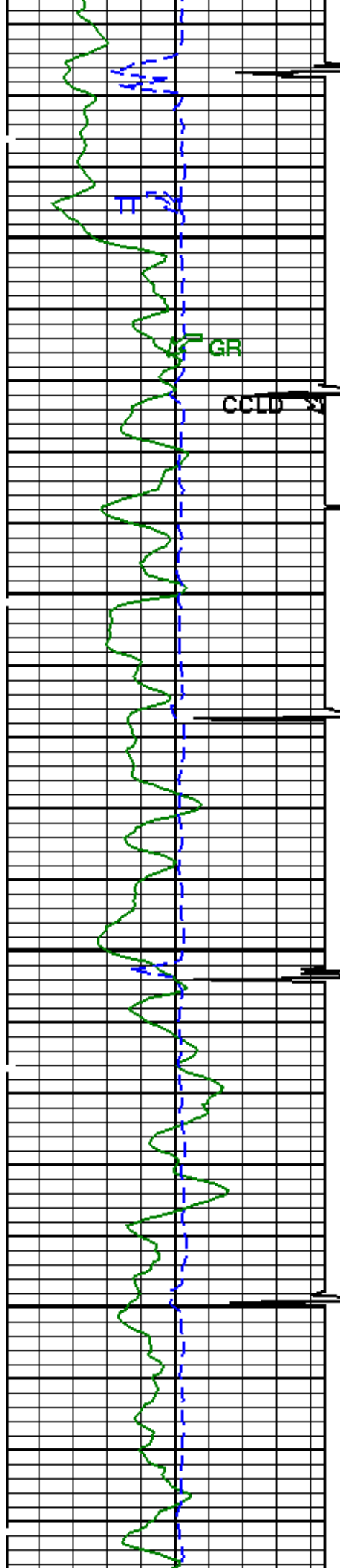
TENS

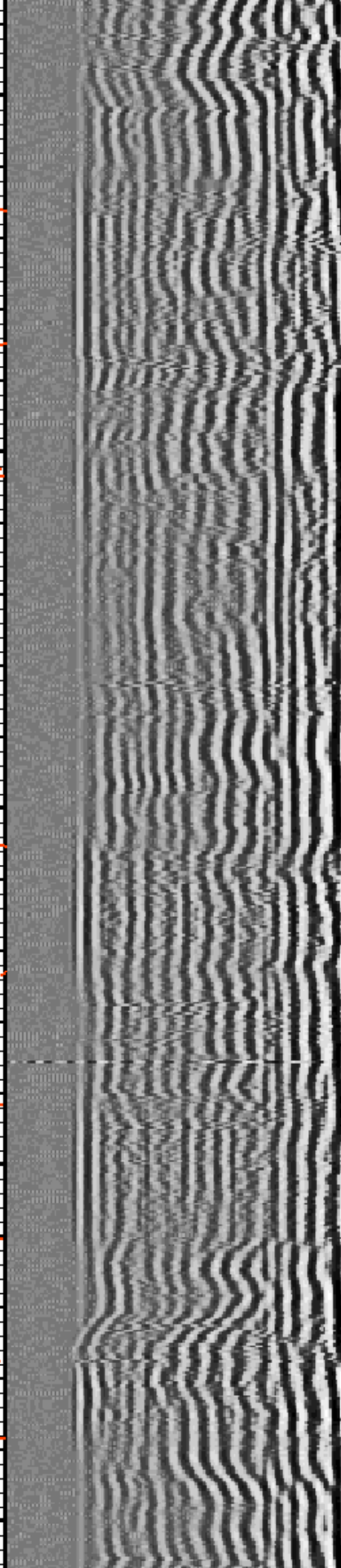
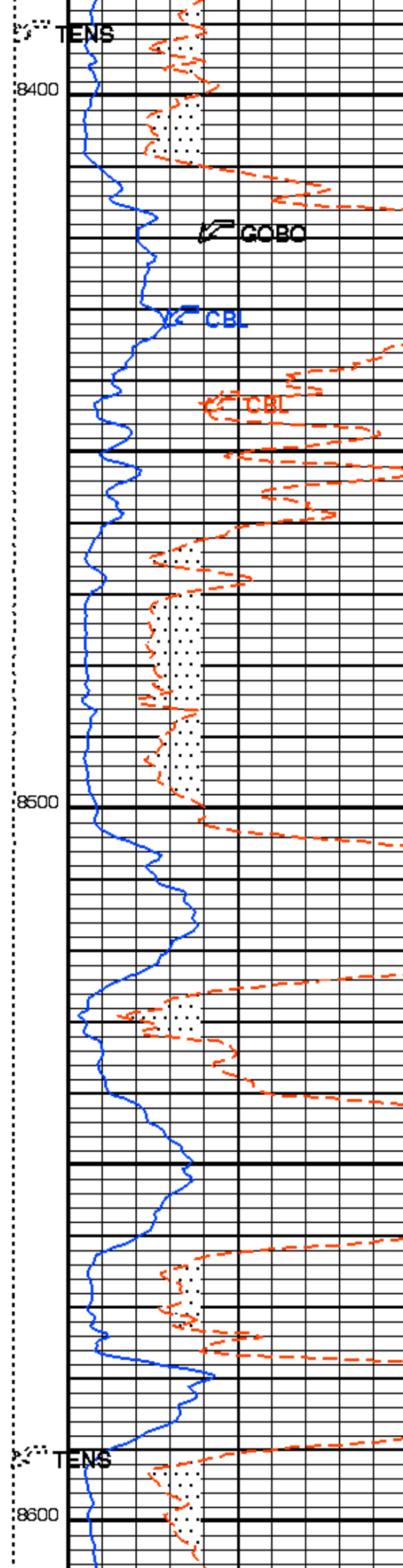
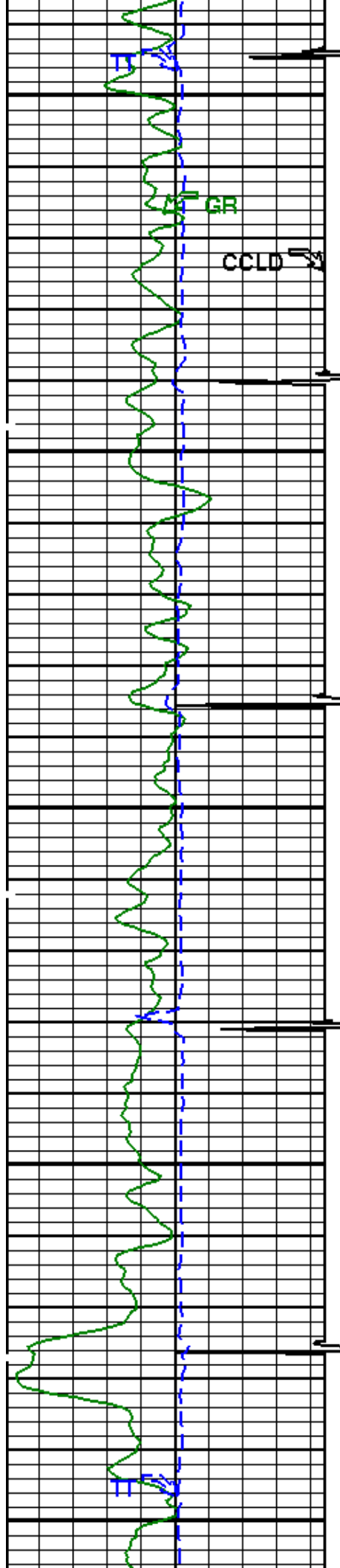
CBL

GOBO

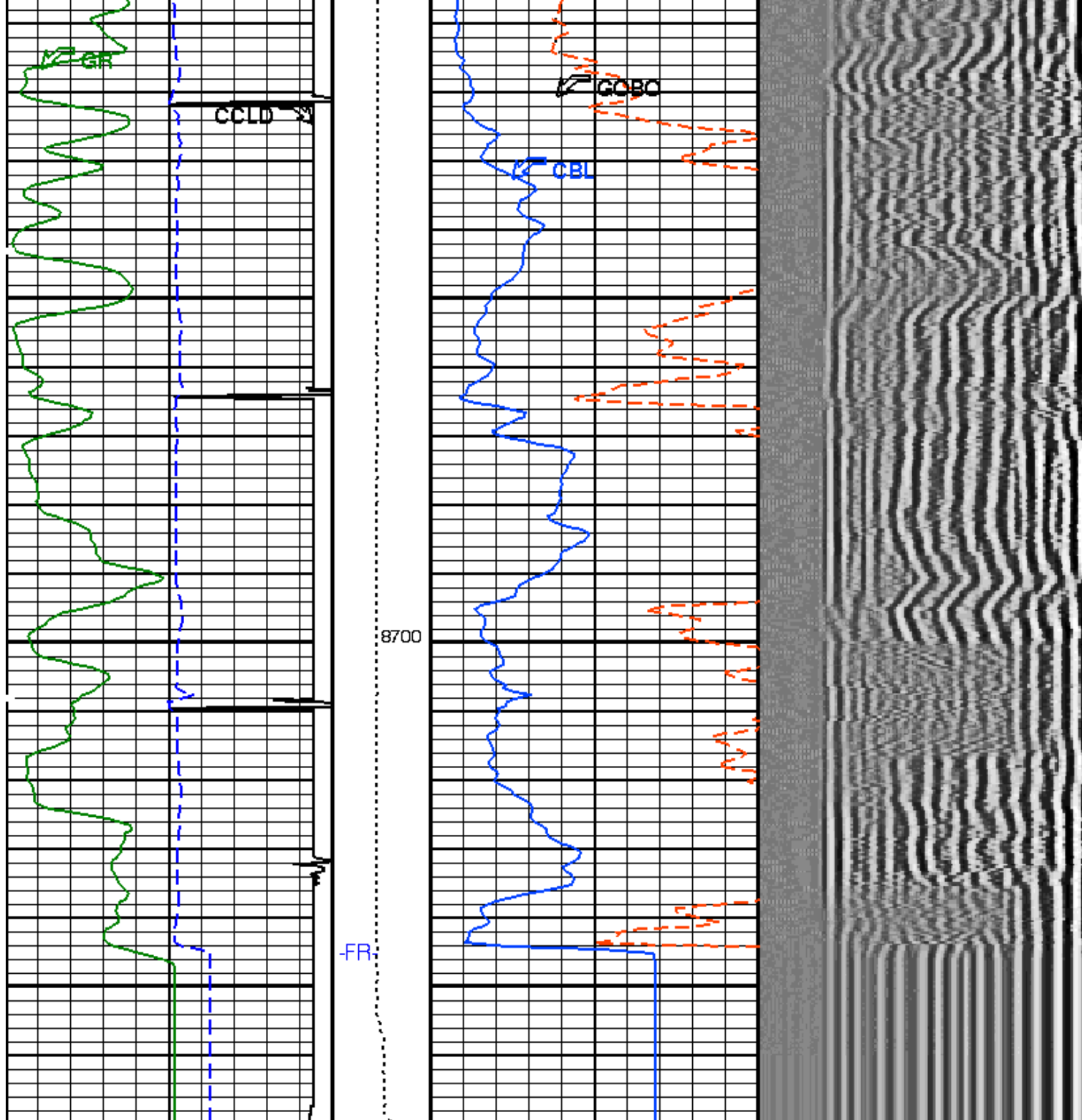
CBL











Gamma Ray (GR) (GAPI)	
0	150
Transit Time (TT) (US)	
400	200
COLLARS From CCLD to T1	
Discriminated CCL (CCLD)	
-3.5 (V)	0.5

Tension  
(TENS)  
(LBF)

CBL Amplitude (CBL)  
(MV)

CBL Amplitude (CBL)  
(MV)

GOOD BOND  
From ACBL to GOBO

CASING PRESSURE 0 PSI

Min Amplitude Max  
VDL Variable Density (VDL)  
(US)





## 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	265.708	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	379.708	US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20	MV
CBLG	CBL Gate Width	40	US
CBRA	CBL LQC Reference Amplitude in Free Pipe	62	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	0.366591	IN
DTF	Delta-T Fluid	204.5	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	1	
GOBO	Good Bond	3.84747	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0 Delay and Noise Gate	208.708	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	11.6819	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	10	FT
MMSA	MAP Minimum Sonic Amplitude	11.1691	MV
MSA	Minimum Sonic Amplitude	1.92031	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	7.000	IN
CWEI	Casing Weight	26.00	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	0.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	-50000	FT

Format: CBL\_VDL Vertical Scale: 5" per 100'

Graphics File Created: 19-Nov-2013 12:02

## OP System Version: 19C2-270

SCMT-CB 19C2-270 PSPT 19C2-270

## Input DLIS Files

DEFAULT SCMT\_PSP\_005LUP FN:4 PRODUCER 19-Nov-2013 09:54 8769.5 FT 919.7 FT

## Output DLIS Files

DEFAULT SCMT\_PSP\_009PUP FN:8 PRODUCER 19-Nov-2013 12:02

Schlumberger

REPEAT PASS

MAXIS Field Log

Company: High Sierra Water Services LLC

Well: High Sierra SWD C7B

## Input DLIS Files

DEFAULT SCMT\_PSP\_004LUP FN:3 PRODUCER 19-Nov-2013 09:47 8742.5 FT 8498.7 FT

# Output DLIS Files

DEFAULT

SCMT\_PSP\_007PUP

FN:6

PRODUCER

19-Nov-2013 11:54

8740.5 FT

8497.0 FT

## OP System Version: 19C2-270

SCMT-CB

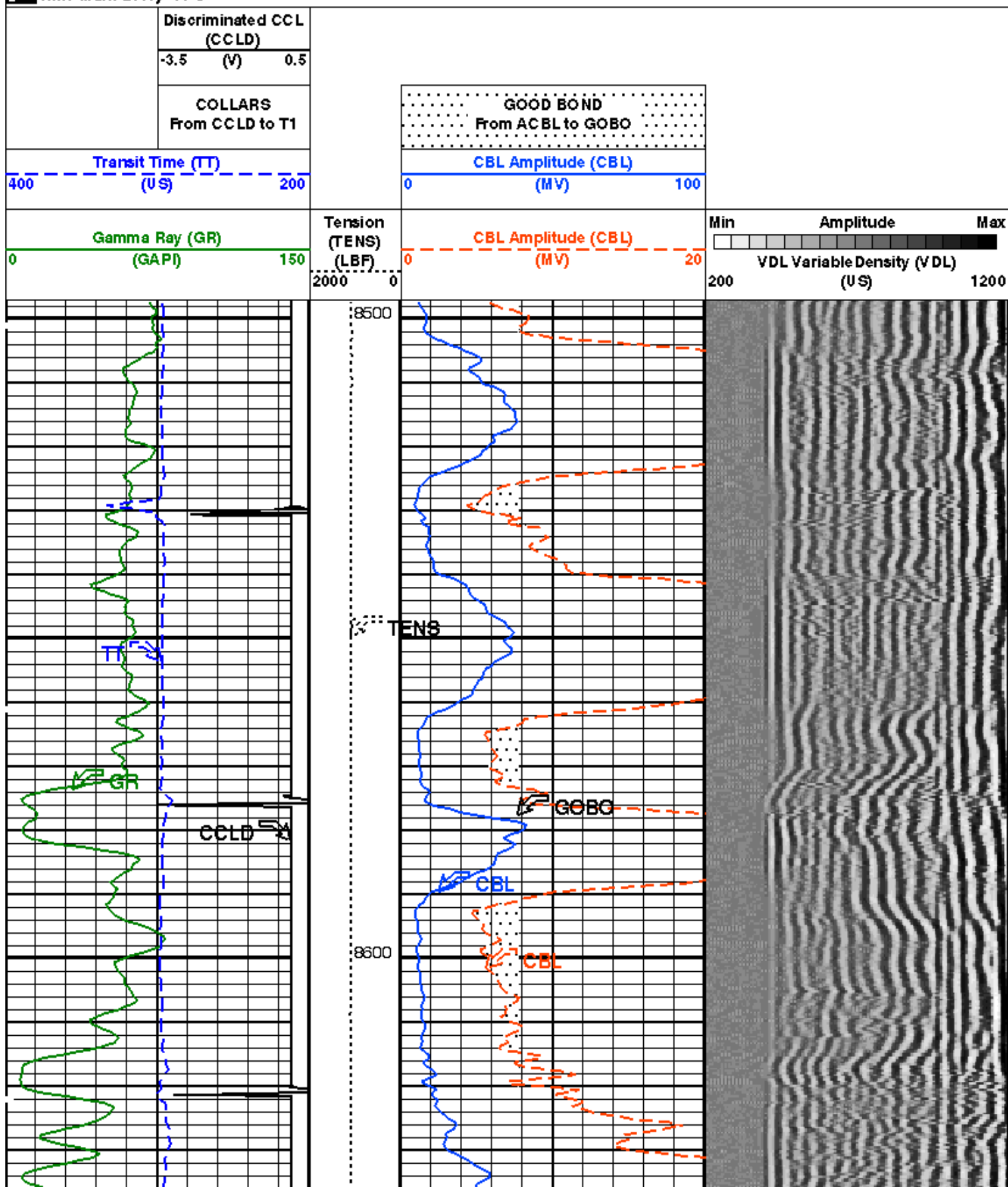
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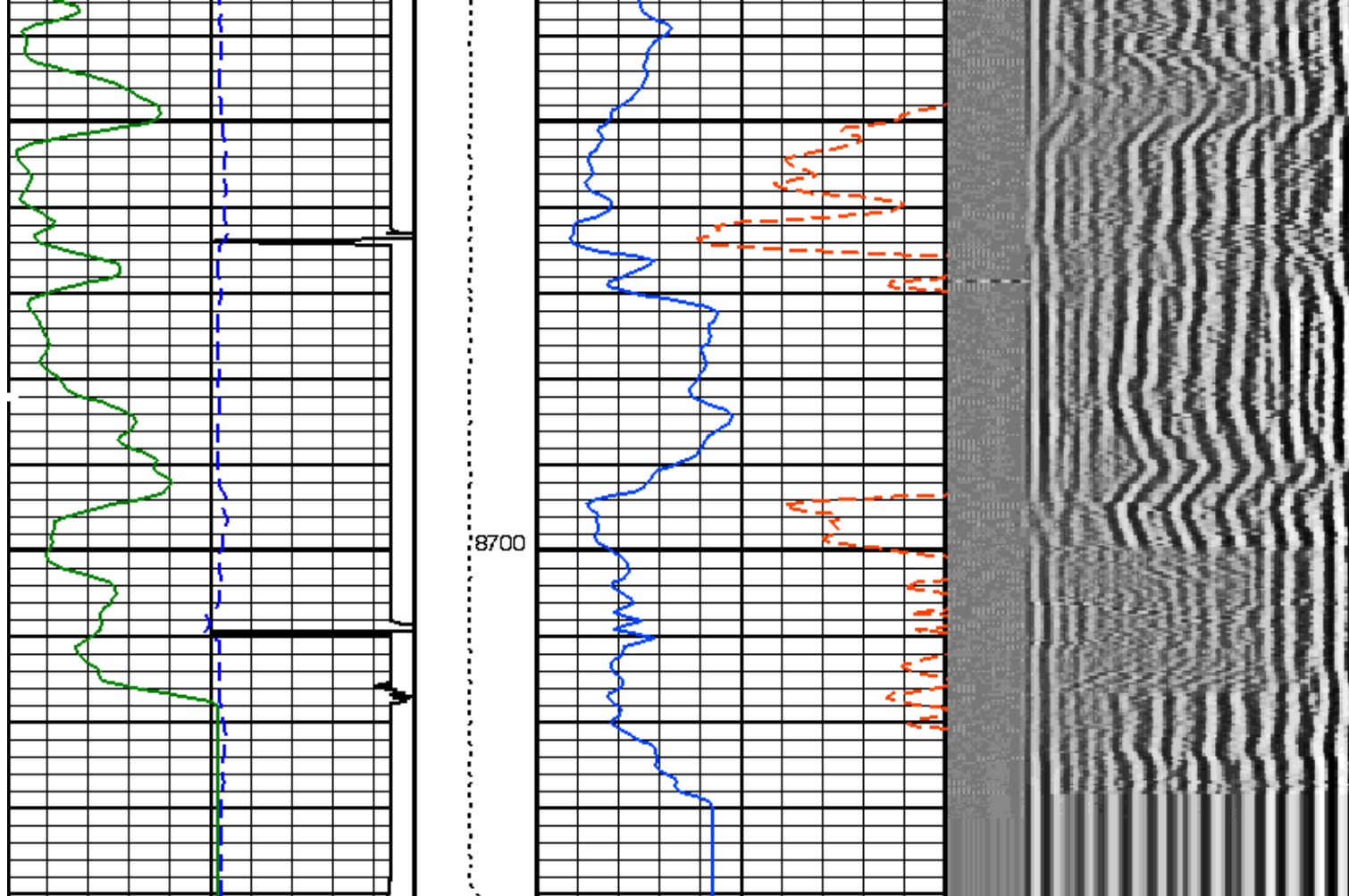
PSPT

19C2-270

### PIP SUMMARY

Time Mark Every 60 S





<b>Gamma Ray (GR)</b> (GAPI)		<b>Tension (TENS)</b> (LBF)	<b>CBL Amplitude (CBL)</b> (MV)	Min      Amplitude      Max 200      VDL Variable Density (VDL) (US)      1200
0	150	2000	0	20
<b>Transit Time (TT)</b> (US)			<b>CBL Amplitude (CBL)</b> (MV)	0      100
400	200			
COLLARS From CCLD to T1		GOOD BOND From ACBL to GOBO		
Discriminated CCL (CCLD)				
-3.5	0.5			
	(V)			

### PIP SUMMARY

Time Mark Every 60 S

### 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	265.708 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	379.708 US
CB5T	SCMT CBL 5 ft Fixed Threshold Level	20 MV
CBLG	CBL Gate Width	40 US
CBRA	CBL LQC Reference Amplitude in Free Pipe	62 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	0.366591 IN
DTF	Delta-T Fluid	204.5 US/F
FATT	Acoustic Attenuation due to Fluid	0 DB/F
FCF	CBL Fluid Compensation Factor	1

GOBO	Good Bond	3.84747	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	208.708	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	11.6819	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	10	FT
MMSA	MAP Minimum Sonic Amplitude	11.1691	MV
MSA	Minimum Sonic Amplitude	1.92031	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			
CSZ	Current Casing Size	7.000	IN
CWEI	Casing Weight	26.00	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DO	Depth Offset for Playback	-2.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	-50000	FT

Format: CBL\_VDL    Vertical Scale: 5" per 100'    Graphics File Created: 19-Nov-2013 11:54

## OP System Version: 19C2-270

SCMT-CB    19C2-270    PSPT    19C2-270

### Input DLIS Files

DEFAULT    SCMT\_PSP\_004LUP    FN:3    PRODUCER    19-Nov-2013 09:47    8742.5 FT    8498.7 FT

### Output DLIS Files

DEFAULT    SCMT\_PSP\_007PUP    FN:6    PRODUCER    19-Nov-2013 11:54

Company: **High Sierra Water Services LLC**

**Schlumberger**

Well: **High Sierra SWD C7B**

Field: **Wattenberg**

County: **Weld**

State: **Colorado**

CEMENT BOND

GAMMA RAY

CASING COLLAR LOG