

Company: Noble Energy Inc

Well: Cutthroat LC28-77HNB  
Field: Wattenberg  
County: Weld State: Colorado

County: Weld			
Field: Wattenberg			
Location: SESW Sec. 28 T9N R59W			
Well: Cutthroat LC28-77HNB			
Company: Noble Energy Inc			
USI-LITE	LOCATION		Permanent Datum: Log Measured From: Drilling Measured From:  GL KB KB  Elev: K.B. 4883.0 F G.L. 4853.0 F D.F. 4882.0 F
	API Serial No. 05-123-38851-0000		
	Section 28		
	Township 9N		
	Range 59W		
	Logging Date 20-Sep-2014		
	Run Number		
	Depth Driller		
	Schlumberger Depth		
	Bottom Log Interval		
Top Log Interval			
Casing Fluid Level			
Salinity			
Density			
Fluid Level			
BIT/CASING/TUBING STRING			
Bit Size			
From			
To			
Casing Size			
Weight			
Grade			
From			
To			
Max Recorded Temp			
Logger on bottom (date)			
Location			
Recorded By			
Witnessed By			

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: 11800.00000

DISCLAIMER

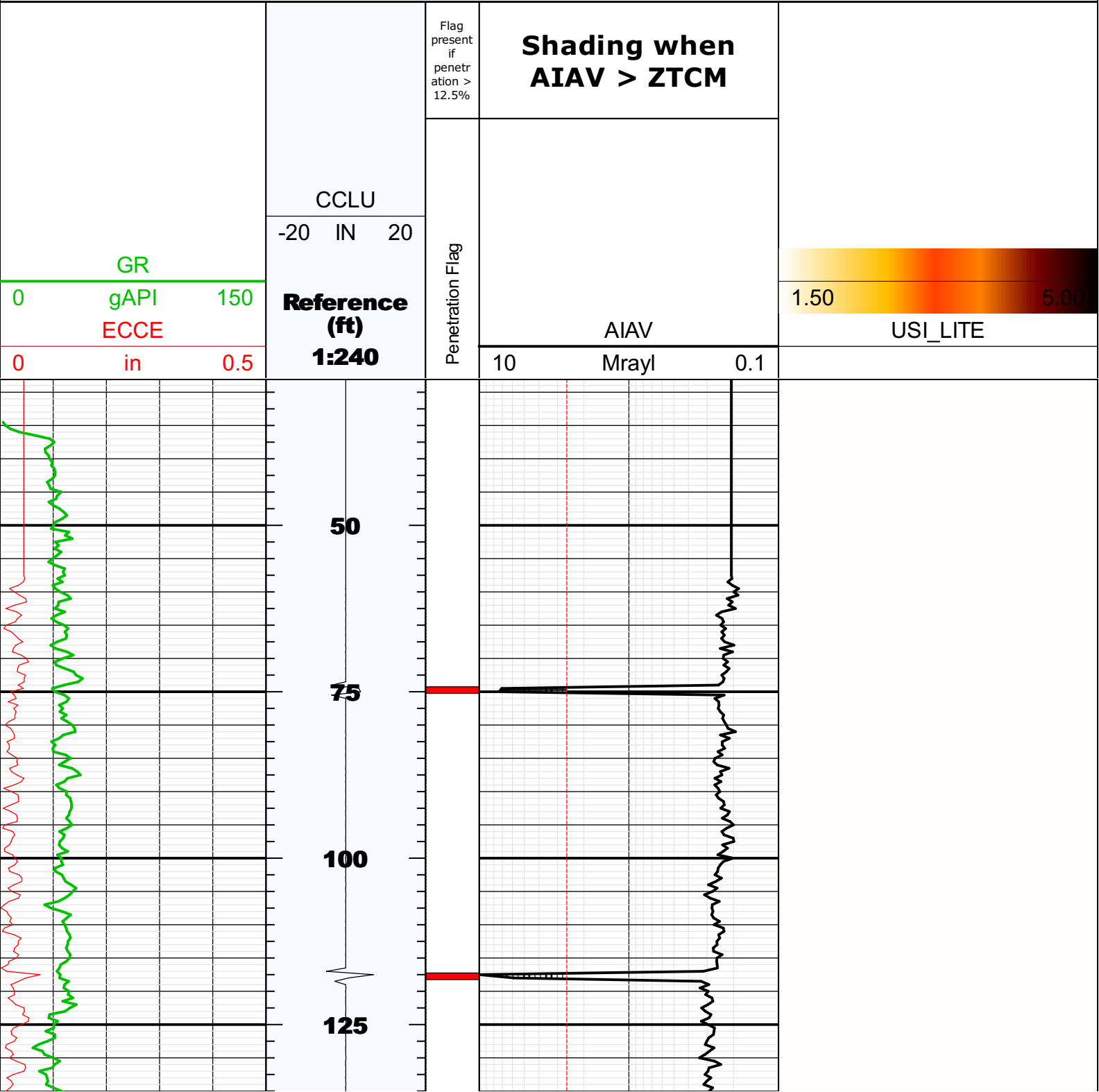
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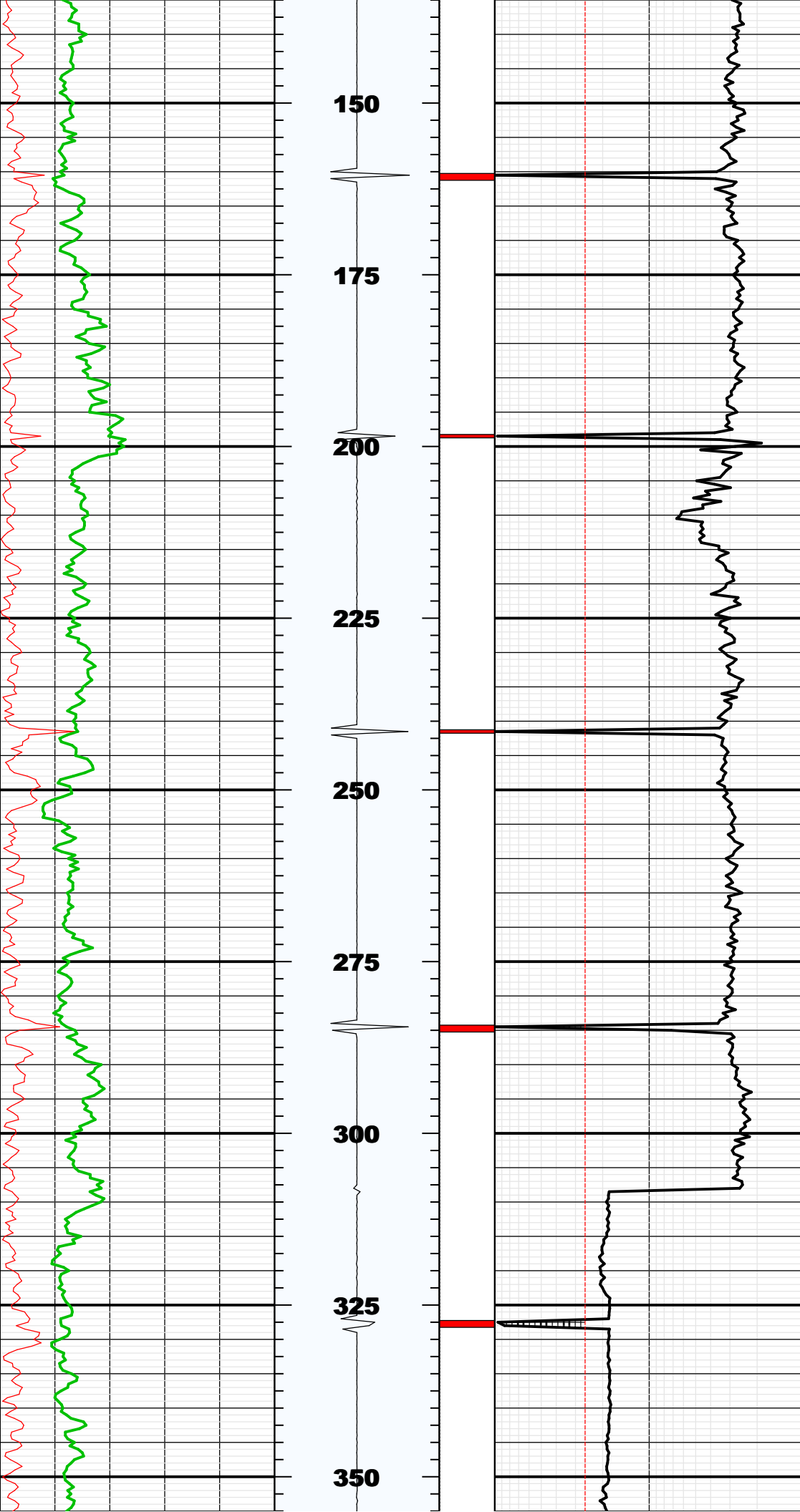
This is the first run in hole  
Toolstring run as per tool sketch  
12.5 ppg lead cement  
13.8 ppg tail cement  
0 PSI repeat pass  
2500 PSI main pass

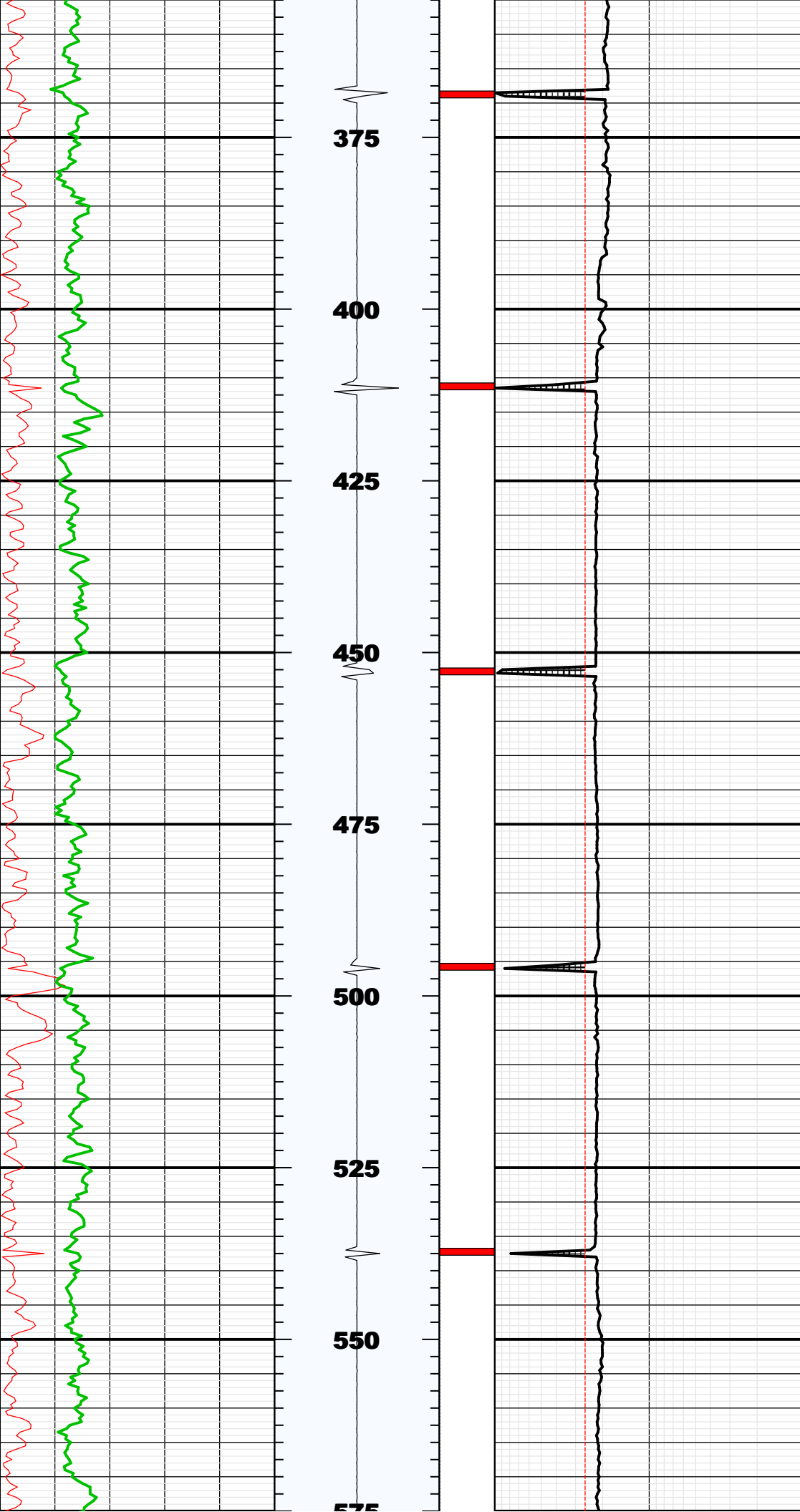
Bottom log temperature 230 degF  
Top of cement 880 ft  
Crew Jay Musgrave Jake Jump

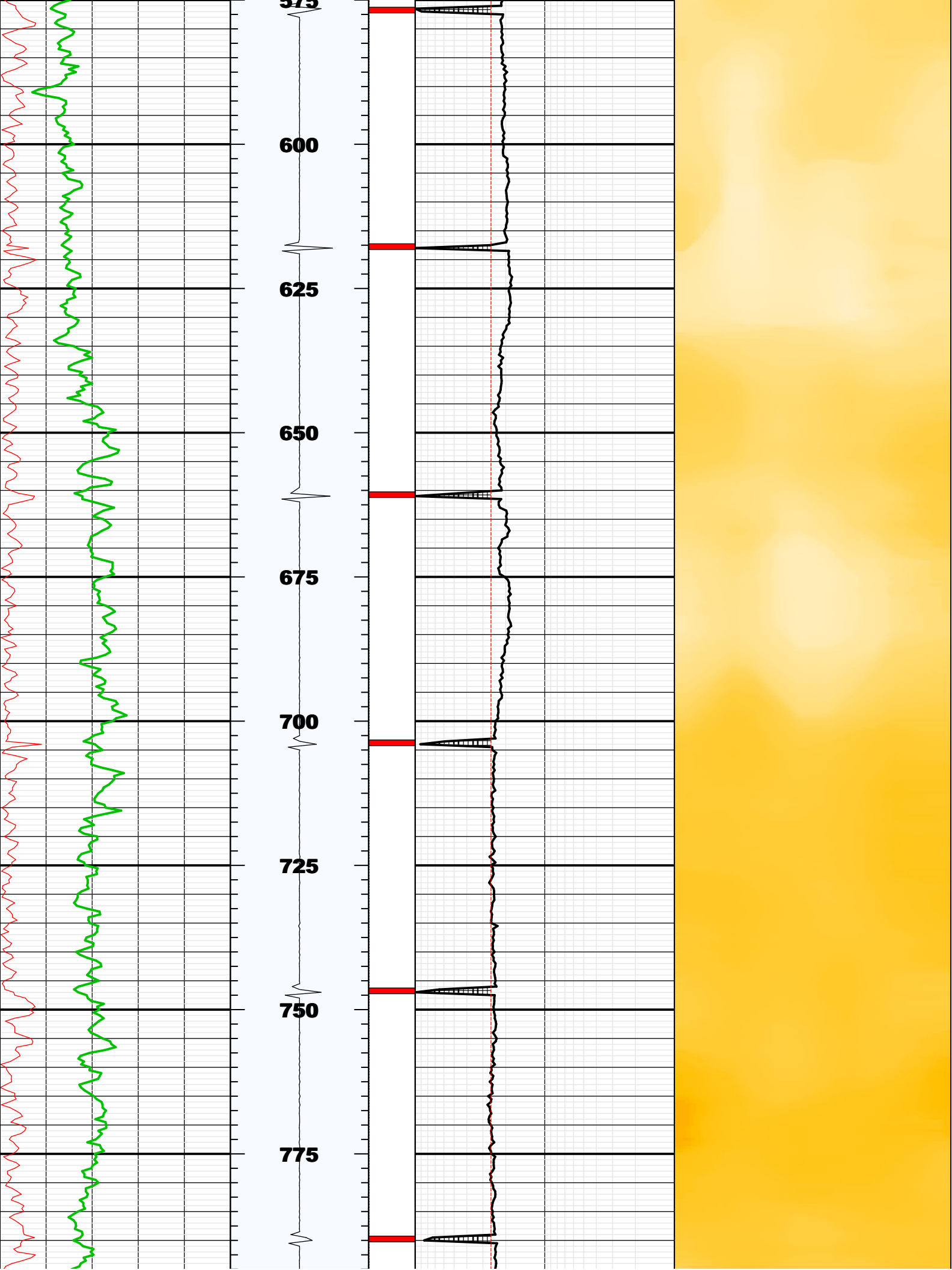
Main Pass

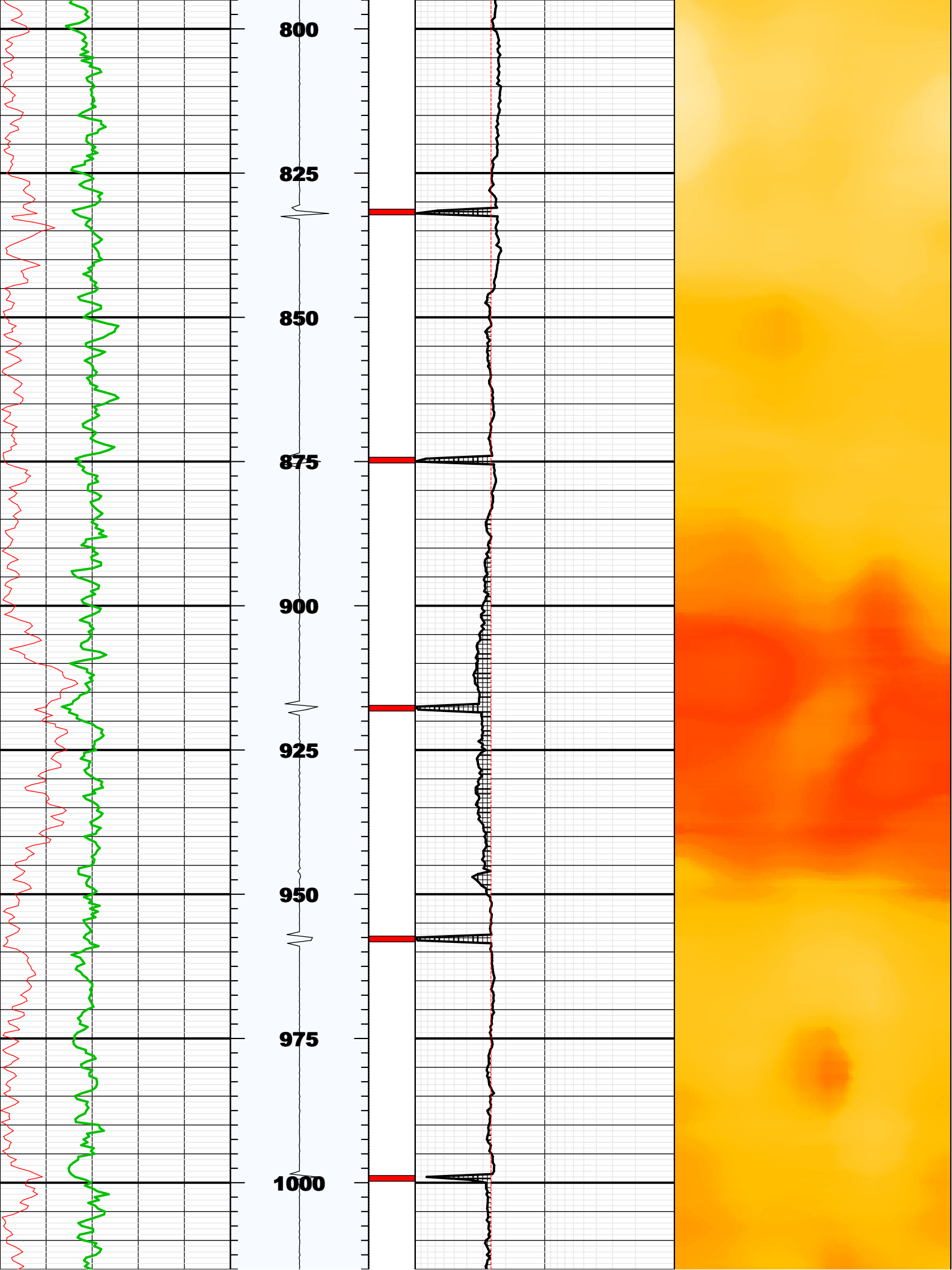
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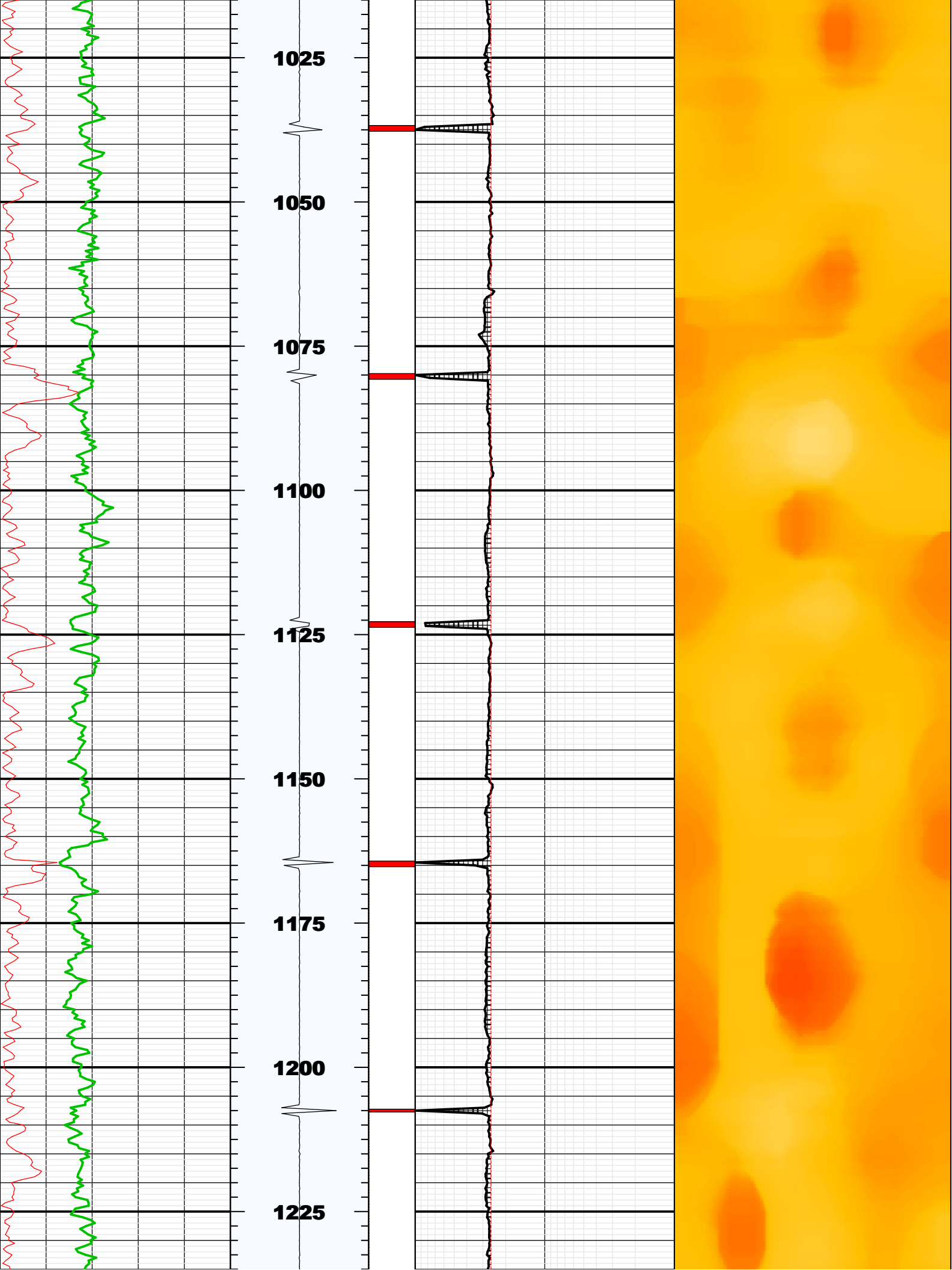




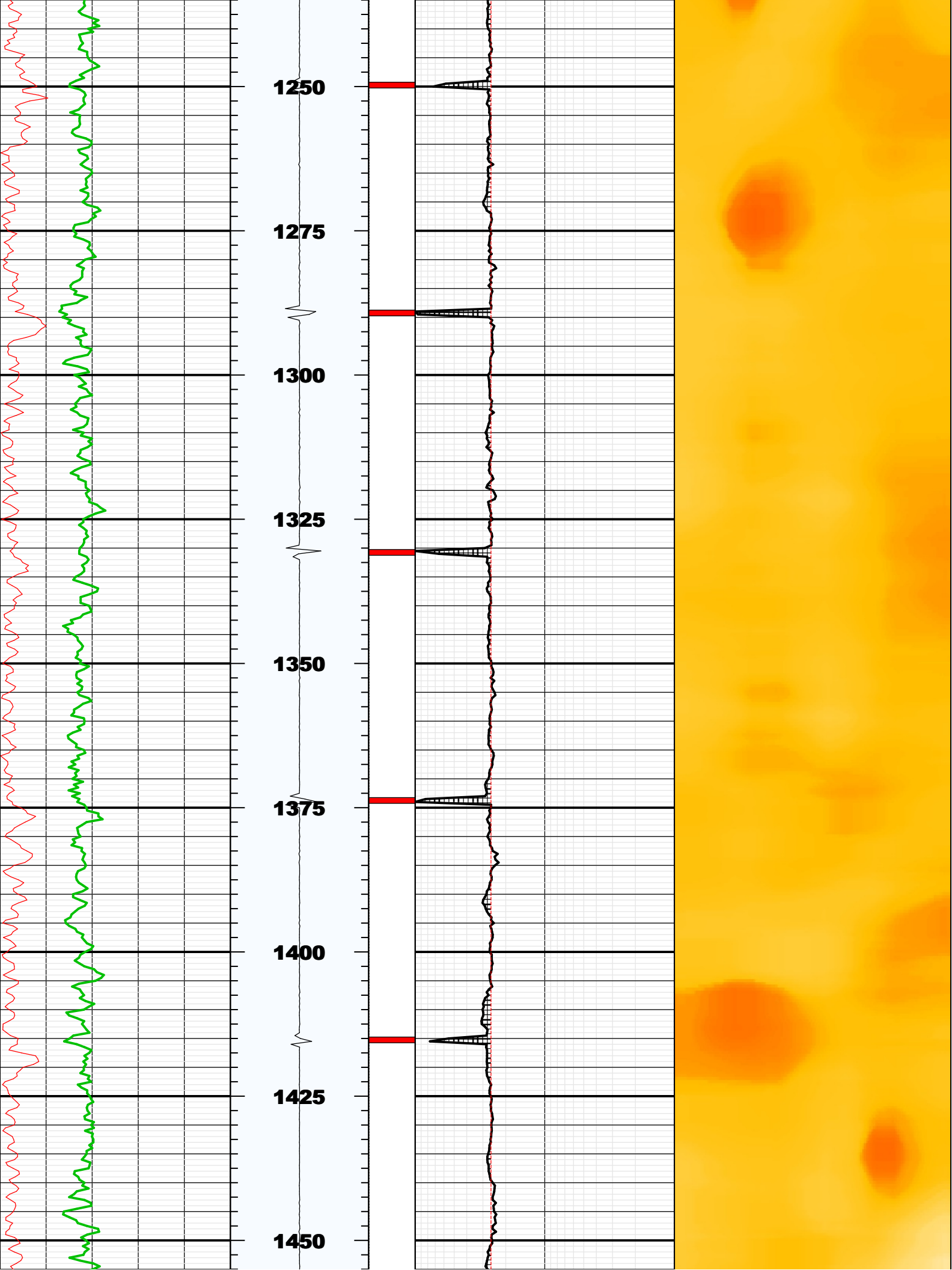


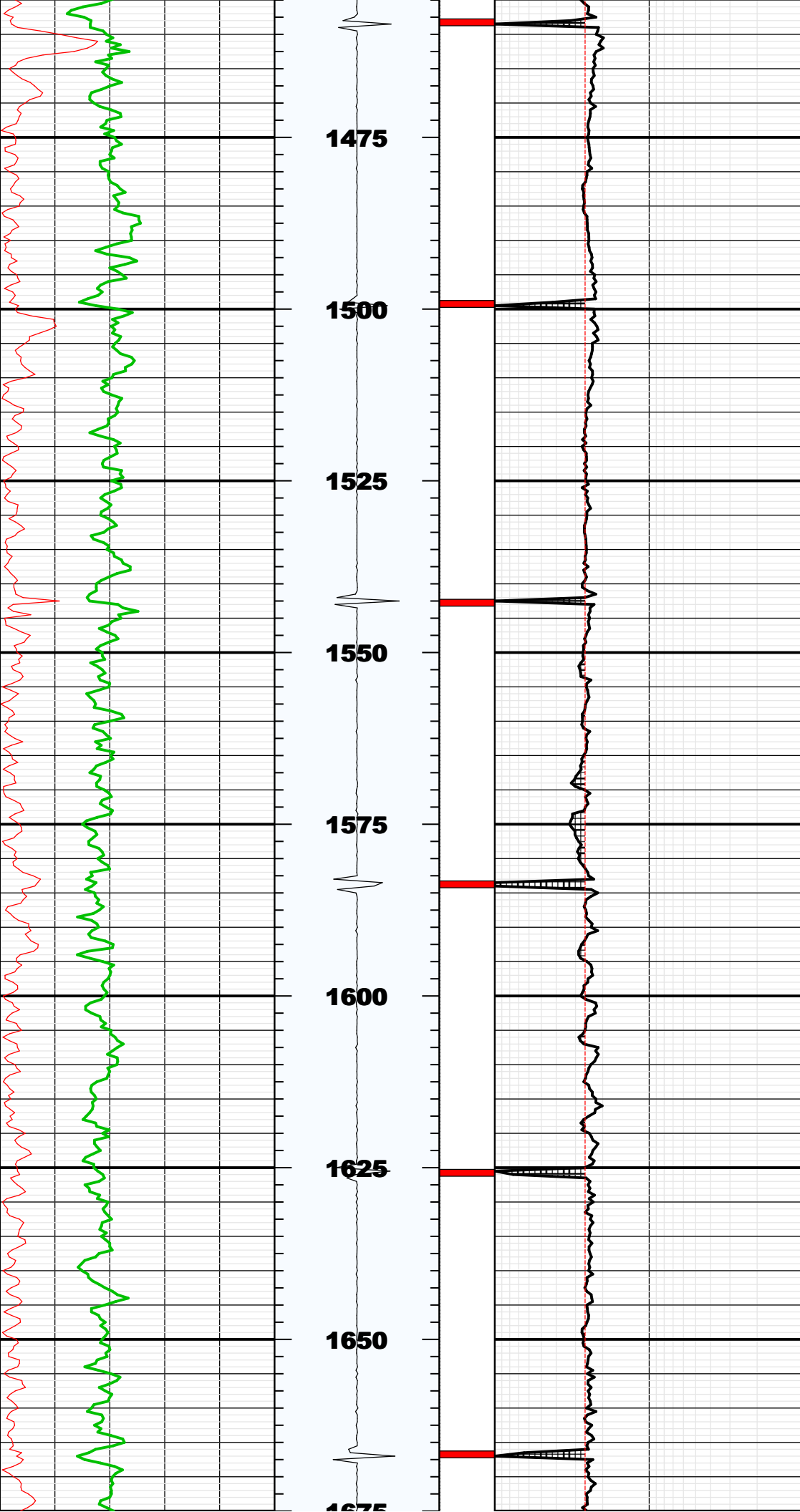


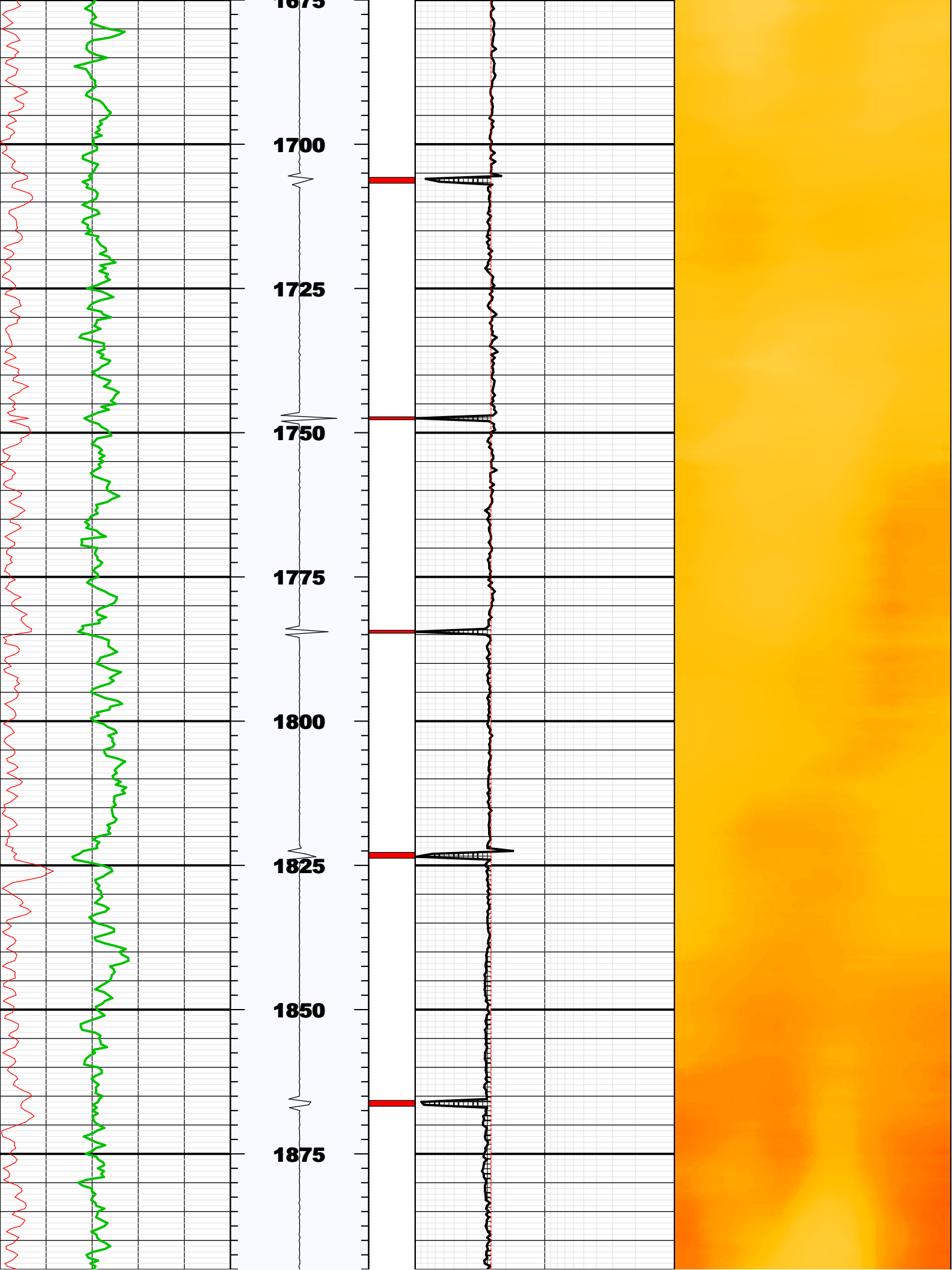


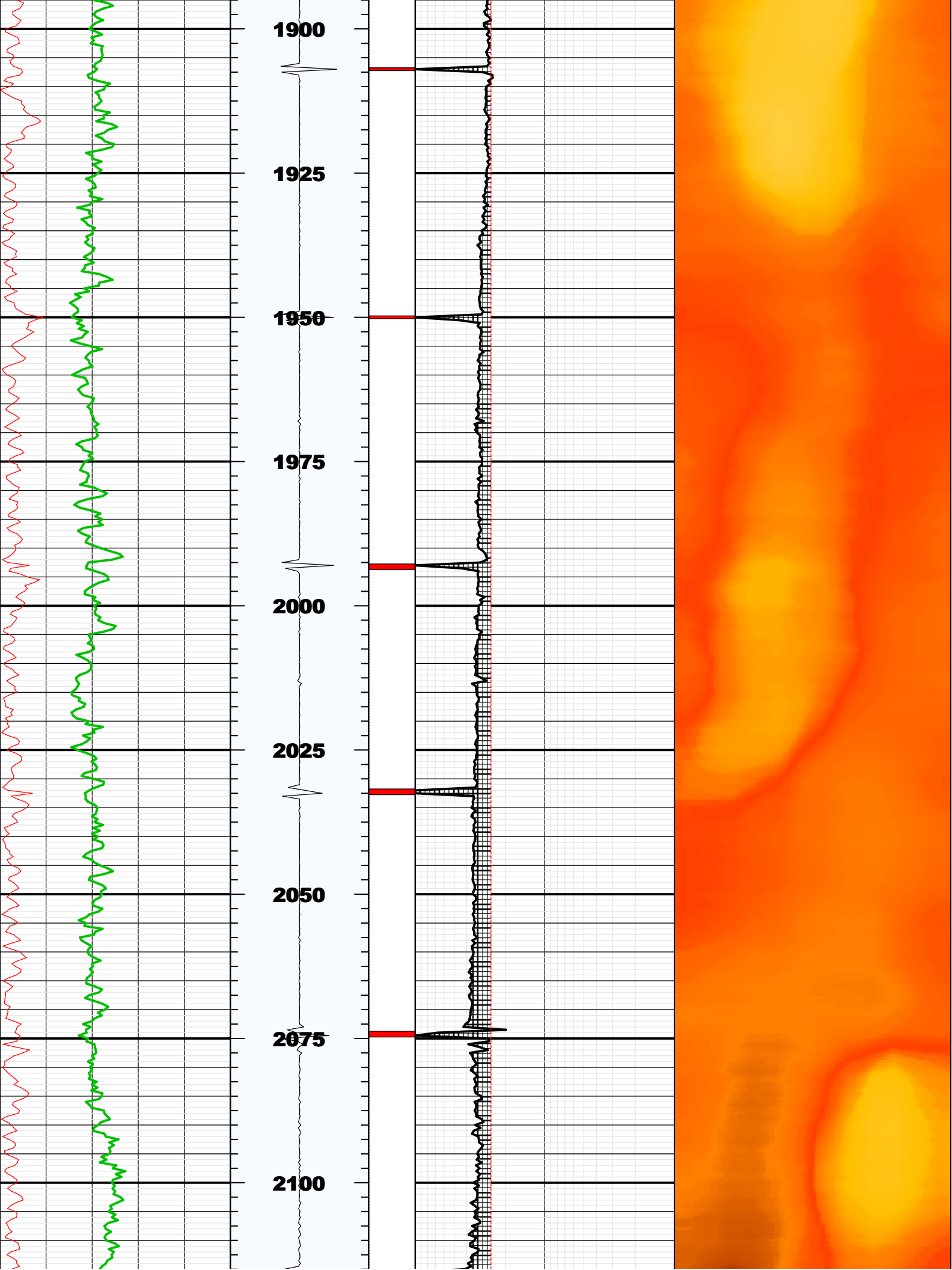


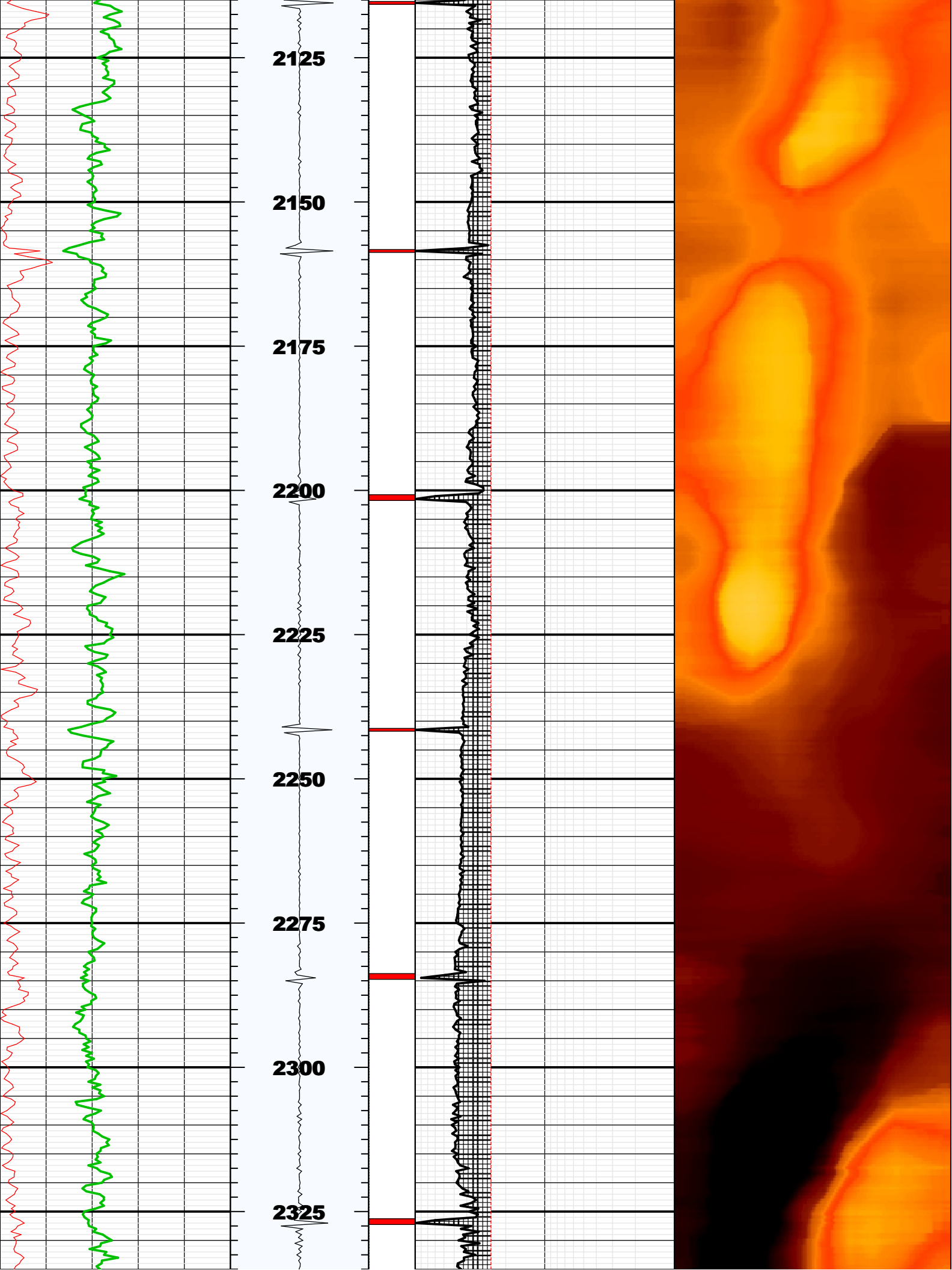




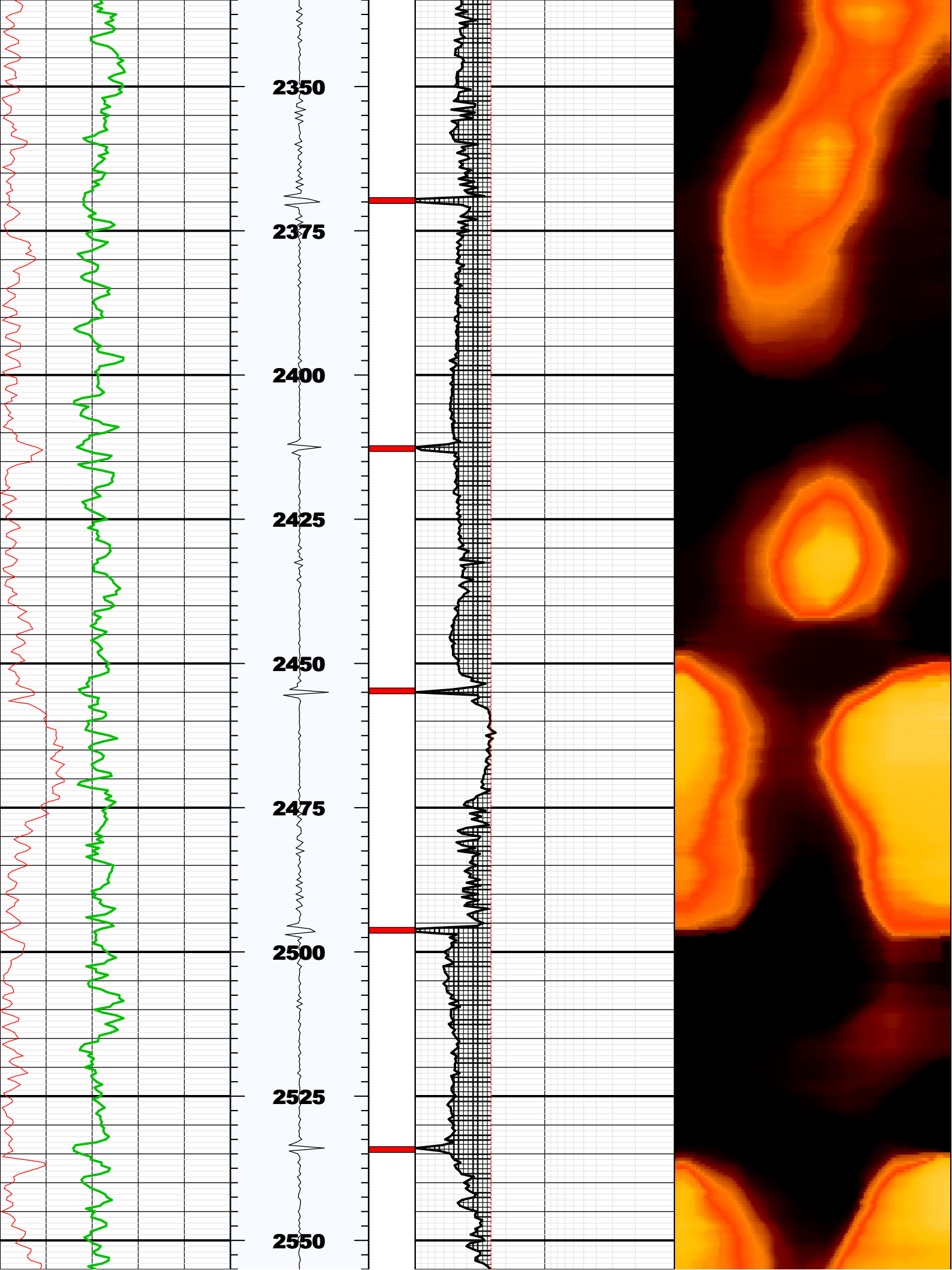


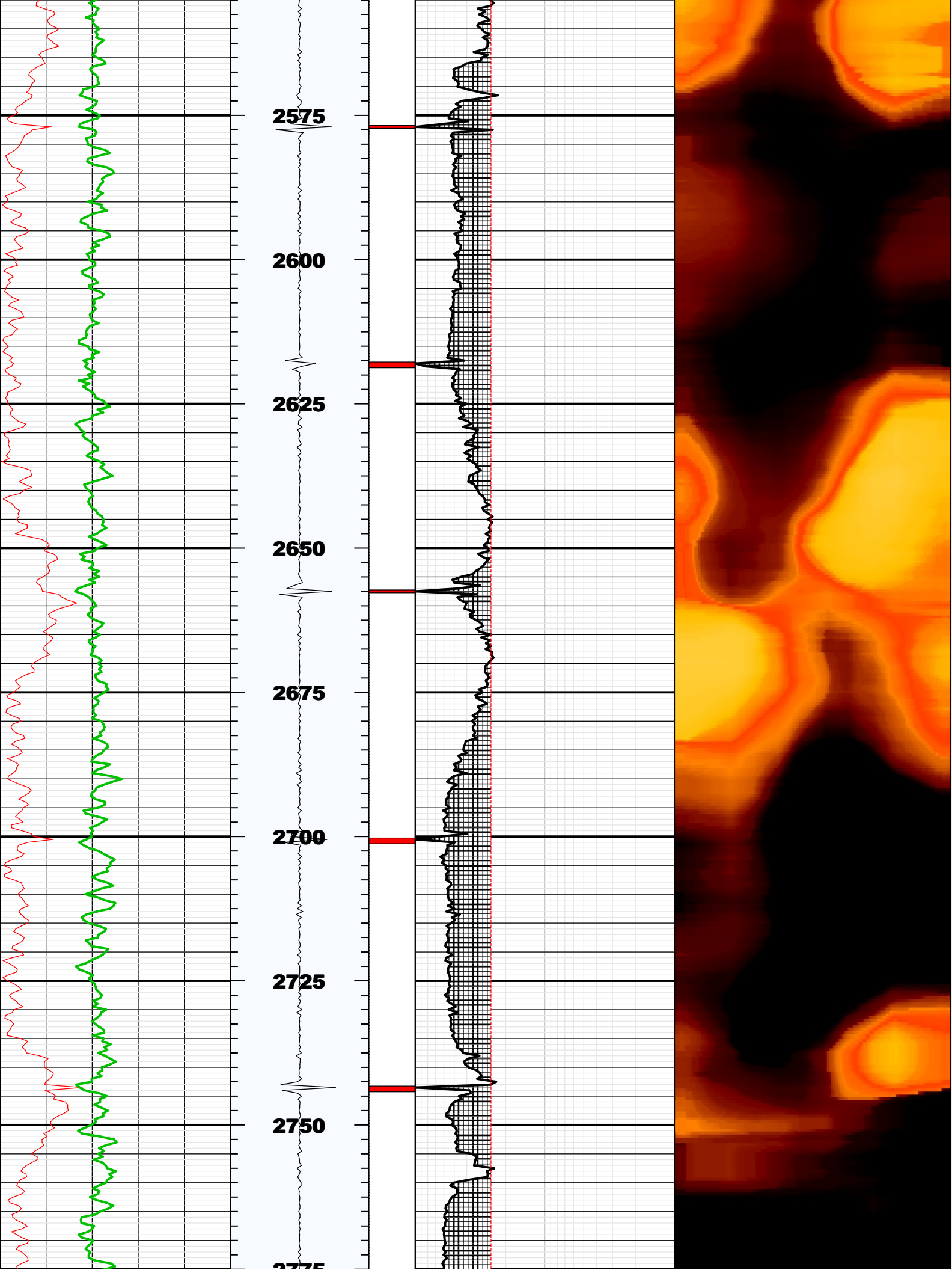


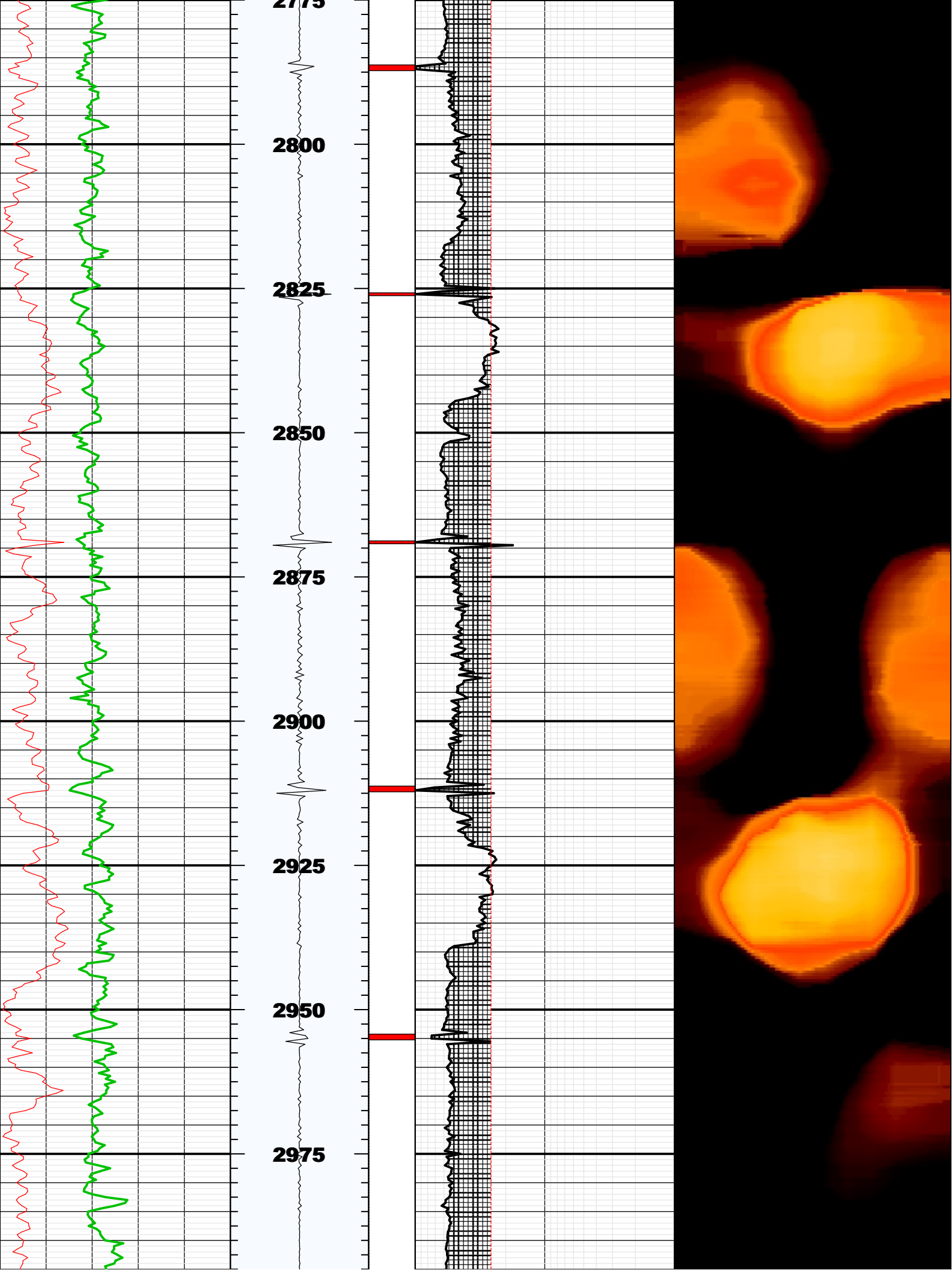




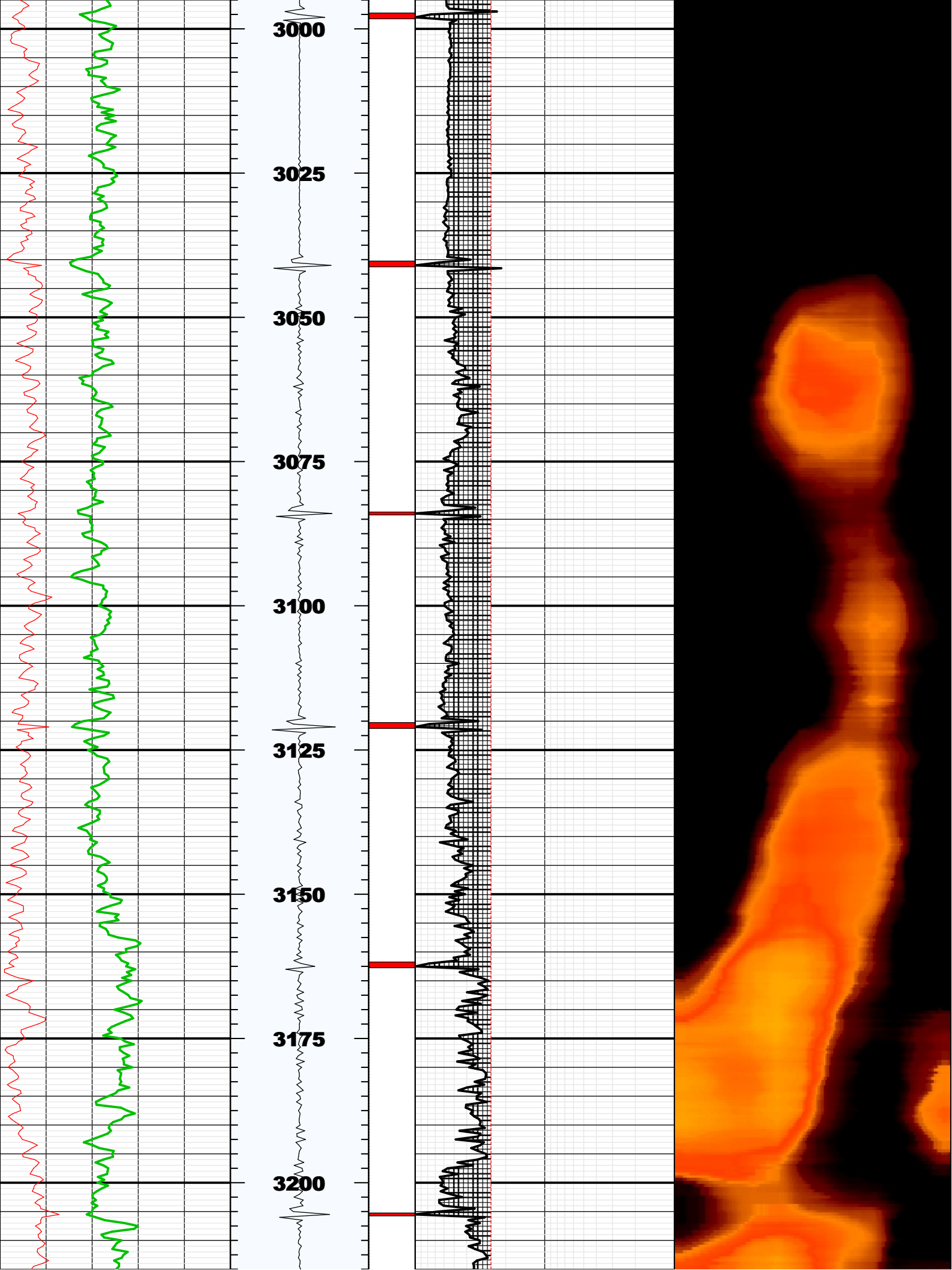


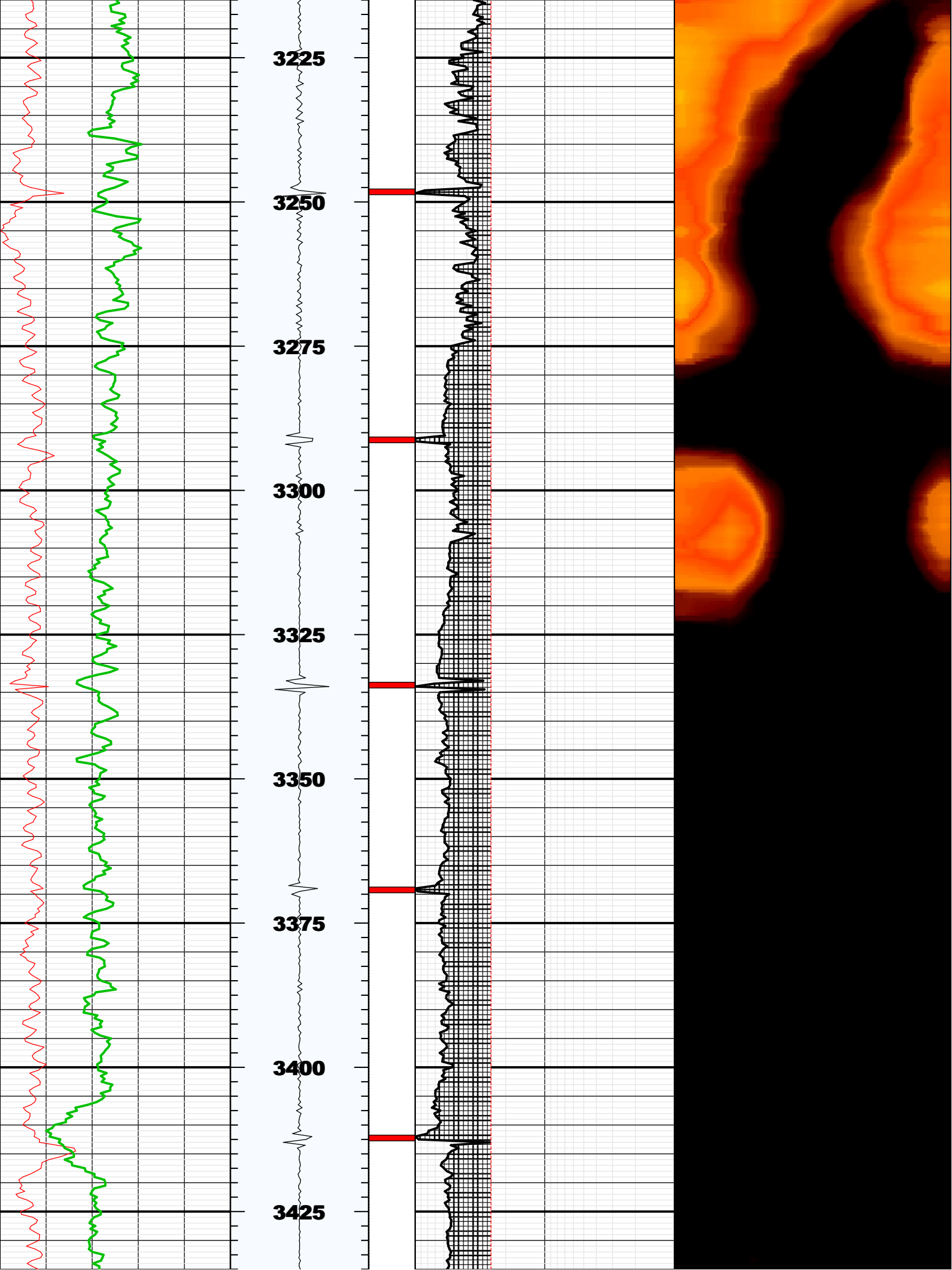


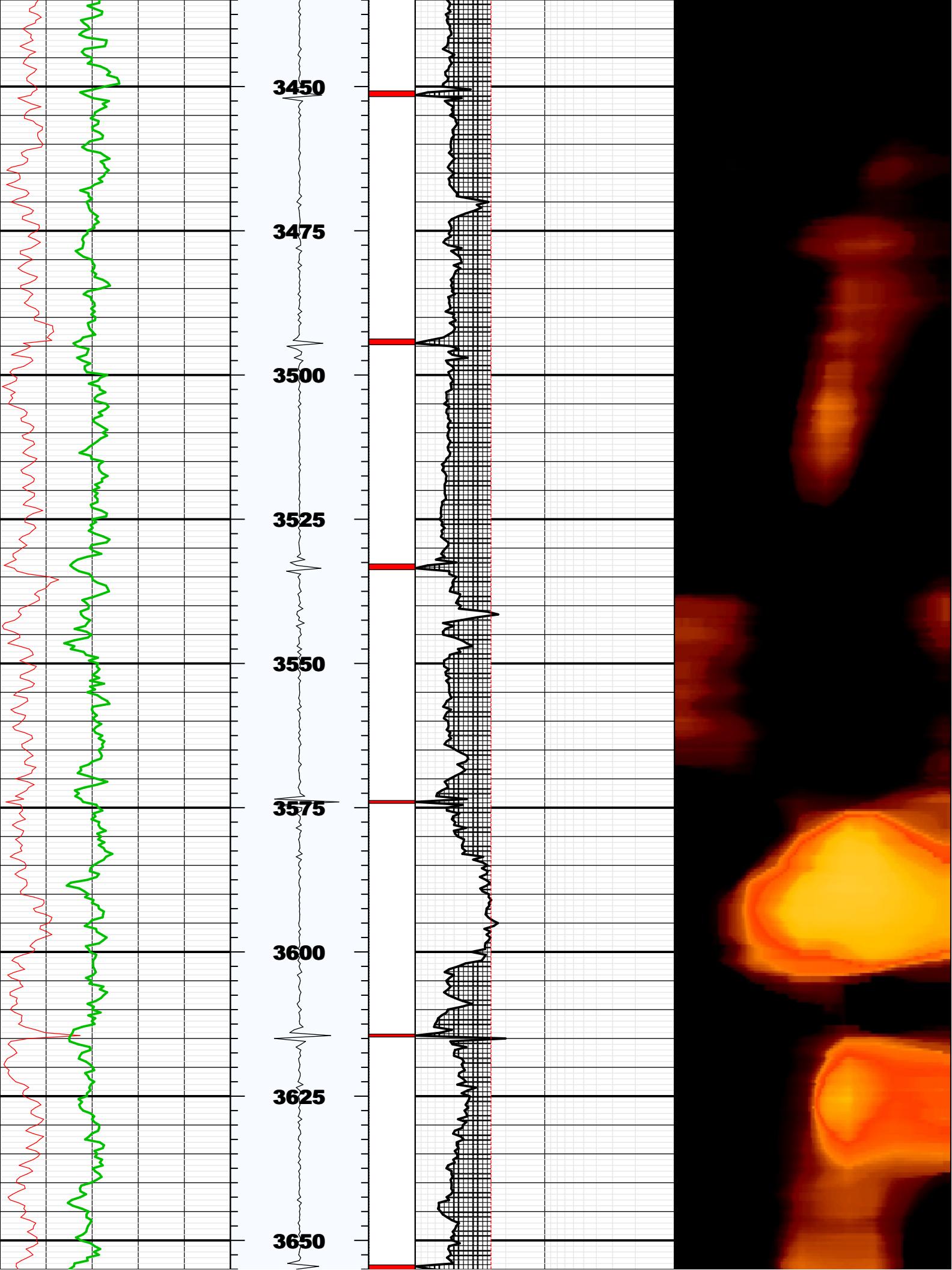


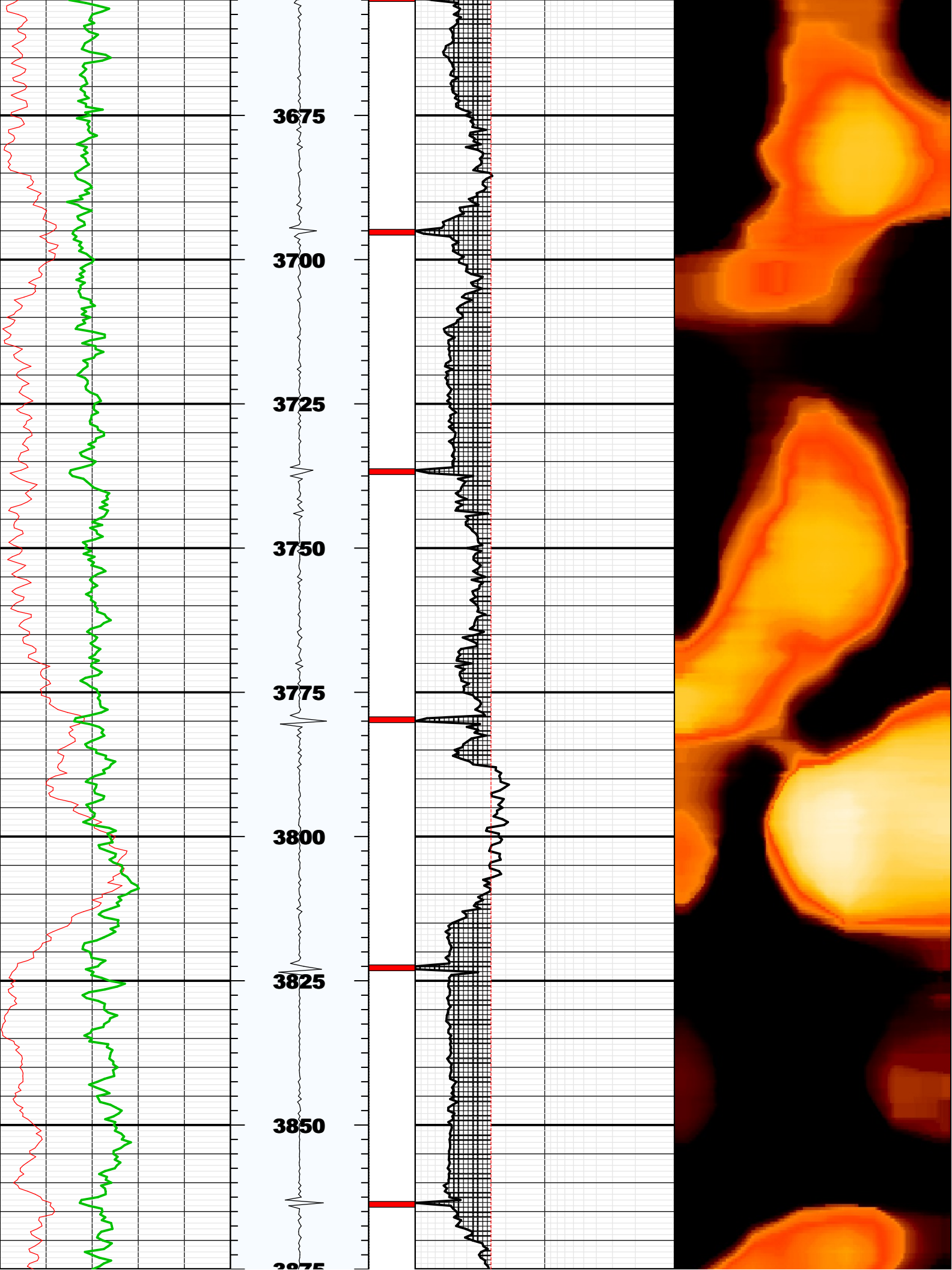


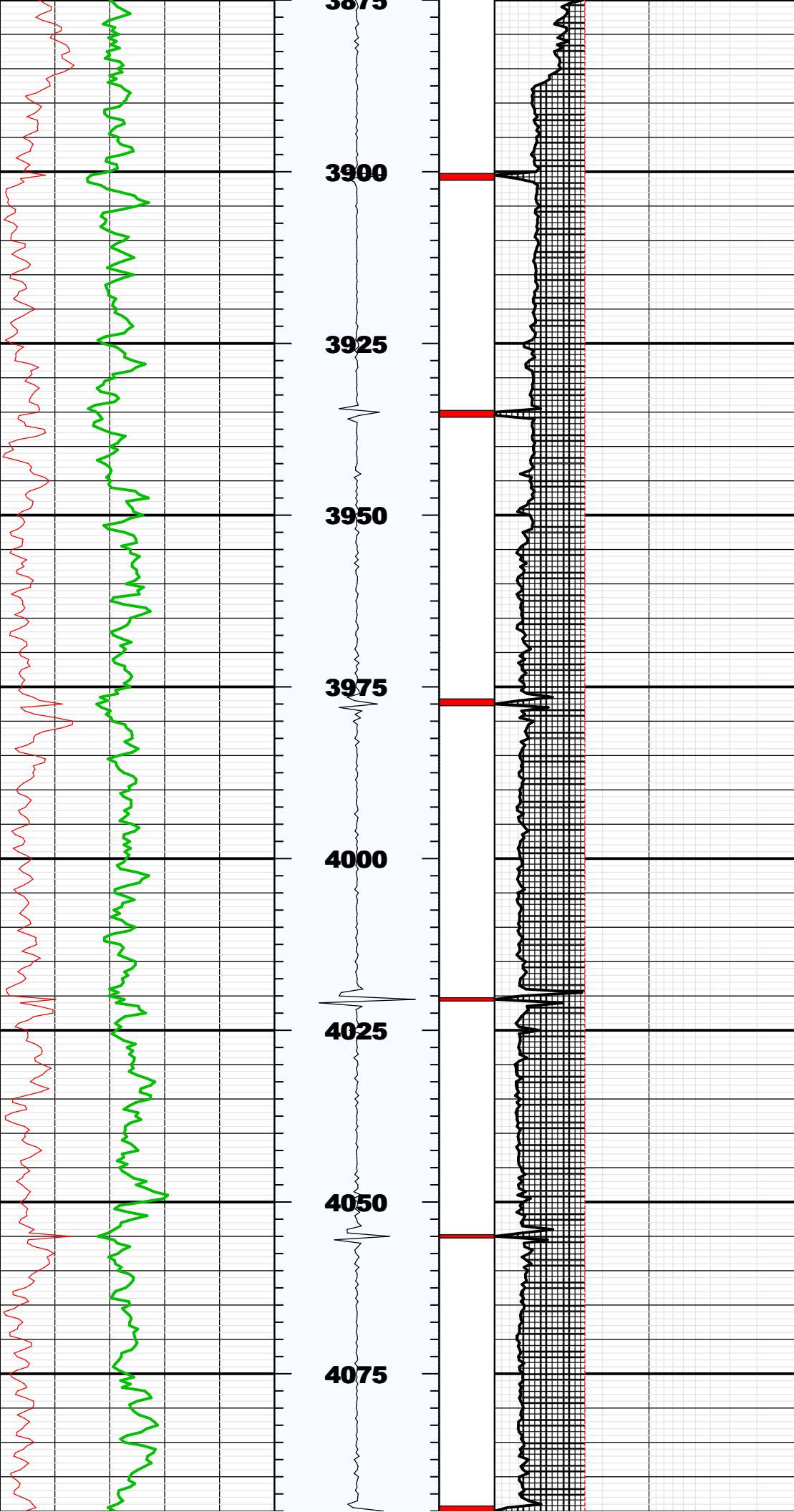




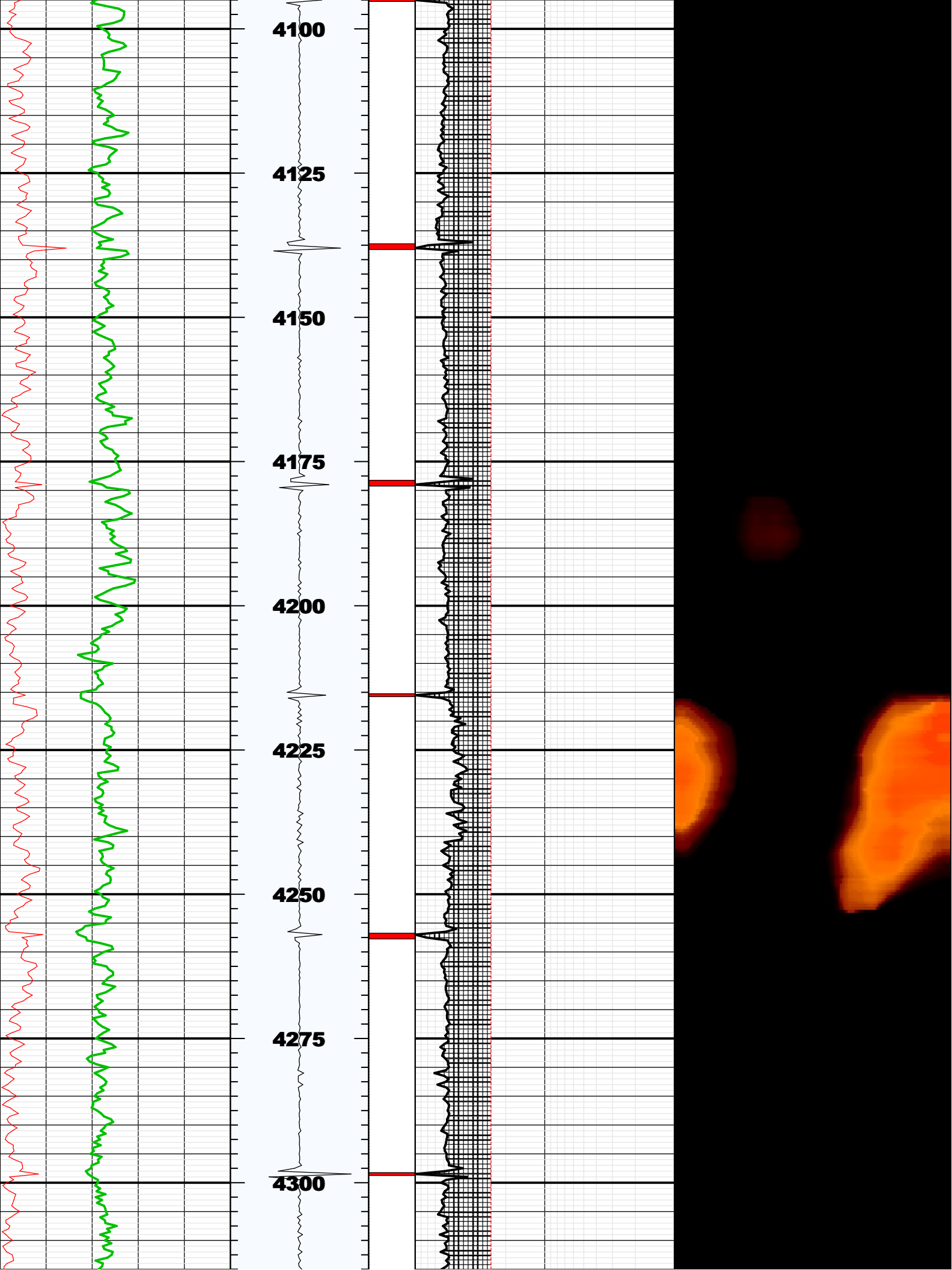


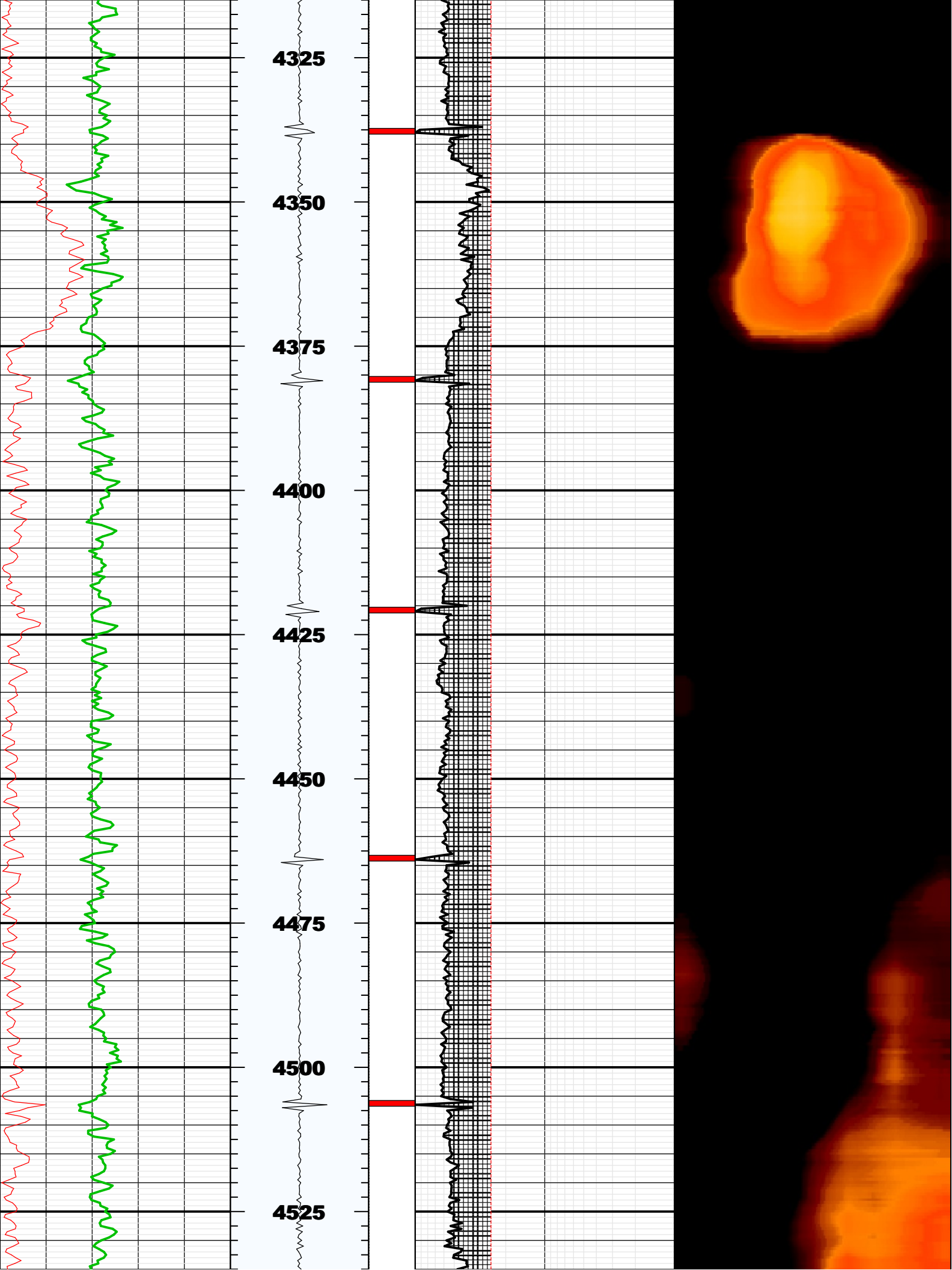


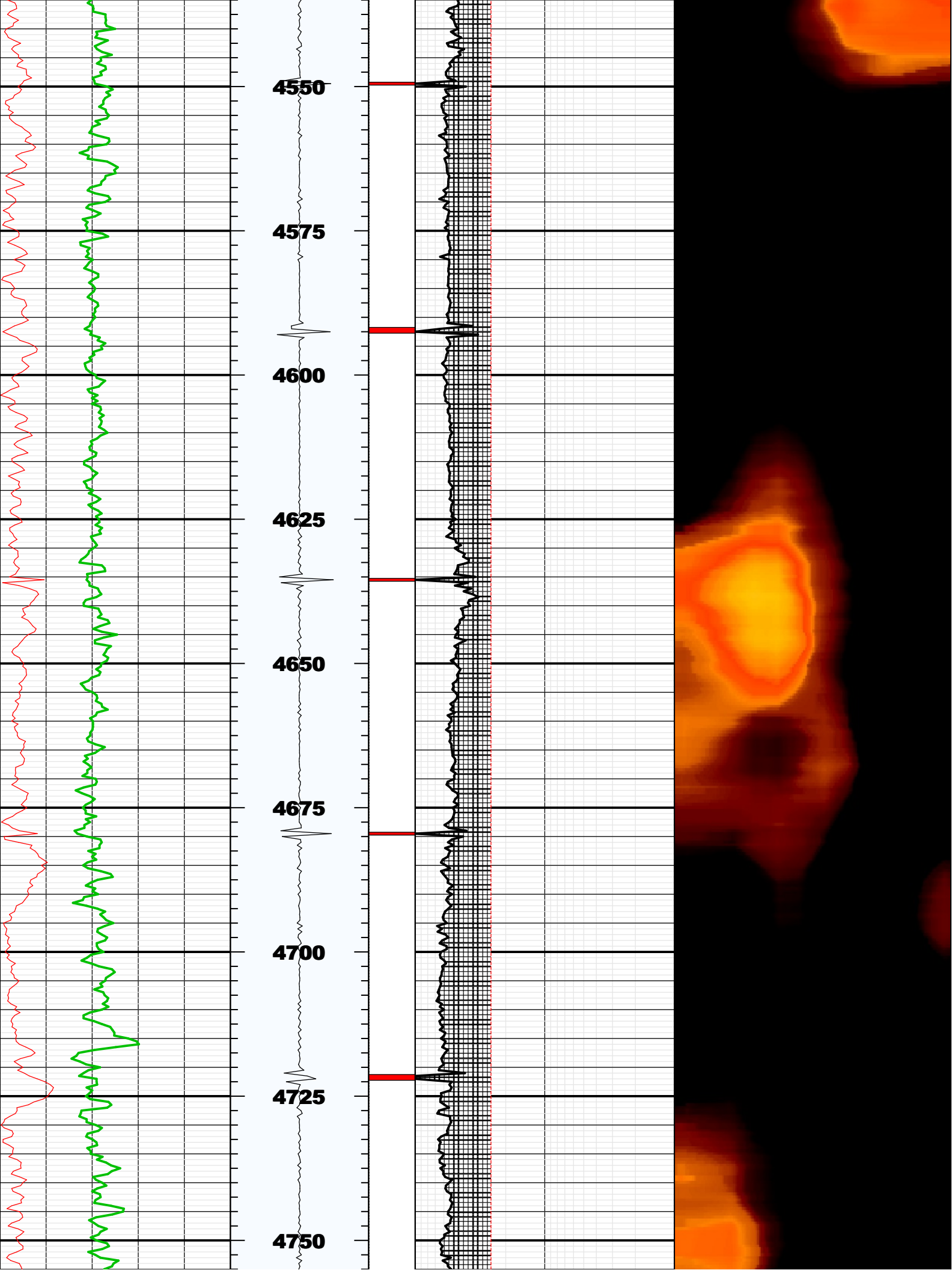




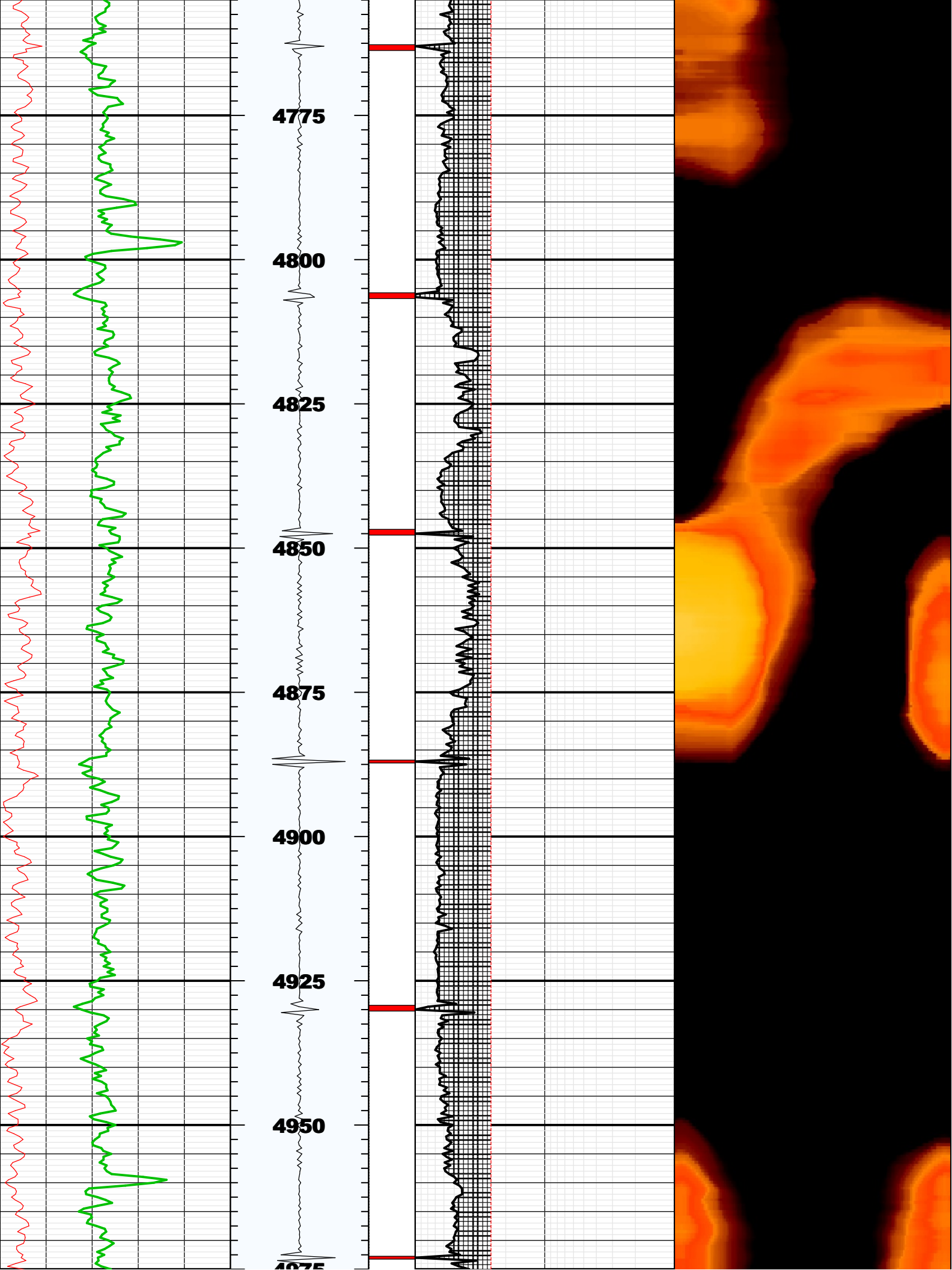


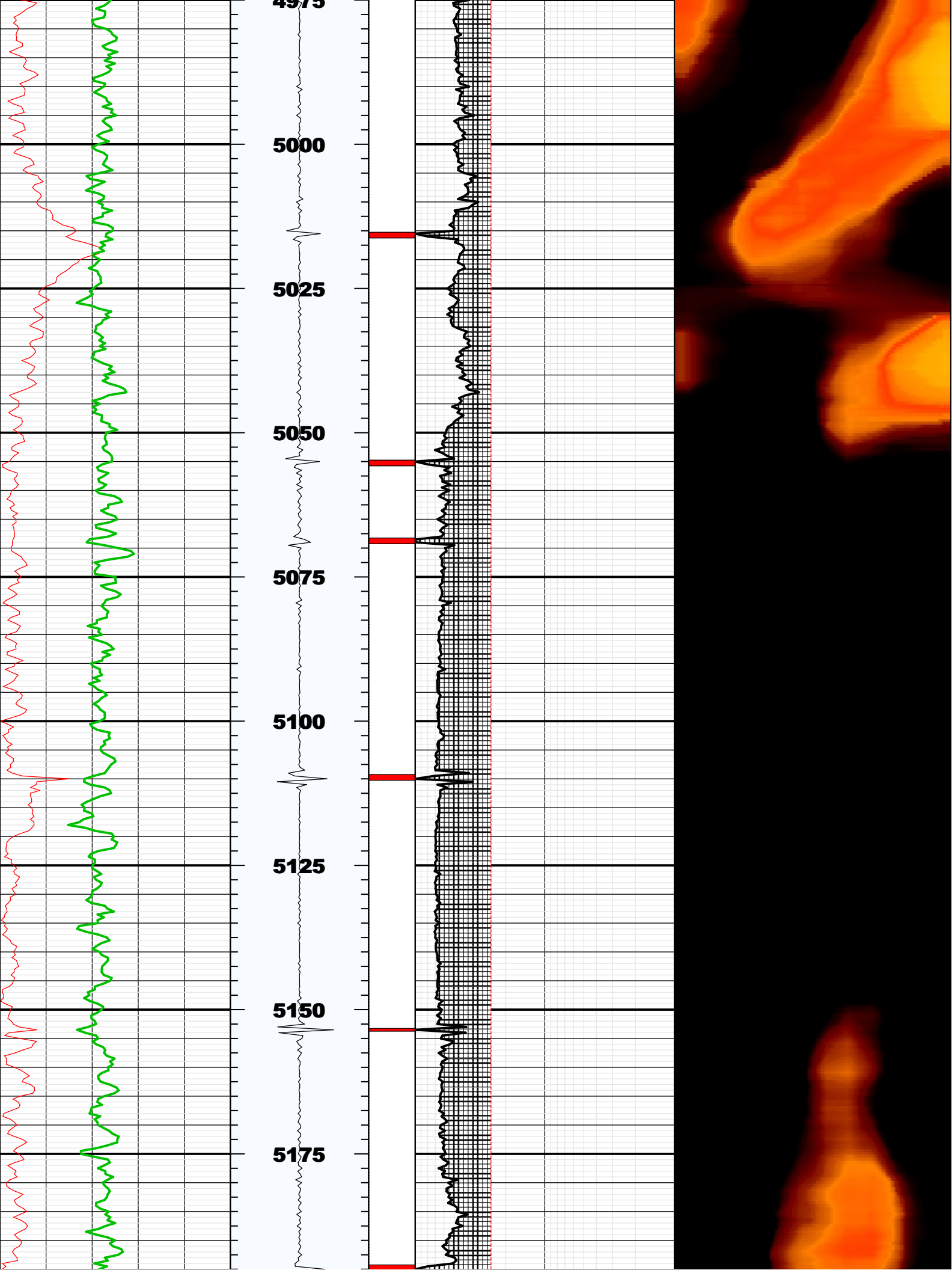


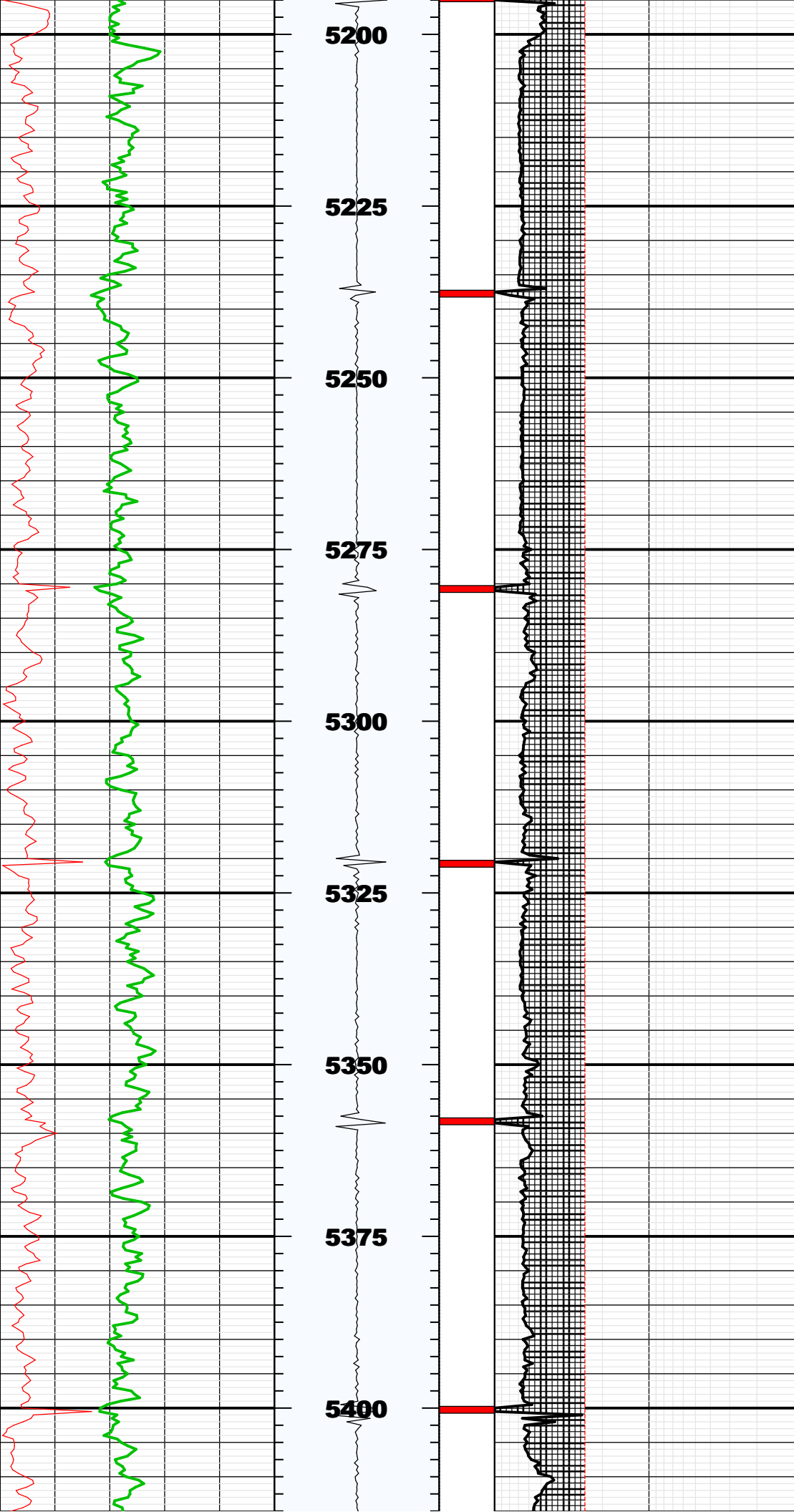


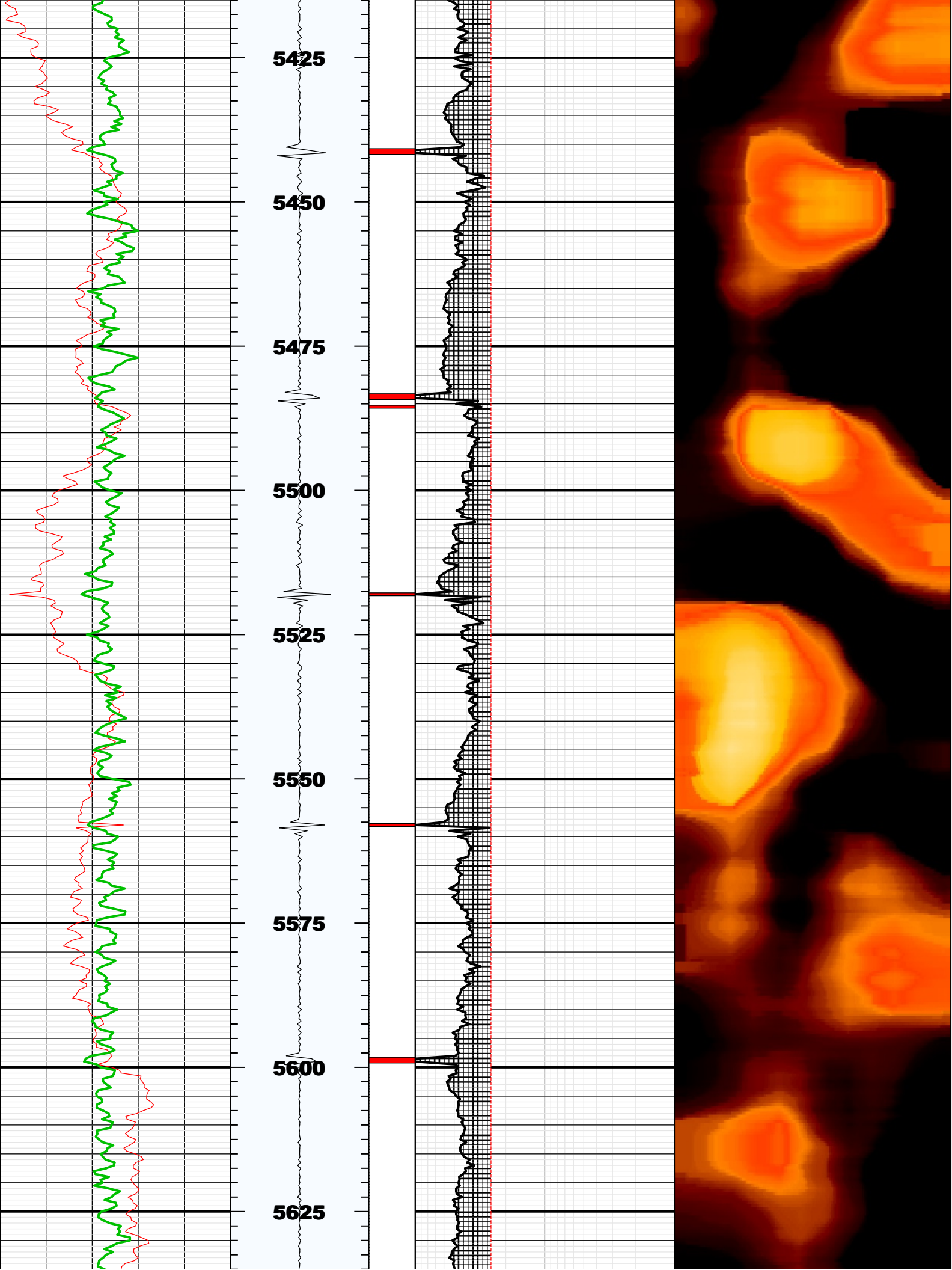




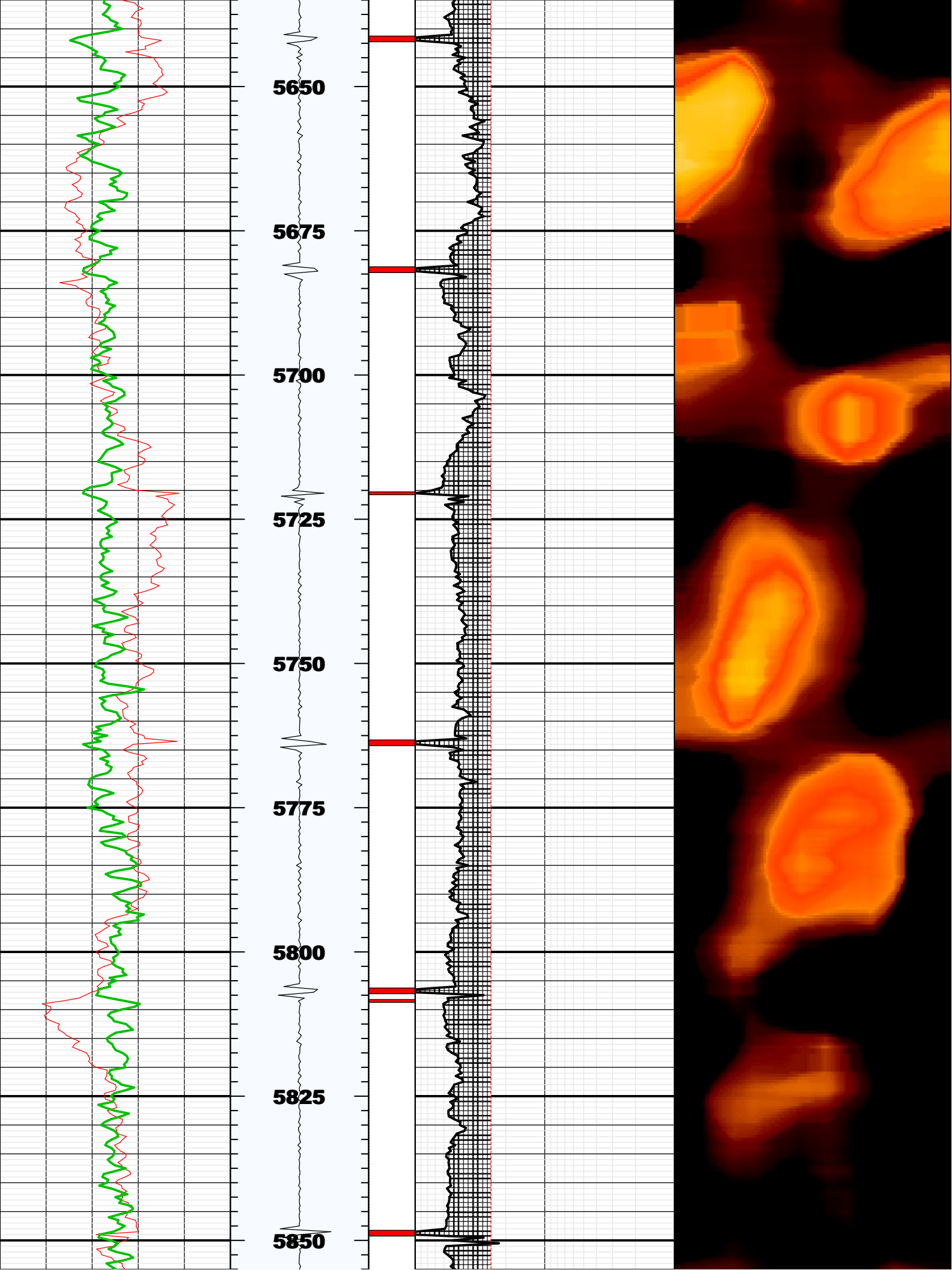


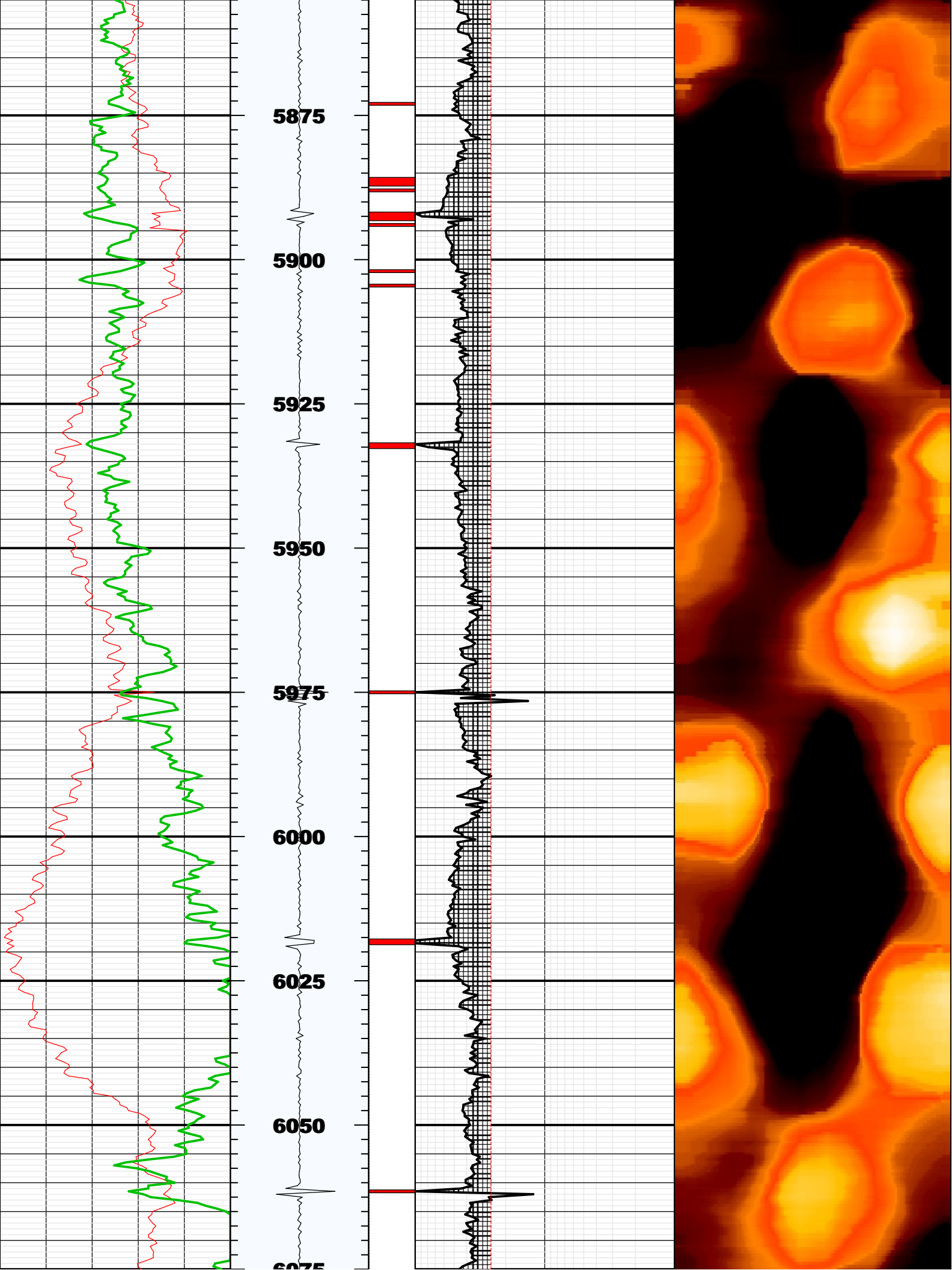


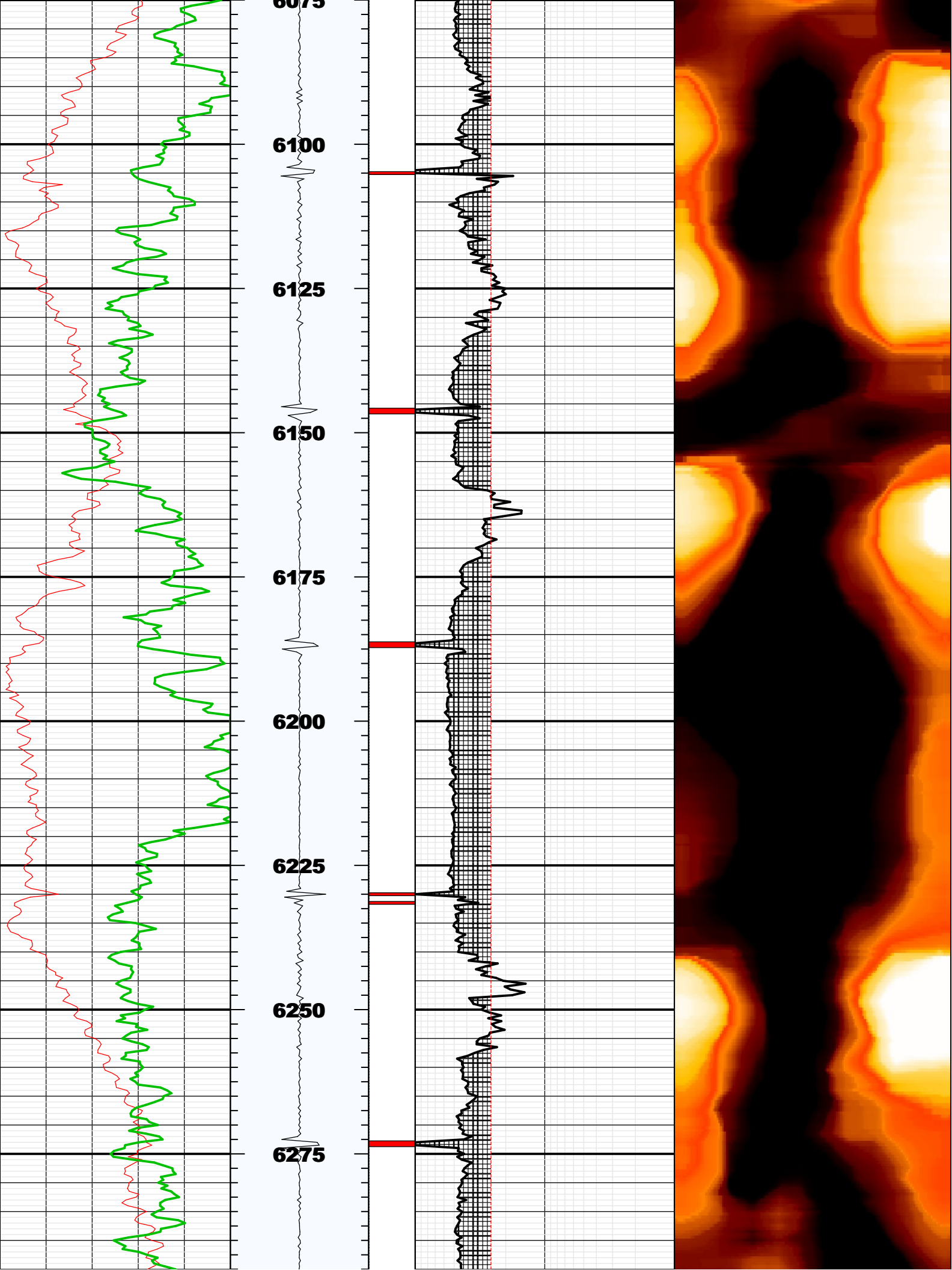


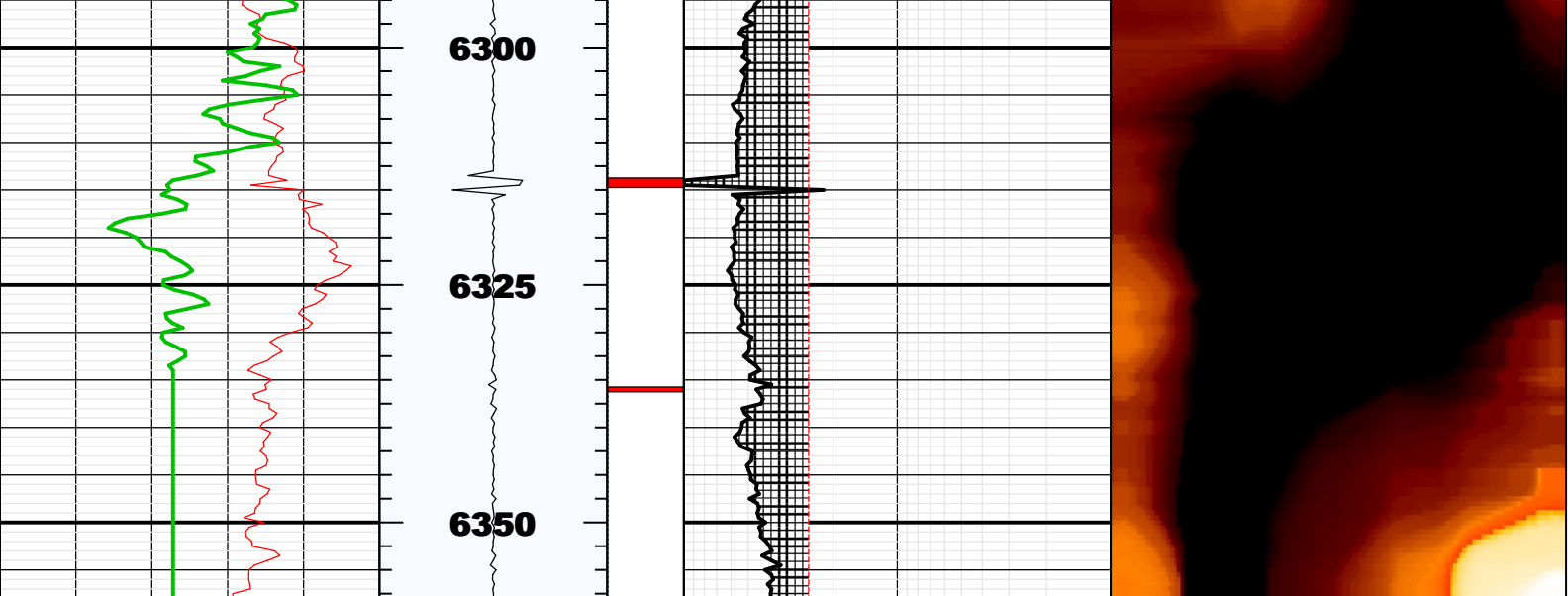










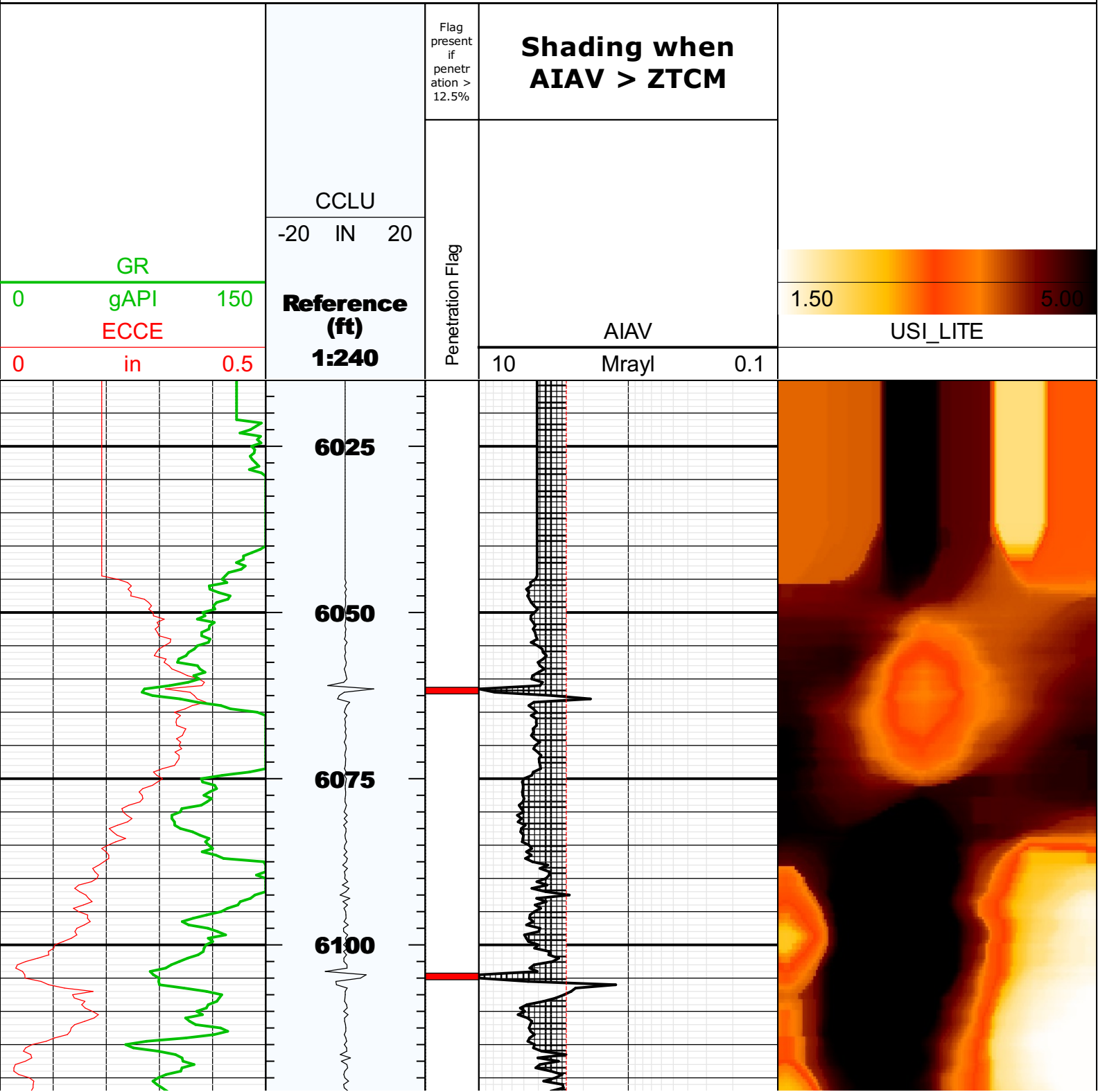


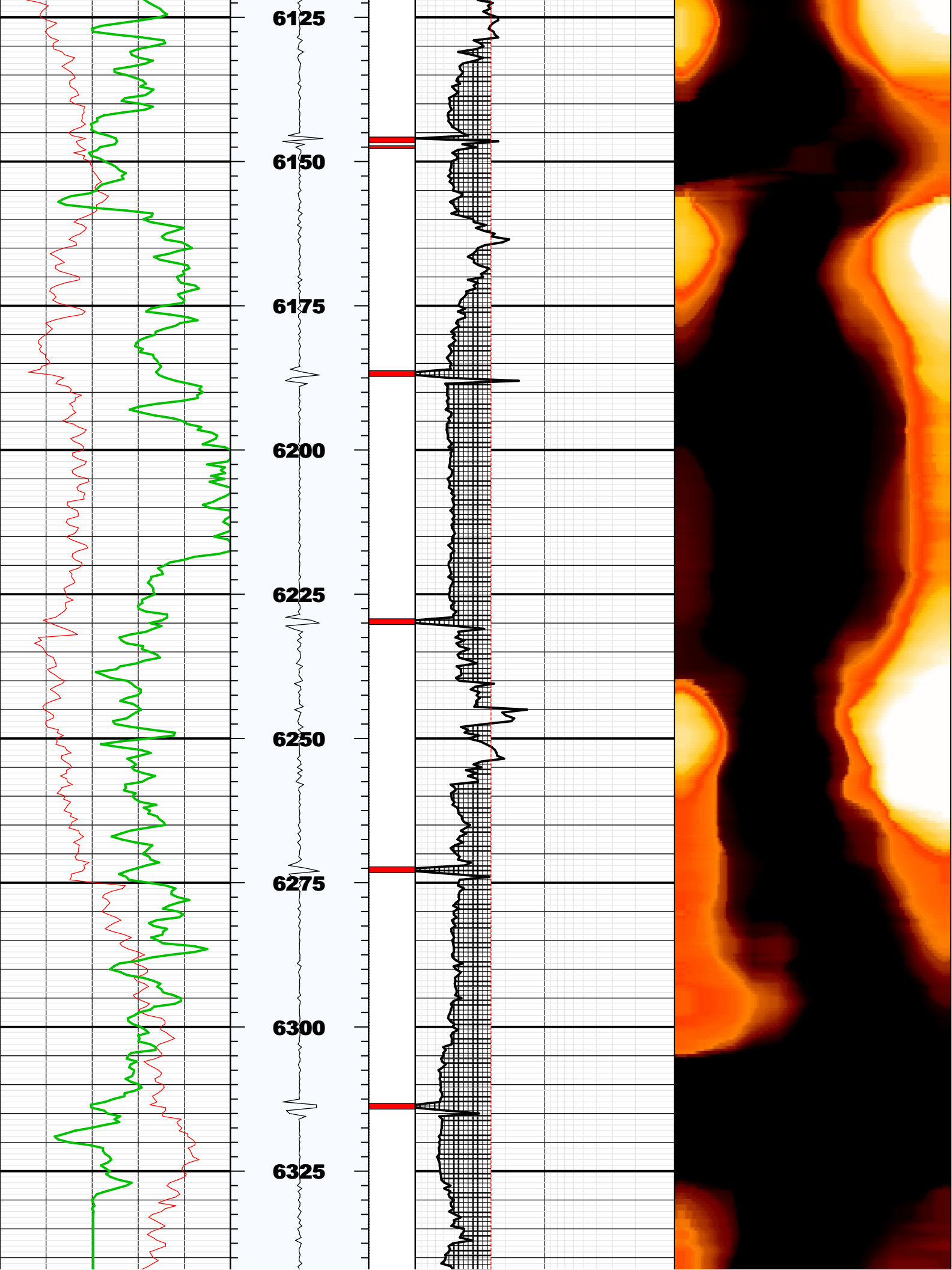


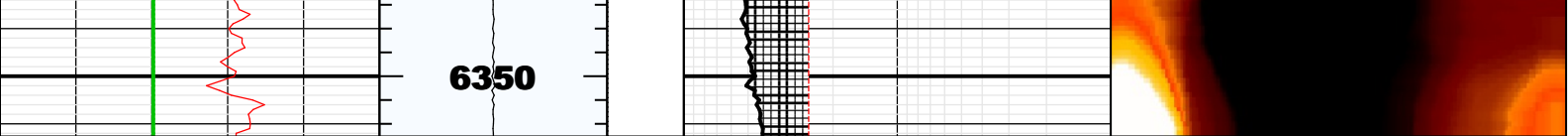
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	188.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	60	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	33.99588	US	Window Begin Time
WINE	75.39471	US	Window End Time
ZCAS	46.25000	MRAY	Acoustic Impedance of Casing
ZINI	-1.00000	MRAY	Initial Estimate of Cement Impedance
ZMUD	1.84000	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

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## Fluid Properties Used for Main Pass

