

Company: ENCANA OIL & GAS (USA) INC

Well: ENCANA FEE 24-8B2 (K19CNE)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 2363 FSL & 312 FWL

Well: ENCANA FEE 24-8B2 (K19CNE)

Company: ENCANA OIL & GAS (USA) INC

TEMPERATURE LOG

CCL - TEMPERATURE

SHL: 2363 FSL & 312 FWL

BHL: 1780 FNL & 890 FEL

Elev.: K.B. 5687.00 ft

G.L. 5665.00 ft

D.F. 5686.00 ft

Permanent Datum: GROUND LEVEL

Elev.: 5665.00 ft

Log Measured From: KELLY BUSHING

22.00 ft above Perm. Datum

Drilling Measured From: KELLY BUSHING

API Serial No. 05-045-20754-0C

Section 19

Township 6S

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 Date 1-Apr-2013

Run Number 1

Depth Driller 7900 ft

Schlumberger Depth 7635 ft

Bottom Log Interval 7635 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 7900 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade

From 22 ft

To 7880 ft

Maximum Recorded Temperatures 208 degF

Logger On Bottom 1-Apr-2013

Time 19:30

Unit Number 338

Location GRAND JUNCTION

Recorded By JASON BARRY

Witnessed By TONY

Logging Date				Run 1	Run 2	Run 3
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: 18:30	
TIME ON BOTTOM: 19:30	
EXIT TIME: 20:00	

MAX RECORDED TEMPERATURE: 208 DEGF	
MAX RECORDED PRESSURE: 3273 PSI	
SHORT JOINTS: 5574 FT & 6566 FT	
CREW: J BARRY, J MANN	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	

RUN 1			RUN 2		
SERVICE ORDER #:		C920-00057	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

PSPT-A/B

Detail MT

TelStatus

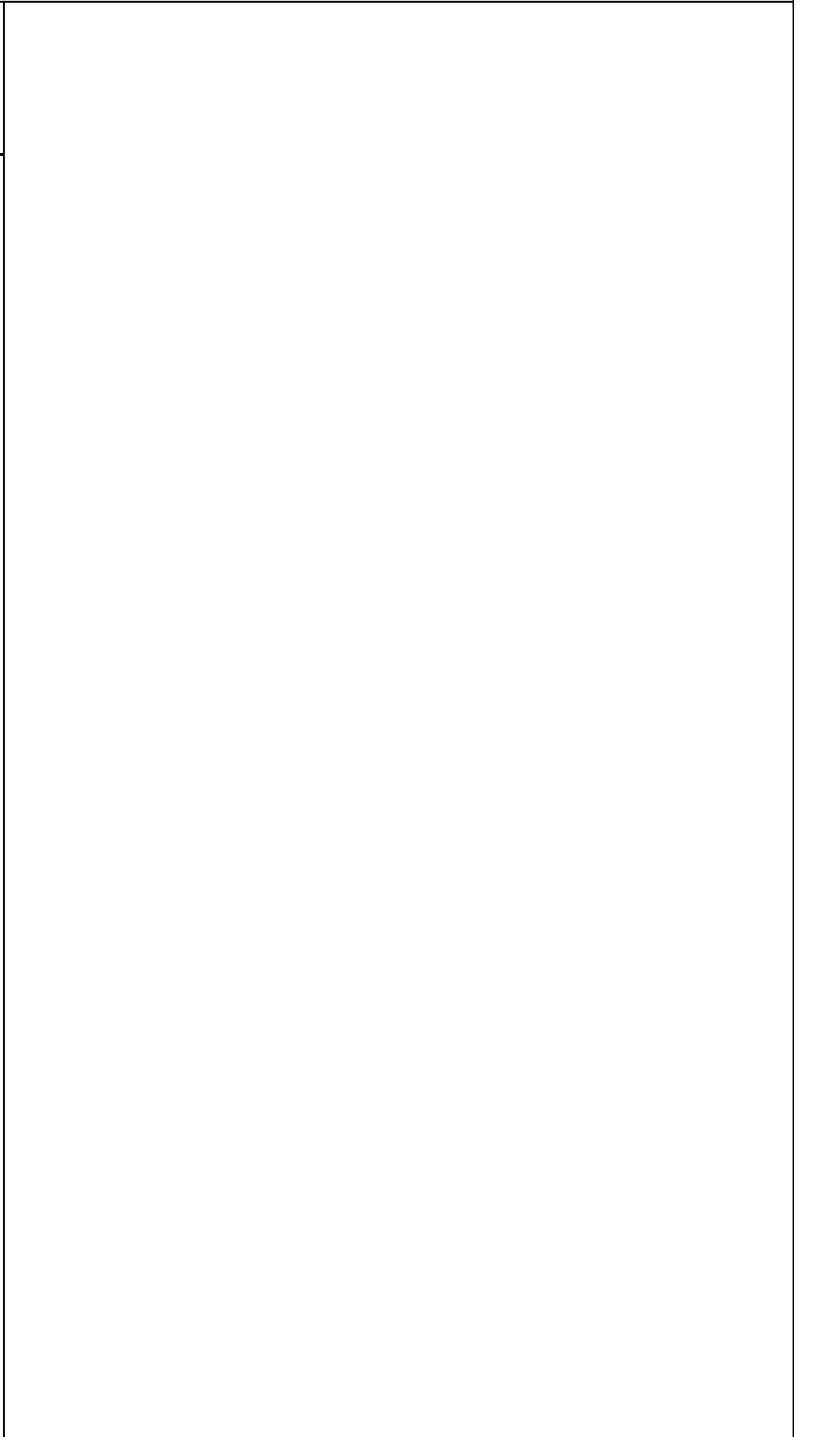
CTEM

8.4

10.3

8.7

8.4



PSC-A
PSPT-A 1772
PSTC
PBMS-A
10k_Sapphire_Mano
RTD_Thermometer
GR
CCL
PBMS

GR — 4.7

Well_Temp
Manometer — 1.6
— 1.5

CCL — 0.9

PBMS PSTC — 0.2

Tension HV — 0.0

TOOL ZERO

0.2

AH-BNS

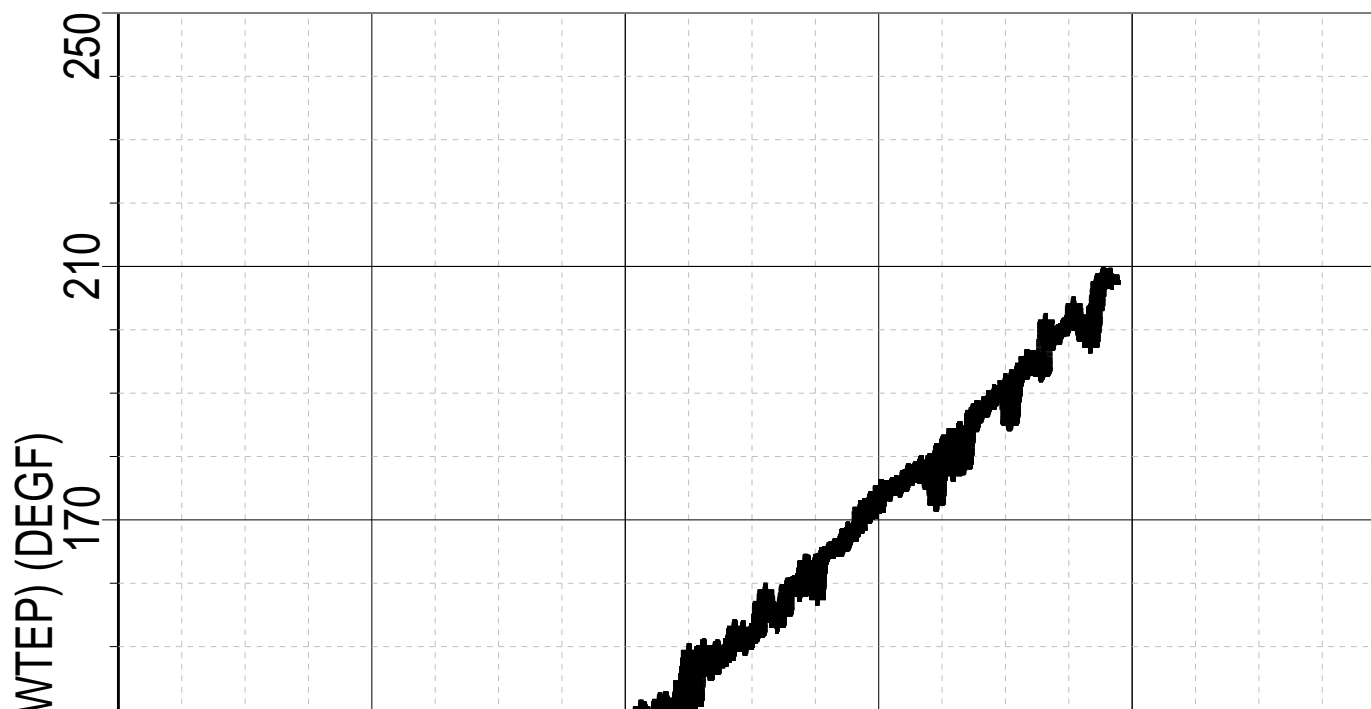
MAXIMUM STRING DIAMETER 1.69 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

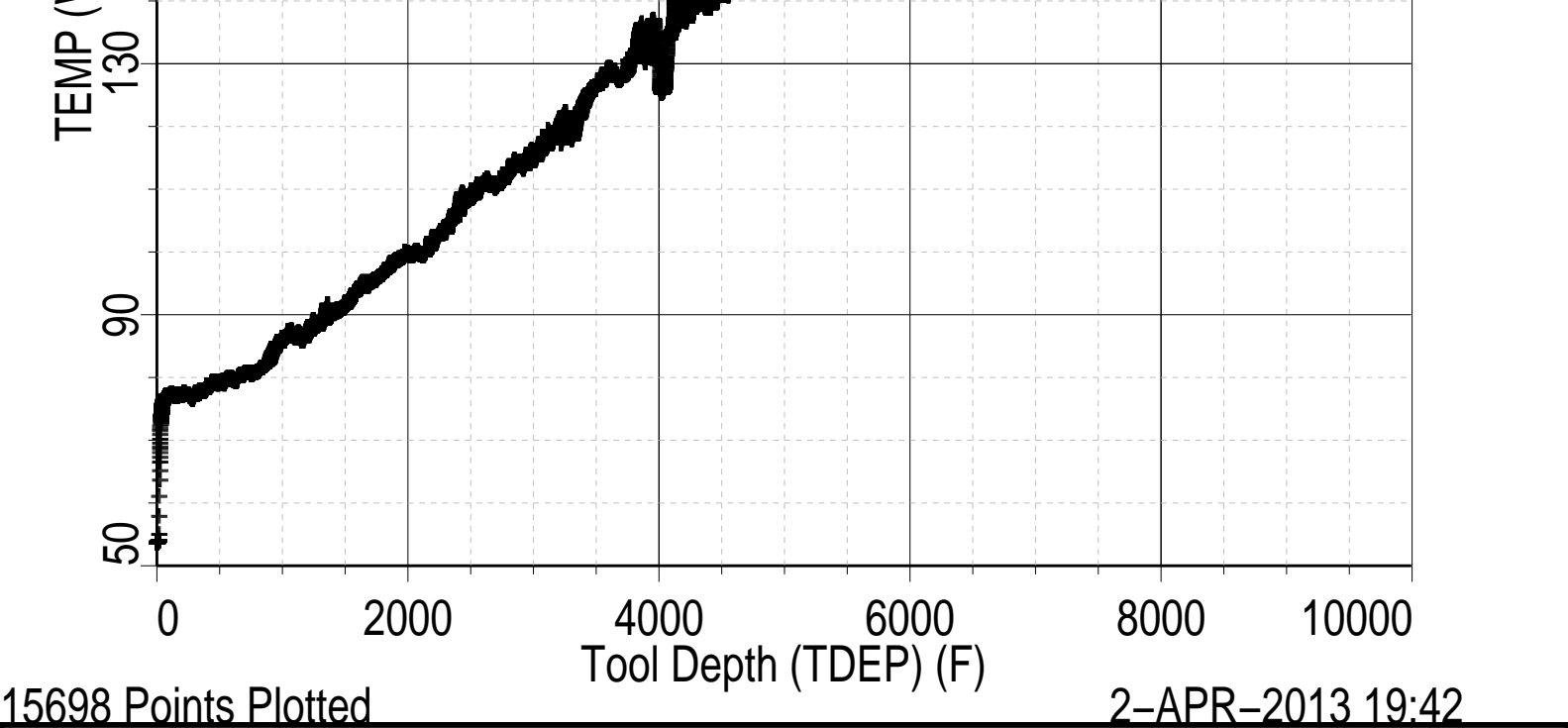
Schlumberger

TEMPERATURE PLOT

MAXIS Field Log

Index: 7848.5 – -7.5 FT





Schlumberger

TEMPERATURE LOG

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: ENCANA FEE 24-8B2 (K19CNE)

Input DLIS Files

DEFAULT FLIP_PSP_004 PRODUCER 02-Apr-2013 19:33 7848.5 FT -7.5 FT

Output DLIS Files

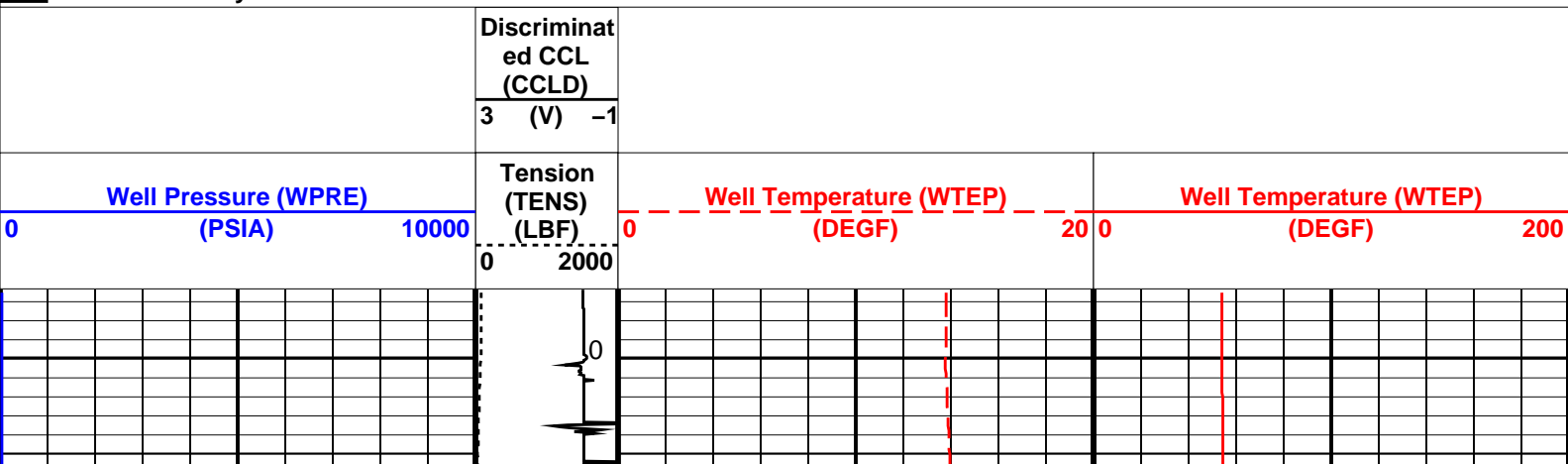
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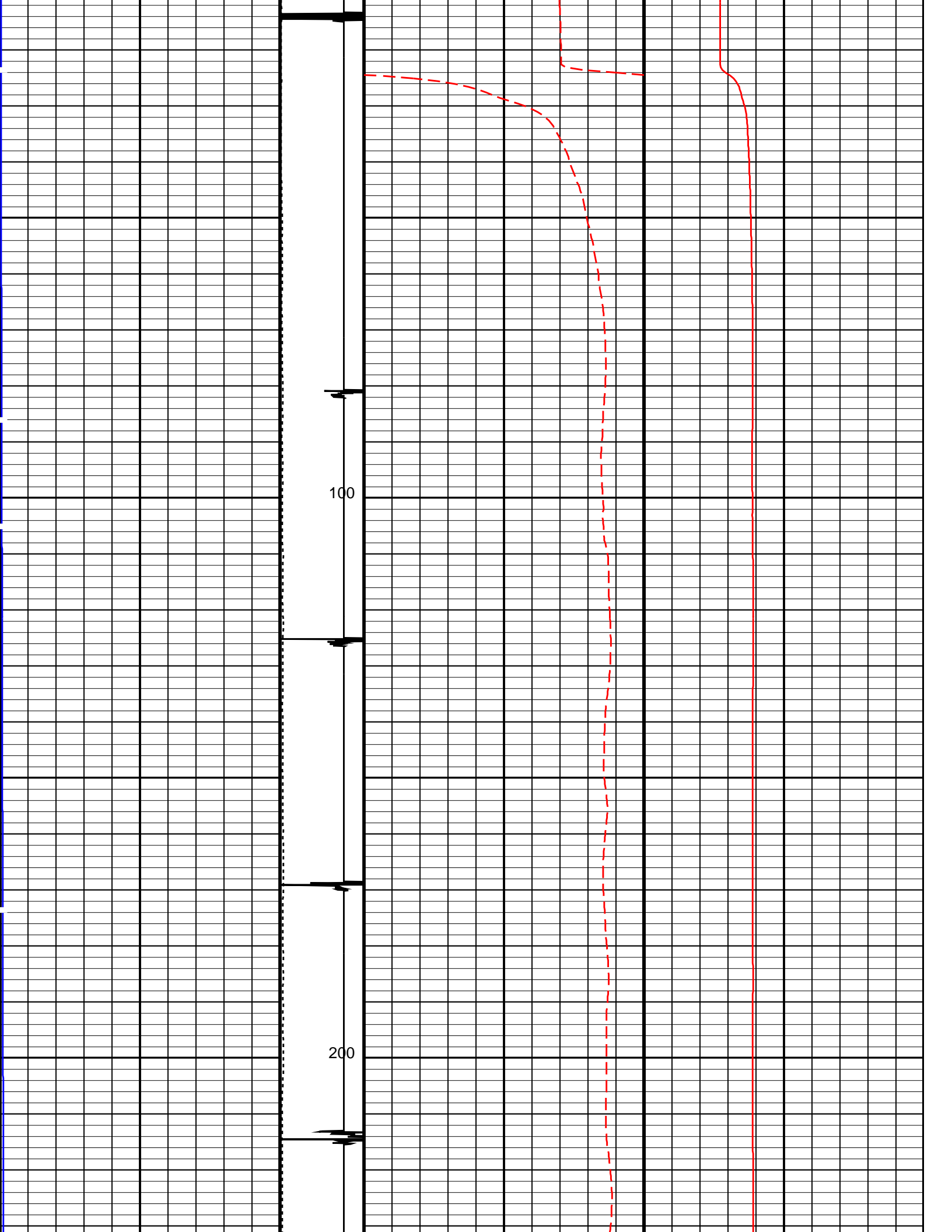
OP System Version: 17C0-154

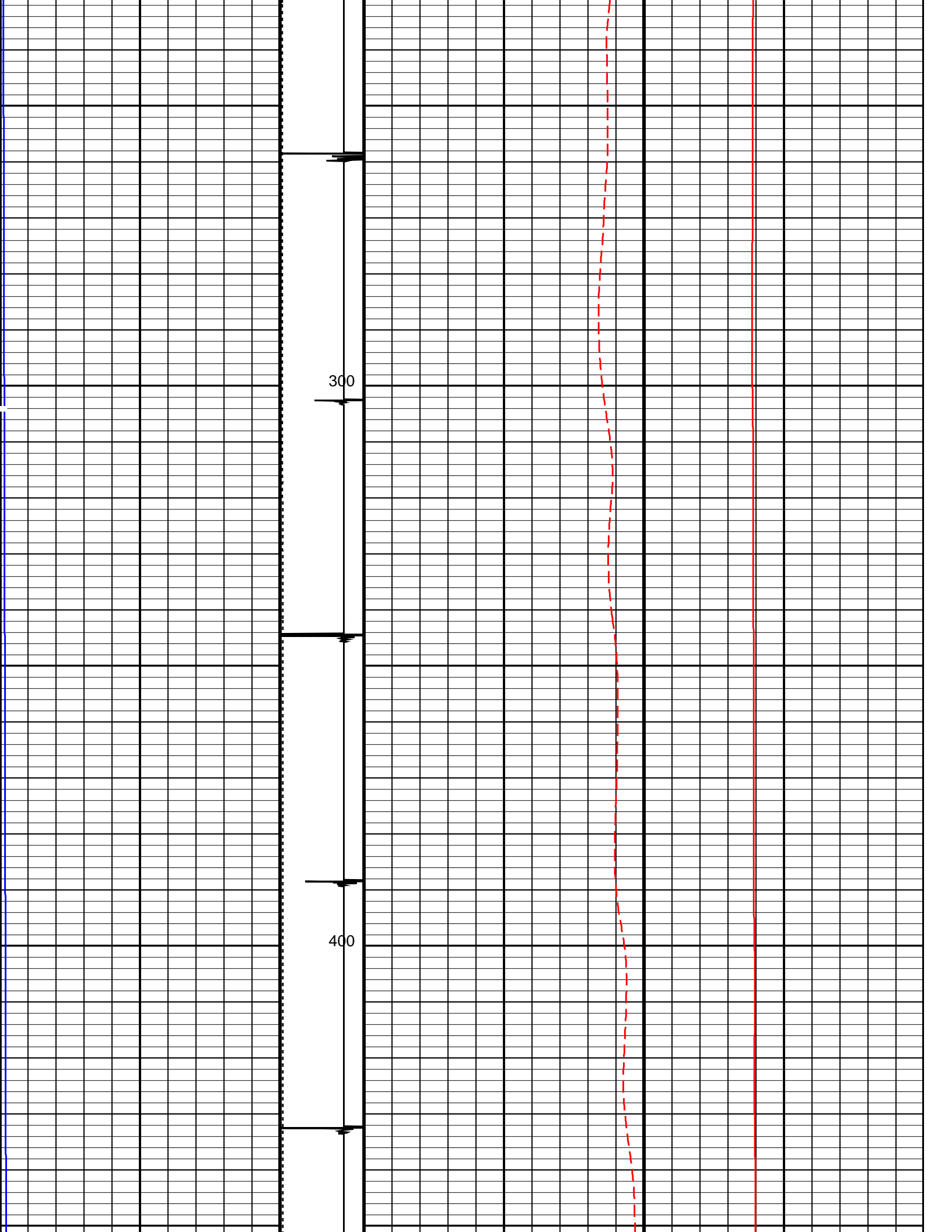
PSPT-A/B 17C0-154

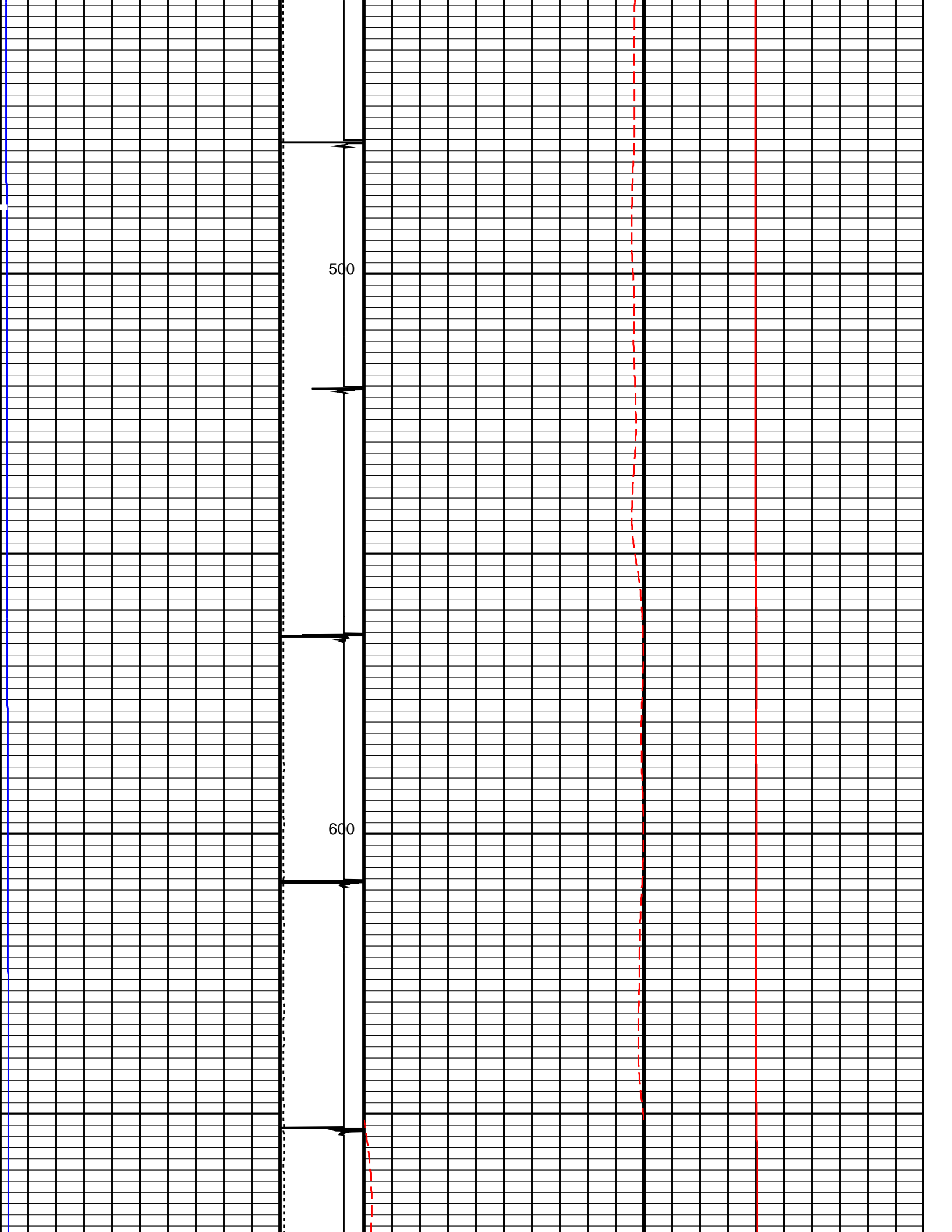
PIP SUMMARY

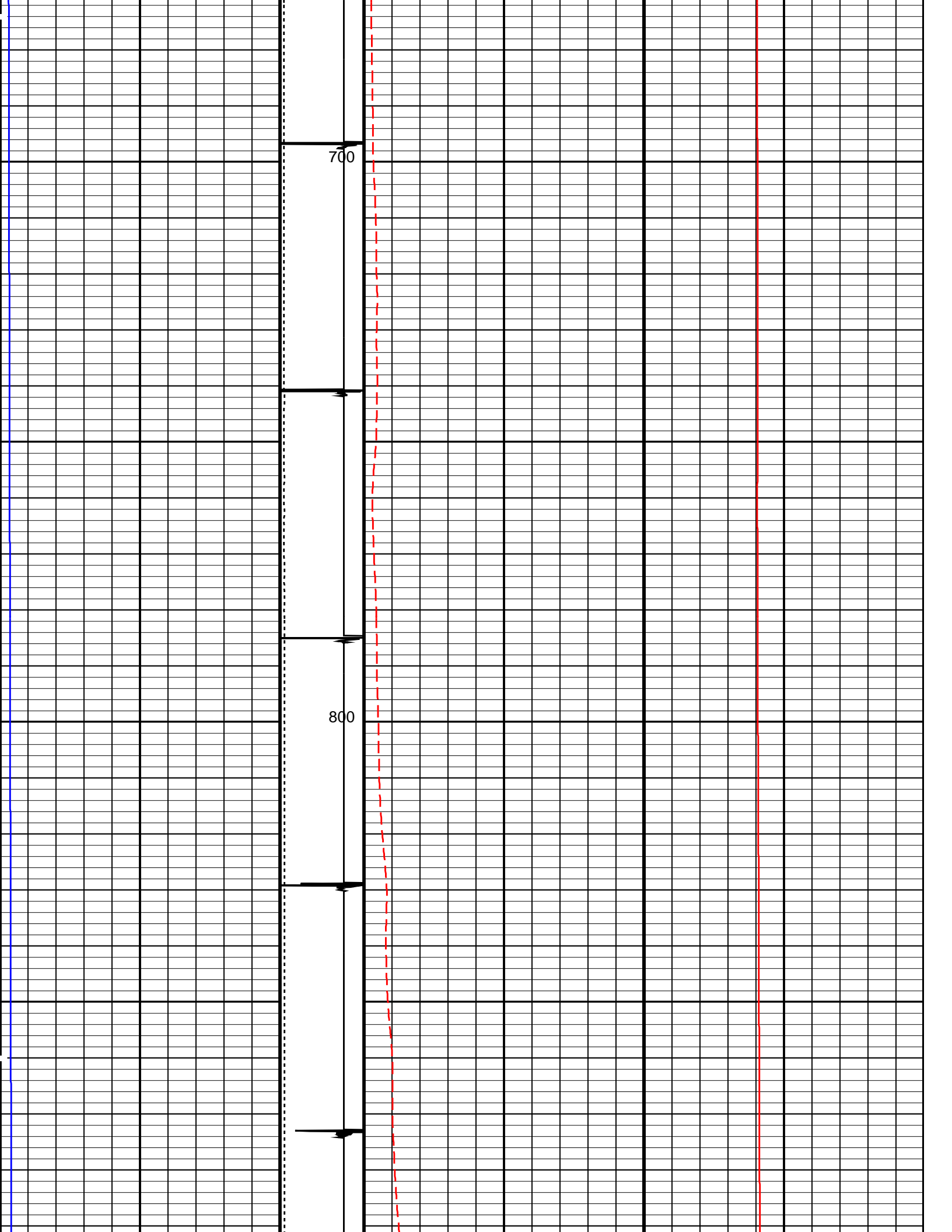
Time Mark Every 60 S

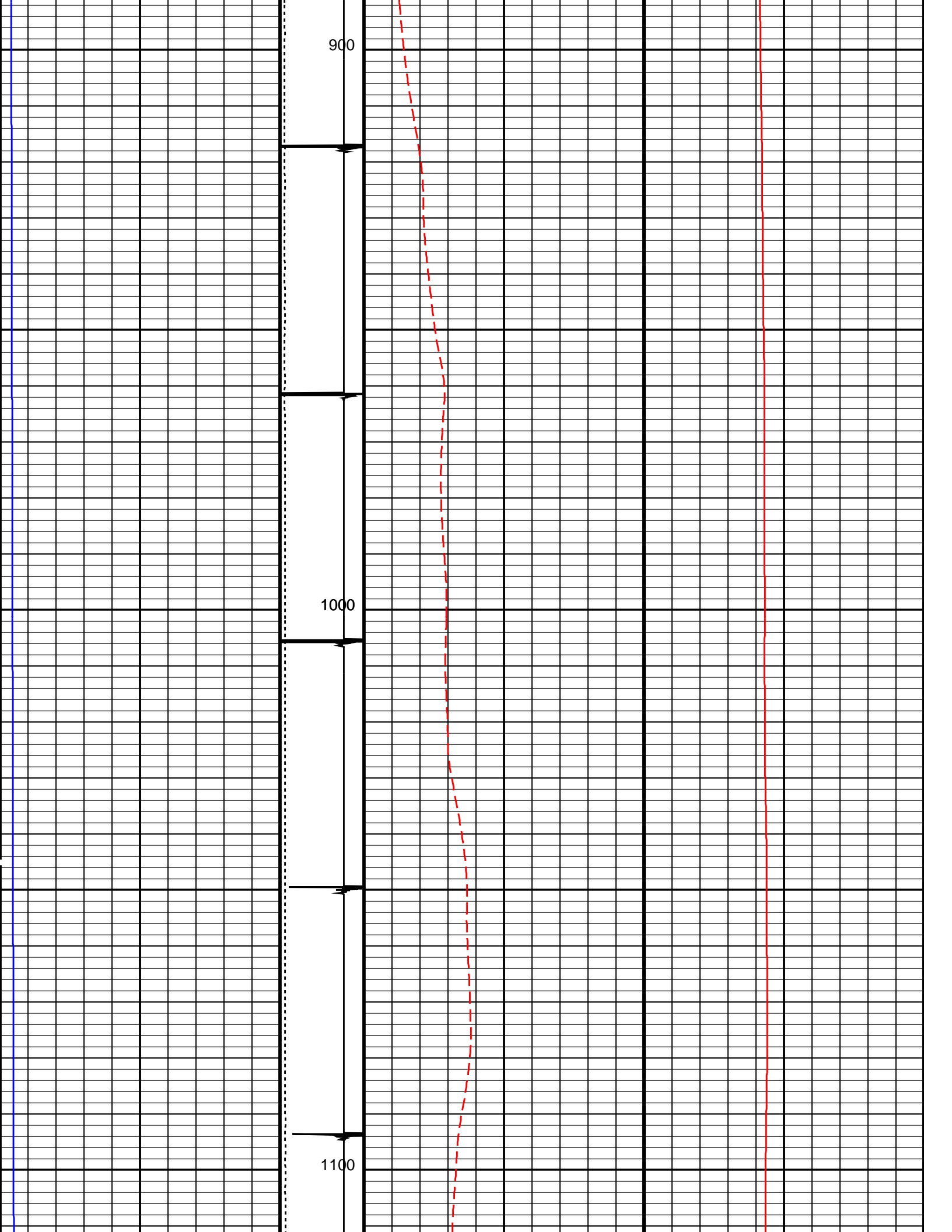


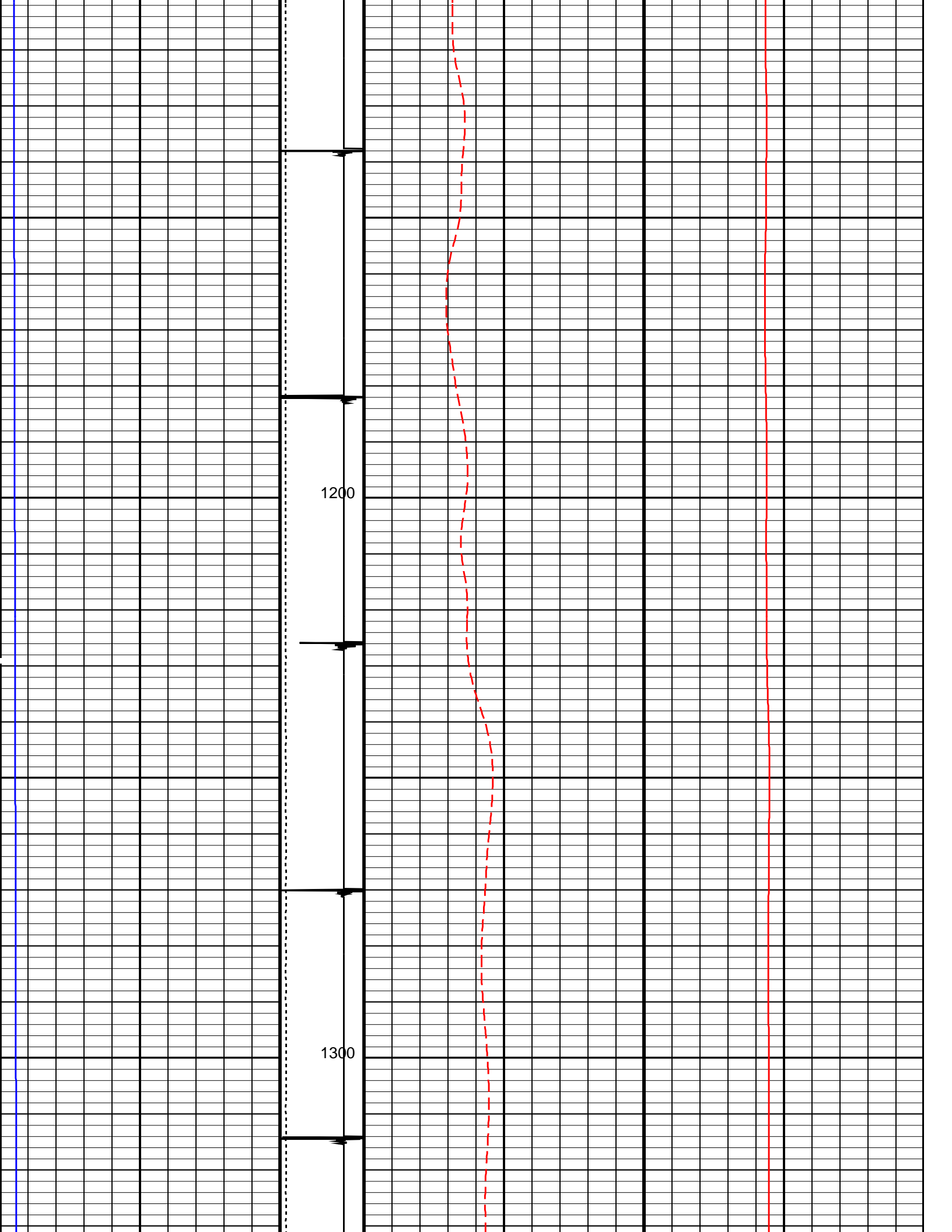


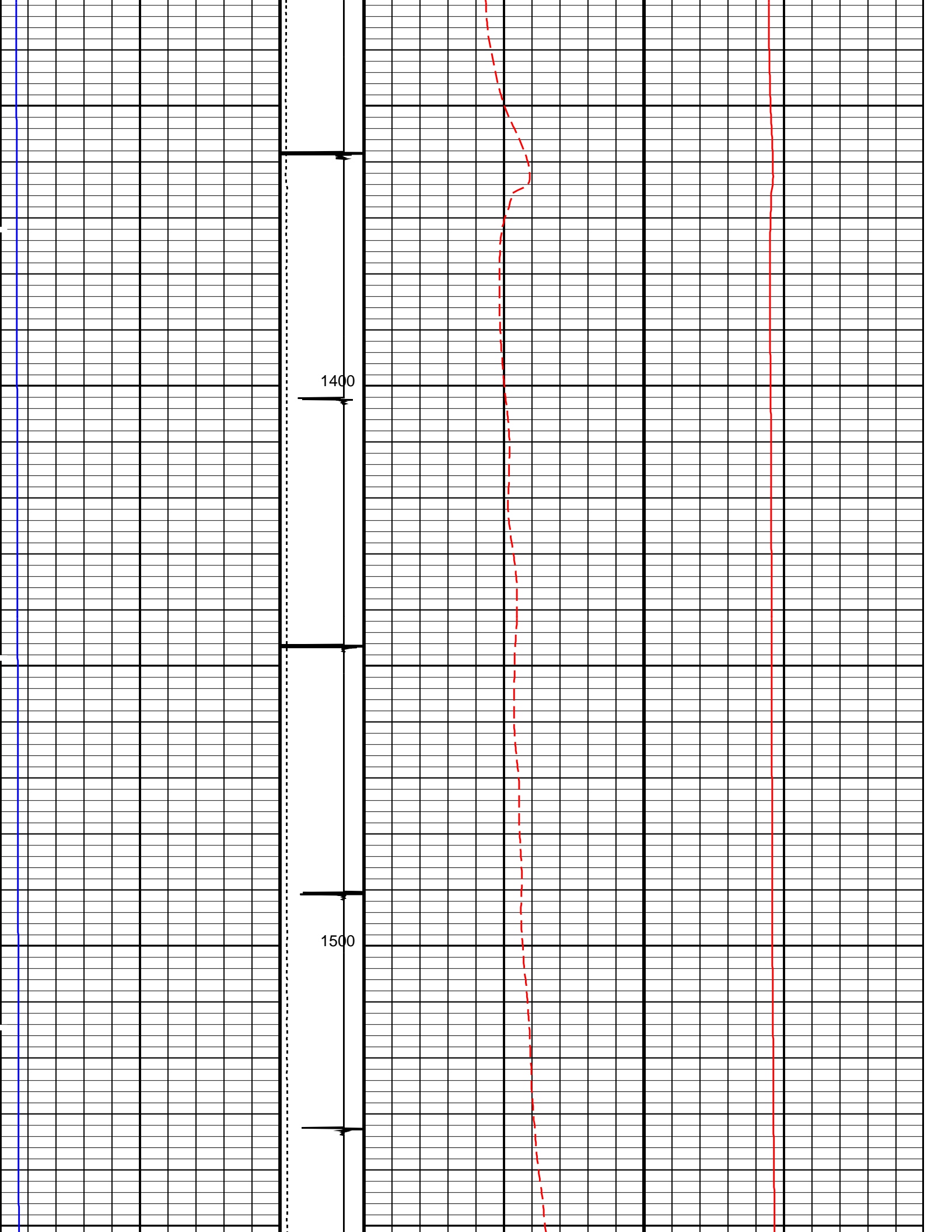


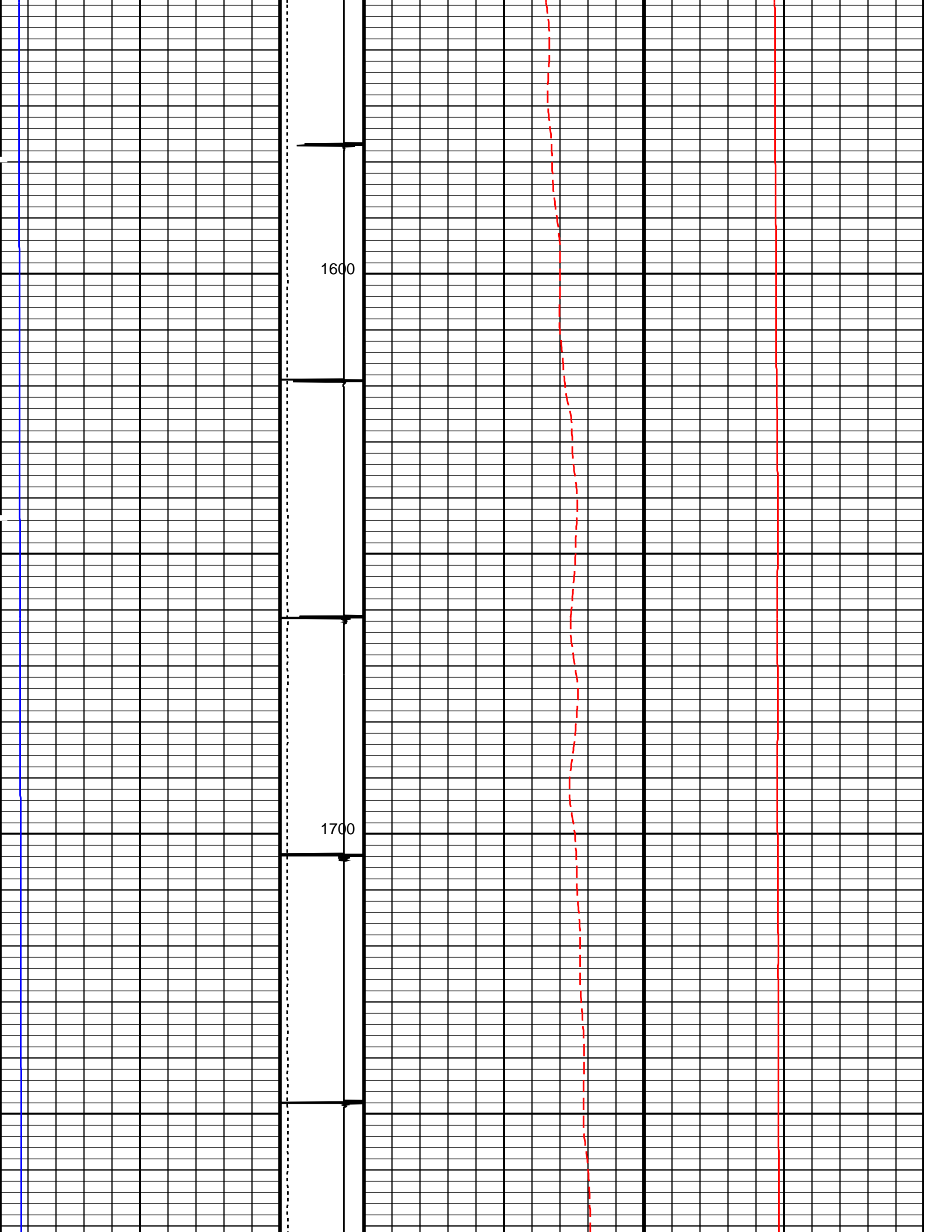


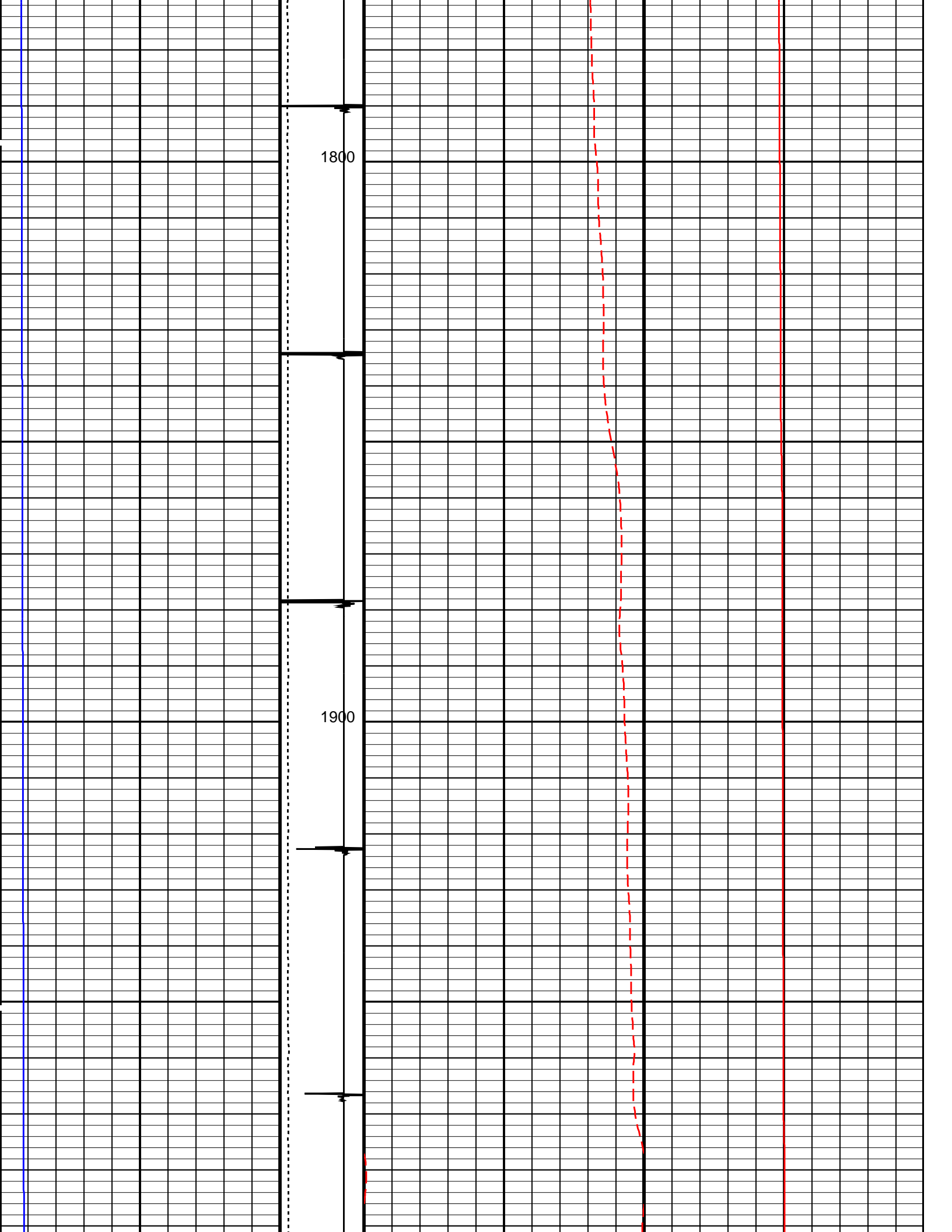


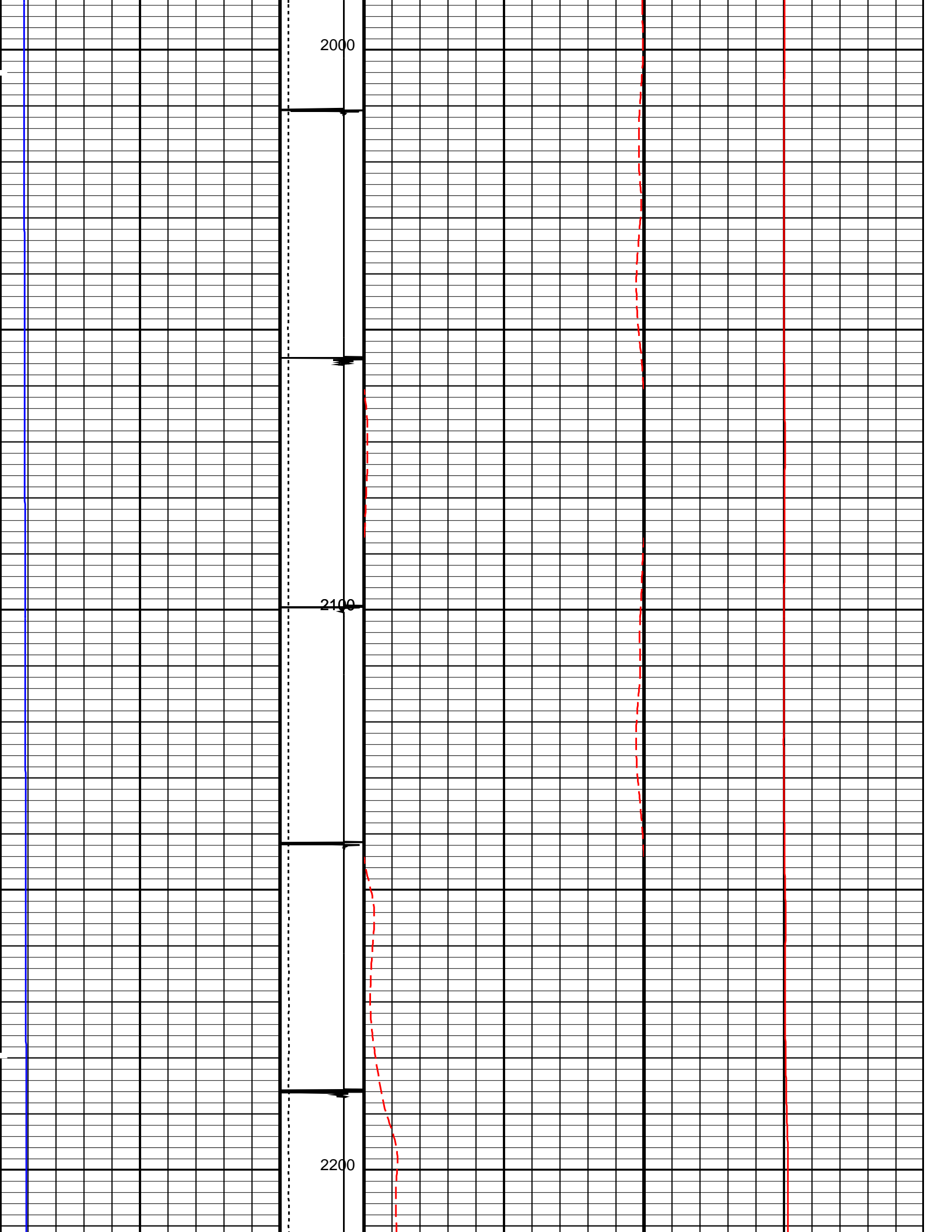


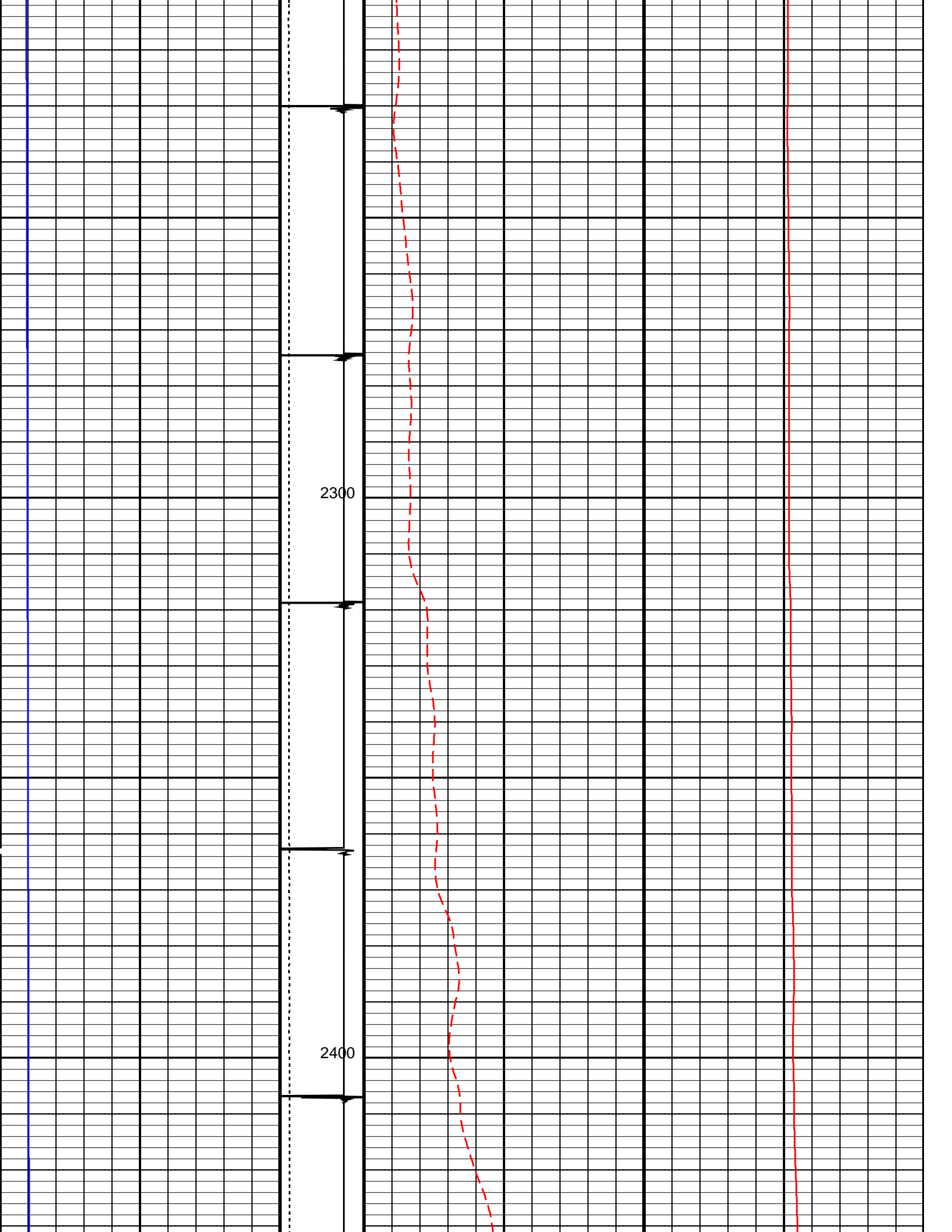


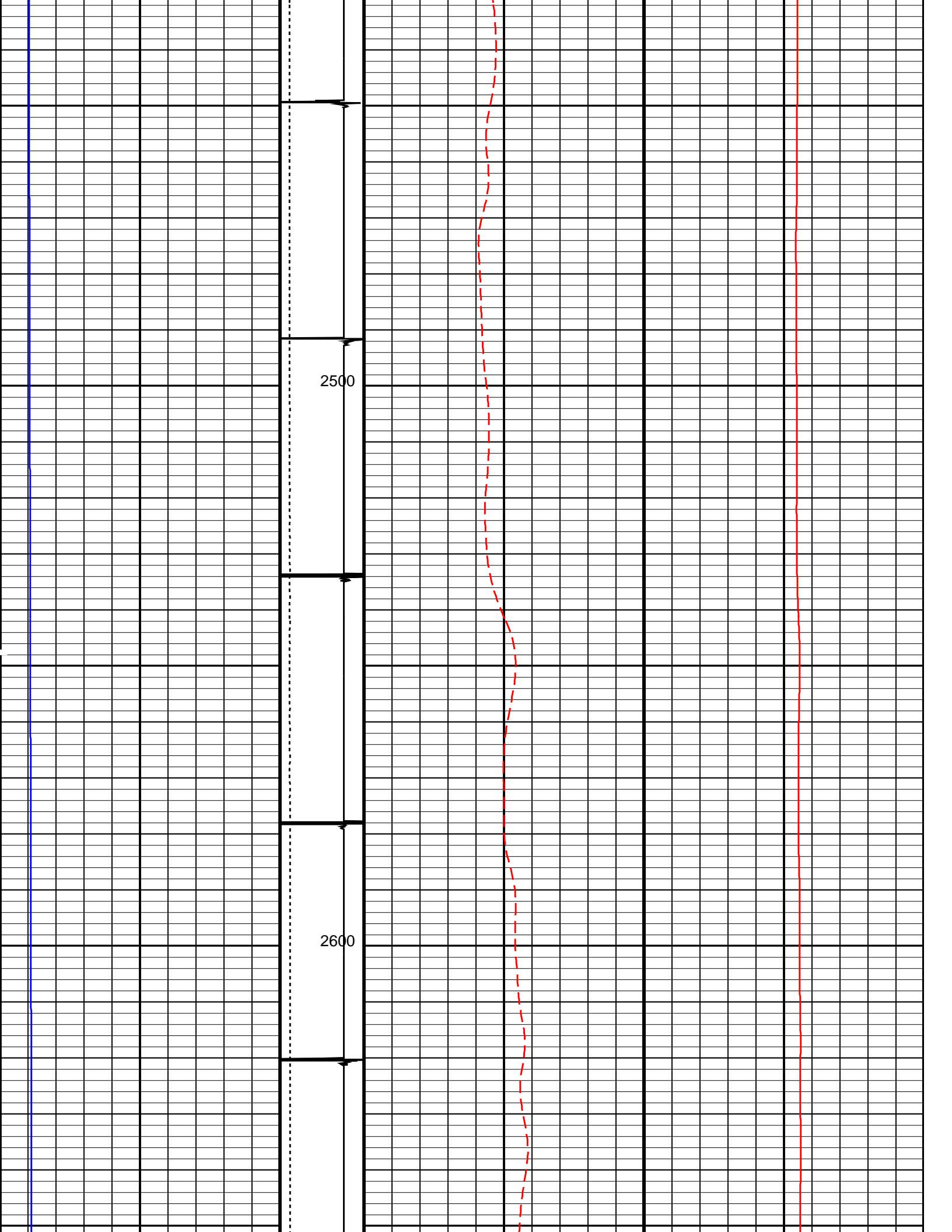


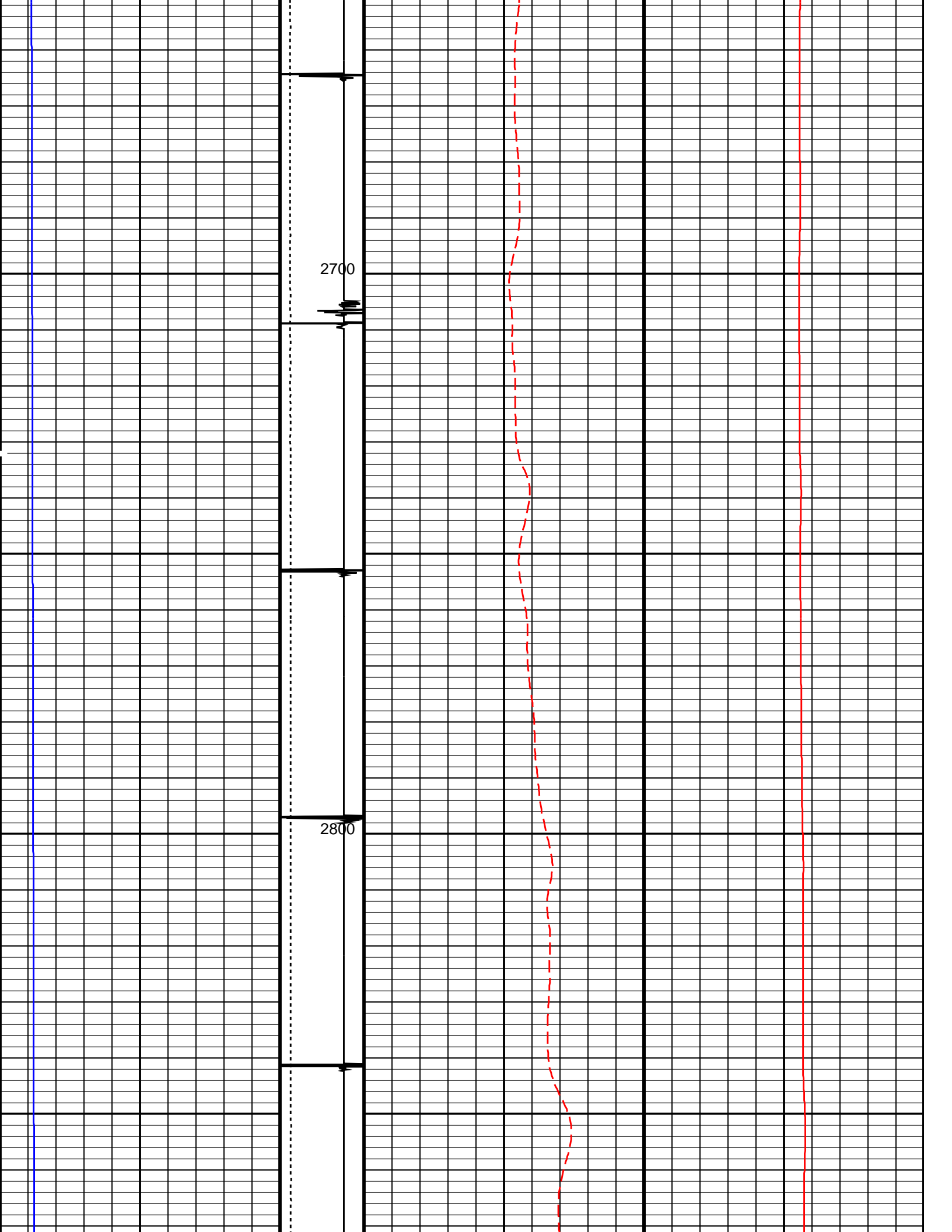


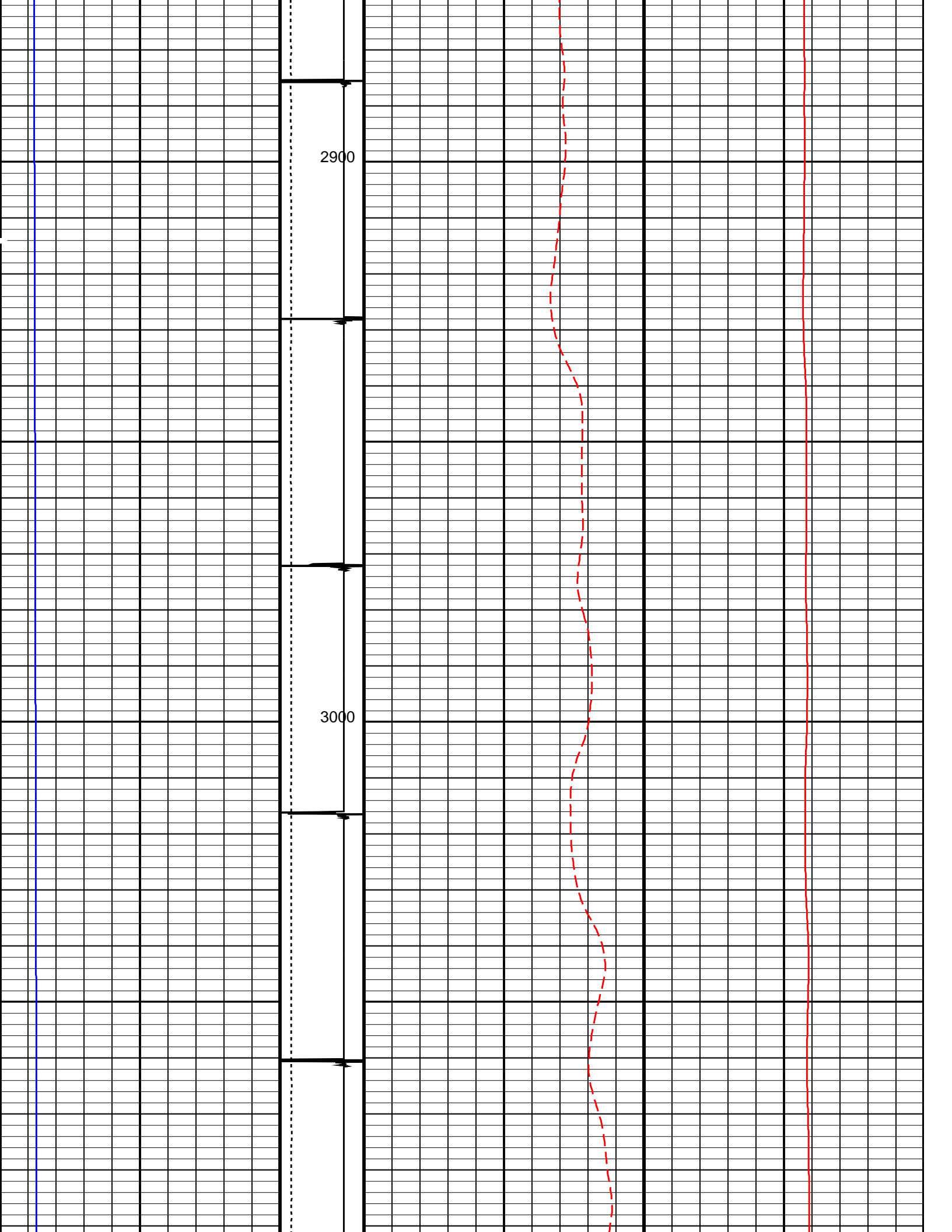


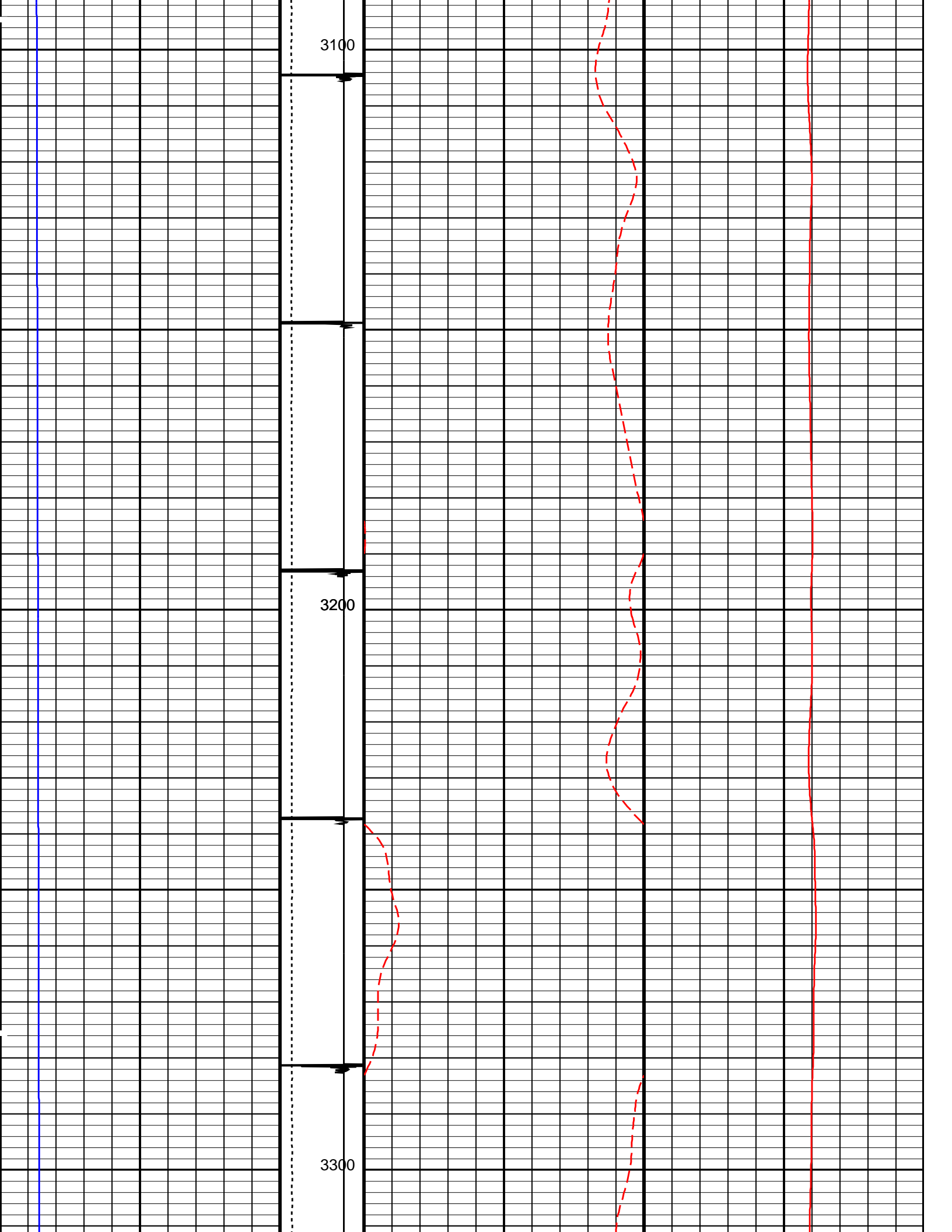


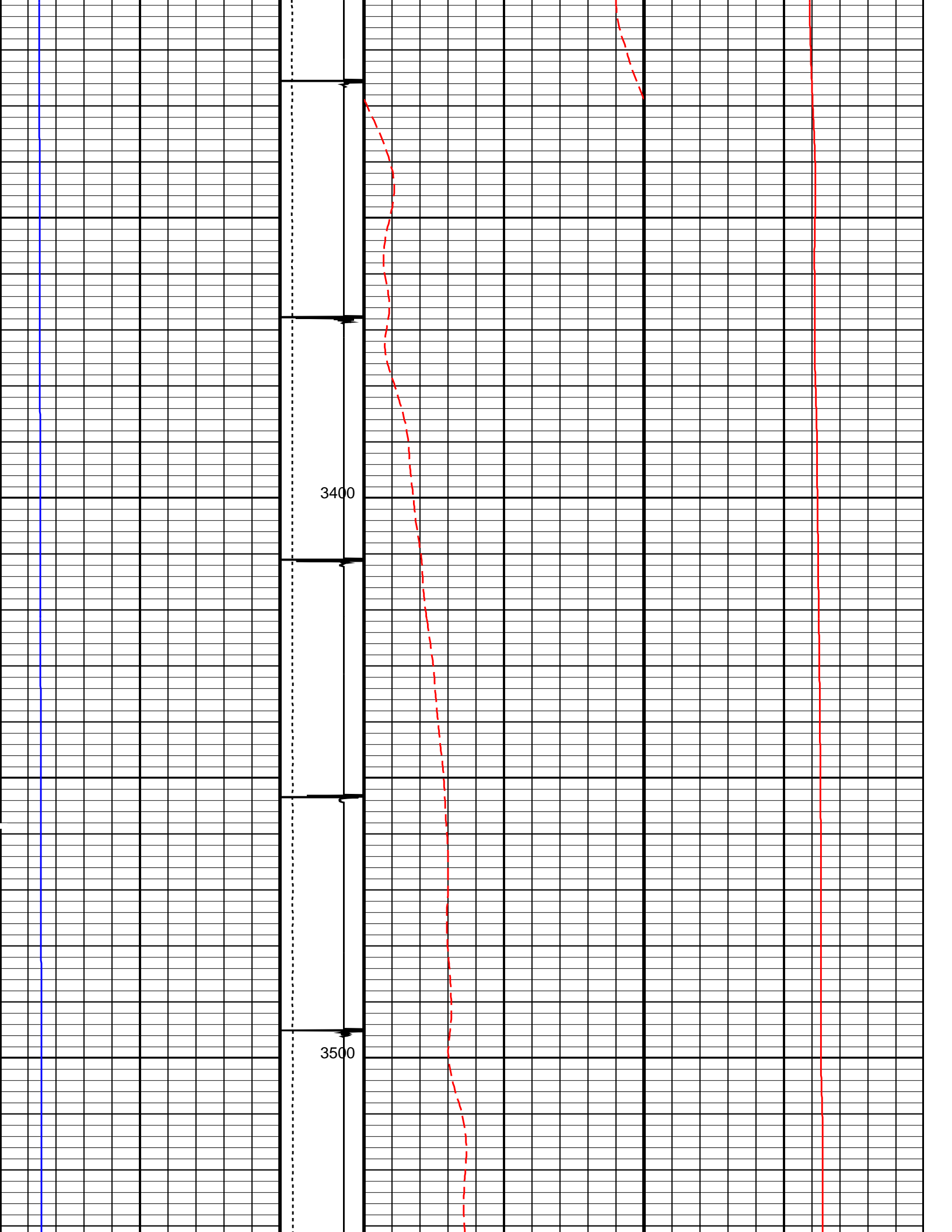


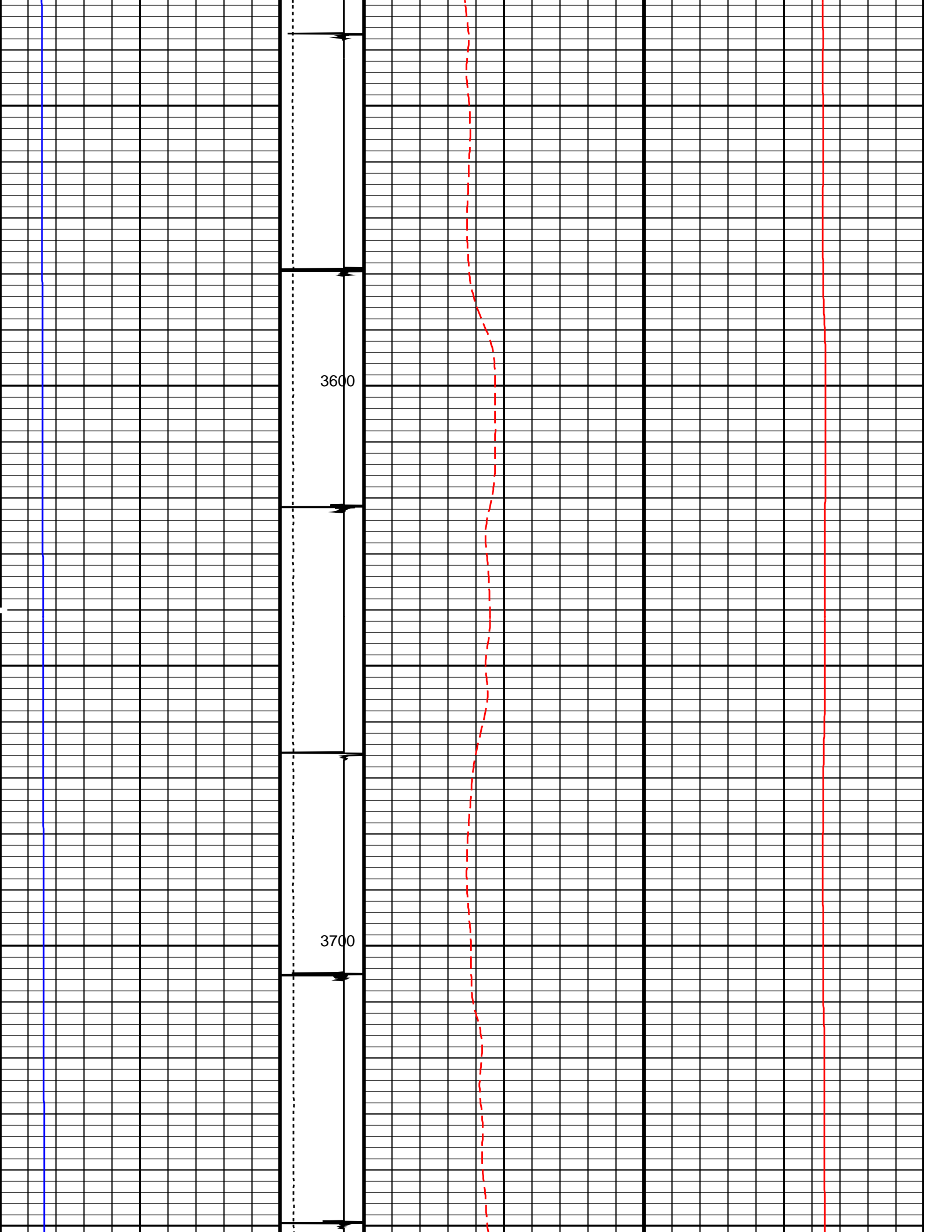


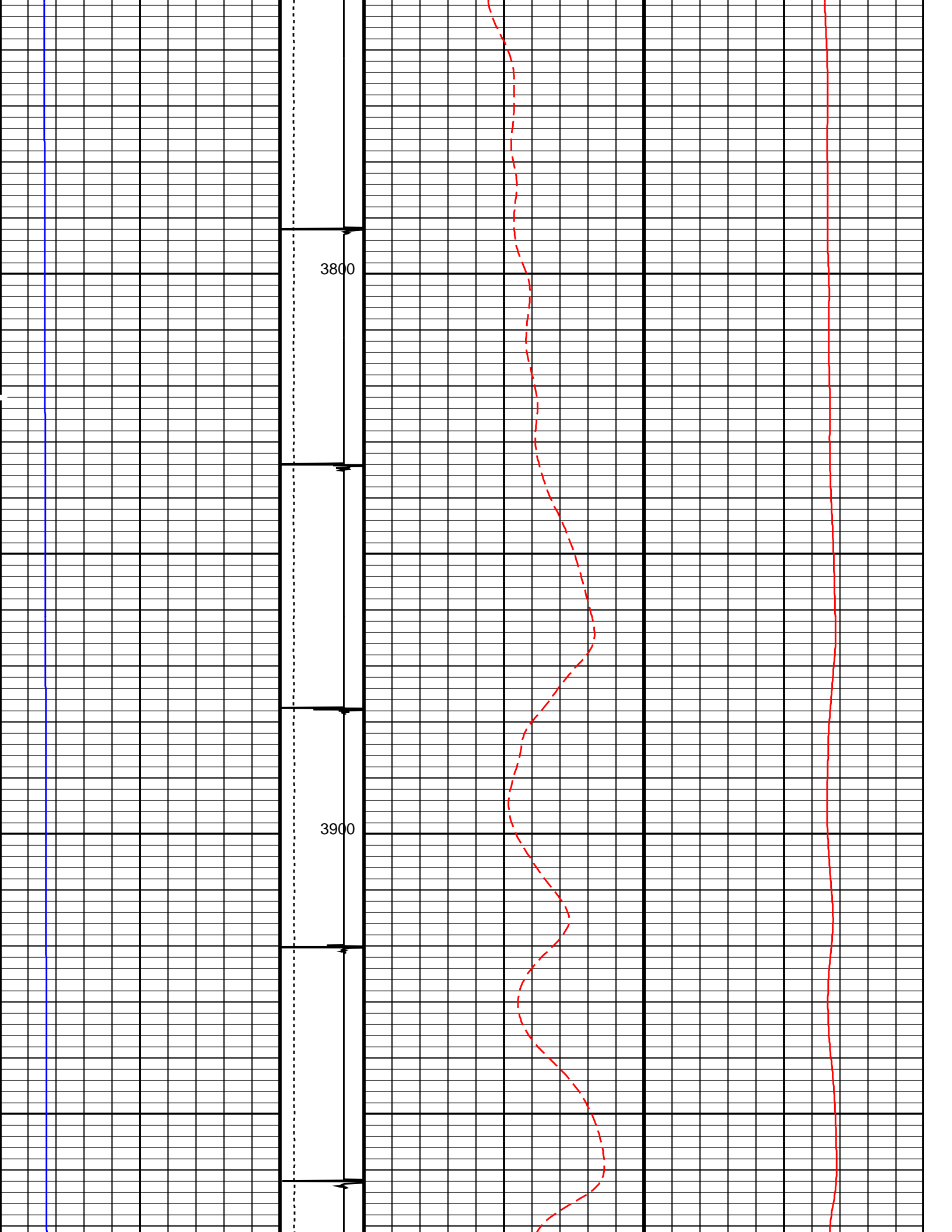


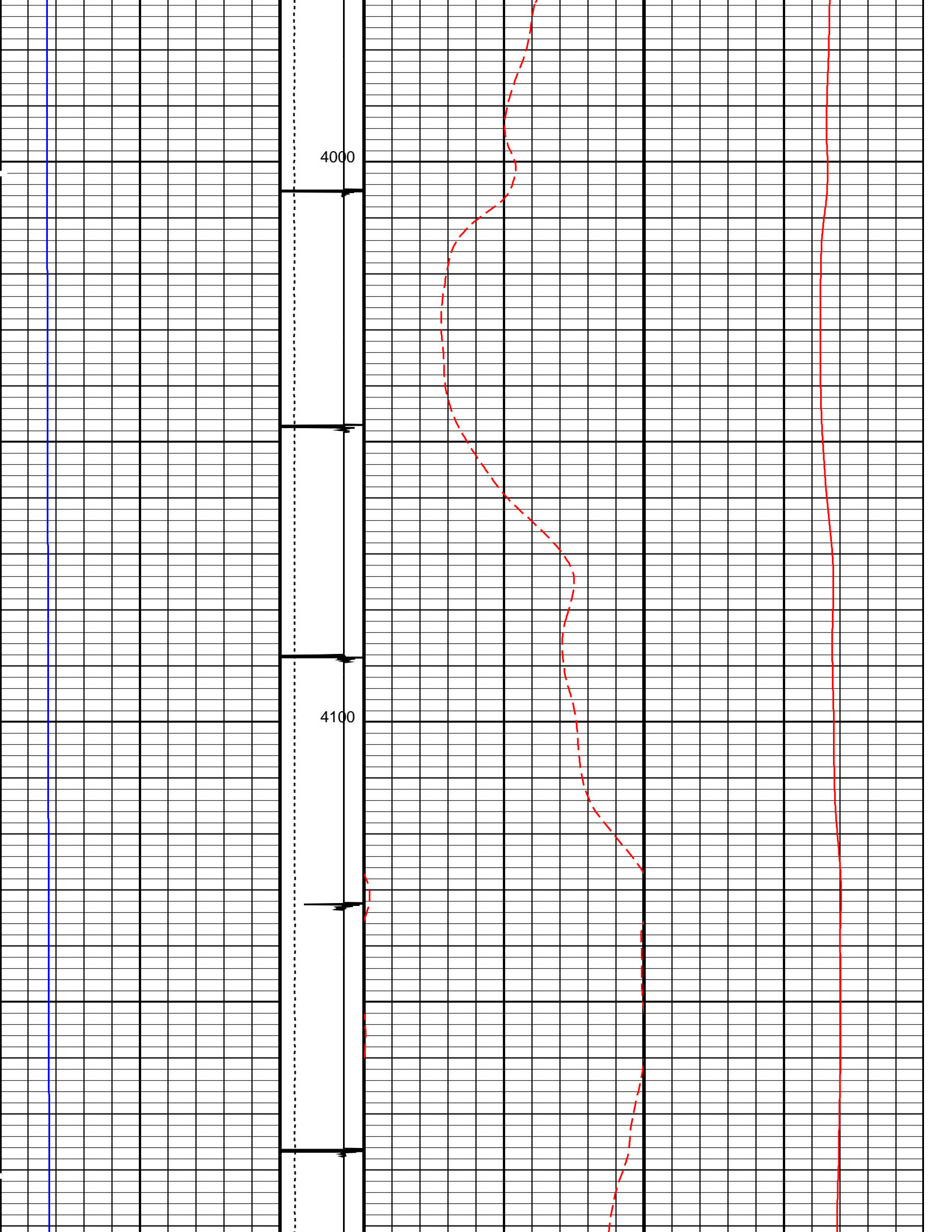


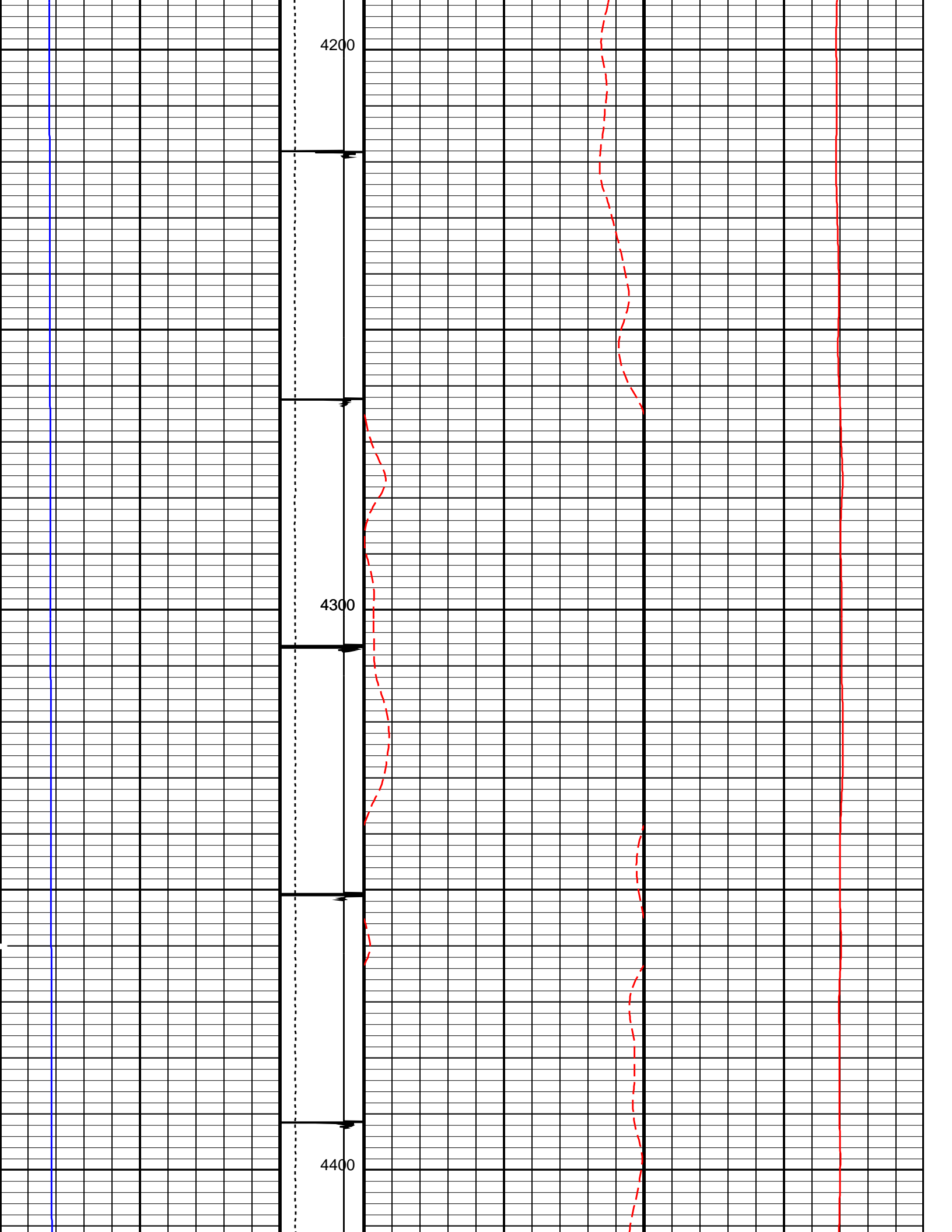


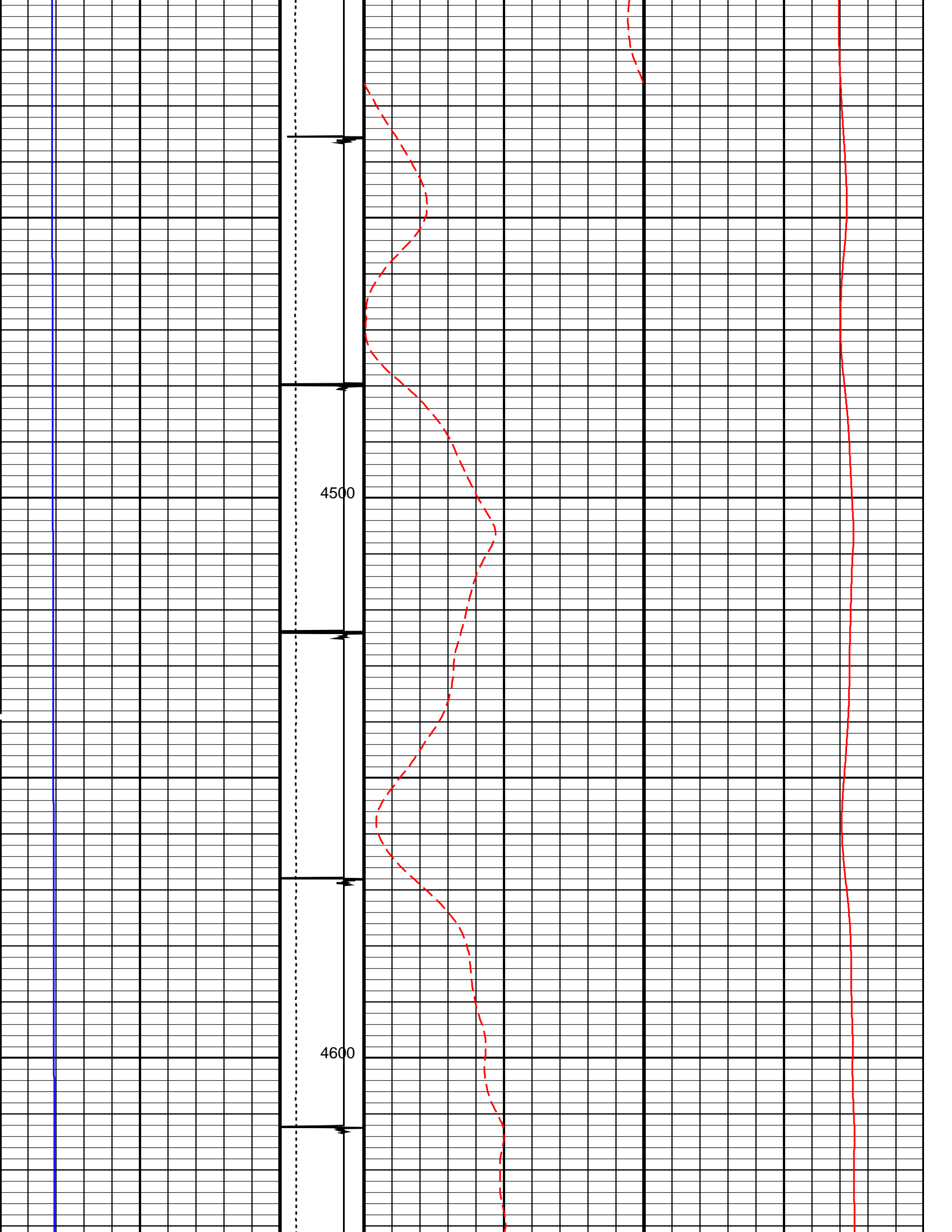


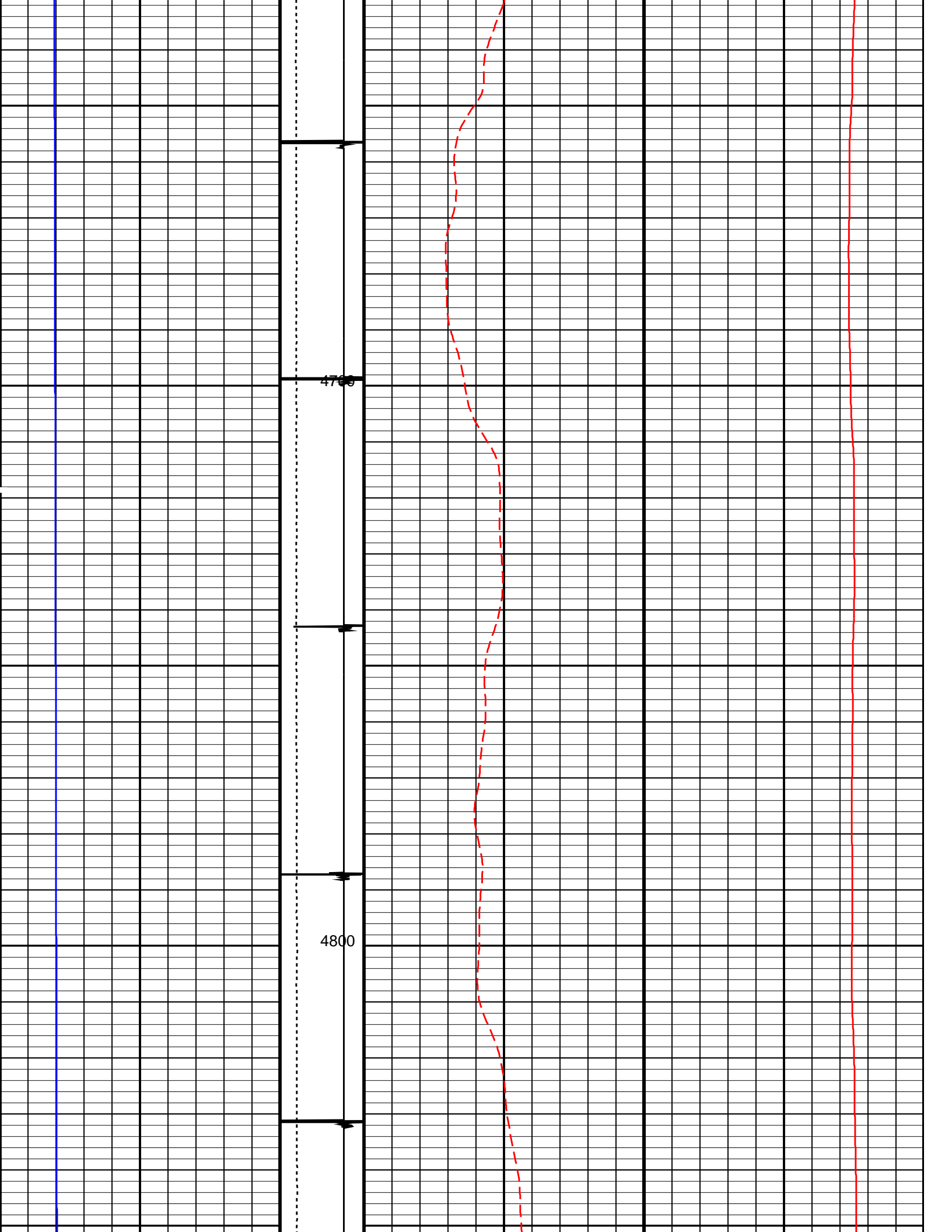


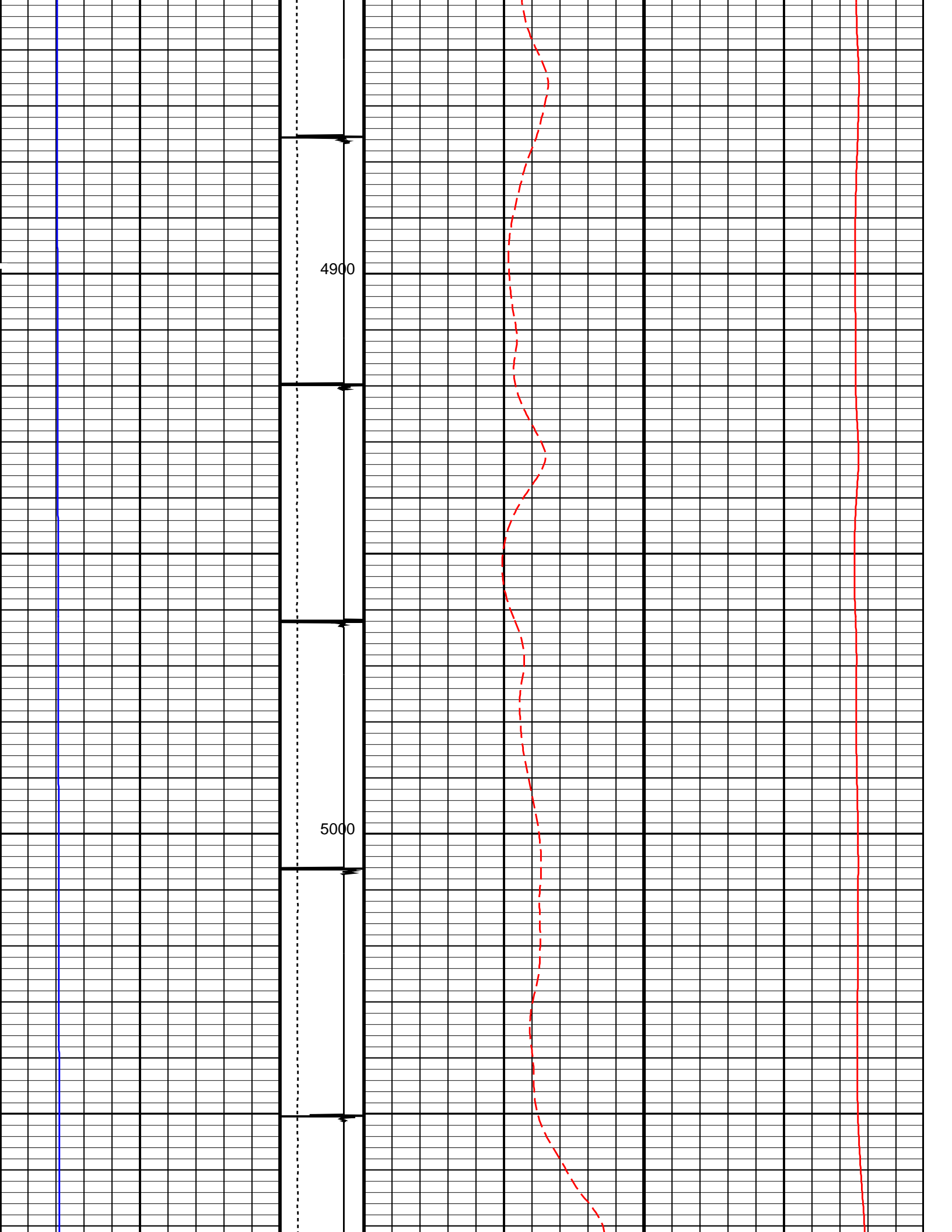


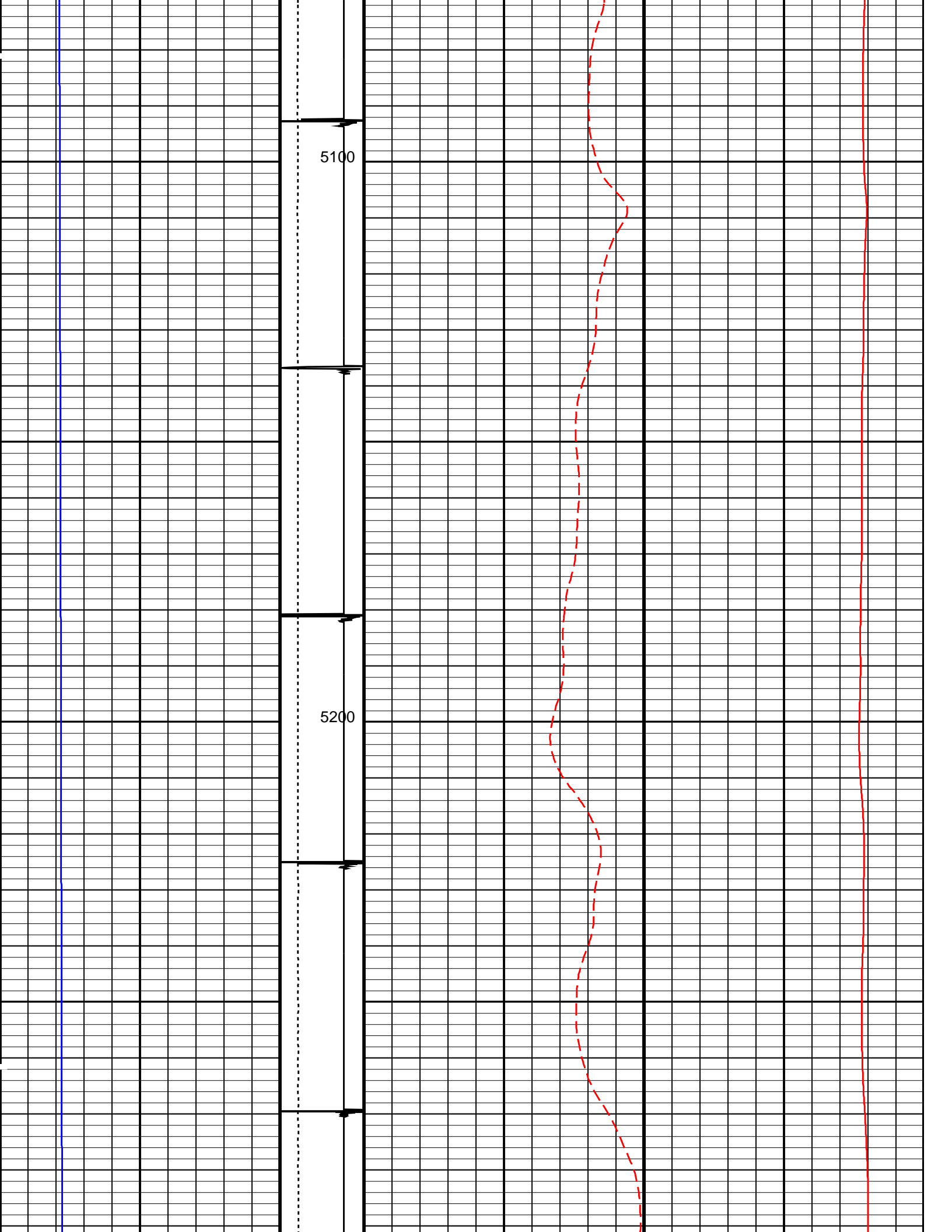


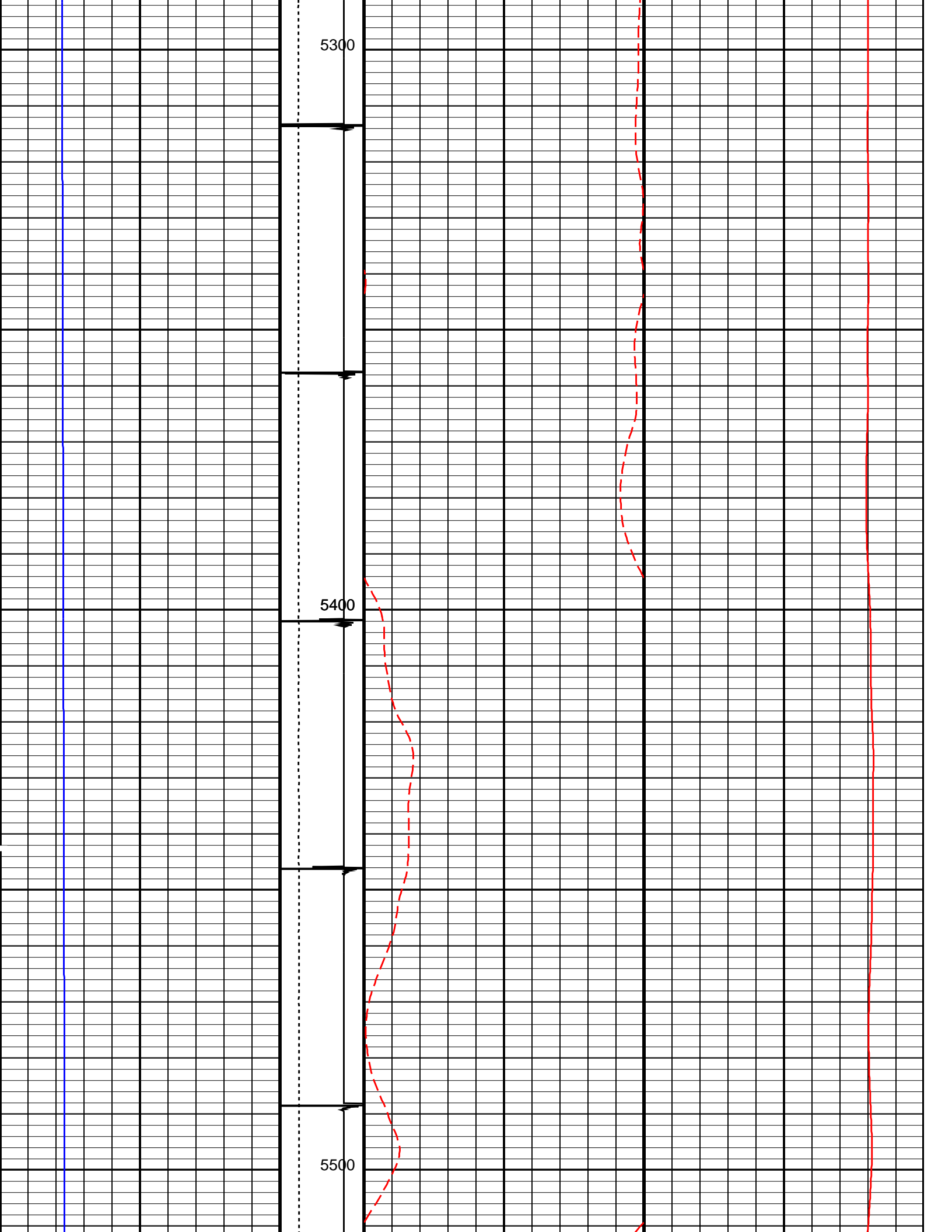








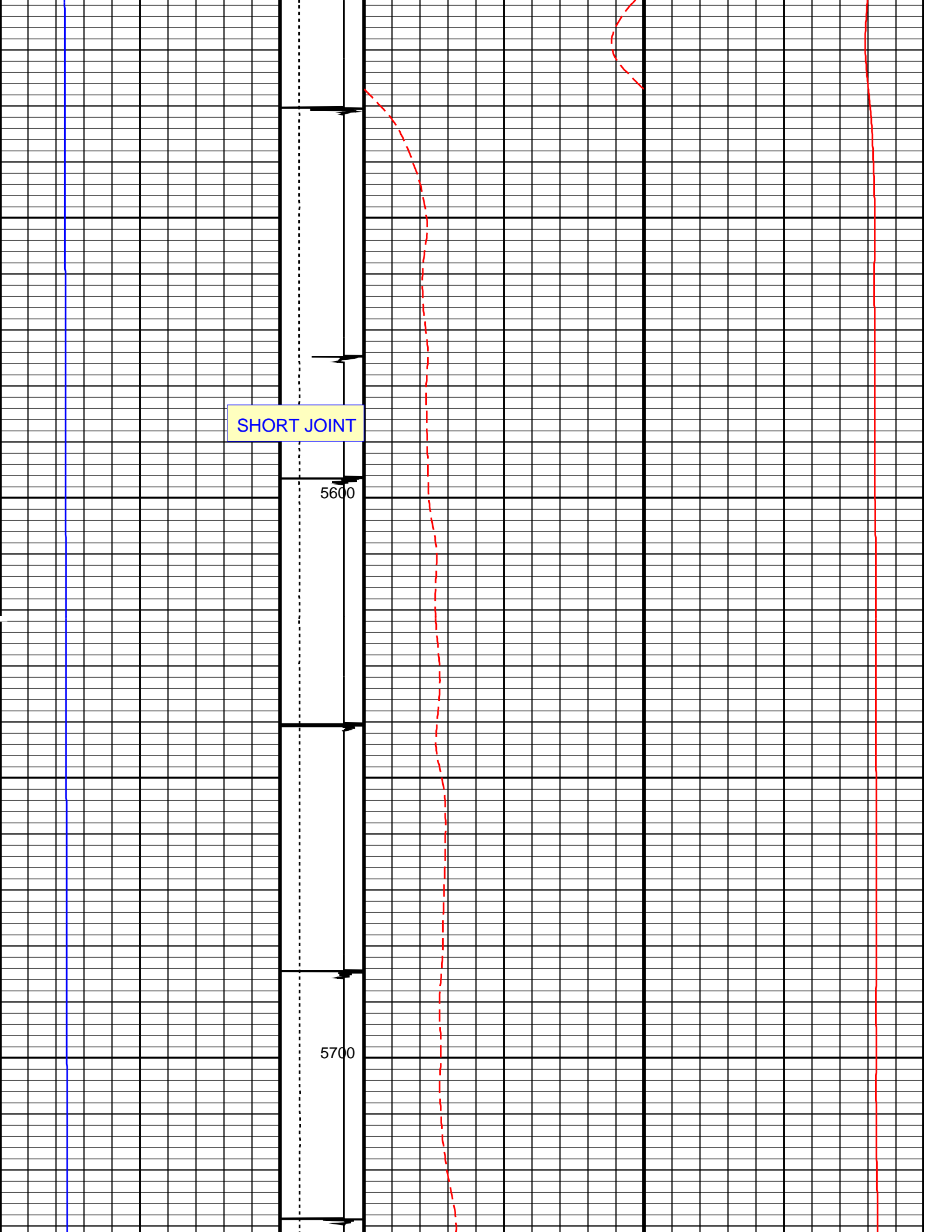


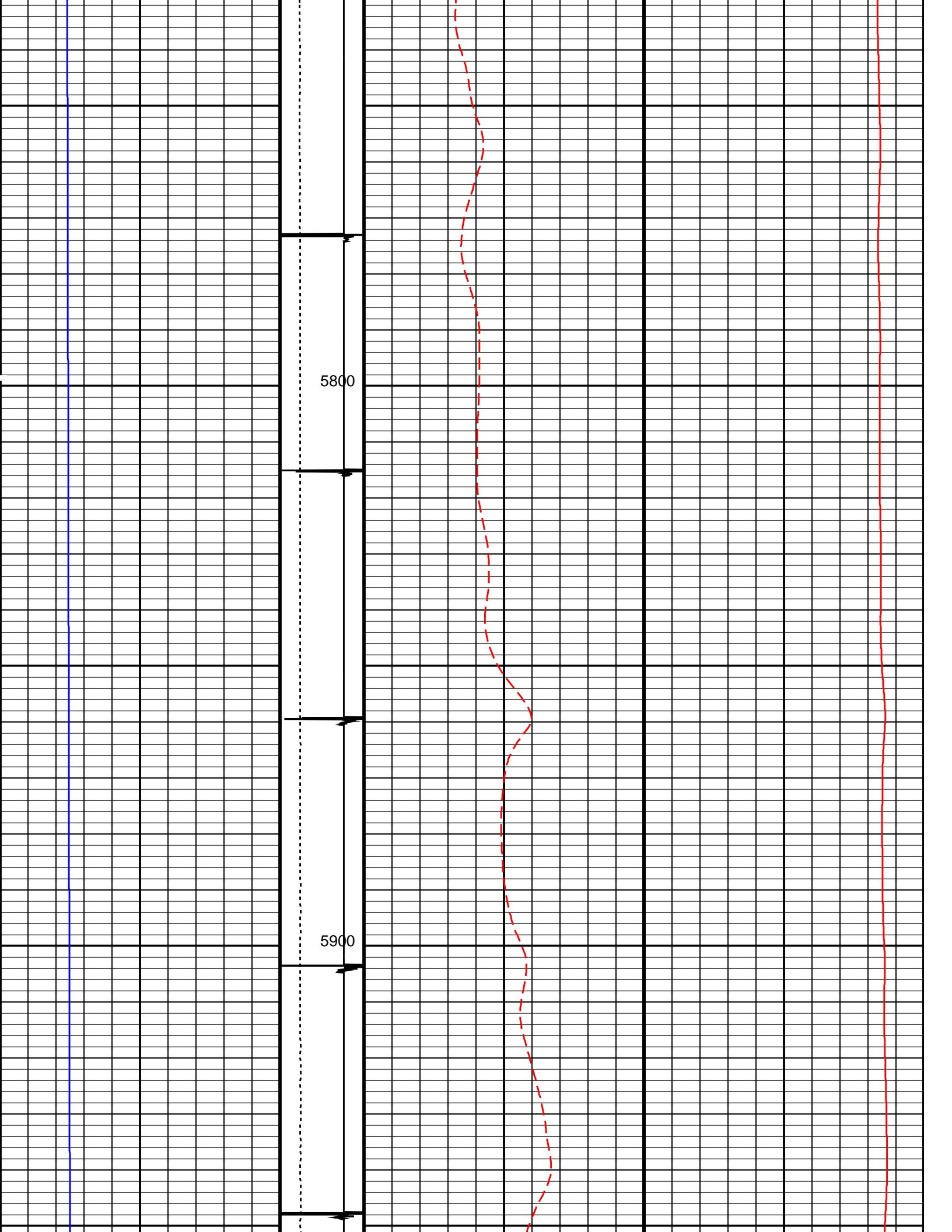


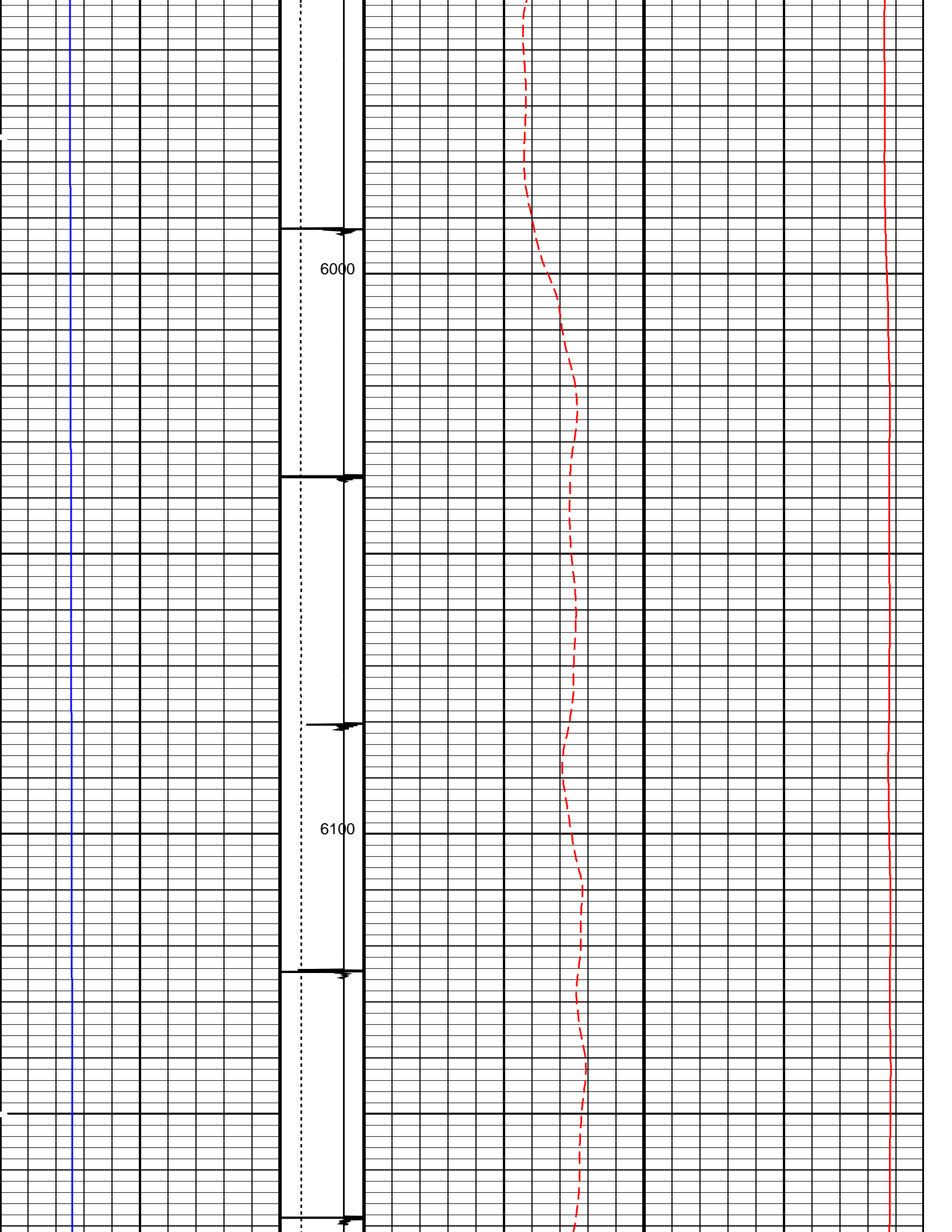
SHORT JOINT

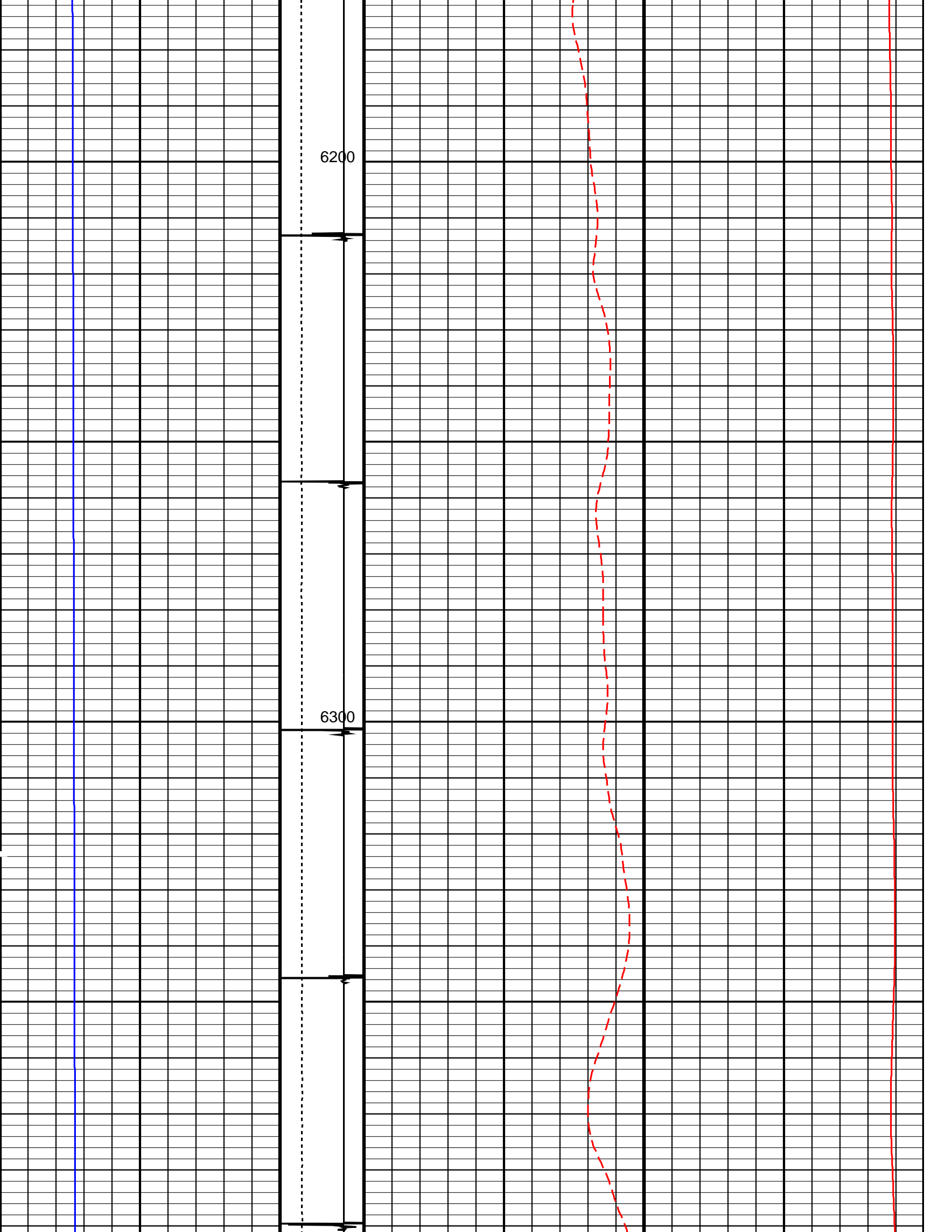
5600

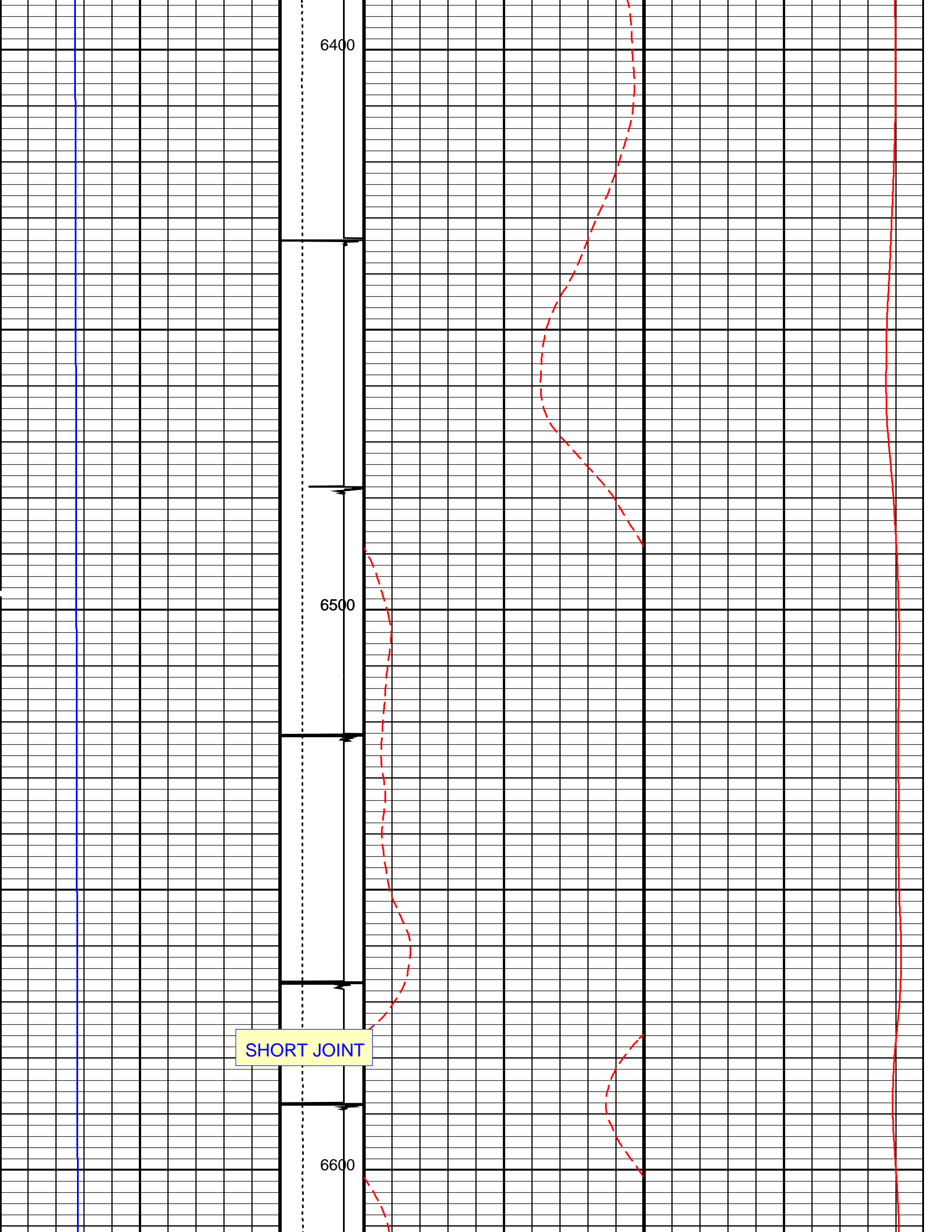
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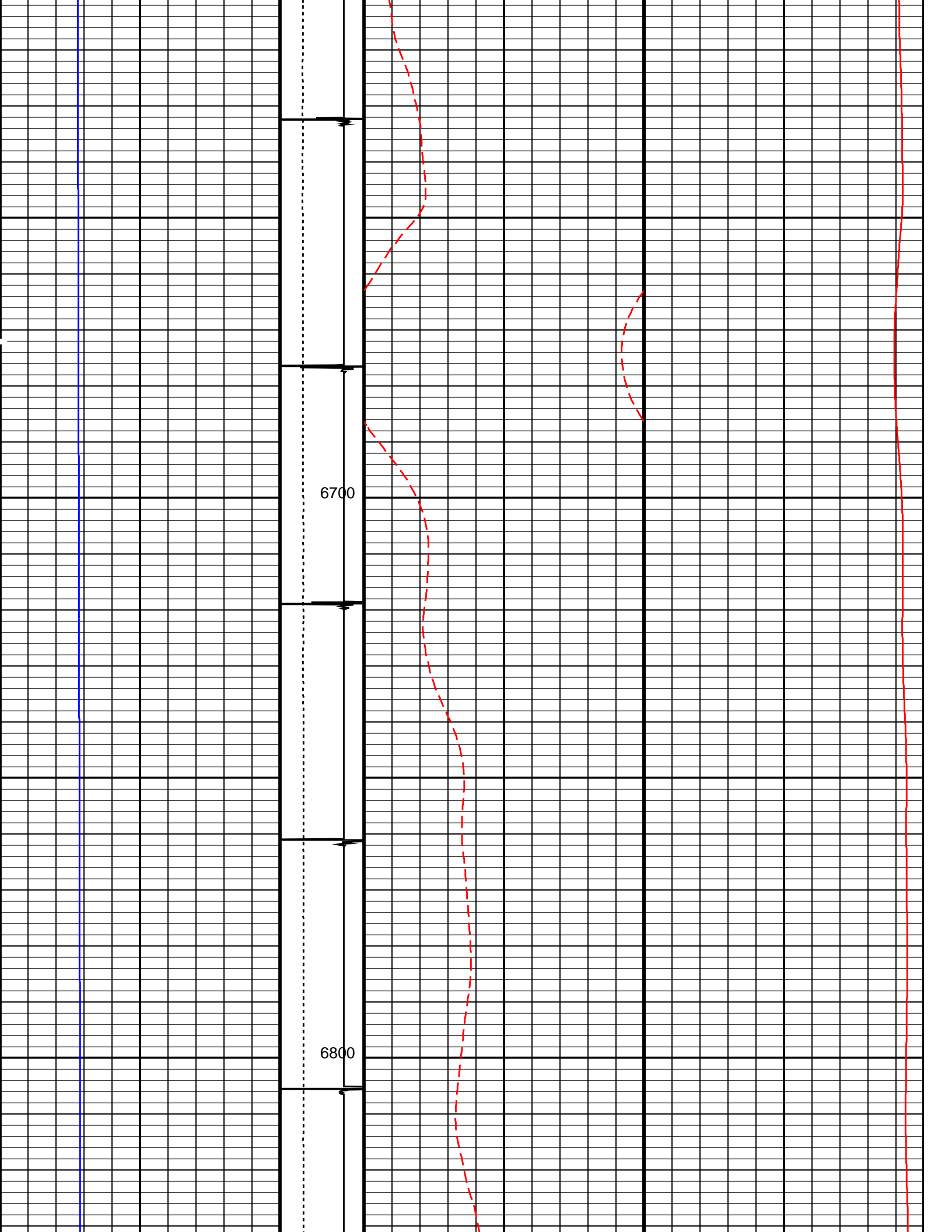


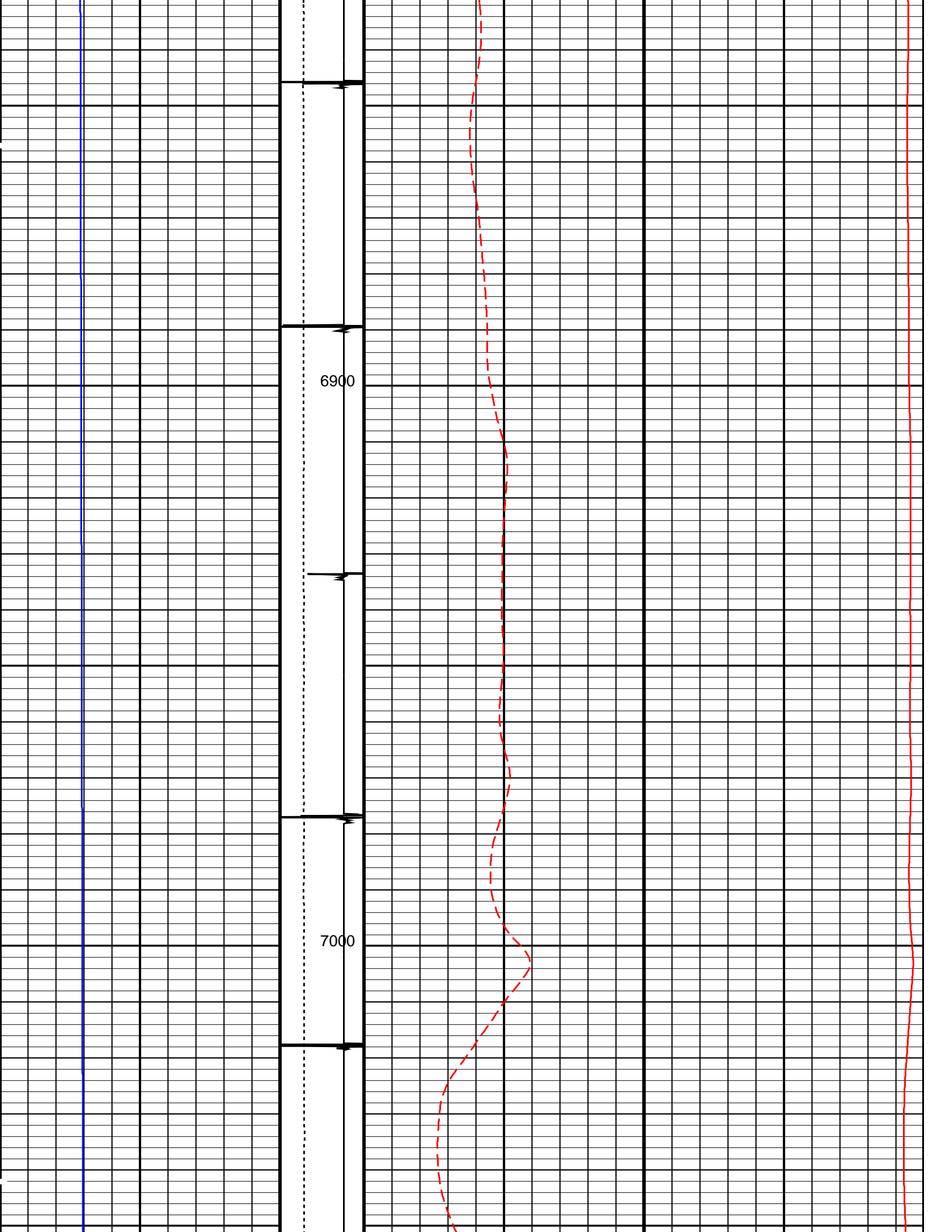


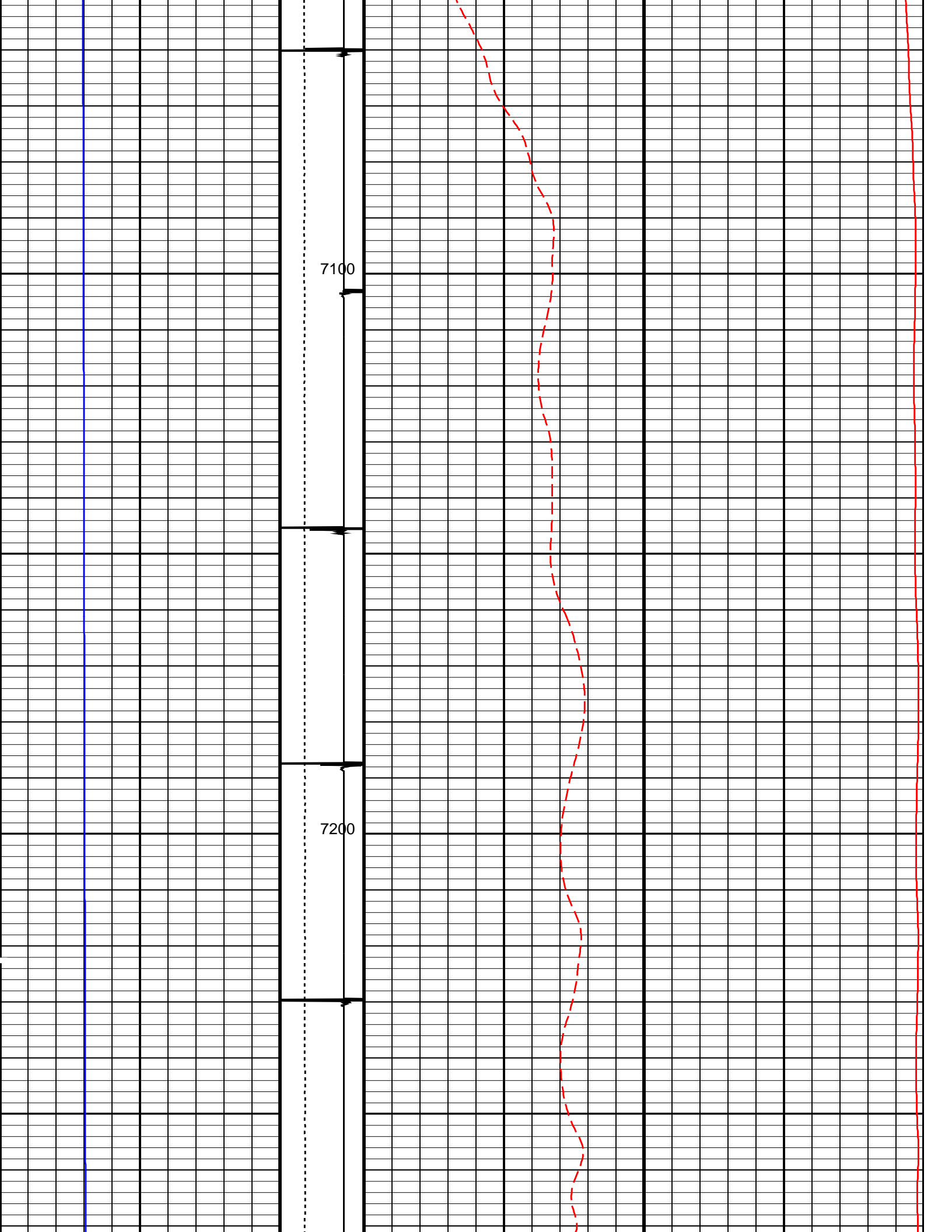


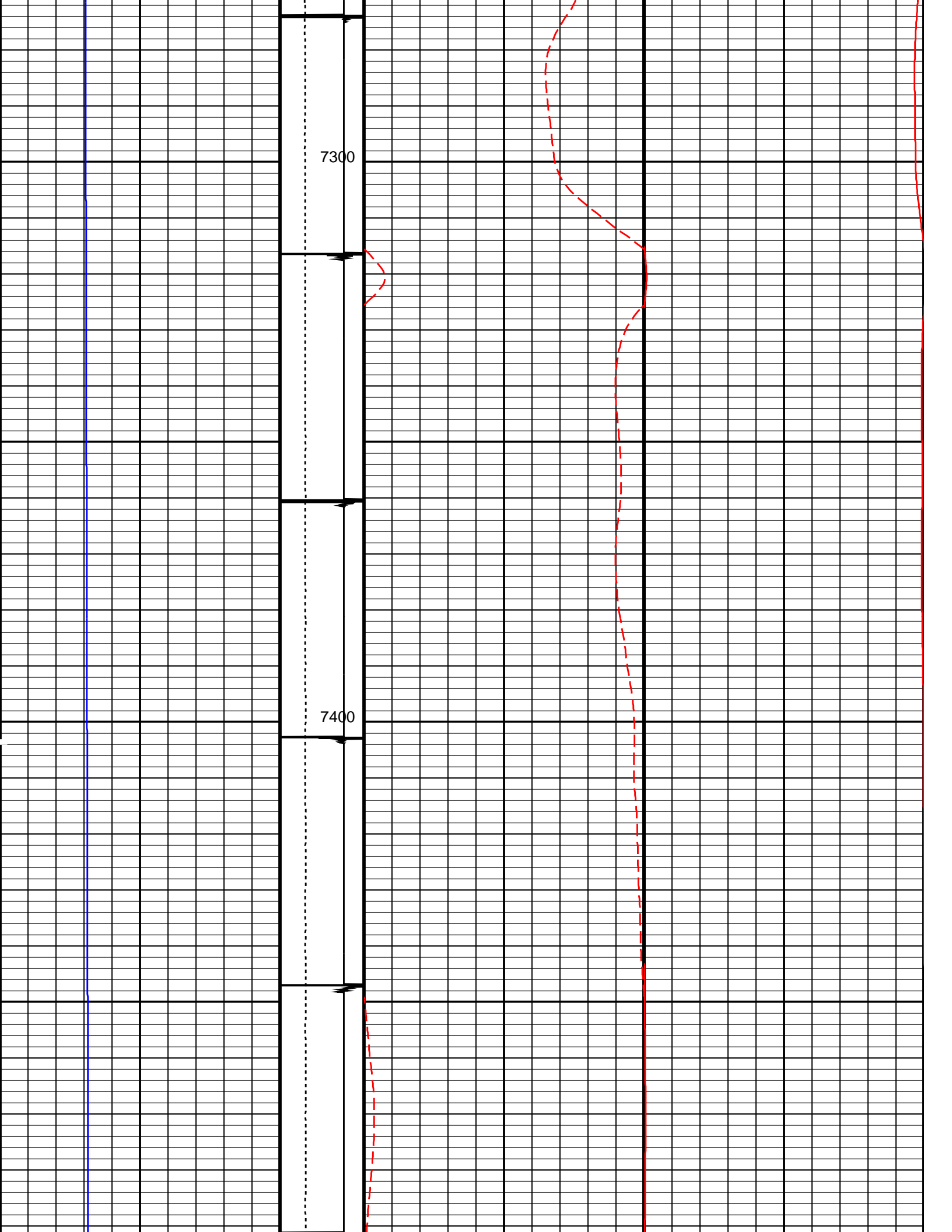


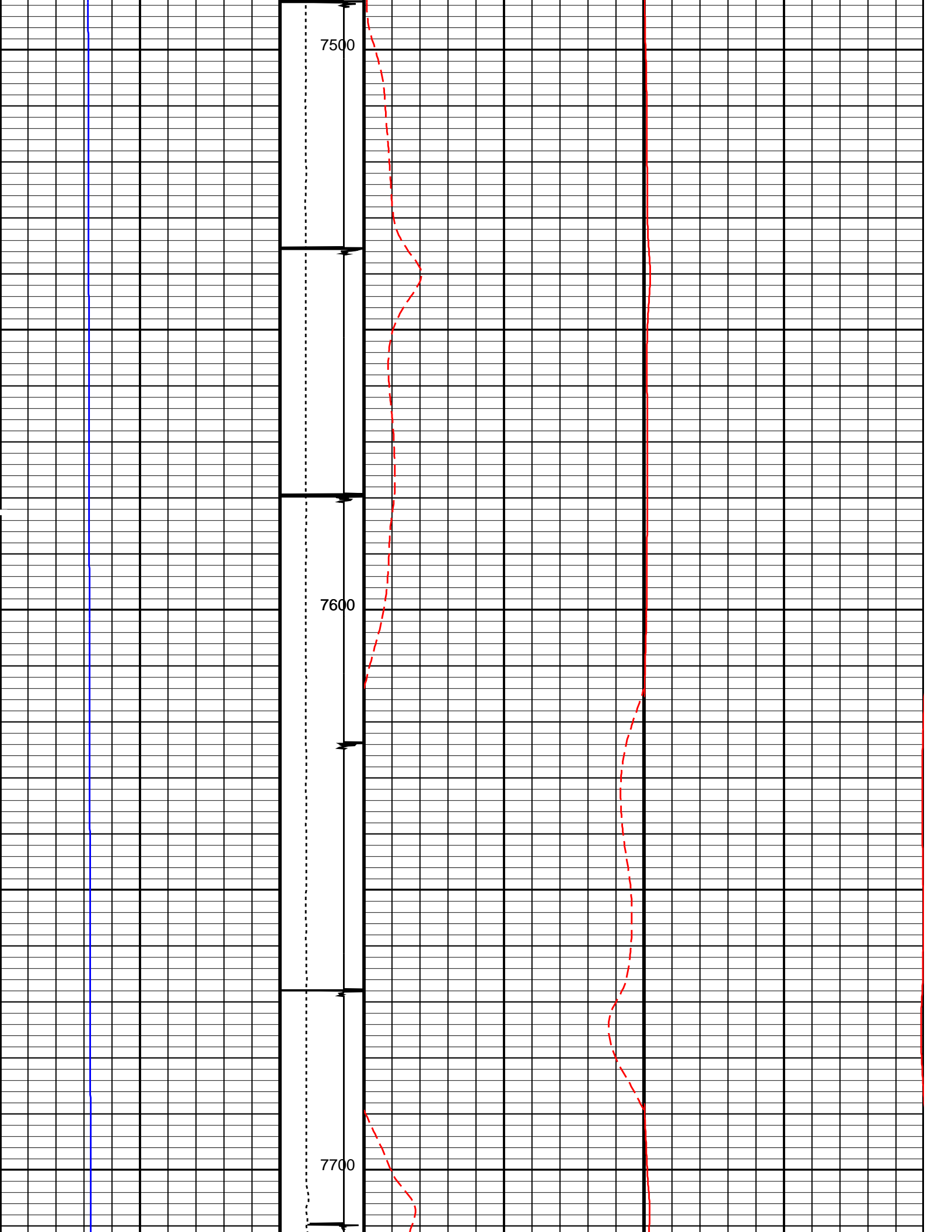


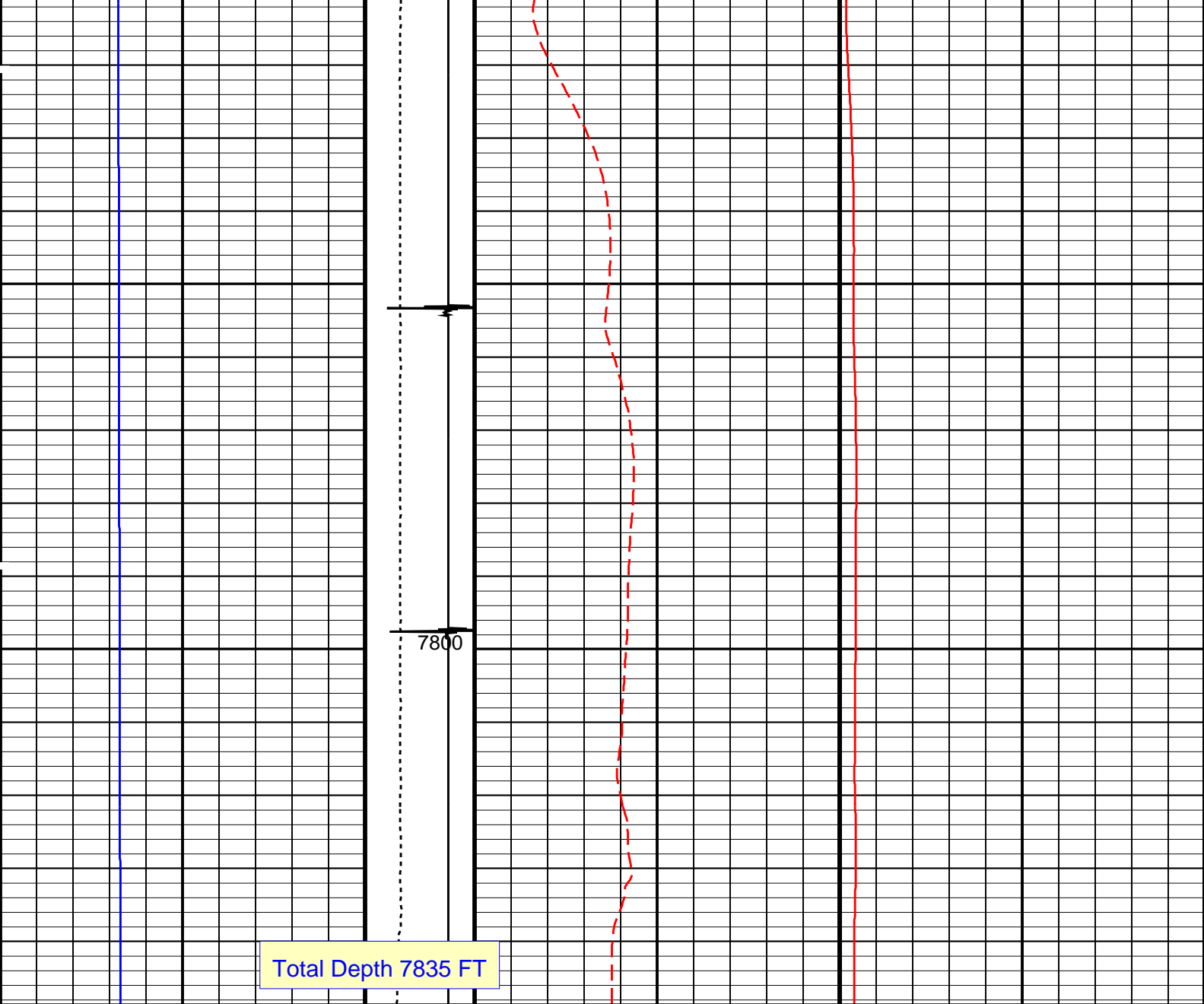












Well Pressure (WPRES) (PSIA)		10000	Tension (TENS) (LBF)		0	2000	Well Temperature (WTEP) (DEGF)		20	Well Temperature (WTEP) (DEGF)		200
			Discriminat ed CCL (CCLD)		3	(V)	-1					

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

Format: TEMP LOG Vertical Scale: 5" per 100' Graphics File Created: 02-Apr-2013 19:38

OP System Version: 17C0-154

Input DLIS Files

DEFAULT FLIP_PSP_004 PRODUCER 02-Apr-2013 19:33 7848.5 FT -7.5 FT

Output DLIS Files

DEFAULT PSP_006PUP FN:3 PRODUCER 02-Apr-2013 19:38

Schlumberger

REPEAT ANALYSIS

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: ENCANA FEE 24-8B2 (K19CNE)

Input DLIS Files

DEFAULT FLIP_PSP_005 PRODUCER 02-Apr-2013 19:34 7701.5 FT 7451.5 FT
DEFAULT PSP_006PUP FN:3 PRODUCER 02-Apr-2013 19:38 7848.5 FT -7.5 FT

Output DLIS Files

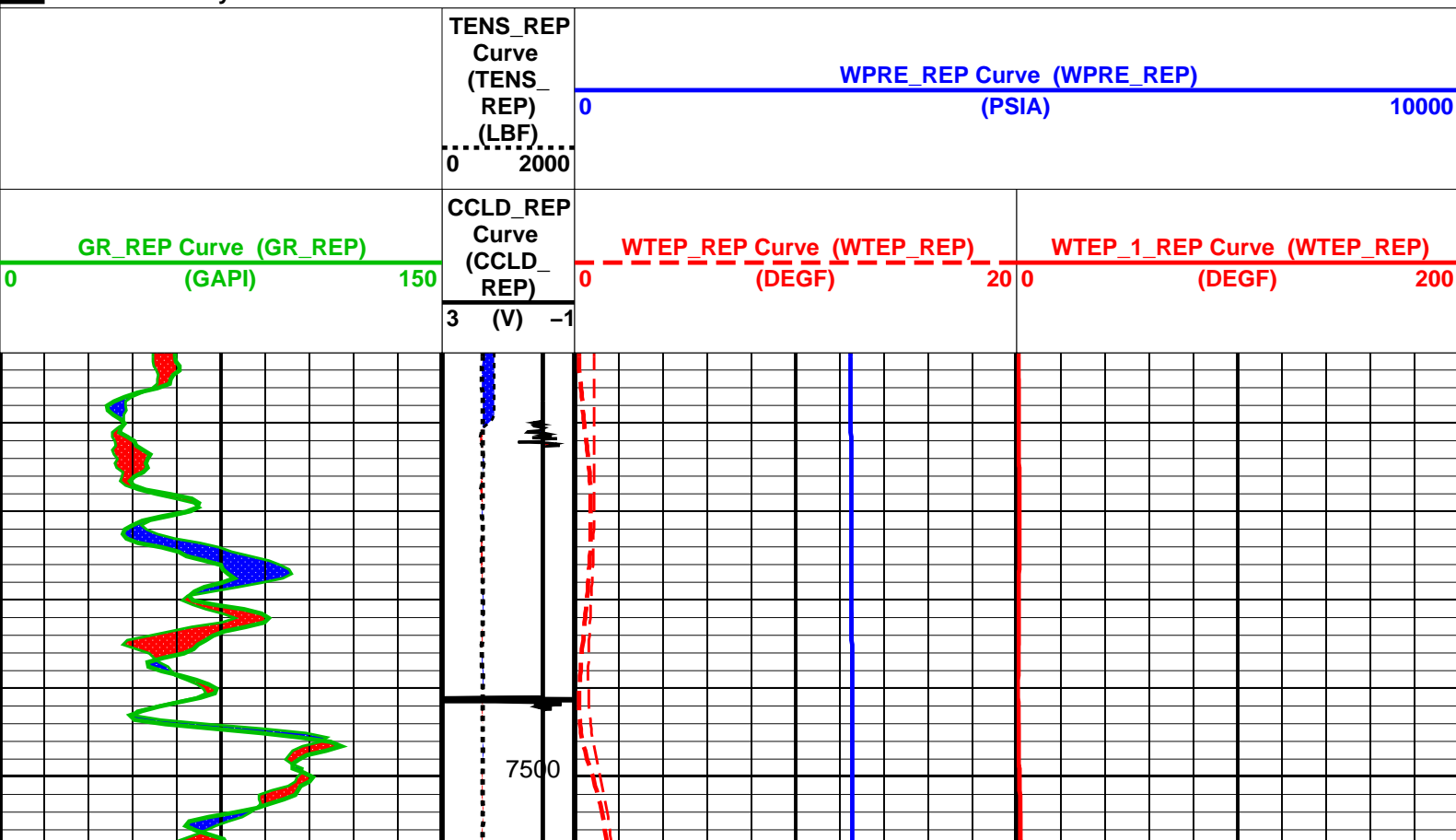
DEFAULT PSP_007PUP FN:4 PRODUCER 02-Apr-2013 19:43 7701.5 FT 7451.5 FT

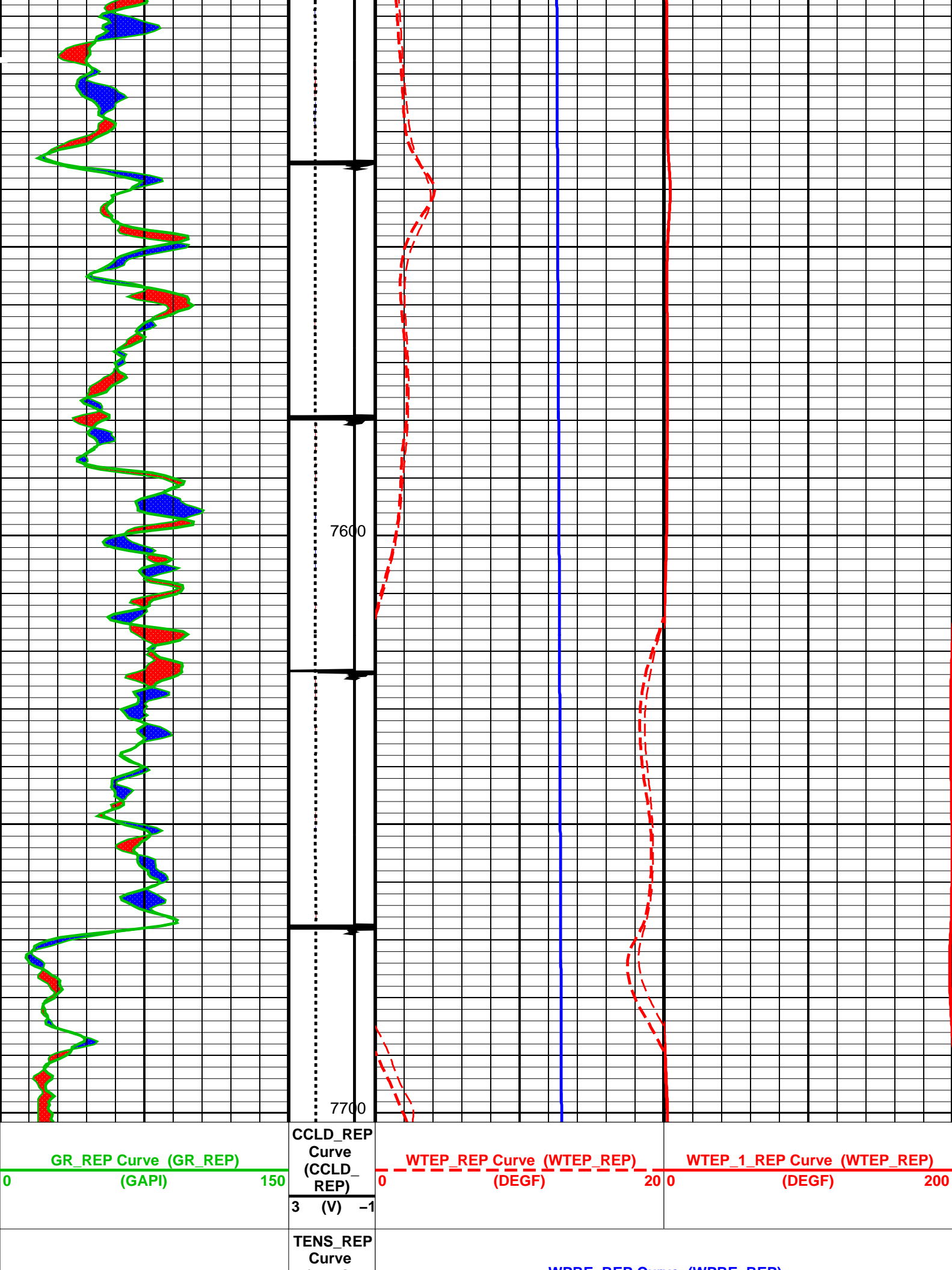
OP System Version: 17C0-154

PSPT-A/B 17C0-154

PIP SUMMARY

Time Mark Every 60 S





(TENS-REP)(LBF)

02000

WPRE-REP Curve (WPRES-REP)

(PSIA)

10000

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: 02-Apr-2013 19:43

OP System Version: 17C0-154

PSPT-A/B

17C0-154

Input DLIS Files

DEFAULT	FLIP_PSP_005	PRODUCER	02-Apr-2013 19:34	7701.5 FT	7451.5 FT
DEFAULT	PSP_006PUP	FN:3	PRODUCER	02-Apr-2013 19:38	7848.5 FT

Output DLIS Files

DEFAULT	PSP_007PUP	FN:4	PRODUCER	02-Apr-2013 19:43	
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Schlumberger

HBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: ENCANA FEE 24-8B2 (K19CNE)

Run date: 1-Apr-2013

Tool: PSP

Sub Type: PBMS

Sensor: Clock Model

PBMS Digitalization Clock

Sonde Serial NB

Sensor Serial NB1772

Calib Date ddmmyy250102

Matrix Size16

Coeff CRC279D

Clock Coeff

Temp**0	Temp**1	Temp**2
Temp**0	-0.161517143435E+03	-0.455833634022E+01
	Temp**3	Temp**4
		Temp**5

Temp**0	+.665806803953E-03	+.215816423936E-05	0.0
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PBMS Sapphire 10kPsi Gauge

Sonde Serial NB

COEFFICIENTS FOR SAPPHIRE PBMS-A.1772 S/N:

Sensor Serial NB

1772

Calib Date ddmmyy

250102

Matrix Size

66

Coeff CRC

7015

Pres Coeff

	Tt**0	Tt**1	Tt**2
Tp**0	−.301728254764E+05	+.213698779657E+05	−.667784145806E+04
Tp**1	+.222783691269E+05	−.154949942910E+05	+.506915258152E+04
Tp**2	−.219998557234E+03	+.903672682639E+02	−.973284421881E+01
Tp**3	+.373083861809E+01	−.914930924512E+00	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0

	Tt**3	Tt**4	Tt**5
Tp**0	+999867705458E+03	−.587093588268E+02	0.0
Tp**1	−.790152285056E+03	+481404114544E+02	0.0
Tp**2	0.0	0.0	0.0
Tp**3	0.0	0.0	0.0
Tp**4	0.0	0.0	0.0
Tp**5	0.0	0.0	0.0

PBMS Sapphire 10kPsi Gauge

Sonde Serial NB :
Sensor Serial NB 1772
Calib Date ddmmyy 250102
Matrix Size 66
Coeff CRC 8D09

Temp Coeff

	Tp**0	Tp**1	Tp**2
Tt**0	+.232726172867E+04	+.748146006300E+01	-.308596169368E+01
Tt**1	-.145543937674E+04	-.382344629538E+01	+.886665691754E+00
Tt**2	+.319573055861E+03	+.722043926946E+00	-.543588515298E-01
Tt**3	-.247026874426E+02	-.512988254724E-01	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0

	Tp**3	Tp**4	Tp**5
Tt**0	+.711608702827E+00	-.763411838100E-01	0.0
Tt**1	-.147911019947E+00	+.159378916834E-01	0.0
Tt**2	0.0	0.0	0.0
Tt**3	0.0	0.0	0.0
Tt**4	0.0	0.0	0.0
Tt**5	0.0	0.0	0.0

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMM CREEK	Sub Type:	PBMS
Well:	ENCANA FEE 24-8B2 (K19CNE)	Sensor:	GR
Run date:	1-Apr-2013		

PBMS Gamma Ray

Sonde Serial NB RESISTORS FOR GR SENSOR N.33401,TOOL PBMS-AA1772. SENSOR S/N:
Sensor Serial NB 33401
Calib Date ddmmyy 021101
Matrix Size 12
Coeff CRC 1F7D

GR HV Rt

	Rt**0	Rt**1
Rt**0	+.150000000000e+04	+.236000000000e+04

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: ENCANA FEE 24–8B2 (K19CNE)
Run date: 1–Apr–2013

Tool: PSP
Sub Type: PBMS
Sensor: WellTemp RTD

PBMS RTD Well Thermometer

Sonde Serial NB
Sensor Serial NB 1772
Calib Date ddmmyy 250102
Matrix Size 16
Coeff CRC 0B6D

WTemp Coeff

	Tt**0	Tt**1	Tt**2
Tt**0	–.578338733285E+03	+.354557410577E+03	–.963404561888E+02
	Tt**3	Tt**4	Tt**5
Tt**0	+.167992041034E+02	–.106406976994E+01	0.0

Company: ENCANA OIL & GAS (USA) INC
Well: ENCANA FEE 24–8B2 (K19CNE)
Field: MAMM CREEK
County: GARFIELD
State: COLORADO



TEMPERATURE LOG
CCL – TEMPERATURE