

Company: ENCANA OIL & GAS (USA) INC

Well: ENCANA FEE 24-1A (K19CNE)

Field: MAMM CREEK

County: GARFIELD

State: COLORADO

County: GARFIELD

Field: MAMM CREEK

Location: SHL: 2387 FSL 324 FWL

Well: ENCANA FEE 24-1A (K19CNE)

Company: ENCANA OIL & GAS (USA) INC

TEMPERATURE LOG

GAMMA RAY / CCL

TEMP PLOT

SHL: 2387 FSL 324 FWL

BHL: 640 FNL 640 FEL

Elev.: K.B. 5692.00 ft

G.L. 5670.00 ft

D.F. 5691.00 ft

Permanent Datum: _____

GROUND LEVEL _____

Elev.: 5670.00 ft _____

Log Measured From: _____

KELLY BUSHING _____

22.00 ft above Perm. Datum

Drilling Measured From: _____

KELLY BUSHING _____

API Serial No. 05-045-20753-00

Section 19

Township 6S

Range 92W

PVT DATA			
Oil Density	Run 1	Run 2	Run 3
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 25-Apr-2013

Run Number 1

Depth Driller 9515 ft

Schlumberger Depth 9450 ft

Bottom Log Interval 9449 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 8.750 in

From 22 ft

To 9515 ft

Casing/Tubing Size 4.500 in

Weight 11.6 lbm/ft

Grade

From 22 ft

To 9470 ft

Maximum Recorded Temperatures 230 degF

Logger On Bottom 25-Apr-2013 7:15

Unit Number 391 Location GRAND JUNCTION

Recorded By KIRSTIE BUNTING

Witnessed By TONY

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-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
TOOL RAN AS PER TOOL SKETCH	
ENTRANCE: 06:45	
TIME BOTTOM: 07:15	
EXIT: 08:00	
MAXIMUM RECORDED TEMPERATURE : 230 DEGF	

MAXIMUM RECORDED PRESSURE: 3800 PSIA	
SHORT JOINT 7000'	
ESTIMATED TOP OF CEMENT: 1700 FT	
THANK YOU FOR CHOOSING E&P WIRELINE, A SCHLUMBERGER COMPANY	
CREW: BCUPP KBUNTING WAZIZ MPEDLER KBOZARTH	

RUN 1			RUN 2		
SERVICE ORDER #:	CGF9-00059		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

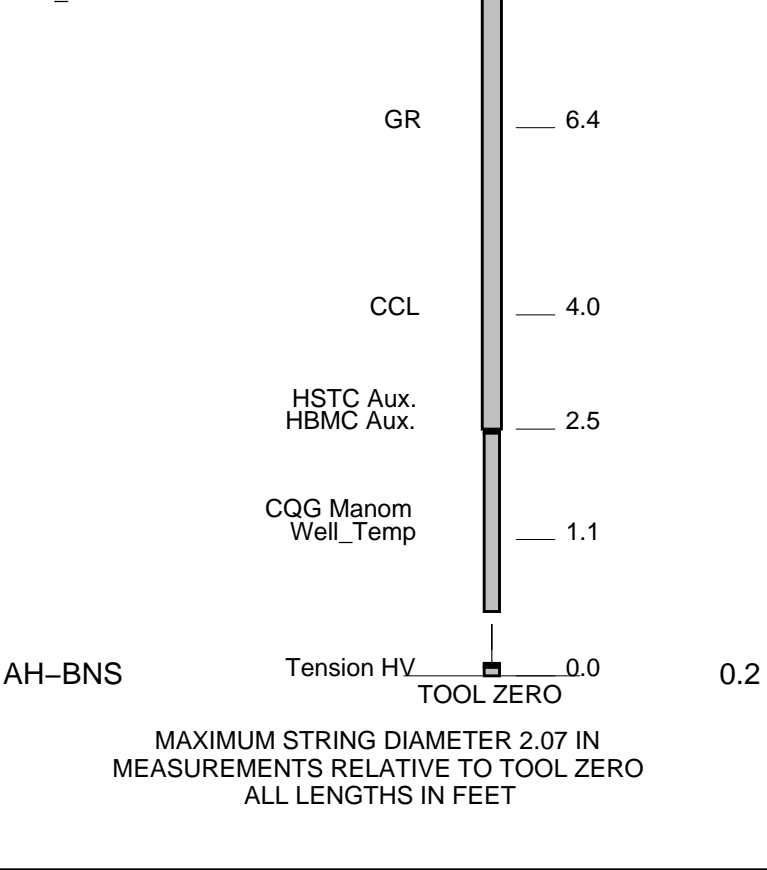
HBMC

HTPS-A

HCQG_E_Mano

RTD Thermometer

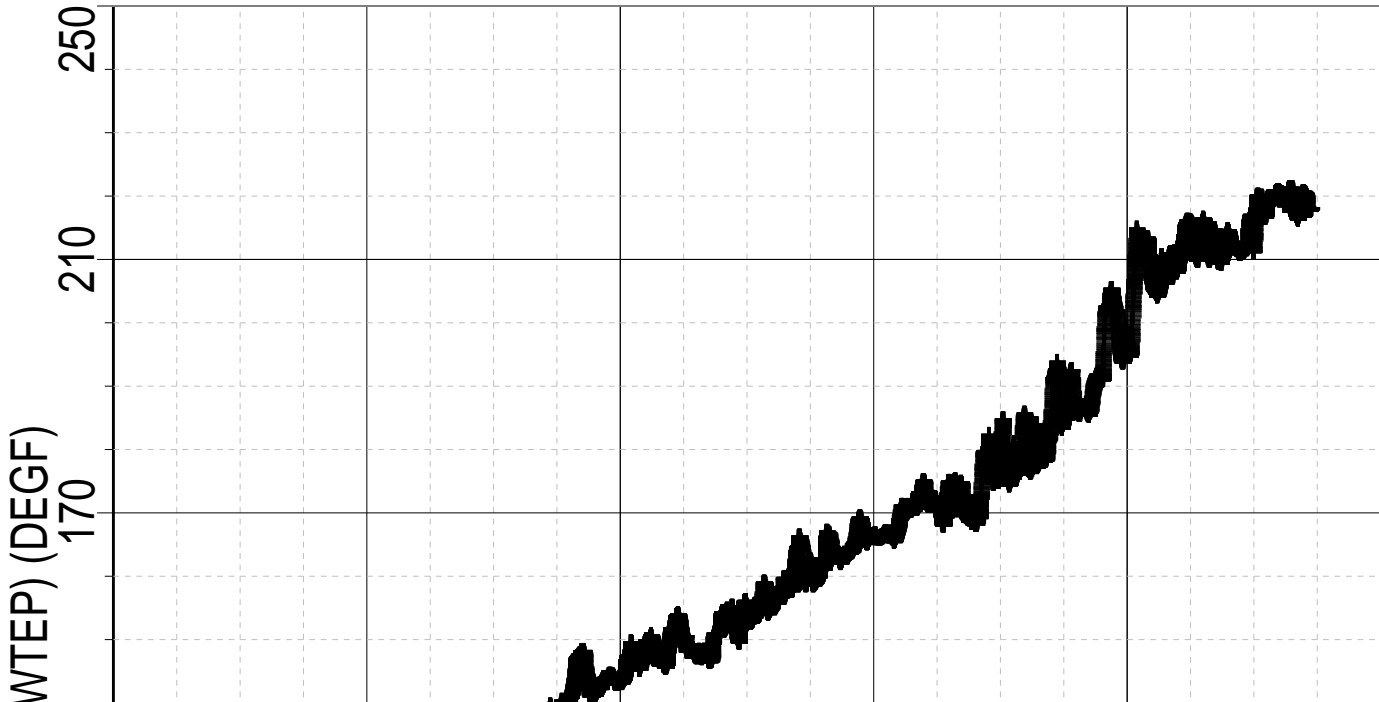
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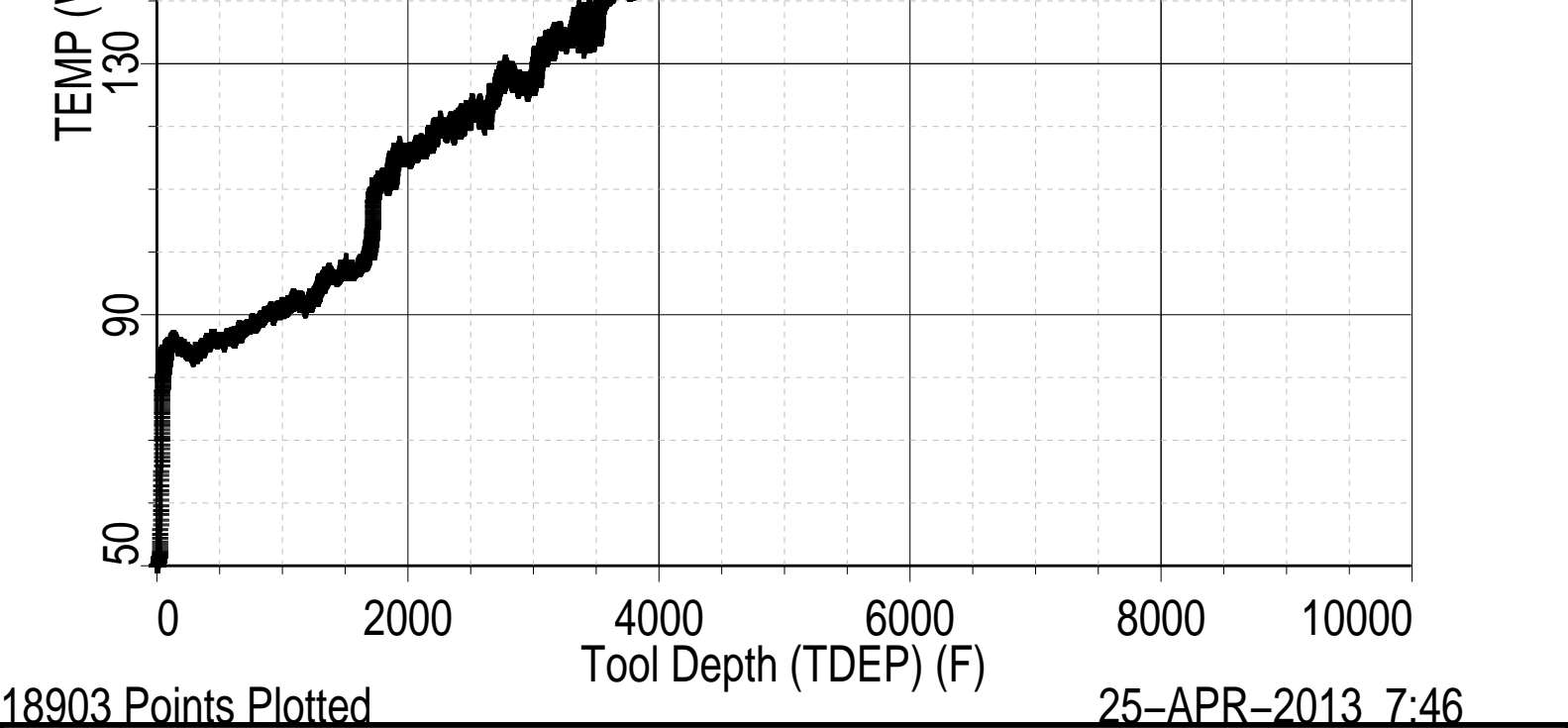


TEMPERATURE PLOT

MAXIS Field Log

Index: 9451.0 – -17.0 FT





Schlumberger

TEMPERATURE LOG

MAXIS Field Log

Company: ENCANA OIL & GAS (USA) INC

Well: ENCANA FEE 24-1A (K19CNE)

Input DLIS Files

DEFAULT Flip_HBMS_004LUP PRODUCER 25-Apr-2013 07:38 9451.0 FT -17.0 FT

Output DLIS Files

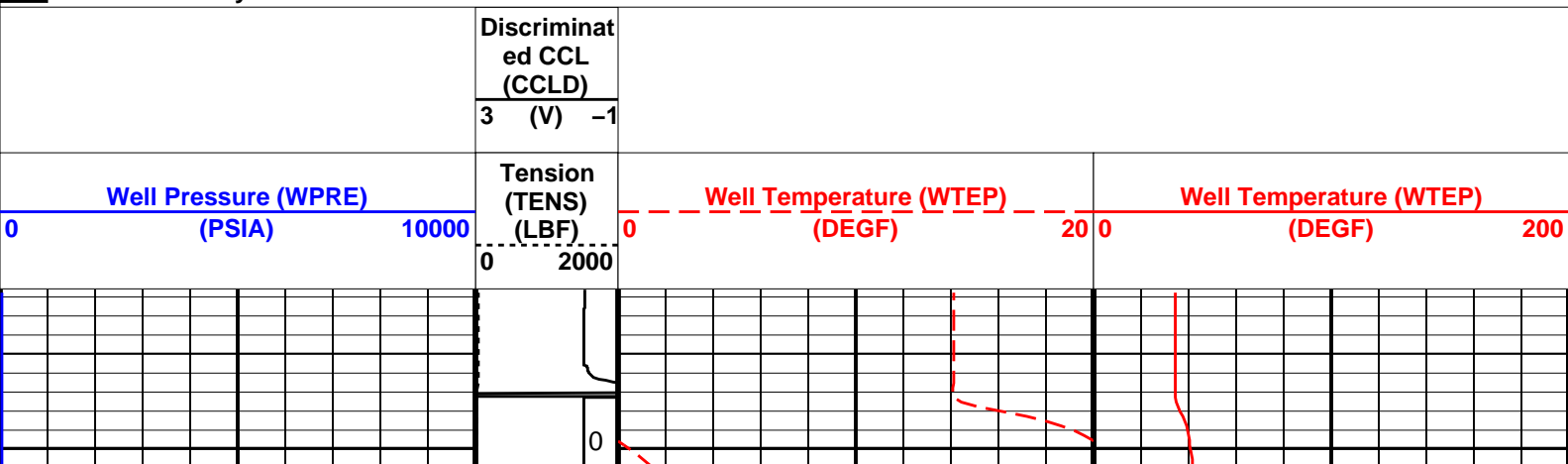
DEFAULT HBMS_007PUP FN:4 PRODUCER 25-Apr-2013 07:41 9451.0 FT -17.0 FT

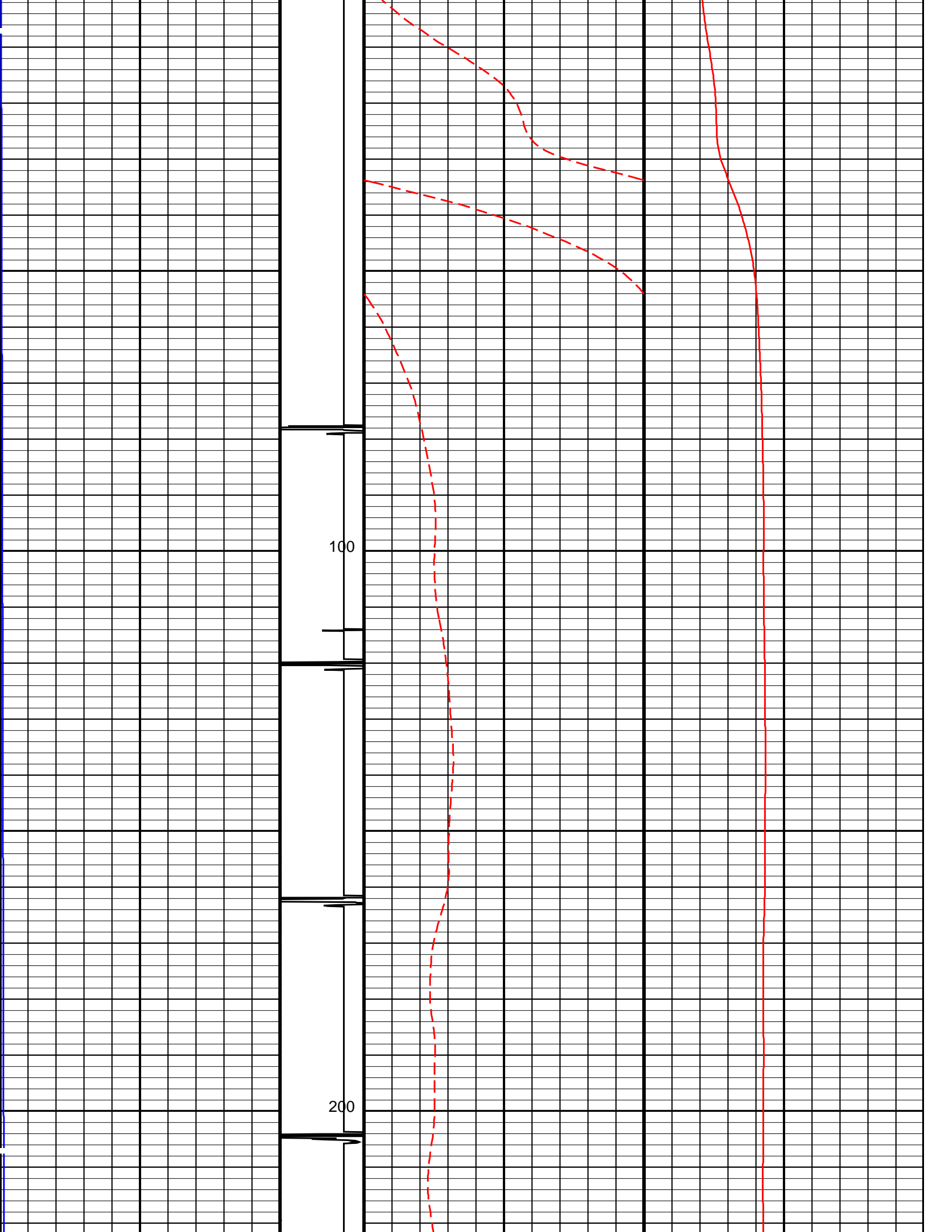
OP System Version: 19C0-187

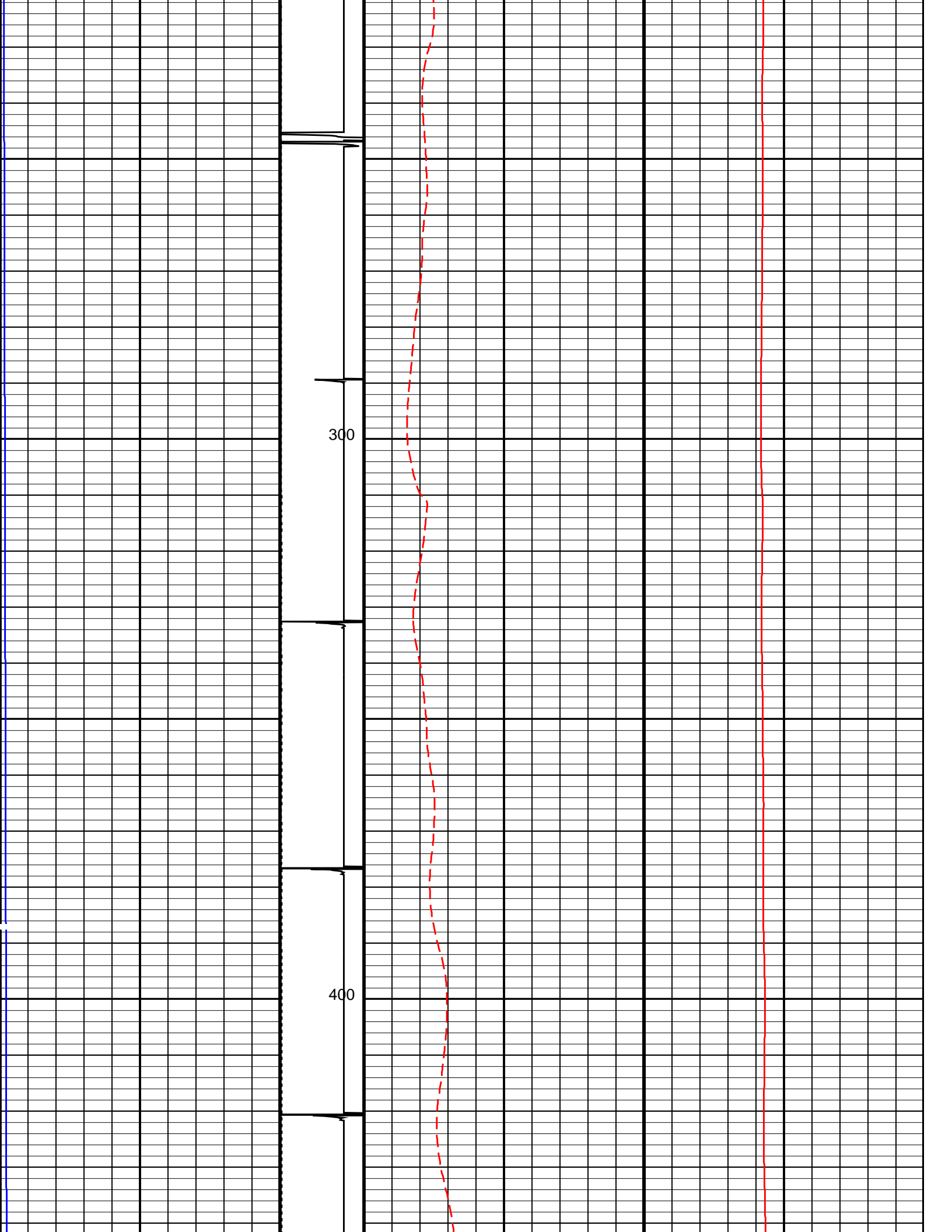
HBMS-B SRPC-5214-H2-2012-OP19

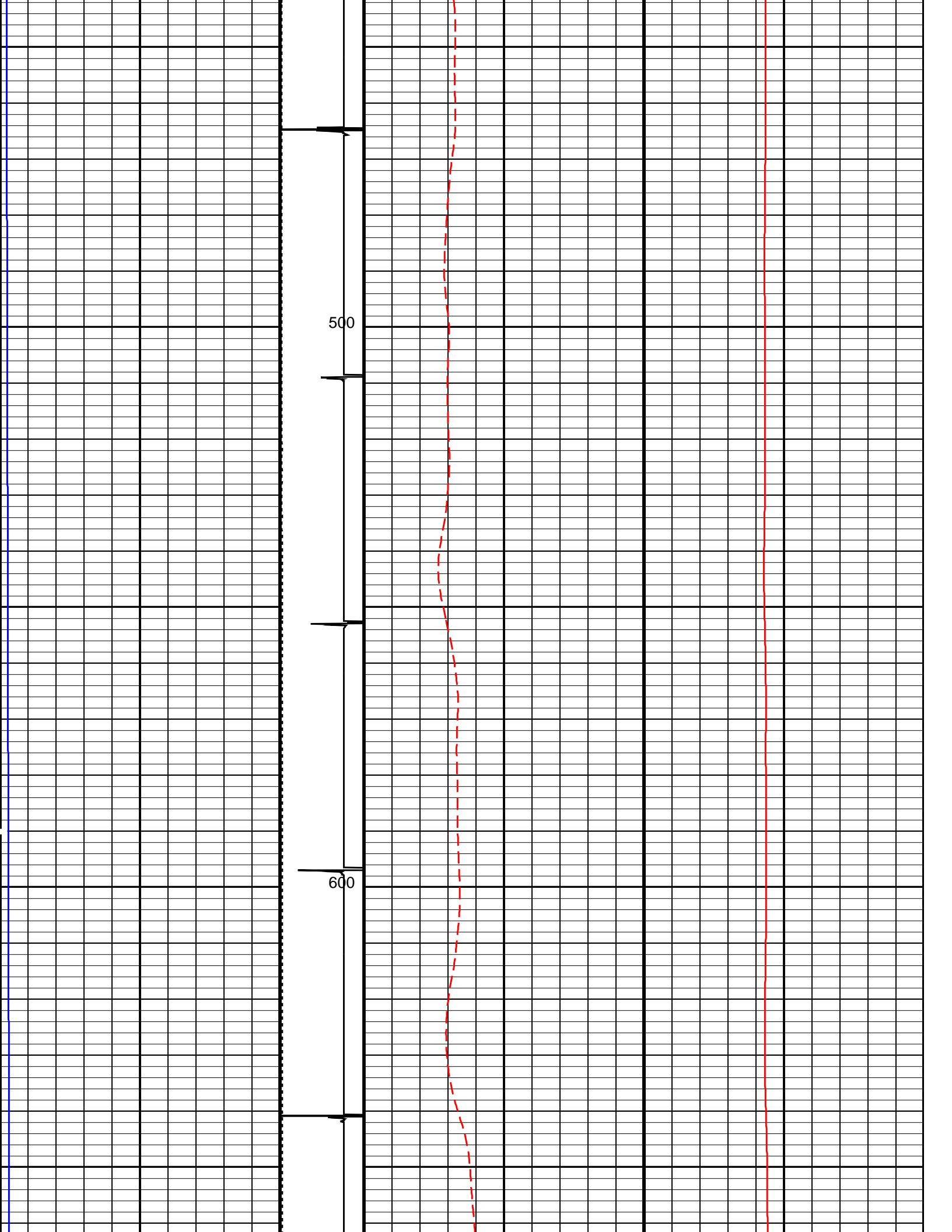
PIP SUMMARY

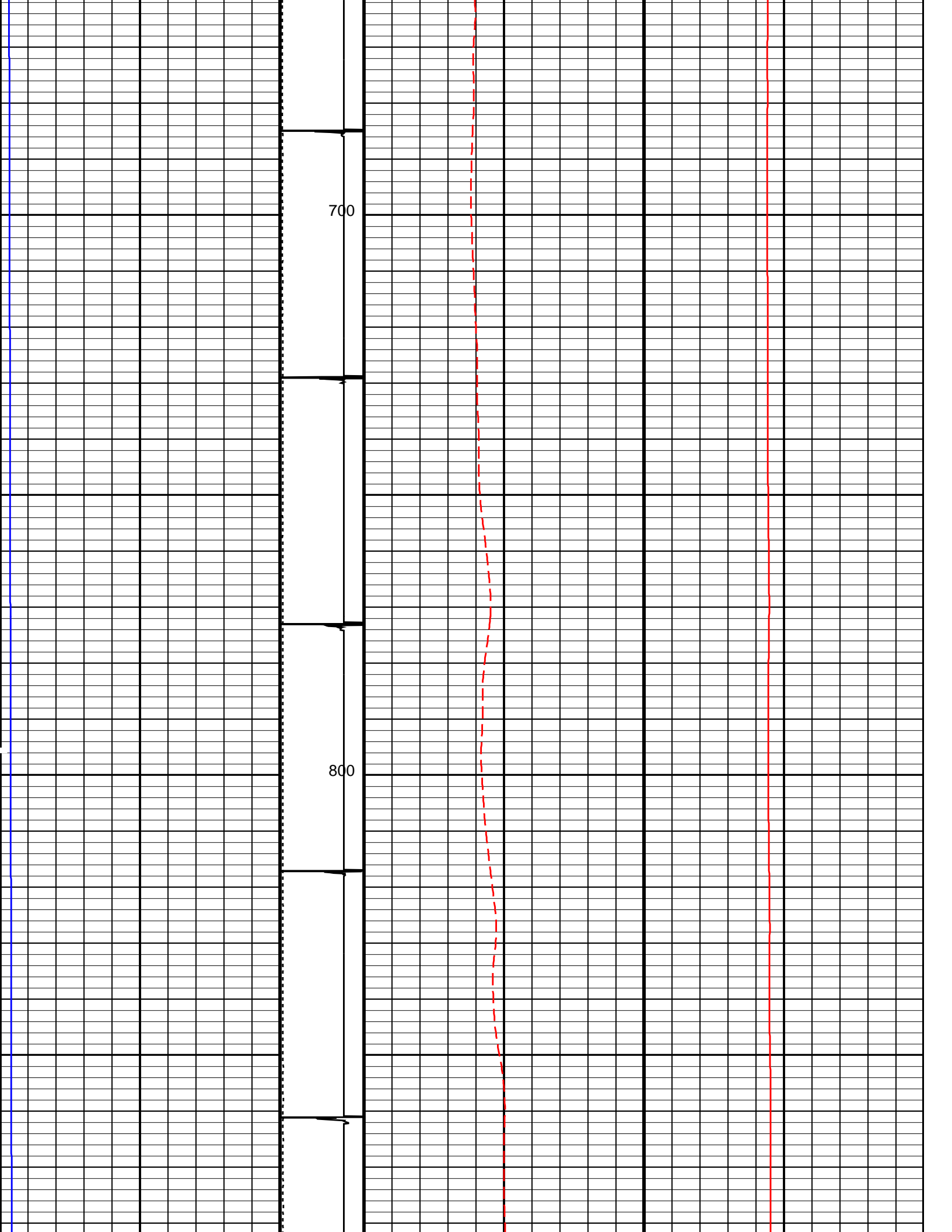
Time Mark Every 60 S

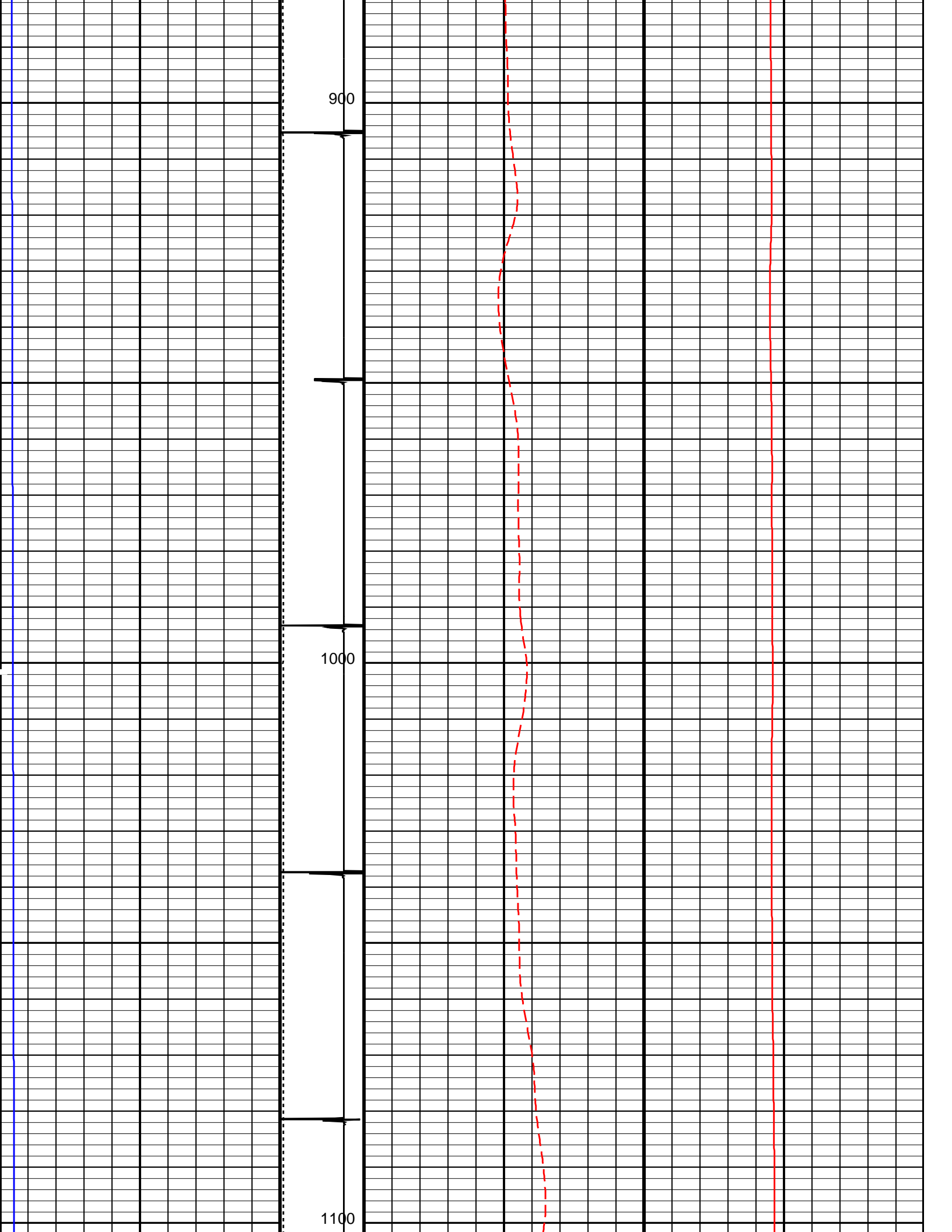


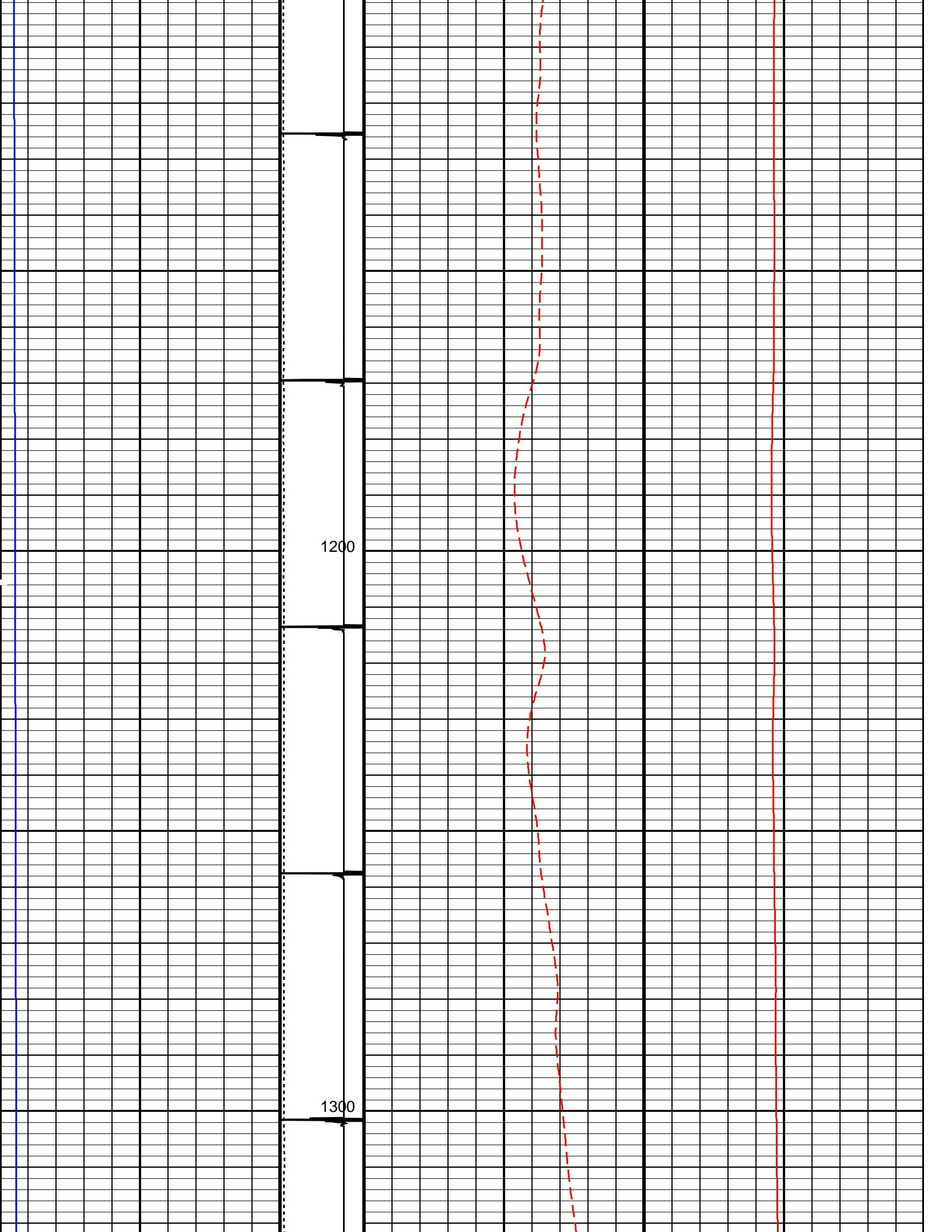


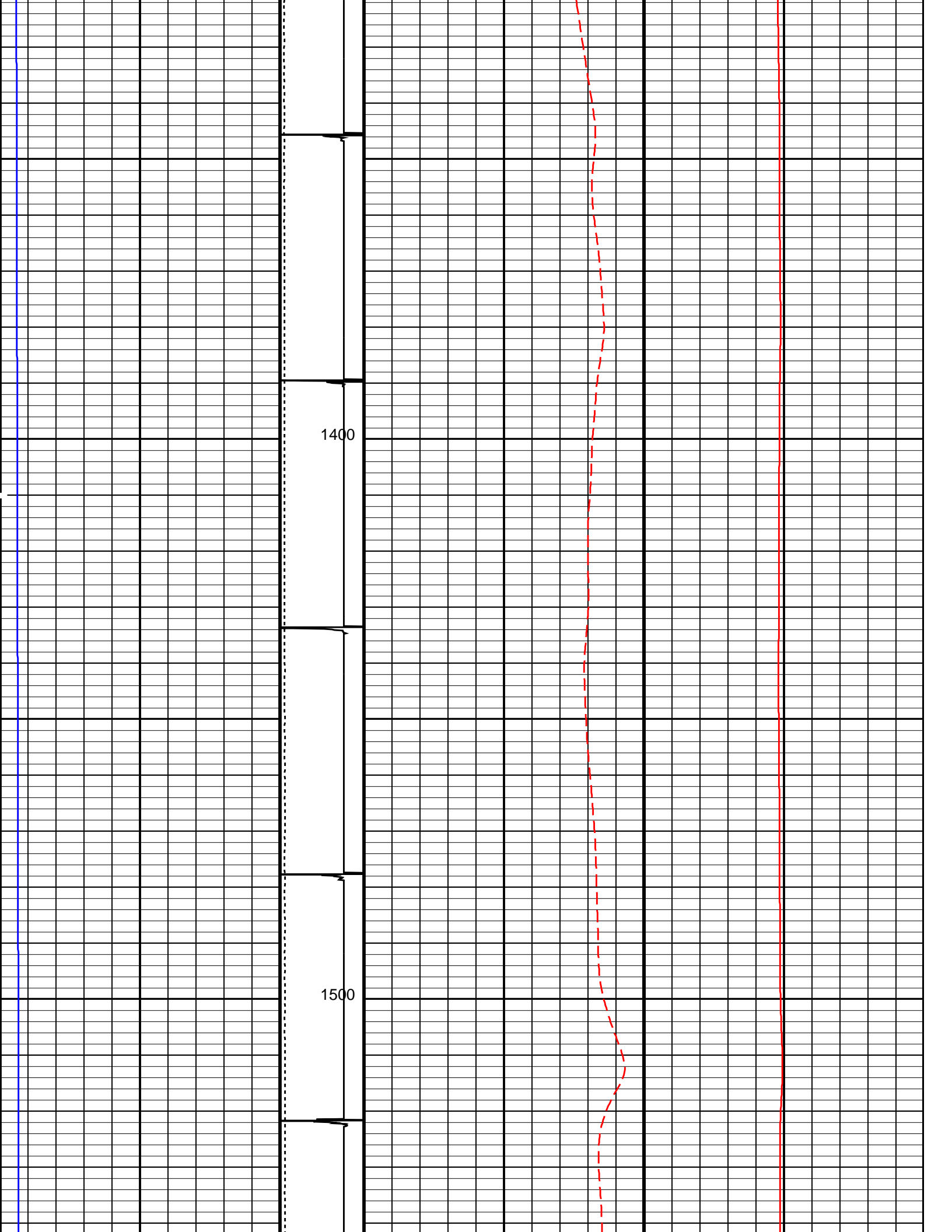


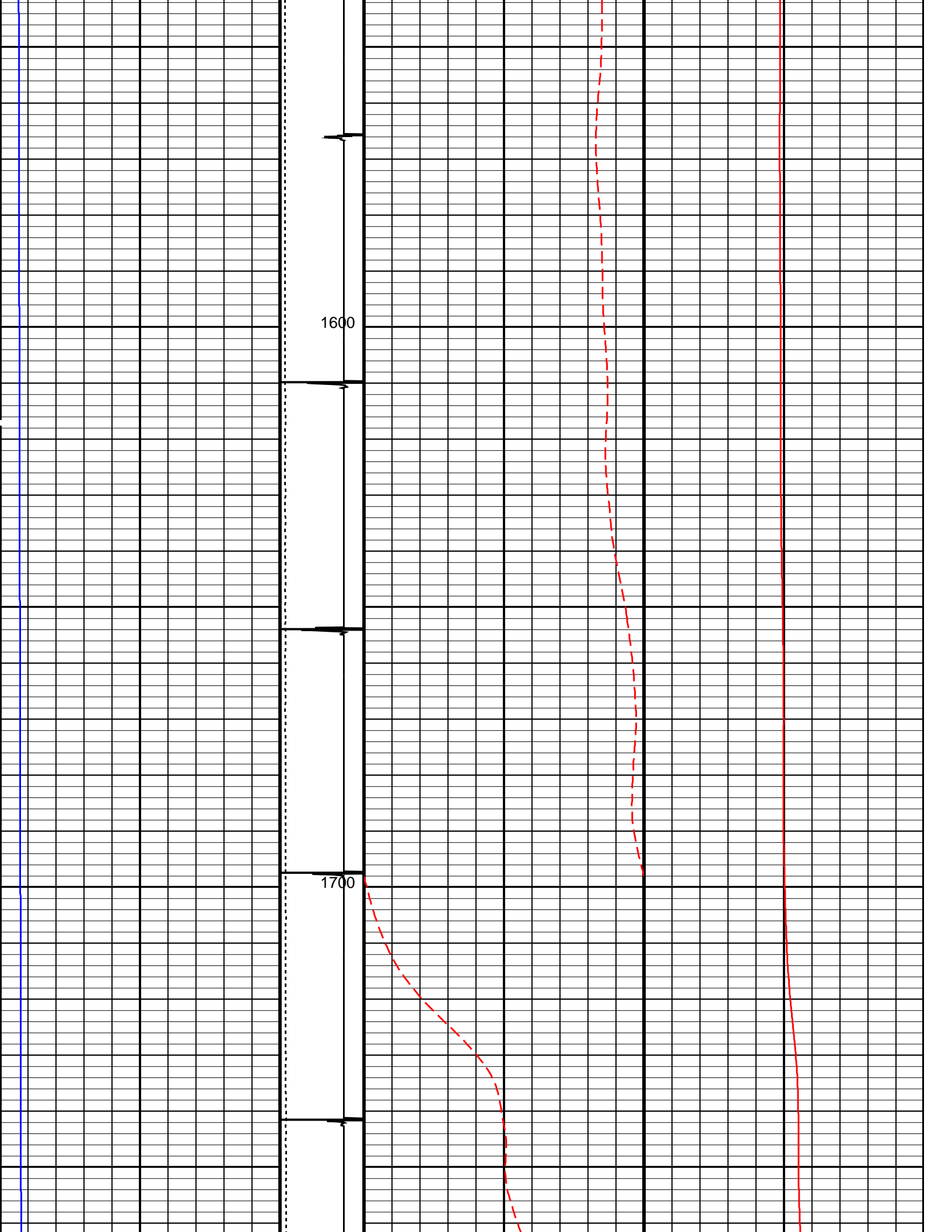


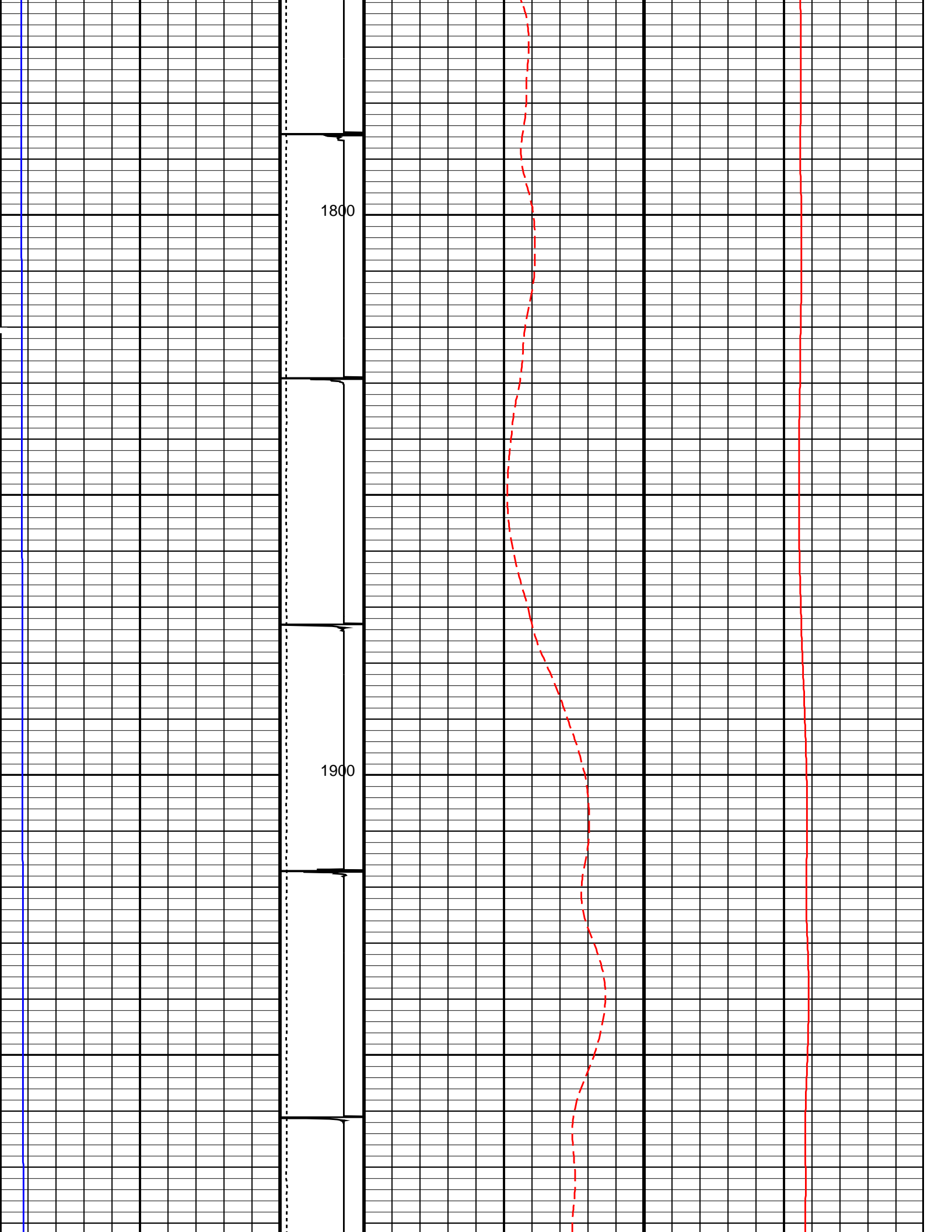


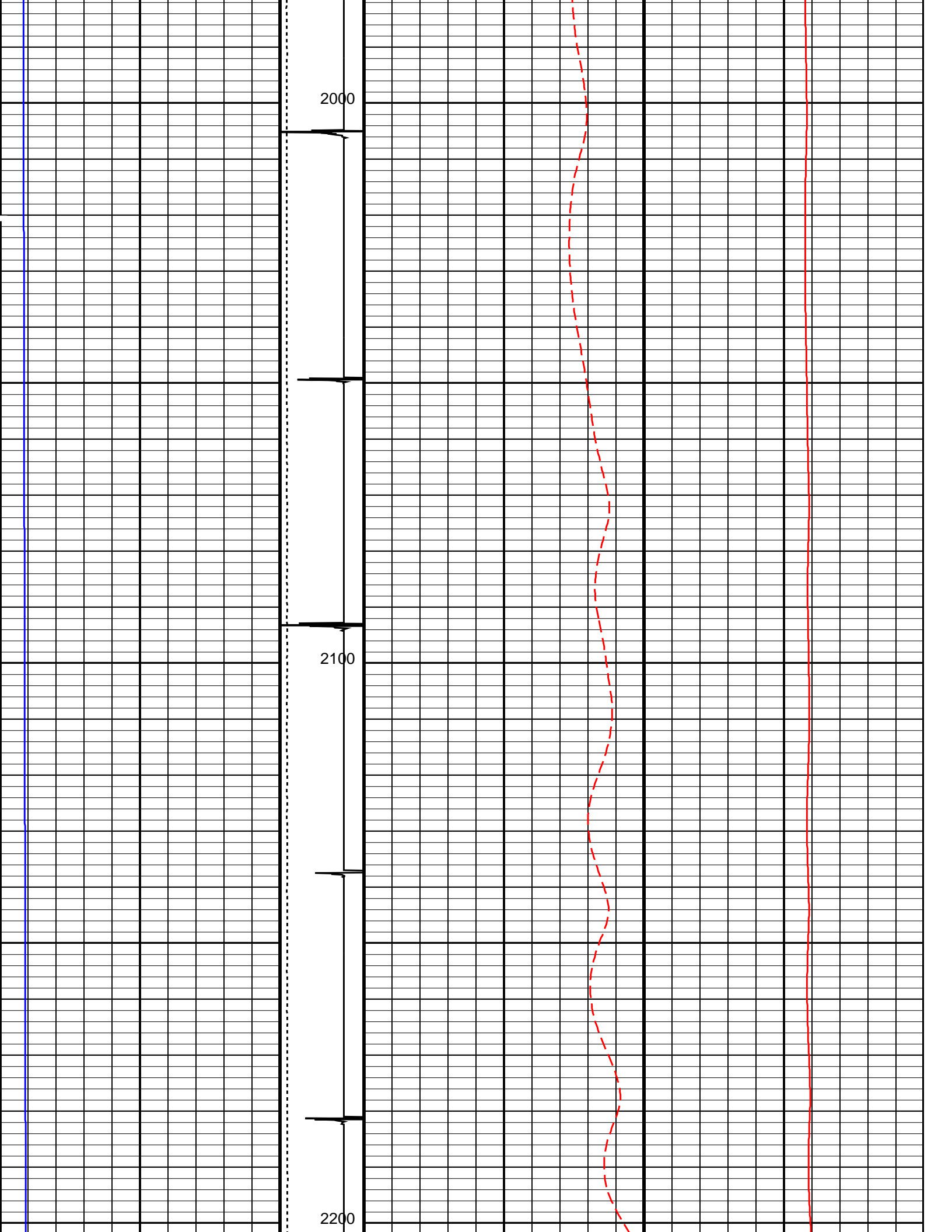


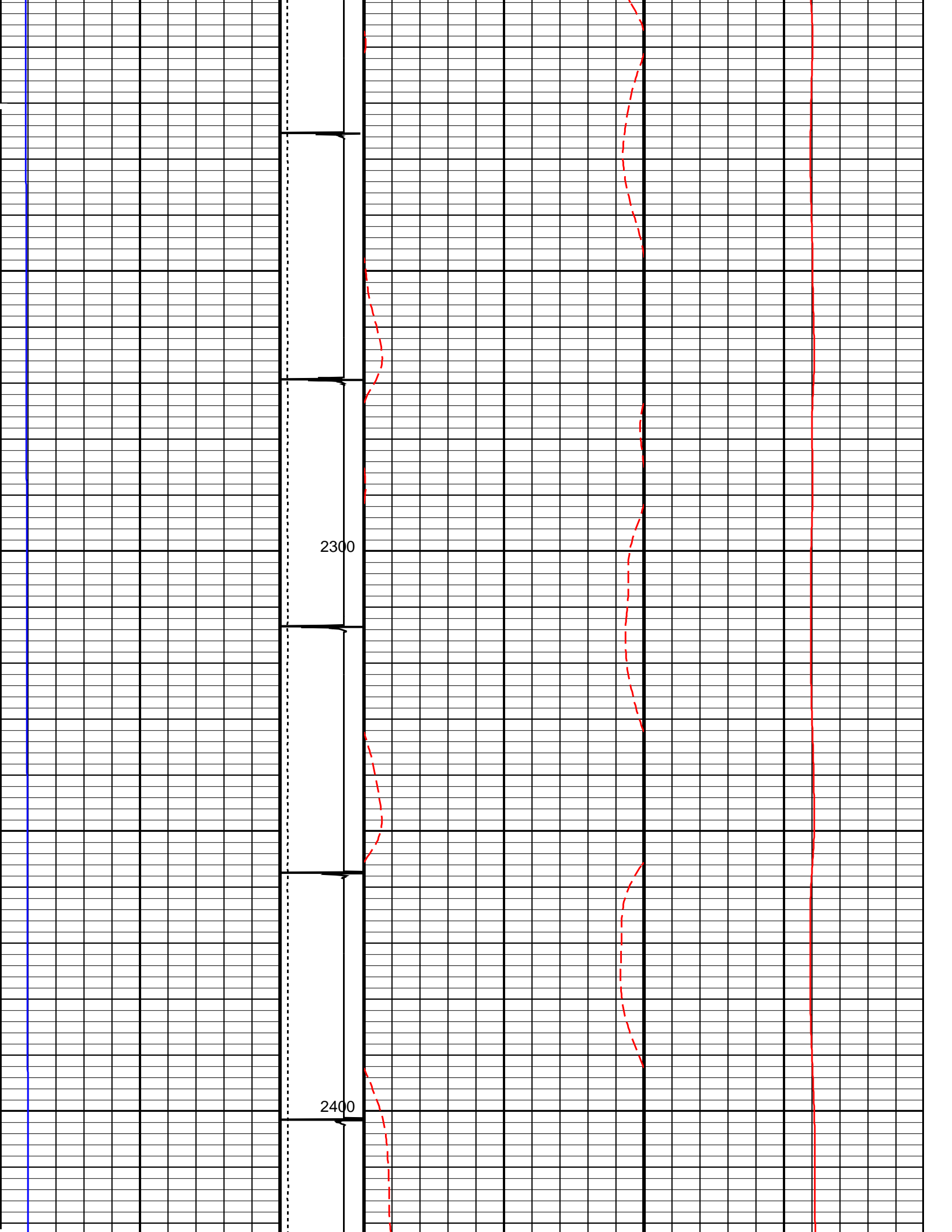


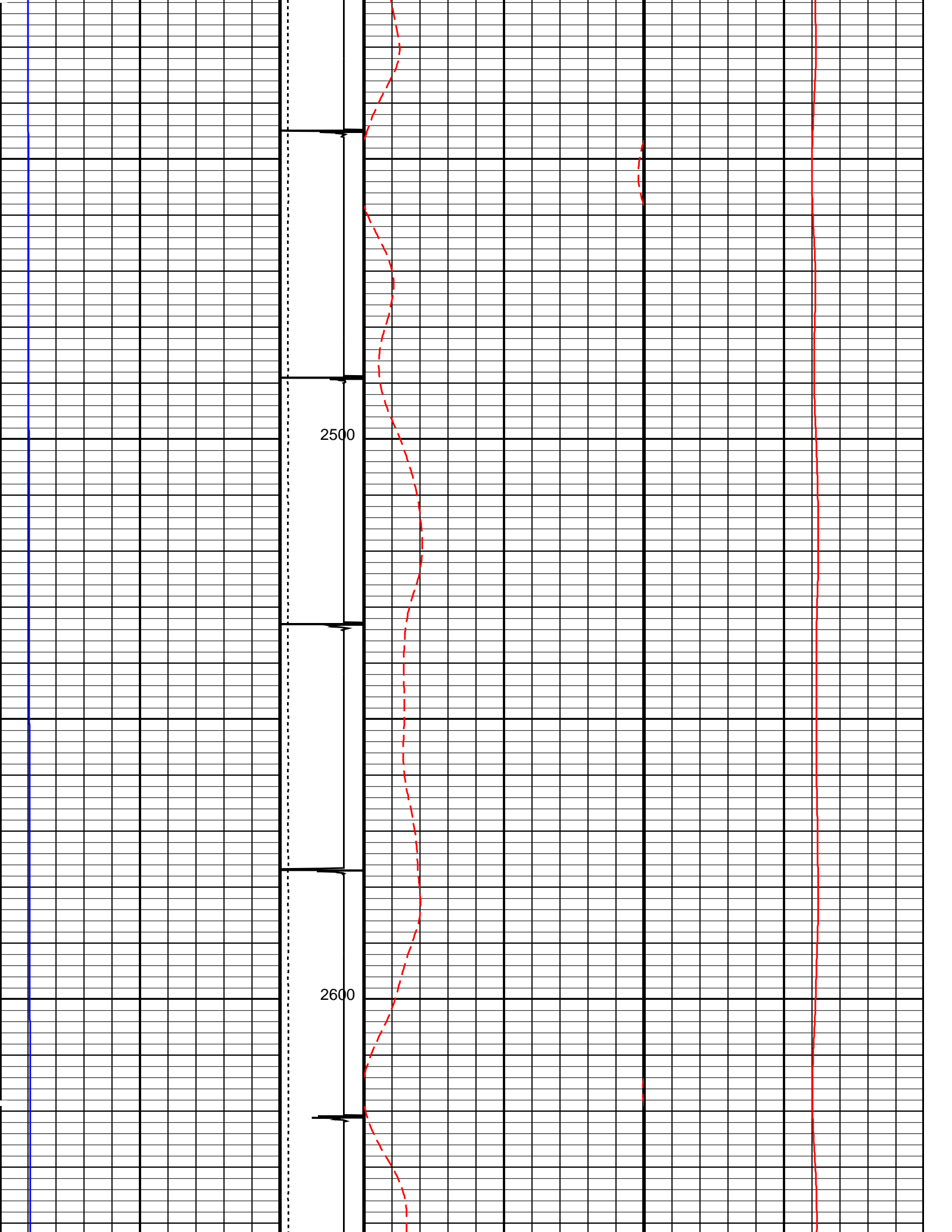


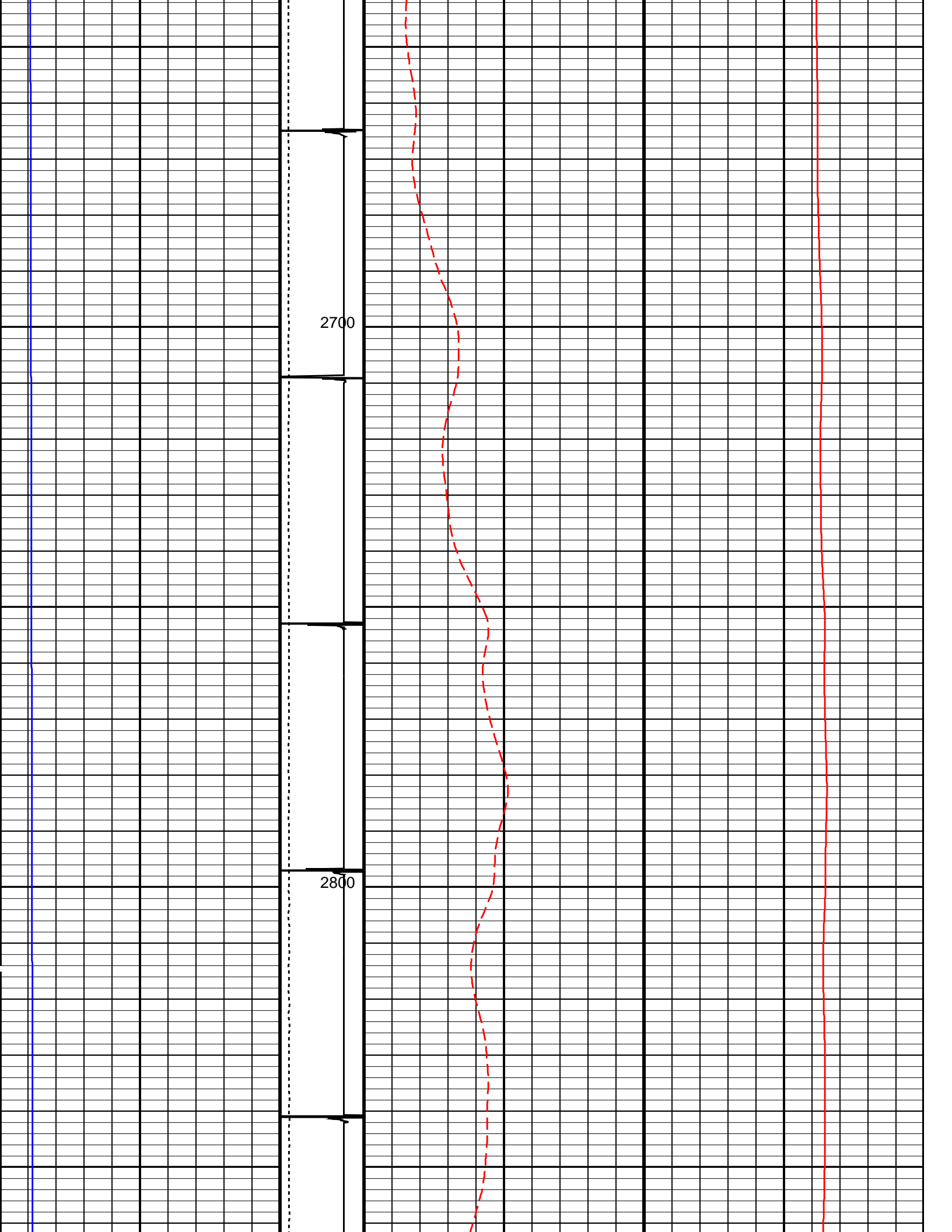


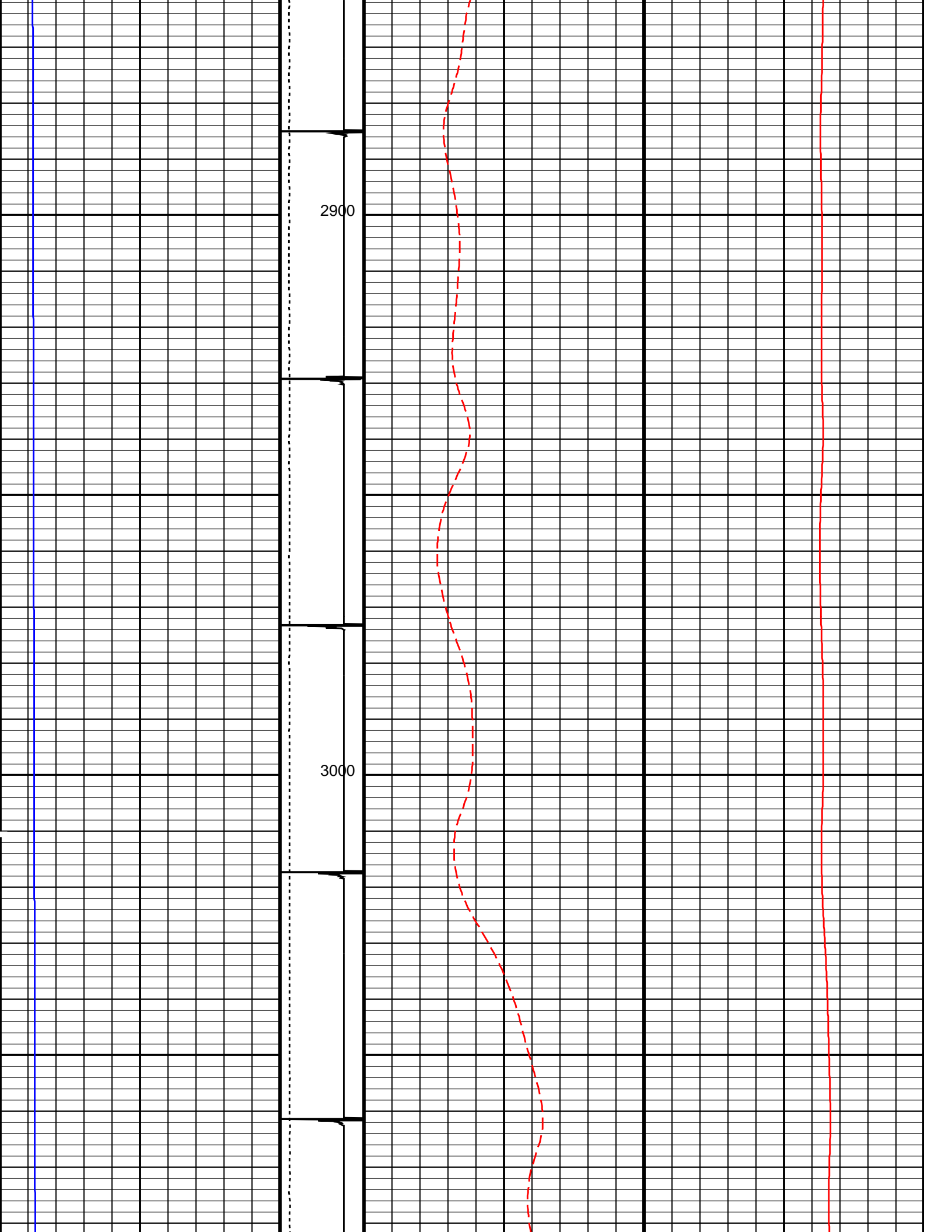


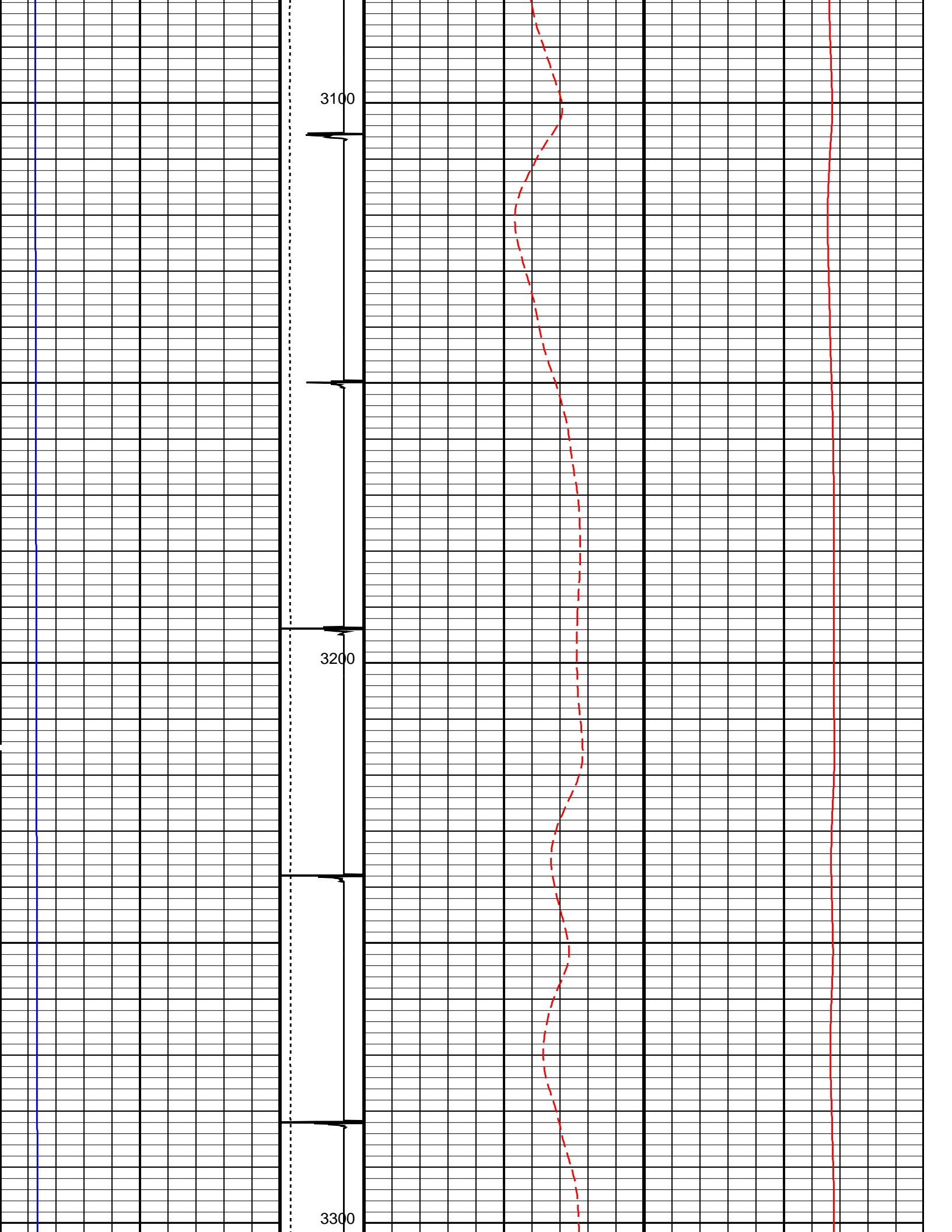


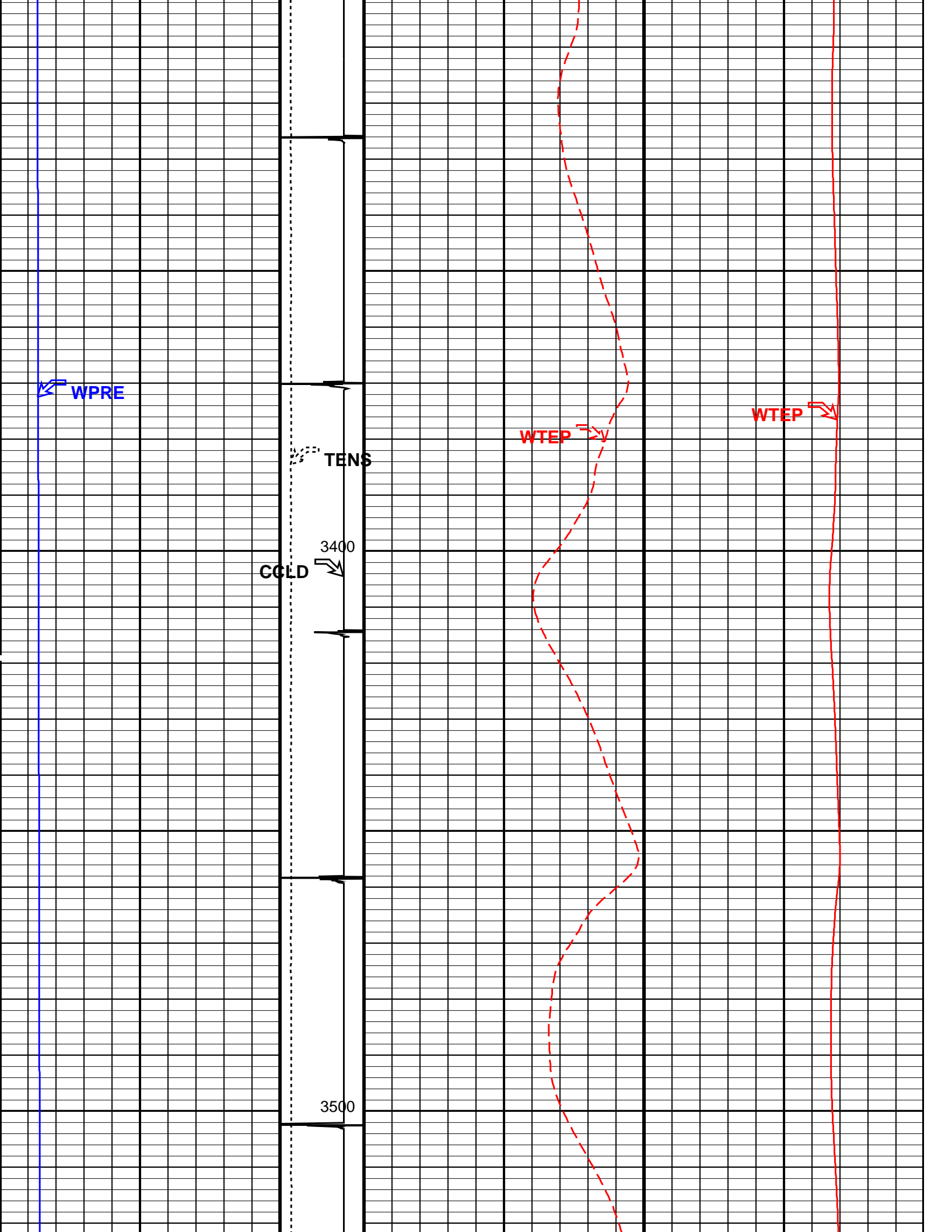


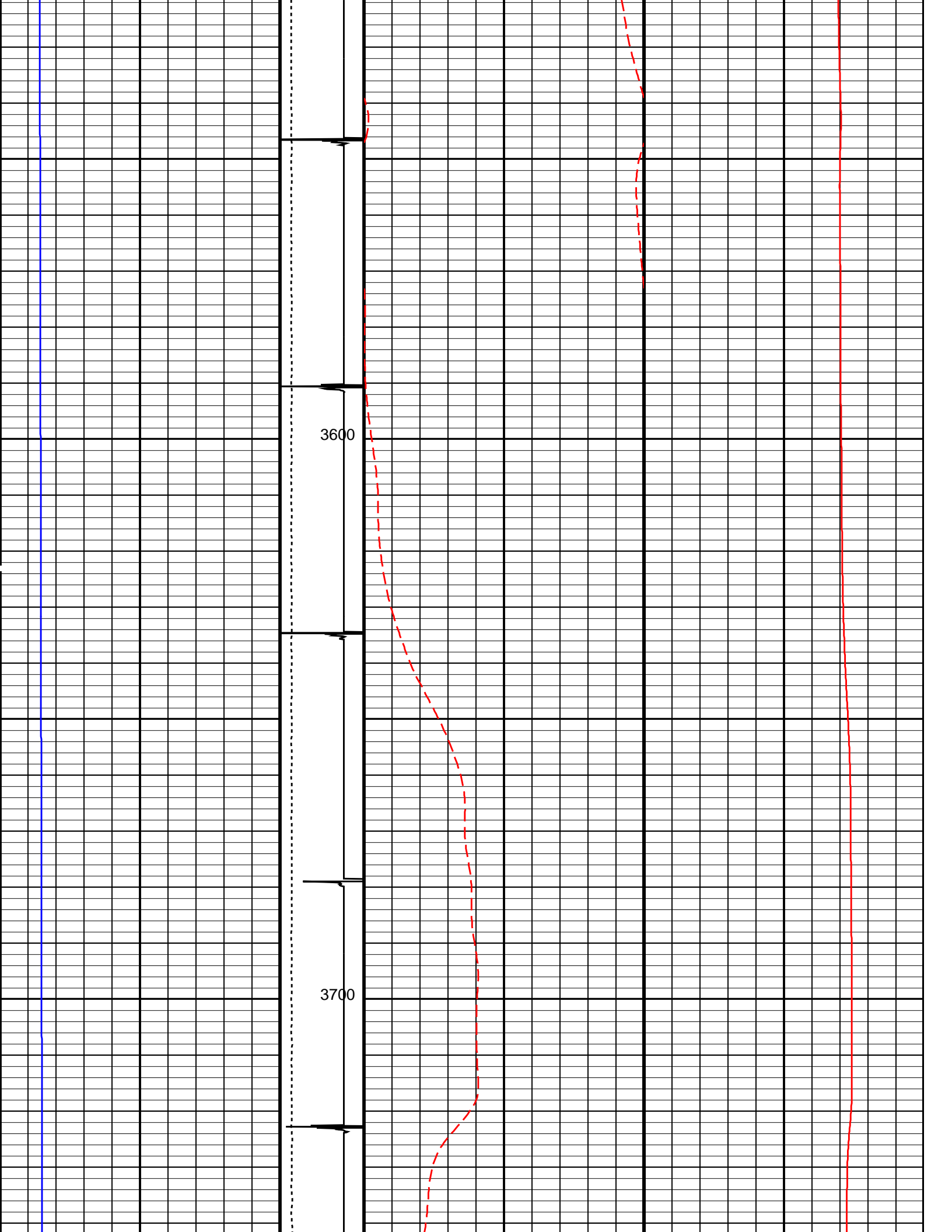


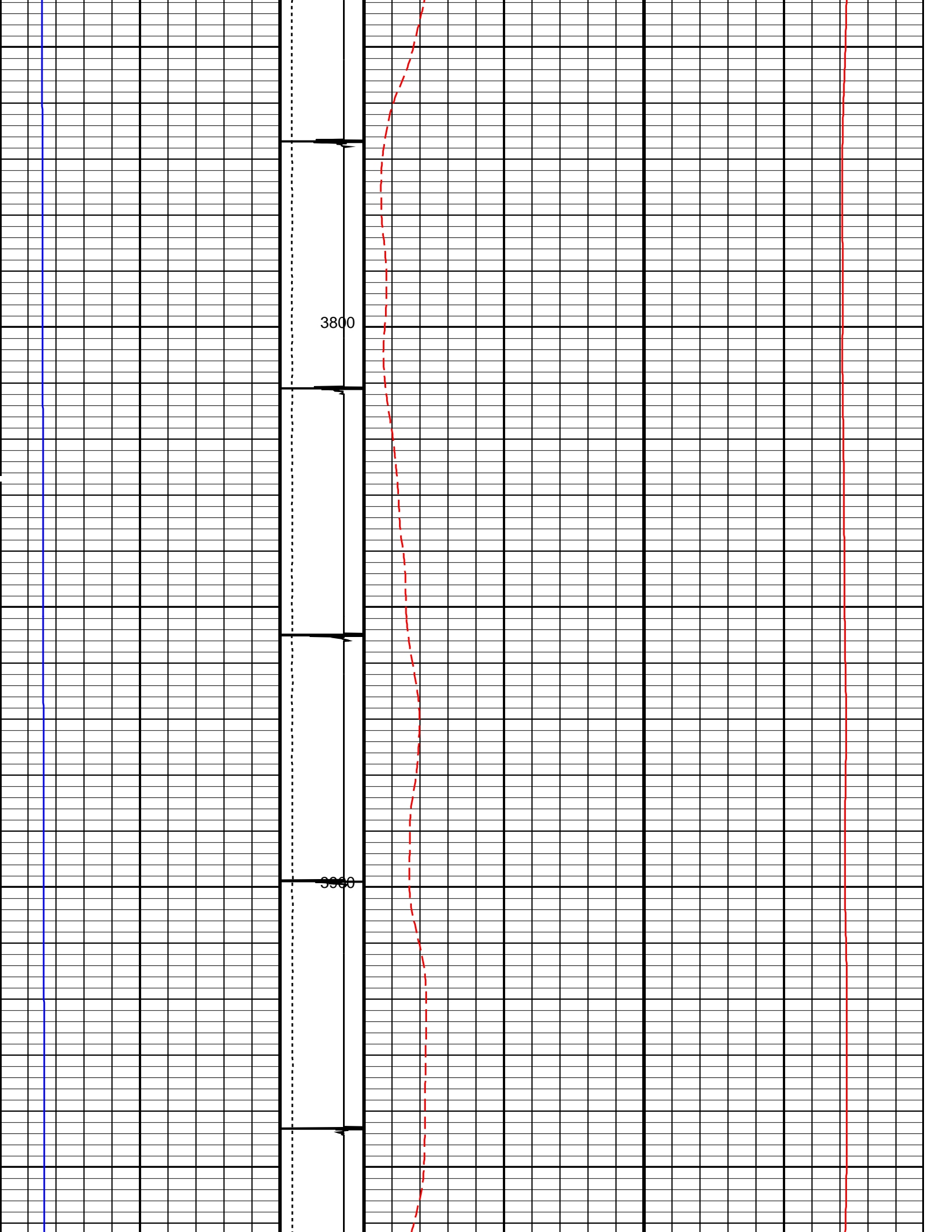


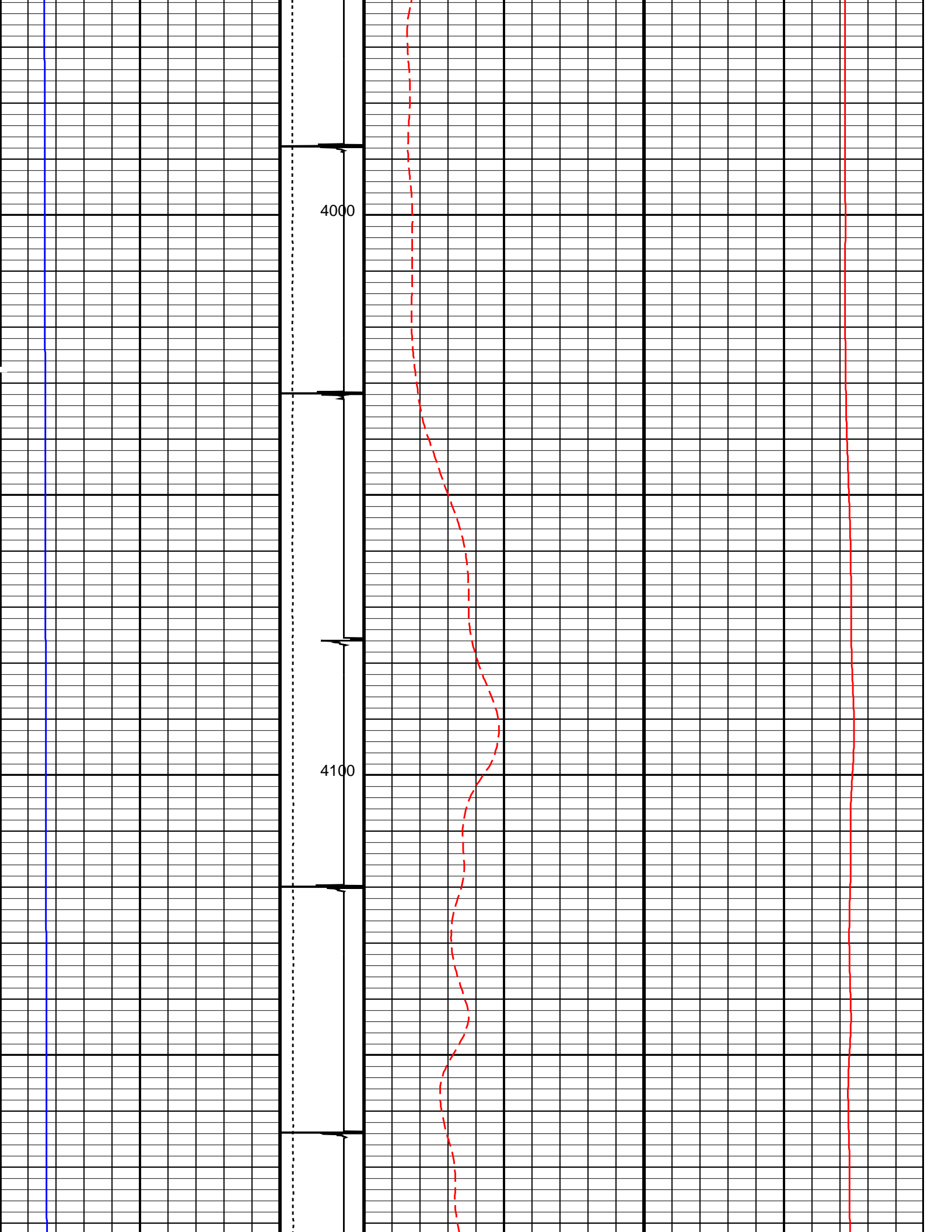


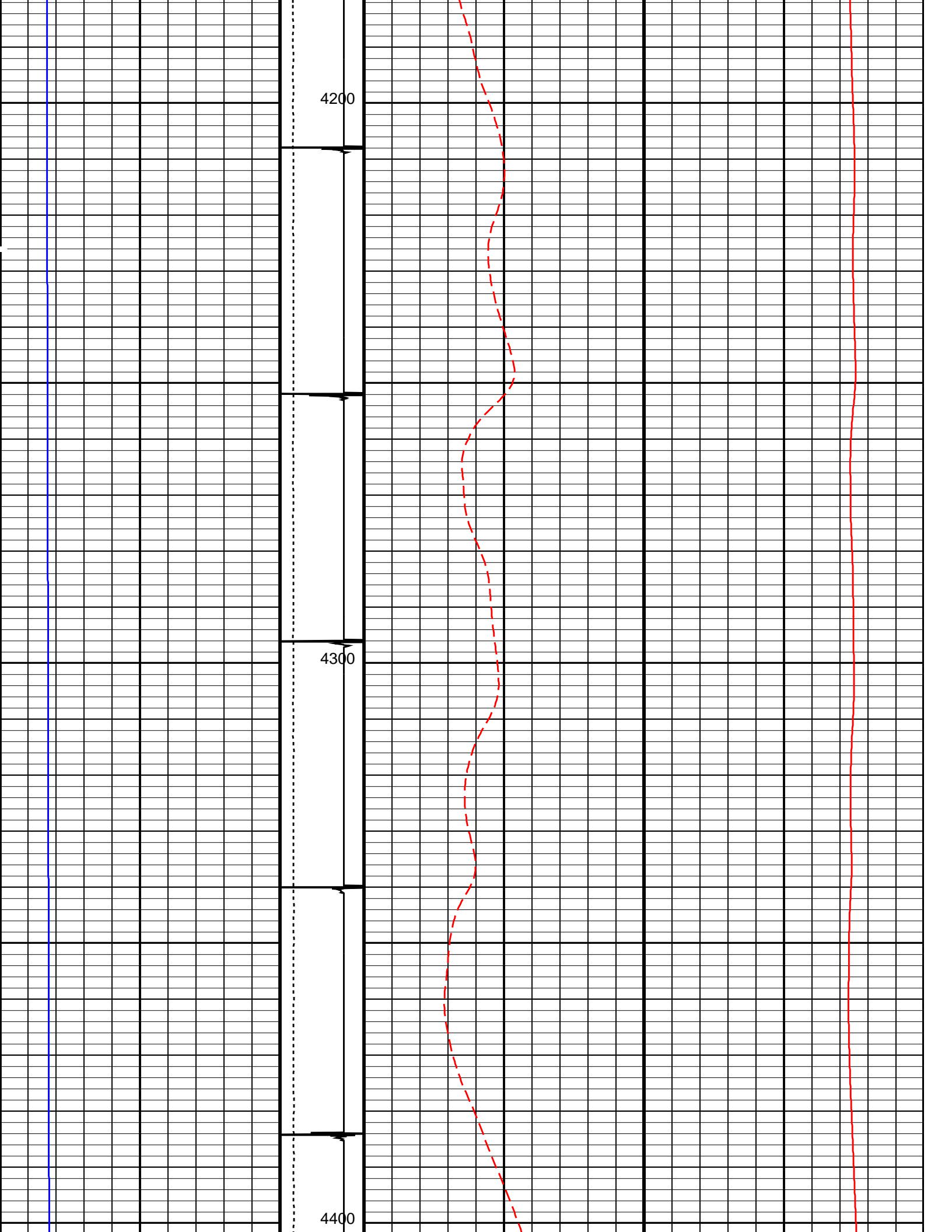


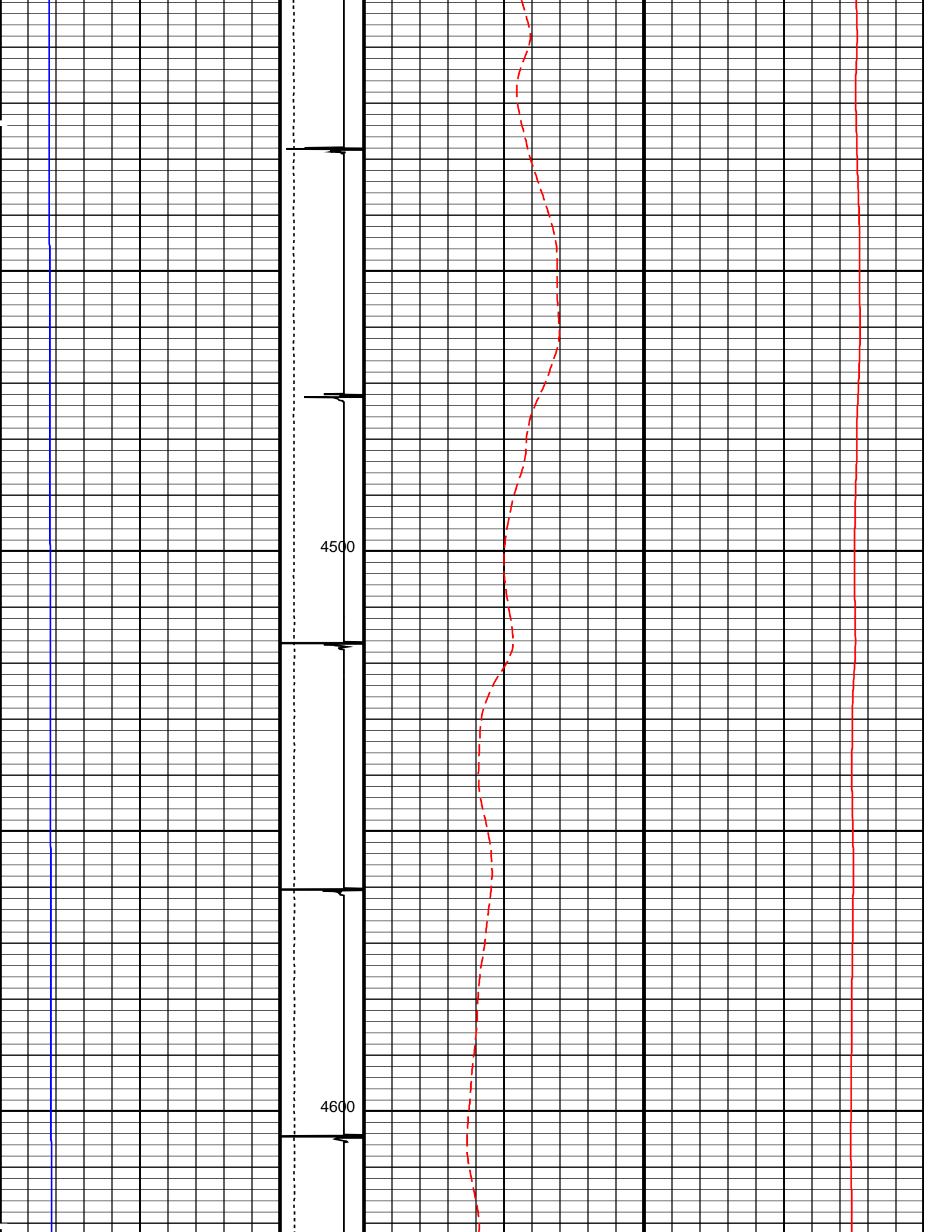


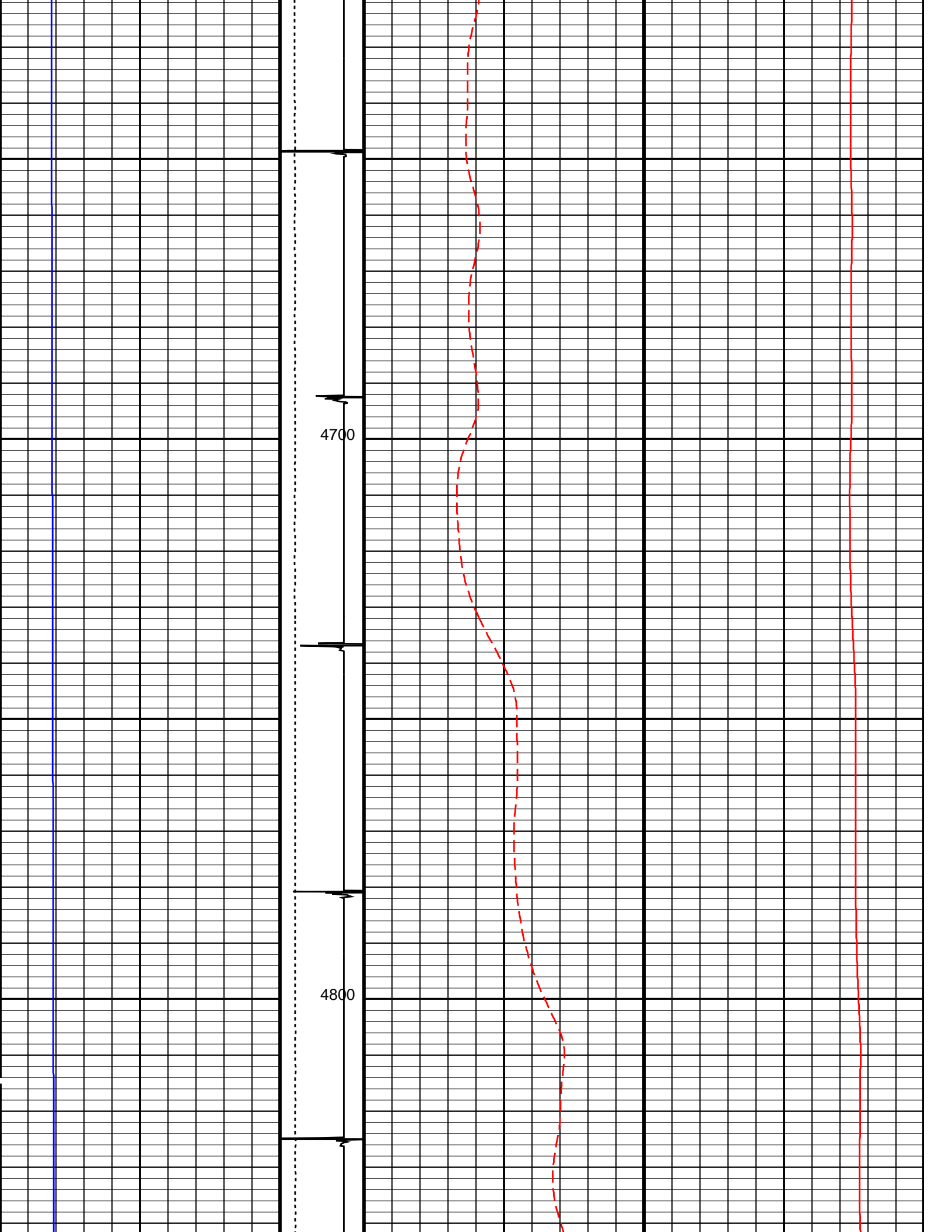


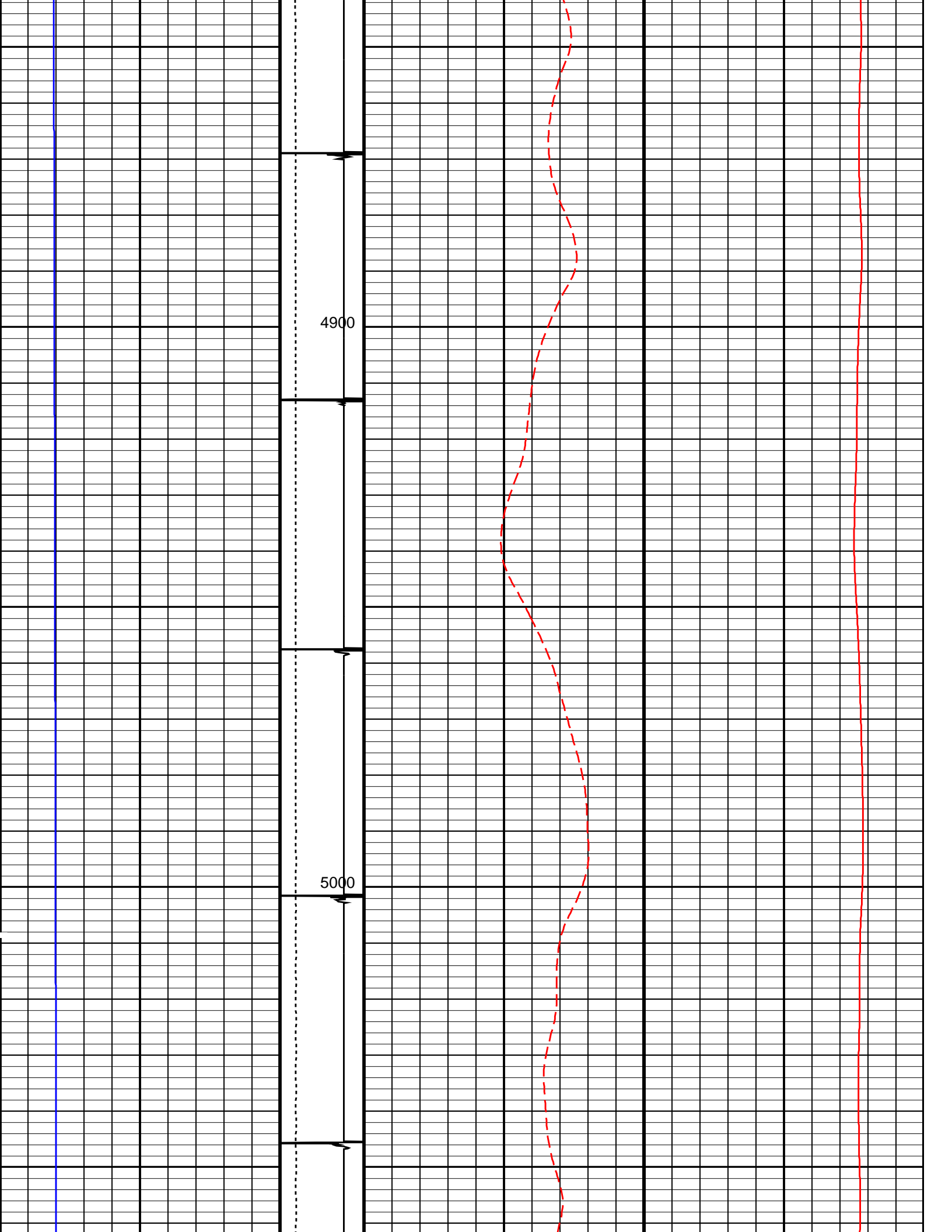


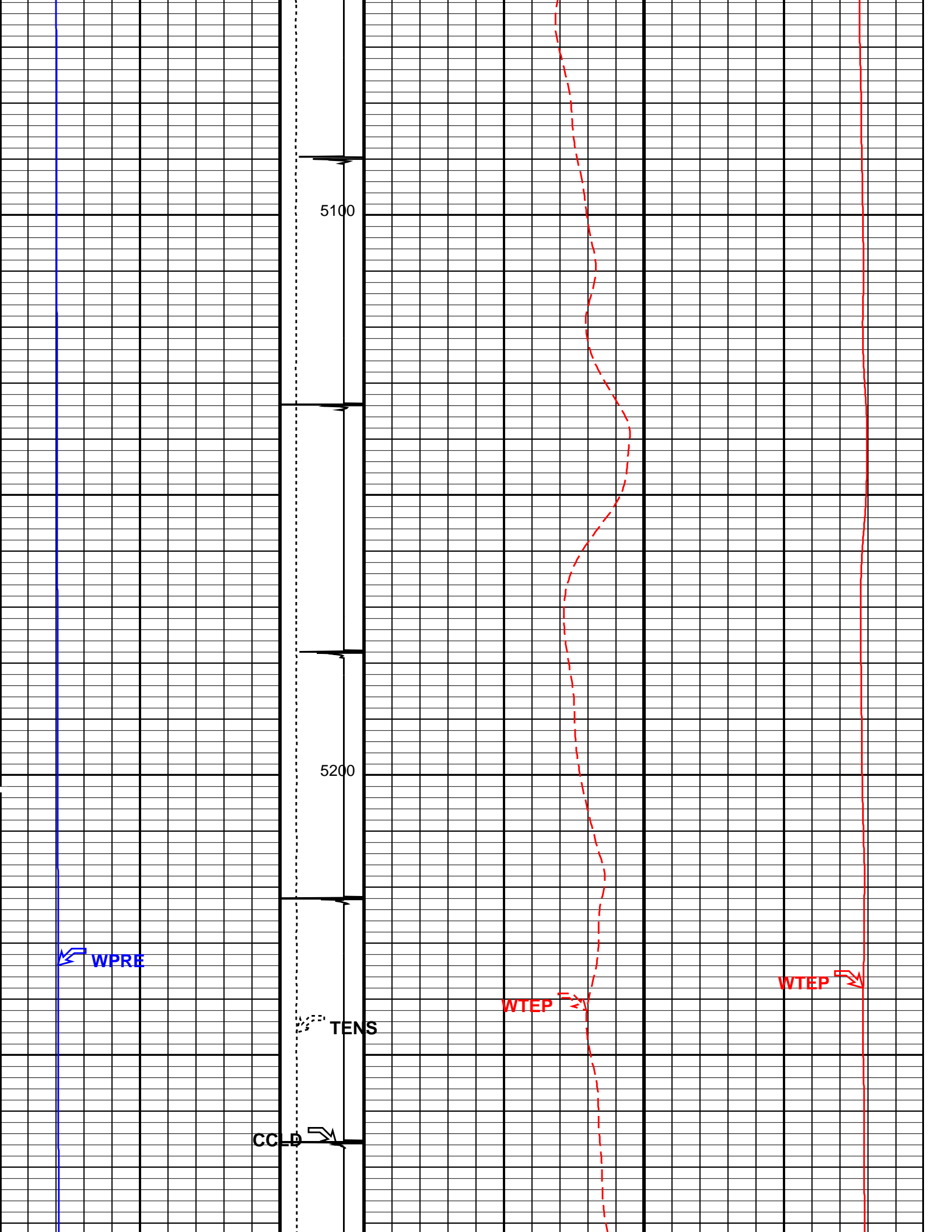


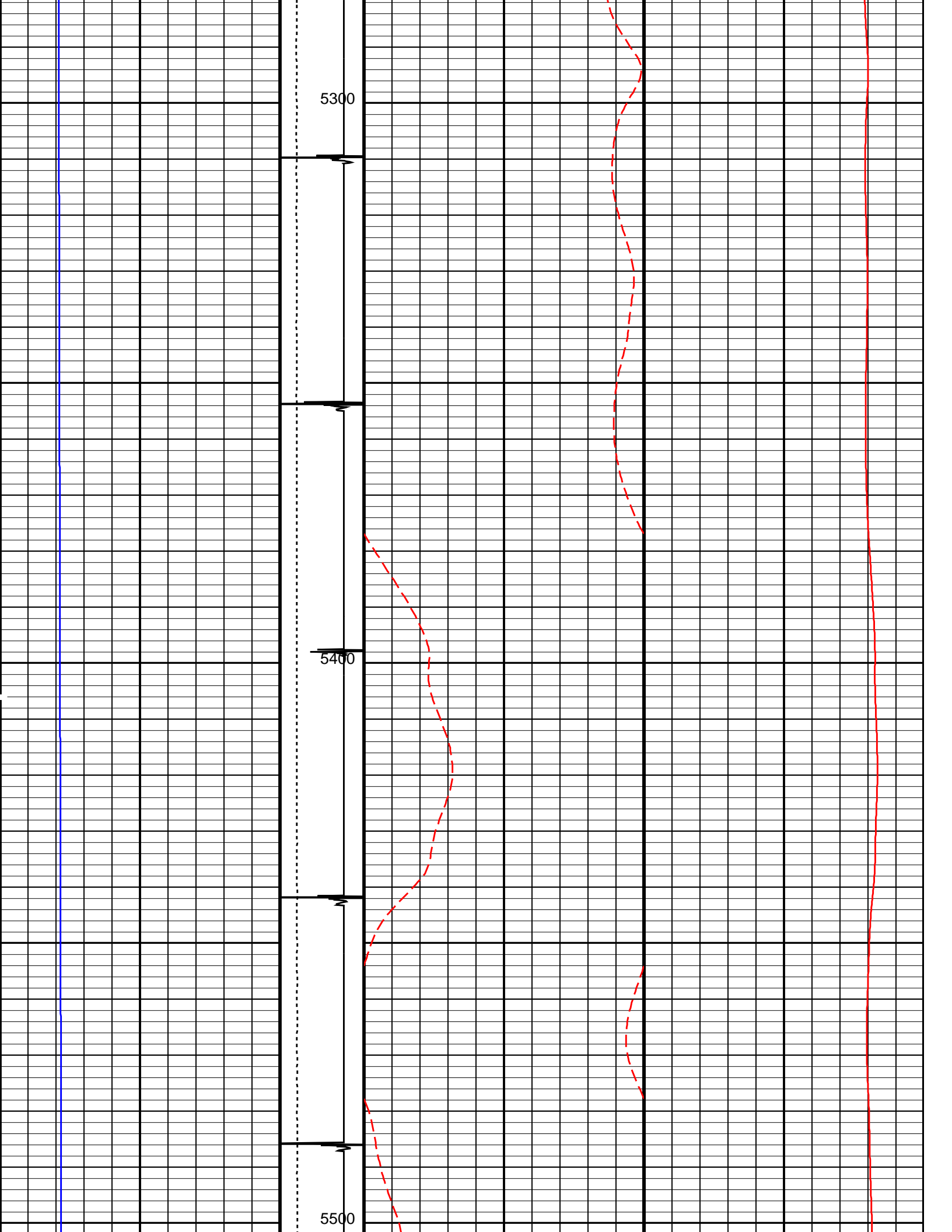


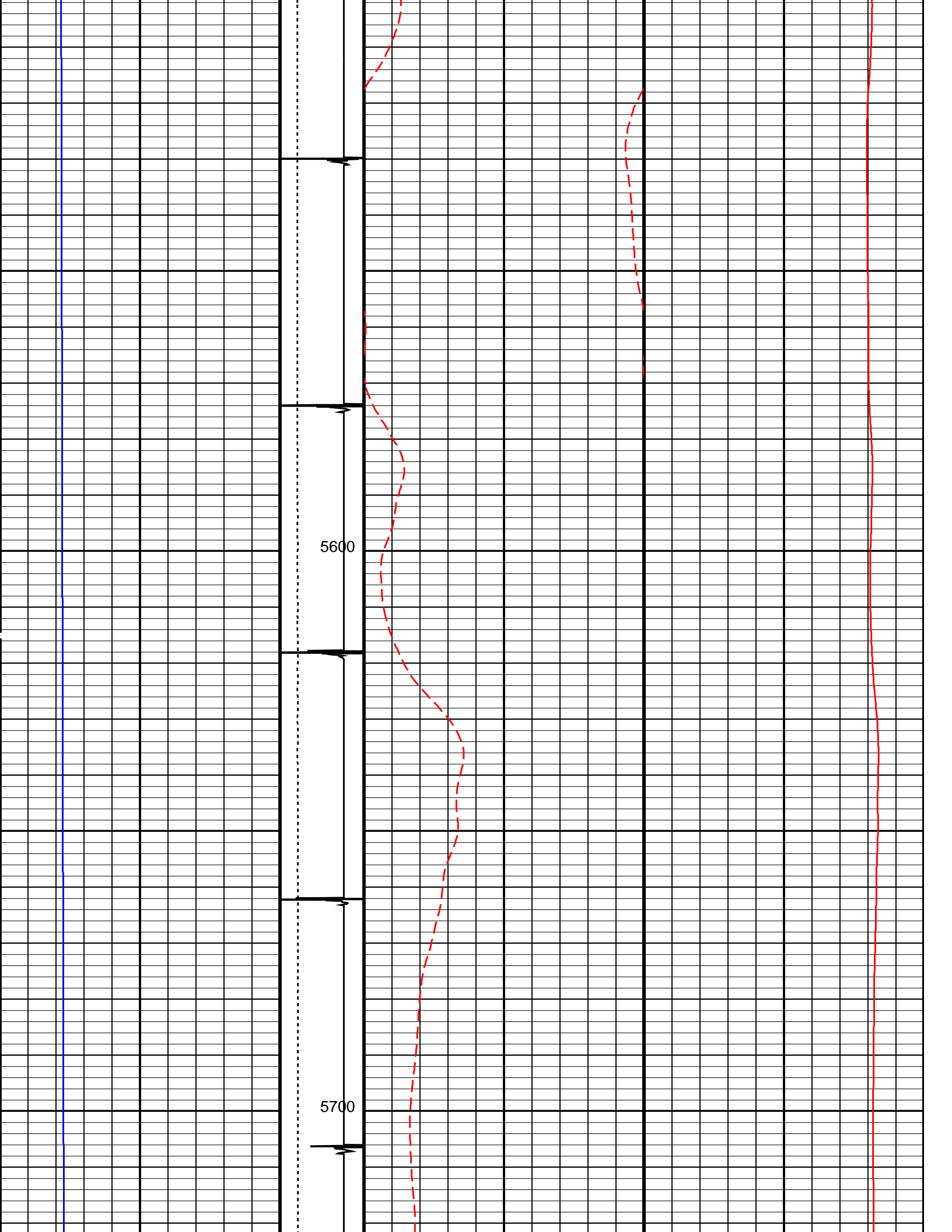


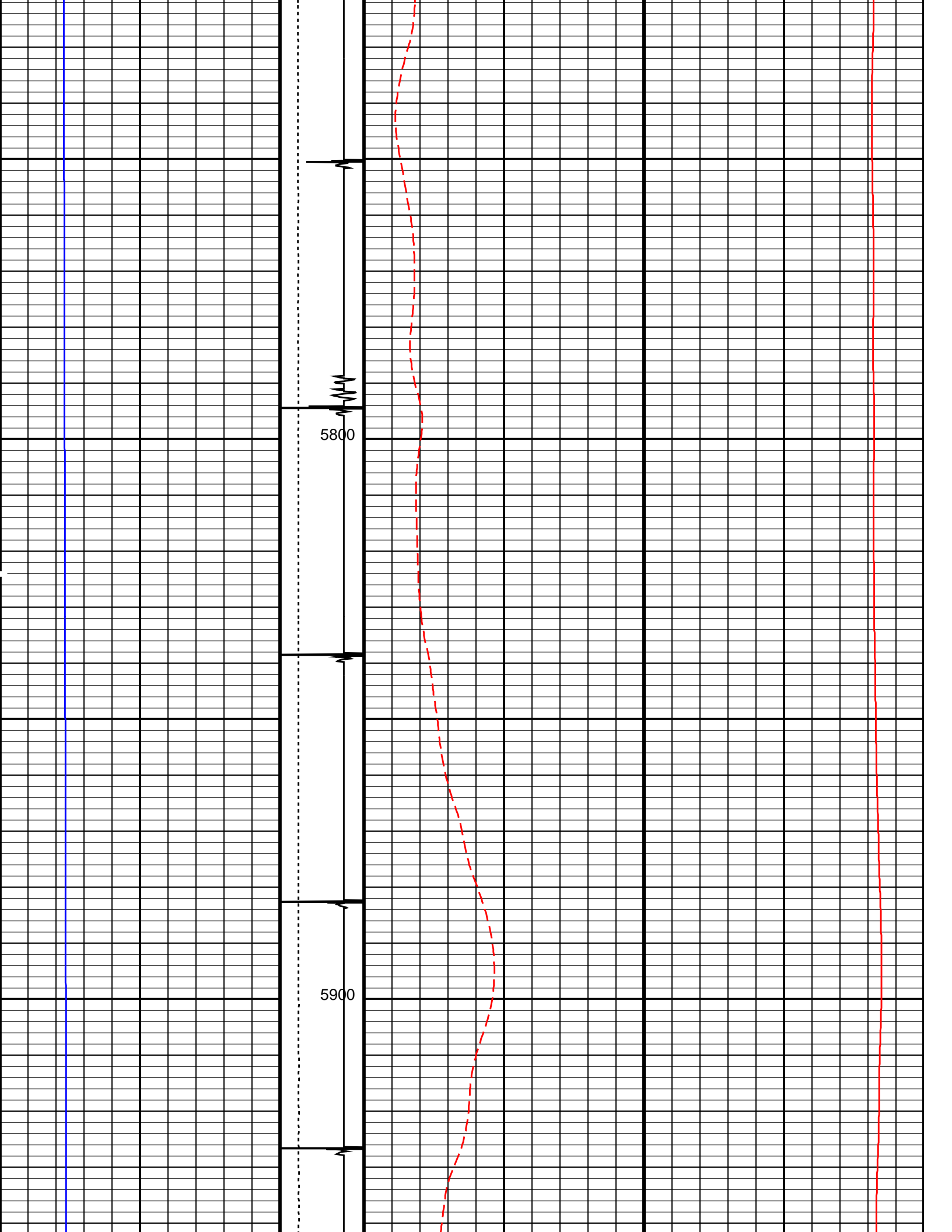


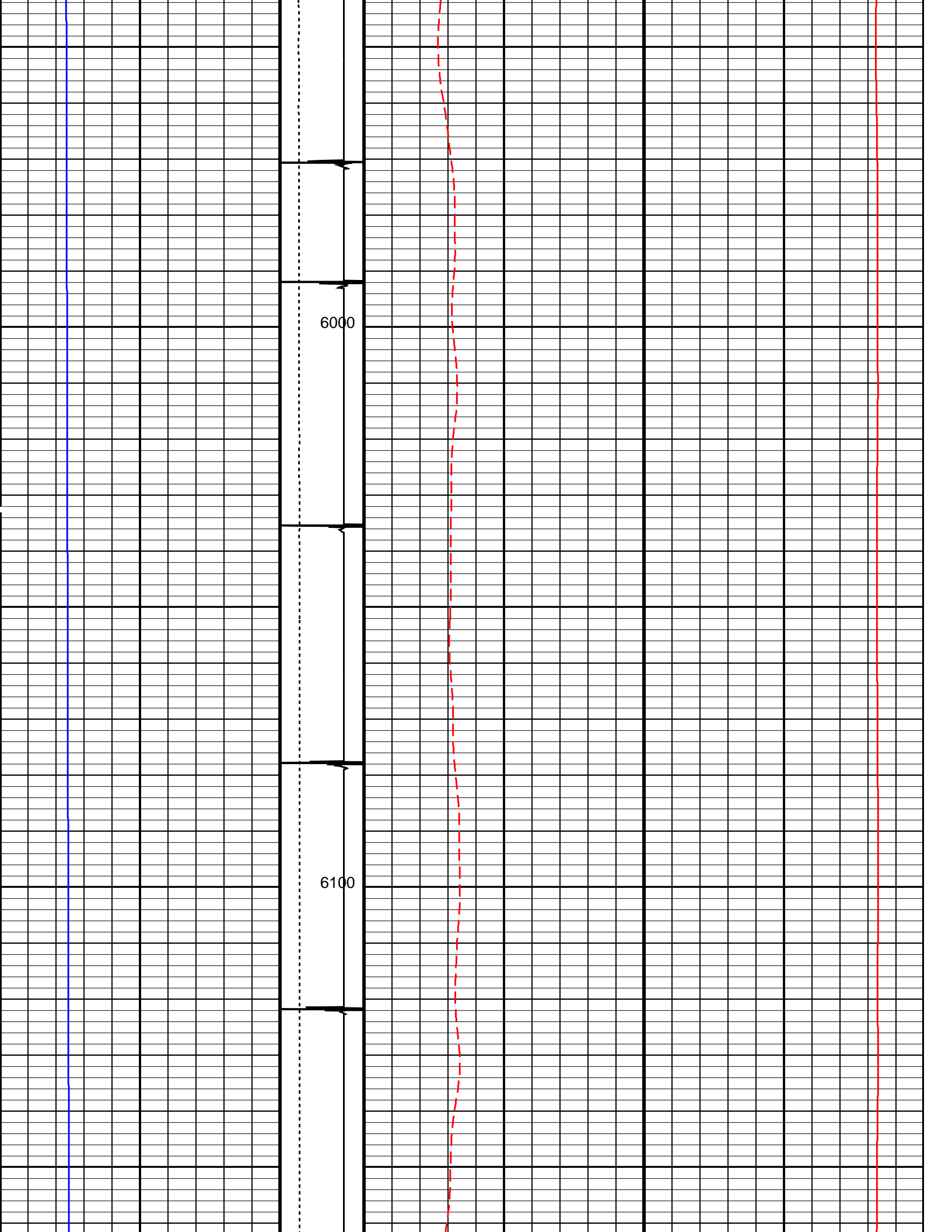


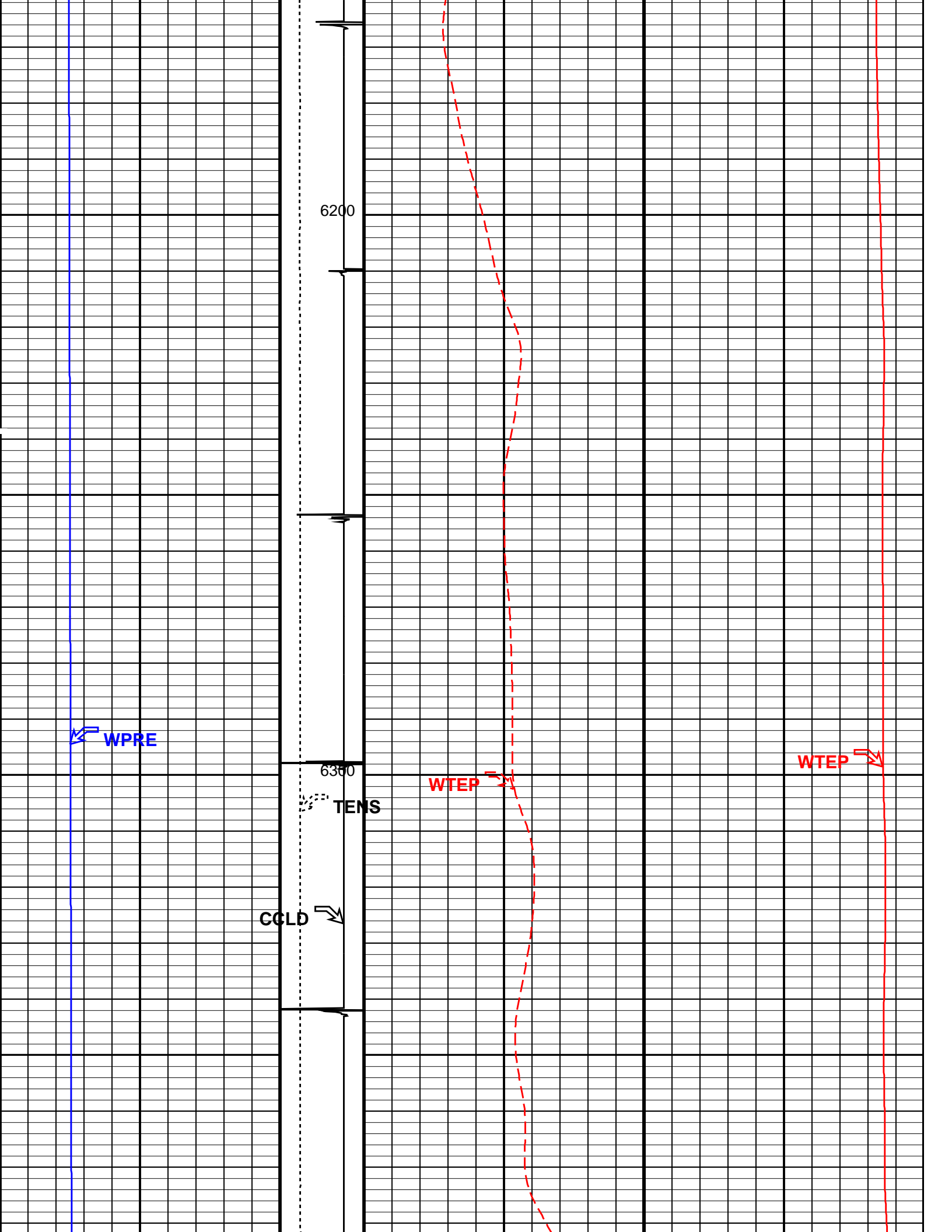


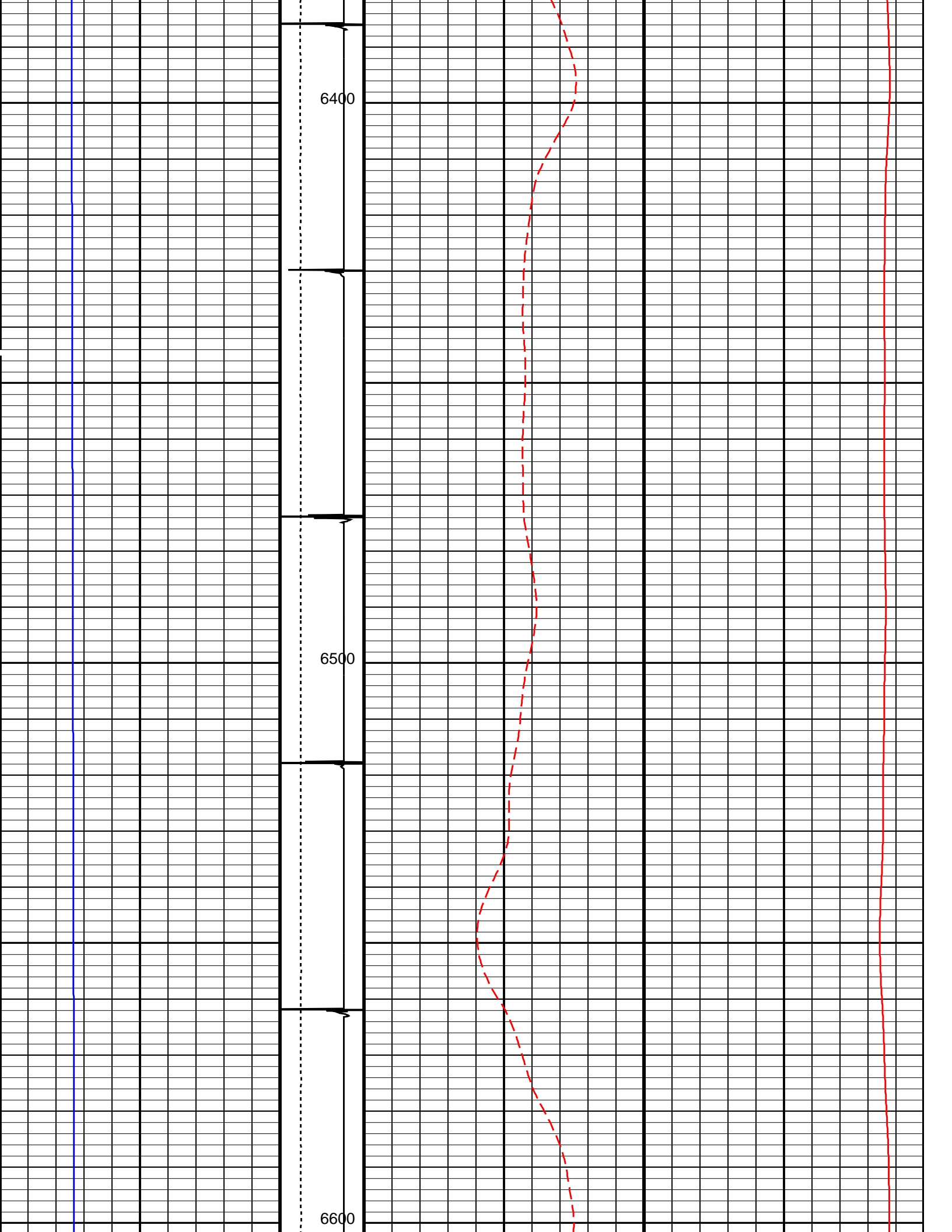


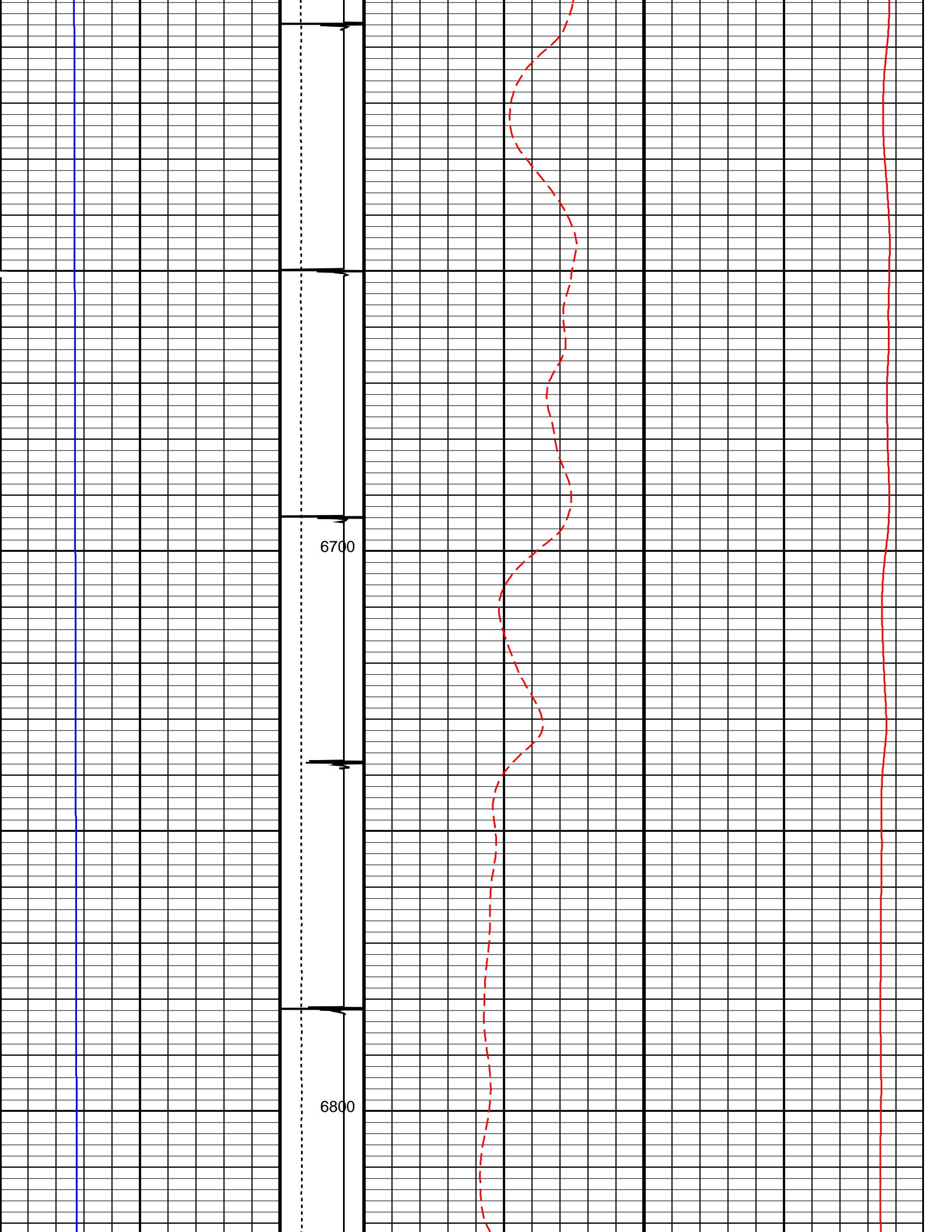


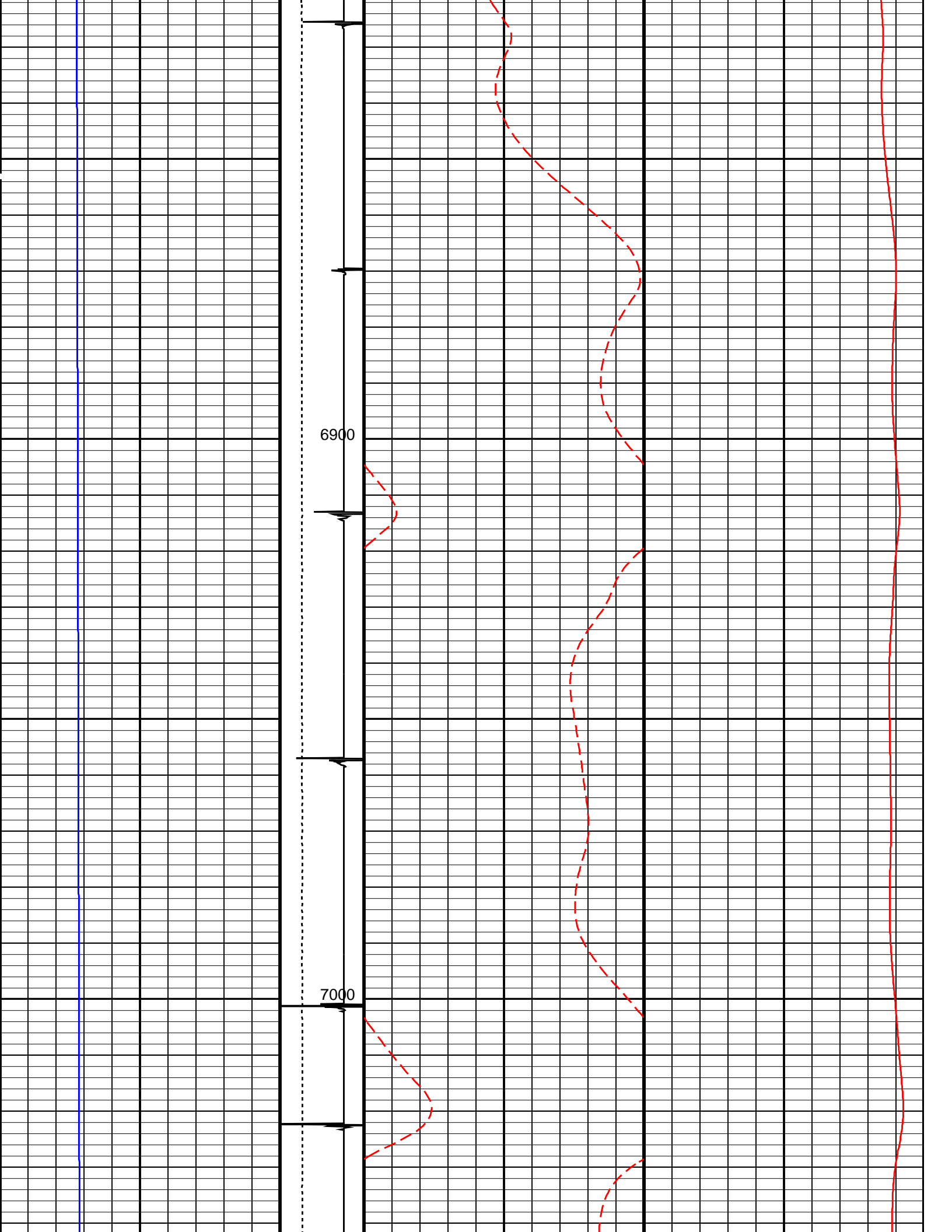


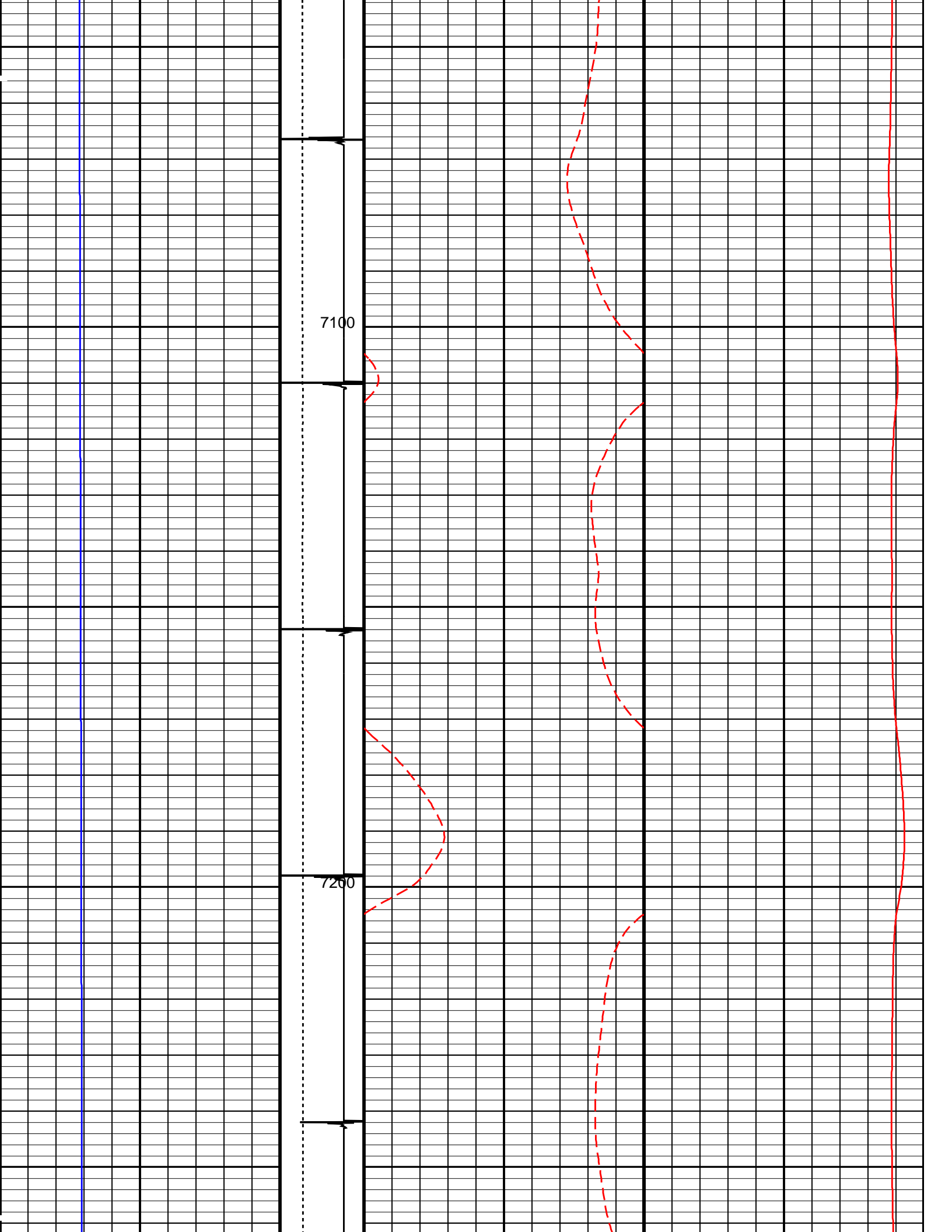


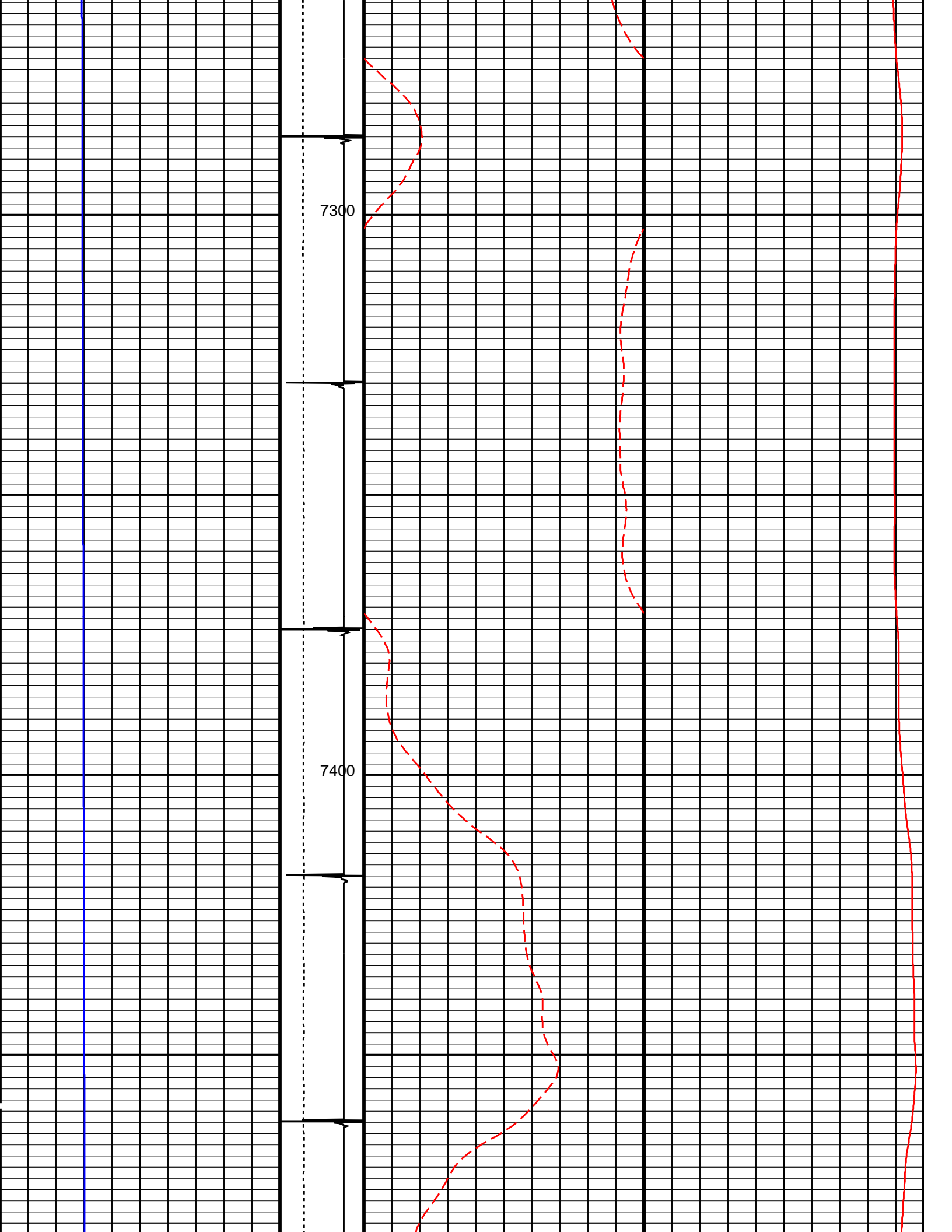


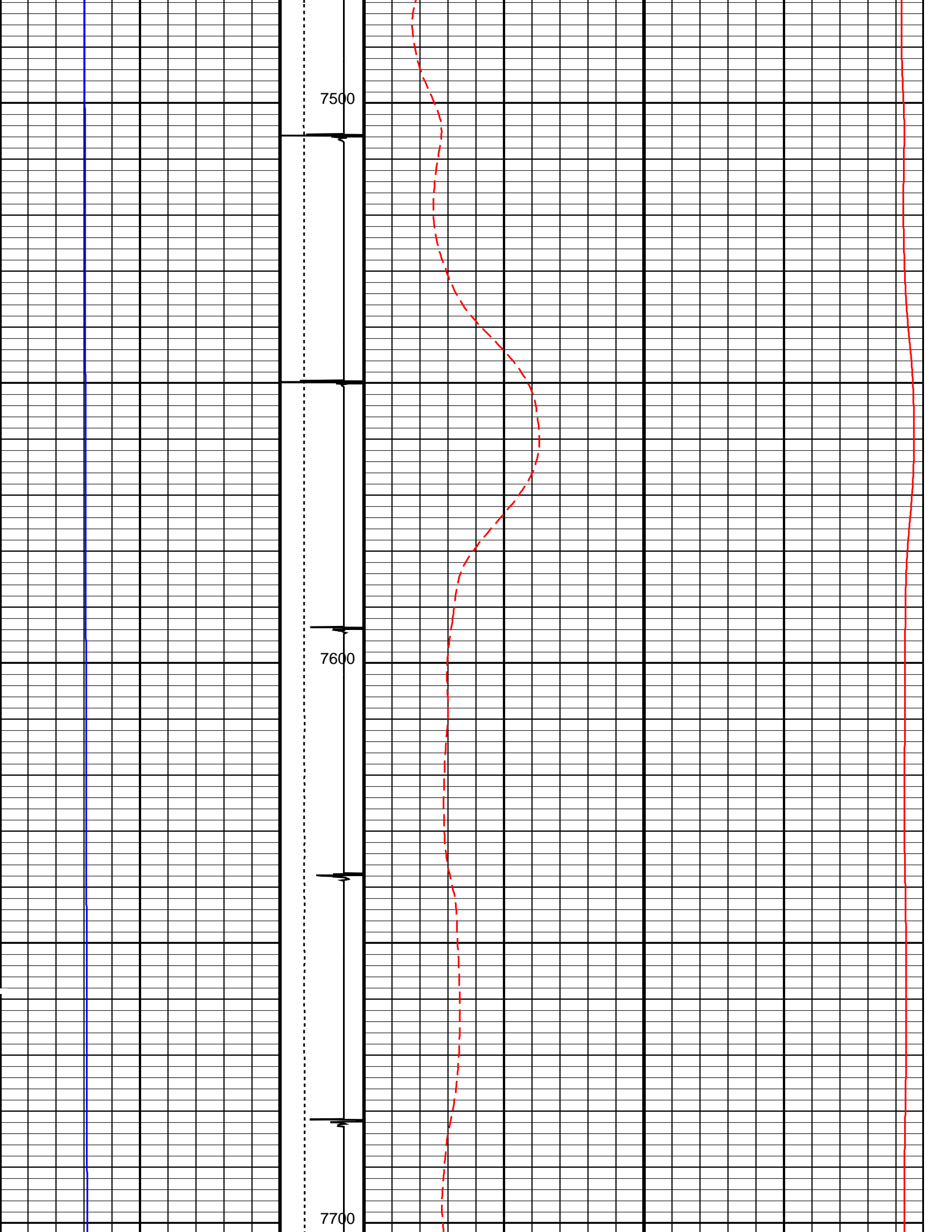


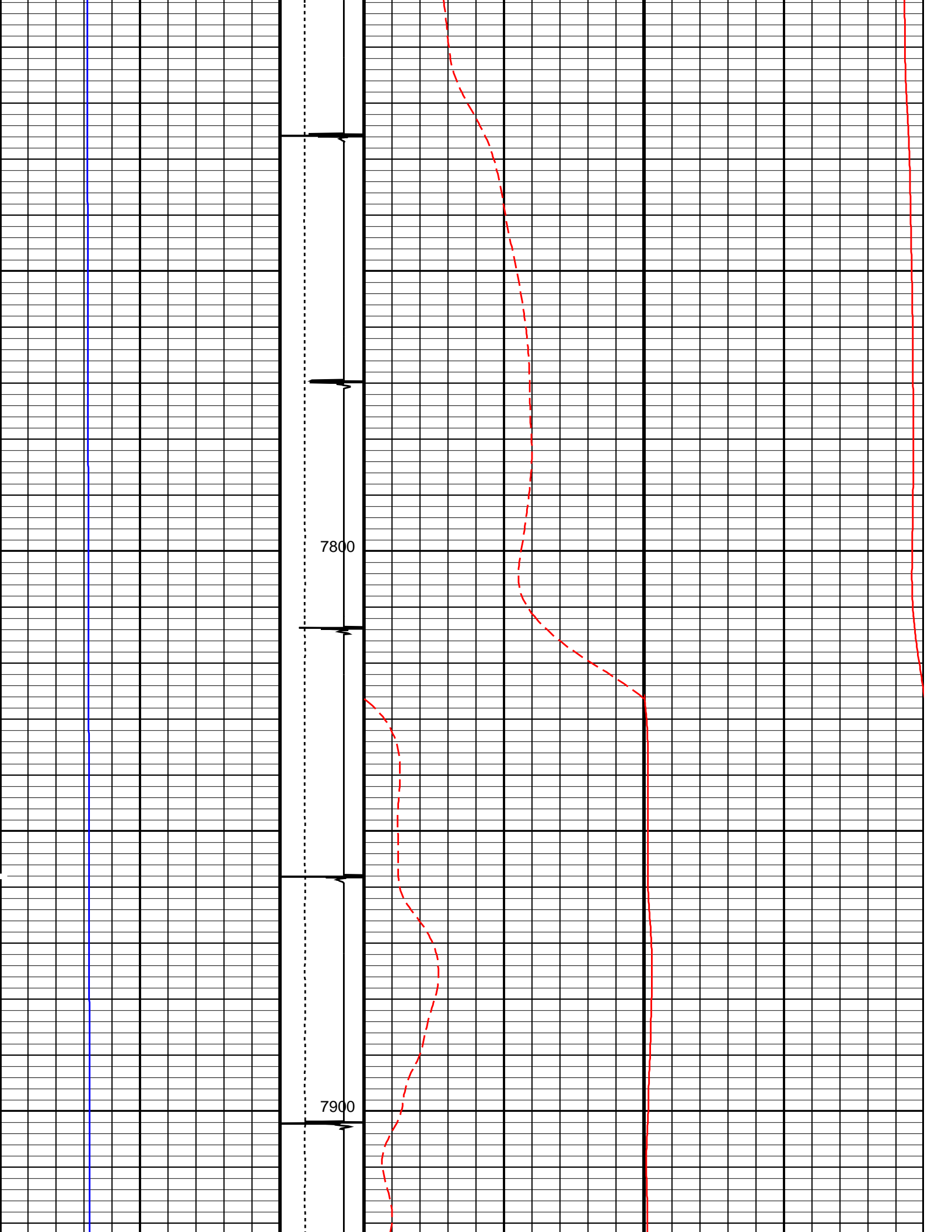


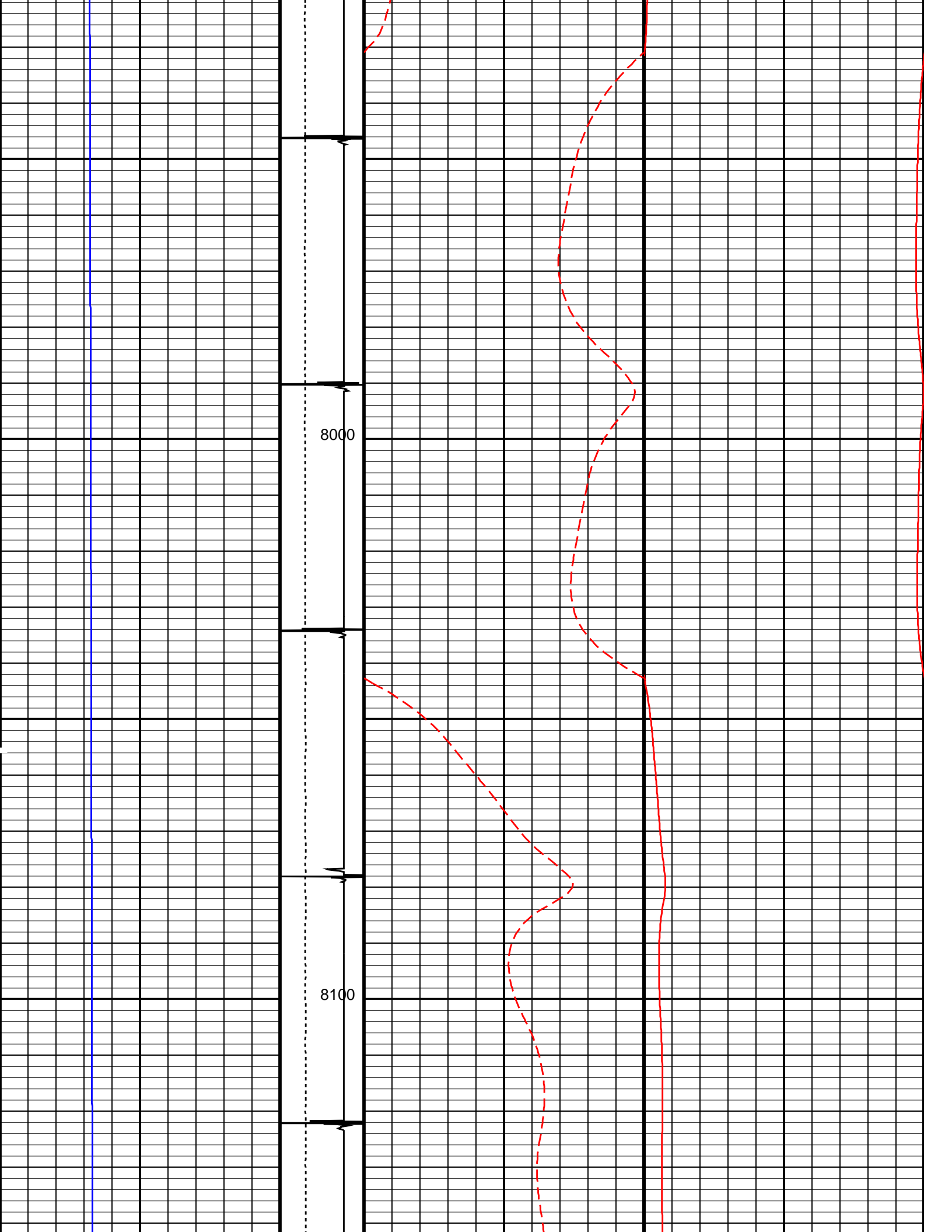


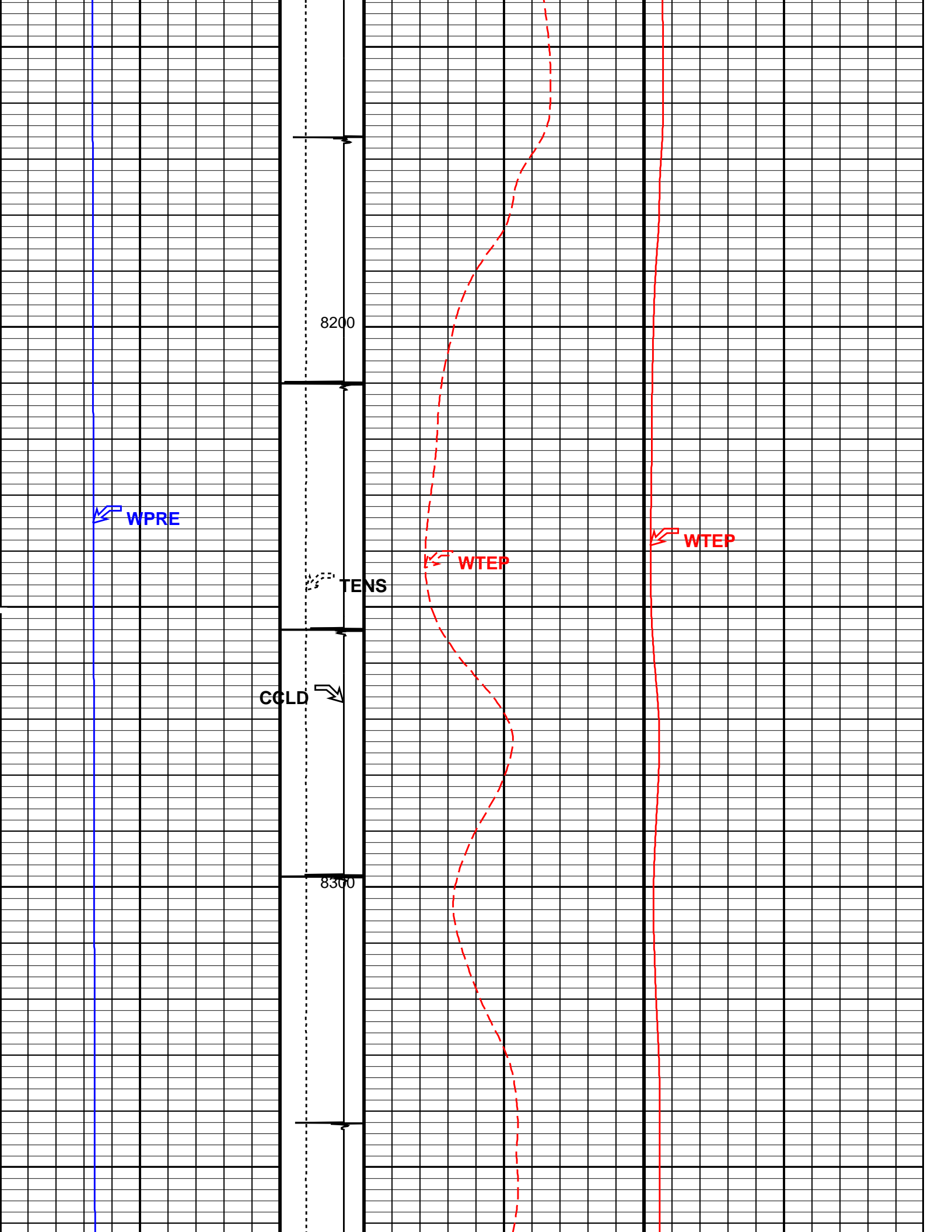


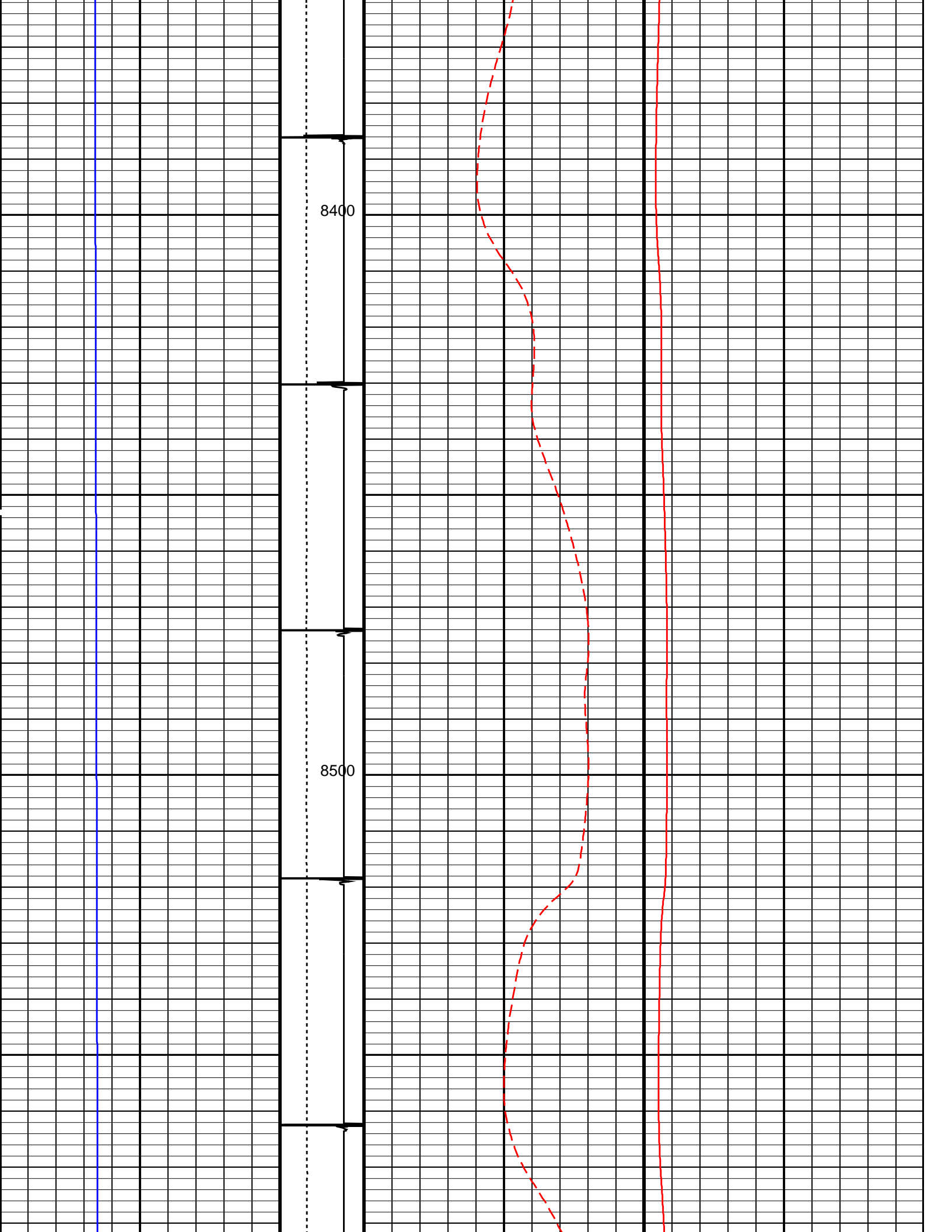


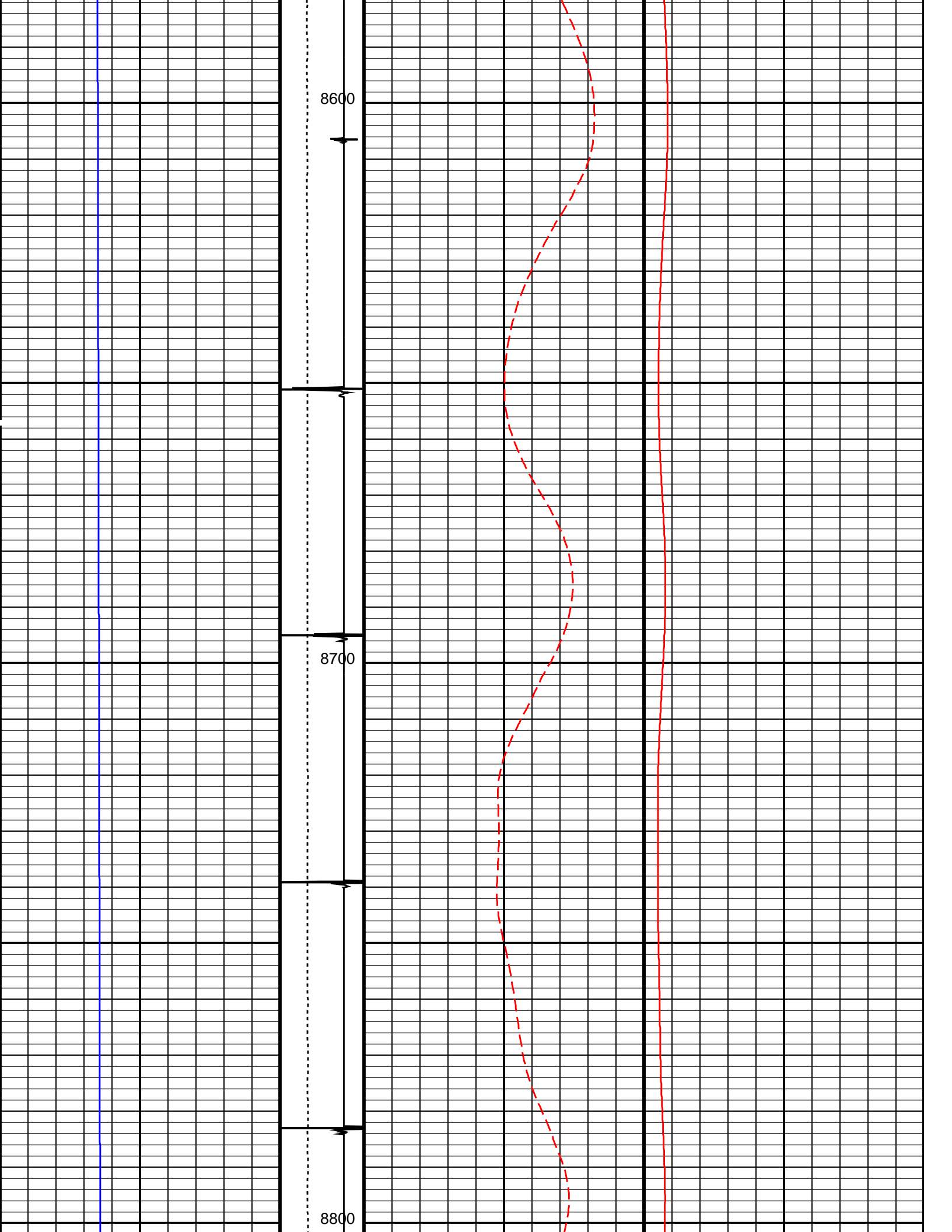


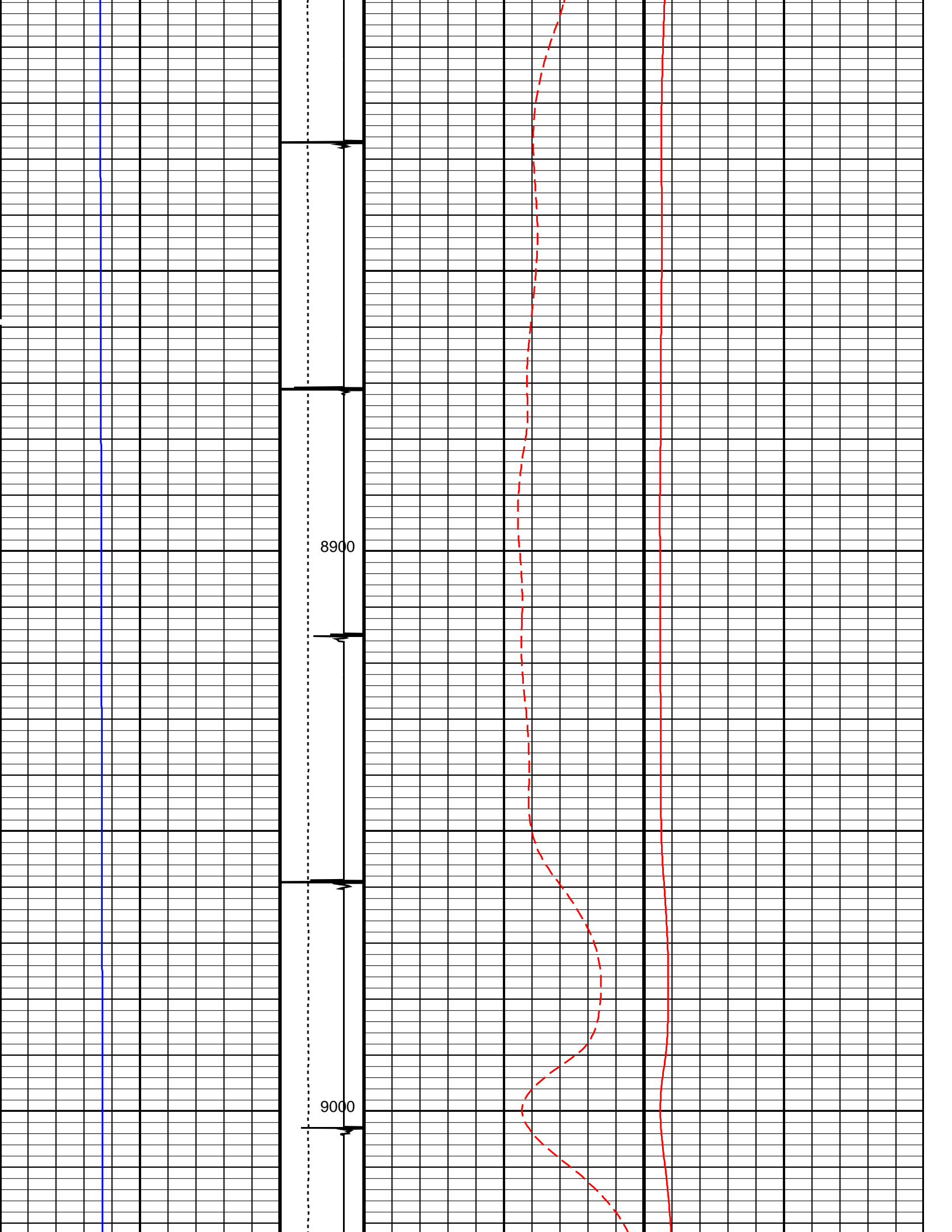












WPRE

TENS

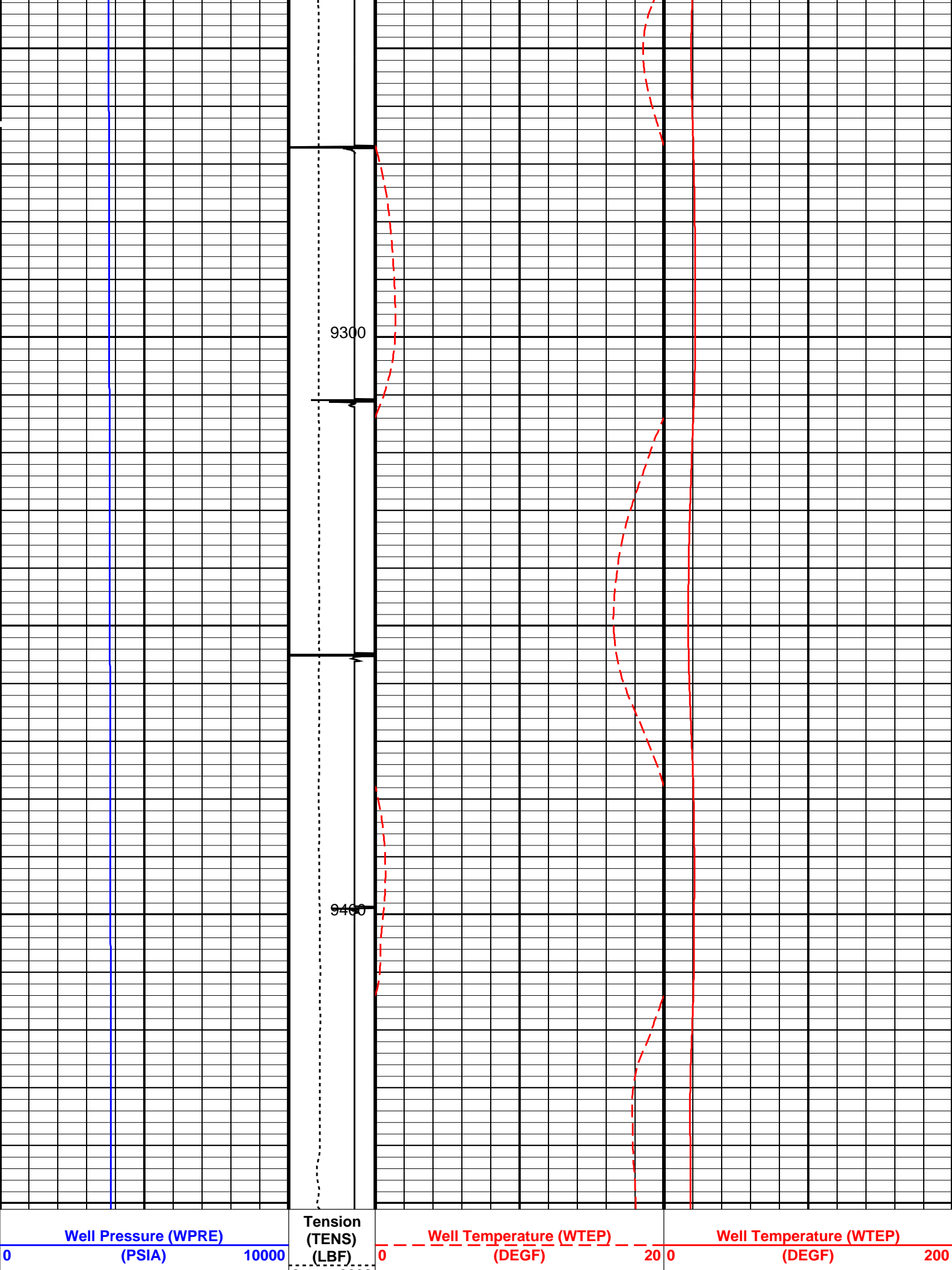
9100

CCLD

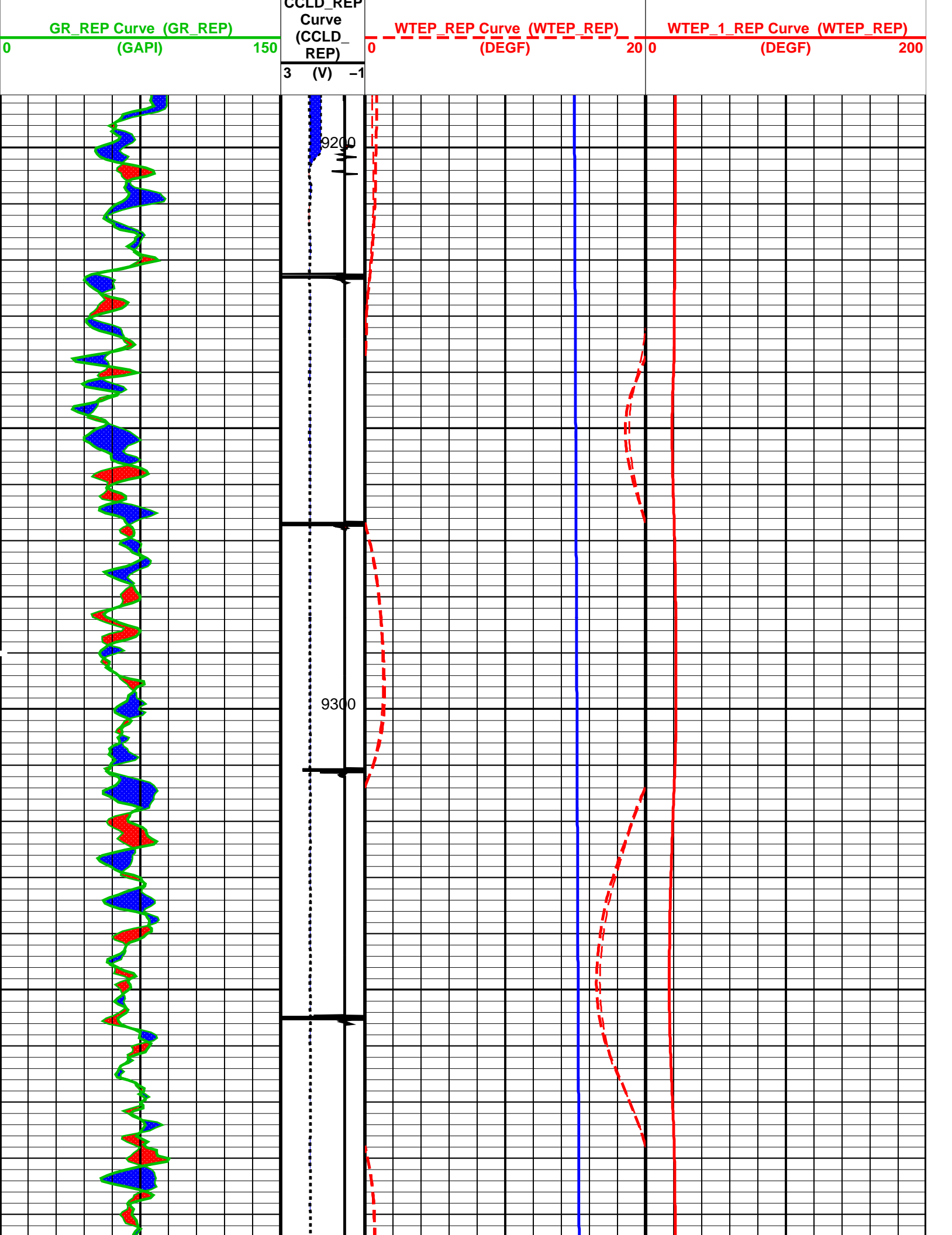
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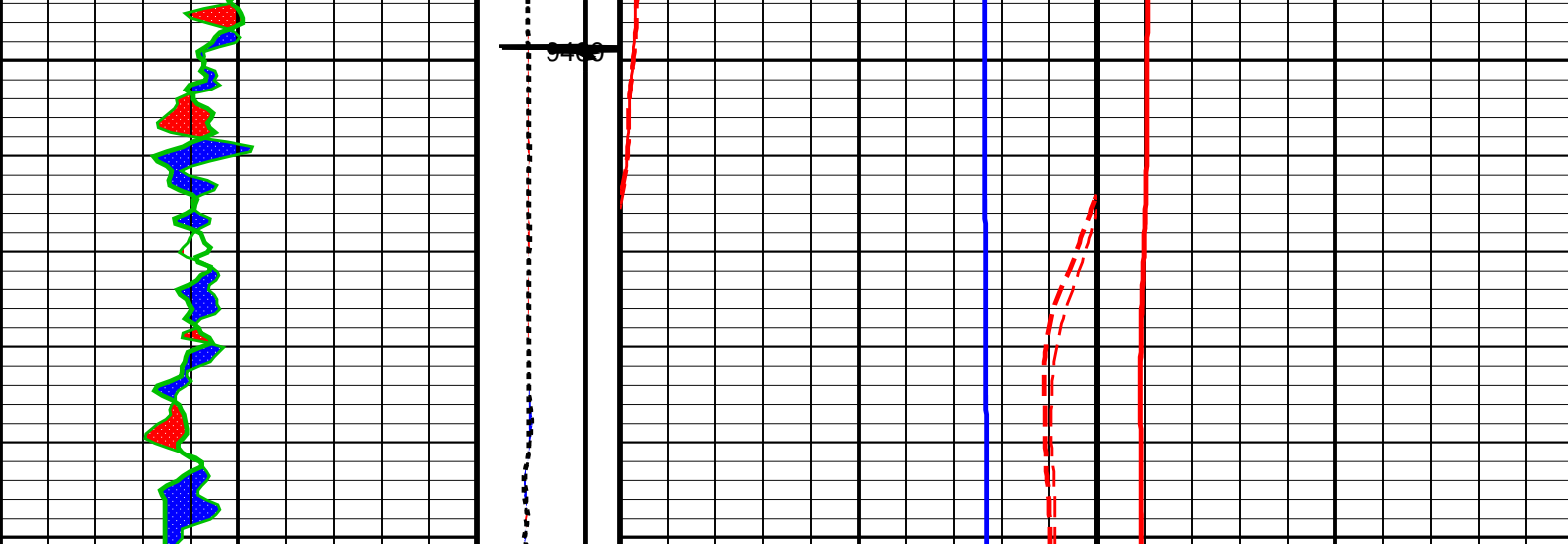
WTEP

WTEP



		0	2000		
		Discriminat ed CCL (CCLD)			
		3 (V) -1			
PIP SUMMARY					
Time Mark Every 60 S					
Parameters					
DLIS Name		Description		Value	
System and Miscellaneous		Depth Offset for Playback		0.0 FT	
DO	PP	Playback Processing		RECOMPUTE	
Format: TEMP LOG		Vertical Scale: 5" per 100'		Graphics File Created: 25-Apr-2013 07:41	
OP System Version: 19C0-187					
HBMS-B		SRPC-5214-H2-2012-OP19			
Input DLIS Files					
DEFAULT	Flip_HBMS_004LUP	PRODUCER	25-Apr-2013 07:38	9451.0 FT	-17.0 FT
Output DLIS Files					
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	25-Apr-2013 07:41	
<div><div>Schlumberger</div><div>REPEAT ANALYSIS</div></div>					
MAXIS Field Log					
Company: ENCANA OIL & GAS (USA) INC			Well: ENCANA FEE 24-1A (K19CNE)		
Input DLIS Files					
DEFAULT	Flip_HBMS_005LUP	PRODUCER	25-Apr-2013 07:38	9457.0 FT	9190.0 FT
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	25-Apr-2013 07:41	9451.0 FT -17.0 FT
Output DLIS Files					
DEFAULT	HBMS_008PUP	FN:5	PRODUCER	25-Apr-2013 07:47	9457.0 FT 9190.0 FT
OP System Version: 19C0-187					
HBMS-B		SRPC-5214-H2-2012-OP19			
PIP SUMMARY					
Time Mark Every 60 S					
		TENS_REP Curve (TENS_Rep) (LBF)	WPRE_REP Curve (WPRE_REP)		
		0	(PSIA) 10000		
		0 2000			
		COLD_REP			





GR_REP Curve (GR_REP) 0 (GAPI) 150	CCLD_REP Curve (CCLD_REP) 3 (V) -1	WTEP_REP Curve (WTEP_REP) 0 (DEGF) 20	WTEP_1_REP Curve (WTEP_REP) 0 (DEGF) 200
	TENS_REP Curve (TENS_REP) 0 (LBF) 2000	WPRE_REP Curve (WPRE_REP) 0 (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: 25-Apr-2013 07:47

OP System Version: 19C0-187

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

Input DLIS Files

DEFAULT	Flip_HBMS_005LUP	PRODUCER	25-Apr-2013 07:38	9457.0 FT	9190.0 FT
DEFAULT	HBMS_007PUP	FN:4	PRODUCER	25-Apr-2013 07:41	9451.0 FT

Output DLIS Files

DEFAULT	HBMS_008PUP	FN:5	PRODUCER	25-Apr-2013 07:47
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Schlumberger

HBMS COEFFICIENTS

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: ENCANA FEE 24-1A (K19CNE)

Run date: 25-Apr-2013

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.34384,TOOL HBMS-BA2880. SENSOR S/N:

34384

160206

12

D8B5

GR HV Rt

Rt**0

Rt**1

Rt**0

+.200000000000e+04

+.173000000000e+04

Client: ENCANA OIL & GAS (USA) INC

Field: MAMM CREEK

Well: ENCANA FEE 24-1A (K19CNE)

Run date: 25-Apr-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

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Client: ENCANA OIL & GAS (USA) INC
Field: MAMM CREEK
Well: ENCANA FEE 24-1A (K19CNE)
Run date: 25-Apr-2013

Tool: PSP
Sub Type: PBMS
Sensor: CQG

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
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 :

Sensor Serial NB 2880
Calib Date ddmmyy 260408
Matrix Size 66
Coeff CRC 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

Company: ENCANA OIL & GAS (USA) INC

Schlumberger

Well: ENCANA FEE 24–1A (K19CNE)
Field: MAMM CREEK
County: GARFIELD
State: COLORADO

TEMPERATURE LOG
GAMMA RAY / CCL
TEMP PLOT