

Company: ENCANA OIL & GAS (USA) INC.

Well: DAYBREAK FEDERAL 19-5 (PJ19)

Field: PARACHUTE

County: GARFIELD State: COLORADO

CEMENT BOND LOG
CBL – VDL
GAMMA RAY – CCL

County: GARFIELD

Field: PARACHUTE

Location: SHL: 2012' FSL & 2437' FEL

Well: DAYBREAK FEDERAL 19-5 (PJ19)

Company: ENCANA OIL & GAS (USA) INC.

LOCATION	
SHL: 2012' FSL & 2437' FEL BHL: 2345' FNL & 383' FWL	Elev.: K.B. 5447.00 ft G.L. 5425.00 ft D.F. 5446.00 ft
Permanent Datum: _____ Log Measured From: KELLY BUSHING Drilling Measured From: KELLY BUSHING	Elev.: 5425.00 ft 22.00 ft above Perm. Datum
API Serial No. 05-045-19899-0000	Section 19 Township 7S Range 95W

Logging Date	5-Oct-2011		
Run Number	ONE		
Depth Driller	6965 ft		
Schlumberger Depth	6894 ft		
Bottom Log Interval	6885.4 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	6965 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	M-80		
From	22 ft		
To	6951 ft		
Maximum Recorded Temperatures	193 degF		
Logger On Bottom	5-Oct-2011	Time 8:32	
Unit Number	391	Location GRAND JUNCTION	
Recorded By	SHOWKAT HOSSAIN		
Witnessed By	UNATTENDED		

PVT DATA				Run 1	Run 2	Run 3
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						
Unit Number						
Recorded By						
Witnessed By						

DEPTH SUMMARY LISTING	
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Date Created: 5-OCT-2011 9:22:08

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		
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	-6	Calibration RMS:	4	Rig Type:	Land
Wheel Correction 2:	-5	Calibration Peak Error:	8		

Depth Control Parameters	
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Log Sequence:	First Log In the Well
Rig Up Length At Surface:	238.00 FT
Rig Up Length At Bottom:	239.00 FT
Rig Up Length Correction:	-1.00 FT
Stretch Correction:	5.00 FT
Tool Zero Check At Surface:	0.80 FT

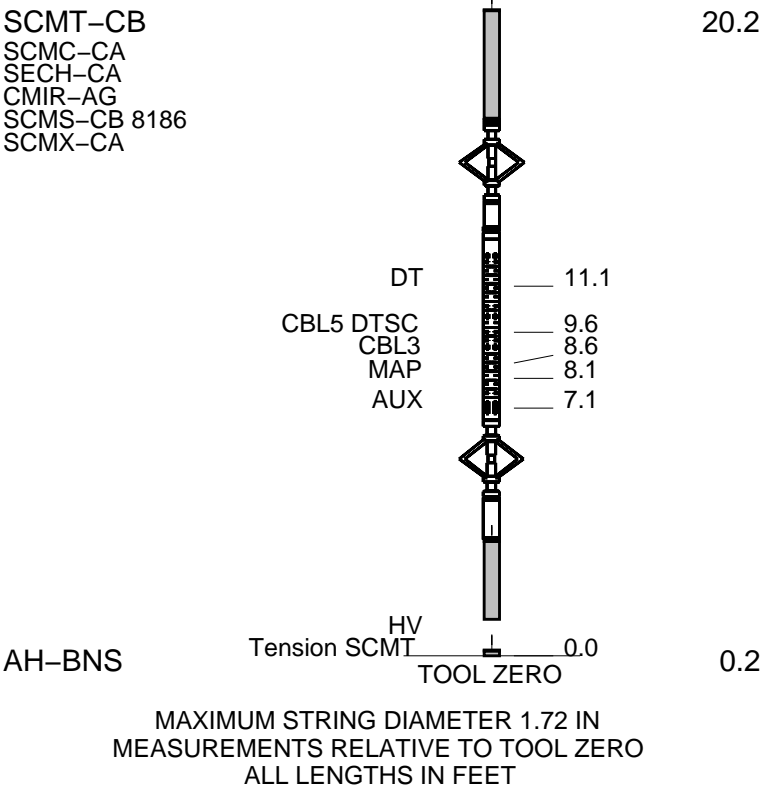
Depth Control Remarks	
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- | |
|--|
| <ol style="list-style-type: none">1. ALL SCHLUMBERGER DEPTH CONTROL POLICIES FOLLOWED.2. IDW USED AS PRIMARY DEPTH CONTROL.3. Z-CHART AND DRUM COUNTER USED AS SECONDARY DEPTH CONTROL.4.5.6. |
|--|

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	OTHER SERVICES2
OS1: RST – SIGMA	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
THIS IS FIRST RUN IN WELL.	
TOOL RAN AS PER TOOL SKETCH.	
TD TAGGED AT: 6894 FT	
MAXIMUM RECORDED PRESSURE AT TD: 2586.4 PSIA	
MAXIMUM RECORDED TEMPERATURE AT TD: 193 DEGF	
SHORT JOINTS: 4634 FT – 4657 FT & 5619 FT – 5642 FT	



Schlumberger

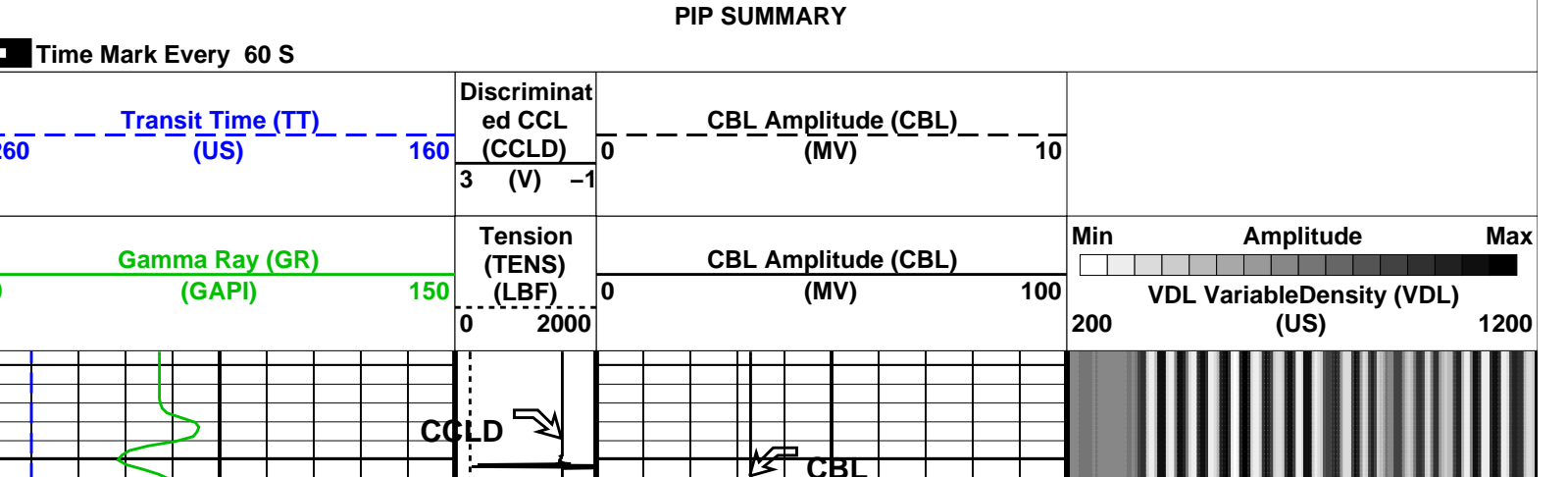
MAIN PASS 0 PSI

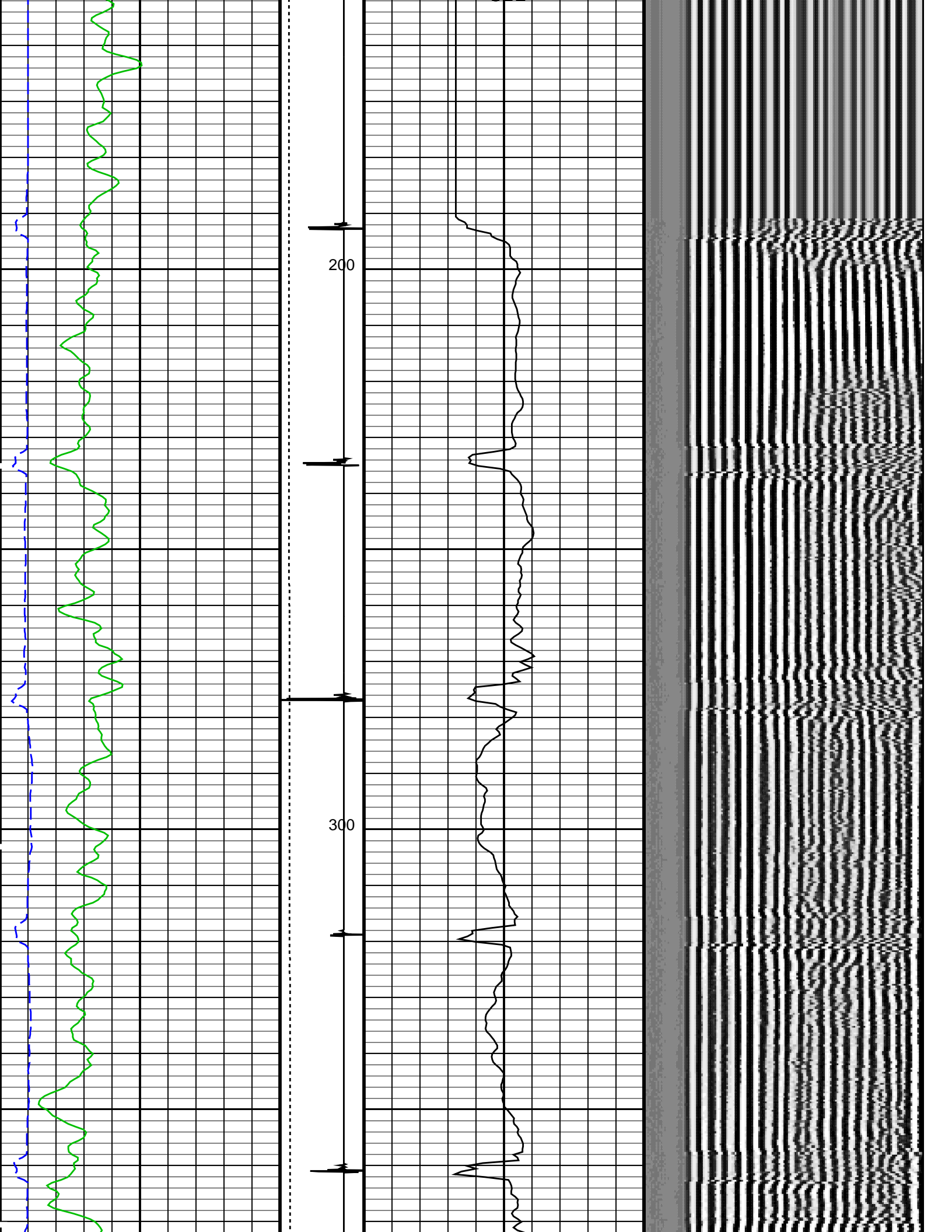
MAXIS Field Log

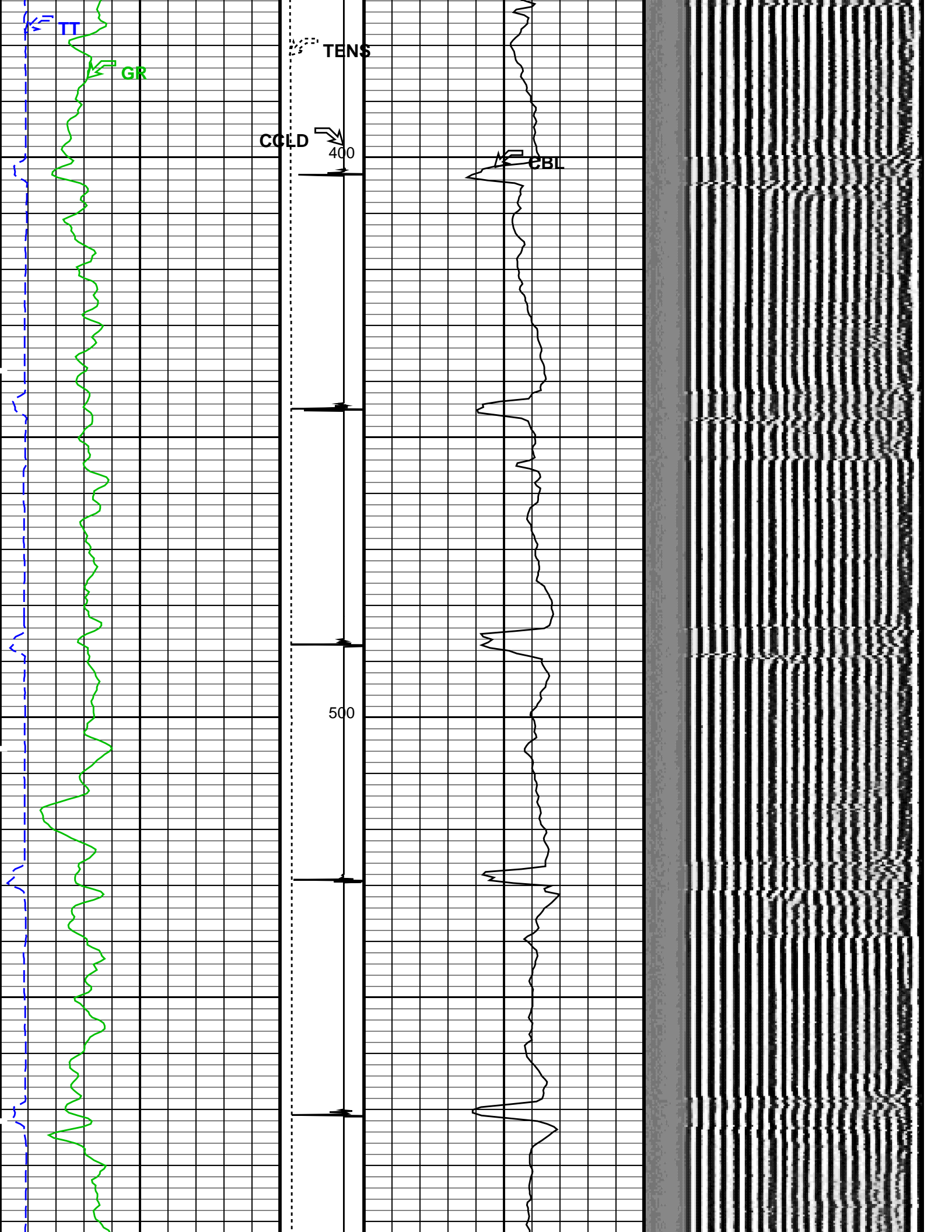
Company: ENCANA OIL & GAS (USA) INC. Well: DAYBREAK FEDERAL 19-5 (PJ19)

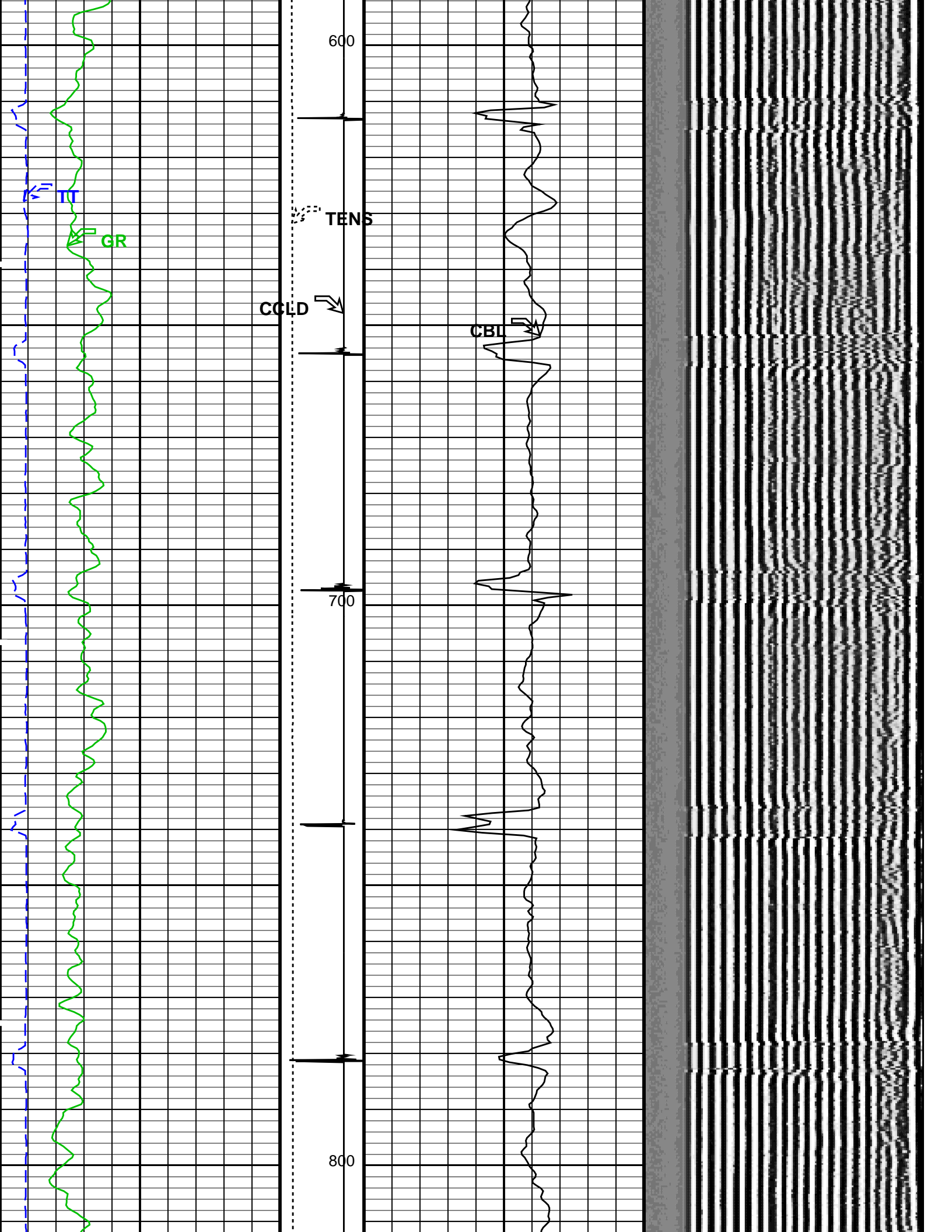
Output DLIS Files						
DEFAULT	SCMT_RST_PSP_005LUP	FN:4	PRODUCER	05-Oct-2011 08:32	6903.0 FT	138.0 FT

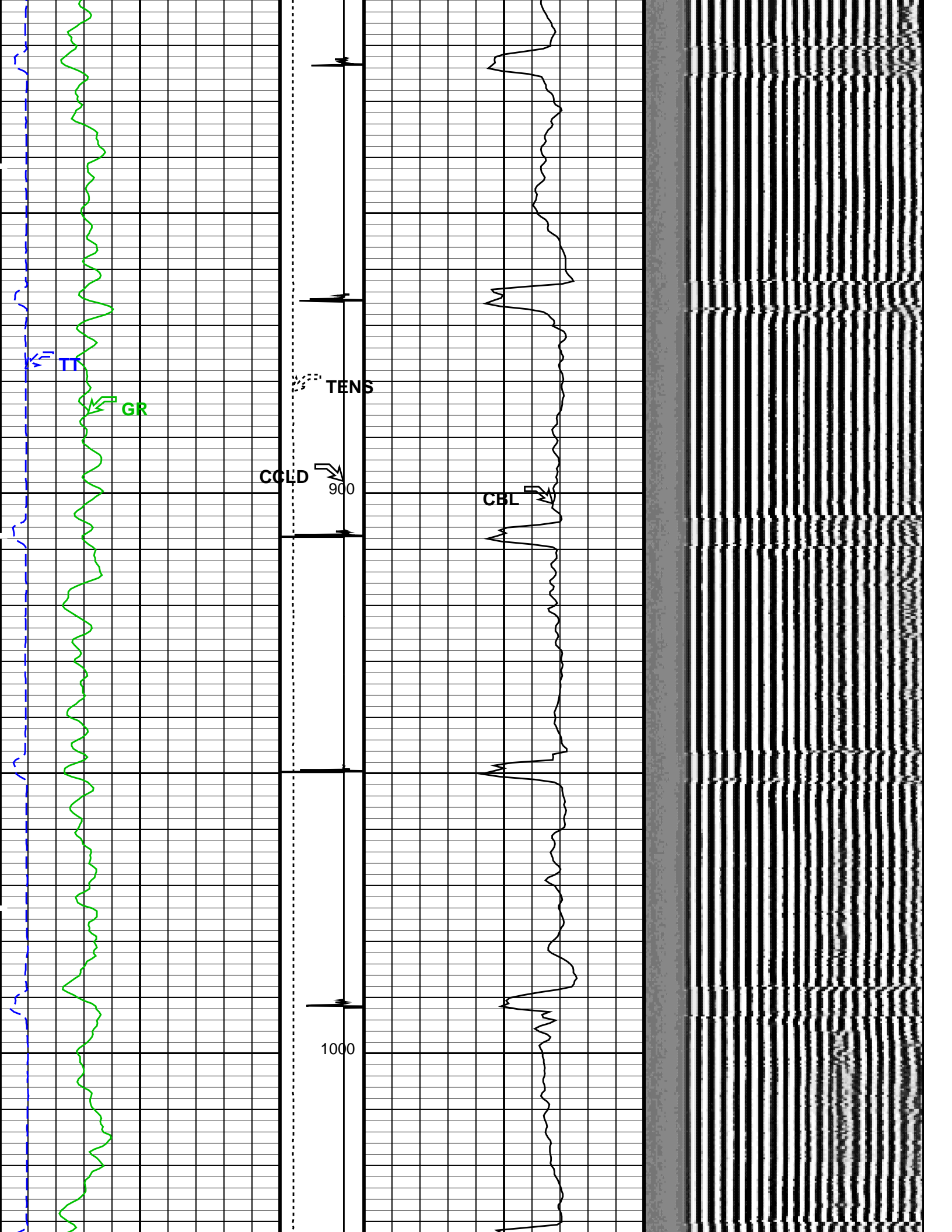
OP System Version: 19C0-187			
SCMT-CB PSPT	SRPC-5095-H2-2011-OP19_b 19C0-187	RST-C	SRPC-5095-H2-2011-OP19_b

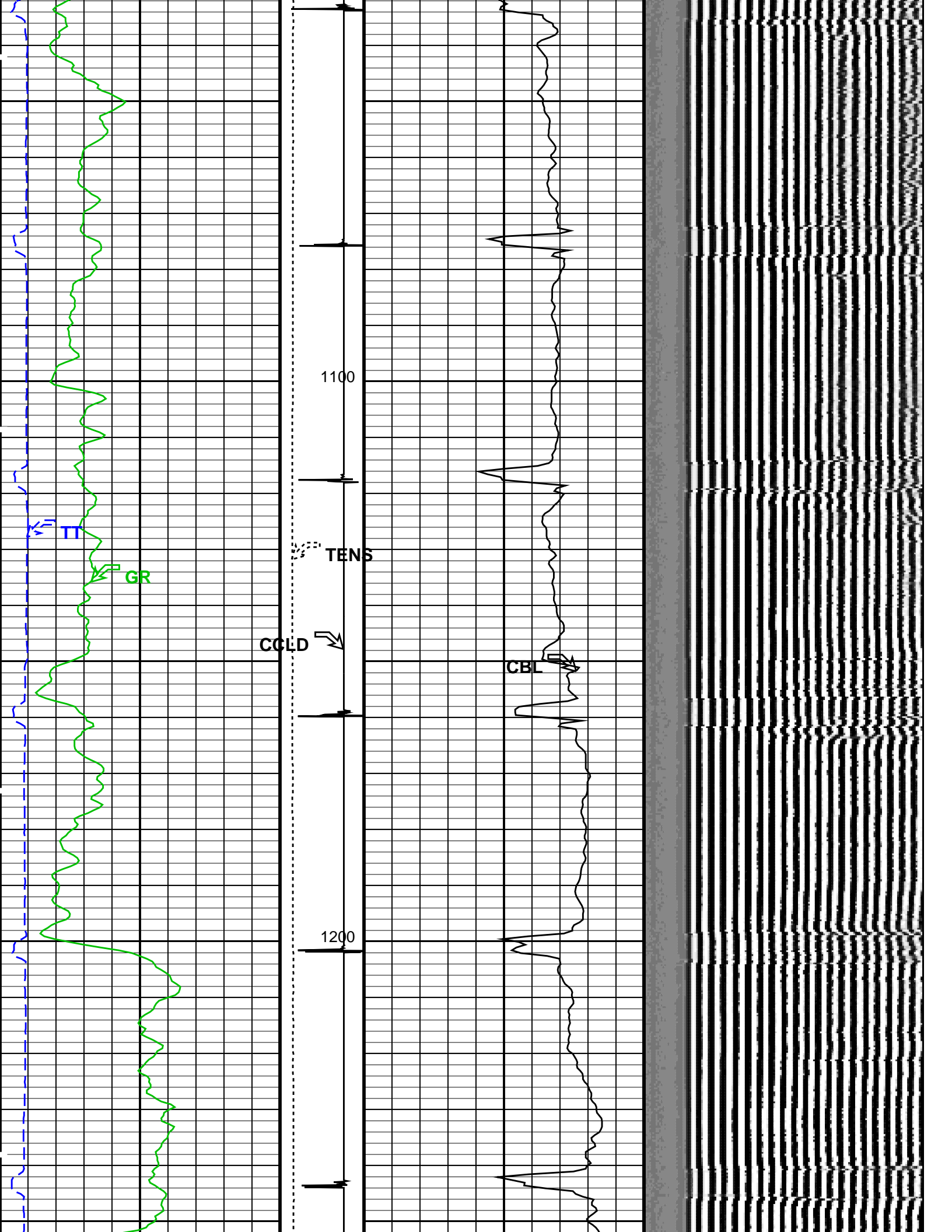


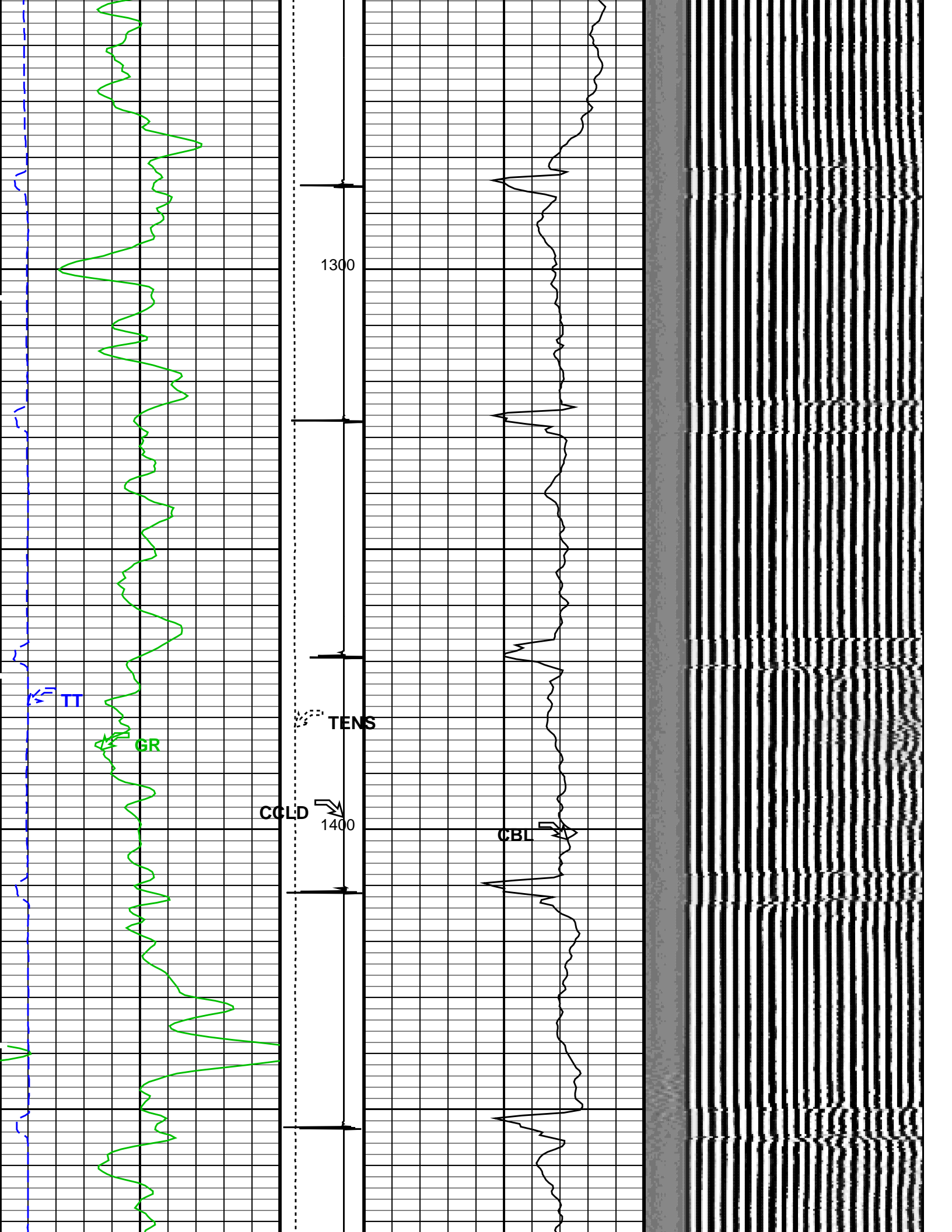


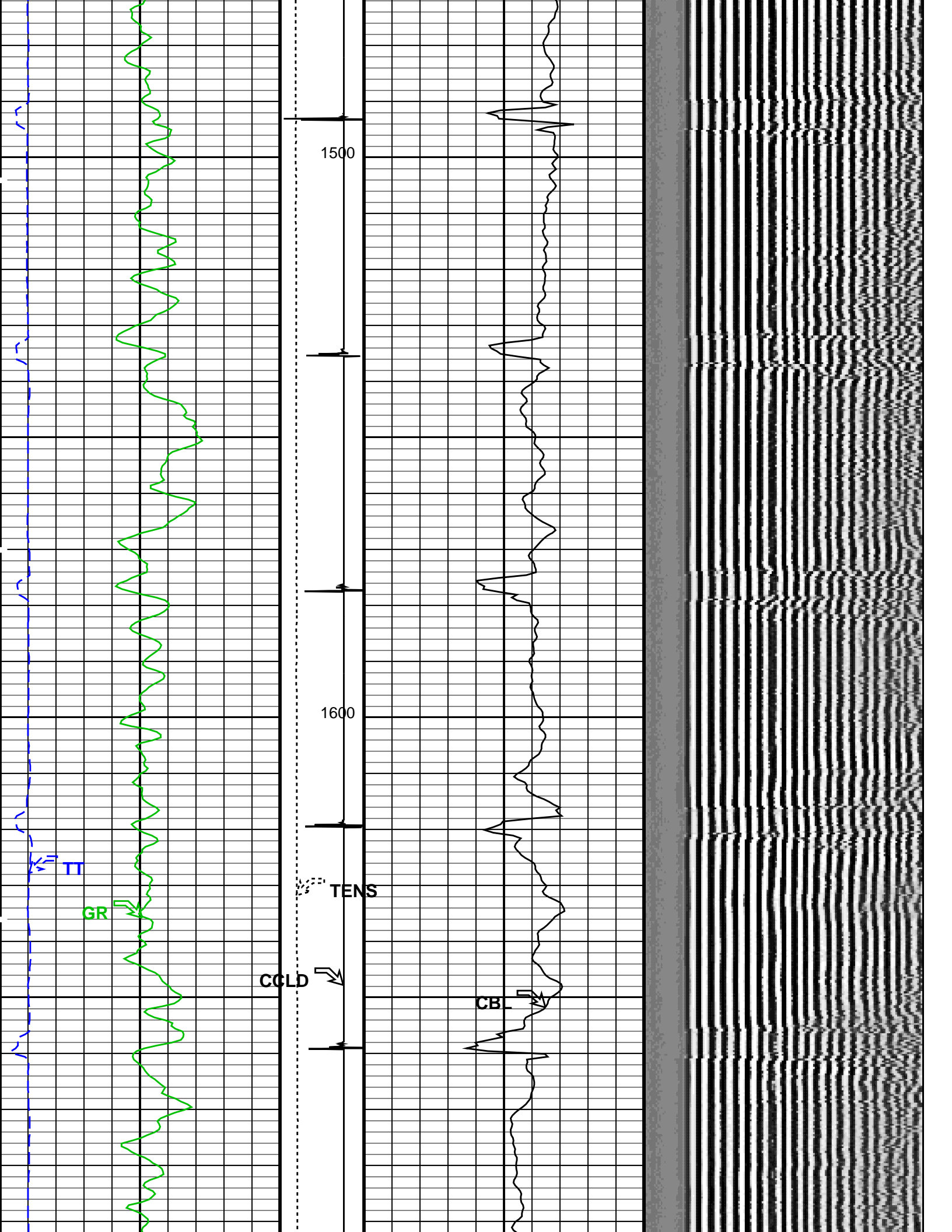


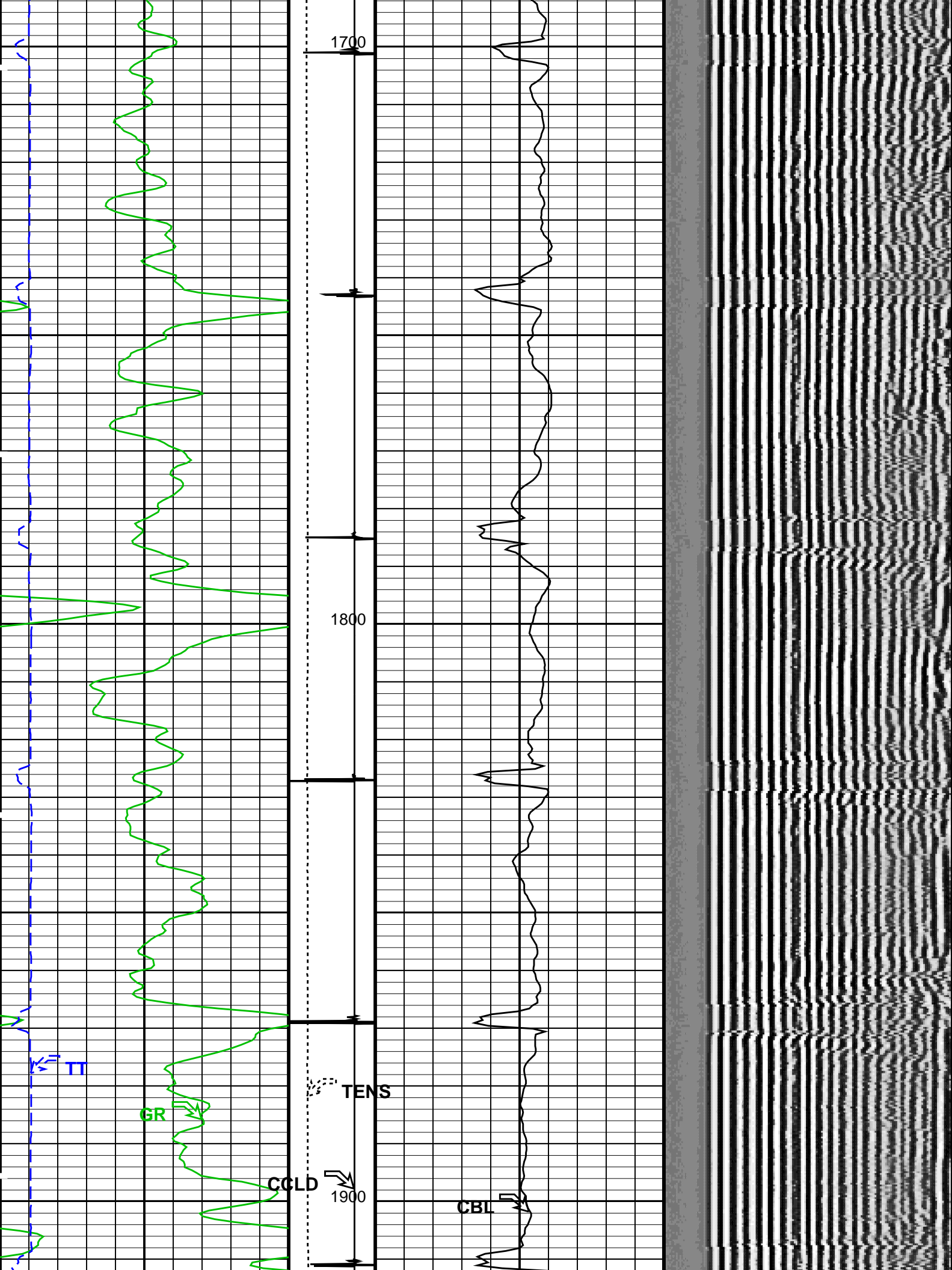


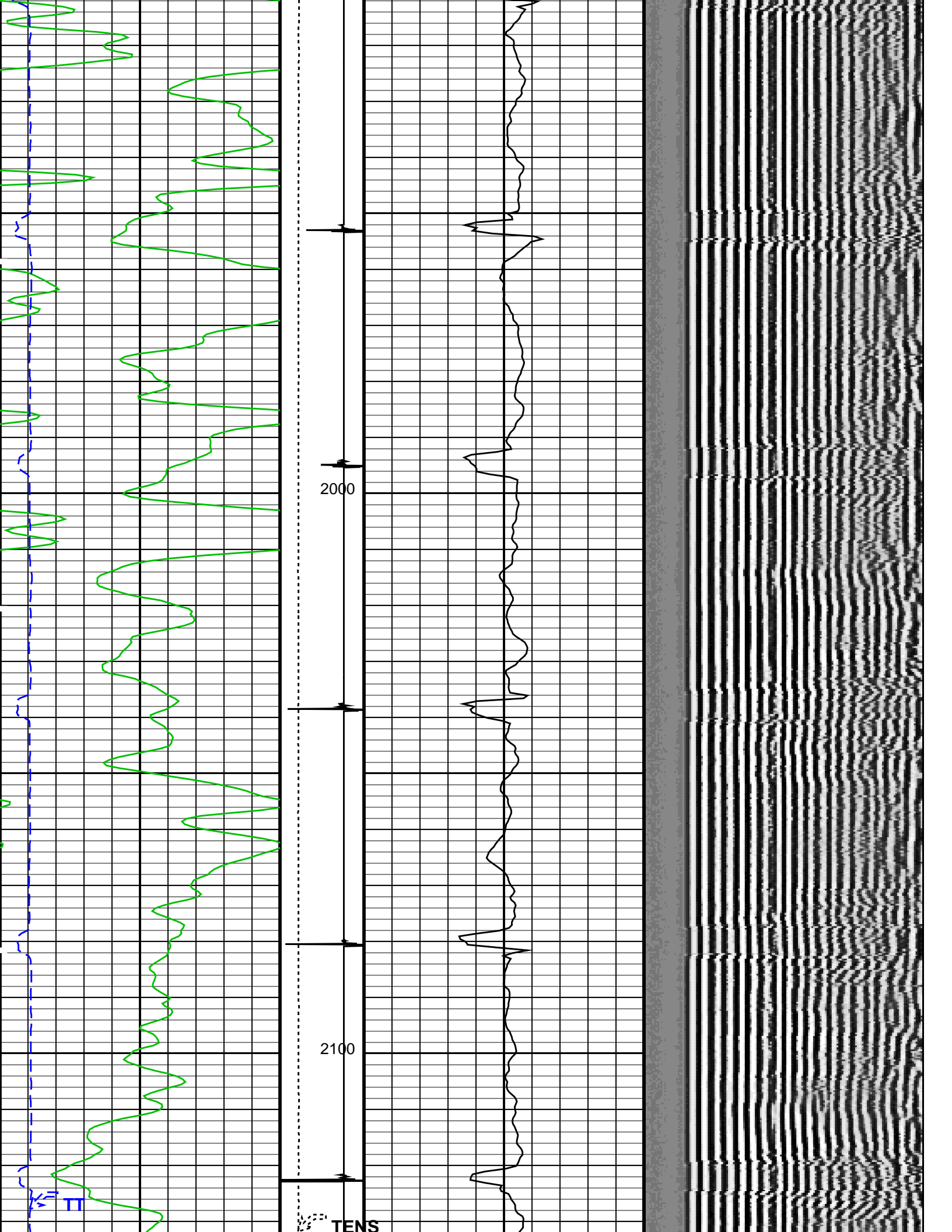


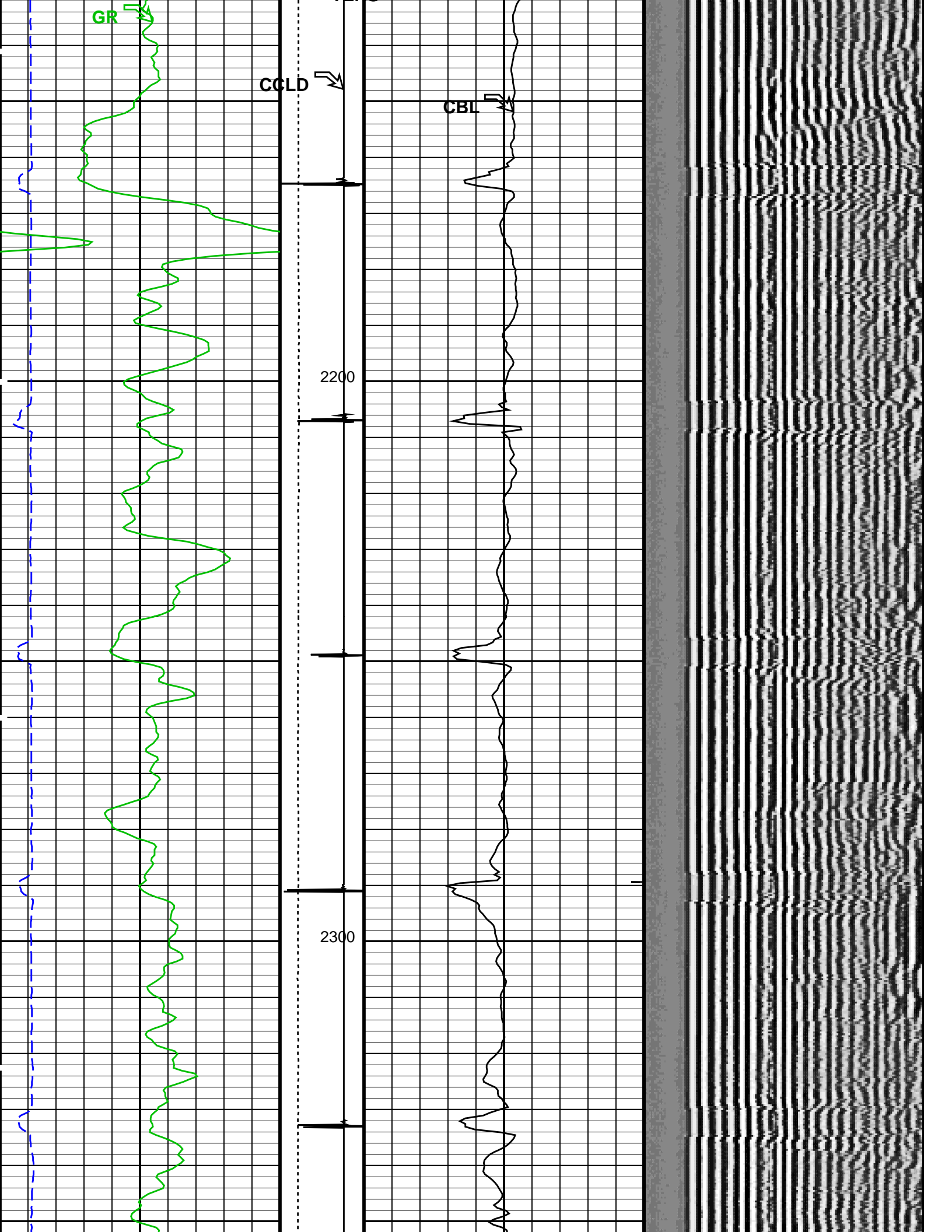


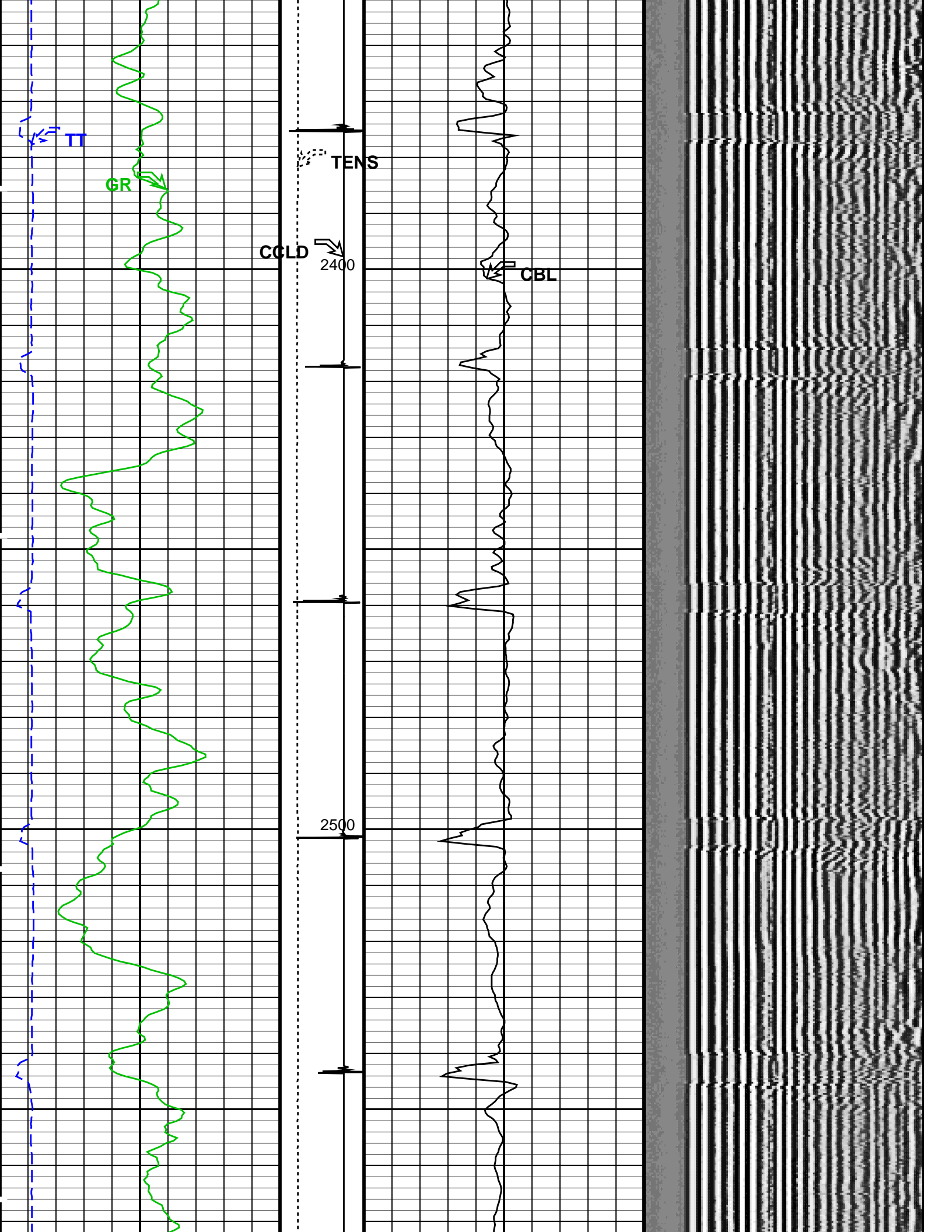


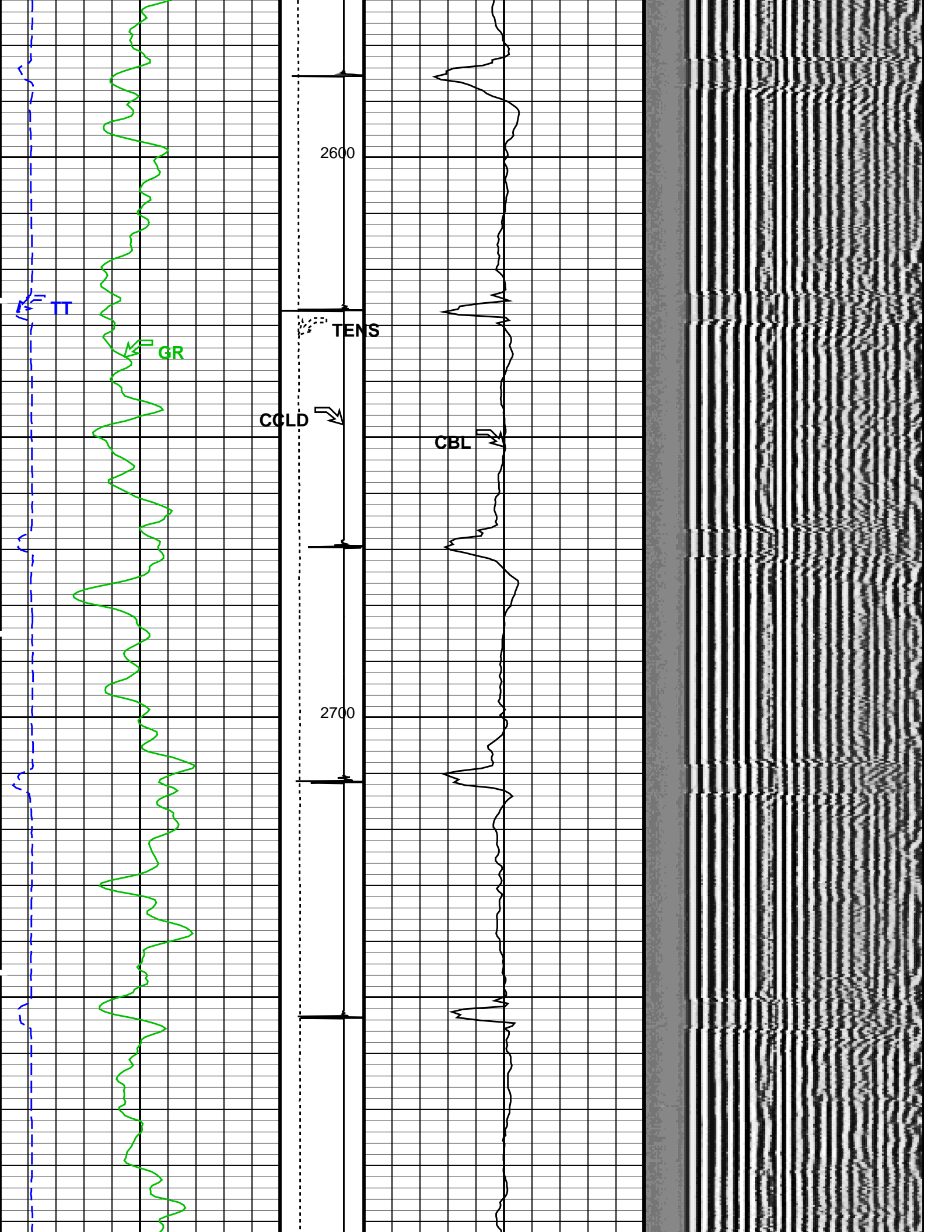


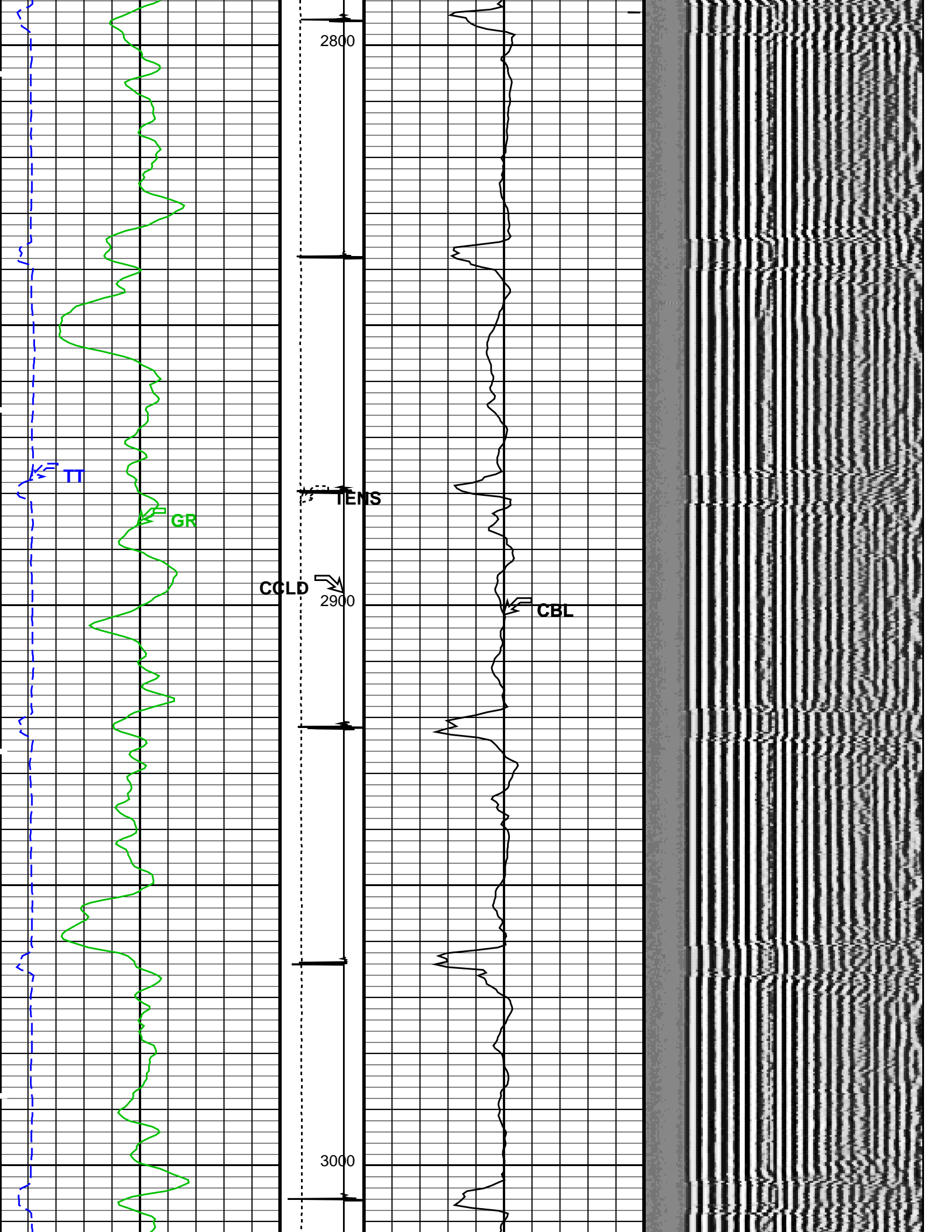


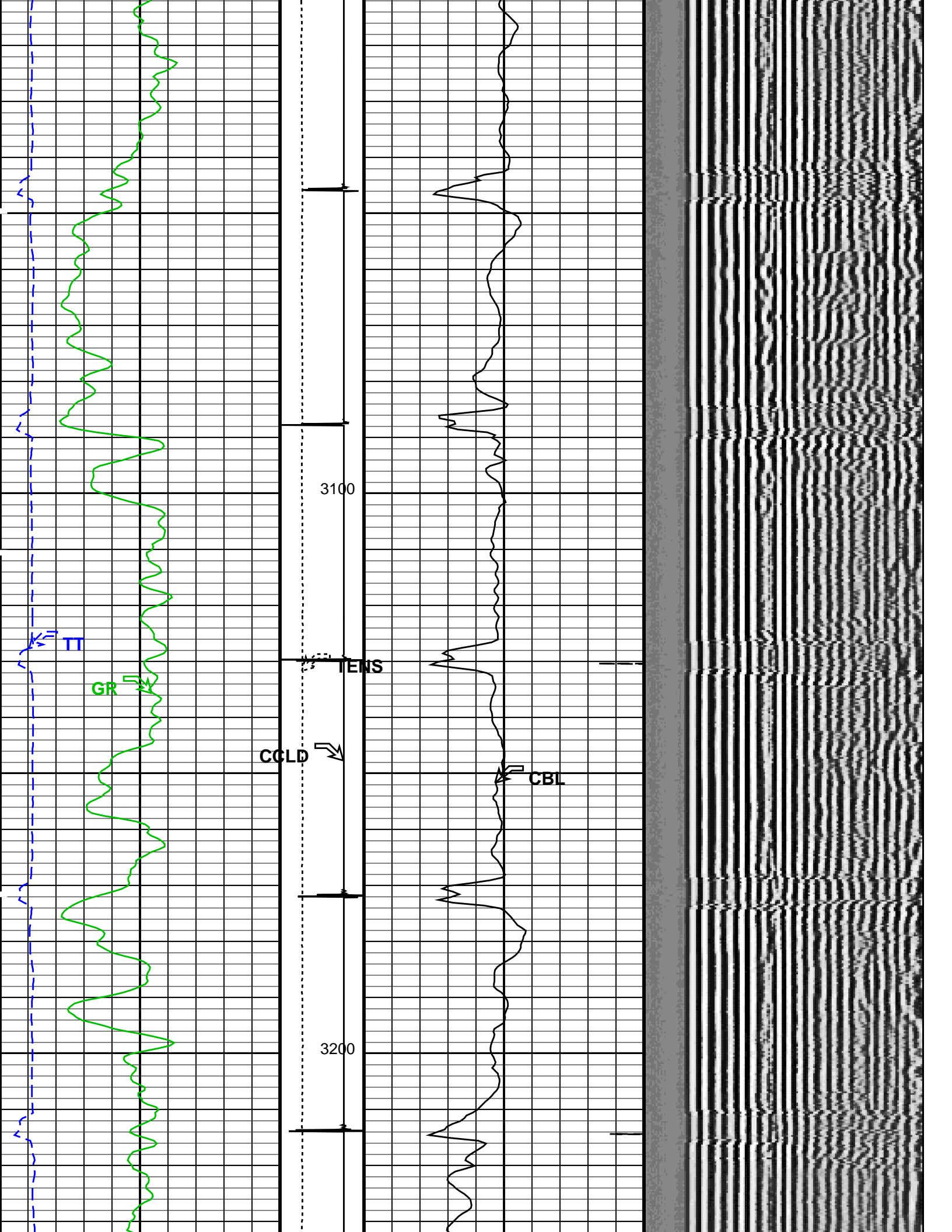


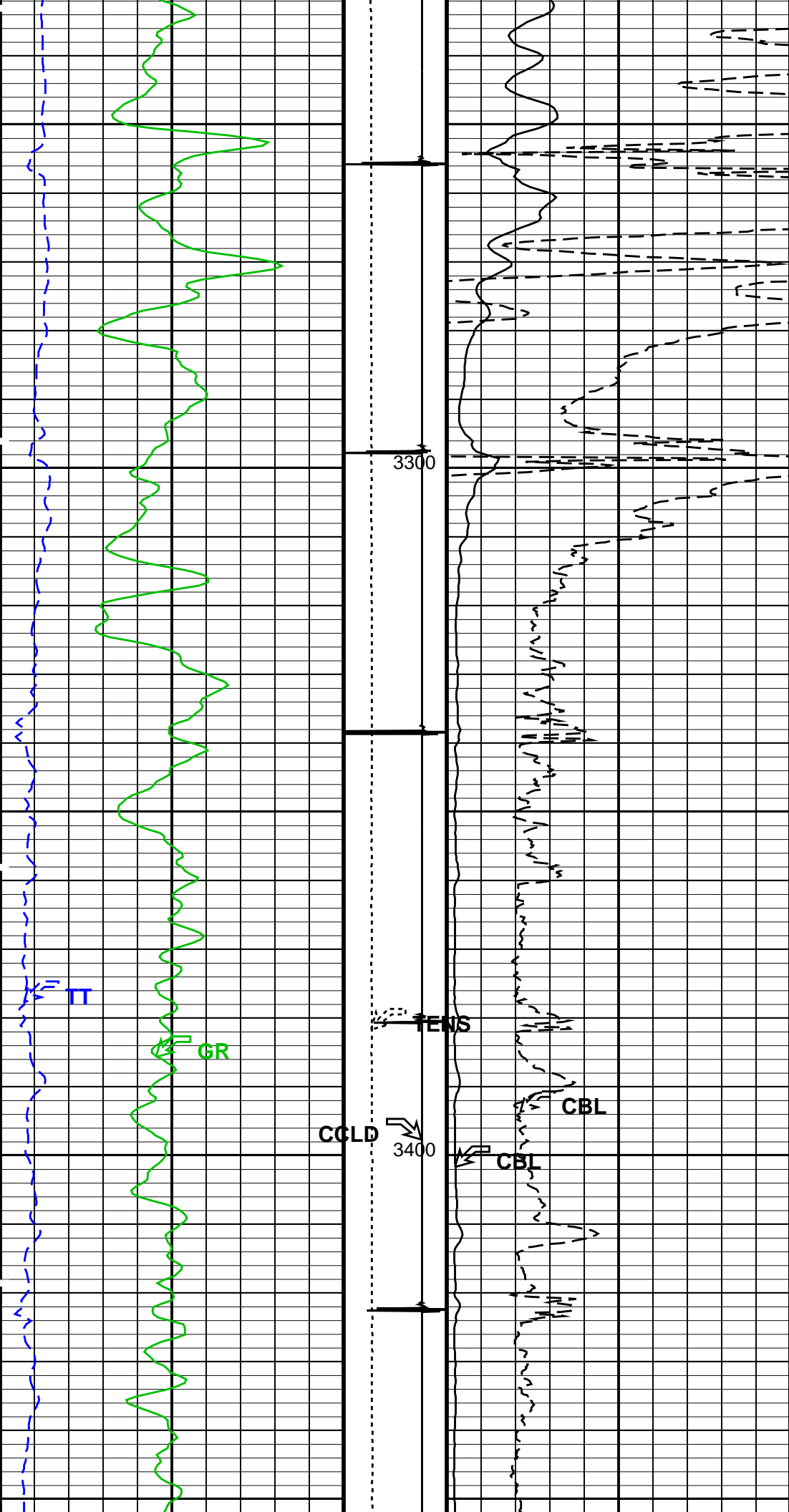


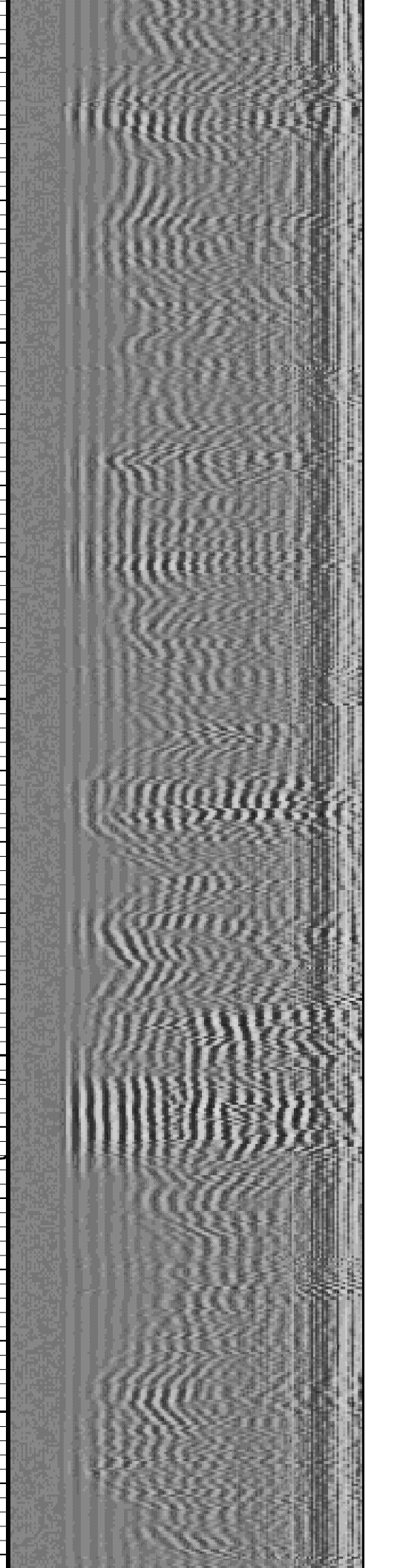
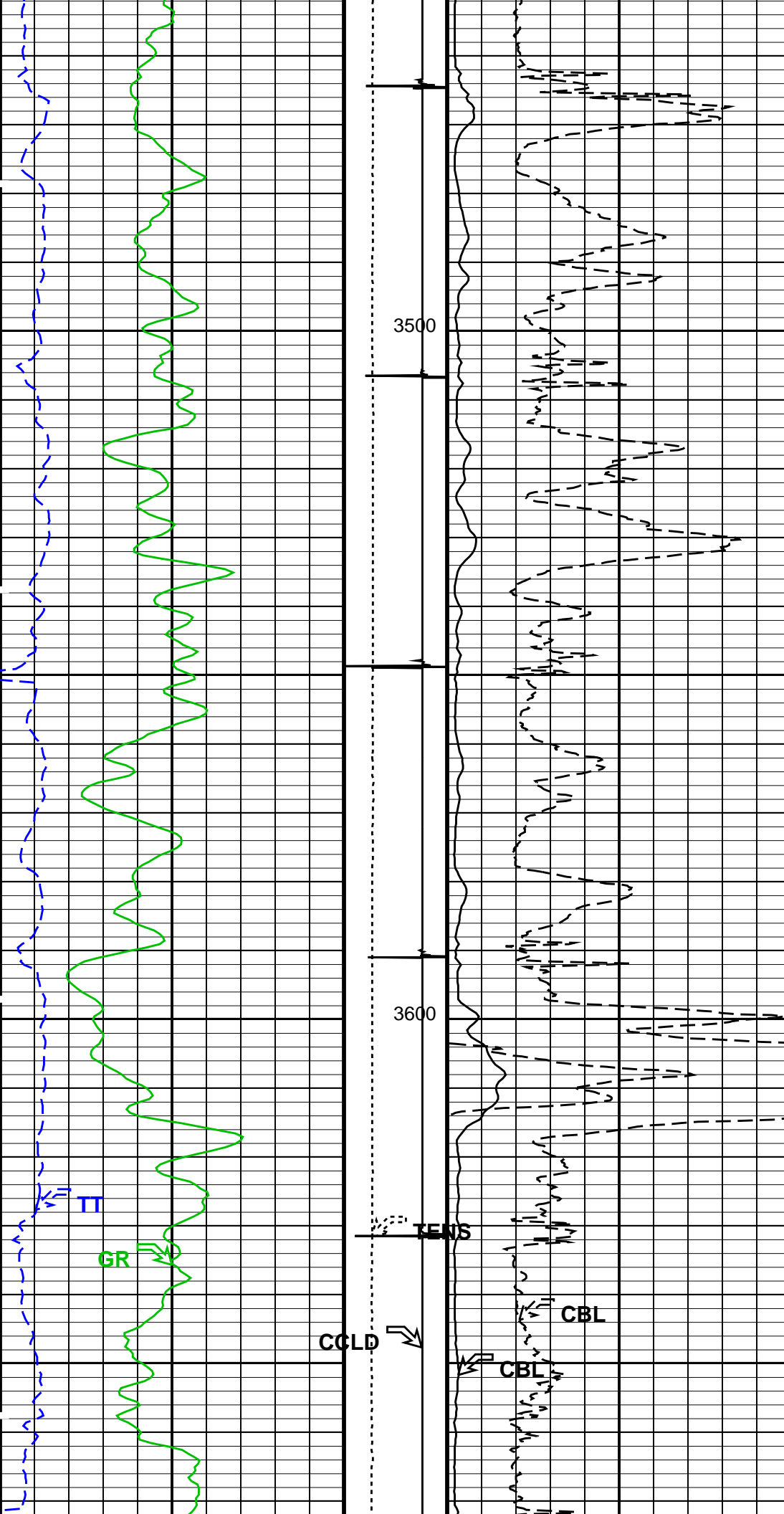


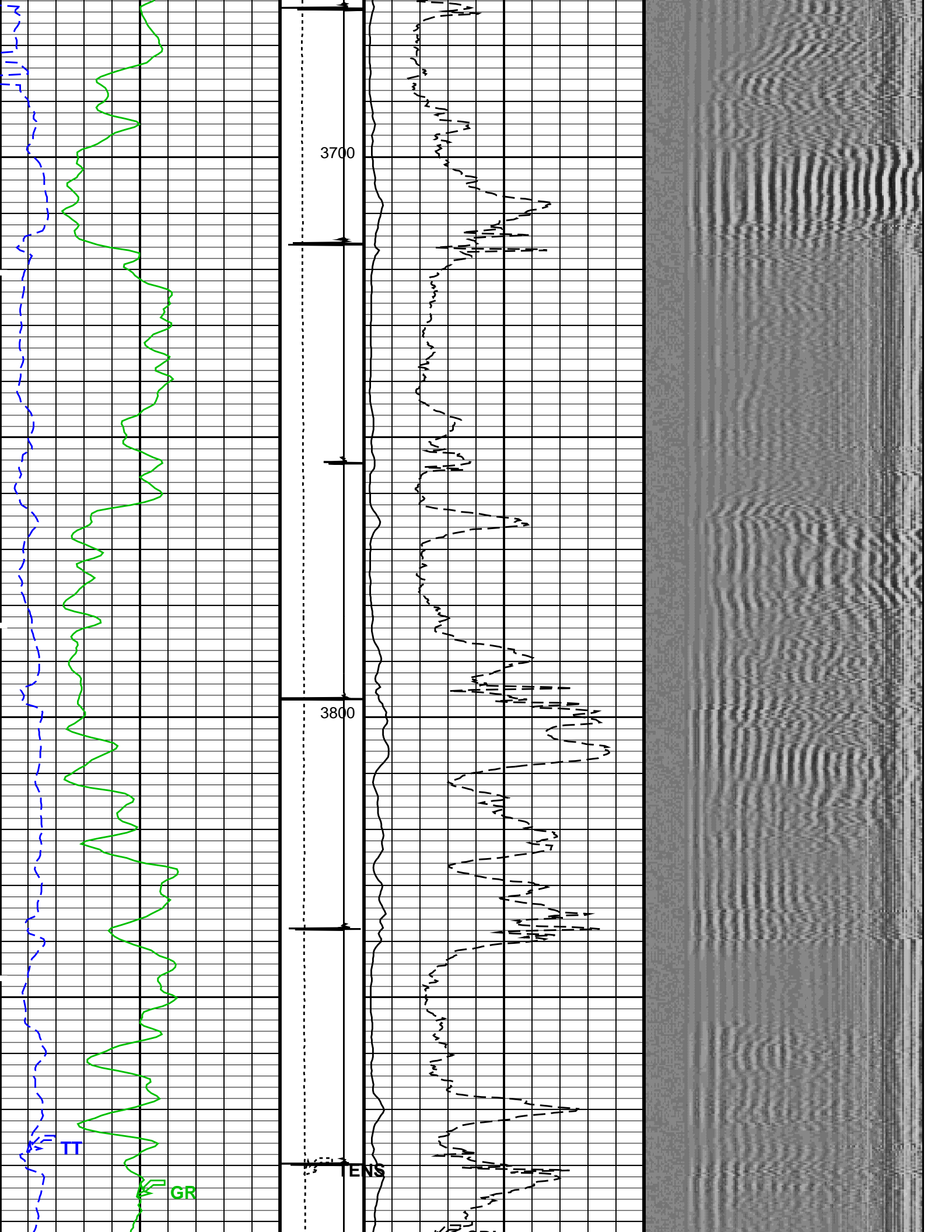


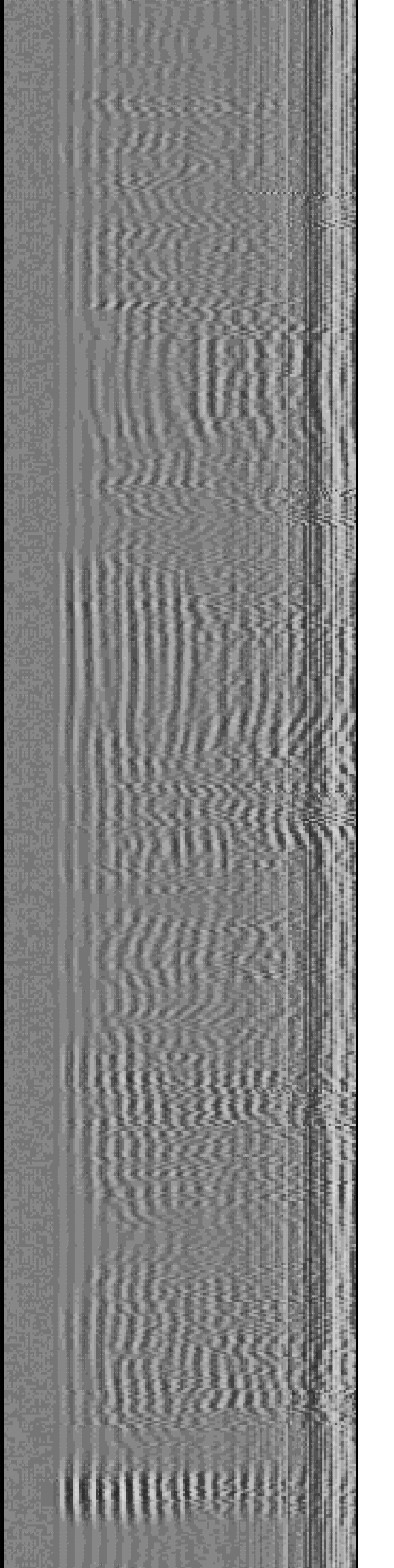
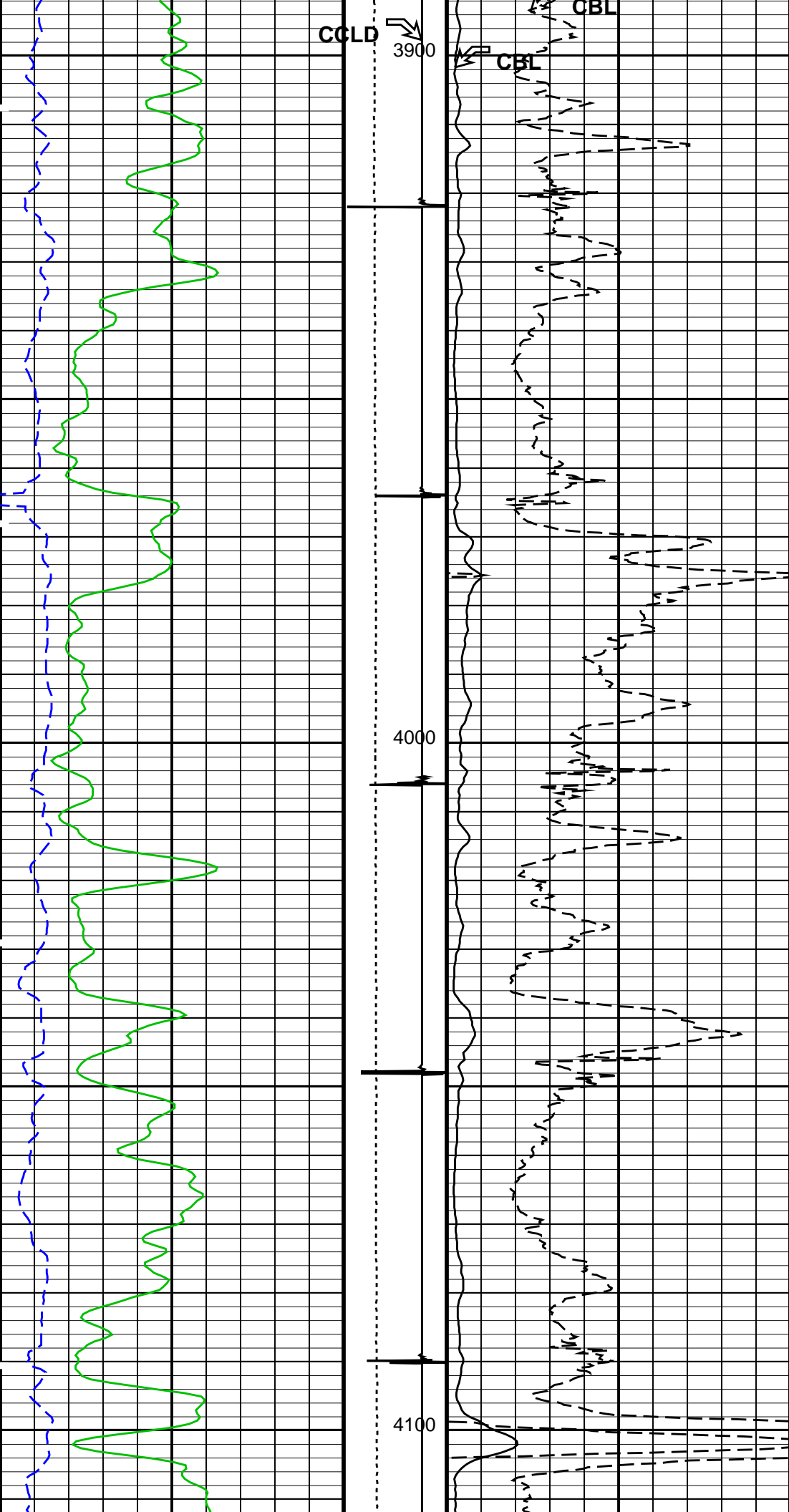


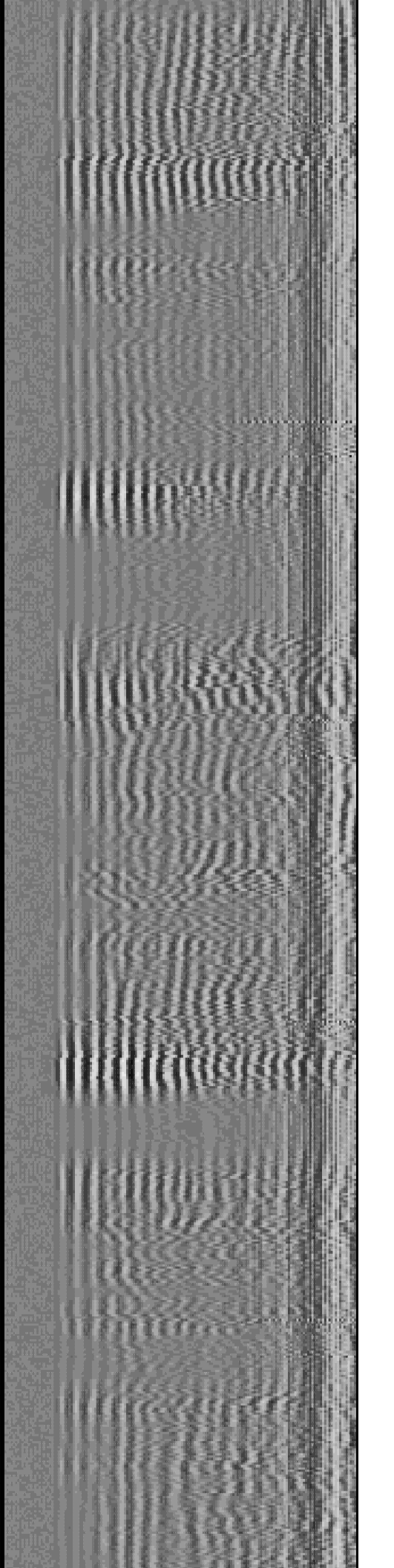
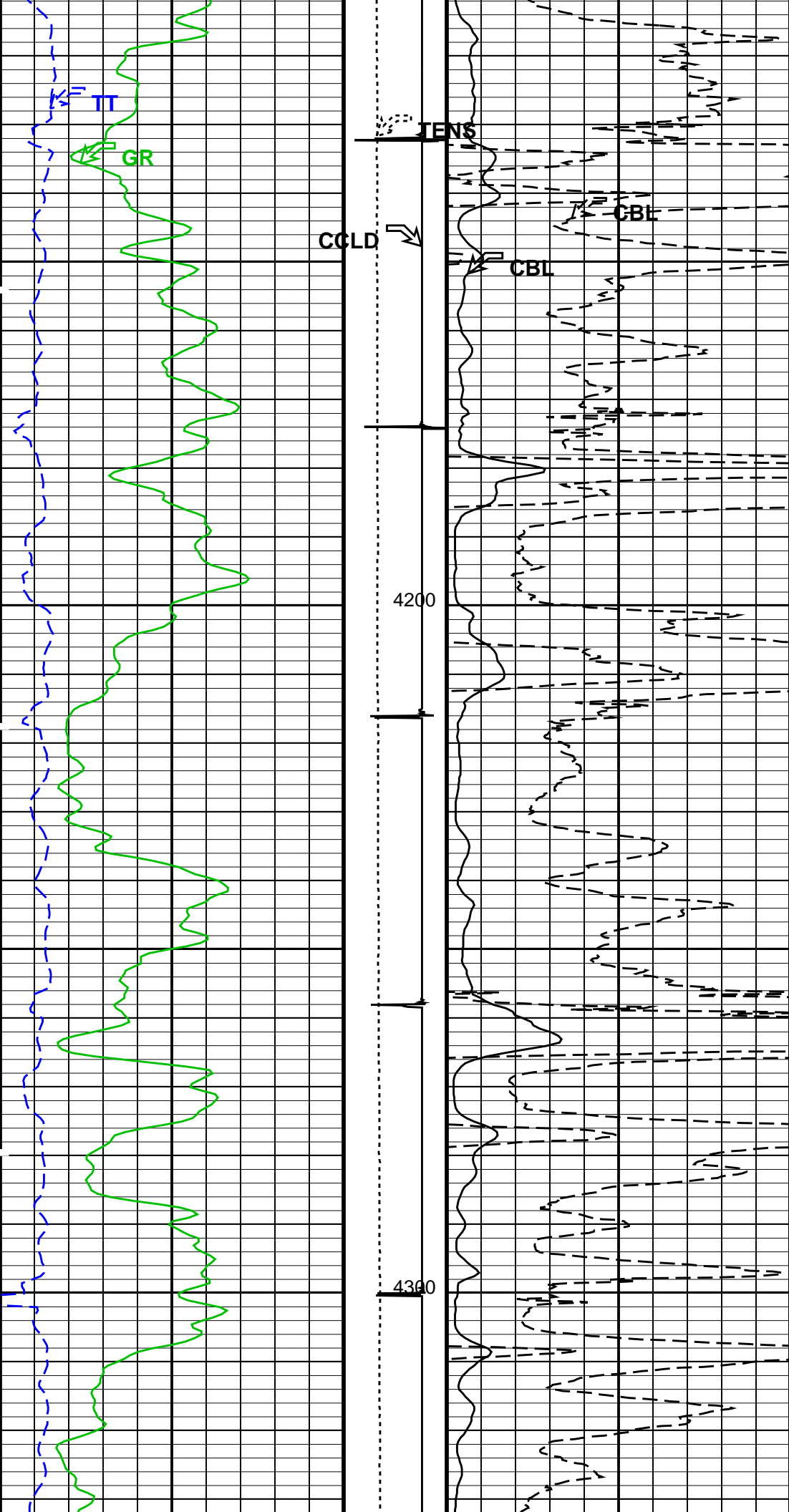


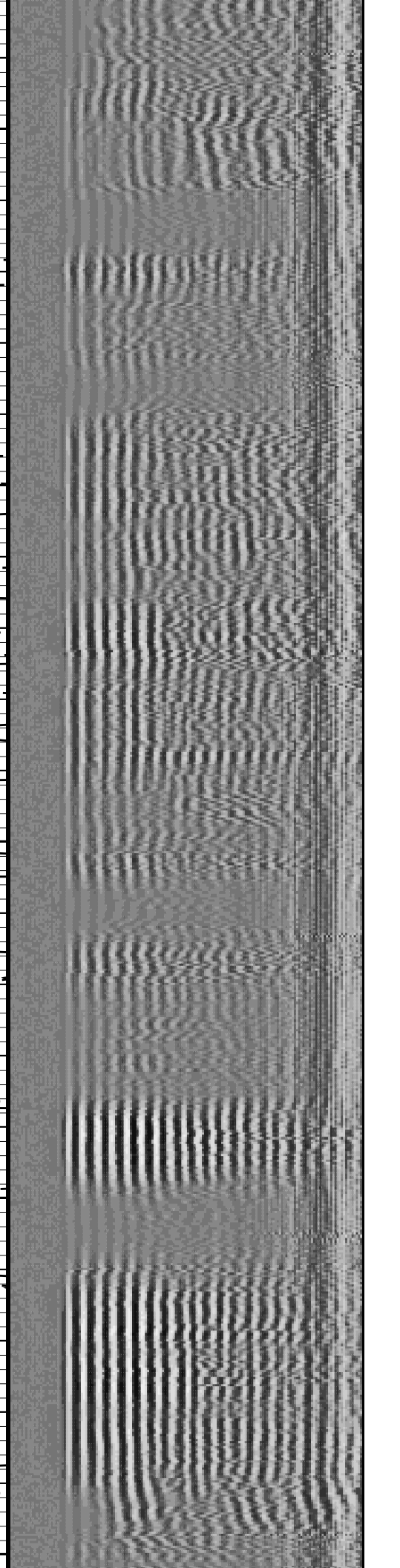
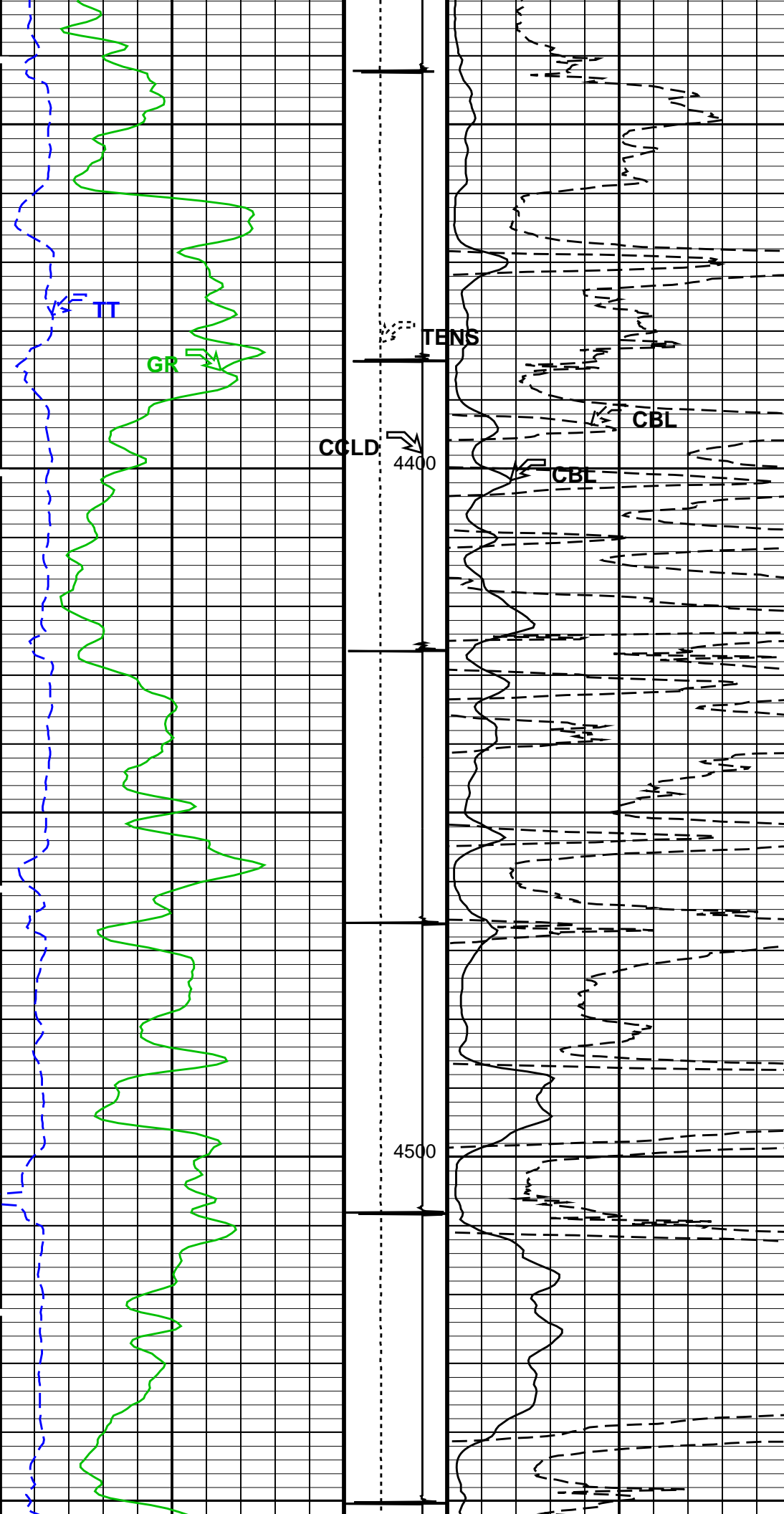


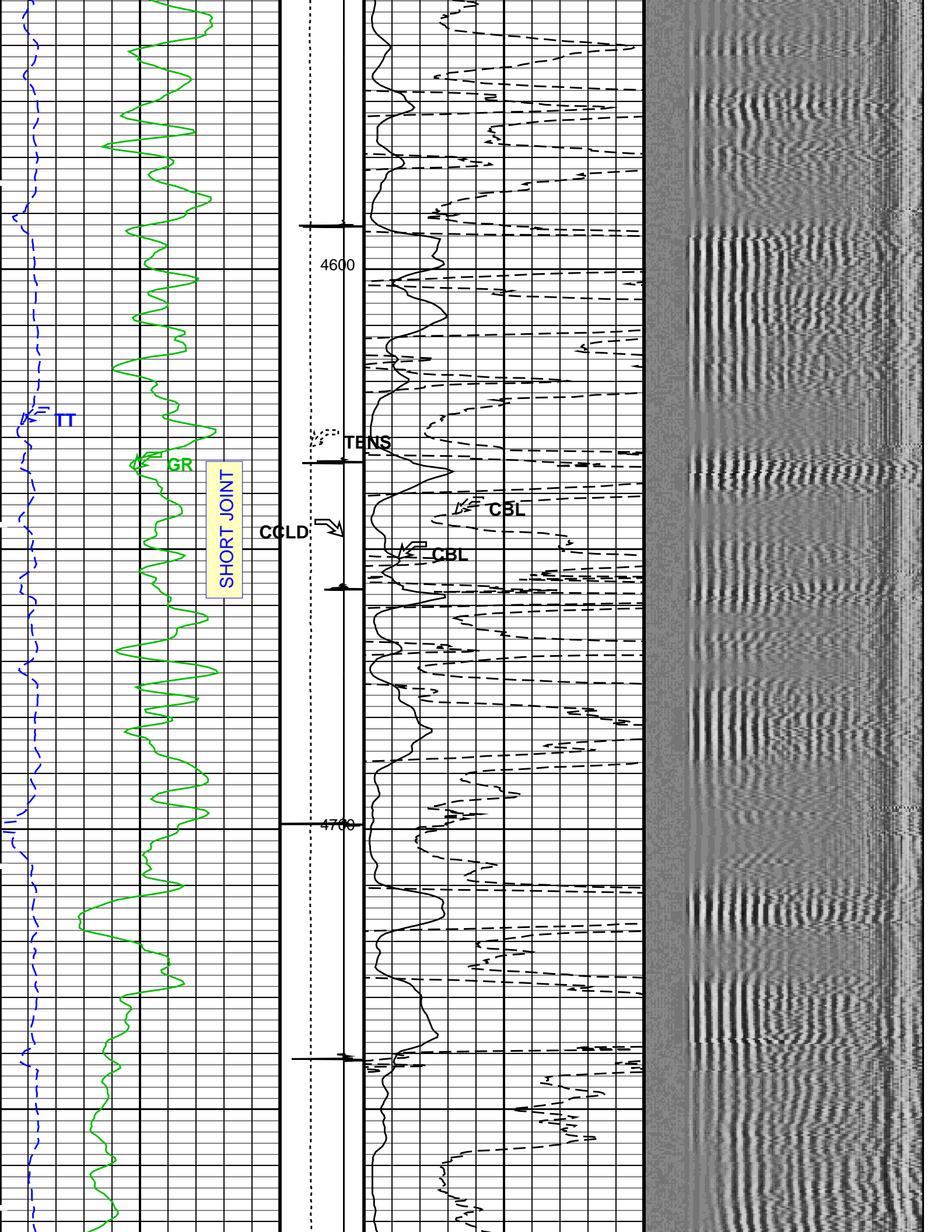


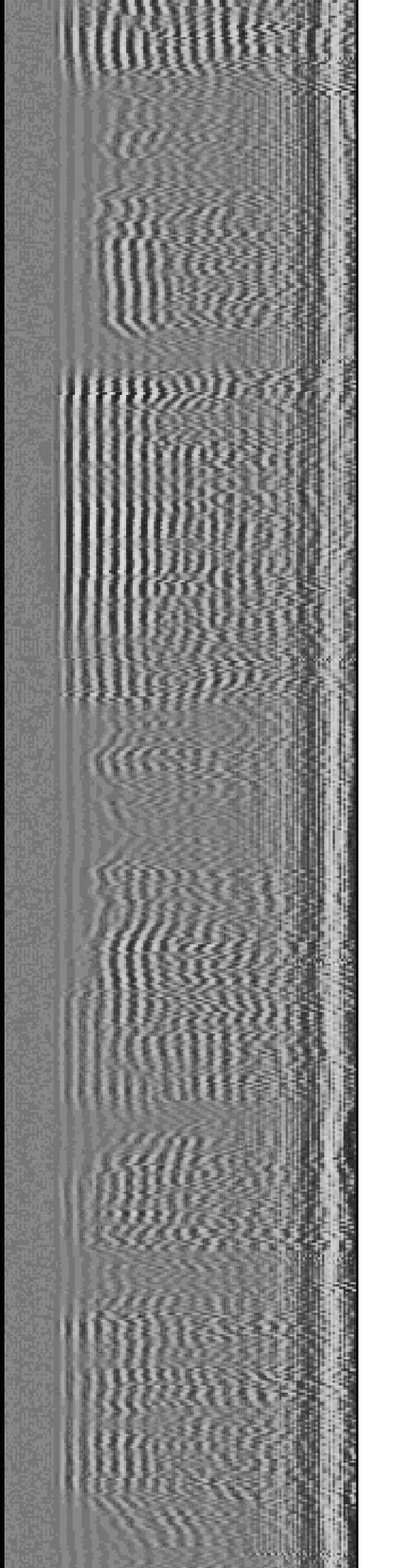
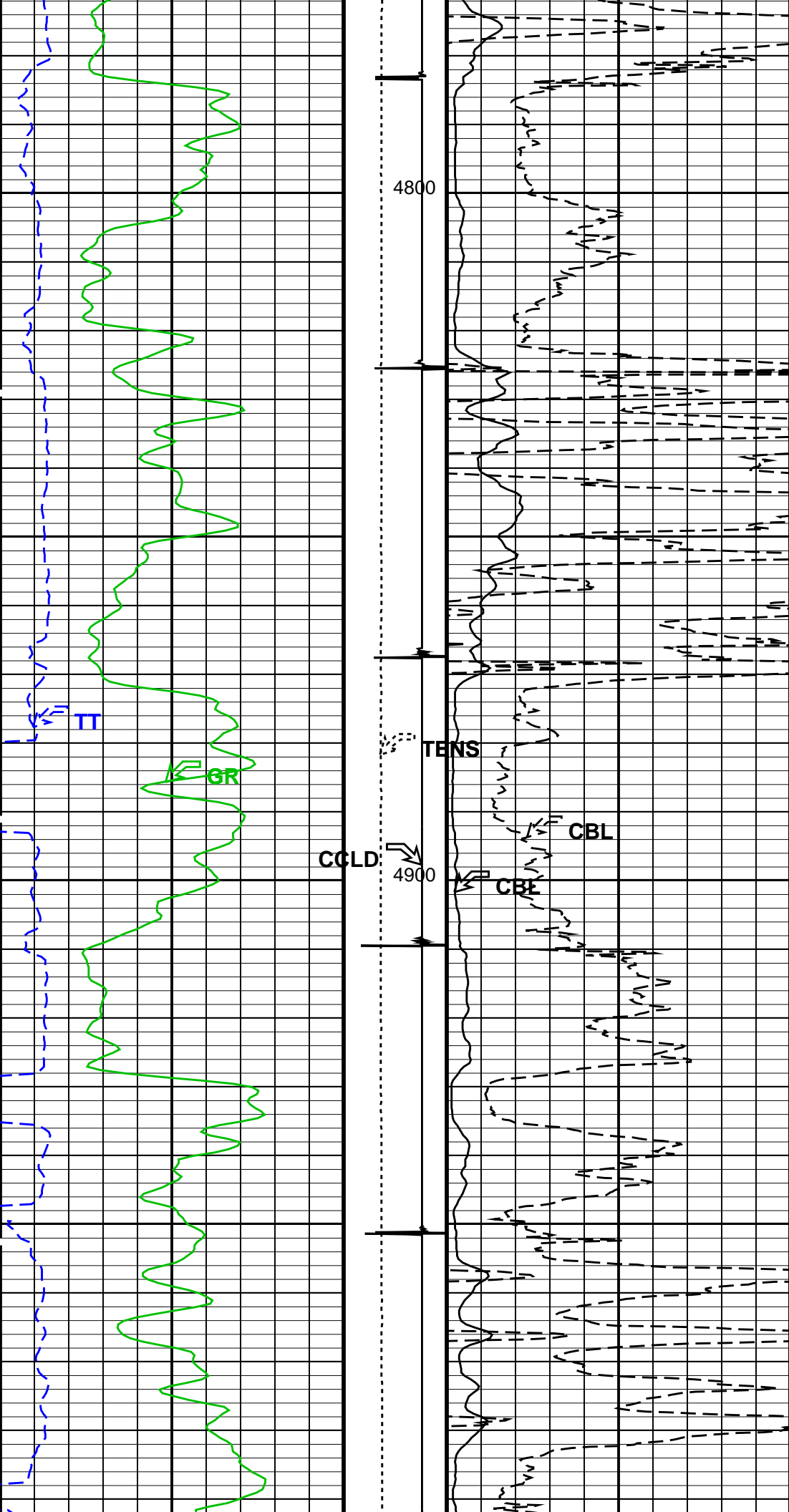


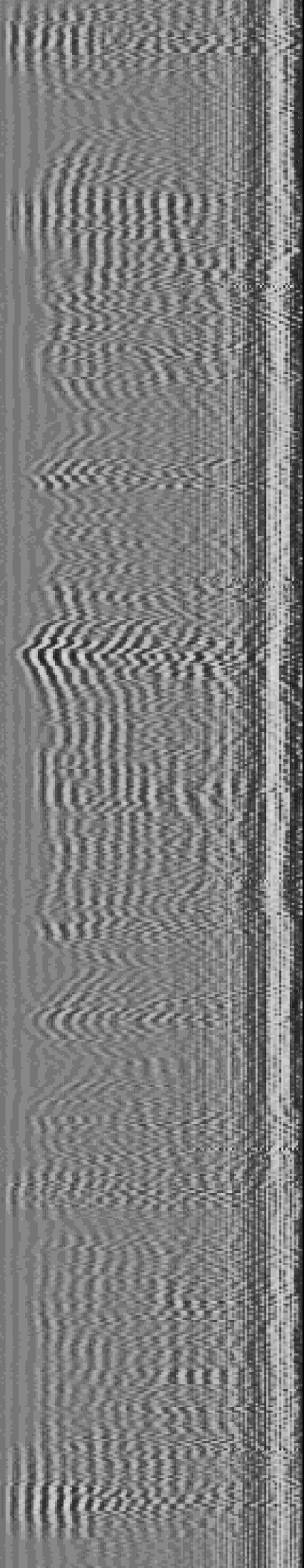
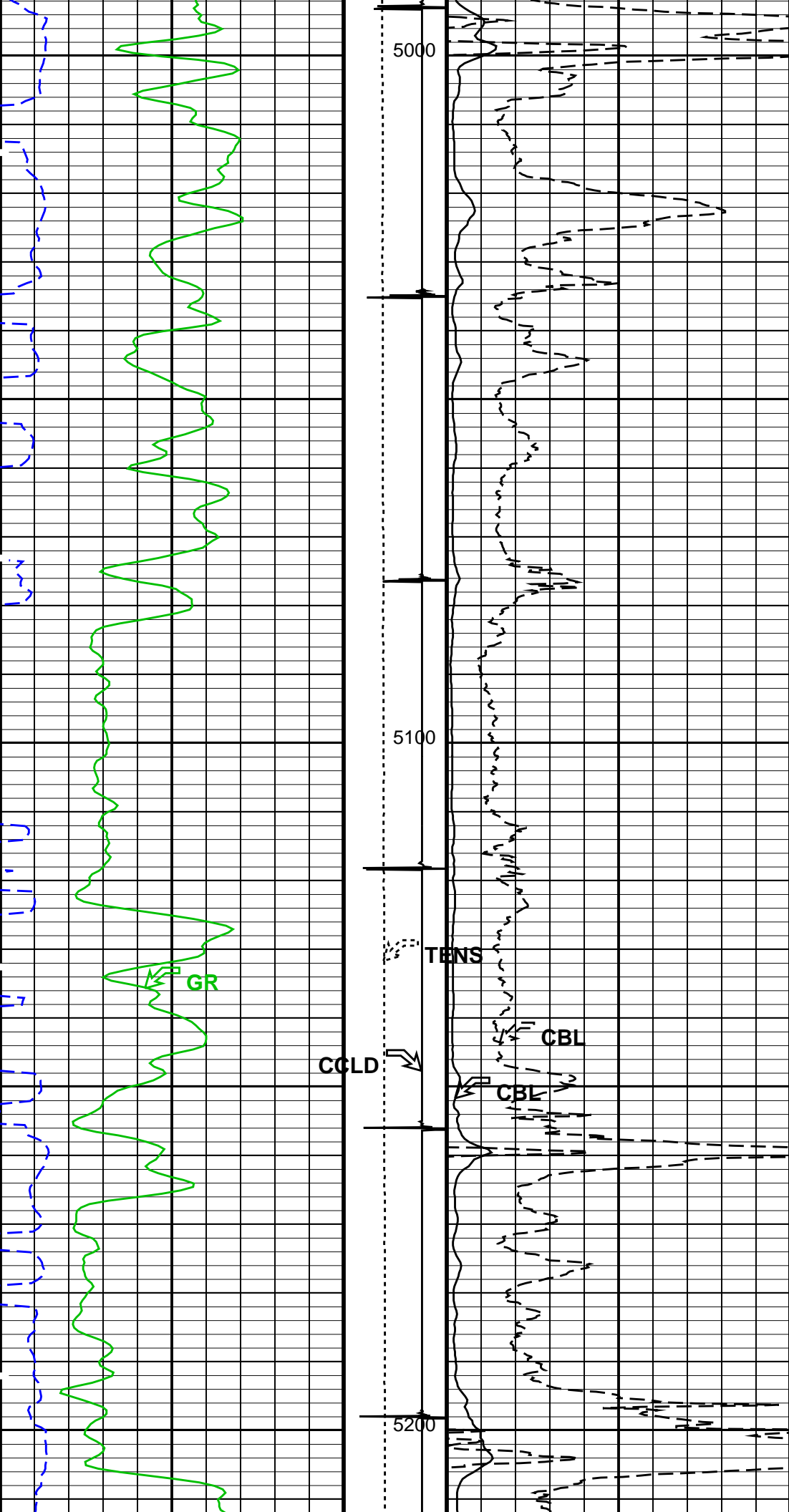


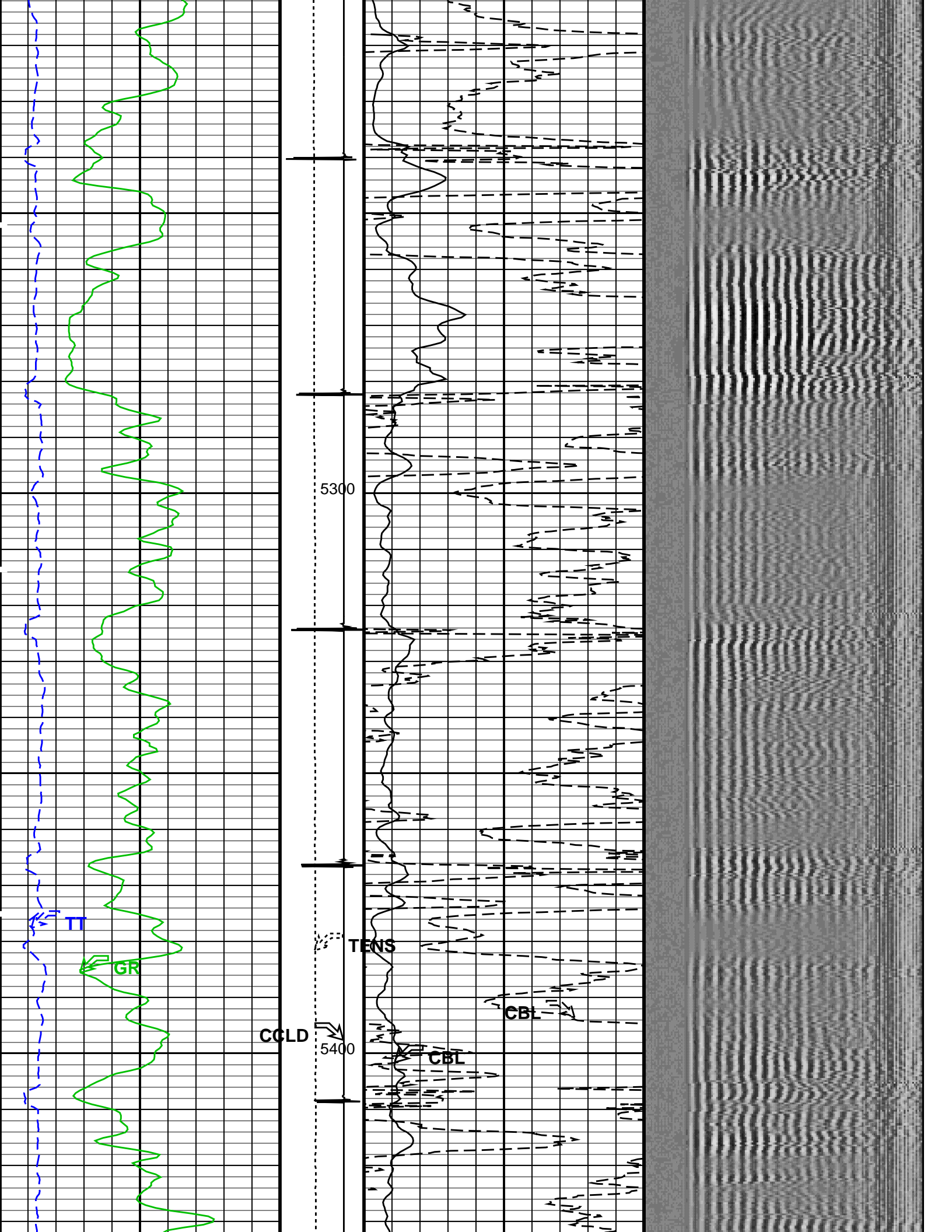


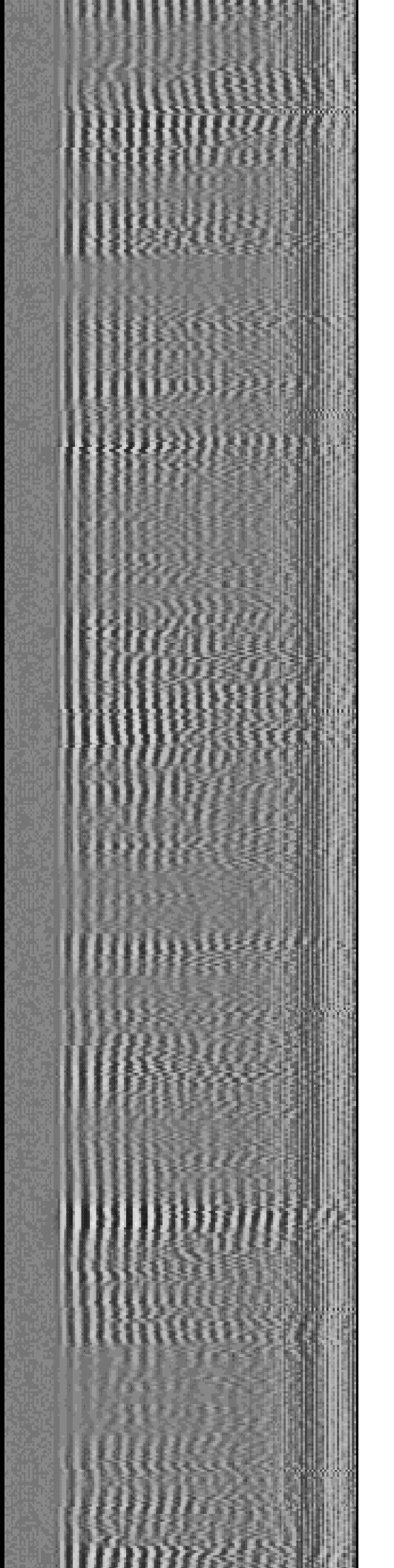
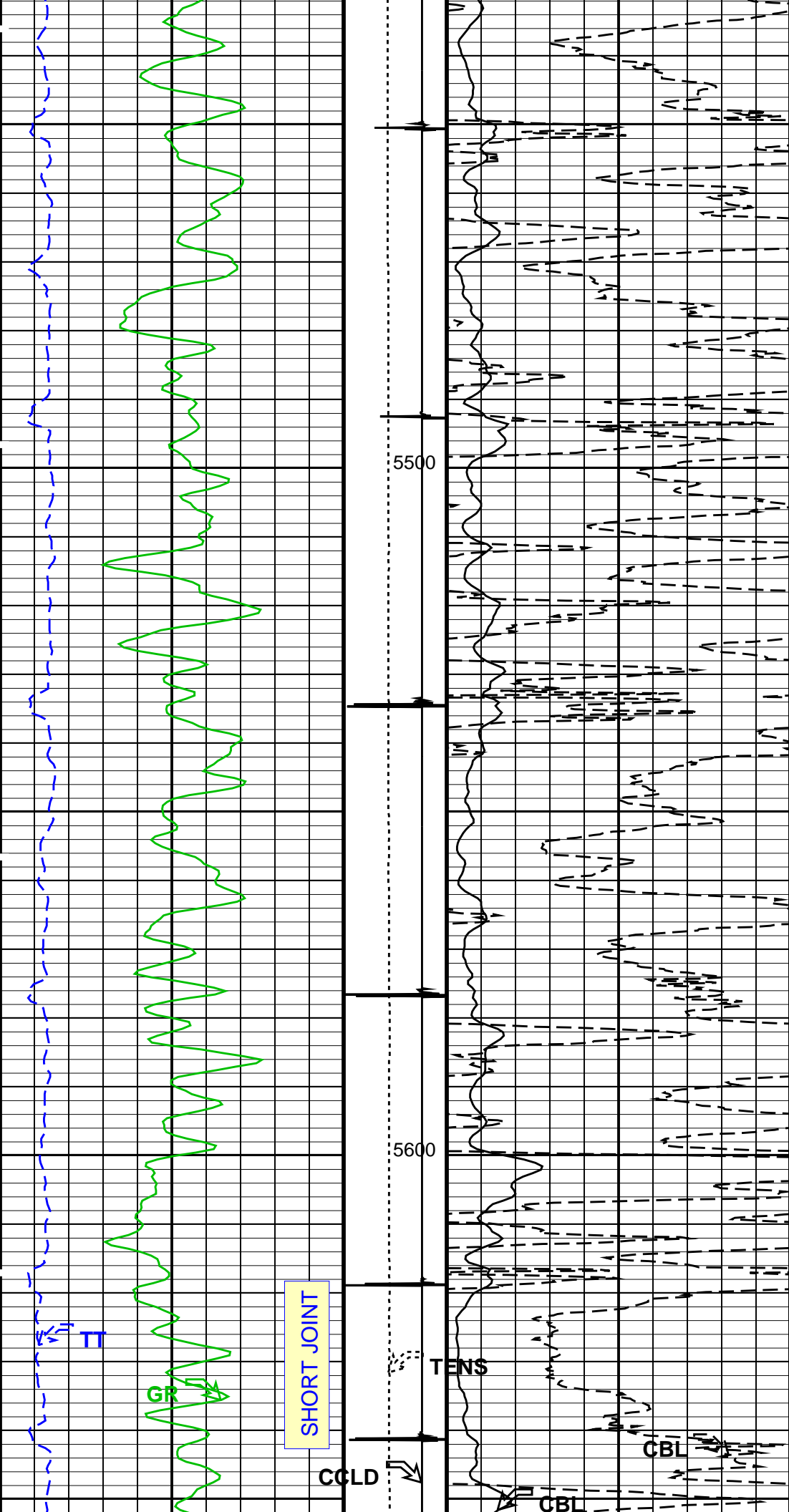


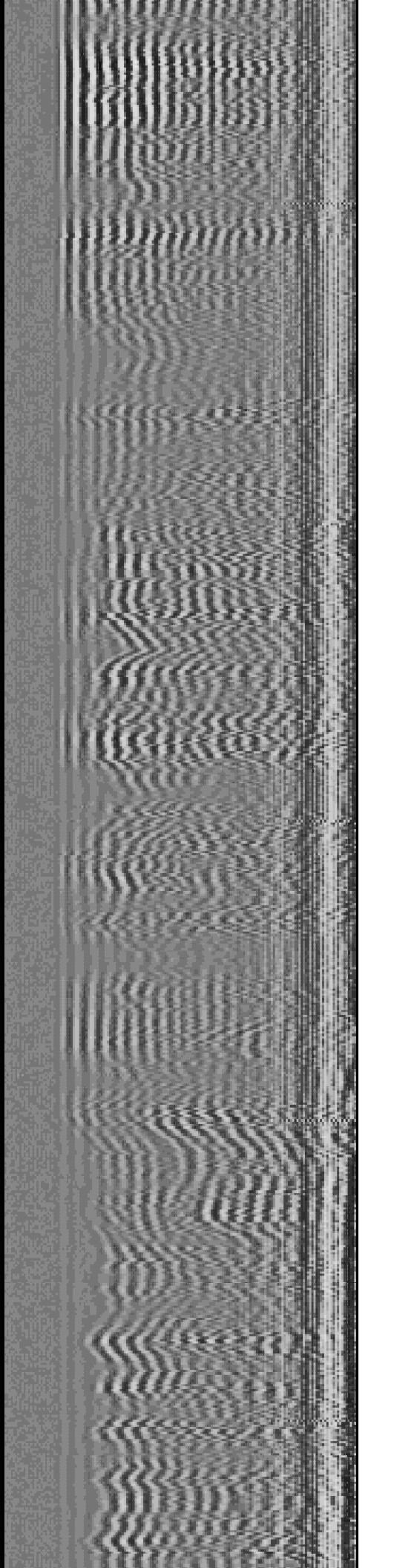
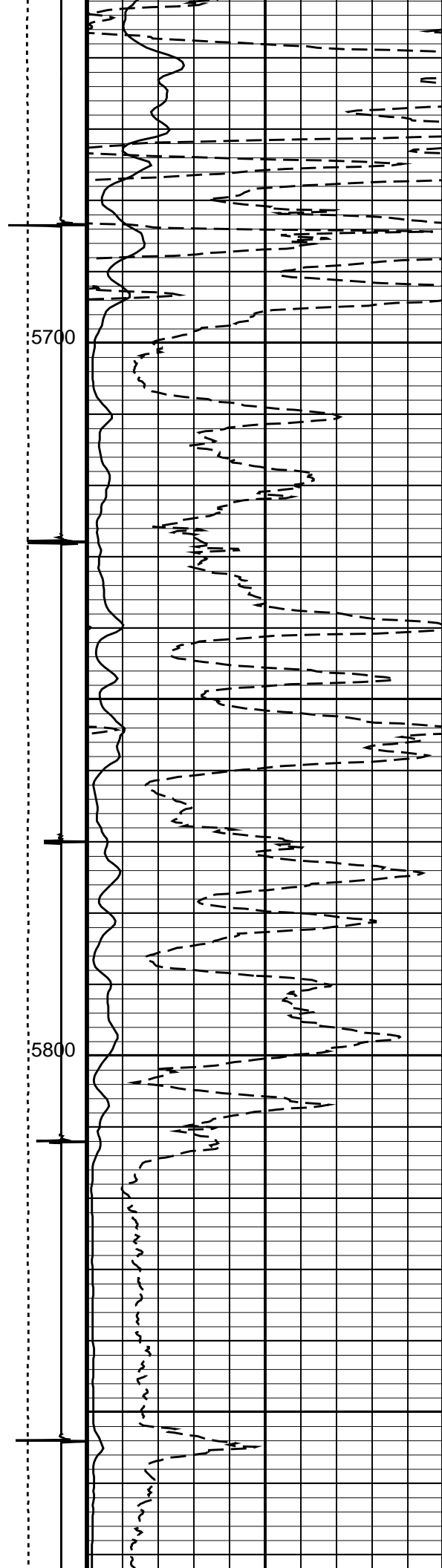
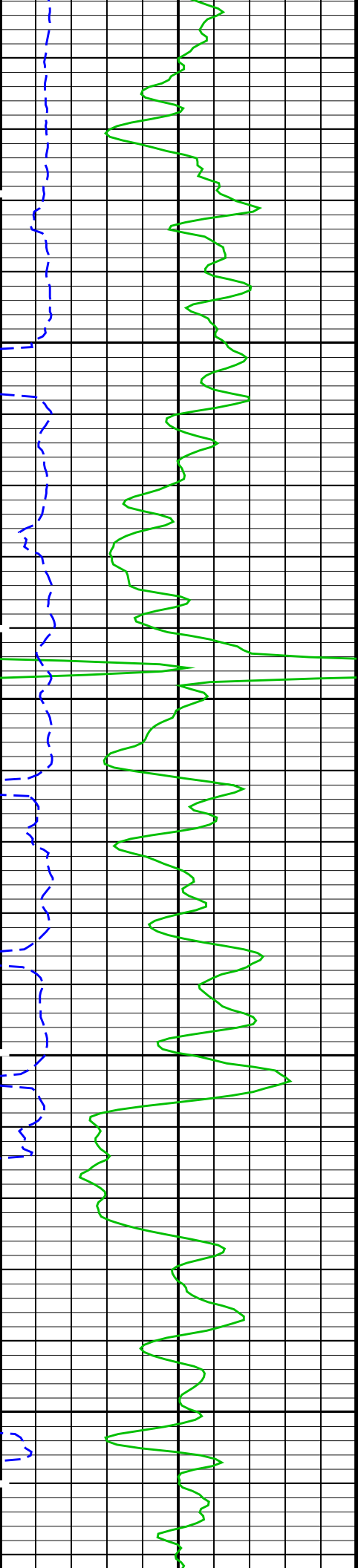


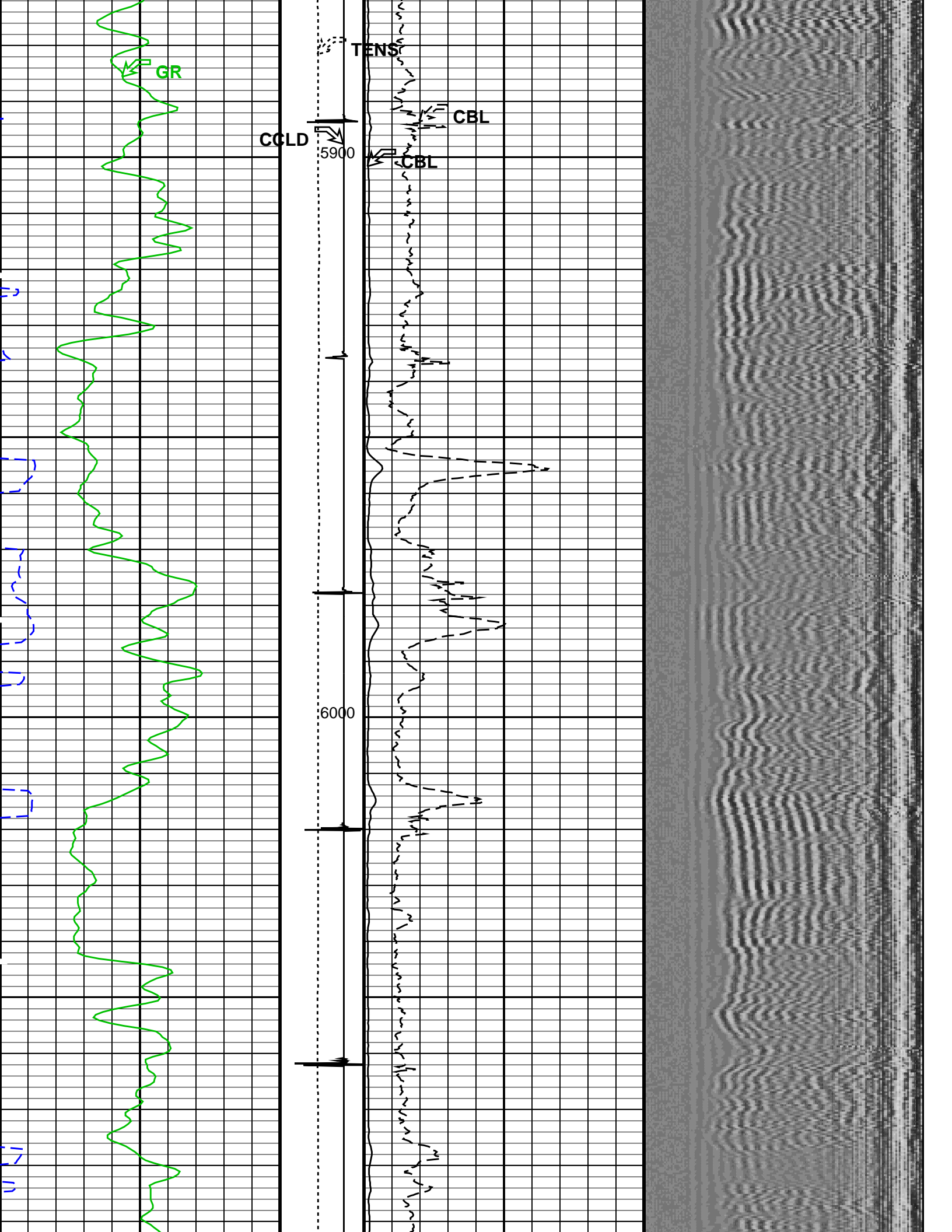


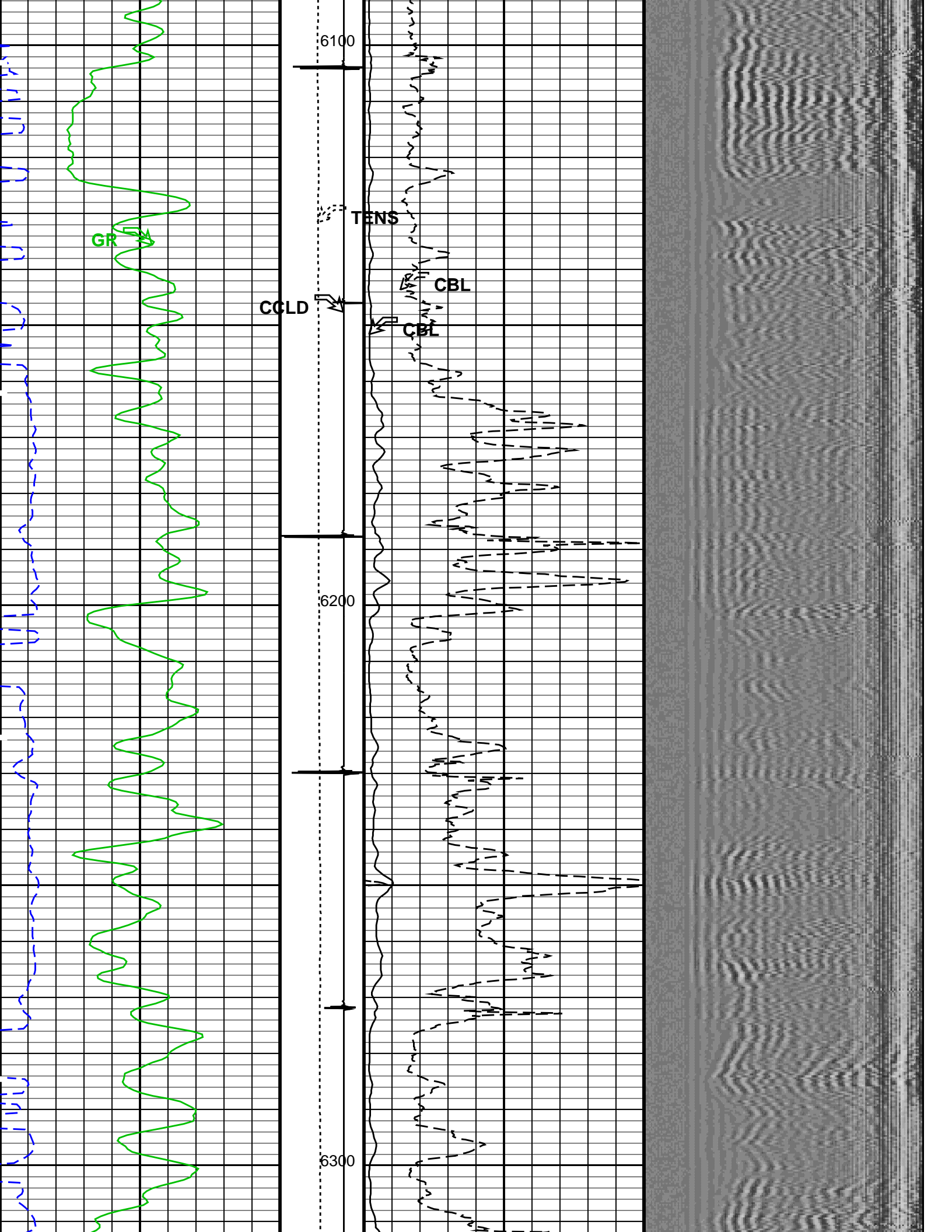


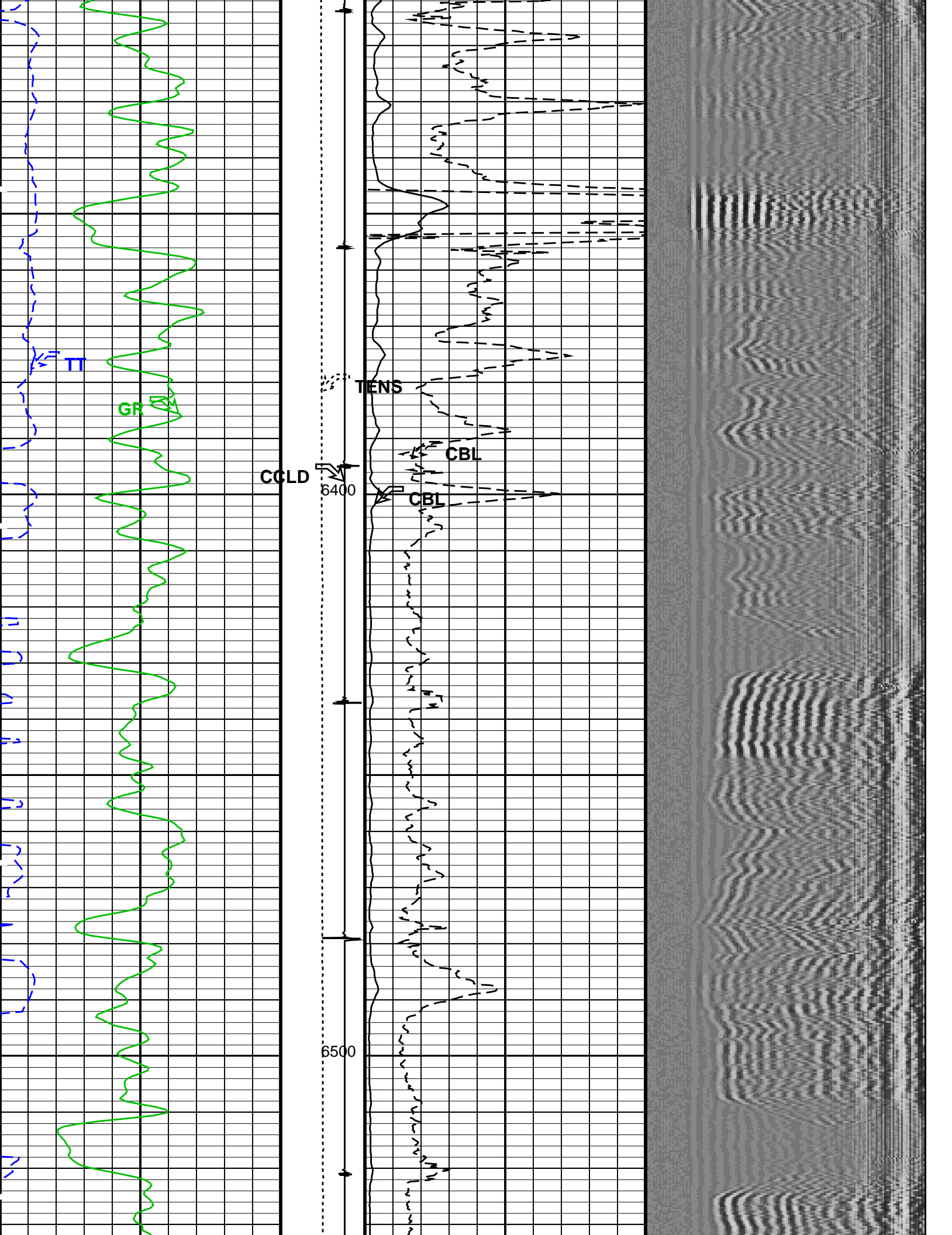


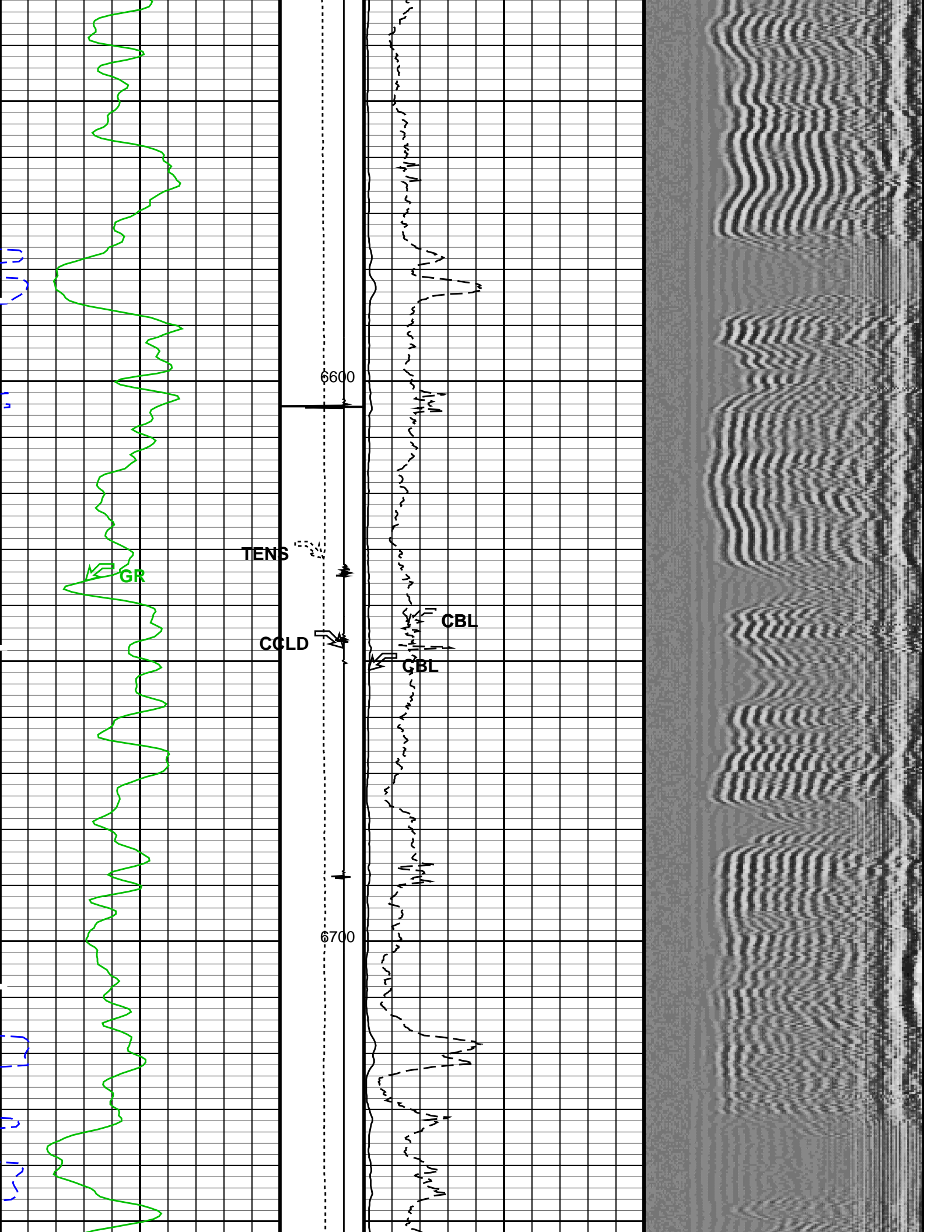


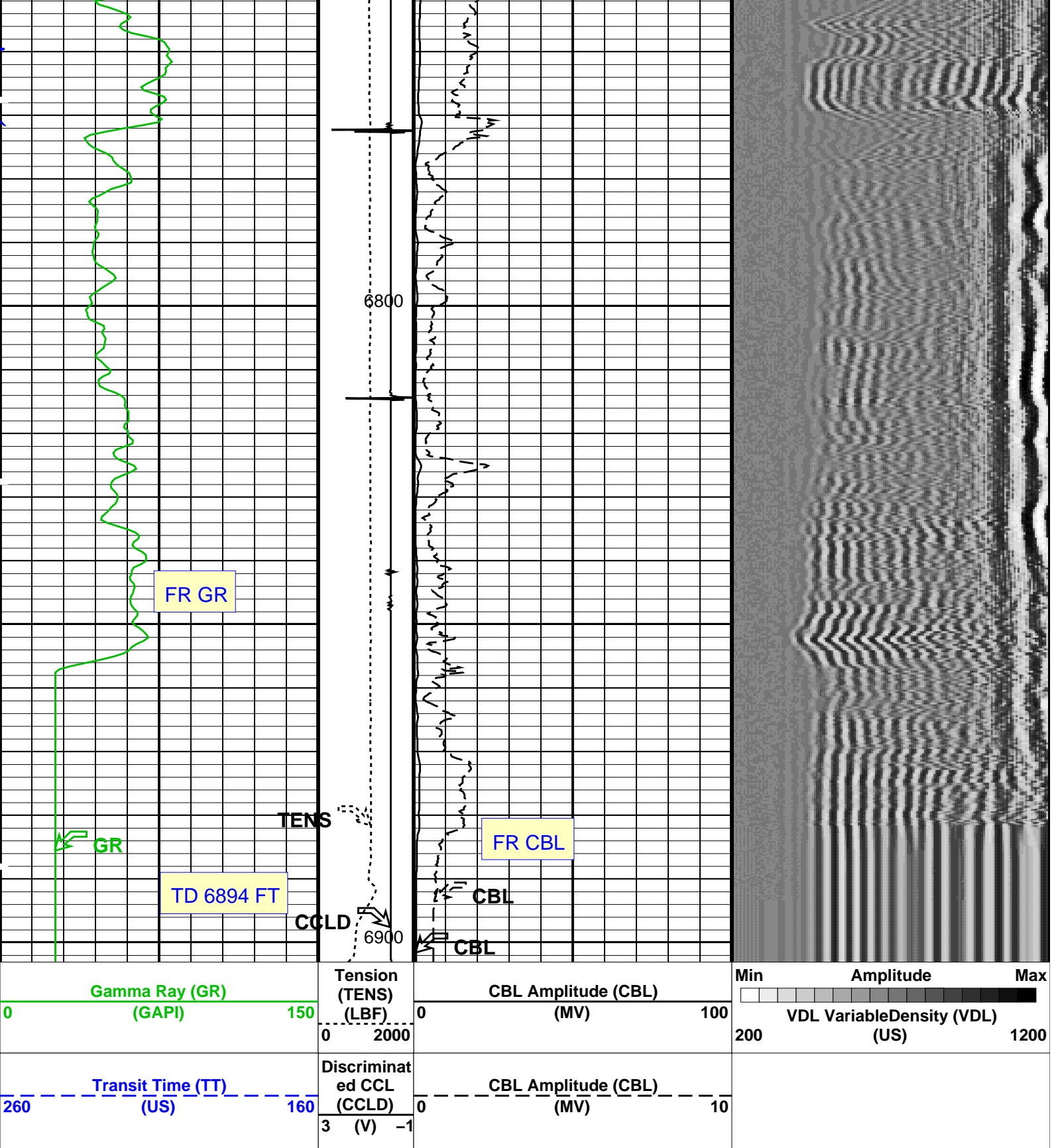












PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL Vertical Scale: 5" per 100'

Graphics File Created: 05-Oct-2011 08:32

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

SCMT-GR-0100

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	
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	0.924277	
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_005LUP FN:4 PRODUCER 05-Oct-2011 08:32

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC. Well: DAYBREAK FEDERAL 19-5 (PJ19)

Input DLIS Files

DEFAULT SCMT_RST_PSP_004PUP FN:3 PRODUCER 05-Oct-2011 08:25 5780.5 FT 5377.5 FT

Output DLIS Files

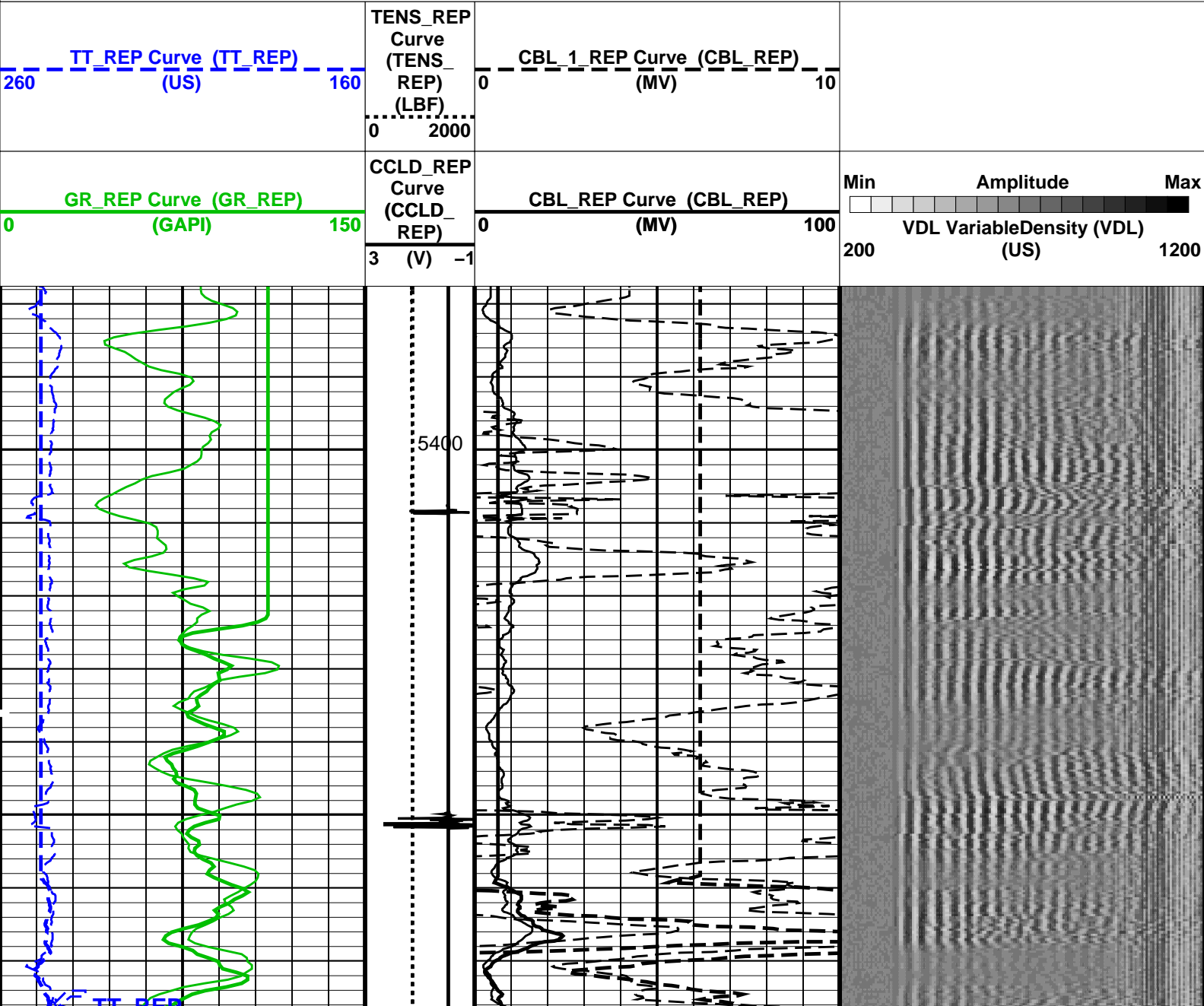
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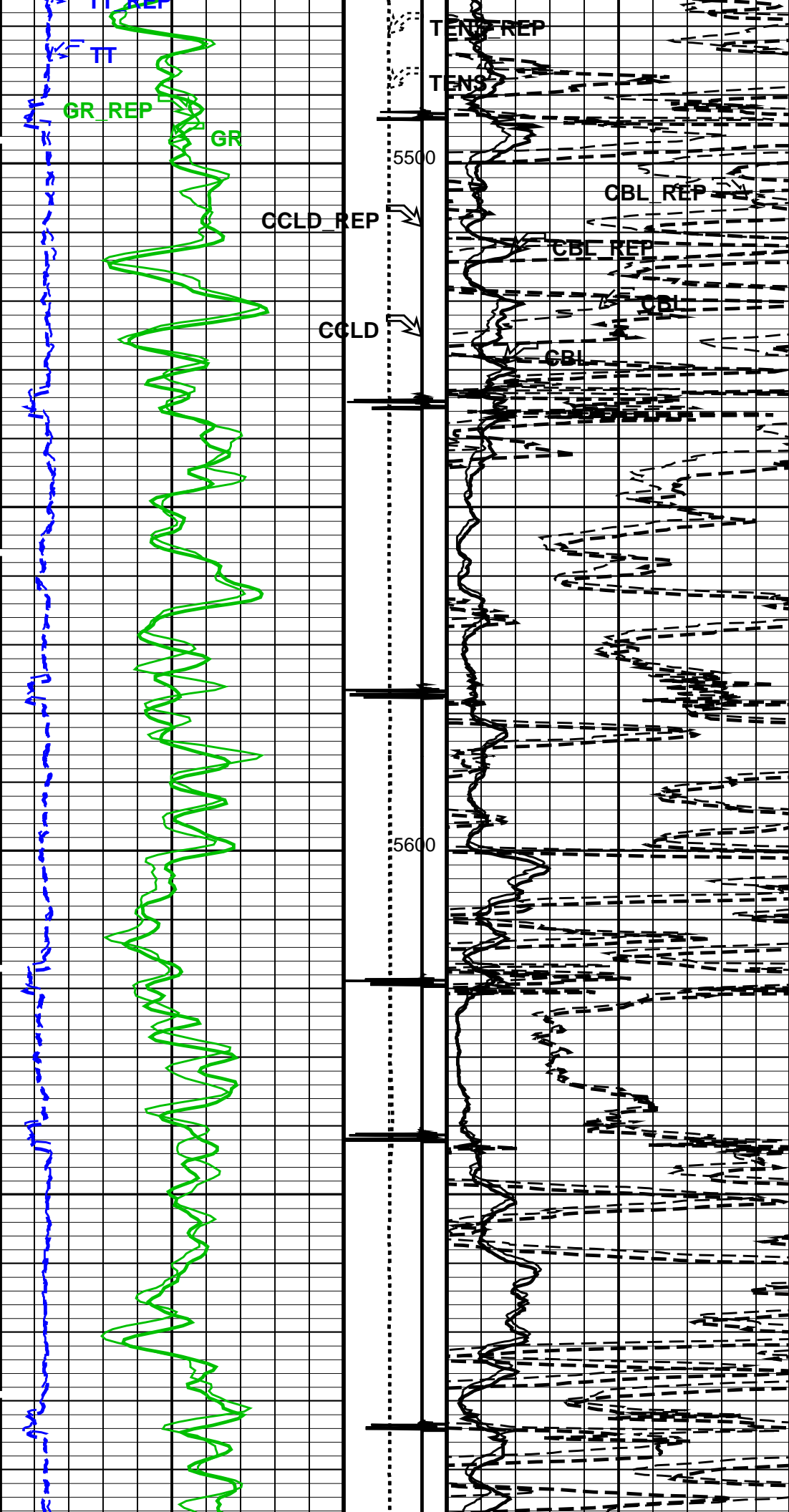
OP System Version: 19C0-187

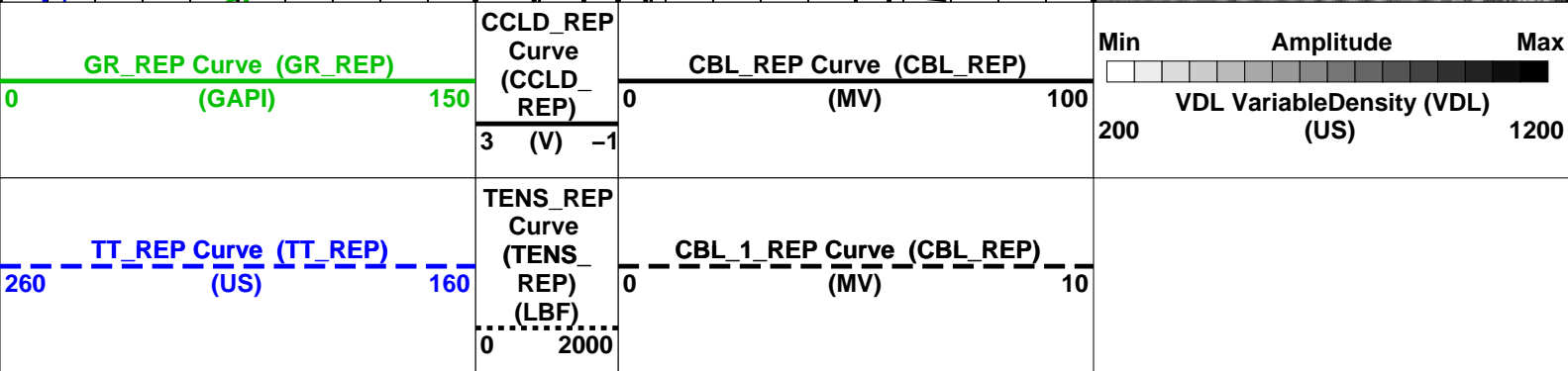
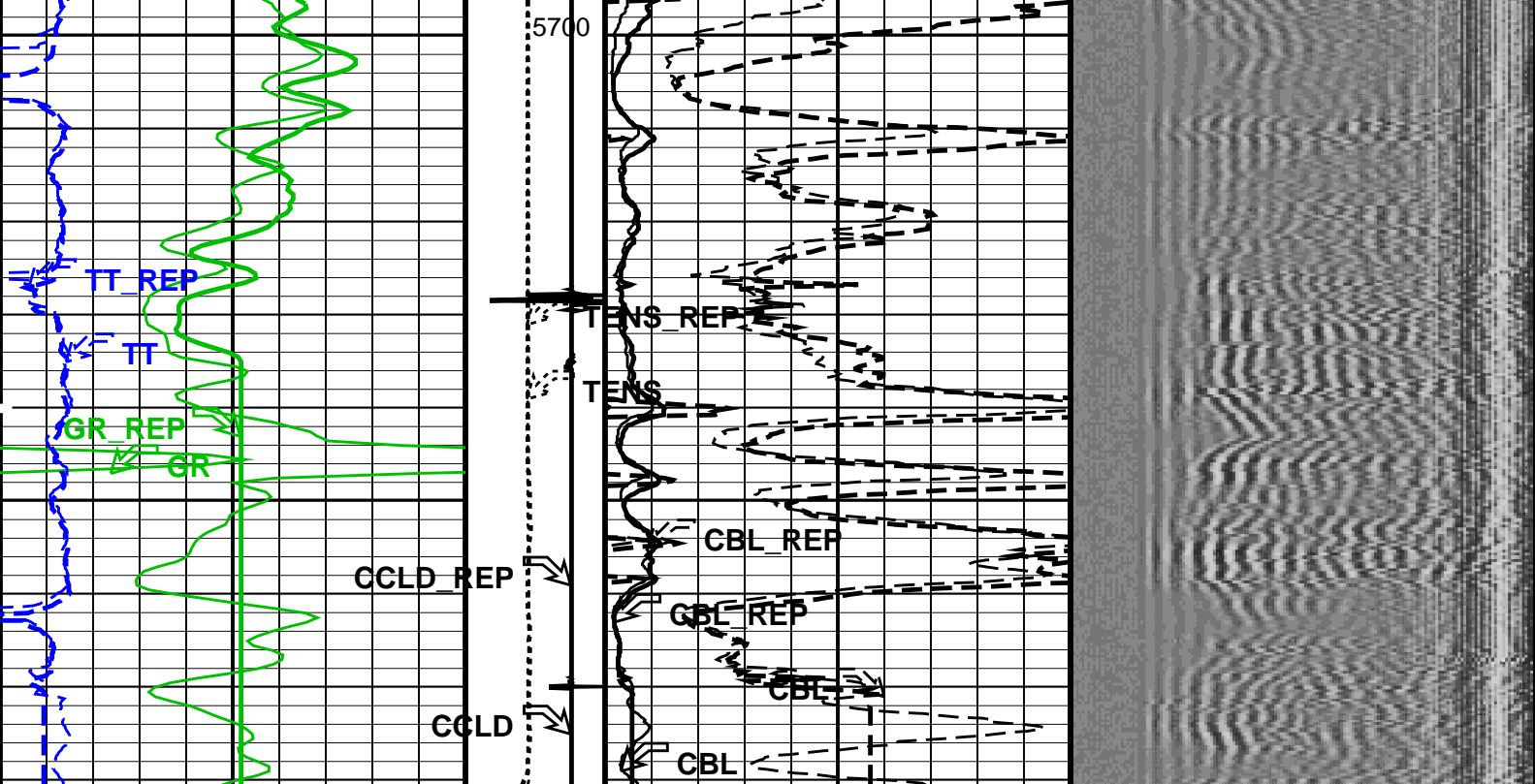
SCMT-CB SRPC-5095-H2-2011-OP19_b RST-C SRPC-5095-H2-2011-OP19_b
PSPT 19C0-187

PIP SUMMARY

Time Mark Every 60 S







PIP SUMMARY

Time Mark Every 60 S

Format: CBL_VDL_REP Vertical Scale: 5" per 100'

Graphics File Created: 05-Oct-2011 08:32

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	
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

Input DLIS Files

DEFAULT SCMT_RST_PSP_004PUP FN:3 PRODUCER 05-Oct-2011 08:25 5780.5 FT 5377.5 FT

Output DLIS Files

DEFAULT SCMT_RST_PSP_005LUP FN:4 PRODUCER 05-Oct-2011 08:32

Schlumberger

COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC.
Field: PARACHUTE
Well: DAYBREAK FEDERAL 19-5 (PJ19)
Run date: 5-Oct-2011

Tool: PSP
Sub Type: PBMS
Sensor: 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

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB

Sensor Serial NB 3779

Calib Date ddmmyy 090107

Matrix Size 66

Coeff CRC 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 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: ENCANA OIL & GAS (USA) INC.
 Field: PARACHUTE
 Well: DAYBREAK FEDERAL 19−5 (PJ19)
 Run date: 5−Oct−2011

Tool: PSP
 Sub Type: PBMS
 Sensor: GR

PBMS Gamma Ray

Sonde Serial NB RESISTORS FOR GR SENSOR N.34552,TOOL PBMS-AA3779. SENSOR S/N:
Sensor Serial NB 34552
Calib Date ddmmyy 030606
Matrix Size 12
Coeff CRC 3AE5

GR HV Rt

Rt**0

Rt**1

Rt**0

+.200000000000e+04

+.214000000000e+04

Client: ENCANA OIL & GAS (USA) INC.
Field: PARACHUTE
Well: DAYBREAK FEDERAL 19-5 (PJ19)
Run date: 5-Oct-2011

Tool: PSP
Sub Type: PBMS
Sensor: WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB COEFFICIENTS FOR RTD THERMOMETER PBMS-A.3779 S/N:
Sensor Serial NB 3779
Calib Date ddmmyy 090107
Matrix Size 16
Coeff CRC 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.



Well: DAYBREAK FEDERAL 19–5 (PJ19)
Field: PARACHUTE
County: GARFIELD
State: COLORADO

CEMENT BOND LOG
CBL – VDL
GAMMA RAY – CCL