

Company: ENCANA OIL & GAS (USA)INC

Well: HMU 6-13D (J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: CO

TEMPERATURE LOG  
CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 1933 FSL & 1896 FEL

Well: HMU 6-13D (J6SEB)

Company: ENCANA OIL & GAS (USA)INC

LOCATION

SHL: 1933 FSL & 1896 FEL  
BHL: 472 FSL & 818 FWL

Elev.: K.B. 7166.00 ft  
G.L. 7144.00 ft  
D.F. 7165.00 ft

Permanent Datum: \_\_\_\_\_  
Log Measured From: KELLY BUSHING  
Drilling Measured From: KELLY BUSHING

GROUND LEVEL \_\_\_\_\_  
Elev.: 7144.00 ft  
22.00 ft above Perm. Datum

API Serial No.  
05045219430000

Section  
6

Township  
8S

Range  
92W

Logging Date	4-Oct-2013				
Run Number	1				
Depth Driller	10153 ft				
Schlumberger Depth	10104 ft				
Bottom Log Interval	10103 ft				
Top Log Interval	22 ft				
Casing Fluid Type	FRESH WATER				
Salinity					
Density	8.45 lbm/gal				
Fluid Level	22 ft				
BIT/CASING/TUBING STRING					
Bit Size	8.750 in				
From	22 ft				
To	10153 ft				
Casing/Tubing Size	4.500 in				
Weight	11.6 lbm/ft				
Grade					
From	22 ft				
To	1053 ft				
Maximum Recorded Temperatures	238 degF				
Logger On Bottom	4-Oct-2013				
Unit Number	391	GRAND JUNCTION			
Recorded By	BRANDON CUPP				
Witnessed By	KIRBY				

Oil Density		Run 1	Run 2	Run 3
Water Salinity				
Gas Gravity				
Bo				
Bw				
1/Bg				
Bubble Point Pressure				
Bubble Point Temperature				
Solution GOR				
Maximum Deviation				
CEMENTING DATA				
Primary/Squeeze		Primary		
Casing String No				
Lead Cement Type				
Volume				
Density				
Water Loss				
Additives				
Tail Cement Type				
Volume				
Density				
Water Loss				
Additives				
Expected Cement Top				
Logging Date				
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Fluid Type				
Salinity				
Density				
Fluid Level				
BIT/CASING/TUBING STRING				
Bit Size				
From				
To				
Casing/Tubing Size				
Weight				
Grade				
From				
To				
Maximum Recorded Temperatures				
Logger On Bottom	Time			
Unit Number	Location			
Recorded By				
Witnessed By				

## DEPTH SUMMARY LISTING

Date Created: 14-AUG-2013 11:54:57

## Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-JB	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	6349	Serial Number:	3421	Serial Number:	112136
Calibration Date:	7-31-2013	Calibration Date:	14-AUG-2013	Length:	19000 FT
Calibrator Serial Number:		Calibrator Serial Number:	174878	Conveyance Method:	Wireline
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10	Rig Type:	LAND
Wheel Correction 1:	-5	Calibration RMS:	3		
Wheel Correction 2:	-4	Calibration Peak Error:	8		

## 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:	

### Depth Control Remarks

1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SPWT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
- 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.

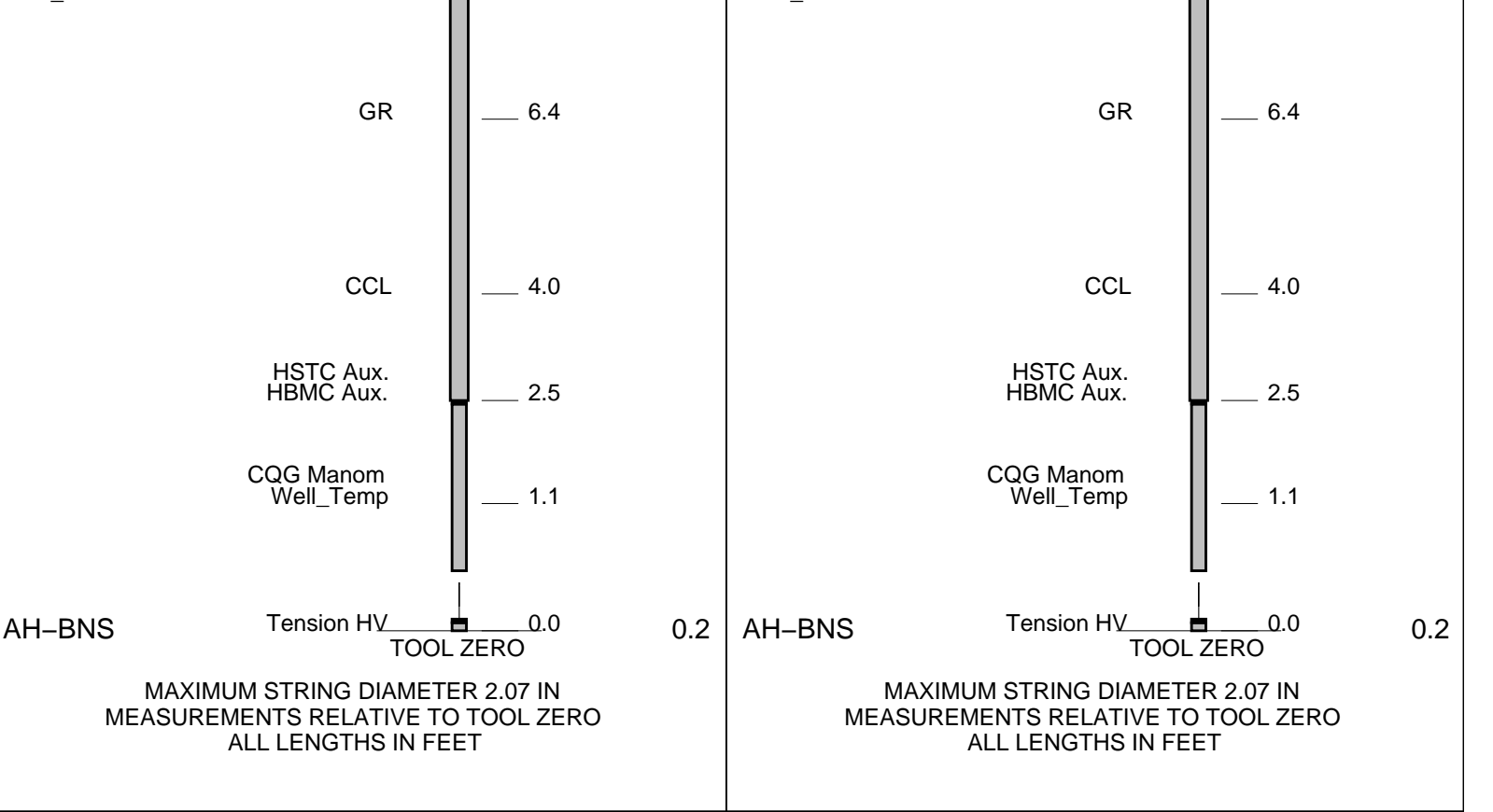
OTHER SERVICES1 OS1: NONE OS2: OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
RUN NUMBER 1	
TOLL RAN AS PER TOOL SKETCH	
ENTRANCE TIME: 15:30	
TIME ON BOTTOM: 16:45	
EXIT TIME: 17:30	

MAXIMUM RECORDED TEMPERATURE: 238DEGF	
MAXIMUM RECORDED PRESSURE: 4191 PSIA	
SHORT JOINTS: 6920' – 6940' , 7934' – 7954'	
THANK YOUR FOR USING E&P WIRELINE, A SCHLUMBERGER COMPANY	
CREW: BCUPP, TLEGGIT, MPEDLER	

RUN 1			RUN 2		
SERVICE ORDER #:		CJT0-00017	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			SURFACE EQUIPMENT		
WITM-A PSC_16MHZ			WITM-A PSC_16MHZ		

DOWNHOLE EQUIPMENT			DOWNHOLE EQUIPMENT		
<div> <div> <div>MH-22</div> <div>MH-22</div> </div> <div> <div>AH-38</div> <div>Detail MT TelStatus CTEM</div> </div> <div> <div>HBMS-B</div> <div>PSC-A</div> <div>HUDH-A</div> <div>HSTC-A</div> <div>HBMC-A</div> <div>GR</div> <div>CCL</div> <div>HBMC</div> <div>HTPS-A</div> <div>HCQG_E_Mano</div> <div>RTD Thermometer</div> </div> </div> <div> <div> <div>13.1</div> <div>11.6</div> <div>11.3</div> </div> <div> </div> </div>			<div> <div> <div>MH-22</div> <div>MH-22</div> </div> <div> <div>AH-38</div> <div>Detail MT TelStatus CTEM</div> </div> <div> <div>HBMS-B</div> <div>PSC-A</div> <div>HUDH-A</div> <div>HSTC-A</div> <div>HBMC-A</div> <div>GR</div> <div>CCL</div> <div>HBMC</div> <div>HTPS-A</div> <div>HCQG_E_Mano</div> <div>RTD Thermometer</div> </div> </div> <div> <div> <div>13.1</div> <div>11.6</div> <div>11.3</div> </div> <div> </div> </div>		

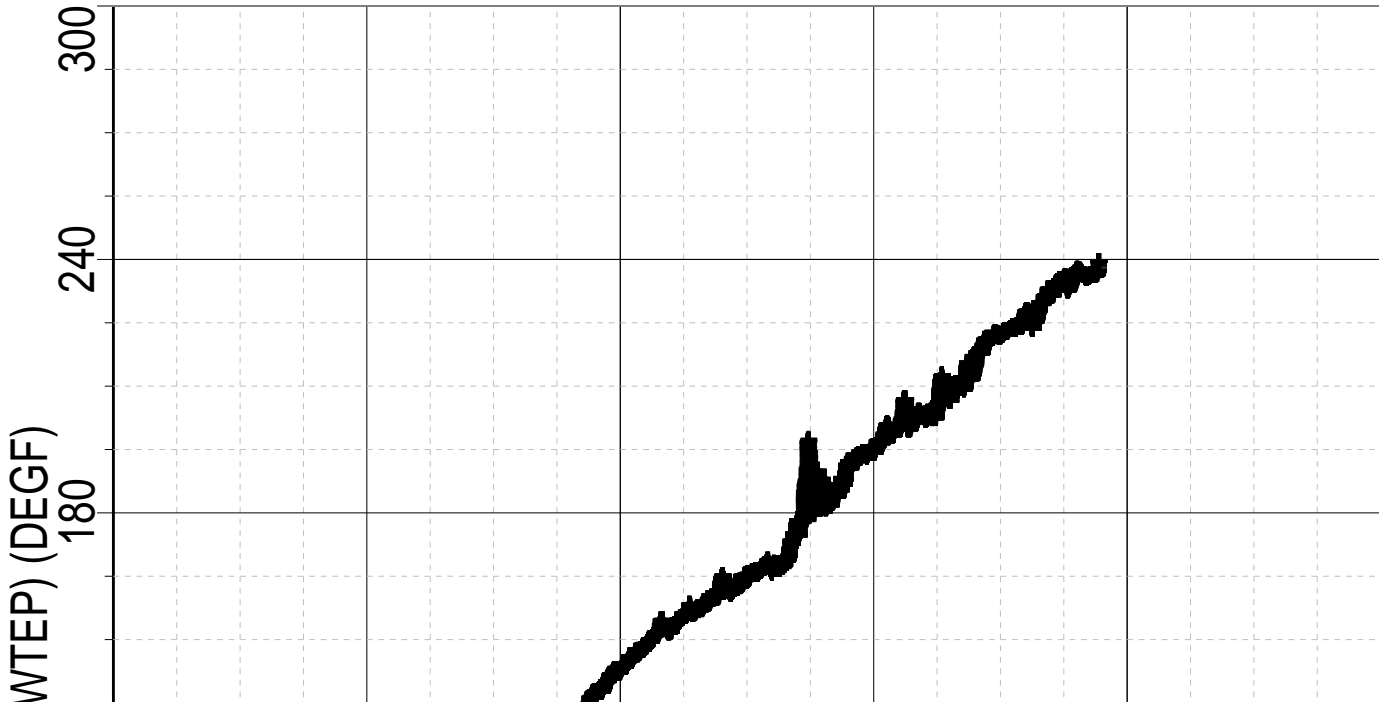


**Schlumberger**

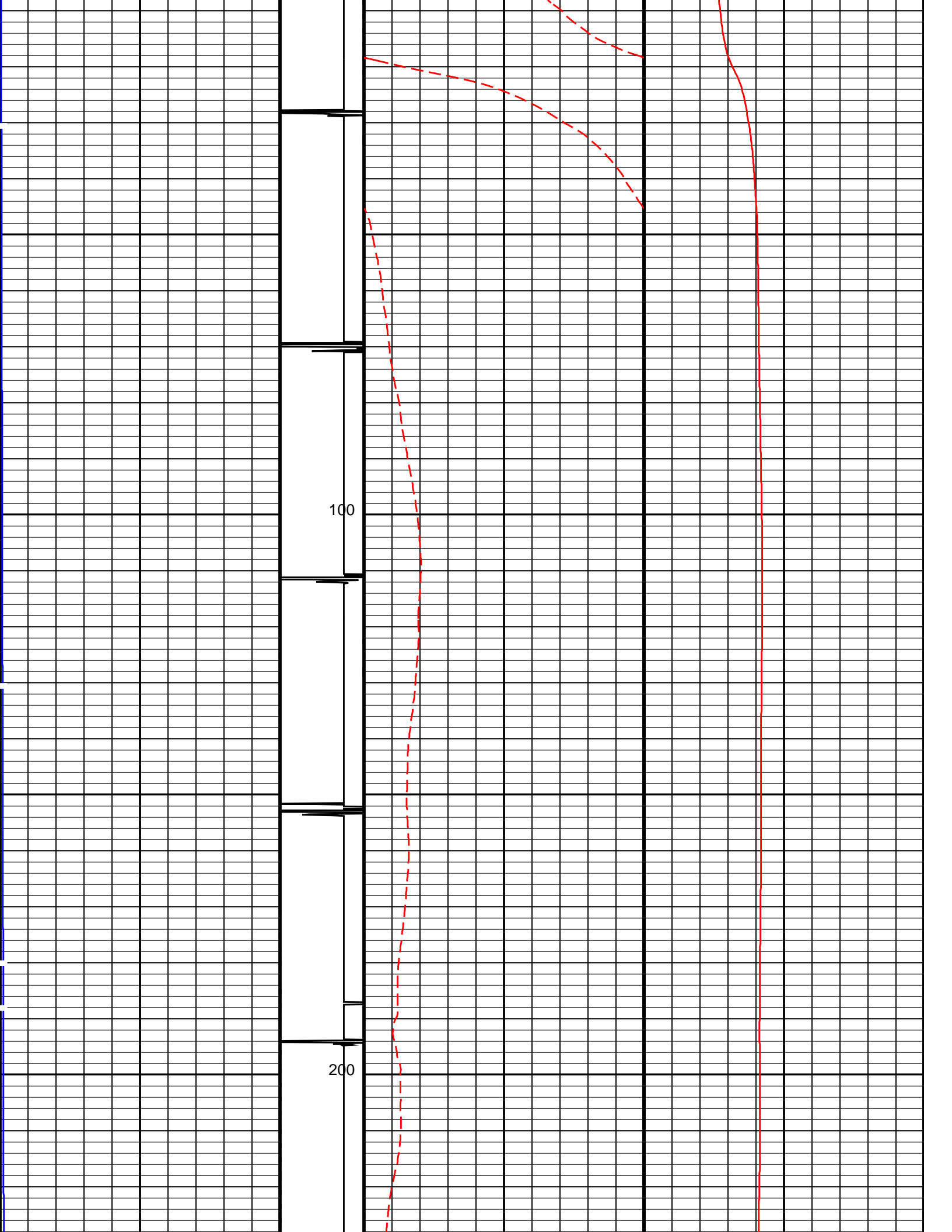
## TEMPERATURE PLOT

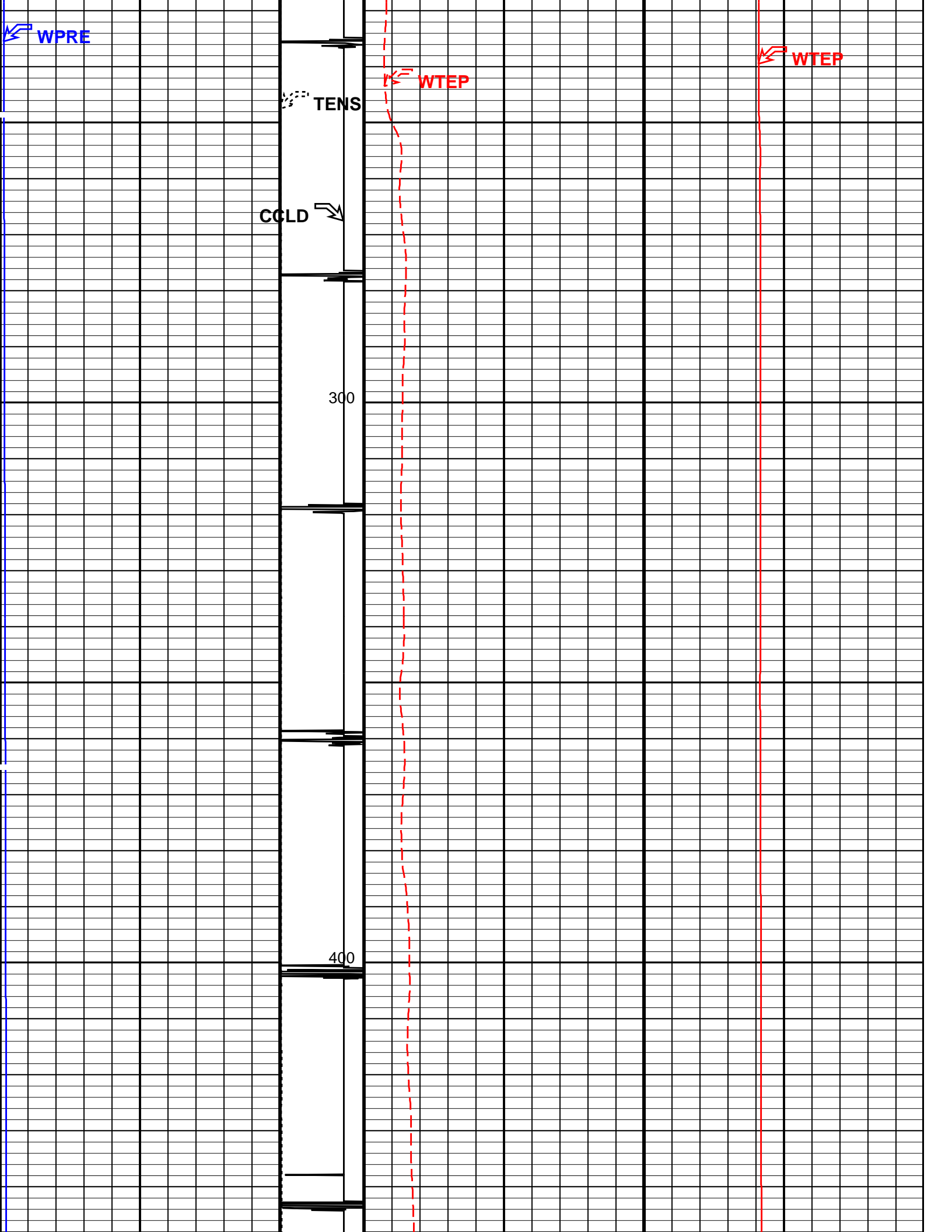
MAXIS Field Log

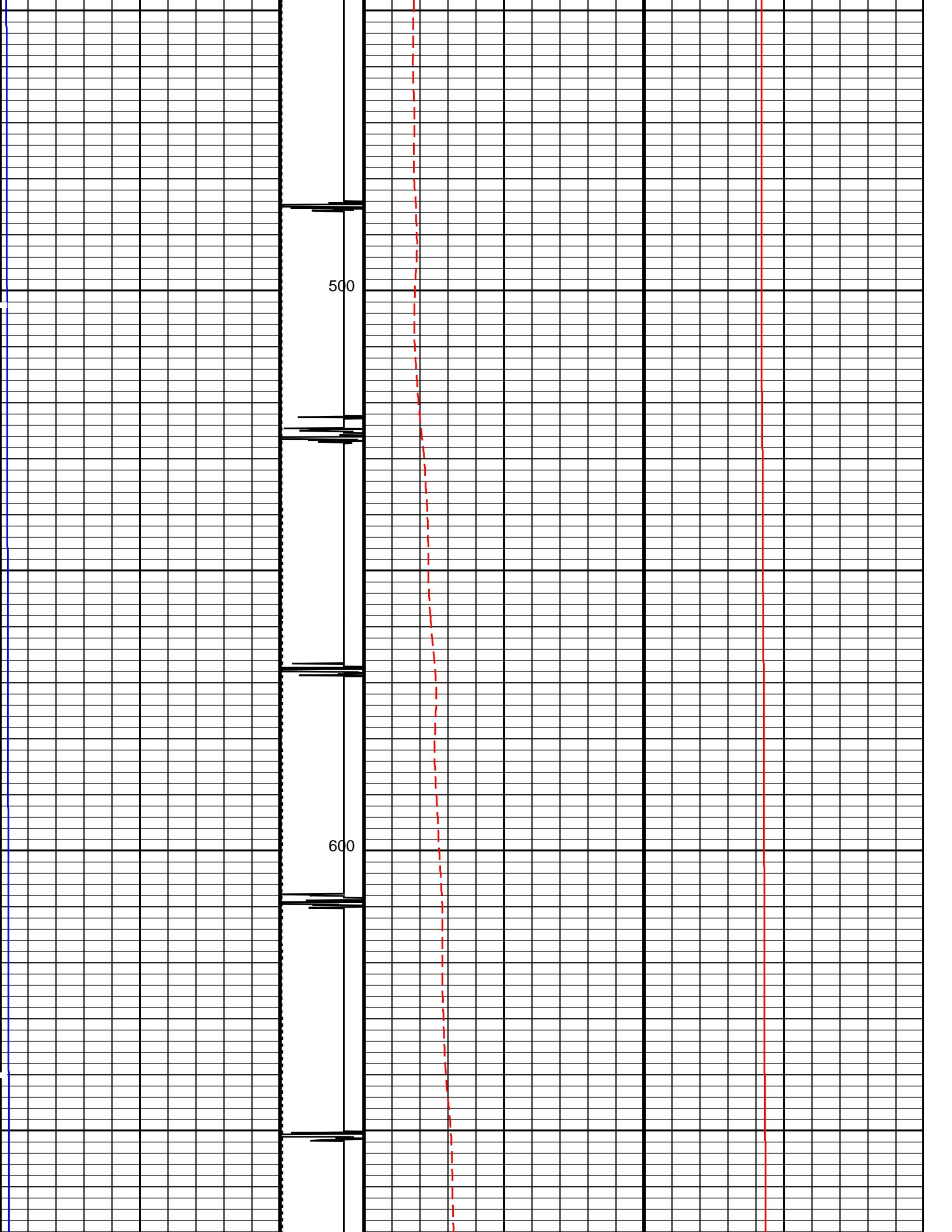
Index: 10117.0 – -10.5 FT



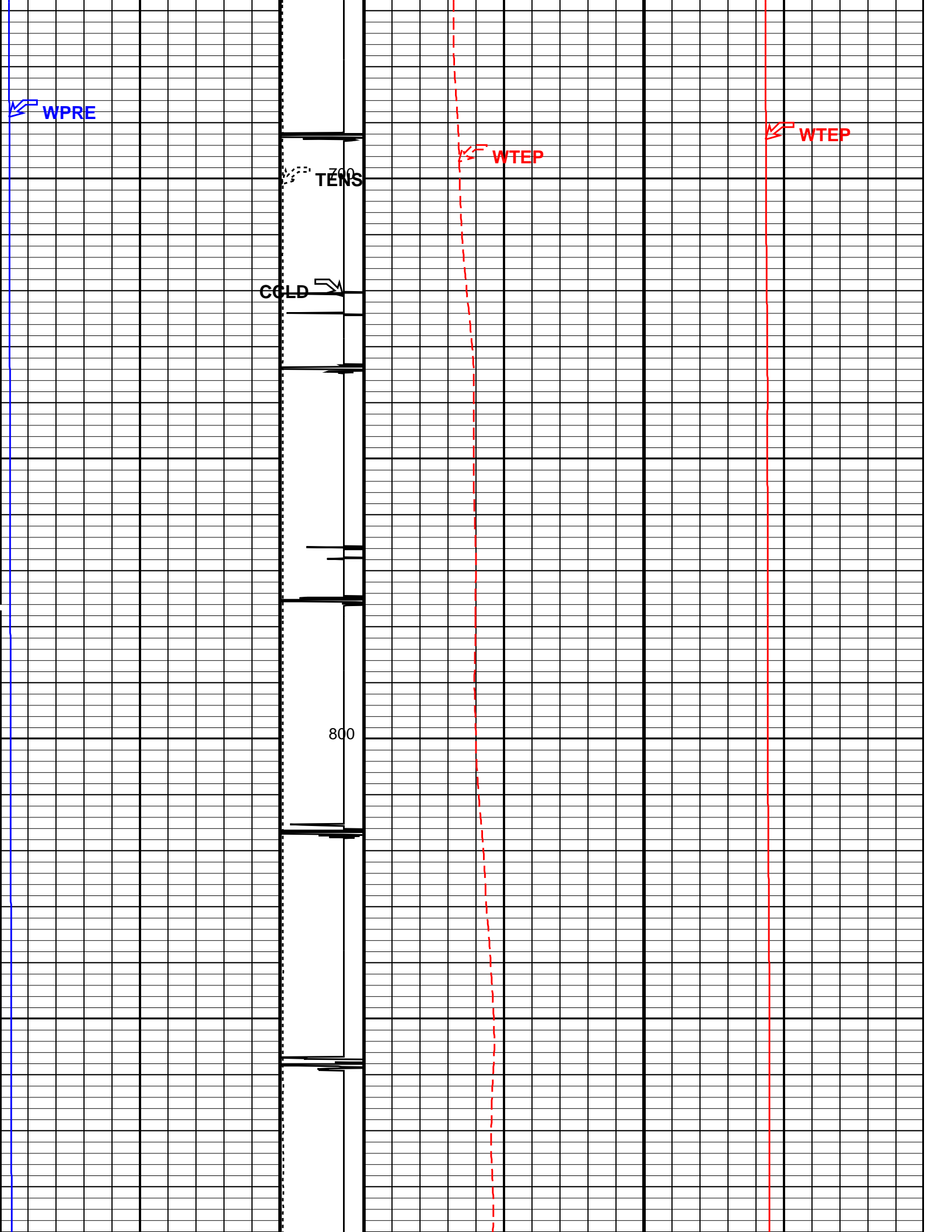


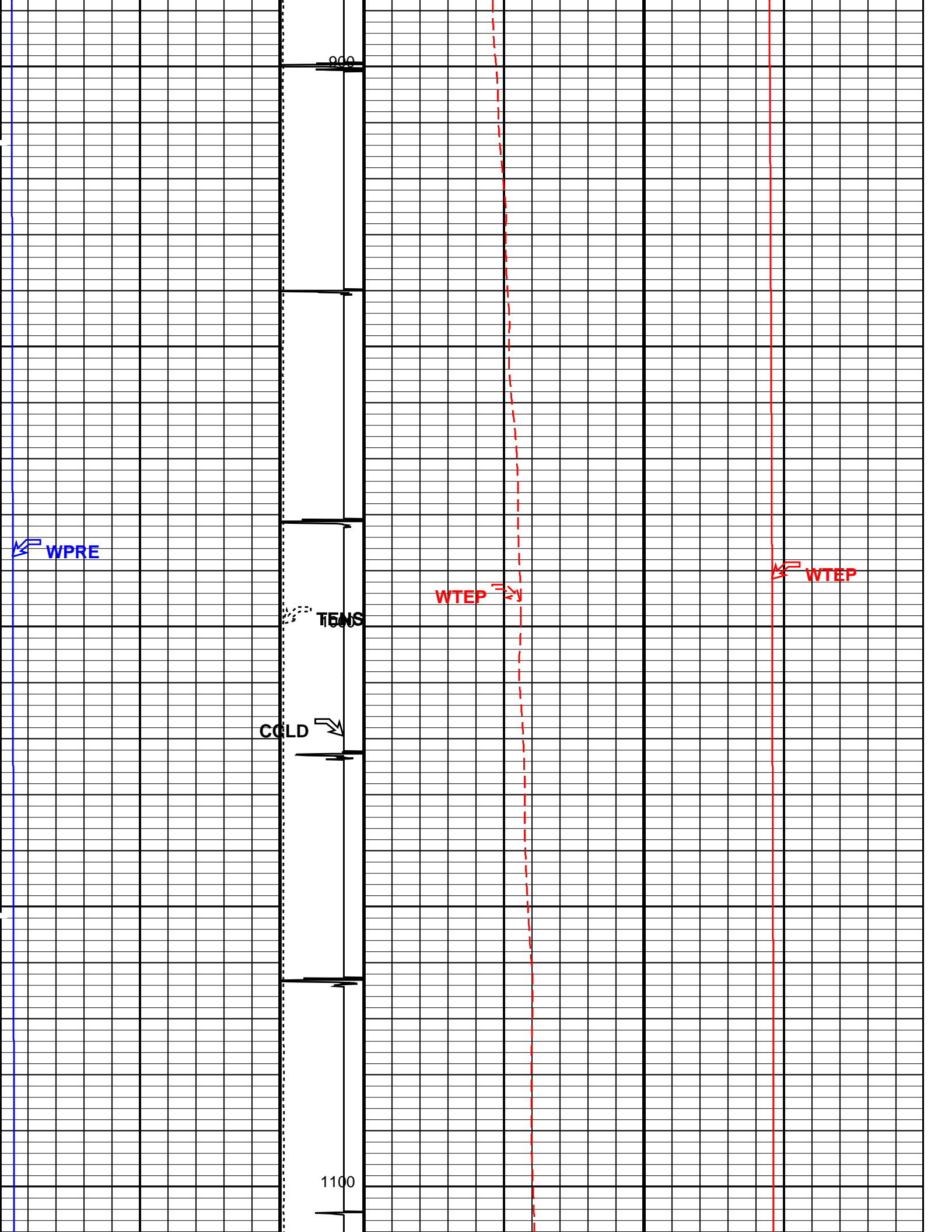


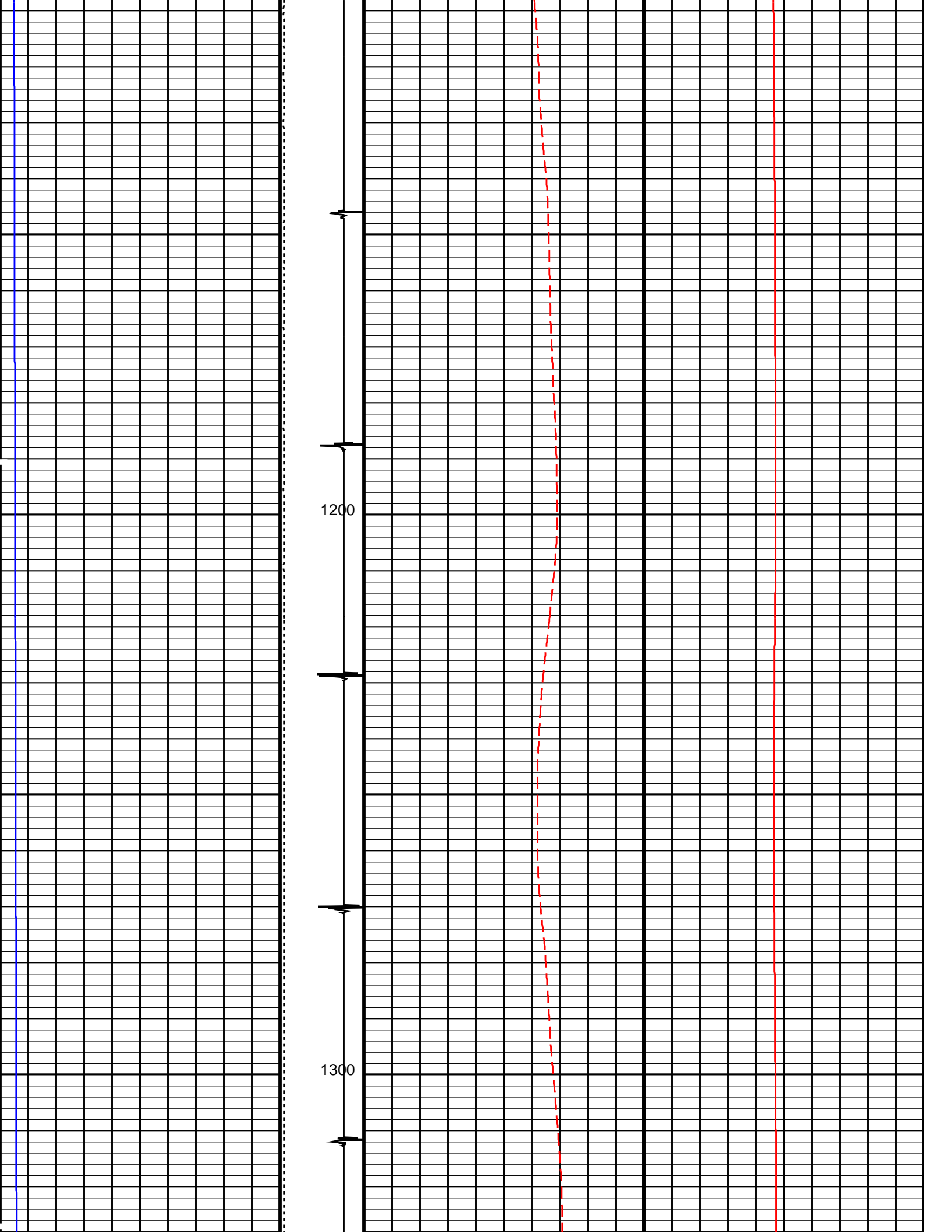


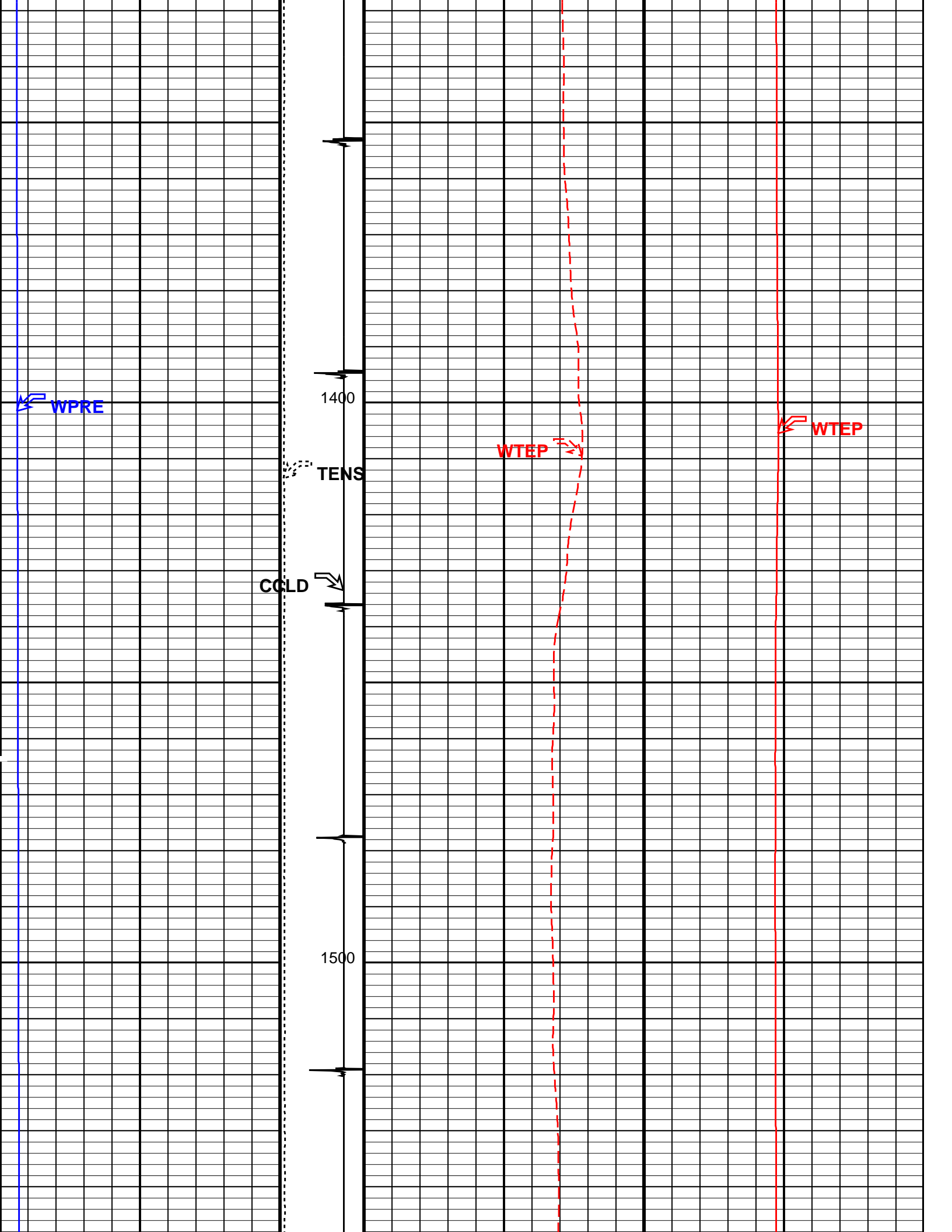


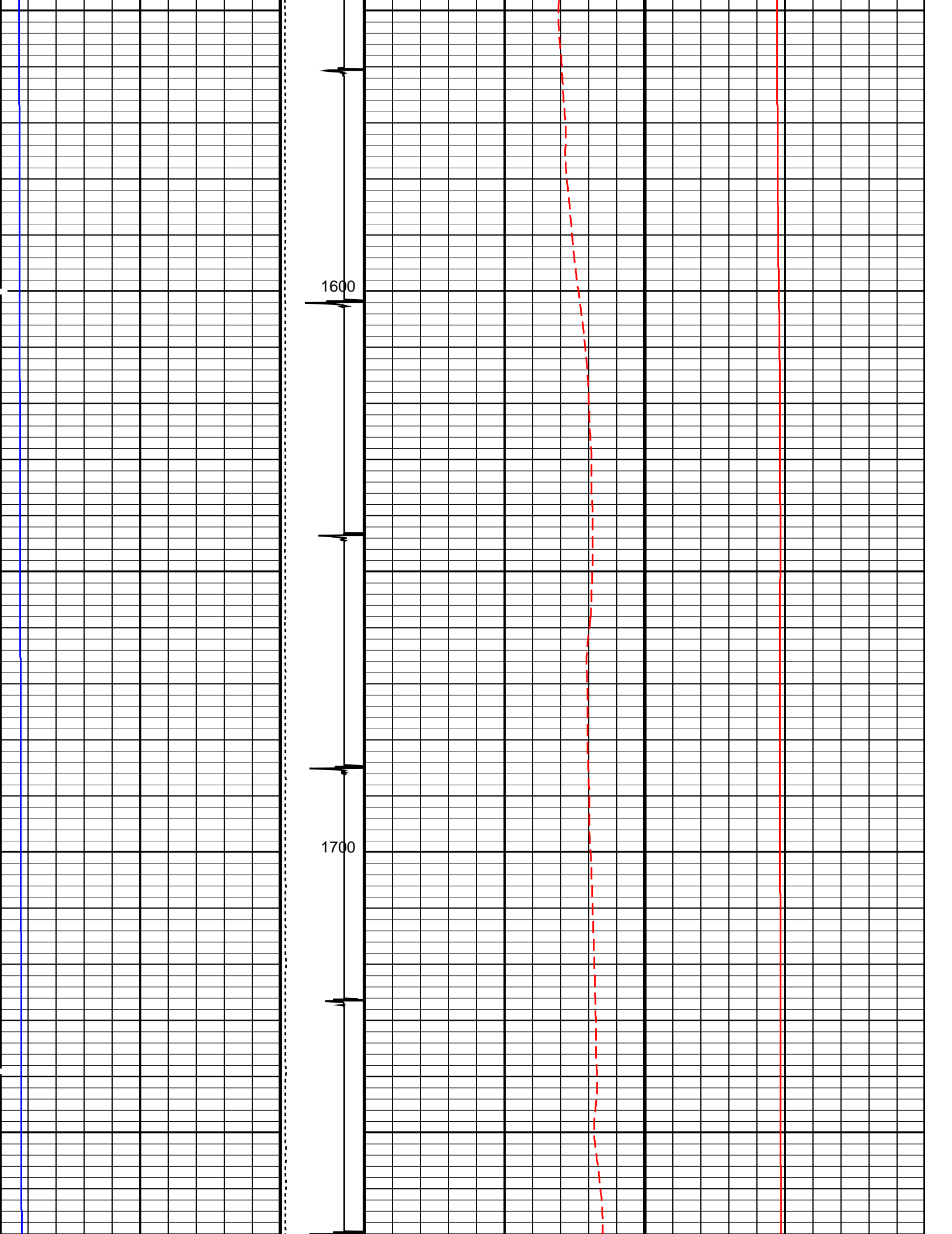


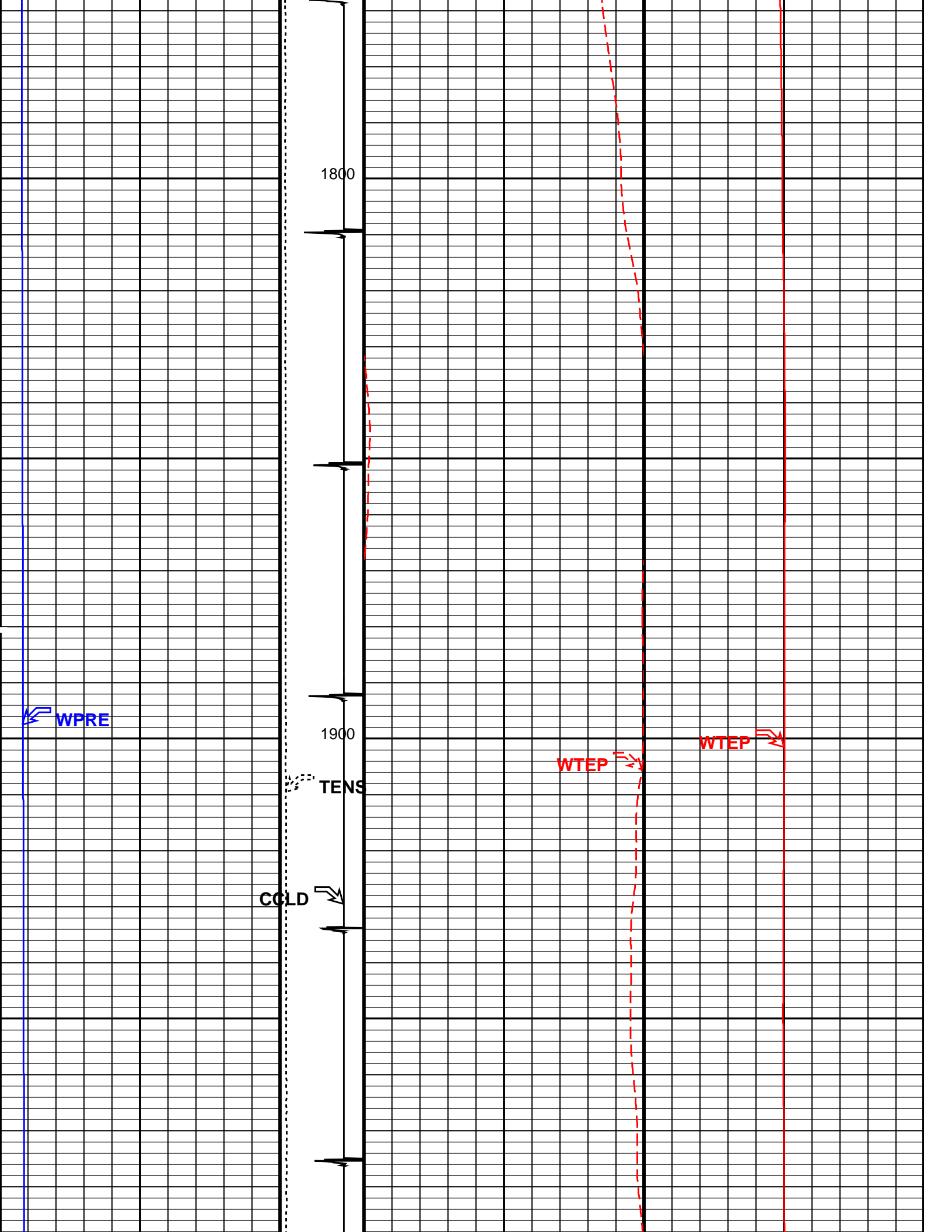


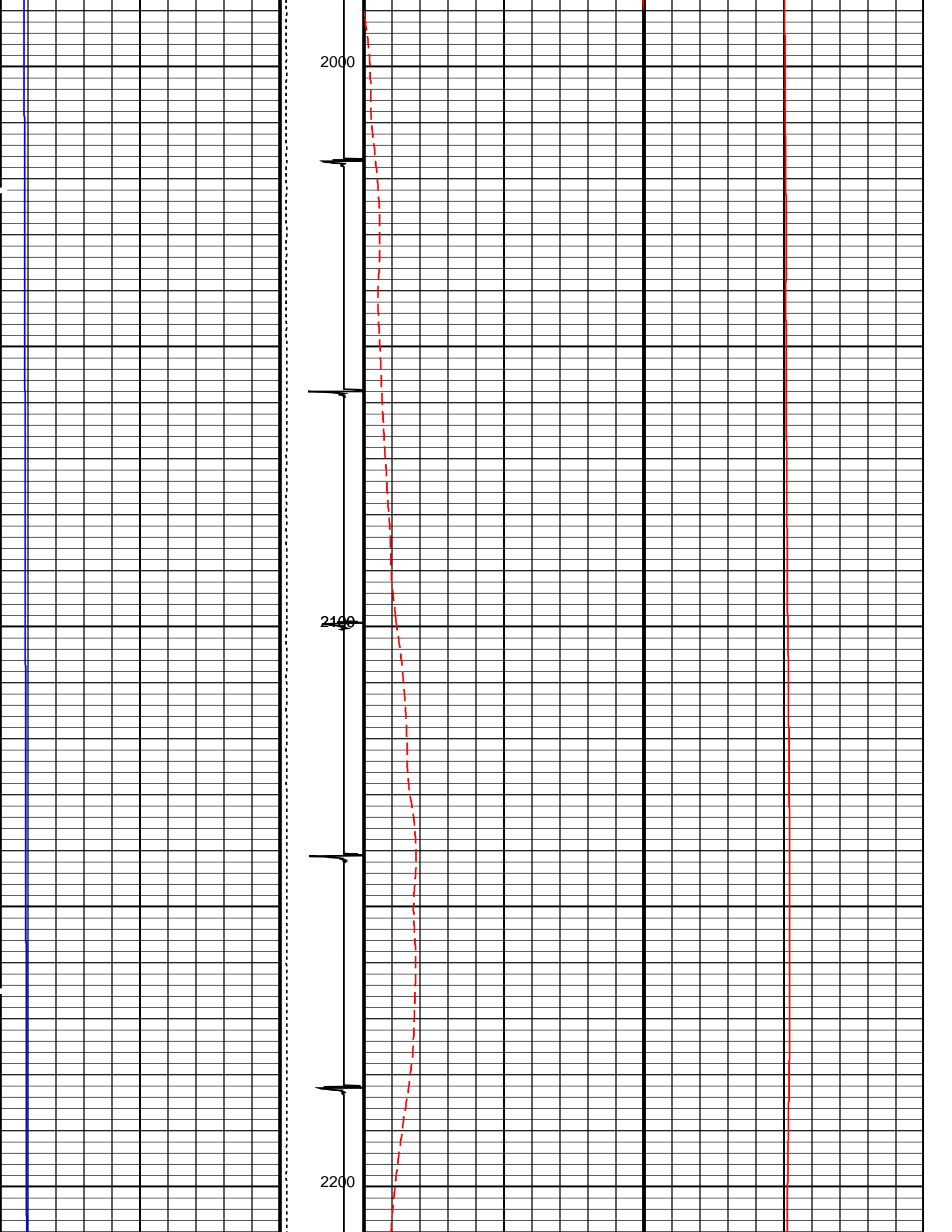


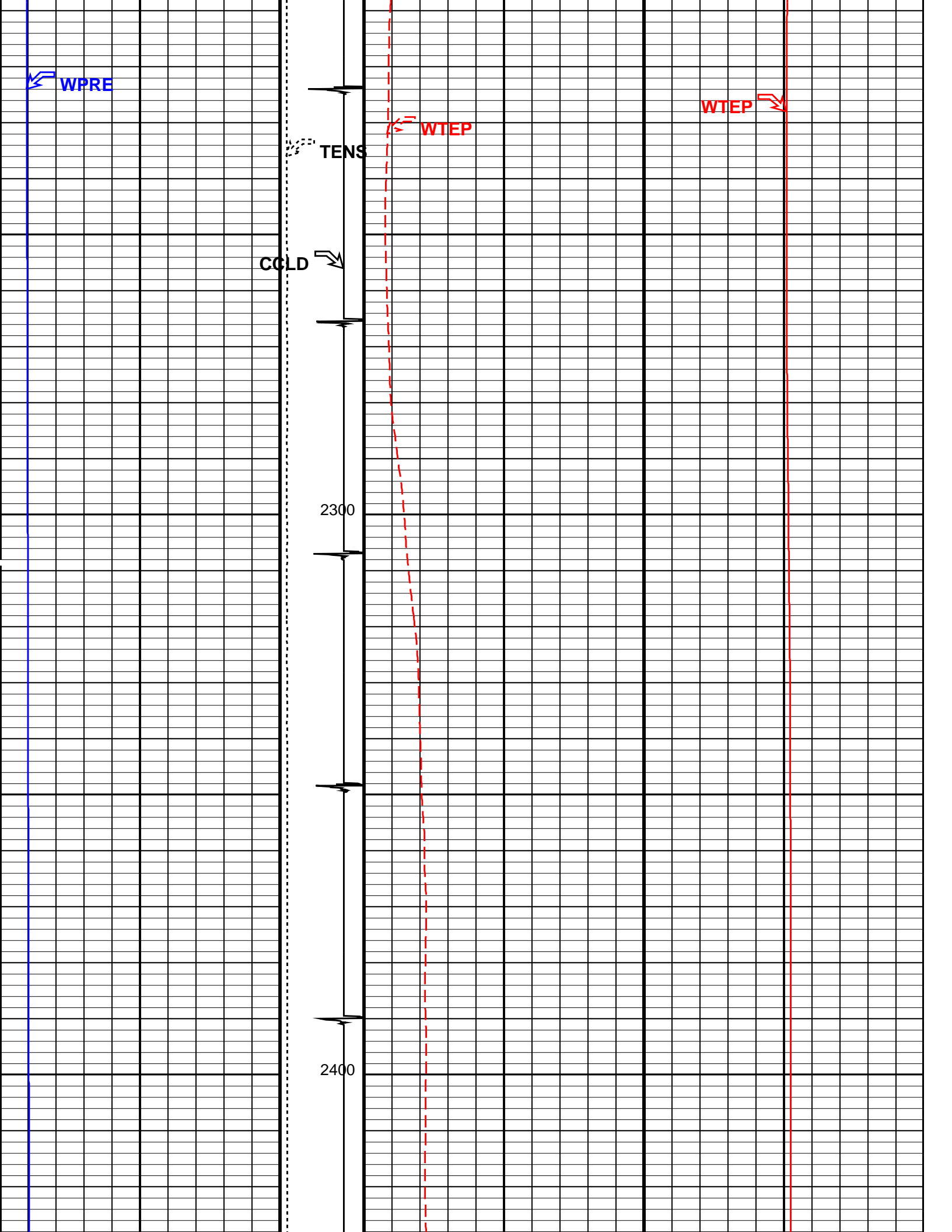




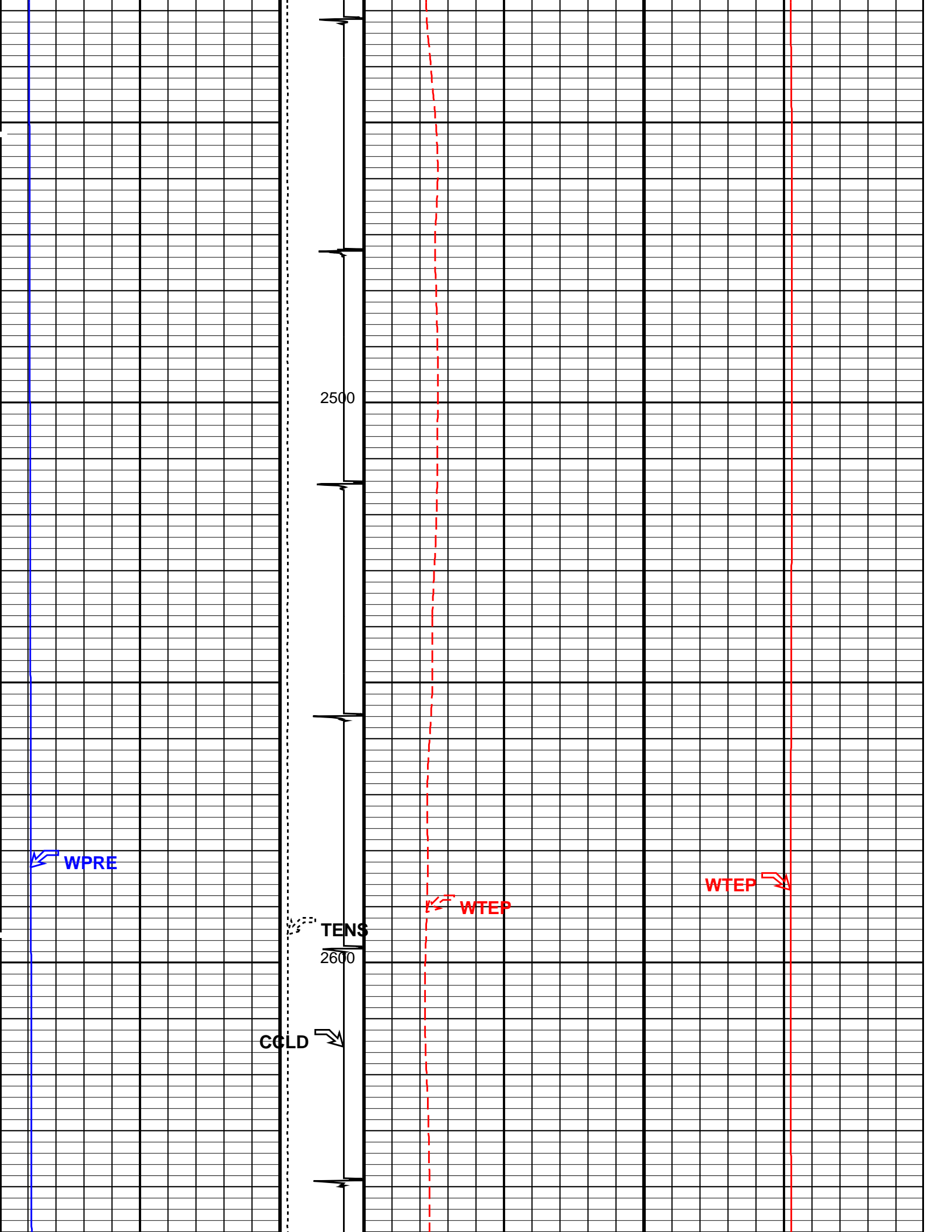


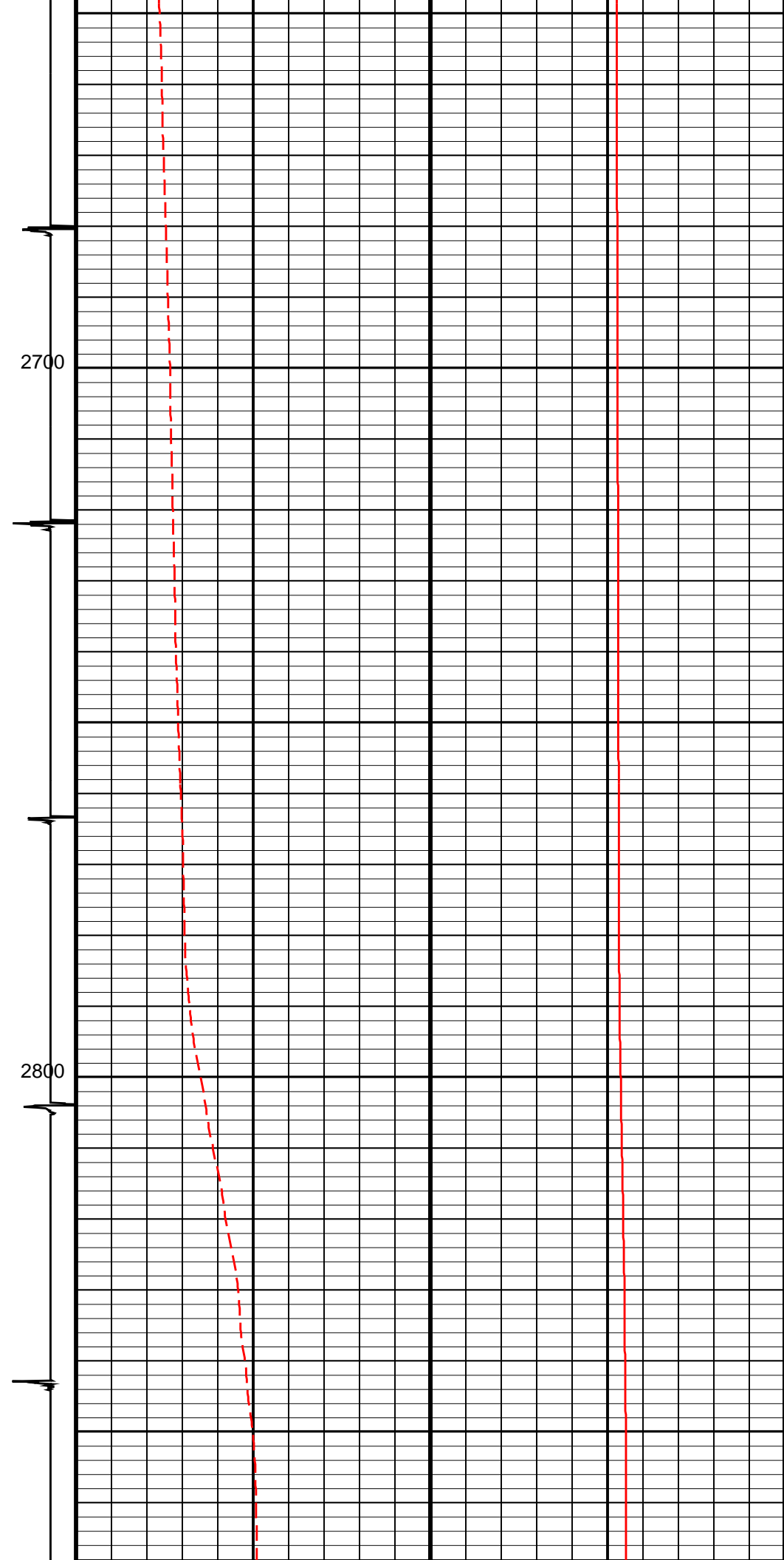
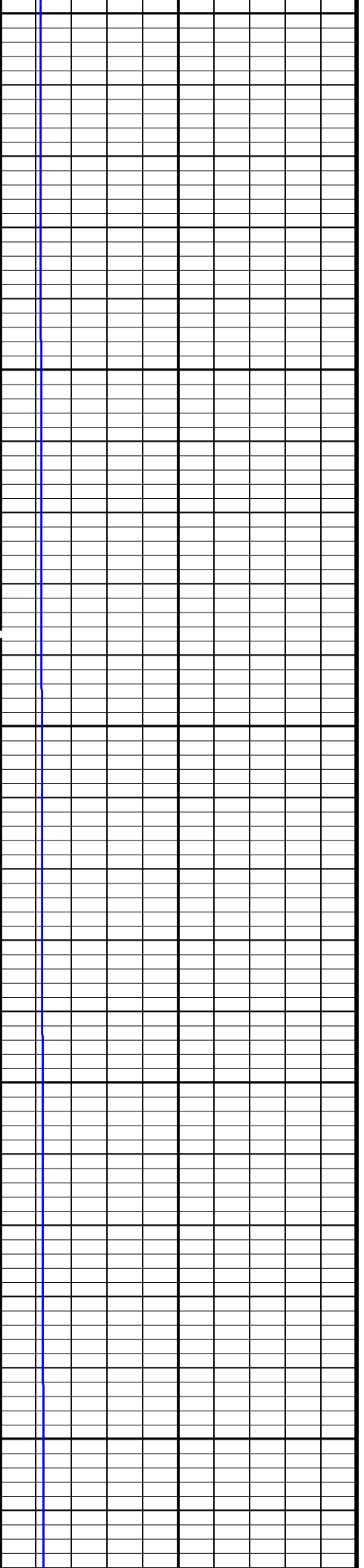


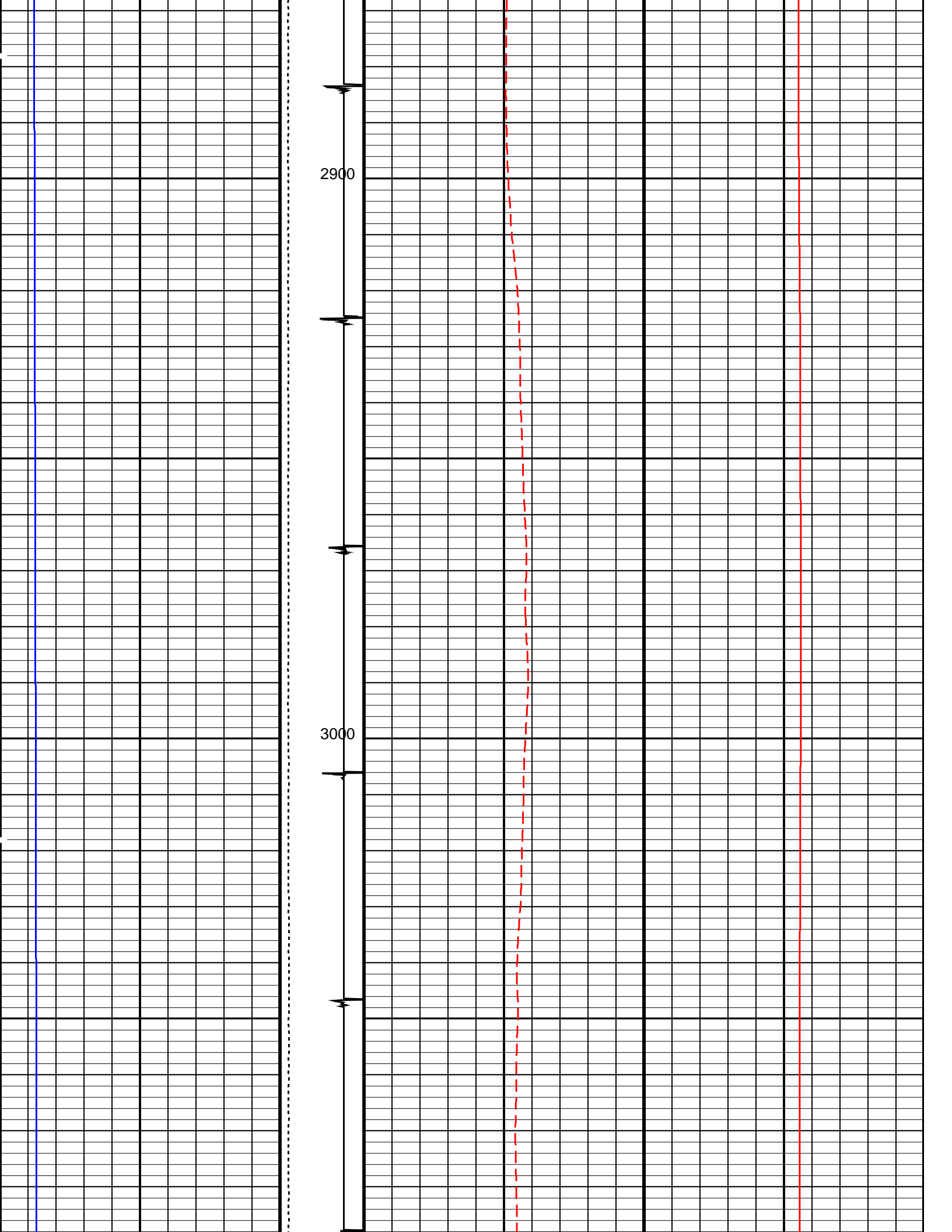


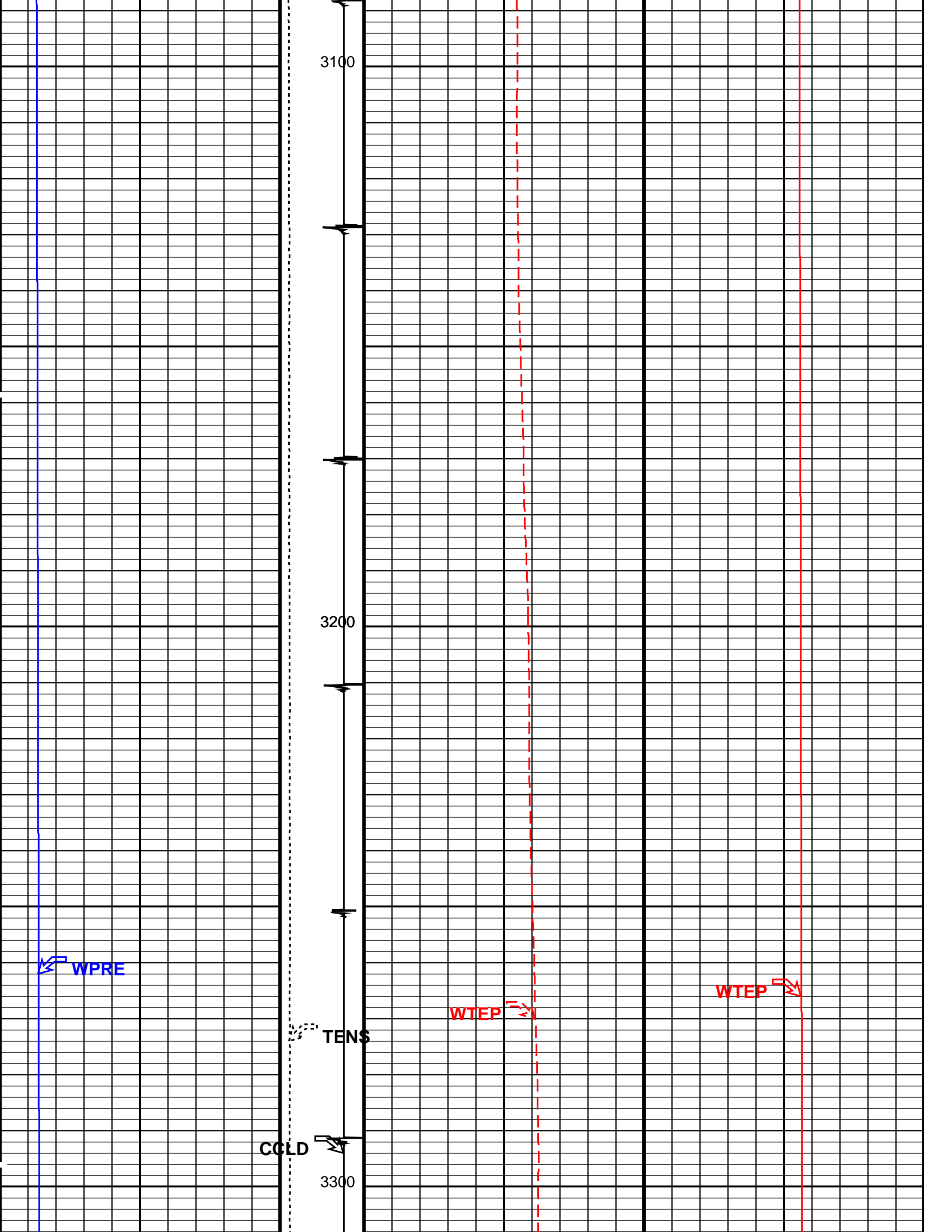


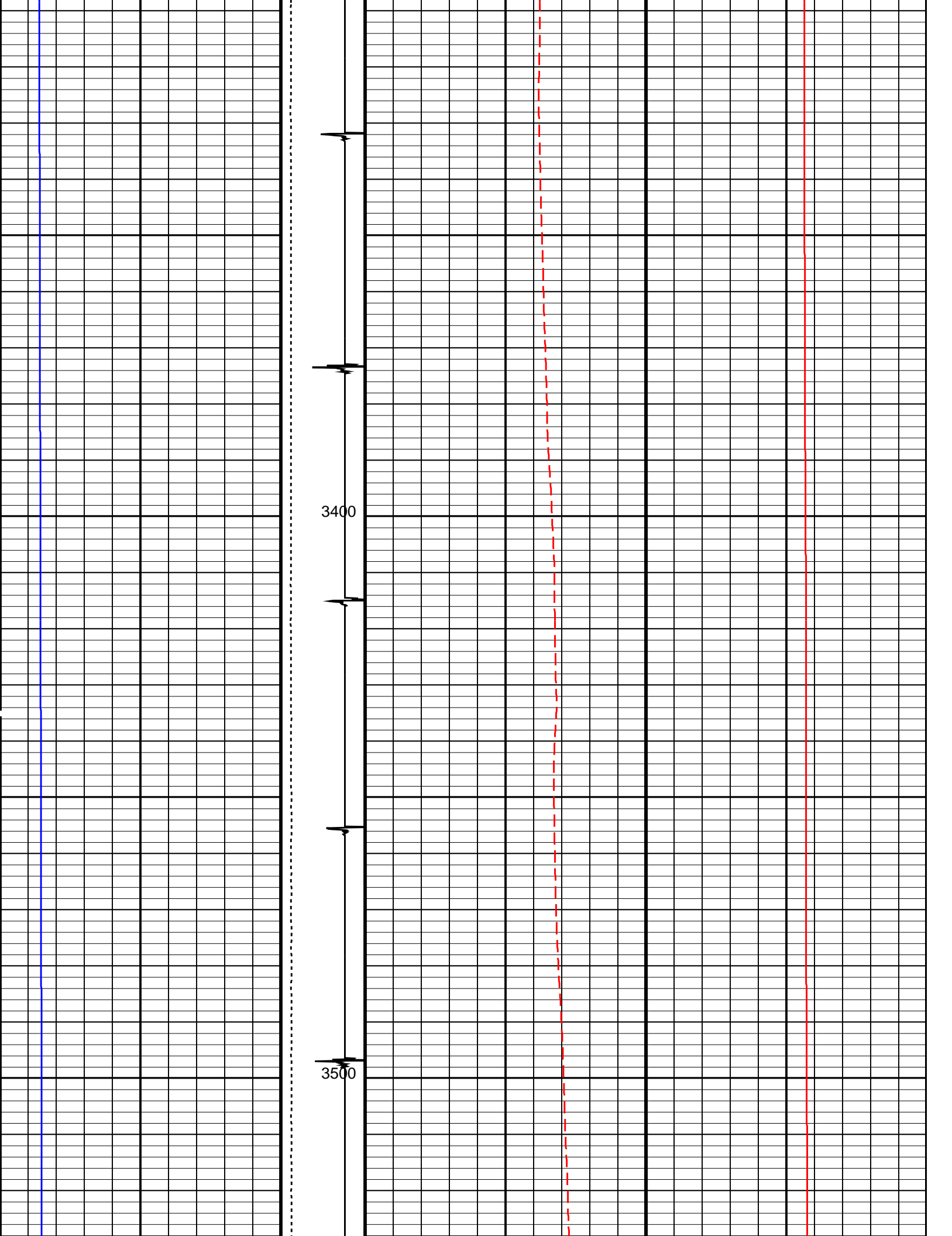


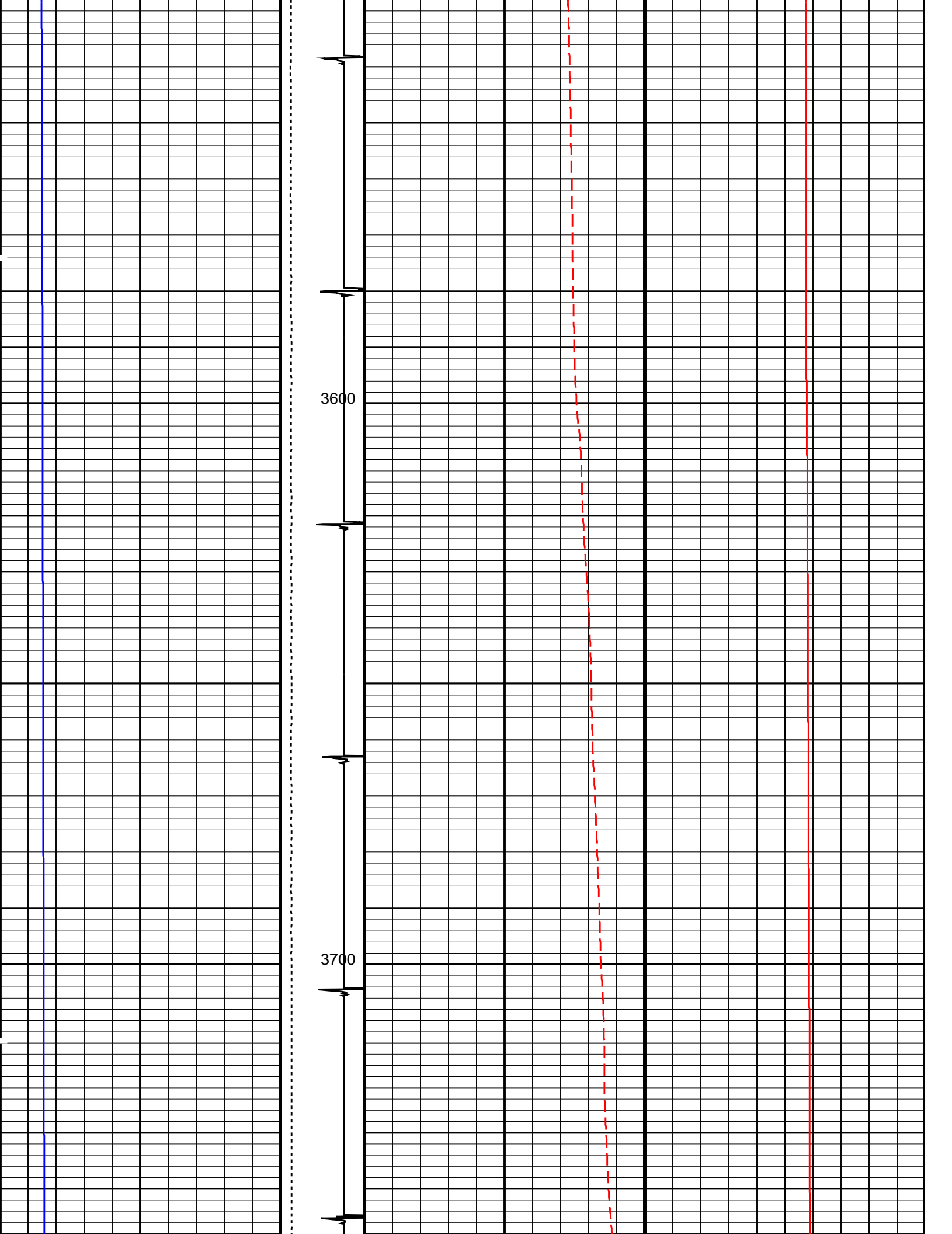


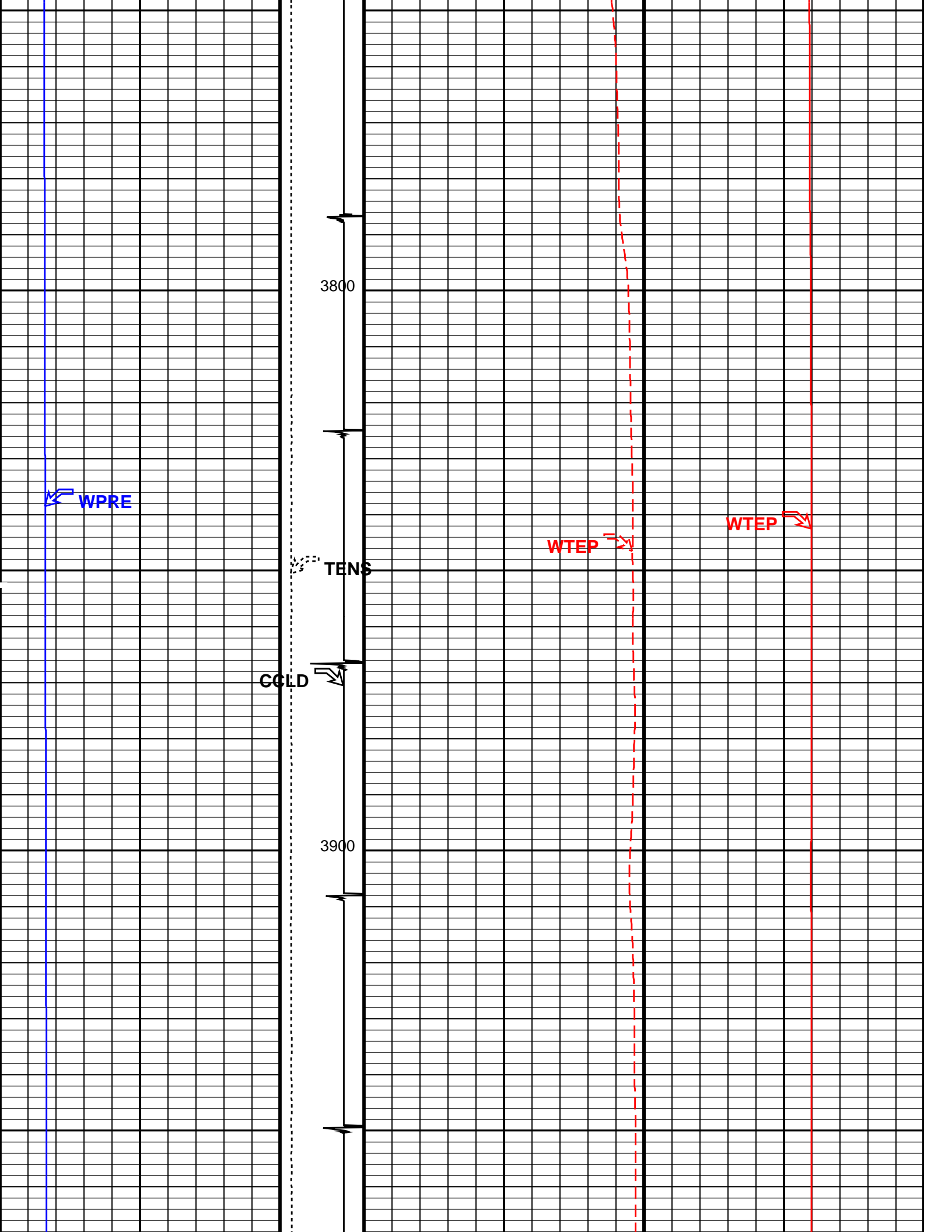


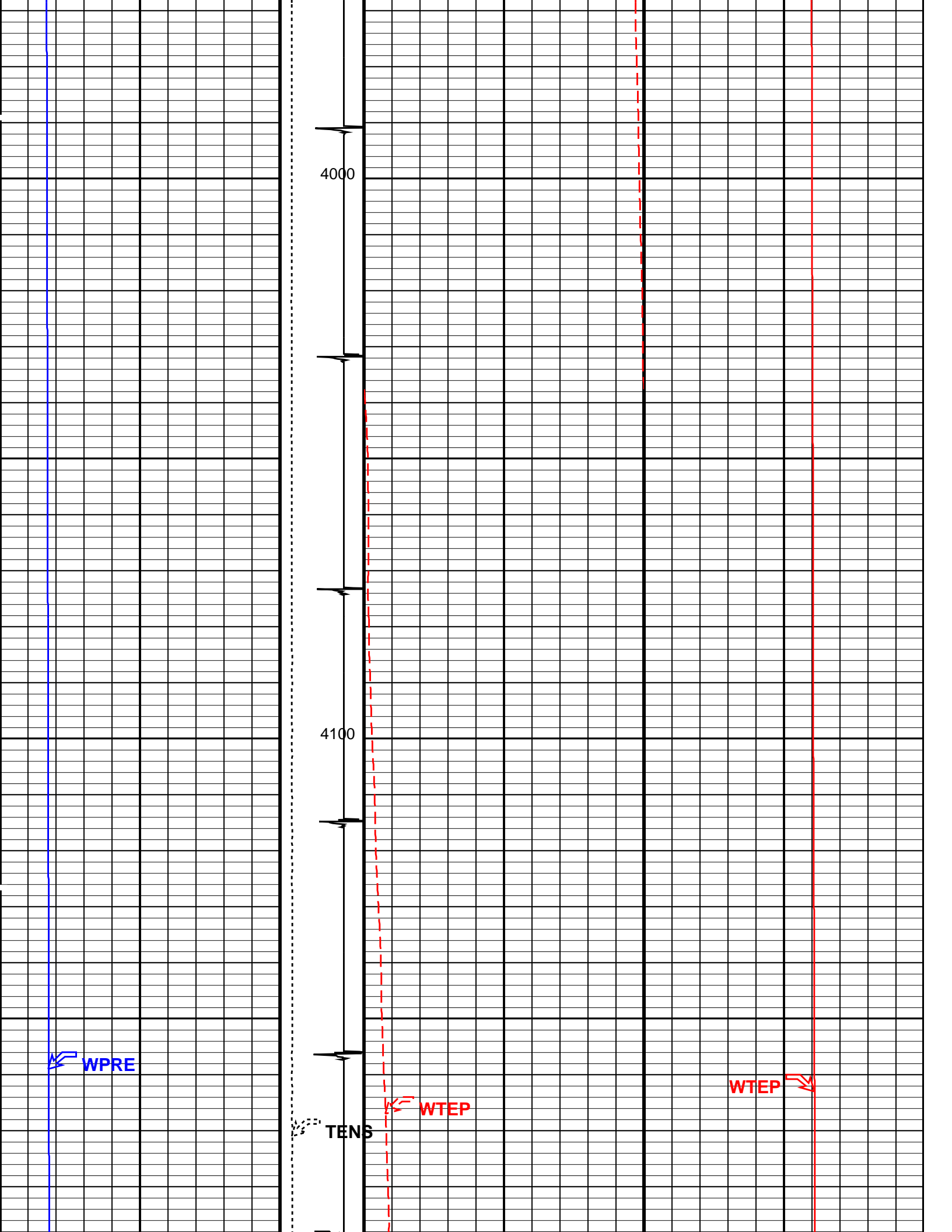




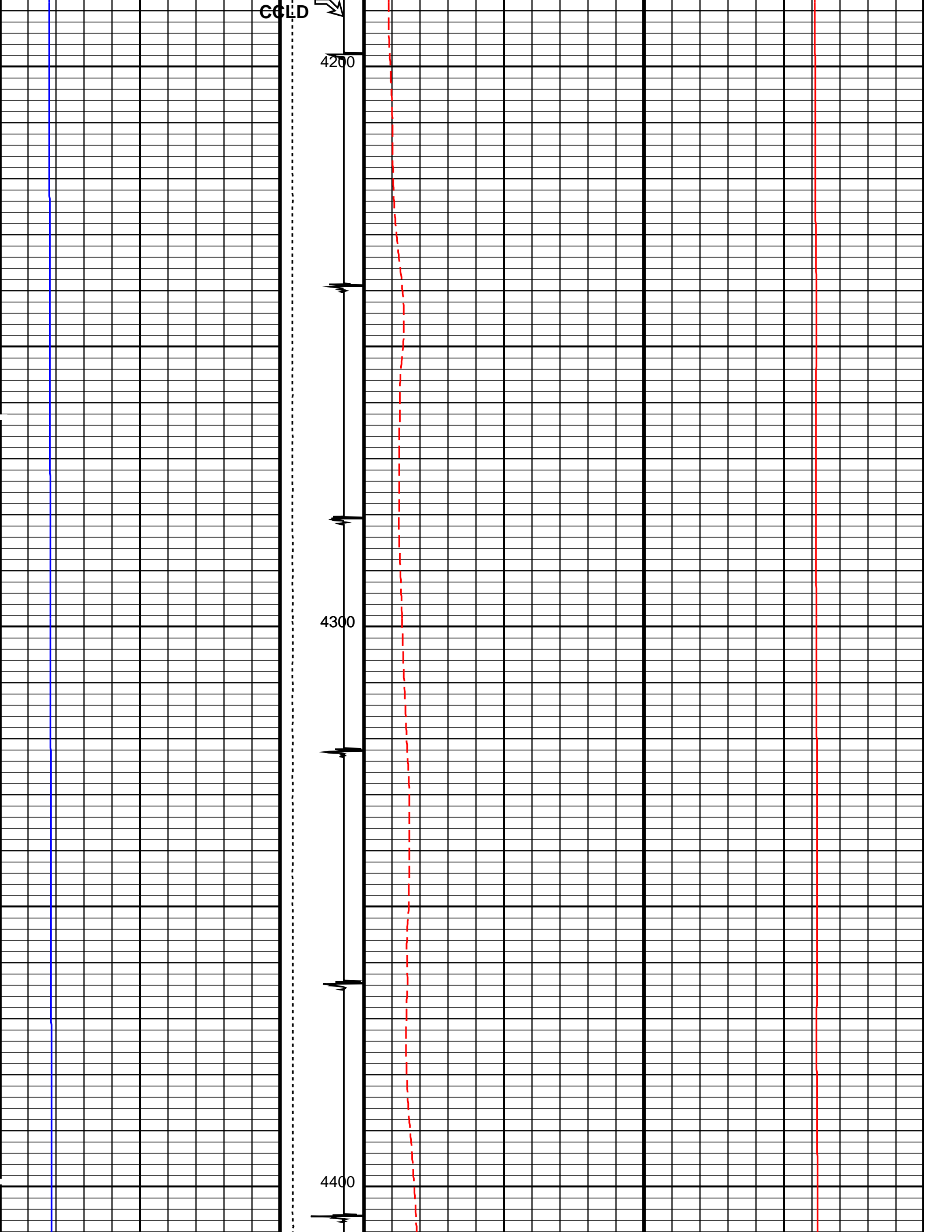


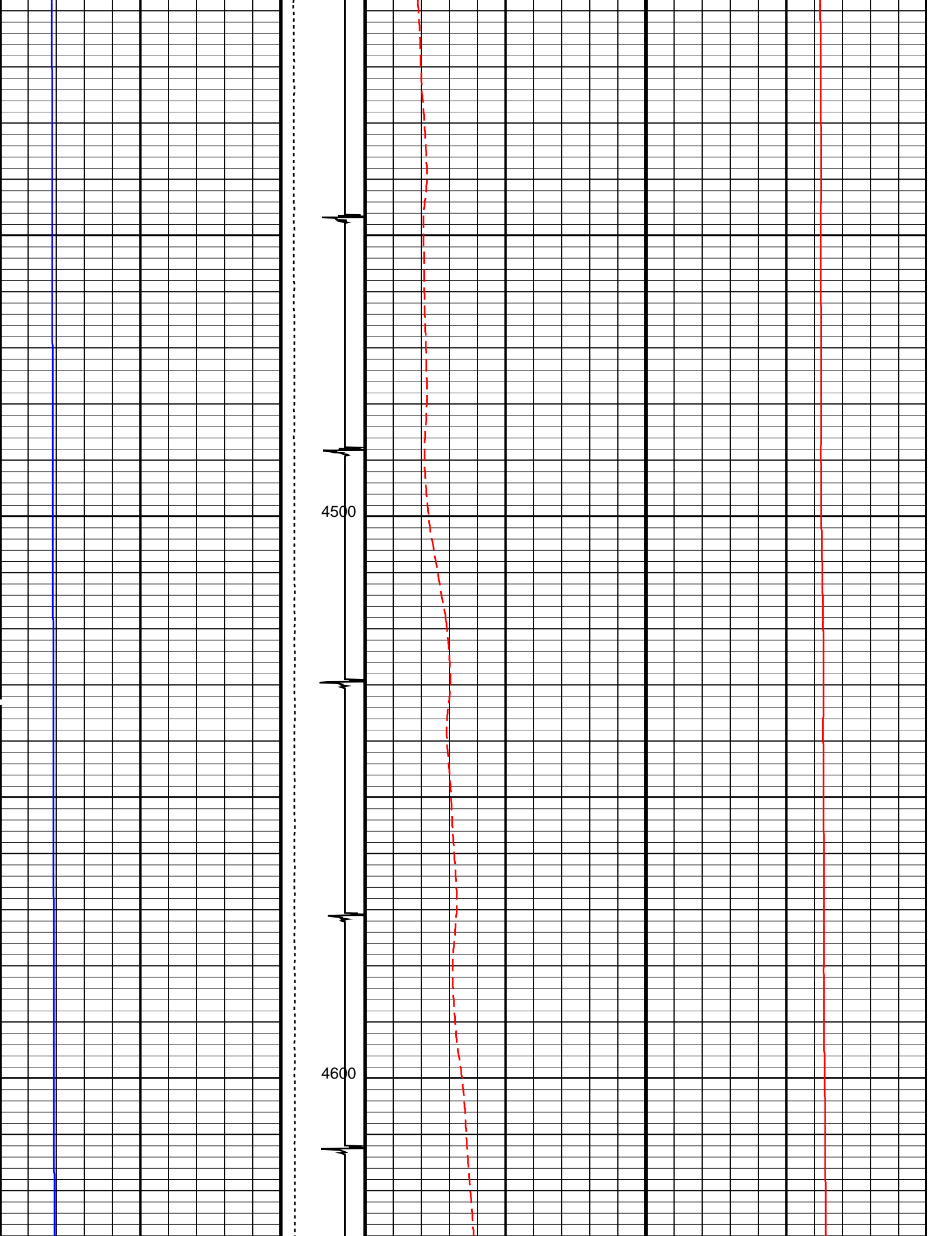


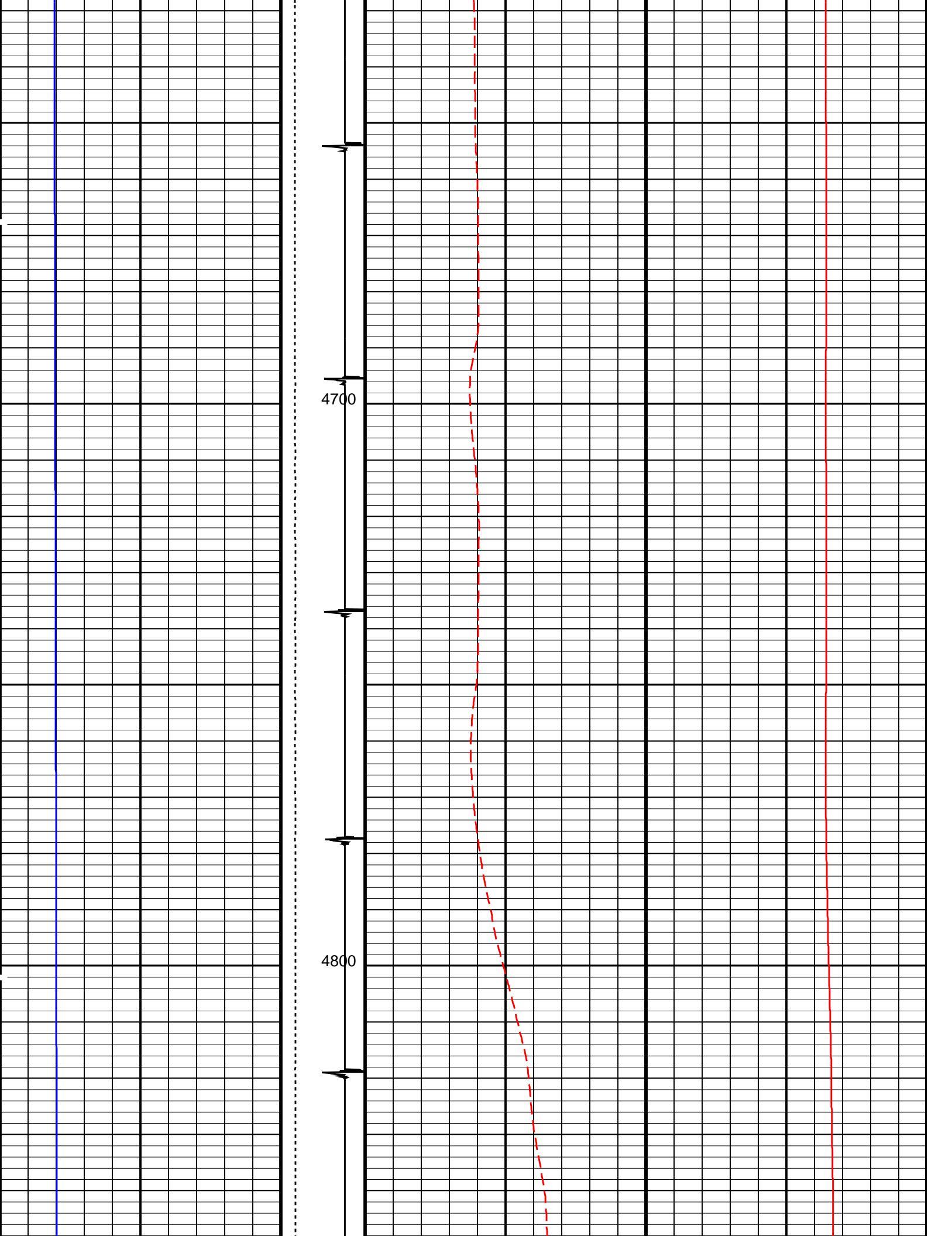


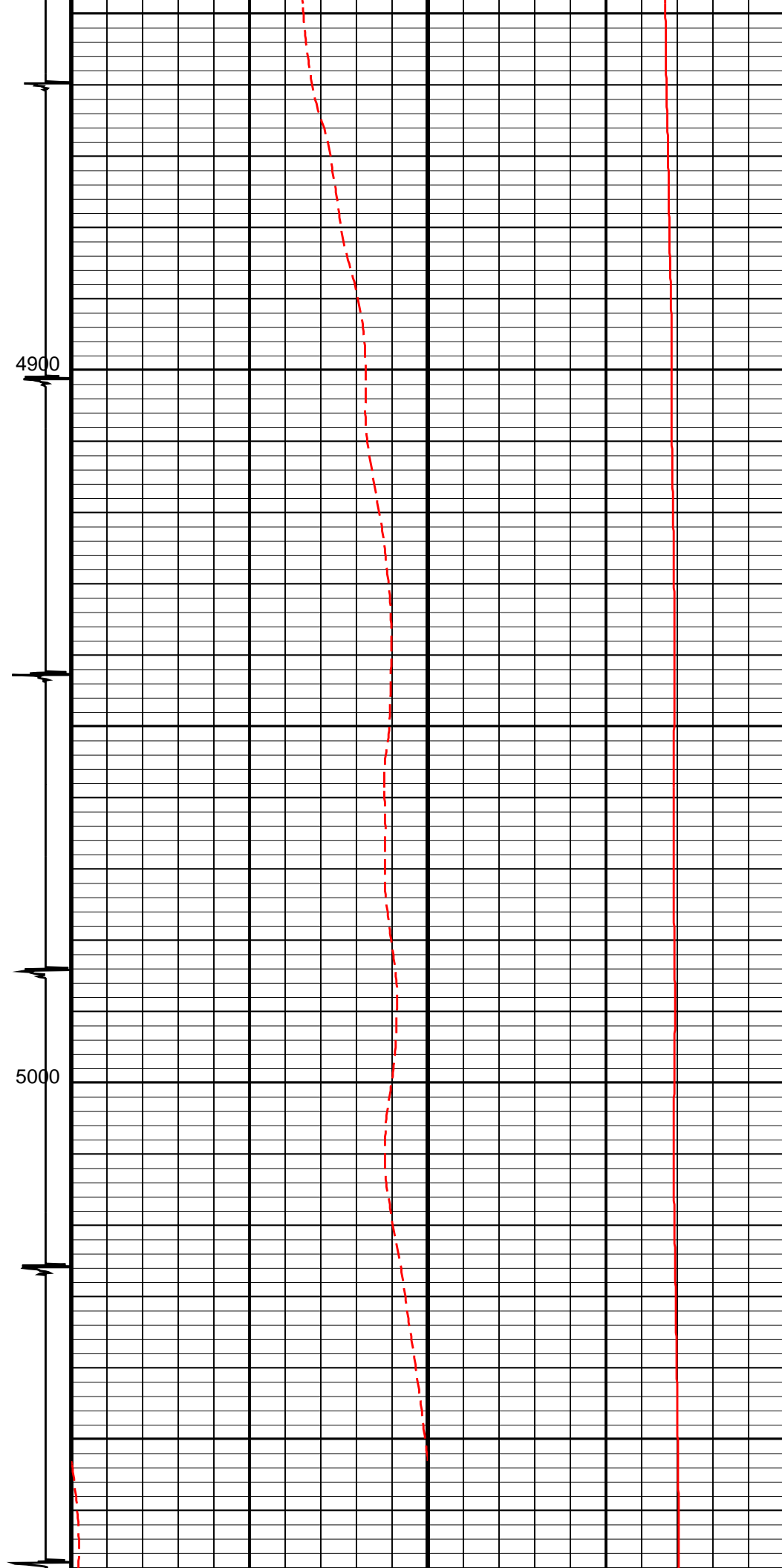
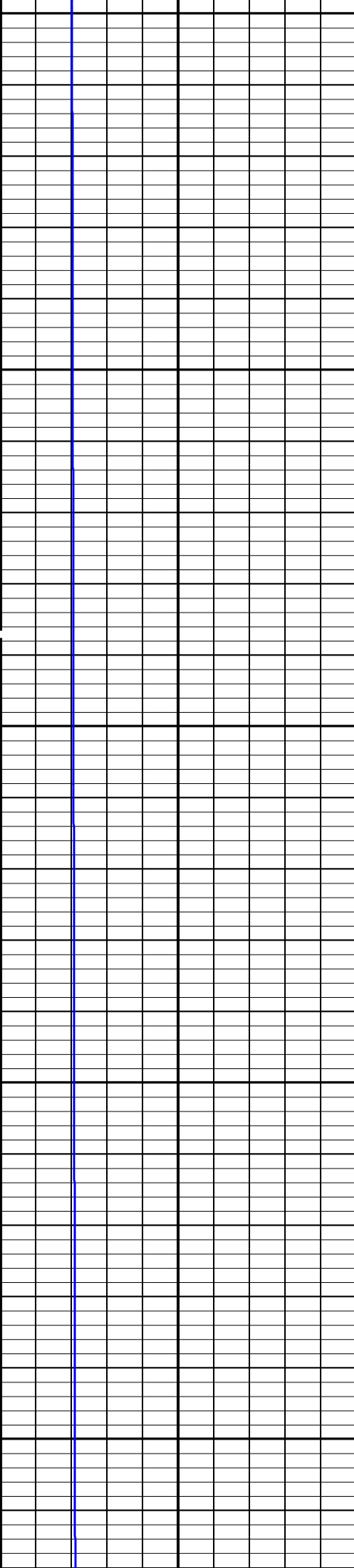


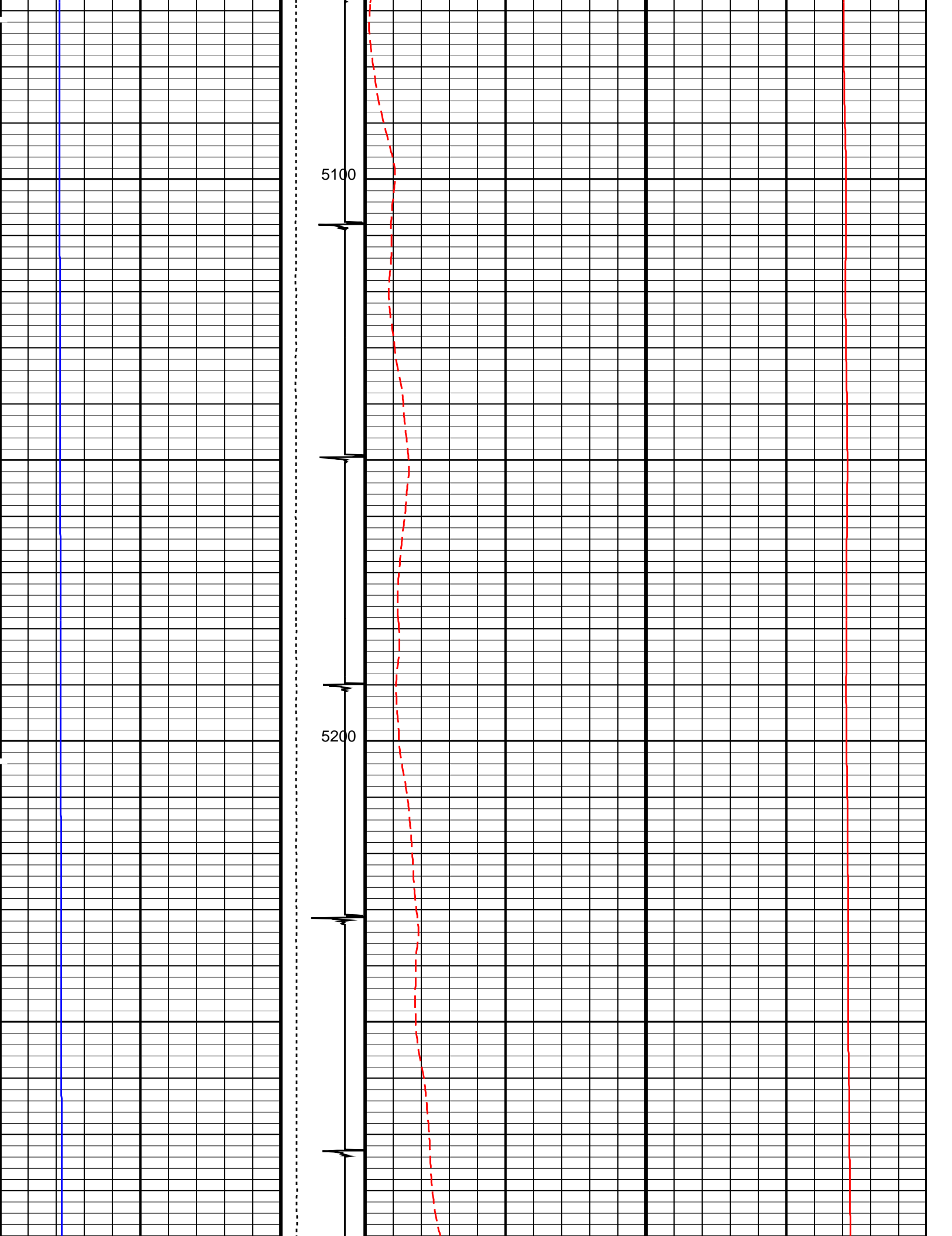


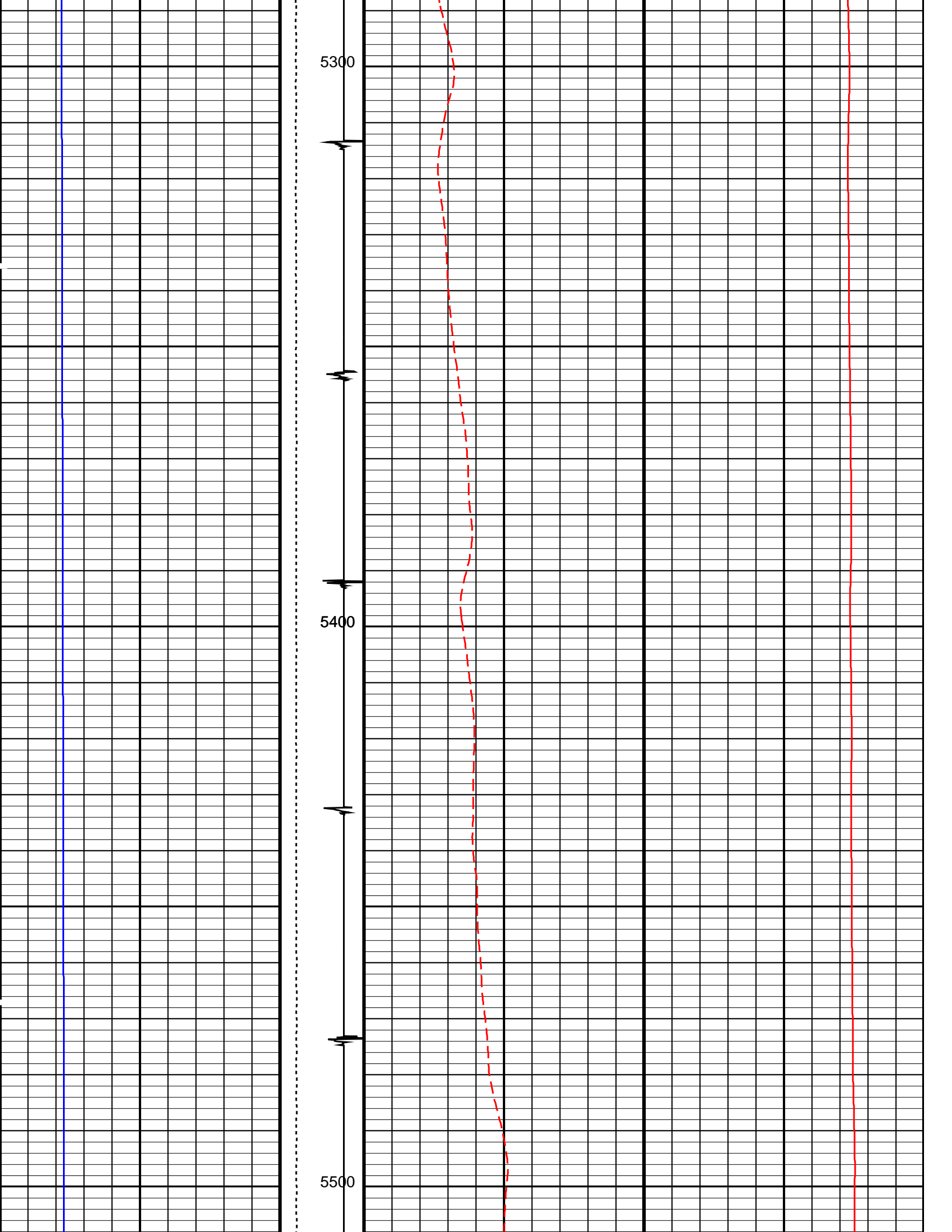


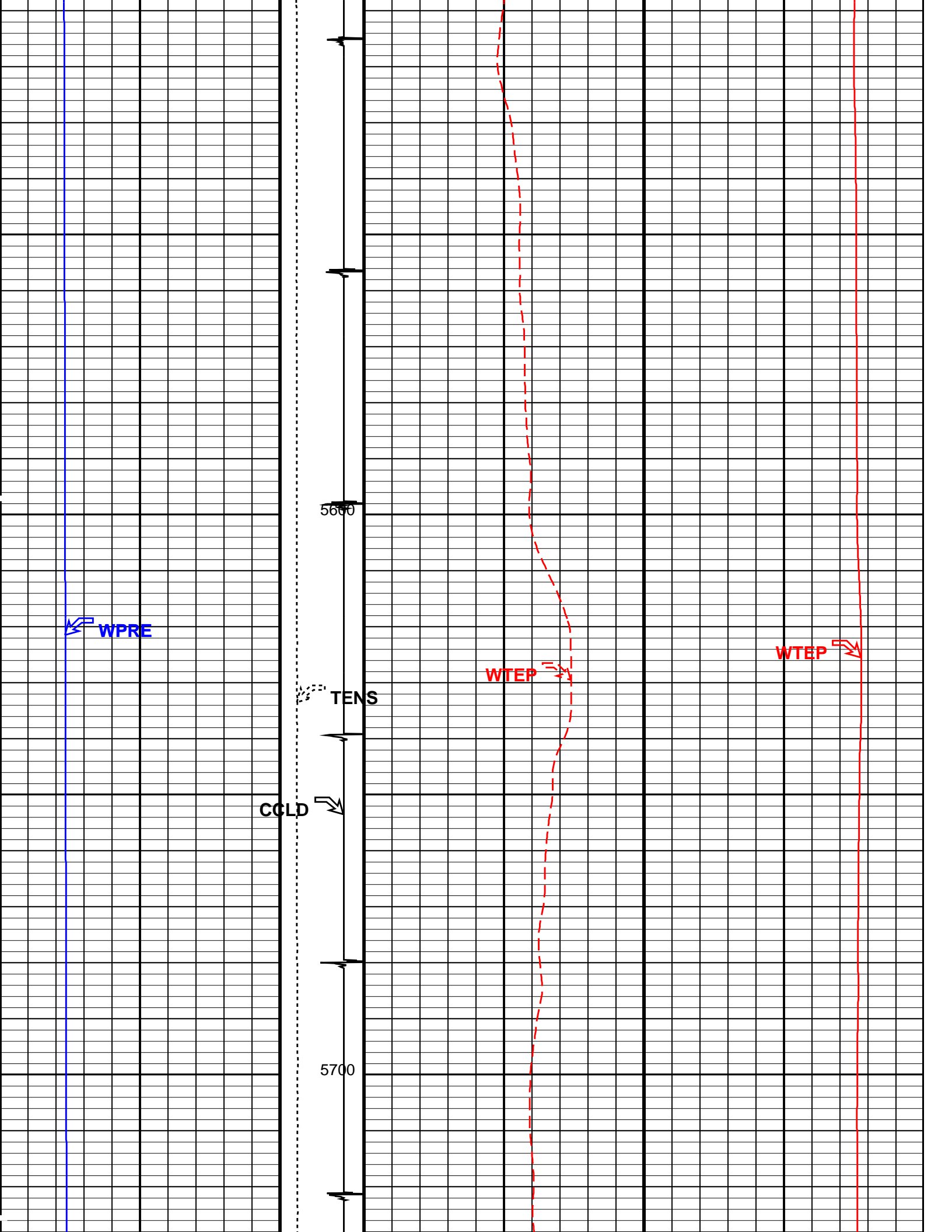


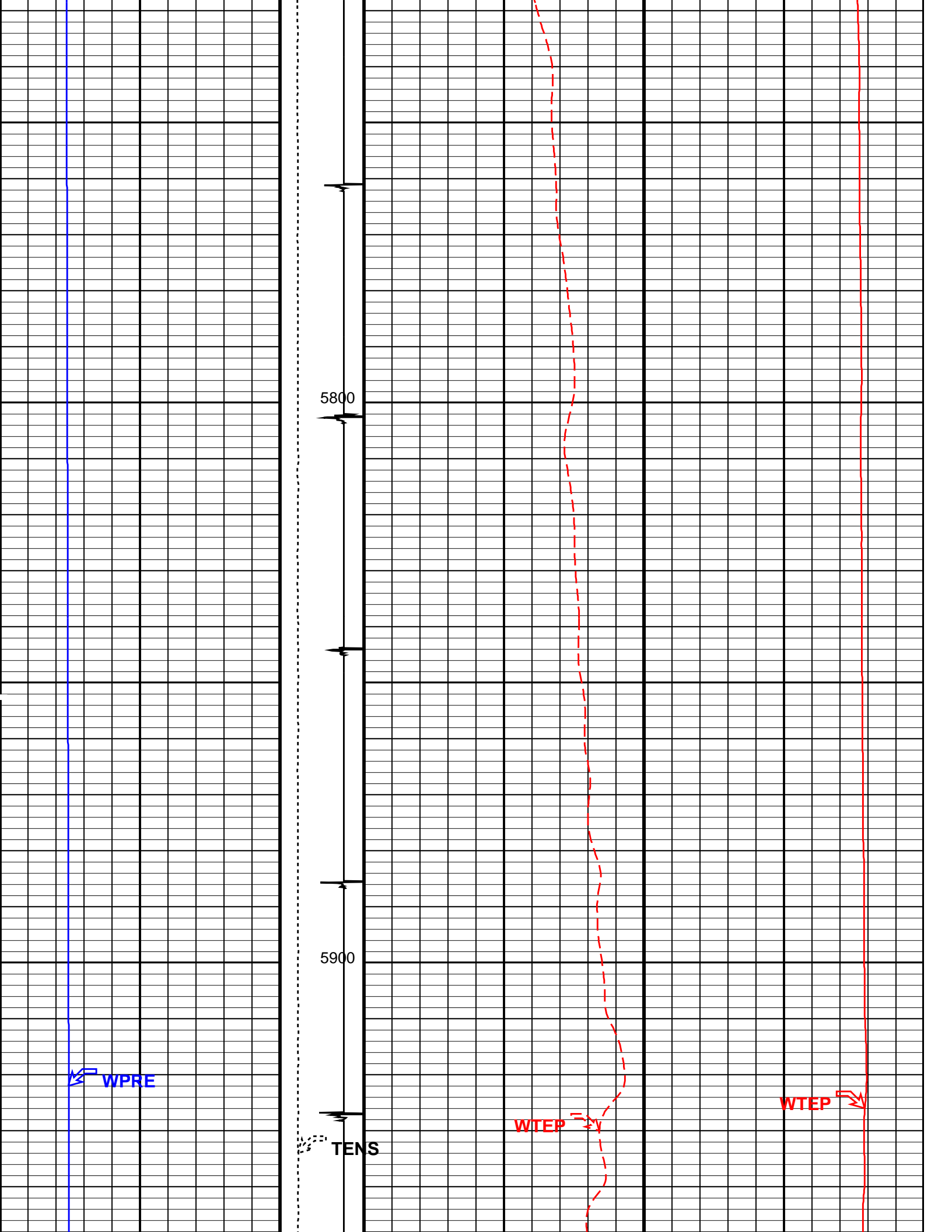




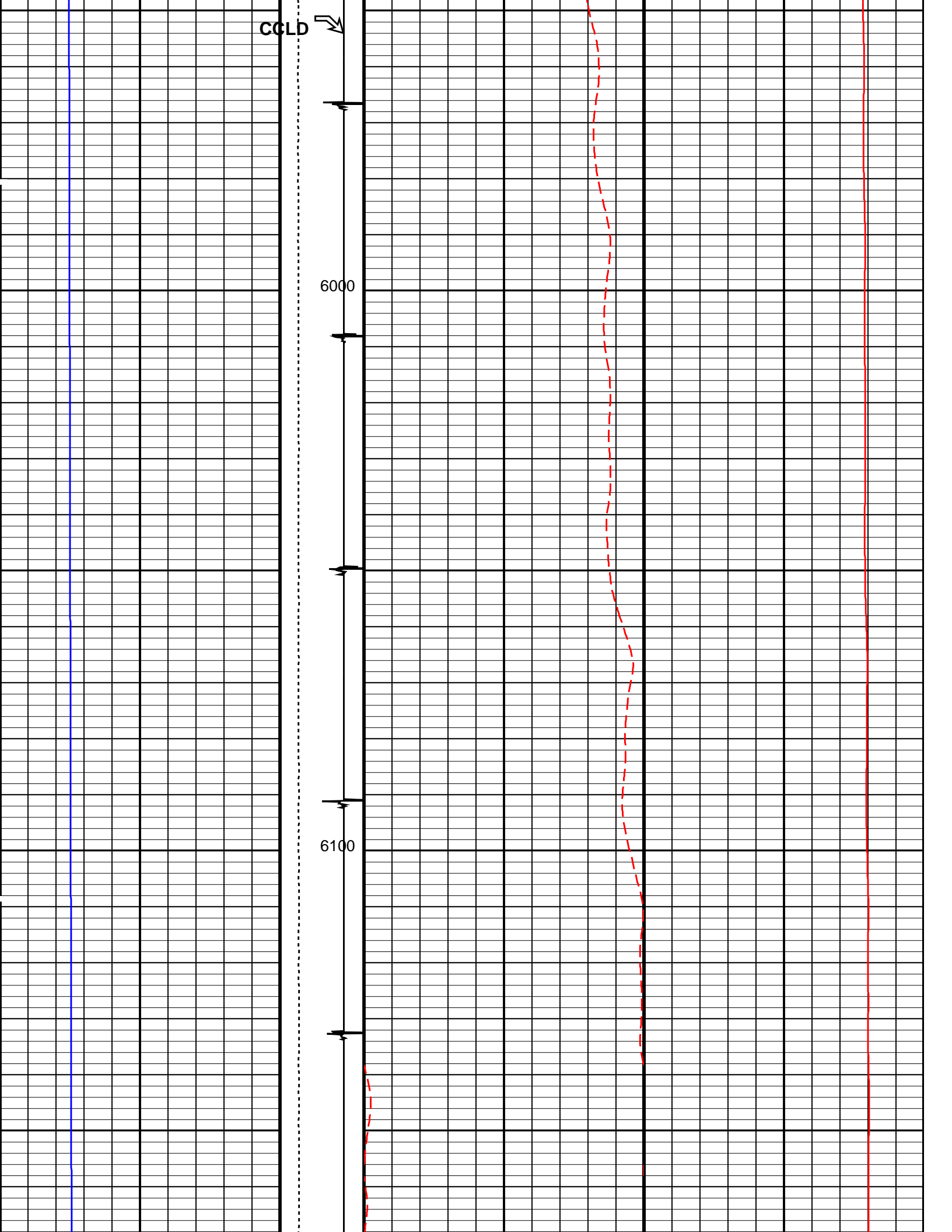


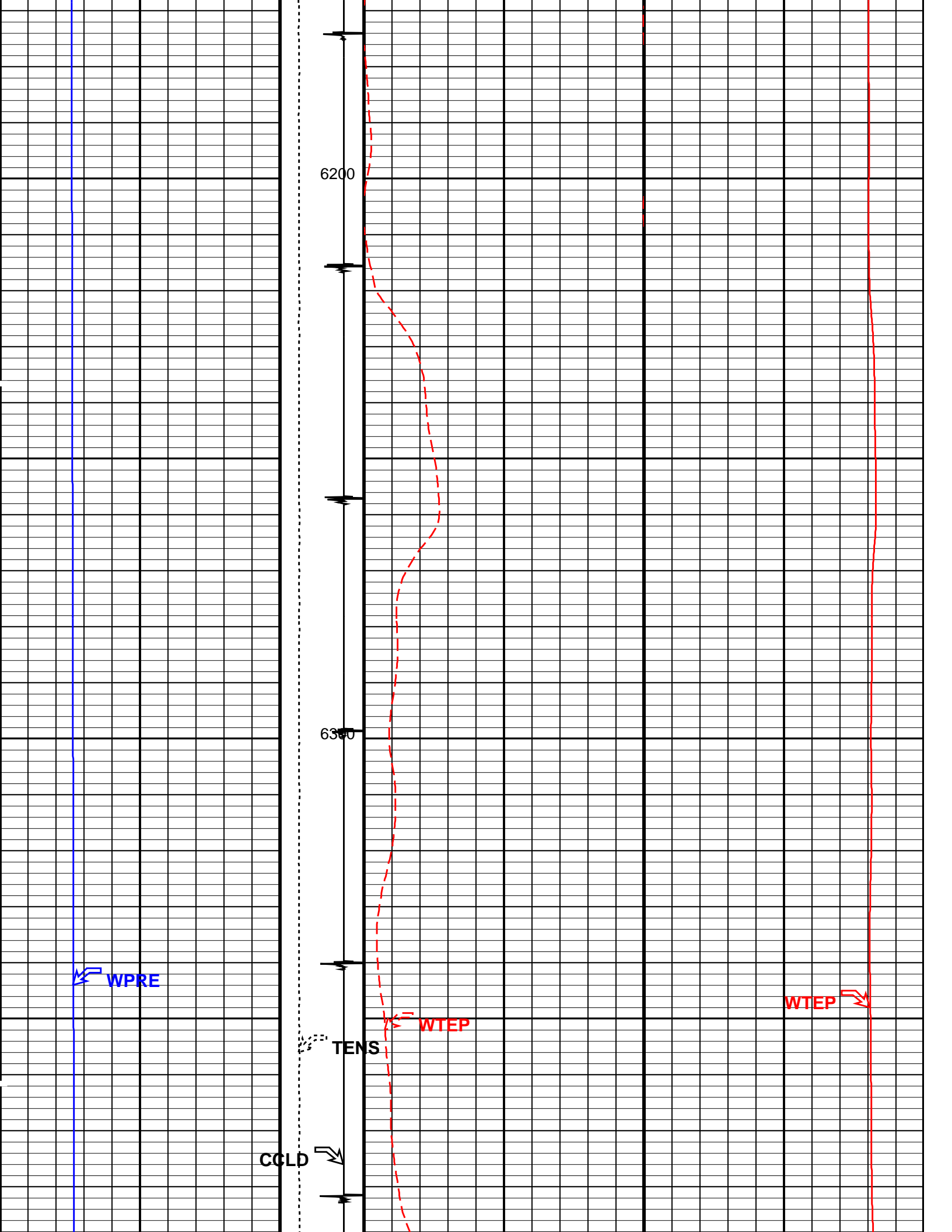


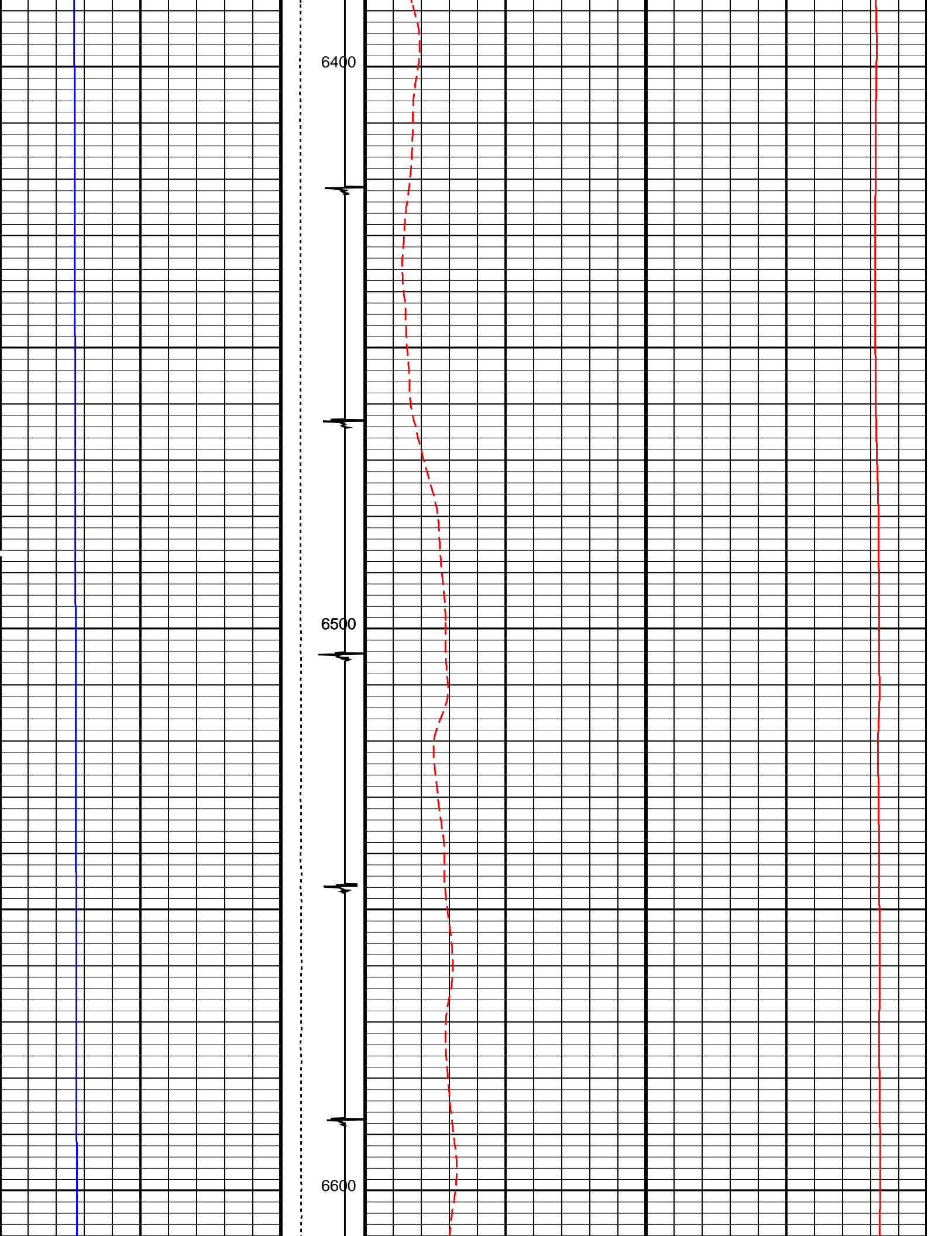


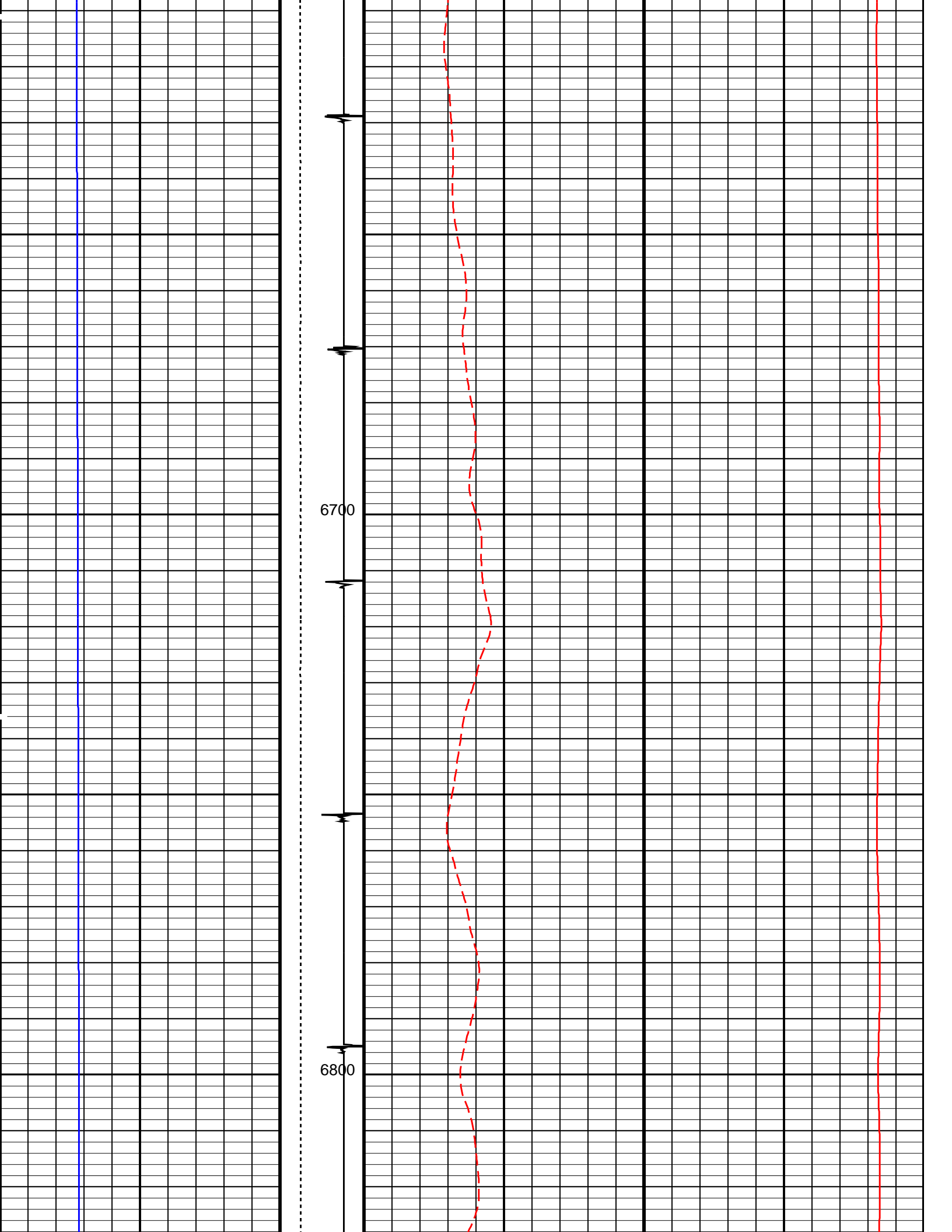


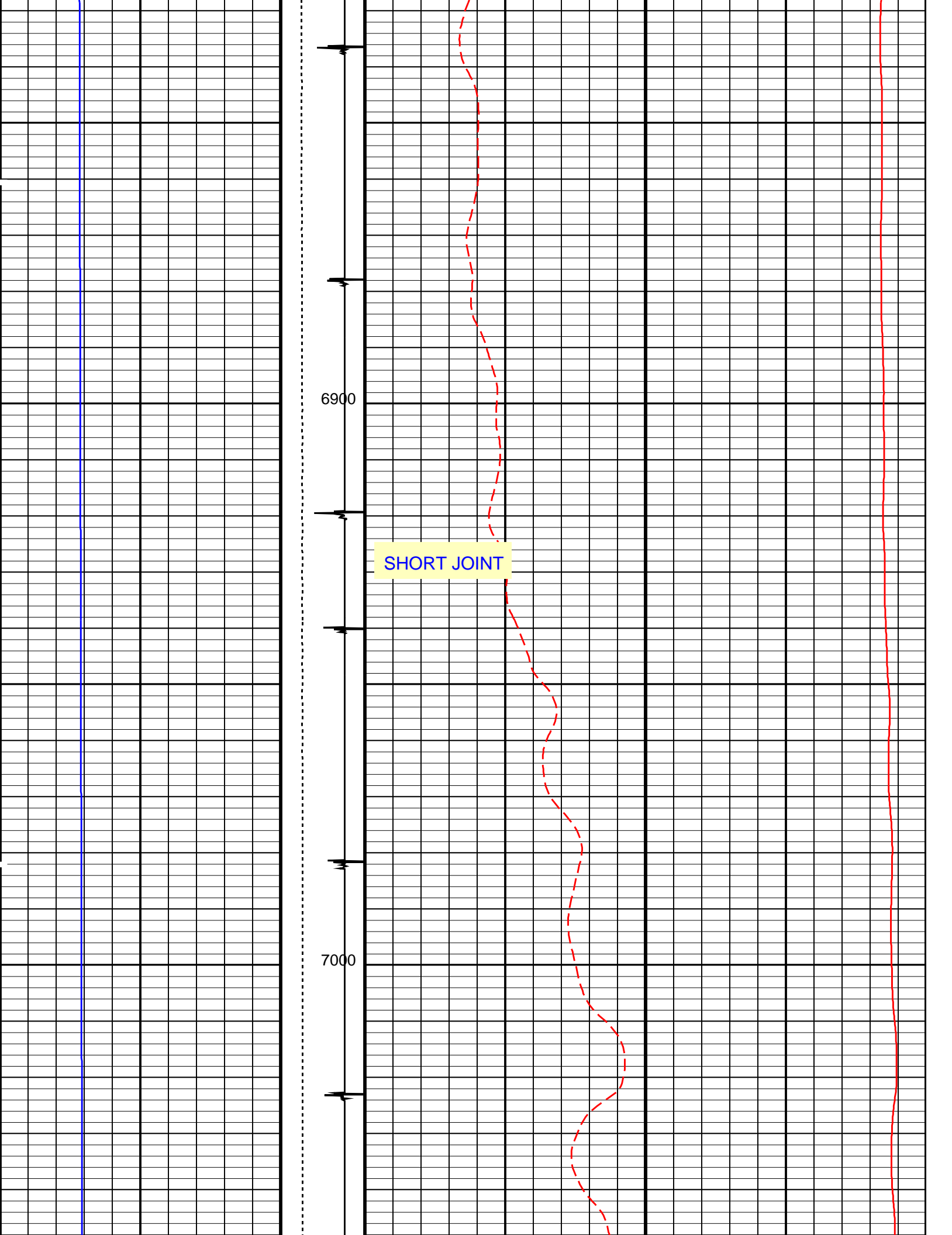


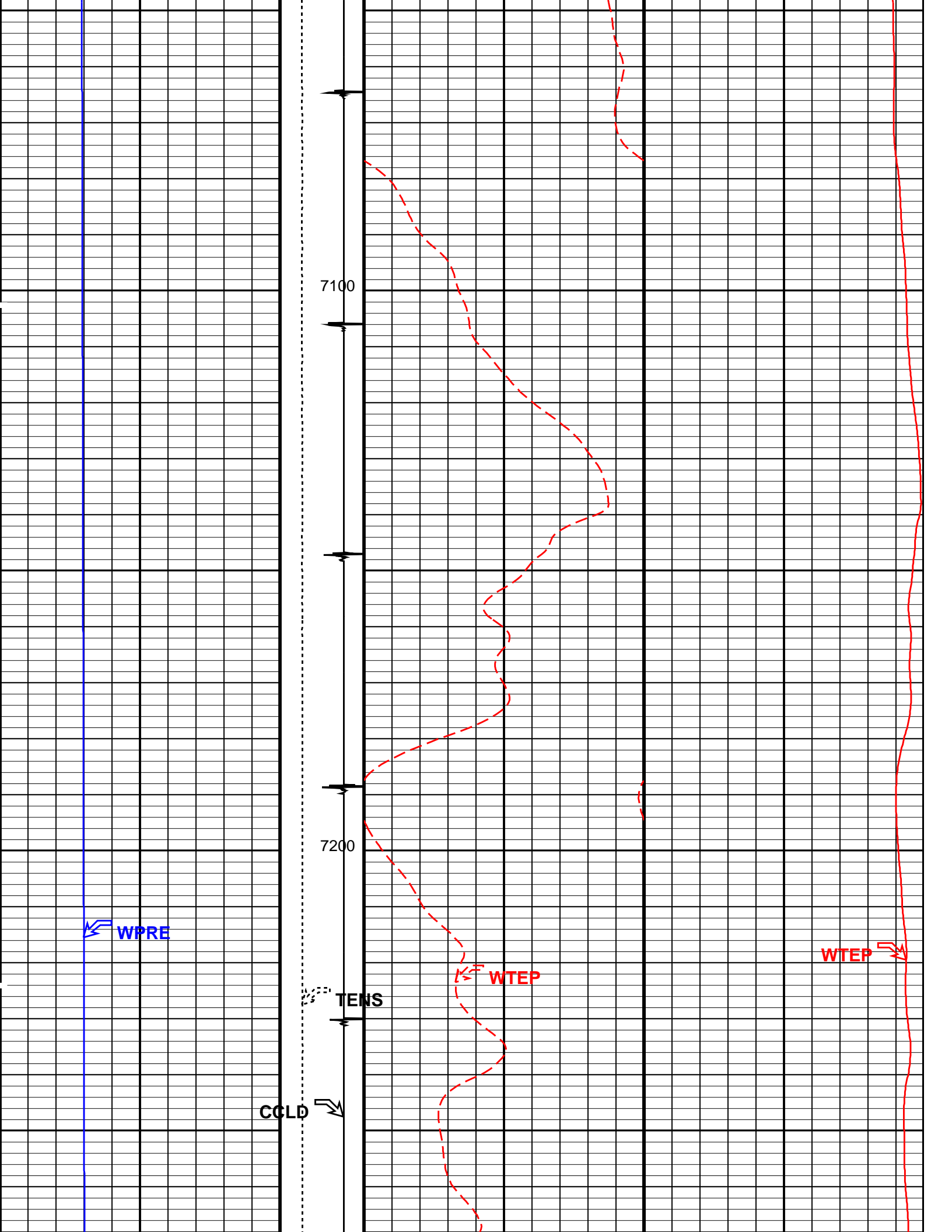




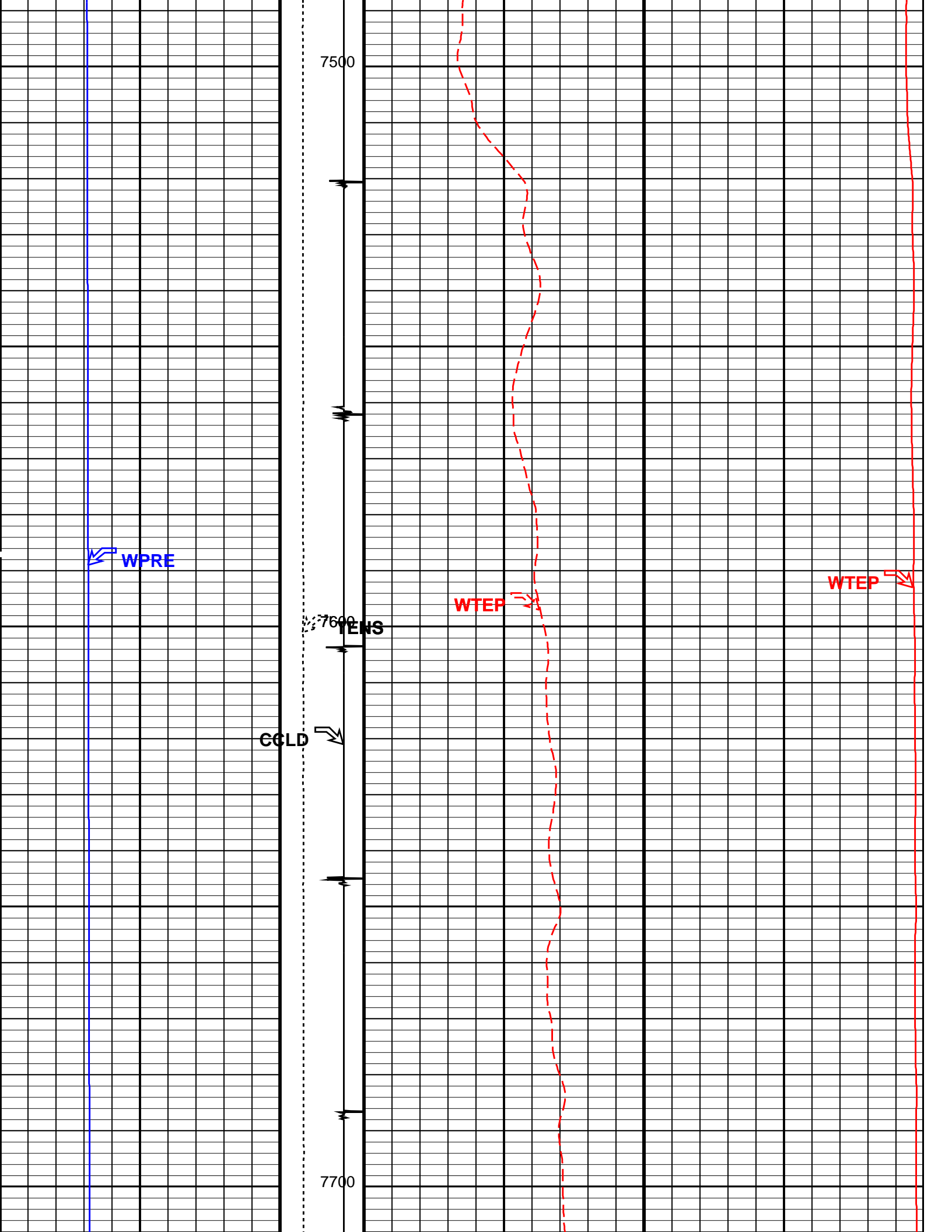




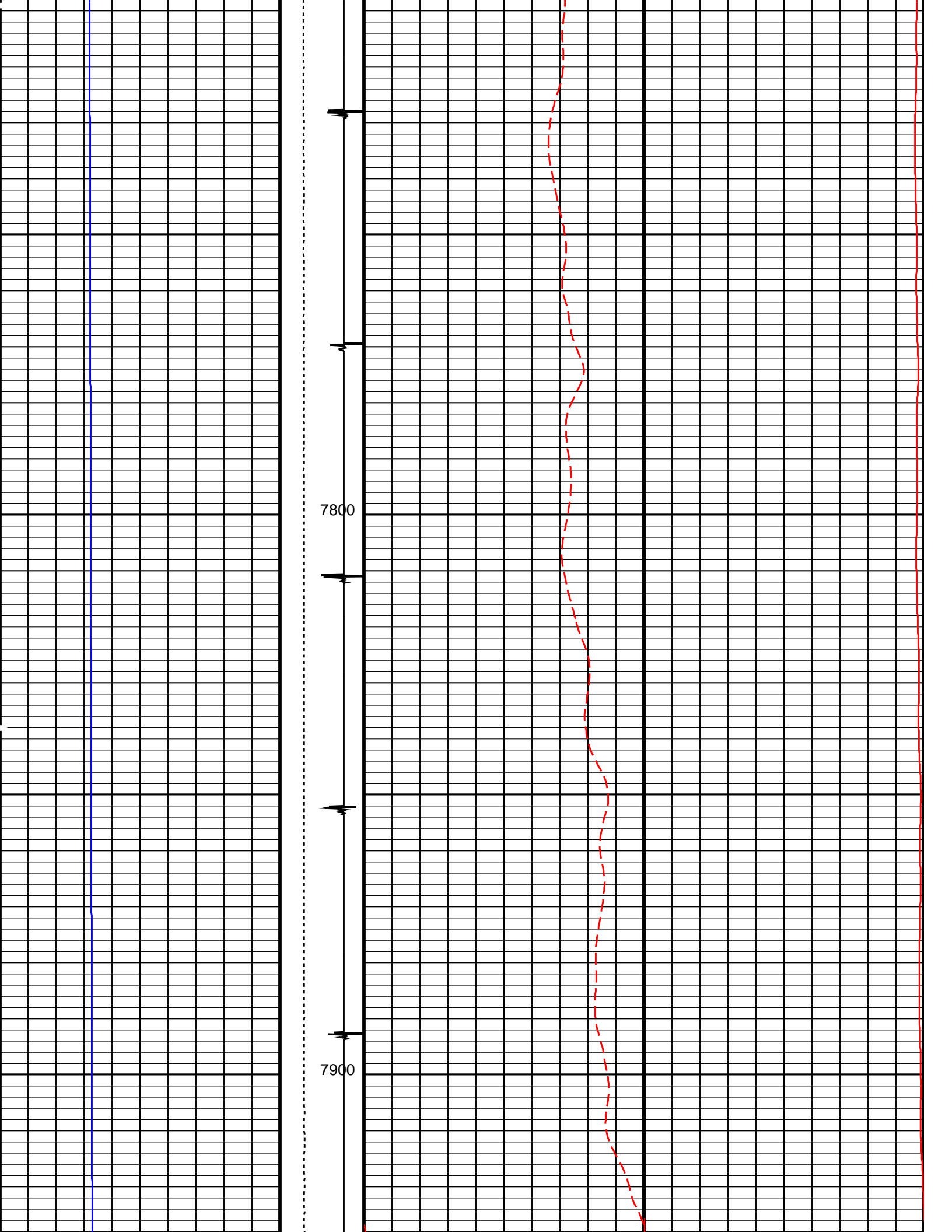


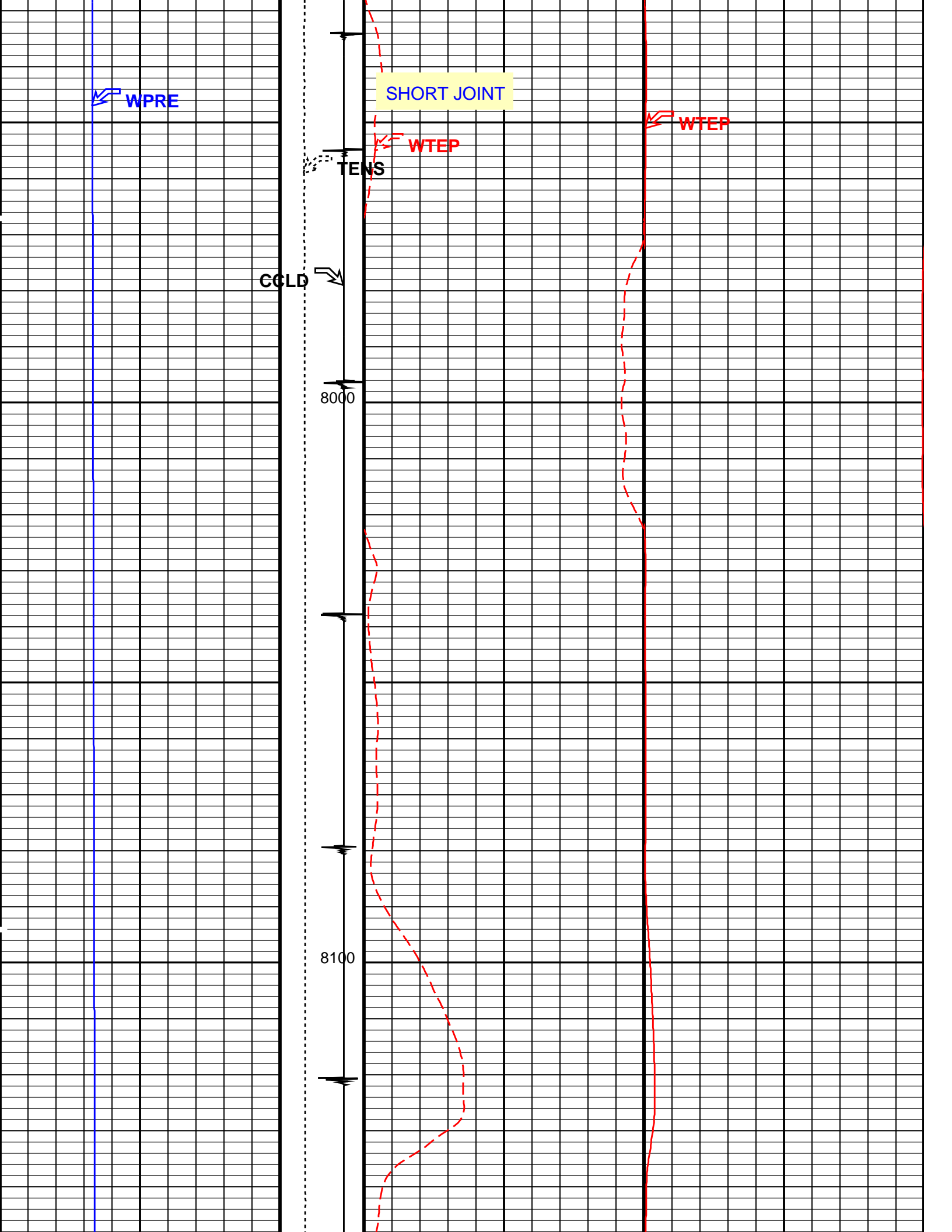


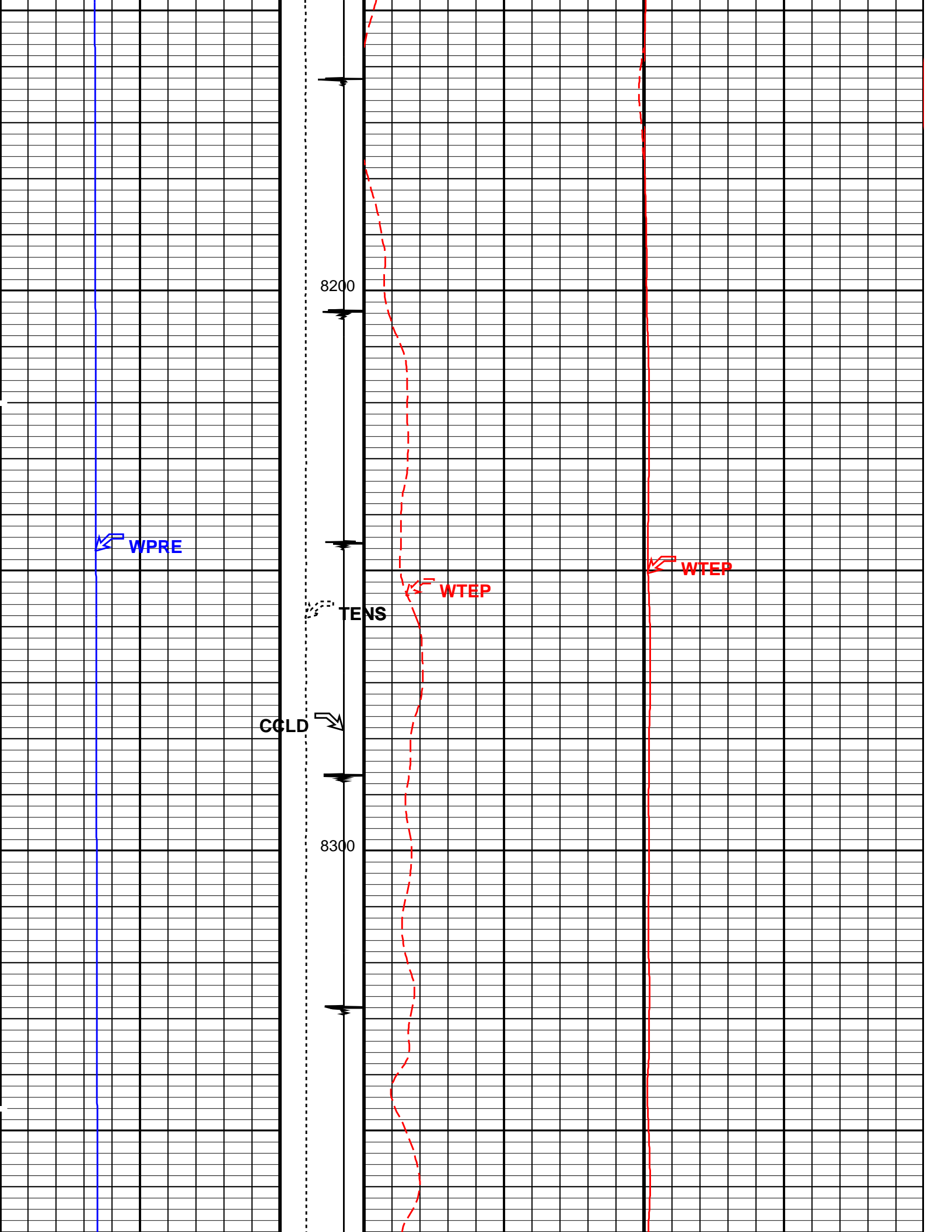


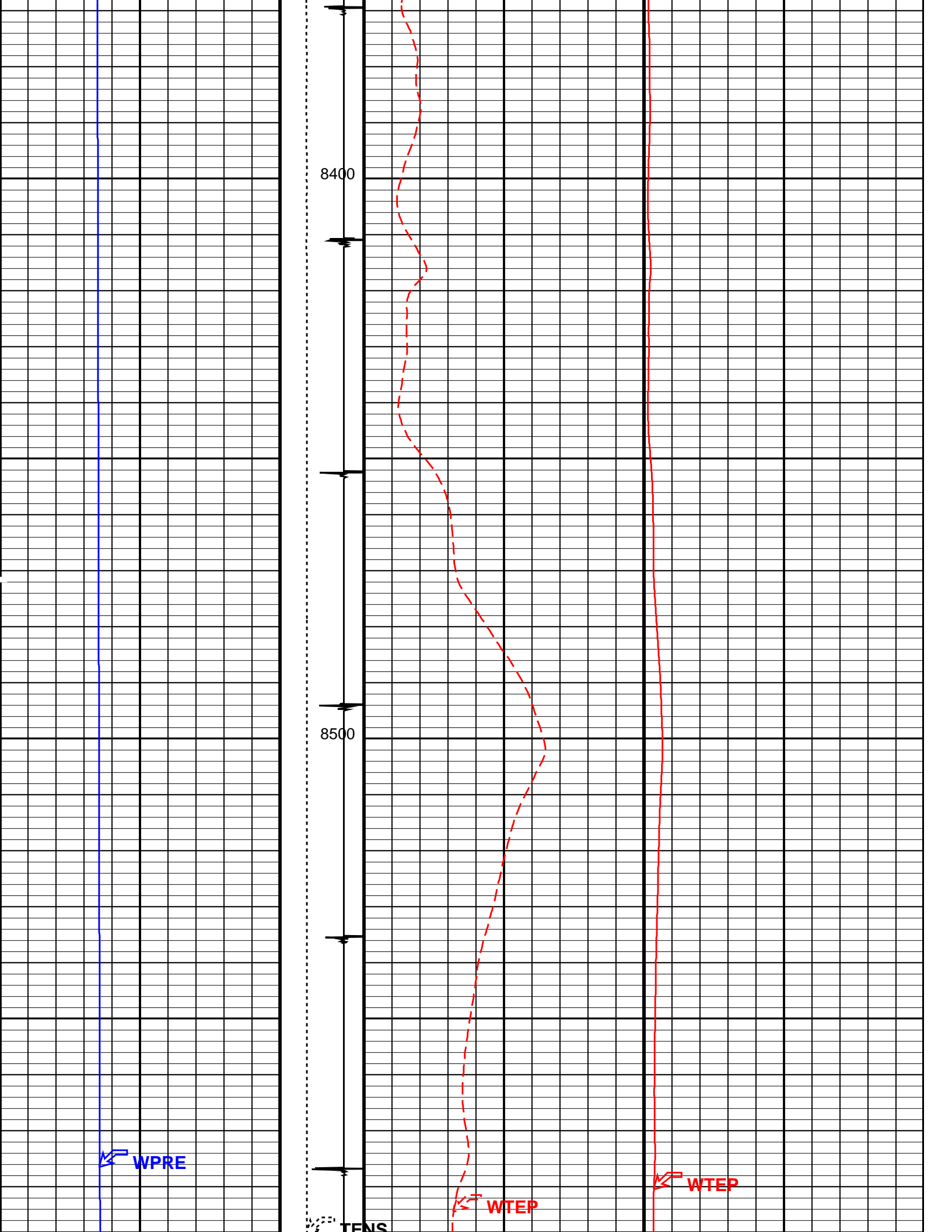


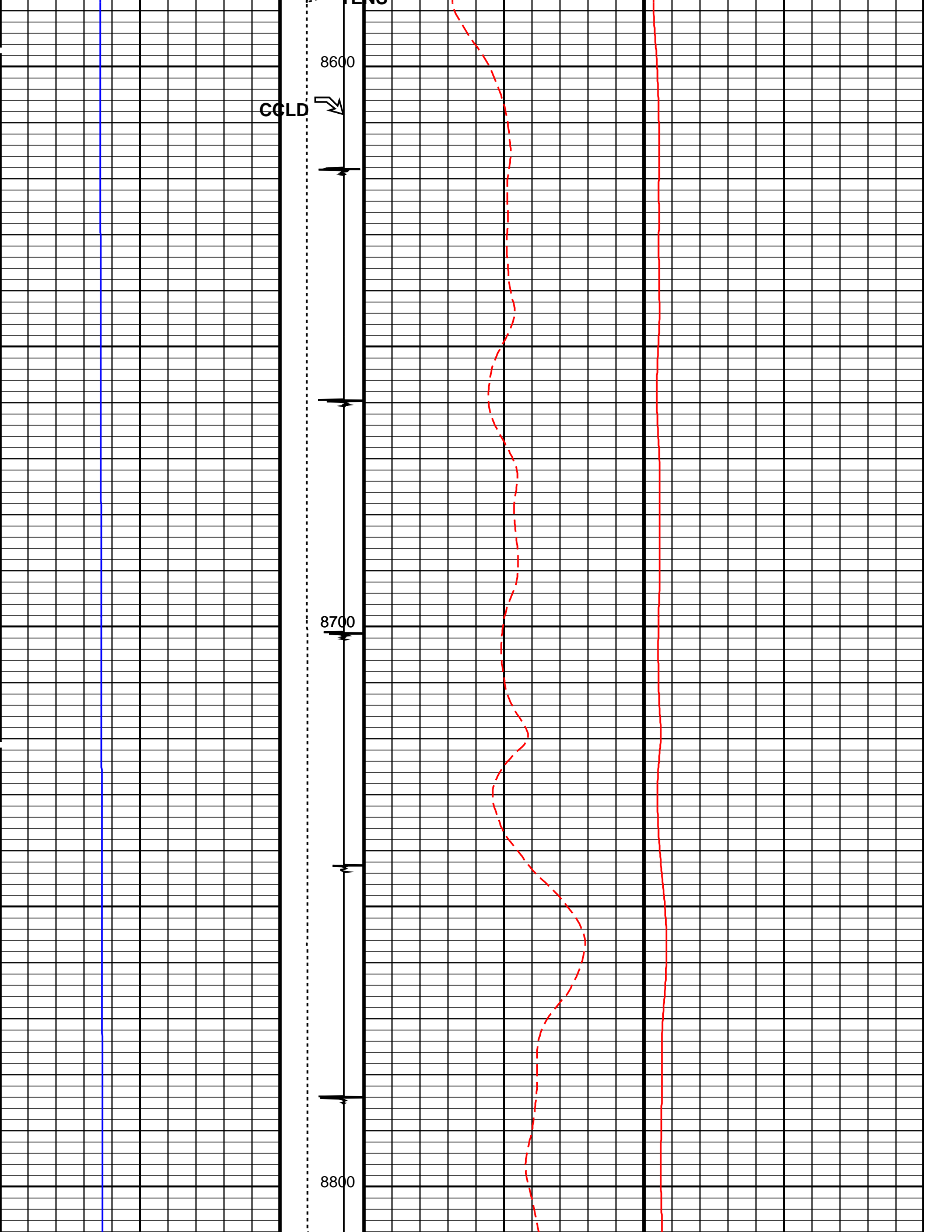


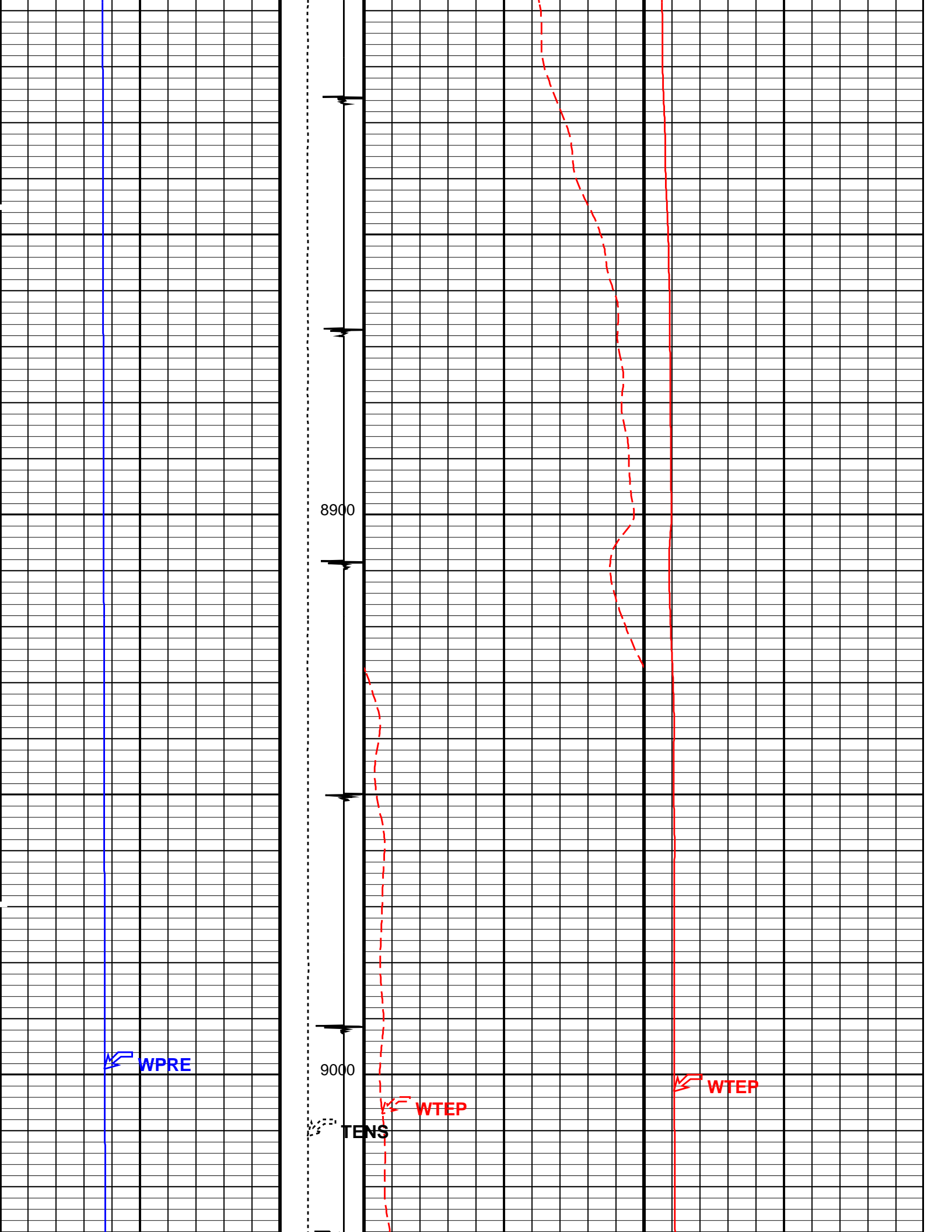


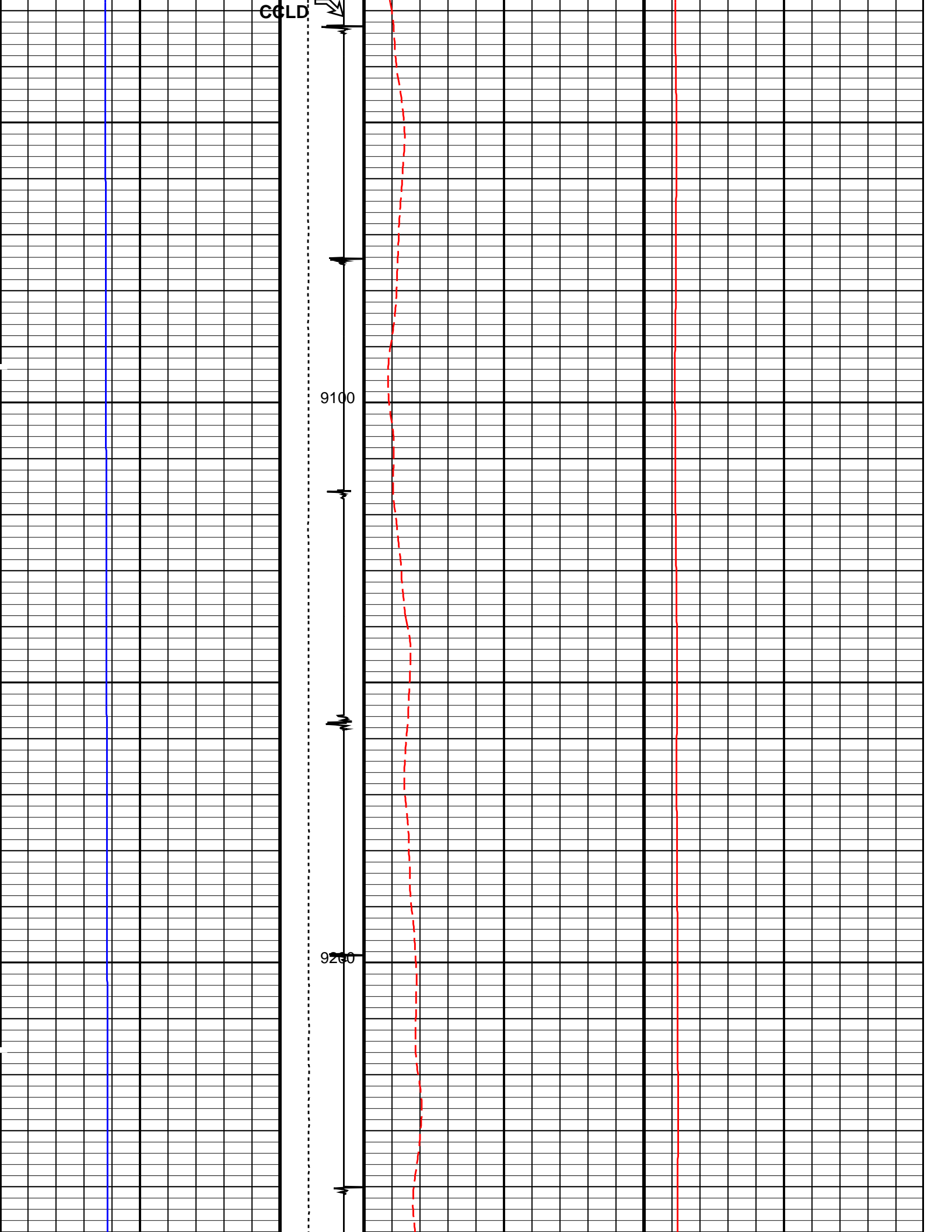


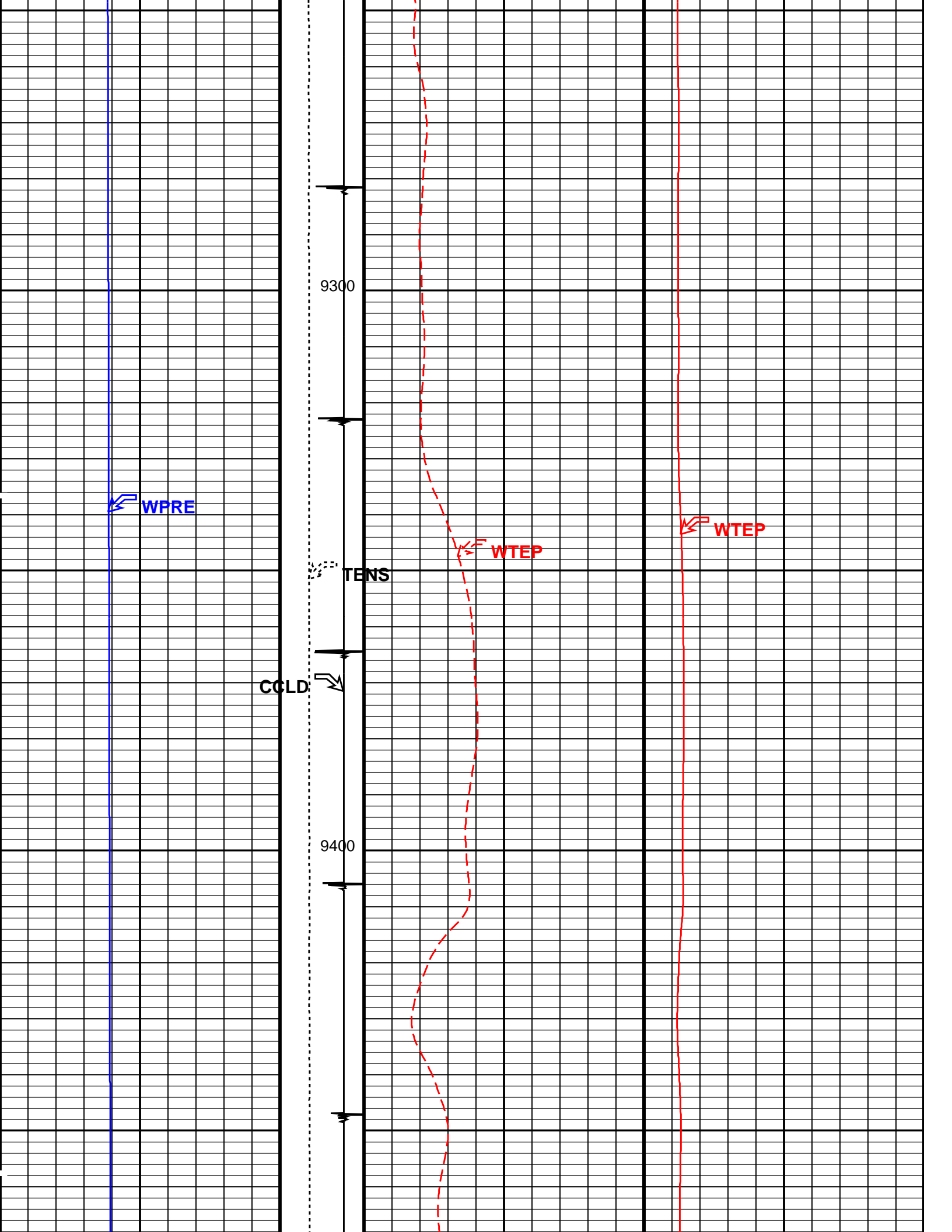




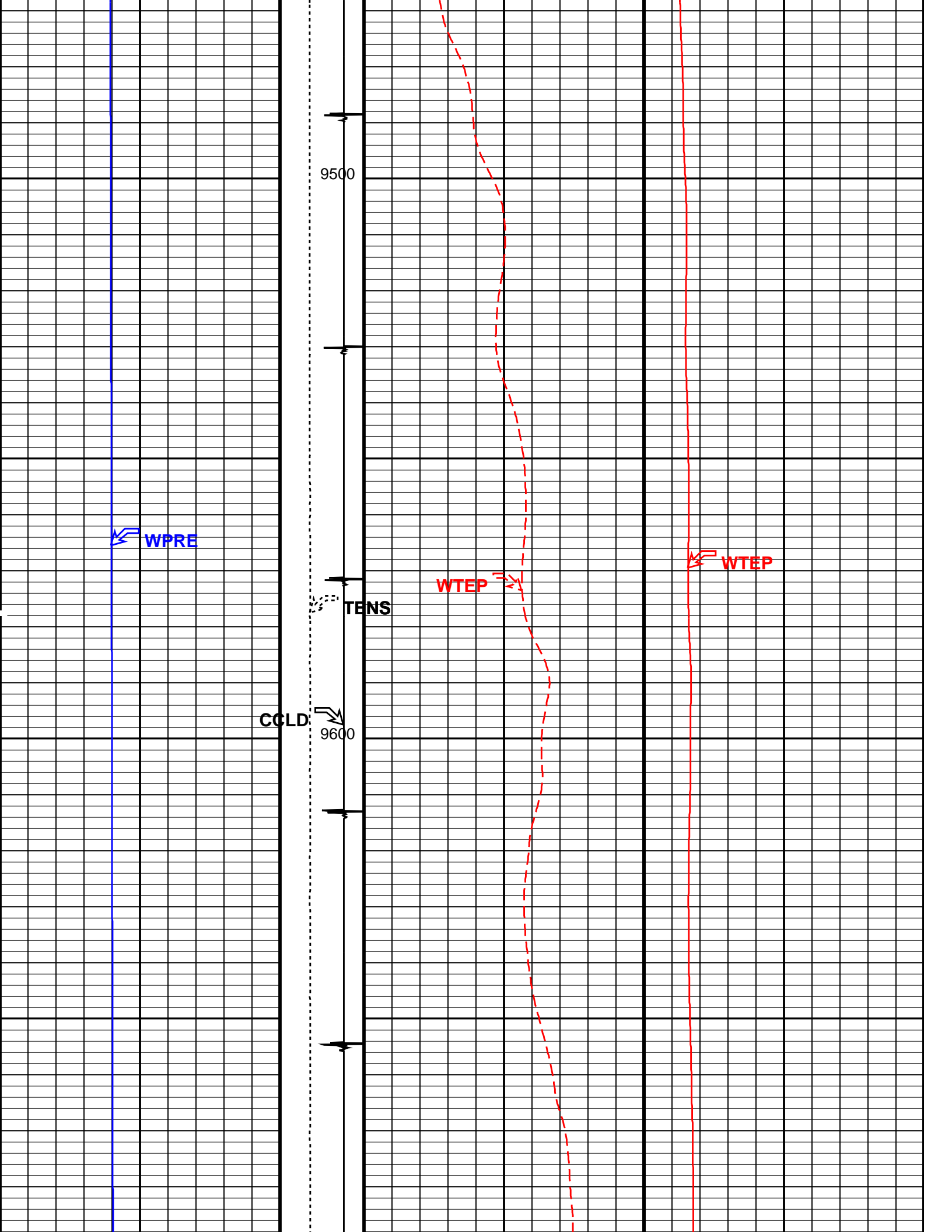


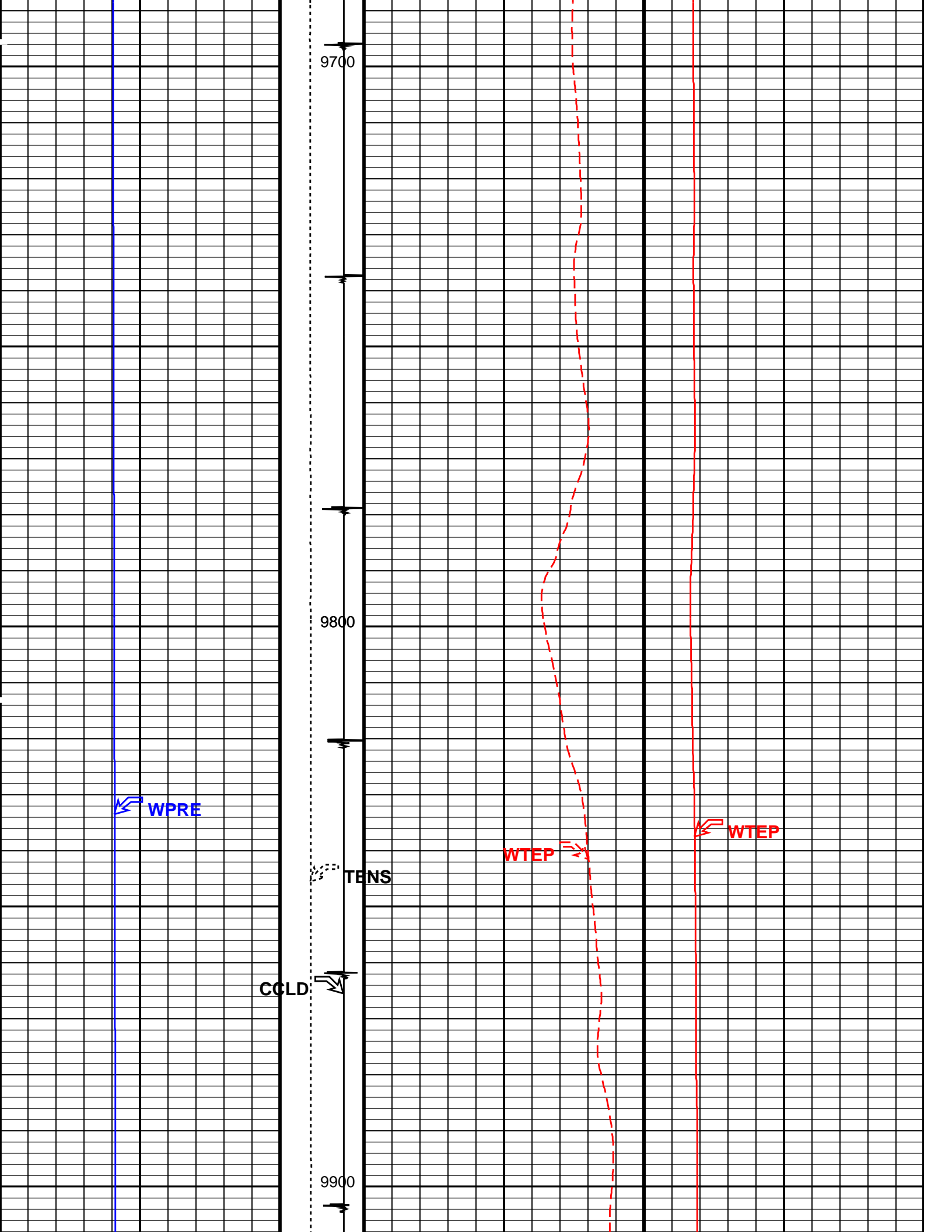


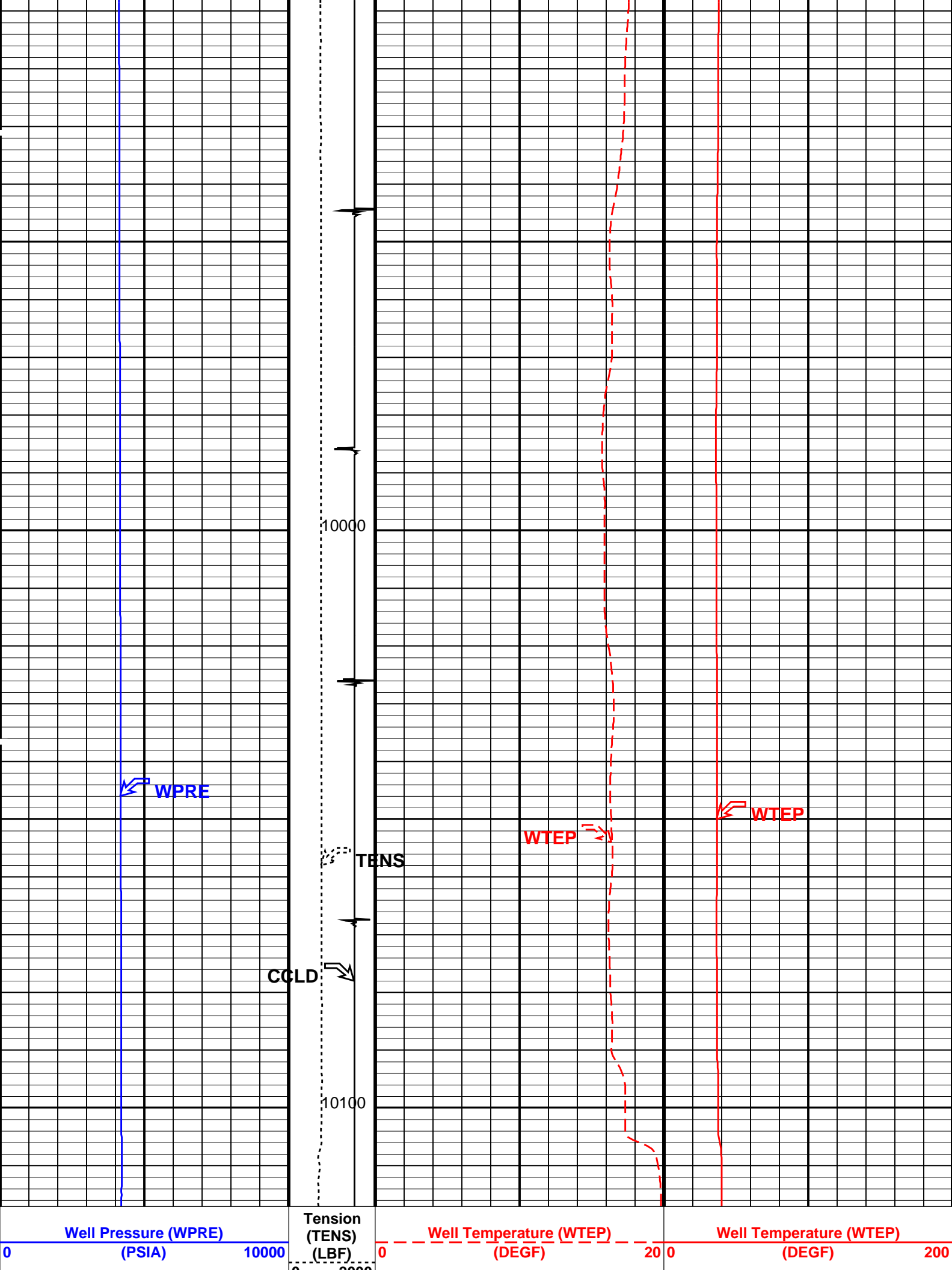




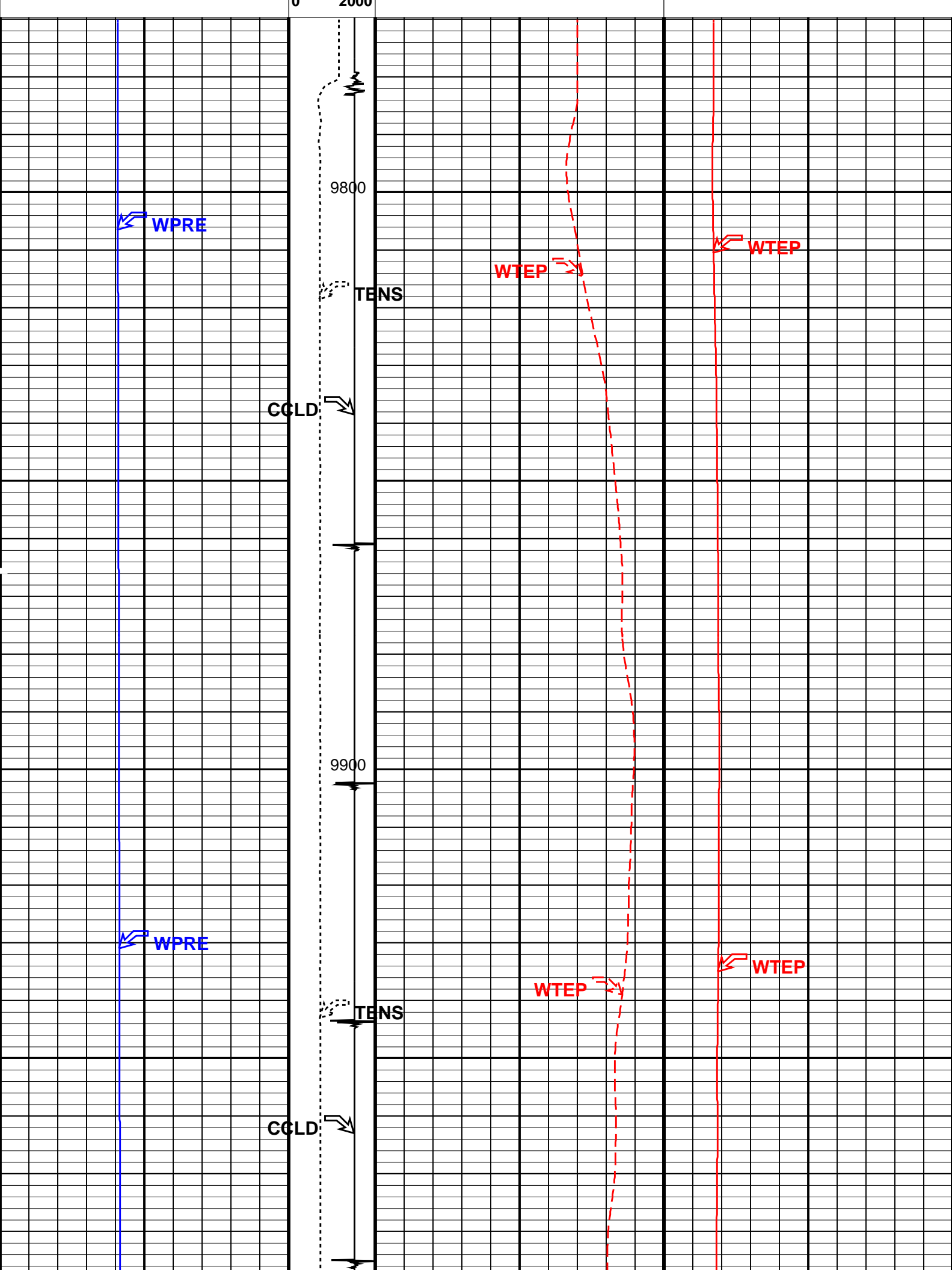








		02000			
		Discriminat ed CCL (CCLD)			
		3(V)-1			
PIP SUMMARY					
Time Mark Every 60 S					
Parameters					
DLIS Name		Description		Value	
DO		System and Miscellaneous			
PP		Depth Offset for Playback		-10.0 FT	
		Playback Processing		NORMAL	
Format: TEMP LOG		Vertical Scale: 5" per 100'		Graphics File Created: 04-Oct-2013 17:11	
OP System Version: 19C0-187					
HBMS-B		SRPC-5214-H2-2012-OP19			
Input DLIS Files					
DEFAULT		Flip_HBMS_006LUP		PRODUCER 04-Oct-2013 16:55	10127.0 FT -0.5 FT
Output DLIS Files					
DEFAULT		HBMS_010PUP		FN:7 PRODUCER 04-Oct-2013 17:11	
Schlumberger					
REPEAT ANALYSIS					
MAXIS Field Log					
Company: ENCANA OIL & GAS (USA)INC					
Well: HMU 6-13D (J6SEB)					
Input DLIS Files					
		Flip_HBMS_007LUP		FN:1 04-Oct-2013 16:55	10011.5 FT 9779.5 FT
Output DLIS Files					
DEFAULT		HBMS_011PUP		FN:8 PRODUCER 04-Oct-2013 17:23	10001.5 FT 9769.5 FT
OP System Version: 19C0-187					
HBMS-B		SRPC-5214-H2-2012-OP19			
PIP SUMMARY					
Time Mark Every 60 S					
		Discriminat ed CCL (CCLD)			
		3(V)-1			
Well Pressure (WPRES)		Tension (TENS)	Well Temperature (WTEP)		Well Temperature (WTEP)
(PSIA)		(LBF)	(DEGF)		(DEGF)
010000		02000	0200		200



<b>PBMS Gamma Ray</b>	
<b>Sonde Serial NB</b>	<b>RESISTORS FOR GR SENSOR N.34473,TOOL HBMS–BA2884. SENSOR S/N:</b>
<b>Sensor Serial NB</b>	<b>34473</b>
<b>Calib Date ddmmyy</b>	<b>090506</b>
<b>Matrix Size</b>	<b>12</b>
<b>Coeff. CRC</b>	<b>0700</b>

Coeff CRC 0708

GR HV Rt

Rt\*\*0

Rt\*\*1

Rt\*\*0

+.200000000000e+04

+.190000000000e+04

PBMS RTD Well Thermometer

Sonde Serial NB

COEFFICIENTS FOR RTD THERMOMETER PBMS-B.2884 S/N:

Sensor Serial NB

2884

Calib Date ddmmyy

290706

Matrix Size

16

Coeff CRC

B134

WTemp Coeff

Tt\*\*0

Tt\*\*1

Tt\*\*2

Tt\*\*0

-.111322977181E+04

+.870150832462E+03

-.279503665762E+03

Tt\*\*3

Tt\*\*4

Tt\*\*5

Tt\*\*0

+.449965652060E+02

-.264920434334E+01

0.0

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Tool:

Sub Type:

PSP

PBMS

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR CQG PBMS–B.2884 S/N:

2884

290706

66

CA7A

Pres Coeff

	Fb**0	Fb**1	Fb**2
Fc**0	+ .746225778248E+04	+ .221418944849E–01	– .210426289152E–06
Fc**1	– .104881478055E+01	– .124860716120E–04	– .949662972749E–10
Fc**2	+ .872904863754E–06	+ .426833452654E–10	+ .759423319181E–15
Fc**3	+ .239319347612E–11	+ .290279345385E–15	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

	Fb**3	Fb**4	Fb**5
Fc**0	– .812091932516E–10	– .147717591127E–14	– .150620854654E–19
Fc**1	+ .145644303959E–15	+ .160803895109E–19	0.0
Fc**2	0.0	0.0	0.0
Fc**3	0.0	0.0	0.0
Fc**4	0.0	0.0	0.0
Fc**5	0.0	0.0	0.0

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

:

2884

290706

66

F21E

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+ .113897507996E+03	– .324965333678E–03	+ .697134219555E–08
Fb**1	– .601014483015E–02	+ .175847256148E–07	+ .180458009797E–12
Fb**2	– .317240807344E–07	+ .374112953741E–12	+ .133653042149E–17
Fb**3	– .236568542854E–12	+ .787205826536E–17	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0



Fb**5	0.0	0.0	0.0
	Fc**3	Fc**4	Fc**5
Fb**0	+881675188724E-13	-.146952444192E-16	-.415359060767E-21
Fb**1	-.553774805449E-18	-.739378844697E-21	0.0
Fb**2	0.0	0.0	0.0
Fb**3	0.0	0.0	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

PBMS Quartz Gauge type F

Sonde Serial NB :  
 Sensor Serial NB 2884  
 Calib Date ddmmyy 290706  
 Matrix Size 16  
 Coeff CRC 72C9

Clock Freq Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+310161623072E+05	+363878692519E-02	+311171630292E-06
	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	-.277965051815E-10	-.181738305366E-14	-.633170122188E-20

PBMS Quartz Gauge type F

Sonde Serial NB :  
 Sensor Serial NB 2884  
 Calib Date ddmmyy 290706  
 Matrix Size 16  
 Coeff CRC 3E80

Clock Temp Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+111177101155E+03	-.545261137223E-02	-.112186276799E-06
	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	+756690675632E-11	-.207457772298E-16	-.121623071907E-19

Company: ENCANA OIL & GAS (USA)INC

Schlumberger

Well: HMU 6-13D (J6SEB)

Field: MAMM CREEK

Field: MAMM CREEK  
County: GARFIELD  
State: CO

TEMPERATURE LOG  
CCL