

Company: ENCANA OIL & GAS (USA) INC

Well: HMU 6-15A (J6SEB)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

TEMPERATURE LOG
CCL

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 1921 FSL & 1885 FEL

Well: HMU 6-15A (J6SEB)

Company: ENCANA OIL & GAS (USA) INC

LOCATION

SHL: 1921 FSL & 1885 FEL
BHL: 988 FSL & 1402 FEL

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

Elev.: 7143.00 ft
22.00 ft above Perm. Datum

API Serial No.
05-045-21936-00

Section
6

Township
8S

Range
92W

Logging Date	8-Sep-2013			
Run Number	1			
Depth Driller	9818 ft			
Schlumberger Depth	9708 ft			
Bottom Log Interval	9708 ft			
Top Log Interval	22 ft			
Casing Fluid Type	FRESH WATER			
Salinity				
Density	8.4 lbm/gal			
Fluid Level	22 ft			
BIT/CASING/TUBING STRING				
Bit Size	7.875 in			
From	6418 ft			
To	9818 ft			
Casing/Tubing Size	4.500 in			
Weight	11.6 lbm/ft			
Grade	S-80			
From	22 ft			
To	9797 ft			
Maximum Recorded Temperatures	228 degF			
Logger On Bottom	8-Sep-2013		22:15	
Unit Number	391	GRAND JUNCTION		
Recorded By	KIRSTIE BUNTING			
Witnessed By	KIRBY			

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							
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: 21:30	
TIME ON BOTTOM: 22:15	
EXIT: 23:00	

MAXIMUM RECORDED TEMPERATURE: 228 DEGF	
MAXIMUM RECORDED PRESSURE: 4119 PSIA	
SHORT JOINTS: 6467 FT & 7536 FT	
CREW: KBUNTING KJOHNS KBOZARTH	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	

RUN 1			RUN 2		
SERVICE ORDER #:	CGF9-00128		SERVICE ORDER #:		
PROGRAM VERSION:	19C0-187		PROGRAM VERSION:		
FLUID LEVEL:	22 ft		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

13.1

AH-38

Detail MT

TelStatus

CTEM

11.6

HBMS-B

PSC-A

HUDH-A

HSTC-A

HBMC-A

GR

CCL

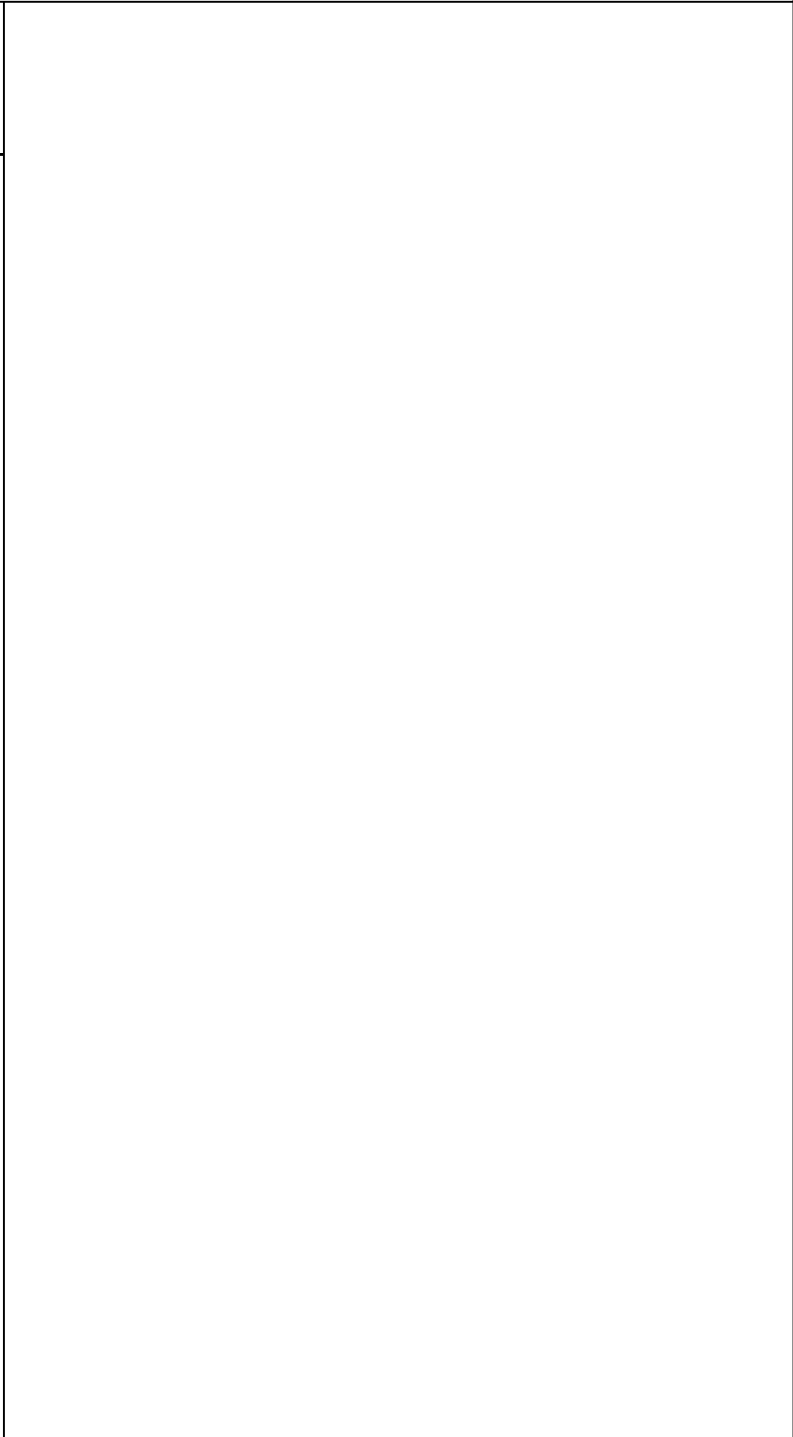
HBMC

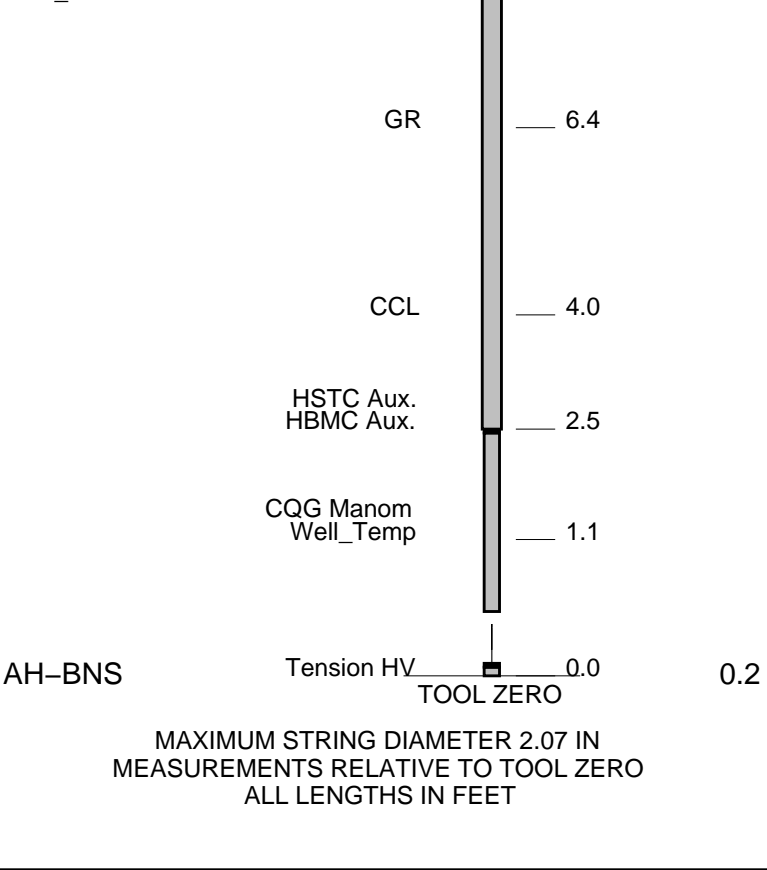
HTPS-A 2884

HCQG_E_Mano

RTD Thermometer

11.3

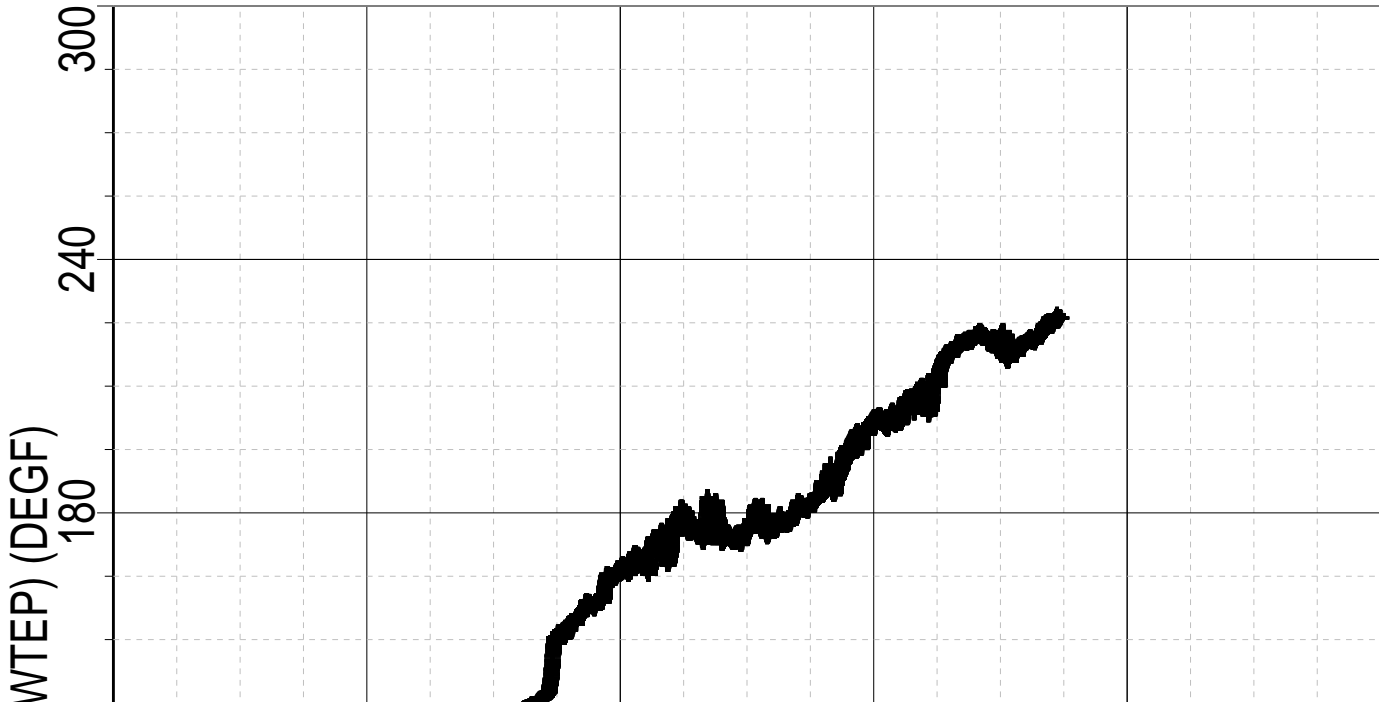


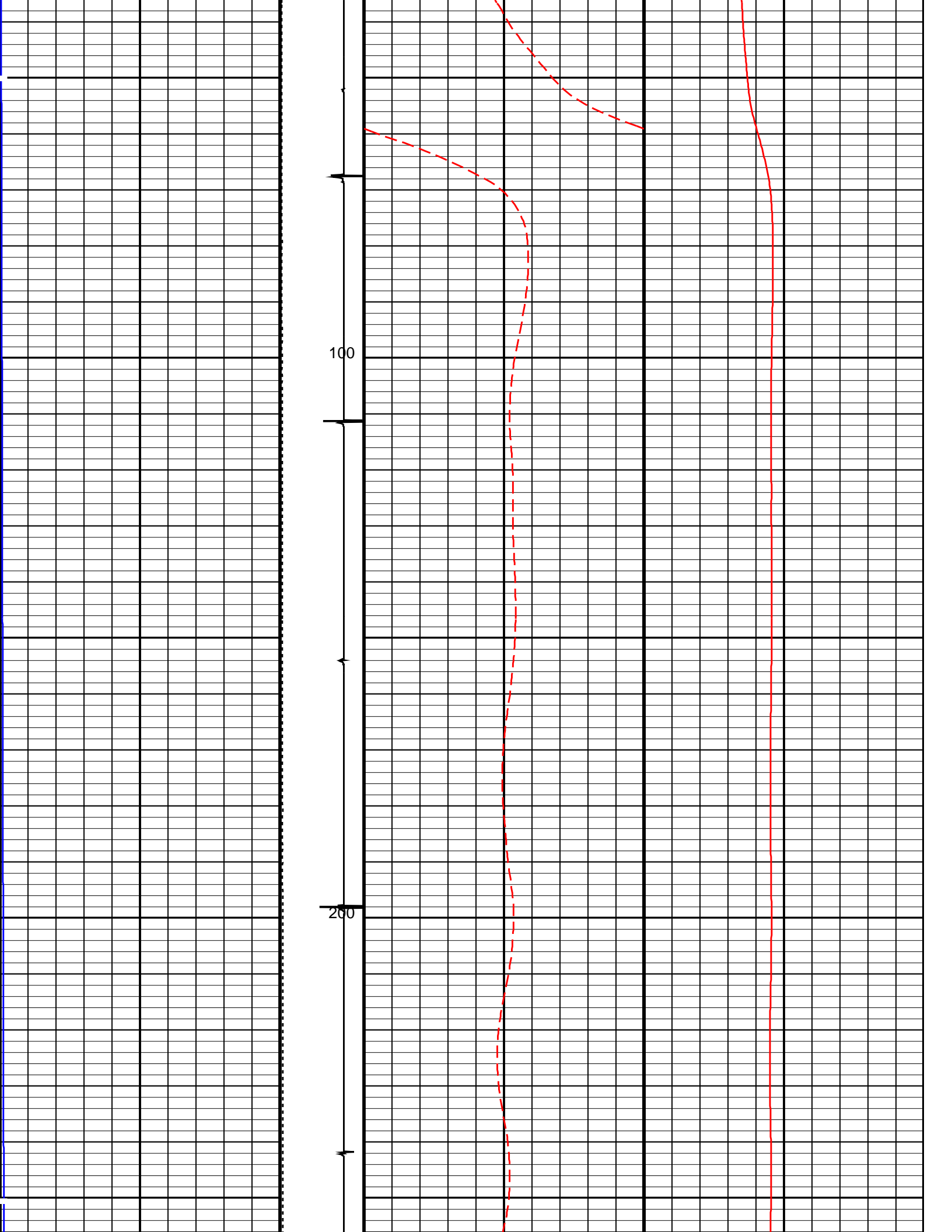


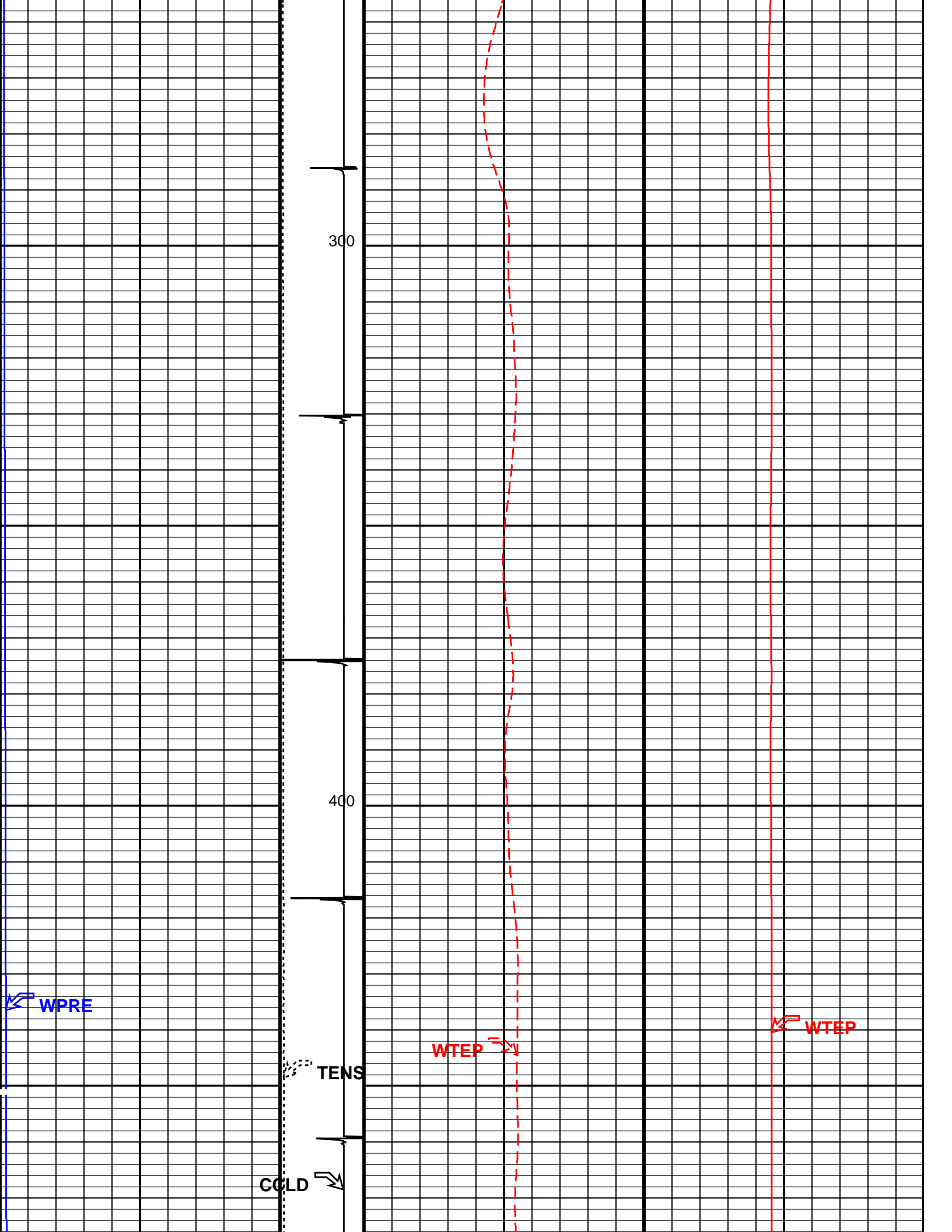
TEMPERATURE PLOT

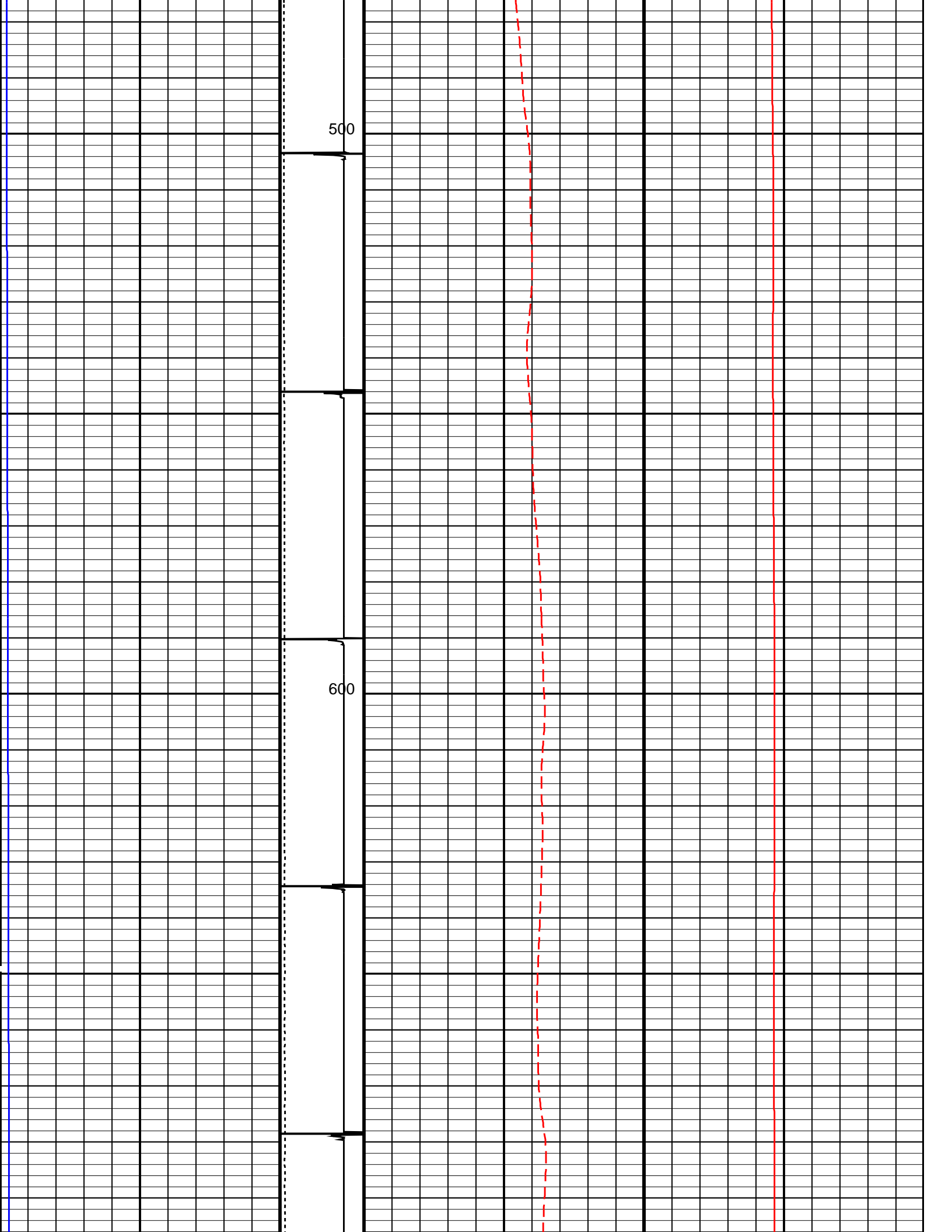
MAXIS Field Log

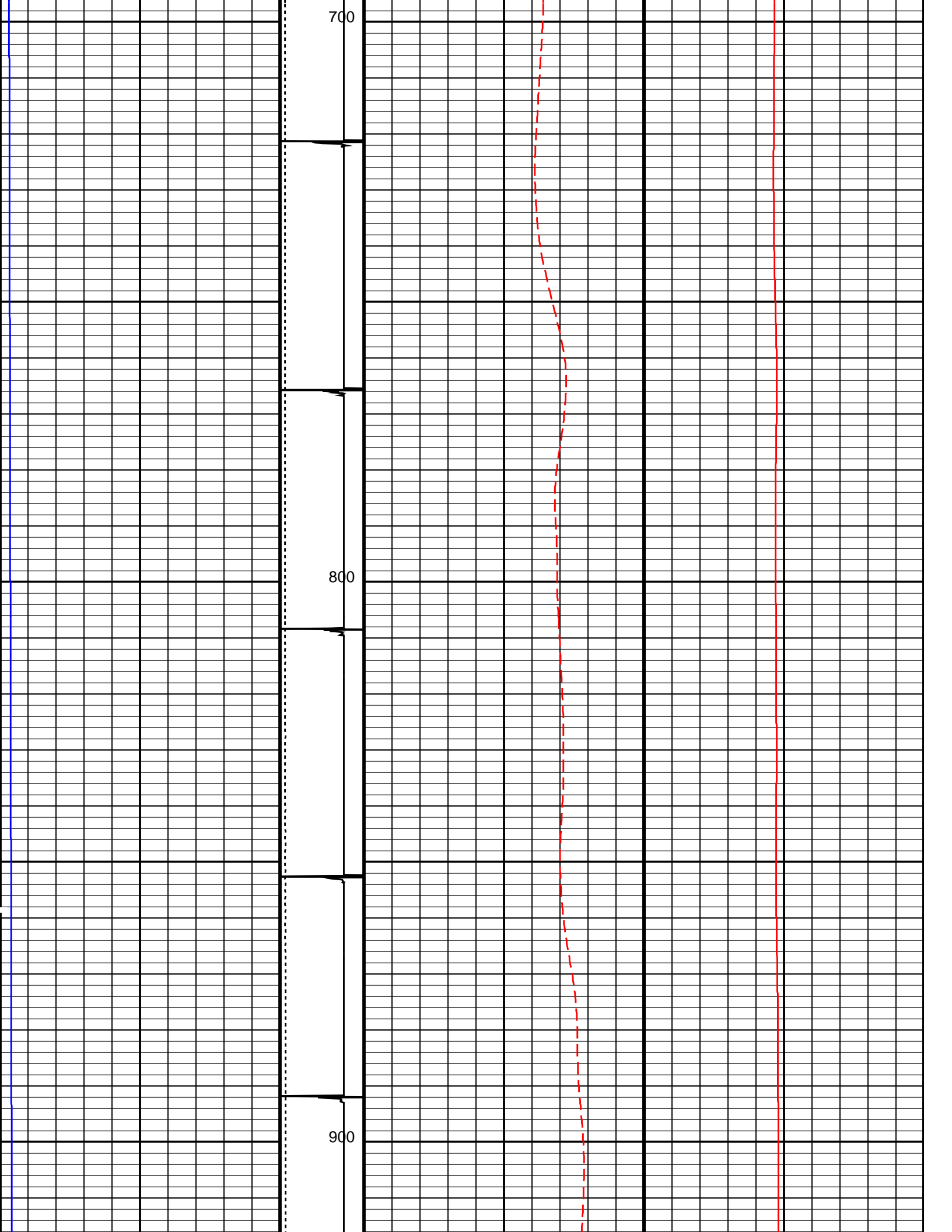
Index: 9718.5 – 17.5 FT

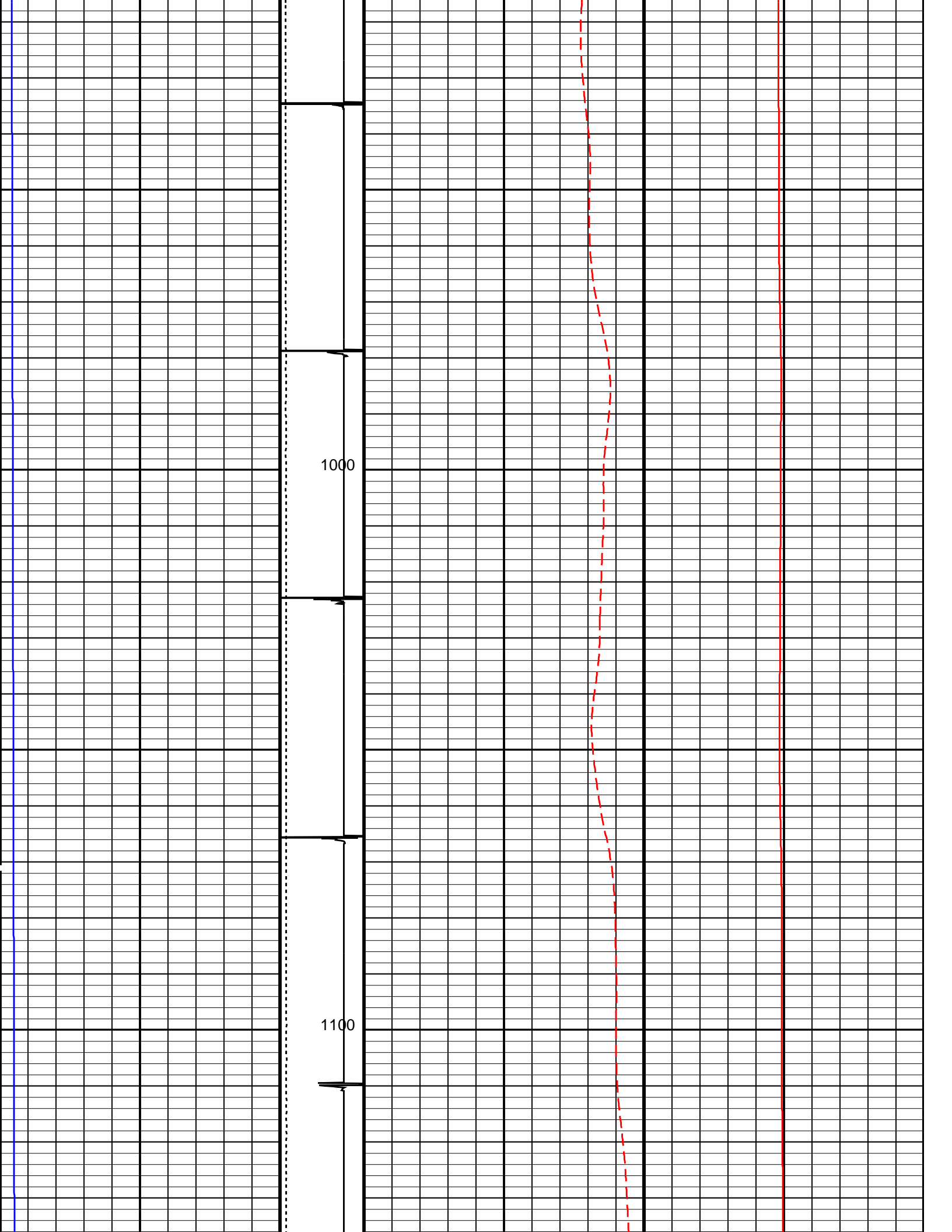


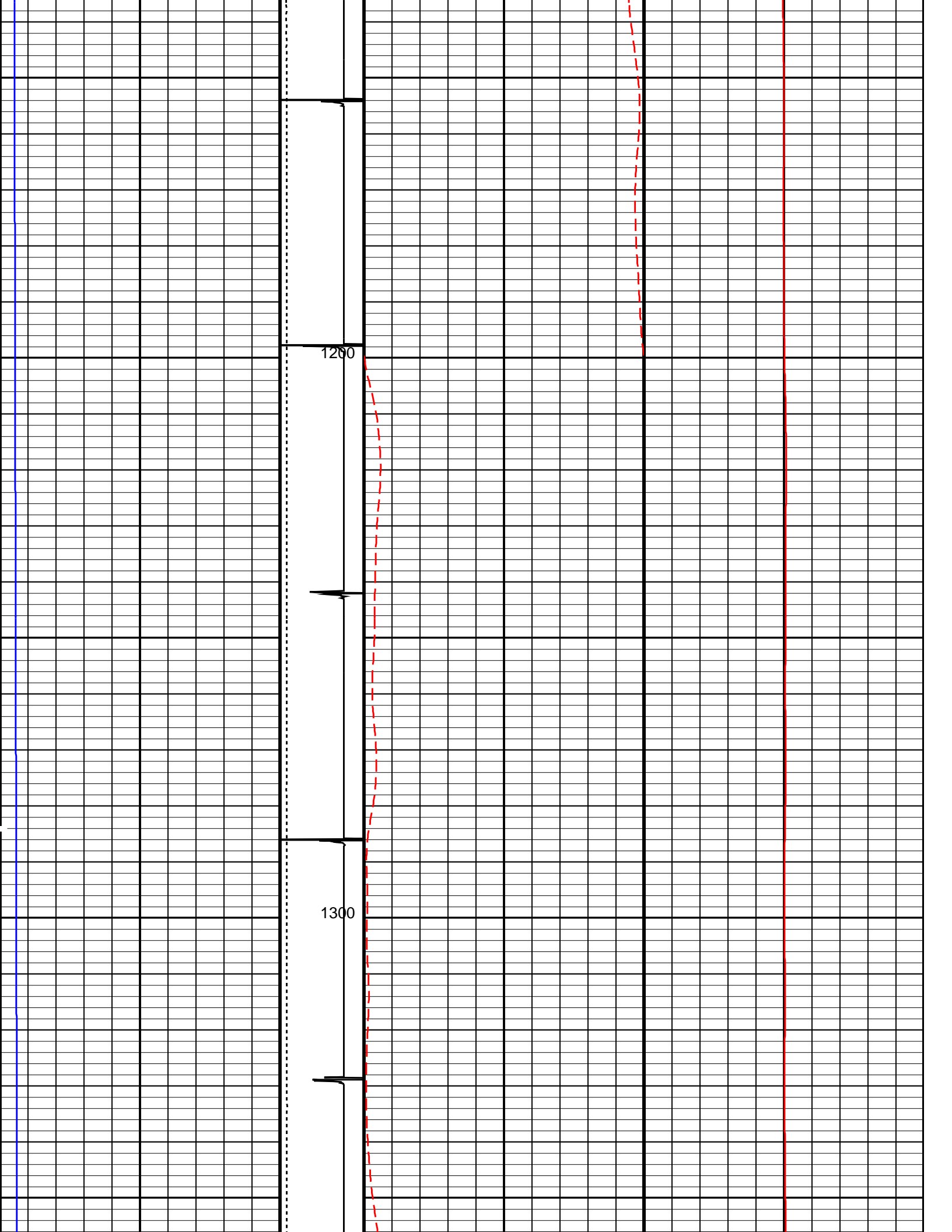


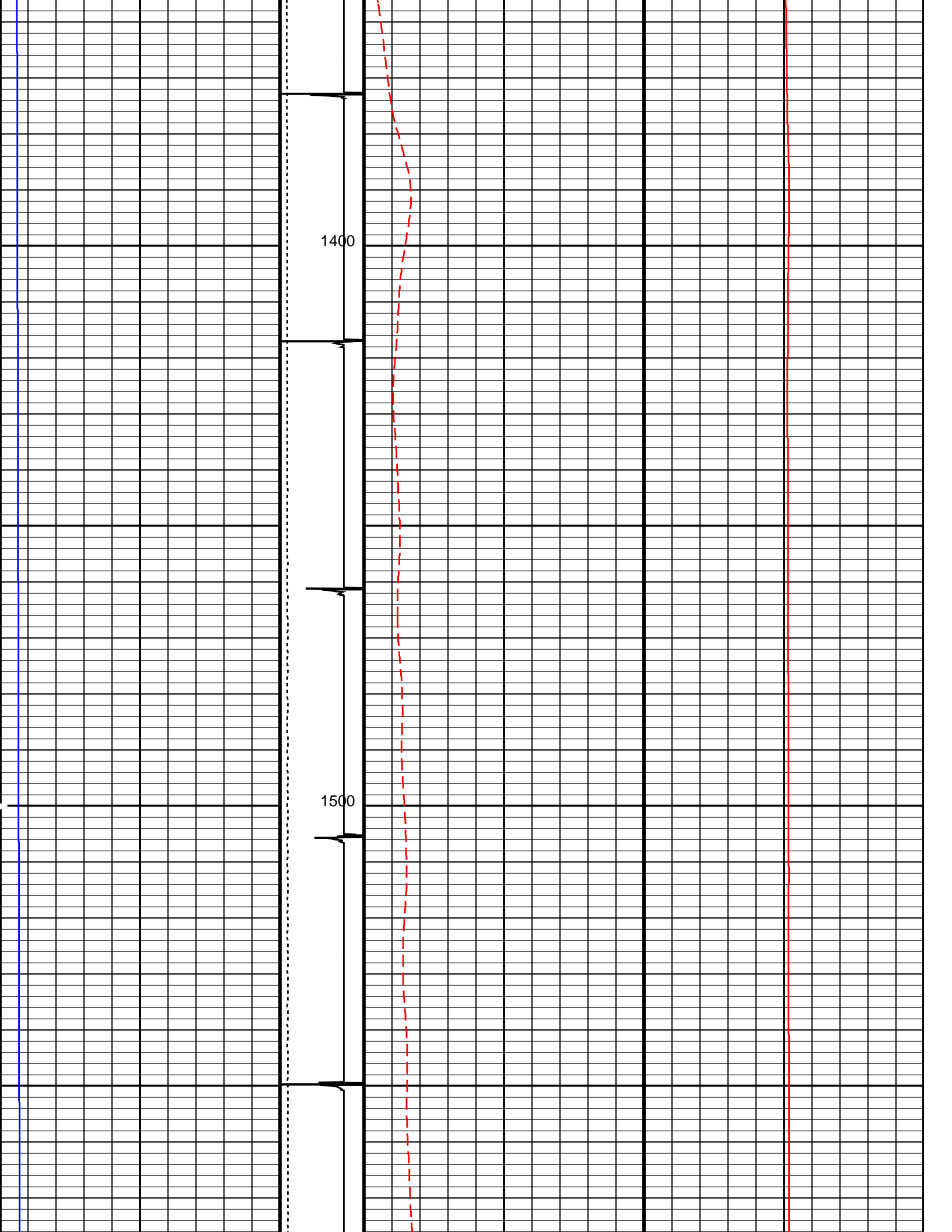


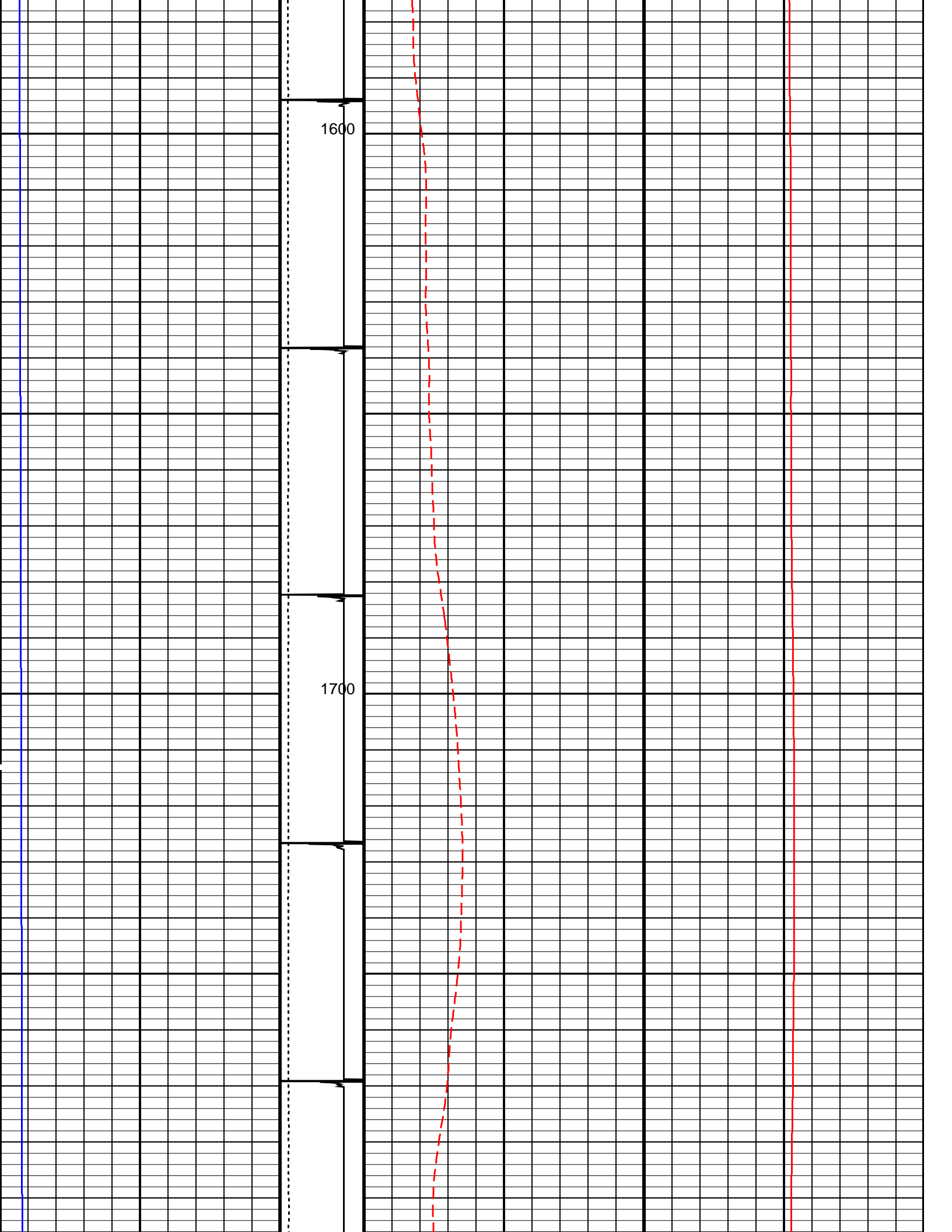


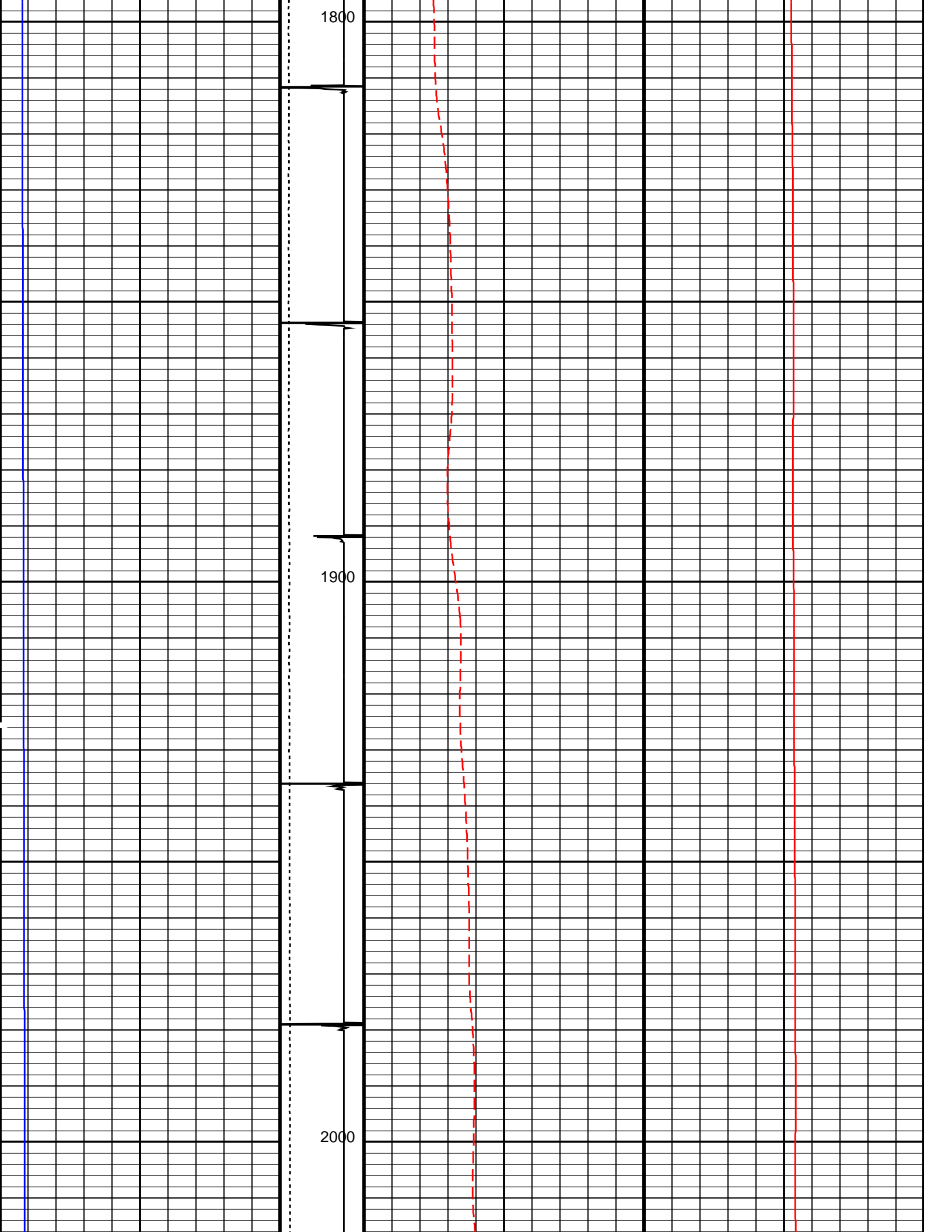


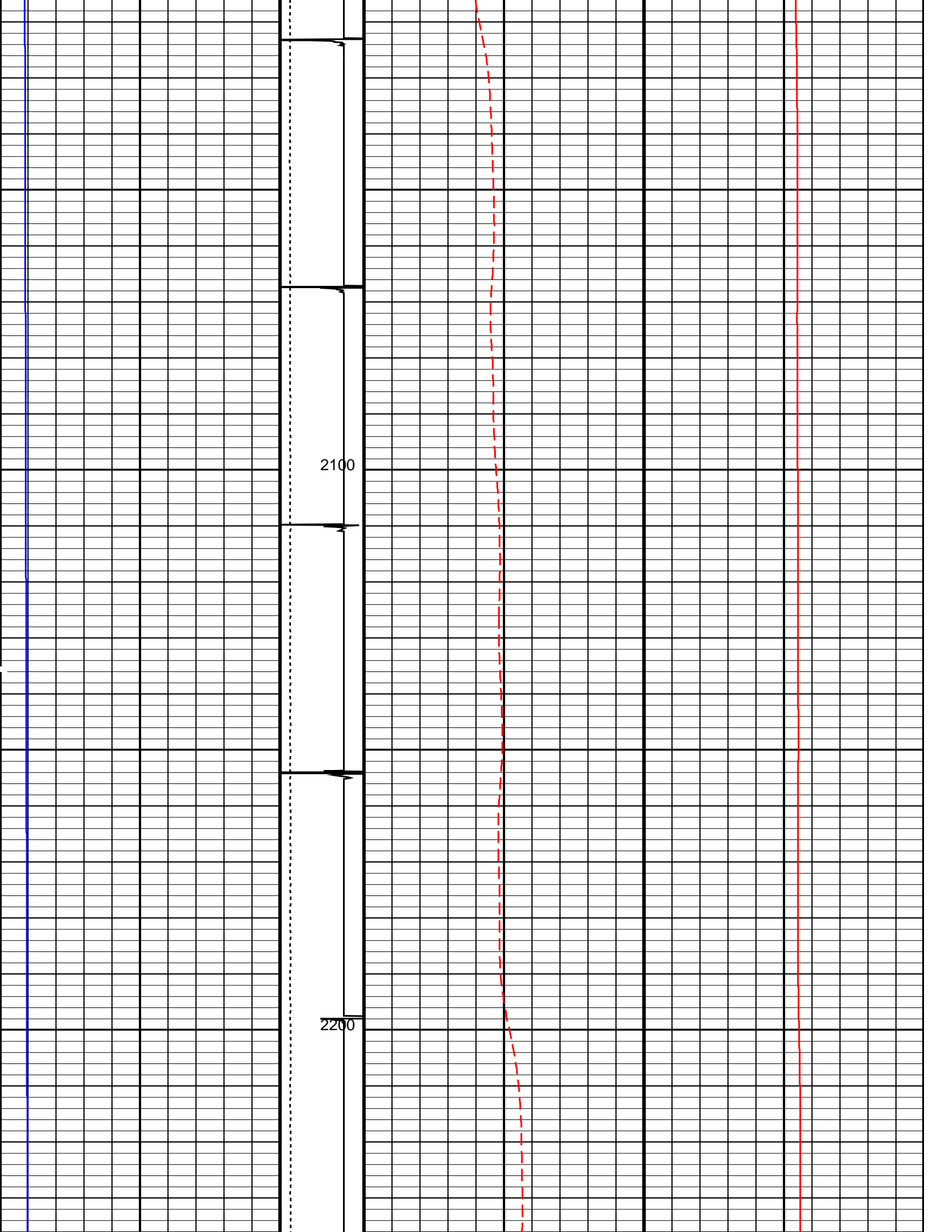


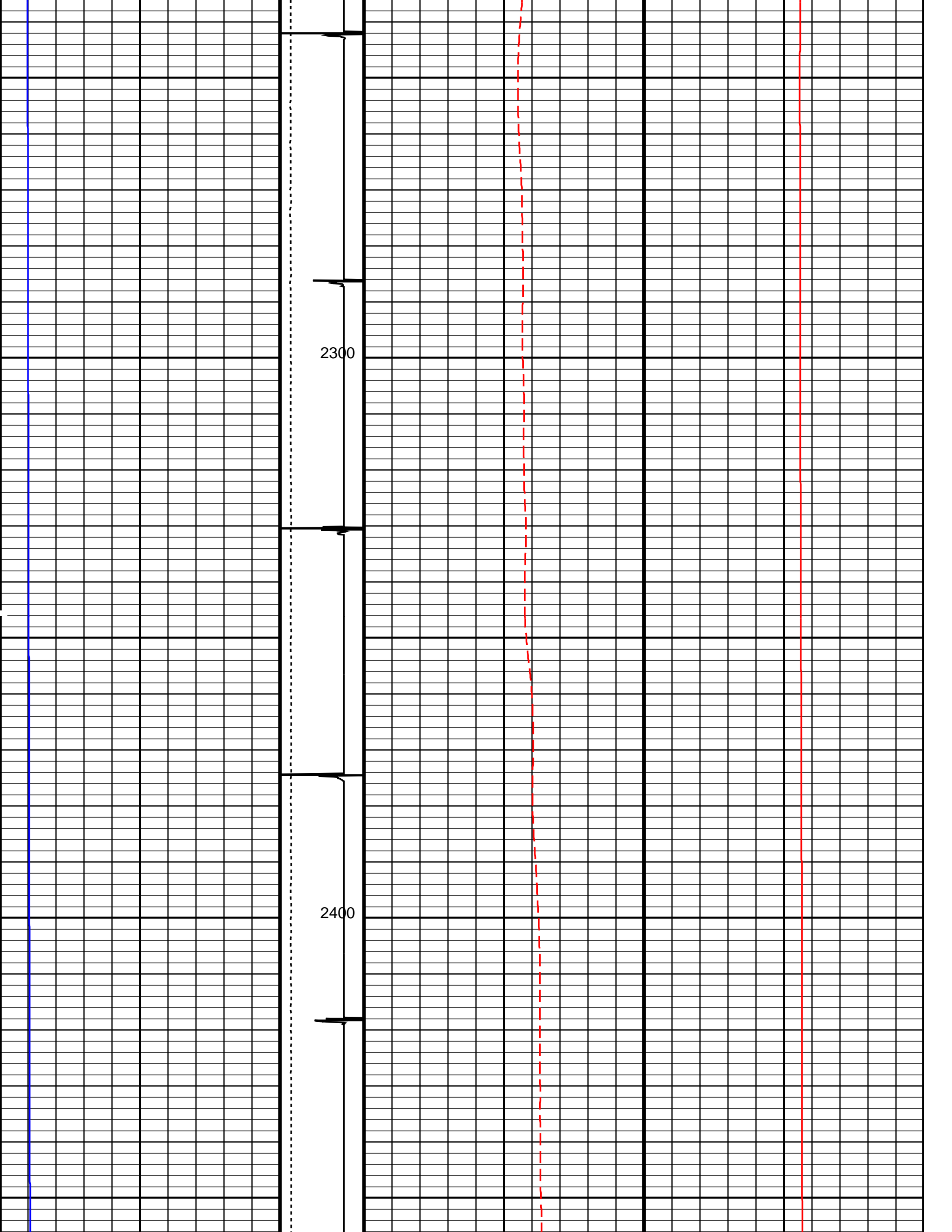


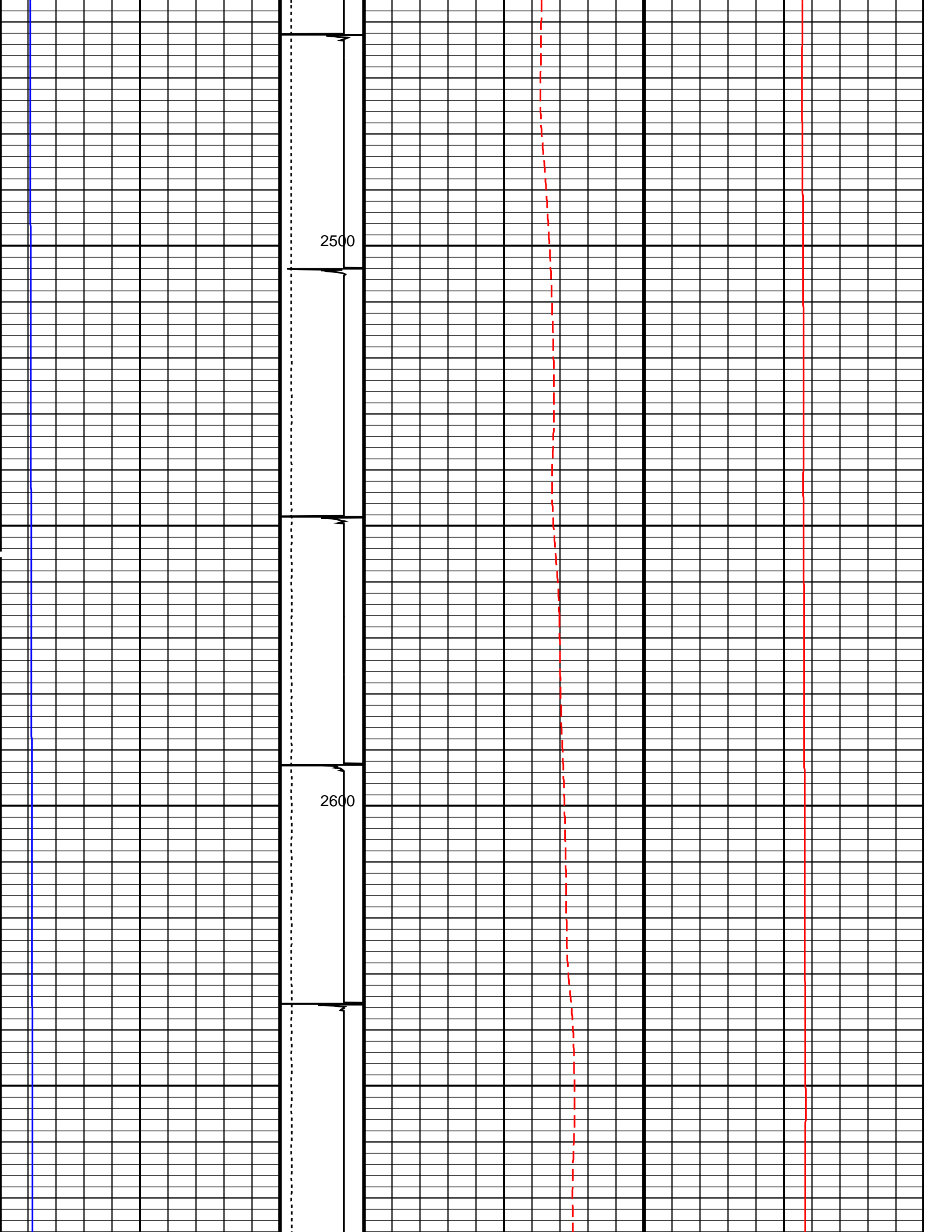


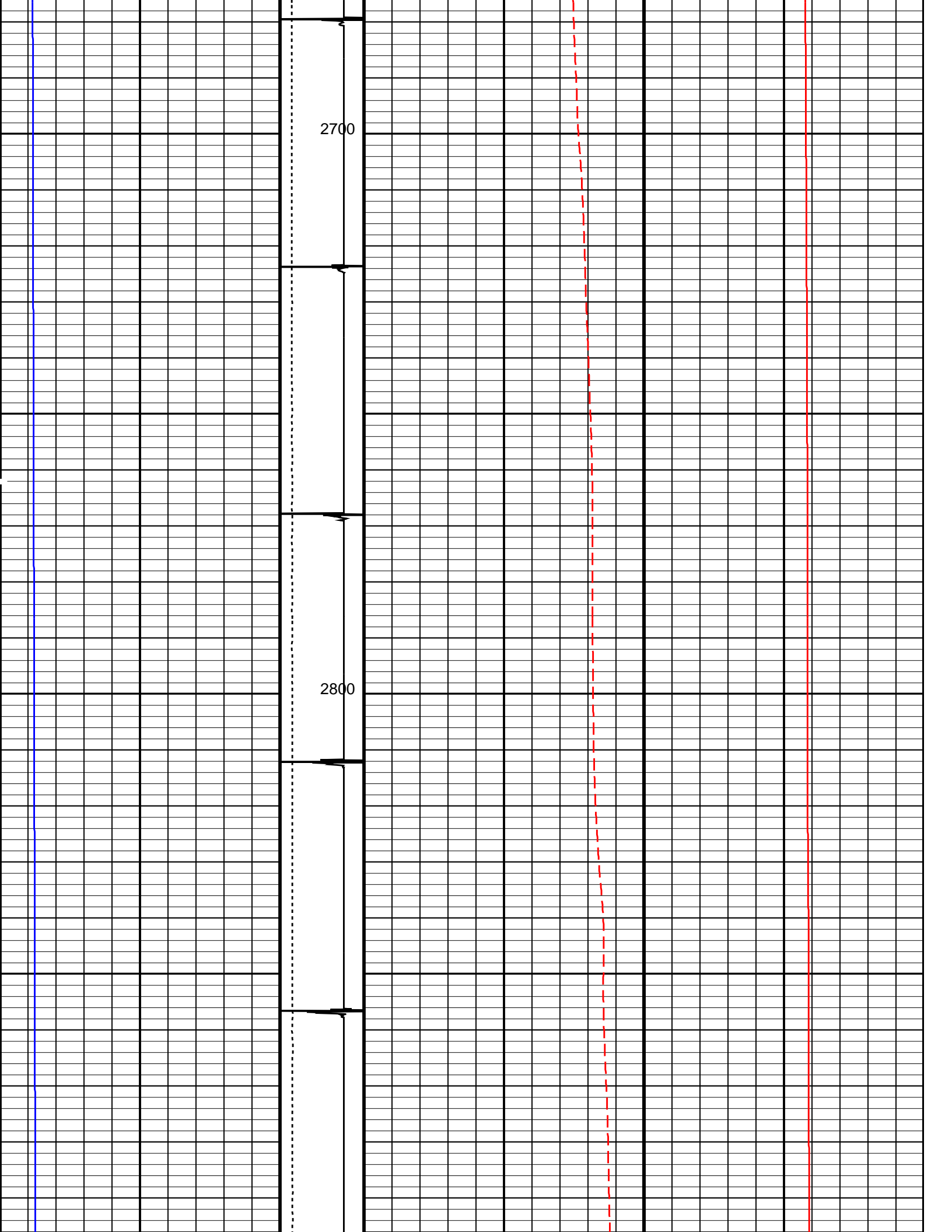


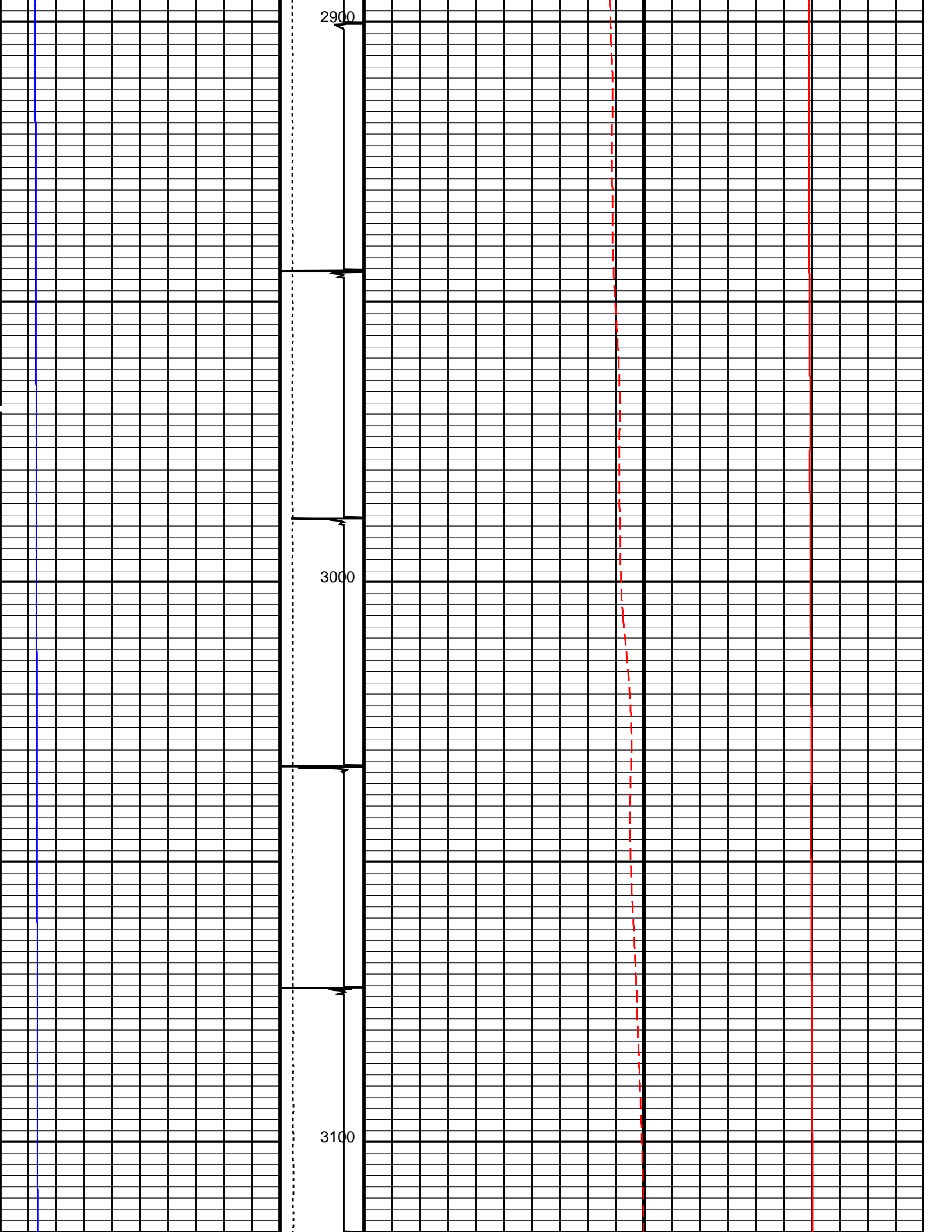


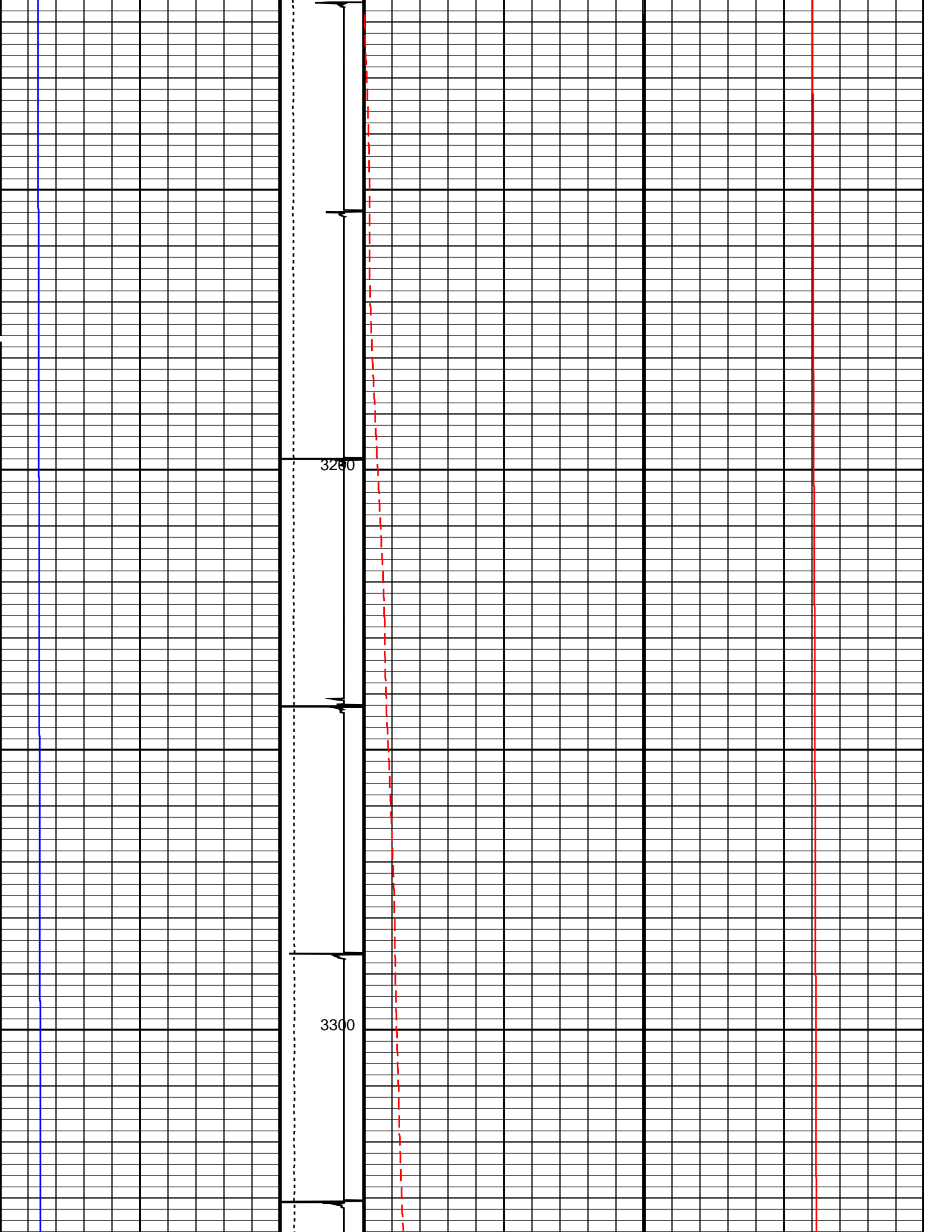


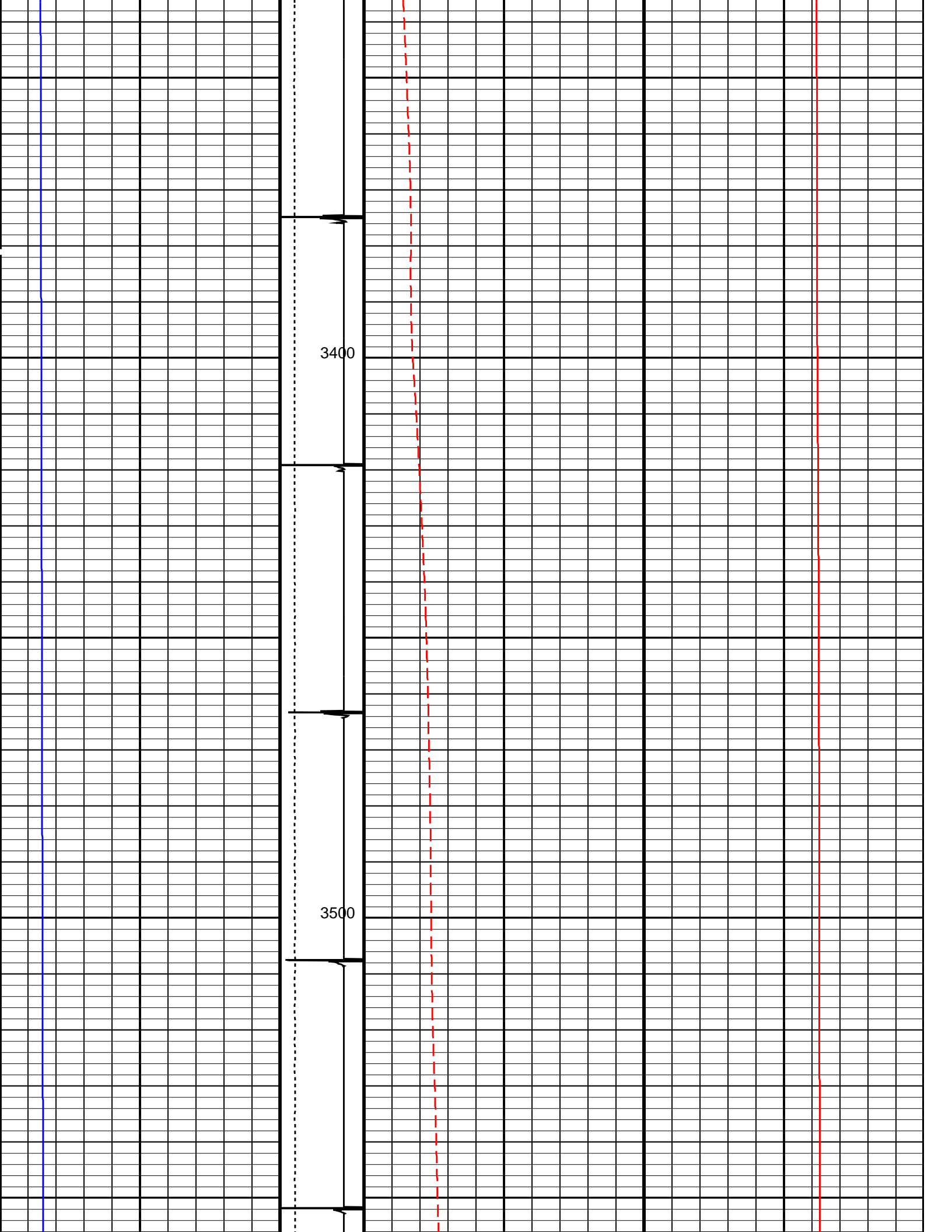


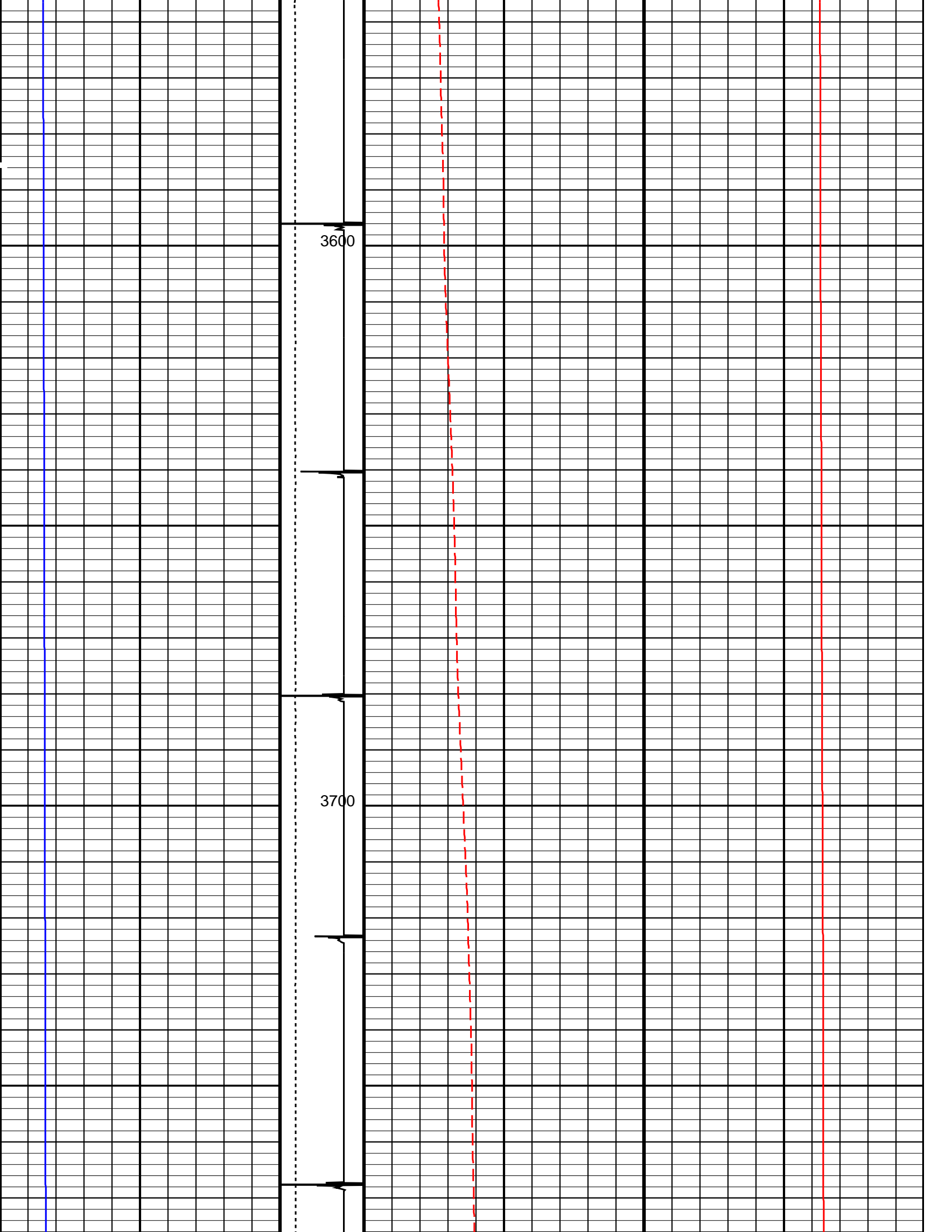


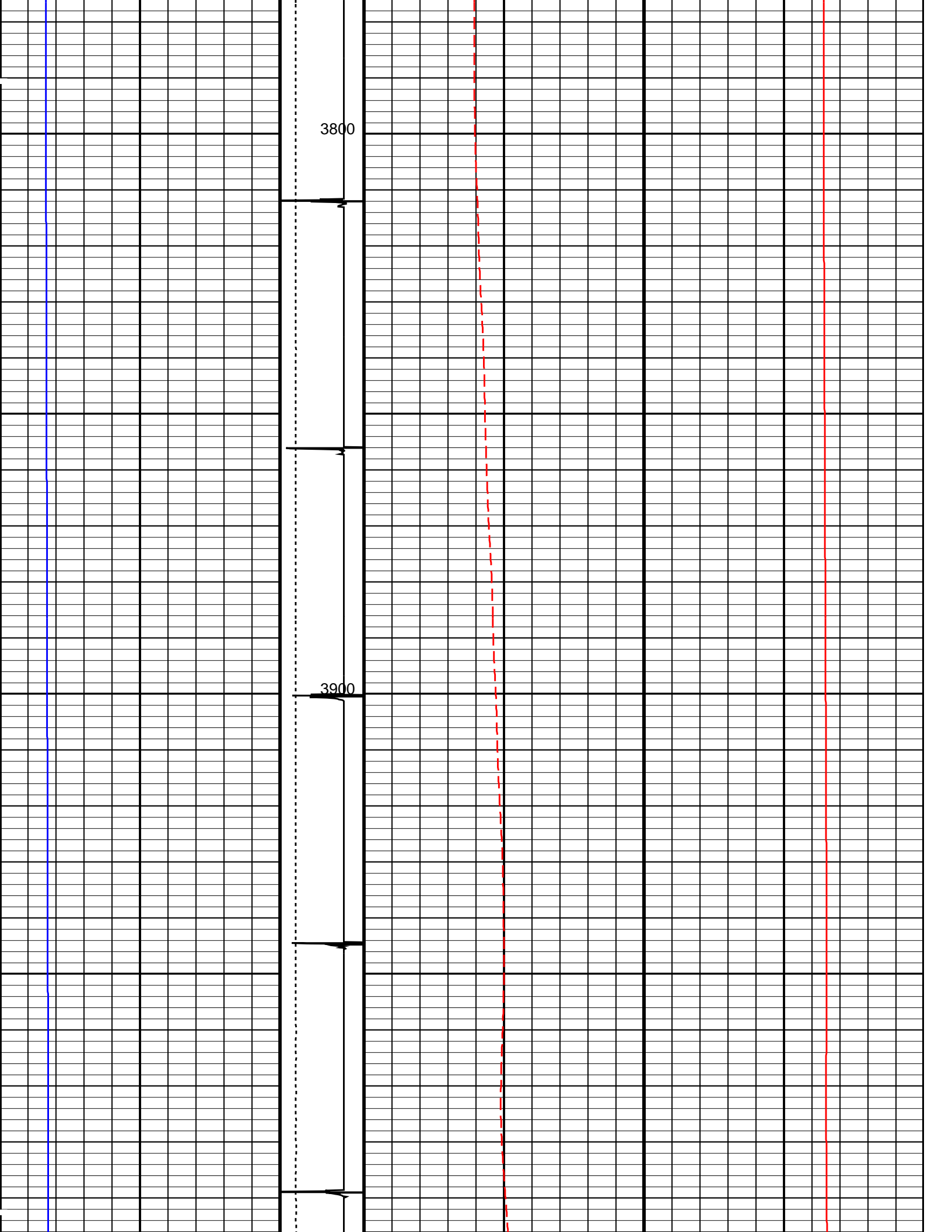


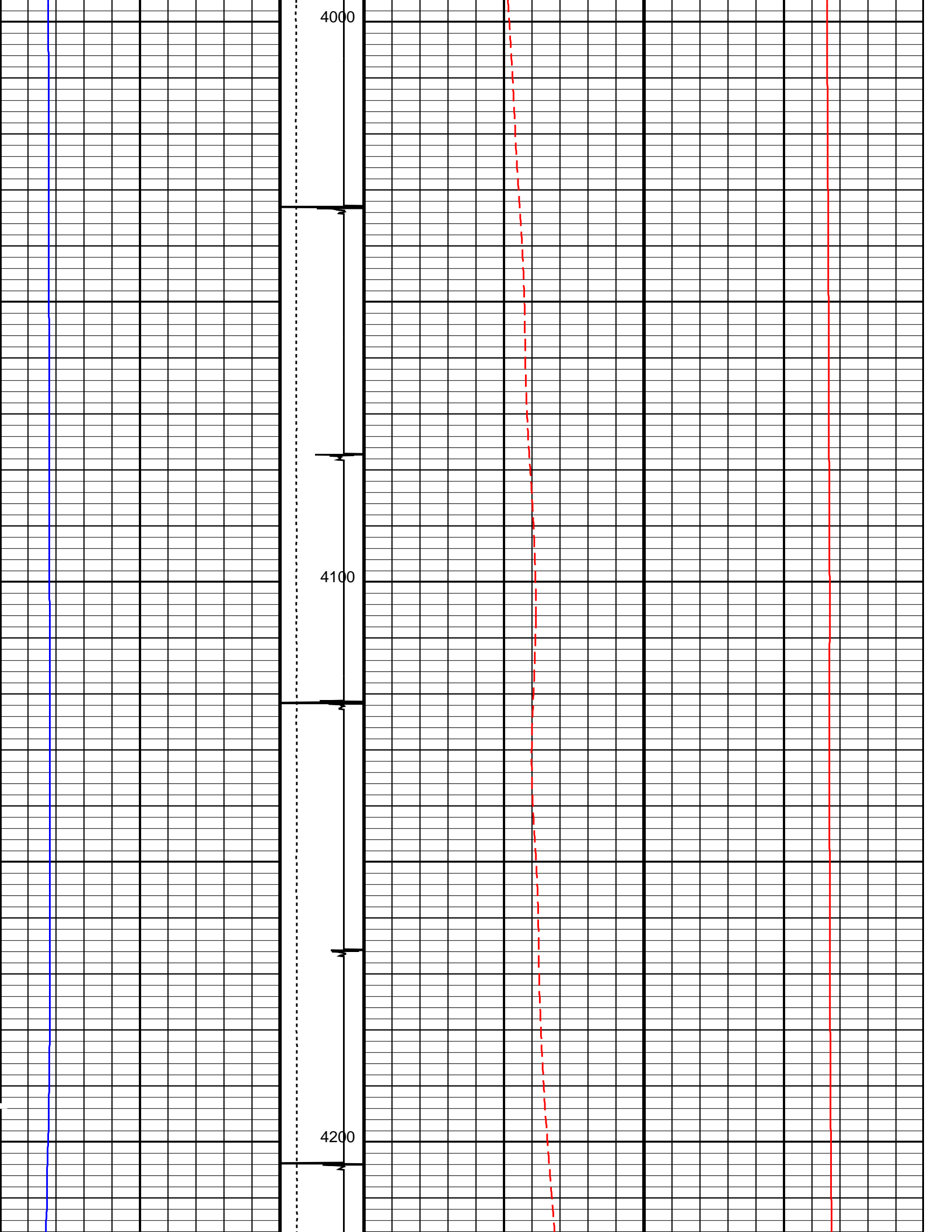


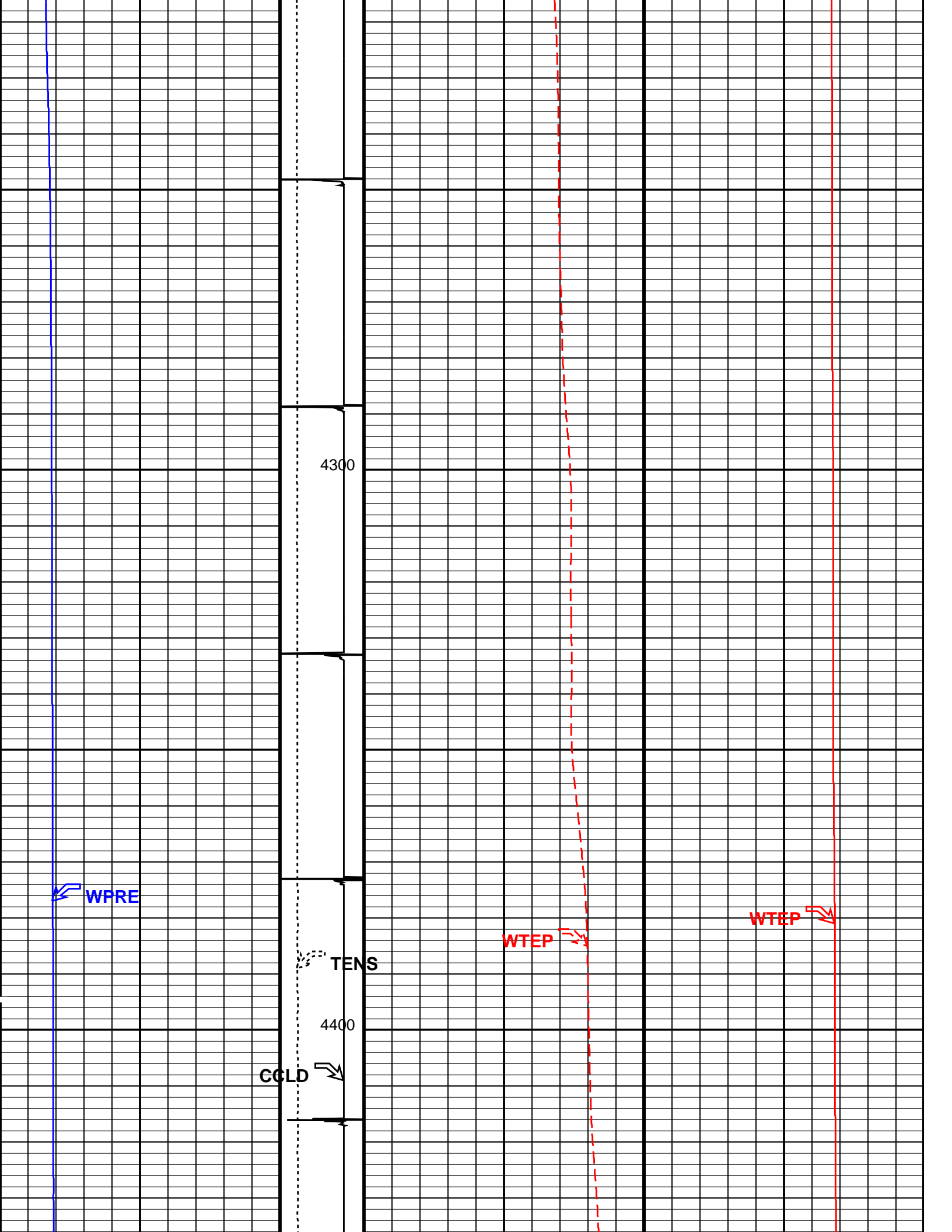












4300

TENS

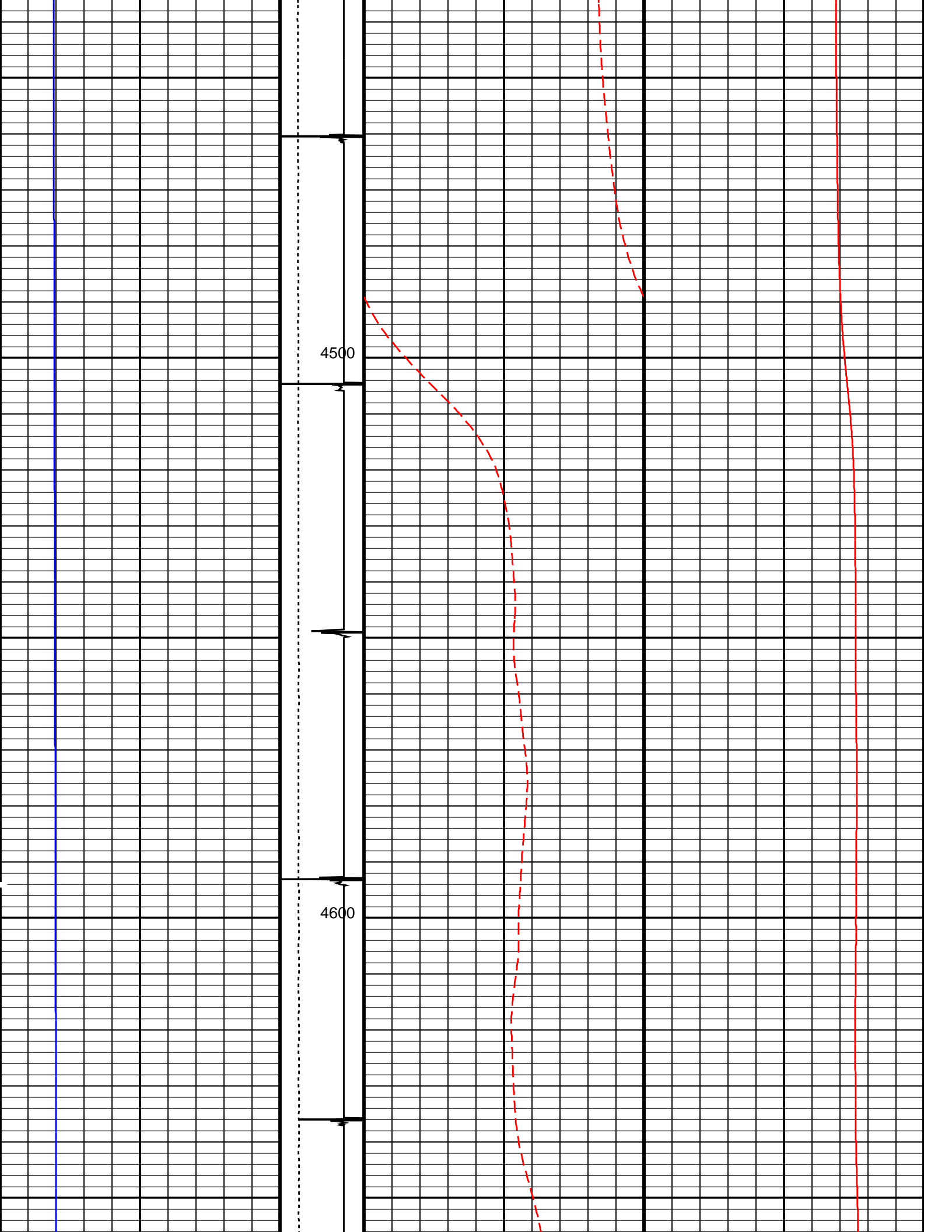
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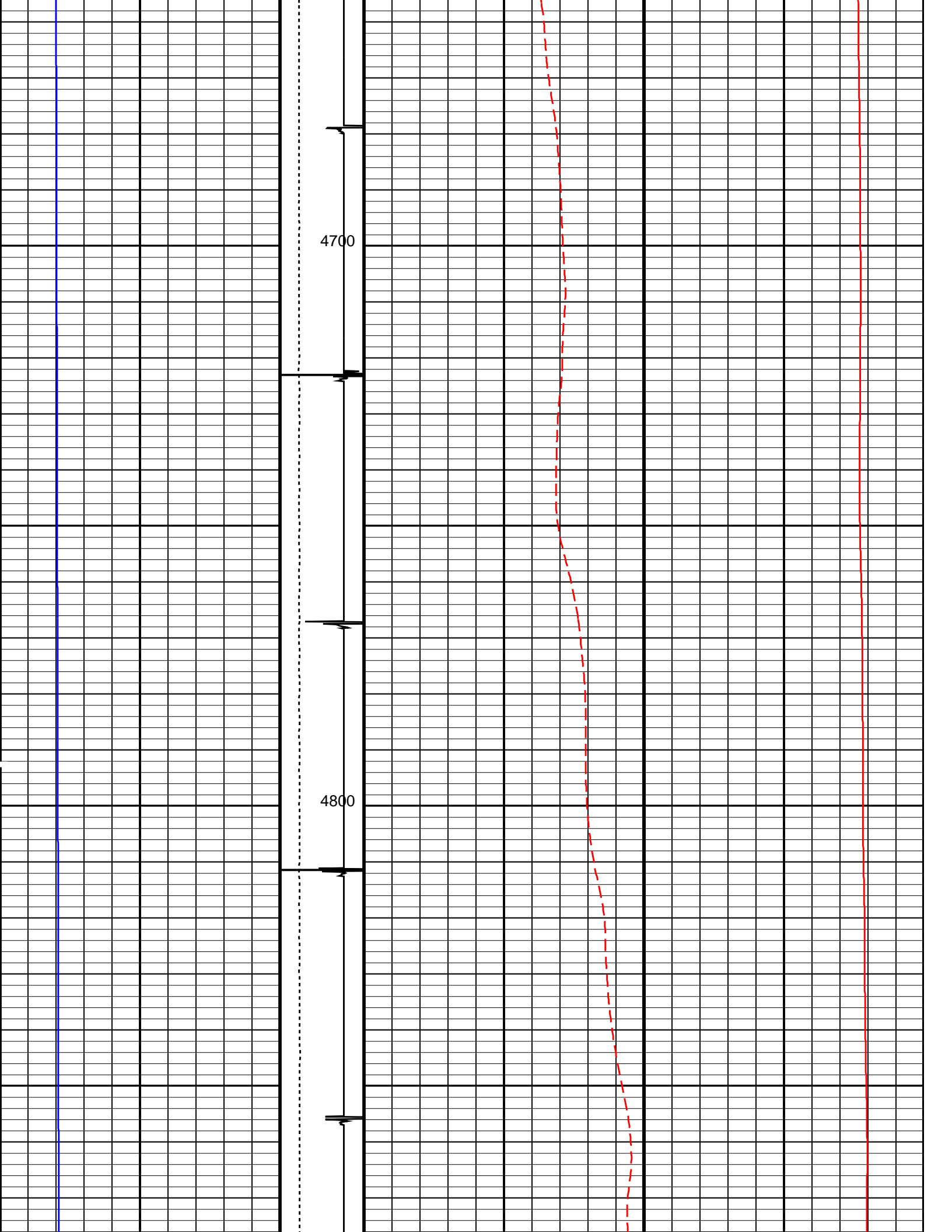
CCLD

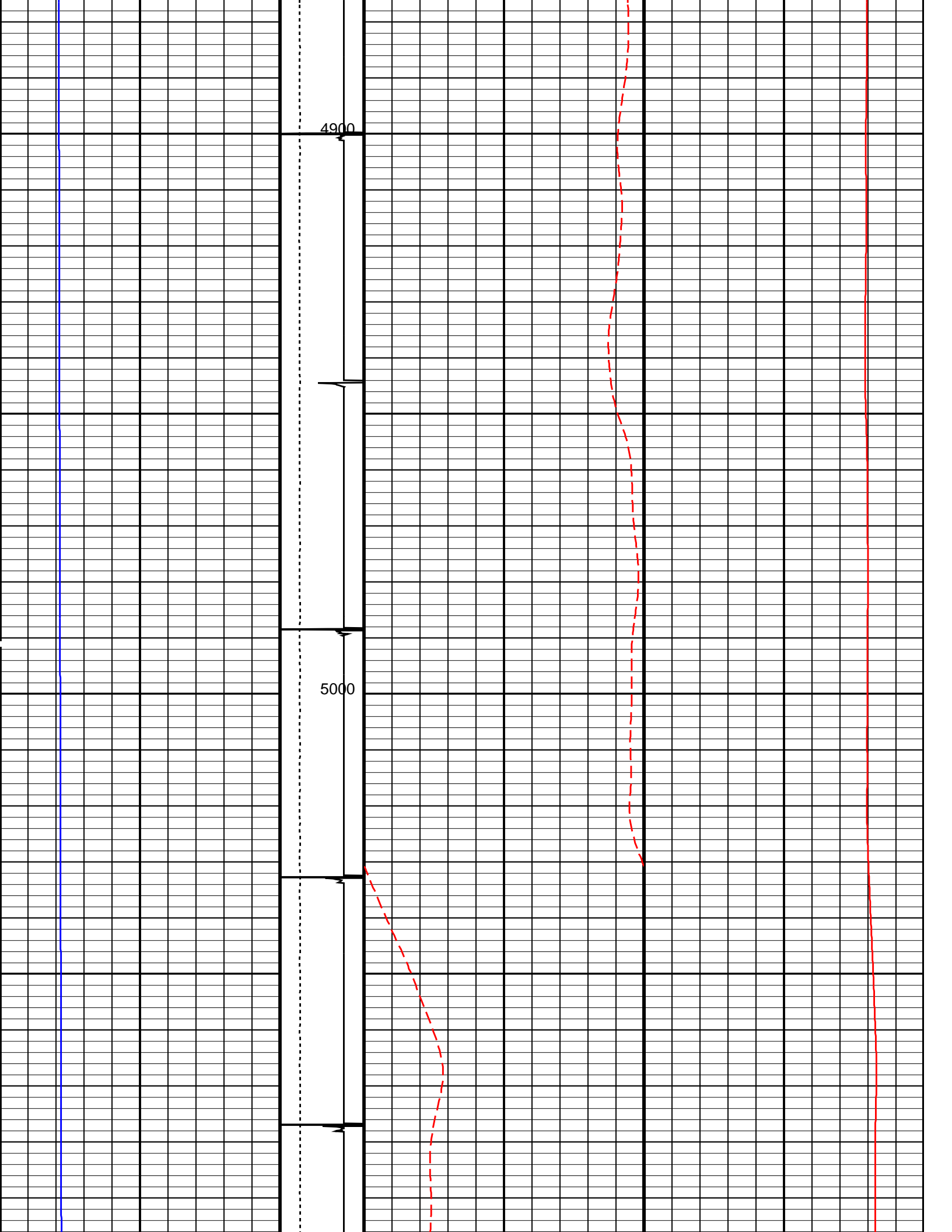
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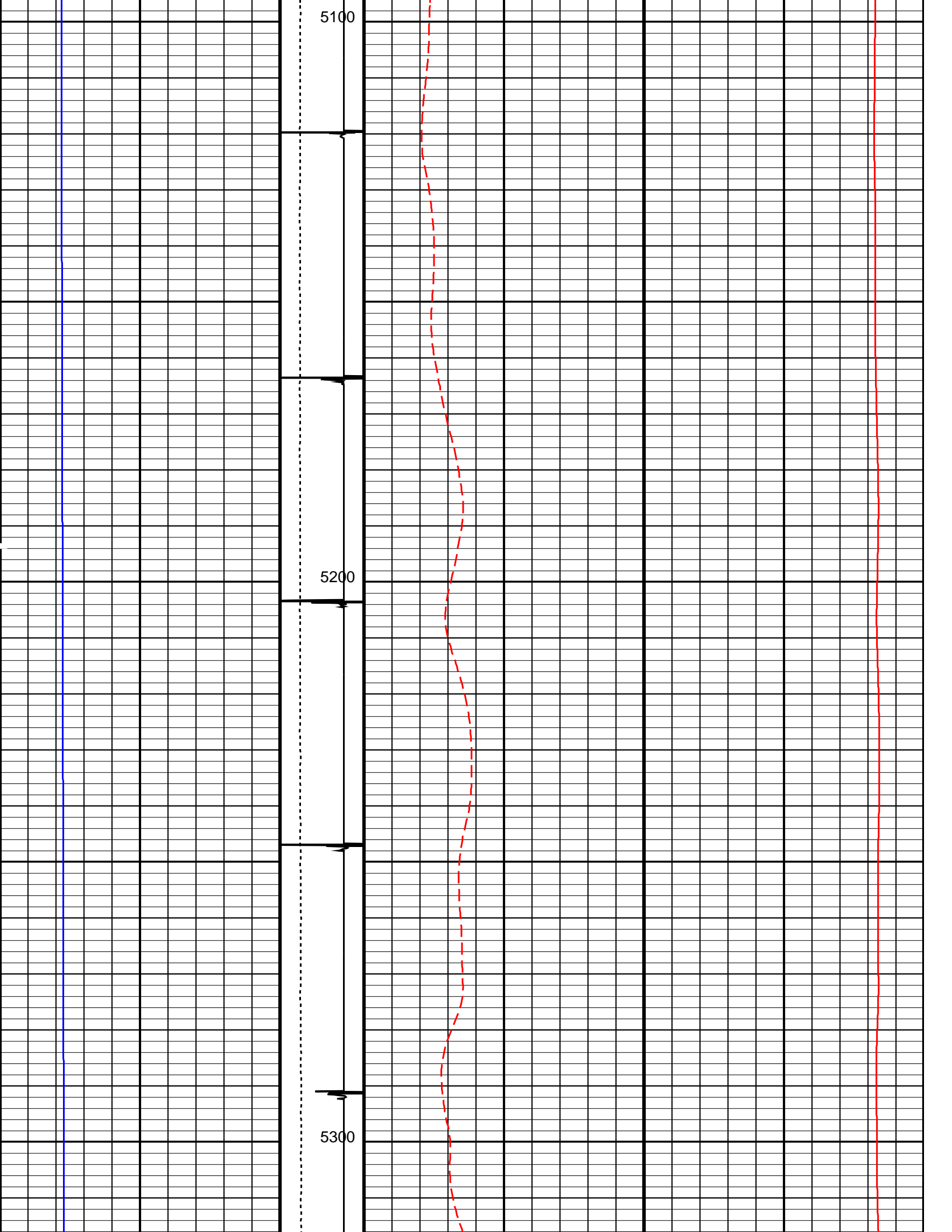
WTEP

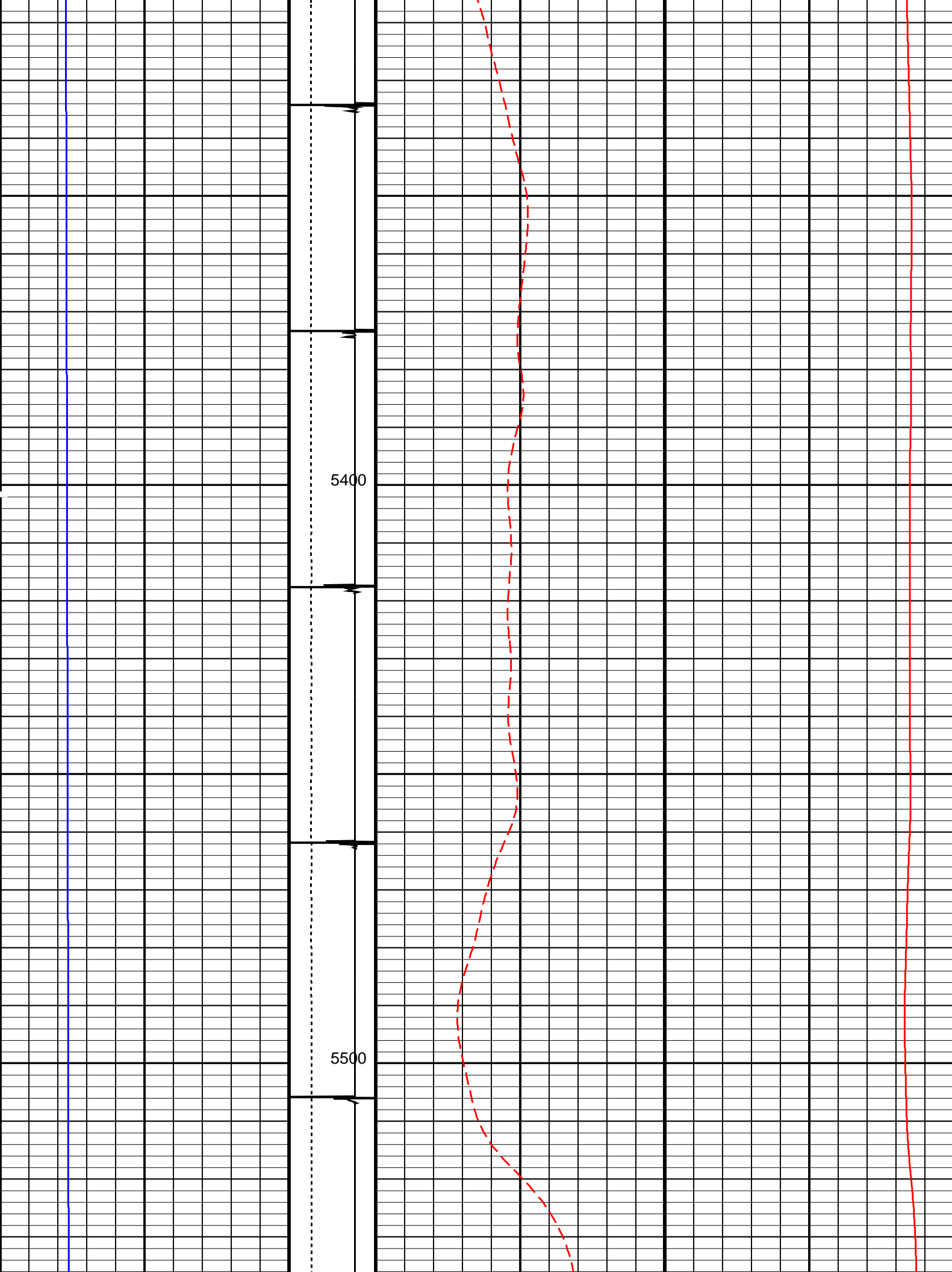
WTEP

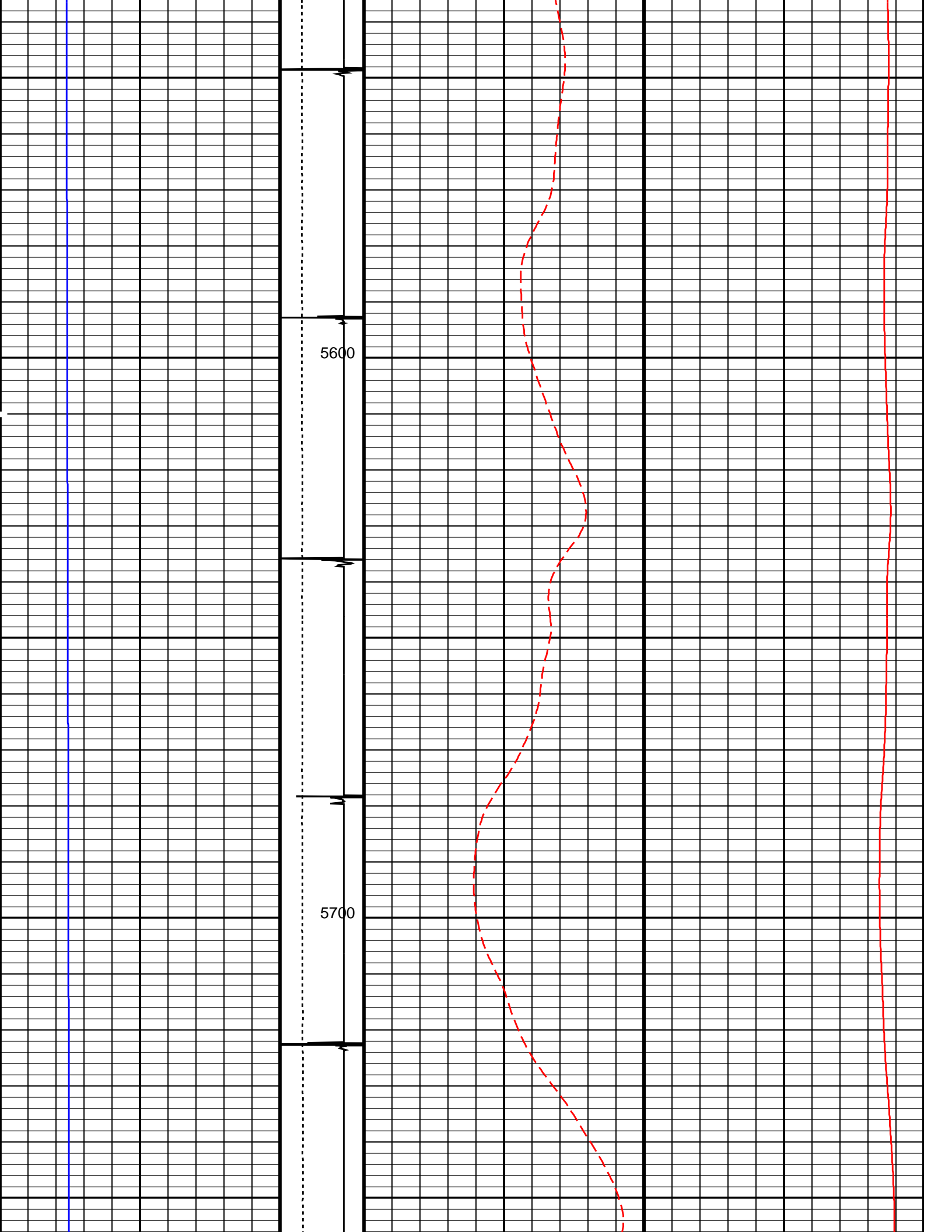


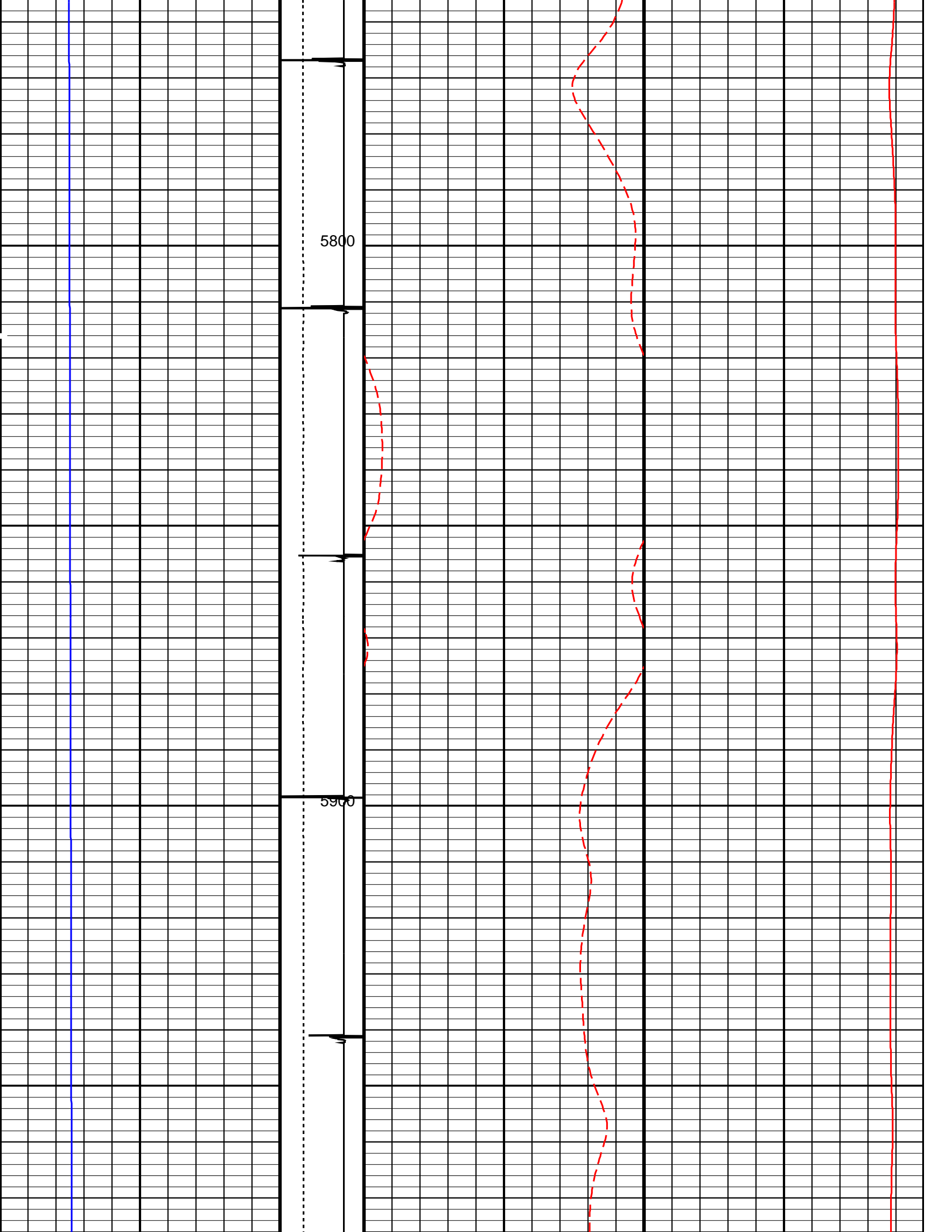


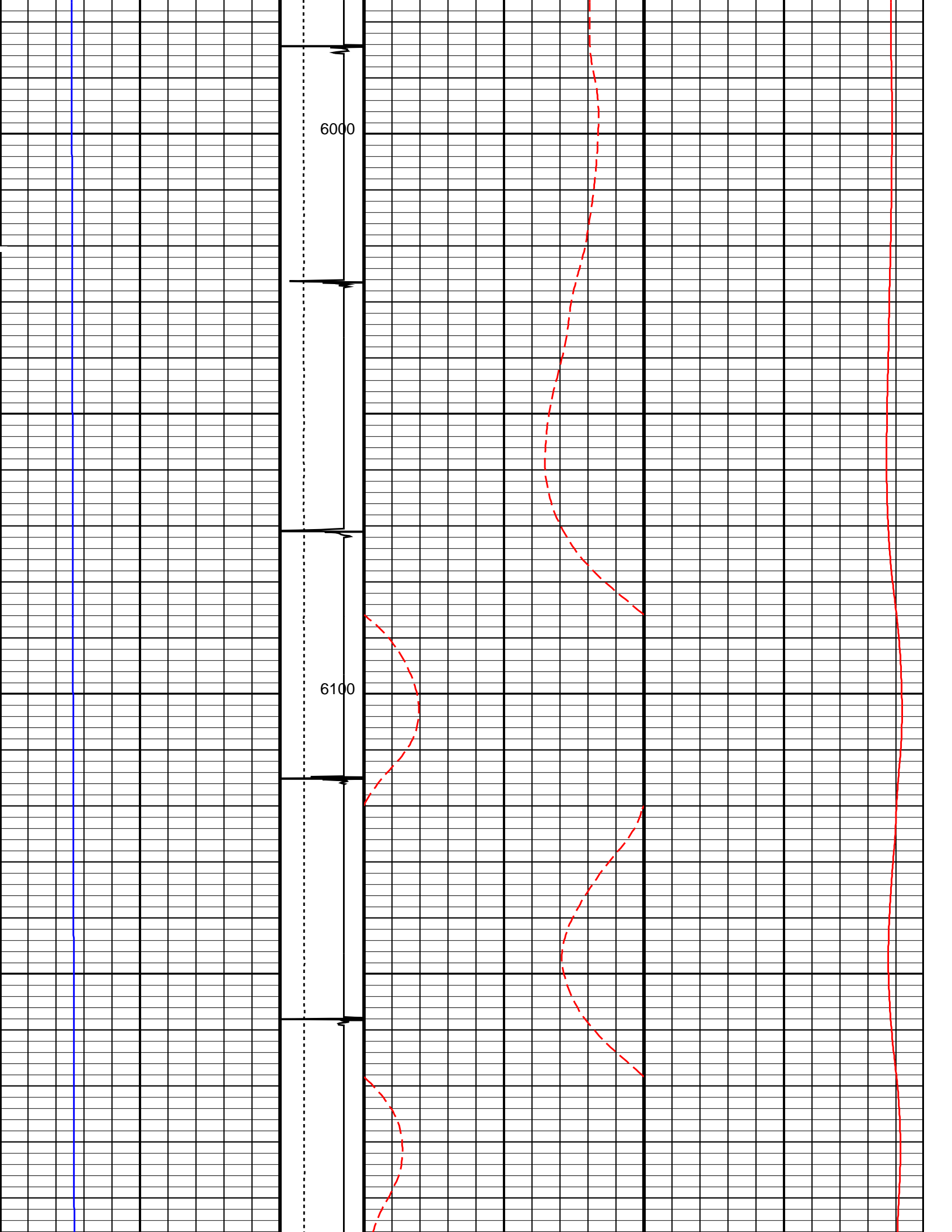


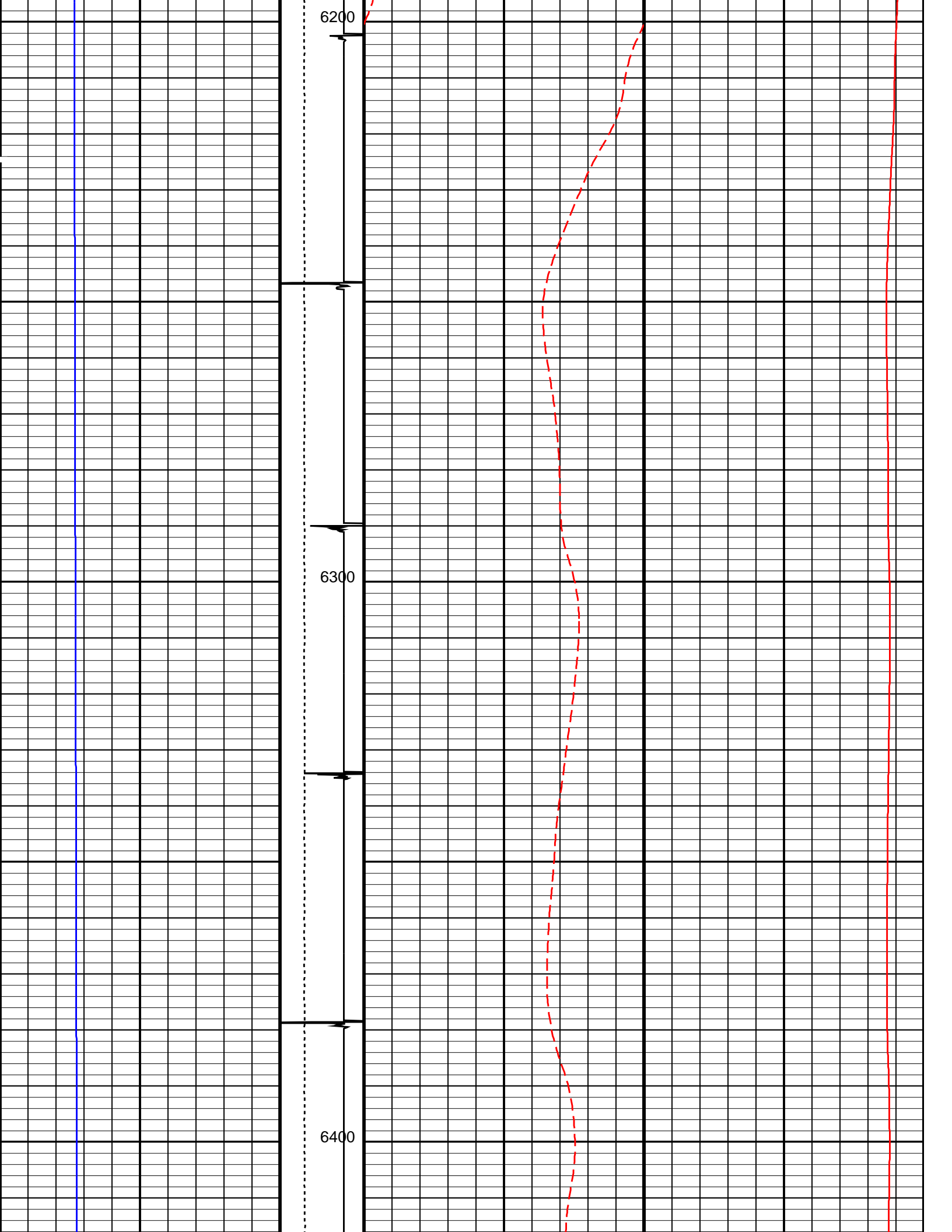


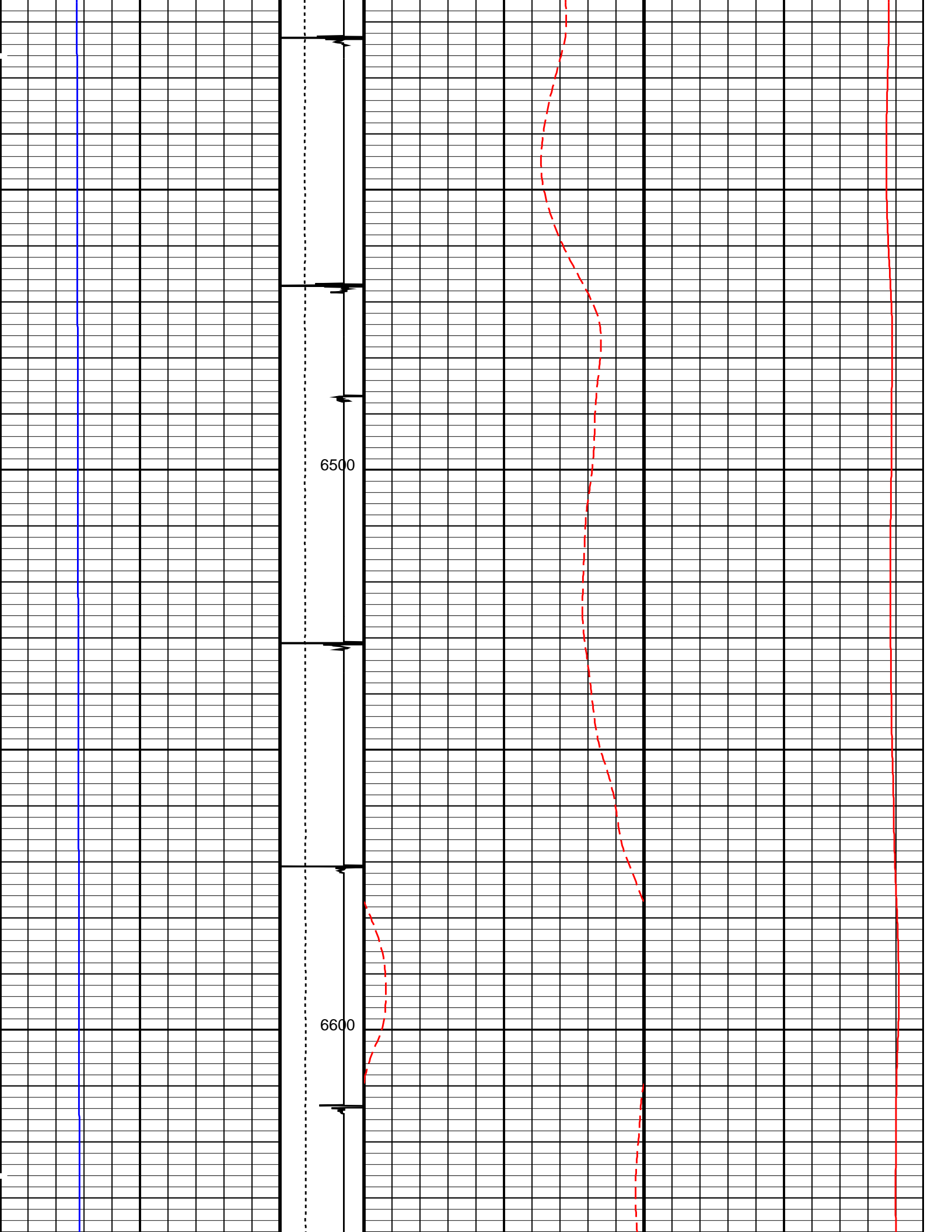


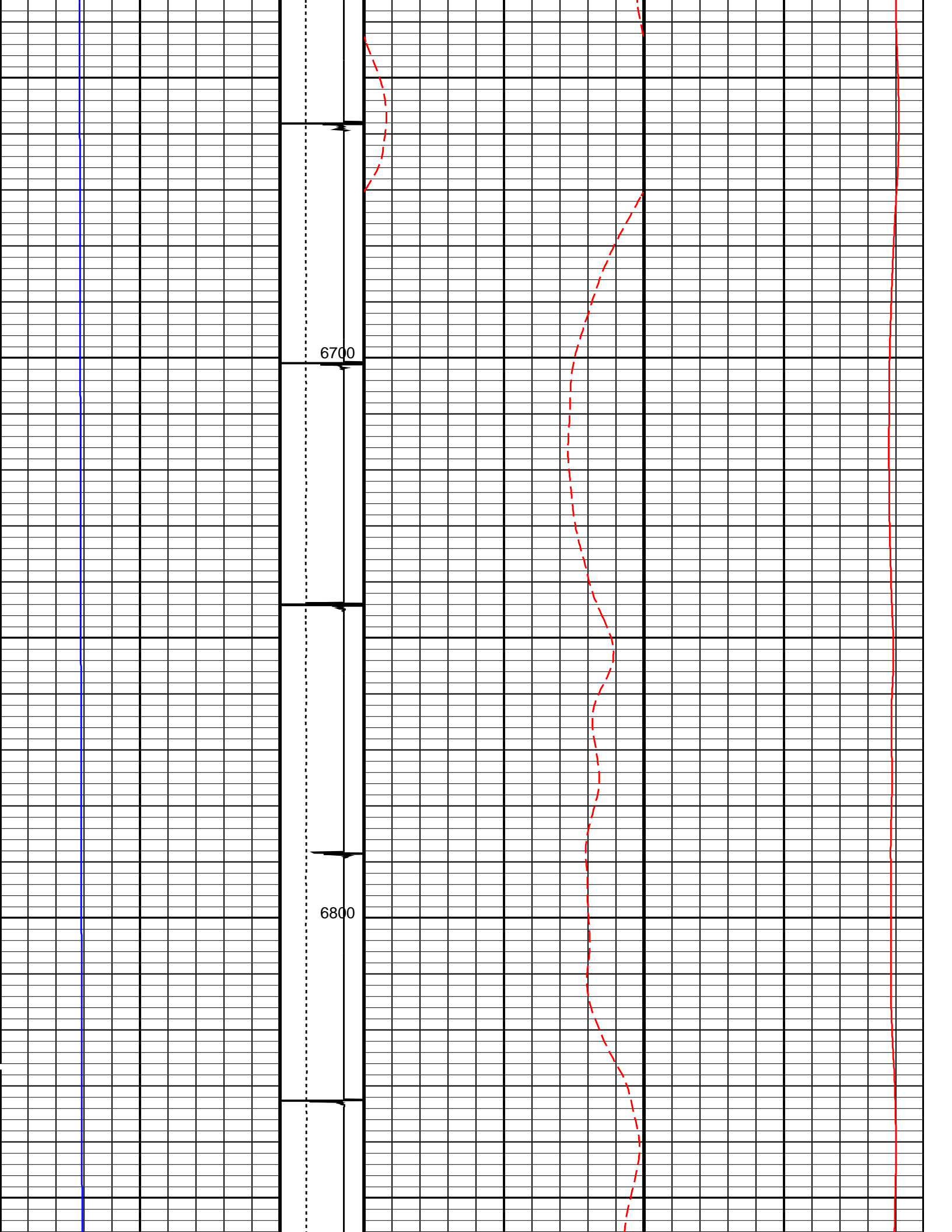


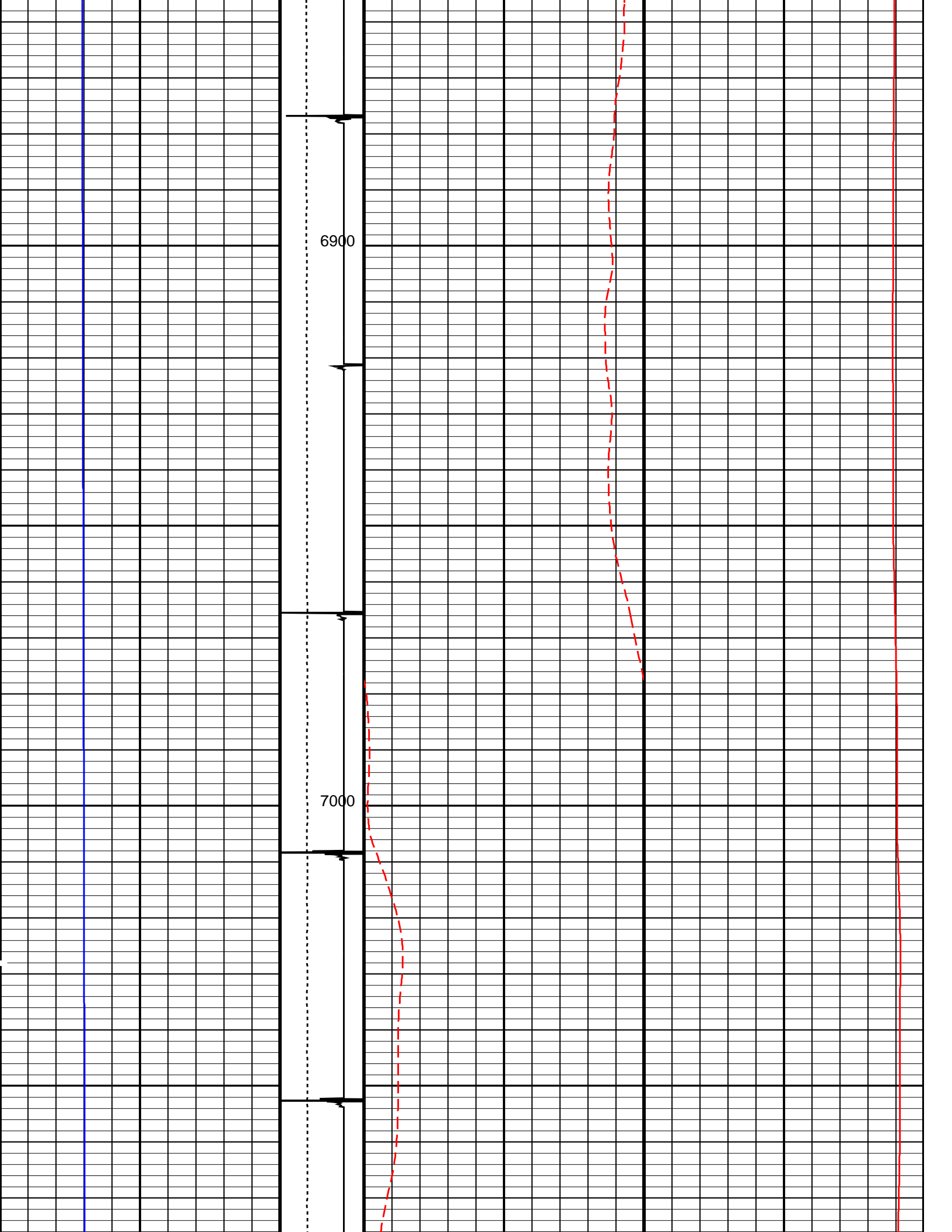


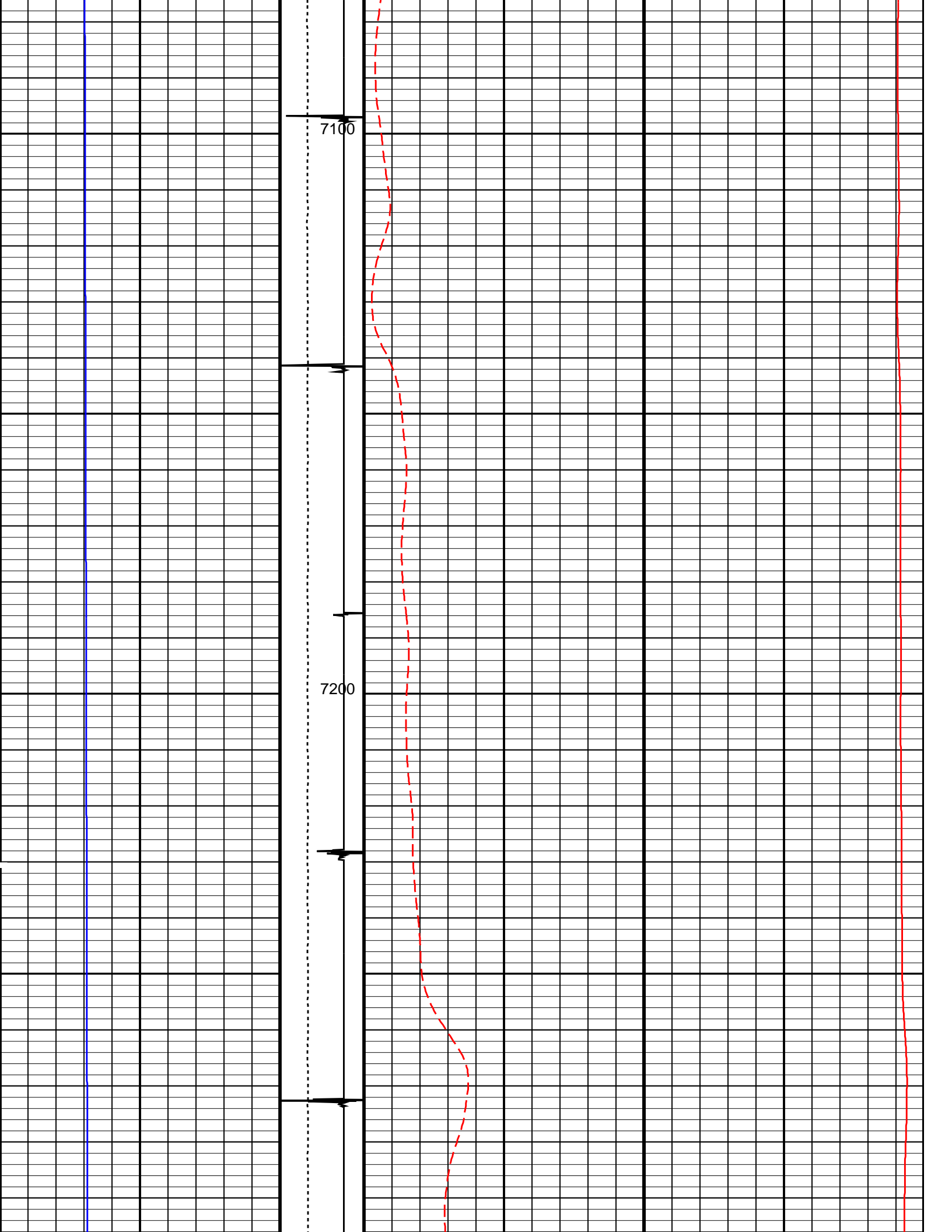


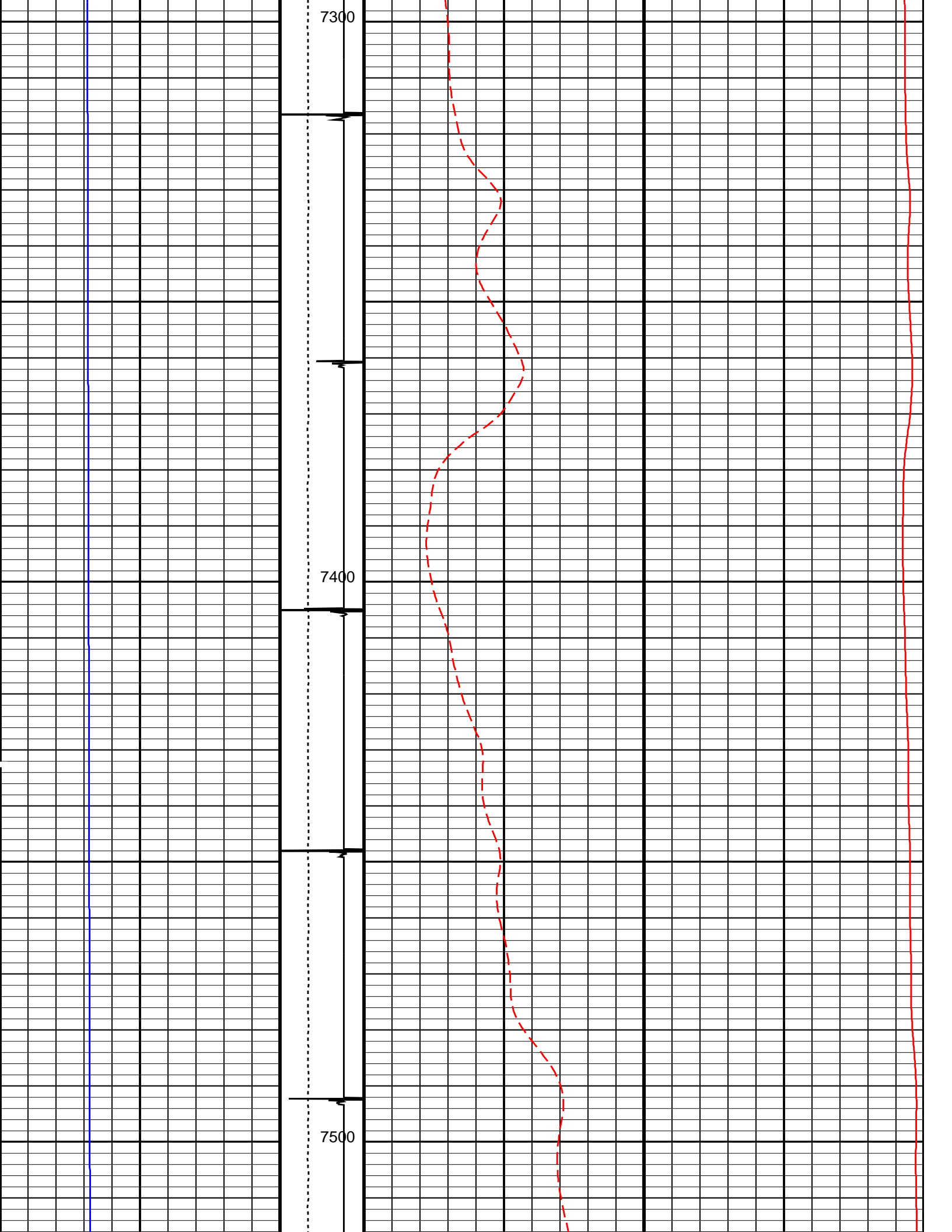


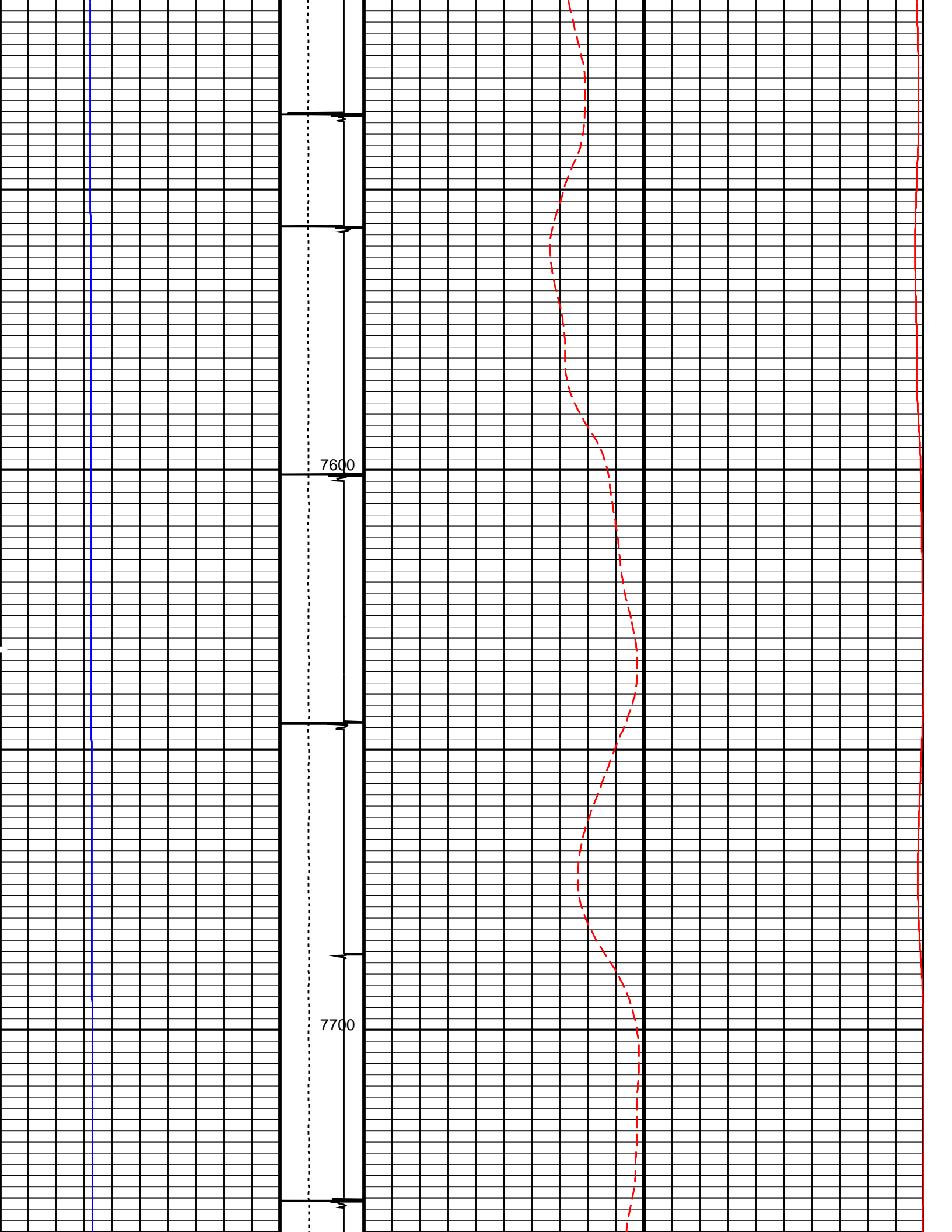


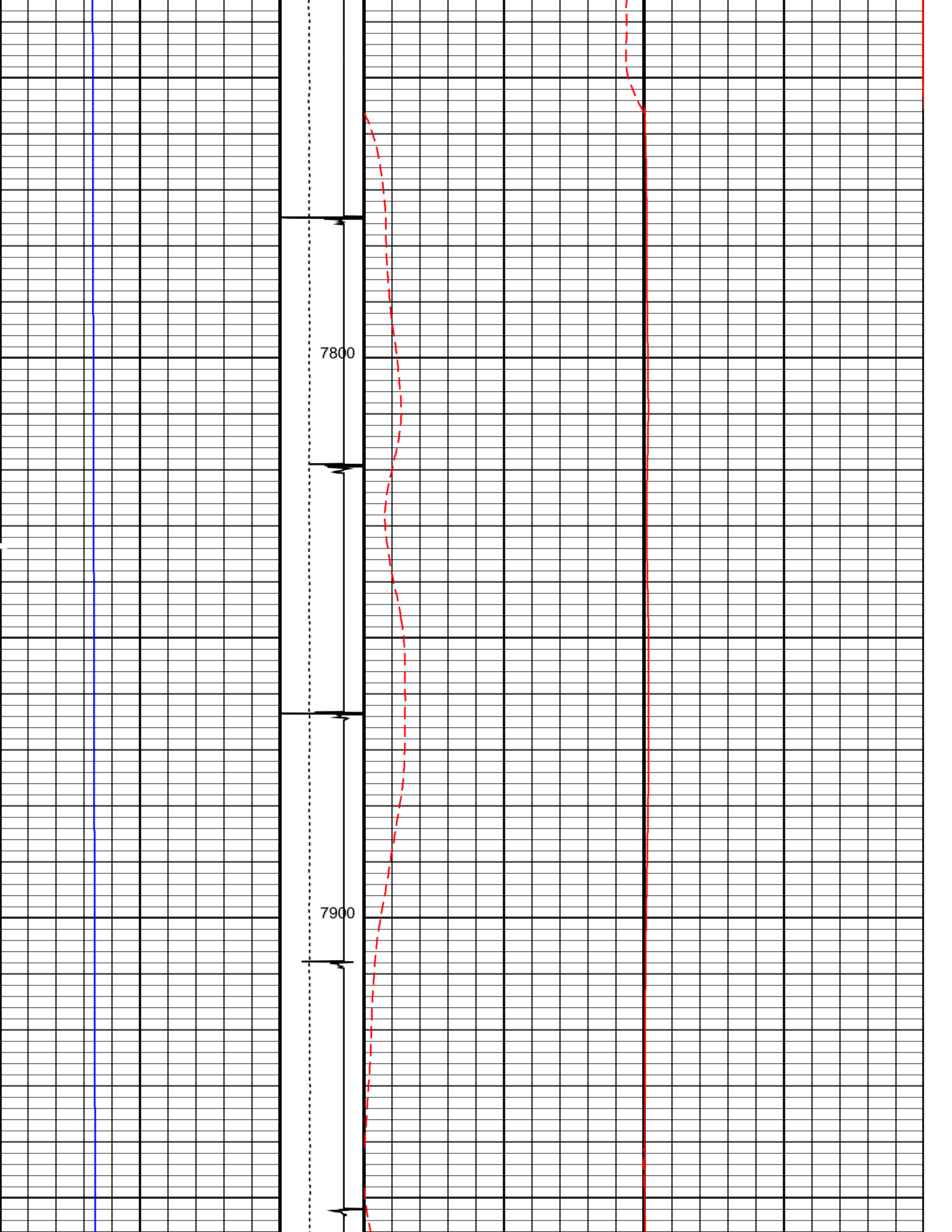


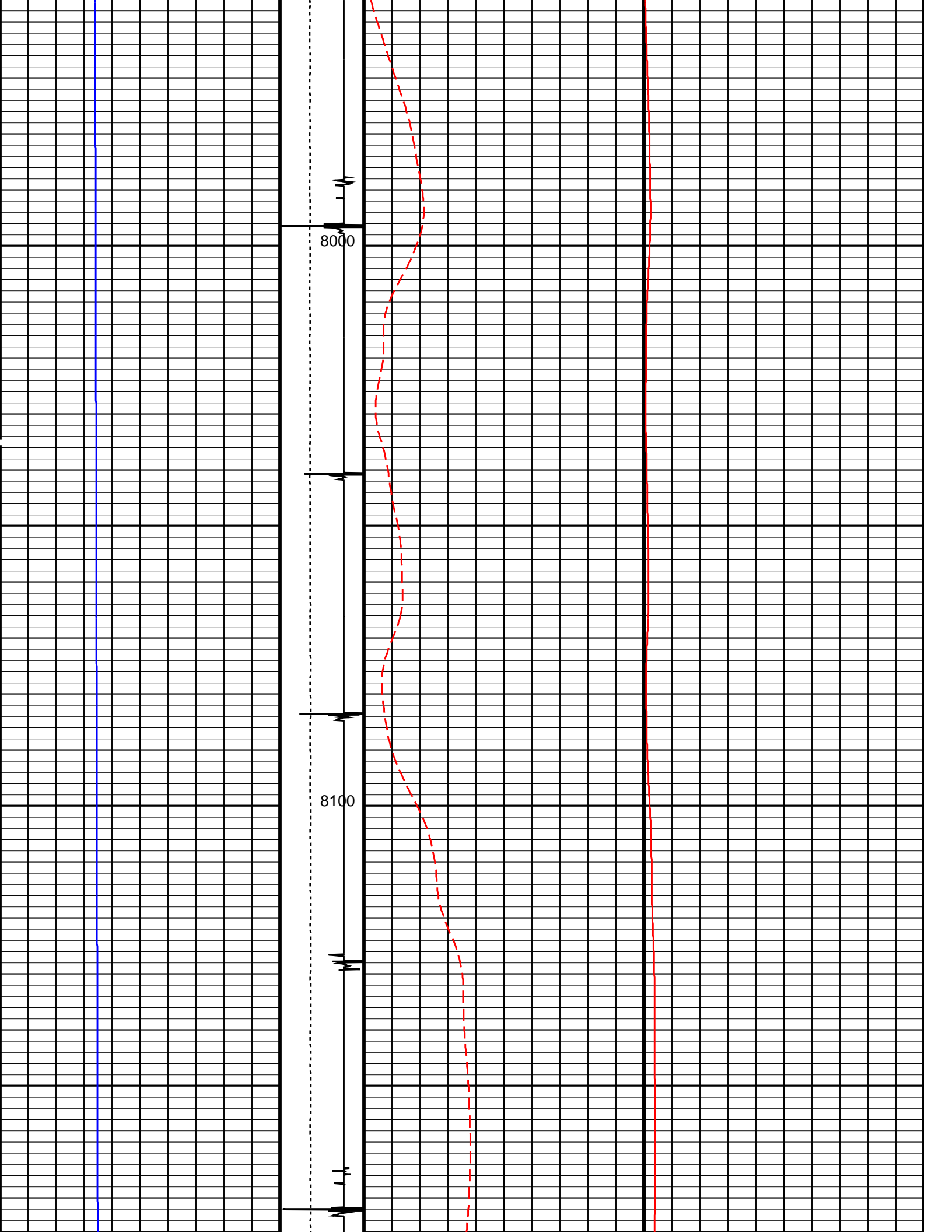


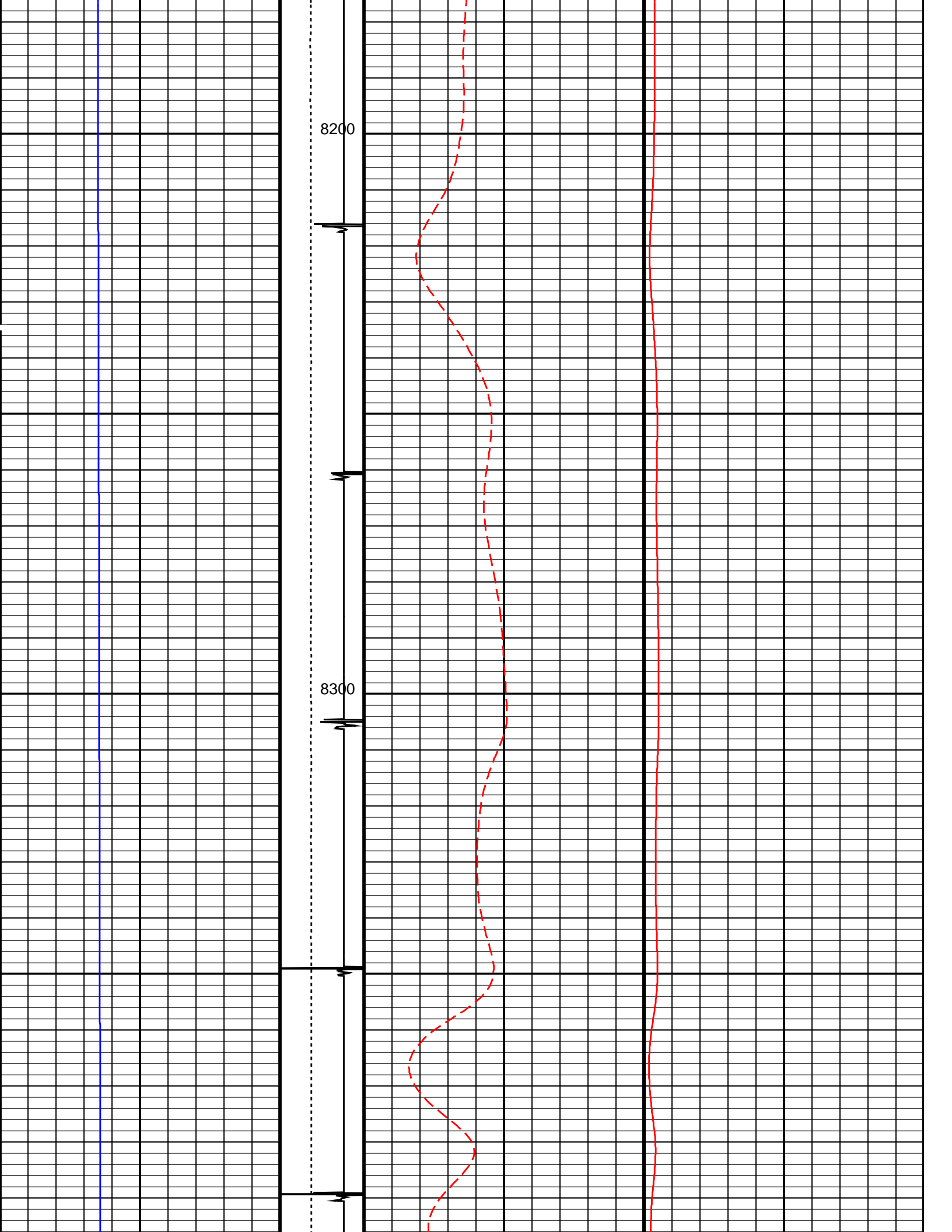


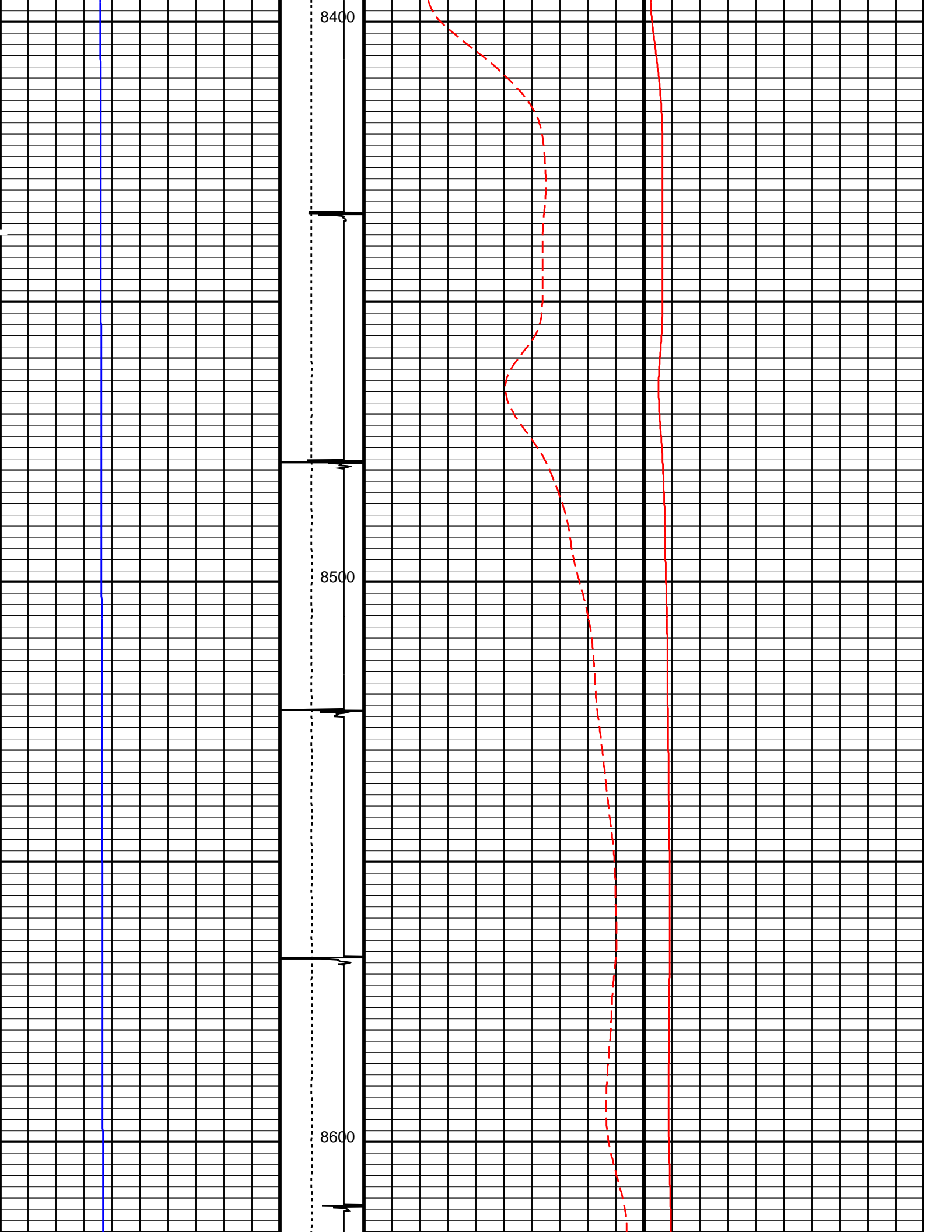


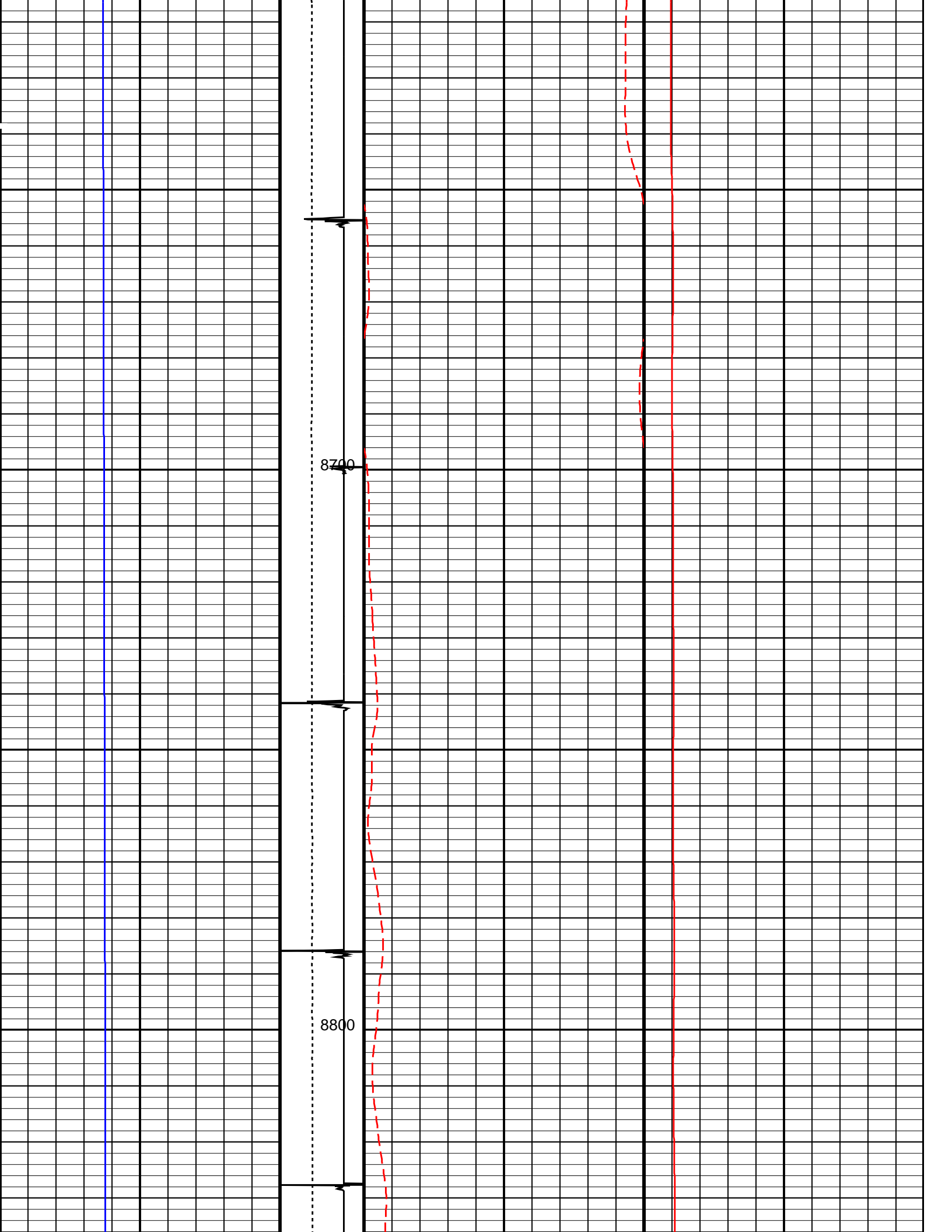


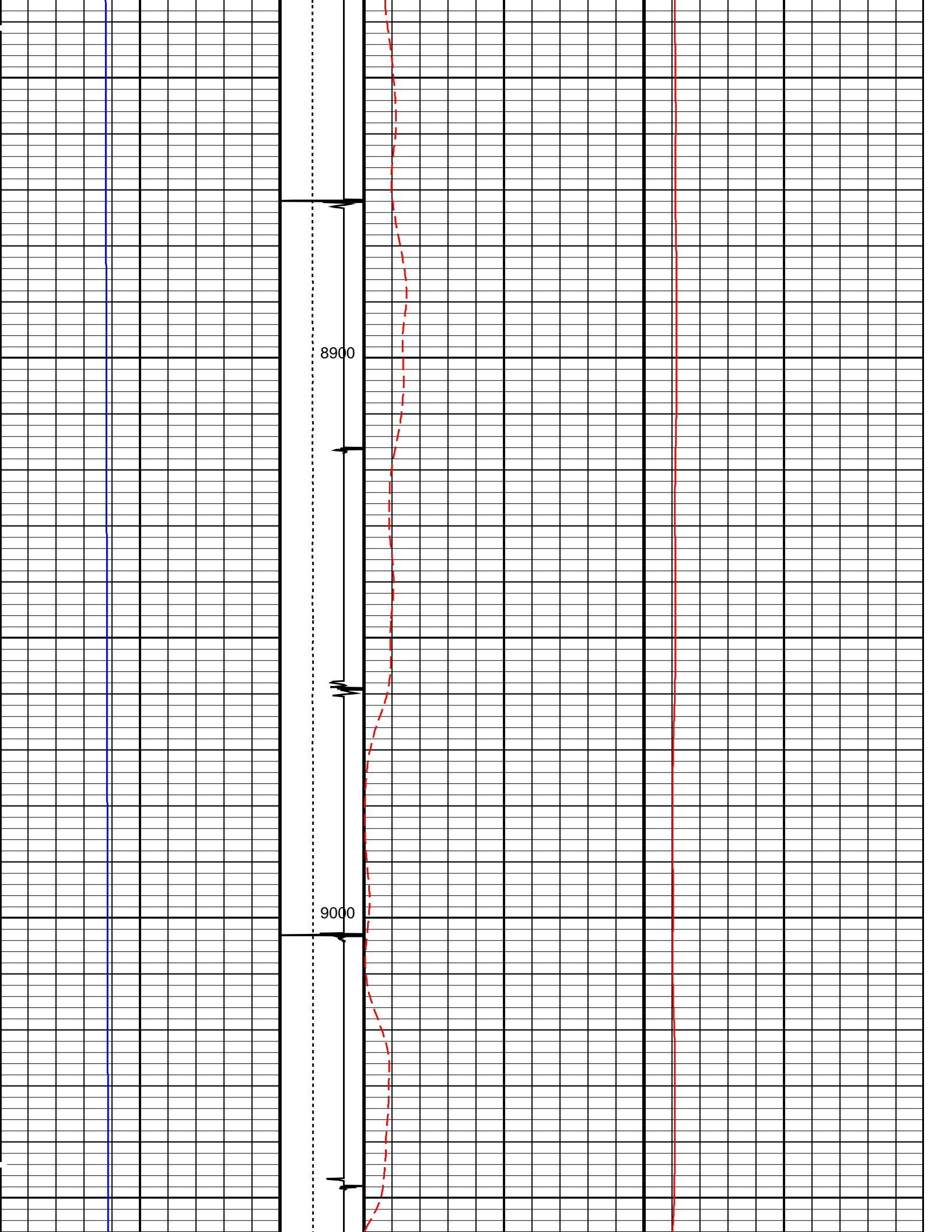


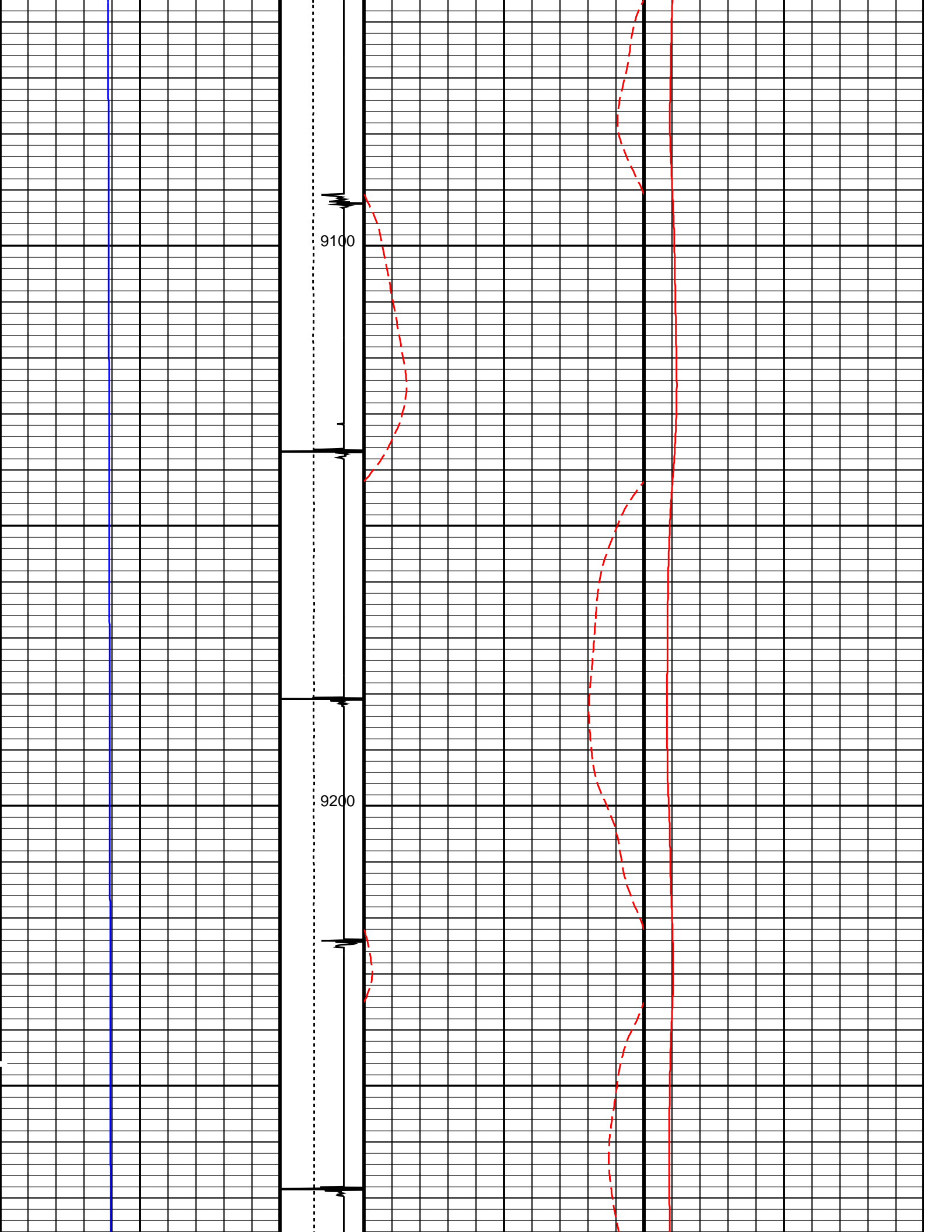


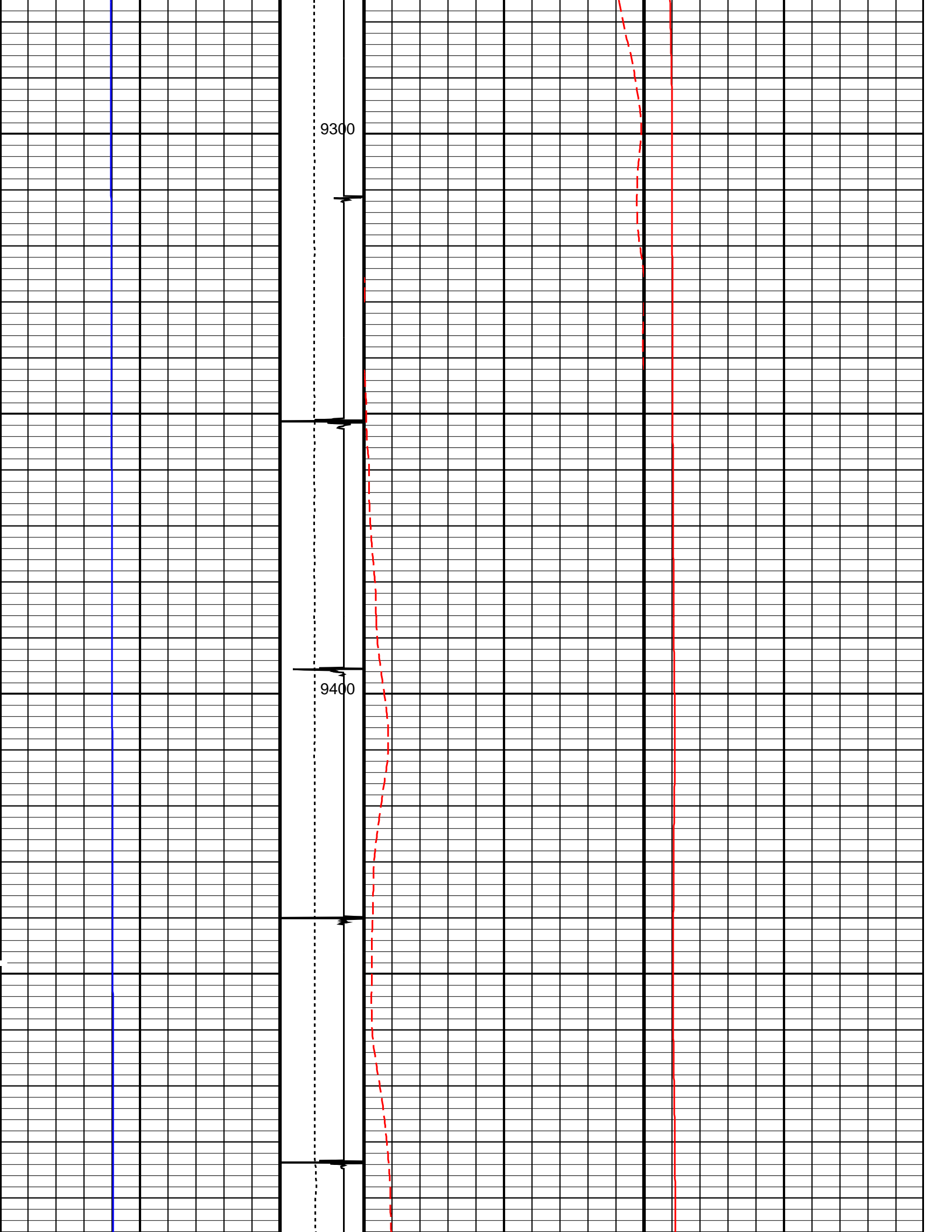


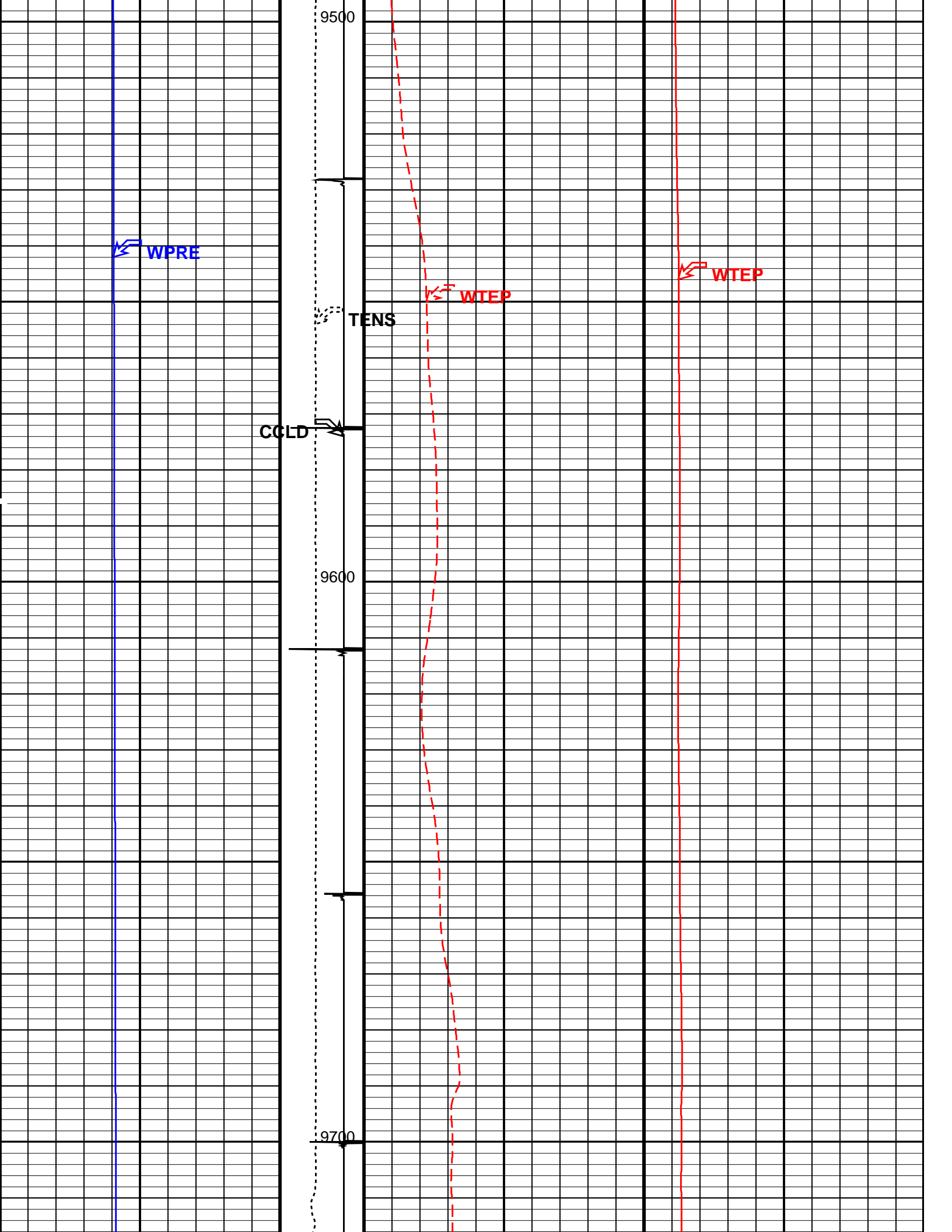












Well Pressure (WPRE) (PSIA)			Tension (TENS) (LBF)			Well Temperature (WTEP) (DEGF)			Well Temperature (WTEP) (DEGF)		
0		10000	0		2000	0		20	0		200
			Discriminat ed CCL (CCLD)								
			3 (V) -1								

PIP SUMMARY											
Time Mark Every 60 S											

Parameters			
DLIS Name		Description	Value
System and Miscellaneous			
DO		Depth Offset for Playback	28.0 FT
PP		Playback Processing	RECOMPUTE
Format: TEMP LOG		Vertical Scale: 5" per 100'	Graphics File Created: 08-Sep-2013 22:21

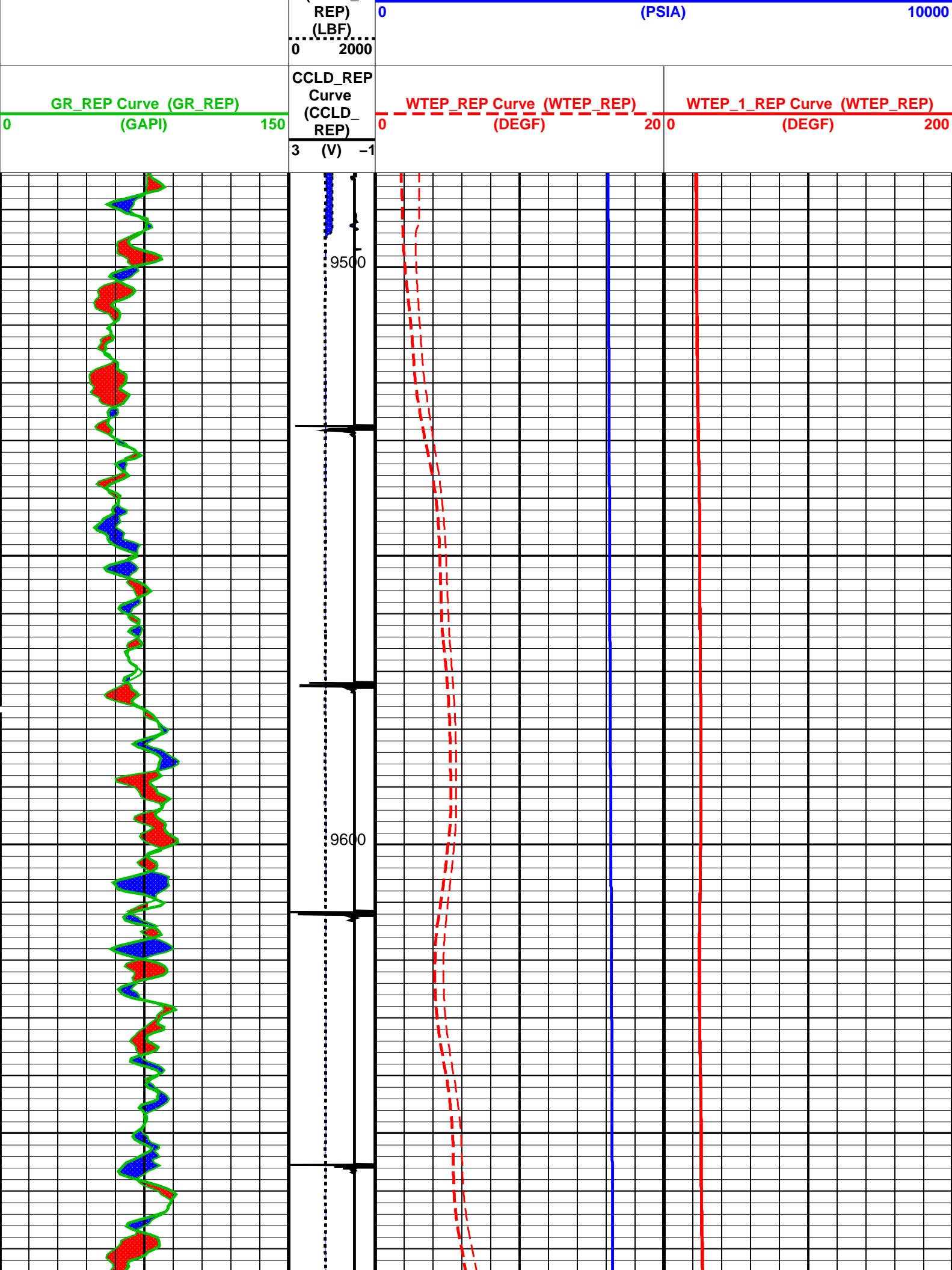
OP System Version: 19C0-187						
HBMS-B	SRPC-5214-H2-2012-OP19					
Input DLIS Files						
DEFAULT	Flip_HBMS_004LUP	PRODUCER	08-Sep-2013 22:17	9690.5 FT	-10.5 FT	
Output DLIS Files						
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	08-Sep-2013 22:20		

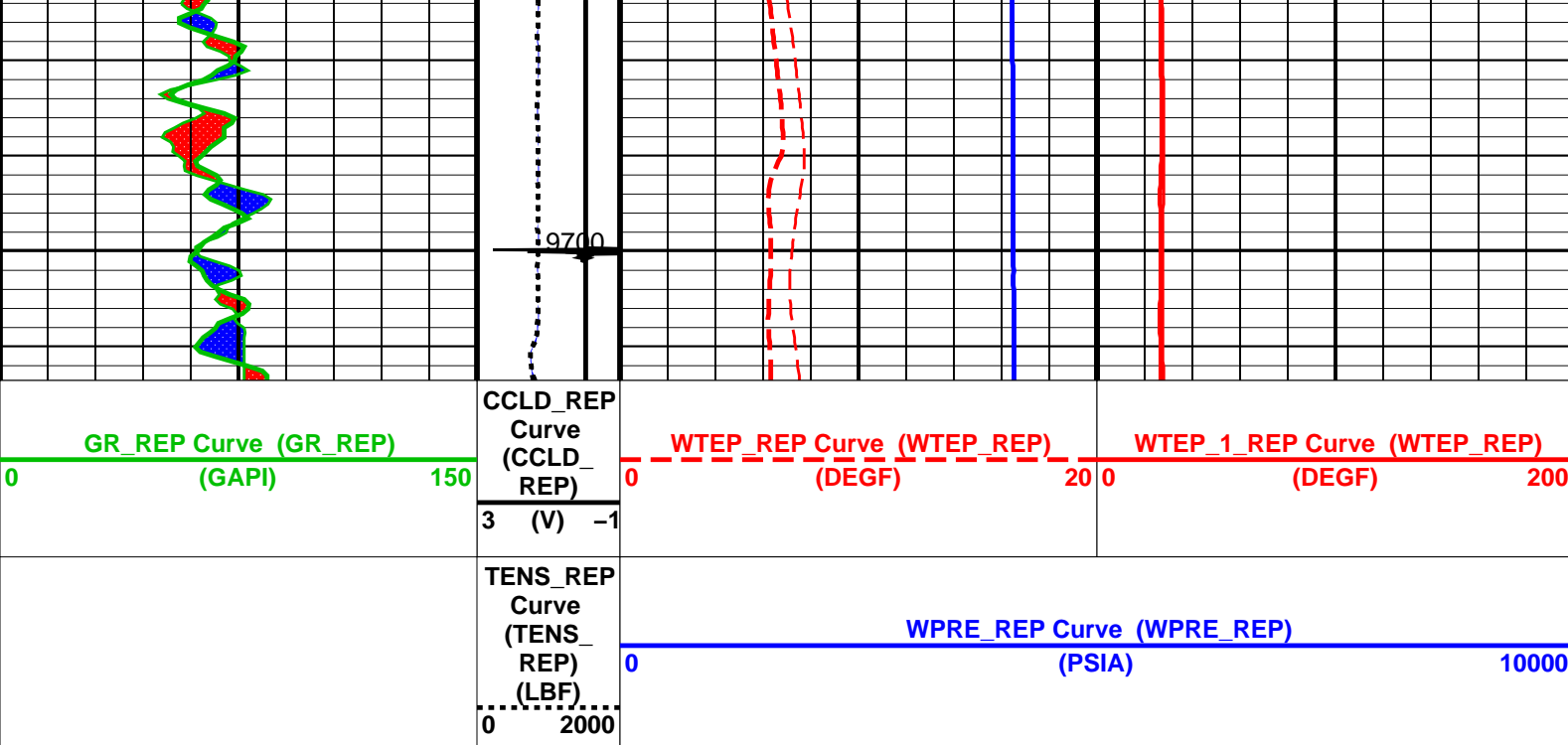
<div> <div>Schlumberger</div> <div>REPEAT ANALYSIS</div> </div>											
MAXIS Field Log											

Company: ENCANA OIL & GAS (USA) INC					Well: HMU 6-15A (J6SEB)	
Input DLIS Files						
DEFAULT	Flip_HBMS_005LUP		PRODUCER	08-Sep-2013 22:17	9685.5 FT	9455.0 FT
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	08-Sep-2013 22:20	9718.5 FT	17.5 FT
Output DLIS Files						
DEFAULT	HBMS_008PUP	FN:5	PRODUCER	08-Sep-2013 22:26	9713.5 FT	9483.0 FT
OP System Version: 19C0-187						
HBMS-B	SRPC-5214-H2-2012-OP19					

PIP SUMMARY											
Time Mark Every 60 S											

			TENS_REP Curve (TENS			WPRE_REP Curve (WPRE_REP)					
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PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
DO	System and Miscellaneous	
DORL	Depth Offset for Playback	28.0 FT
PP	Depth Offset for Repeat Analysis	0.0 FT
	Playback Processing	RECOMPUTE

Format: TEMP LOG_REP Vertical Scale: 5" per 100'

Graphics File Created: 08-Sep-2013 22:26

OP System Version: 19C0-187

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

Input DLIS Files

DEFAULT	Flip_HBMS_005LUP	PRODUCER	08-Sep-2013 22:17	9685.5 FT	9455.0 FT
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	08-Sep-2013 22:20	9718.5 FT

Output DLIS Files

DEFAULT	HBMS_008PUP	FN:5	PRODUCER	08-Sep-2013 22:26
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Schlumberger

HBMS COEFFICIENTS

MAXIS Field Log

Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: HMU 6-15A (J6SER)

Tool: PSP
Sub Type: PBMS
Sensor: GR

PBMS Gamma Ray

Sonde Serial NB

Sensor Serial NB

Calib Date ddmmyy

Matrix Size

Coeff CRC

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

34473

090506

12

0708

GR HV Rt

	Rt**0	Rt**1
Rt**0	+200000000000e+04	+190000000000e+04

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: HMU 6-15A (J6SEB)

Run date: 8-Sep-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.2884 S/N:

2884

290706

16

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

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: HMU 6–15A (J6SEB)

Run date: 8–Sep–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.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	+1.113897507996E+03	-.324965333678E-03	+6.97134219555E-08
Fb**1	-.601014483015E-02	+1.75847256148E-07	+1.80458009797E-12
Fb**2	-.317240807344E-07	+3.74112953741E-12	+1.133653042149E-17
Fb**3	-.236568542854E-12	+7.87205826536E-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	+8.81675188724E-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	+3.10161623072E+05	+3.63878692519E-02	+3.11171630292E-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	+1.11177101155E+03	-.545261137223E-02	-.112186276799E-06

	(Fb'-Fc')**3	(Fb'-Fc')**4	(Fb'-Fc')**5
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(Fb'-Fc')**0

+ .756690675632E-11

- .207457772298E-16

- .121623071907E-19

Company: ENCANA OIL & GAS (USA) INC

Schlumberger

Well: HMU 6-15A (J6SEB)
Field: MAMM CREEK
County: GARFIELD
State: COLORADO

TEMPERATURE LOG
CCL