

Company: ENCANA OIL & GAS (USA) INC

Well: HAGEN FEDERAL 22-4B (PC22)

Field: PARACHUTE

County: GARFIELD

State: COLORADO

County: GARFIELD

Field: PARACHUTE

Location: SHL: 572 FNL & 1728 FWL

Well: HAGEN FEDERAL 22-4B (PC22)

Company: ENCANA OIL & GAS (USA) INC

TEMPERATURE LOG

CCL - TEMPERATURE

SHL: 572 FNL & 1728 FWL

BHL: 167 FNL & 183 FWL

Elev.: K.B. 6543.00 ft

G.L. 6521.00 ft

D.F. 6542.00 ft

Permanent Datum: GROUND LEVEL

Elev.: 6521.00 ft

Log Measured From: KELLY BUSHING

22.00 ft above Perm. Datum

Drilling Measured From: KELLY BUSHING

API Serial No. 05-045-22008-00

Section 22

Township 7S

Range 95W

PVT DATA				Run 1	Run 2	Run 3
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 2-Jul-2013

Run Number 1

Depth Driller 8010 ft

Schlumberger Depth 7930 ft

Bottom Log Interval 7929 ft

Top Log Interval 22 ft

Casing Fluid Type FRESH WATER

Salinity

Density 8.4 lbm/gal

Fluid Level 22 ft

BIT/CASING/TUBING STRING

Bit Size 8.750 in

From 22 ft

To 8010 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade S80

From 22 ft

To 7990 ft

Maximum Recorded Temperatures 210 degF

Logger On Bottom 2-Jul-2013

Time 16:15

Unit Number 338

Location GRAND JUNCTION

Recorded By KIRSTIE BUNTING

Witnessed By MIKE OLSEN

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: 2-APR-2013 0:10:44

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	6217	Serial Number:	1117	Serial Number:	
Calibration Date:	7-25-2012	Calibration Date:	4-1-2013	Length:	11045 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:	-1	Calibration RMS:	7		
Wheel Correction 2:	-3	Calibration Peak Error:	12		

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 POLICIES APPLIED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SWPT 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
FIRST RUN IN HOLE	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE TIME: 15:30	
TIME ON BOTTOM: 16:15	
EXIT TIME: 17:00	

MAX RECORDED TEMPERATURE: 210 DEGF	
MAX RECORDED PRESSURE: 4010 PSIA	
SHORT JOINTS: 5517 FT & 6592 FT	
CREW: KBUNTING, BRANSBOTTOM	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	

RUN 1			RUN 2		
SERVICE ORDER #:	CGF9-00082		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
MH-22

AH-38

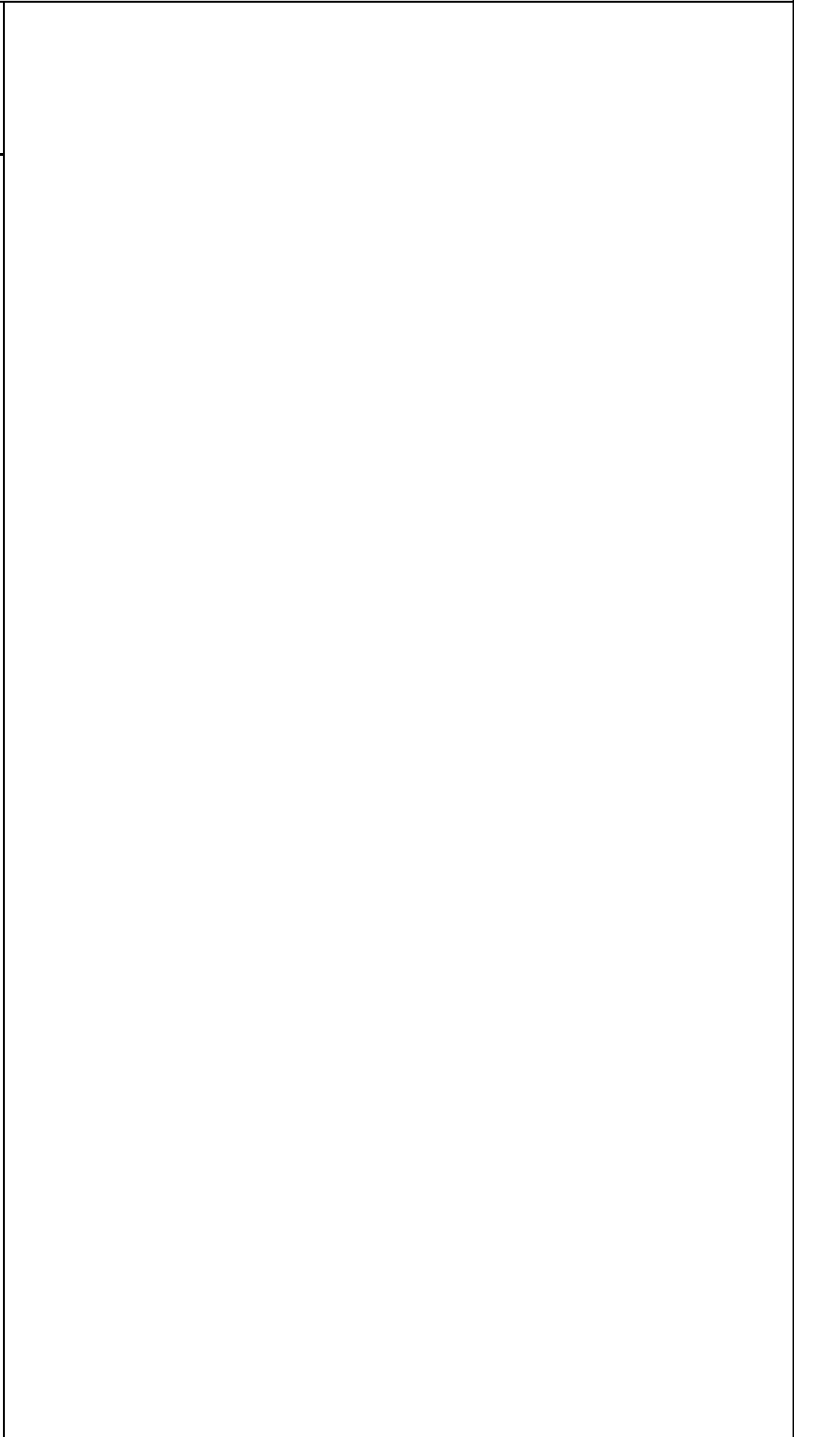
HBMS-B
PSC-A 2884
HUDH-A 2884
HSTC-A
HBMC-A
GR
CCL
HBMC
HTPS-A 2884
HCQG_E_Mano
RTD Thermometer

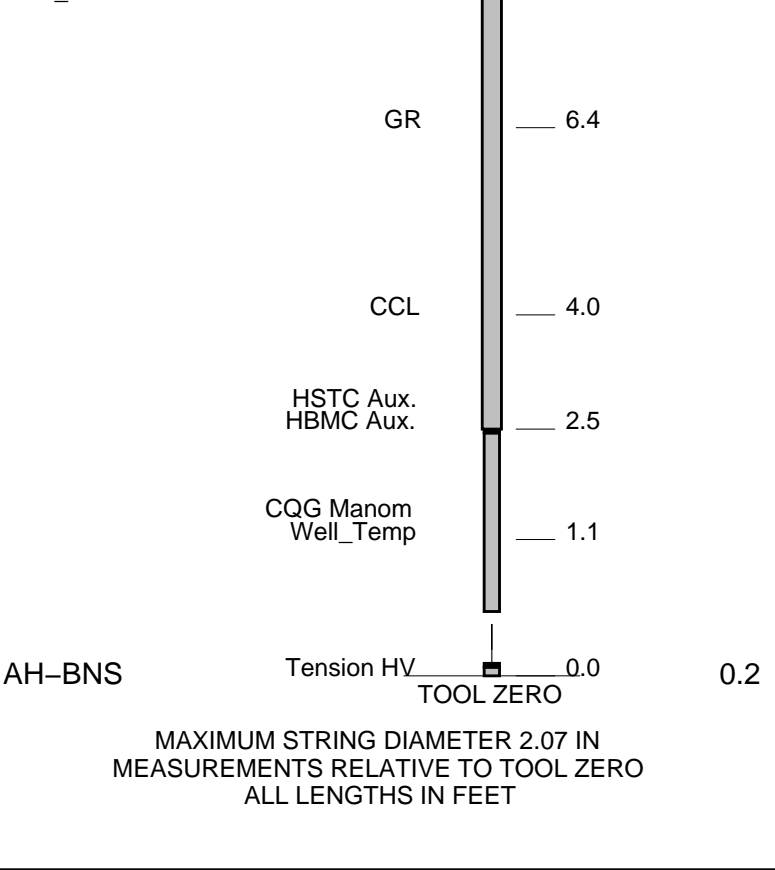
Detail MT
TelStatus
CTEM

13.1

11.6

11.3



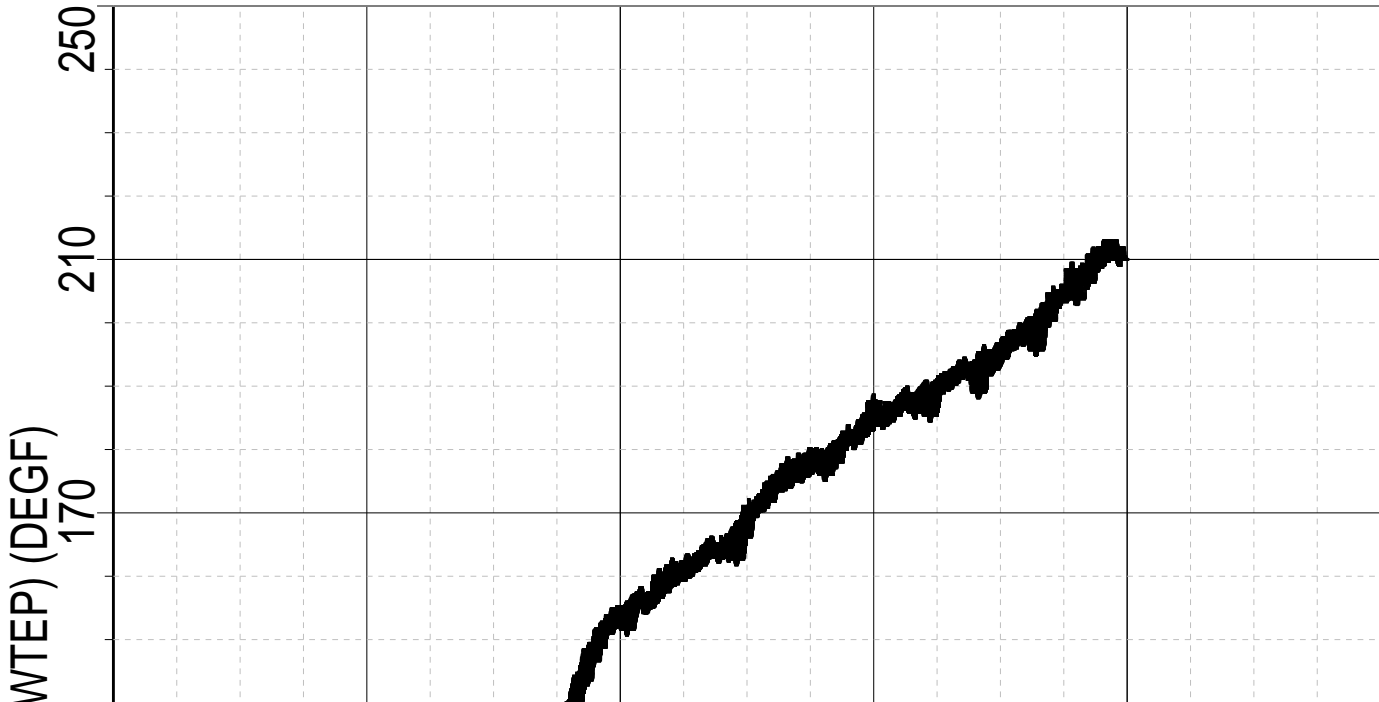


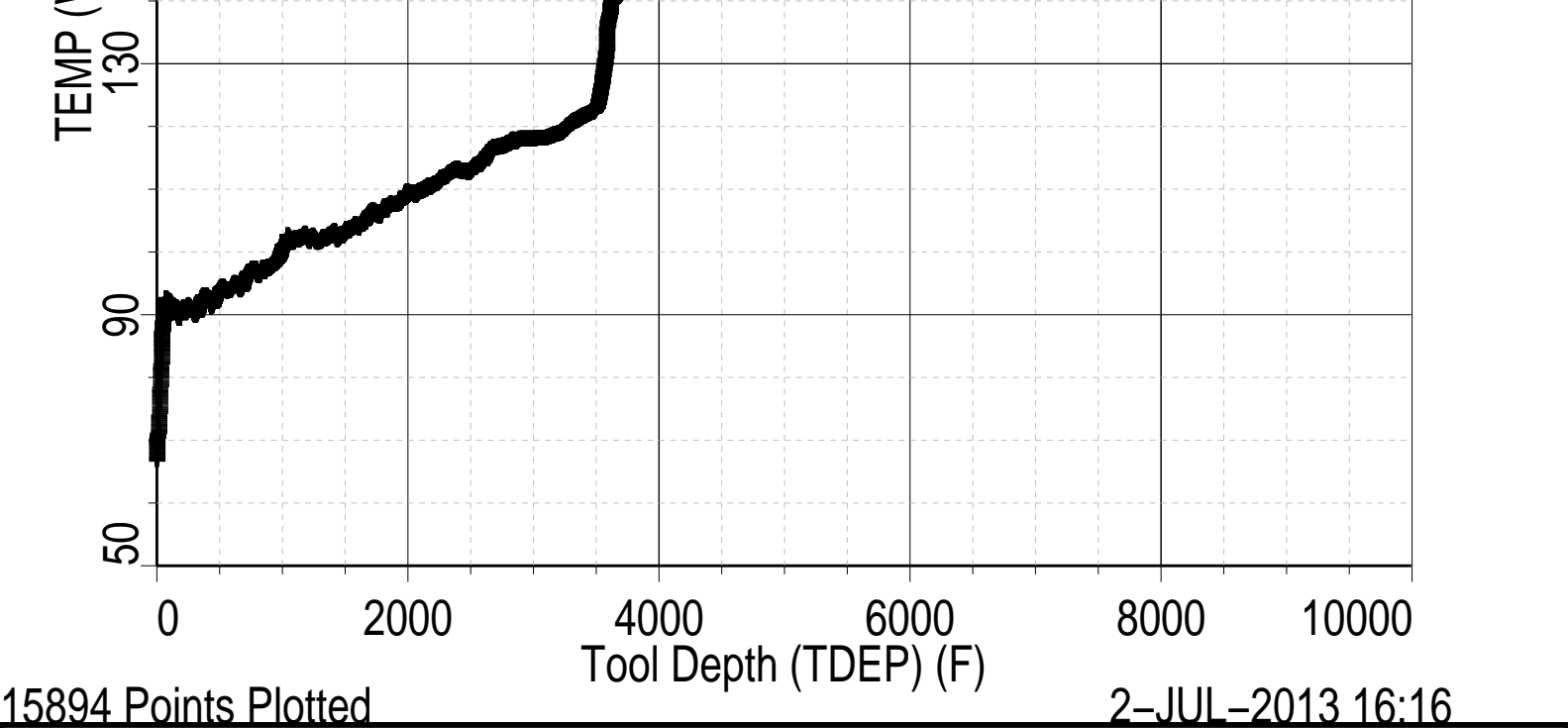
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 7946.5 – -19.0 FT





Schlumberger

TEMPERATURE LOG

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: HAGEN FEDERAL 22-4B (PC22)

Input DLIS Files

DEFAULT	Flip_HBMS_005LUP	PRODUCER	02-Jul-2013 16:11	7956.5 FT	-9.0 FT
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Output DLIS Files

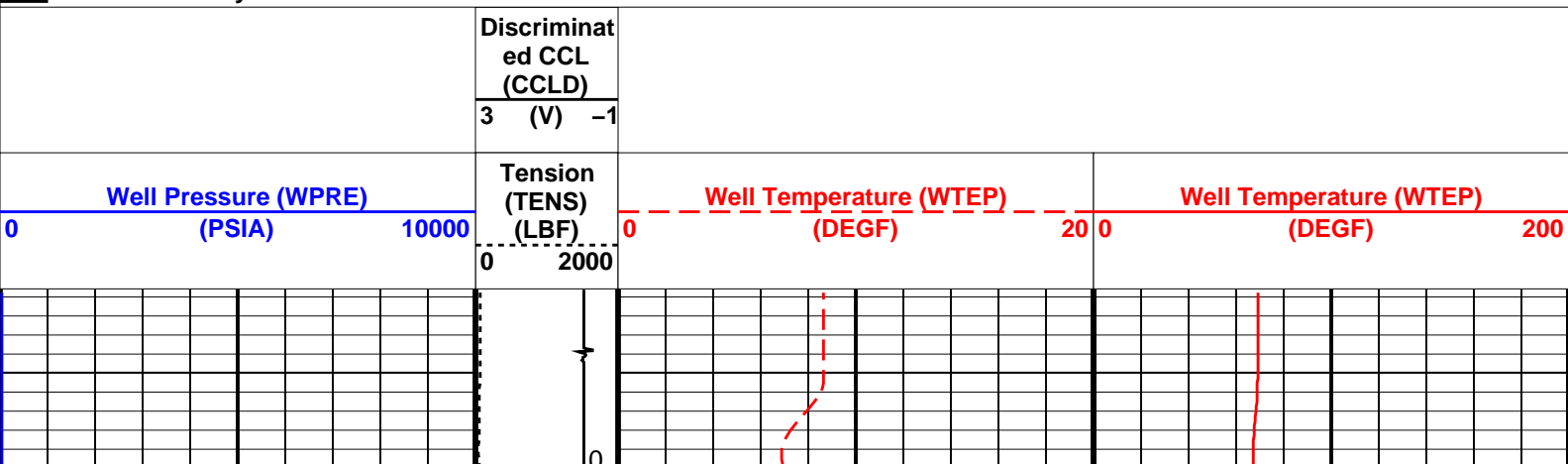
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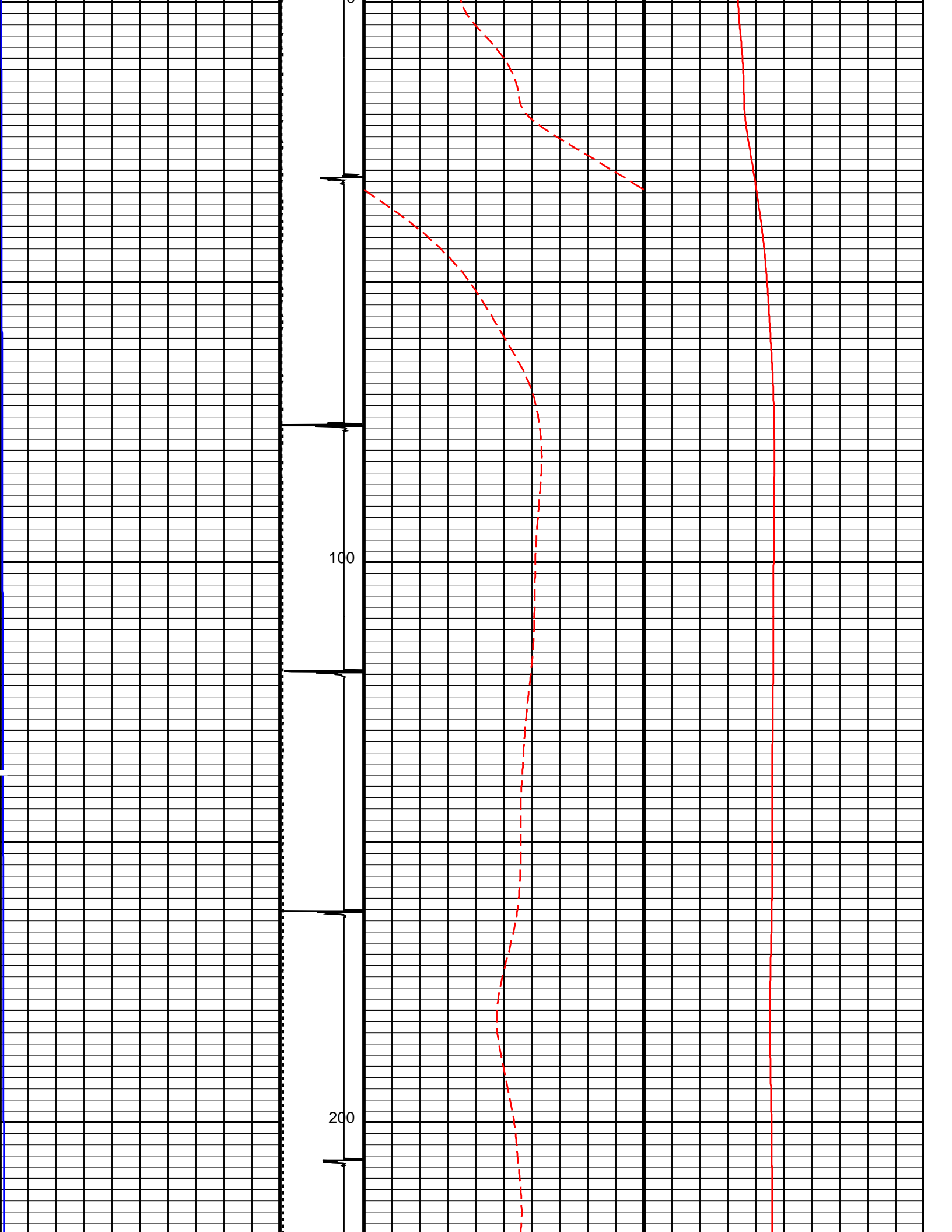
OP System Version: 19C0-187

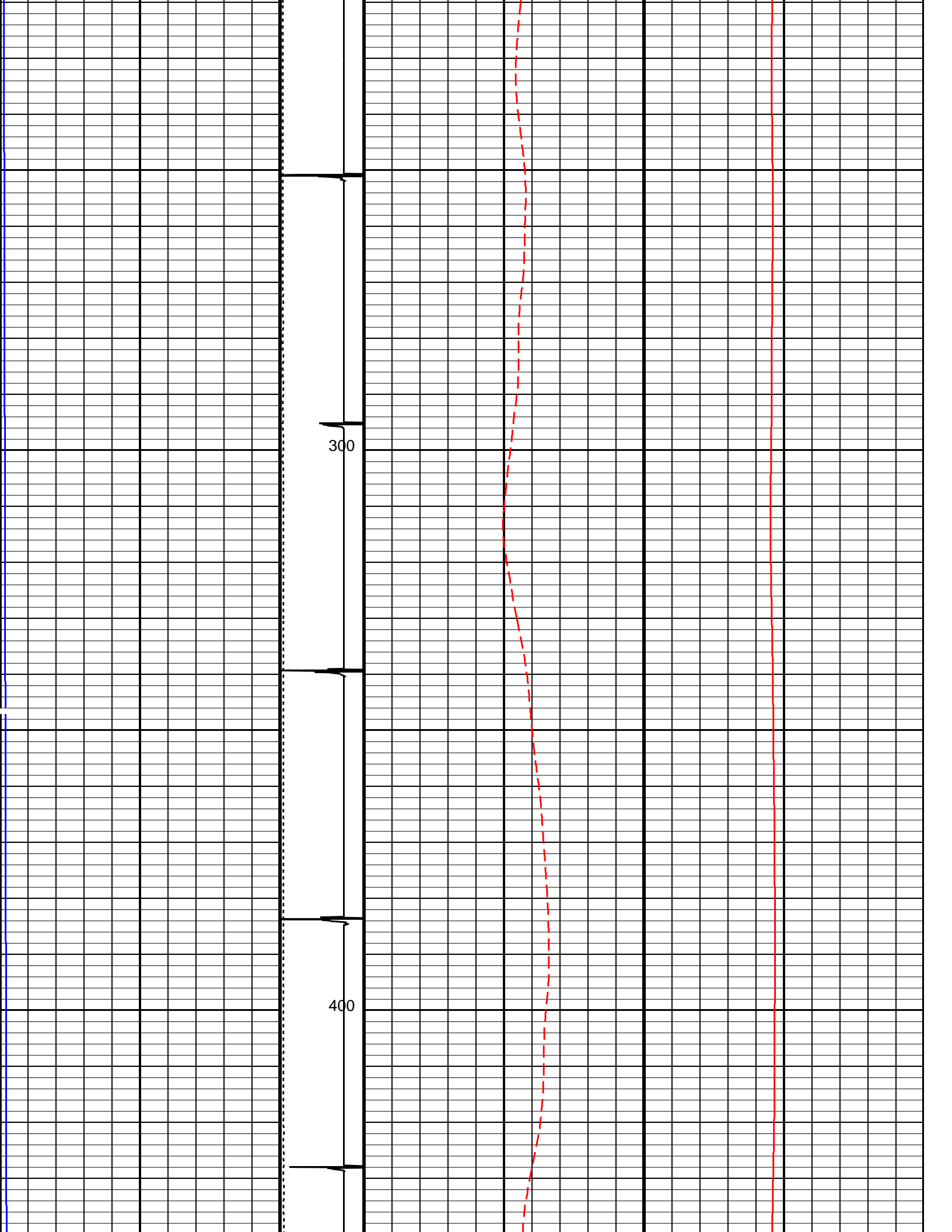
HBMS-B 19C0-187

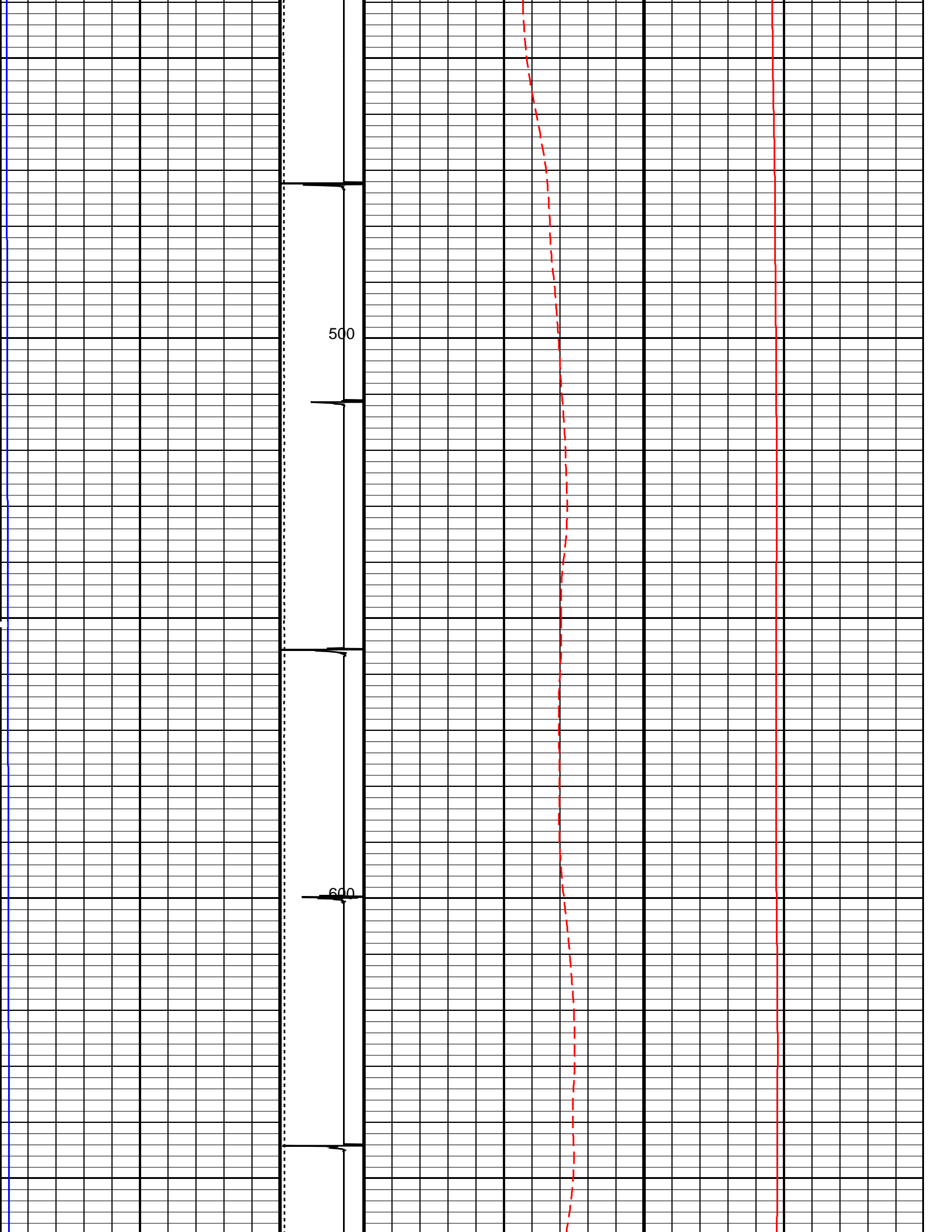
PIP SUMMARY

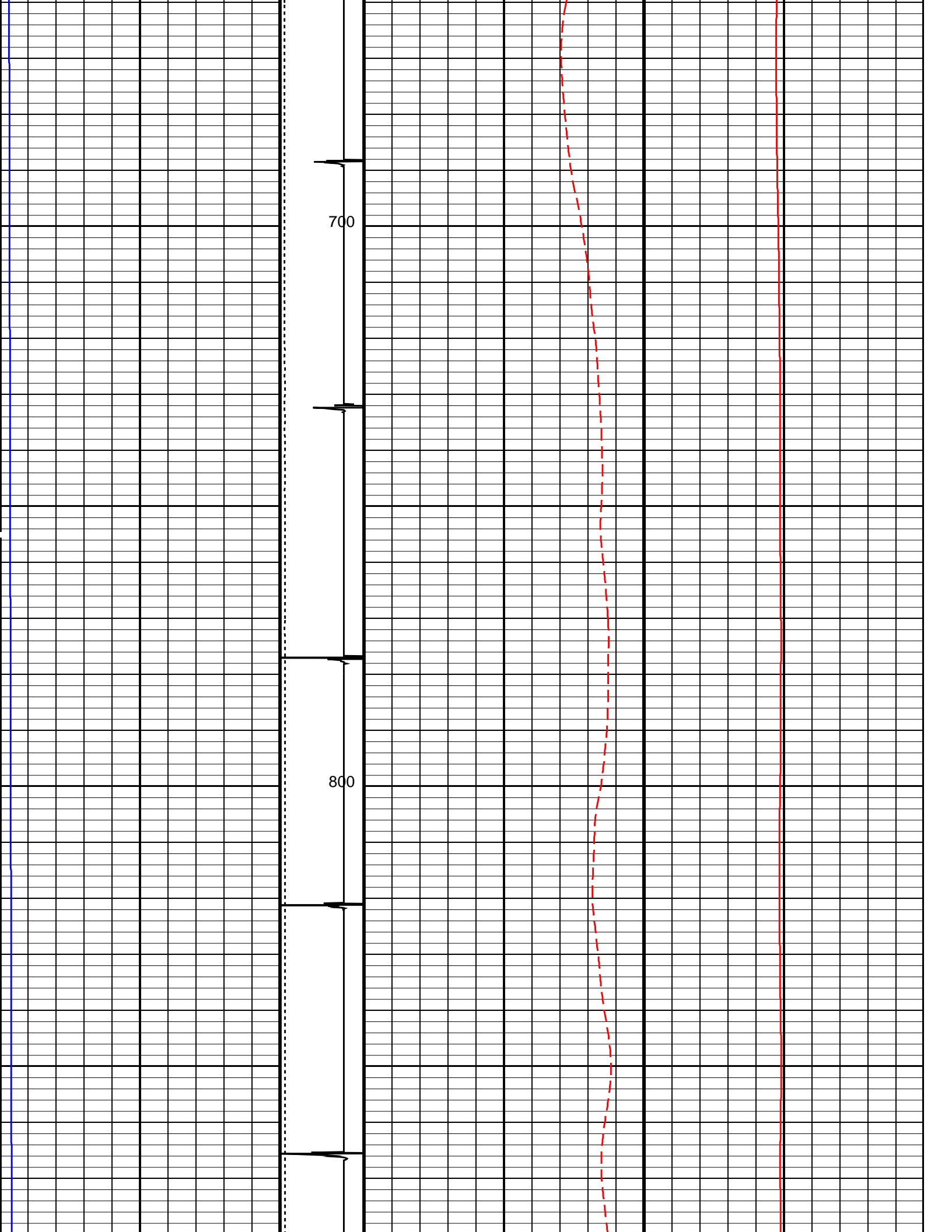
Time Mark Every 60 S

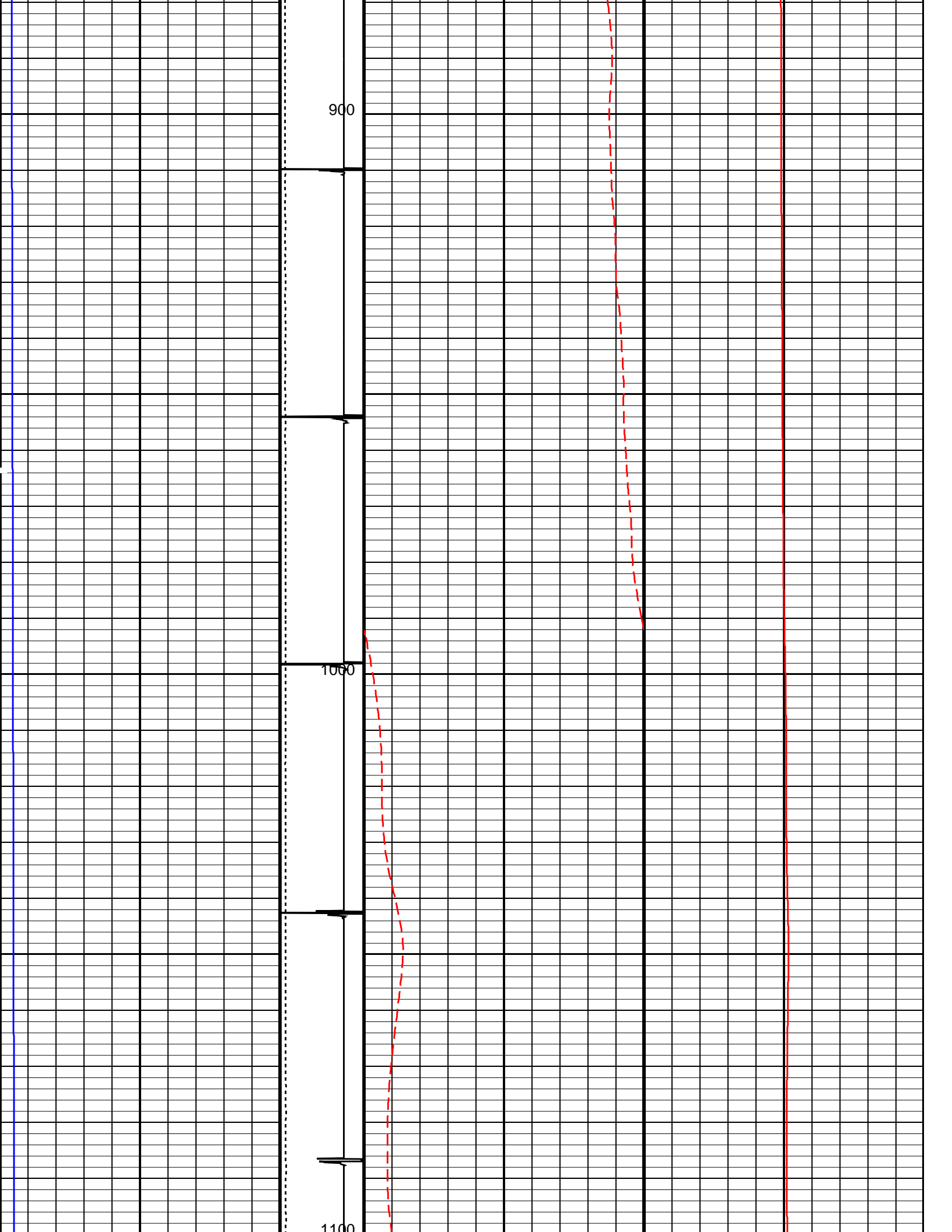


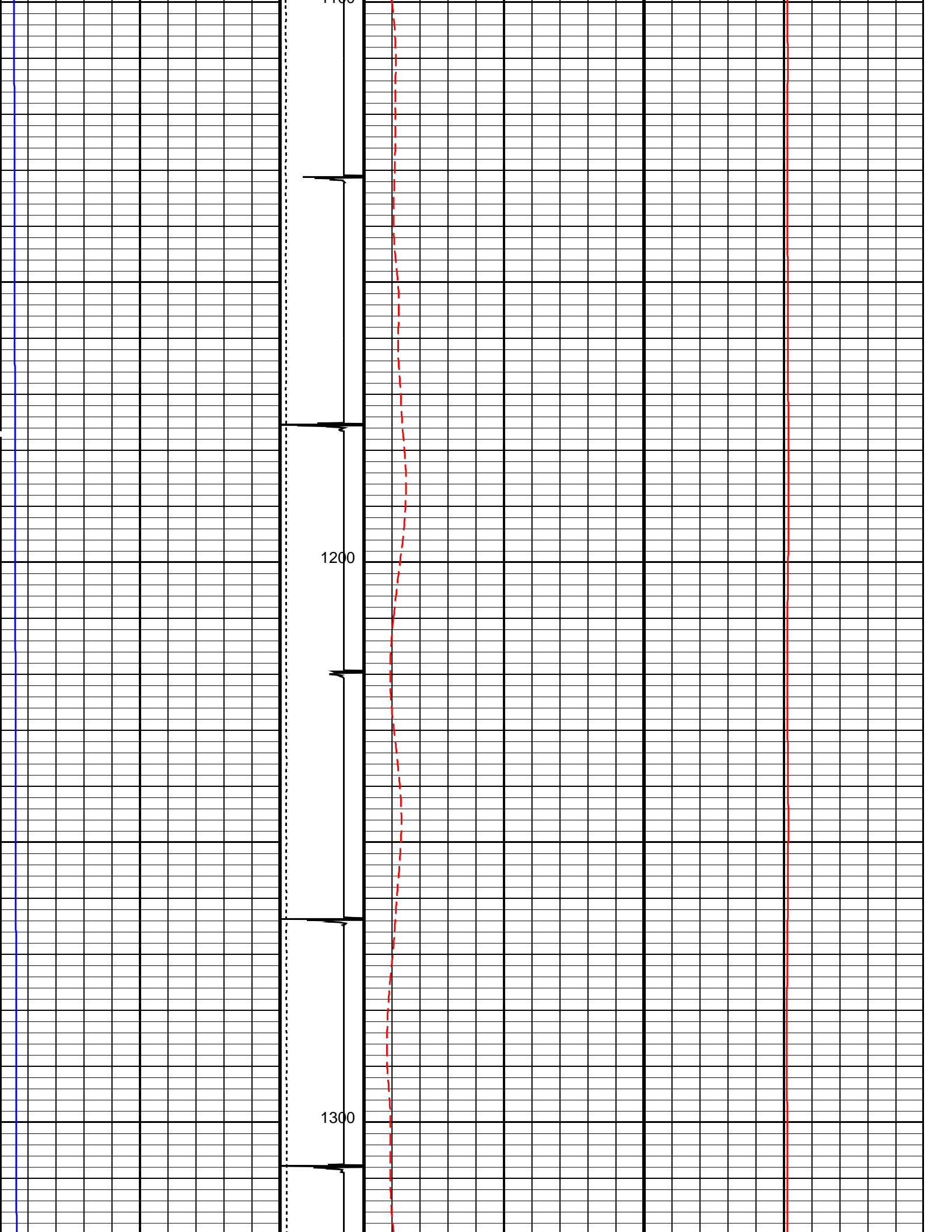


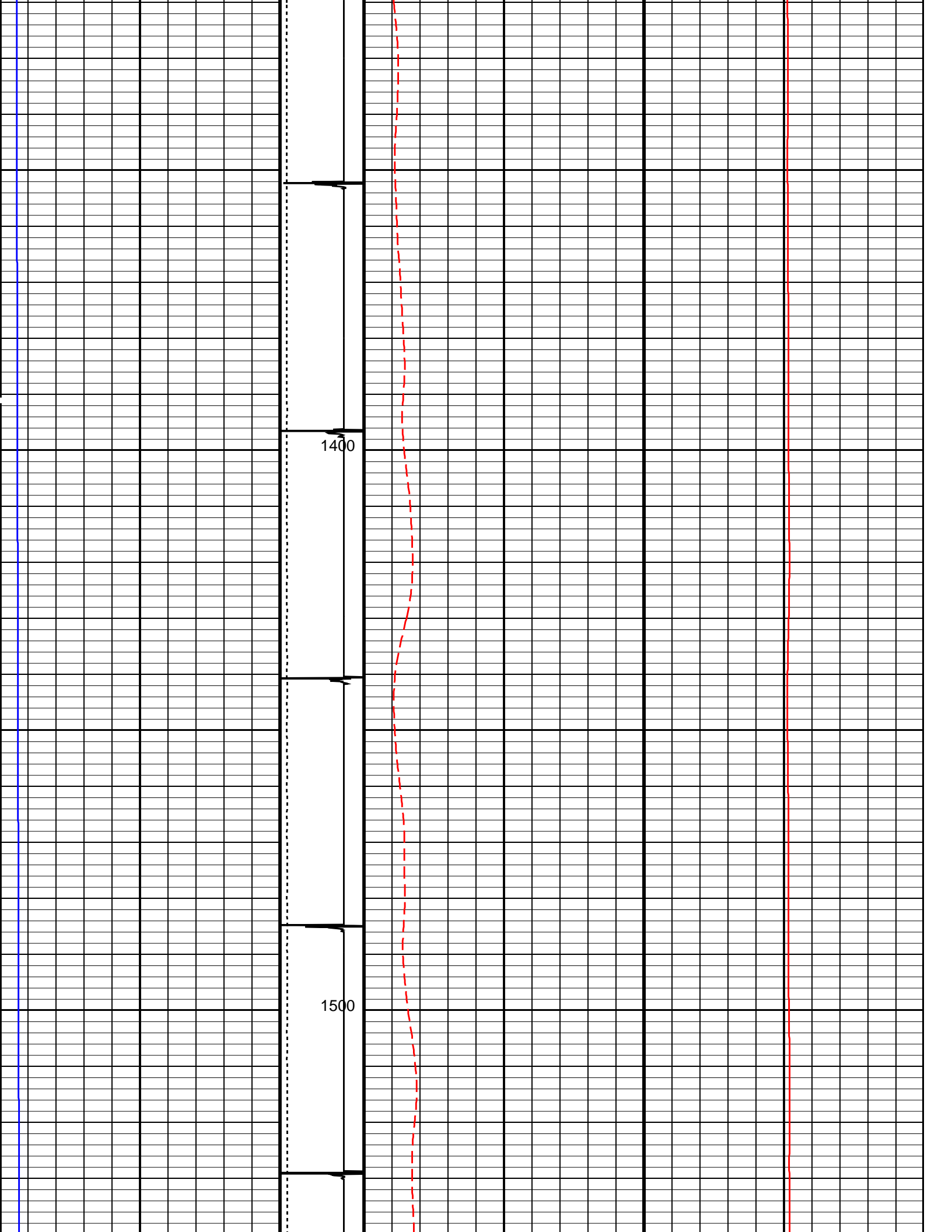


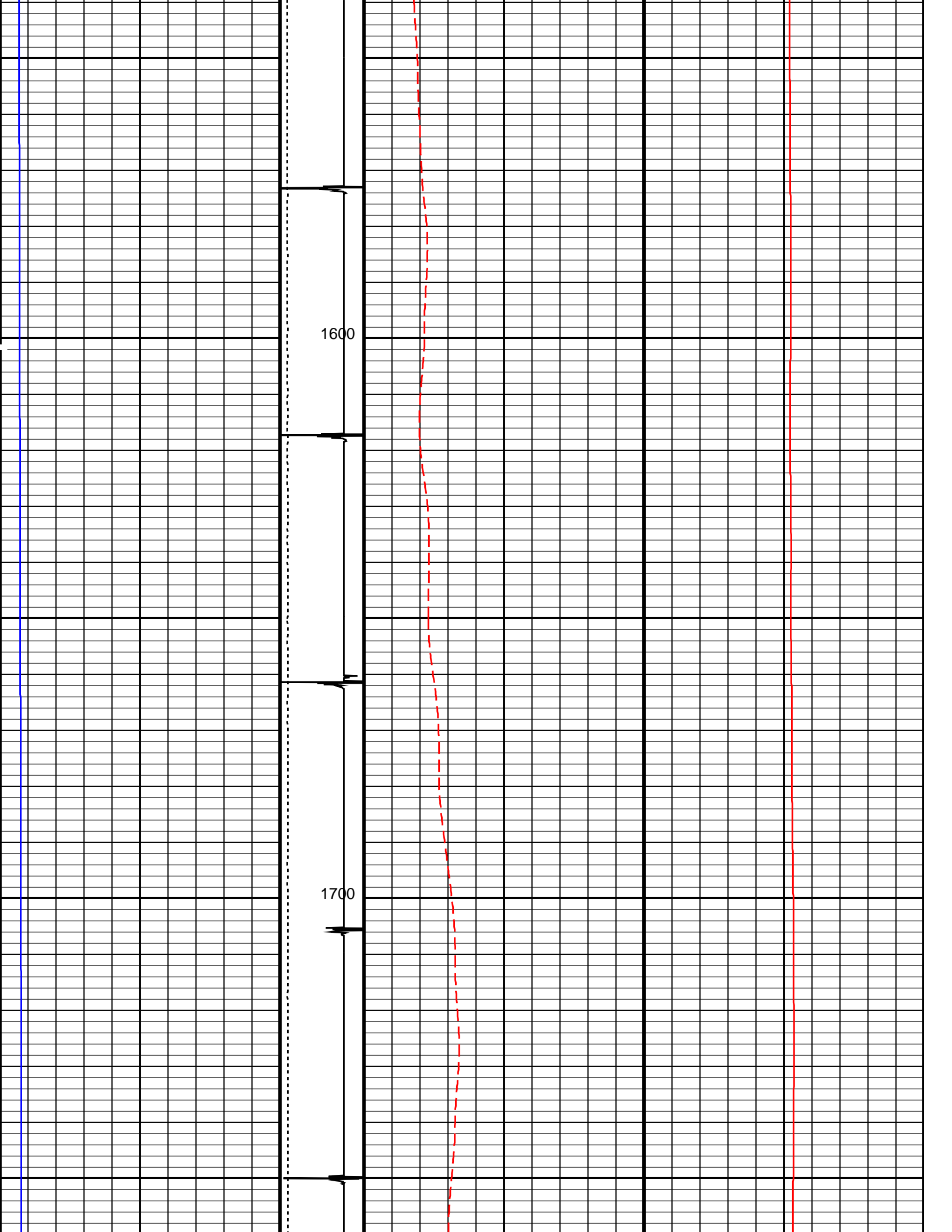


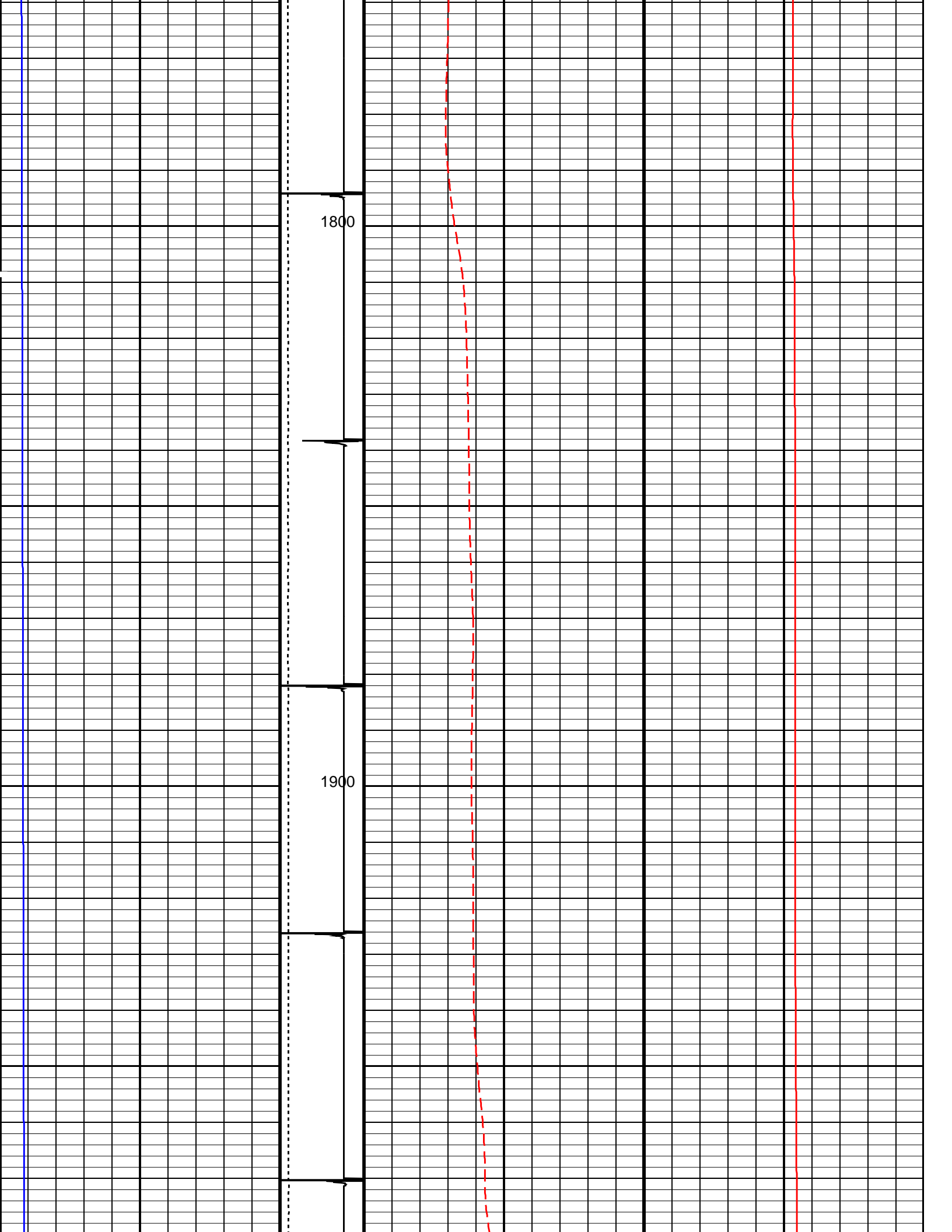


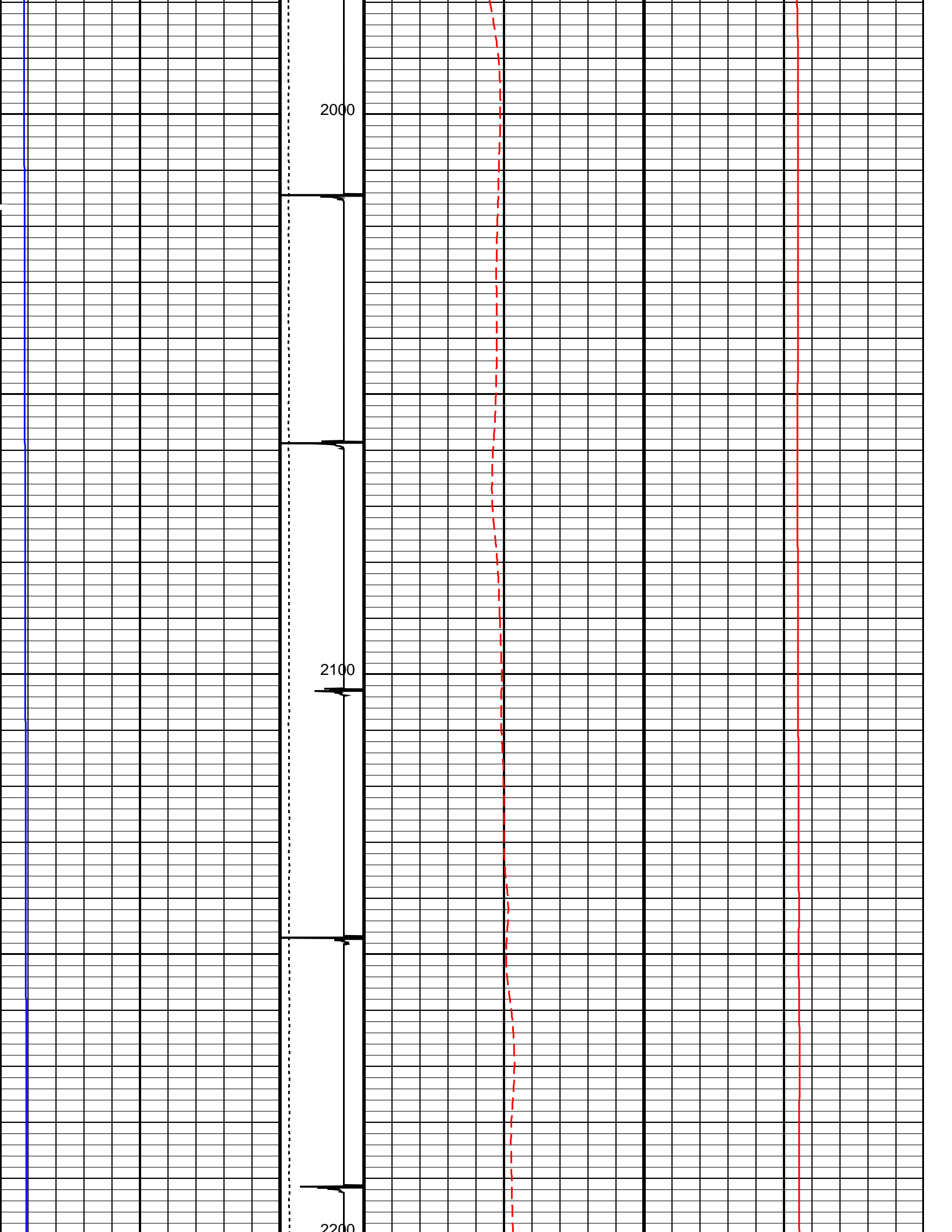


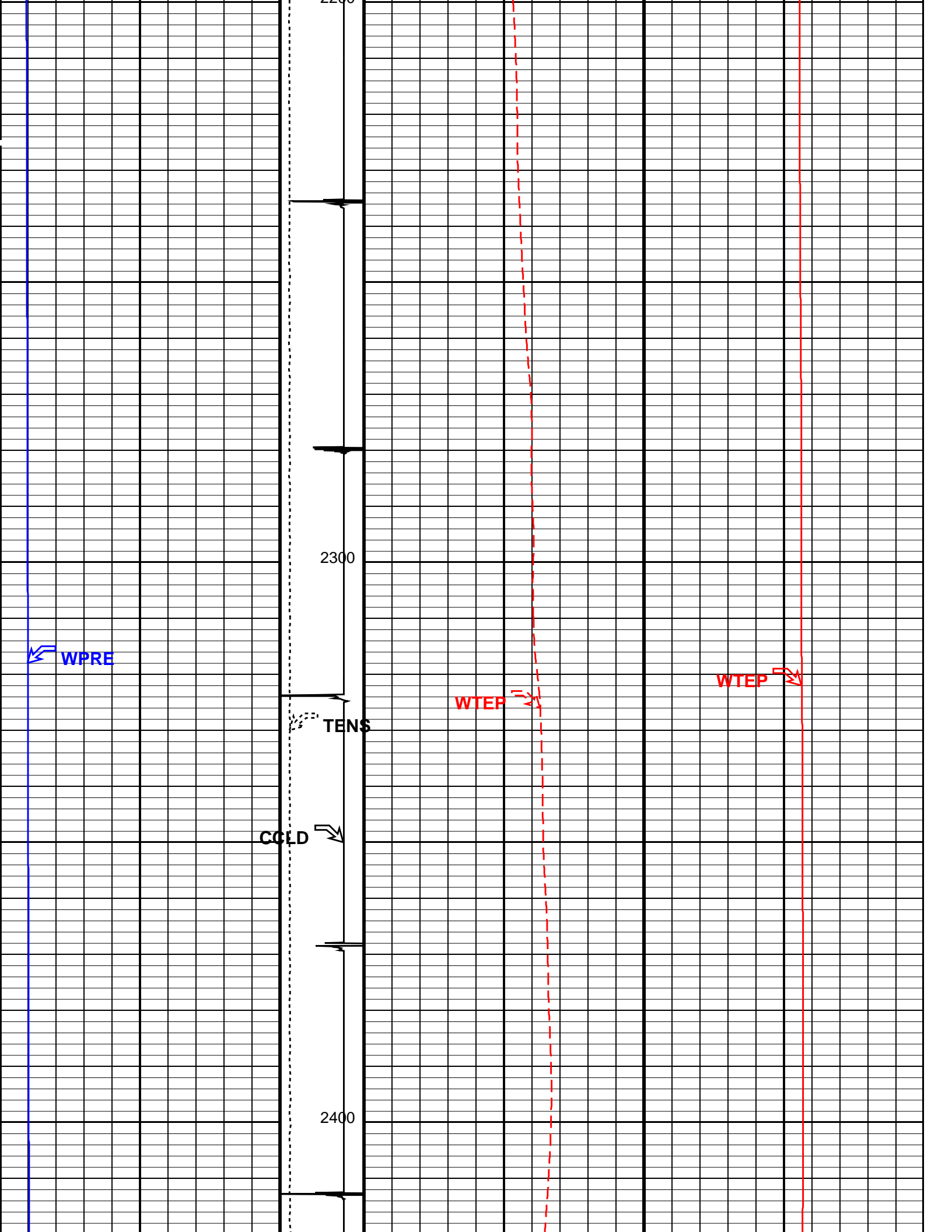


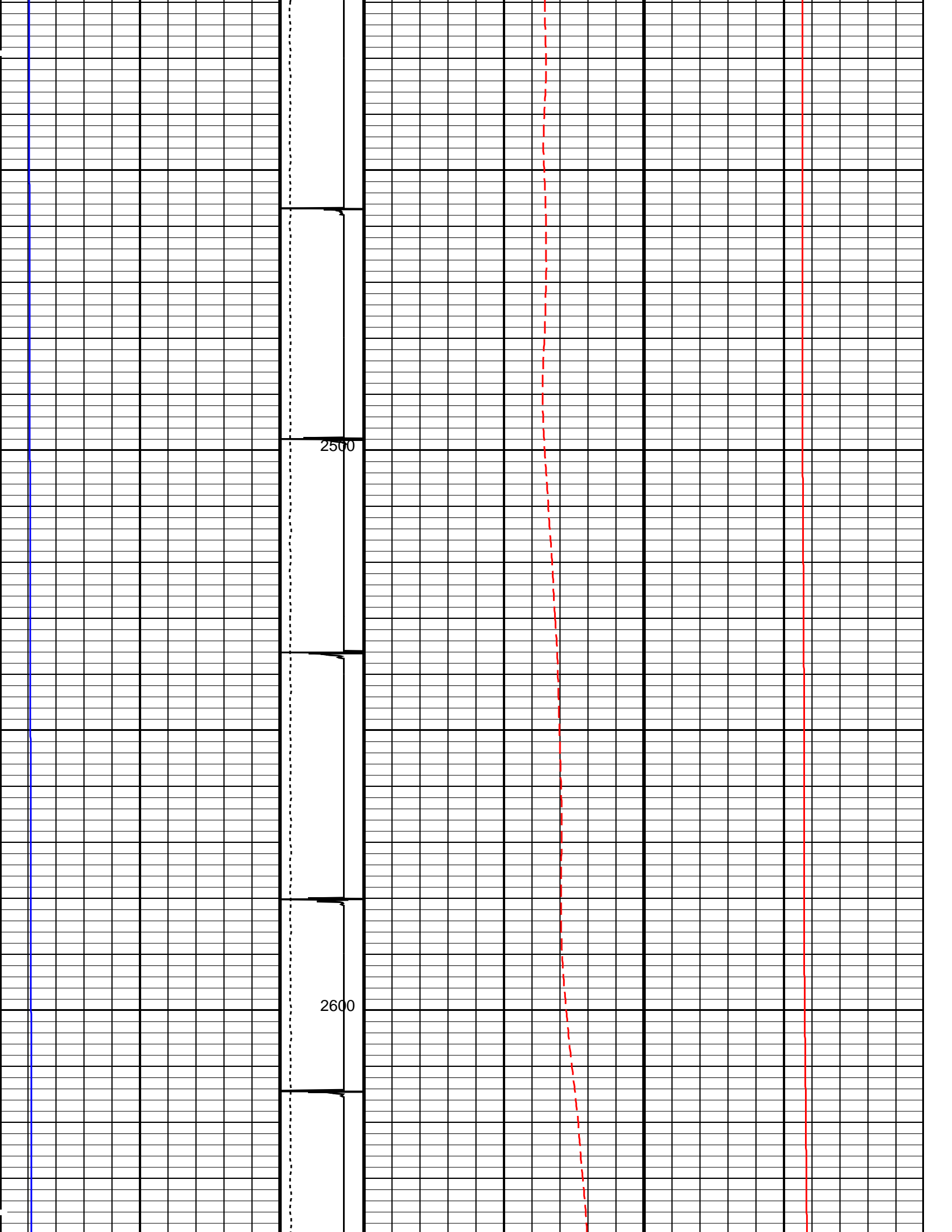


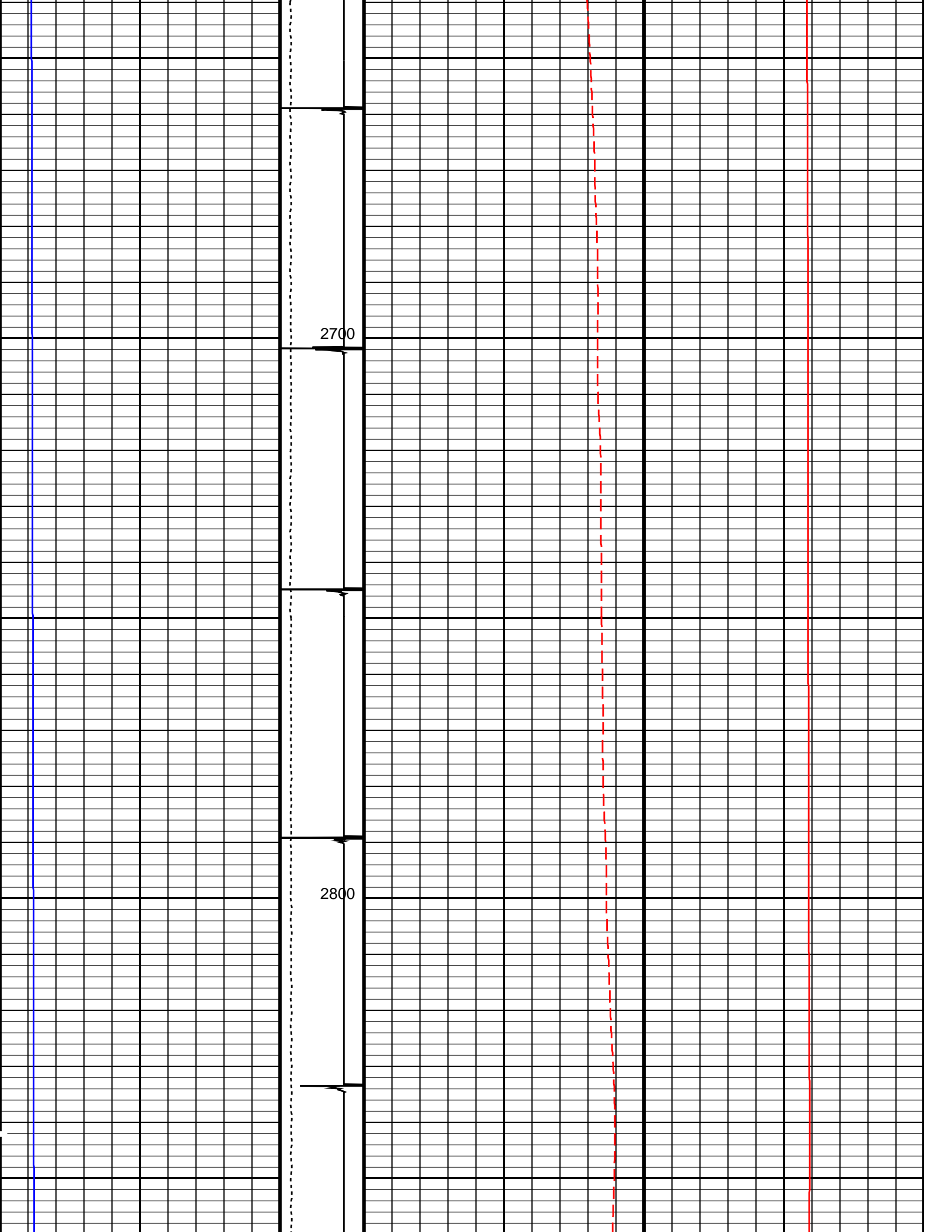






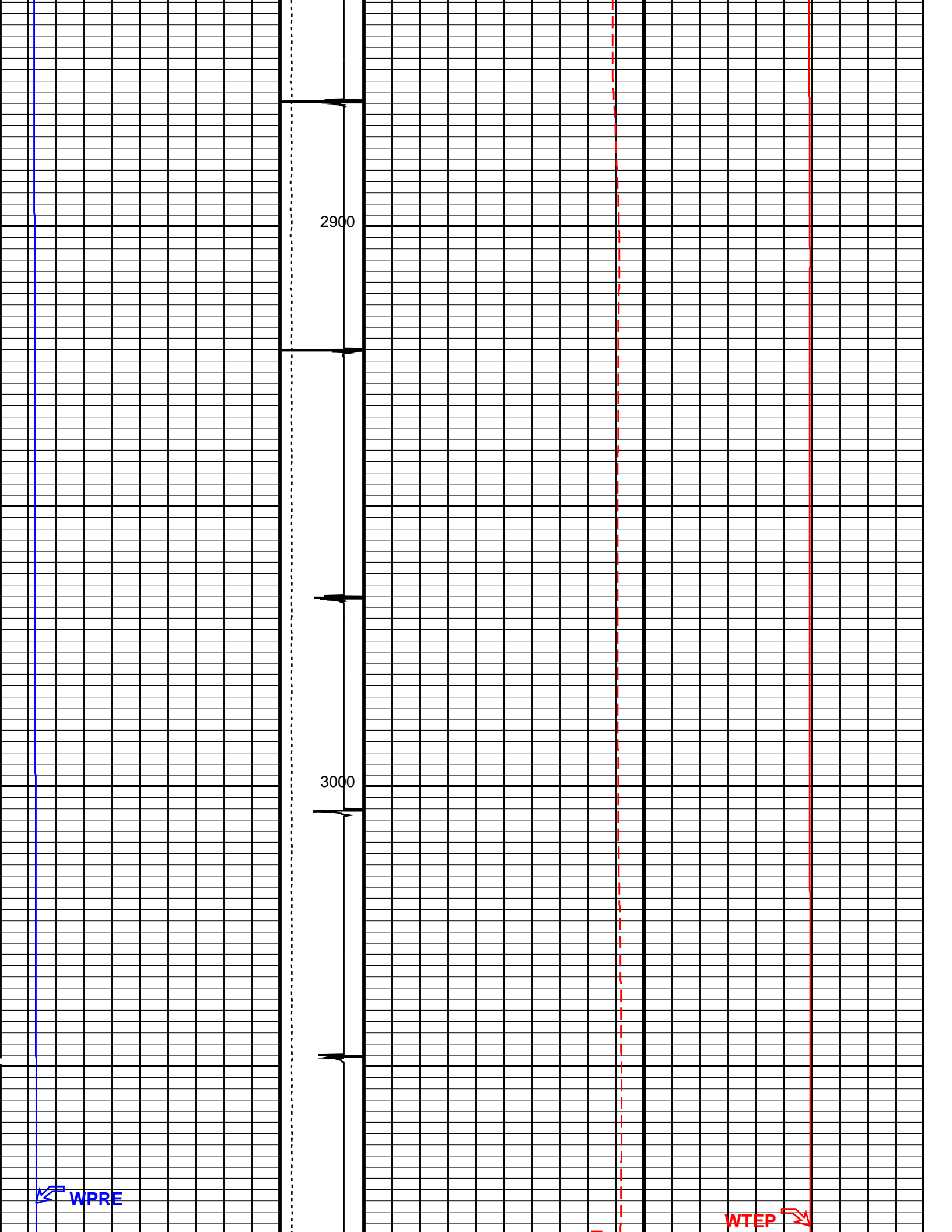


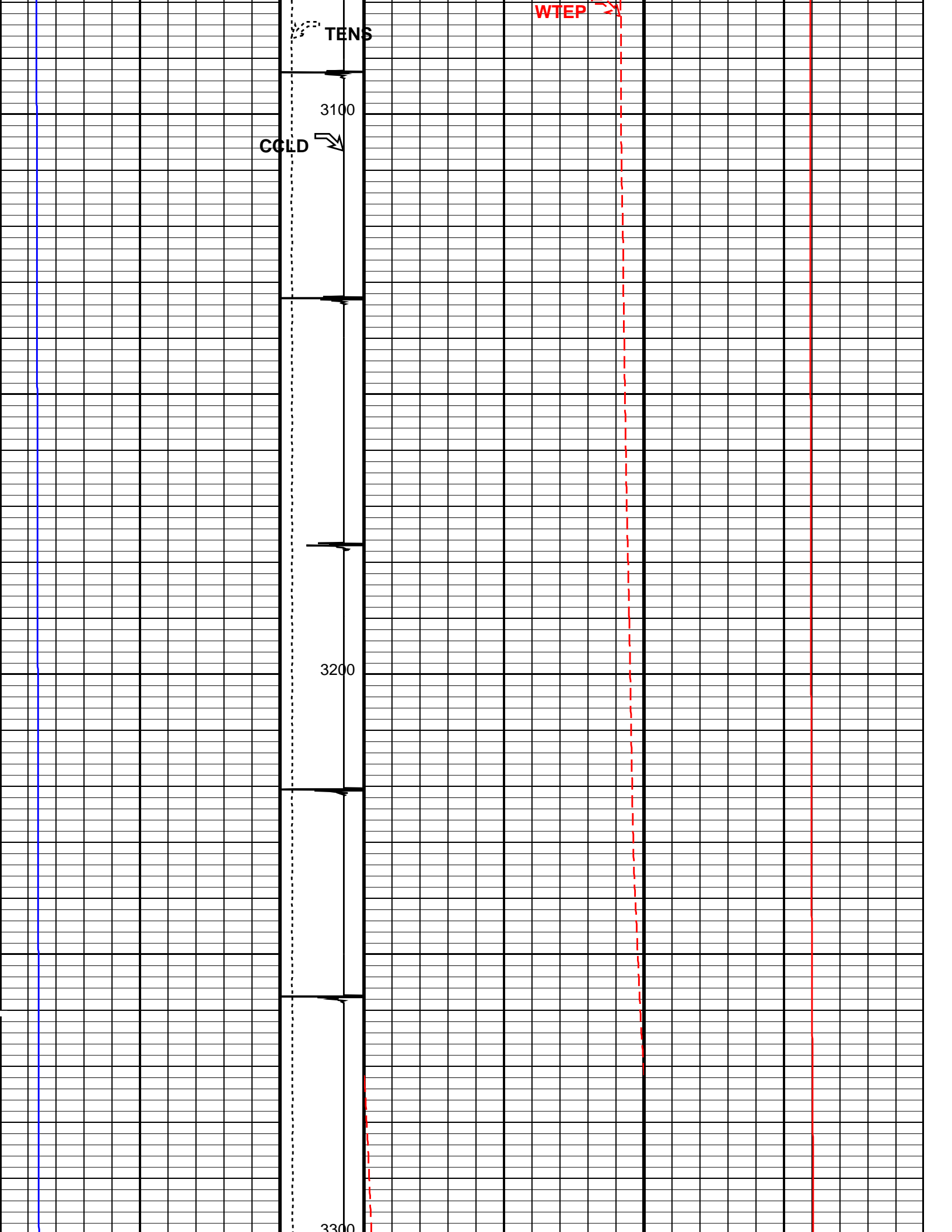


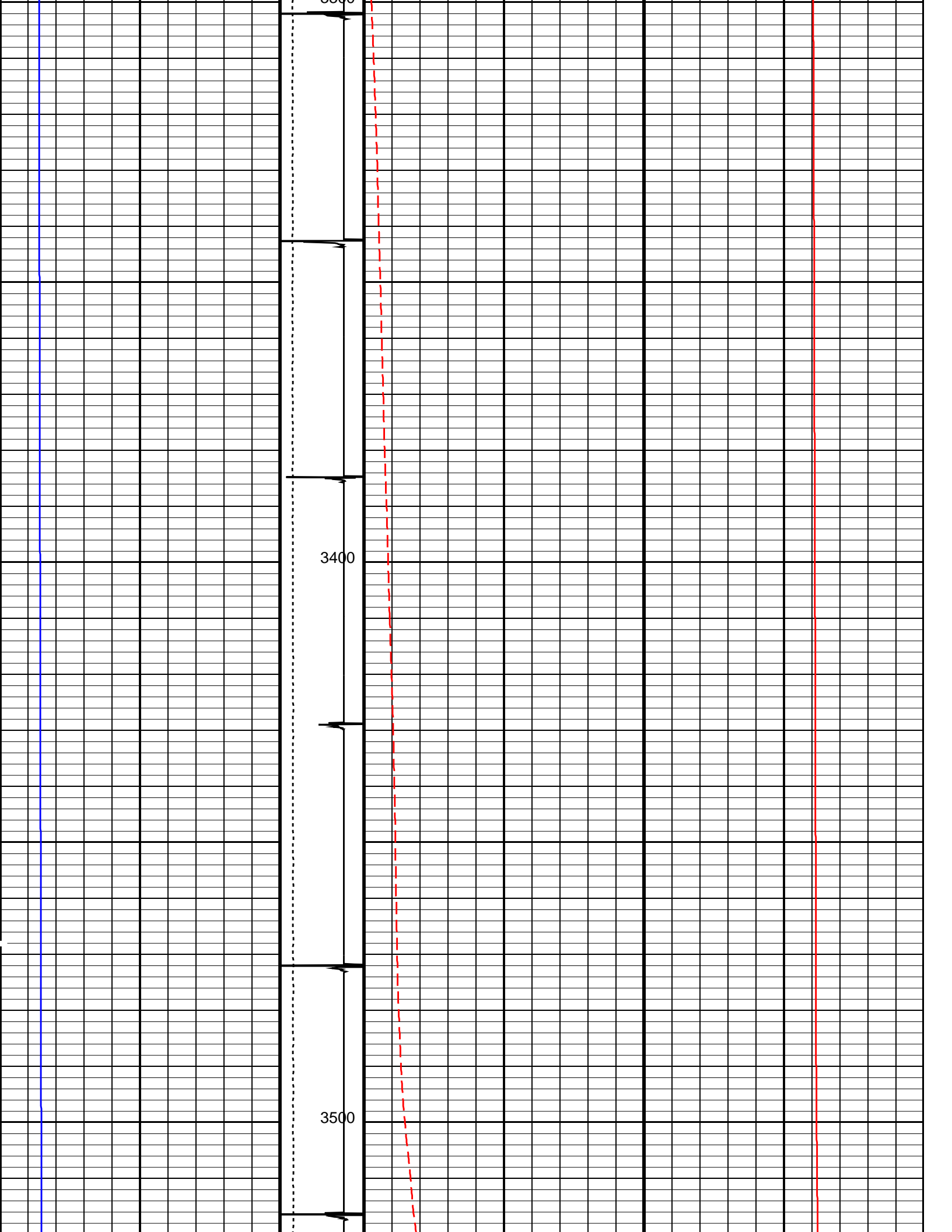


2700

2800



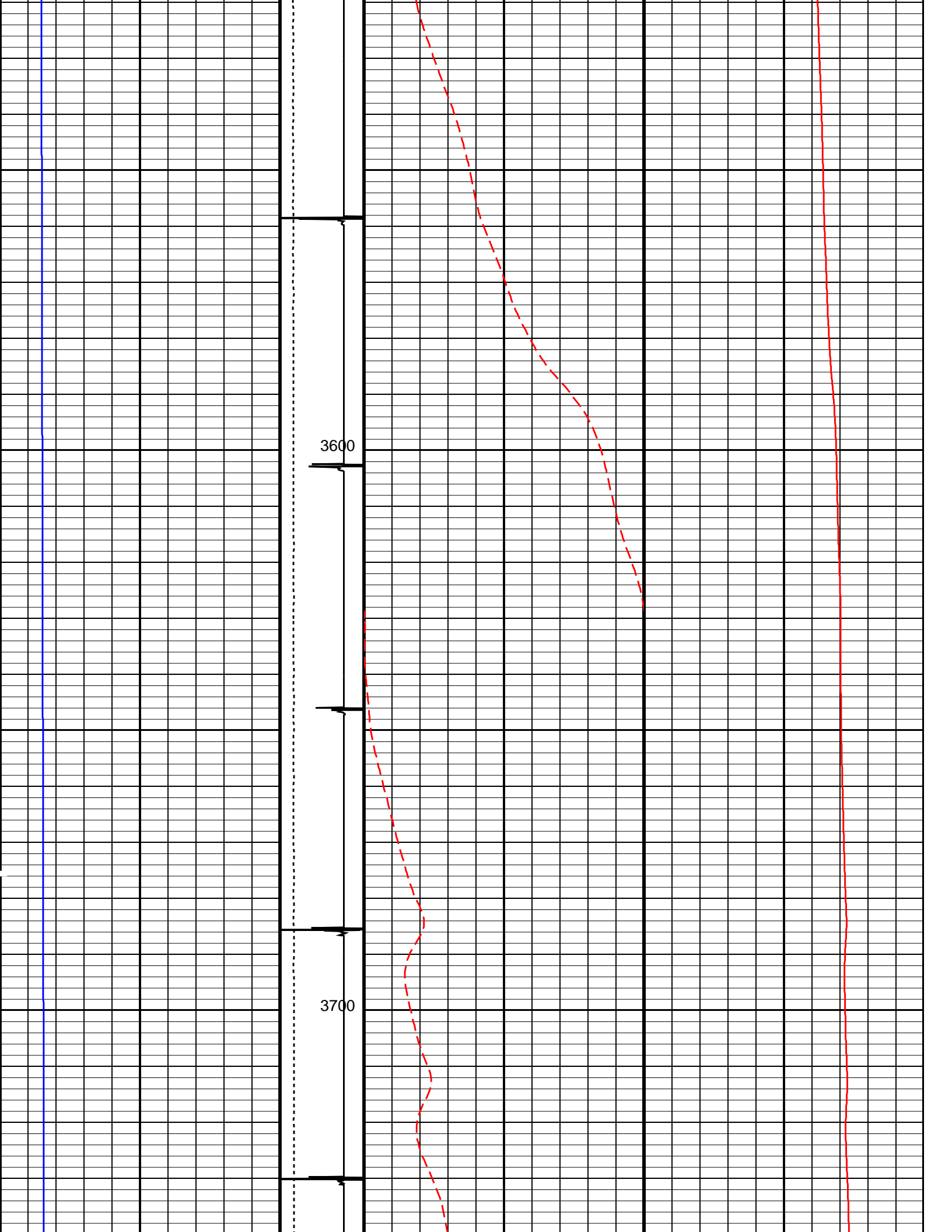


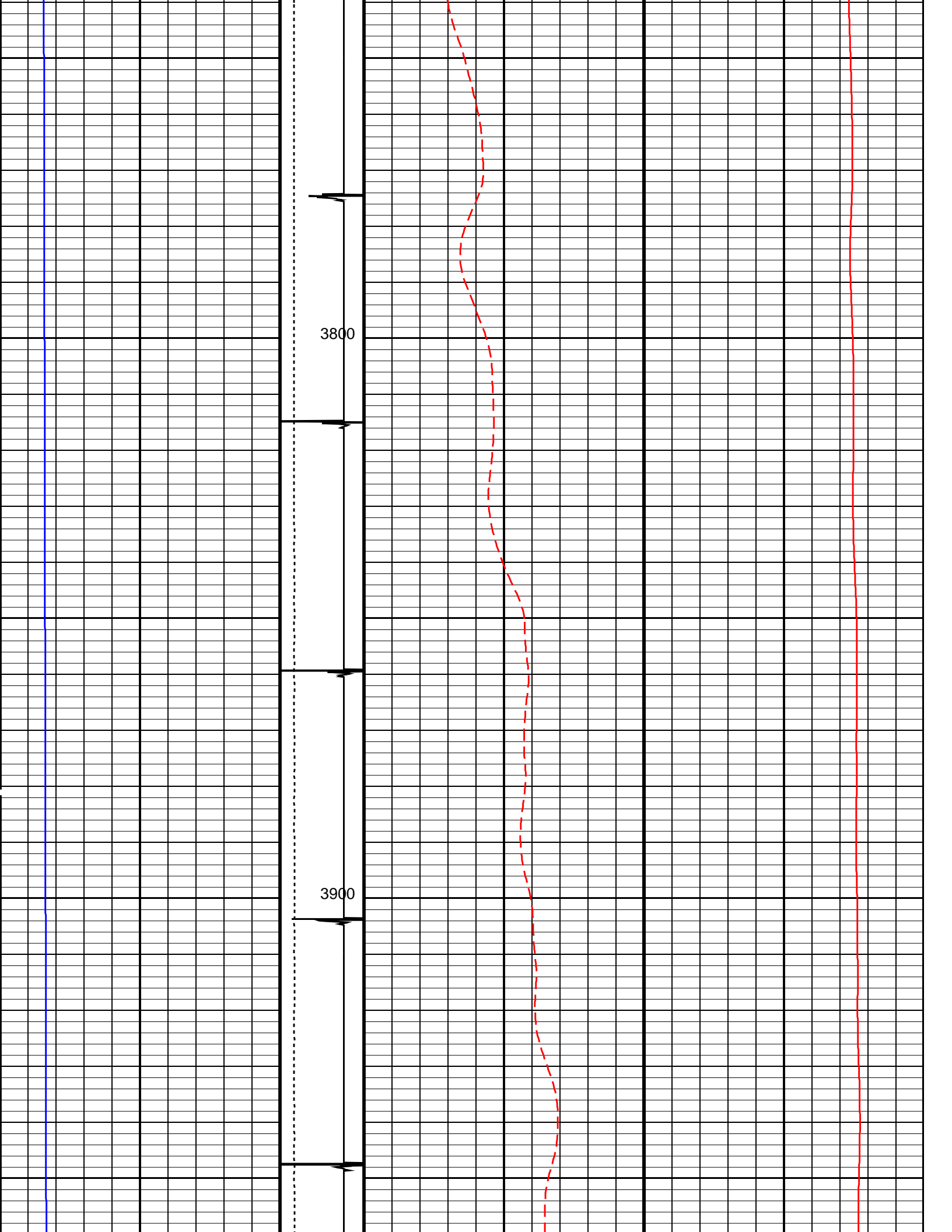


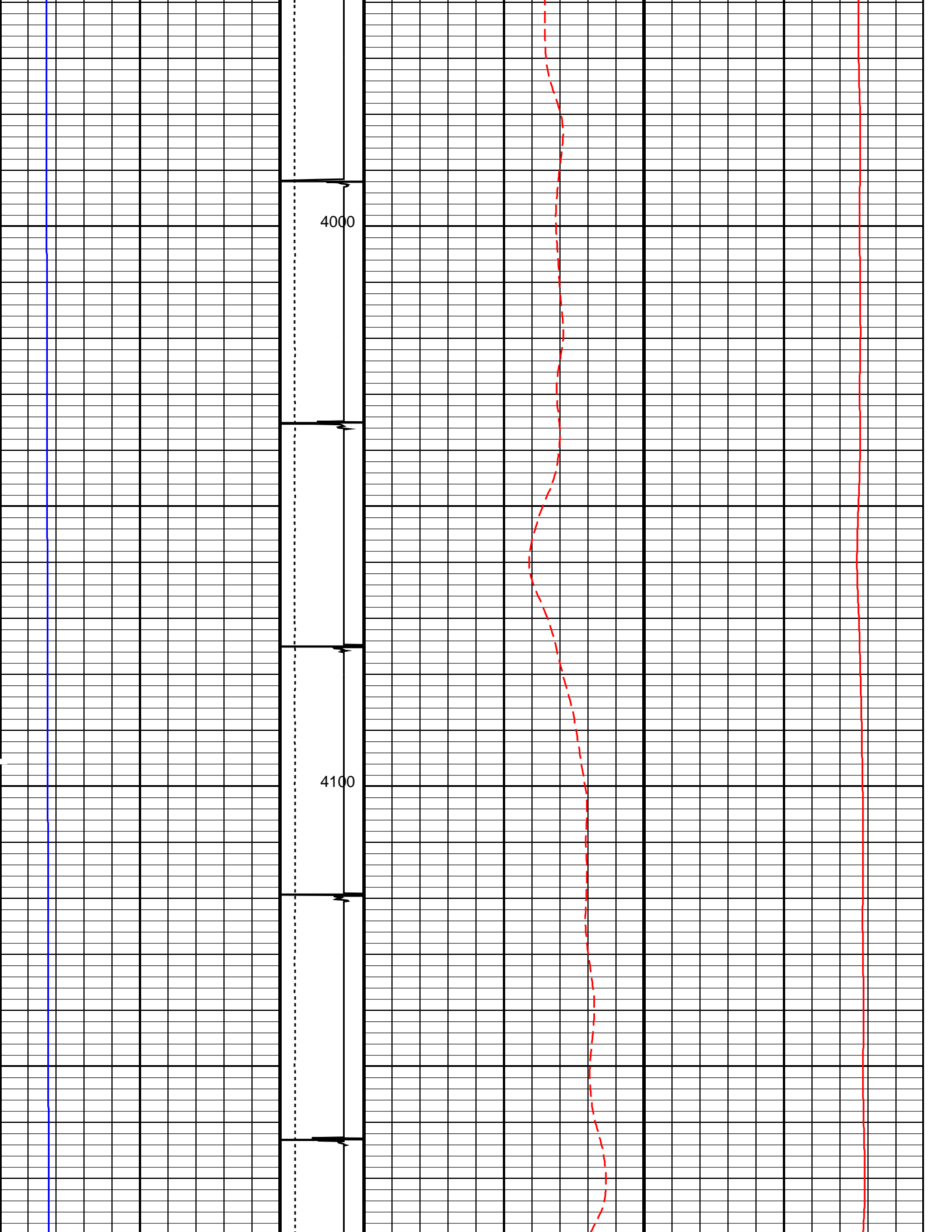
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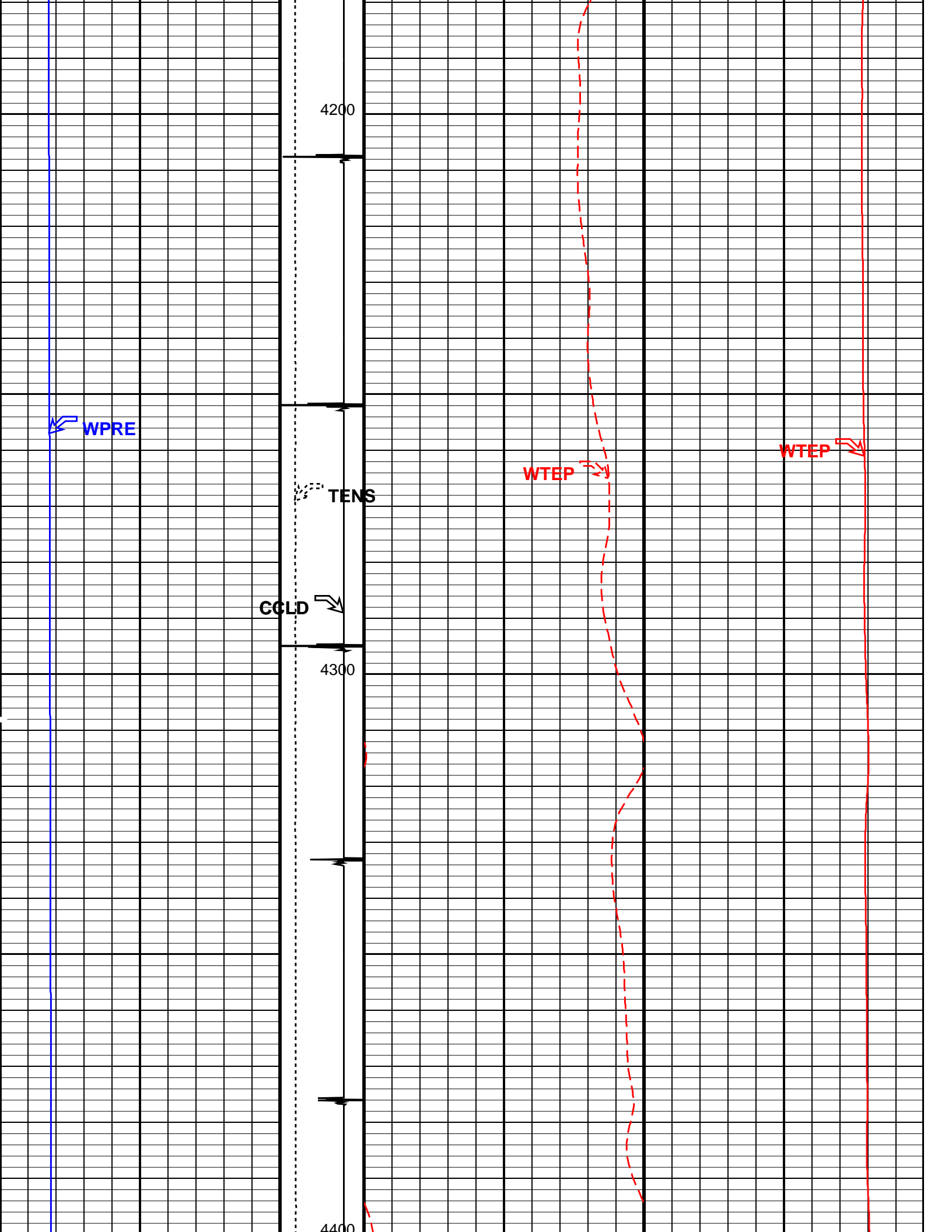
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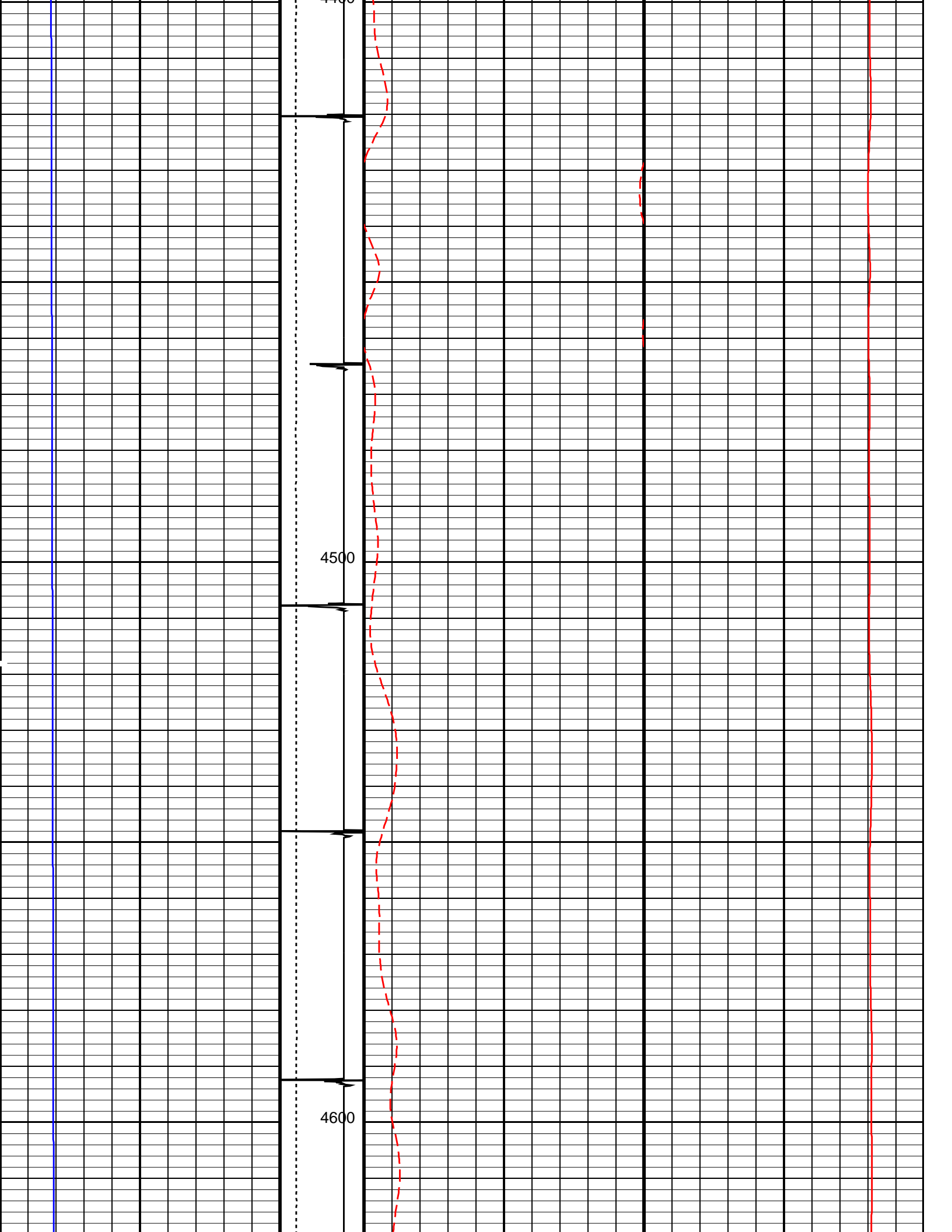
3500

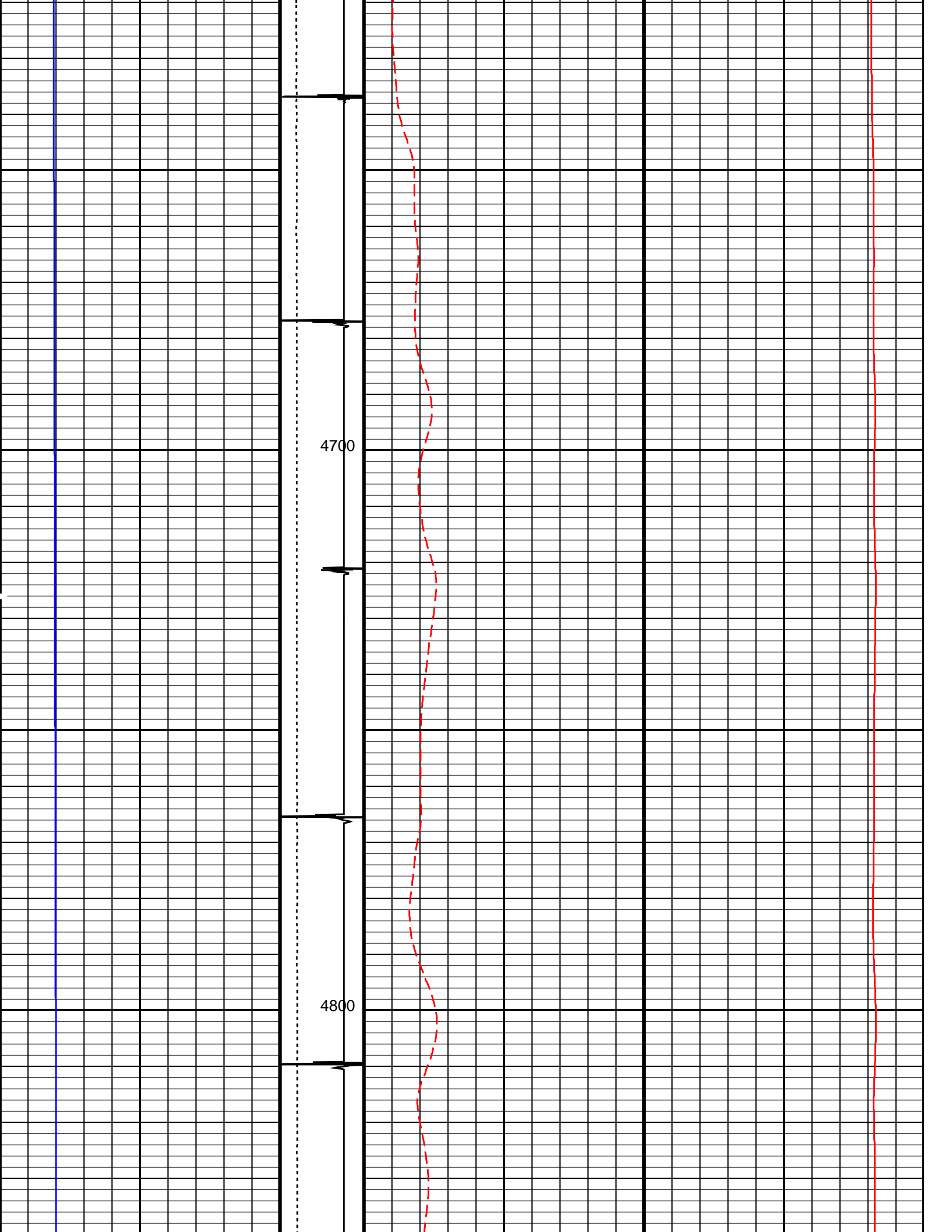


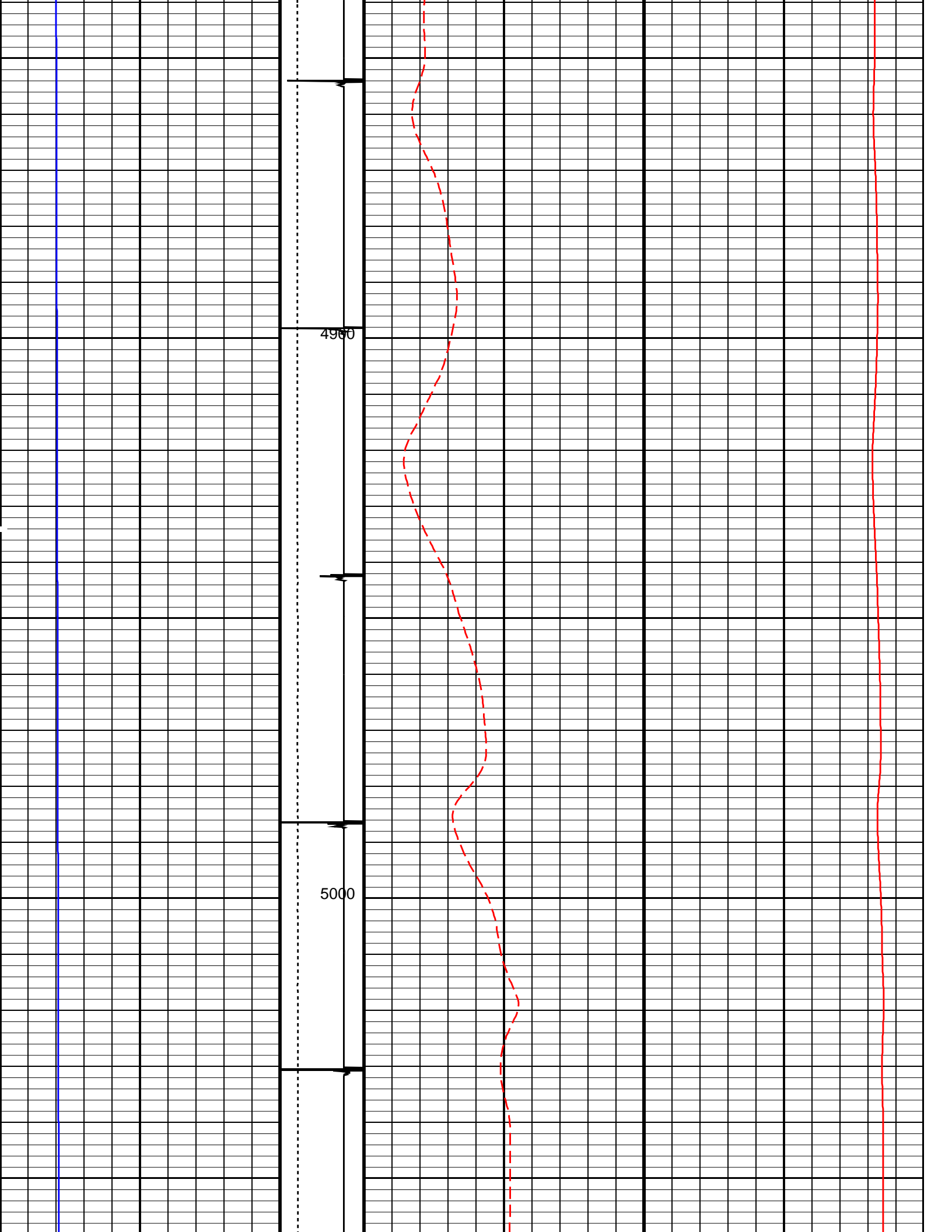


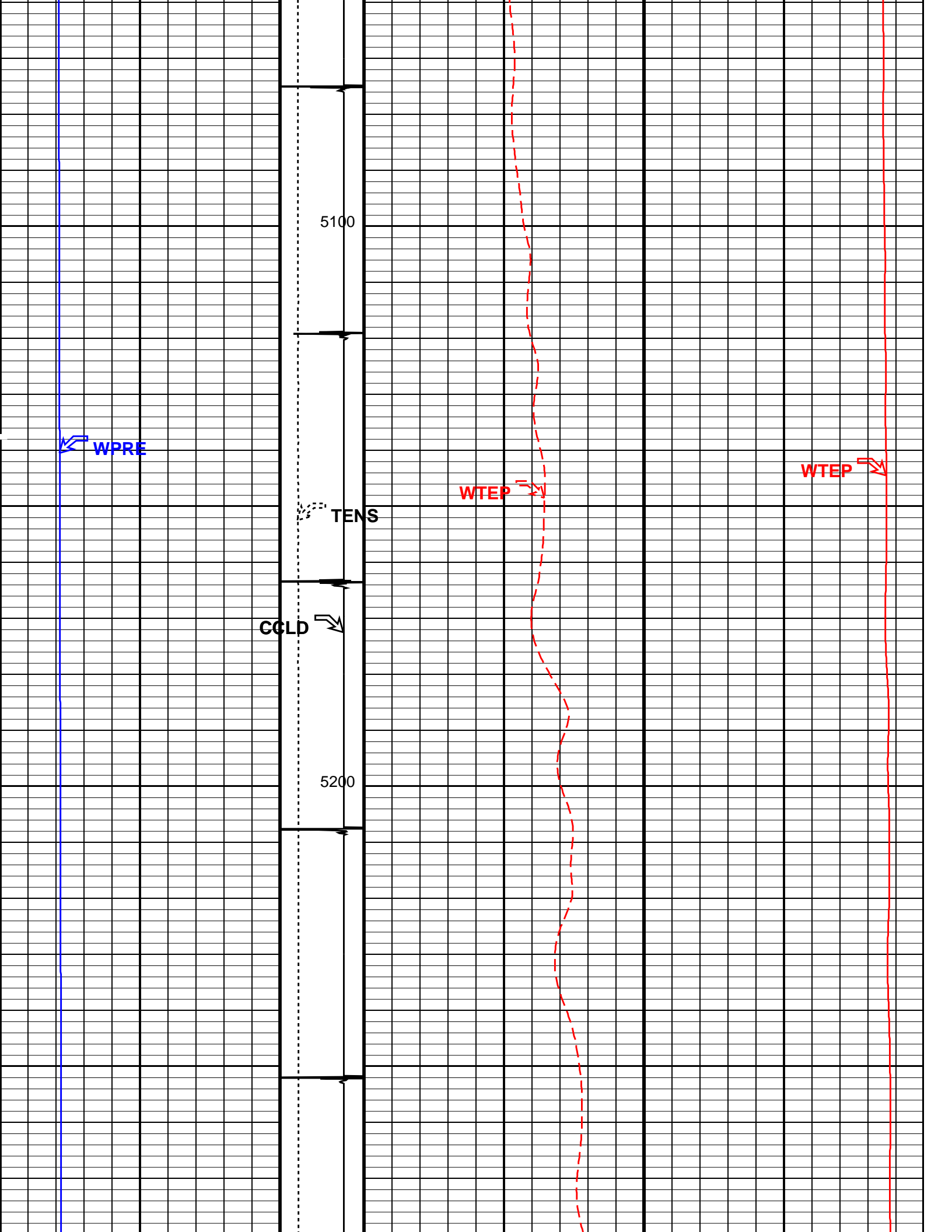


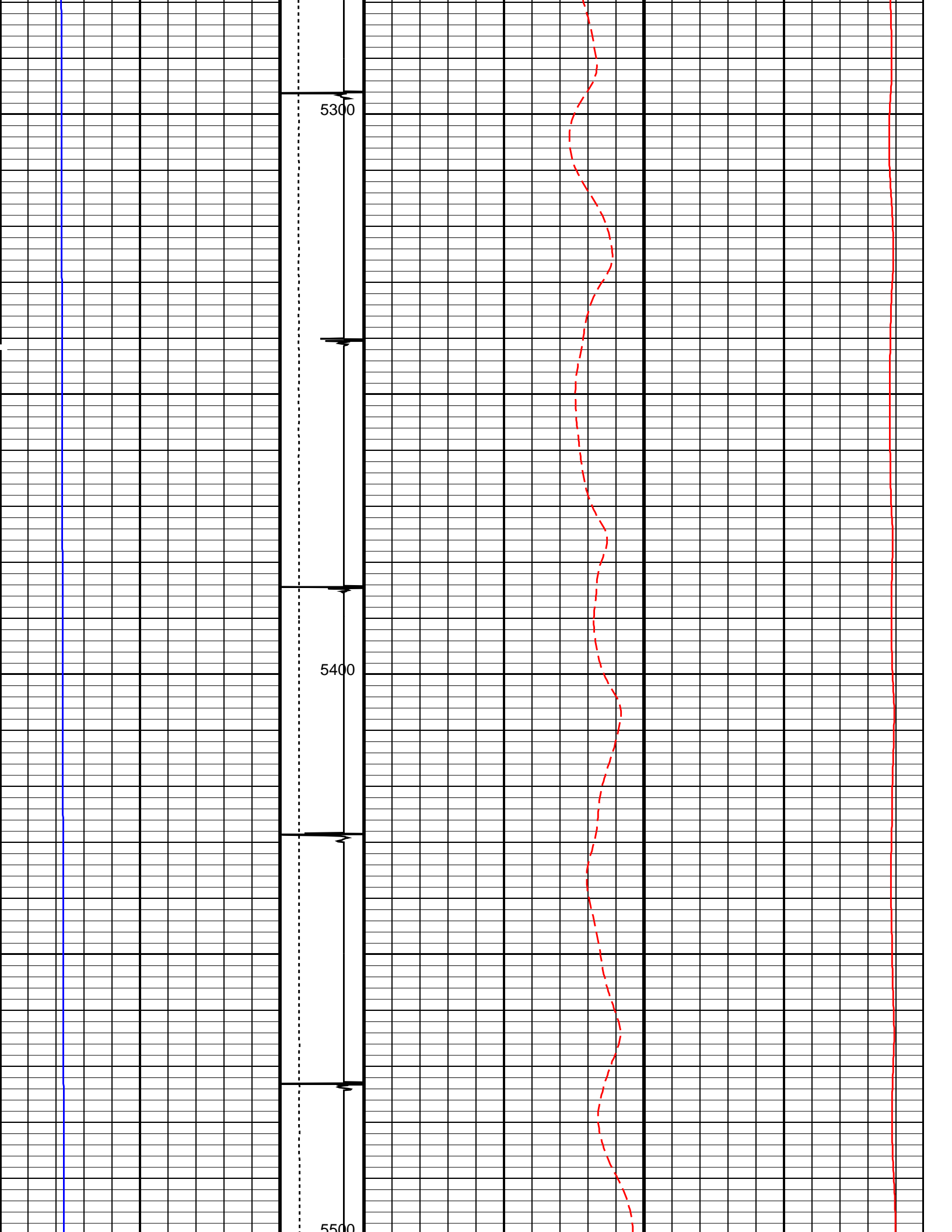


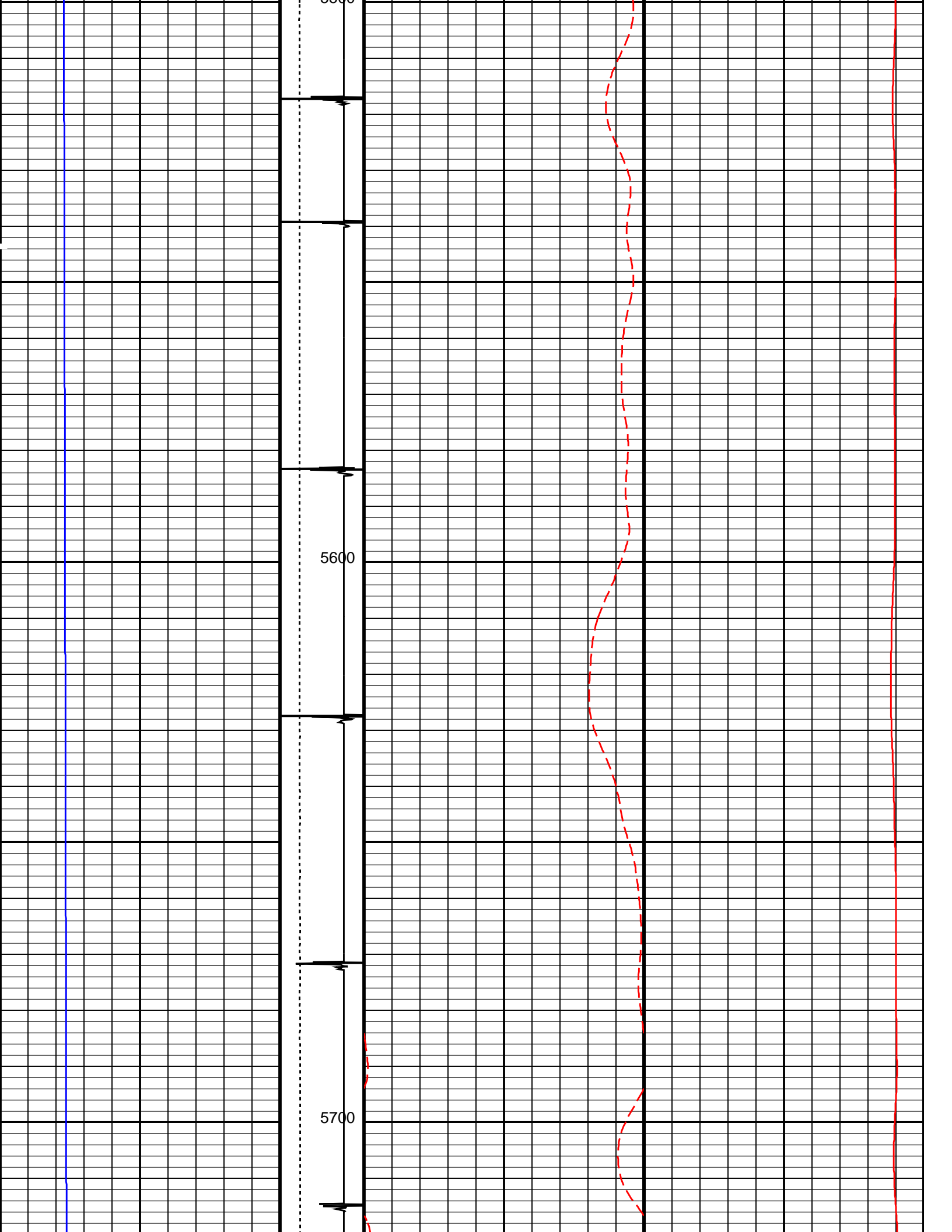


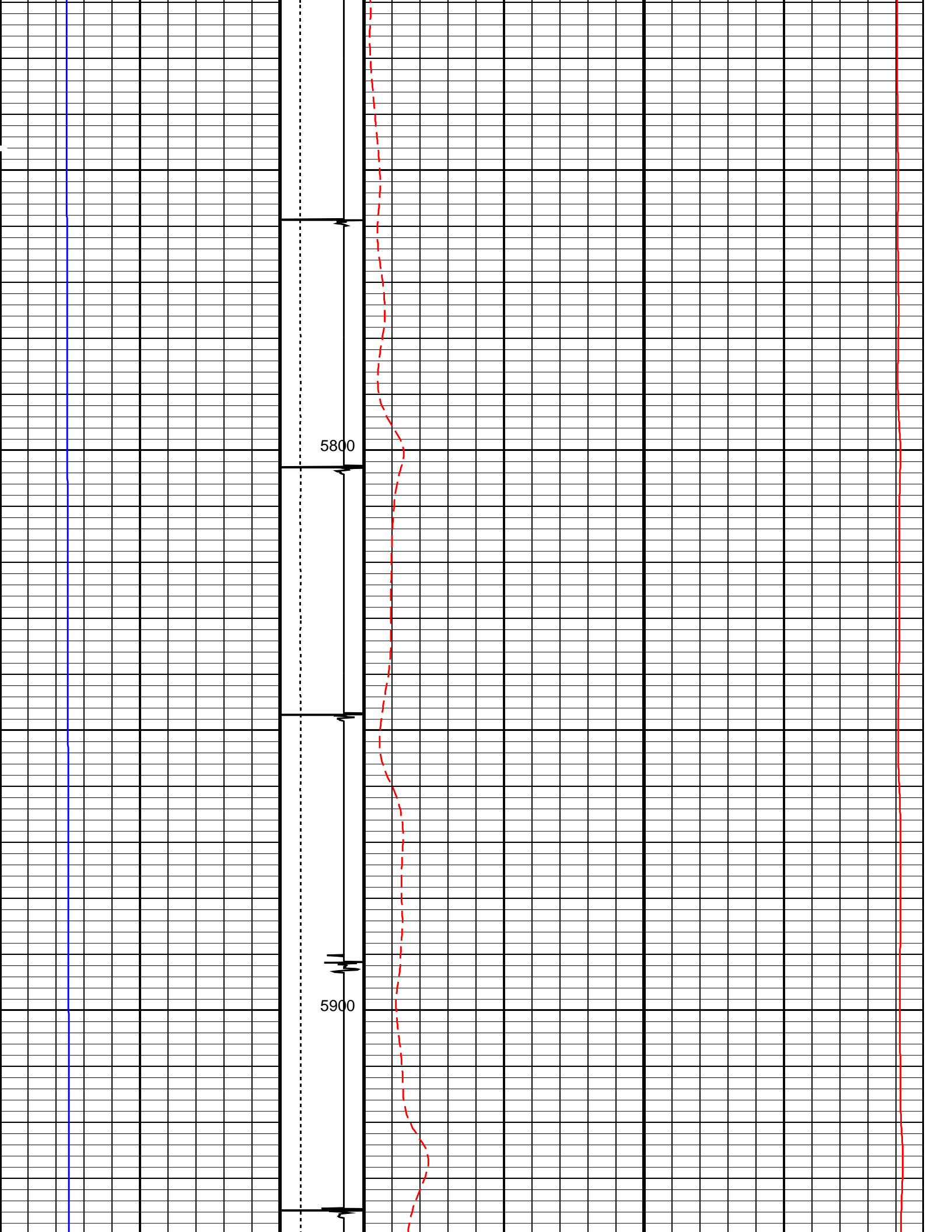


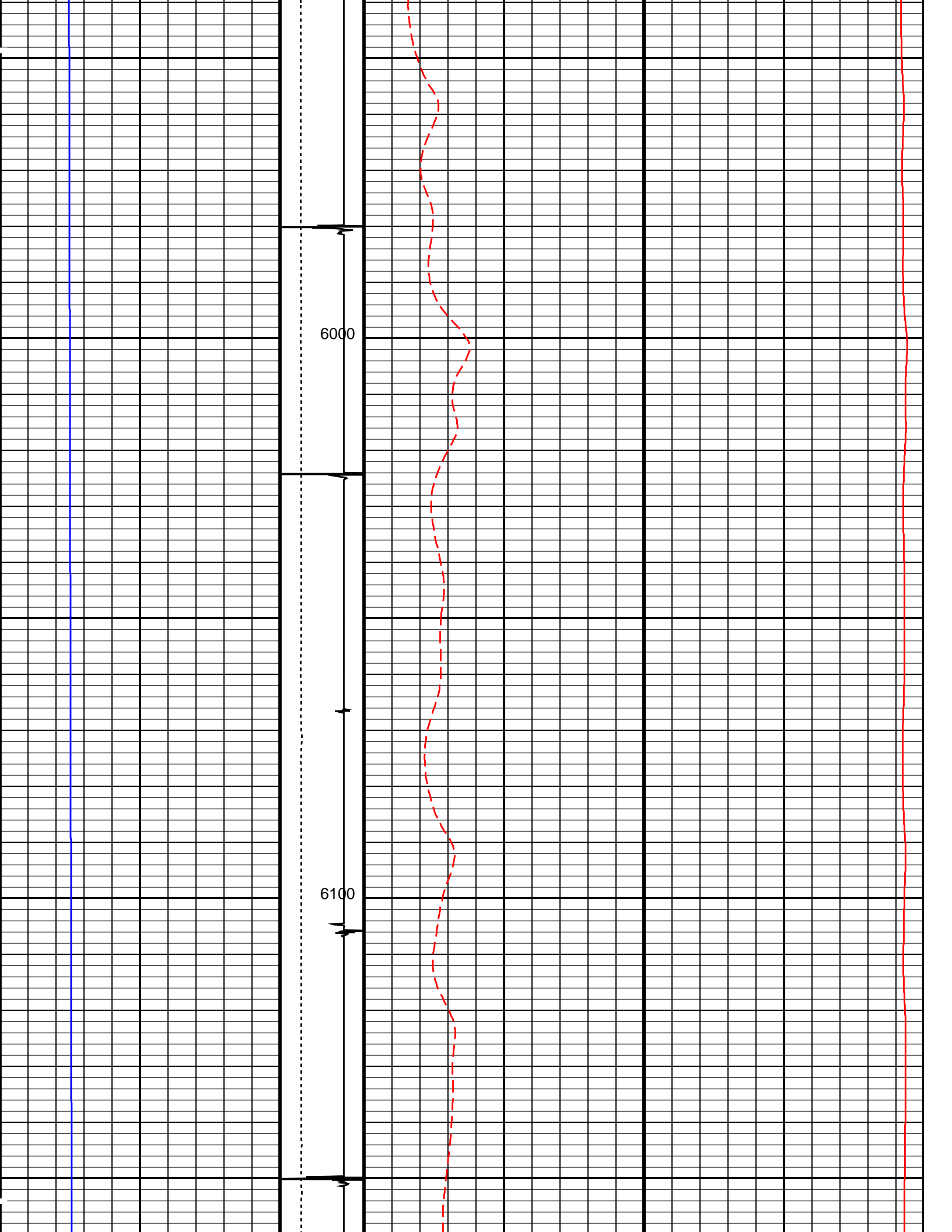


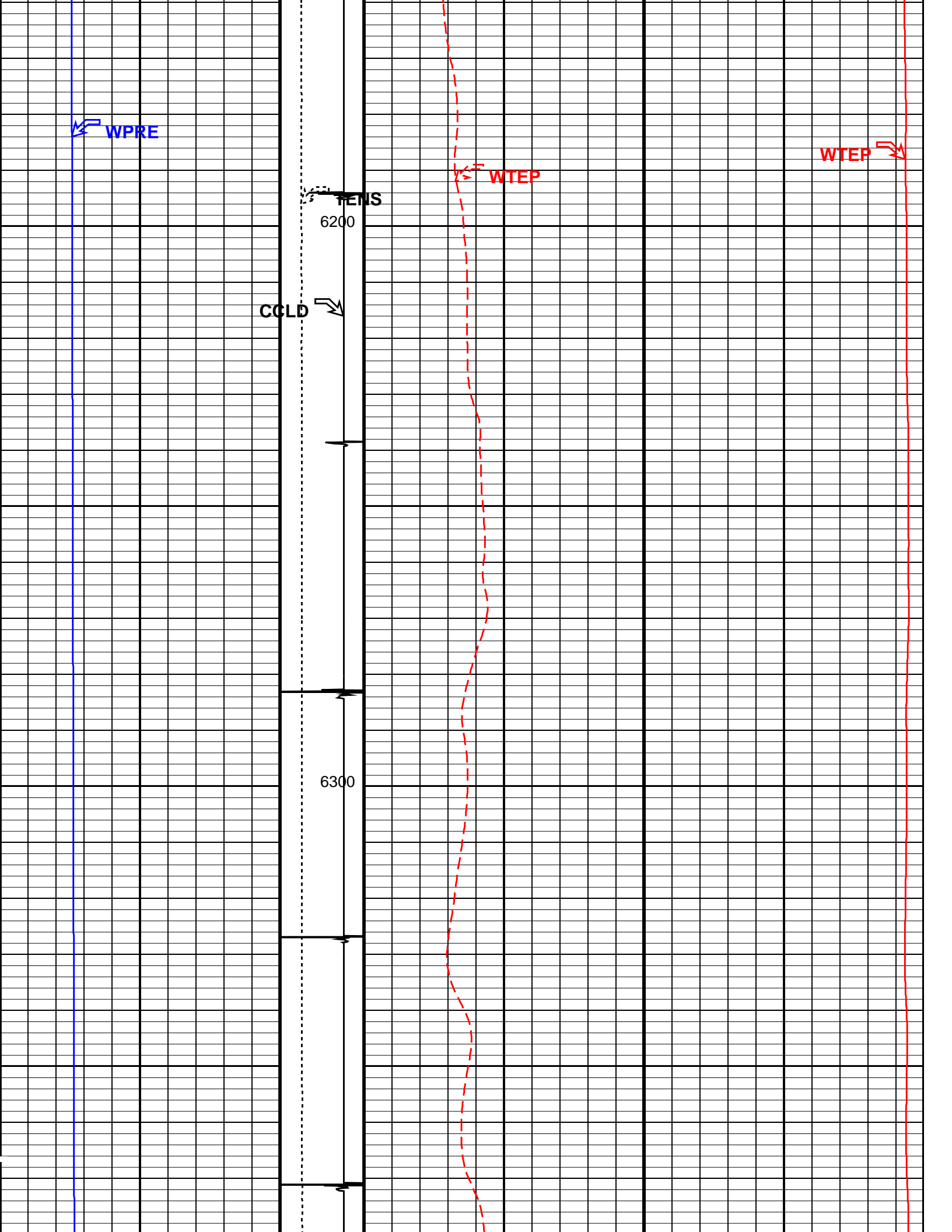


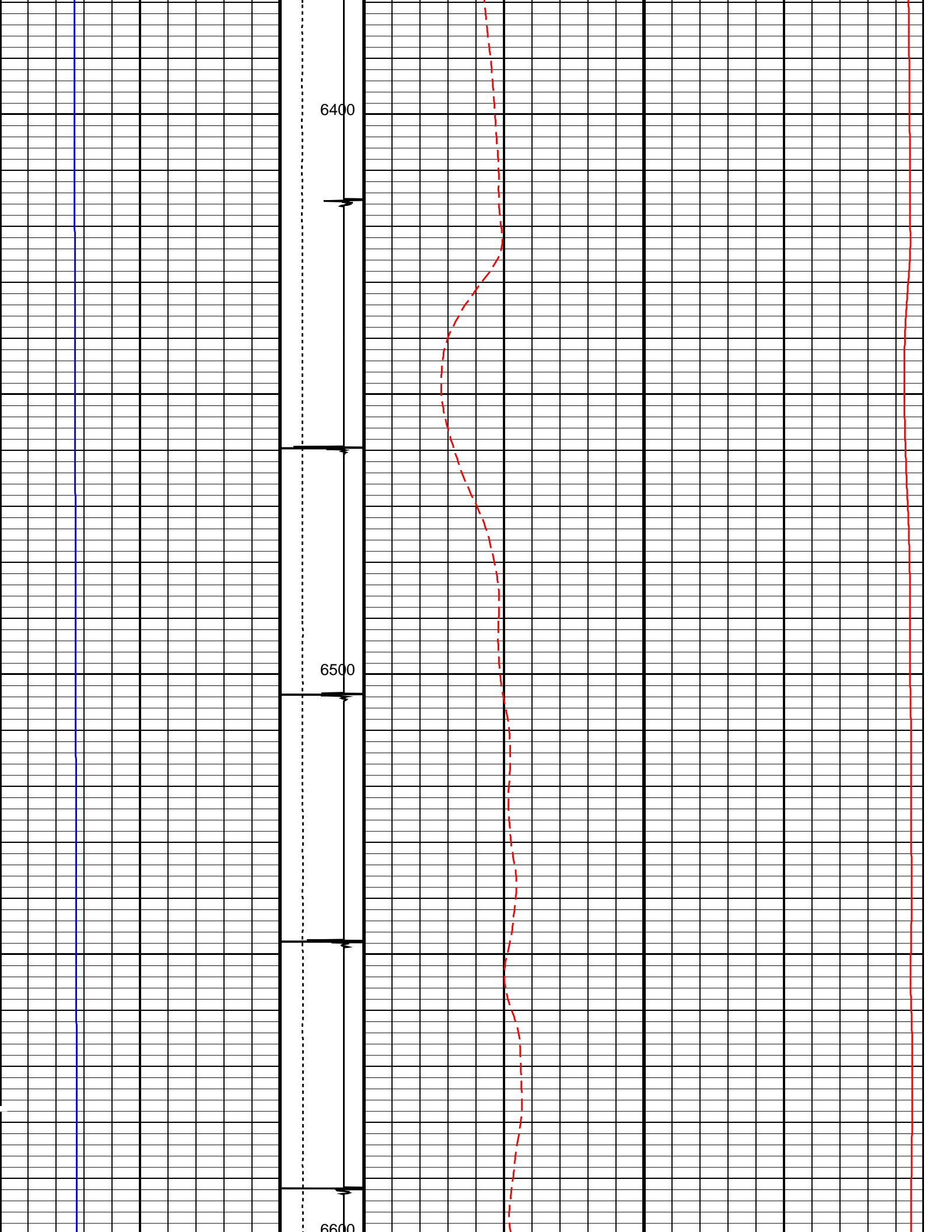


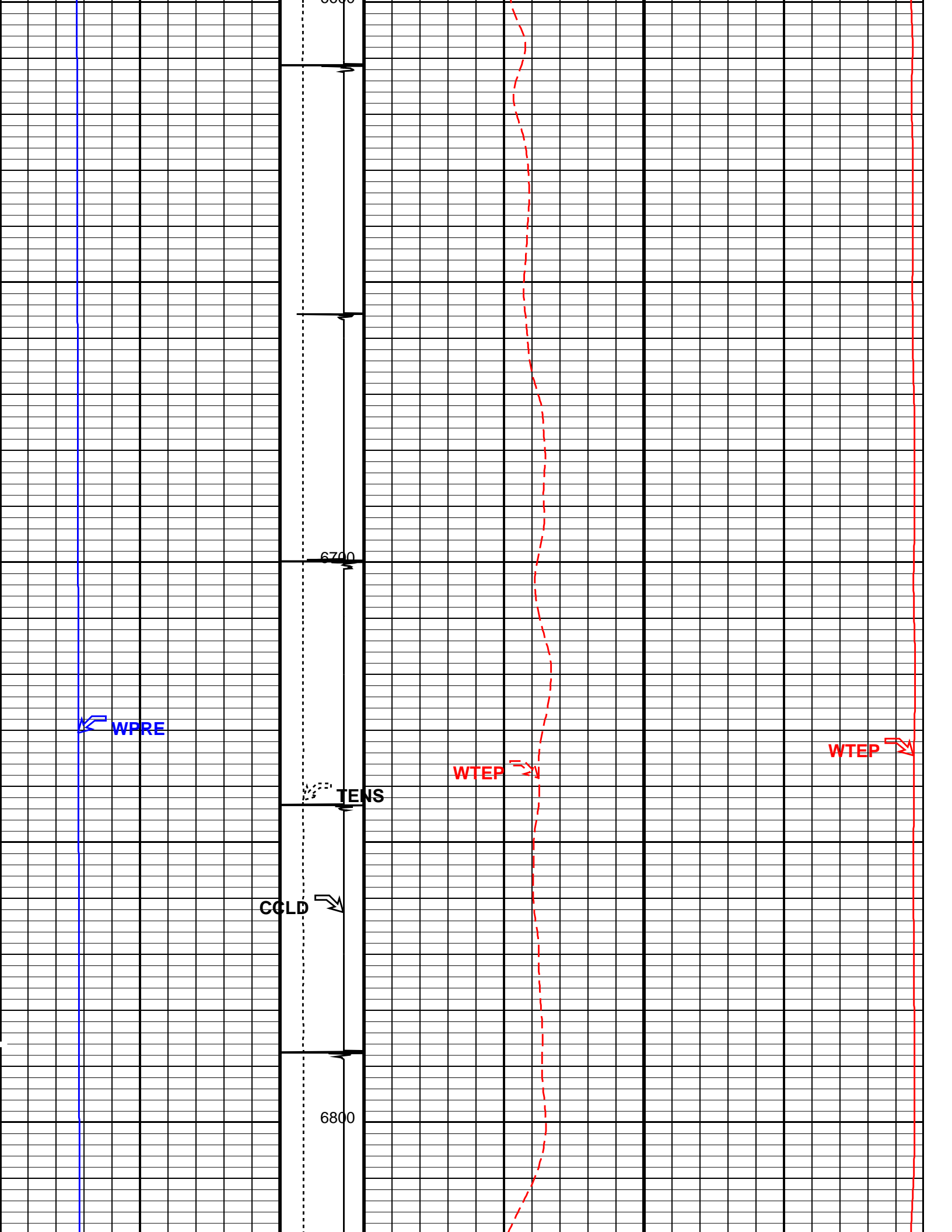


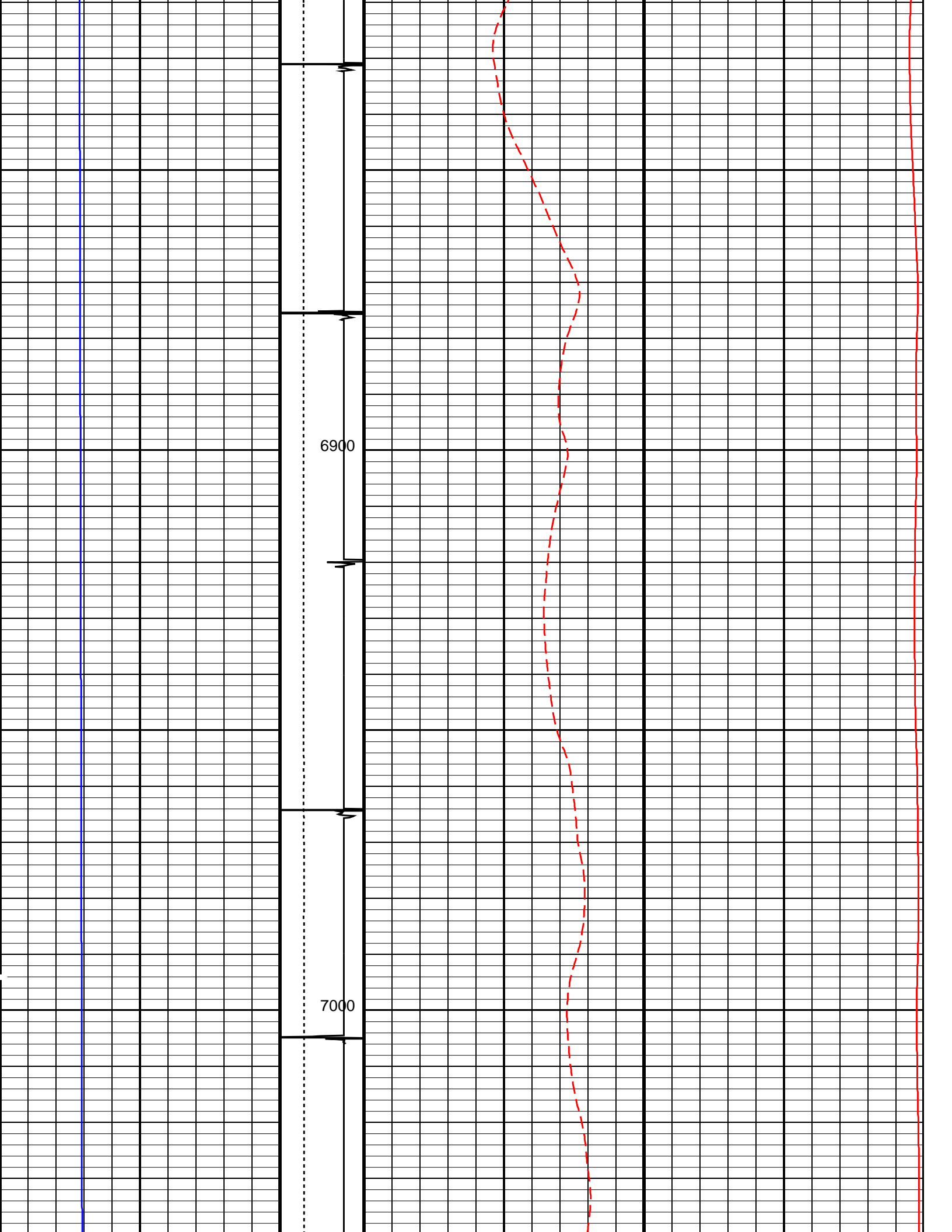


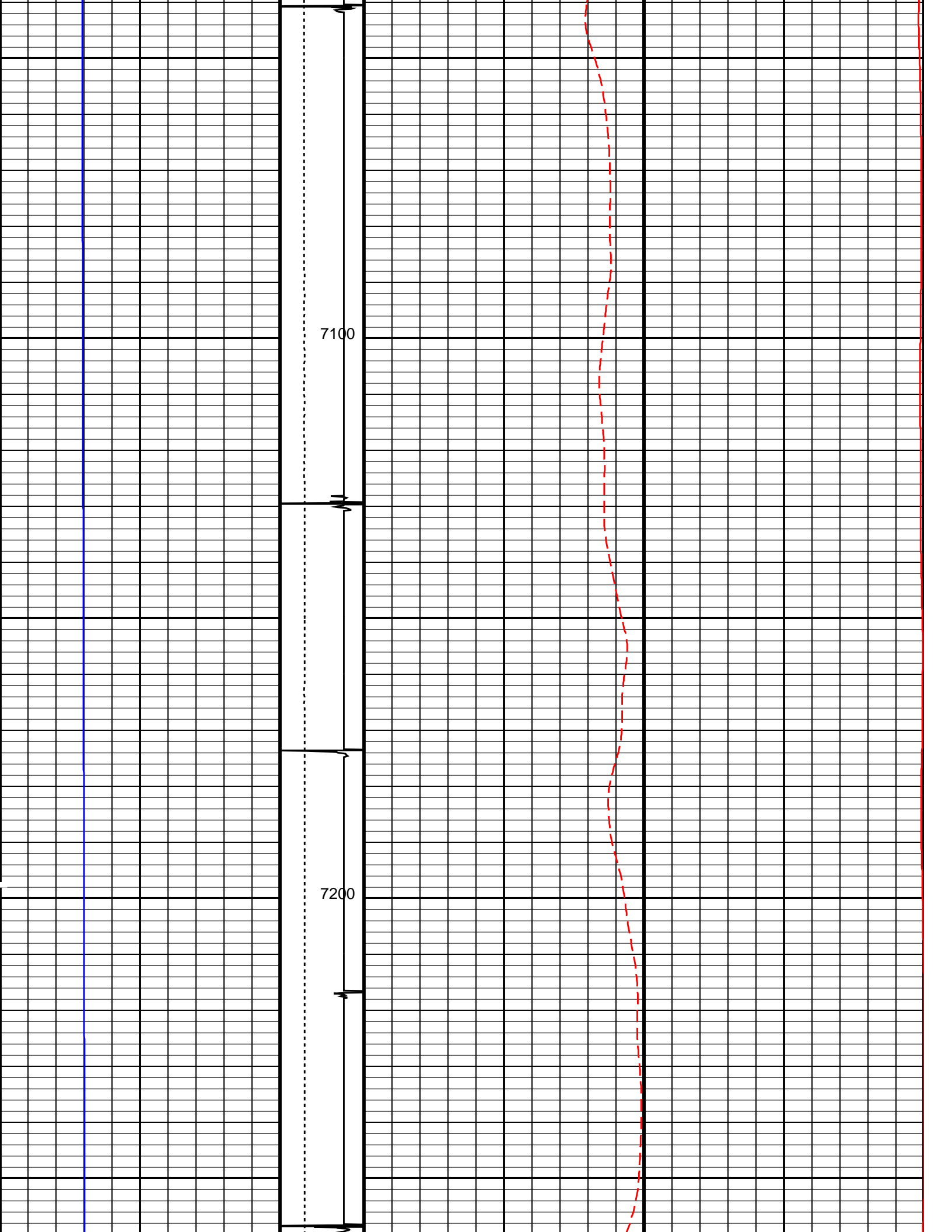


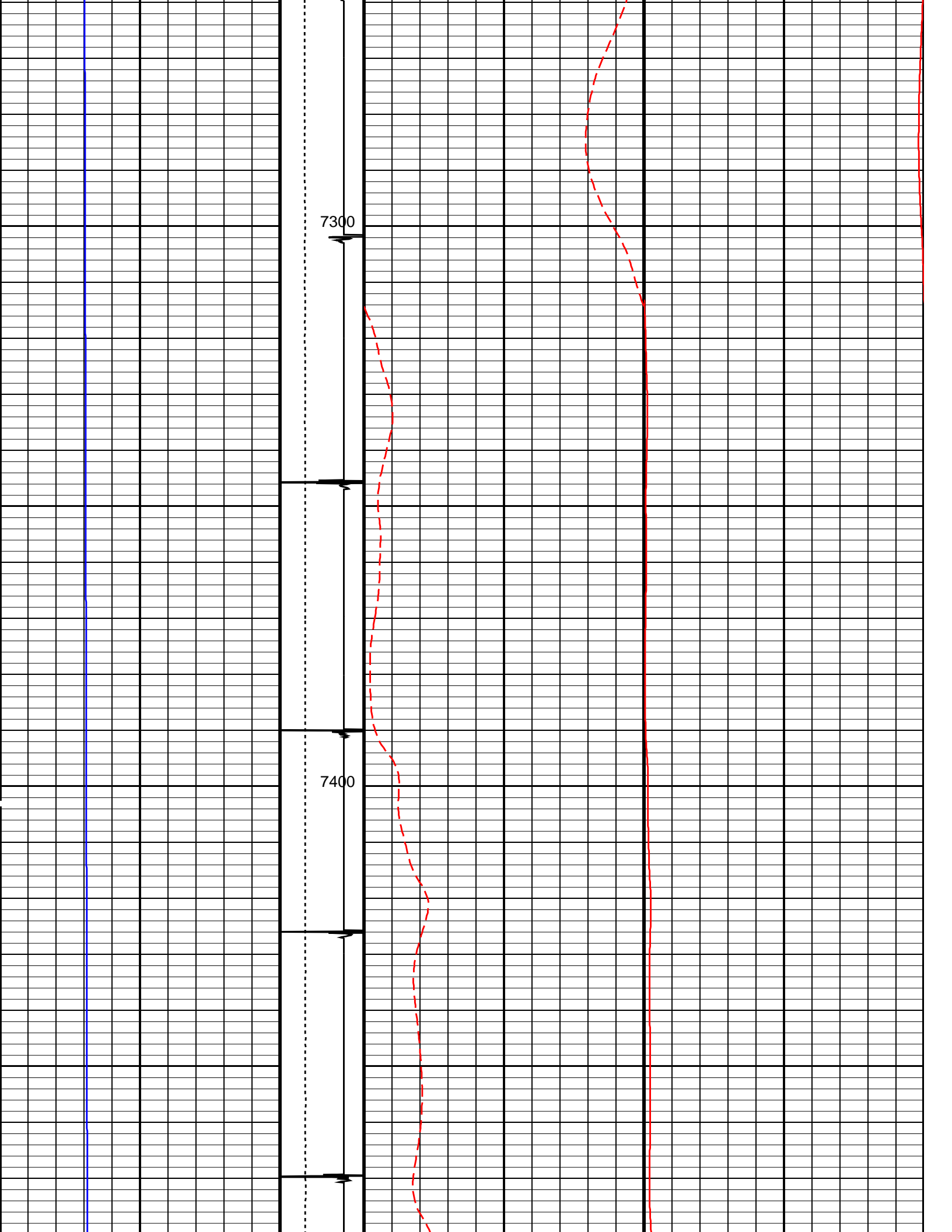


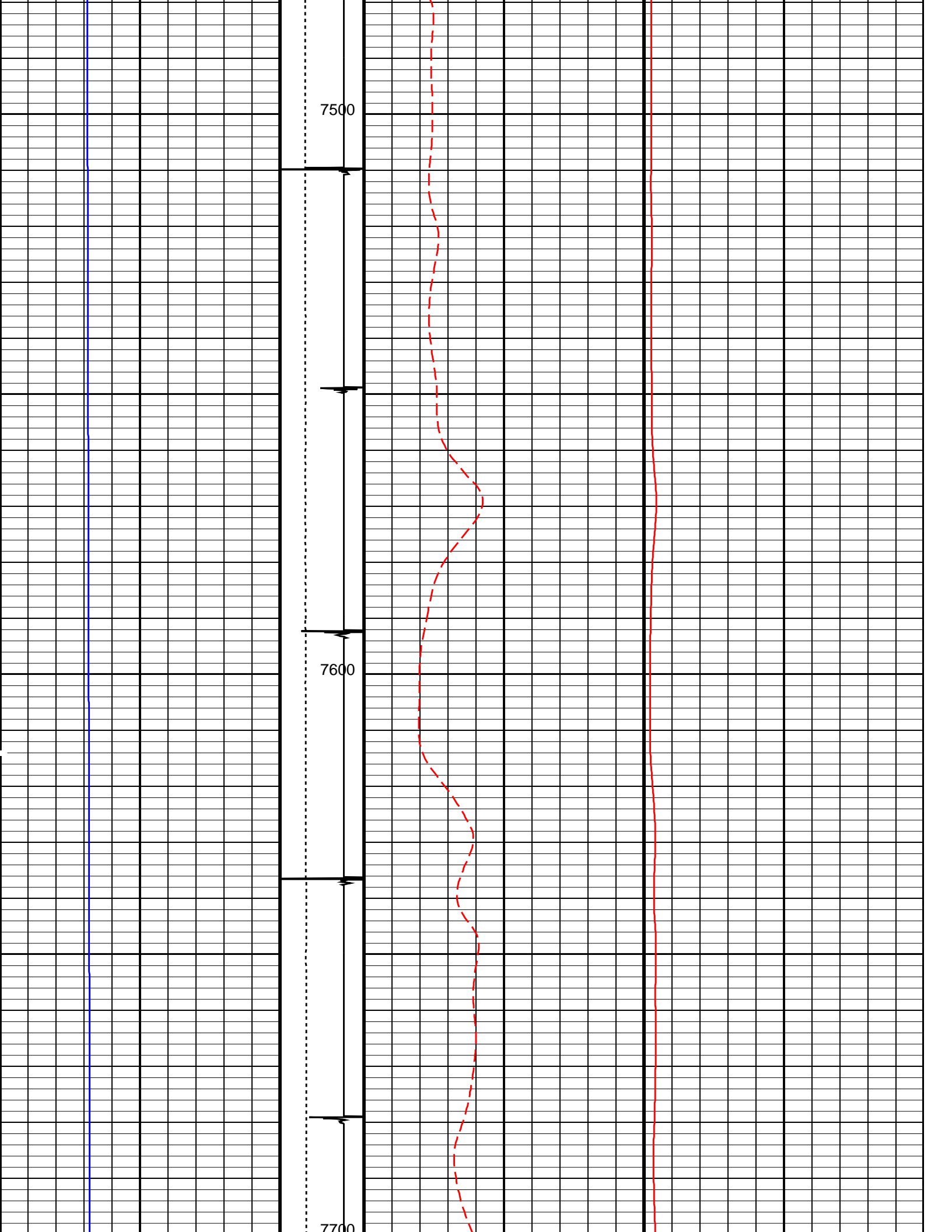


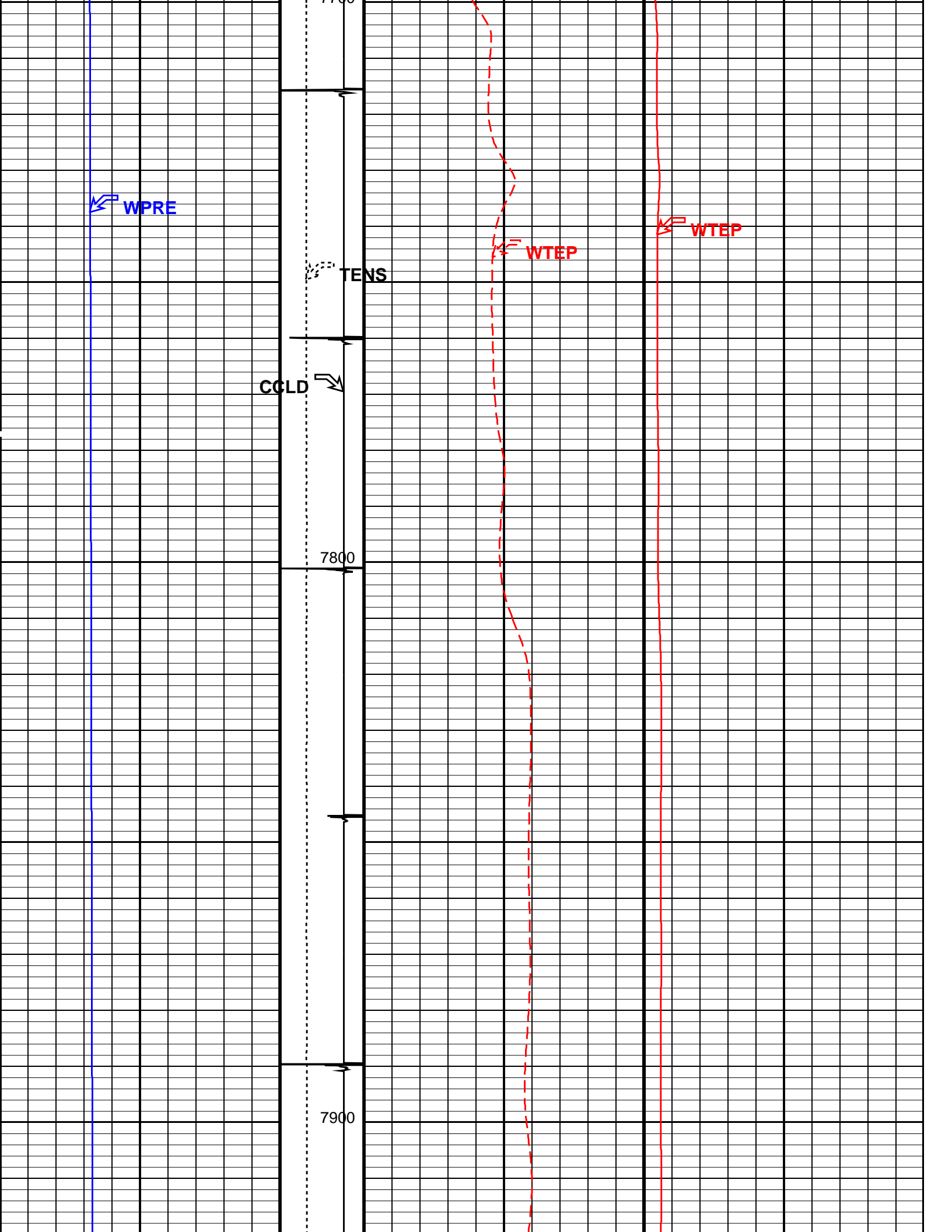


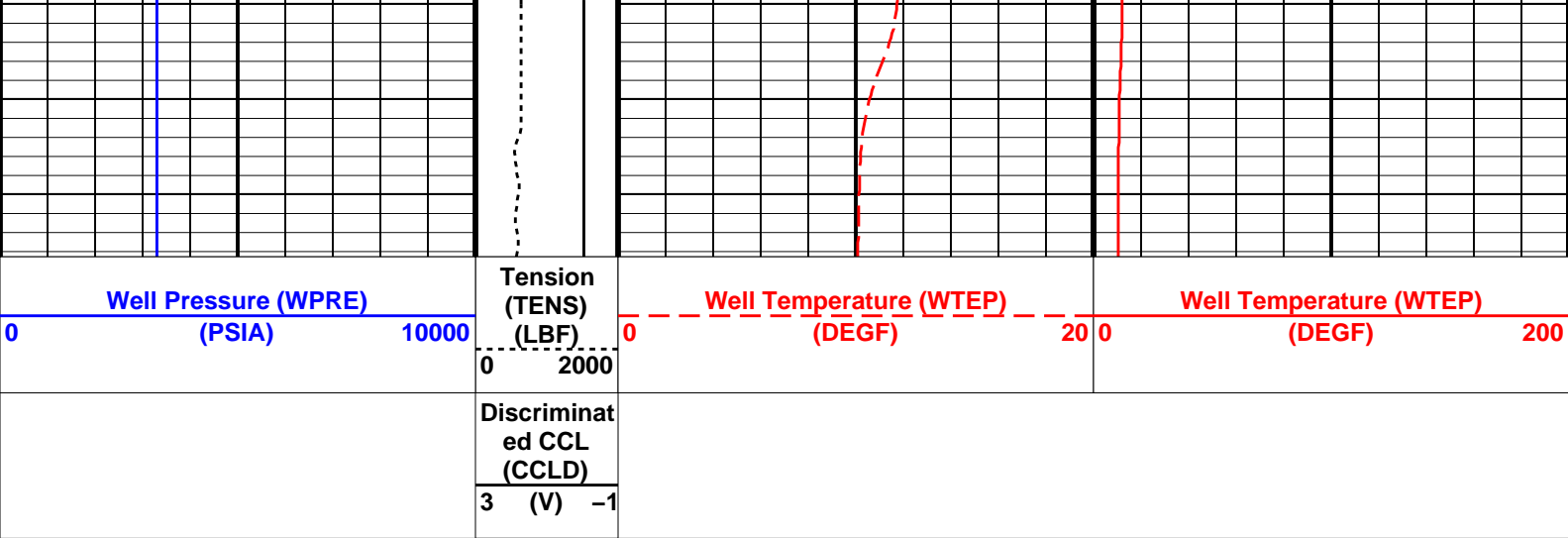












PIP SUMMARY


Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
DO	System and Miscellaneous	
PP	Depth Offset for Playback	-10.0 FT
	Playback Processing	RECOMPUTE
Format: TEMP LOG Vertical Scale: 5" per 100'		Graphics File Created: 02-Jul-2013 16:12

OP System Version: 19C0-187

HBMS-B 19C0-187

Input DLIS Files					
DEFAULT	Flip_HBMS_005LUP	PRODUCER	02-Jul-2013 16:11	7956.5 FT	-9.0 FT
Output DLIS Files					
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	02-Jul-2013 16:12	



REPEAT ANALYSIS

MAXIS Field Log

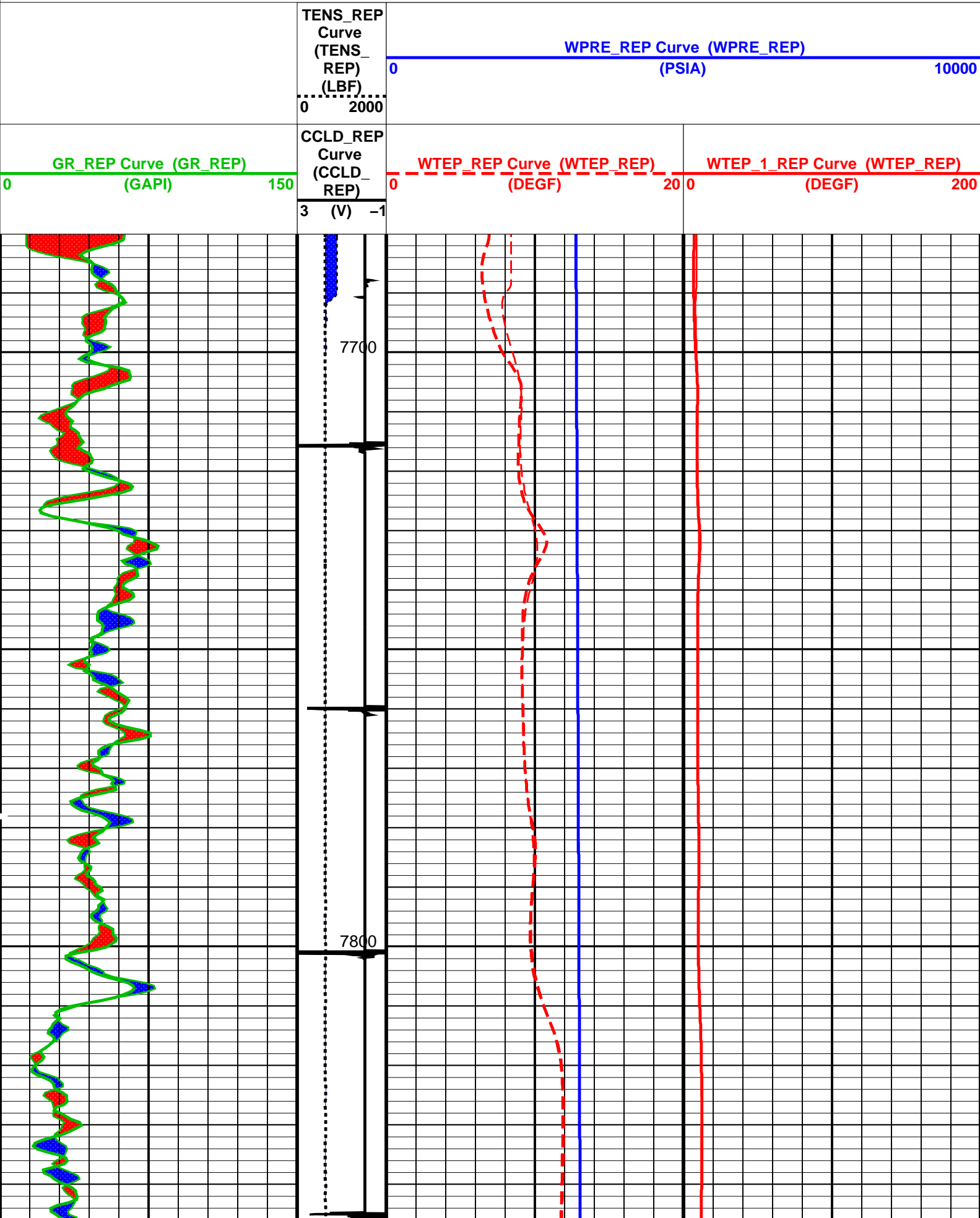
Company: ENCANA OIL & GAS (USA) INC Well: HAGEN FEDERAL 22-4B (PC22)

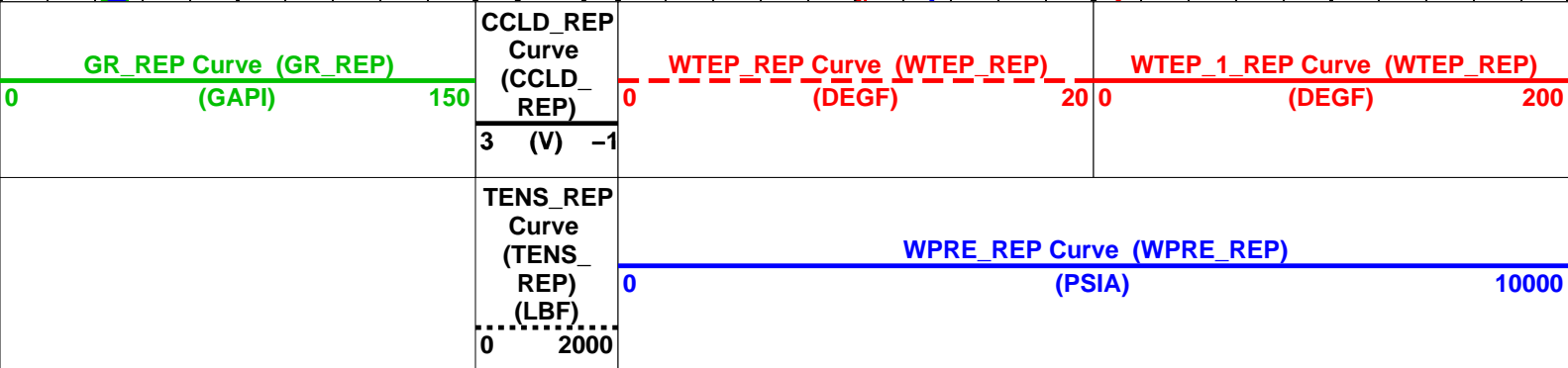
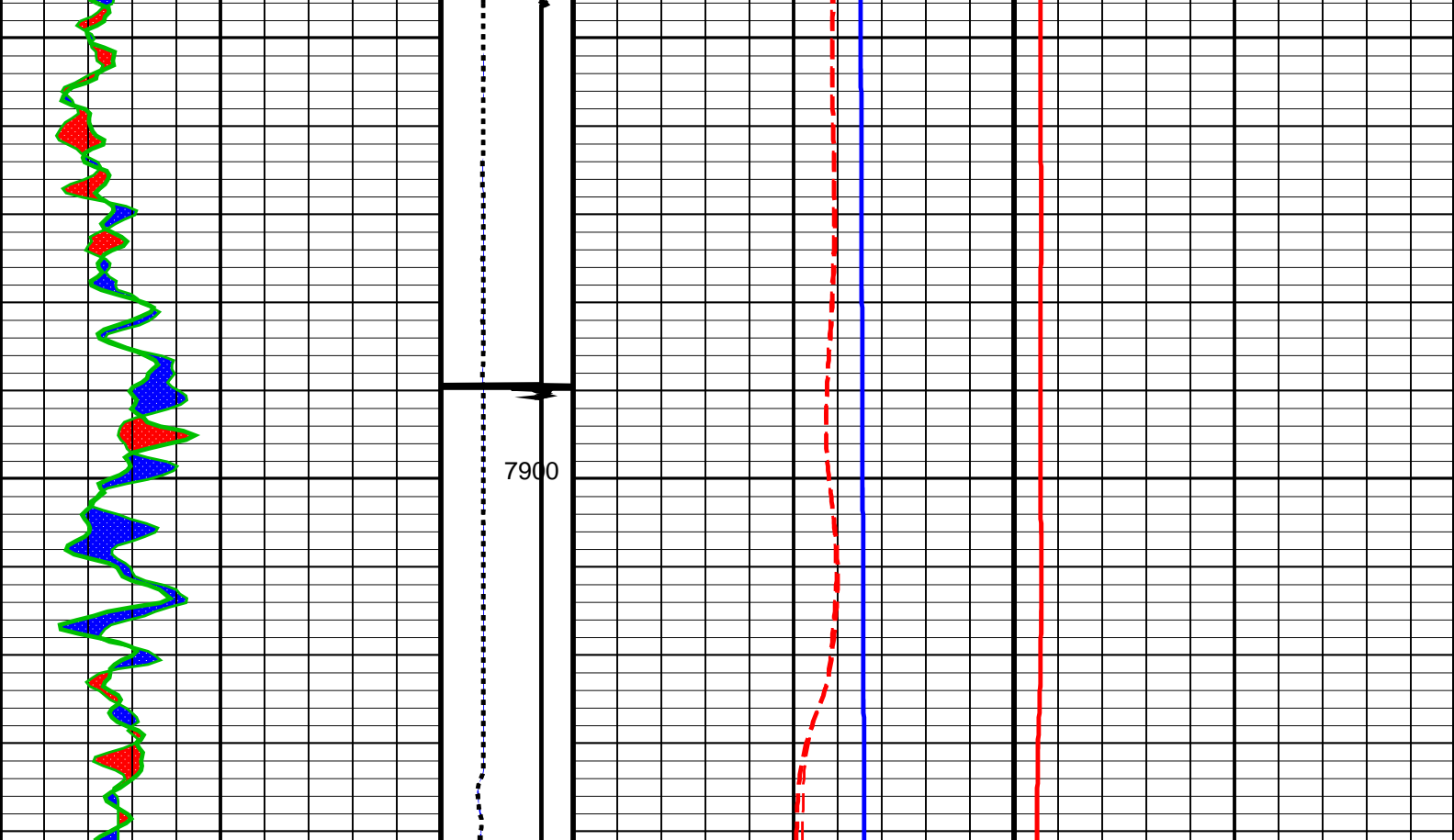
Input DLIS Files					
DEFAULT	Flip_HBMS_006LUP	PRODUCER	02-Jul-2013 16:11	7951.0 FT	7689.5 FT
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	02-Jul-2013 16:12	7946.5 FT
					-19.0 FT
Output DLIS Files					
DEFAULT	HBMS_008PUP	FN:5	PRODUCER	02-Jul-2013 16:18	7941.0 FT
					7679.5 FT

OP System Version: 19C0-187

PIP SUMMARY

Time Mark Every 60 S





PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
System and Miscellaneous		
DO	Depth Offset for Playback	-10.0 FT
DORL	Depth Offset for Repeat Analysis	0.0 FT
PP	Playback Processing	RECOMPUTE

Format: TEMP LOG_REP Vertical Scale: 5" per 100' Graphics File Created: 02-Jul-2013 16:18

OP System Version: 19C0-187

HBMS-B 19C0-187

Input DLIS Files

DEFAULT	Flip_HBMS_006LUP	PRODUCER	02-Jul-2013 16:11	7951.0 FT	7689.5 FT
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	02-Jul-2013 16:12	7946.5 FT
					-19.0 FT

Output DLIS Files

DEFAULT	HBMS_008PUP	FN:5	PRODUCER	02-Jul-2013 16:18
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MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
 Field: PARACHUTE
 Well: HAGEN FEDERAL 22-4B (PC22)
 Run date: 2-Jul-2013

Tool: PSP
 Sub Type: PBMS
 Sensor: CQG

PBMS Quartz Gauge type F

Sonde Serial NB
 Sensor Serial NB
 Calib Date ddmmyy
 Matrix Size
 Coeff CRC

COEFFICIENTS FOR CQG PBMS-B.2880 S/N:
 2880
 260408
 66
 66B8

Pres Coeff

Fb**0

Fb**1

Fb**2

Fc**0	+.694668499013E+04	+.138137467574E-01	-.206148488488E-06
Fc**1	-.104285125976E+01	-.125721589078E-04	-.971577899959E-10
Fc**2	+.101045175546E-05	+.480801816357E-10	+.889110474366E-15
Fc**3	+.127326781620E-11	+.130693902354E-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	-.802395356069E-10	-.148392899370E-14	-.162952476494E-19
Fc**1	+.114970383999E-15	+.186330526680E-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 2880
 Calib Date ddmmyy 260408

Matrix Size66

Coeff CRC3690

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+1.114978632240E+03	−.318843725686E−03	+651766172344E−08
Fb**1	−.590205352250E−02	+1.168686572404E−07	+1.162345150354E−12
Fb**2	−.362996279263E−07	+4.07654559315E−12	+4.452411391342E−17
Fb**3	−.276281361281E−12	+8.71817059405E−17	0.0
Fb**4	0.0	0.0	0.0
Fb**5	0.0	0.0	0.0

	Fc**3	Fc**4	Fc**5
Fb**0	+1.199118144093E−13	−.260997933236E−18	+6.18908211390E−21
Fb**1	+2.50084591851E−17	+4.55070709200E−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 NB2880

Calib Date ddmmyy260408

Matrix Size16

Coeff CRC71B5

Clock Freq Coeff

	(Fb'−Fc')**0	(Fb'−Fc')**1	(Fb'−Fc')**2
(Fb'−Fc')**0	+3.10736316923E+05	+2.73670214709E−02	+7.31815197856E−06

	(Fb'−Fc')**3	(Fb'−Fc')**4	(Fb'−Fc')**5
(Fb'−Fc')**0	−.654219198492E−10	−.150585137208E−15	−.117697151708E−19

PBMS Quartz Gauge type F

Sonde Serial NB:

Sensor Serial NB2880

Calib Date ddmmyy260408

Matrix Size16

Coeff CRCECB5

Clock Temp Coeff

	(Fb'−Fc')**0	(Fb'−Fc')**1	(Fb'−Fc')**2
--	--------------	--------------	--------------

(Fb'–Fc')**0		+ .116053417872E+03	– .554118045908E–02	– .348241454518E–07
		(Fb'–Fc')**3	(Fb'–Fc')**4	(Fb'–Fc')**5
(Fb'–Fc')**0		+ .207992675474E–12	– .353168788938E–17	– .345142848607E–21
Client:	ENCANA OIL & GAS (USA) INC			Tool: PSP
Field:	PARACHUTE			Sub Type: PBMS
Well:	HAGEN FEDERAL 22–4B (PC22)			Sensor: WellTemp RTD
Run date:	2–Jul–2013			

PBMS RTD Well Thermometer

Sonde Serial NB	COEFFICIENTS FOR RTD THERMOMETER PBMS–B.2880 S/N:
Sensor Serial NB	2880
Calib Date ddmmyy	260408
Matrix Size	16
Coeff CRC	A3AF

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	– .104337336008E+04	+ .798824971753E+03	– .251944021281E+03
	Tt**3	Tt**4	Tt**5
Tt**0	+ .406192777109E+02	– .240958437264E+01	0.0

Client:	ENCANA OIL & GAS (USA) INC			Tool: PSP
Field:	PARACHUTE			Sub Type: PBMS
Well:	HAGEN FEDERAL 22–4B (PC22)			Sensor: GR
Run date:	2–Jul–2013			

PBMS Gamma Ray

Sonde Serial NB	RESISTORS FOR GR SENSOR N.34384,TOOL HBMS–BA2880. SENSOR S/N:
Sensor Serial NB	34384
Calib Date ddmmyy	160206
Matrix Size	12

Coeff CRC	D8B5	
GR HV Rt		
	Rt**0	Rt**1
Rt**0	+.200000000000e+04	+.173000000000e+04

Company:	ENCANA OIL & GAS (USA) INC	Schlumberger
Well:	HAGEN FEDERAL 22–4B (PC22)	
Field:	PARACHUTE	
County:	GARFIELD	
State:	COLORADO	
TEMPERATURE LOG CCL – TEMPERATURE		