

Company: Noble Energy Inc

Well: Mahalo State AA09-79HNC  
Field: Wattenberg  
County: Weld State: Colorado

County: Weld			
Field: Wattenberg			
Location: SWSW Sec. 4 T6N R63W			
Well: Mahalo State AA09-79HNC			
Company: Noble Energy Inc			
USI-LITE (2500 psi)			
Permanent Datum: Log Measured From: Drilling Measured From:		GL KB KB	Elev: K.B. 4723.0 F G.L. 4699.0 F D.F. 4722.0 F
API Serial No. 05-123-39105-0000		Section 4	Township 6N
Logging Date 02-Mar-2015		Range 63W	
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: U711136 Length: 17300.00000

DISCLAIMER

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0 PSI ran on repeat pass and 2500 PSI ran on main pass.

Top of cement seen @ 300'. Expected TOC @ 1000'.

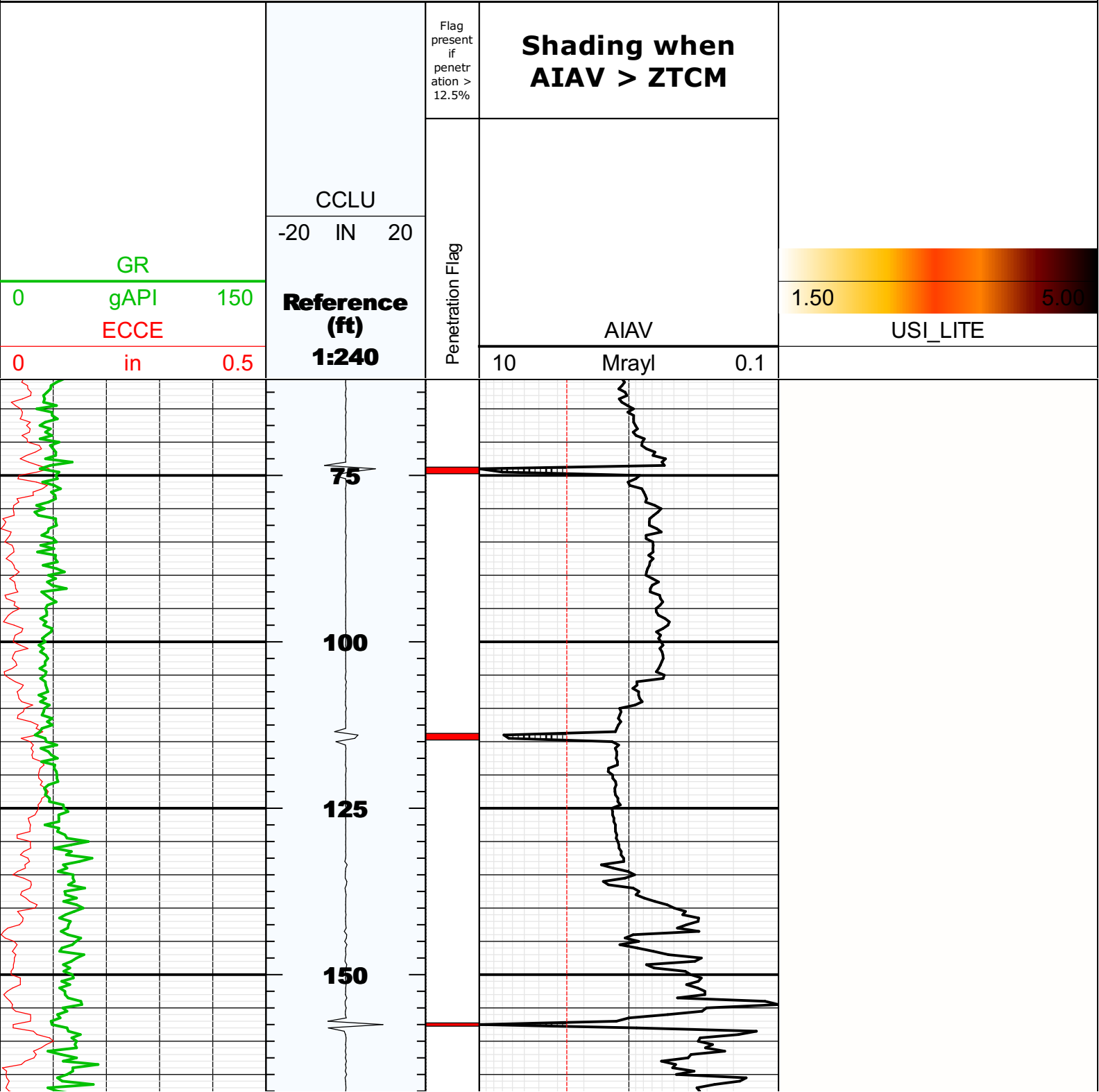
4.5 liner top at 6943.4'.

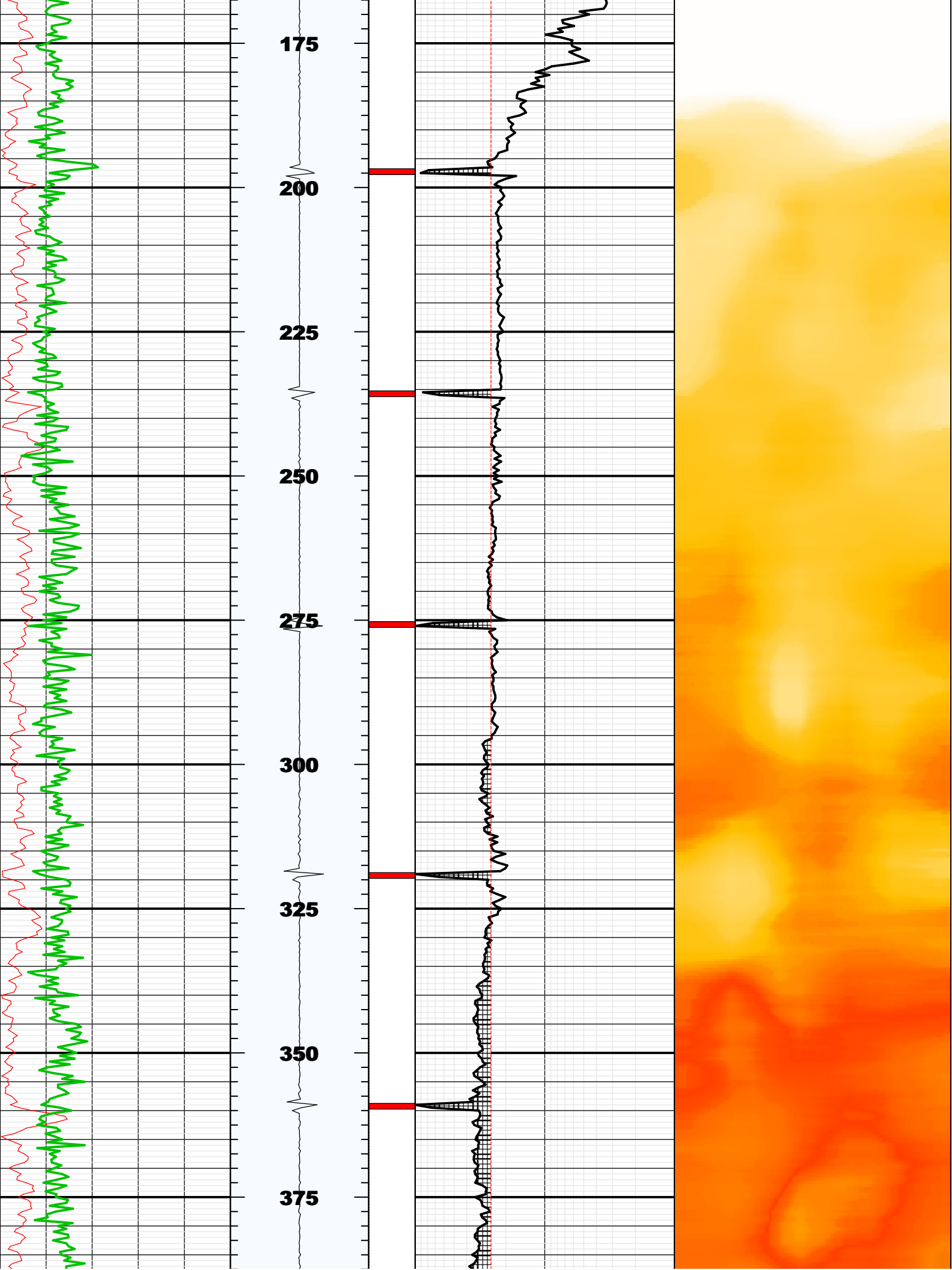
Bottom log interval at 6935' to maintain distance from liner top.

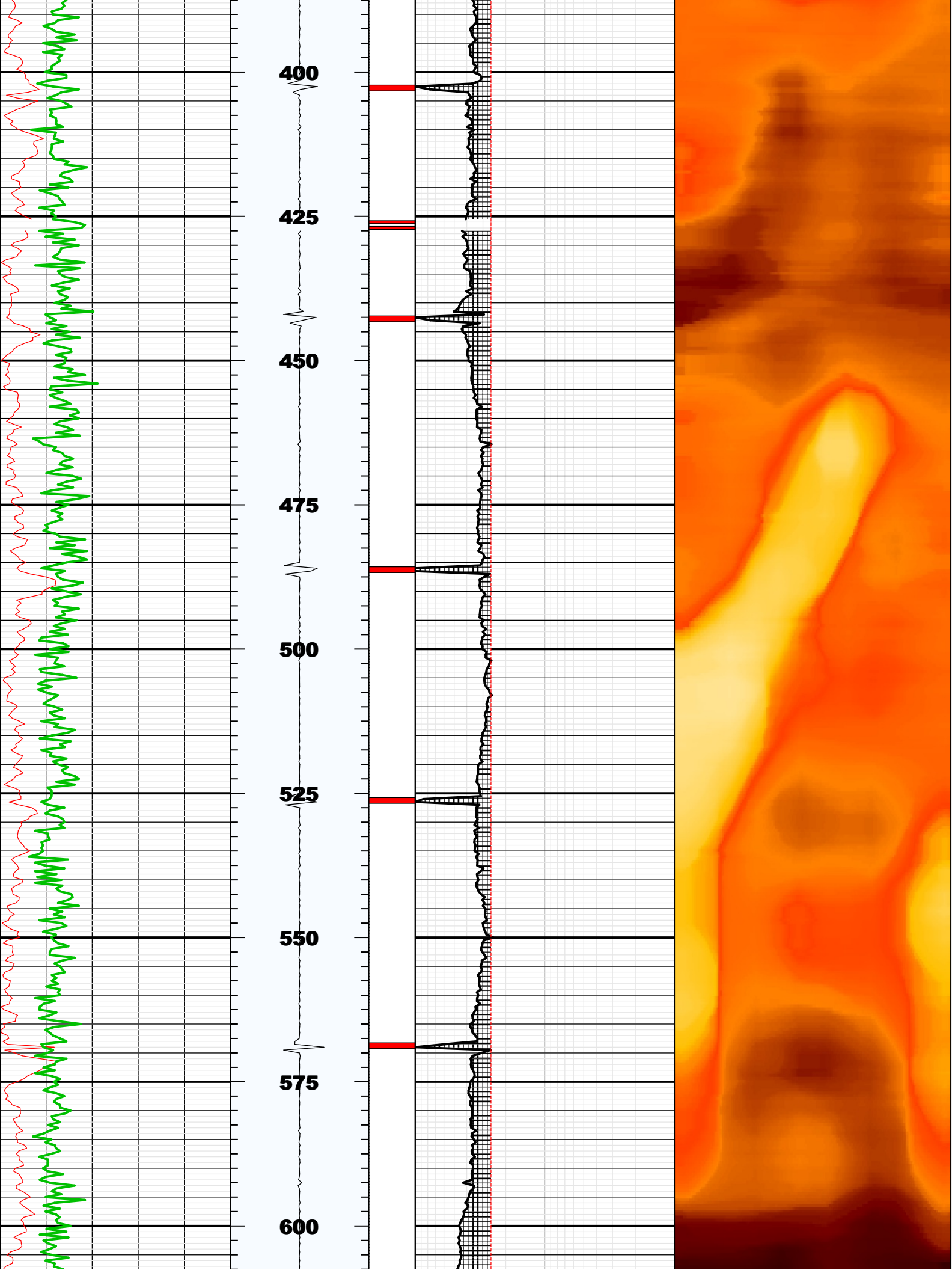
Bottom hole temperature was 237 degF measured at depth.

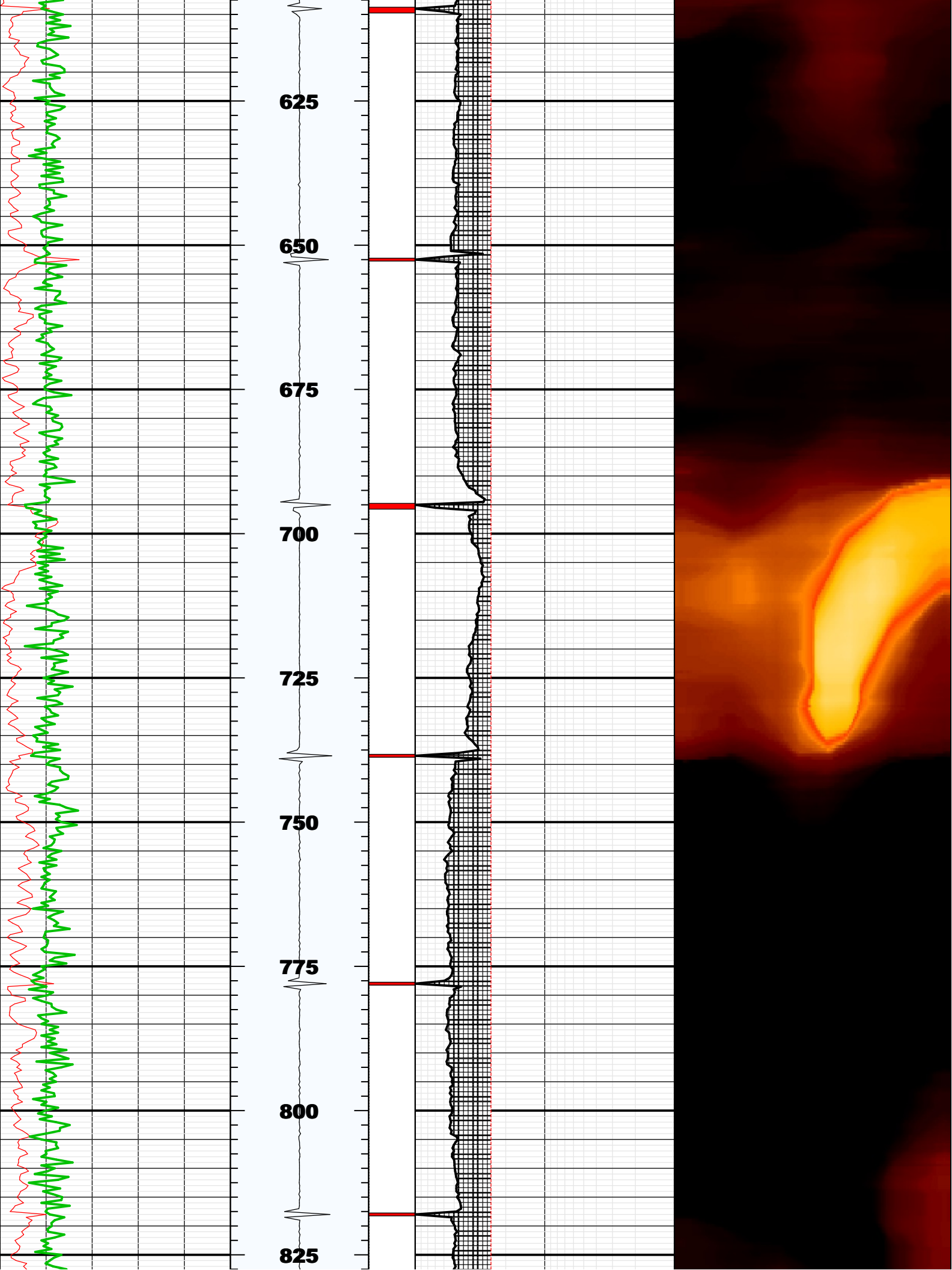
Main Pass

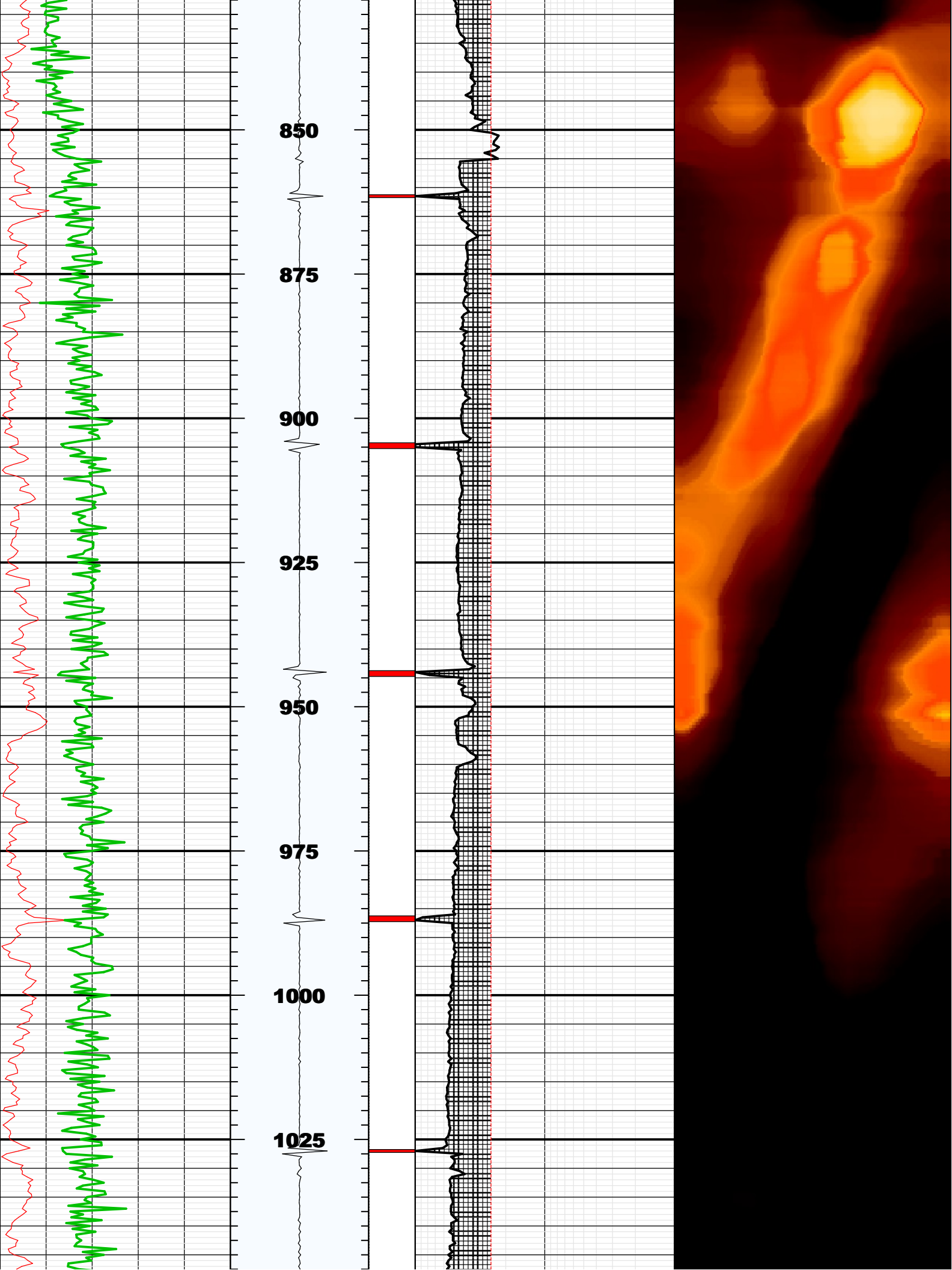
Company: Noble Energy Inc  
Well: Mahalo State AA09-79HNC  
Field: Wattenberg



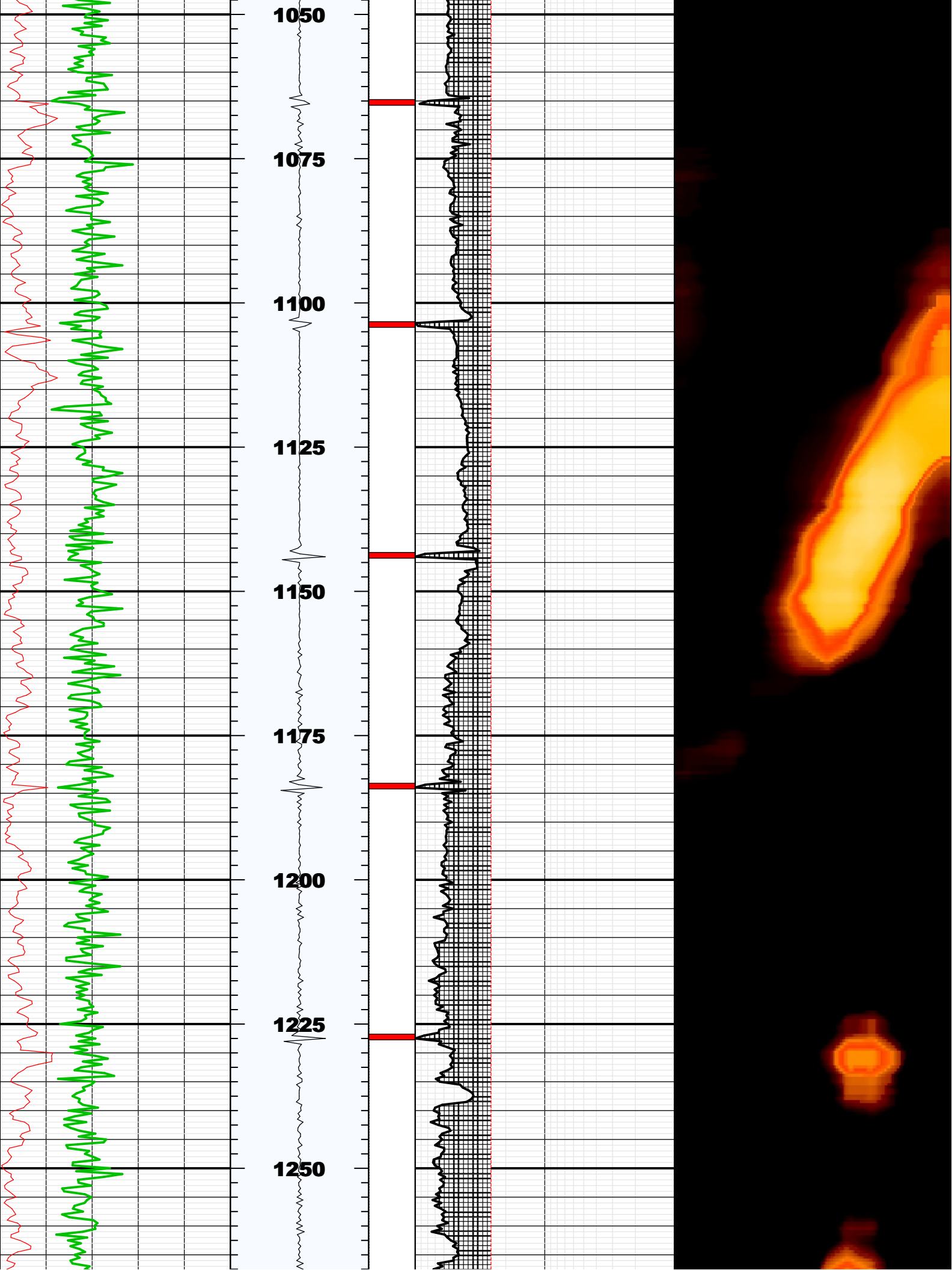




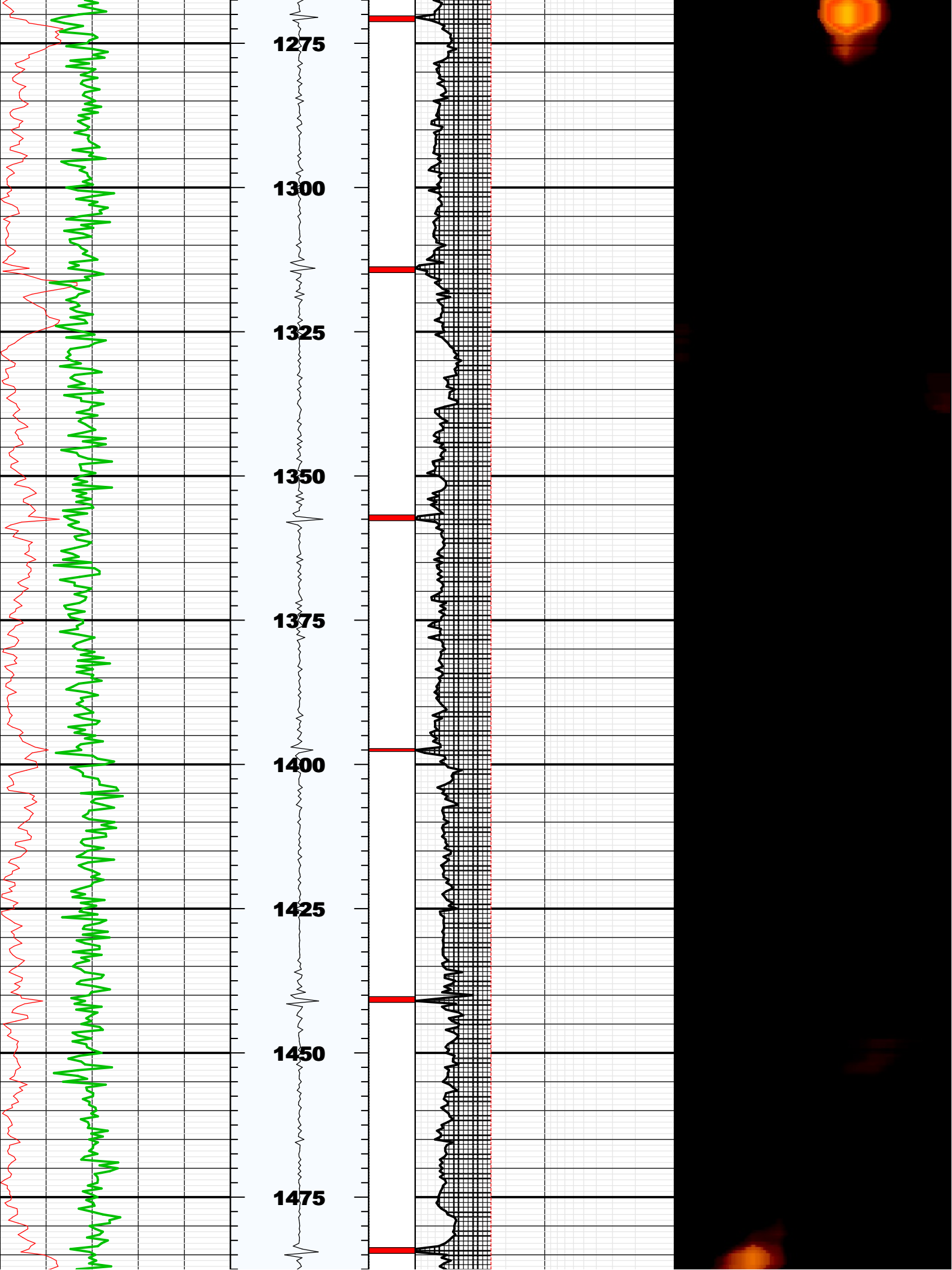


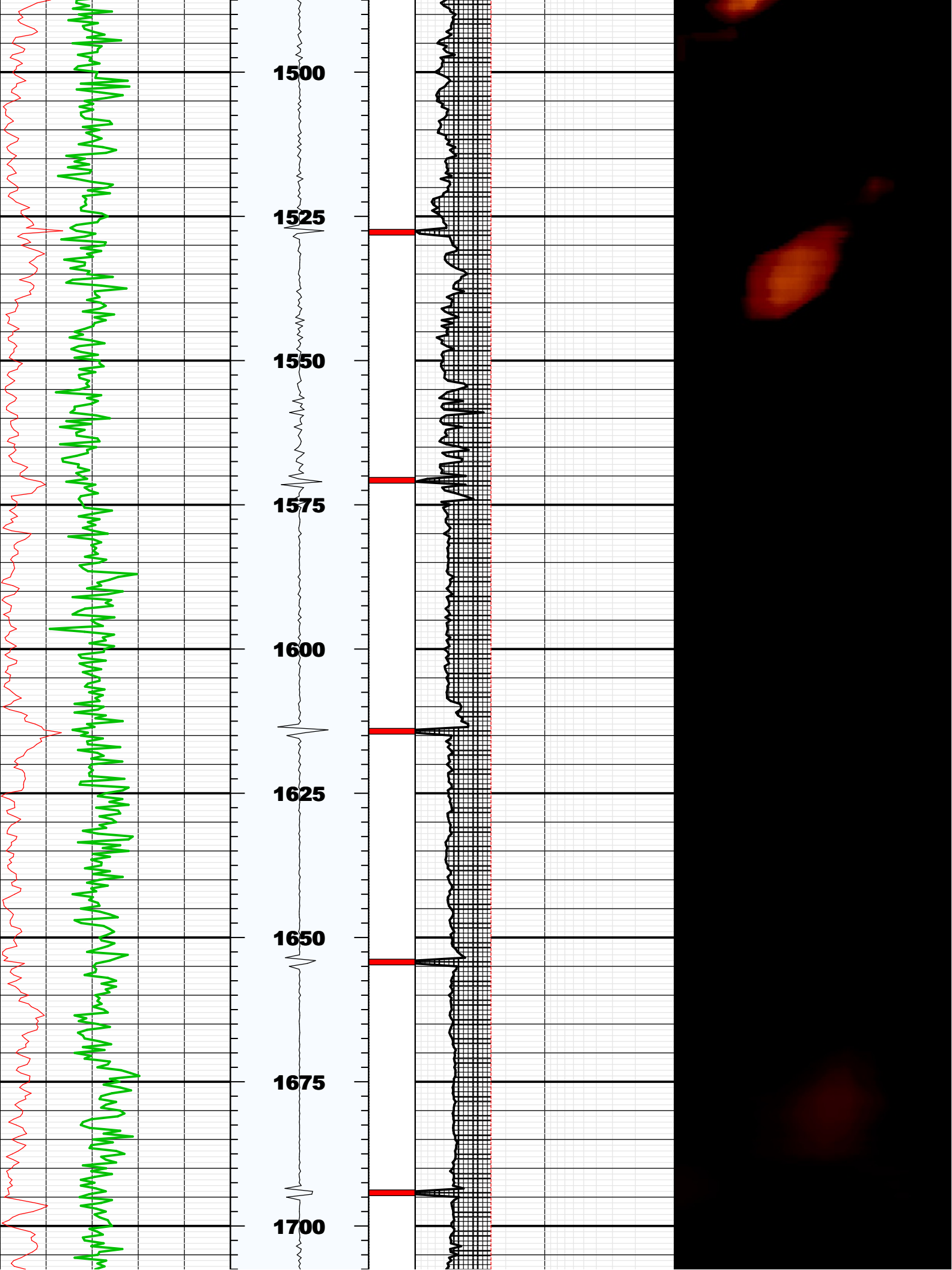


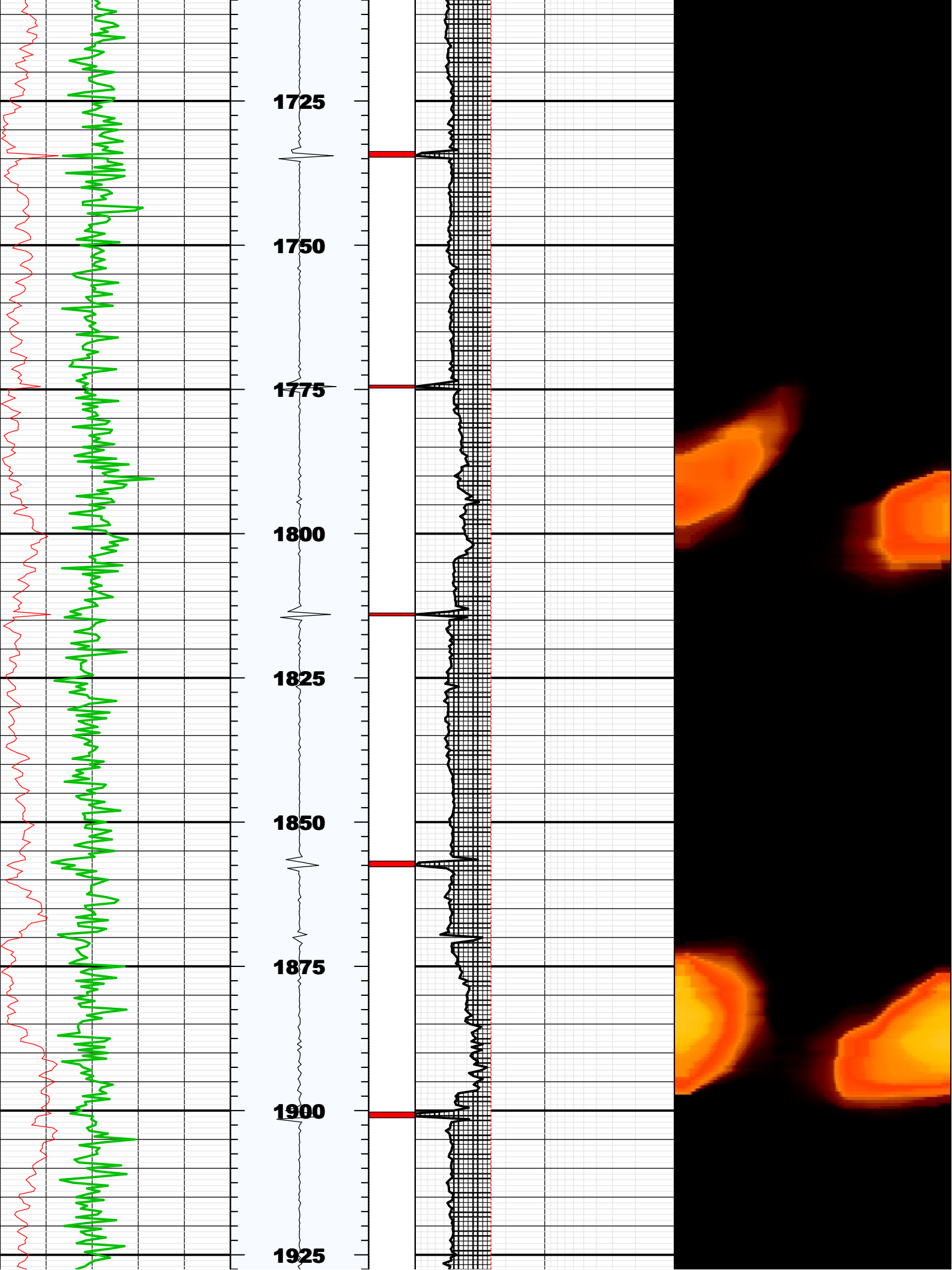


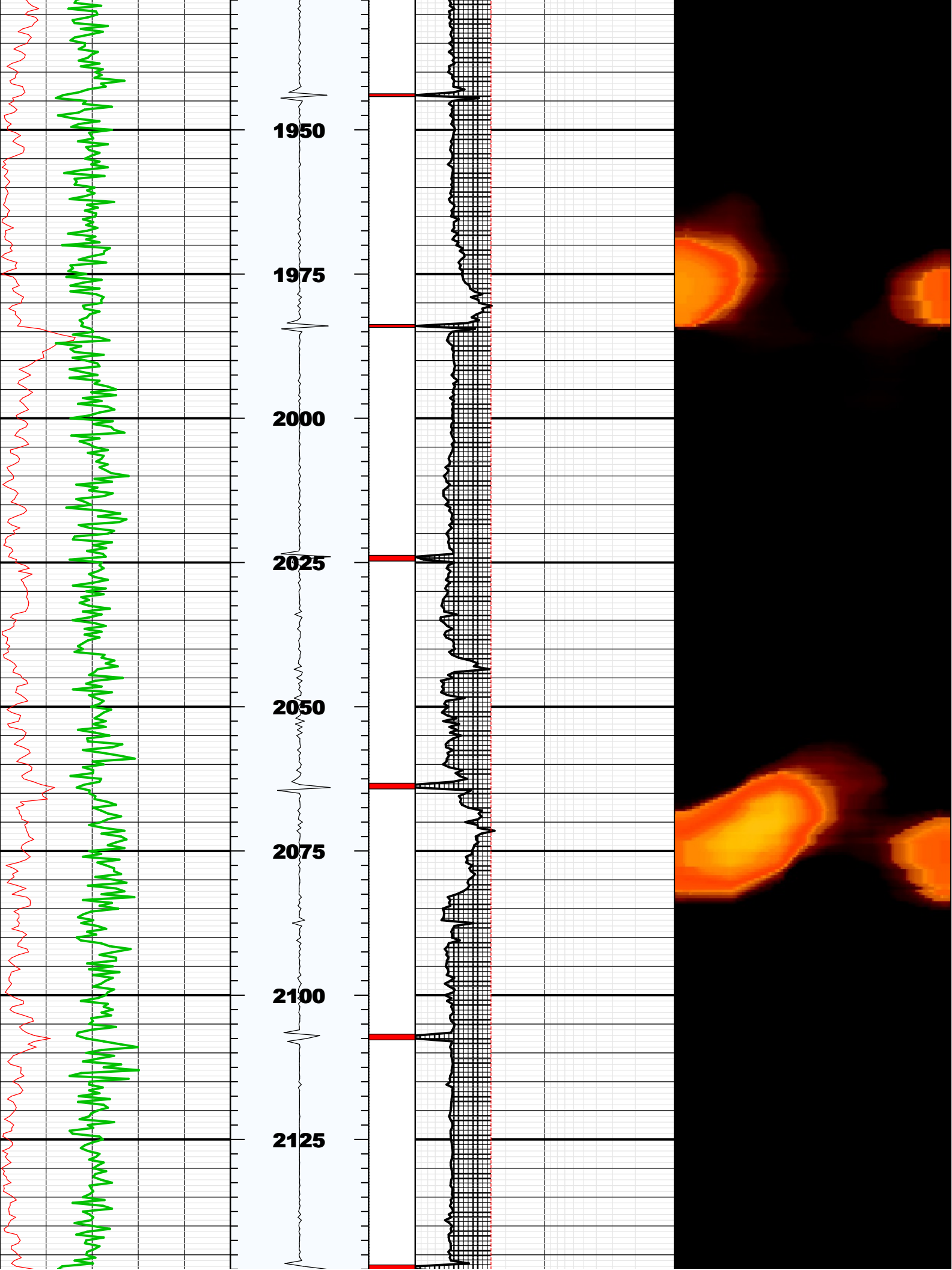


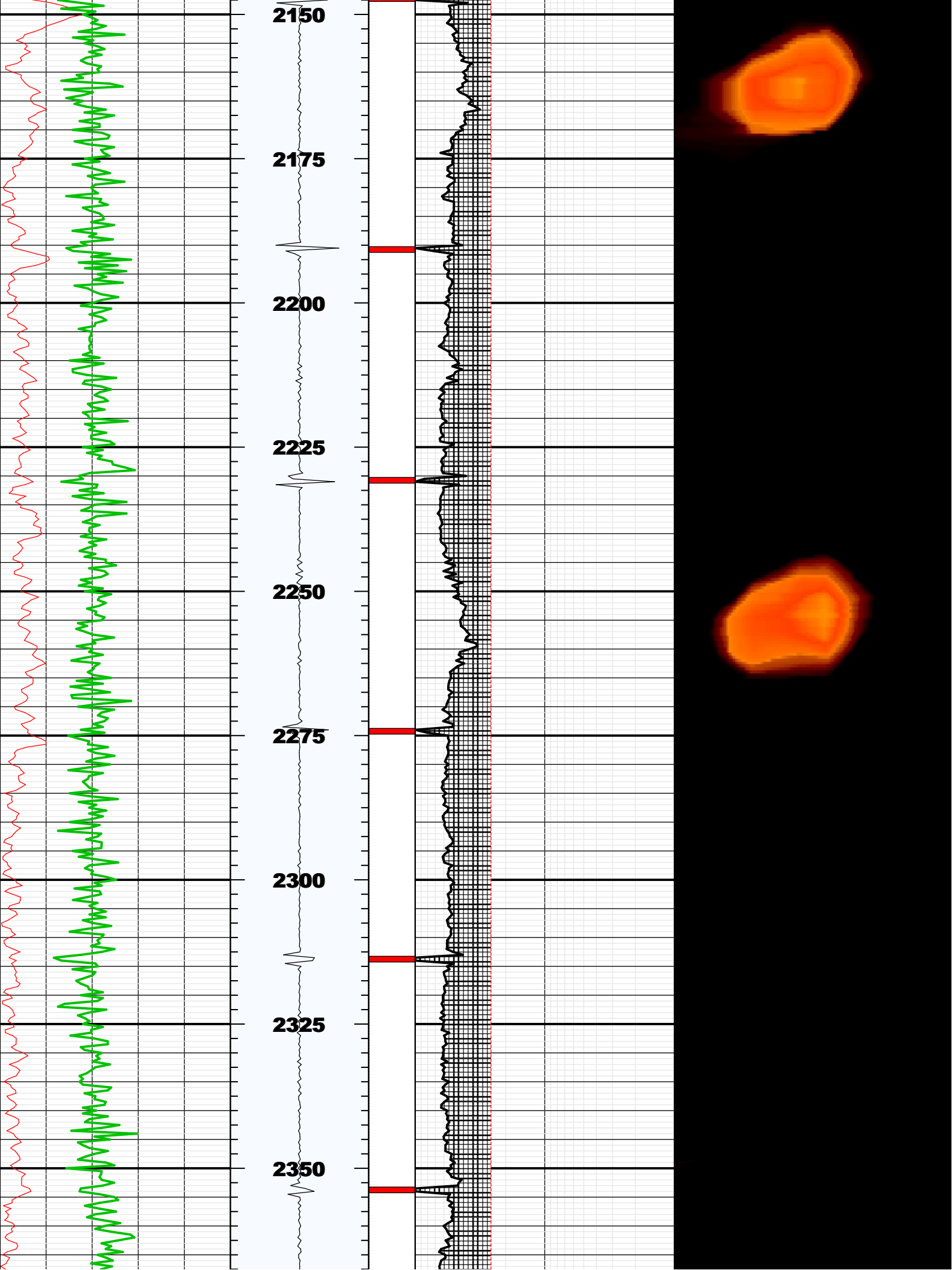


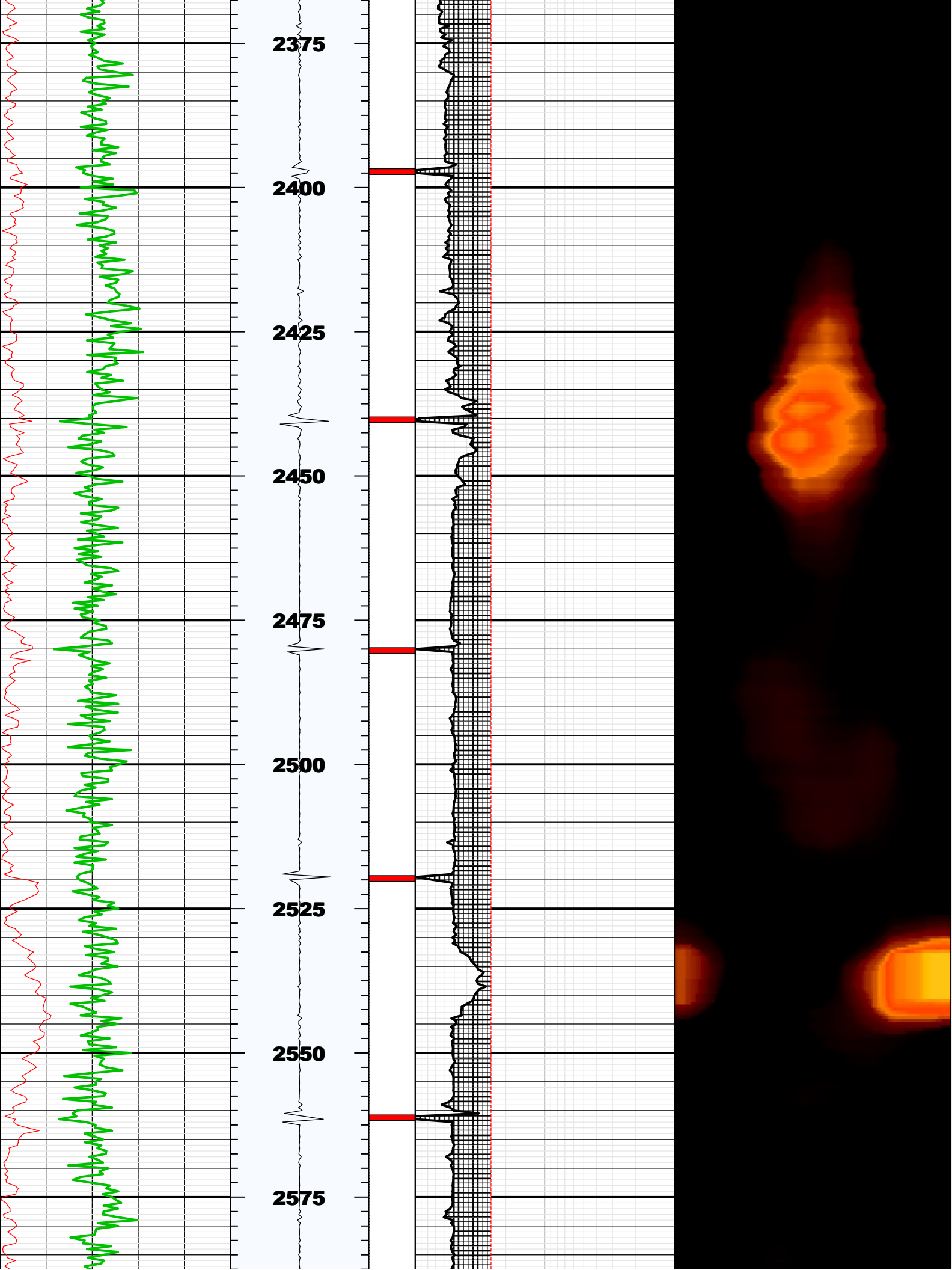




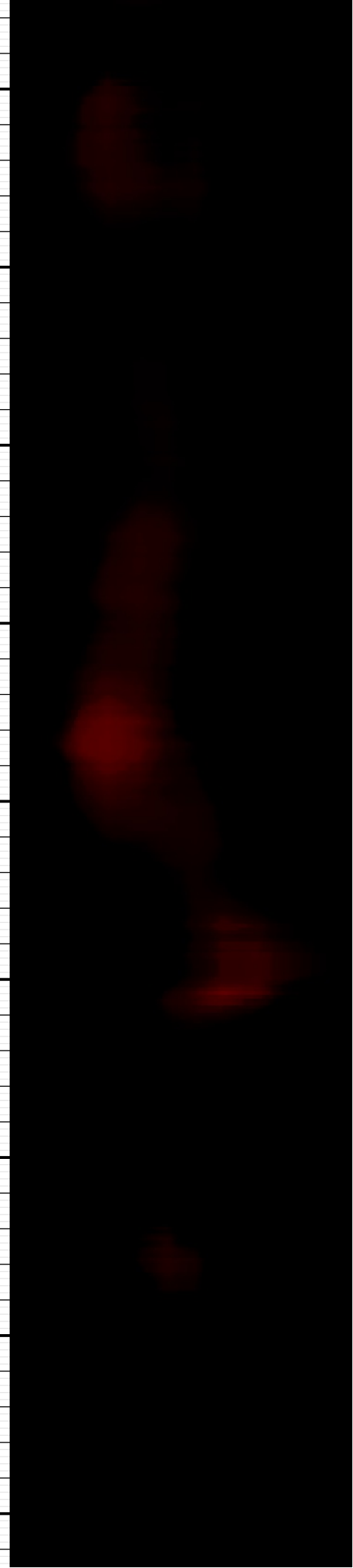
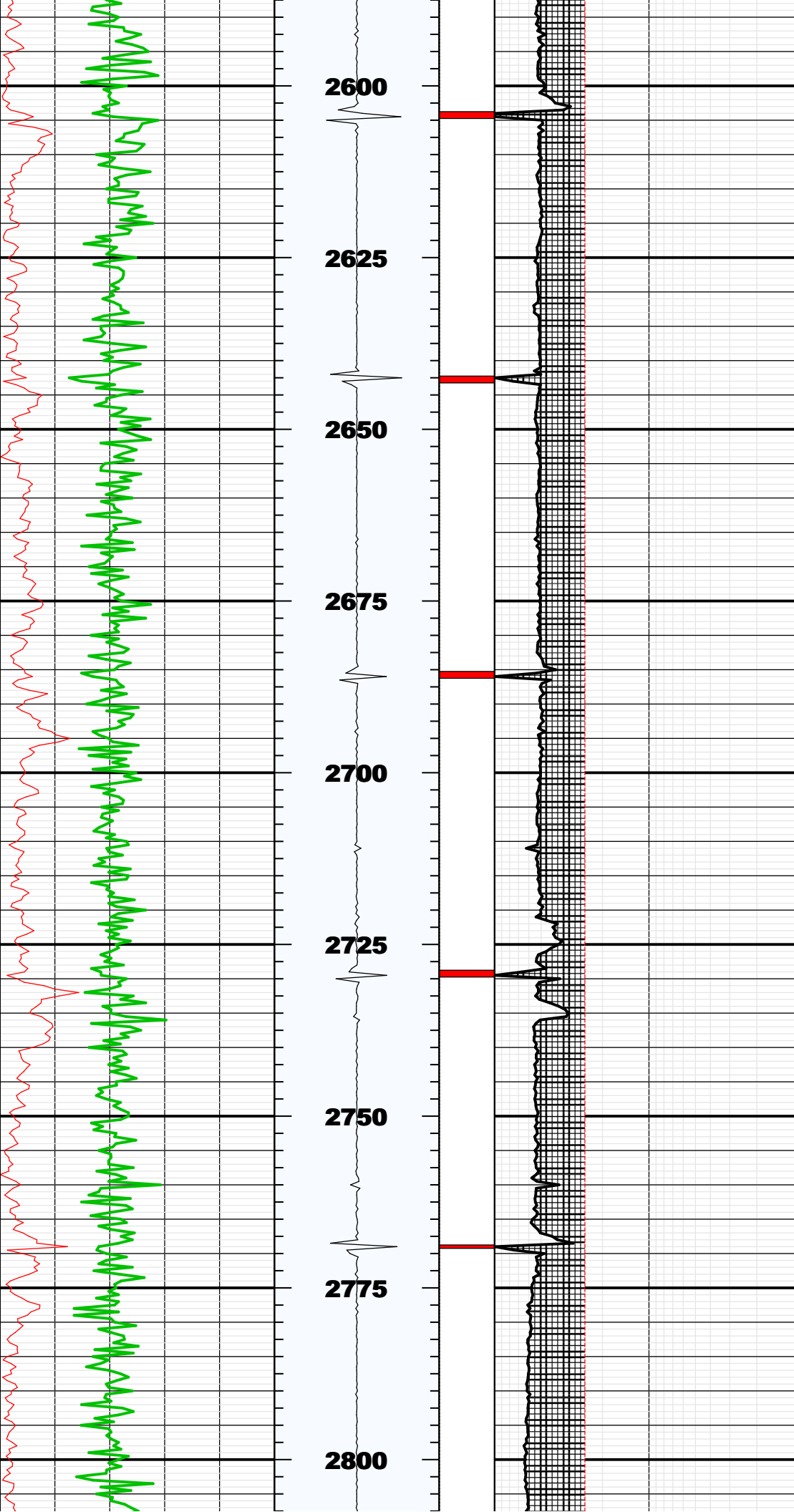




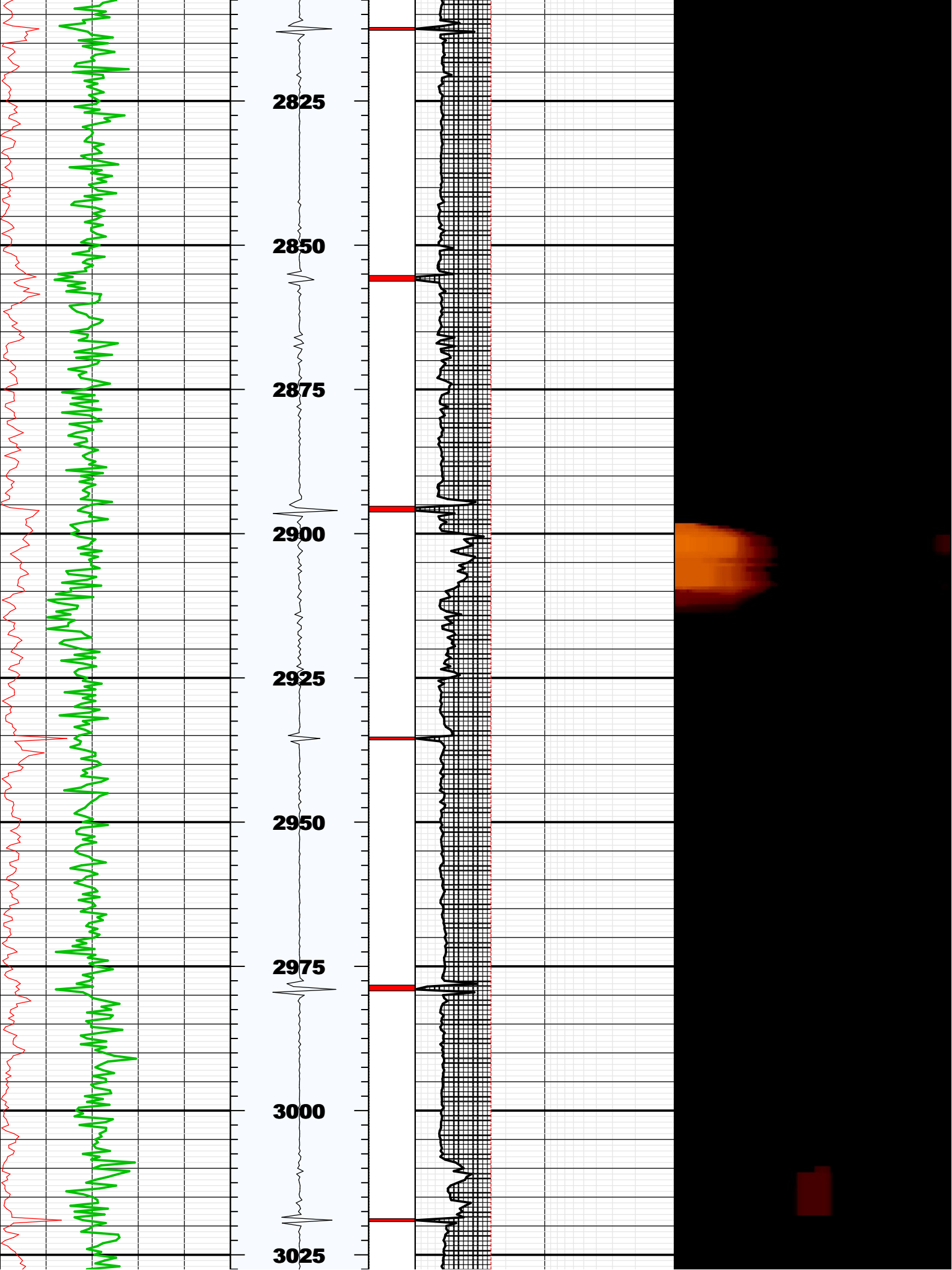


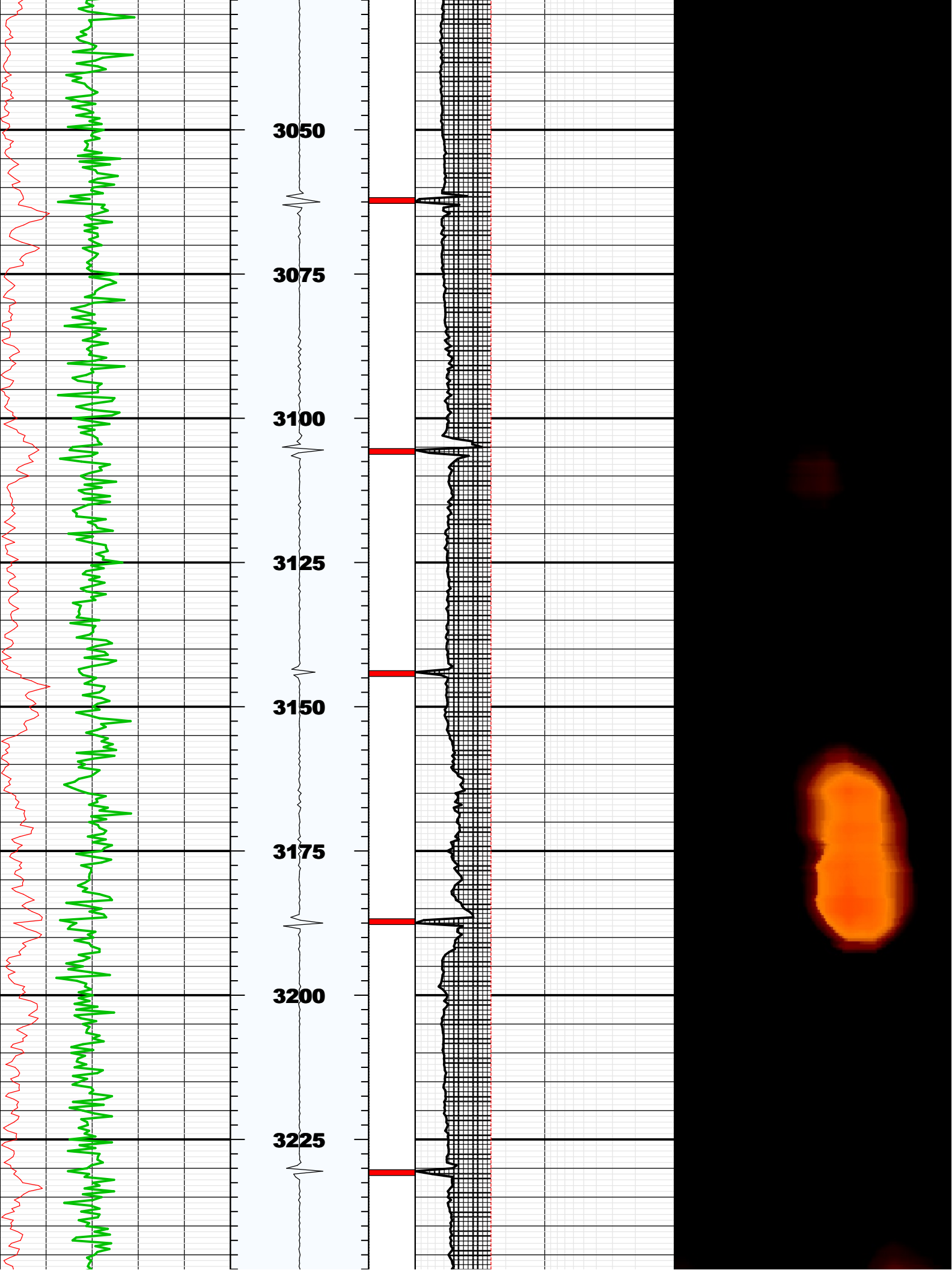


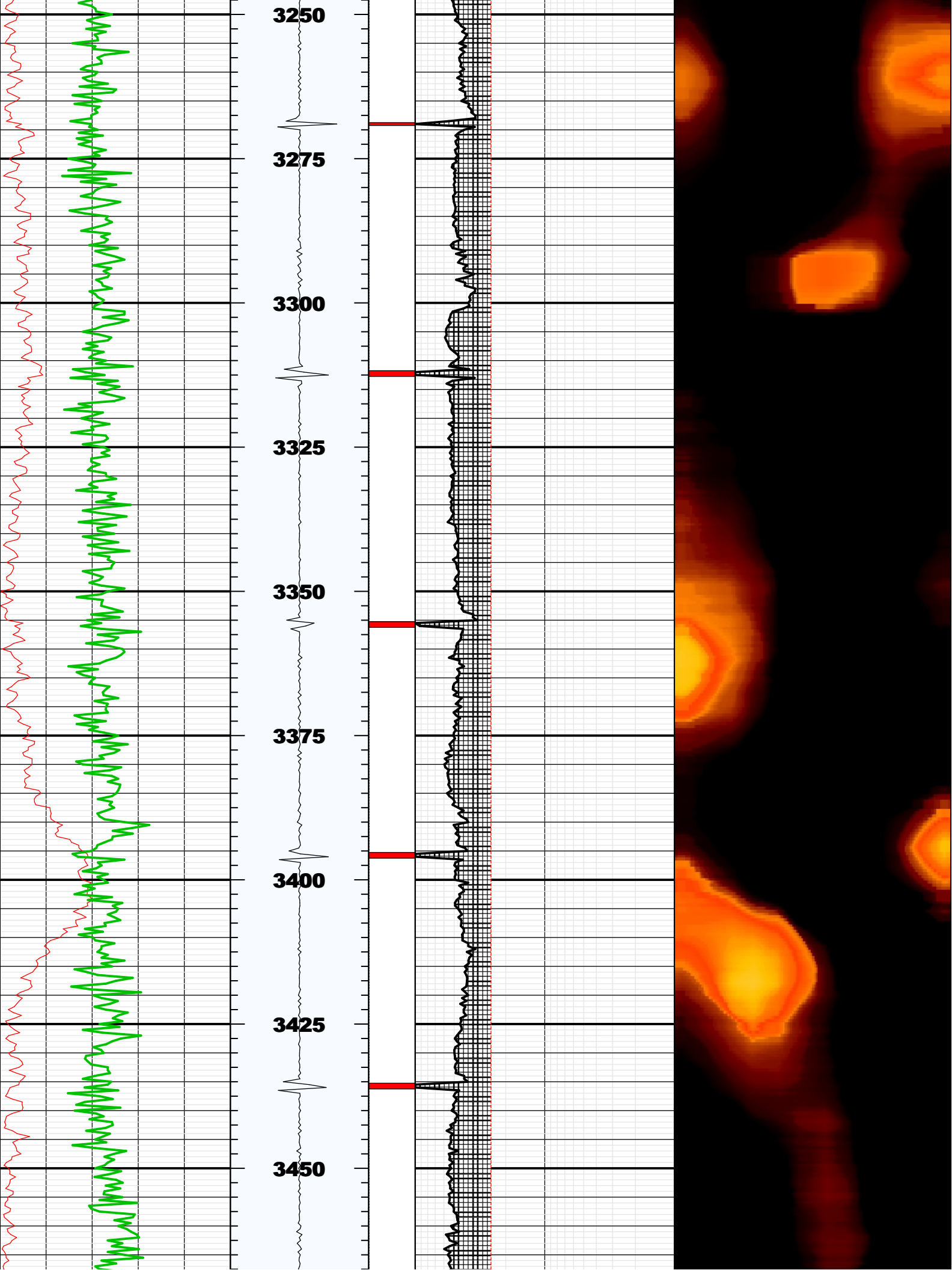


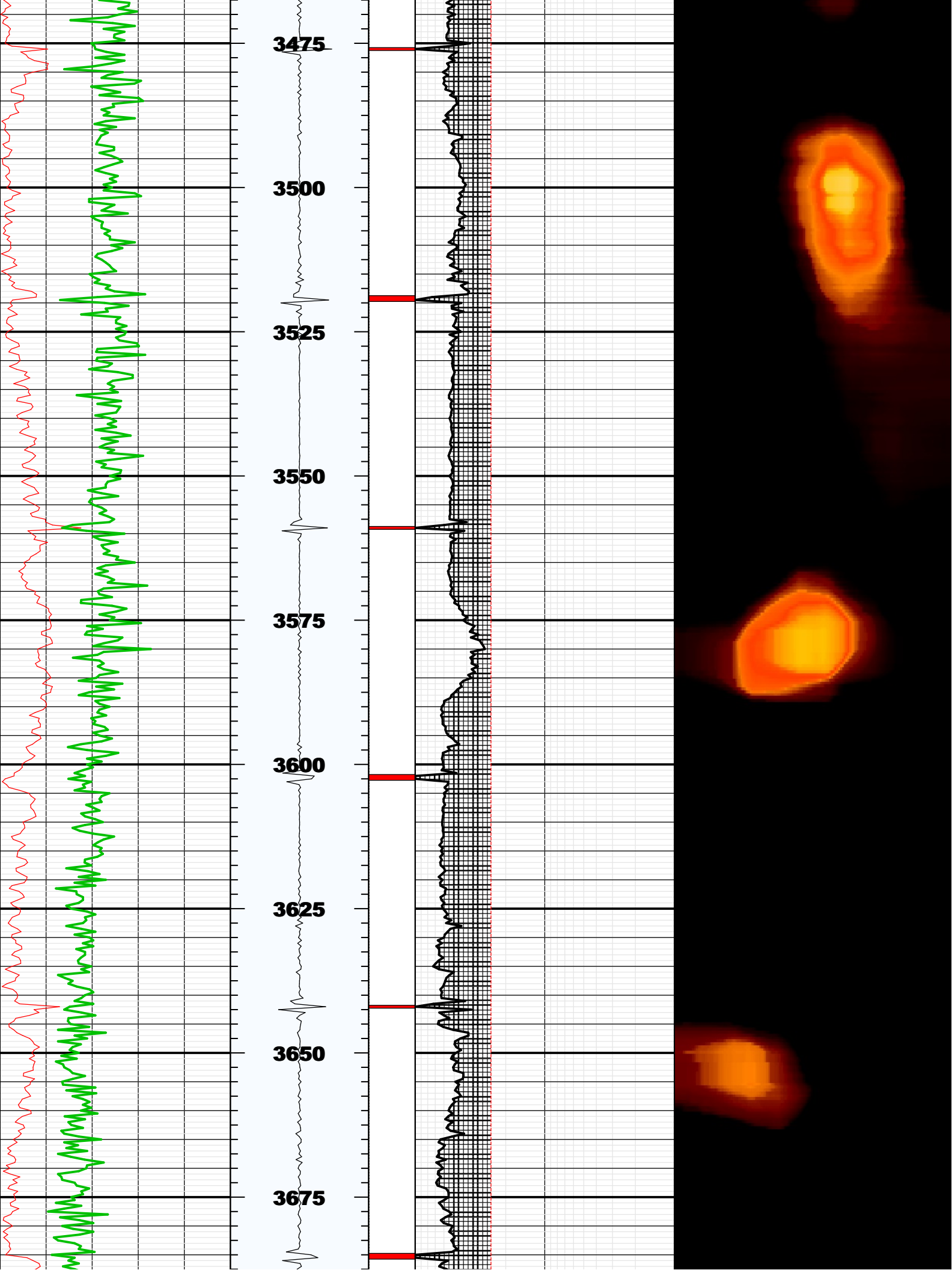


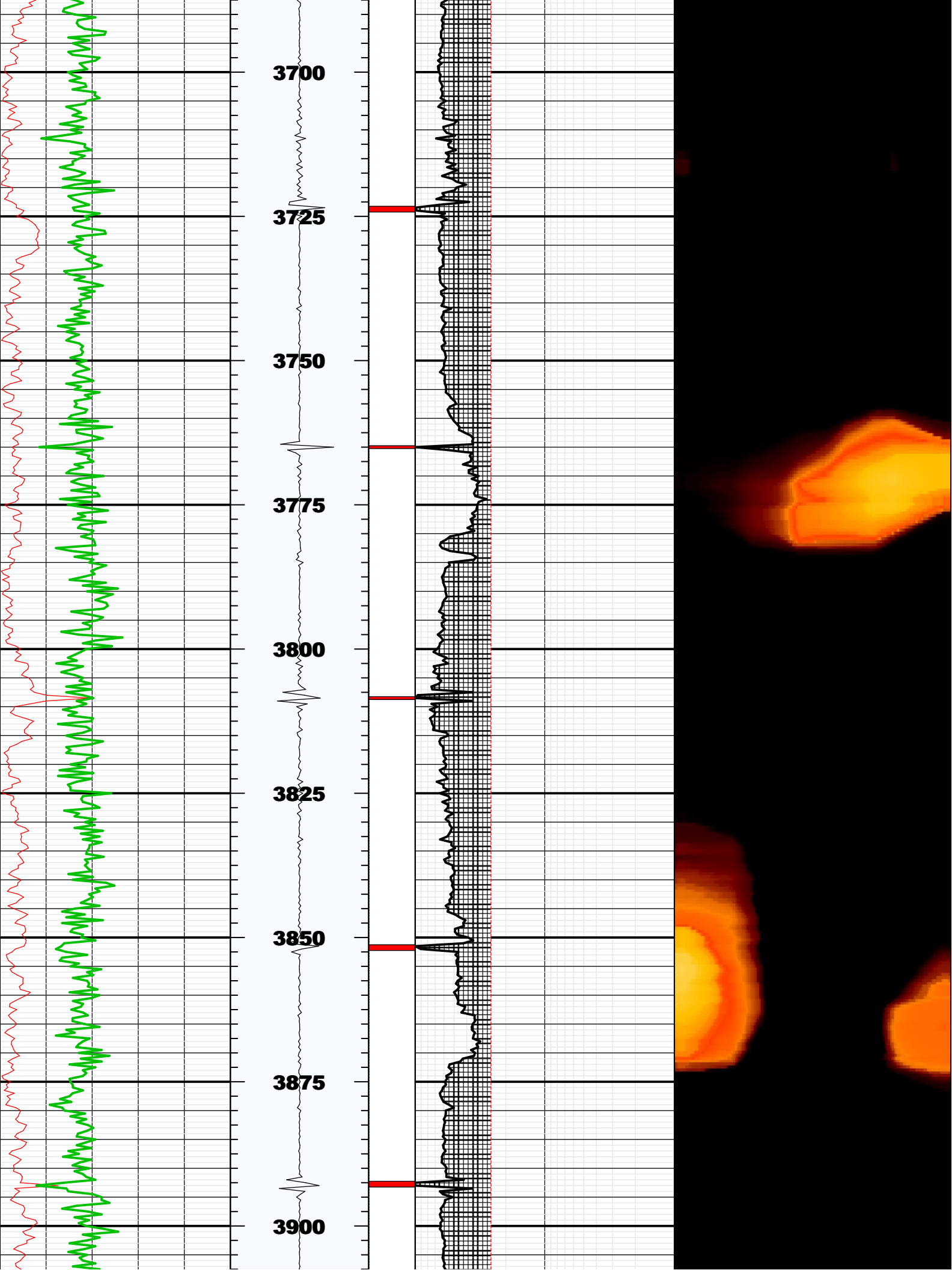




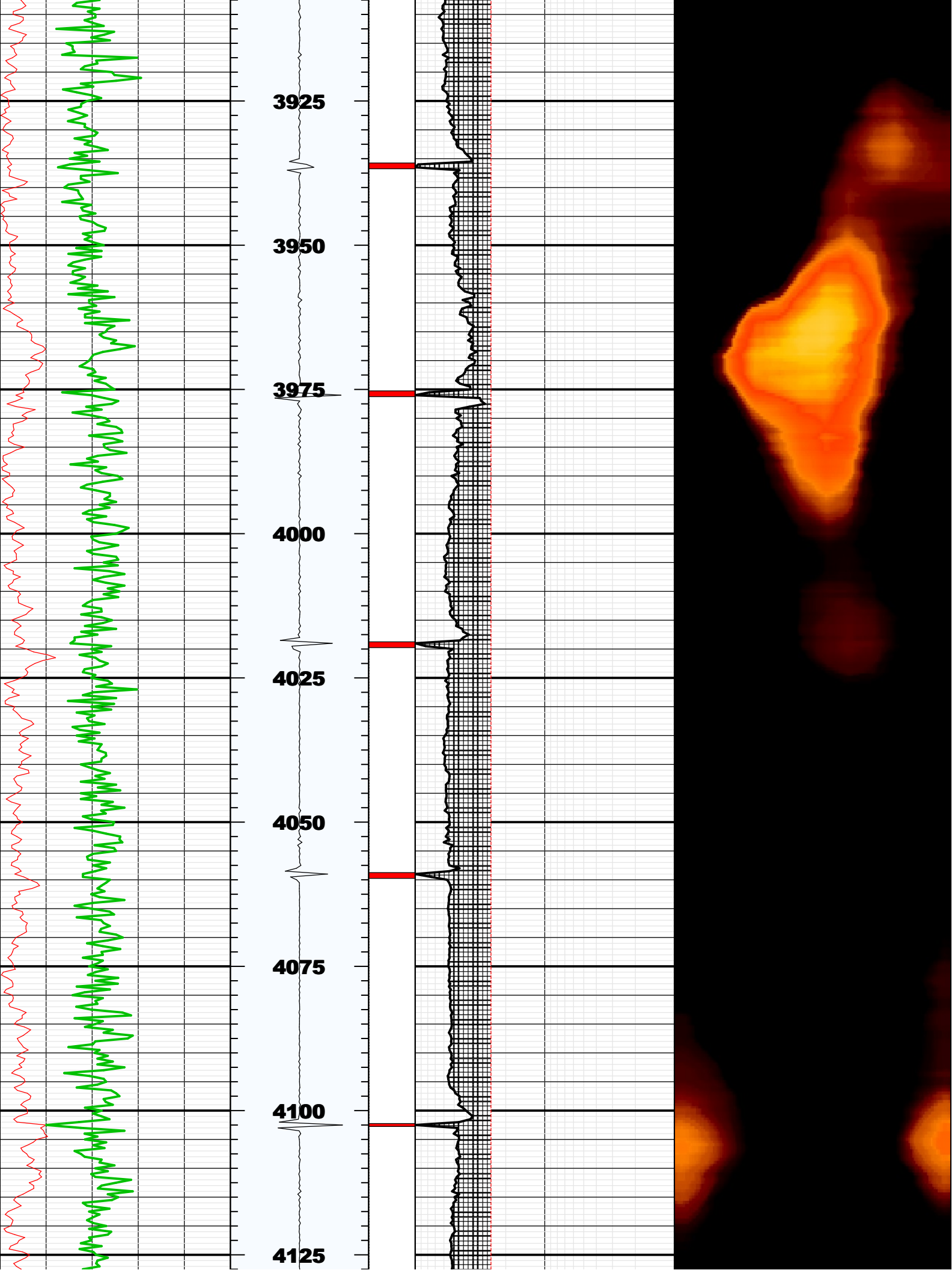


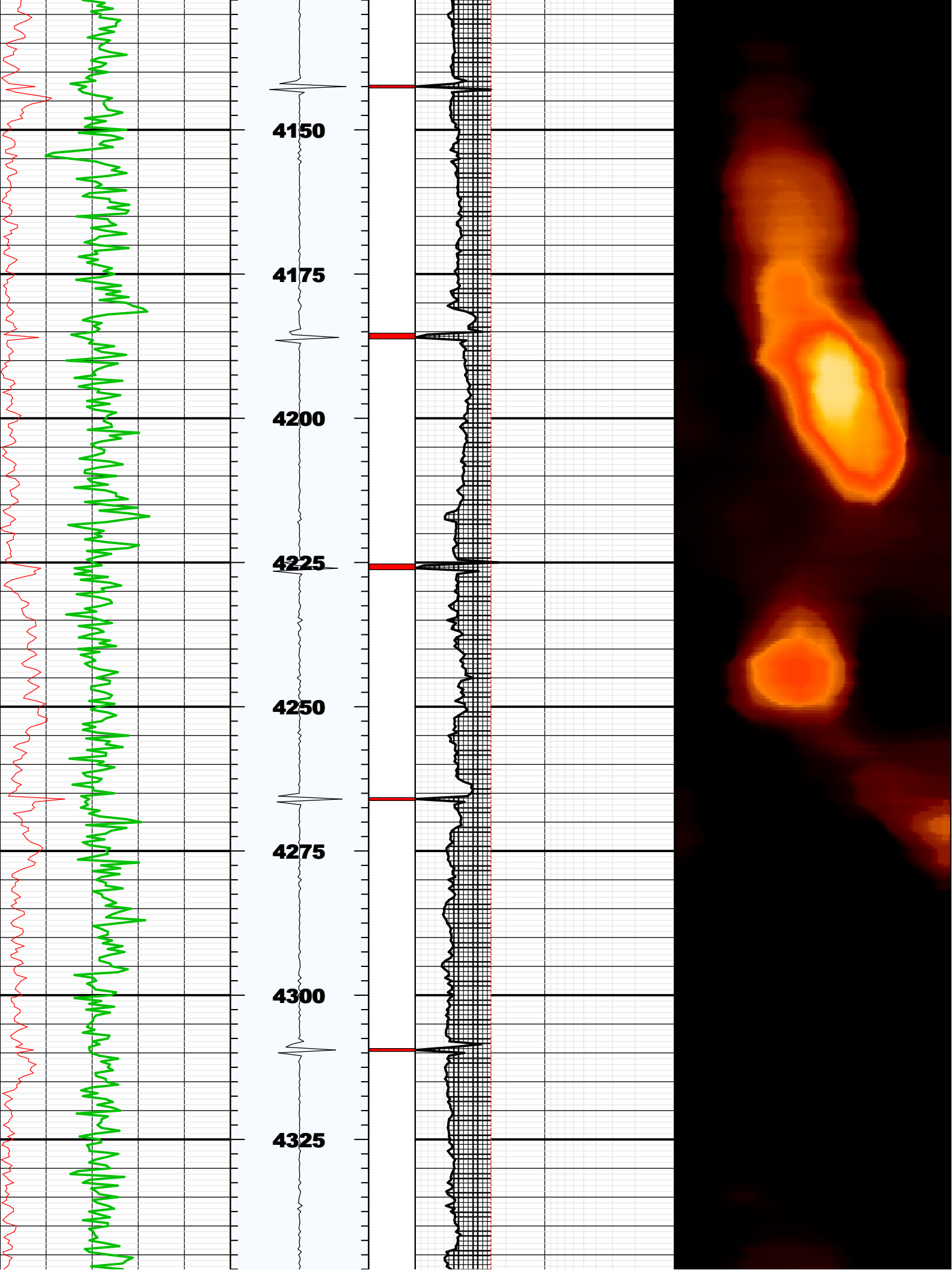




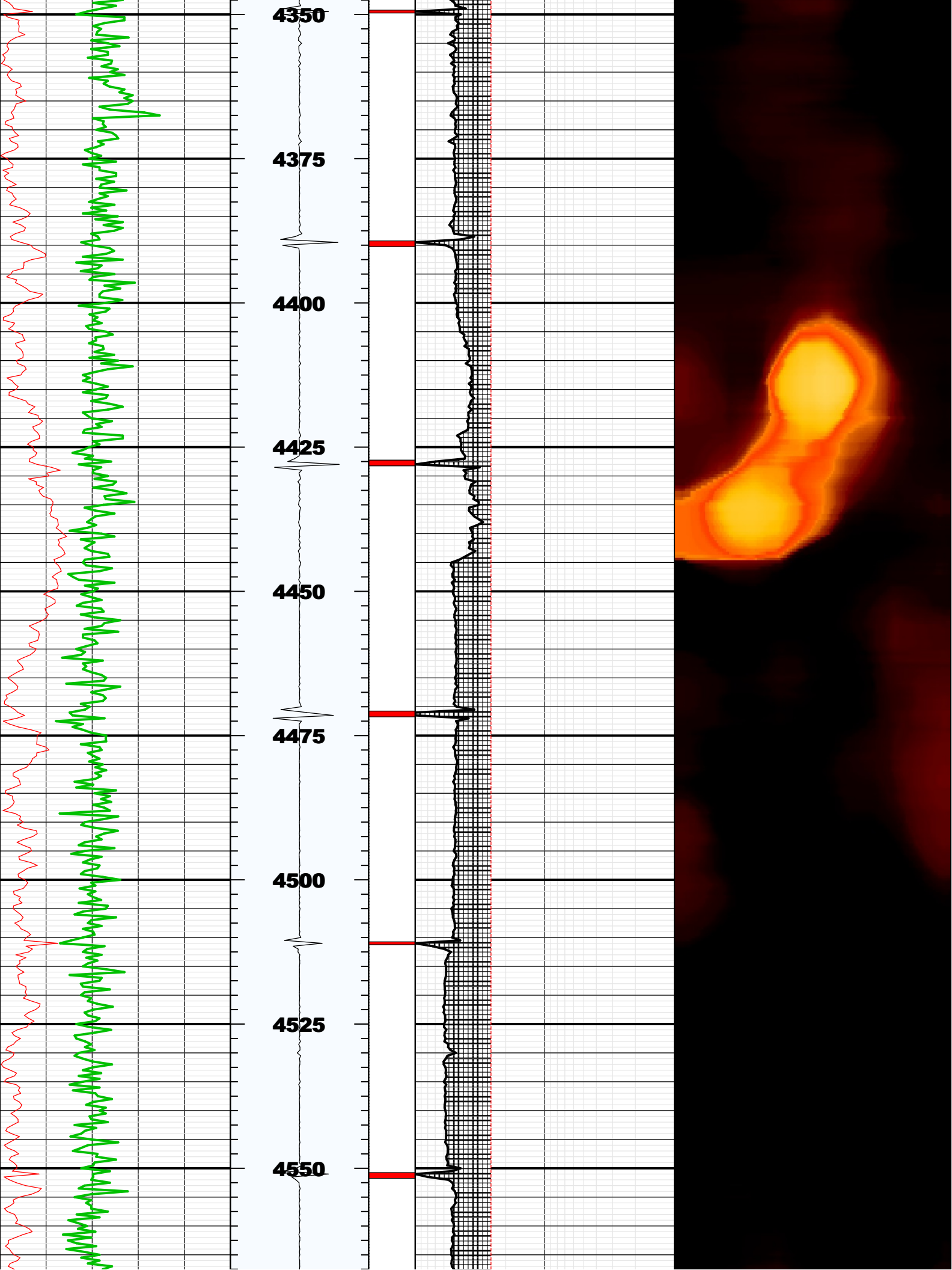


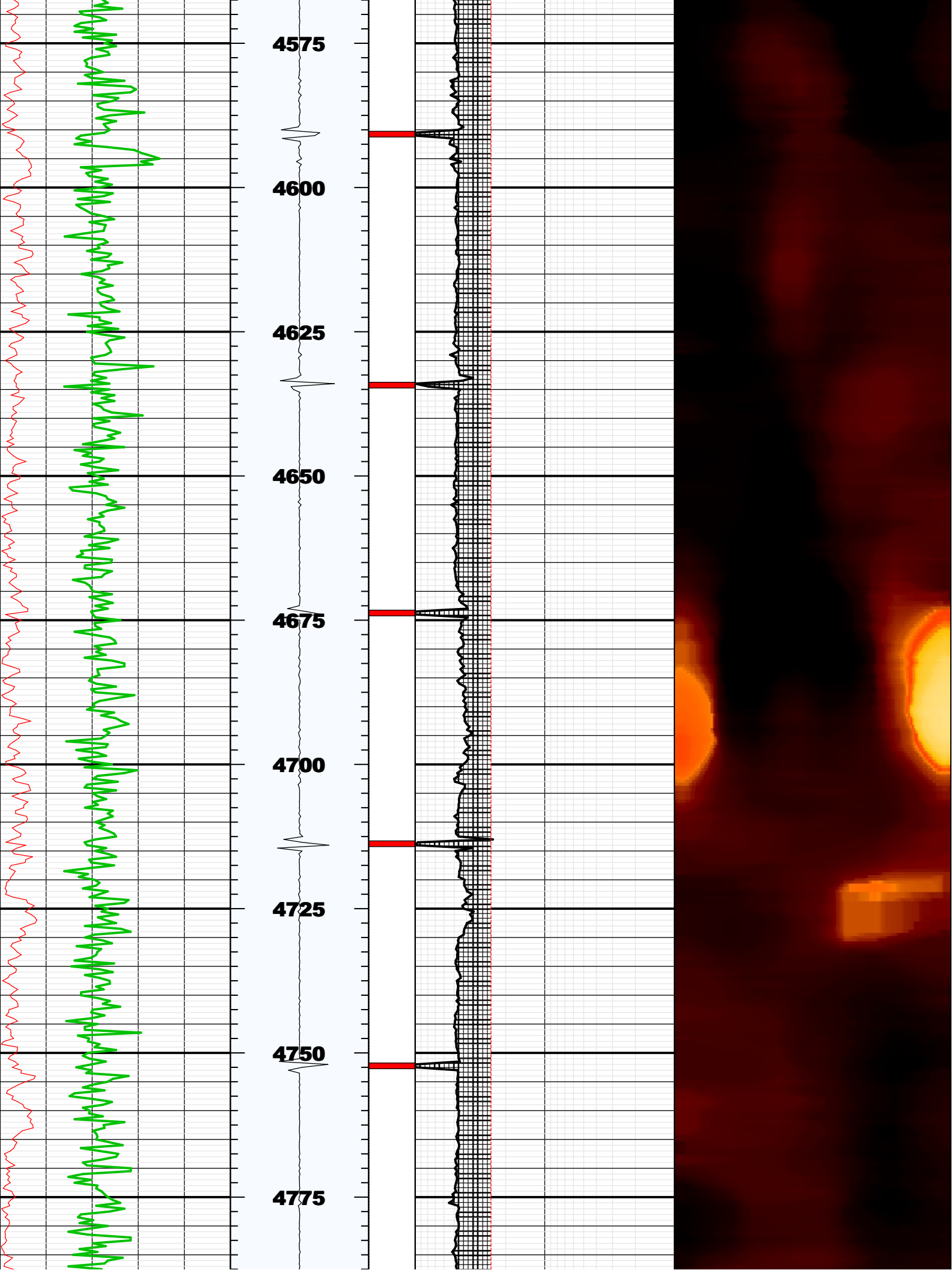


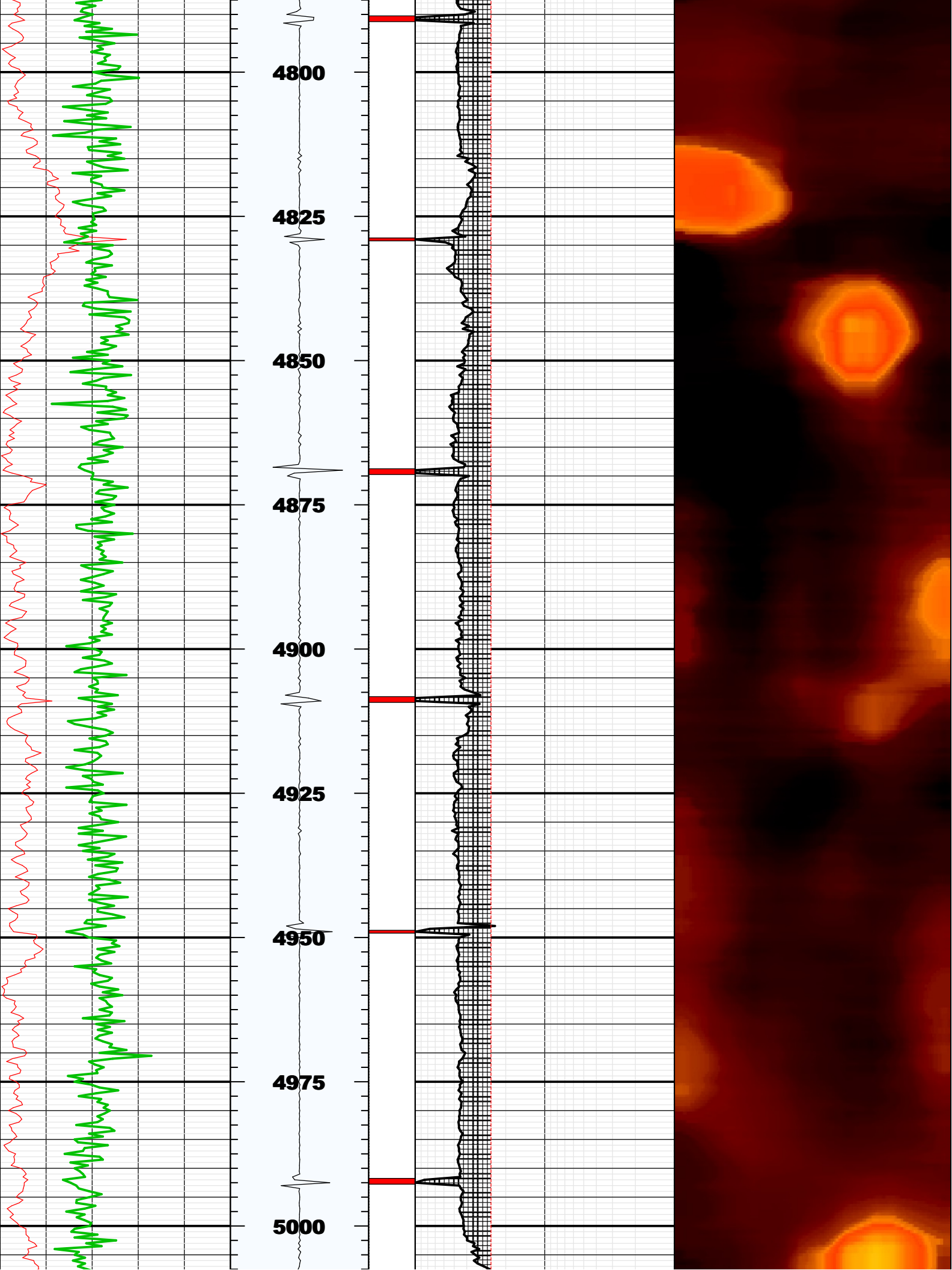


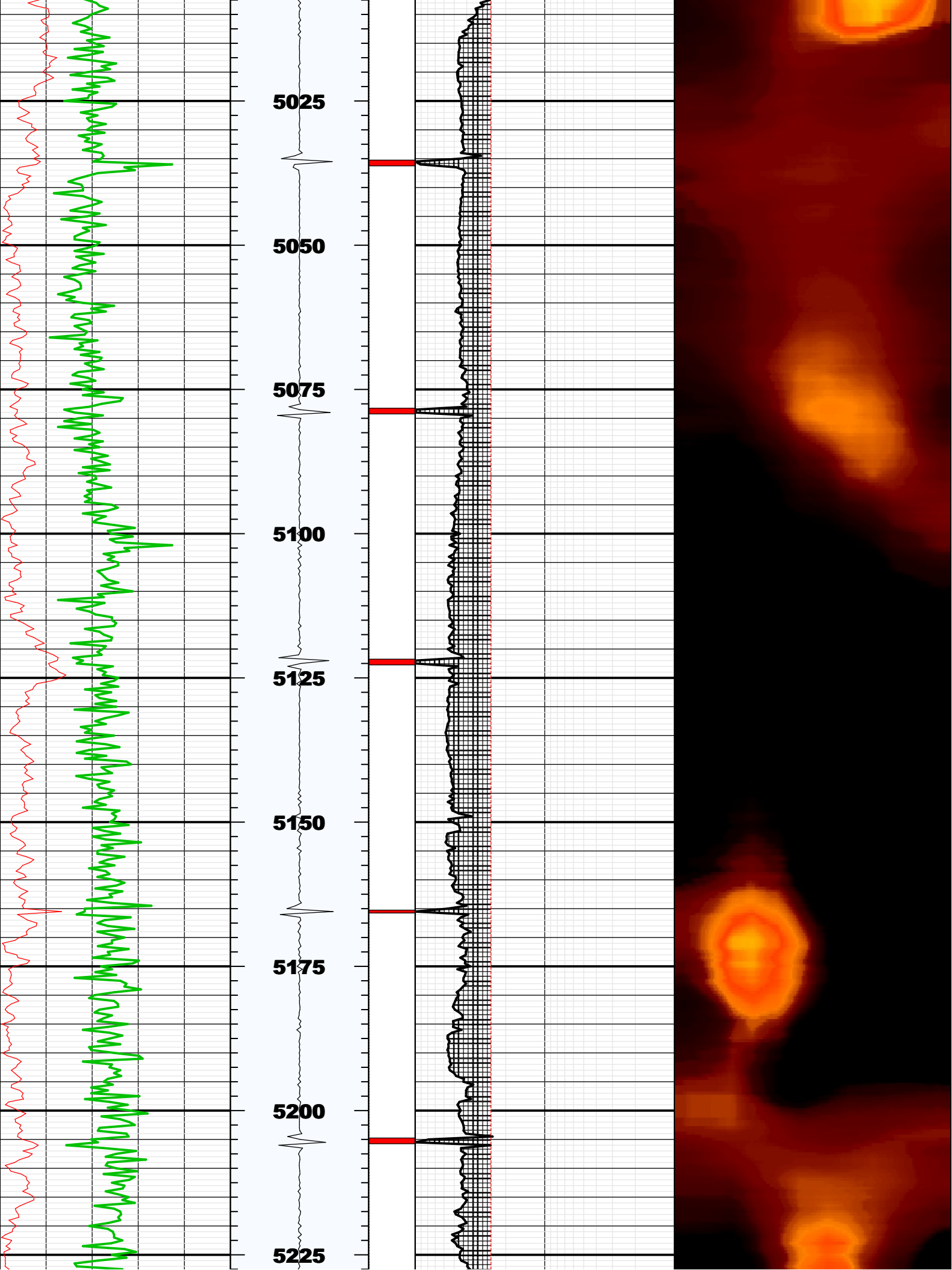




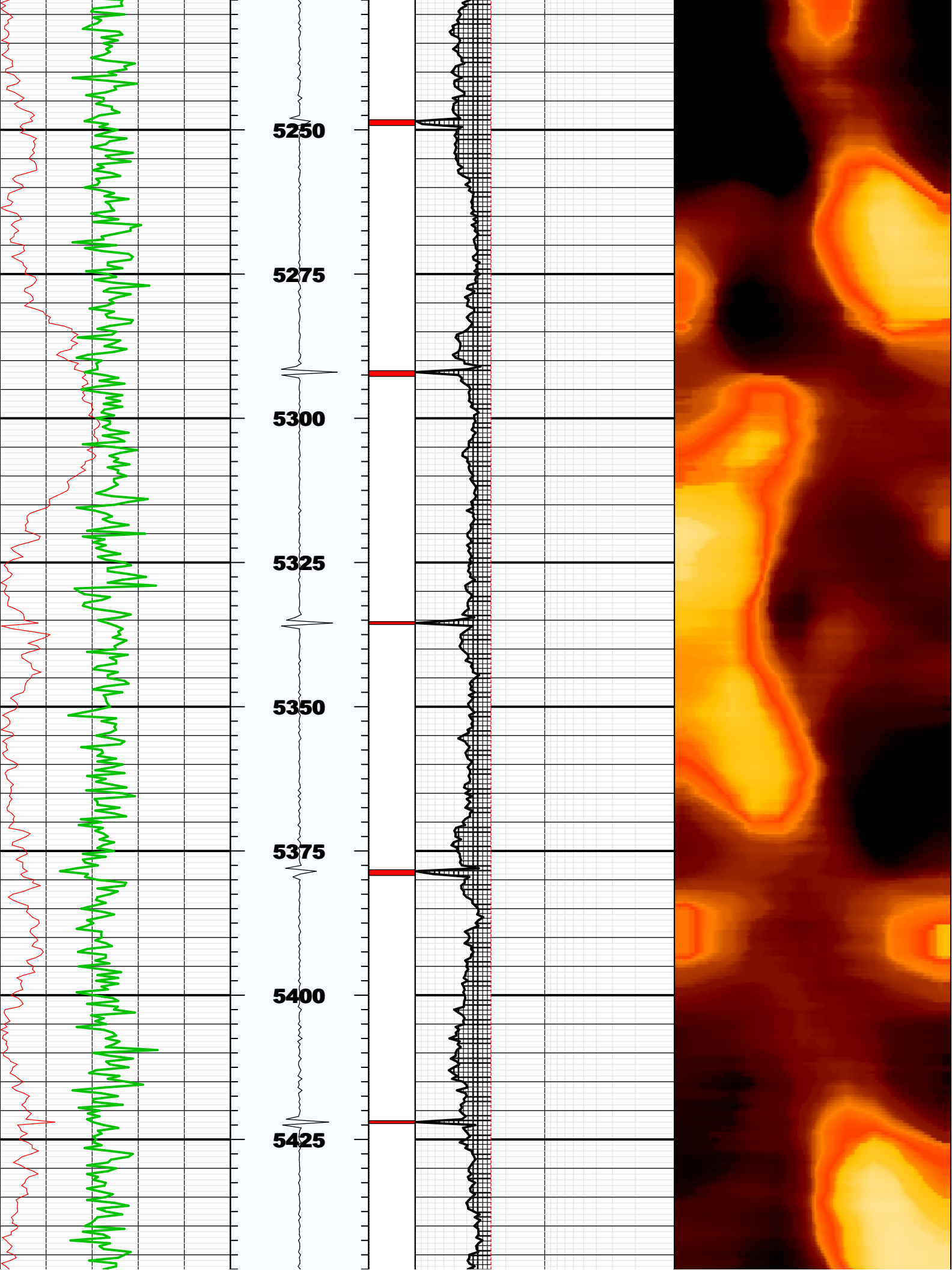


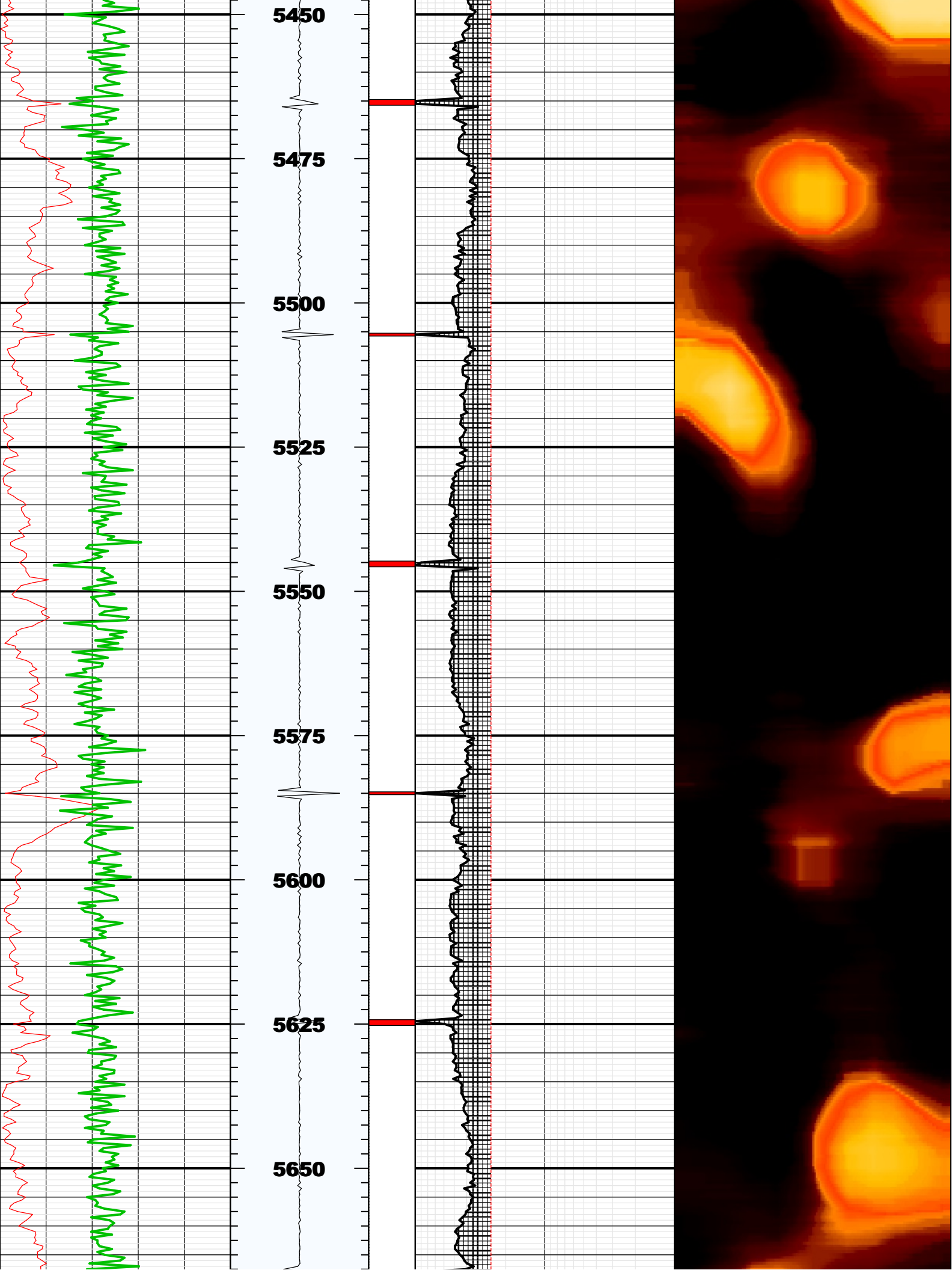


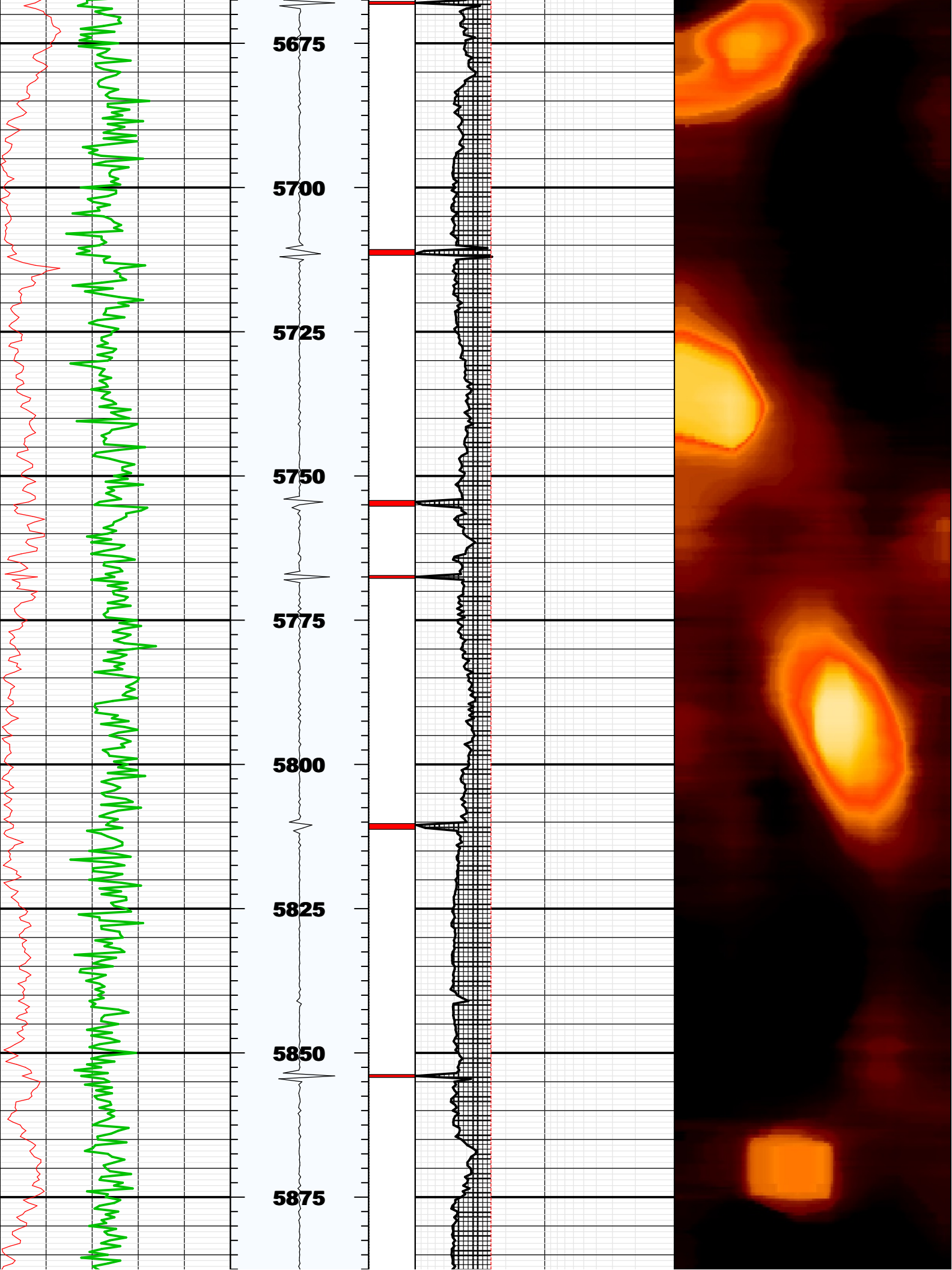




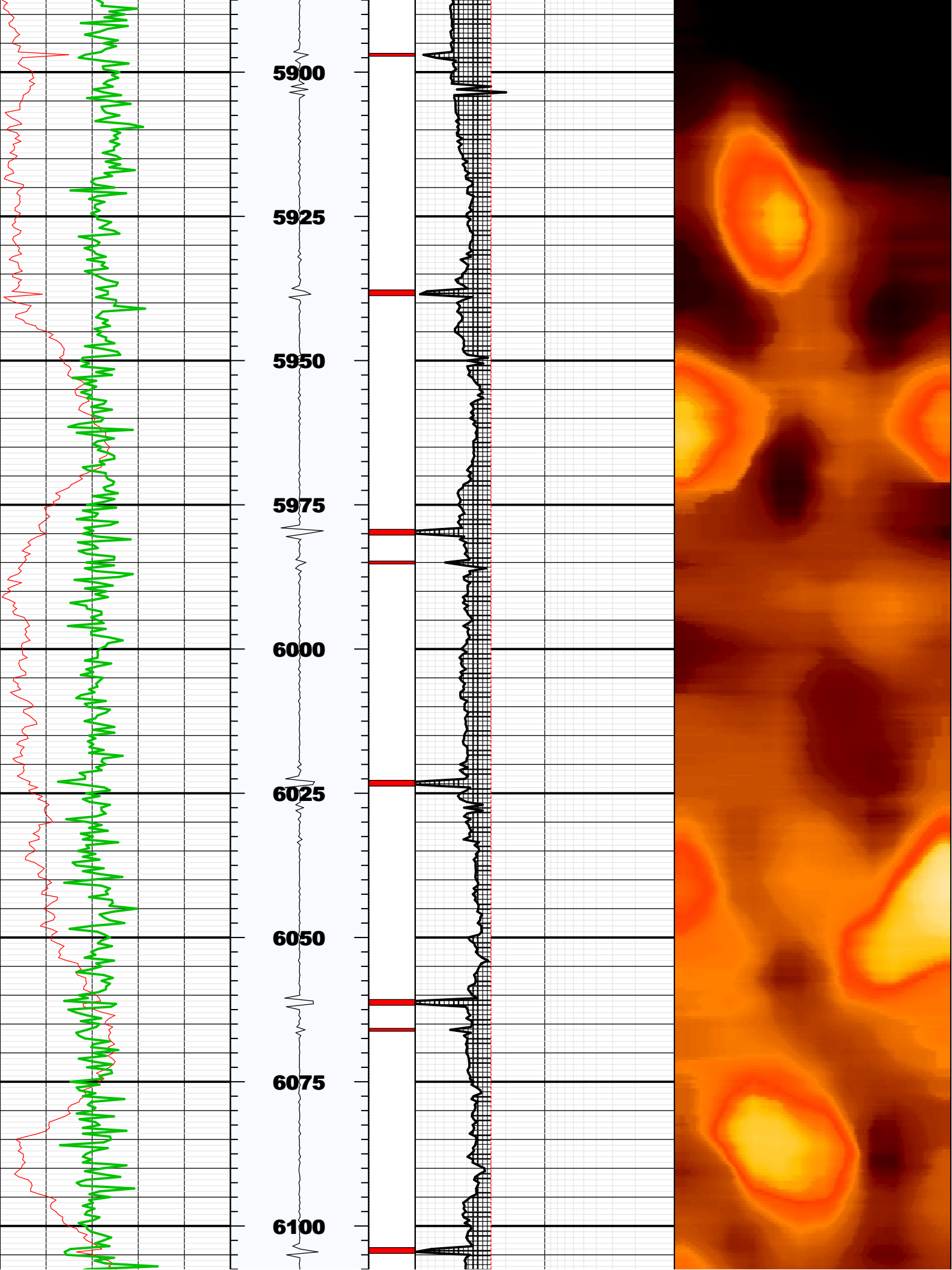


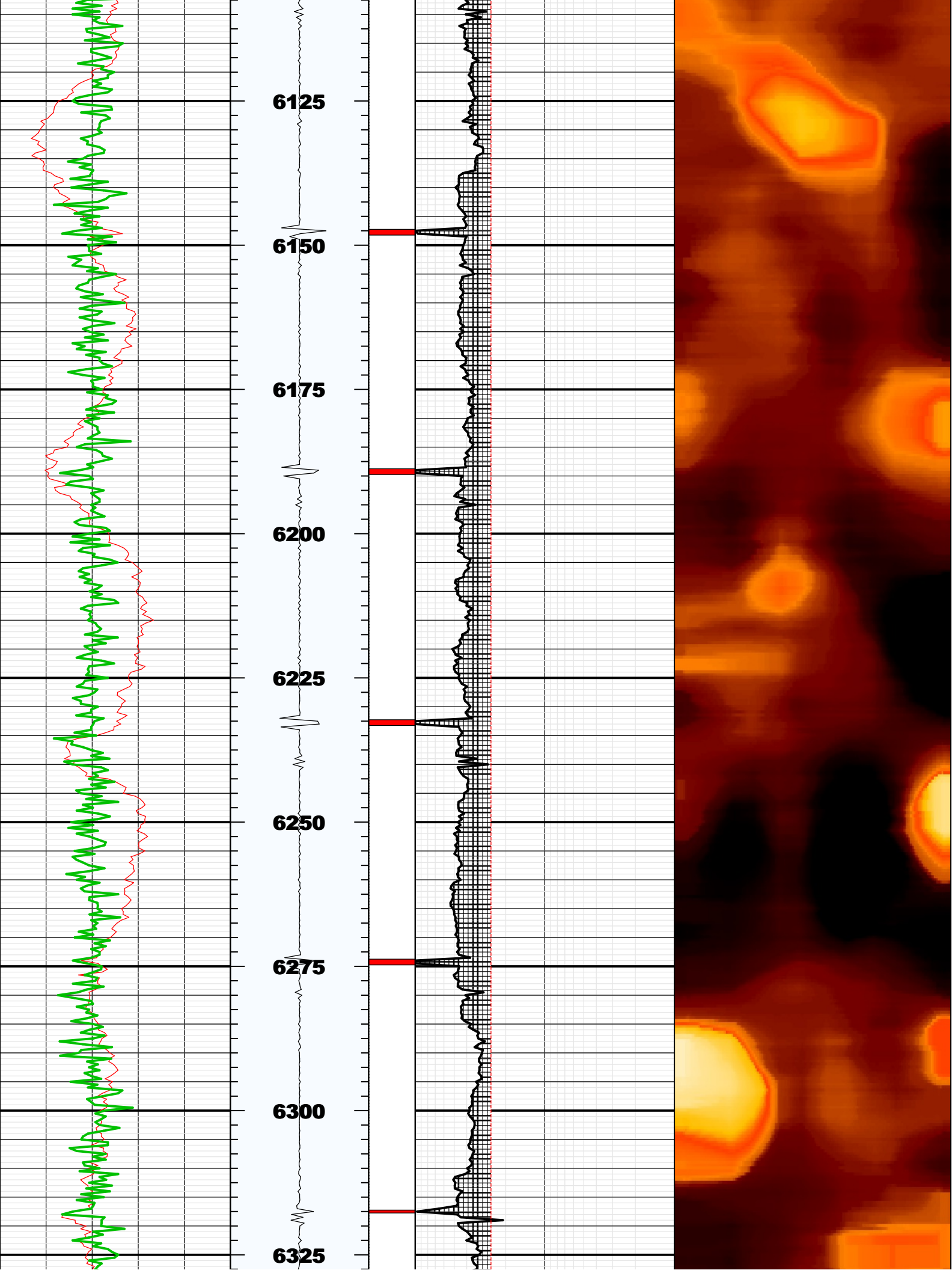


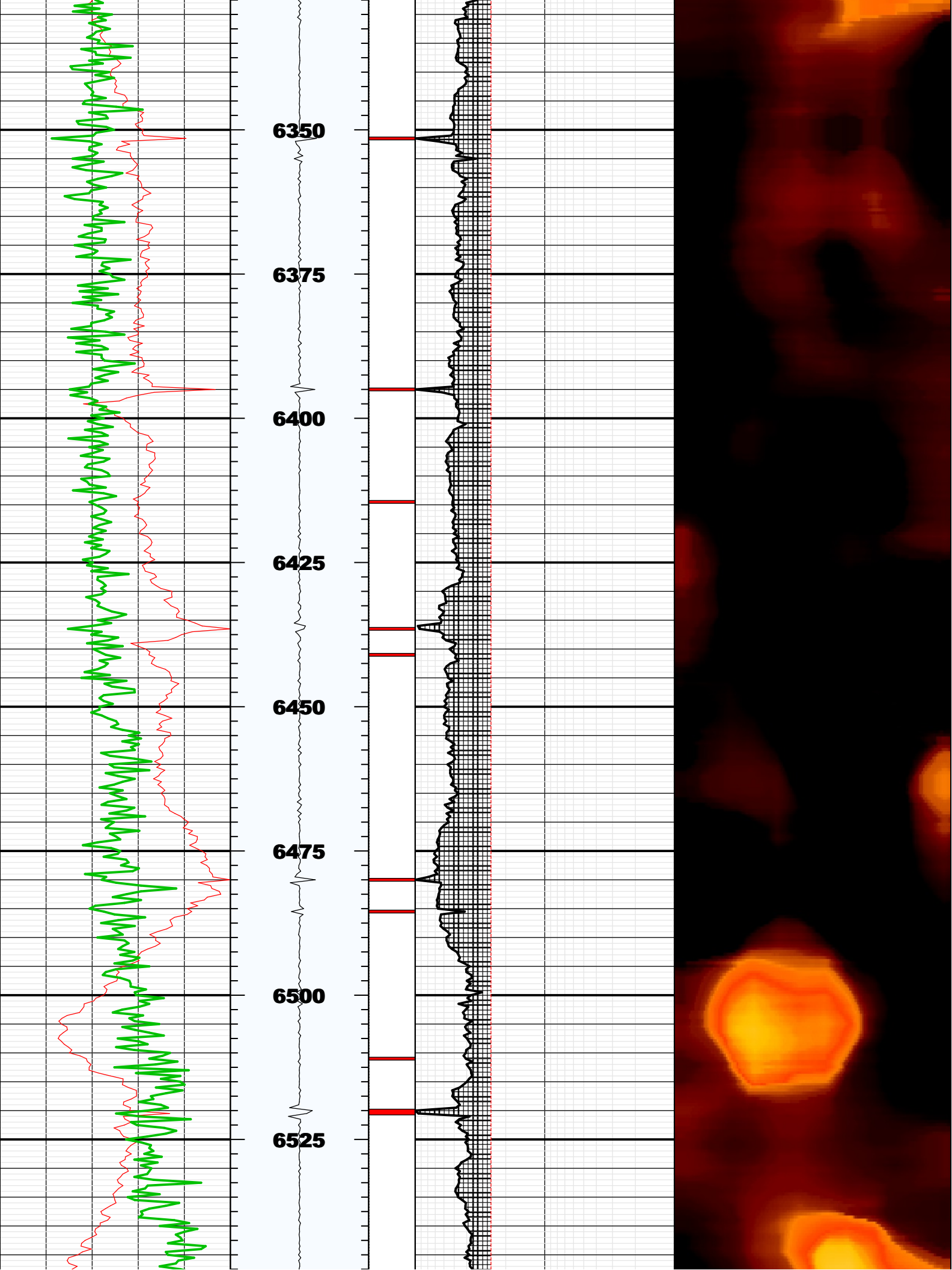


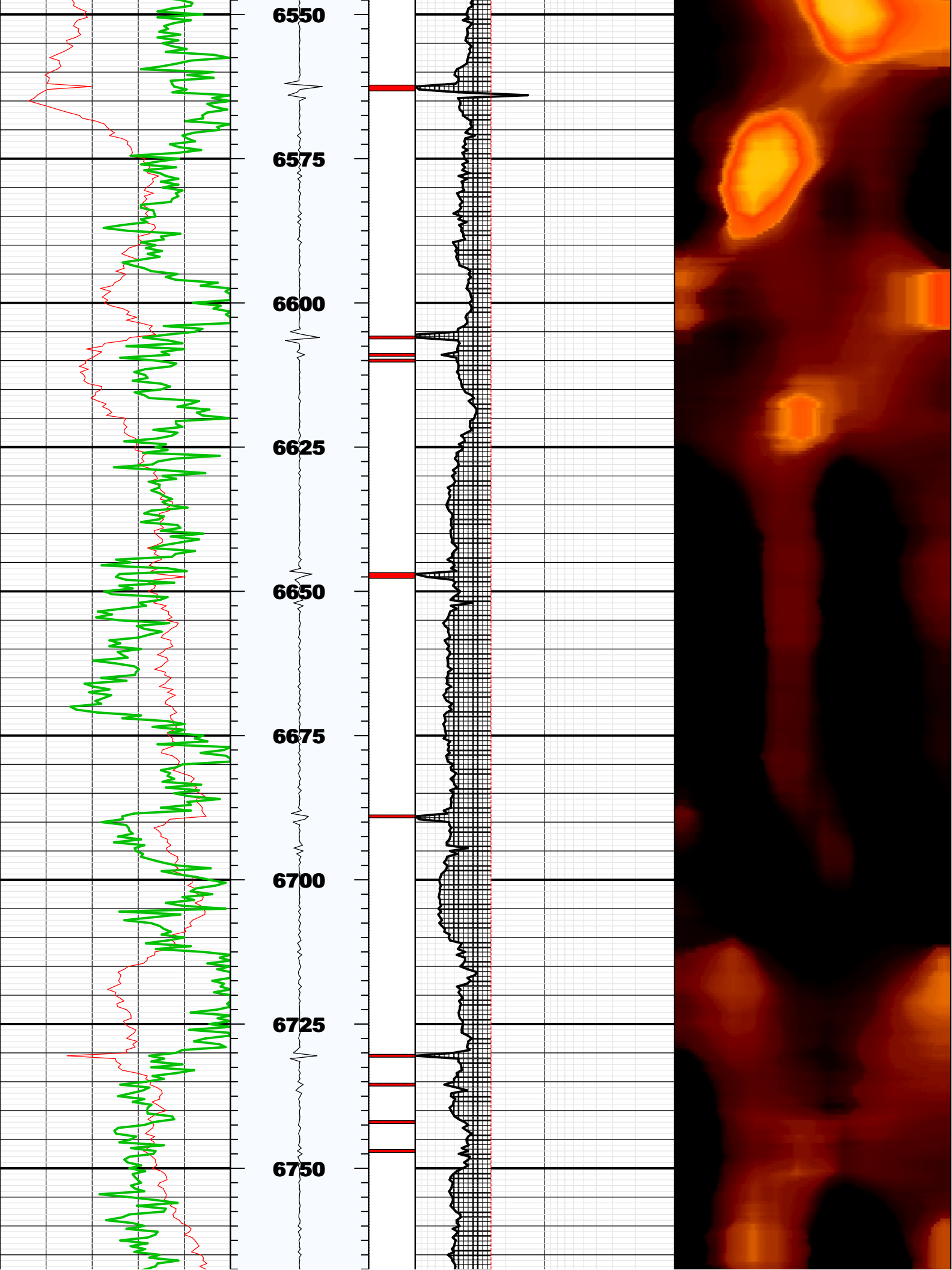




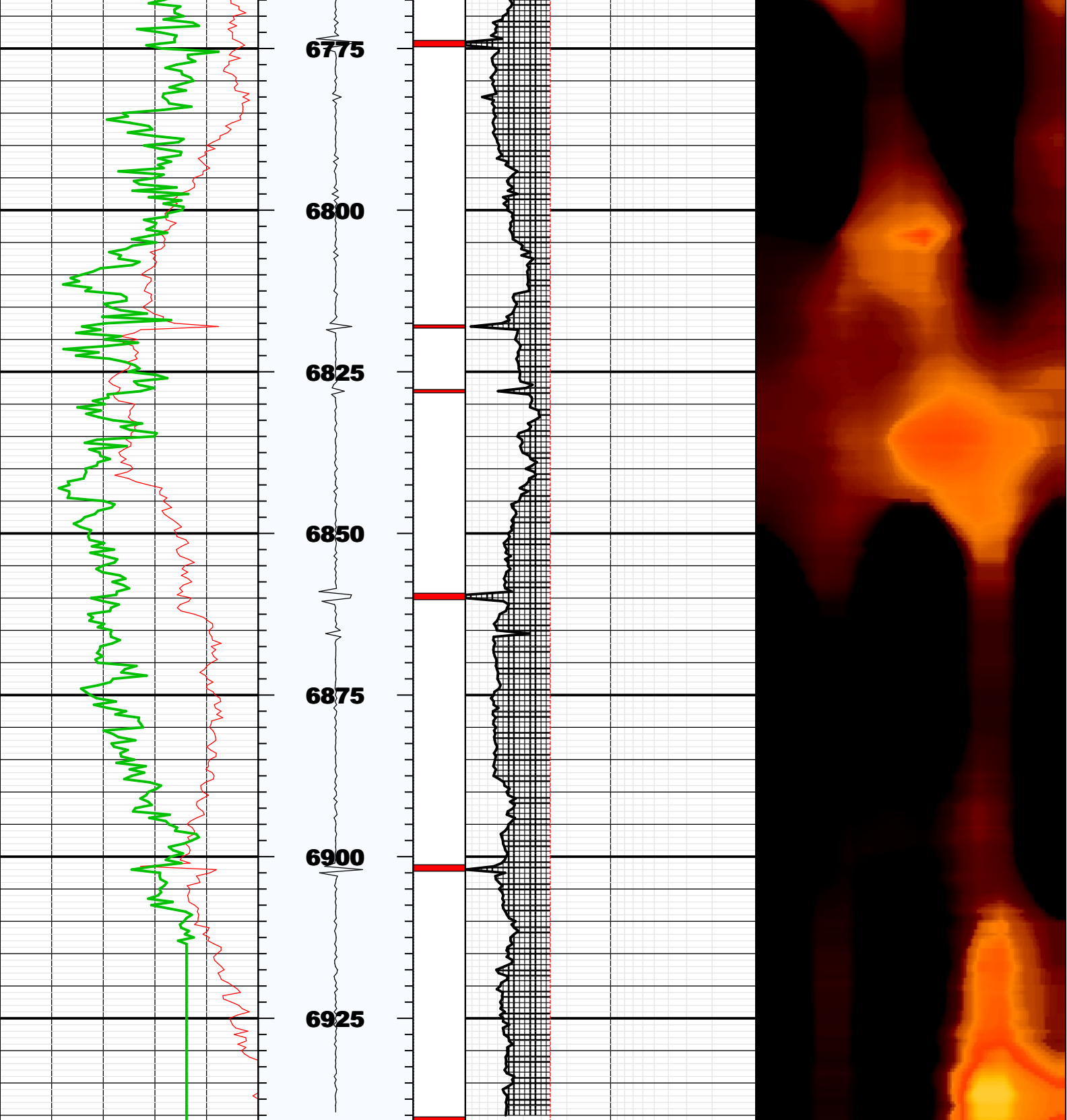












BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7		Casing Outer Diameter
CSID	6.276		Casing Inner Diameter
CSIZ	7		Current Casing Size
CWEI	26		Casing Weight
DFD	8.70000	LB/G	Drilling Fluid Density
DFVL	206		Default Fluid Velocity
DO			
DOT	2.87400	IN	
EMXV	97.00000	V	
FDII	0.00000	F	
FSOD	0_OFF		
LOGMODE			
PP			
STEP	0.5	F	STEP
THDH	130.00000	%	
THDL	70.00000	%	
THDP	Fundamental		Thickness Detection Policy
THNO	0.362		Nominal Thickness of Casing
TMUC	WRM		Type of Mud
U-USIT_DT3P			
UPAT	375K		
USUB	7INC		
UWKM	D603010L		
VCAS	51.40000	US/F	
WINB	26.79610	US	
WINE	84.39450	US	
ZCAS	46.25000	MRAY	
ZINI	-1.00000	MRAY	
ZMUD	1.78		Acoustic Impedance of Mud
ZTCM	2.60000	MRAY	
ZTGS	0.30000	MRAY	
WLEN	22.50350	US	

## Fluid Properties Used for Main Pass

