

Company: ENCANA OIL & GAS (USA) INC.

Well: DAYBREAK FEDERAL 19-2 (PJ19)

Field: PARACHUTE

County: GARFIELD State: COLORADO

CEMENT BOND LOG  
CBL – VDL  
GAMMA RAY – CCL

County: GARFIELD

Field: PARACHUTE

Location: SHL: NWSE 2029' FSL & 2388' FEL

Well: DAYBREAK FEDERAL 19-2 (PJ19)

Company: ENCANA OIL & GAS (USA) INC.

LOCATION	
SHL: NWSE 2029' FSL & 2388' FEL	Elev.: K.B. 5447.00 ft
BHL: NWNE 810' FNL & 2000' FEL	G.L. 5425.00 ft
	D.F. 5446.00 ft
Permanent Datum: _____	GROUND LEVEL _____
Log Measured From: _____	KELLY BUSHING _____
Drilling Measured From: _____	KELLY BUSHING _____
API Serial No. _____	Section 19
05-045-19896-0000	Township 7S
	Range 95W

	Run 1	Run 2	Run 3
PVT DATA			
Oil Density			
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bg			
Bubble Point Pressure			
Bubble Point Temperature			
Solution GOR			
Maximum Deviation	44.87 deg		
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	5-Oct-2011		
Run Number	ONE		
Depth Driller	7162 ft		
Schlumberger Depth	7018 ft		
Bottom Log Interval	7009.4 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	22 ft		
To	7162 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	M-80		
From	22 ft		
To	7075 ft		
Maximum Recorded Temperatures	198 degF		
Logger On Bottom	5-Oct-2011	23:03	
Unit Number	391	GRAND JUNCTION	
Recorded By	SHOWKAT HOSSAIN		
Witnessed By	UNATTENDED		

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: 5-OCT-2011 23:48:46

## Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-JA	Type:	CMTD-C	Type:	1-25ZT
Serial Number:	6322	Serial Number:	5006	Serial Number:	391
Calibration Date:	07-APR-2011	Calibration Date:	04-OCT-2011	Length:	14500 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	174878	Conveyance Method:	Wireline
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10	Rig Type:	Land
Wheel Correction 1:	-6	Calibration RMS:	4		
Wheel Correction 2:	-5	Calibration Peak Error:	8		

## Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	216.00 FT
Rig Up Length At Bottom:	217.00 FT
Rig Up Length Correction:	-1.00 FT
Stretch Correction:	5.00 FT
Tool Zero Check At Surface:	0.90 FT

### Depth Control Remarks

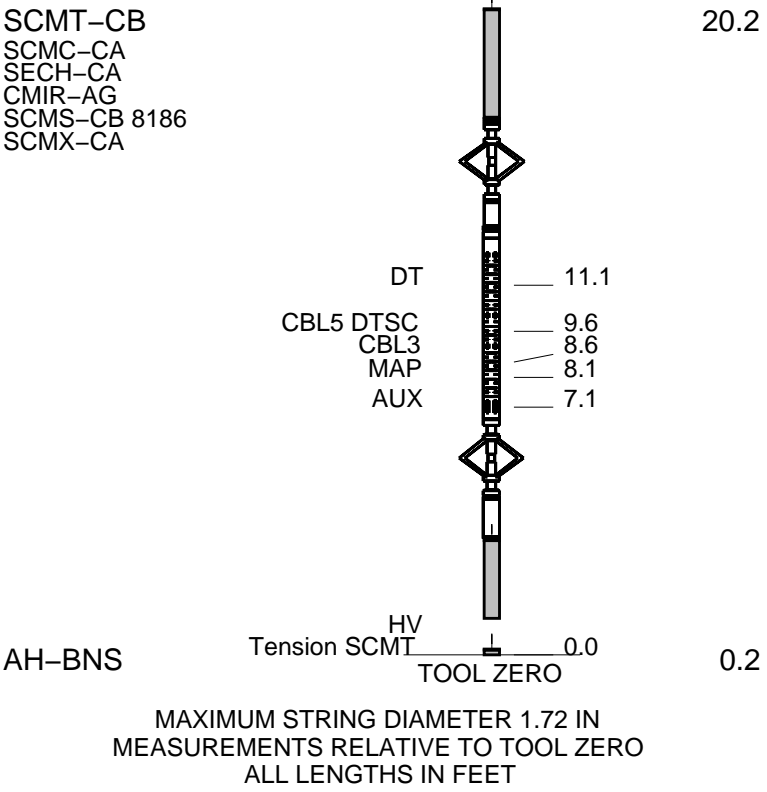
1. ALL SCHLUMBERGER DEPTH CONTROL POLICIES FOLLOWED.
2. IDW USED AS PRIMARY DEPTH CONTROL.
3. Z-CHART AND DRUM COUNTER USED AS SECONDARY DEPTH CONTROL.
- 4.
- 5.
- 6.

## 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: RST – SIGMA OS2: OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
THIS IS A FIRST RUN IN WELL.	
TOOL RAN AS PER TOOL SKETCH.	
TD TAGGED AT: 7018 FT	
MAXIMUM RECORDED PRESSURE AT TD: 2644.5 PSIA	
MAXIMUM RECORDED TEMPERATURE AT TD: 197.5 DEGF	
SHORT JOINTS: 4856 FT – 4878 FT & 5861 FT – 5883 FT	





Schlumberger

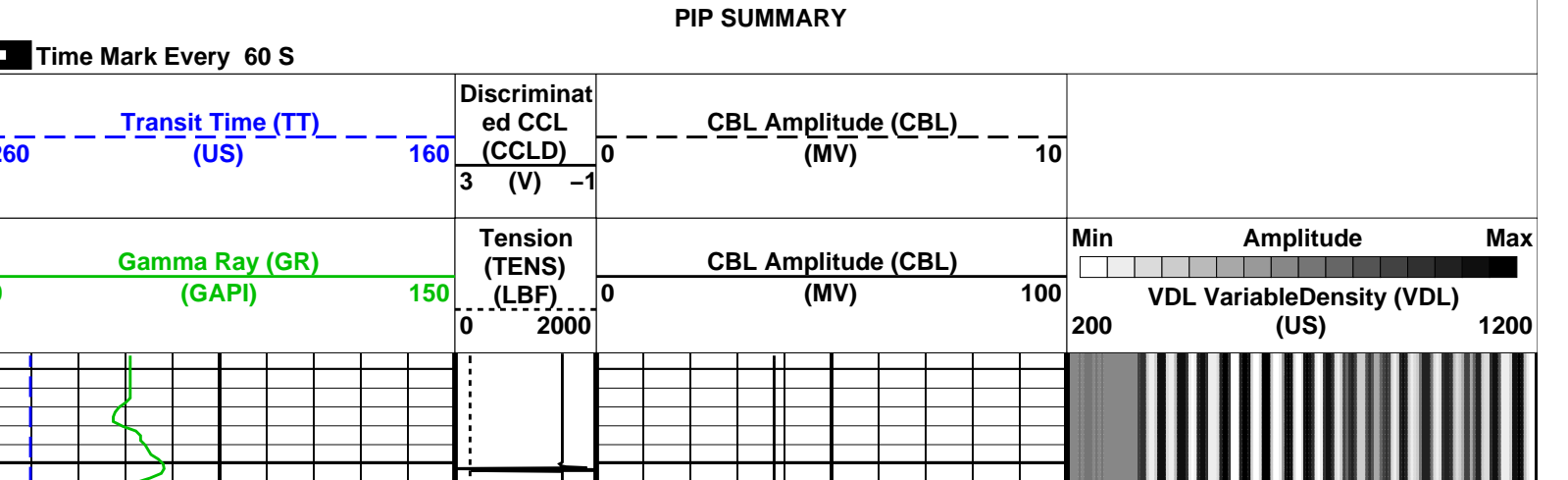
MAIN PASS 0 PSI

MAXIS Field Log

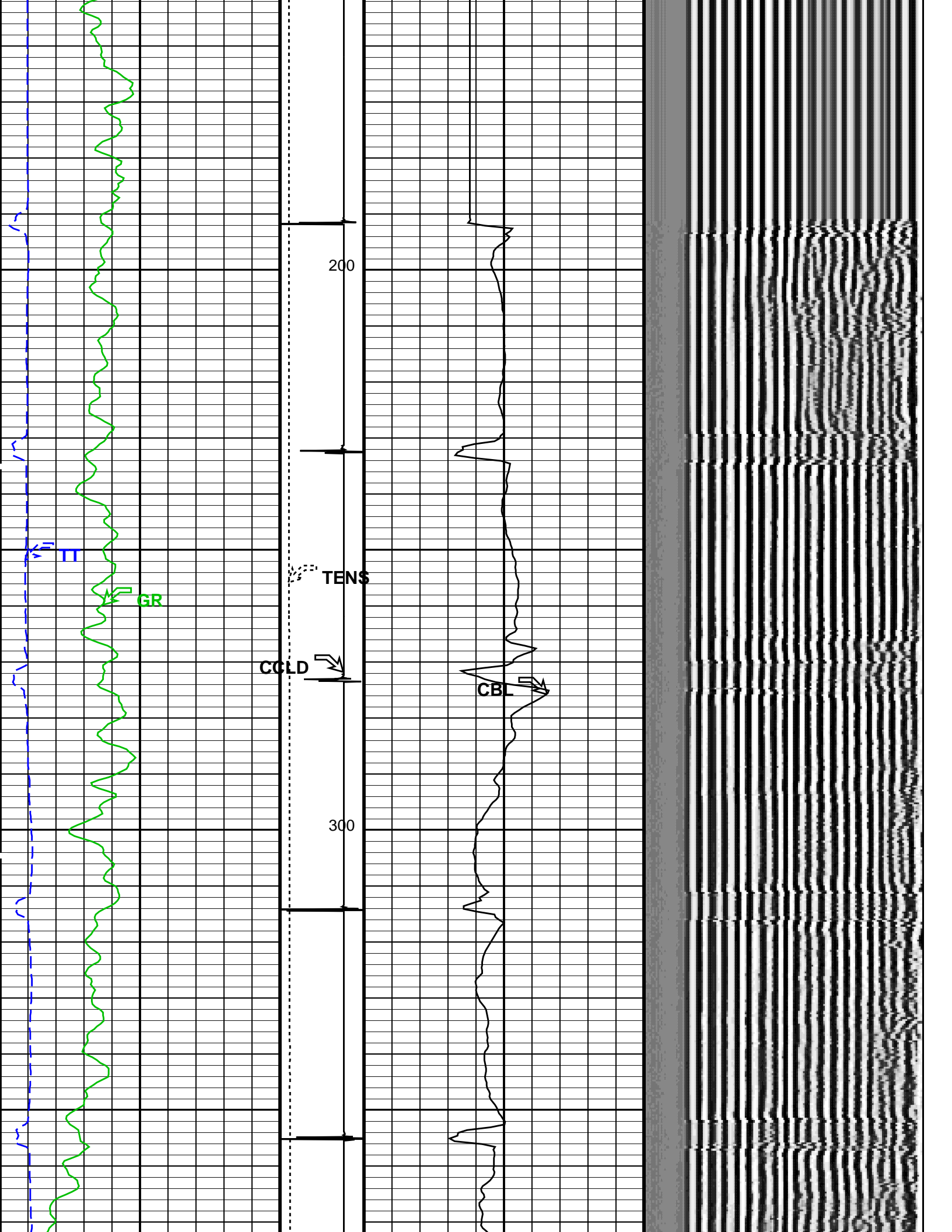
Company: ENCANA OIL & GAS (USA) INC. Well: DAYBREAK FEDERAL 19-2 (PJ19)

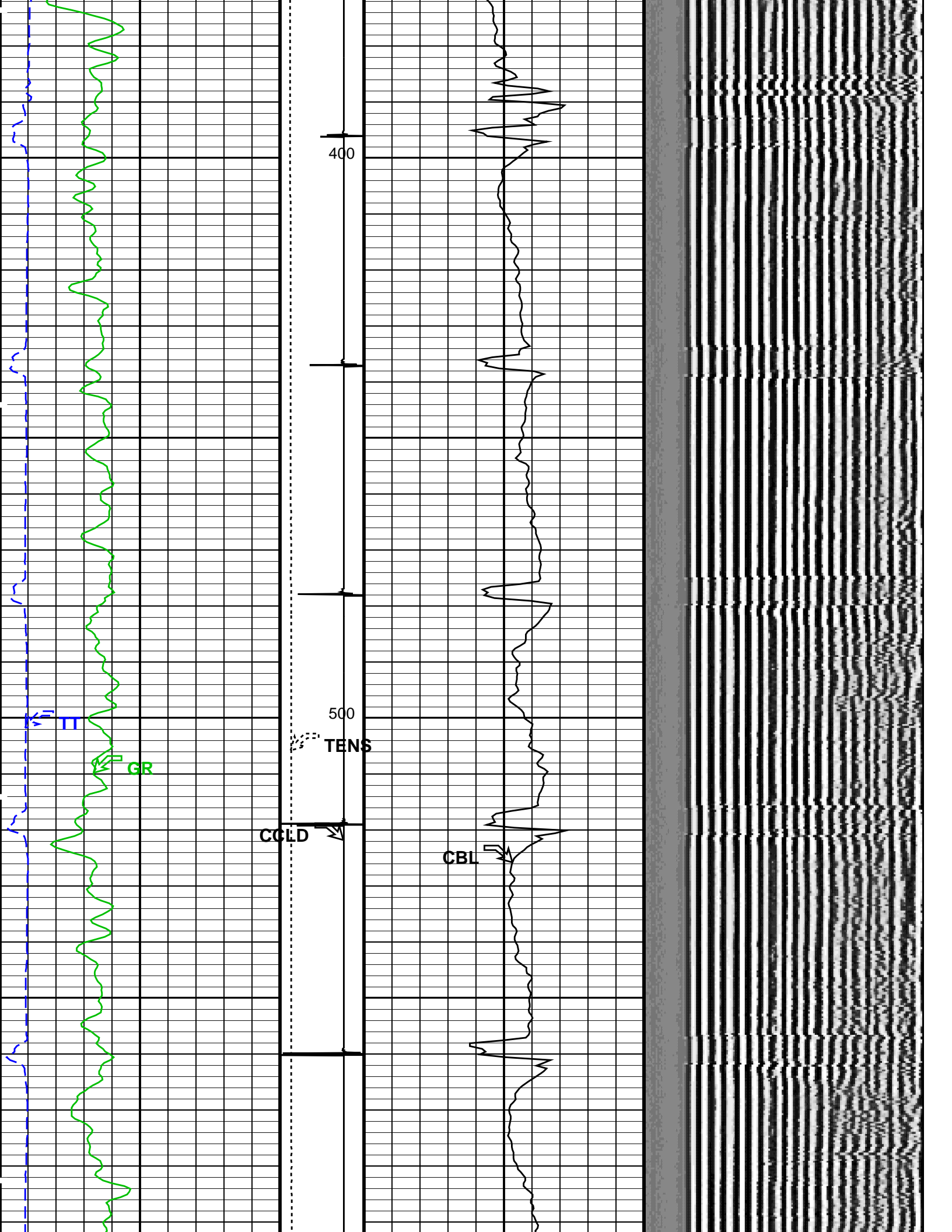
Output DLIS Files						
DEFAULT	SCMT_RST_PSP_045LUP	FN:44	PRODUCER	05-Oct-2011 23:03	7027.0 FT	138.0 FT

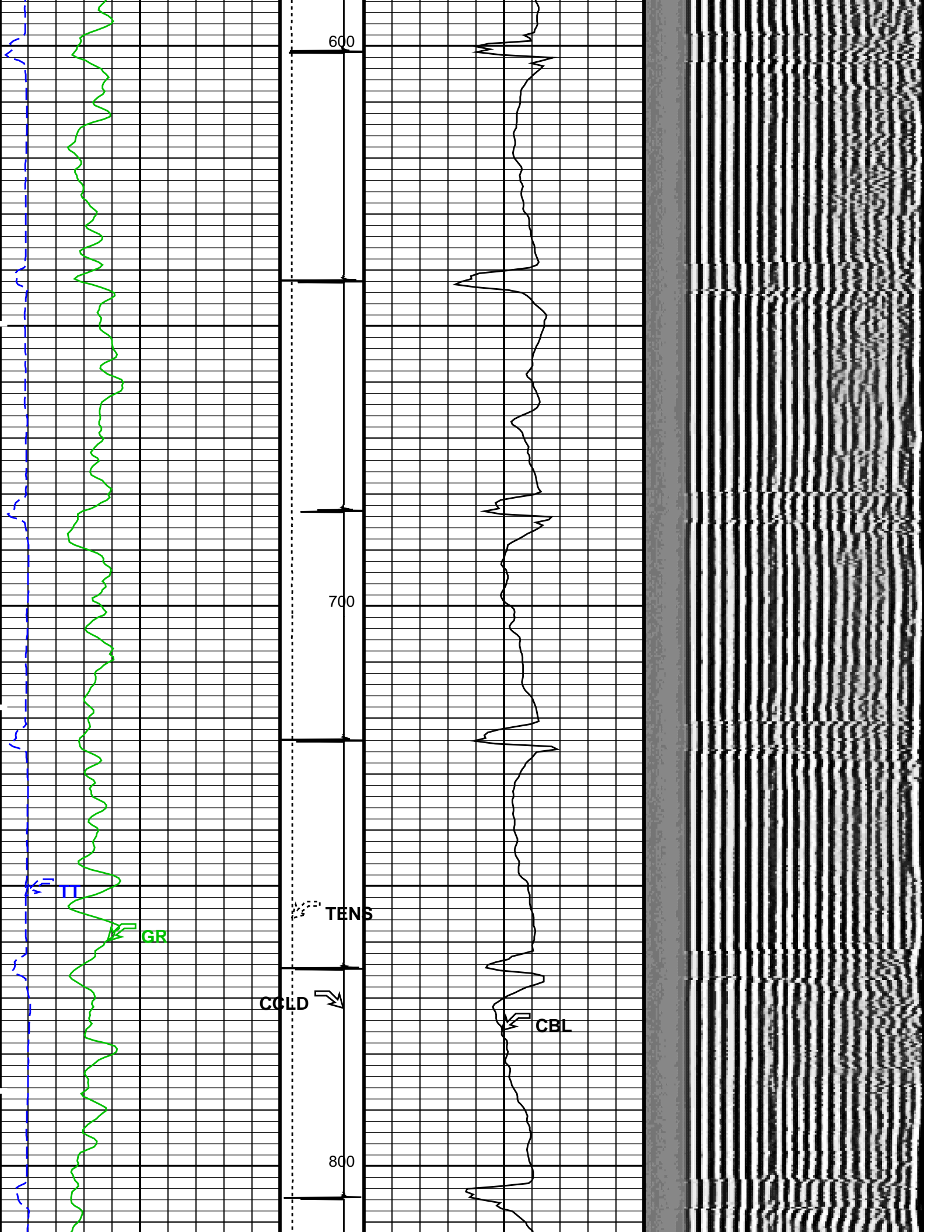
OP System Version: 19C0-187			
SCMT-CB PSPT	SRPC-5095-H2-2011-OP19_b 19C0-187	RST-C	SRPC-5095-H2-2011-OP19_b

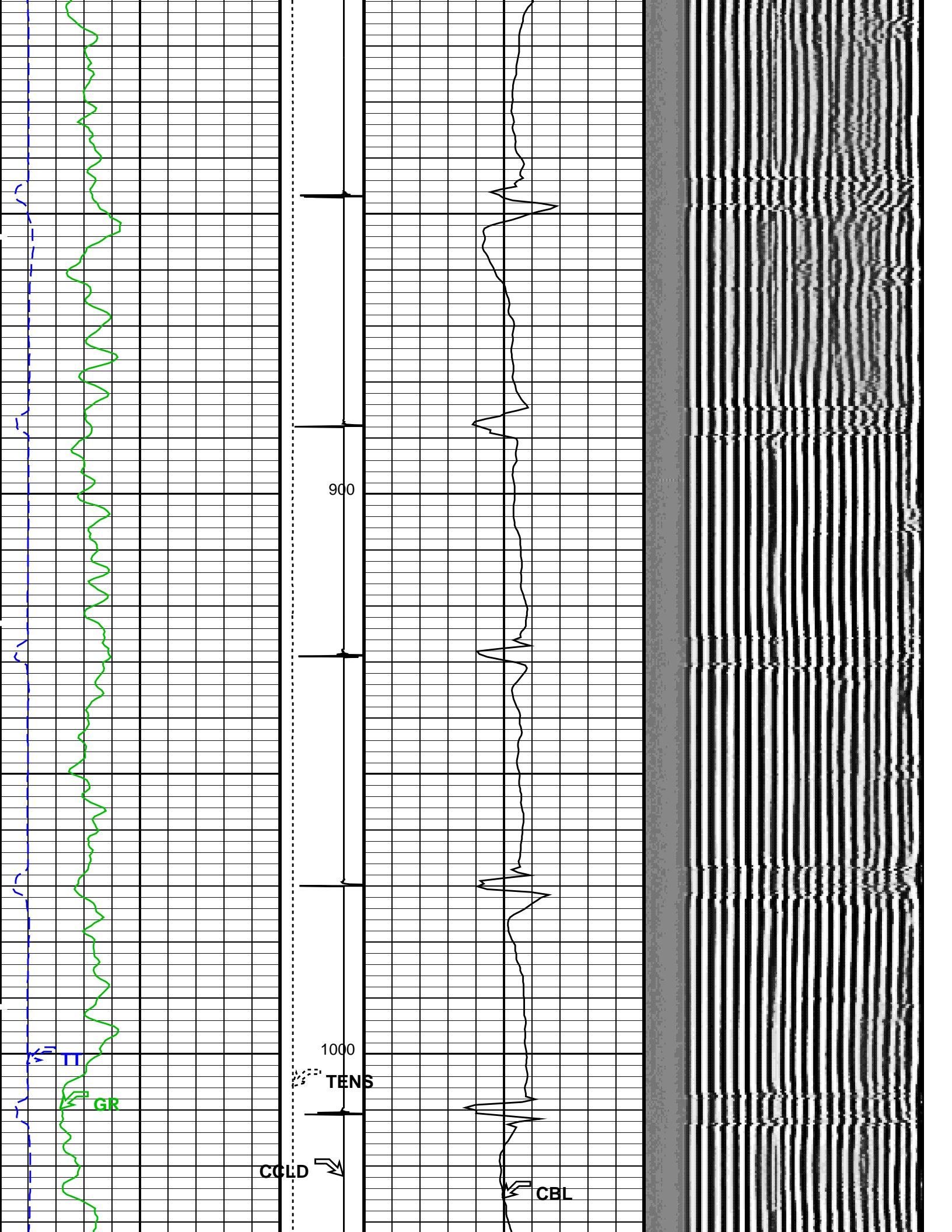


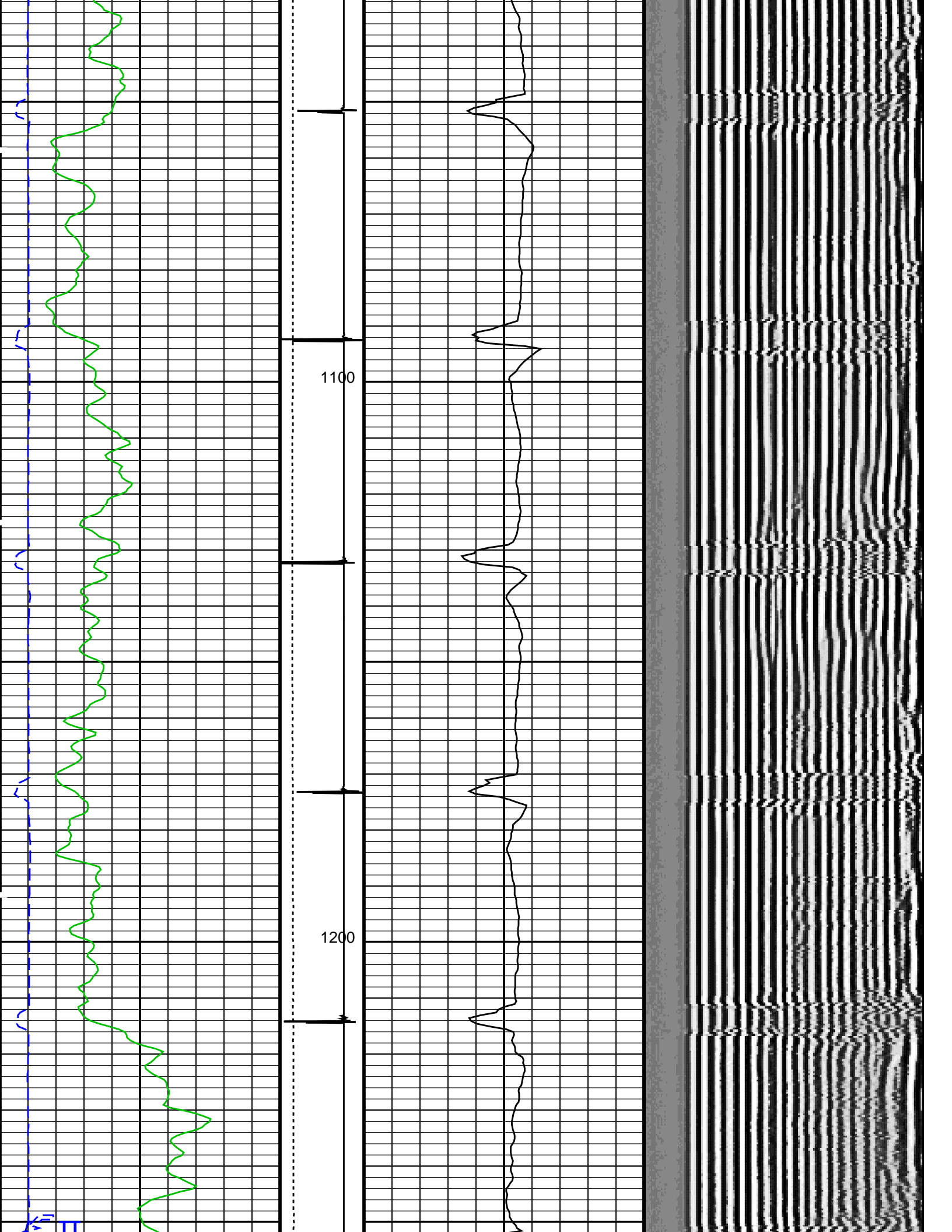




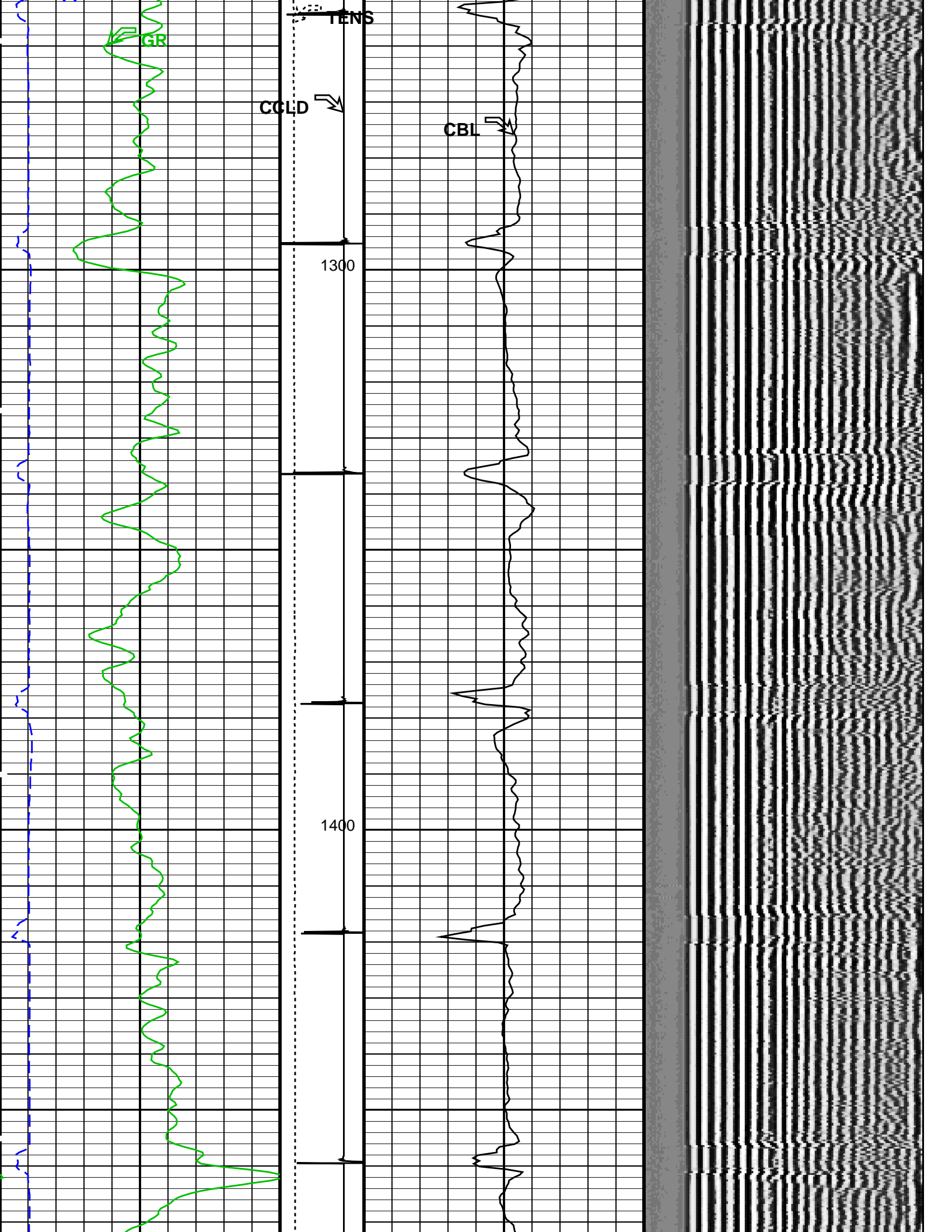


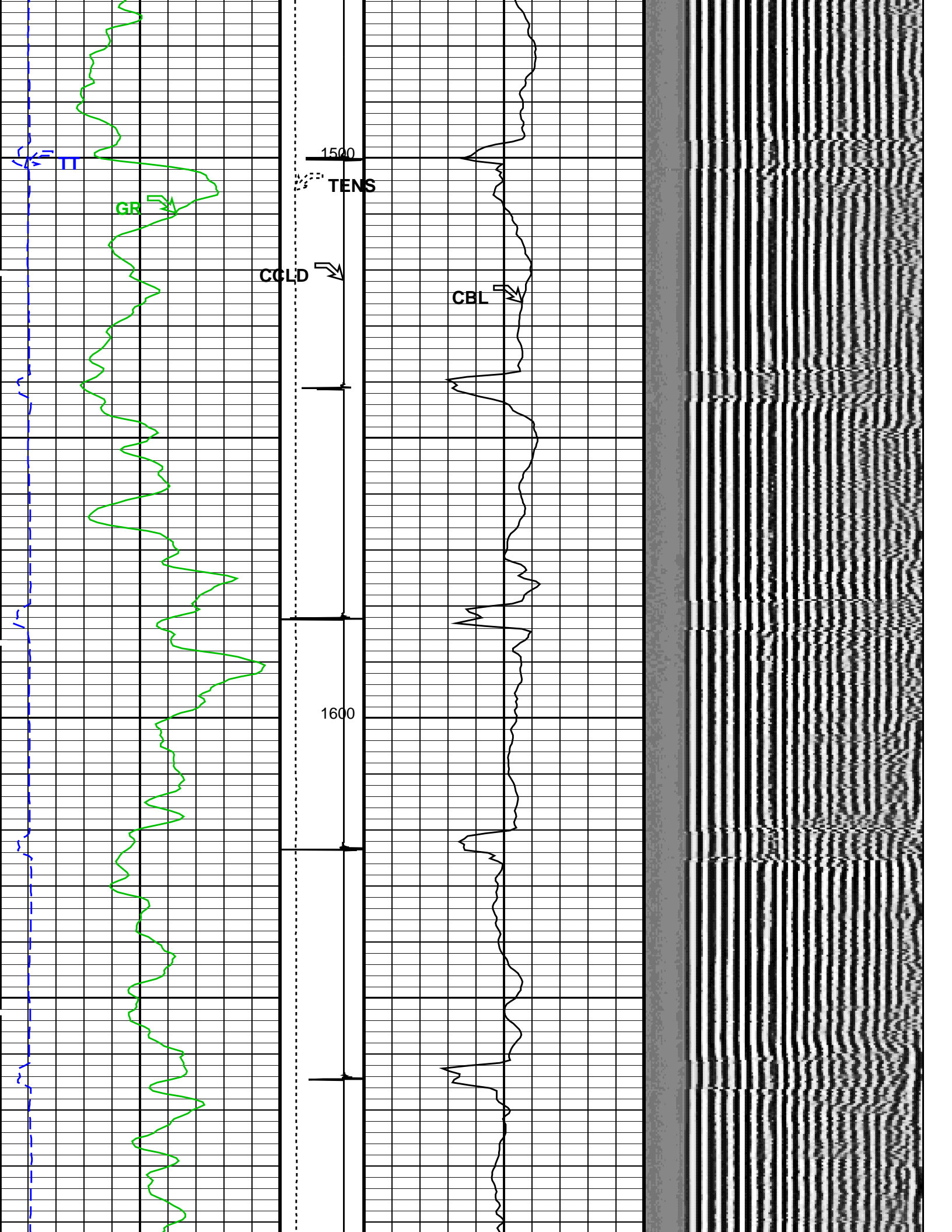






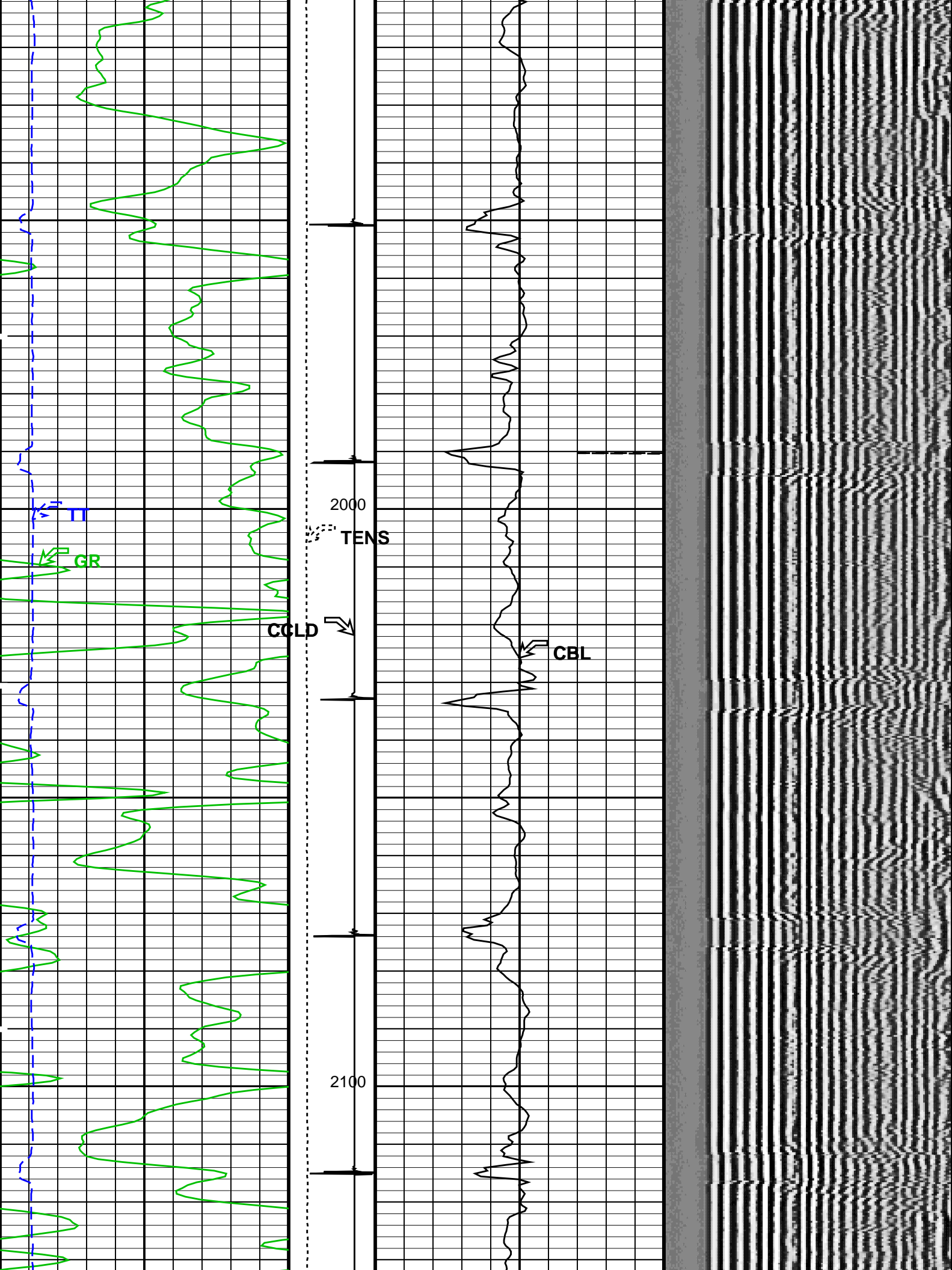


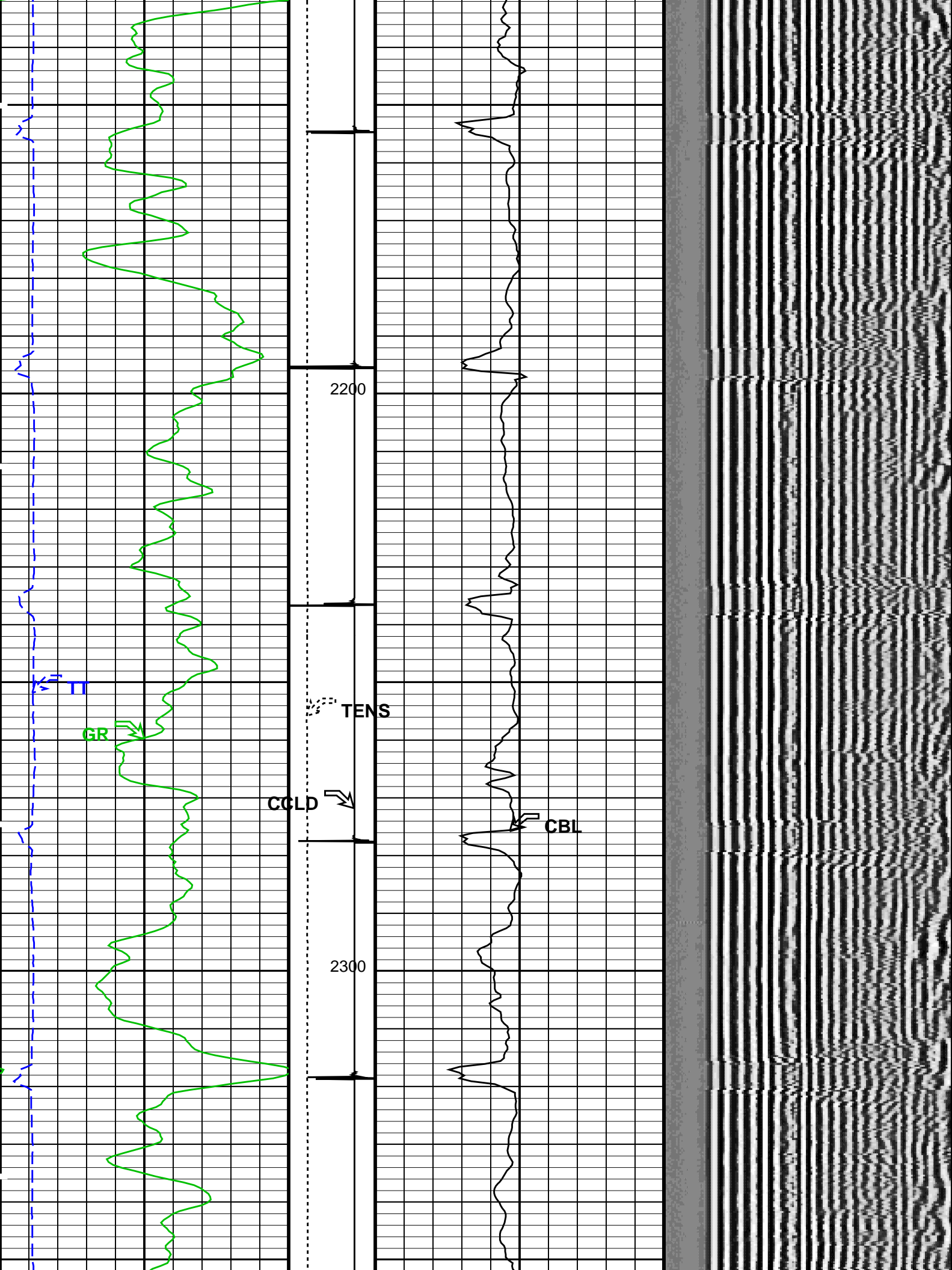


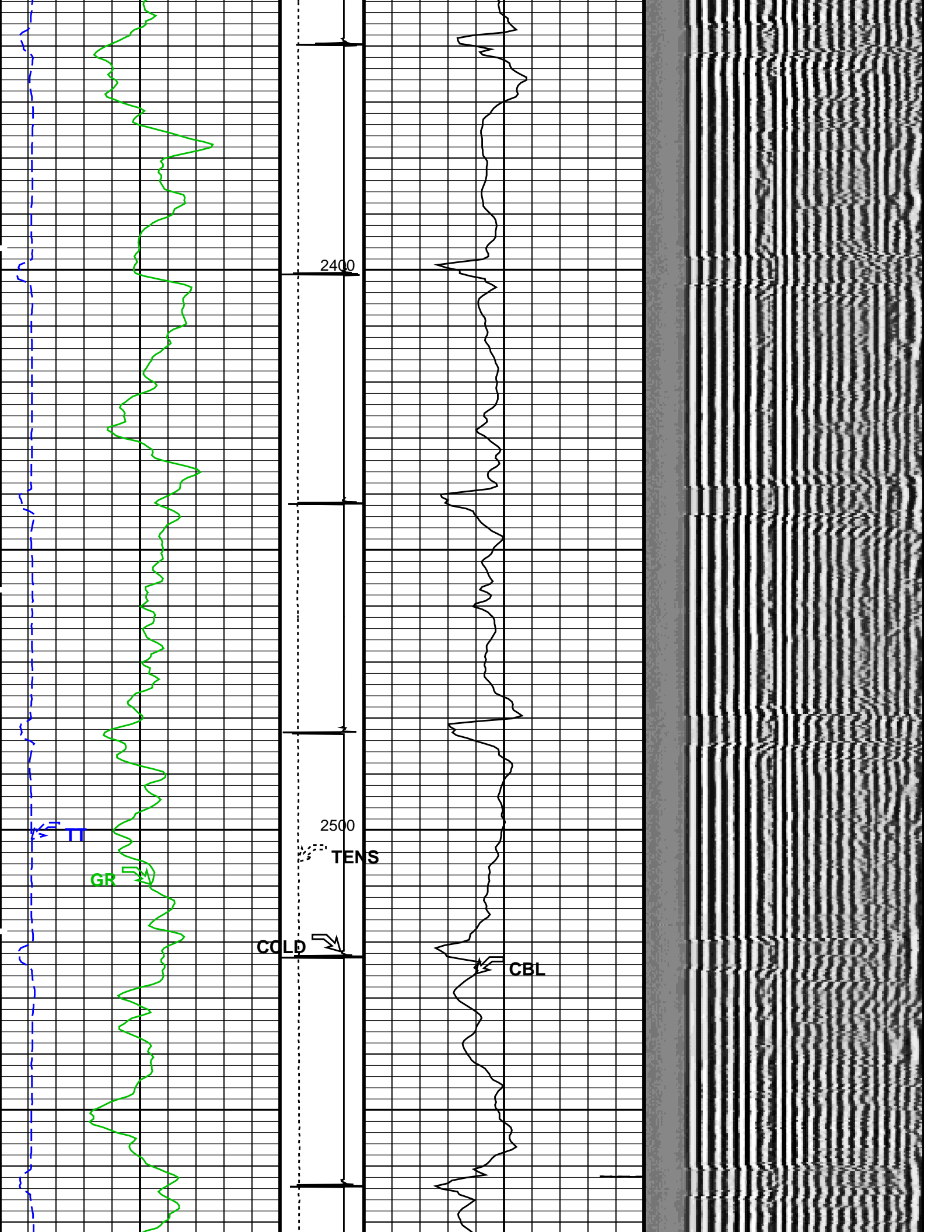


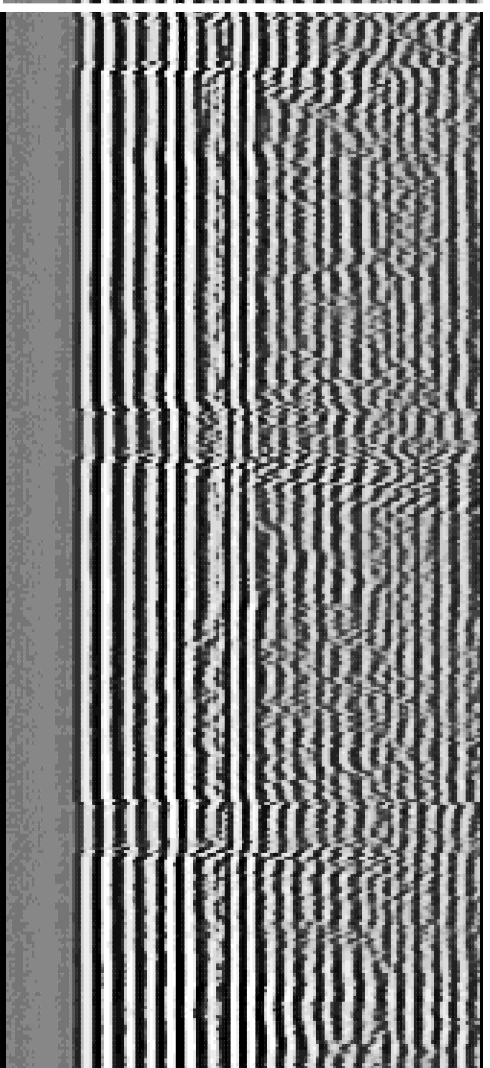
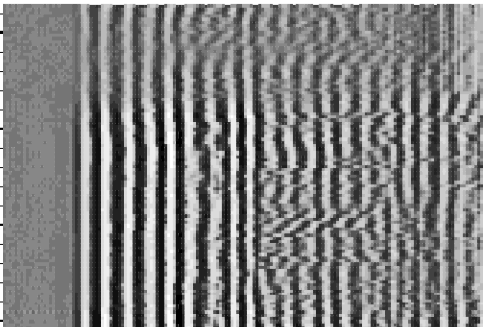
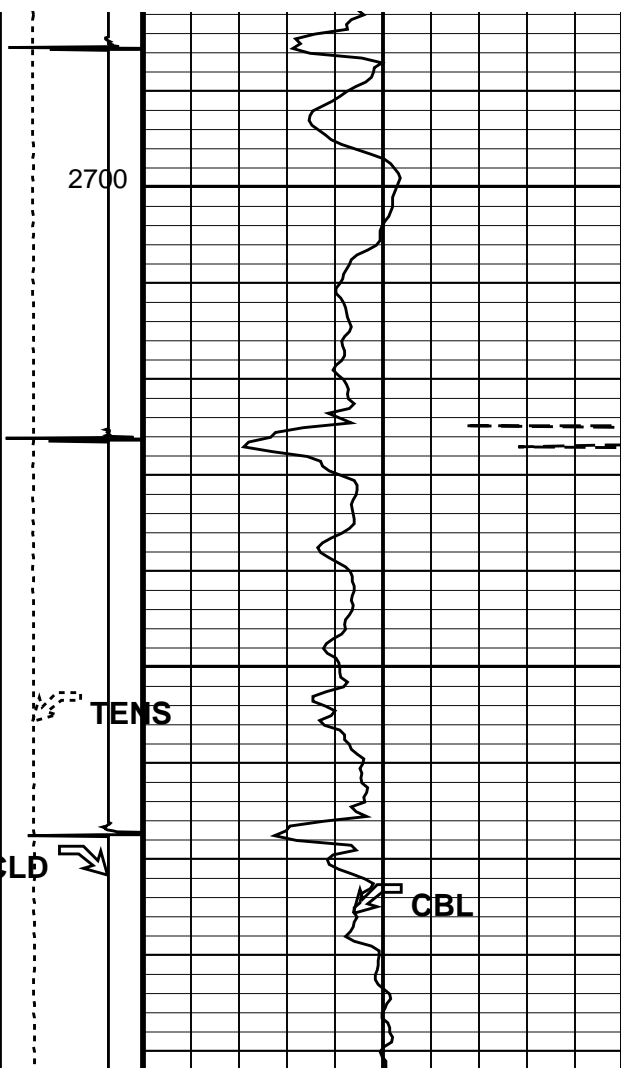
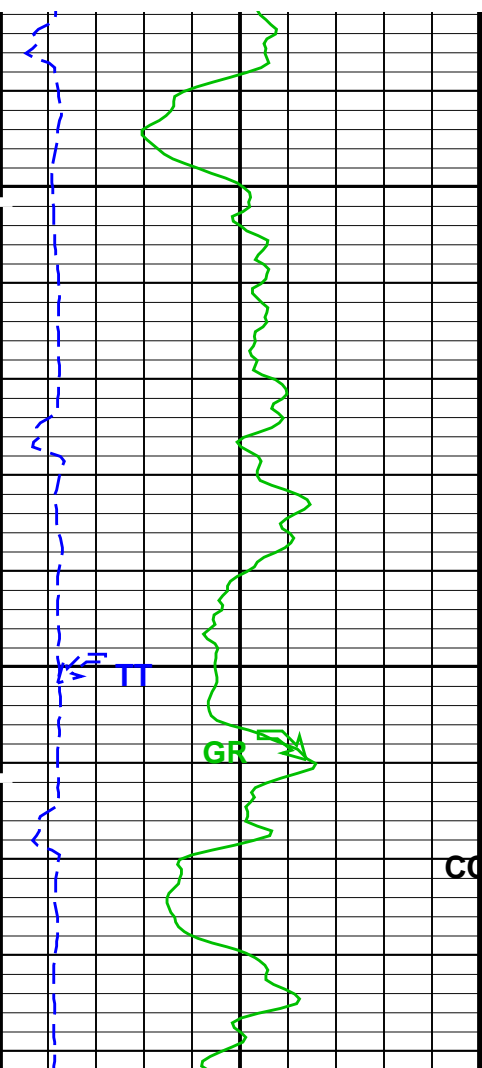




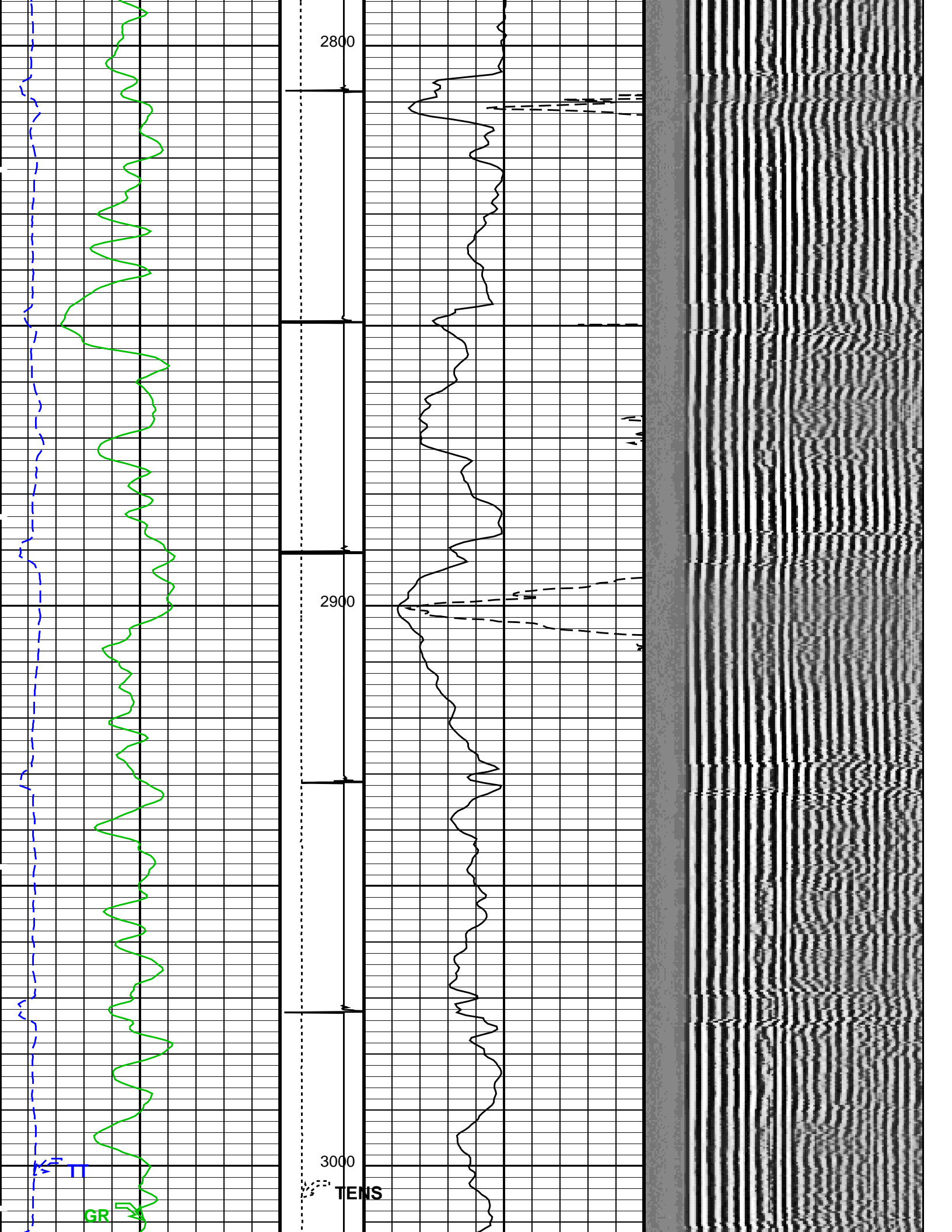


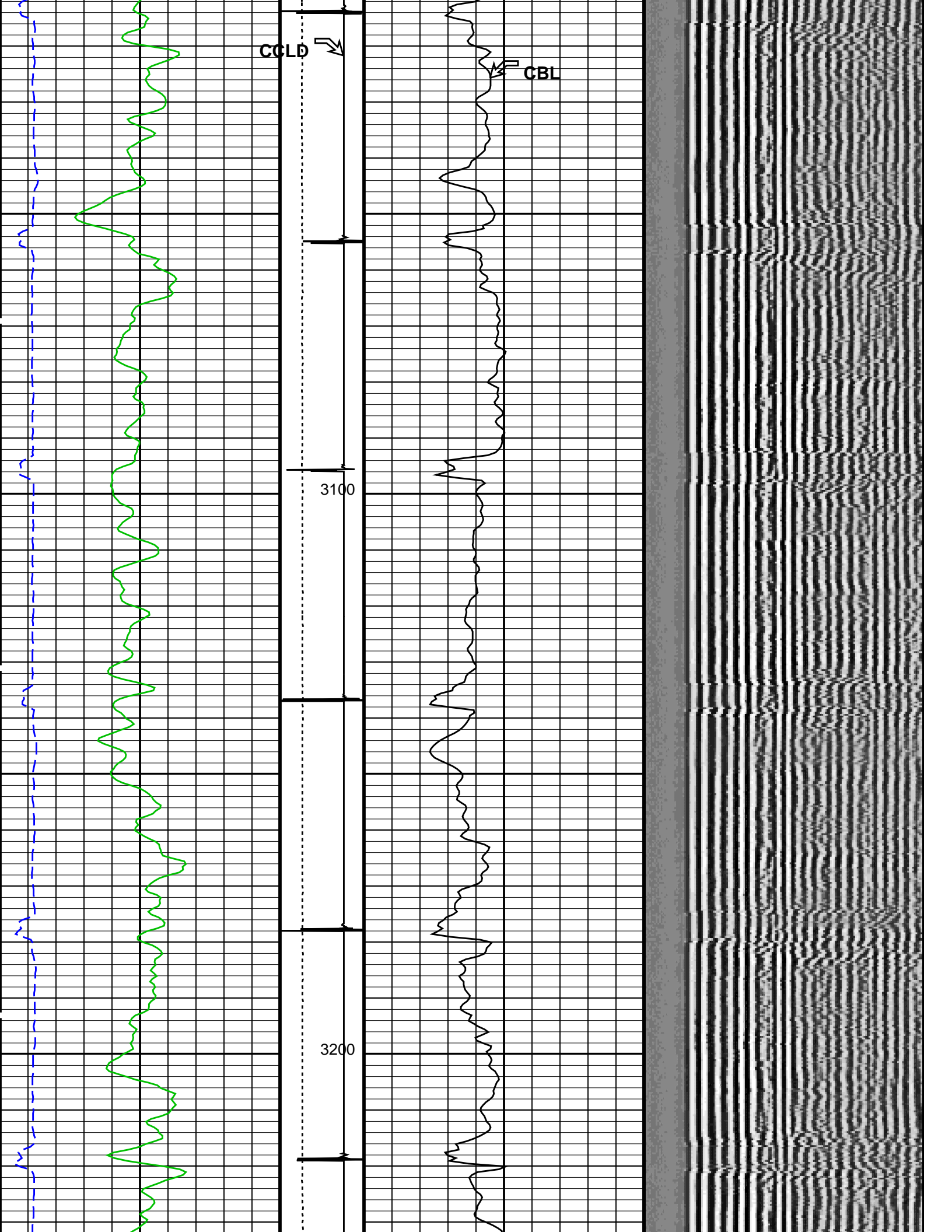


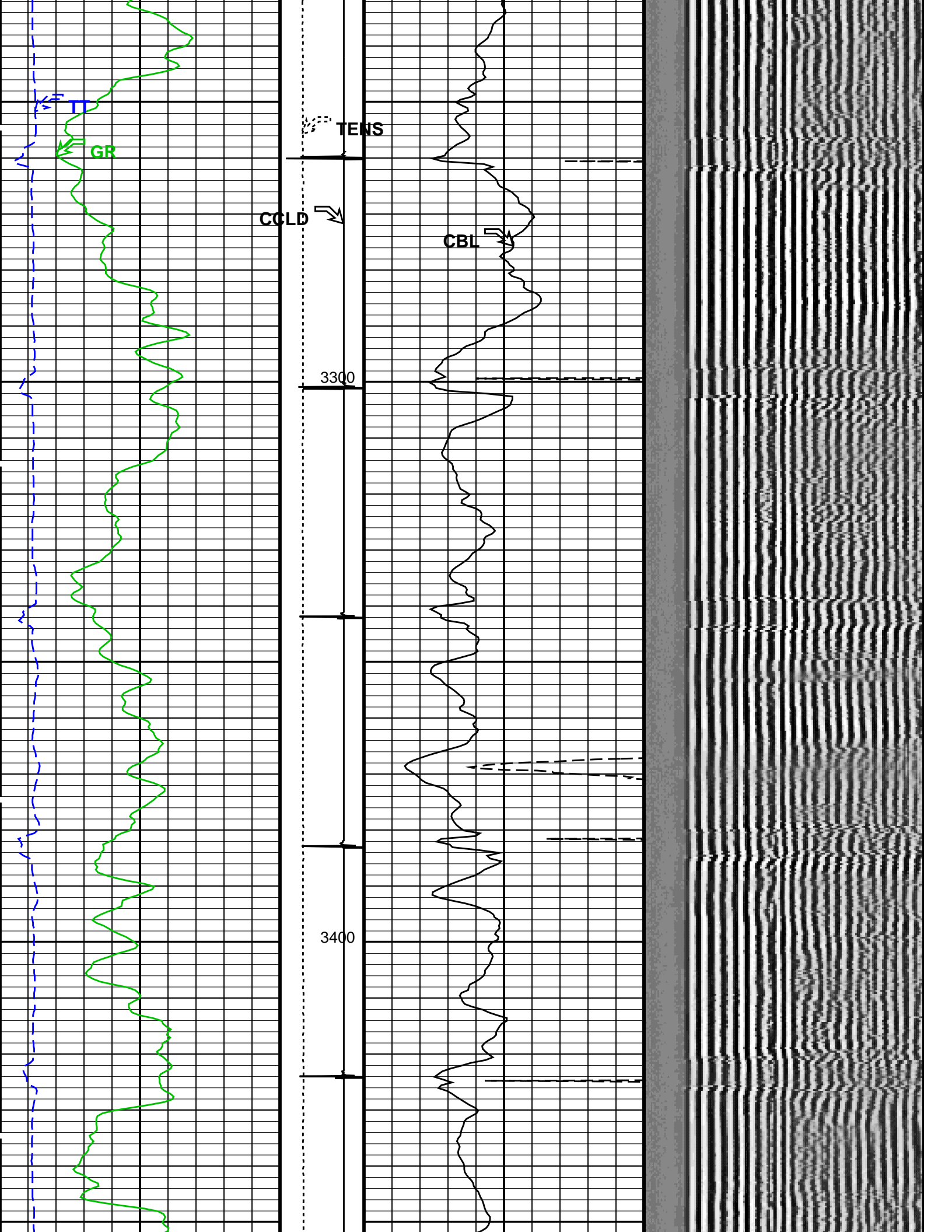


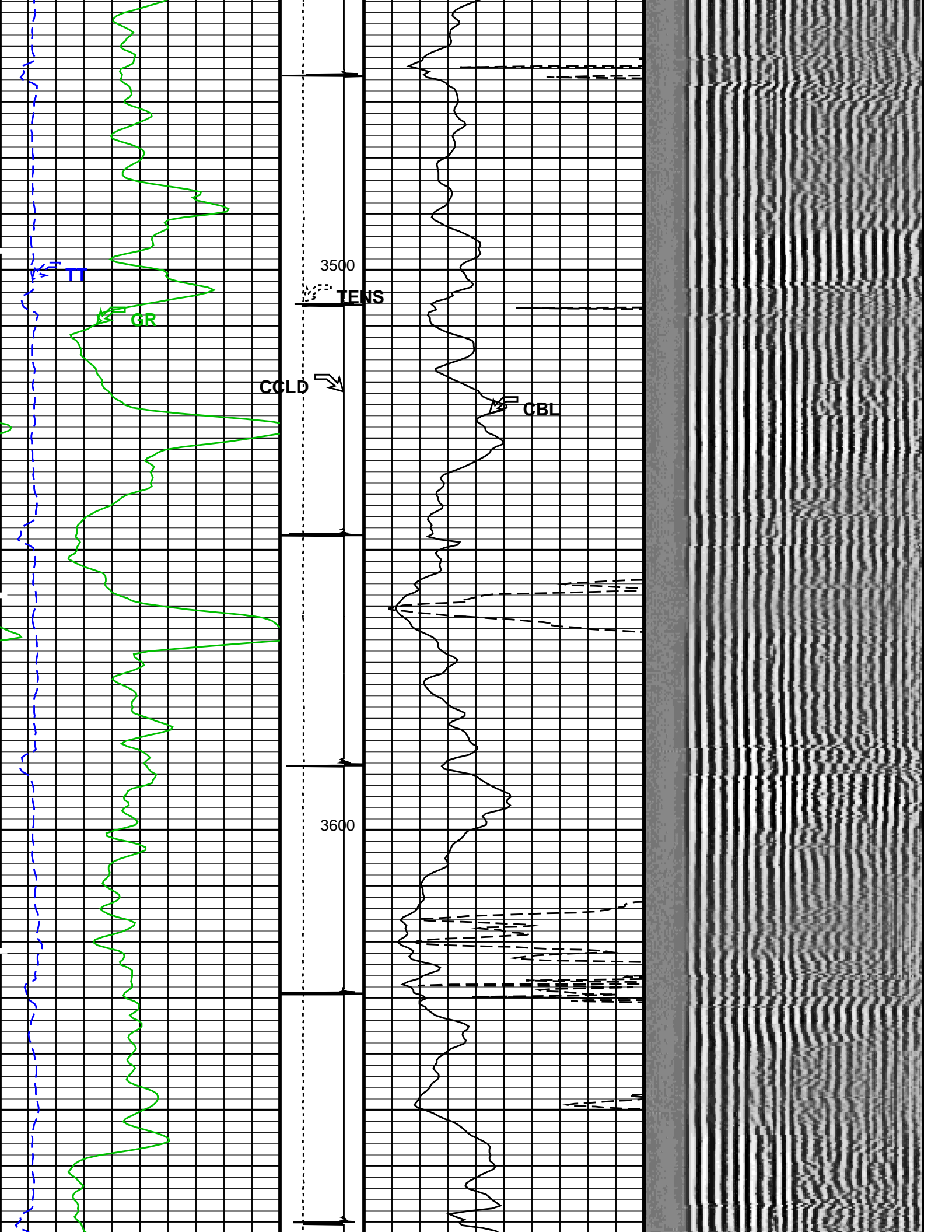




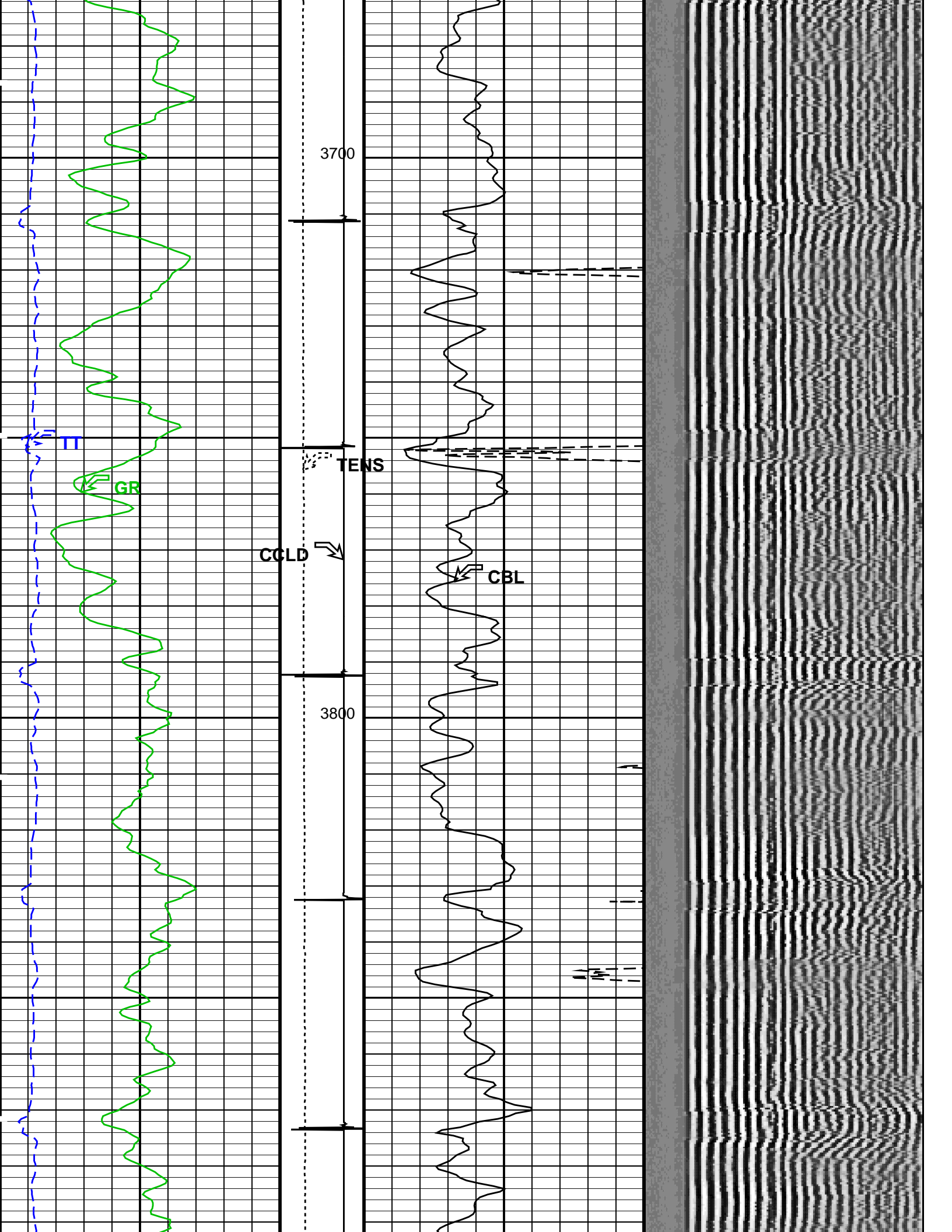


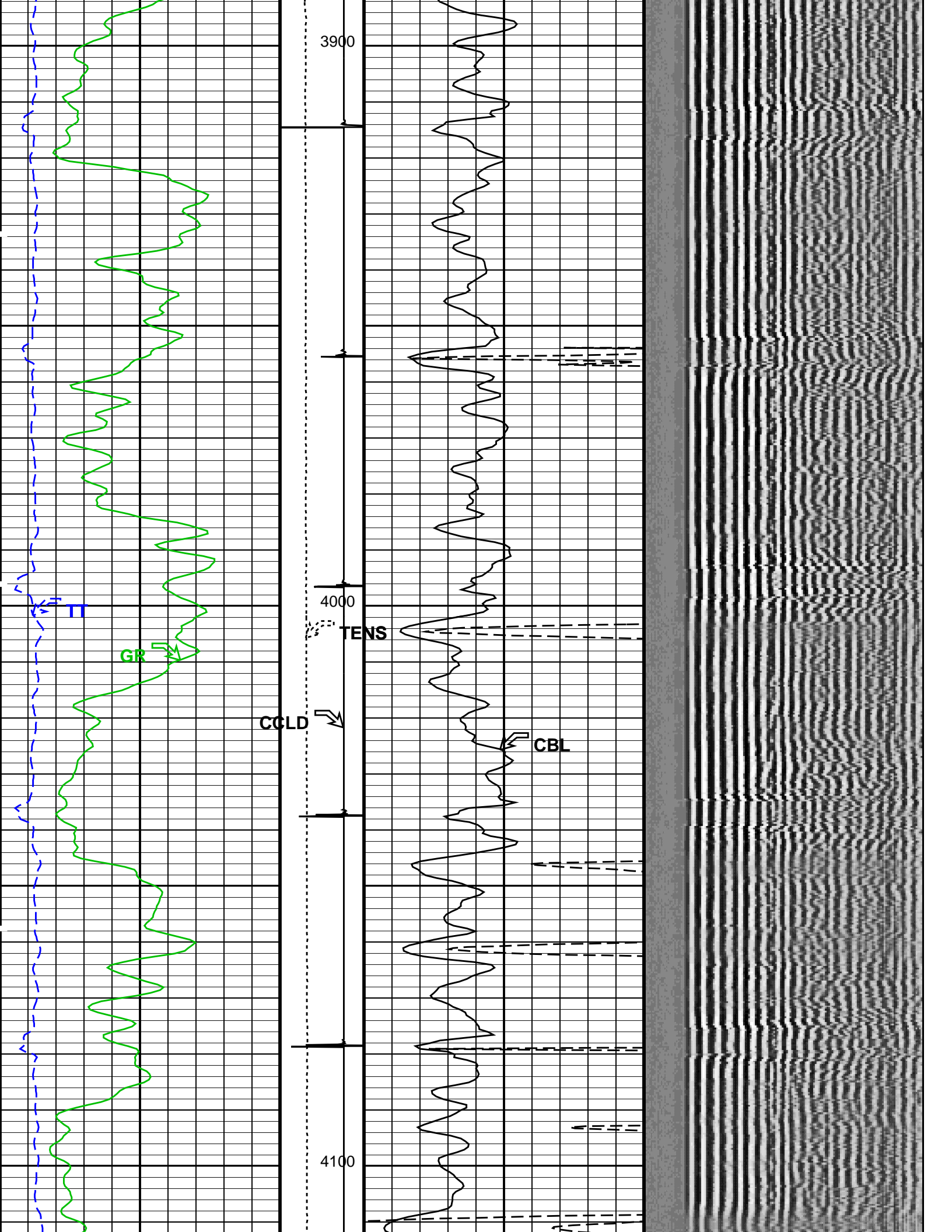


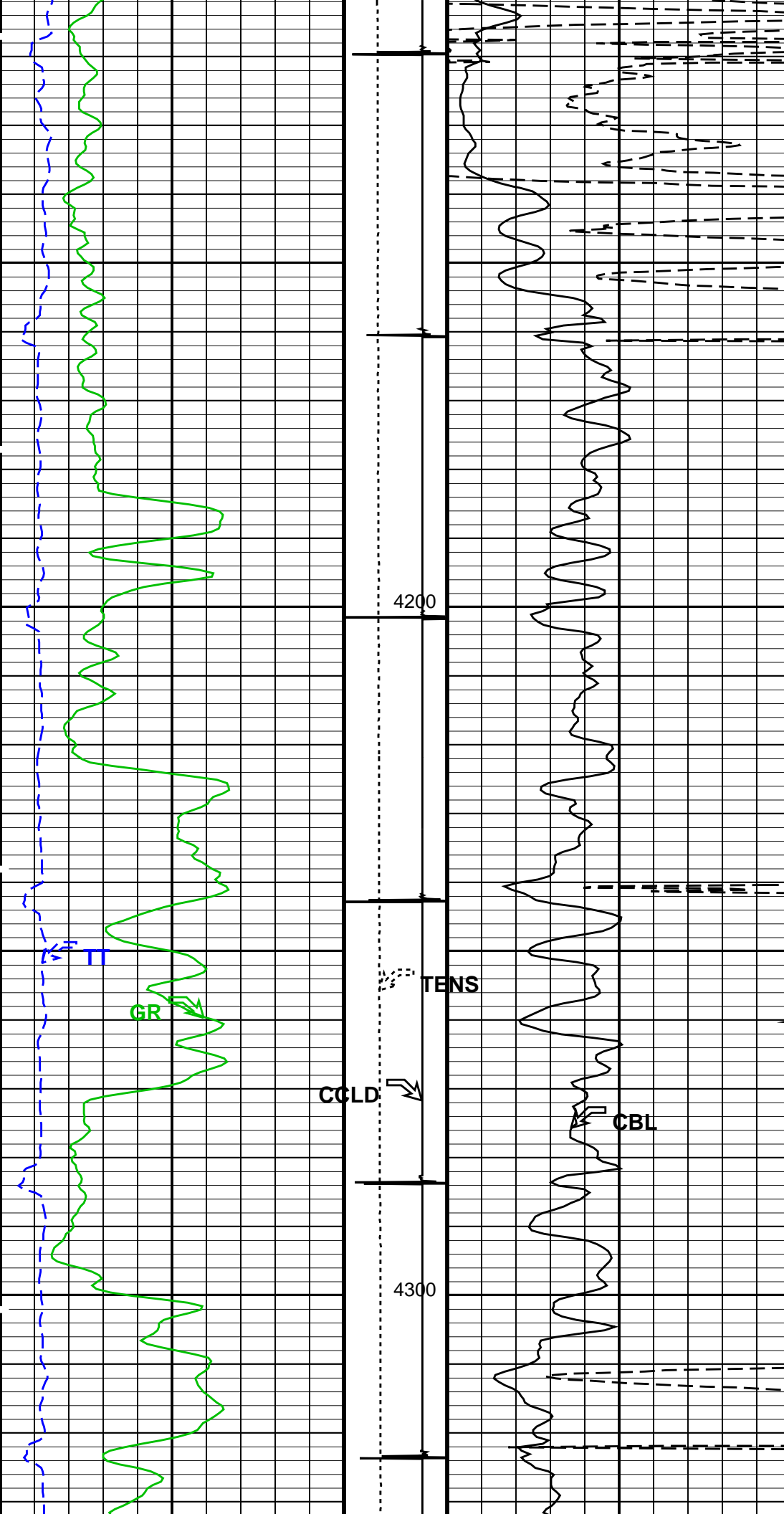




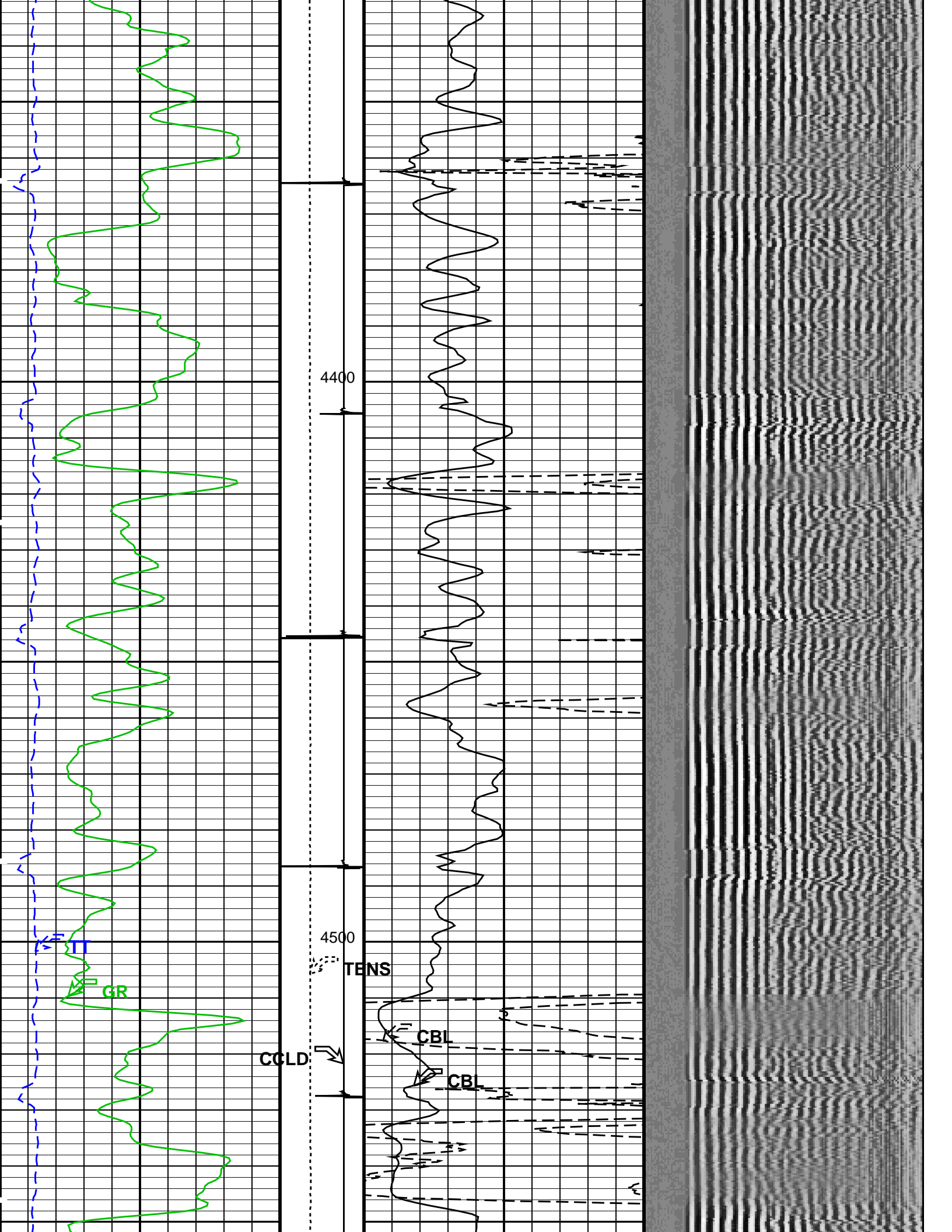


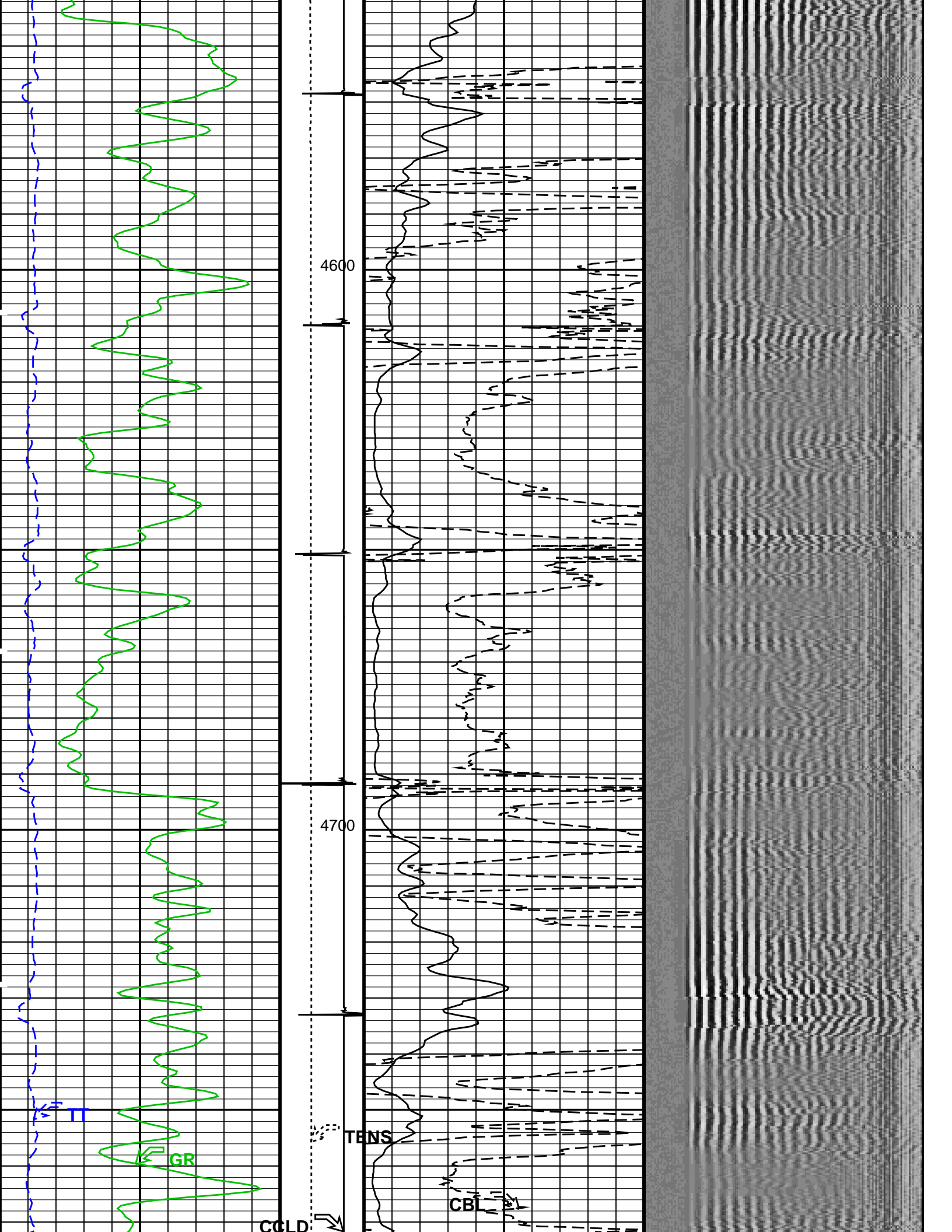


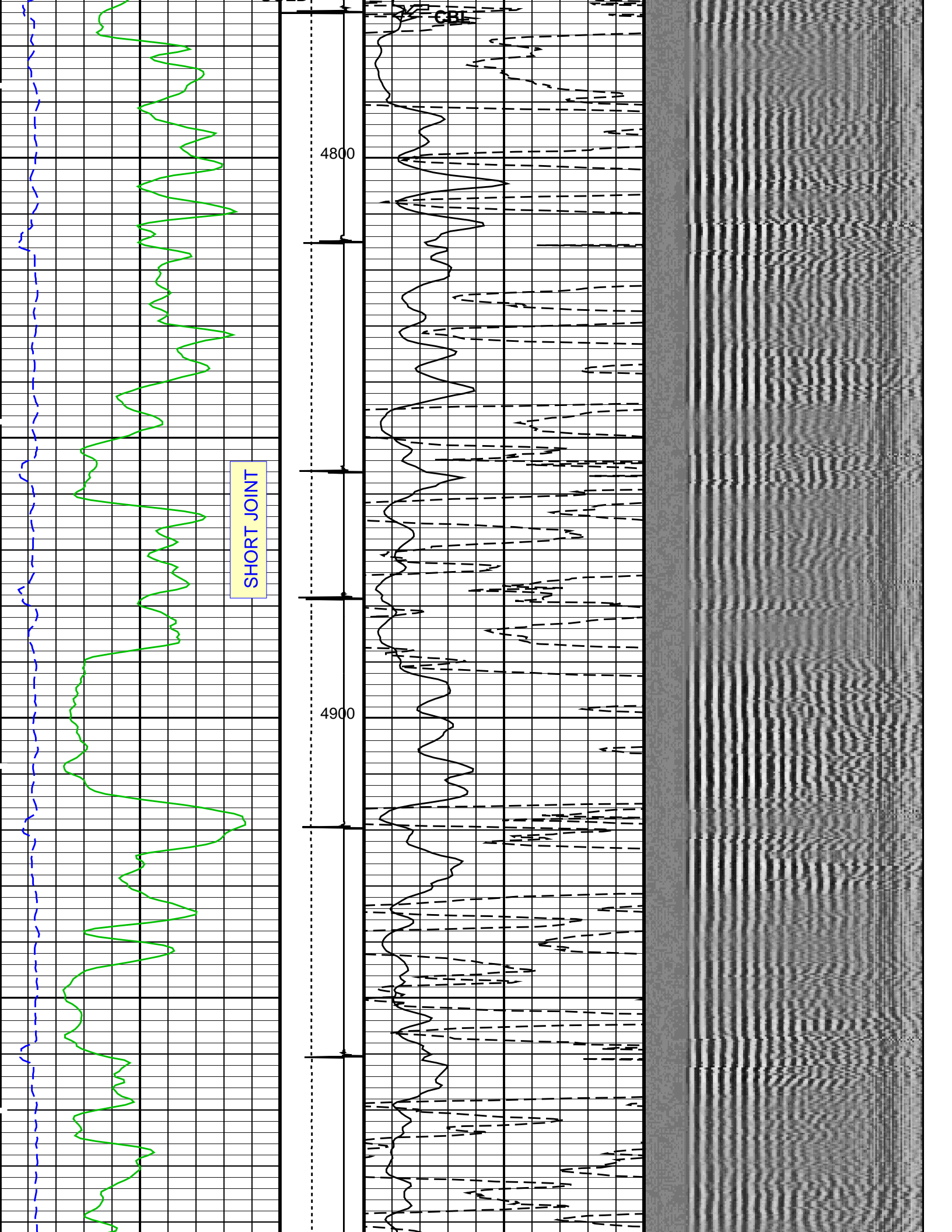




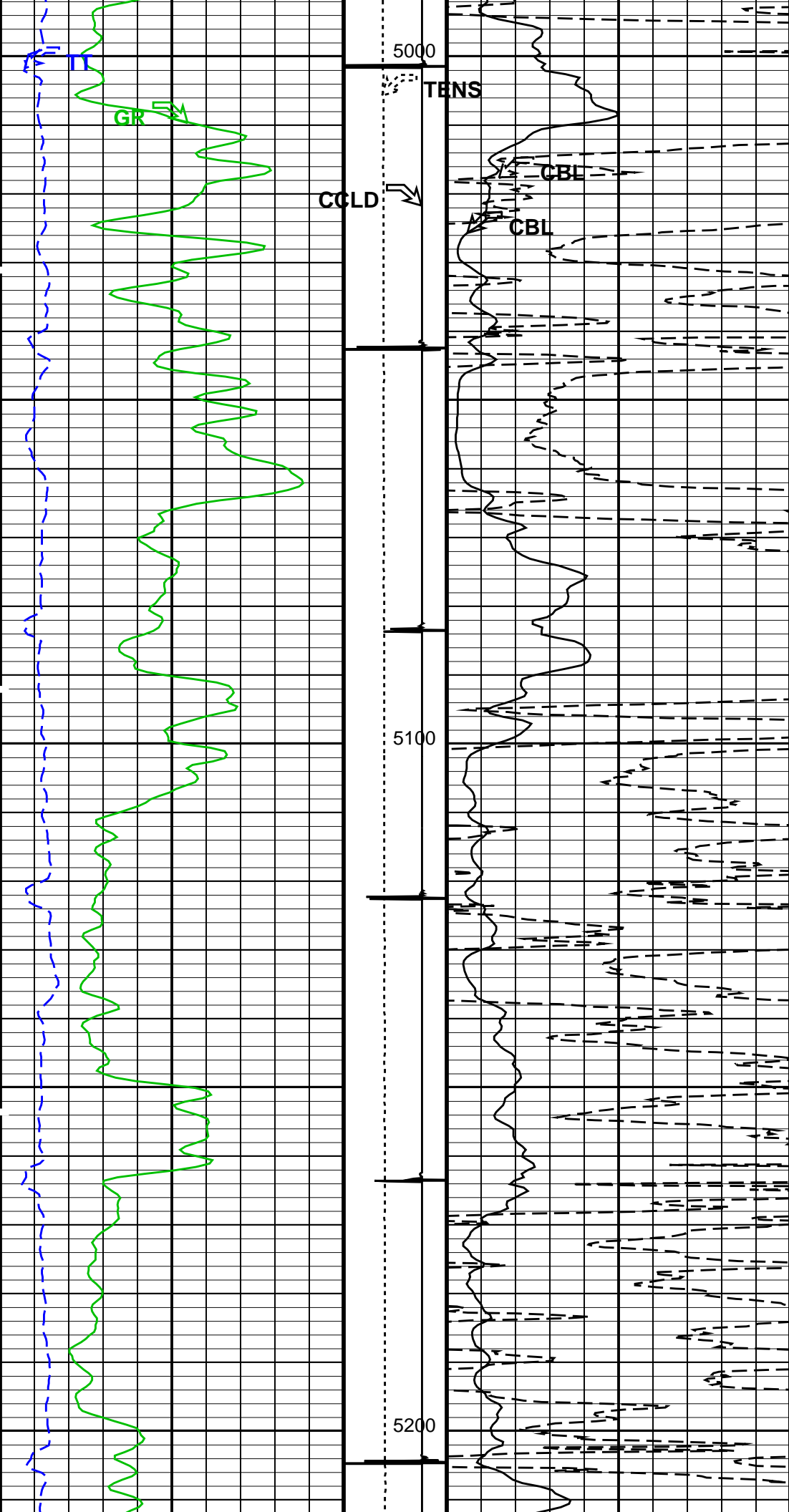


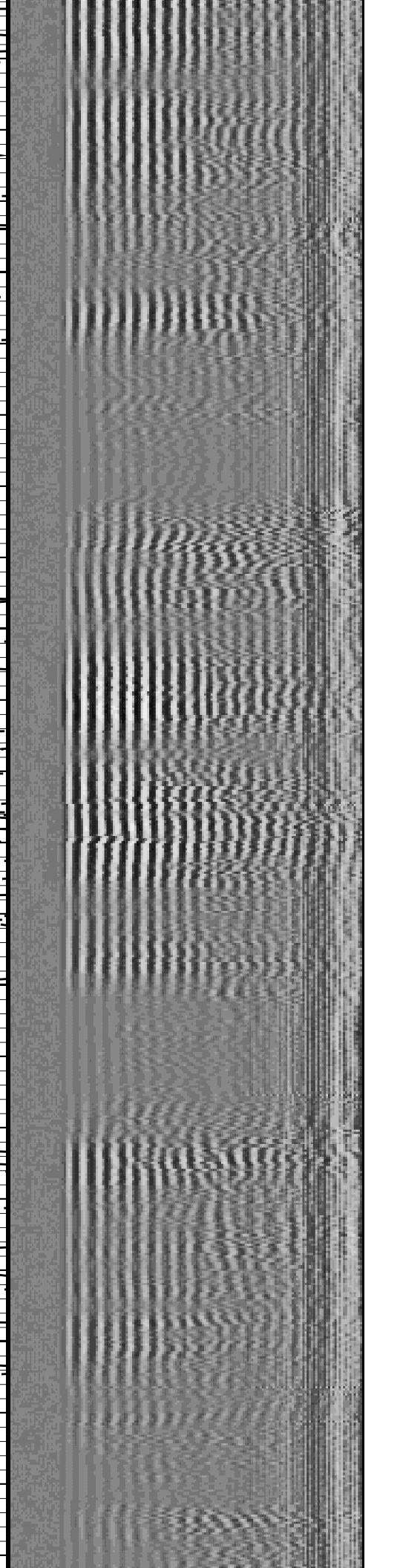
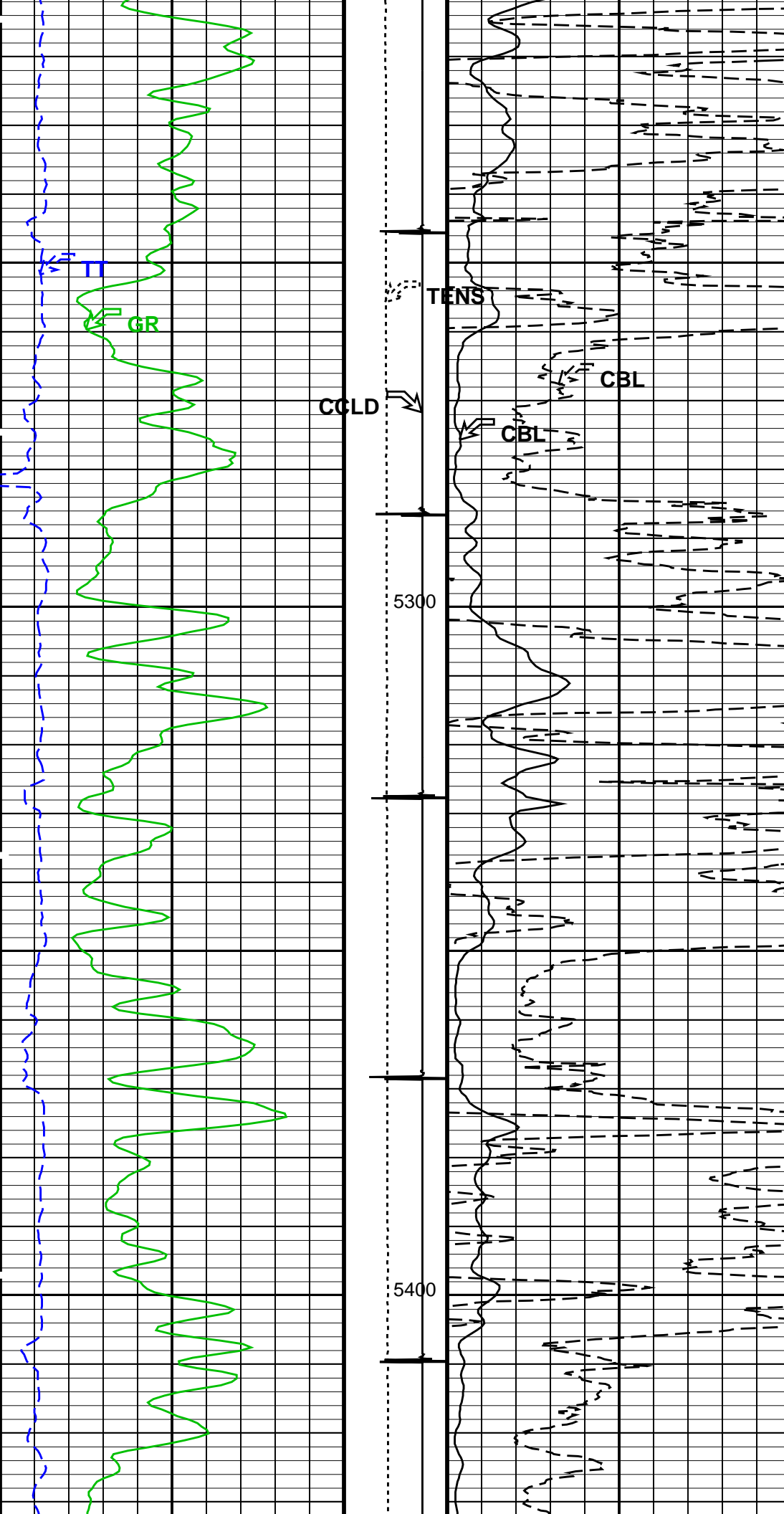




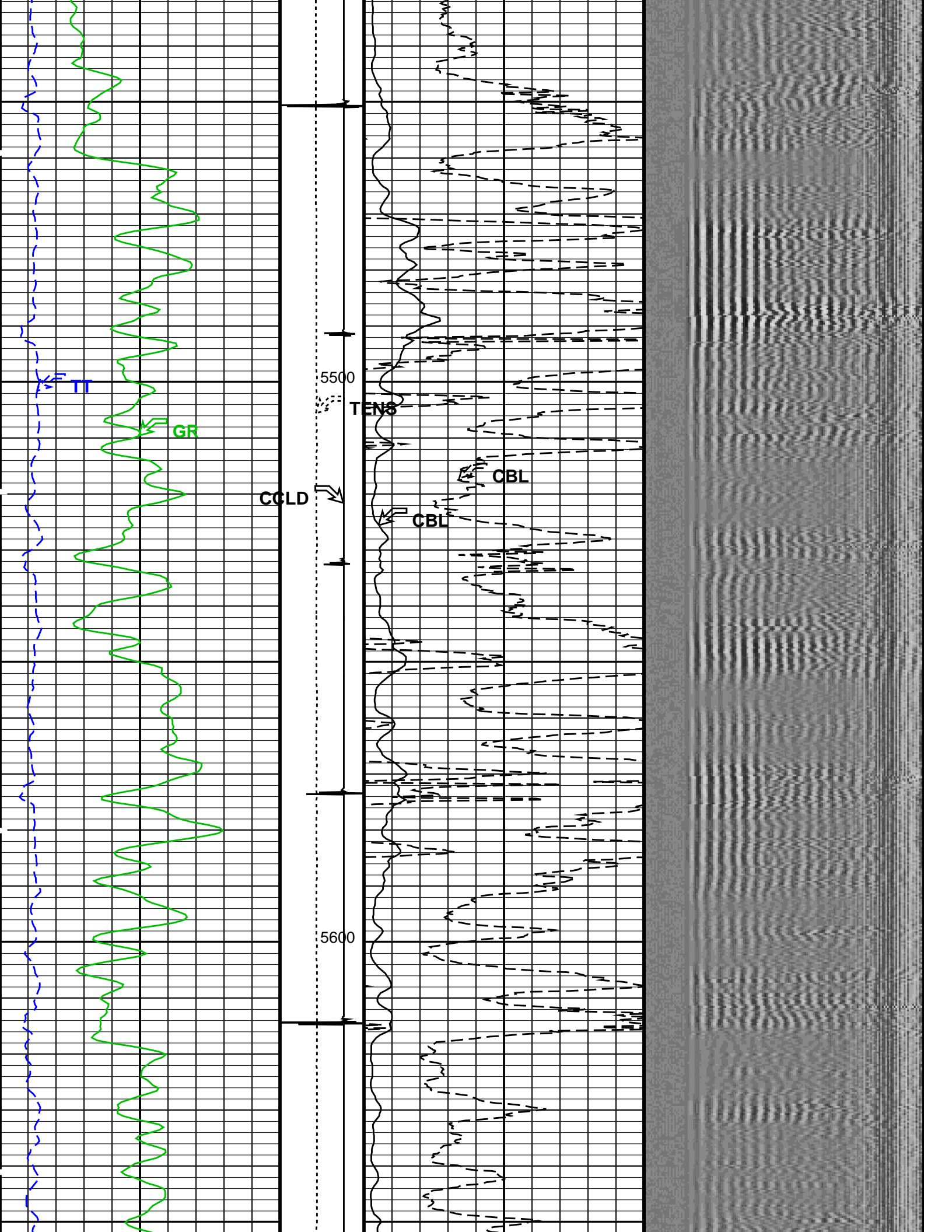


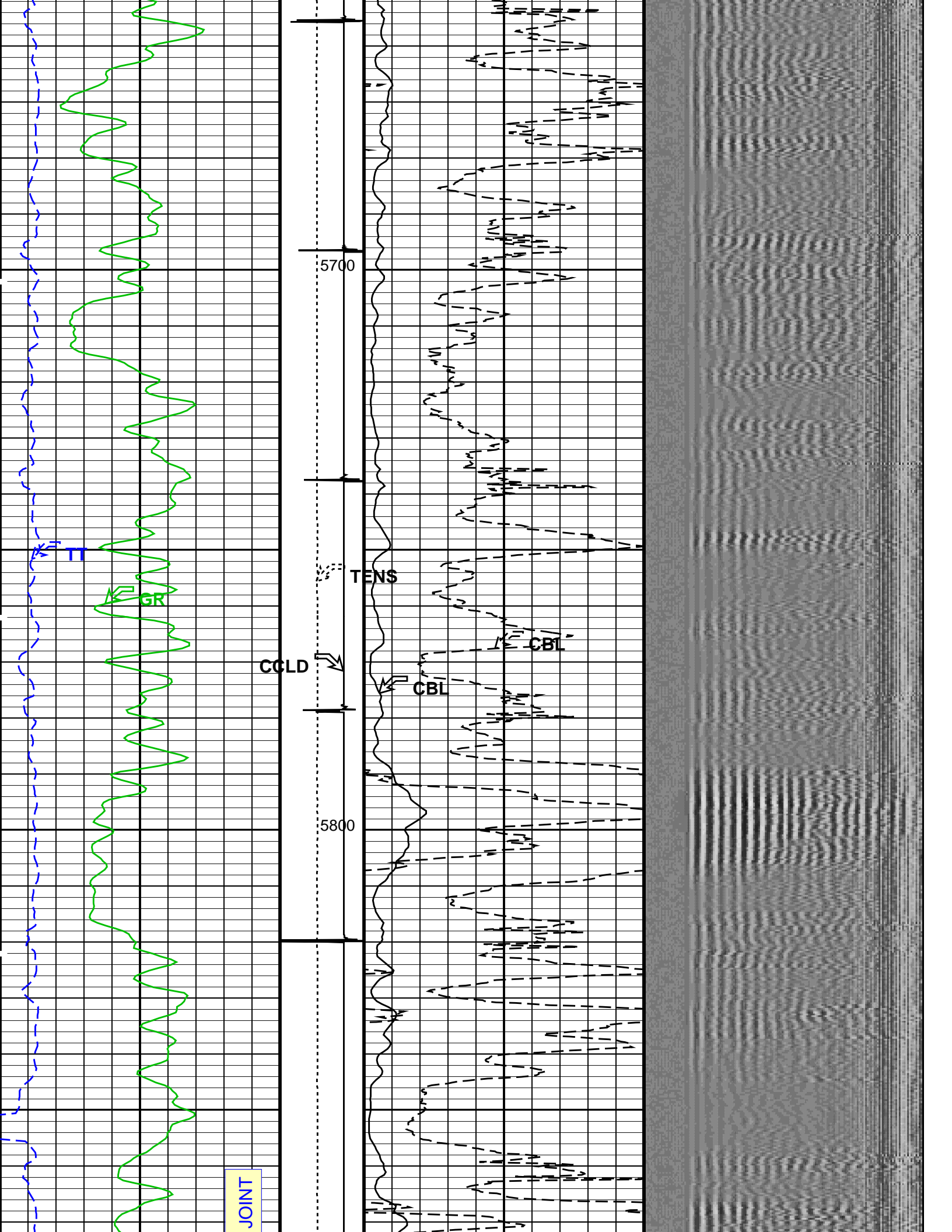


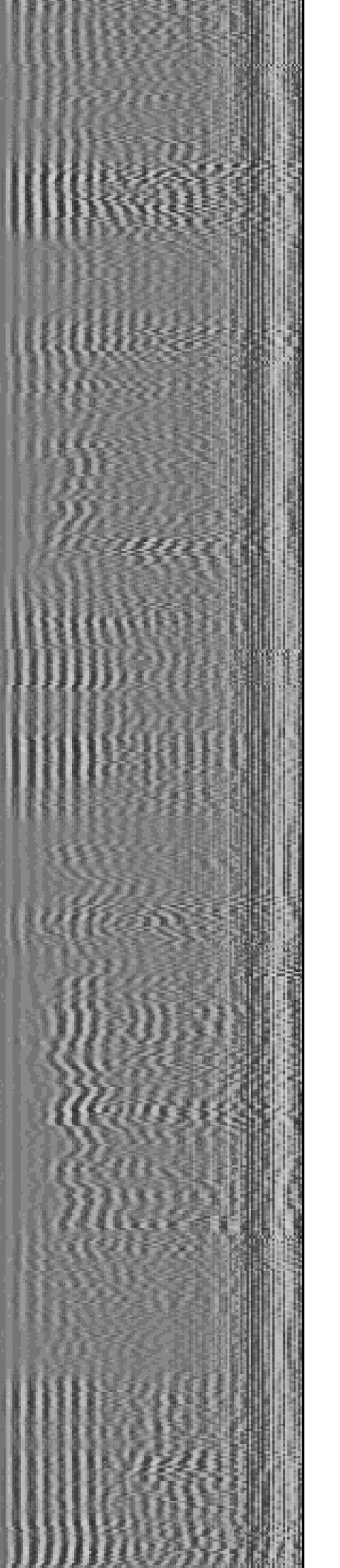
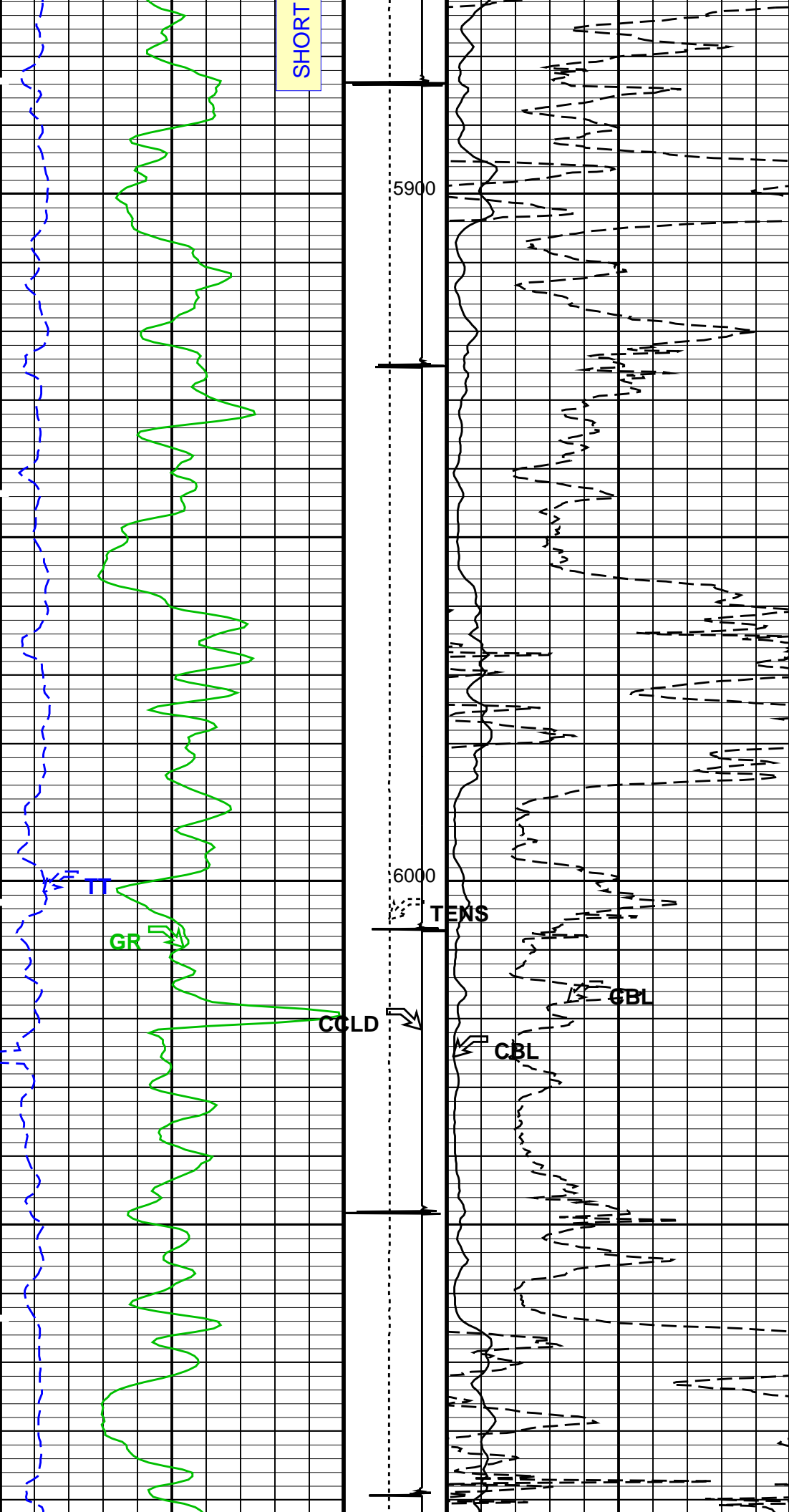




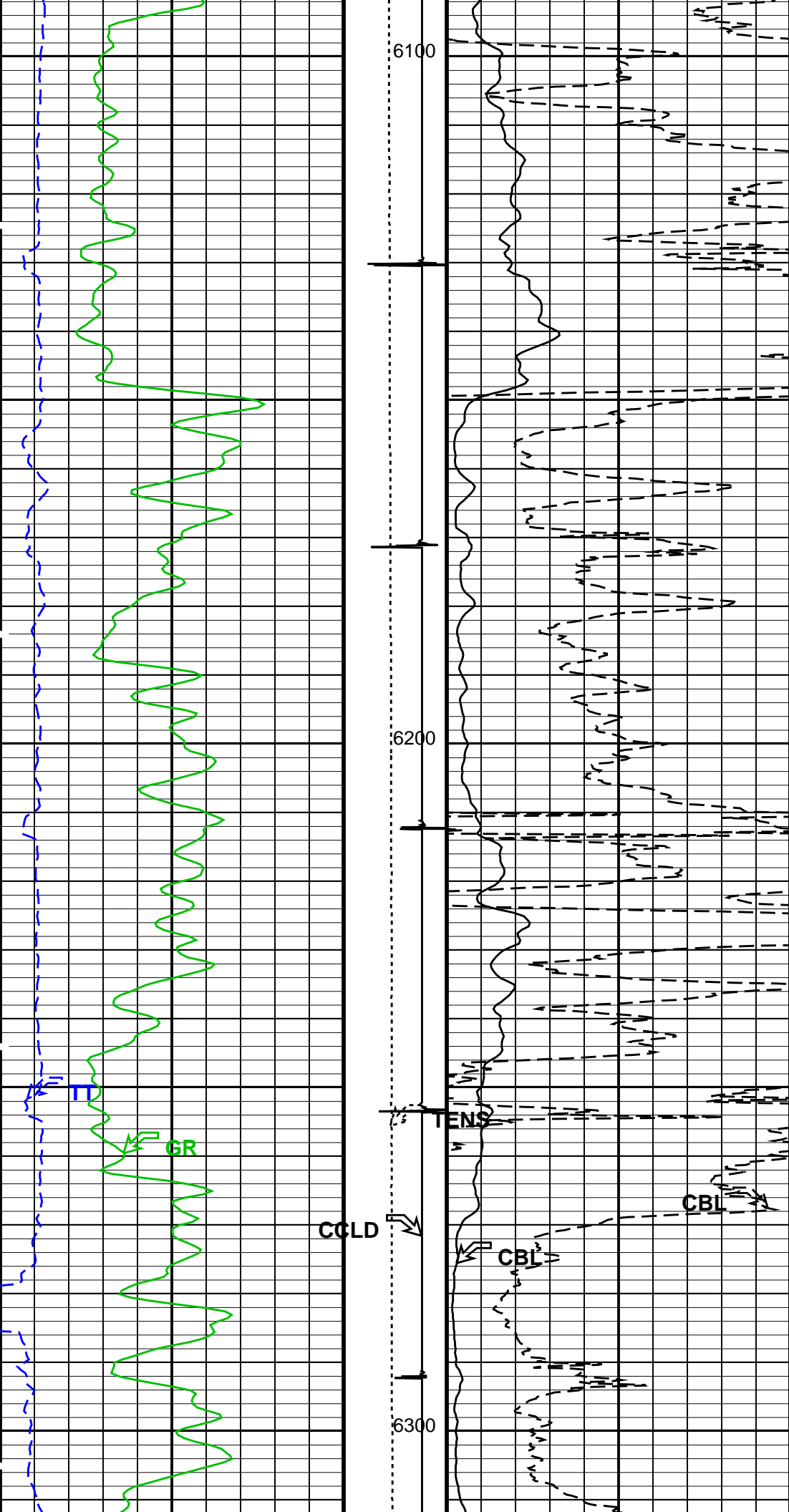


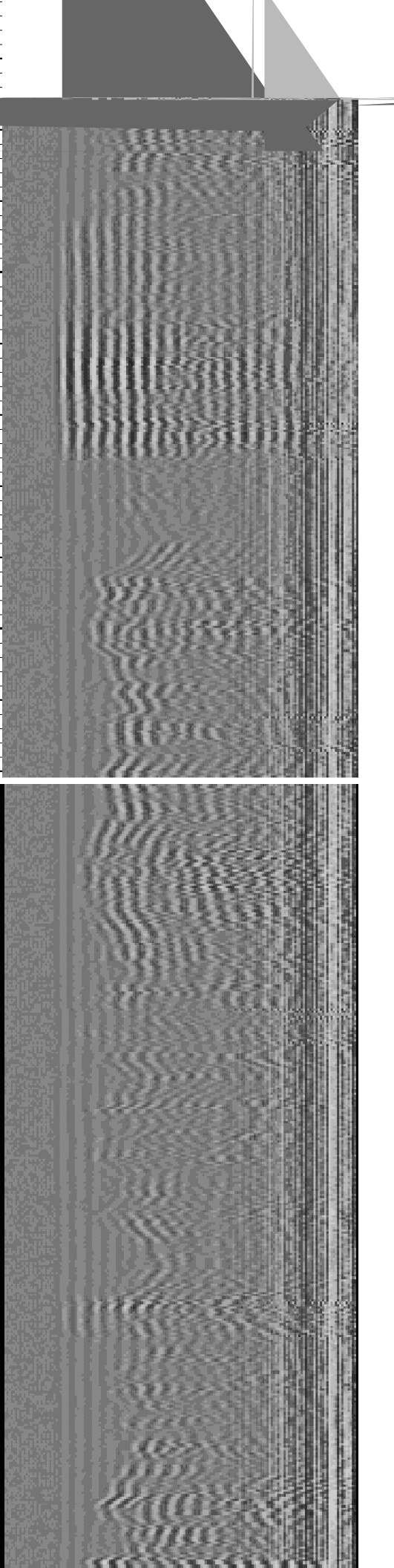
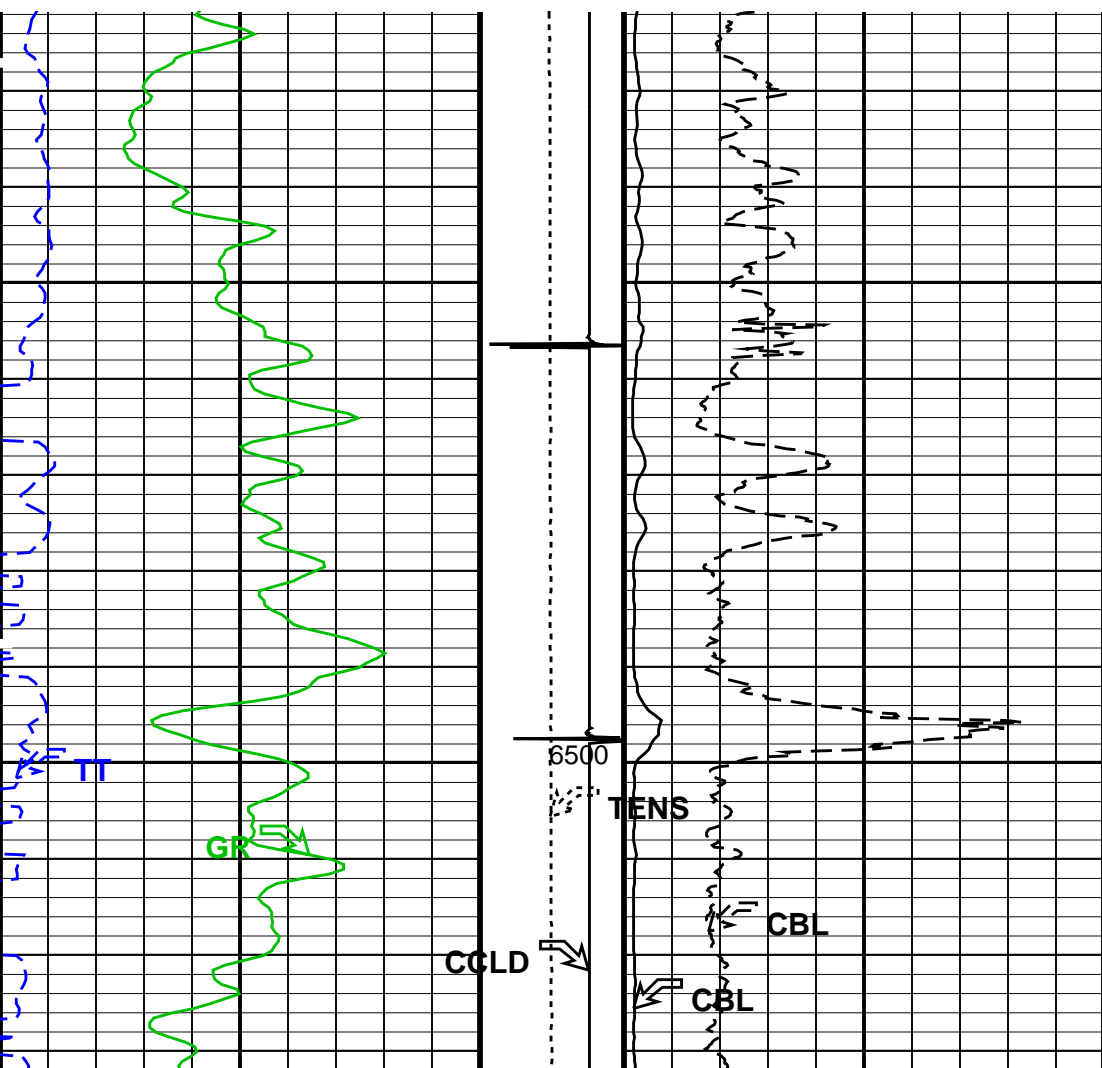


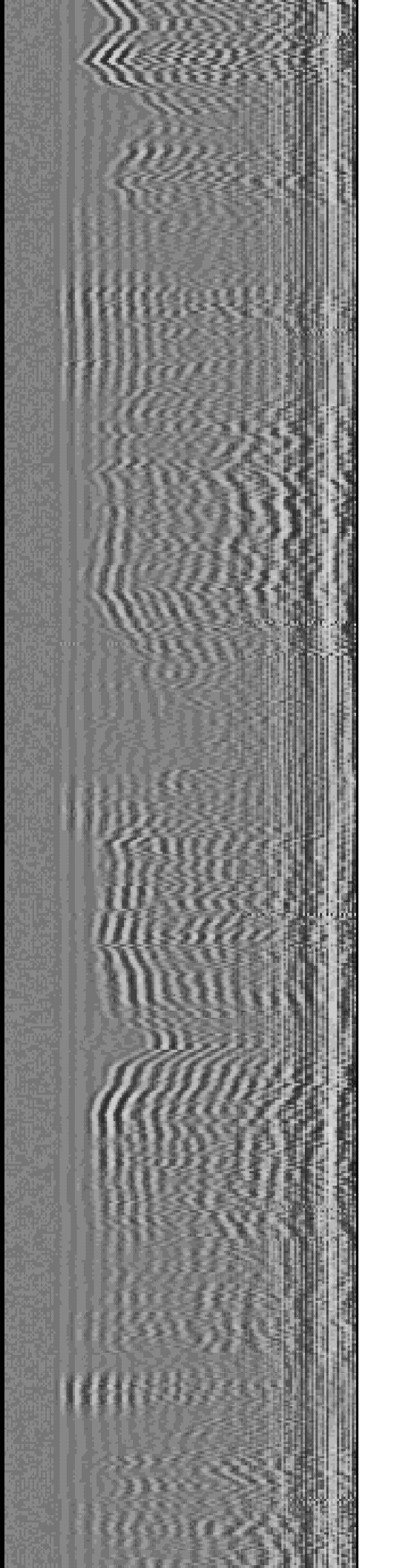
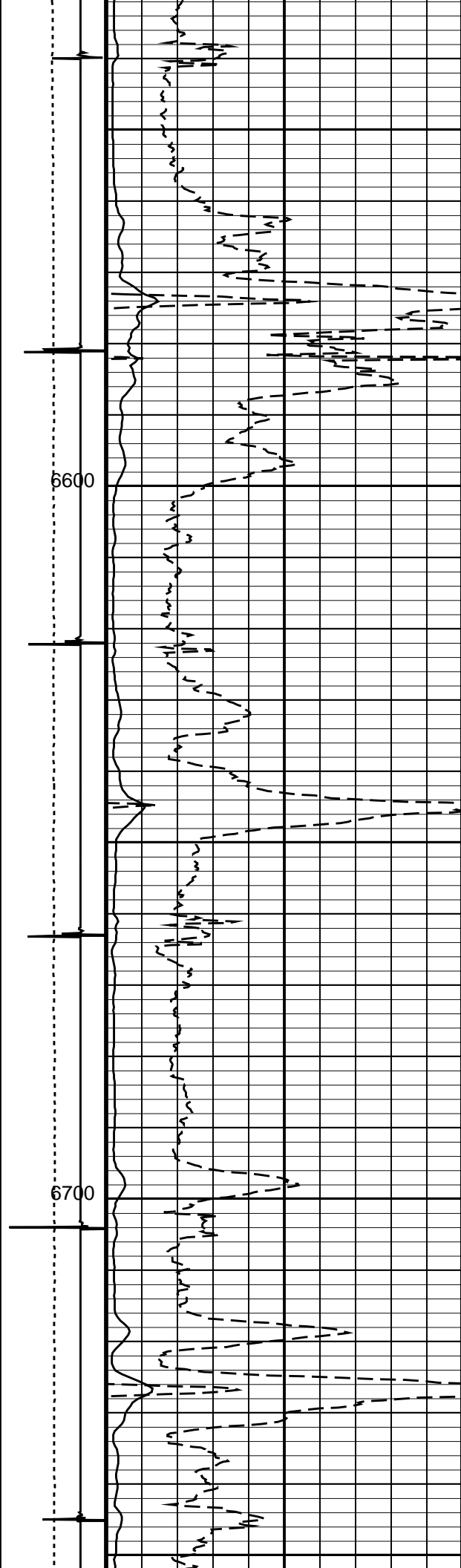
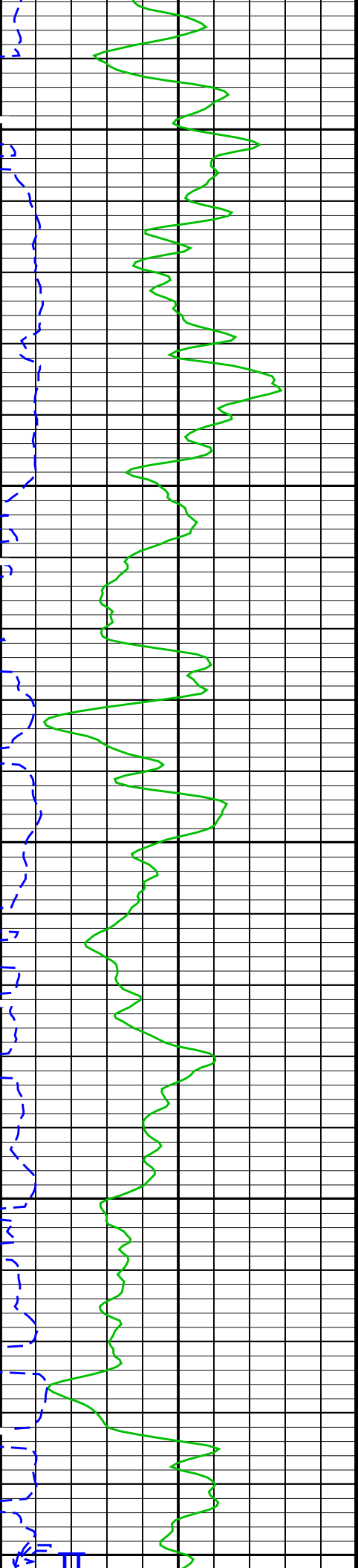


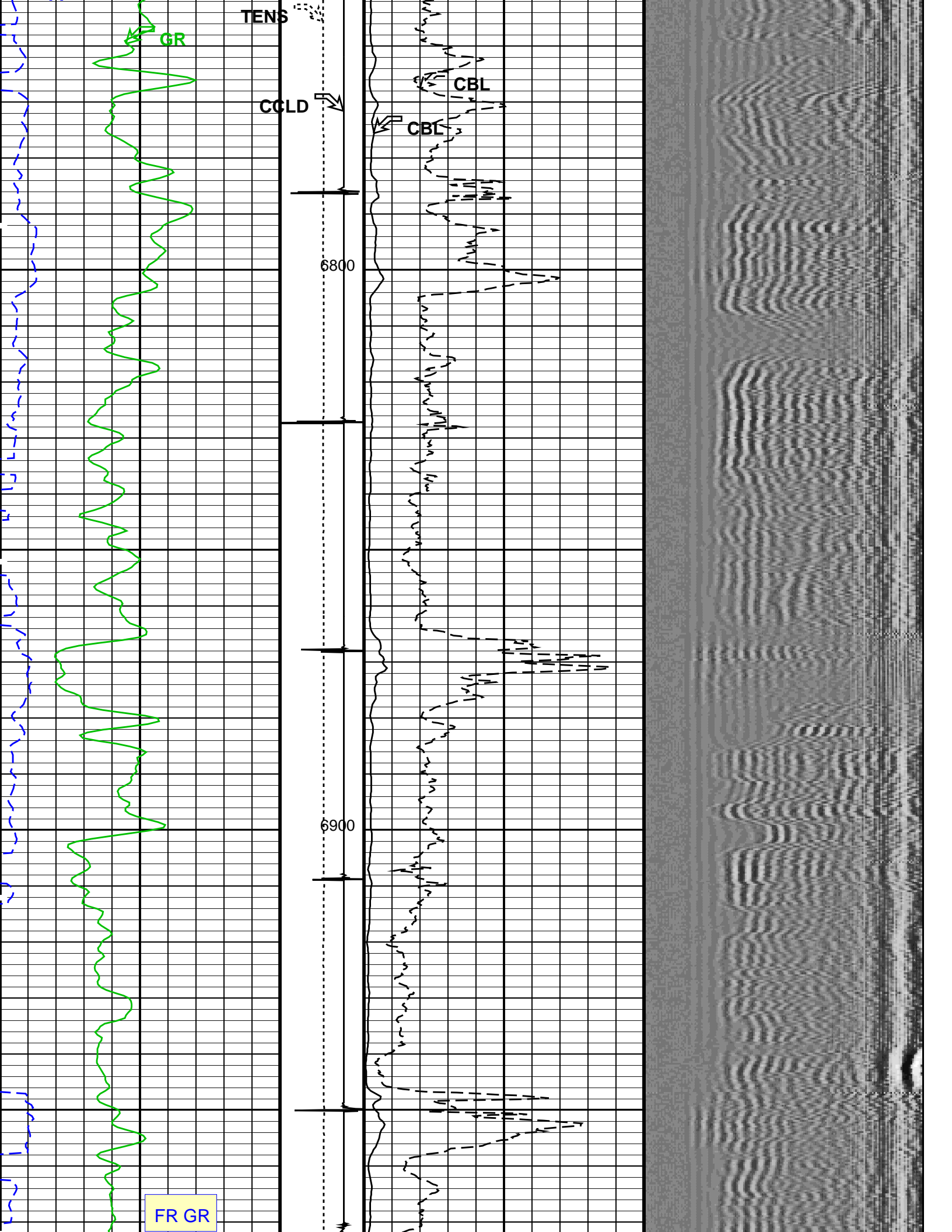




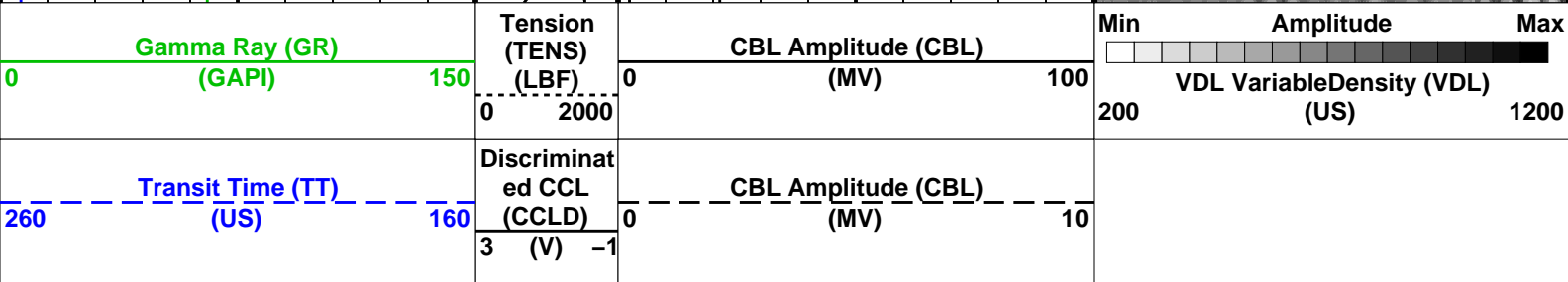
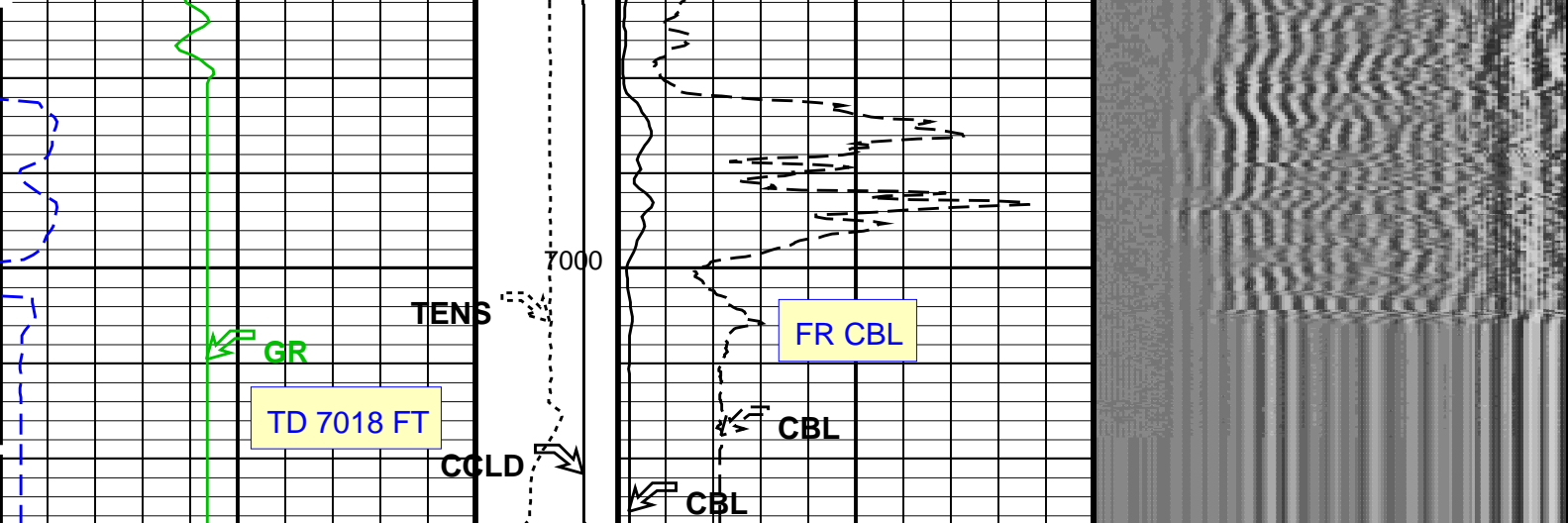












PIP SUMMARY

Time Mark Every 60 S

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

Graphics File Created: 05-Oct-2011 23:03

OP System Version: 19C0-187

SCMT-CB PSPT	SRPC-5095-H2-2011-OP19_b 19C0-187	RST-C	SRPC-5095-H2-2011-OP19_b
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<<<SCMT Cement Evaluation Information Summary>>>

Sonde Serial Number	SCMS-CB 8186		
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	23-FEB-2011		
CBL Correction Factor	0.0700110	CBL Adjustment Factor (CBAF)	1.0
MAP 1 Correction Factor	0.0960446	MAP Adjustment Factor (MPAF)	1.0
MAP 2 Correction Factor	0.103019		
MAP 3 Correction Factor	0.112474		
MAP 4 Correction Factor	0.170246		
MAP 5 Correction Factor	0.138168		
MAP 6 Correction Factor	0.126543		
MAP 7 Correction Factor	0.0891491		
MAP 8 Correction Factor	0.107987		

Parameters

DLIS Name	Description	Value
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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	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	189	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	0.924277	
GOBO	Good Bond	1.55185	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	167.559	US
MAPT	SCMT MAP Fixed Threshold Level	30	MV
MATT	Maximum Attenuation	16.5449	DB/F
MCCF	MAP Cement Type Compensation Factor	1	
MCi	Minimum Cemented Interval for Isolation	1.25	FT
MMSA	MAP Minimum Sonic Amplitude	4.32284	MV
MSA	Minimum Sonic Amplitude	0.579149	MV
PEDE	Peak Detection On/Off Switch in Playback	OFF	
VDLG	VDL Manual Gain	5	
ZCMT	Acoustic Impedance of Cement	6.8	MRAY
System and Miscellaneous			
CSIZ	Current Casing Size	4.500	IN
CWEI	Casing Weight	11.60	LB/F
DFD	Drilling Fluid Density	8.40	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
TD	Total Depth	-50000	FT

## Output DLIS Files

DEFAULT SCMT\_RST\_PSP\_045LUP FN:44 PRODUCER 05-Oct-2011 23:03

Schlumberger

## REPEAT ANALYSIS

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC.

Well: DAYBREAK FEDERAL 19-2 (PJ19)

## Input DLIS Files

DEFAULT SCMT\_RST\_PSP\_044PUP FN:43 PRODUCER 05-Oct-2011 22:58 6054.5 FT 5666.0 FT

## Output DLIS Files

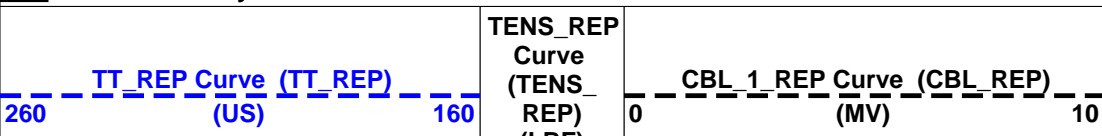
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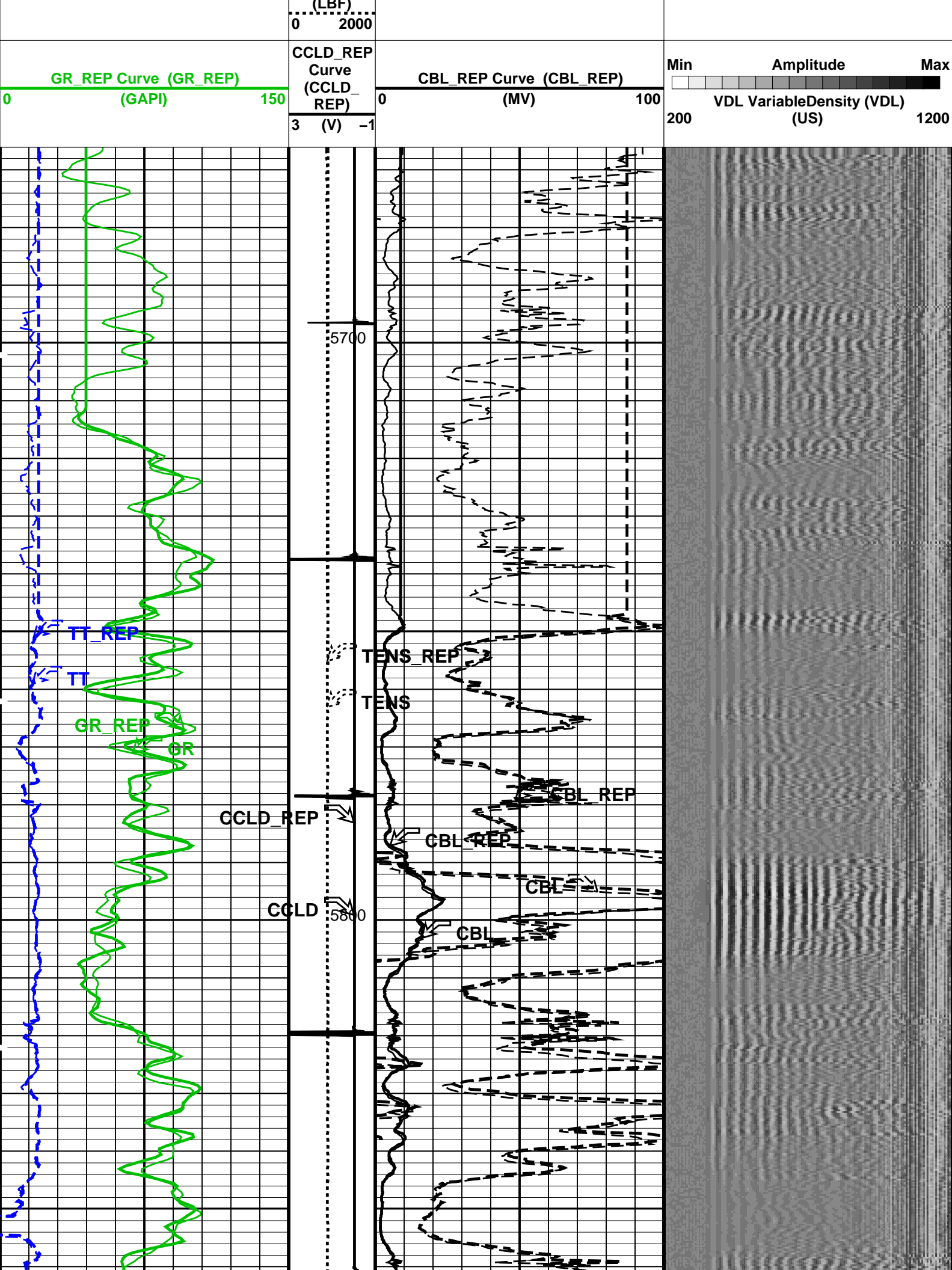
## OP System Version: 19C0-187

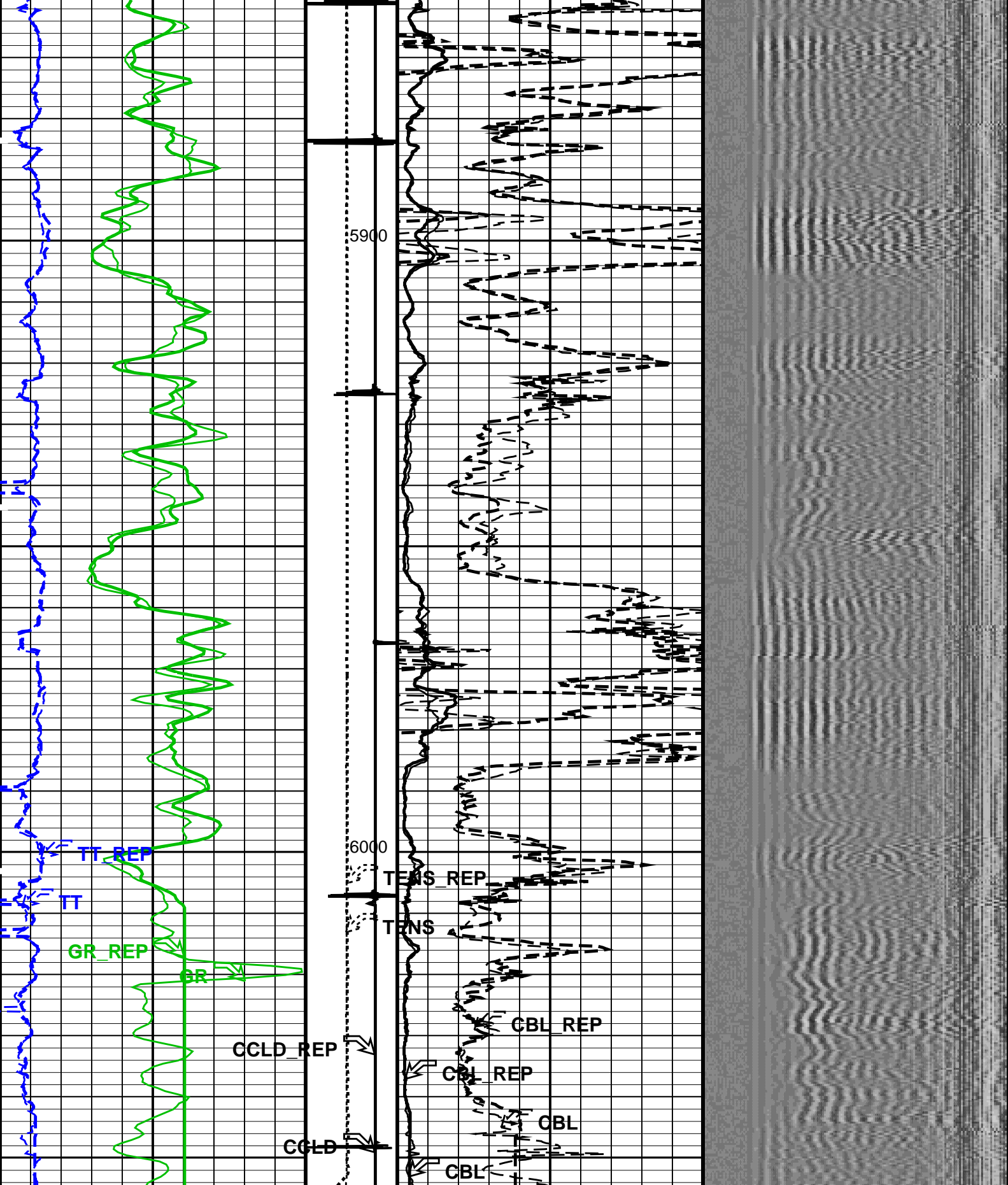
SCMT-CB SRPC-5095-H2-2011-OP19\_b RST-C SRPC-5095-H2-2011-OP19\_b  
PSPT 19C0-187

## PIP SUMMARY

☒ Time Mark Every 60 S







<p>GR_REP Curve (GR_REP)</p> <p>(GAPI)</p> <p>0 150</p>	<p>CCLD_REP Curve (CCLD_REP)</p> <p>(V)</p> <p>3 -1</p>	<p>CBL_REP Curve (CBL_REP)</p> <p>(MV)</p> <p>0 100</p>	<p>Min Amplitude Max</p> <p>VDL VariableDensity (VDL) (US)</p> <p>200 1200</p>
<p>TT_REP Curve (TT_REP)</p>	<p>TENS_REP Curve (TENS_REP)</p>	<p>CBL_1_REP Curve (CBL_1_REP)</p>	

260	11-REP Curve (11-REP) (US)	160	(TENS-REP) (LBF)	0	CBL-1-REP Curve (CBL-REP) (MV)	10
			0	2000		
PIP SUMMARY						
Time Mark Every 60 S						
Format: CBL_VDL_REP			Vertical Scale: 5" per 100'		Graphics File Created: 05-Oct-2011 23:03	
OP System Version: 19C0-187						
SCMT-CB PSPT	SRPC-5095-H2-2011-OP19_b 19C0-187		RST-C		SRPC-5095-H2-2011-OP19_b	
<<<SCMT Cement Evaluation Information Summary>>>						
Sonde Serial Number		SCMS-CB 8186				
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		23-FEB-2011				
CBL Correction Factor		0.0700110	CBL Adjustment Factor (CBAF)		1.0	
MAP 1 Correction Factor		0.0960446	MAP Adjustment Factor (MPAF)		1.0	
MAP 2 Correction Factor		0.103019				
MAP 3 Correction Factor		0.112474				
MAP 4 Correction Factor		0.170246				
MAP 5 Correction Factor		0.138168				
MAP 6 Correction Factor		0.126543				
MAP 7 Correction Factor		0.0891491				
MAP 8 Correction Factor		0.107987				
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			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			189	US/F
FATT		Acoustic Attenuation due to Fluid			0	DB/F
FCF		CBL Fluid Compensation Factor			0.924277	
GOBO		Good Bond			1.55185	MV
MAPD		SCMT MAP Peak Detection Mode			PEAK	
MAPG		SCMT MAP Peak Detection T0_Delay and Noise Gate			167.559	US
MAPT		SCMT MAP Fixed Threshold Level			30	MV
MATT		Maximum Attenuation			16.5449	DB/F
MCCF		MAP Cement Type Compensation Factor			1	
MCI		Minimum Cemented Interval for Isolation			1.25	FT
MMSA		MAP Minimum Sonic Amplitude			4.32284	MV
MSA		Minimum Sonic Amplitude			0.579149	MV
PEDE		Peak Detection On/Off Switch in Playback			OFF	
VBLG		VBL Manual Gain			5	



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
DORL	Depth Offset for Repeat Analysis	0.0	FT
TD	Total Depth	-50000	FT

### Input DLIS Files

DEFAULT SCMT\_RST\_PSP\_044PUP FN:43 PRODUCER 05-Oct-2011 22:58 6054.5 FT 5666.0 FT

### Output DLIS Files

DEFAULT SCMT\_RST\_PSP\_045LUP FN:44 PRODUCER 05-Oct-2011 23:03

**Schlumberger**

## COEFFICIENTS

MAXIS Field Log

Client:	ENCANA OIL & GAS (USA) INC.	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS
Well:	DAYBREAK FEDERAL 19-5 (PJ19)	Sensor:	Clock Model
Run date:	5-Oct-2011		

#### 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

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

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

3779

090107

66

4C82

Pres Coeff

	Tt**0	Tt**1	Tt**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

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

Calib Date ddmmyy

Matrix Size

Coeff CRC

:

3779

090107

66

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:	ENCANA OIL & GAS (USA) INC.	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS
Well:	DAYBREAK FEDERAL 19-5 (PJ19)	Sensor:	GR
Run date:	5-Oct-2011		

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

GR HV Rt

RESISTORS FOR GR SENSOR N.34552,TOOL PBMS-AA3779. SENSOR S/N:

34552

030606

12

3AE5

Rt\*\*0

Rt\*\*1

Rt\*\*0

+.200000000000e+04

+.214000000000e+04

Client:	ENCANA OIL & GAS (USA) INC.	Tool:	PSP
Field:	PARACHUTE	Sub Type:	PBMS

Well: DAYBREAK FEDERAL 19–5 (PJ19)

Sensor: WellTemp RTD

Run date: 5–Oct–2011

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

Tt\*\*0

Tt\*\*1

Tt\*\*2

Tt\*\*0

+.492135102627E+02

–.278827553804E+03

+.142867554561E+03

Tt\*\*3

Tt\*\*4

Tt\*\*5

Tt\*\*0

–.233378392336E+02

+.145553494493E+01

0.0

Company:	ENCANA OIL & GAS (USA) INC.	Schlumberger
Well:	DAYBREAK FEDERAL 19–2 (PJ19)	
Field:	PARACHUTE	
County:	GARFIELD	
State:	COLORADO	
CEMENT BOND LOG		
CBL – VDL		
GAMMA RAY – CCL		