



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

Well: **SG 8506E-22 N22 496**

Field: **STORY GULCH**

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

County: GARFIELD		CEMENT BOND LOG CBL - VDL GAMMA RAY - CCL	
Field: STORY GULCH			
Location: SHL:1261' FSL & 1984' FWL			
Well: SG 8506E-22 N22 496			
Company: ENCANA OIL & GAS (USA) INC.			
LOCATION			
SHL:1261' FSL & 1984' FWL		Elev.: K.B. 7607.00 ft	
BHL: 2638' FSL & 1325' FWL		G.L. 7585.00 ft D.F. 7606.00 ft	
Permanent Datum: _____		GROUND LEVEL _____	
Log Measured From: _____		KELLY BUSHING _____	
Drilling Measured From: _____		KELLY BUSHING _____	
API Serial No. _____		Section 22	
05-045-20675-0000		Township 4S	
		Range 96W	
Logging Date 27-Apr-2012			
Run Number ONE			
Depth Driller 11405 ft			
Schlumberger Depth 11386 ft			
Bottom Log Interval 11375 ft			
Top Log Interval 200 ft			
Casing Fluid Type WATER			
Salinity _____			
Density 8.4 lbm/gal			
Fluid Level 22 ft			
BIT/CASING/TUBING STRING			
Bit Size 8.750 in			
From 2134 ft			
To 11420 ft			
Casing/Tubing Size 4.500 in			
Weight 11.6 lbm/ft			
Grade P110			
From 0 ft			
To 11405 ft			
Maximum Recorded Temperatures 286 degF			
Logger On Bottom 27-Apr-2012 Time 10:29			
Unit Number 391 Location GRAND JUNCTION			
Recorded By ROBERT SWEAT			
Witnessed By UNATTENDED			

PVT DATA			
Oil Density	Run 1	Run 2	Run
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			
Unit Number			
Recorded By			
Witnessed By			

DEPTH SUMMARY LISTING

Date Created: 27-APR-2012 10:51:08

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-C	Type:	1-25ZT
Serial Number:	5873	Serial Number:	5006	Serial Number:	391
Calibration Date:	20-DEC-2011	Calibration Date:	31-MAR-2012	Length:	19600 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	174878	Conveyance Method: Wireline Rig Type: LAND	
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10		
Wheel Correction 1:	-3	Calibration RMS:	5		
Wheel Correction 2:	-3	Calibration Peak Error:	9		

Depth Control Parameters

Log Sequence: First Log In the Well

Rig Up Length At Surface: 267.00 FT

Rig Up Length At Bottom: 266.00 FT

Rig Up Length Correction: 1.00 FT

Stretch Correction: 6.00 FT

Tool Zero Check At Surface: 1.10 FT

Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES FOLLOWED.
2. IDW USED AS PRIMARY DEPTH CONTROL.
3. Z-CHART USED AS SECONDARY DEPTH CONTROL.
- 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

THIS IS THE FIRST RUN IN THE HOLE.

TOOL RAN AS PER TOOL SKETCH.

TD TAGGED AT: 11384 FT

MAXIMUM RECORDED PRESSURE AT TD: 4726 PSIA

MAXIMUM RECORDED TEMPERATURE AT TD: 286 DEGF

REMARKS: RUN NUMBER 2

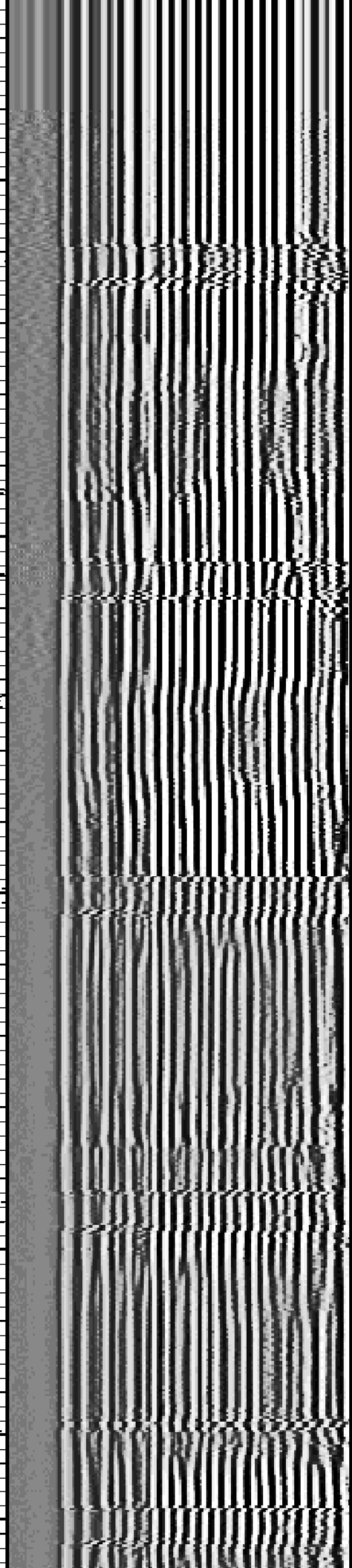
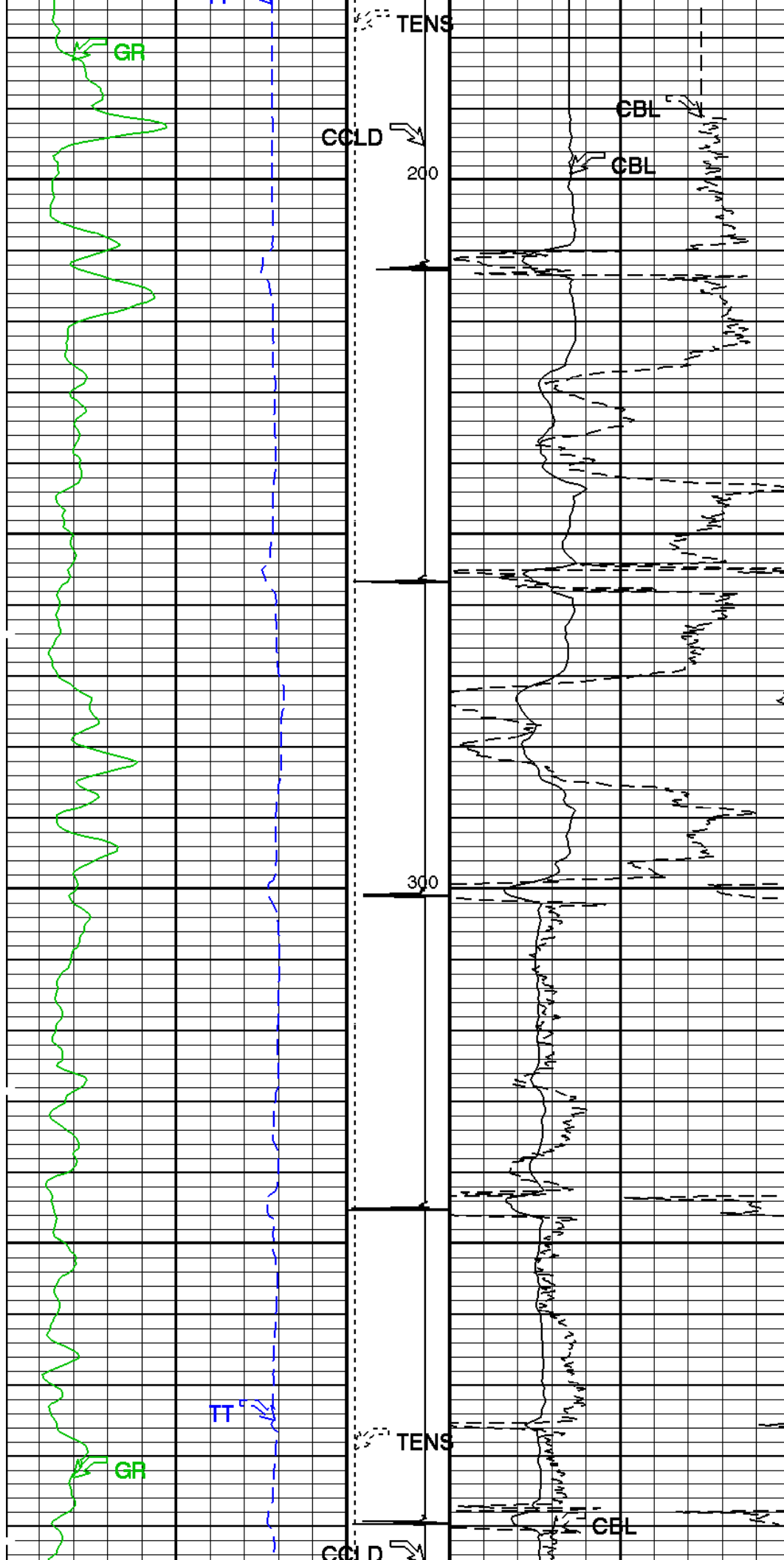
SHORT JOINTS: 6914 FT & 9927 FT	
EXPECTED FREE PIPE AMPLITUDE: 80 mV	
CYCLE SKIPPING DUE TO GOOD BOND CAUSING TT TO READ HIGH	
AFE: 11155478	
THANK YOU FOR CHOOSING SCHLUMBERGER.	
CREW: WALLY A.. & CHRIS A.	

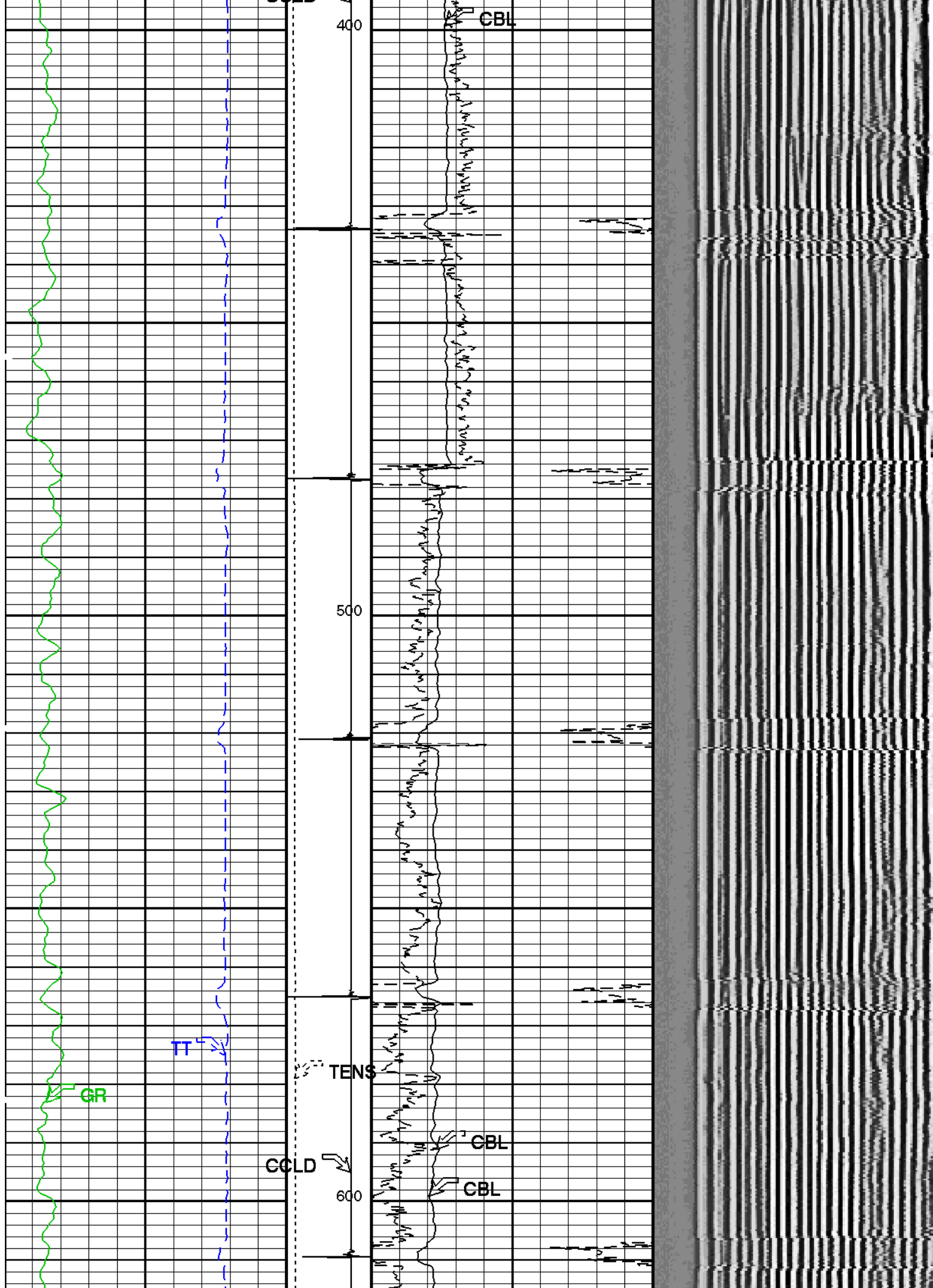
RUN 1			RUN 2		
SERVICE ORDER #:		-00002	SERVICE ORDER #:		
PROGRAM VERSION:		19C0-187	PROGRAM VERSION:		
FLUID LEVEL:		22 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

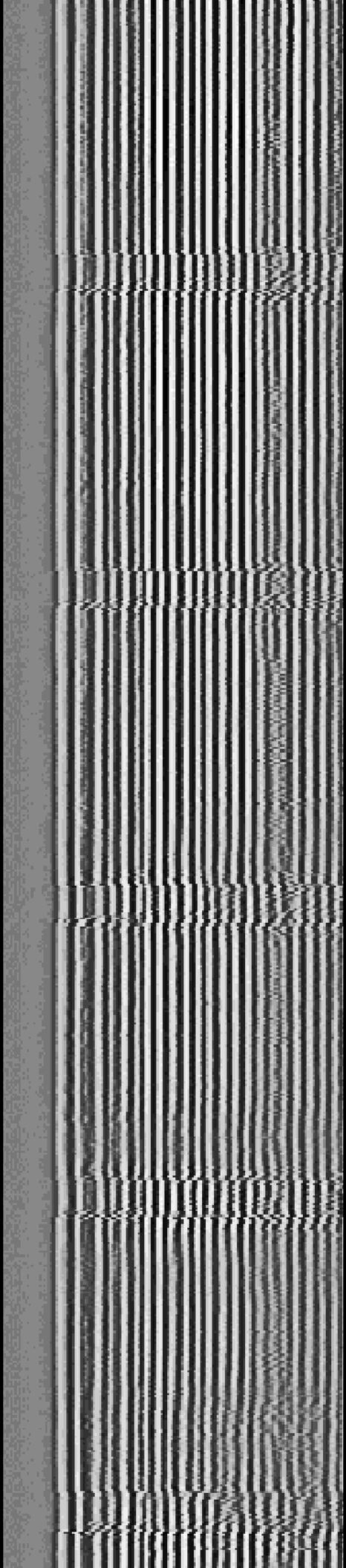
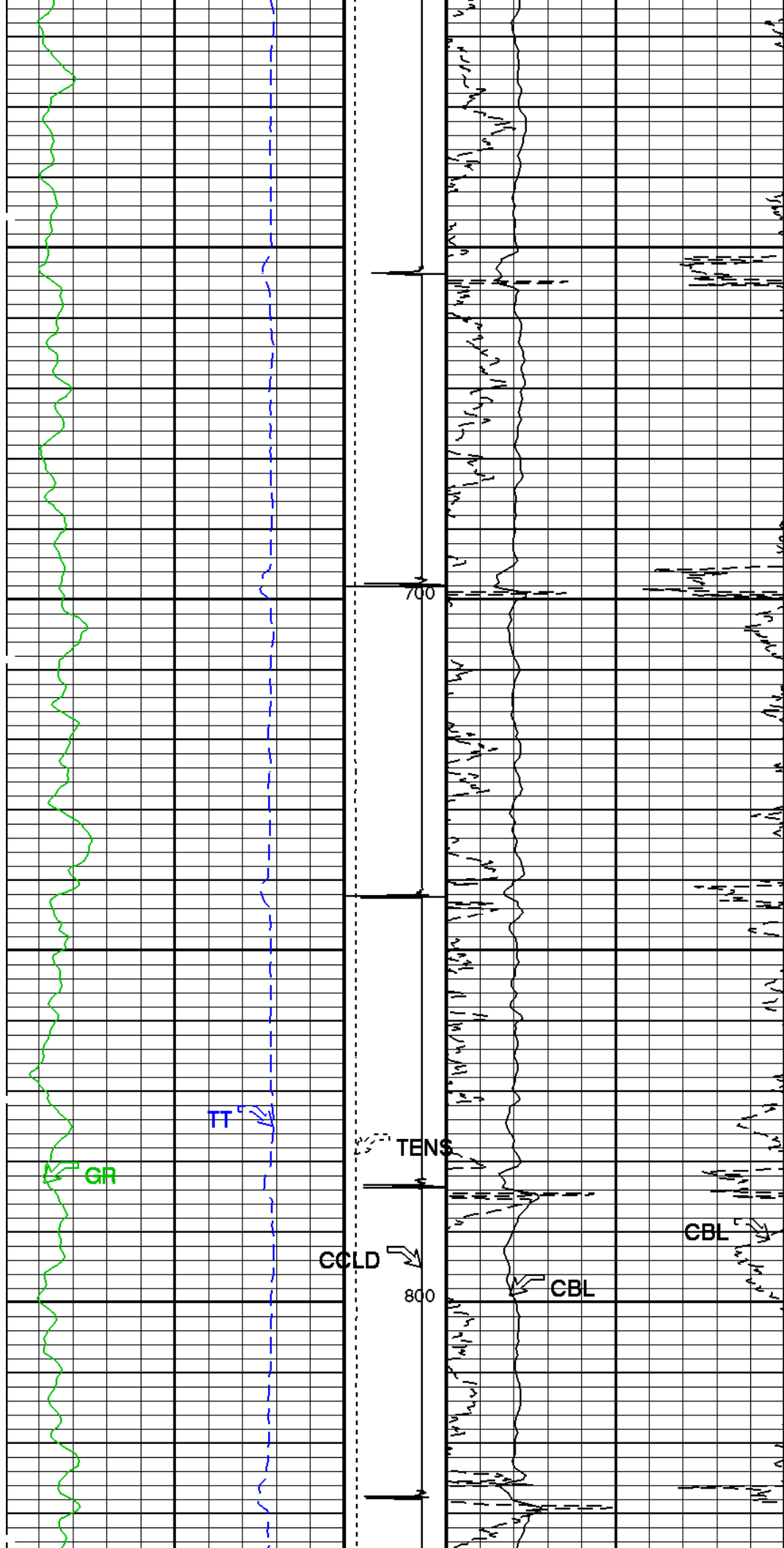
EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

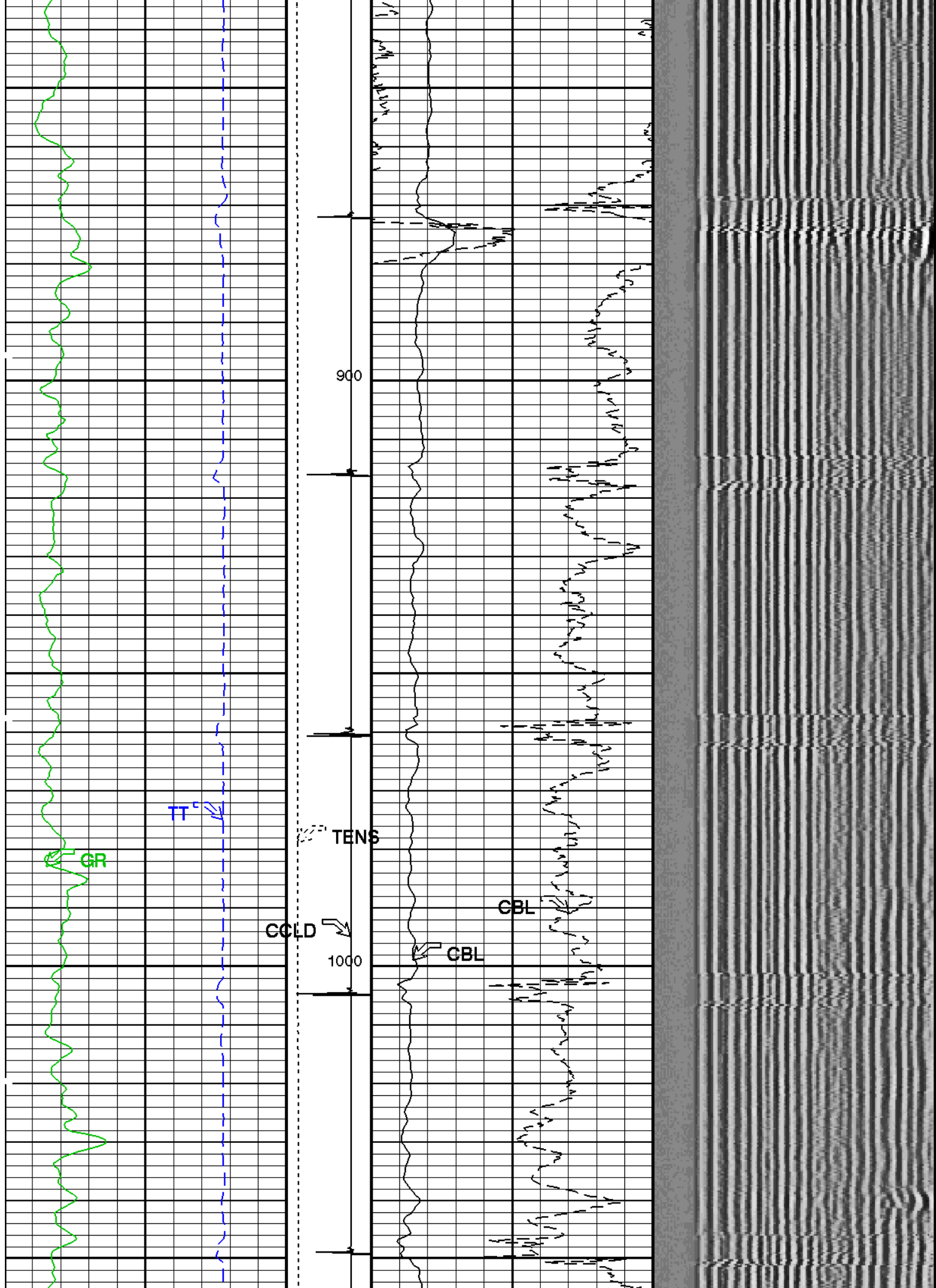
SURFACE EQUIPMENT	
WITM-A 3412	
PSC_16MHZ 3412	

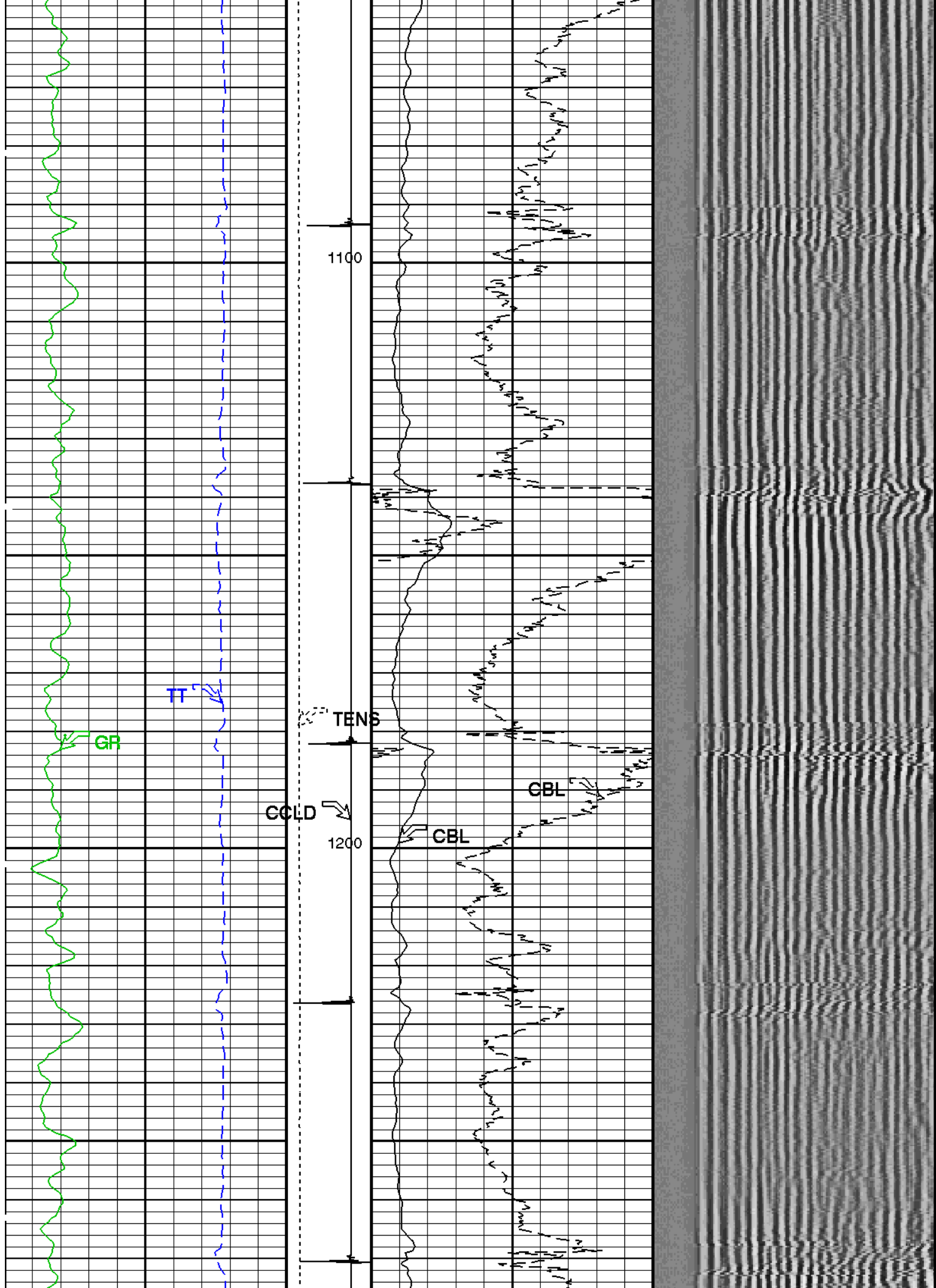
DOWNHOLE EQUIPMENT		
MH-22 MH-22 391		30.6
Detail MT TelStatus CTEM		29.1
AH-38		28.8
PSPT		28.8
PSC-A		
PSPT-A 3779		
PSTC-A		
PBMS-A 3779		
10k Sapphire Mano 3779		
RTD Thermometer 3779		
GR		
CCL 3779	GR	25.1
PBMS 3779		
Well Temp Manometer		22.0
CCL		21.9
		21.3
PBMS PSTC		20.5
SCMT-CB		20.5
SCMC-CA		
SECH-CA		
CMIR-AG		
SCMS-CB 8317		
SCMX-CA 8132		

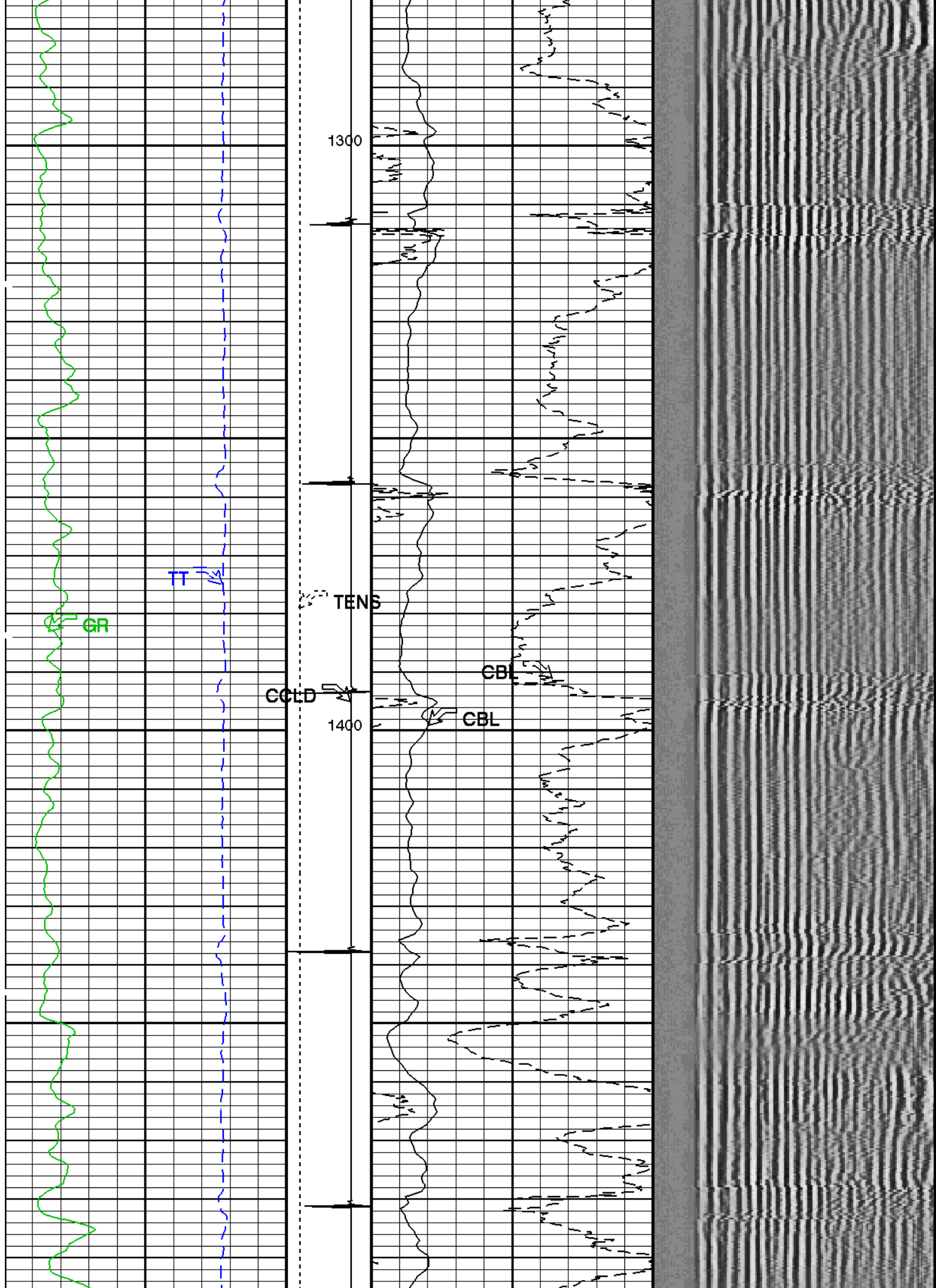


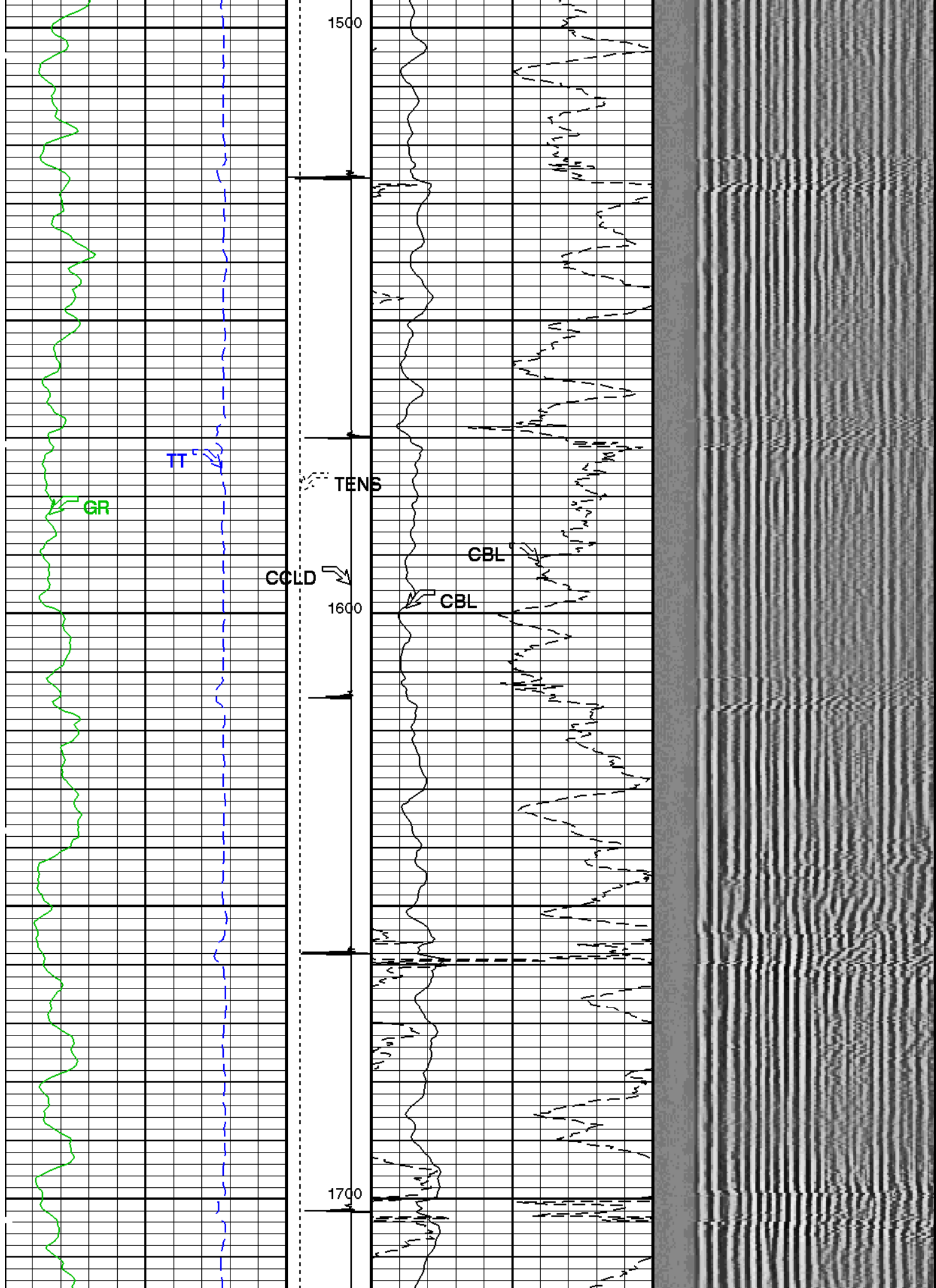


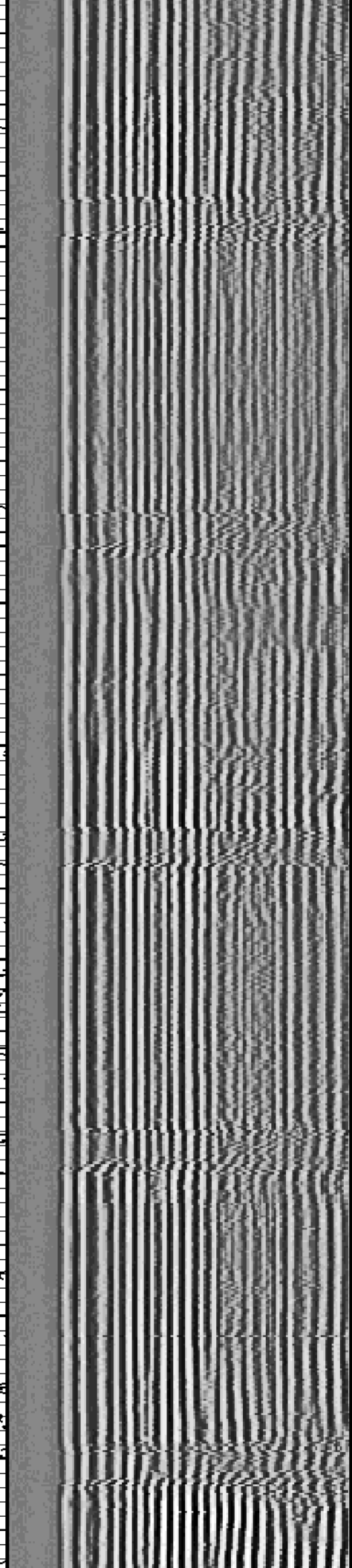
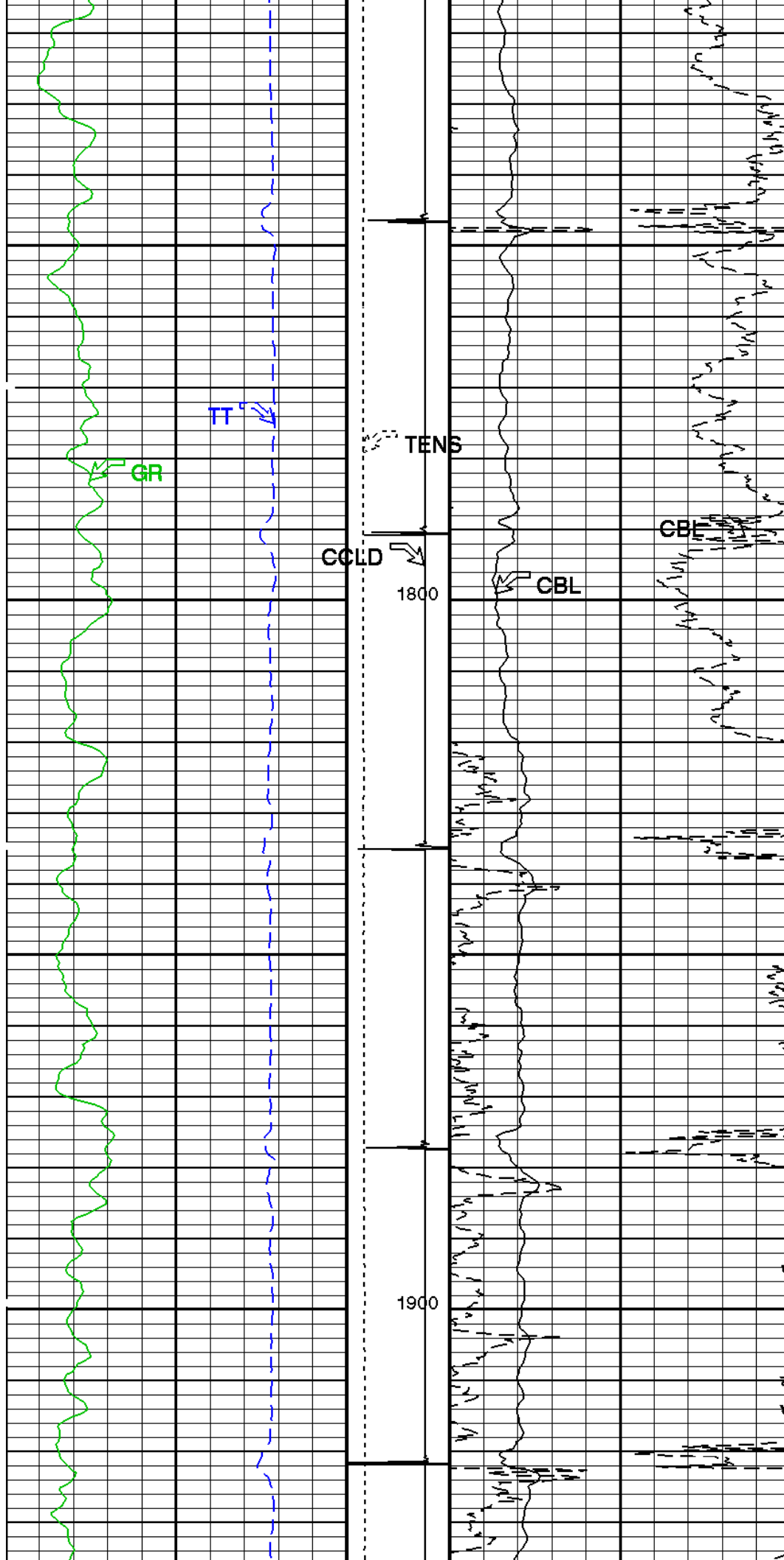


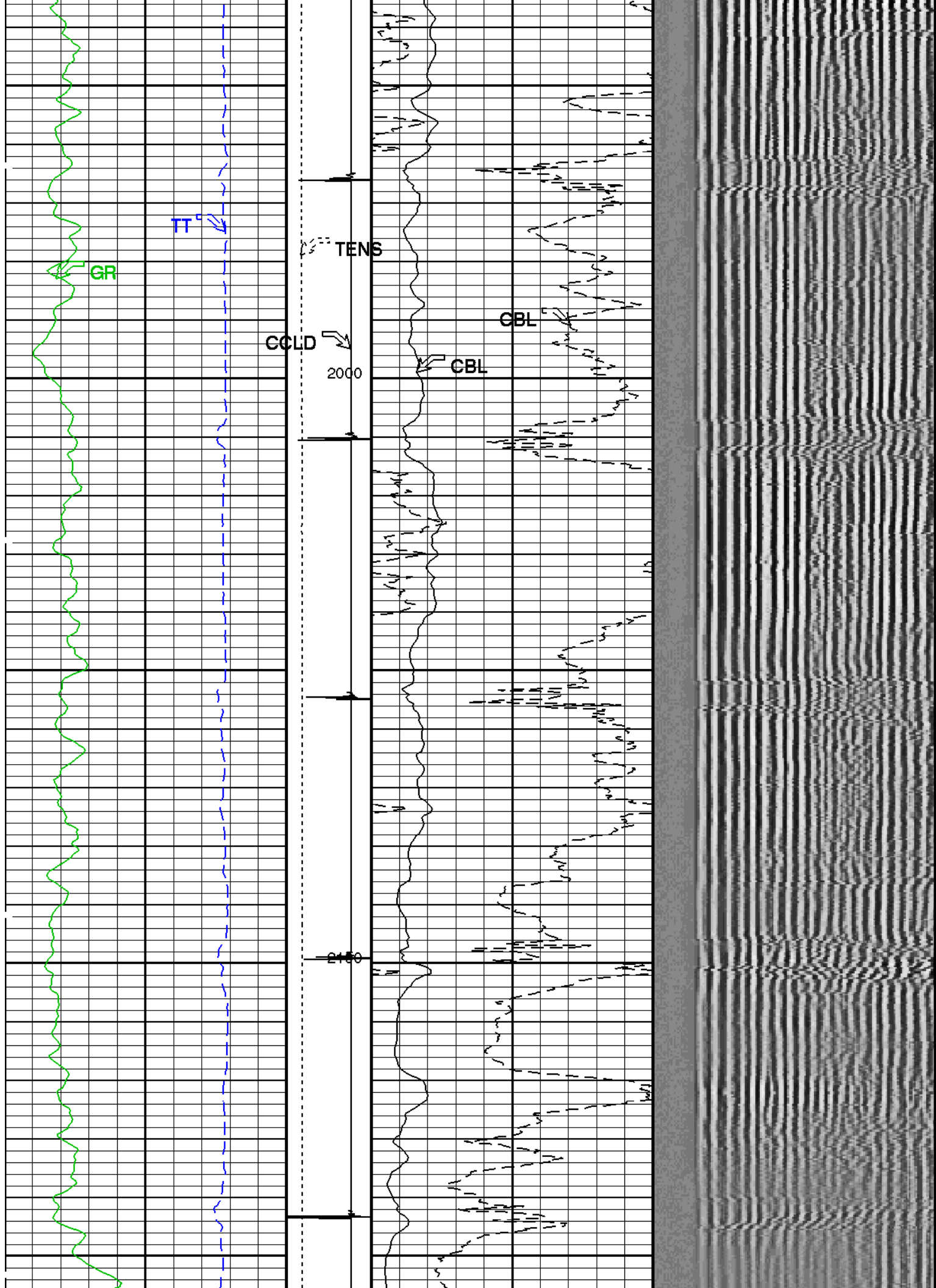


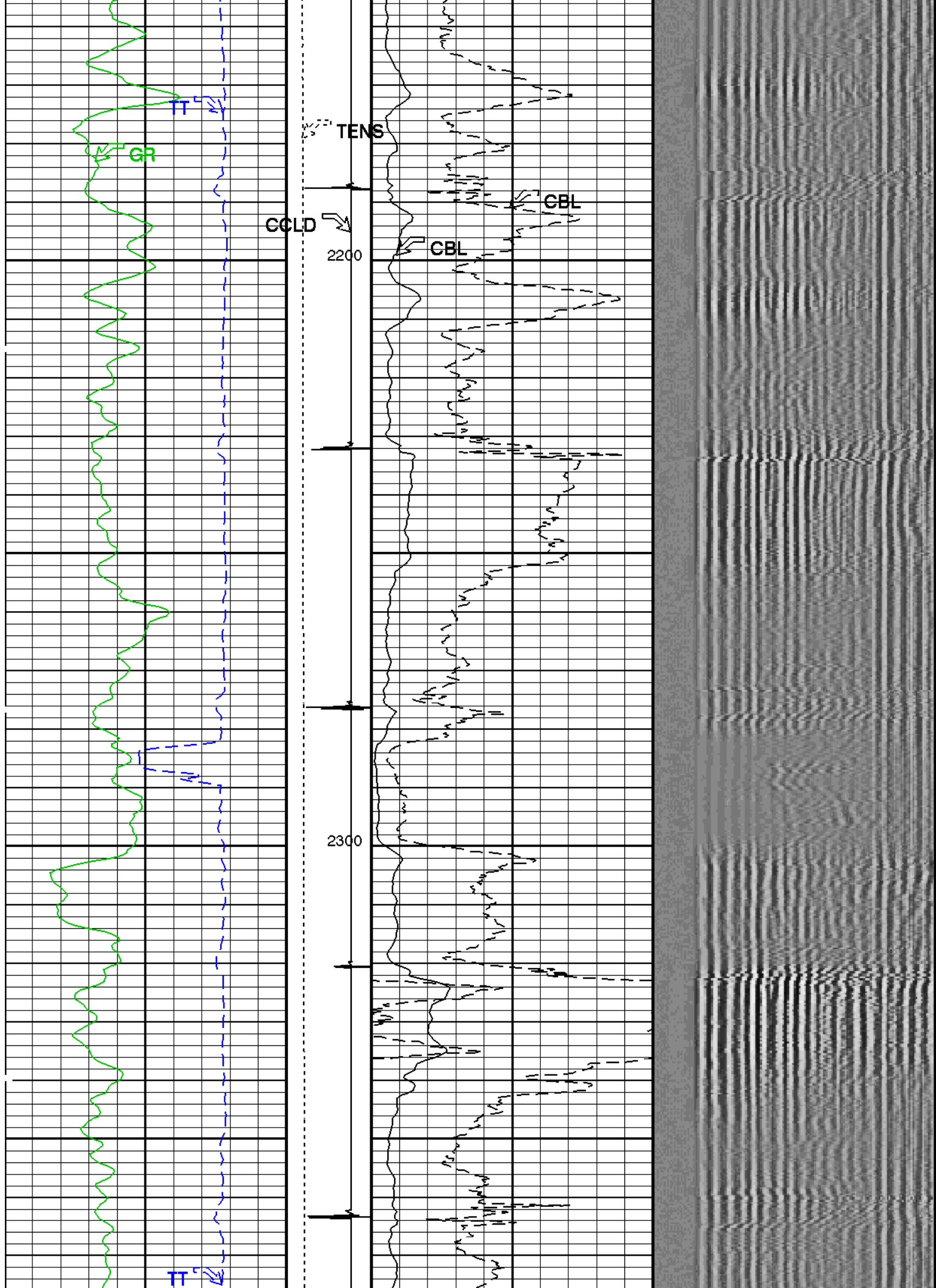


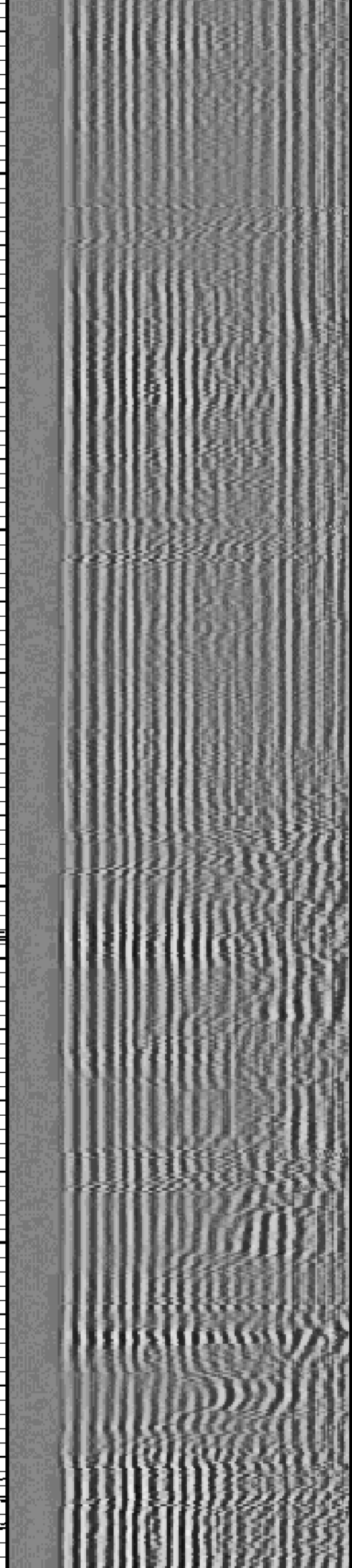
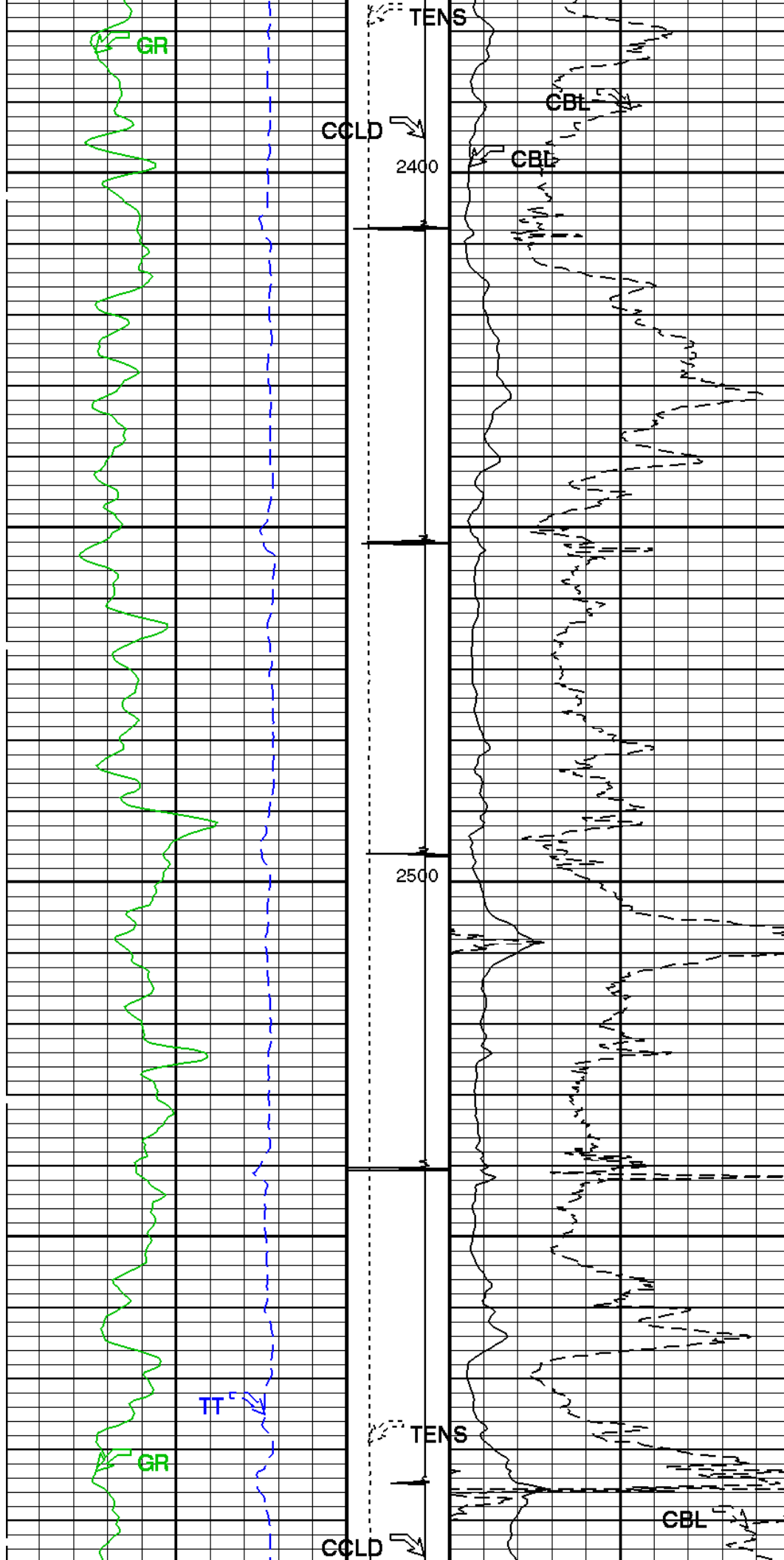


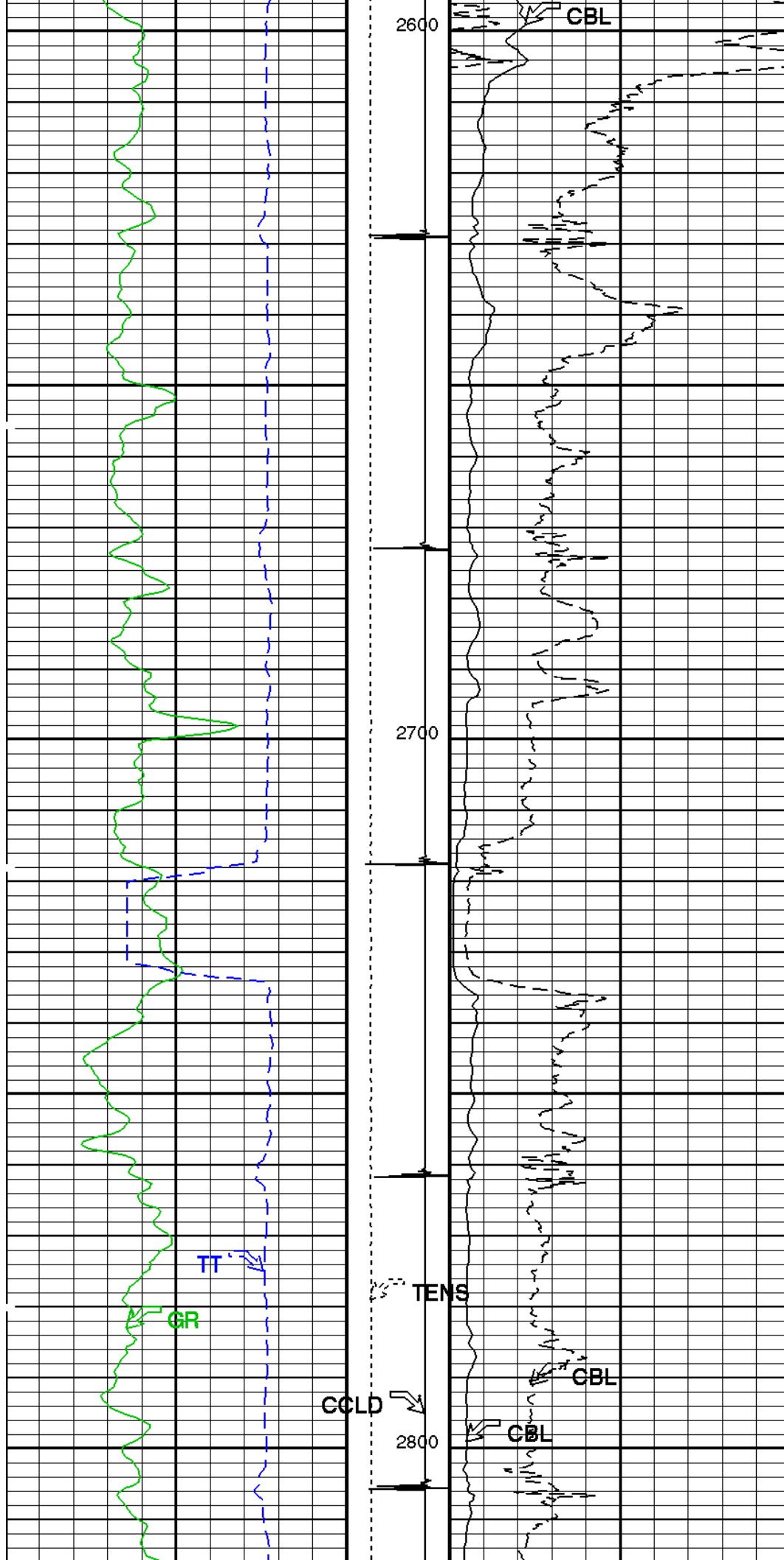


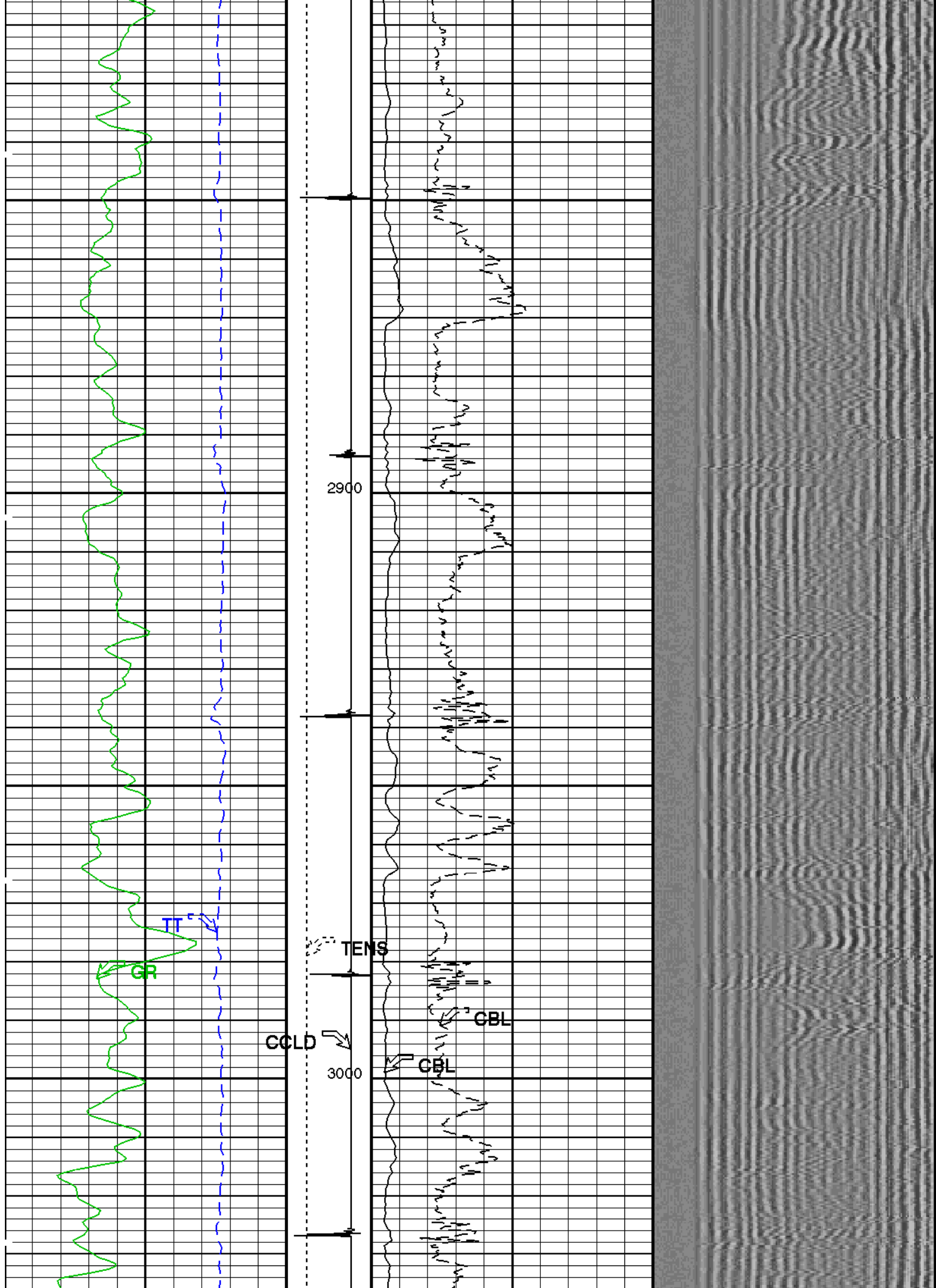


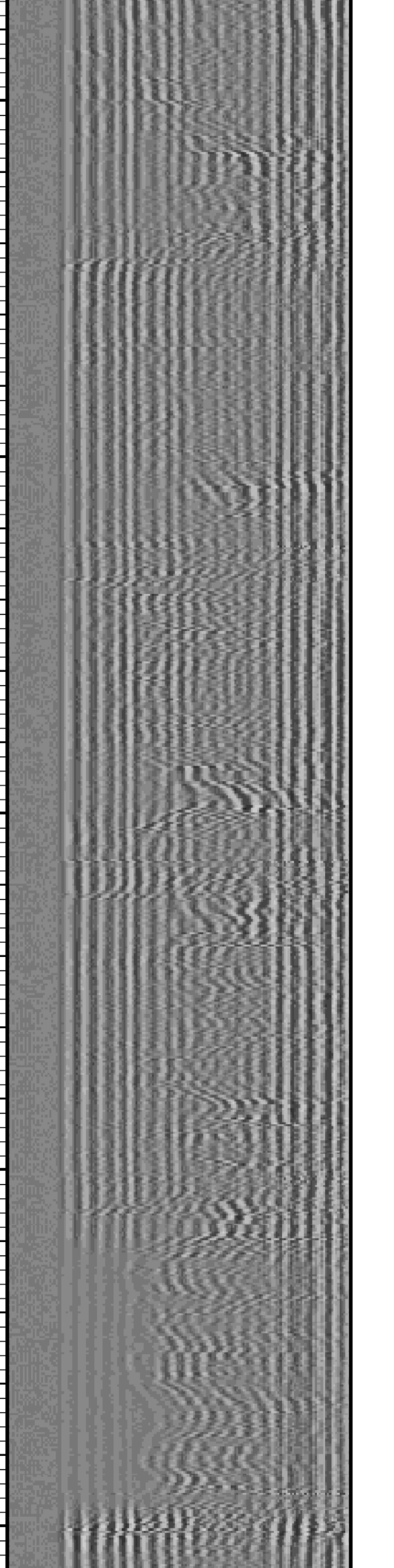
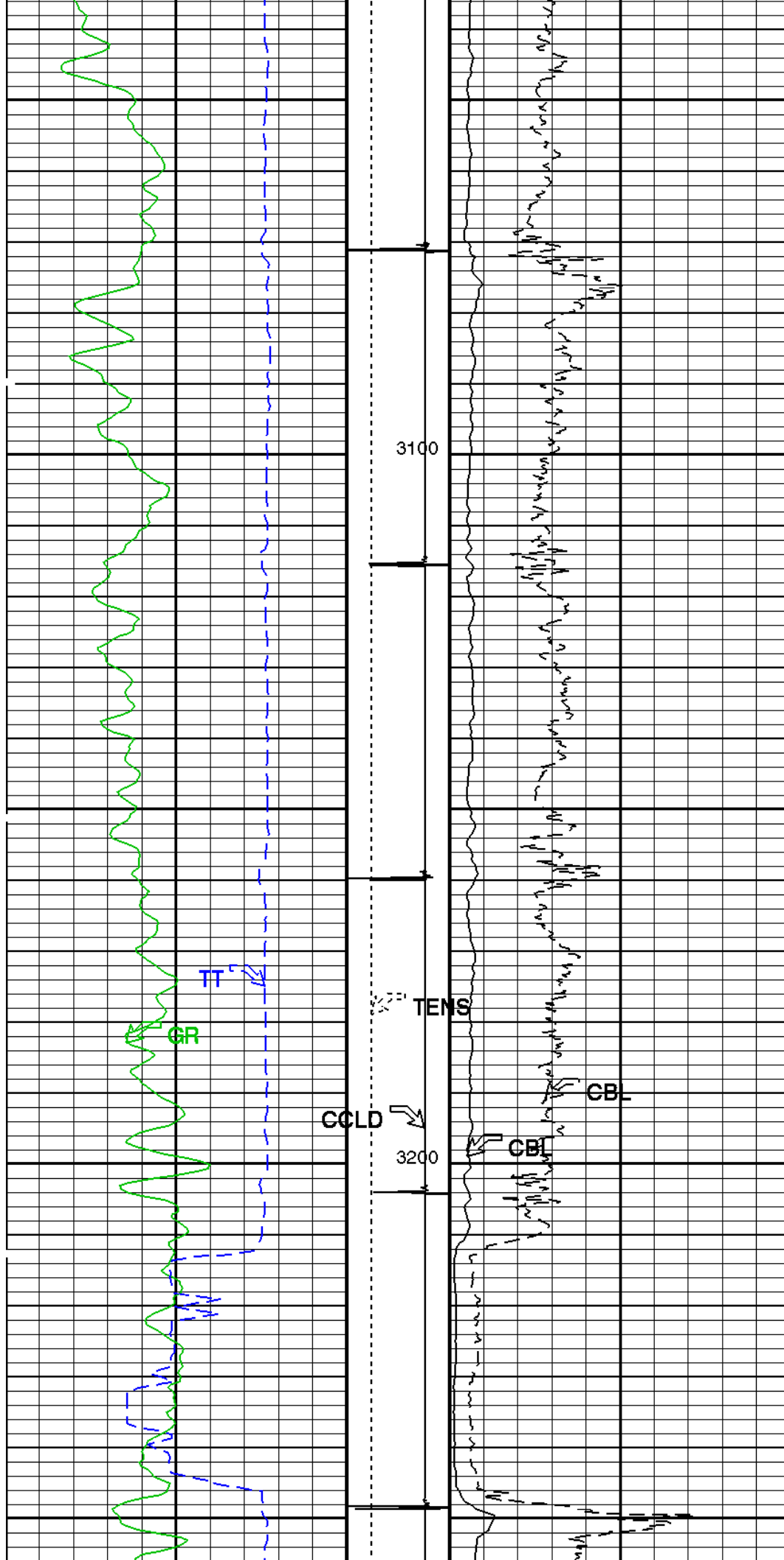


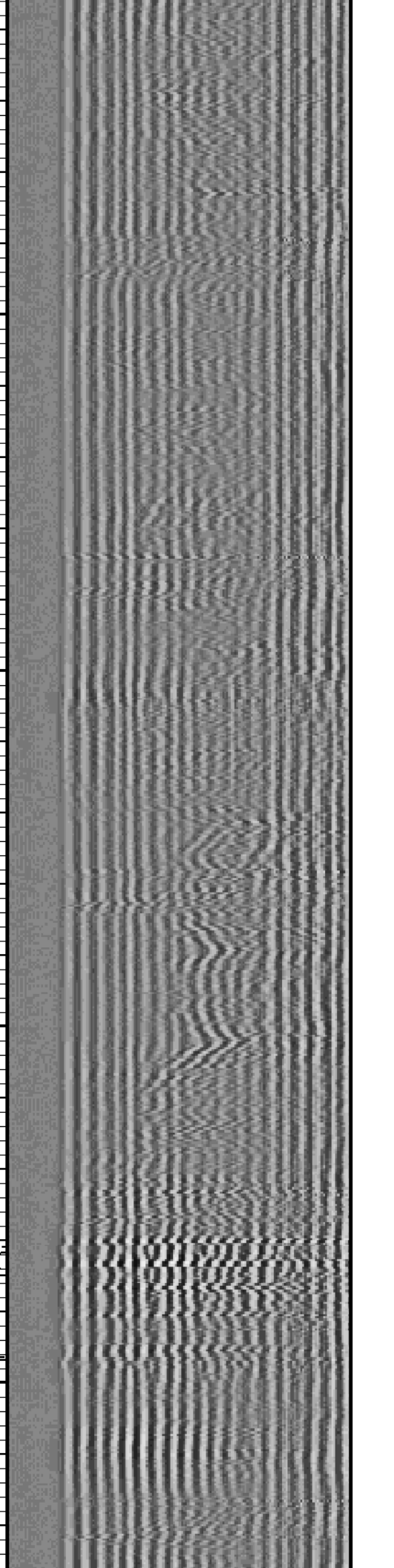
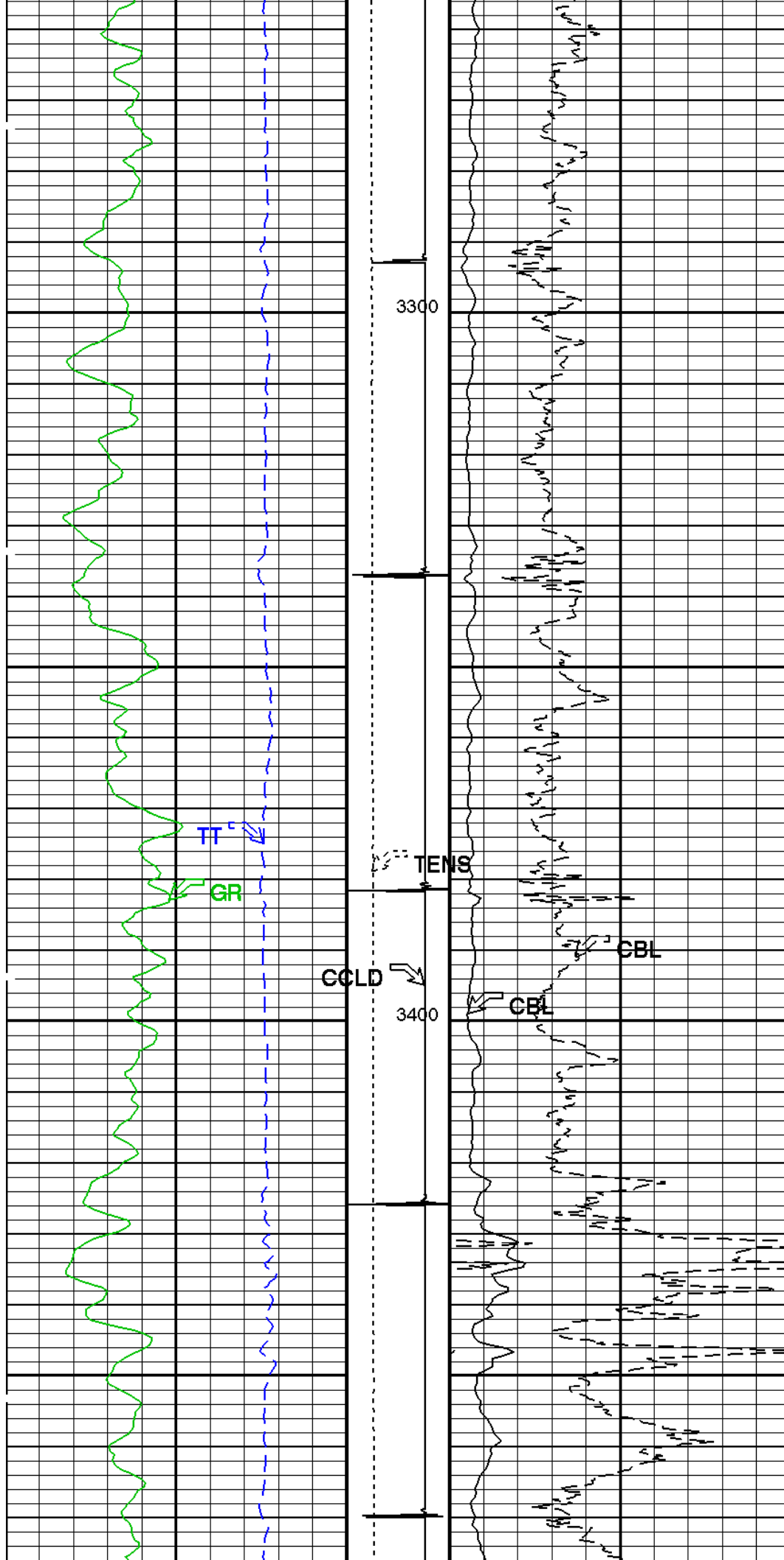


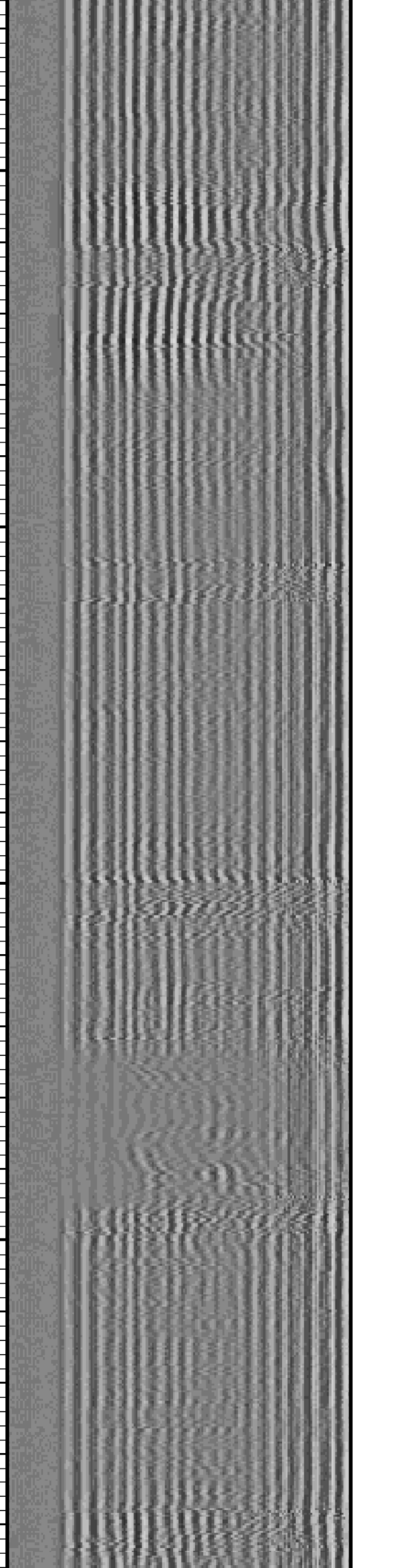
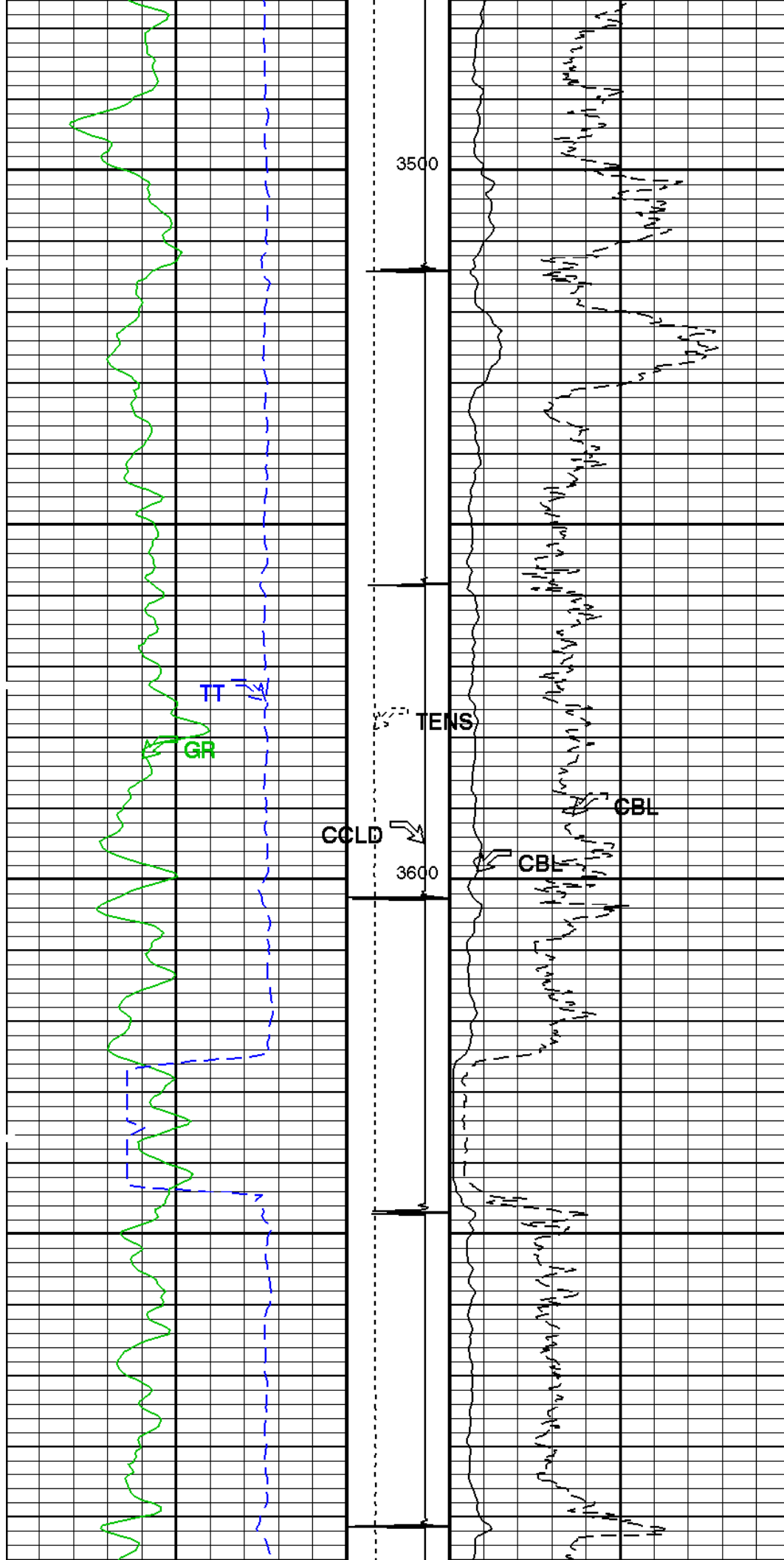


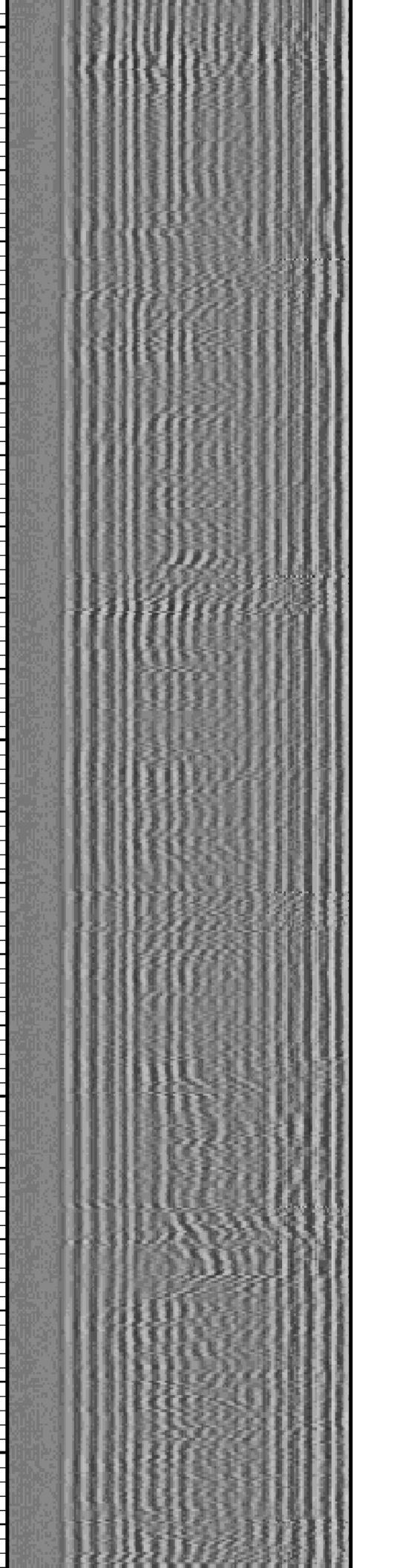
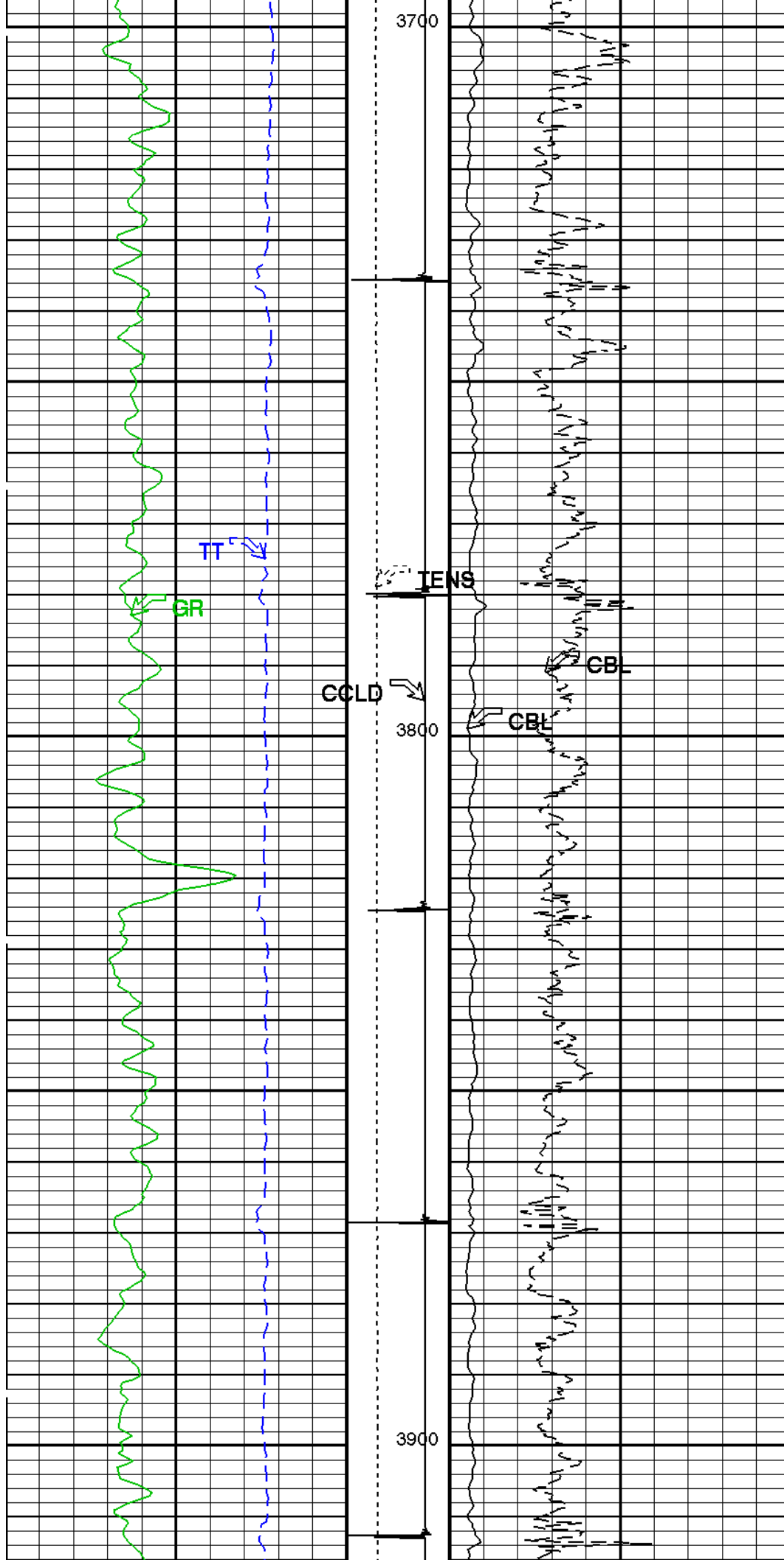


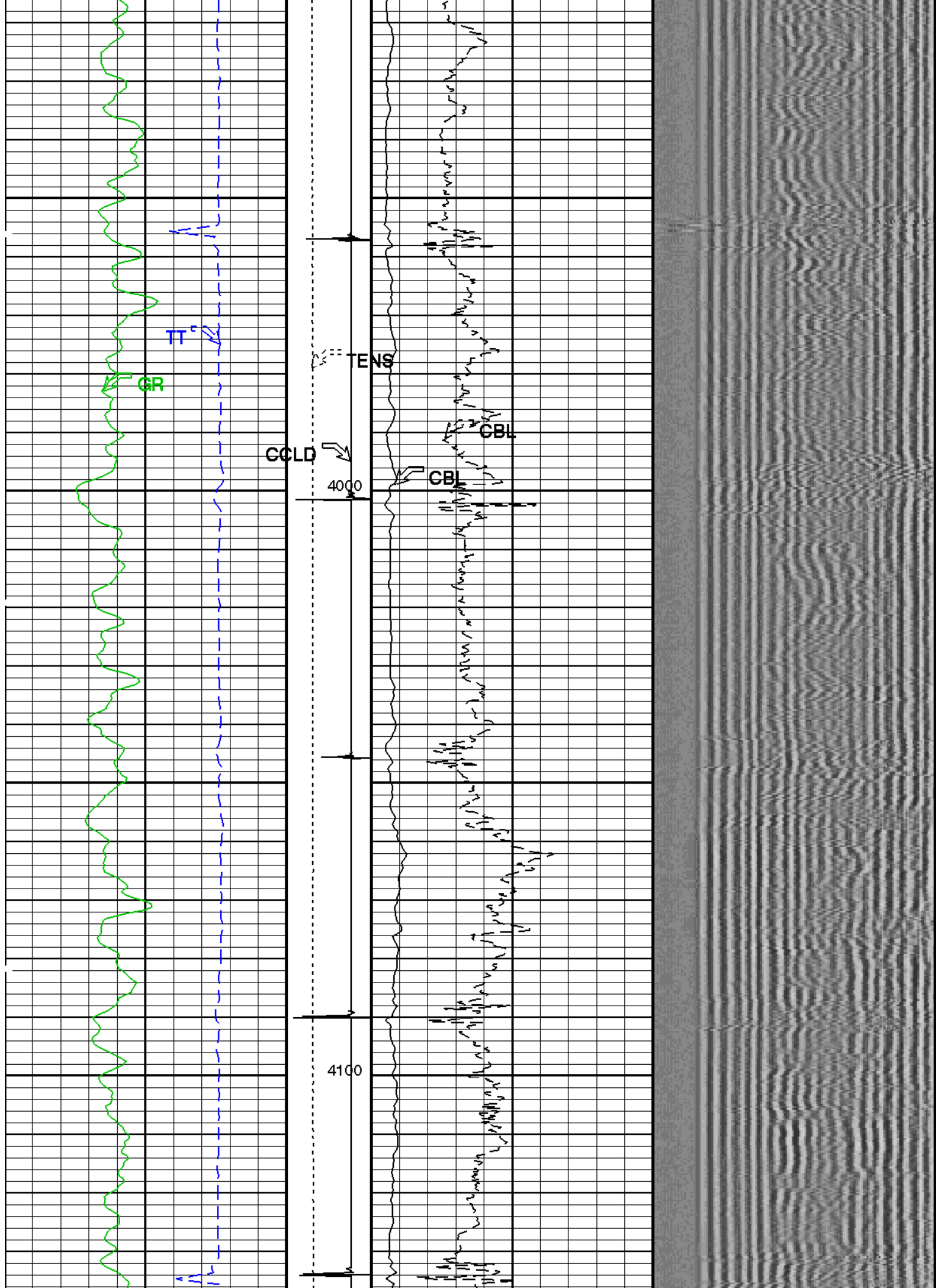


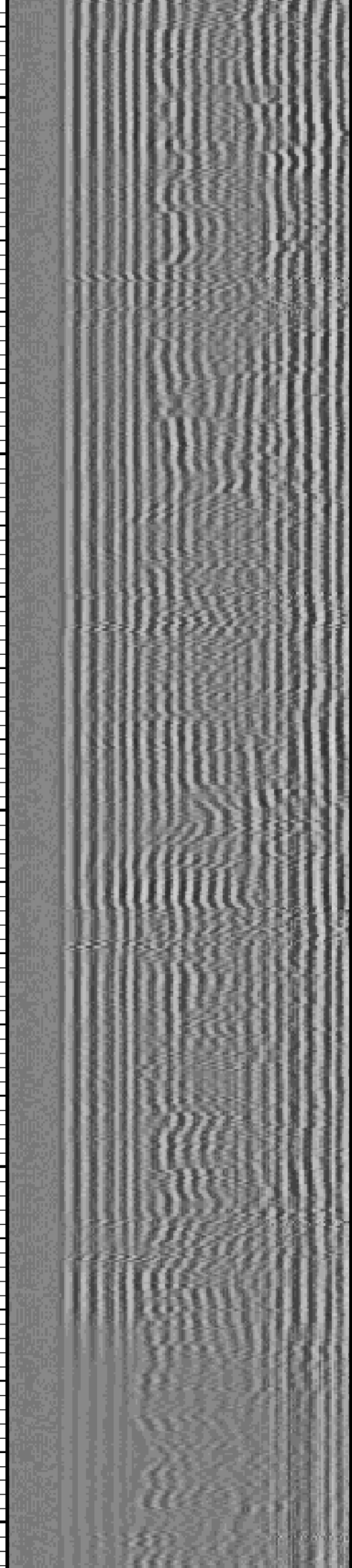
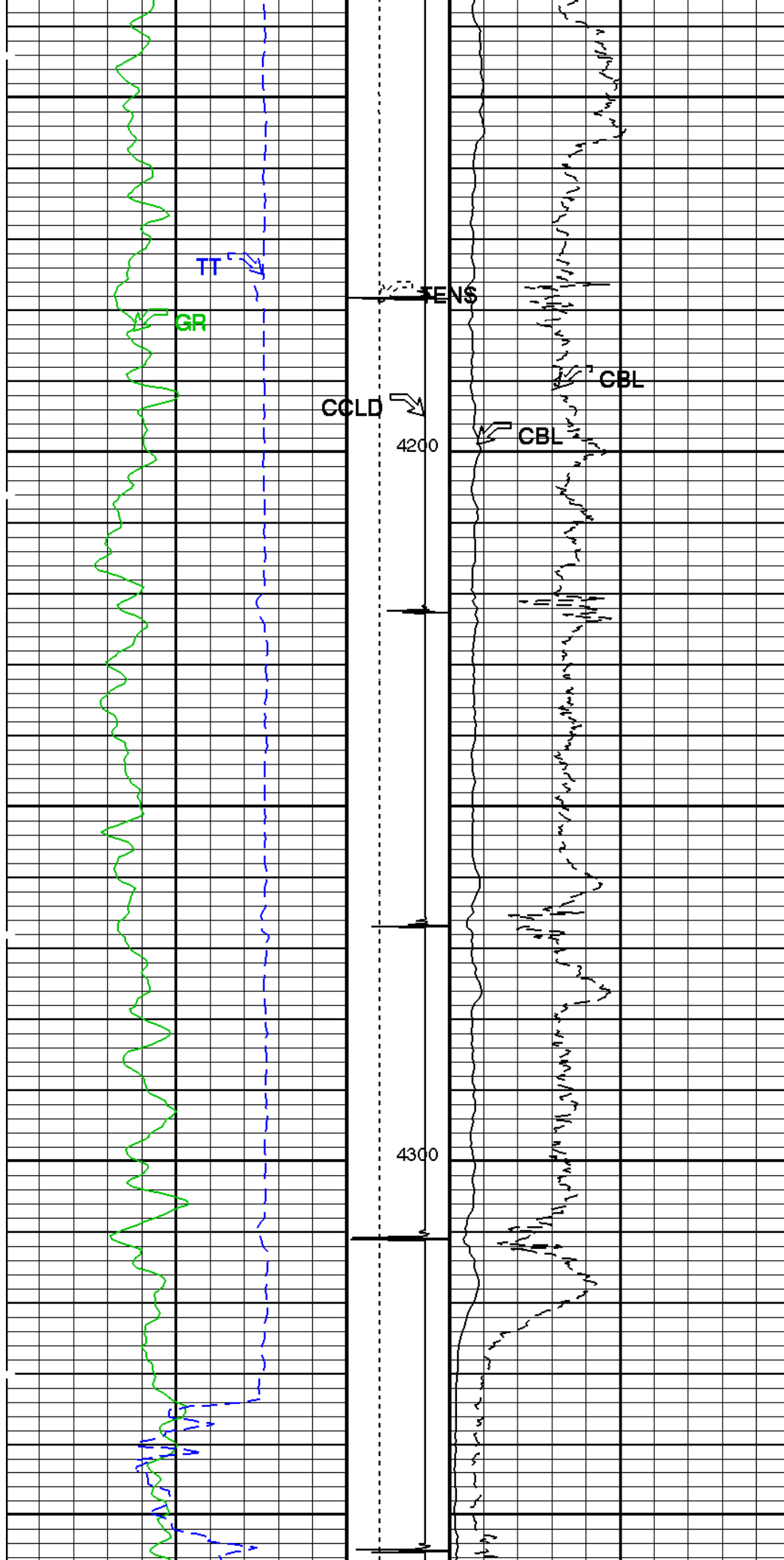


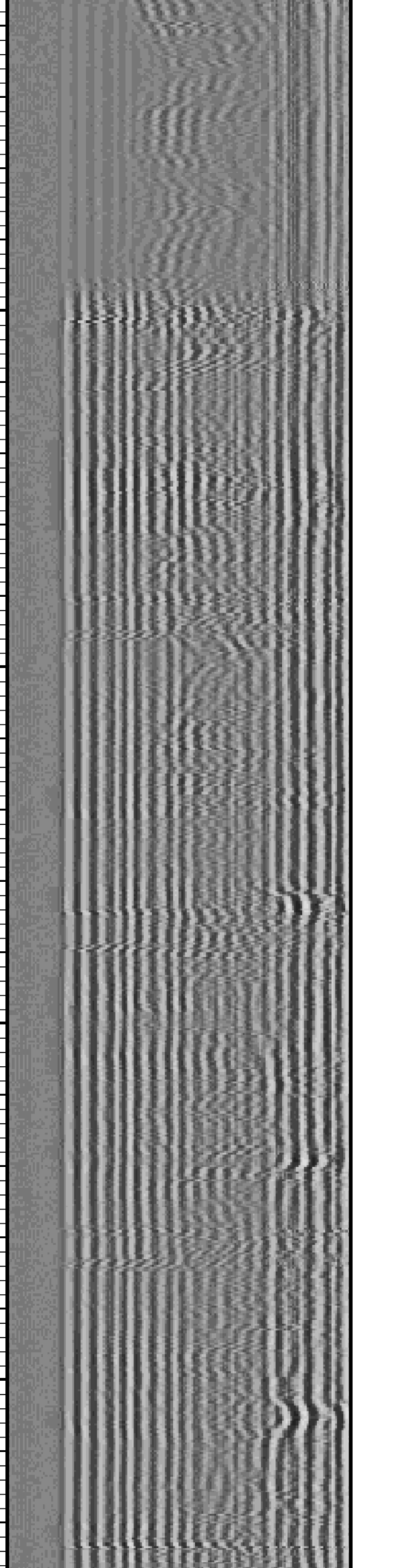
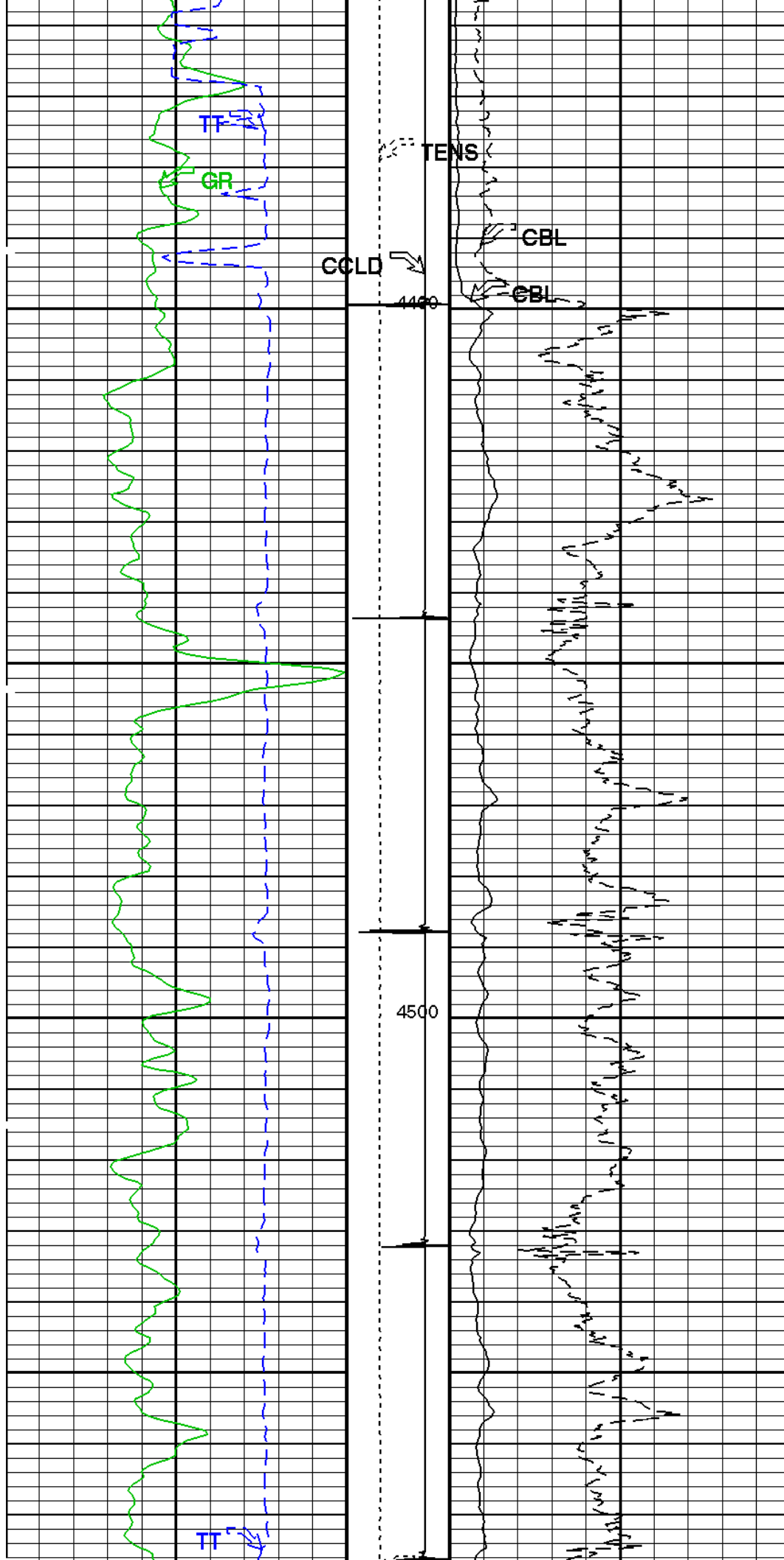


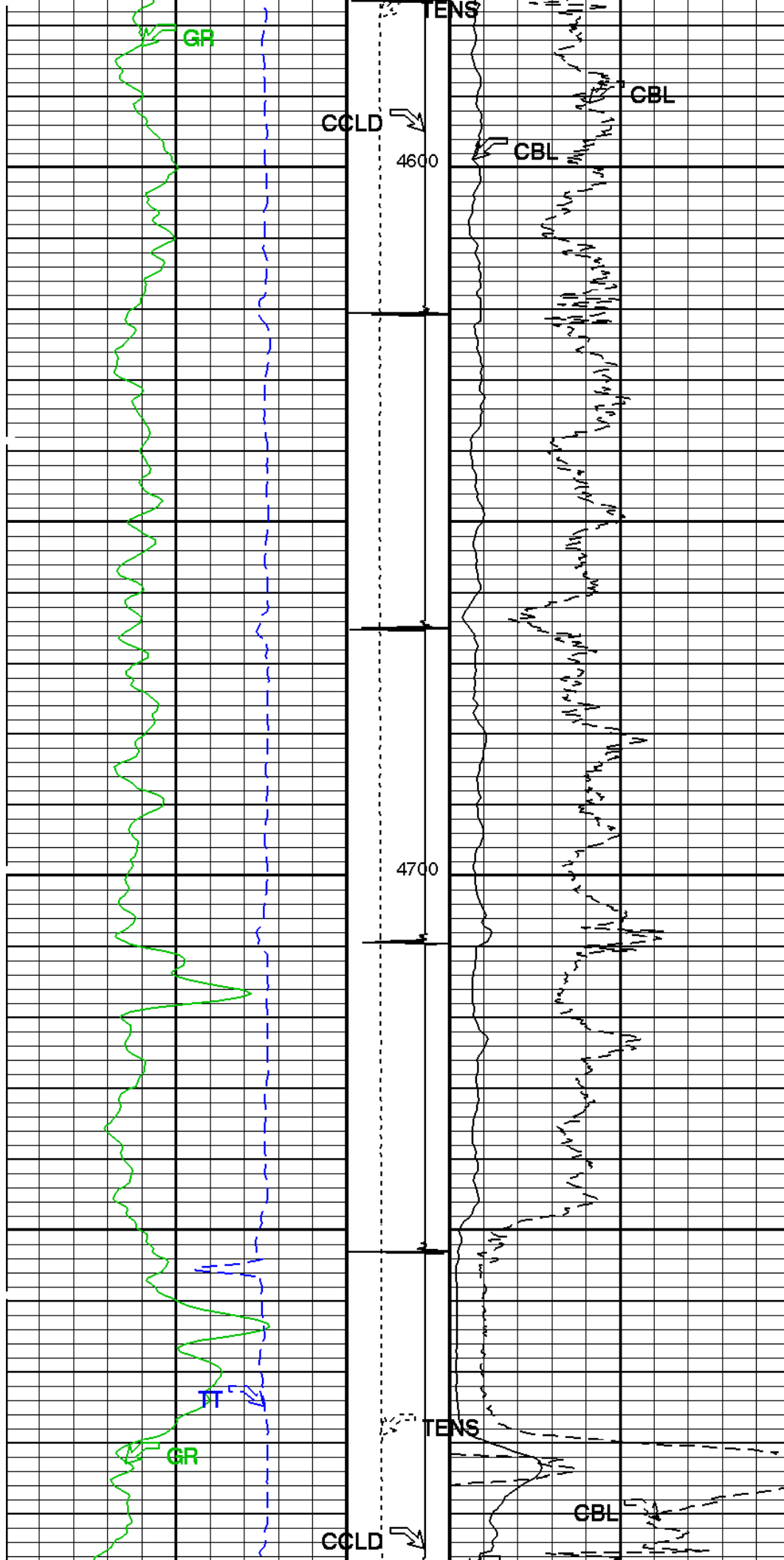


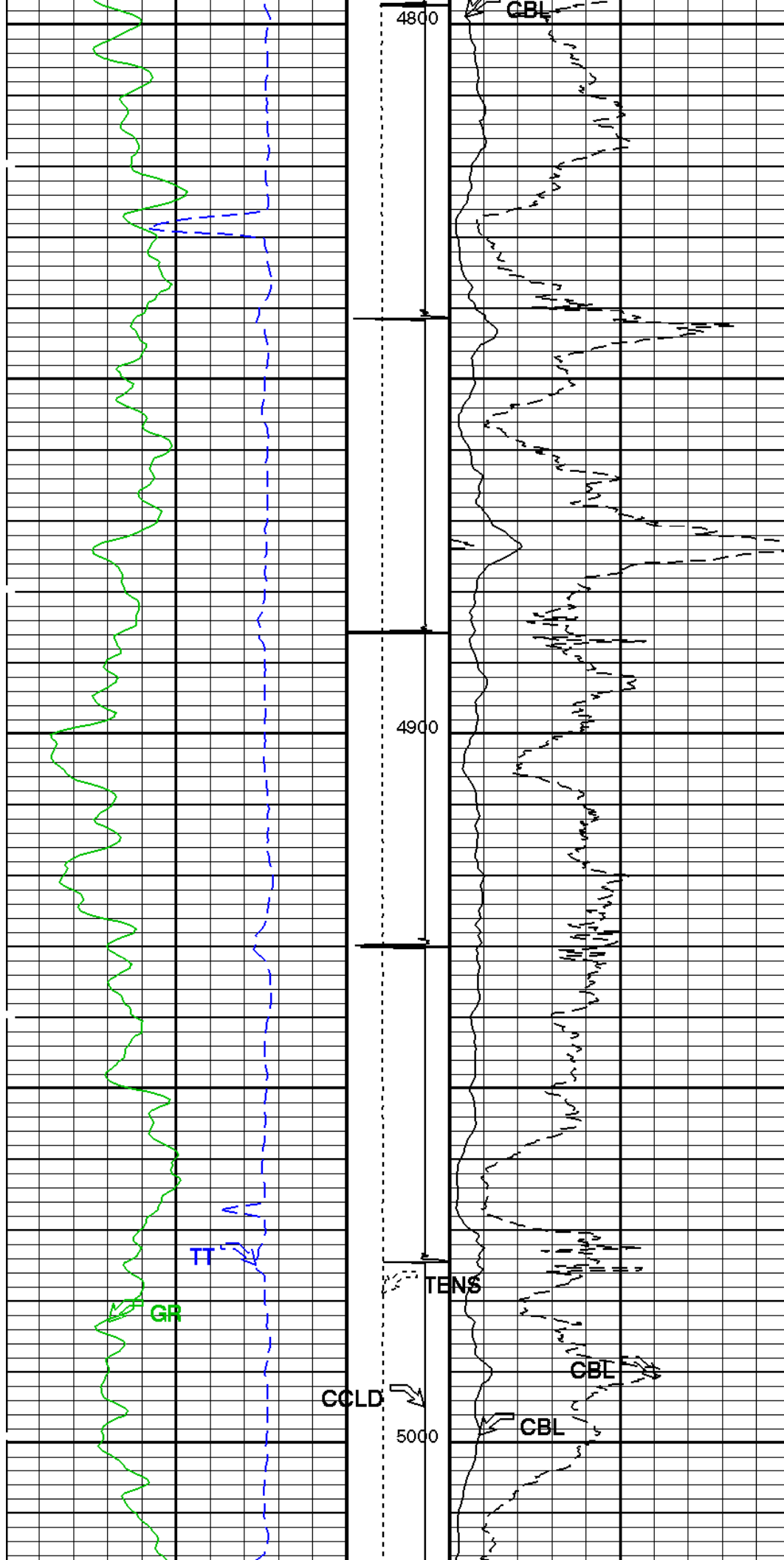


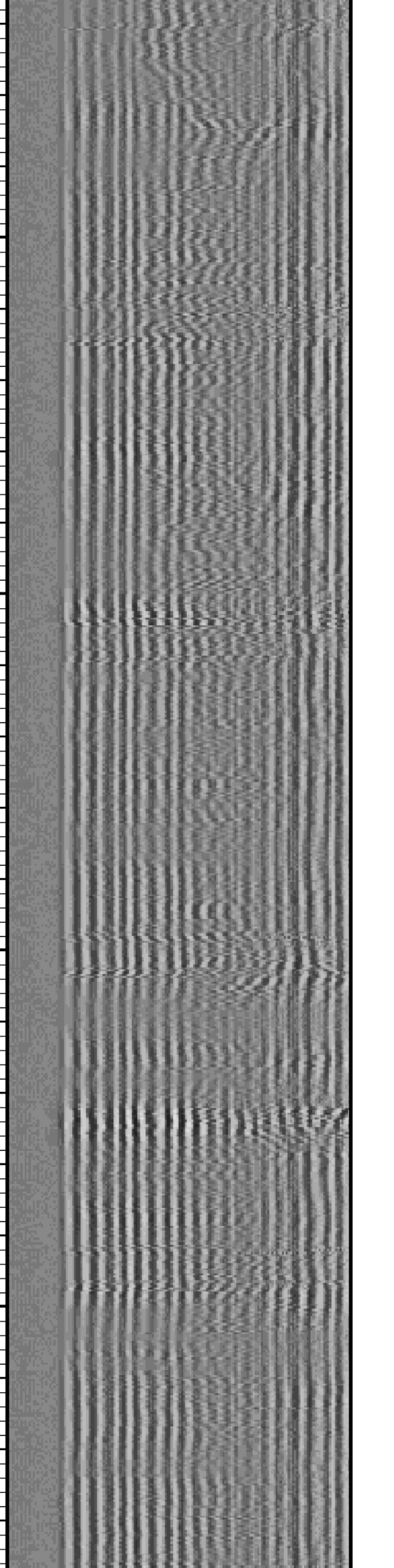
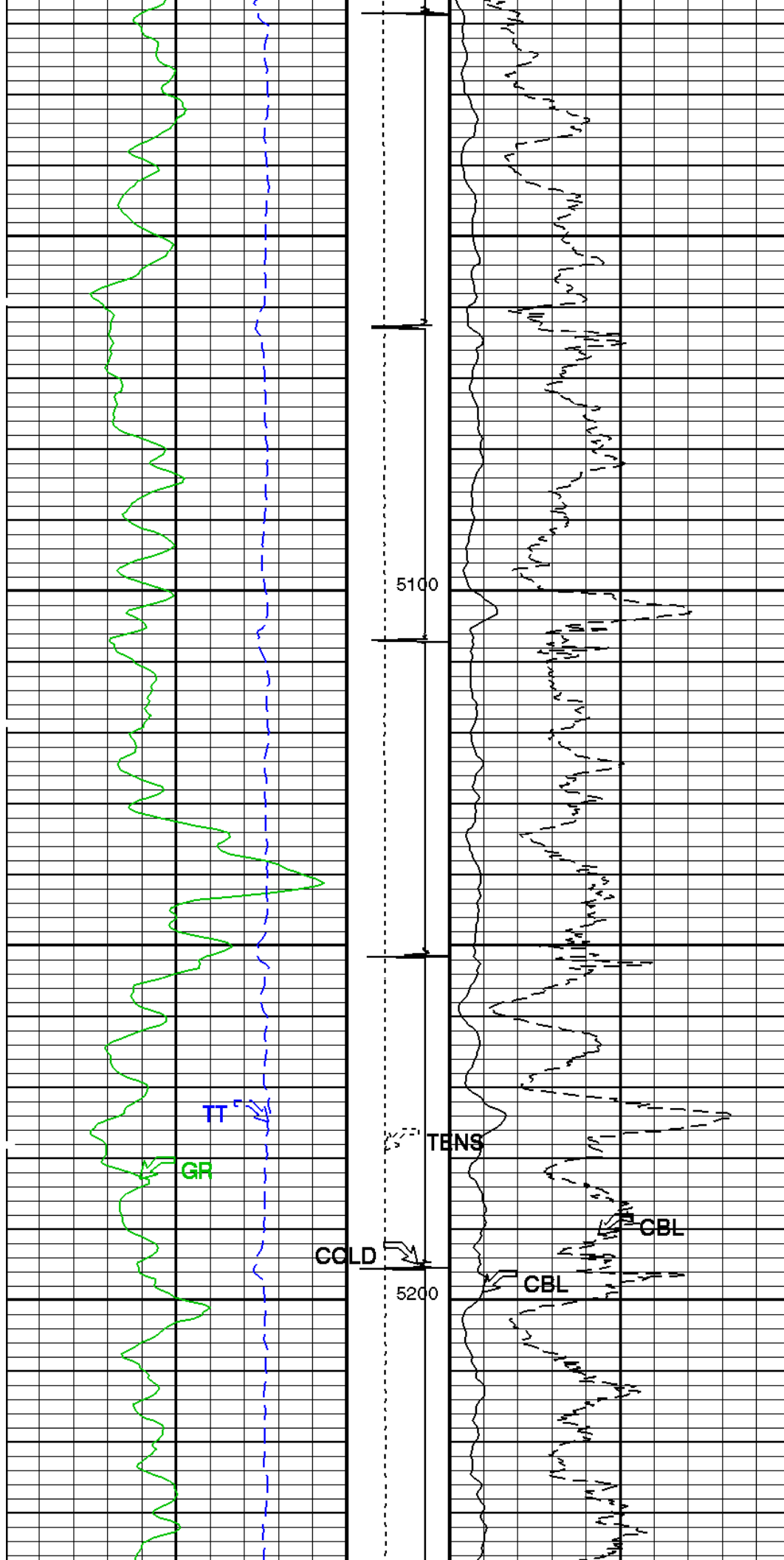


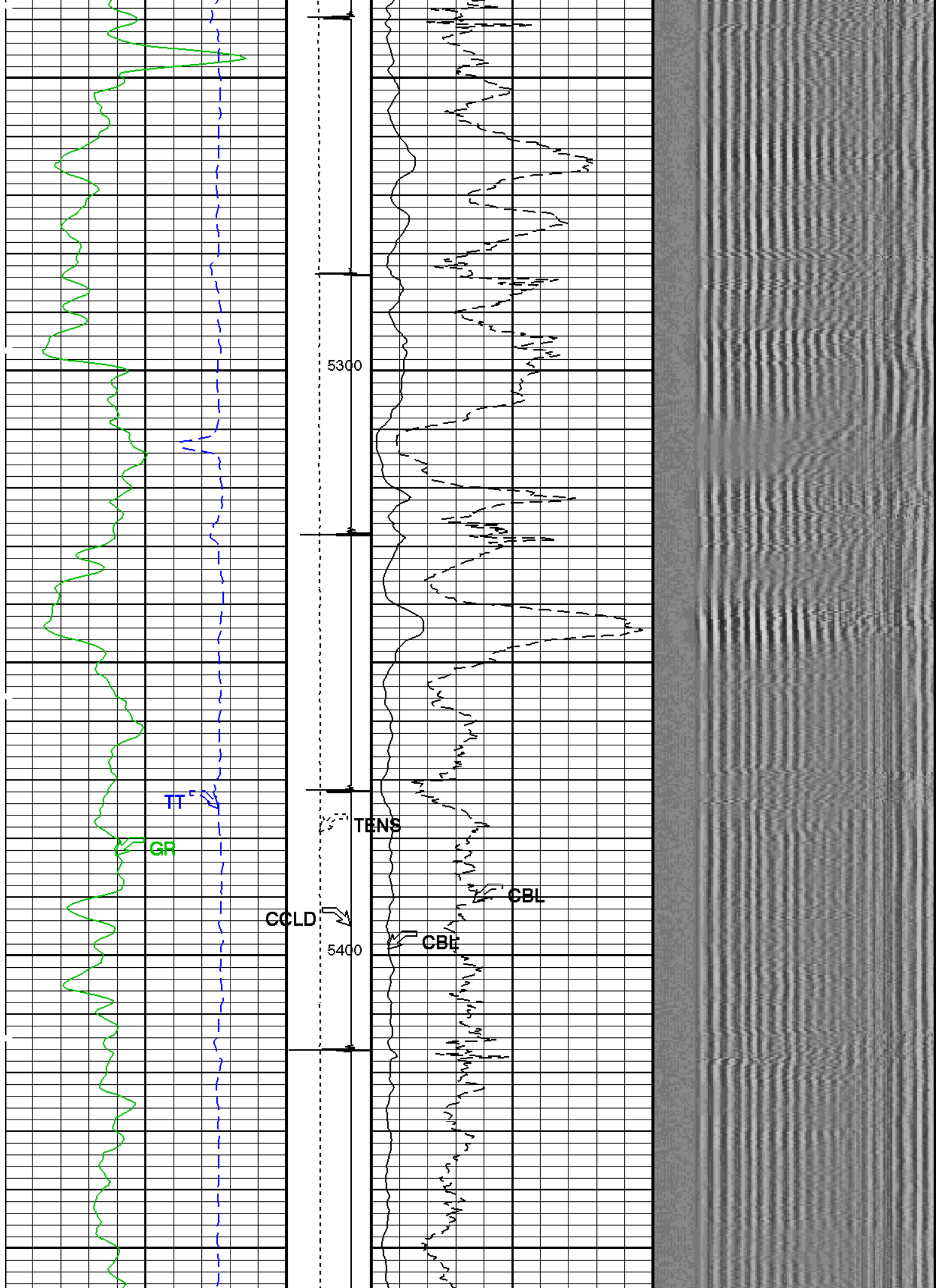


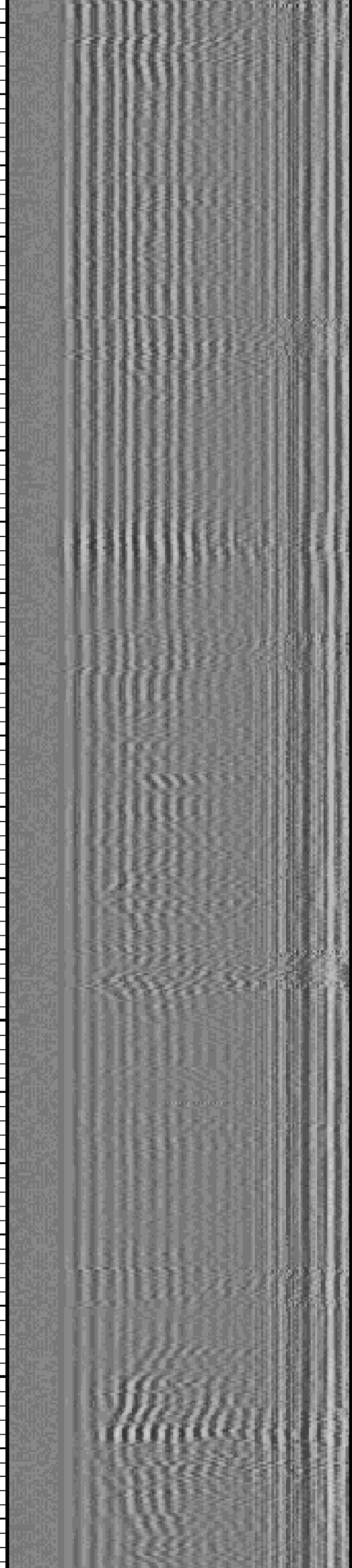
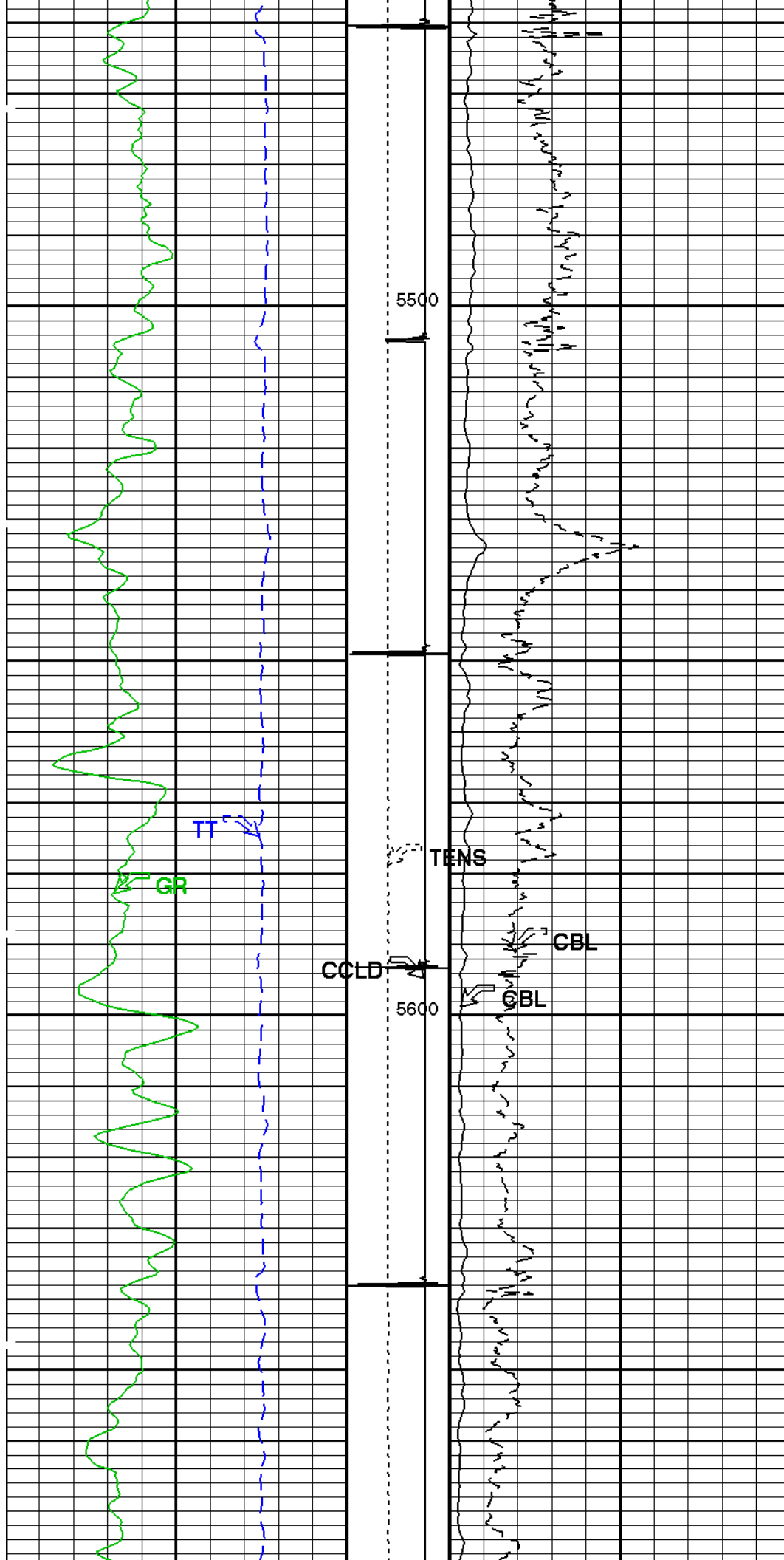


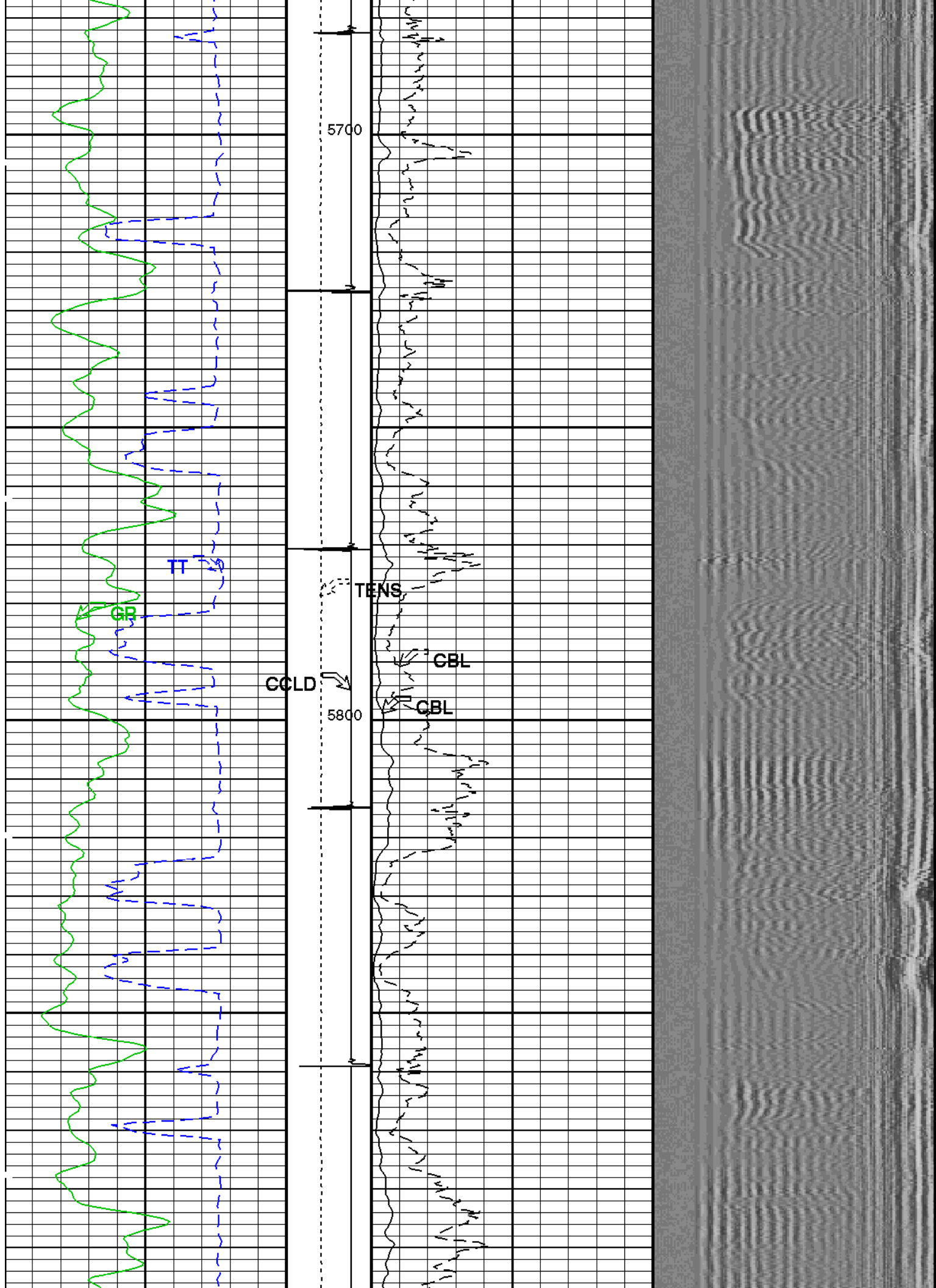


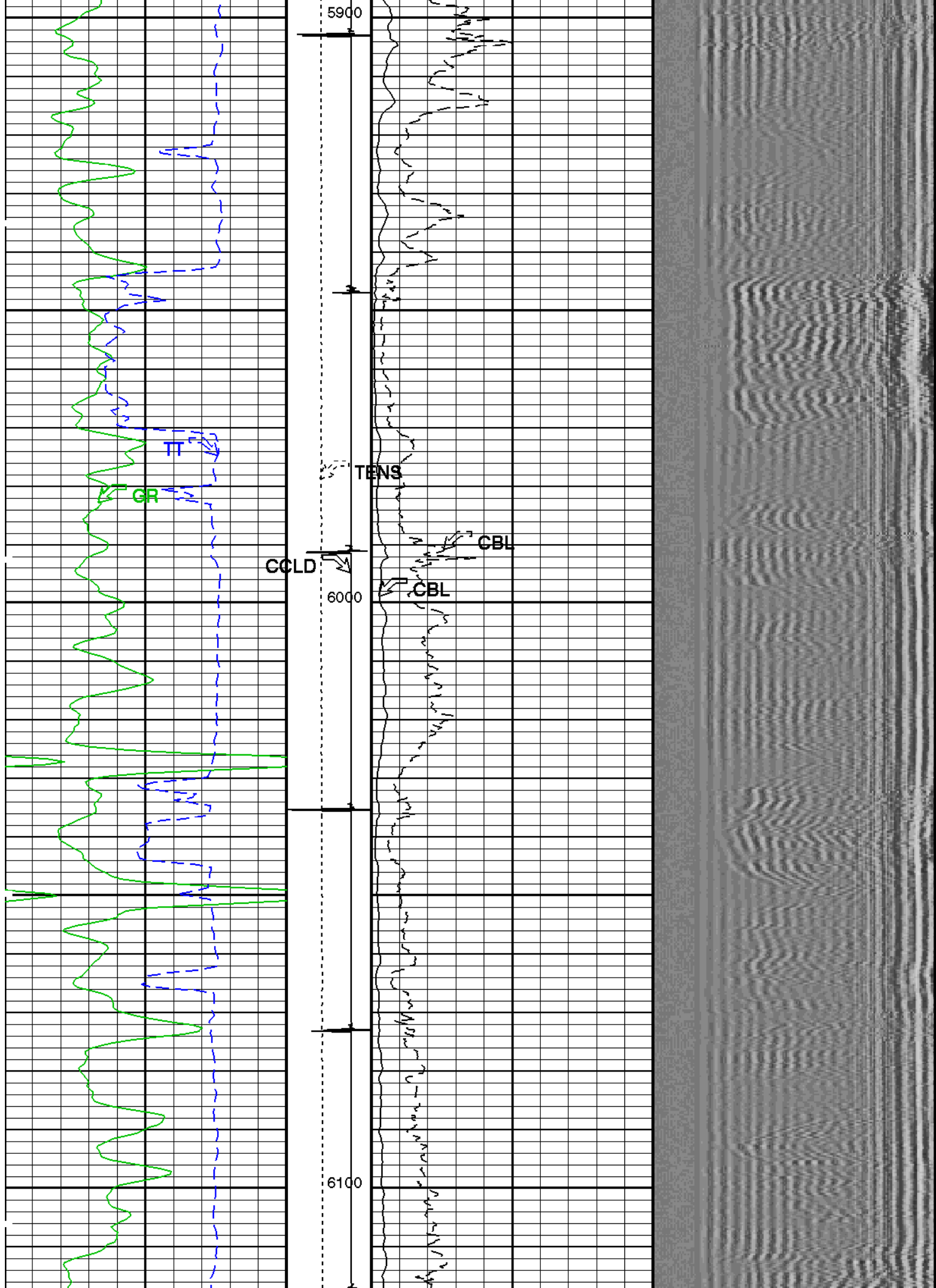


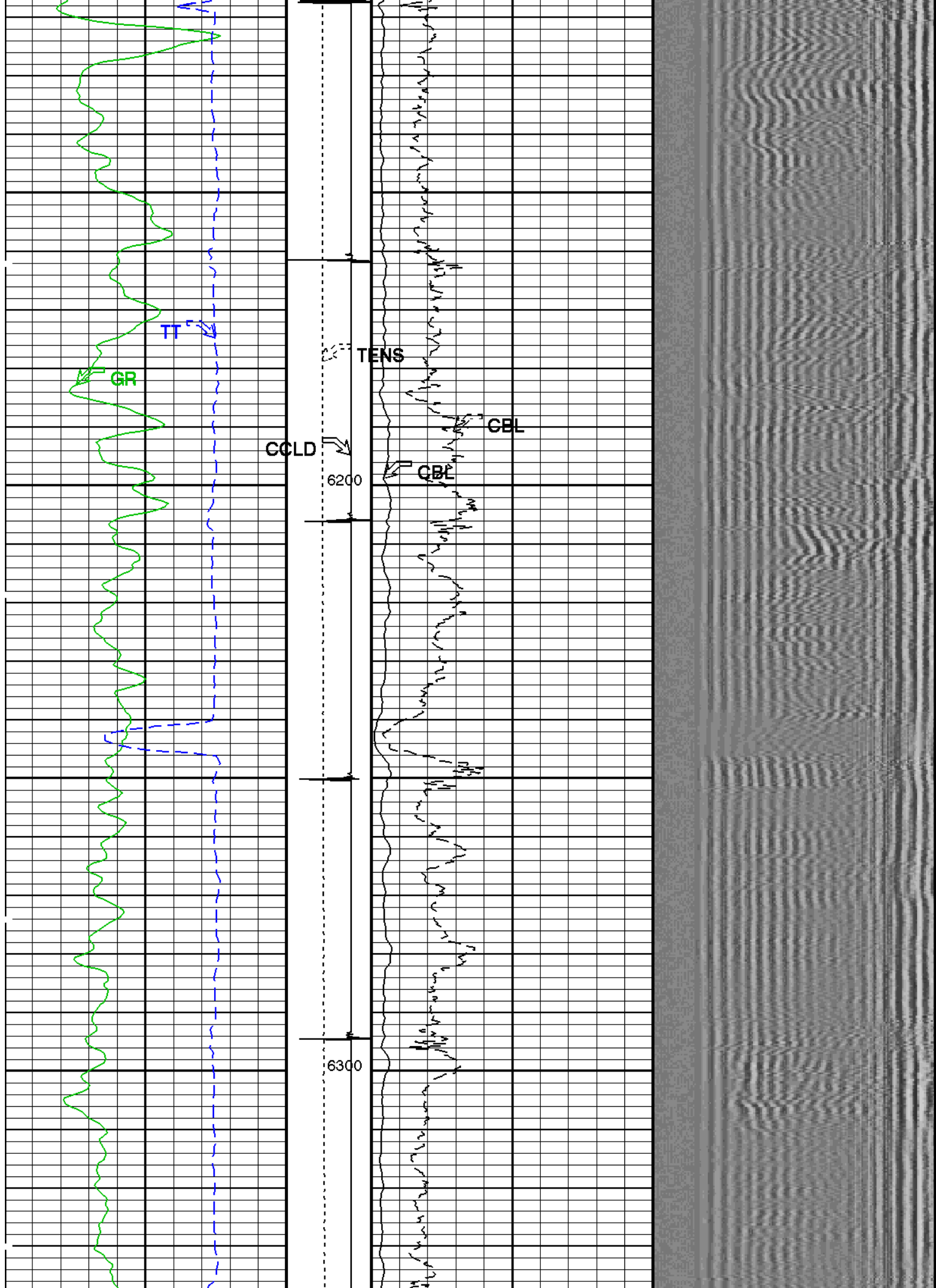


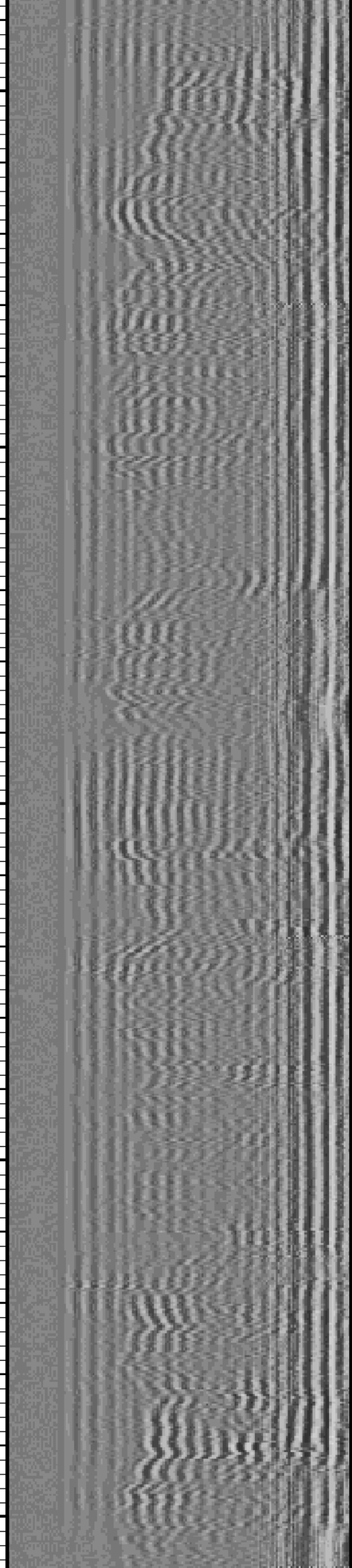
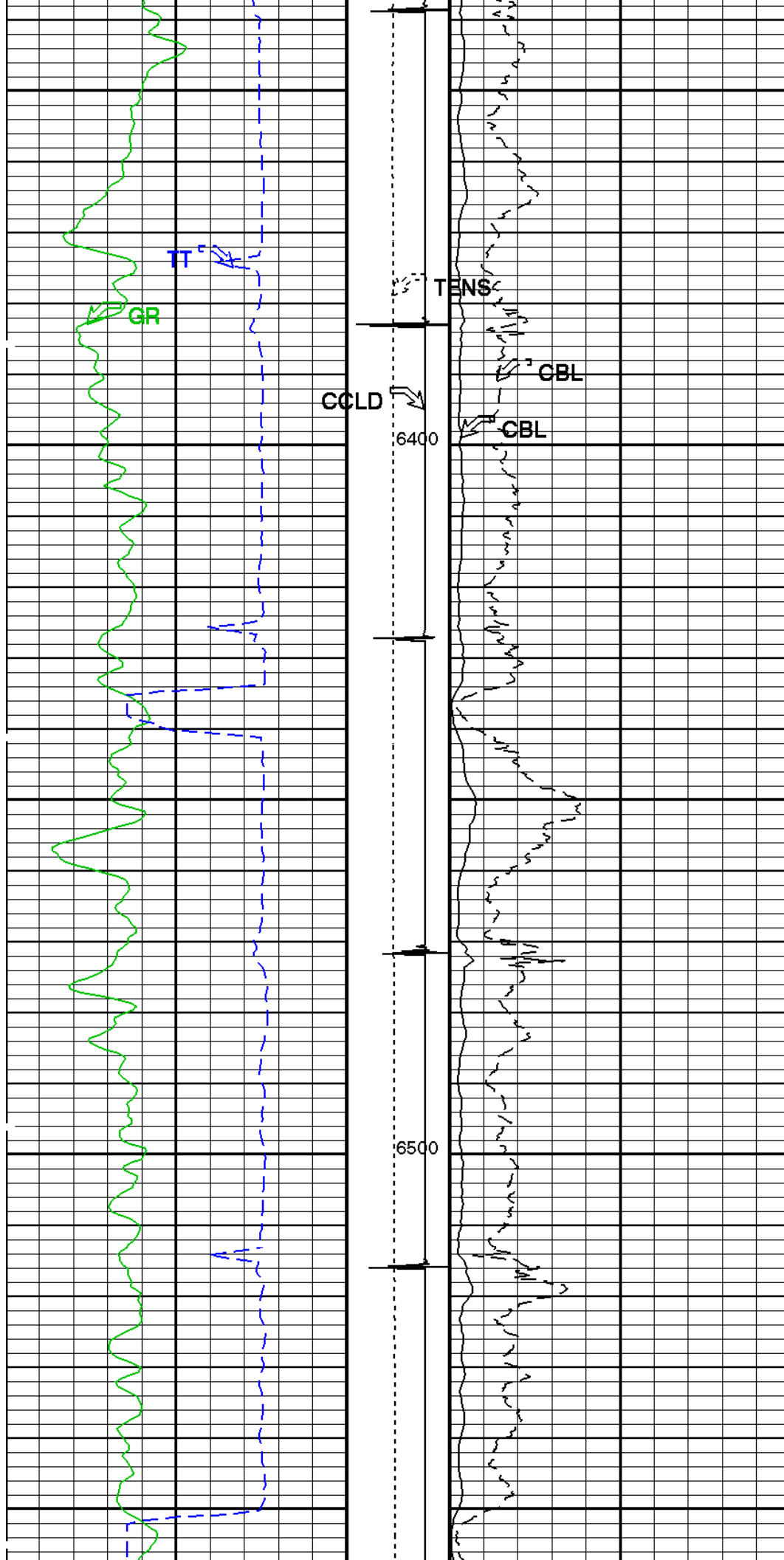


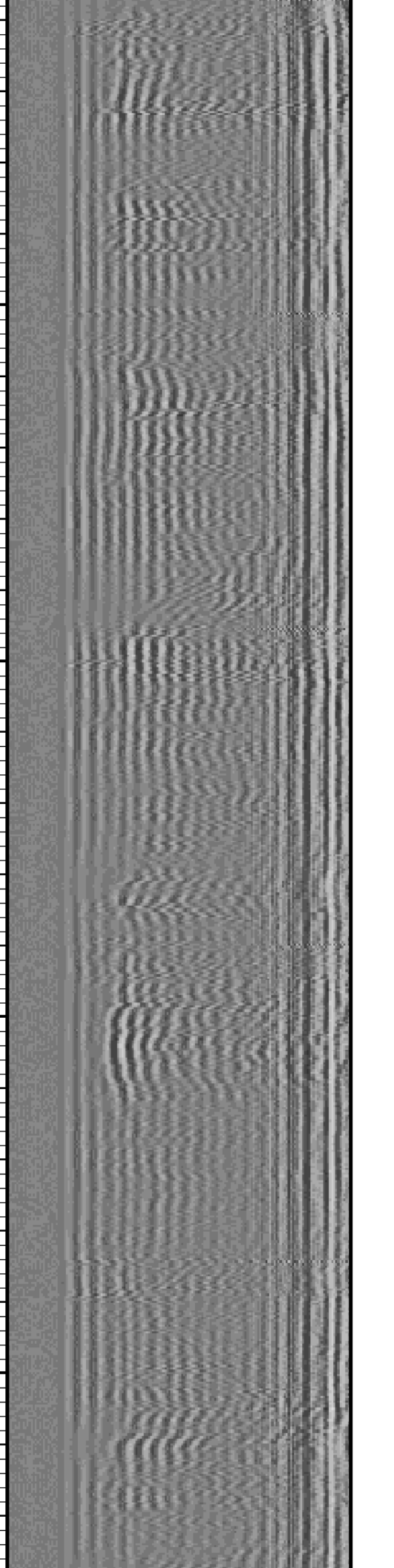
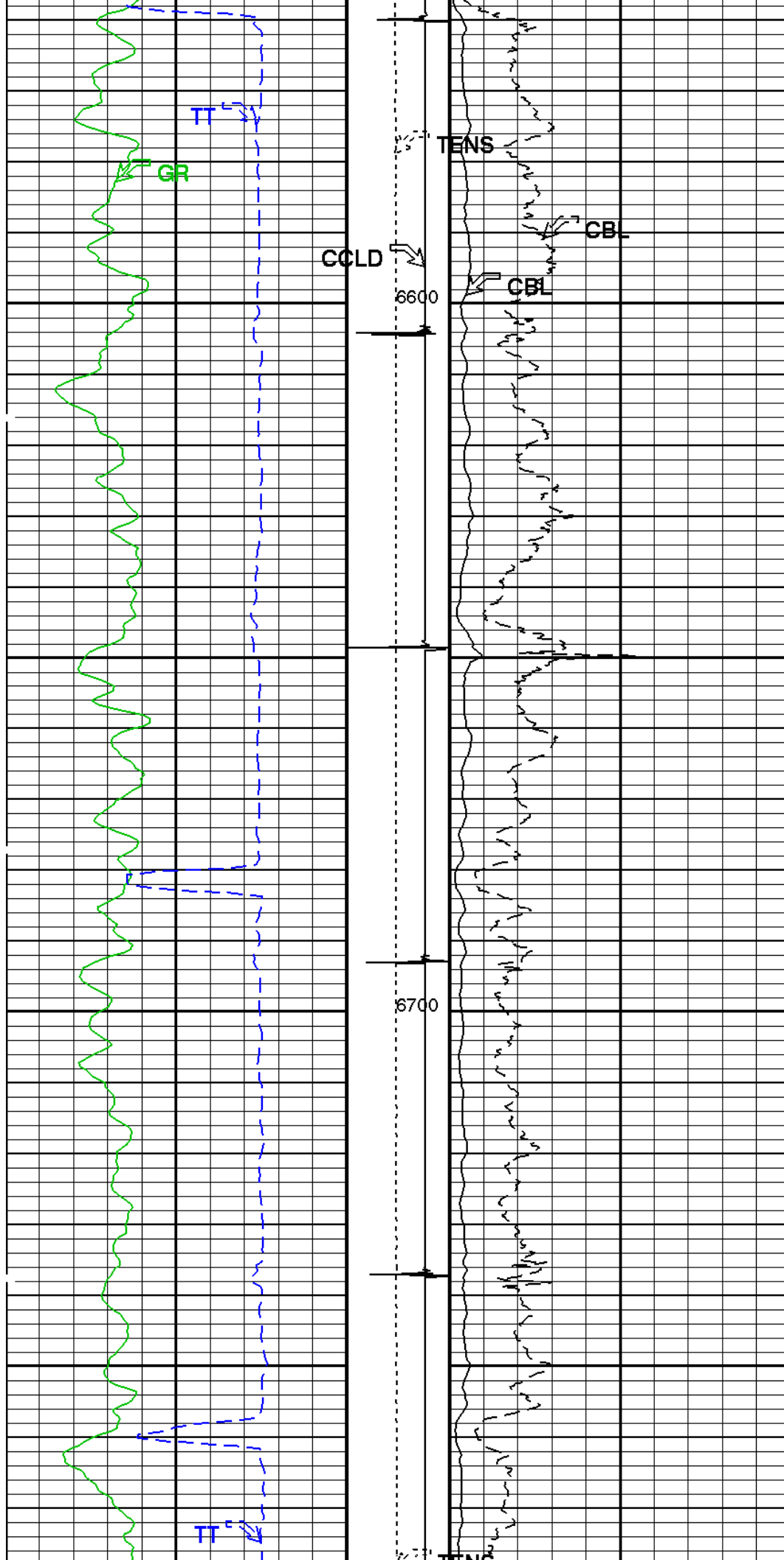


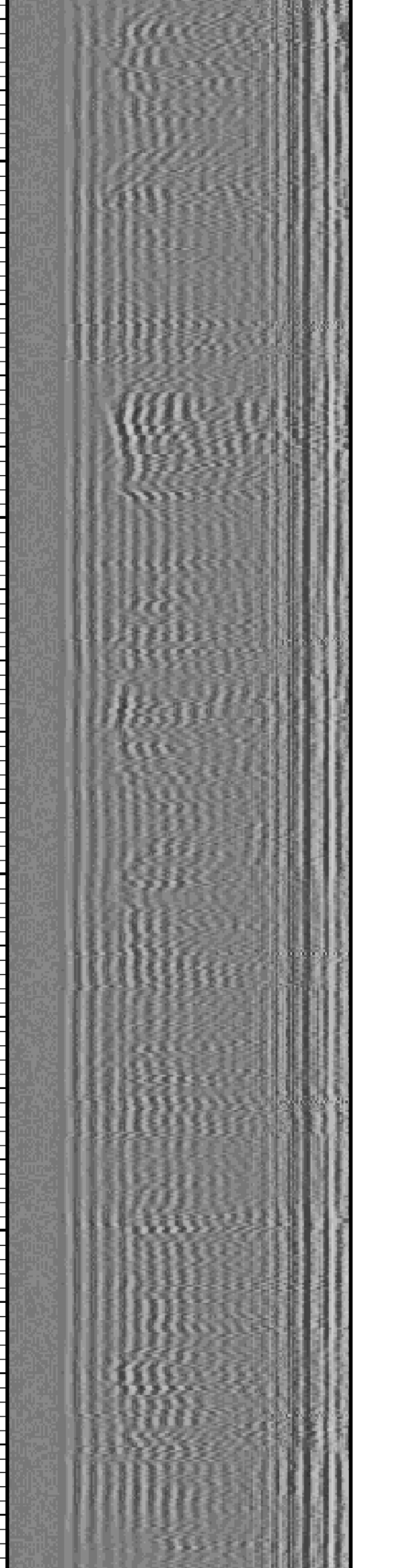
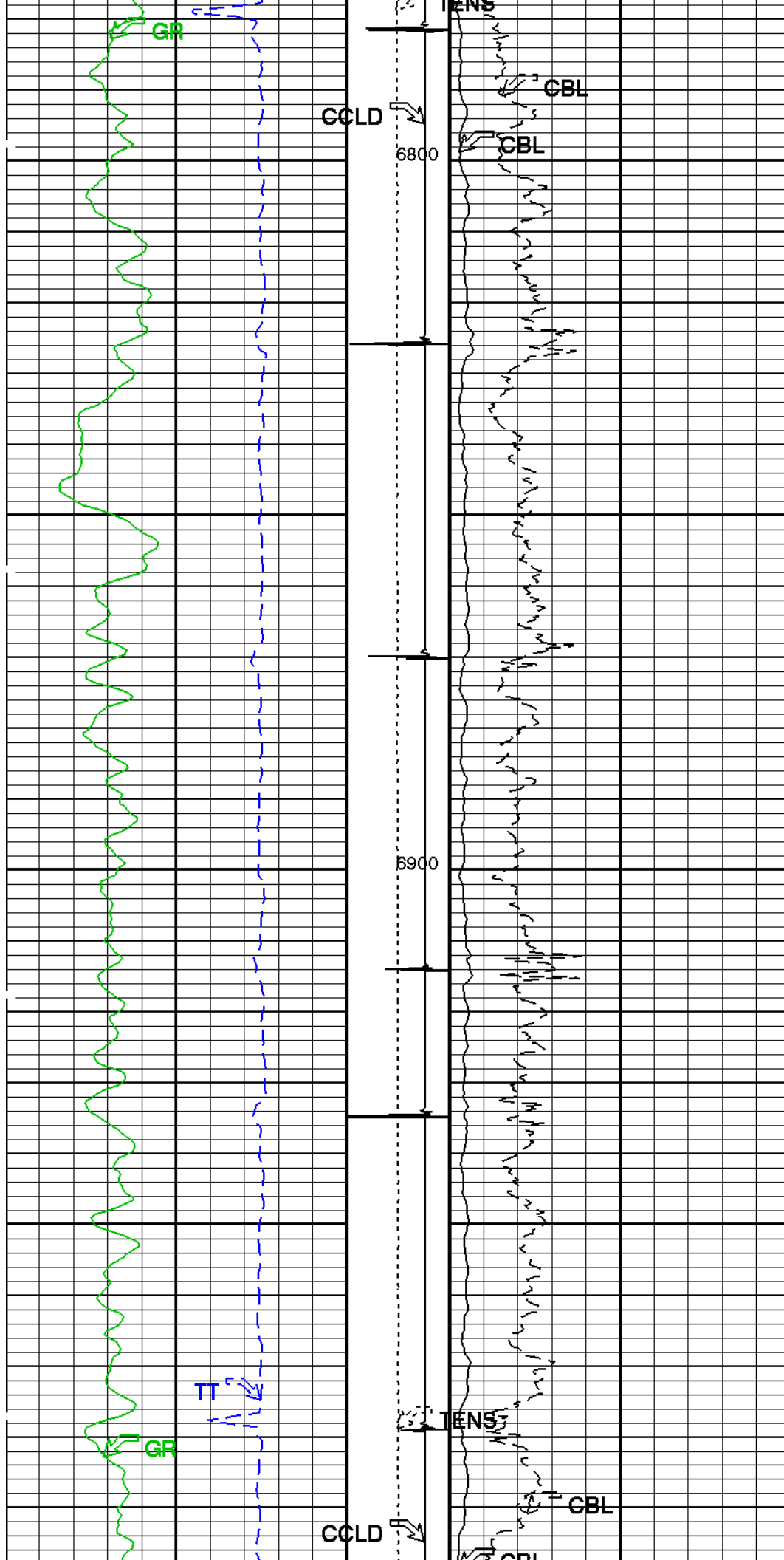


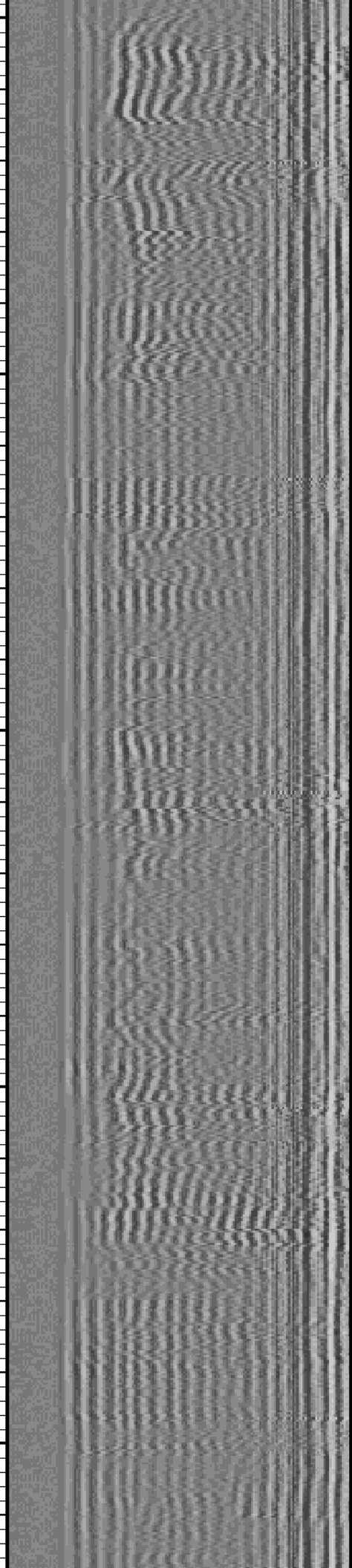
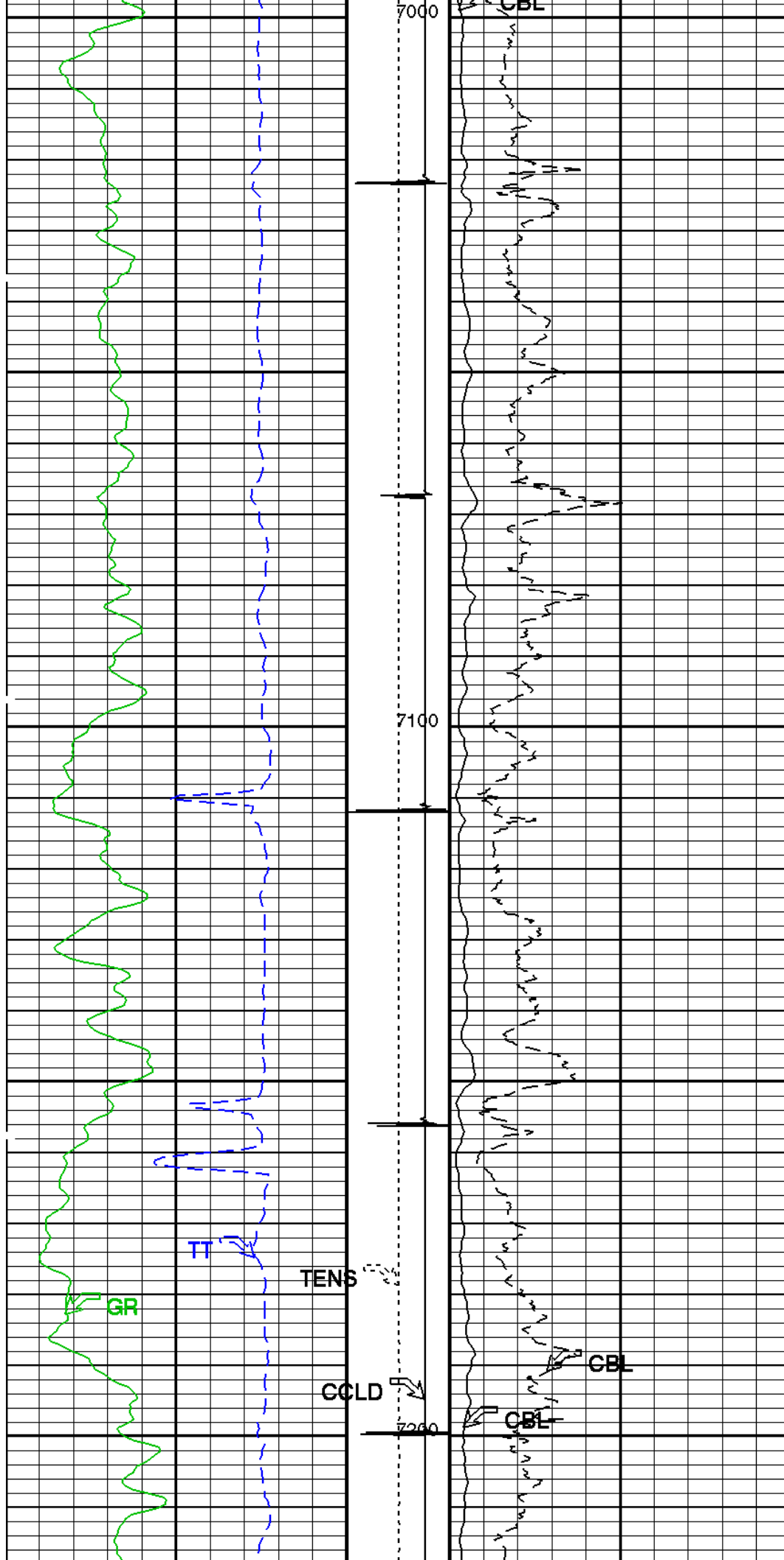


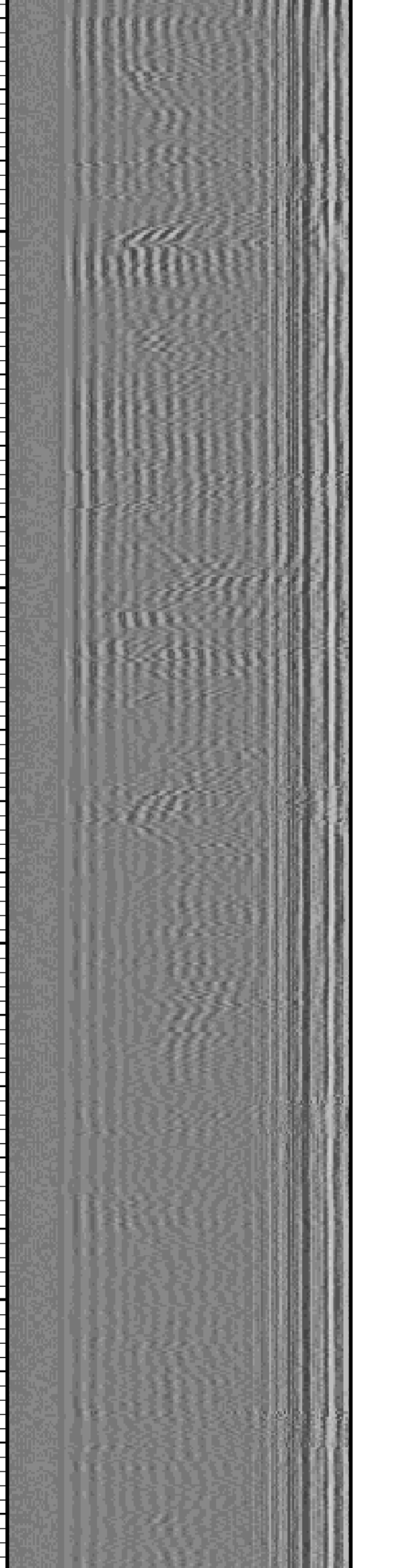
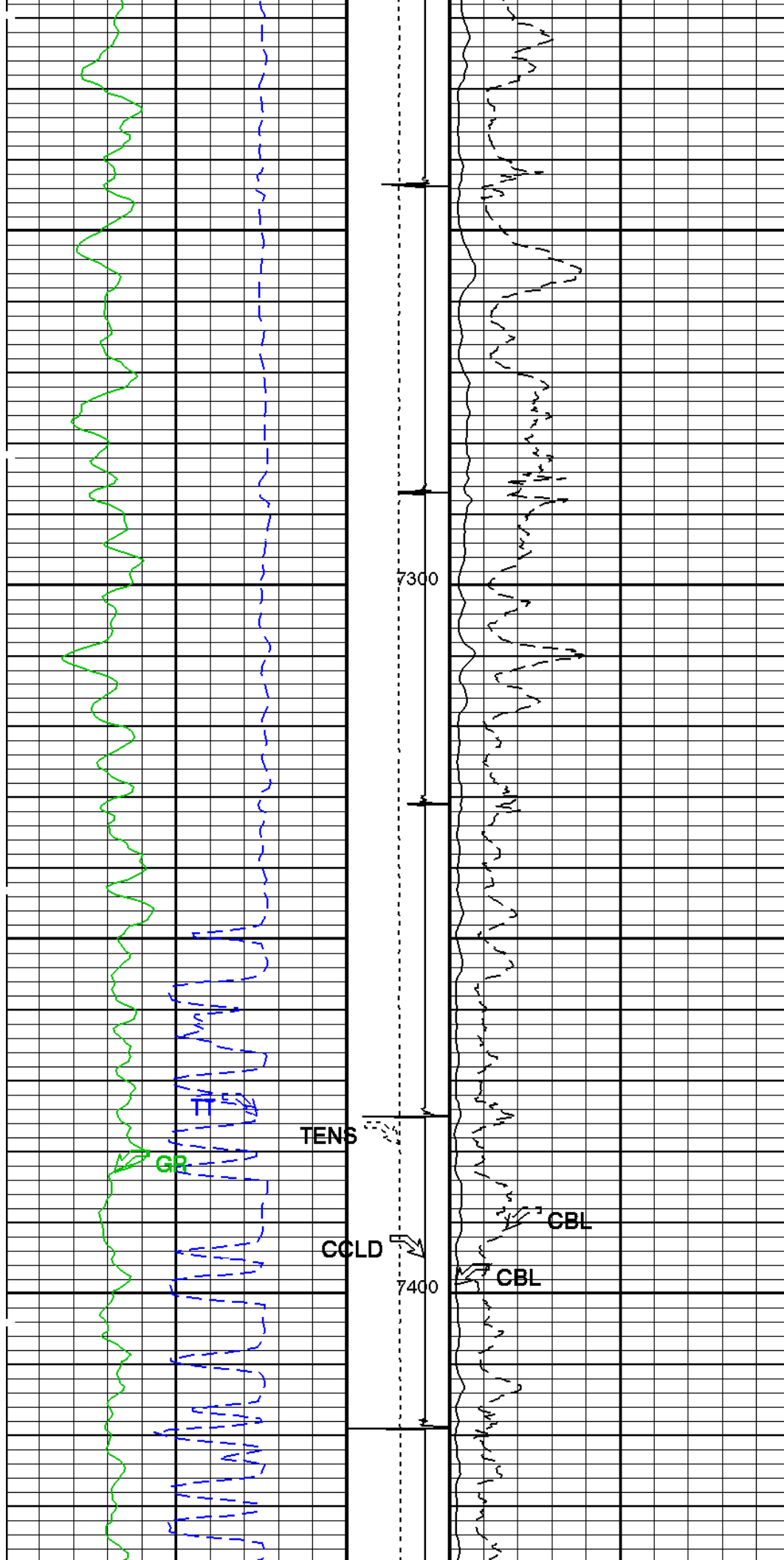


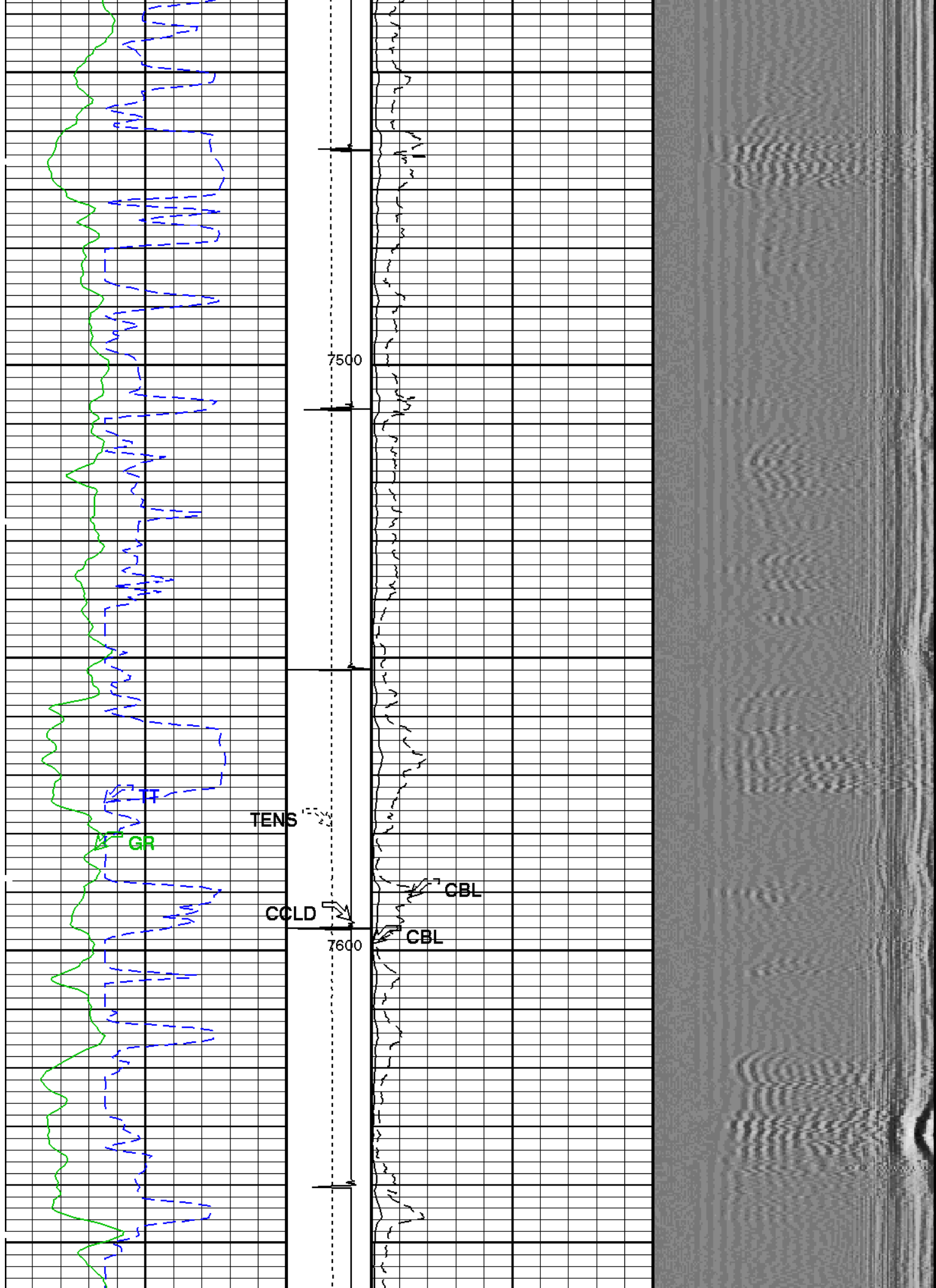


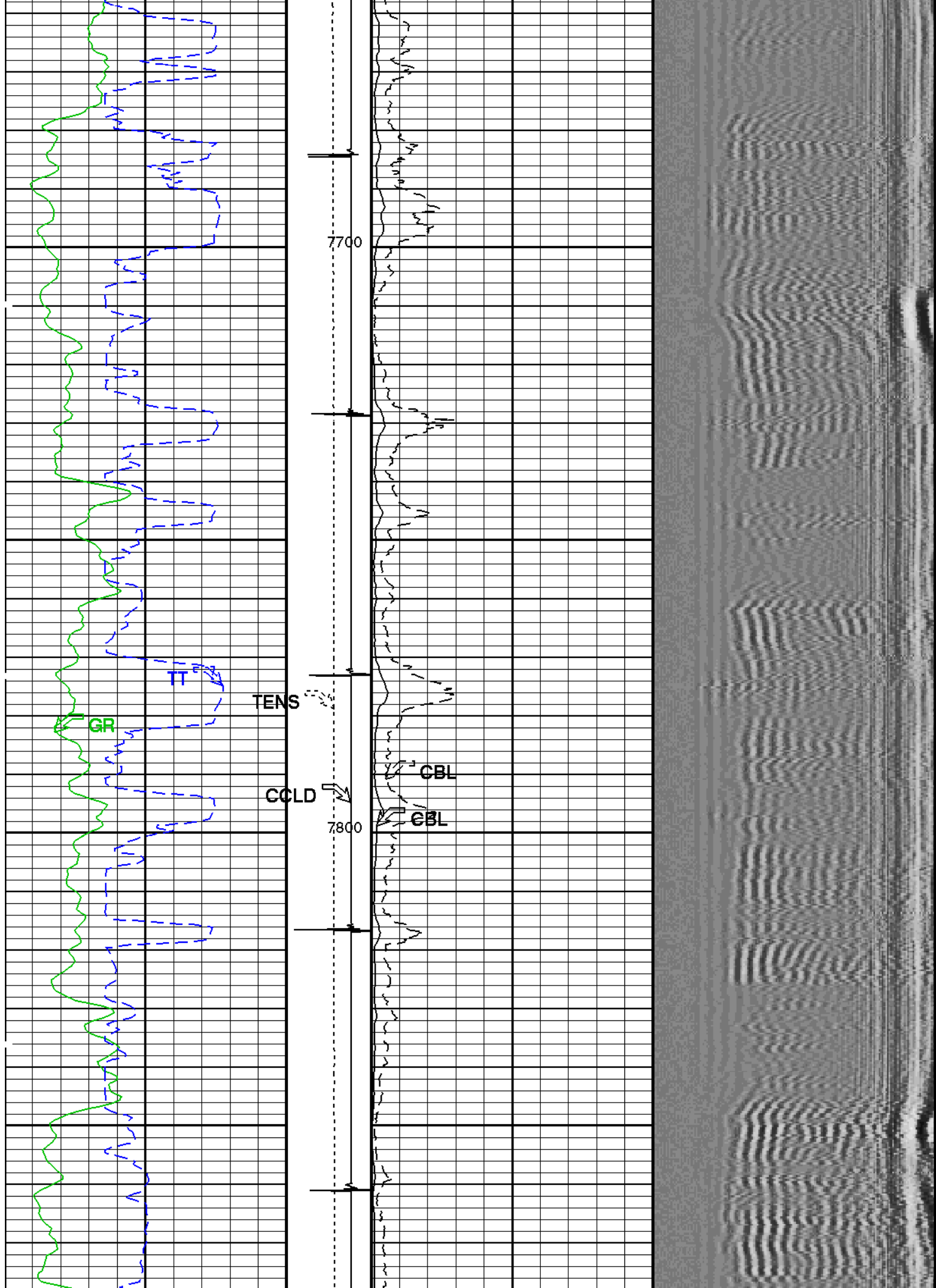


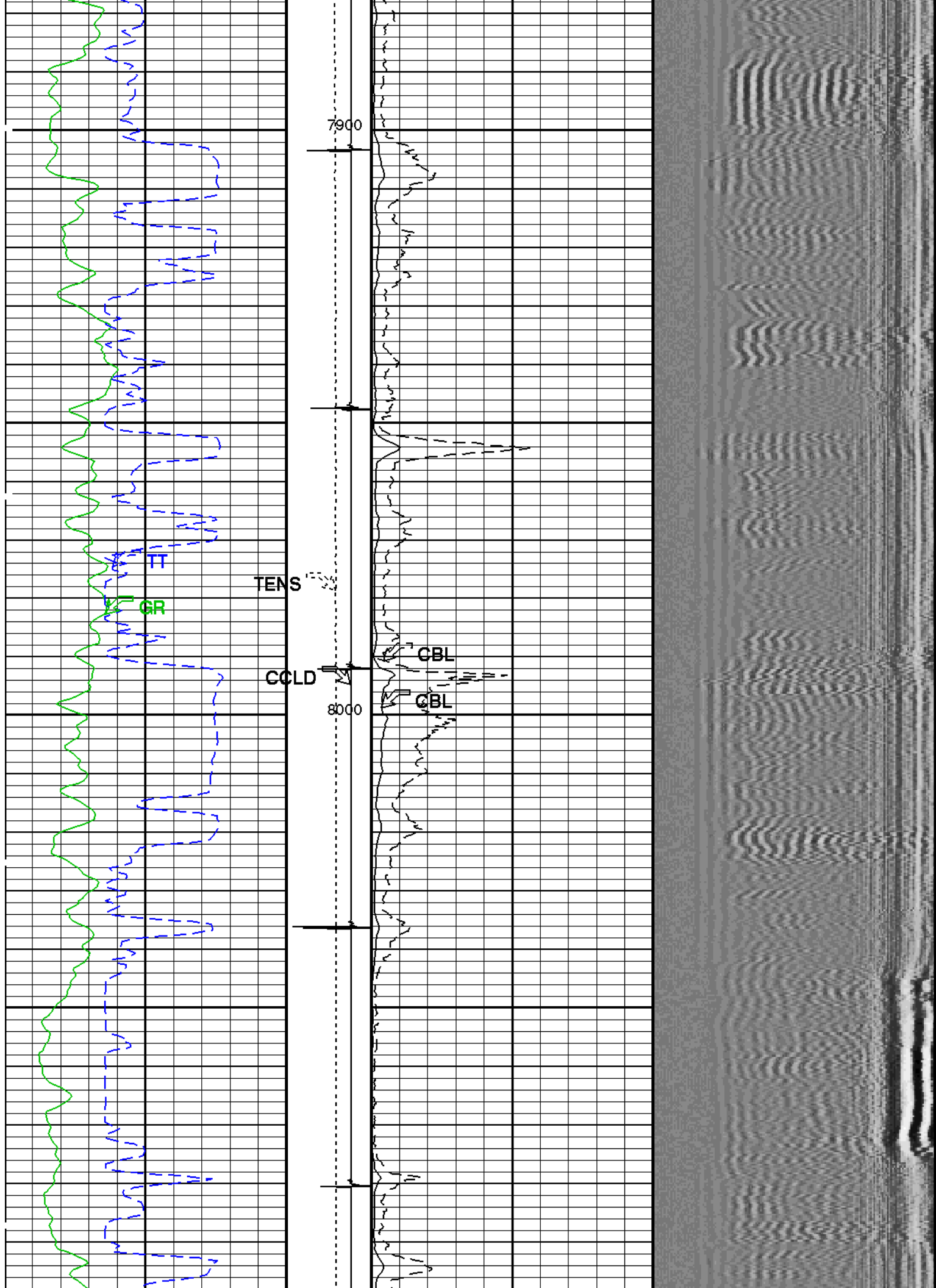


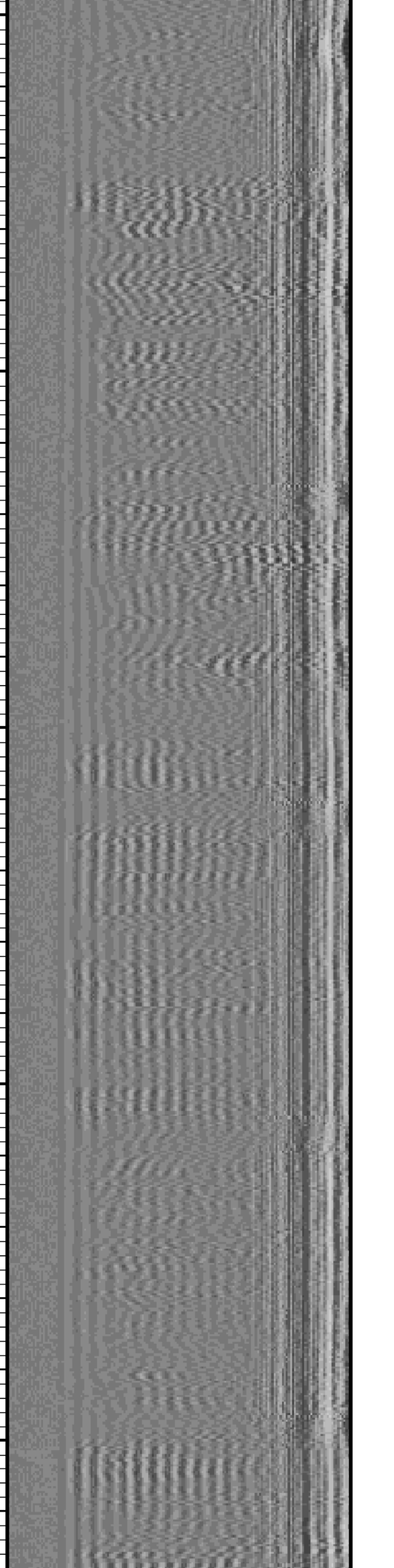
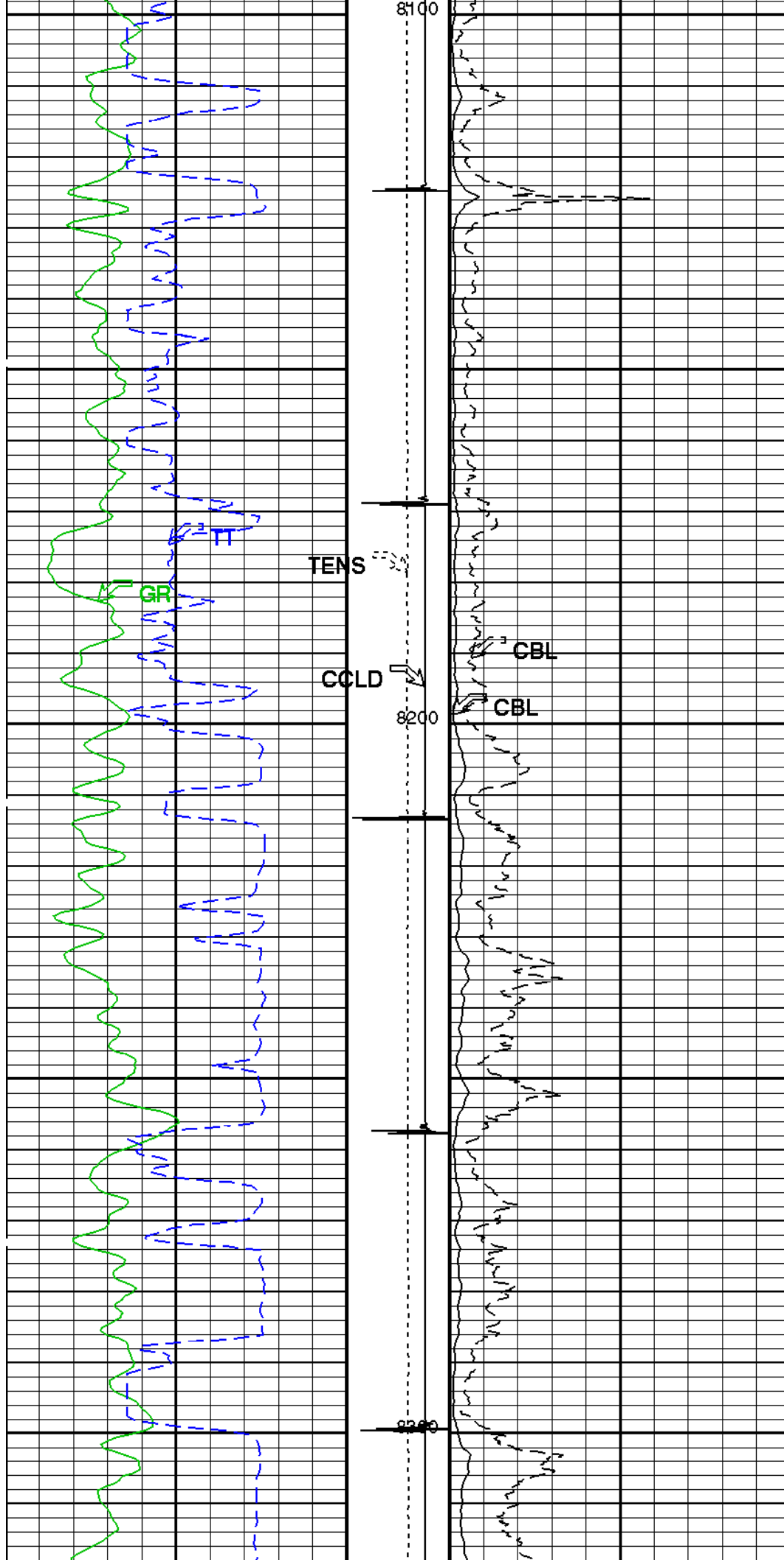


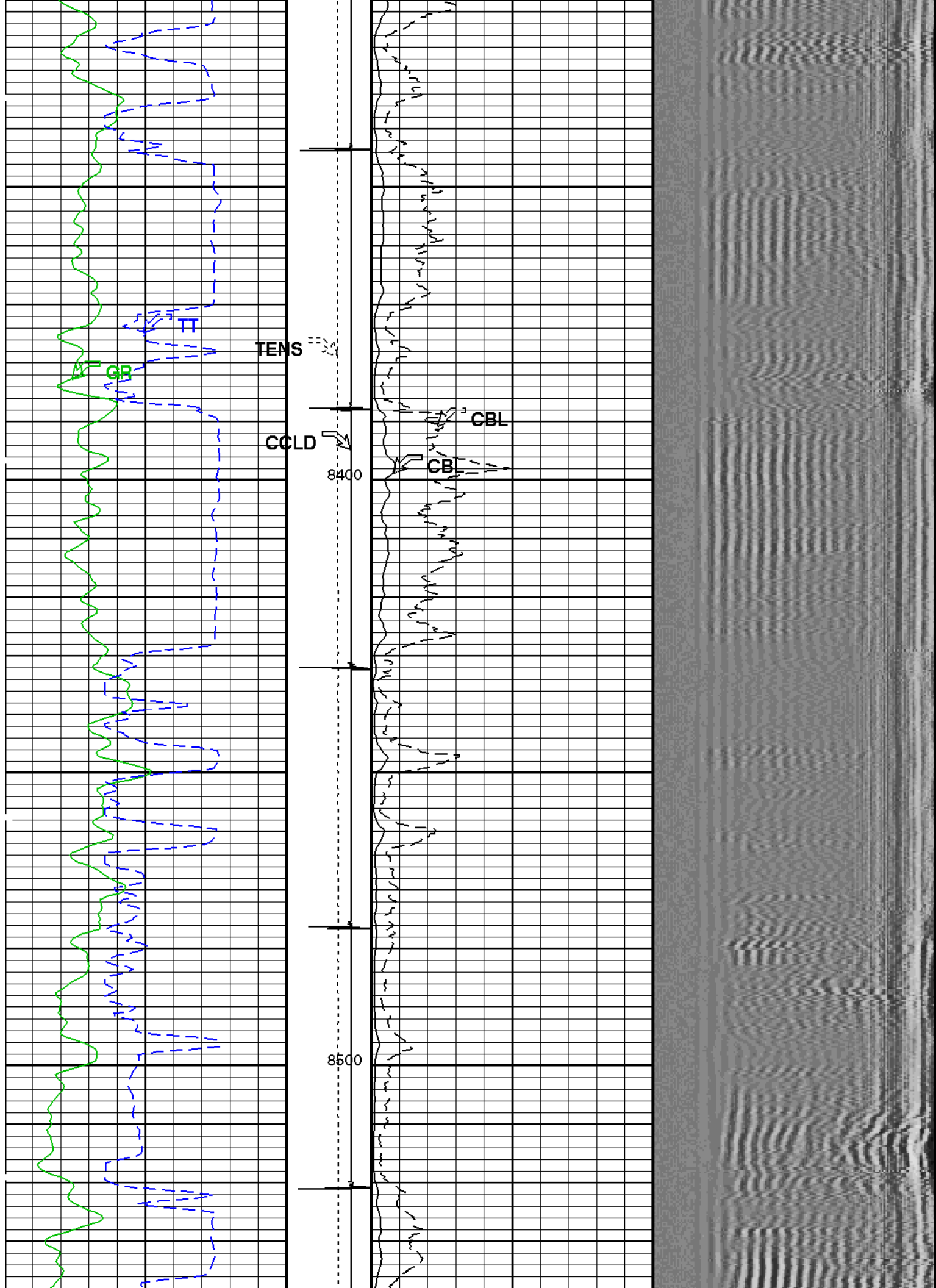


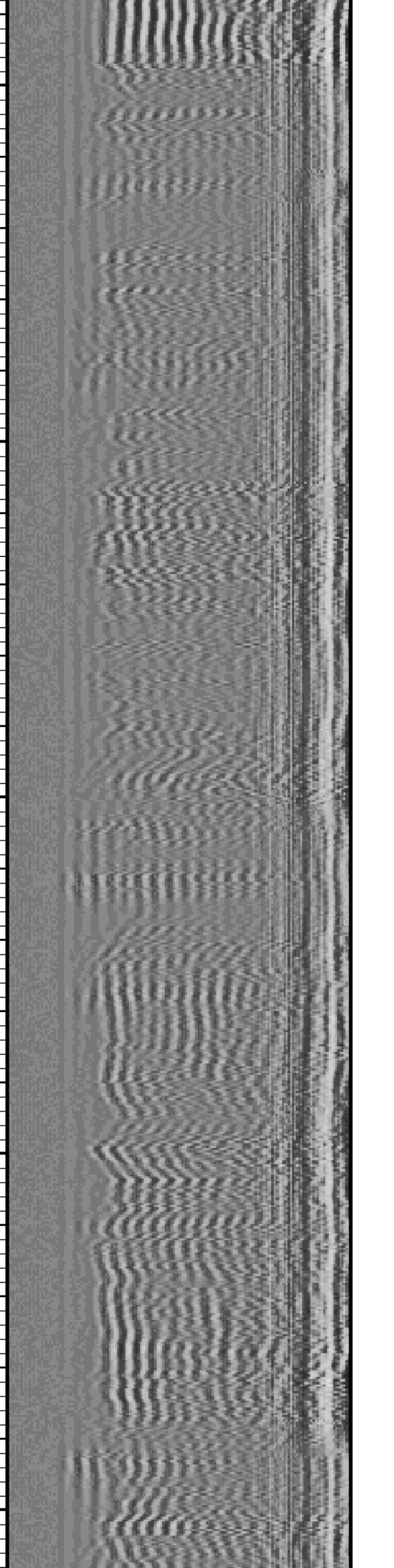
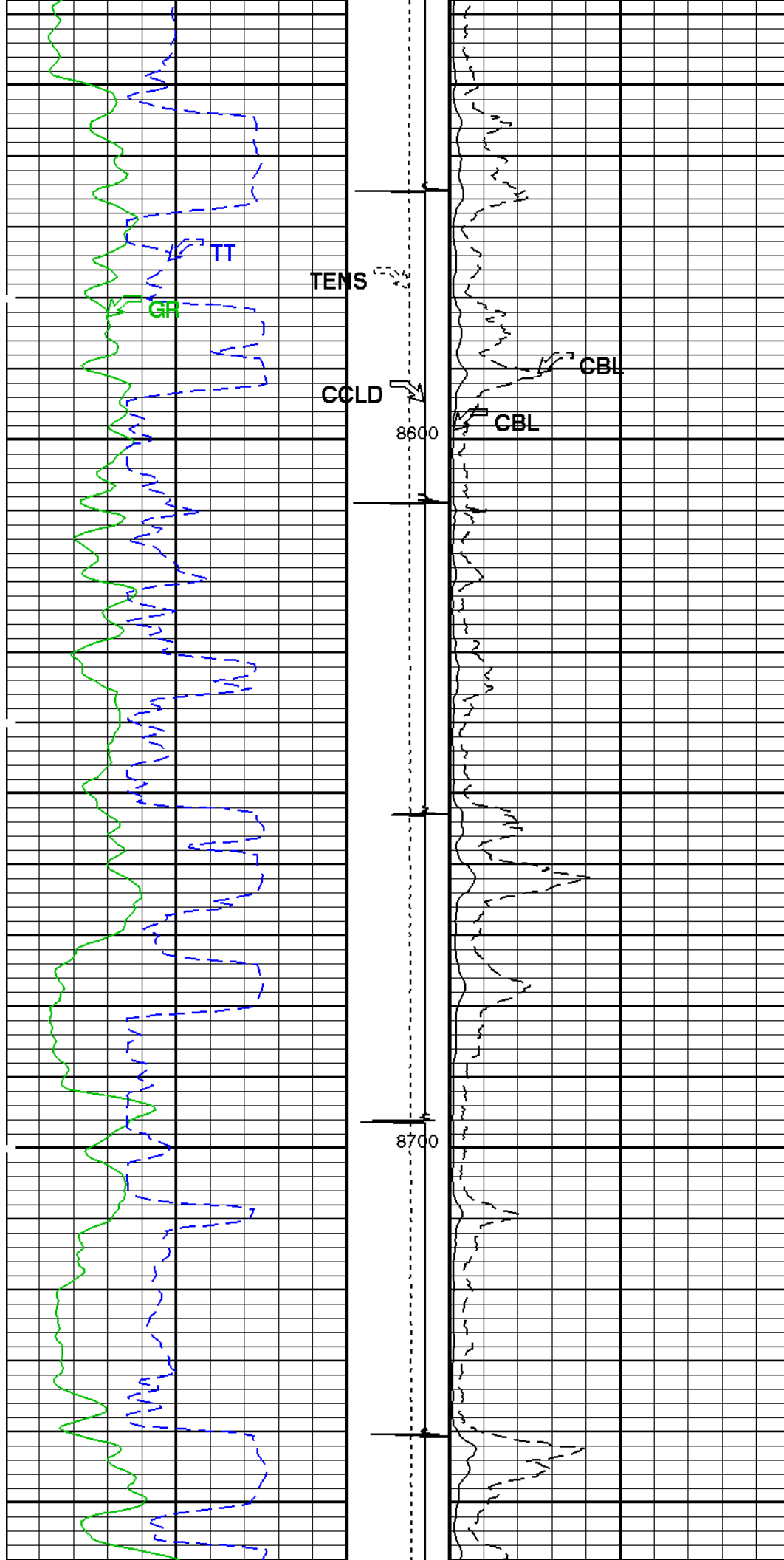


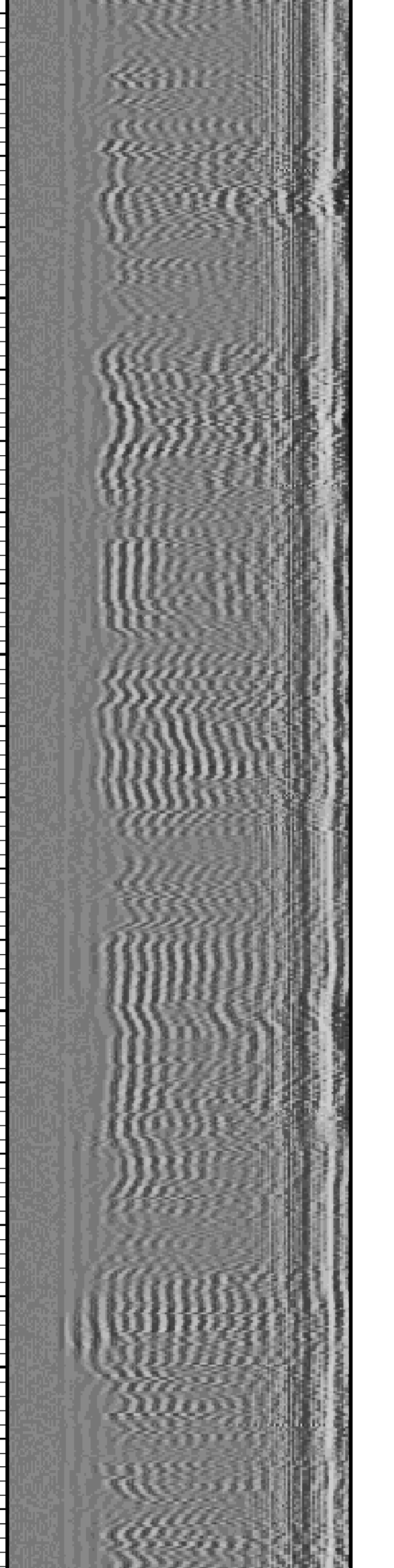
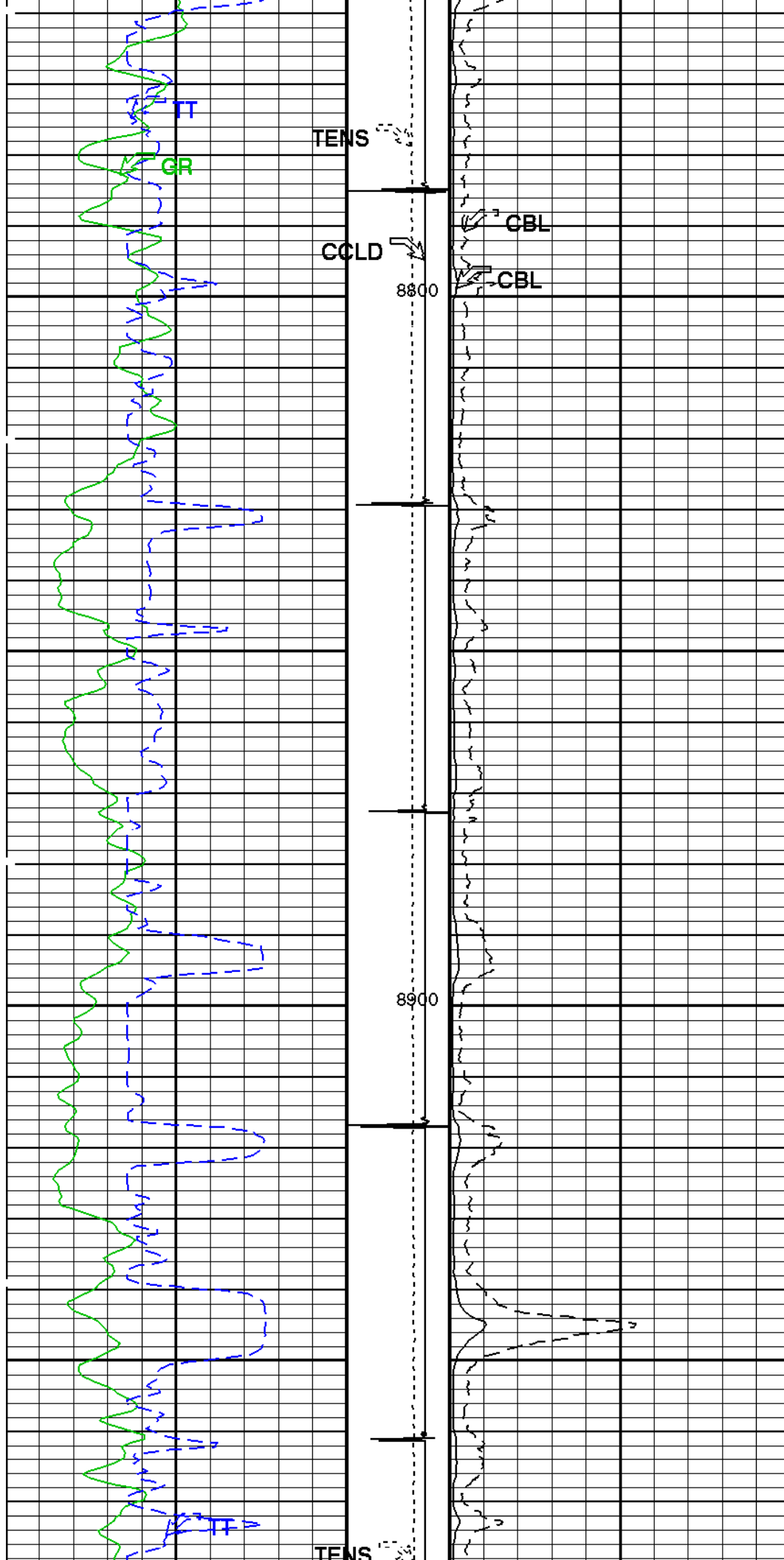












TENS

GR

CCLD

9000

CBL

CBL

9100

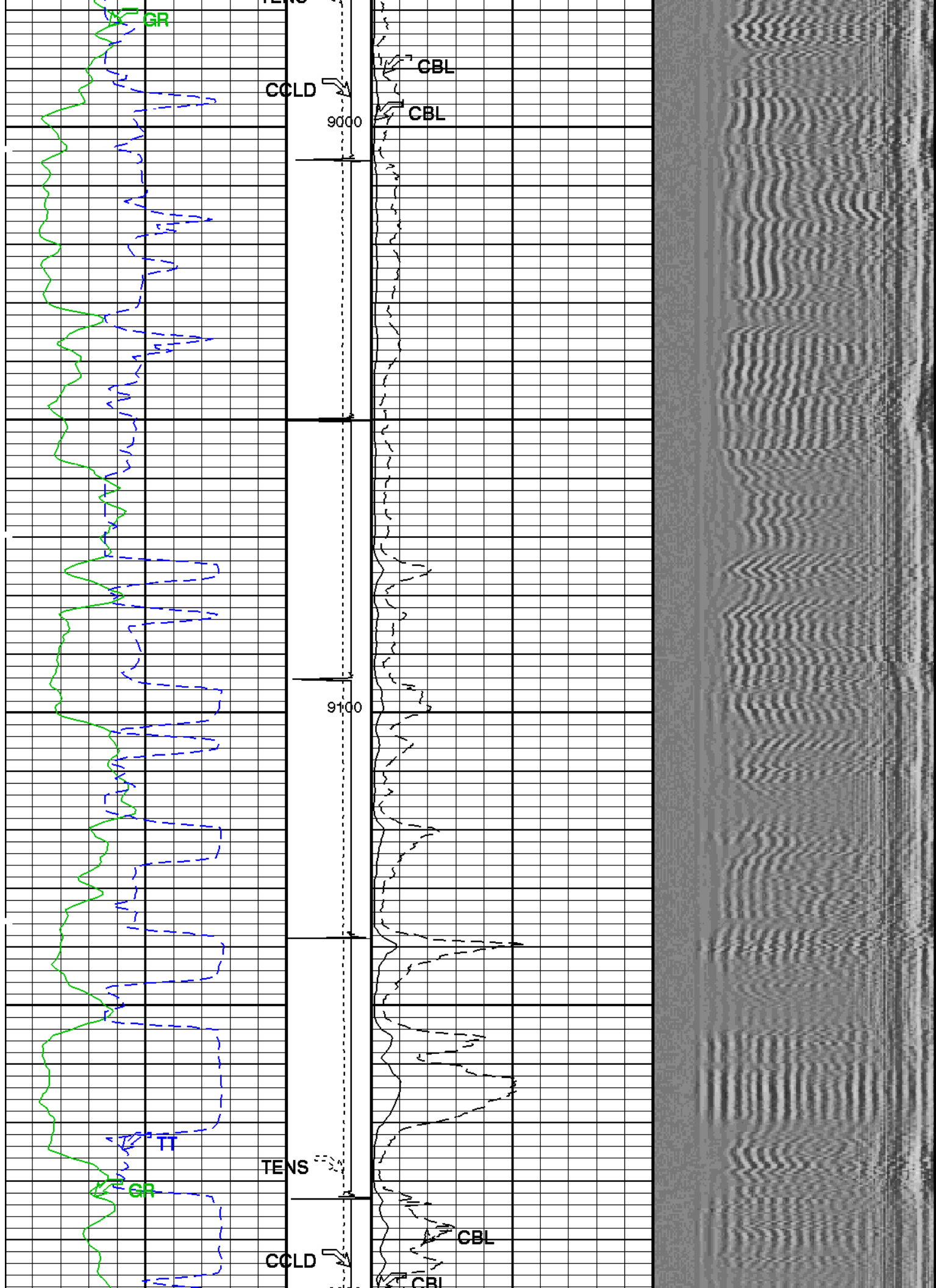
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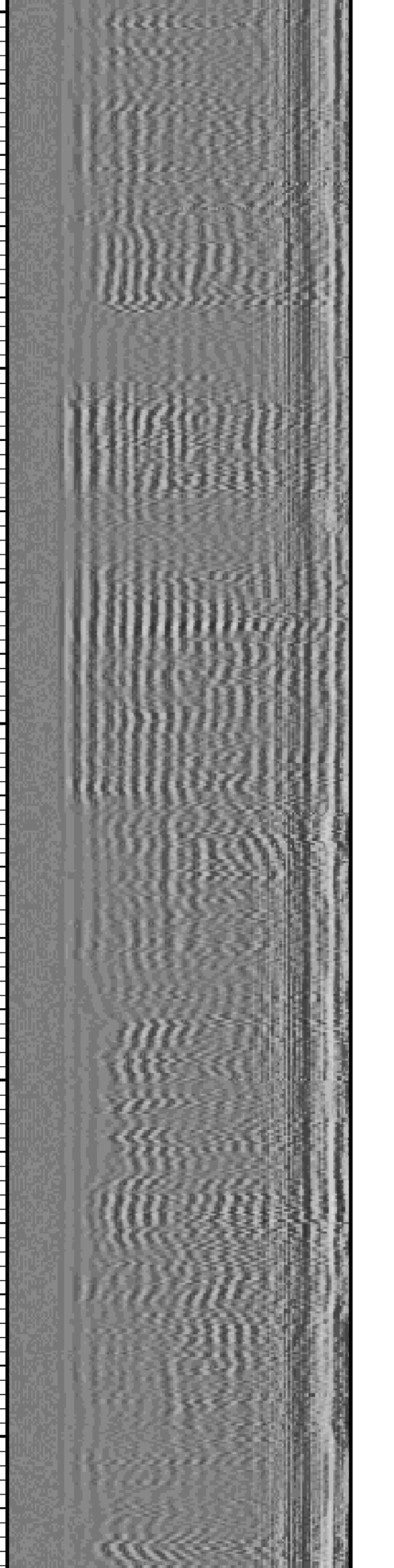
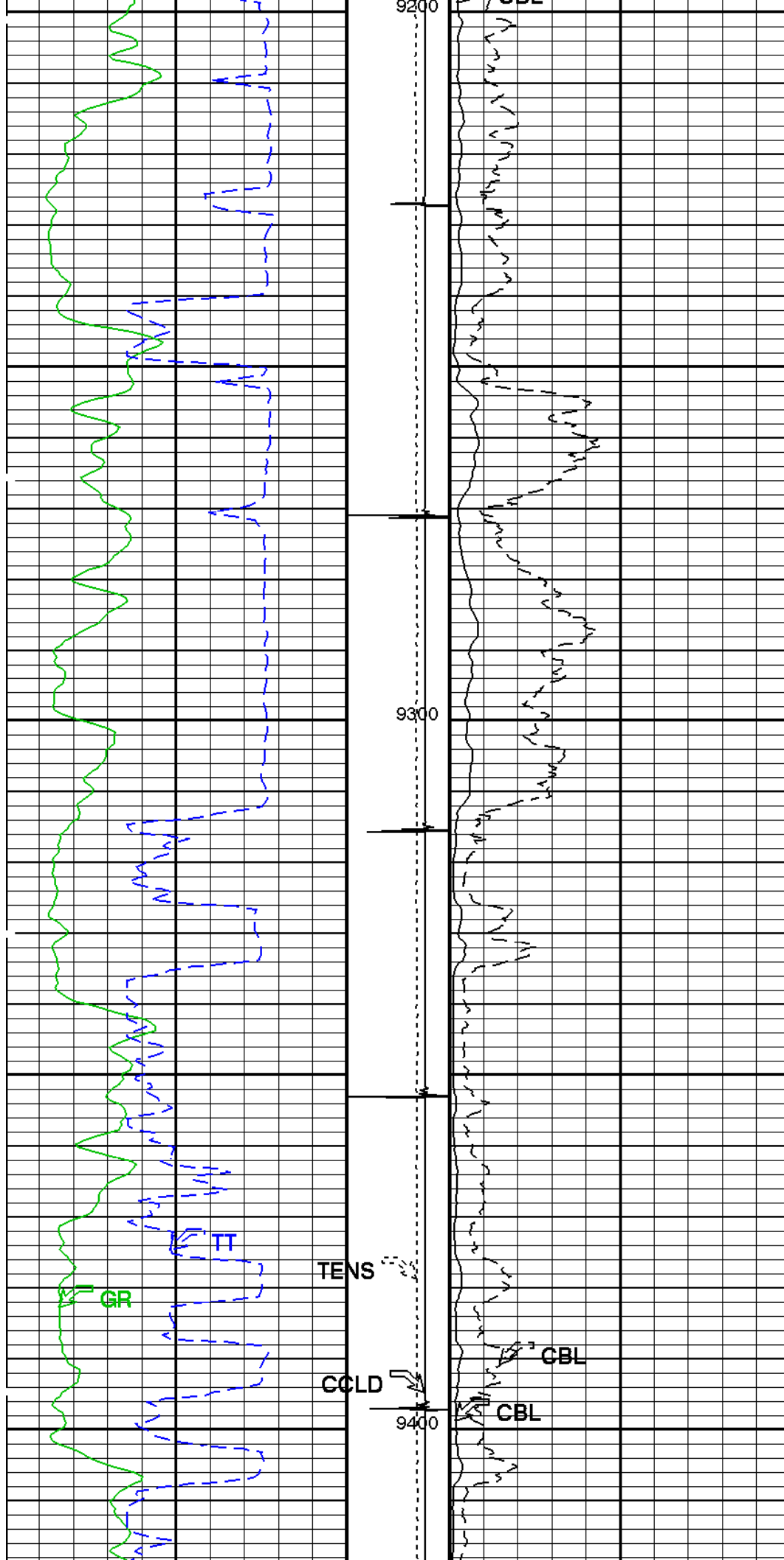
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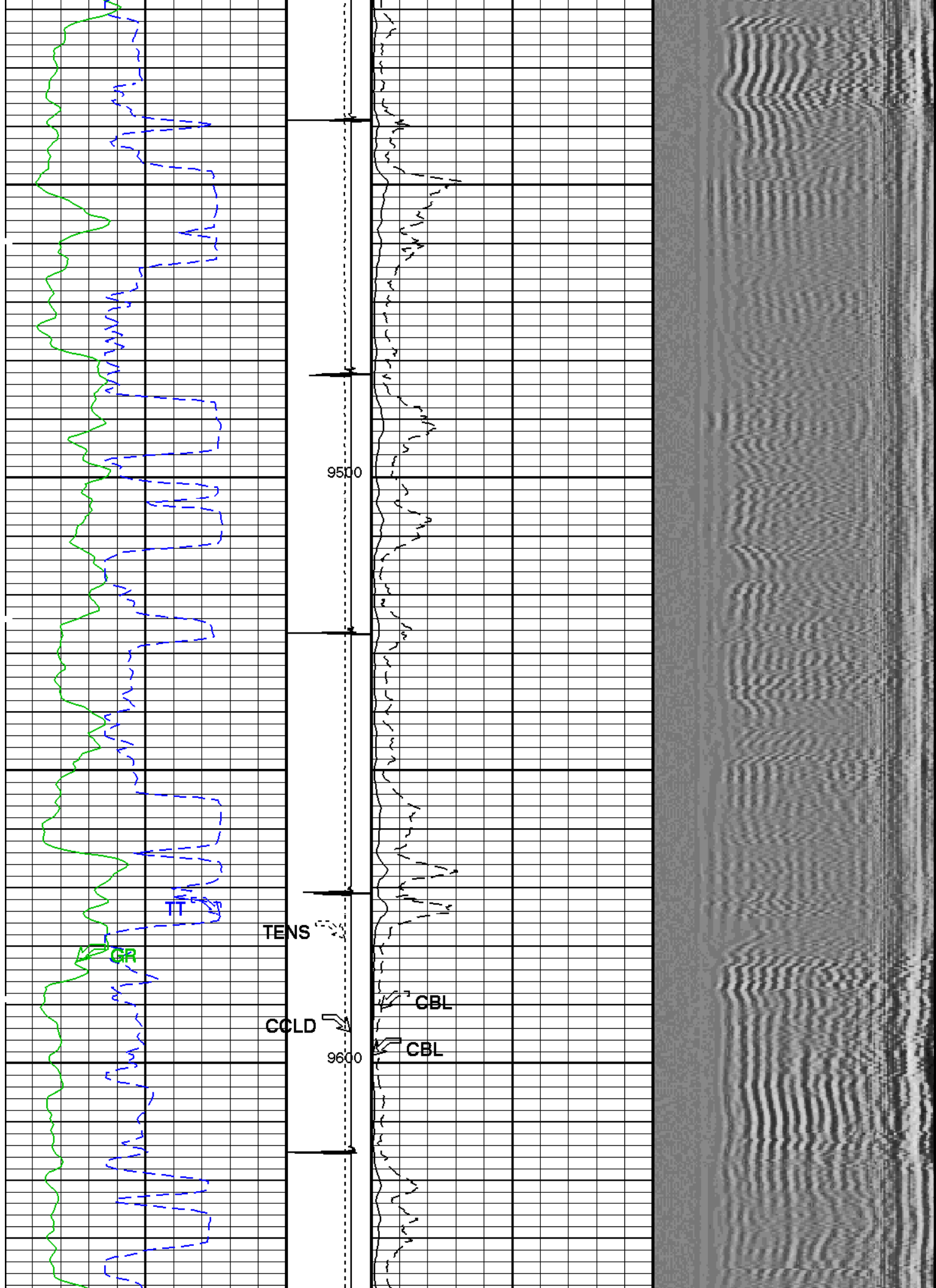
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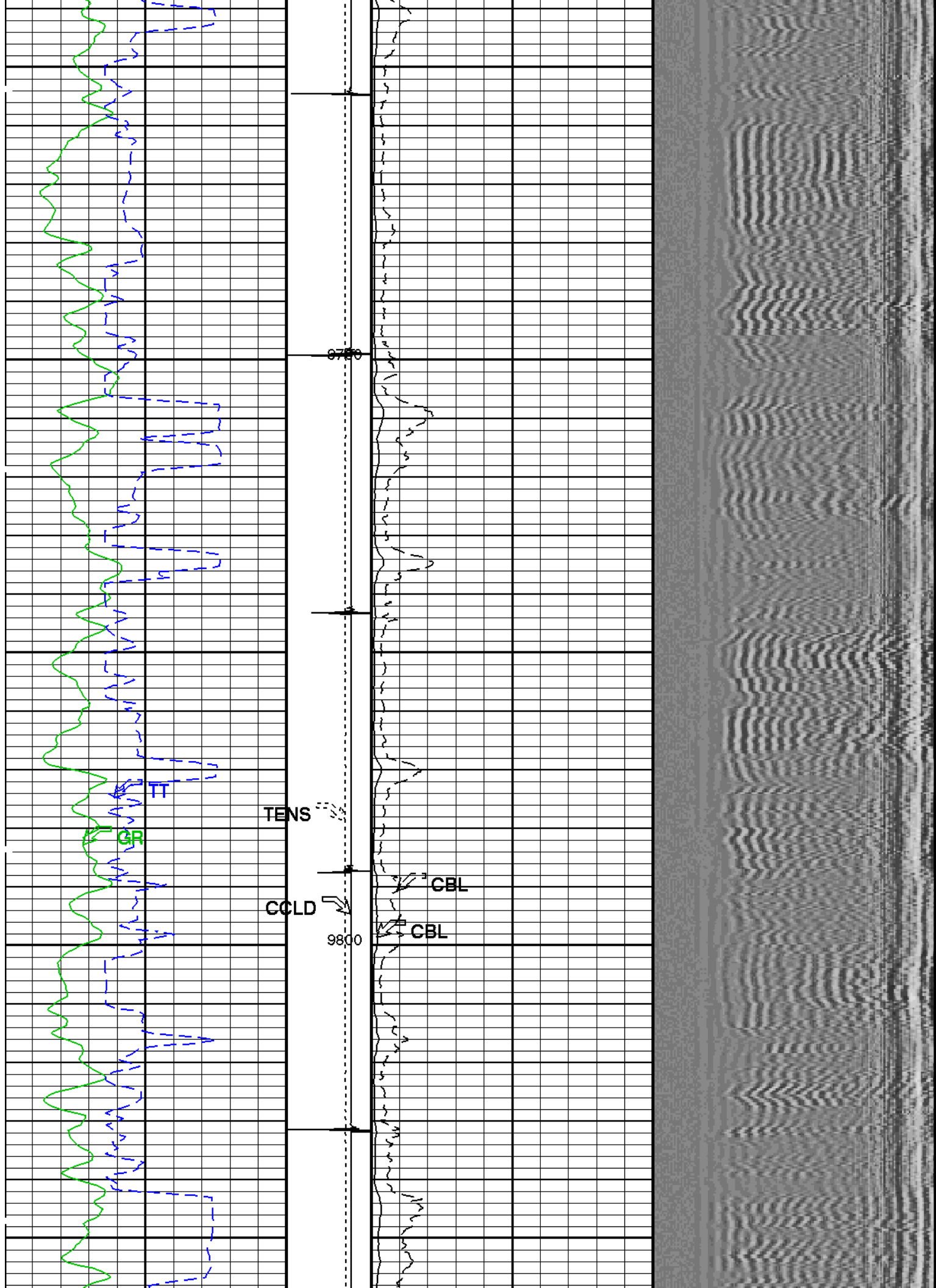
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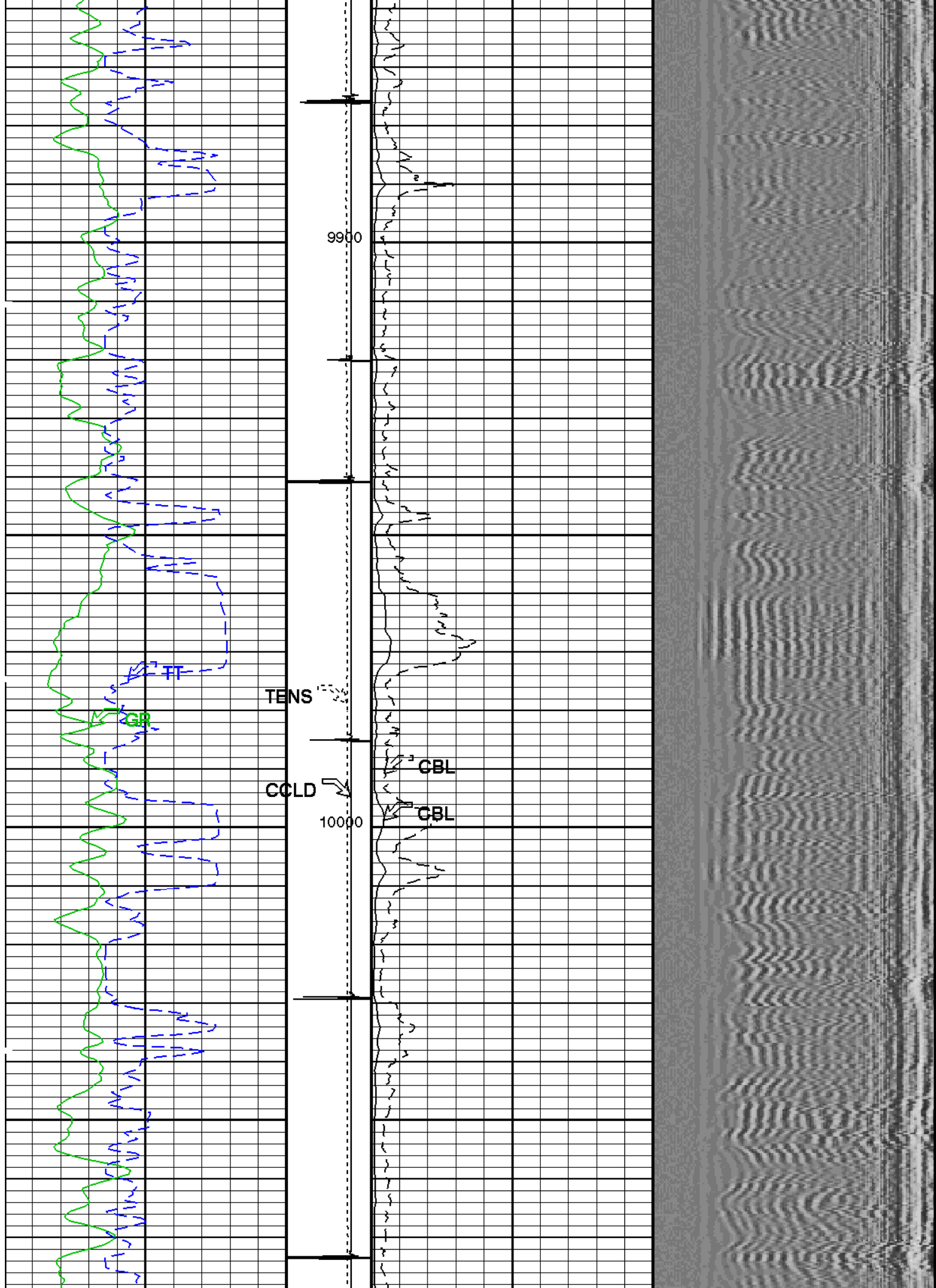
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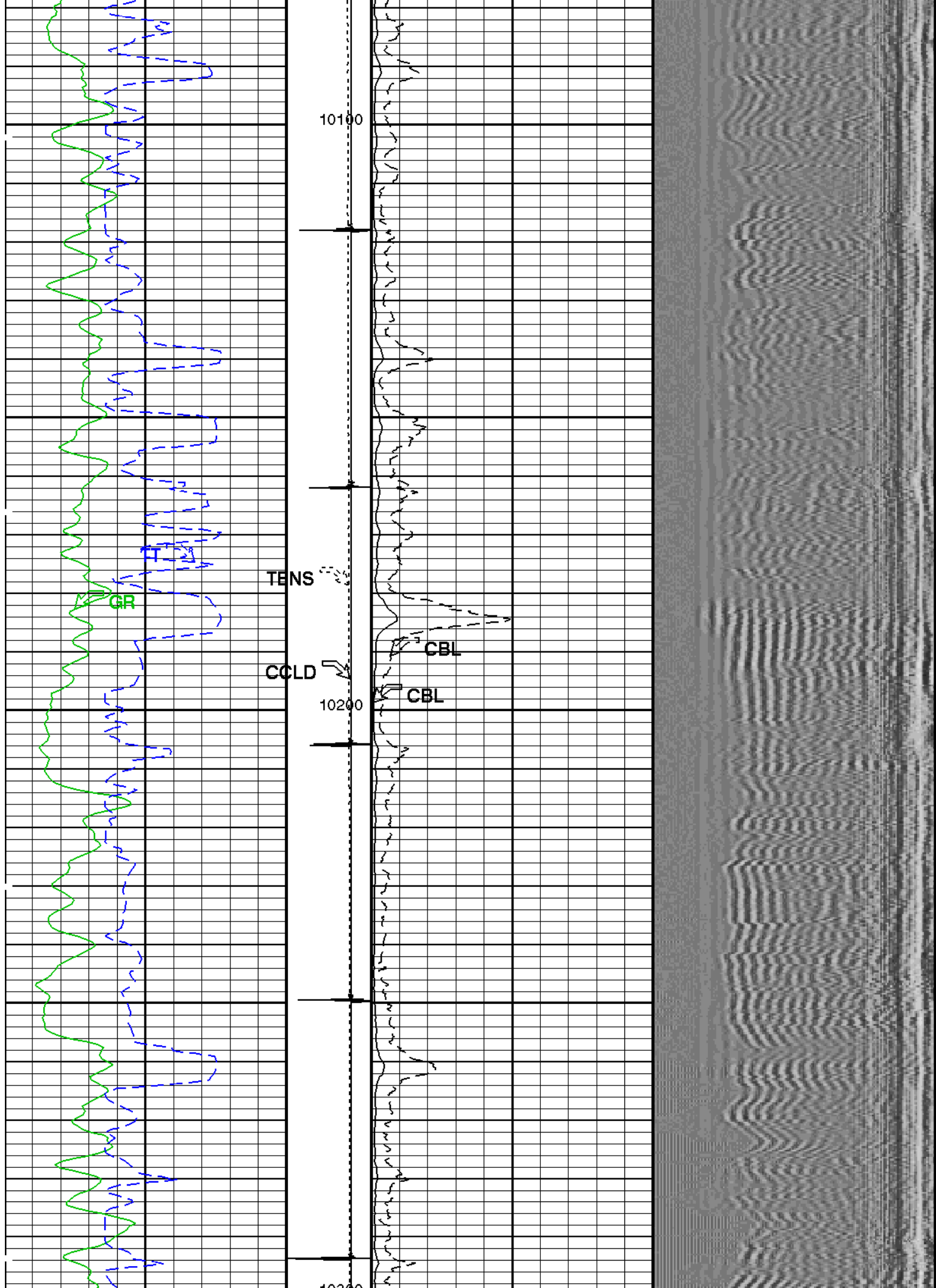


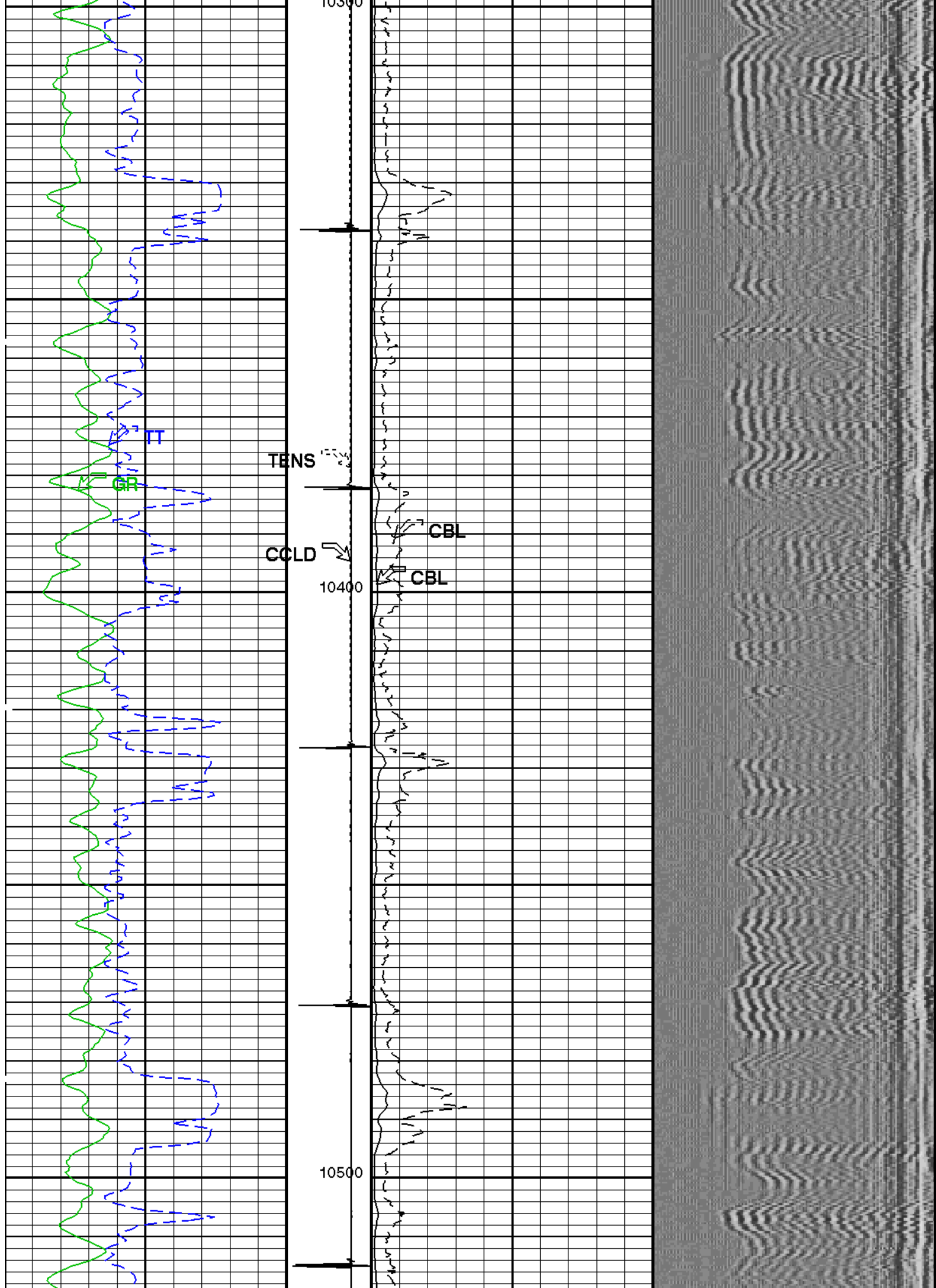


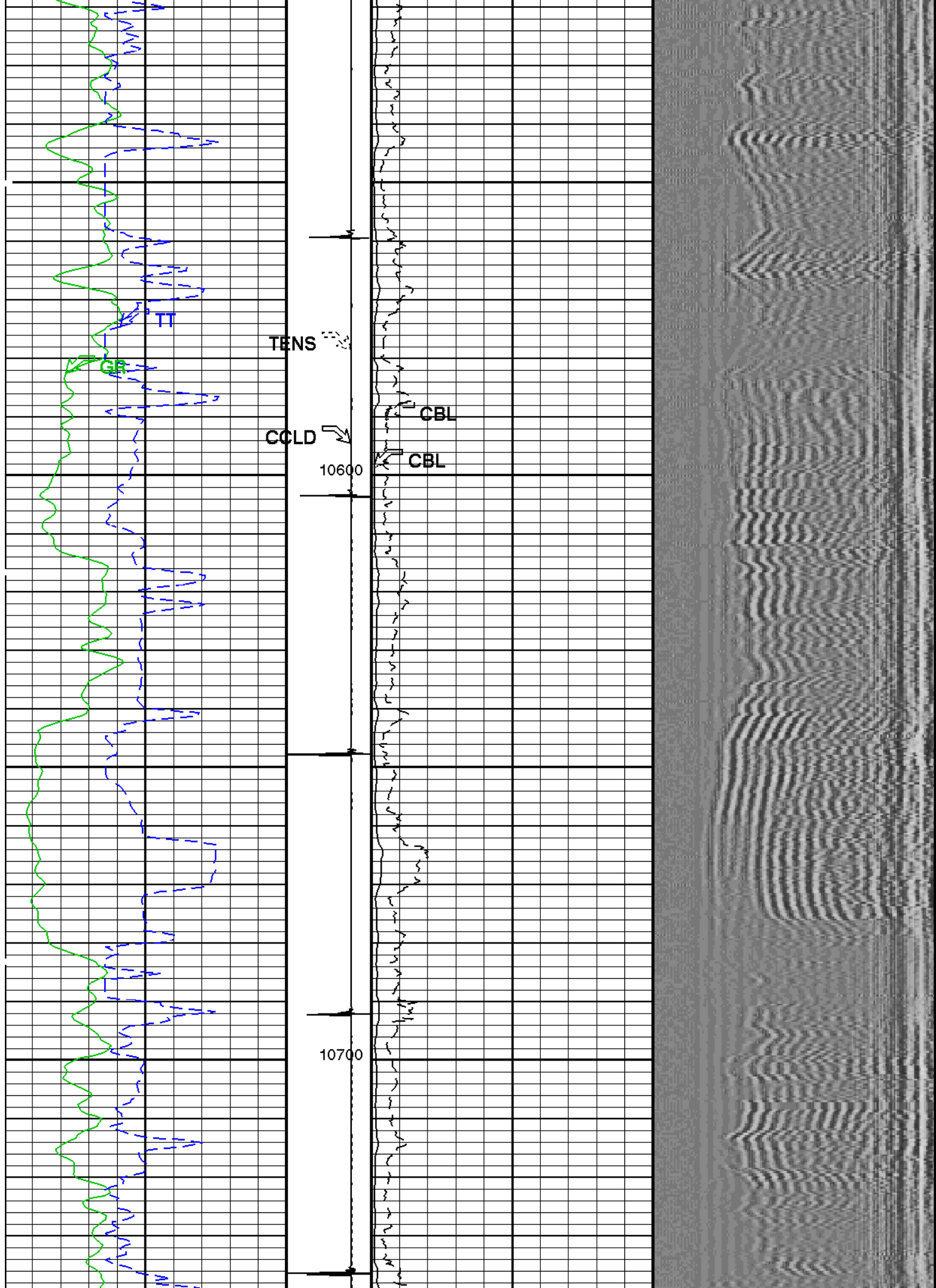


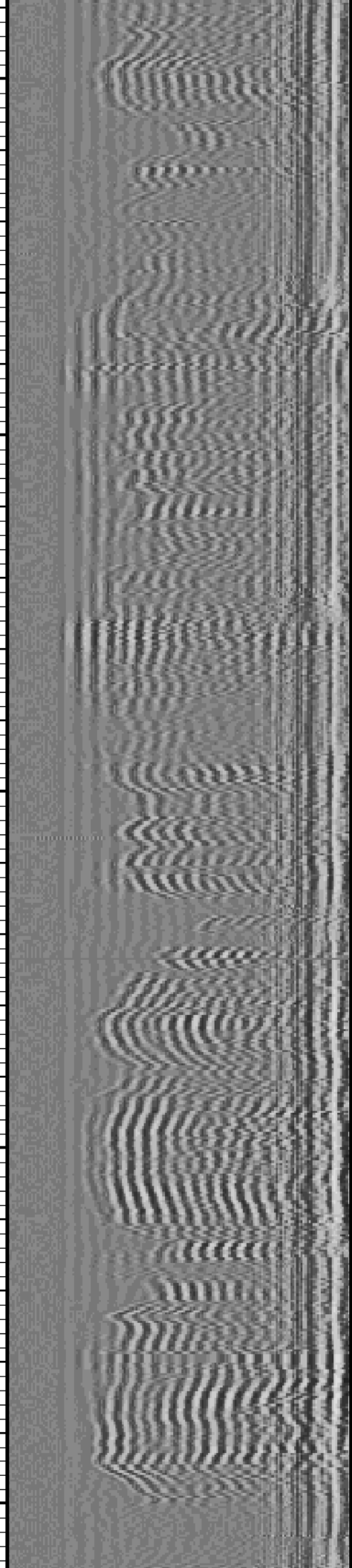
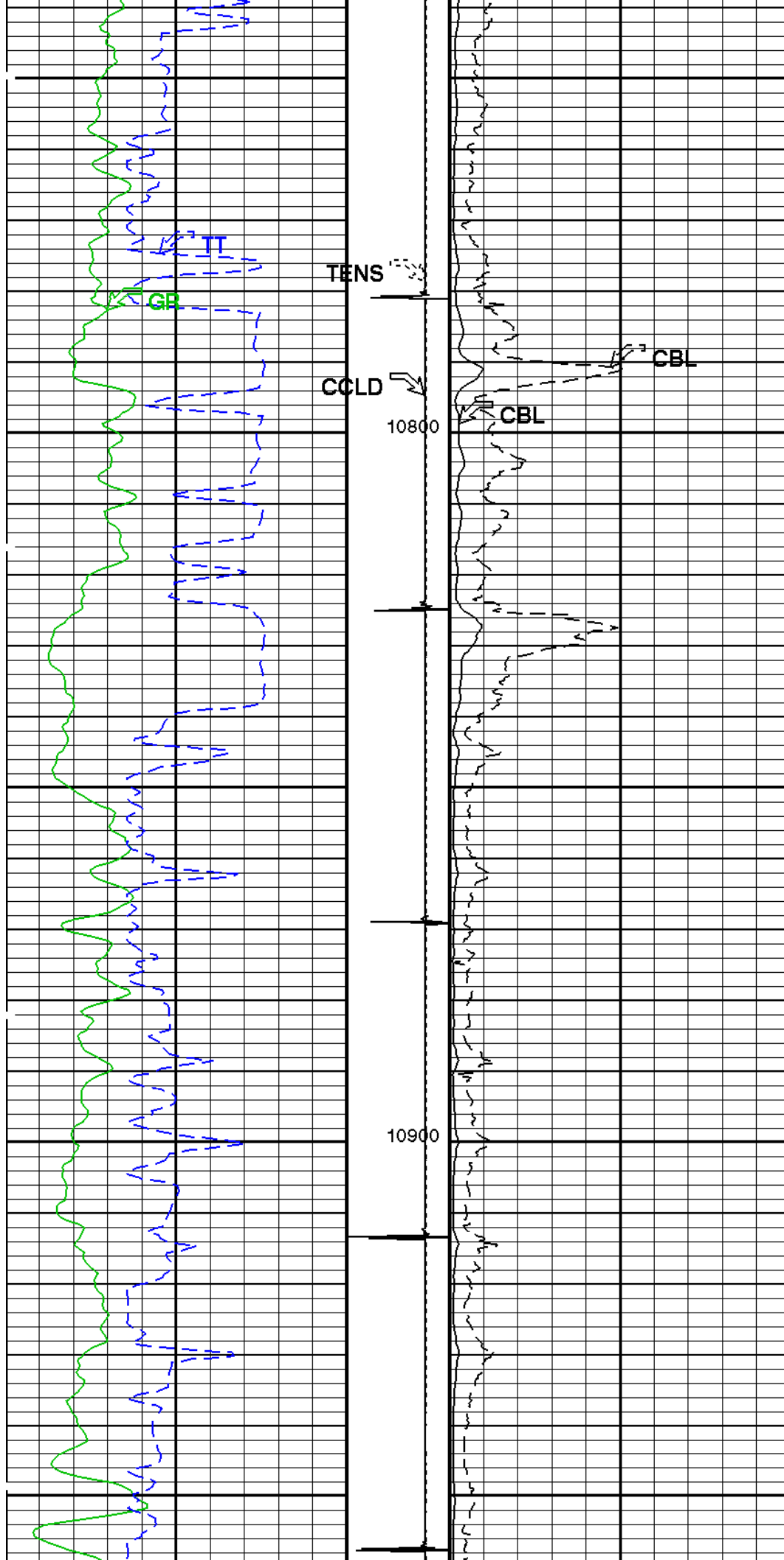


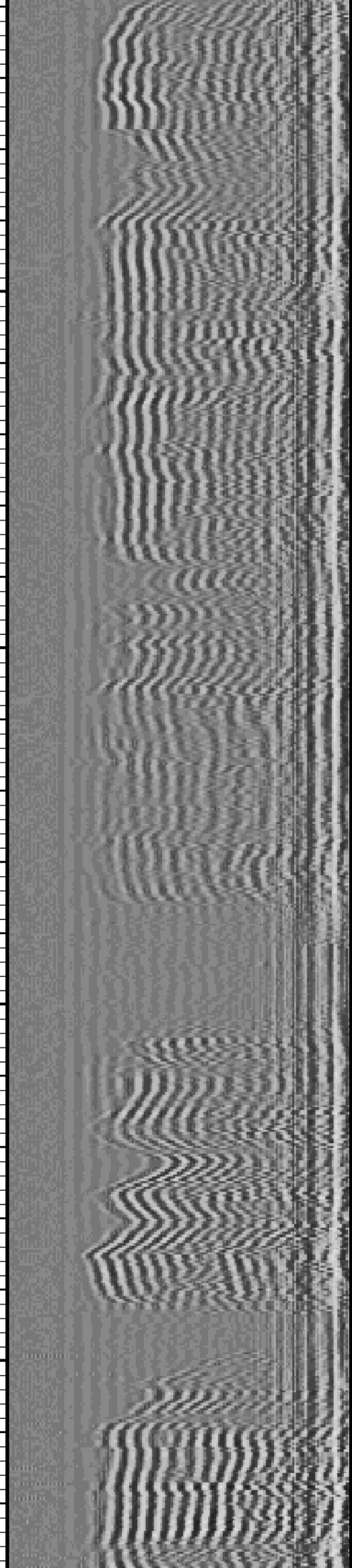
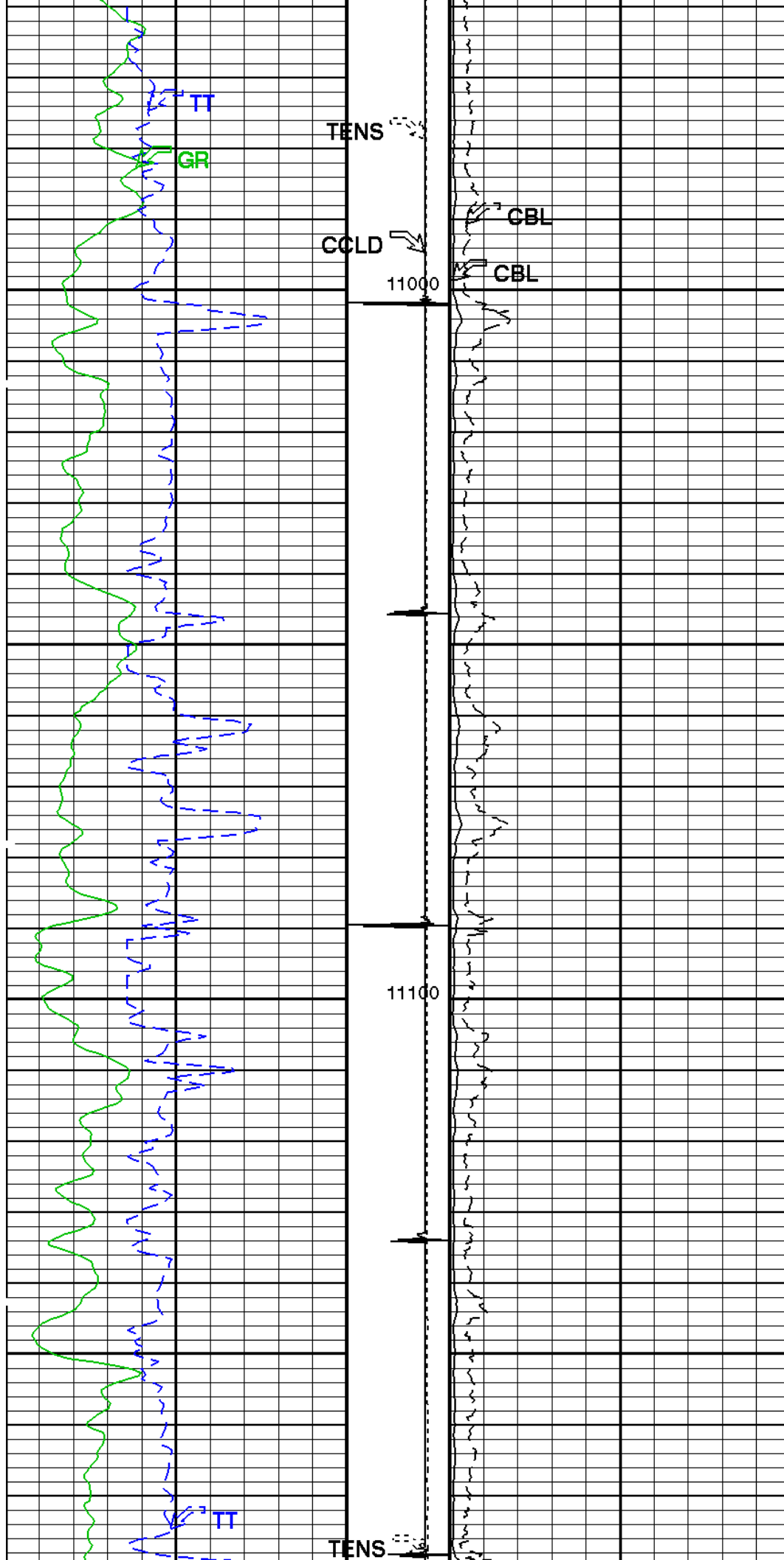


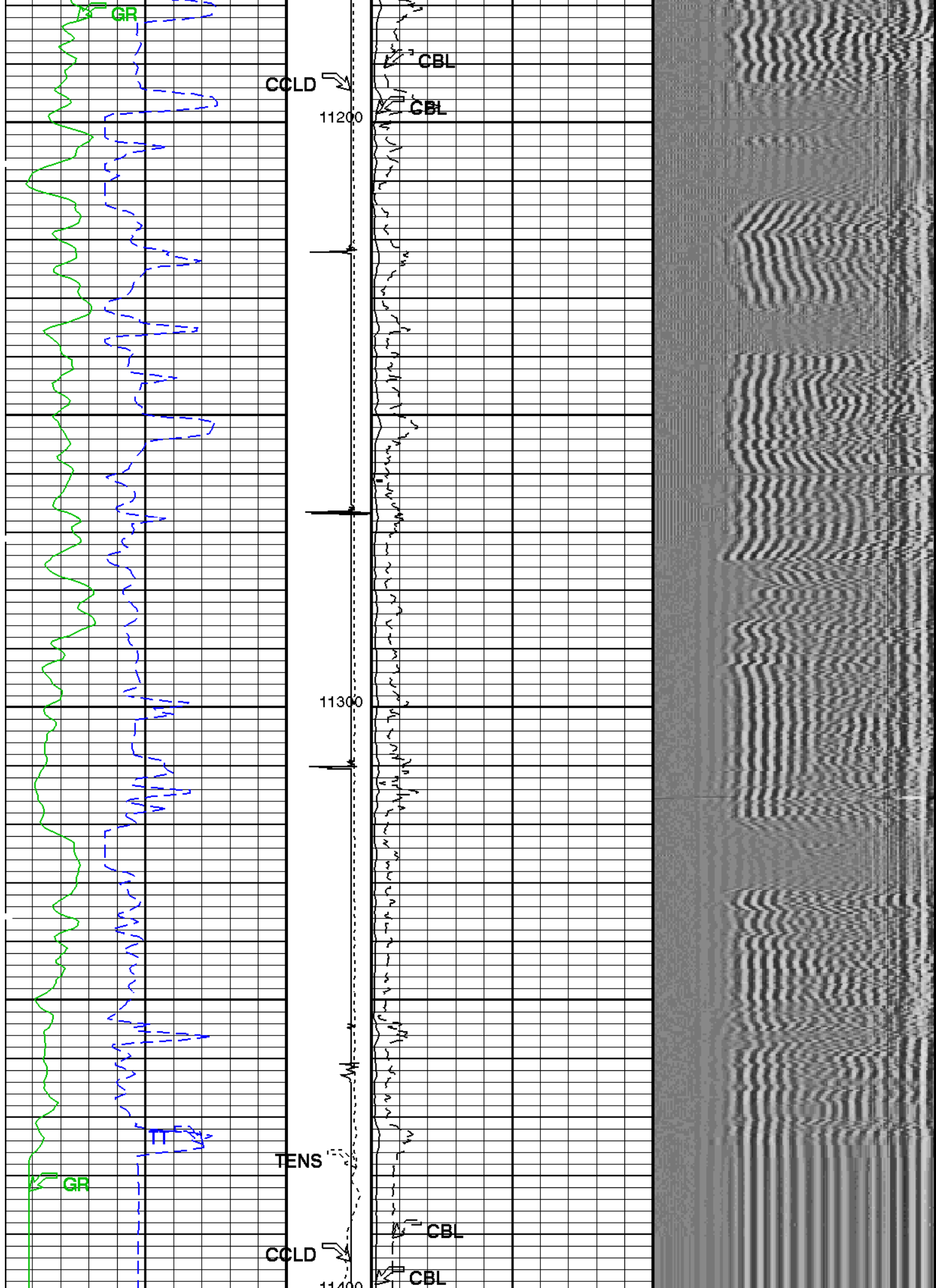












Gamma Ray (GR) (GAPI)		Tension (TENS) (LBF)	CBL Amplitude (CBL) (MV)	Min	Amplitude	Max
0	150	0 2000	0 100	VDL Variable Density (VDL) (US)		
Transit Time (TT) (US)		Discriminat ed CCL (CCLD) (V) -1	CBL Amplitude (CBL) (MV)	200		1200
400	200	3	0 20			

PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL Vertical Scale: 5" per 100'

Graphics File Created: 29-Apr-2012 23:32

OP System Version: 19C0-187

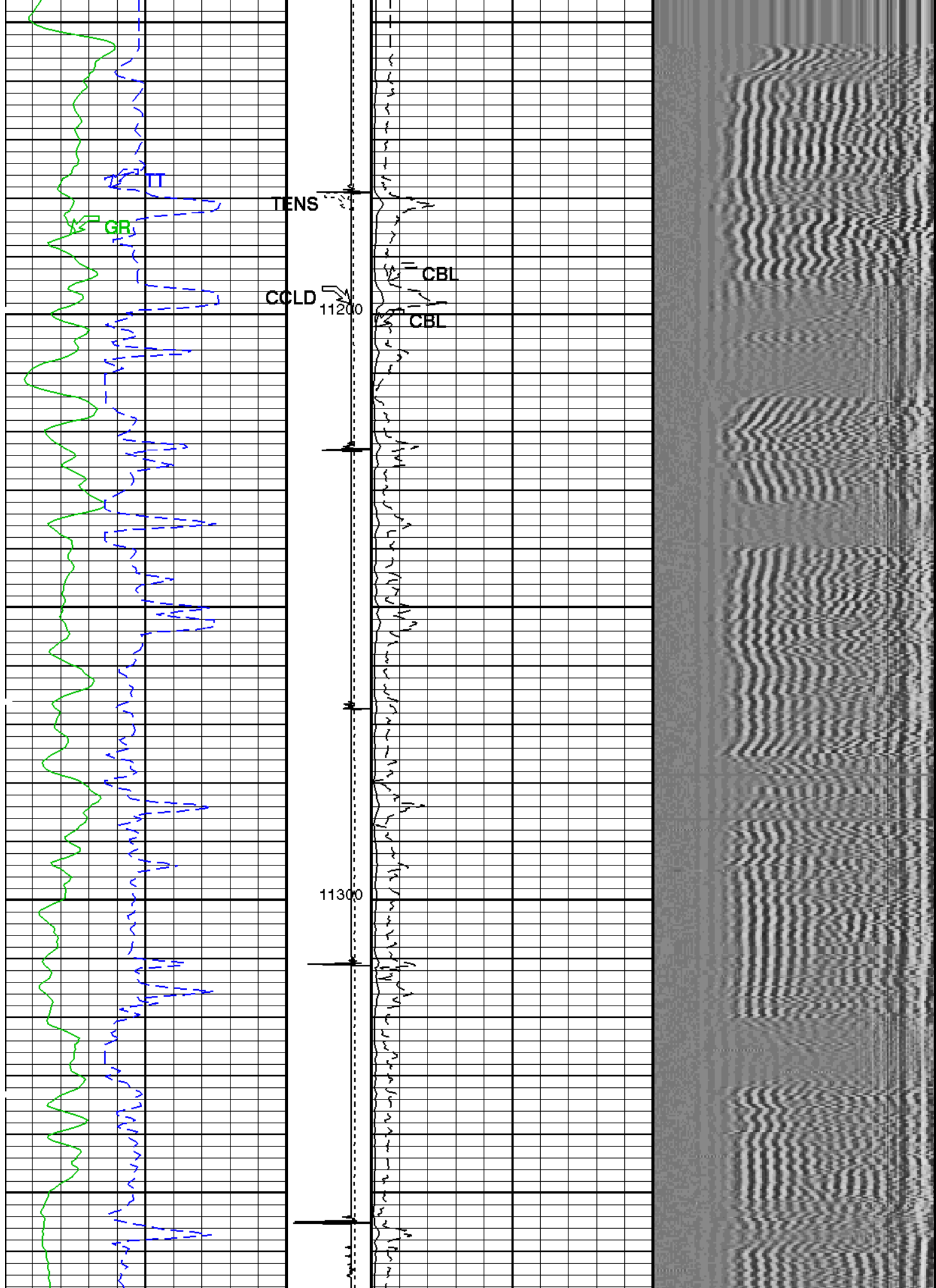
SCMT-CB 19C0-187 PSPT 19C0-187

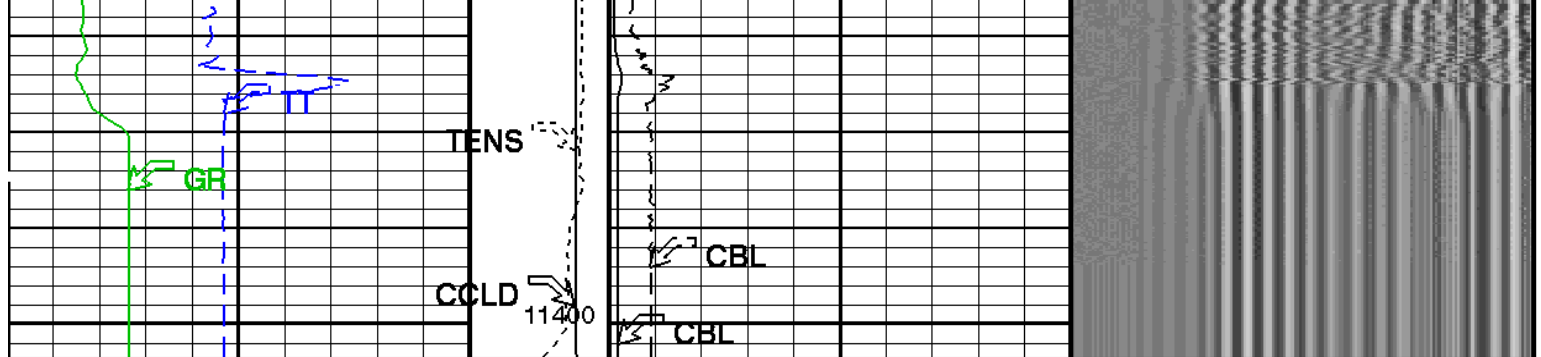
<<<SCMT Cement Evaluation Information Summary>>>

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	0.573313 MV (100% Cement) 1.53933 MV (80% Cement)
		MAP Minimum Sonic Amplitude	4.27928 MV (100% Cement) 8.03705 MV (80% Cement)
Master Calibration (Normalization)	Before Calibration (Adjustment)		
Date of Master Calibration	6-MAR-2012		
CBL Correction Factor	0.0689824	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.107072	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.128400		
MAP 3 Correction Factor	0.135634		
MAP 4 Correction Factor	0.115019		
MAP 5 Correction Factor	0.108562		
MAP 6 Correction Factor	0.113017		
MAP 7 Correction Factor	0.117769		
MAP 8 Correction Factor	0.123422		

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	228.052	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	342.052	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	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	203	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.992742	
GOBO	Good Bond	1.53933	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	171.052	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV





Gamma Ray (GR) (GAPI)	0	150	Tension (TENS) (LBF)	0	2000	CBL Amplitude (CBL) (MV)	0	100	Min	Amplitude	Max
Transit Time (TT) (US)	400	200	Discriminat ed CCL (CCLD)	3	-1	CBL Amplitude (CBL) (MV)	0	20	200	VDL VariableDensity (VDL) (US)	1200

PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL Vertical Scale: 5" per 100'

Graphics File Created: 29-Apr-2012 23:32

OP System Version: 19C0-187

SCMT-CB 19C0-187 PSPT 19C0-187

<<<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	0.573313 MV (100% Cement) 1.53933 MV (80% Cement)
		MAP Minimum Sonic Amplitude	4.27928 MV (100% Cement) 8.03705 MV (80% Cement)
Master Calibration (Normalization)		Before Calibration (Adjustment)	
Date of Master Calibration	6-MAR-2012		
CBL Correction Factor	0.0689824	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.107072	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.128400		
MAP 3 Correction Factor	0.135634		
MAP 4 Correction Factor	0.115019		
MAP 5 Correction Factor	0.108562		
MAP 6 Correction Factor	0.113017		
MAP 7 Correction Factor	0.117769		
MAP 8 Correction Factor	0.123422		

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	228.052 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	342.052 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	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	203	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.992742	
GOBO	Good Bond	1.53933	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	171.052	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	4.27928	MV
MSA	Minimum Sonic Amplitude	0.573313	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	0.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	-50000	FT

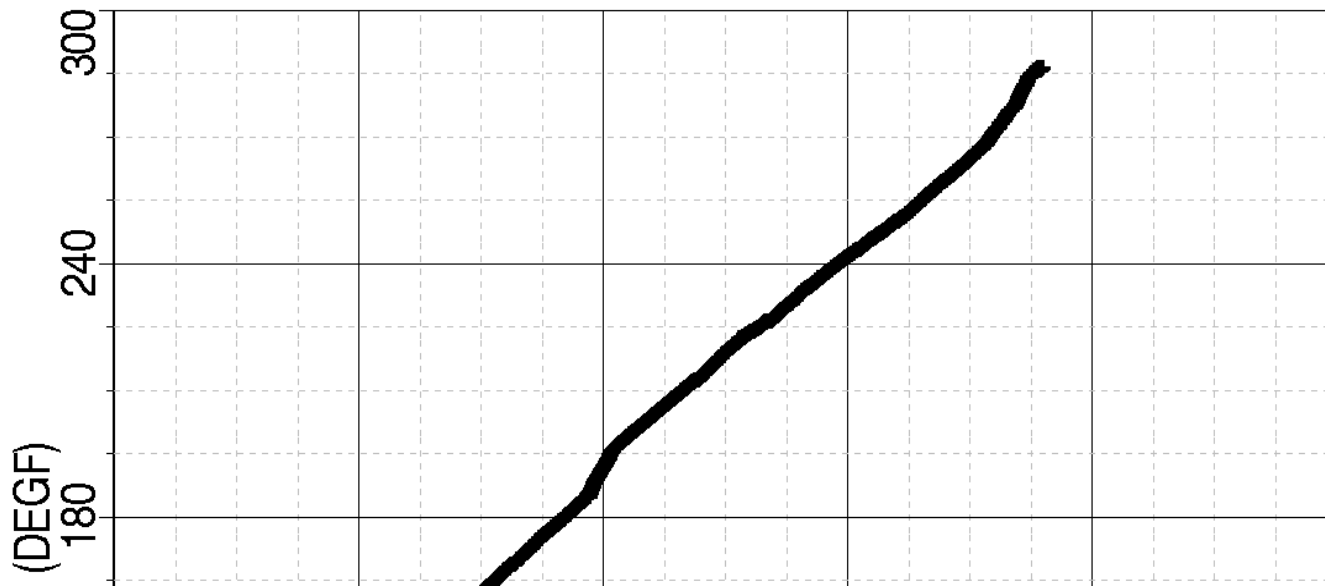
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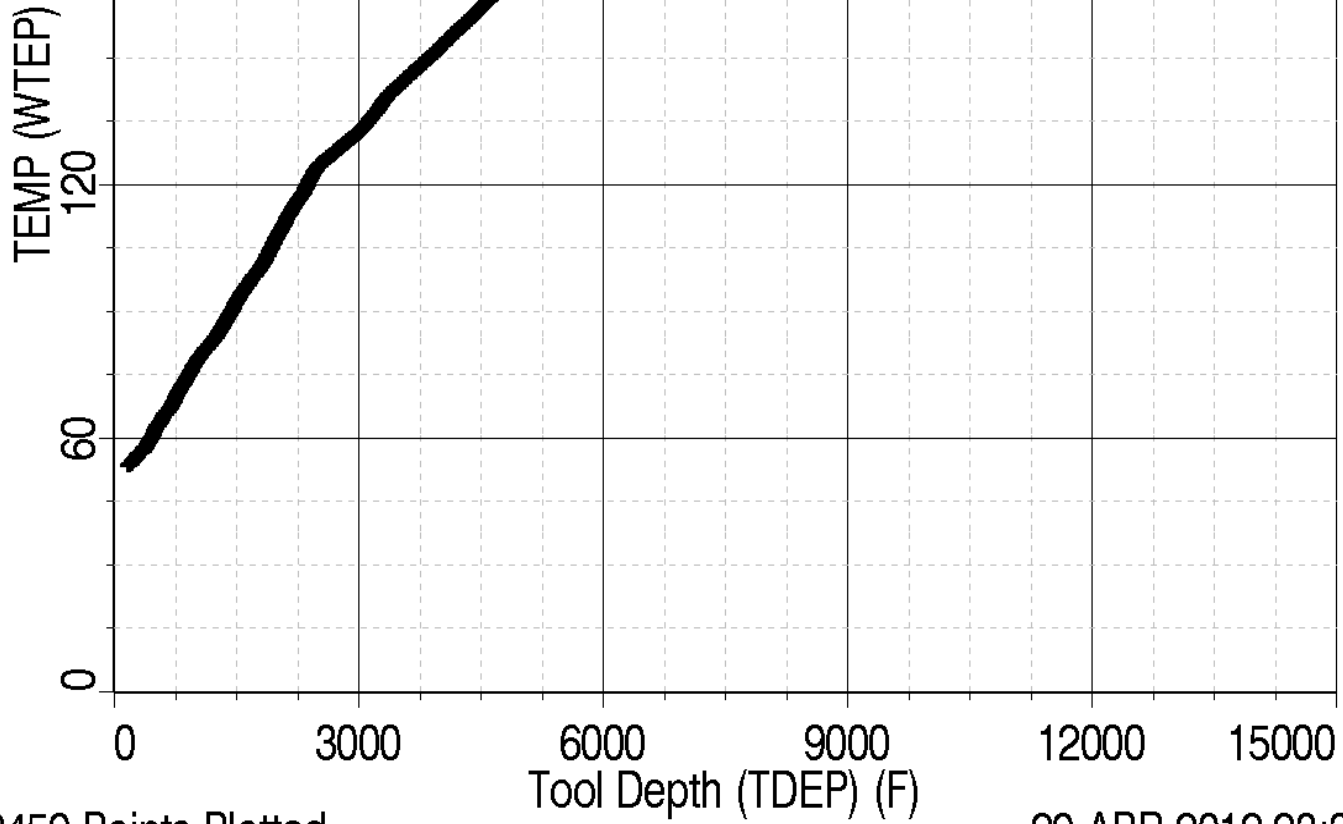
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 11400.0 - 171.0 FT





22459 Points Plotted

29-APR-2012 23:38

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

Schlumberger

Well: **SG 8506E-22 N22 496**

Field: **STORY GULCH**

County: **GARFIELD**

State: **COLORADO**

CEMENT BOND LOG

CBL - VDL

GAMMA RAY - CCL