

Schlumberger

Company: ENCANA OIL & GAS (USA) INC.

Well: DW 8608F-28 (P28496)

Field: Double Willow

County: Garfield

State: Colorado

SLIM CEMENT MAPPING TOOL  
CBL - VDL  
GAMMA RAY - CCL

County: Garfield  
Field: Double Willow  
Location: SHL: 732 FSL 452 FEL  
Well: DW 8608F-28 (P28496)  
Company: ENCANA OIL & GAS (USA) INC

LOCATION			
SHL: 732 FSL 452 FEL	Elev: K.B. 7813.00 ft		
BHL: 2463 FNL 1313 FEL	G.L. 7791.00 ft		
39.668069N 108.166736W	D.F. 7813.00 ft		
Permanent Datum:	GROUND LEVEL	Elev: 7791.00 ft	
Log Measured From:	KELLY BUSHING	22.00 ft	above Perm. Datum
Drilling Measured From:	KELLY BUSHING		
API Serial No.	Section	Township	Range
05-045-20804-00	28	4S	96W
Logging Date	11-Jul-2012		
Run Number	1		
Depth Driller	11385 ft		
Schlumberger Depth	11305 ft		
Bottom Log Interval	11296 ft		
Top Log Interval	200 ft		
Casing Fluid Type	FRESH WATER		
Salinity			
Density	8.6 lbm/gal		
Fluid Level	22 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.750 in		
From	0 ft		
To	11385 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	P-110		
From	0 ft		
To	11347 ft		
Maximum Recorded Temperatures	282 degF		
Logger On Bottom	11-Jul-2012	Time	5:15
Unit Number	391	Location	Grand Junction
Recorded By	Kirstie Bunting		
Witnessed By	Scott Pitt		

PVT DATA			
Oil Density	Run 1	Run 2	Run
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			
Tall 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: 10-JUL-2012 13:51:17

### Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	5873	Serial Number:	5006	Serial Number:	391
Calibration Date:	20-DEC-2011	Calibration Date:	21-JUN-2012	Length:	24000 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:	15		
Wheel Correction 2:	-3	Calibration Peak Error:	9		

### Depth Control Parameters

Log Sequence: First Log In the Well

Rig Up Length At Surface: 200.00 FT

Rig Up Length At Bottom: 200.00 FT

Rig Up Length Correction: 0.00 FT

Stretch Correction: 0.00 FT

Tool Zero Check At Surface: 0.00 FT

### Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH PROCEDURES USED
2. PRIMARY DEPTH CONTROL: IDW
3. SECONDARY DEPTH CONTROL: DRUM COUNTER (SWPT)
- 4.
- 5.
- 6.

#### DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

#### OTHER SERVICES1

OS1: NONE

OS2:

OS3:

OS4:

OS5:

#### OTHER SERVICES2

OS1:

OS2:

OS3:

OS4:

OS5:

REMARKS: RUN NUMBER 1

FIRST RUN IN HOLE CORRELATED TO DOWN LOG

TOOL RAN AS PER TOOL SKETCH

ENTRANCE TIME: 04:30

TIME AT BOTTOM: 5:15

EXIT TIME: 8:30

TOTAL DEPTH = 11305 FT

REMARKS: RUN NUMBER 2

ESTIMATED TOP OF CEMENT = 800 FT	
MAX RECORDED TEMPERATURE = 282 DEGF	
MAX RECORDED PRESSURE = 4616 PSIA	
STRETCH CORRECTION = 6 FT	
CBAF = .90	
CYCLE SKIPPING DUE TO GOOD BOND	
EXPECTED FREE PIPE AMPLITUDE 80 MV	
MAIN PASS RAN WITH ZERO SURFACE PRESSURE	

THANK YOU FOR CHOOSING SCHLUMBERGER!	
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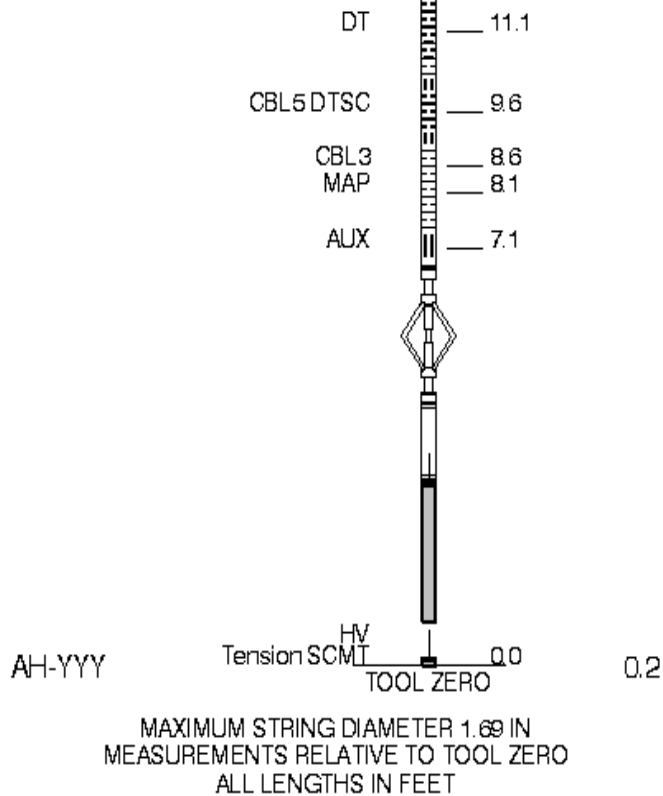
RUN 1			RUN 2		
SERVICE ORDER #:		C8Q2-00012	SERVICE ORDER #:		
PROGRAM VERSION:		19C0-187	PROGRAM VERSION:		
FLUID LEVEL:		22 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT	
WITM-A	
PSC_16MHZ	

DOWNHOLE EQUIPMENT	
MH-22	30.3
MH-22	
AH-38	28.7
PSPT	28.4
PSC-A	
PSPT-A	
PSTC-A	
PBMS-A 3779	
10k Sapphire Mano	
RTD Thermometer	
GR	24.7
CCL	
PBMS	
Well Temp Manometer	21.7
CCL	21.5
PBMS PSTC	20.9
	20.2
SCMT-CB	
SCMC-CA 8172	
SECH-CA	
CMIR-AG	
SCMS-CB 8179	
SCMX-CA	





Schlumberger

## MAIN PASS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC.

Well: DW 8608F-28 (P28496)

### Input DLIS Files

DEFAULT	Splice_SCMT_PSP_057CUP	FN:1	PRODUCER	11-Jul-2012 08:33	11311.5 FT	134.3 FT
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### Output DLIS Files

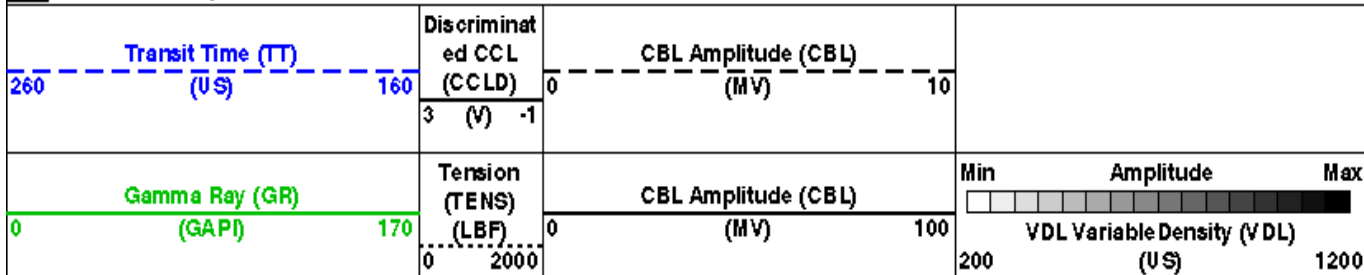
DEFAULT	SCMT_PSP_058PUP	FN:51	PRODUCER	11-Jul-2012 08:44	11317.5 FT	141.0 FT
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### OP System Version: 19C0-187

SCMT-CB	SRPC-5095-H2-2011-OP19	PSPT	19C0-187
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### PIP SUMMARY

Time Mark Every 60 S



LAST READING ALL SENSORS 200 FT

200

TT

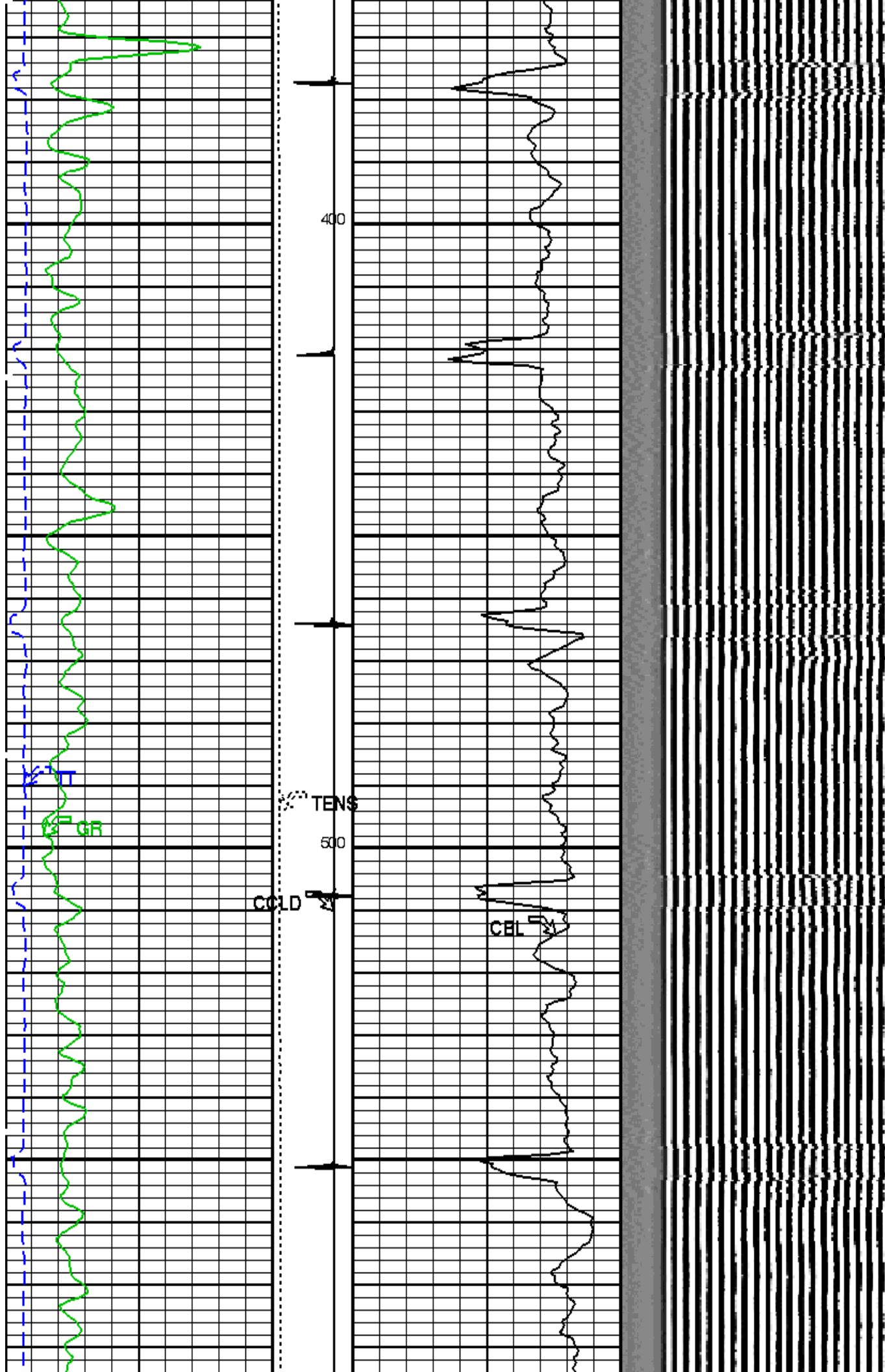
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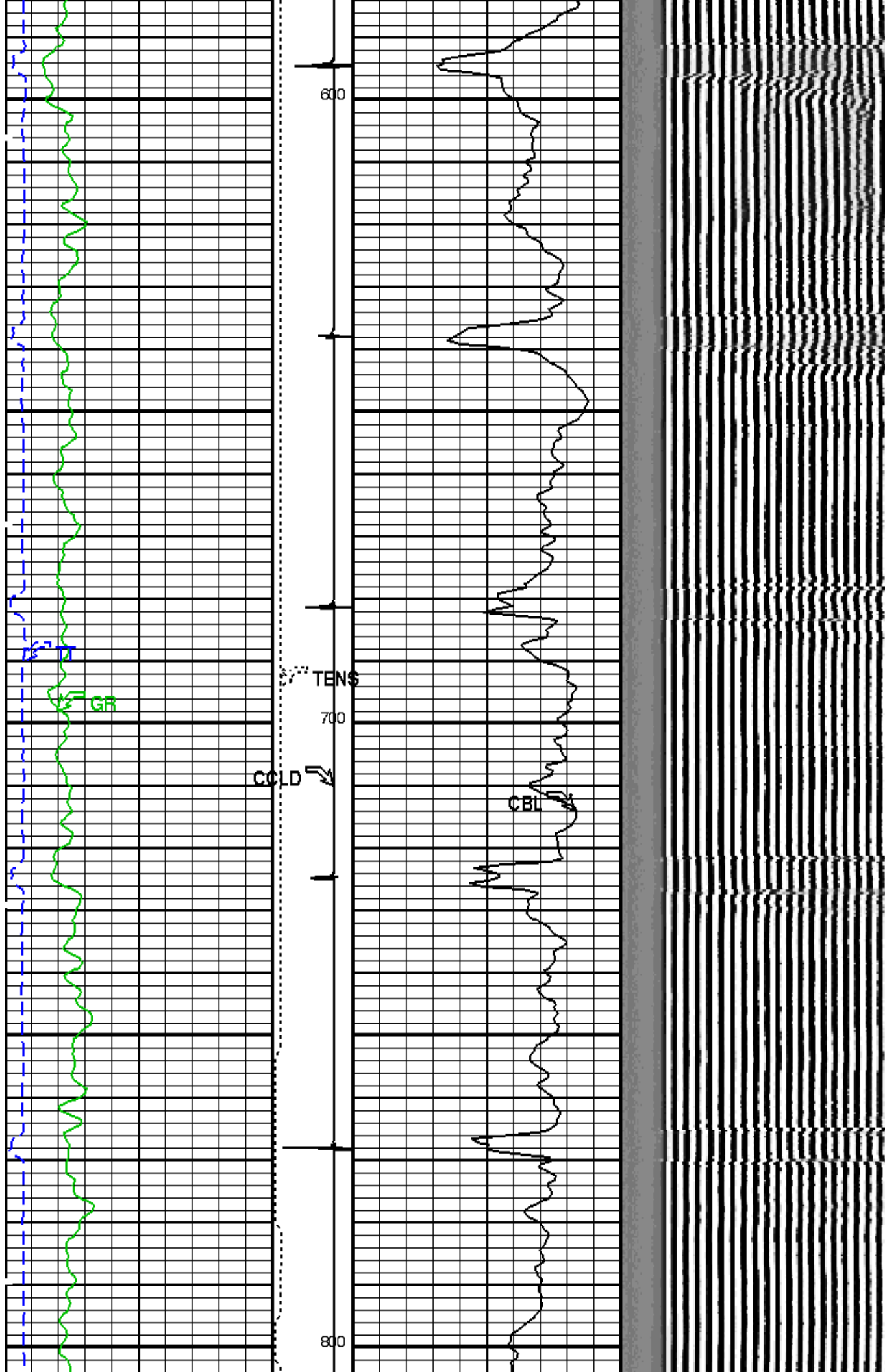
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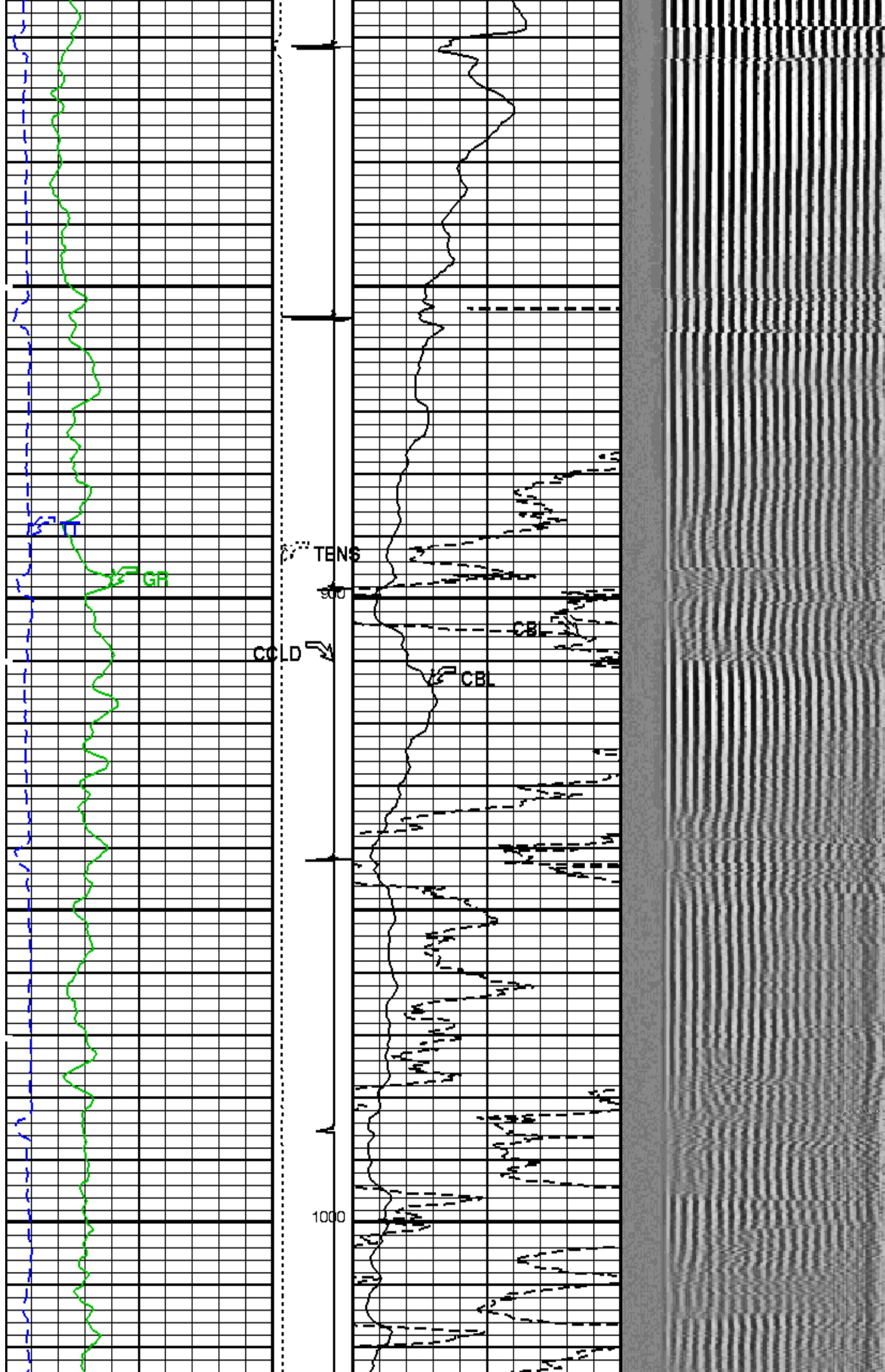
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COLD

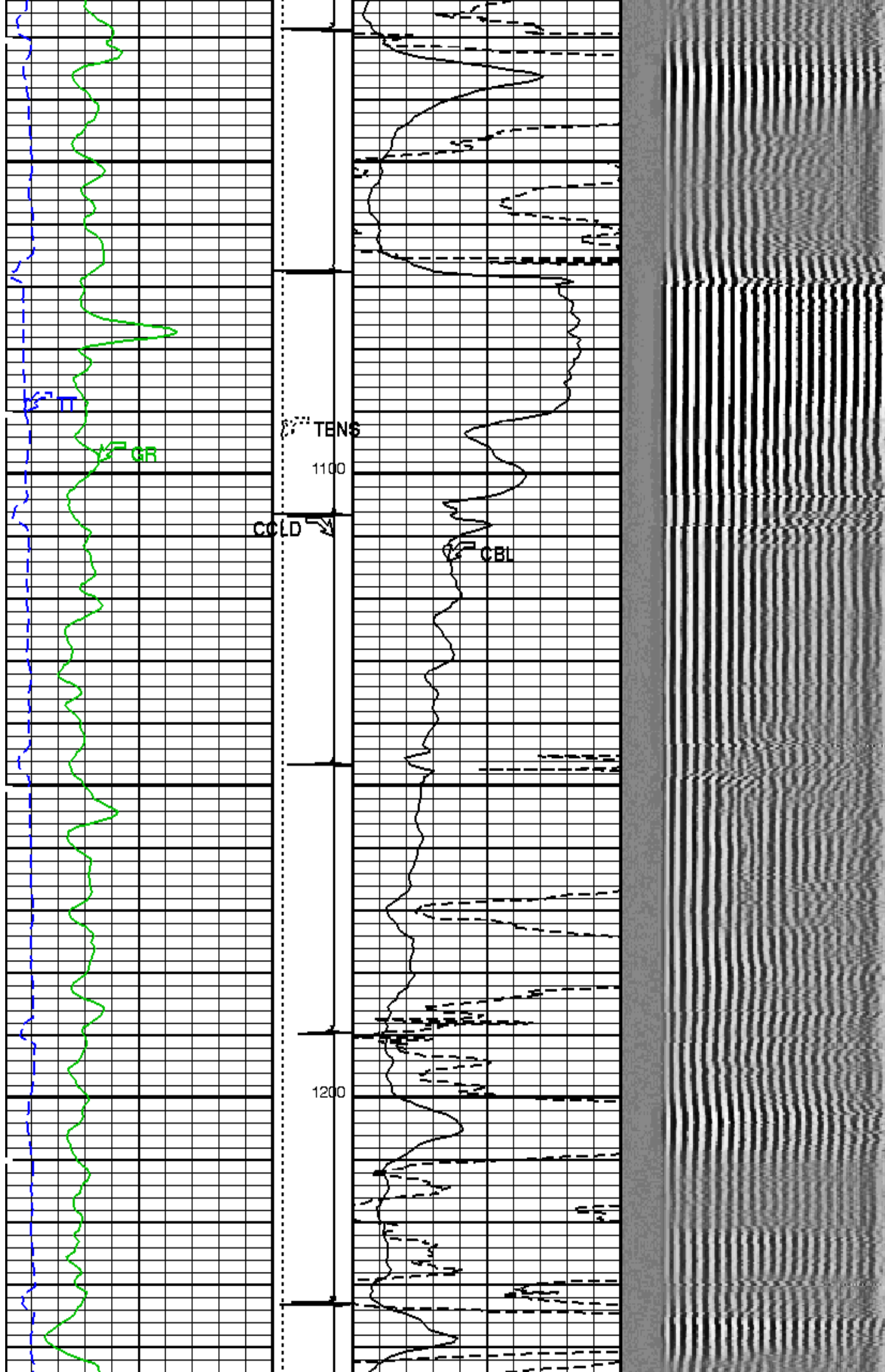
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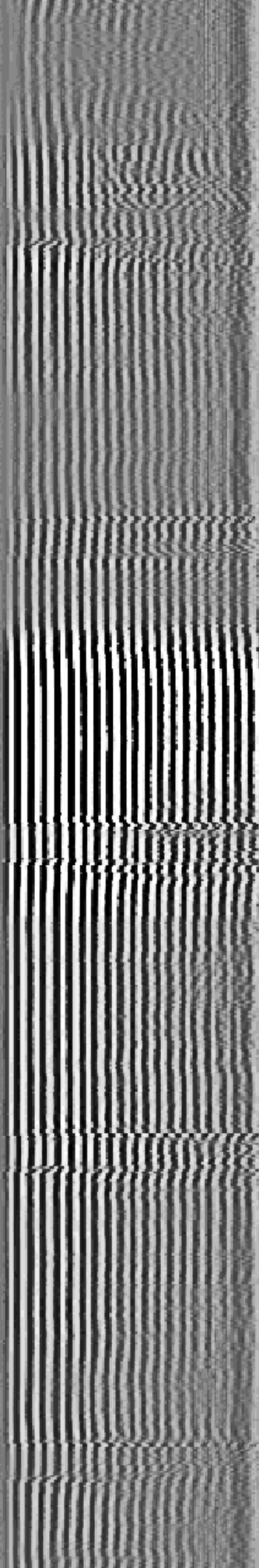
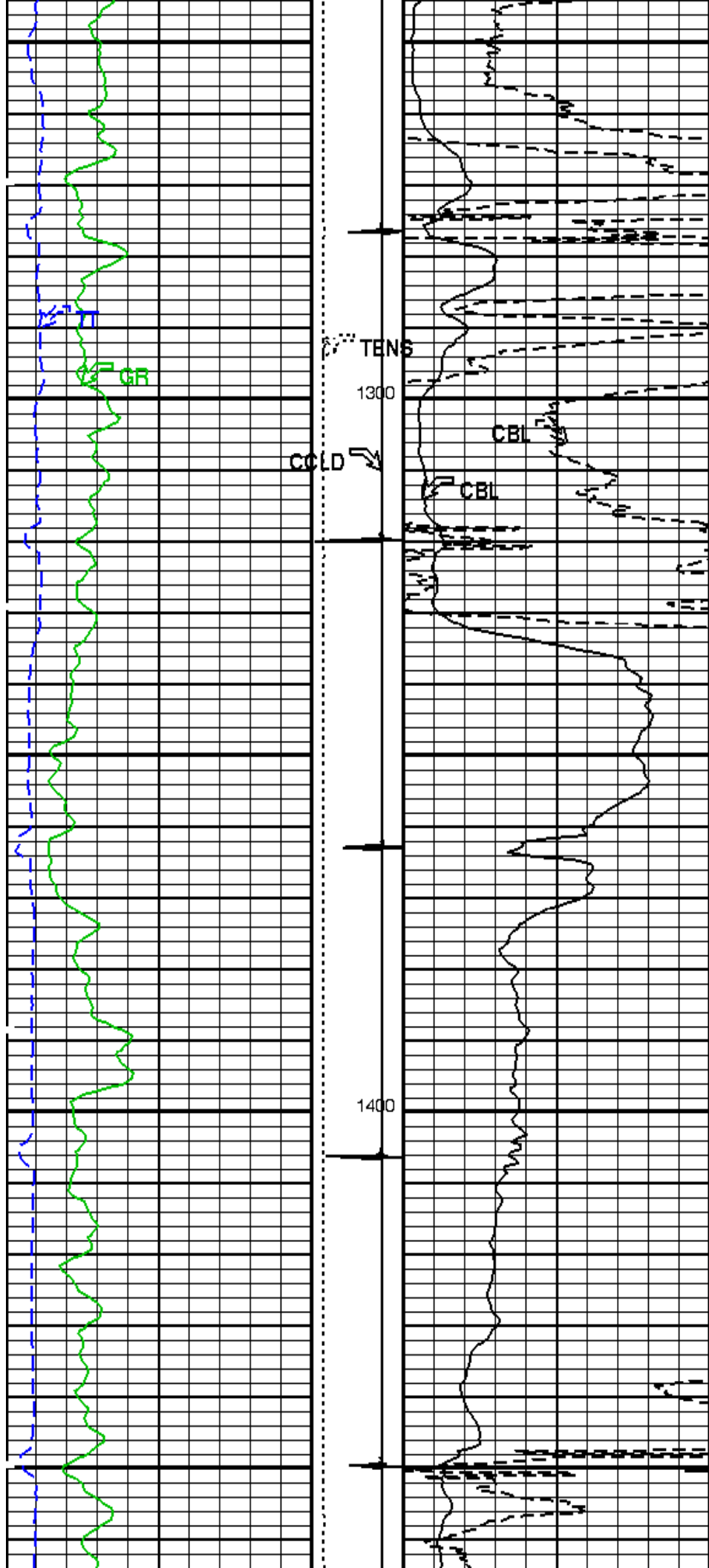


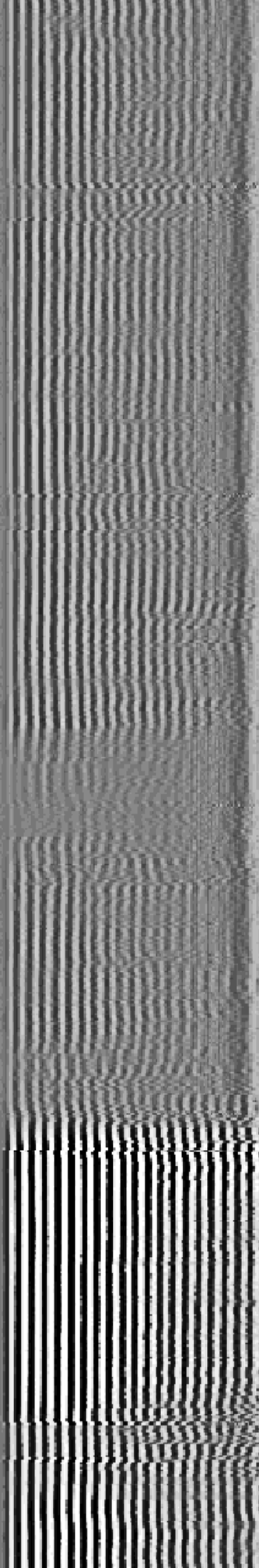
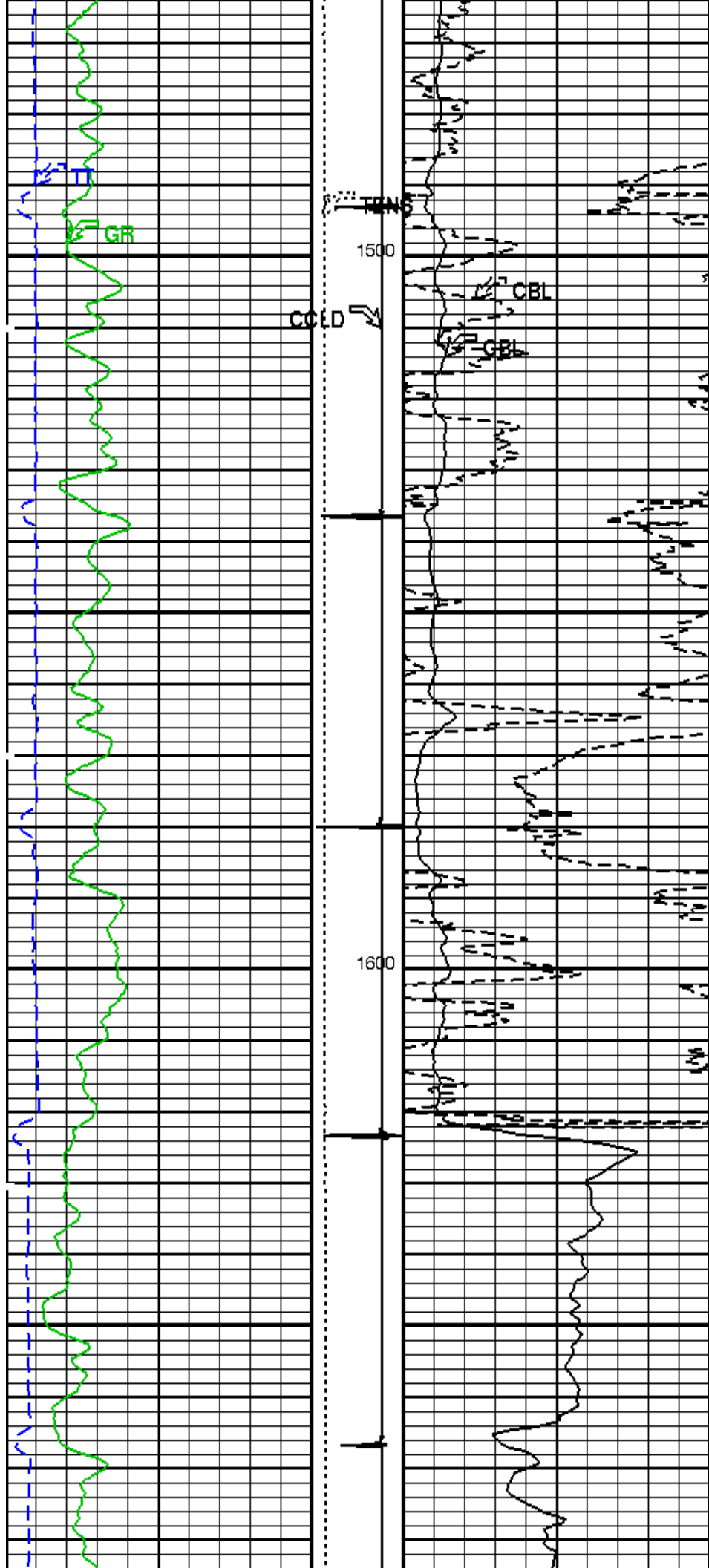


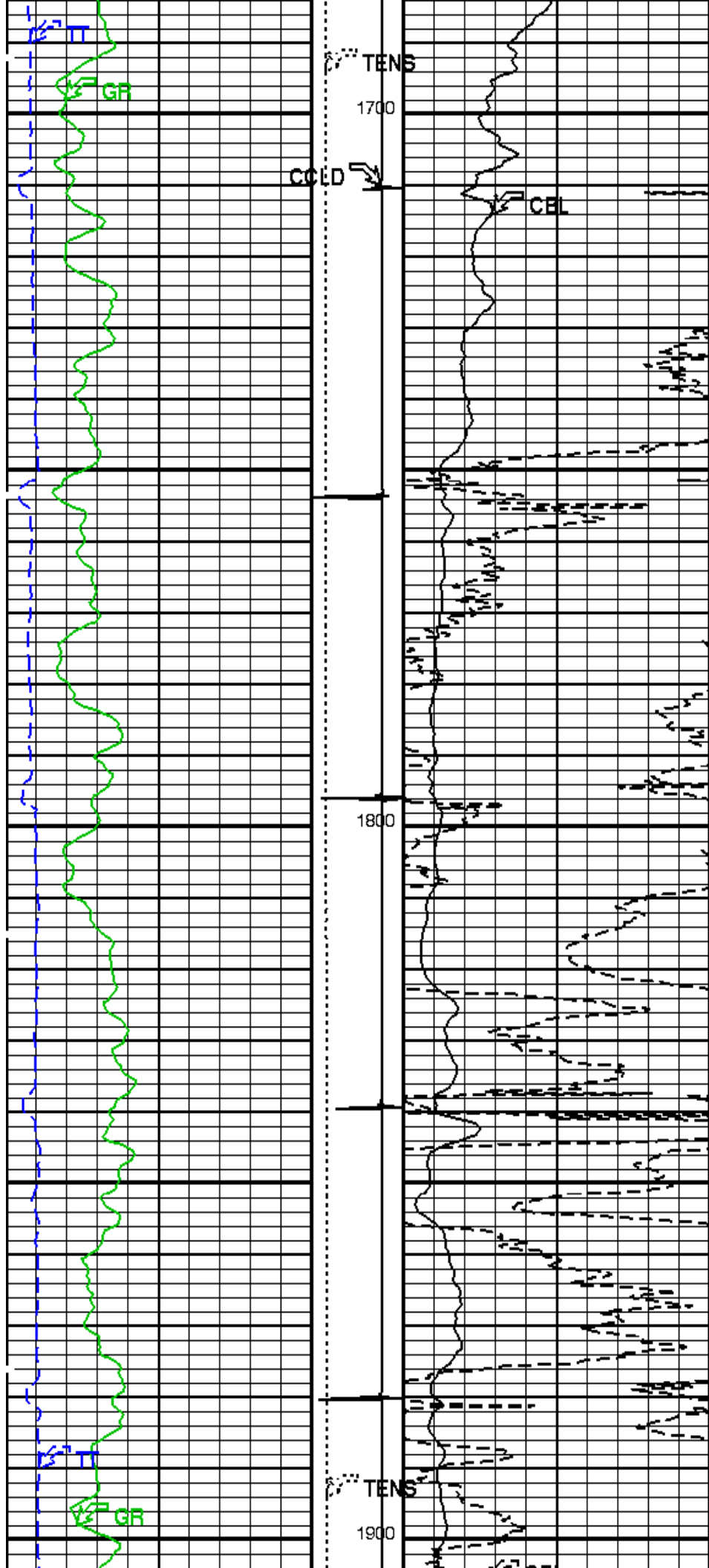




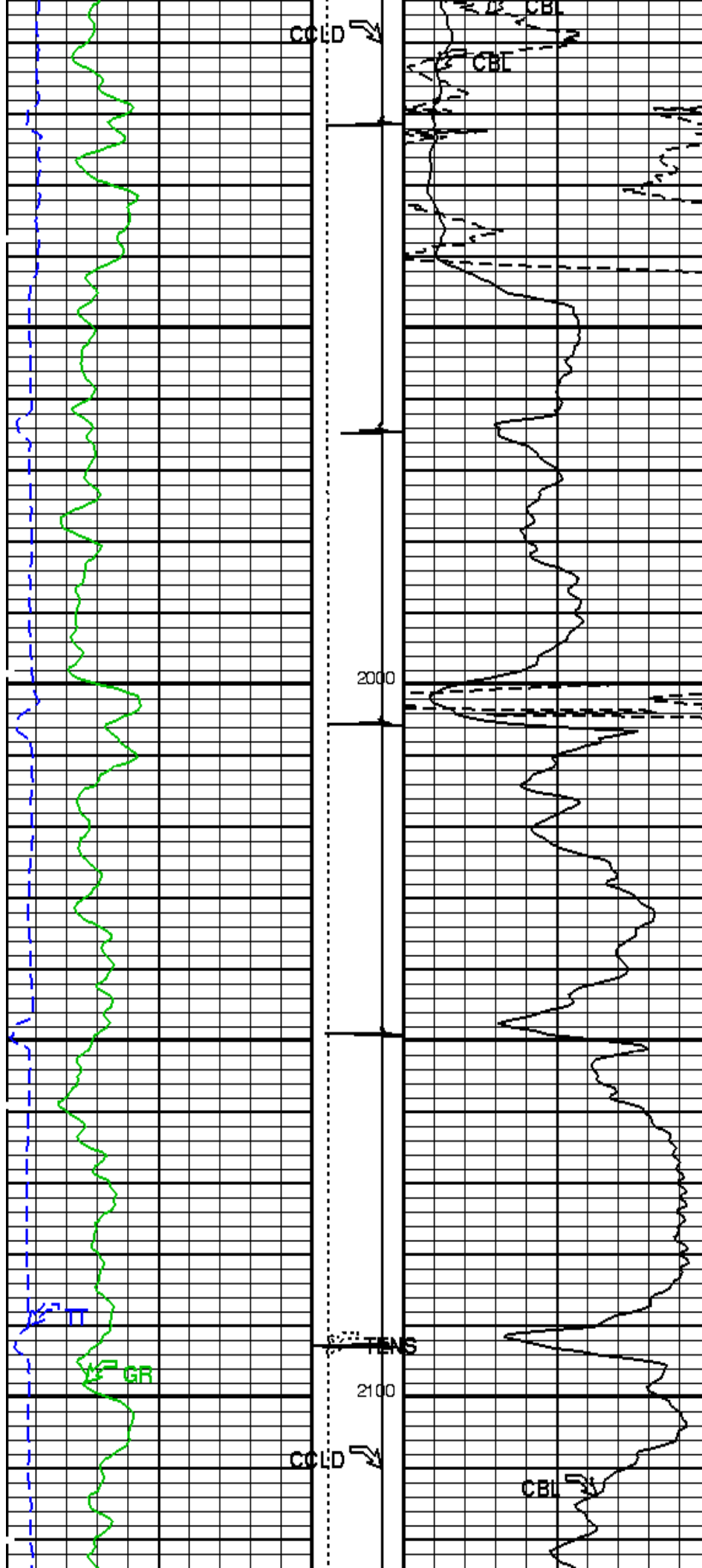


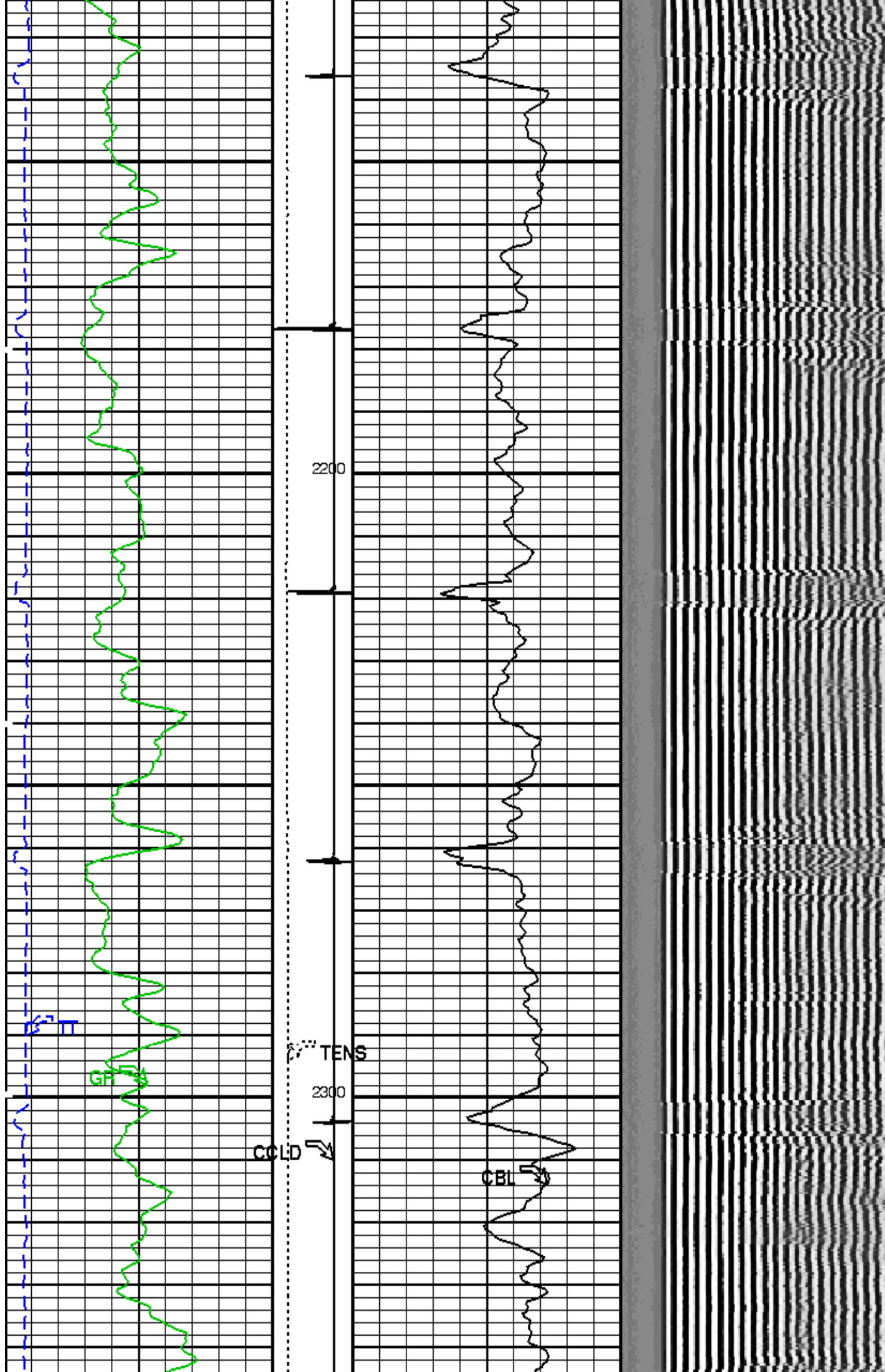


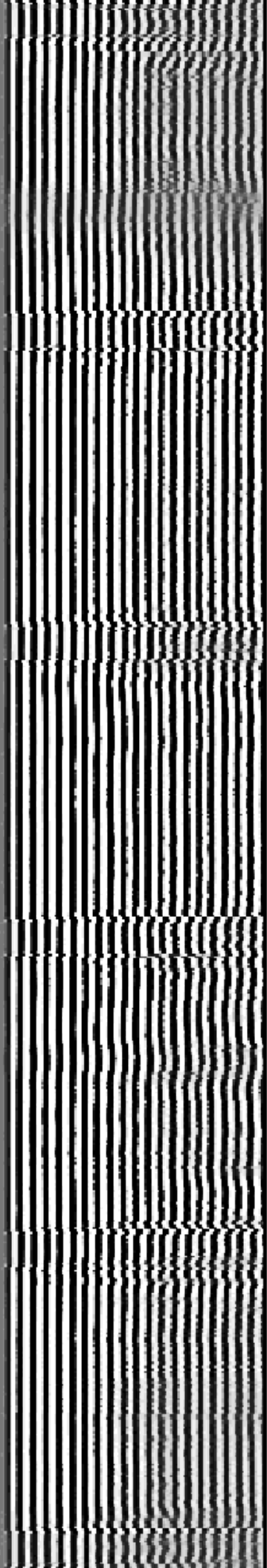
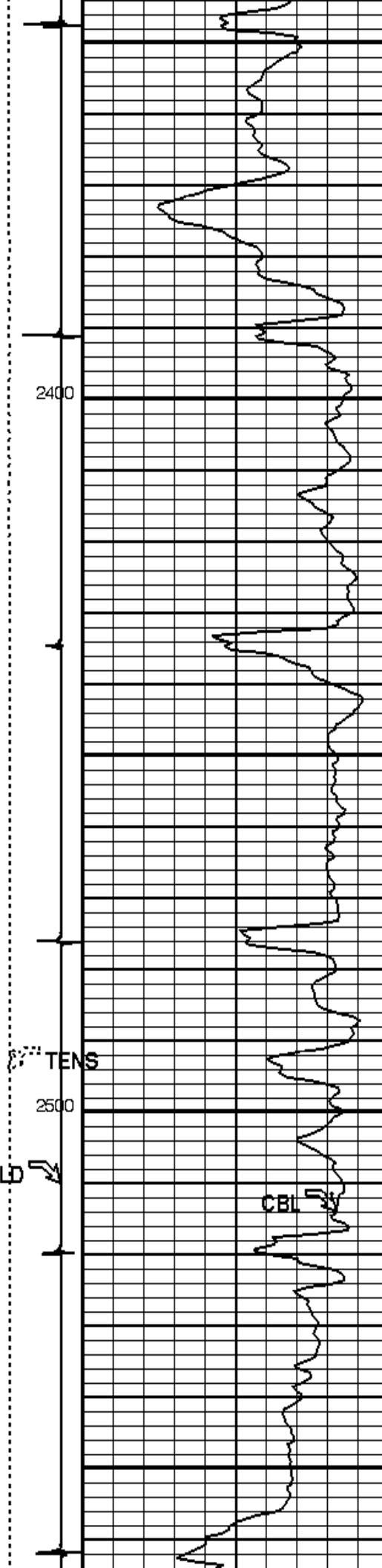
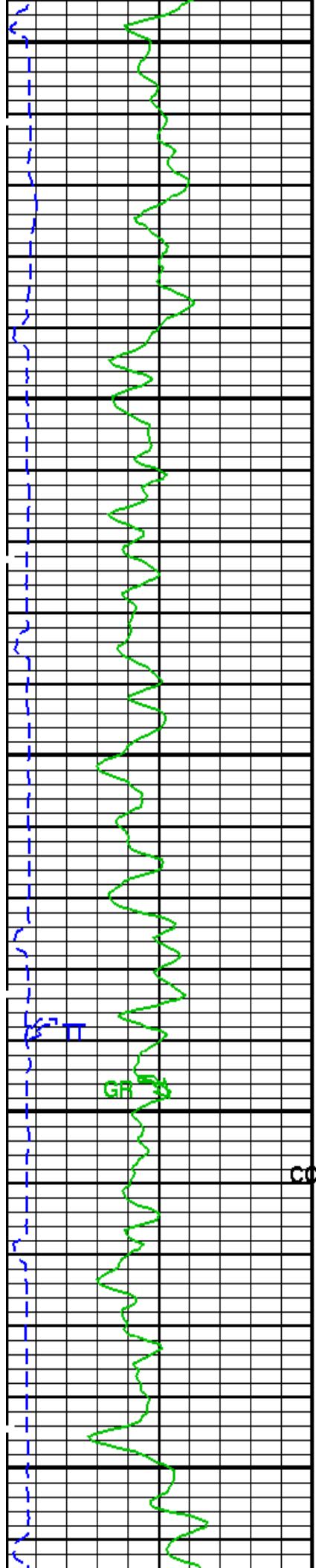


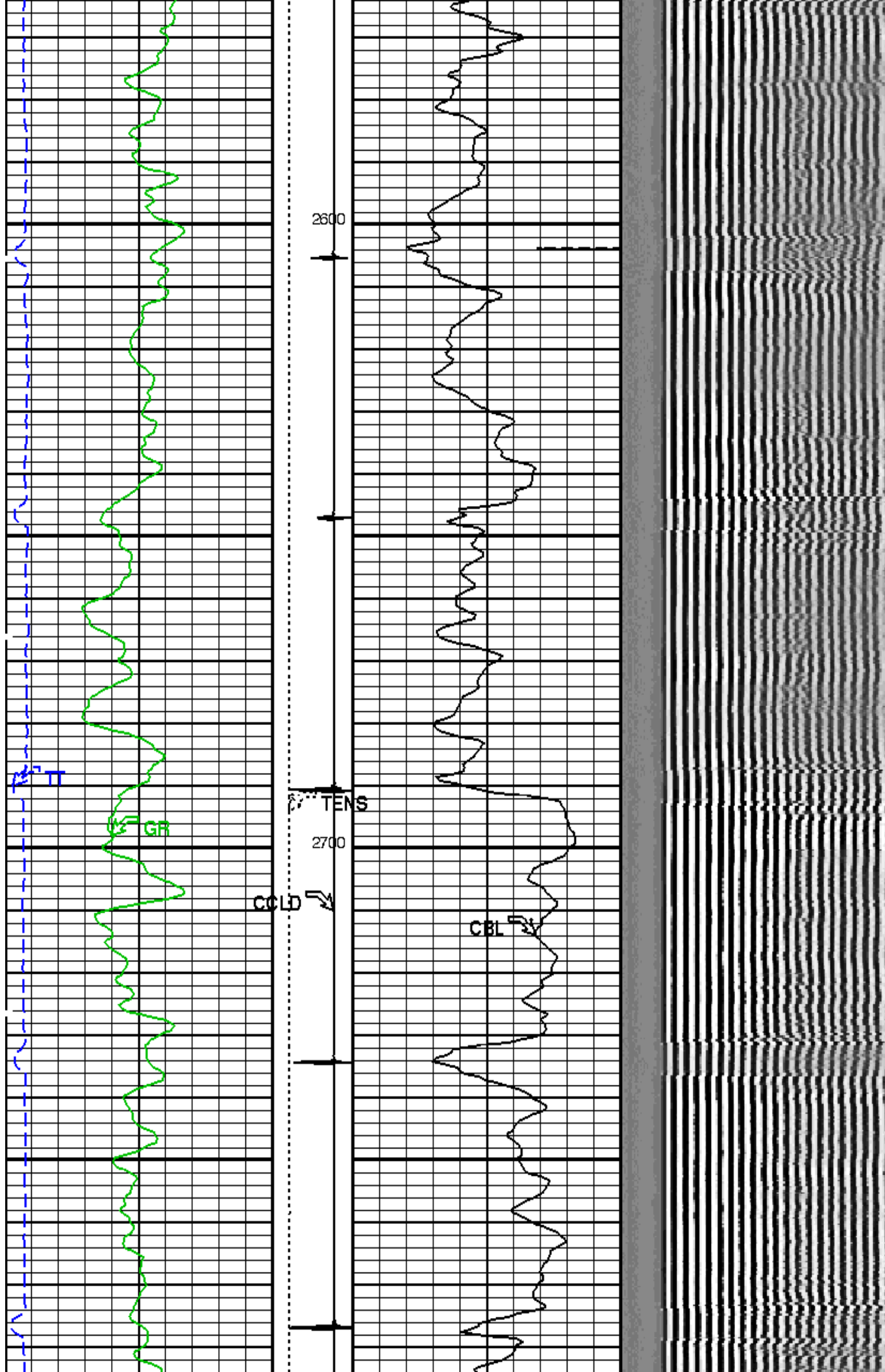




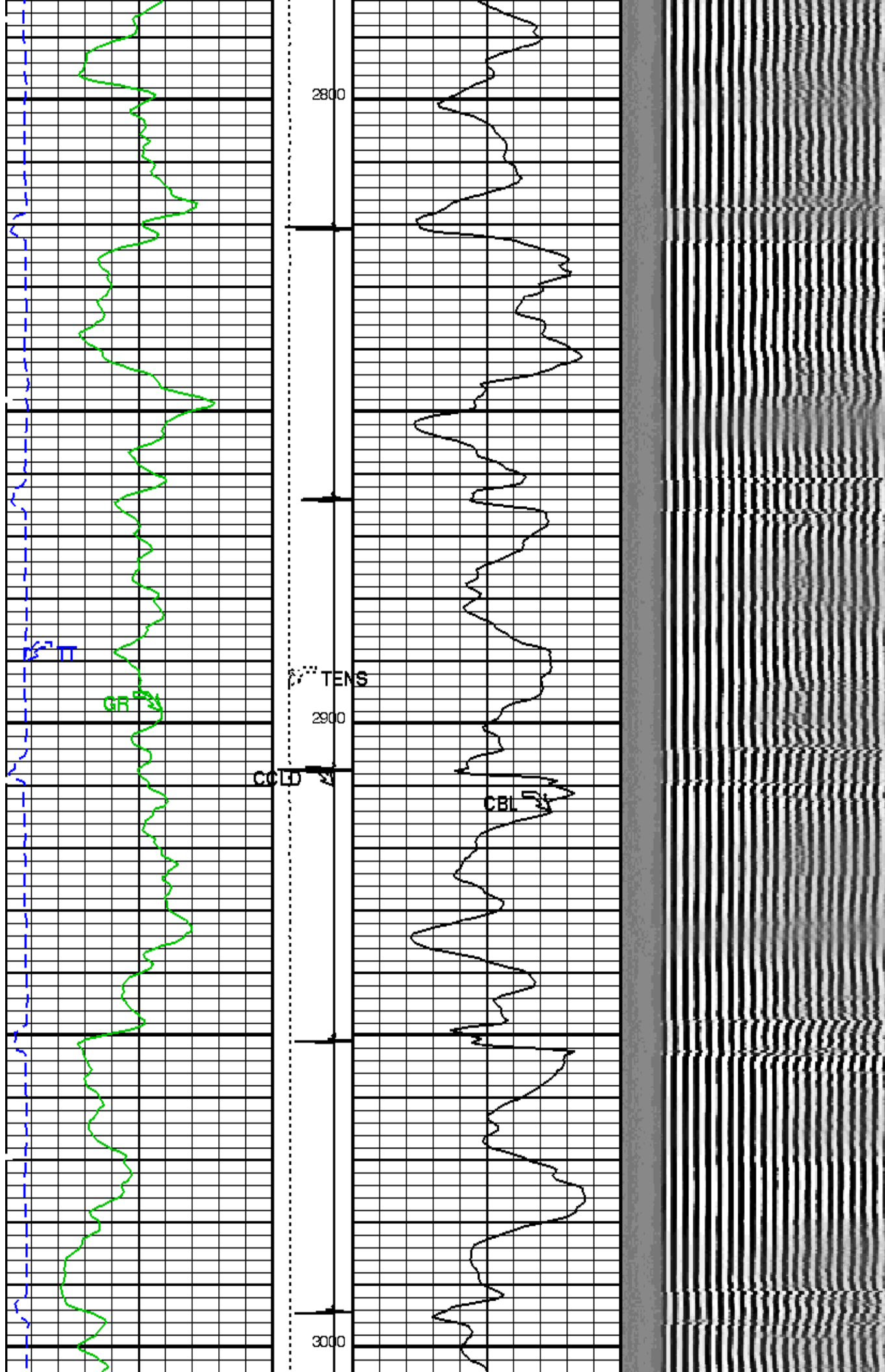


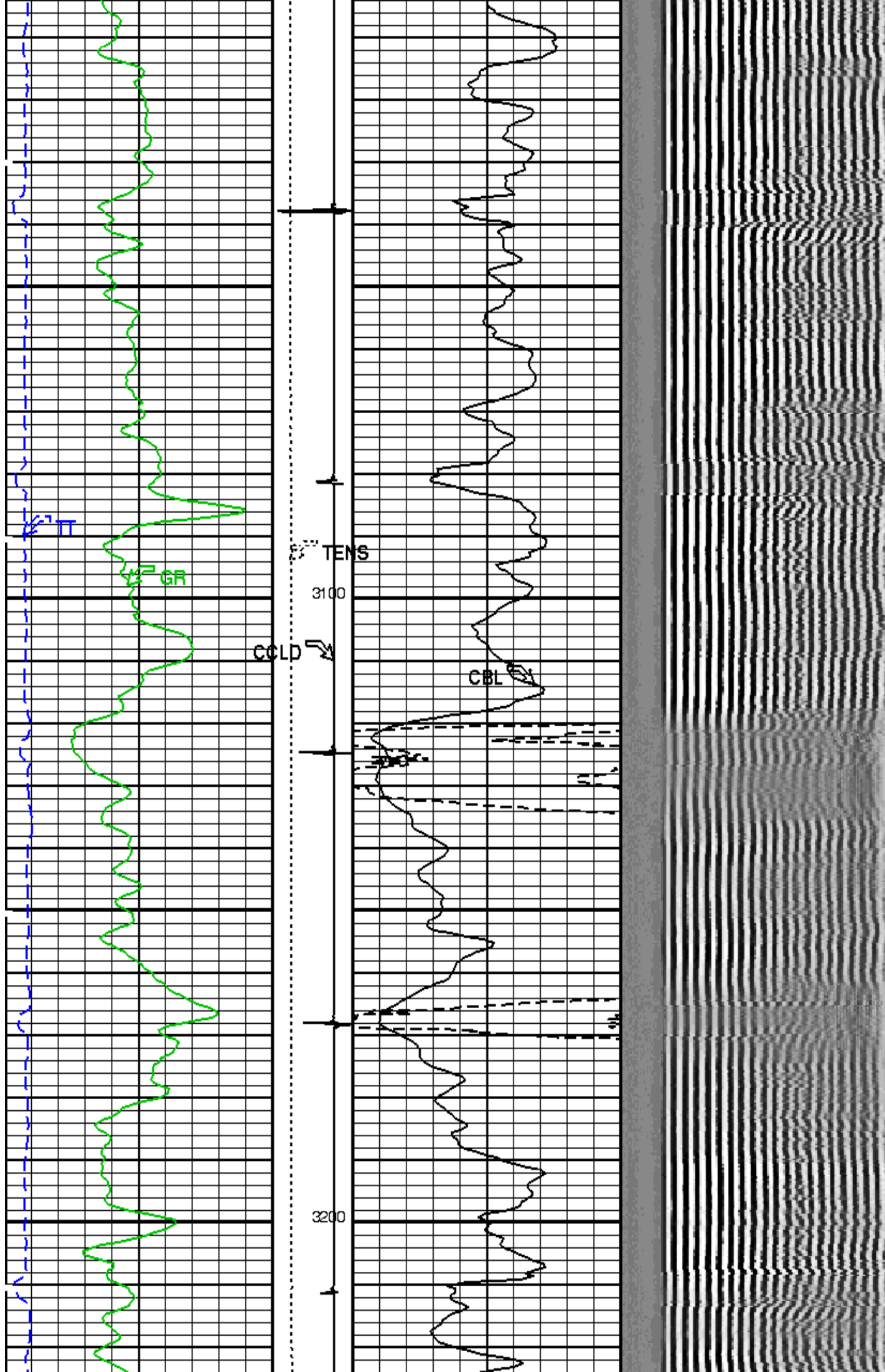


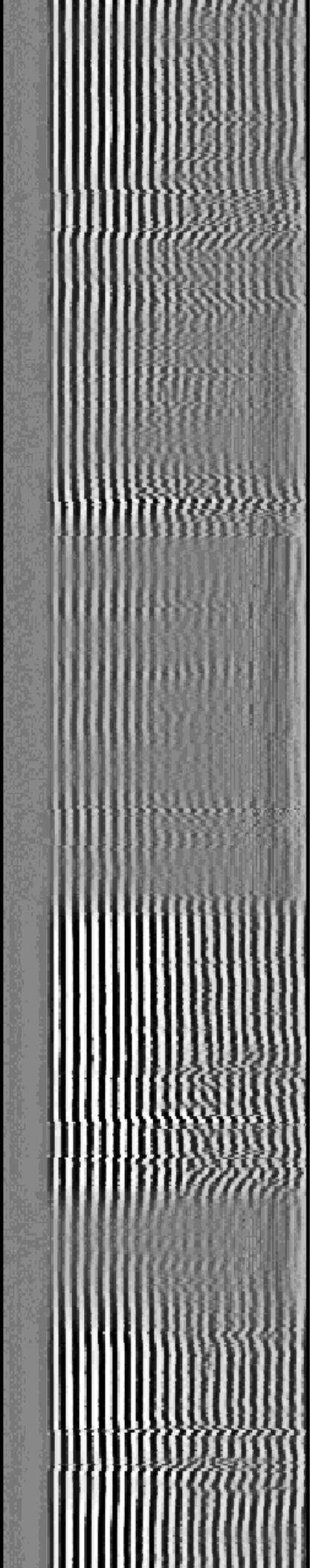
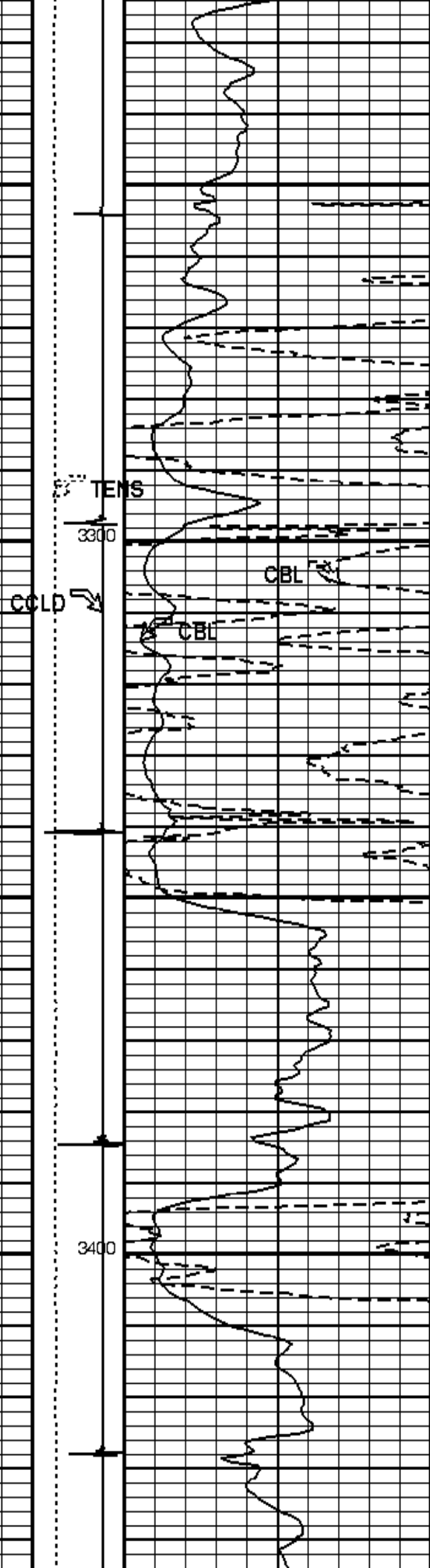
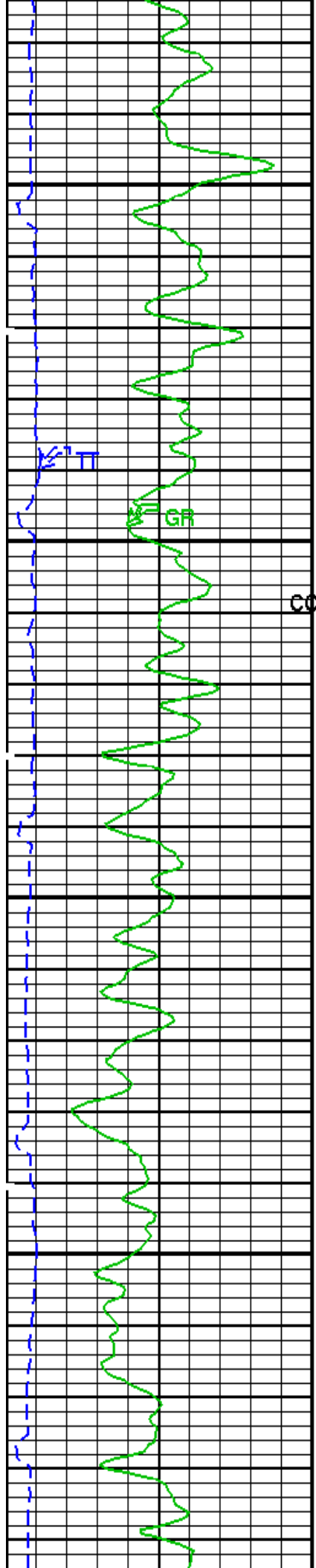


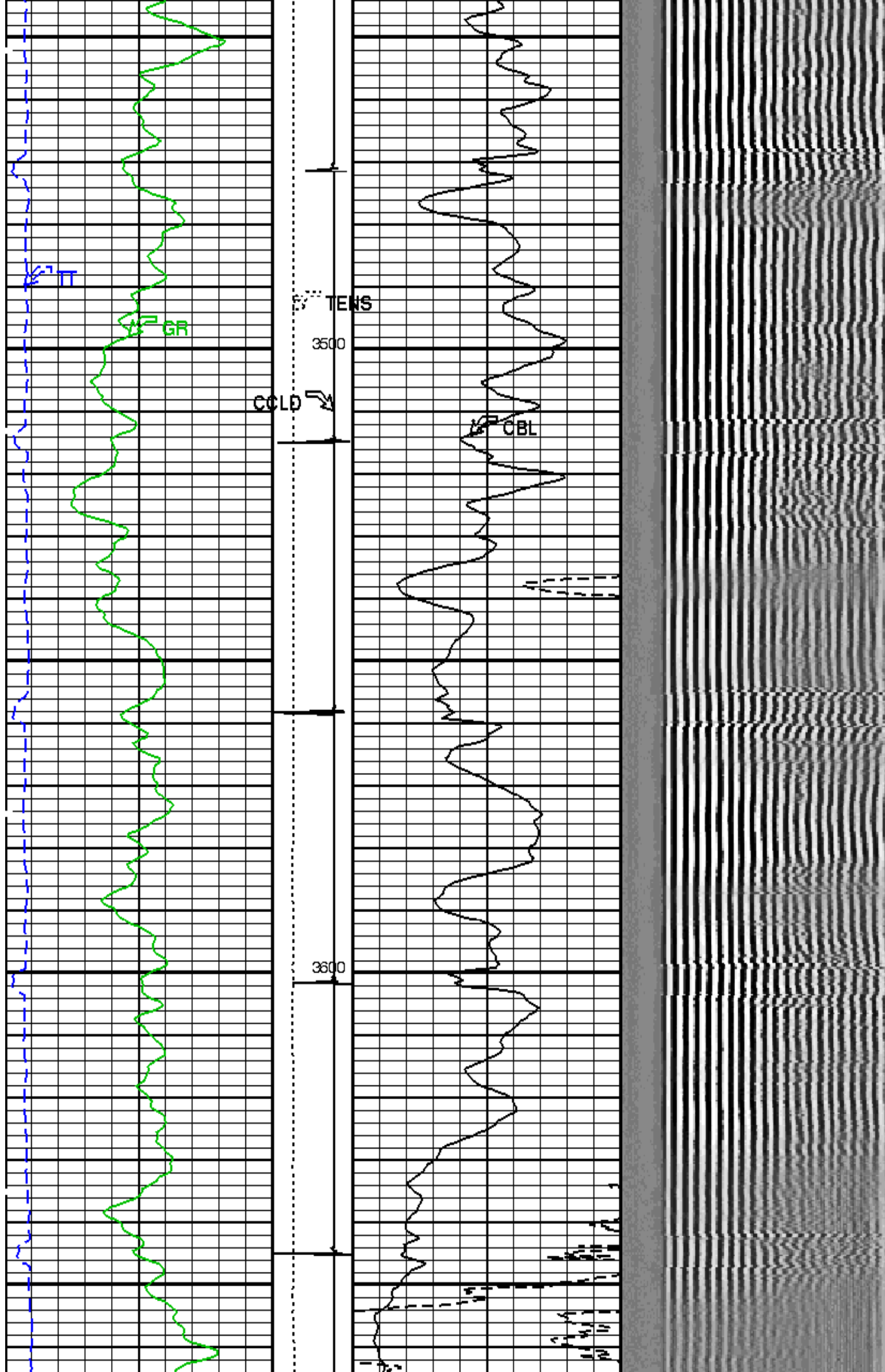




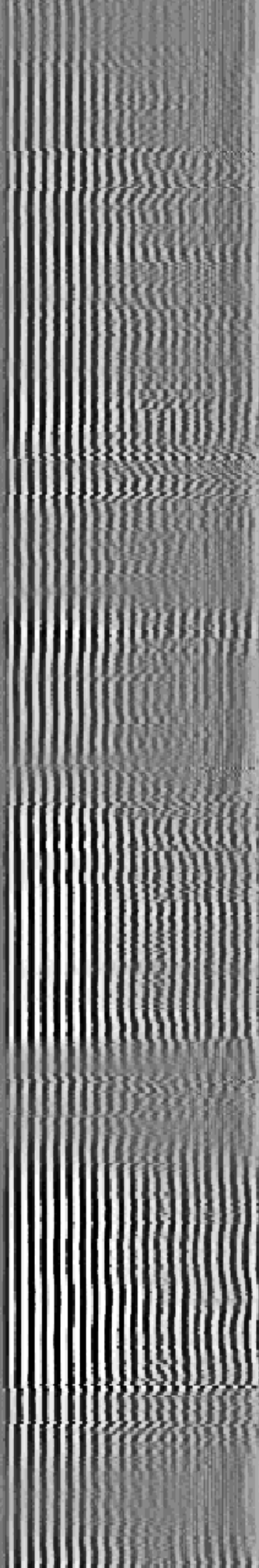
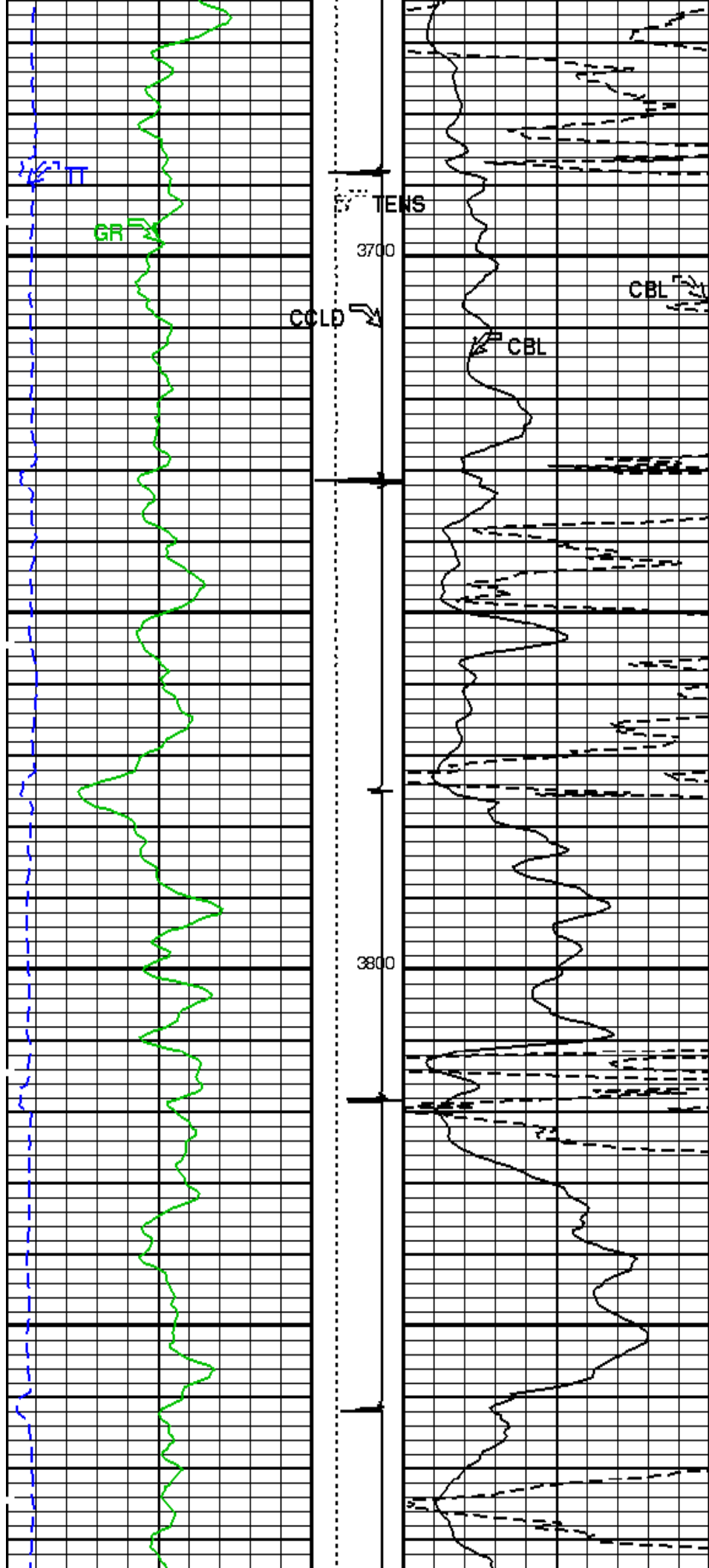


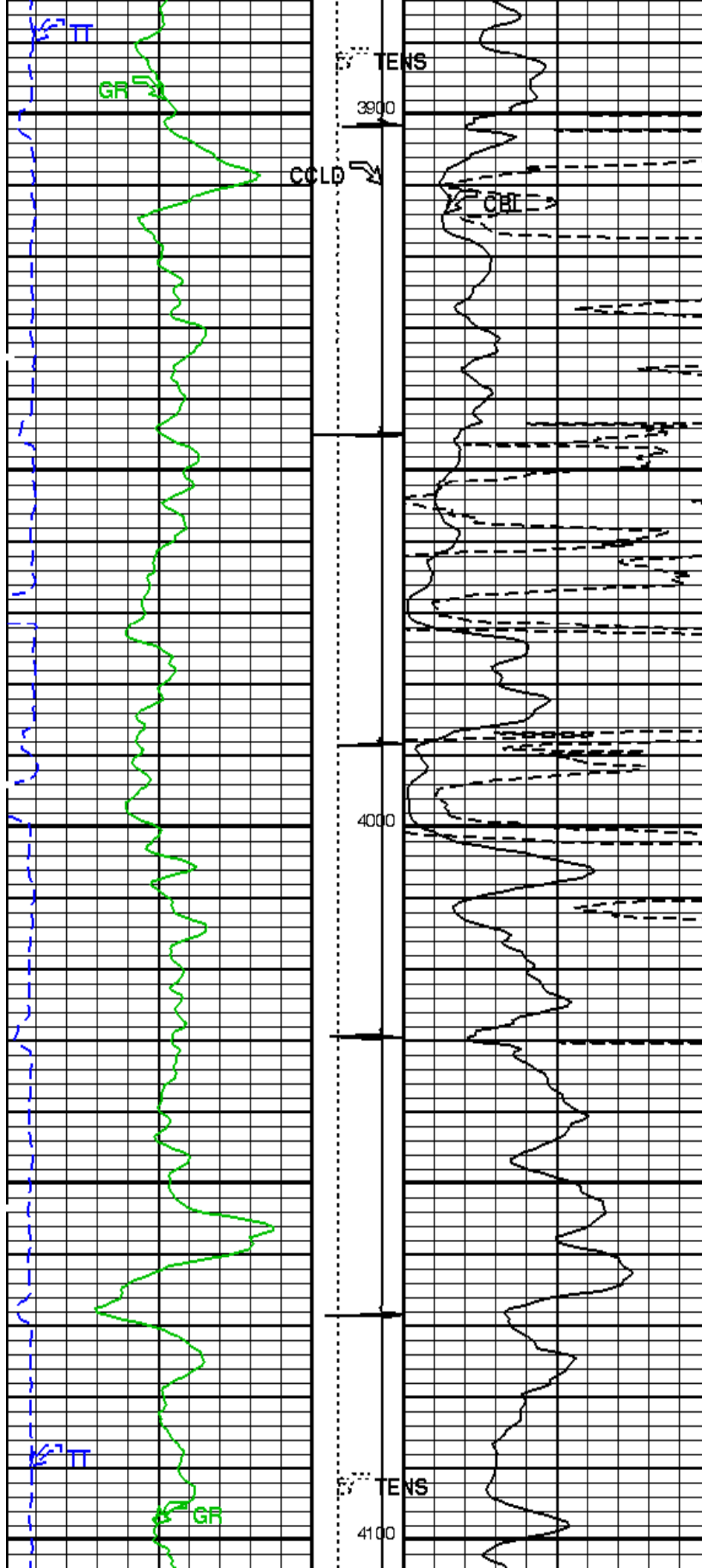


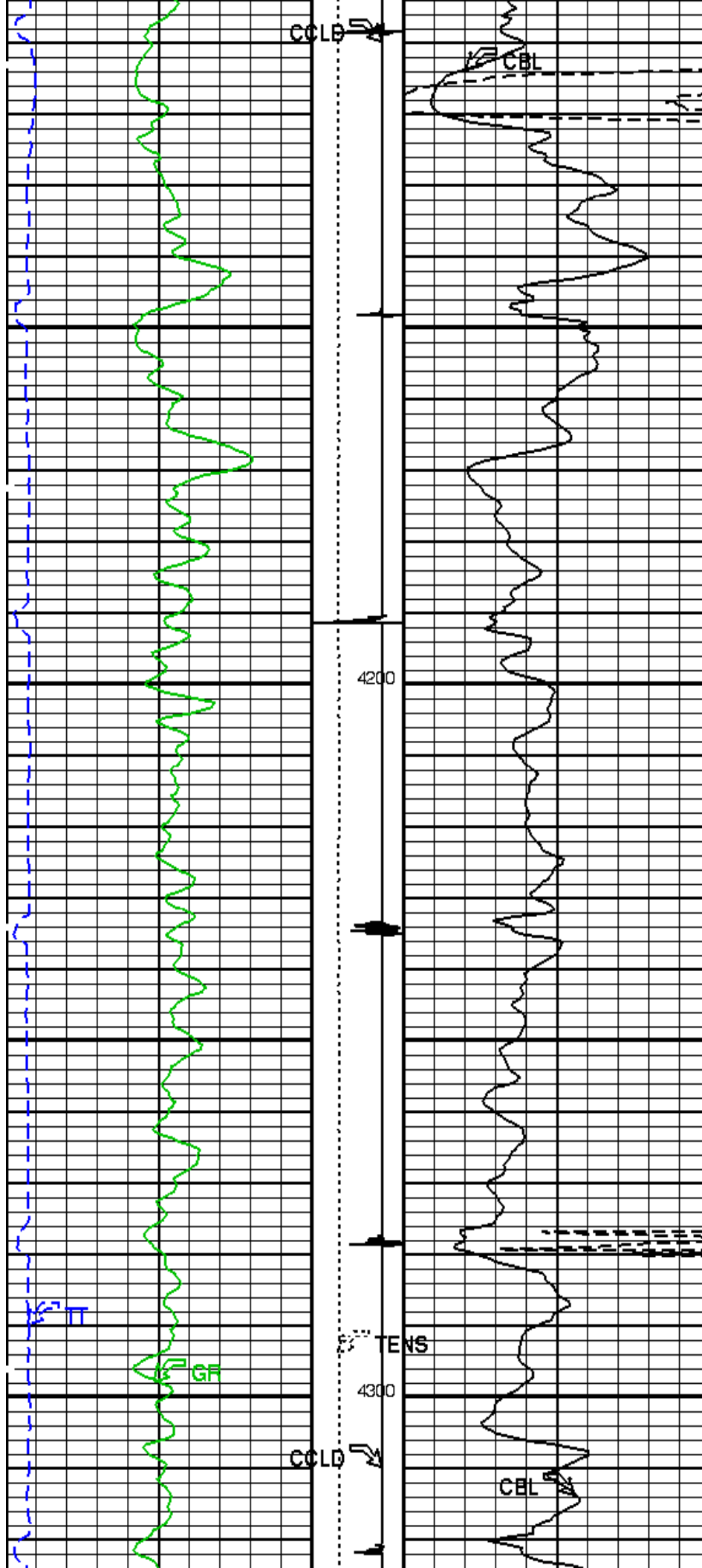


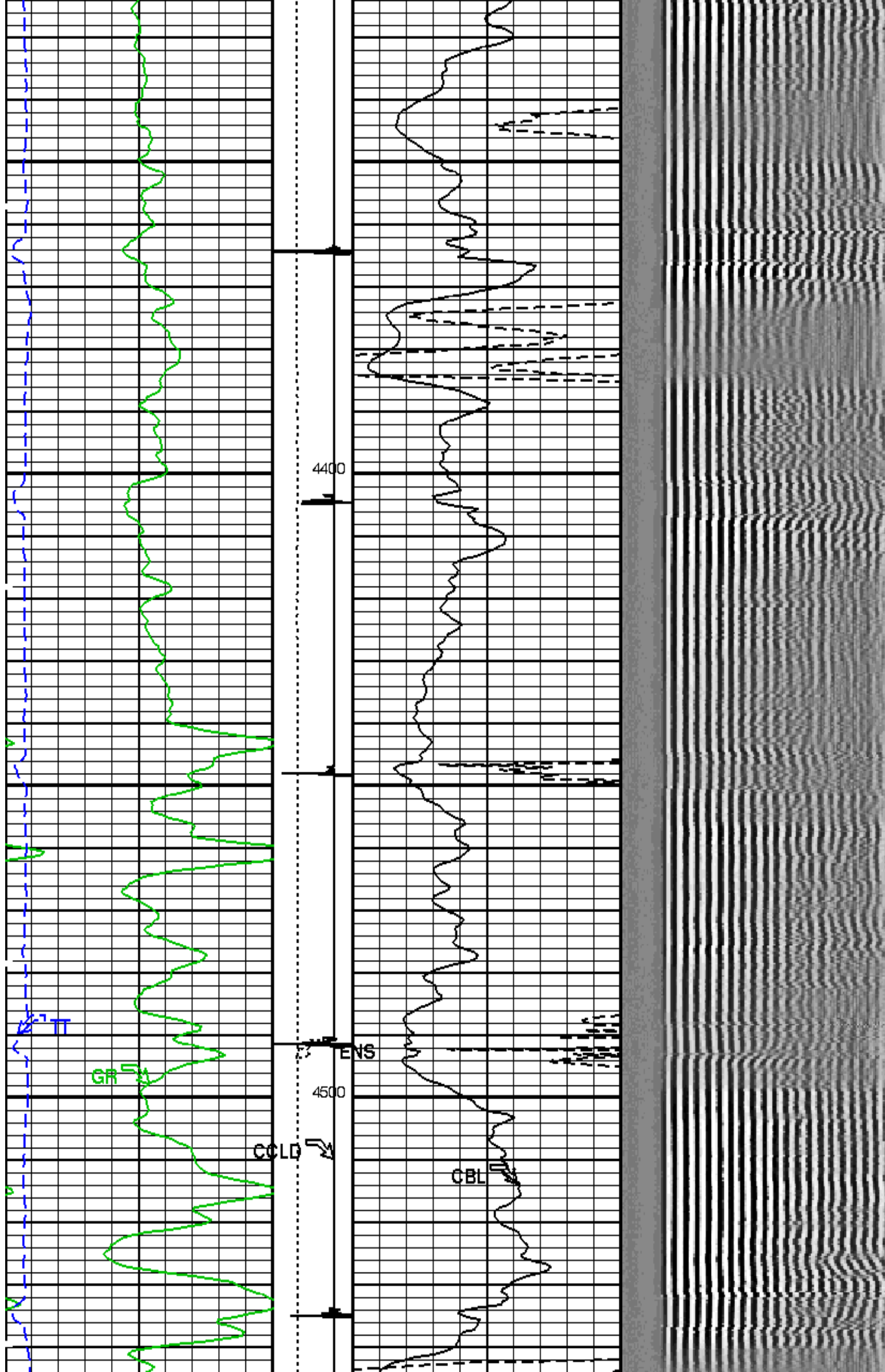




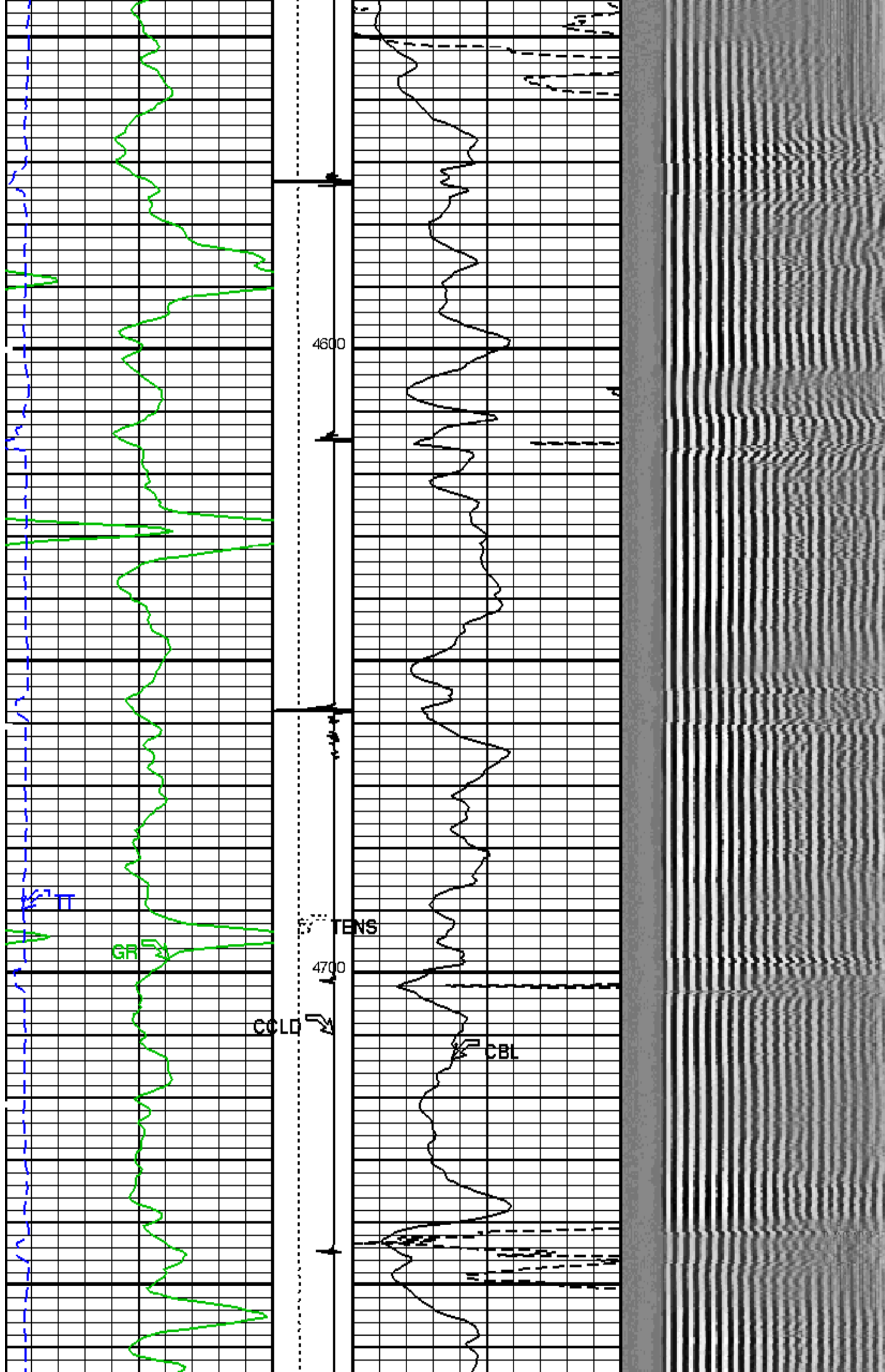


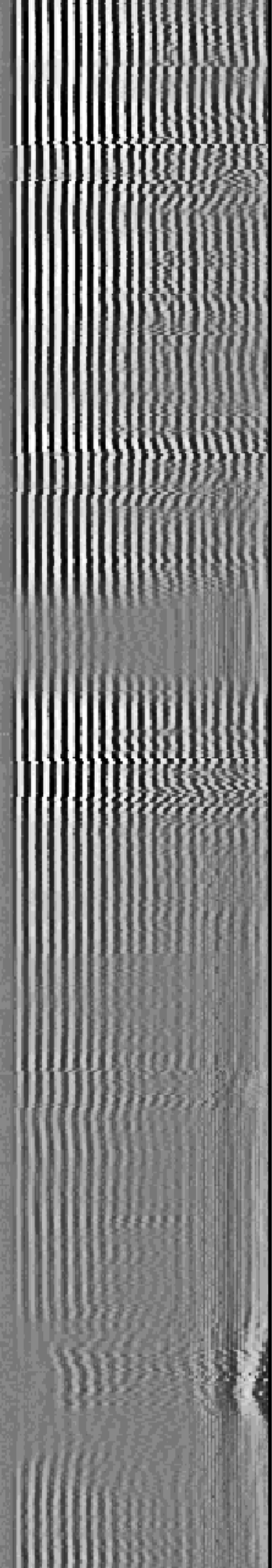
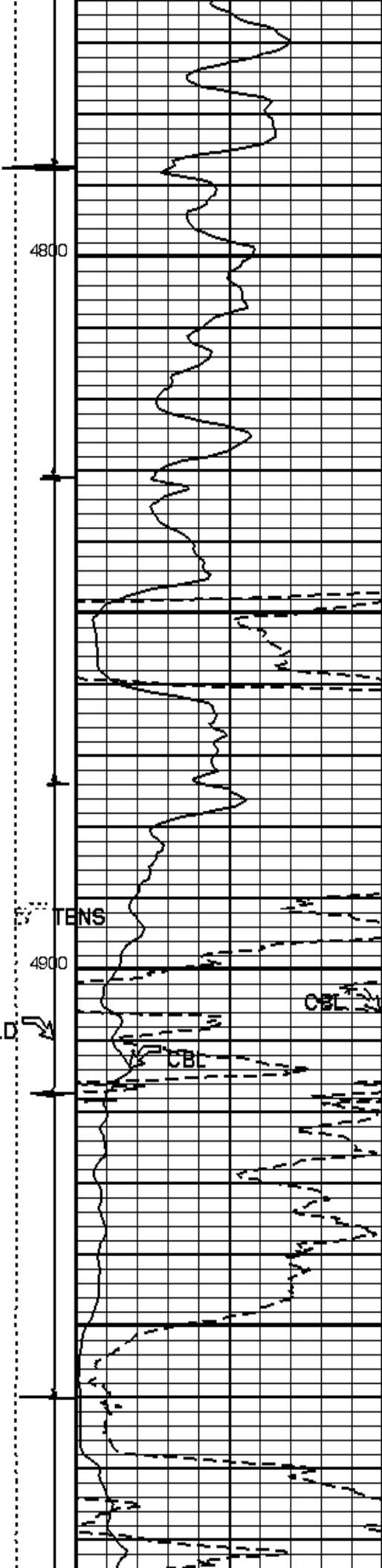
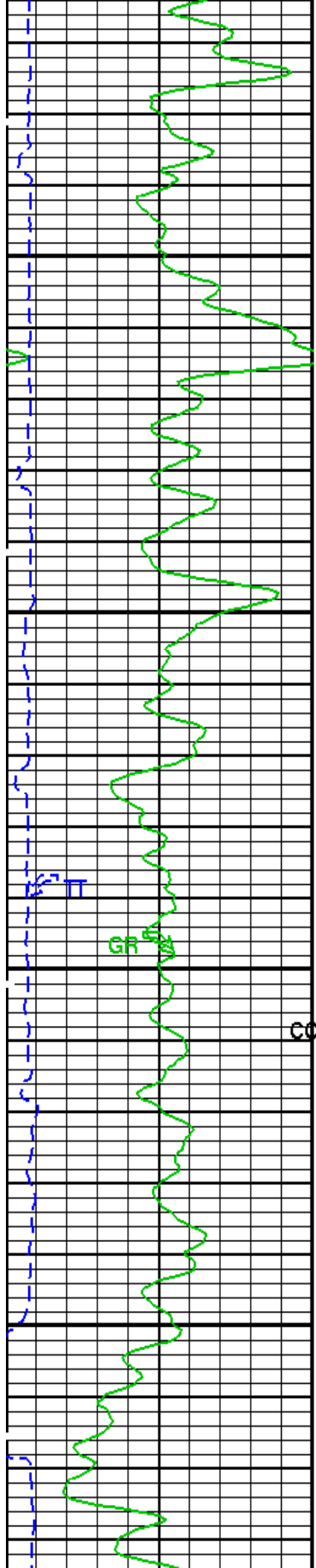


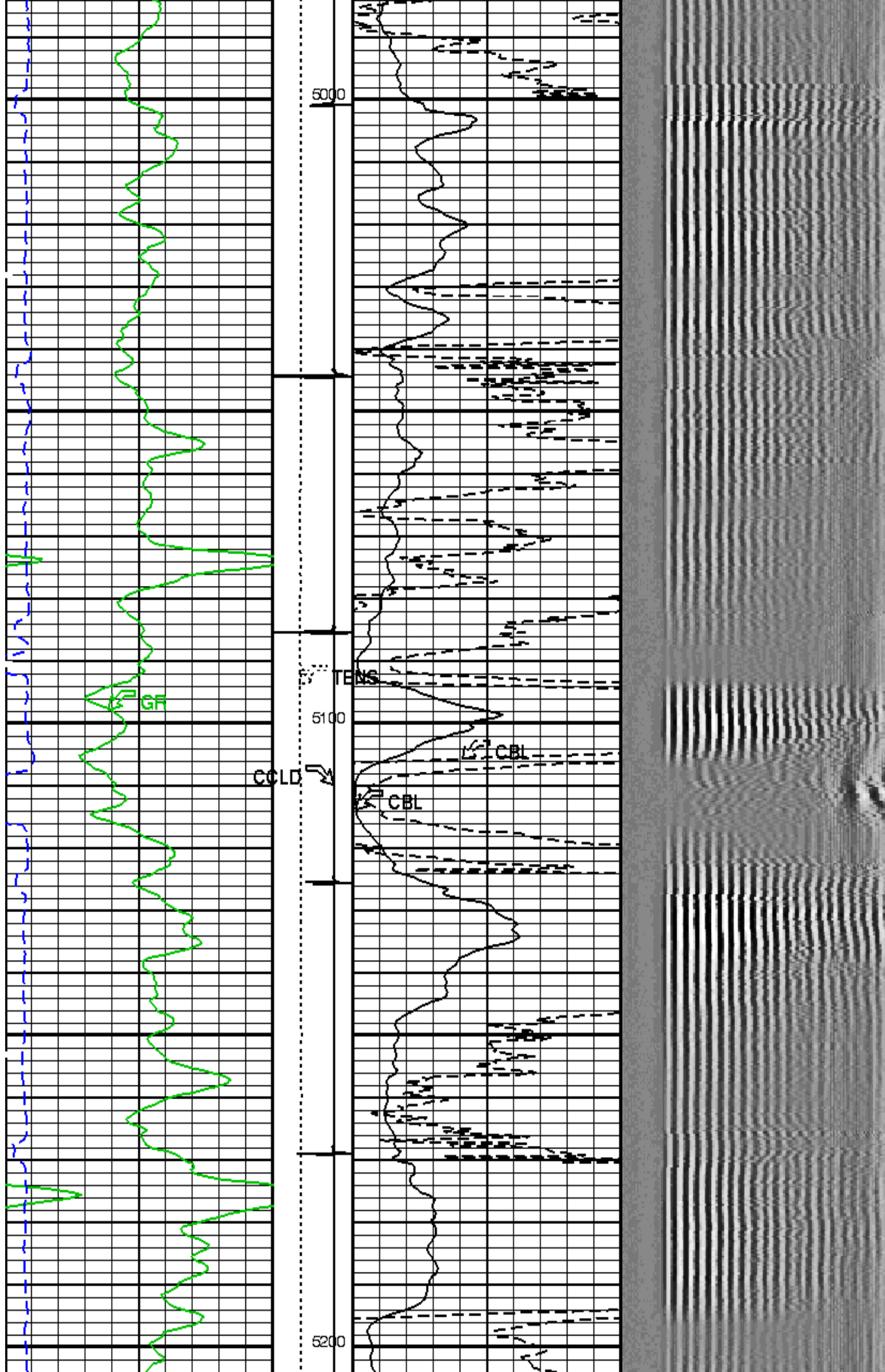


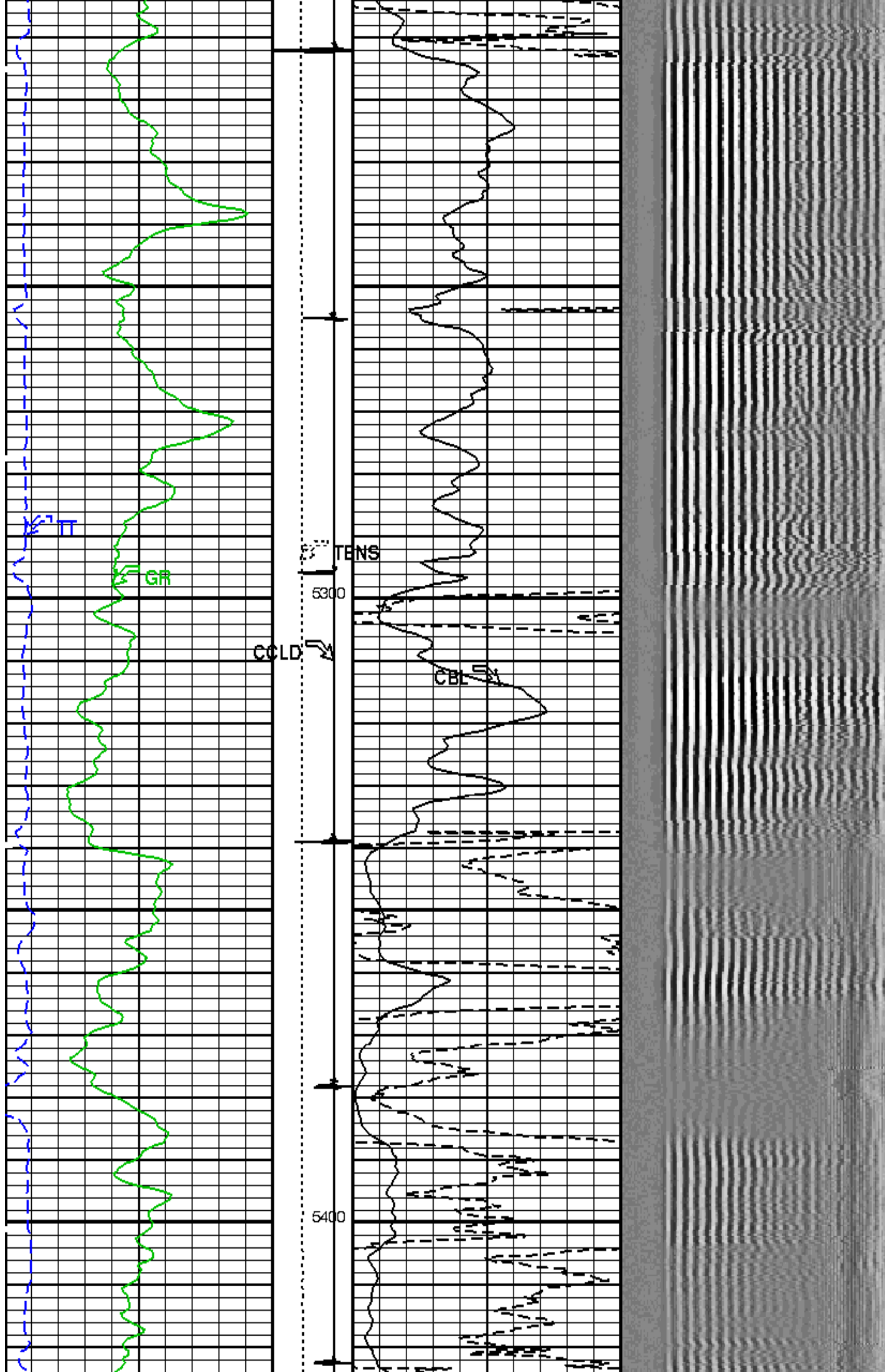




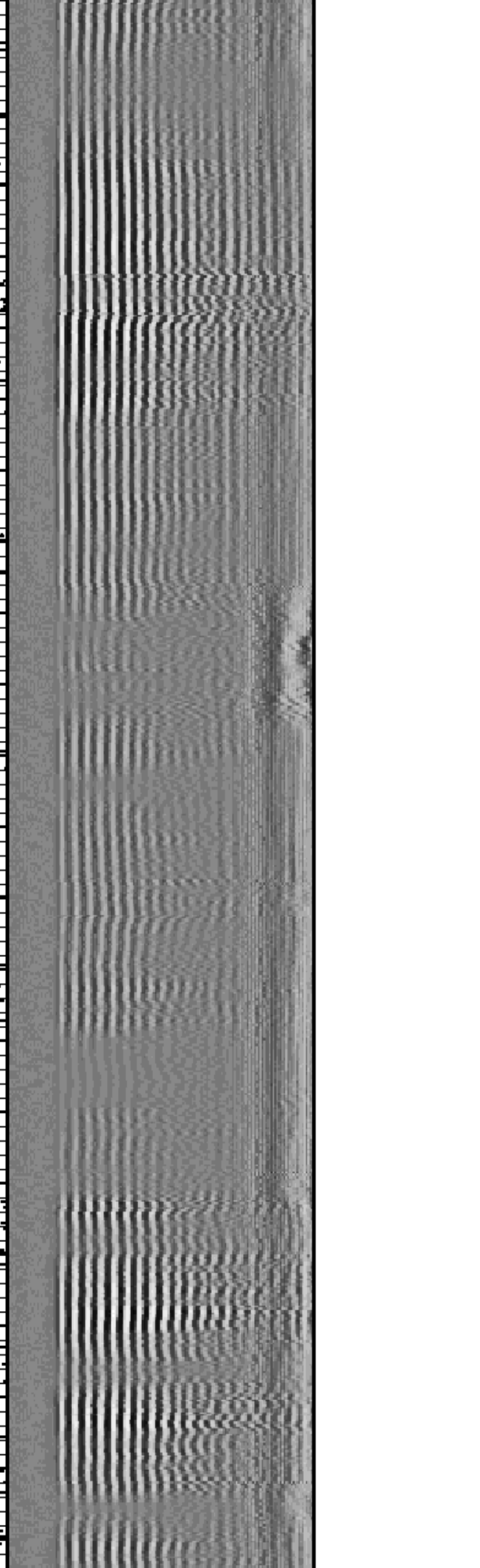
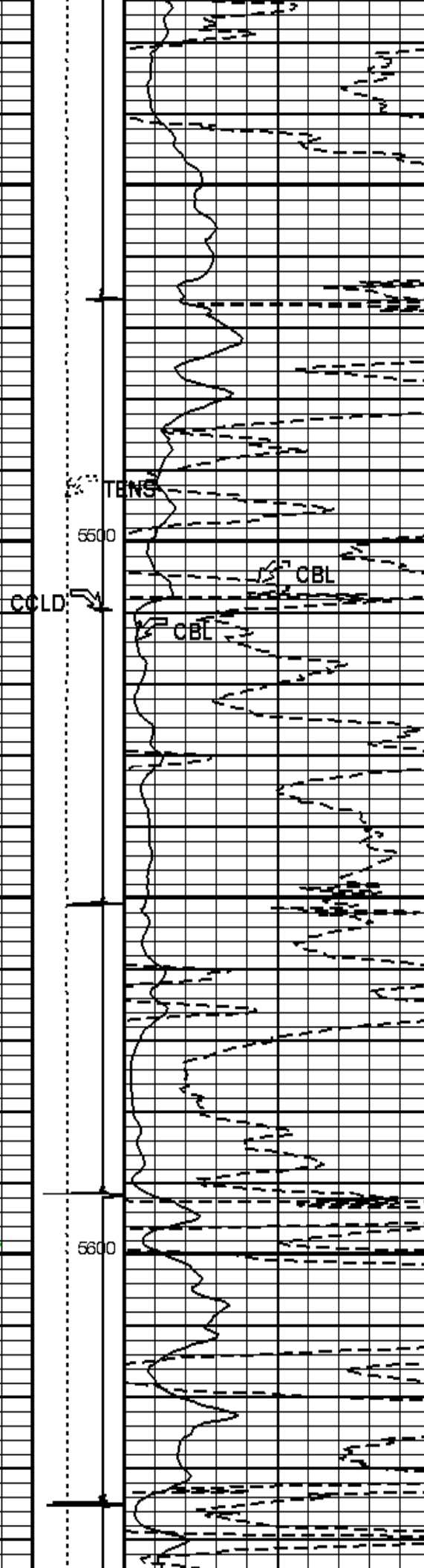
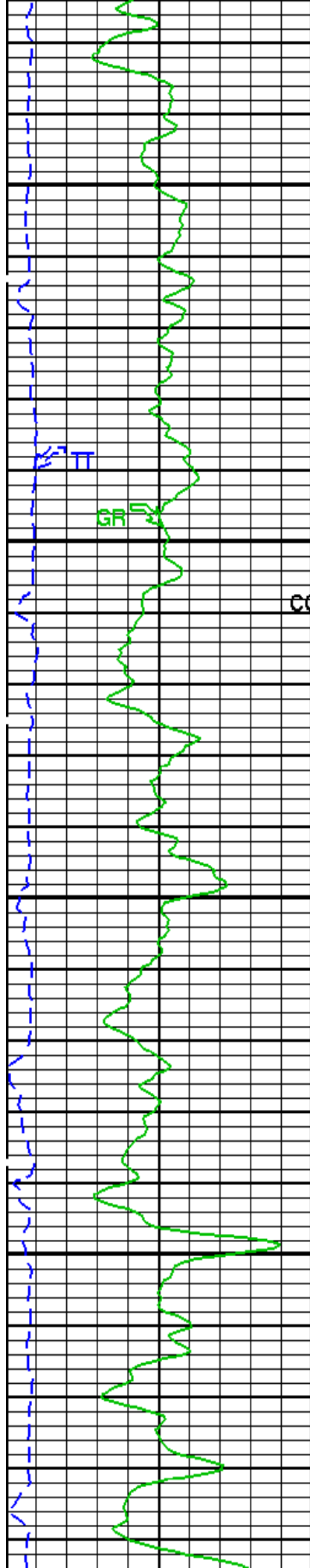


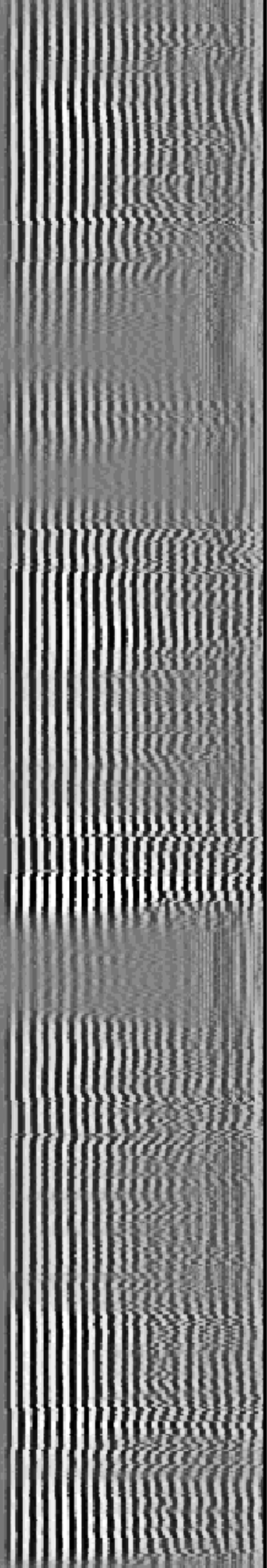
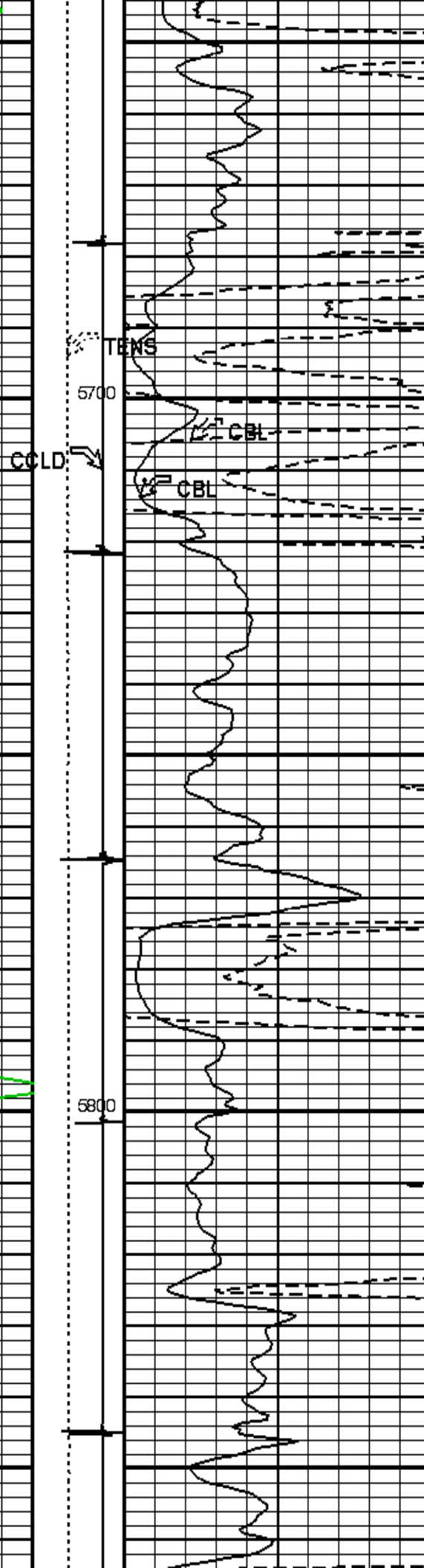
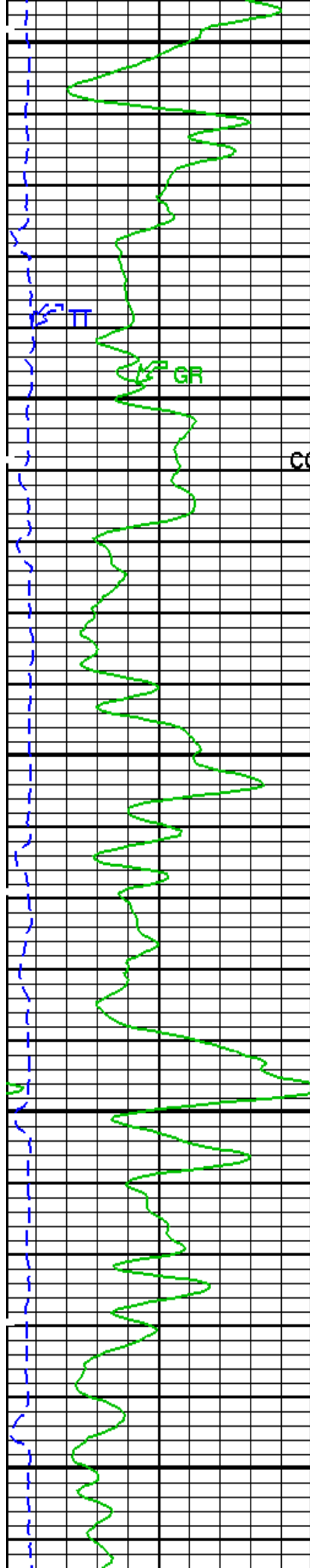


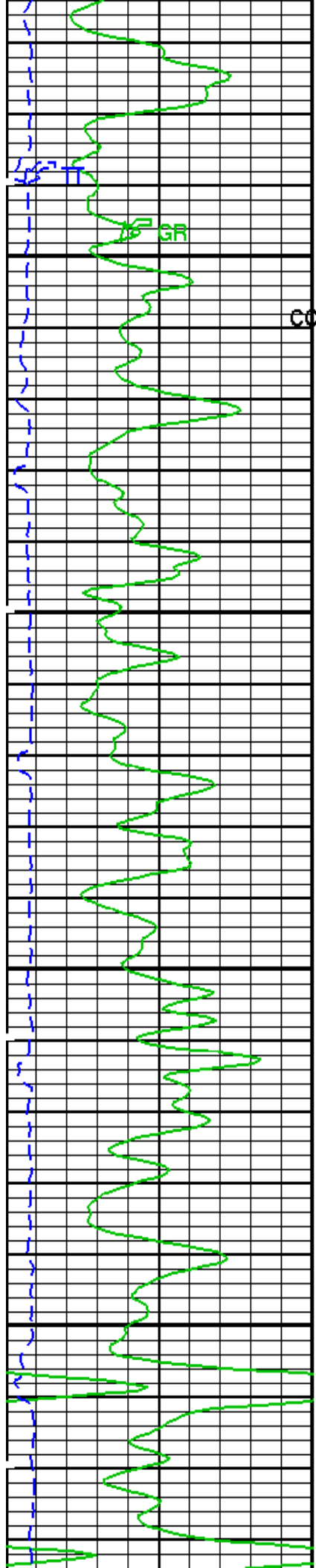




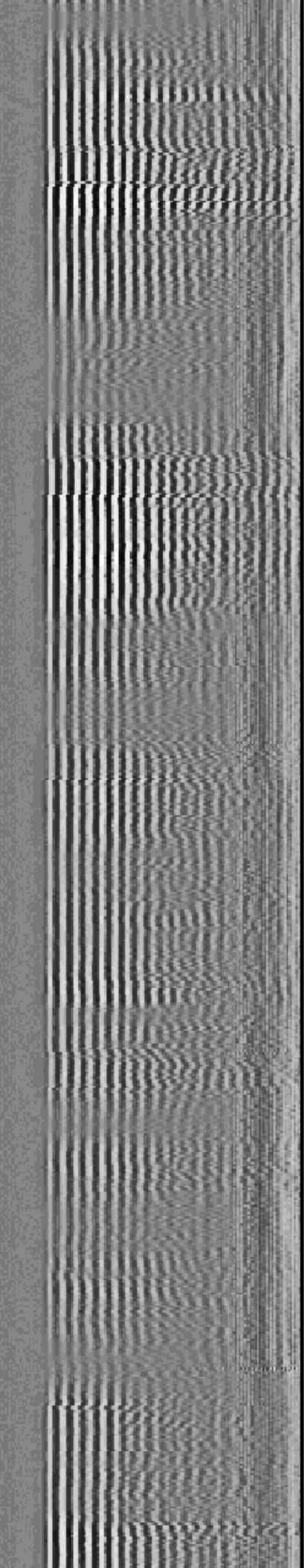
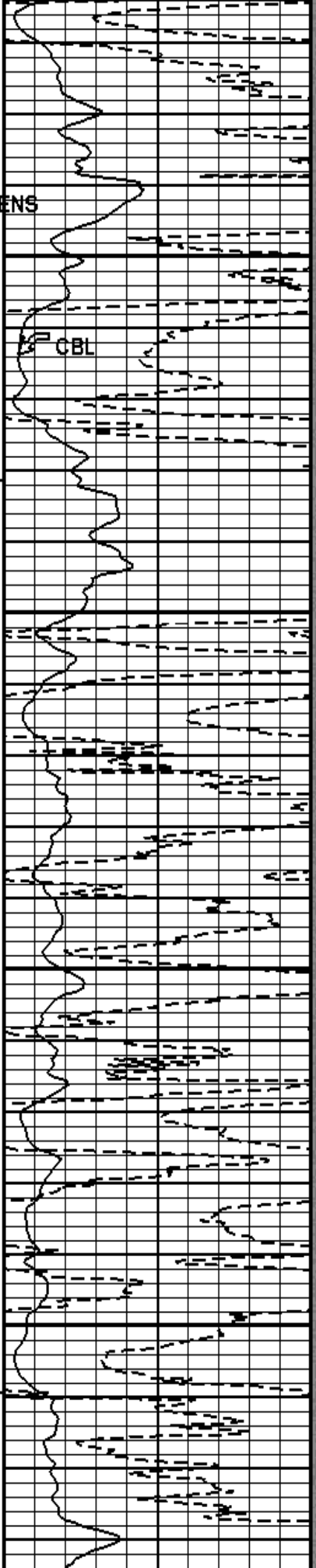


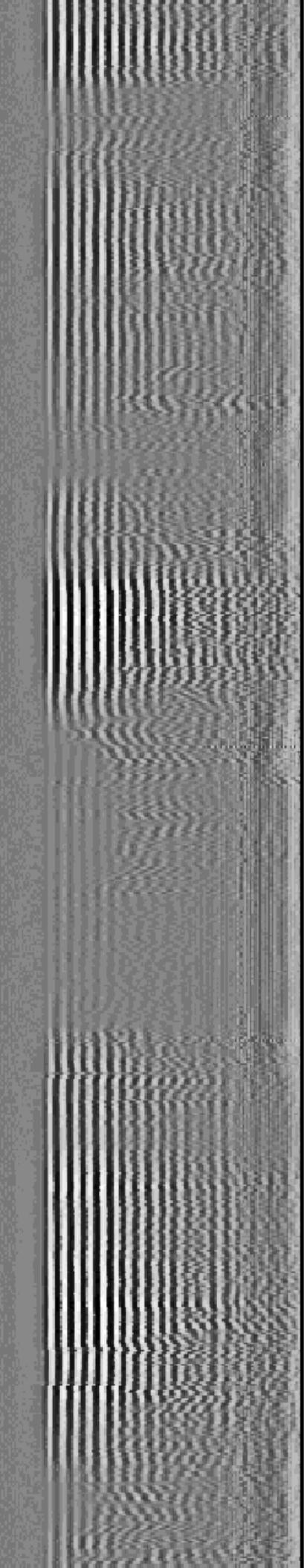
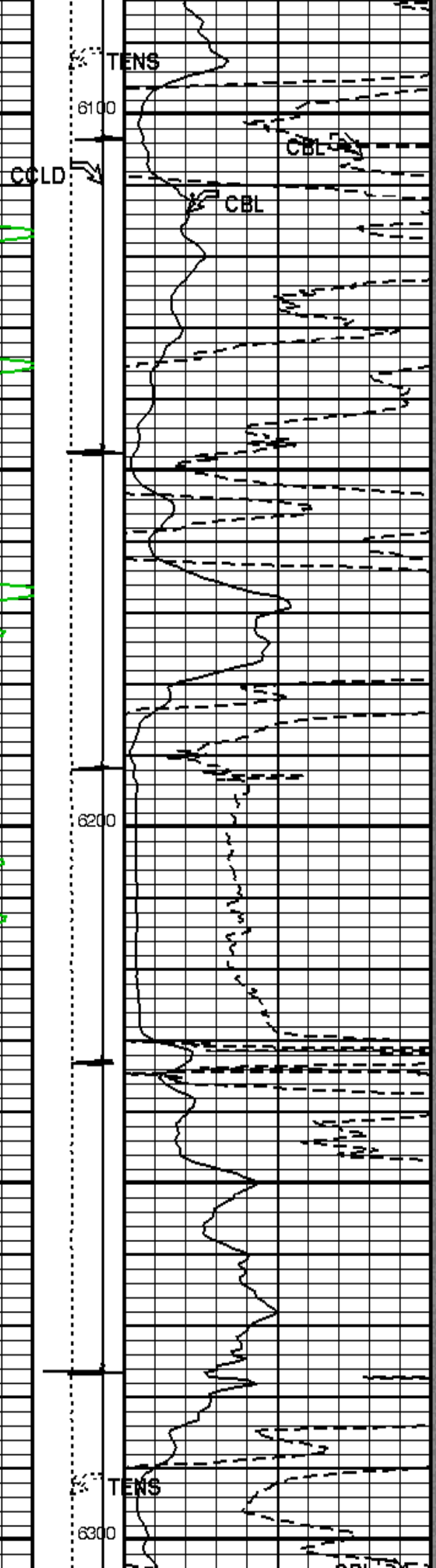
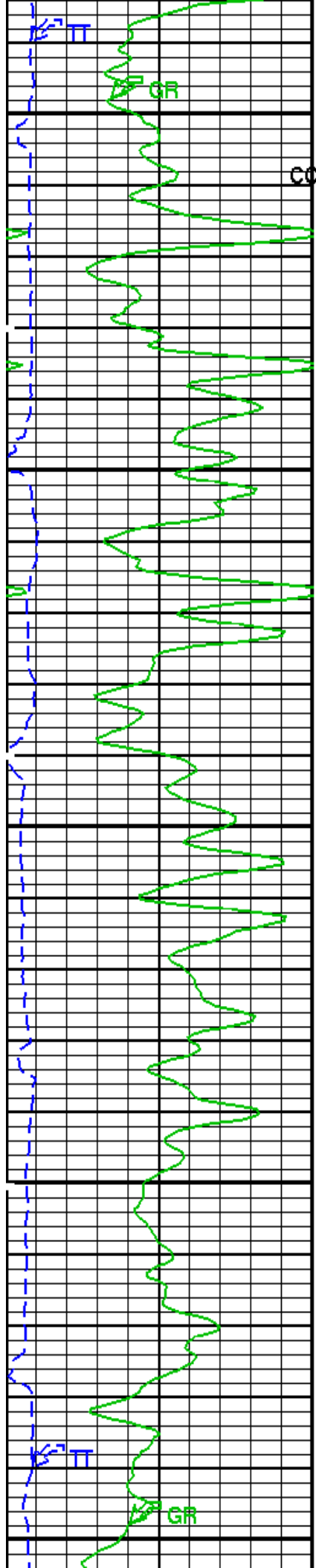




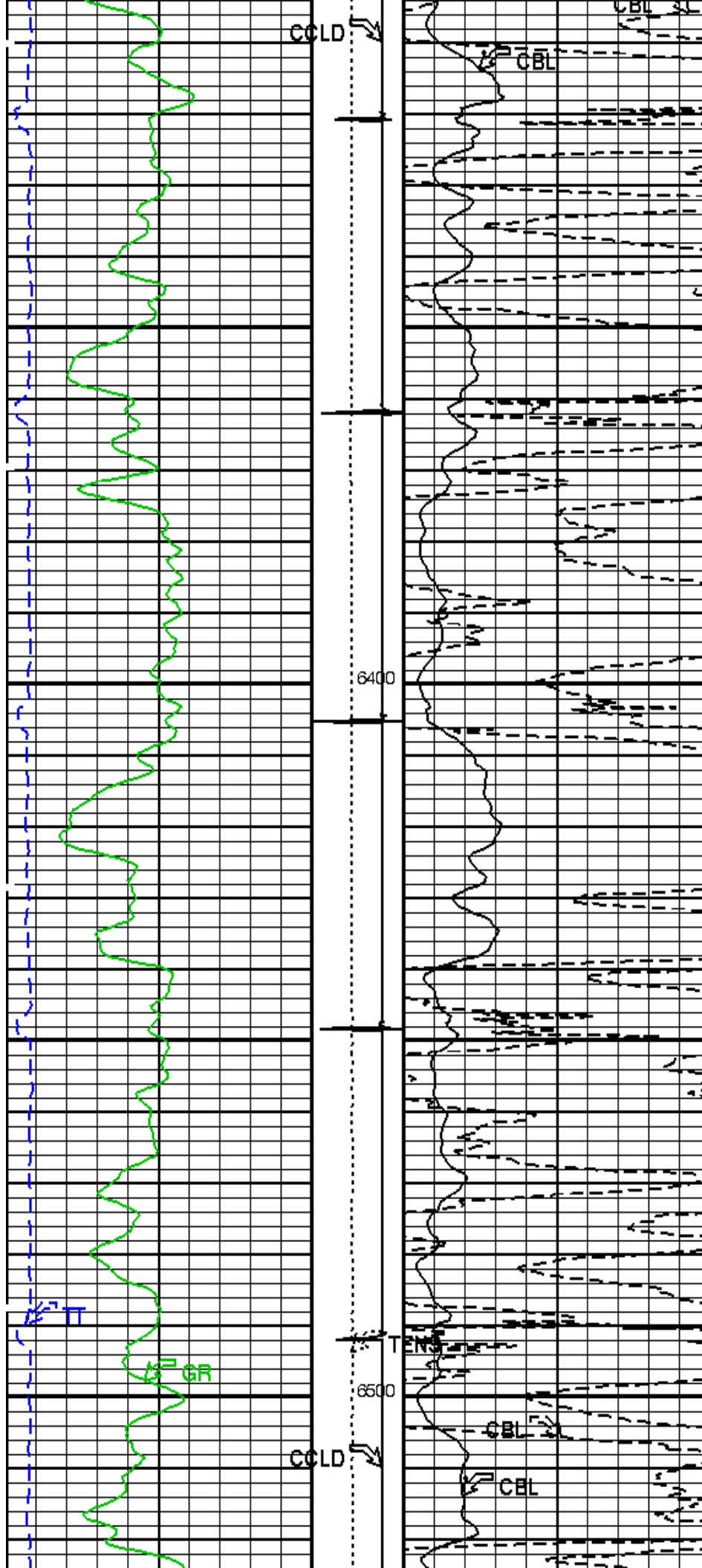


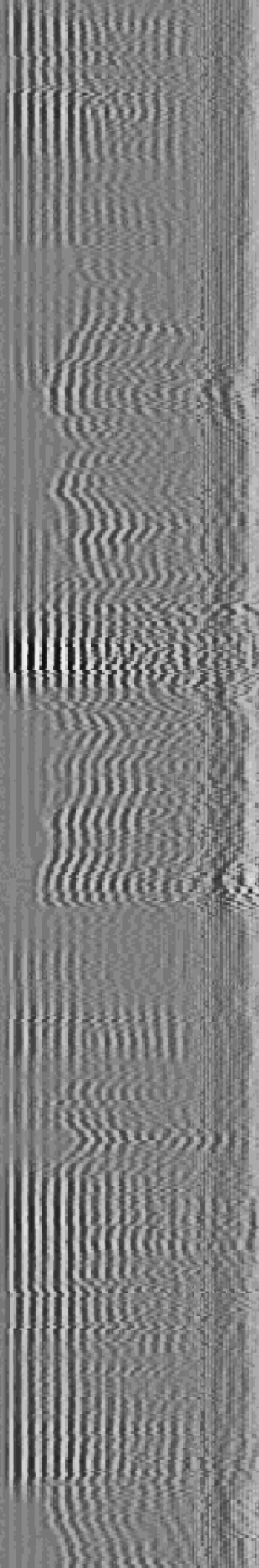
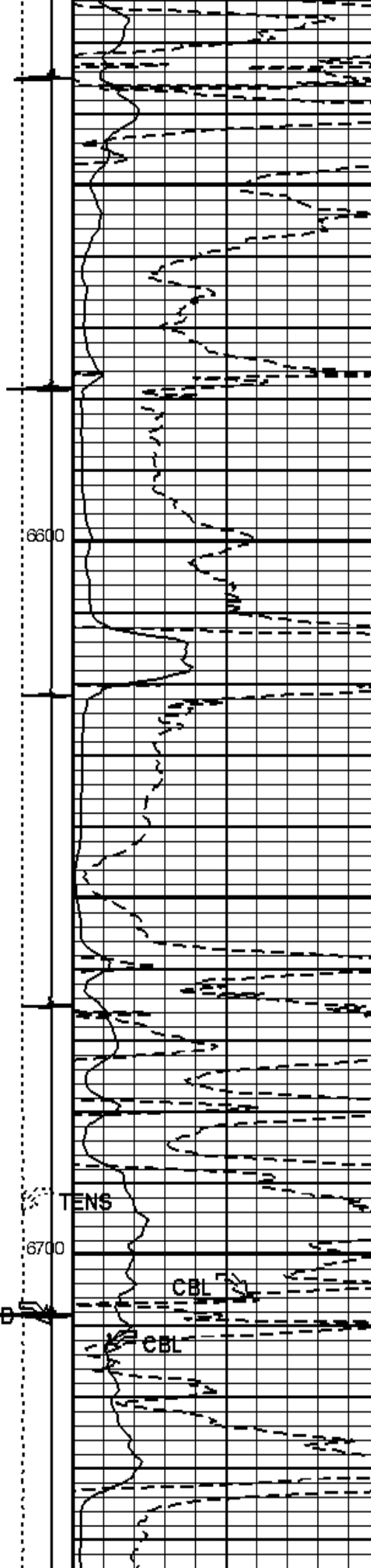
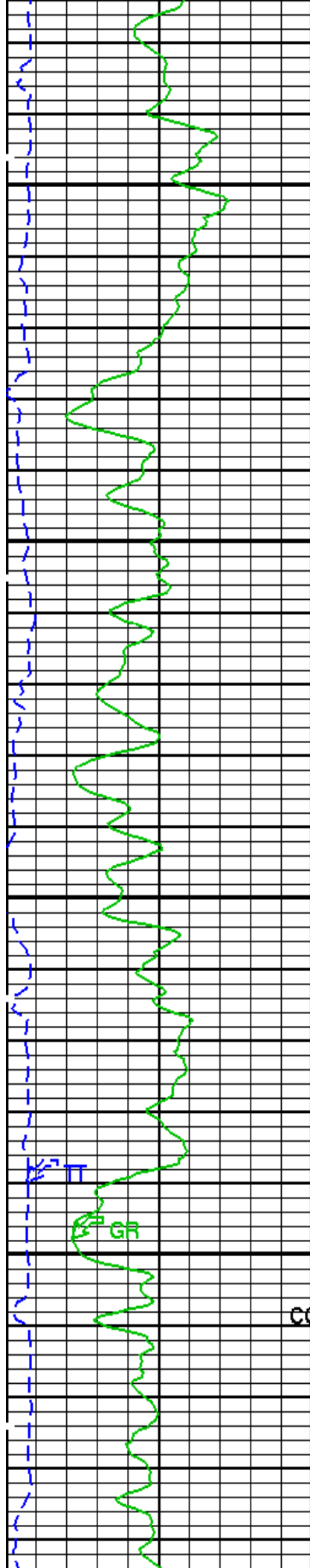
TENS  
5900  
CCLD

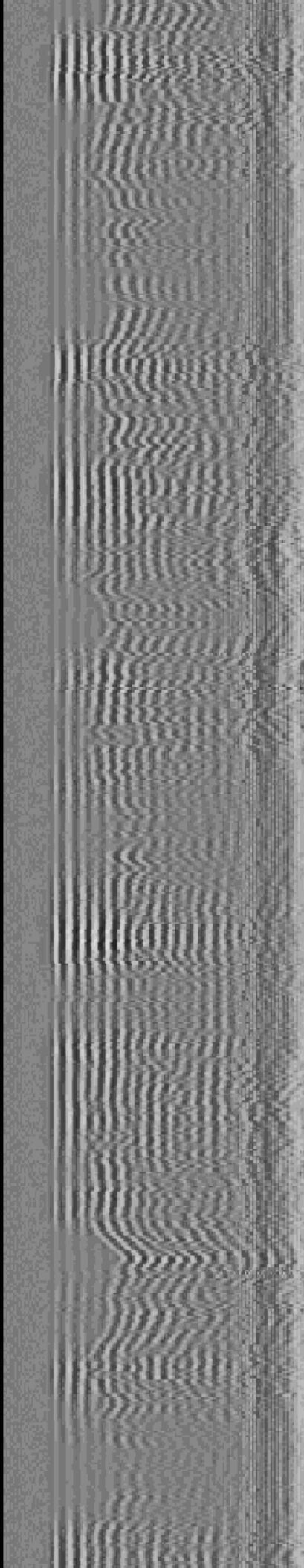
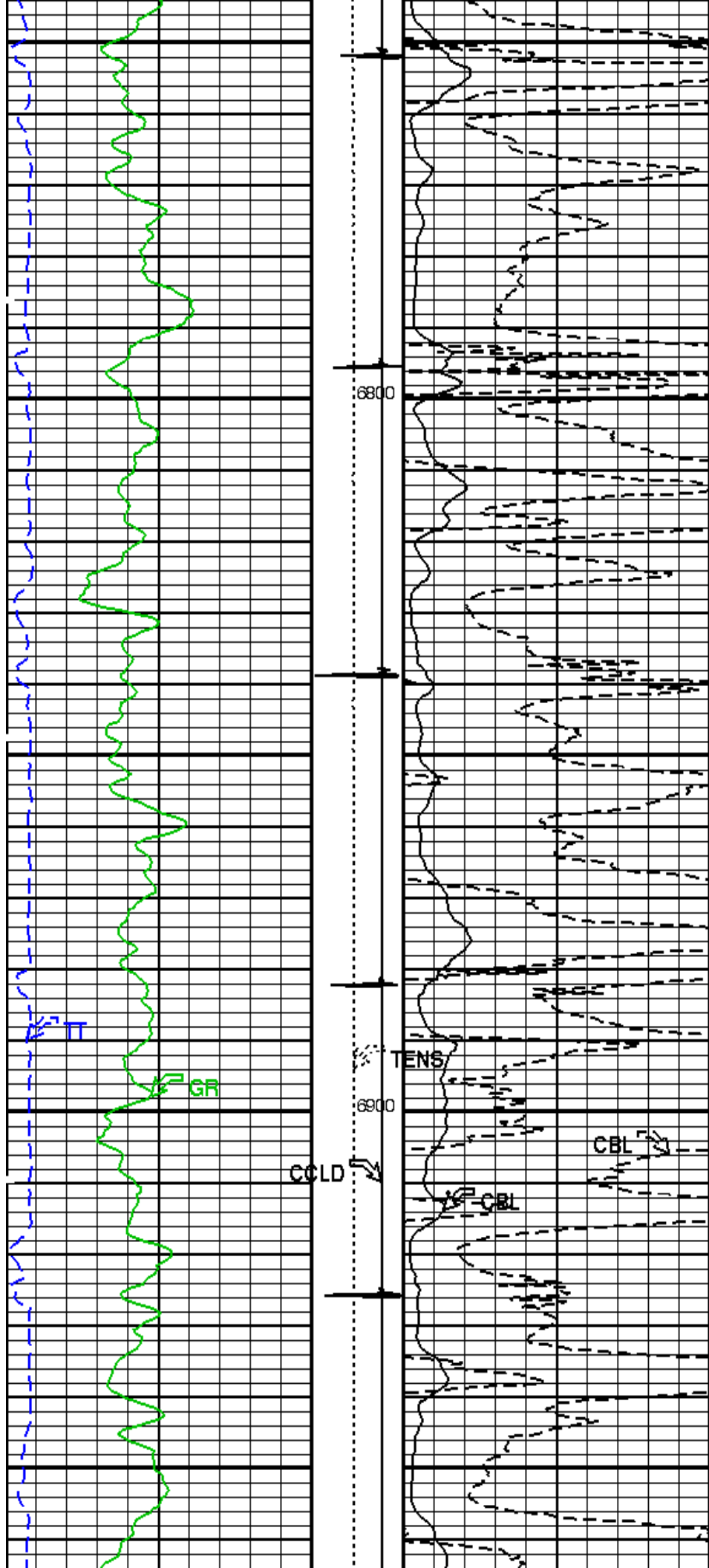


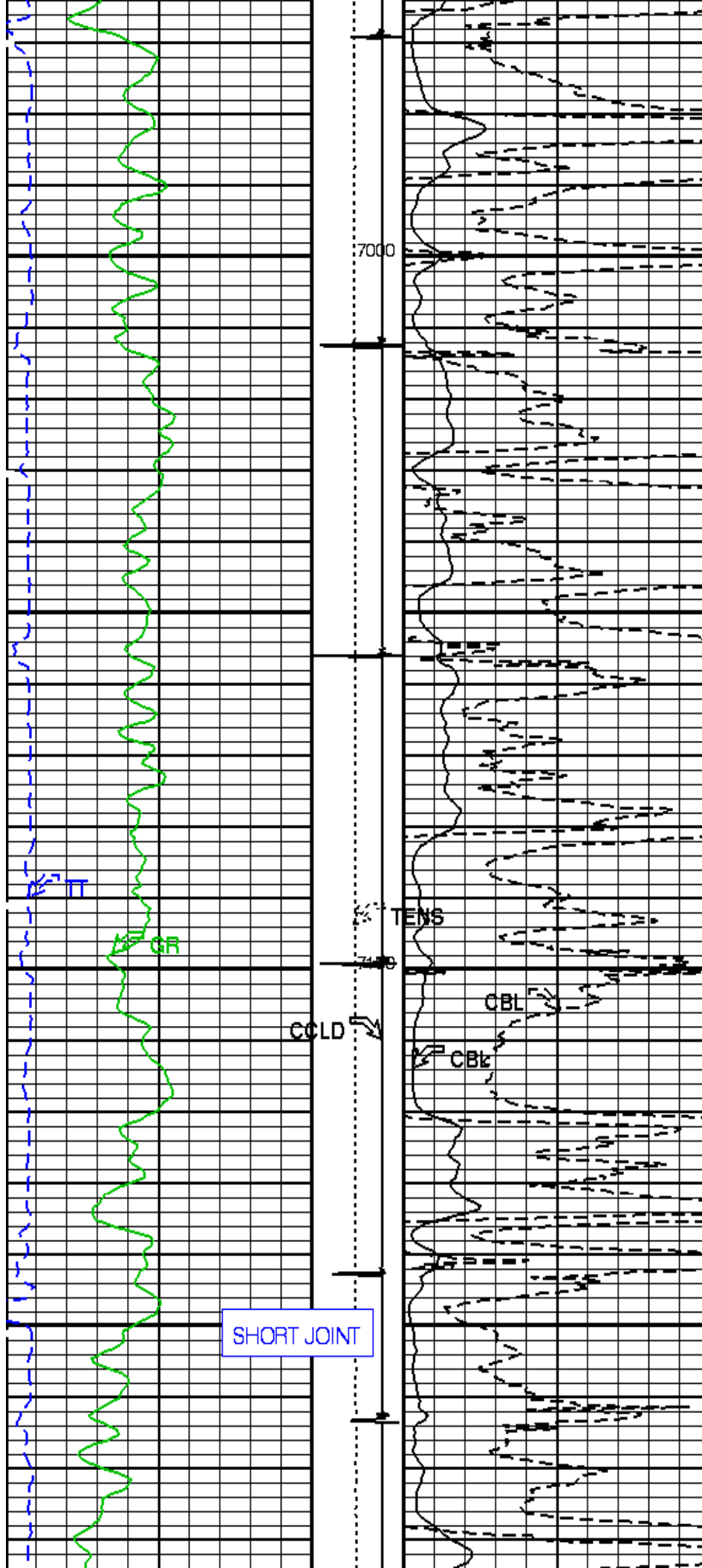




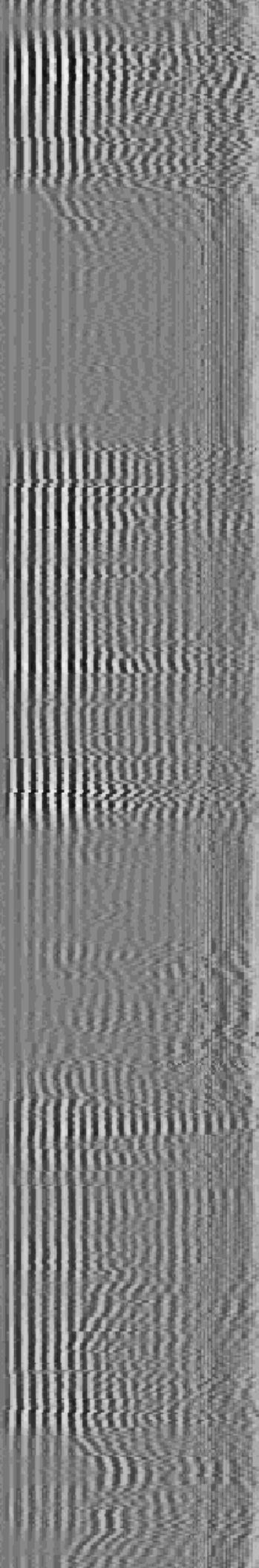
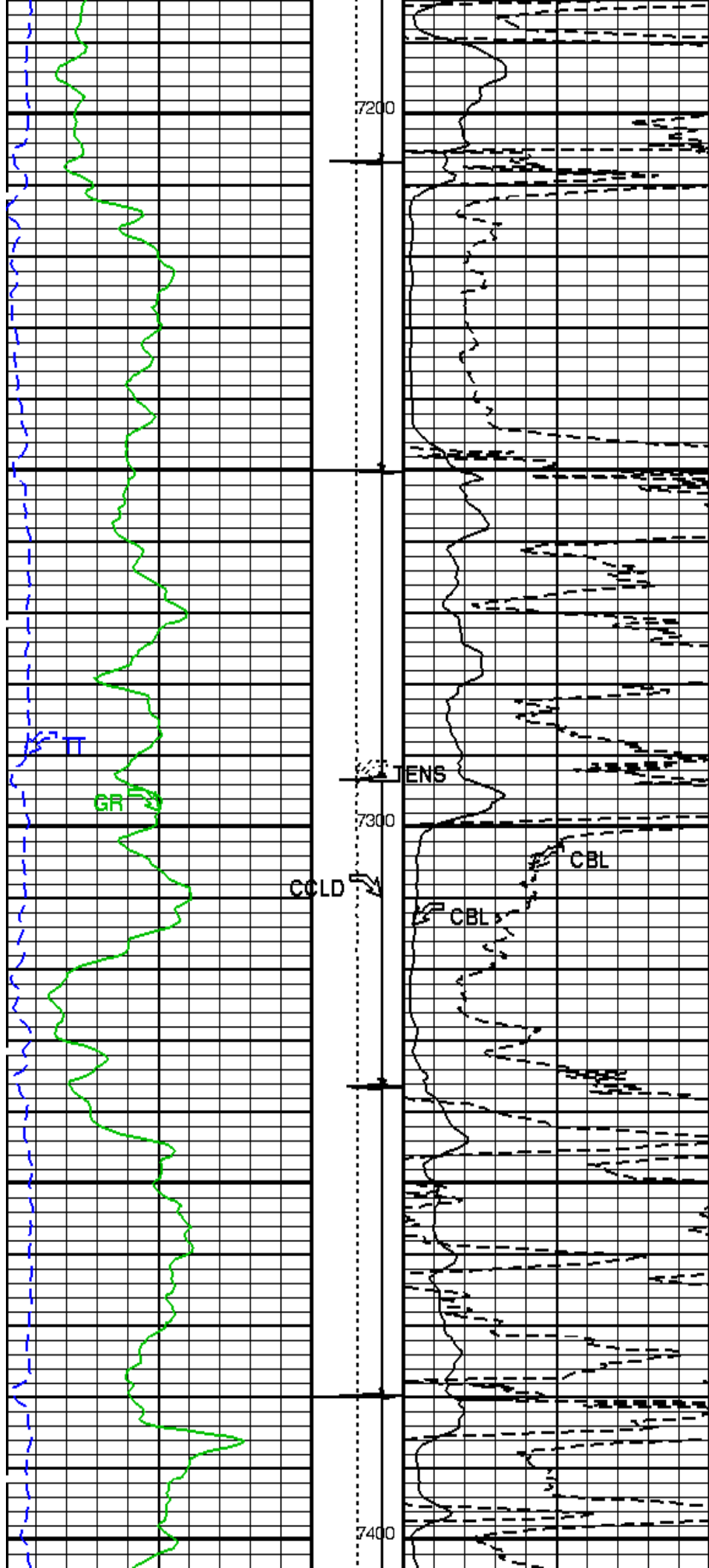


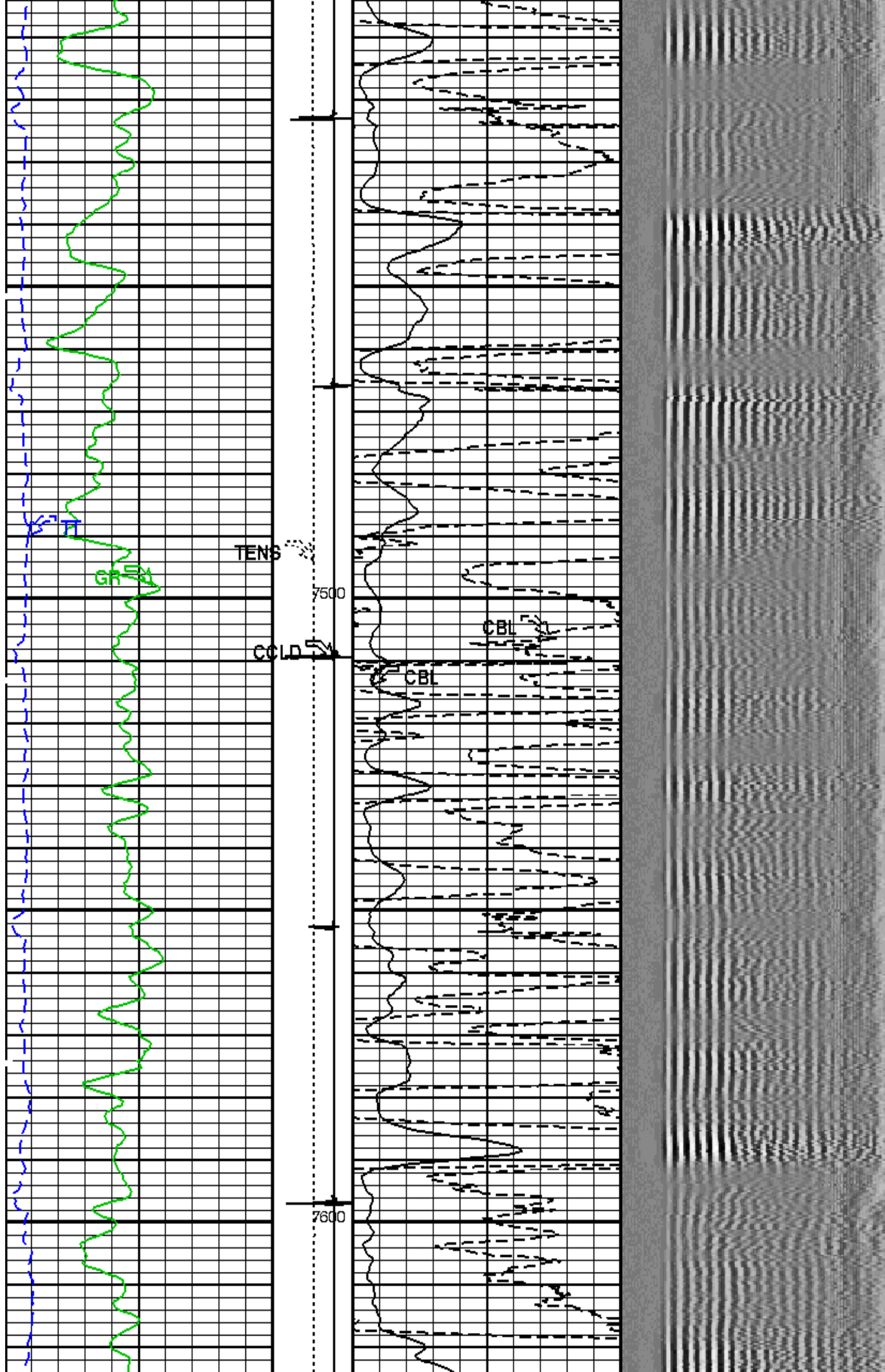


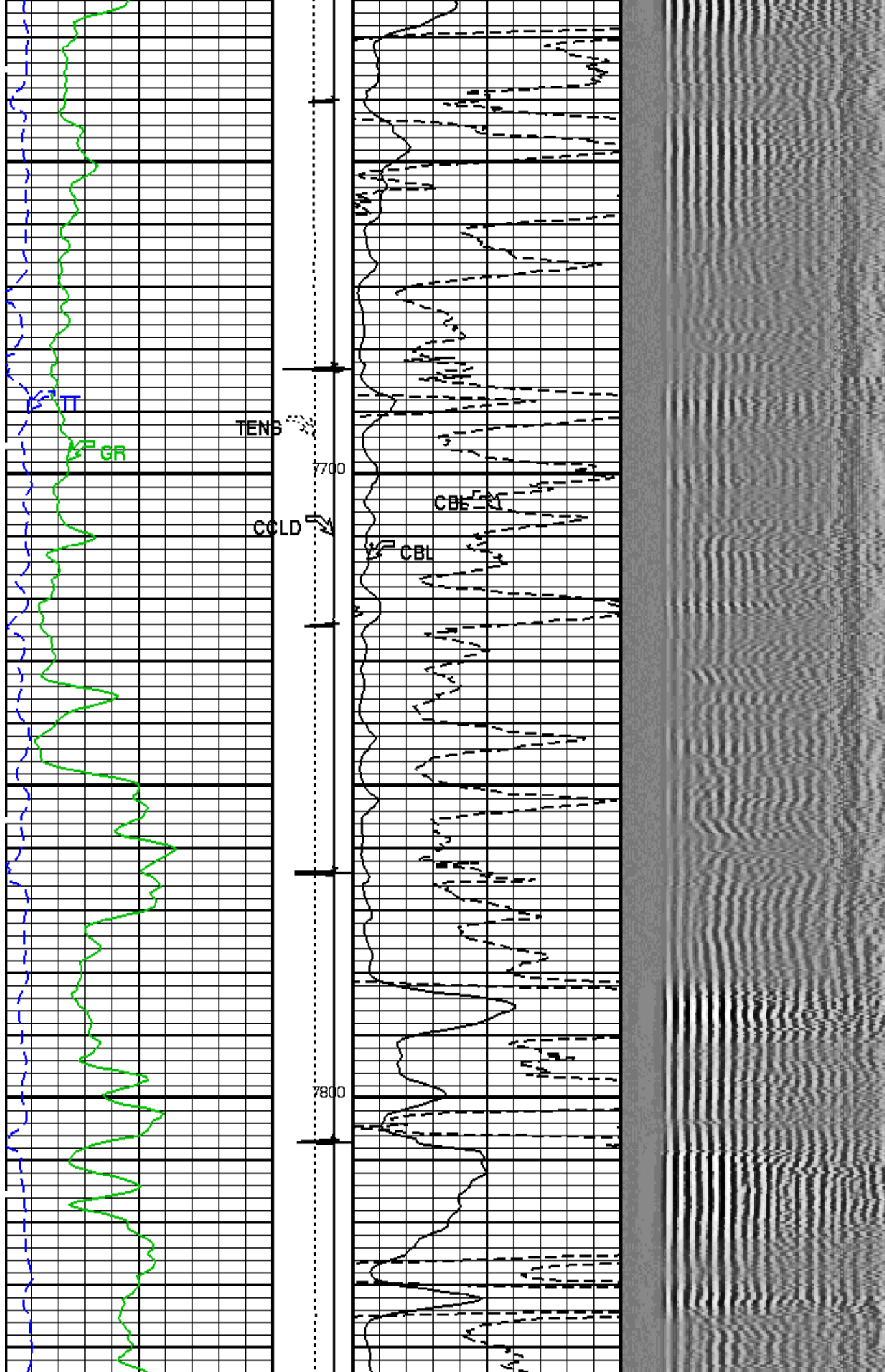


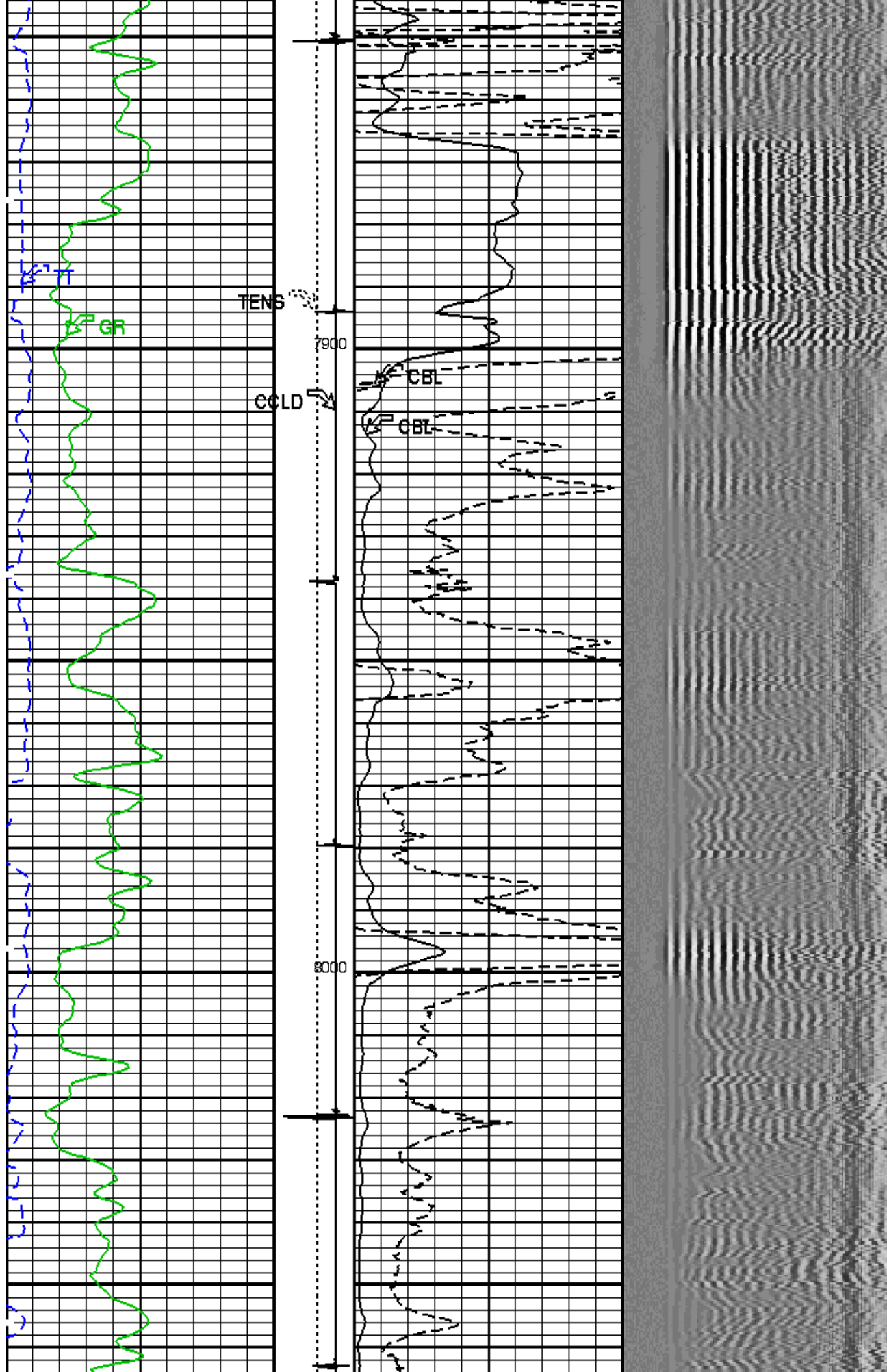




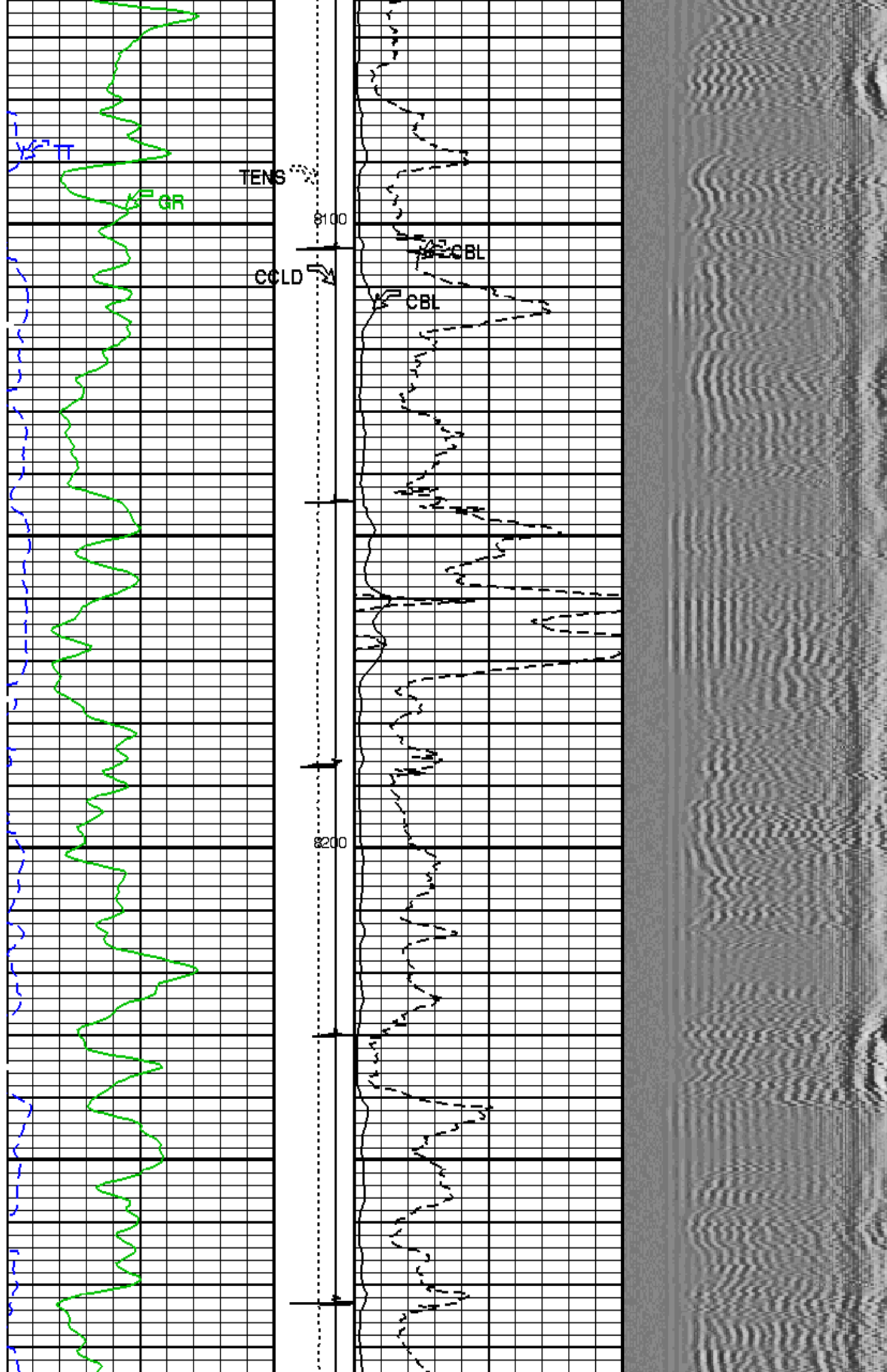


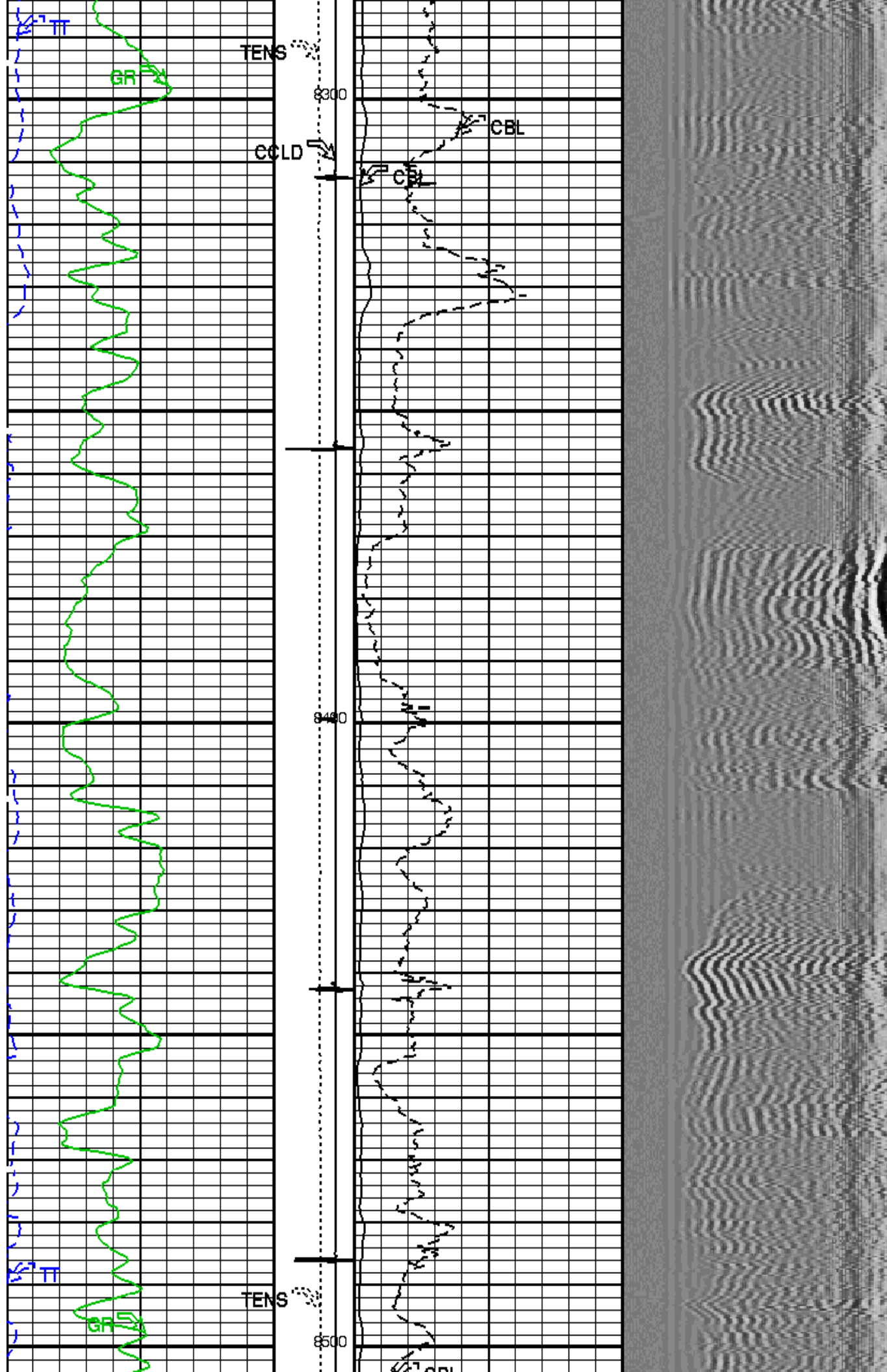


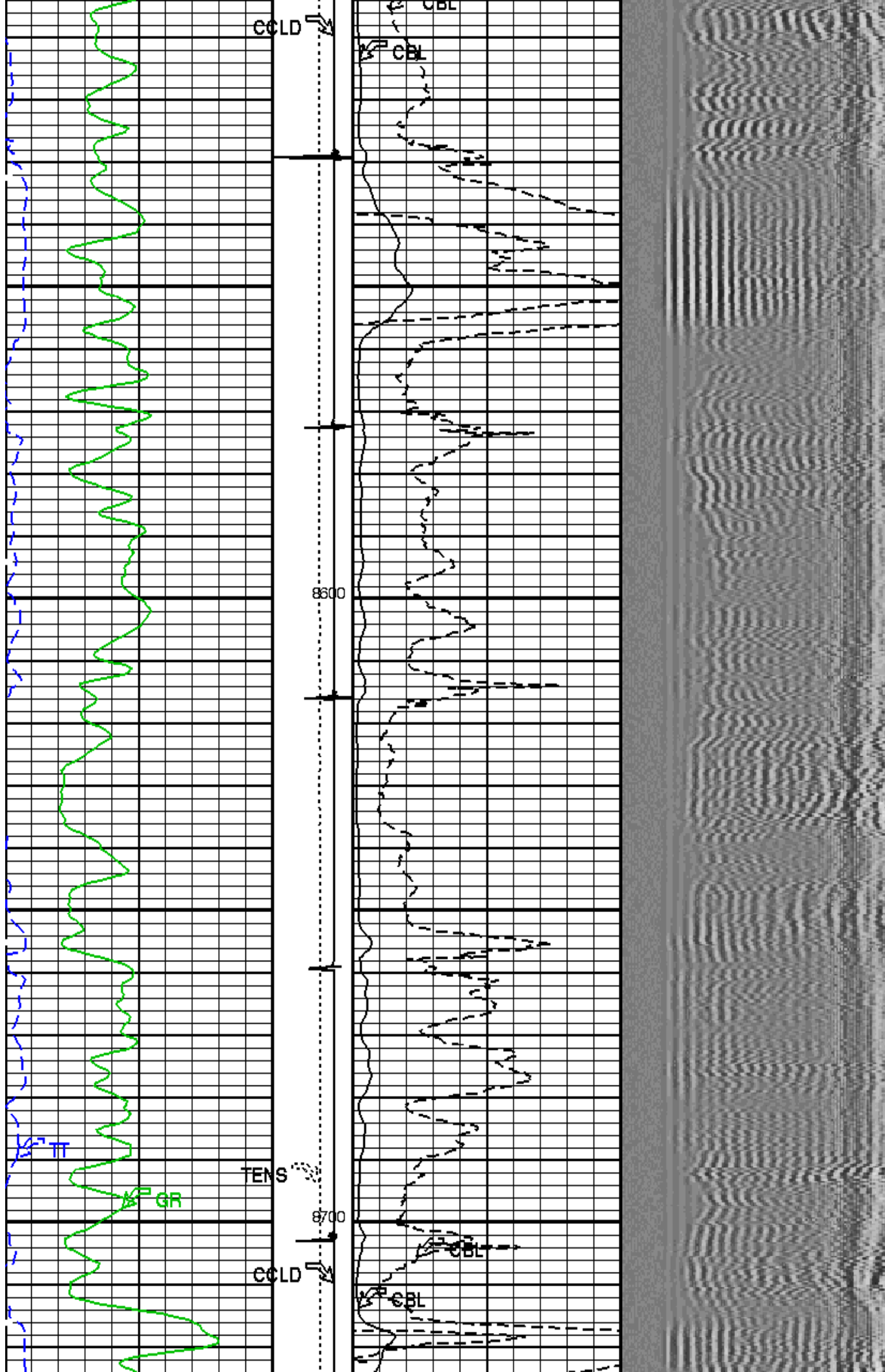


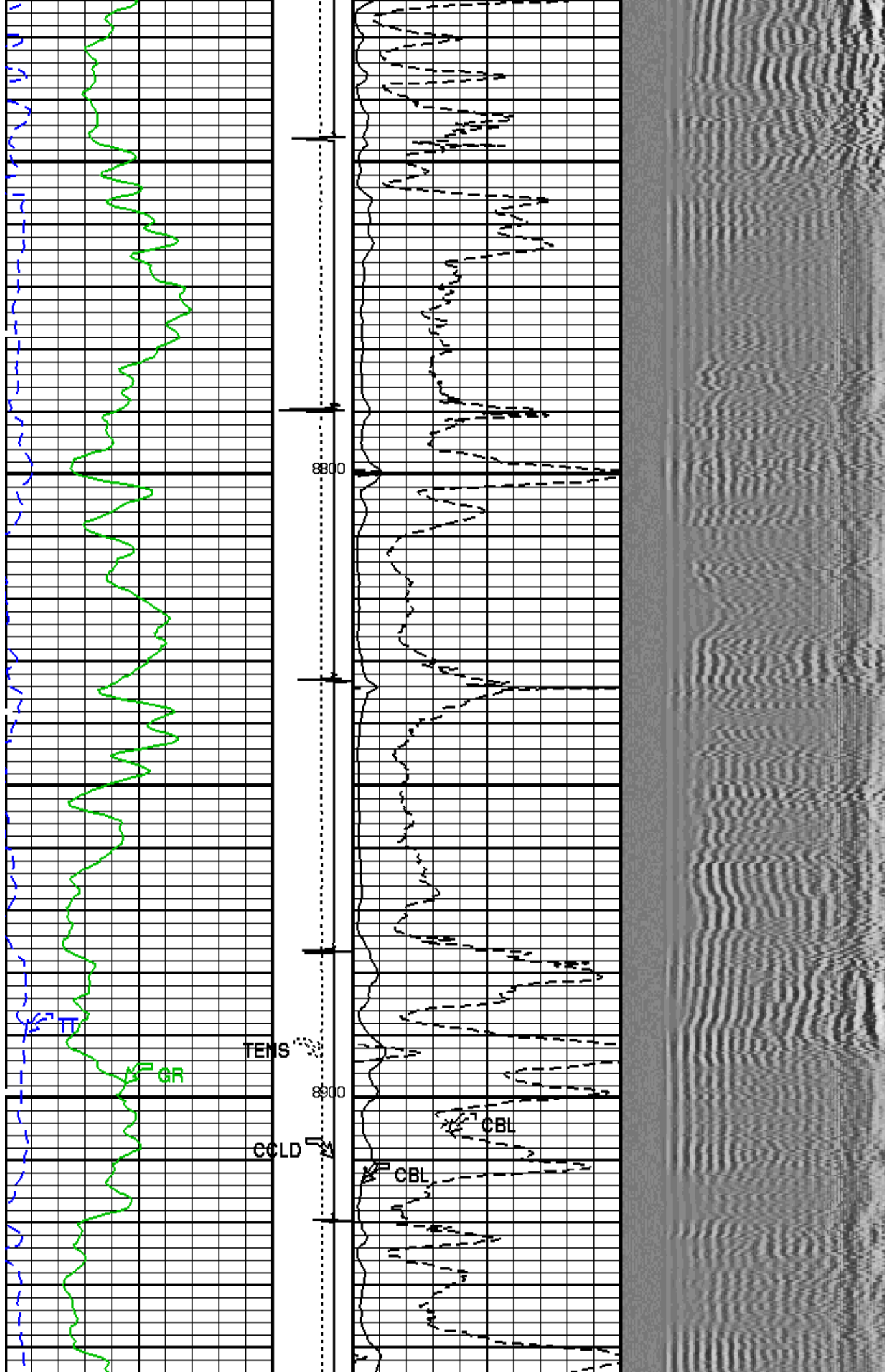




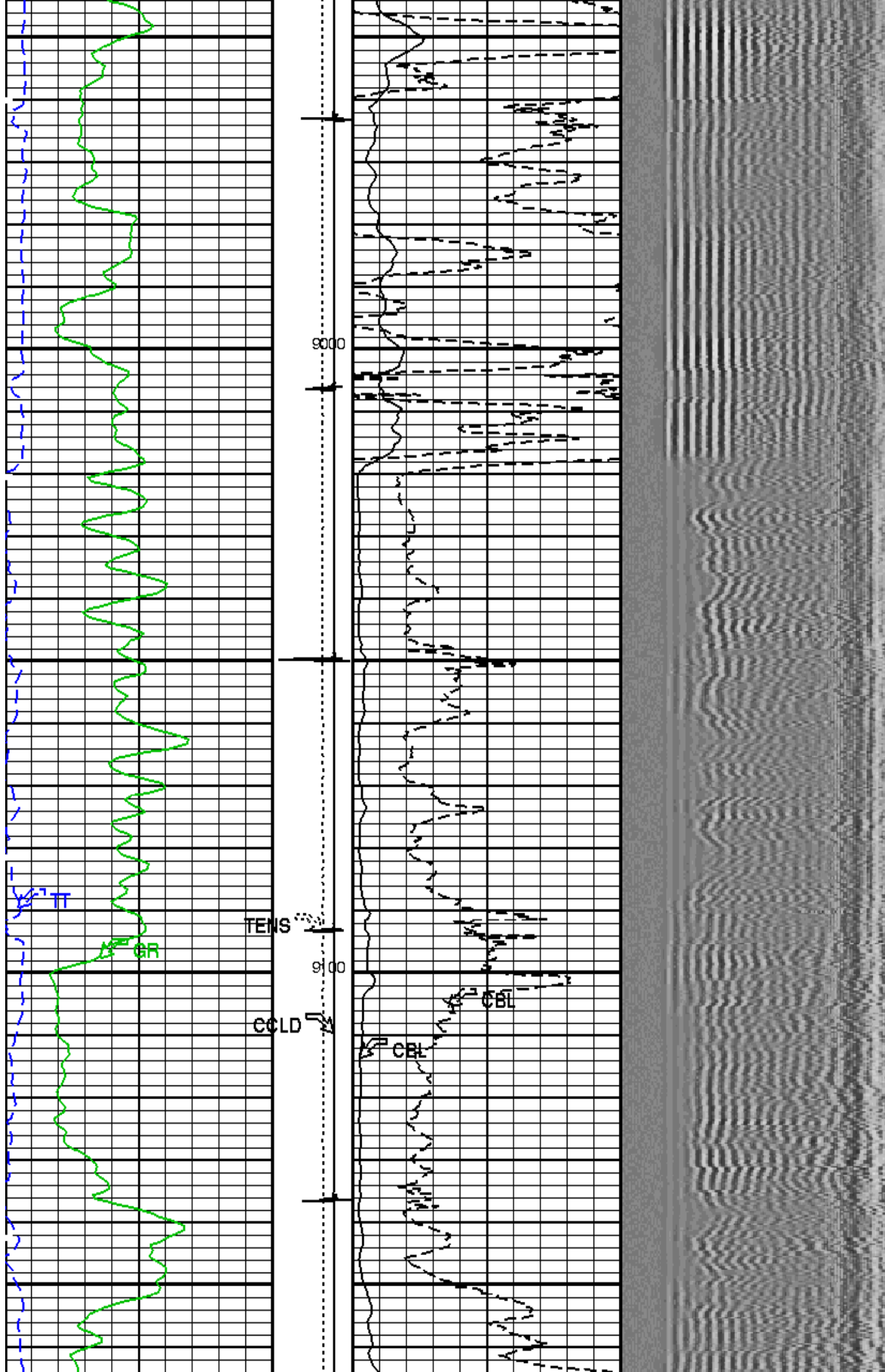




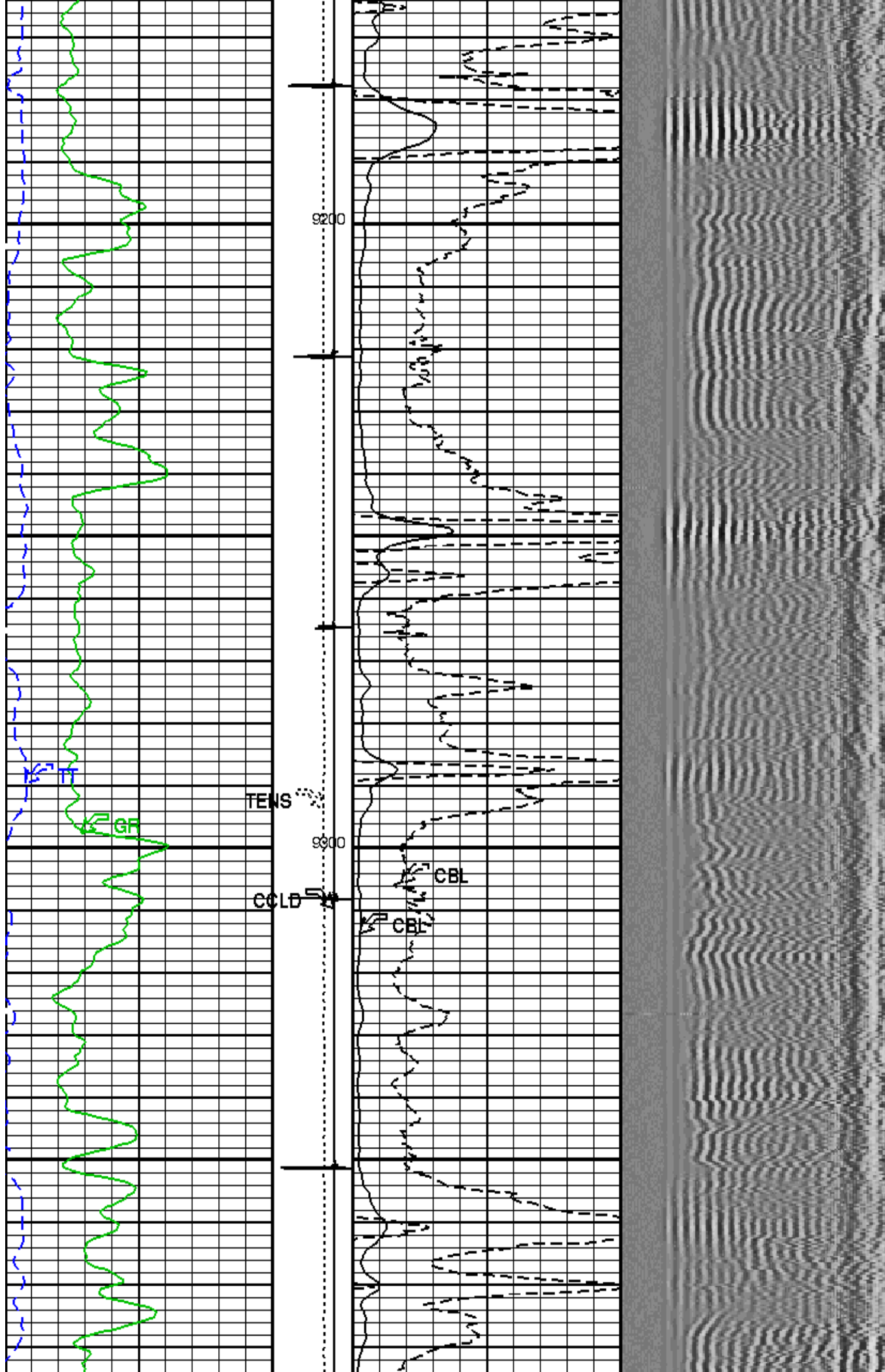


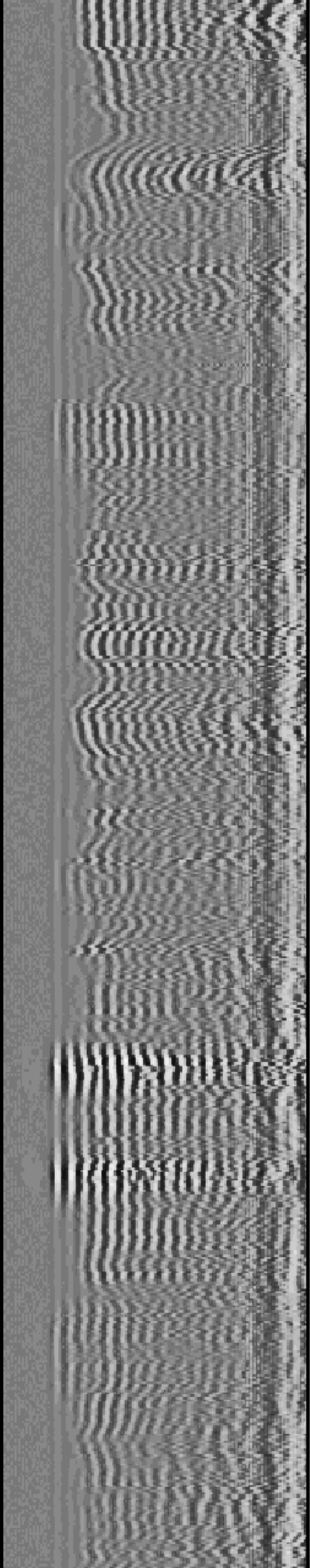
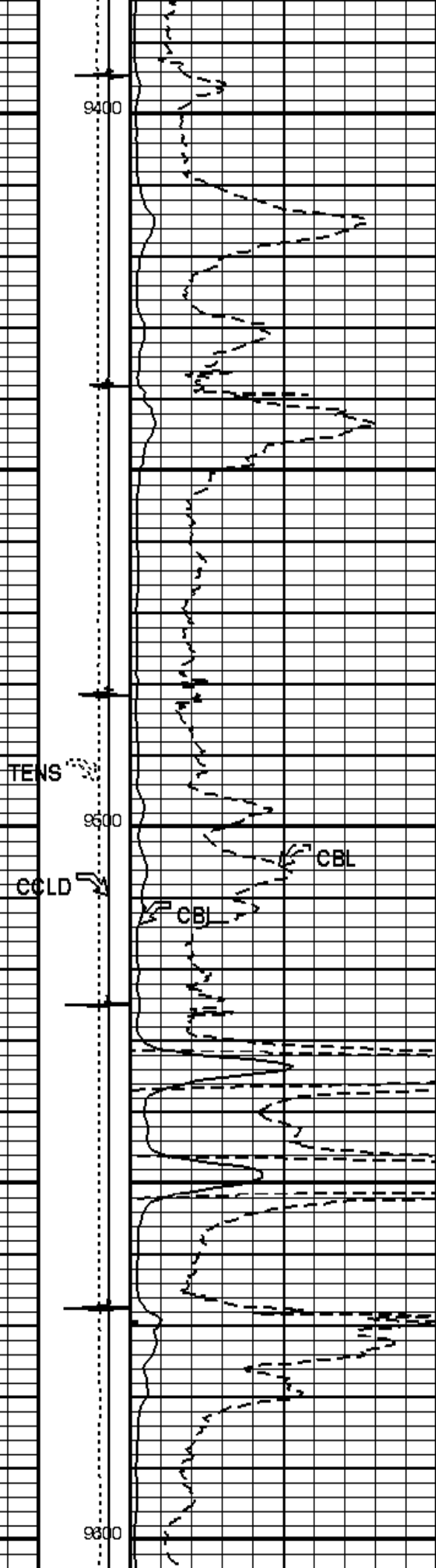
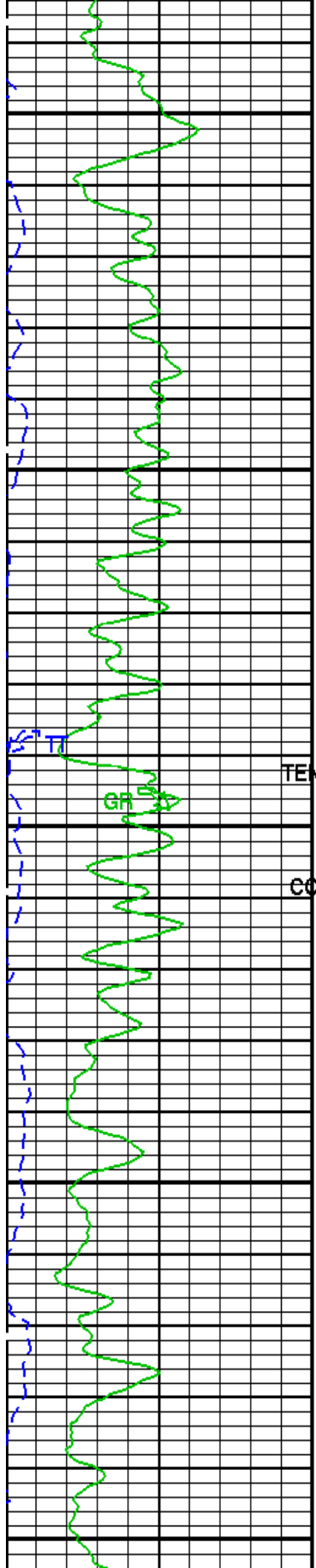


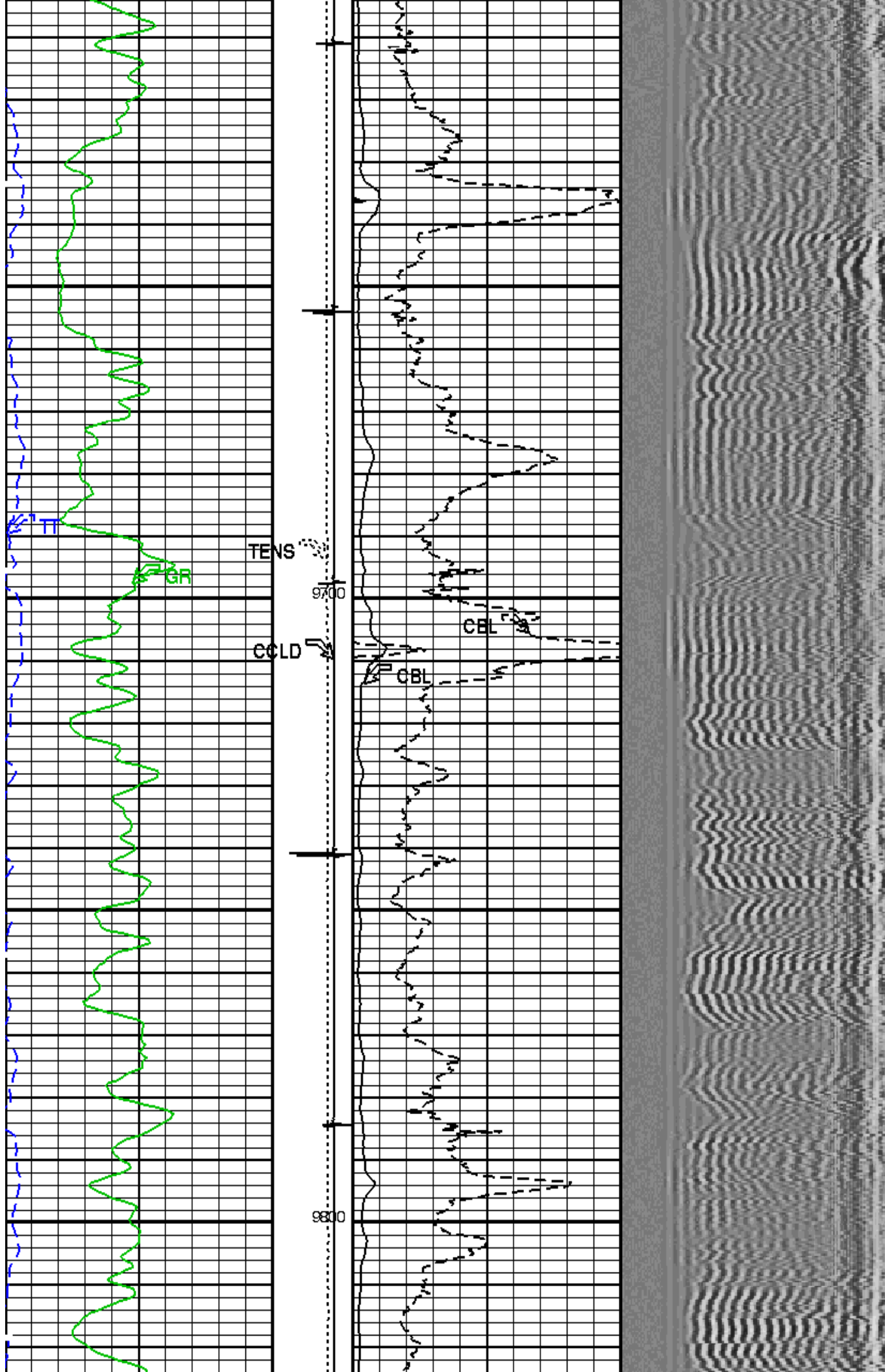












SHORT JOINT

GR

TENS

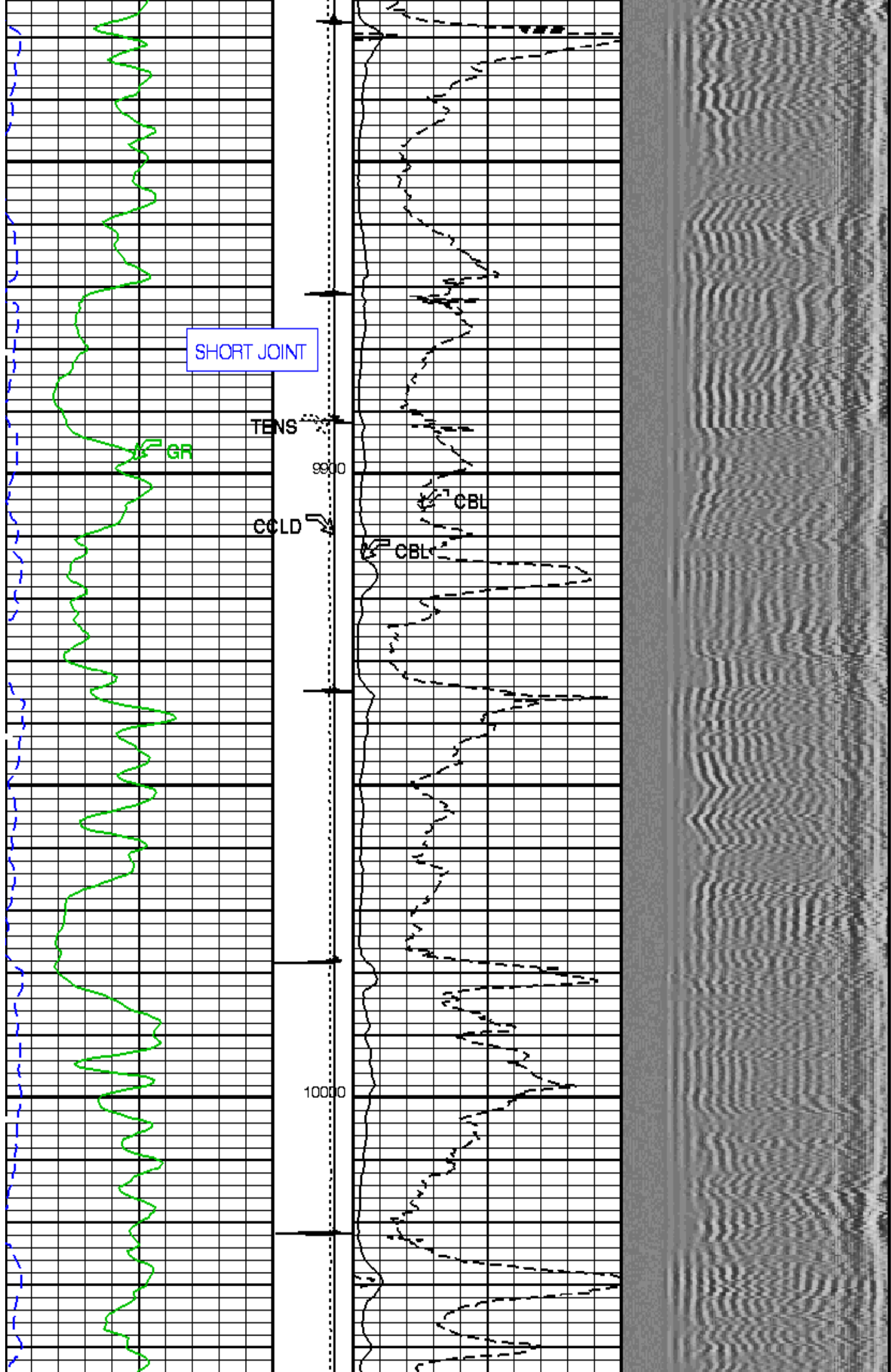
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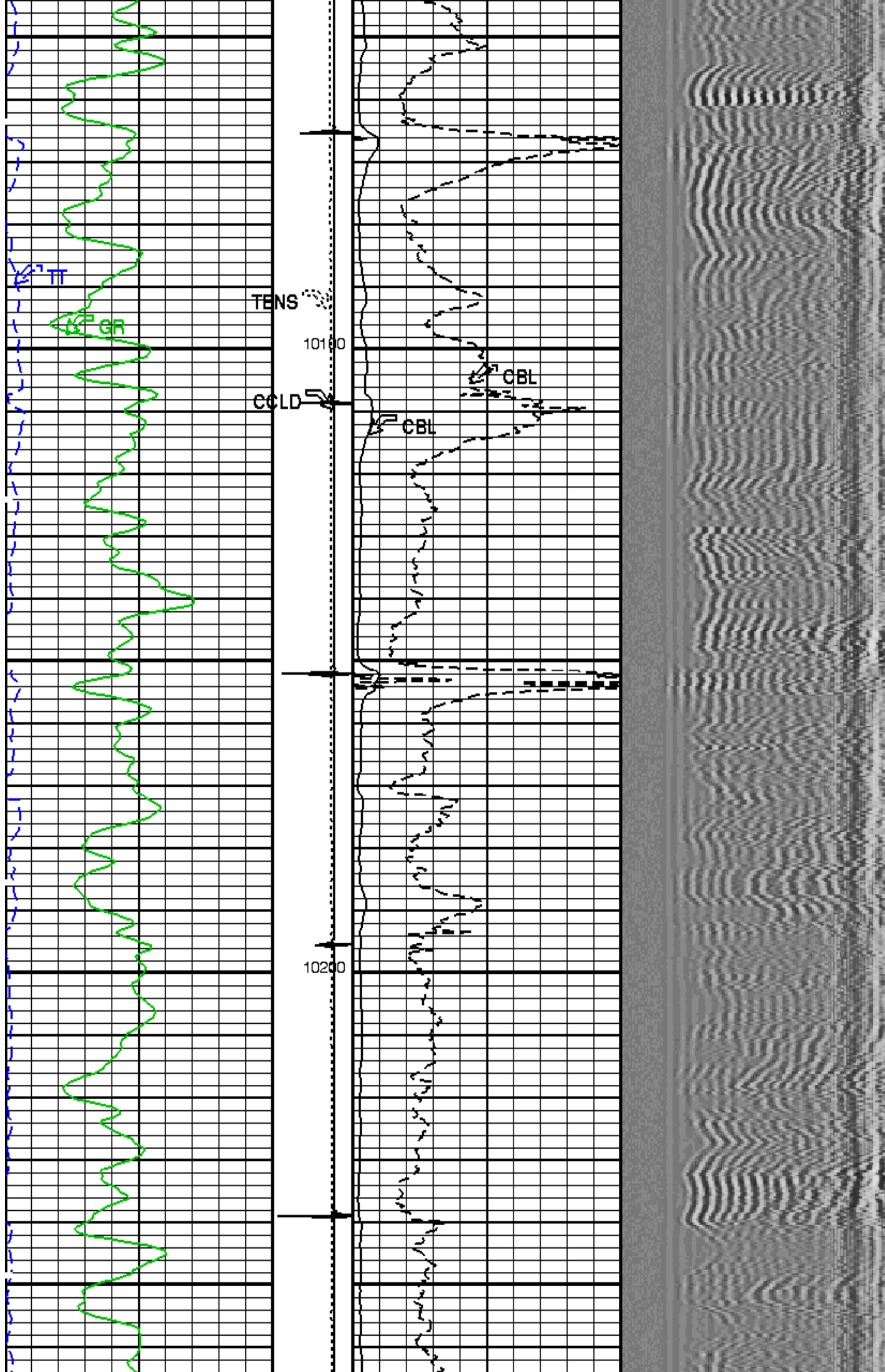
CBL

CBL

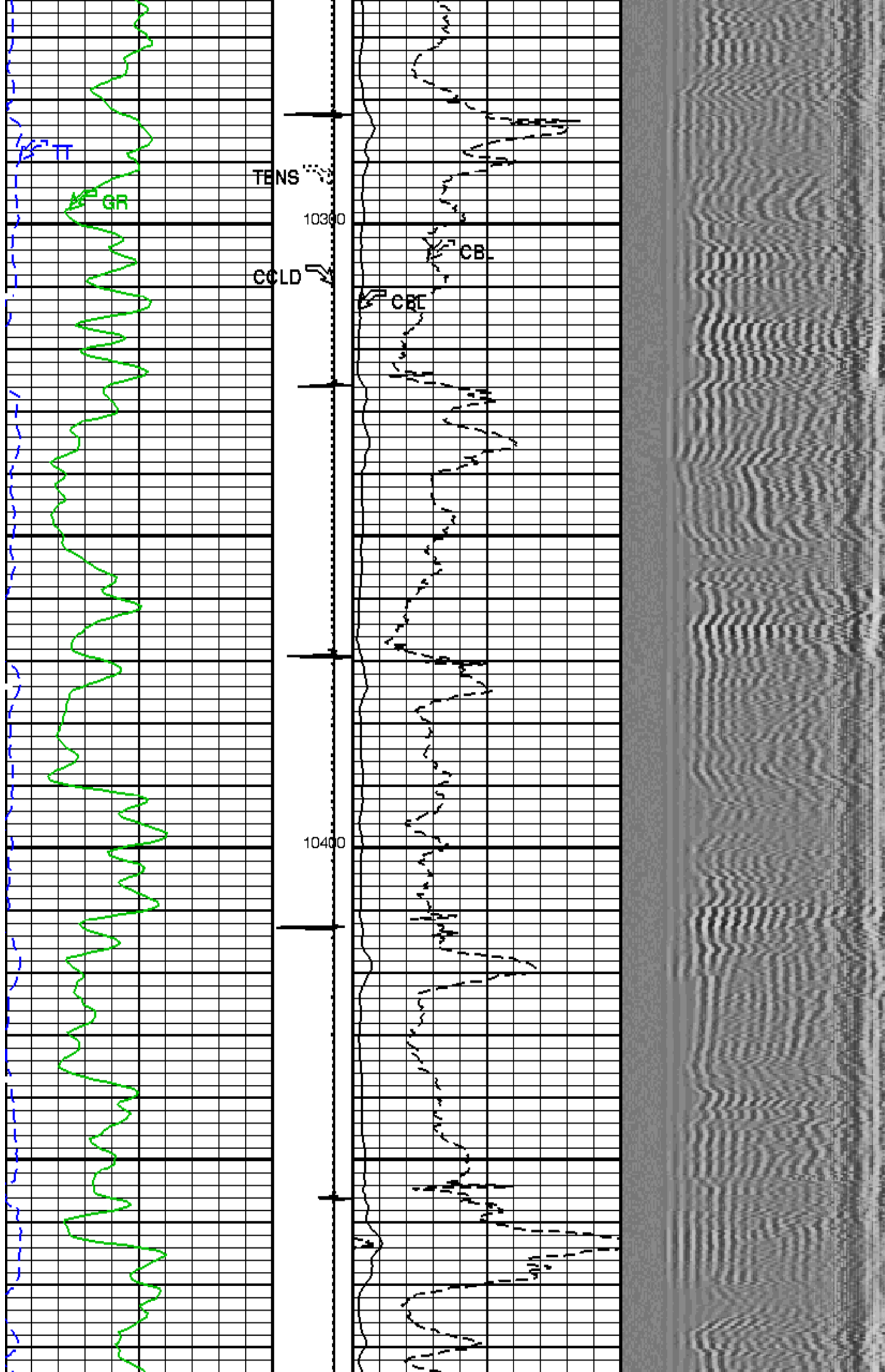
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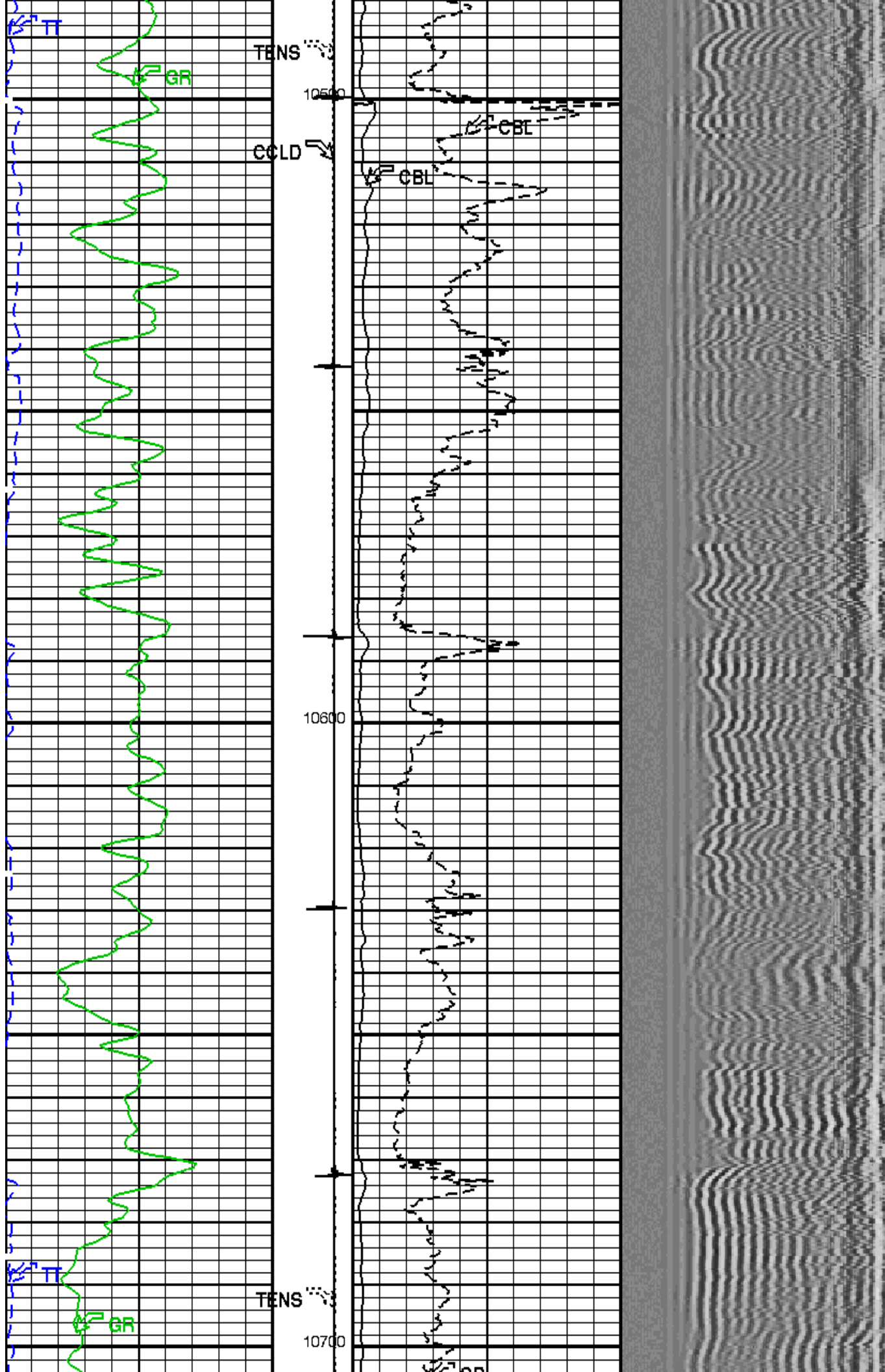


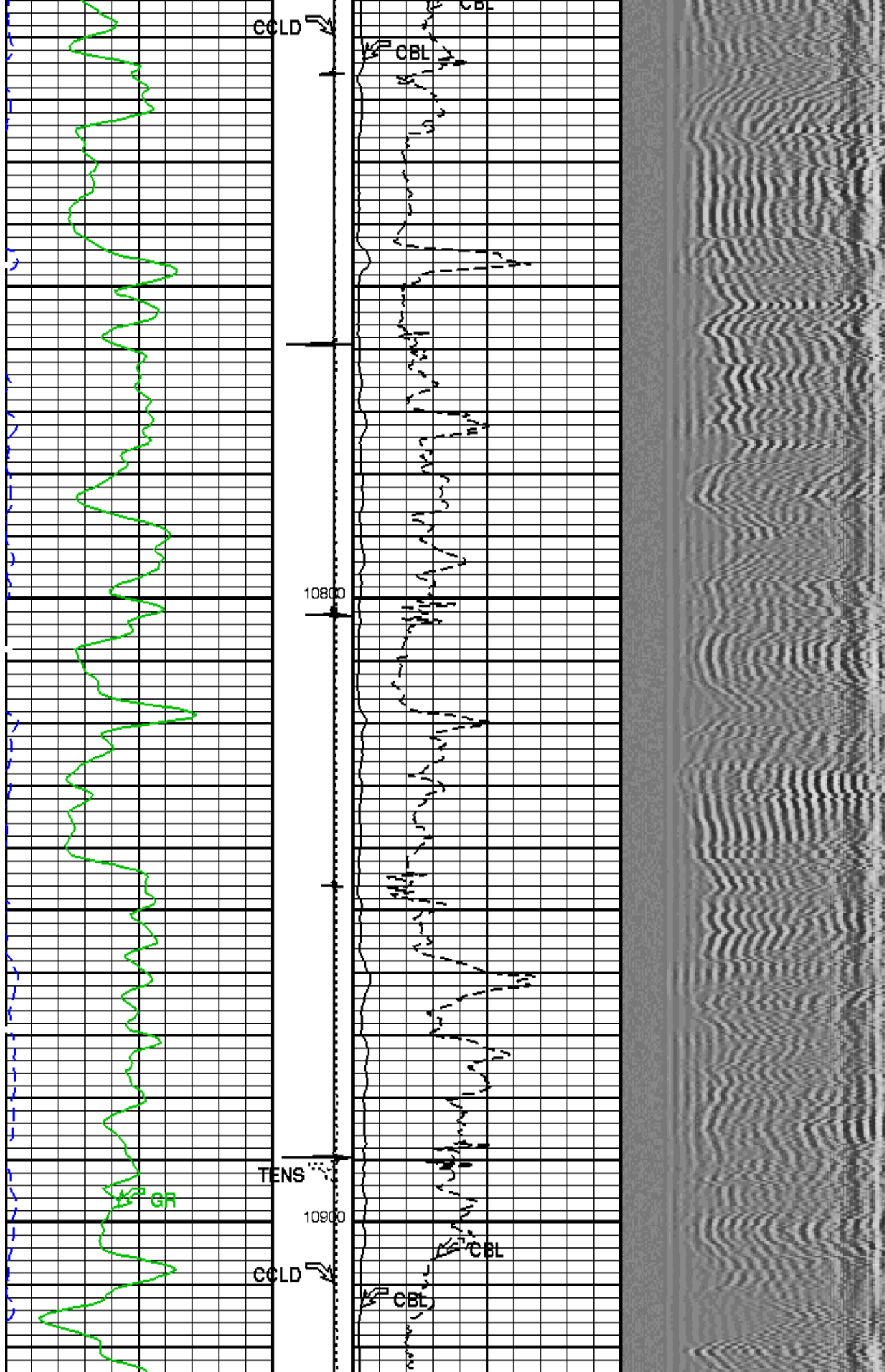


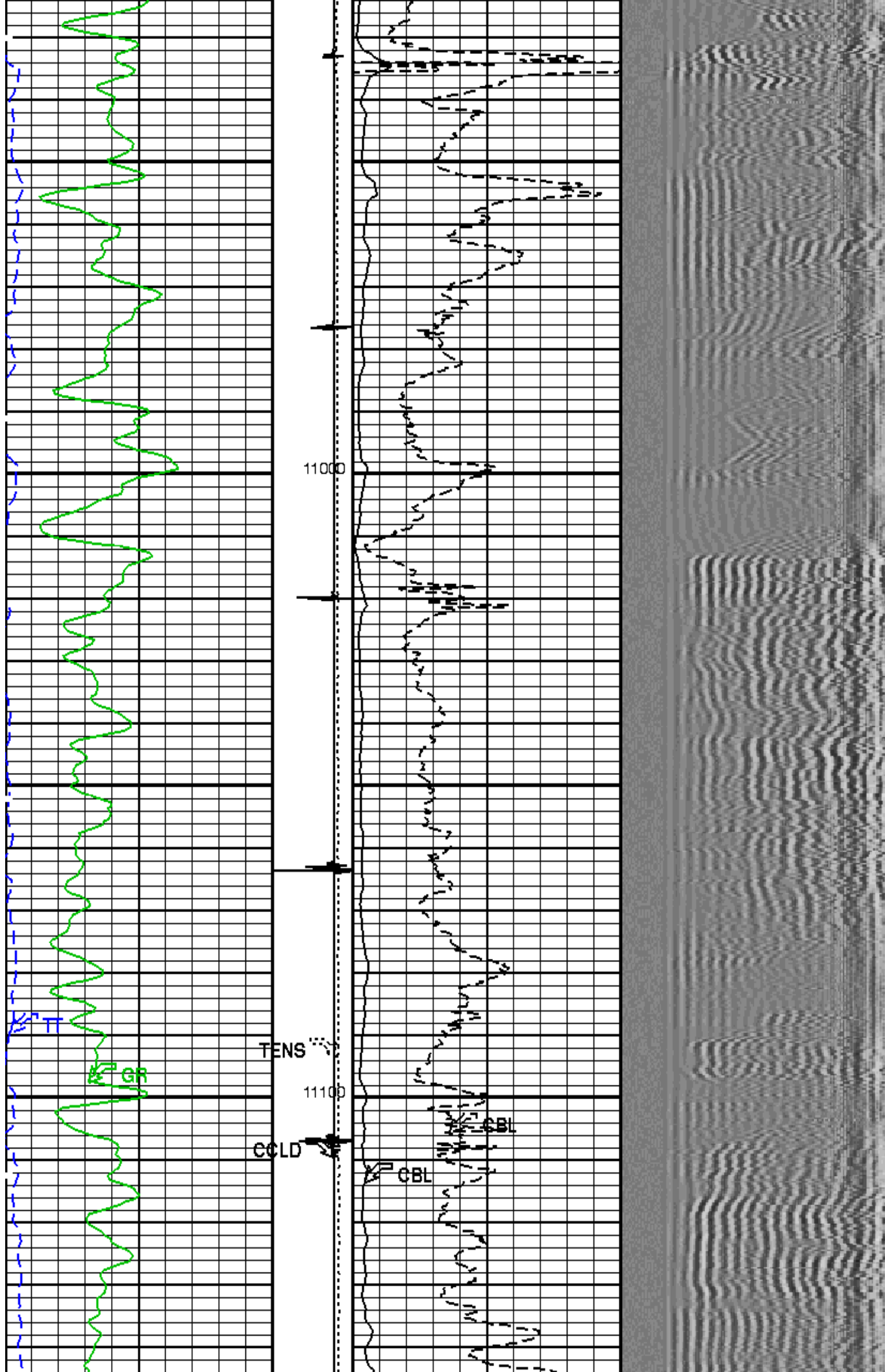




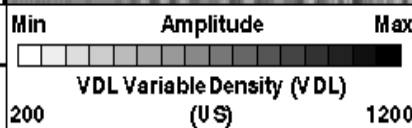
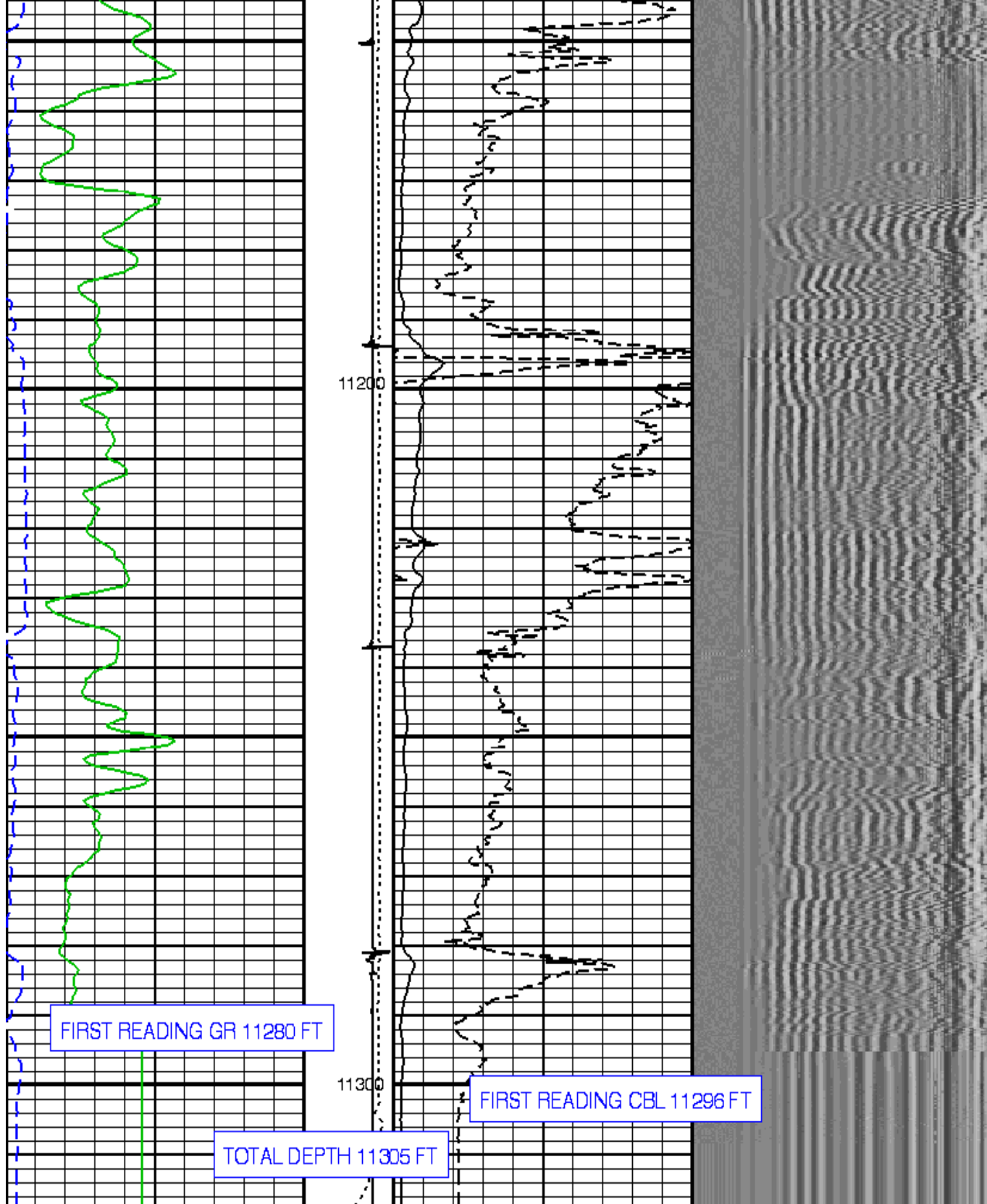












Gamma Ray (GR) (GAPI)	Tension (TENS) (LBF)	CBL Amplitude (CBL) (MV)
0      170	0      2000	0      100
Transit Time (TT) (US)	Discriminat ed CCL (CCLD)	CBL Amplitude (CBL) (MV)
260      160	3 (V) -1	0      10

PIP SUMMARY

Time Mark Every 60 S

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

Graphics File Created: 11-Jul-2012 08:44



SCMT-CB SRPC-5095-H2-2011-OP19 PSPT 19C0-187

<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number	SCMS-CB 8179		
Current Casing Size	4.50000 IN		
Casing Weight	11.6000 LB/F		
Expected CBL Amplitude in Free Pipe Section	80 MV	Minimum Sonic Amplitude	0.579149 MV (100% Cement)
			1.55185 MV (80% Cement)
		MAP Minimum Sonic Amplitude	4.32284 MV (100% Cement)
			8.10244 MV (80% Cement)
Master Calibration (Normalization)	Before Calibration (Adjustment)		
Date of Master Calibration	6-MAR-2012		
CBL Correction Factor	0.0704263	CBL Adjustment Factor (CBAF)	0.900000
MAP 1 Correction Factor	0.0993191	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.0941329		
MAP 3 Correction Factor	0.101552		
MAP 4 Correction Factor	0.114415		
MAP 5 Correction Factor	0.127992		
MAP 6 Correction Factor	0.121190		
MAP 7 Correction Factor	0.112867		
MAP 8 Correction Factor	0.102913		

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	
CMTG	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	0.902782	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.60	LB/G
DO	Depth Offset for Playback	6.0	FT
DORL	Depth Offset for Repeat Analysis	1.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	11305	FT

Input DLIS Files

DEFAULT Splice\_SCMT\_PSP\_057CUP FN:1 PRODUCER 11-Jul-2012 08:33 11311.5 FT 134.3 FT

### Output DLIS Files

DEFAULT SCMT\_PSP\_058PUP FN:51 PRODUCER 11-Jul-2012 08:44

**Schlumberger**

## REPEAT ANALYSIS CBL VDL

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC.

Well: DW 8608F-28 (P28496)

### Input DLIS Files

DEFAULT SCMT\_PSP\_053LUP FN:47 PRODUCER 11-Jul-2012 04:51 7301.0 FT 6927.2 FT

### Output DLIS Files

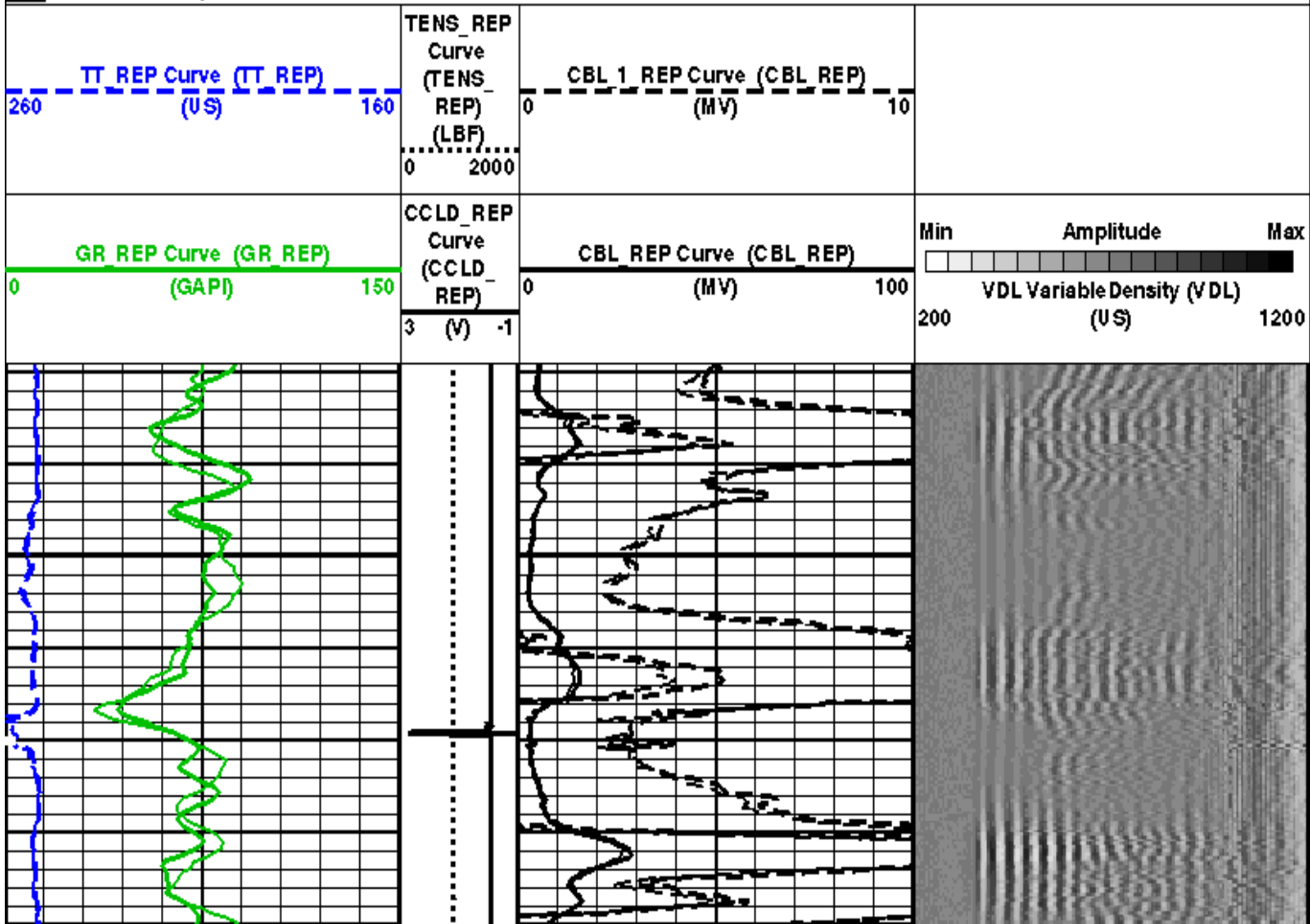
DEFAULT SCMT\_PSP\_058PUP FN:51 PRODUCER 11-Jul-2012 08:44

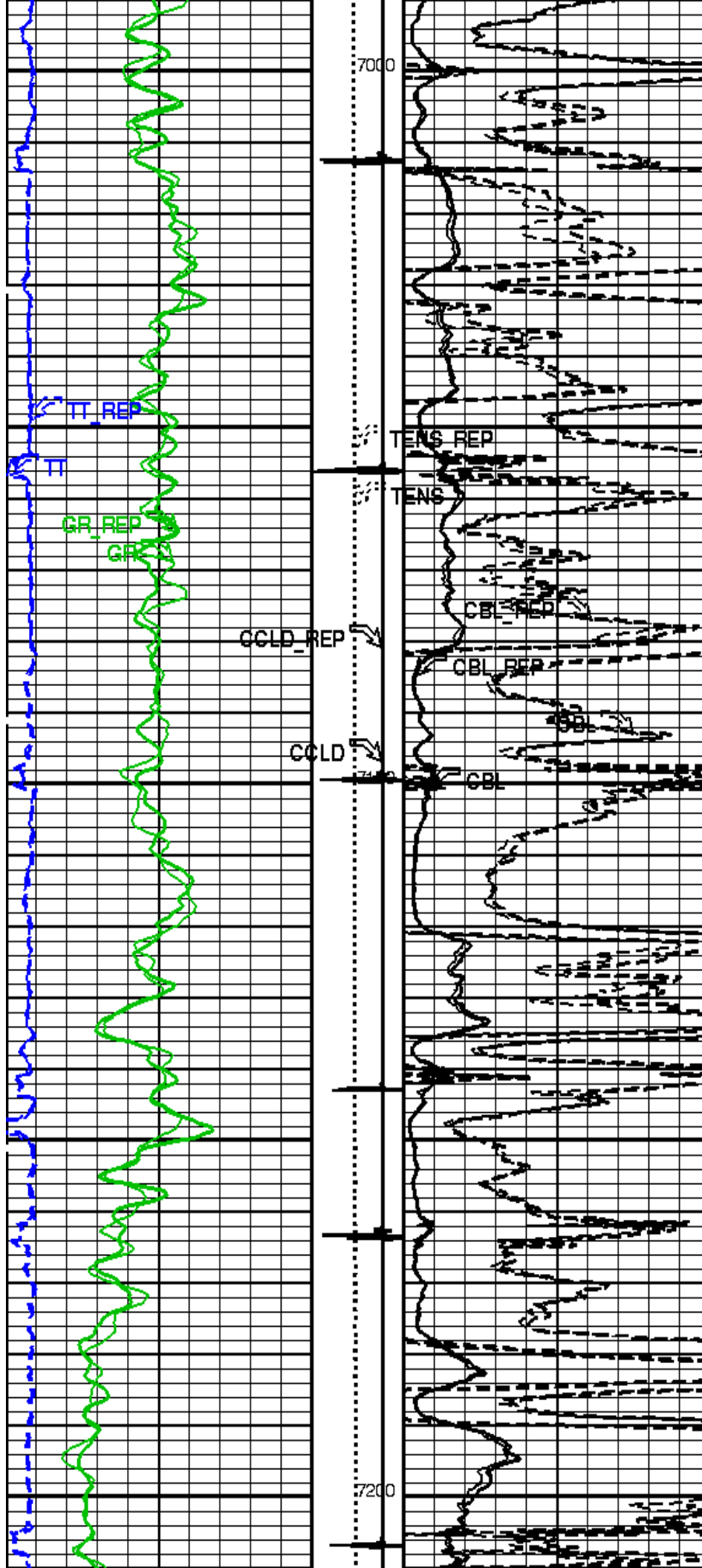
### OP System Version: 19C0-187

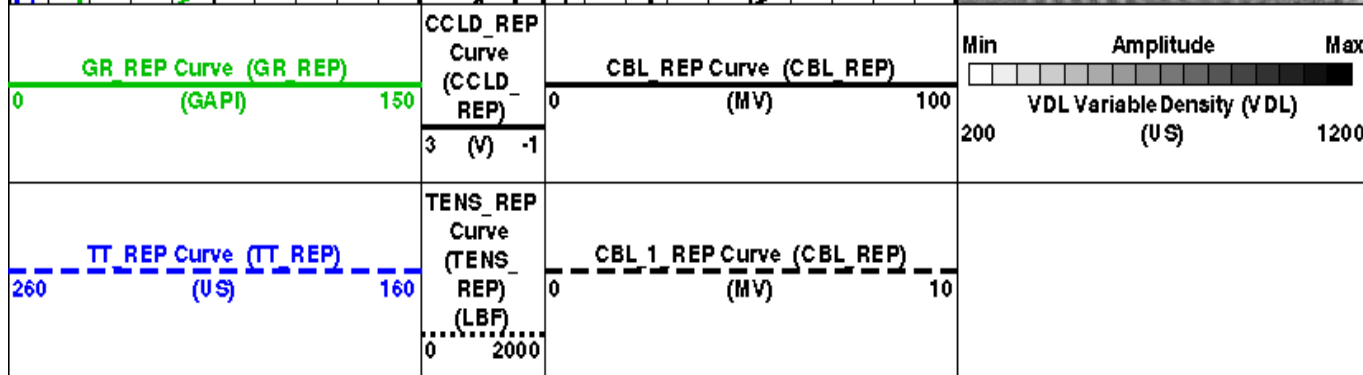
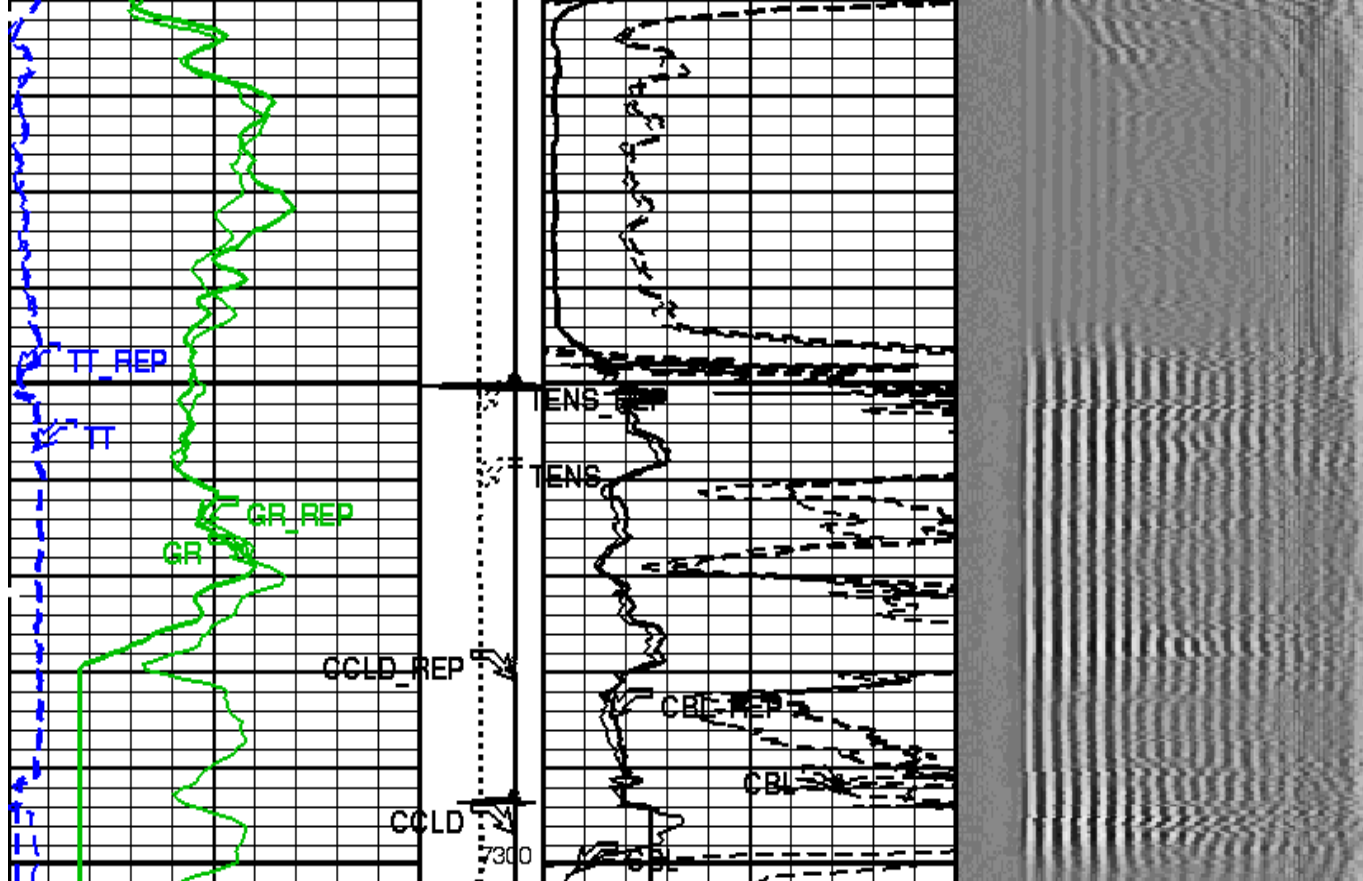
SCMT-CB SRPC-5095-H2-2011-OP19 PSPT 19C0-187

#### PIP SUMMARY

☒ Time Mark Every 60 S







#### PIP SUMMARY

Time Mark Every 60 S

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

Graphics File Created: 11-Jul-2012 08:44

### OP System Version: 19C0-187

SCMT-CB SRPC-5095-H2-2011-OP19 PSPT 19C0-187

#### <<< SCMT Cement Evaluation Information Summary >>>

Sonde Serial Number	SCMS-CB 8179		
Current Casing Size	4.5000 IN		
Casing Weight	11.6000 LB/F		
Expected CBL Amplitude	80 MV	Minimum Sonic Amplitude	0.579149 MV (100% Cement)
in Free Pipe Section			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	6-MAR-2012		
CBL Correction Factor	0.0704263	CBL Adjustment Factor (CBAF)	0.900000
MAP1 Correction Factor	0.0993191	MAP Adjustment Factor (MPAF)	1.0
MAP2 Correction Factor	0.0011000		

MAP 2 Correction Factor	0.0941329
MAP 3 Correction Factor	0.101552
MAP 4 Correction Factor	0.114415
MAP 5 Correction Factor	0.127992
MAP 6 Correction Factor	0.121190
MAP 7 Correction Factor	0.112867
MAP 8 Correction Factor	0.102913

## 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	
CMT	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	0.902782	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0 Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCI	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.60	LB/G
DO	Depth Offset for Playback	6.0	FT
DORL	Depth Offset for Repeat Analysis	1.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	11305	FT

## Input DLIS Files

DEFAULT	SCMT_PSP_053LUP	FN:47	PRODUCER	11-Jul-2012 04:51	7301.0 FT	6927.2 FT
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## Output DLIS Files

DEFAULT	SCMT_PSP_058PUP	FN:51	PRODUCER	11-Jul-2012 08:44
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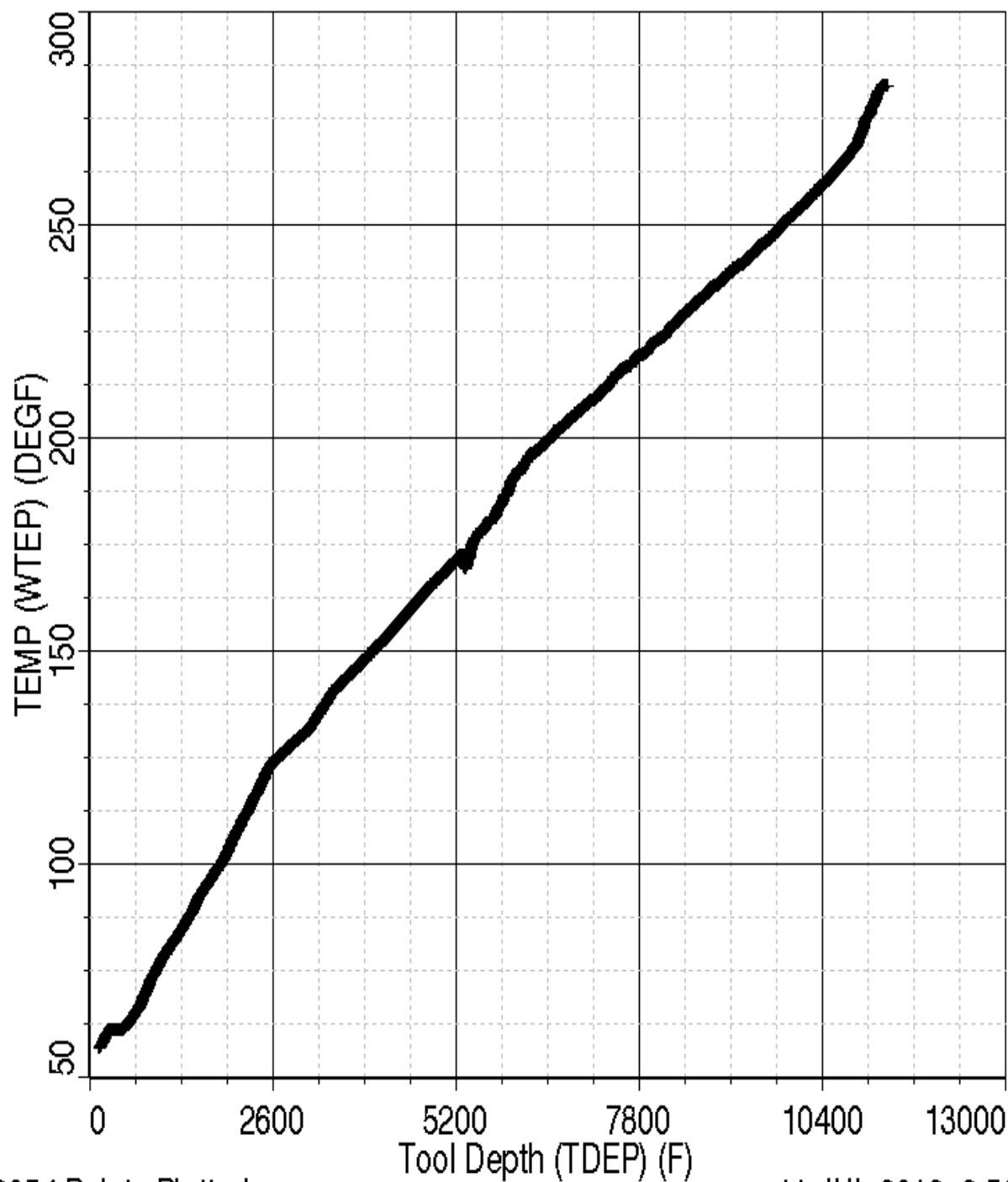
**Schlumberger**

**TEMPERATURE PLOT**

MAXIS Field Log

Index: 11317.5 - 141.0 FT





22354 Points Plotted

11-JUL-2012 8:52

**Schlumberger**

**PBMS COEFFICIENTS**

MAXIS Field Log

Client:

Field:

Well:

Run date:

Tool:

Sub Type:

Sensor:

PSP

PBMS

Clock Model

**PBMS Digitalization Clock**

Sonde Serial NB

Sensor Serial NB 3779

Calib Date ddmmyy 090107

Matrix Size 16

Coeff CRC D285

Clock Coeff

	Temp**0	Temp**1	Temp**2
Temp**0	-.210501098404E+03	-.537713340627E+01	-.752421519422E-01
	Temp**3	Temp**4	Temp**5
Temp**0	+.630273975887E-03	+.266728381738E-05	0.0

---

Client:	Tool:	PSP
Field:	Sub Type:	PBMS
Well:	Sensor:	Sapphire
Run date:		

---

**PBMS Sapphire 10kPsi Gauge**

Sonde Serial NB COEFFICIENTS FOR SAPPHIRE PBMS-A.3779 S/N:

Sensor Serial NB 3779

Calib Date ddmmyy 090107

Matrix Size 66

Coeff CRC 4C82

Pres Coeff

	Tp**0	Tp**1	Tp**2
Tp**0	-.611876617639E+04	+.471061007964E+04	-.216447354932E+04
Tp**1	+.371836126905E+04	-.234756196935E+04	+.129149325686E+04
Tp**2	+.193143980957E+02	-.189348218853E+01	-.341812471126E+01
Tp**3	-.568815065386E+01	+.200079683569E+01	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0
	Tp**3	Tp**4	Tp**5

Tp**0	+380249508124E+03	-.247683004908E+02	0.0
Tp**1	-.227135245080E+03	+1.146352372057E+02	0.0
Tp**2	0.0	0.0	0.0
Tp**3	0.0	0.0	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0

**PBMS Sapphire 10kPsi Gauge**

Sonde Serial NB :  
 Sensor Serial NB 3779  
 Calib Date ddmmyy 090107  
 Matrix Size 66  
 Coeff CRC C39E

**Temp Coeff**

	Tp**0	Tp**1	Tp**2
Tt**0	-.278275571347E+03	+251216271916E+01	-.820715649824E+00
Tt**1	+.598349067015E+02	-.107326373545E+01	+.652890183203E-01
Tt**2	+.109160002120E+02	+.262812193556E+00	-.450134240377E-02
Tt**3	-.673302171285E+00	-.213772918779E-01	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0

	Tp**3	Tp**4	Tp**5
Tt**0	+.151507143209E+00	-.592670012996E-02	0.0
Tt**1	+.127486538512E-01	-.437897076104E-02	0.0
Tt**2	0.0	0.0	0.0
Tt**3	0.0	0.0	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0

---

Client:	Tool:	PSP
Field:	Sub Type:	PBMS
Well:	Sensor:	GR
Run date:		

---

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

RESISTORS FOR GR SENSOR N.34552,TOOL PBMS-AA3779. SENSOR S/N:  
34552  
030606  
12  
3AE5

GR HV Rt

	Rt**0	Rt**1
Rt**0	+.200000000000e+04	+.214000000000e+04

Client:

Field:

Well:

Run date:

Tool:

Sub Type:

Sensor:

PSP

PBMS

WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS-A.3779 S/N:  
3779  
090107  
16  
3846

WTemp Coeff

	T**0	T**1	T**2
T**0	+.492135102627E+02	-.278827553804E+03	+.142867554561E+03
	T**3	T**4	T**5
T**0	-.233378392336E+02	+.145553494493E+01	0.0



## MAXIS Field Log

### Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Slim Cement Mapping Tool, 1-11/16 OD Master Calibration - SCMT CBL and MAP Amplitude Normalization in SFT-155/-255							
Master: 6-Mar-2012 15:06							
MAP 1 Amplitude Plus	1075	1208	-	-	-	-	MV
MAP 2 Amplitude Plus	1075	1275	-	-	-	-	MV
MAP 3 Amplitude Plus	1075	1182	-	-	-	-	MV
MAP 4 Amplitude Plus	1075	1049	-	-	-	-	MV
MAP 5 Amplitude Plus	1075	937.6	-	-	-	-	MV
MAP 6 Amplitude Plus	1075	990.2	-	-	-	-	MV
MAP 7 Amplitude Plus	1075	1063	-	-	-	-	MV
MAP 8 Amplitude Plus	1075	1166	-	-	-	-	MV
CBL Amplitude Plus	1350	1363	-	-	-	-	MV

### Slim Cement Mapping Tool, 1-11/16 OD / Equipment Identification

#### Primary Equipment:










Slim Cement Mapping Xmitter Electronics	SCMX - CA	
Slim Cement Mapping Sonde	SCMS - CB	8179
Slim Cement Mapping Cartridge	SCMC - CA	8172

#### Auxiliary Equipment:

Slim Electronics Cartridge Housing	SECH - CA
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### 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	Phase	MAP 2 Amplitude Plus MV	Value
Master		1208	Master		1275
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)	500.0 (Minimum)	1075 (Nominal)
					1650 (Maximum)
Phase	MAP 3 Amplitude Plus MV	Value	Phase	MAP 4 Amplitude Plus MV	Value
Master		1182	Master		1049
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)	500.0 (Minimum)	1075 (Nominal)
					1650 (Maximum)
Phase	MAP 5 Amplitude Plus MV	Value	Phase	MAP 6 Amplitude Plus MV	Value
Master		937.6	Master		990.2
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)	500.0 (Minimum)	1075 (Nominal)
					1650 (Maximum)
Phase	MAP 7 Amplitude Plus MV	Value	Phase	MAP 8 Amplitude Plus MV	Value
Master		1063	Master		1166
	500.0 (Minimum)	1075 (Nominal)	1650 (Maximum)	500.0 (Minimum)	1075 (Nominal)
					1650 (Maximum)
Phase	CBL Amplitude Plus MV	Value			
Master		1363			
	1000 (Minimum)	1350 (Nominal)			
		1700 (Maximum)			

Master: 6-Mar-2012 15:06

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

**Schlumberger**

Well: **DW 8608F-28 (P28496)**

Field: **Double Willow**

County: **Garfield**

State: **Colorado**

SLIM CEMENT MAPPING TOOL  
CBL - VDL  
GAMMA RAY - CCL