

Company: ENCANA OIL & GAS (USA) INC

Well: SHIDELER FEE 31-13CC (031E)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 192 FSL & 2046 FEL

Well: SHIDELER FEE 31-13CC (031E)

Company: ENCANA OIL & GAS (USA) INC

TEMPERATURE LOG

CCL - TEMPERATURE

SHL: 192 FSL & 2046 FEL

BHL: 251 FSL & 99 FWL

Elev.: K.B. 7129.00 ft

G.L. 7107.00 ft

D.F. 7128.00 ft

Permanent Datum: GROUND LEVEL

Elev.: 7107.00 ft

Log Measured From: KELLY BUSHING

22.00 ft above Perm. Datum

Drilling Measured From: KELLY BUSHING

API Serial No. 05-045-21737-00

Section 31

Township 7S

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 3-Jan-2013

Run Number 1

Depth Driller 8998 ft

Schlumberger Depth 8500 ft

Bottom Log Interval 8500 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 8998 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade

From 0 ft

To 8998 ft

Maximum Recorded Temperatures 206 degF

Logger On Bottom 3-Jan-2013

Time 2:30

Unit Number 391

Location GRAND JUNCTION

Recorded By JASON BARRY

Witnessed By MIKE OLSEN

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				
Time				
Unit Number				
Location				
Recorded By				
Witnessed By				

DEPTH SUMMARY LISTING

Date Created: 12-DEC-2012 9:29:15

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:	
Calibration Date:	4-24-2012	Calibration Date:	28-11-2012	Length:	19700 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:	6		
Wheel Correction 2:	-4	Calibration Peak Error:	11		

Depth Control Parameters

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

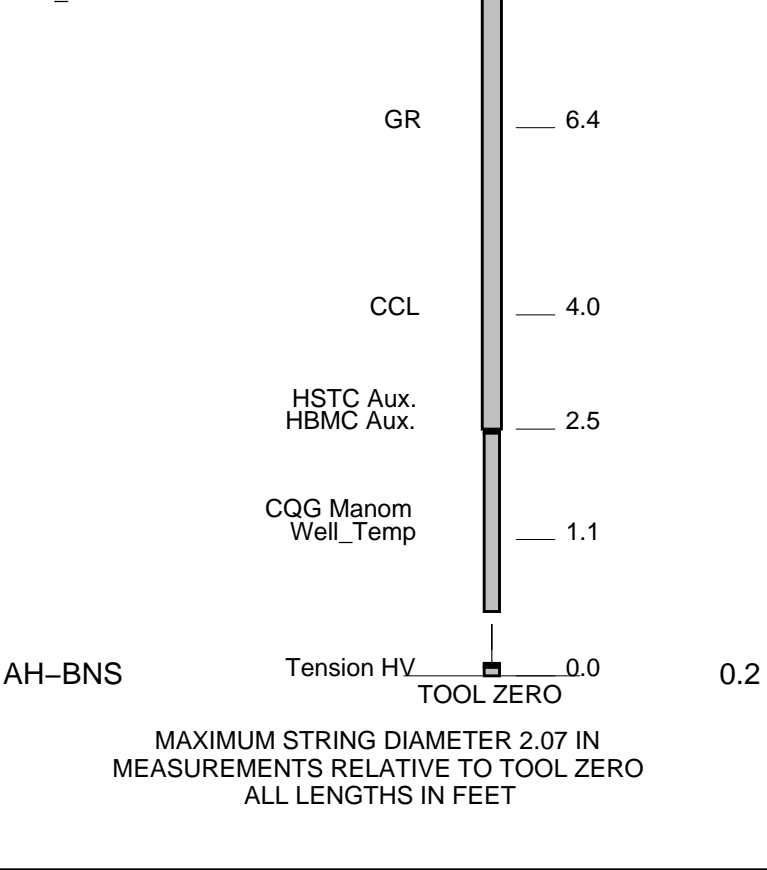
1. ALL SCHLUMBERGER DEPTH CONTROL POLICIES APPLIED
2. IDW USED AS PRIMARY DEPTH REFERENCE
3. SWPT DRUM COUNTER USED AS SECONDARY DEPTH REFERENCE
- 4.
- 5.
- 6.

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: 1:45	
TIME ON BOTTOM: 2:30	
EXIT TIME: 3:30	

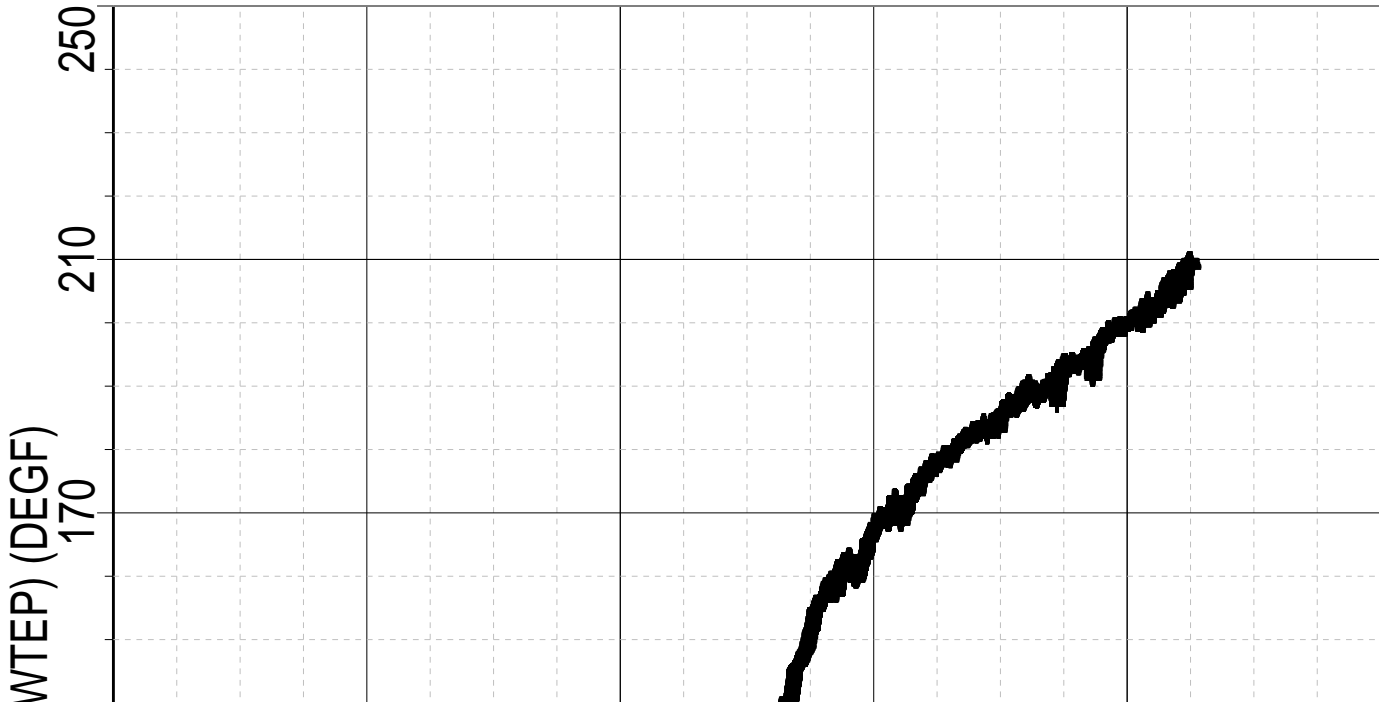
MAX RECORDED TEMPERATURE: 206 DEGF					
MAX RECORDED PRESSURE: 3450 PSI					
CREW: J BARRY, K BUNTING, W AZIZ, K JOHNS, B RANSBOTTOM					
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY					
RUN 1			RUN 2		
SERVICE ORDER #: C920-00010			SERVICE ORDER #:		
PROGRAM VERSION: 19C0-187			PROGRAM 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					
<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 2880</div> <div>HUDH-A 2880</div> <div>HSTC-A</div> <div>HBMC-A</div> <div>GR</div> <div>CCL</div> <div>HBMC</div> <div>HTPS-A 2880</div> <div>HCQG_E_Mano</div> <div>RTD Thermometer</div> </div> </div>			<div> <div>13.1</div> <div>11.6</div> <div>11.3</div> </div>		



TEMPERATURE PLOT

MAXIS Field Log

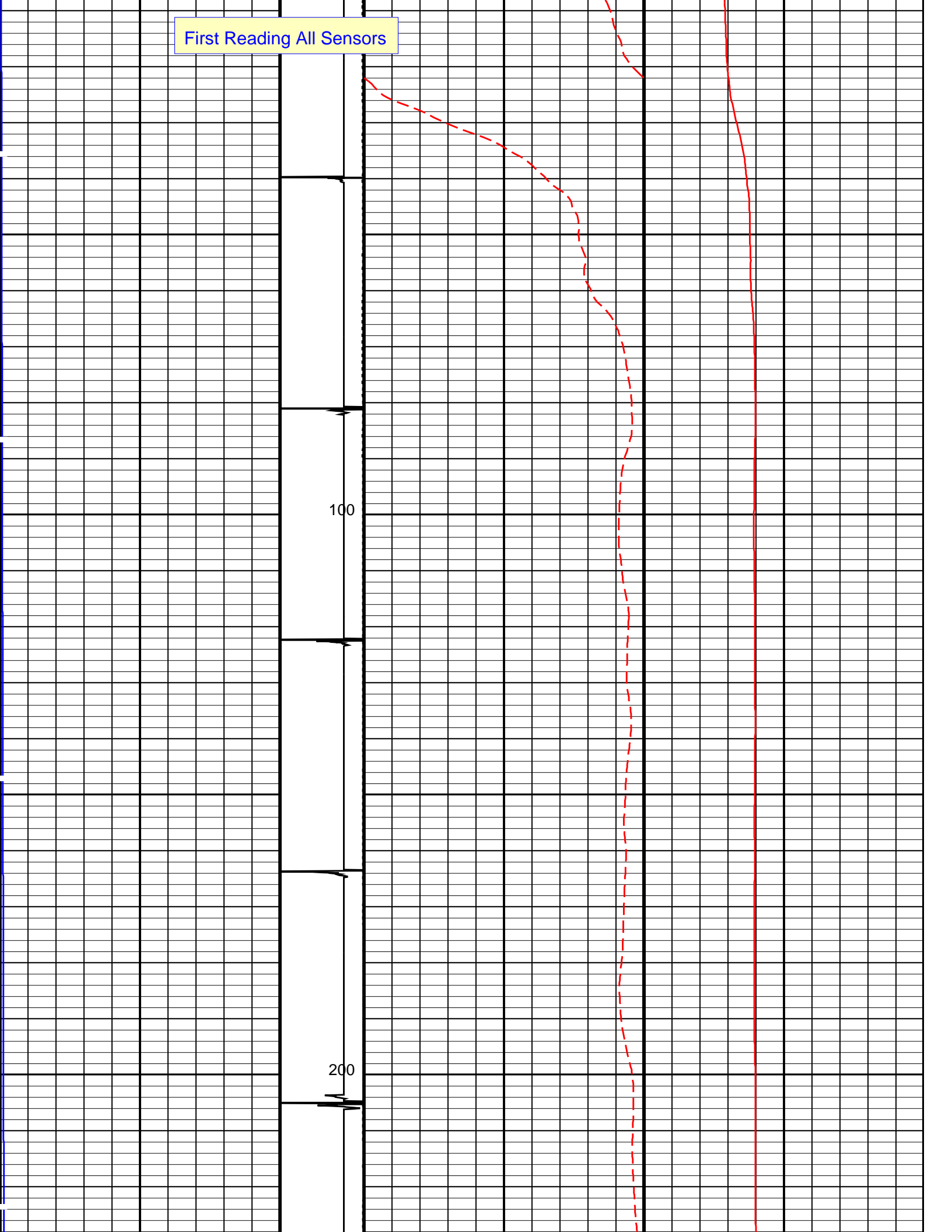
Index: 8518.0 – -10.5 FT

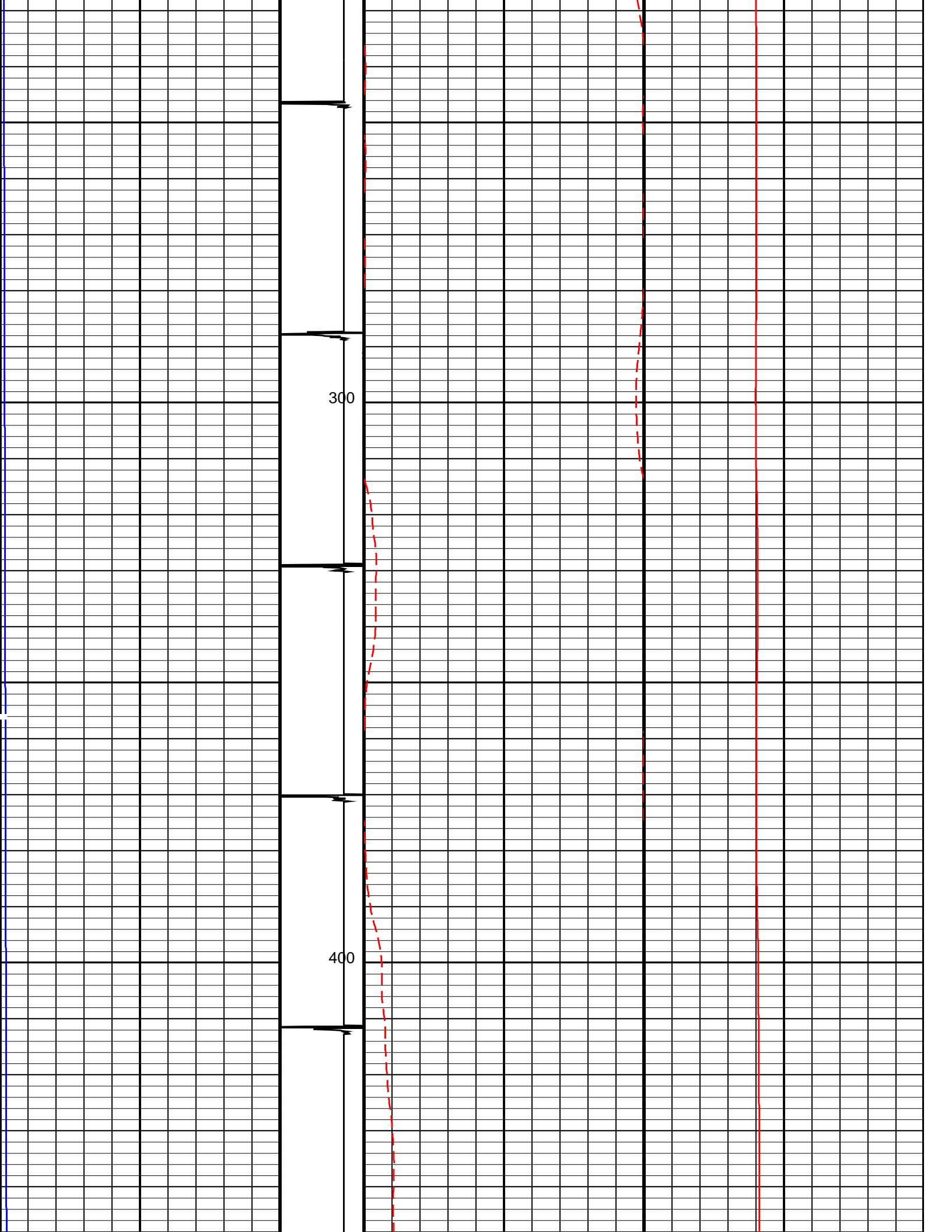


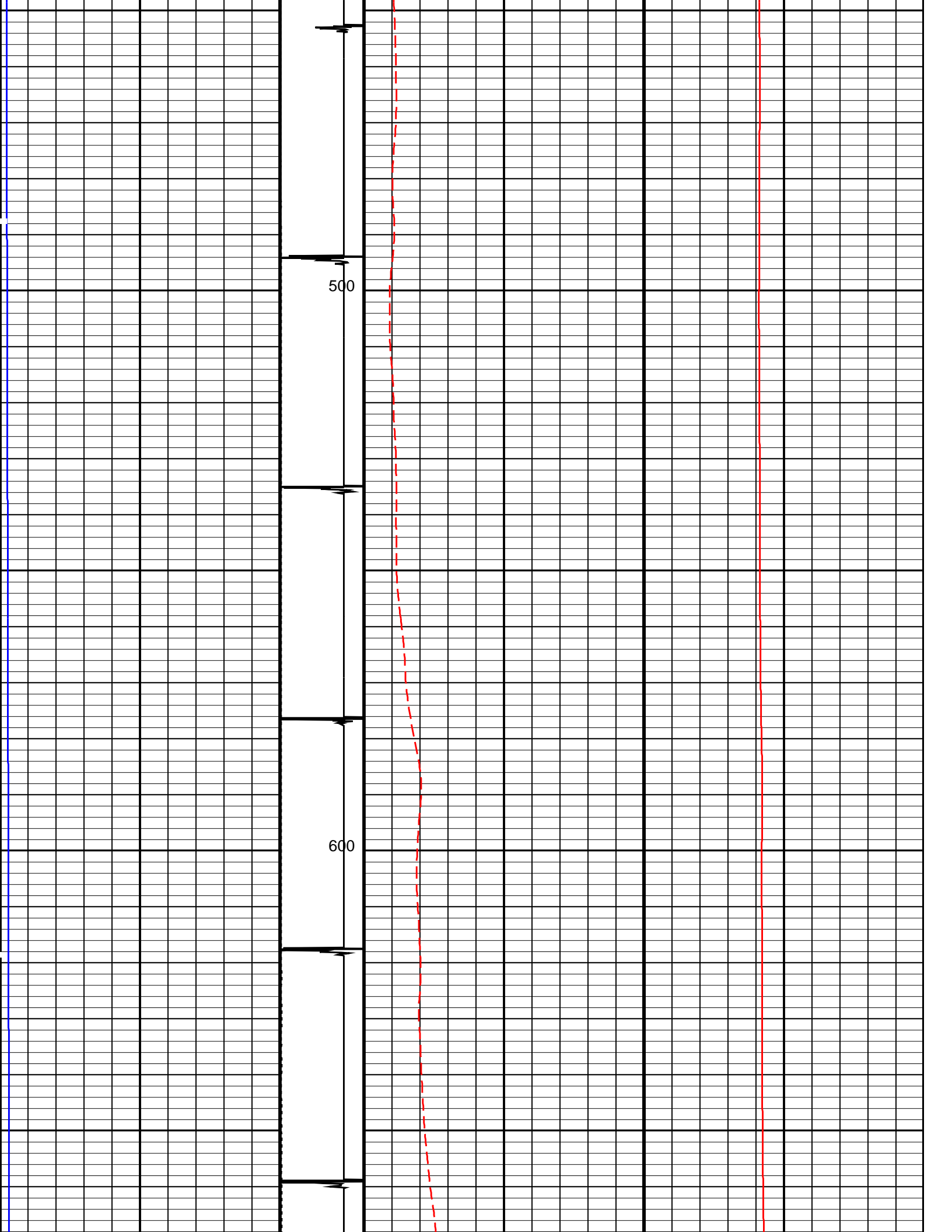
First Reading All Sensors

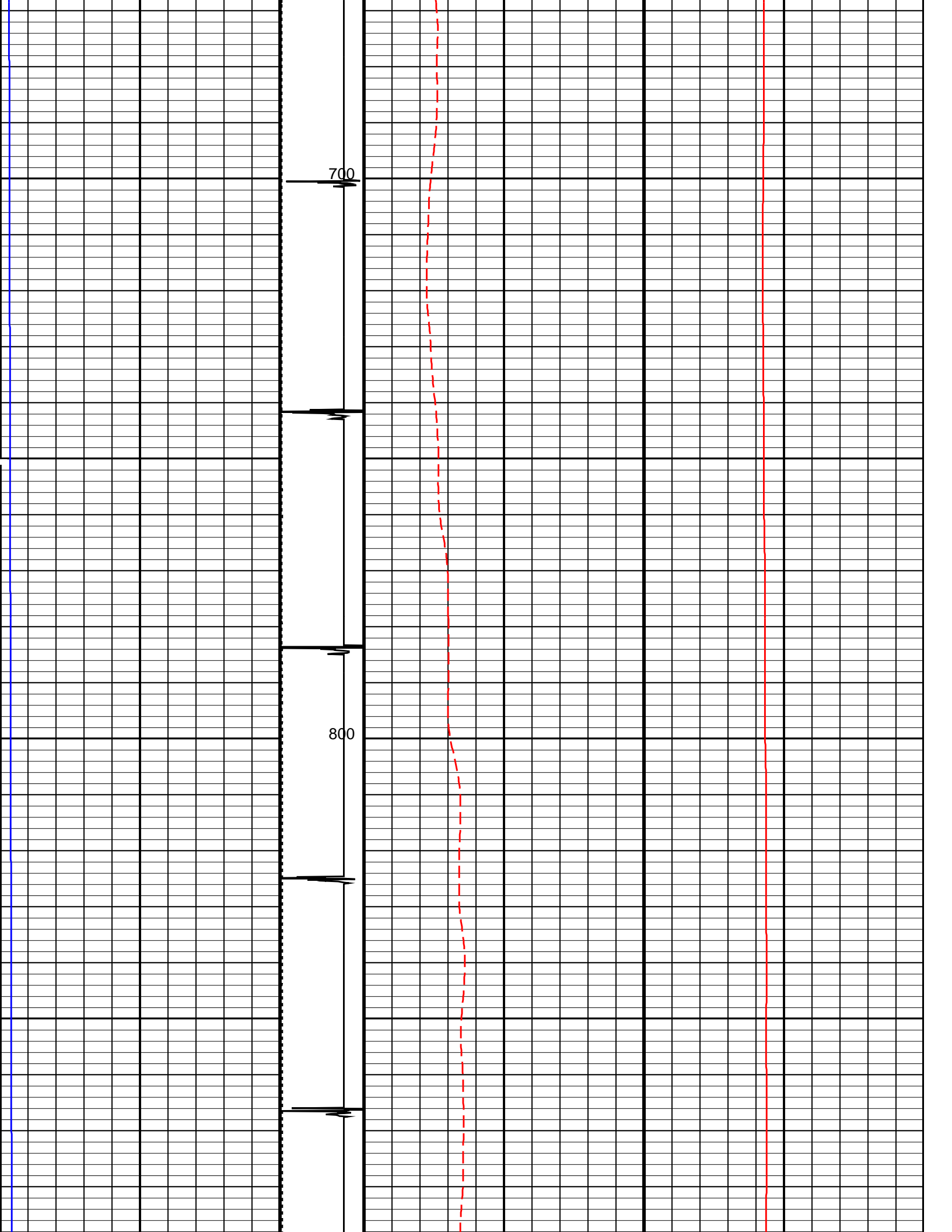
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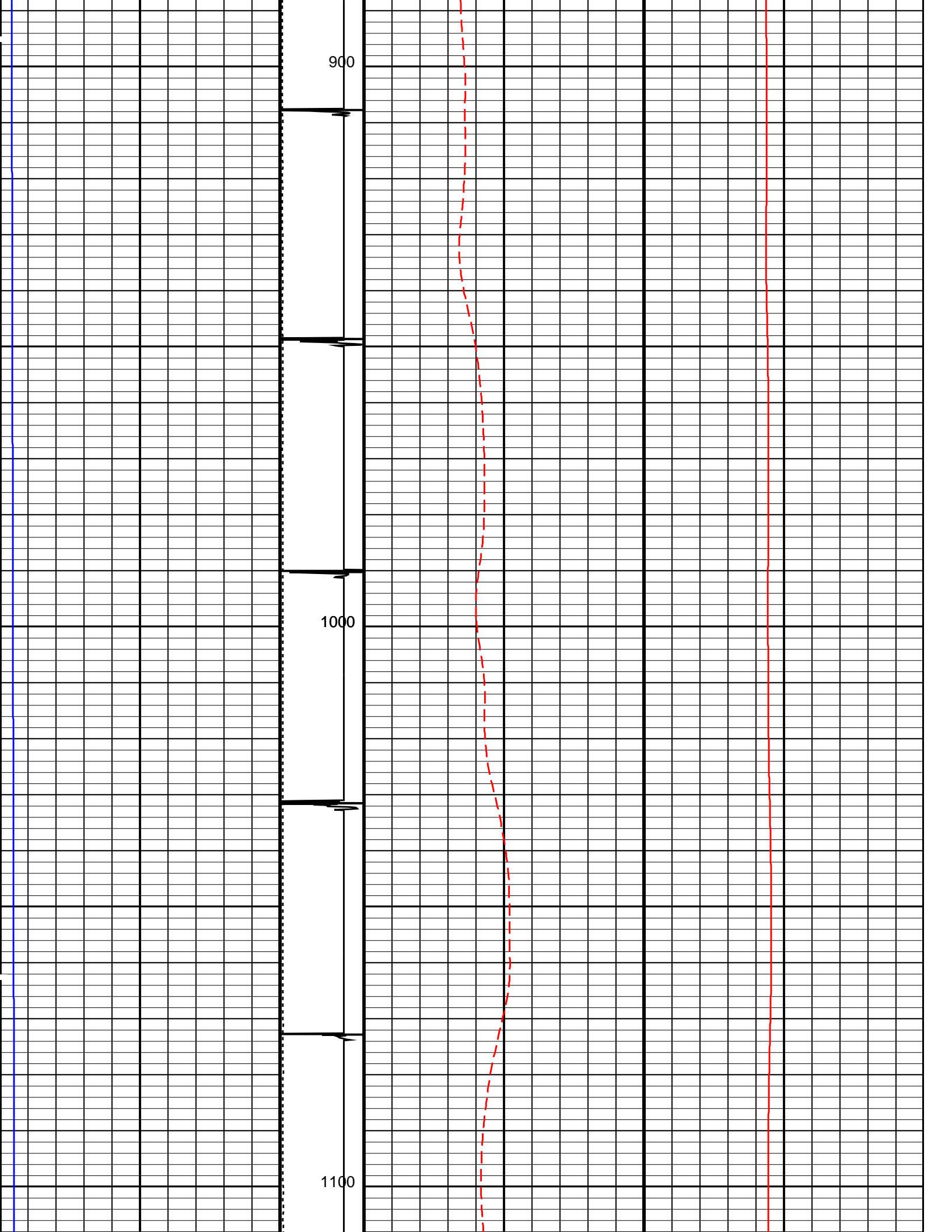
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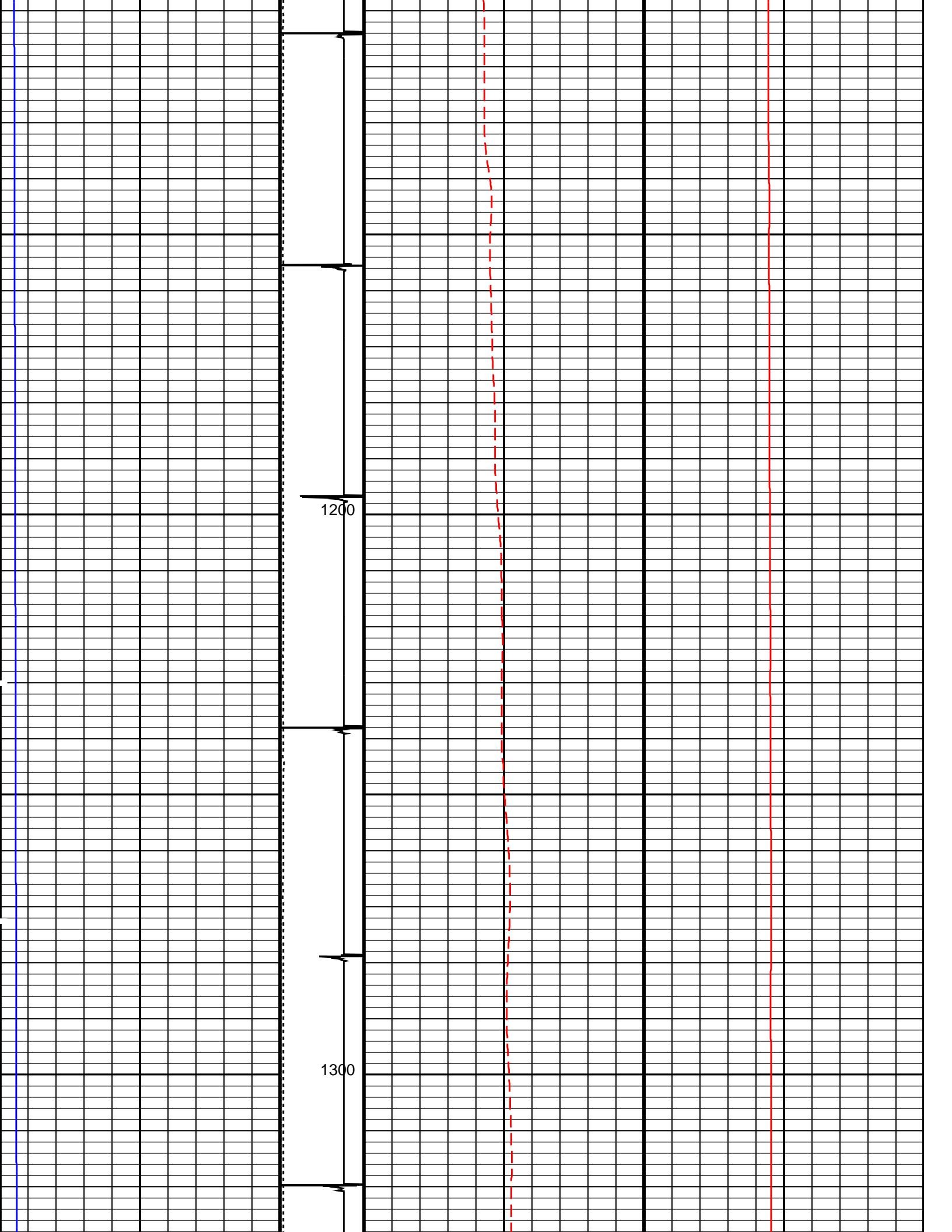


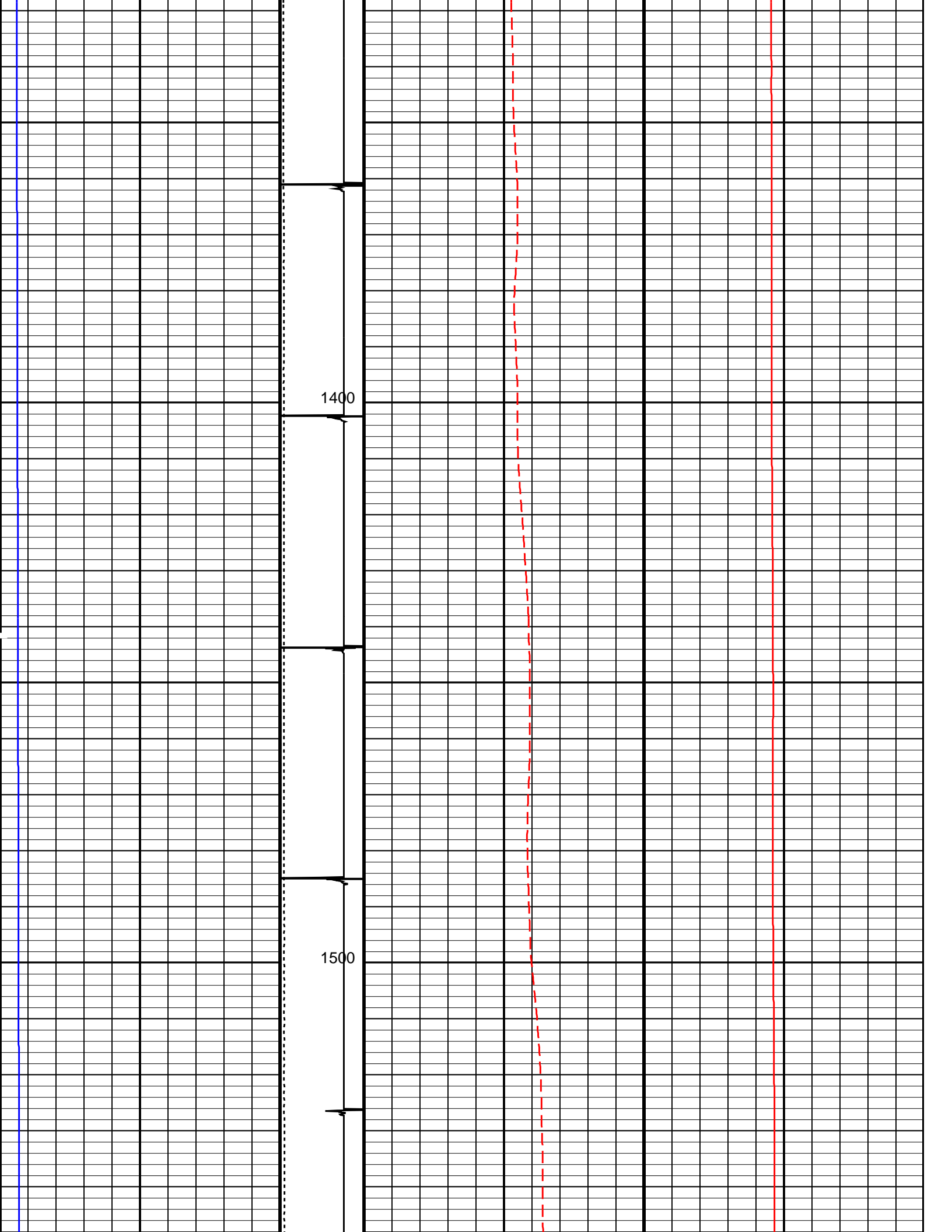


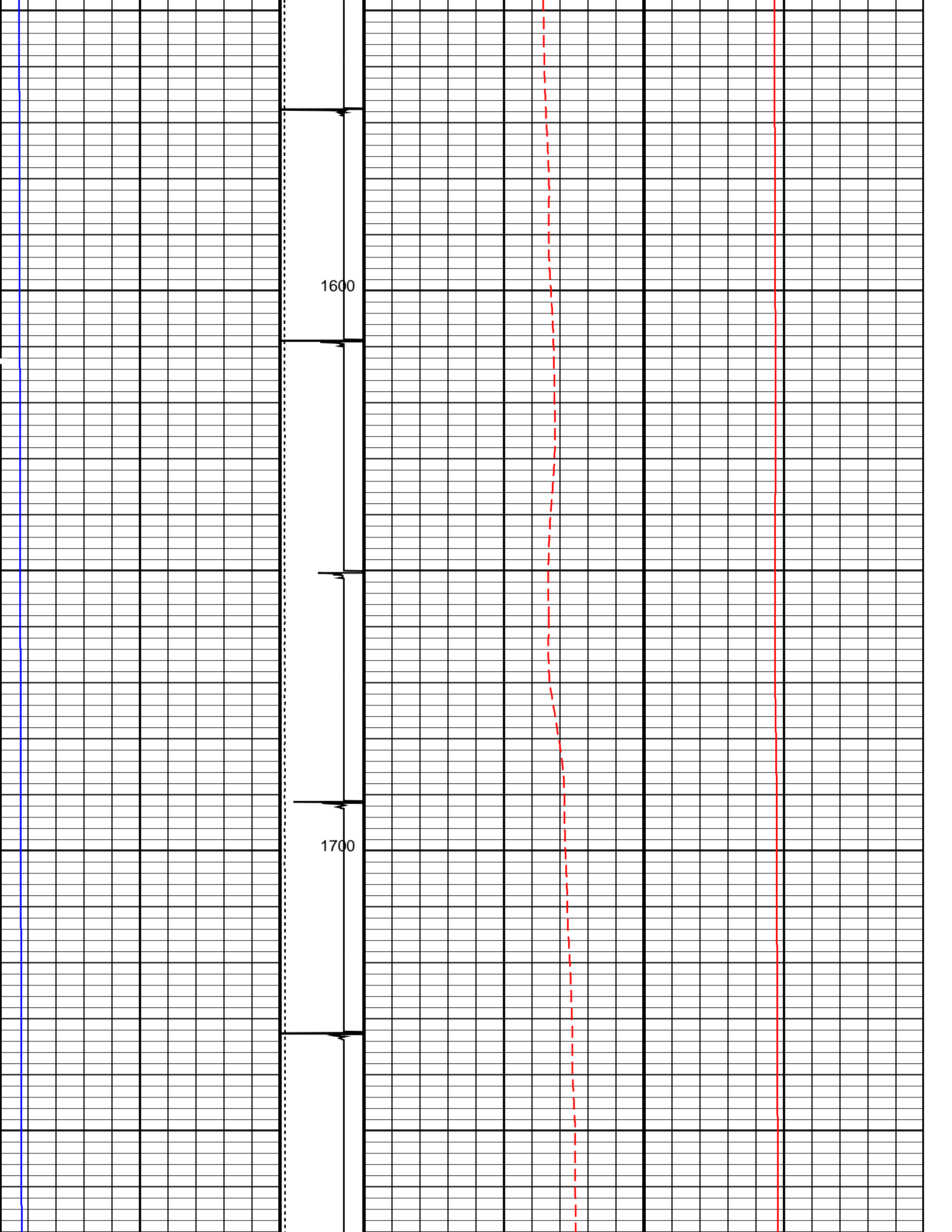


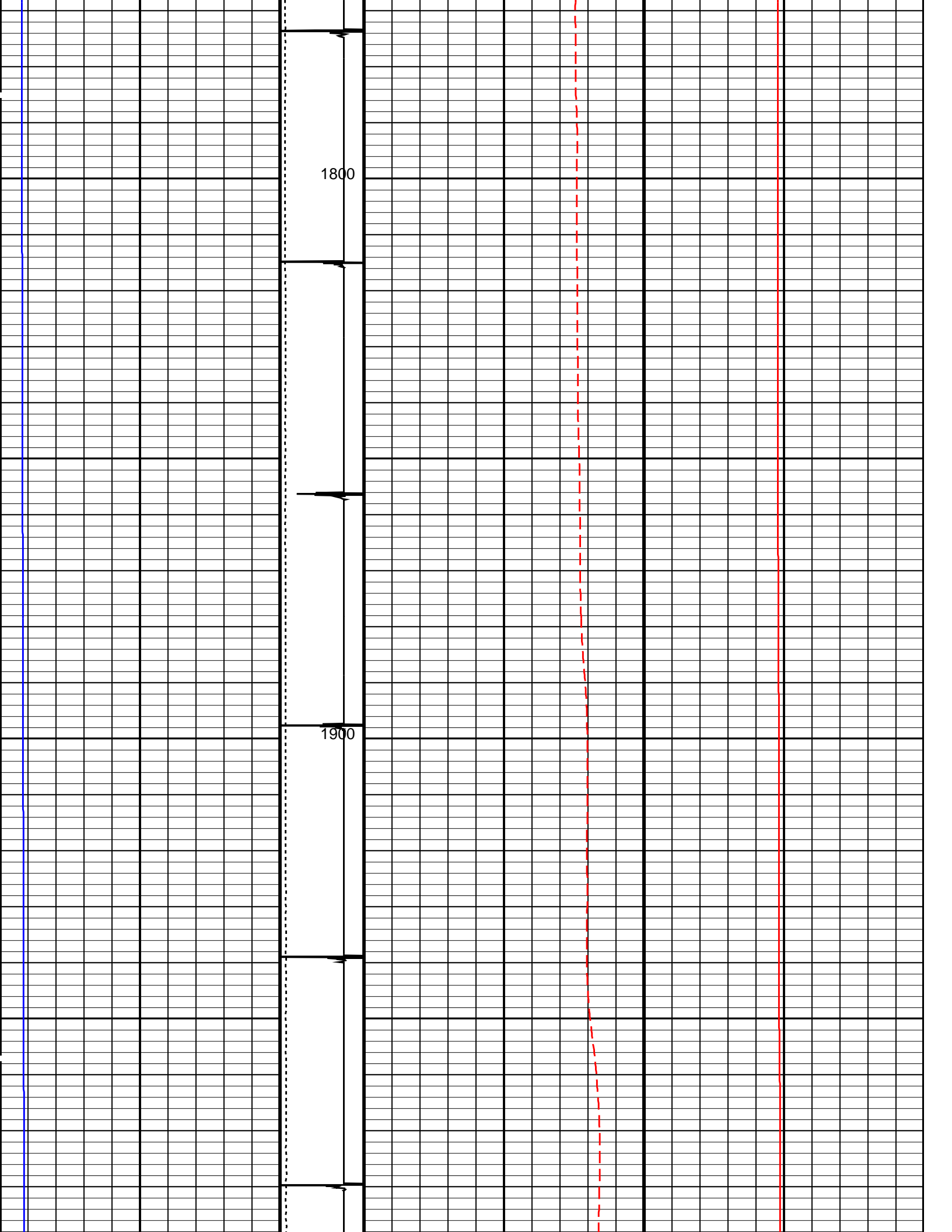


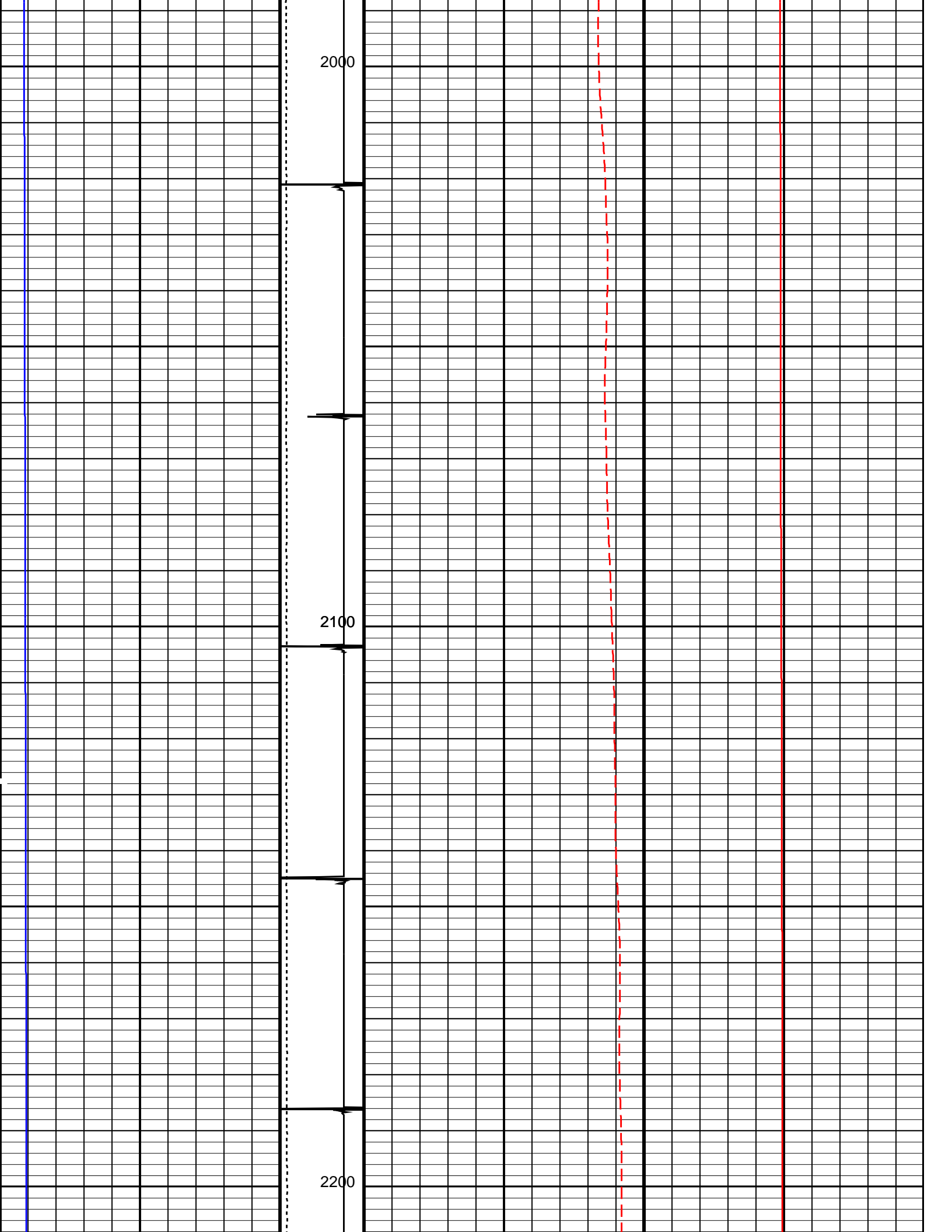


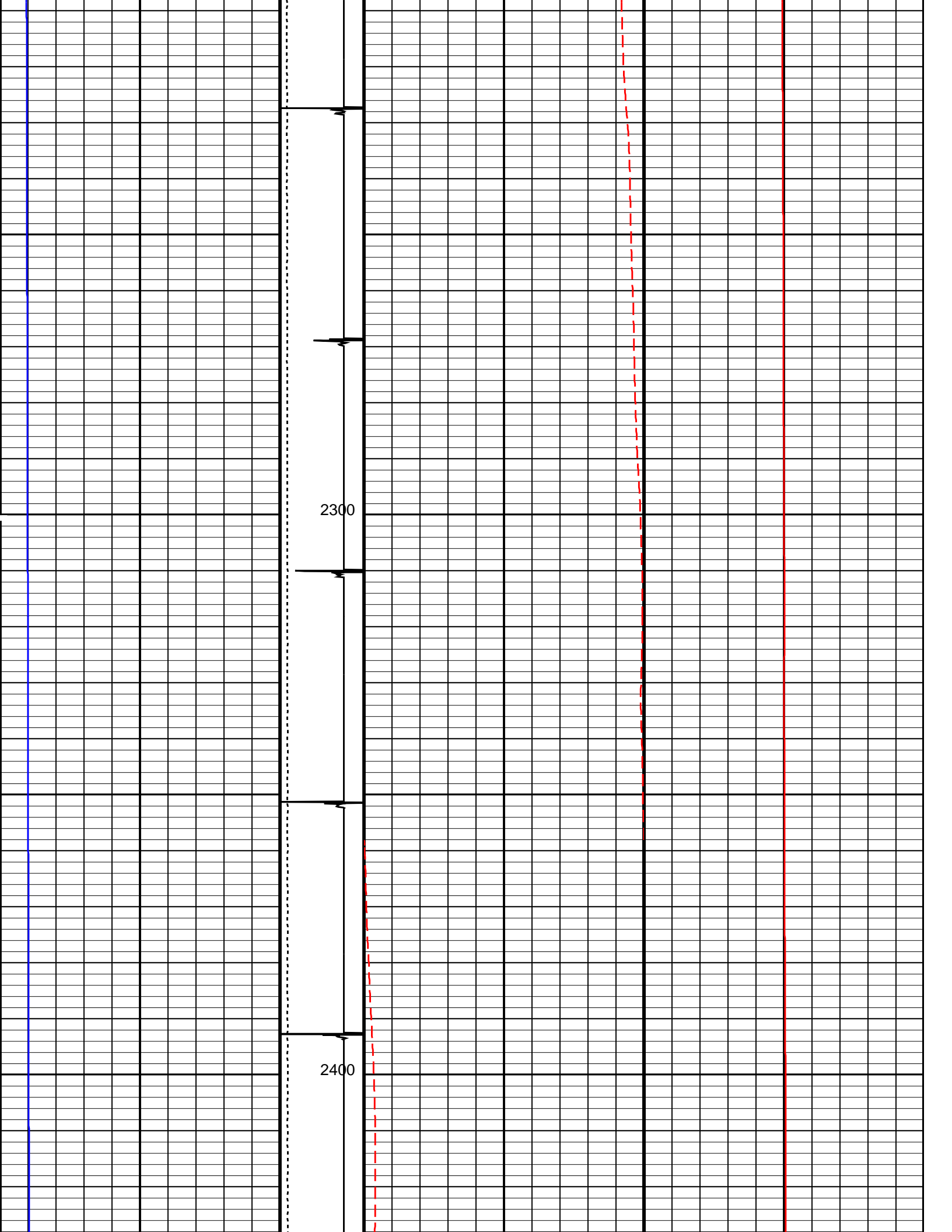


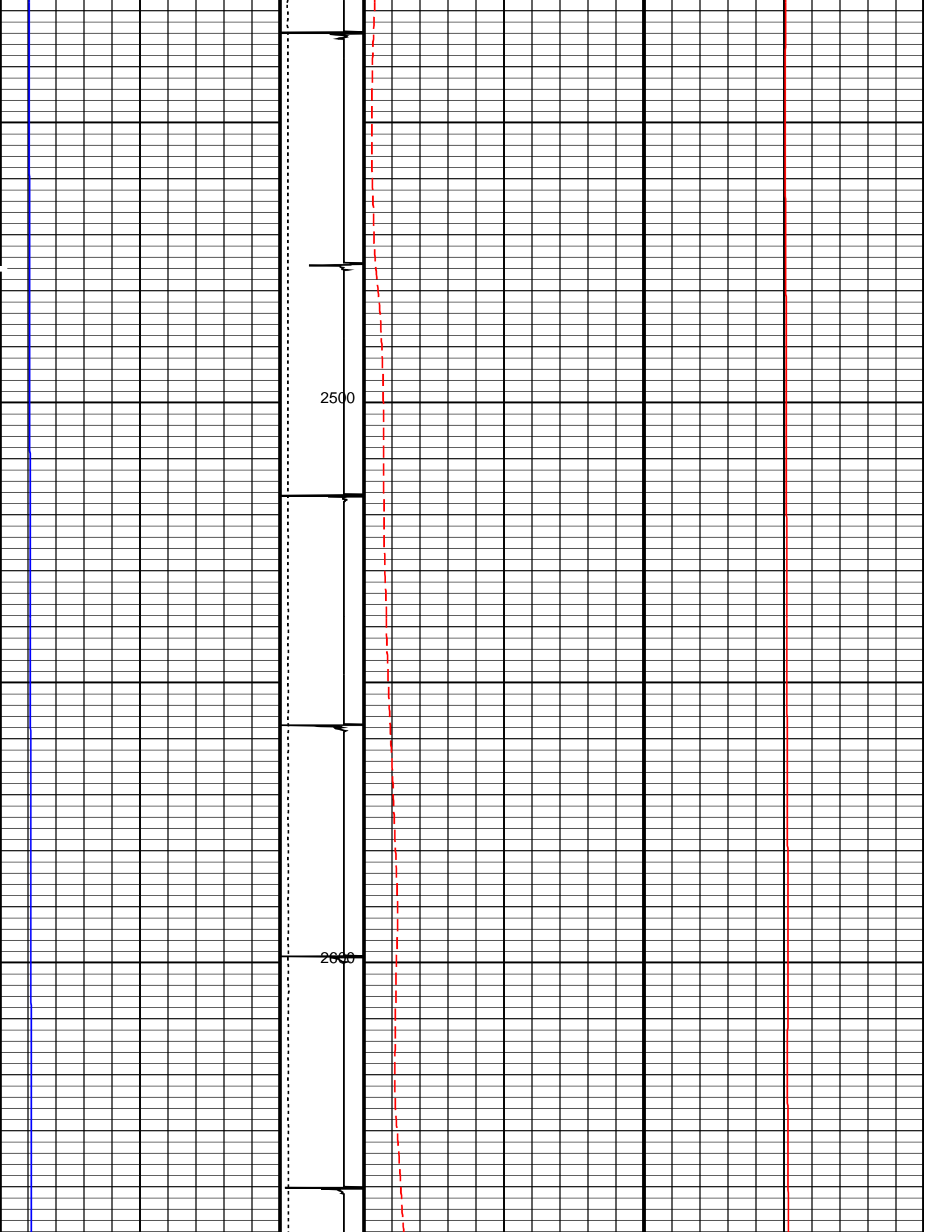


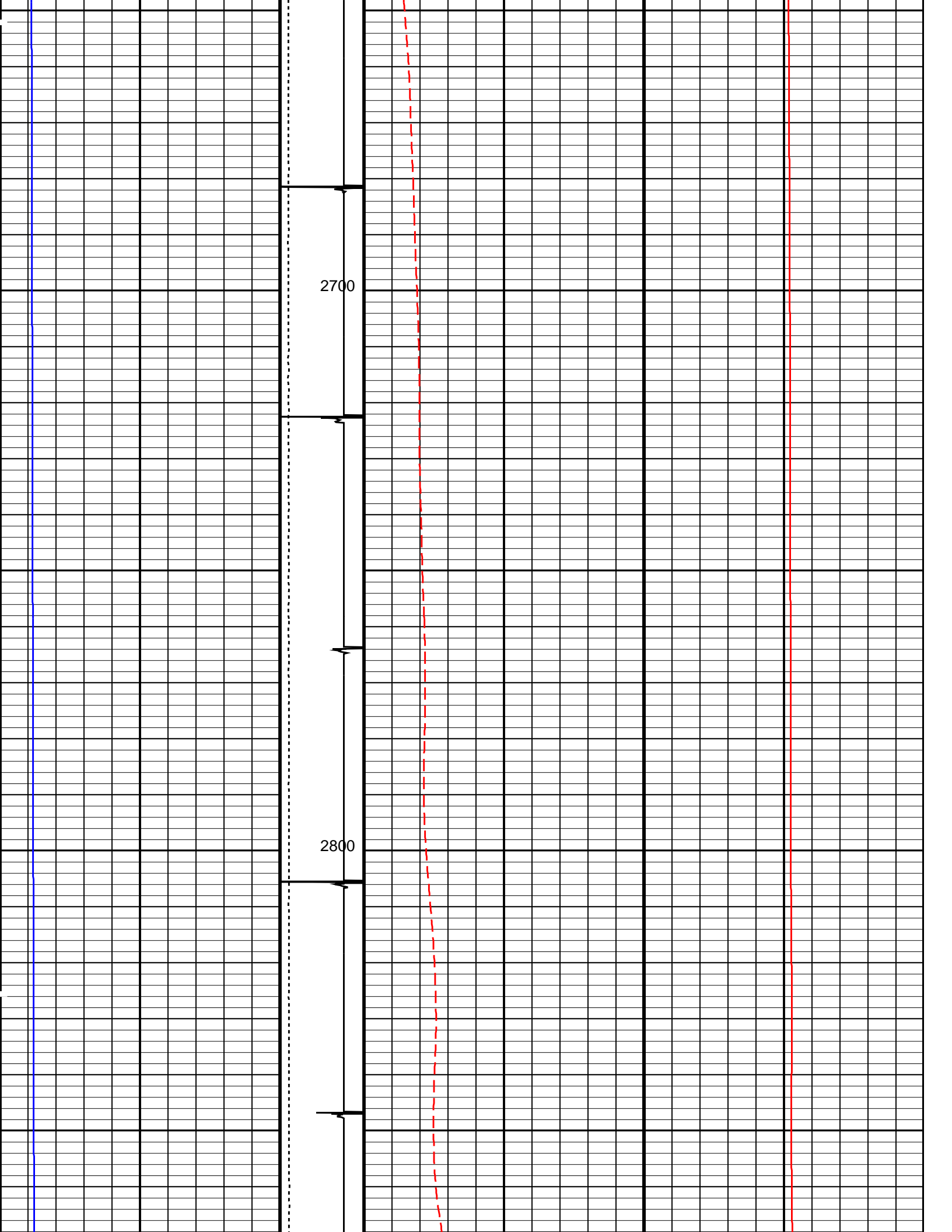


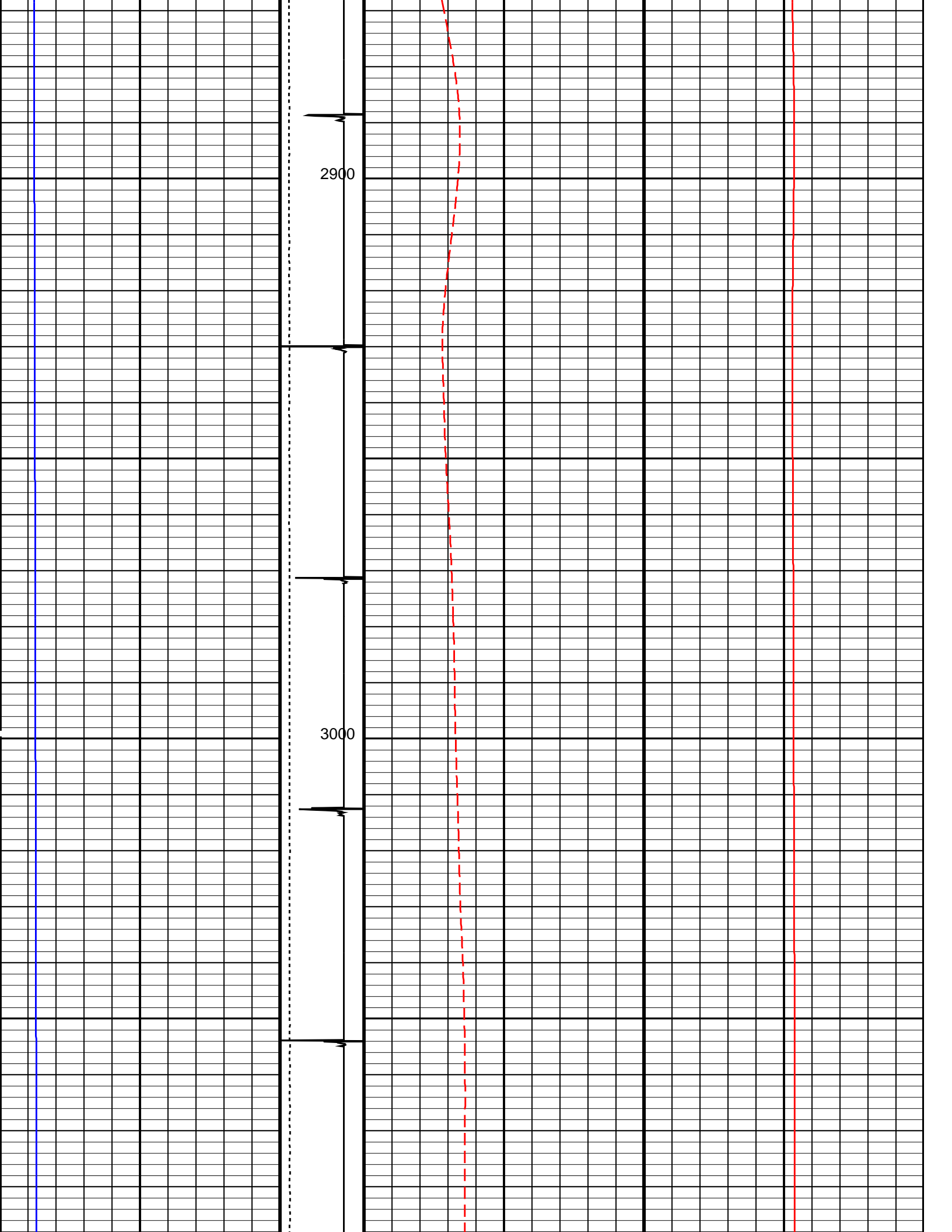


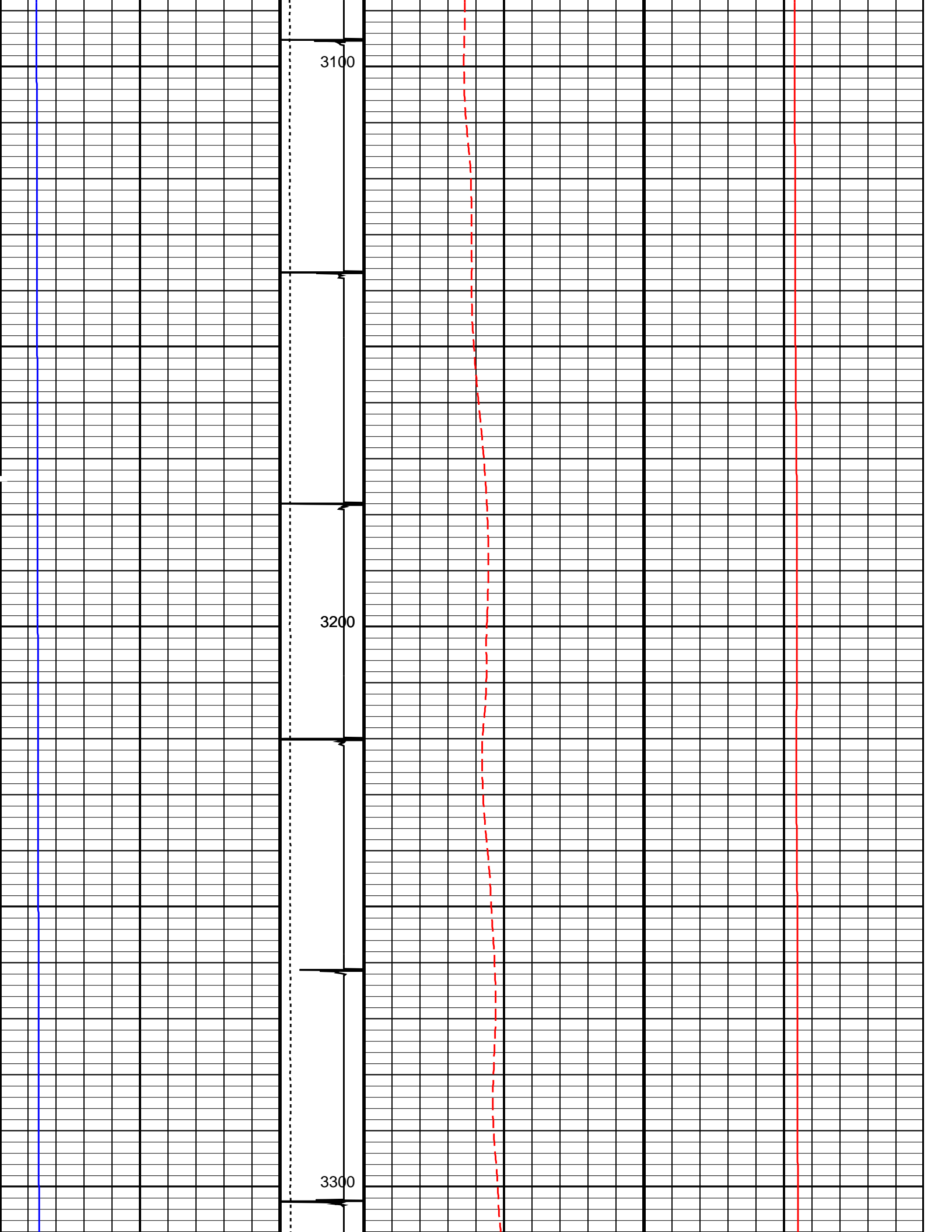








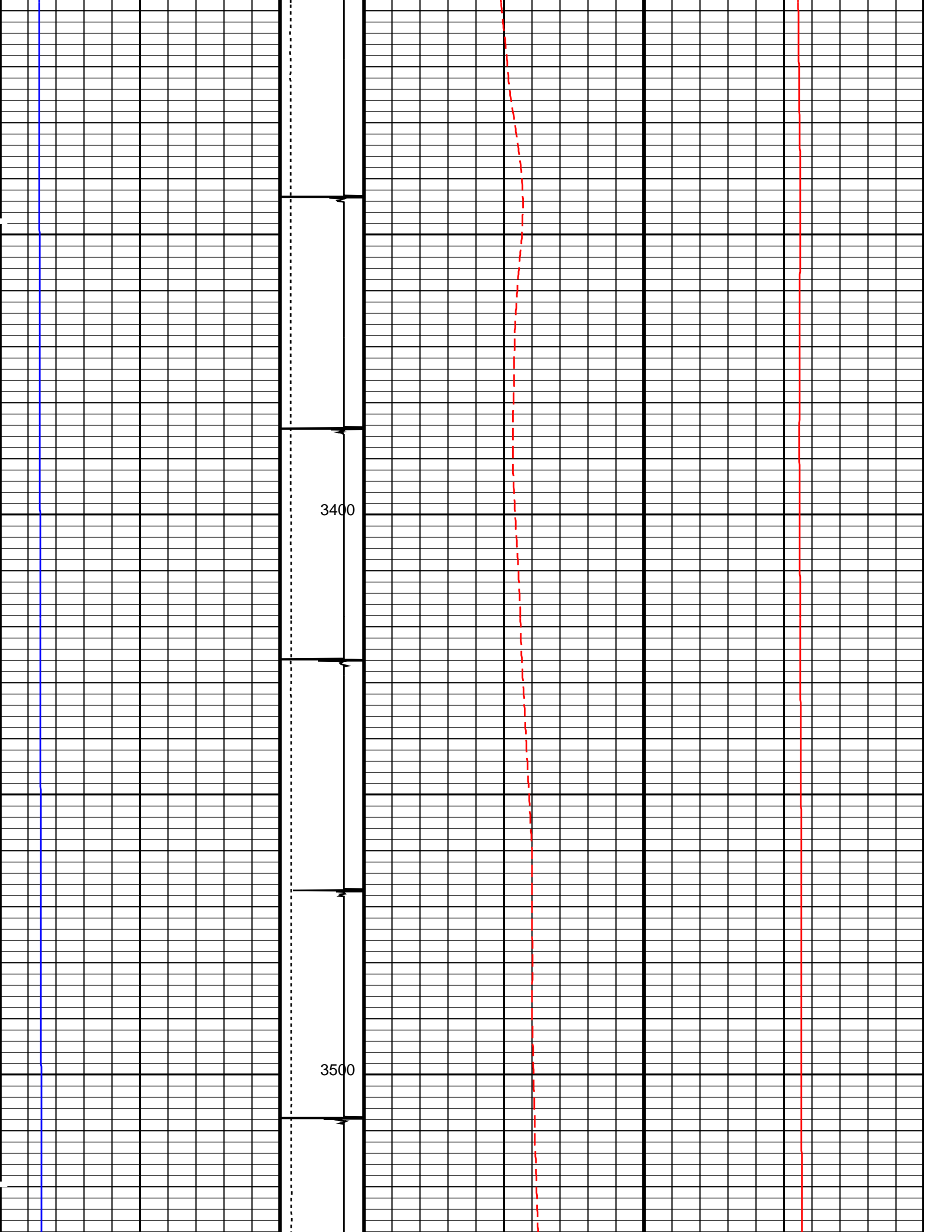


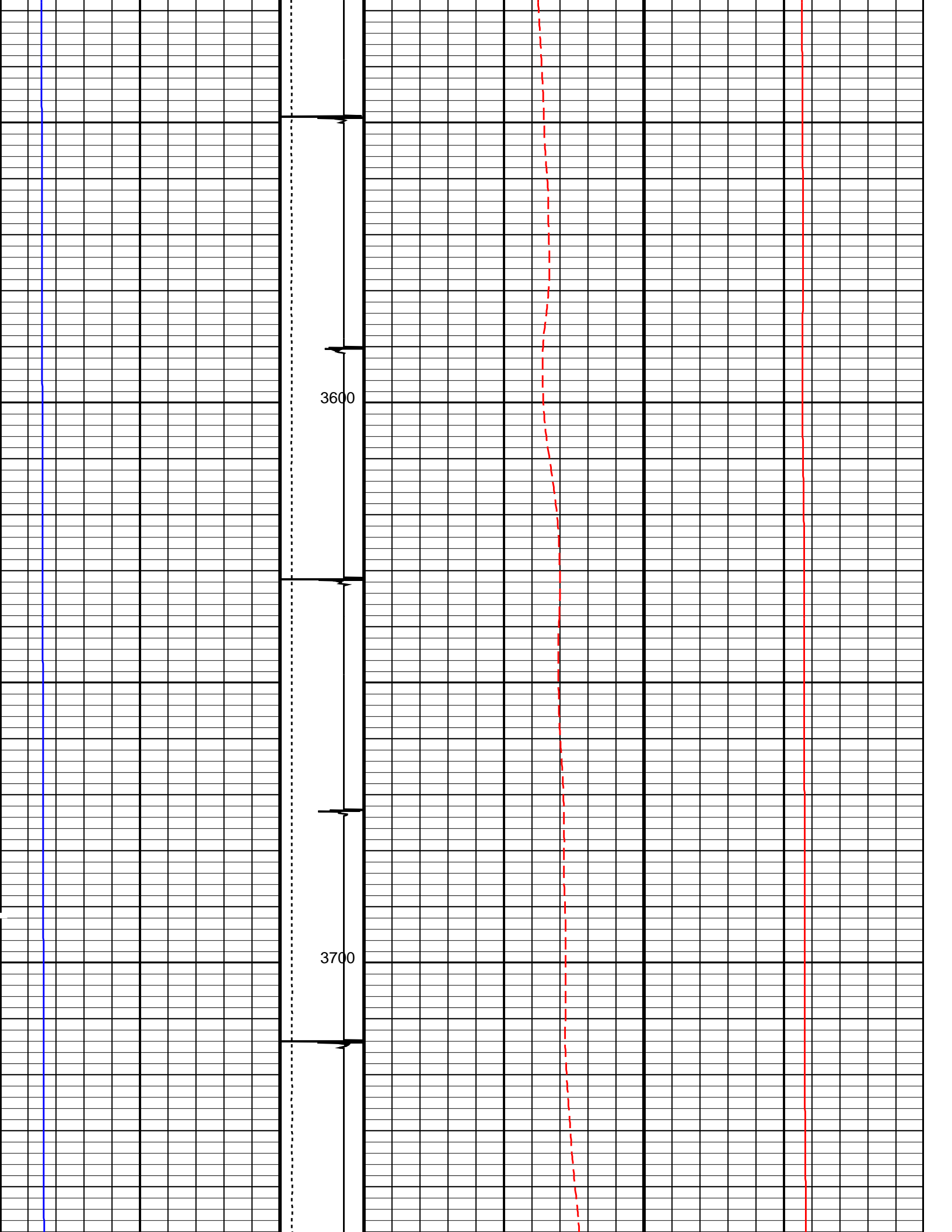


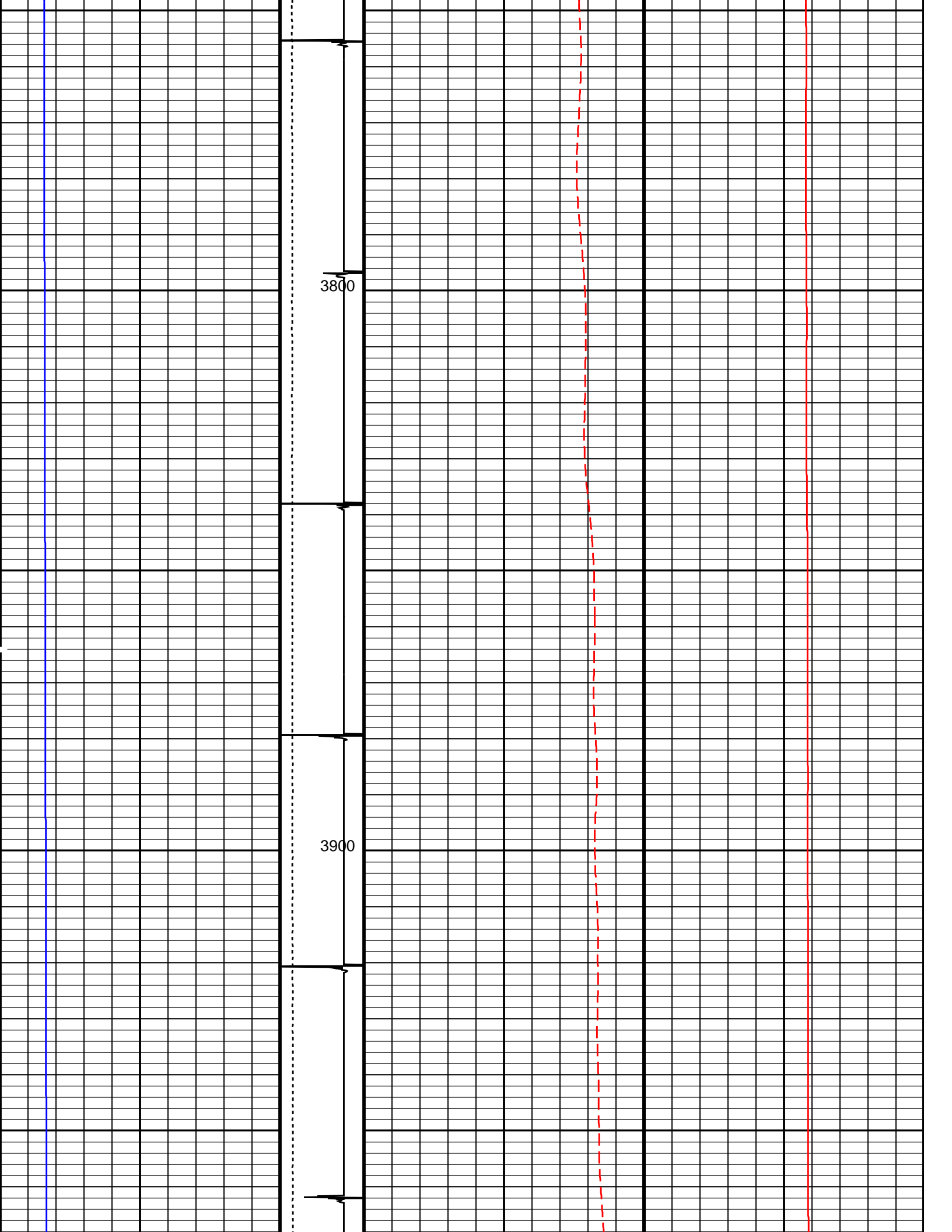
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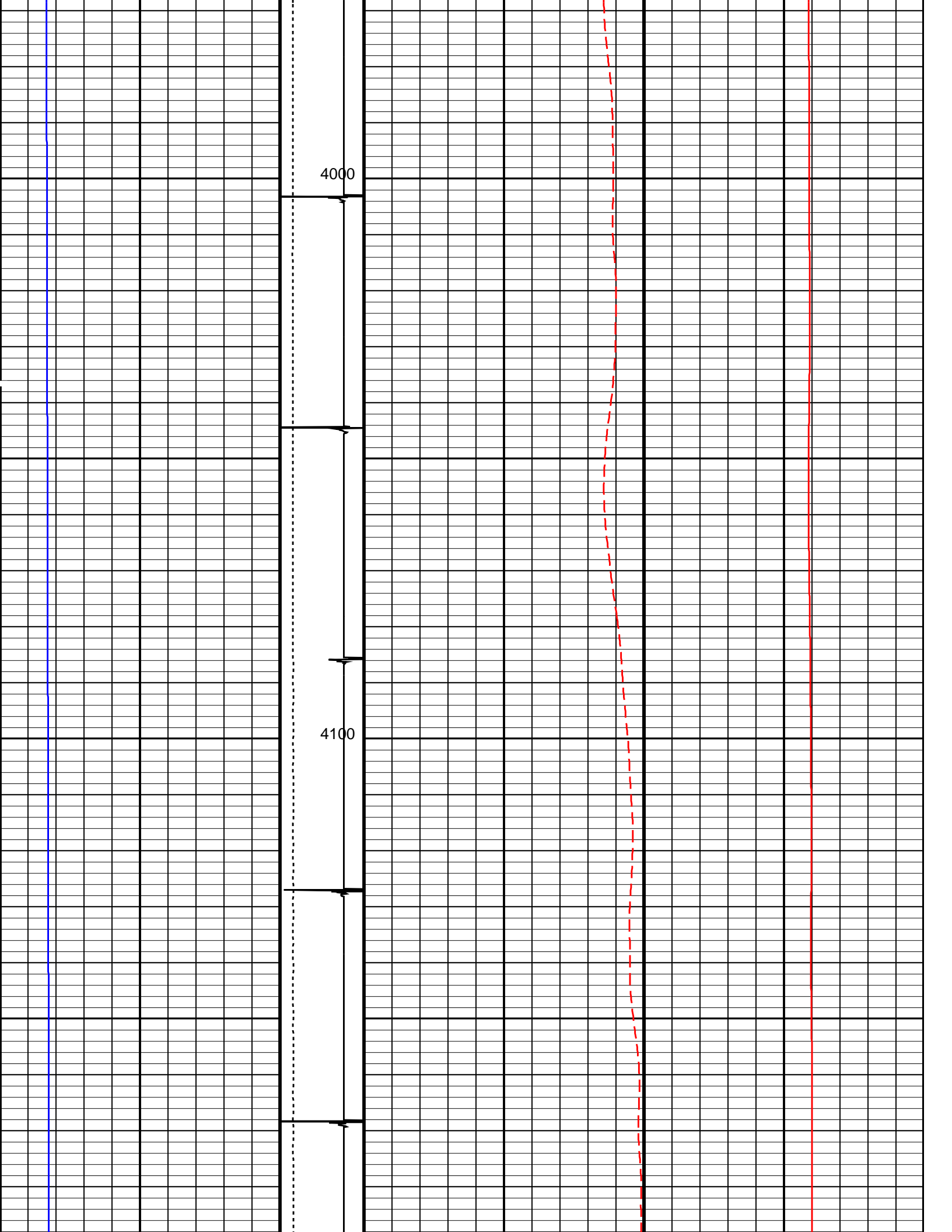
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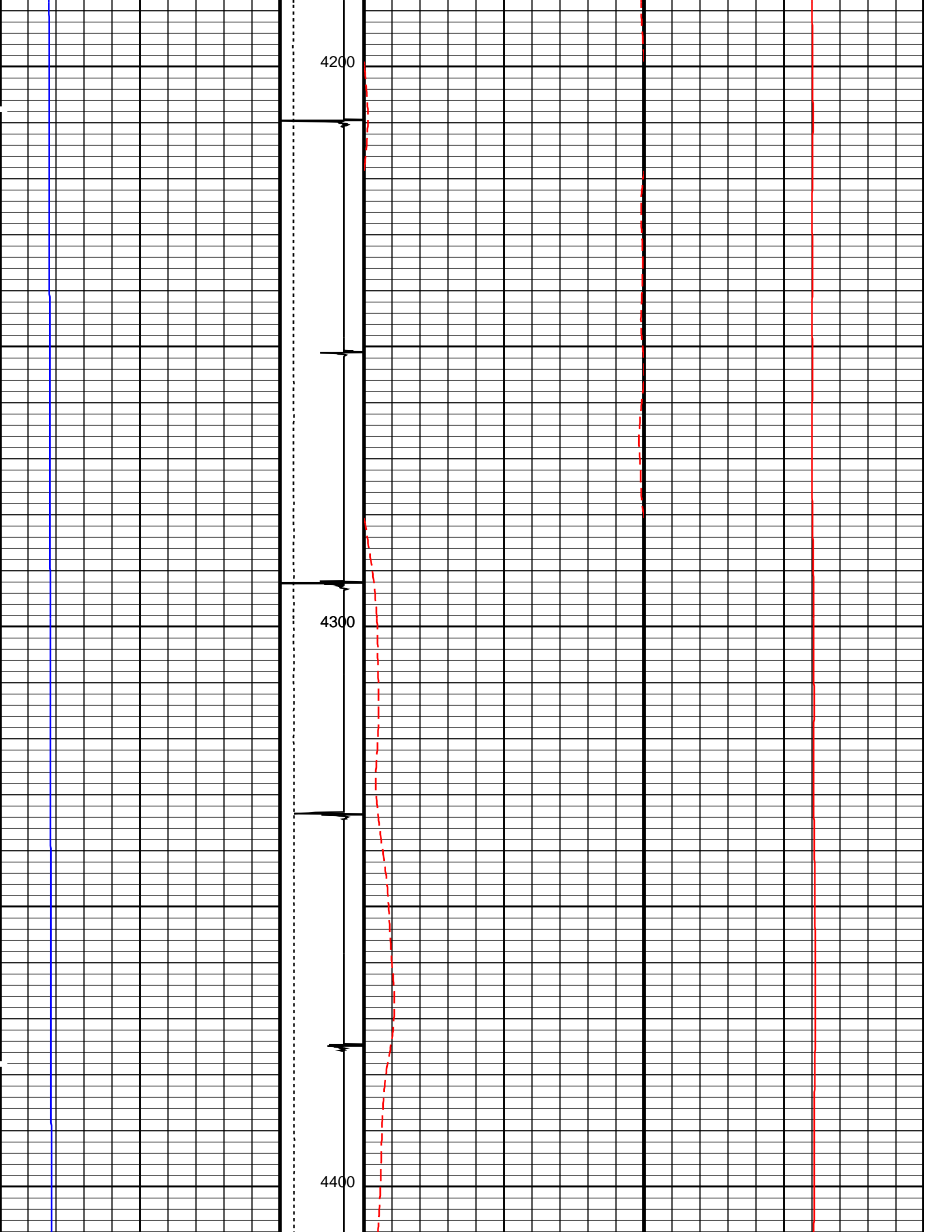
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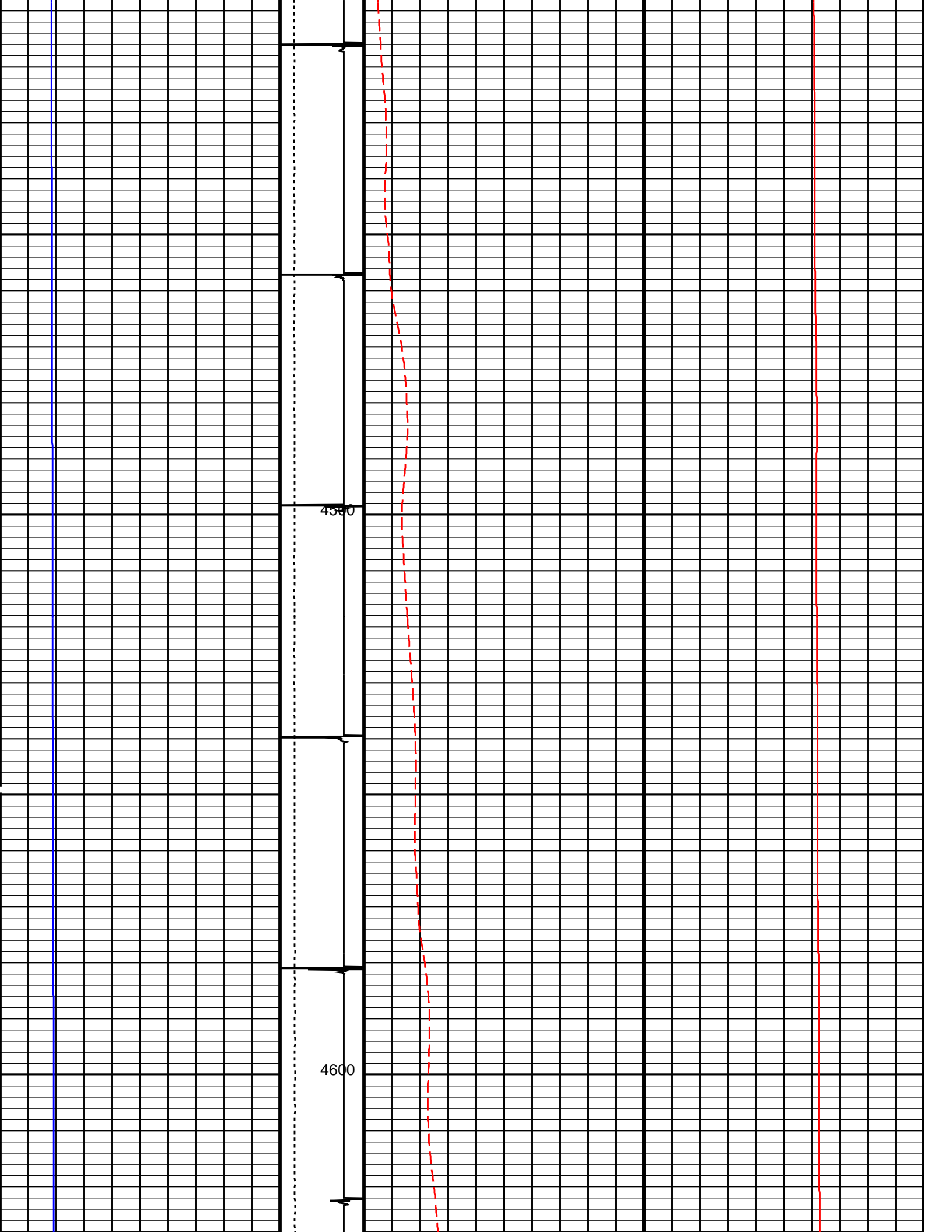


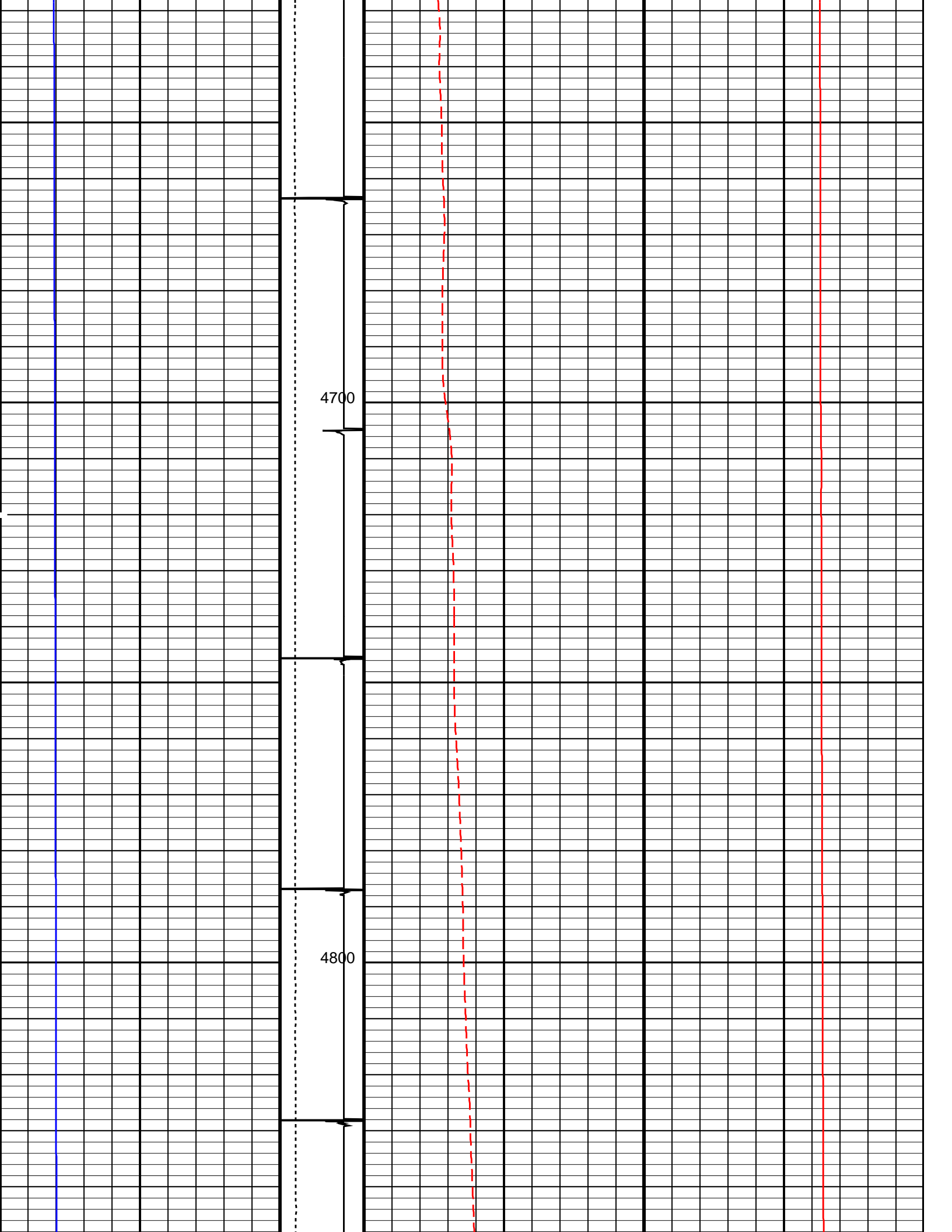


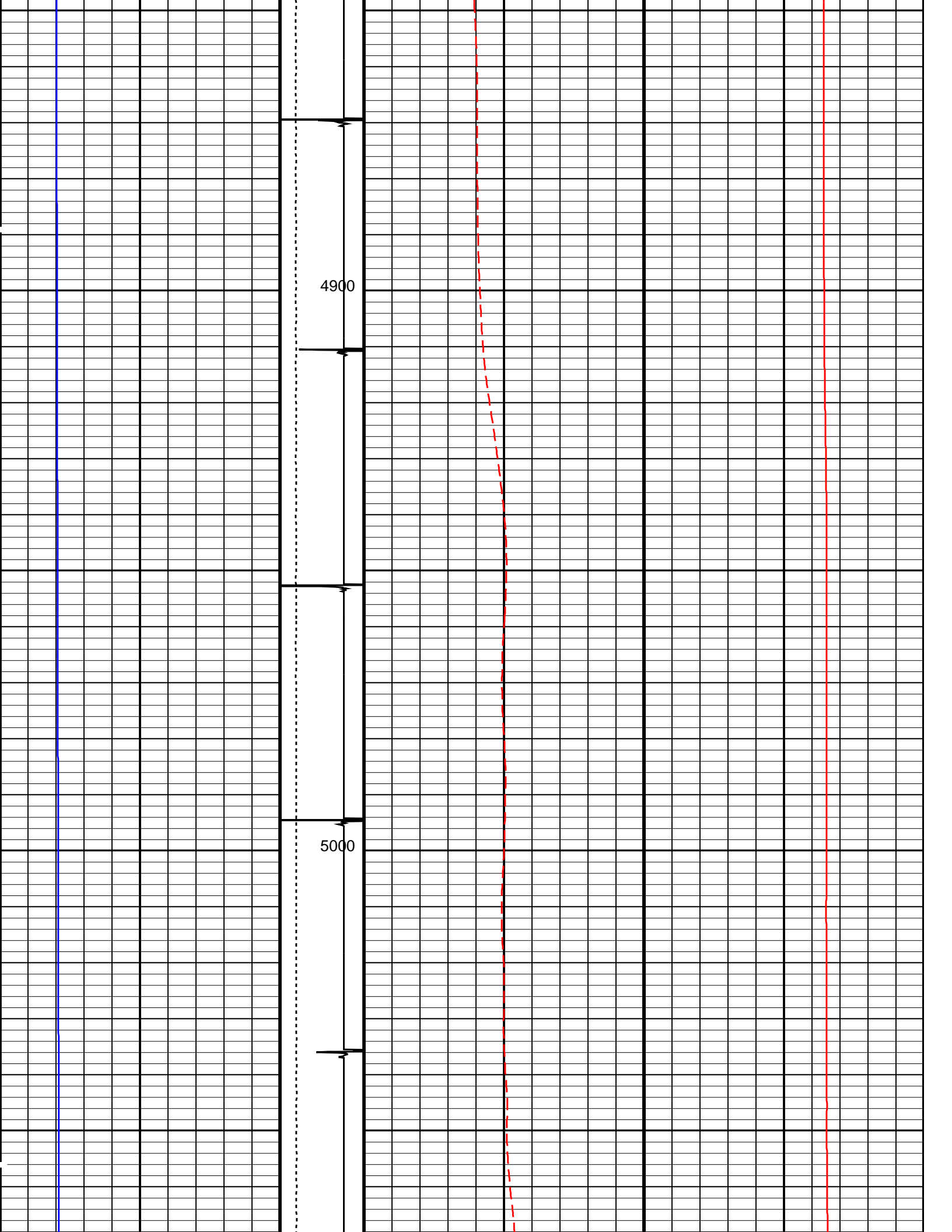


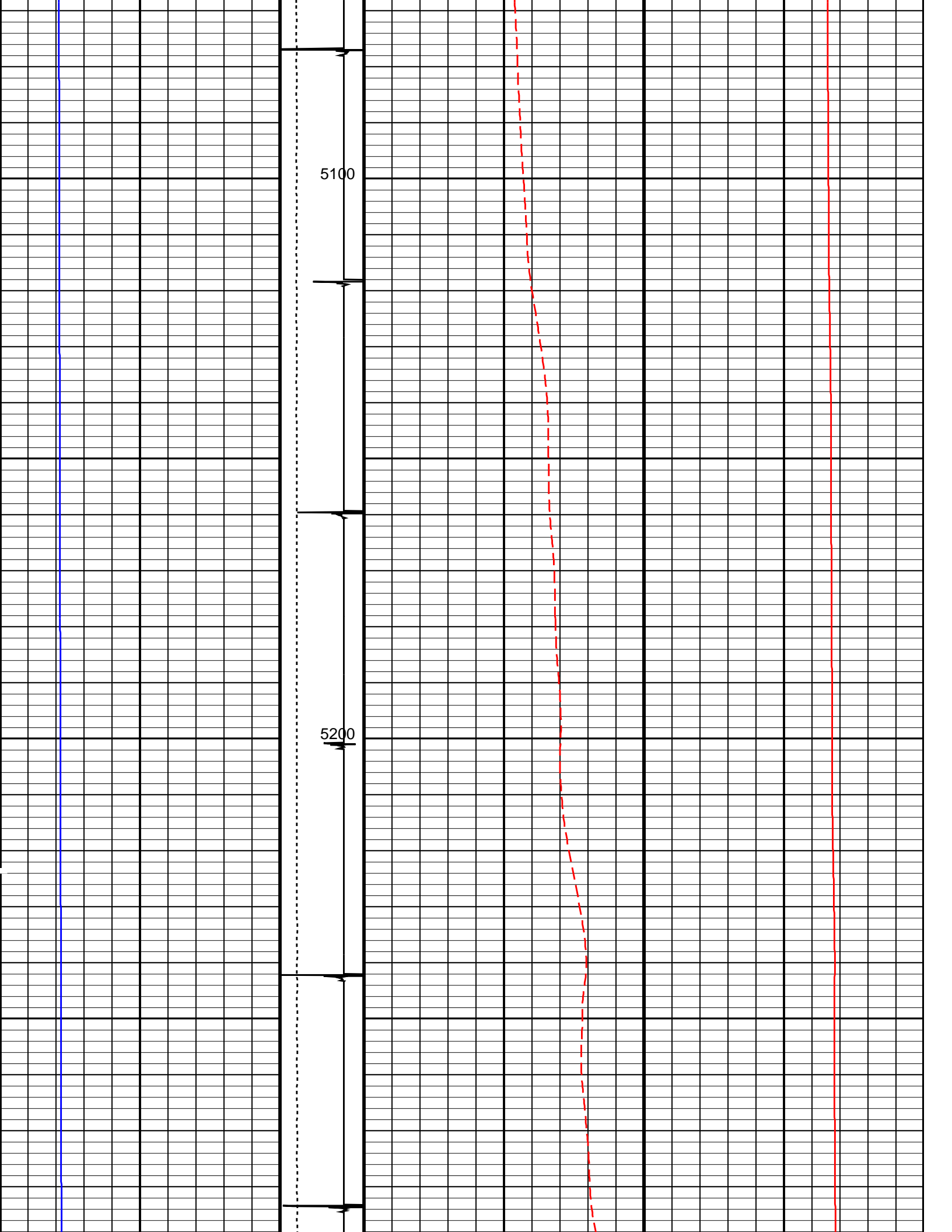


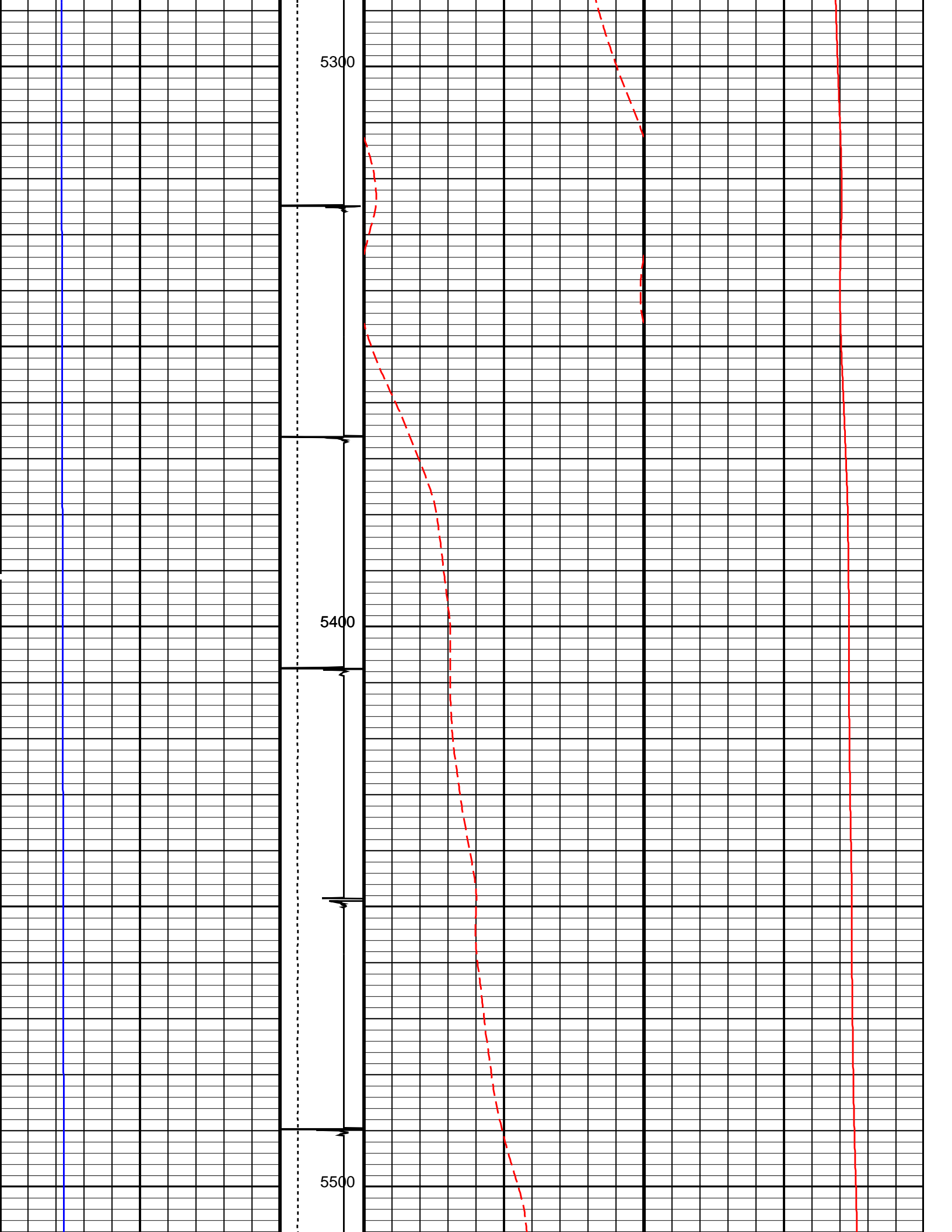


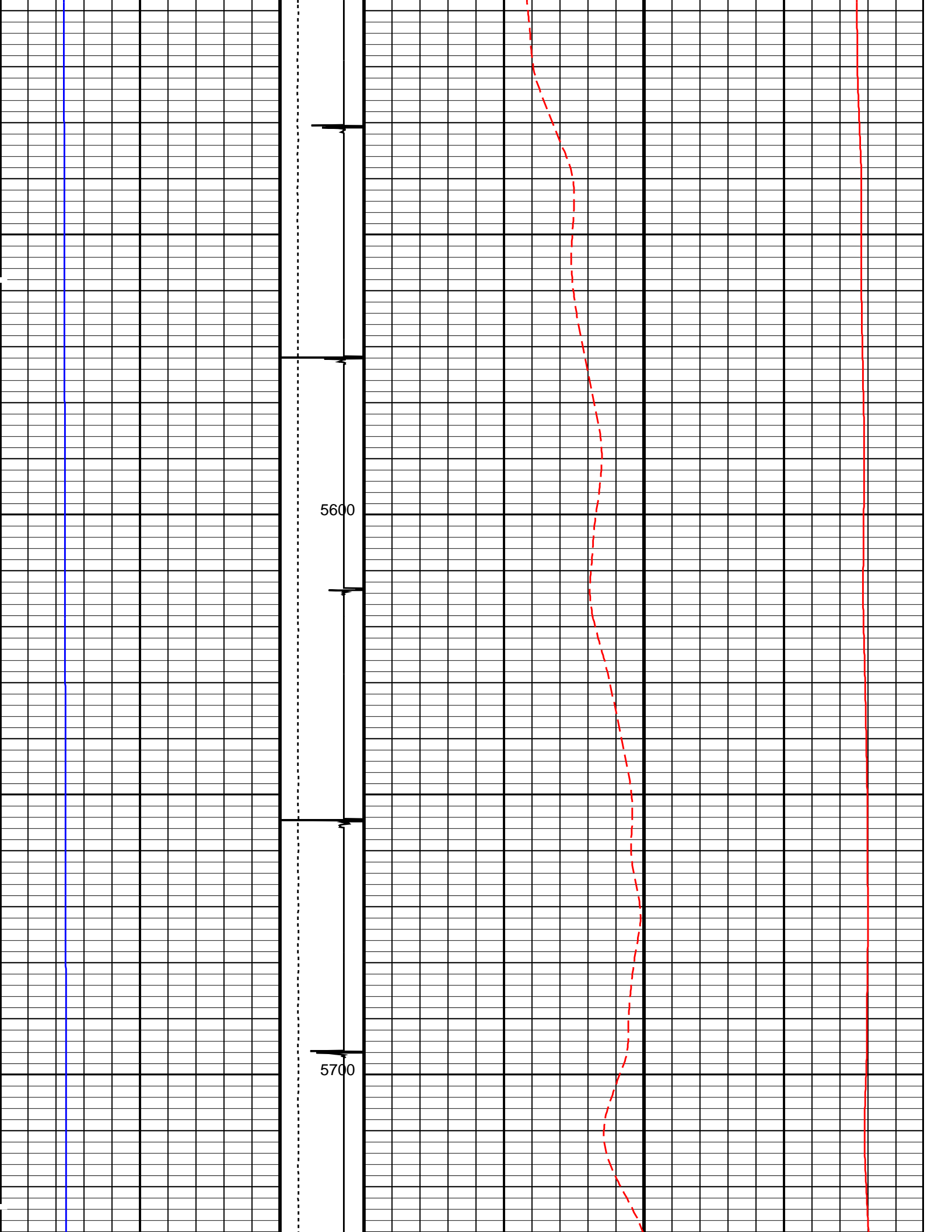


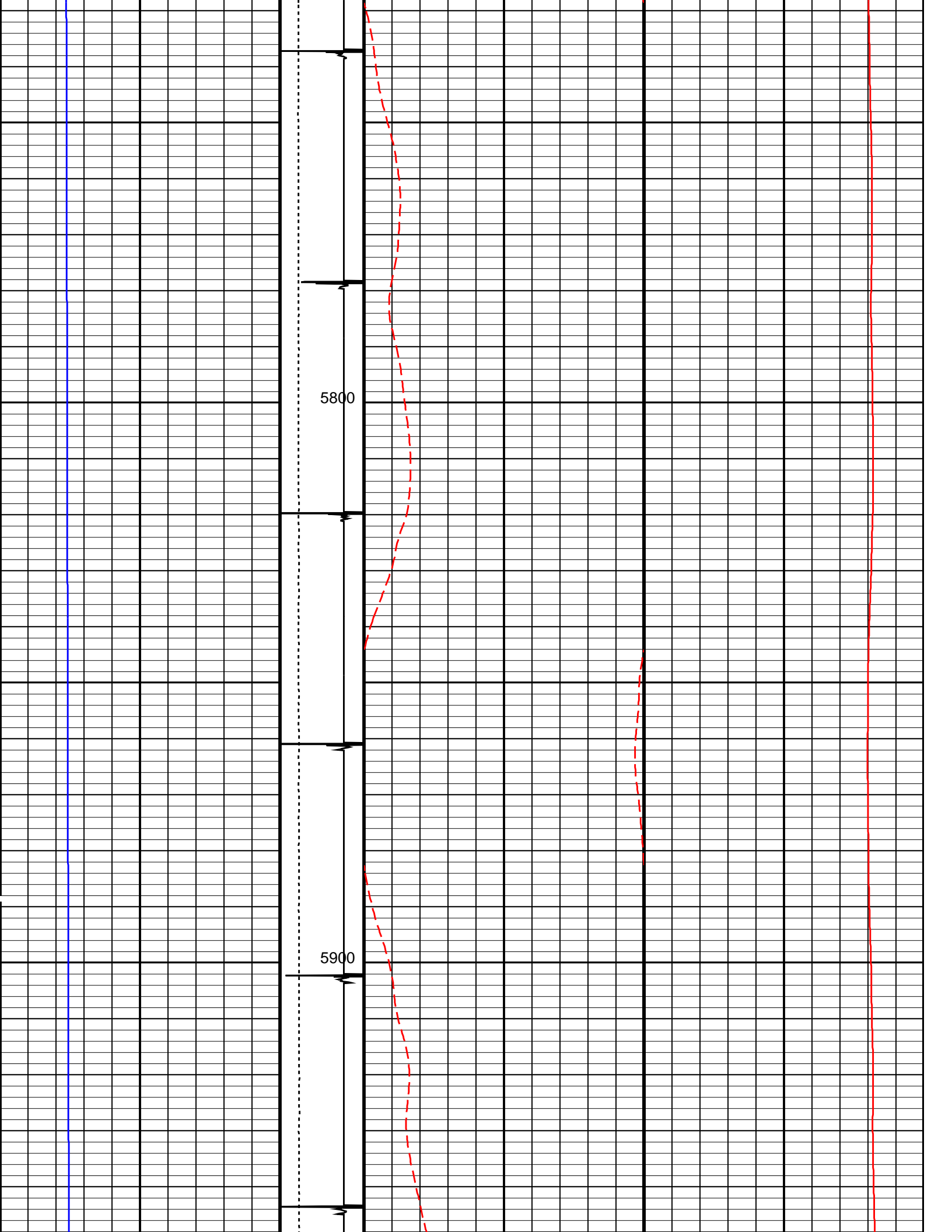


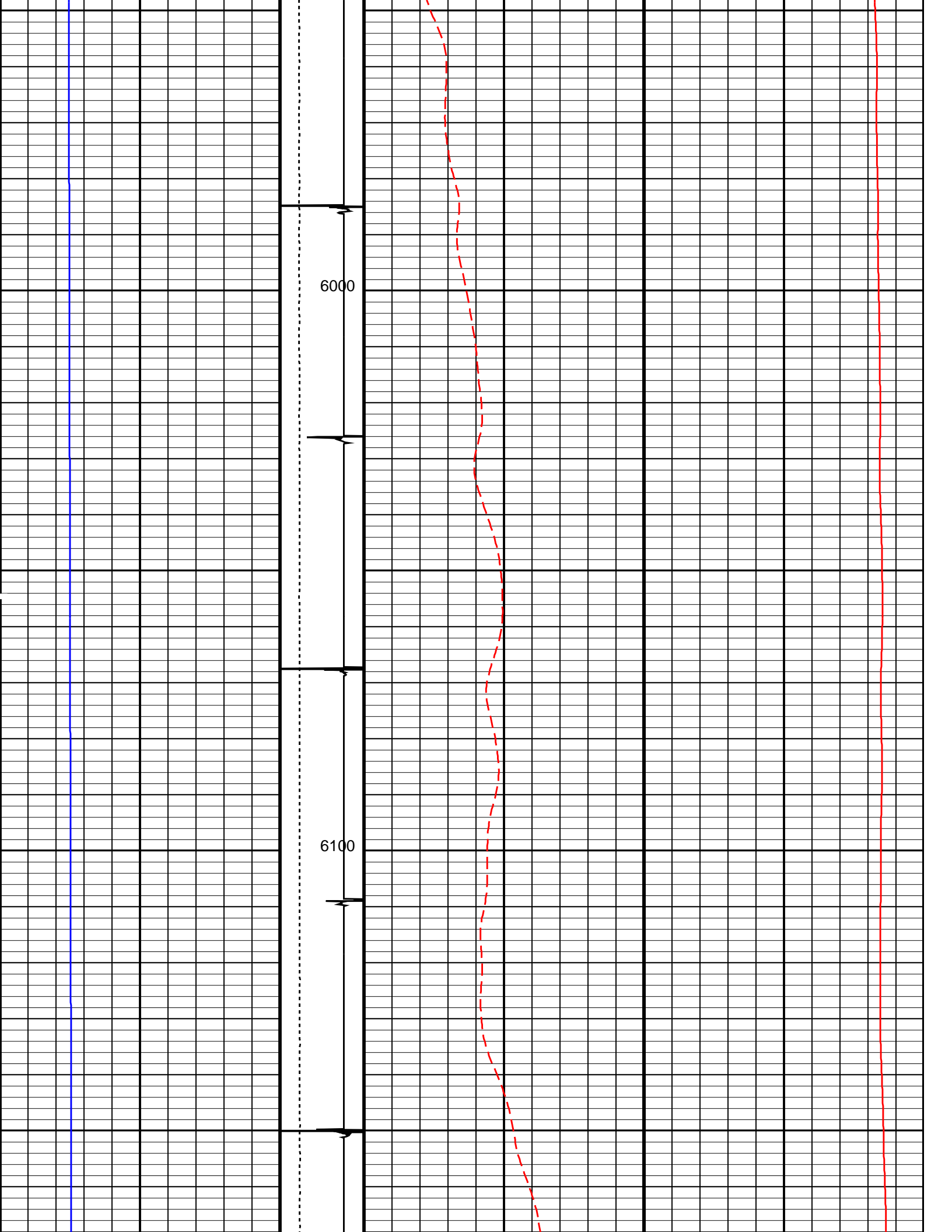


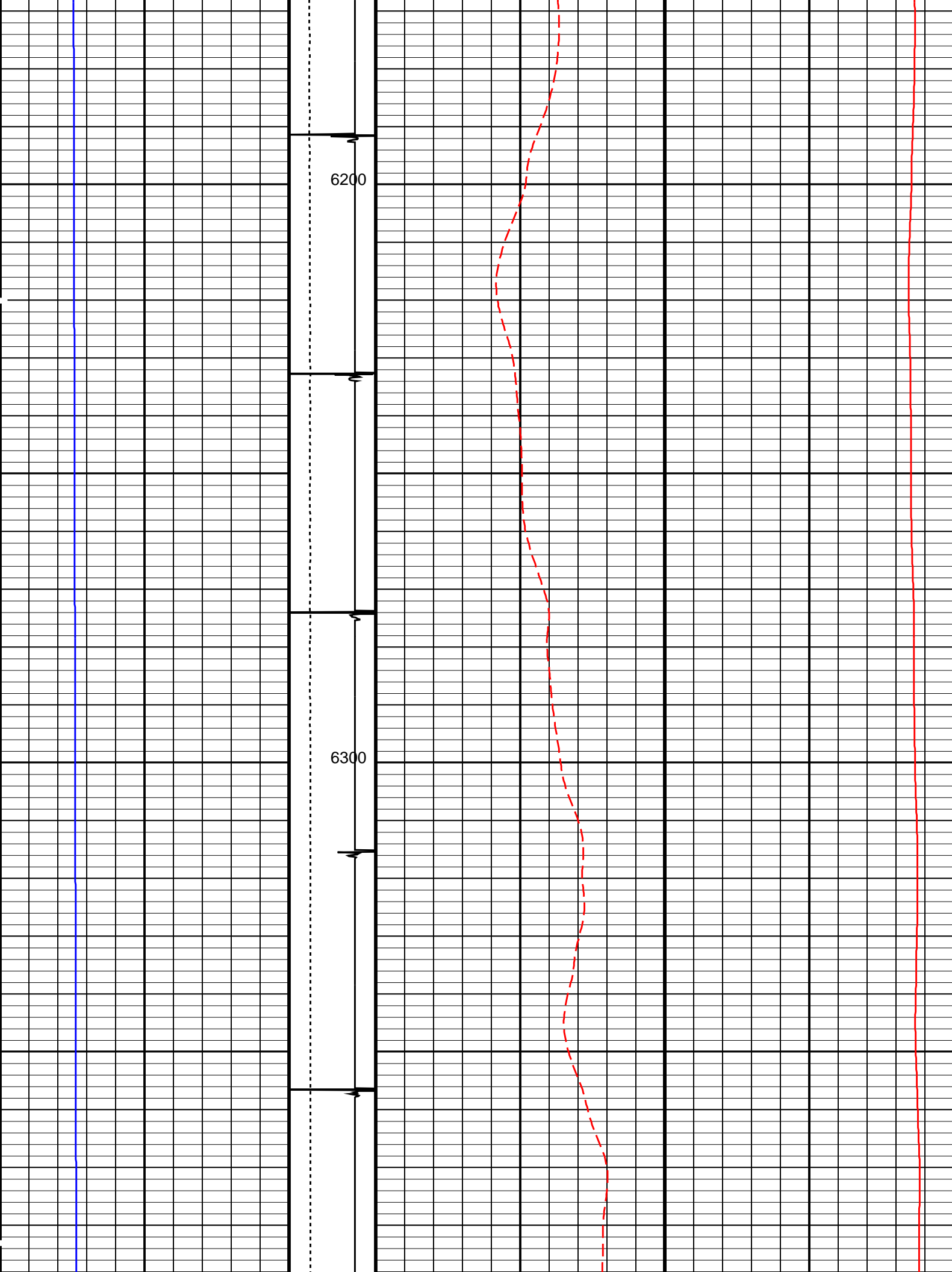


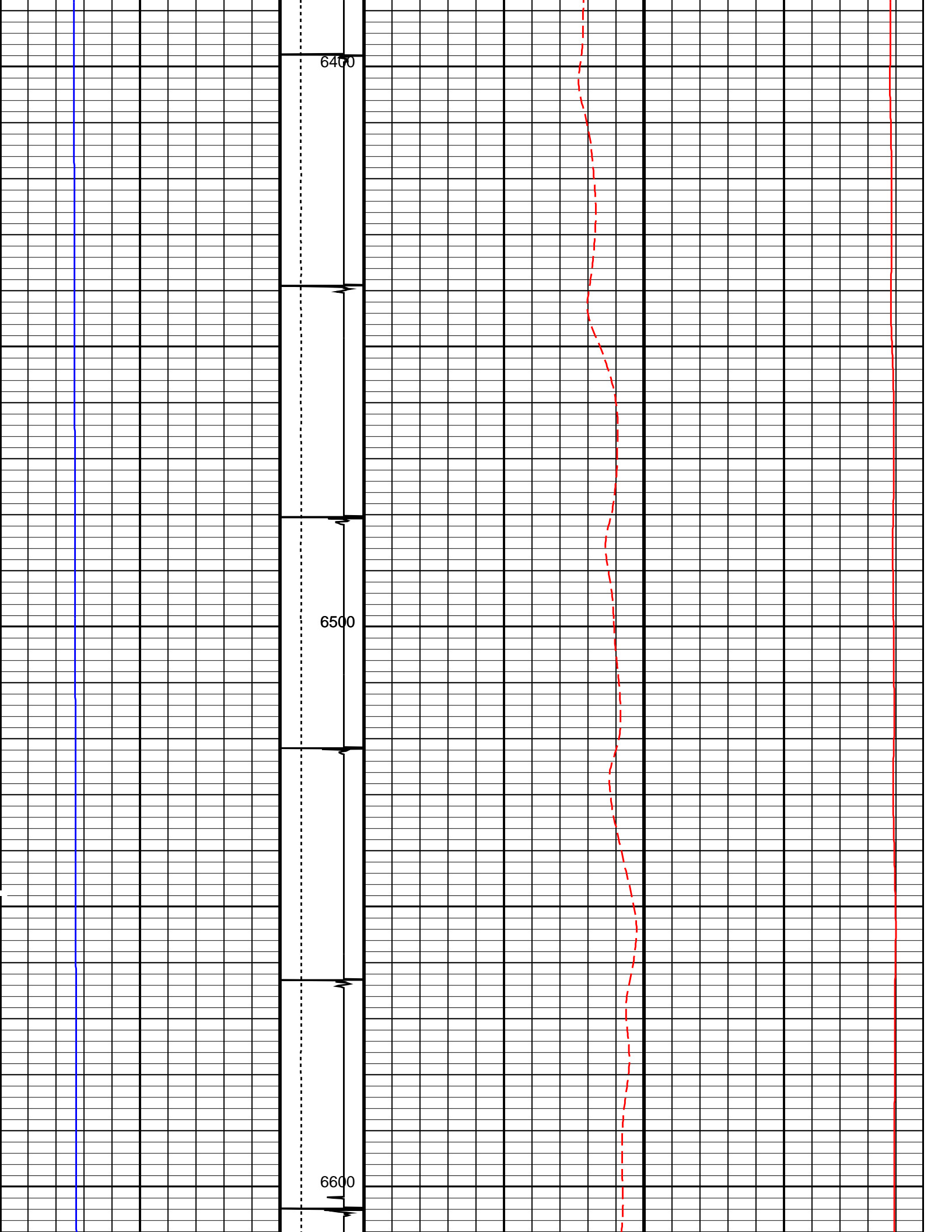


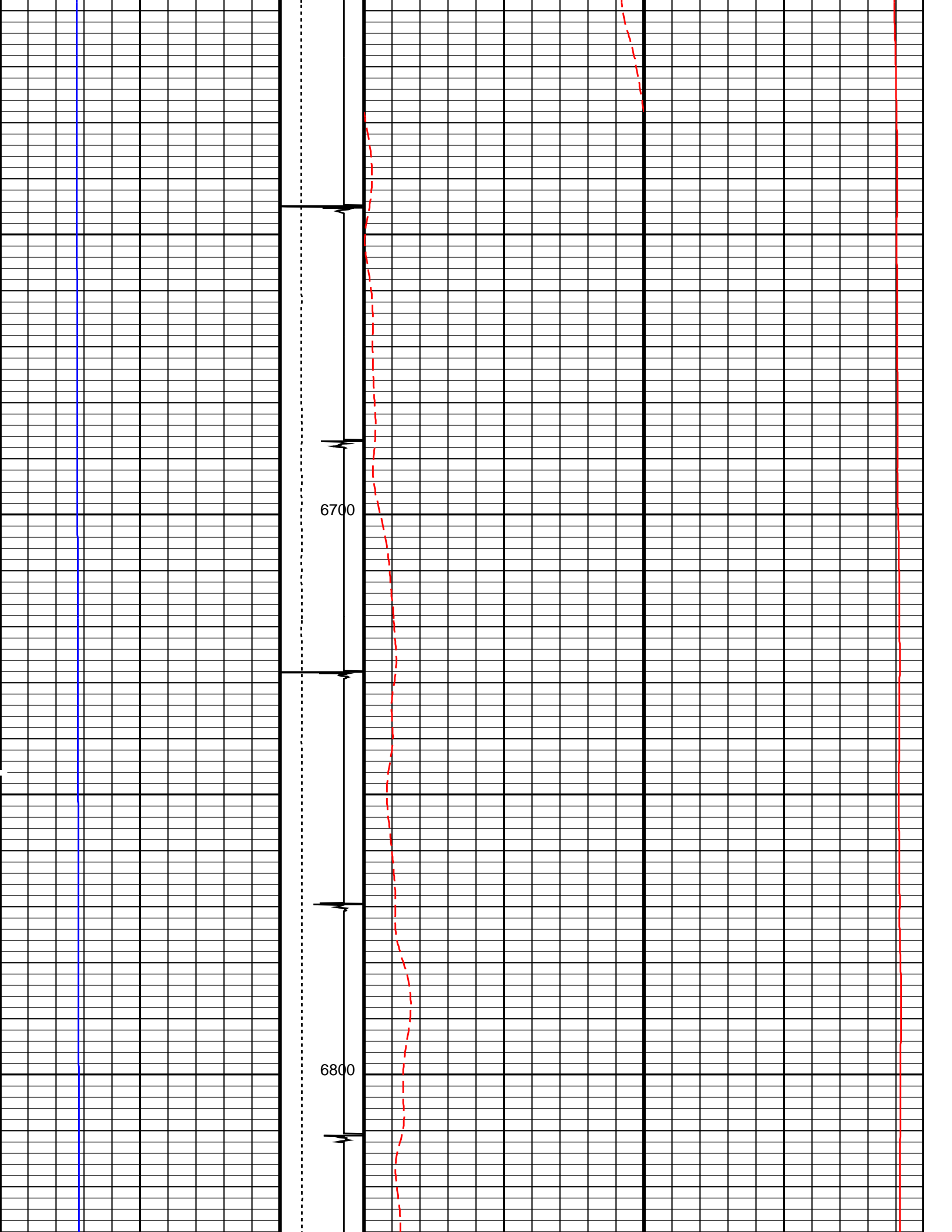








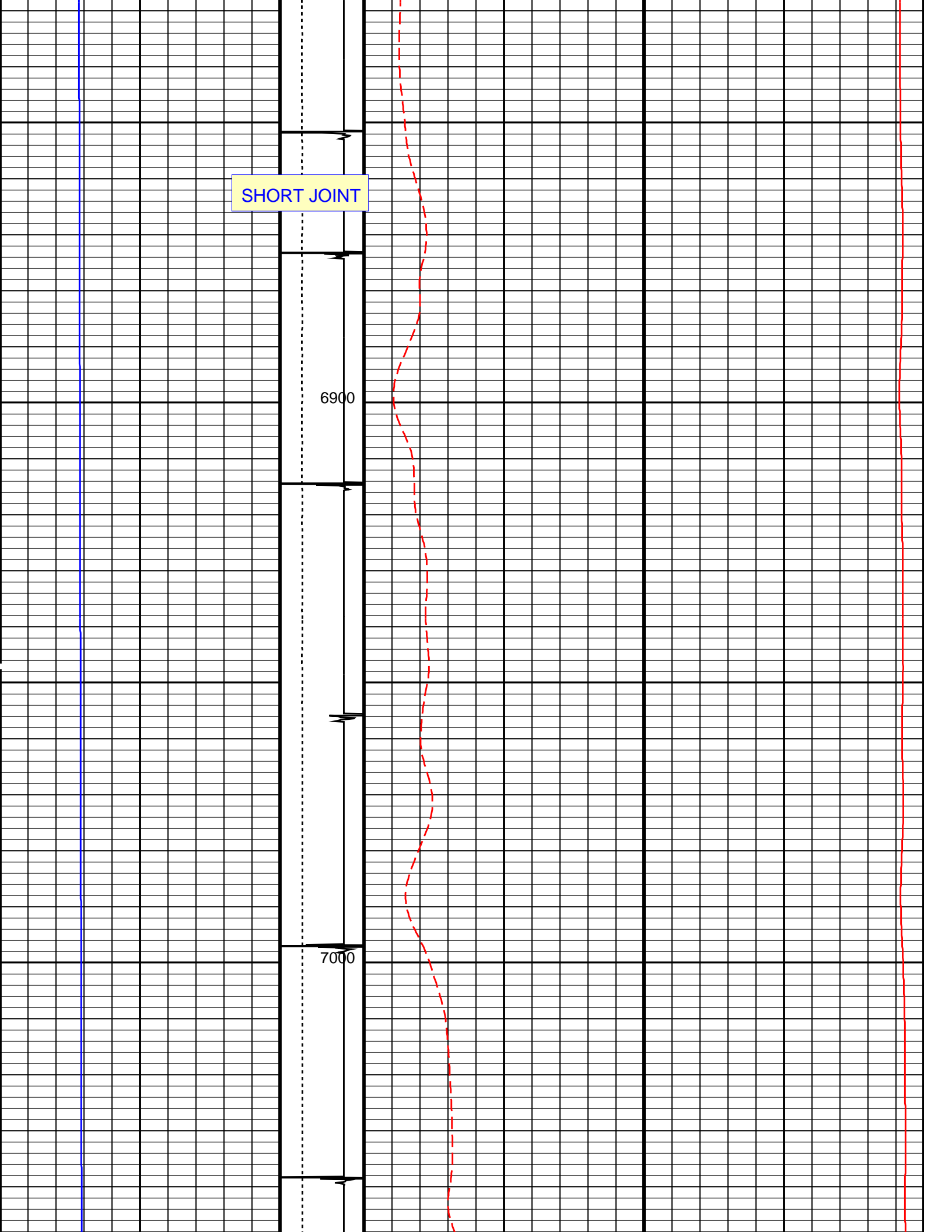


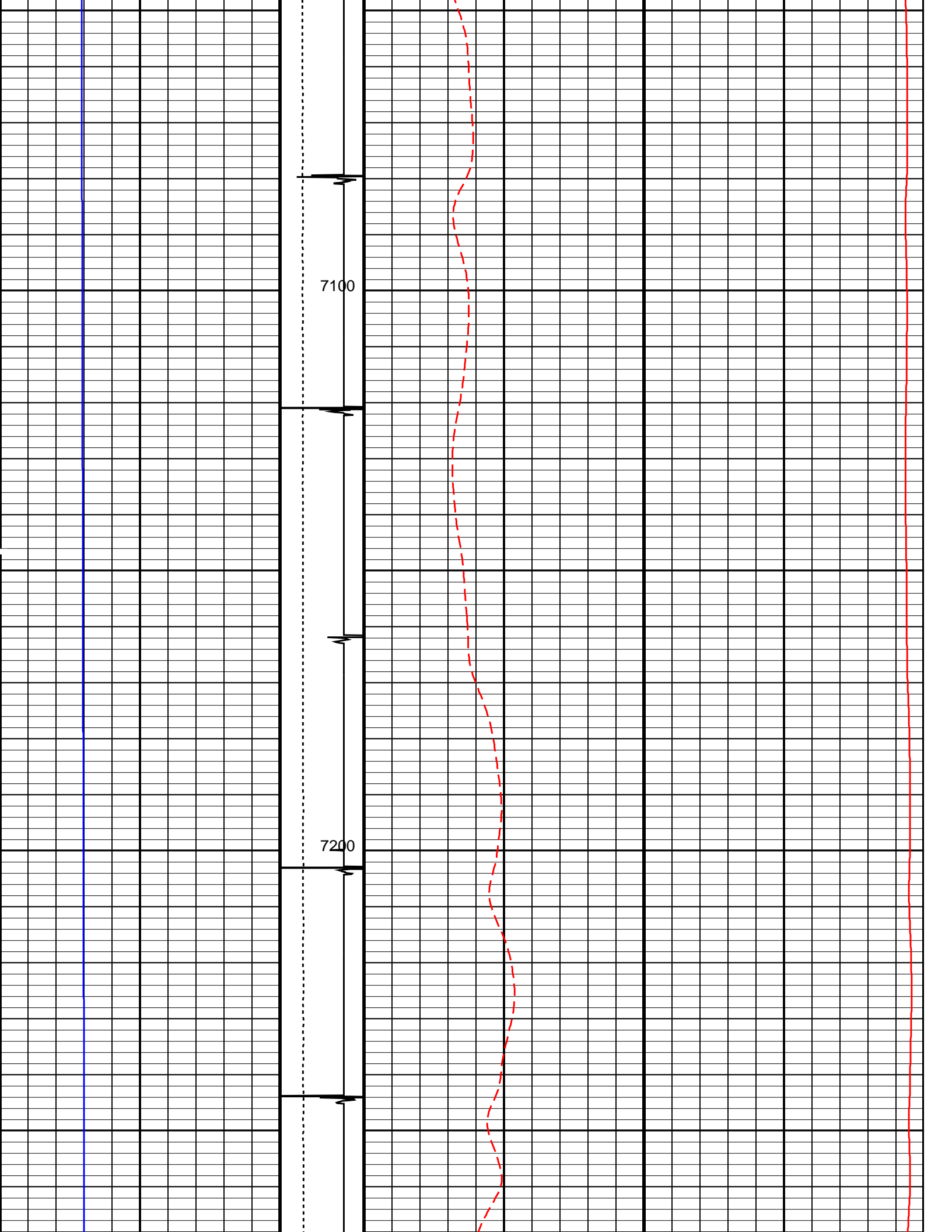


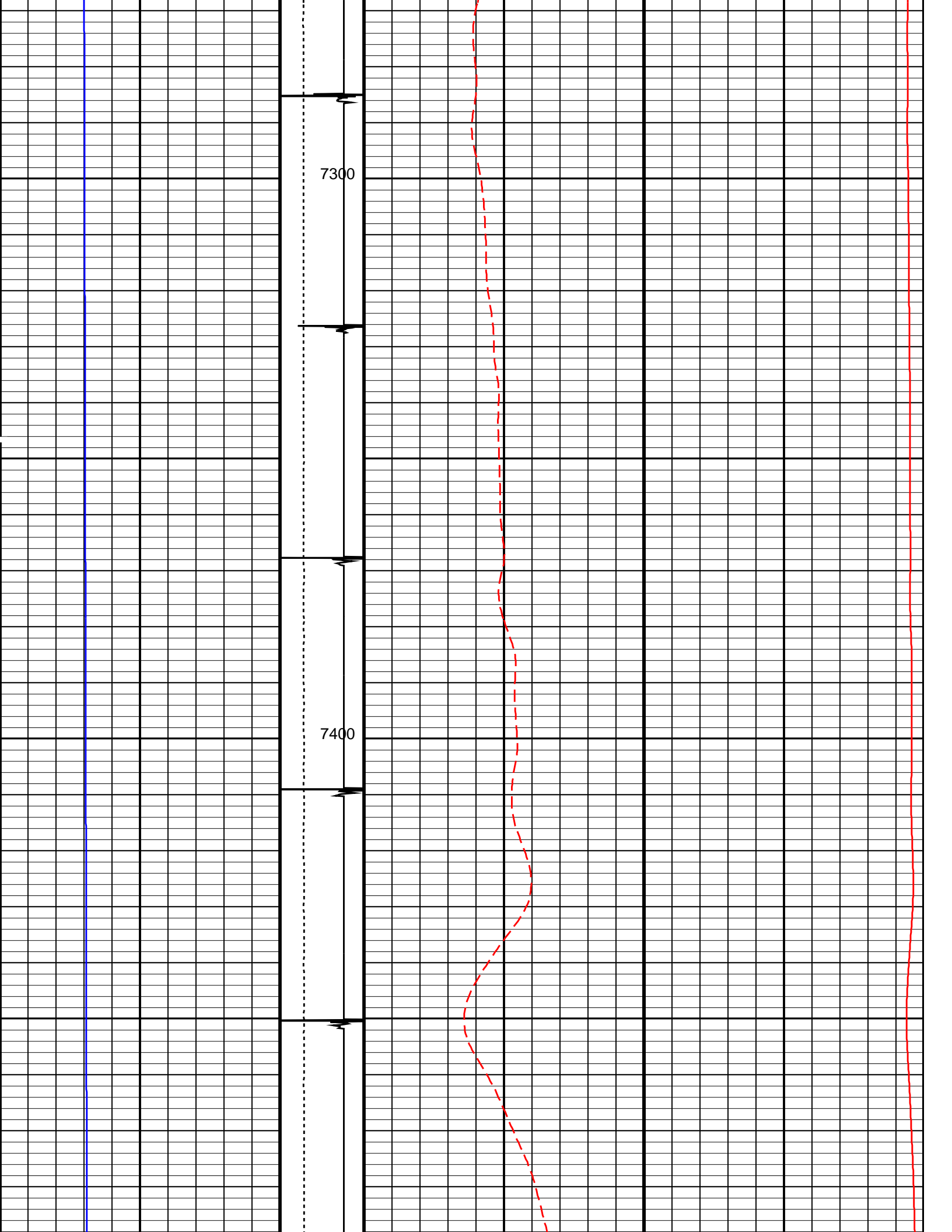
SHORT JOINT

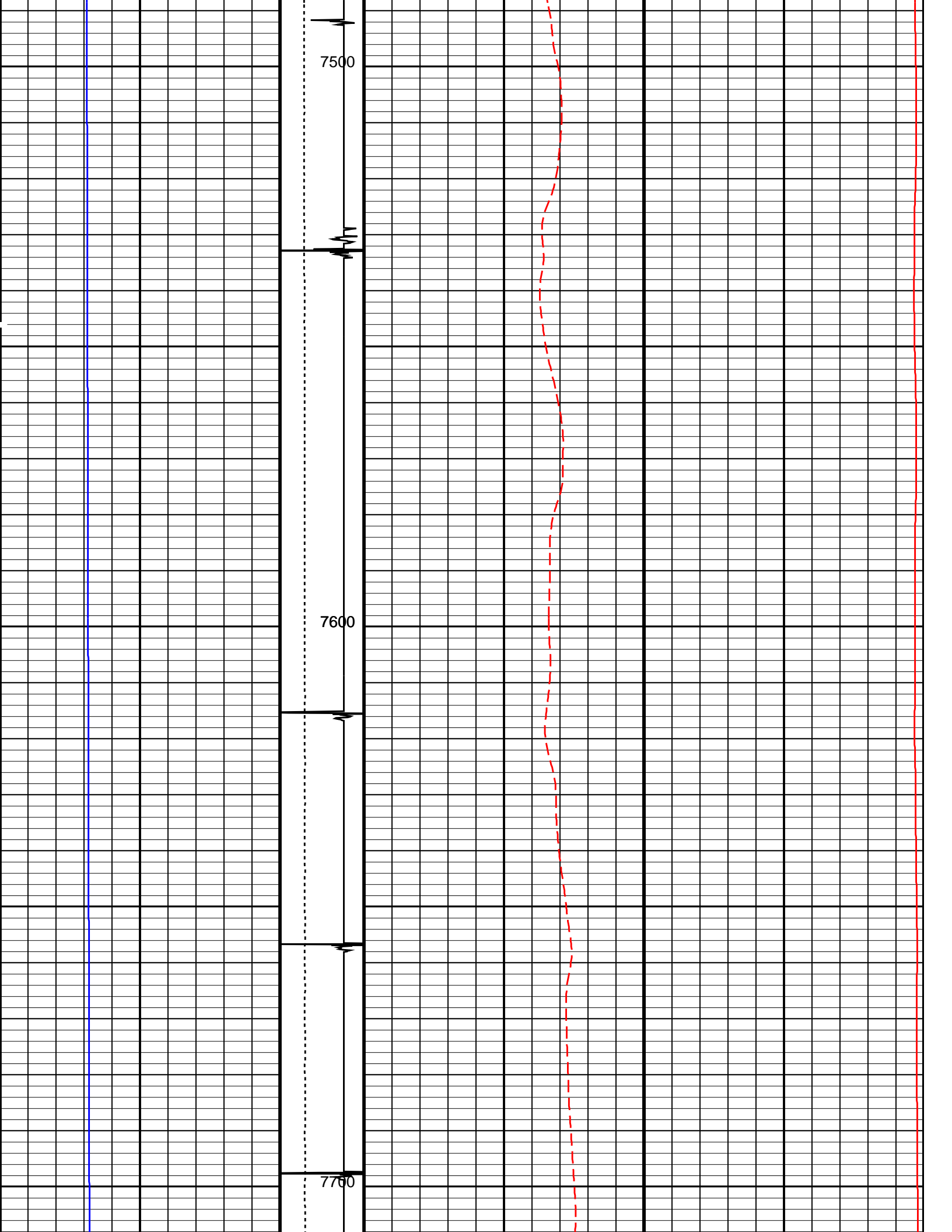
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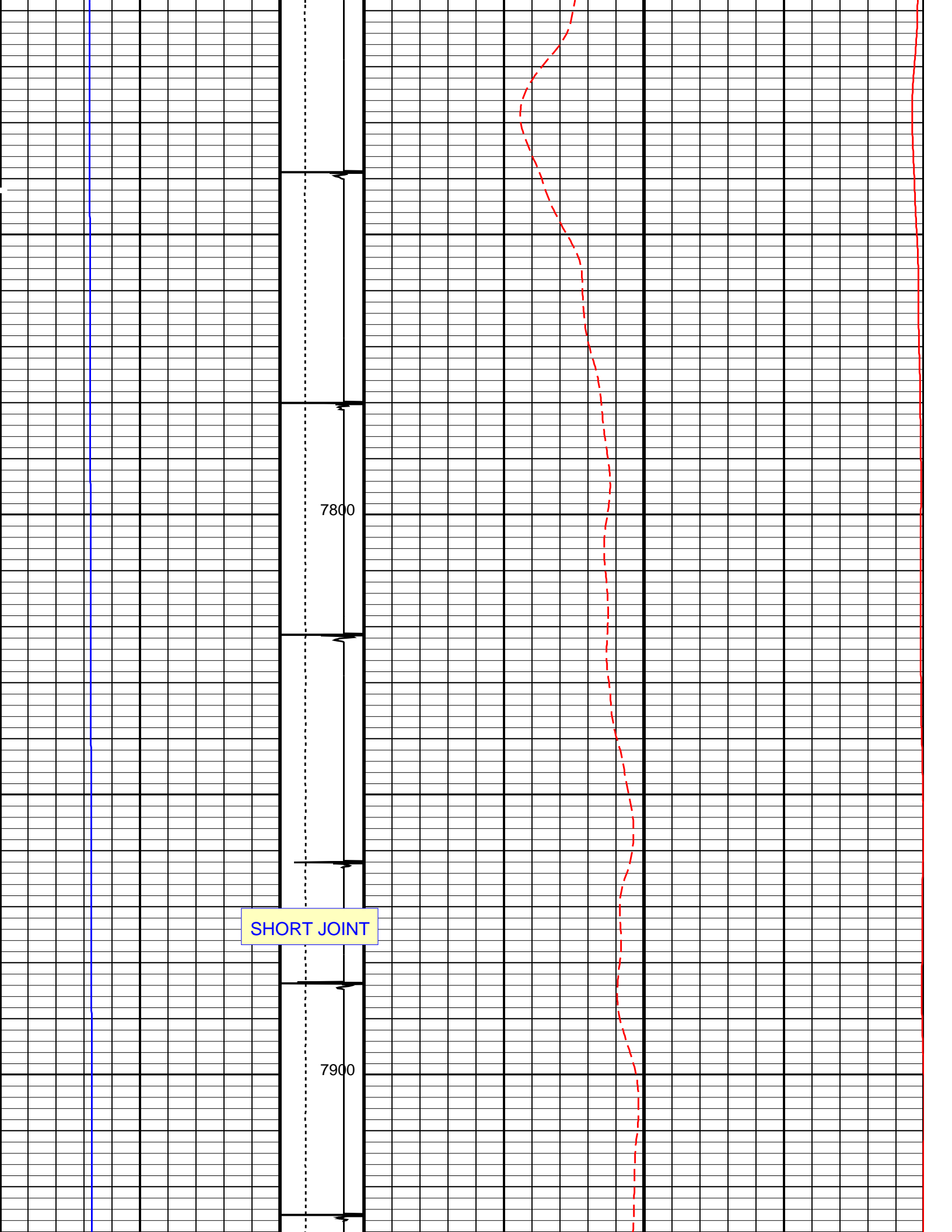
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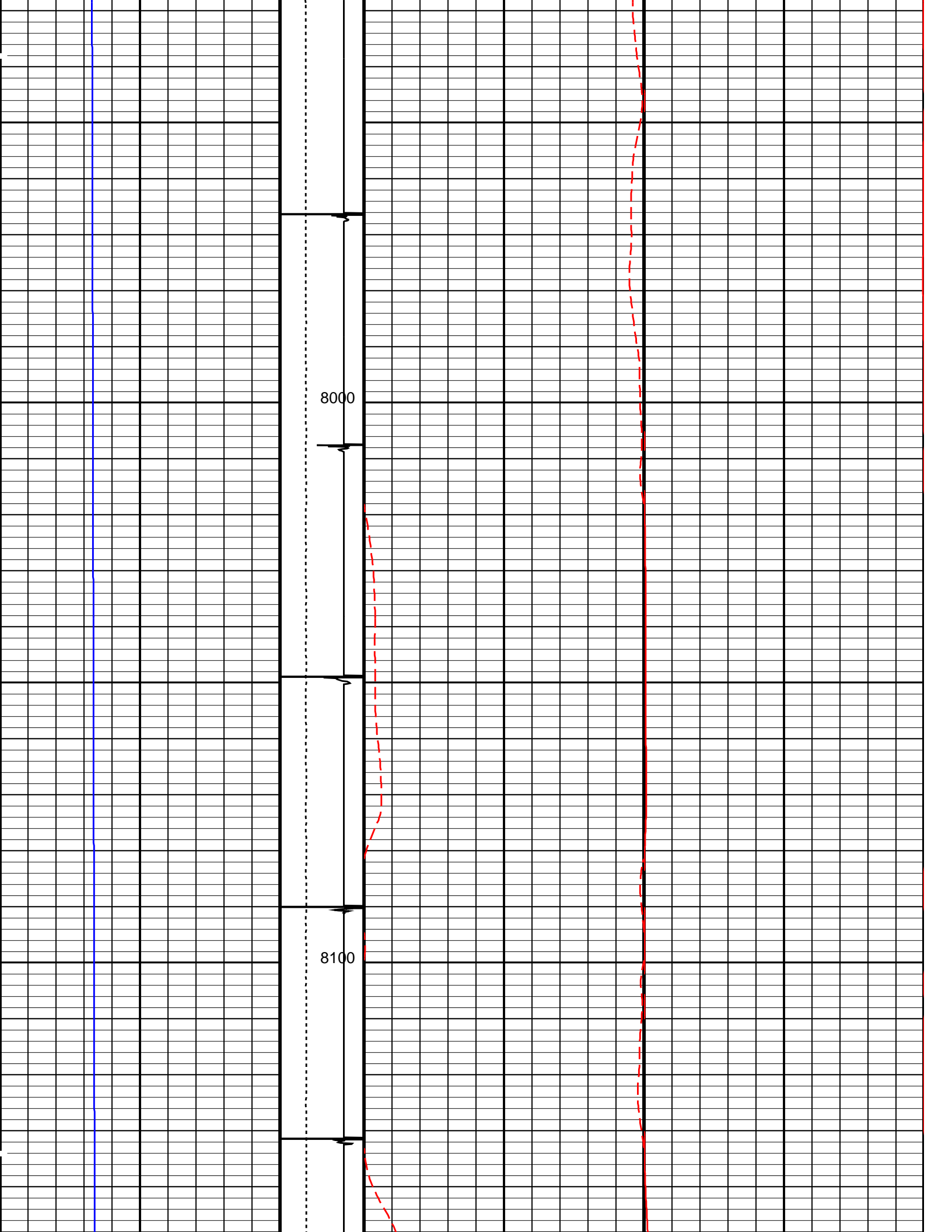


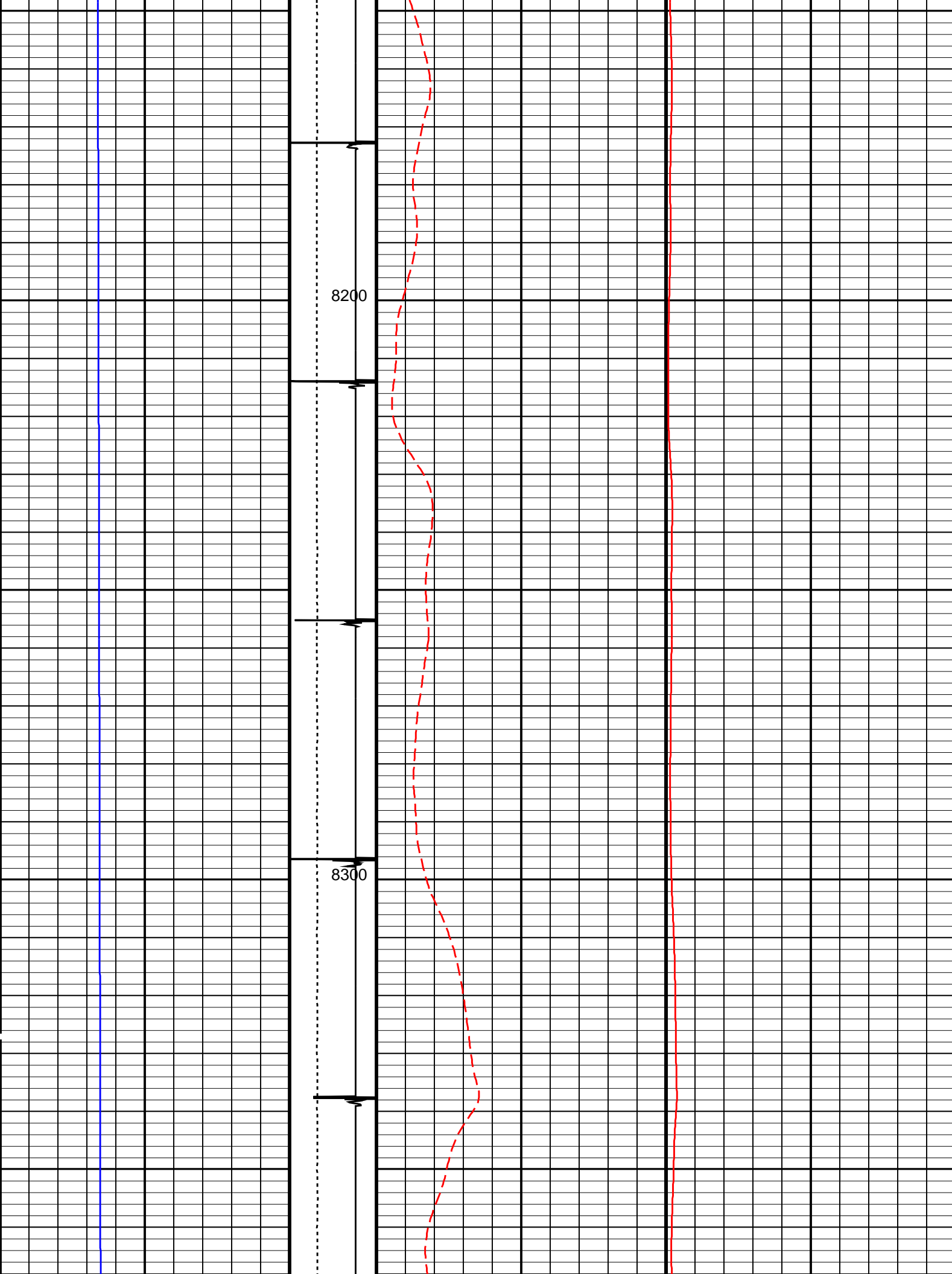


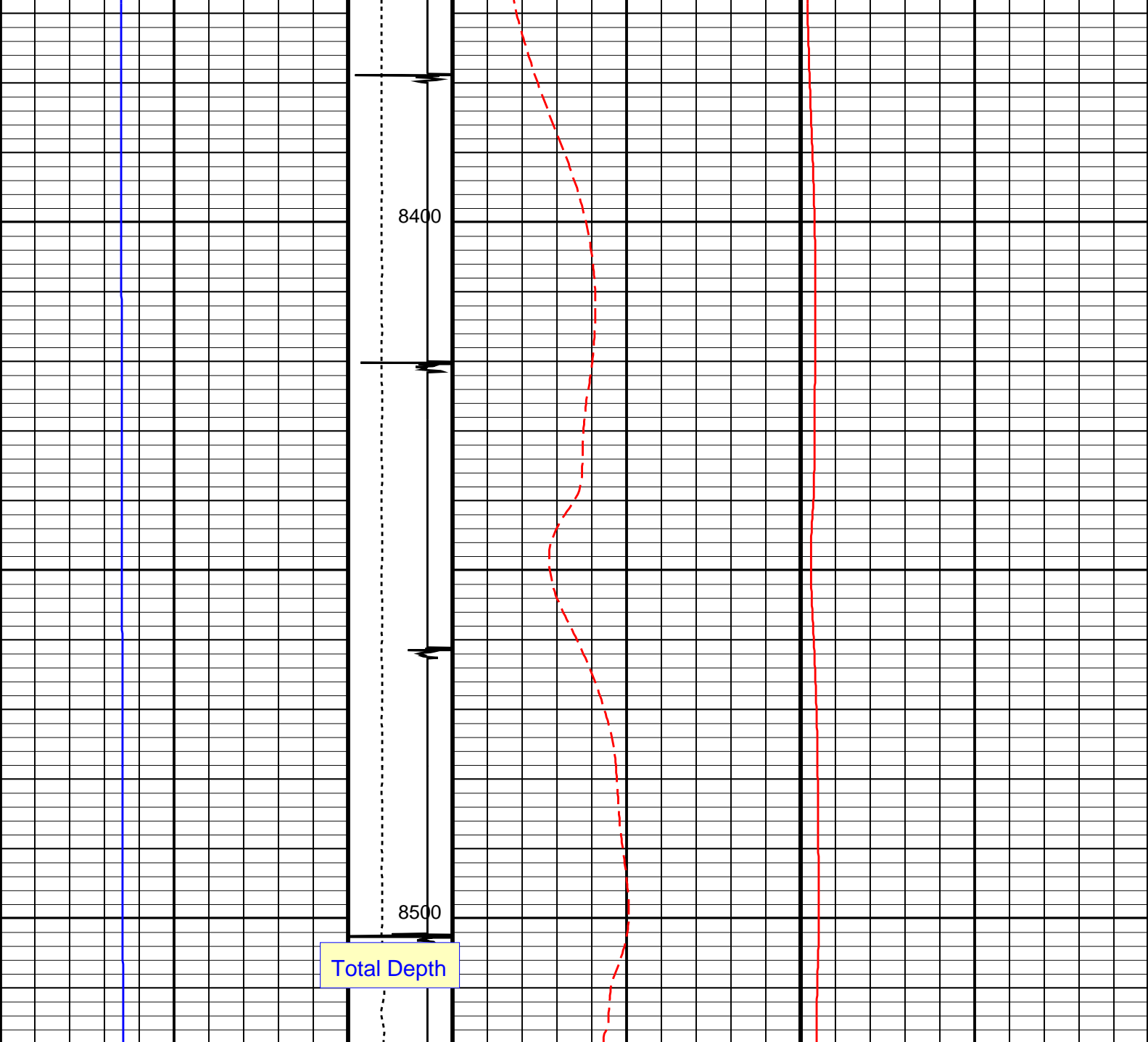












Well Pressure (WPRE)		Tension (TENS)	Well Temperature (WTEP)		Well Temperature (WTEP)	
0	(PSIA)	(LBF)	0	(DEGF)	0	(DEGF)
10000		2000	20		200	
		Discriminat ed CCL (CCLD)				
		3 (V) -1				

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	NORMAL

Format: TEMP LOG Vertical Scale: 5" per 100' Graphics File Created: 03-Jan-2013 02:45

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

Input DLIS Files

DEFAULT Flip_HBMS_004LUP PRODUCER 03-Jan-2013 02:43 8518.0 FT -10.5 FT

Output DLIS Files

DEFAULT HBMS_006PUP FN:3 PRODUCER 03-Jan-2013 02:45

Schlumberger

REPEAT ANALYSIS

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: SHIDELER FEE 31-13CC (031E)

Input DLIS Files

DEFAULT HBMS_006PUP FN:3 PRODUCER 03-Jan-2013 02:45 8518.0 FT -10.5 FT

Output DLIS Files

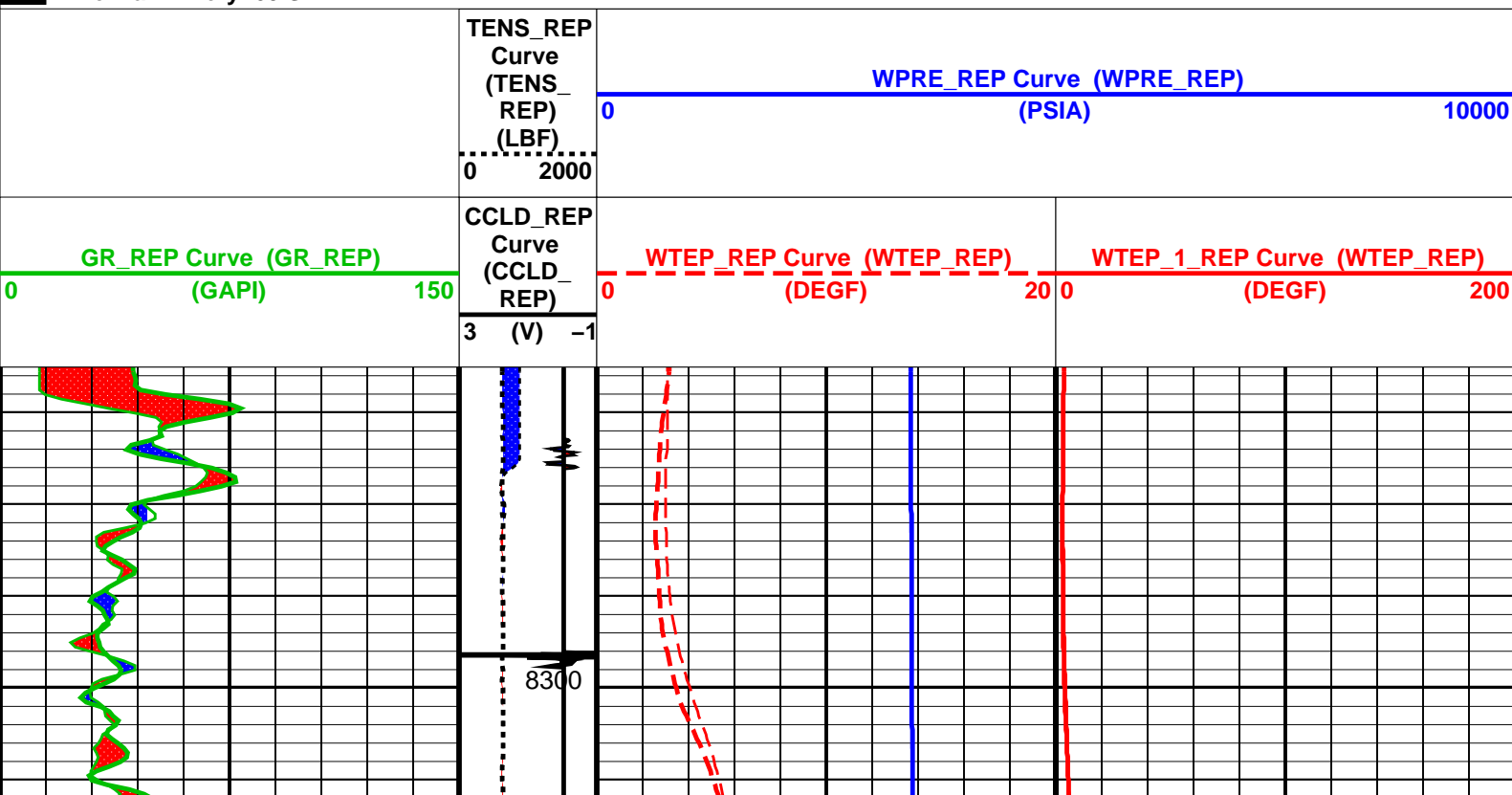
DEFAULT HBMS_007PUP FN:4 PRODUCER 03-Jan-2013 02:52 8524.0 FT 8264.5 FT

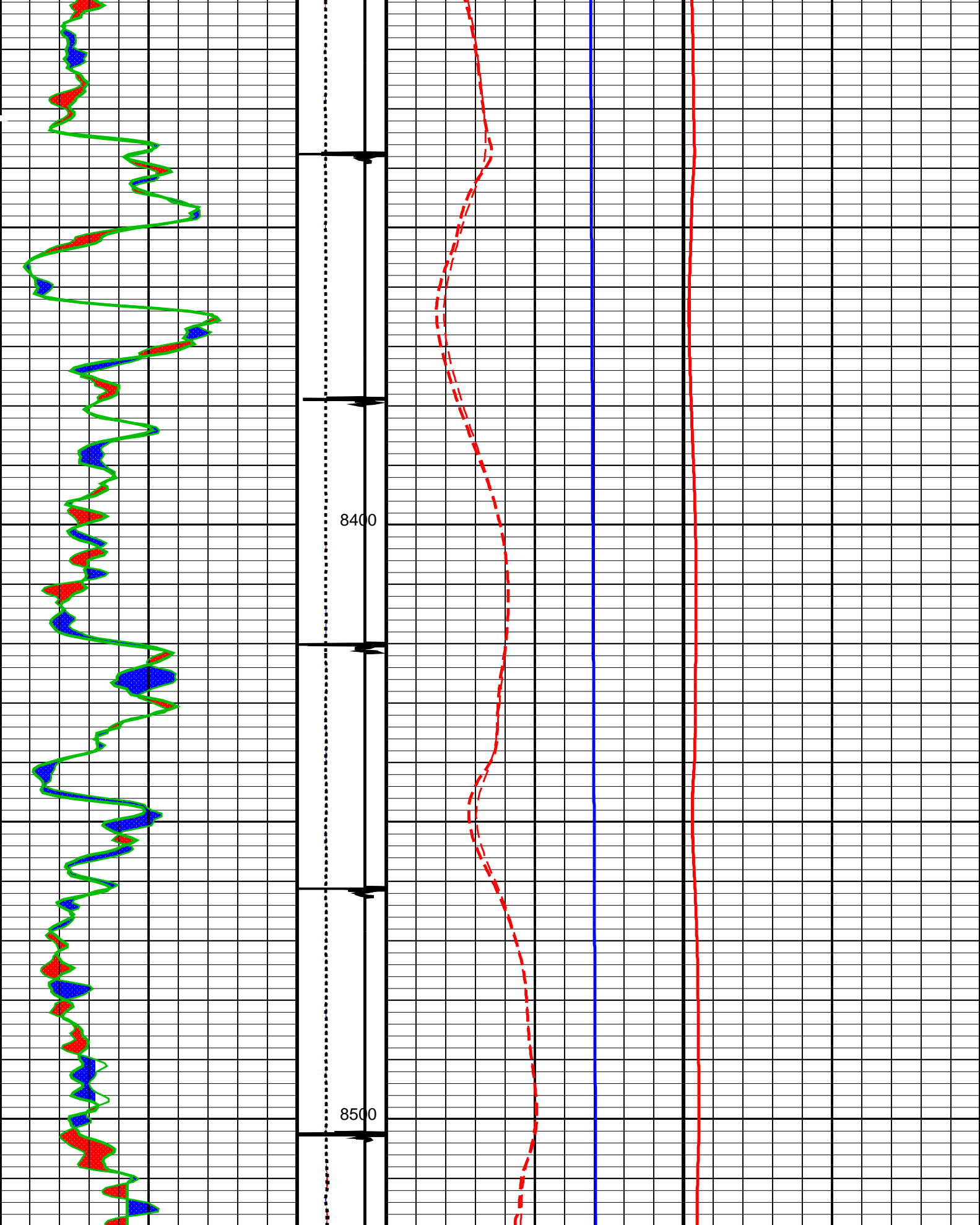
OP System Version: 19C0-187

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

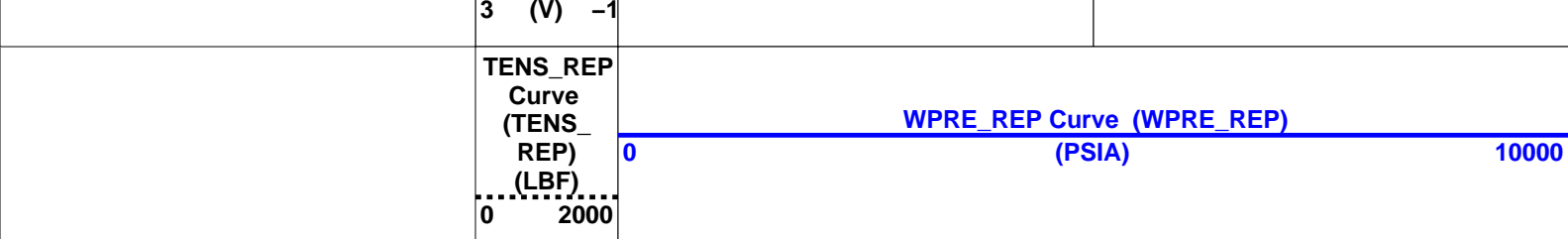
PIP SUMMARY

Time Mark Every 60 S





GR_REP Curve (GR_REP) (GAPI)	CCLD_REP Curve (CCLD_REP)	WTEP_REP Curve (WTEP_REP) (DEGF)	WTEP_1_REP Curve (WTEP_REP) (DEGF)
0	0	0	0
150	20	200	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	NORMAL

Format: TEMP LOG_REP Vertical Scale: 5" per 100' Graphics File Created: 03-Jan-2013 02:52

OP System Version: 19C0-187

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

Input DLIS Files					
DEFAULT	HBMS_006PUP	FN:3	PRODUCER	03-Jan-2013 02:45	8518.0 FT -10.5 FT
Output DLIS Files					
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	03-Jan-2013 02:52	



HBMS COEFFICIENTS

MAXIS Field Log

Client:	ENCANA OIL & GAS (USA) INC	Tool:	PSP
Field:	MAMM CREEK	Sub Type:	PBMS
Well:	SHIDELER FEE 31-13CC (031E)	Sensor:	GR
Run date:	3-Jan-2013		

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	Rt**1

Rt 0	+.20000000000e+04	+.17500000000e+04
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Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: SHIDELER FEE 31-13CC (031E)
Run date: 3-Jan-2013

Tool: PSP
Sub Type: PBMS
Sensor: WellTemp RTD

PBMS RTD Well Thermometer
Sonde Serial NB
Sensor Serial NB
Calib Date ddmmyy
Matrix Size
Coeff CRC

COEFFICIENTS FOR RTD THERMOMETER PBMS-B.2880 S/N:
2880
260408
16
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: SHIDELER FEE 31-13CC (031E)
Run date: 3-Jan-2013

Tool: PSP
Sub Type: PBMS
Sensor: CQG

PBMS Quartz Gauge type F

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

COEFFICIENTS FOR CQG PBMS–B.2880 S/N:

2880

260408

66

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

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	0.0	0.0	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

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



Well: SHIDELER FEE 31-13CC (031E)
 Field: MAMM CREEK
 County: GARFIELD
 State: COLORADO

TEMPERATURE LOG
CCL – TEMPERATURE