

Company: Noble Energy Inc

Well: Heartland G25-73-1HN  
Field: Wattenberg  
County: Weld  
State: Colorado

County: Weld		<b>USI-LITE (2500 psi)</b>					
Field: Wattenberg							
Location: SESE Sec.25 T4N R65W							
Well: Heartland G25-73-1HN							
Company: Noble Energy Inc							
LOCATION		Permanent Datum: Log Measured From: Drilling Measured From:	GL KB KB	Elev: K.B. 4851.0 F G.L. 4835.0 F D.F. 4850.0 F			
API Serial No. 05-123-39551-0000					Section 25	Township 4N	Range 65W
Logging Date 09-Oct-2014							
Run Number Run 1 USIT							
Depth Driller 7382.0 F							
Schlumberger Depth 7222.9 F							
Bottom Log Interval 7222.9 F							
Top Log Interval -999.2 F							
Casing Fluid Level 8.0 F							
Salinity							
Density 8.40 LB/G							
Fluid Level 8.0 F							
BIT/CASING/TUBING STRING							
Bit Size 8.750 IN							
From 7222.9 F							
To -999.2 F							
Casing Size 7.00 IN							
Weight 26.00 LB/F							
Grade P110							
From 0.0 F							
To 7222.9 F							
Max Recorded Temp 251.0							
Logger on bottom (date) 09-Oct-2014							
Location Ft. Morgan							
Recorded By Danielle Maniere							
Witnessed By Bill Mansfield							

DEPTH SUMMARY LISTING

DEPTH SYSTEM EQUIPMENT

Depth Measuring Device	Tension Device	Logging Cable
Type: Serial Number: Calibration Date: Calibration Cable Type: Wheel Correction 1: Wheel Correction 2:	Type: Serial Number: 1109 Calibration Date: Calibrator Serial Number: Number Of Calibration Points: Calibration RMS: Calibration Peak Error:	Serial Number: Length: 17000.00000

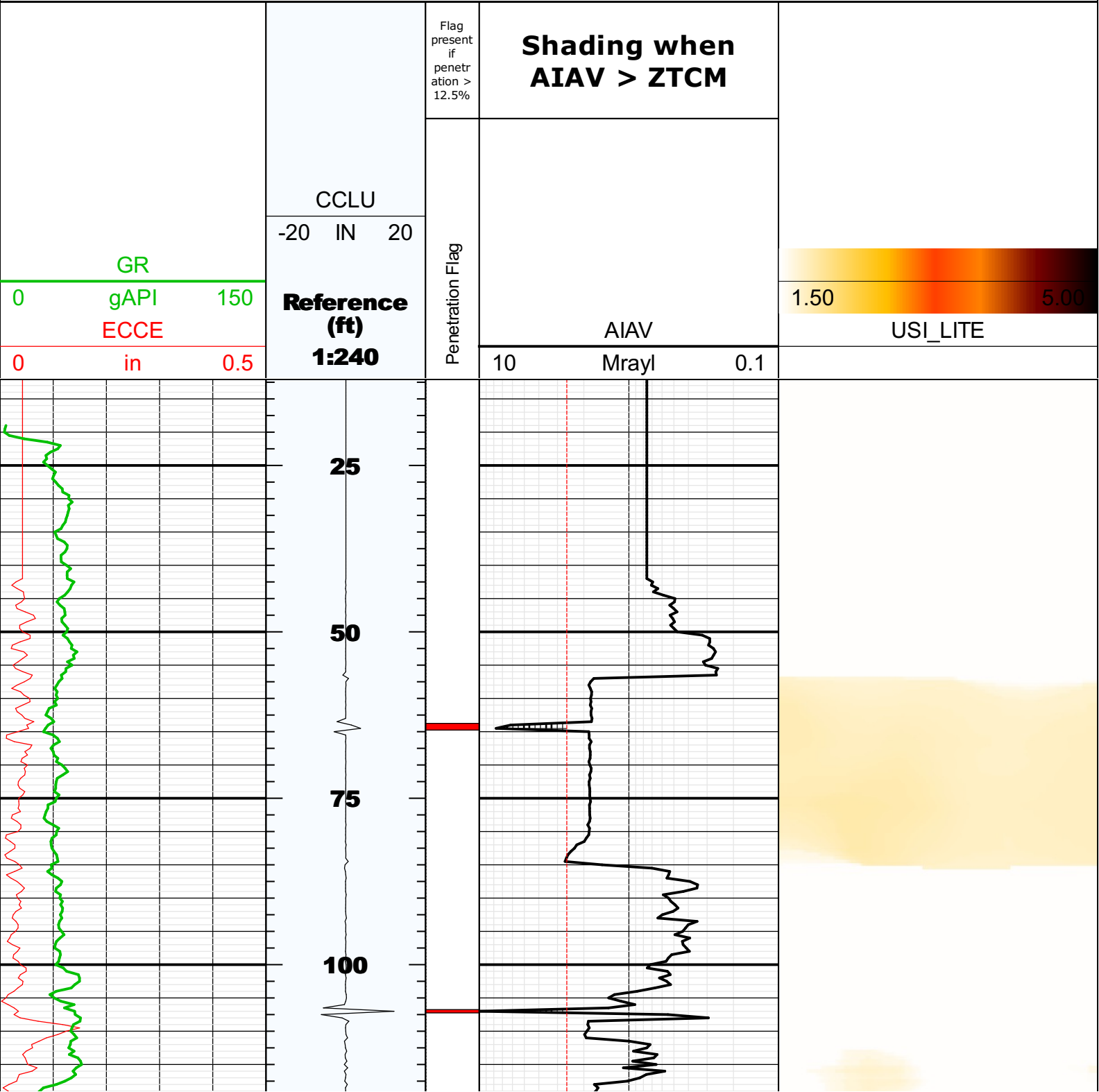
DISCLAIMER

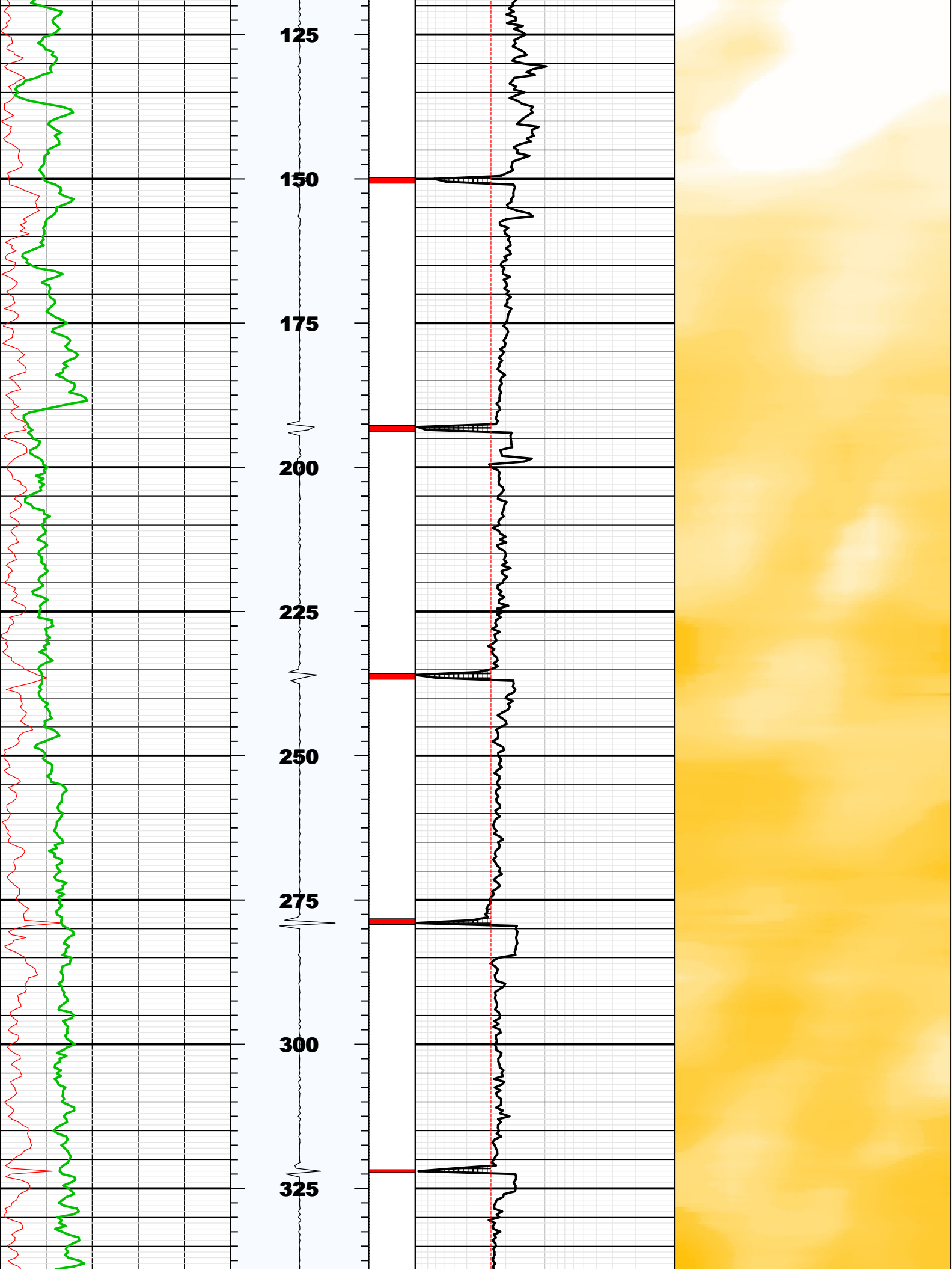
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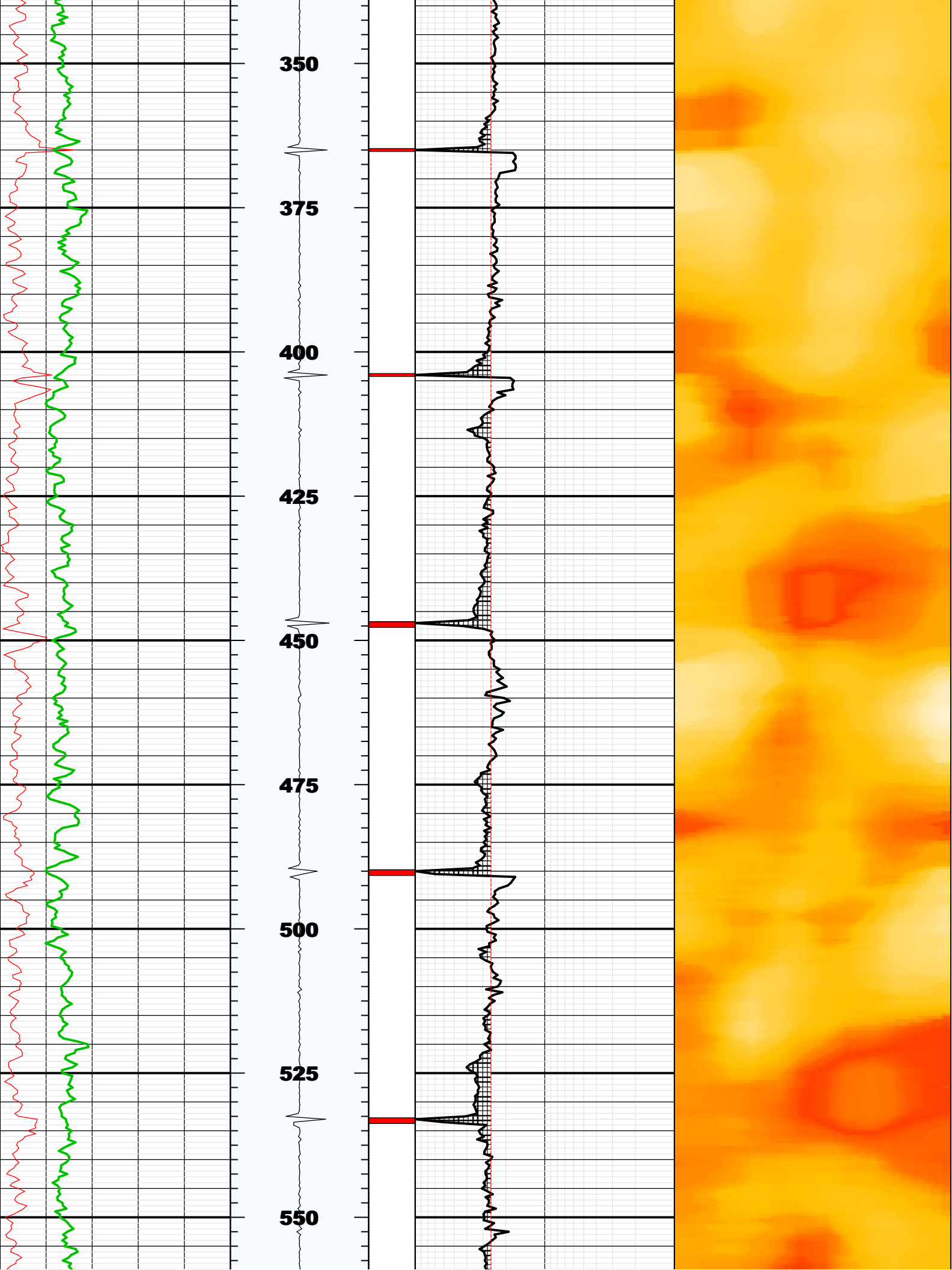
0PSI repeat pass 2500PSI main pass  
Logged from 20ft above top of liner.  
Top of liner at 7243ft.  
Bottom hole temperature 251degF  
Top of cement 400ft

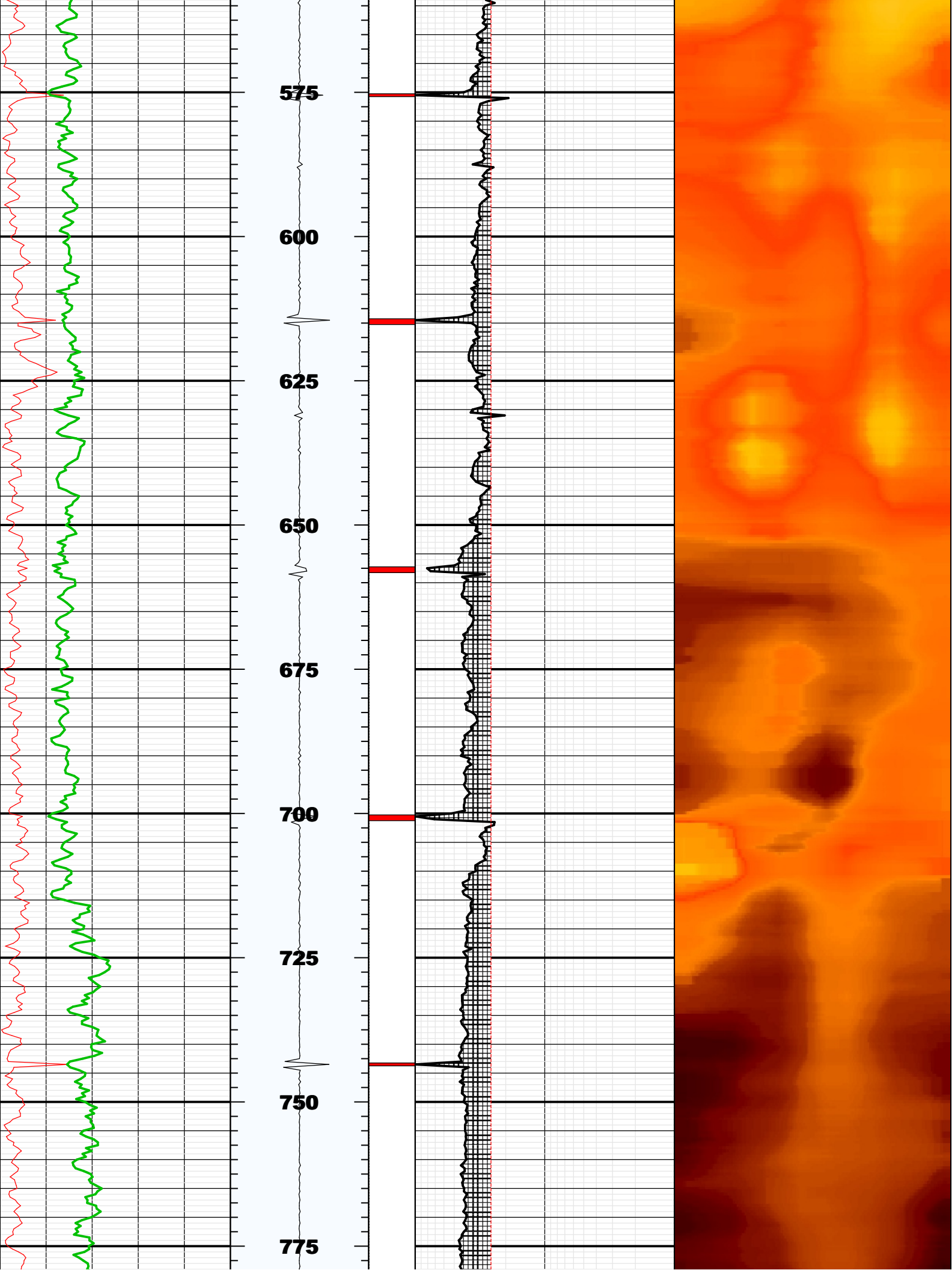
Main Pass

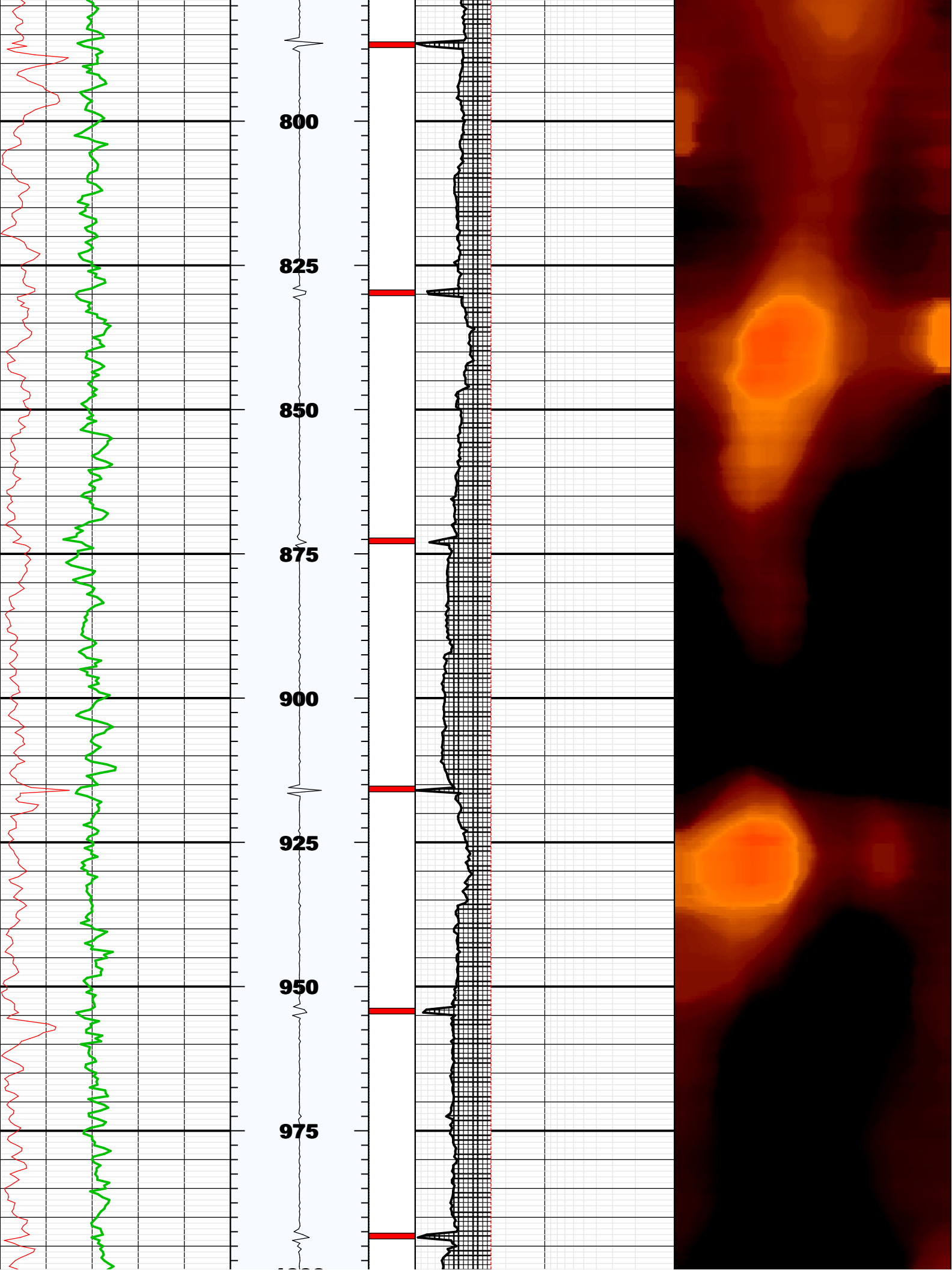
Company: Noble Energy Inc  
Well: Heartland G25-73-1HN  
Field: Wattenberg



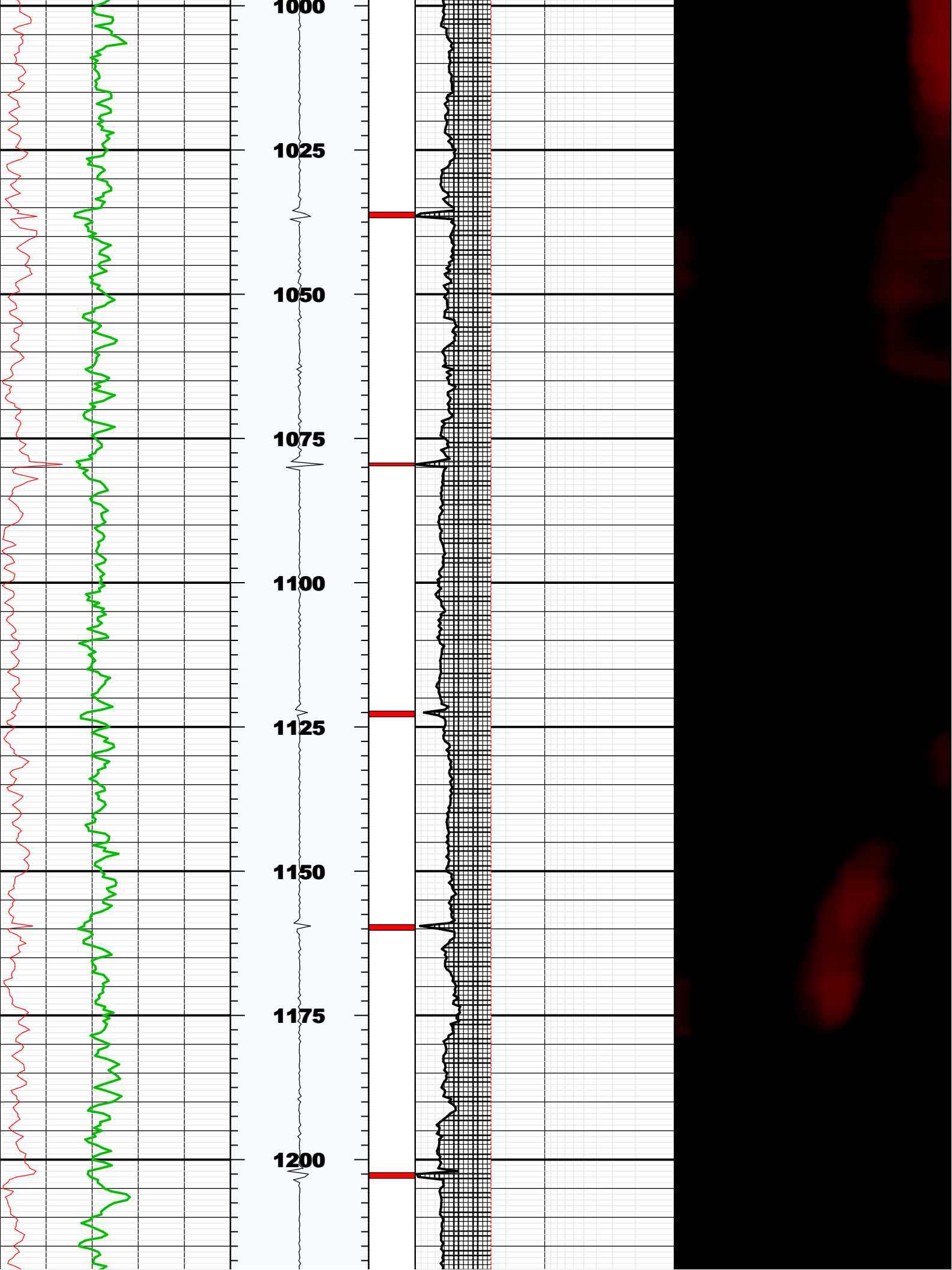




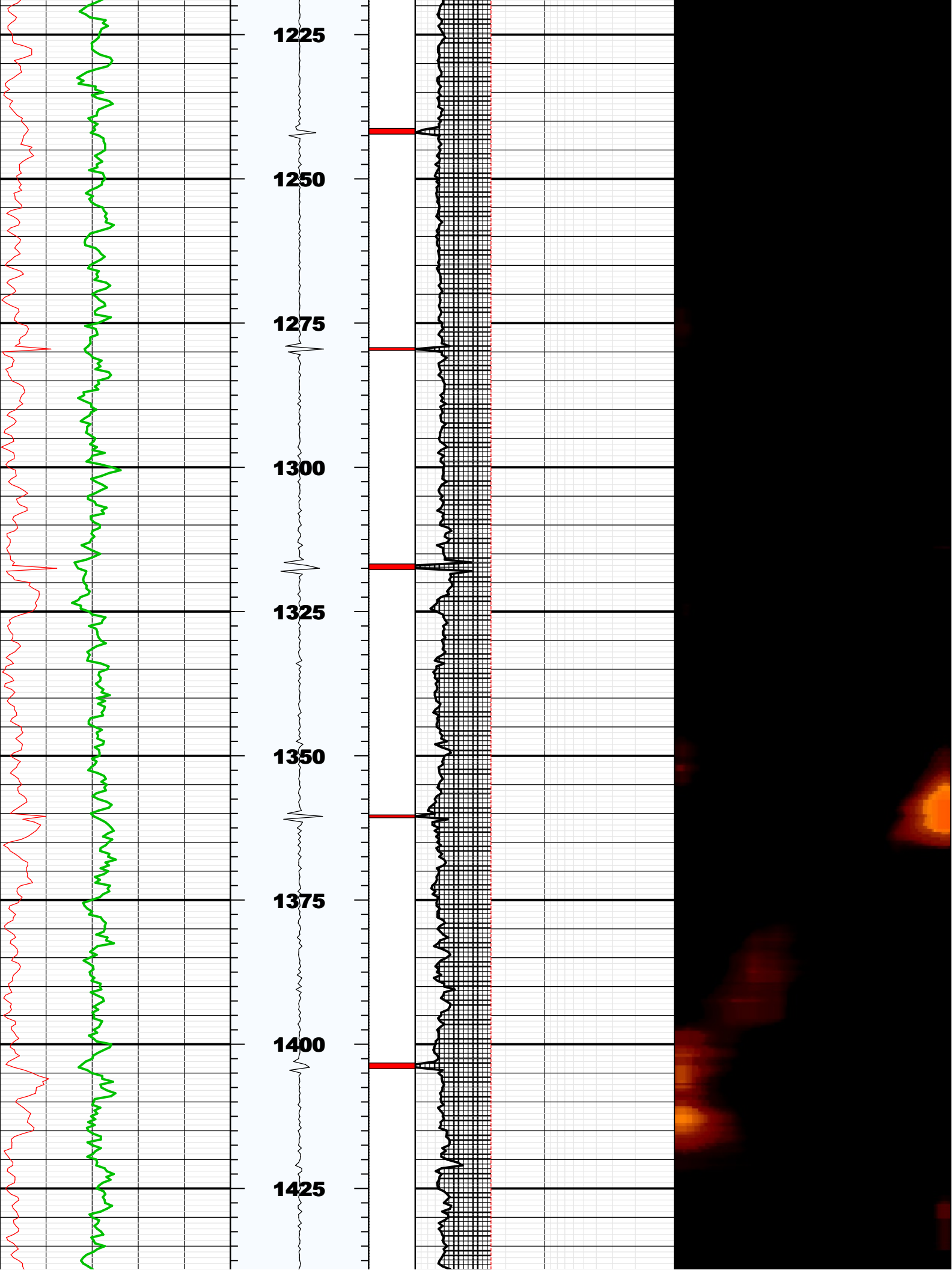


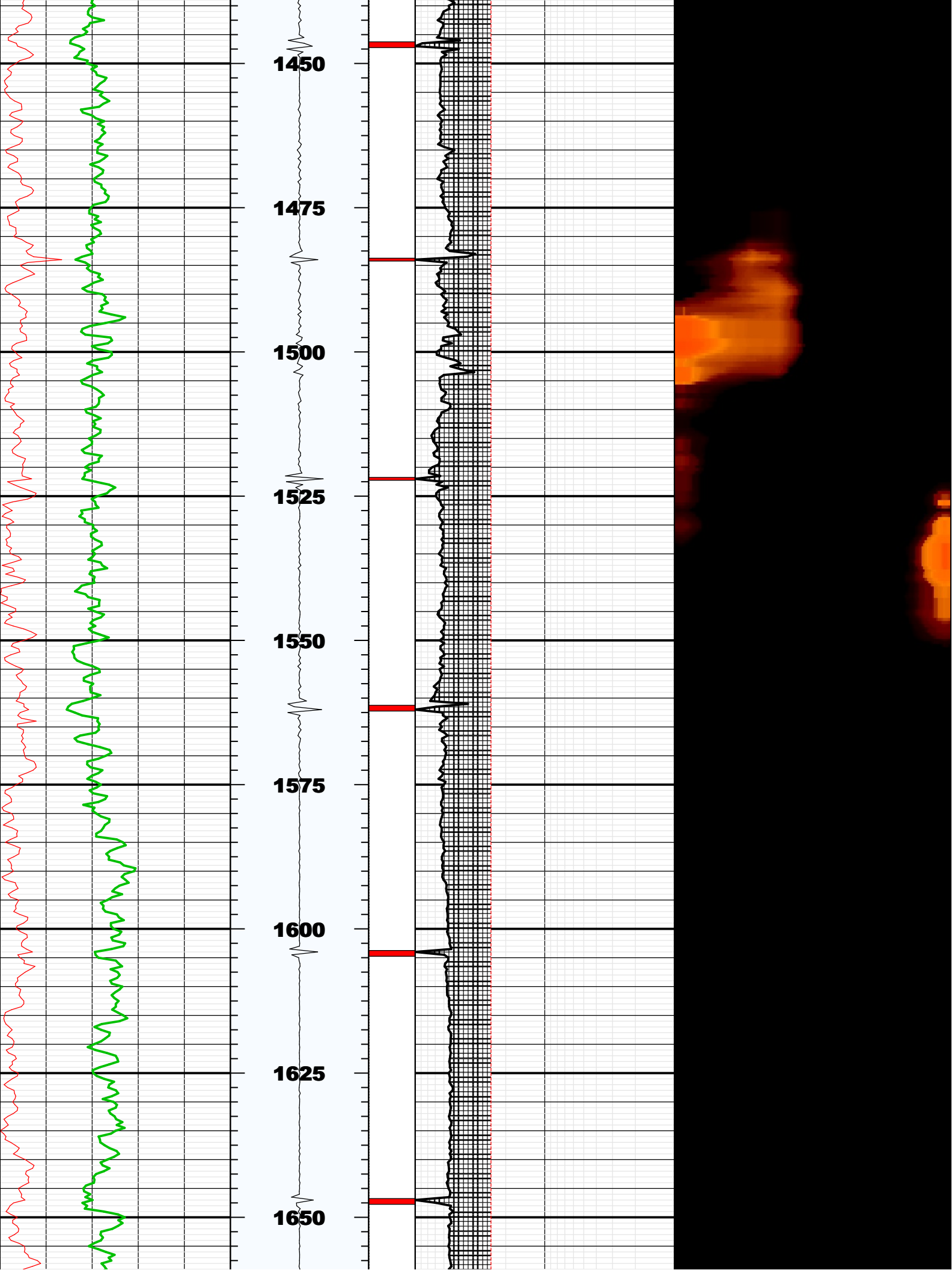


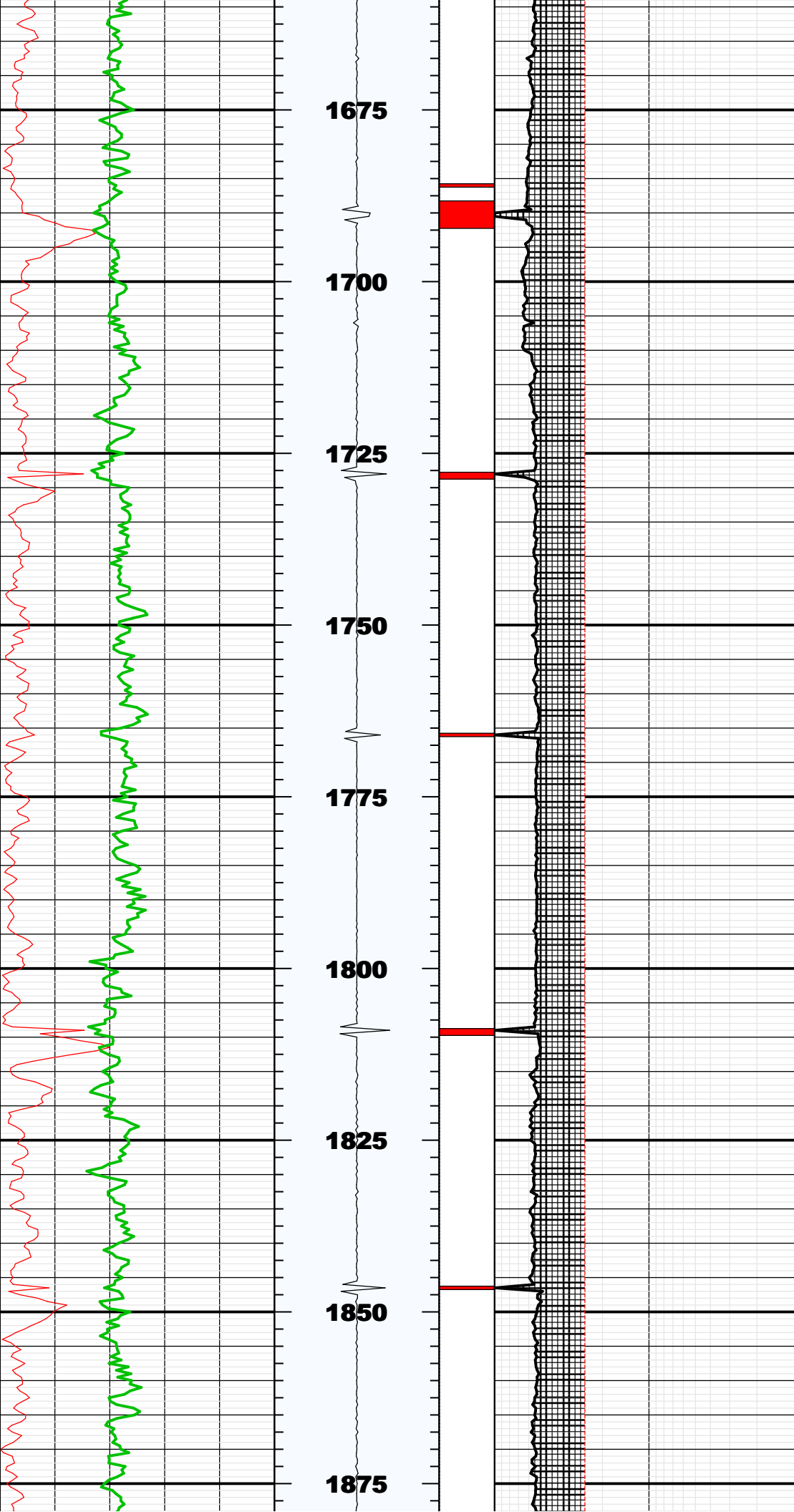


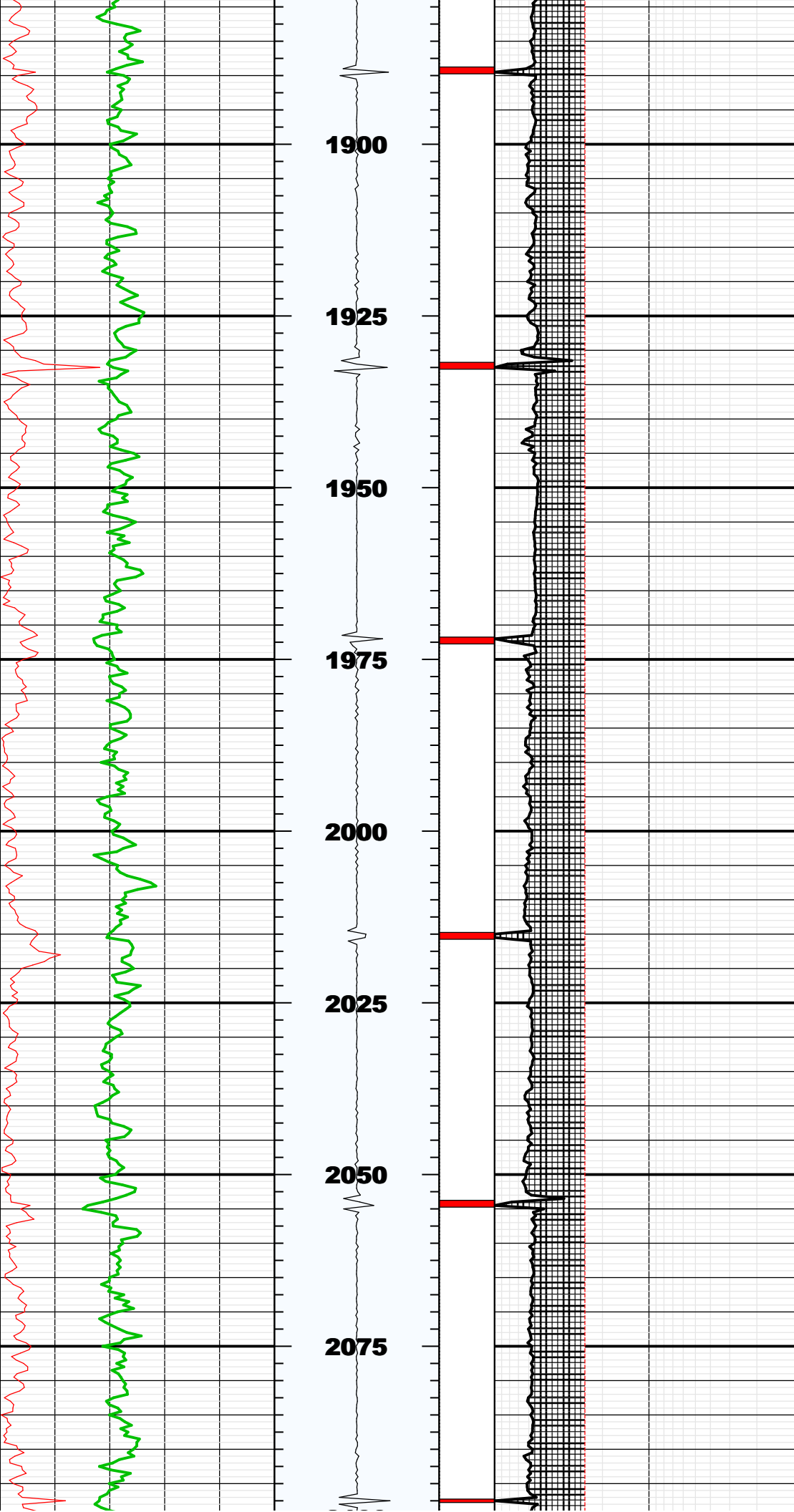


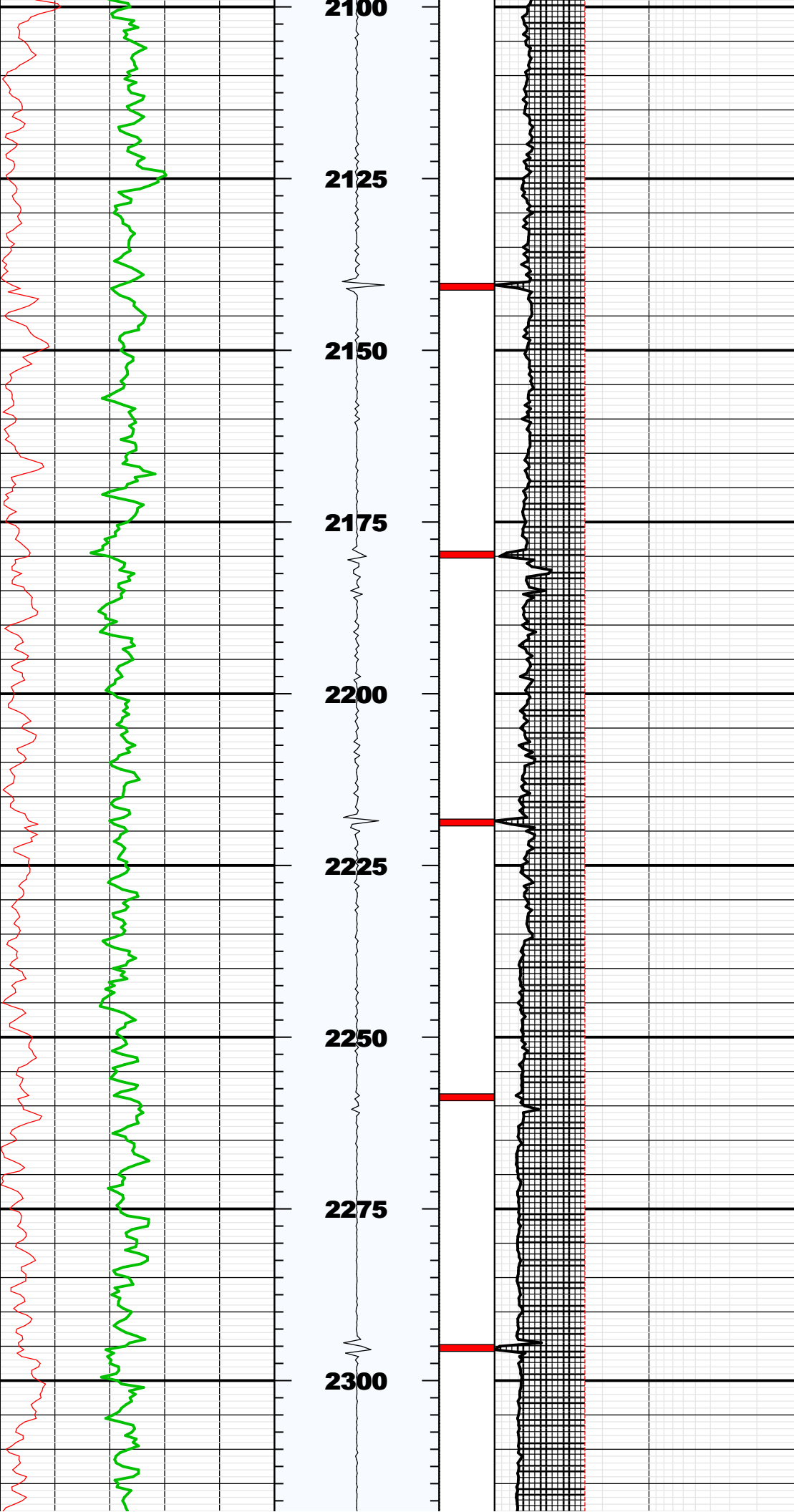


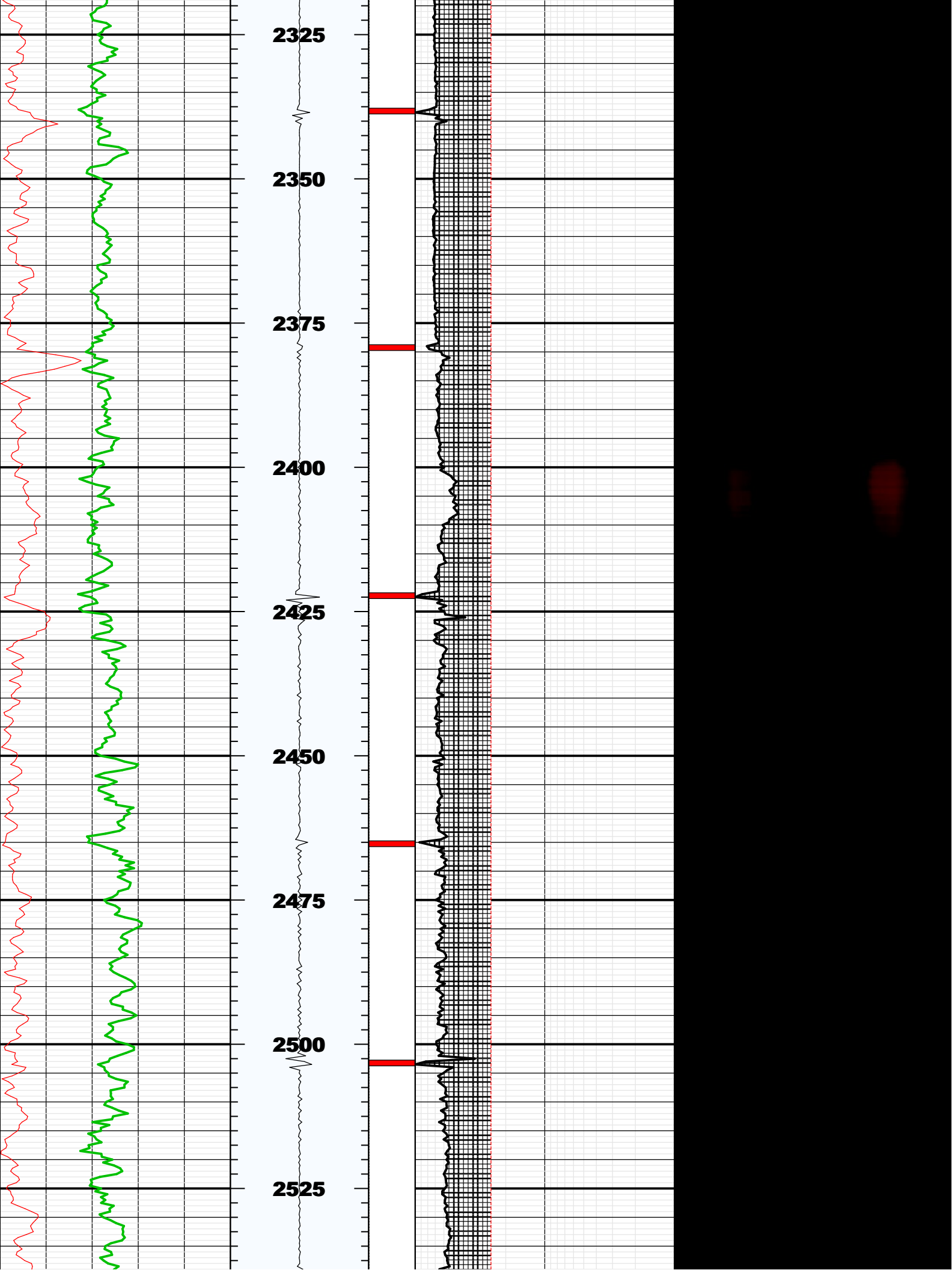


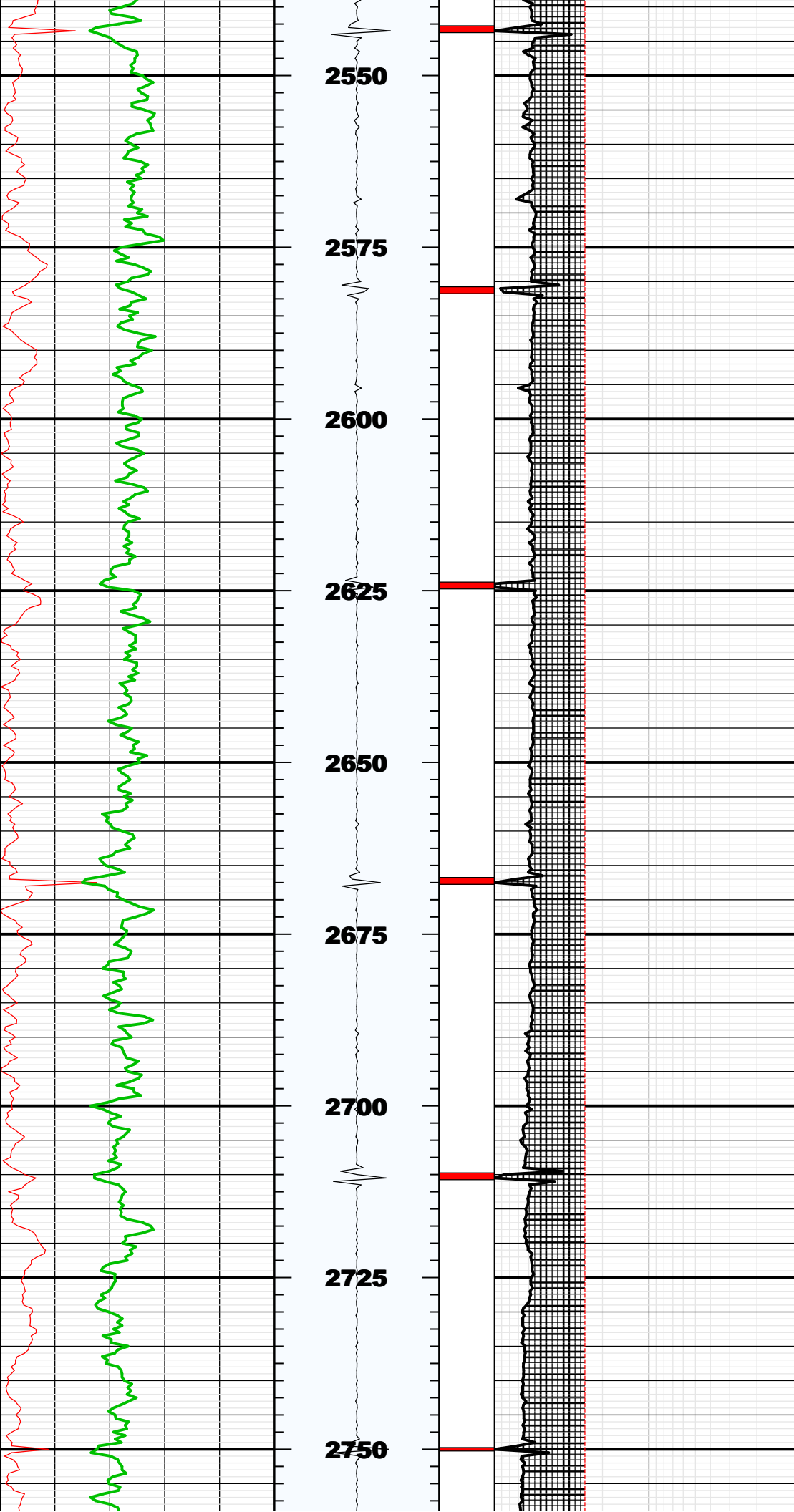




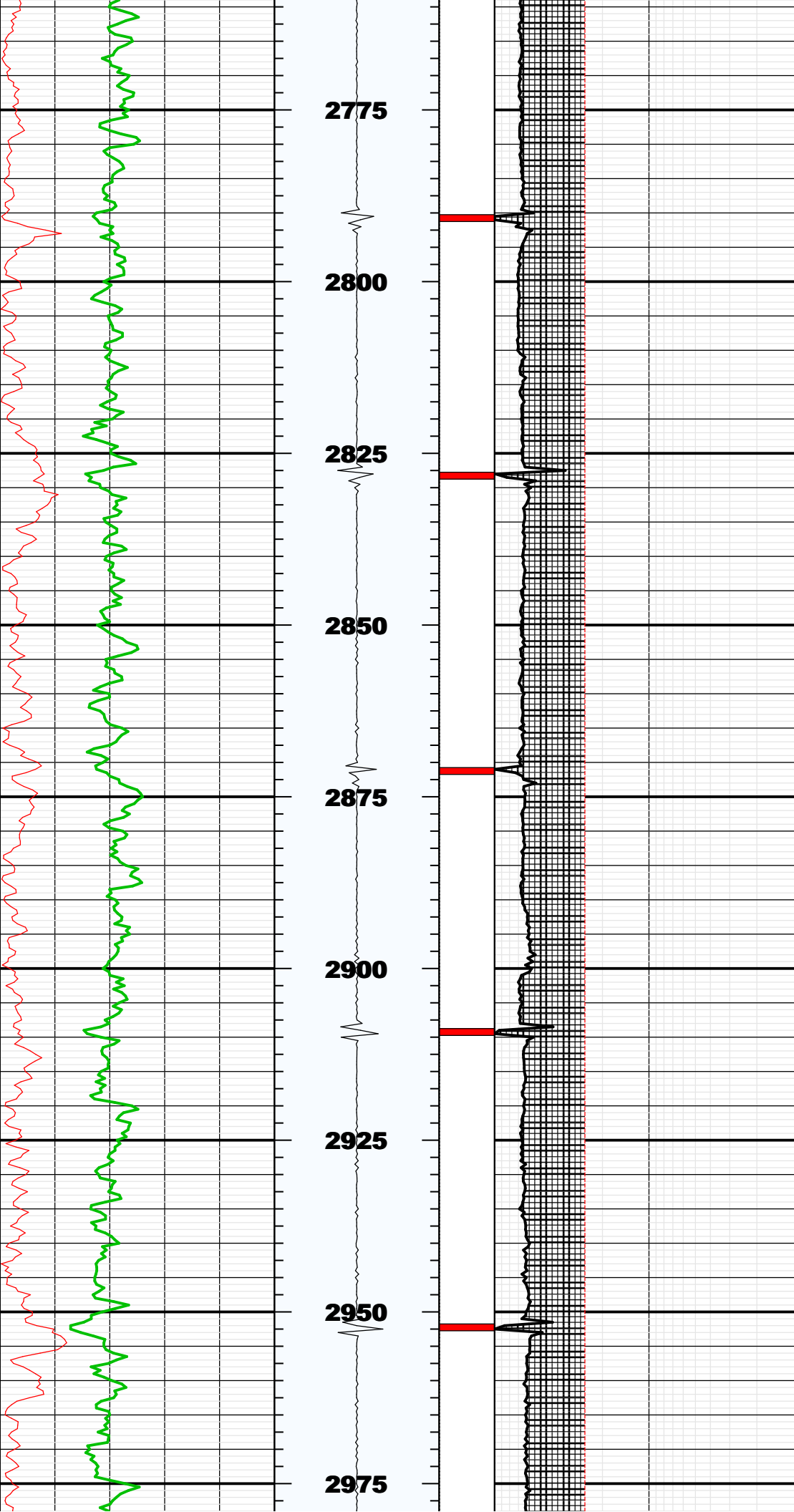


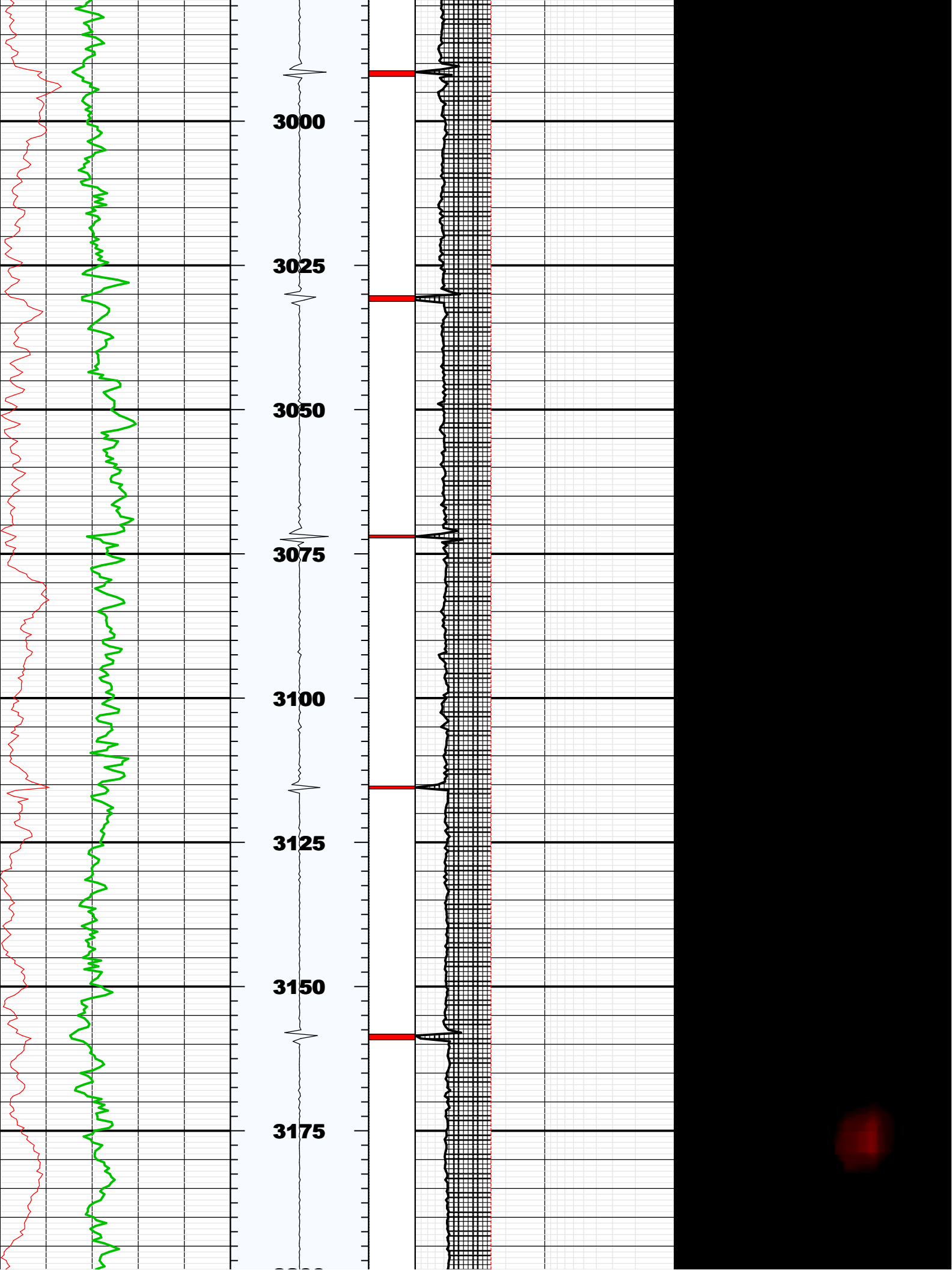


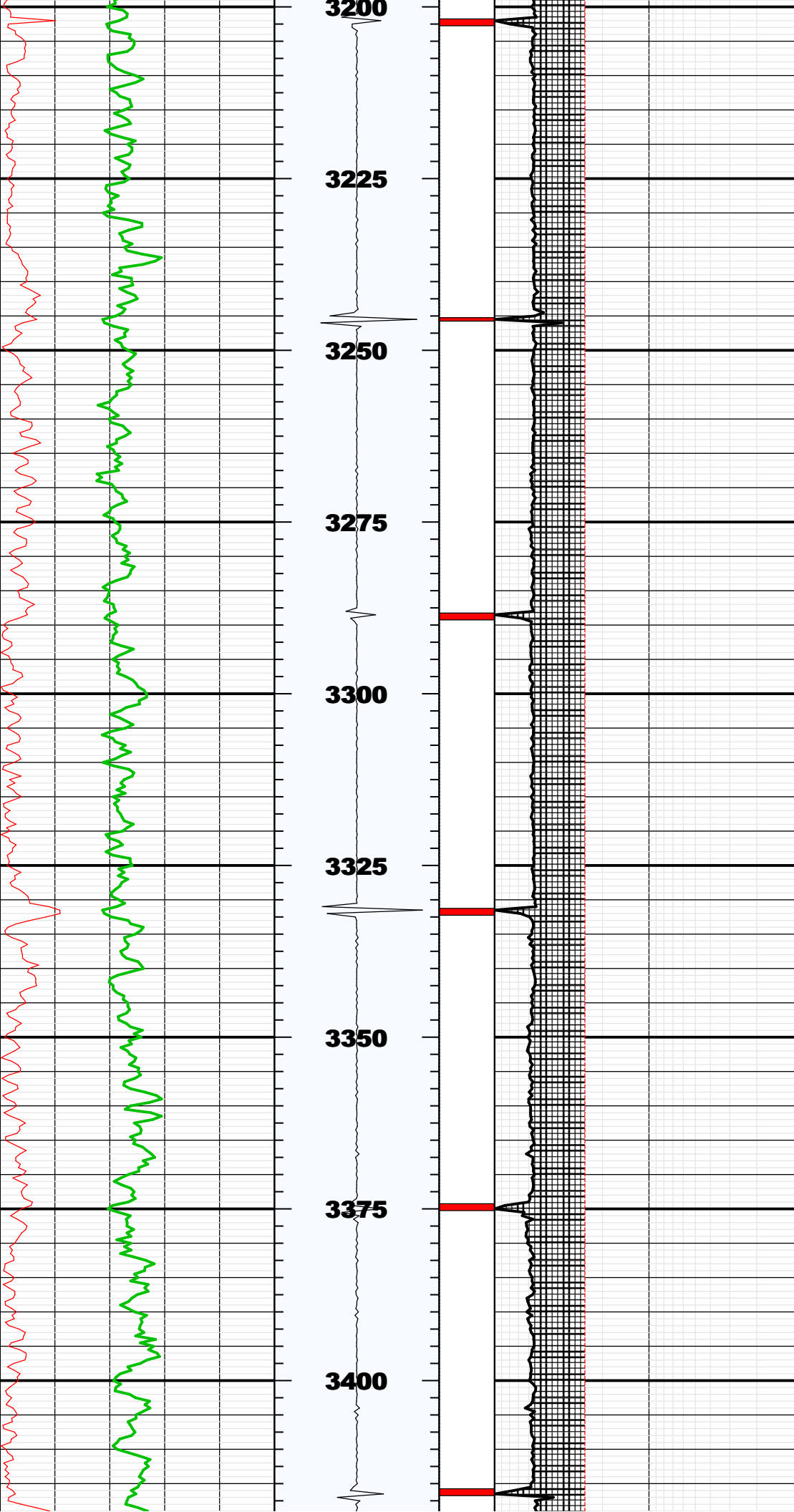


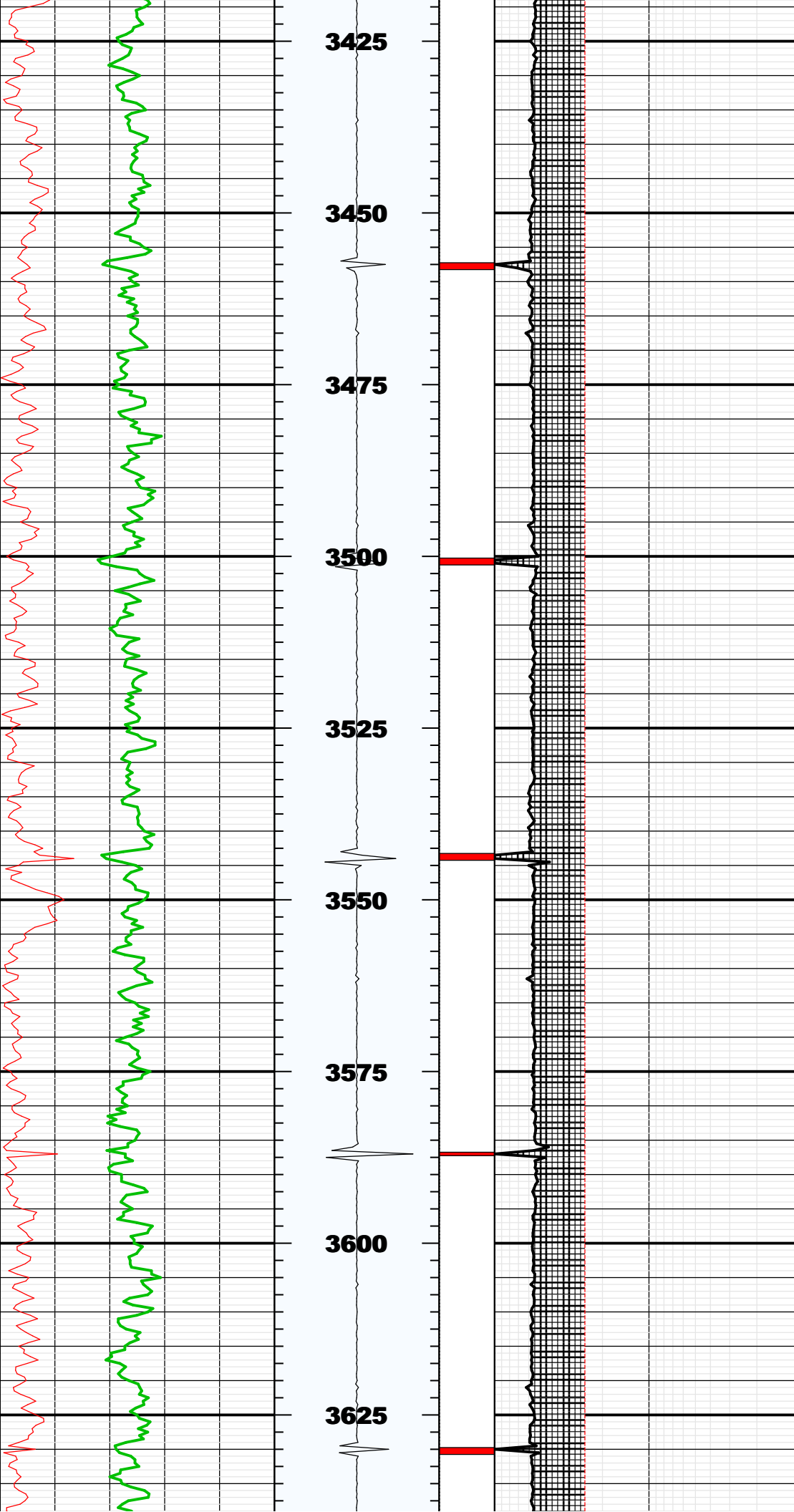


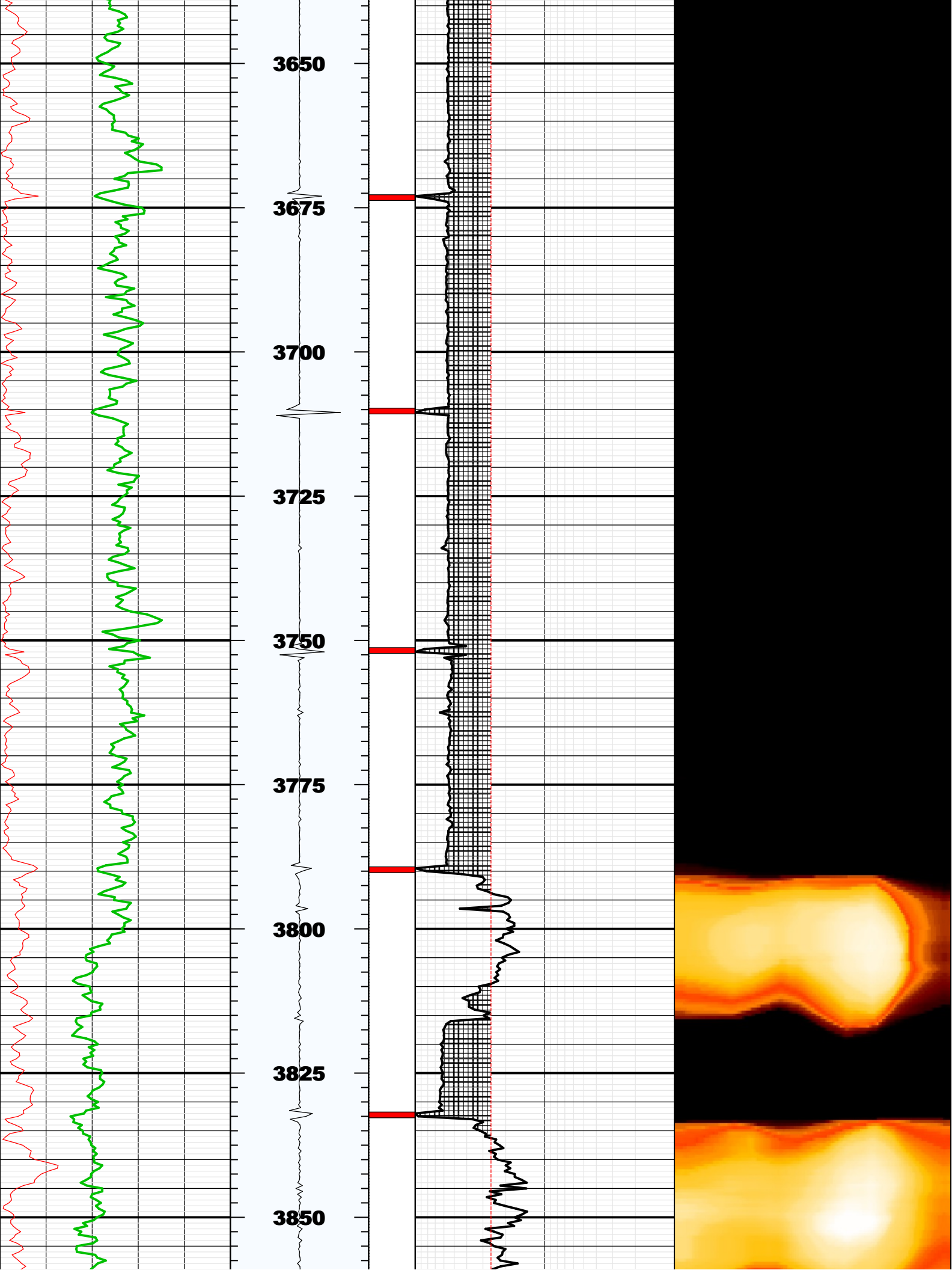


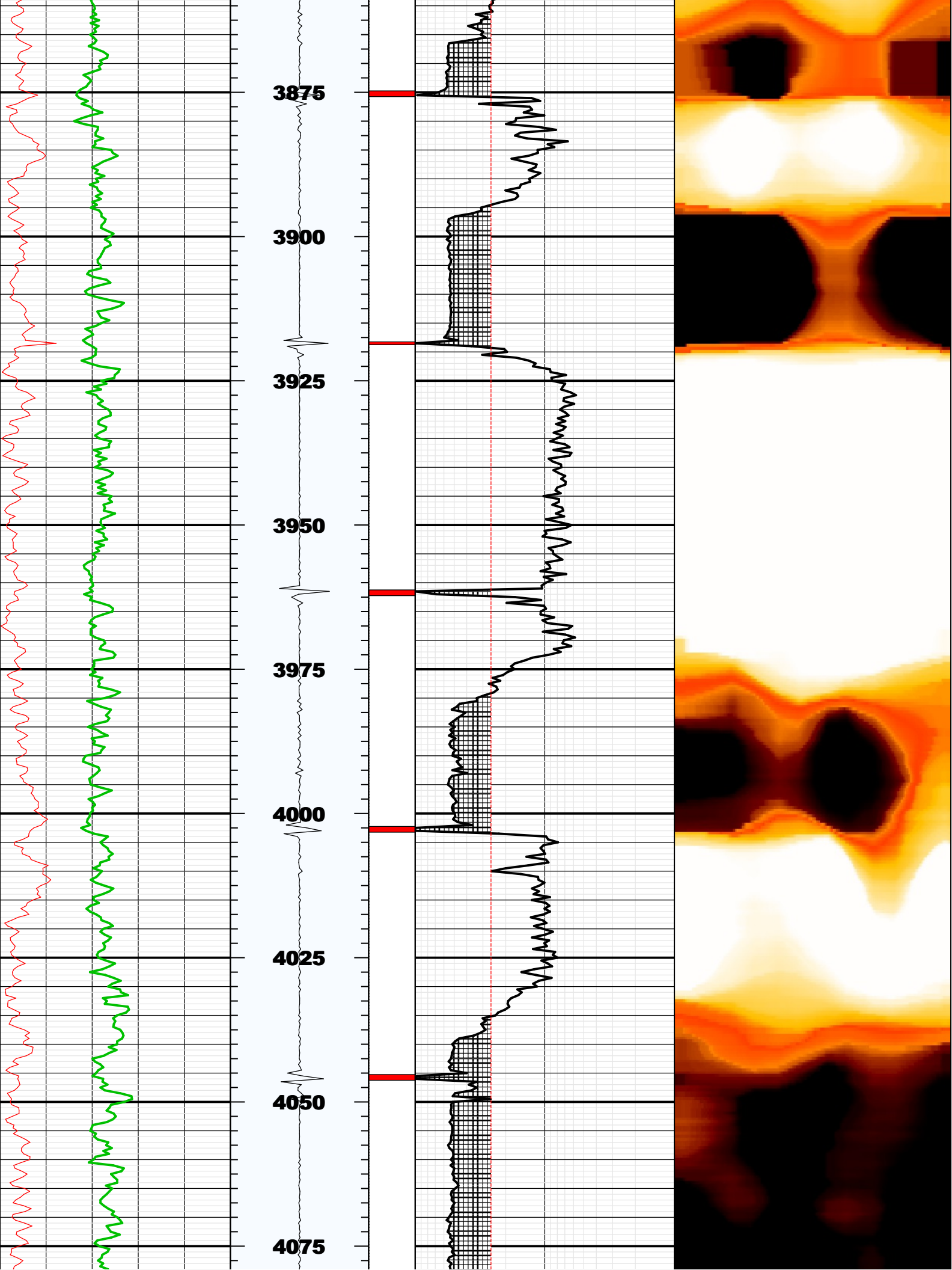




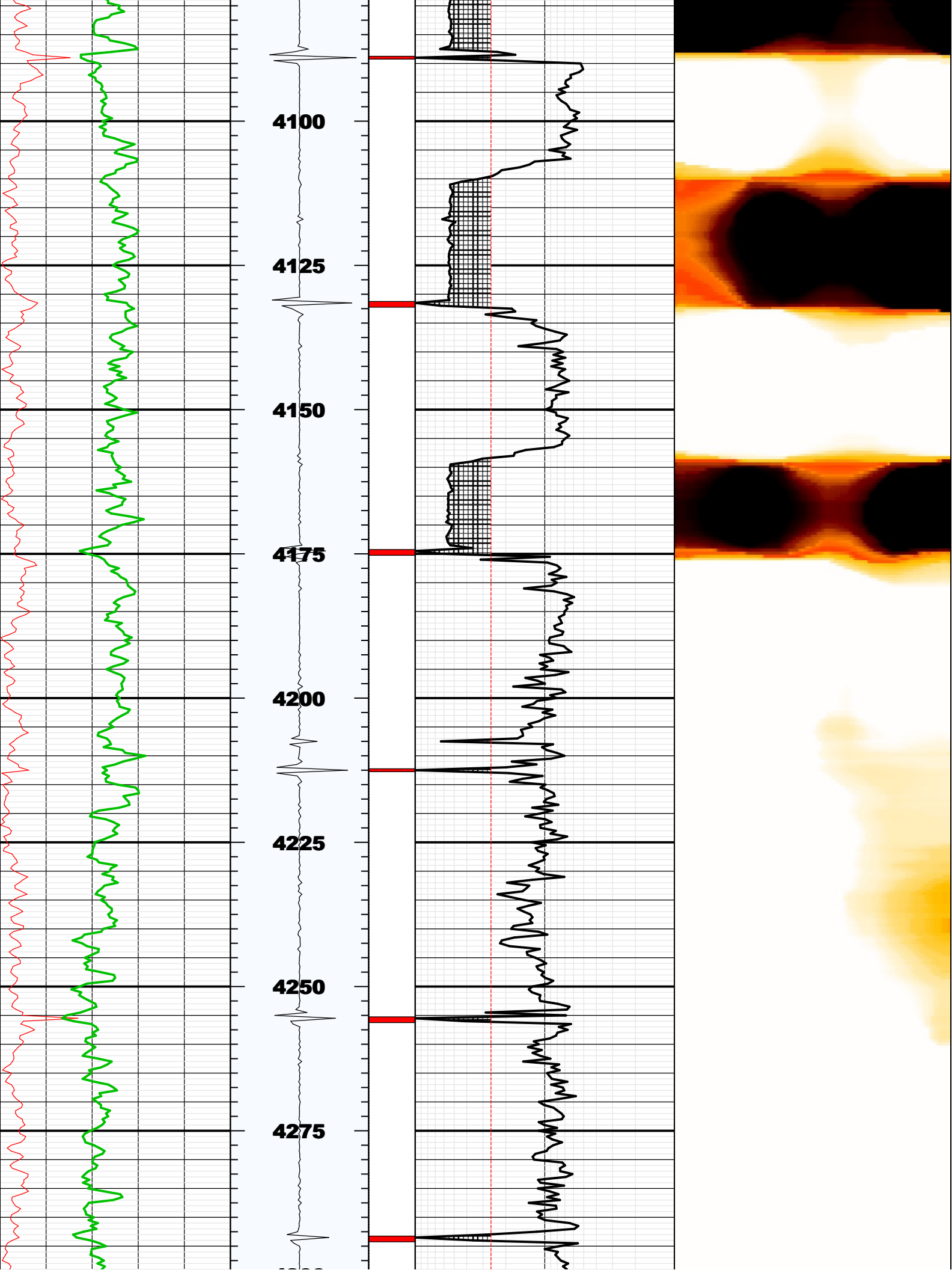




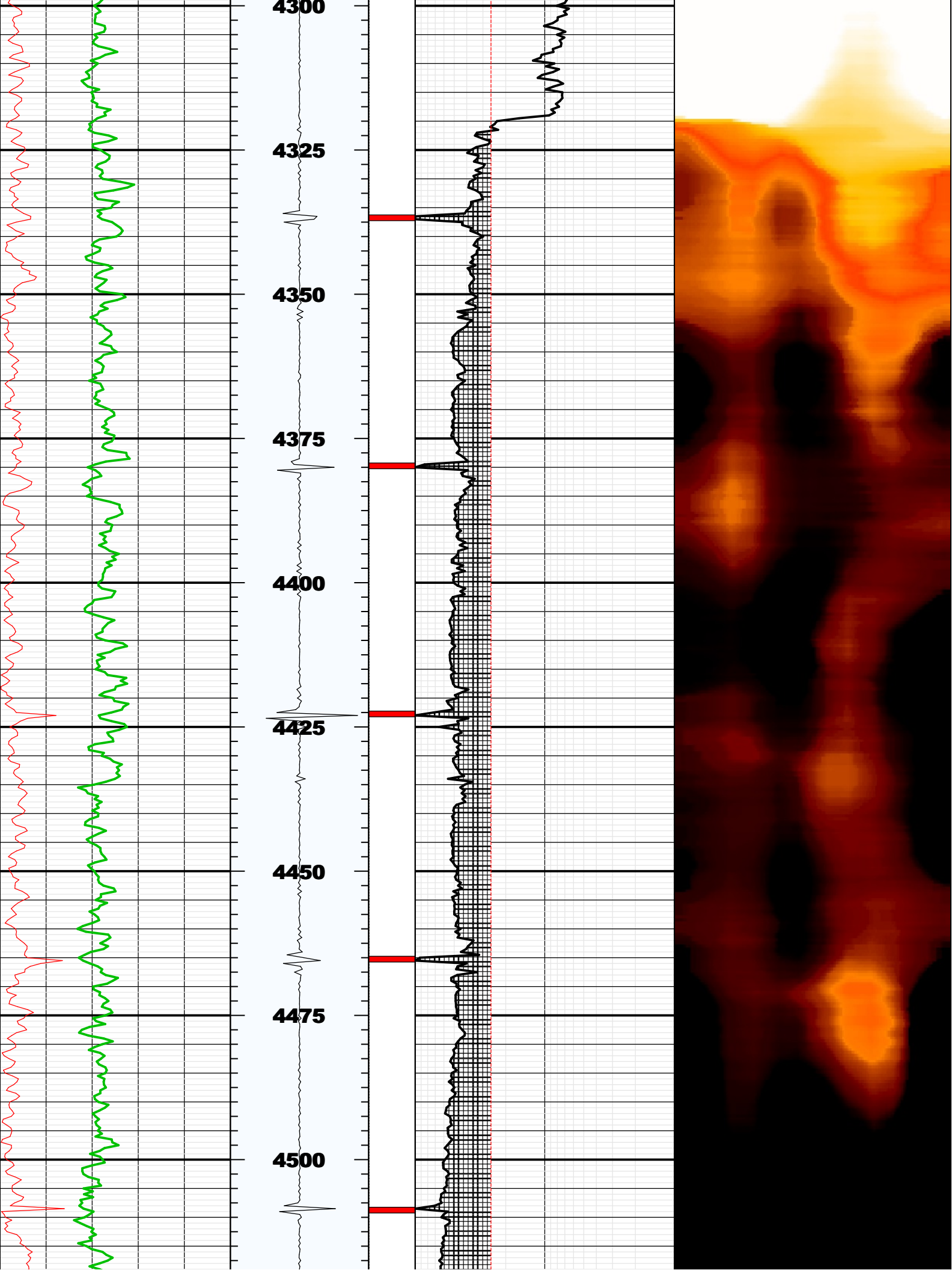


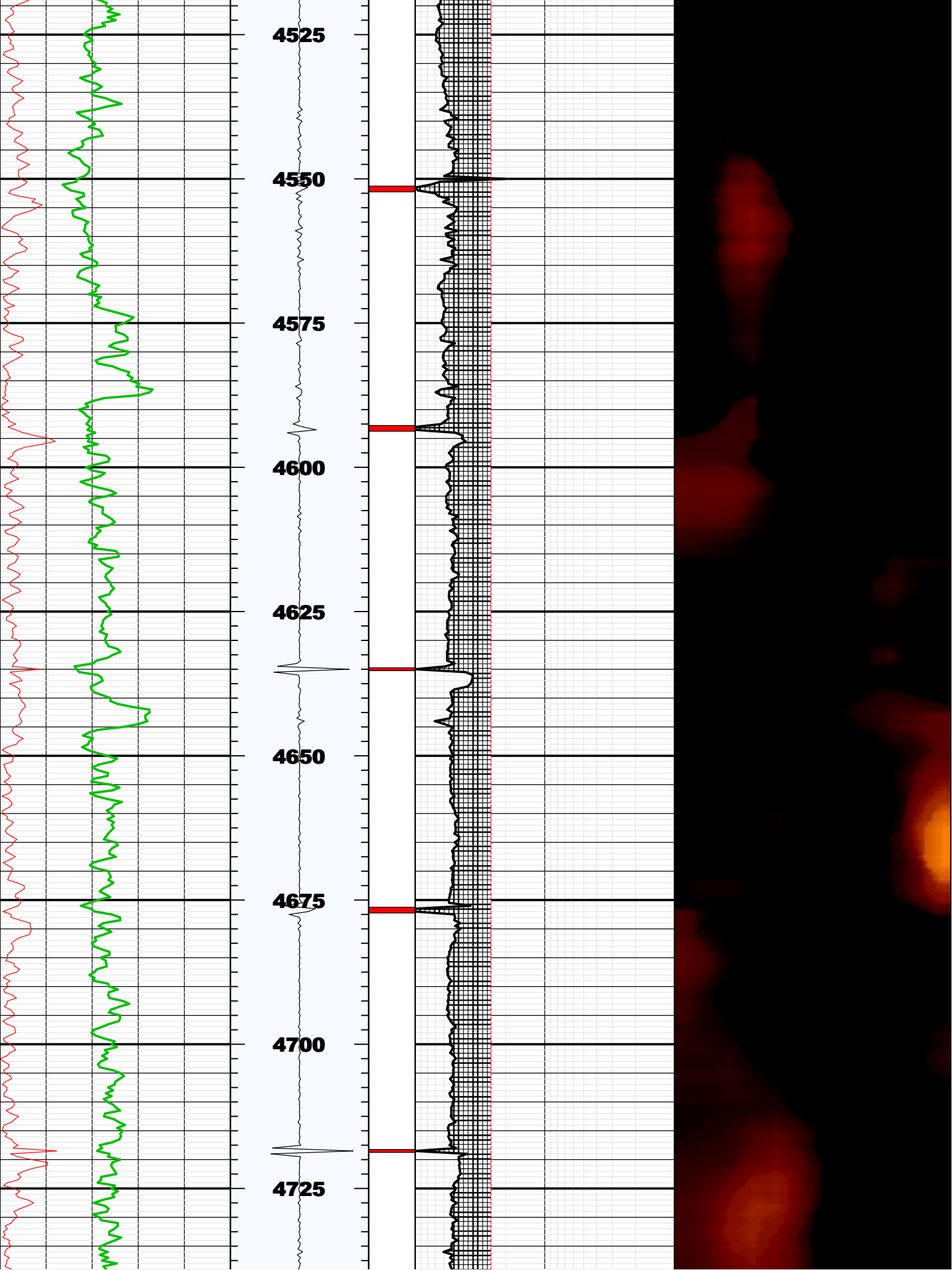


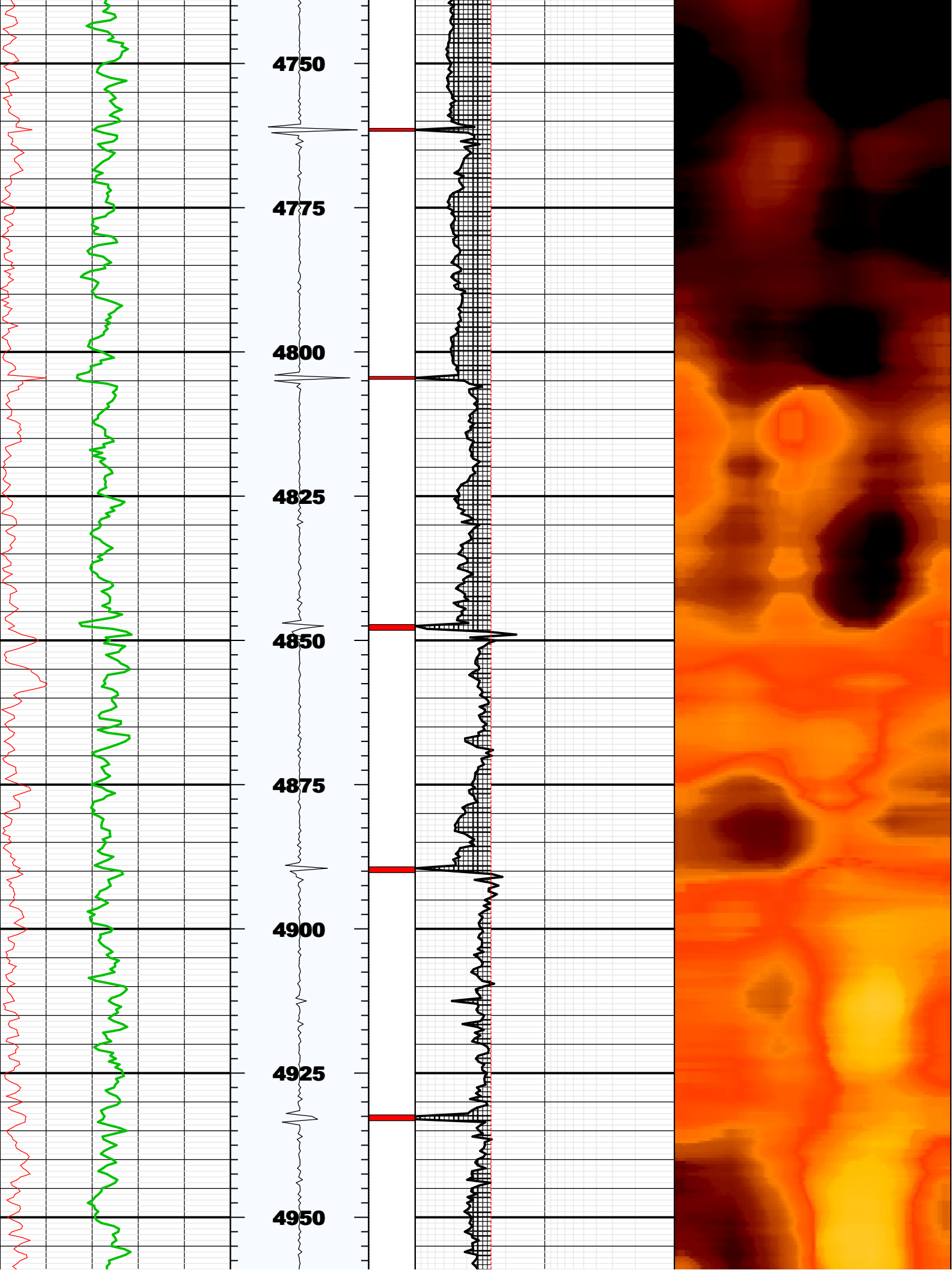


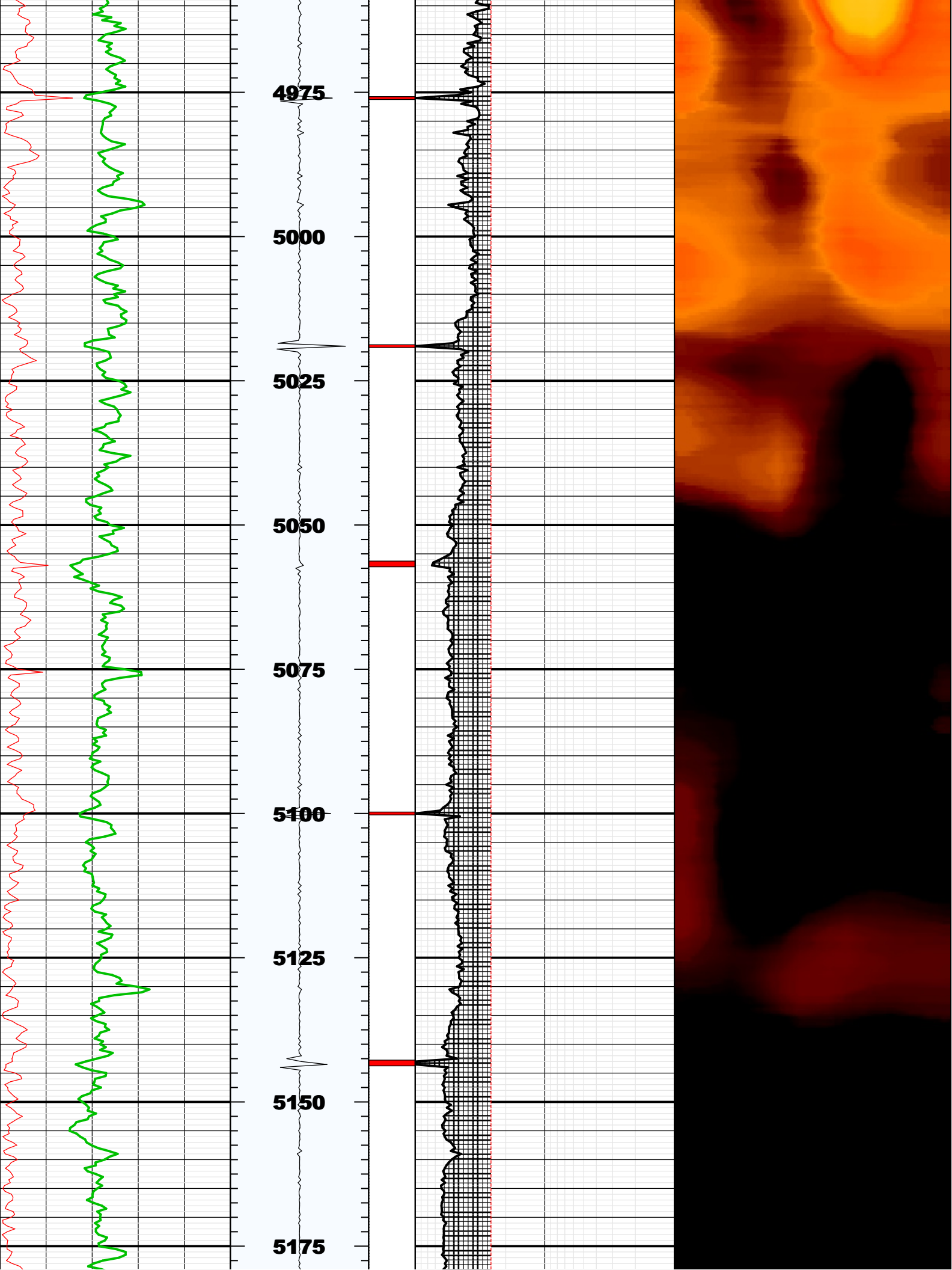


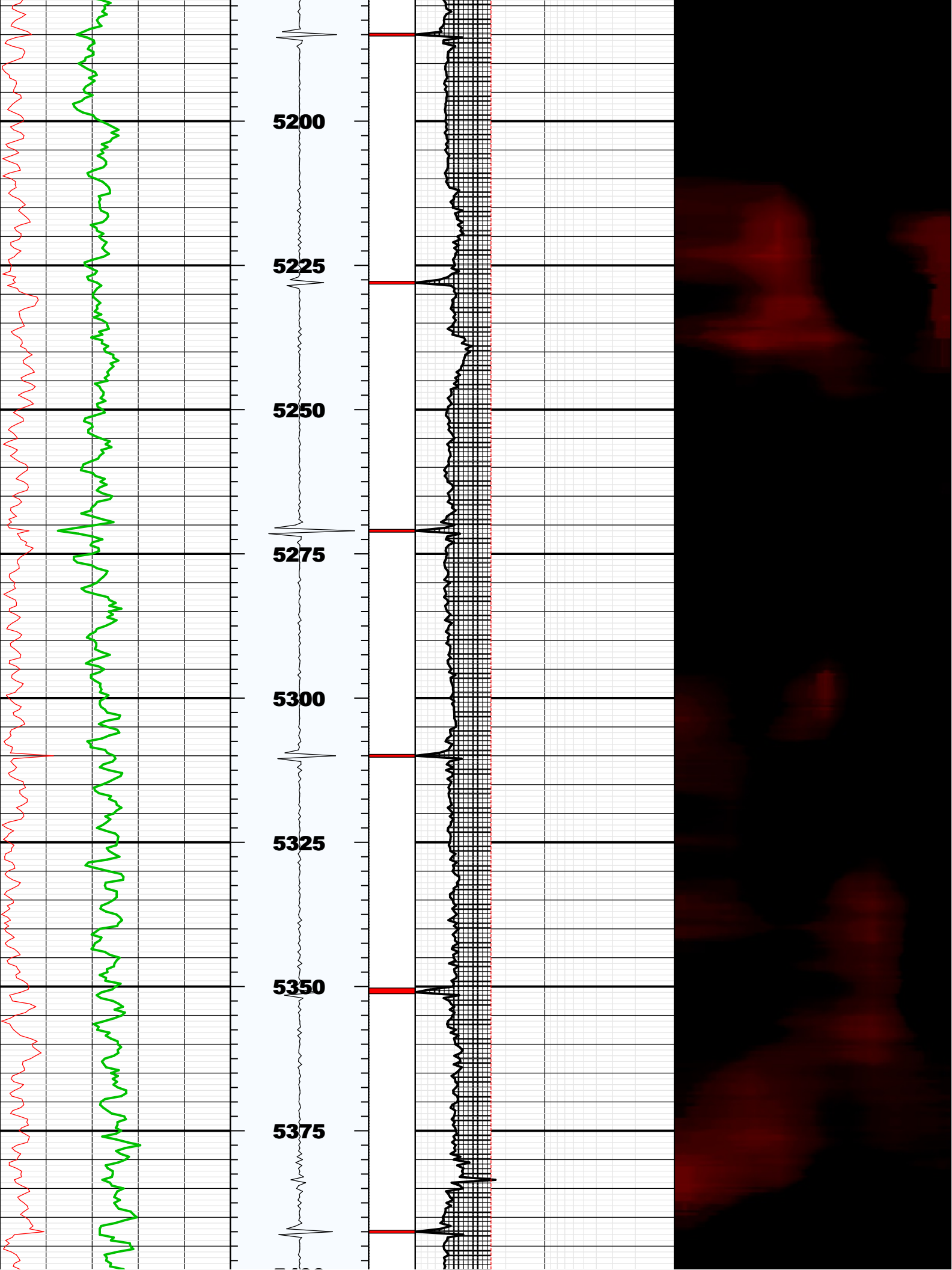




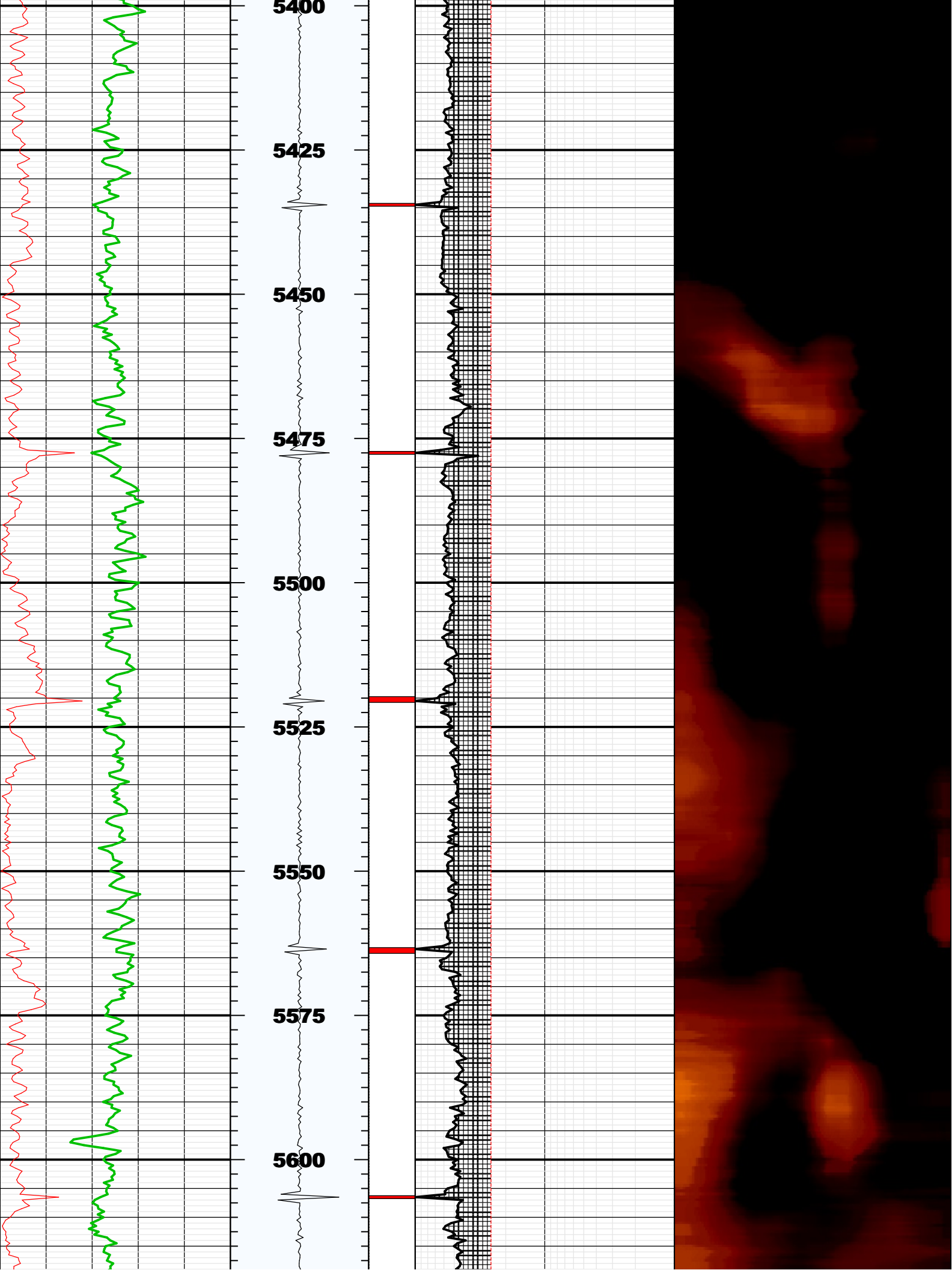


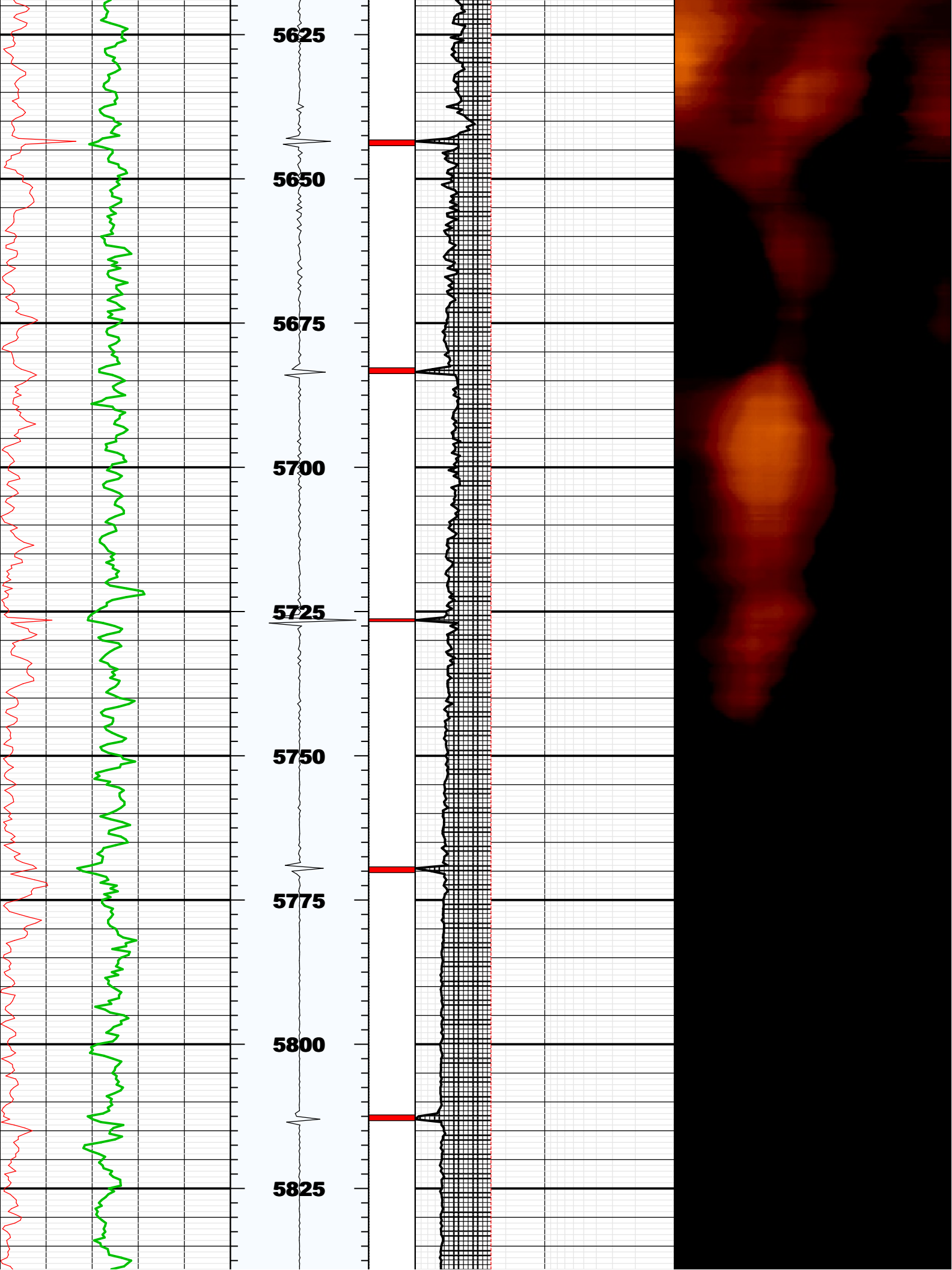




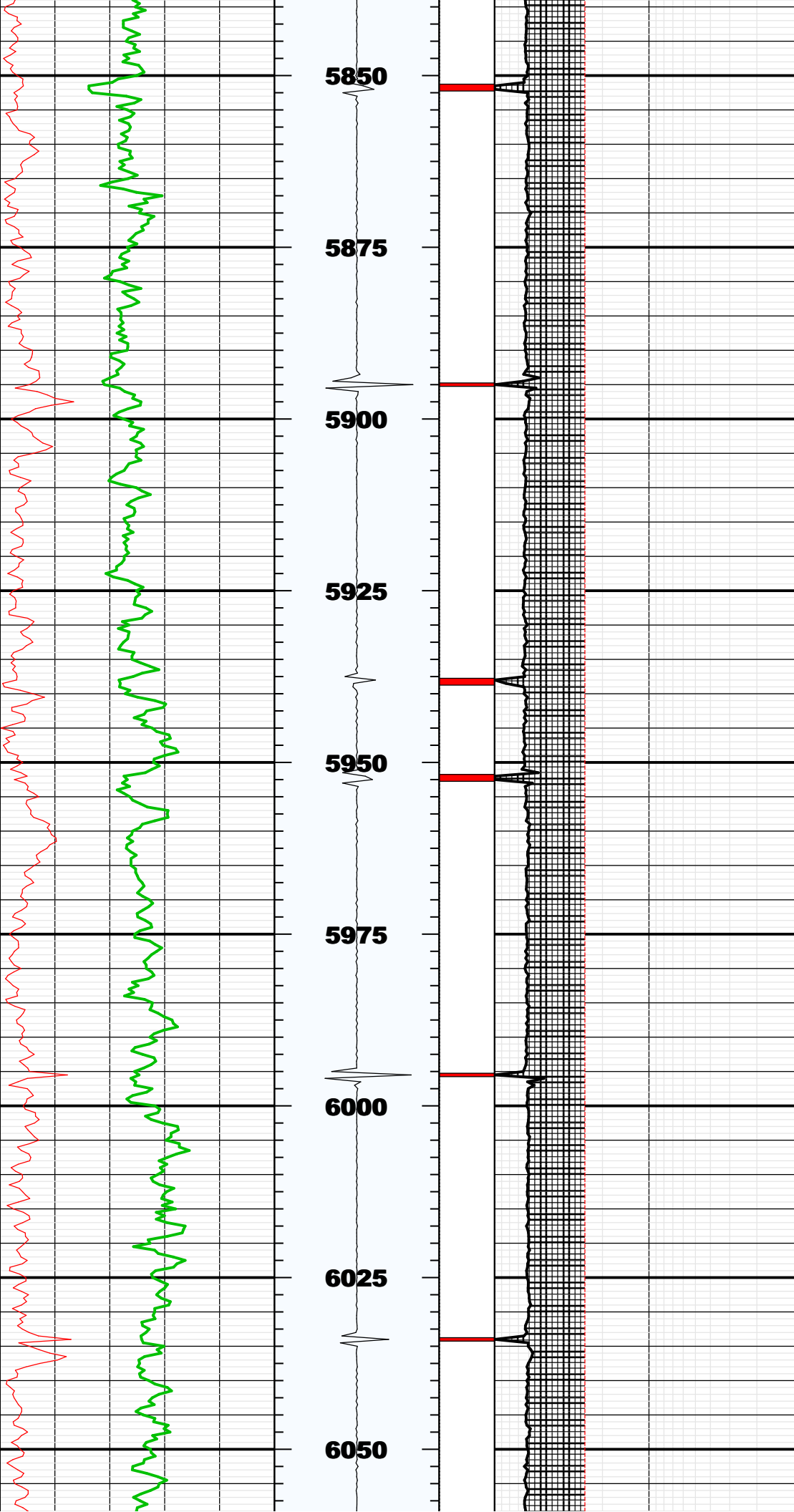


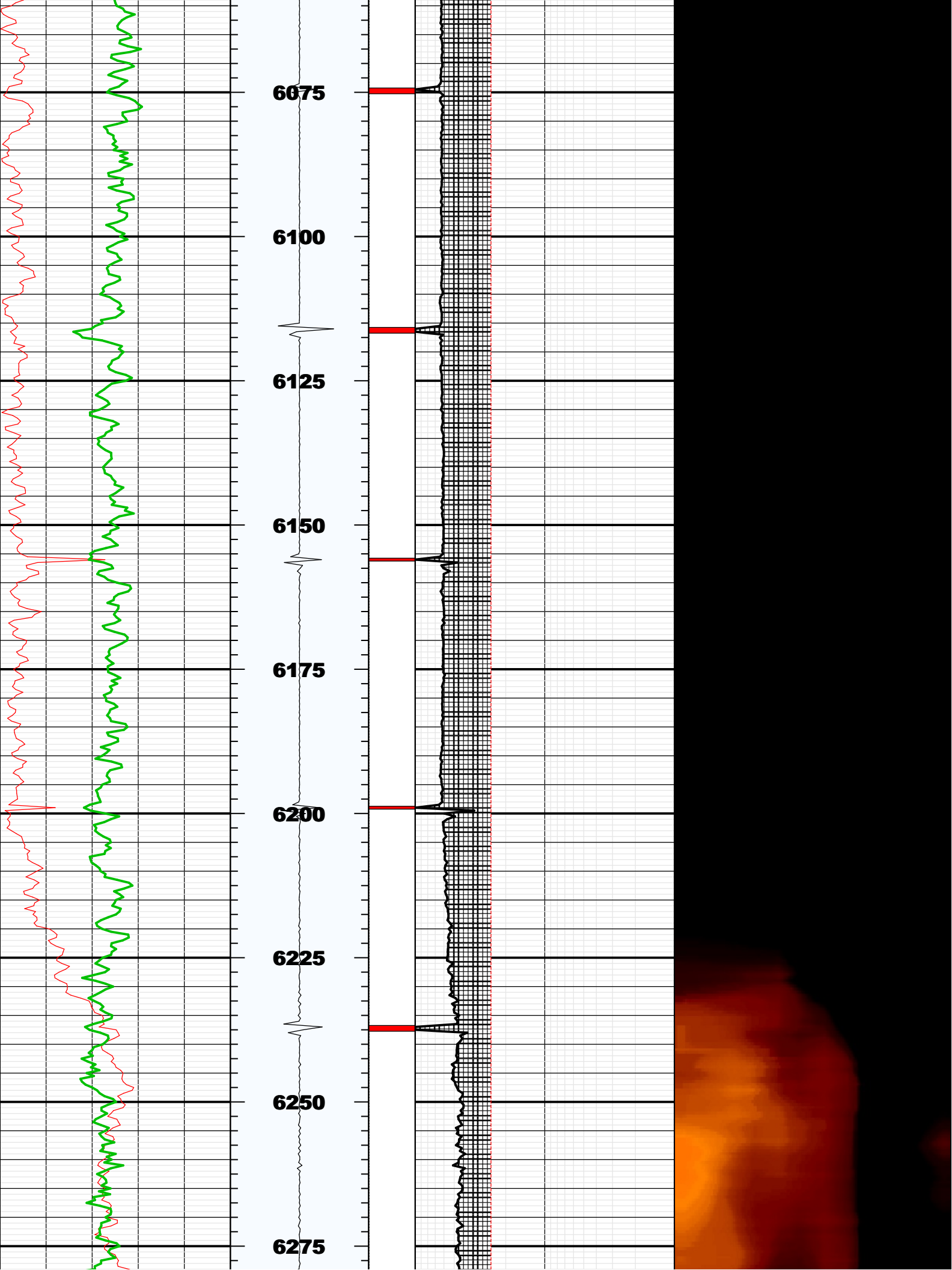


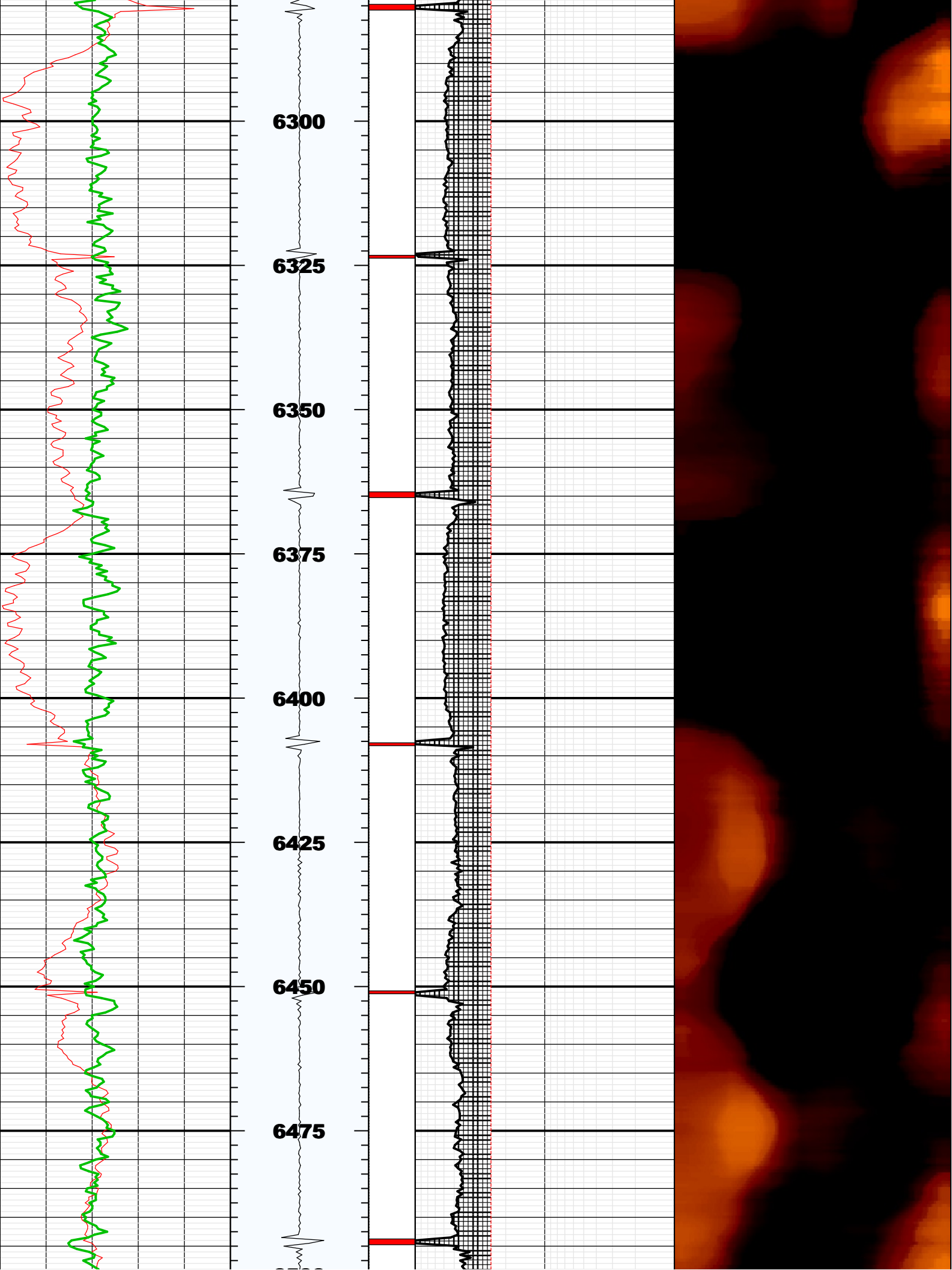


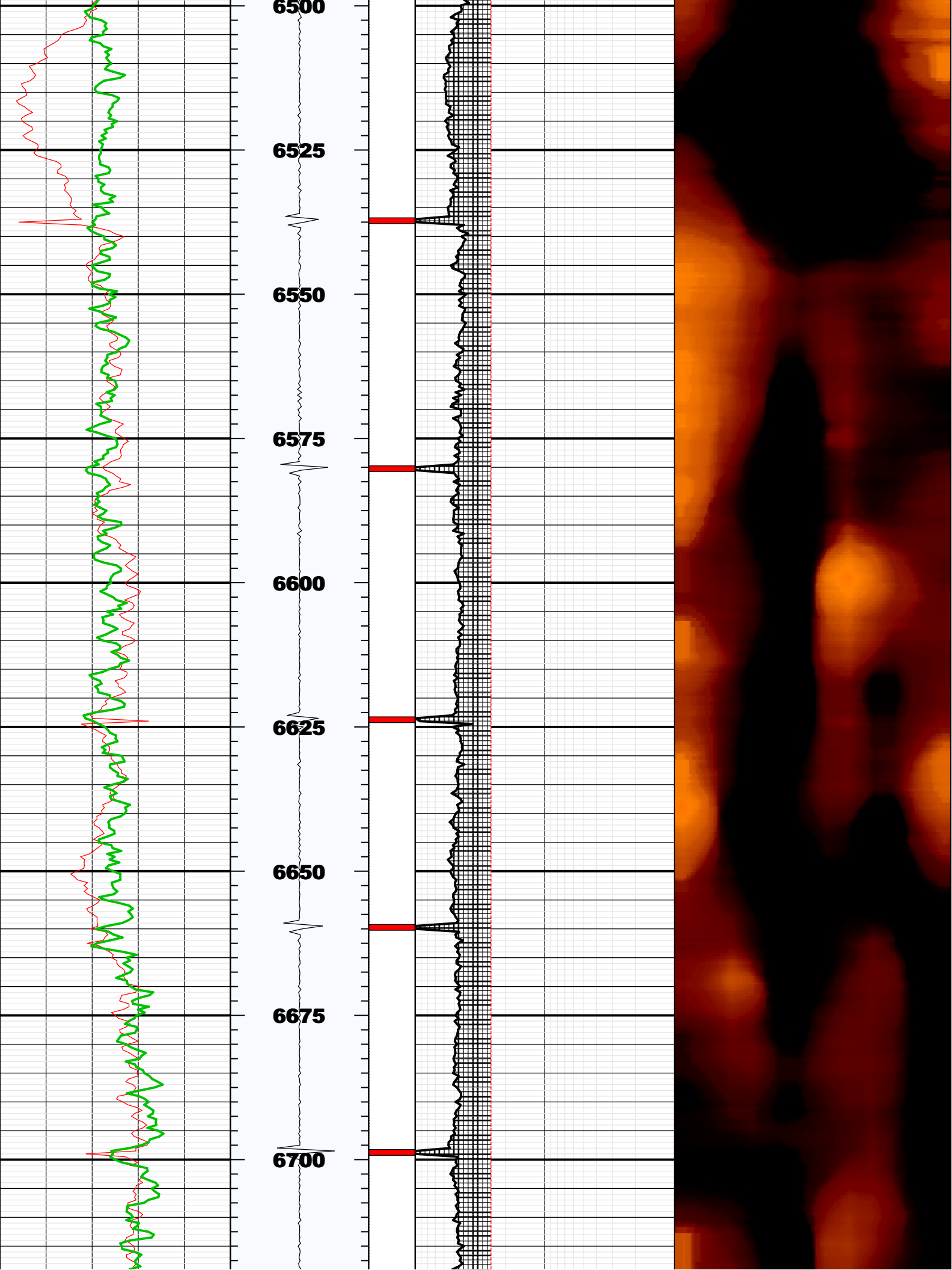


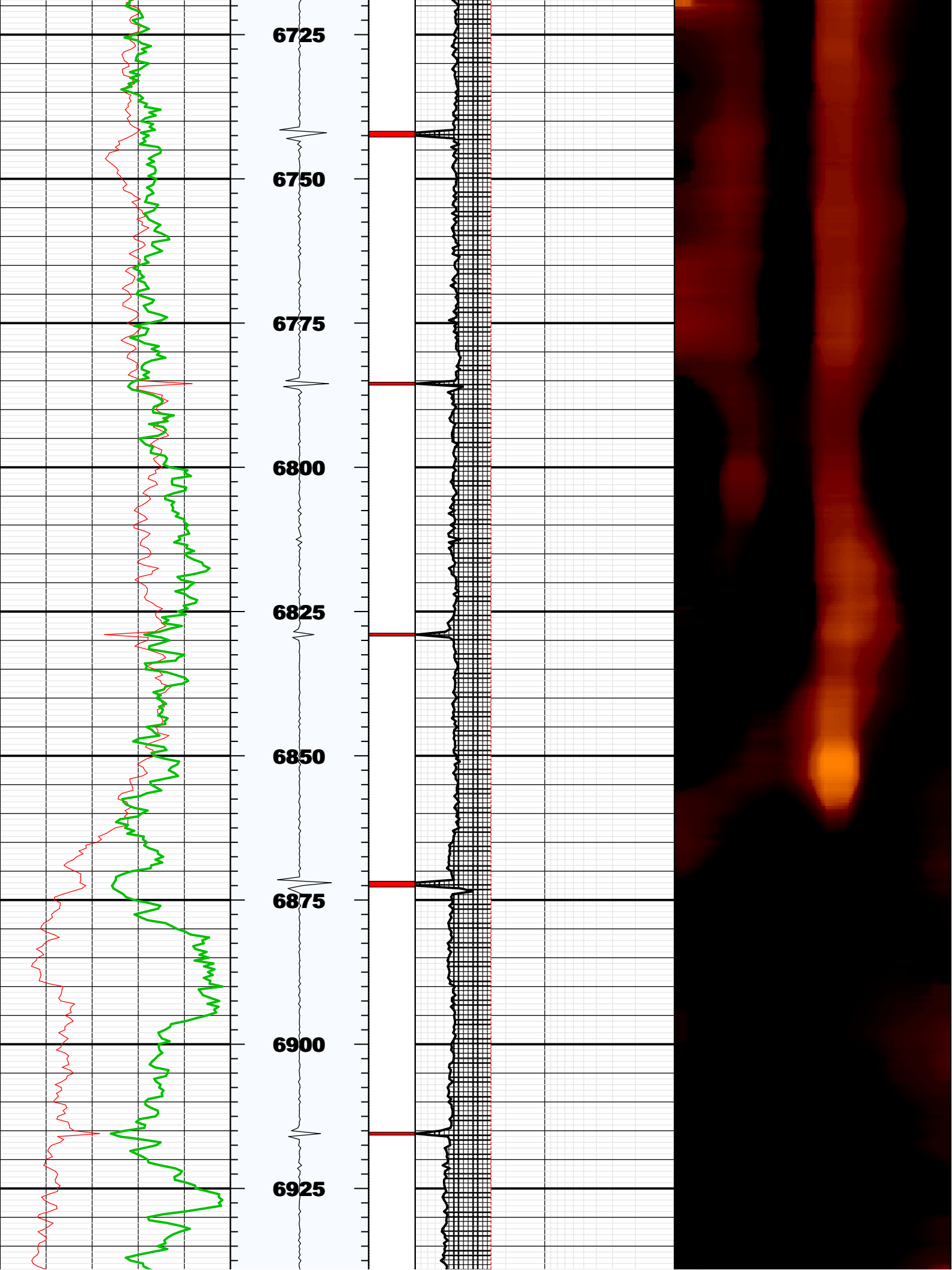




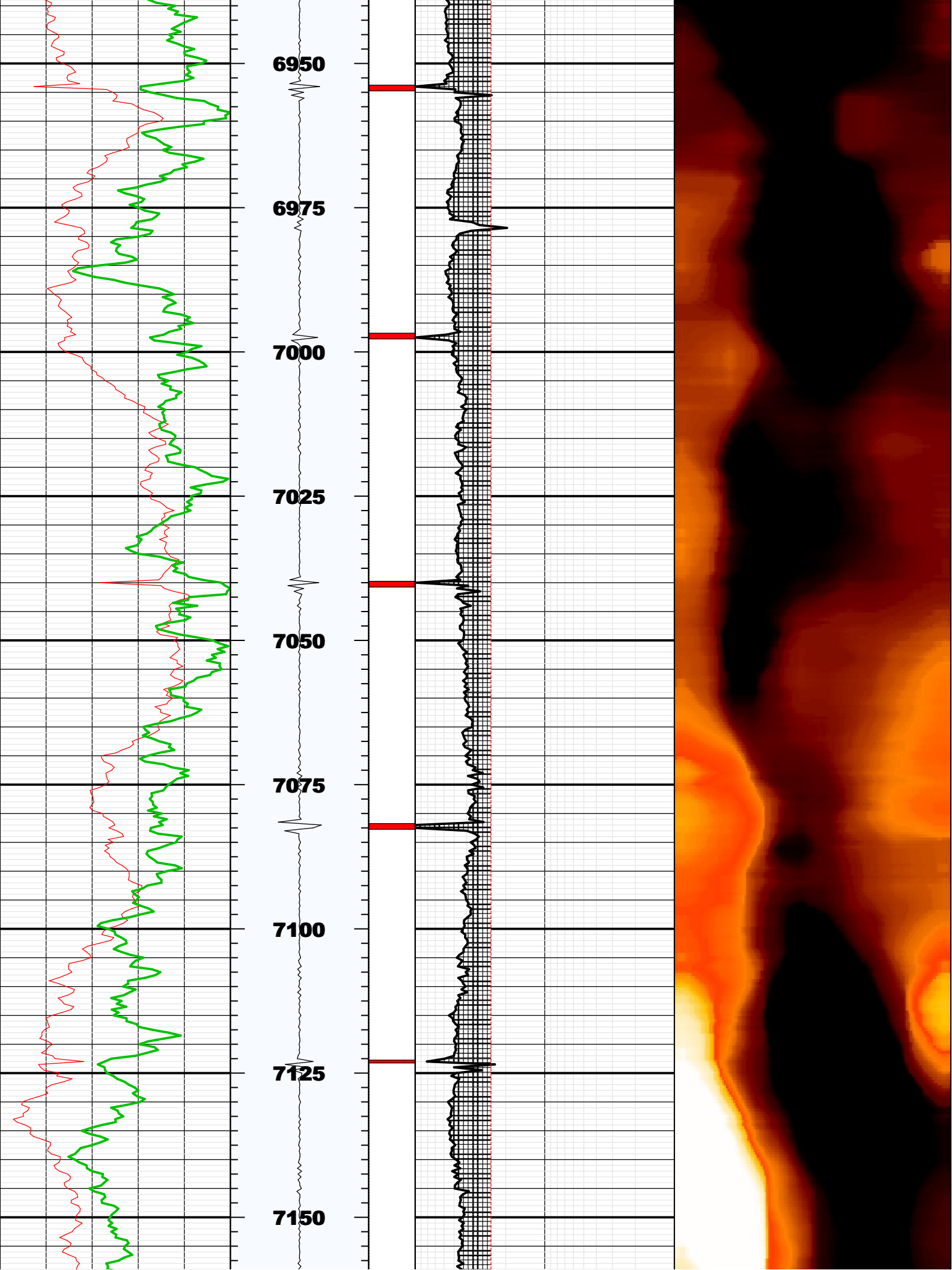


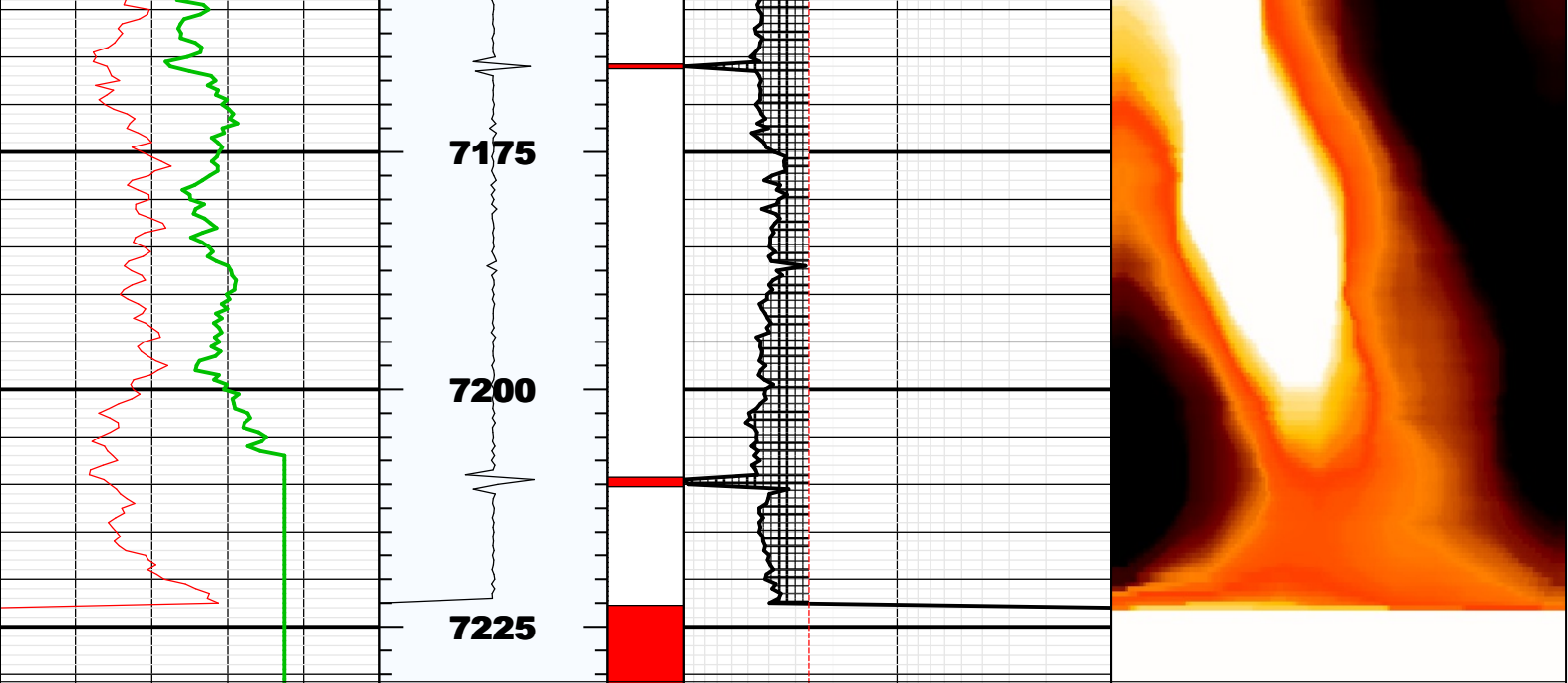










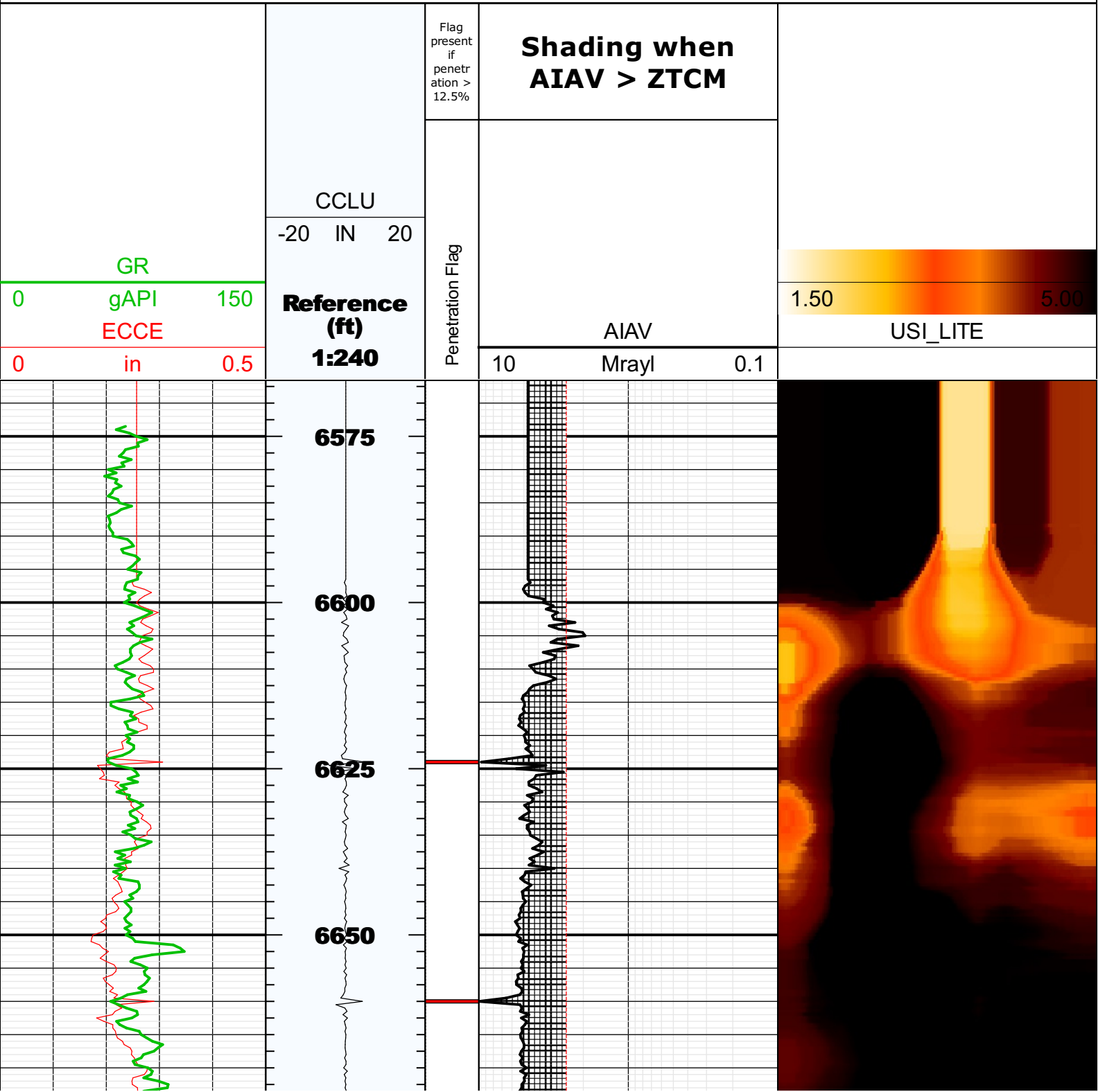


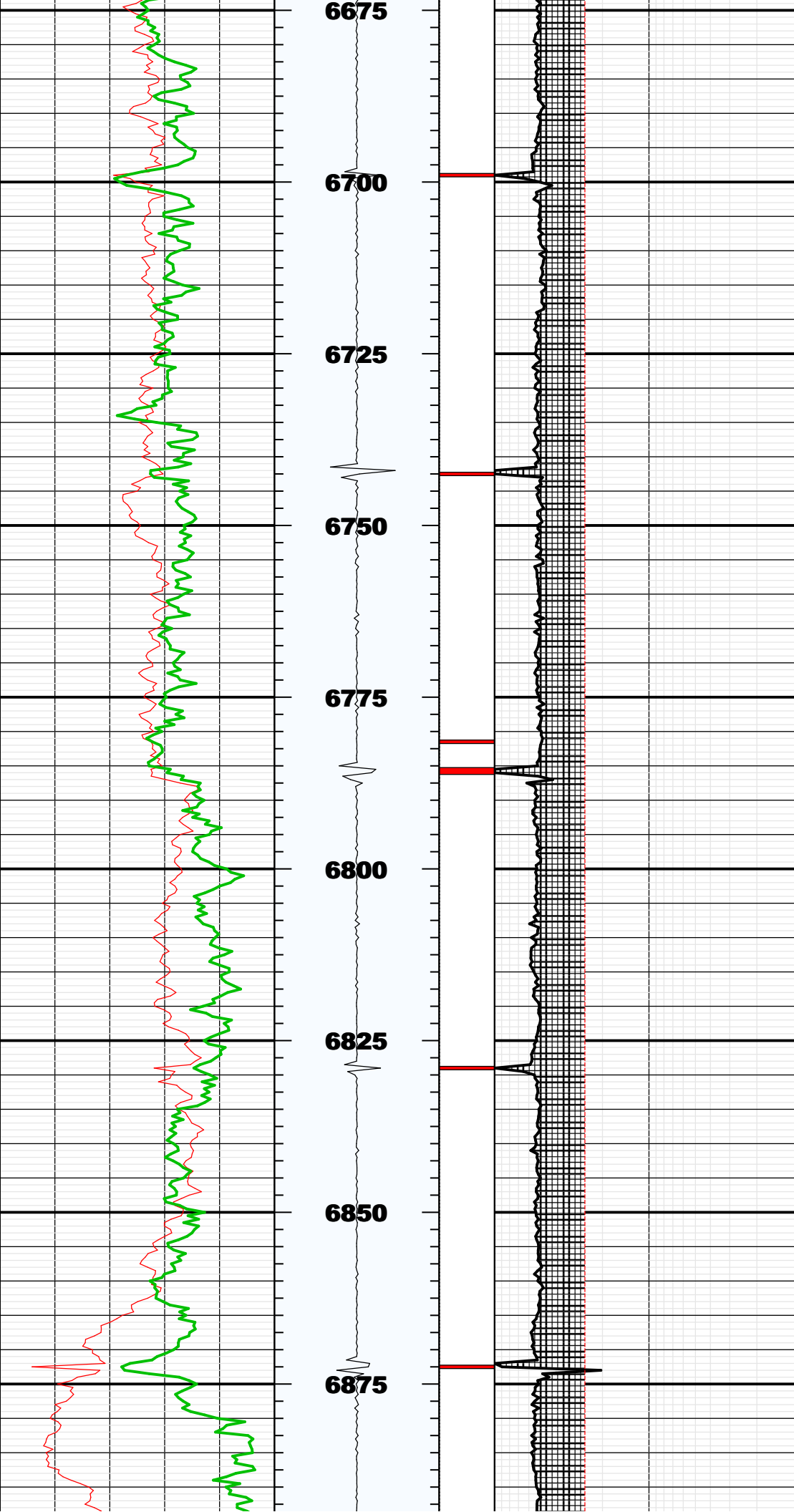


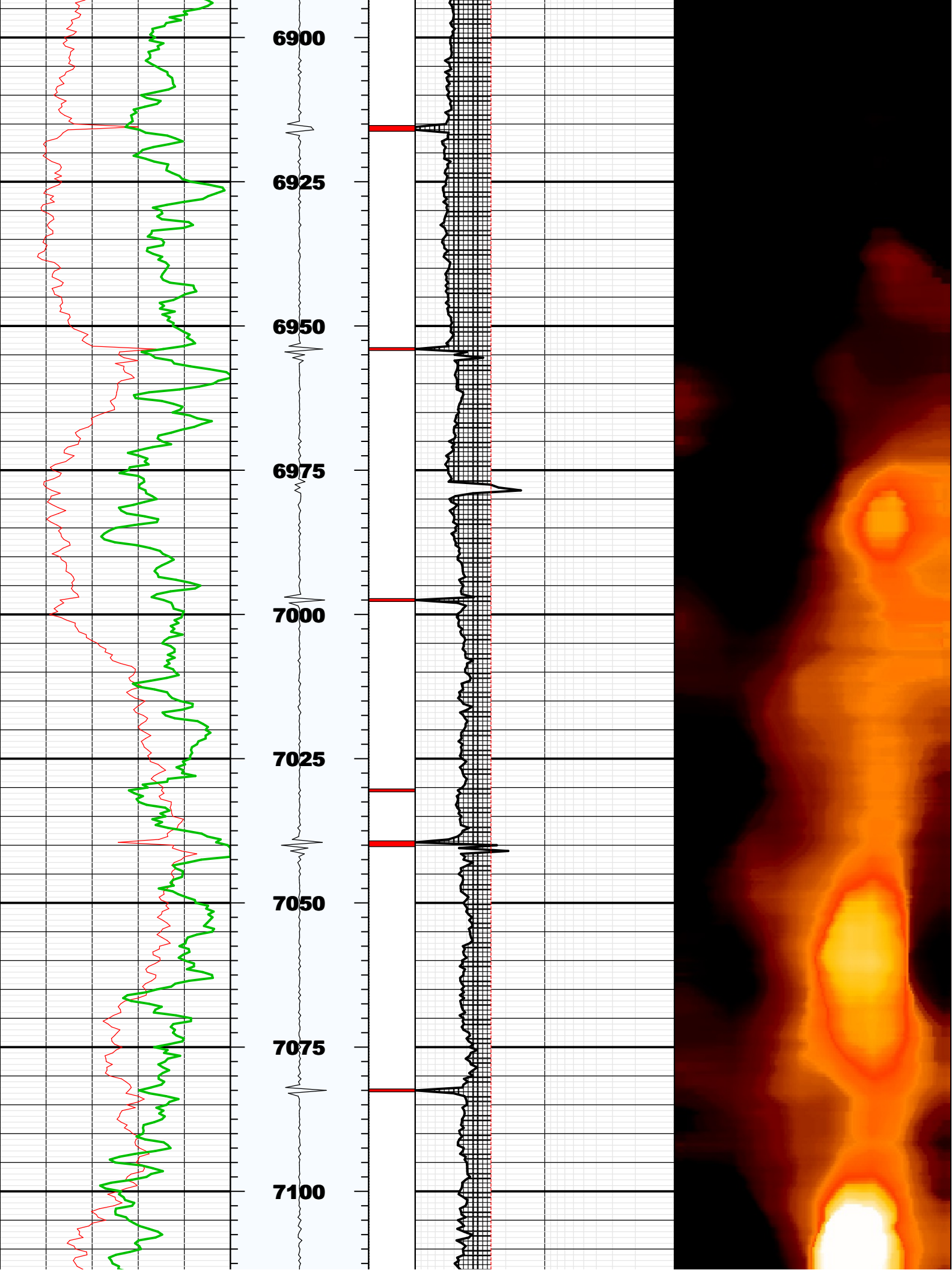
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	188.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	45	V	EMEX Voltage
FDII	0.00000	F	FPM Data Interpolation Interval
FSOD	0_OFF		Fluid Slowness Fits Casing Outer Diameter
LOGMODE			
PP			
STEP	-0.5	F	STEP
THDH	130.00000	%	Maximum Search Thickness (percentage of nominal)
THDL	70.00000	%	Minimum Search Thickness (percentage of nominal)
THDP	Fundamental		Thickness Detection Policy
THNO	0.36200	IN	Nominal Thickness of Casing
TMUC	WRM		Type of Mud
U-USIT_DT3P			
UPAT	375K		Emission Pattern
USUB	7INC		USIT Sub Identifier
UWKM	D603010L		Working Mode
VCAS	51.40000	US/F	Ultrasonic Transversal Velocity in Casing
WINB	32.08347	US	Window Begin Time
WINE	73.66887	US	Window End Time
ZCAS	46.25000	MRAY	Acoustic Impedance of Casing
ZINI	-1.00000	MRAY	Initial Estimate of Cement Impedance
ZMUD	1.81000	MRAY	Acoustic Impedance of Mud
ZTCM	2.60000	MRAY	Acoustic Impedance Threshold for Cement
ZTGS	0.30000	MRAY	Acoustic Impedance Threshold for Gas
WLEN	22.50350	US	T <sup>^</sup> 3 Processing Length

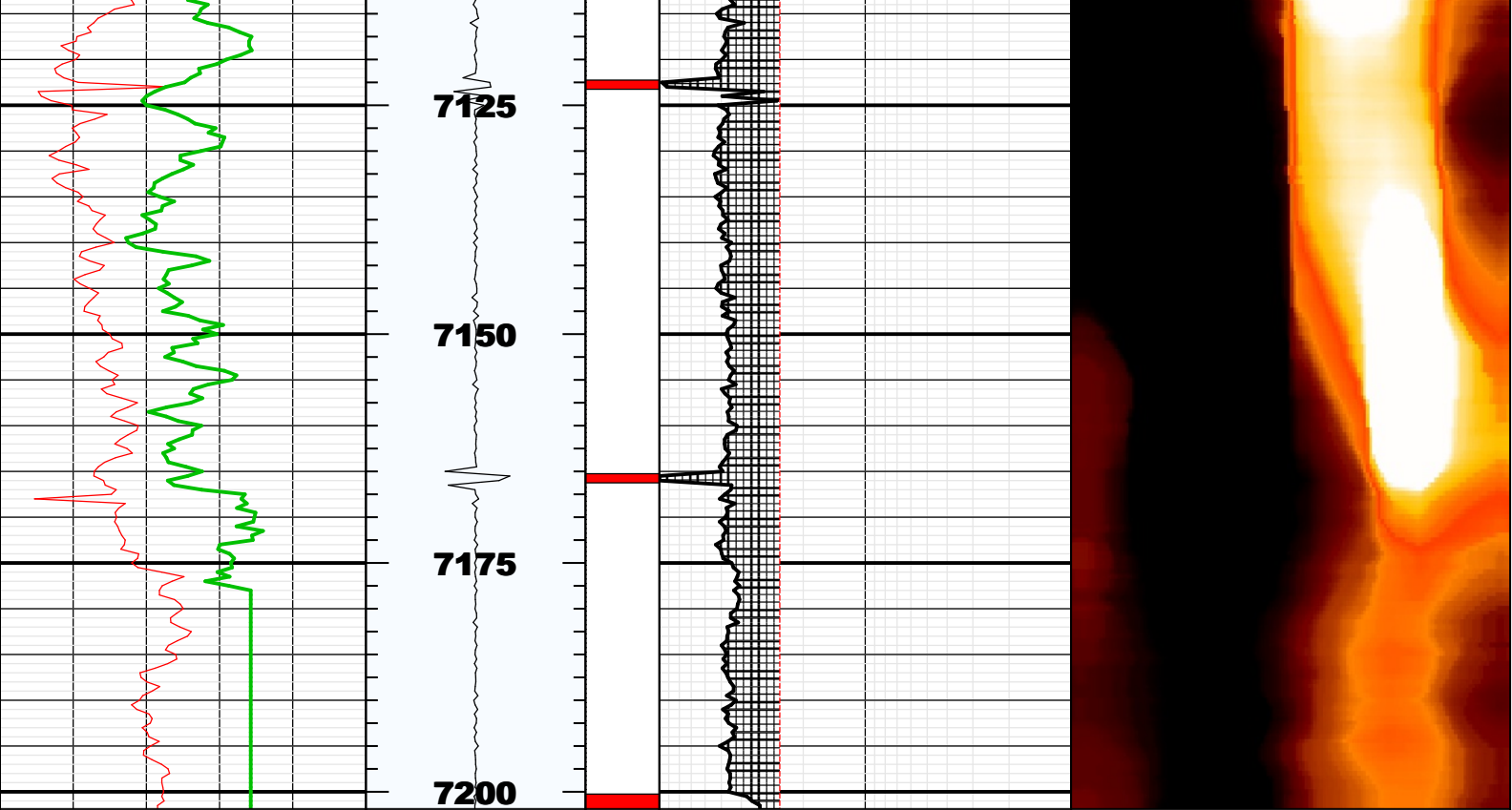
Repeat Pass

Company: Noble Energy Inc  
Well: Heartland G25-73-1HN  
Field: Wattenberg









## Fluid Properties Used for Main Pass

