

Company: NOBLE ENERGY INC.

Well: Wells Ranch AE32-620
Field: WATTENBERG
County: WELD
State: COLORADO

County: WELD			
Field: WATTENBERG			
Location: 615' FSL & 650' FWL			
Well: Wells Ranch AE32-620			
Company: NOBLE ENERGY INC.			
USI-LITE	LOCATION		
	Permanent Datum: Log Measured From: Drilling Measured From:		
	GL KB KB		
	Elev: K.B. 4743.0 F G.L. 4719.0 F D.F. 4743.0 F		
	API Serial No. 05-123-41785		
	Section 32		
	Township 6N		
	Range 62W		
	Logging Date 29-Oct-2015		
	Run Number One		
Depth Driller 7024.0 F			
Schlumberger Depth 7024.0 F			
Bottom Log Interval 6811.0 F			
Top Log Interval -999.2 F			
Casing Fluid Level 0.0 F			
Salinity			
Density 8.70 LB/G			
Fluid Level 0.0 F			
BIT/CASING/TUBING STRING			
Bit Size 8.750 IN			
From -999.2 F			
To 7024.0 F			
Casing Size 7.00 IN			
Weight 26.00 LB/F			
Grade P110			
From 0.0 F			
To 7014.6 F			
Max Recorded Temp 185.0			
Logger on bottom (date) 29-Oct-2015			
Location FORT MORGAN CO			
Recorded By S. Williams/B. Carson			
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: 147 Calibration Date: Calibrator Serial Number: Number Of Calibration Points: Calibration RMS: Calibration Peak Error:	Serial Number: Length: 12000.00000

DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY 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) RESTRICTIIONS ON USE OF THE RECORDED-DATA (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF ANR RELIANCE UPN THE RECORDED-DATA; AND (c)CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISIONS MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA

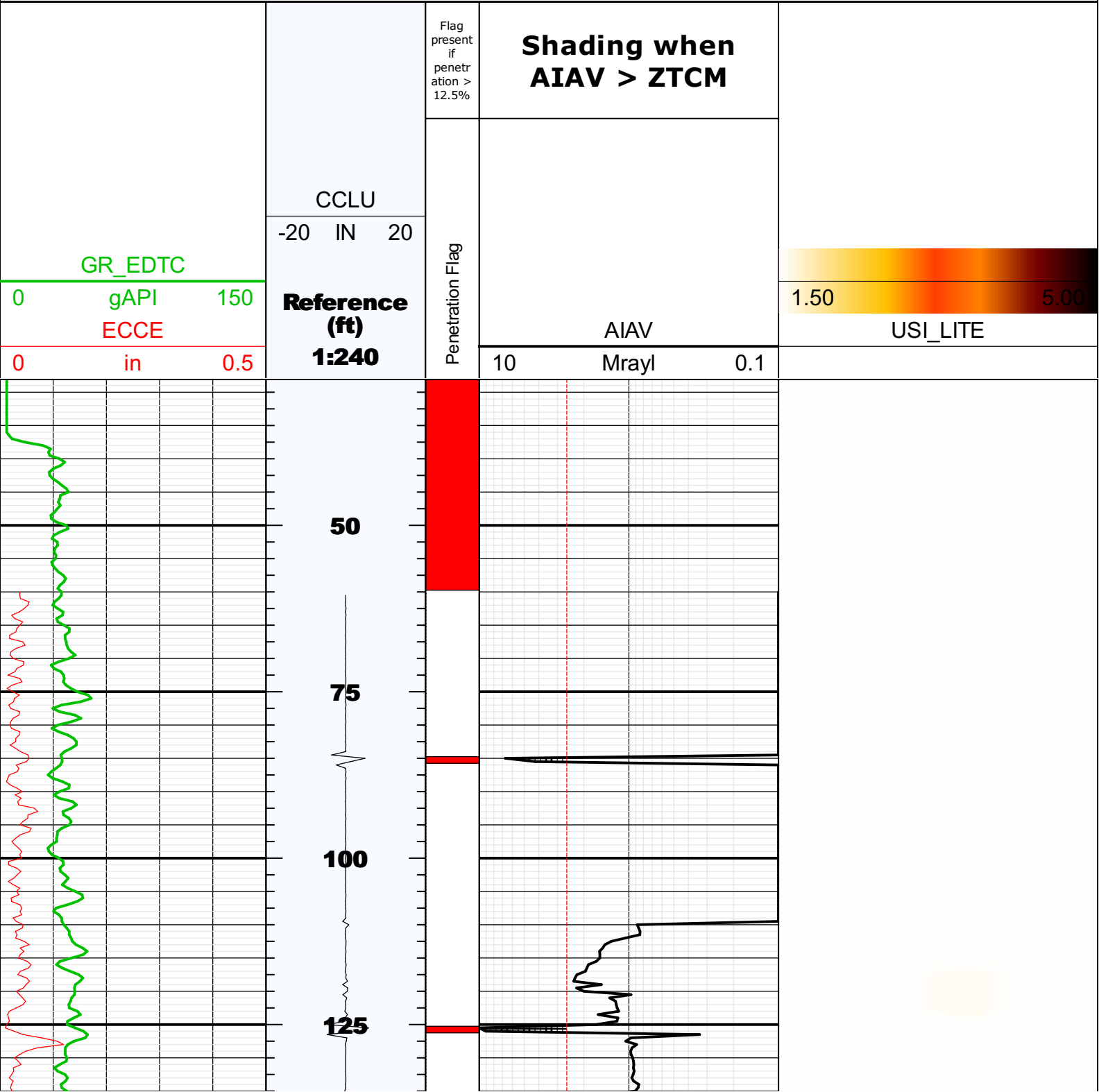
Tool run as shown in tool sketch.

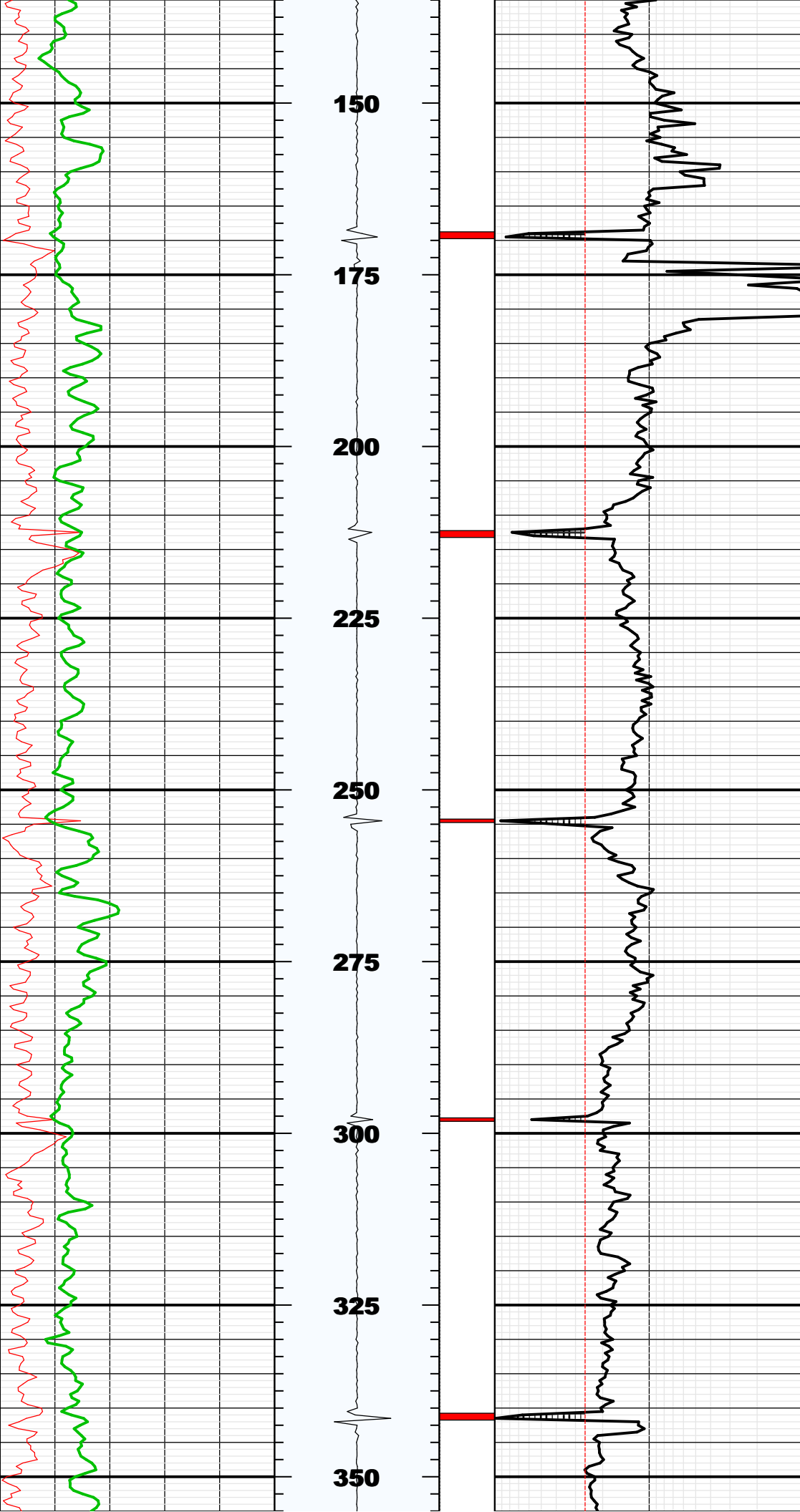
Crew Ben Marmon Ben Carson Gary Lapp Sneh Williams

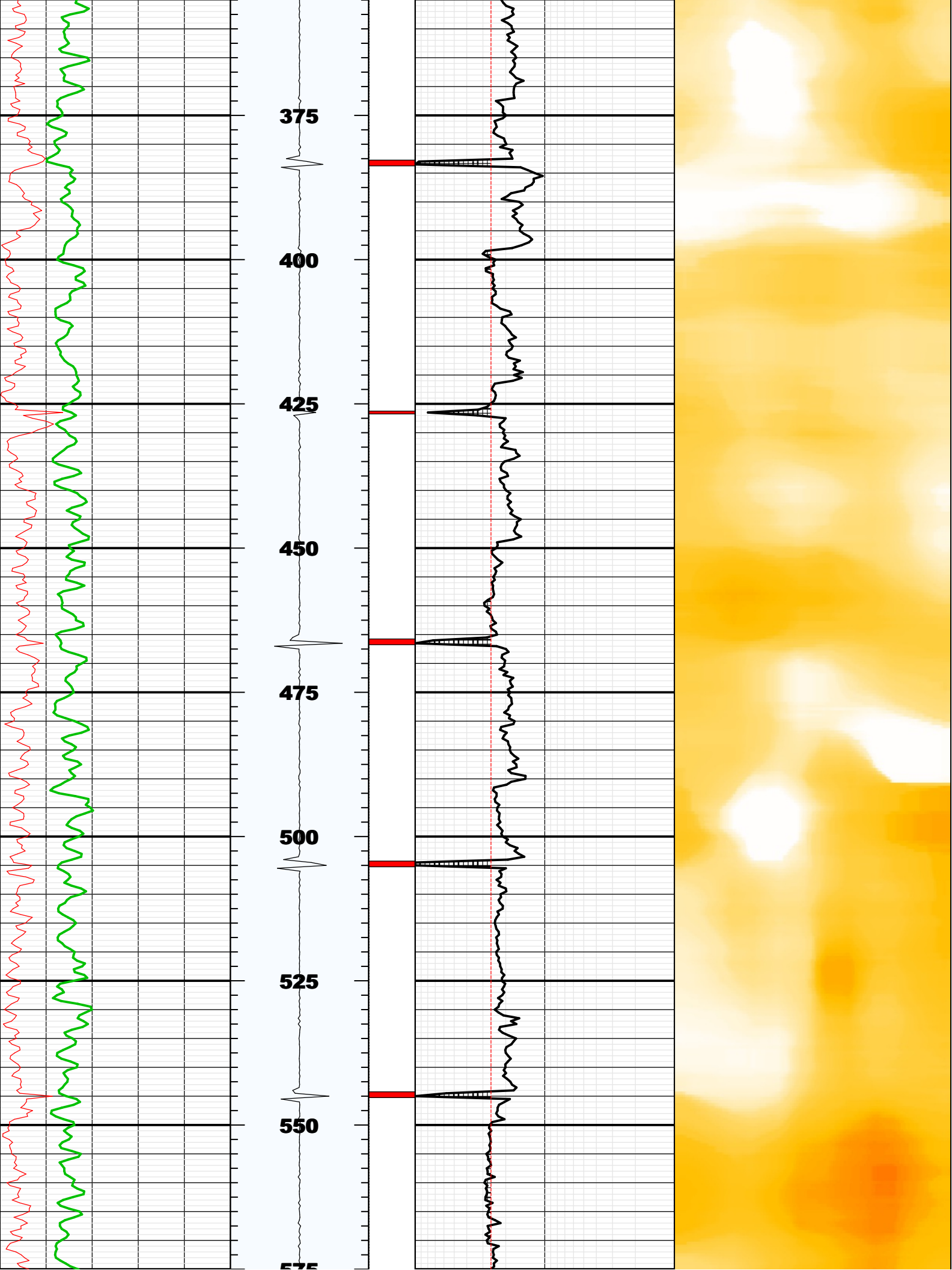
Logged using remote ops engineer Sneh Williams.

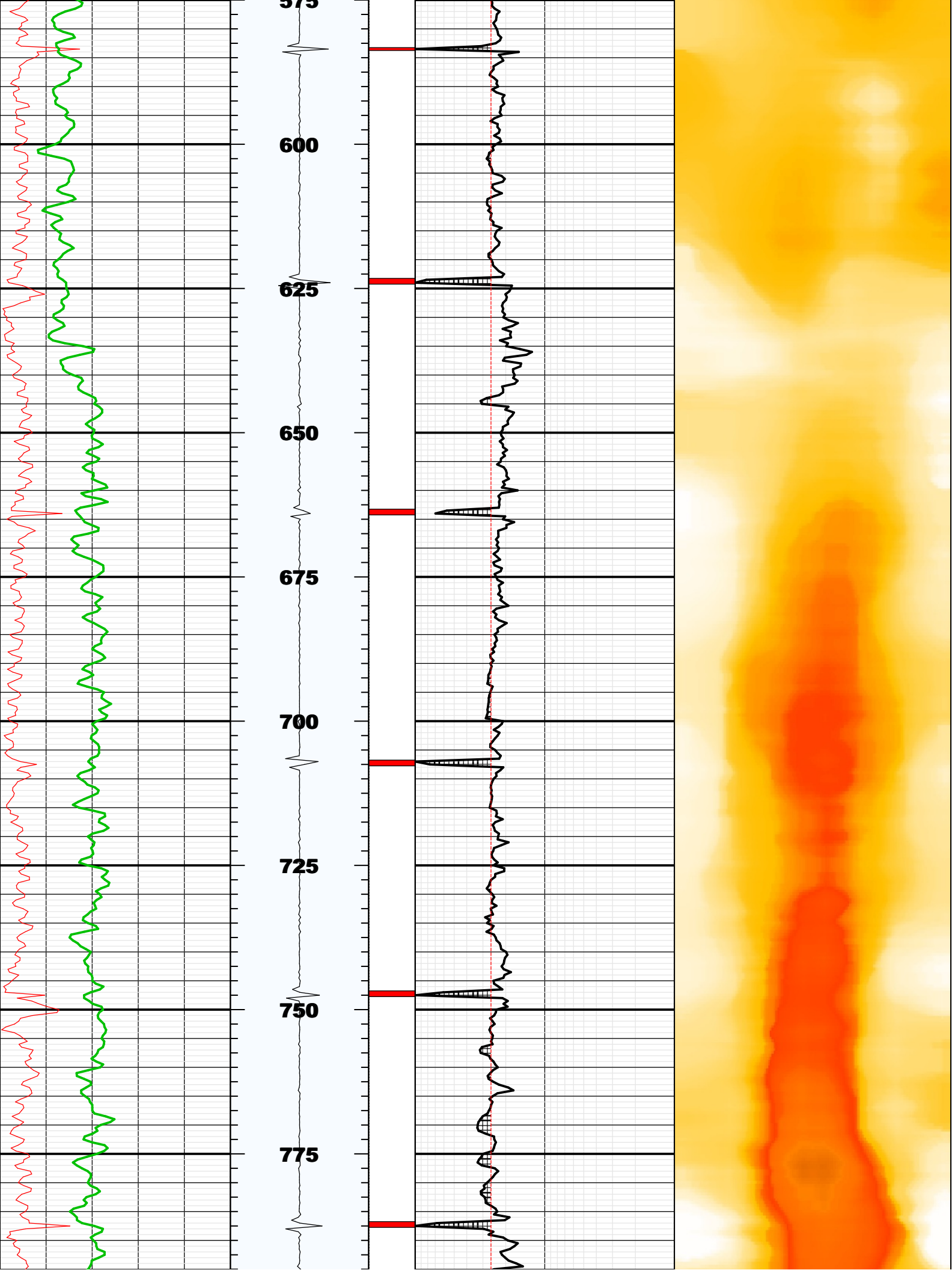
Main Pass

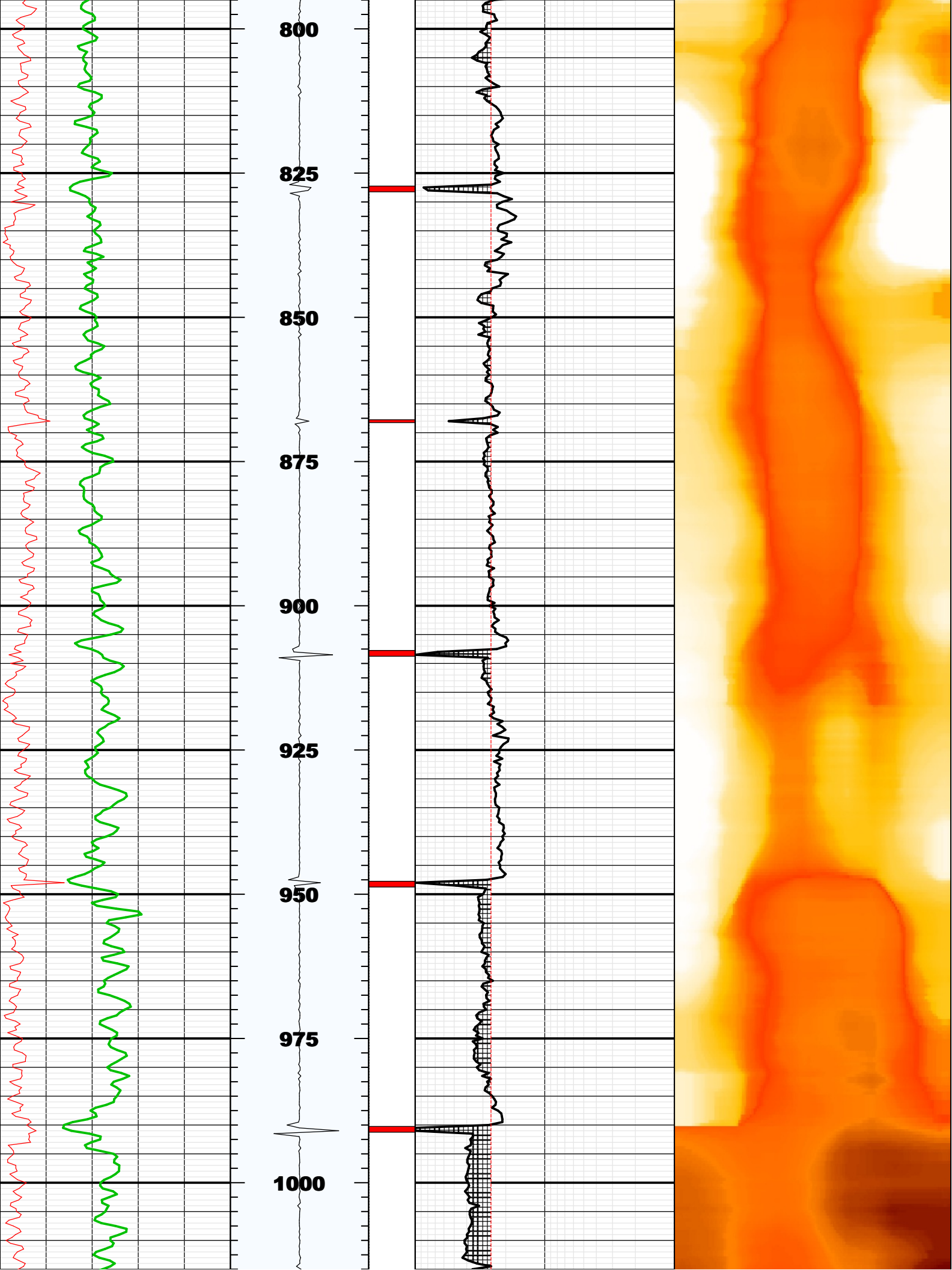
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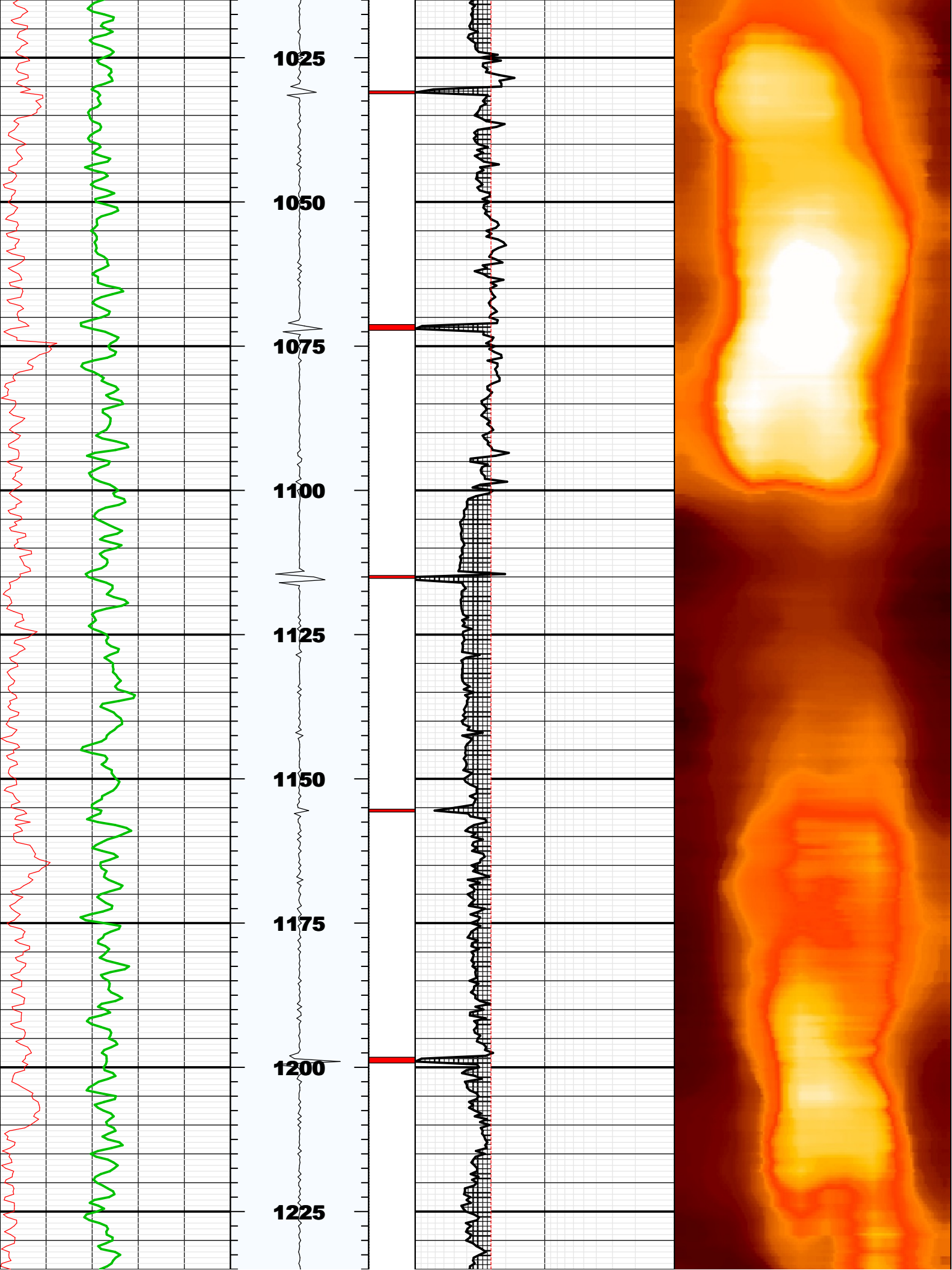


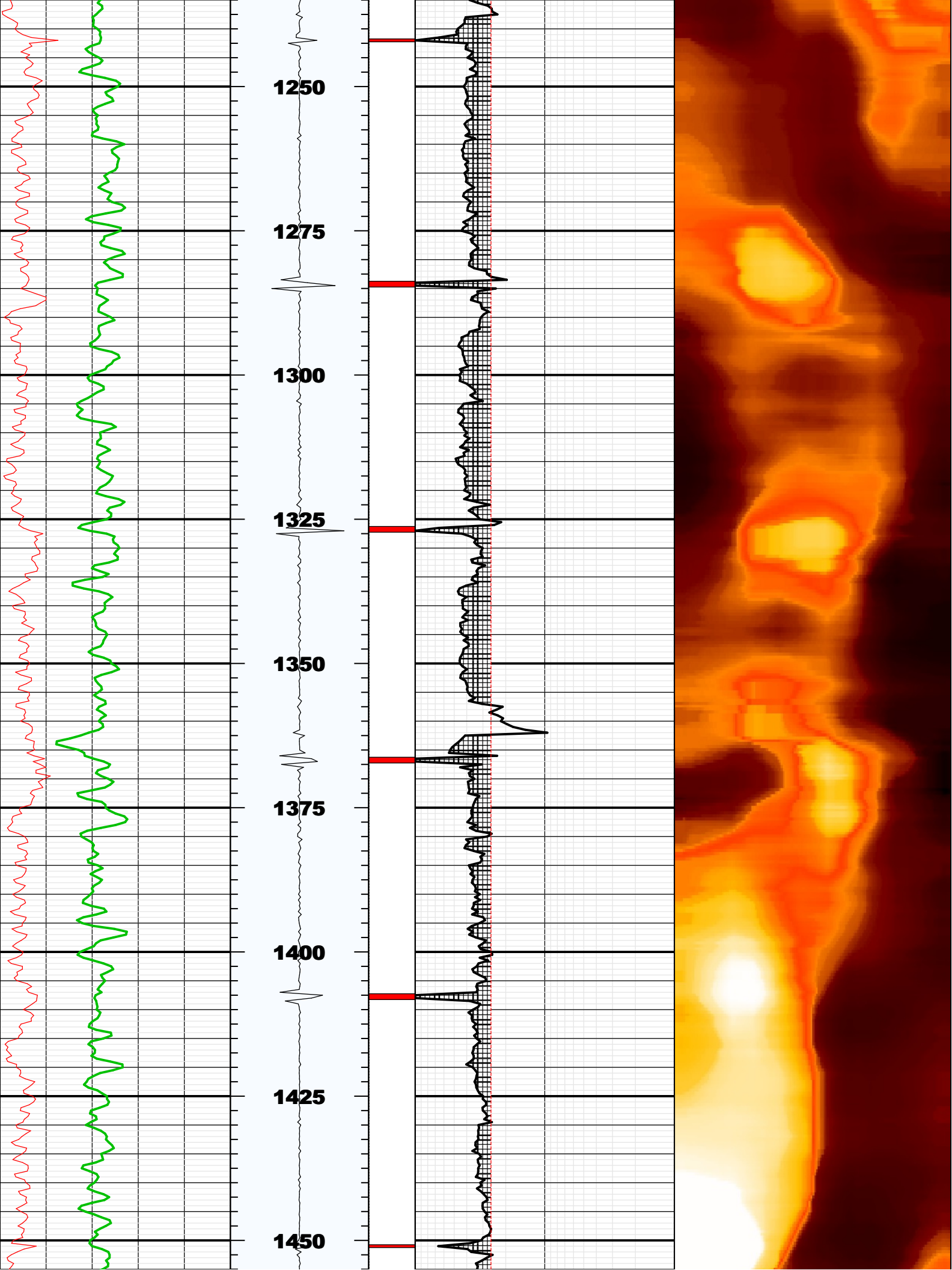


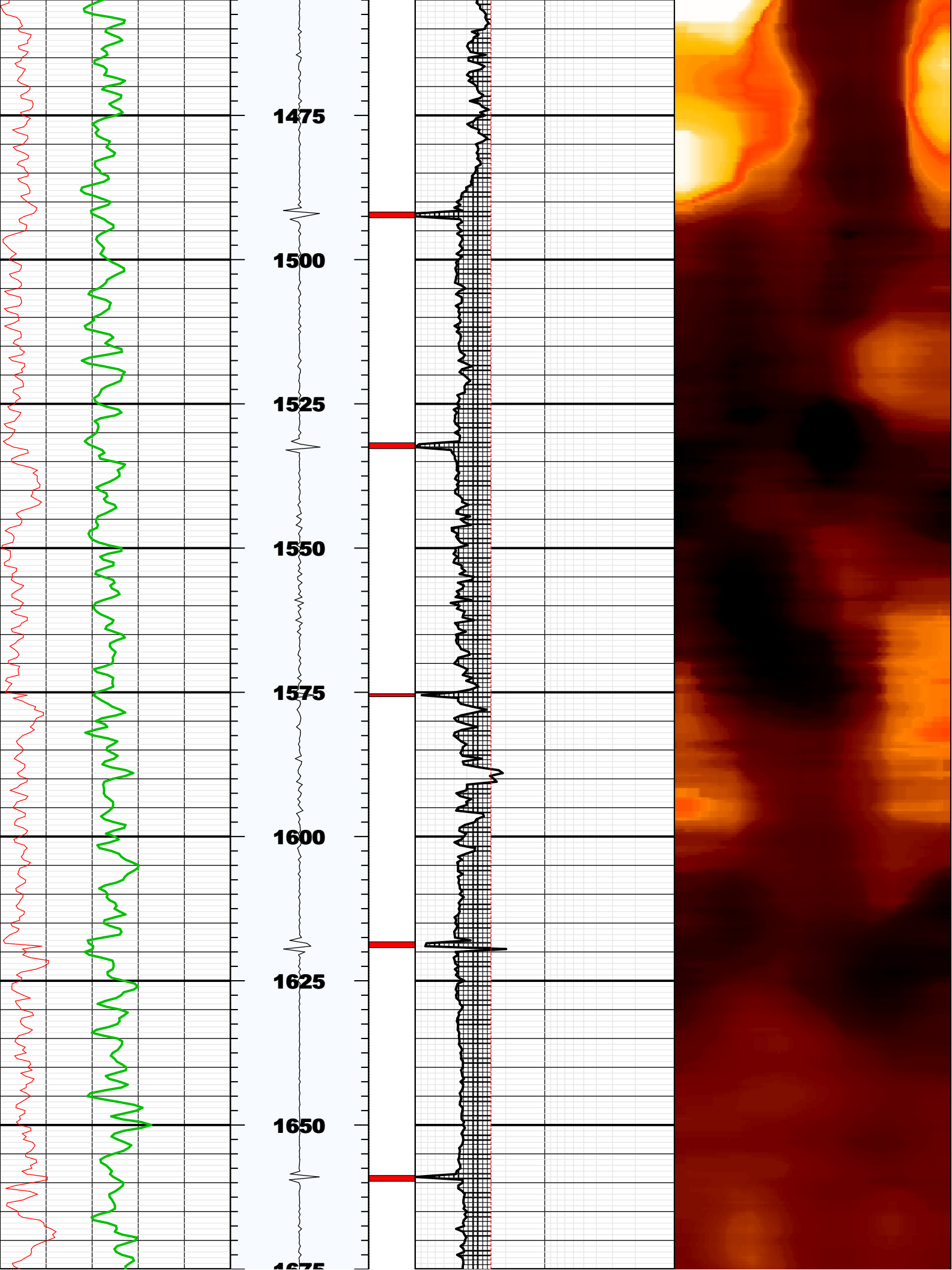


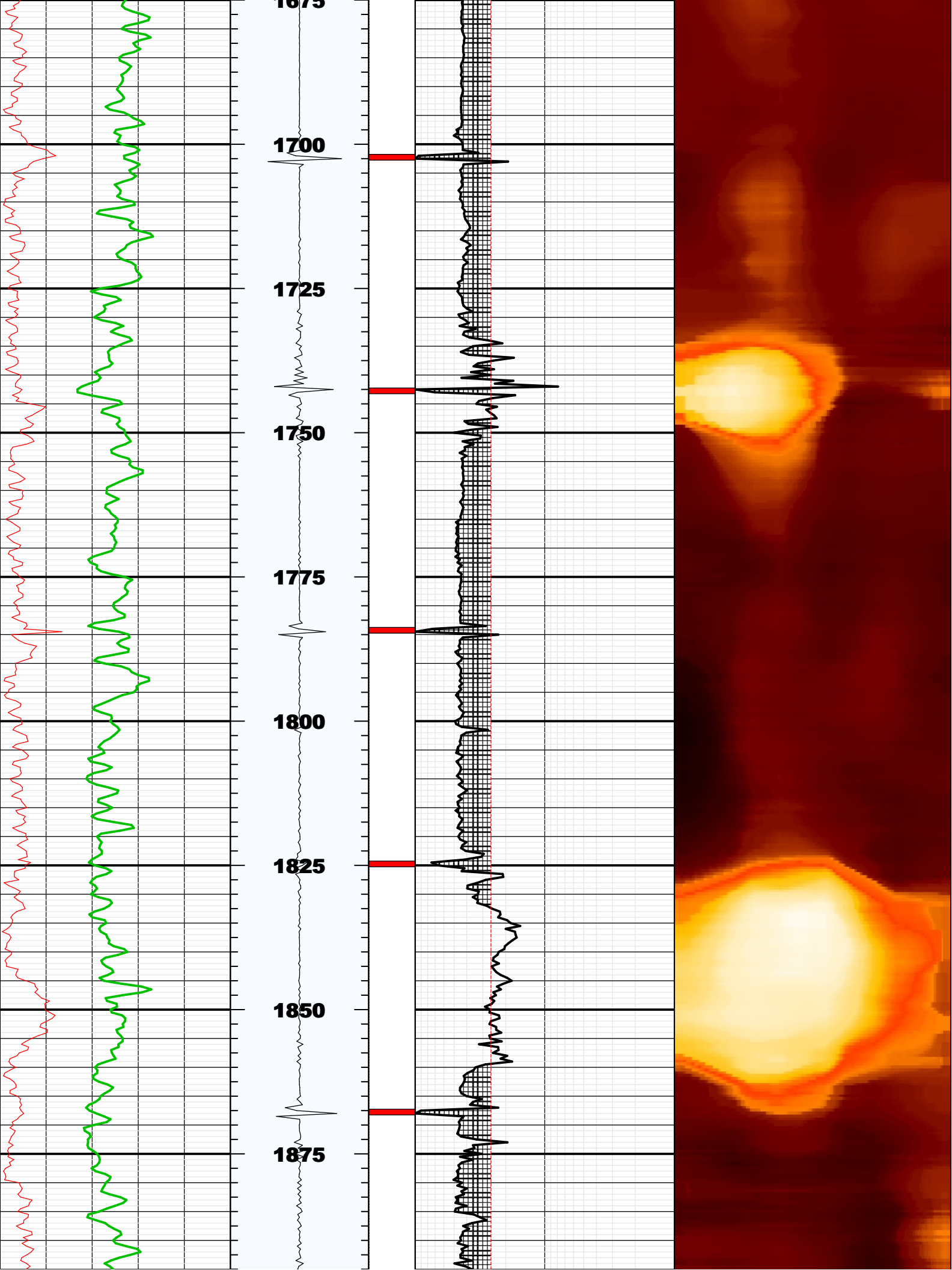


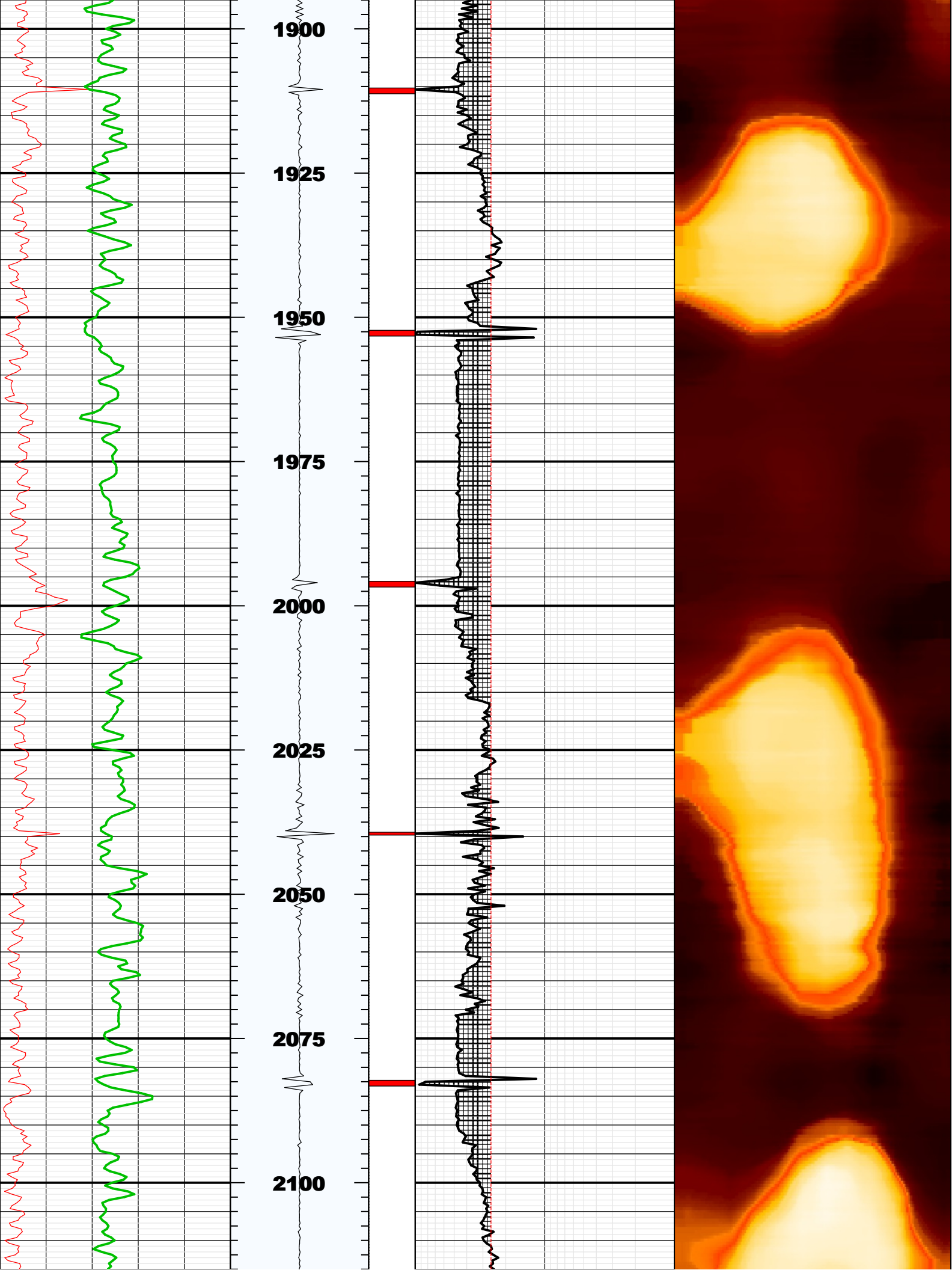


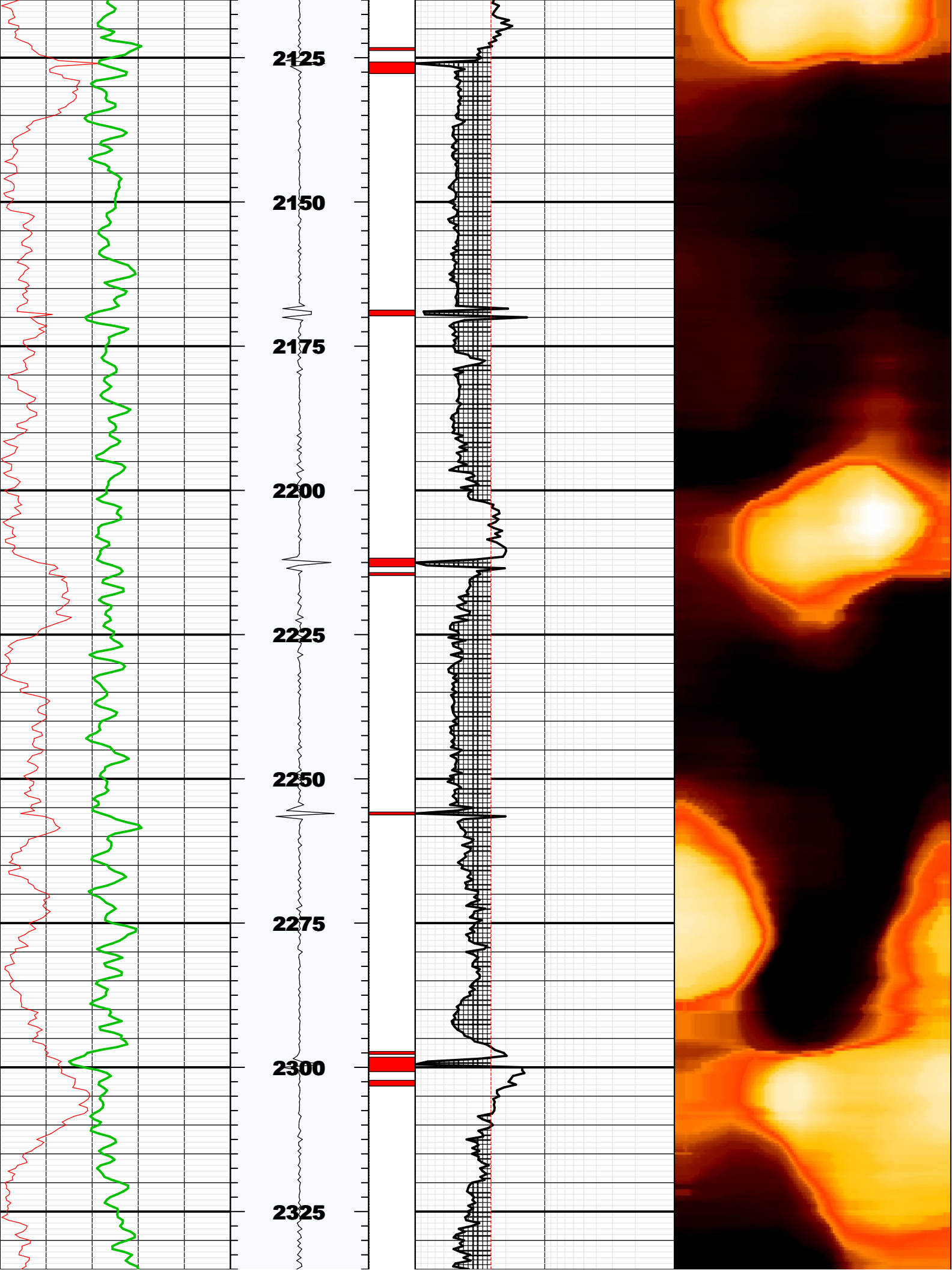


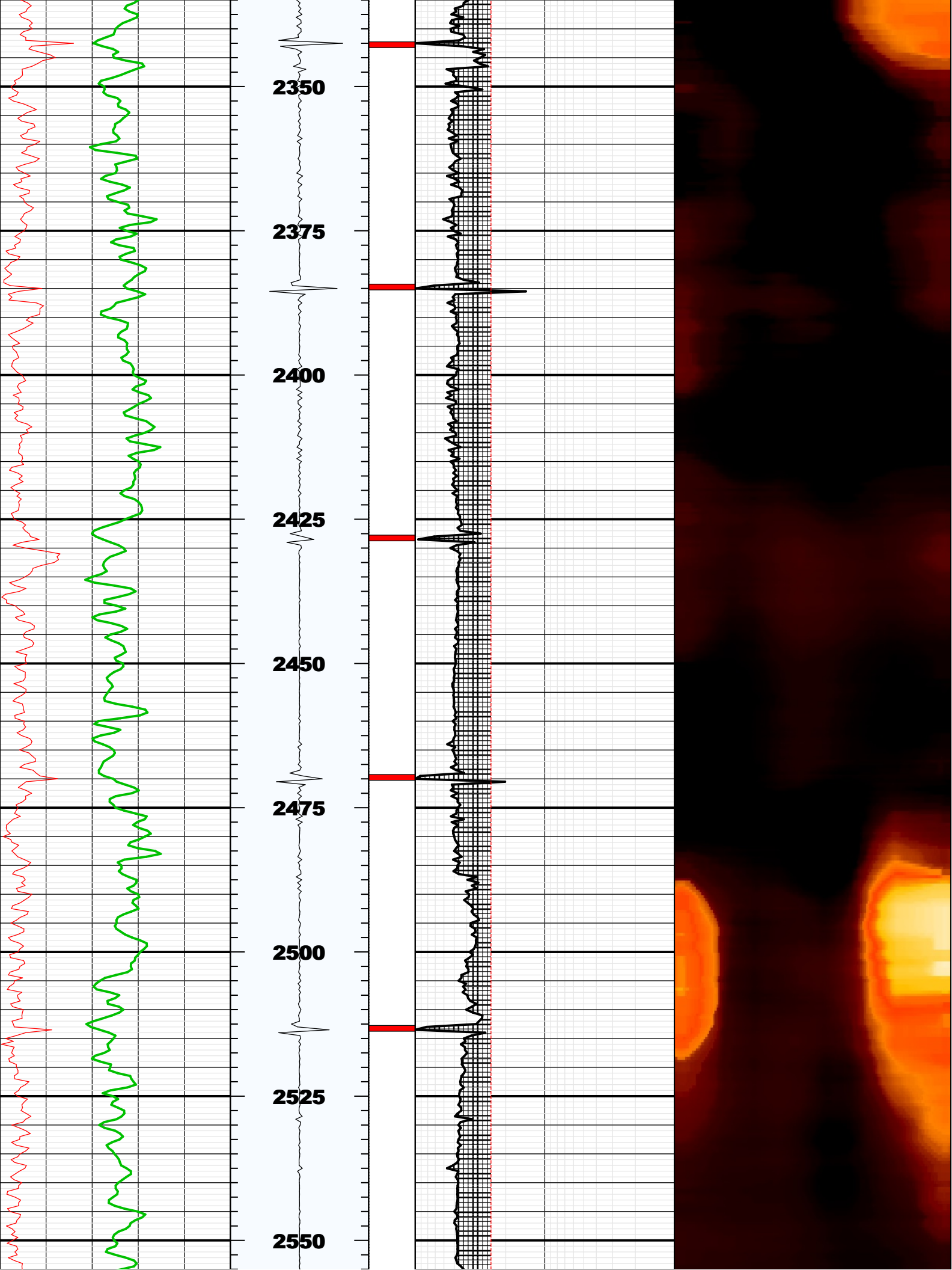


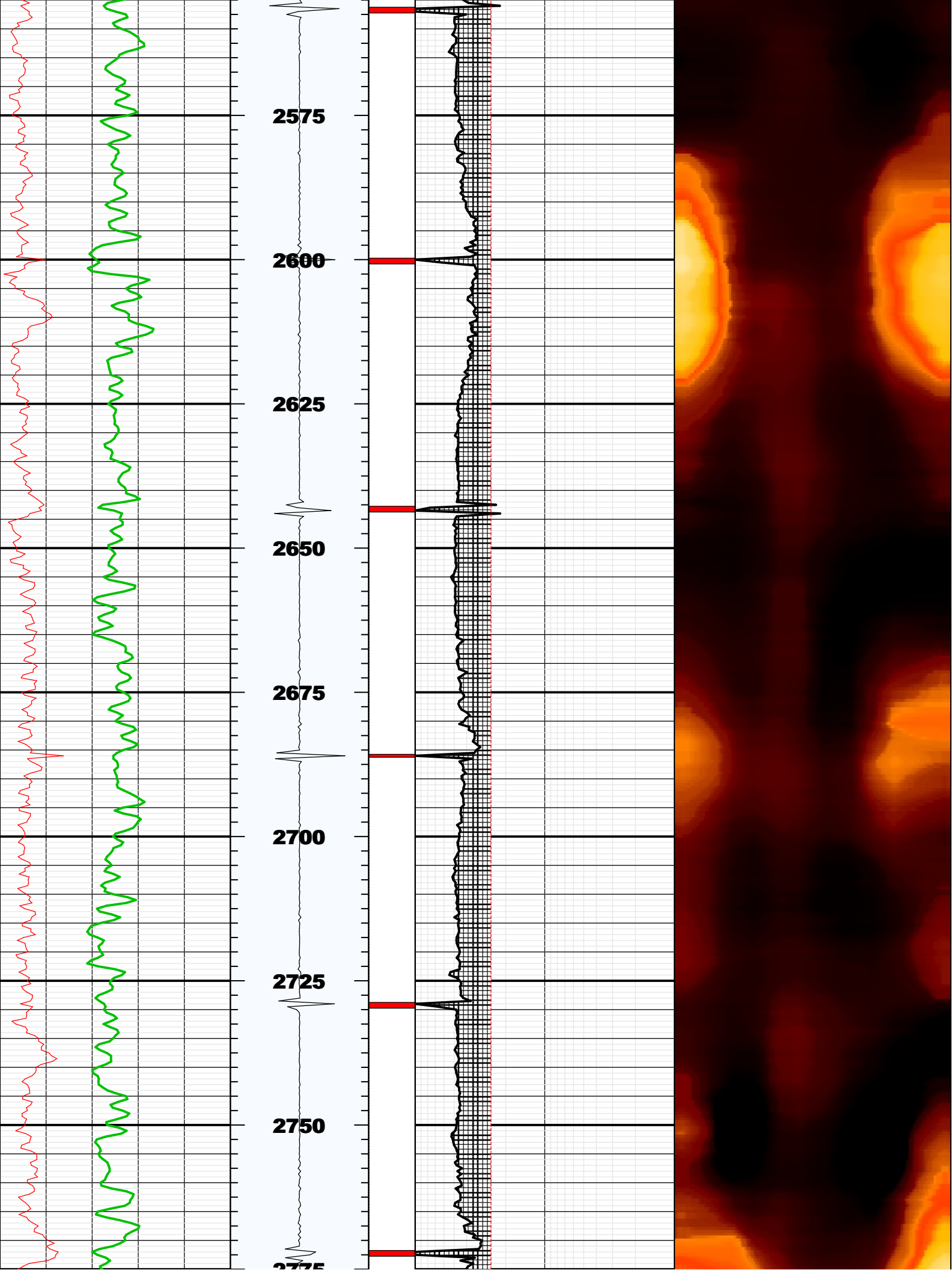


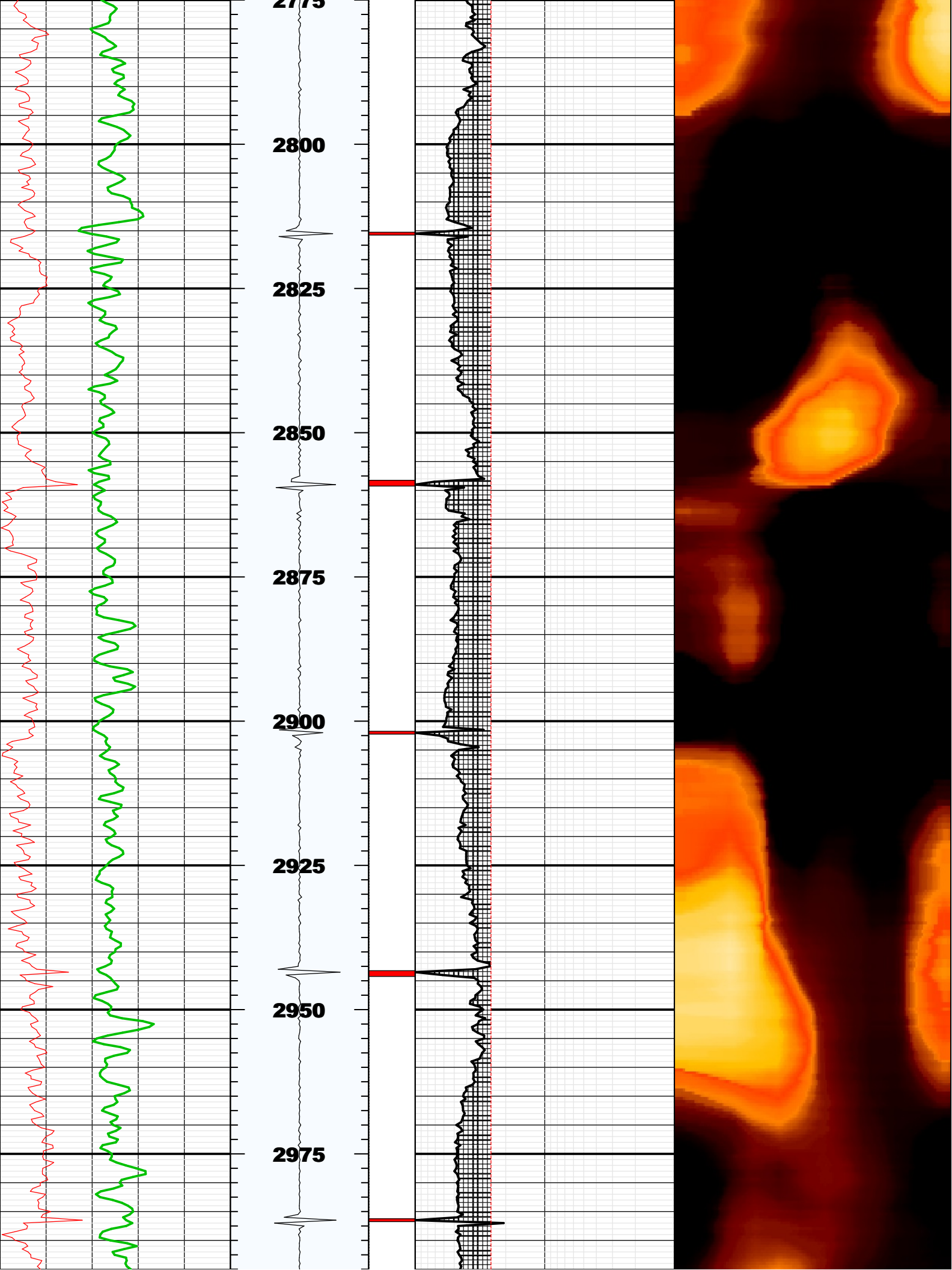


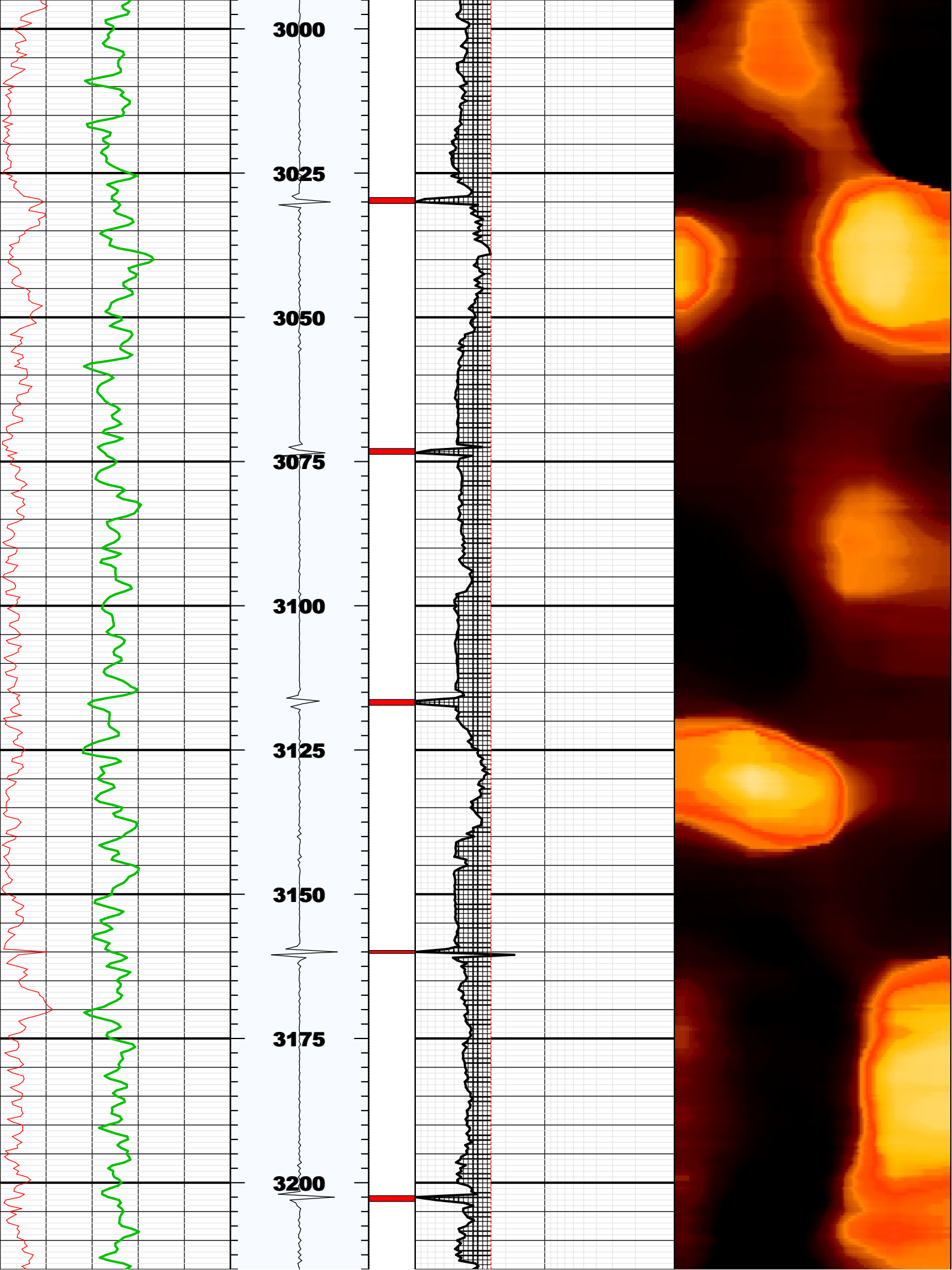


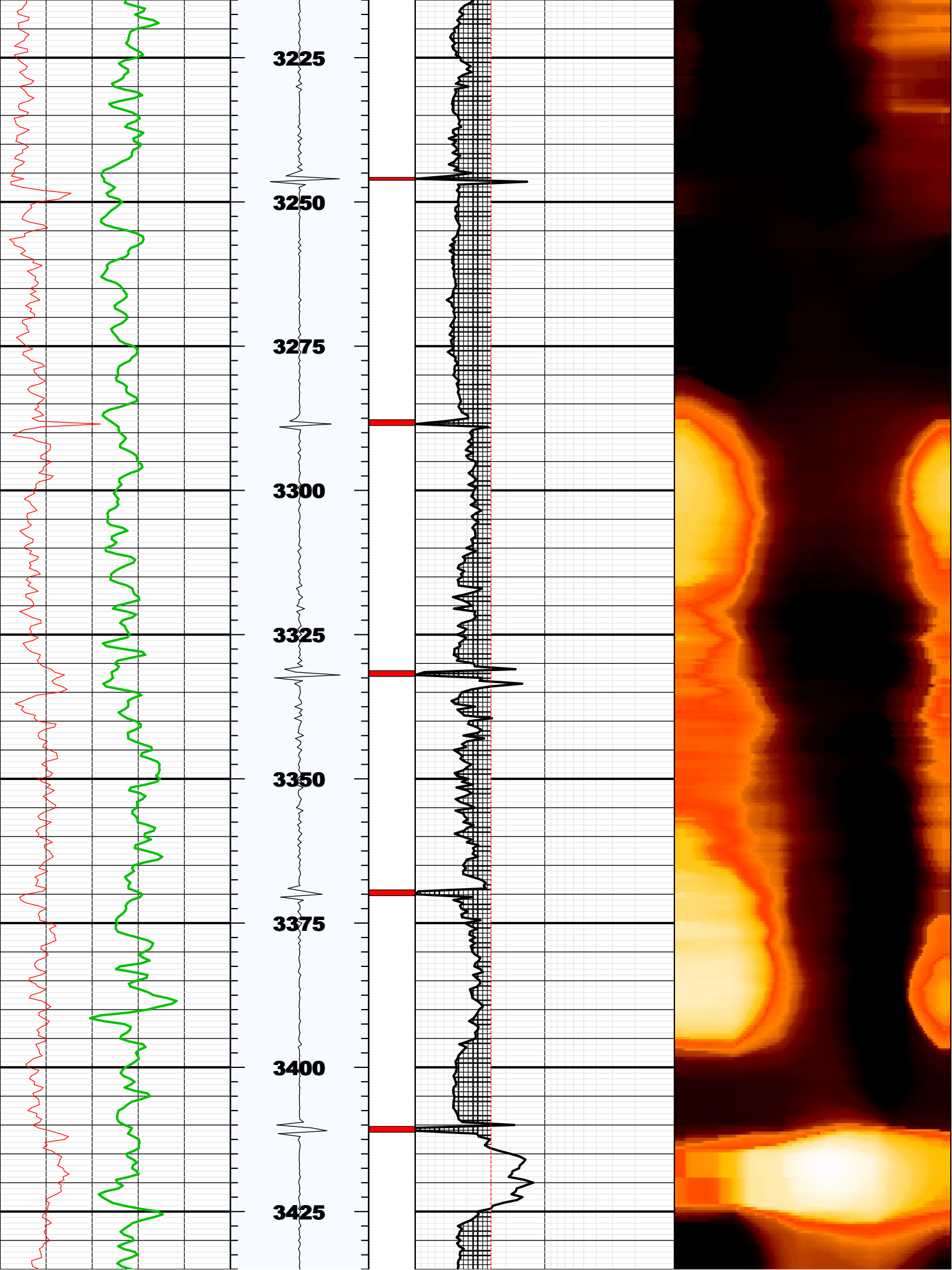


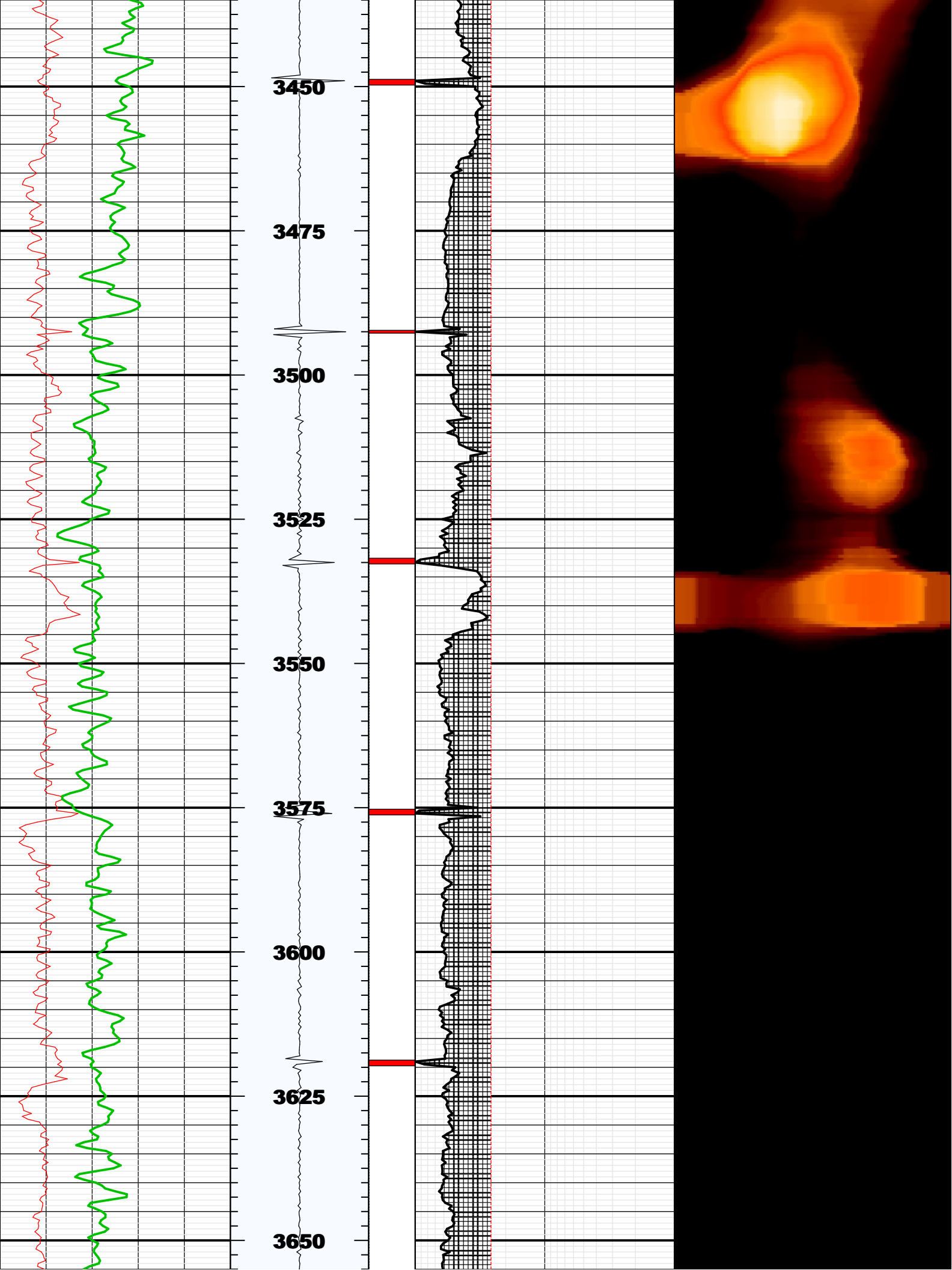


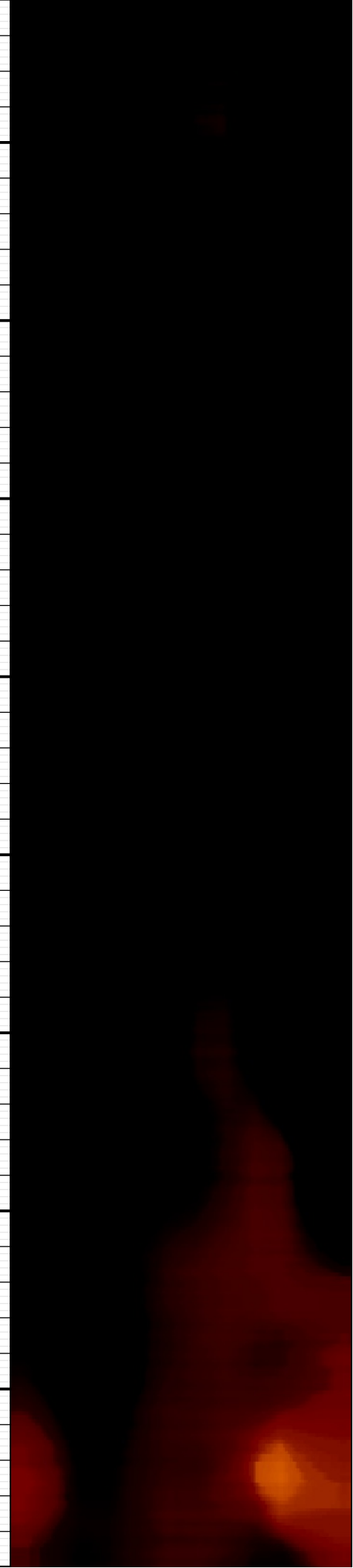
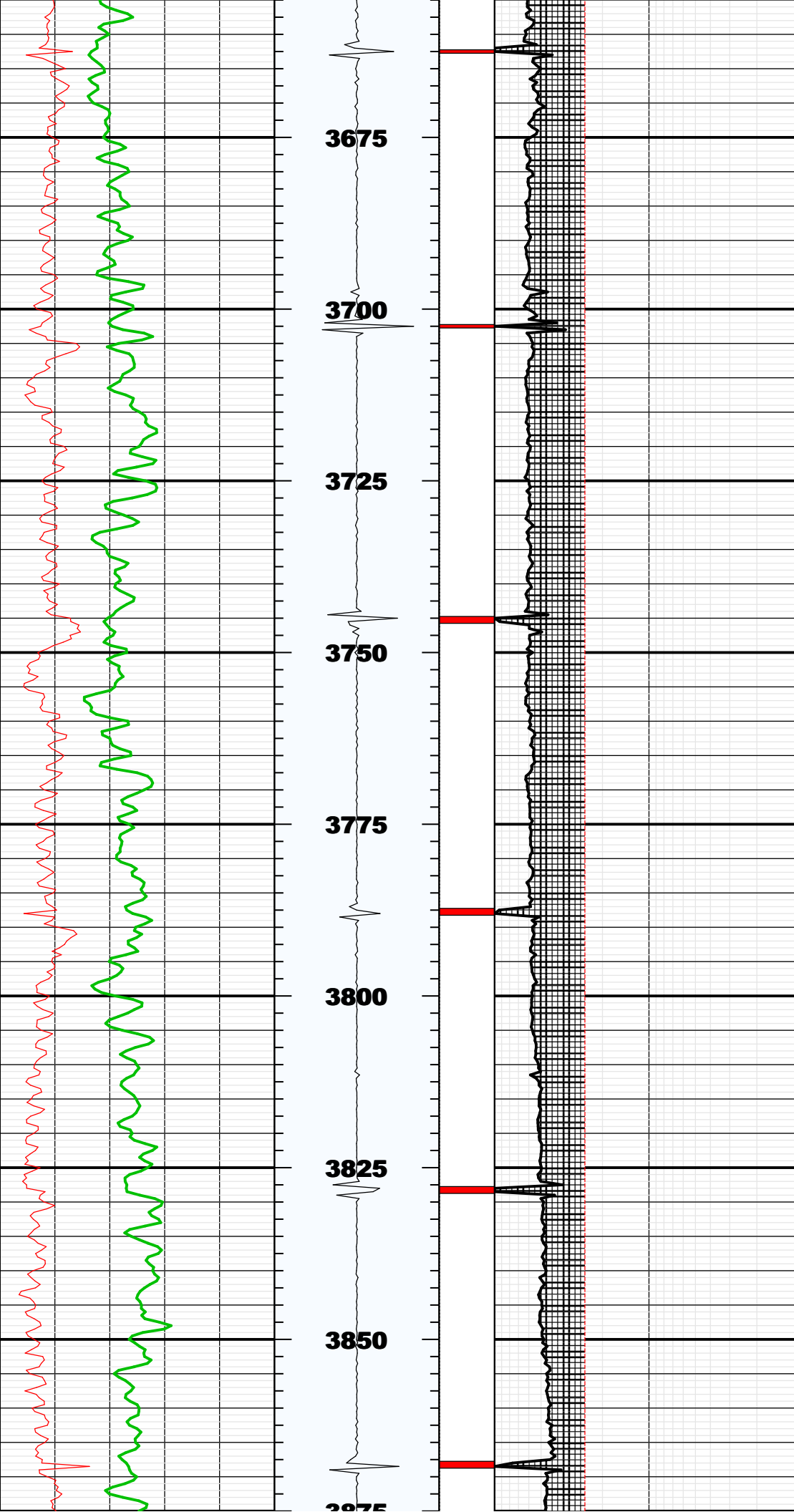


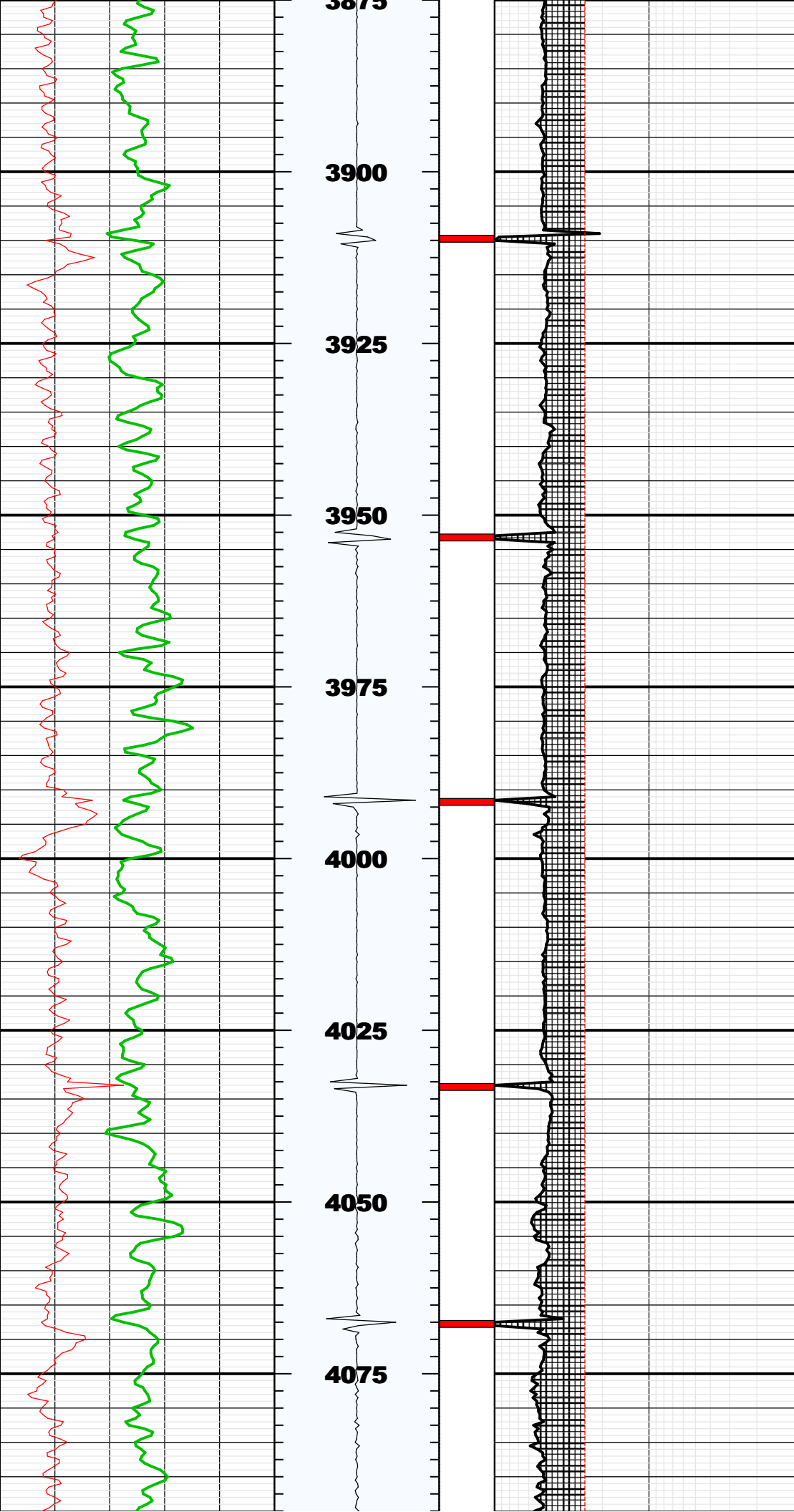


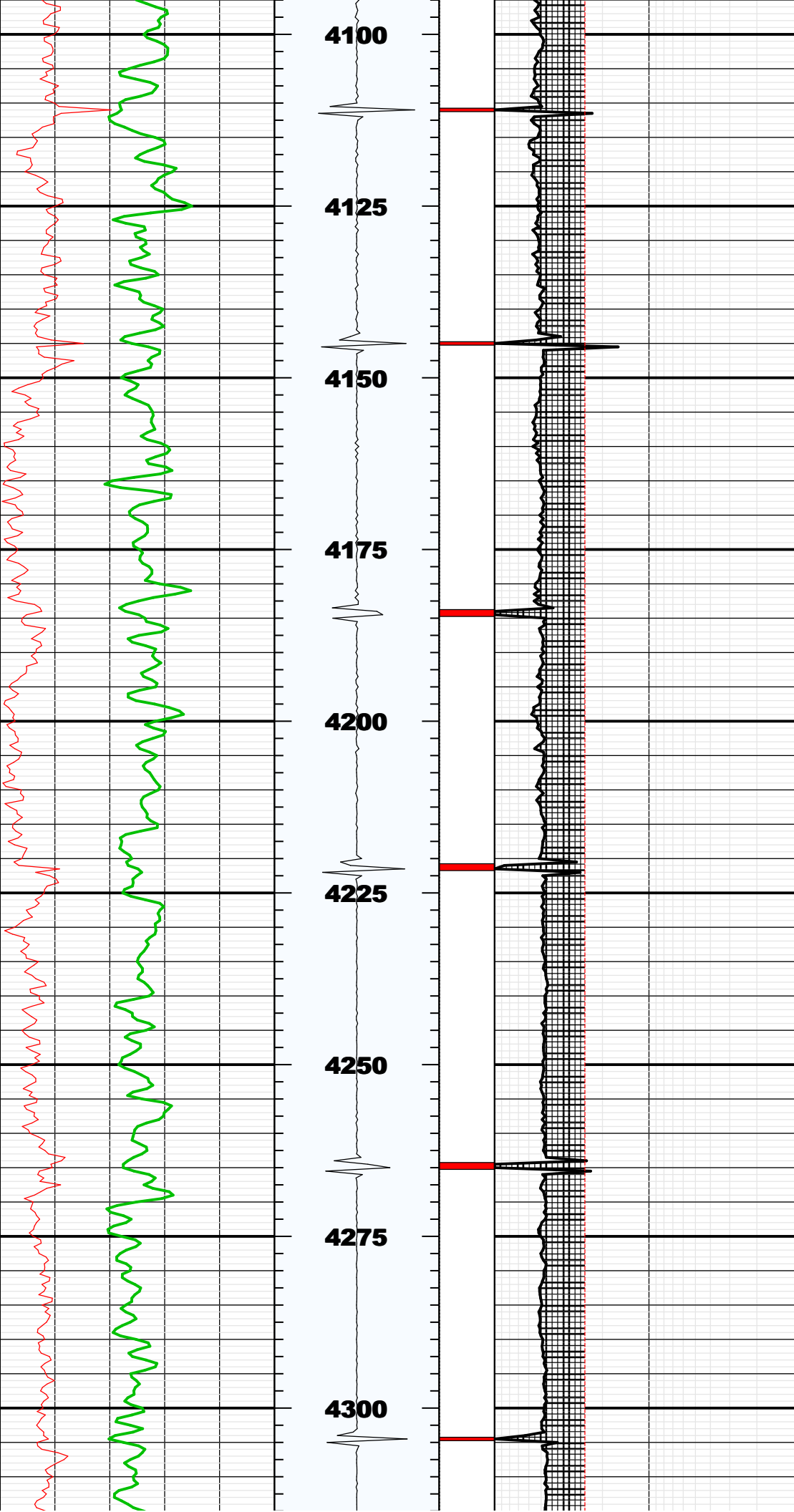


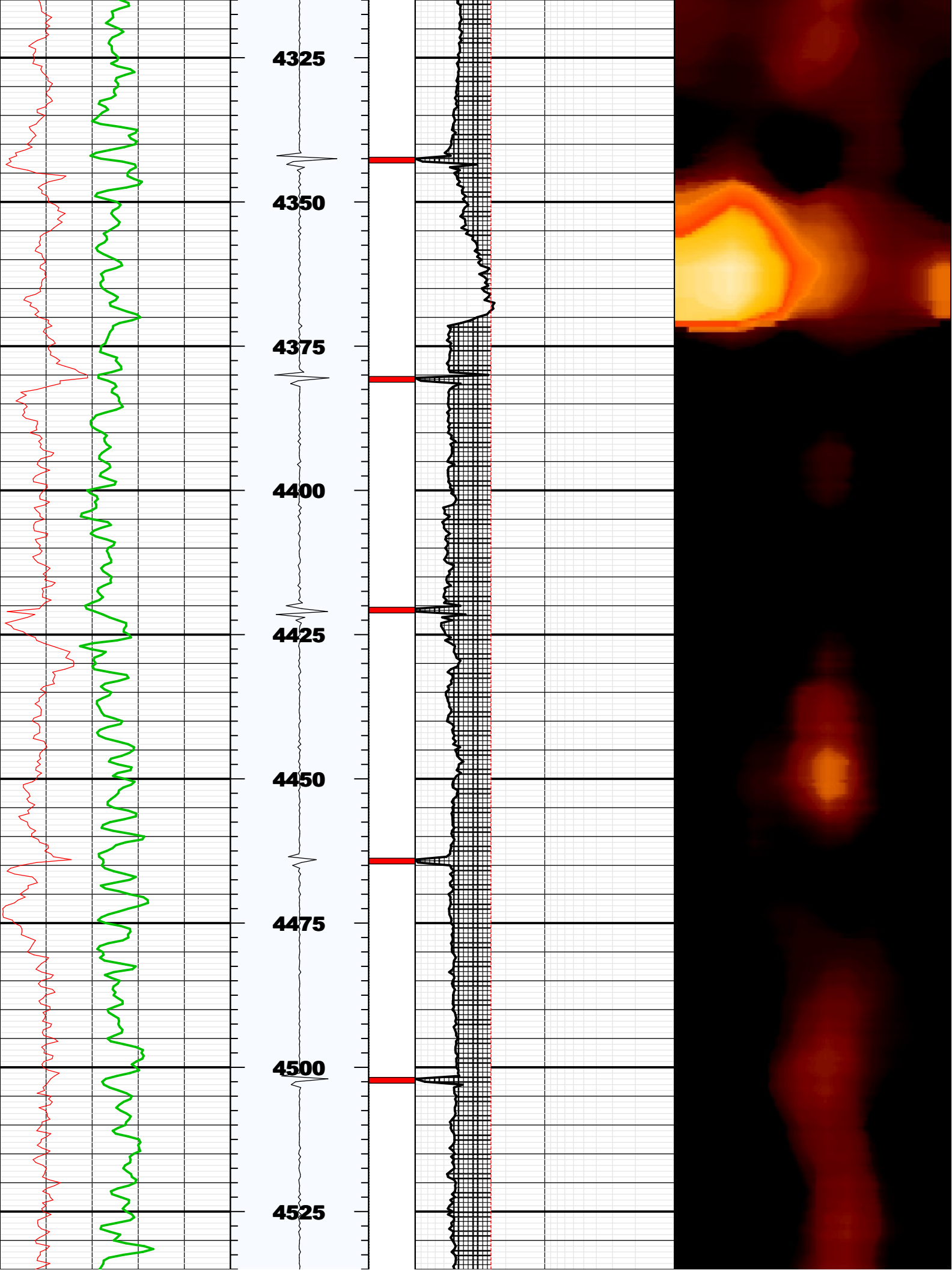


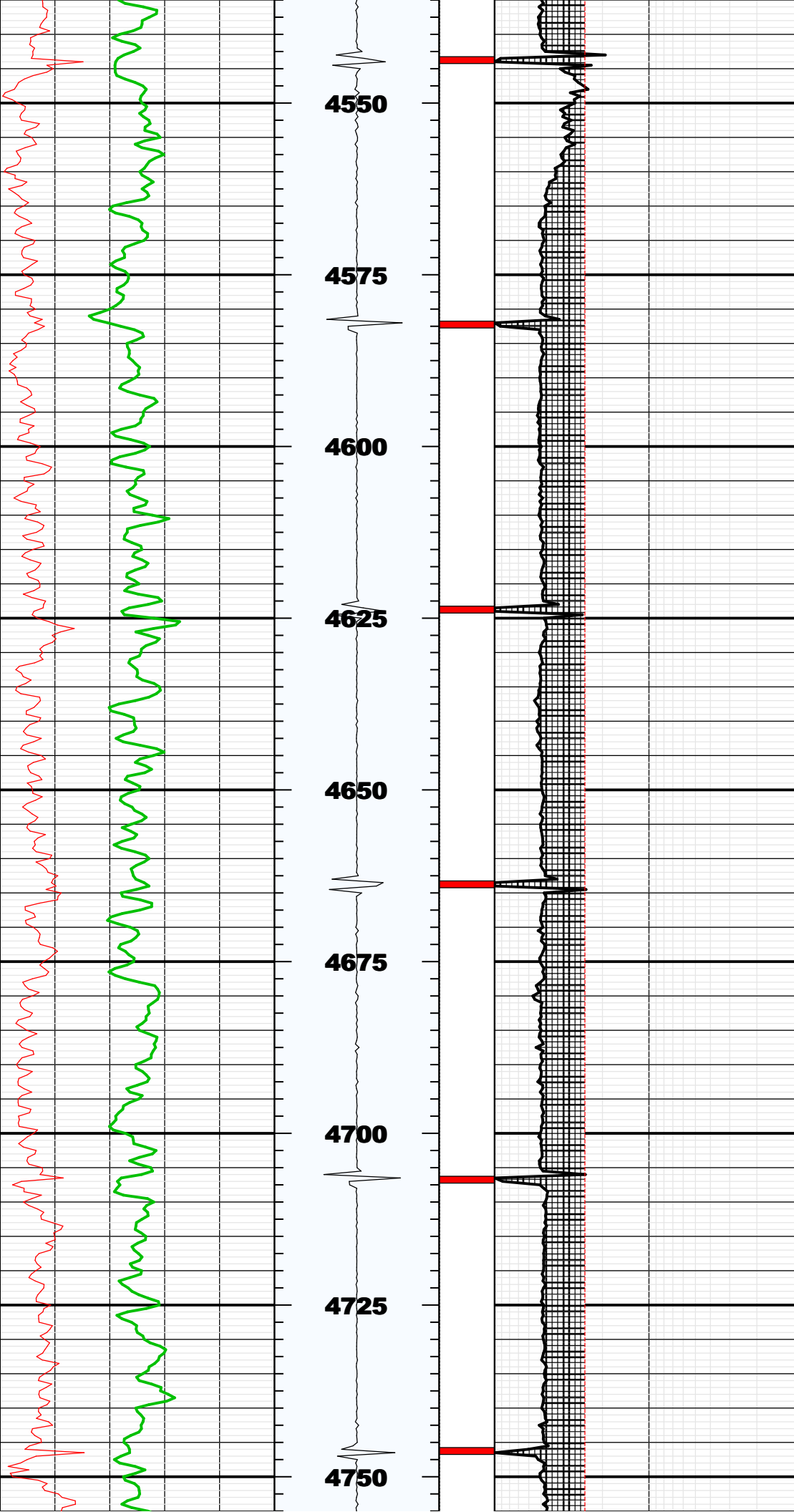


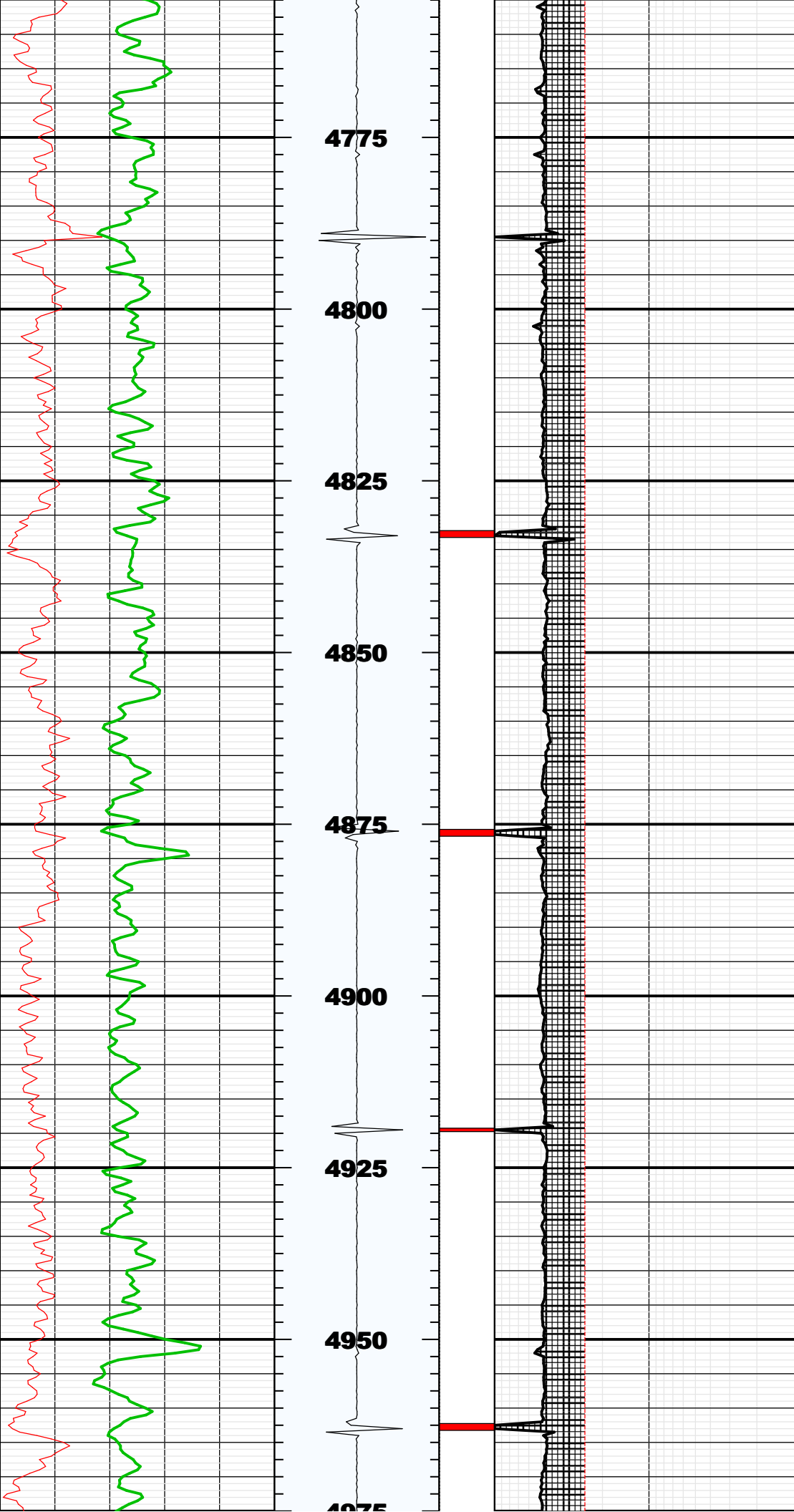


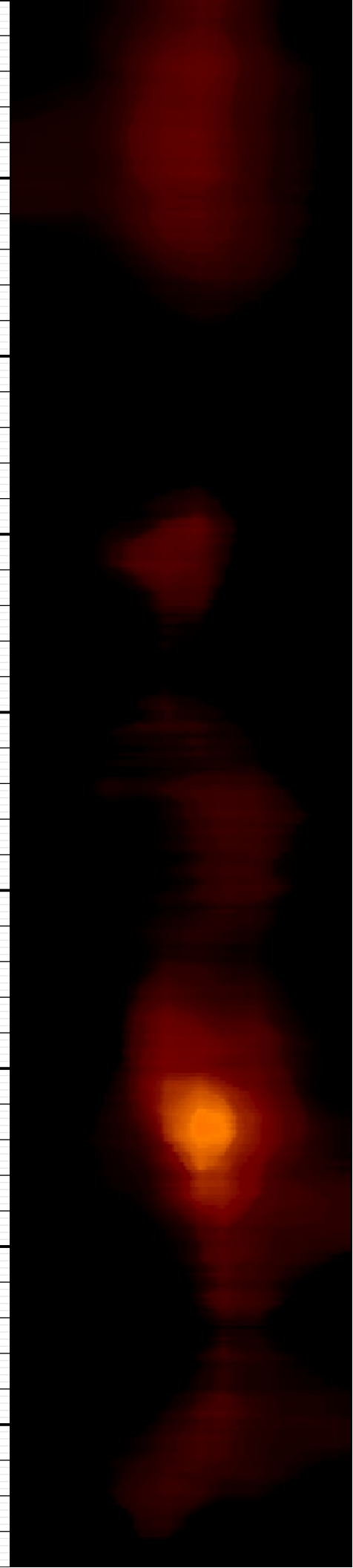
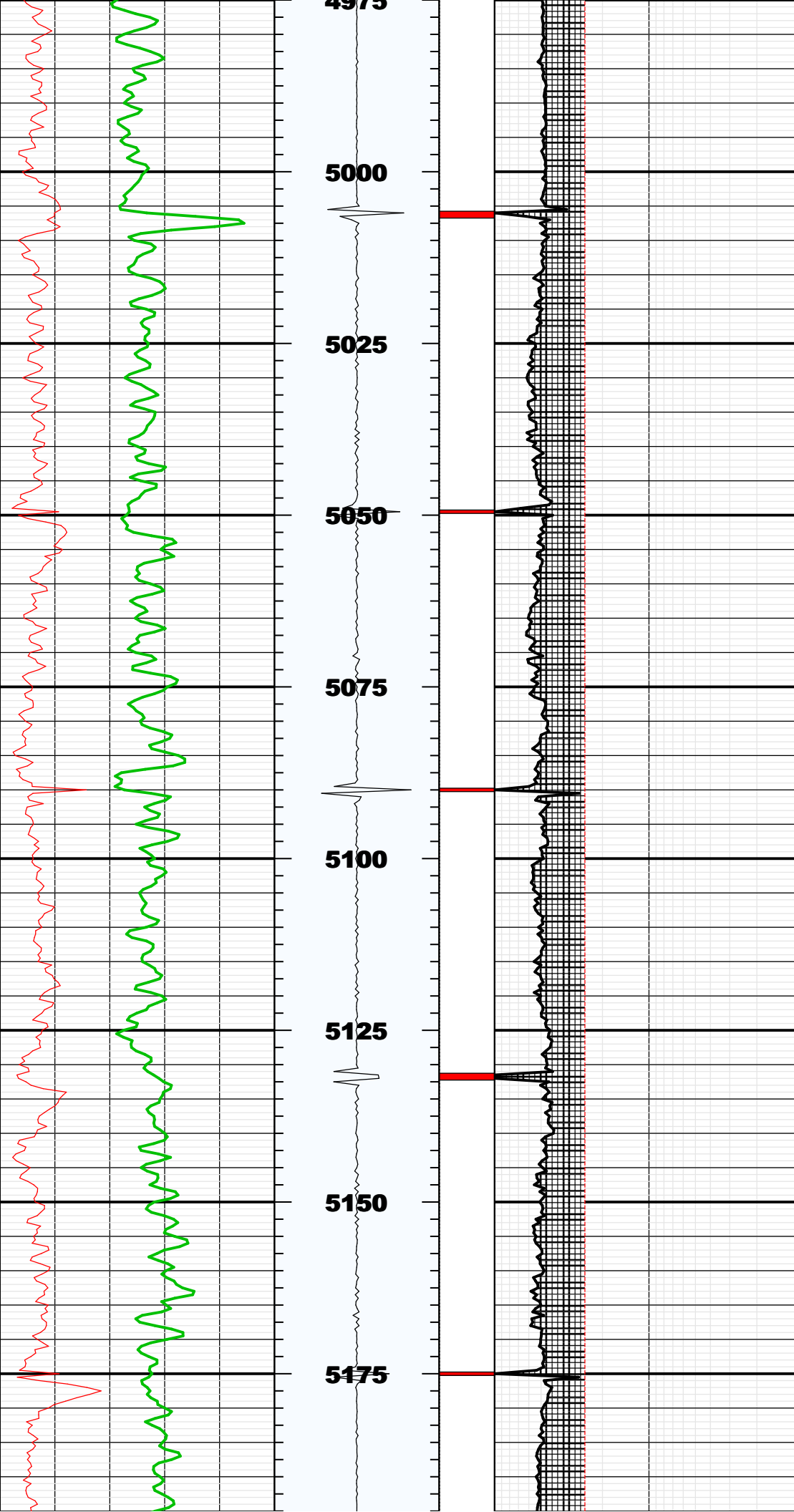


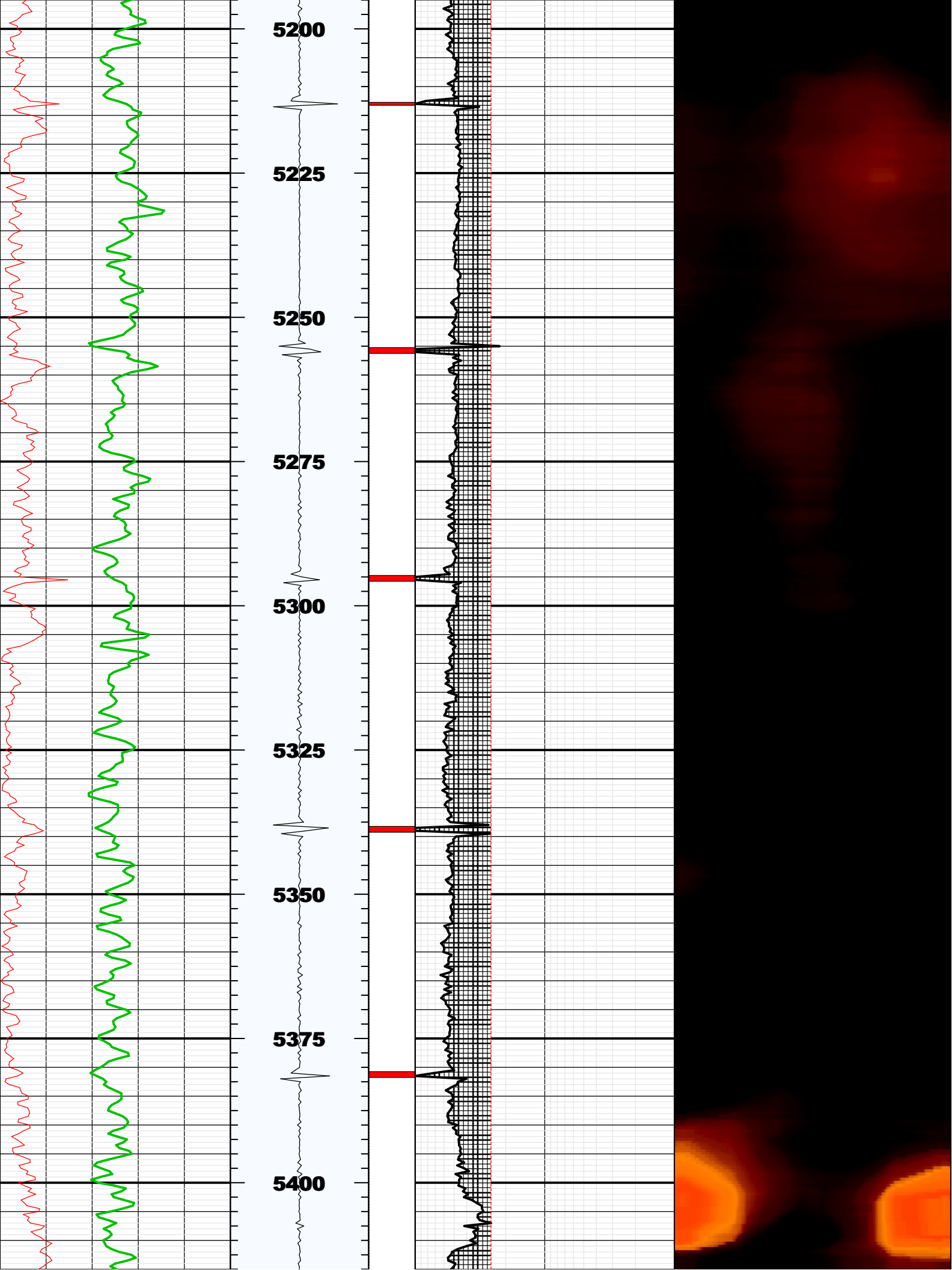


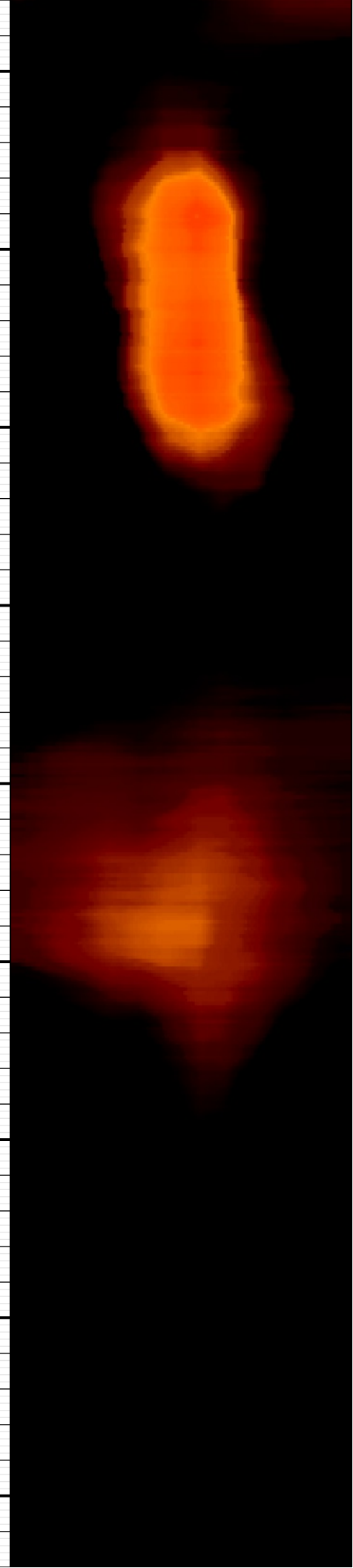
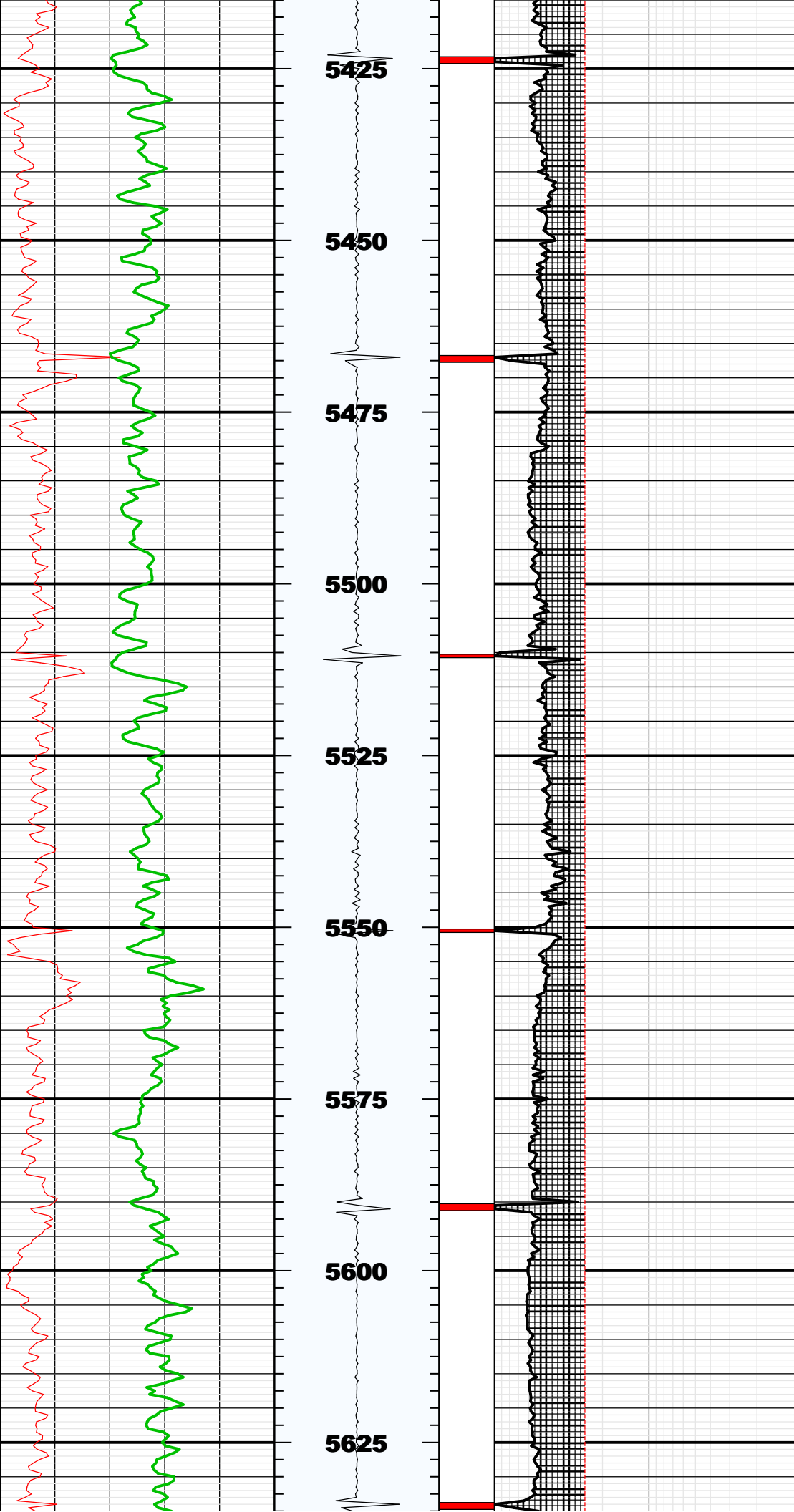


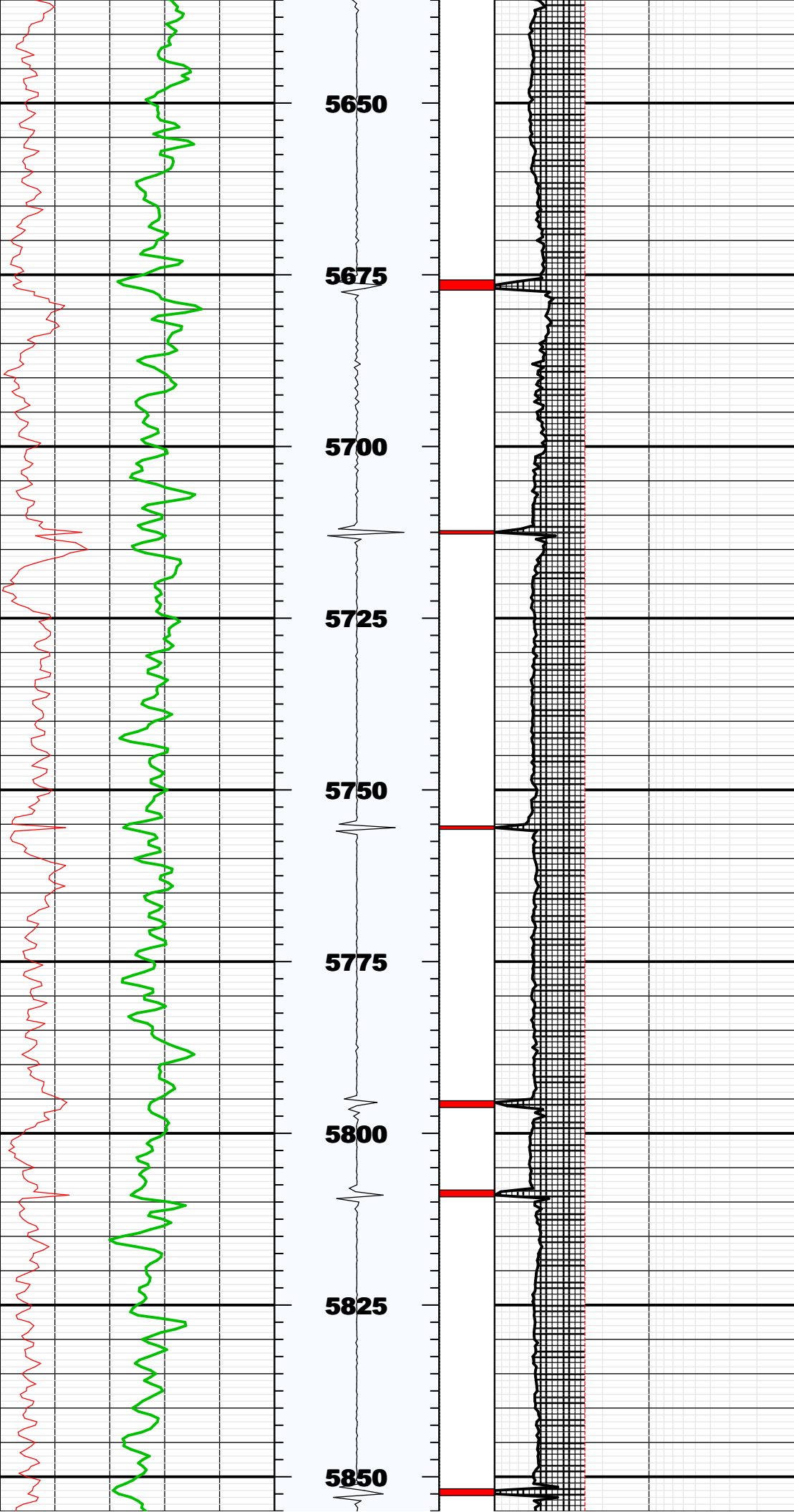


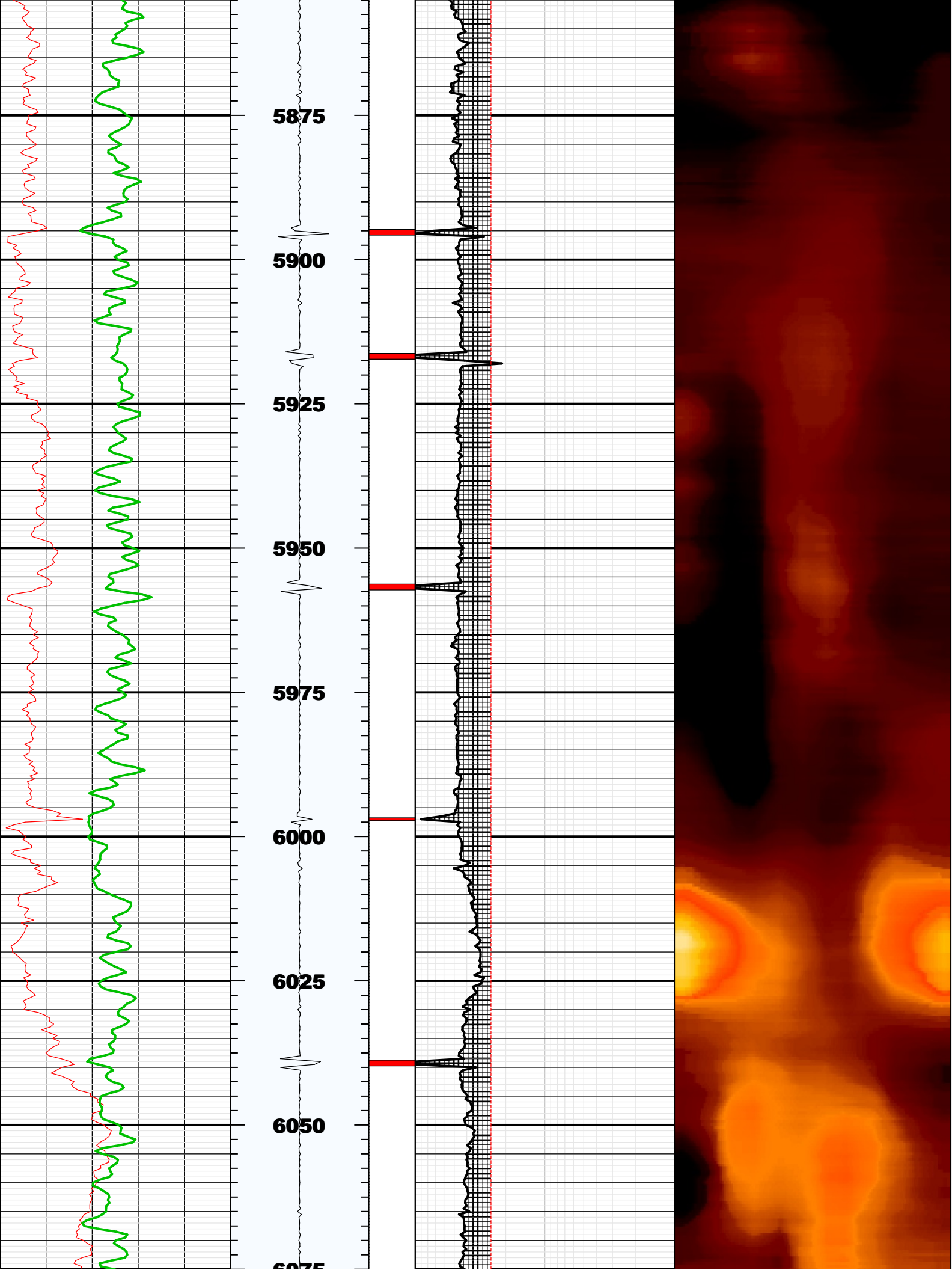


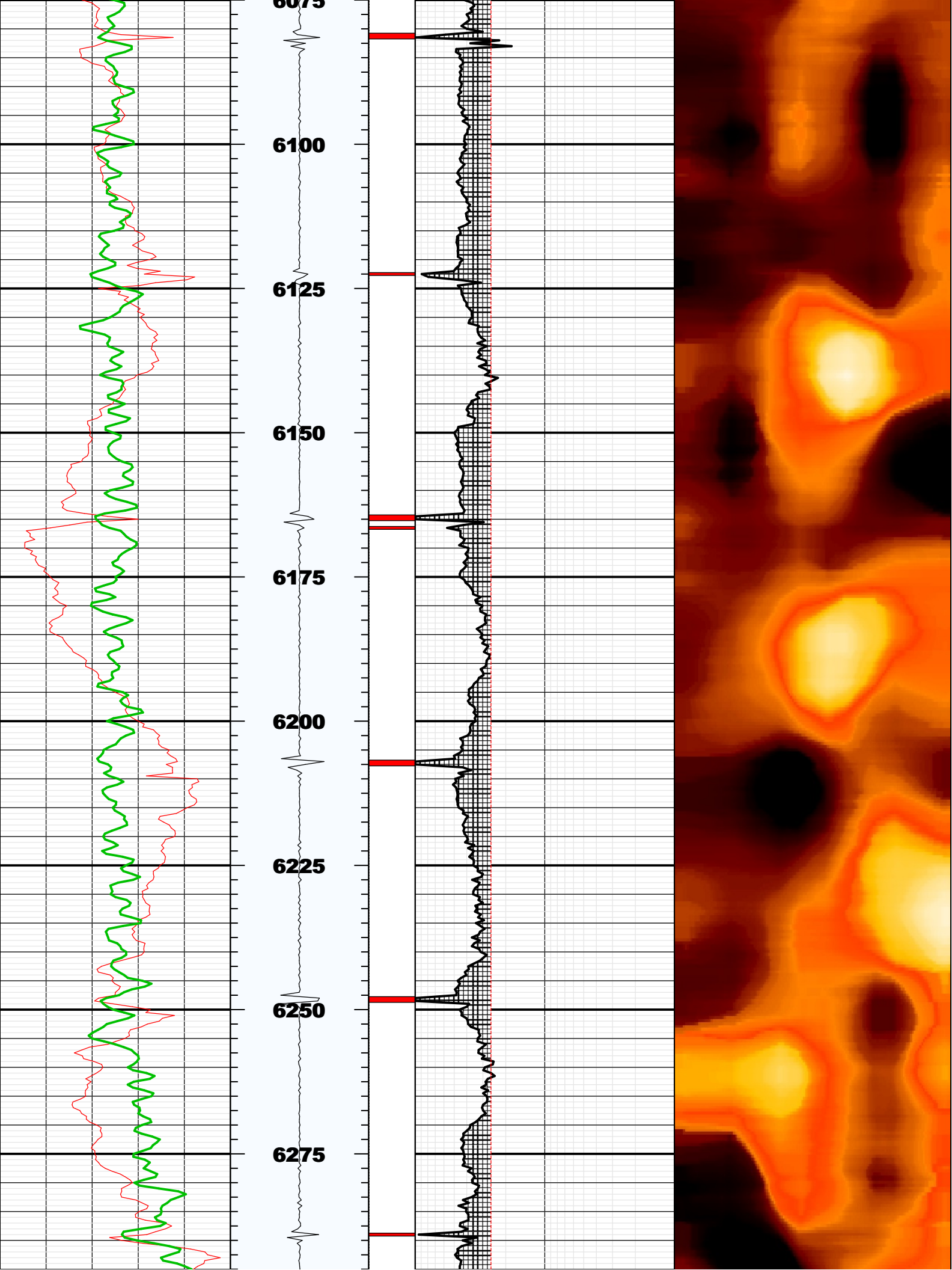


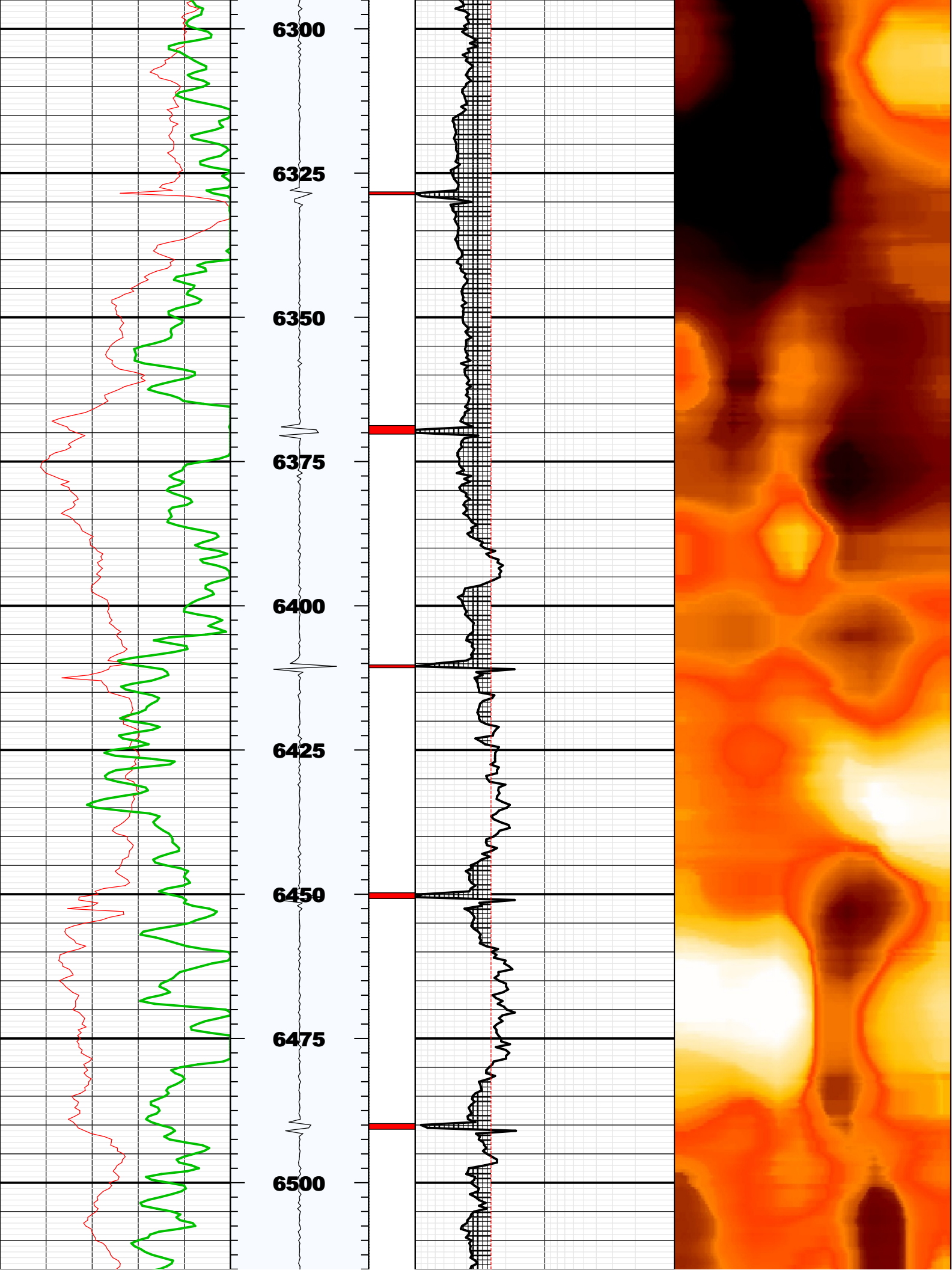


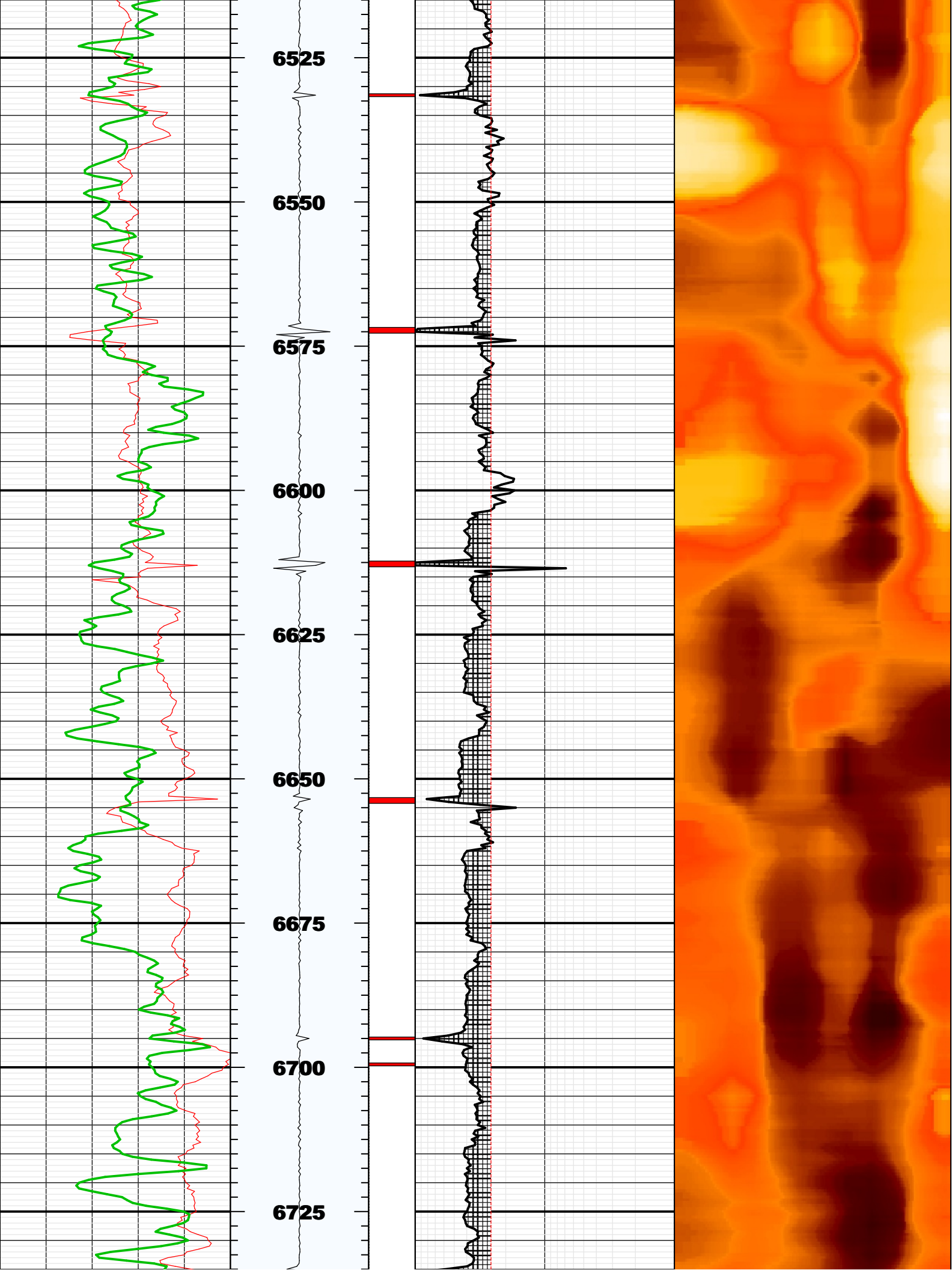


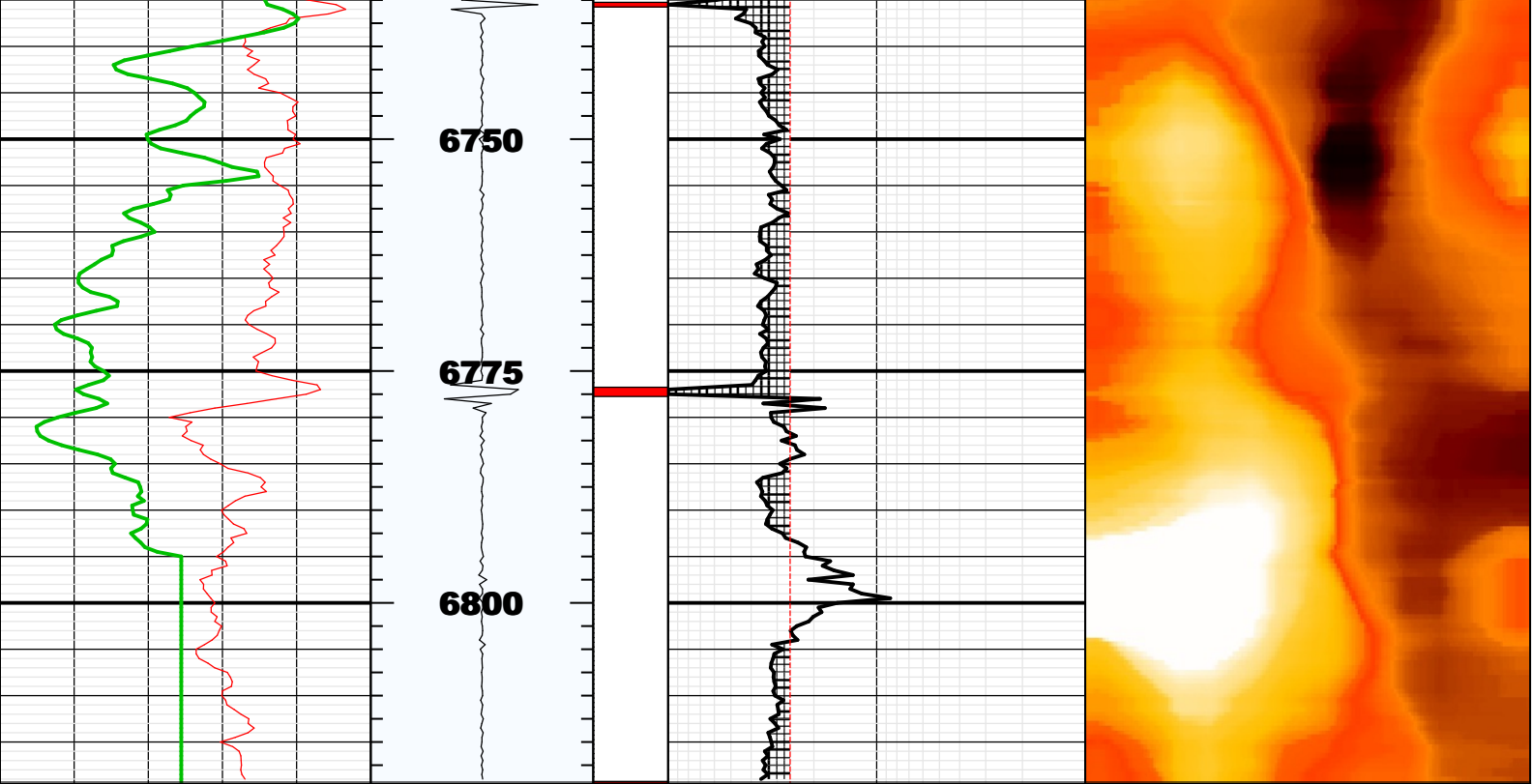








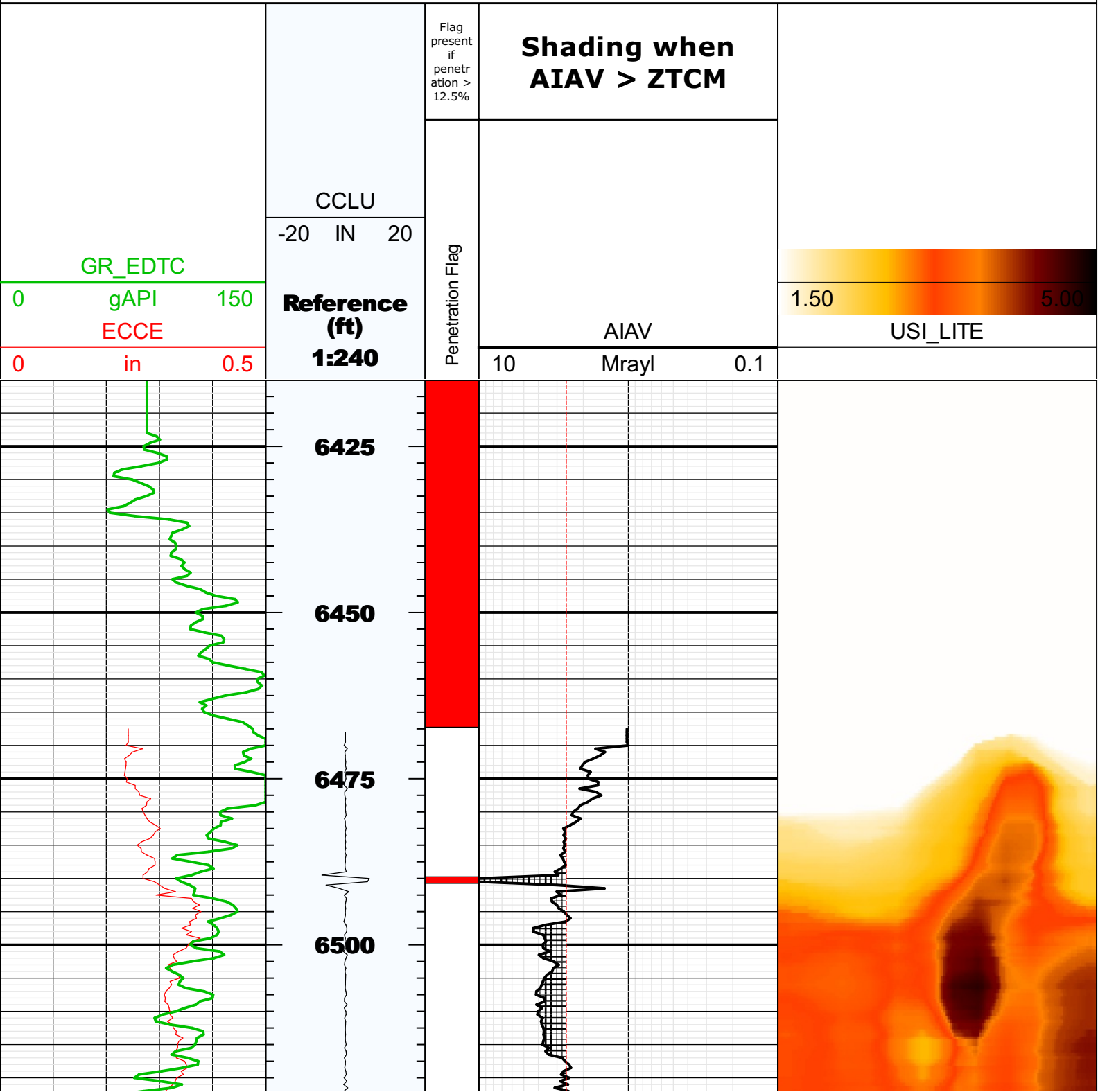


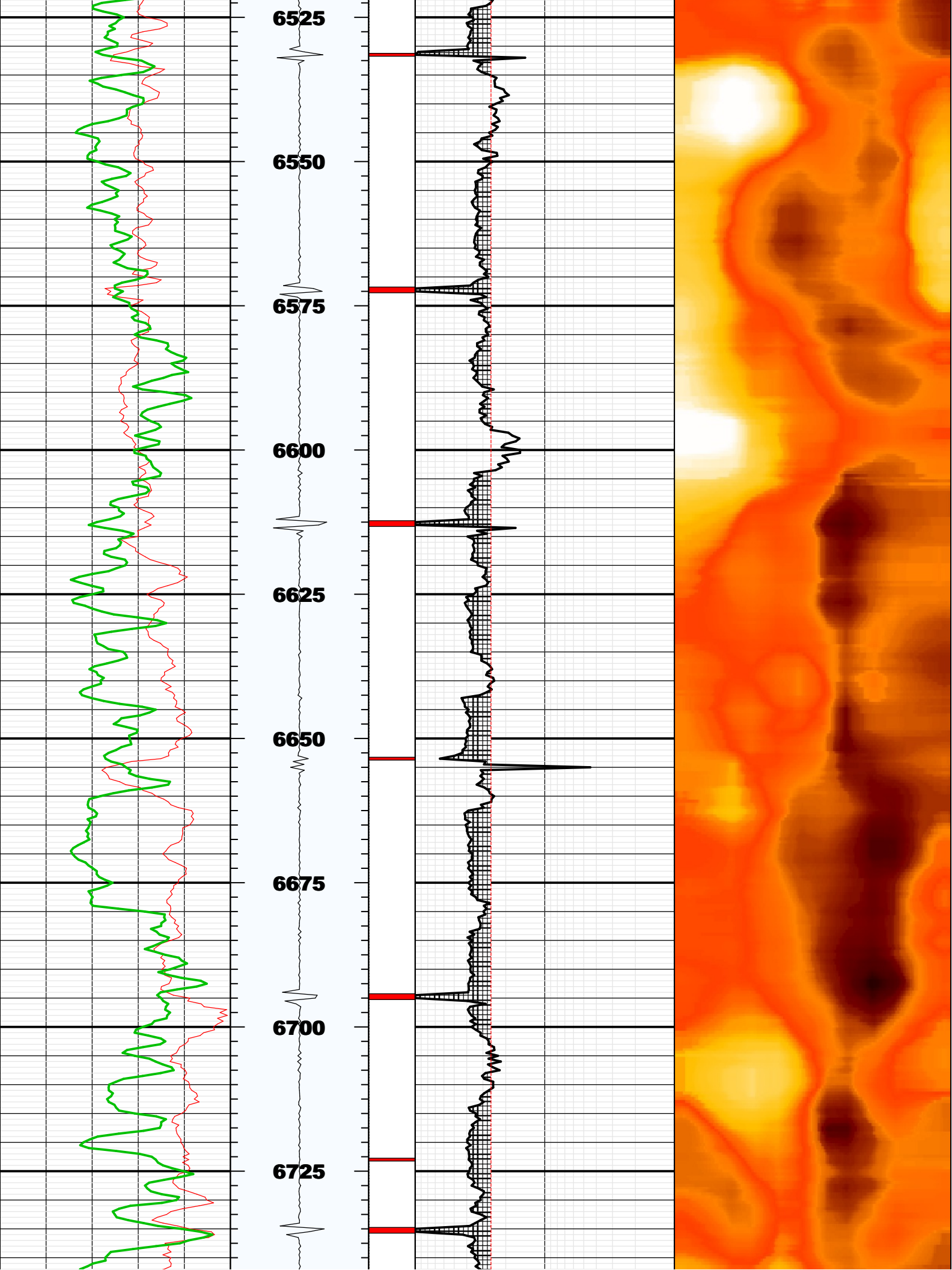


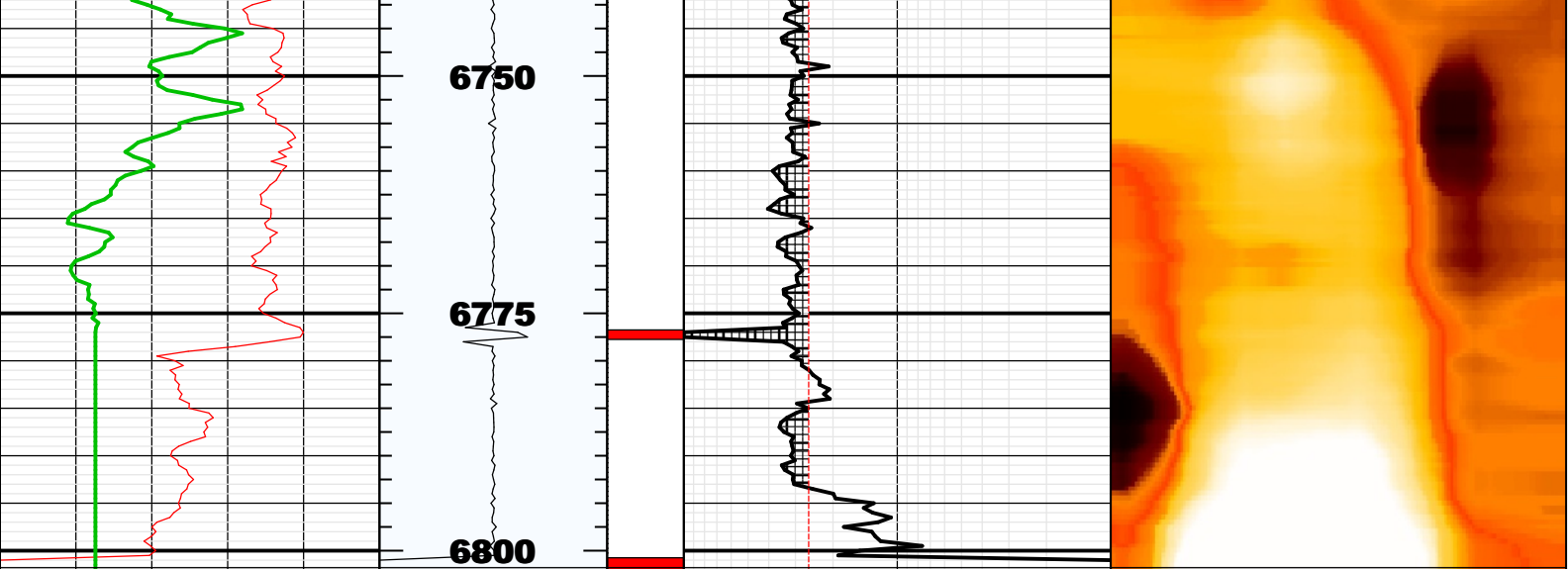
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID	6.27600	IN	Casing Inner Diameter
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.70000	LB/G	Drilling Fluid Density
DFVL	190.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	55	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	33.86500	US	Window Begin Time
WINE	73.86501	US	Window End Time
ZCAS	46.25000	MRAY	Acoustic Impedance of Casing
ZINI	-1.00000	MRAY	Initial Estimate of Cement Impedance
ZMUD	1.78000	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 [^] 3 Processing Length

Repeat Pass

Company: NOBLE ENERGY INC.
Well: Wells Ranch AE32-620
Field: WATTENBERG







Fluid Properties Used for Main Pass

