

Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-15D(J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

TEMPERATURE LOG
CCL

County:	GARFIELD		
Field:	MAMM CREEK		
Location:	SHL: 1922 FSL & 1896 FEL		
Well:	HMU 6-15AD(J6SEB)		
Company:	ENCANA OIL & GAS (USA) INC		
LOCATION			
SHL: 1922 FSL & 1896 FEL BHL: 997 FSL & 1363 FEL		Elev.: K.B. 7165.00 ft G.L. 7143.00 ft D.F. 7164.00 ft	
Permanent Datum:	GROUND LEVEL	Elev.: 7143.00 ft	
Log Measured From:	KELLY BUSHING	22.00 ft	above Perm. Datum
Drilling Measured From:	KELLY BUSHING		
API Serial No.	Section 6	Township 8S	Range 92W
05-045-21944-00			

	Run 1	Run 2	Run 3
OIL 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	16-Sep-2013		
Run Number	1		
Depth Driller	8843 ft		
Schlumberger Depth	8773 ft		
Bottom Log Interval	8772 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	7.875 in		
From	22 ft		
To	8843 ft		
Casing/Tubing Size	4.500 in		
Weight	11.6 lbm/ft		
Grade	S-80		
From	22 ft		
To	8823 ft		
Maximum Recorded Temperatures	224 degF		
Logger On Bottom	16-Sep-2013	3:30	
Unit Number	Location		
Recorded By	KIRSTIE BUNTING		
Witnessed By	TONY		

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	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 Rig Type: LAND	
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10		
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
FIRST RUN IN HOLE	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE: 03:00	
TIME ON BOTTOM: 203:30	
EXIT: 05:00	

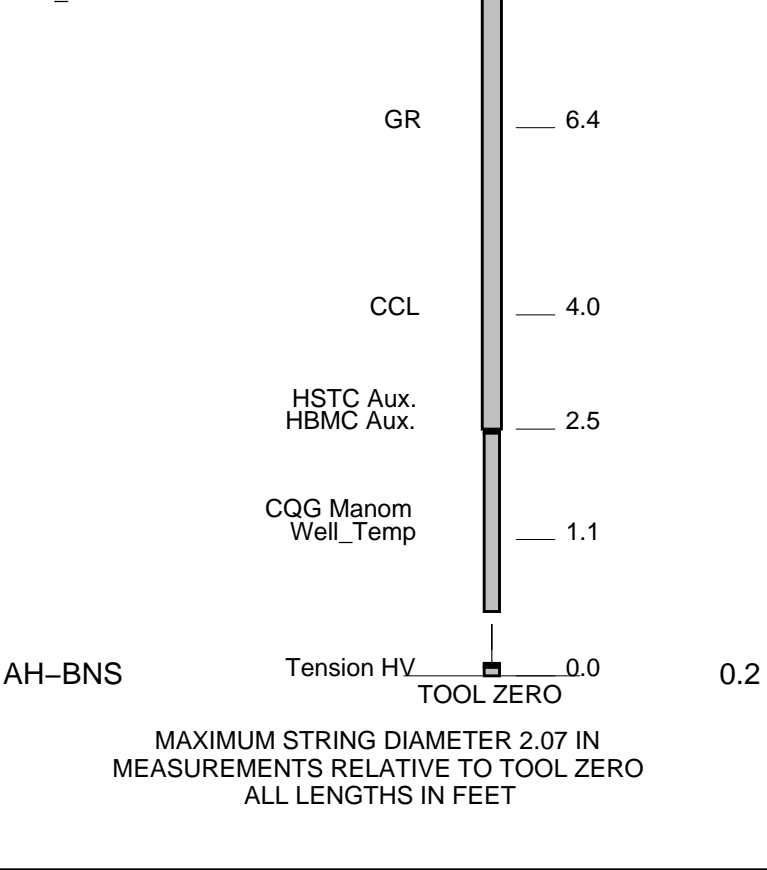
MAXIMUM RECORDED TEMPERATURE: 224 DEGF	
MAXIMUM RECORDED PRESSURE: 3664 PSIA	
SHORT JOINTS: 7625 FT & 6627 FT	
CREW: KBUNTING KJOHNS KBOZARTH	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	

RUN 1 SERVICE ORDER #: CGF9-00145 PROGRAM VERSION: 19C0-187 FLUID LEVEL: 22 ft			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

[illegible]

SURFACE EQUIPMENT		
WITM-A		
PSC_16MHZ		

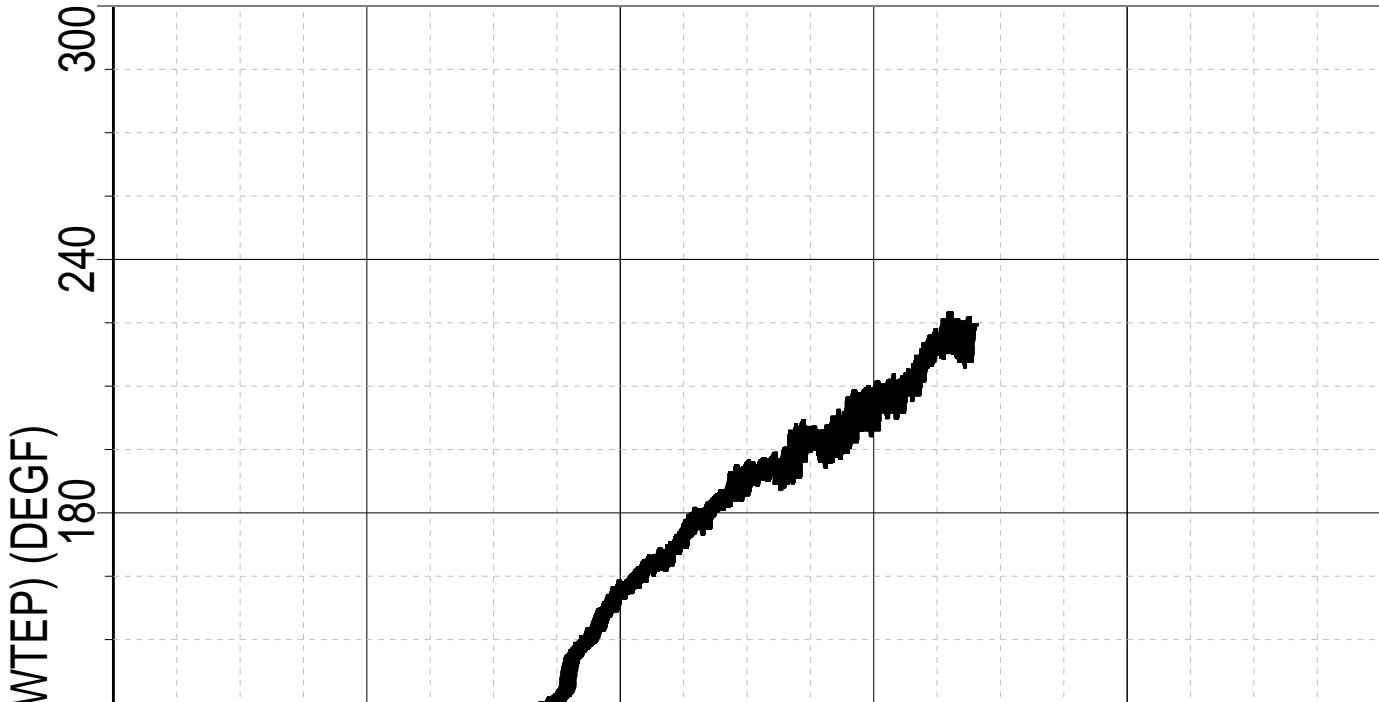
DOWNHOLE EQUIPMENT		
MH-22 MH-22		13.1
AH-38		11.6
HBMS-B PSC-A HUDH-A HSTC-A HBMC-A GR CCL HBMC HTPS-A 2884 HCQG_E_Mano RTD Thermometer		11.3

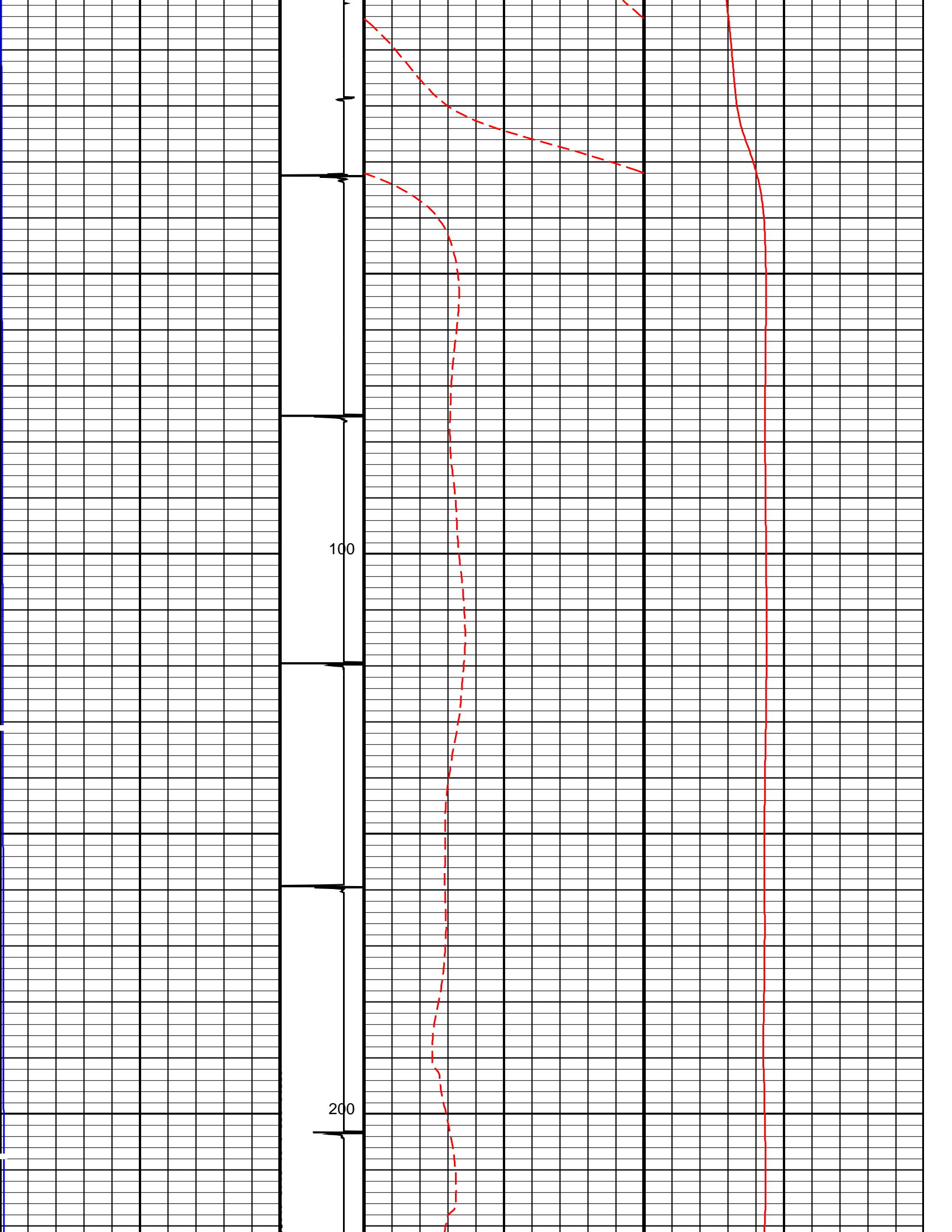


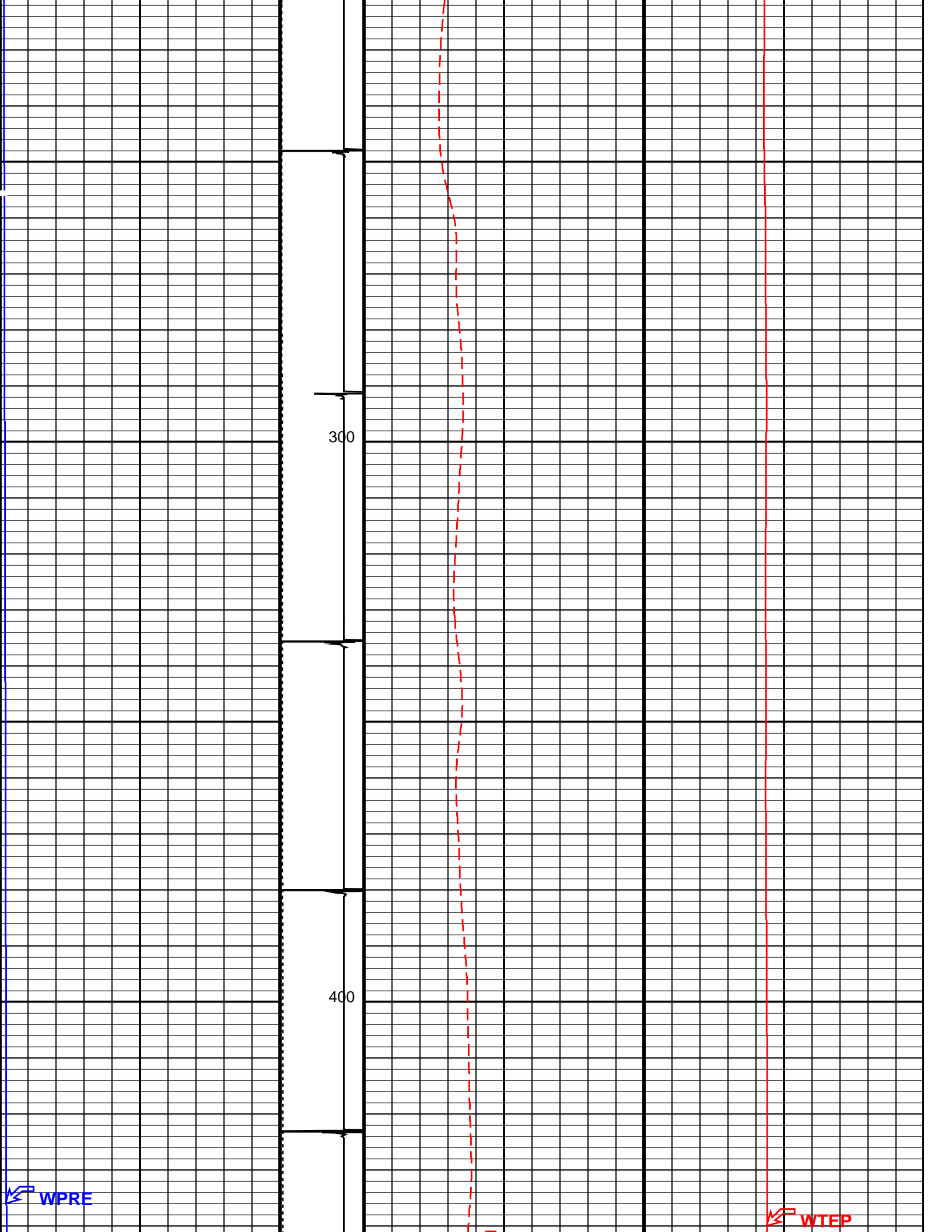
TEMPERATURE PLOT

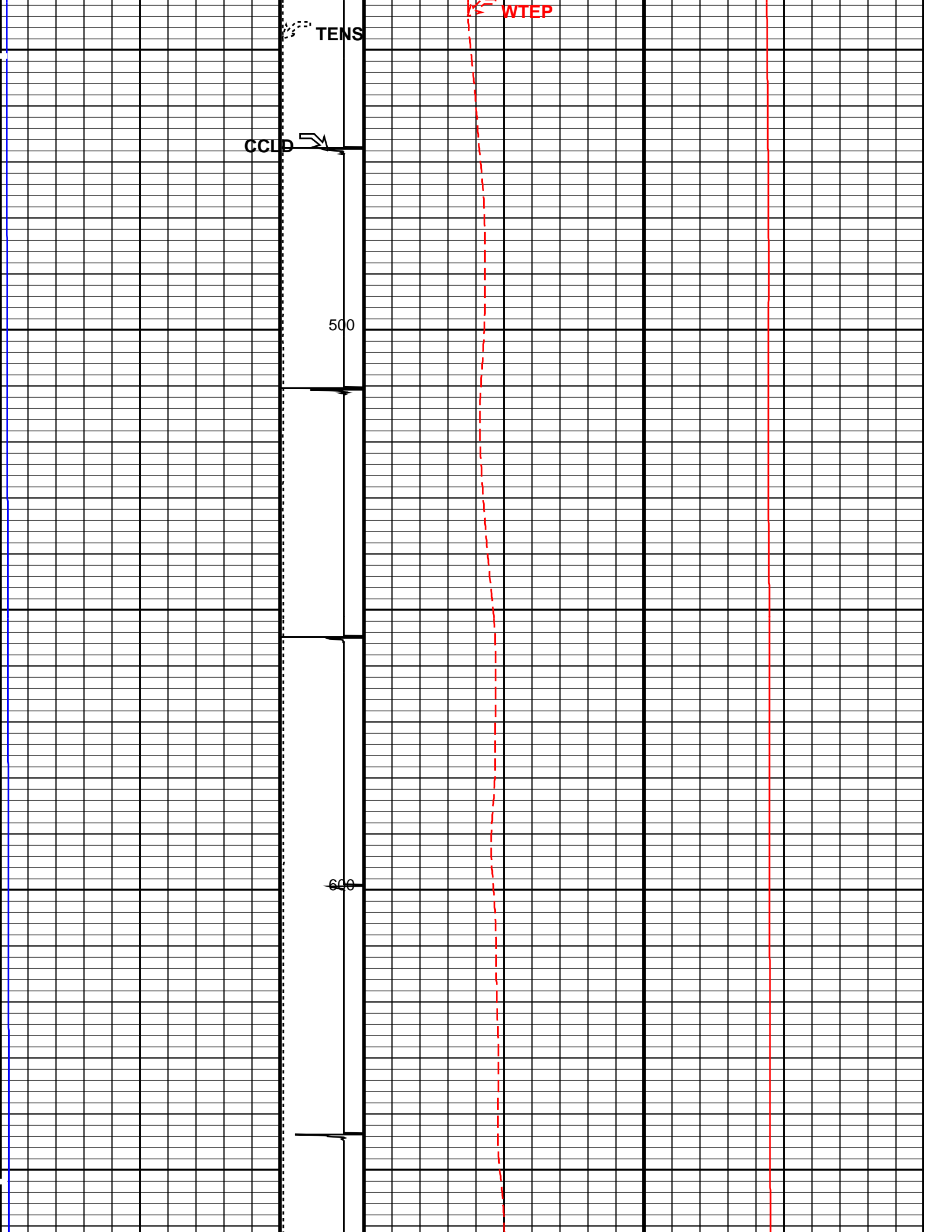
MAXIS Field Log

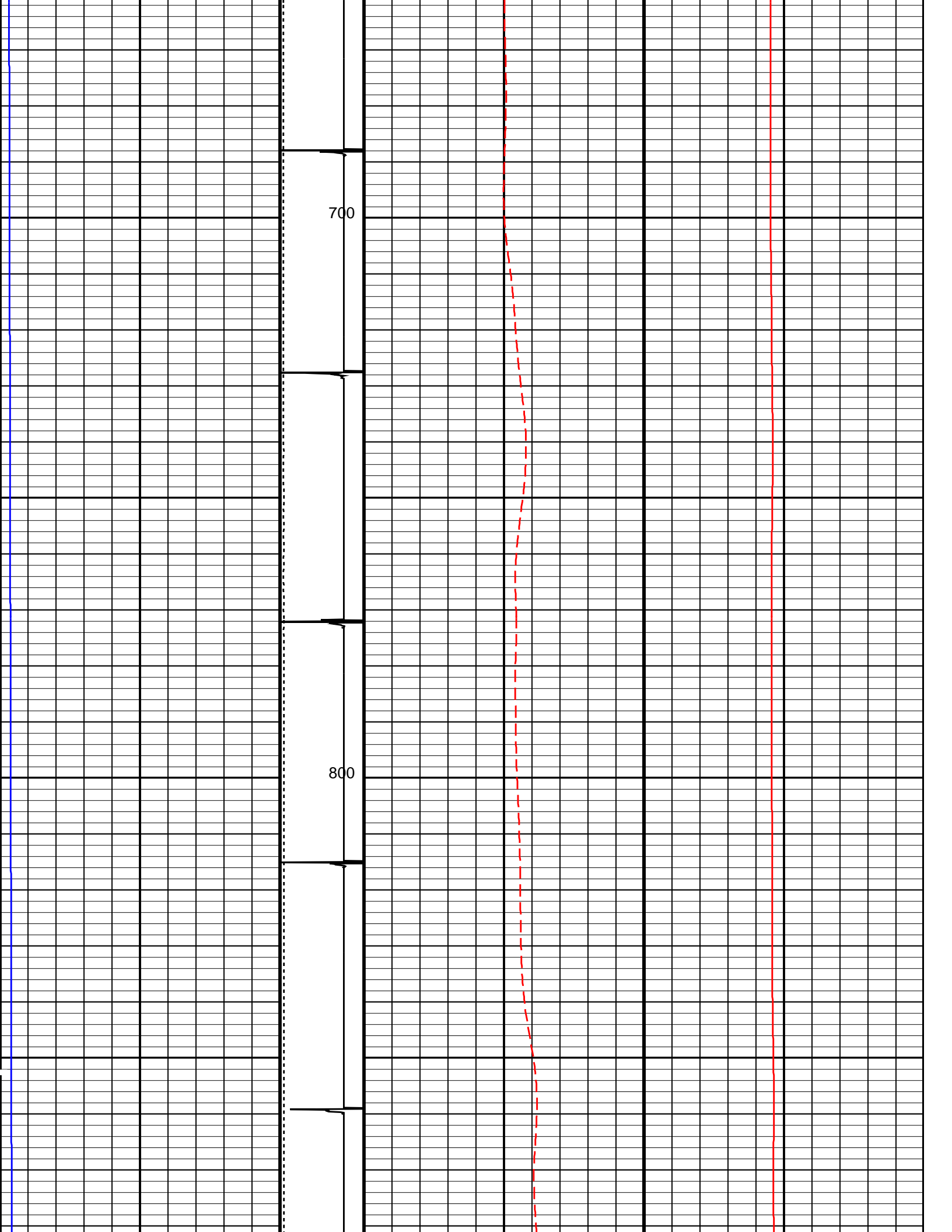
Index: 8785.5 – -17.5 FT

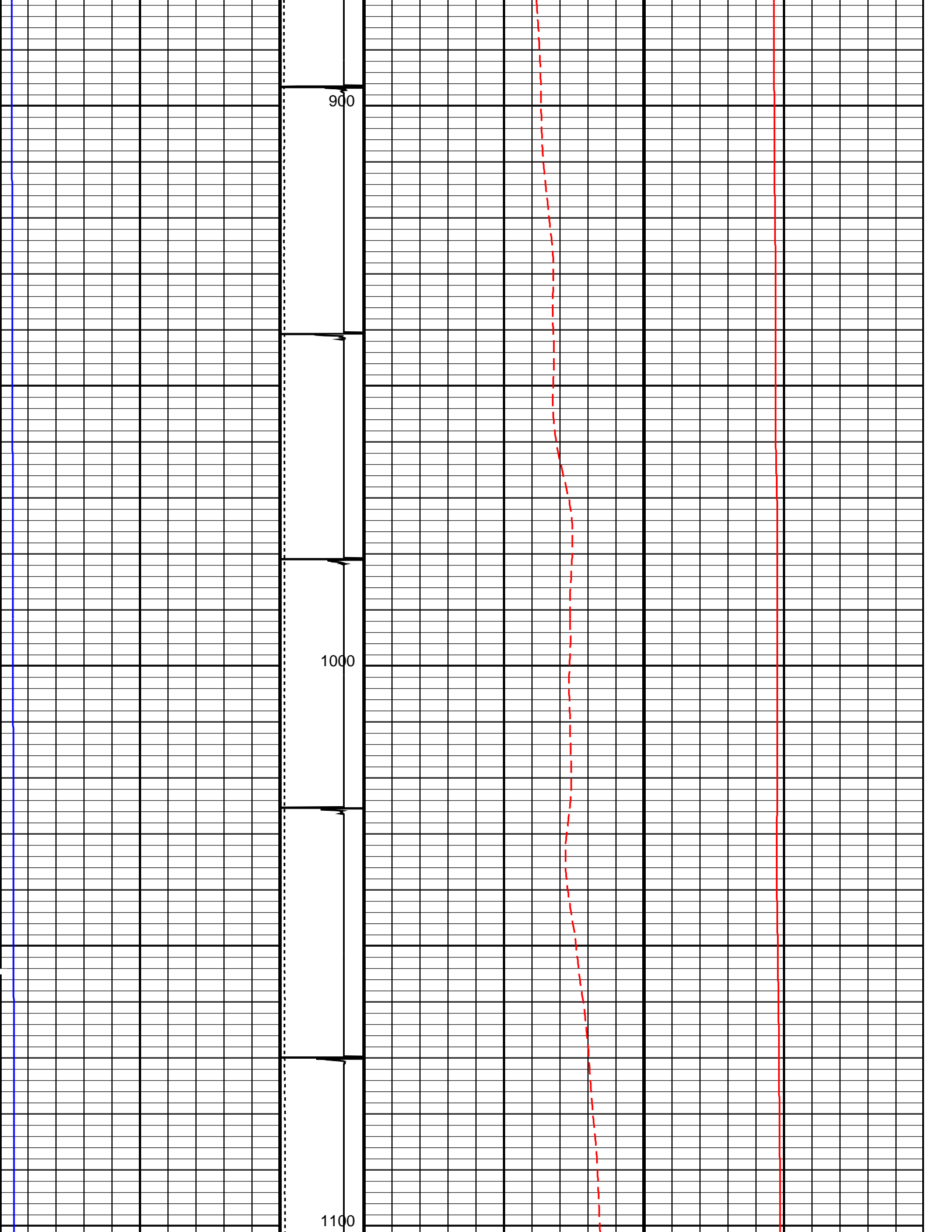


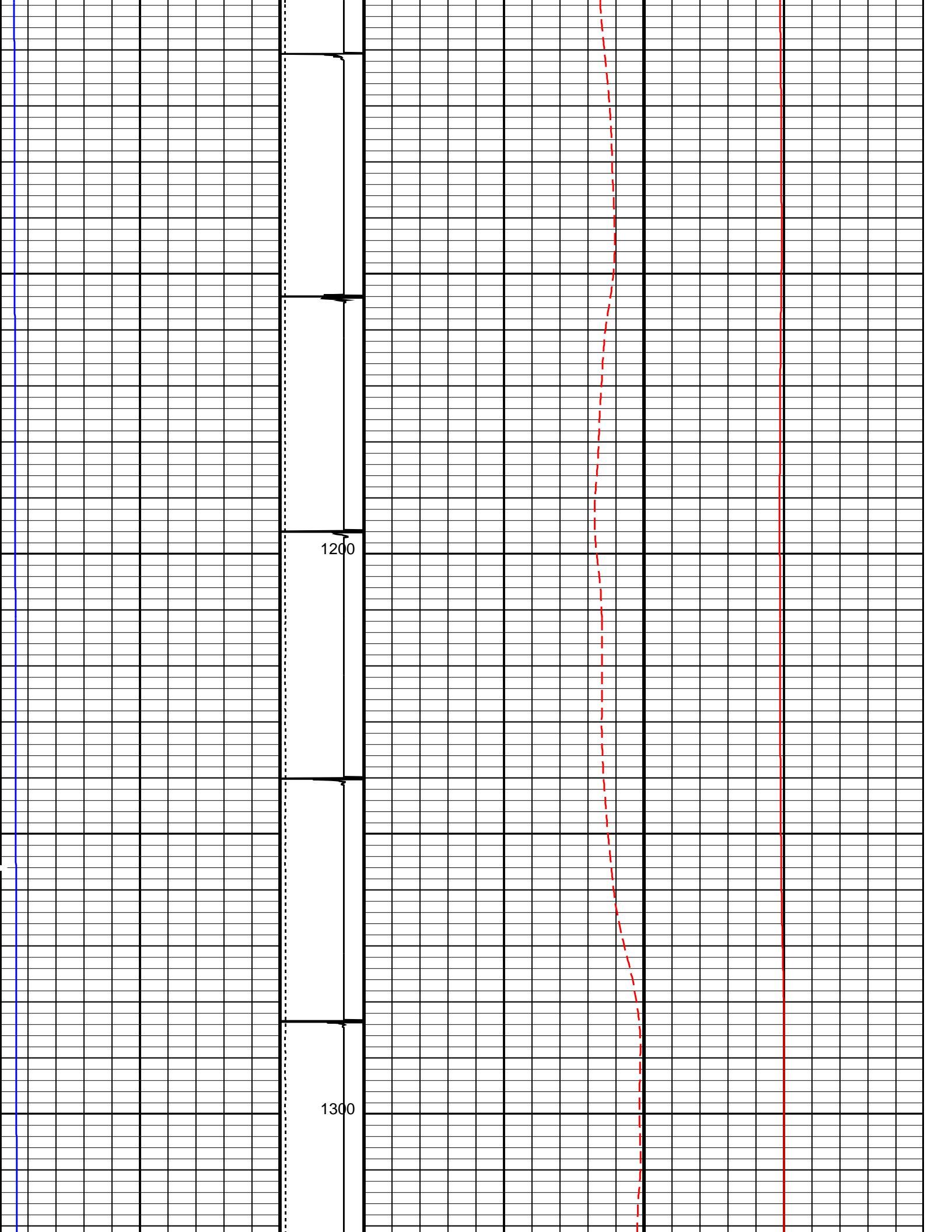


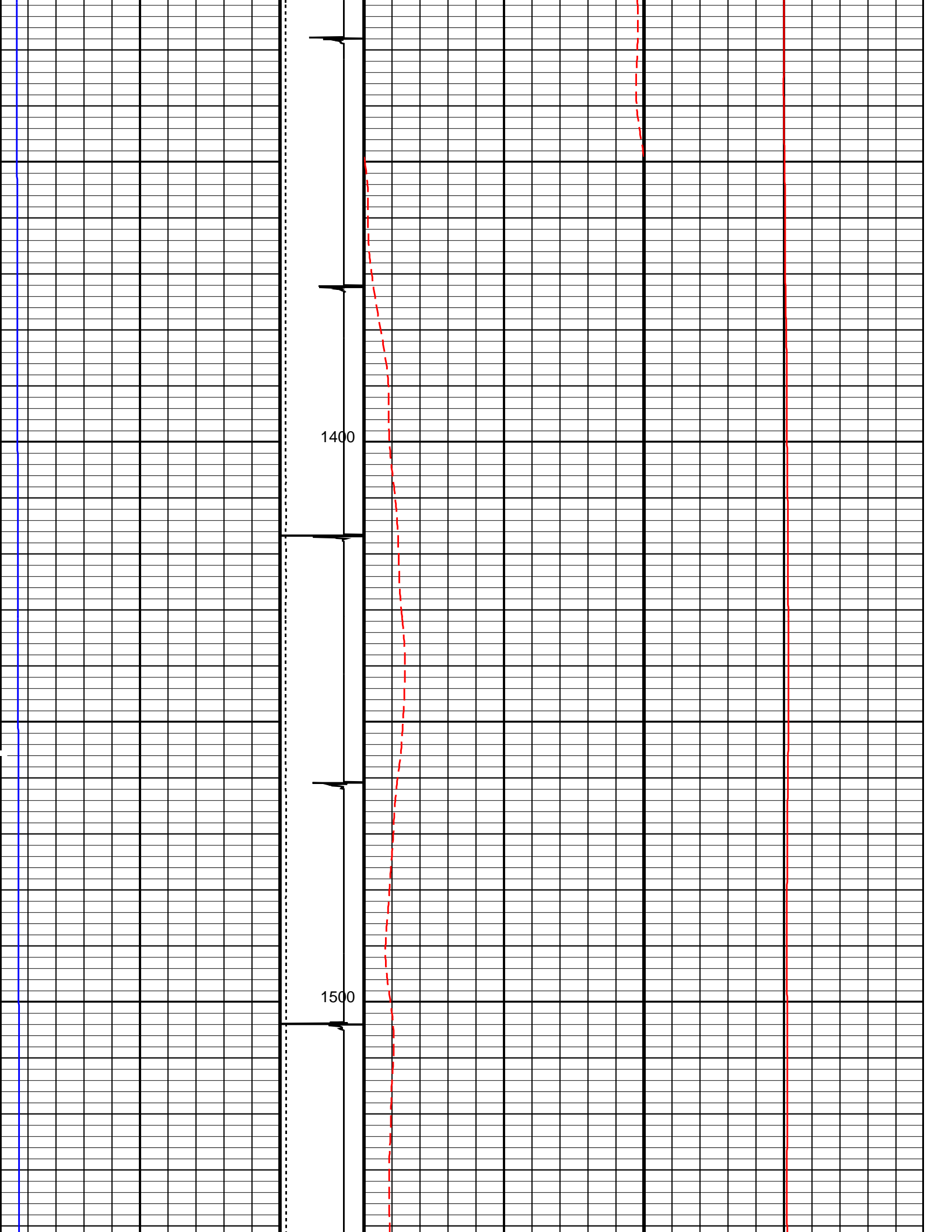


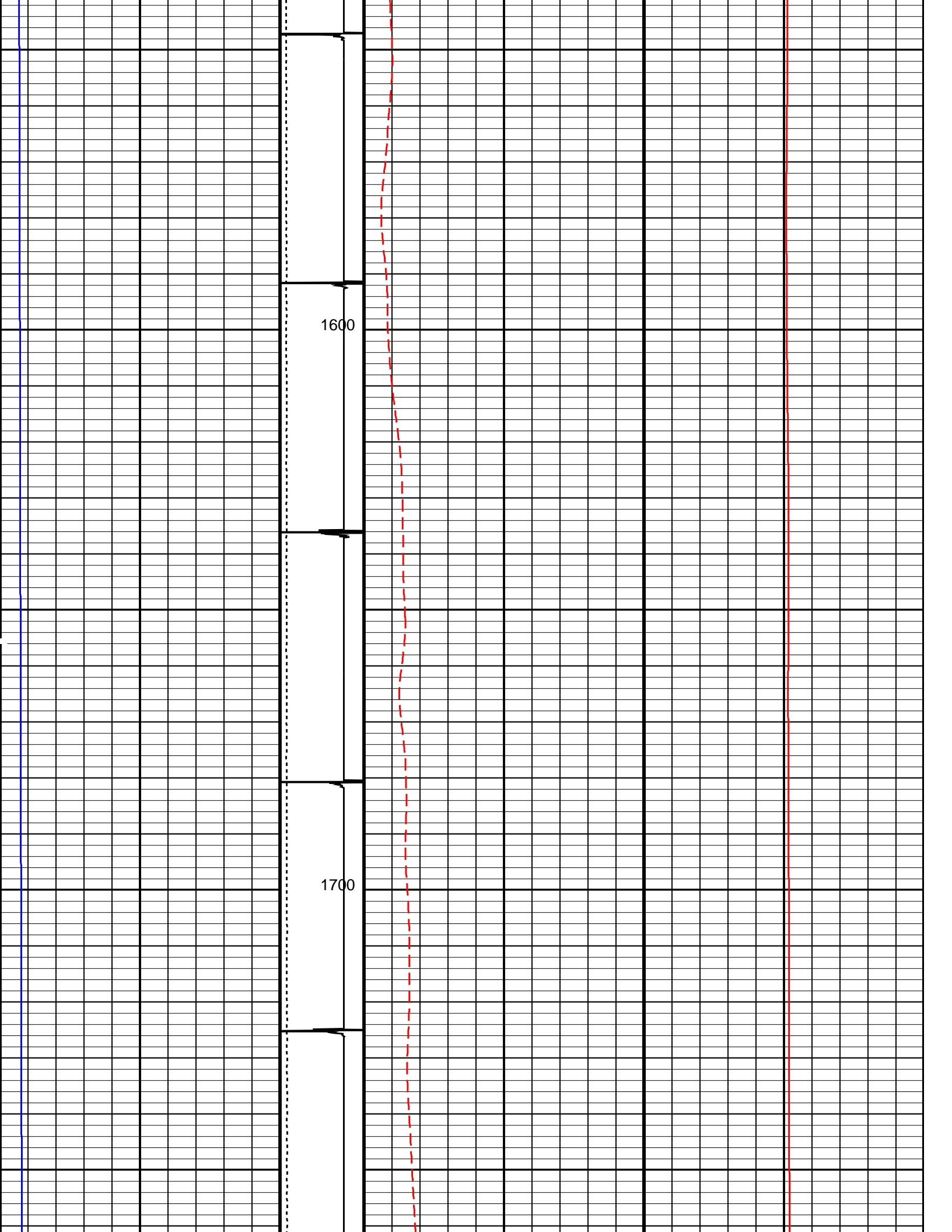


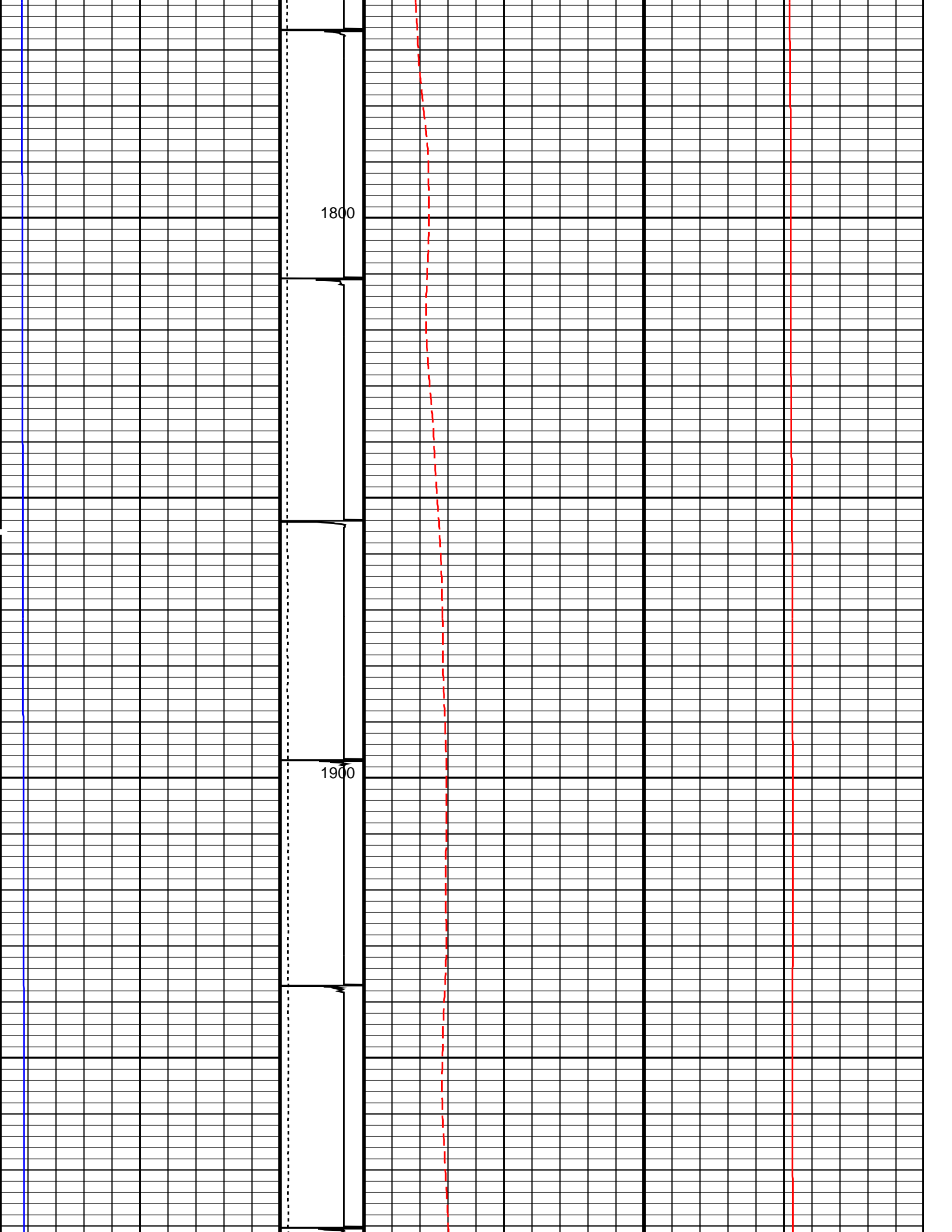


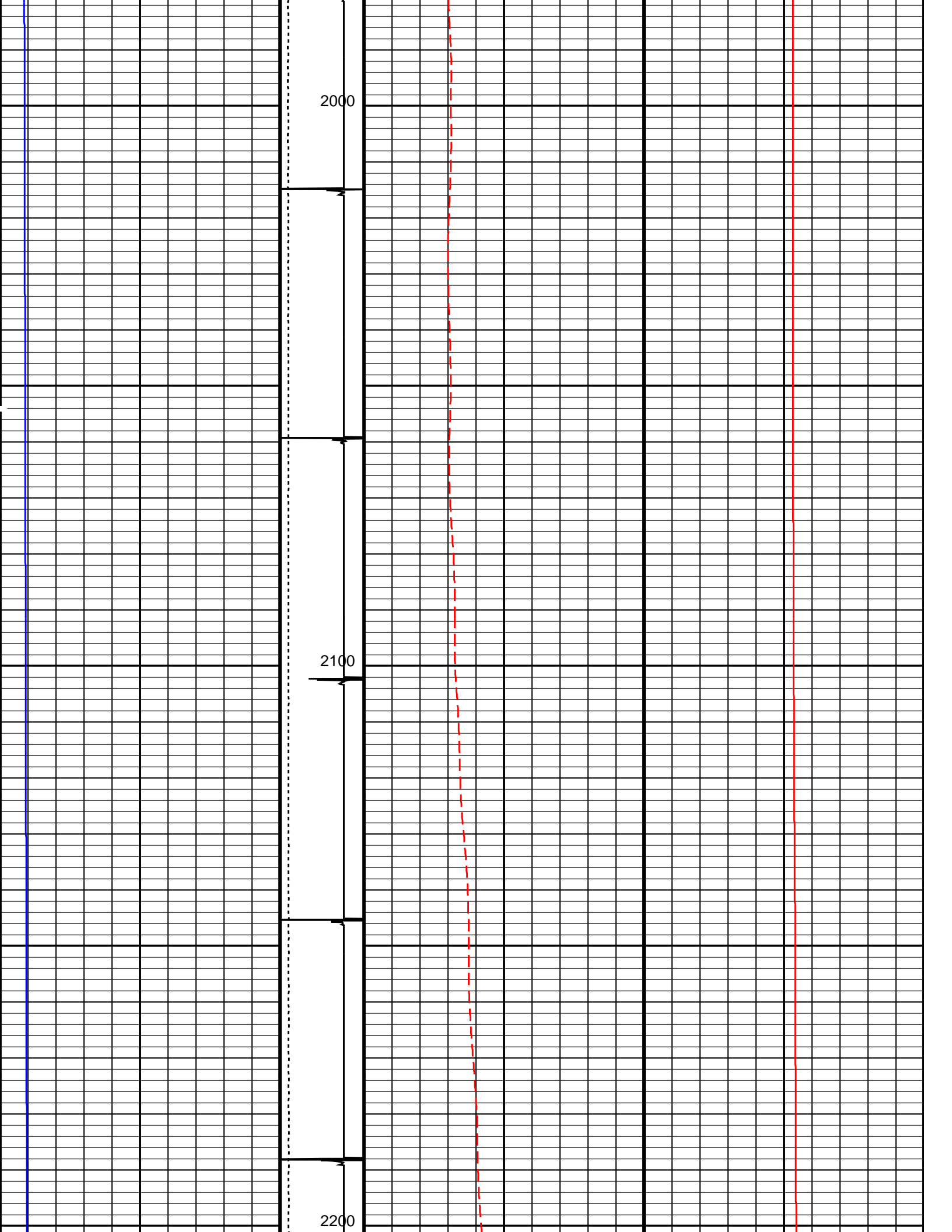


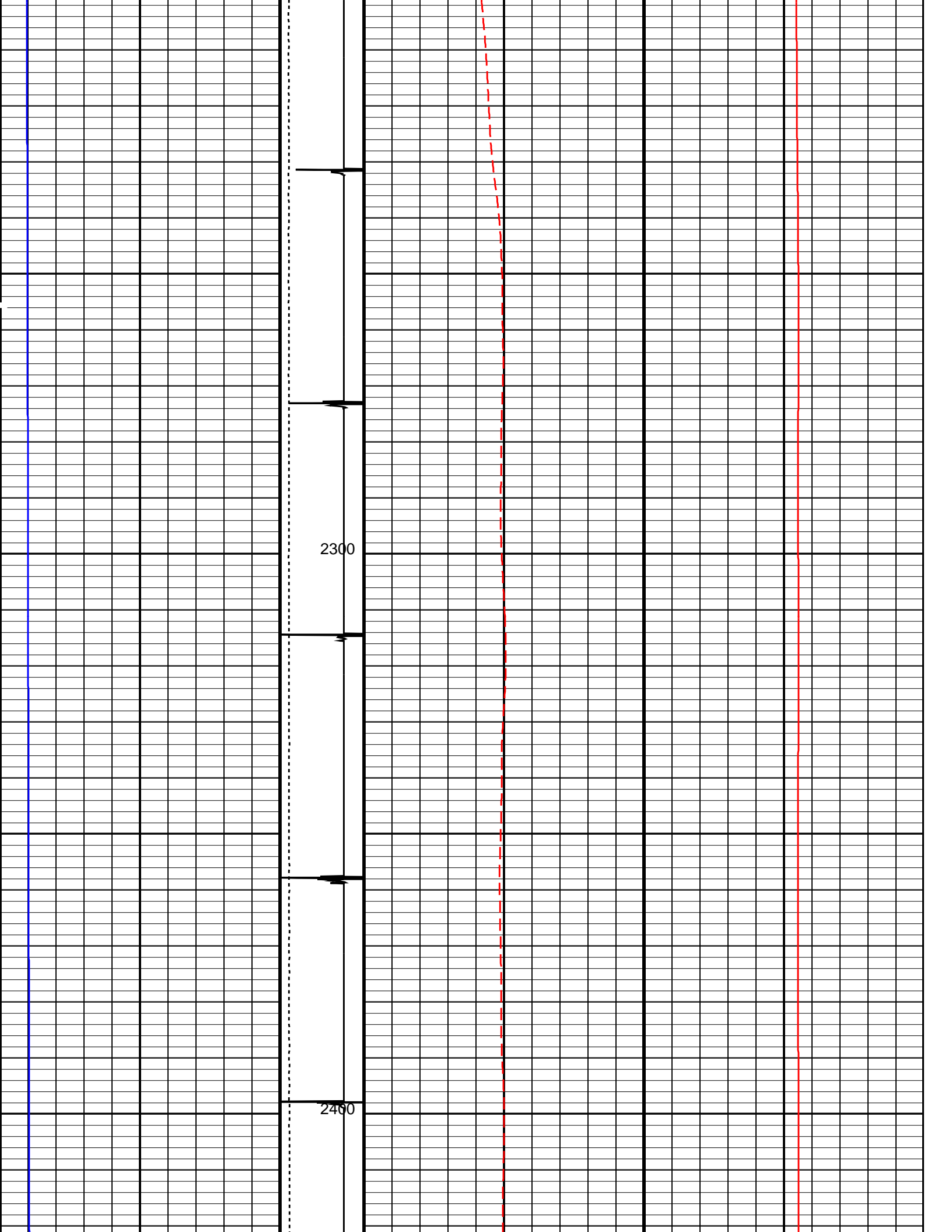


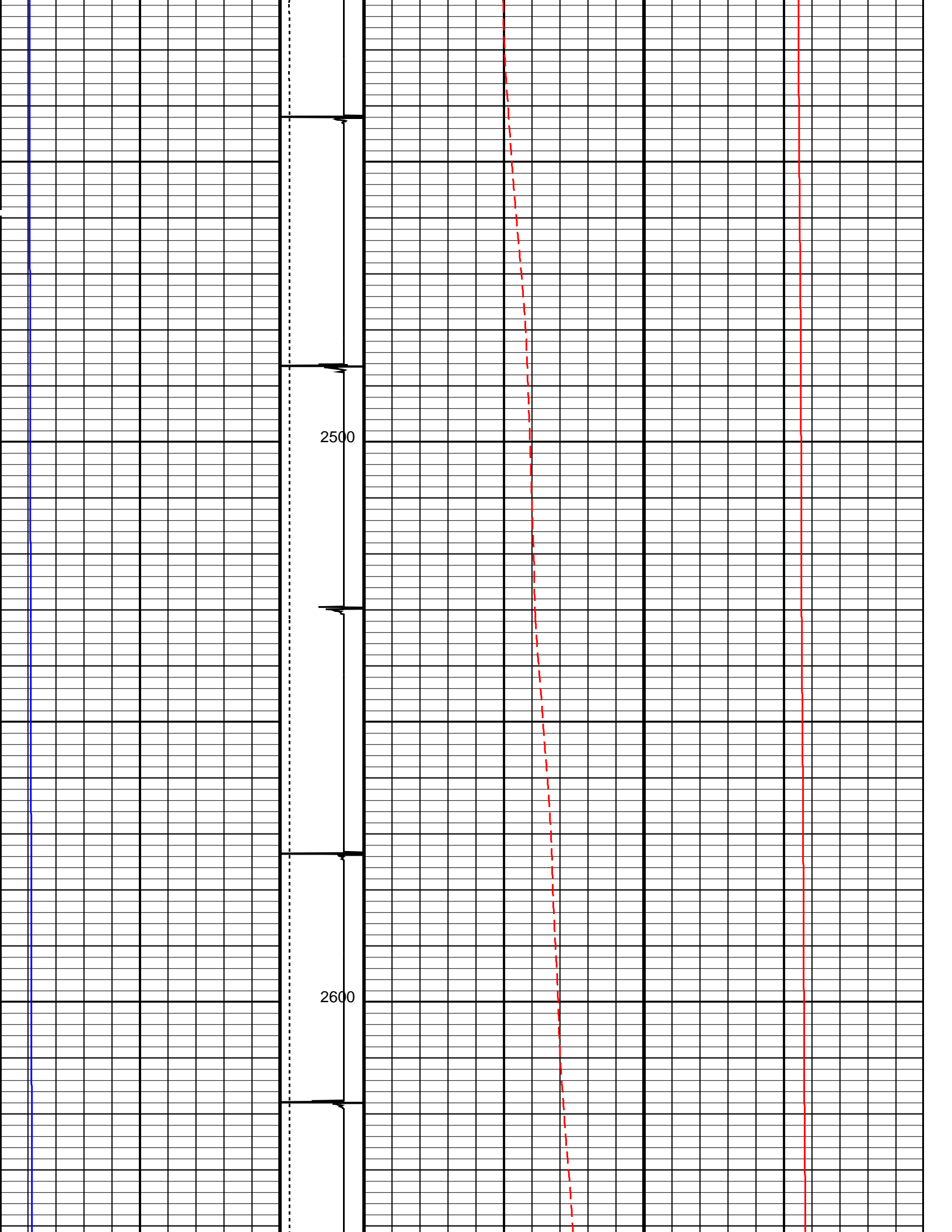


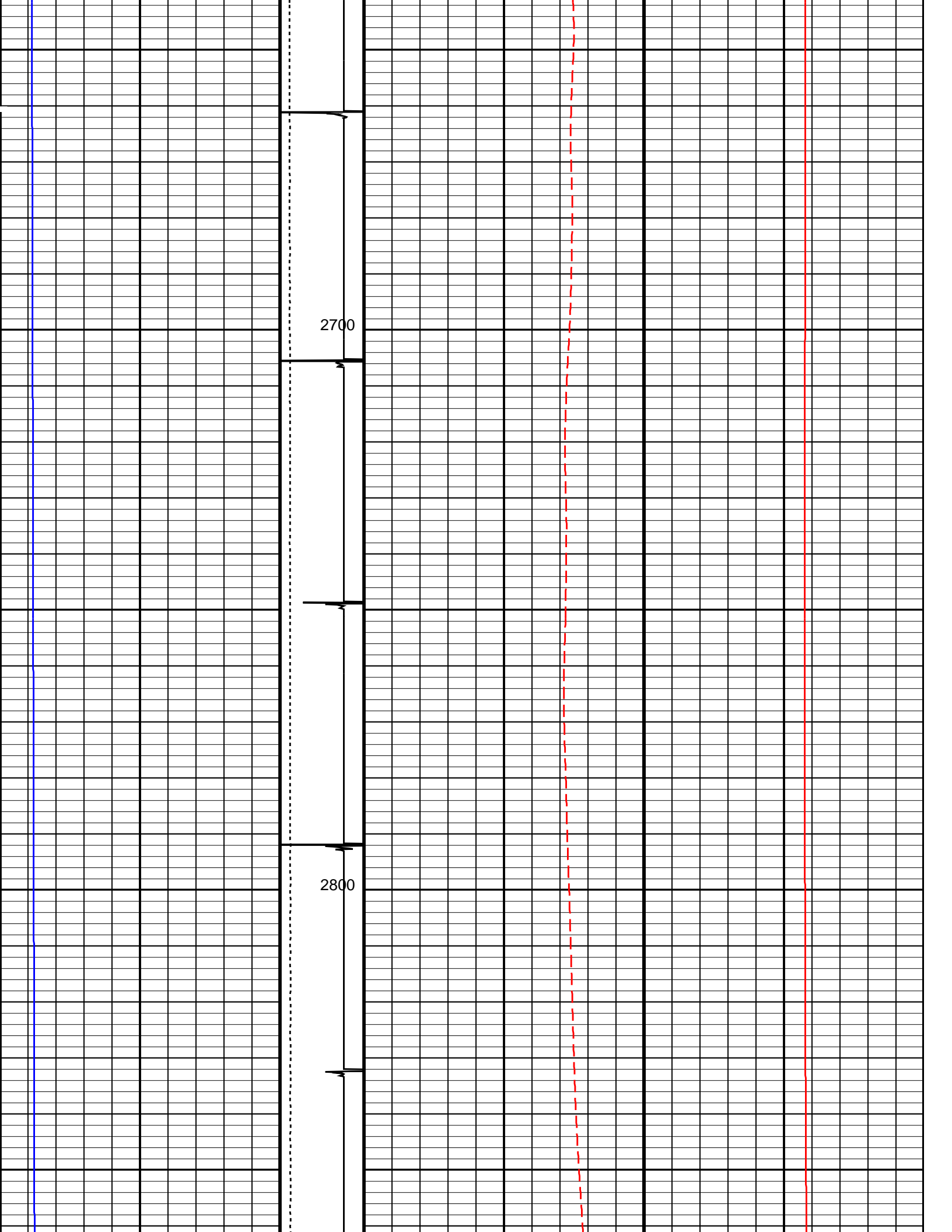


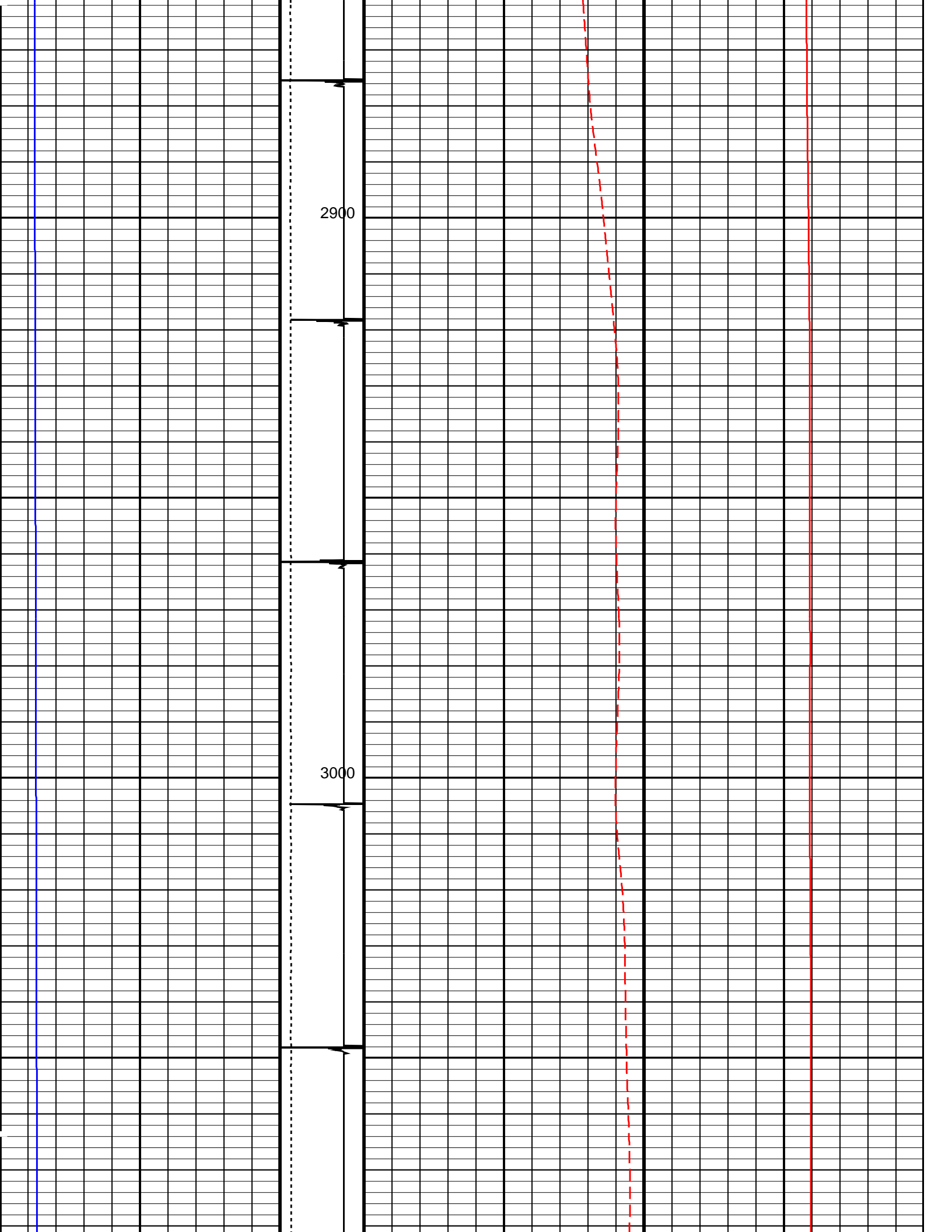


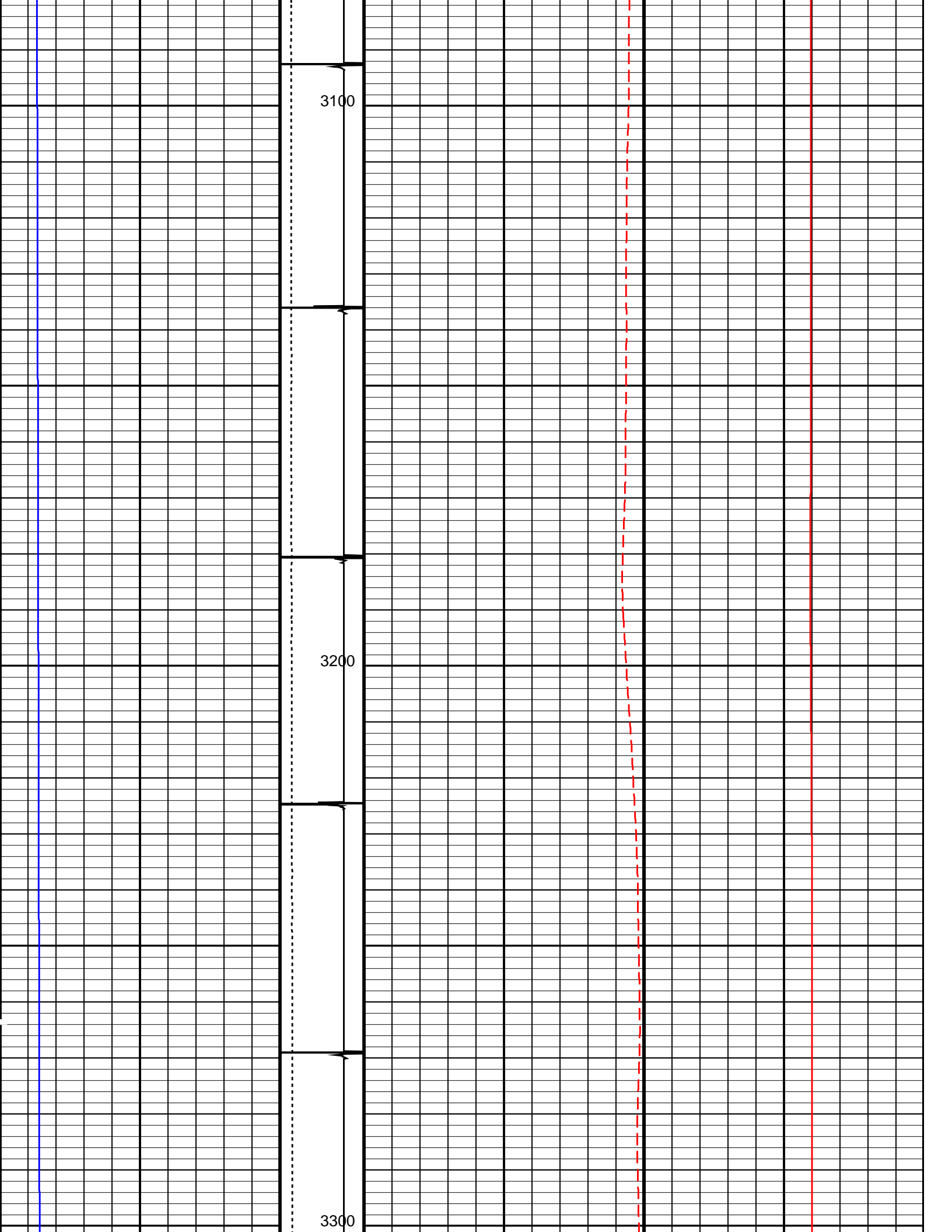


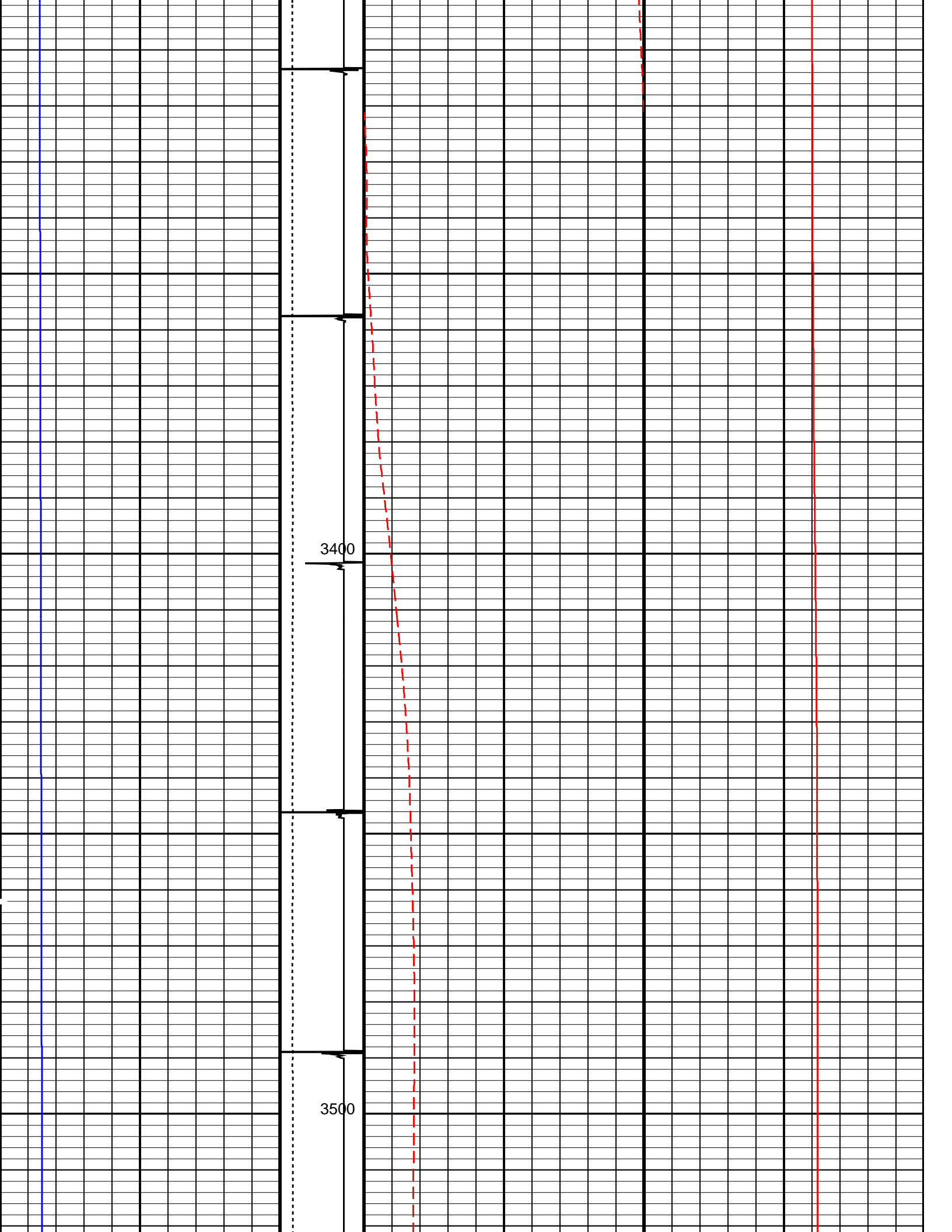


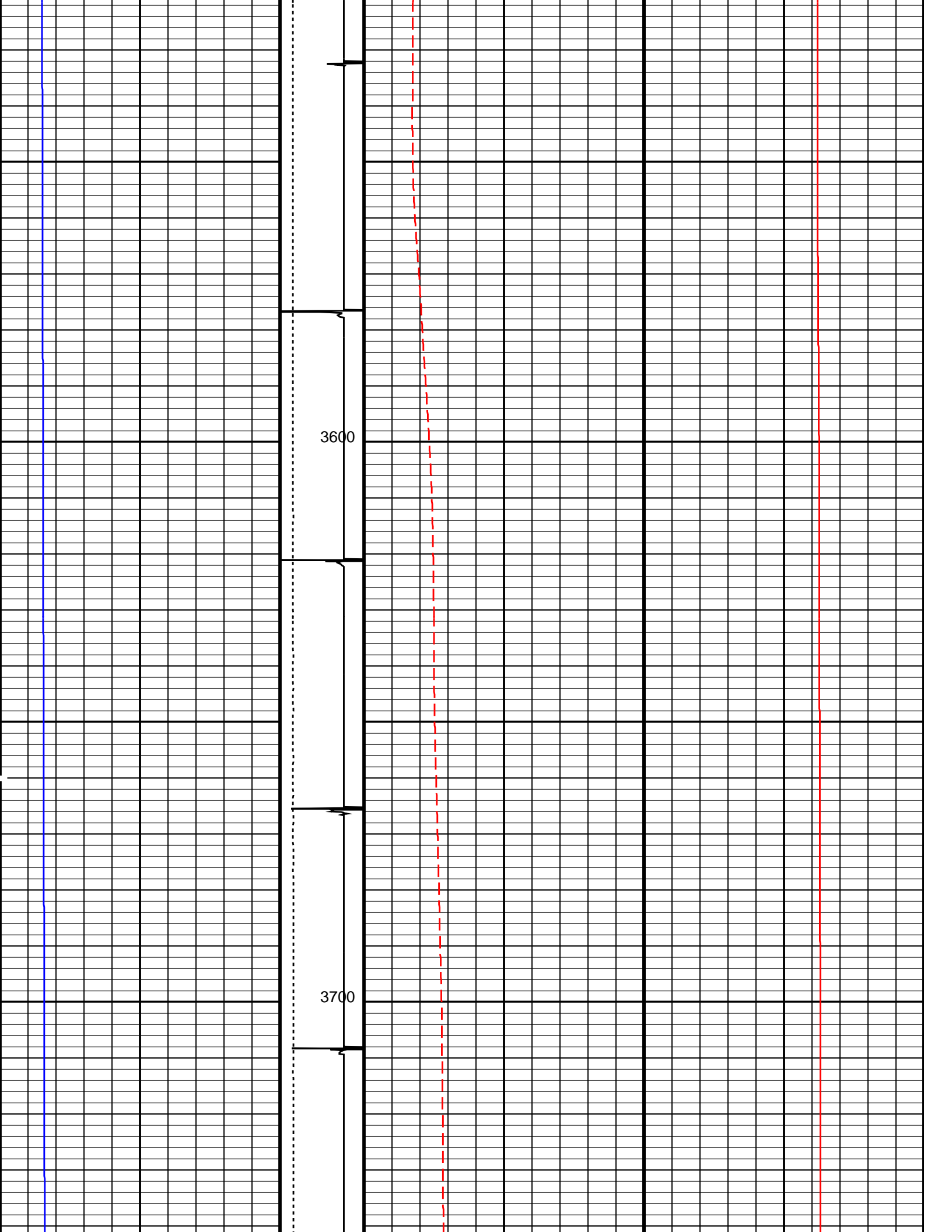


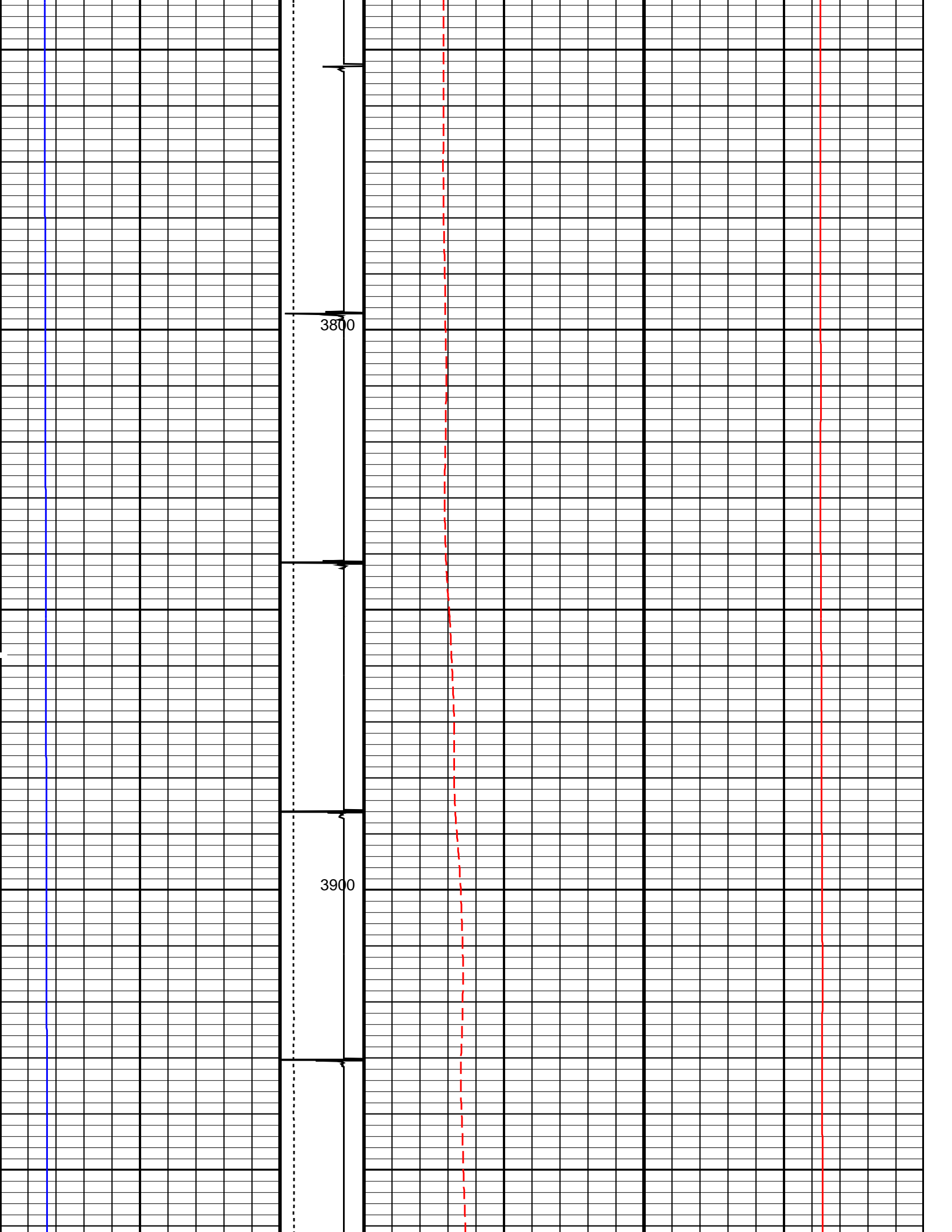


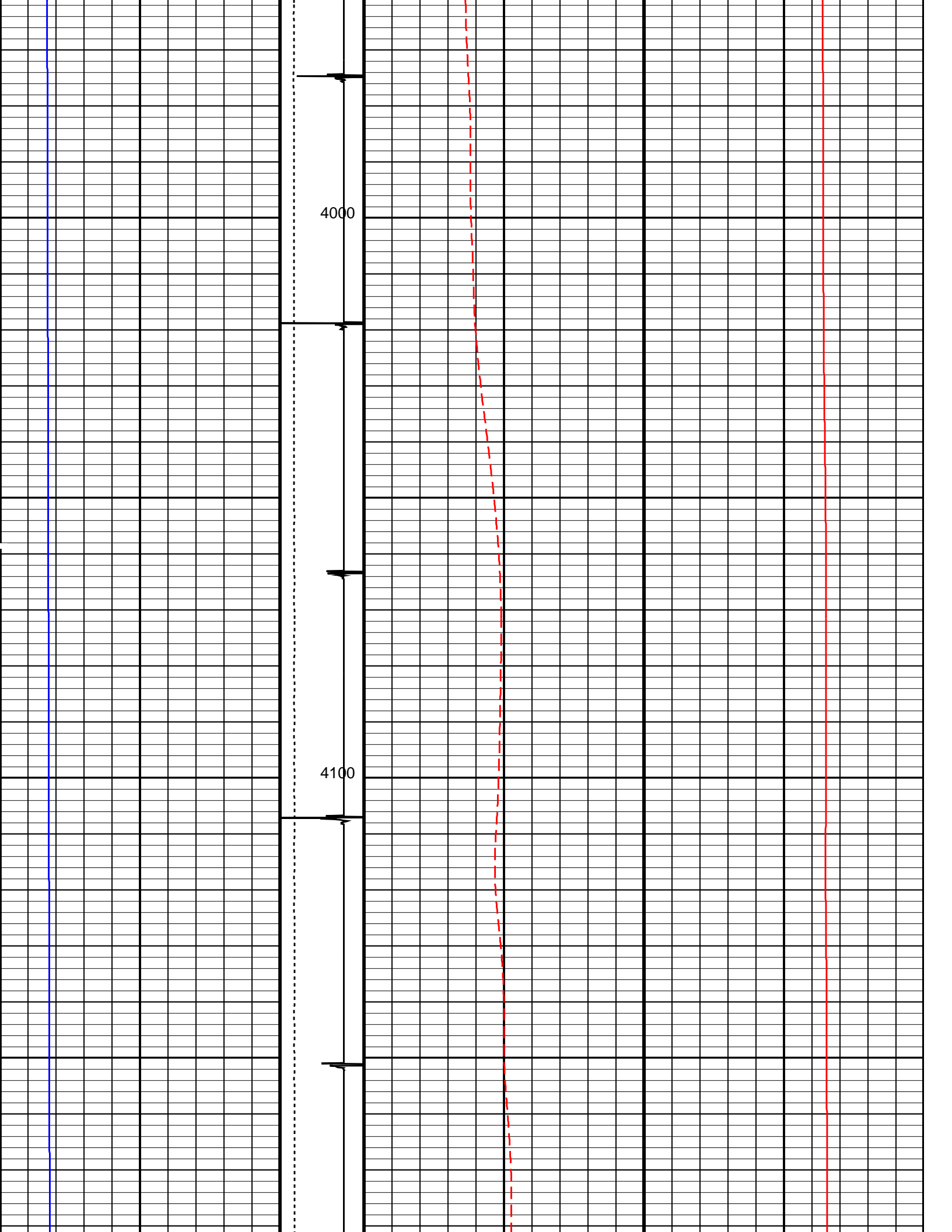


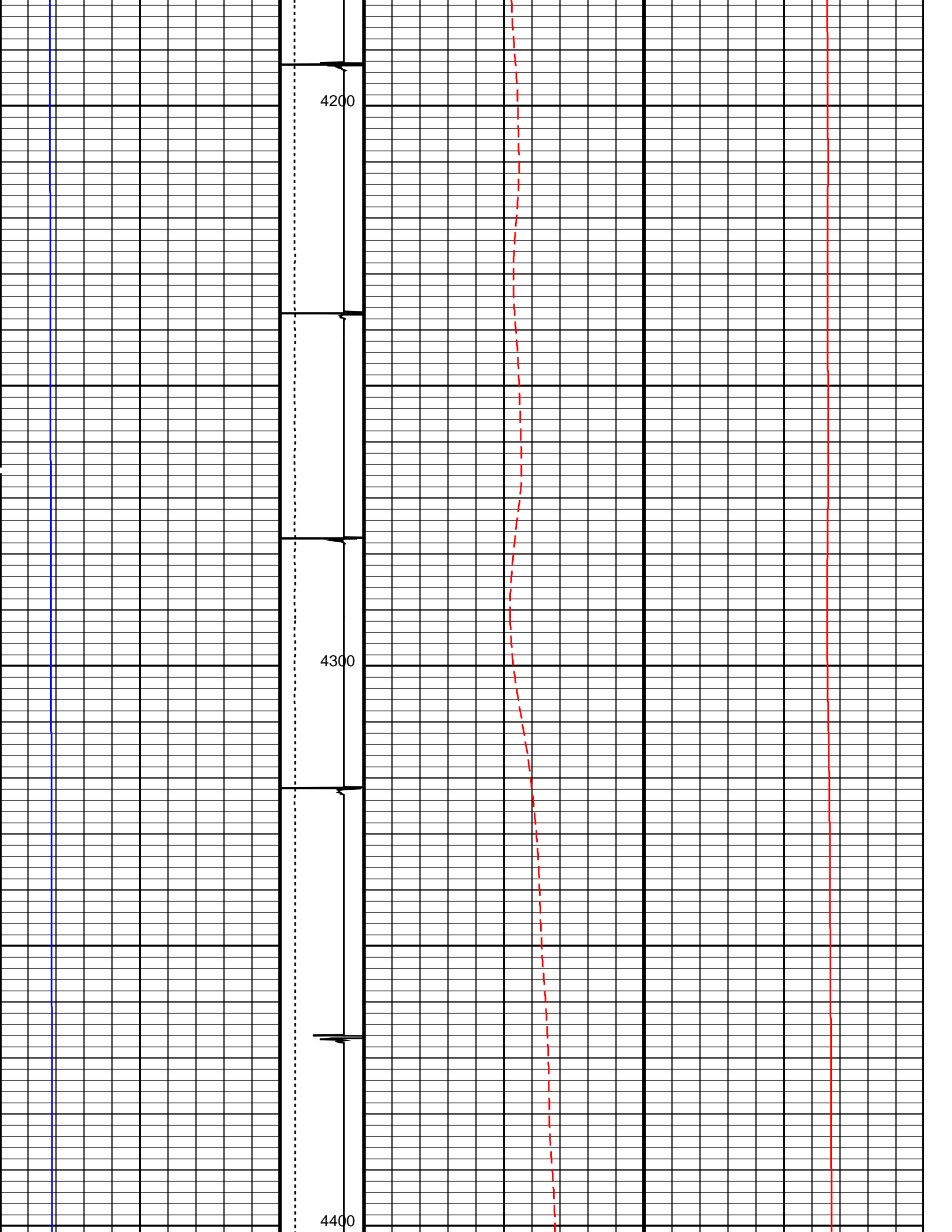


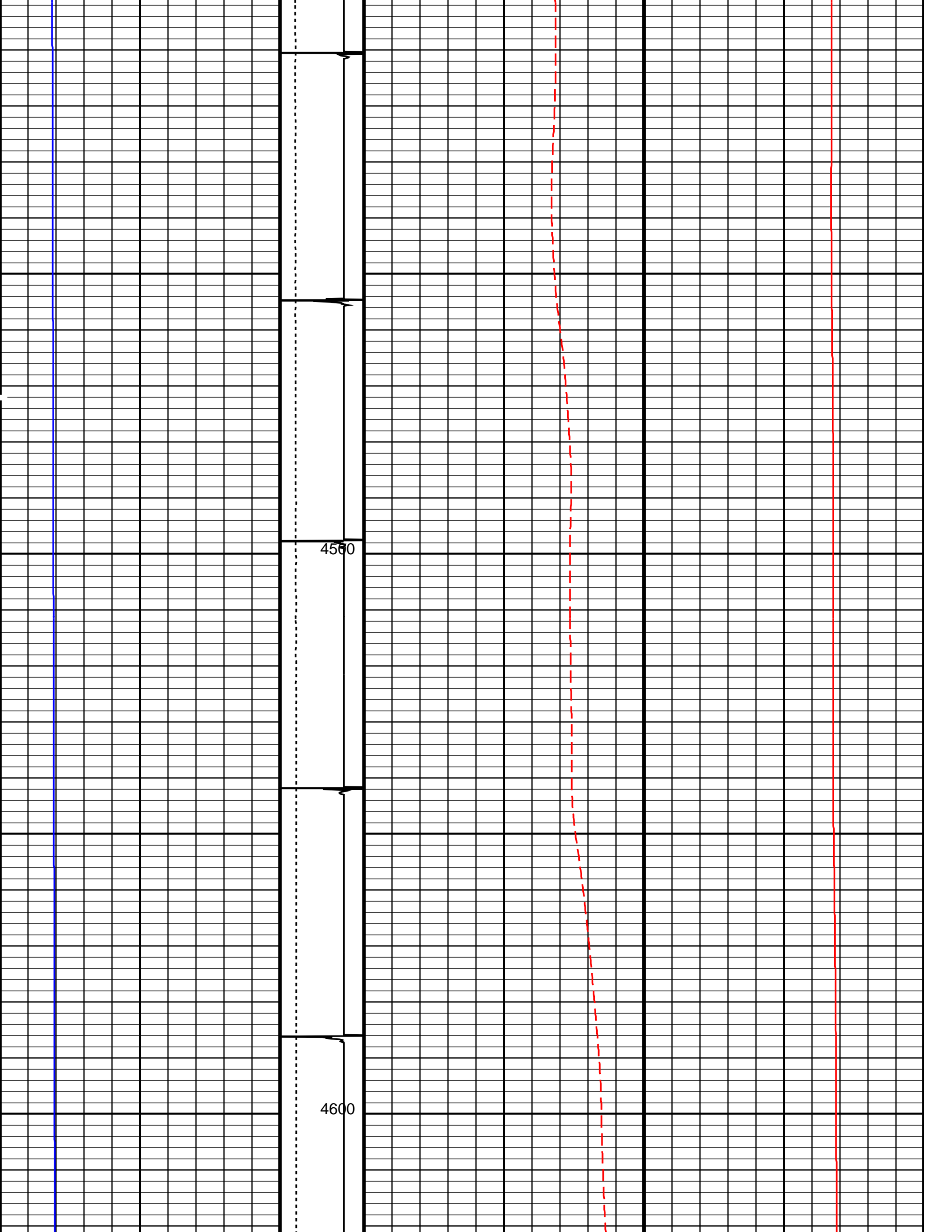


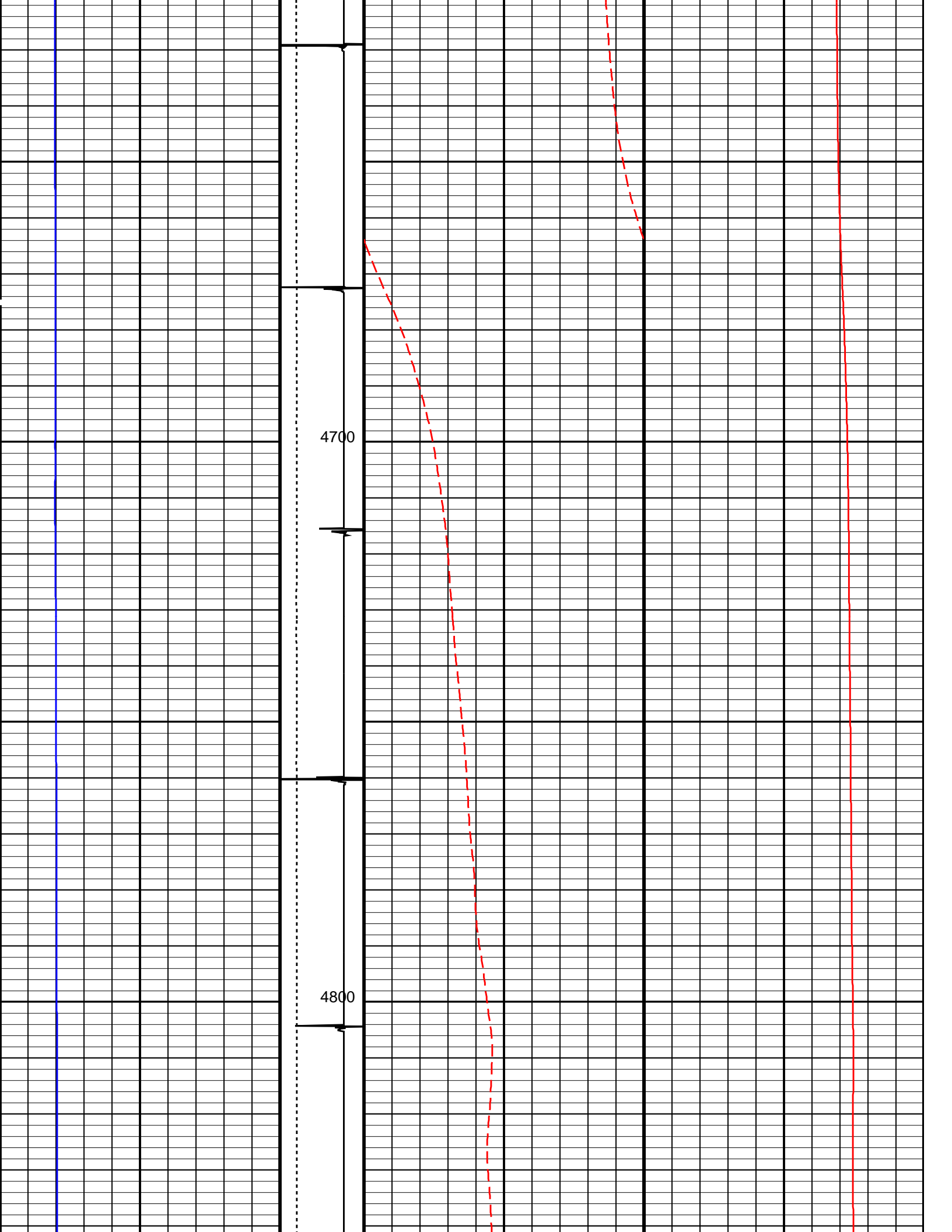


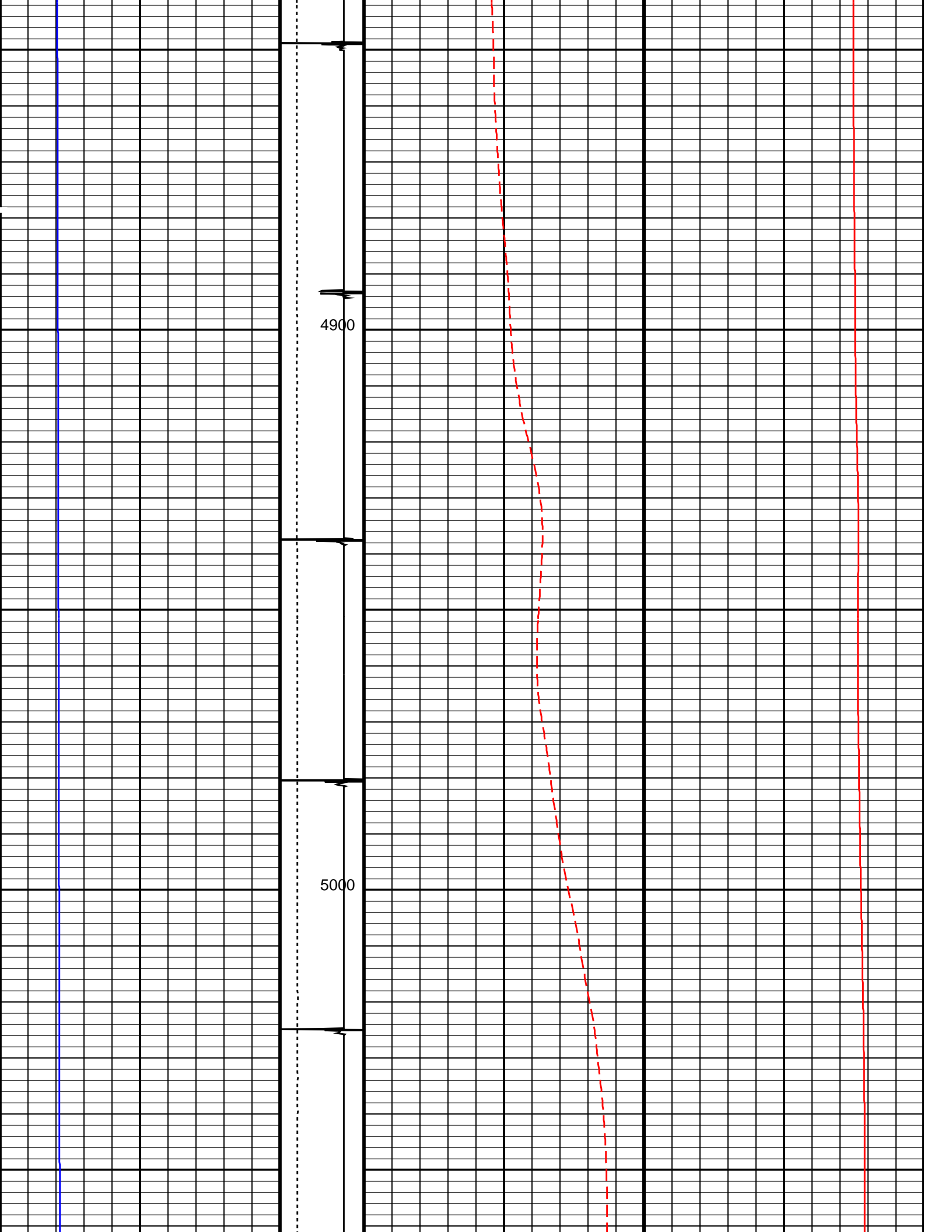


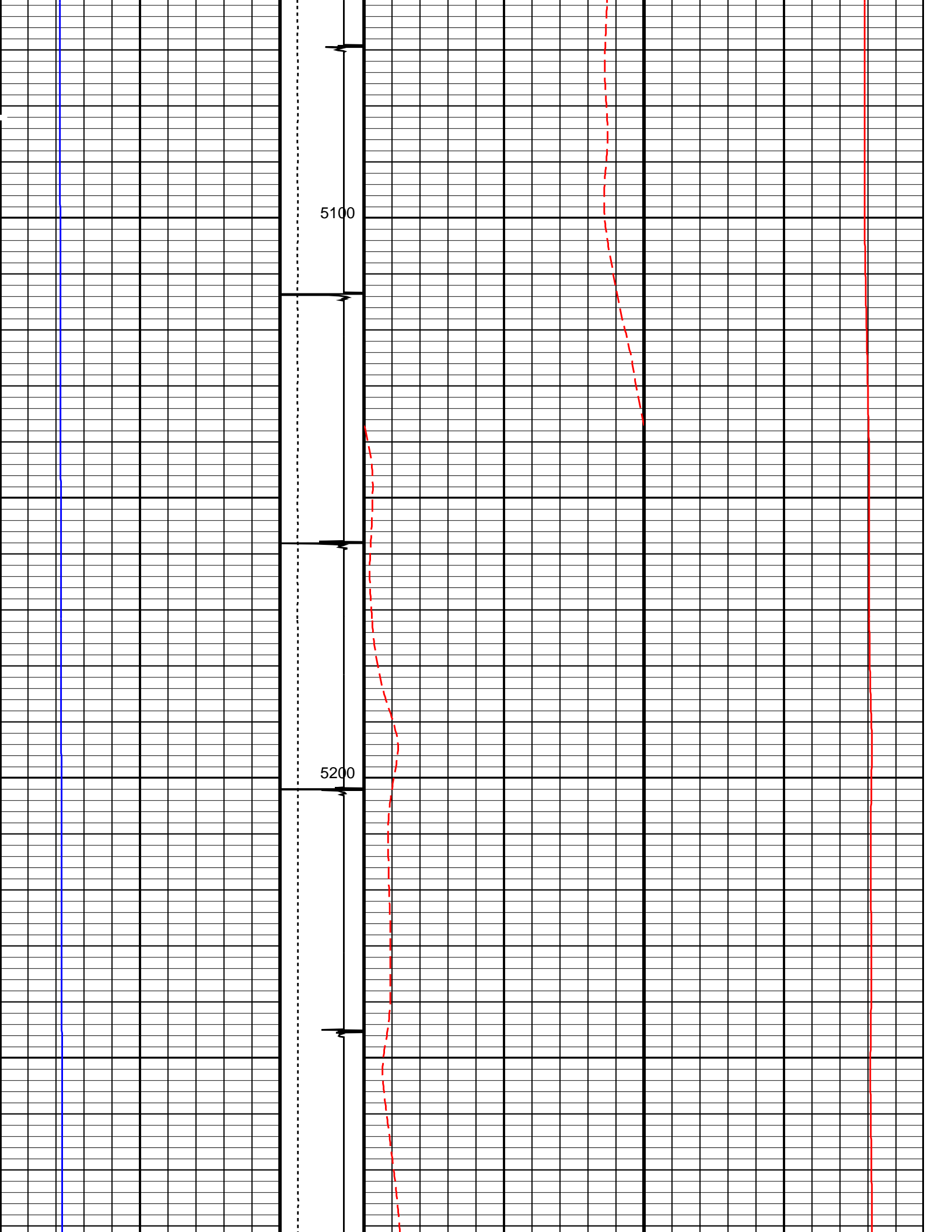


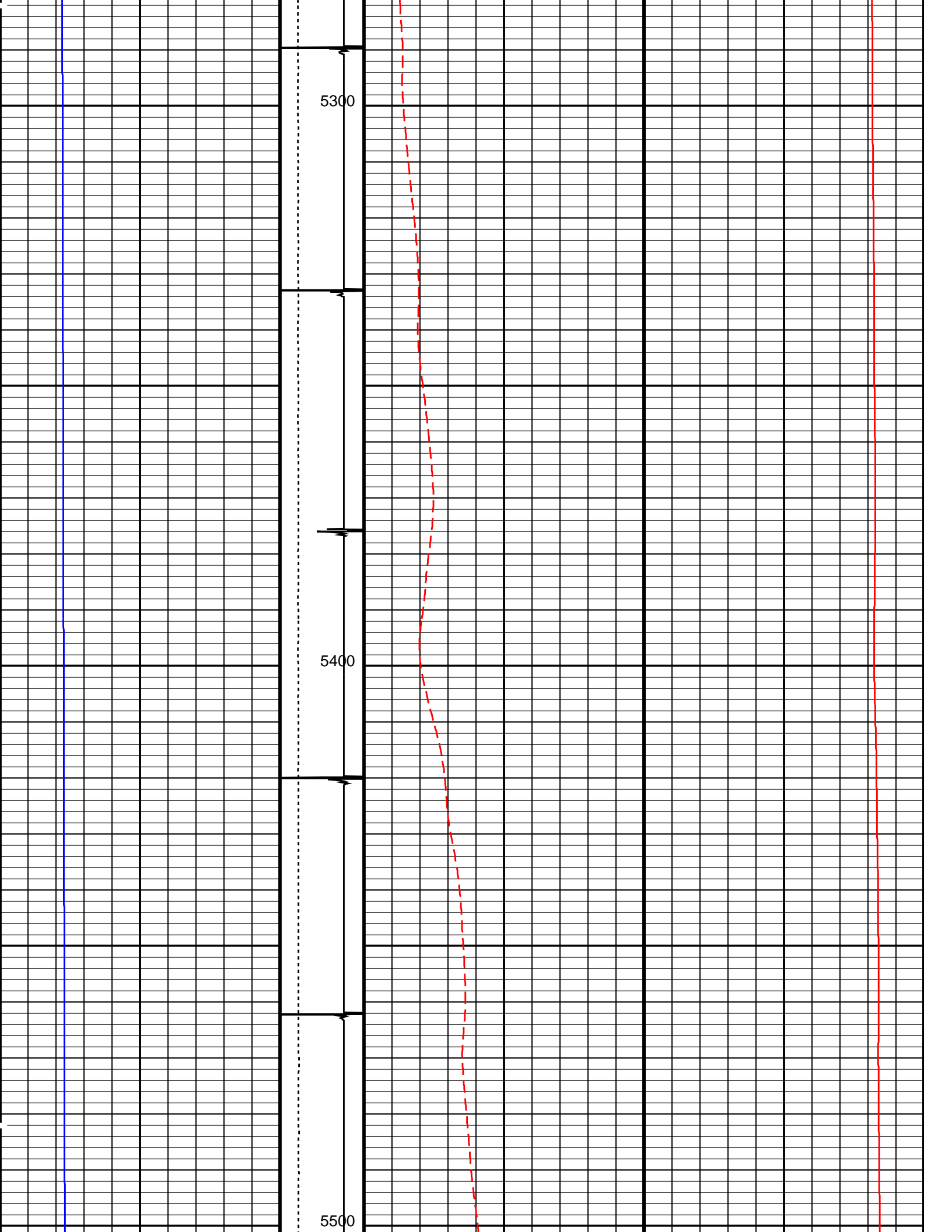


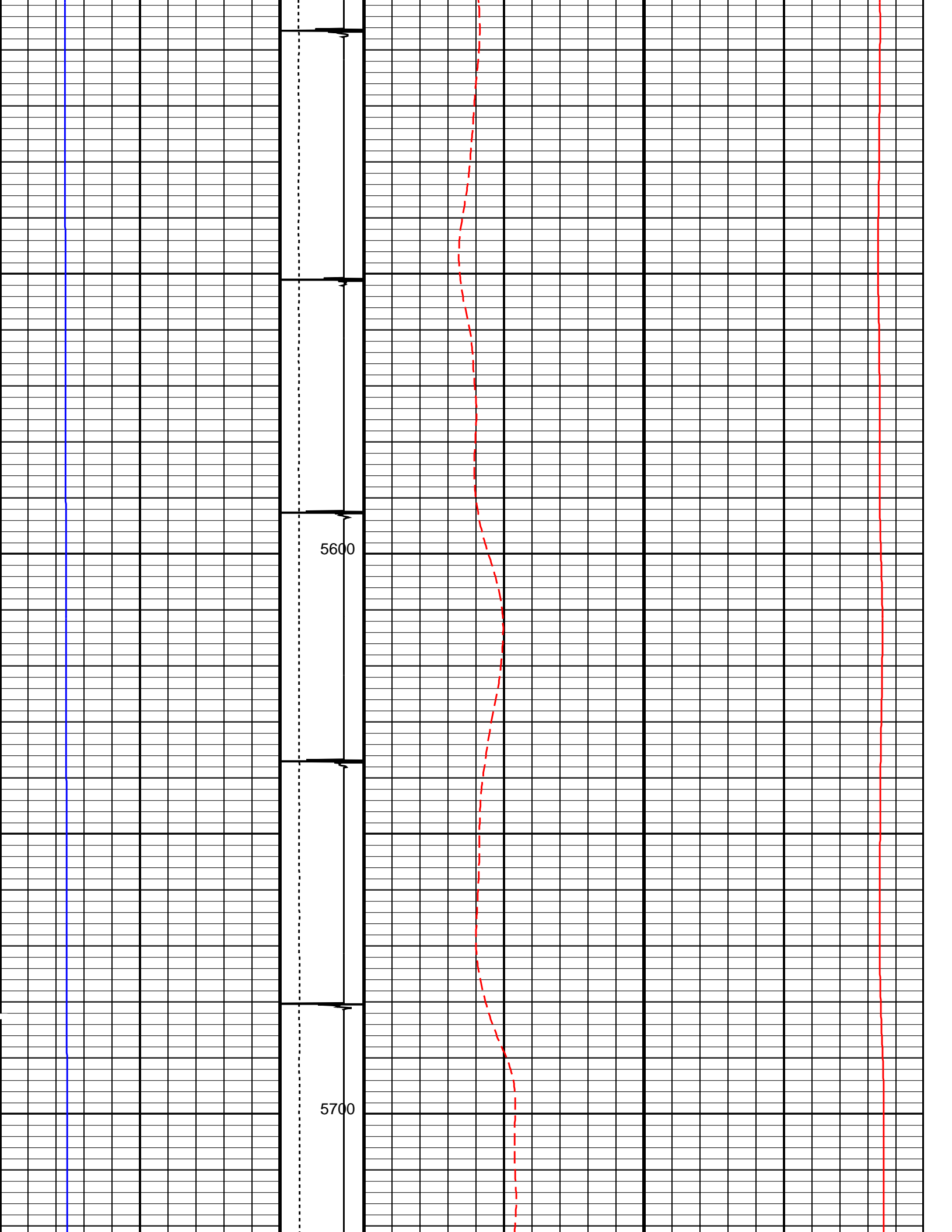


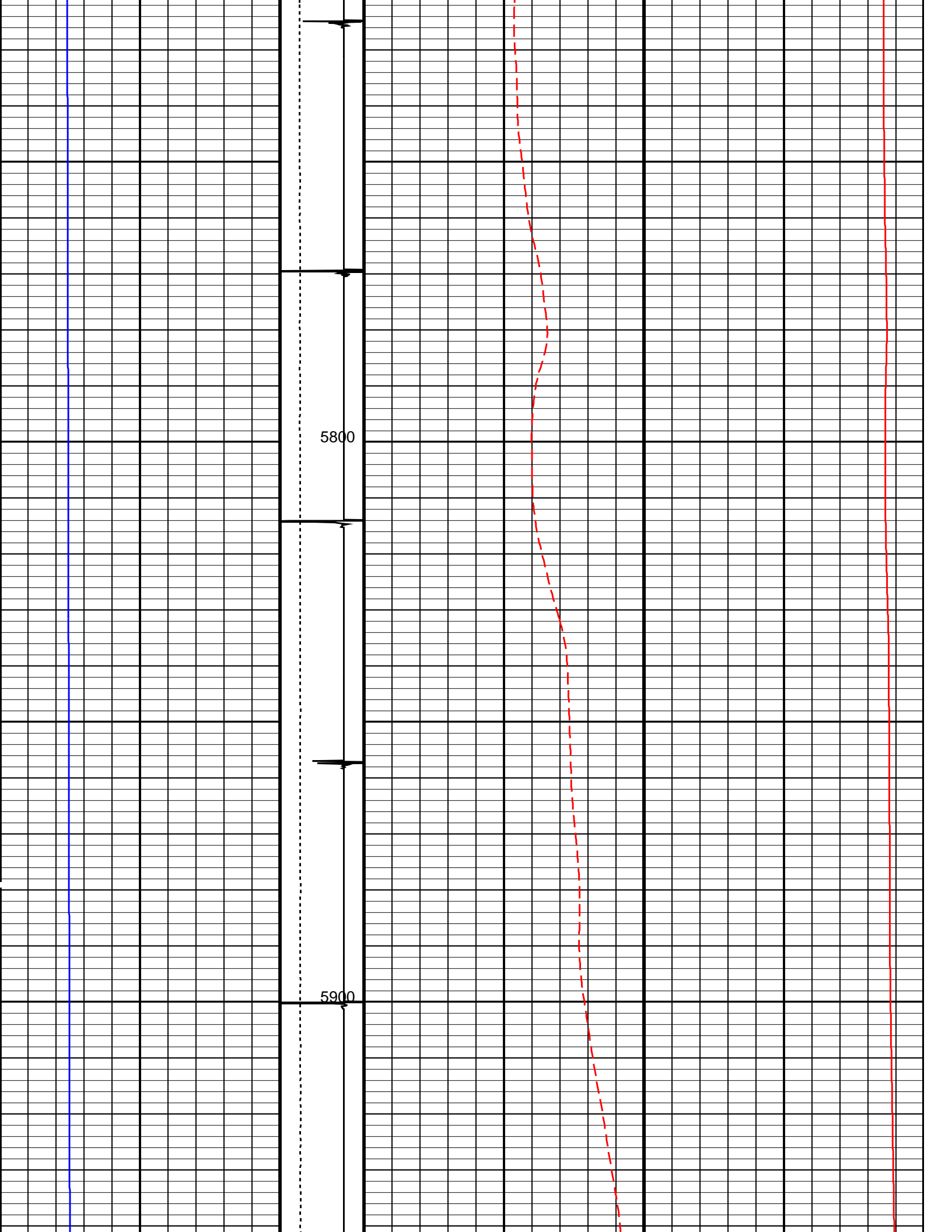


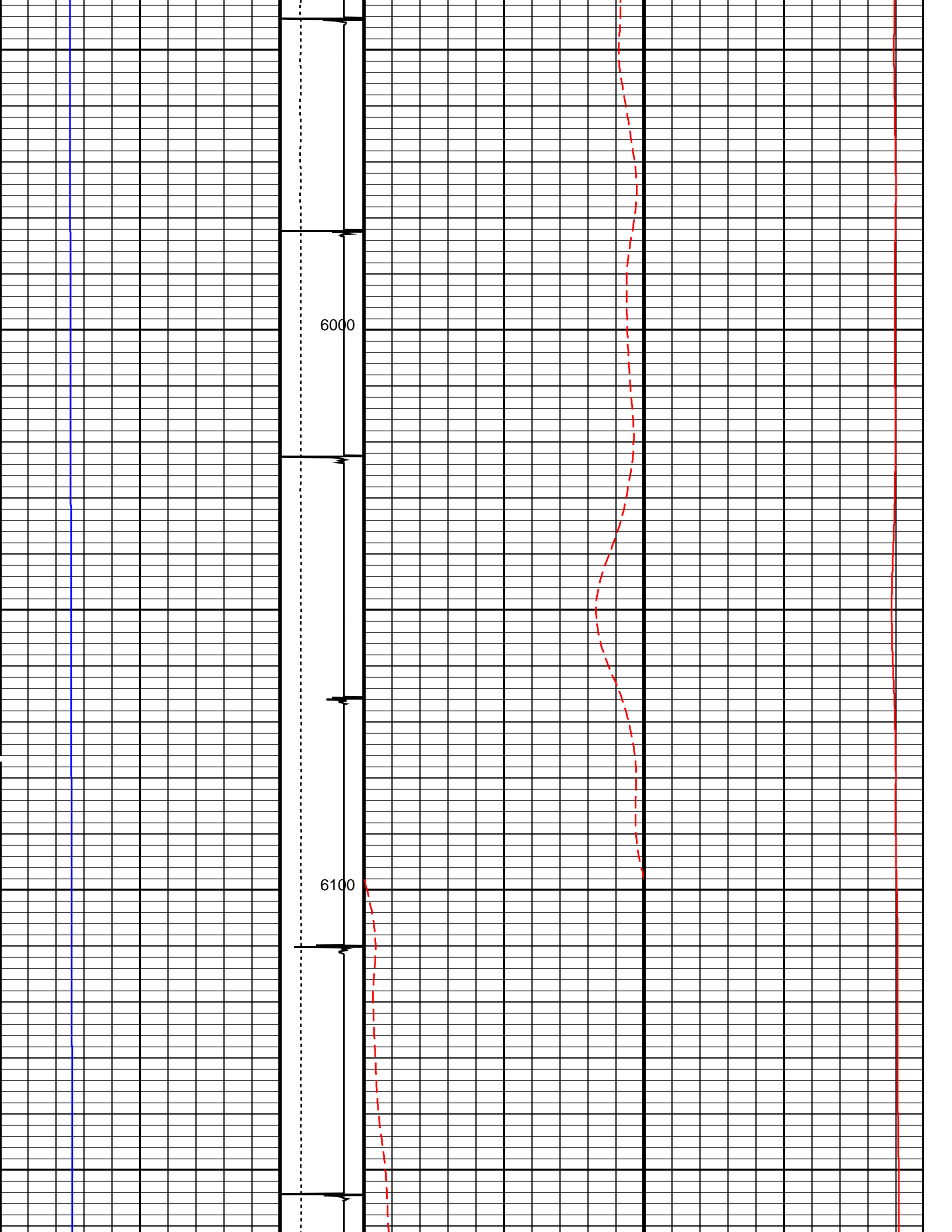


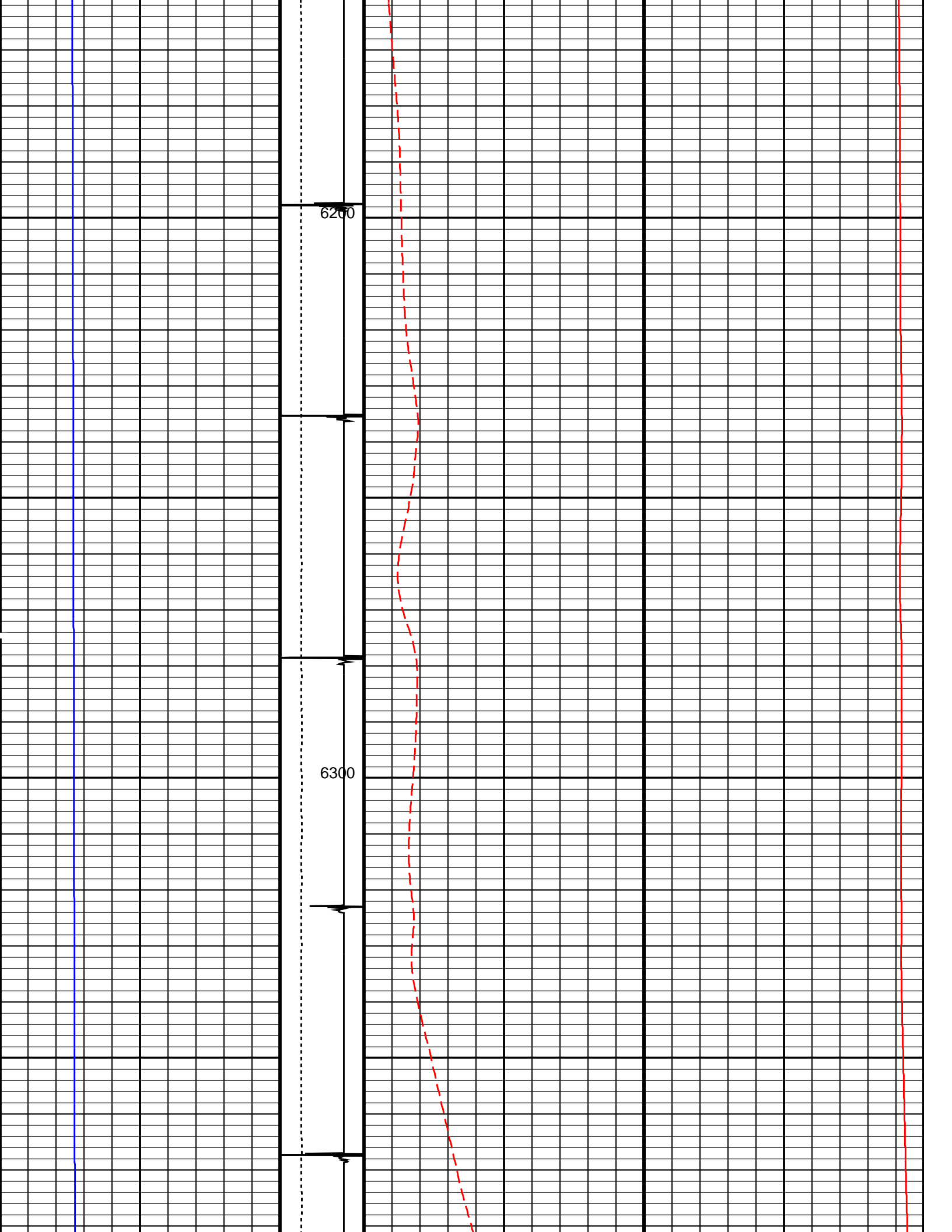


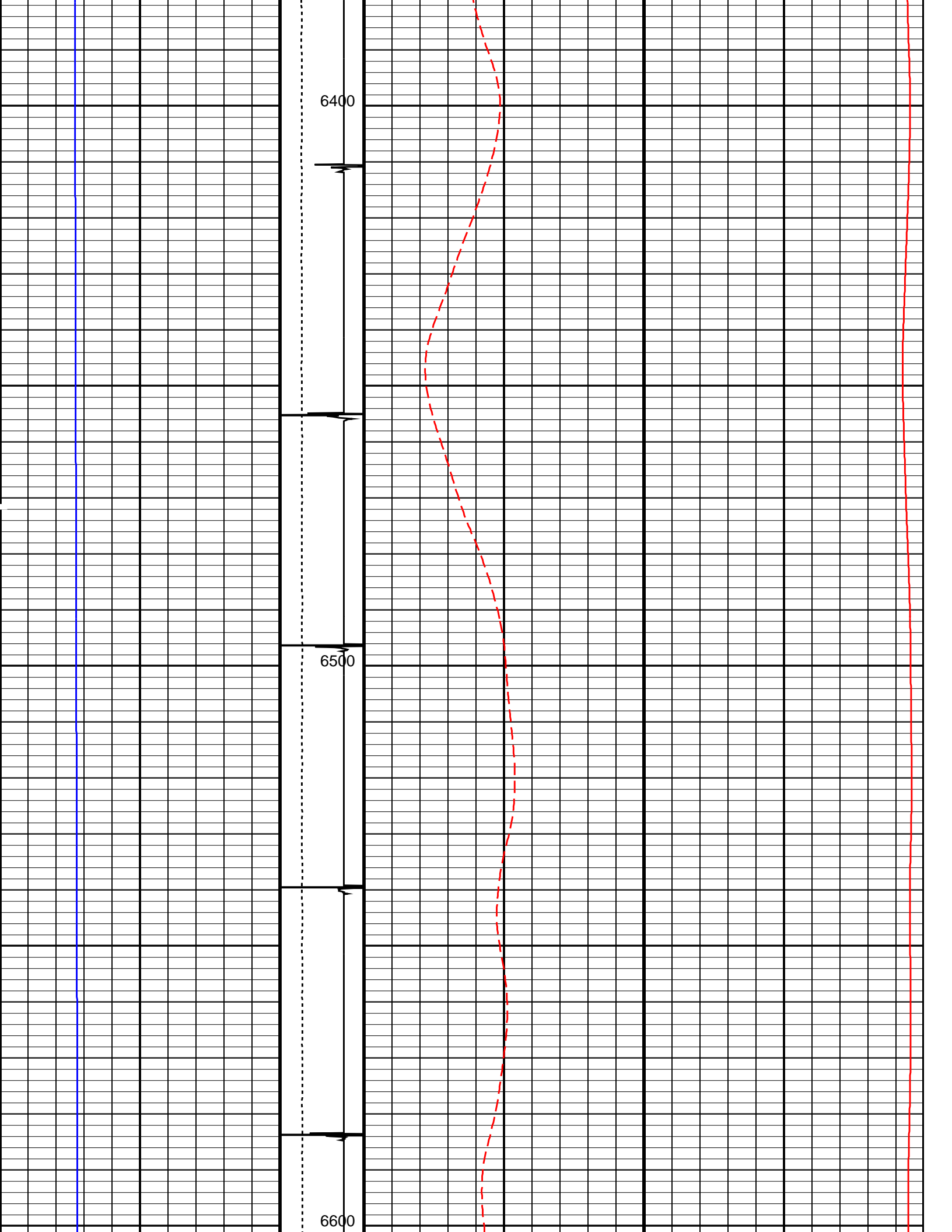


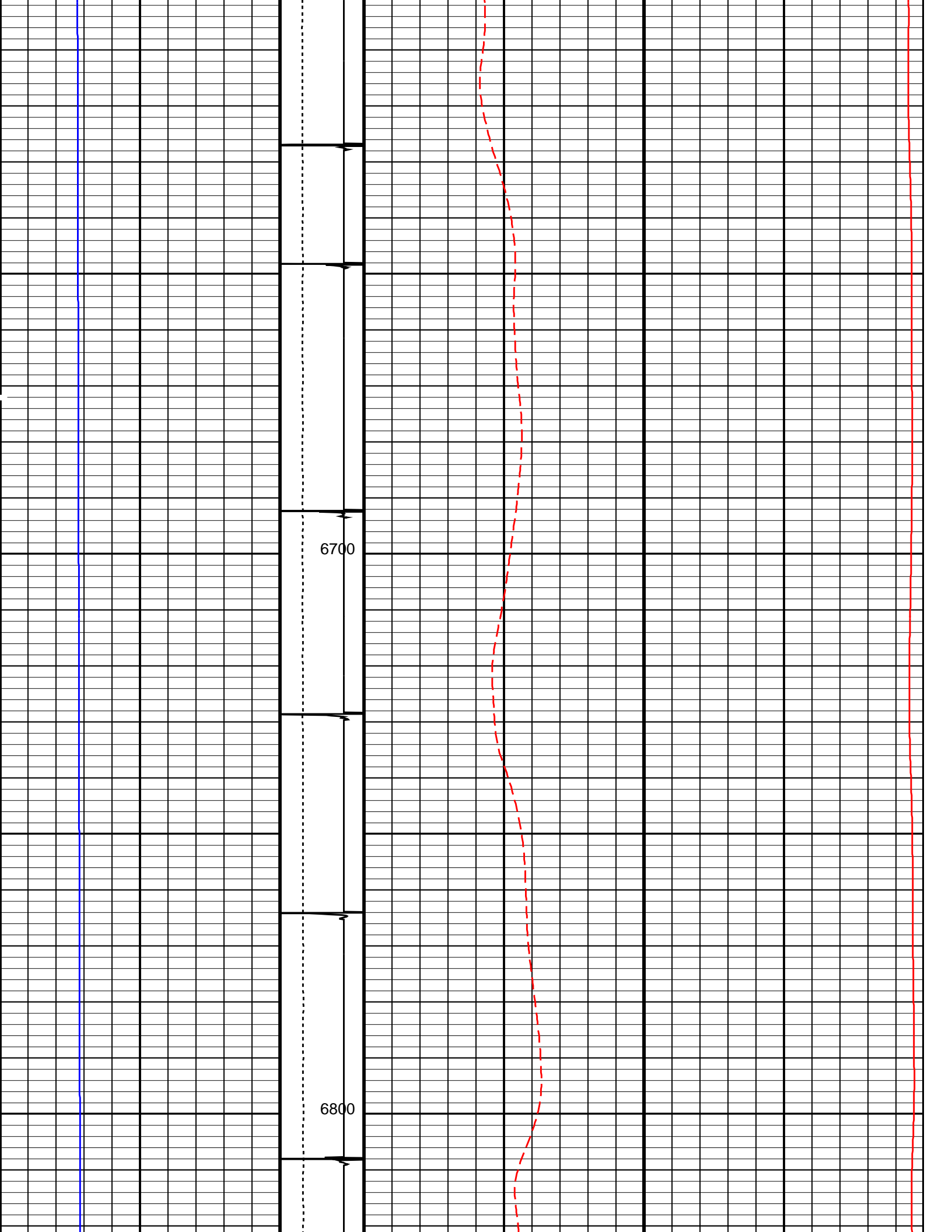


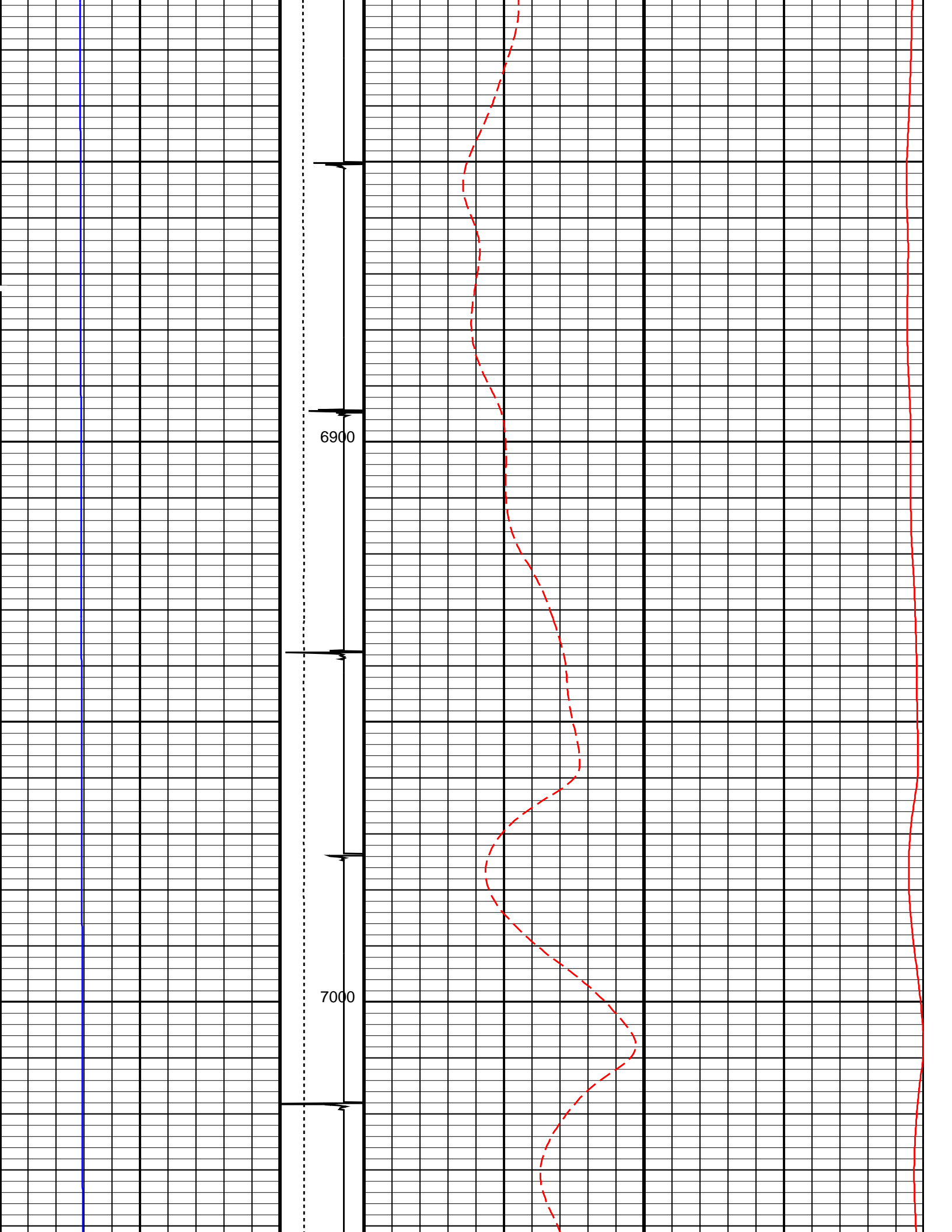


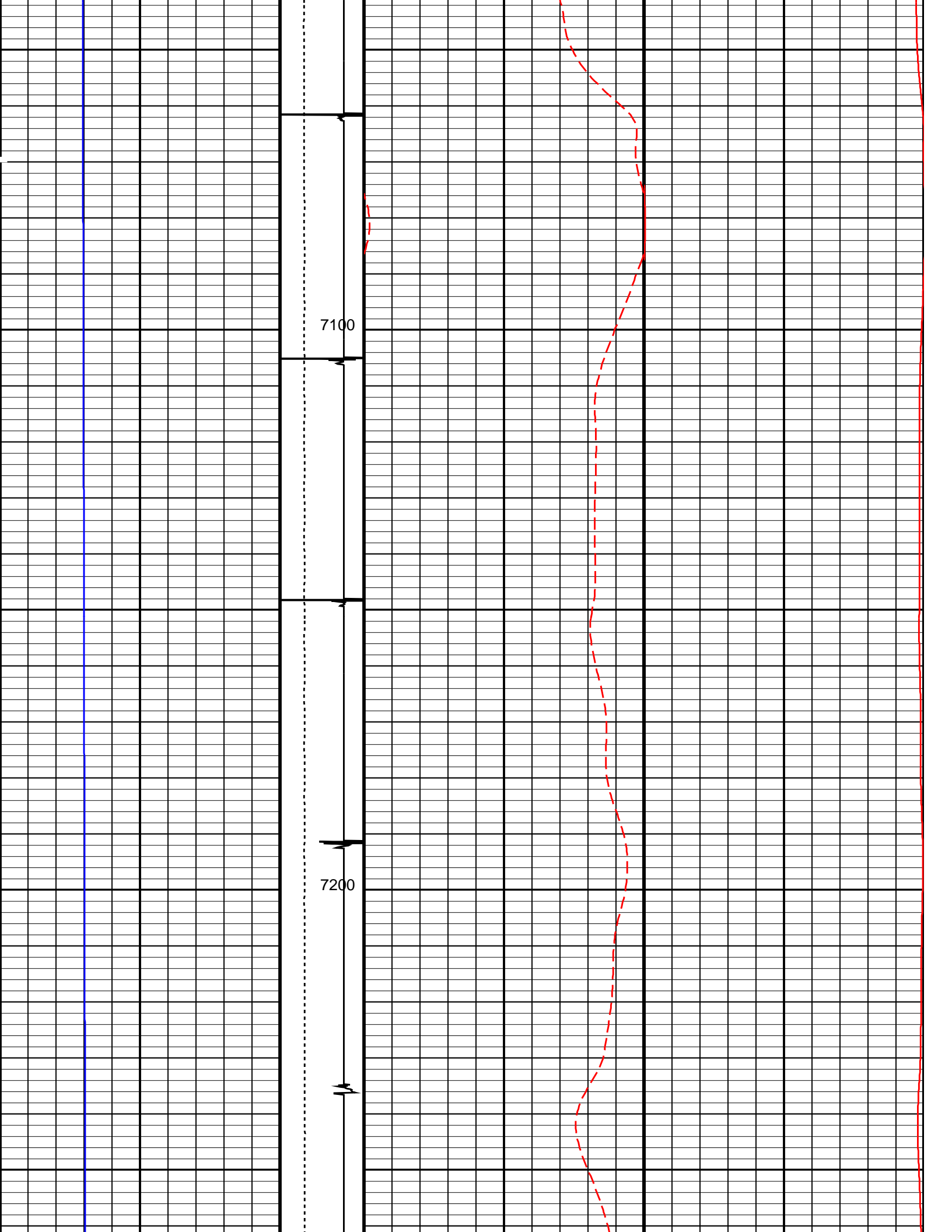


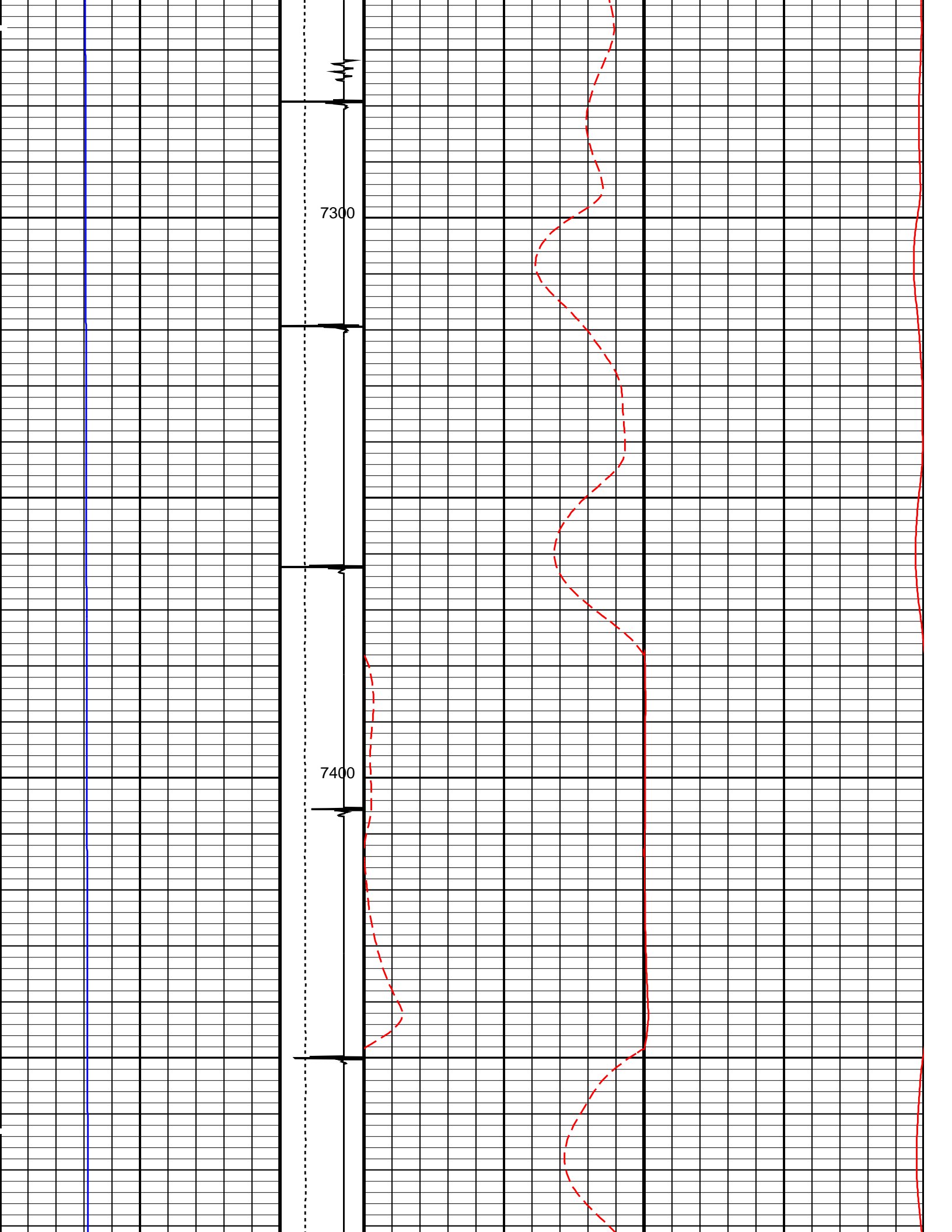


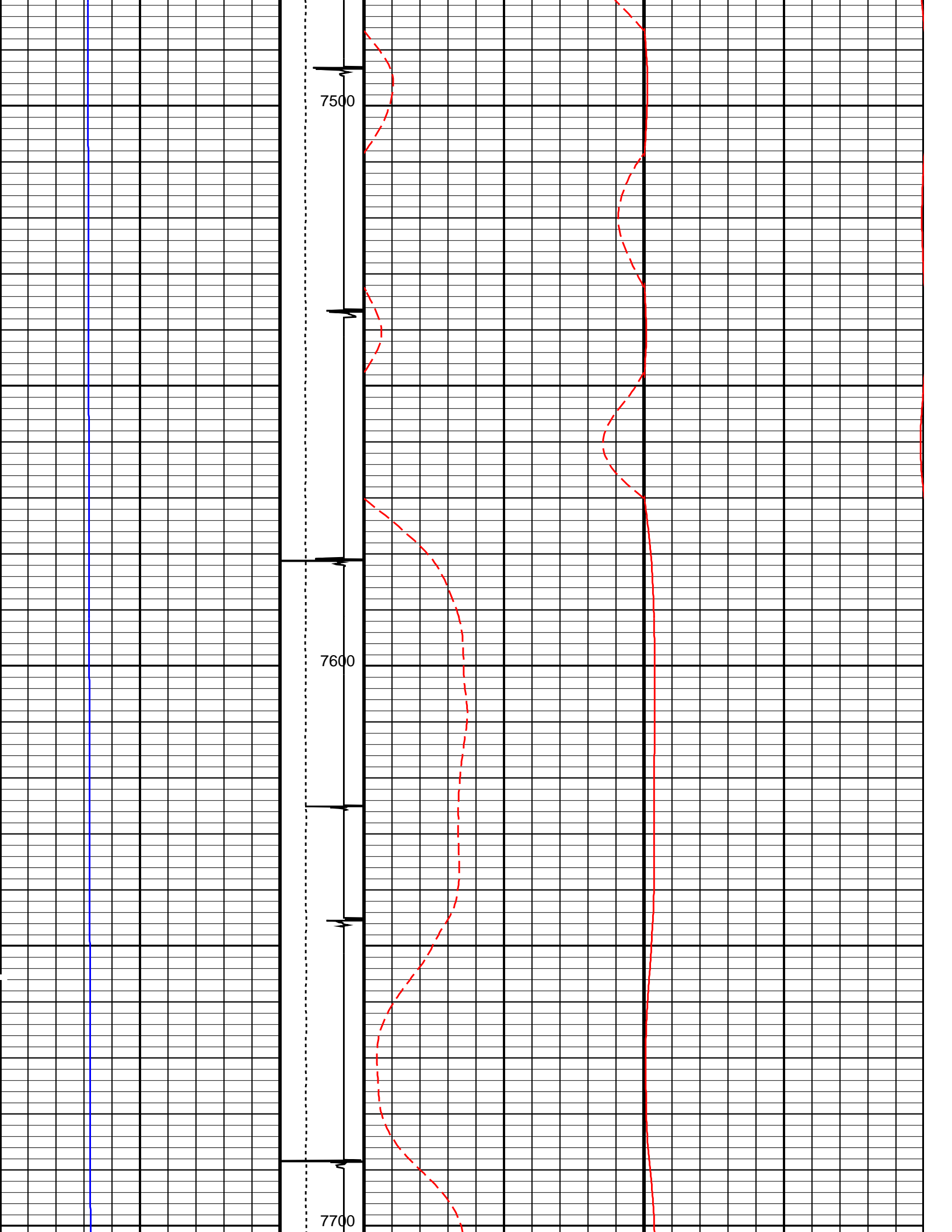


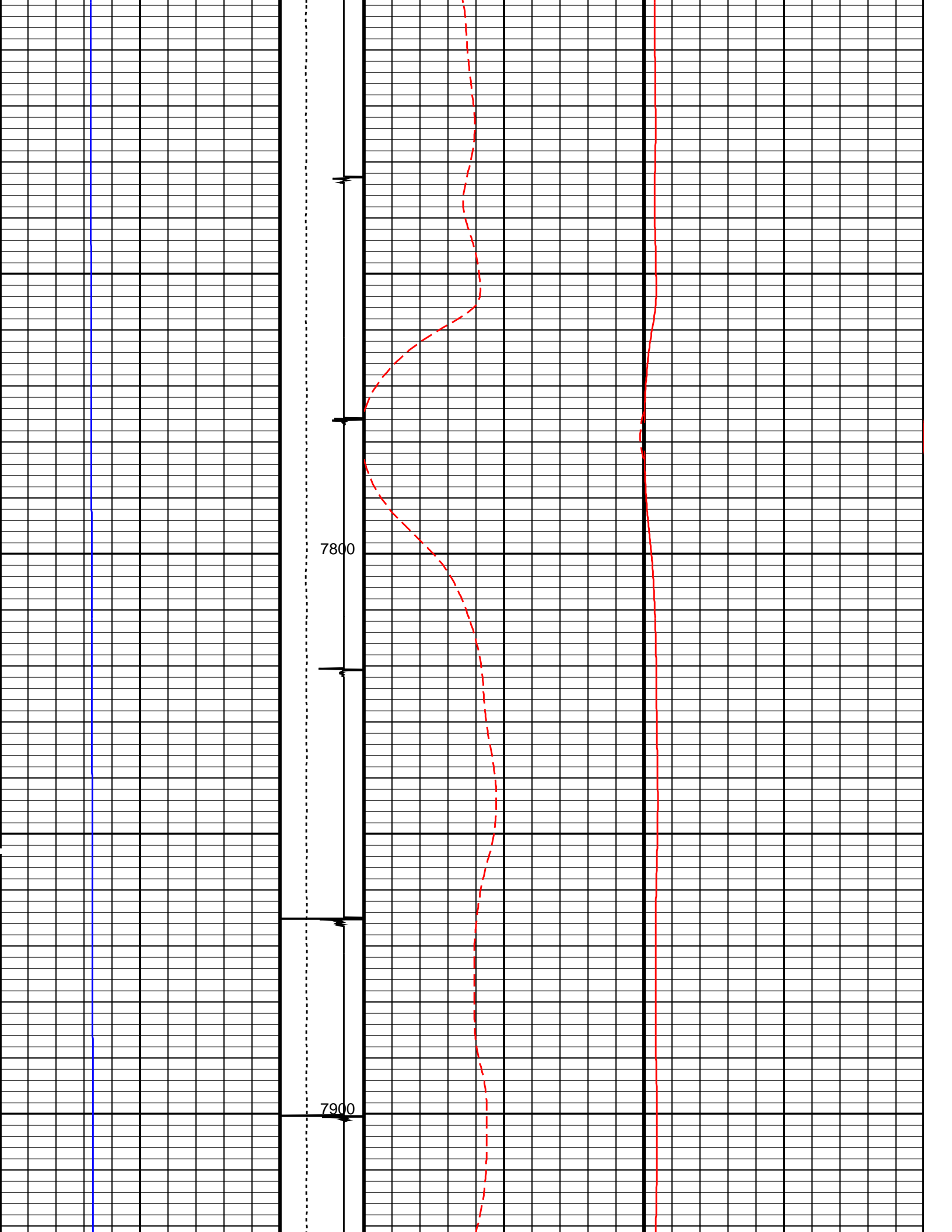


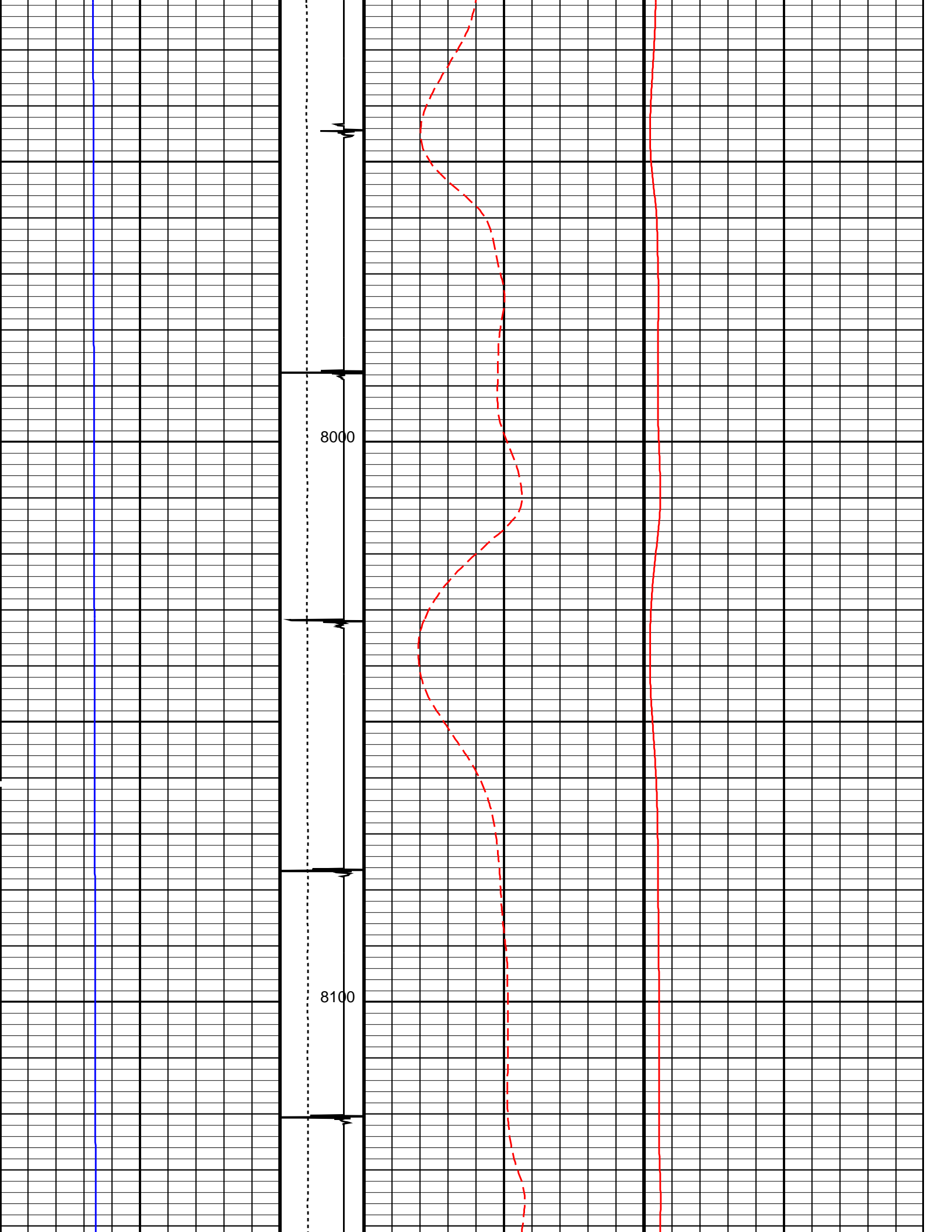


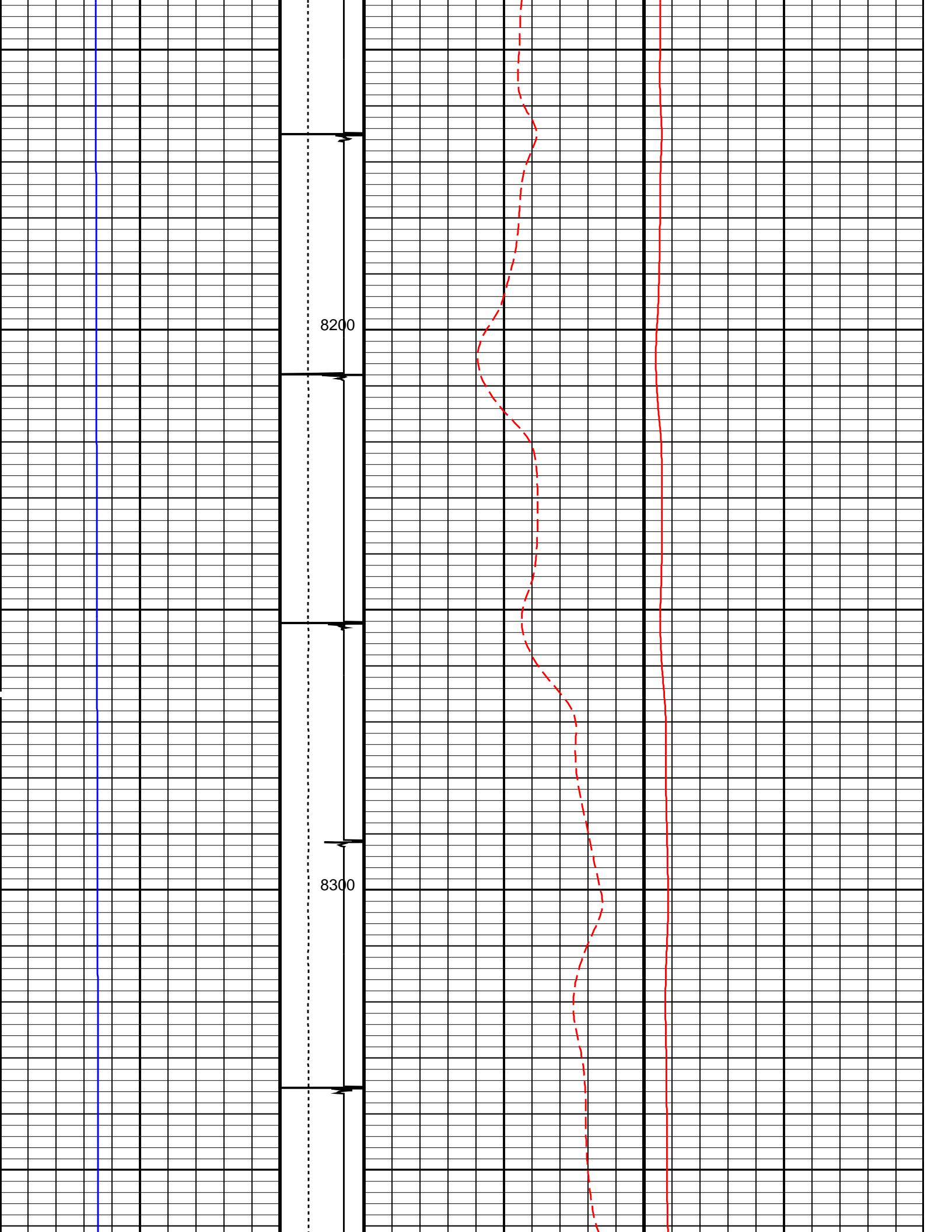


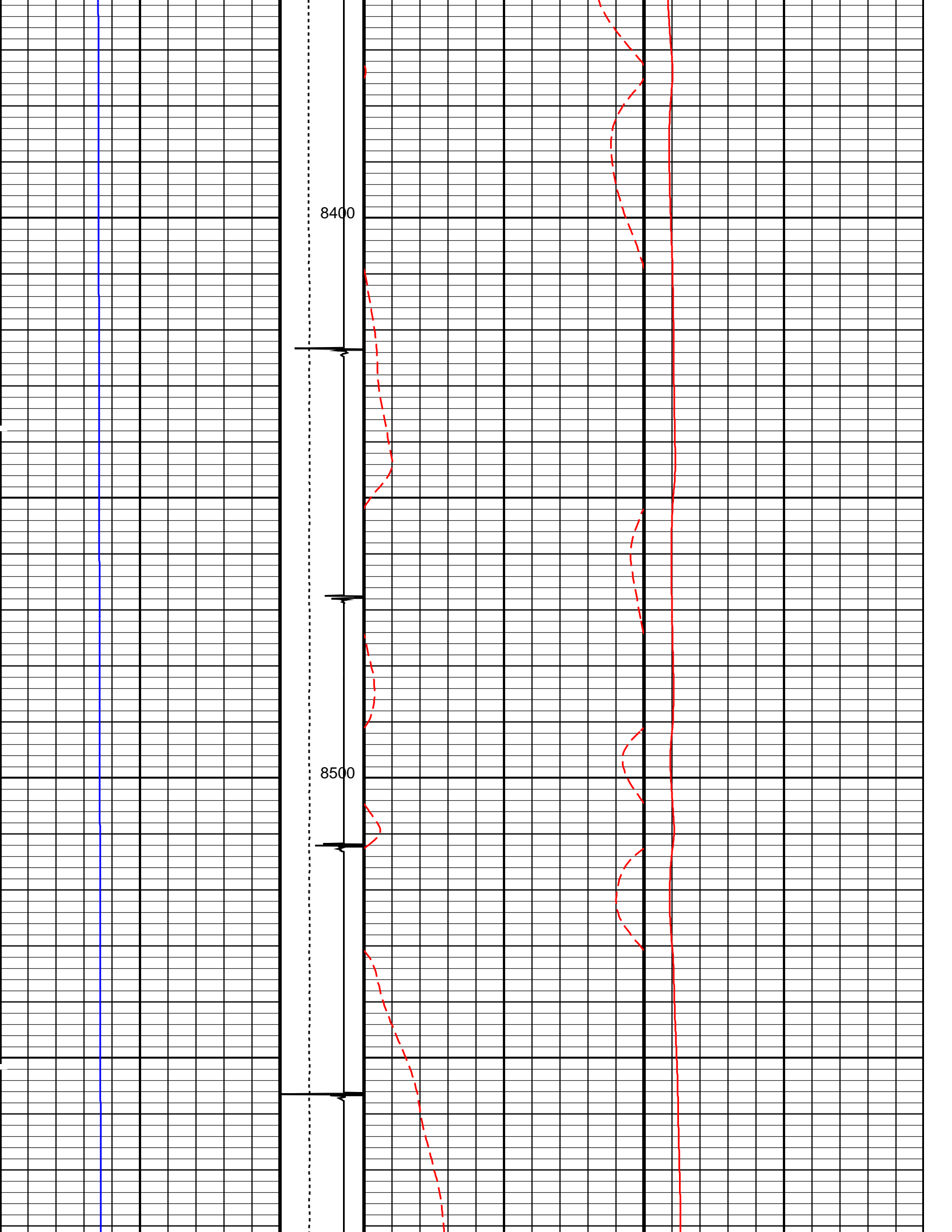


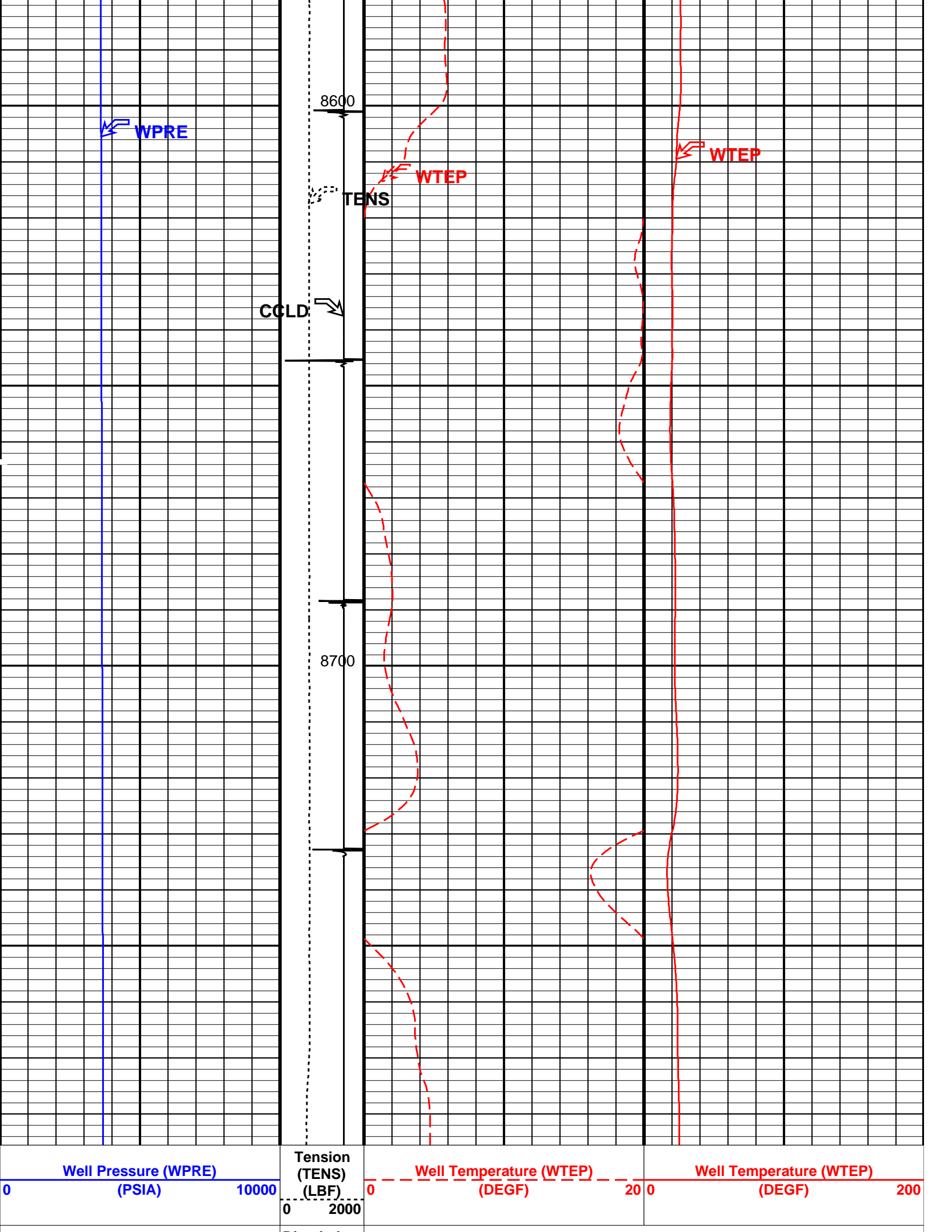












	Discriminat ed CCL (CCLD)	
	3 (V) -1	

PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
DO PP	System and Miscellaneous Depth Offset for Playback Playback Processing	-7.0 FT RECOMPUTE
Format: TEMP LOG Vertical Scale: 5" per 100'		Graphics File Created: 16-Sep-2013 03:36

OP System Version: 19C0-187

HBMS-B SRPC-5214-H2-2012-OP19

Input DLIS Files					
DEFAULT	Flip_HBMS_006LUP	PRODUCER	16-Sep-2013 03:35	8792.5 FT	-10.5 FT
Output DLIS Files					
DEFAULT	HBMS_008PUP	FN:5	PRODUCER	16-Sep-2013 03:36	



REPEAT ANALYSIS

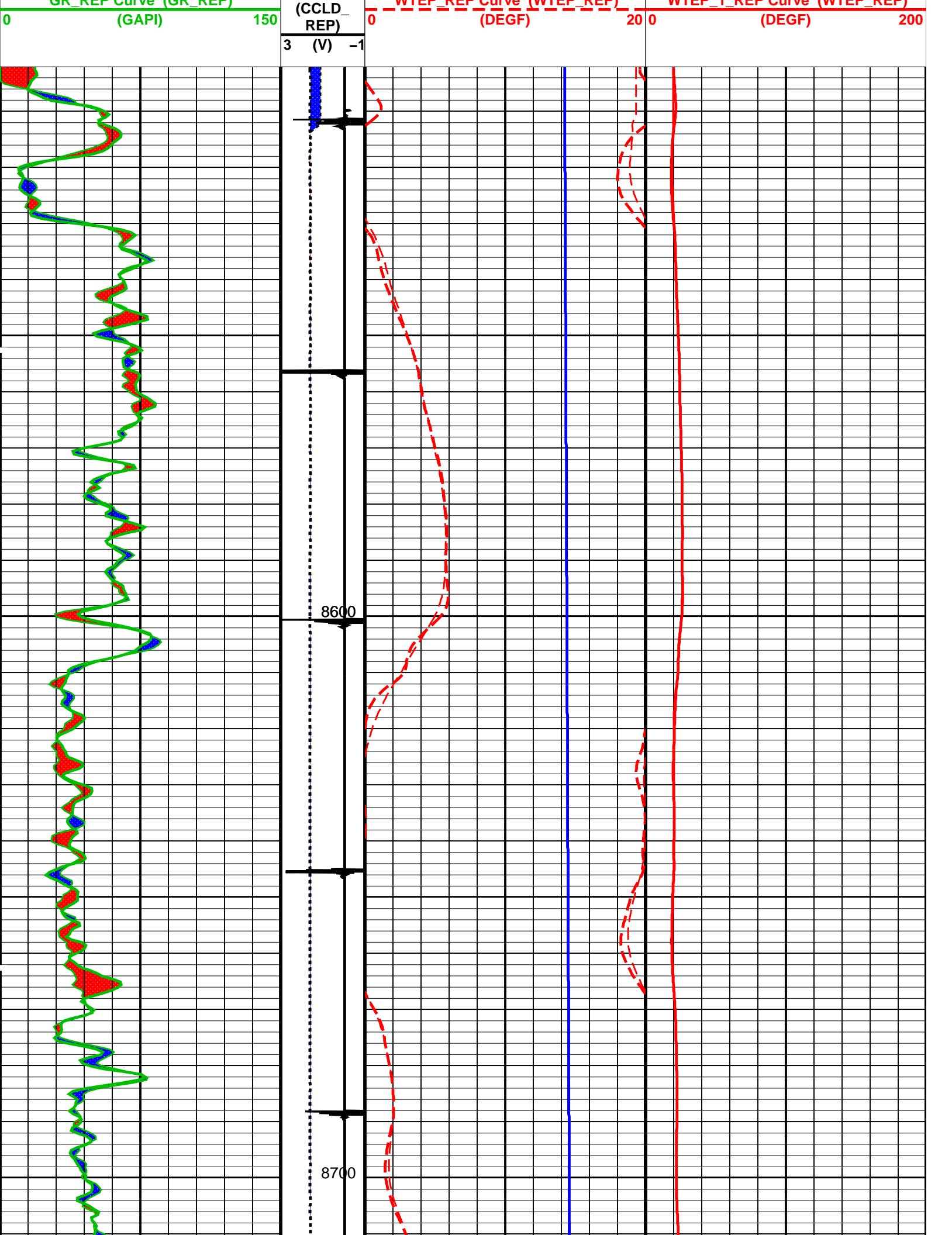
MAXIS Field Log

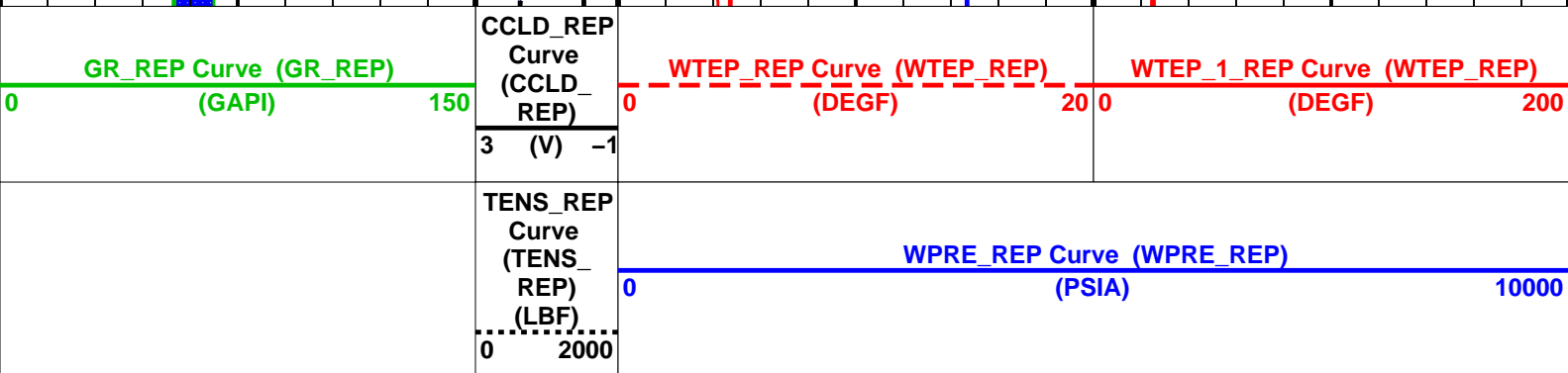
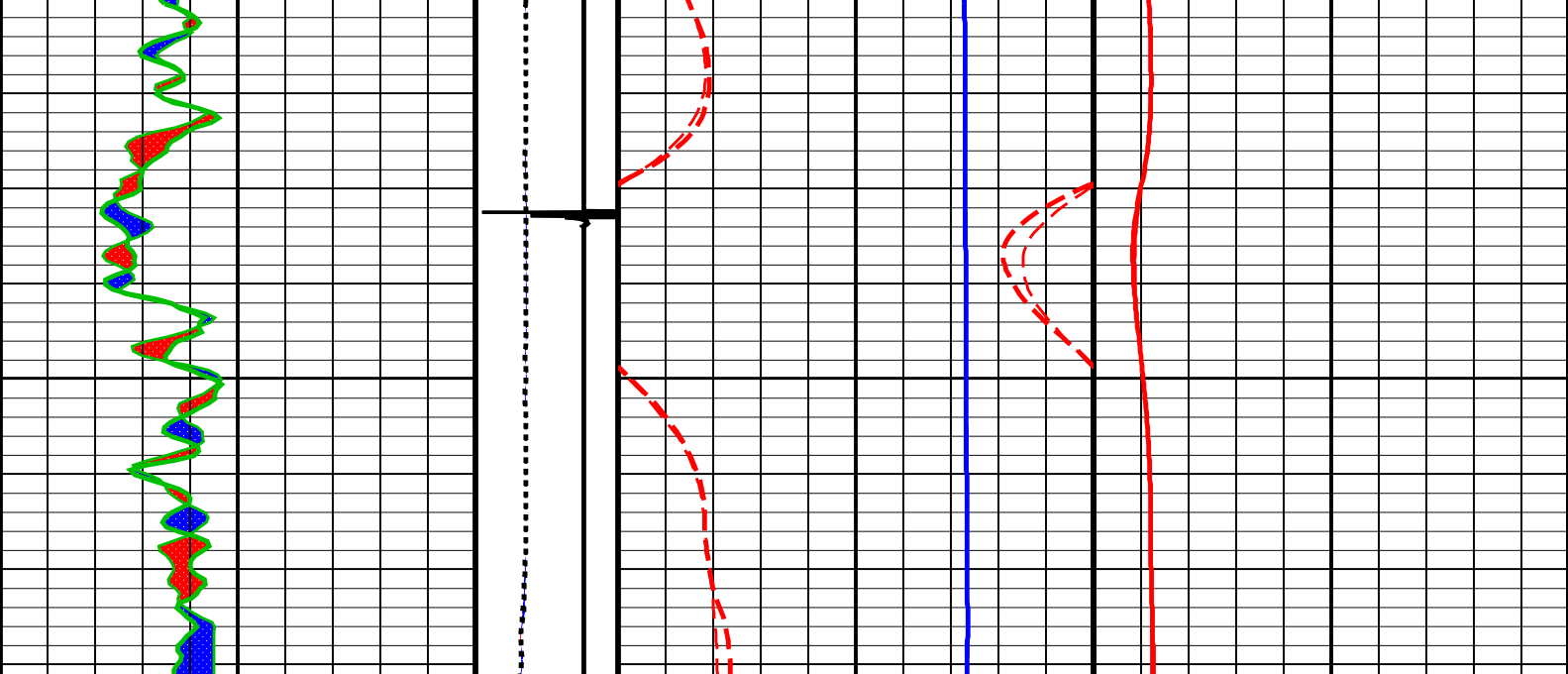
Company: ENCANA OIL & GAS (USA) INC					Well: HMU 6-15D(J6SEB)	
Input DLIS Files						
DEFAULT	Flip_HBMS_007LUP		PRODUCER	16-Sep-2013 03:36	8788.5 FT	8508.5 FT
DEFAULT	HBMS_008PUP	FN:5	PRODUCER	16-Sep-2013 03:36	8785.5 FT	-17.5 FT
Output DLIS Files						
DEFAULT	HBMS_009PUP	FN:6	PRODUCER	16-Sep-2013 03:41	8781.5 FT	8501.5 FT
OP System Version: 19C0-187						
HBMS-B	SRPC-5214-H2-2012-OP19					

PIP SUMMARY

Time Mark Every 60 S

	TENS_REP Curve (TENS_ REP) (LBF)	WPRE_REP Curve (WPRE_REP) 0 (PSIA) 10000			
	0 2000				
GR_REP Curve (GR_REP)	CCLD_REP Curve	WTER_REP Curve (WTER_REP)	WTER_1_REP Curve (WTER_REP)		





PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
System and Miscellaneous		
DO	Depth Offset for Playback	-7.0 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: 16-Sep-2013 03:41

OP System Version: 19C0-187

HBMS-B SRPC-5214-H2-2012-OP19

Input DLIS Files

DEFAULT	Flip_HBMS_007LUP	PRODUCER	16-Sep-2013 03:36	8788.5 FT	8508.5 FT
DEFAULT	HBMS_008PUP	FN:5	PRODUCER	16-Sep-2013 03:36	8785.5 FT
					-17.5 FT

Output DLIS Files

DEFAULT	HBMS_009PUP	FN:6	PRODUCER	16-Sep-2013 03:41
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Schlumberger

HBMS COEFFICIENTS

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: HMU 6-15D(J6SEB)
Run date: 16-Sep-2013

Tool: PSP
Sub Type: PBMS
Sensor: GR

PBMS Gamma Ray
Sonde Serial NB RESISTORS FOR GR SENSOR N.34473,TOOL HBMS-BA2884. SENSOR S/N:
Sensor Serial NB 34473
Calib Date ddmmyy 090506
Matrix Size 12
Coeff CRC 0708

GR HV Rt		
	Rt**0	Rt**1
Rt**0	+.200000000000e+04	+.190000000000e+04

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: HMU 6-15D(J6SEB)
Run date: 16-Sep-2013

Tool: PSP
Sub Type: PBMS
Sensor: WellTemp RTD

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
 Well: HMU 6-15D(J6SEB)
 Run date: 16-Sep-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
 Pres Coeff

COEFFICIENTS FOR CQG PBMS-B.2884 S/N:
 2884
 290706
 66
 CA7A

	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 2884
Calib Date ddmmyy 290706
Matrix Size 66
Coeff CRC F21E

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+1.13897507996E+03	-.324965333678E-03	+6.97134219555E-08
Fb**1	-.601014483015E-02	+1.175847256148E-07	+1.180458009797E-12
Fb**2	-.317240807344E-07	+3.374112953741E-12	+1.133653042149E-17
Fb**3	-.236568542854E-12	+7.787205826536E-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	+8.81675188724E-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	+3.10161623072E+05	+3.63878692519E-02	+3.11171630292E-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 Size16

Coeff CRC3E80

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



Well: HMU 6–15D(J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

TEMPERATURE LOG

CCL