

Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-12D (J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

TEMPERATURE LOG  
CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 1957 FSL & 1931 FEL

Well: HMU 6-12D (J6SEB)

Company: ENCANA OIL & GAS (USA) INC

LOCATION

SHL: 1957 FSL & 1931 FEL  
BHL: 1795 FSL & 751 FEL

Elev.: K.B. 7165.00 ft  
G.L. 7143.00 ft  
D.F. 7164.00 ft

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

GROUND LEVEL \_\_\_\_\_  
Elev.: 7143.00 ft \_\_\_\_\_  
22.00 ft above Perm. Datum

API Serial No.  
05-045-21939-00

Section  
6

Township  
8S

Range  
92W

	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 Date17-Nov-2013

Run Number1

Depth Driller8988 ft

Schlumberger Depth8921 ft

Bottom Log Interval8920 ft

Top Log Interval0 ft

Casing Fluid TypeFRESH WATER

Salinity

Density8.45 lbm/gal

Fluid Level0 ft

BIT/CASING/TUBING STRING

Bit Size8.750 in

From0 ft

To8988 ft

Casing/Tubing Size4.500 in

Weight11.6 lbm/ft

GradeS-80

From0 ft

To8922 ft

Maximum Recorded Temperatures205 degF

Logger On Bottom17-Nov-2013

Unit Number409

Recorded ByKURTIS IRWIN

Witnessed ByTONY

LocationTime2:15

Grand Junction

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: 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

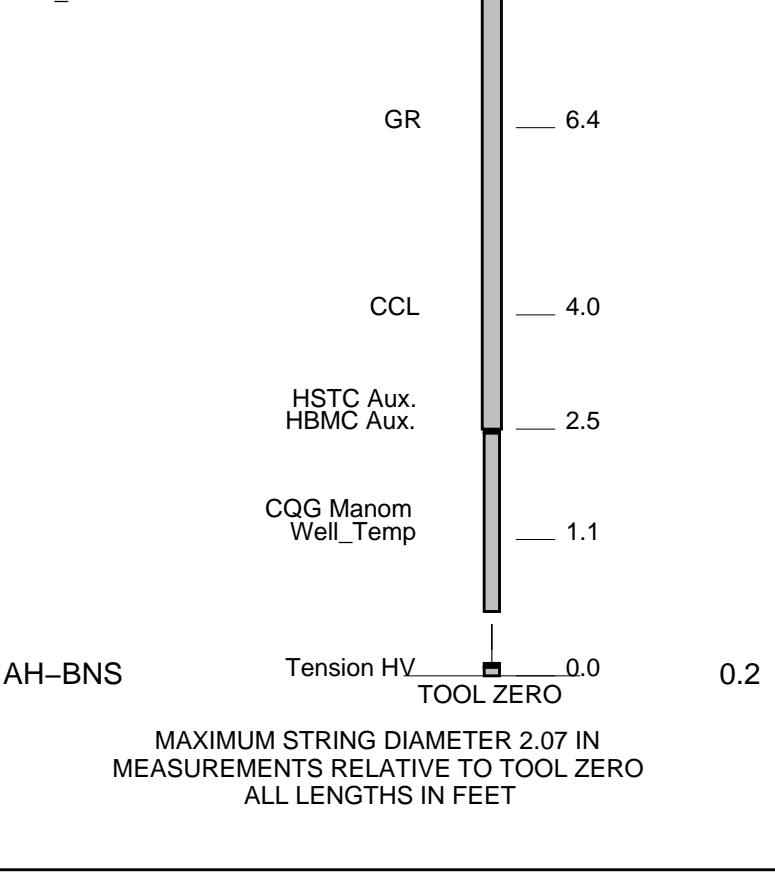
1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SPWT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
- 4.
- 5.
- 6.

## 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
RUN NUMBER 1	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE TIME: 01:00	
TIME ON BOTTOM: 02:15	
EXIT TIME: 03:00	

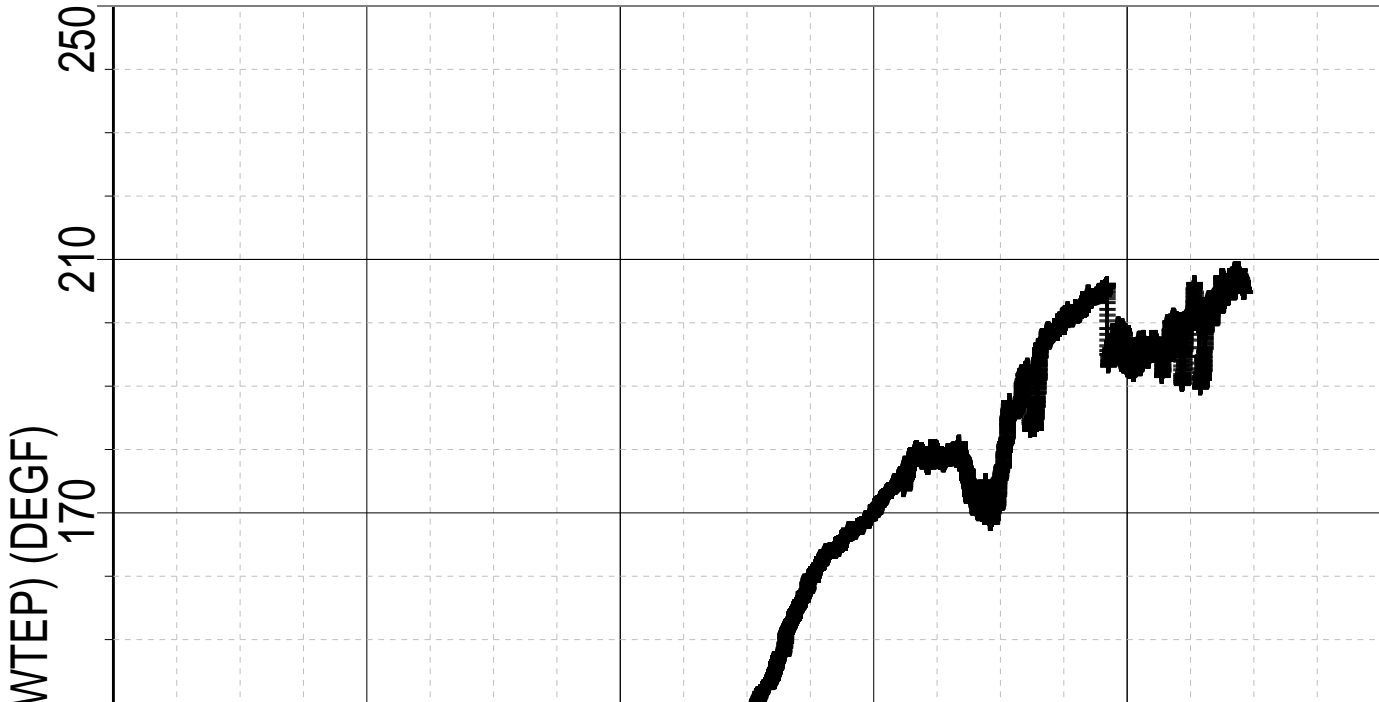
MAXIMUM RECORDED TEMPERATURE: 205 DEGF.					
MAXIMUM RECORDED PRESSURE: 3747 PSIA.					
SHORT JOINTS: 6798 FT & 7791 FT					
THANK YOU FOR USING E&P WIRELINE, A SCHLUMBERGER COMPANY					
CREW: BCUPP, JORTIZ, KIRWIN					
RUN 1			RUN 2		
SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			CJT0-00025 19C0-187 0 ft		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP
<b>EQUIPMENT DESCRIPTION</b>					
RUN 1			RUN 2		
SURFACE EQUIPMENT					
WITM-A PSC_16MHZ					
DOWNHOLE EQUIPMENT					
MH-22 MH-22					13.1
AH-38	Detail MT TelStatus CTEM				11.6
HBMS-B PSC-A HUDH-A HSTC-A HBMC-A GR CCL HBMC HTPS-A HCQG_E_Mano RTD Thermometer		11.3			11.3

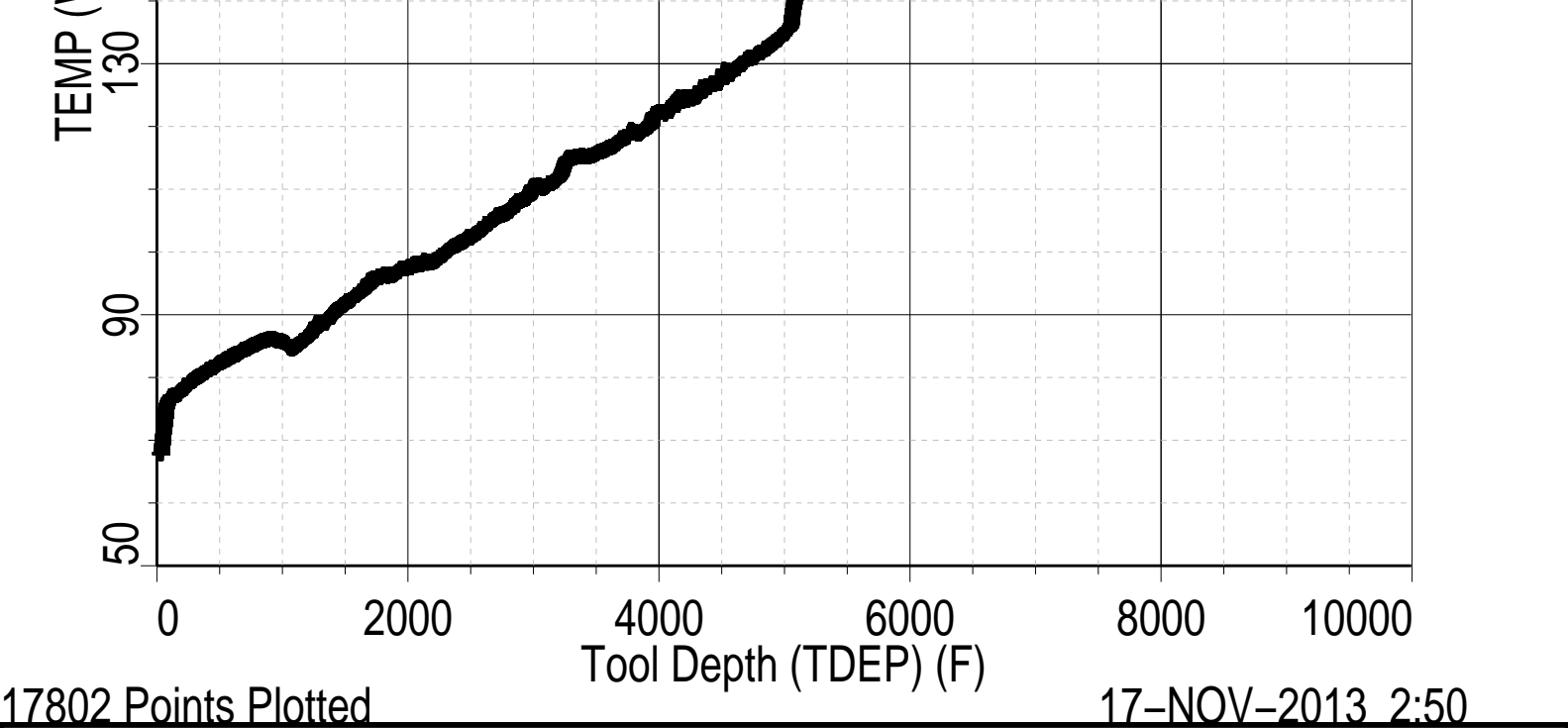


# TEMPERATURE PLOT

MAXIS Field Log

Index: 8930.0 – 29.5 FT





# TEMPERATURE LOG

MAXIS Field Log

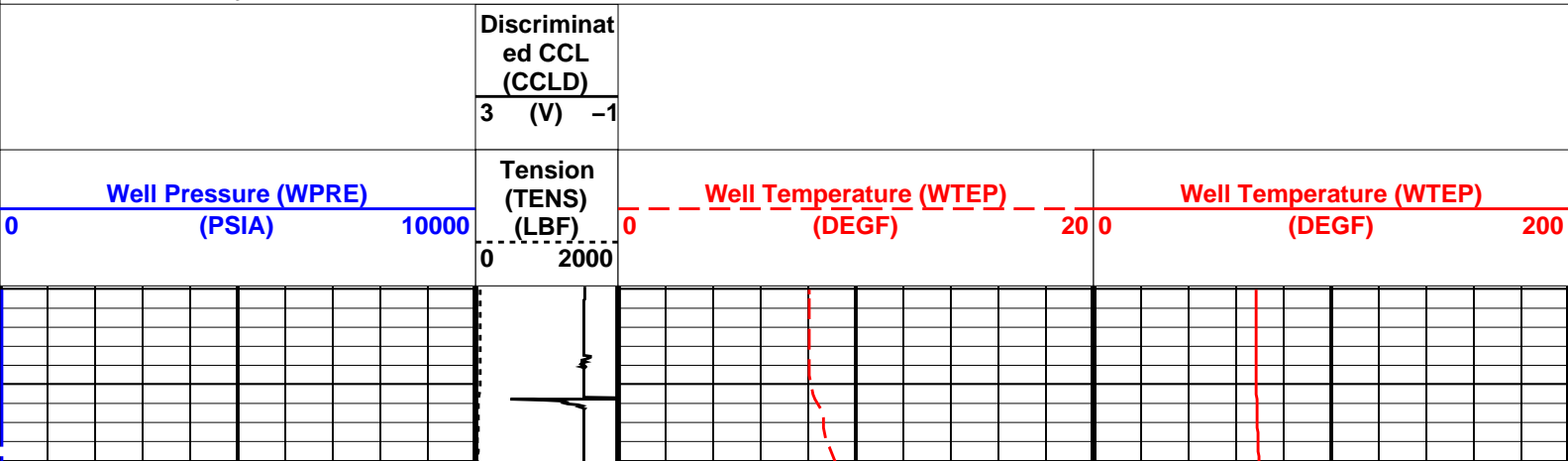
Company: ENCANA OIL & GAS (USA) INC Well: HMU 6-12D (J6SEB)

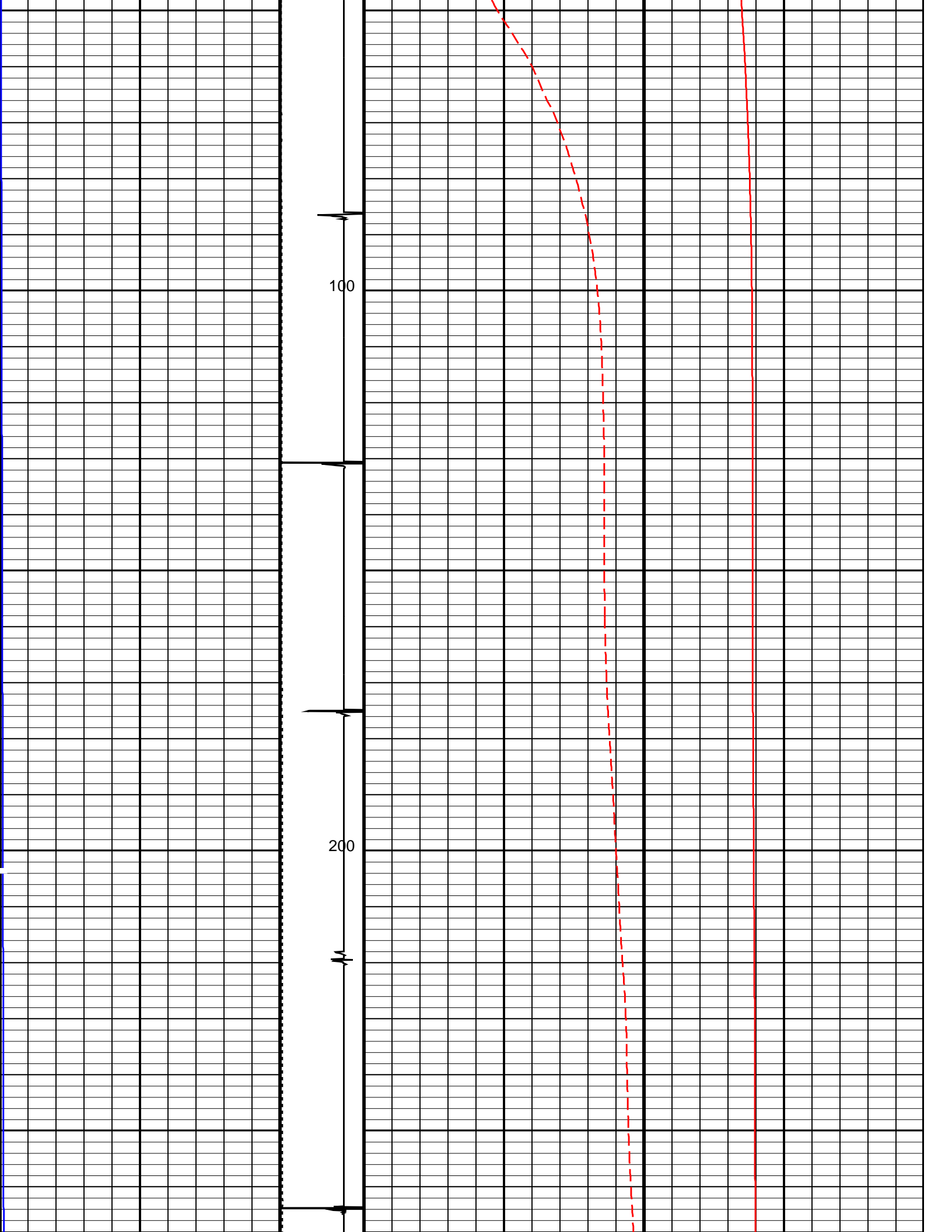
Input DLIS Files					
DEFAULT	Flip_HBMS_006LUP	PRODUCER	17-Nov-2013 02:29	8928.5 FT	28.0 FT
Output DLIS Files					
DEFAULT	HBMS_013PUP	FN:10 PRODUCER	17-Nov-2013 02:45	8930.0 FT	29.5 FT

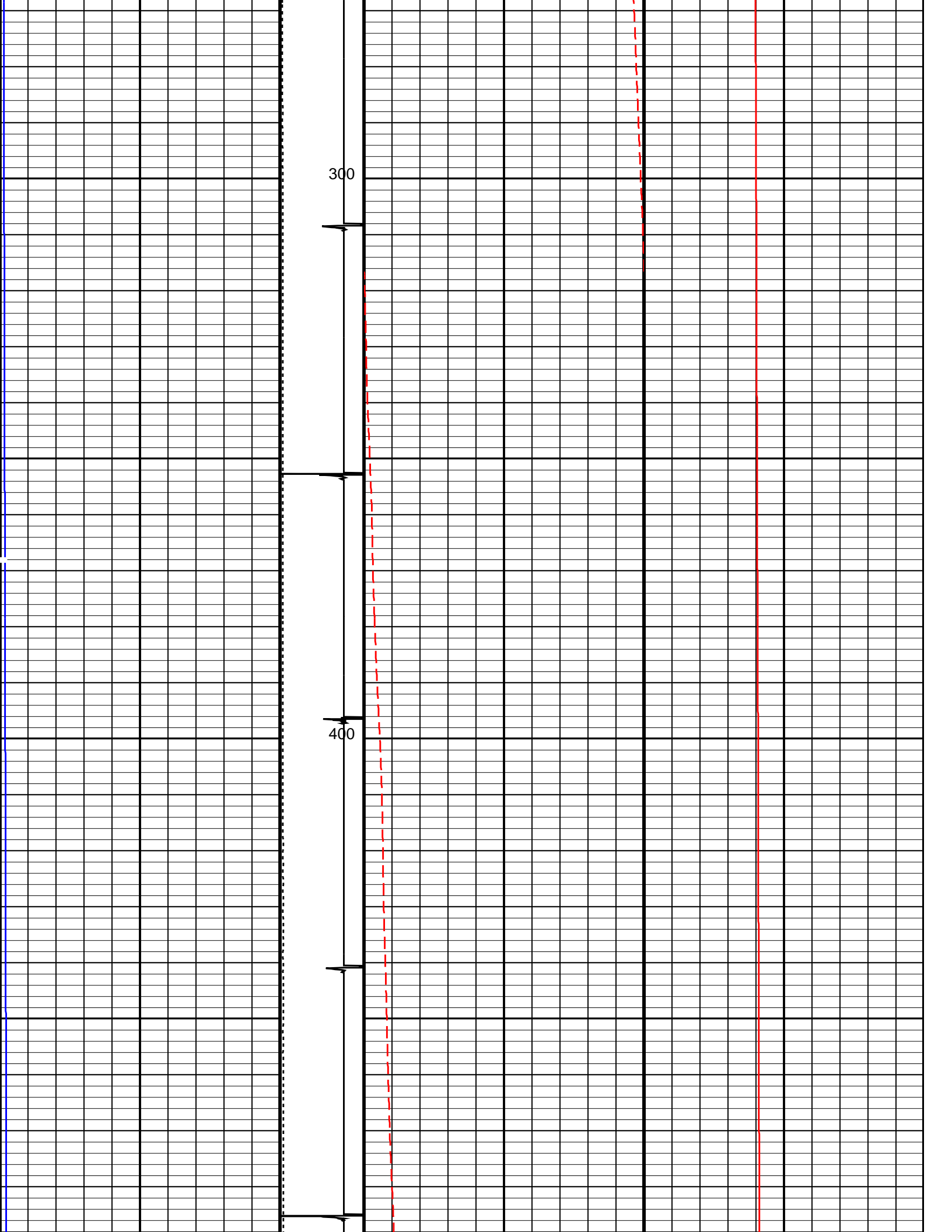
OP System Version: 19C0-187	
HBMS-B	19C0-187

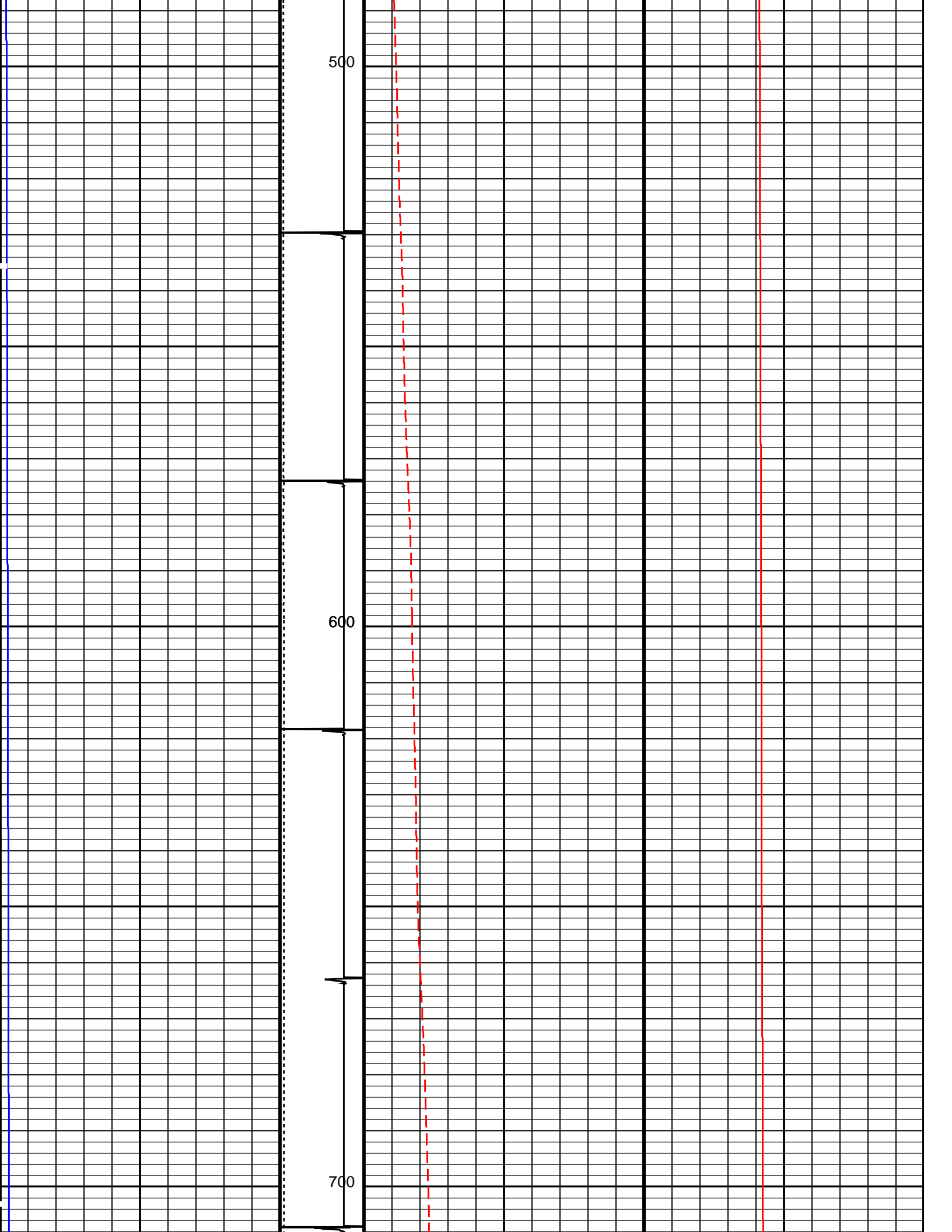
## PIP SUMMARY

Time Mark Every 60 S

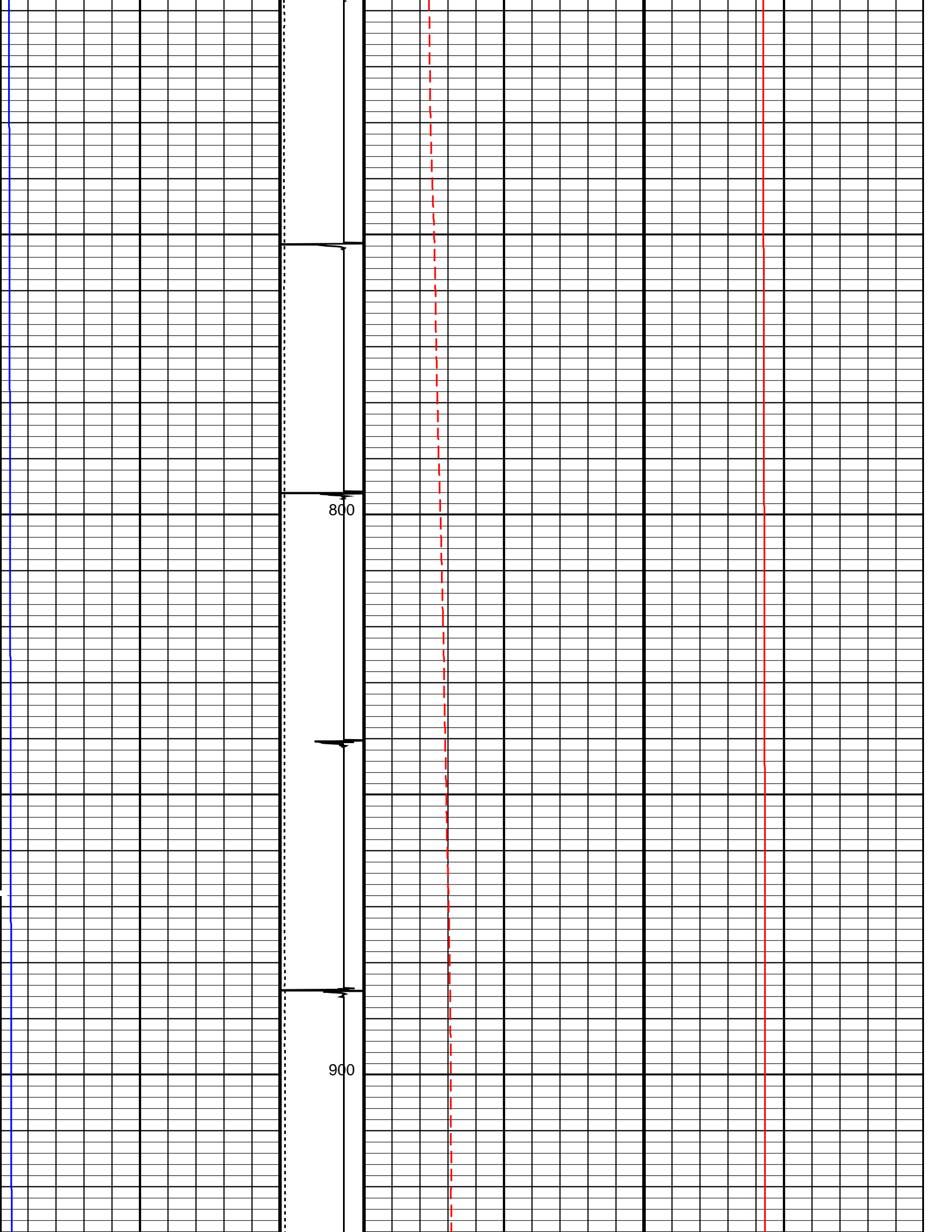


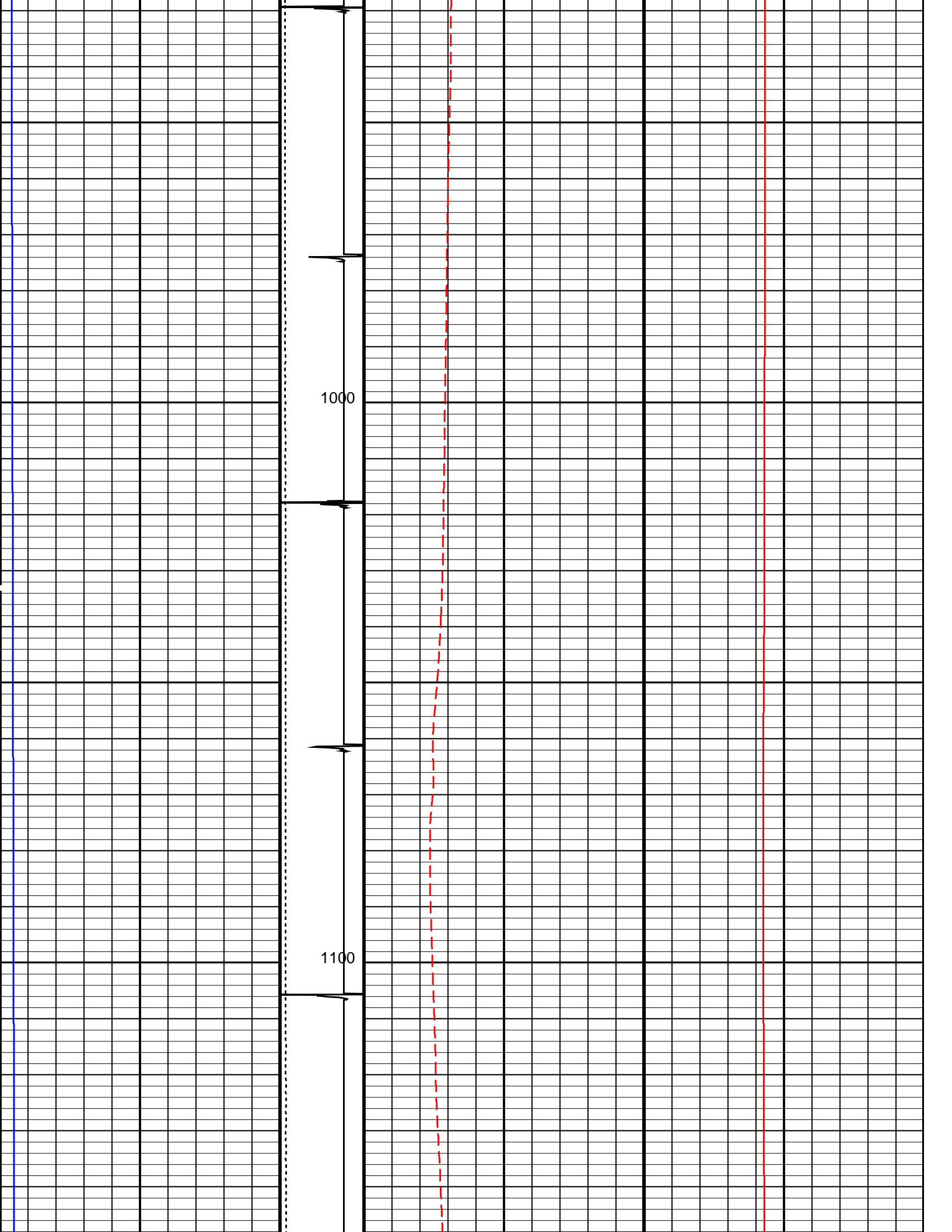


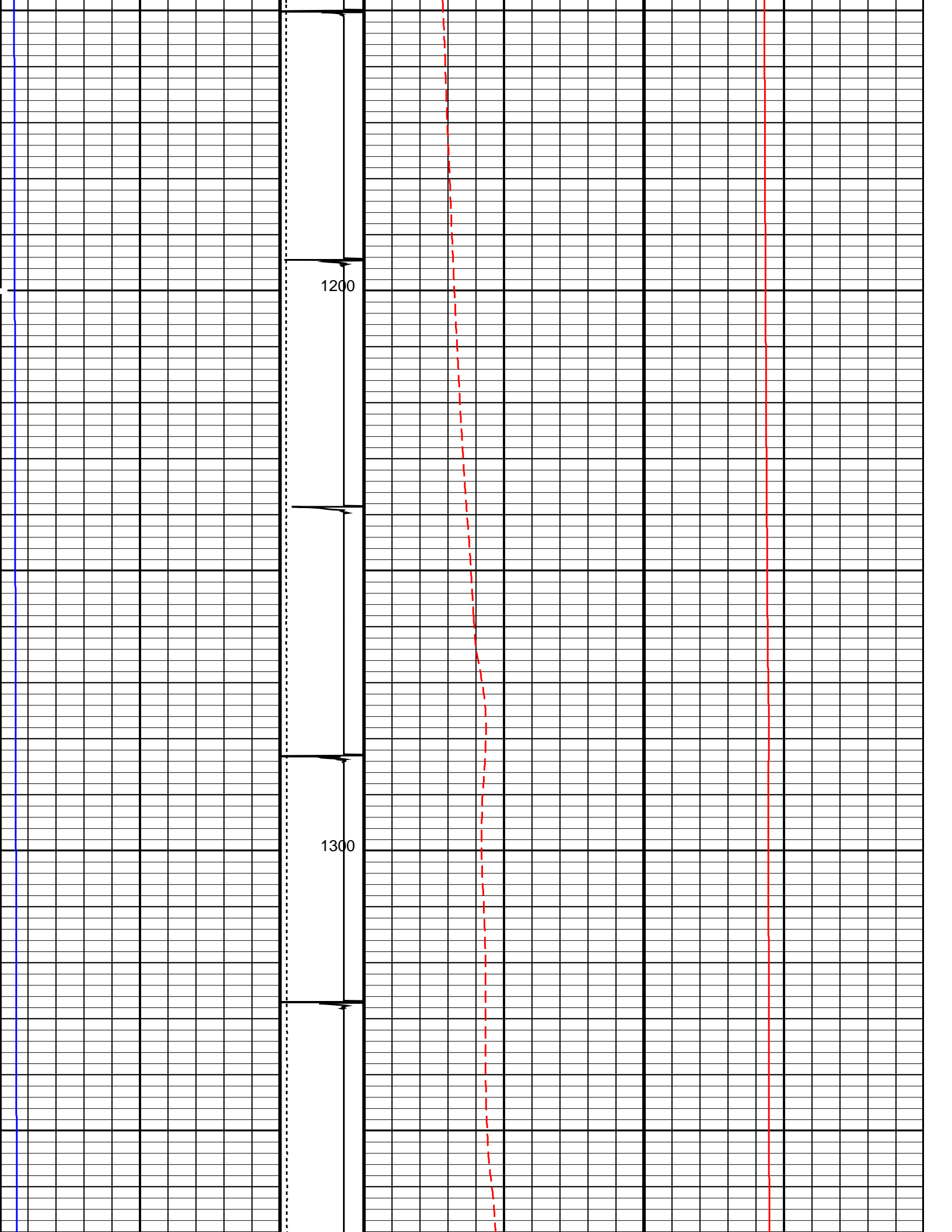


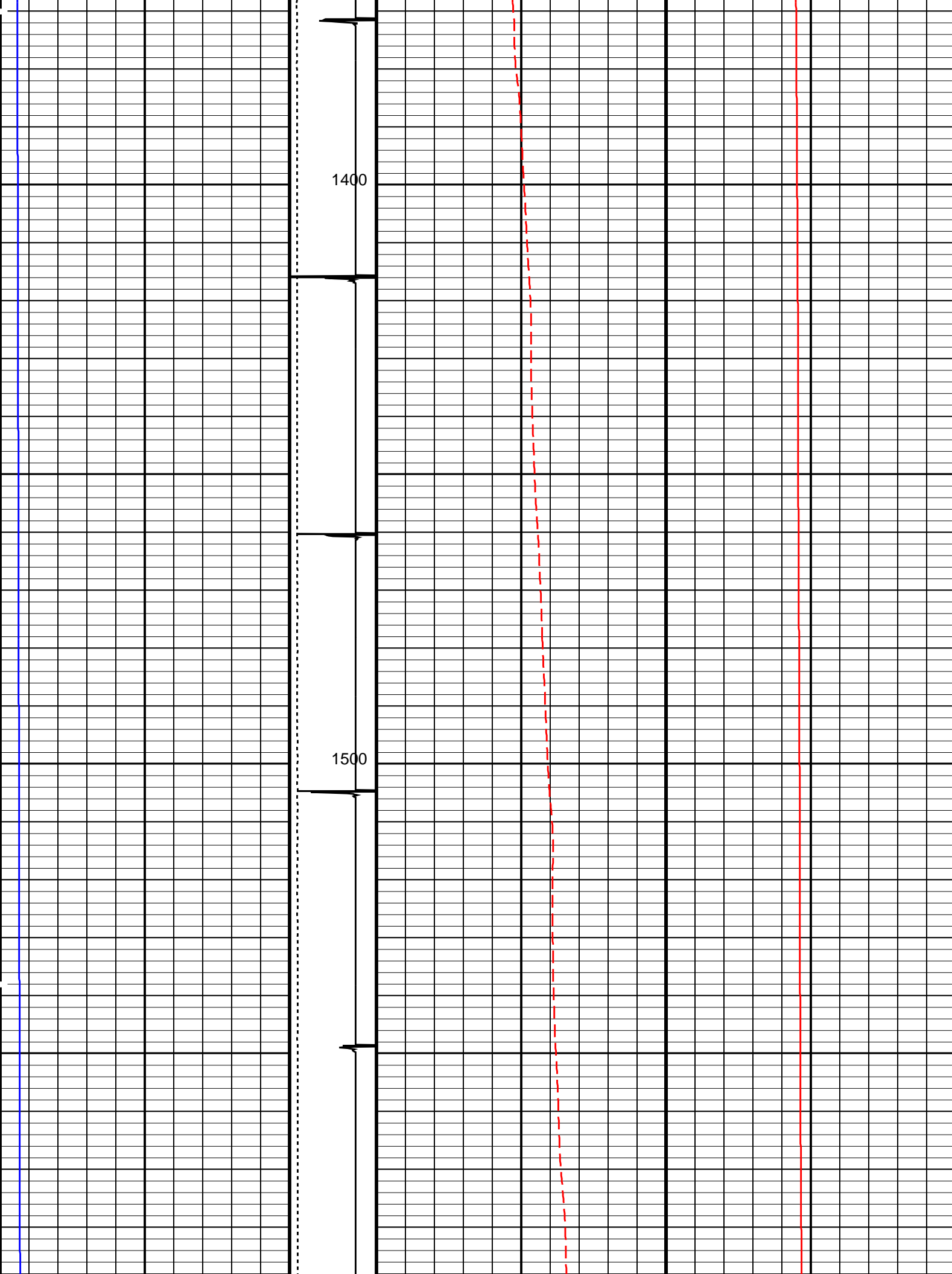


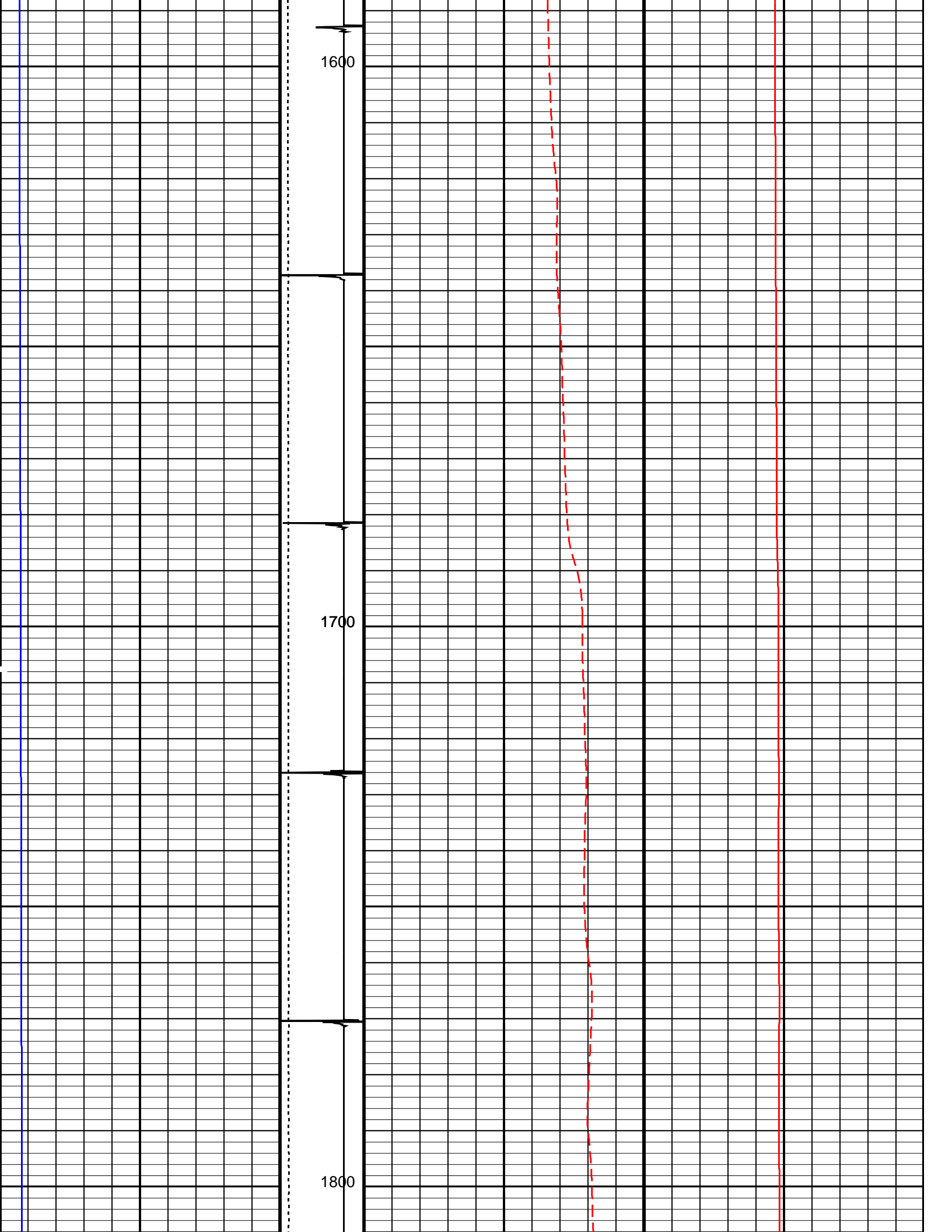


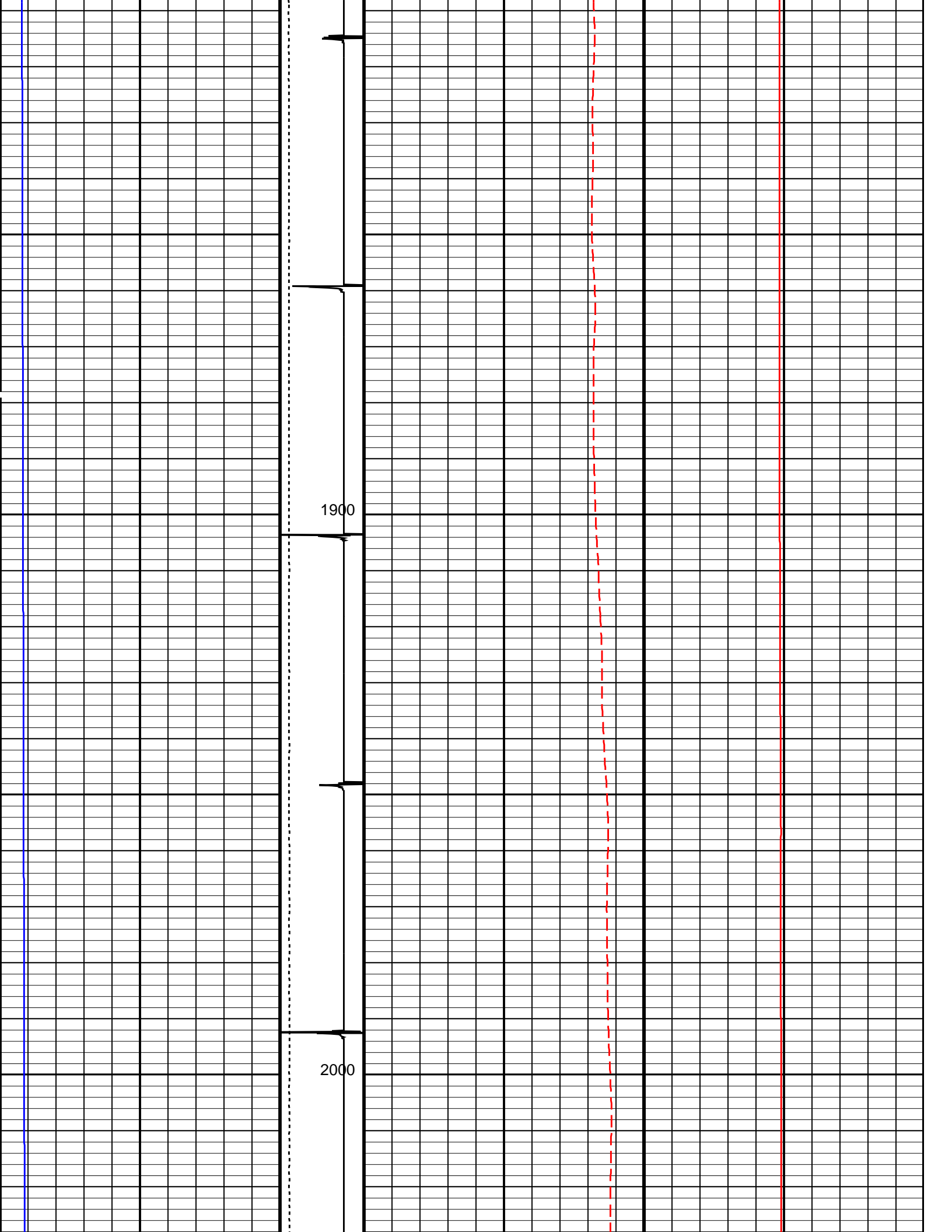


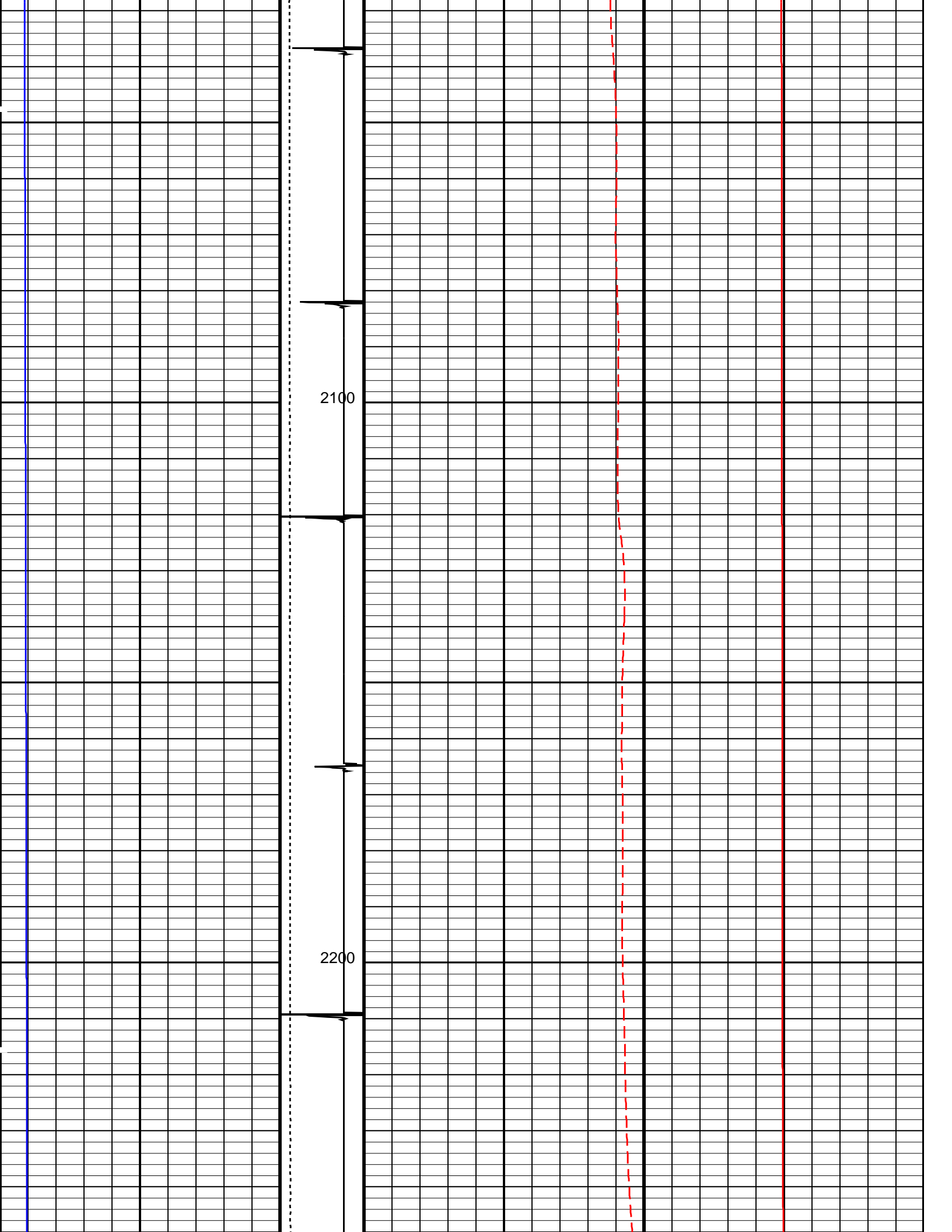


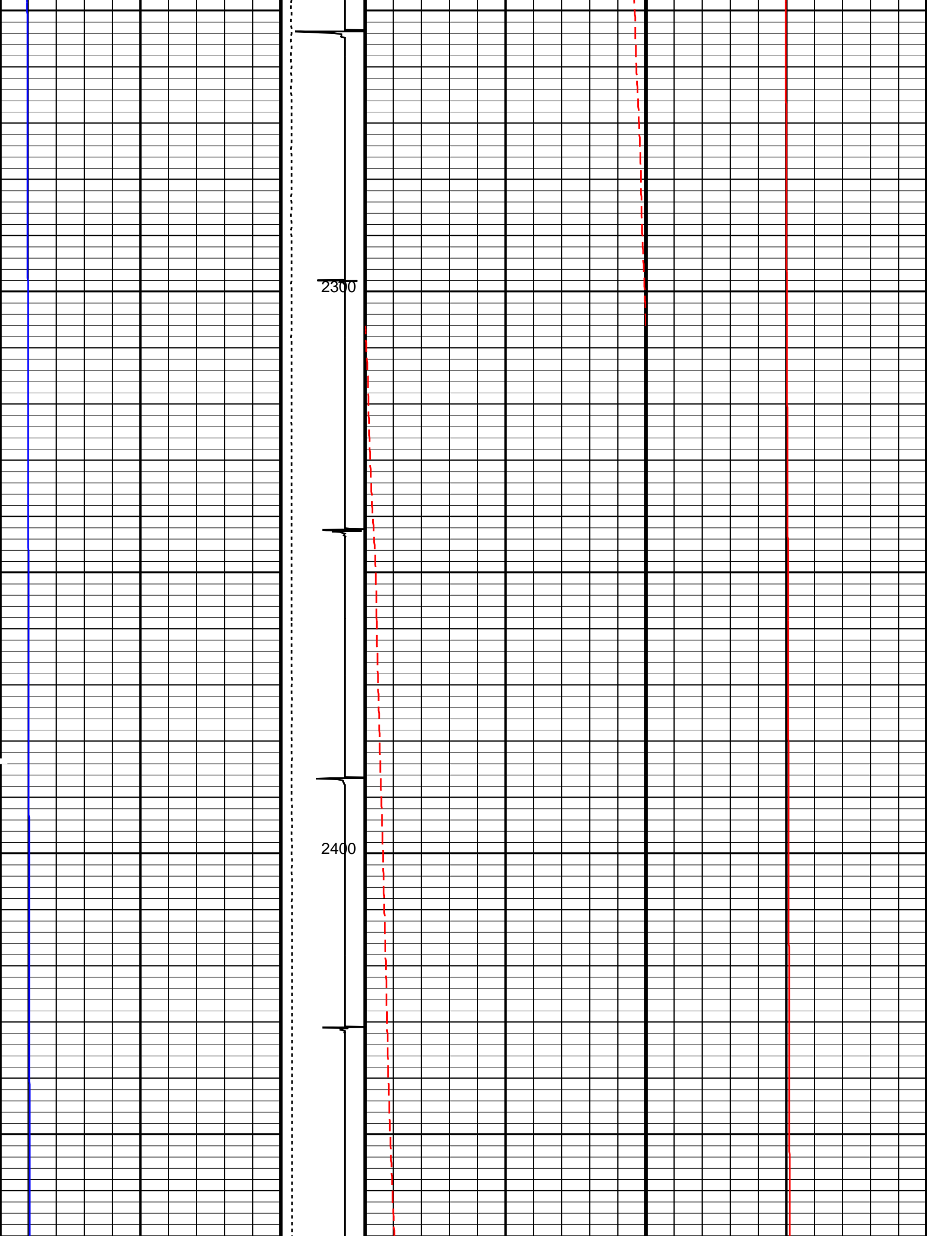




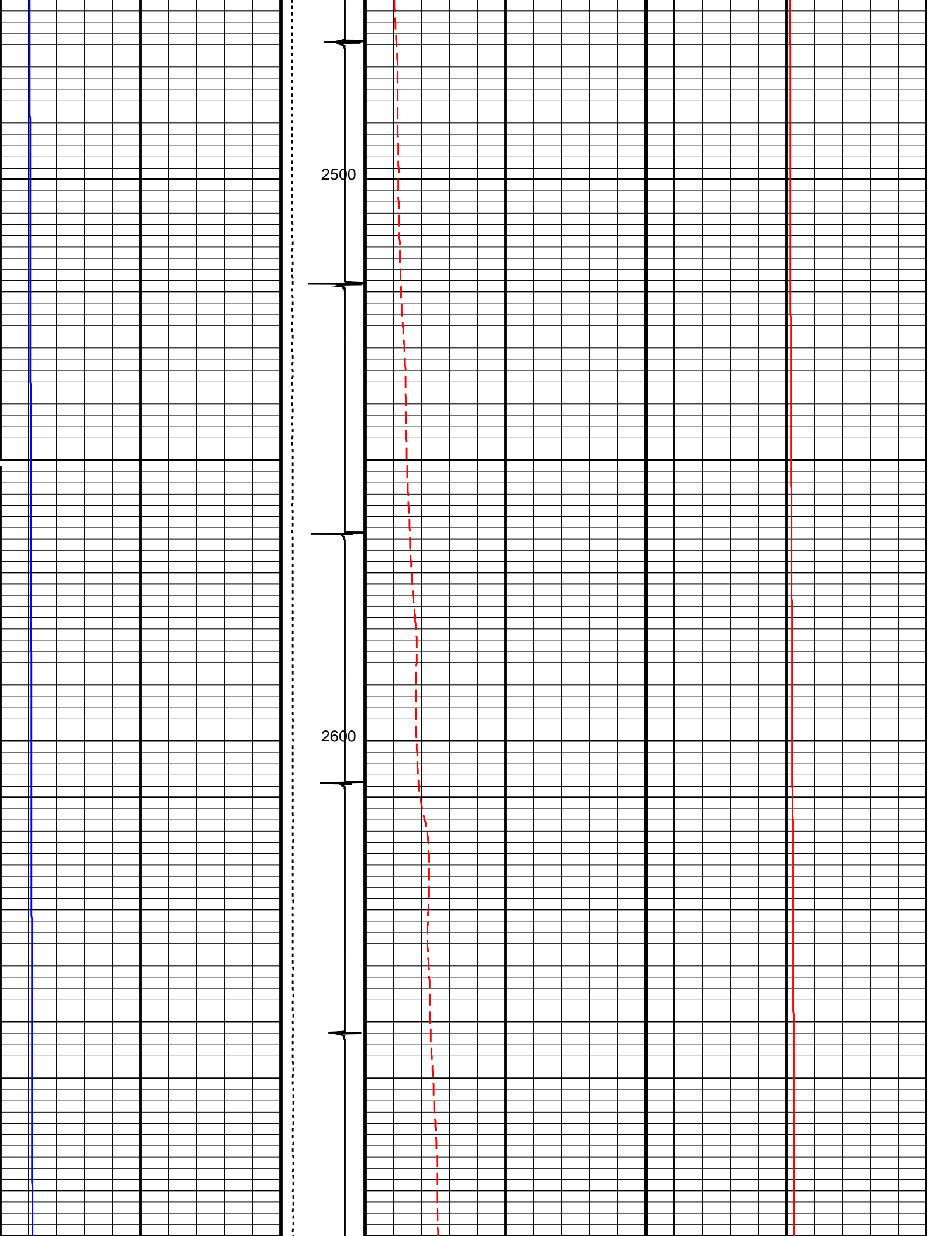


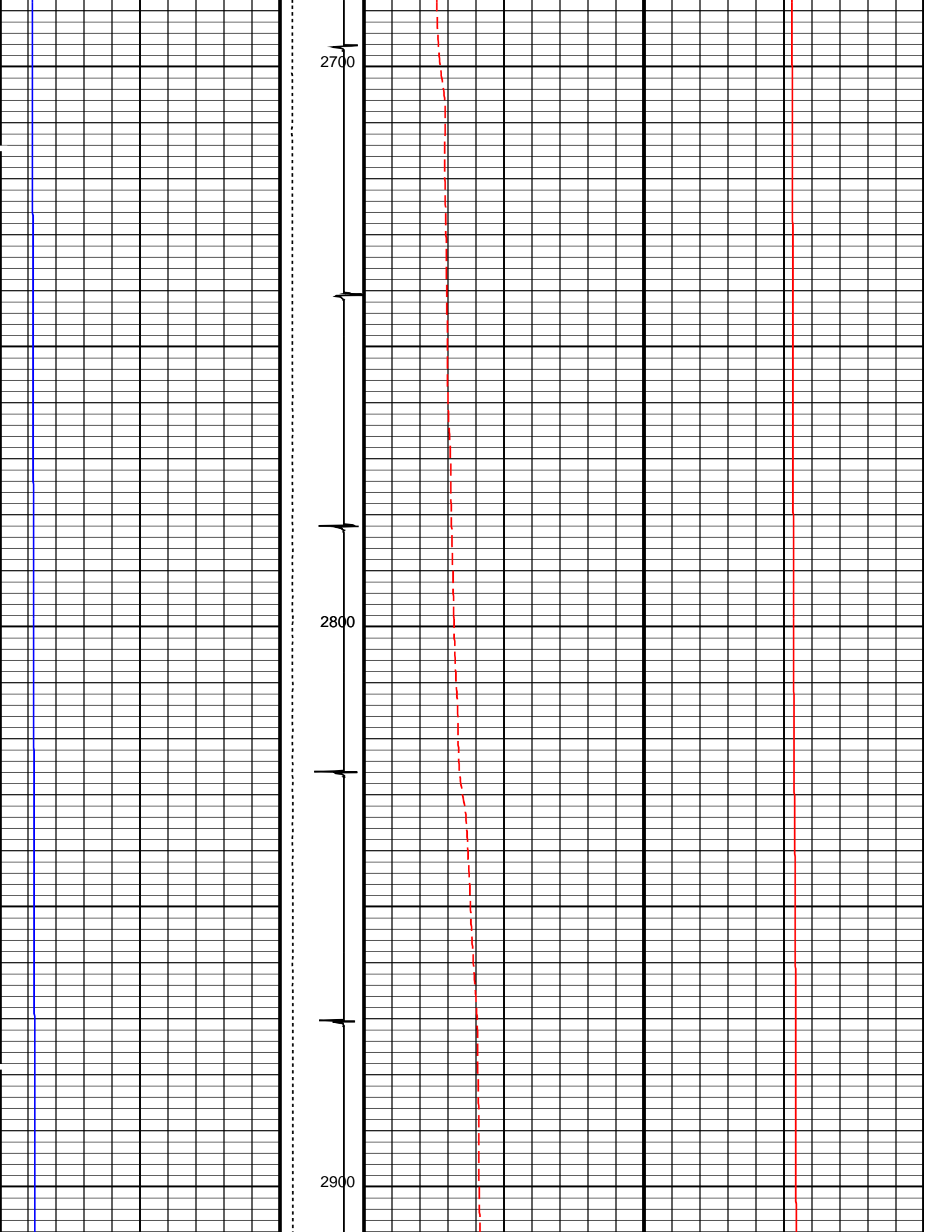


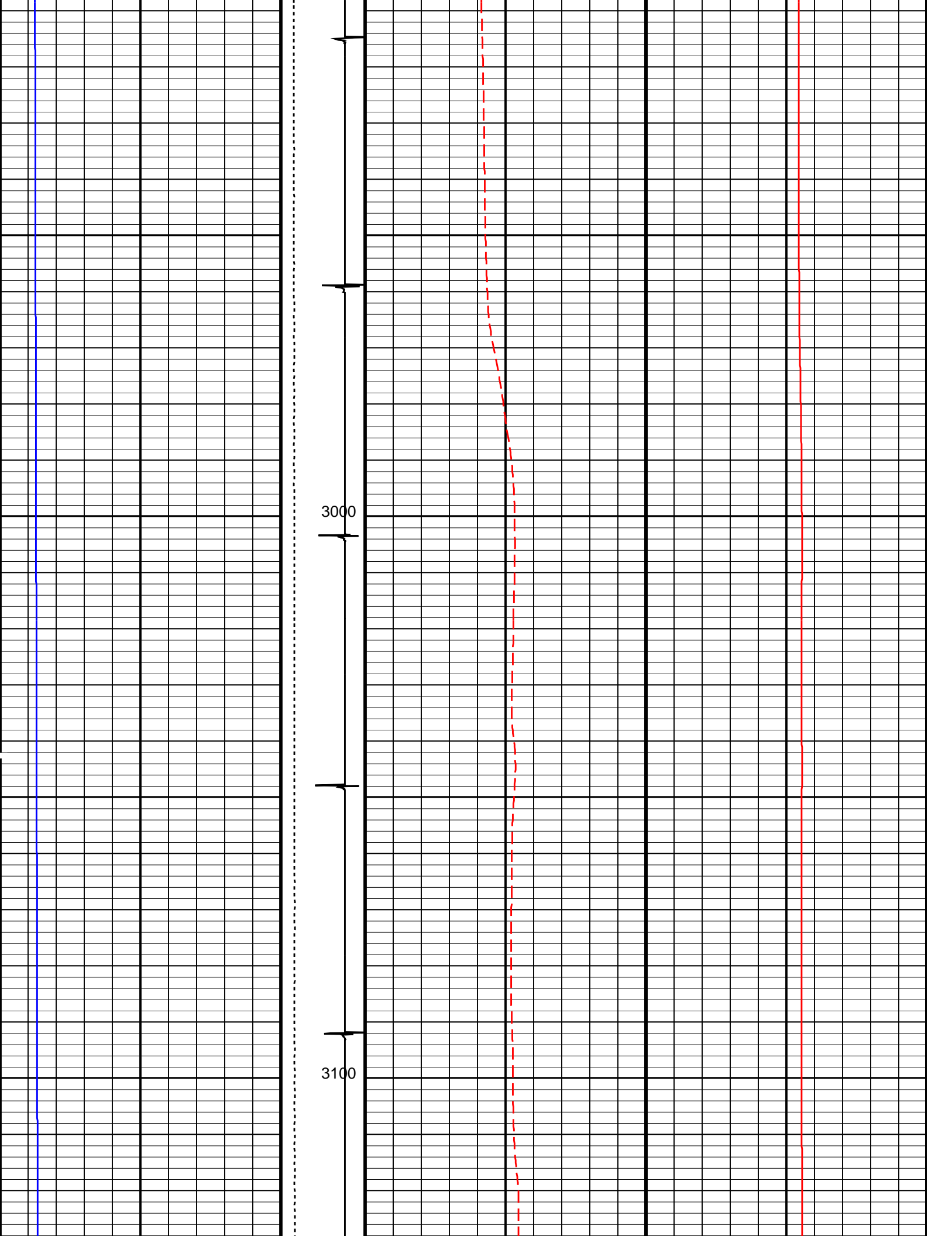


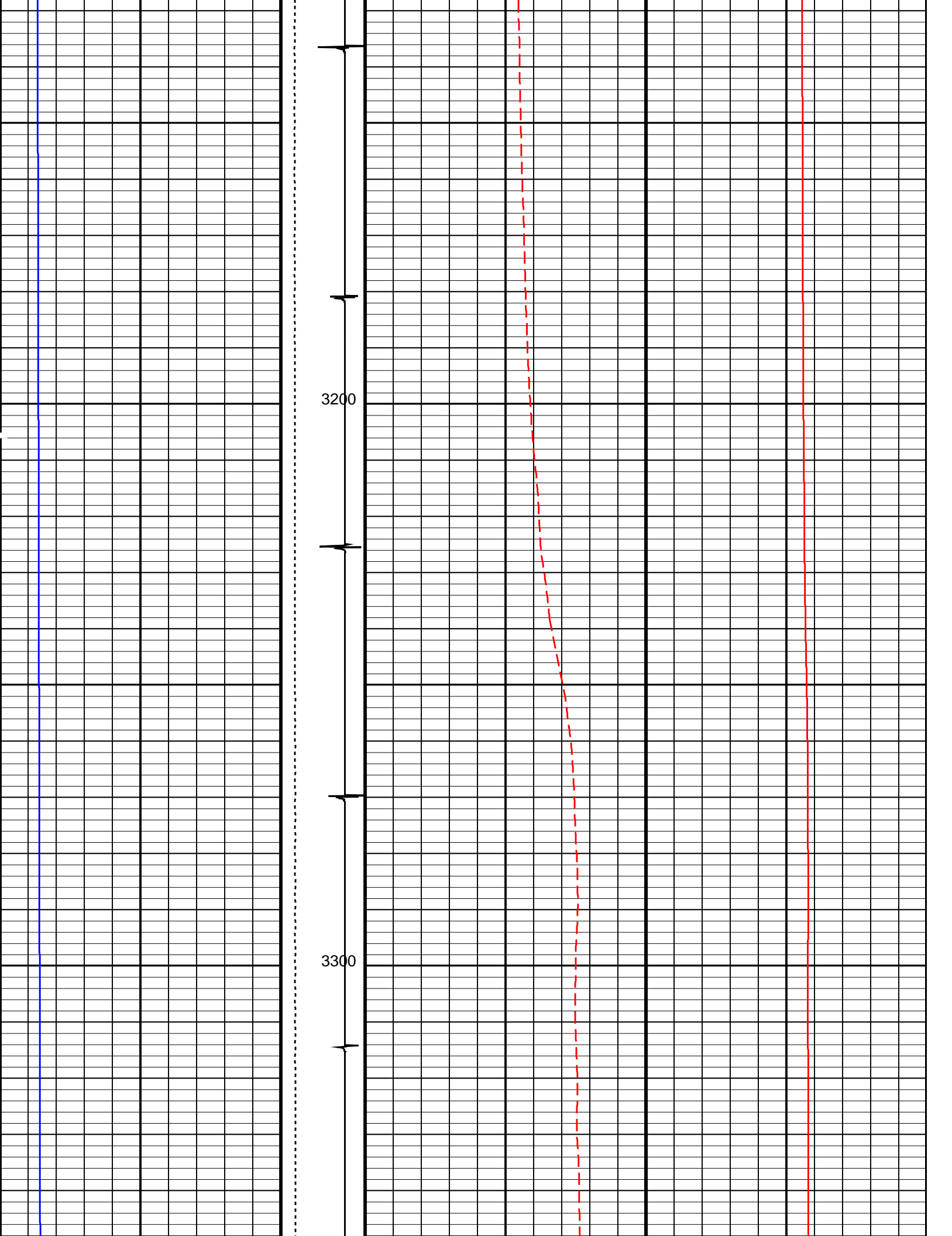


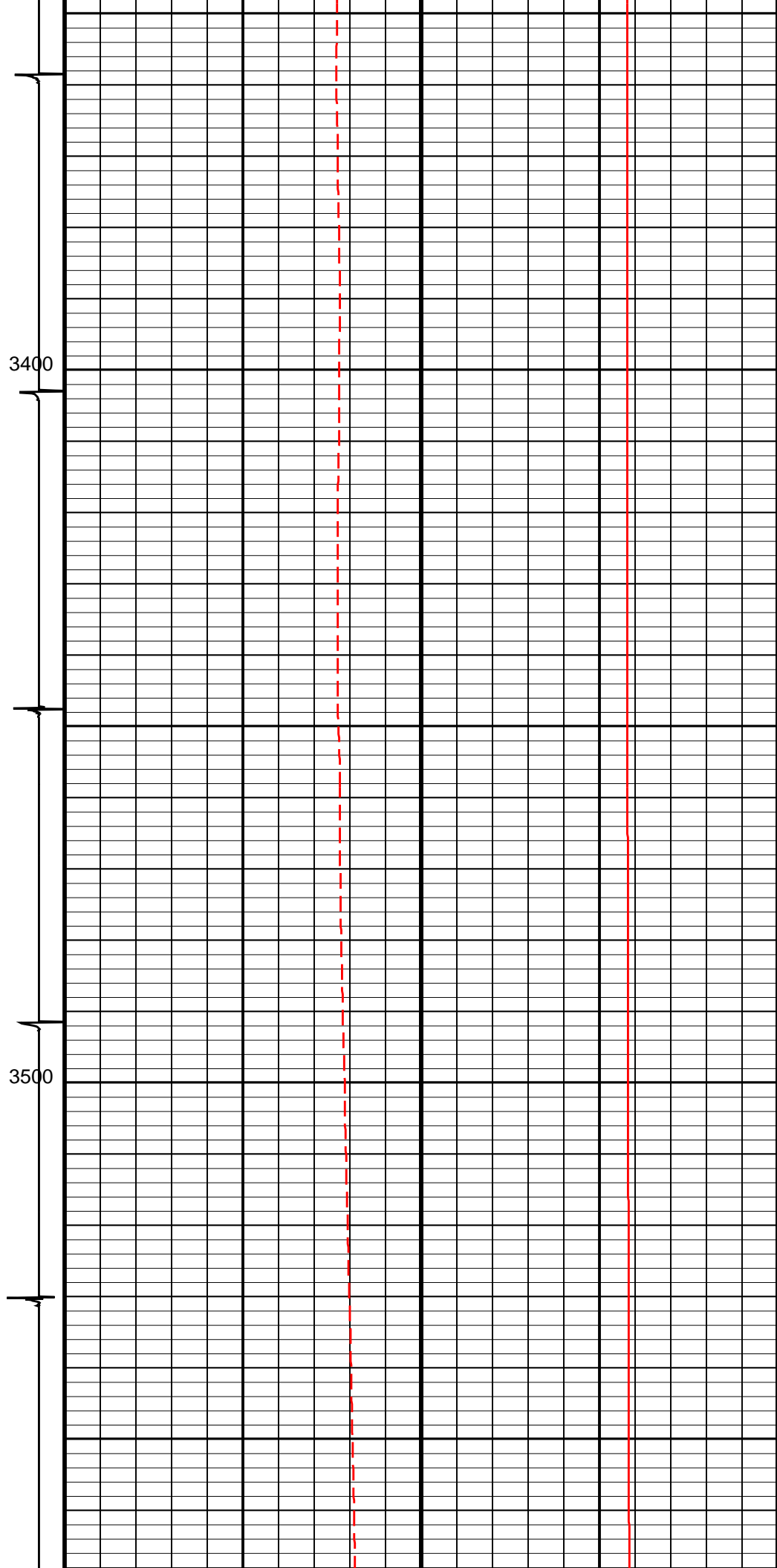
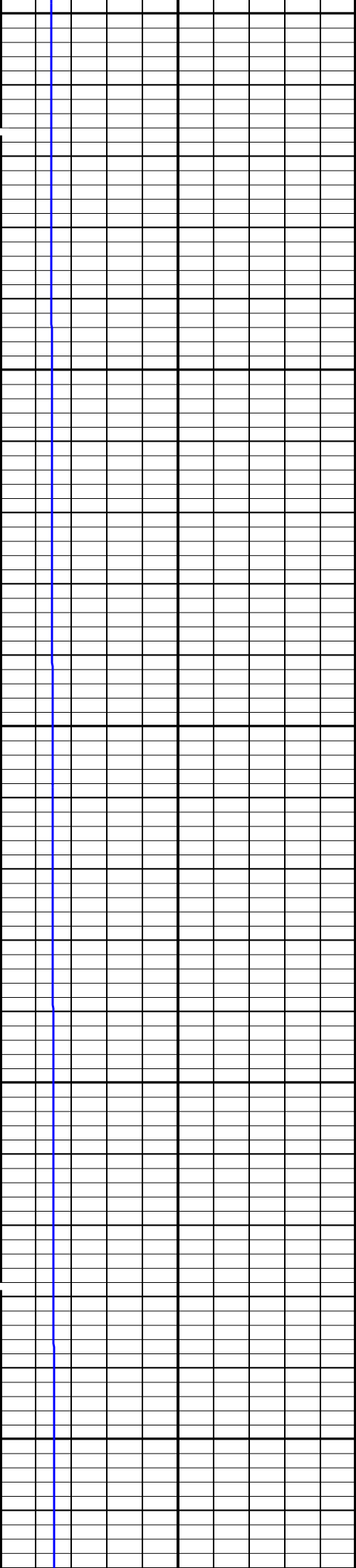






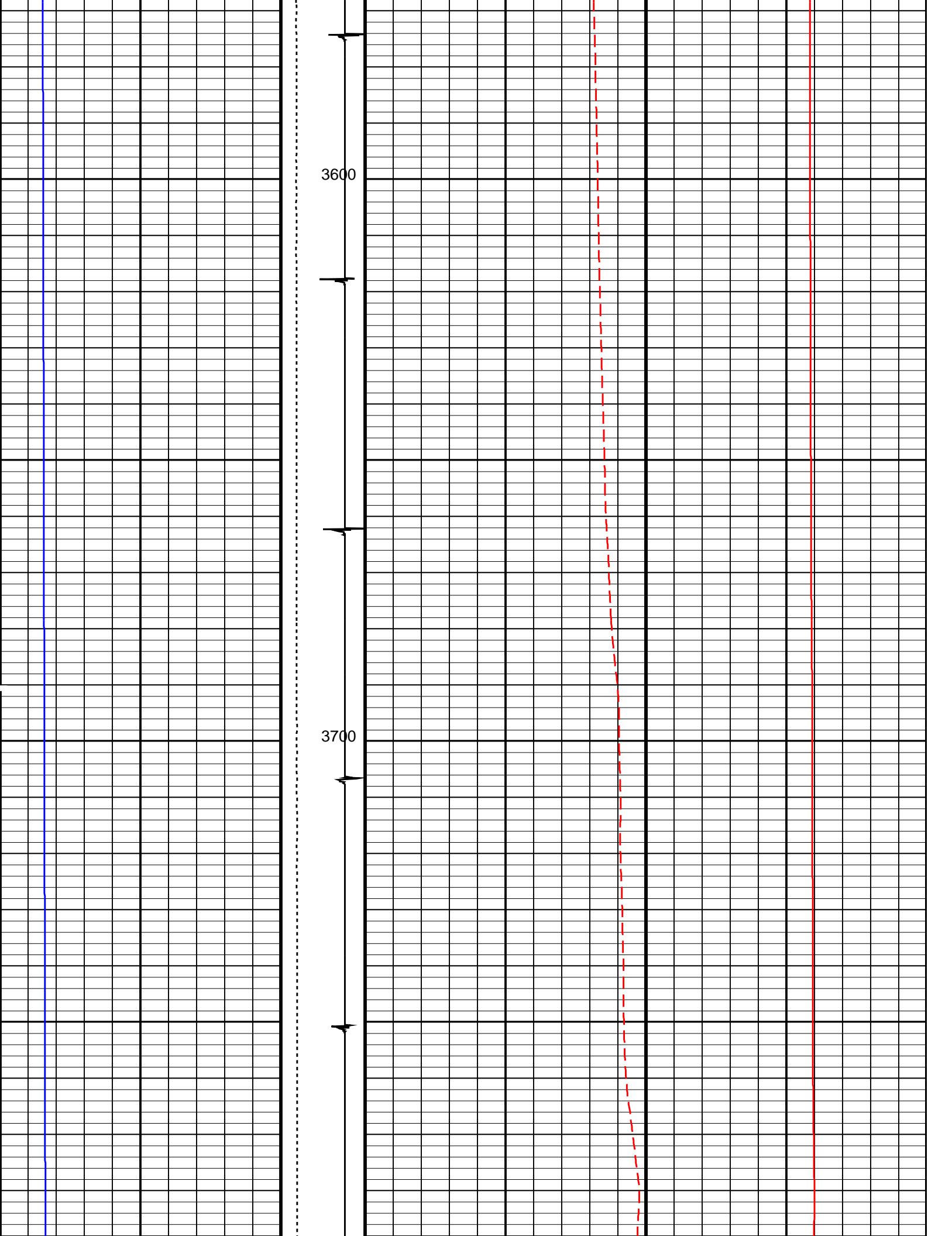


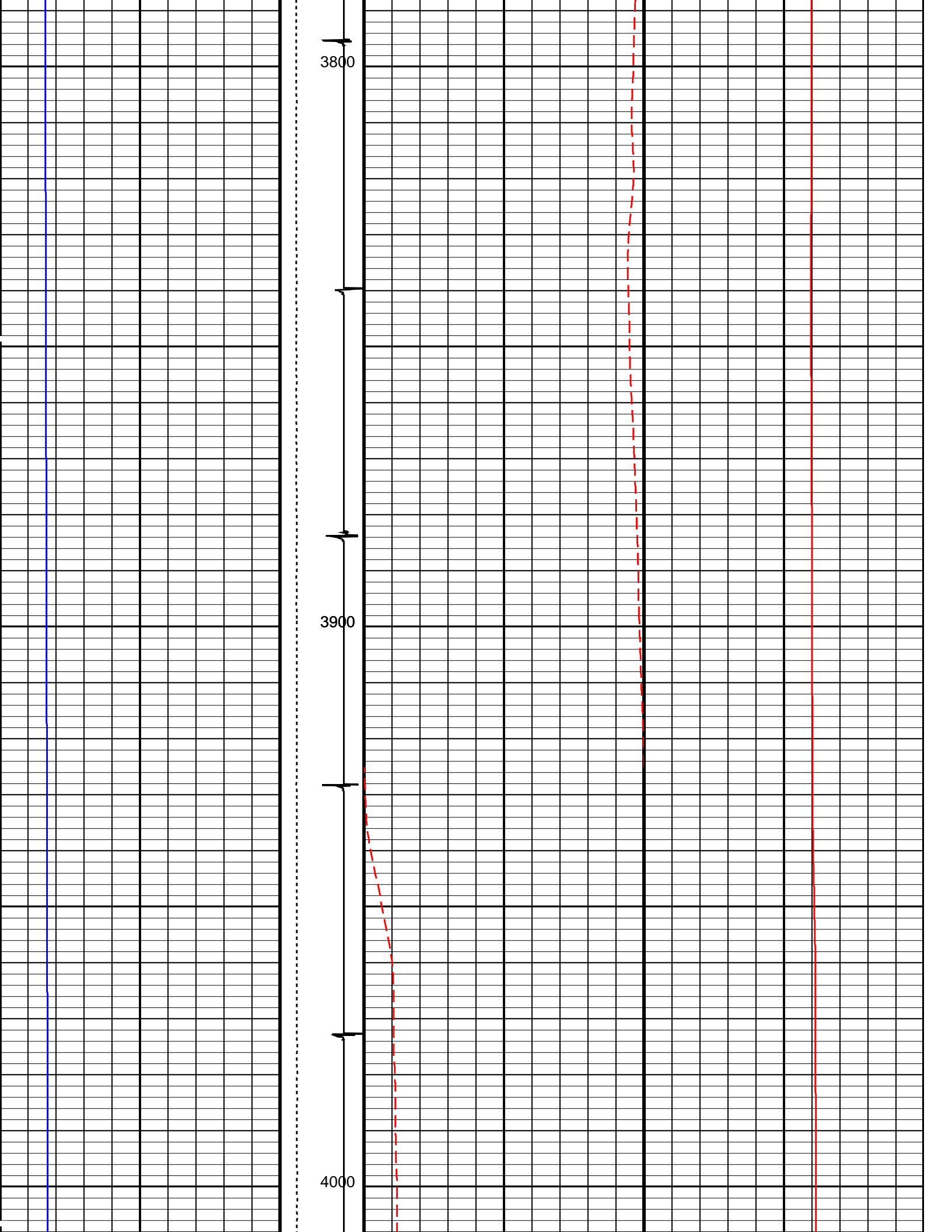


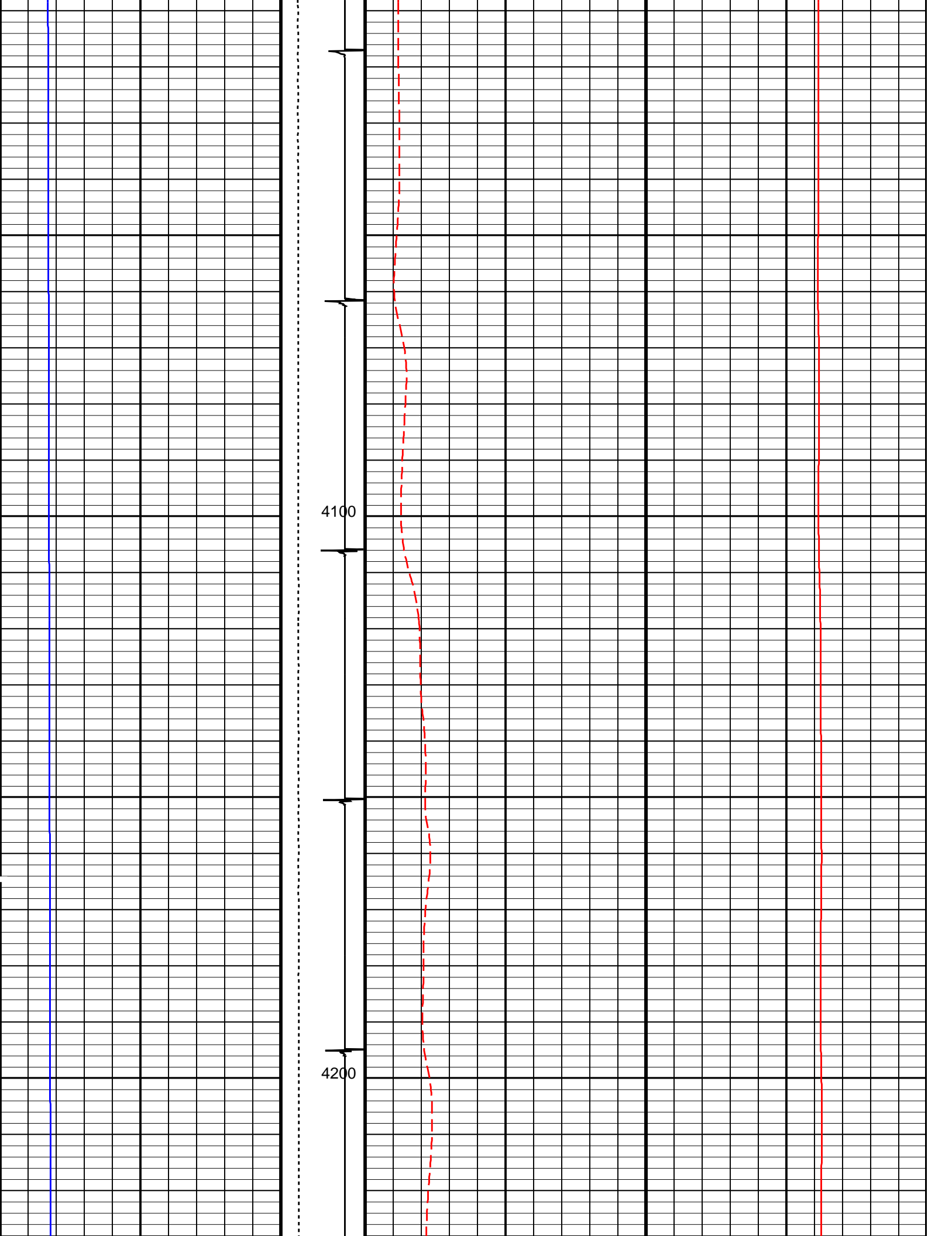


3400

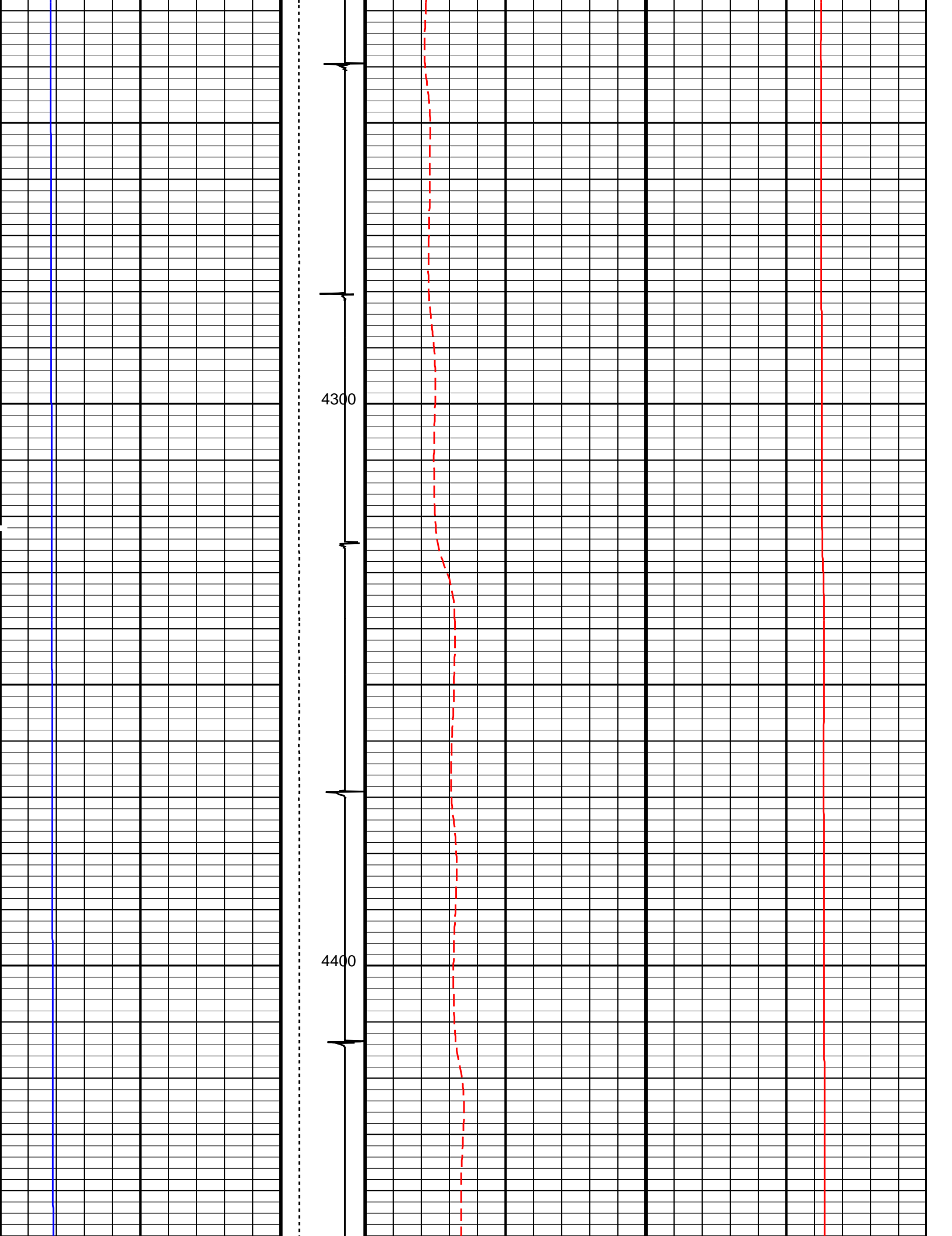
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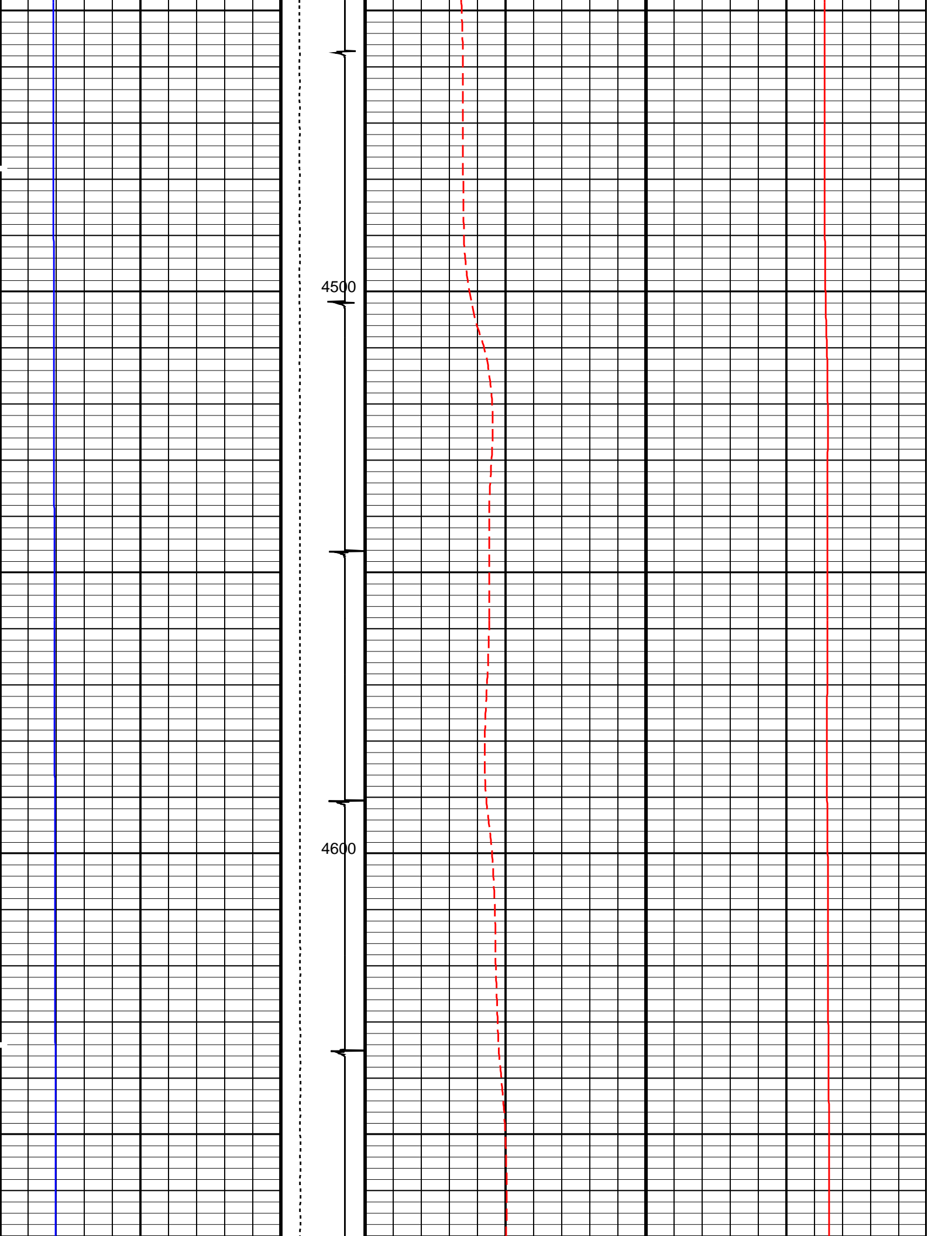


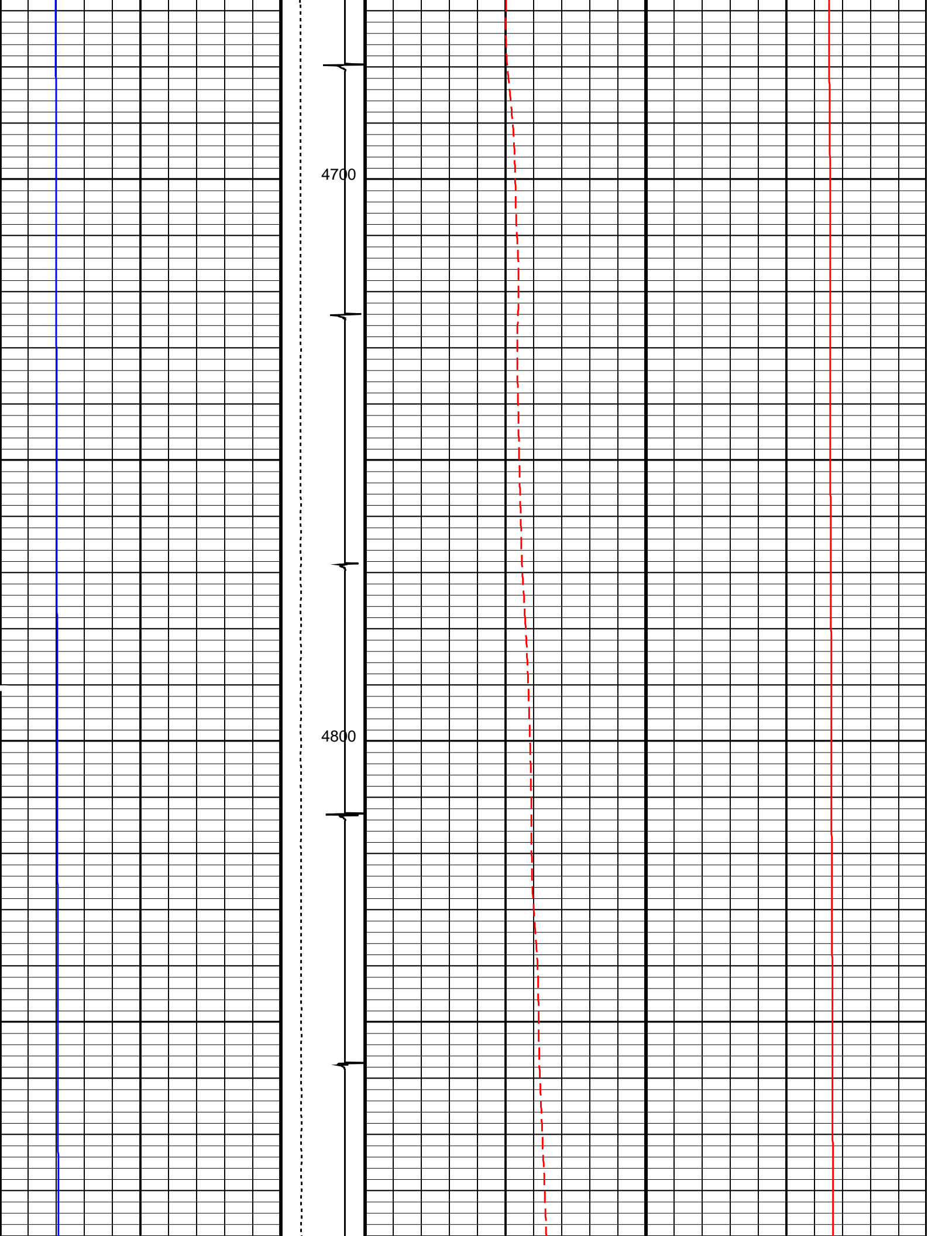


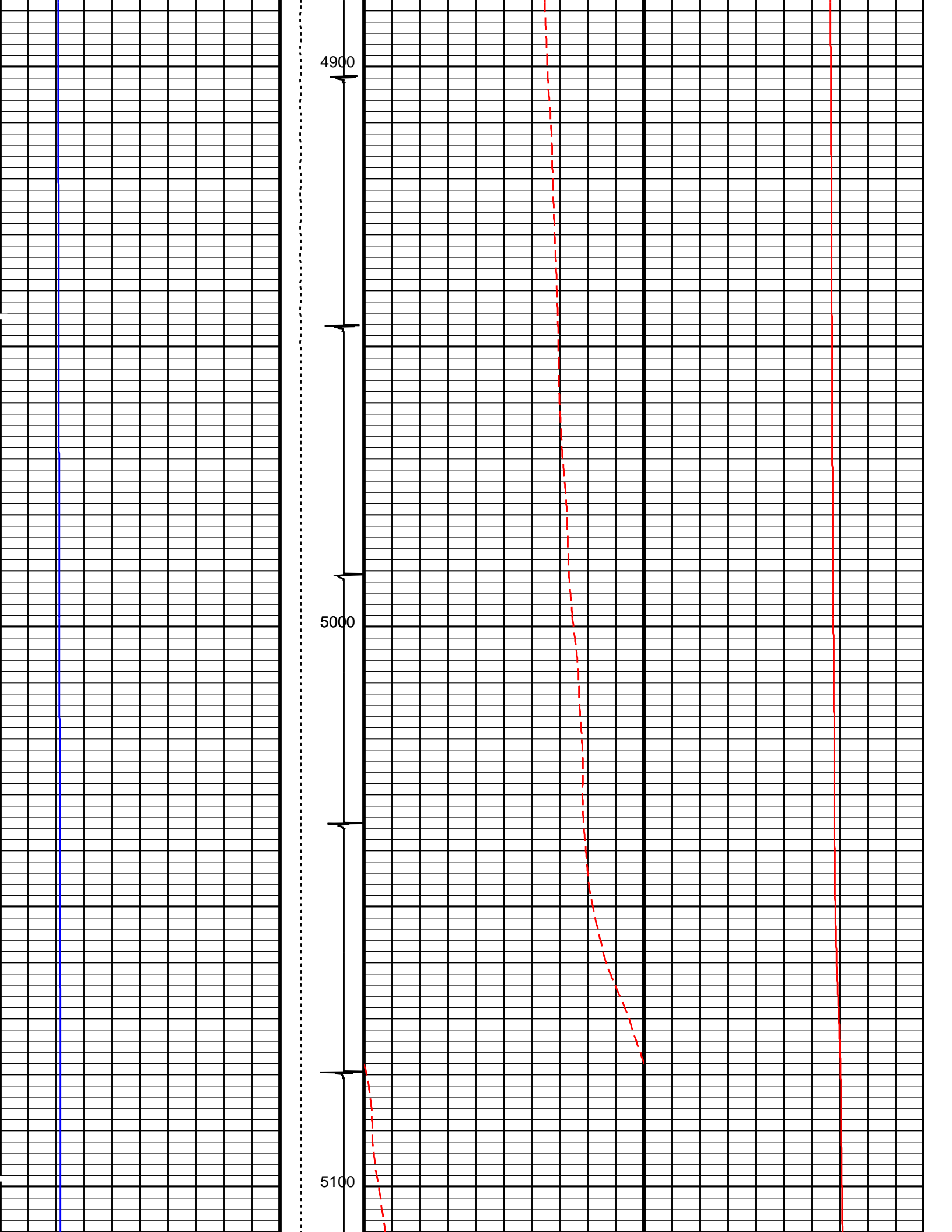


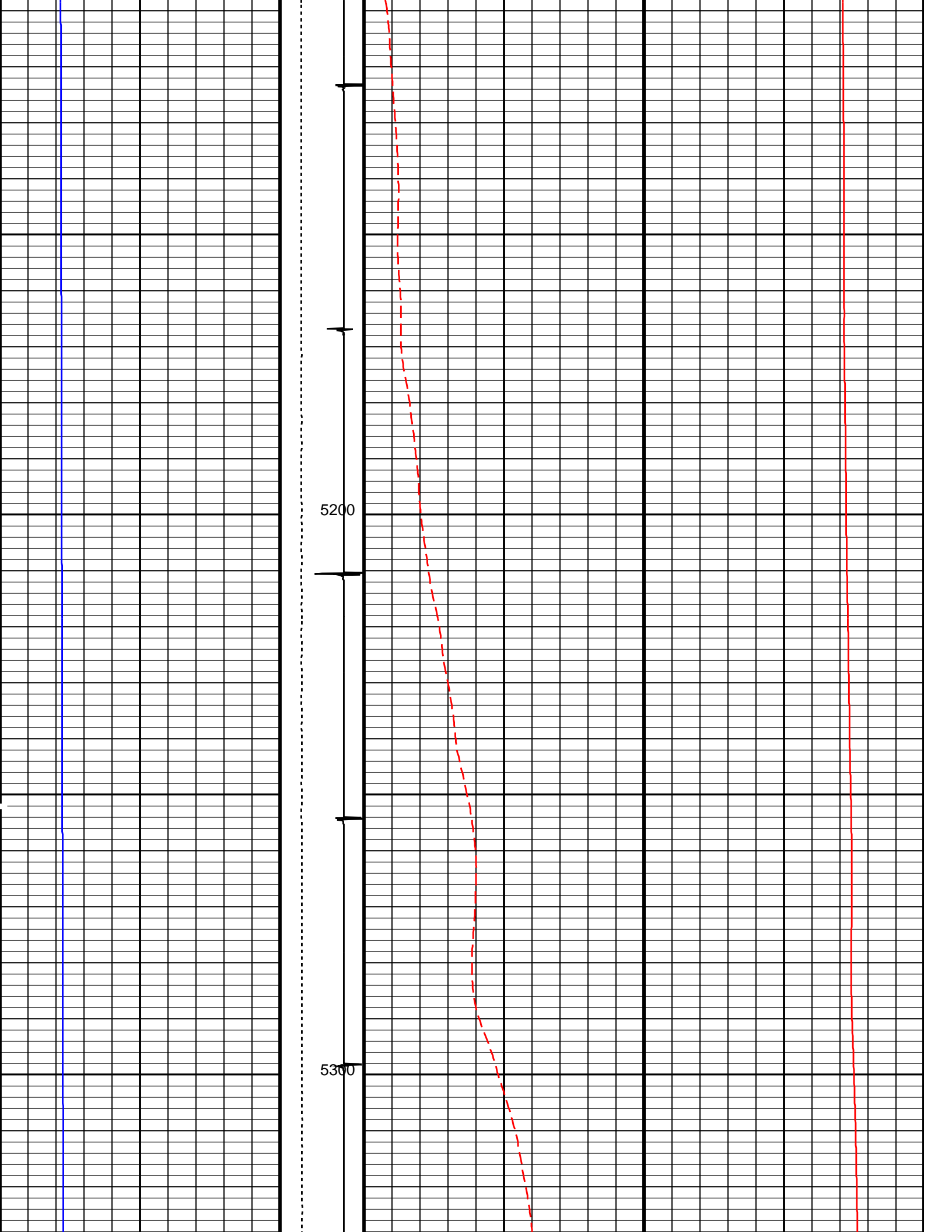


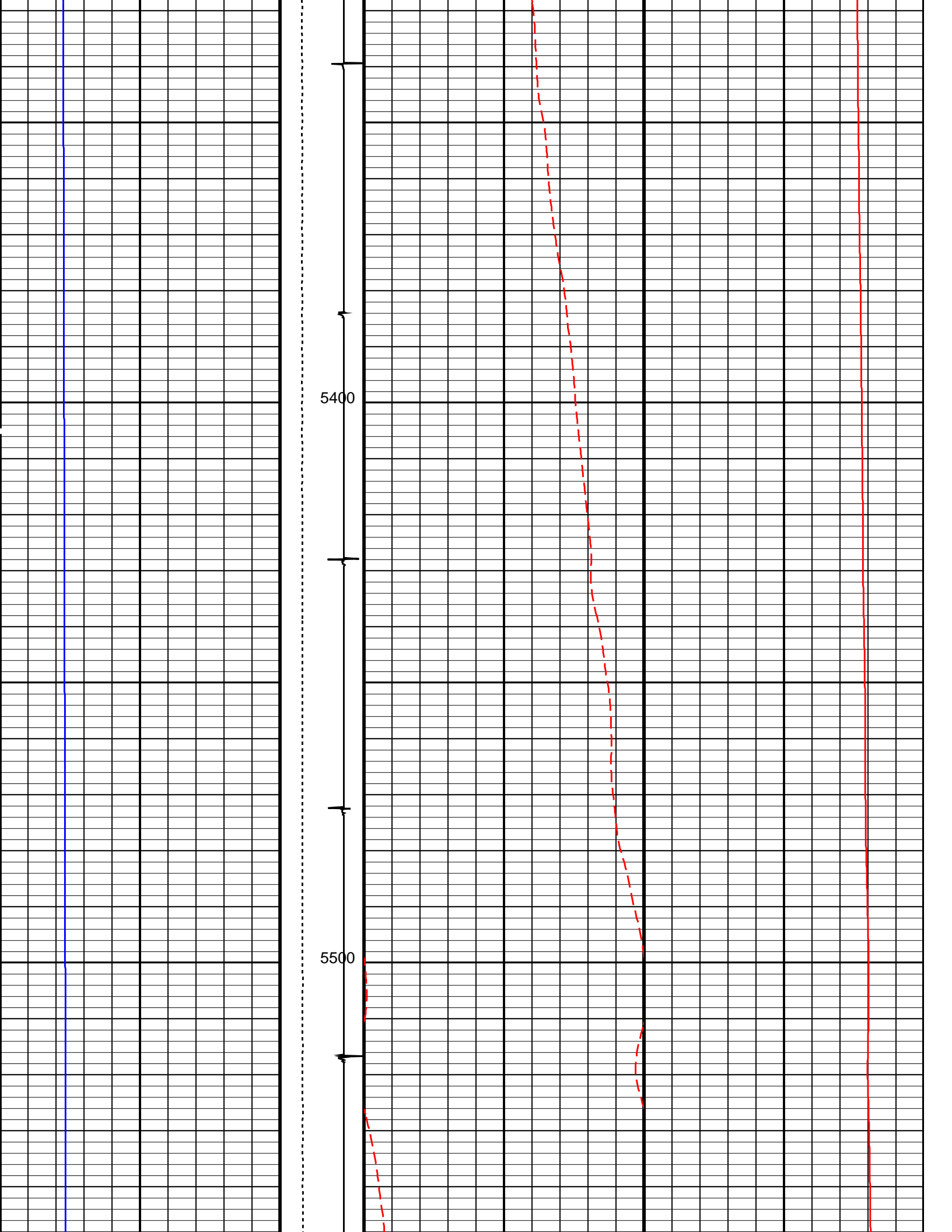


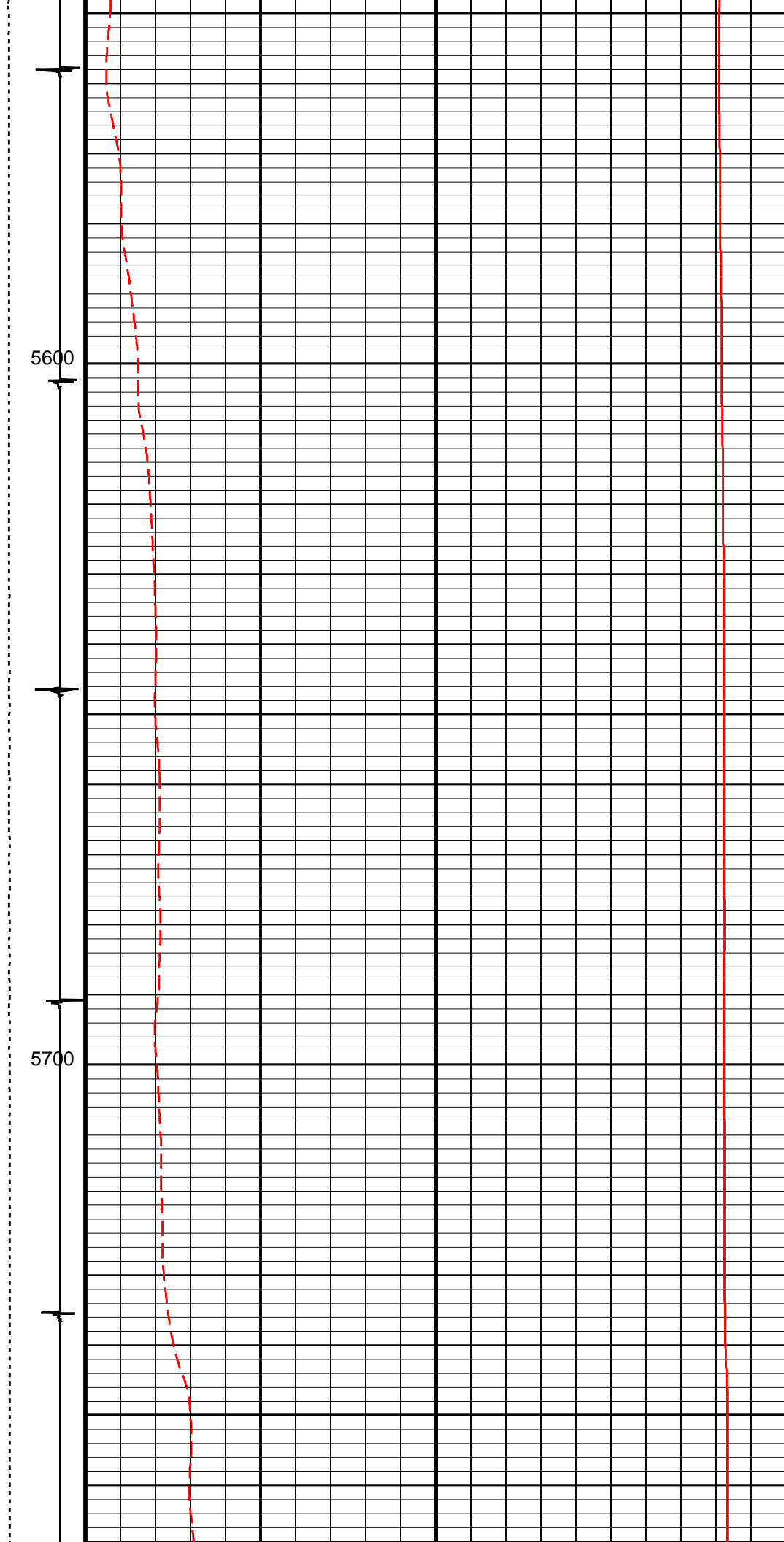
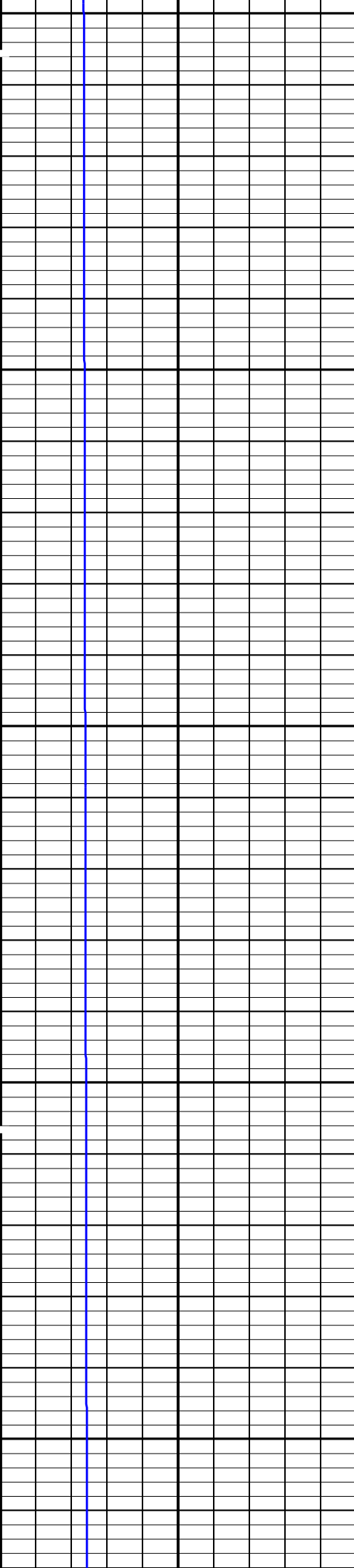


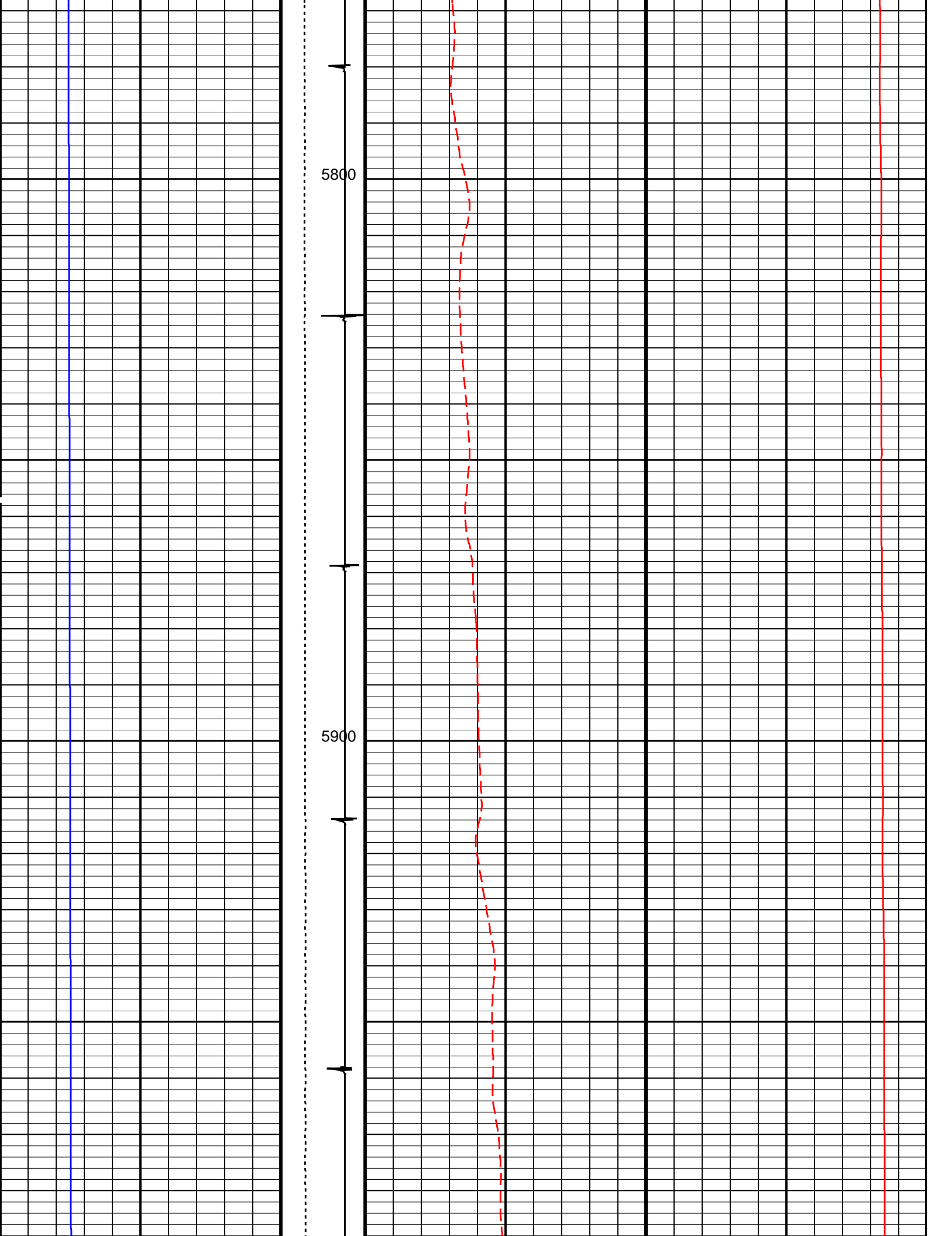




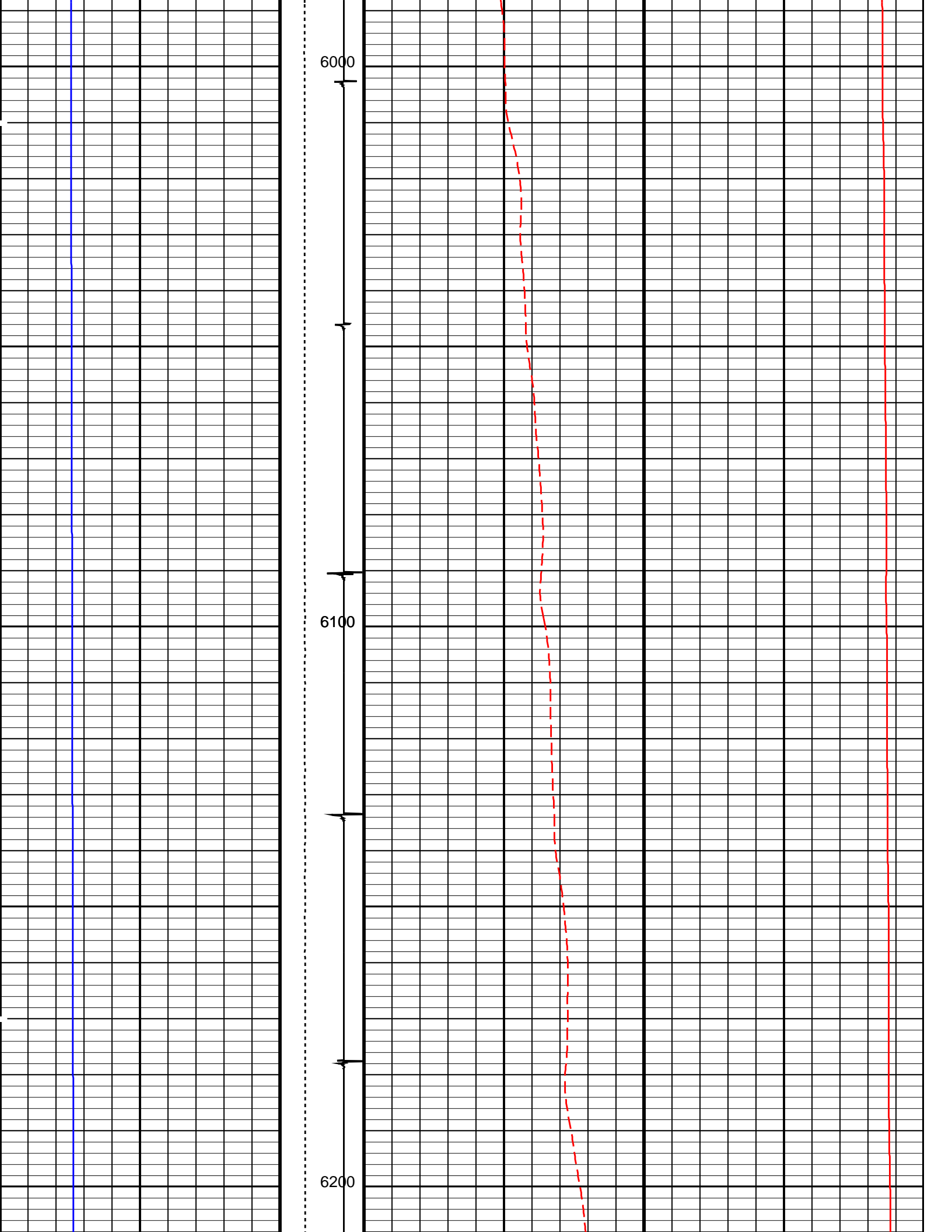


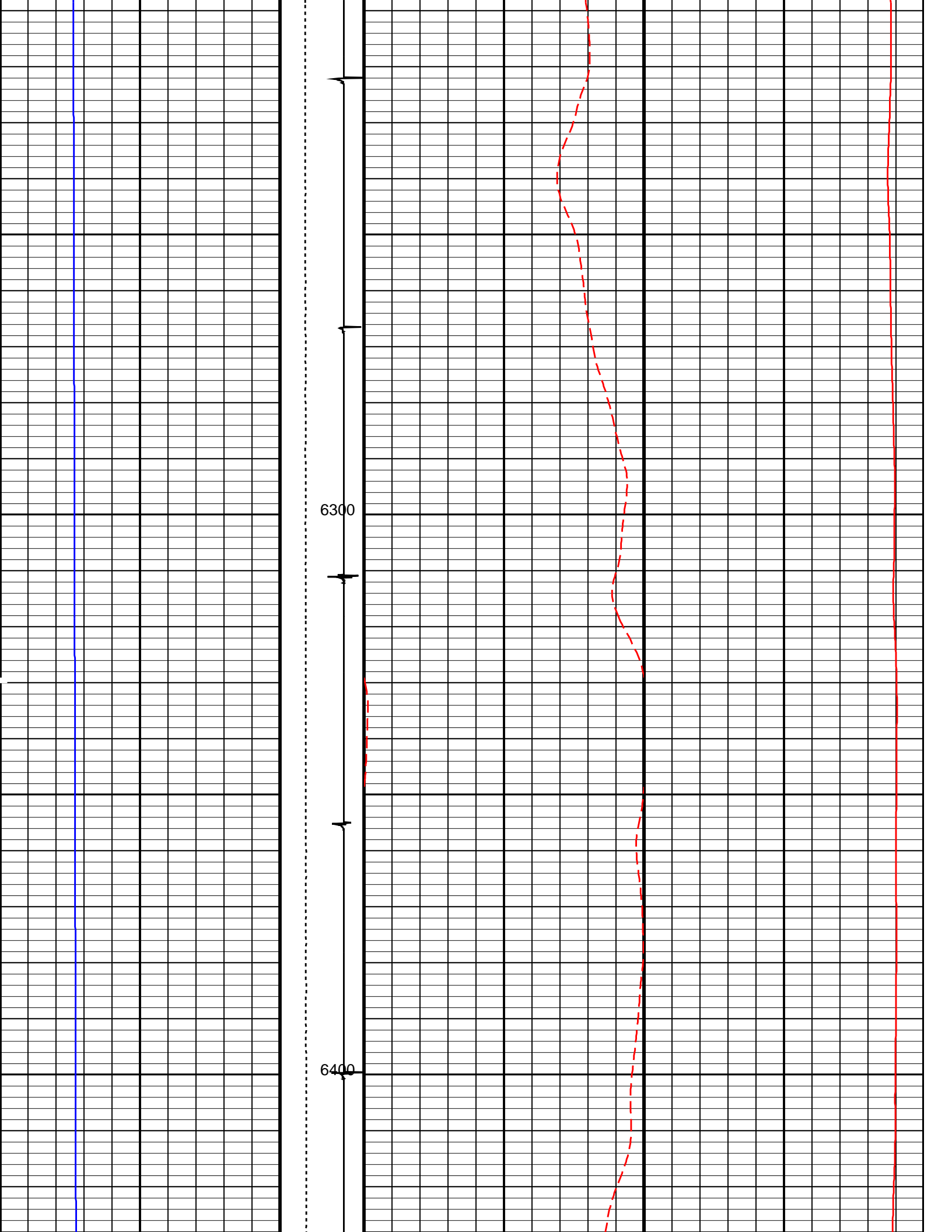


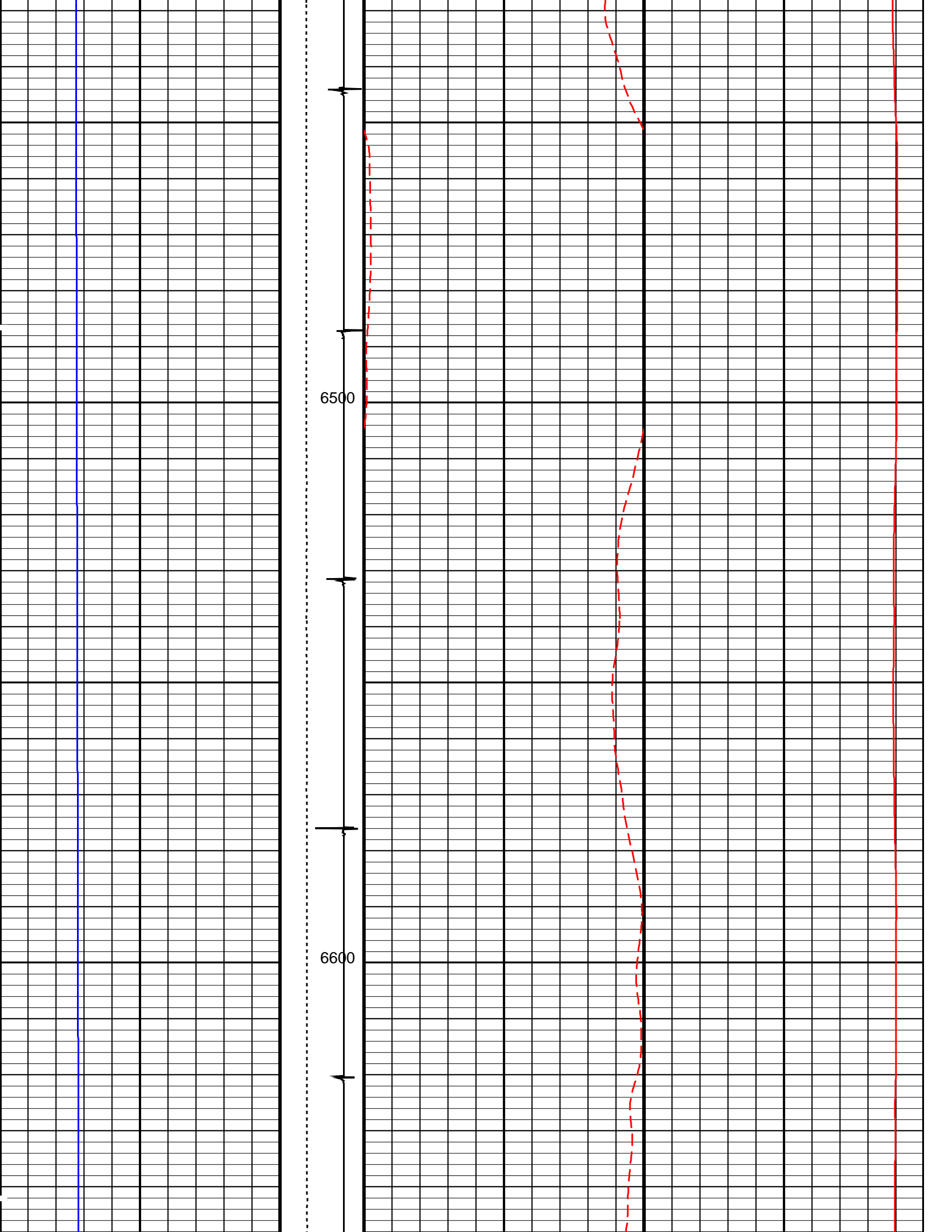


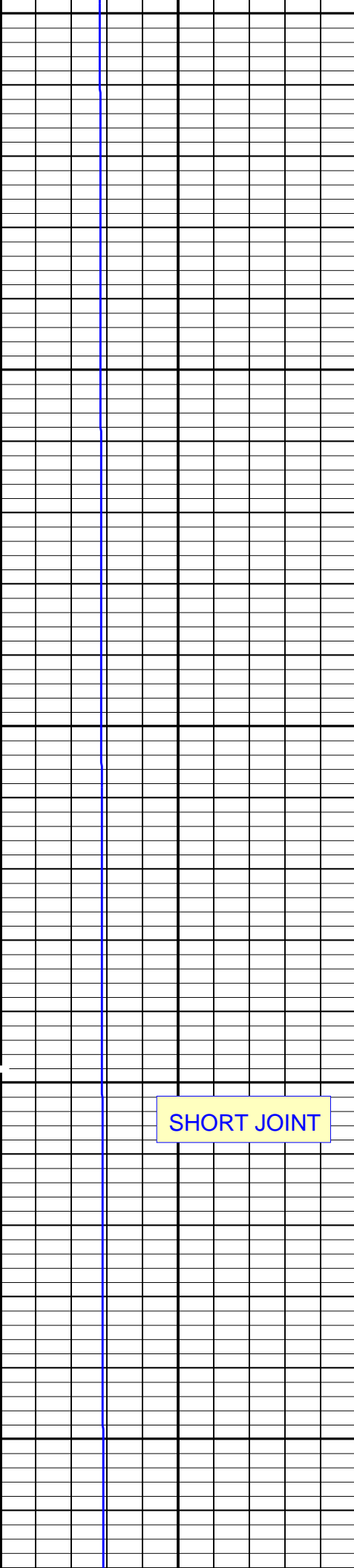




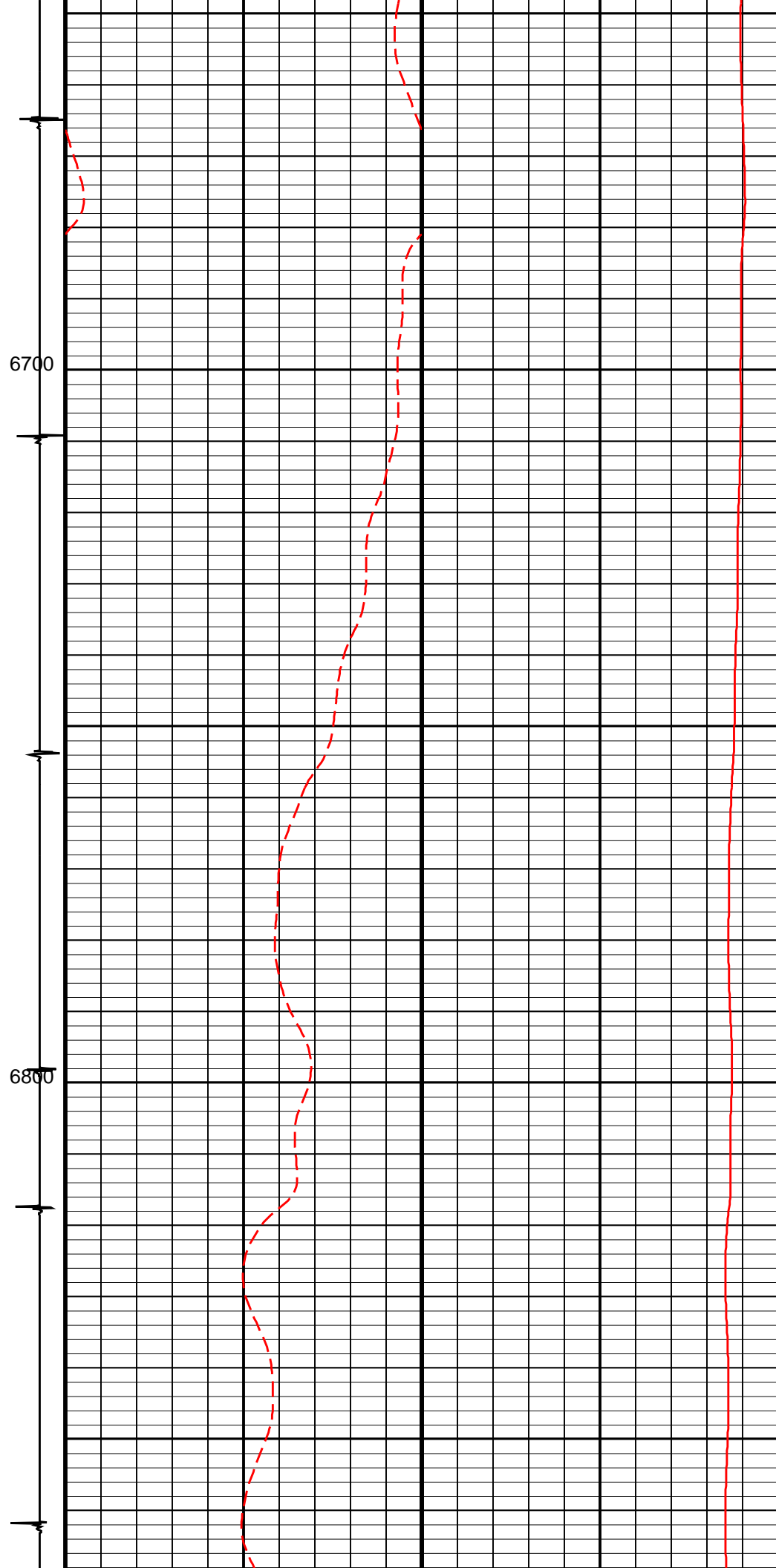


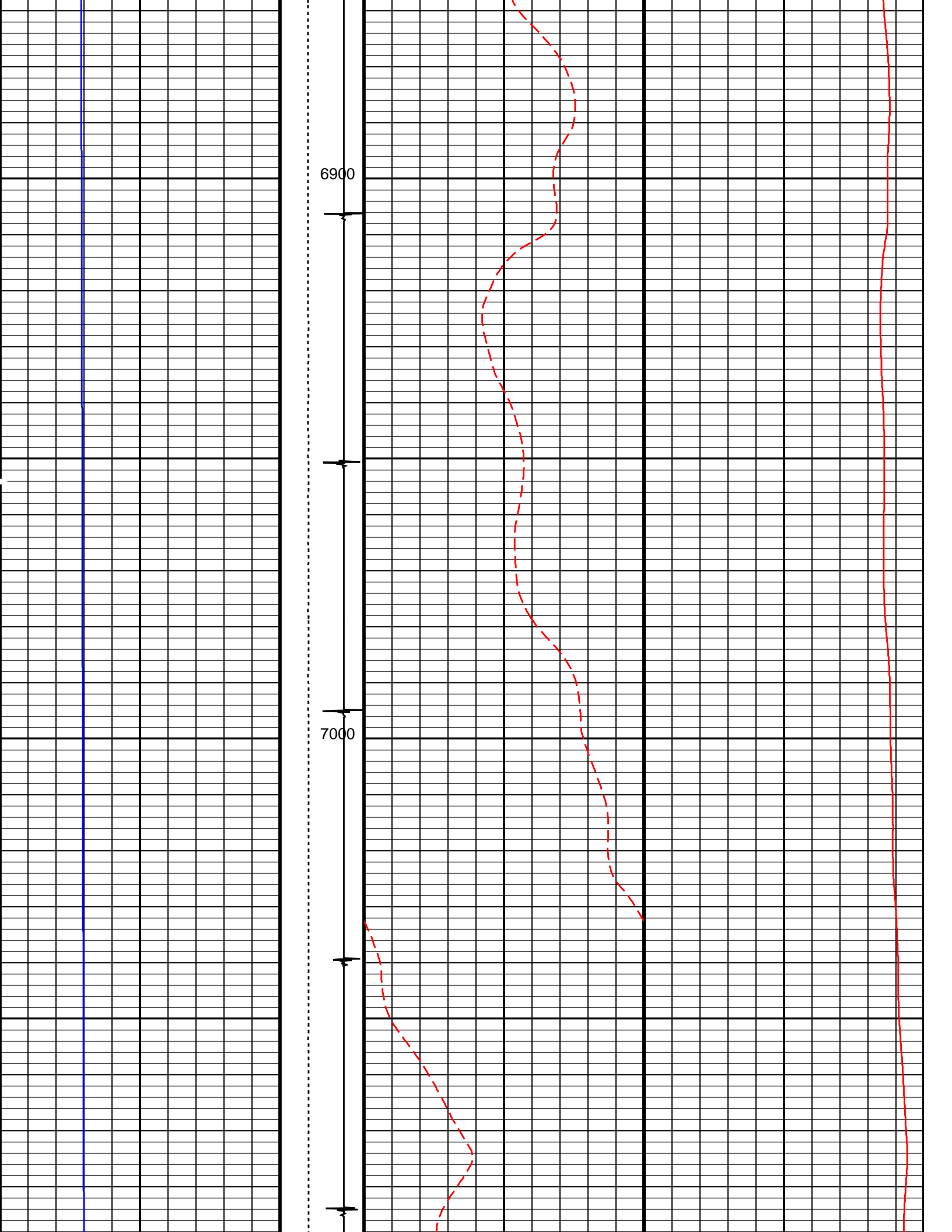


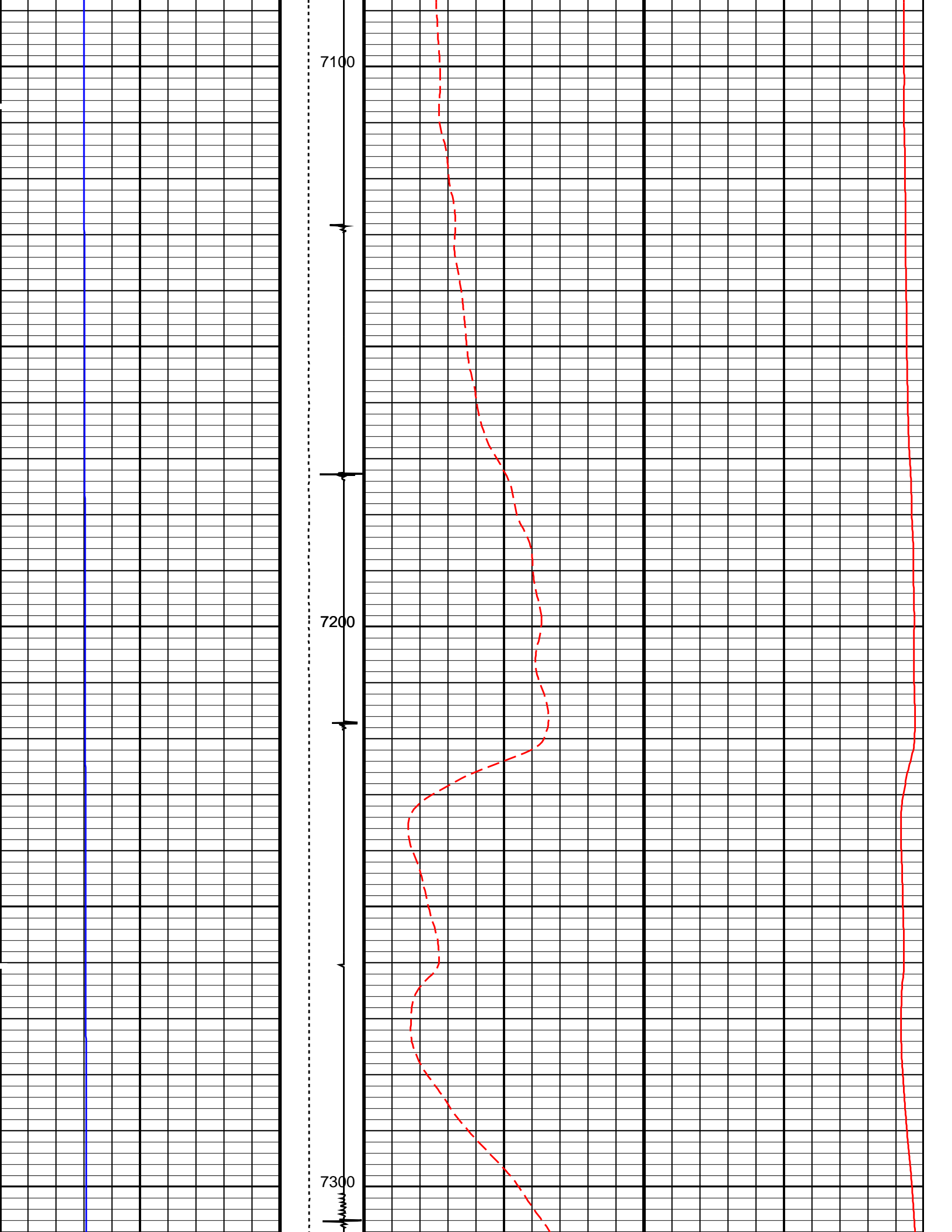


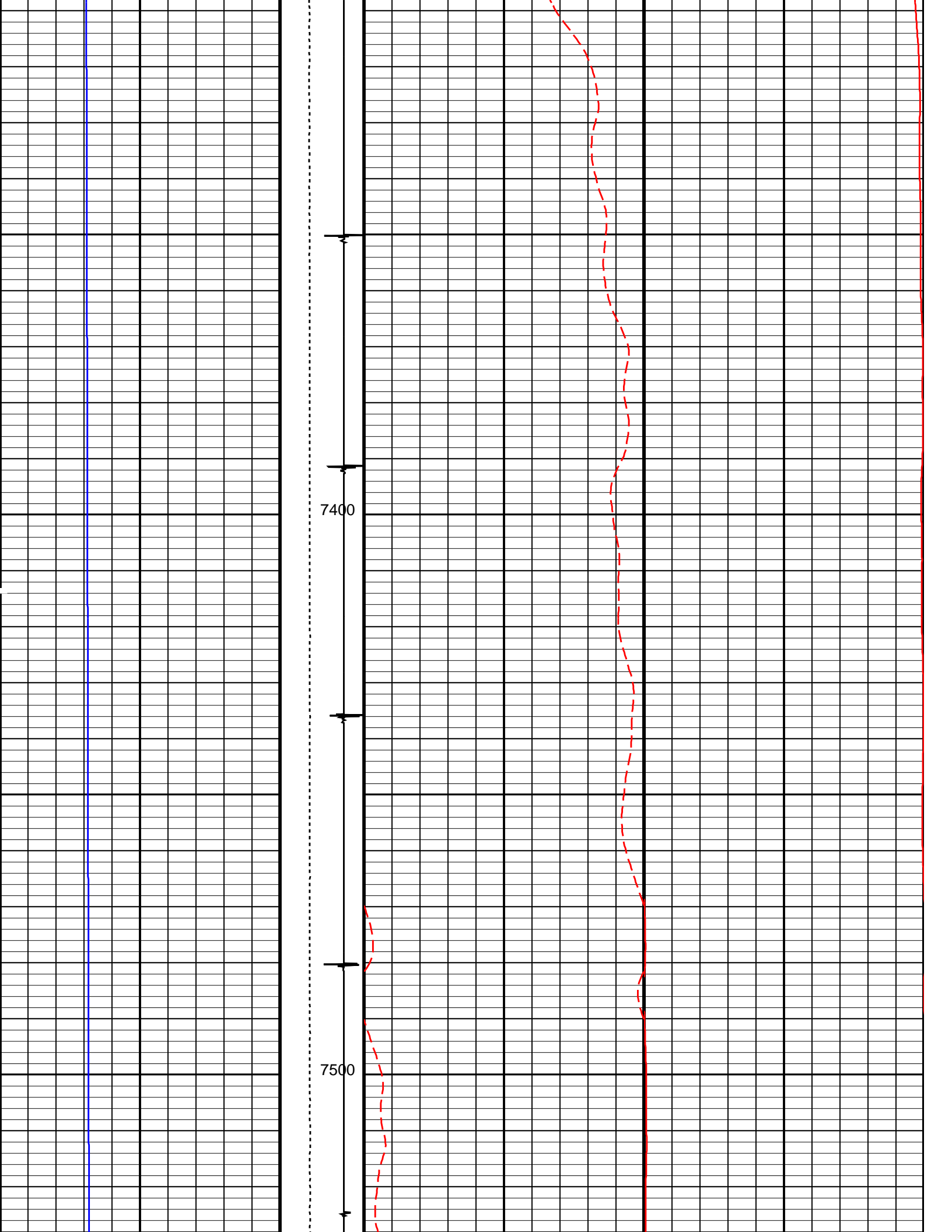


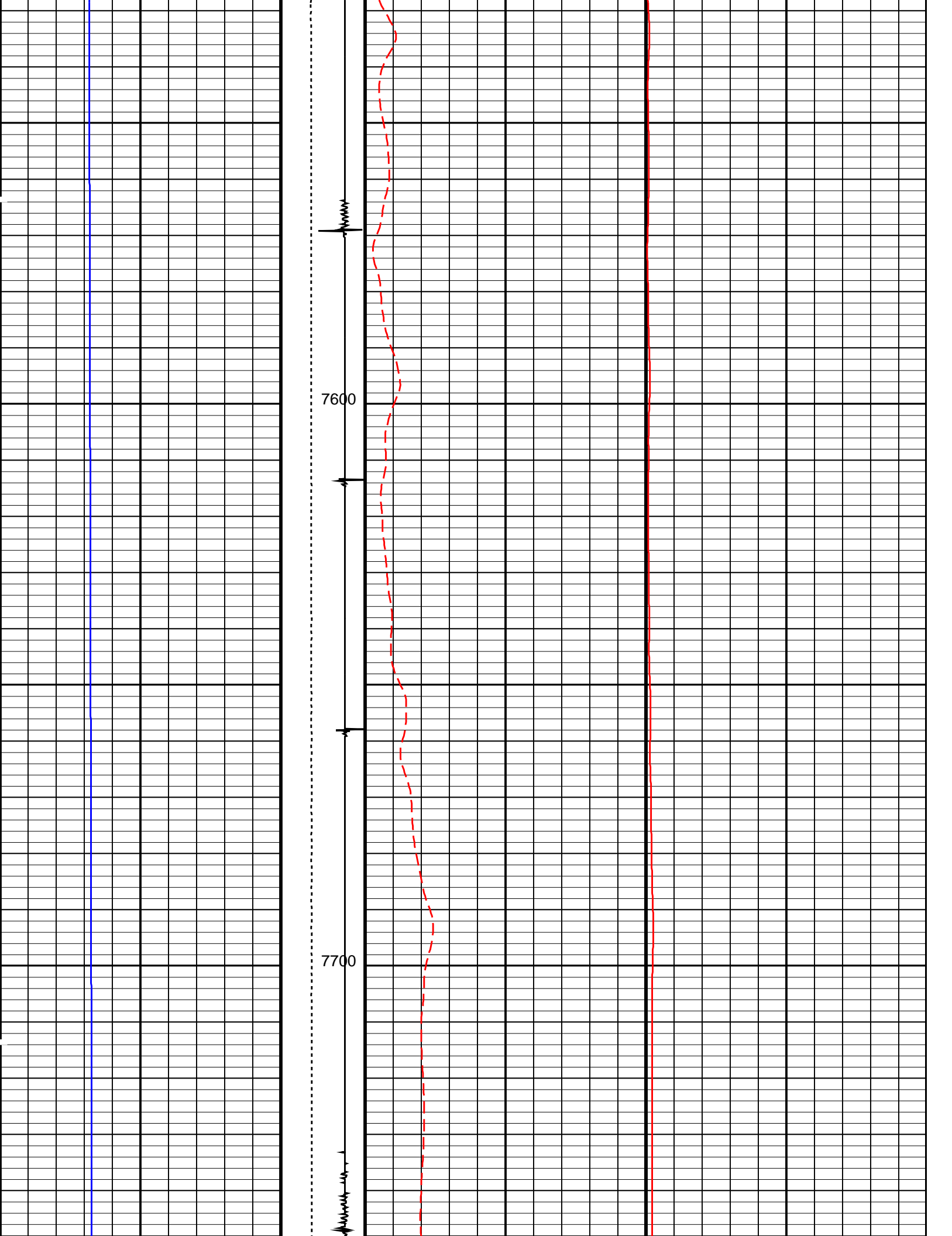
SHORT JOINT









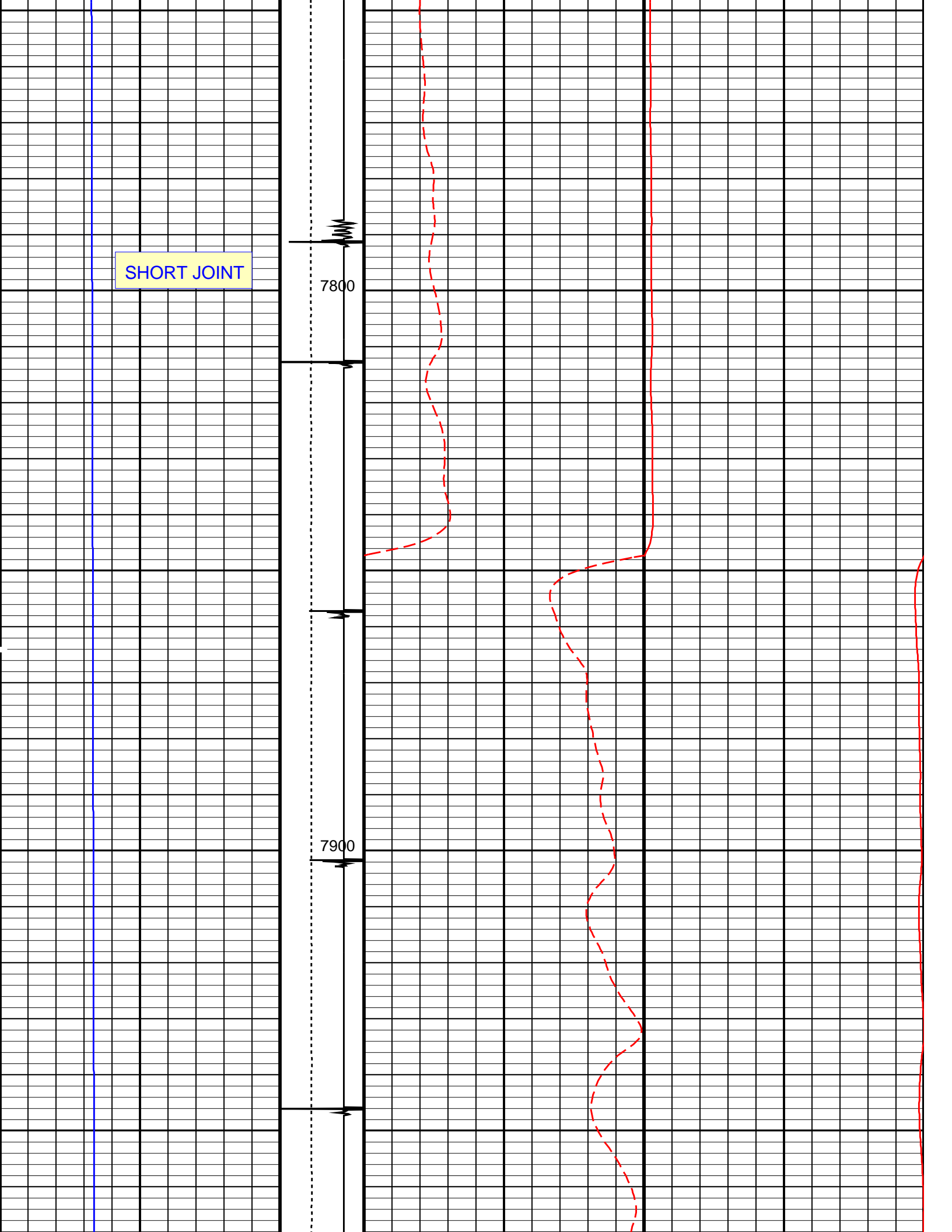


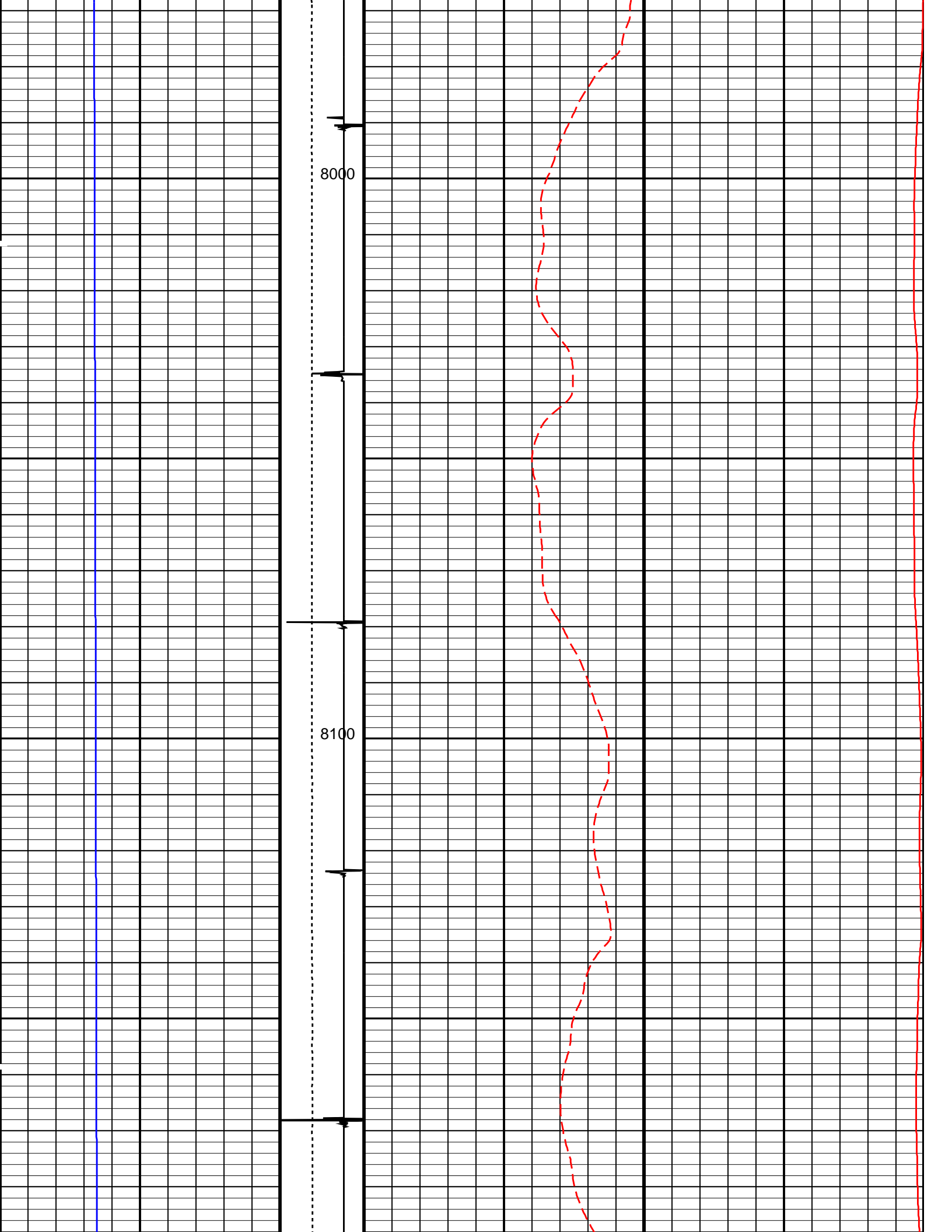


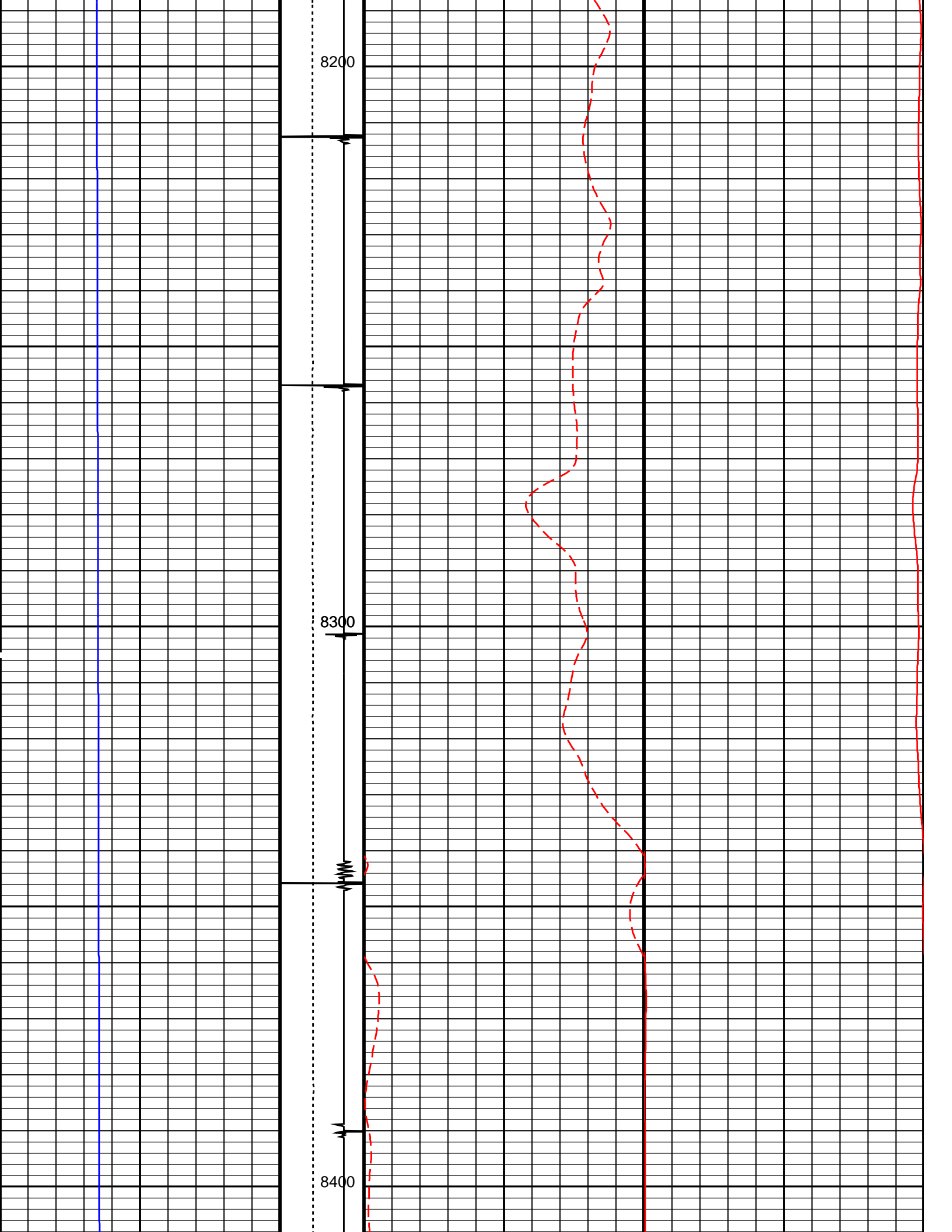
SHORT JOINT

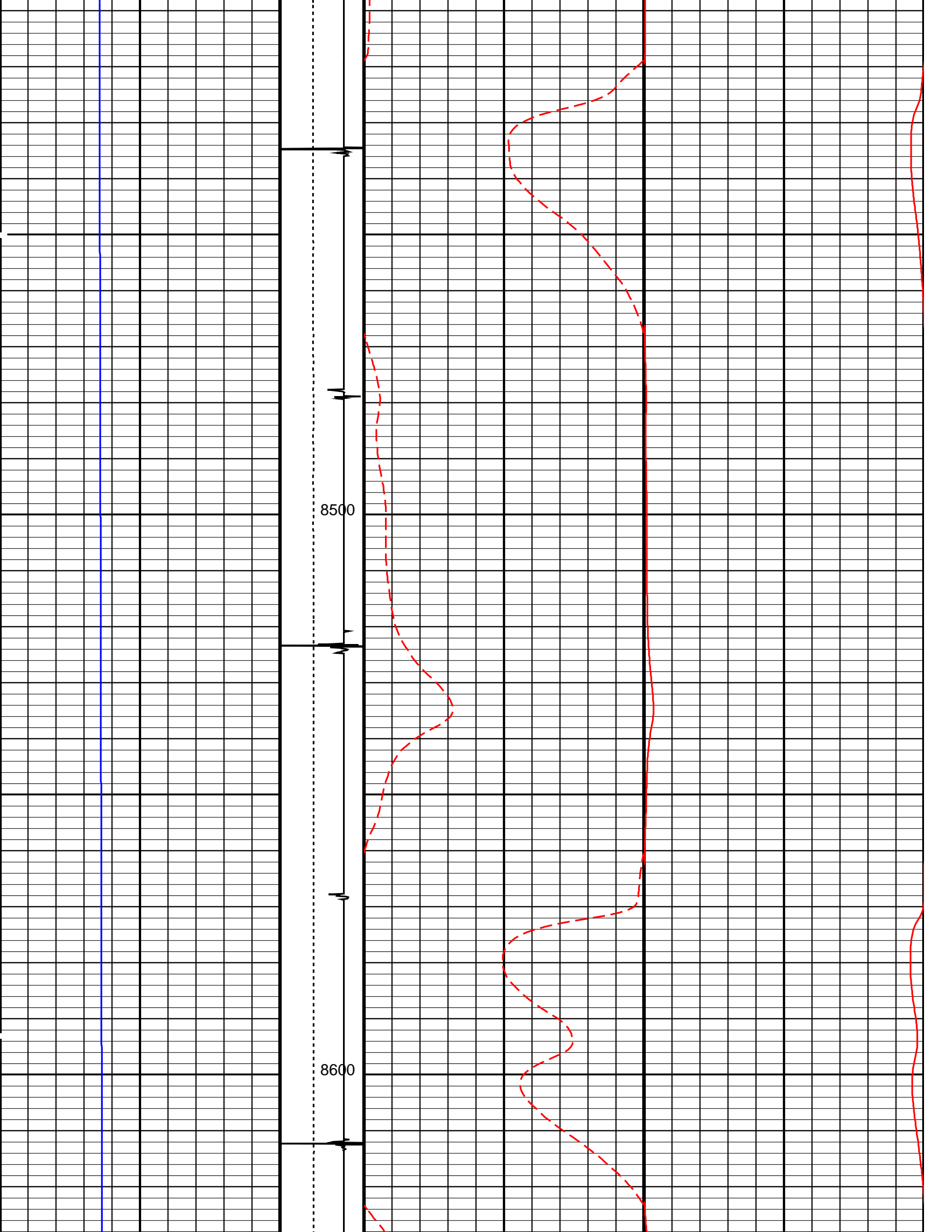
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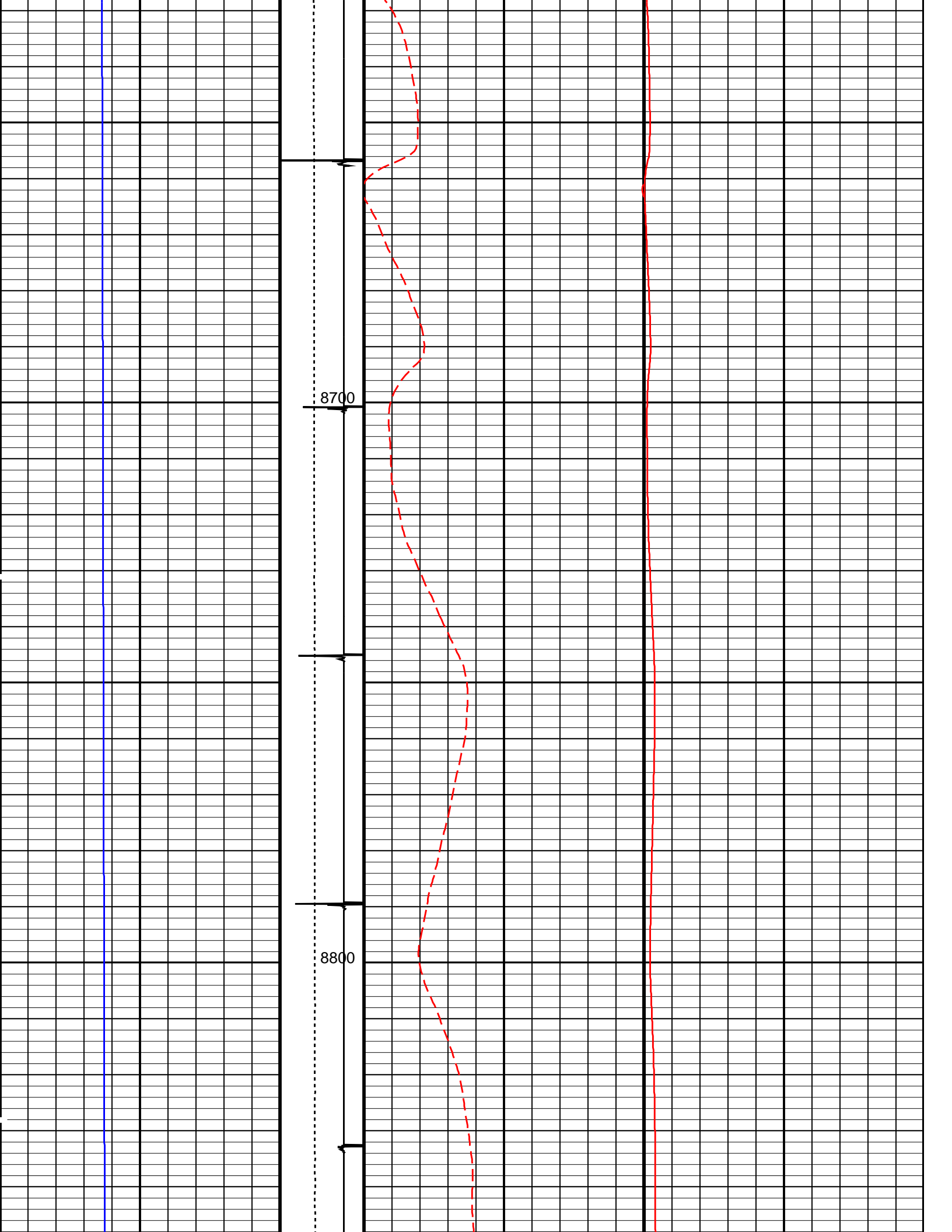
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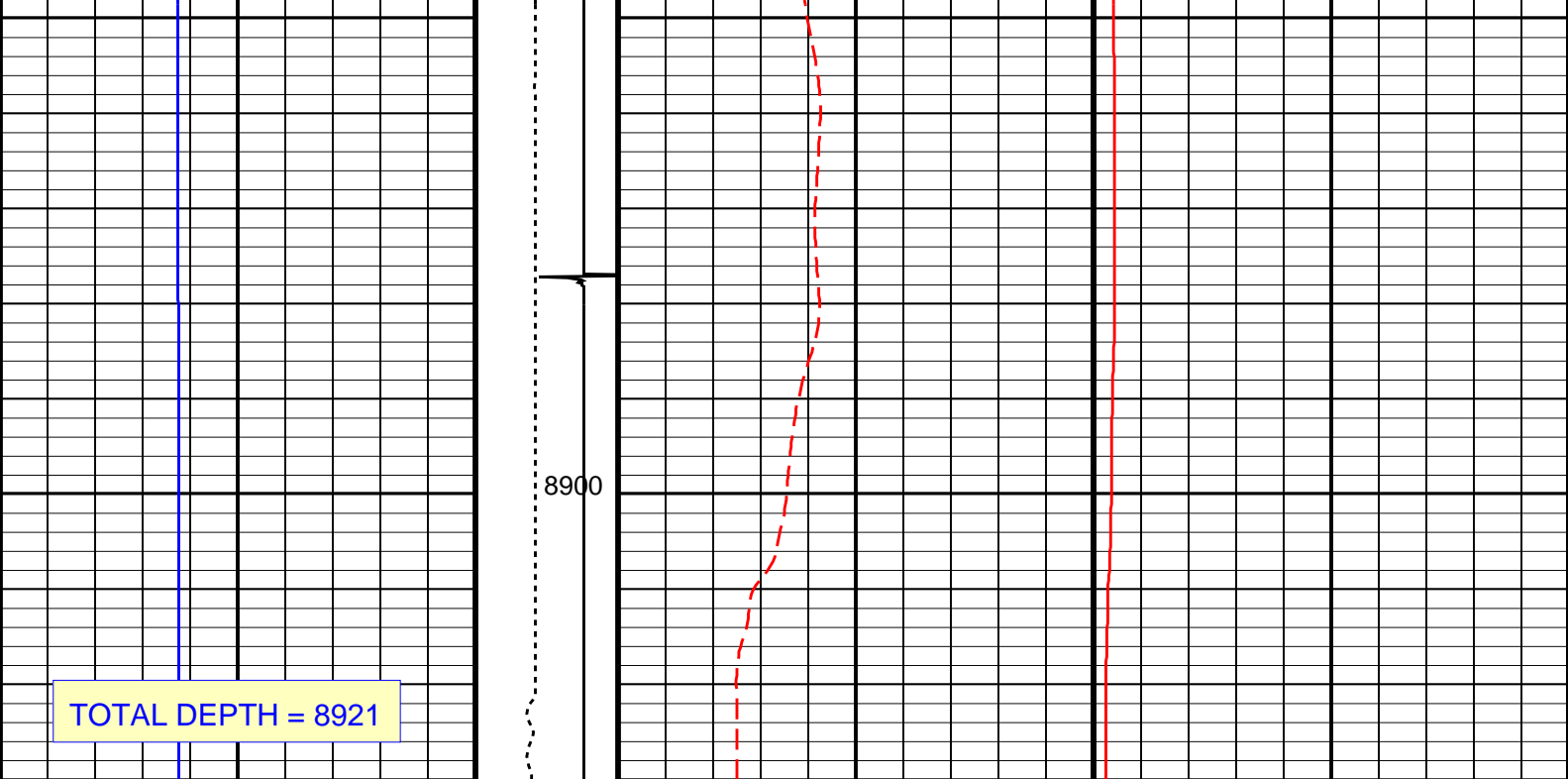












Well Pressure (WPRES) (PSIA)		Tension (TENS) (LBF)	Well Temperature (WTEMP) (DEGF)	Well Temperature (WTEMP) (DEGF)
0	10000	0 2000	0 20	0 200
		Discriminat ed CCL (CCLD)		
		3 (V) -1		

PIP SUMMARY

☒ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
DO PP	System and Miscellaneous Depth Offset for Playback Playback Processing	1.5 FT RECOMPUTE

Format: TEMP LOG    Vertical Scale: 5" per 100'    Graphics File Created: 17-Nov-2013 02:45

OP System Version: 19C0-187

HBMS-B    19C0-187

Input DLIS Files

DEFAULT	Flip_HBMS_006LUP	PRODUCER	17-Nov-2013 02:29	8928.5 FT	28.0 FT
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Output DLIS Files

DEFAULT	HBMS_013PUP	FN:10	PRODUCER	17-Nov-2013 02:45
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Schlumberger

REPEAT ANALYSIS

Company: ENCANA OIL &amp; GAS (USA) INC

Well: HMU 6-12D (J6SEB)

## Input DLIS Files

DEFAULT	Flip_HBMS_007LUP	PRODUCER	17-Nov-2013 02:30	8909.0 FT	8679.5 FT
DEFAULT	HBMS_013PUP	FN:10 PRODUCER	17-Nov-2013 02:45	8930.0 FT	29.5 FT

## Output DLIS Files

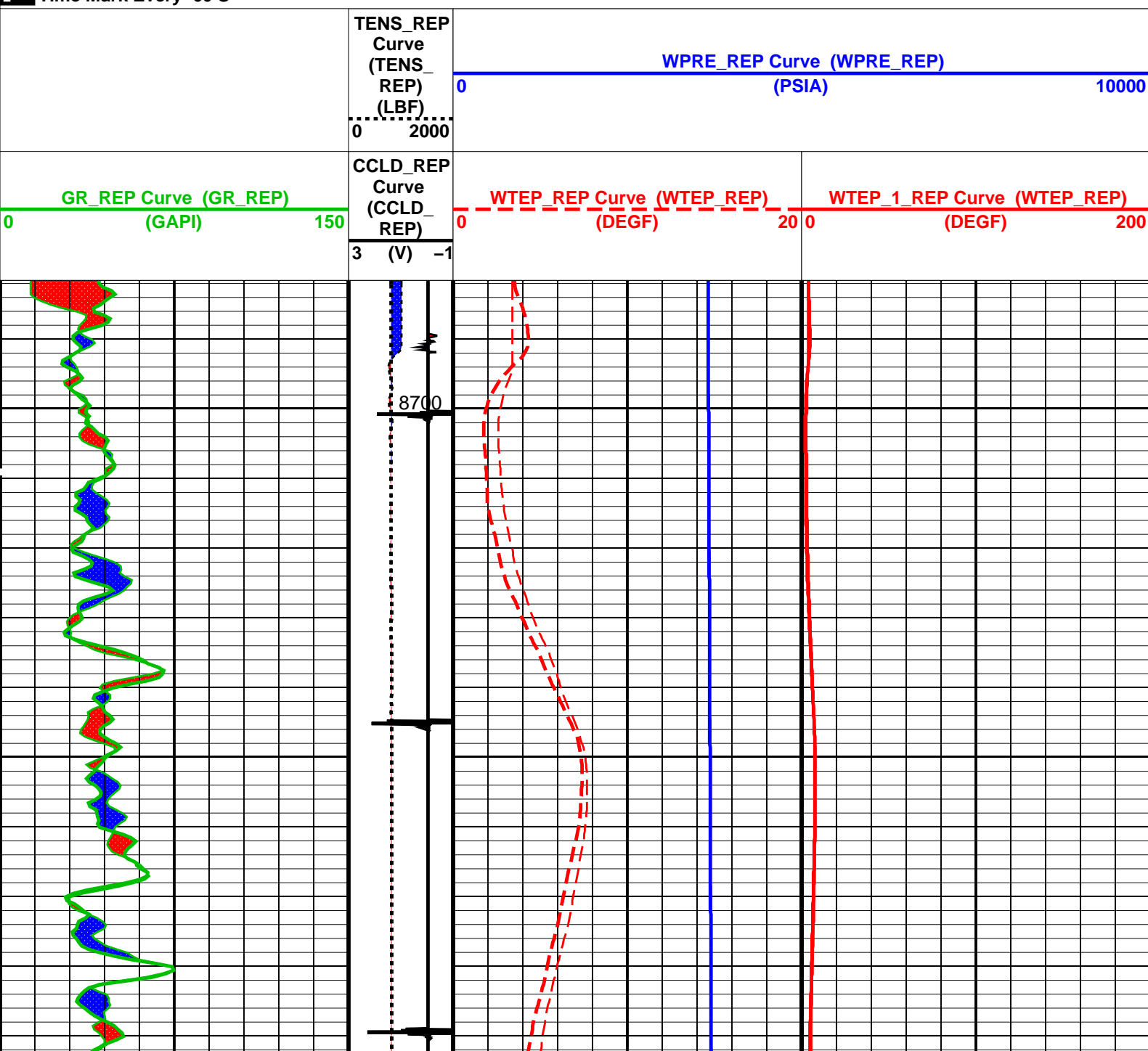
DEFAULT	HBMS_014PUP	FN:11 PRODUCER	17-Nov-2013 02:51	8910.5 FT	8681.0 FT
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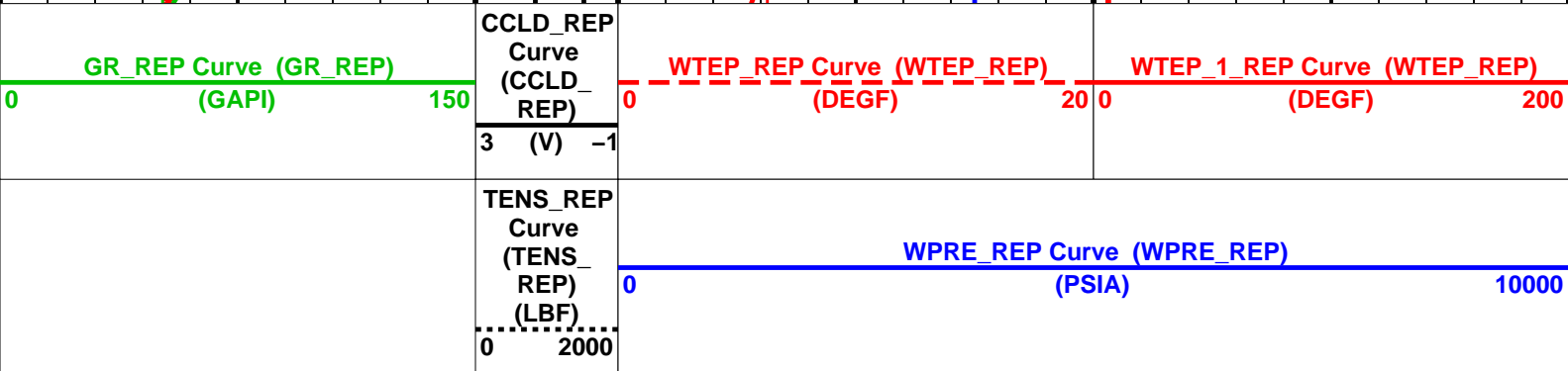
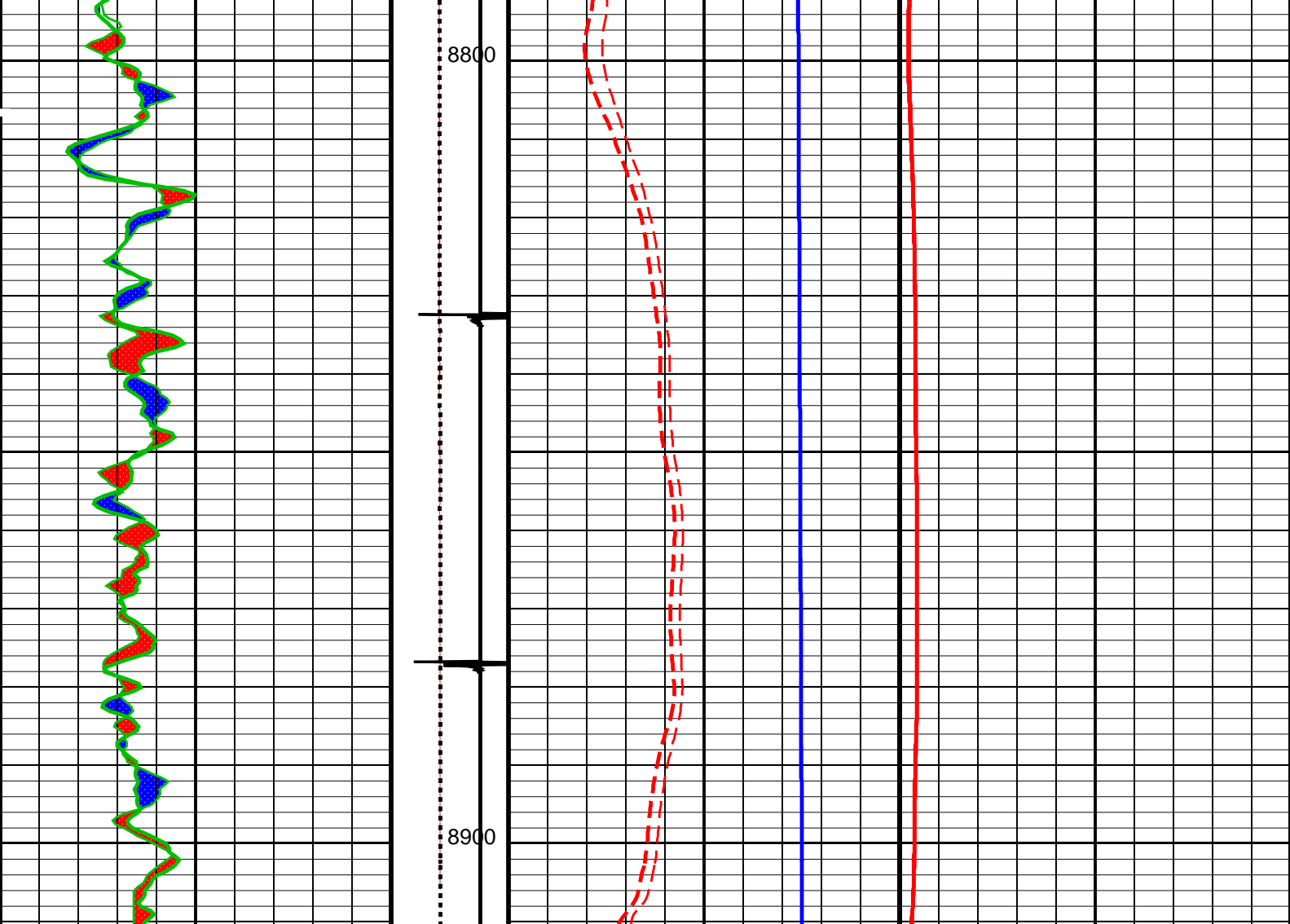
## OP System Version: 19C0-187

HBMS-B 19C0-187

## PIP SUMMARY

Time Mark Every 60 S





### PIP SUMMARY

Time Mark Every 60 S

### Parameters

DLIS Name	Description	Value
DO	Depth Offset for Playback	1.5 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: 17-Nov-2013 02:51

OP System Version: 19C0-187

HBMS-B    19C0-187

### Input DLIS Files

DEFAULT    File: HBMS-0071.HB    PRODUCED    17-Nov-2013 02:20    0000.0 FT    0070.5 FT



Output DLIS Files



HBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: HMU 6-12D (J6SEB)

Run date: 17-Nov-2013

Tool: PSP

Sub Type: PBMS

Sensor: GR

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

RESISTORS FOR GR SENSOR N.37166,TOOL HBMS-BA2955. SENSOR S/N:

37166

280912

12

6646

GR HV Rt

Rt\*\*0

Rt\*\*1

Rt\*\*0

+.200000000000e+04

+.193000000000e+04

PBMS RTD Well Thermometer

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS-B.2955 S/N:  
2955  
140513  
16  
9ABB

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	-.579466850375E+03	+.321000211776E+03	-.769493413393E+02
	Tt**3	Tt**4	Tt**5
Tt**0	+.118371810108E+02	-.654027317127E+00	0.0

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMM CREEK	Sub Type:	PBMS
Well:	HMU 6-12D (J6SEB)	Sensor:	CQG
Run date:	17-Nov-2013		

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR CQG PBMS-B.2955 S/N:  
2955  
140513  
66  
AD6E

Pres Coeff

	Fb**0	Fb**1	Fb**2
Fc**0	+.805218055799E+04	+.230687803777E-01	+.120020876821E-07
Fc**1	-.107970514637E+01	-.131245085272E-04	-.102678735701E-09
Fc**2	+.111466223414E-05	+.524200534425E-10	+.949904926223E-15
Fc**3	+.255809900188E-11	+.160726360322E-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	-.772560939667E-10	-.145379238115E-14	-.218737246914E-19
Fc**1	+.968642492374E-16	+.223810216552E-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

2955

Calib Date ddmmyy

140513

Matrix Size

66

Coeff CRC

EC8A

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+.120725065588E+03	-.313379211795E-03	+.708634488020E-08
Fb**1	-.596235012256E-02	+.182626448637E-07	+.104369551702E-12
Fb**2	-.295513003186E-07	+.341136223414E-12	-.998721617444E-18
Fb**3	-.375208992867E-12	+.712560466778E-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	+.136541410168E-12	-.403343086990E-17	-.830542374631E-21
Fb**1	-.618398112617E-18	+.429129395353E-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

2955

Calib Date ddmmyy

140513

Matrix Size

16

Coeff CRC

6C01

Clock Freq Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+.310812532328E+05	+.224728840165E-02	+.742962292518E-06

(Fb'-Fc')**0	+310812332328E+03	+224128840103E-02	+7742902292318E-00
	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	-.673865003325E-10	-.911707425039E-16	-.961889742081E-20

PBMS Quartz Gauge type F

Sonde Serial NB :  
 Sensor Serial NB 2955  
 Calib Date ddmmyy 140513  
 Matrix Size 16  
 Coeff CRC D6FA

Clock Temp Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+1.122085335110E+03	-.602096613375E-02	-.167139647989E-07
	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
(Fb'-Fc')**0	-.105604526136E-11	-.109719083283E-15	+1.100037226713E-19

Company: ENCANA OIL & GAS (USA) INC



Well: HMU 6-12D (J6SEB)  
 Field: MAMM CREEK  
 County: GARFIELD  
 State: COLORADO

TEMPERATURE LOG  
 CCL