

Company: Noble Energy Inc.

Well: Suman–George Trusts 14–26

Field: Duke

County: Yuma

State: Colorado

CMENT BOND LOG
GAMMA RAY
CASING COLLAR LOG

County: Yuma

Field: Duke

Location: 200' FSL X 200' FWL

Well: Suman–George Trusts 14–26

Company: Noble Energy Inc.

LOCATION		200' FSL X 200' FWL		Elev.: K.B. 3901.00 ft G.L. 3895.00 ft D.F. 3900.00 ft	
Permanent Datum:	GROUND LEVEL	Elev.: 3895.00 ft			
Log Measured From:	KELLY BUSHING	6.00 ft		above Perm. Datum	
Drilling Measured From:	KELLY BUSHING				
API Serial No. 05–125–11949–0000		Section 26	Township 1S	Range 45W	

			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					
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		14–Jan–2011	
Run Number	1		
Depth Driller	2408 ft		
Schlumberger Depth	2354 ft		
Bottom Log Interval	2348 ft		
Top Log Interval	0 ft		
Casing Fluid Type	WATER		
Salinity			
Density	8.4 lbm/gal		
Fluid Level			
BIT/CASING/TUBING STRING			
Bit Size	6.250 in		
From			
To			
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade			
From			
To			
Maximum Recorded Temperatures	115 degF		
Logger On Bottom	14–Jan–2011	3:30	
Unit Number	354	FORT MORGAN	
Recorded By	Shane Walker		
Witnessed By	MIKE BEARGEON		

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: 13-JAN-2011 19:00:32

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25P
Serial Number:	6380	Serial Number:	1105	Serial Number:	354
Calibration Date:	18-OCT-2010	Calibration Date:	17-DEC-2010	Length:	17800 FT
Calibrator Serial Number:	1	Calibrator Serial Number:	100513	Conveyance Method:	Wireline
Calibration Cable Type:	1-25P	Number of Calibration Points:	0	Rig Type:	LAND
Wheel Correction 1:	-3				
Wheel Correction 2:	-3				

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
Stretch Correction:	
Tool Zero Check At Surface:	1.00 FT

Depth Control Remarks

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

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OTHER SERVICES1 OS1: SWAB OS2: PERF OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
CORRELATED TO TRIPLE COMBO	
RAN BY SCHLUMBERGER ON 28-DEC-2010	
MAIN PASS	

Thank you for choosing Schlumberger

STOP

RUN 2

DT 10.9

CBL5 DTSC — 9.4

CBL3 — 8.4

MAP — 7.9

AUX — 6.9

HV
Tension SCMT — 0.0
TOOL ZERO

MAXIMUM STRING DIAMETER 7.50 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Company: Noble Energy Inc.

Well: Suman-George Trusts 14-2

Output DLIS Files

DEFAULT SCMT_PSP_015LUP FN:14 PRODUCER 14-Jan-2011 15:23 2365.0 FT 3.7 FT

OP System Version: 19C0-187

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

PIP SUMMARY

Time Mark Every 60 S

Discriminated CCL
(CCLD)

-3.5 (V) 0.5

COLLARS
From CCLD to T1

GOOD BOND
From ACBL to GOBO

Transit Time (TT)
(US) 400 200

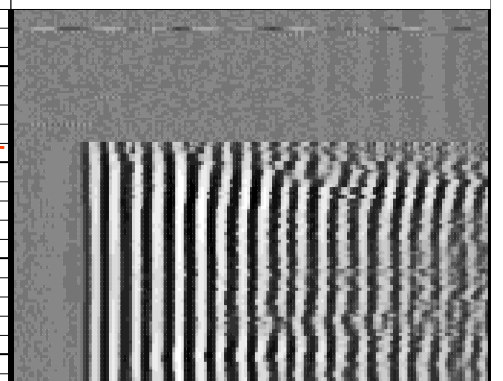
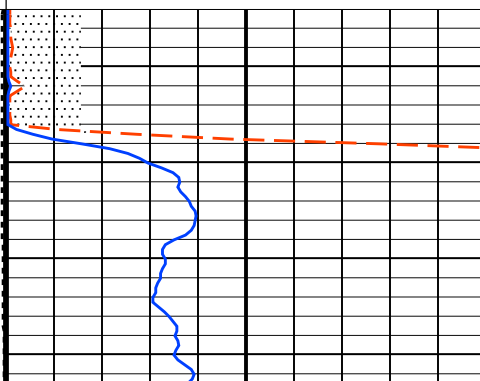
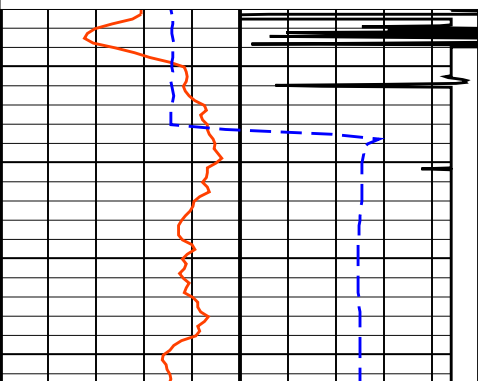
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(MV) 0 100

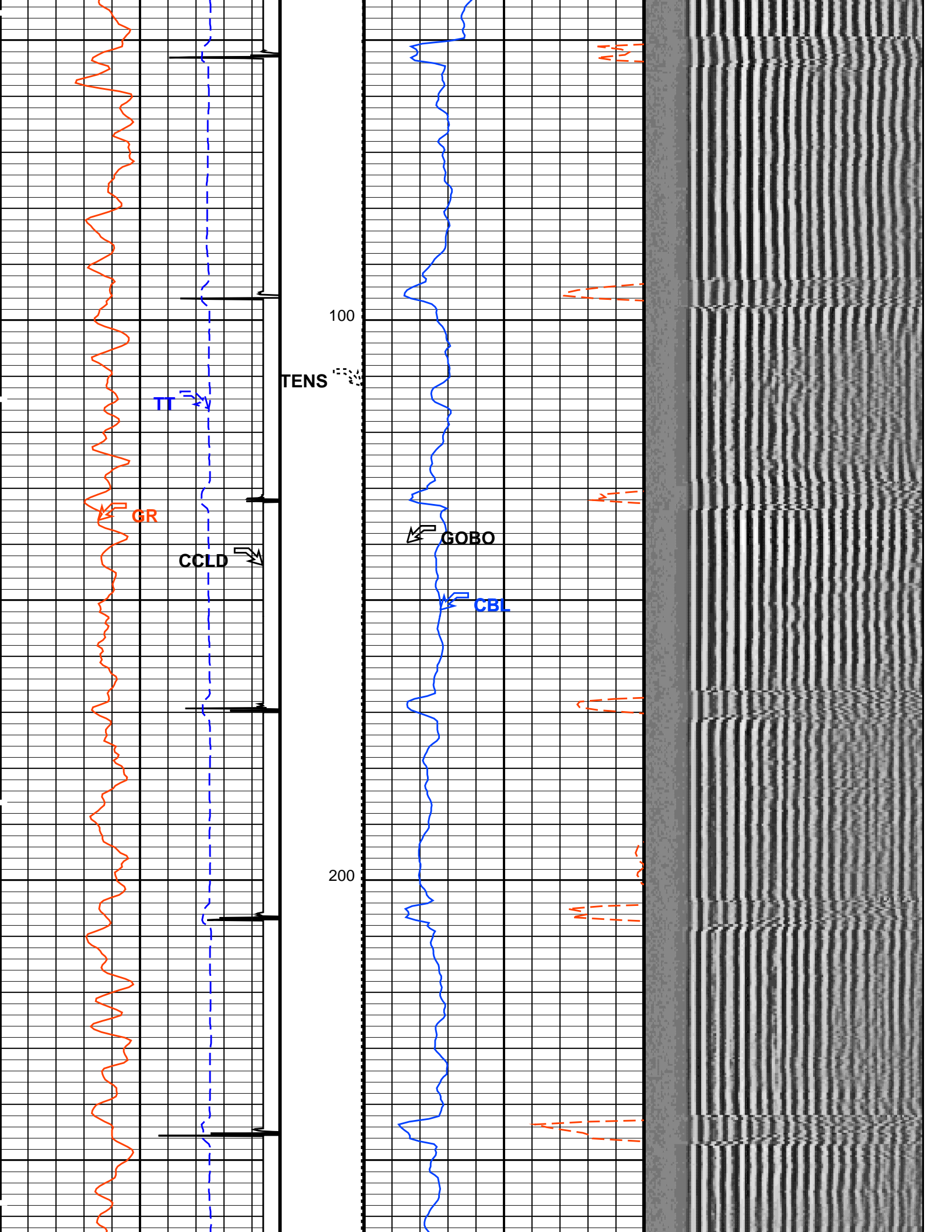
Gamma Ray (GR)
(GAPI) 0 150

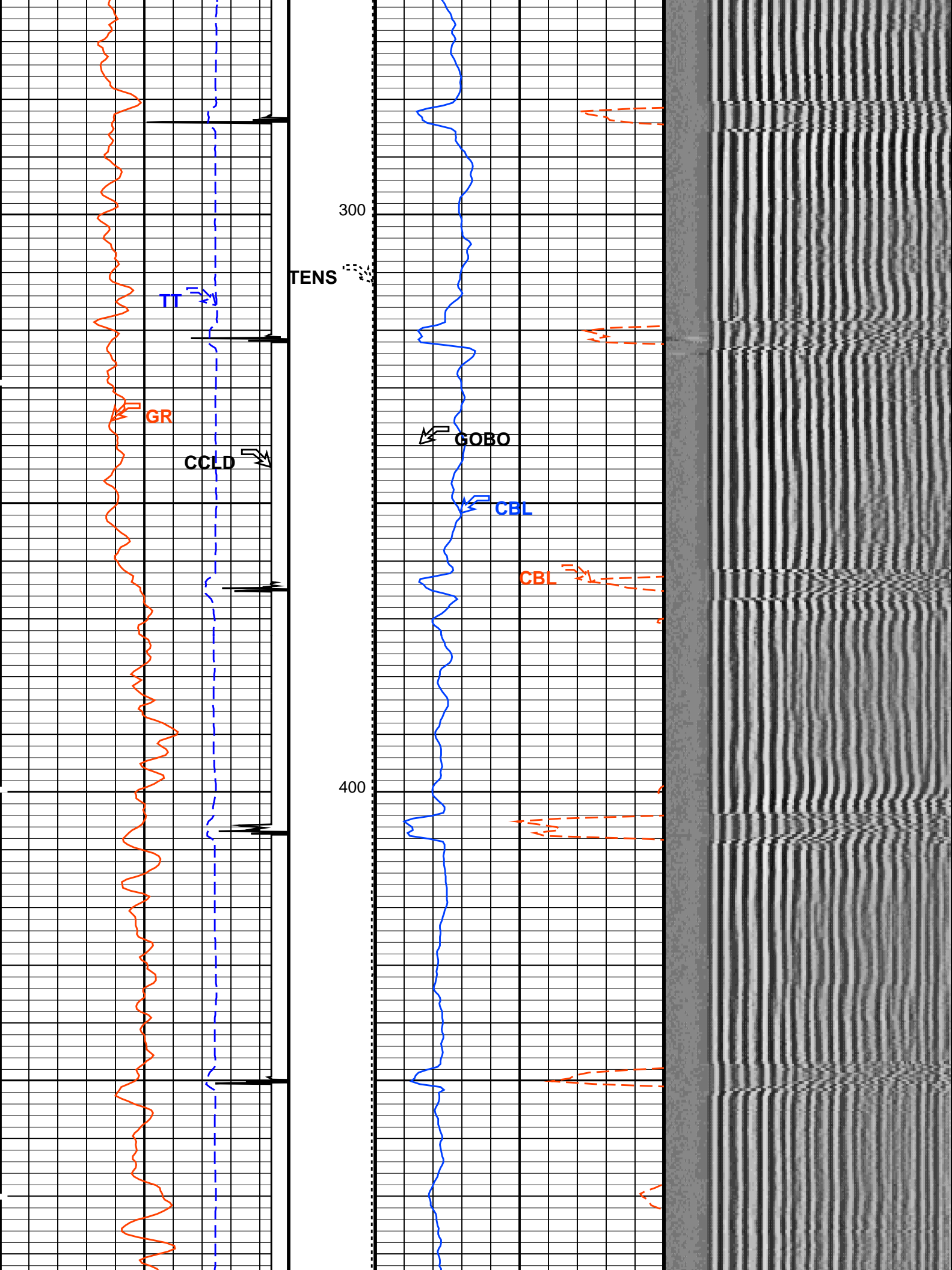
Tension
(TENS)
(LBF) 2000 0

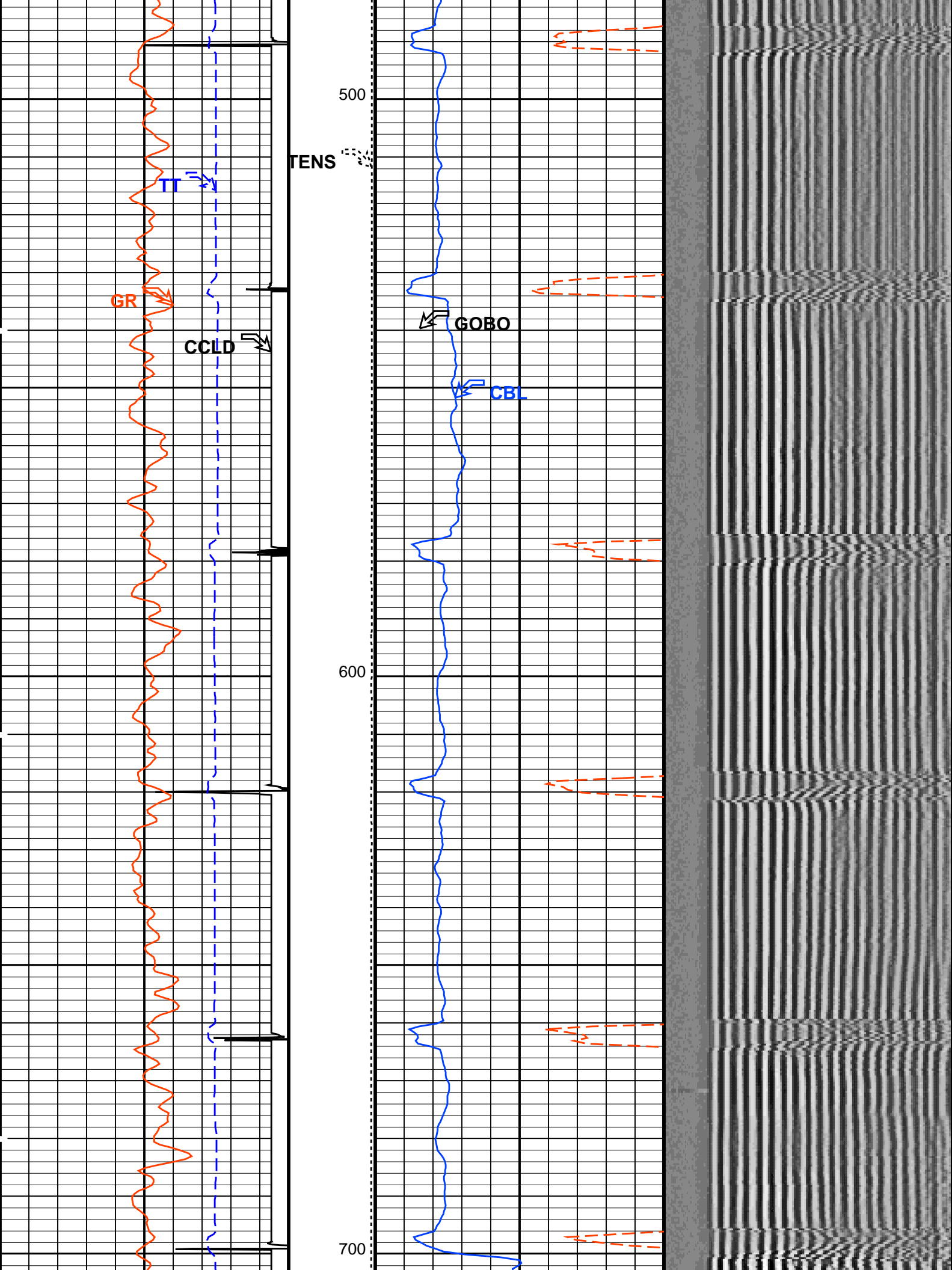
CBL Amplitude (CBL)
(MV) 0 20

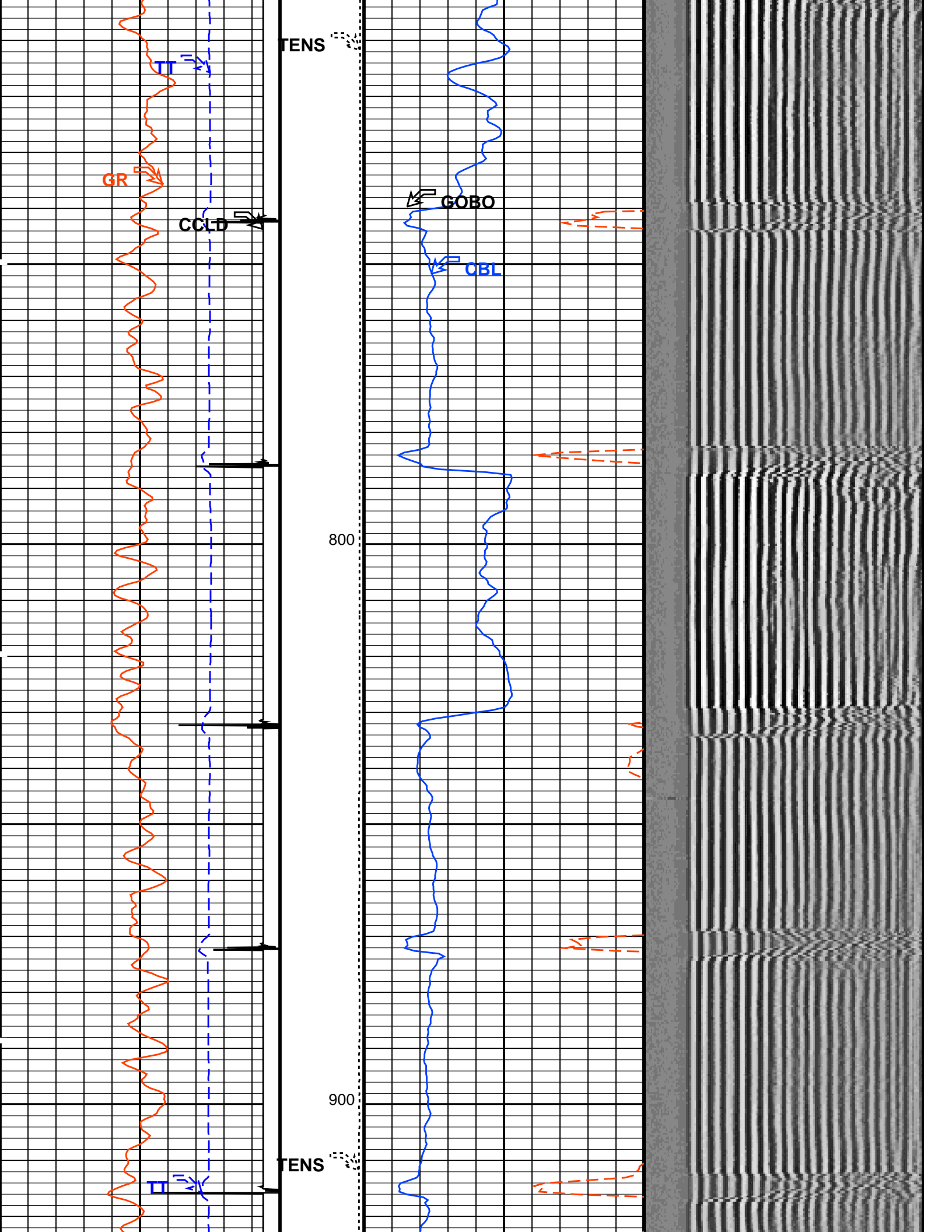
Min Amplitude Max
VDL VariableDensity (VDL)
(US) 200 1200

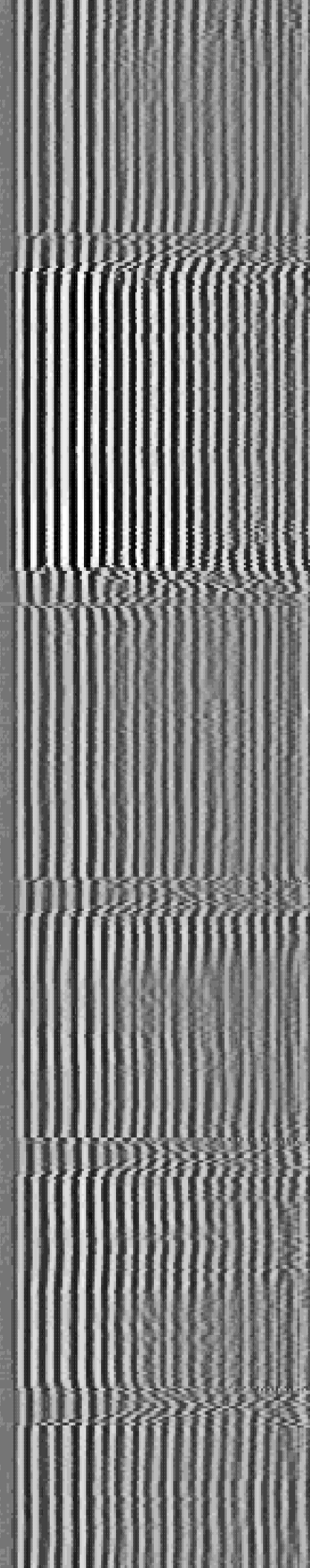
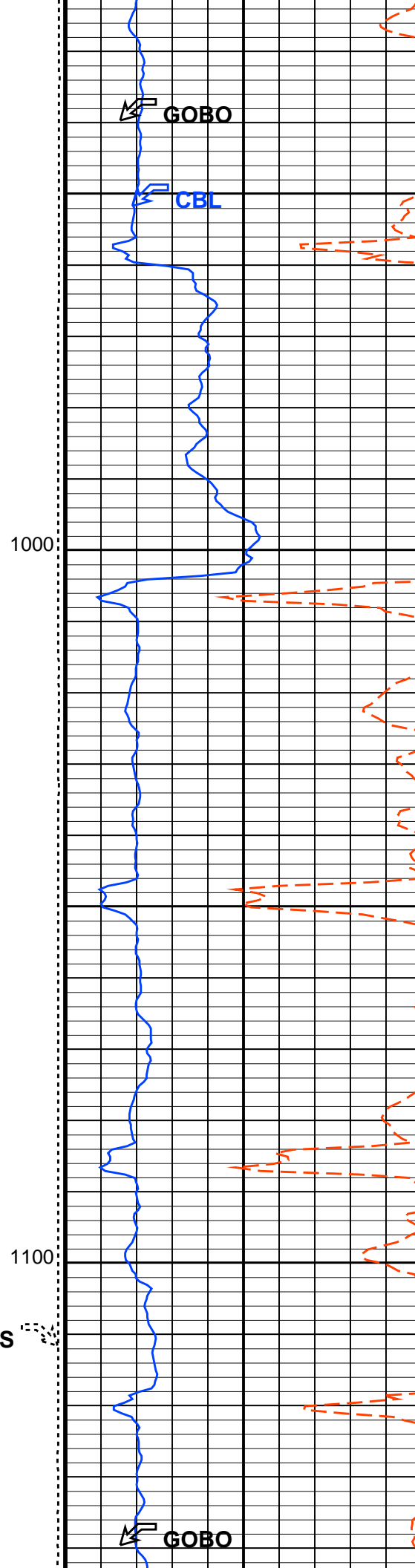
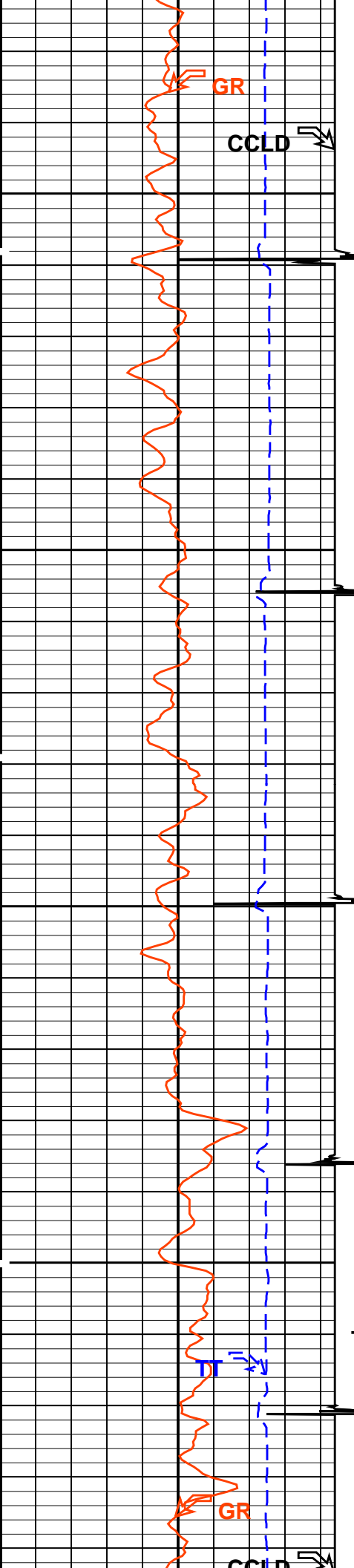


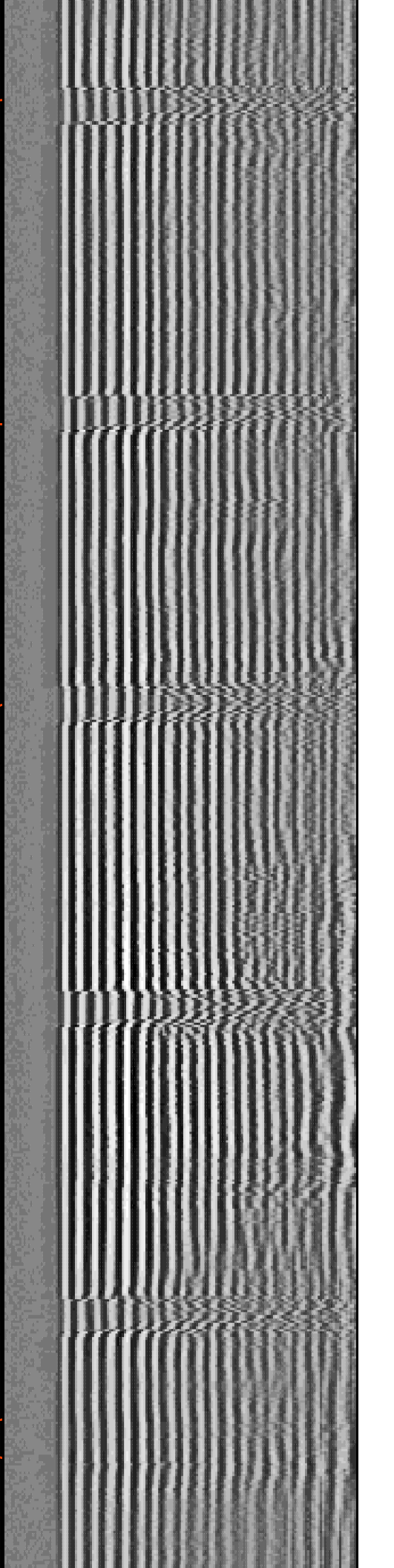
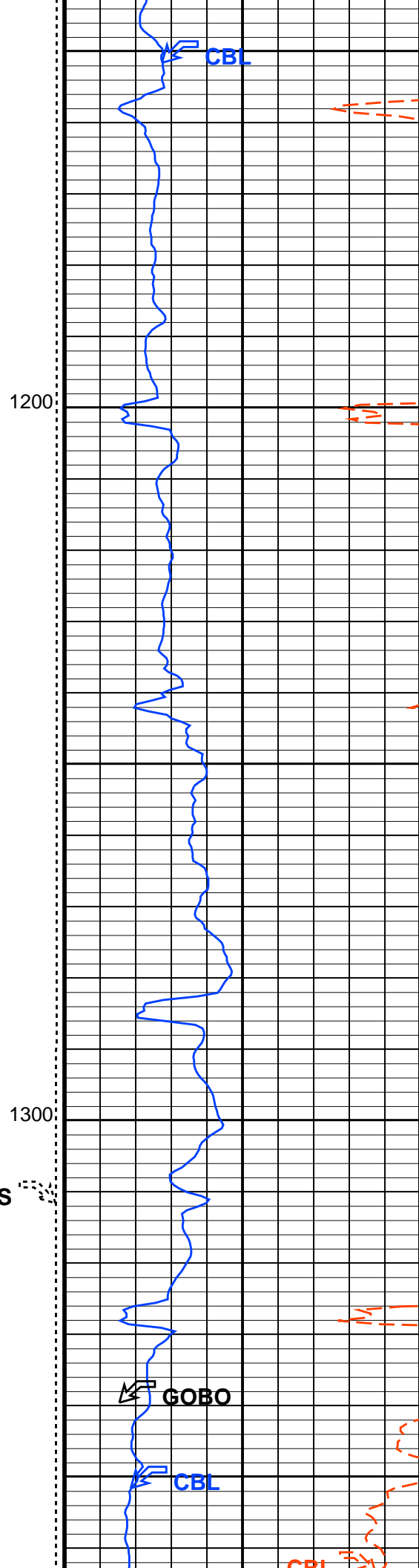
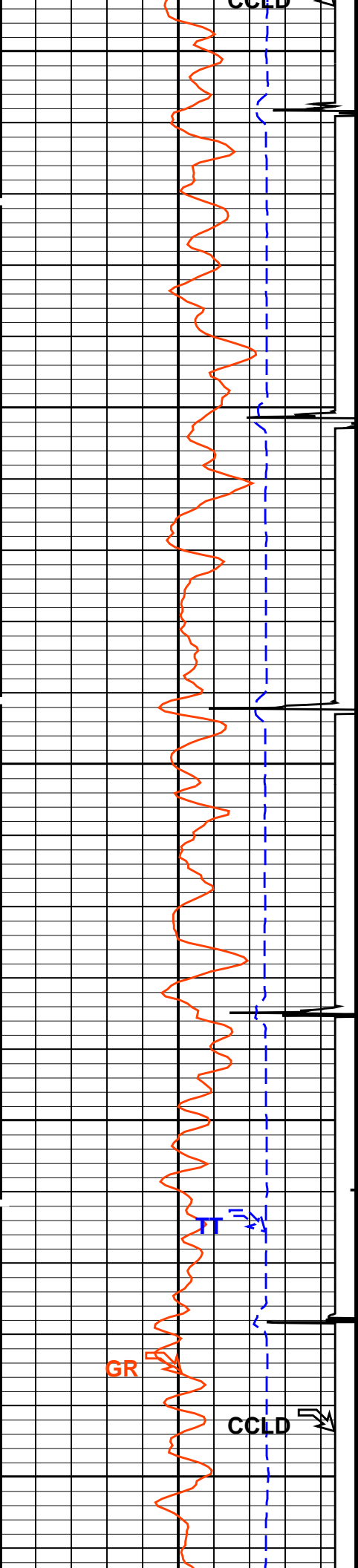


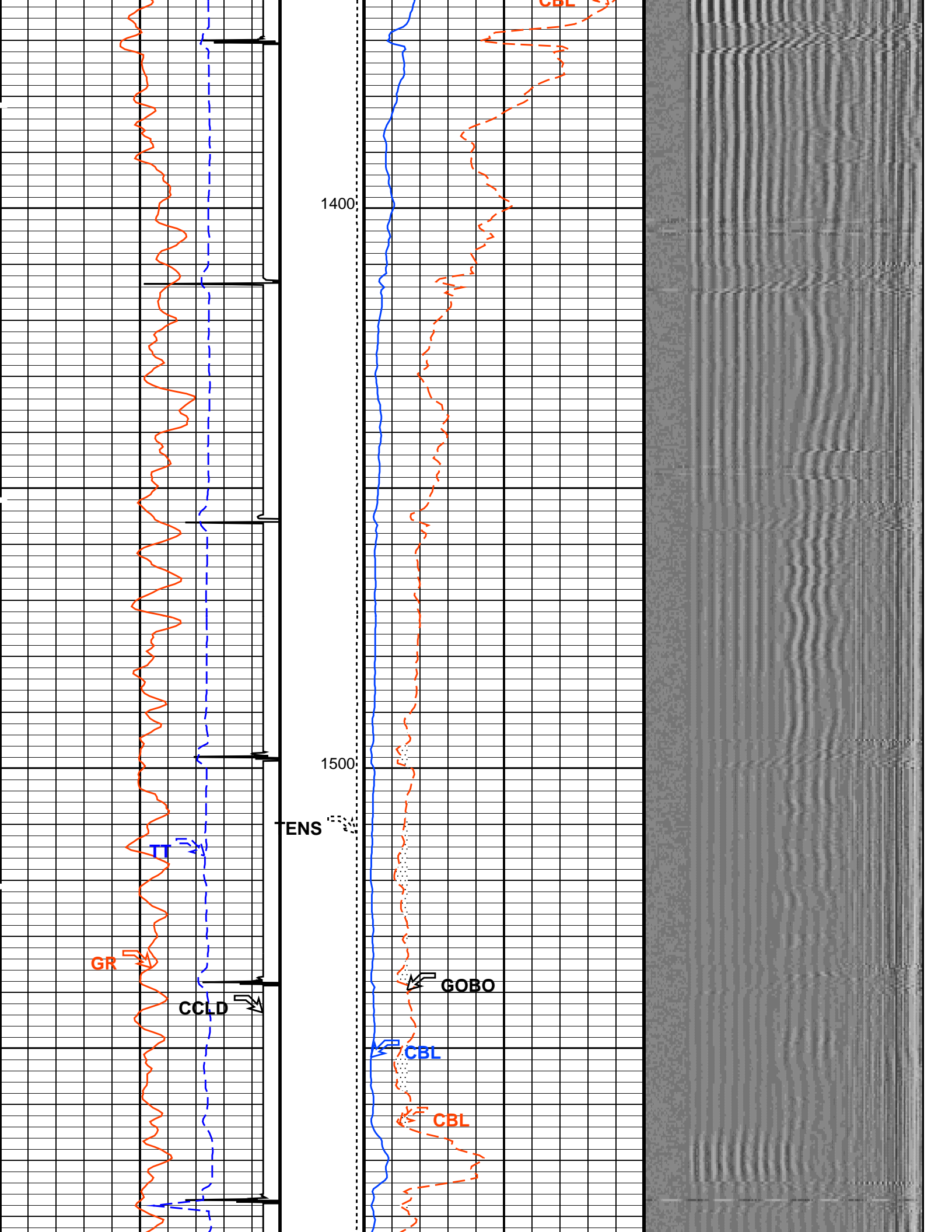


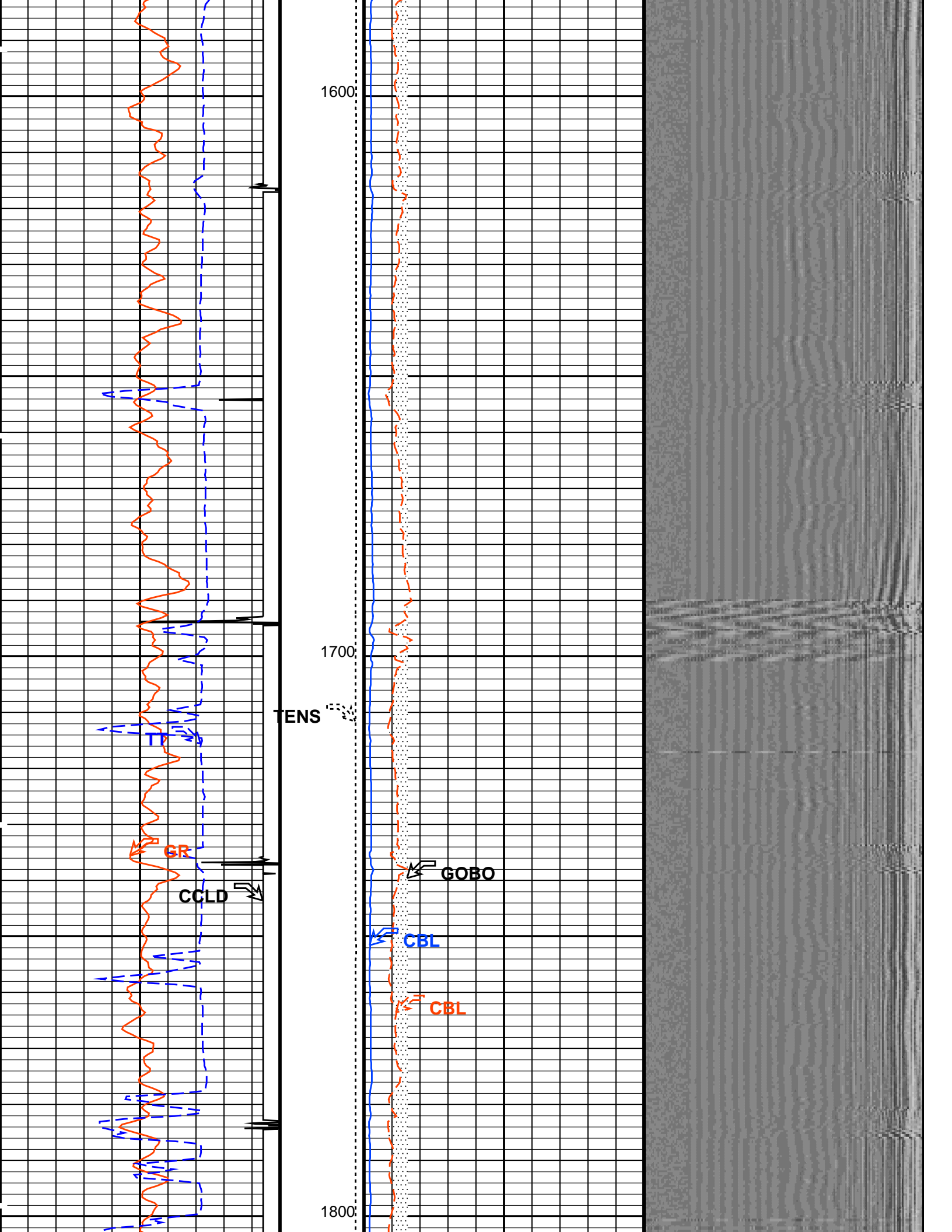


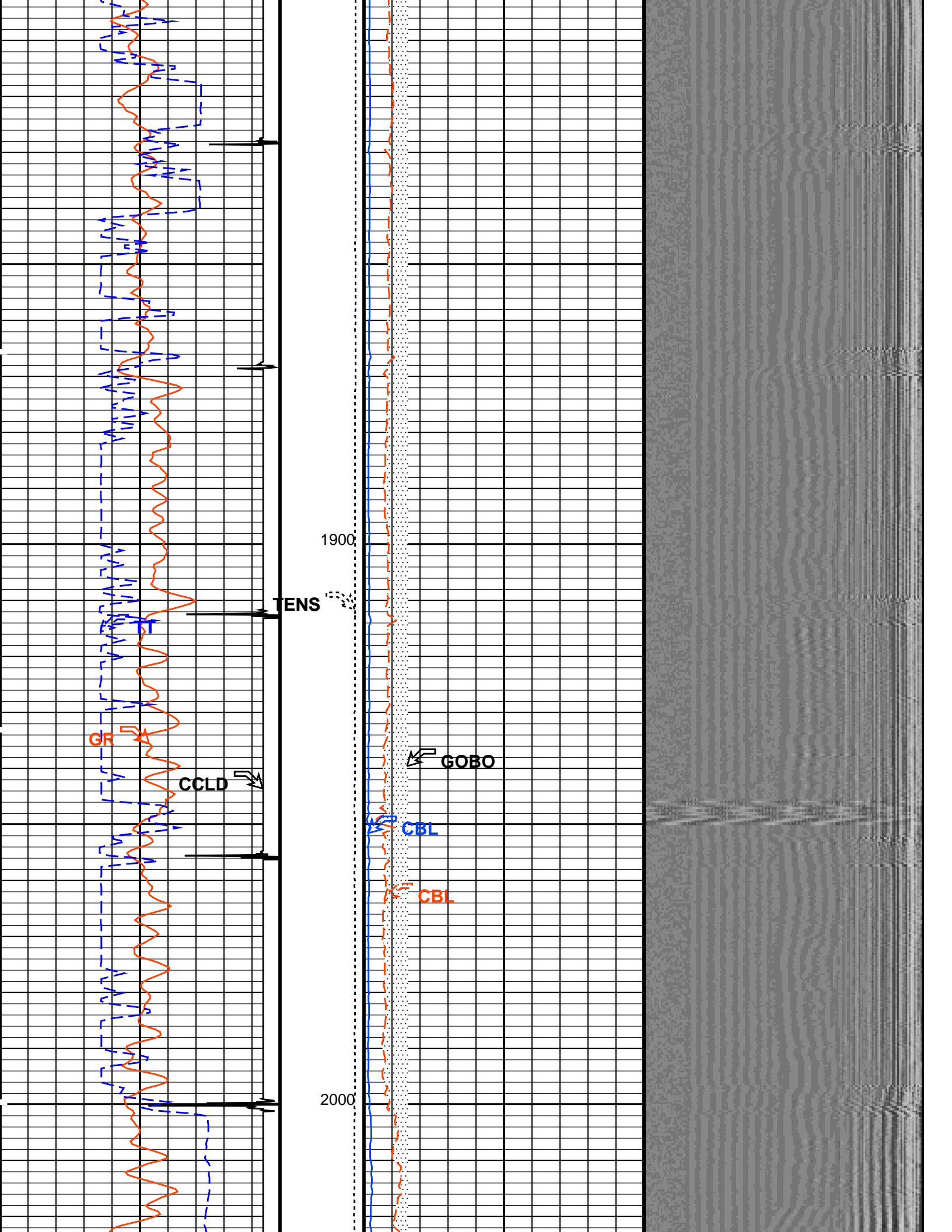


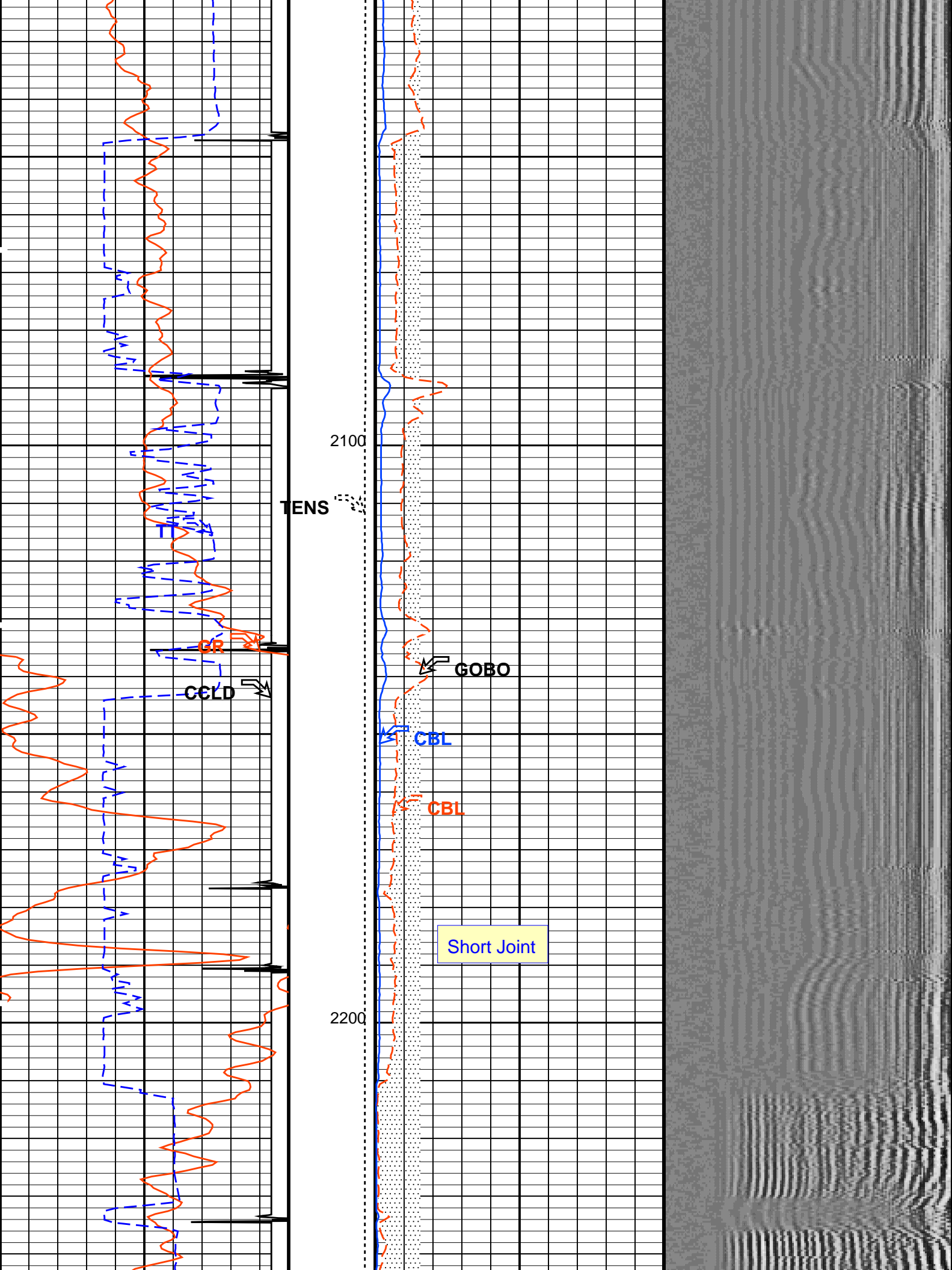


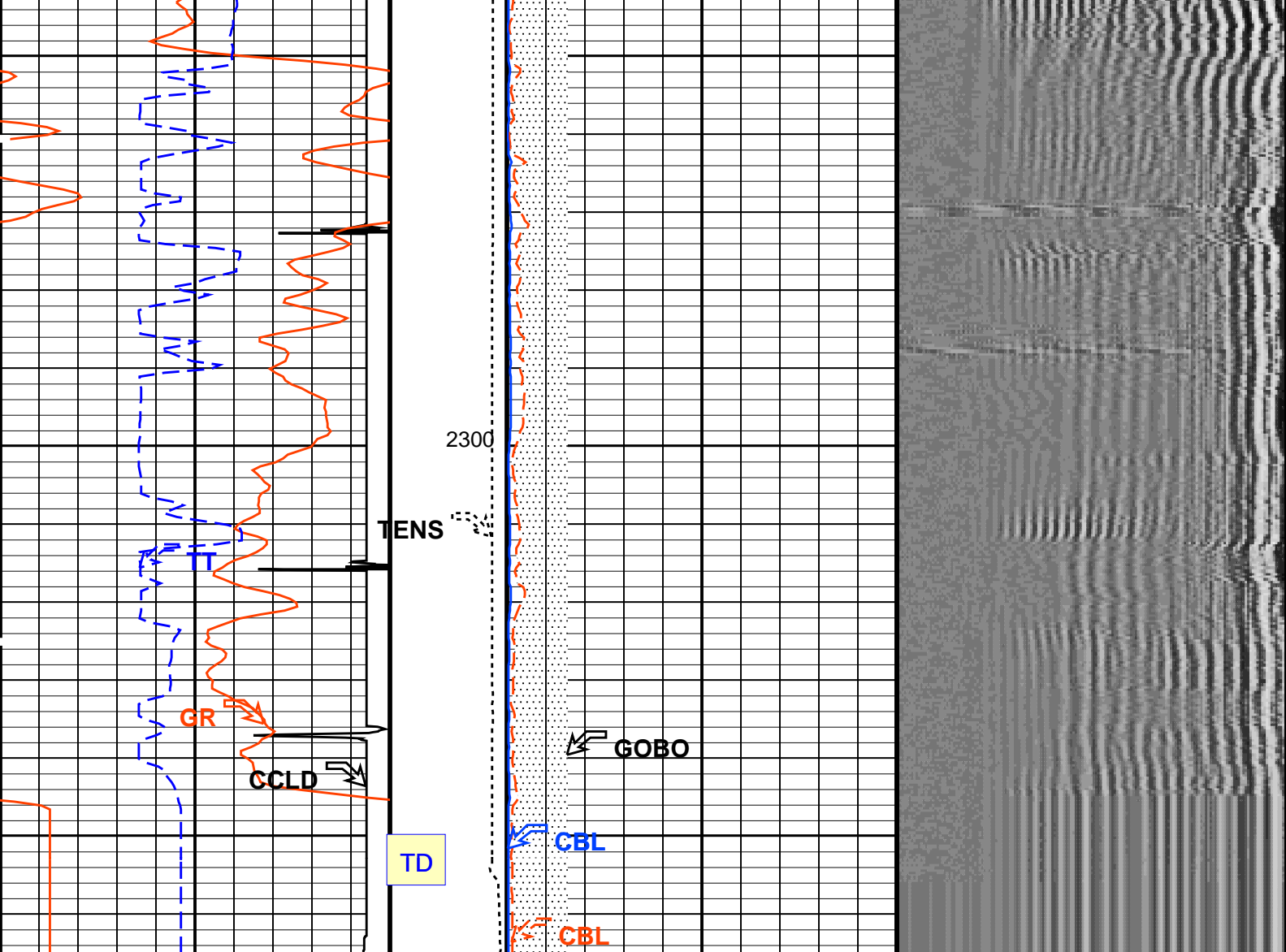












<div>Gamma Ray (GR)</div> <div>(GAPI)</div> <div>0150</div>		<div>Tension</div> <div>(TENS)</div> <div>(LBF)</div> <div>20000</div>	<div>CBL Amplitude (CBL)</div> <div>(MV)</div> <div>020</div>		<div>Min</div> <div>Amplitude</div> <div>Max</div> <div><div></div></div> <div>VDL VariableDensity (VDL)</div> <div>(US)</div> <div>2001200</div>	
<div>Transit Time (TT)</div> <div>(US)</div> <div>400200</div>			<div>CBL Amplitude (CBL)</div> <div>(MV)</div> <div>0100</div>			
<div>COLLARS</div> <div>From CCLD to T1</div>		<div>GOOD BOND</div> <div>From ACBL to GOBO</div>				
<div>Discriminated CCL</div> <div>(CCLD)</div>						
<div>-3.5(V)0.5</div>						

PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
SCMT-CB: Slim Cement Mapping Tool, 1-11/16 OD		
BILI	Bond Index Level for Zone Isolation	0.8
CB3D	SCMT CBL 3 ft Peak Detection Mode	PEAK
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	228.424 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	342.424 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	204.5	US/F
FATT	Acoustic Attenuation due to Fluid	0	DB/F
FCF	CBL Fluid Compensation Factor	1	
GOBO	Good Bond	1.53811	MV
MAPD	SCMT MAP Peak Detection Mode	PEAK	
MAPG	SCMT MAP Peak Detection T0_Delay and Noise Gate	171.424	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	4.27504	MV
MSA	Minimum Sonic Amplitude	0.572744	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
TD	Total Depth	2400	FT

Format: CBL_VDL Vertical Scale: 5" per 100' Graphics File Created: 14-Jan-2011 15:23

OP System Version: 19C0-187

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

Output DLIS Files

DEFAULT SCMT_PSP_015LUP FN:14 PRODUCER 14-Jan-2011 15:23

Company: **Noble Energy Inc.**

Schlumberger

Well: **Suman-George Trusts 14-26**

Field: **Duke**

County: **Yuma**

State: **Colorado**

CMENT BOND LOG

GAMMA RAY

CASING COLLAR LOG