

Company: ENCANA OIL & GAS (USA) INC

Well: ENCANA FEE 24-8C

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

TEMPERATURE LOG
CCL – TEMPERATURE

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 2354 FSL & 318 FWL
BHL: 2095 FNL & 890 FEL

Well: ENCANA FEE 24-8C

Company: ENCANA OIL & GAS (USA) INC

LOCATION

SHL: 2354 FSL & 318 FWL
BHL: 2095 FNL & 890 FEL

Elev.: K.B. 5687.00 ft
G.L. 5665.00 ft
D.F. 5686.00 ft

Permanent Datum: _____
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING

GROUND LEVEL _____
Elev.: 5665.00 ft _____
22.00 ft above Perm. Datum

API Serial No. 05-045-20758-00

Section 19

Township 6S

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 Date 23-Mar-2013

Run Number 1

Depth Driller 7910 ft

Schlumberger Depth 7845 ft

Bottom Log Interval 7845 ft

Top Log Interval 0 ft

Casing Fluid Type FRESH WATER

Salinity

Density 8.4 lbm/gal

Fluid Level

BIT/CASING/TUBING STRING

Bit Size 8.750 in

From 0 ft

To 7910 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade

From 22 ft

To 7893 ft

Maximum Recorded Temperatures 201 degF

Logger On Bottom 23-Mar-2013

Unit Number 391

Location GRAND JUNCTION

Recorded By JASON BARRY

Witnessed By TERRY DUINN

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-MAR-2013 10:41:08

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25ZT
Serial Number:	6214	Serial Number:	3421	Serial Number:	112136
Calibration Date:	24-APR-2012	Calibration Date:	20-FEB-2012	Length:	19500 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:	-3	Calibration RMS:	4		
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 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: 15:45	
TIME ON BOTTOM: 16:30	
EXIT TIME: 17:15	

MAX RECORDED TEMPERATURE: 201 DEGF	
MAX RECORDED PRESSURE: 3305 PSI	
SHORT JOINTS: 6595 FT & 5603 FT	
CREW: J BARRY, B CUPP, W AZIZ	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	

RUN 1			RUN 2		
SERVICE ORDER #:		C920-00055	SERVICE ORDER #:		
PROGRAM VERSION:		19C0-187	PROGRAM VERSION:		
FLUID LEVEL:			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

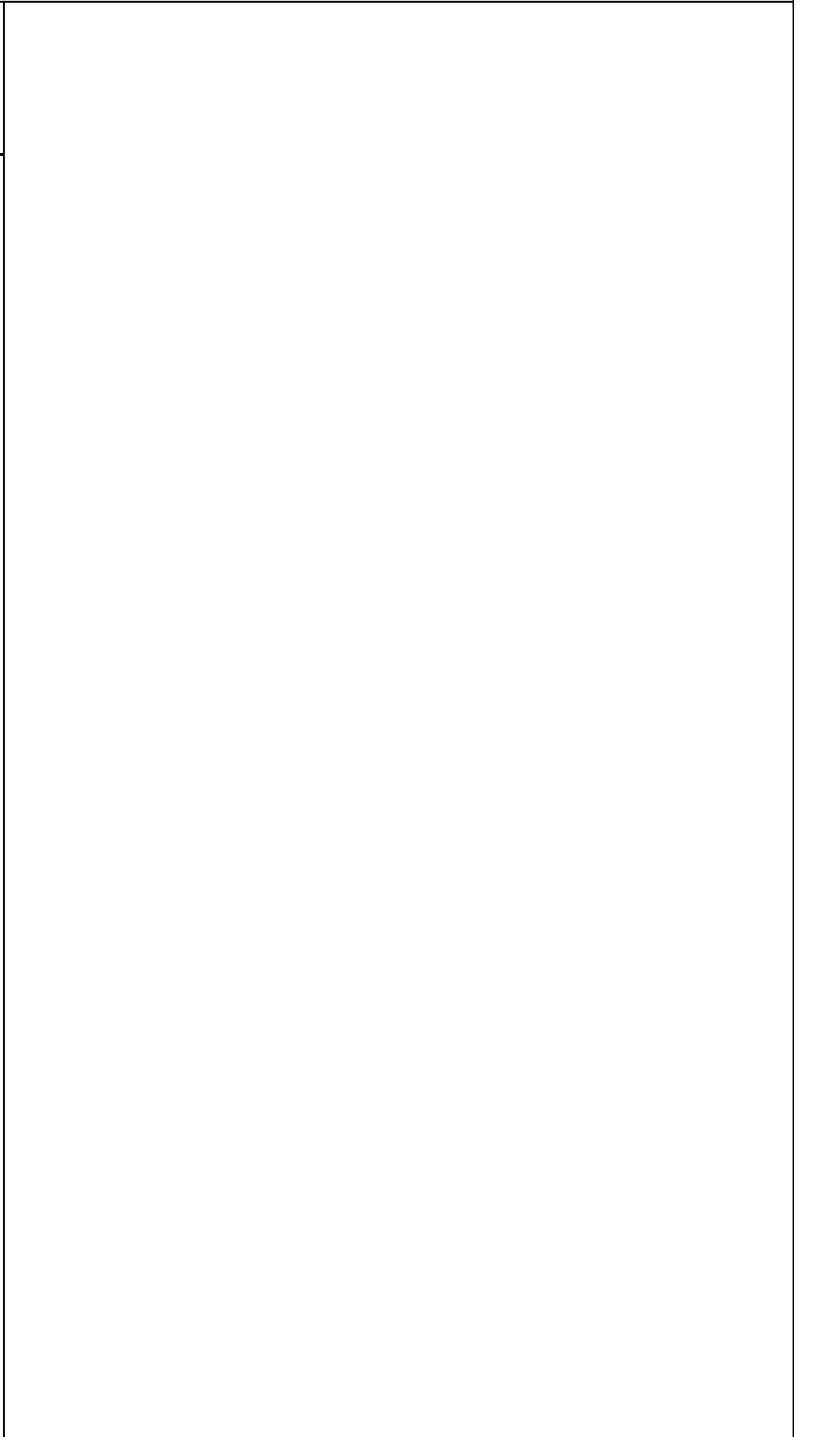
HBMS-B
PSC-A 2884
HUDH-A 2884
HSTC-A
HBMC-A
GR
CCL
HBMC
HTPS-A 2884
HCQG_E_Mano
RTD Thermometer

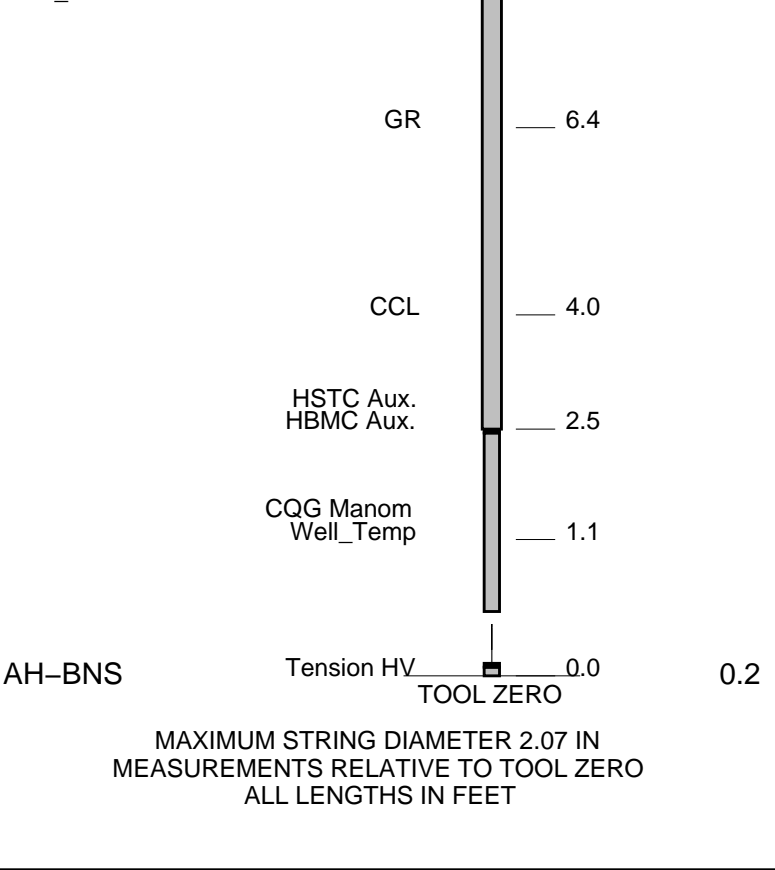
Detail MT
TelStatus
CTEM

13.1

11.6

11.3



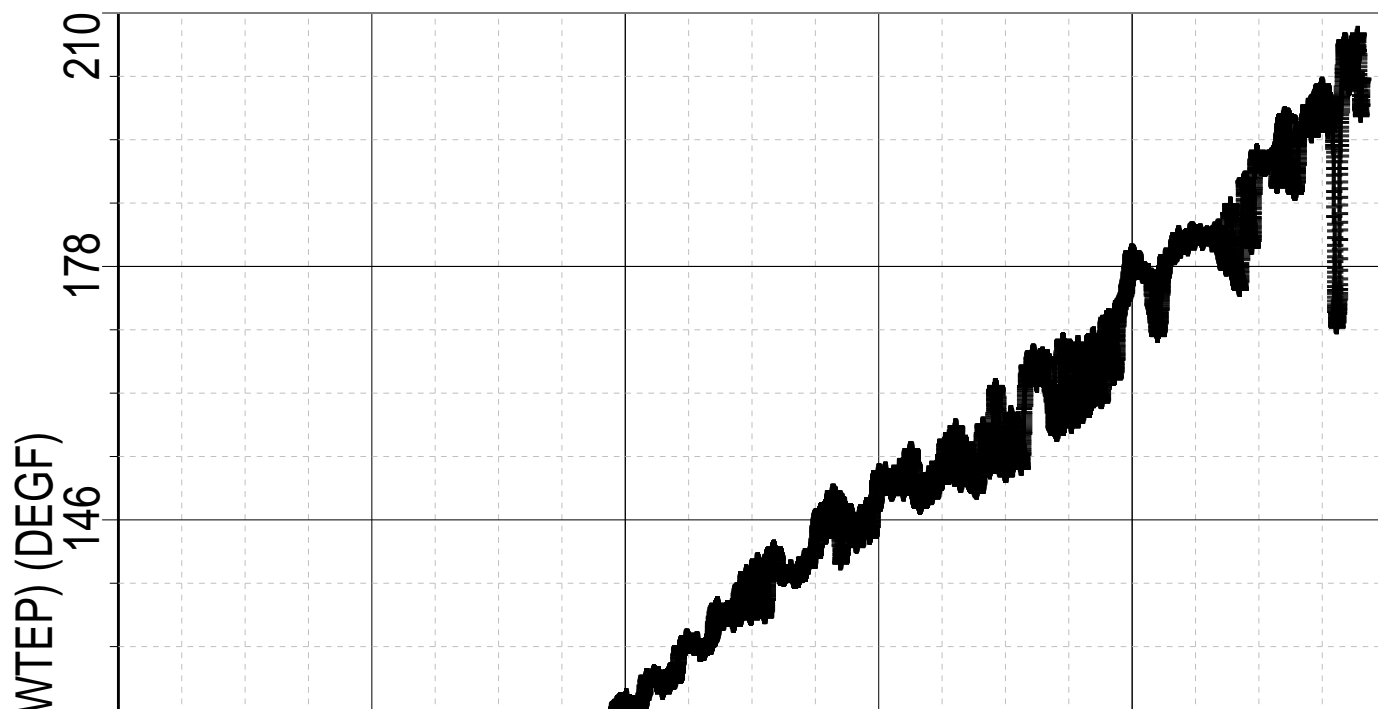


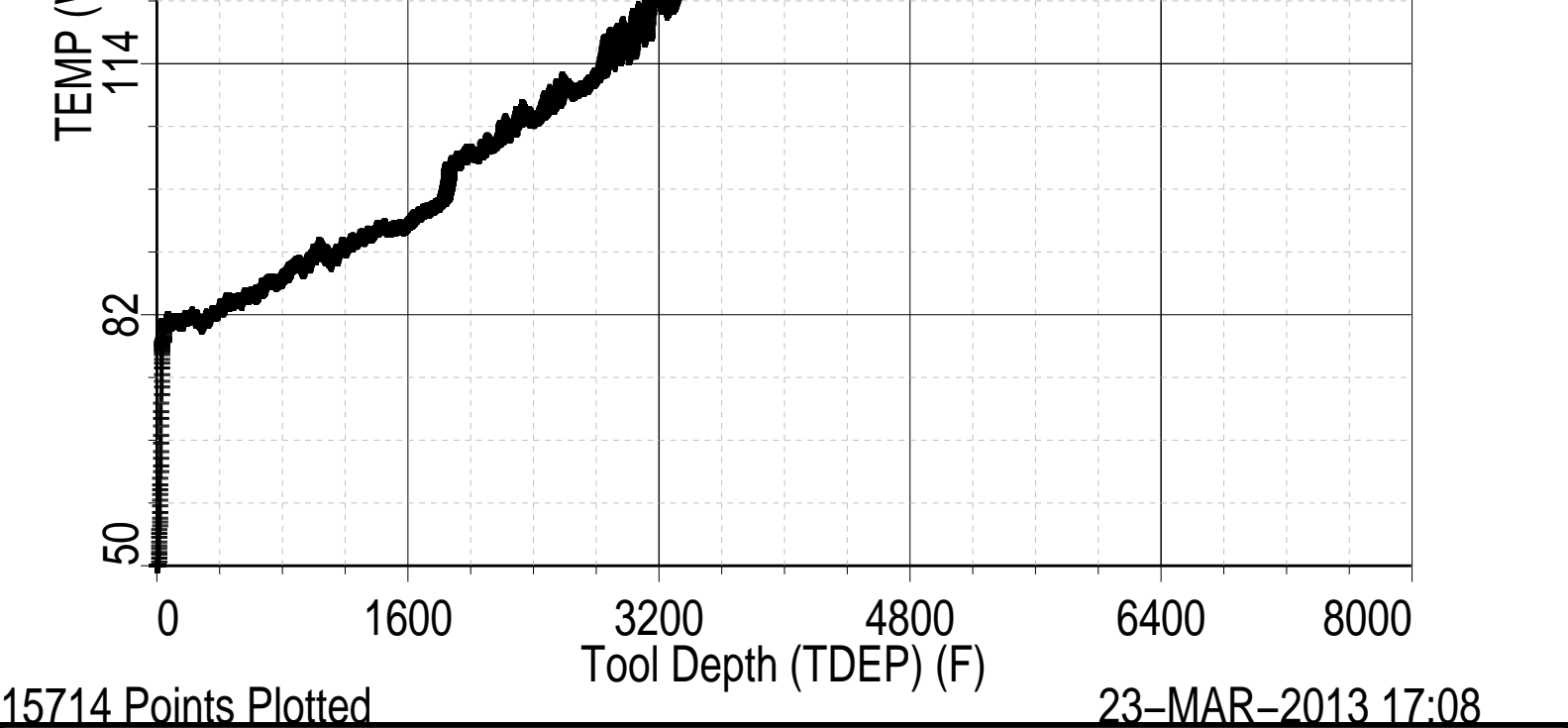
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 7856.5 – -17.0 FT





Schlumberger

TEMPERATURE LOG

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: ENCANA FEE 24-8C

Input DLIS Files

File Name	Tool Depth (F)	Time	Temperature (°F)
Flip_HBMS_004LUP	7856.5	23-Mar-2013 16:53	-17.0

Output DLIS Files

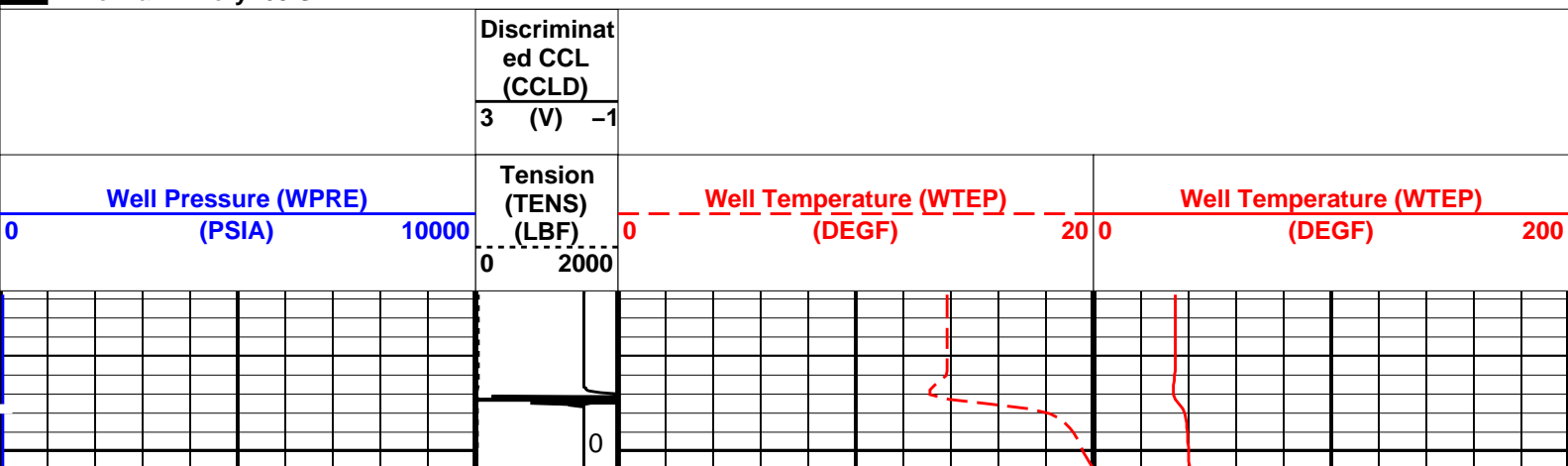
File Name	Tool Depth (F)	Time	Temperature (°F)
HBMS_007PUP	7856.5	23-Mar-2013 17:03	-17.0

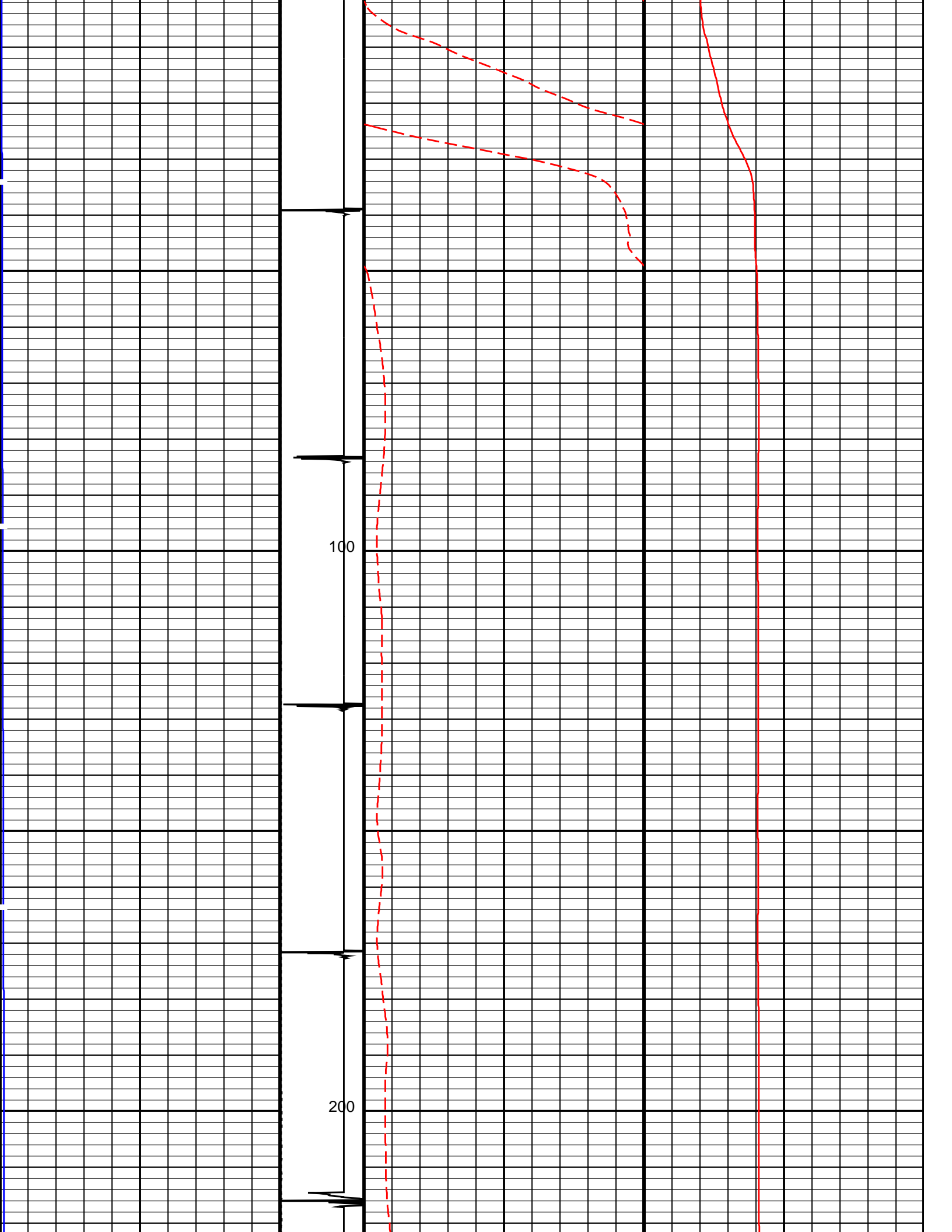
OP System Version: 19C0-187

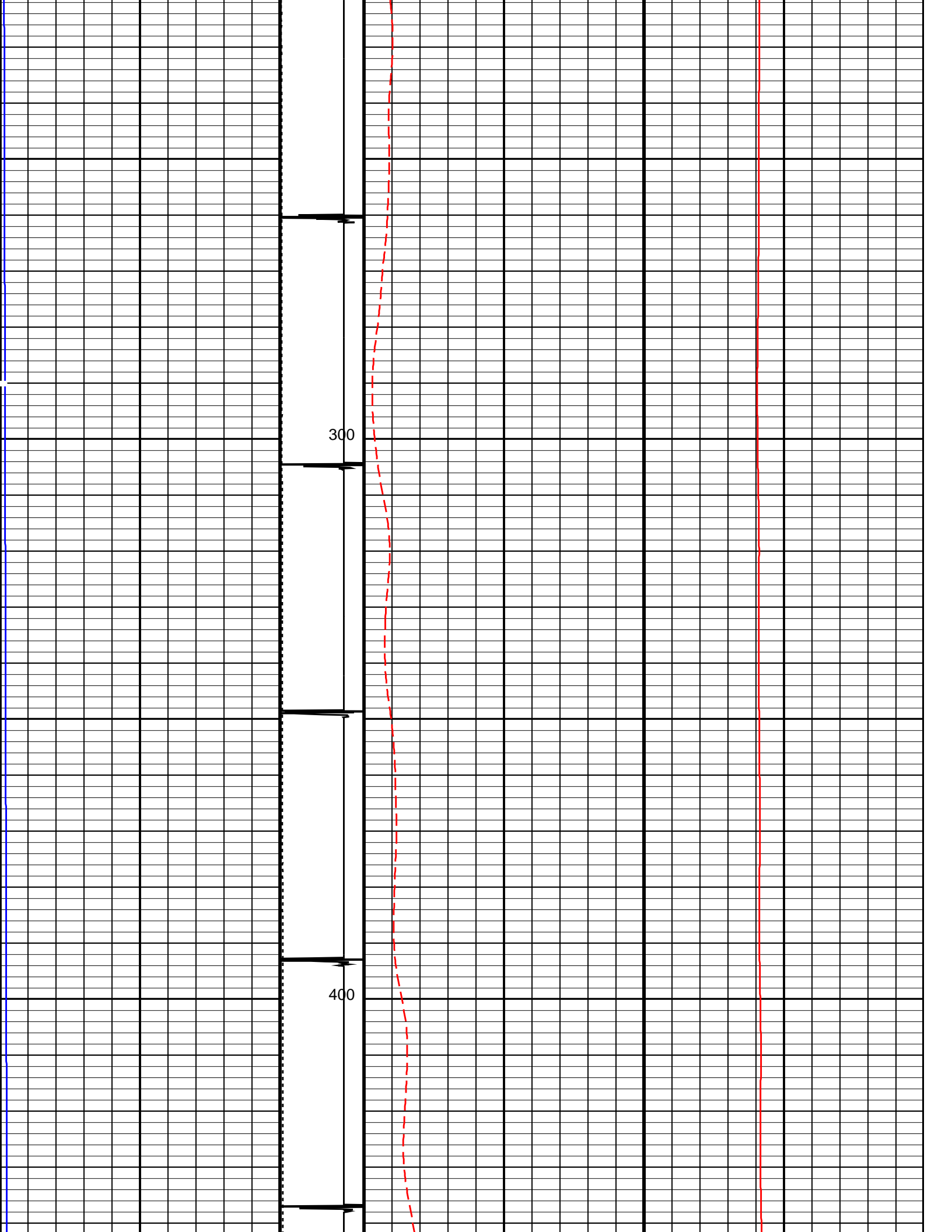
HBMS-B SRPC-5214-H2-2012-OP19

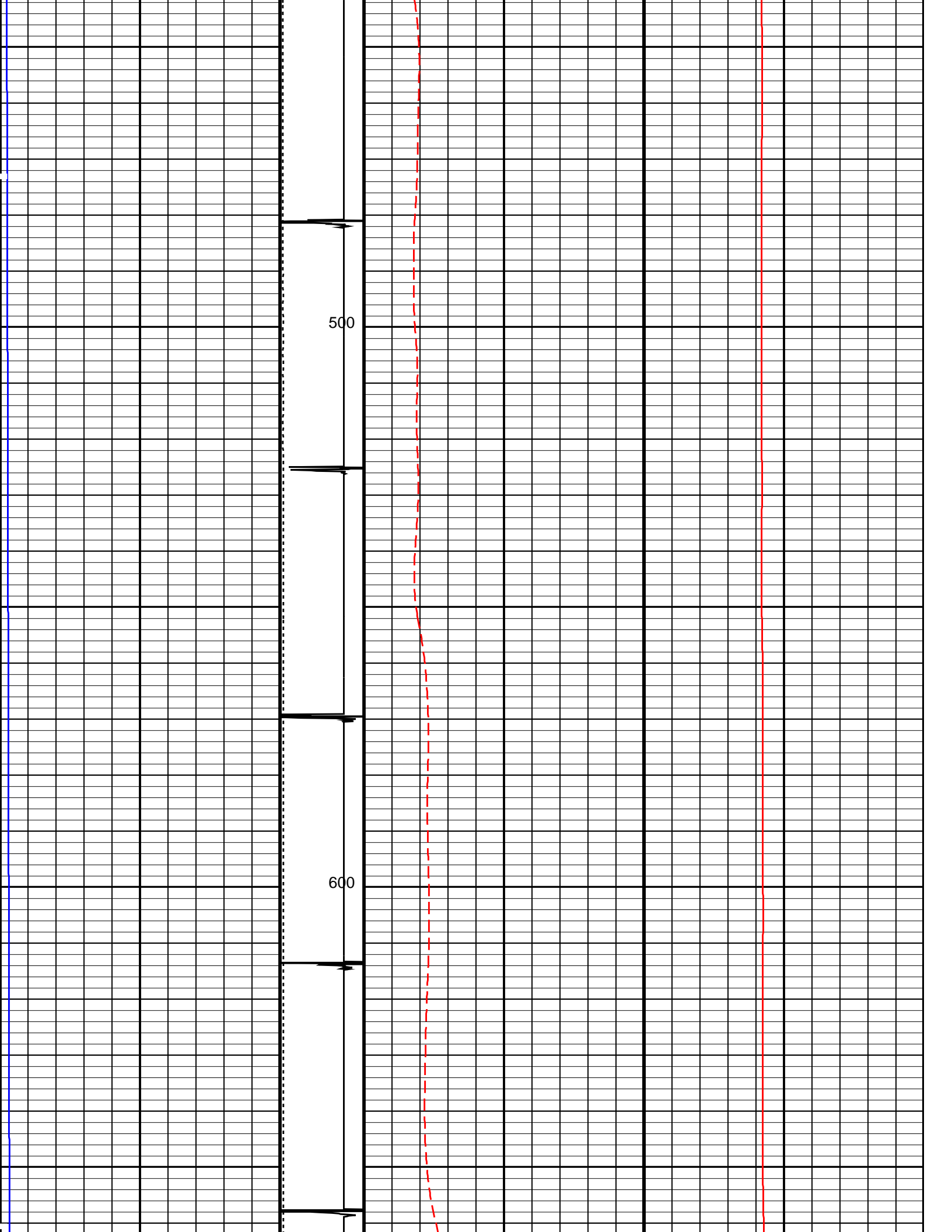
PIP SUMMARY

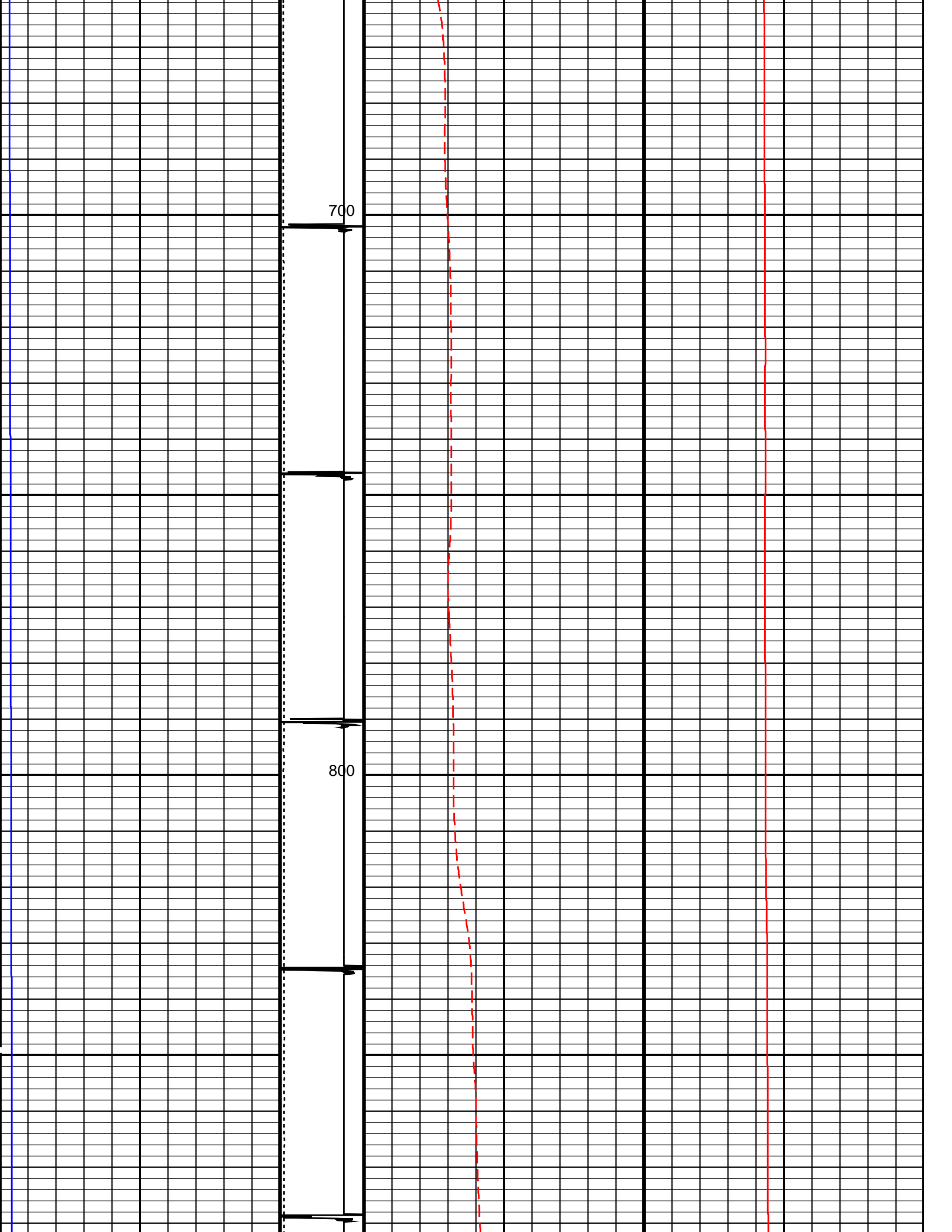
Time Mark Every 60 S

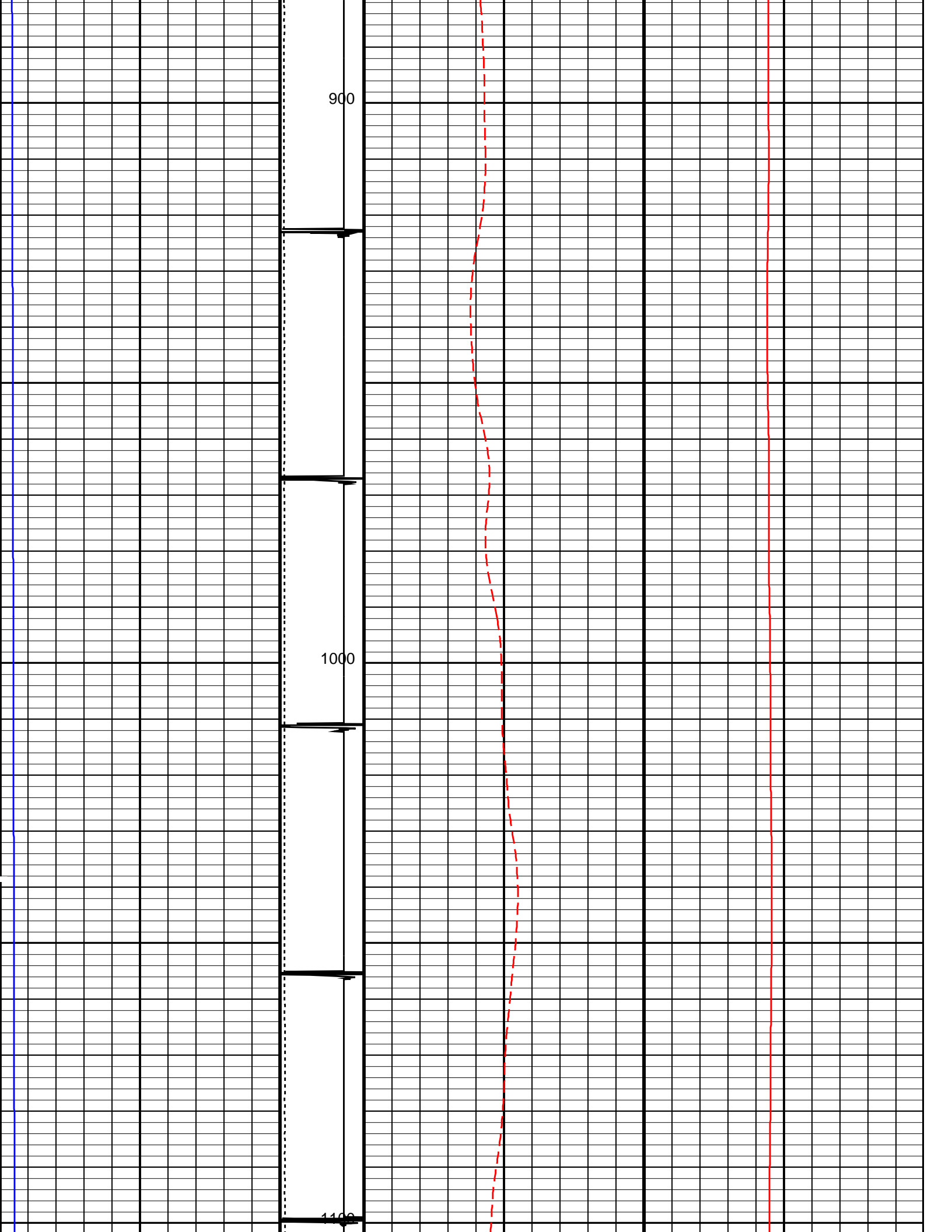


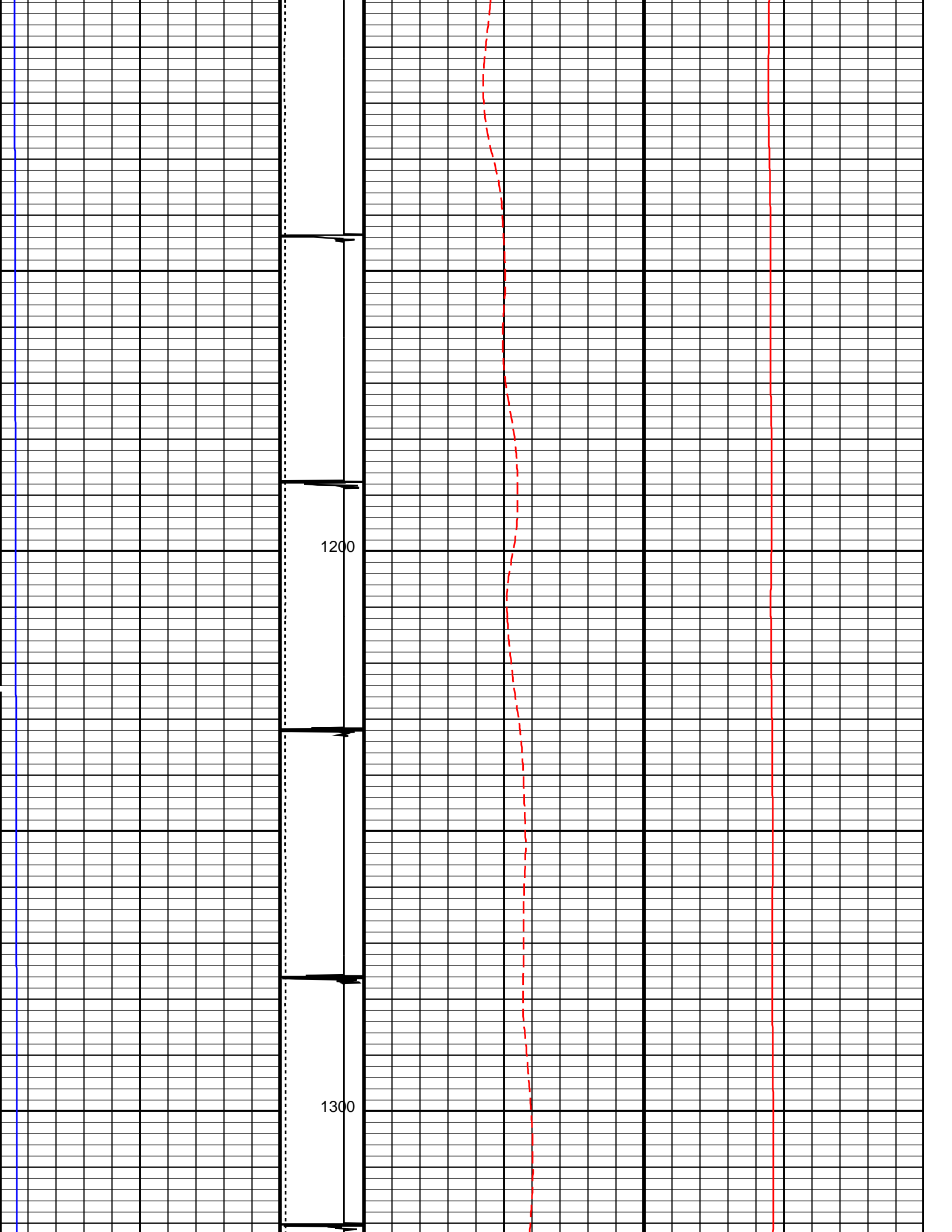


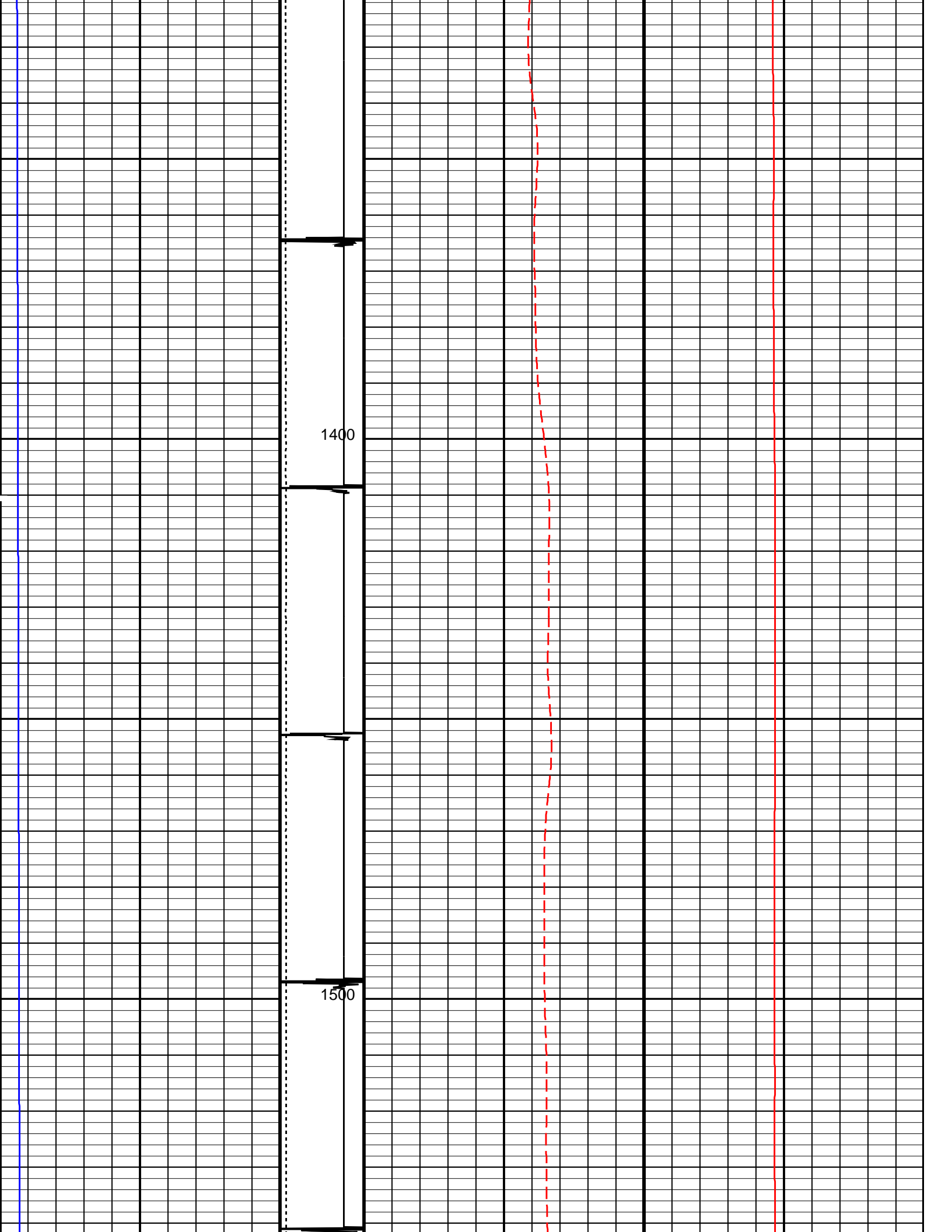


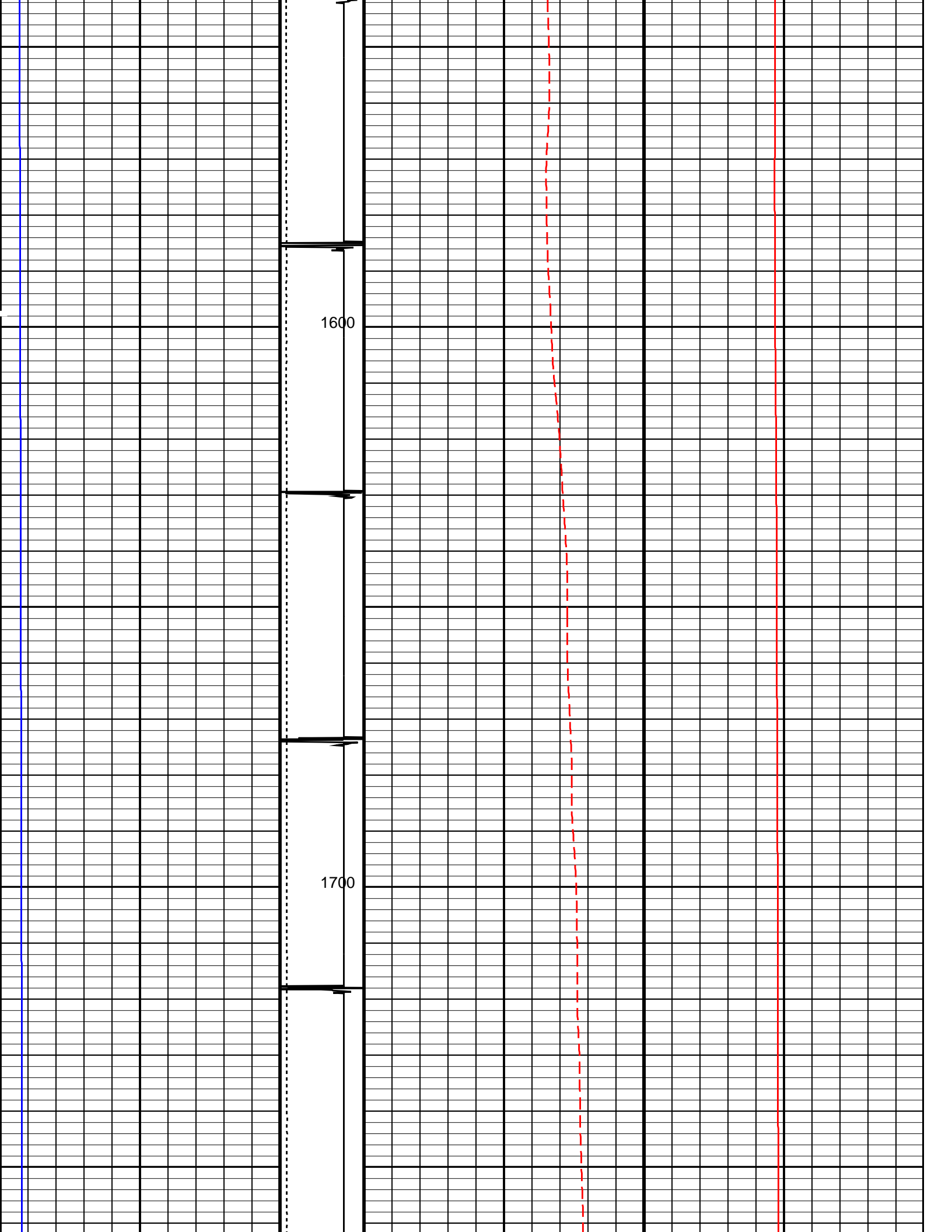


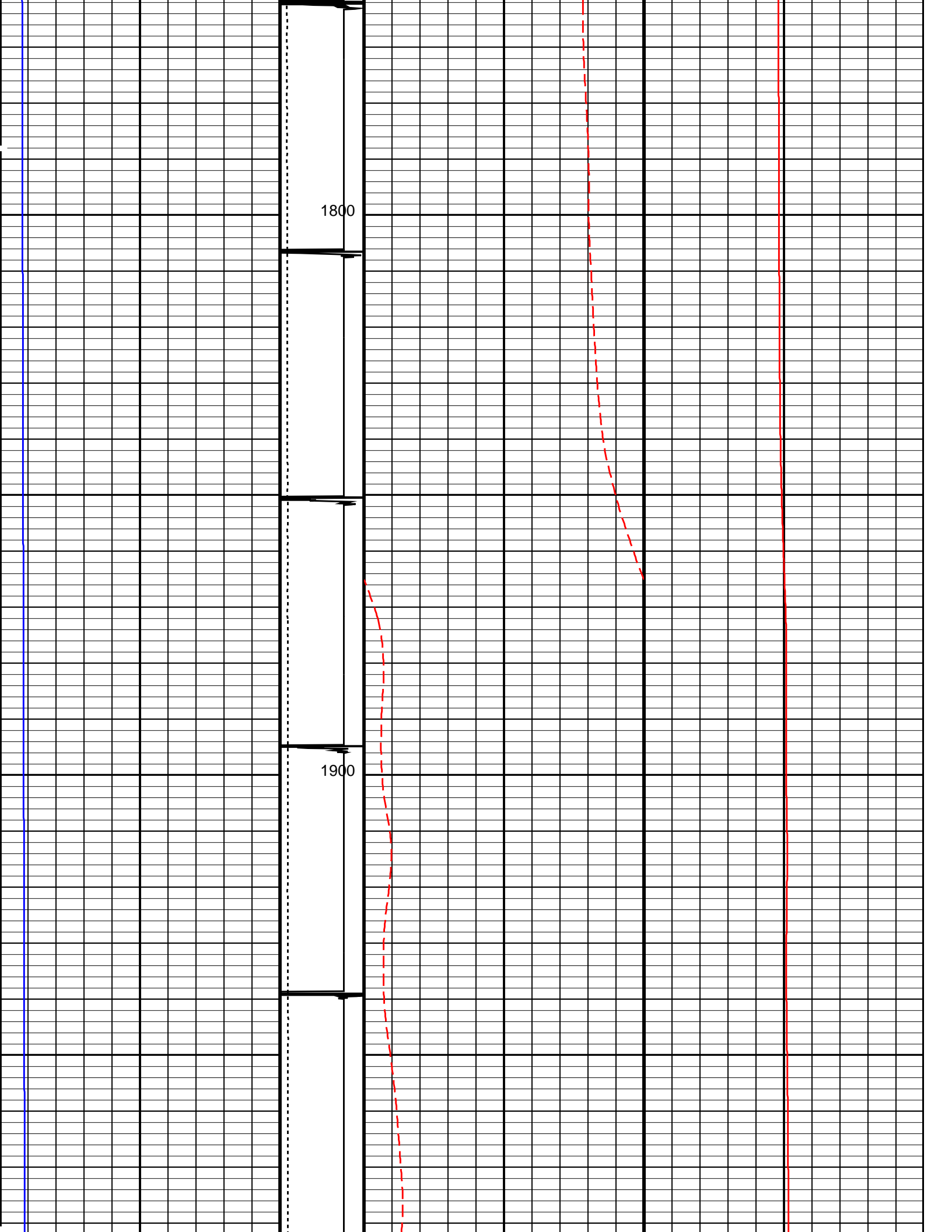


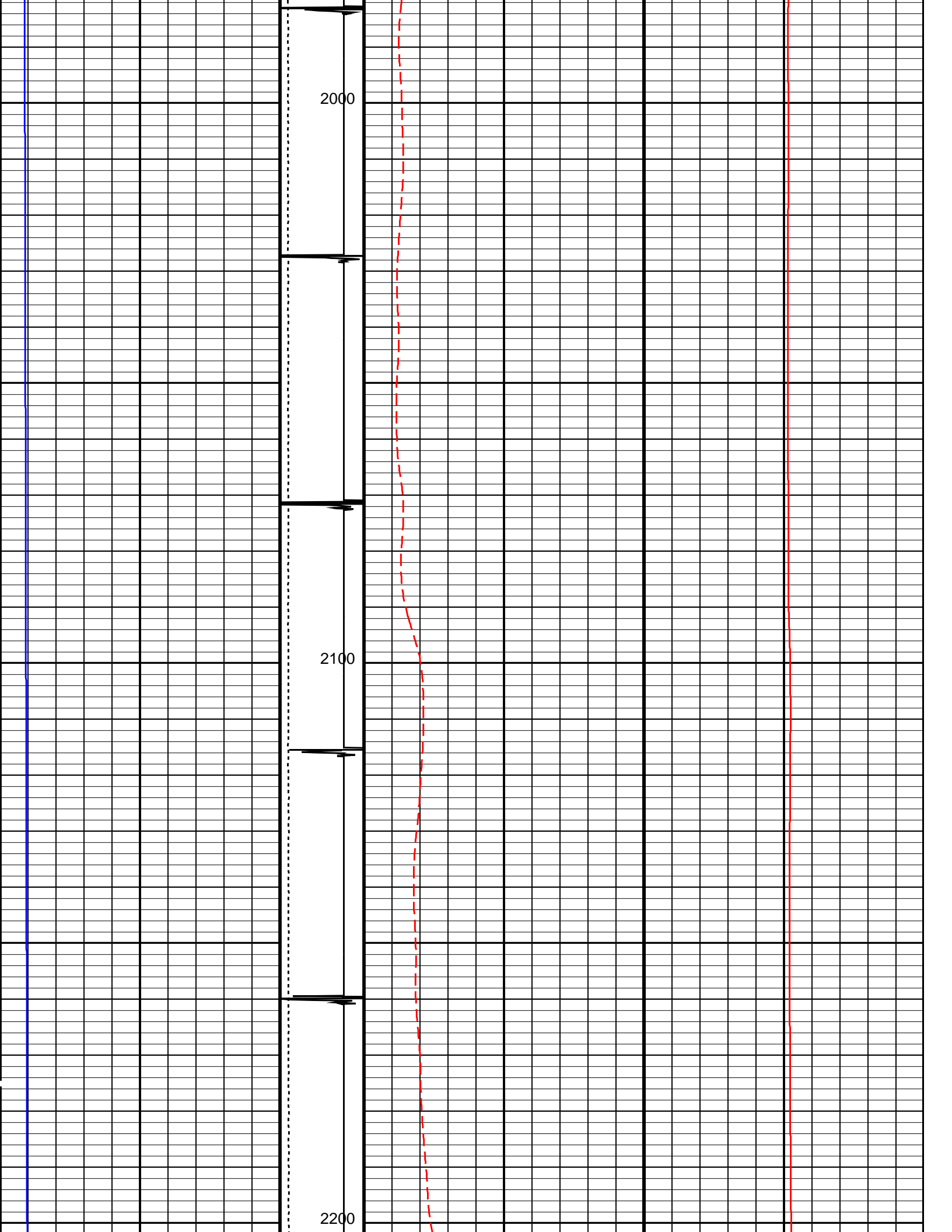


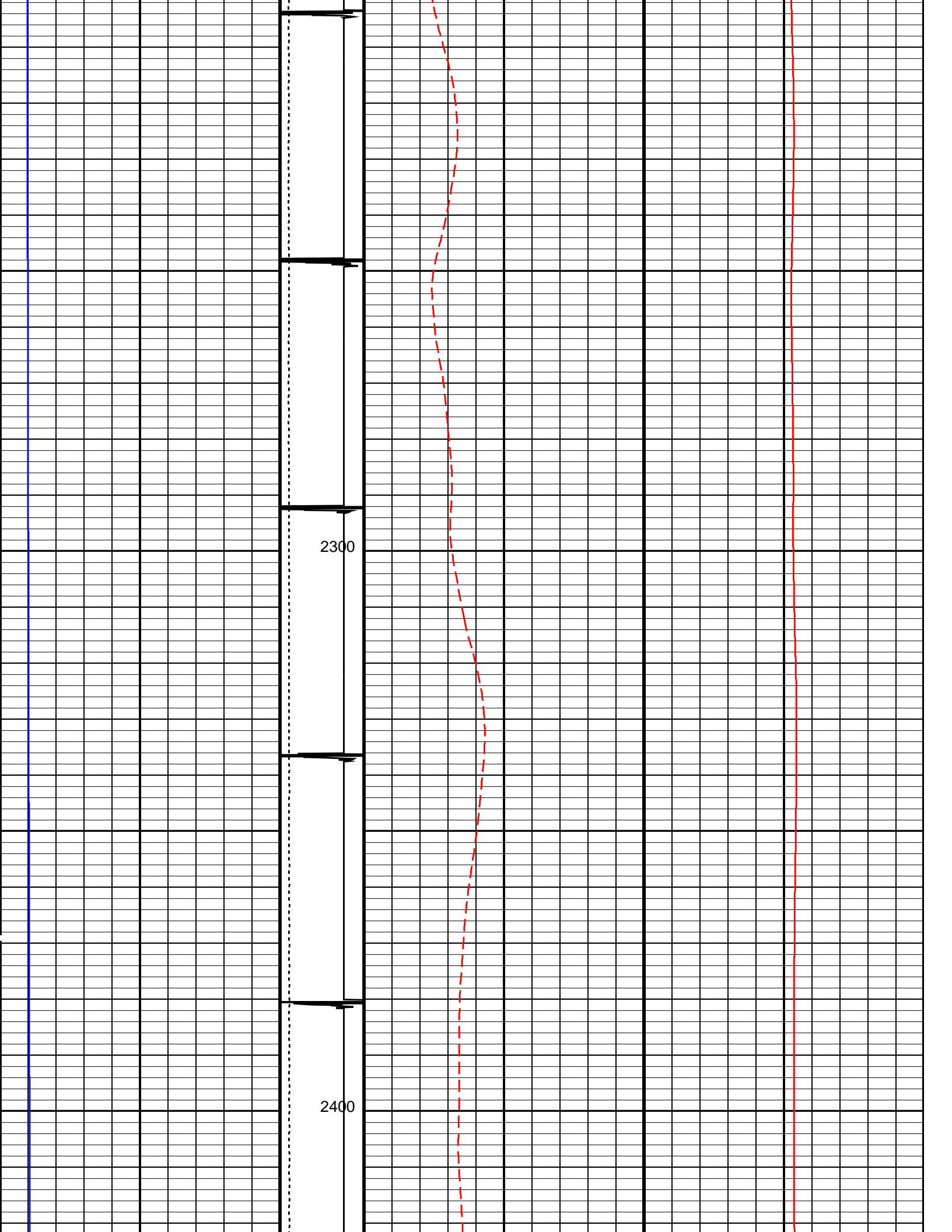


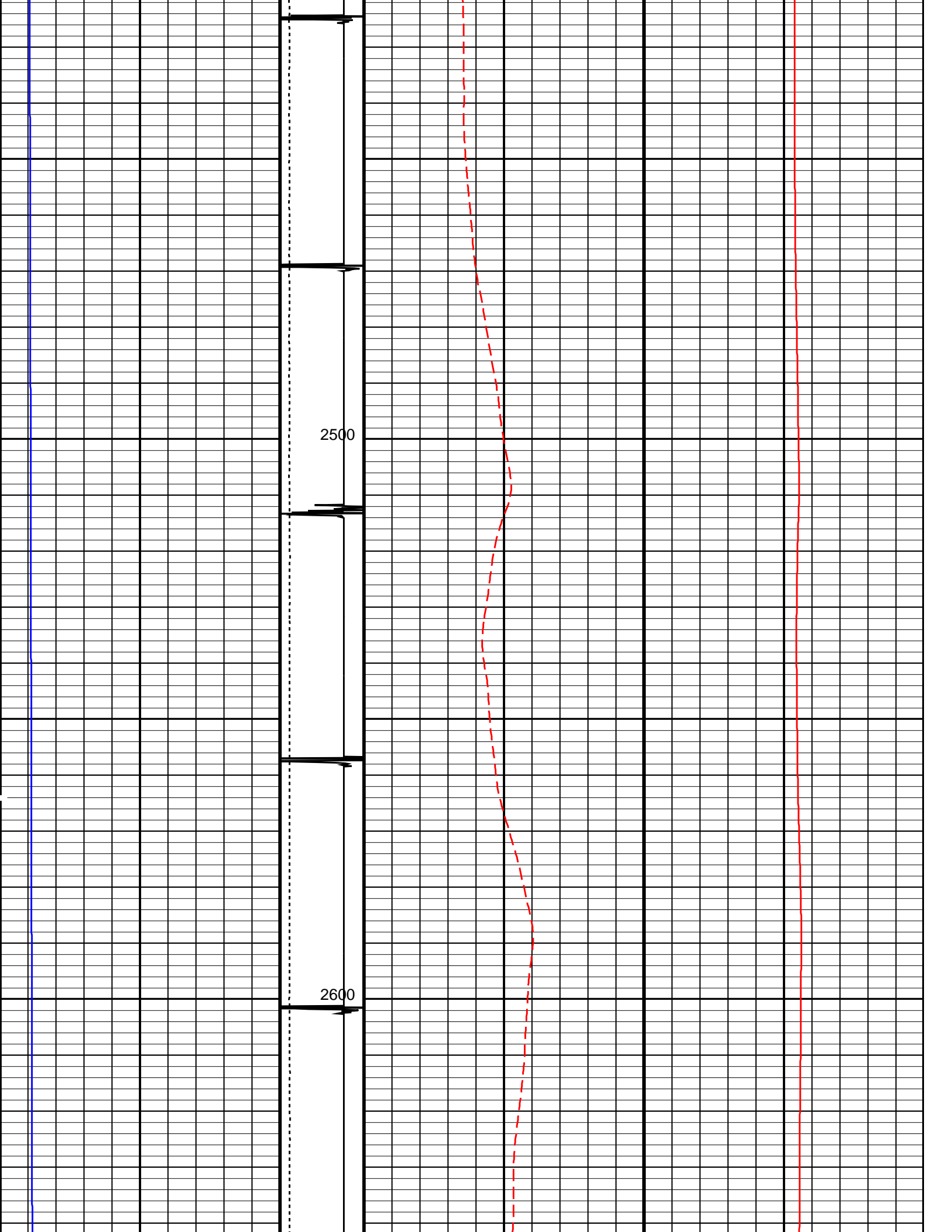


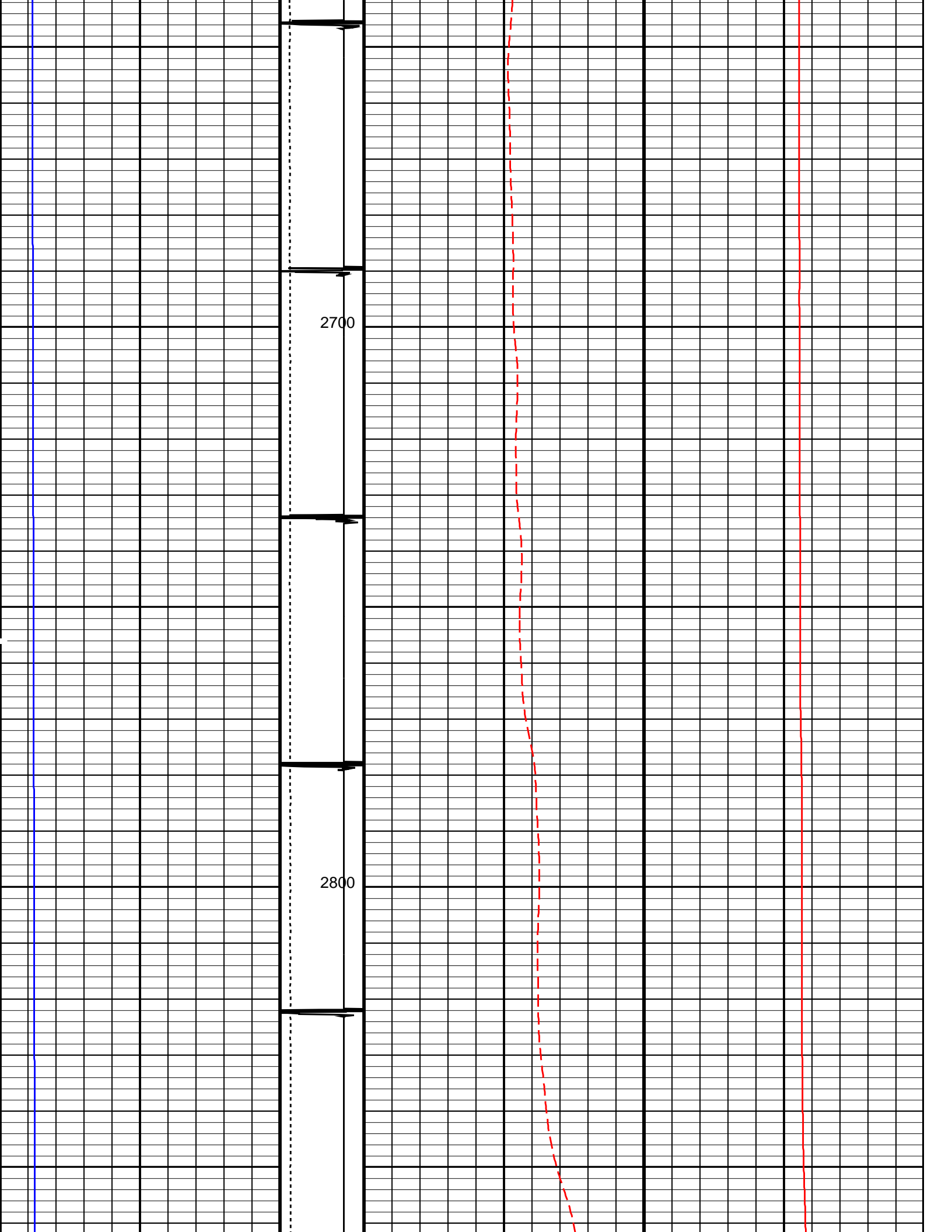


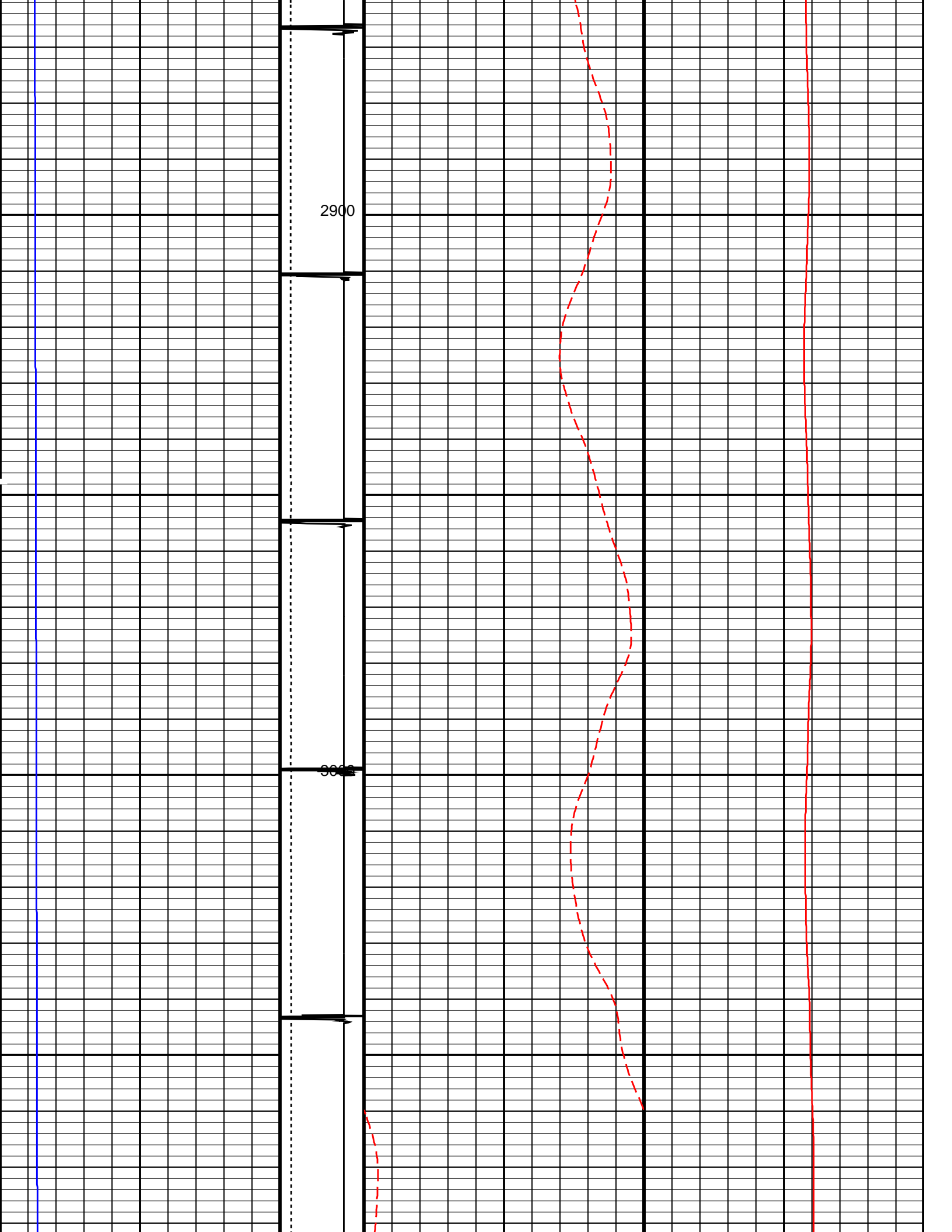


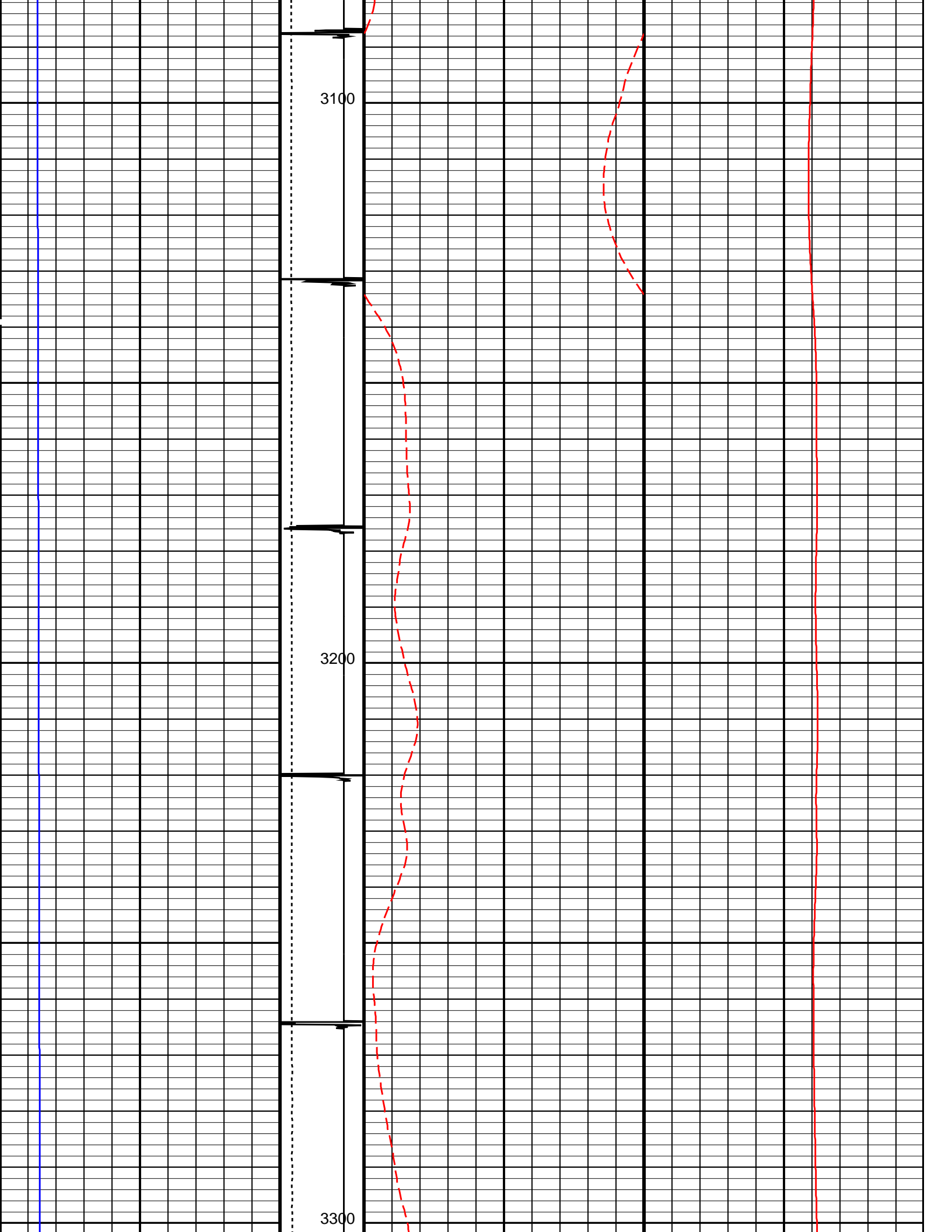


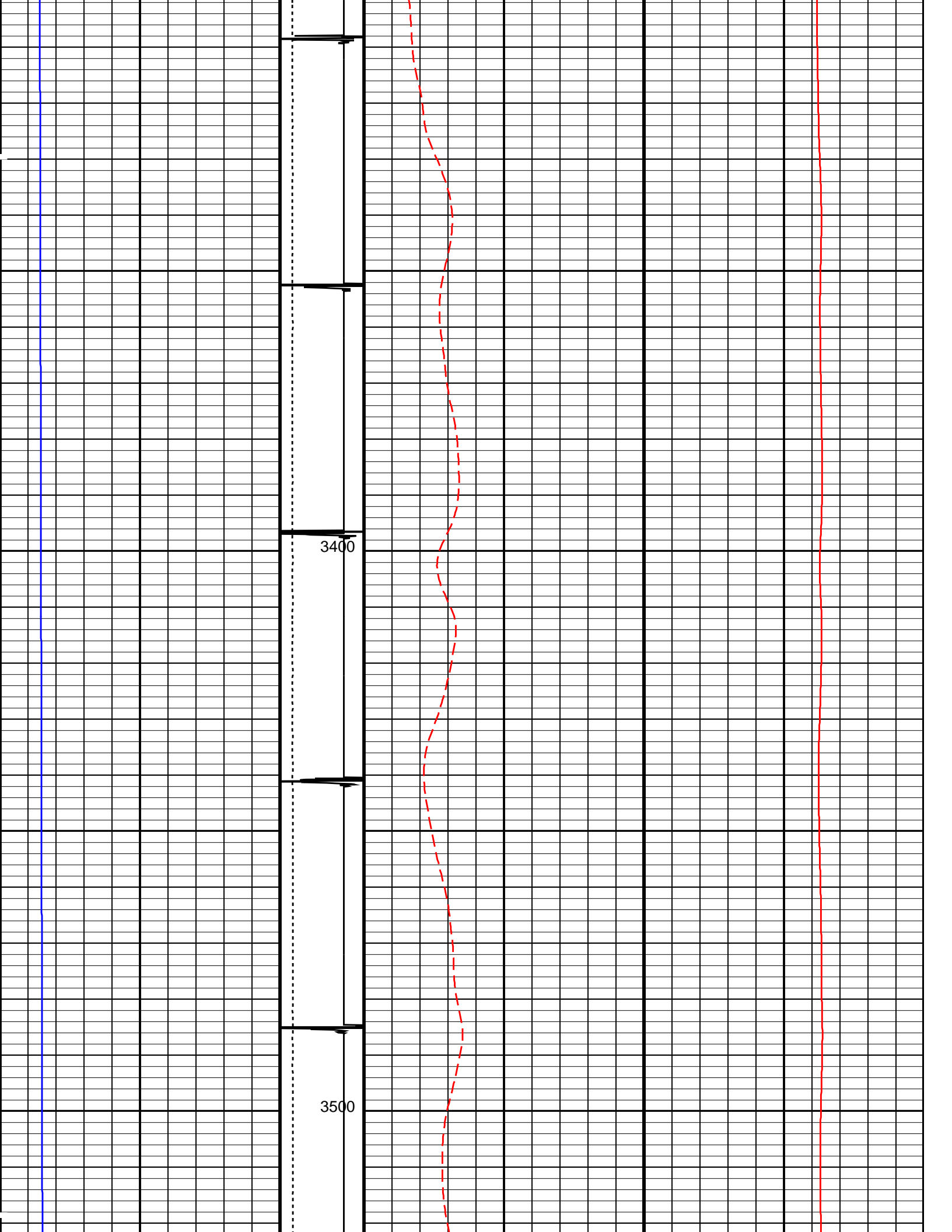


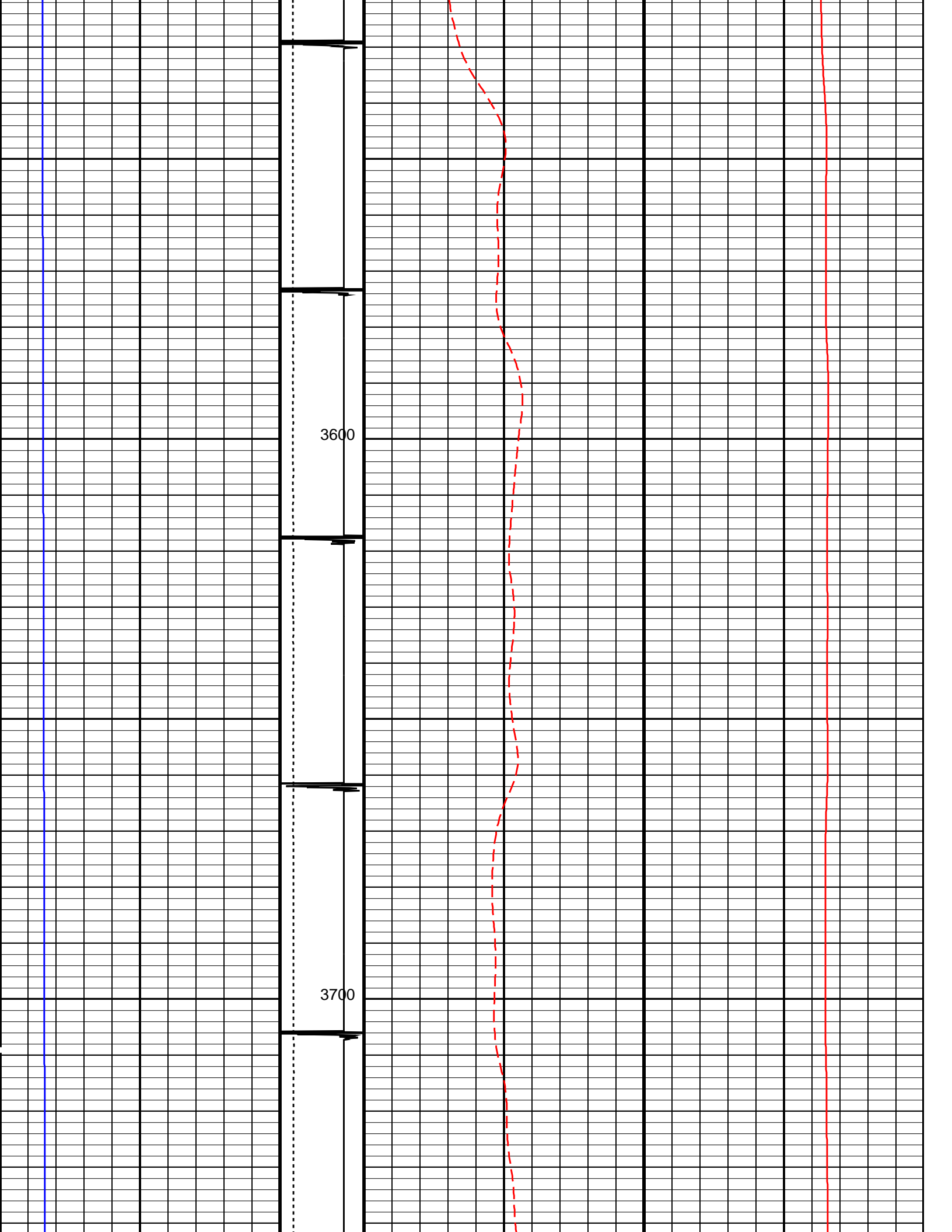


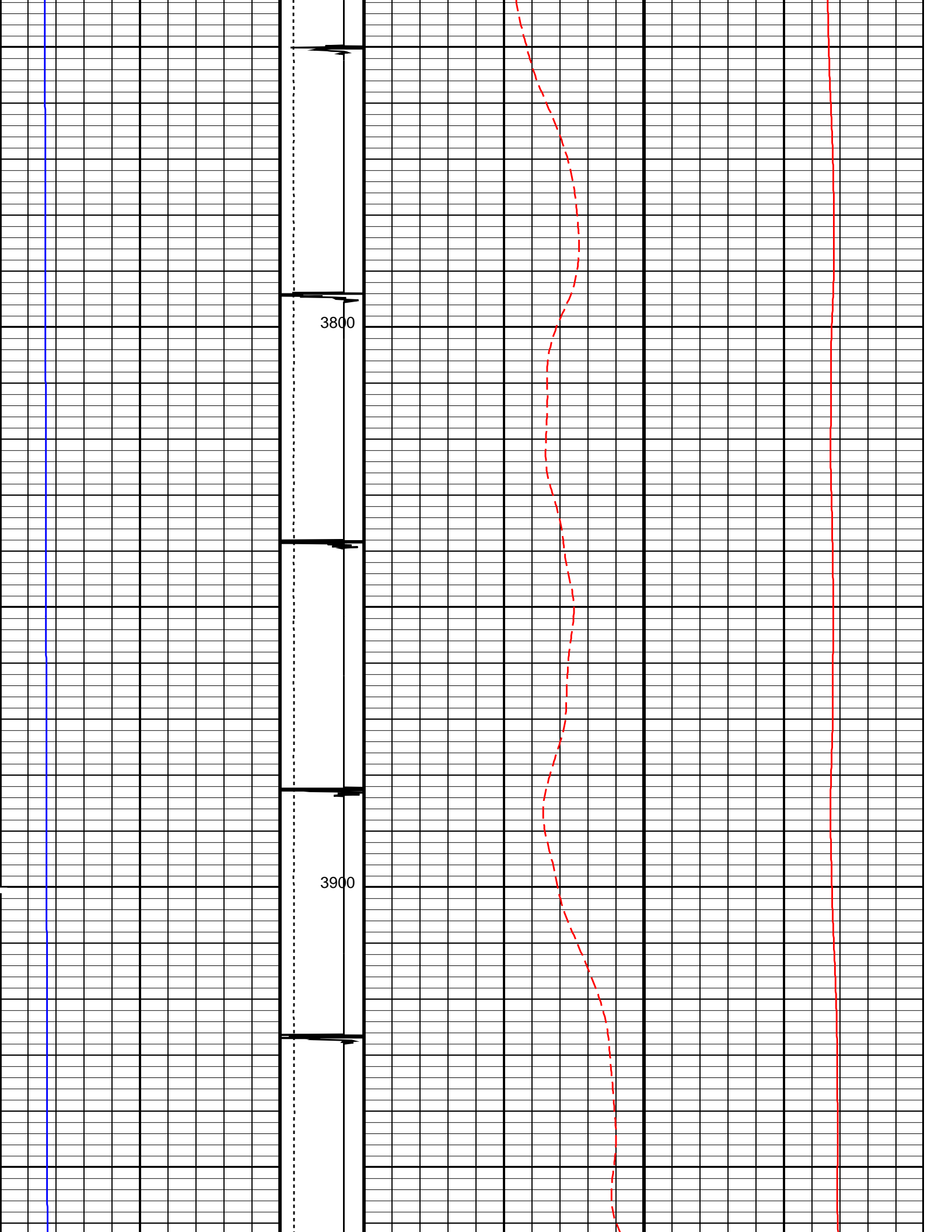


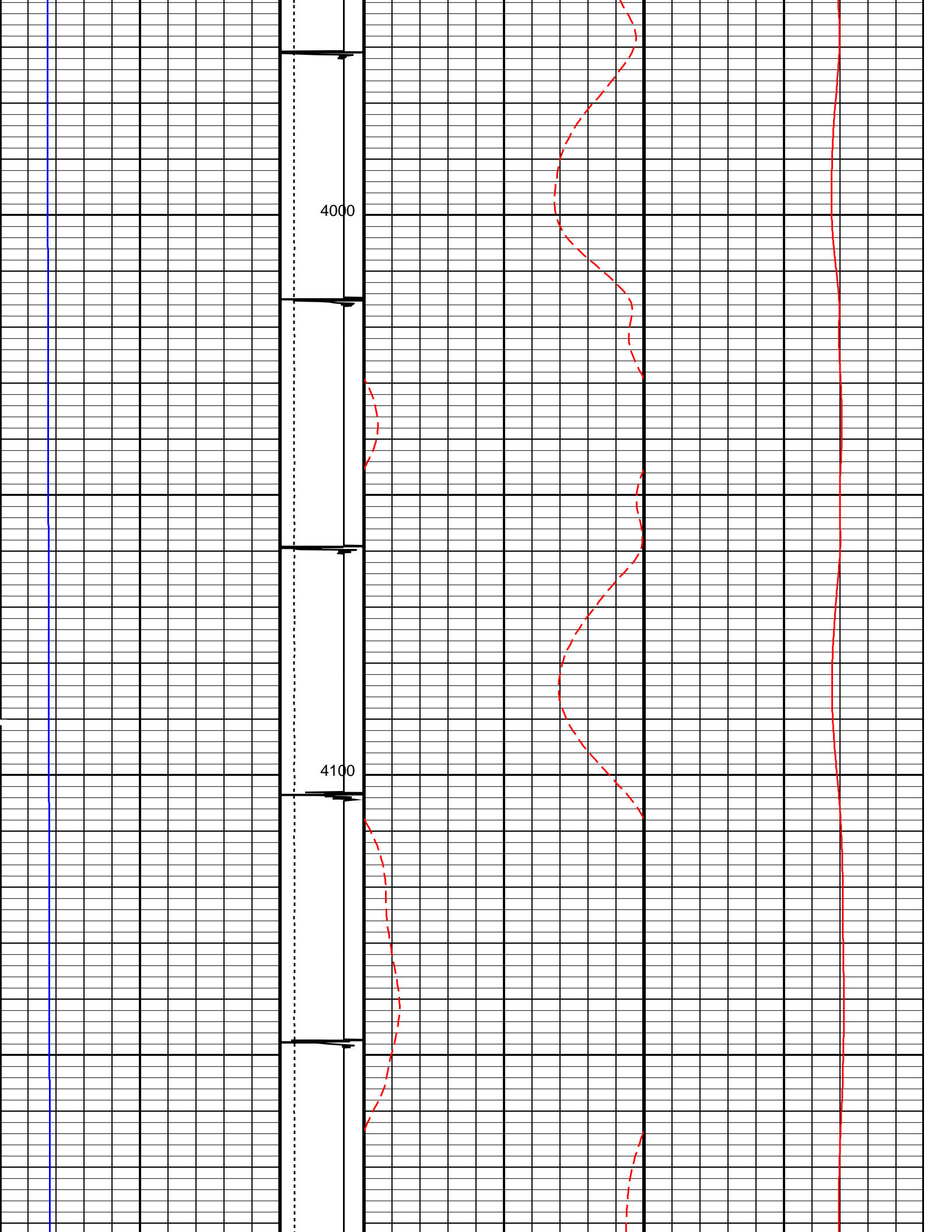


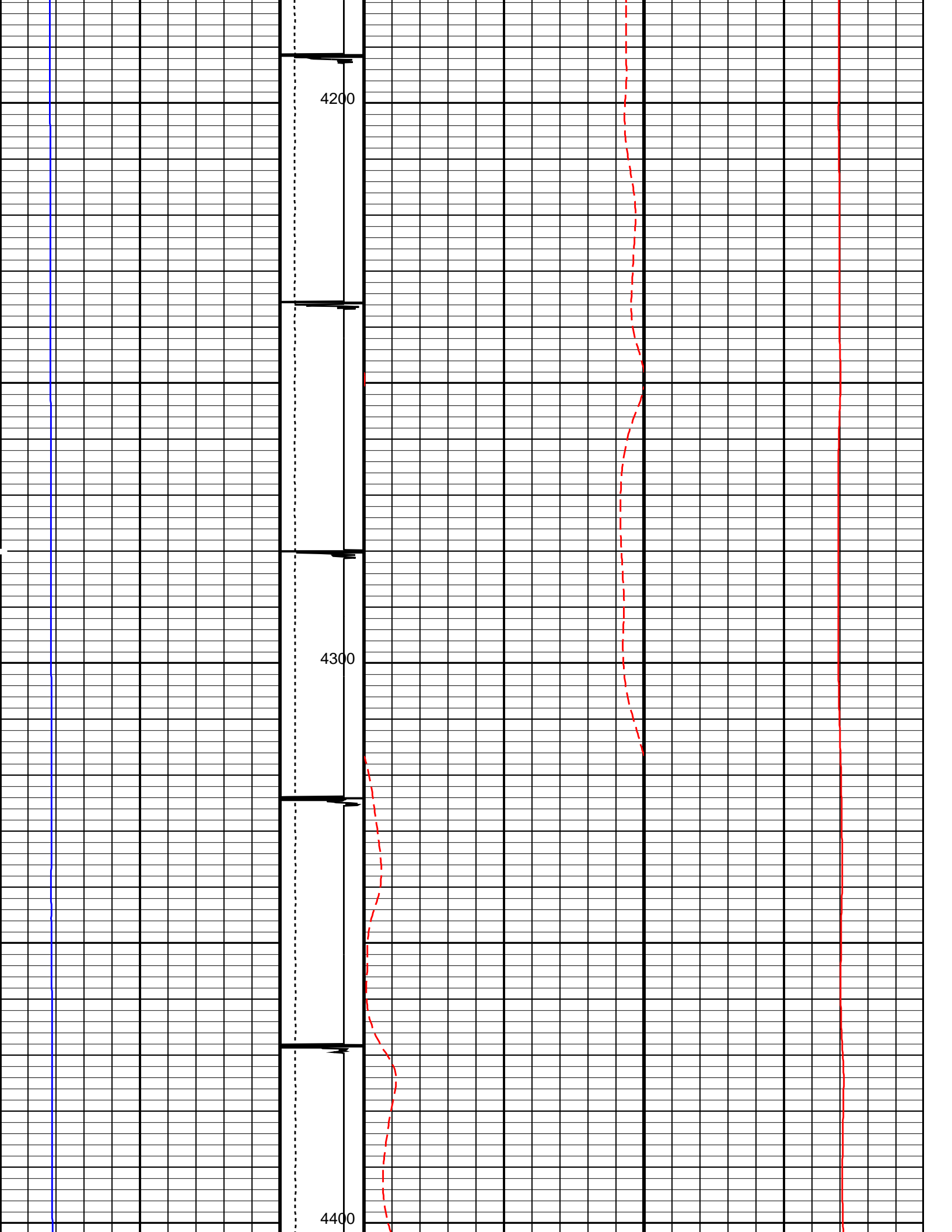


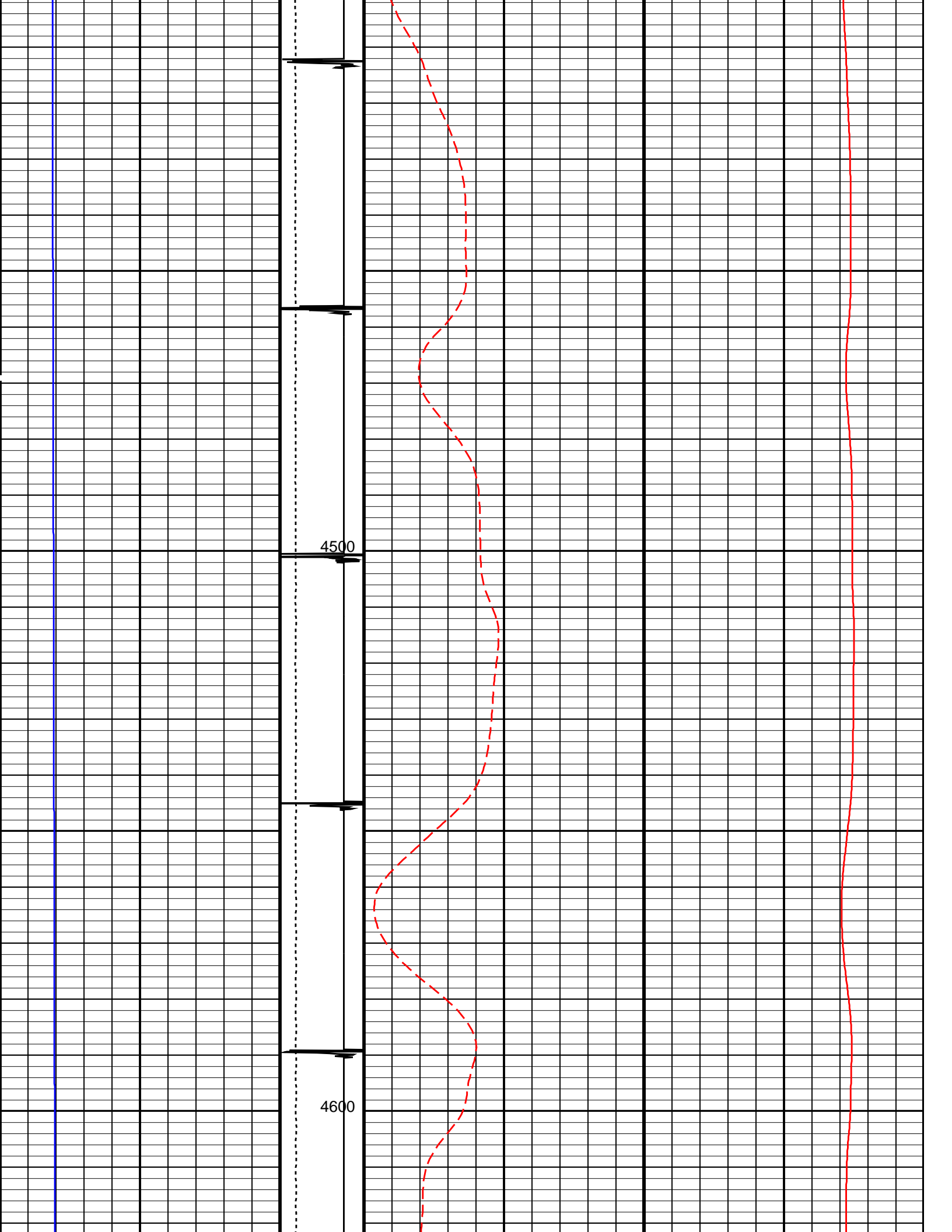


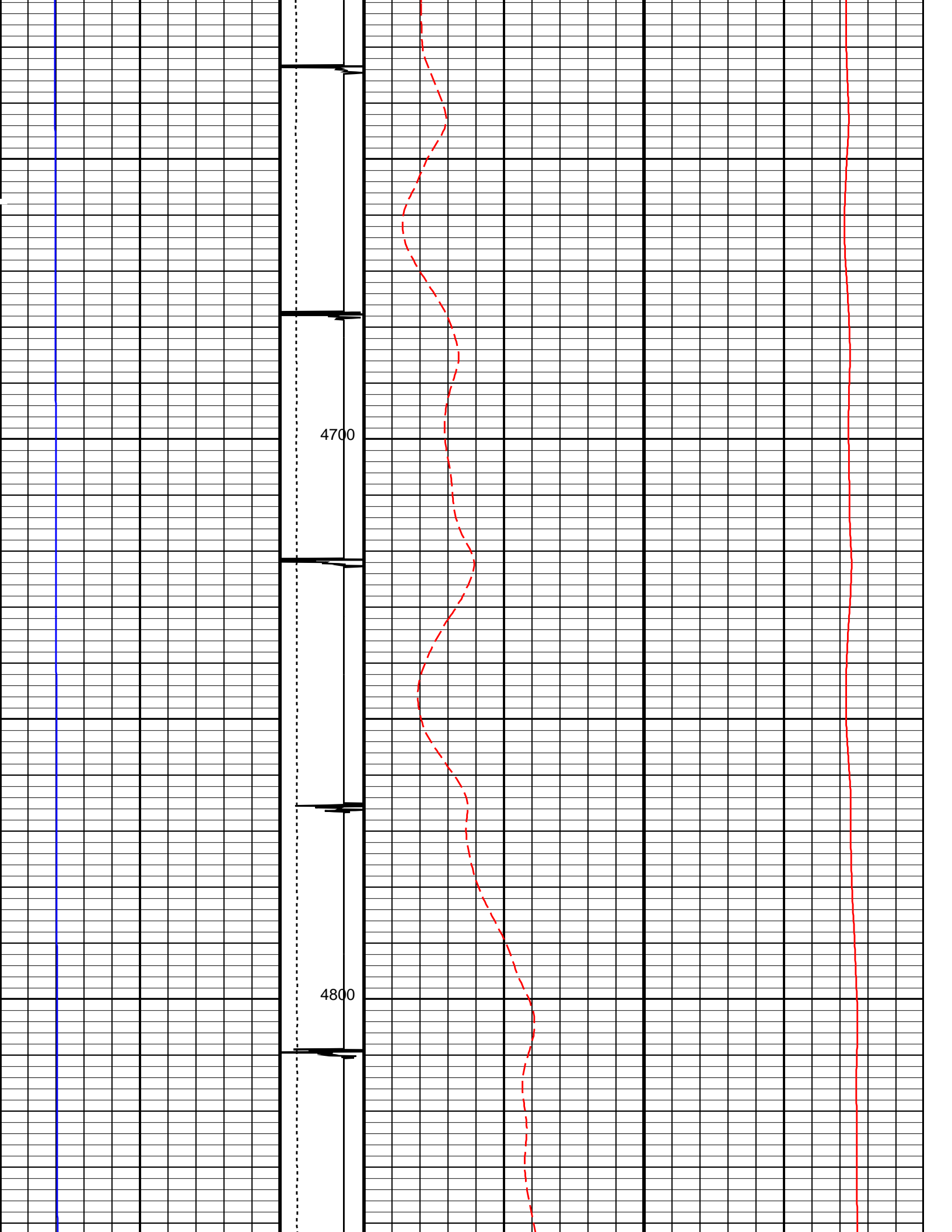


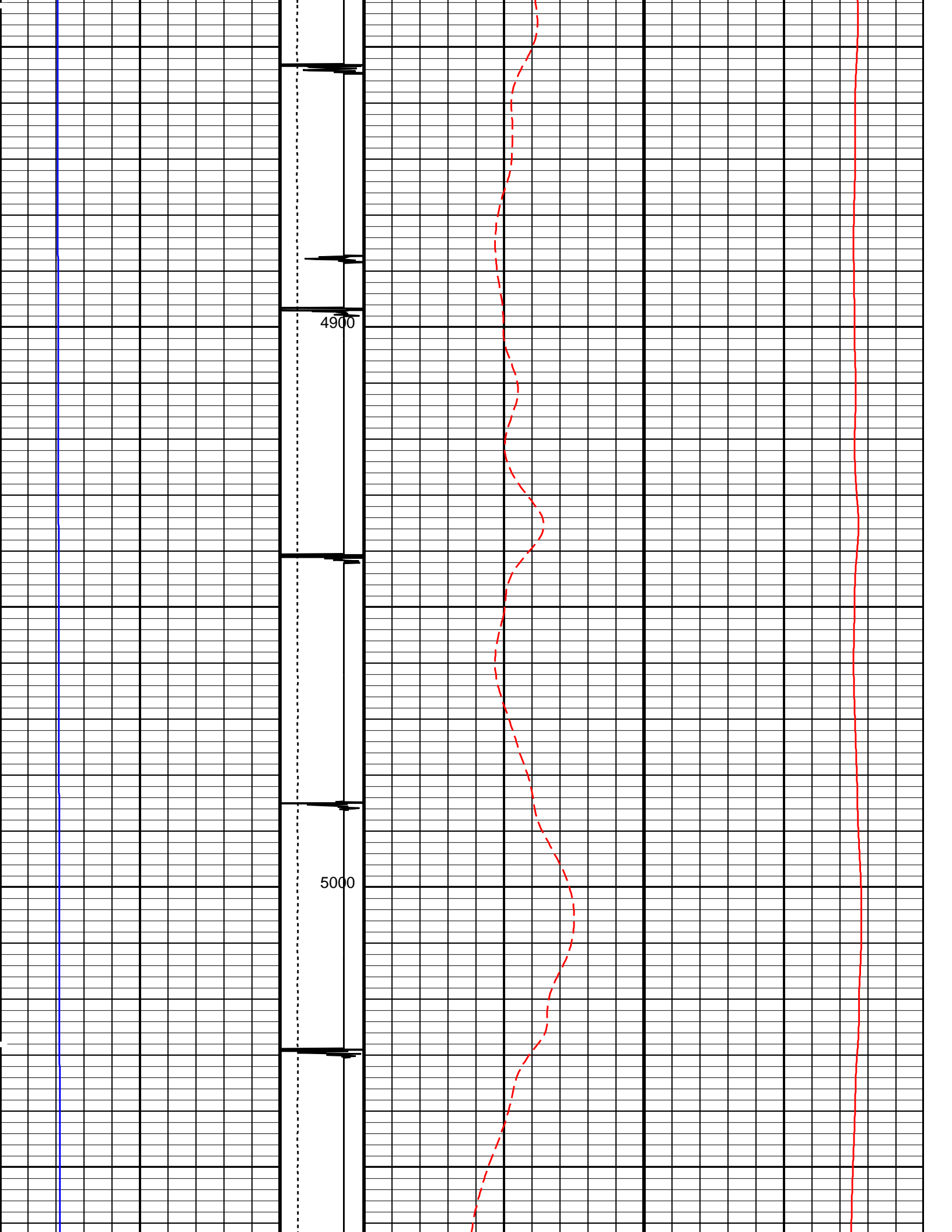


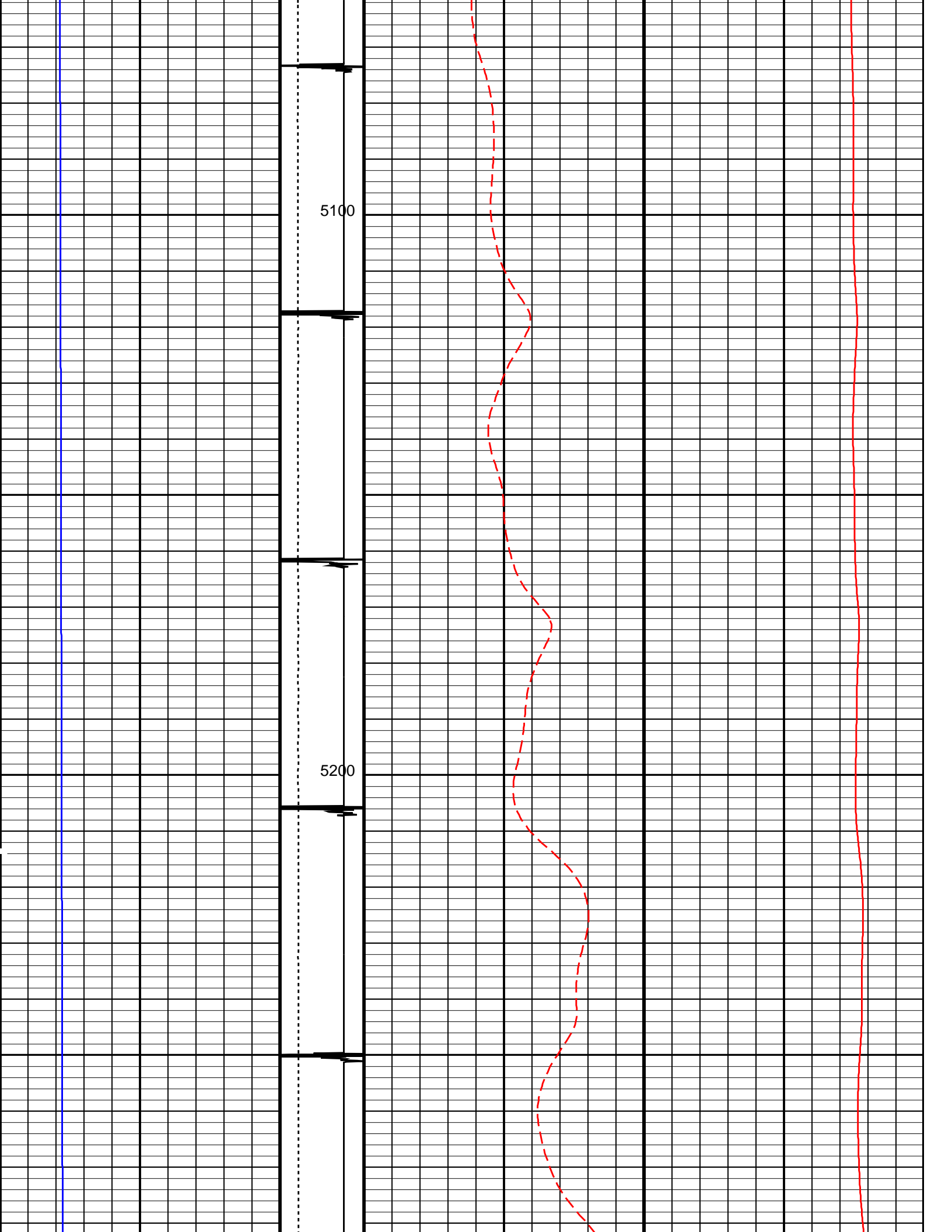


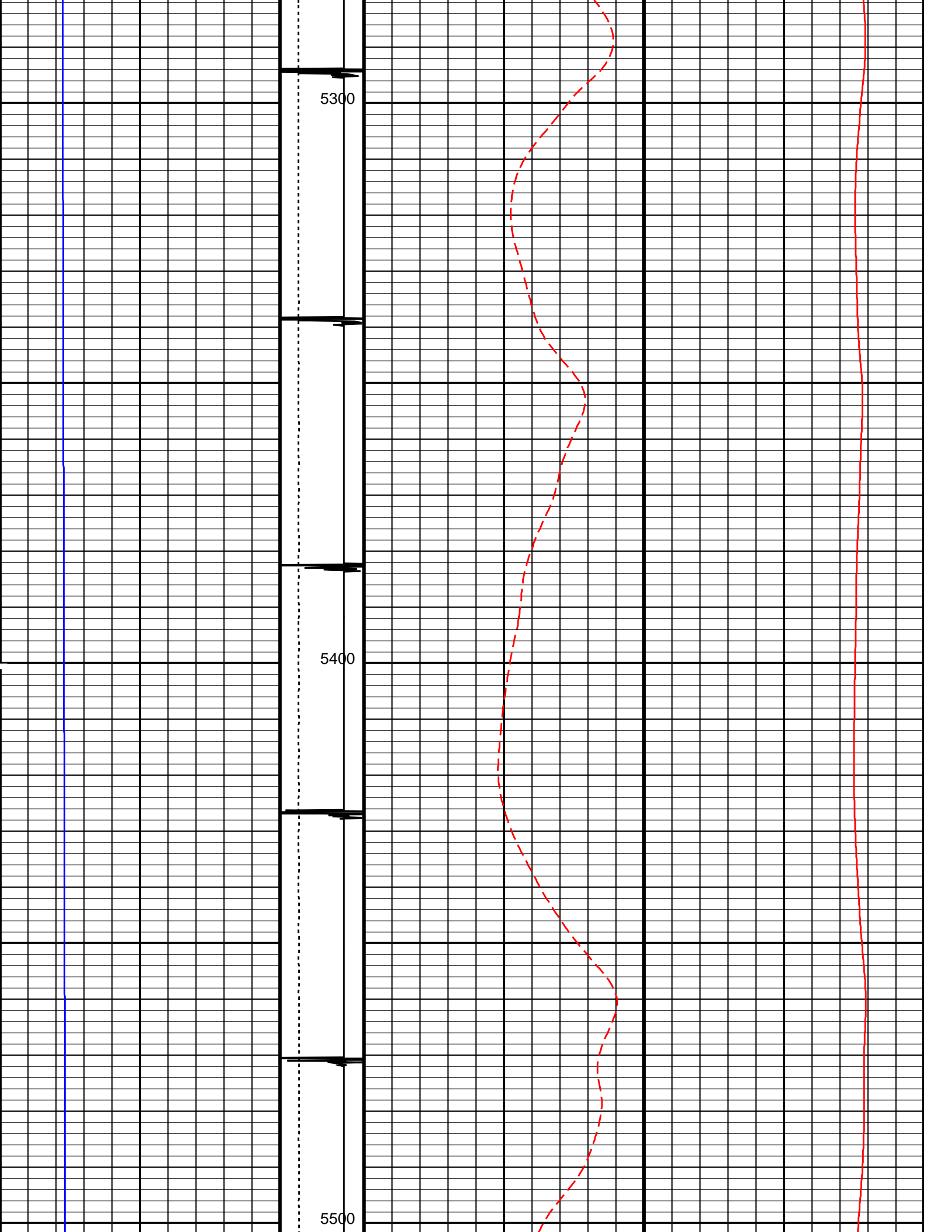


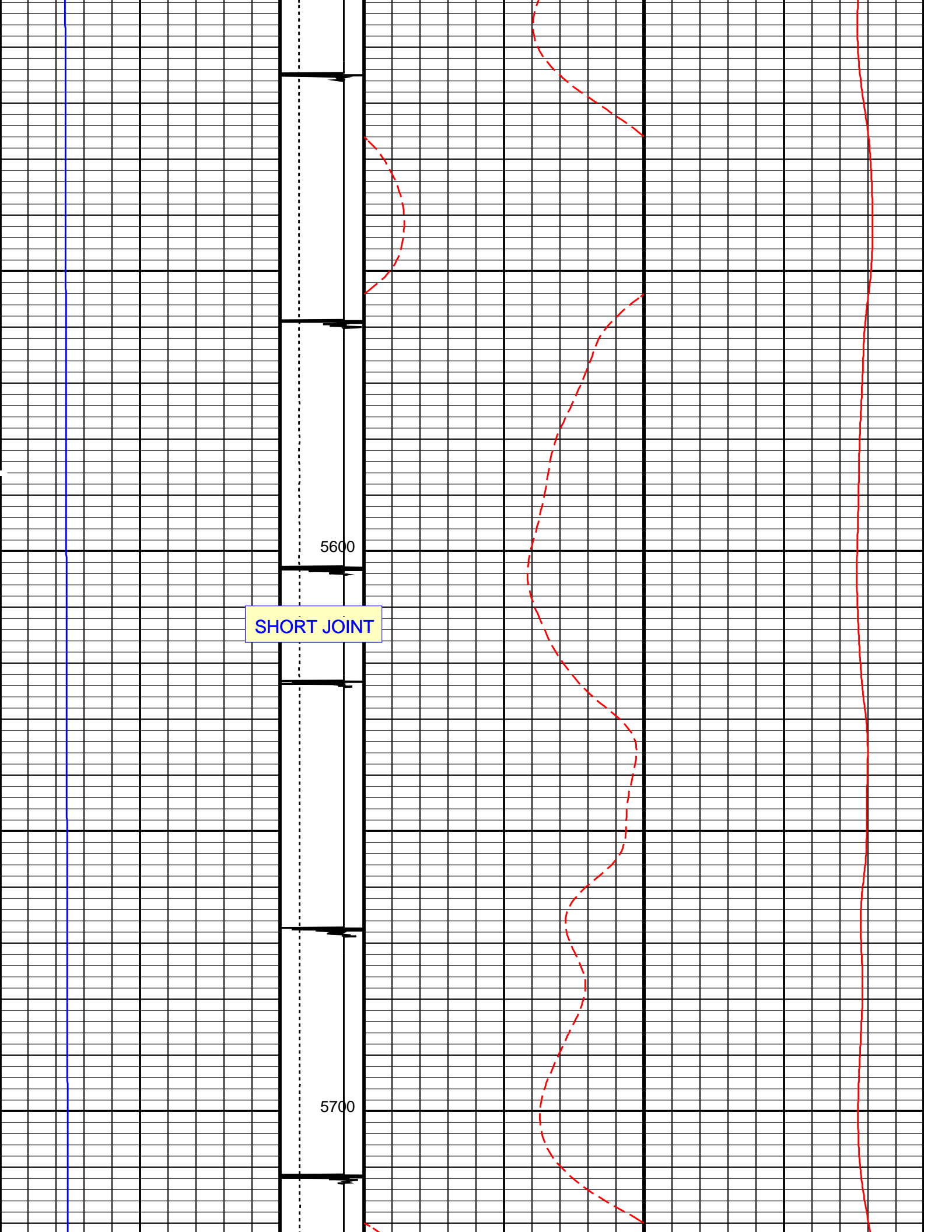


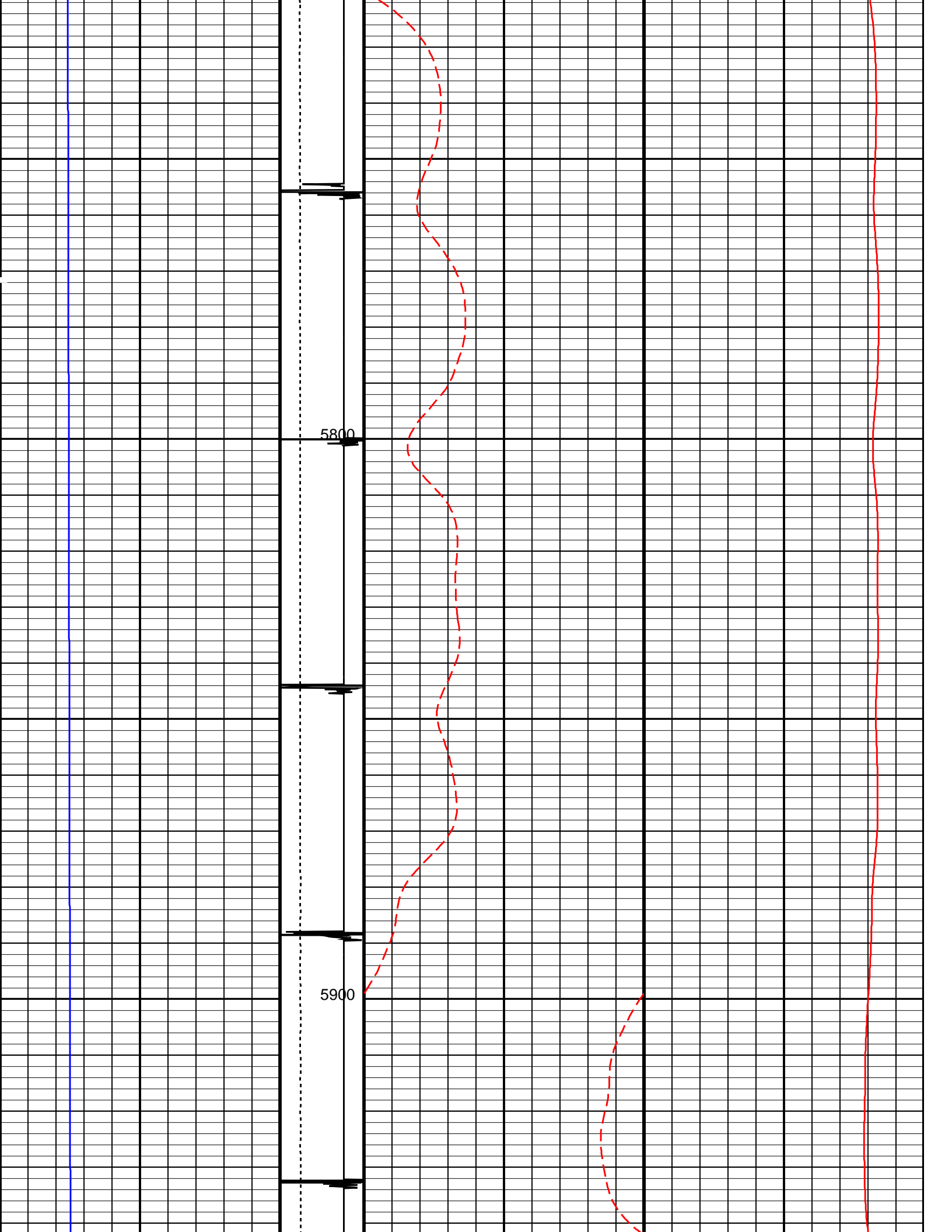


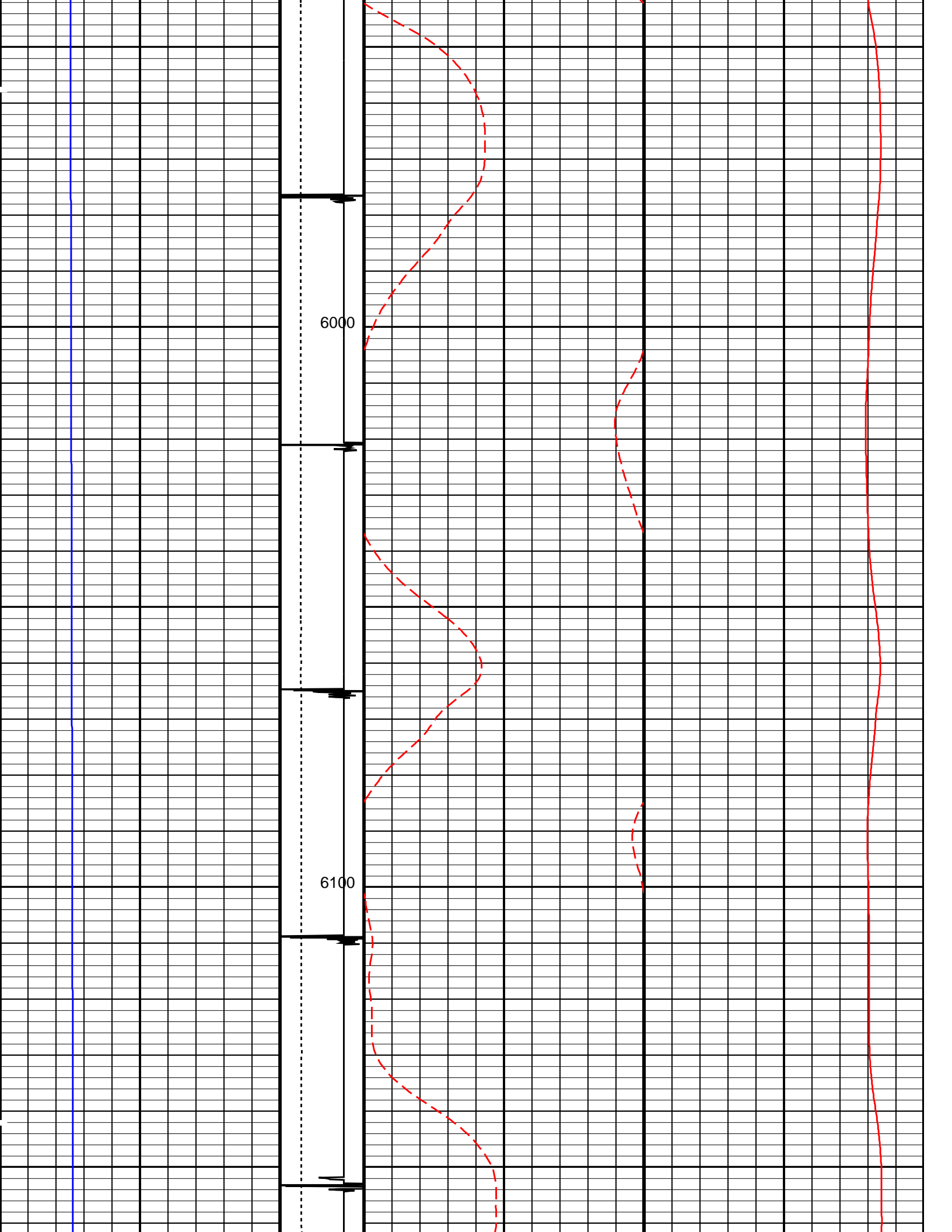


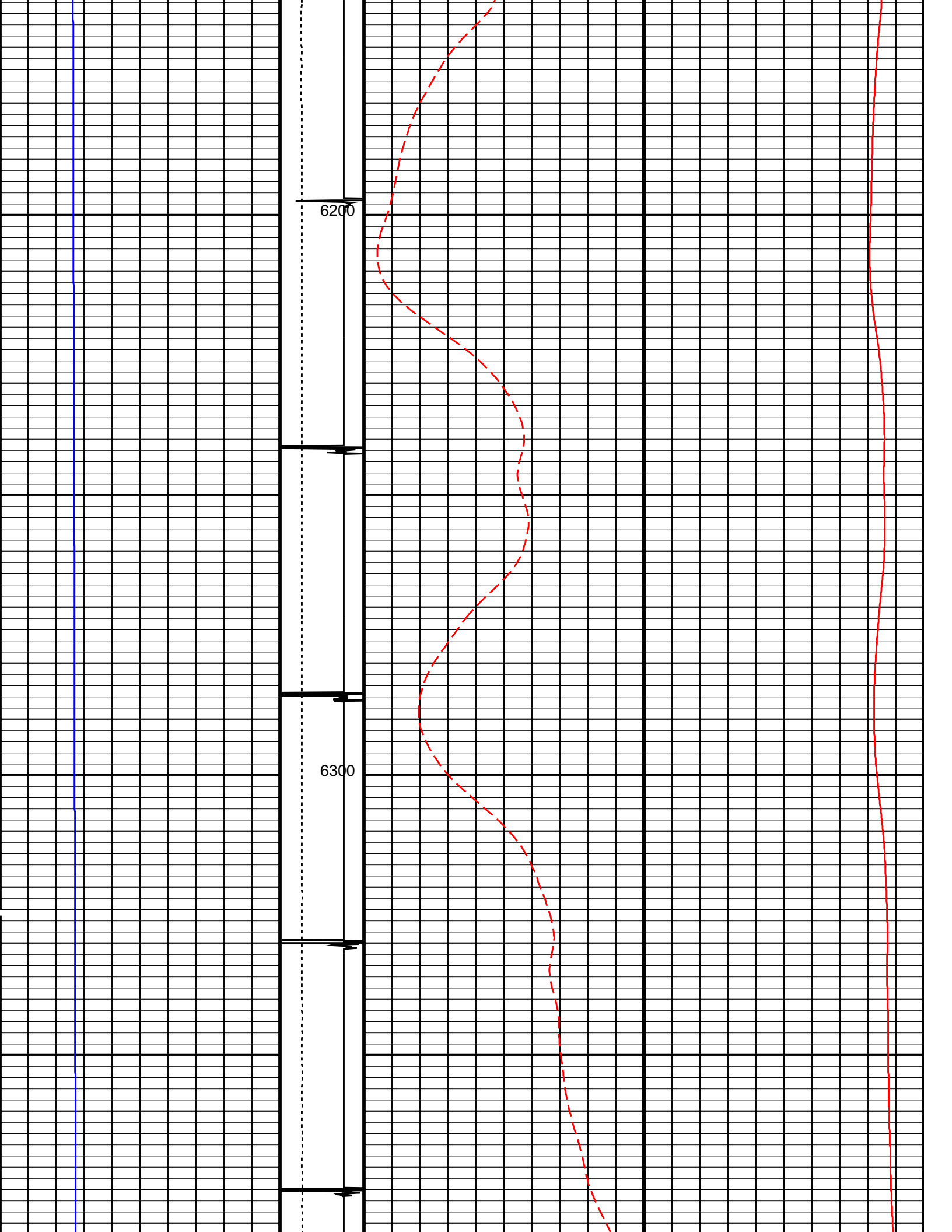


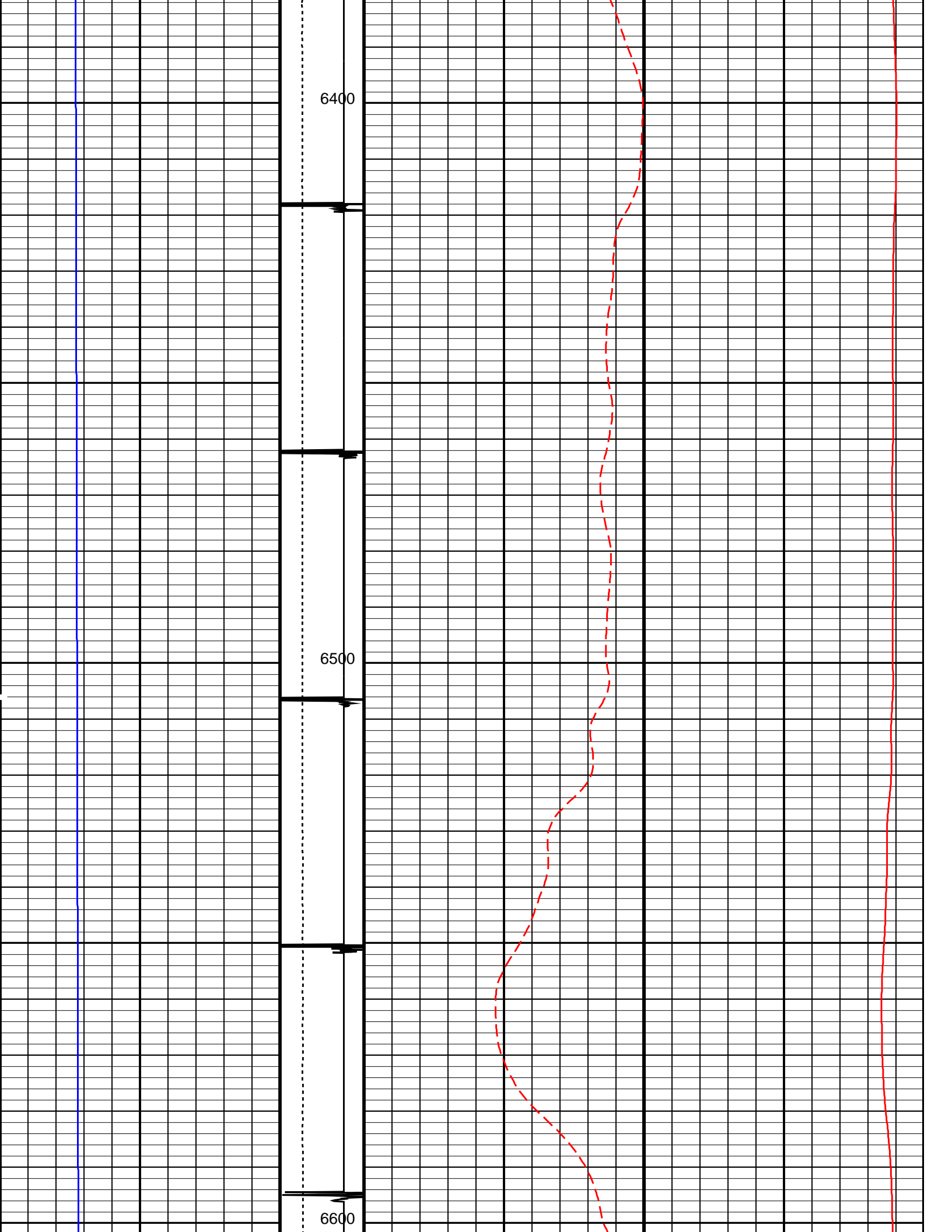












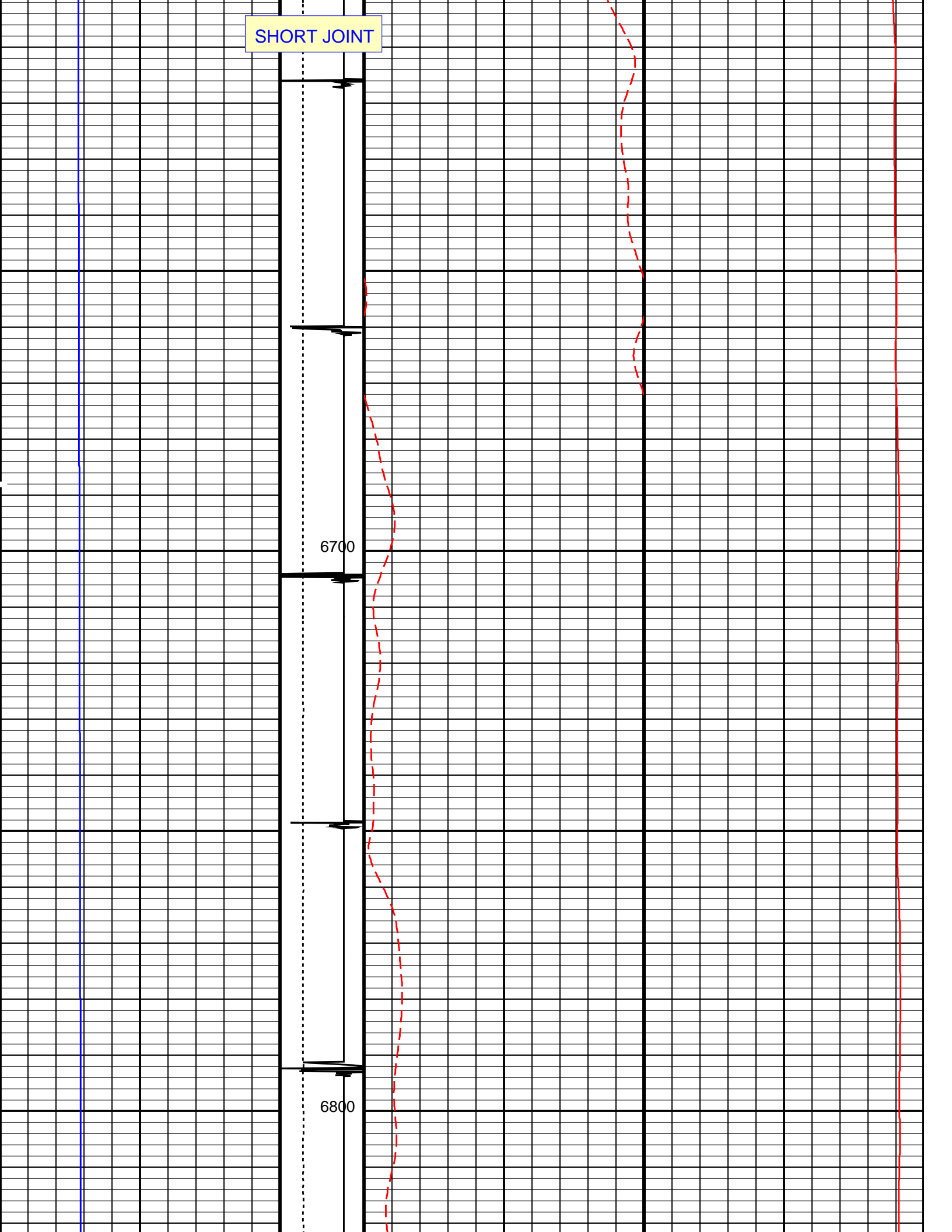
SHORT JOINT

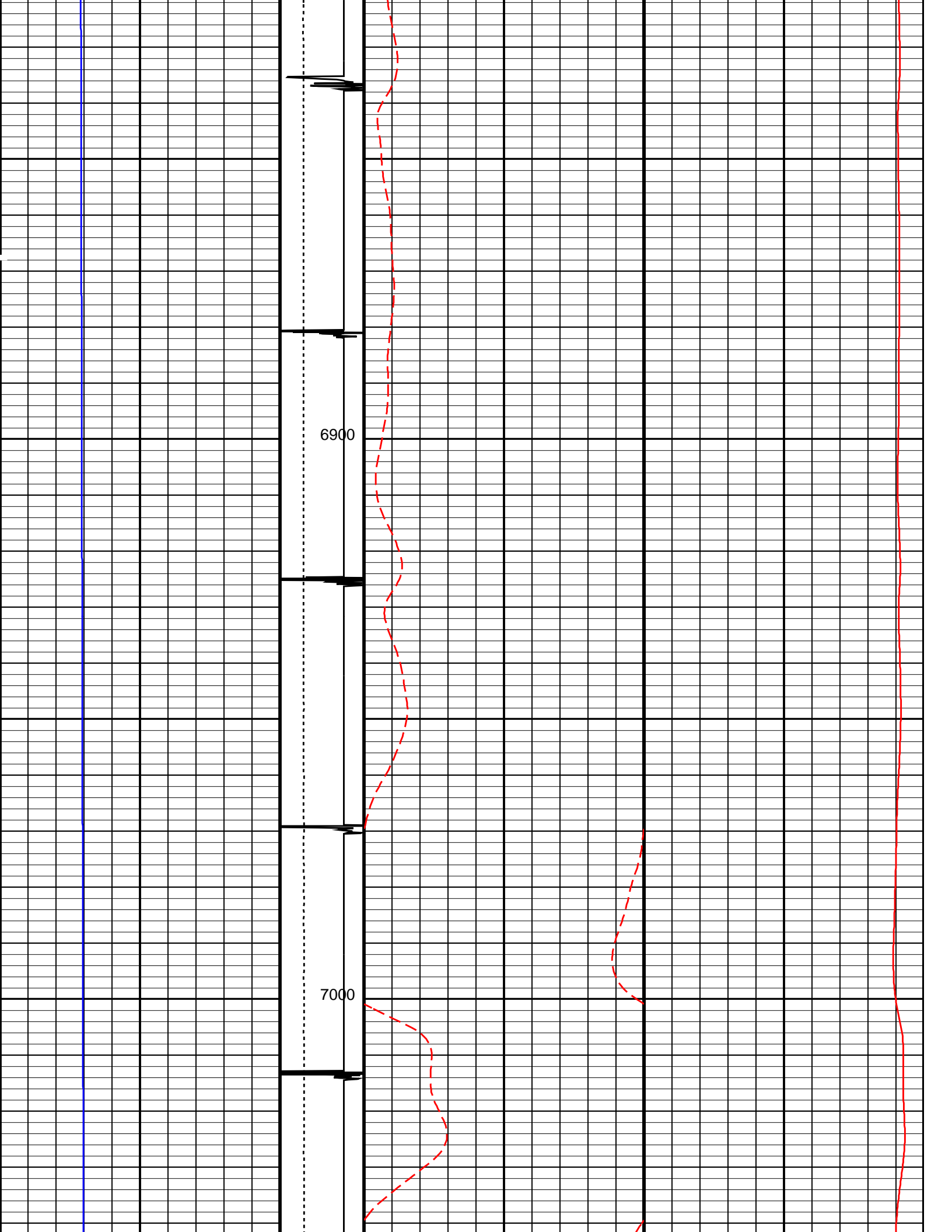
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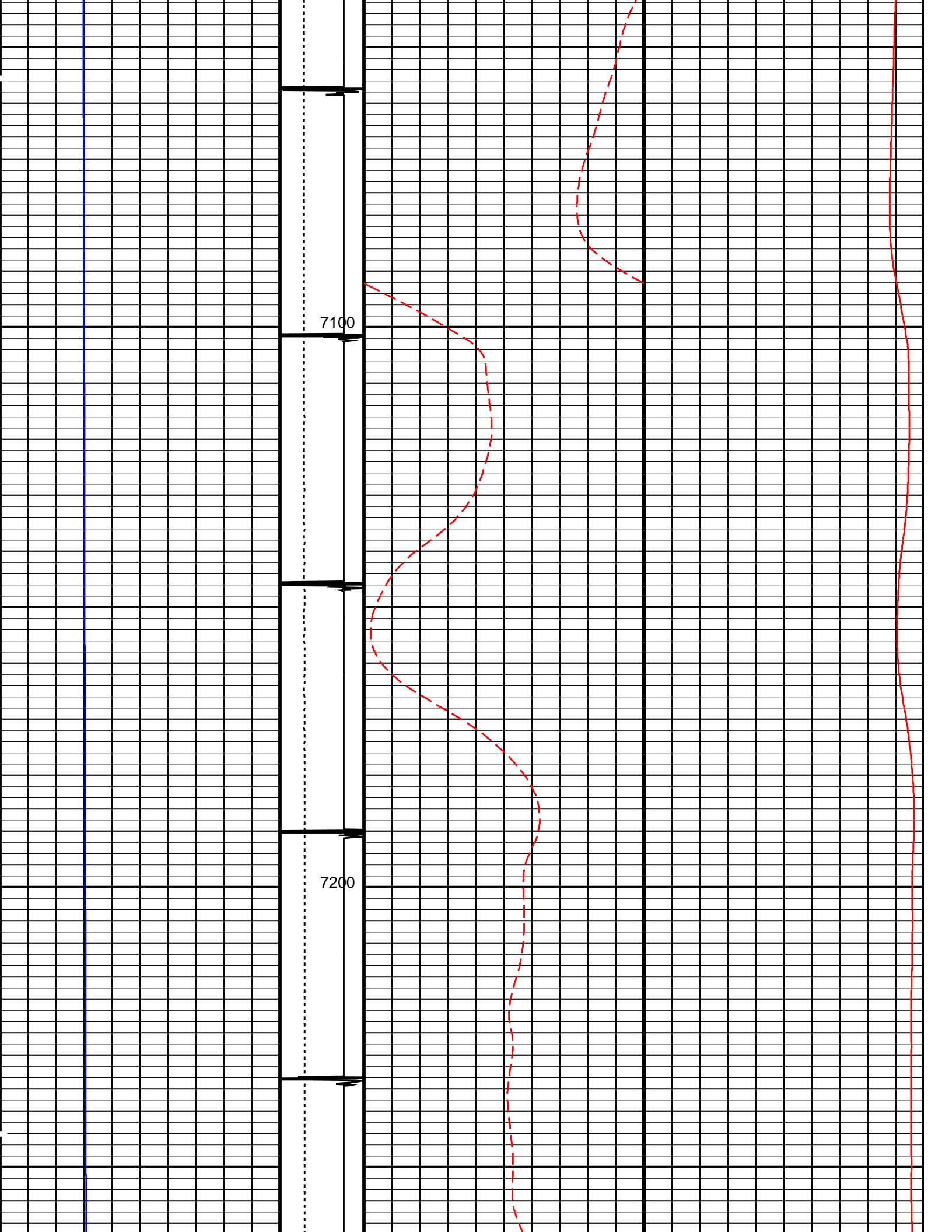
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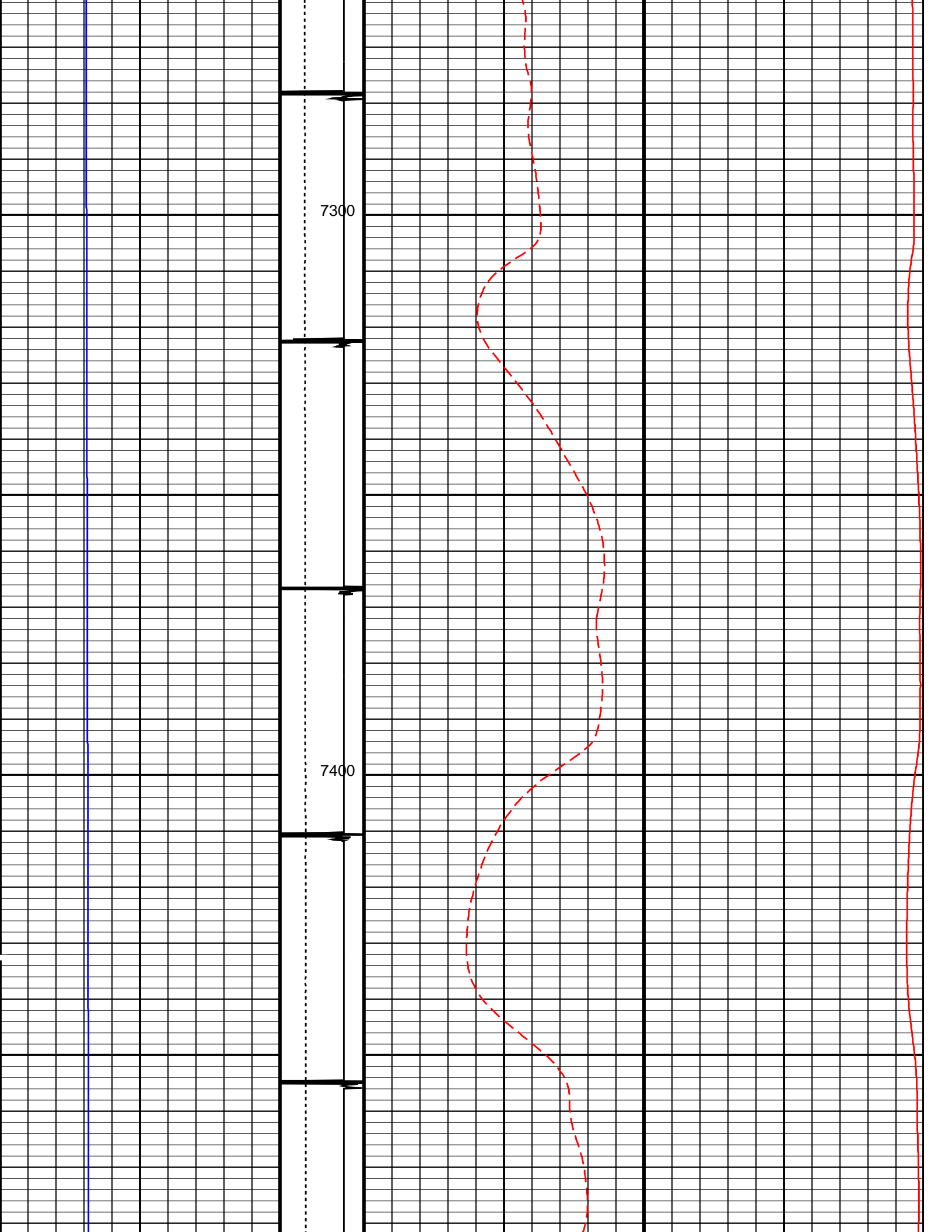
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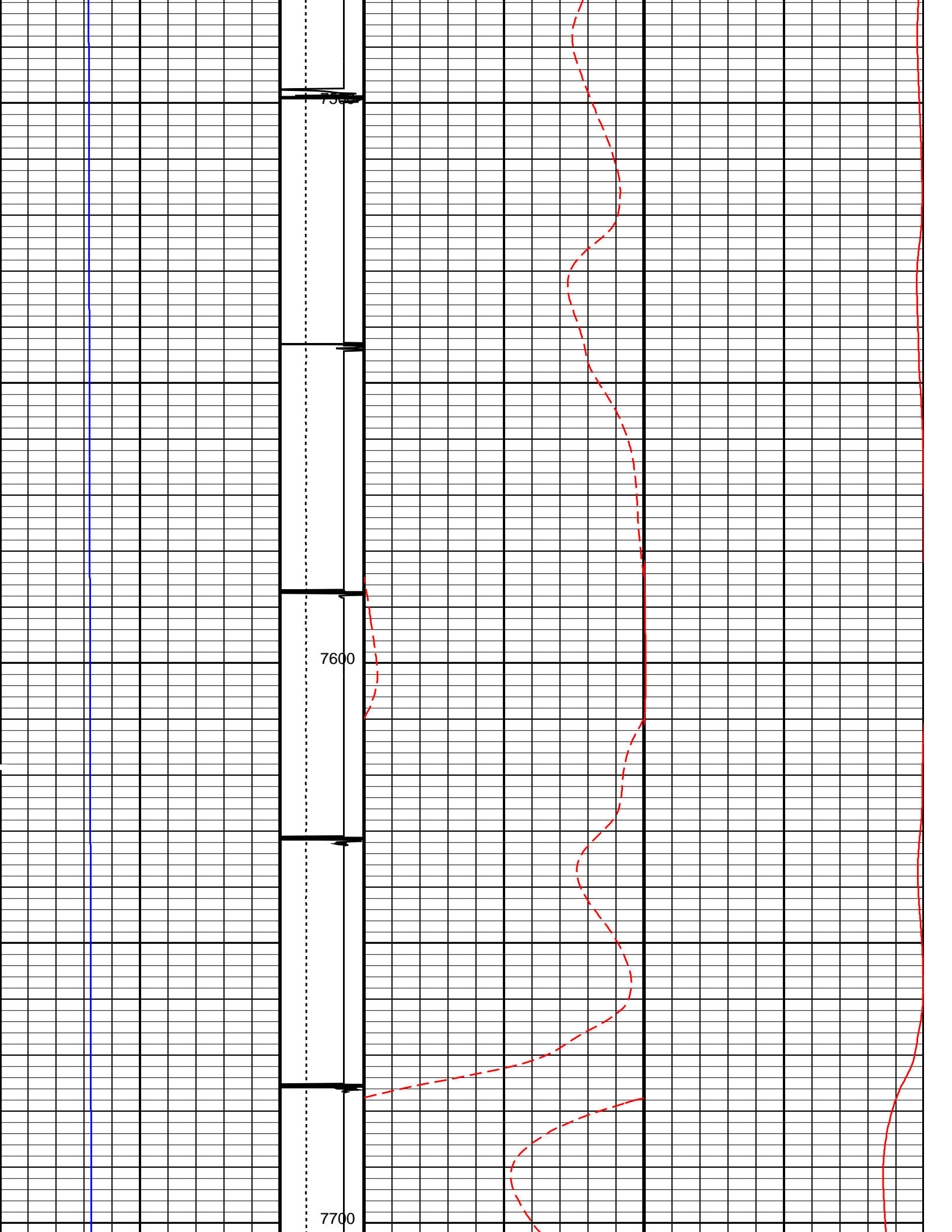
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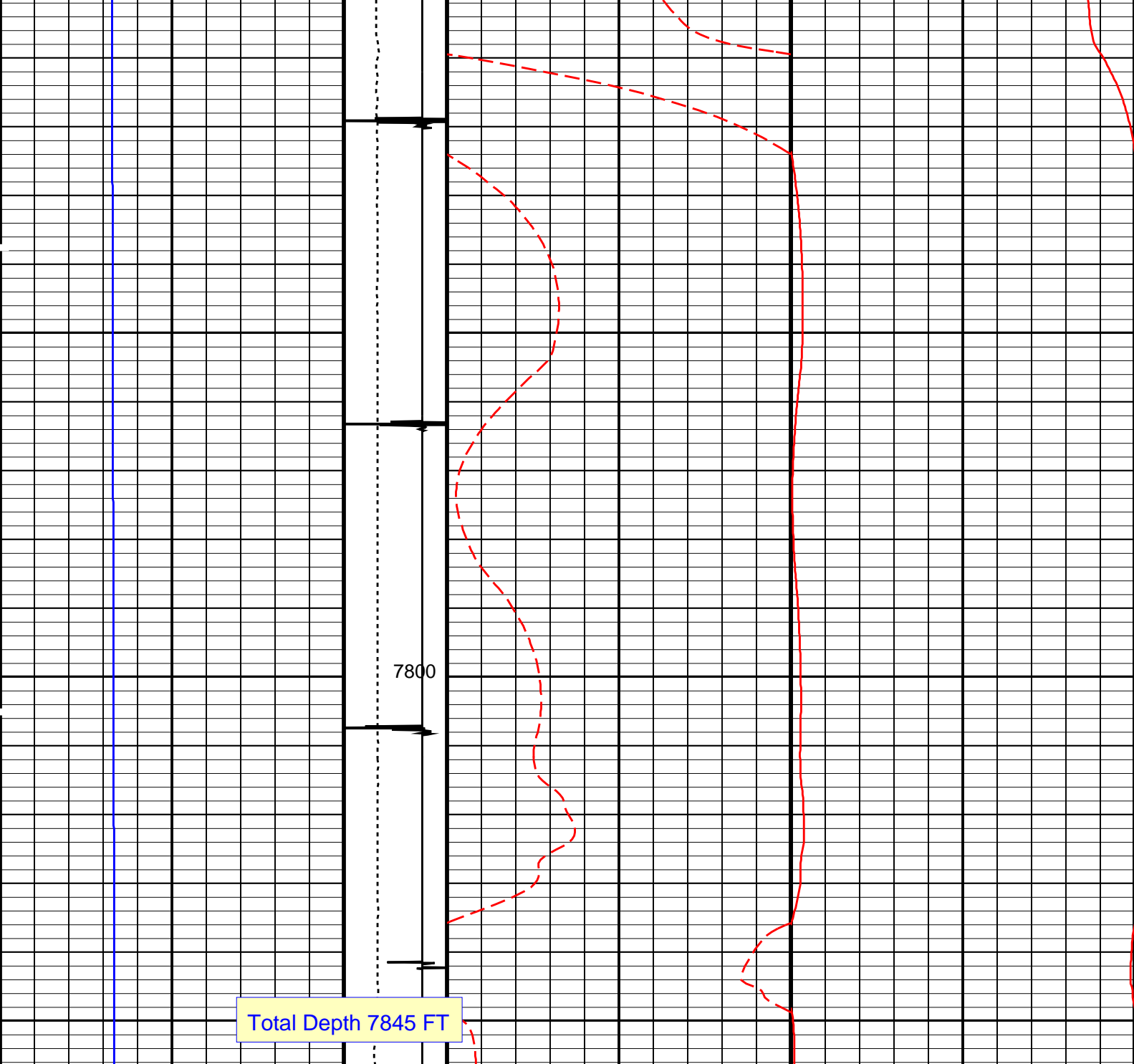












Total Depth 7845 FT

Well Pressure (WPRES) (PSIA)		10000	Tension (TENS) (LBF)	0	2000	Well Temperature (WTEMP) (DEGF)	20	Well Temperature (WTEMP) (DEGF)	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	0.0 FT
PP	Playback Processing	RECOMPUTE

OP System Version: 19C0-187

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

Input DLIS Files

DEFAULT Flip_HBMS_004LUP PRODUCER 23-Mar-2013 16:53 7856.5 FT -17.0 FT

Output DLIS Files

DEFAULT HBMS_007PUP FN:4 PRODUCER 23-Mar-2013 17:03



REPEAT ANALYSIS

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC Well: ENCANA FEE 24-8C

Input DLIS Files

DEFAULT HBMS_007PUP FN:4 PRODUCER 23-Mar-2013 17:03 7856.5 FT -17.0 FT

Output DLIS Files

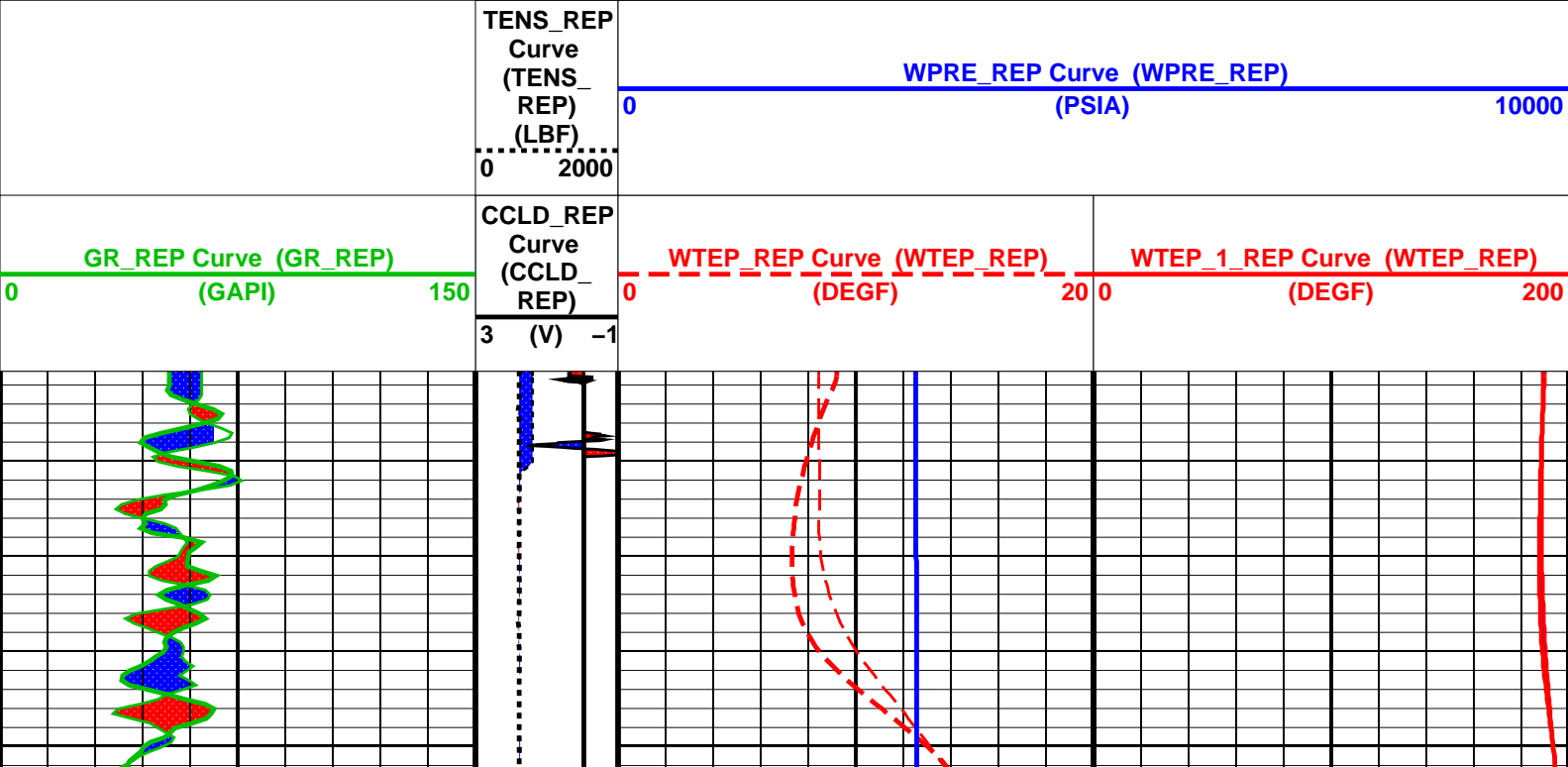
DEFAULT HBMS_008PUP FN:5 PRODUCER 23-Mar-2013 17:08 7686.5 FT 7410.0 FT

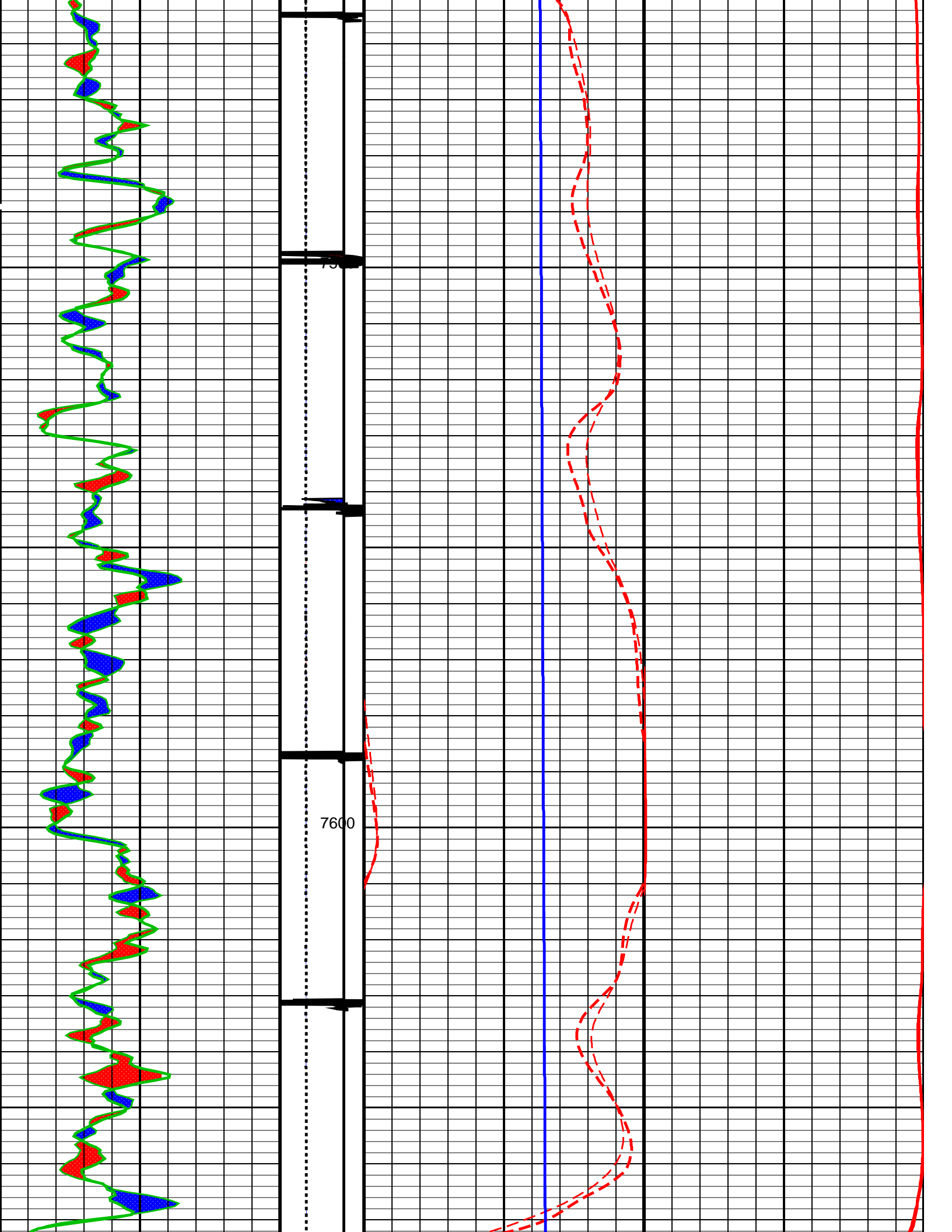
OP System Version: 19C0-187

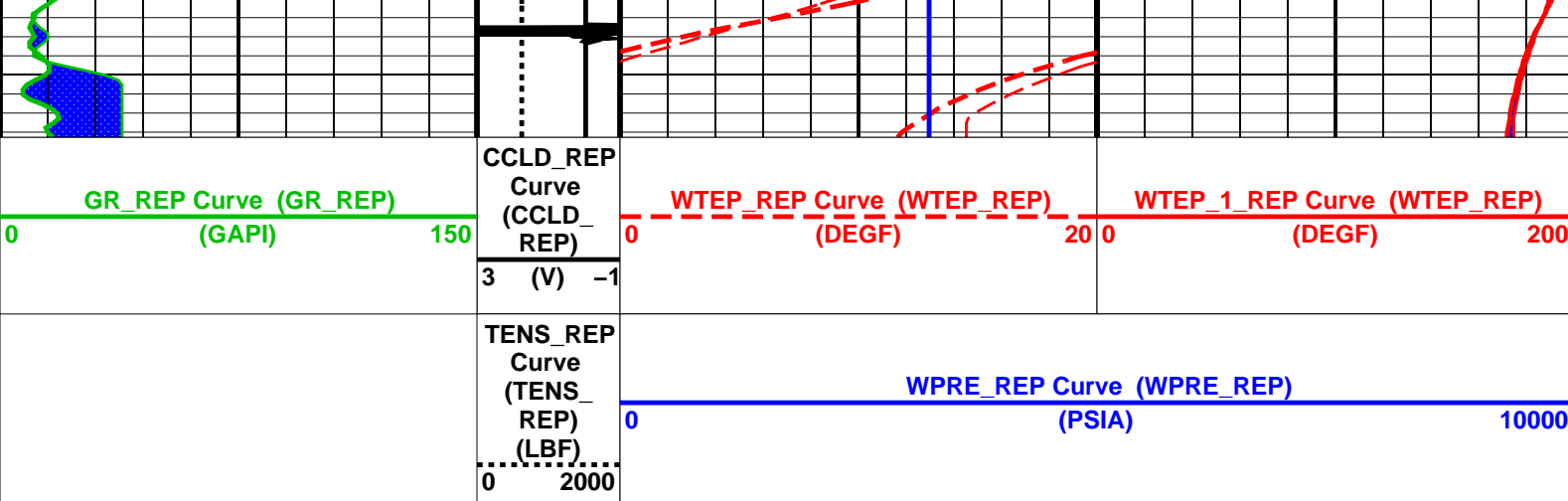
HBMS-B SRPC-5214-H2-2012-OP19

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	0.0 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: 23-Mar-2013 17:08

OP System Version: 19C0-187

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

Input DLIS Files

DEFAULT HBMS_007PUP FN:4 PRODUCER 23-Mar-2013 17:03 7856.5 FT -17.0 FT

Output DLIS Files

DEFAULT HBMS_008PUP FN:5 PRODUCER 23-Mar-2013 17:08

Schlumberger

HBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: ENCANA FEE 24-8C
Run date: 23-Mar-2013

Tool: PSP
Sub Type: PBMS
Sensor: GR

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

RESISTORS FOR GR SENSOR N.34473, TOOL HBMS-BA2884. SENSOR S/N:

34473

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: ENCANA FEE 24-8C
Run date: 23-Mar-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

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**3	-1.236366342634E-12	+1.781203826336E-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	+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

Well: **ENCANA FEE 24-8C**
Field: **MAMM CREEK**
County: **GARFIELD**
State: **COLORADO**

TEMPERATURE LOG
CCL – TEMPERATURE