

Company: ENCANA OIL & GAS (USA) INC

Well: MCU26-12C(127W)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

County: GARFIELD

Field: MAMM CREEK

Location: SHL 1968 FSL & 490 FEL

Well: MCU26-12C(127W)

Company: ENCANA OIL & GAS (USA) INC

TEMPERATURE SURVEY

SHL 1968 FSL & 490 FEL

BHL 1825 FSL & 925 FWL

Elev.: K.B. 7223.00 ft

G.L. 7201.00 ft

D.F. 7222.00 ft

Permanent Datum: GROUND LEVEL

Log Measured From: KELLY BUSHING

Drilling Measured From: KELLY BUSHING

API Serial No. 05 045 21606 00

Section 27

Township 75

Range 93W

	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 2-Dec-2002

Run Number 1

Depth Driller 9415 ft

Schlumberger Depth 8500 ft

Bottom Log Interval 8499 ft

Top Log Interval 22 ft

Casing Fluid Type FRESH WATER

Salinity

Density 8.6 lbm/gal

Fluid Level 22 ft

BIT/CASING/TUBING STRING

Bit Size 8.750 in

From 22 ft

To 7037 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade

From 22 ft

To 9392 ft

Maximum Recorded Temperatures 212 degF

Logger On Bottom 2-Dec-2012 18:30

Unit Number 291 Location GRAND JUNCTION

Recorded By WILLIAM FLOYD

Witnessed By TERRY DUNN

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: 19-NOV-2012 6:57:48

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-C	Type:	1-25ZT
Serial Number:	6214	Serial Number:	5006	Serial Number:	
Calibration Date:	24-APR-2012	Calibration Date:	05-SEP-2012	Length:	19700 FT
Calibrator Serial Number:		Calibrator Serial Number:	174878		
Calibration Cable Type:	1-25ZT	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	-3	Calibration RMS:	8	Rig Type:	LAND
Wheel Correction 2:	-4	Calibration Peak Error:	4		

Depth Control Parameters	
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Log Sequence:	First Log In the Well
Rig Up Length At Surface:	200.00 FT
Rig Up Length At Bottom:	200.00 FT
Rig Up Length Correction:	0.00 FT
Stretch Correction:	
Tool Zero Check At Surface:	

Depth Control Remarks	
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- | |
|--|
| <ol style="list-style-type: none">1. ALL SCHLUMBERGER DEPTH CONTROL PROCEDURES USED2. PRIMARY DEPTH CONTROL: IDW3. SECONDARY DEPTH CONTROL: DRUM COUNTER (SWPT)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.

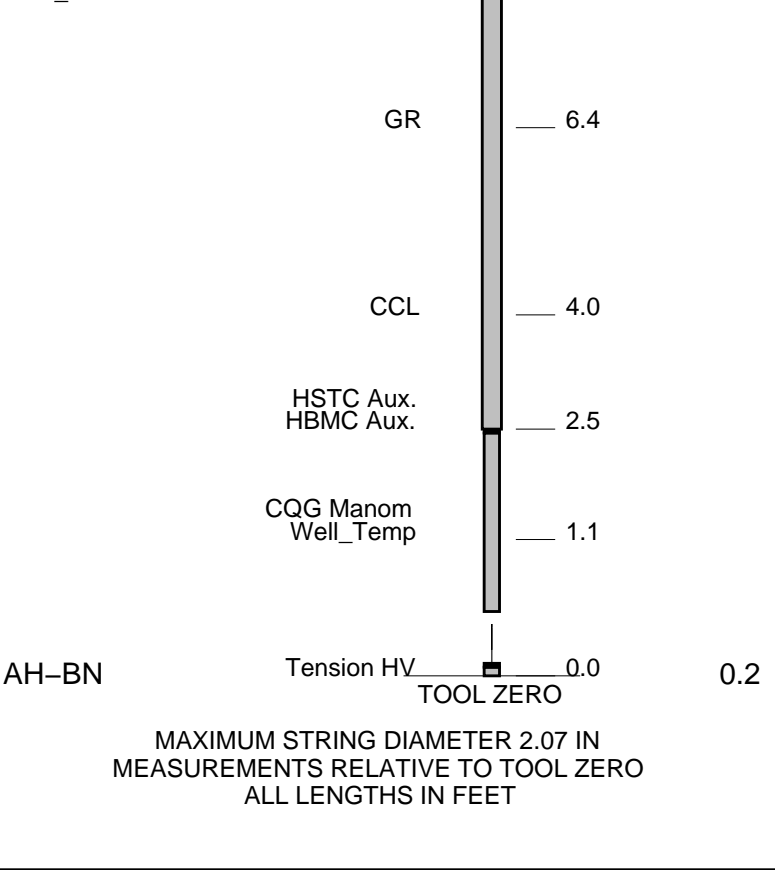
OTHER SERVICES1	OTHER SERVICES2
OS1: NONE	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
TOOL RAN AS PER TOOL SKETCH	
LOG CORRELATED TO DOWN LOG	
MAX RECORDED TEMP=212 DEG F	
MAX RECORDED PRESSURE= 3597 PSIA	

YOUR CREW= W. FLOYD, K.BUNTING, J.BARRY, W.AZIZ

STOP

EQUIPMENT DESCRIPTION

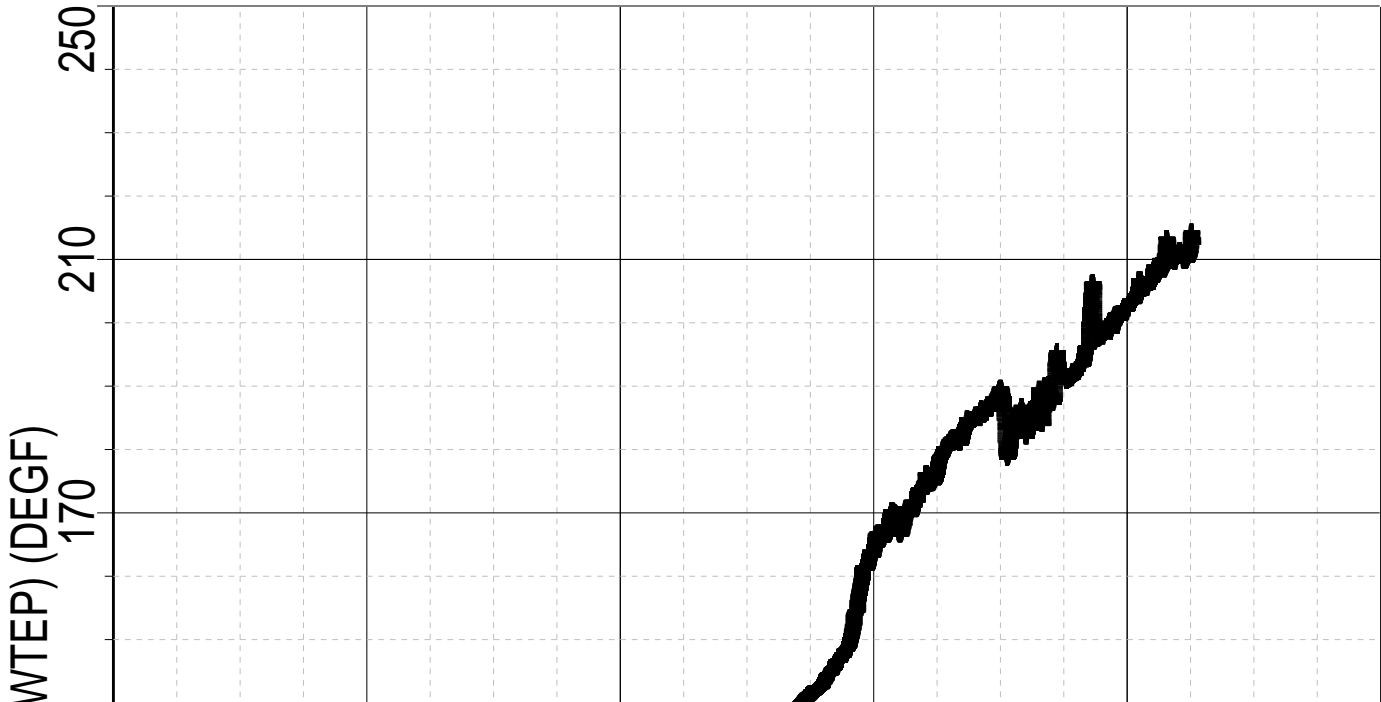
PSC-A
 HUDH-A
 HSTC-A
 HBMC-A
 GR
 CCL
 HBMC
 HTPS-A 2880
 HCQG_E_Mano
 RTD Thermometer

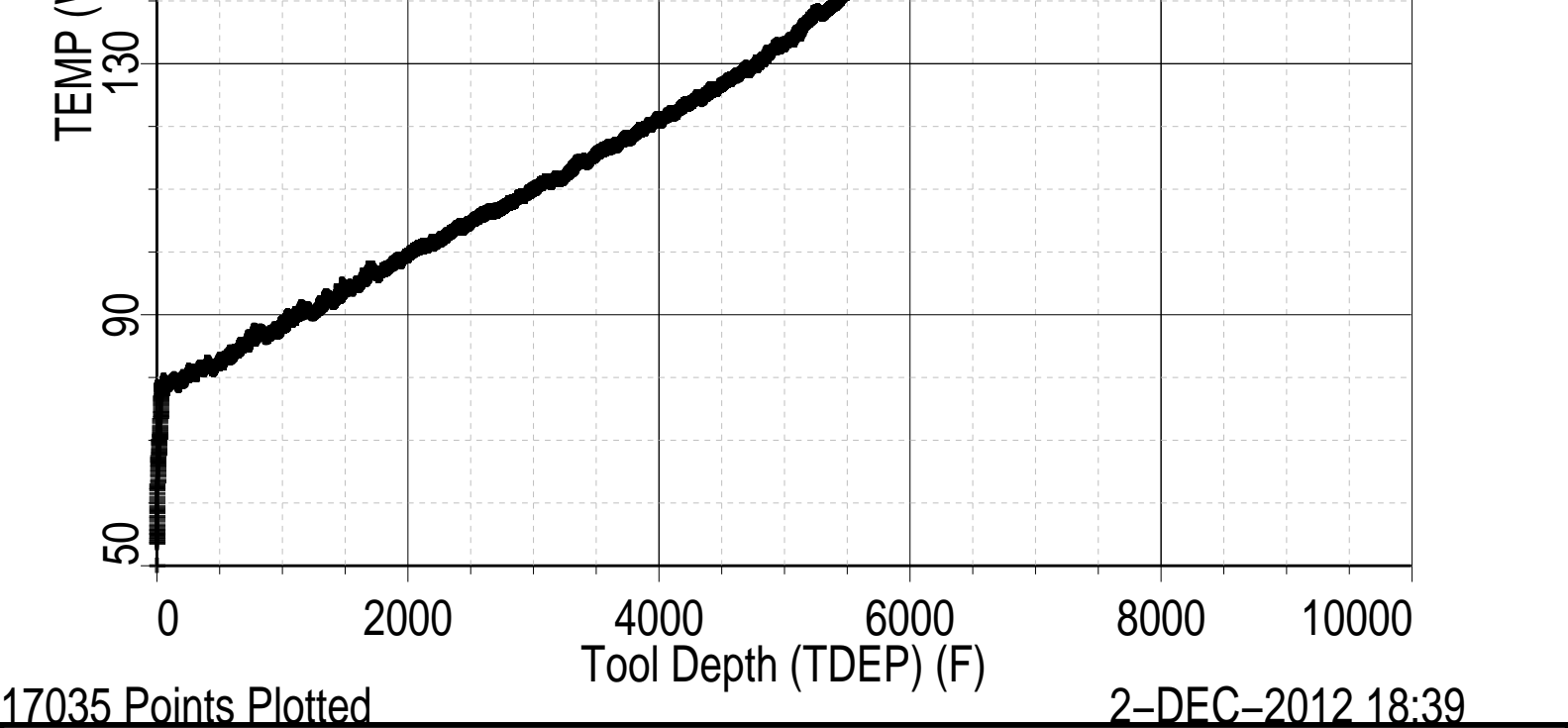


TEMPERATURE PLOT

MAXIS Field Log

Index: 8517.0 – -10.5 FT





TEMPERATURE LOG

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC Well: MCU26-12C(127W)

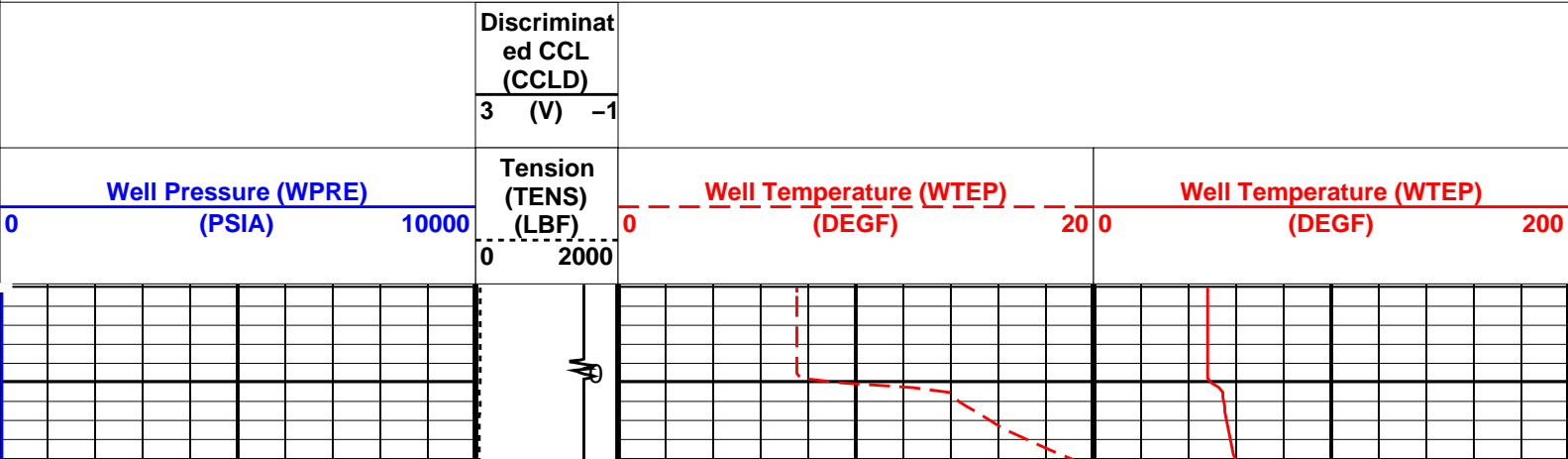
Input DLIS Files					
DEFAULT	Flip_HBMS_004LUP	PRODUCER	02-Dec-2012 18:31	8517.0 FT	-10.5 FT
Output DLIS Files					
DEFAULT	HBMS_006PUP	FN:3	PRODUCER	02-Dec-2012 18:34	8517.0 FT -10.5 FT

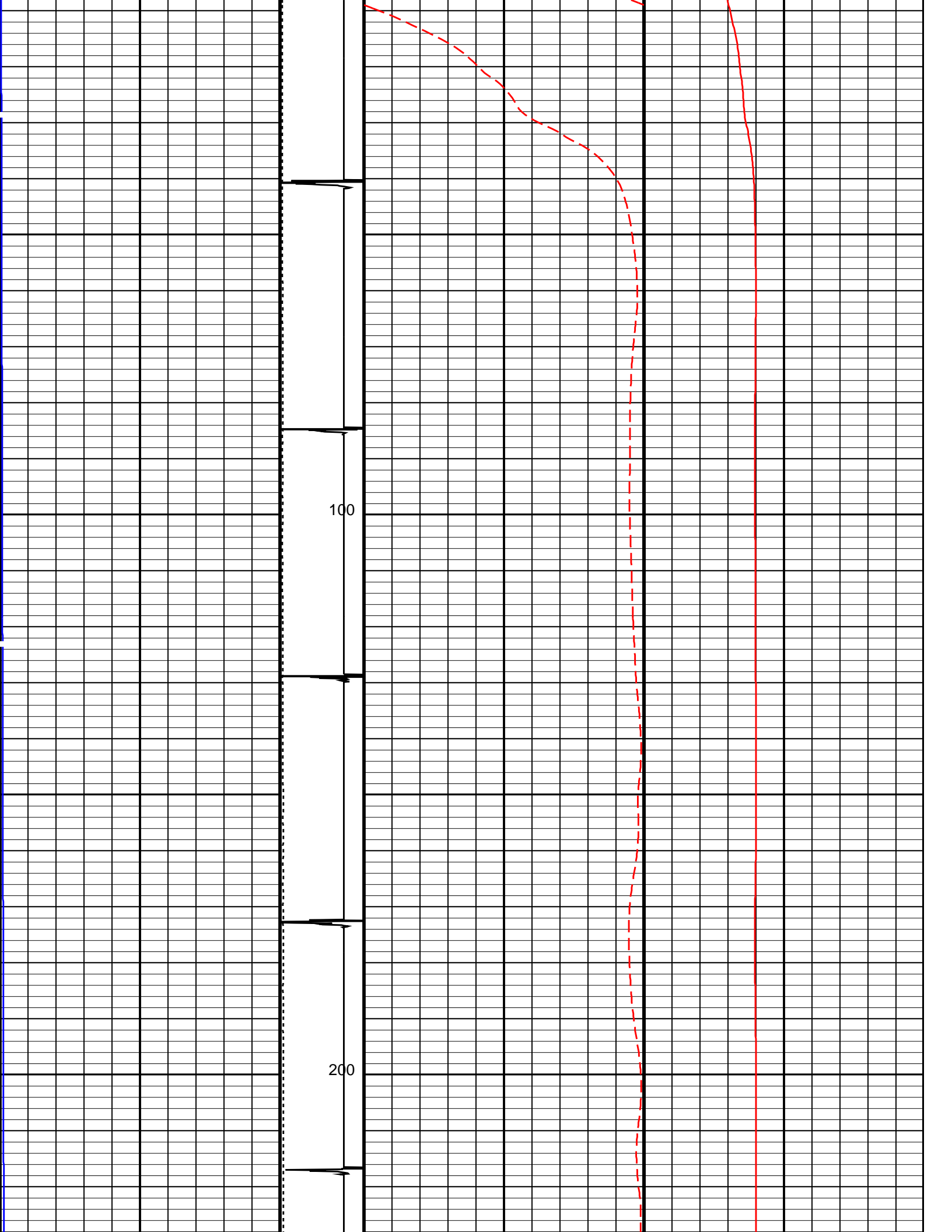
OP System Version: 19C0-187

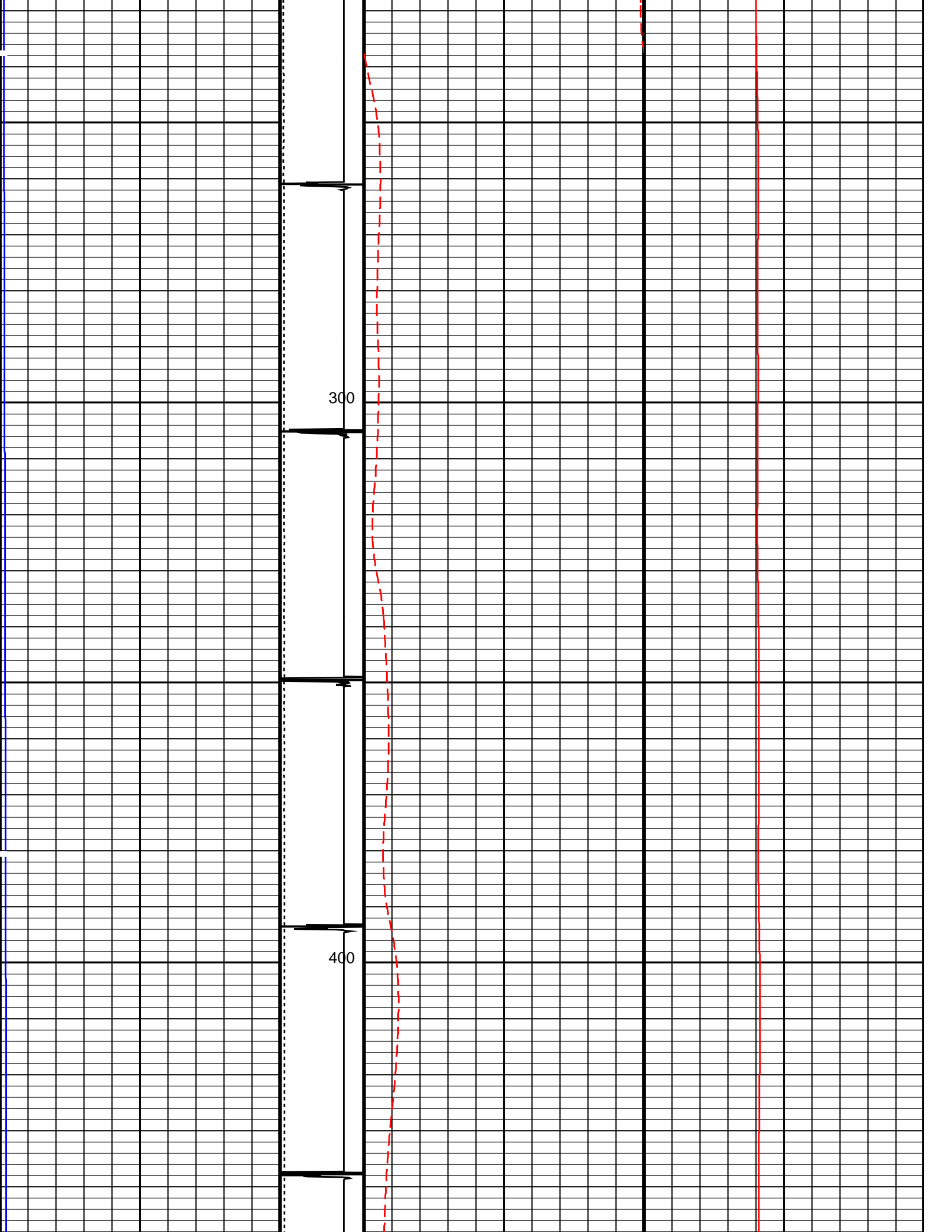
HBMS-B SRPC-5214-H2-2012-OP19

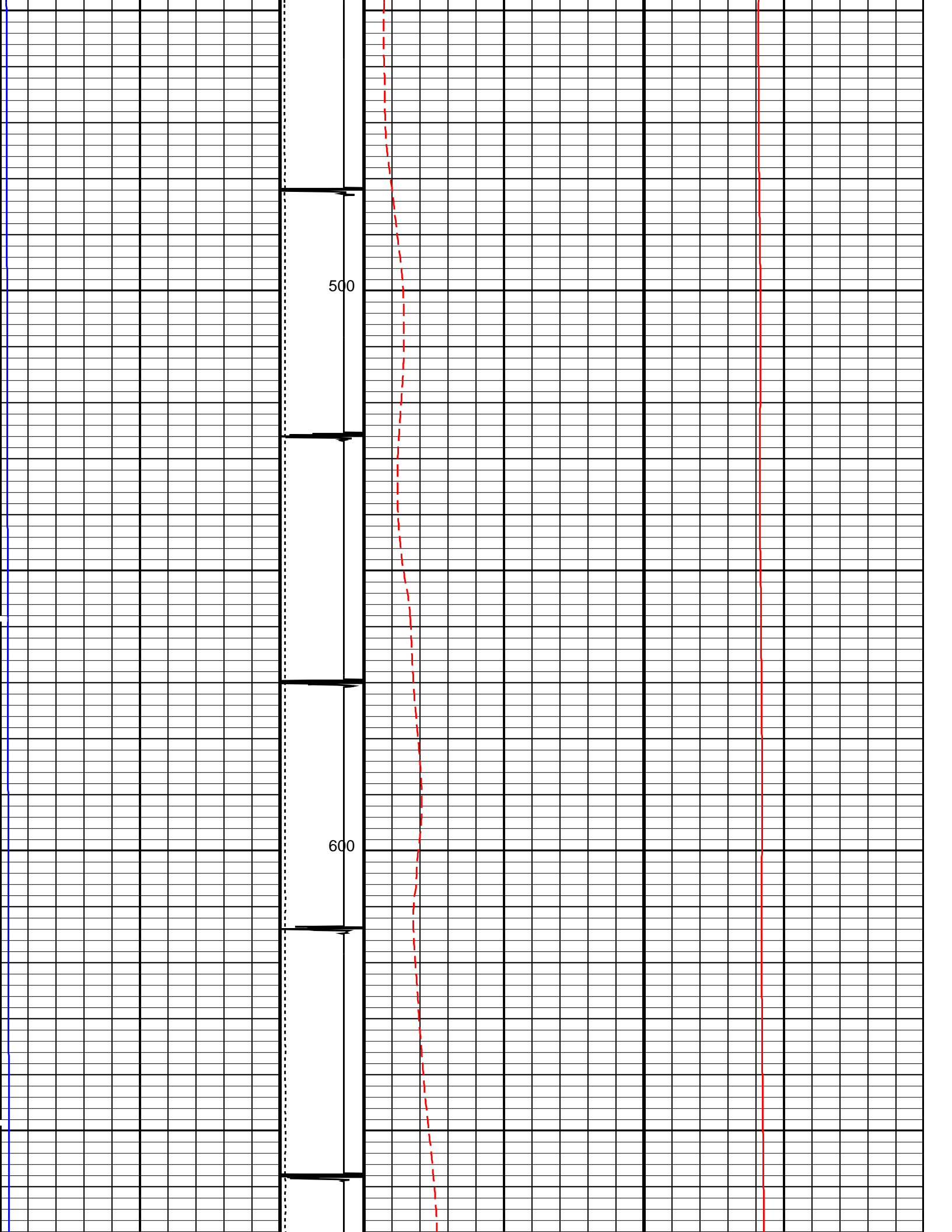
PIP SUMMARY

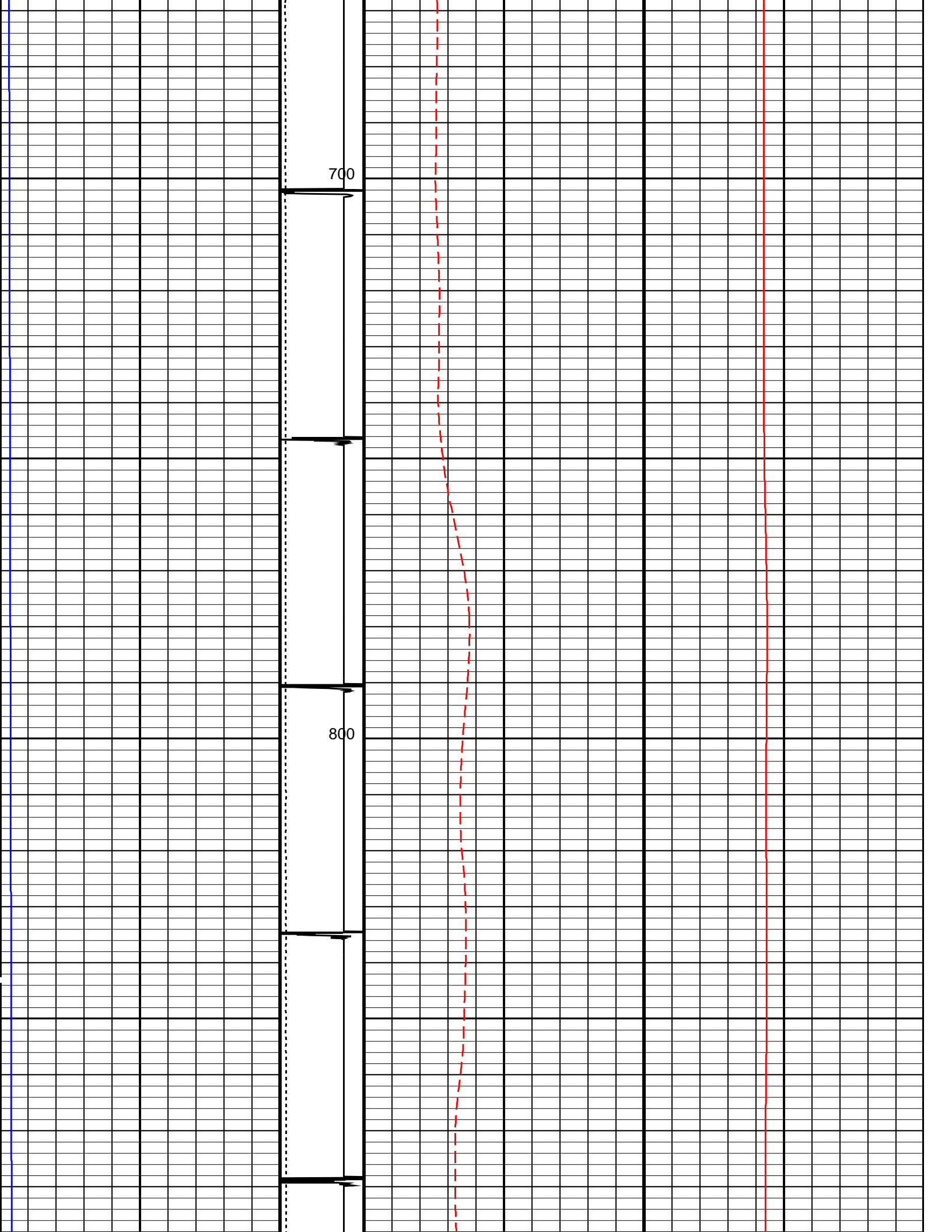
Time Mark Every 60 S

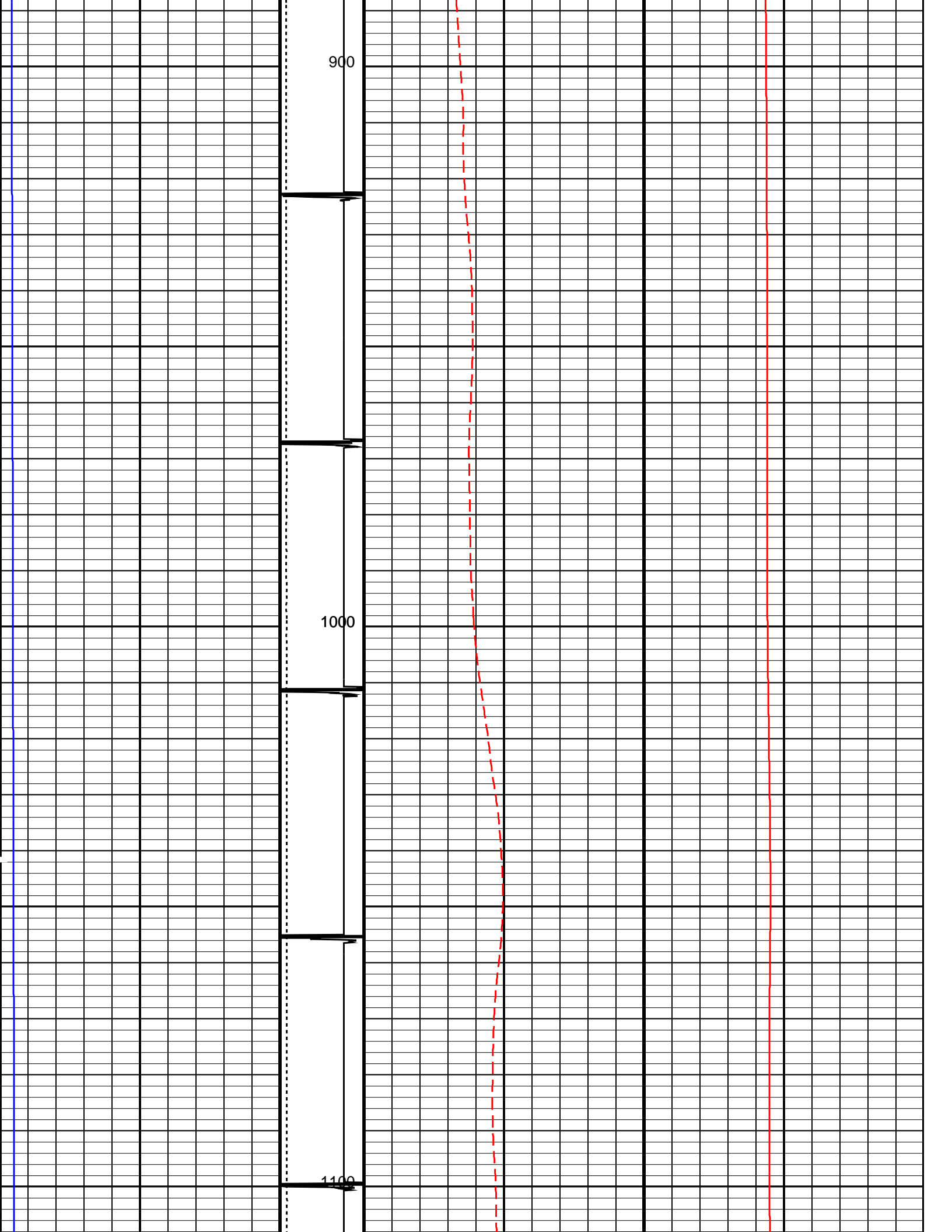


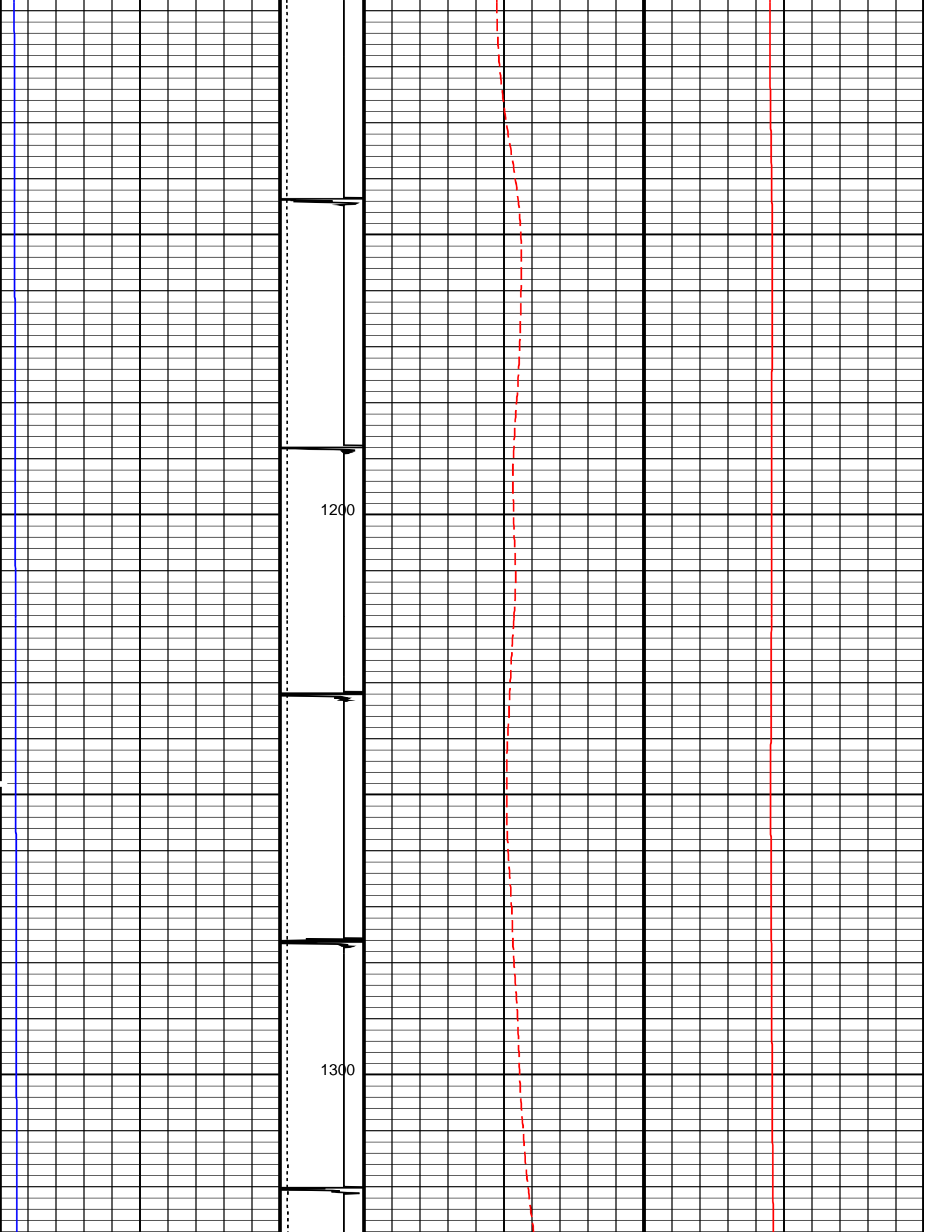


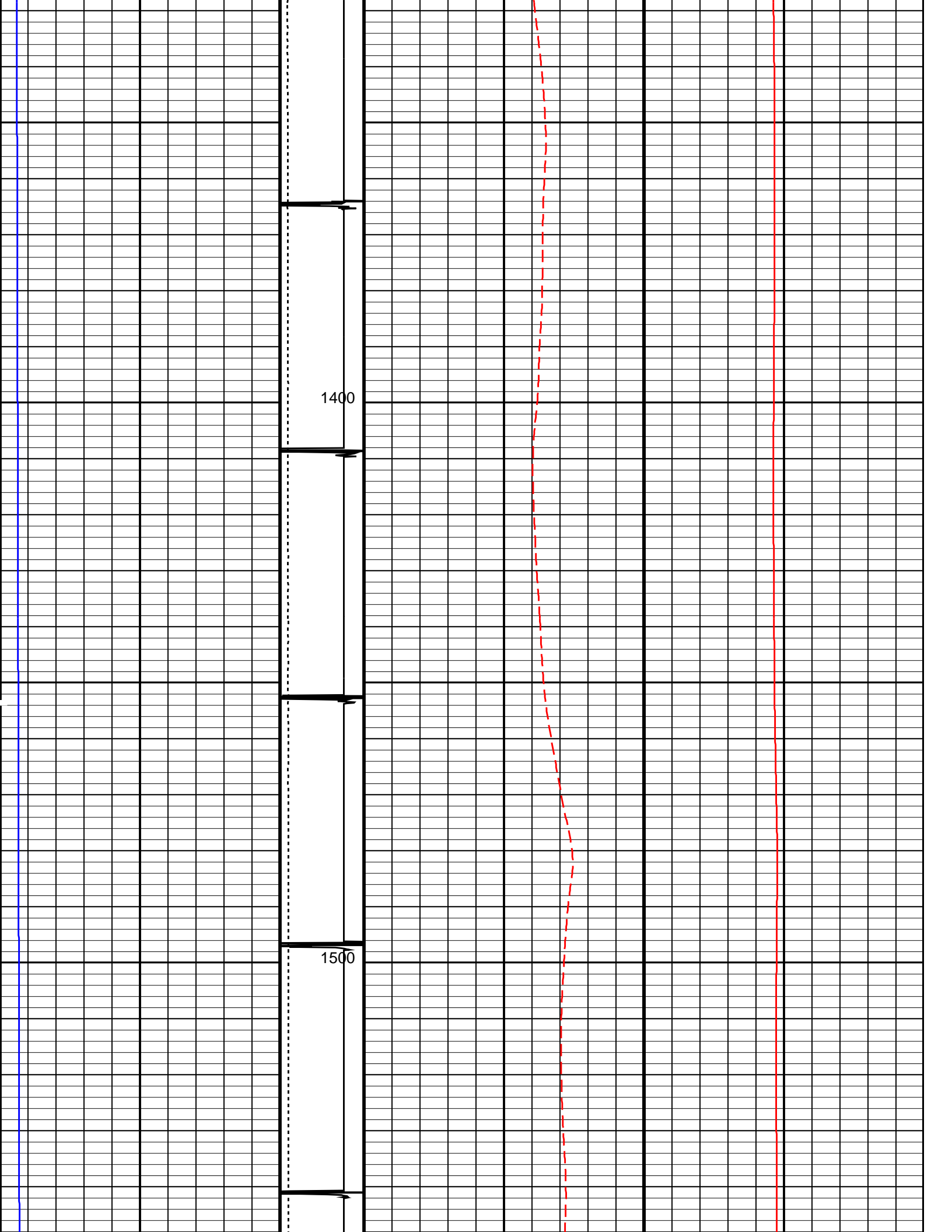


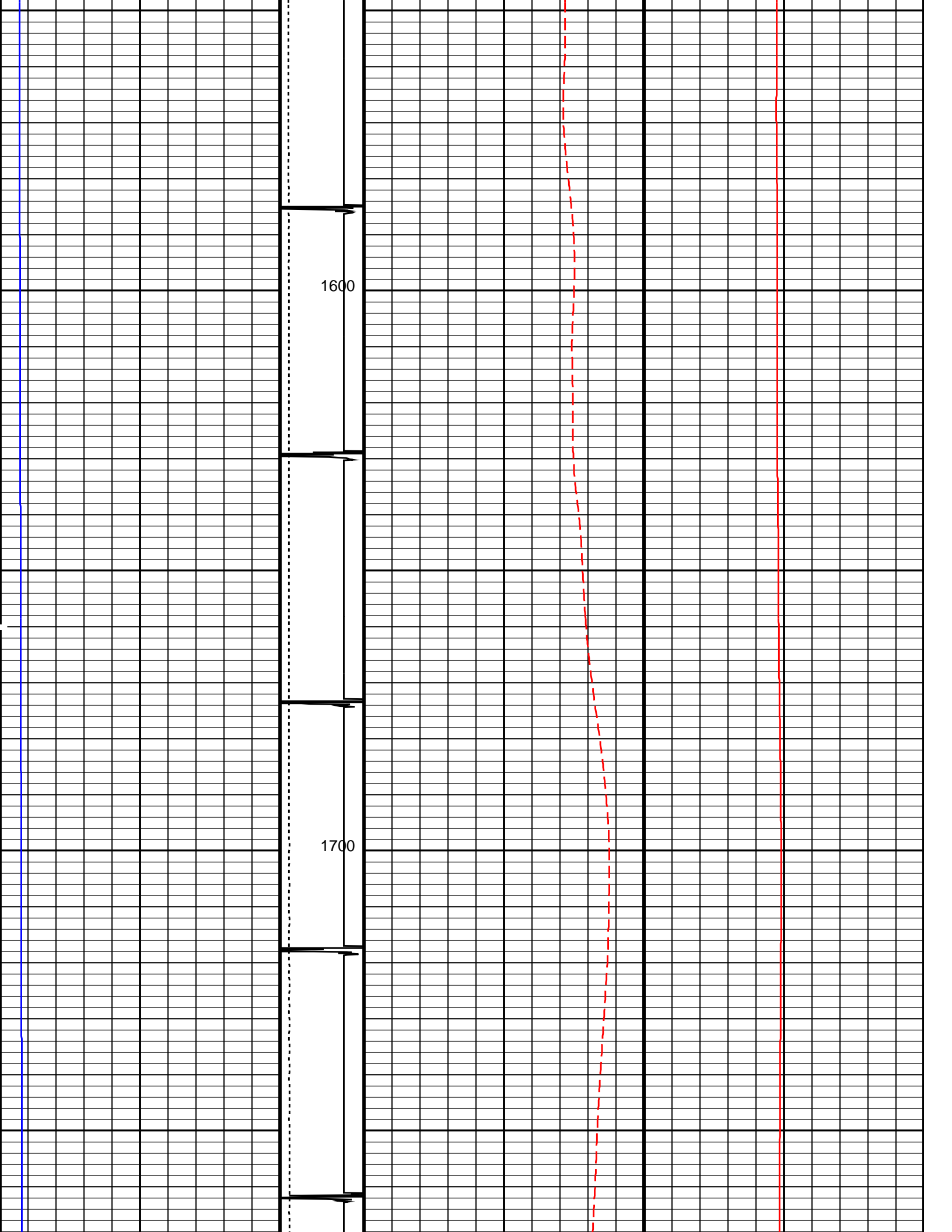


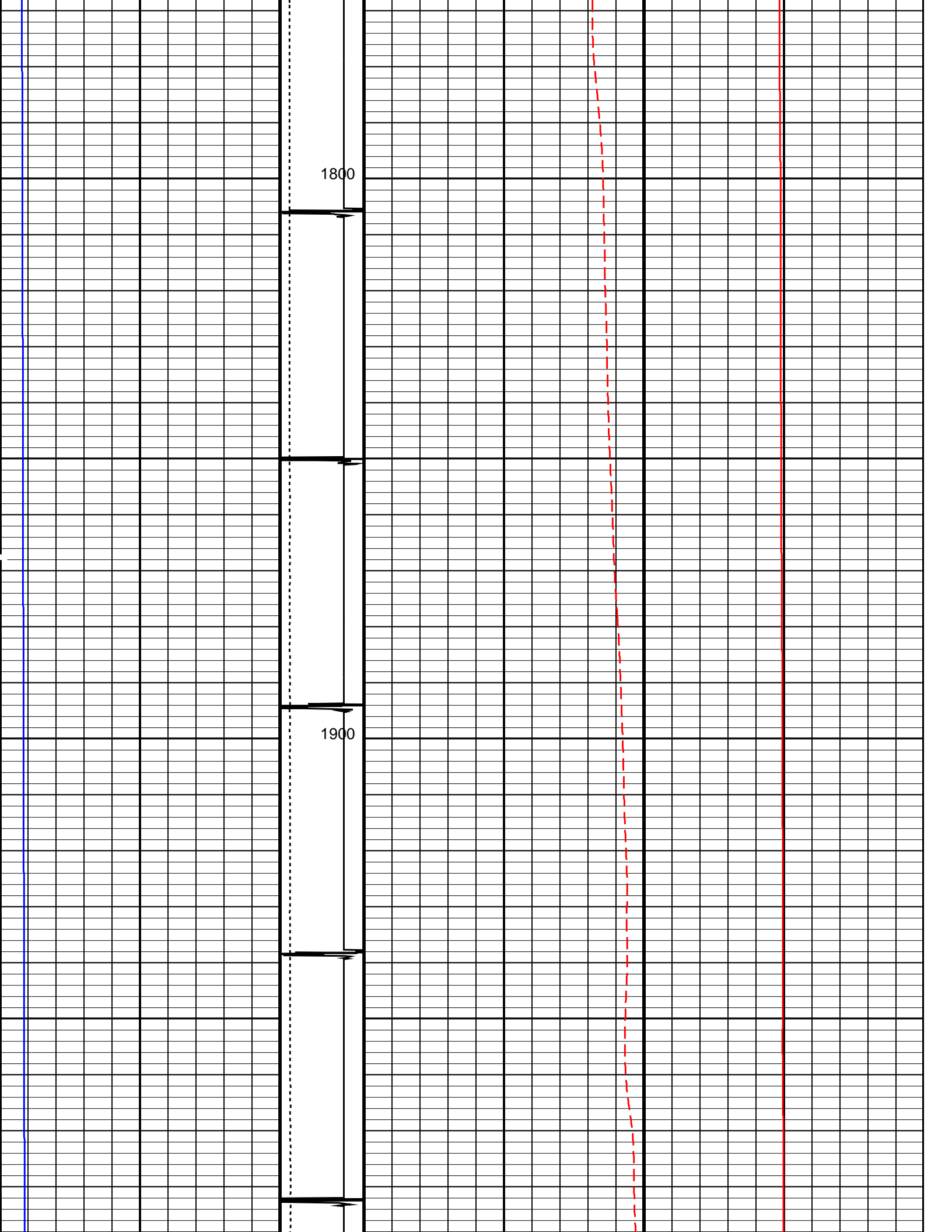


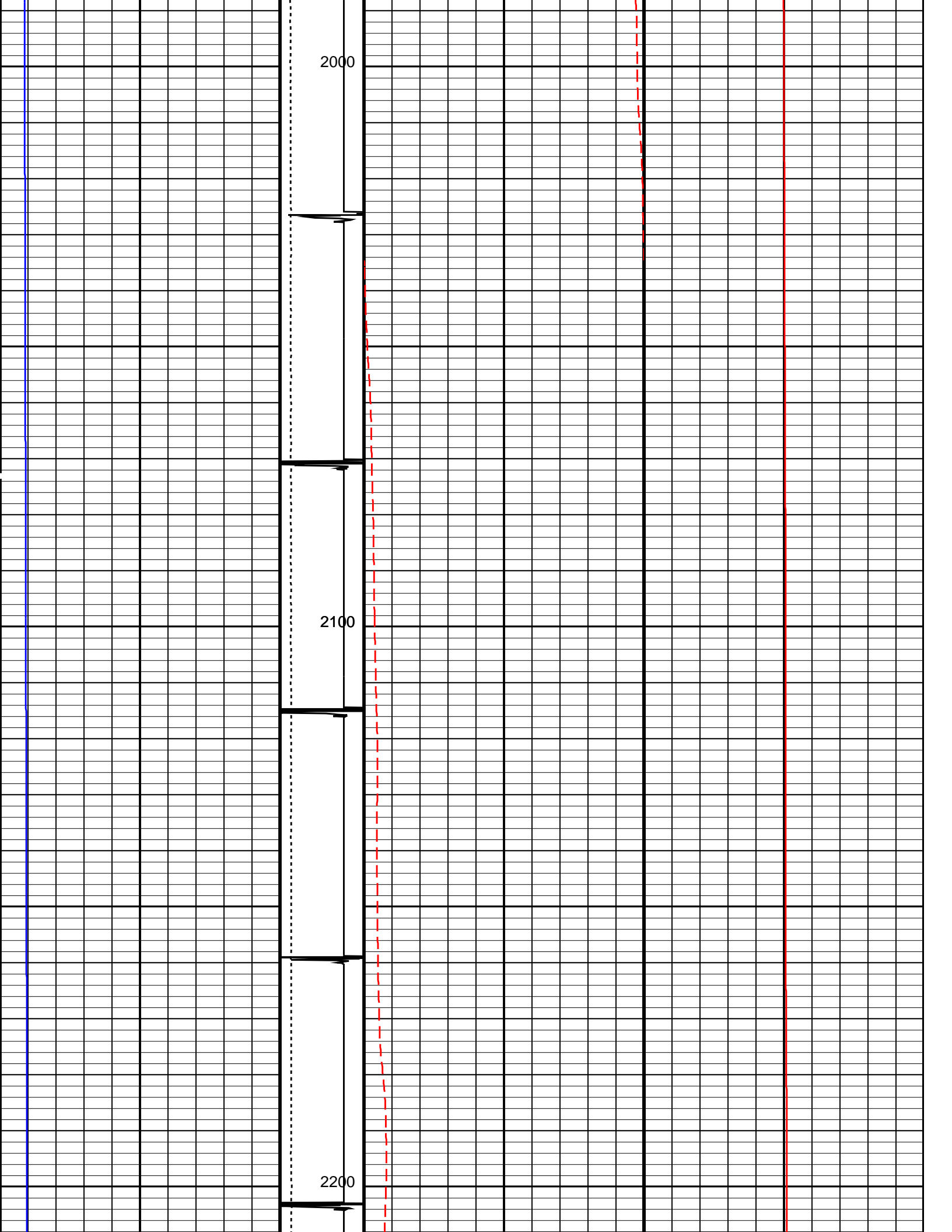


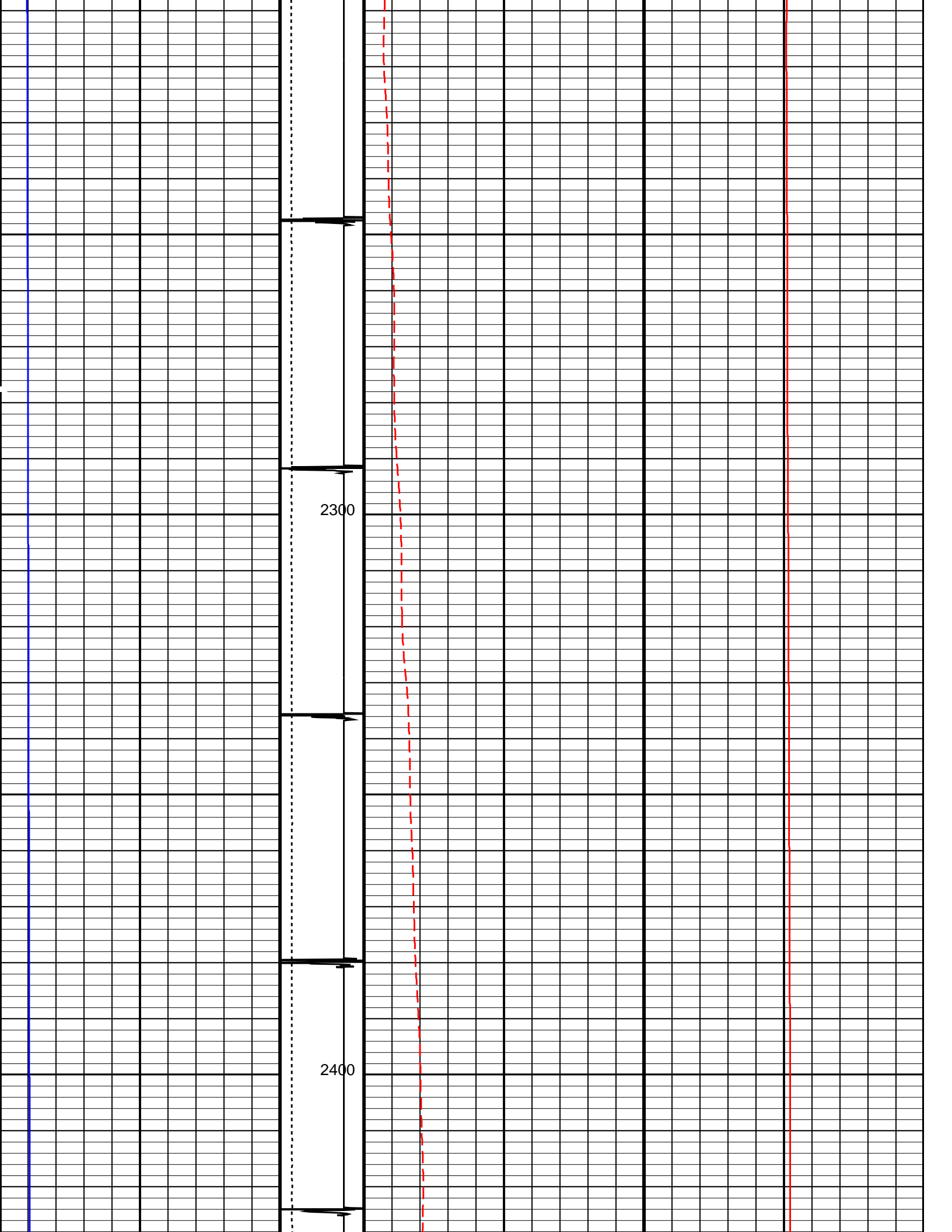


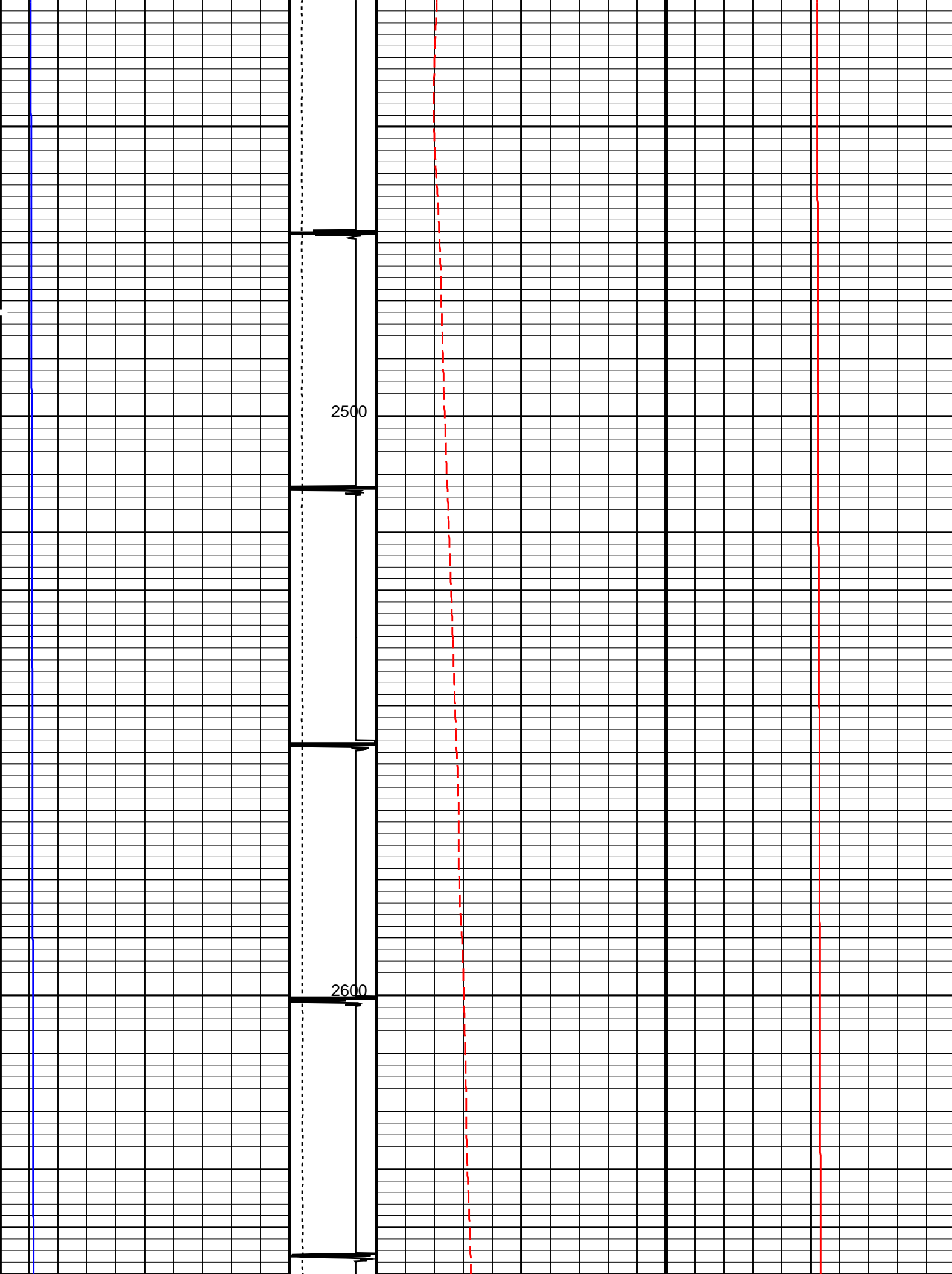


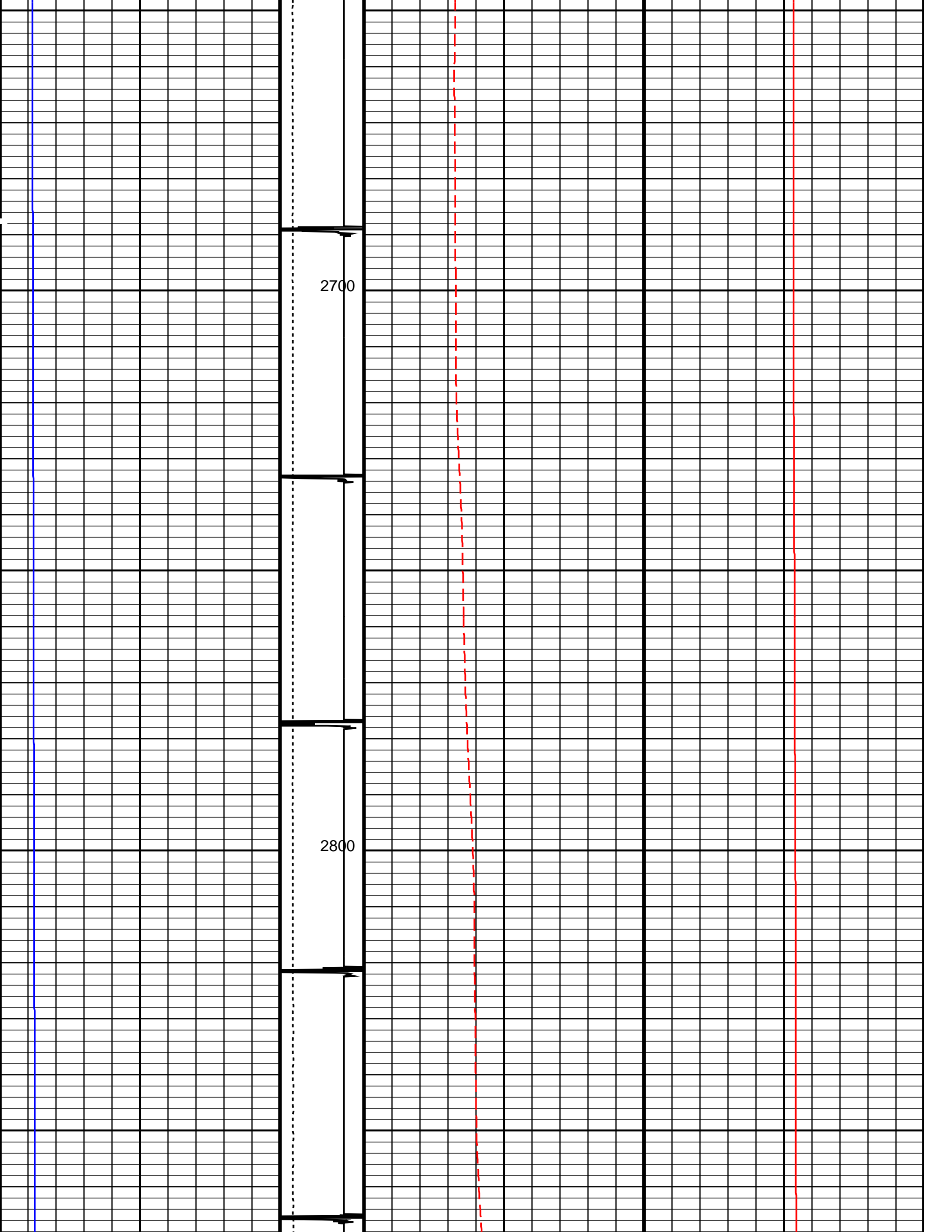


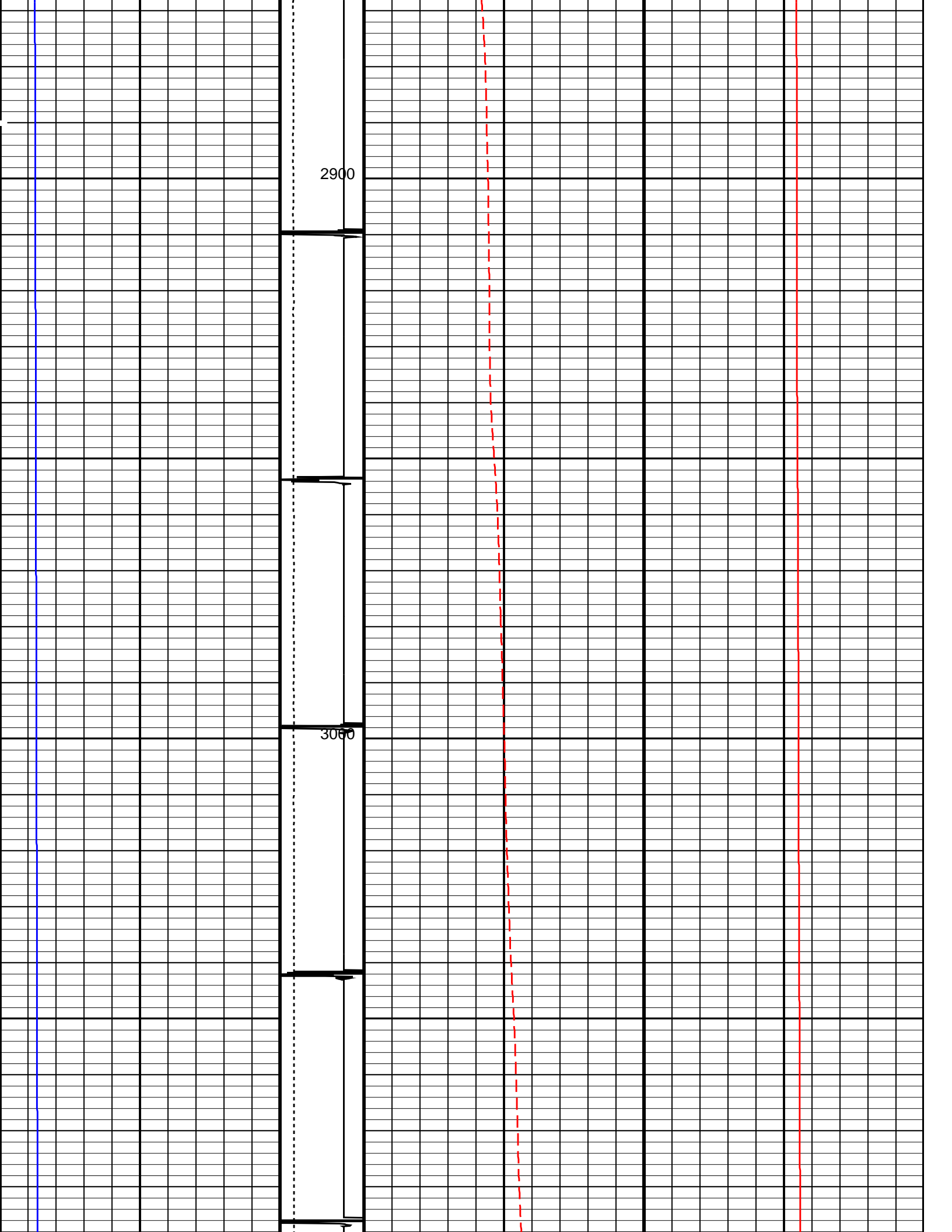


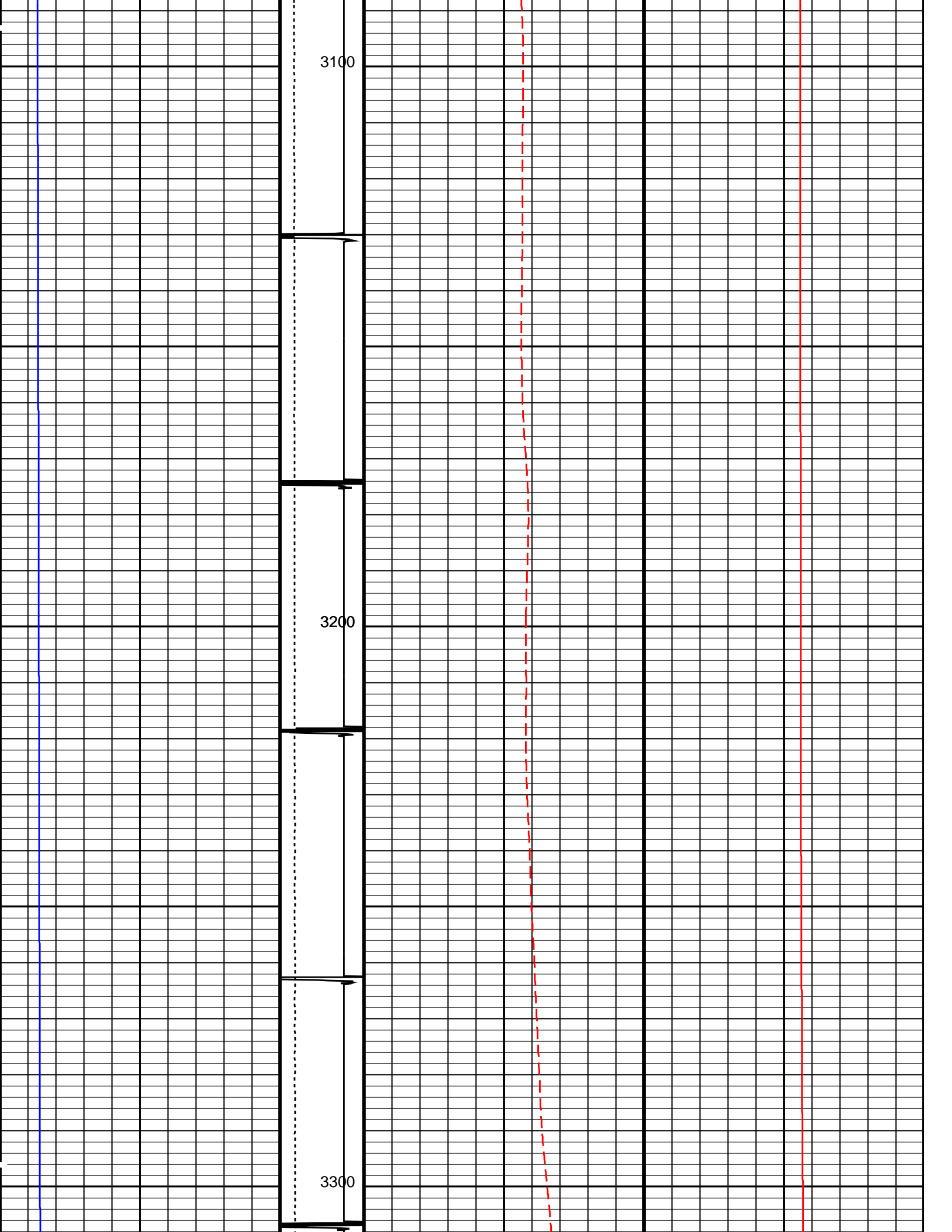


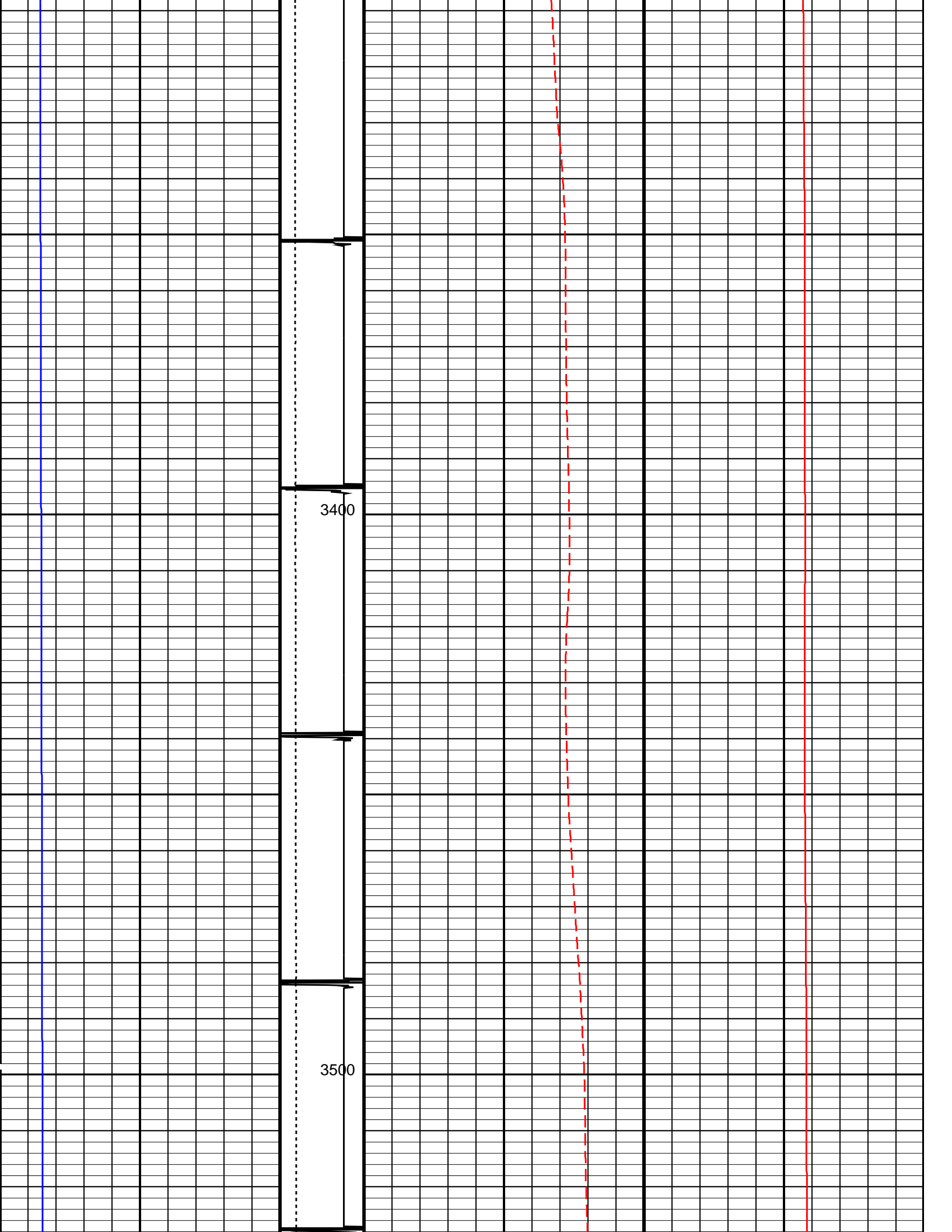


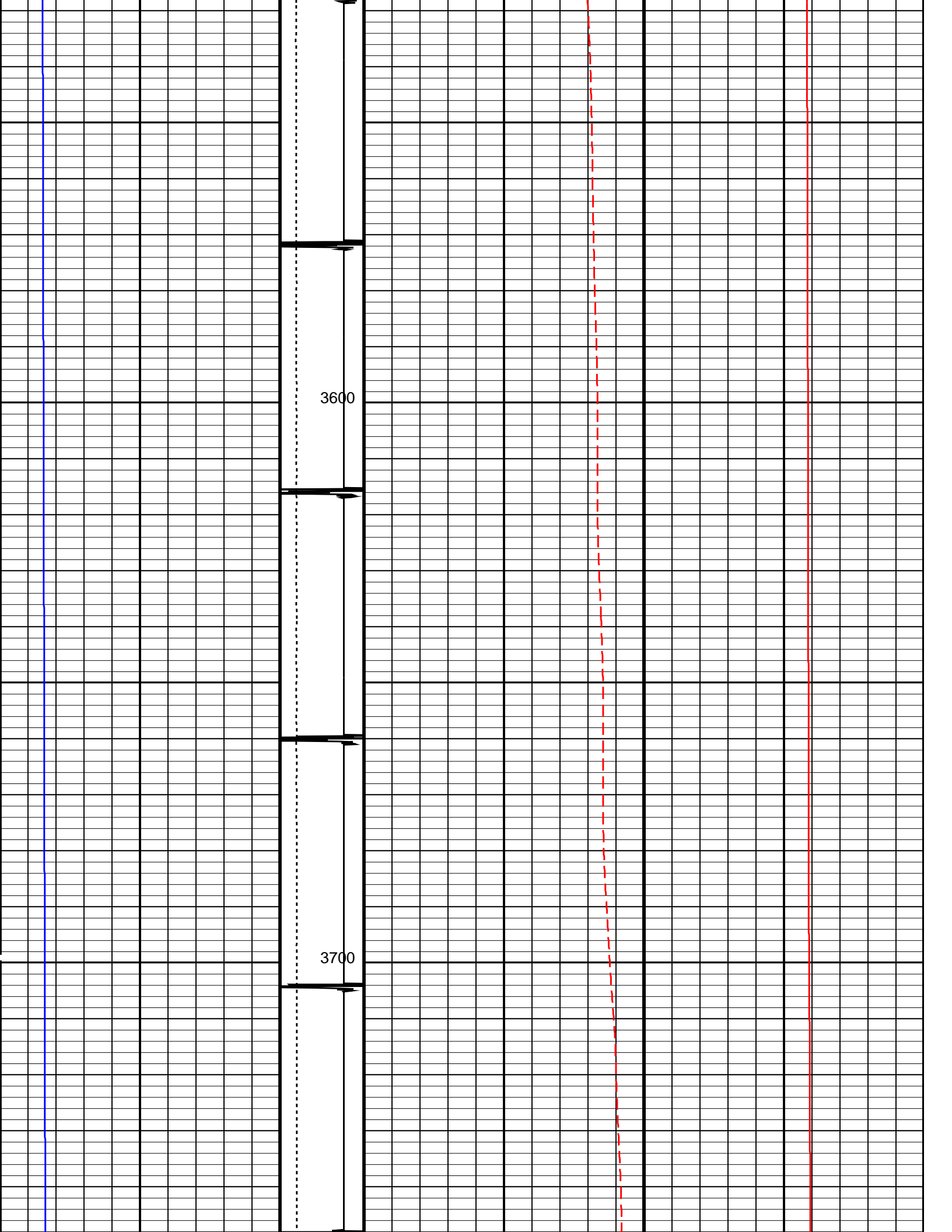


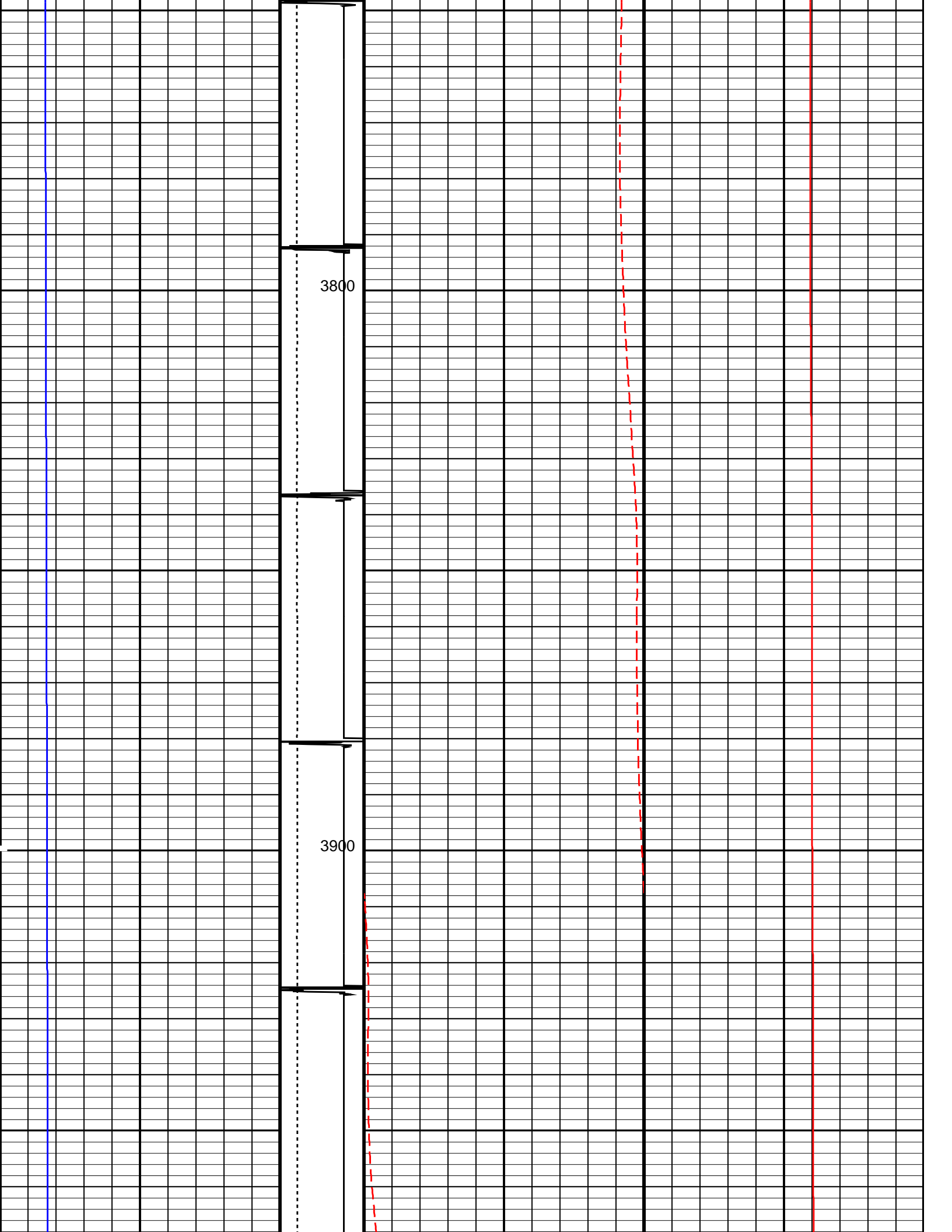


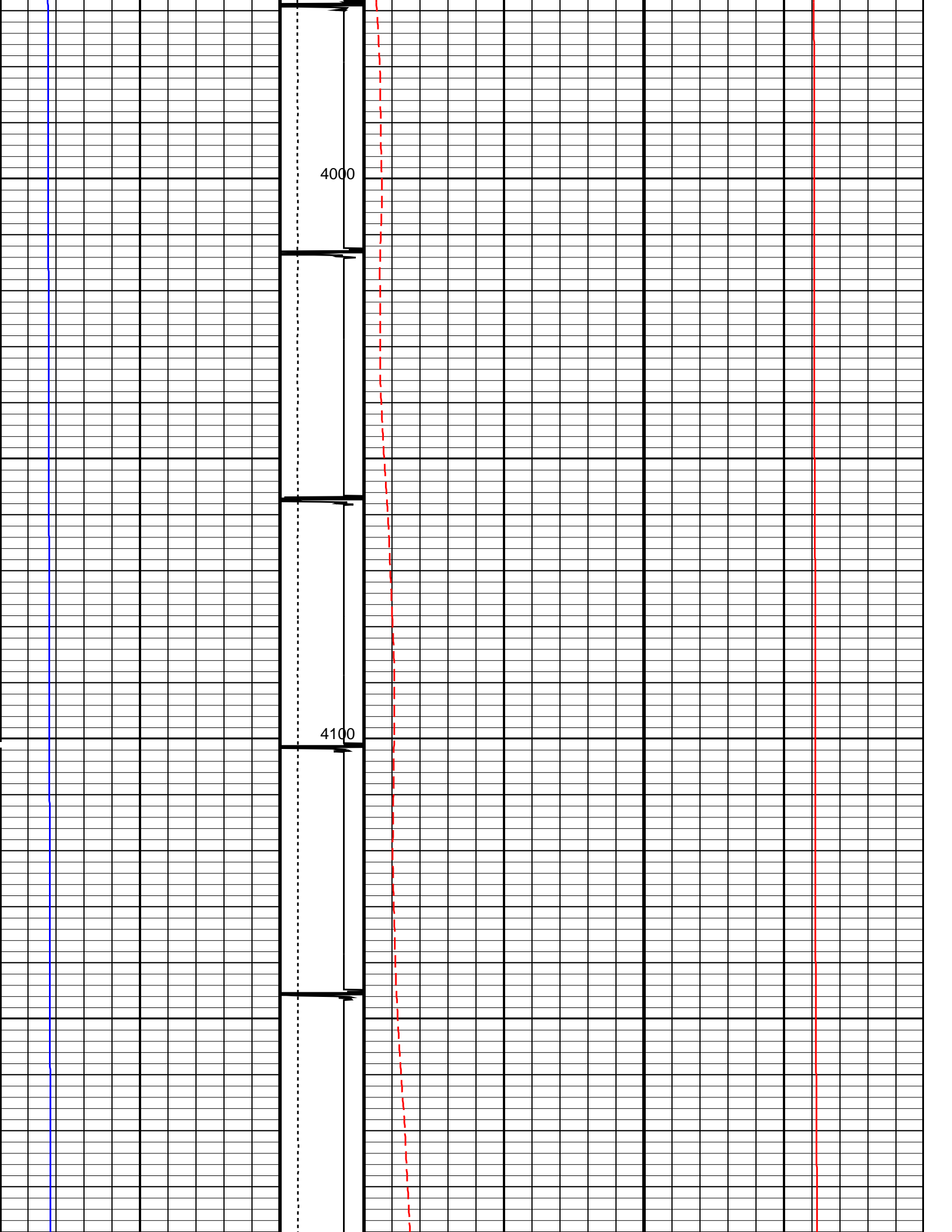


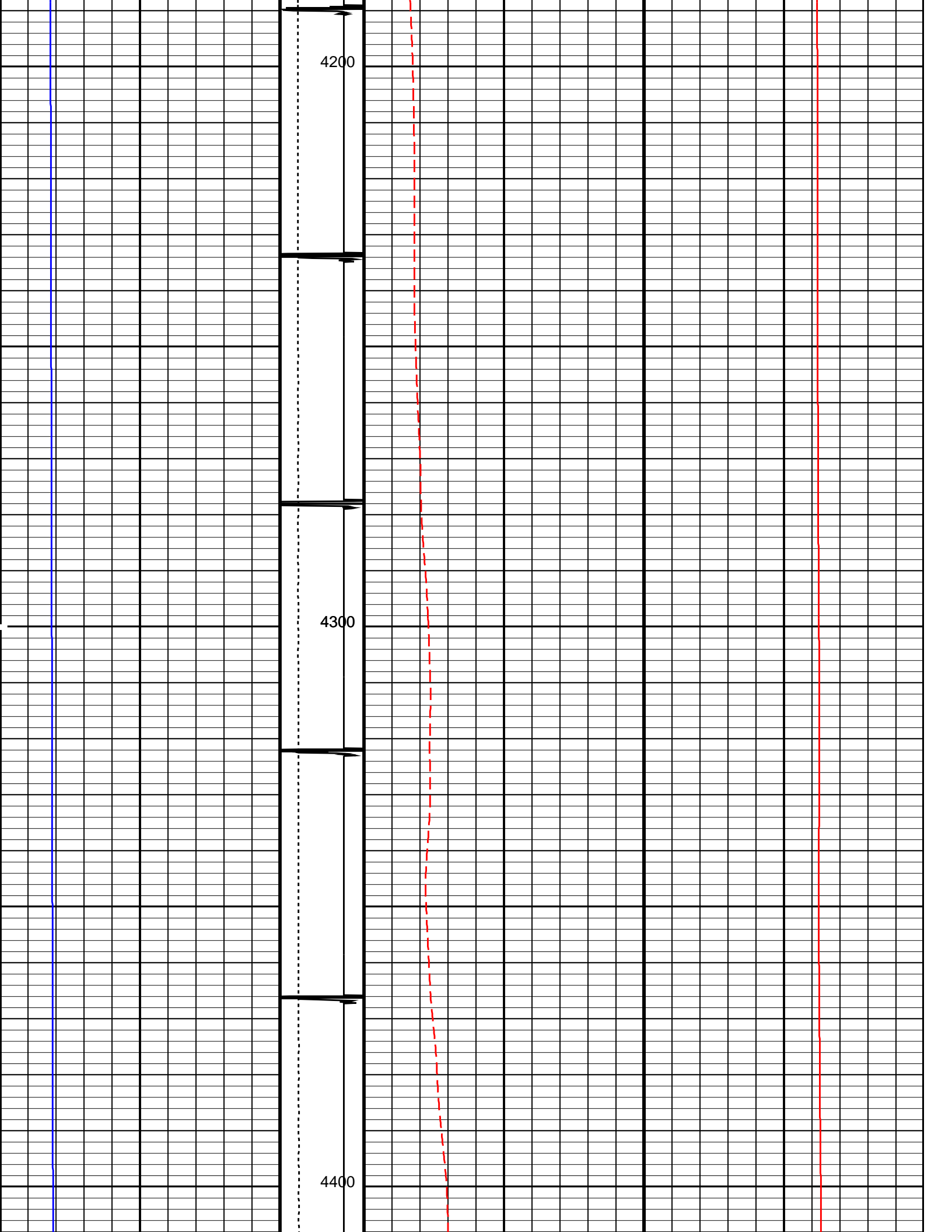


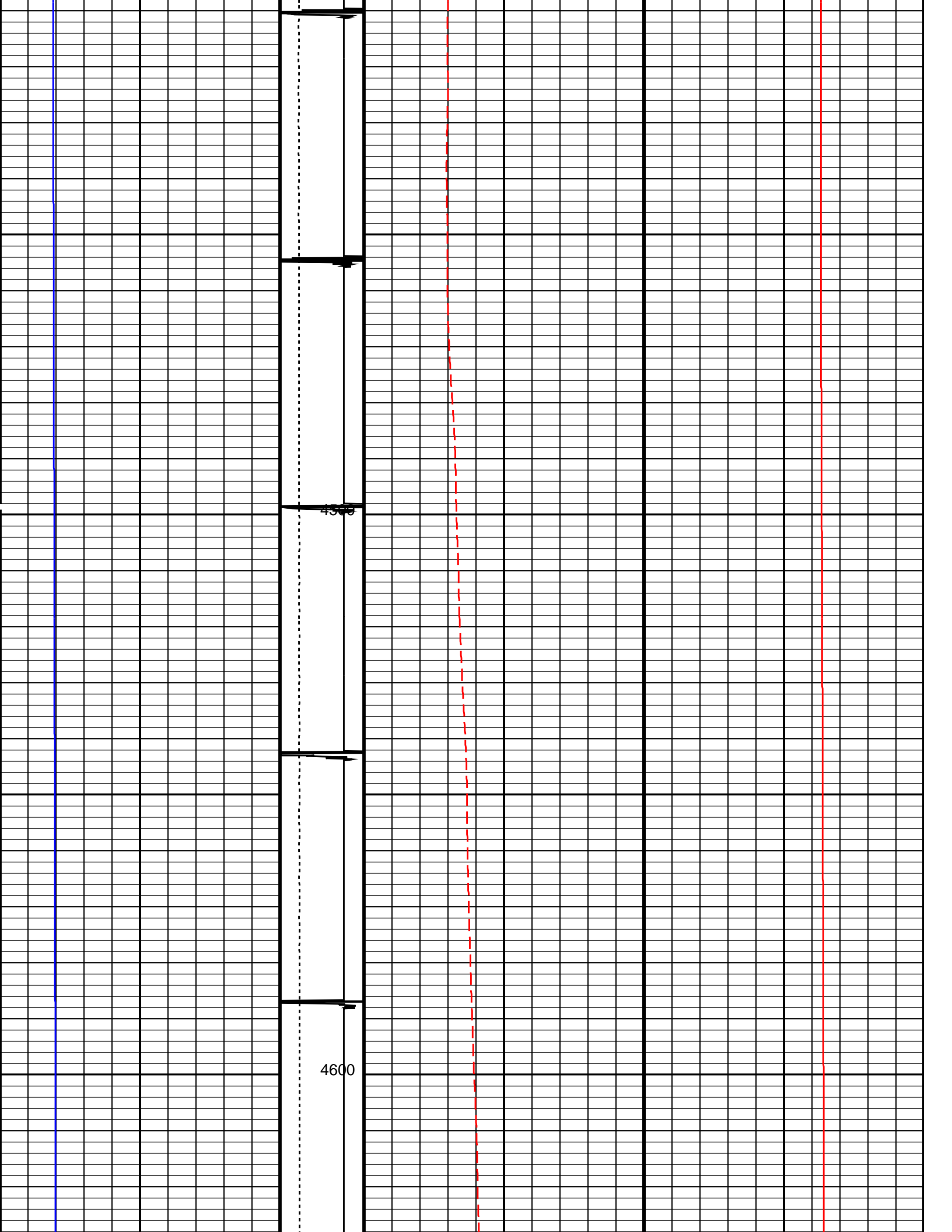


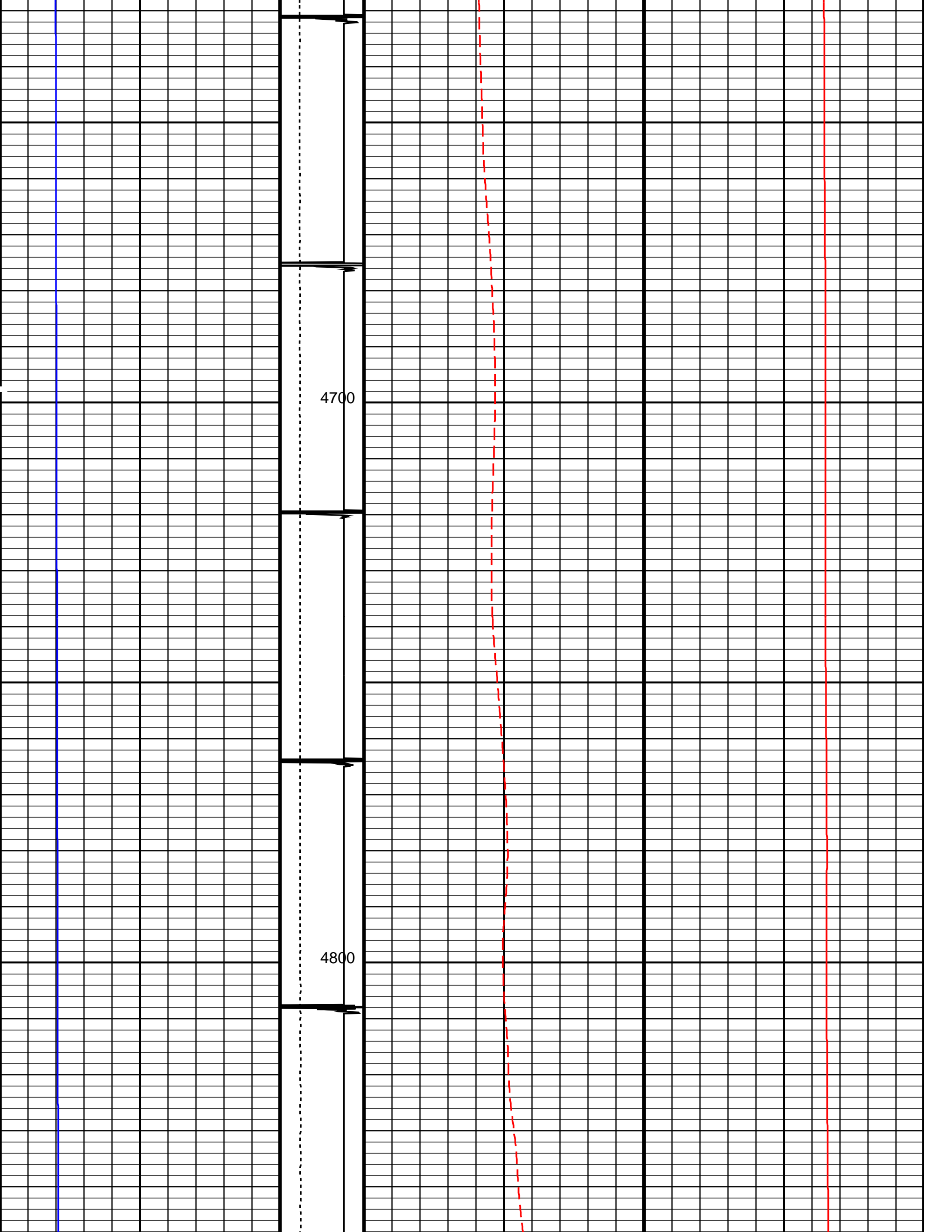


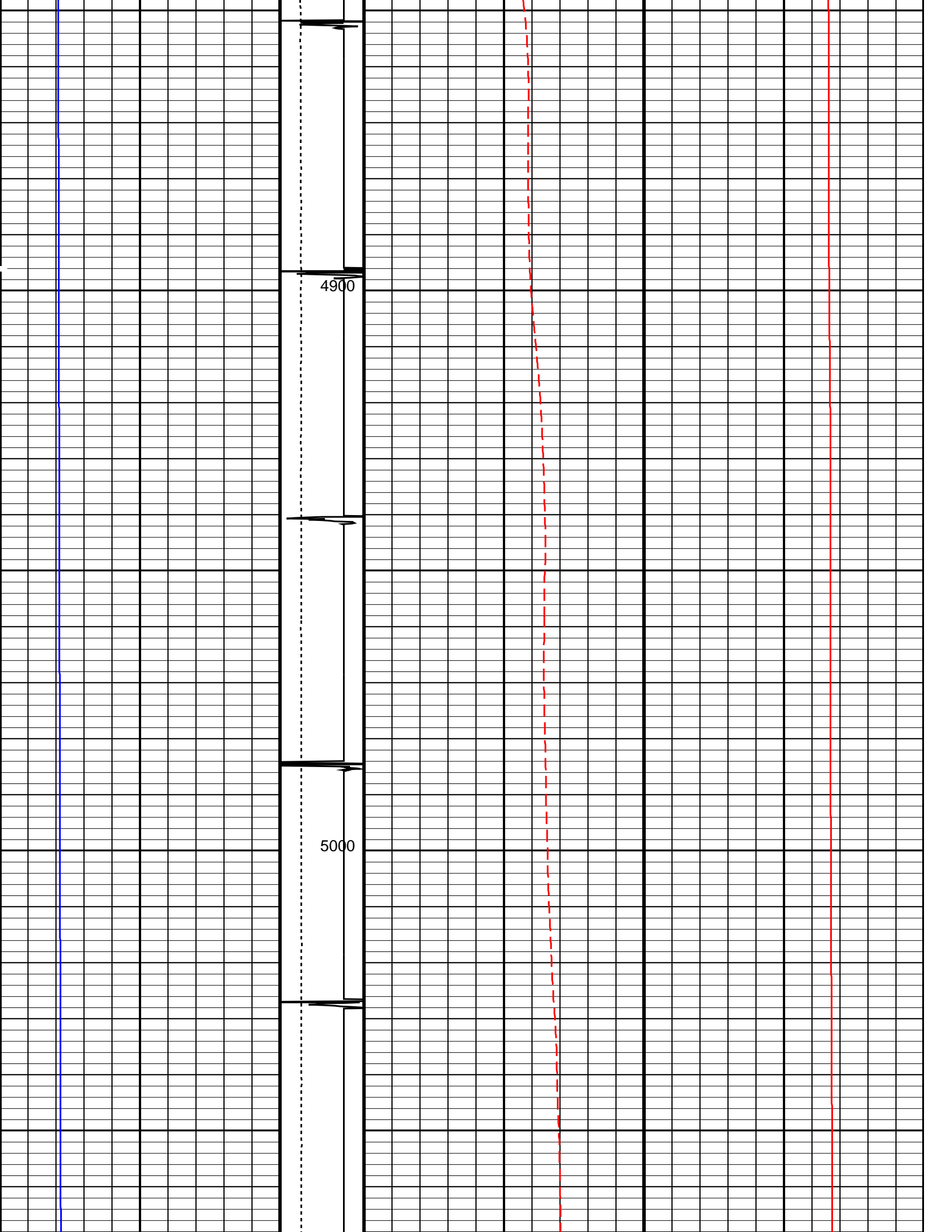


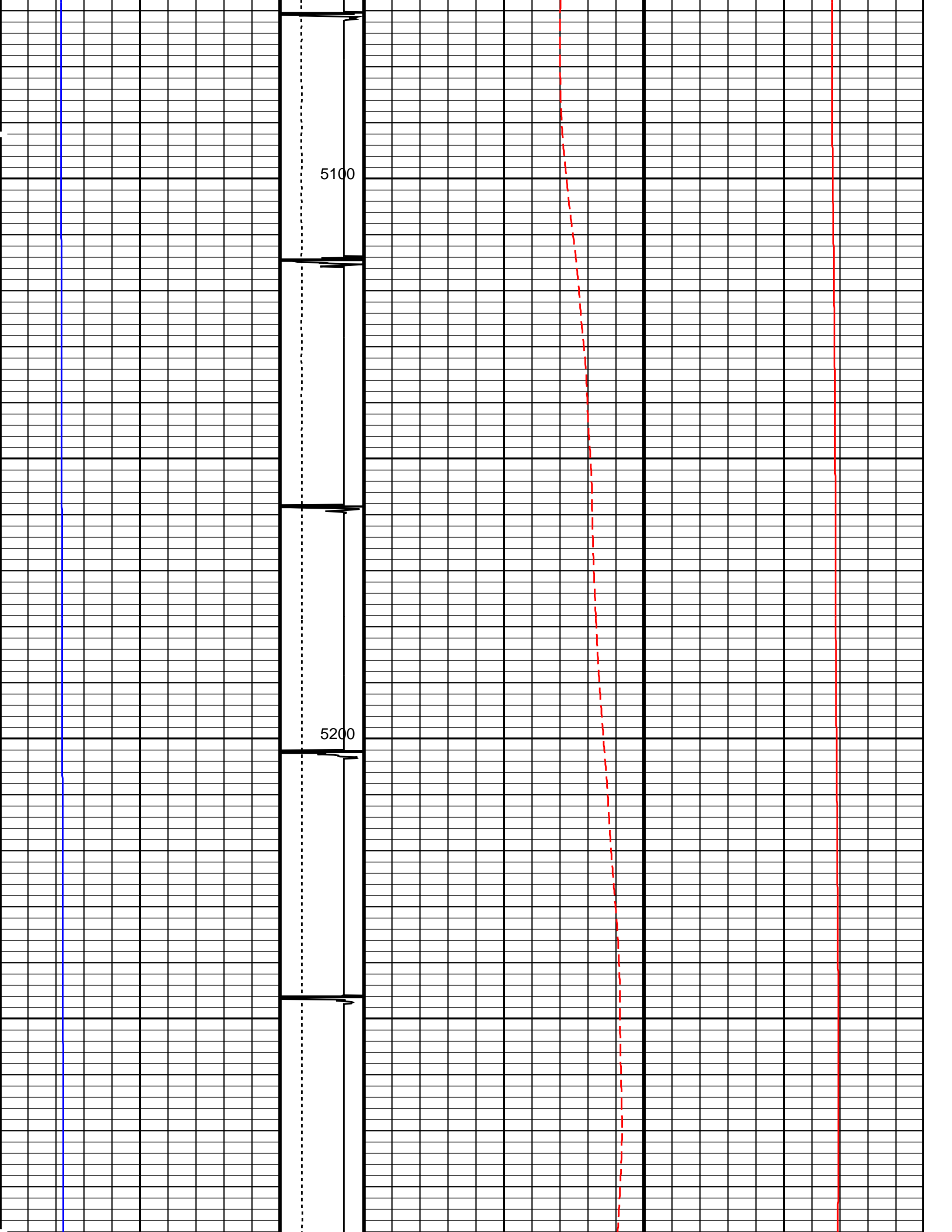


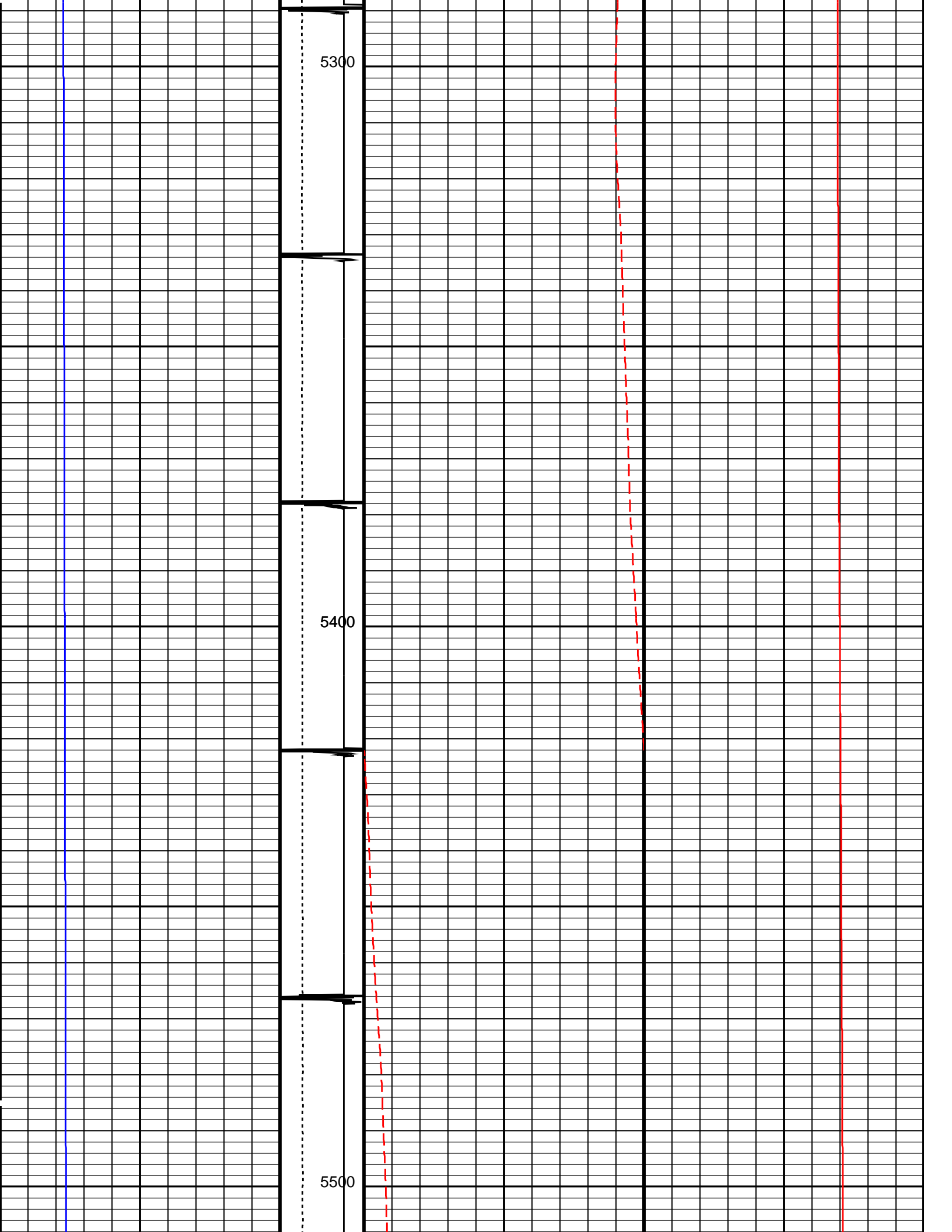


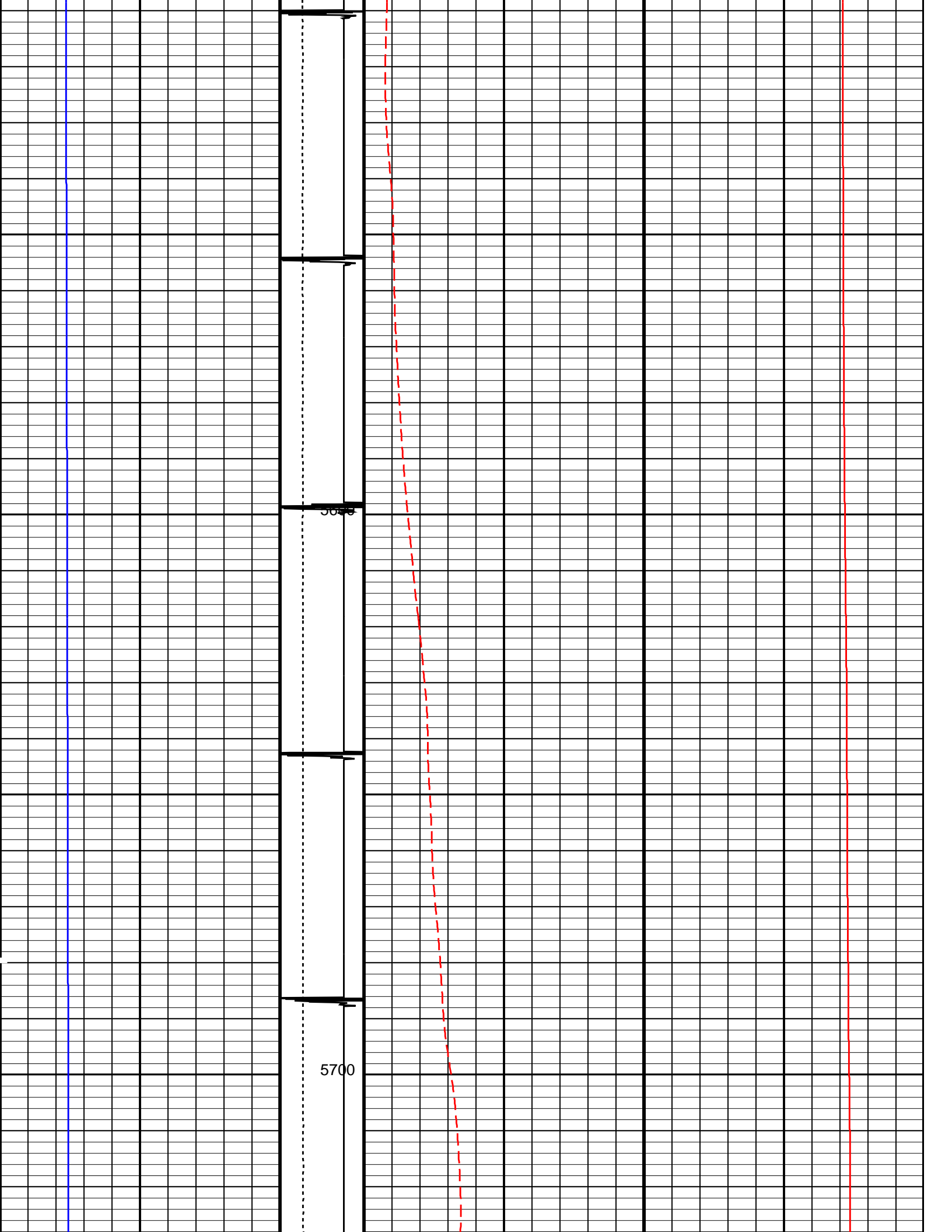


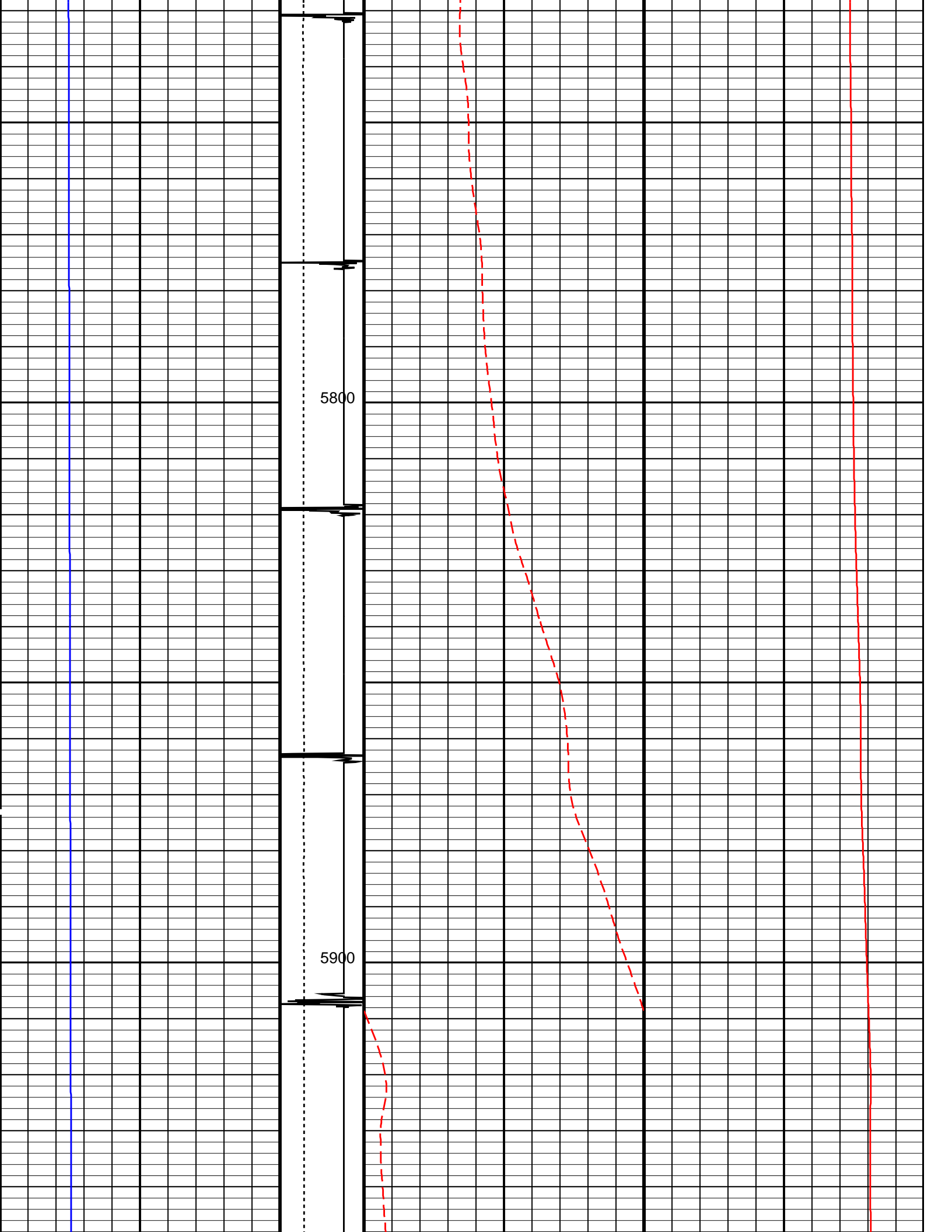


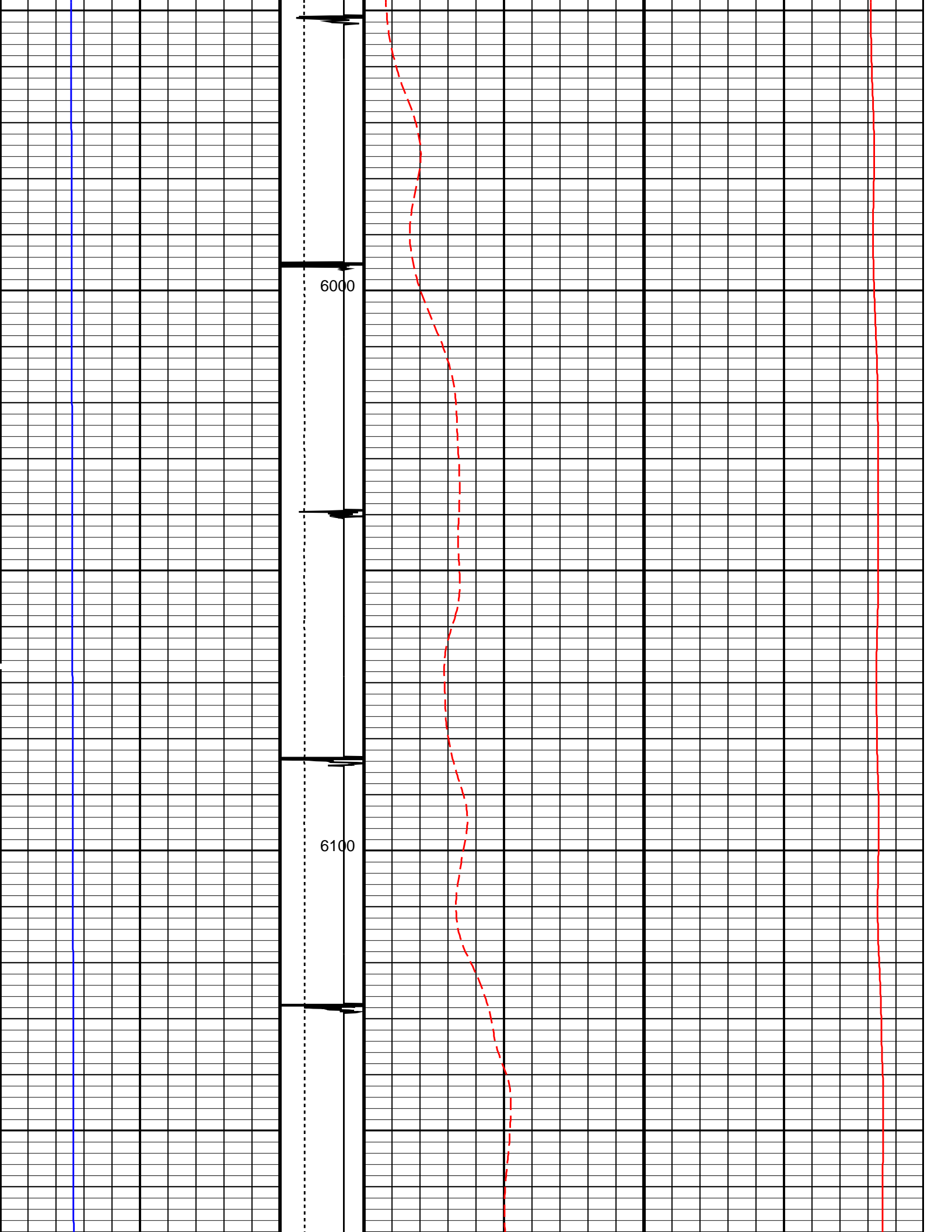


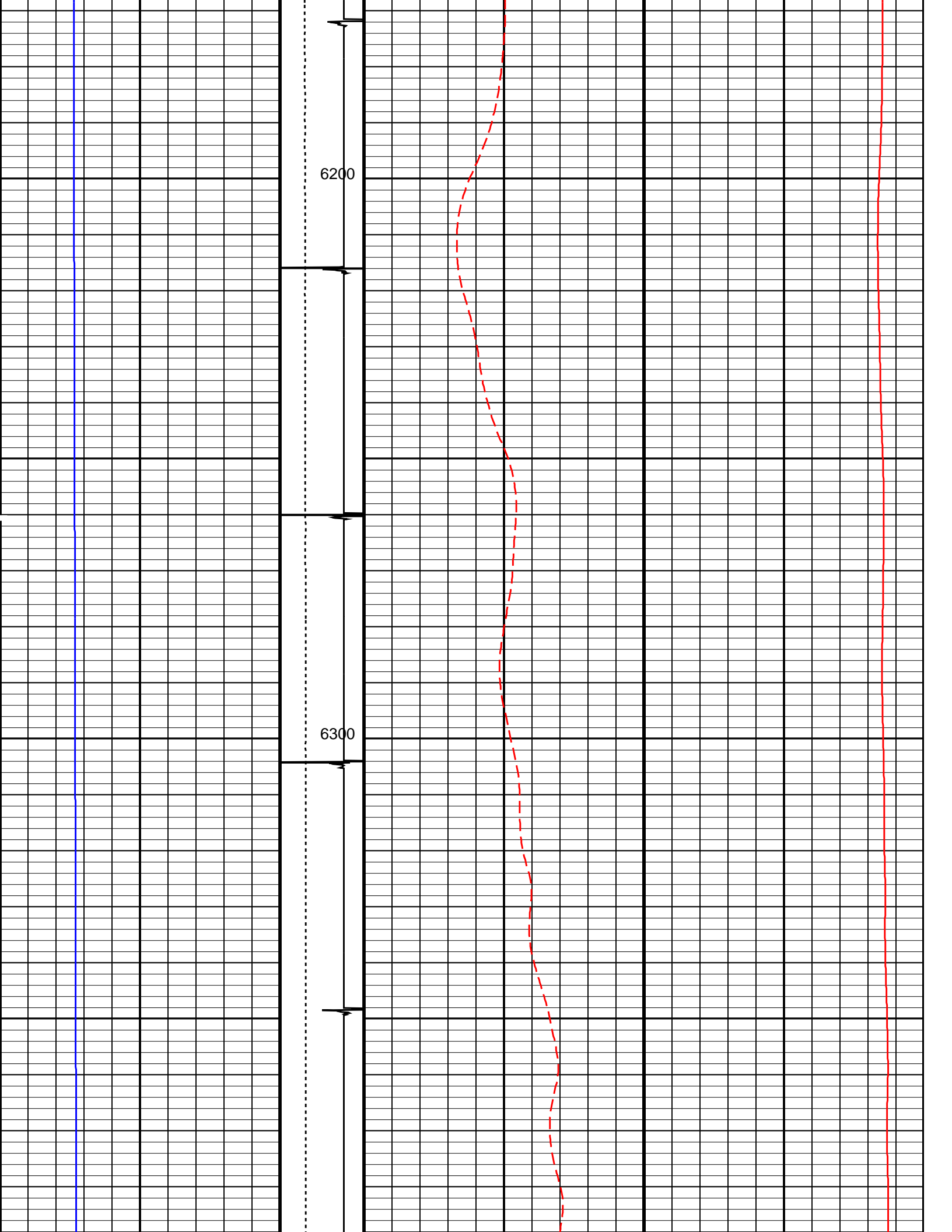


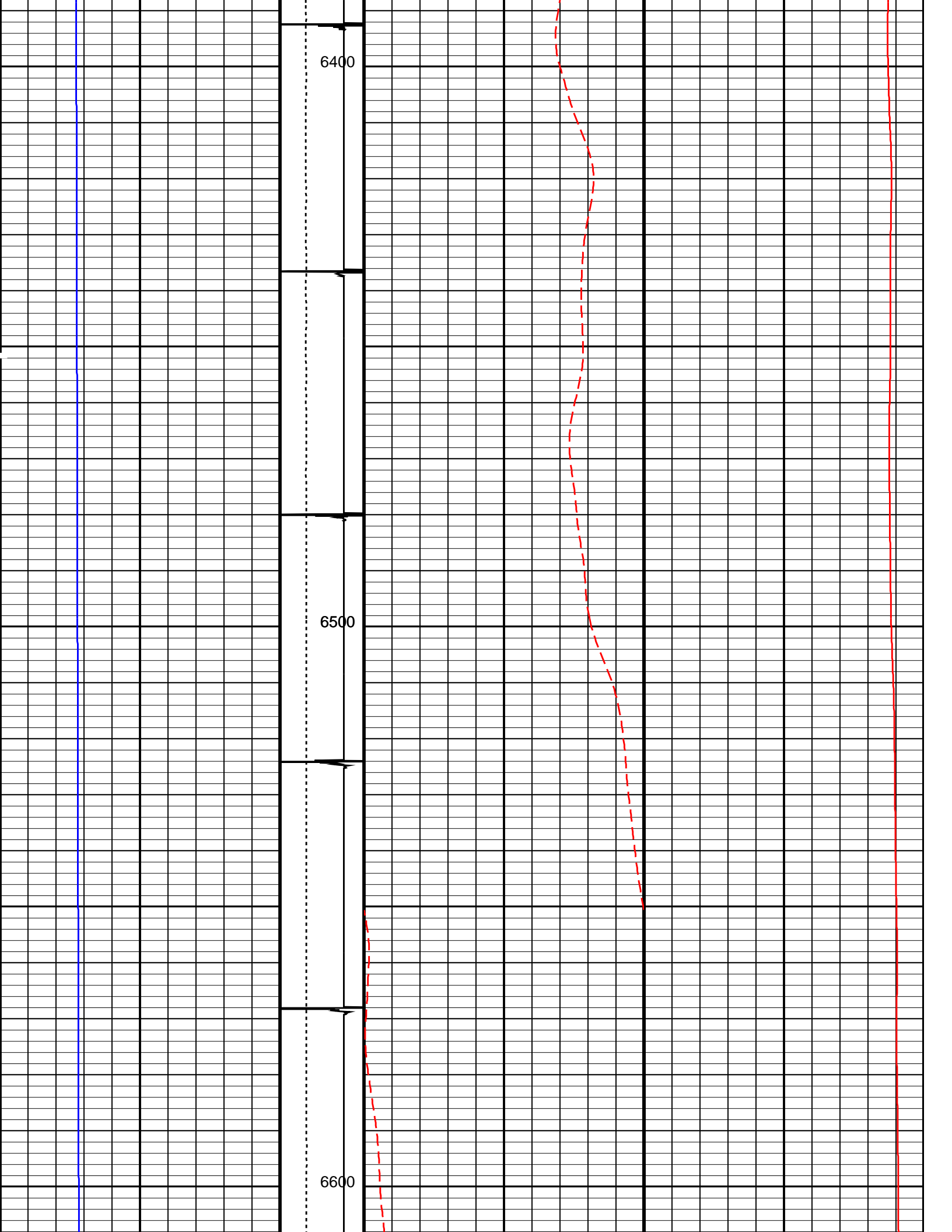


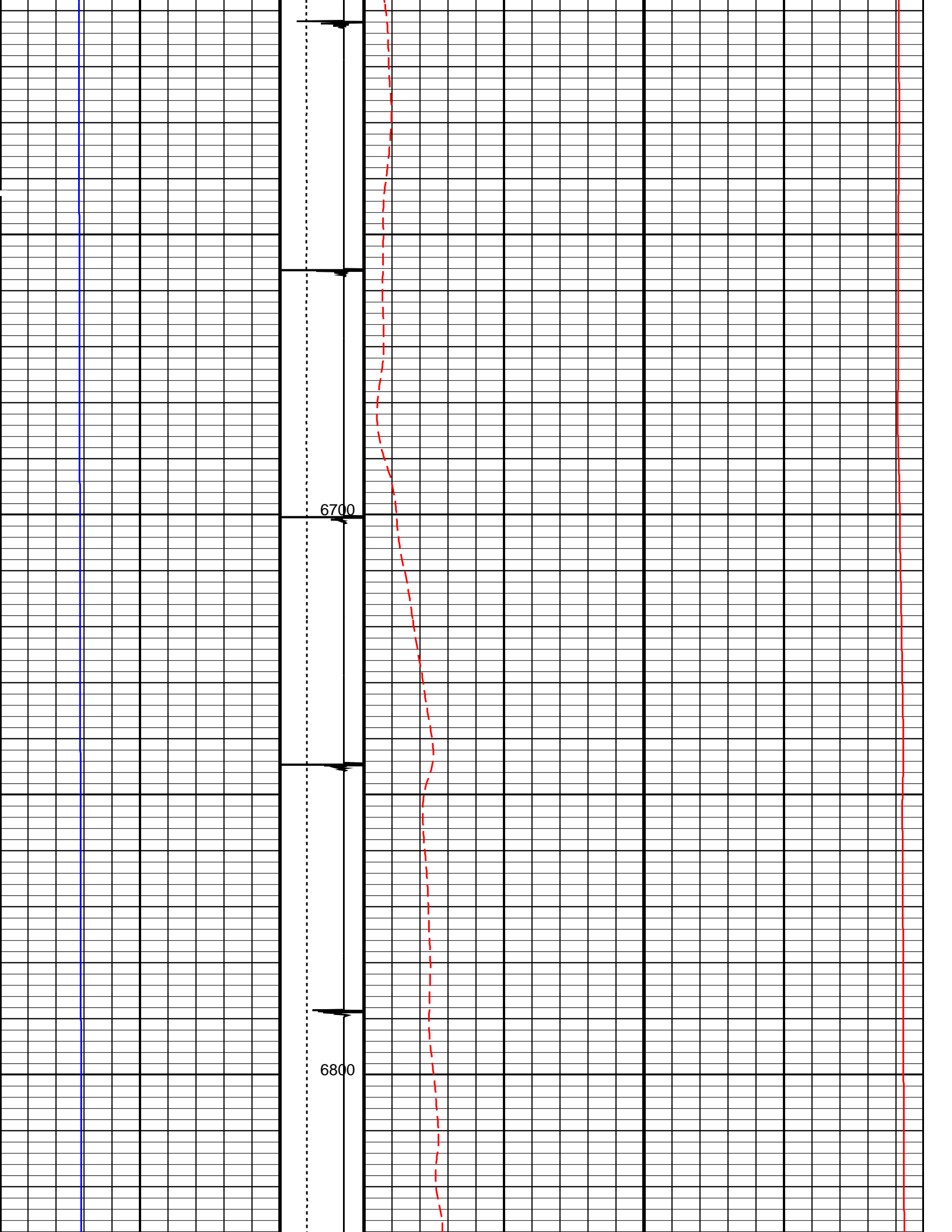


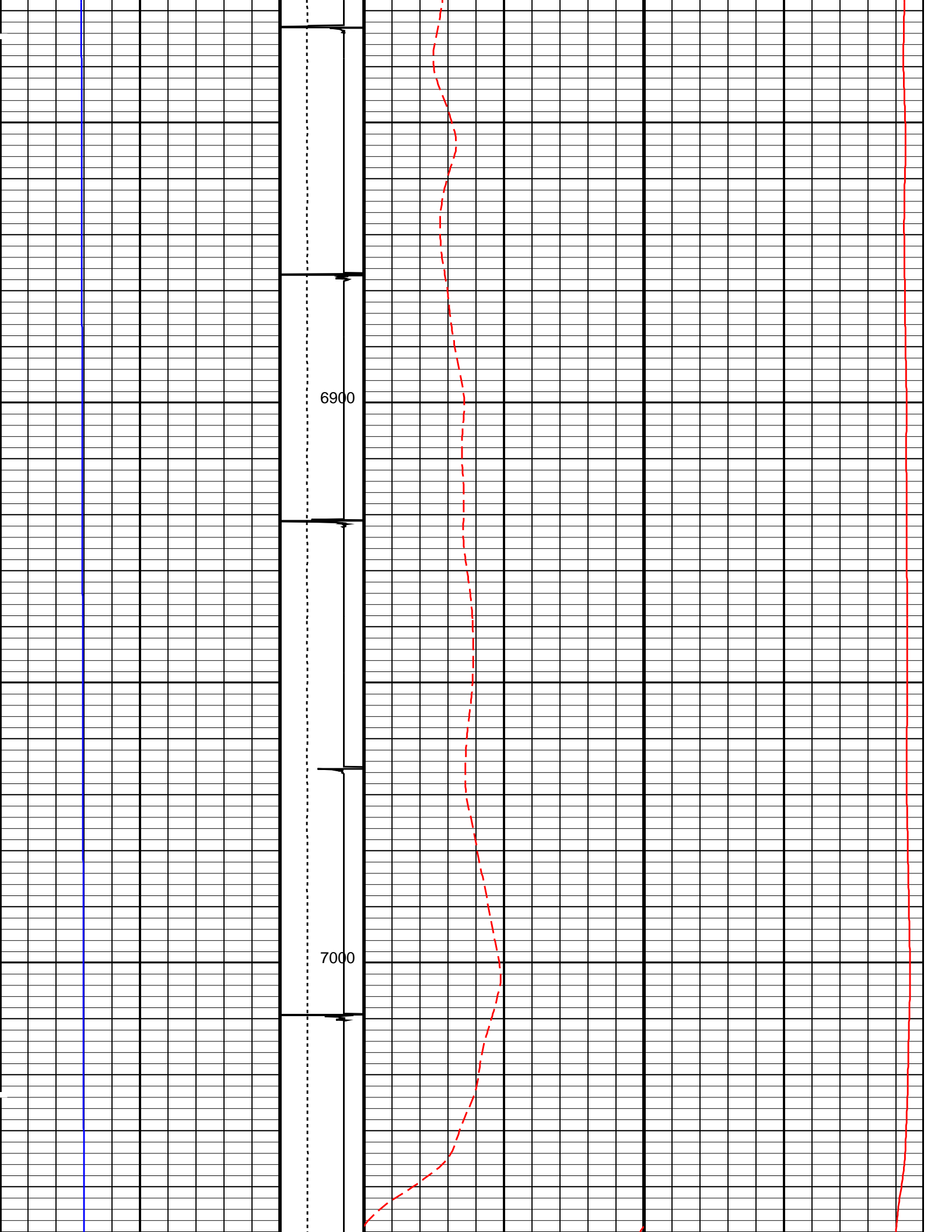


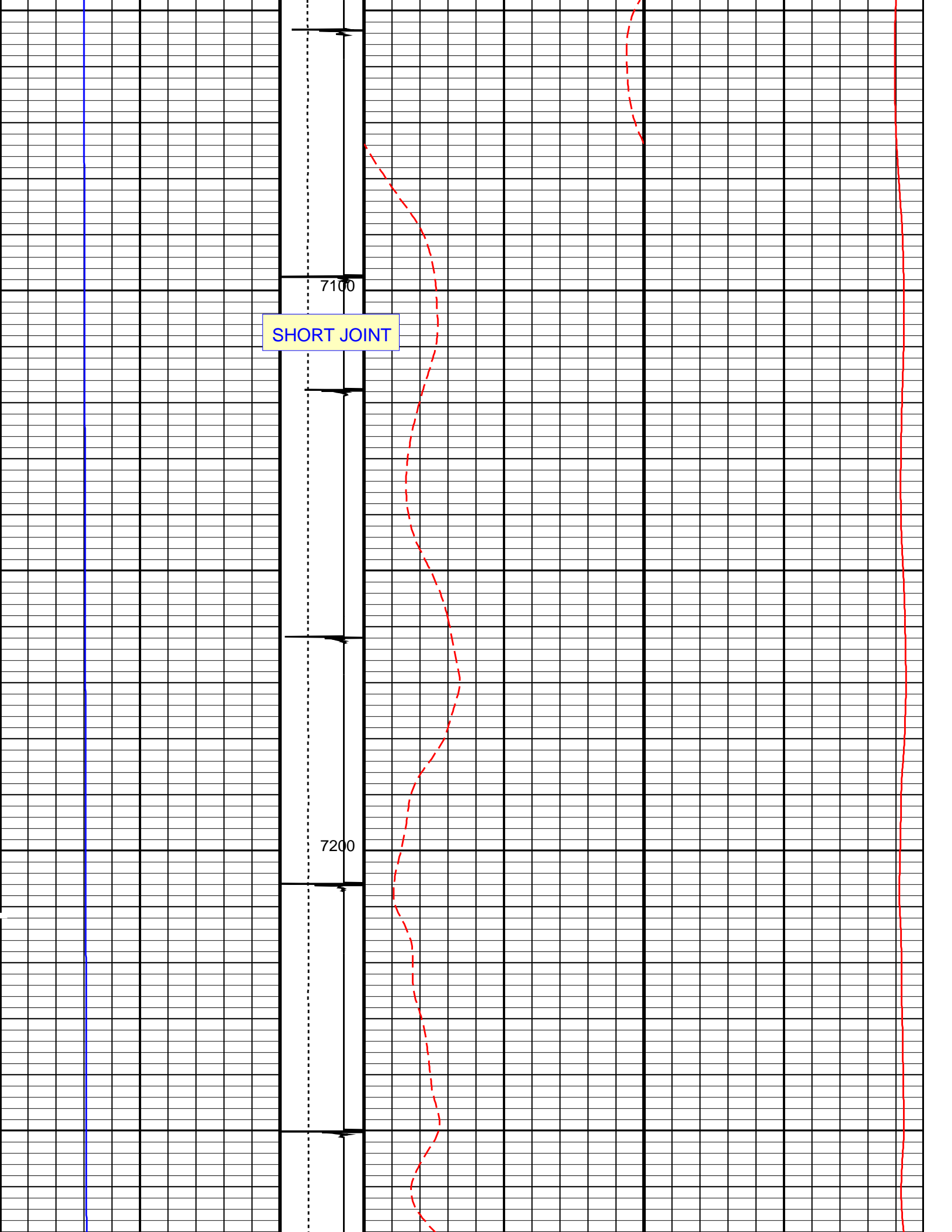


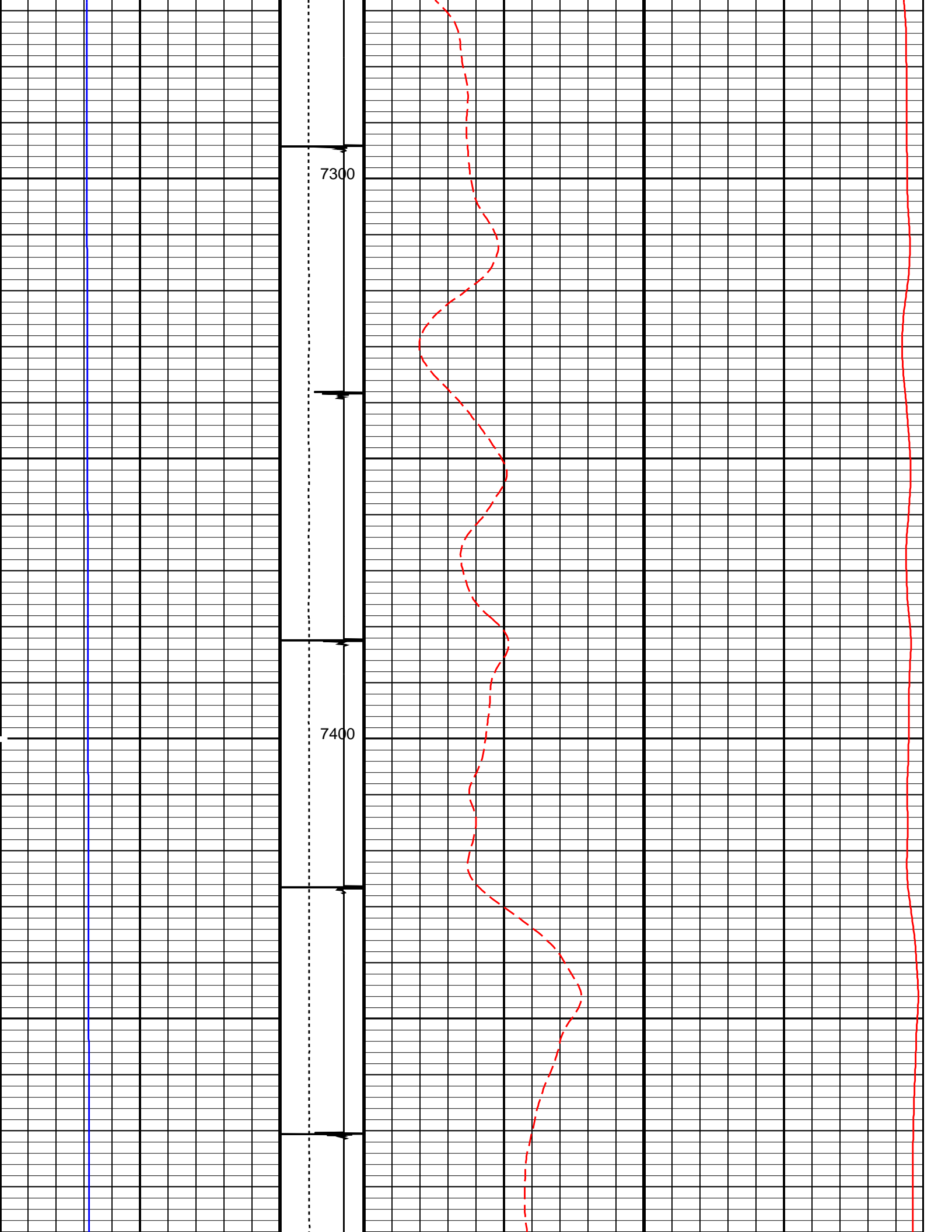


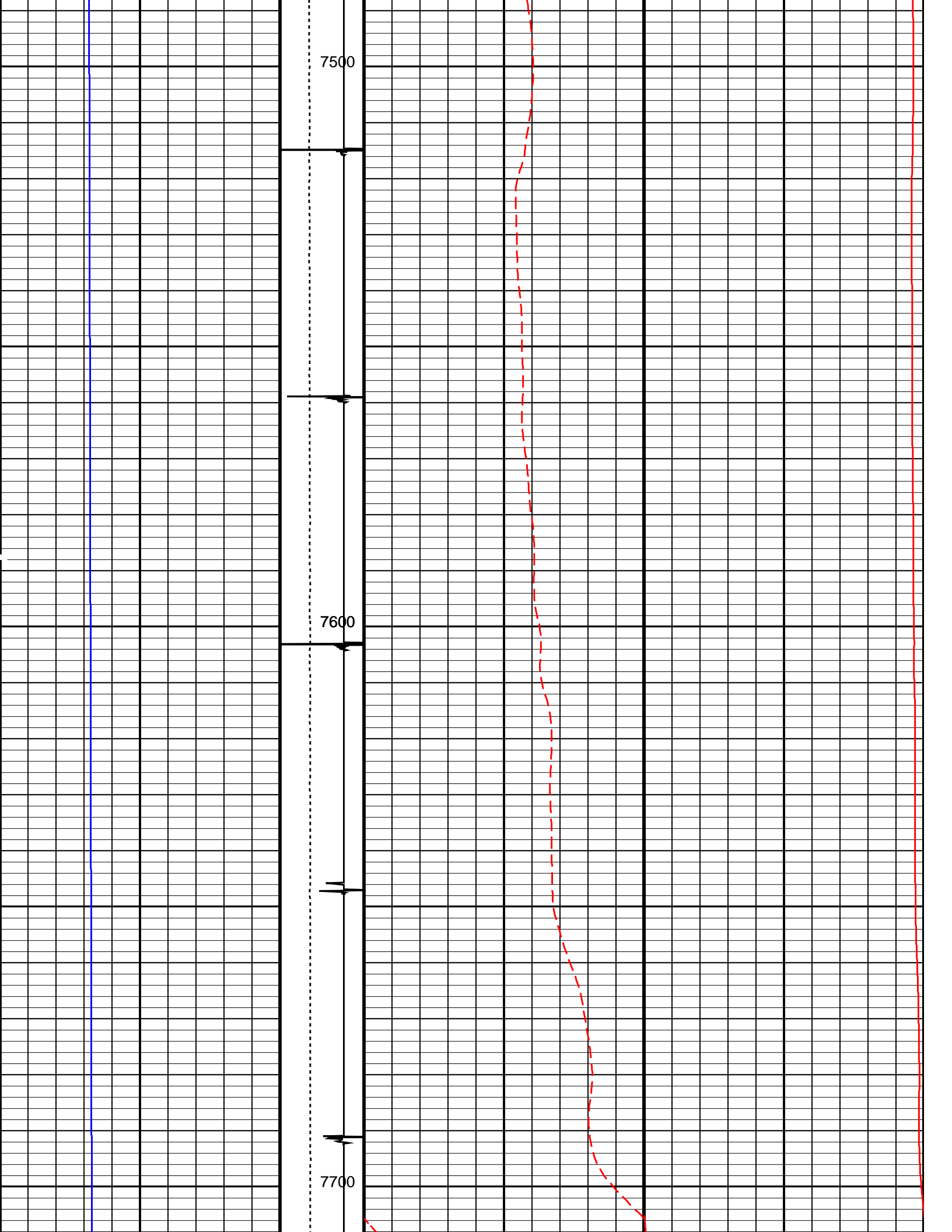


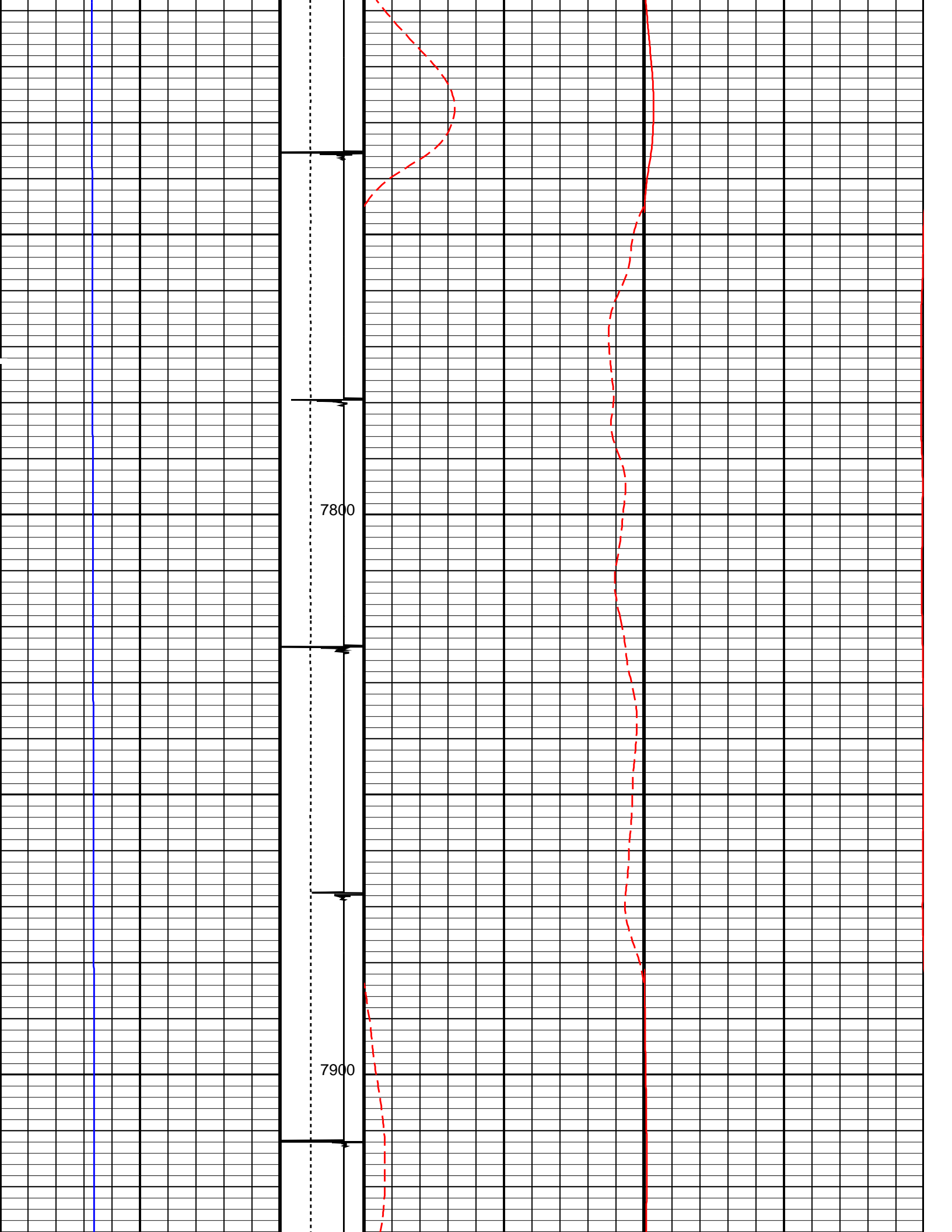


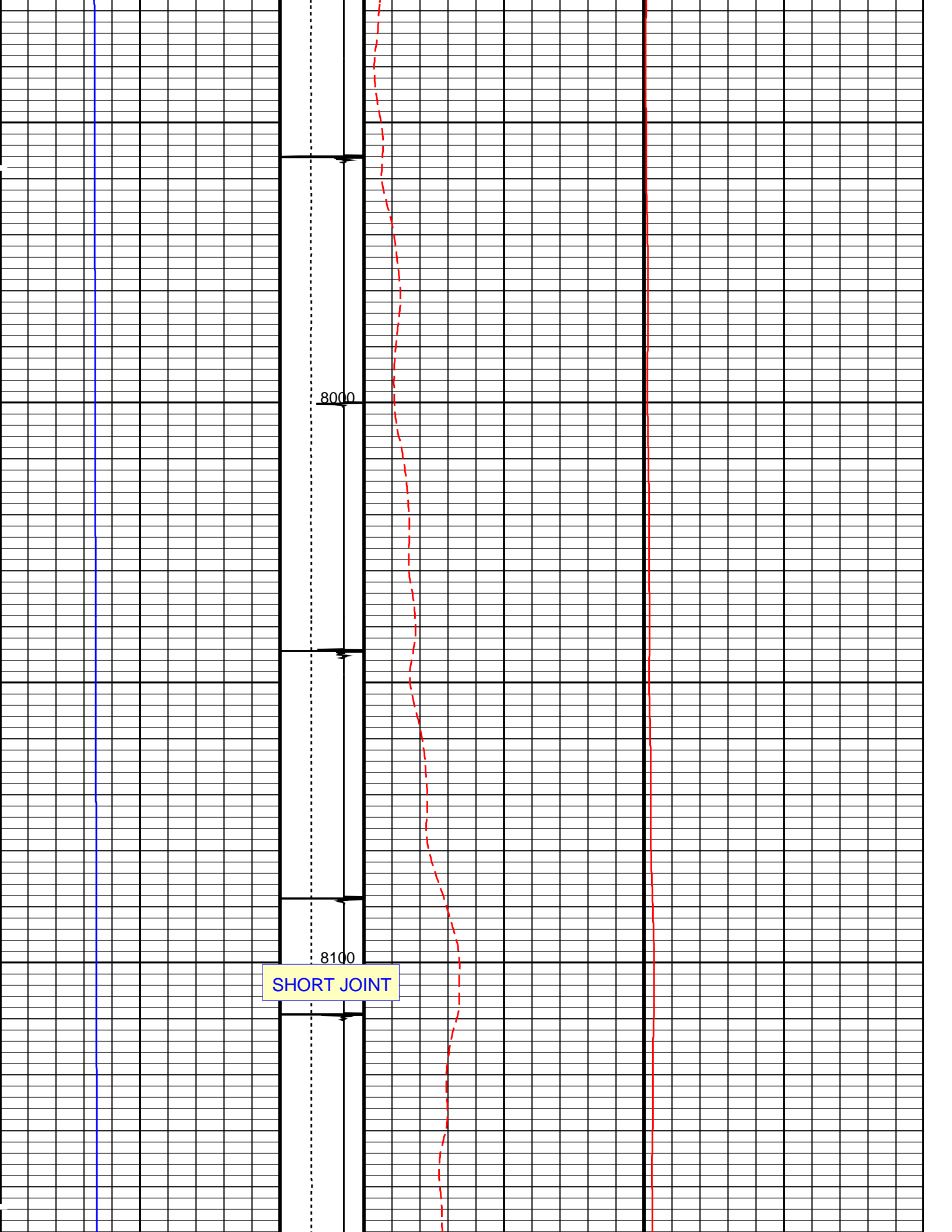
















Well Pressure (WPRE) (PSIA)		0	10000	Tension (TENS) (LBF)		0	2000	Well Temperature (WTEP) (DEGF)		0	20	Well Temperature (WTEP) (DEGF)		0	200
				Discriminat ed CCL (CCLD)											
				3 (V) -1											

PIP SUMMARY

☒ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
System and Miscellaneous		
DO	Depth Offset for Playback	0.0 FT
PP	Playback Processing	RECOMPUTE

Format: TEMP LOG Vertical Scale: 5" per 100' Graphics File Created: 02-Dec-2012 18:34

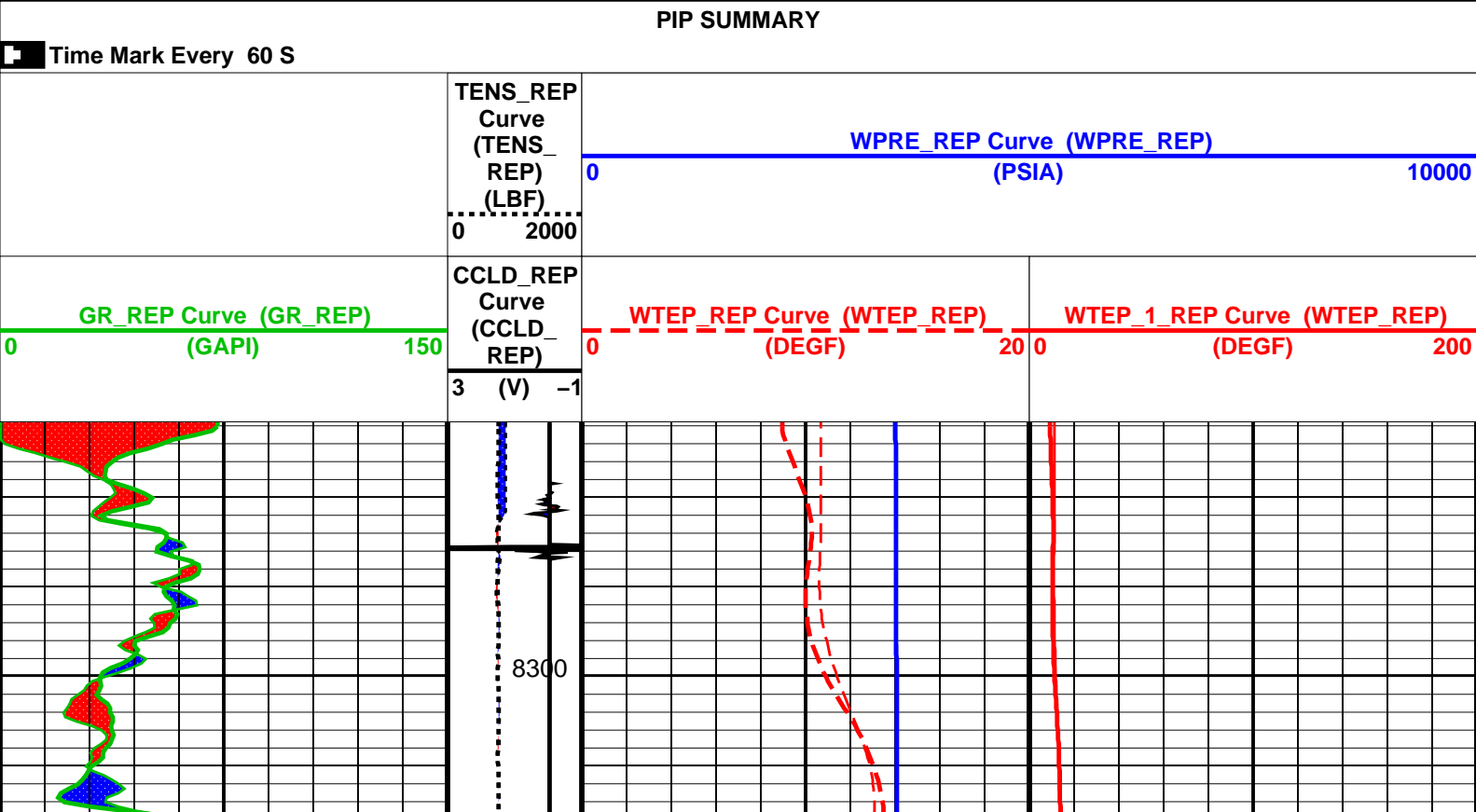
HBMS-B		SRPC-5214-H2-2012-OP19				
Input DLIS Files						
DEFAULT	Flip_HBMS_004LUP	PRODUCER	02-Dec-2012 18:31	8517.0 FT	-10.5 FT	
Output DLIS Files						
DEFAULT	HBMS_006PUP	FN:3	PRODUCER	02-Dec-2012 18:34		

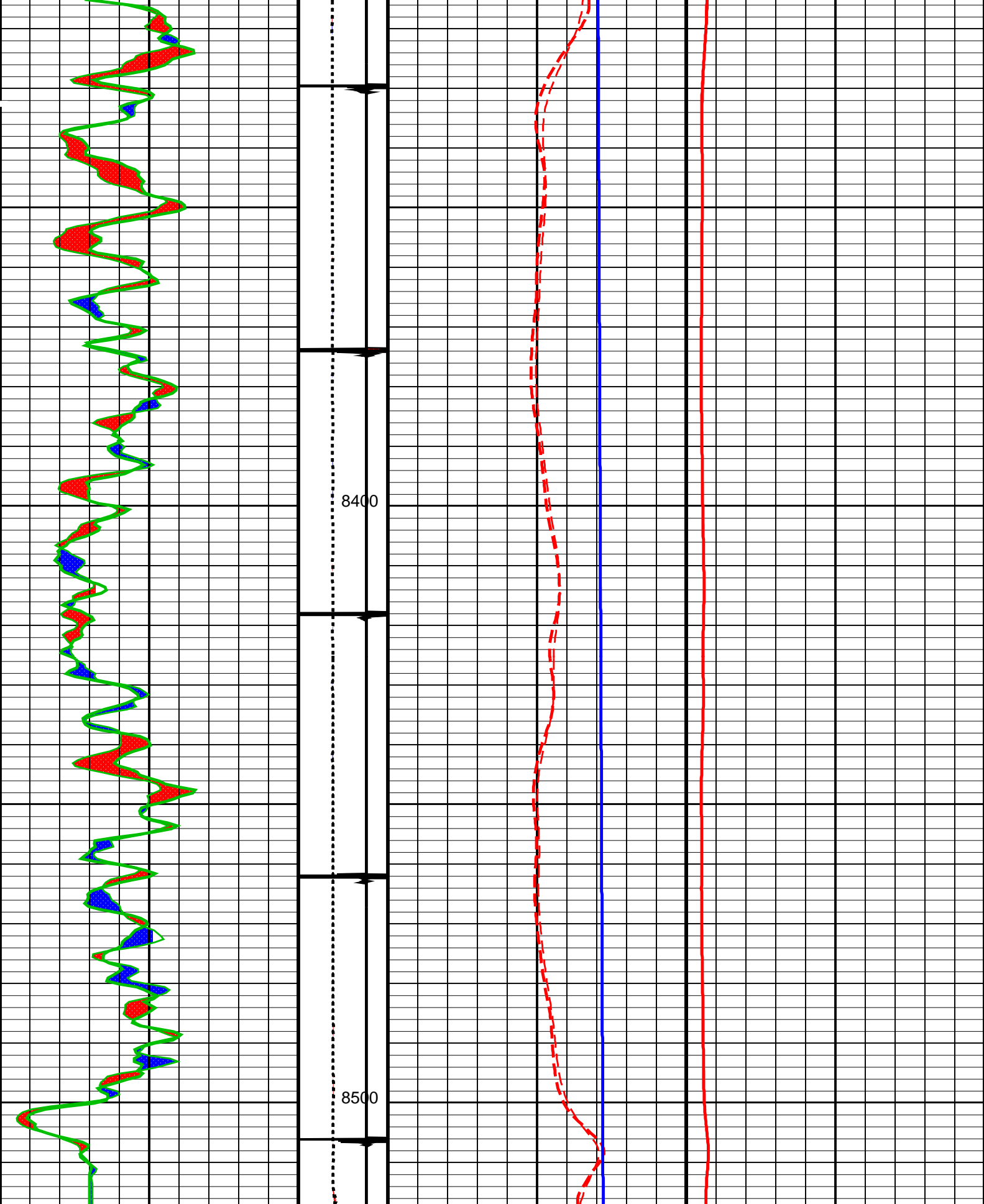


REPEAT ANALYSIS

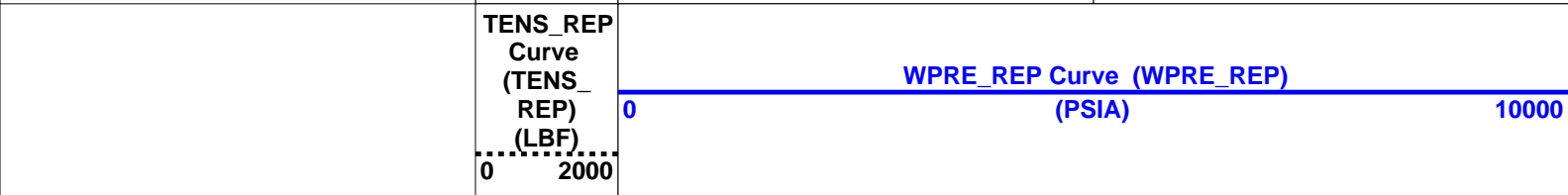
MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC				Well: MCU26-12C(127W)		
Input DLIS Files						
DEFAULT	Flip_HBMS_005LUP		PRODUCER	02-Dec-2012 18:32	8518.0 FT	8271.0 FT
DEFAULT	HBMS_006PUP	FN:3	PRODUCER	02-Dec-2012 18:34	8517.0 FT	-10.5 FT
Output DLIS Files						
DEFAULT	HBMS_008PUP	FN:5	PRODUCER	02-Dec-2012 18:43	8518.0 FT	8271.0 FT
OP System Version: 19C0-187						
HBMS-B	SRPC-5214-H2-2012-OP19					





GR_REP Curve (GR_REP) (GAPI)	CCLD_REP Curve (CCLD_REP) (V)	WTEP_REP Curve (WTEP_REP) (DEGF)	WTEP_1_REP Curve (WTEP_REP) (DEGF)
0	3	0	0
150	-1	20	200



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-Dec-2012 18:43

OP System Version: 19C0-187

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

Input DLIS Files					
DEFAULT	Flip_HBMS_005LUP	PRODUCER	02-Dec-2012 18:32	8518.0 FT	8271.0 FT
DEFAULT	HBMS_006PUP	FN:3 PRODUCER	02-Dec-2012 18:34	8517.0 FT	-10.5 FT
Output DLIS Files					
DEFAULT	HBMS_008PUP	FN:5 PRODUCER	02-Dec-2012 18:43		



HBMS COEFFICIENTS

MAXIS Field Log

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMMA CREEK	Sub Type:	PBMS
Well:	MCU26-12C(127W)	Sensor:	CQG
Run date:	2-Dec-2002		

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
Ec**0	+ 694668499013E+04 + 138137467574E-01 - 206148488488E-06

Fc**0	-.104285125976E+01	-.125721589078E-04	-.971577899959E-10
Fc**1	+.101045175546E-05	+.480801816357E-10	+.889110474366E-15
Fc**2	+.127326781620E-11	+.130693902354E-15	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

	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
Calib Date ddmmyy
Matrix Size
Coeff CRC

:
2880
260408
66
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

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMMA CREEK	Sub Type:	PBMS
Well:	MCU26–12C(127W)	Sensor:	WellTemp RTD
Run date:	2–Dec–2002		

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

0.0

+.173000000000e+04

GR

Schlumberger

TEMPERATURE SURVEY

