

Company: Pine Ridge Oil & Gas LLC

Well: Surprise 12-54-36-6

Field: Long Shadow

County: Lincoln

State: Colorado

County: Lincoln

Field: Long Shadow

Location: 1698' FNL & 1384' FWL

Well: Surprise 12-54-36-6

Company: Pine Ridge Oil & Gas LLC

RESERVOIR SATURATION TOOL

GAMMA RAY

CASING COLLAR LOG

1698' FNL & 1384' FWL

Elev.: K.B. 4920.00 ft  
G.L. 4905.00 ft  
D.F.

Permanent Datum: \_\_\_\_\_

GROUND LEVEL \_\_\_\_\_

Elev.: 4905.00 ft \_\_\_\_\_

Log Measured From: KELLY BUSHING

15.00 ft above Perm. Datum

Drilling Measured From: KELLY BUSHING

API Serial No. 05-073-06540-0C

Section 36

Township 12S

Range 54W

Logging Date		8-Aug-2013	
Run Number	1		
Depth Driller	7151 ft		
Schlumberger Depth	7132 ft		
Bottom Log Interval	7124 ft		
Top Log Interval	1700 ft		
Casing Fluid Type	WATER		
Salinity			
Density	8.4 lbm/gal		
Fluid Level			
BIT/CASING/TUBING STRING			
Bit Size	7.875 in		
From			
To			
Casing/Tubing Size	5.500 in		
Weight	17 lbm/ft		
Grade			
From			
To			
Maximum Recorded Temperatures	187 degF		
Logger On Bottom	8-Aug-2013	12:30	
Unit Number	354	FORT MORGAN	
Recorded By	C MARCH		
Witnessed By	GARY OHLMAN		

Oil Density		Run 1	Run 2	Run
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: 8-AUG-2013 15:27:35

## Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	1-25P
Serial Number:	6220	Serial Number:	1163	Serial Number:	354
Calibration Date:	27-MAR-2013	Calibration Date:	14-JUL-2013	Length:	15000 FT
Calibrator Serial Number:	1	Calibrator Serial Number:	78135	Conveyance Method:	Wireline
Calibration Cable Type:	1-25P	Number of Calibration Points:	0	Rig Type:	LAND
Wheel Correction 1:	-4				
Wheel Correction 2:	-2				

## 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:	1.40 FT

## Depth Control Remarks

1. IDW WHEELS PRIMARY DEPTH CONTROL
2. DRUM COUNTER USED AS SECONDARY DEPTH CONTROL
- 3.
- 4.
- 5.
- 6.

## DISCLAIMER

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[illegible]

CREW: KOLMAN					
THANK YOU					
<div><div>RUN 1</div><div>SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:</div><div>C170-00107 19C2-270</div></div>	<div><div>RUN 2</div><div>SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:</div></div>				
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT	DESCRIPTION

## SURFACE EQUIPMENT

SCMT-CB  
SCMC-CA  
SECH-CA  
CMIR-AG  
SCMS-CB 8160  
SCMX-CA

20.2

DT 11.1  
CBL5 DTSC 9.6  
CBL3 8.6  
MAP 8.1  
AUX 7.1

TDBN-TDT HV Tension SCMT 0.0  
TOOL ZERO 0.2

MAXIMUM STRING DIAMETER 1.72 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN FEET

Schlumberger

MAIN PASS

MAXIS Field Log

Company: Pine Ridge Oil & Gas LLC Well: Surprise 12-54-36-

Input DLIS Files

DEFAULT SCMT\_RST\_PSP\_006LUP FN:5 PRODUCER 08-Aug-2013 13:17 7139.5 FT 1614.5 FT

Output DLIS Files

DEFAULT SCMT\_RST\_PSP\_007PUP FN:6 PRODUCER 08-Aug-2013 15:15 7139.5 FT 1563.0 FT

OP System Version: 19C2-270

SCMT-CB 19C2-270 RST-C 19C2-270  
PSPT 19C2-270

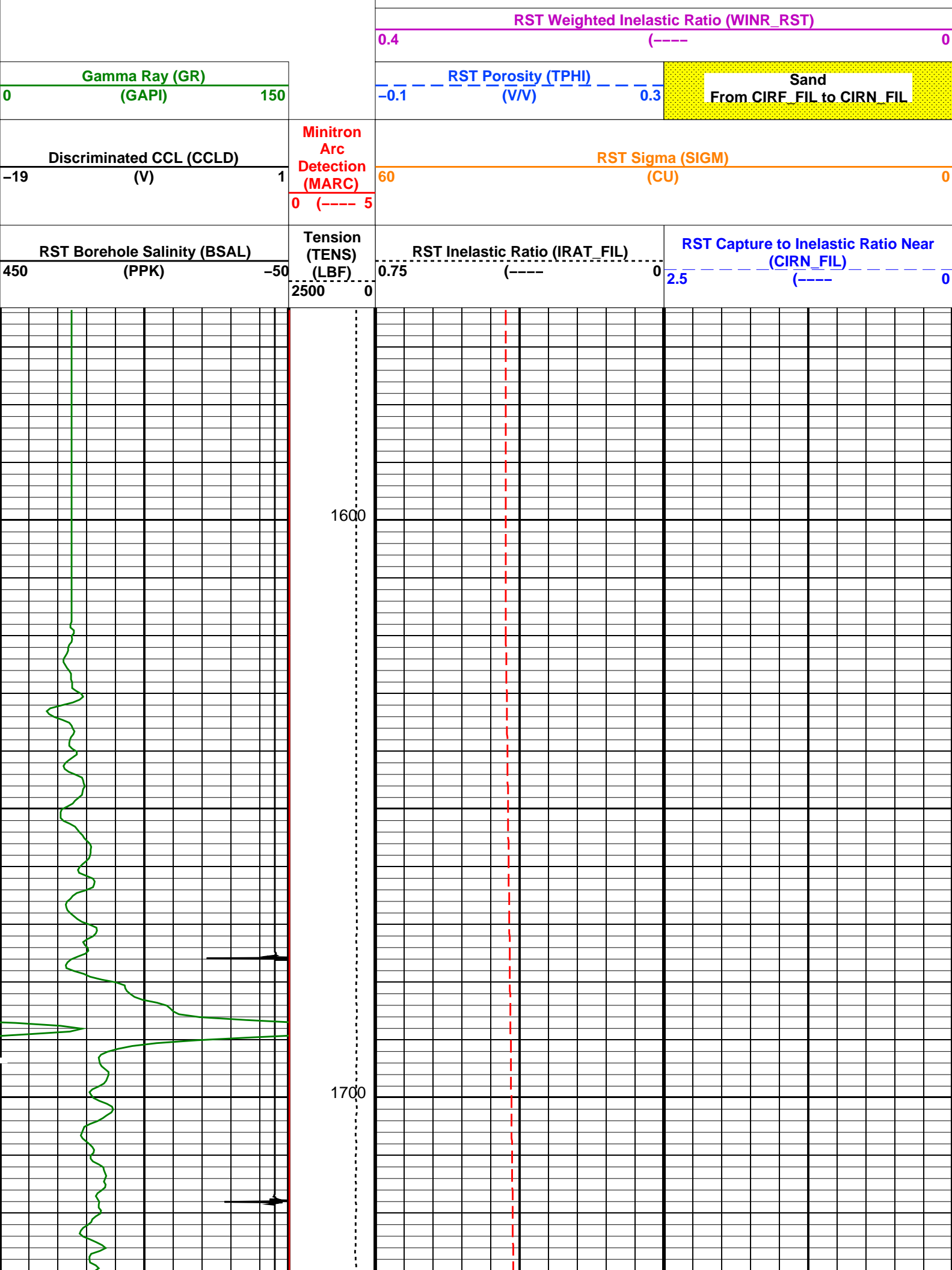
PIP SUMMARY

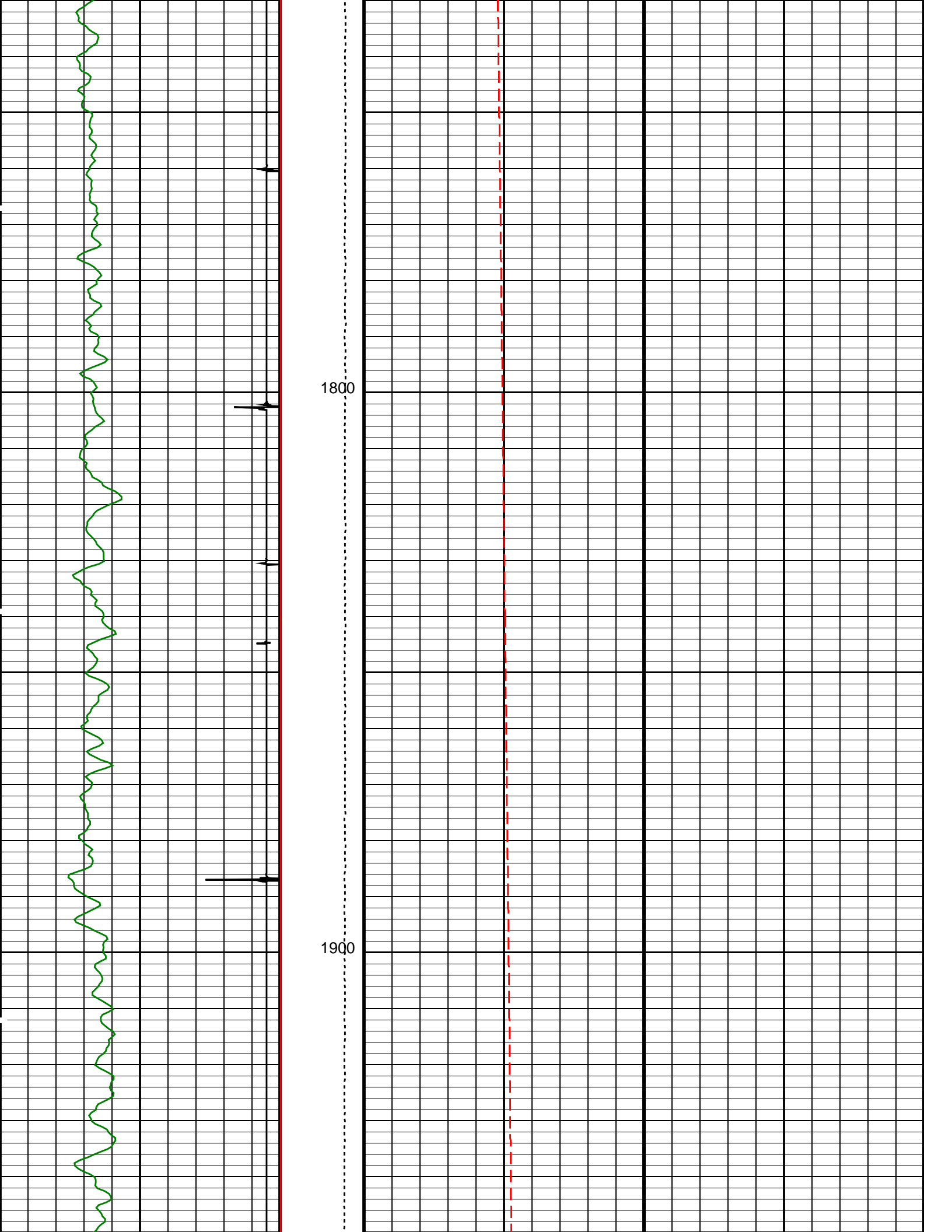
Time Mark Every 60 S

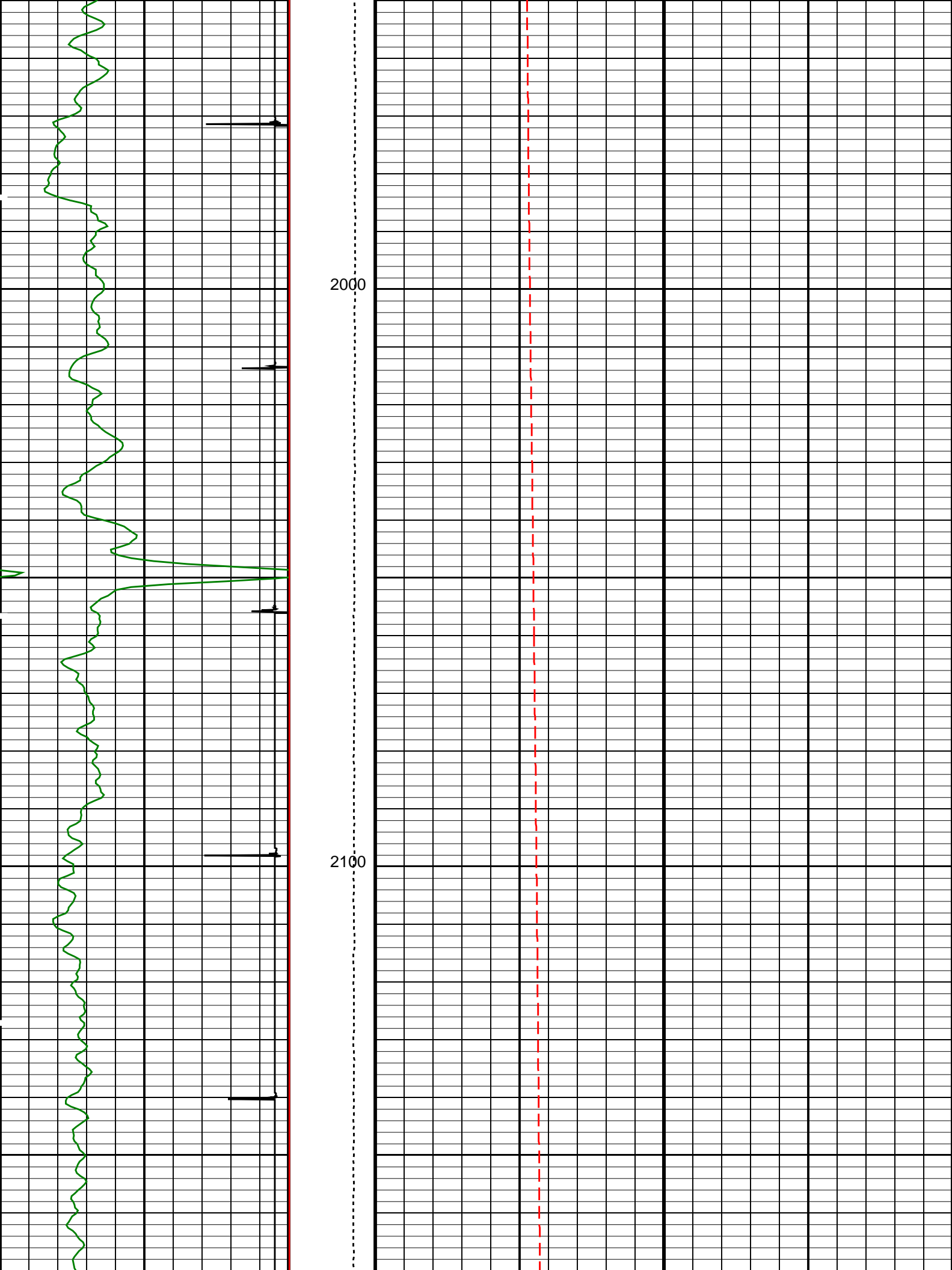
RST Capture to Inelastic Ratio Far (CIRF\_FIL)  
7 (----) 0

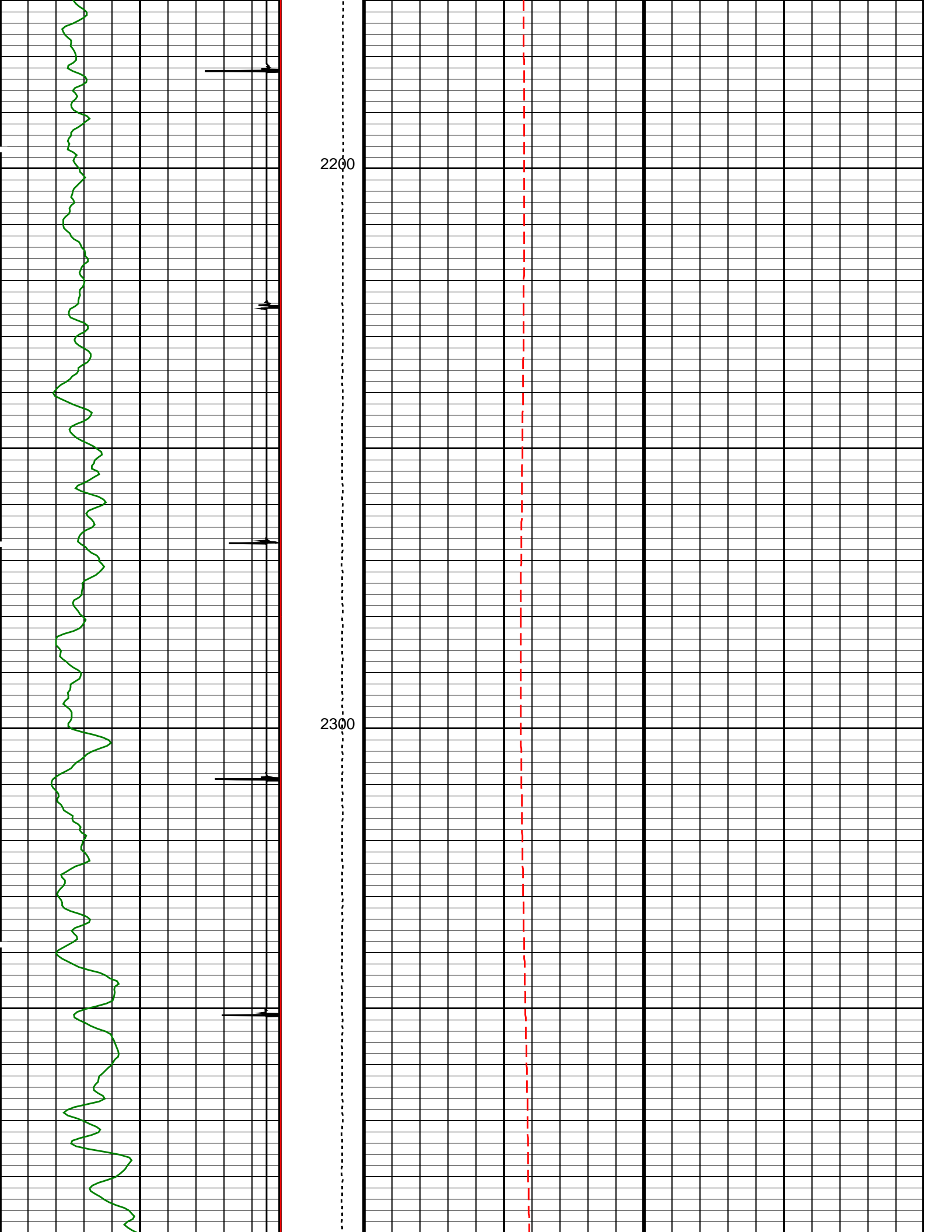
Gas Flag  
From WINR to CIRF\_FIL

Well Temperature (WTEP)  
50 (DEGF) 250

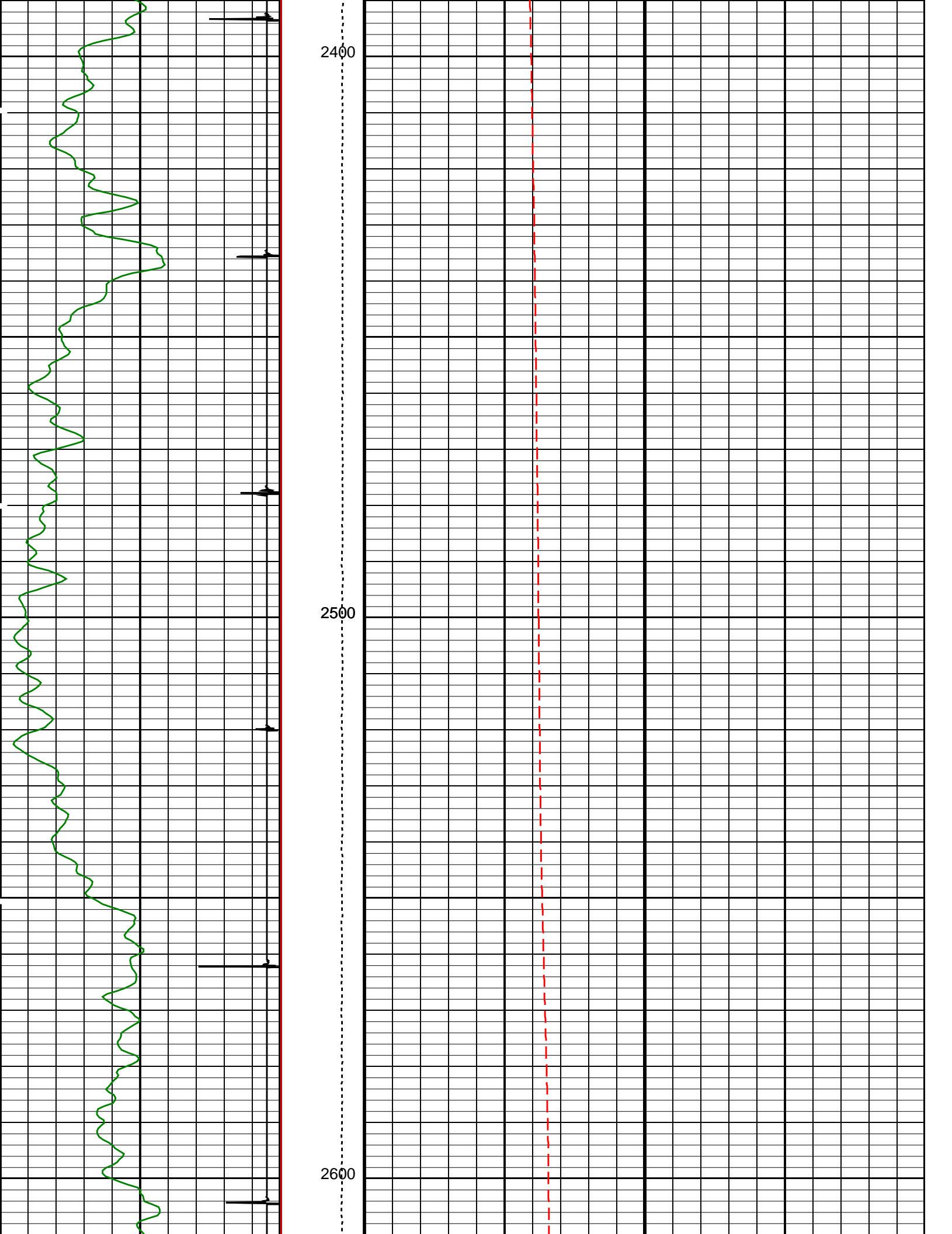


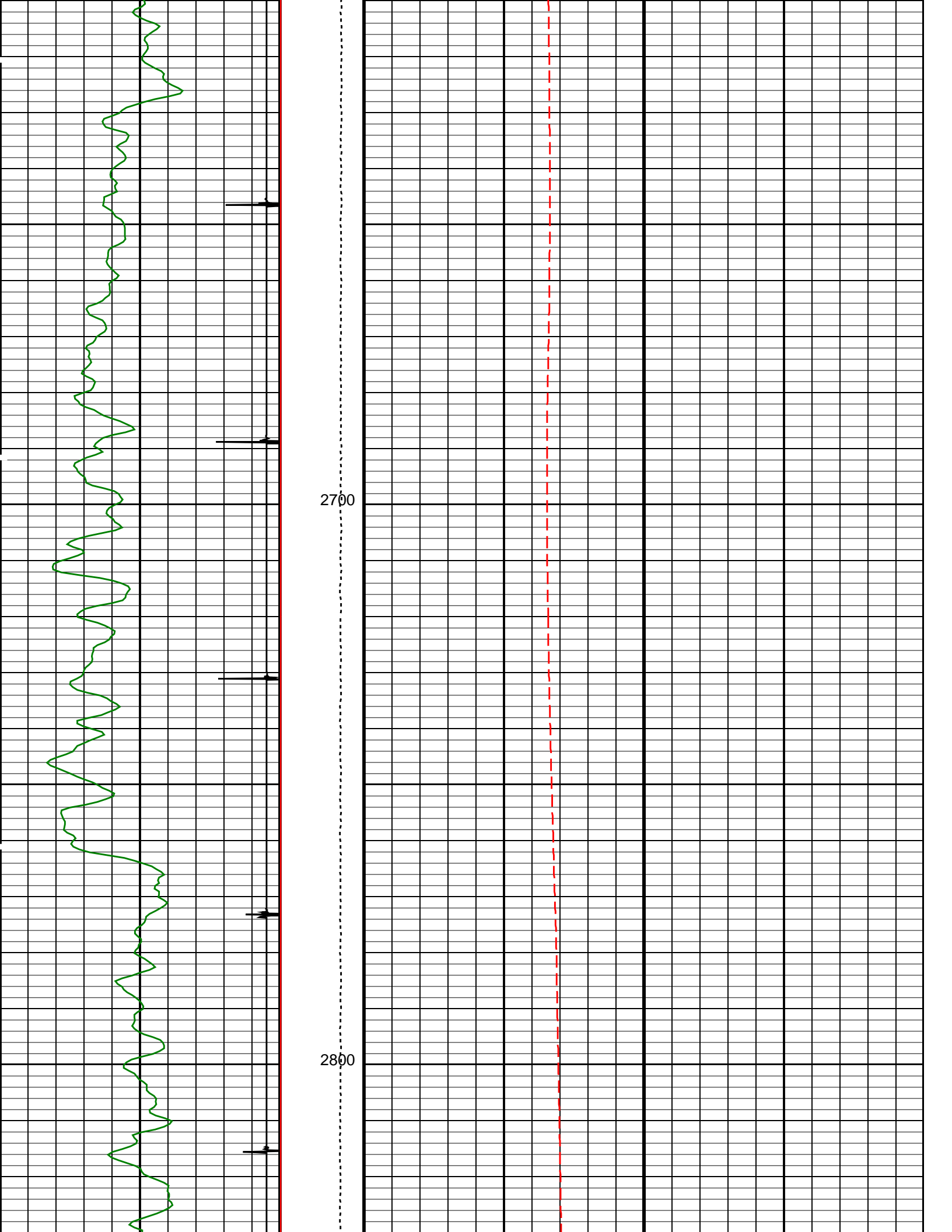


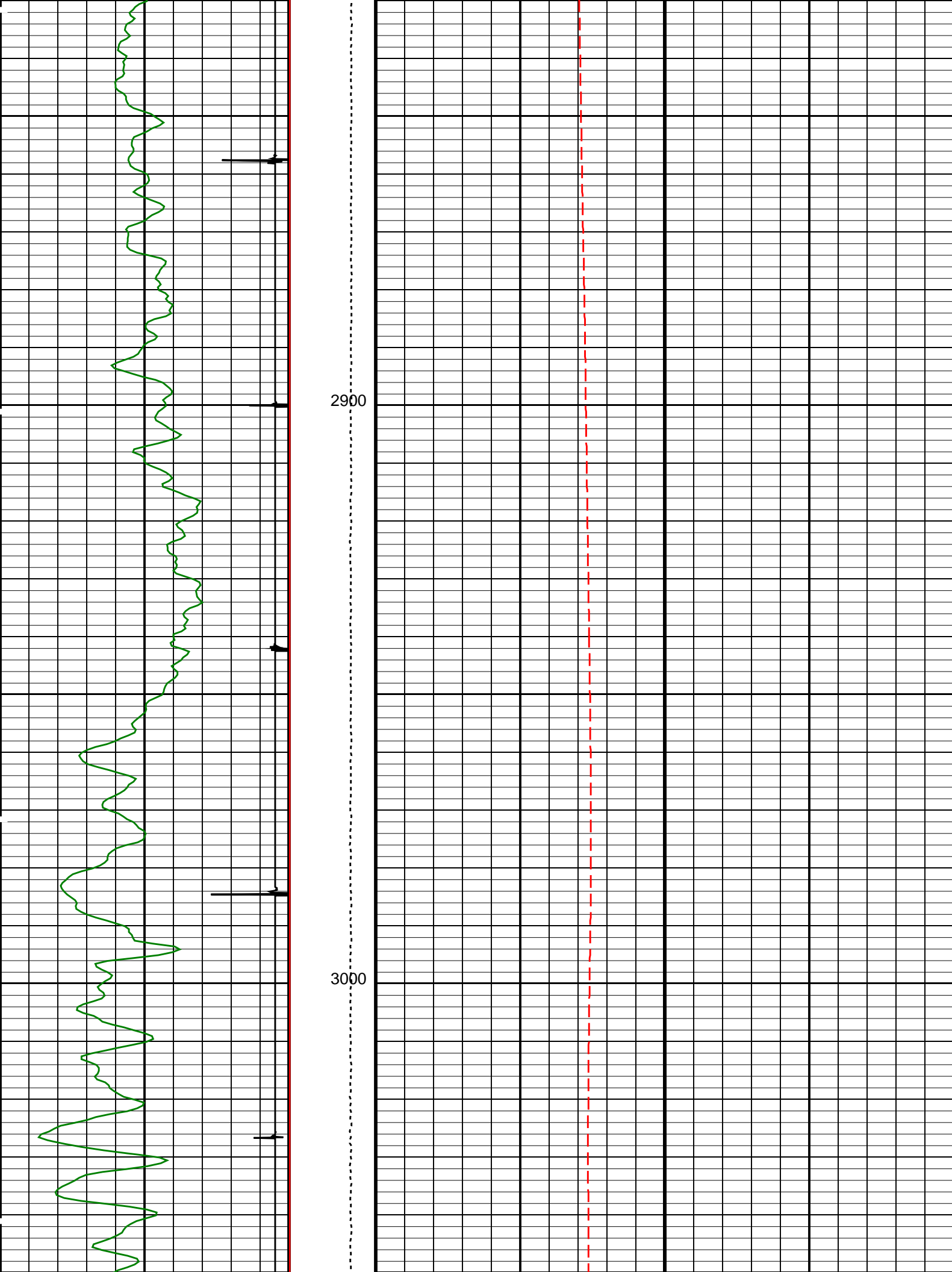


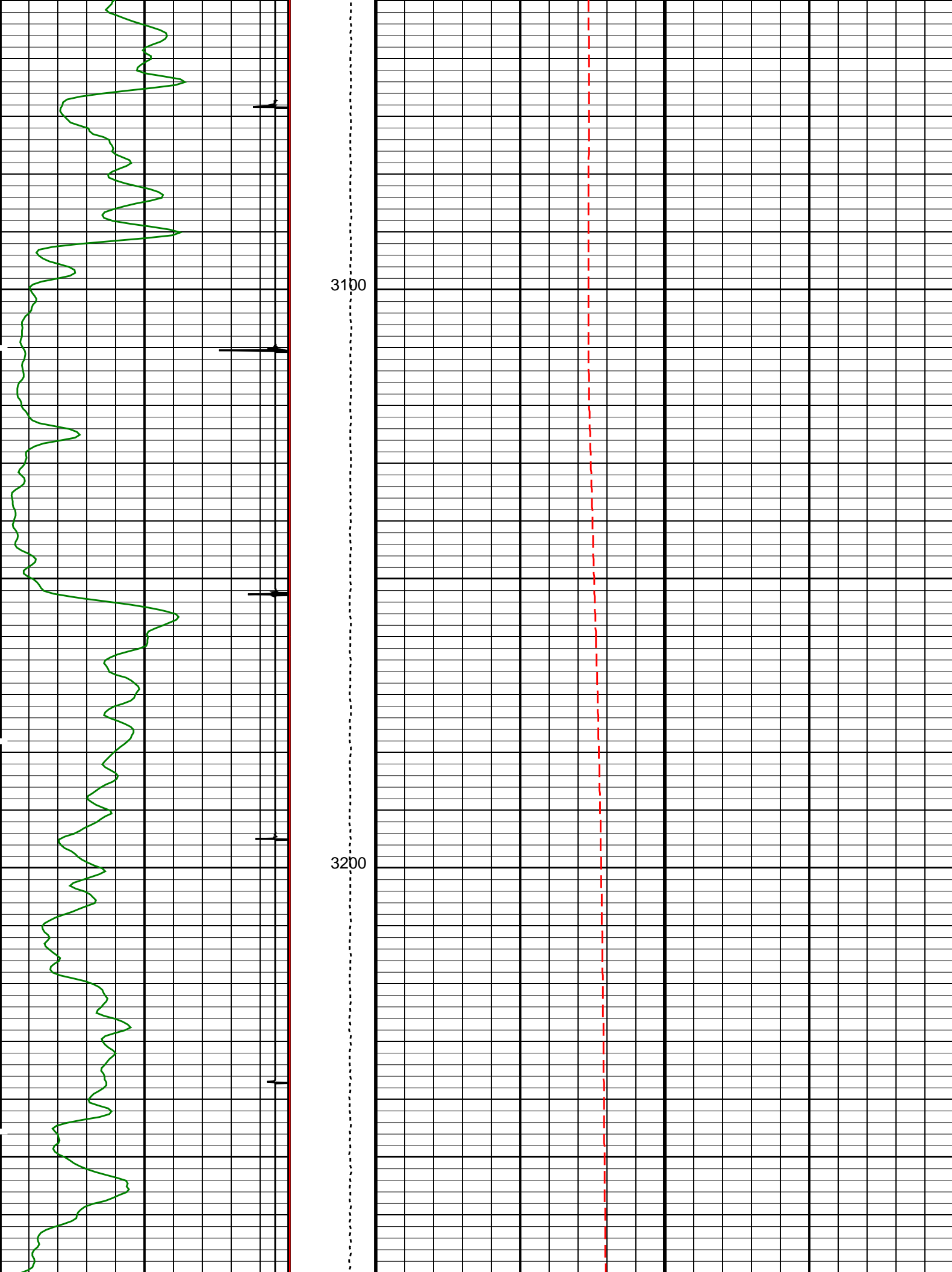


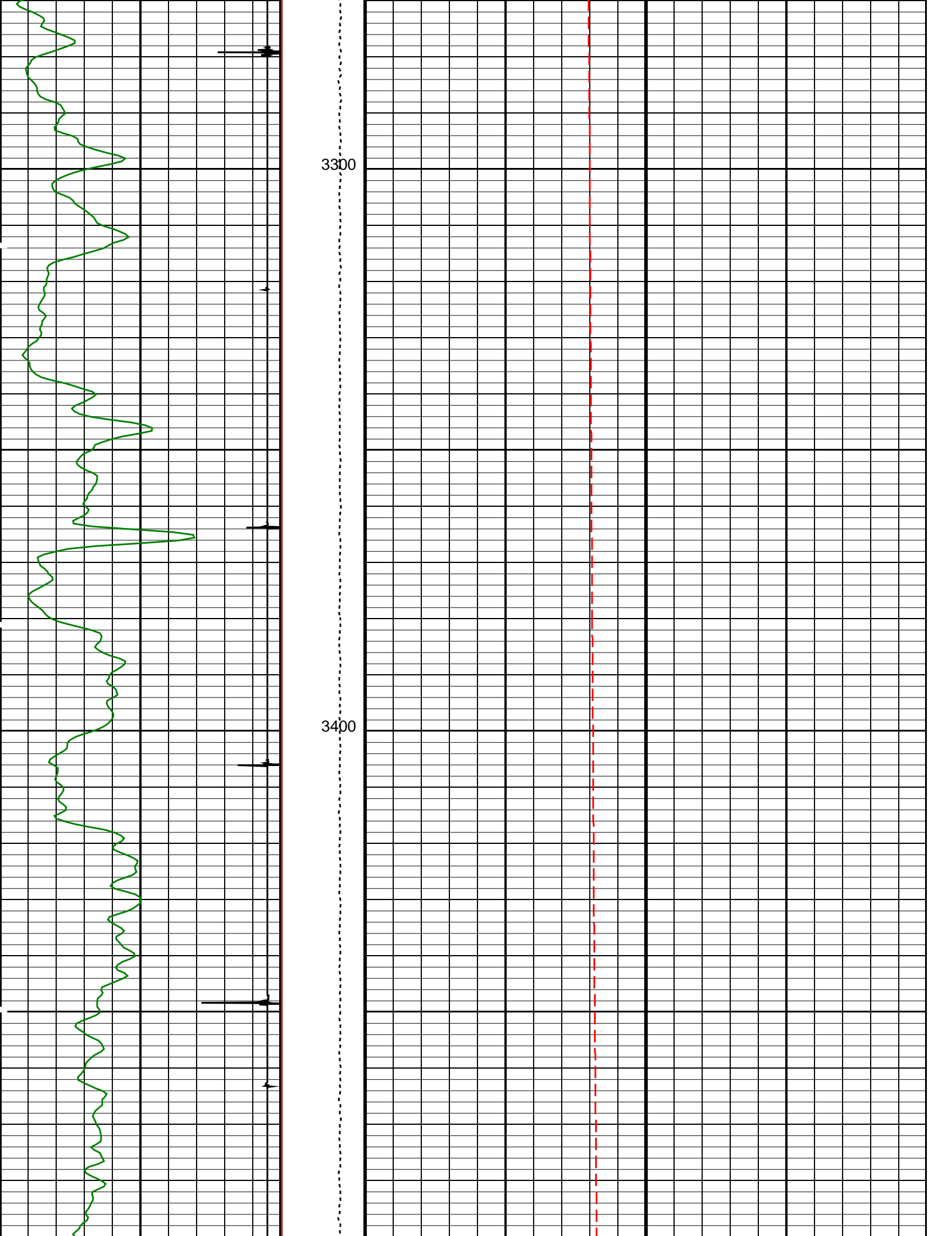


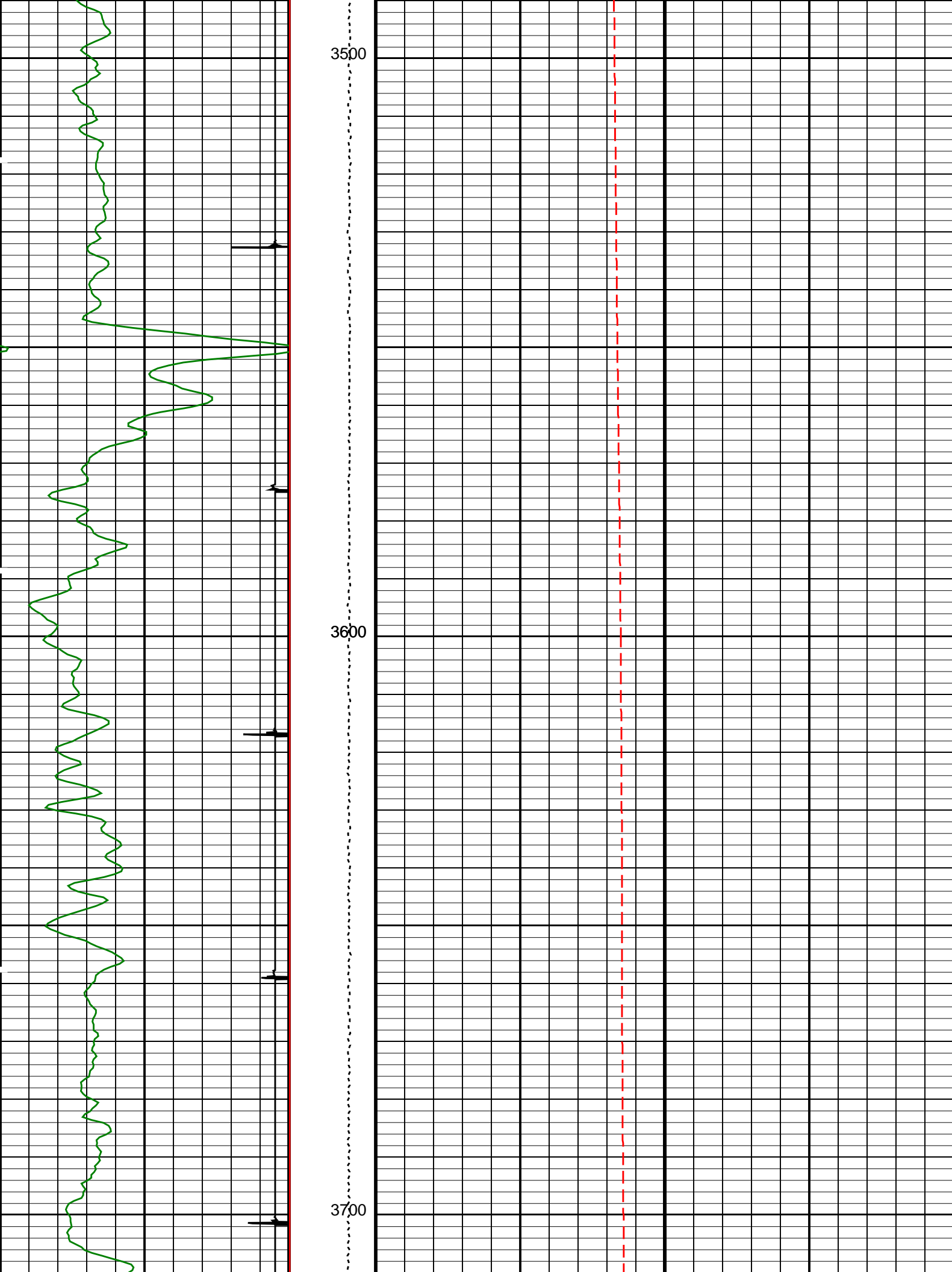


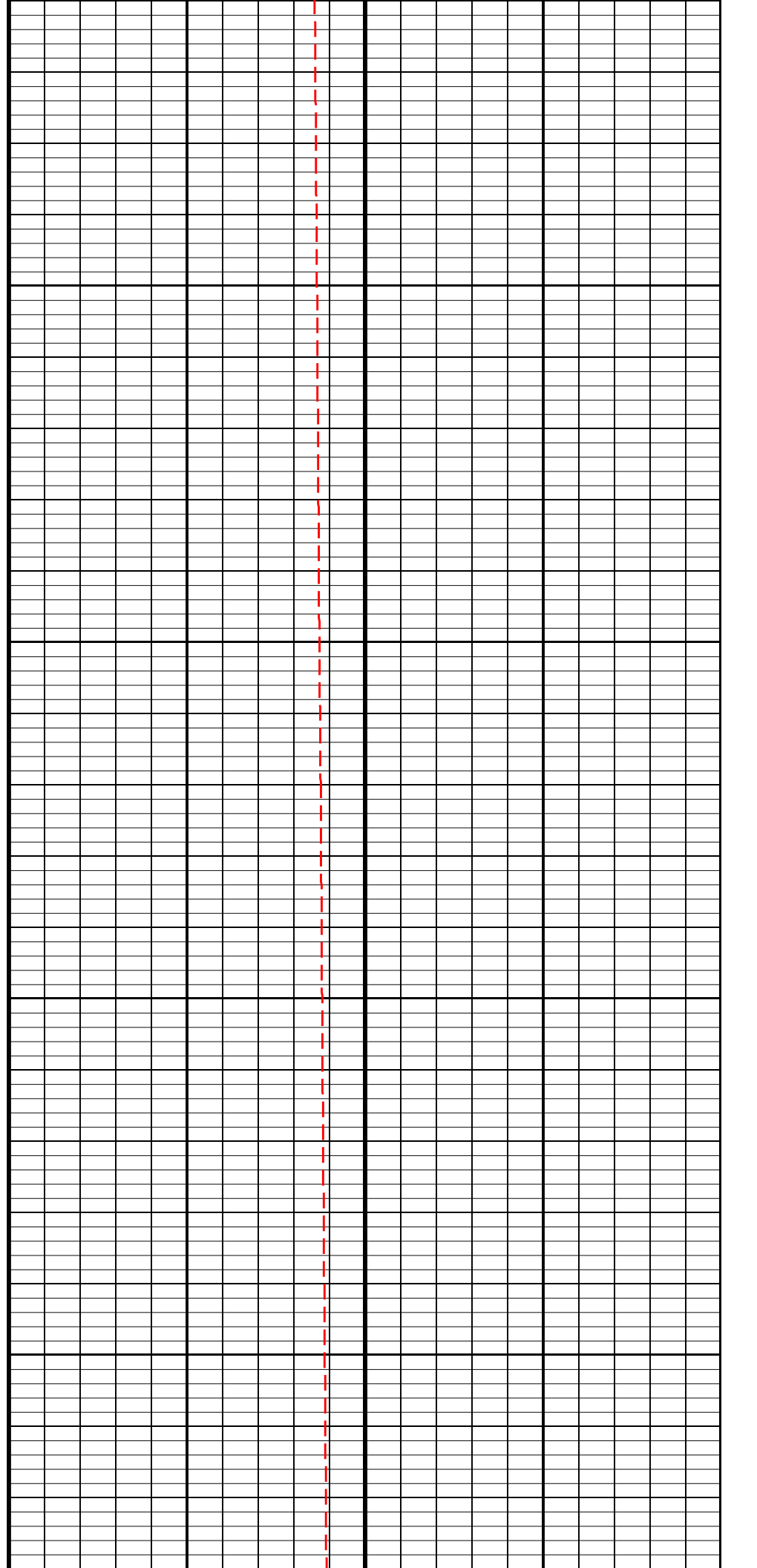
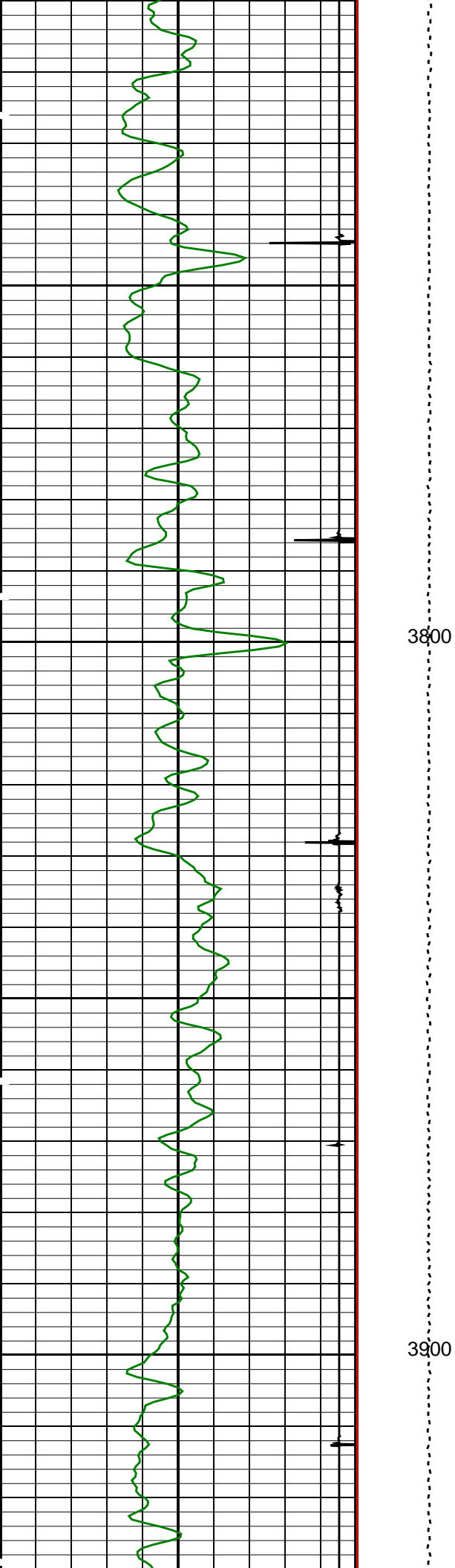


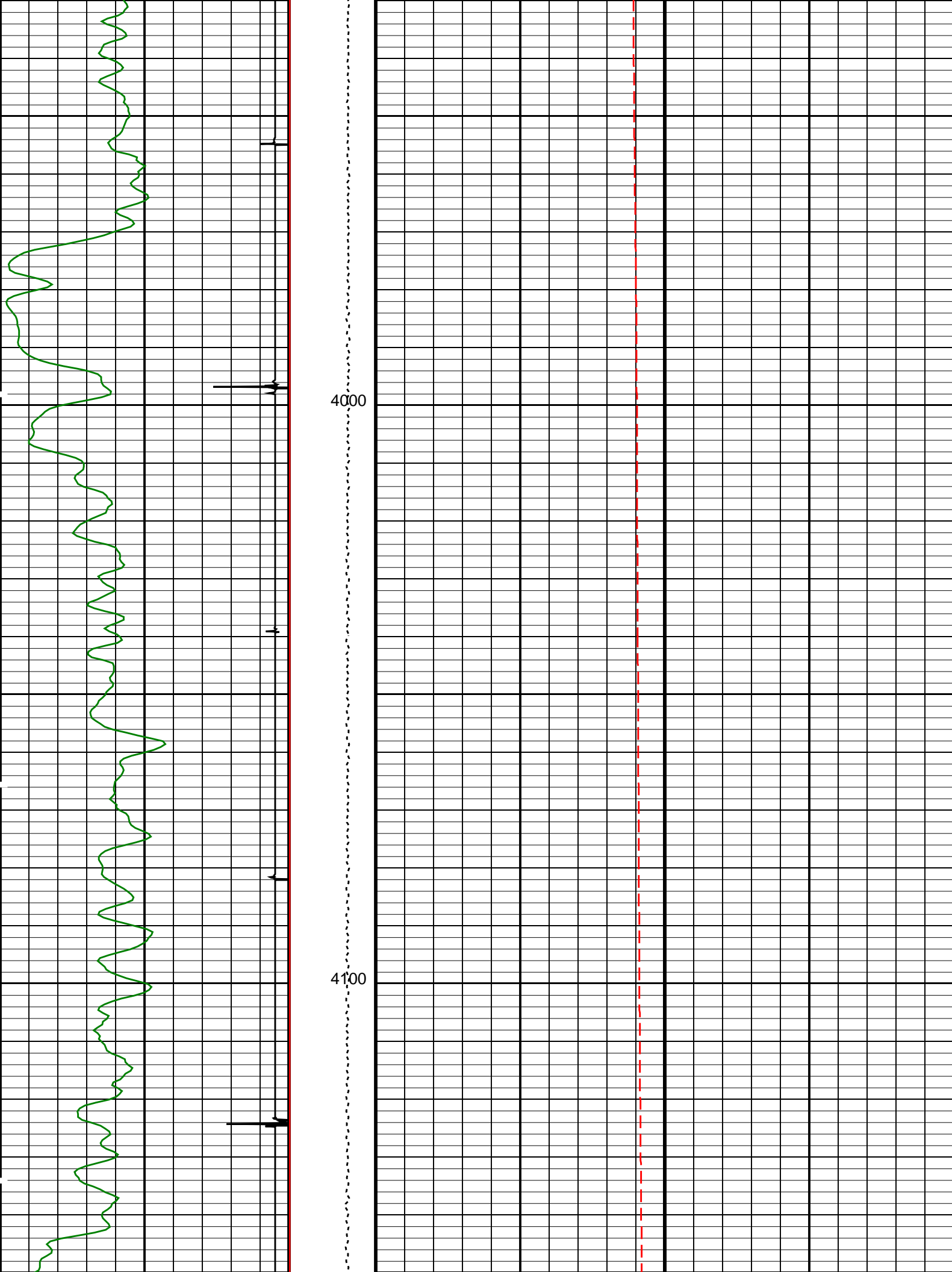




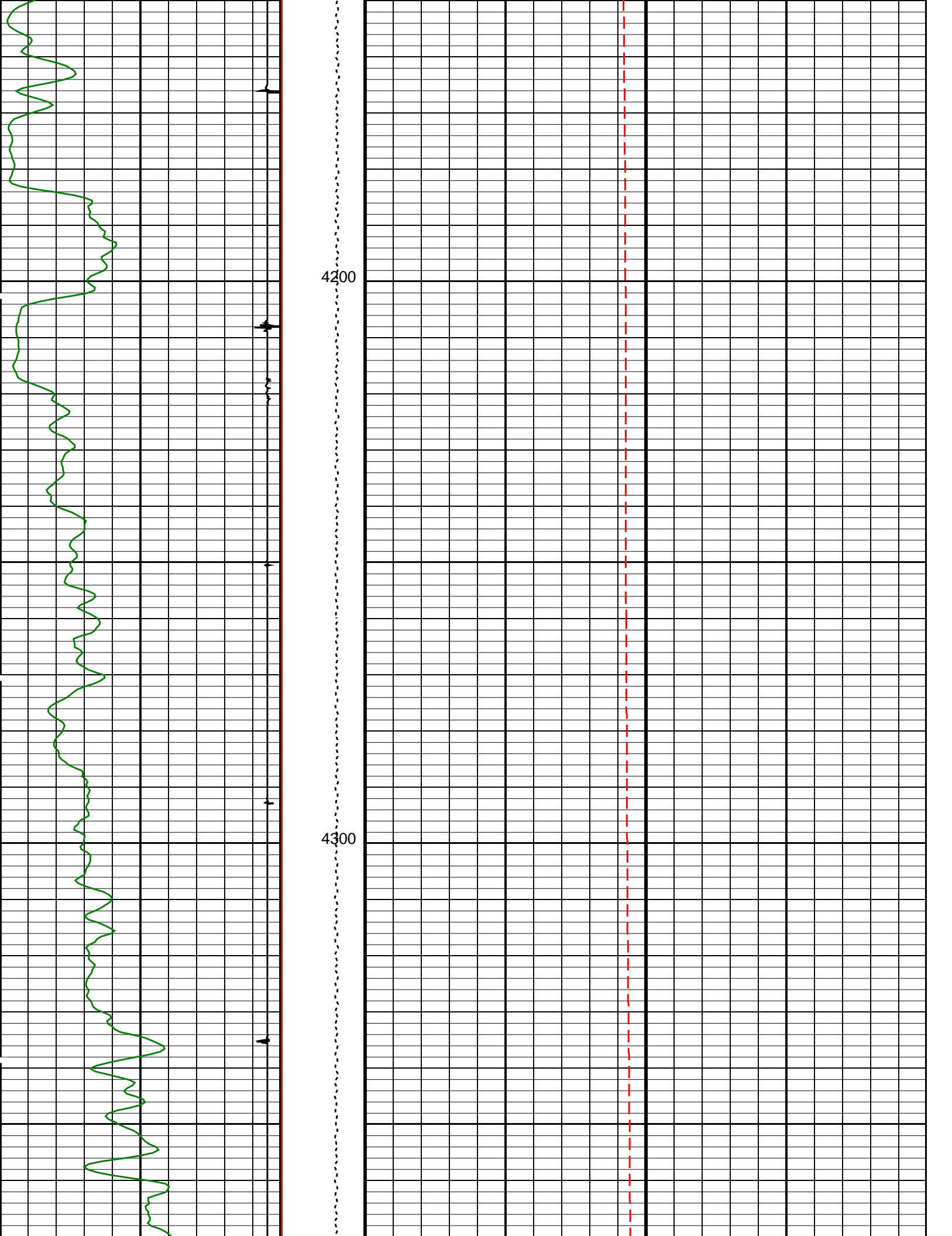


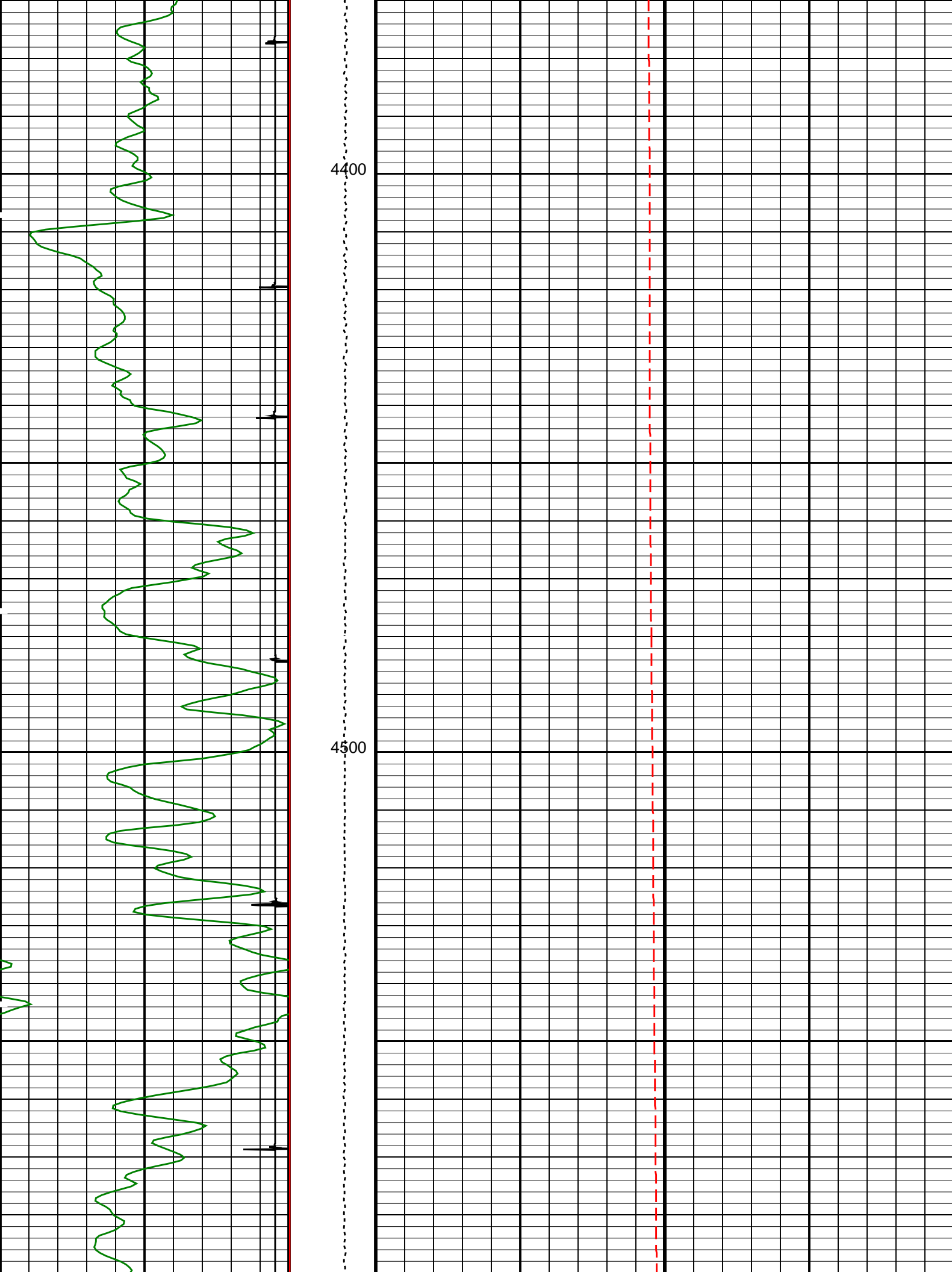


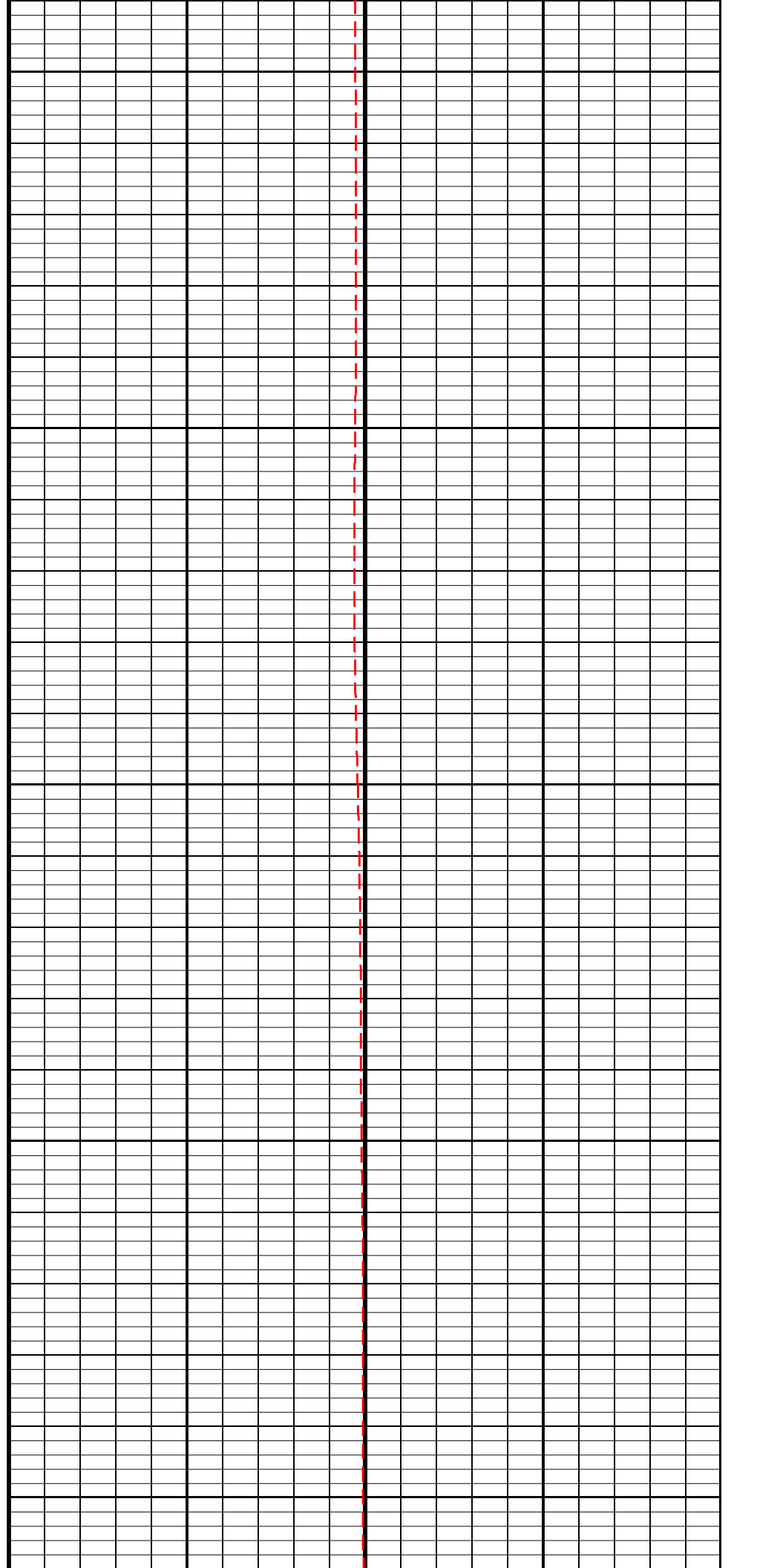
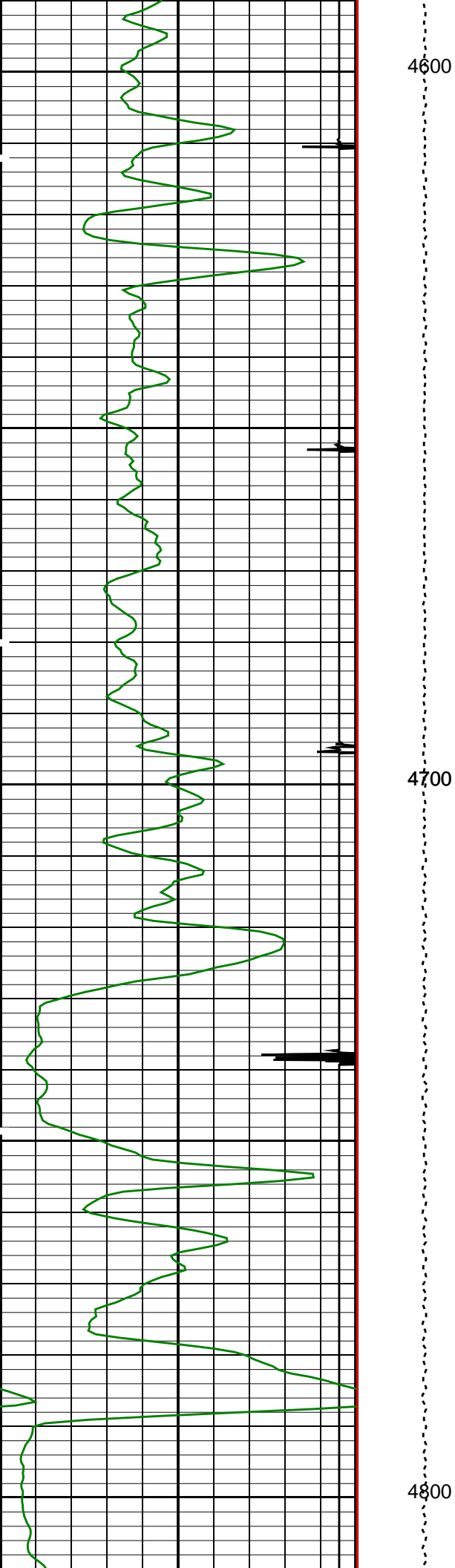


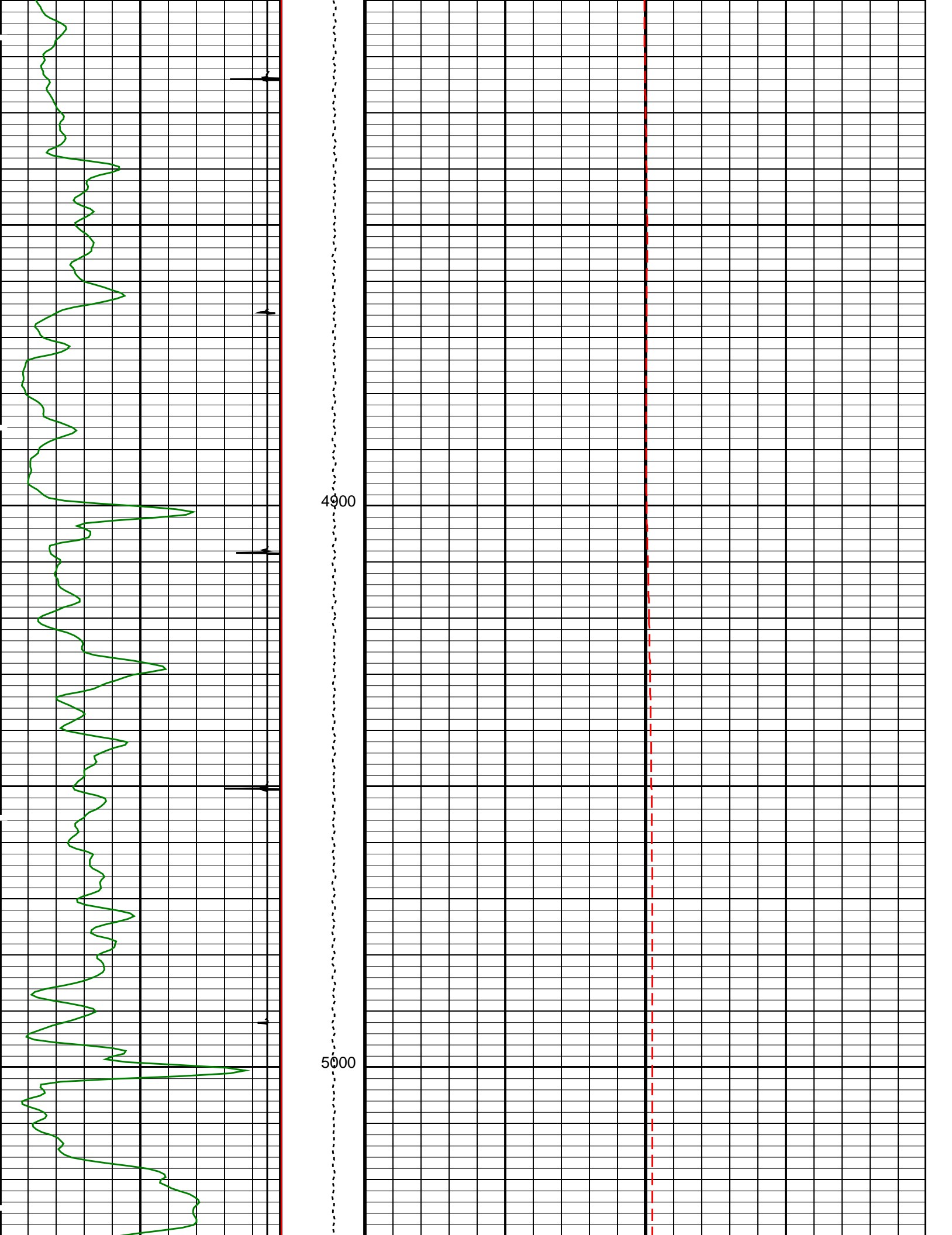


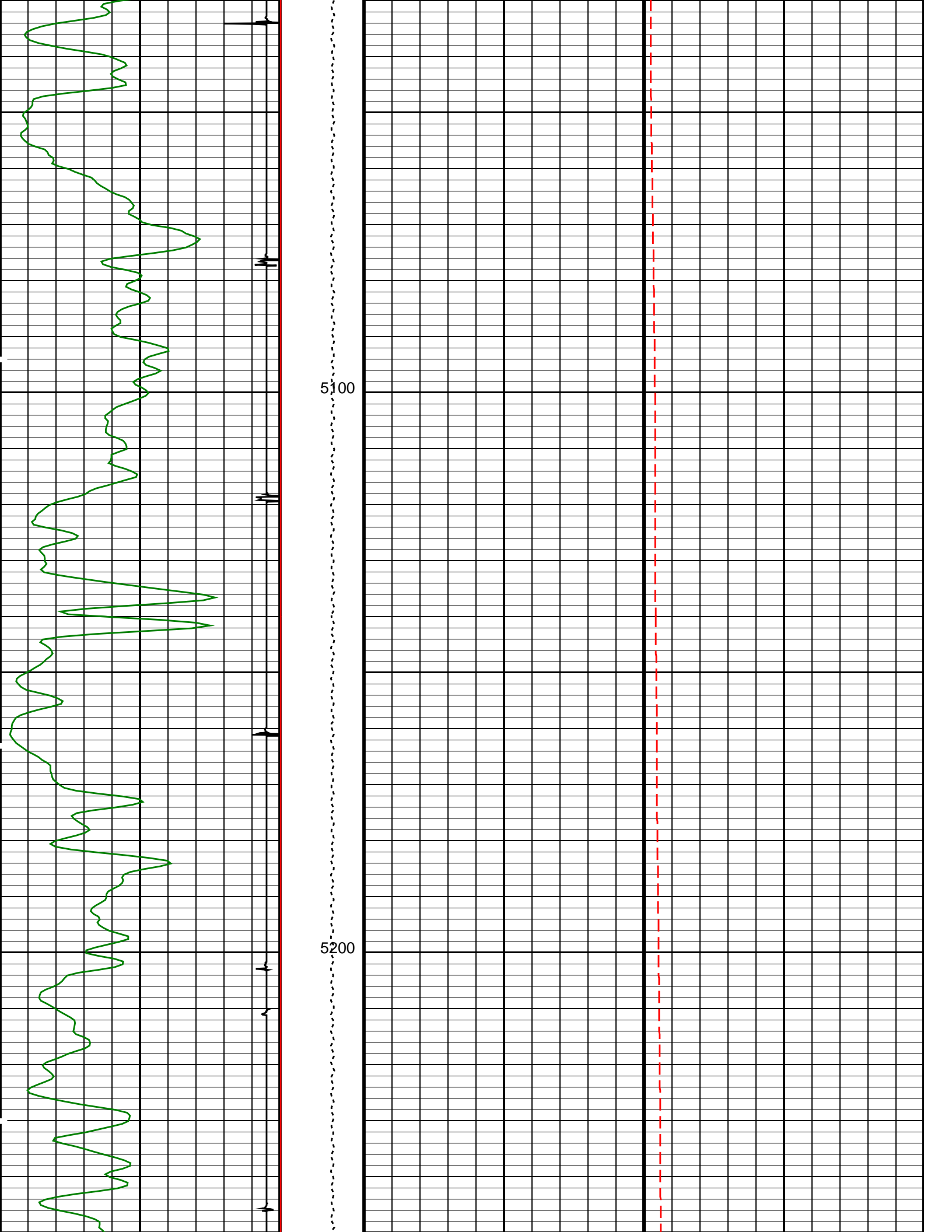


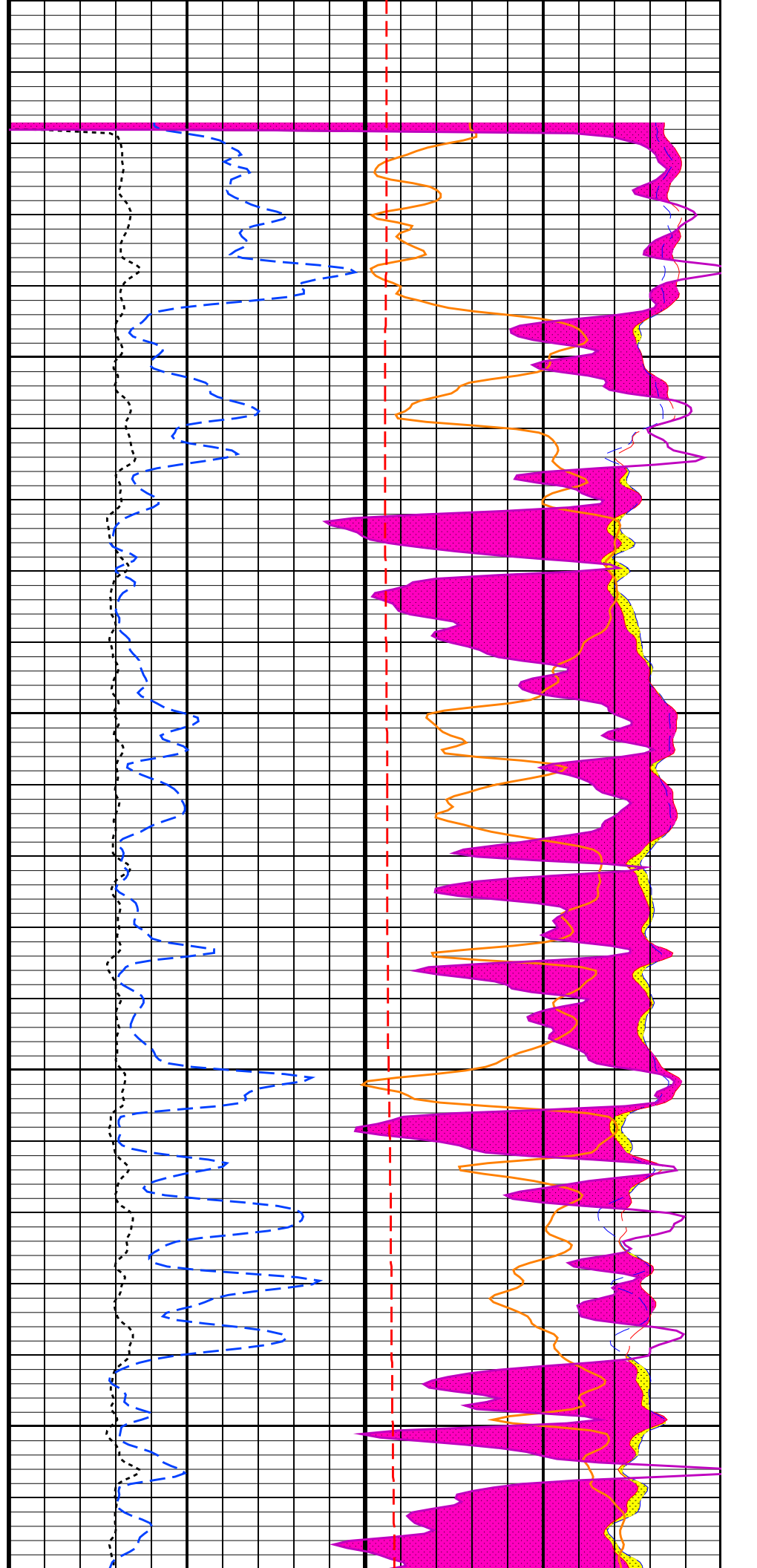
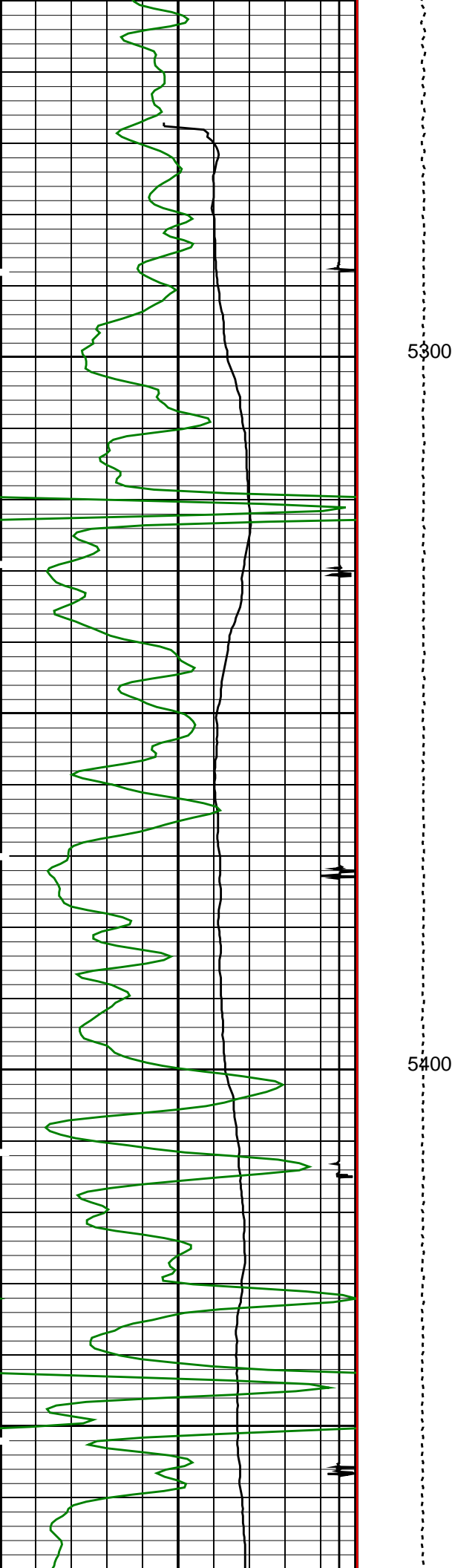


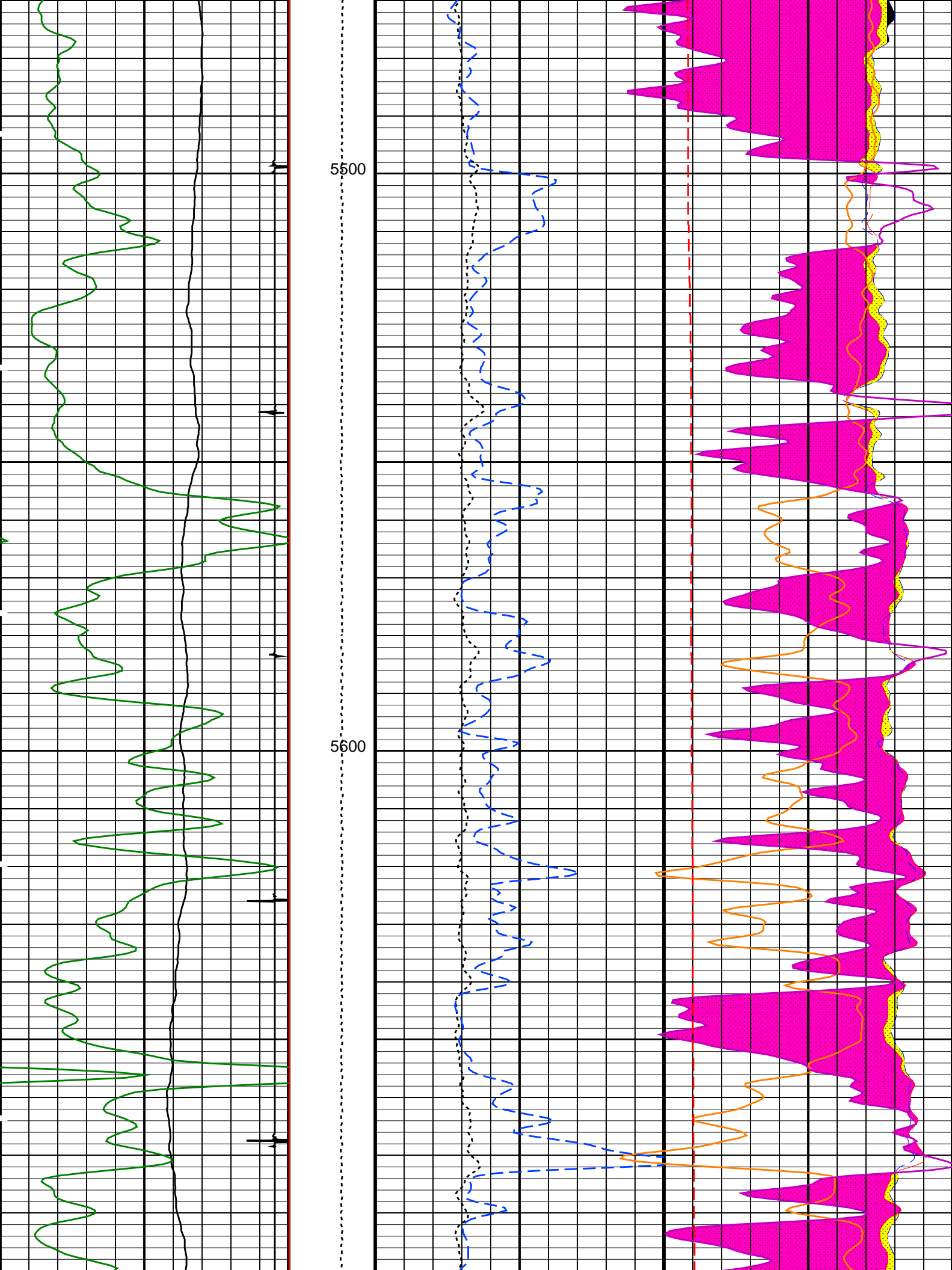


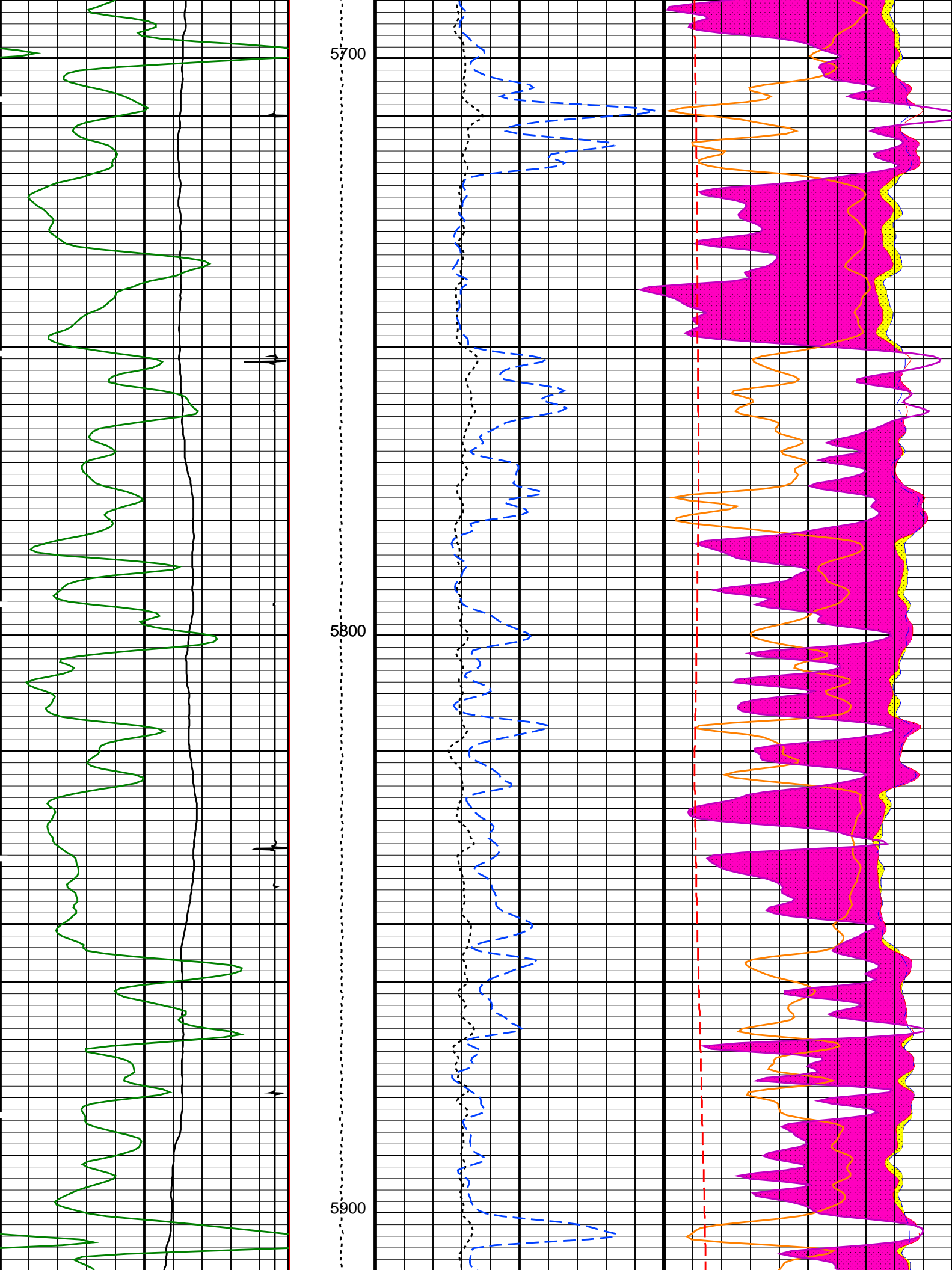




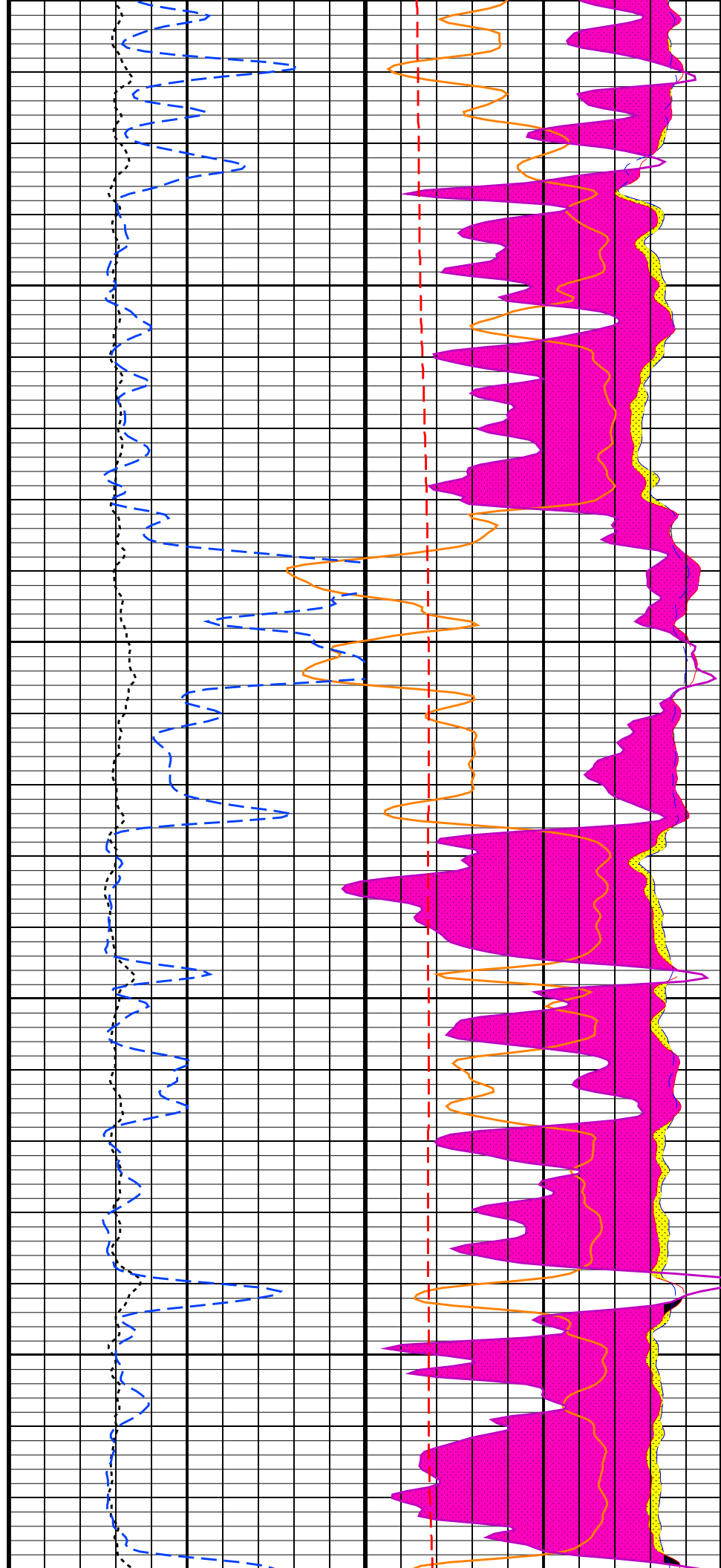
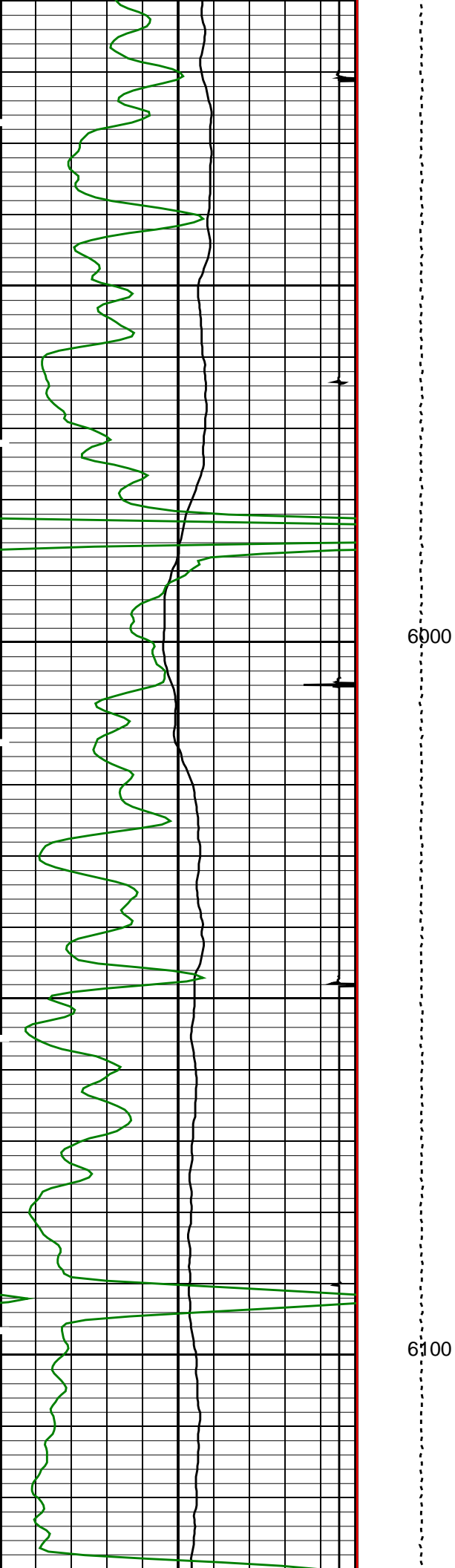


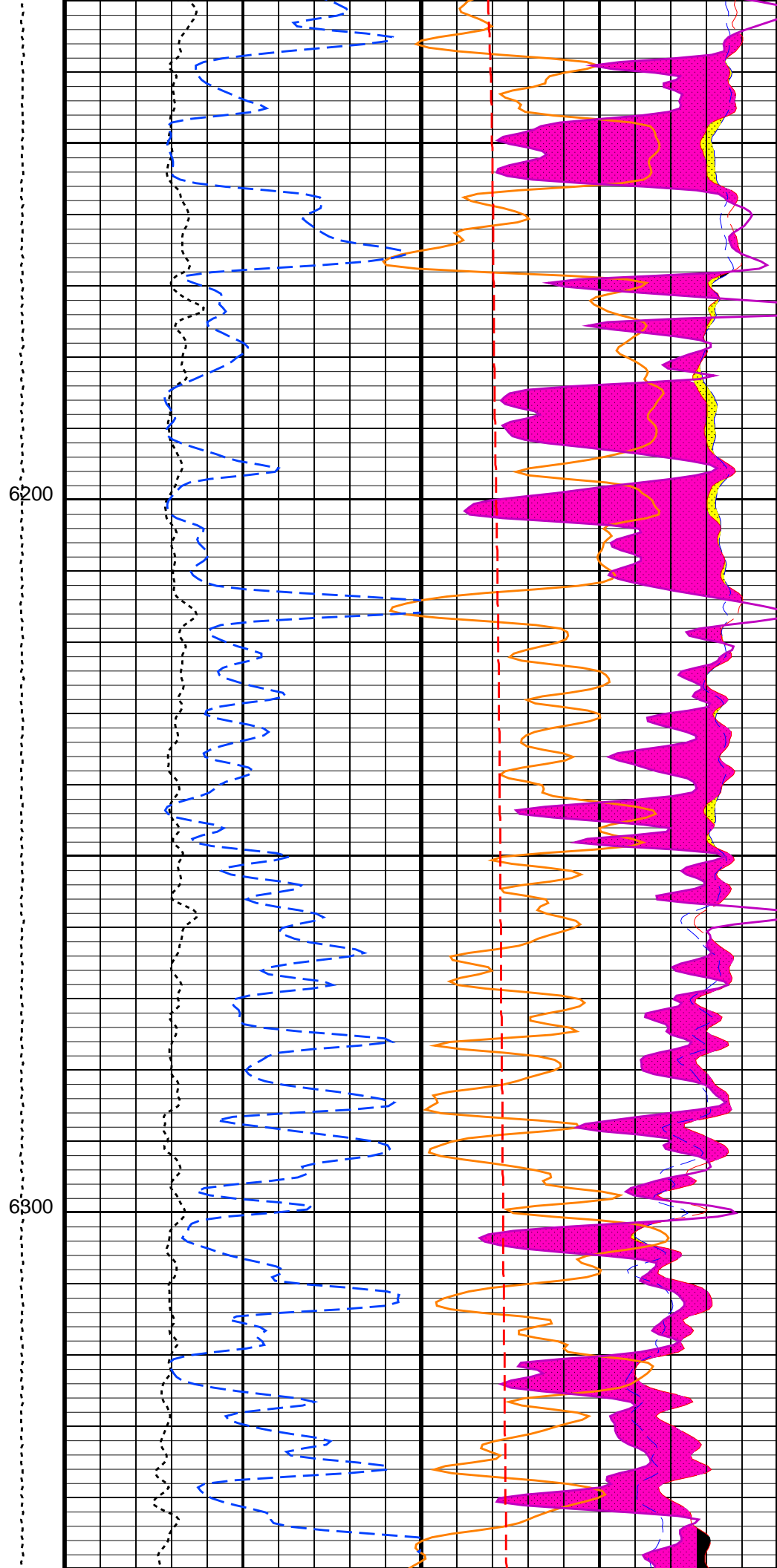
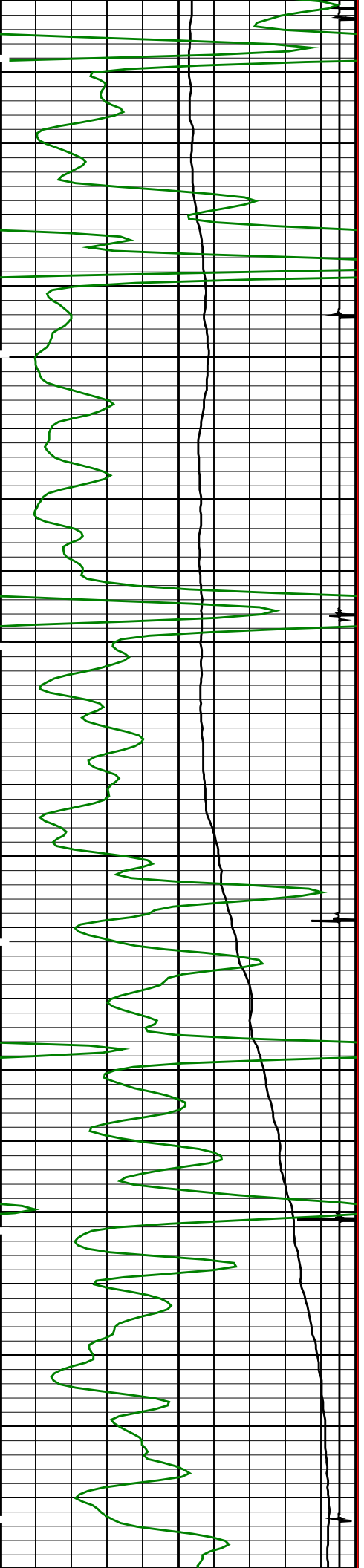


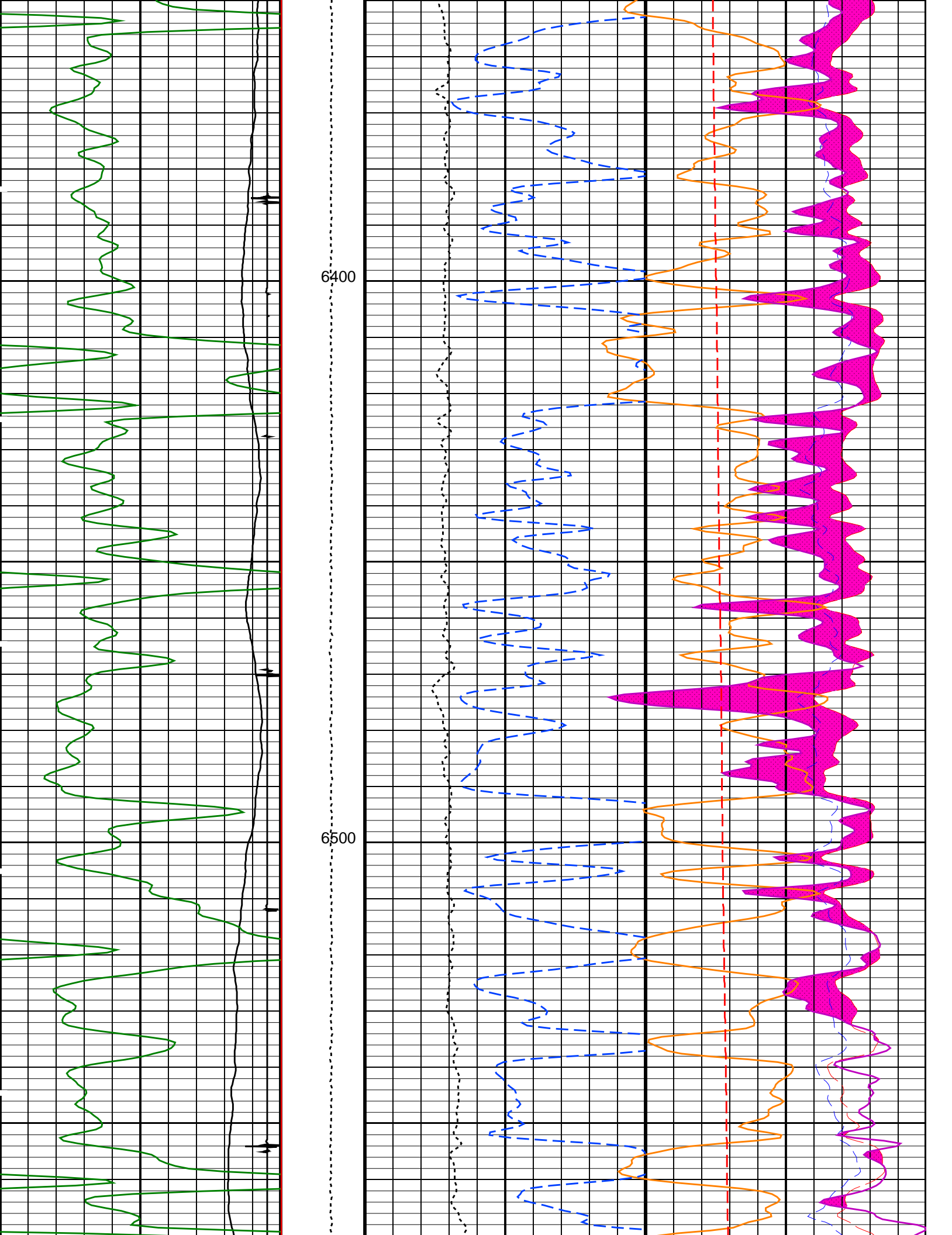


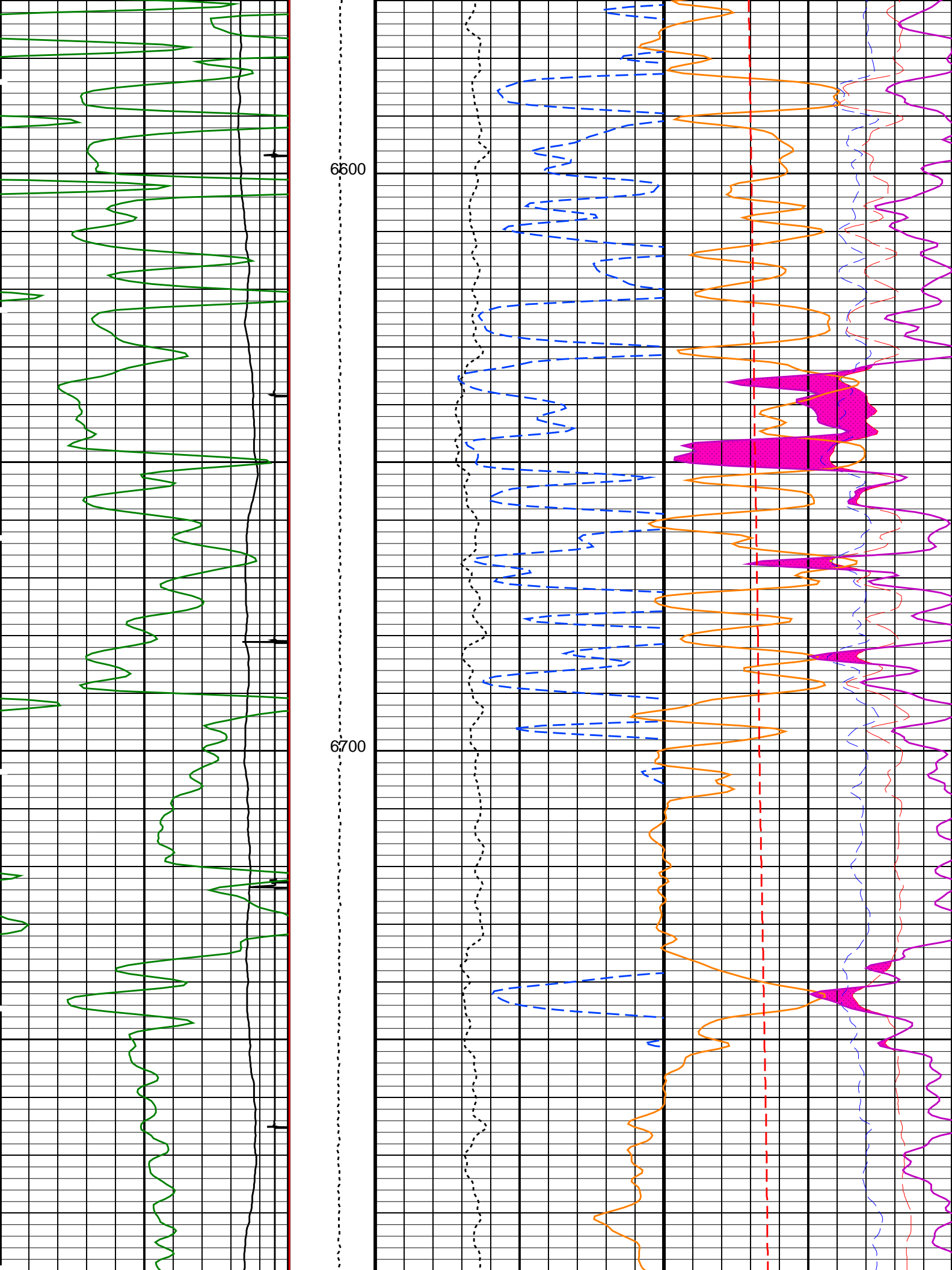


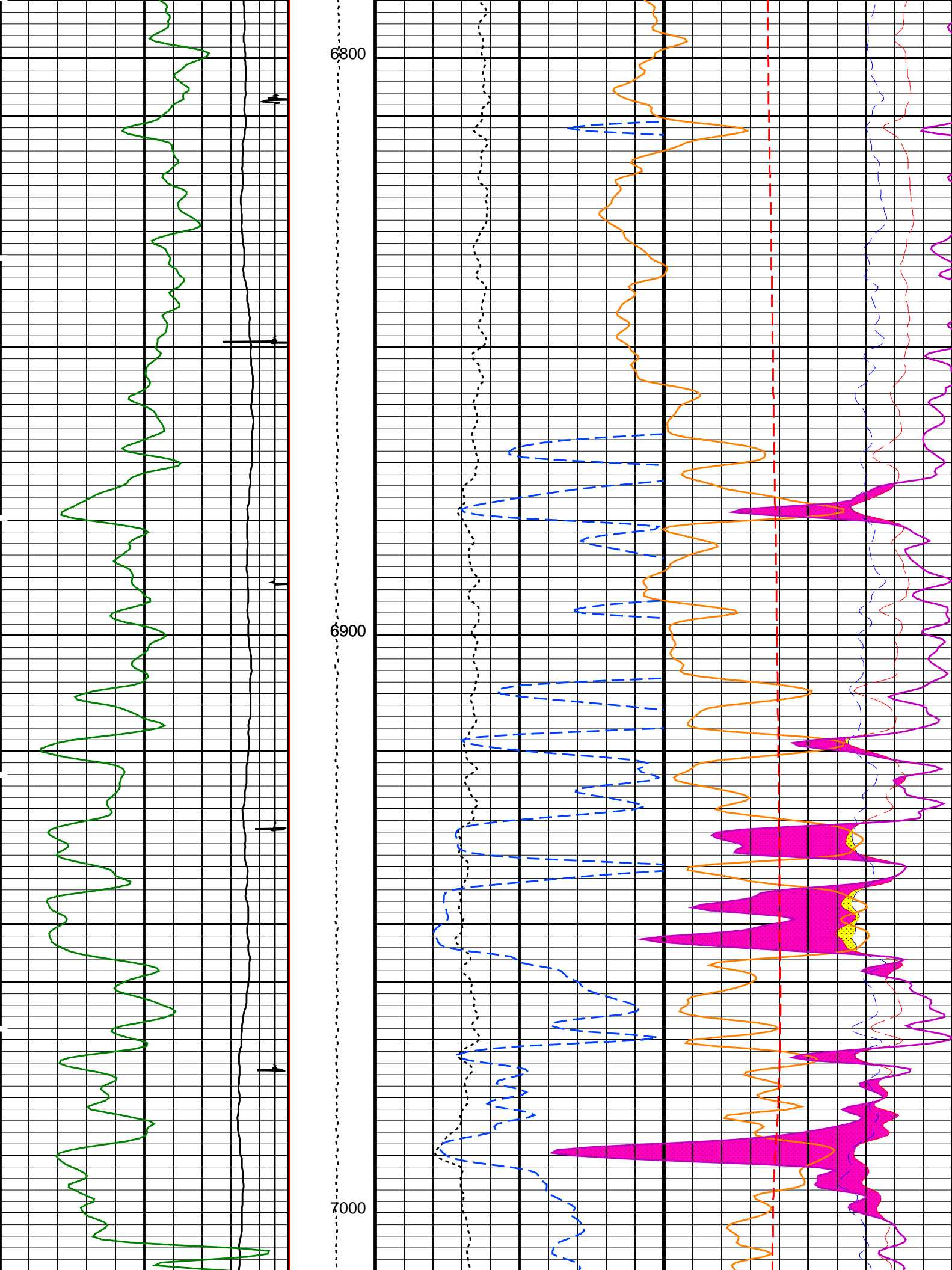


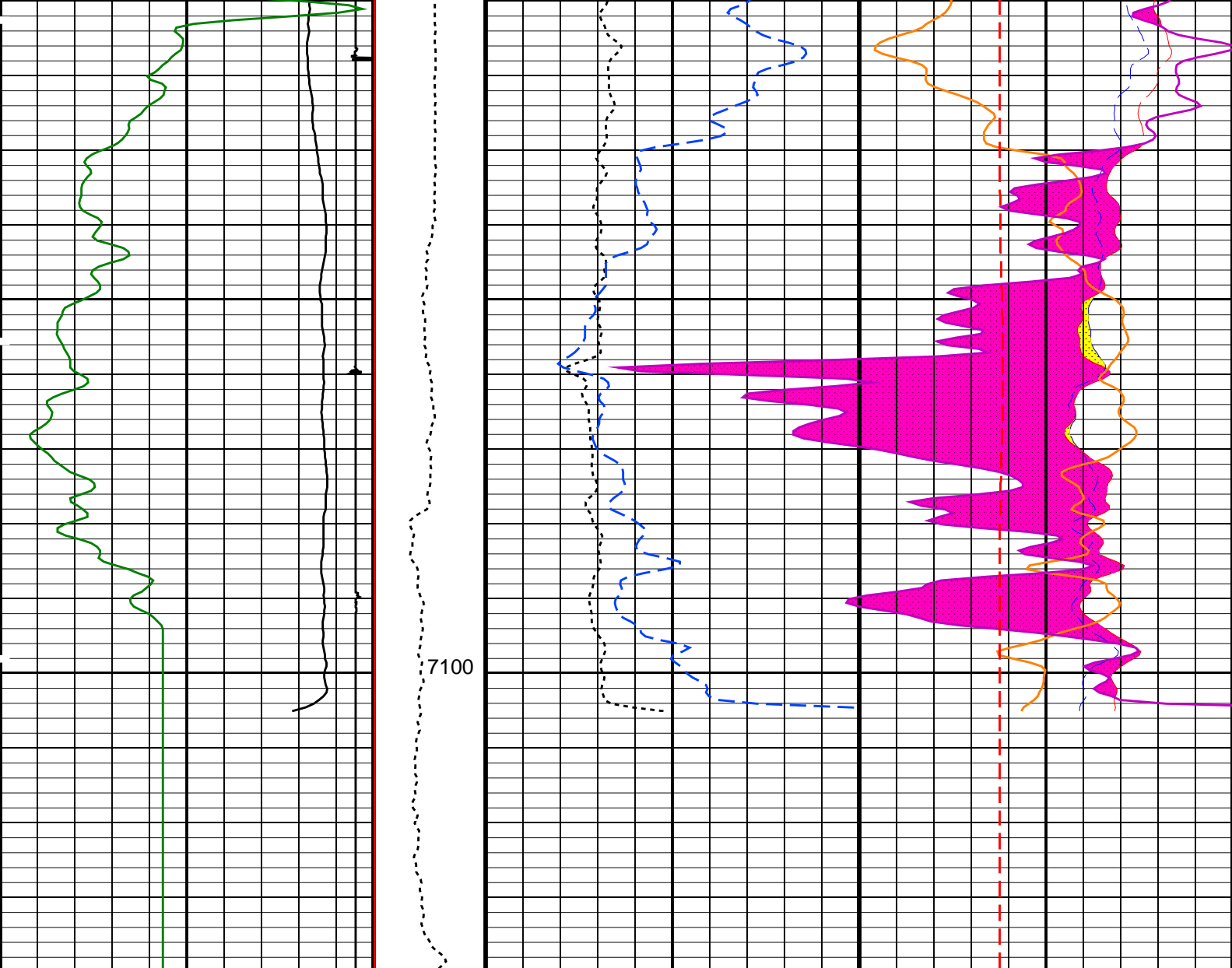








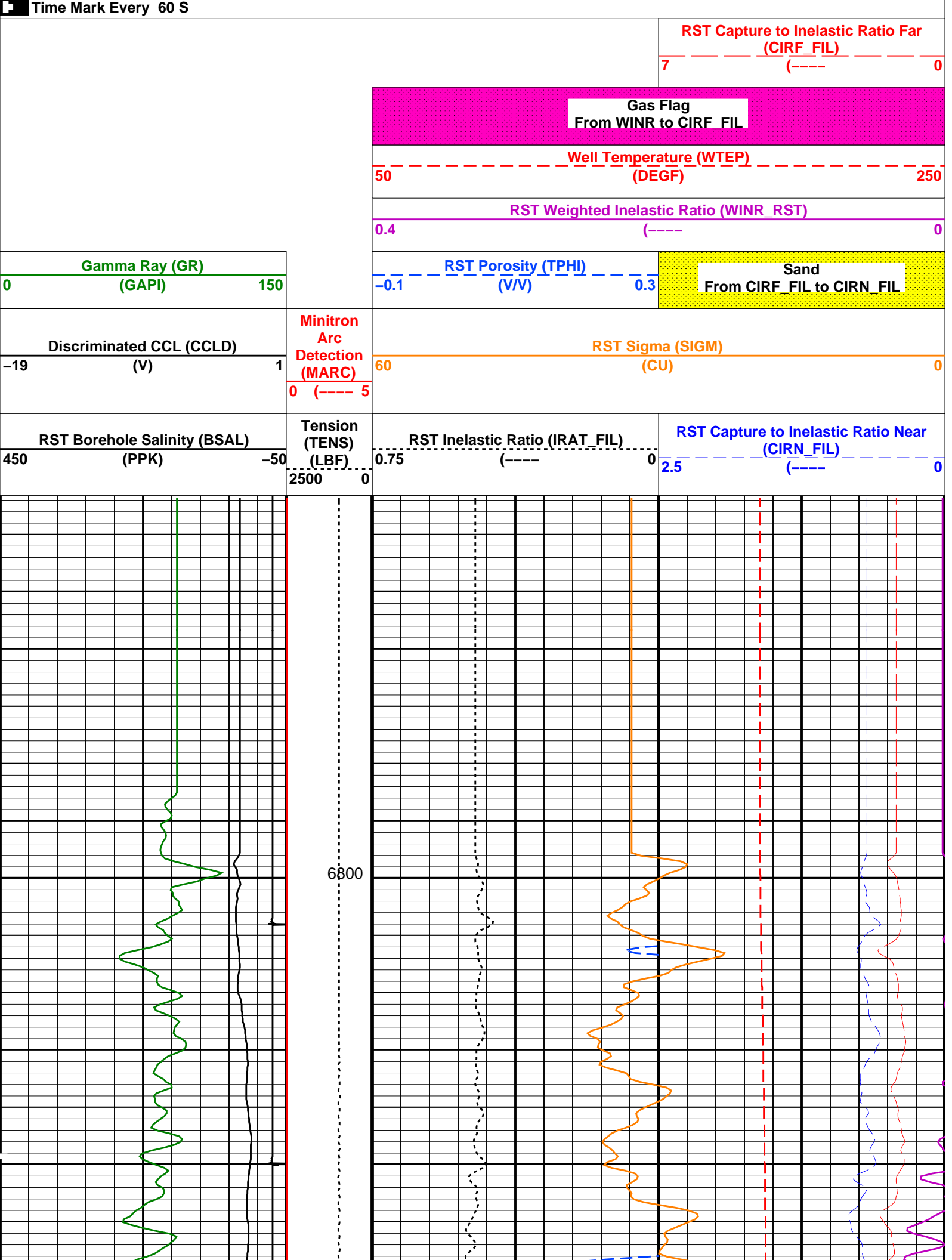




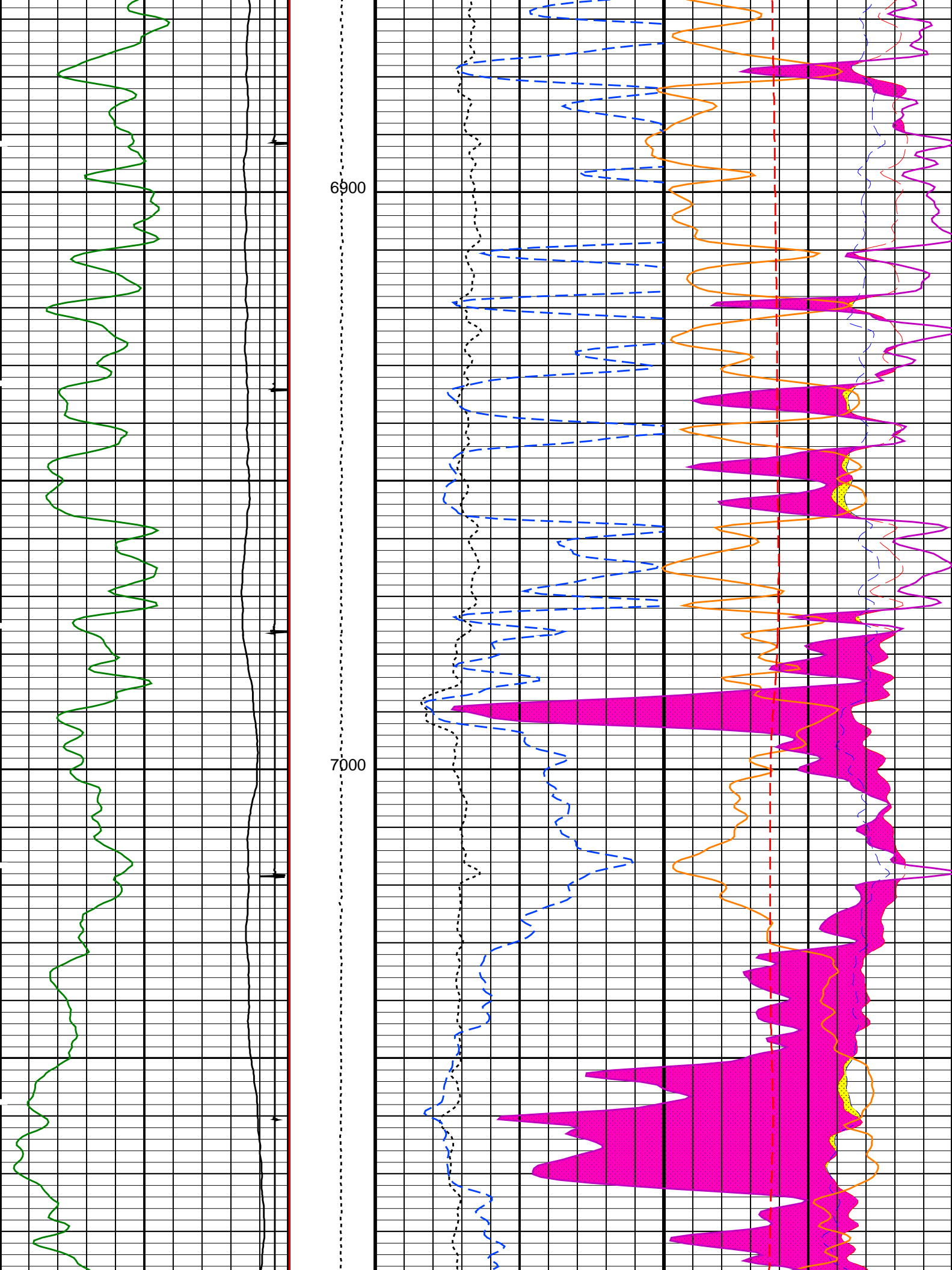
<div>RST Borehole Salinity (BSAL) (PPK)</div> <div>450-50</div>	<div>Tension (TENS) (LBF)</div> <div>25000</div>	<div>RST Inelastic Ratio (IRAT_FIL)</div> <div>0.75----</div>	<div>RST Capture to Inelastic Ratio Near (CIRN_FIL)</div> <div>2.5----</div>
<div>Discriminated CCL (CCLD) (V)</div> <div>-191</div>	<div>Minitron Arc Detection (MARC)</div> <div>0-----5</div>	<div>RST Sigma (SIGM) (CU)</div> <div>600</div>	
<div>Gamma Ray (GR) (GAPI)</div> <div>0150</div>	<div>RST Porosity (TPHI) (V/V)</div> <div>-0.1-----0.3</div>		<div>Sand From CIRF_FIL to CIRN_FIL</div>
		<div>RST Weighted Inelastic Ratio (WINR_RST)</div> <div>0.4-----</div>	<div>0</div>
		<div>Well Temperature (WTEP) (DEGF)</div> <div>50-----250</div>	
		<div>Gas Flag From WINR to CIRF_FIL</div>	
		<div>RST Capture to Inelastic Ratio Far (CIRF_FIL)</div> <div>7-----</div>	
		<div>0</div>	

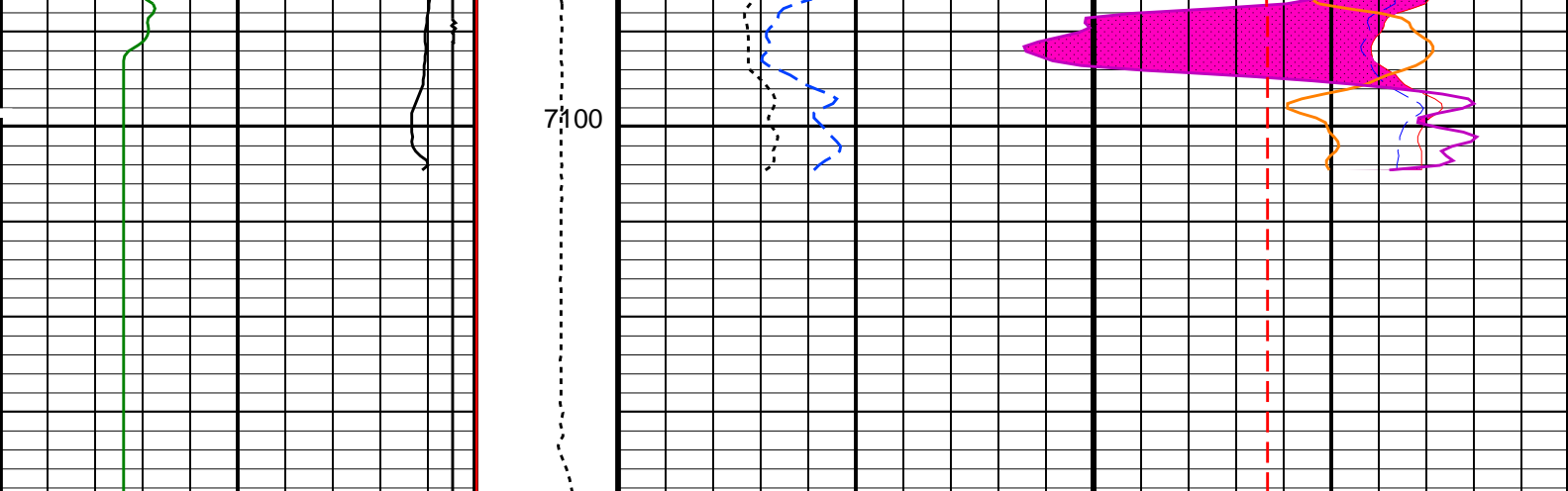
PIP SUMMARY











<b>RST Borehole Salinity (BSAL)</b> (PPK) 450 -50	<b>Tension (TENS)</b> (LBF) 2500 0	<b>RST Inelastic Ratio (IRAT_FIL)</b> (----) 0.75 0	<b>RST Capture to Inelastic Ratio Near (CIRN_FIL)</b> (----) 2.5 0
<b>Discriminated CCL (CCLD)</b> (V) -19 1	<b>Minitron Arc Detection (MARC)</b> (----) 0 5	<b>RST Sigma (SIGM)</b> (CU) 60 0	
<b>Gamma Ray (GR)</b> (GAPI) 0 150		<b>RST Porosity (TPHI)</b> (V/V) -0.1 0.3	<b>Sand</b> From CIRF_FIL to CIRN_FIL
		<b>RST Weighted Inelastic Ratio (WINR_RST)</b> (----) 0.4 0	
		<b>Well Temperature (WTEP)</b> (DEGF) 50 250	
		<b>Gas Flag</b> From WINR to CIRF_FIL	
			<b>RST Capture to Inelastic Ratio Far (CIRF_FIL)</b> (----) 7 0

#### PIP SUMMARY

Time Mark Every 60 S

### Parameters

DLIS Name	Description	Value
<b>RST-C: Reservoir Saturation Pro Tool C</b>		
AIRB	RST Air Borehole	No
BHS	Borehole Status	CASED
BSALOPT	RST Borehole Salinity Option	Unknown
BSFL	RST Borehole Salinity Filter Length	51
DFPC	RST Depth Filter Processing Constant	One
DFPC_TDTL	RST Depth Filter Processing Constant (TDT-like)	Two
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
NORM_IRAT_RST	RST Normalized Inelastic Ratio	0.48
NORM_SIGM_RST	RST Normalized Sigma	30
RGAI	Near/Far Gain Calibration Ratio	1
TIER_SIGM	RST Sigma Acquisition Mode	0_RST_Sigma
<b>PSPT: Production Services Logging Platform</b>		
BHS	Borehole Status	CASED
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
<b>System and Miscellaneous</b>		
BS	Bit Size	7.875 IN
BSAL	Borehole Salinity	-50000.00 PPM
CSIZ	Current Casing Size	5.500 IN
CWEI	Casing Weight	17.00 LB/F
DO	Depth Offset for Playback	0.0 FT
PP	Playback Processing	RECOMPUTE

SCMT-CB	19C2-270	RST-C	19C2-270
PSPT	19C2-270		

Input DLIS Files

DEFAULT SCMT\_RST\_PSP\_004LUP FN:3 PRODUCER 08-Aug-2013 11:37 7138.5 FT 6784.2 FT

Output DLIS Files

DEFAULT SCMT\_RST\_PSP\_012PUP FN:11 PRODUCER 08-Aug-2013 15:40

Company:

Pine Ridge Oil & Gas LLC

Well:

Surprise 12-54-36-6

Field:

Long Shadow

County:

Lincoln

State:

Colorado

Schlumberger

RESERVOIR SATURATION TOOL  
GAMMA RAY  
CASING COLLAR LOG