

Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-12DD (J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

TEMPERATURE LOG
CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 1945 FSL & 1919 FEL

Well: HMU 6-12DD (J6SEB)

Company: ENCANA OIL & GAS (USA) INC

LOCATION

SHL: 1945 FSL & 1919 FEL
BHL: 1468 FSL & 756 FWL

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.
05-045-21942-00

Section
6

Township
8S

Range
92W

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 Date30-Oct-2013

Run Number1

Depth Driller10124 ft

Schlumberger Depth10047 ft

Bottom Log Interval10046 ft

Top Log Interval22 ft

Casing Fluid TypeFRESH WATER

Salinity

Density8.45 lbm/gal

Fluid Level22 ft

BIT/CASING/TUBING STRING

Bit Size8.750 in

From22 ft

To10124 ft

Casing/Tubing Size4.500 in

Weight11.6 lbm/ft

GradeS-80

From22 ft

To10094 ft

Maximum Recorded Temperatures229 degF

Logger On Bottom30-Oct-2013

Unit Number391

Recorded ByKURTIS IRWIN

Witnessed ByKIRBY

Time23:45

LocationGRAND 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

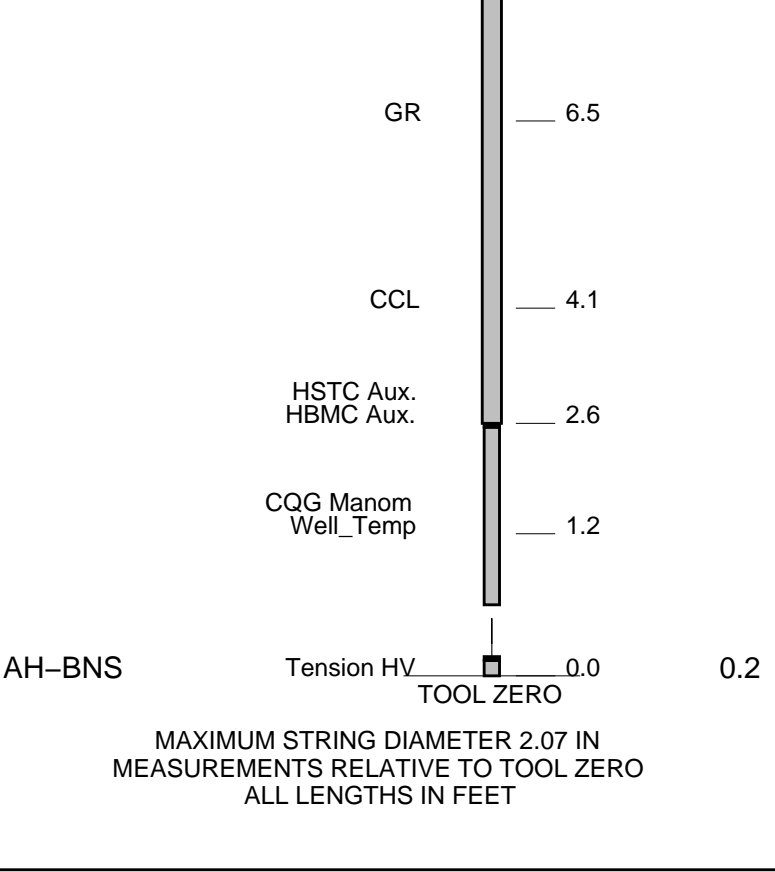
1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SPWT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
- 4.
- 5.
- 6.

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
FIRST RUN IN HOLE	
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE TIME: 23:00	
TIME ON BOTTOM: 23:45	
EXIT TIME: 00:30	

MAXIMUM RECORDED TEMPERATURE: 229 DEGF					
MAXIMUM RECORDED PRESSURE: 4230 PSIA					
SHORT JOINTS: 6790 FT & 7828FT					
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY					
CREW: KBUNTING, KIRWIN, KBOZARTH, KJOHNS					
RUN 1 SERVICE ORDER #: CGF9-00163 PROGRAM VERSION: 19C0-187 FLUID LEVEL: 22 ft			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP
EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		
SURFACE EQUIPMENT					
WITM-A PSC_16MHZ					
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 HUDH-A HSTC-A HBMC-A GR CCL HBMC HTPS-A 2884 HCQG_E_Mano RTD_Thermometer </div> </div> </div>			<div> <div>13.2</div> <div>11.7</div> <div>11.4</div> </div>		

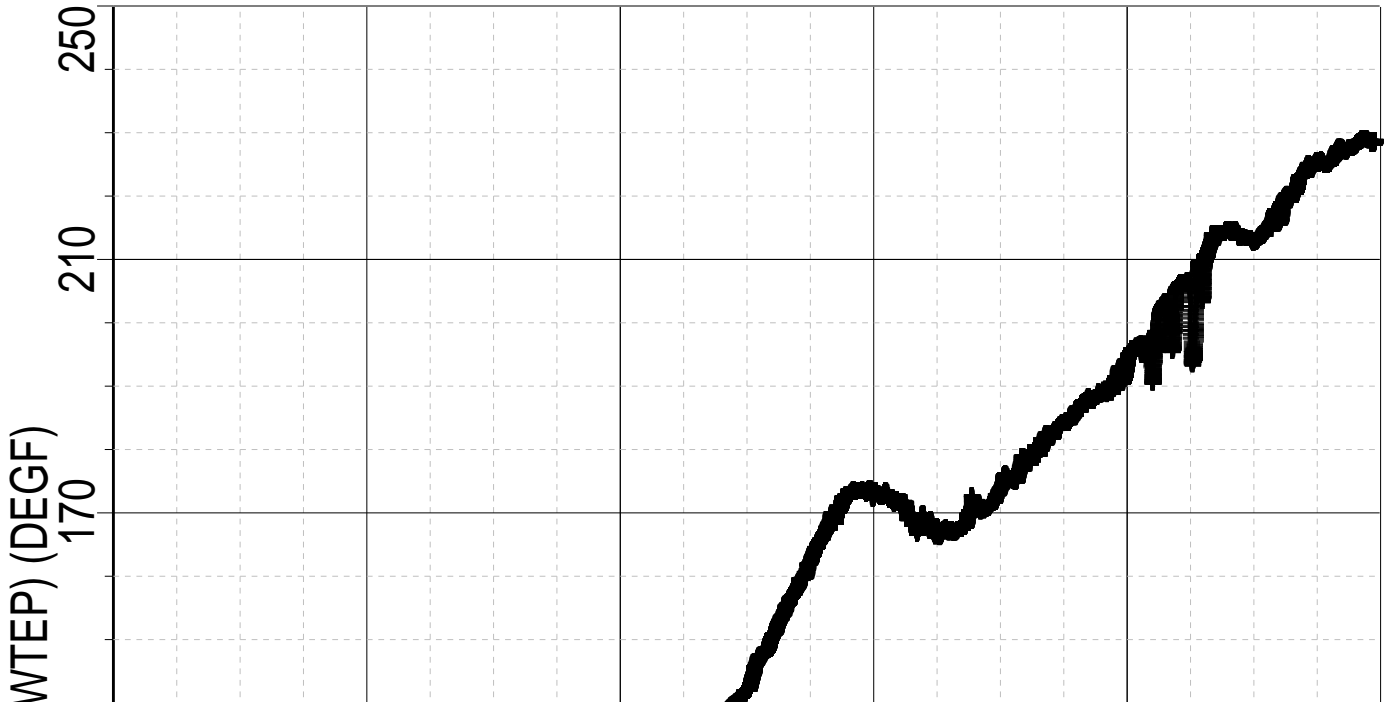


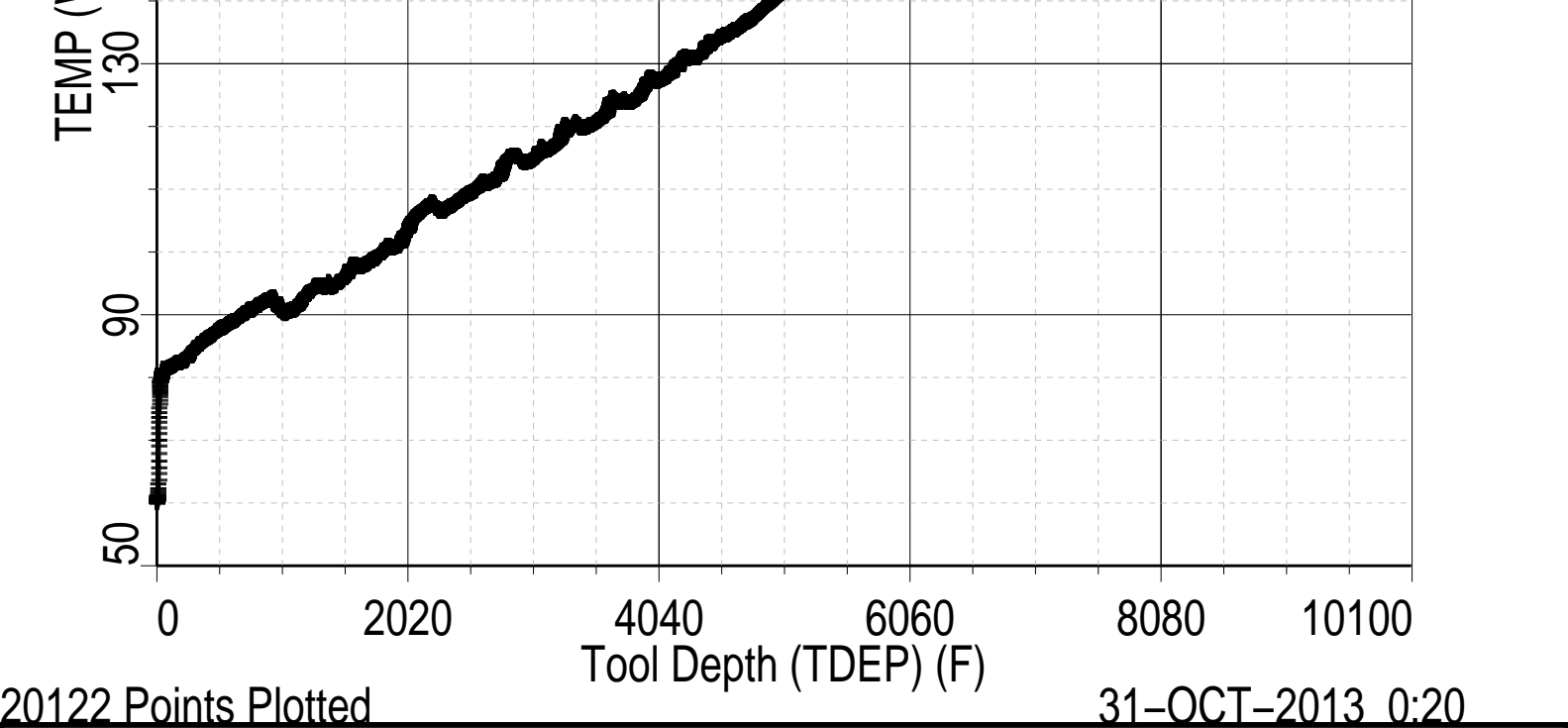
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 10060.5 – -19.5 FT





Schlumberger

TEMPERATURE LOG

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-12DD (J6SEB)

Input DLIS Files

DEFAULT	Flip_HBMS_005LUP	PRODUCER	31-Oct-2013 00:10	10069.5 FT	-10.5 FT
---------	------------------	----------	-------------------	------------	----------

Output DLIS Files

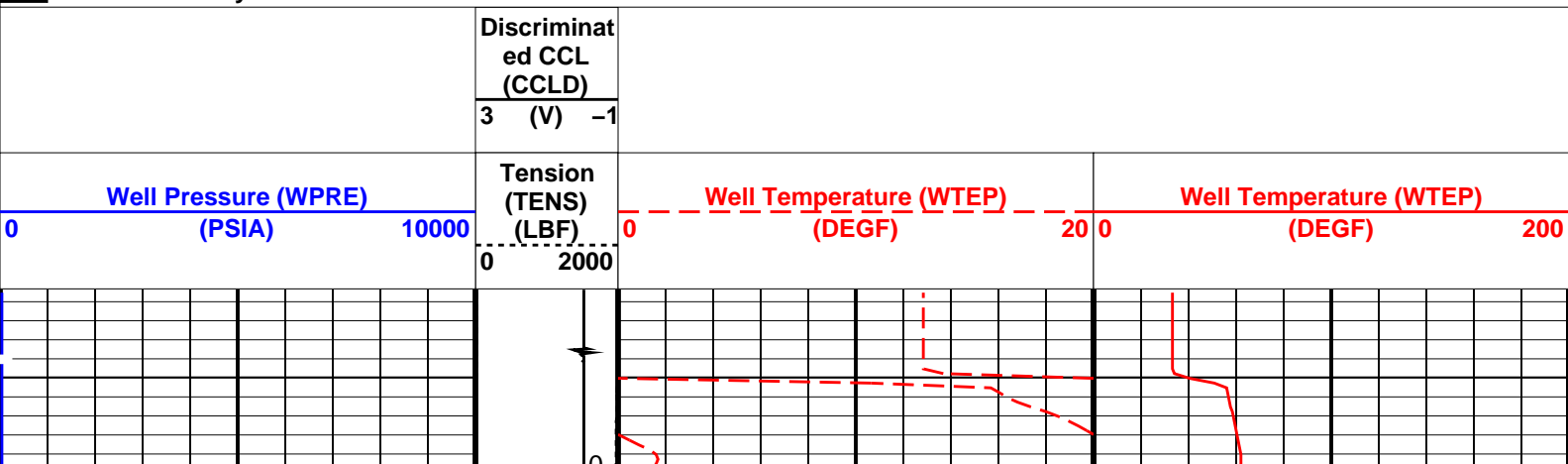
DEFAULT	HBMS_008PUP	FN:4	PRODUCER	31-Oct-2013 00:15	10060.5 FT	-19.5 FT
---------	-------------	------	----------	-------------------	------------	----------

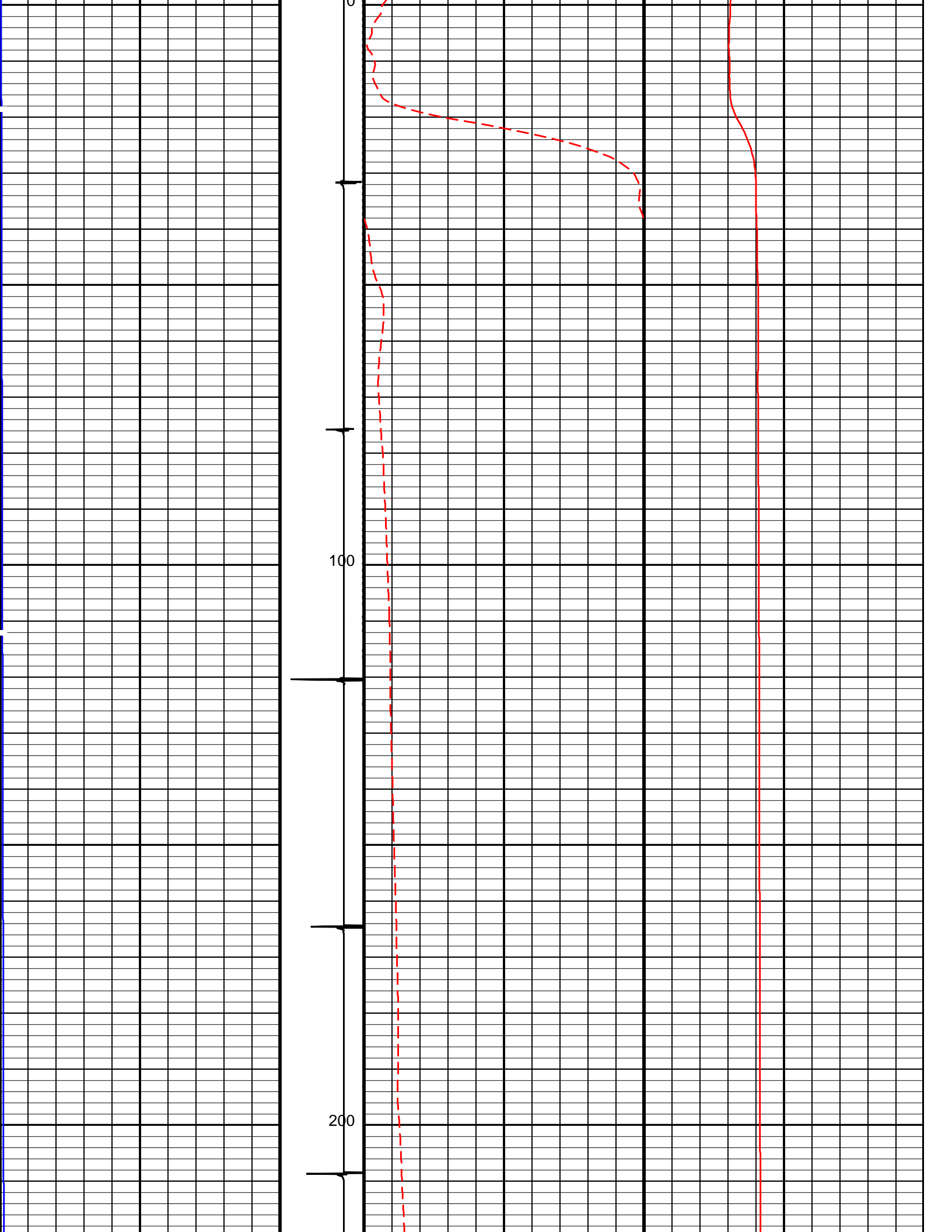
OP System Version: 19C0-187

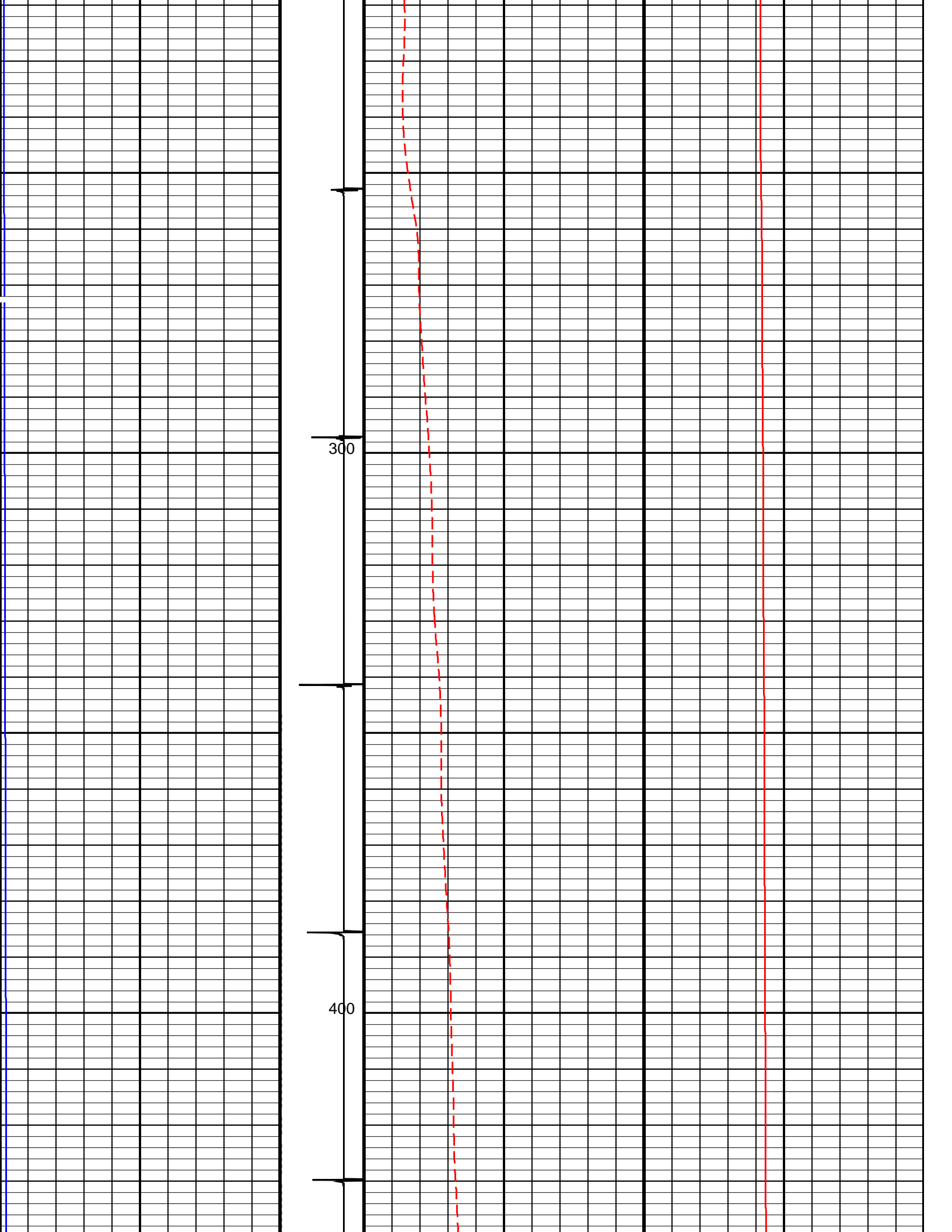
HBMS-B SRPC-5214-H2-2012-OP19

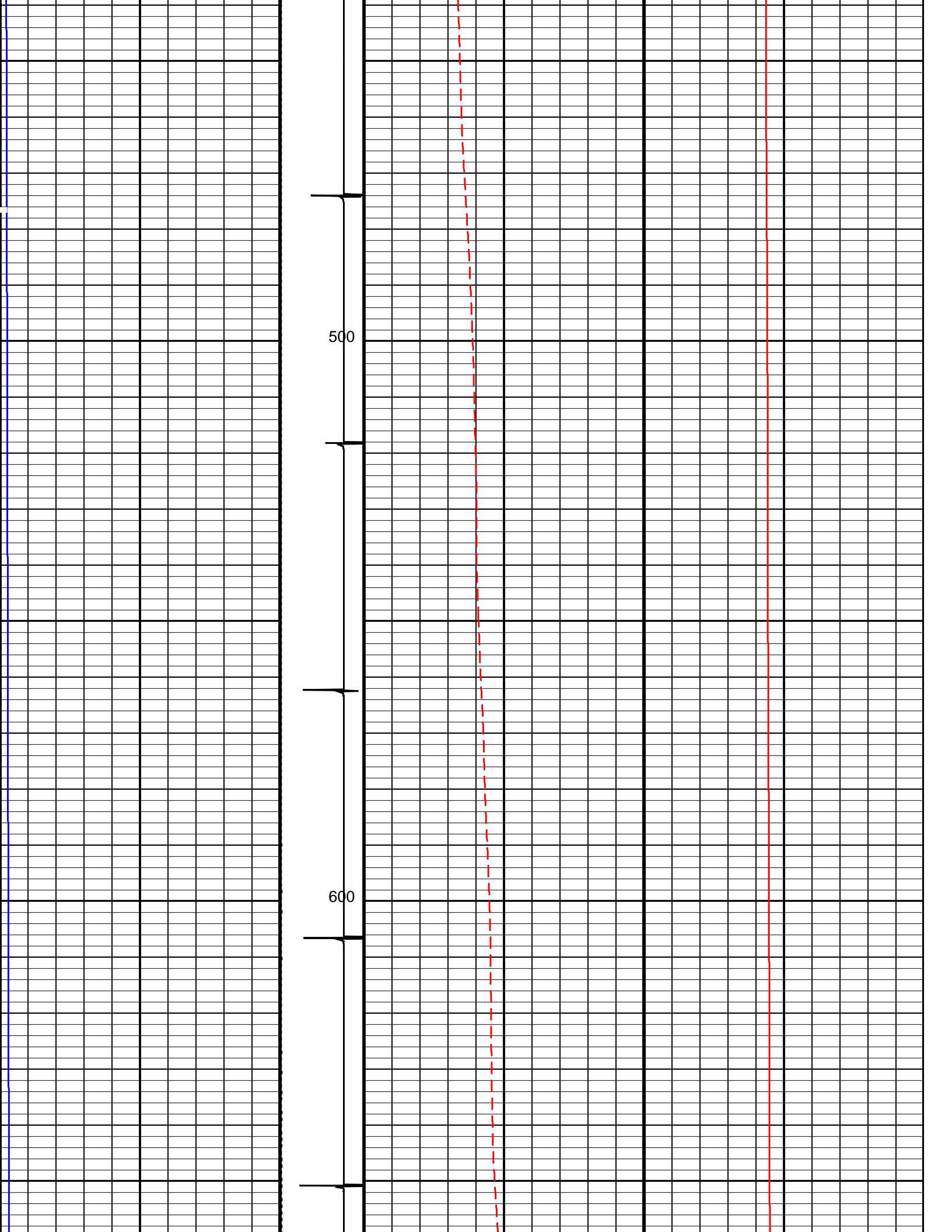
PIP SUMMARY

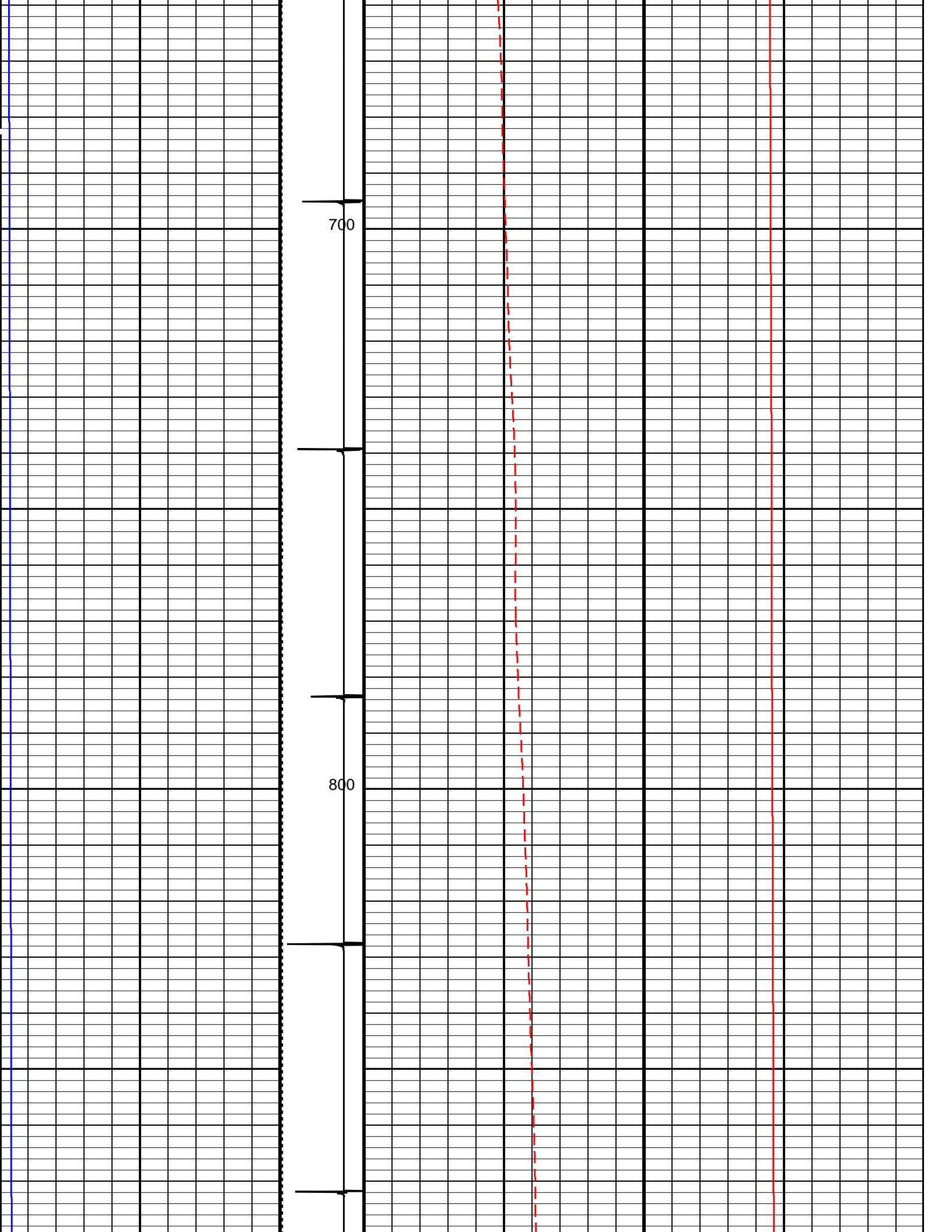
Time Mark Every 60 S

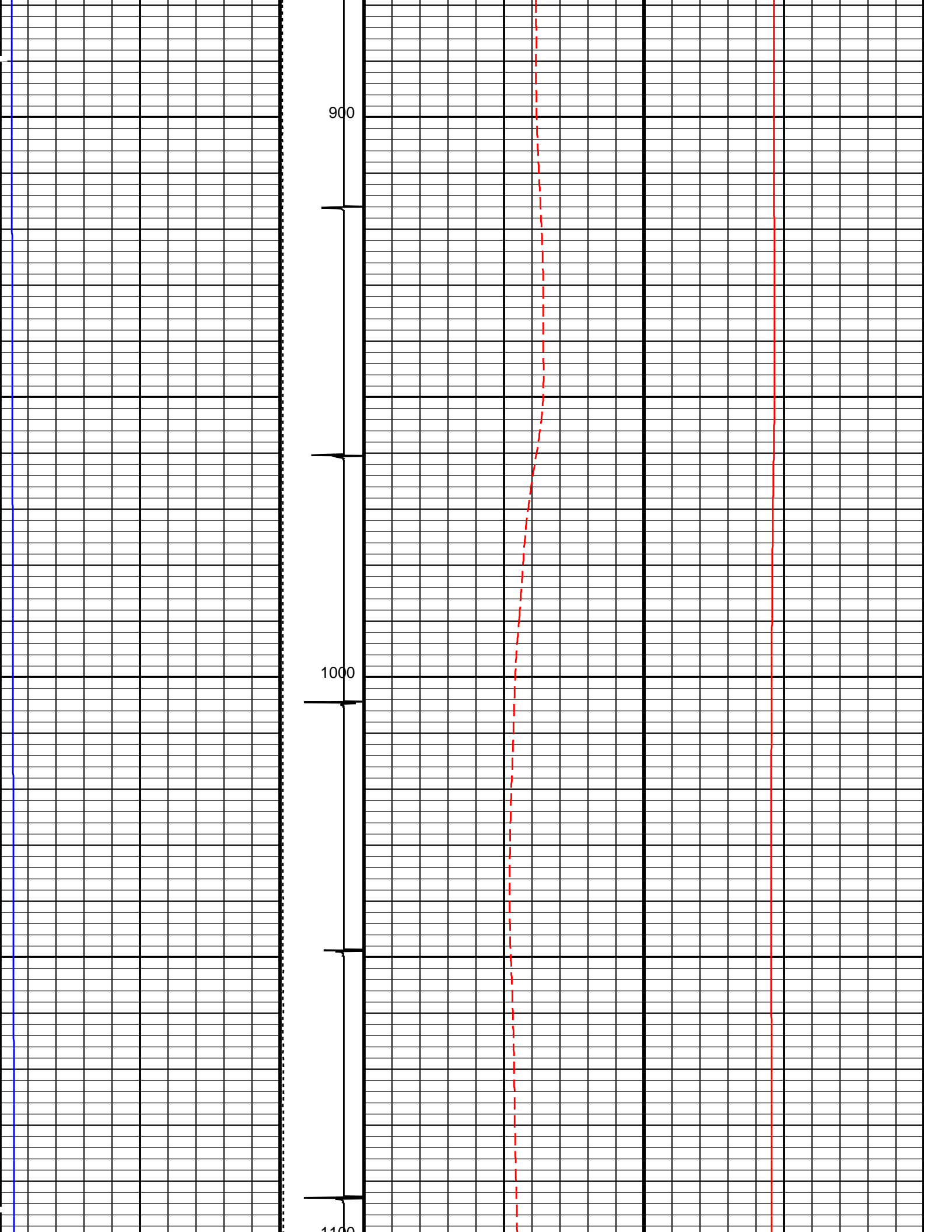


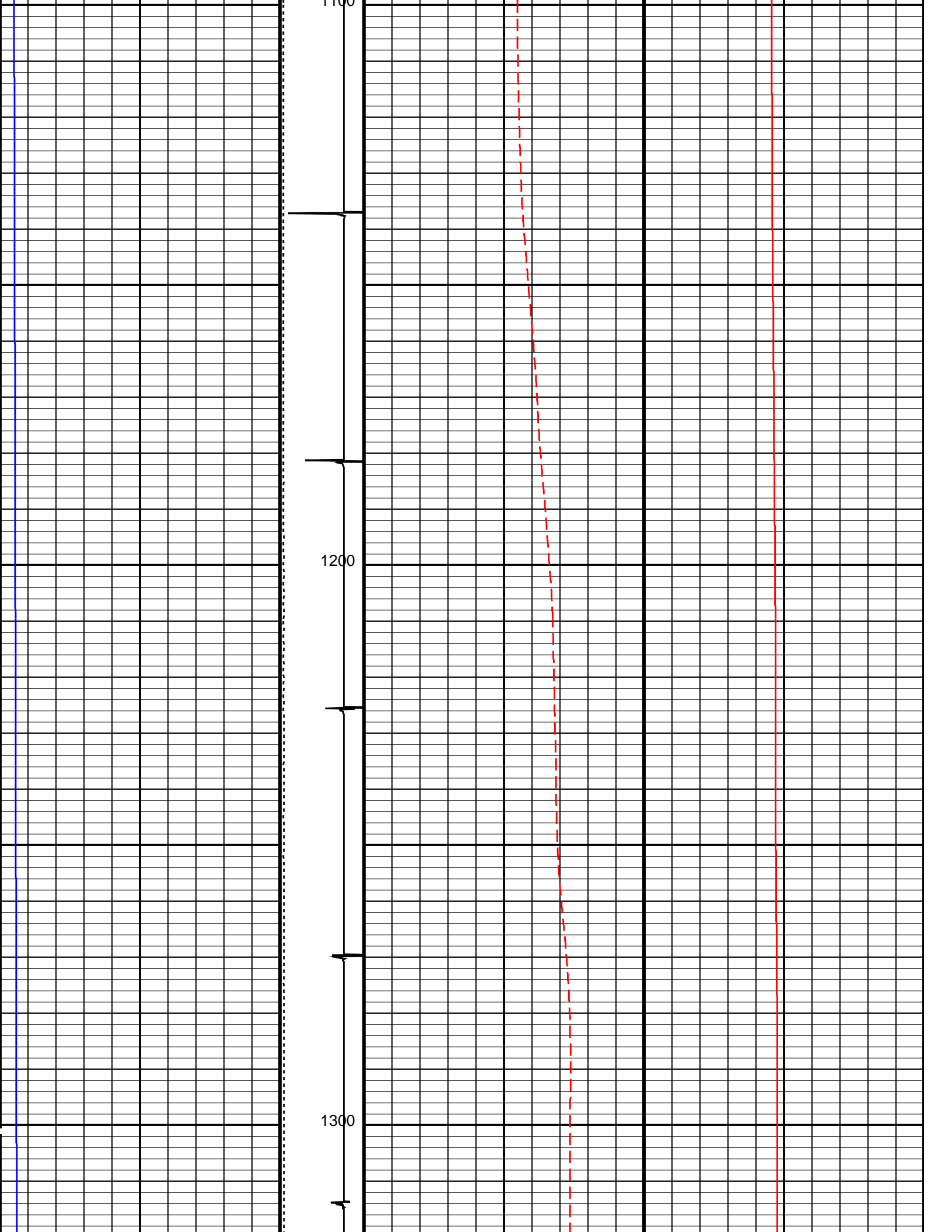


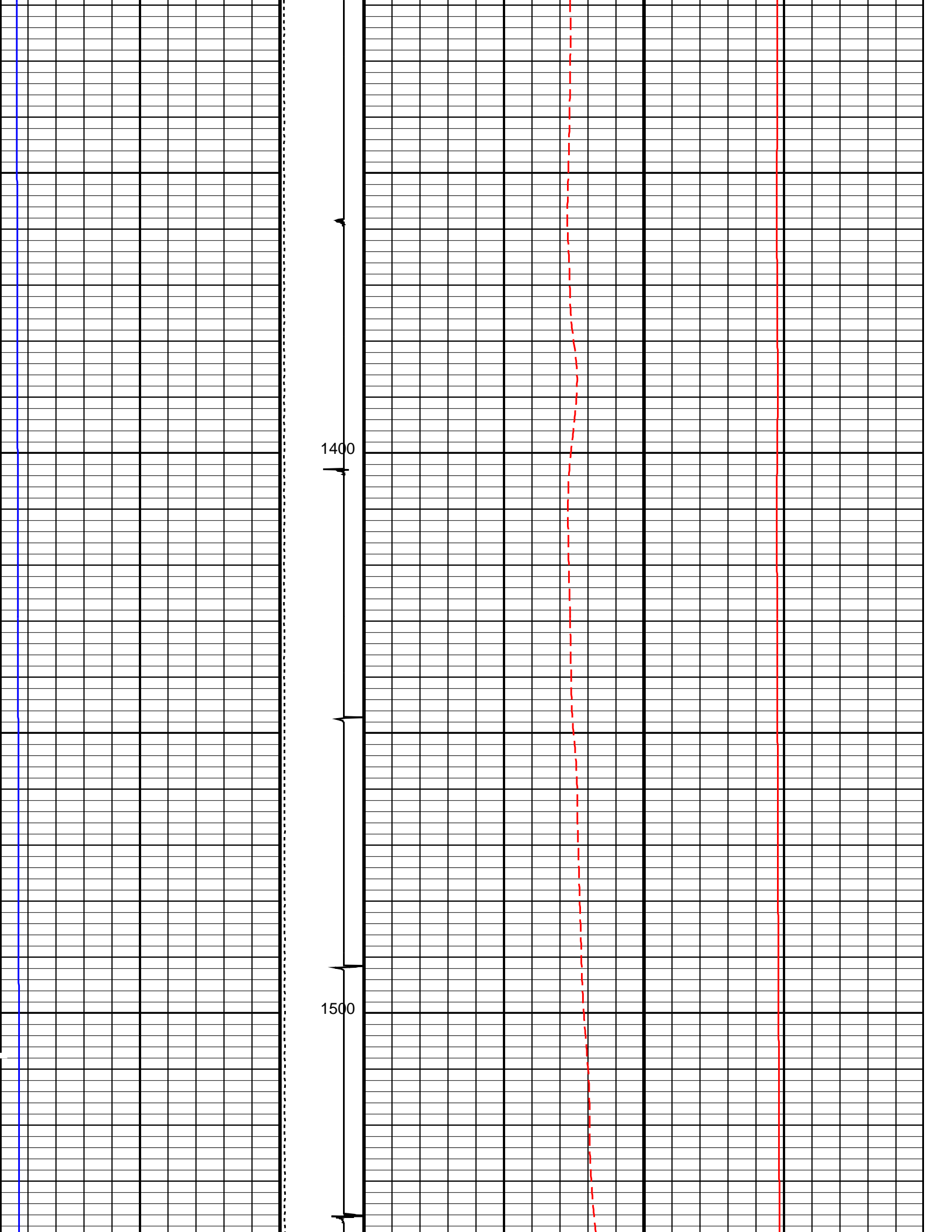


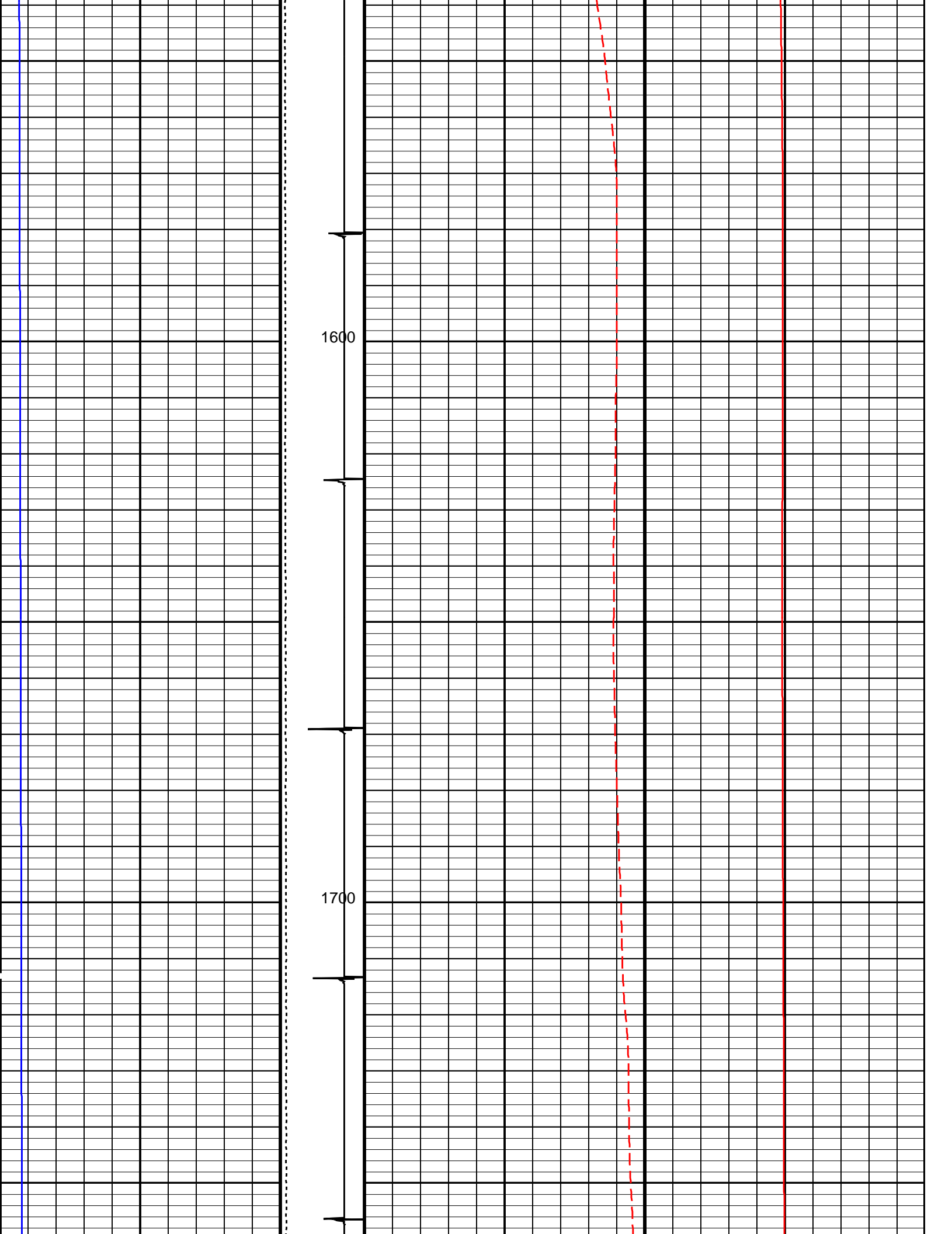


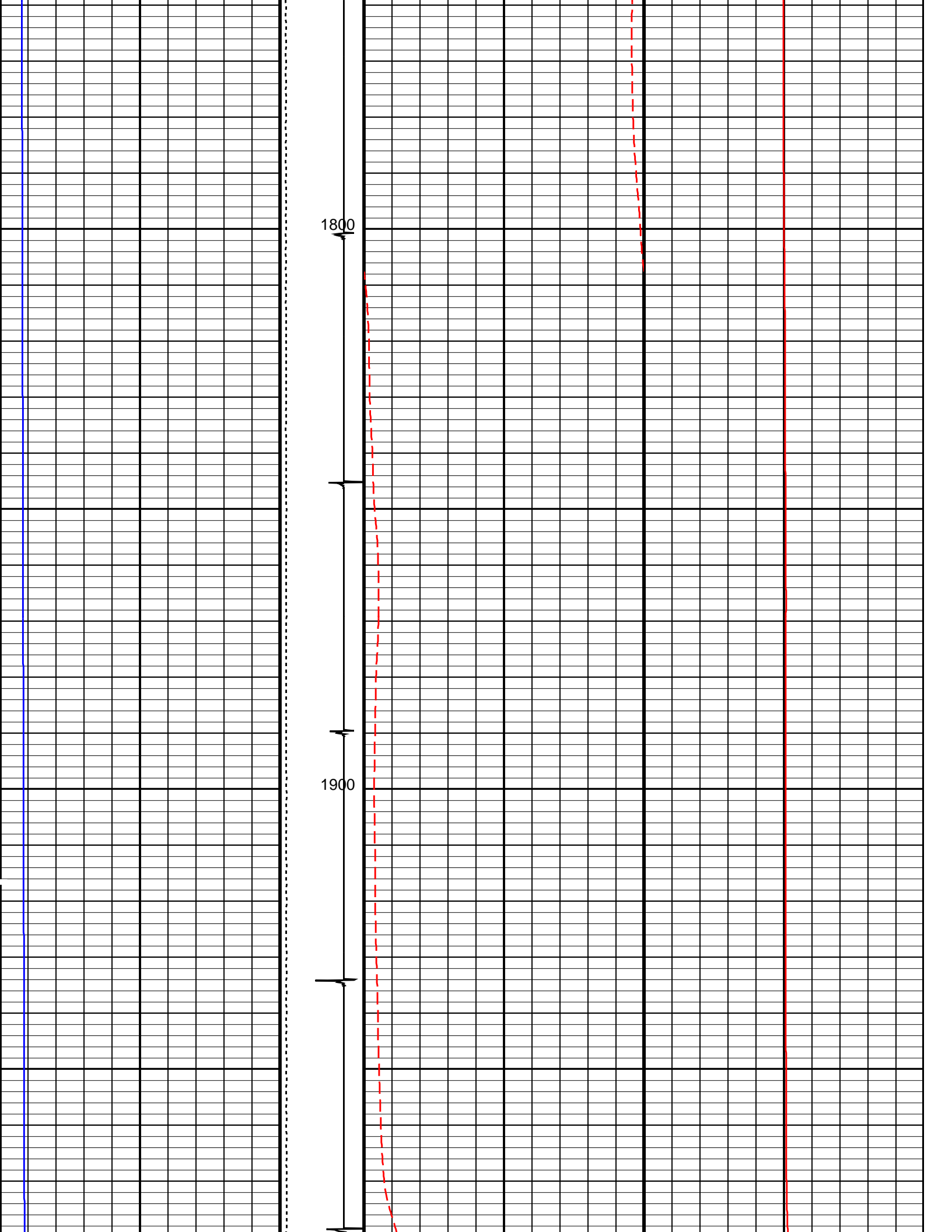


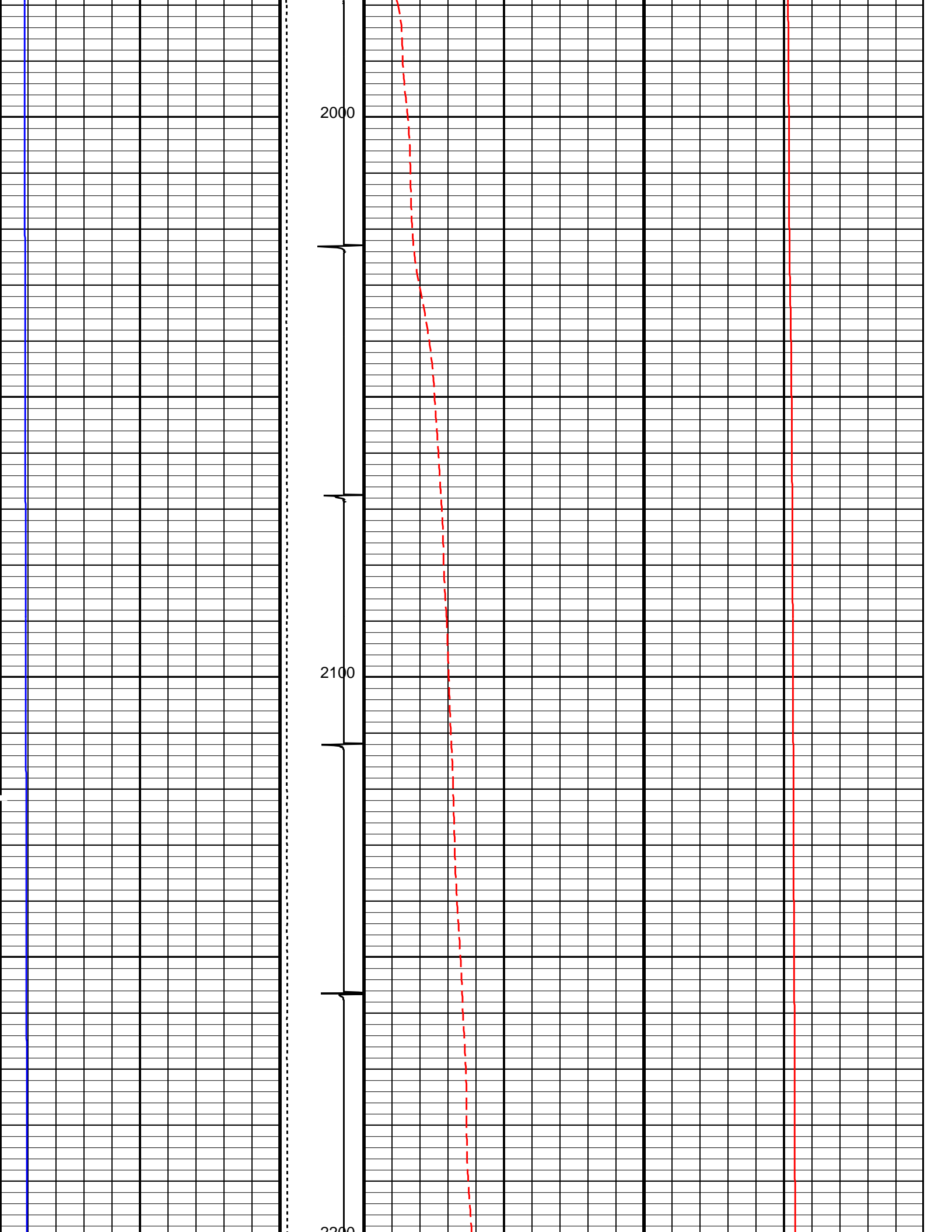


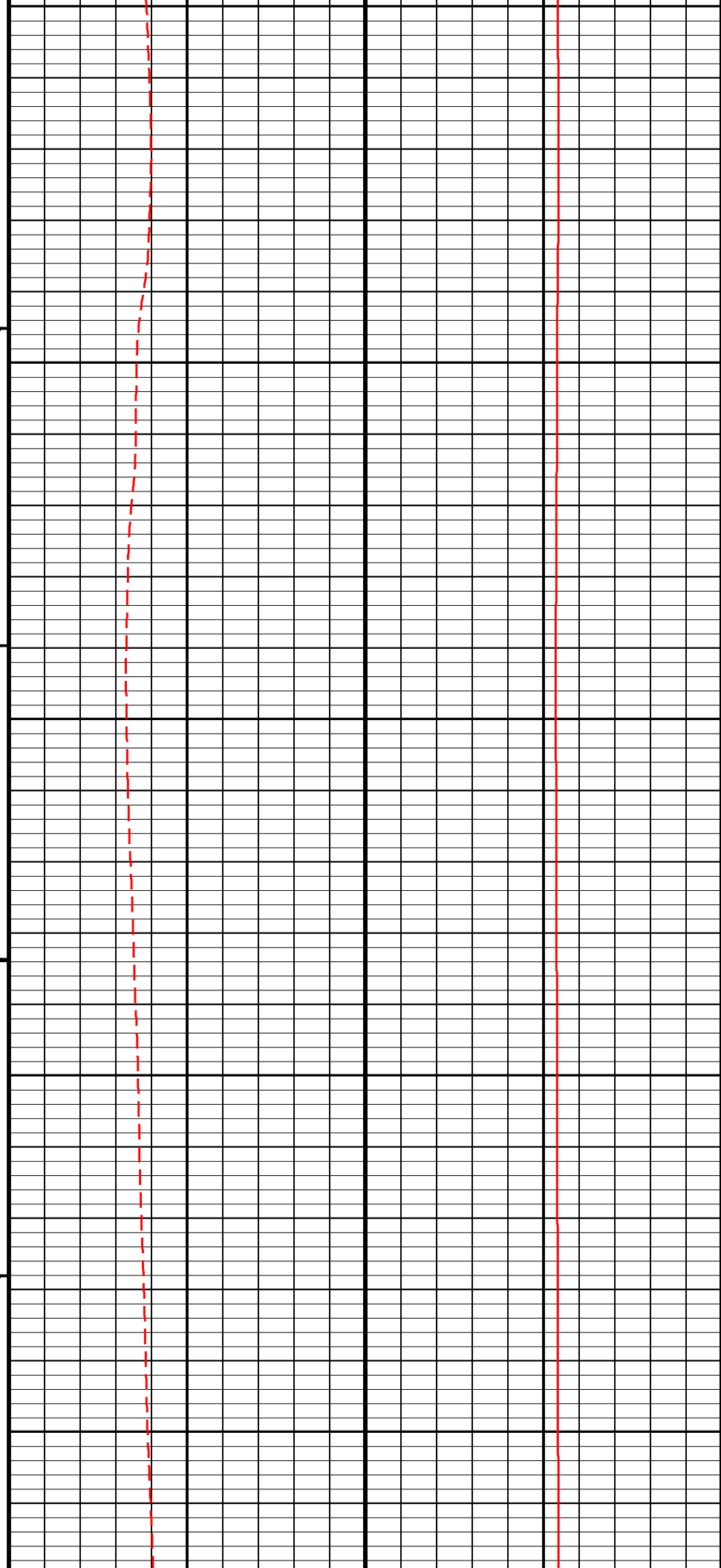
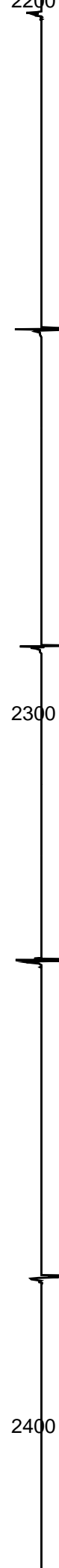
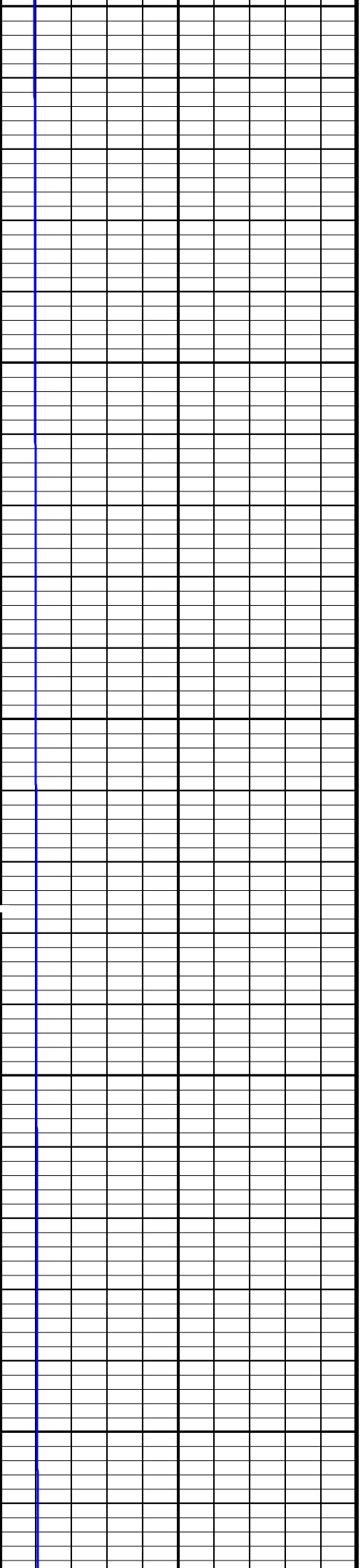


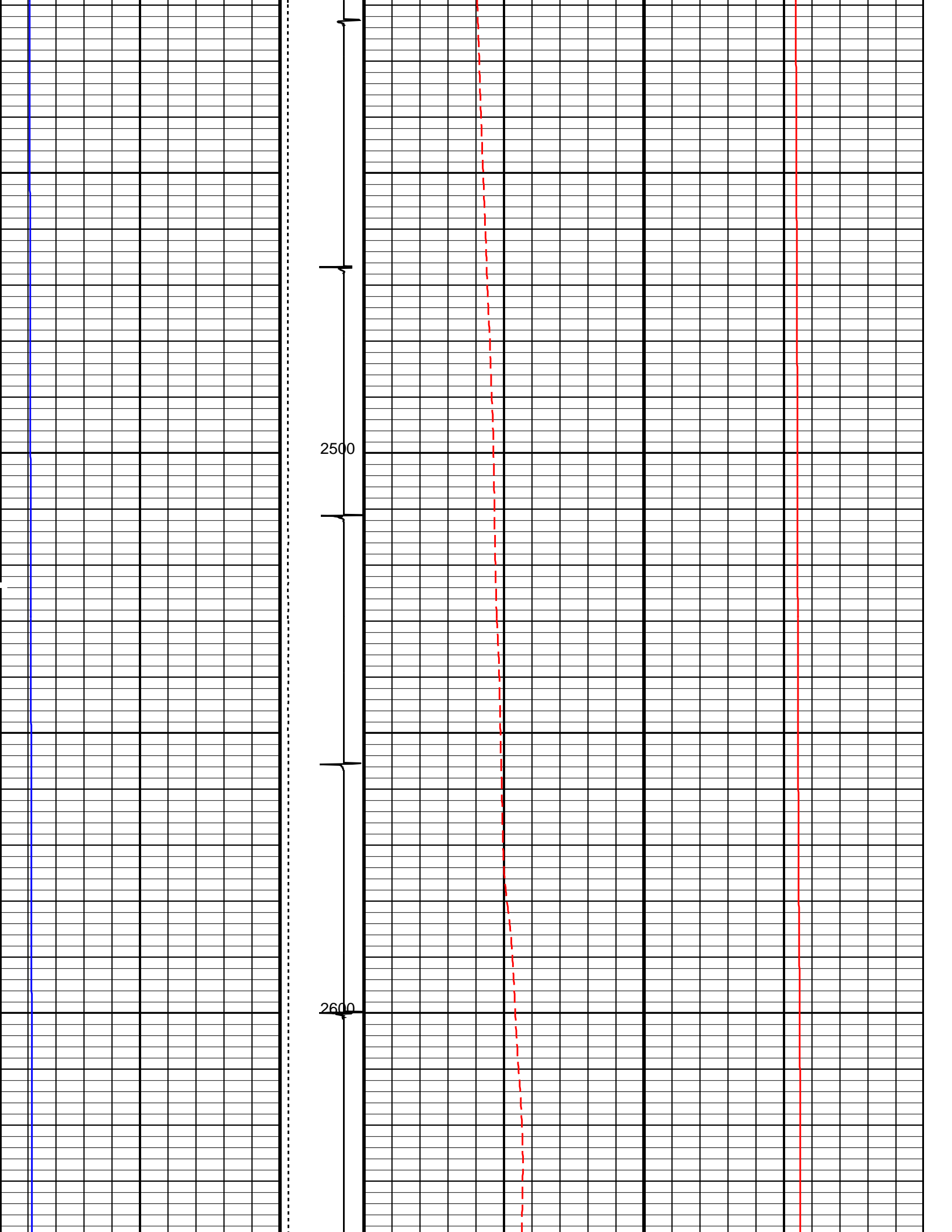


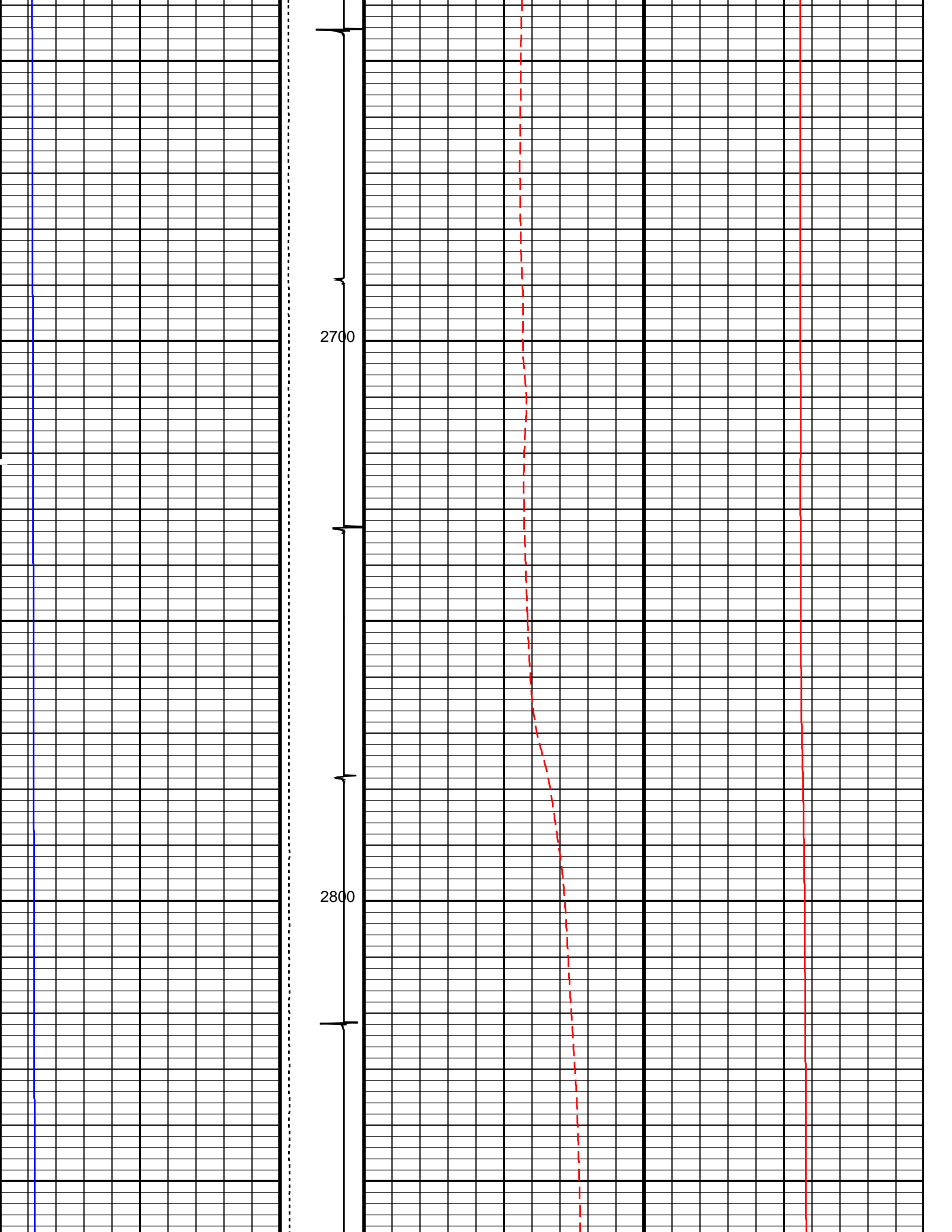


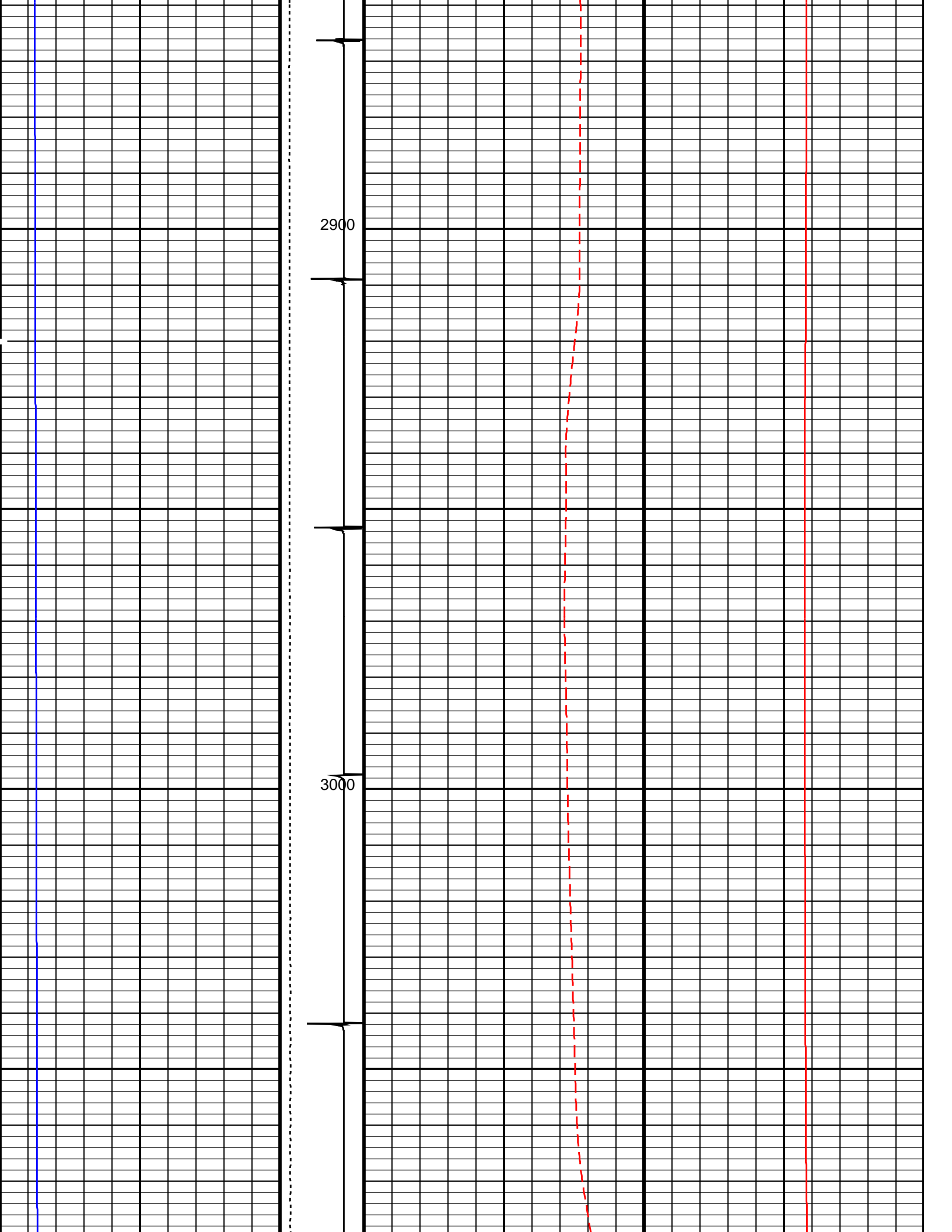


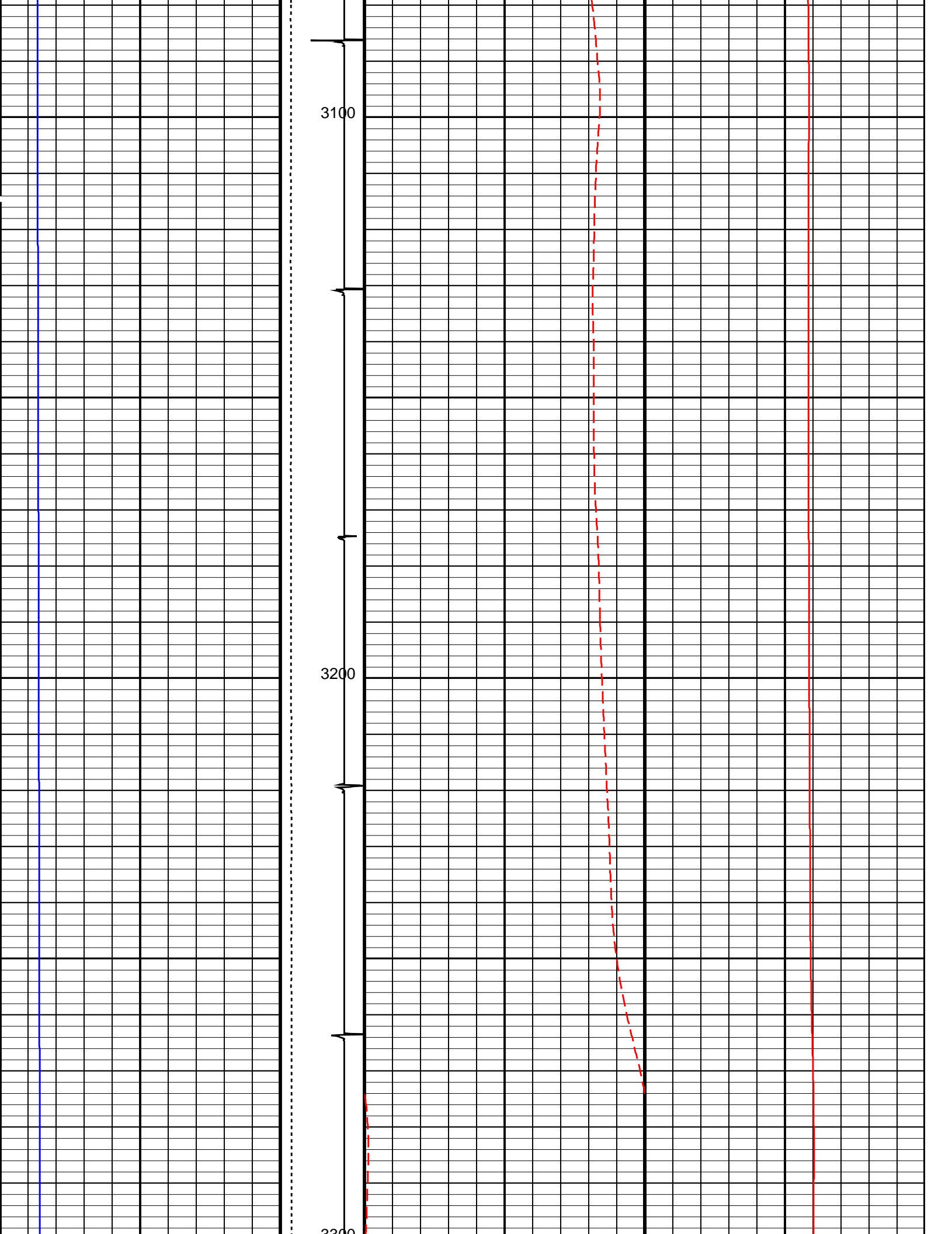


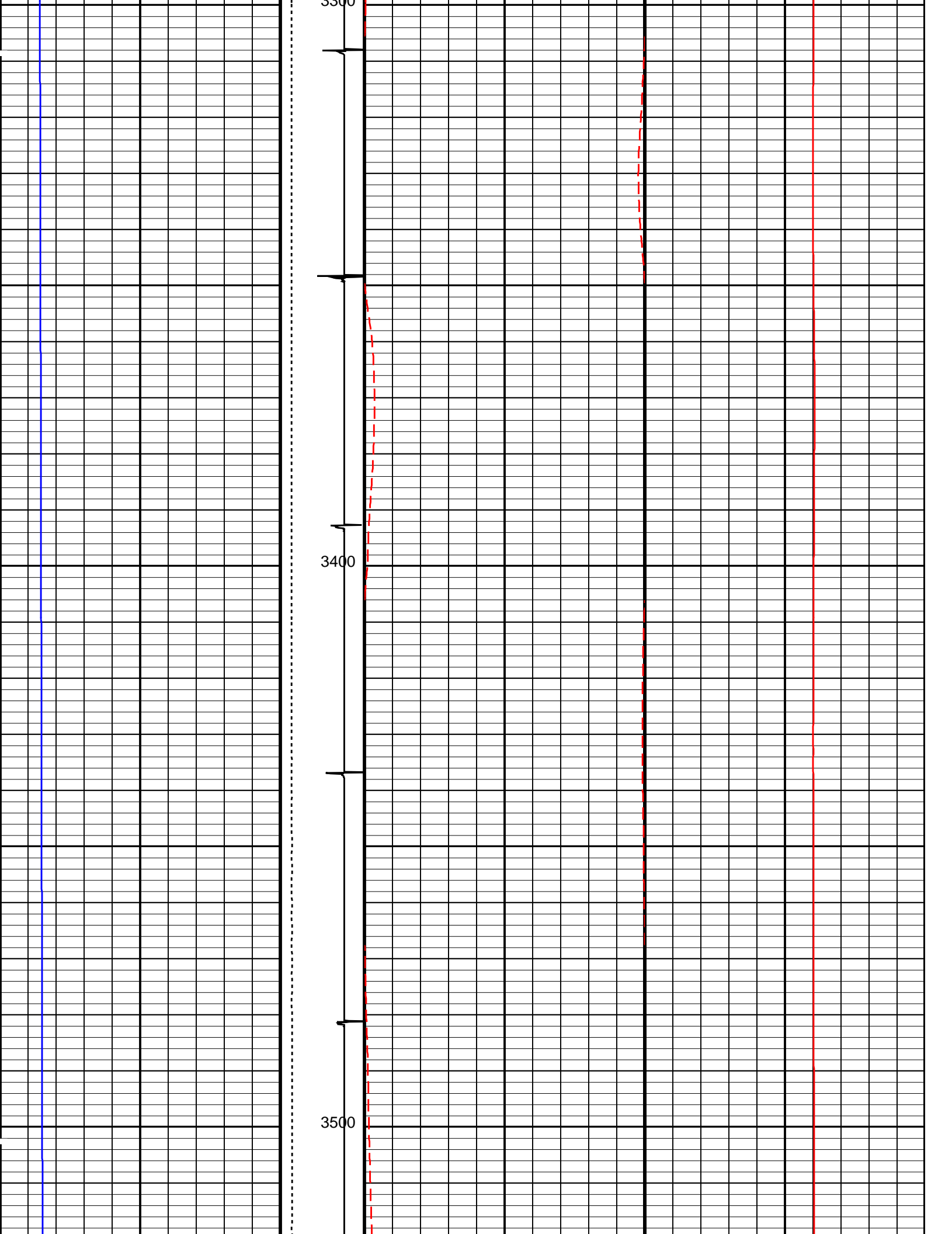


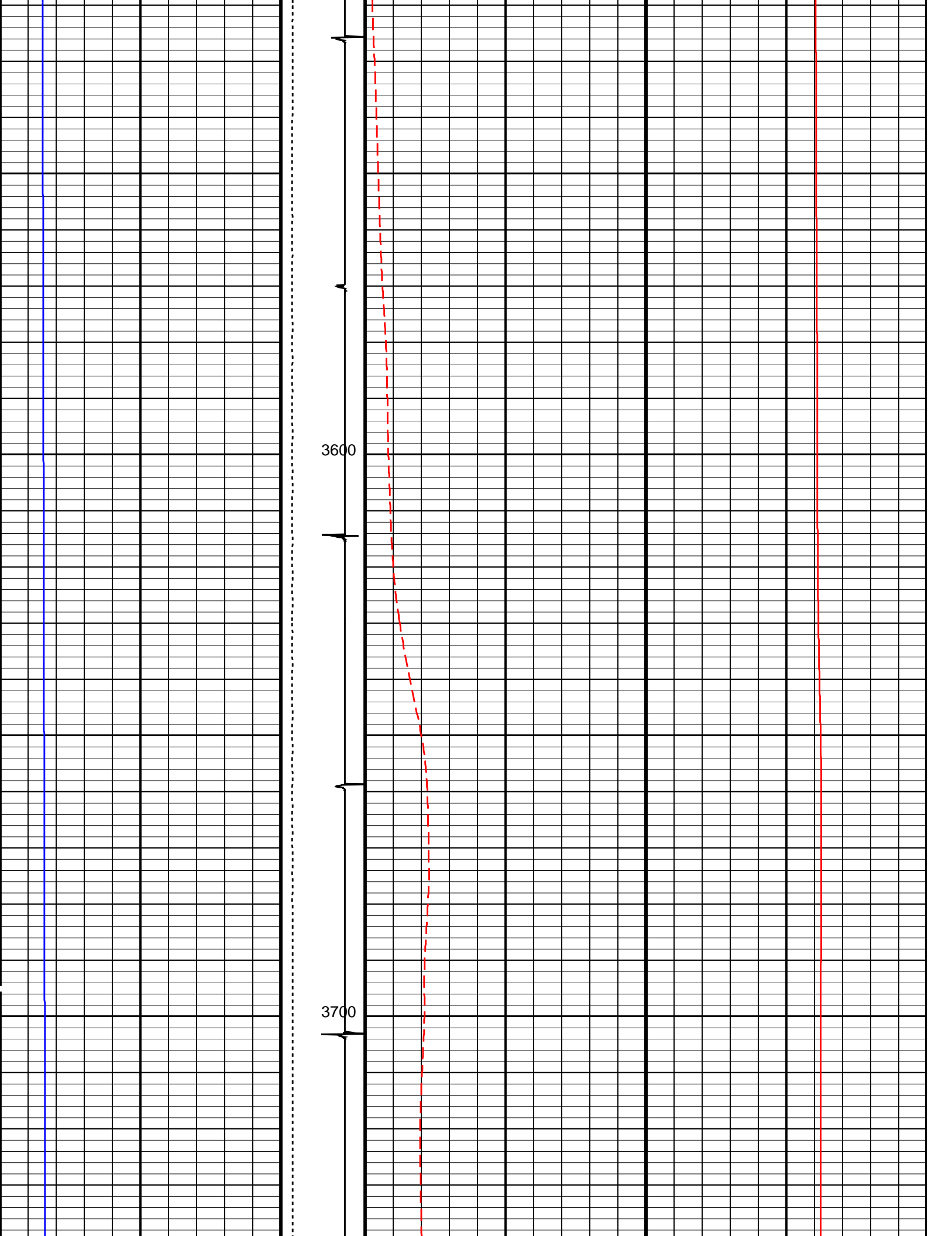


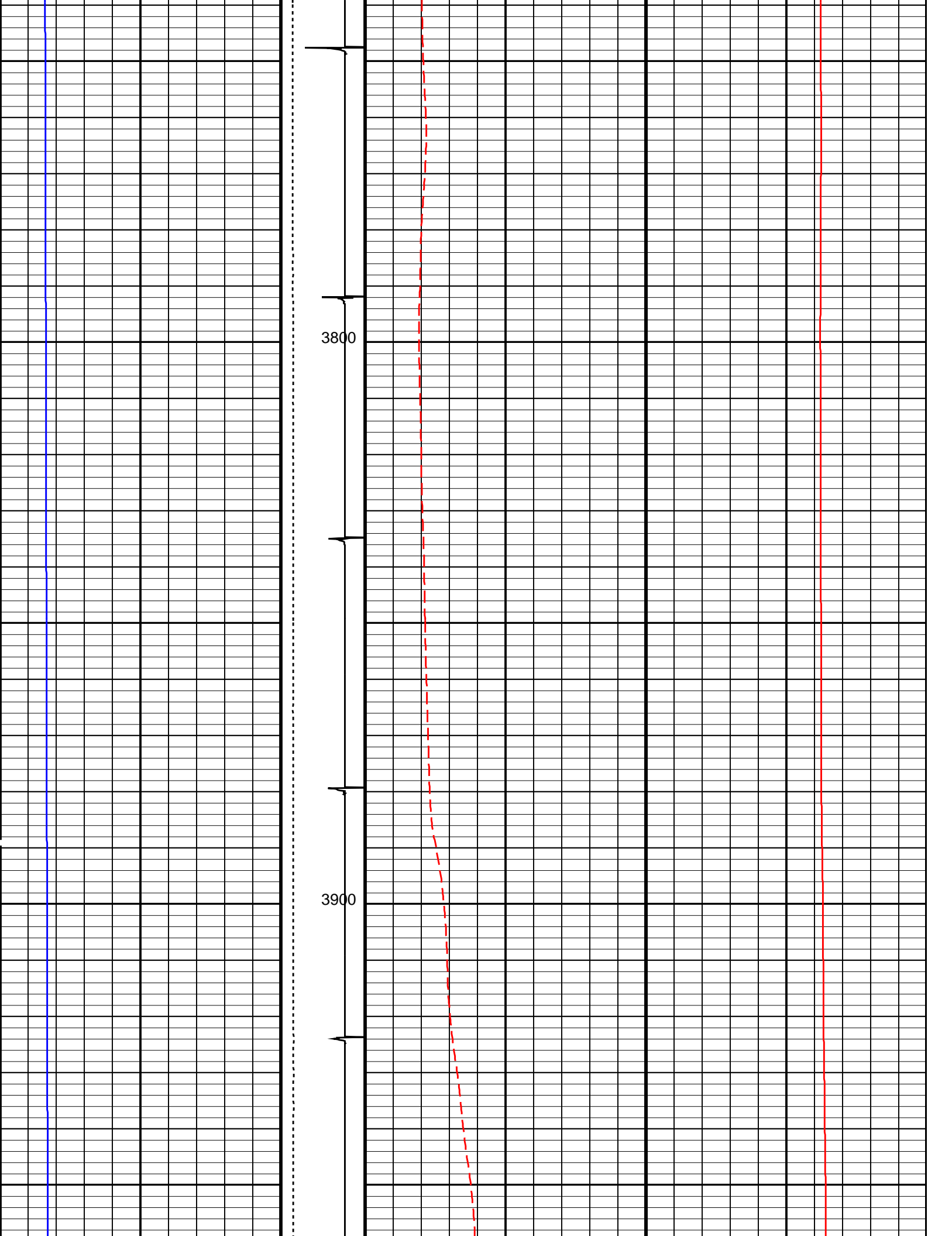


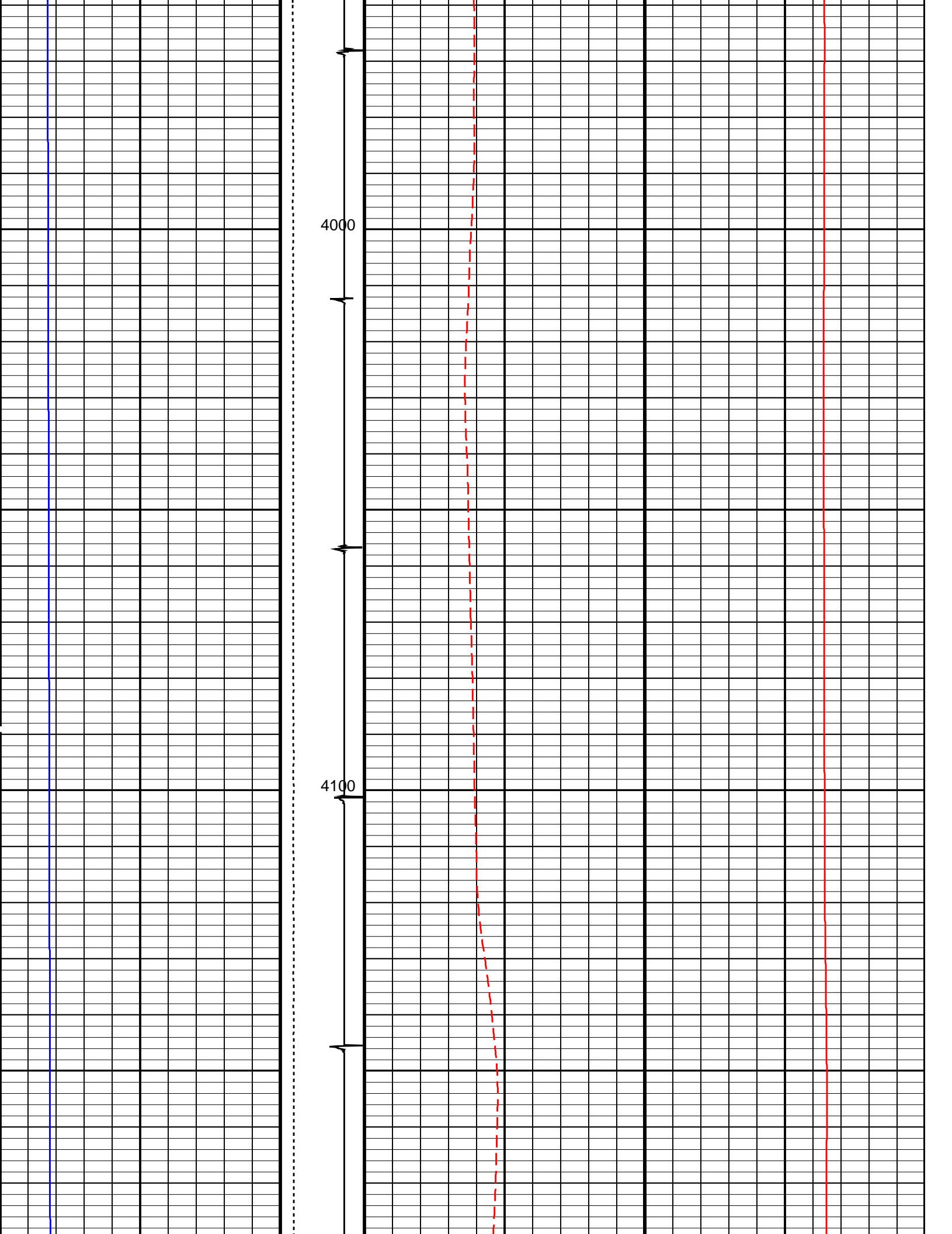


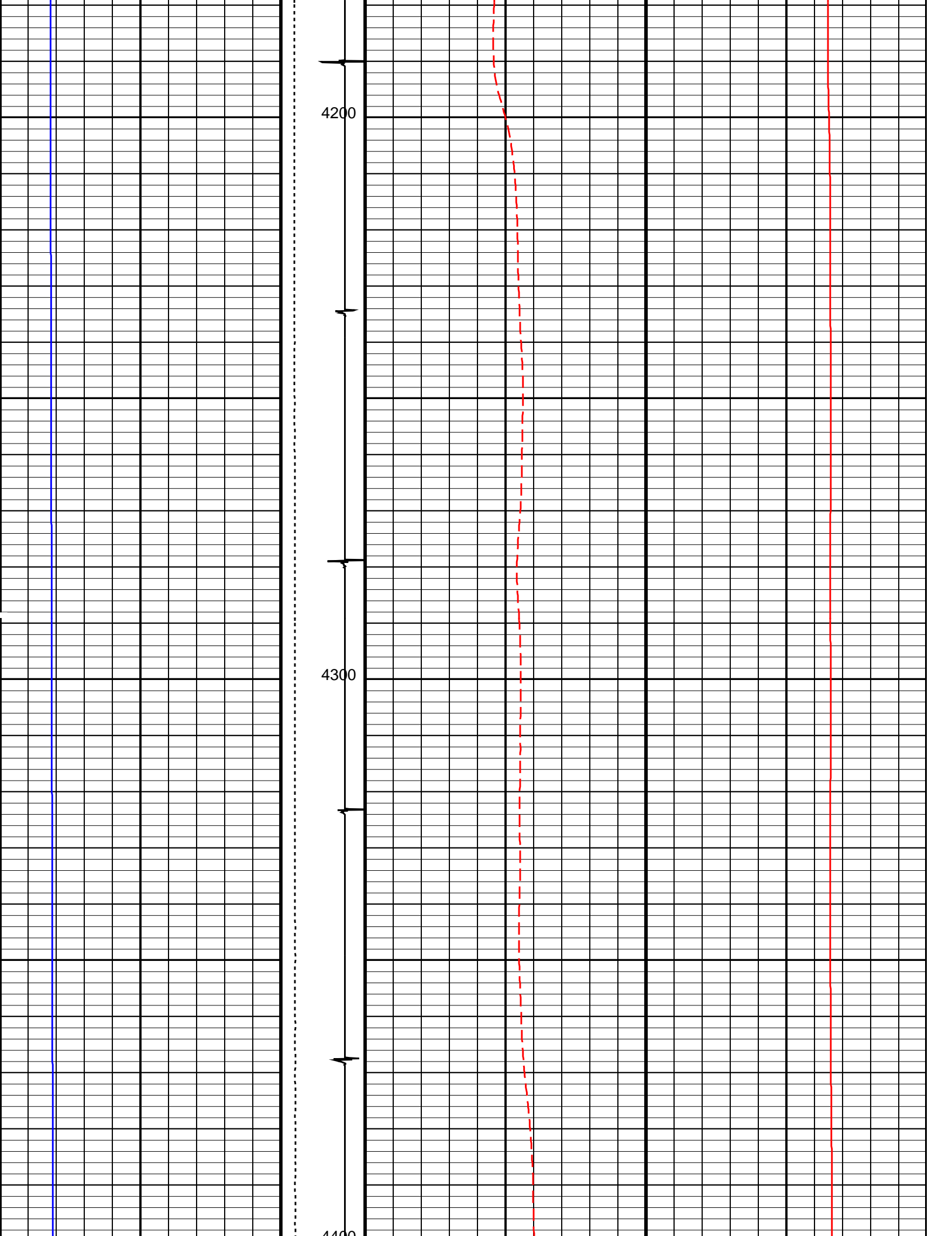


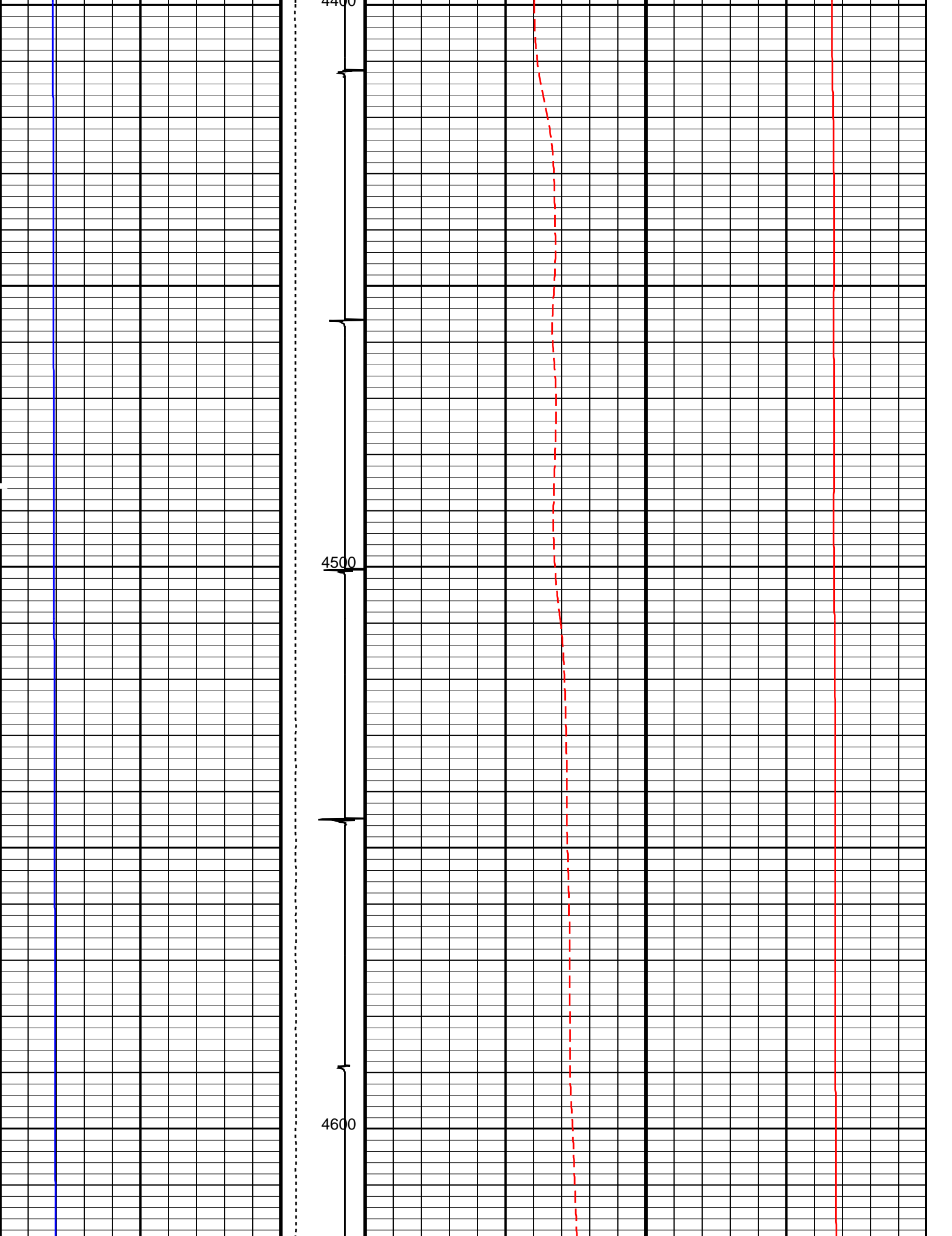


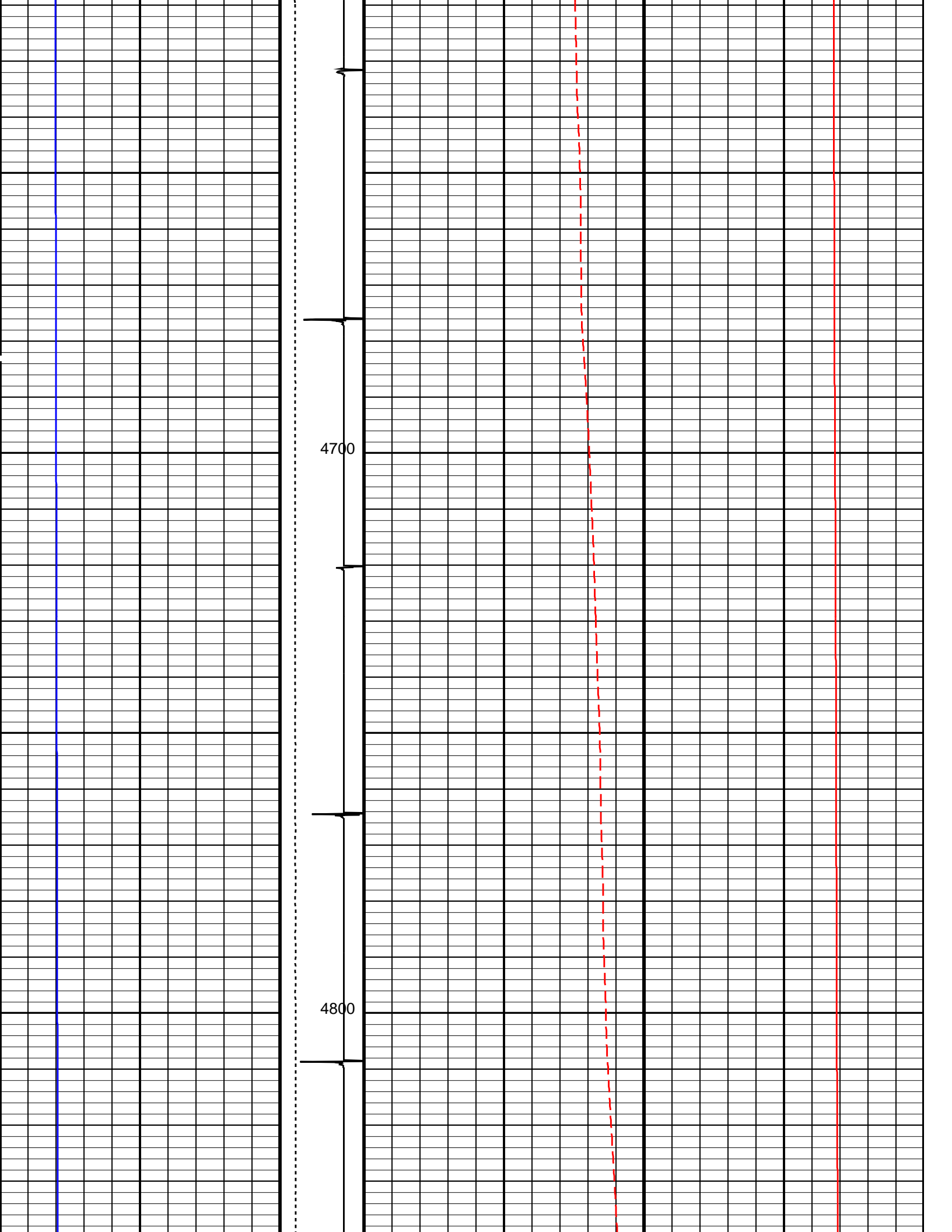


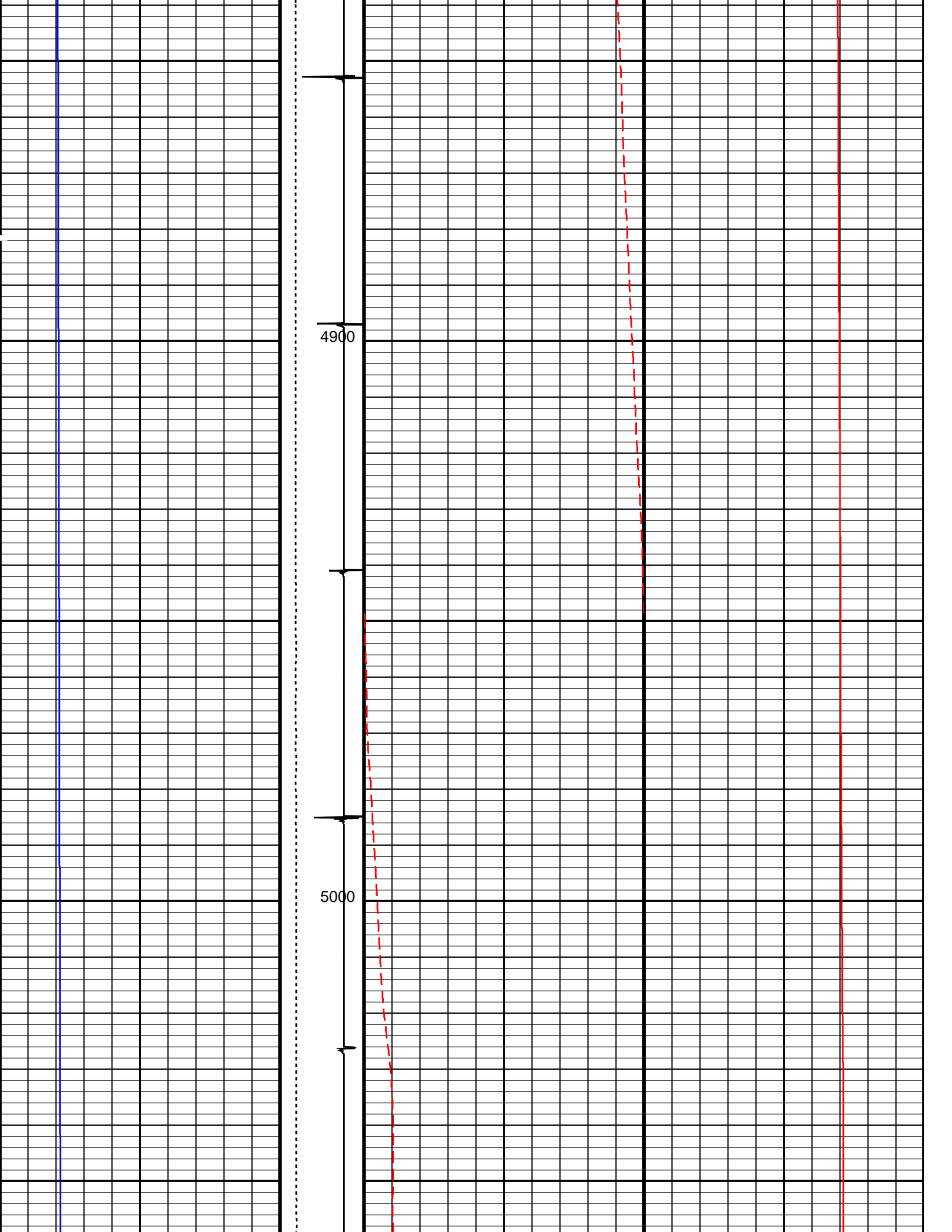


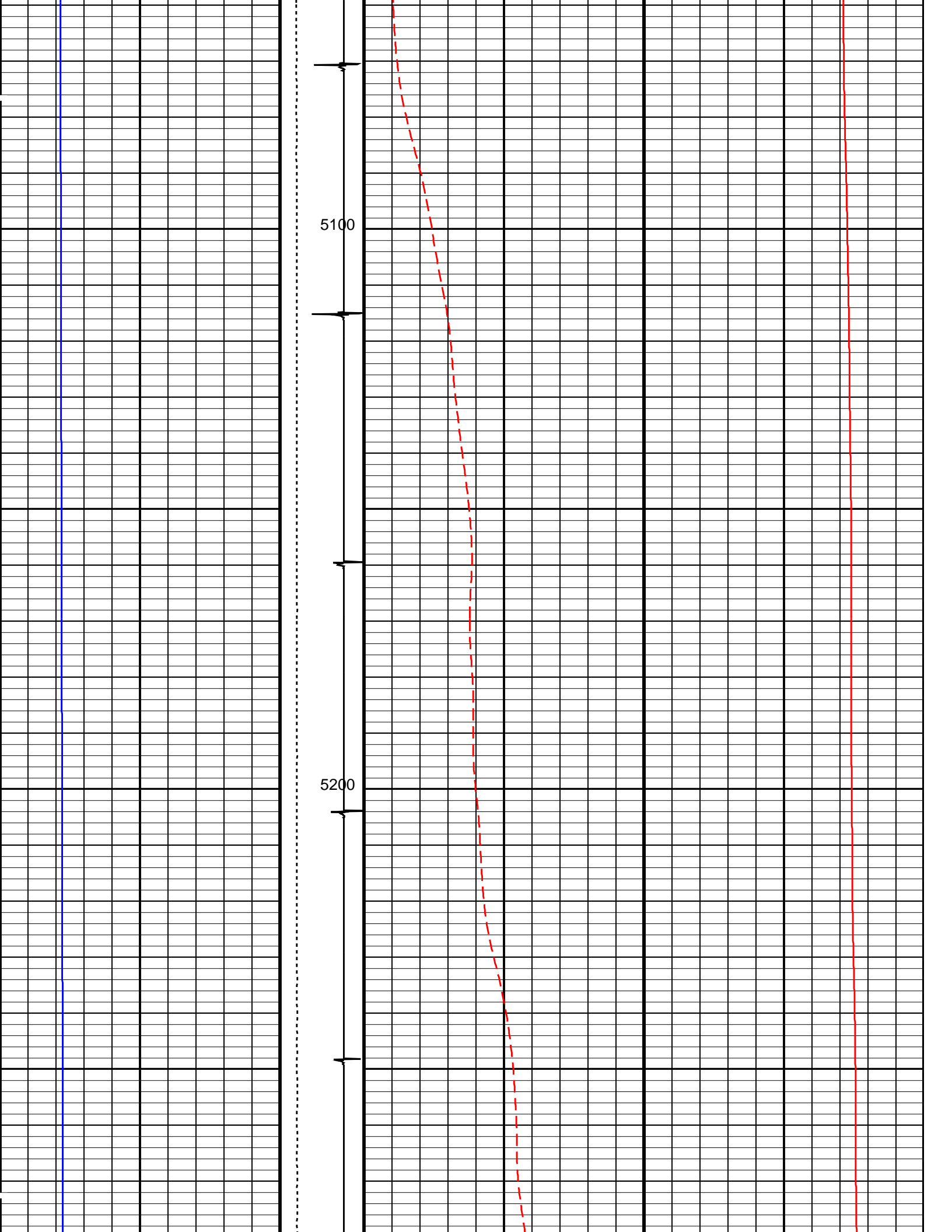


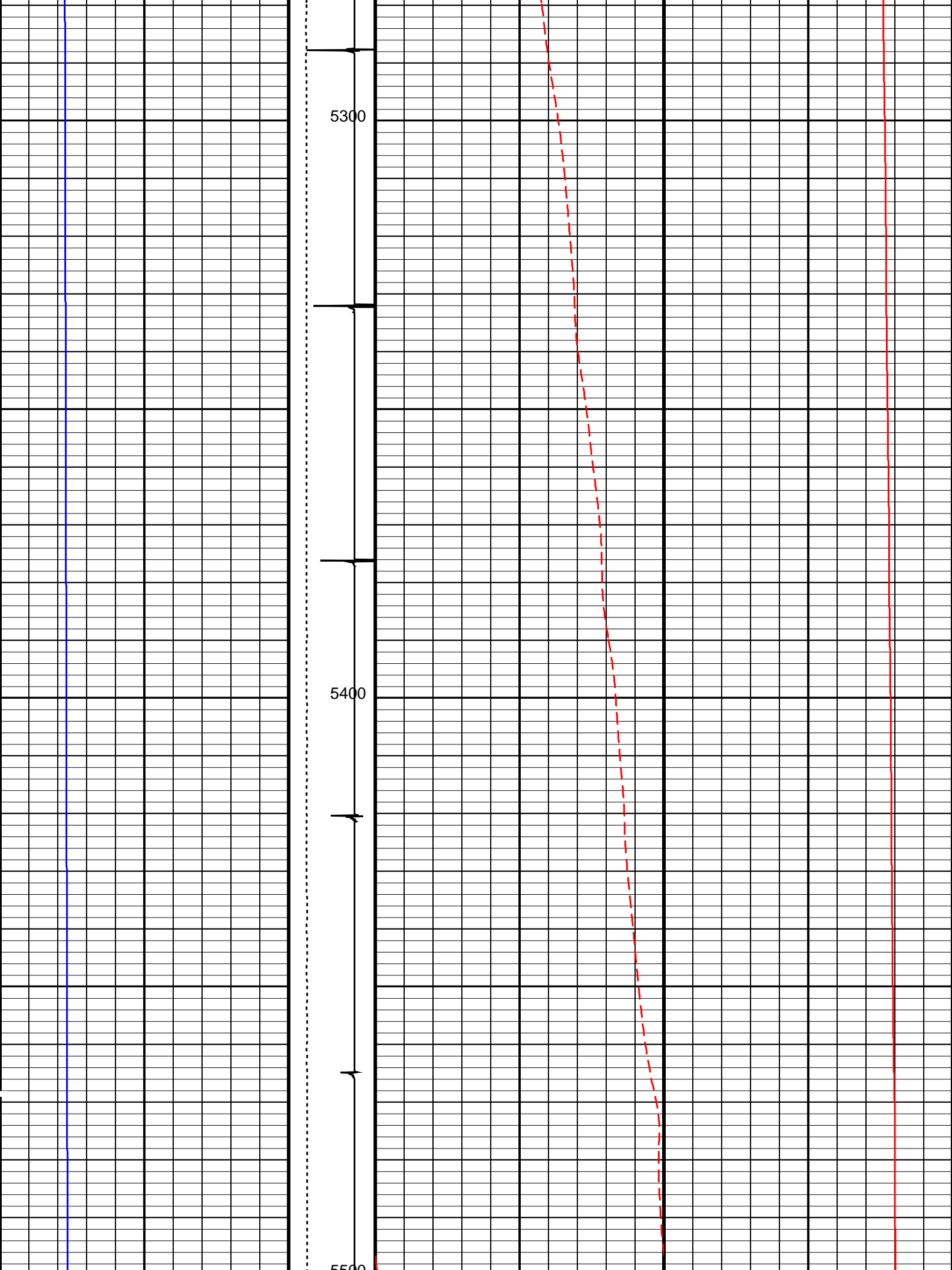


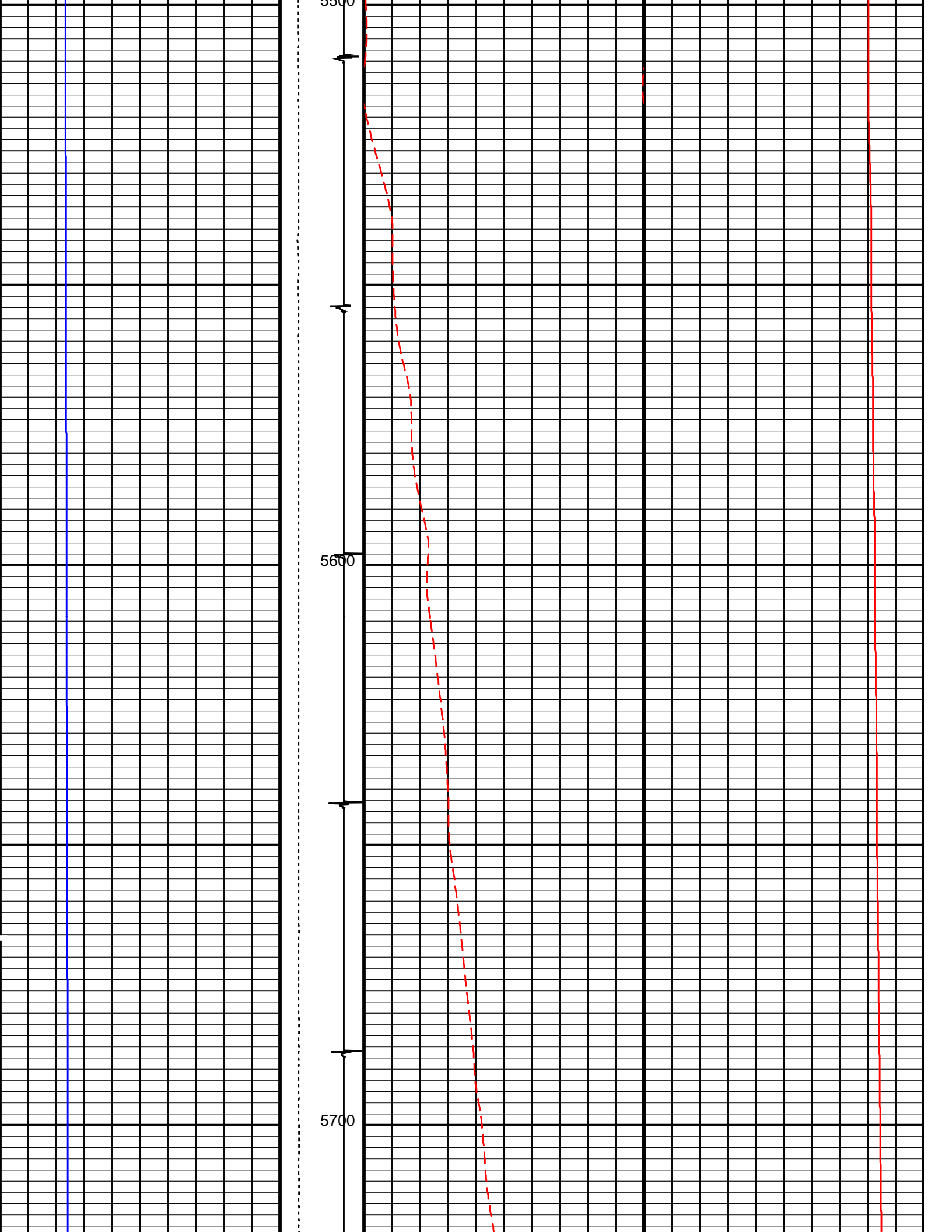


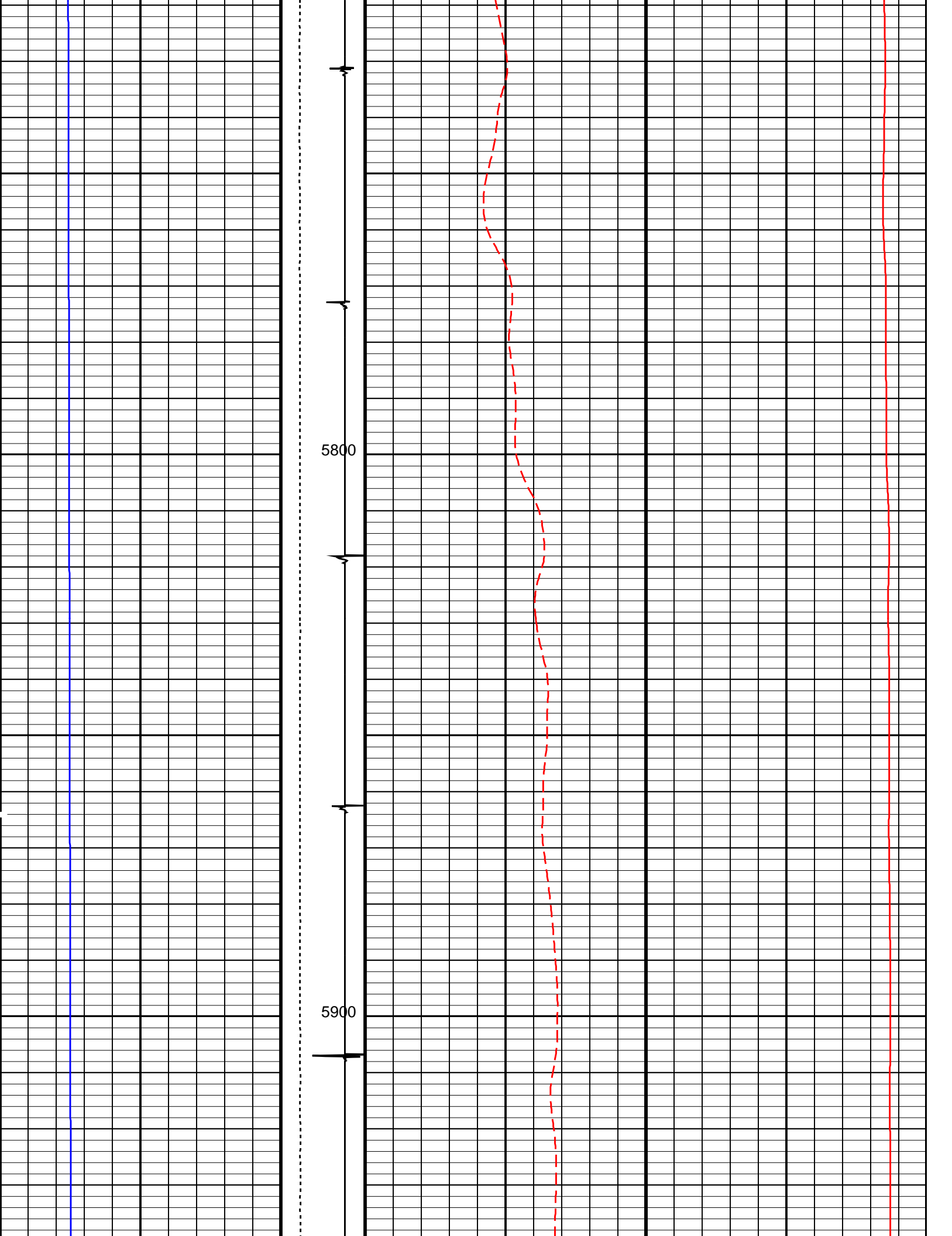


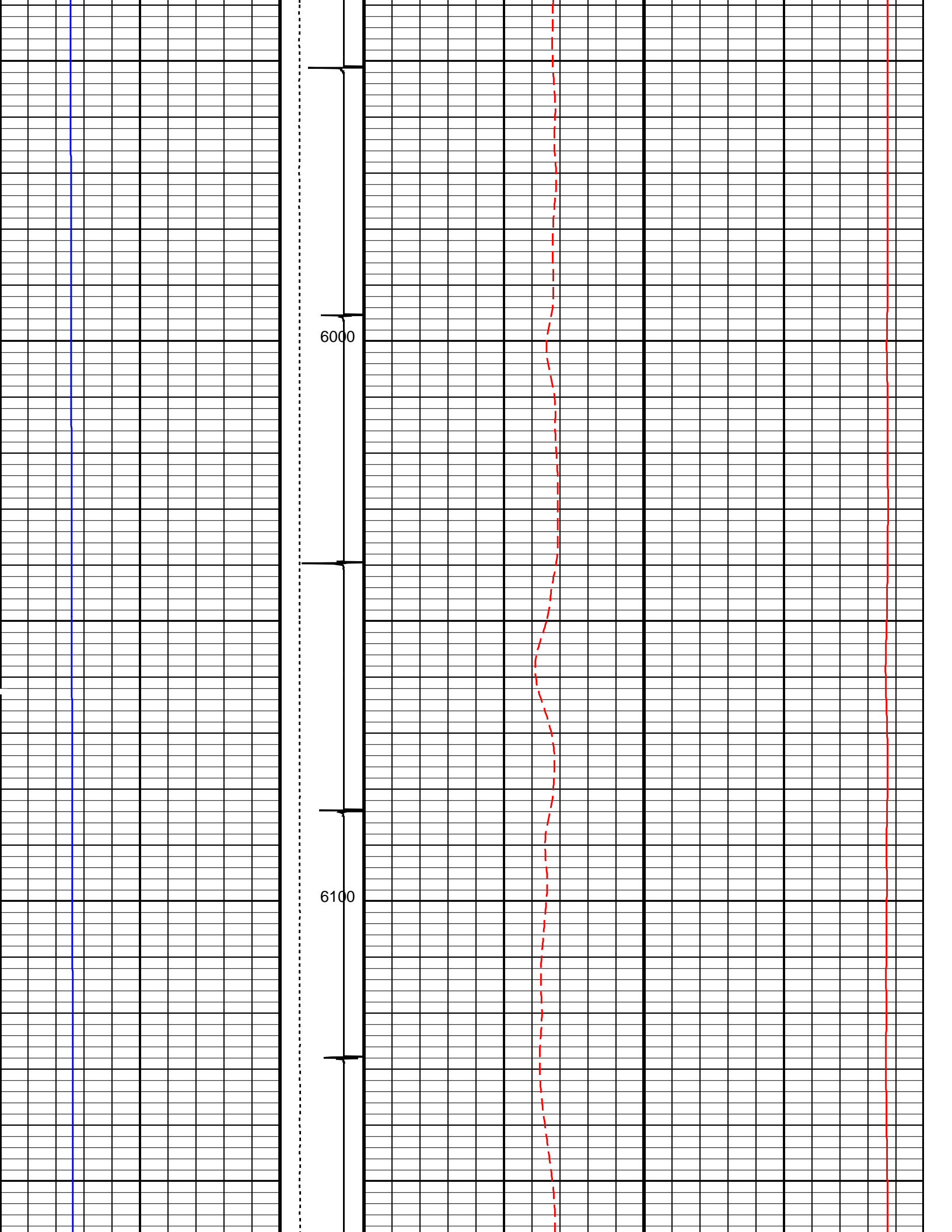


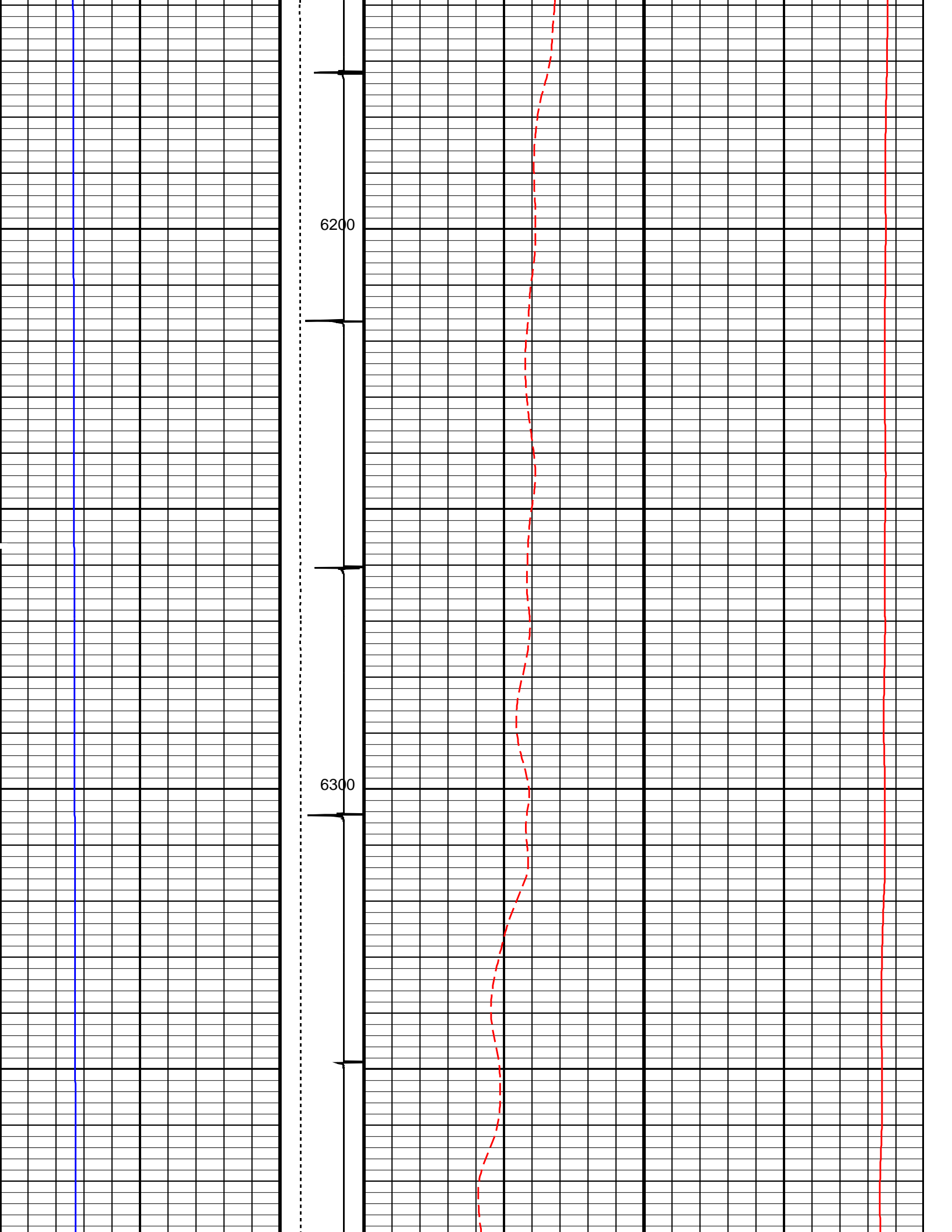


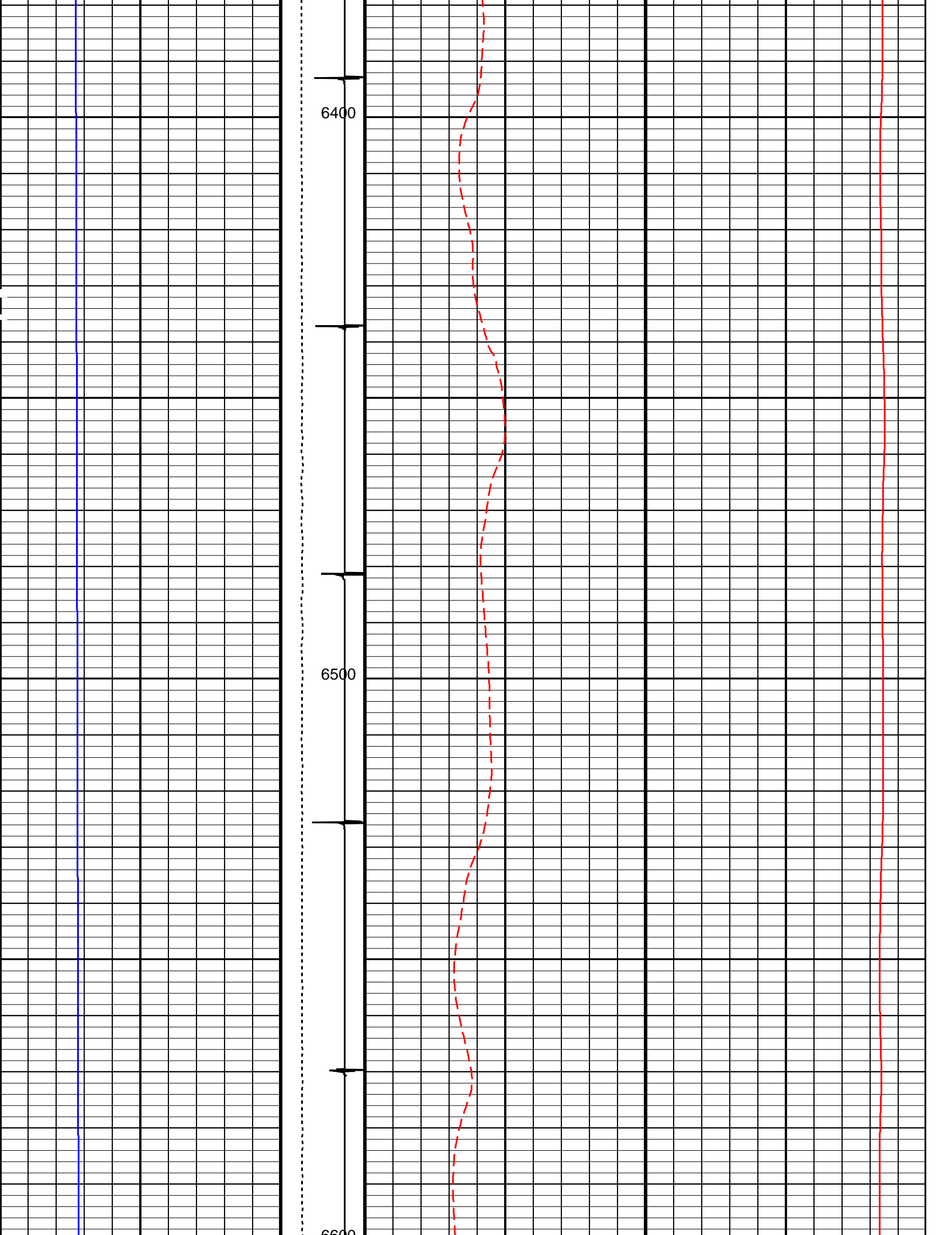


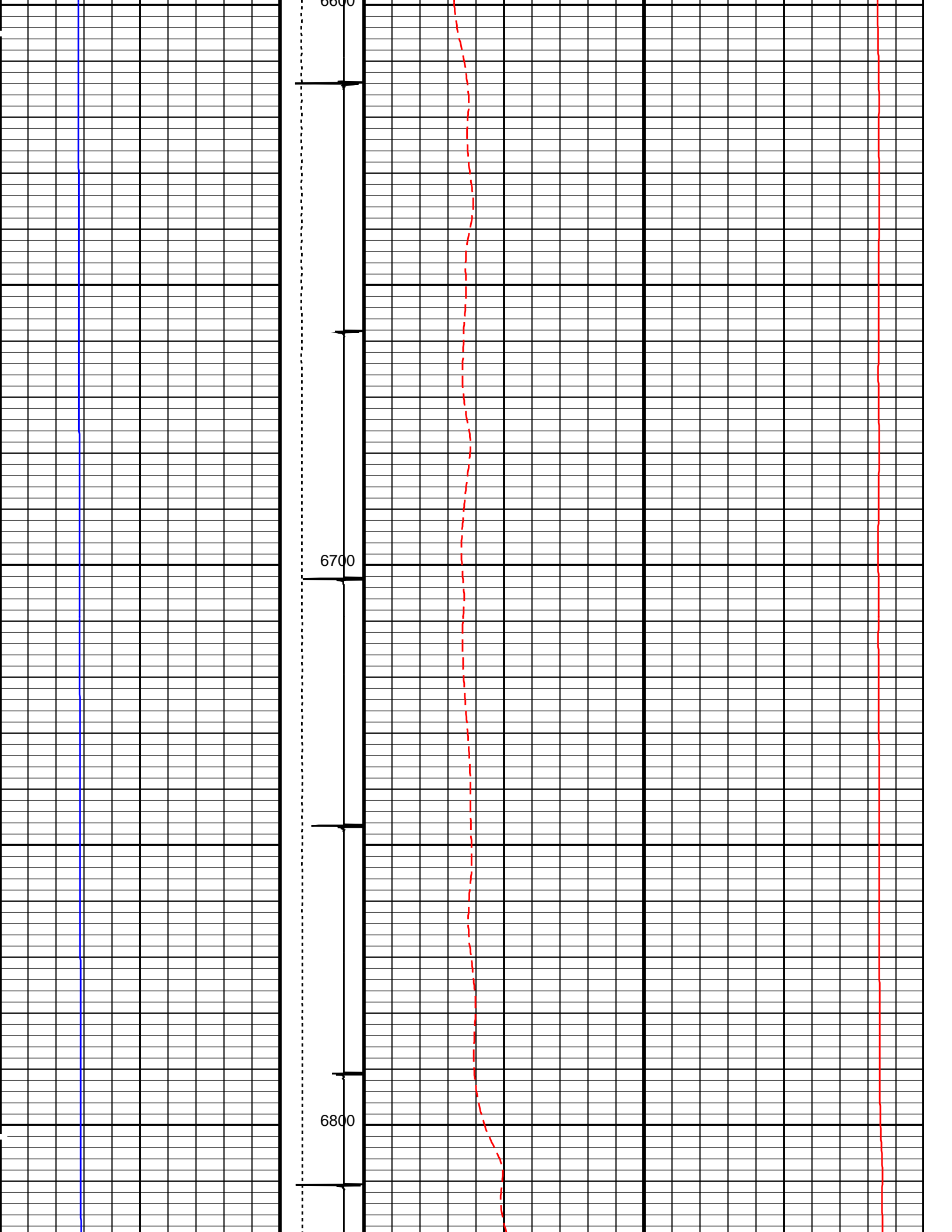


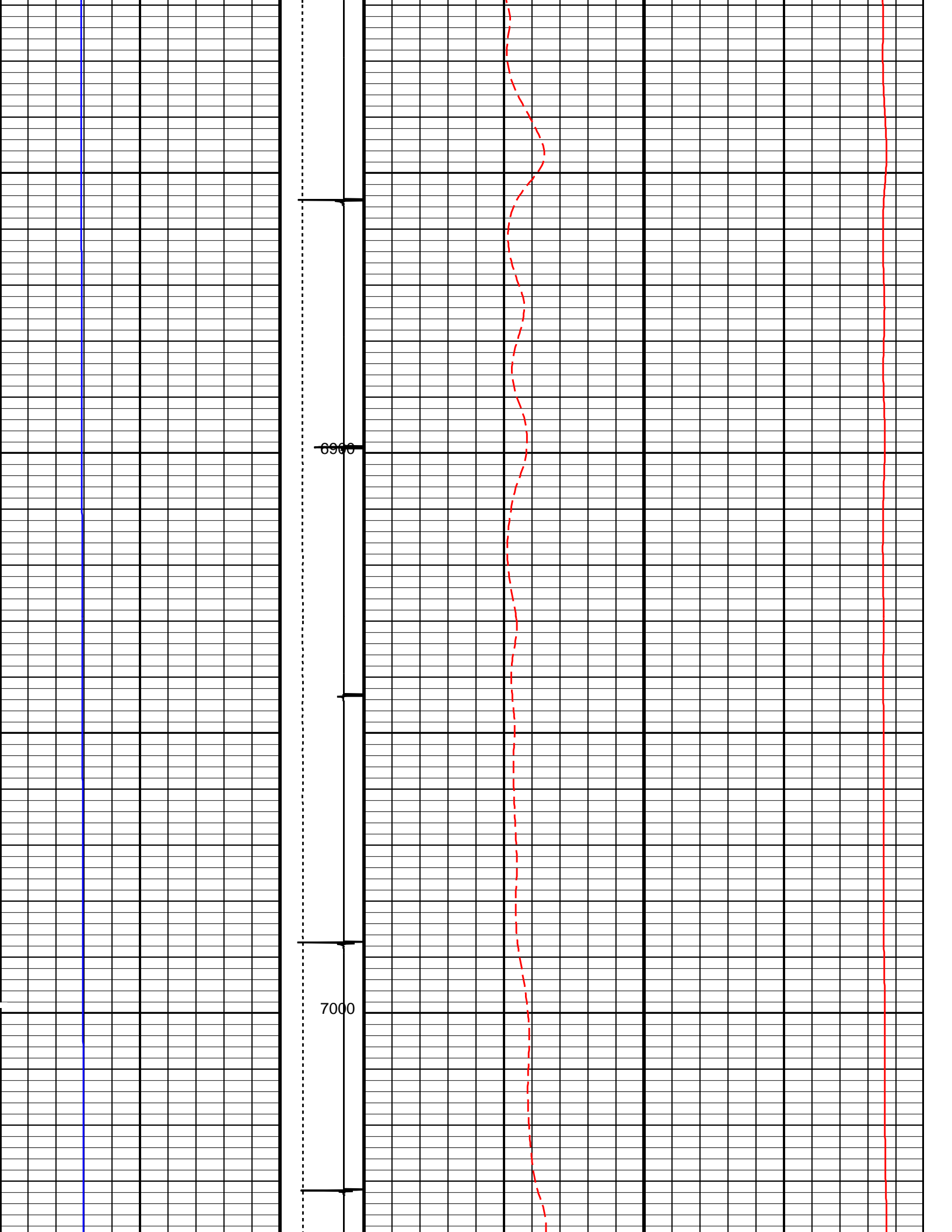


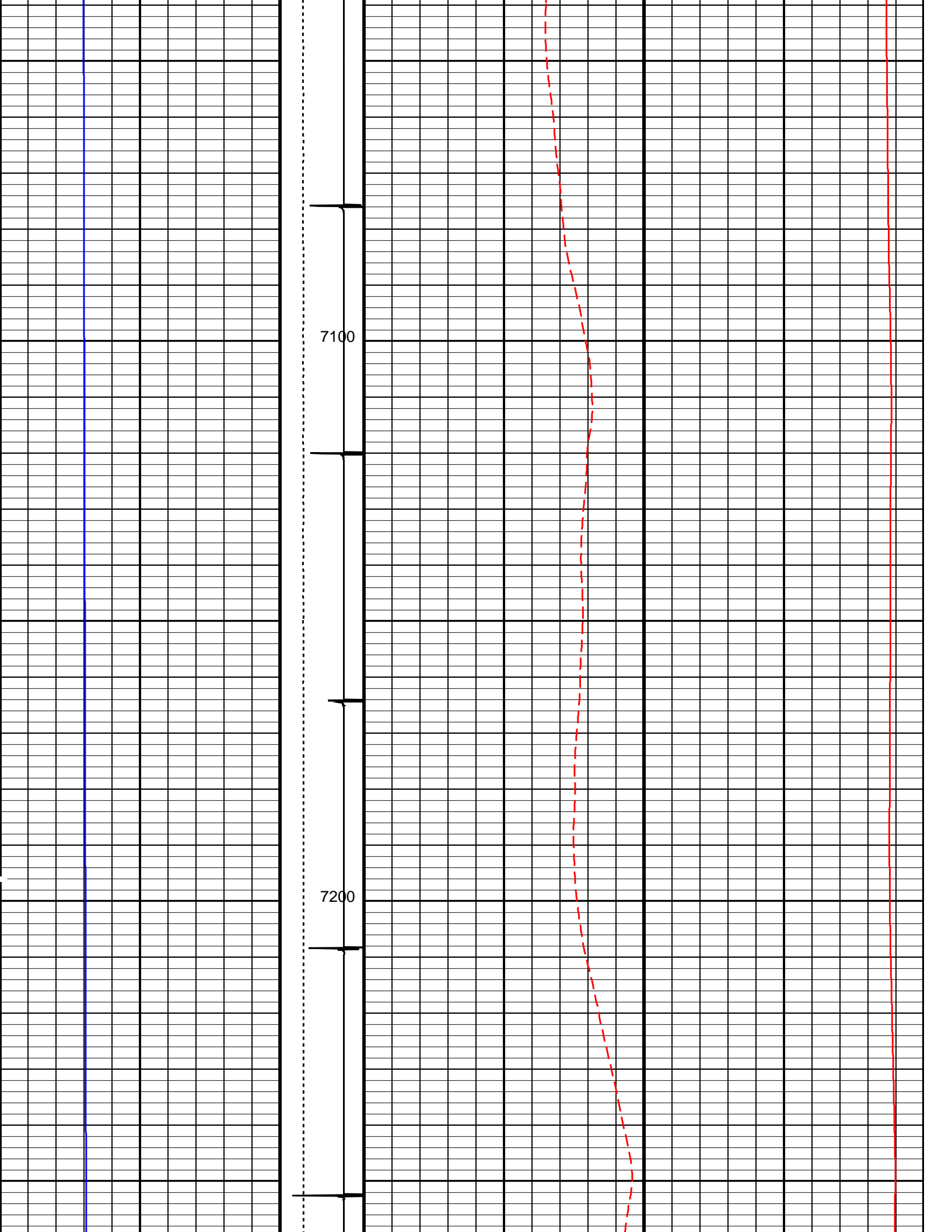


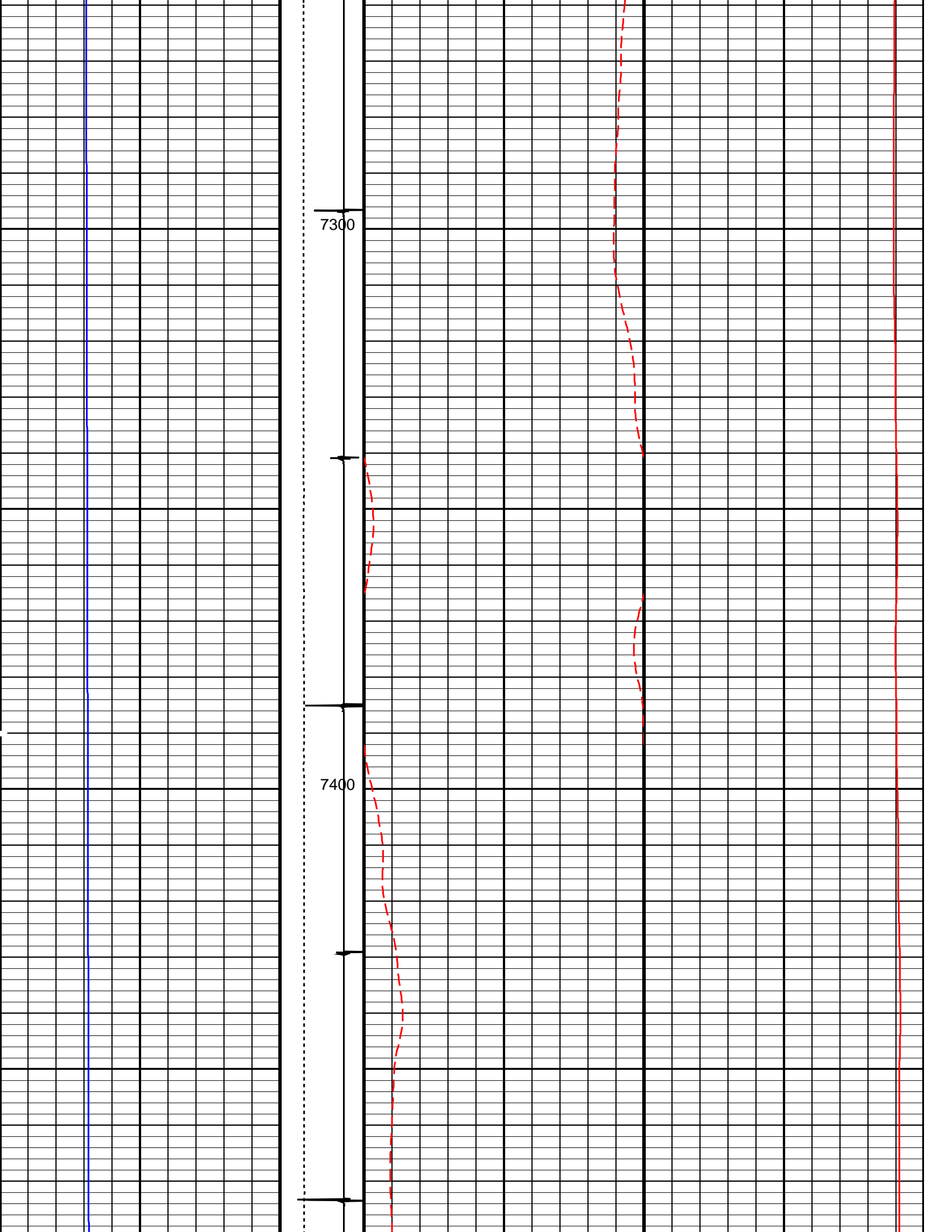


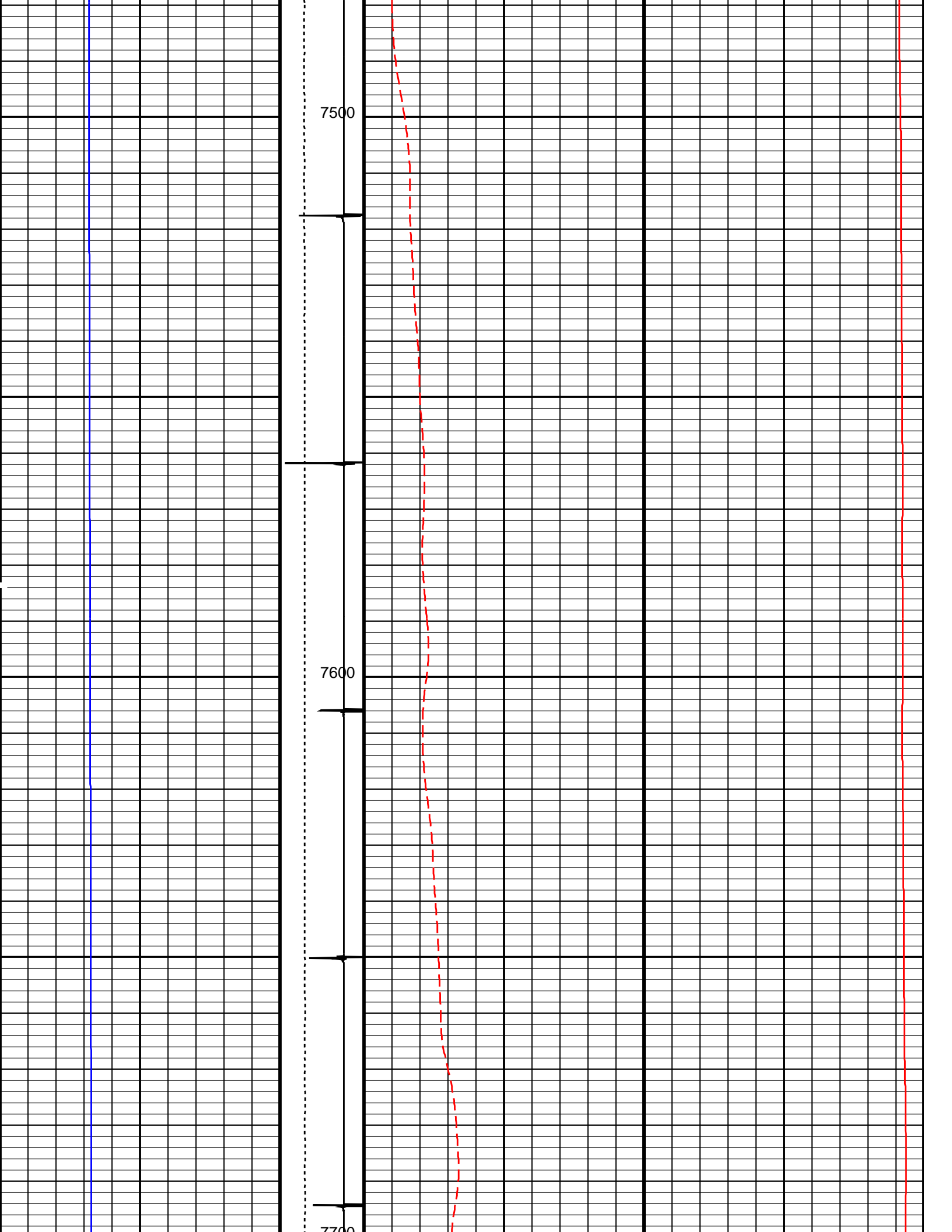


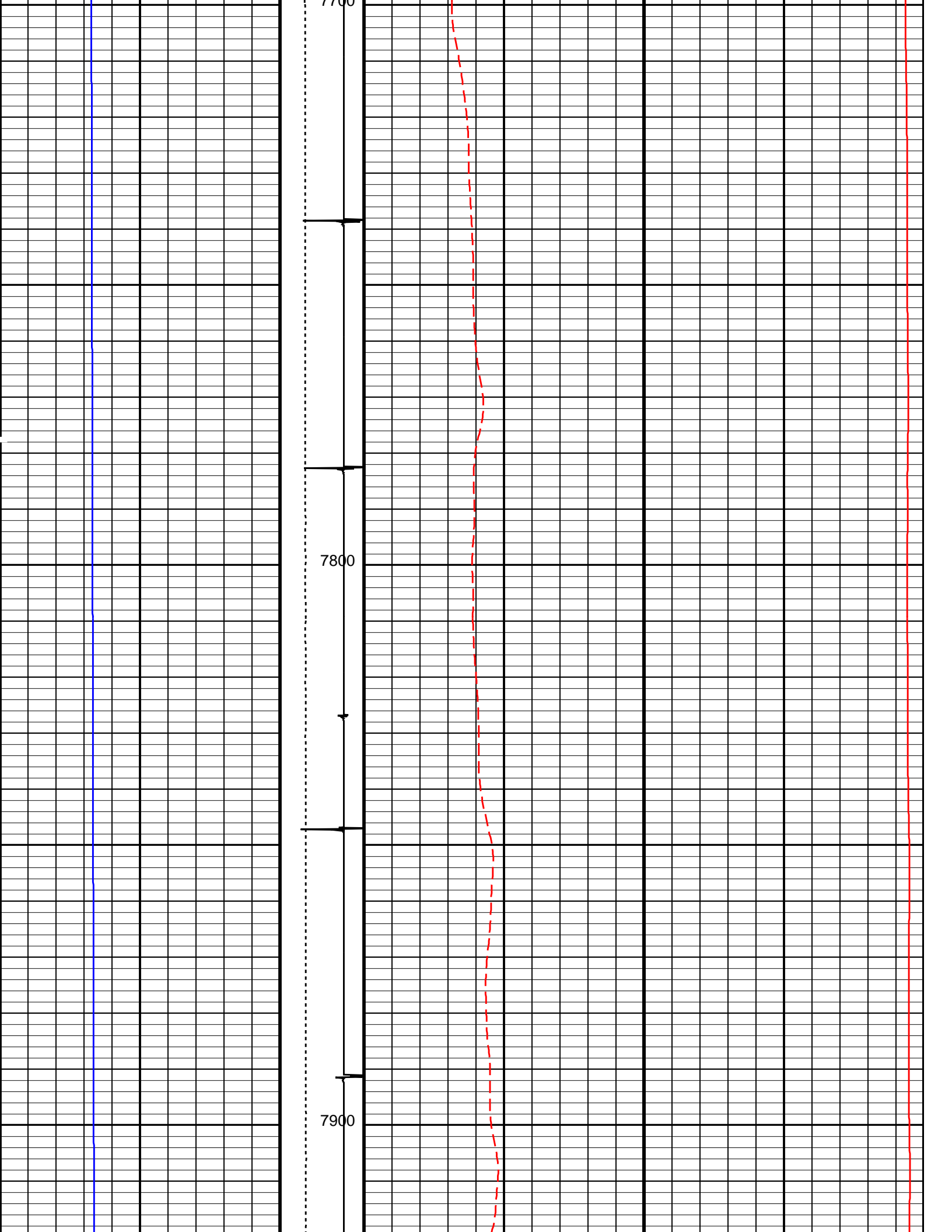


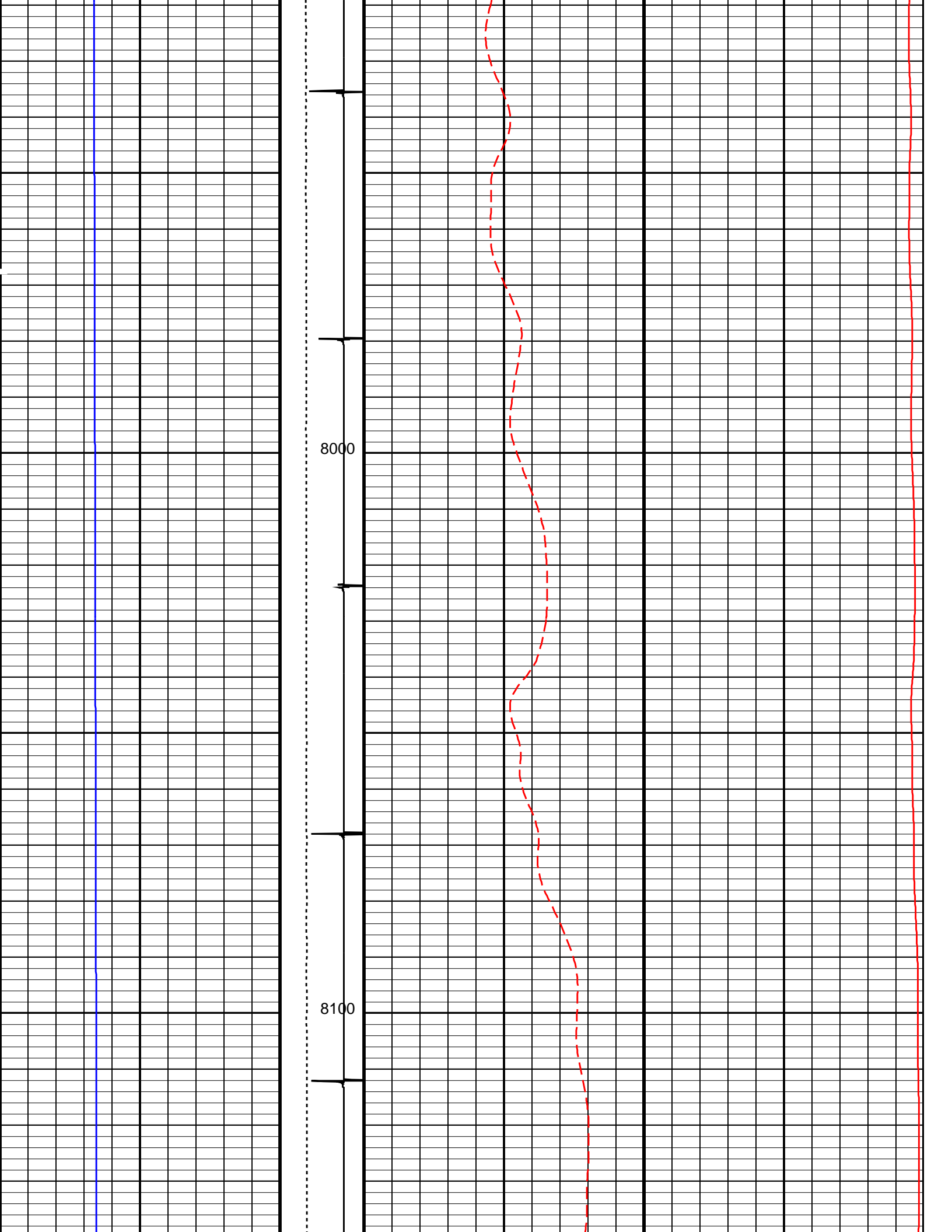


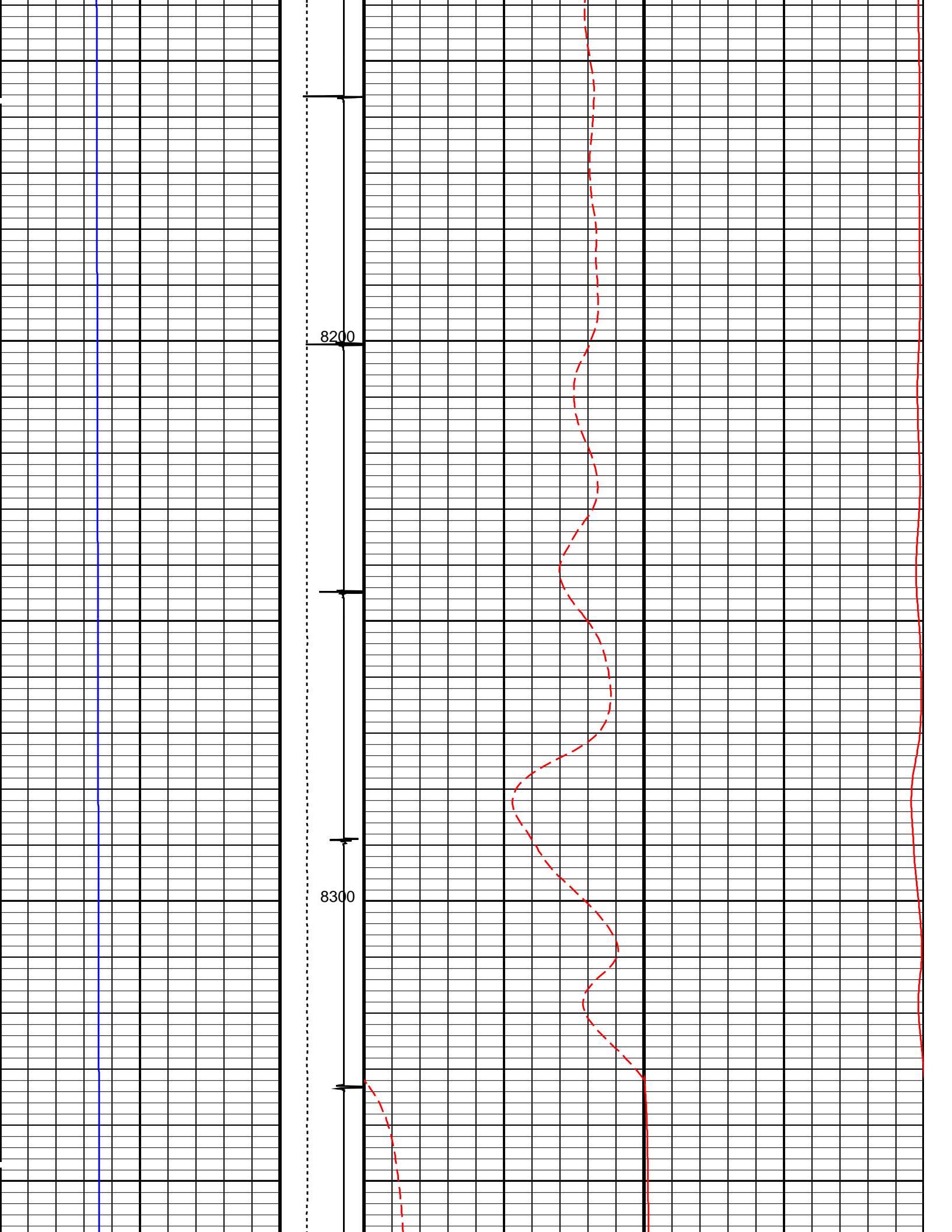


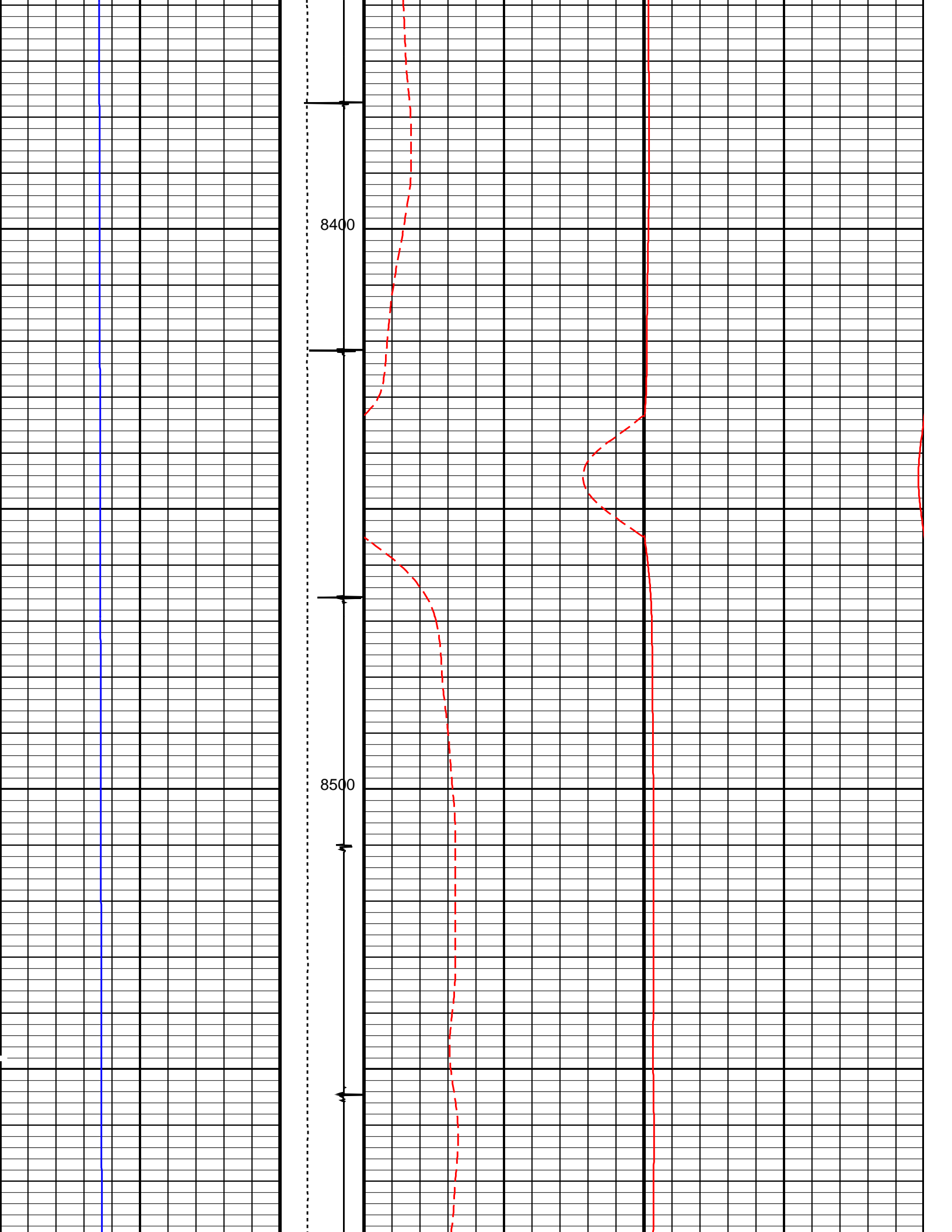


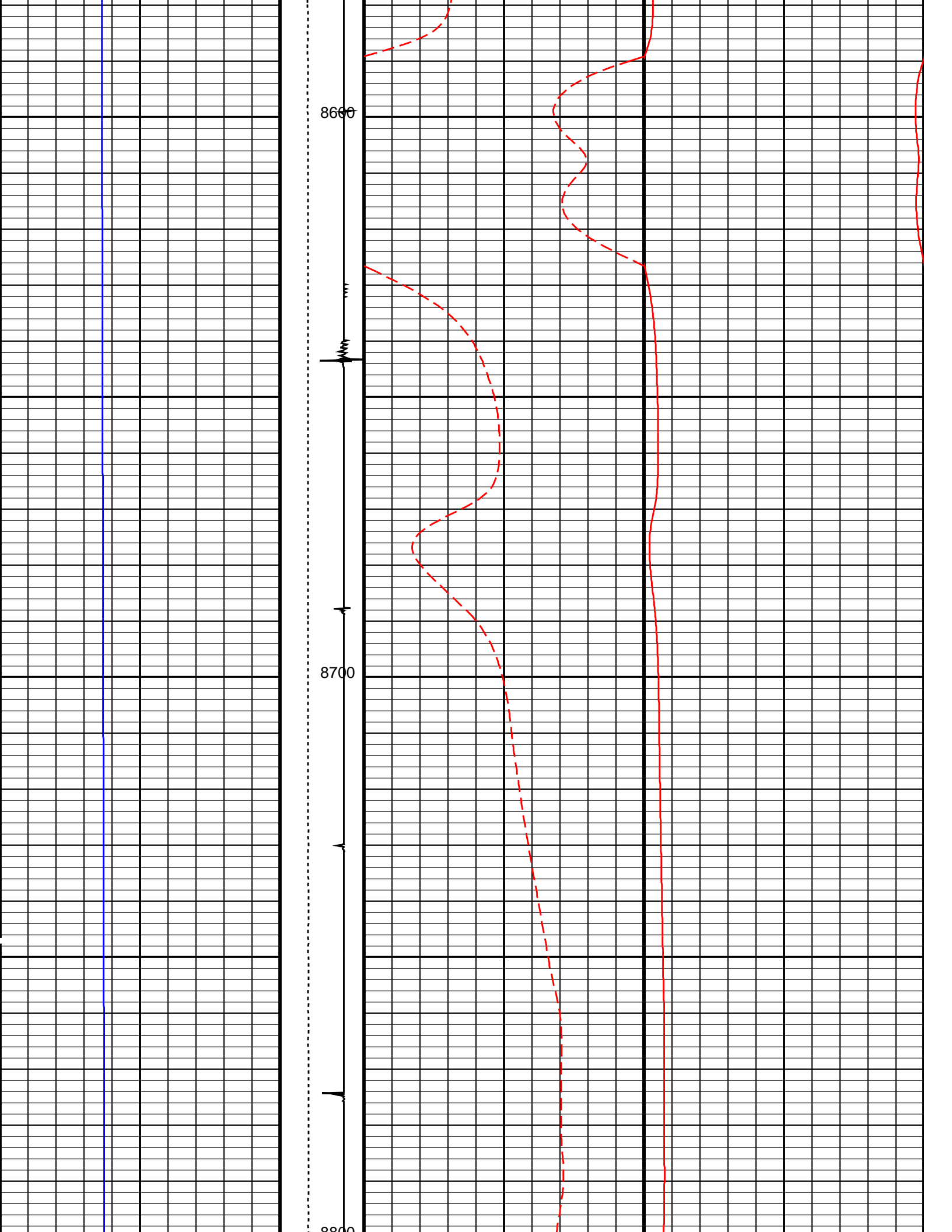


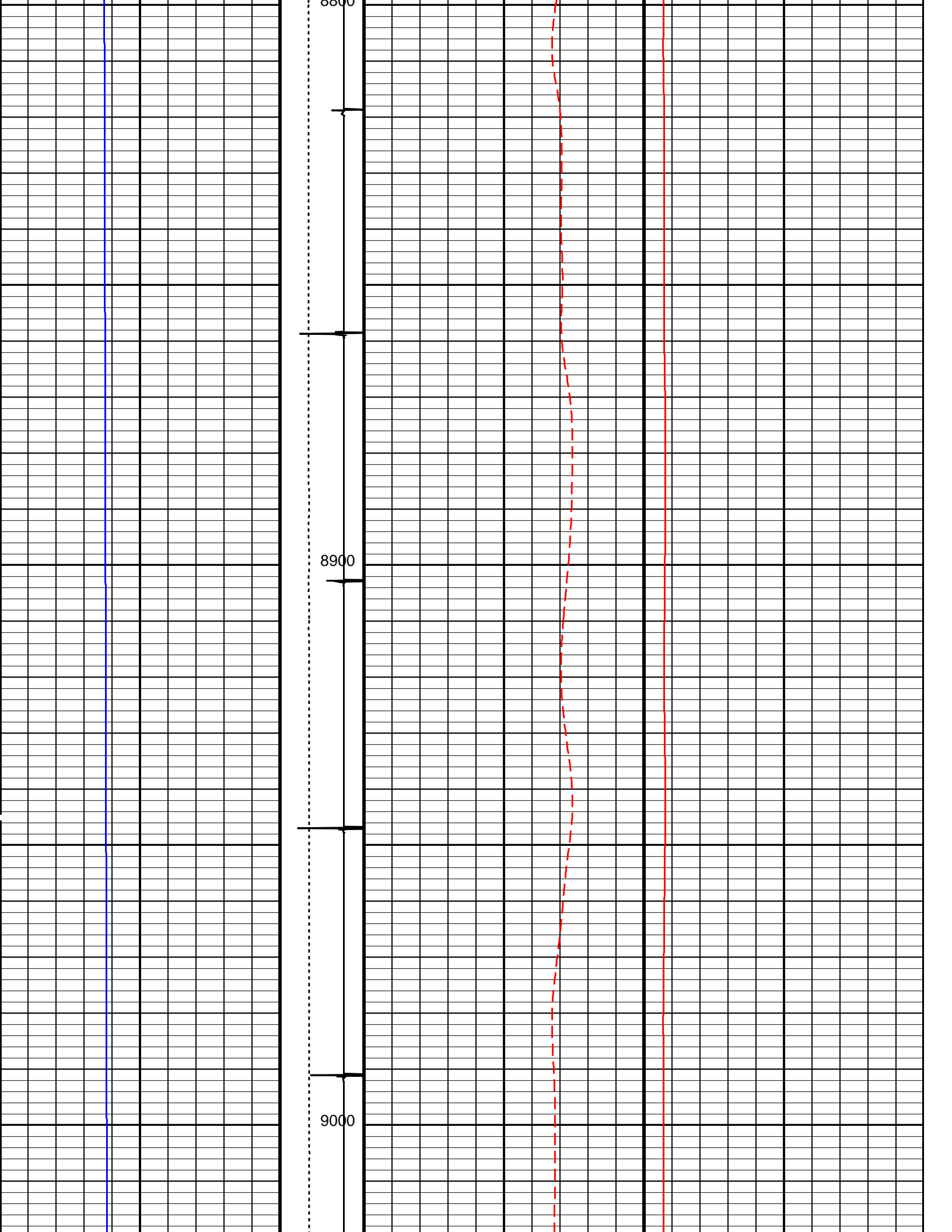


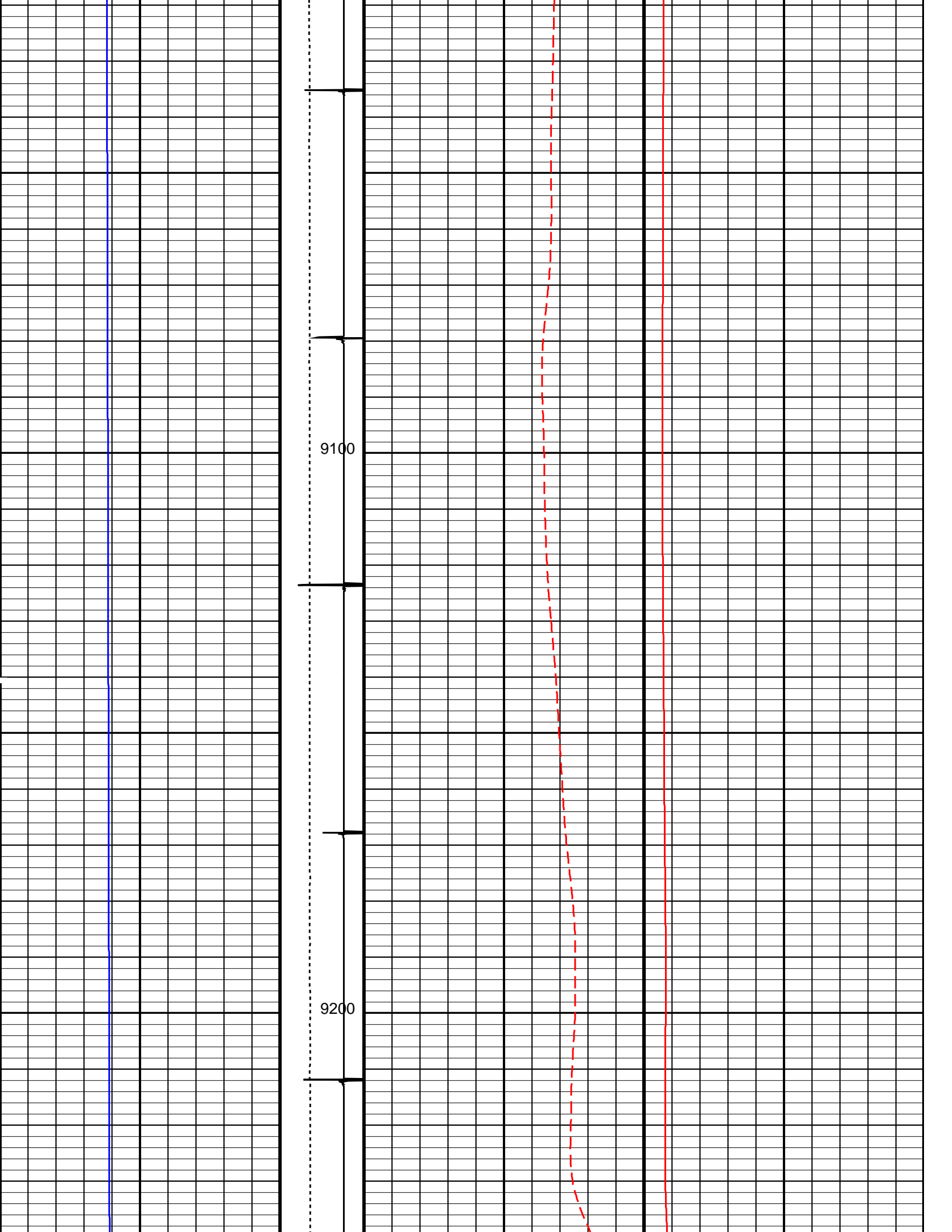


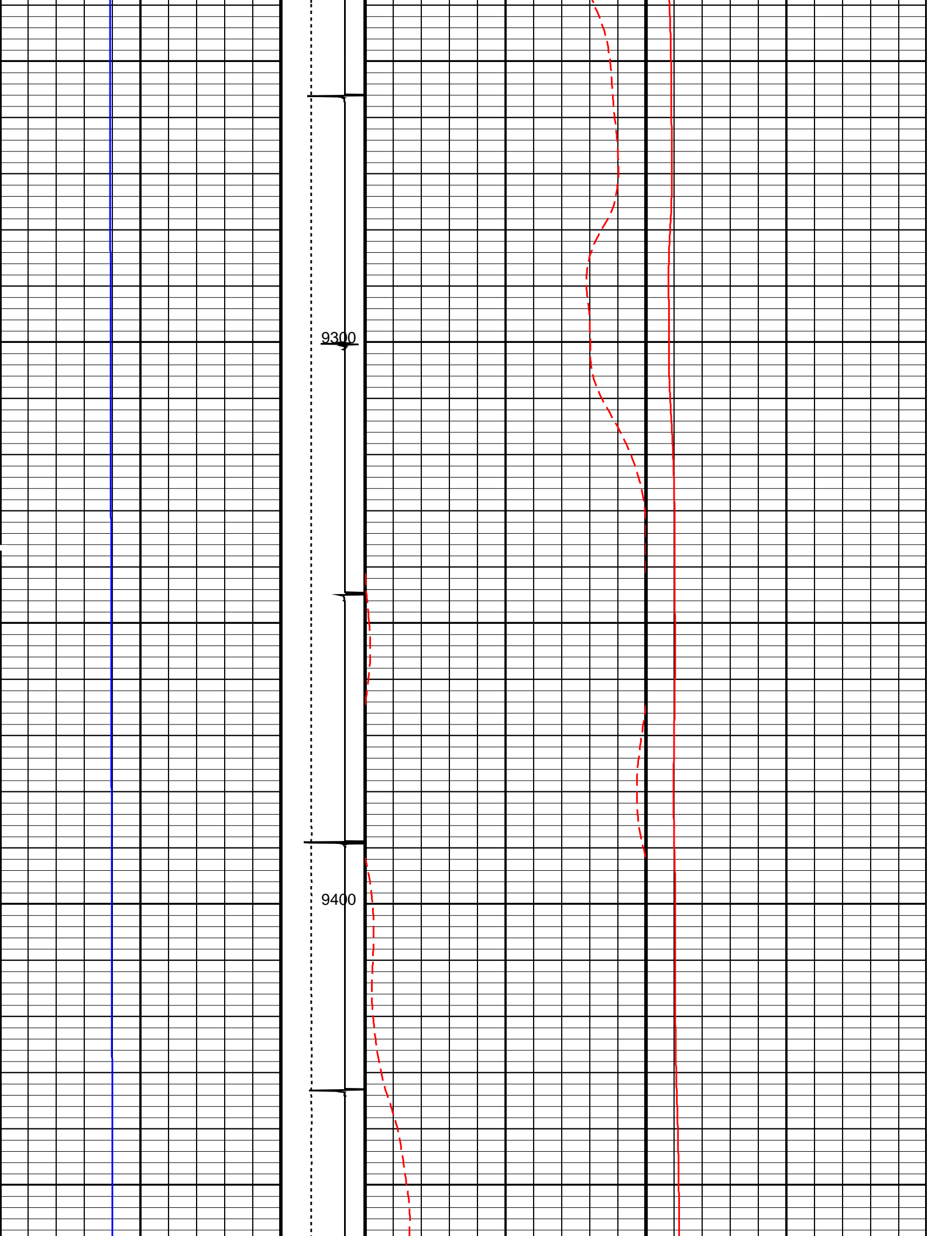


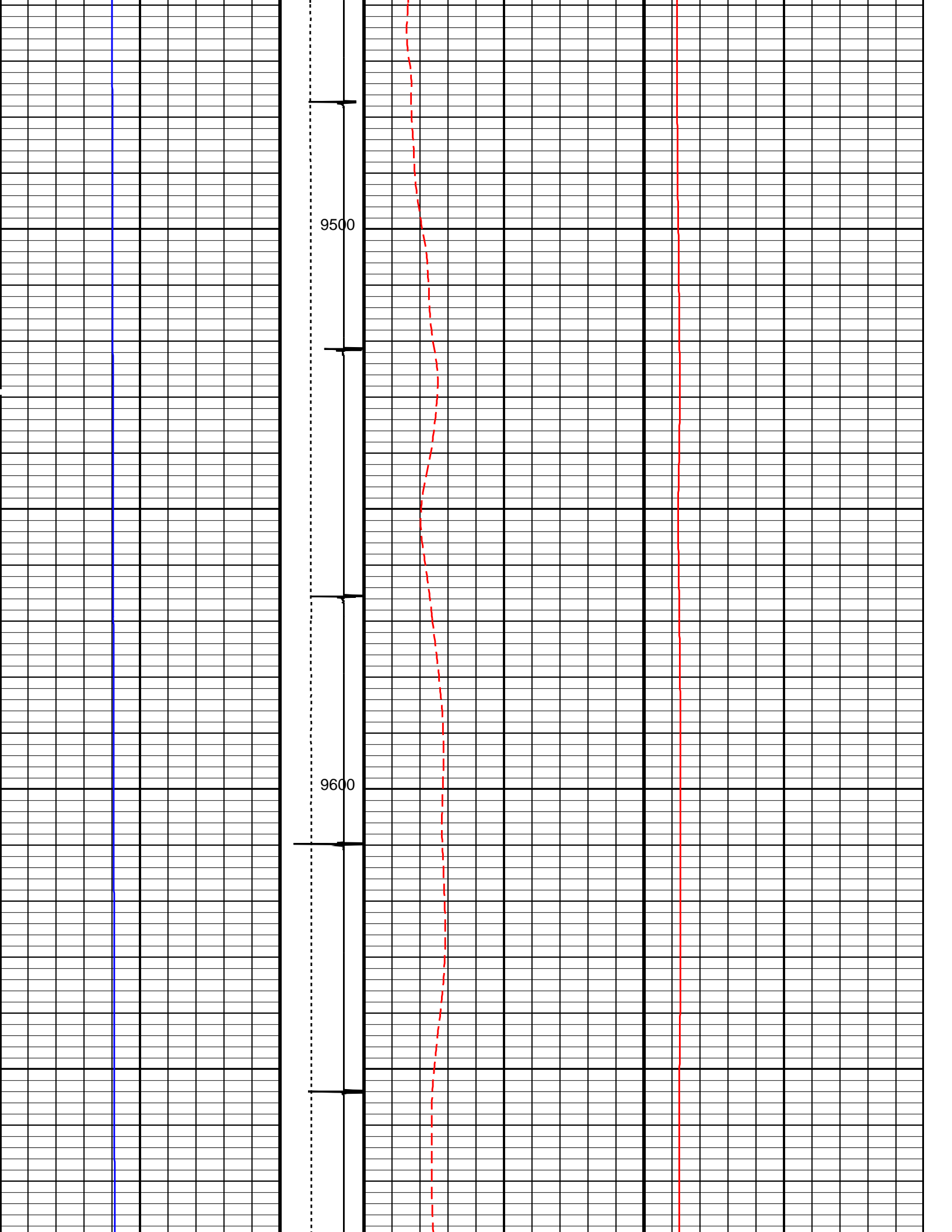


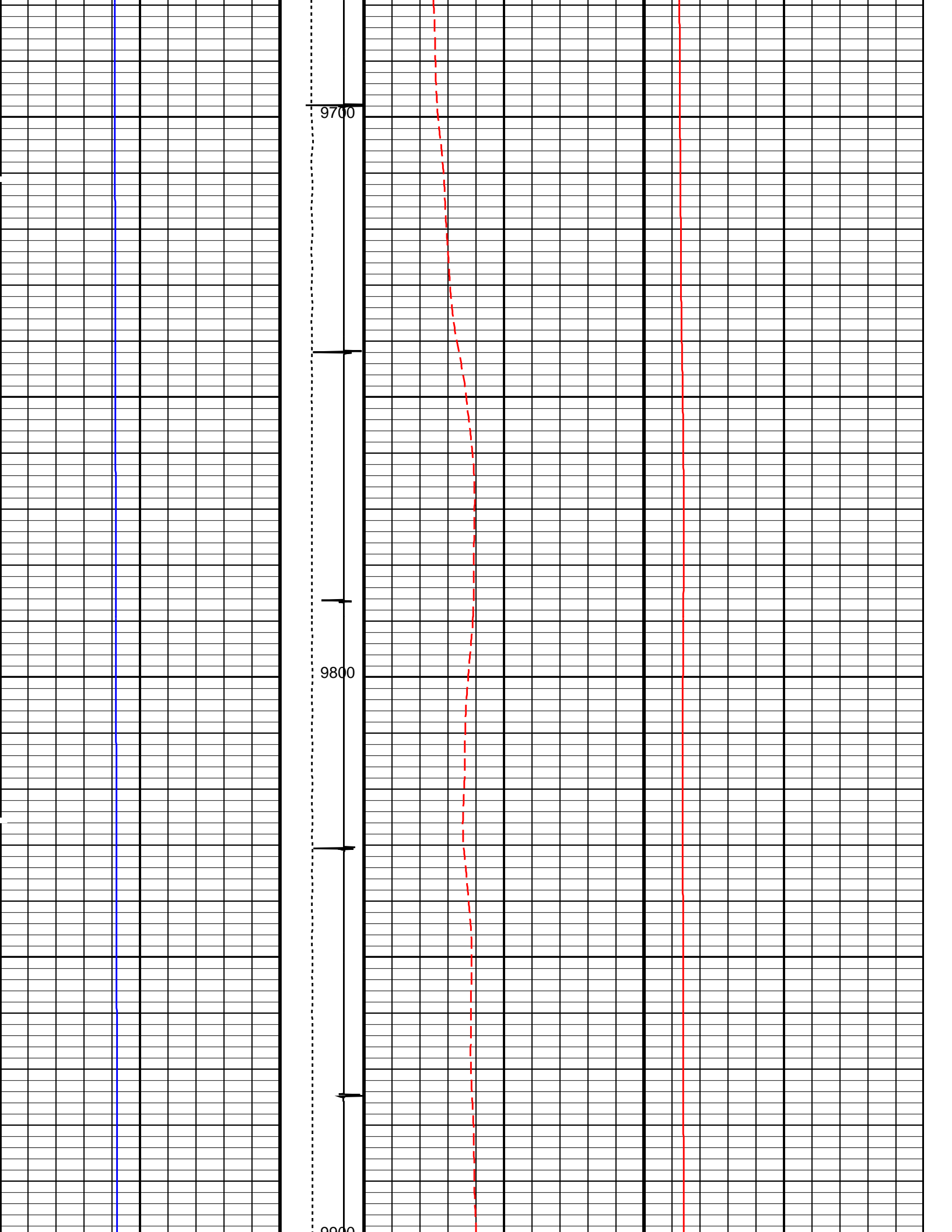


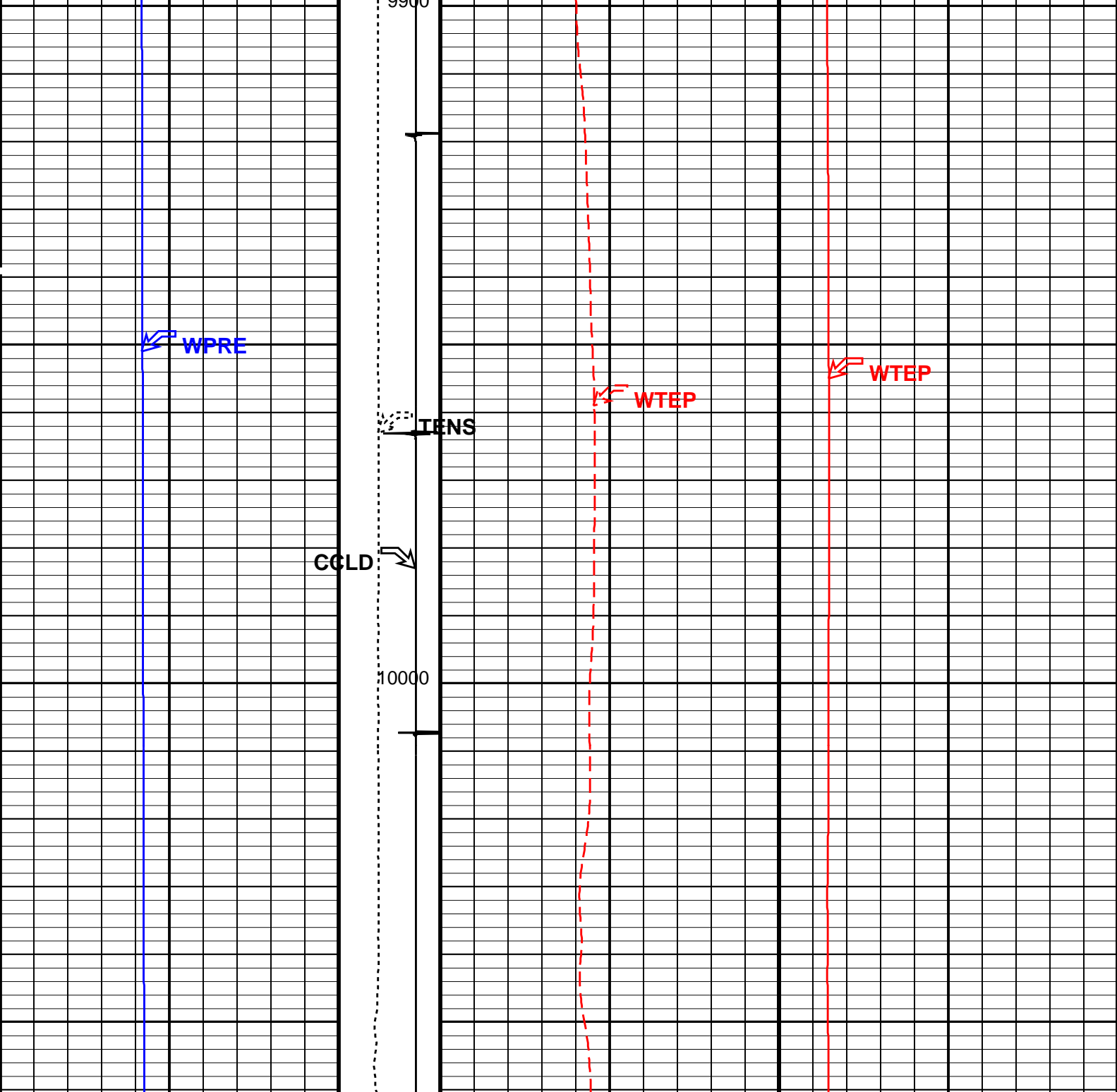












Well Pressure (WP) (PSIA)		0	10000
Tension (TENS) (LBF)		0	2000
Well Temperature (WTEP) (DEGF)		0	200
Well Temperature (WTEP) (DEGF)		0	200
Discriminat ed CCL (CCLD)		3	(V) -1

PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
System and Miscellaneous		
DO	Depth Offset for Playback	-9.0 FT
PR	Playback Precision	RECOMPUTE

PP

Playback Processing

RECOMPUTE

Format: TEMP LOG Vertical Scale: 5" per 100' Graphics File Created: 31-Oct-2013 00:15

OP System Version: 19C0-187

HBMS-B

SRPC-5214-H2-2012-OP19

Input DLIS Files

DEFAULT

Flip_HBMS_005LUP

PRODUCER

31-Oct-2013 00:10

10069.5 FT

-10.5 FT

Output DLIS Files


DEFAULT

HBMS_008PUP

FN:4

PRODUCER

31-Oct-2013 00:15



REPEAT ANALYSIS

MAXIS Field Log

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

Input DLIS Files

DEFAULT

Flip_HBMS_007LUP

PRODUCER

31-Oct-2013 00:11

10068.5 FT

9739.0 FT

DEFAULT

HBMS_008PUP

FN:4

PRODUCER

31-Oct-2013 00:15

10060.5 FT

-19.5 FT

Output DLIS Files

DEFAULT

HBMS_009PUP

FN:5

PRODUCER

31-Oct-2013 00:22

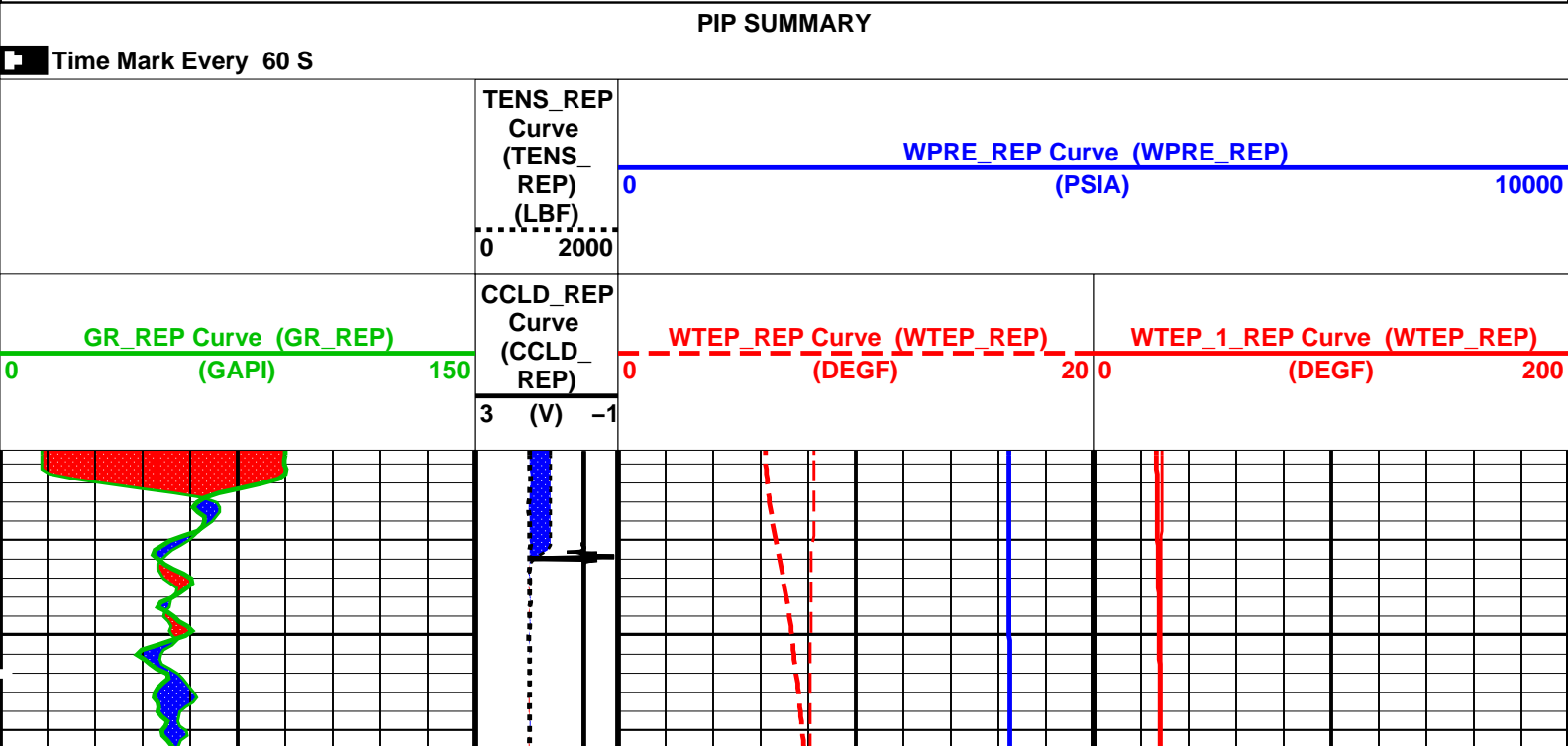
10059.5 FT

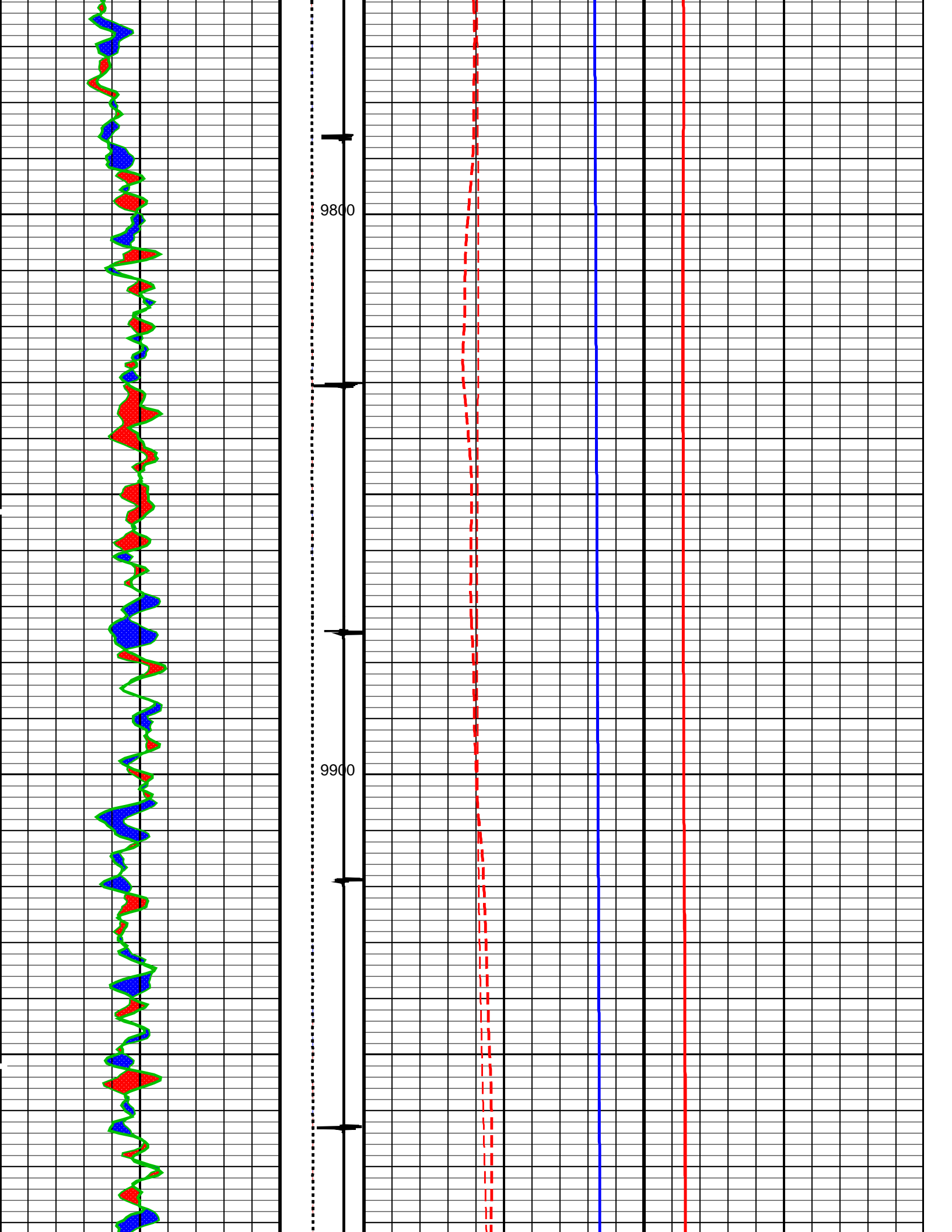
9730.0 FT

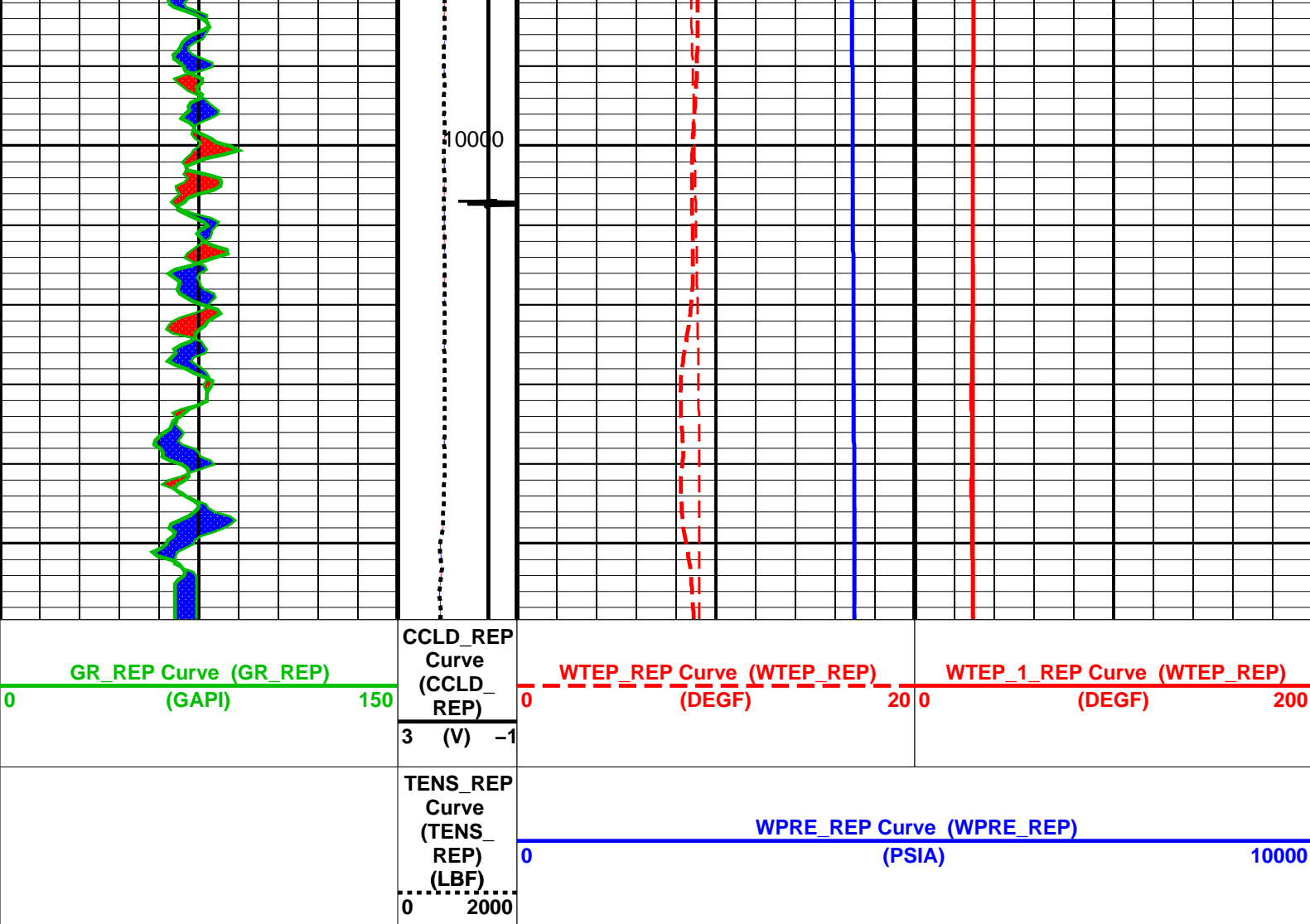
OP System Version: 19C0-187

HBMS-B

SRPC-5214-H2-2012-OP19







PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
DO	Depth Offset for Playback	-9.0 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: 31-Oct-2013 00:22

OP System Version: 19C0-187

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

Input DLIS Files

DEFAULT	Flip_HBMS_007LUP	PRODUCER	31-Oct-2013 00:11	10068.5 FT	9739.0 FT
DEFAULT	HBMS_008PUP	FN:4	PRODUCER	31-Oct-2013 00:15	10060.5 FT
					-19.5 FT

Output DLIS Files

DEFAULT	HBMS_009PUP	FN:5	PRODUCER	31-Oct-2013 00:22
---------	-------------	------	----------	-------------------

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
 Field: MAMM CREEK
 Well: HMU 6-12DD (J6SEB)
 Run date: 30-Oct-2013

Tool: PSP
 Sub Type: PBMS
 Sensor: GR

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

Client: ENCANA OIL & GAS (USA) INC
 Field: MAMM CREEK
 Well: HMU 6-12DD (J6SEB)
 Run date: 30-Oct-2013

Tool: PSP
 Sub Type: PBMS
 Sensor: WellTemp RTD

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
Field: MAMM CREEK
Well: HMU 6−12DD (J6SEB)
Run date: 30−Oct−2013

Tool: PSP
Sub Type: PBMS
Sensor: CQG

PBMS Quartz Gauge type F

Sonde Serial NB

COEFFICIENTS FOR CQG PBMS−B.2880 S/N:

Sensor Serial NB

2880

Calib Date ddmmyy

260408

Matrix Size

66

Coeff CRC

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 Size	66
Coeff CRC	3690

Temp Coeff

	Fc**0	Fc**1	Fc**2
Fb**0	+.114978632240E+03	-.318843725686E-03	+.651766172344E-08
Fb**1	-.590205352250E-02	+.168686572404E-07	+.162345150354E-12
Fb**2	-.362996279263E-07	+.407654559315E-12	+.452411391342E-17
Fb**3	-.276281361281E-12	+.871817059405E-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	+.199118144093E-13	-.260997933236E-18	+.618908211390E-21
Fb**1	+.250084591851E-17	+.455070709200E-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	2880
Calib Date ddmmyy	260408
Matrix Size	16
Coeff CRC	71B5

Clock Freq Coeff

	(Fb'-Fc')**0	(Fb'-Fc')**1	(Fb'-Fc')**2
(Fb'-Fc')**0	+.310736316923E+05	+.273670214709E-02	+.731815197856E-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 NB 2880
Calib Date ddmmyy 260408
Matrix Size 16
Coeff CRC ECB5

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

Company: ENCANA OIL & GAS (USA) INC

Schlumberger

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

TEMPERATURE LOG
CCL