

Company: Noble Energy Inc

Well: Oscar Y10 73HN  
Field: Wattenberg  
County: Weld

State: Colorado

USI-LITE (2500 psi)

LOCATION			
Permanent Datum: Log Measured From: Drilling Measured From:		GL KB KB	Elev: K.B. 4951.0 F G.L. 4927.0 F D.F. 4927.0 F
API Serial No. 05-123-37944	Section 10	Township 2N	Range 64W

Logging Date	10-Jan-2015
Run Number	Run-1
Depth Driller	7283.9 F
Schlumberger Depth	7283.9 F
Bottom Log Interval	7162.0 F
Top Log Interval	90.0 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	1191.0 F
To	7283.9 F
Casing Size	7.00 IN
Weight	24.00 LB/F
Grade	P110
From	0.0 F
To	7274.2 F
Max Recorded Temp	240.6
Logger on bottom (date)	10-Jan-2015
Location	Fort Morgan
Recorded By	Tezla Hyduk/ Ratiñ Anggraeny
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: 16500.00000

DISCLAIMER

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13.1ppg single slurry cement density

2500psi main pass 0psi repeat pass

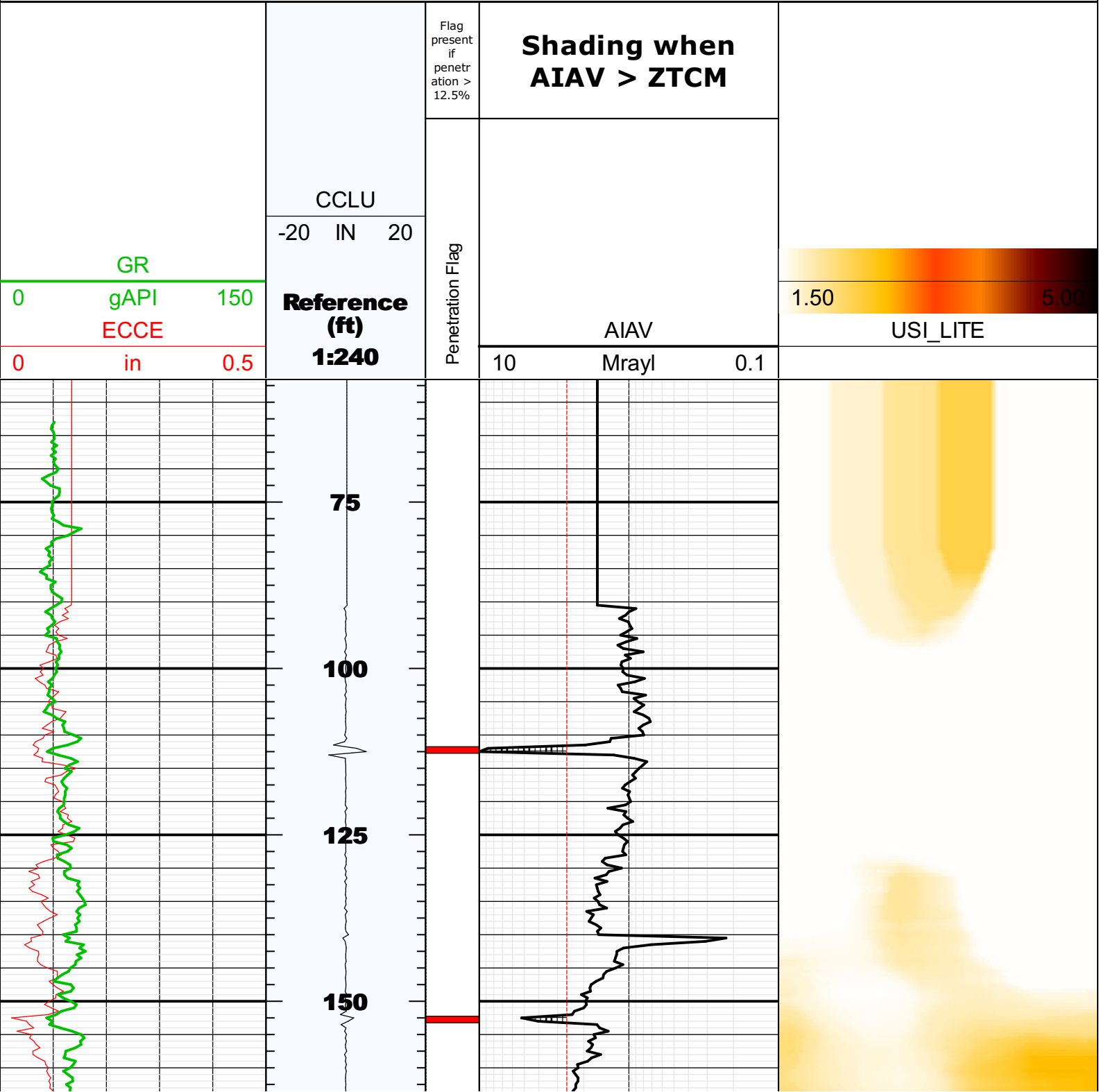
Top of cement seen at 320 ft

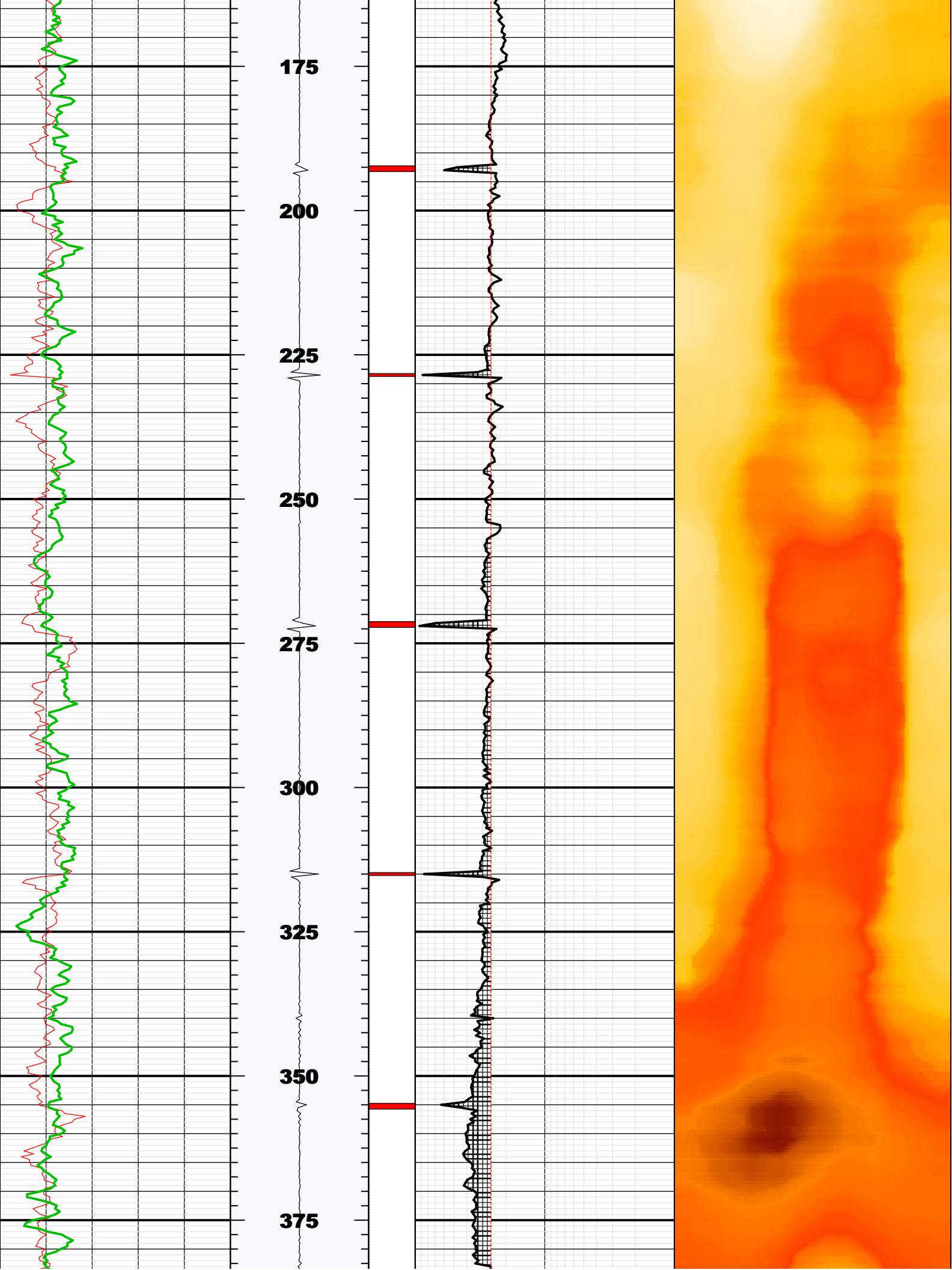
Logged from 7162 ft. Unable to rotate sub below 7162 ft. Bottom hole

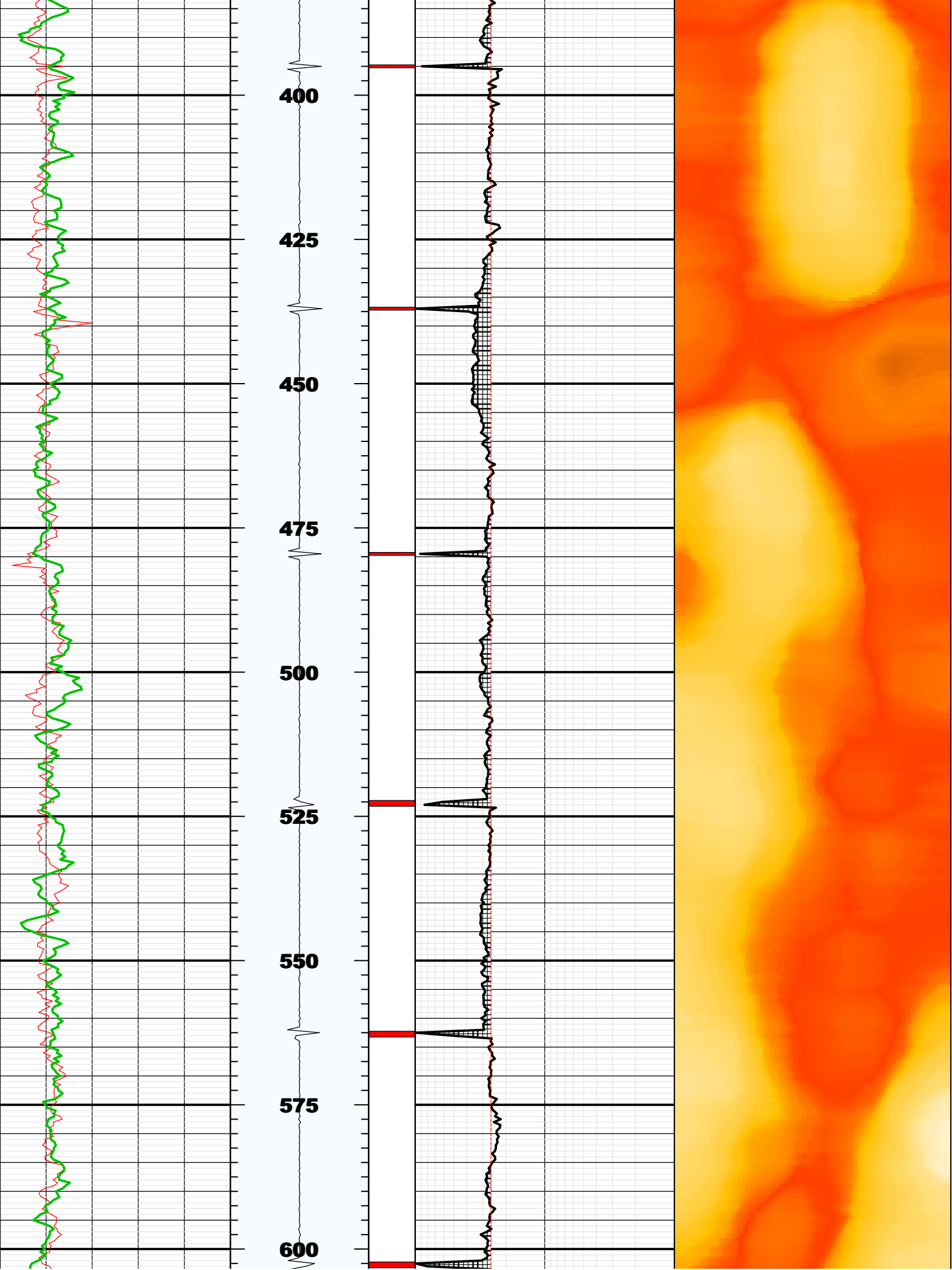
Temperature at bottom hole = 240.6F measured at depth

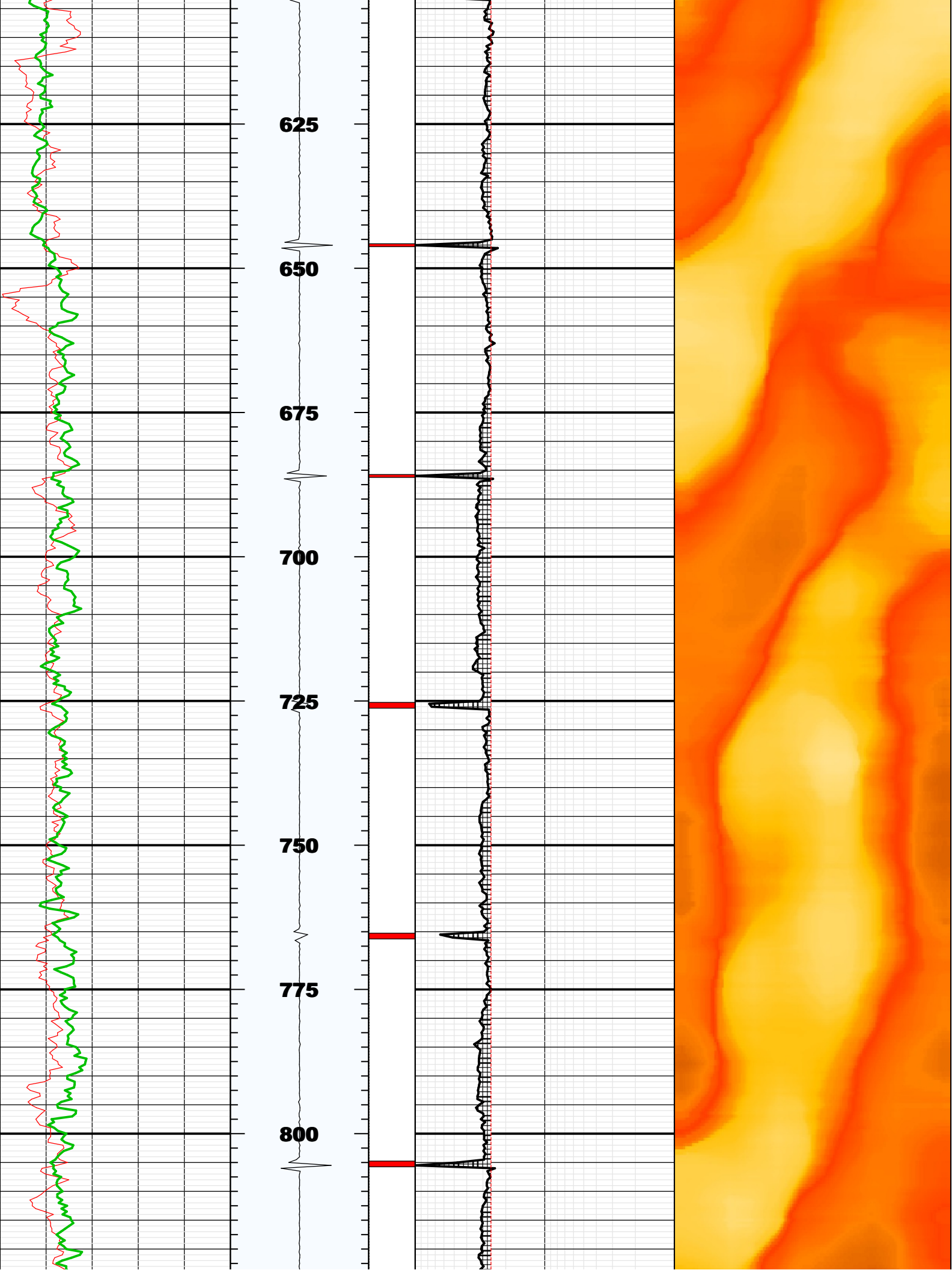
Main Pass

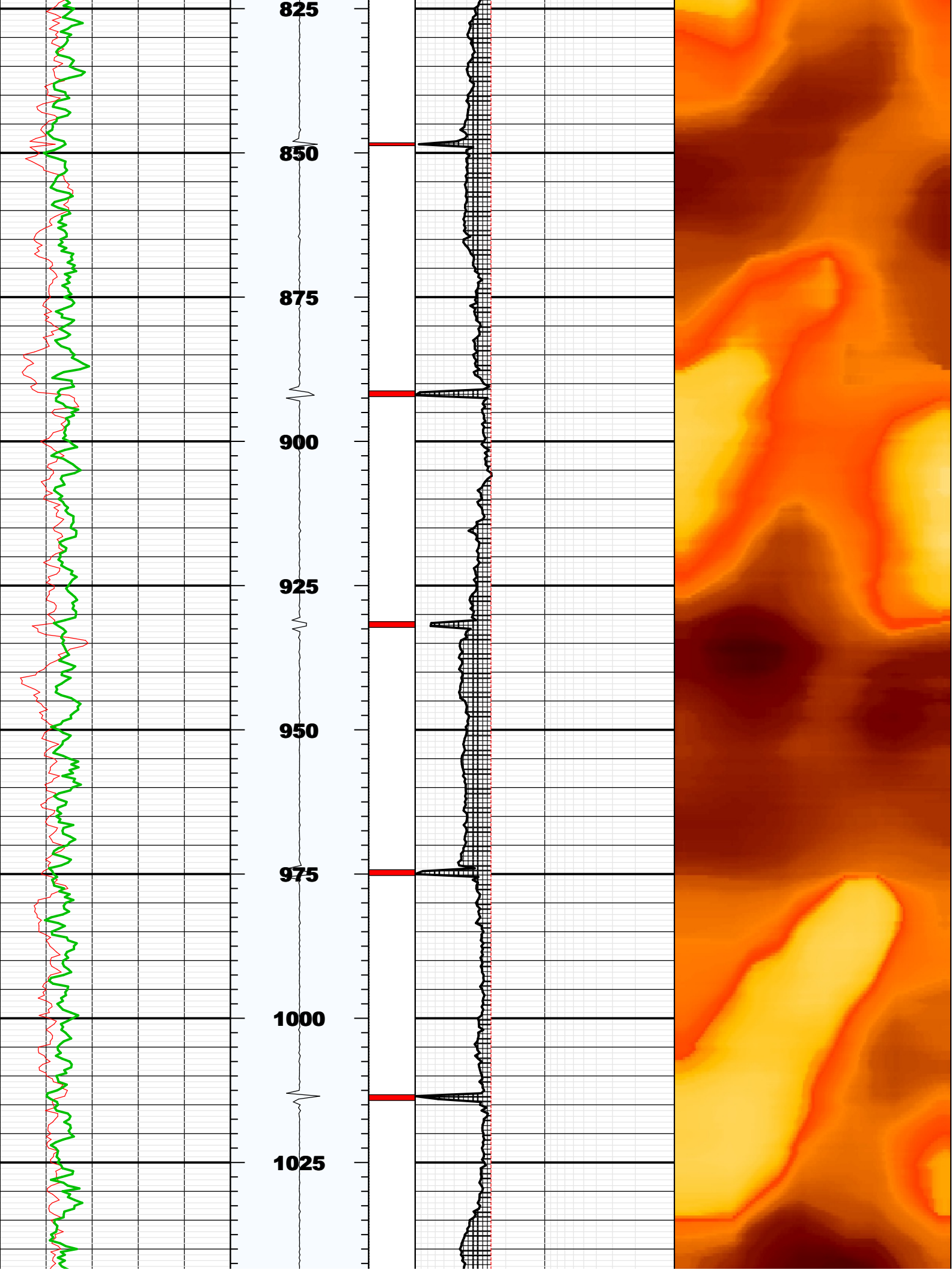
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Well: Oscar Y10 73HN  
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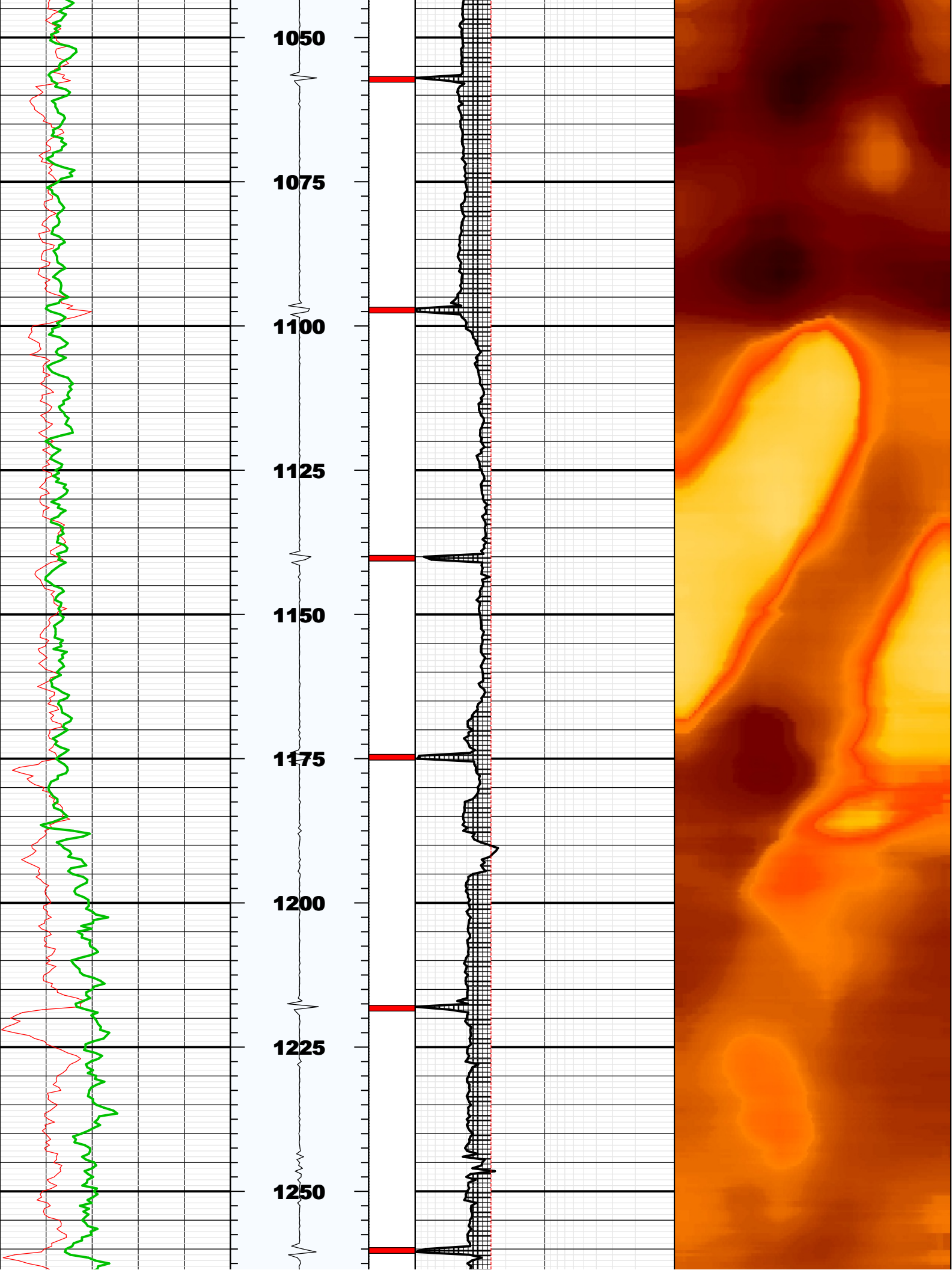




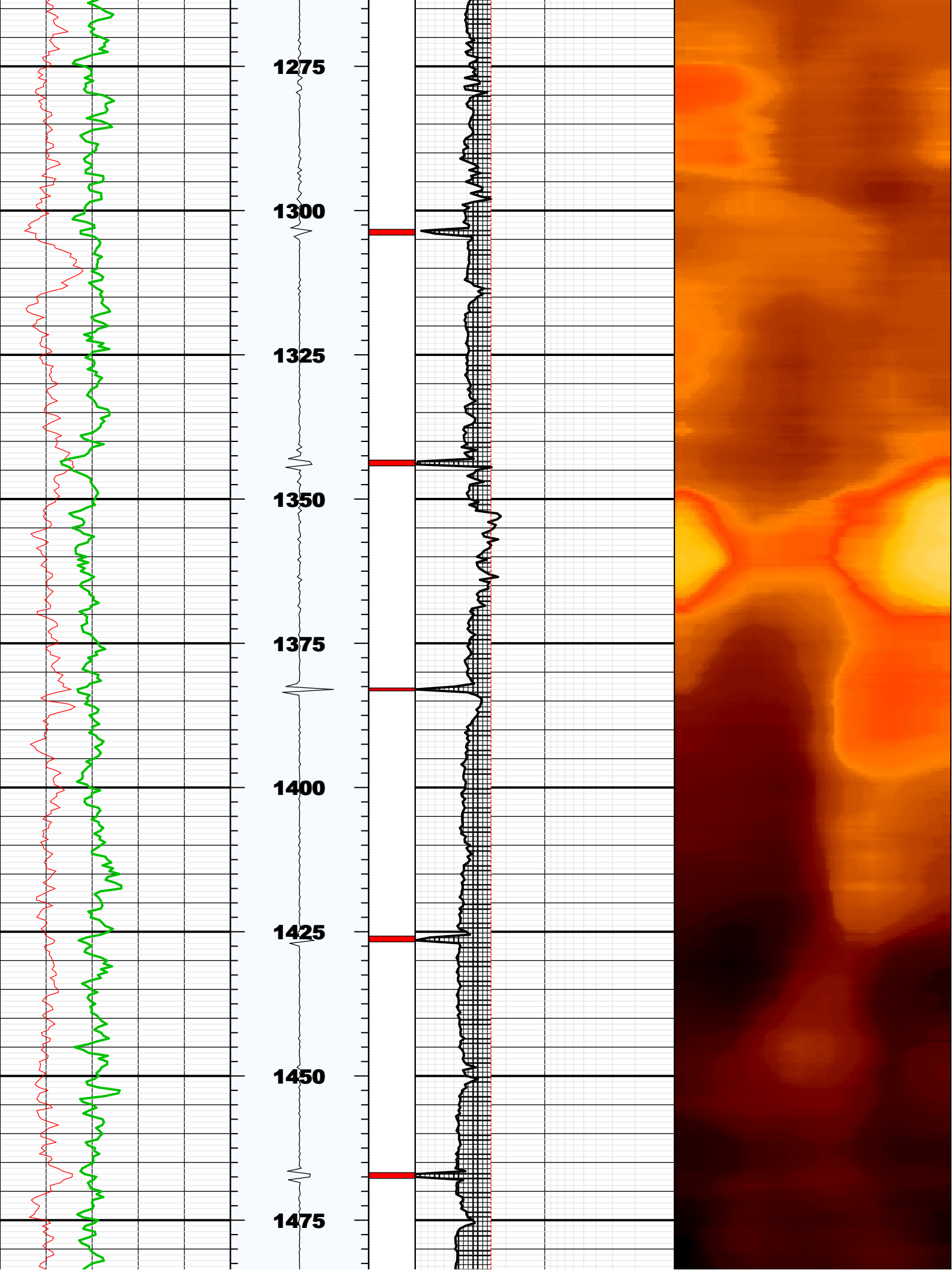


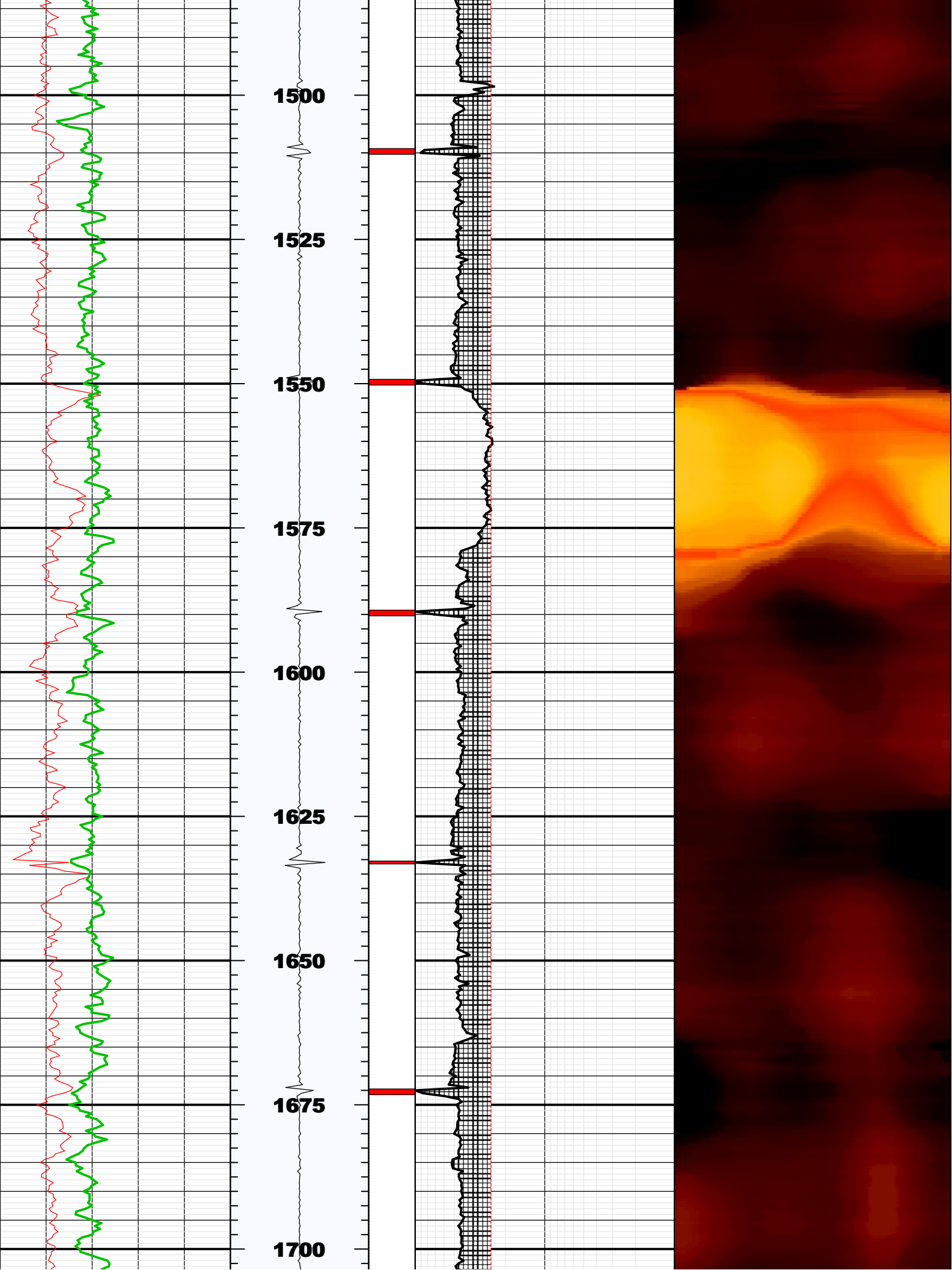


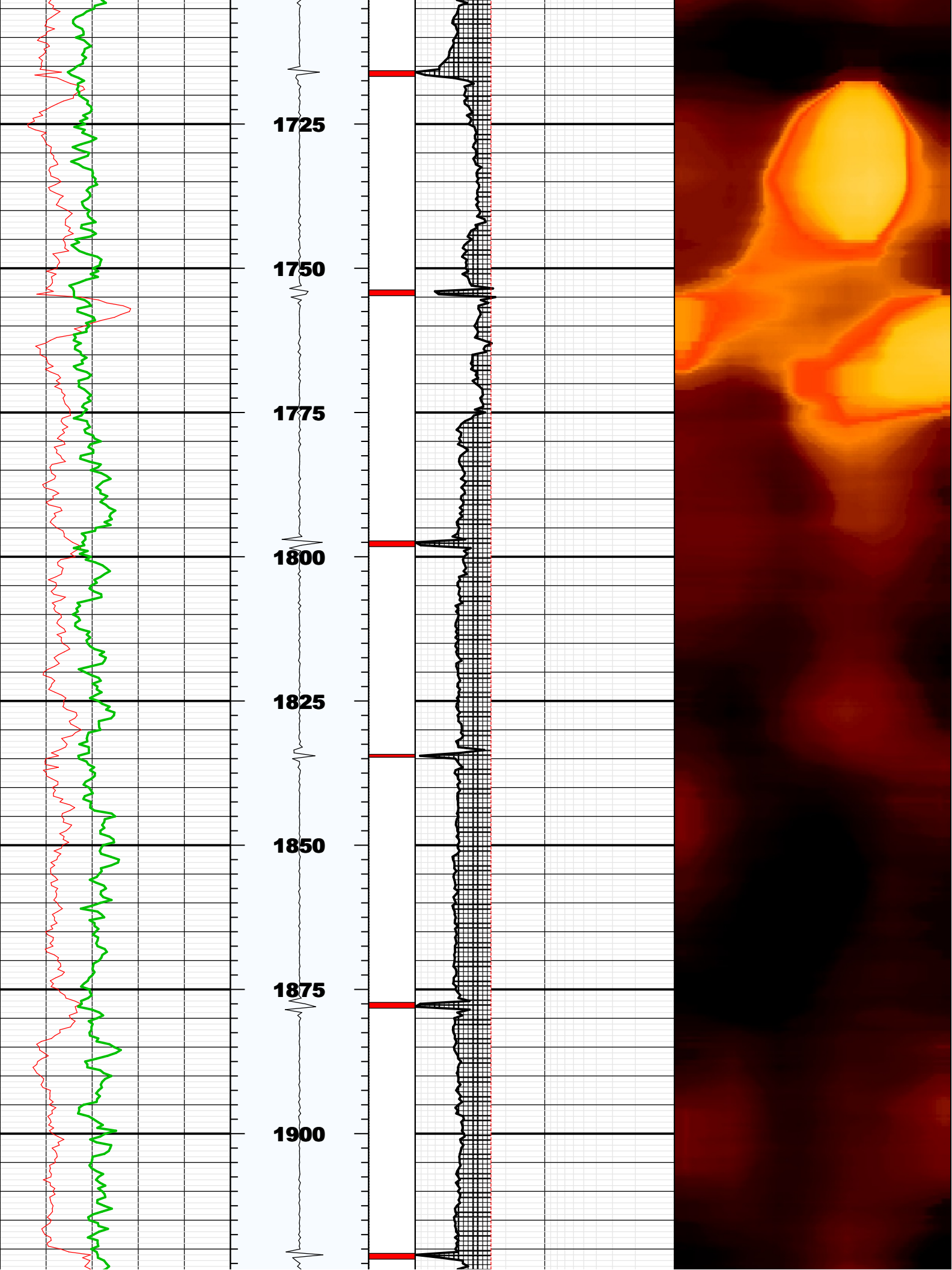


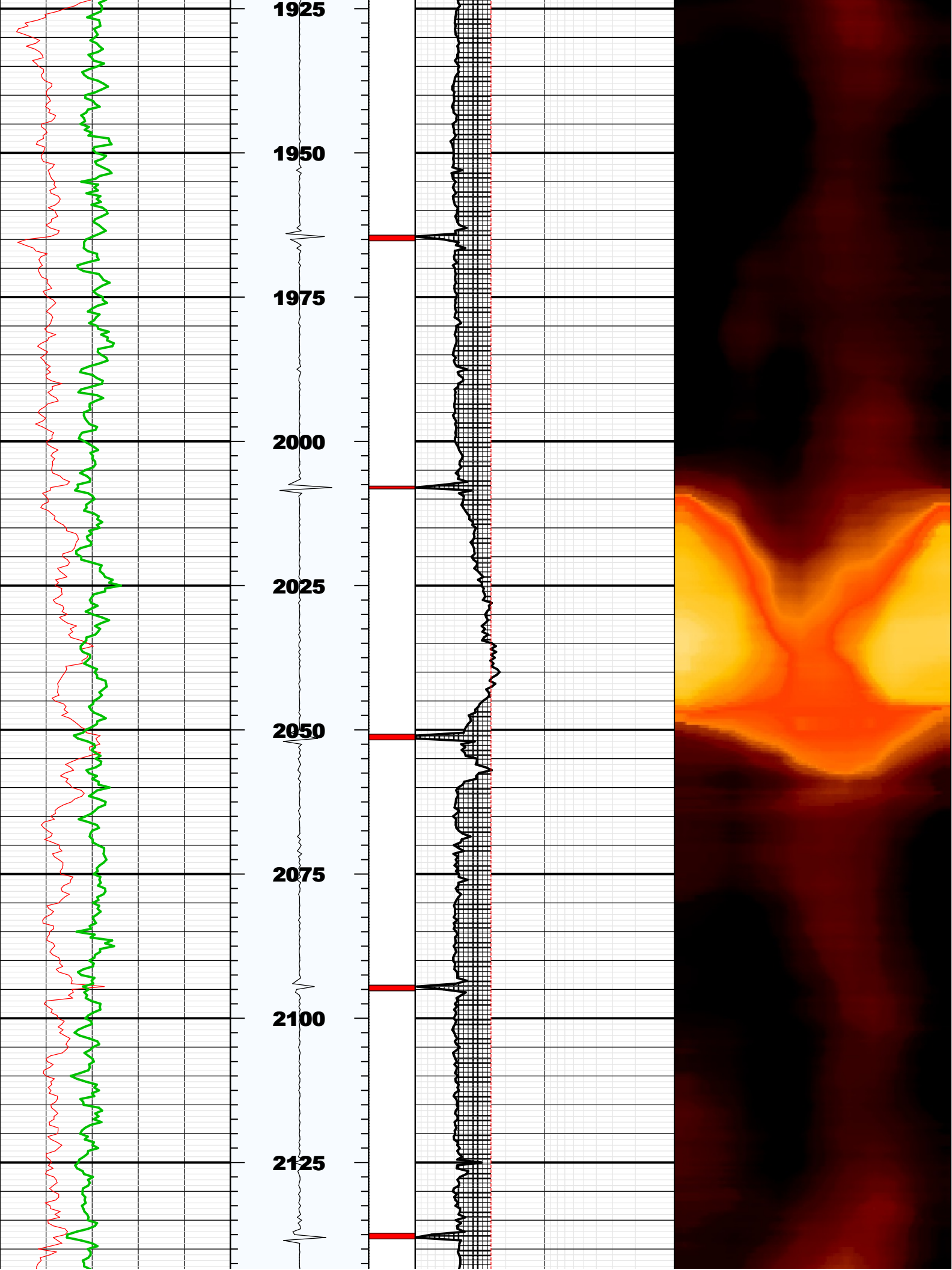




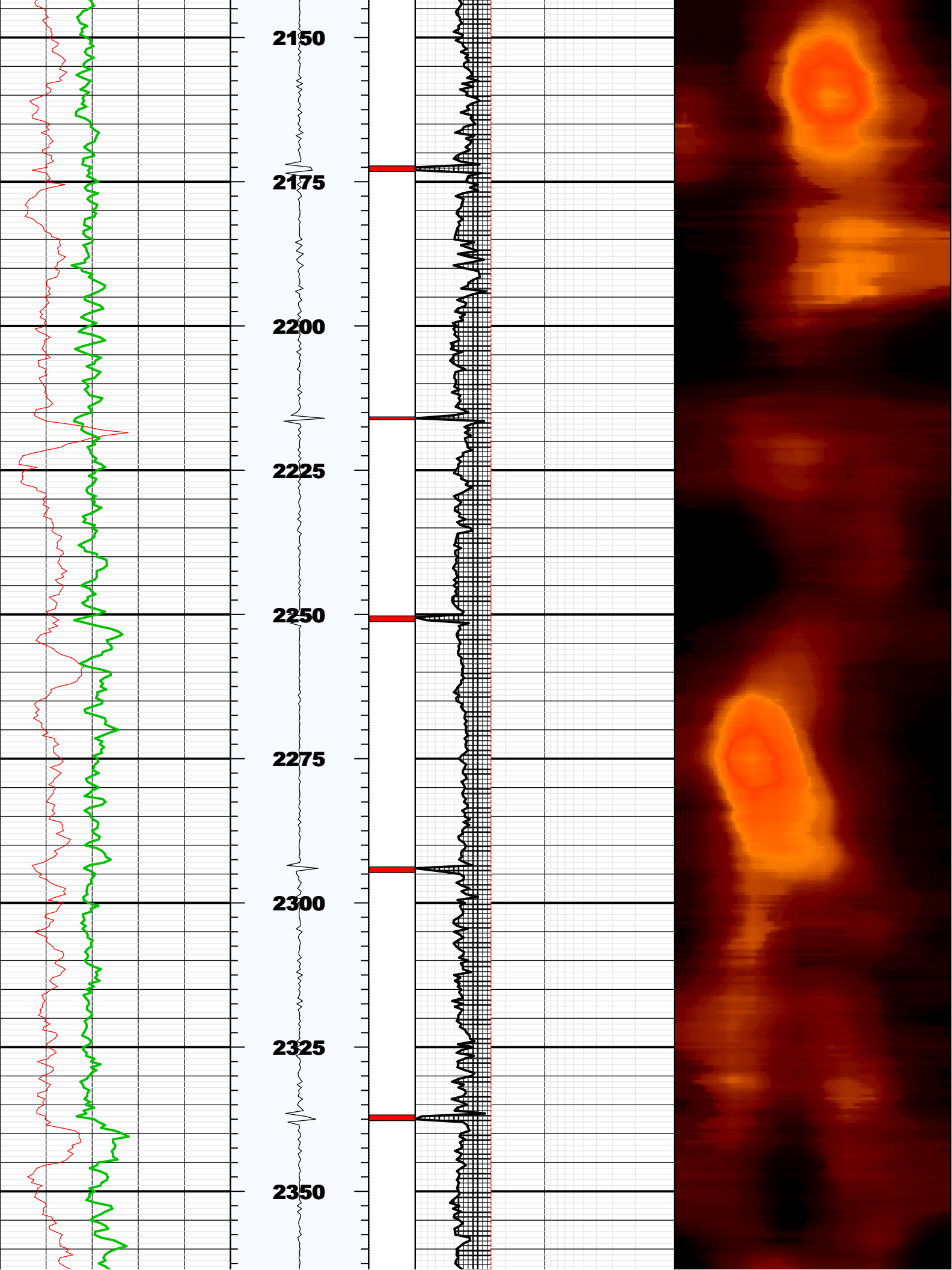


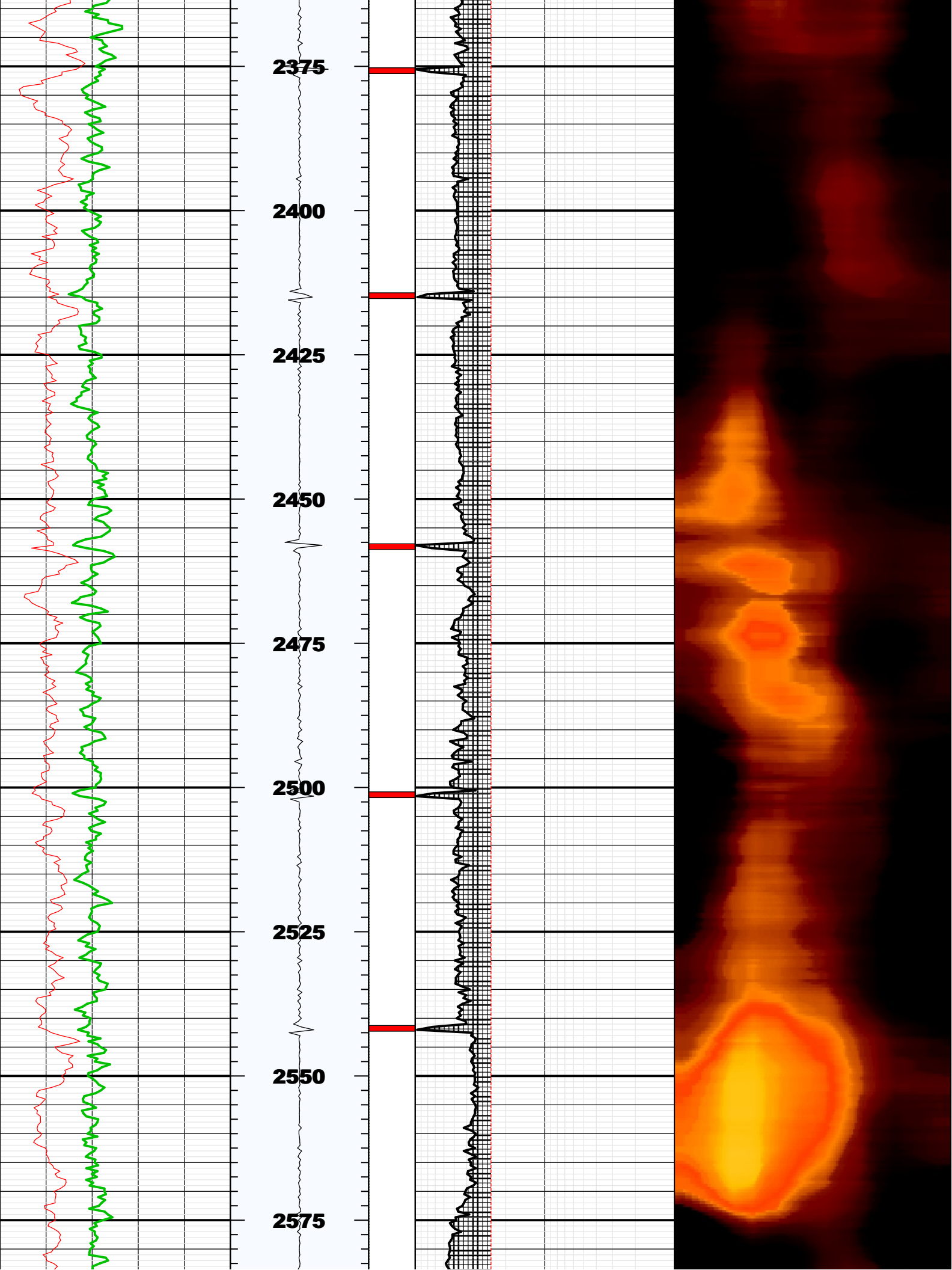




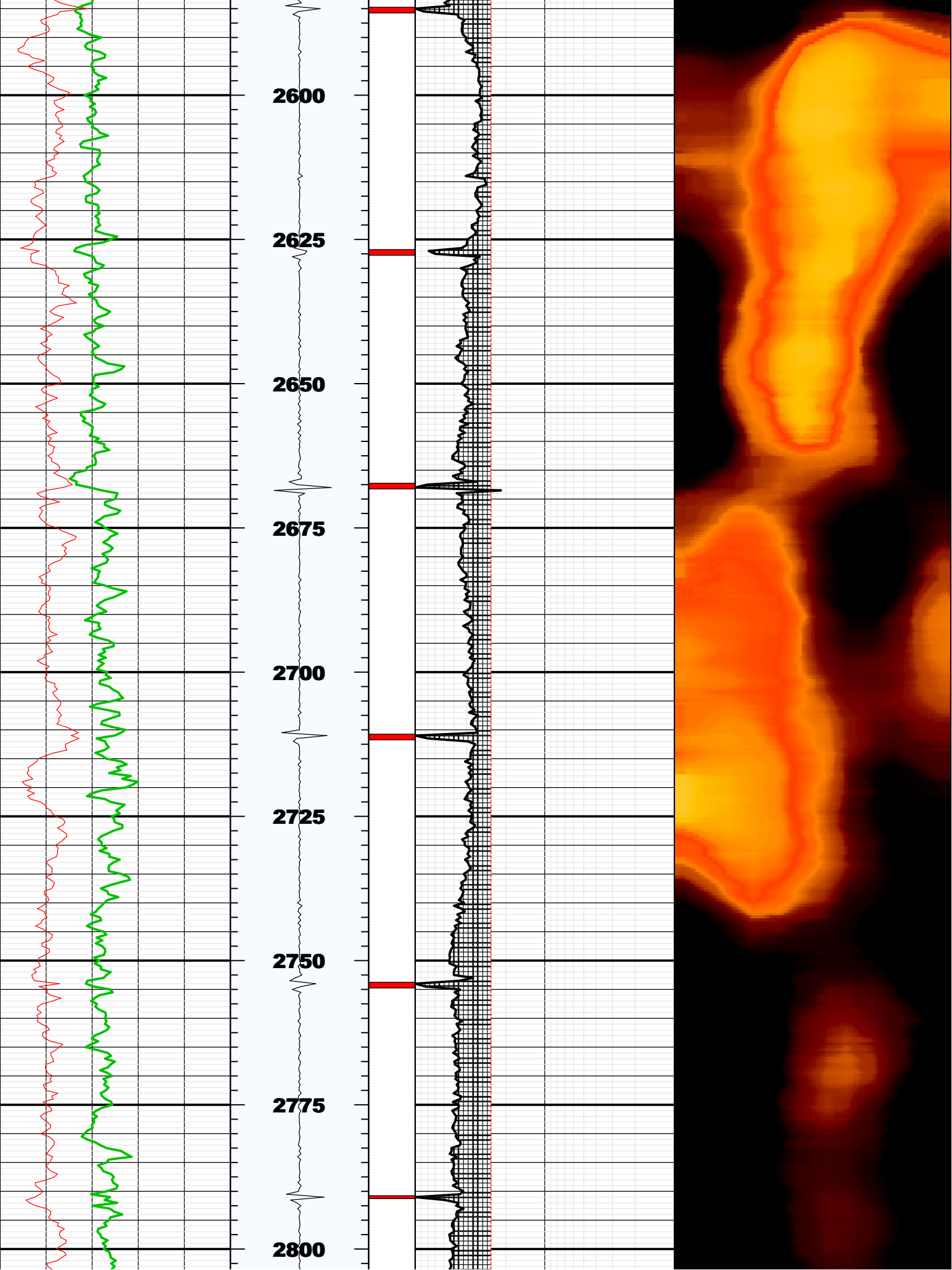


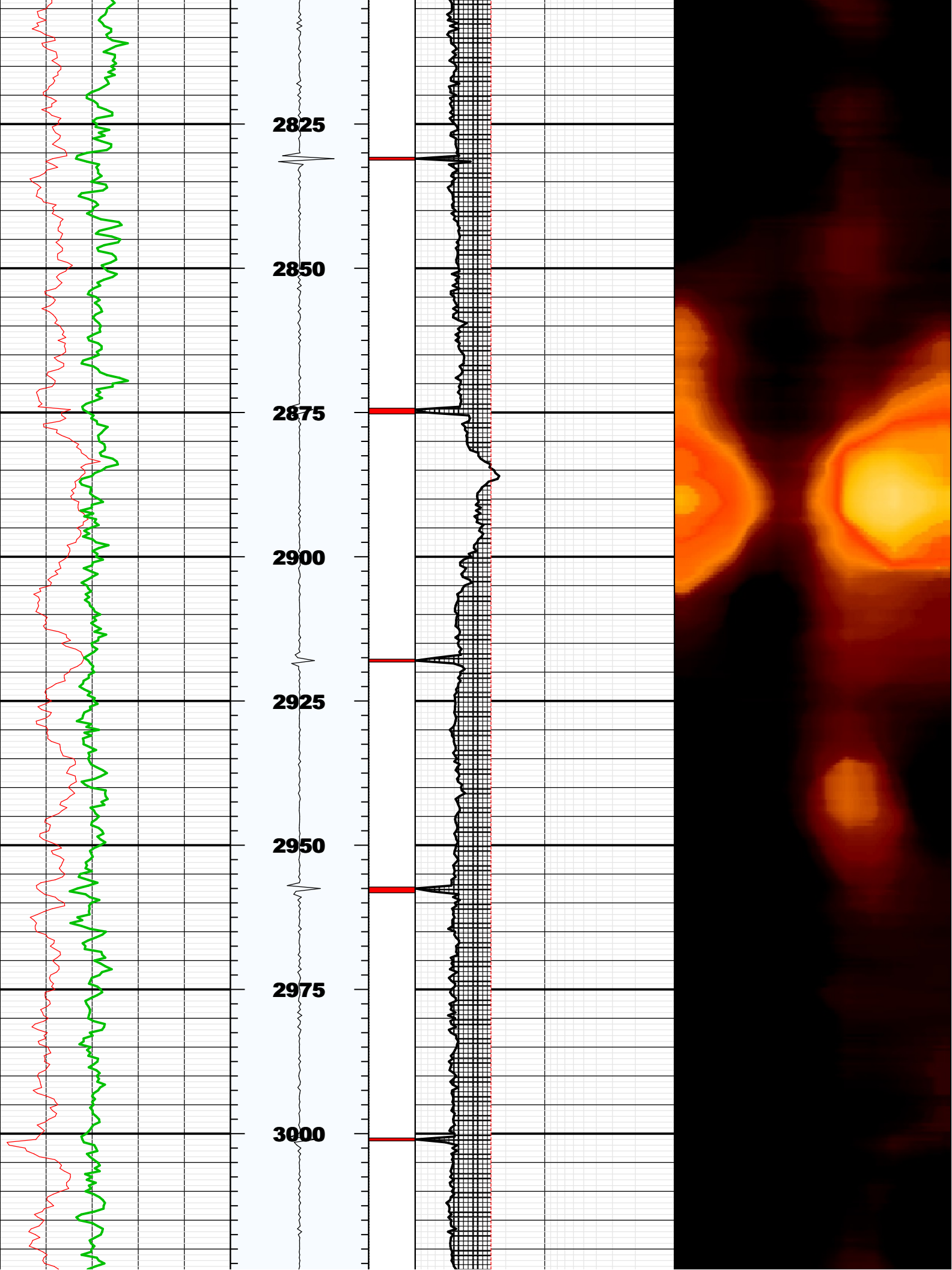


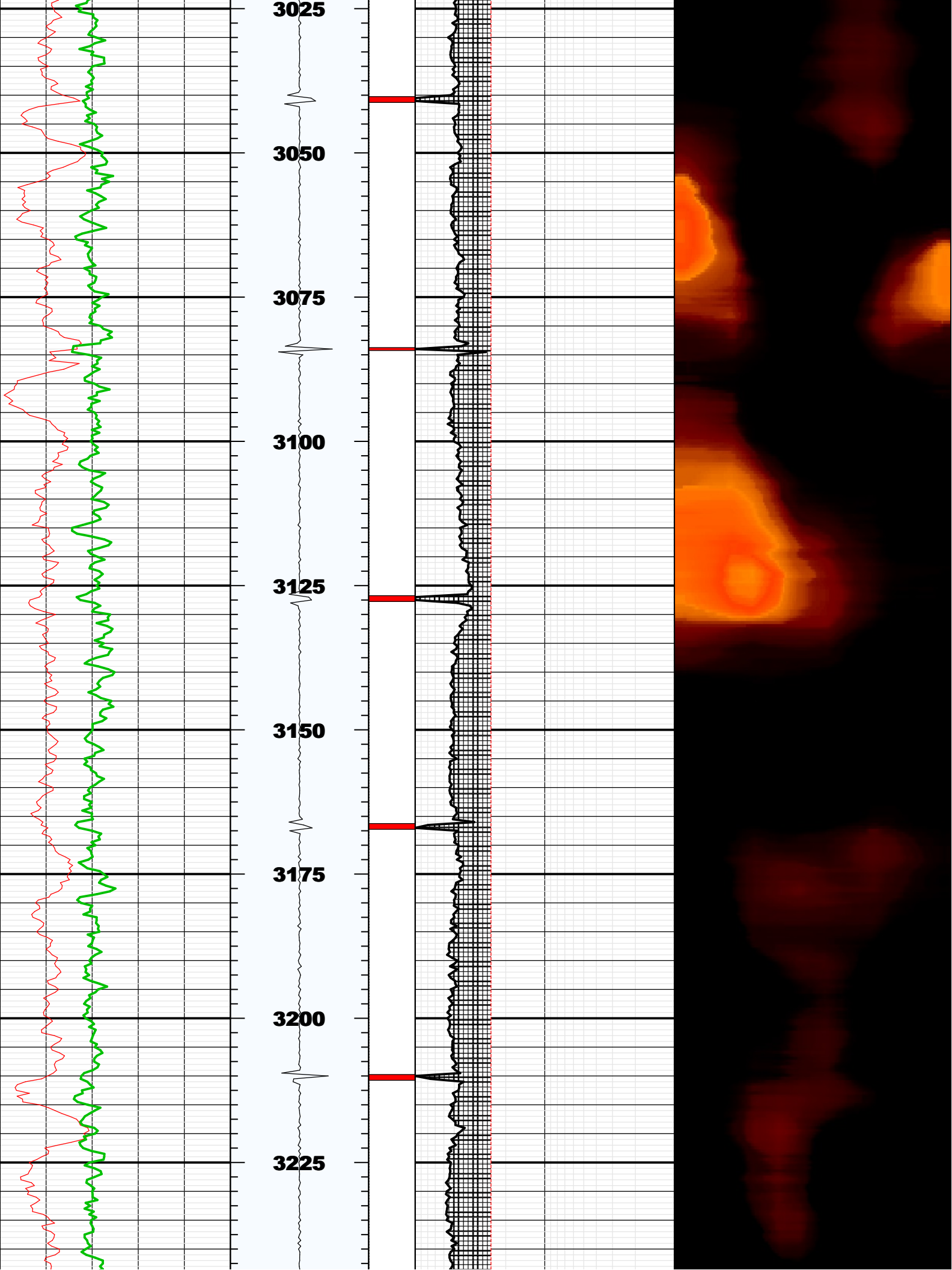


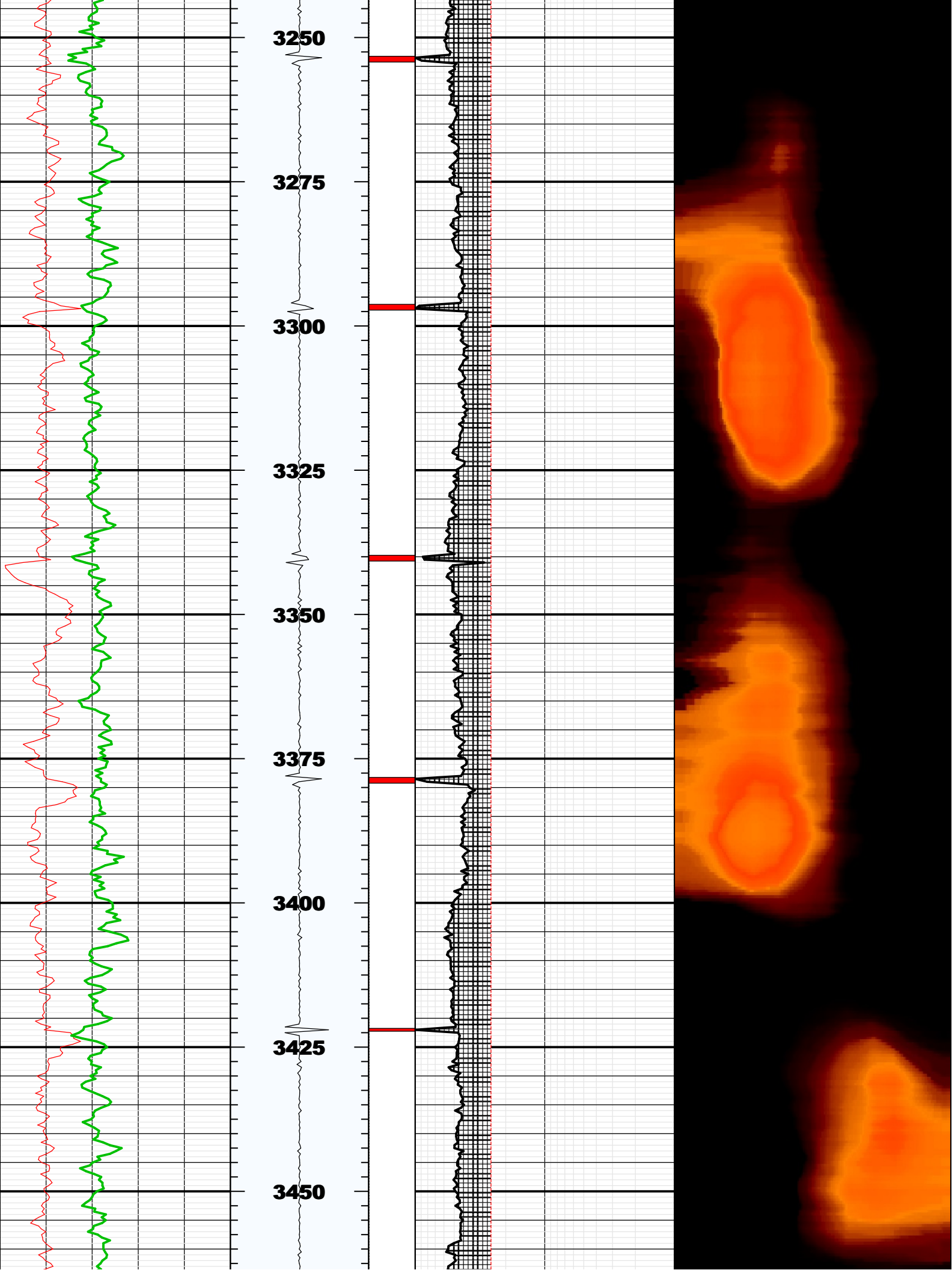




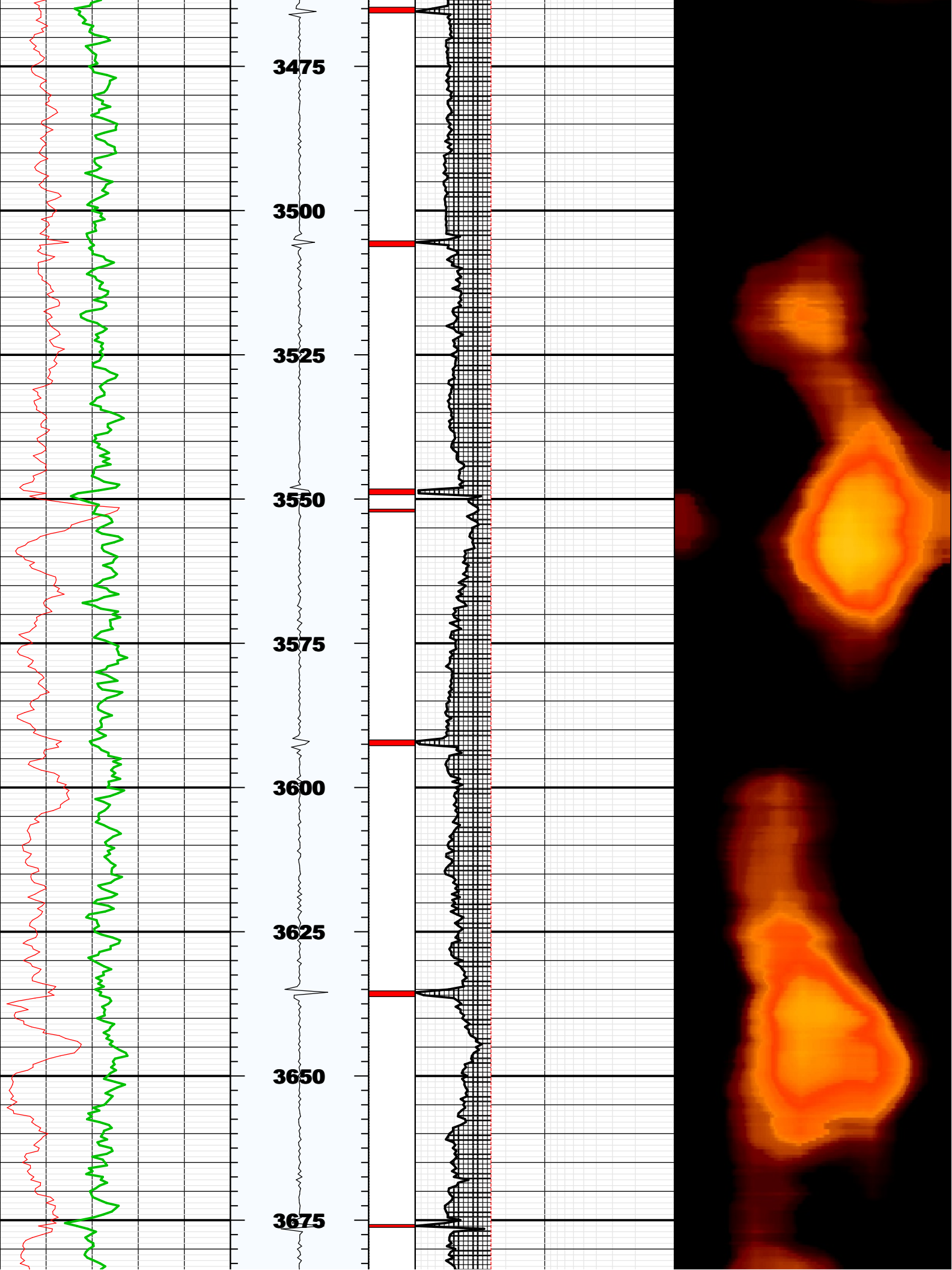


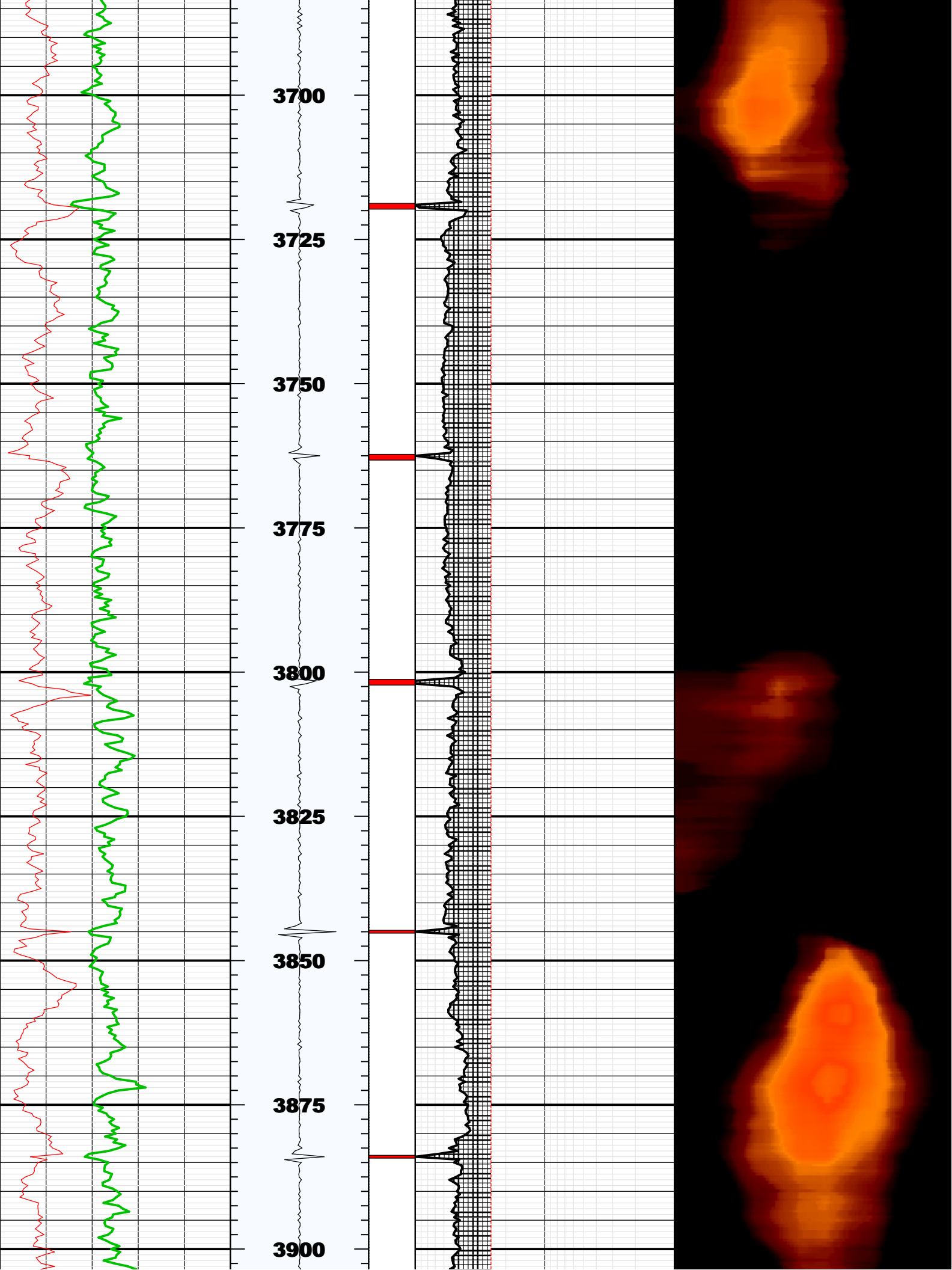




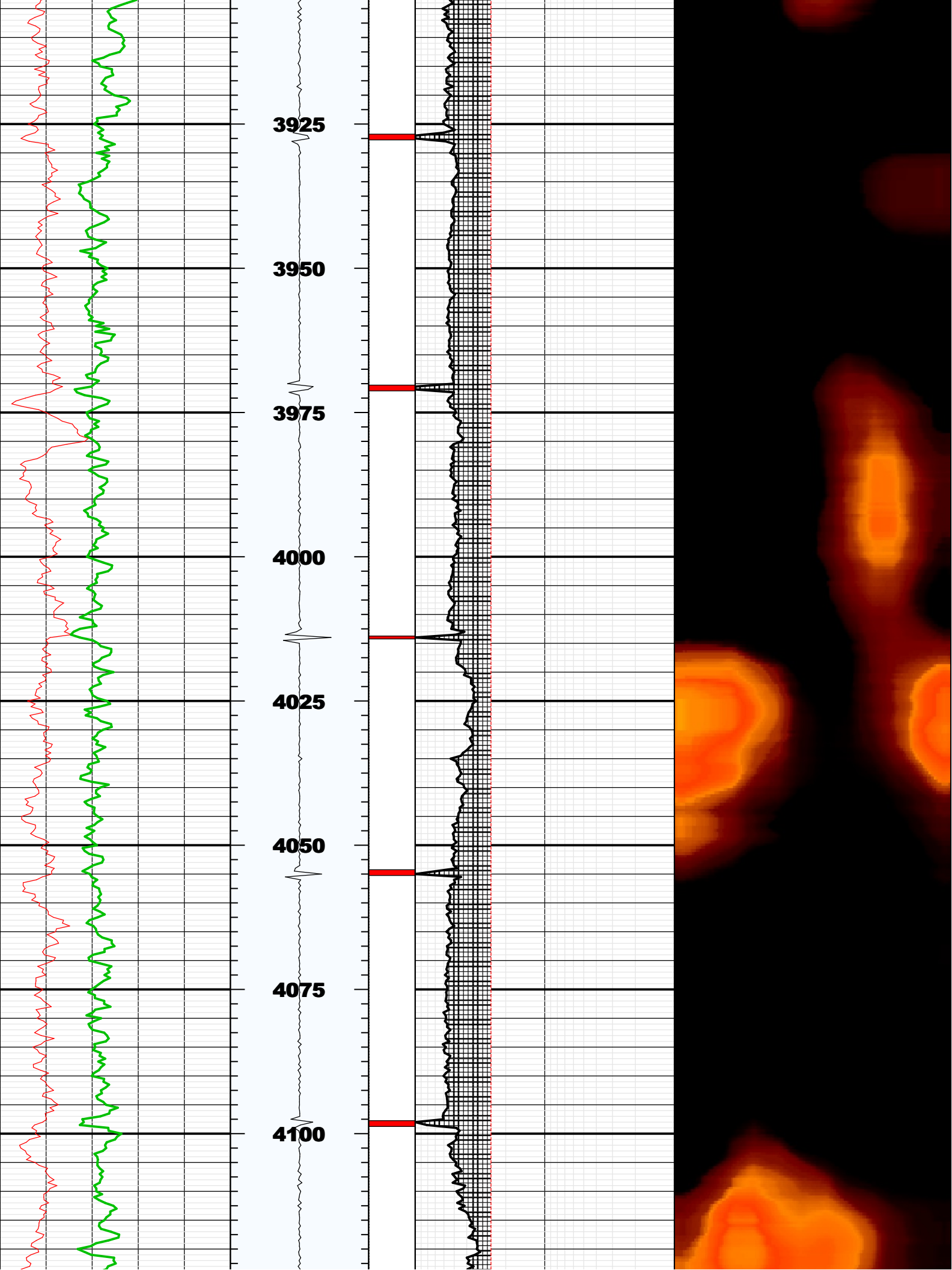


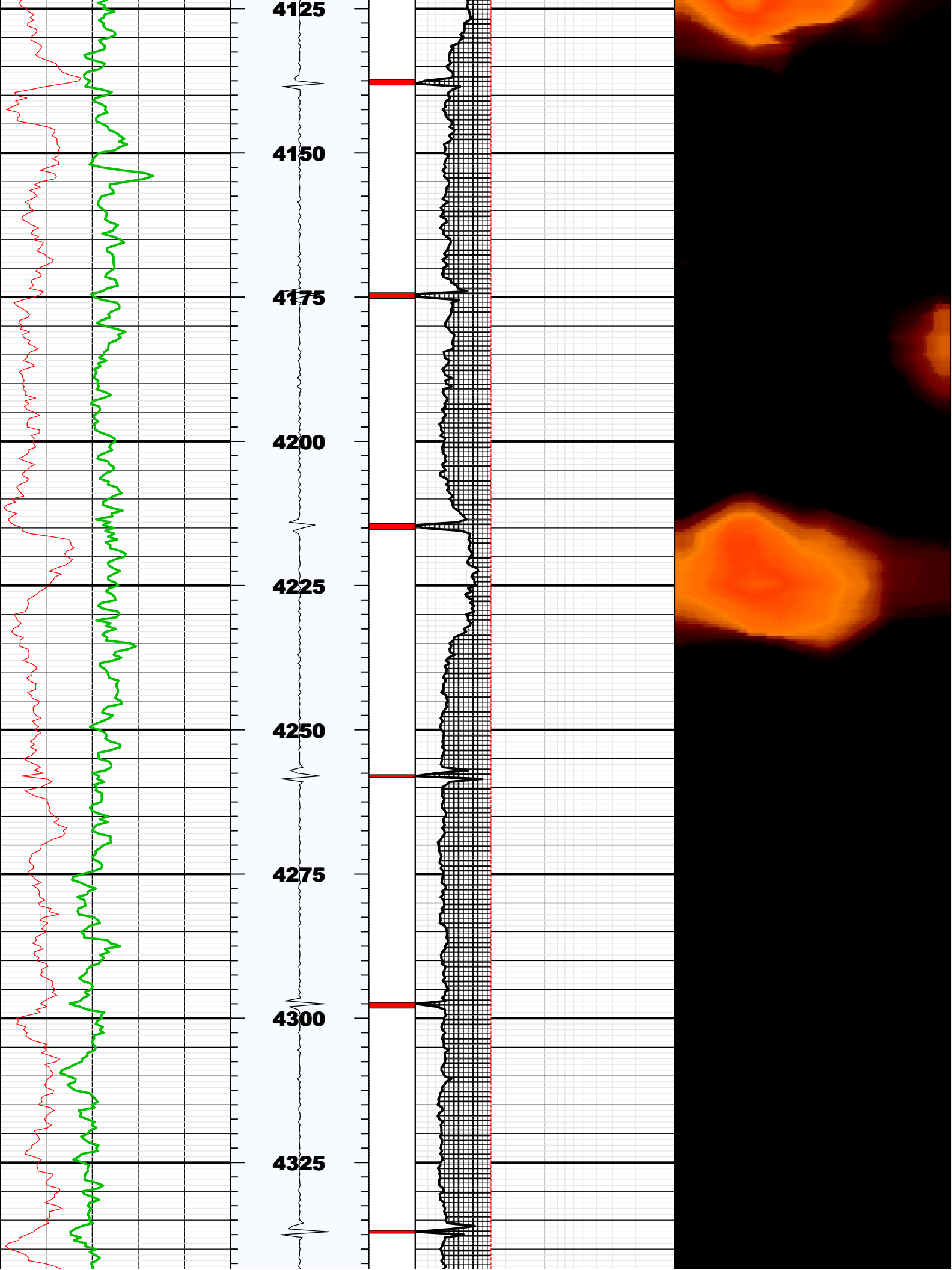


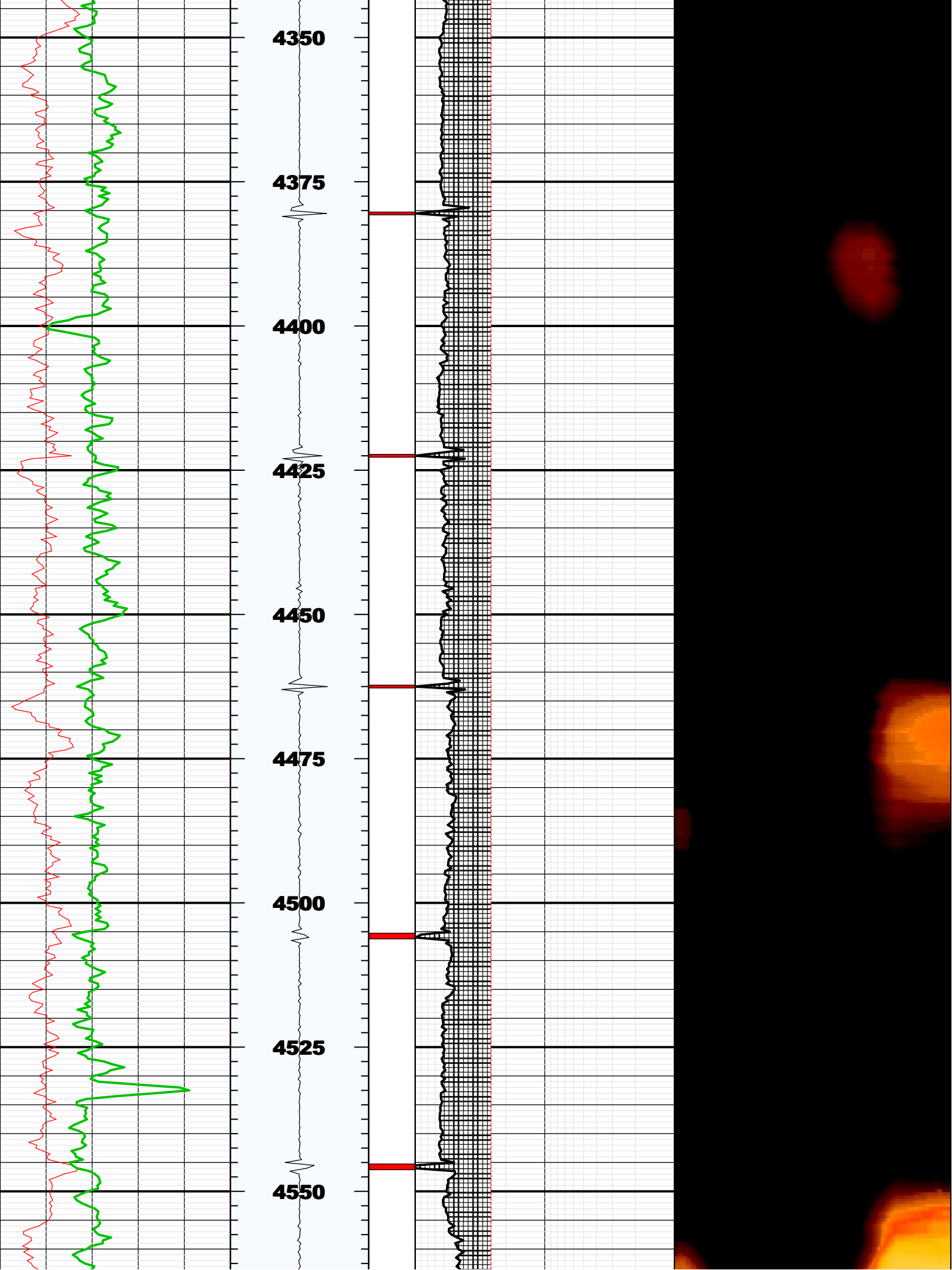


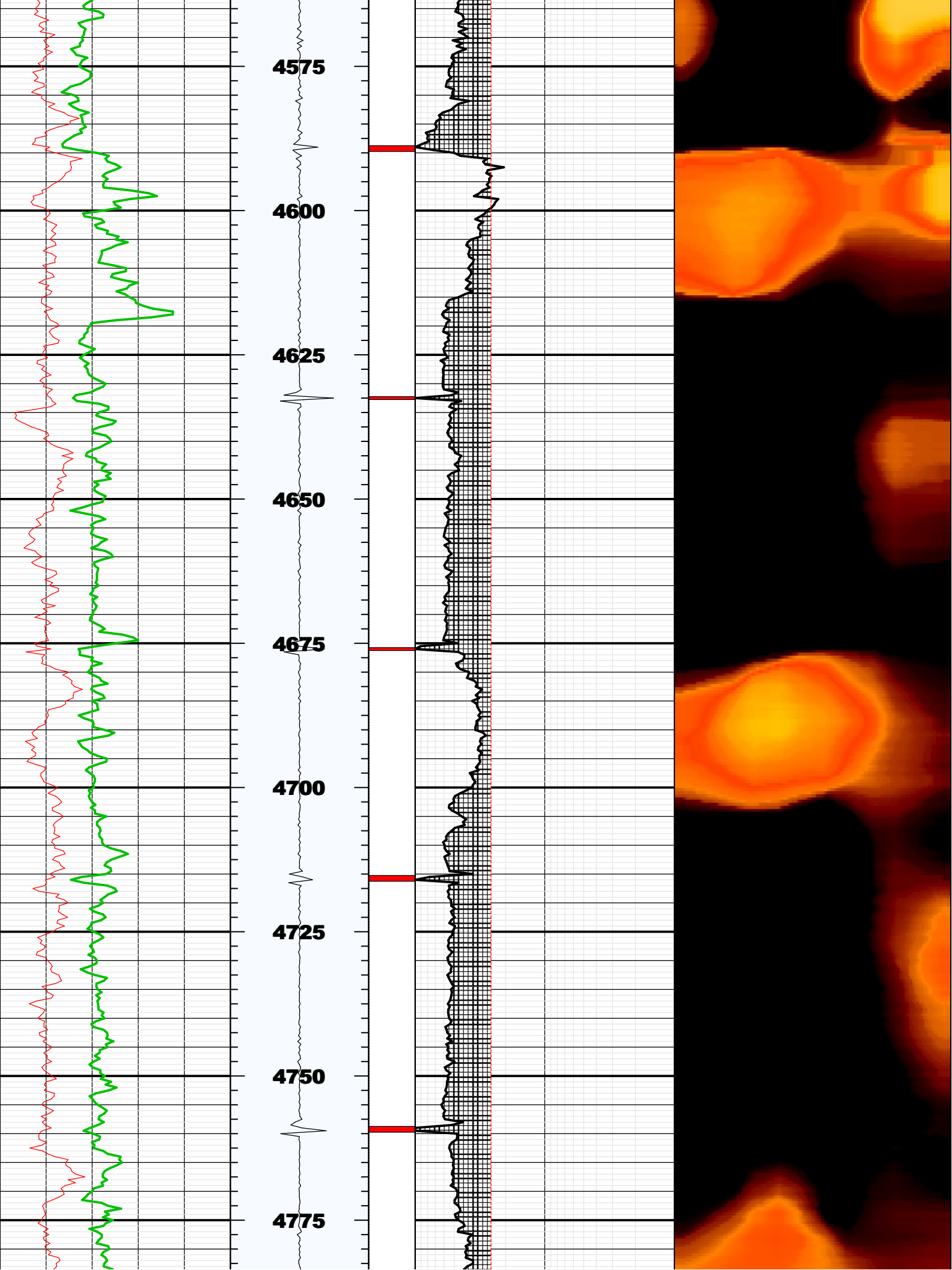


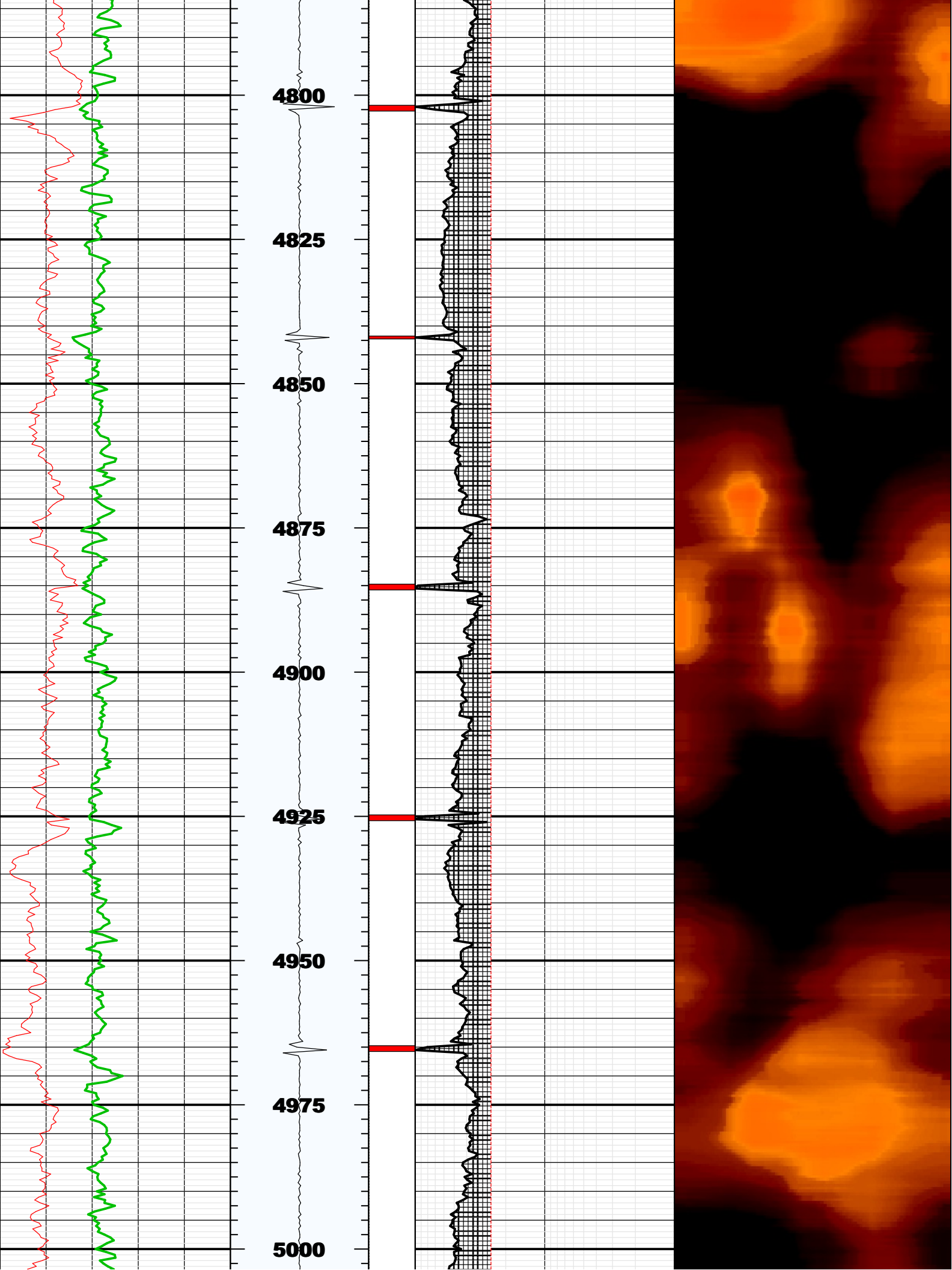




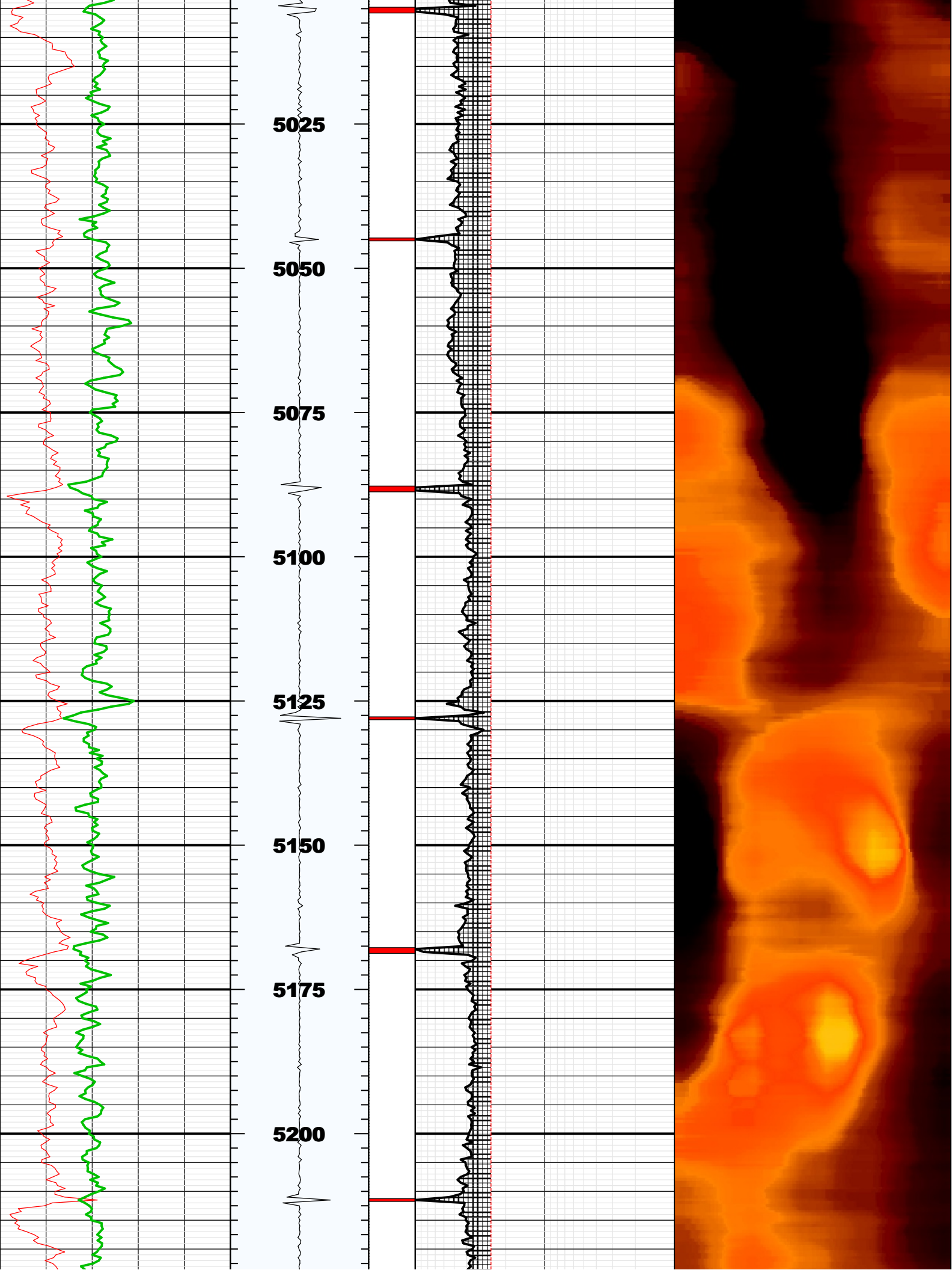




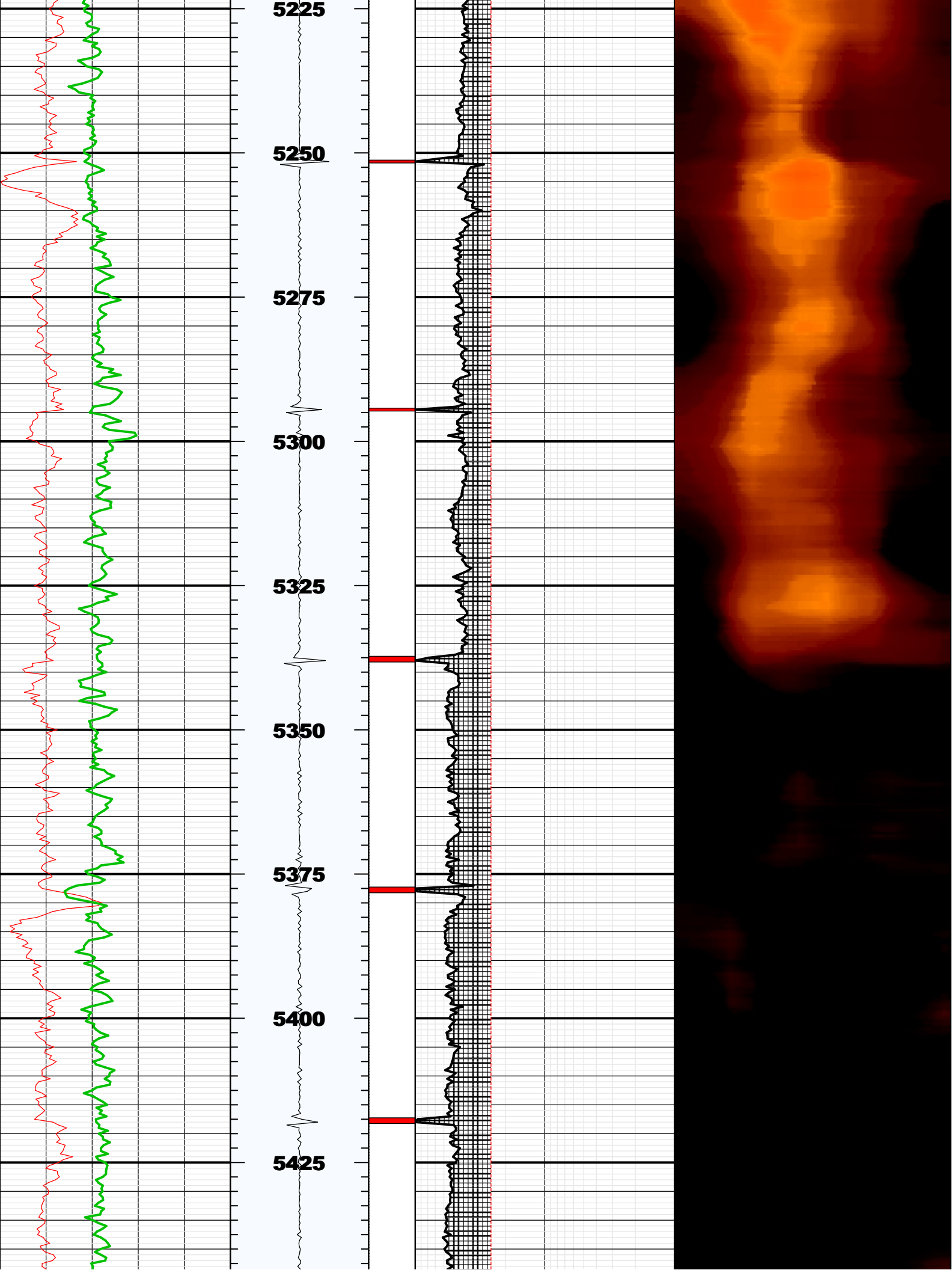


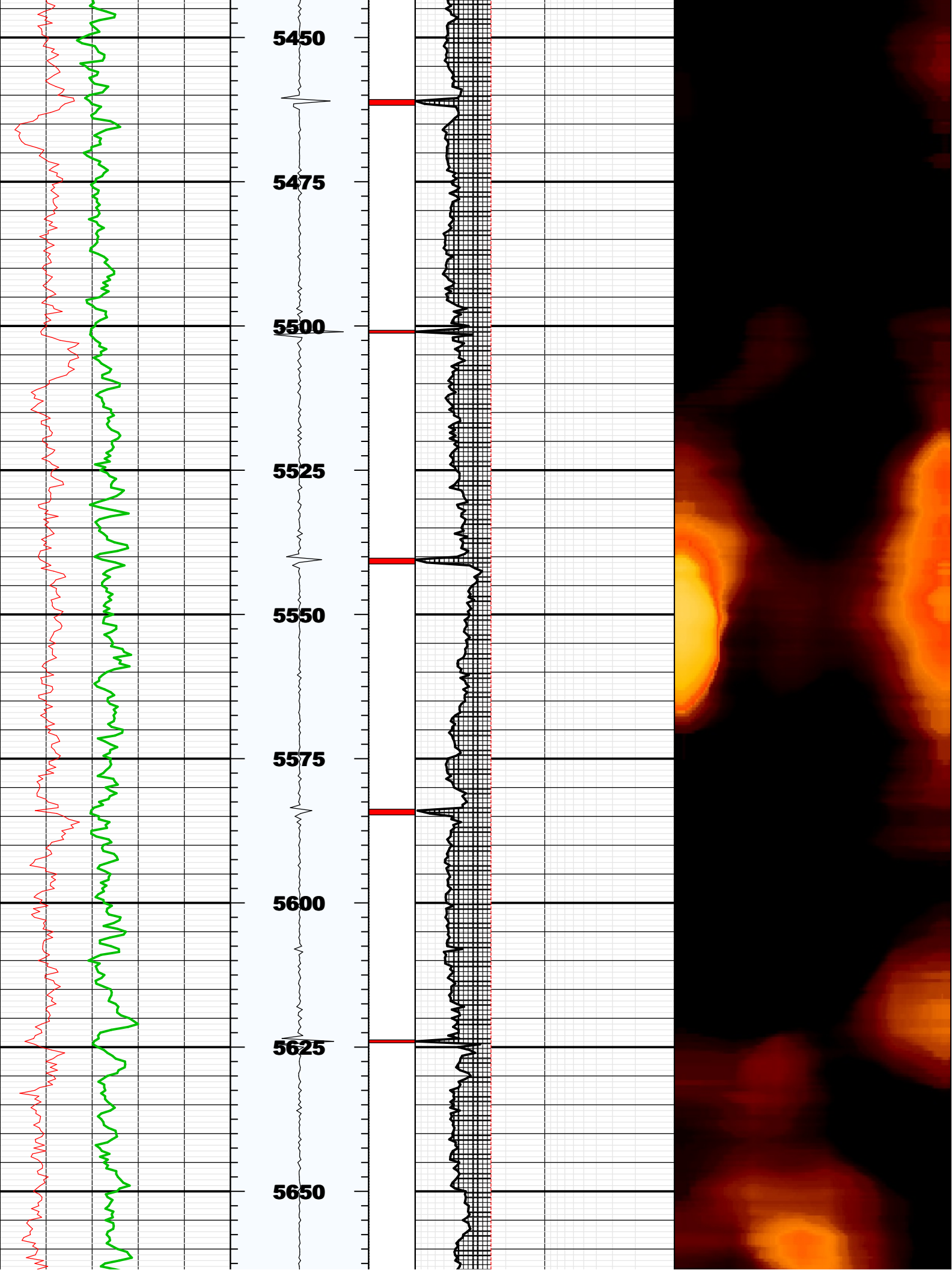


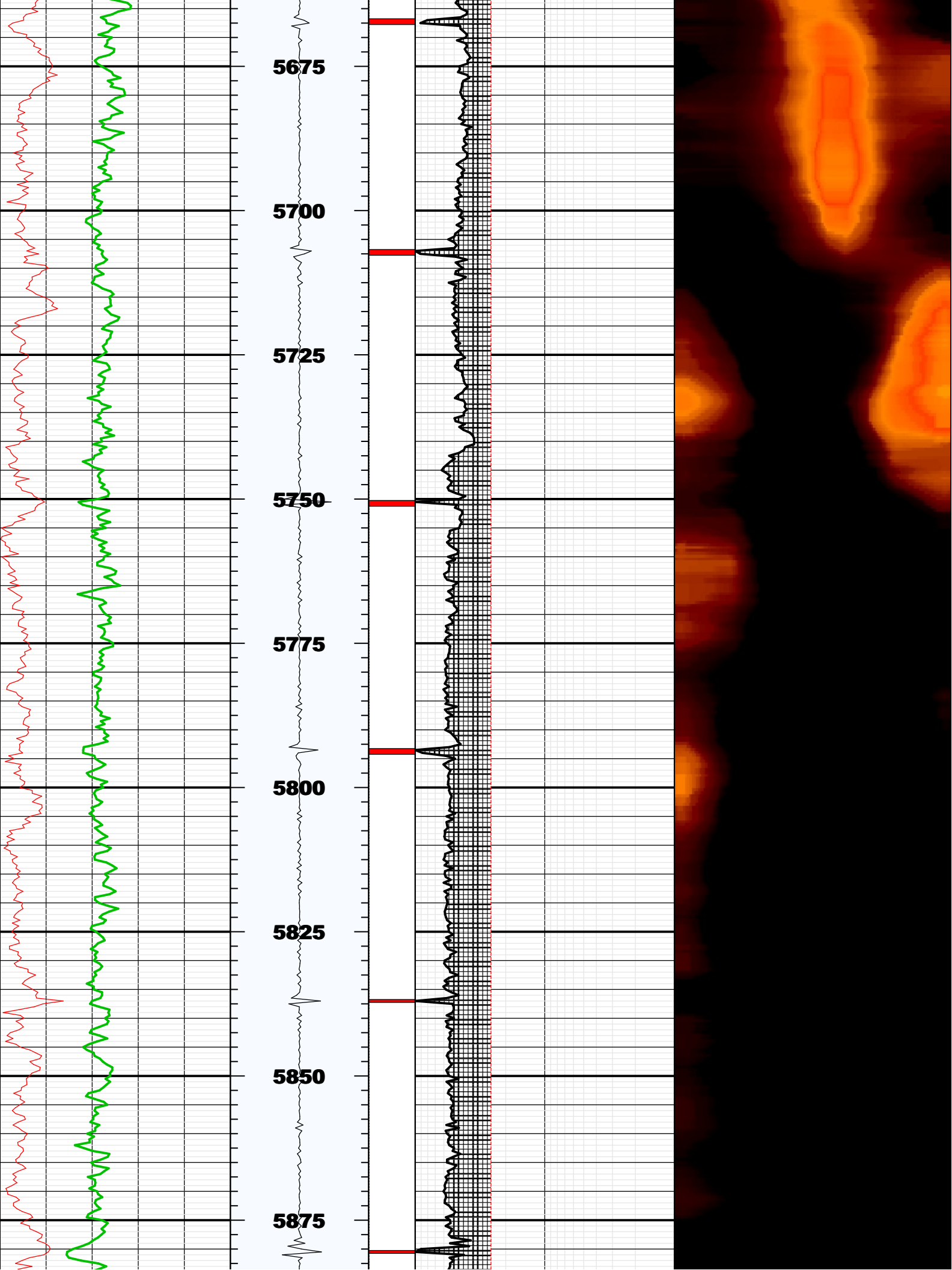


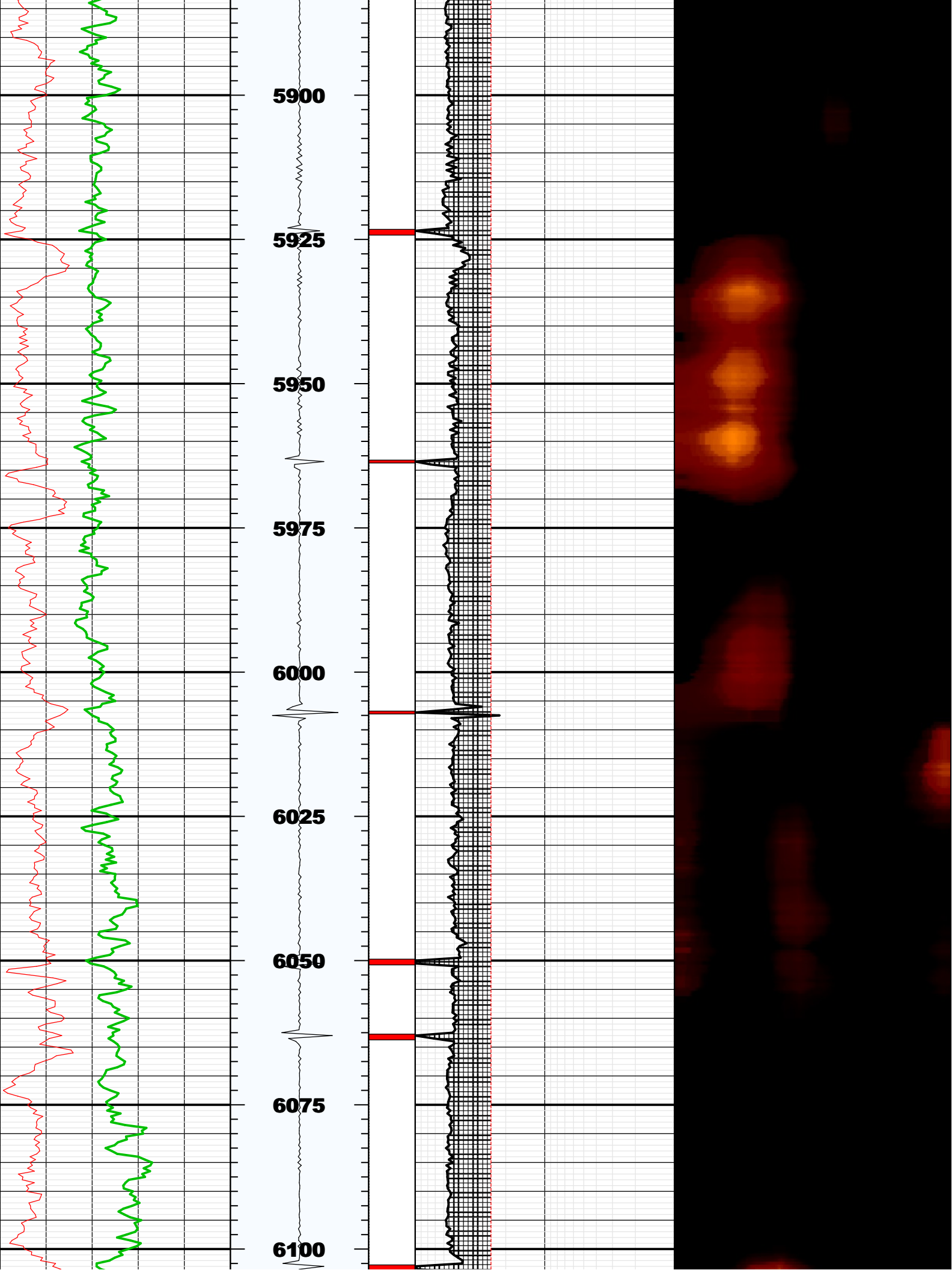


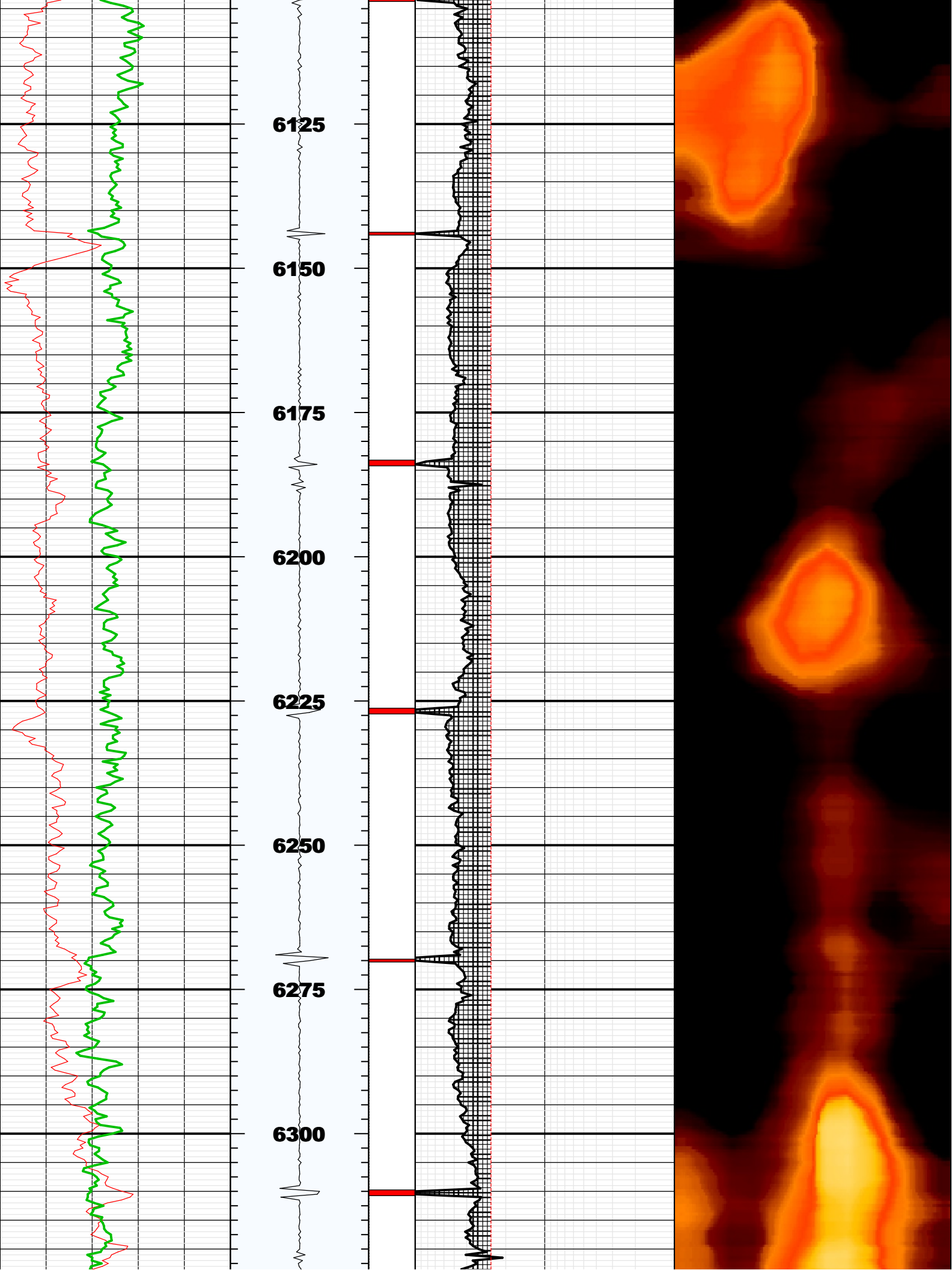




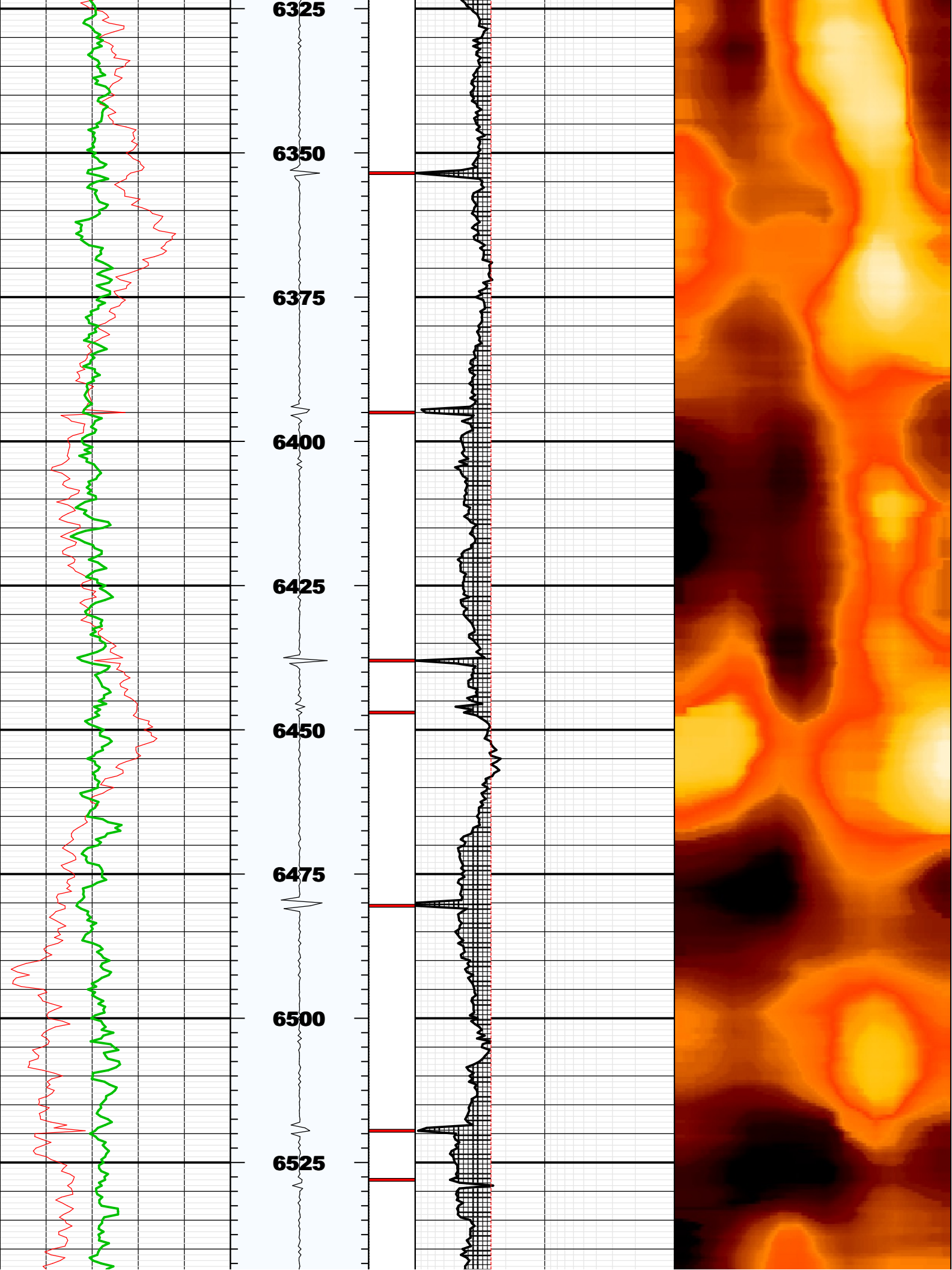




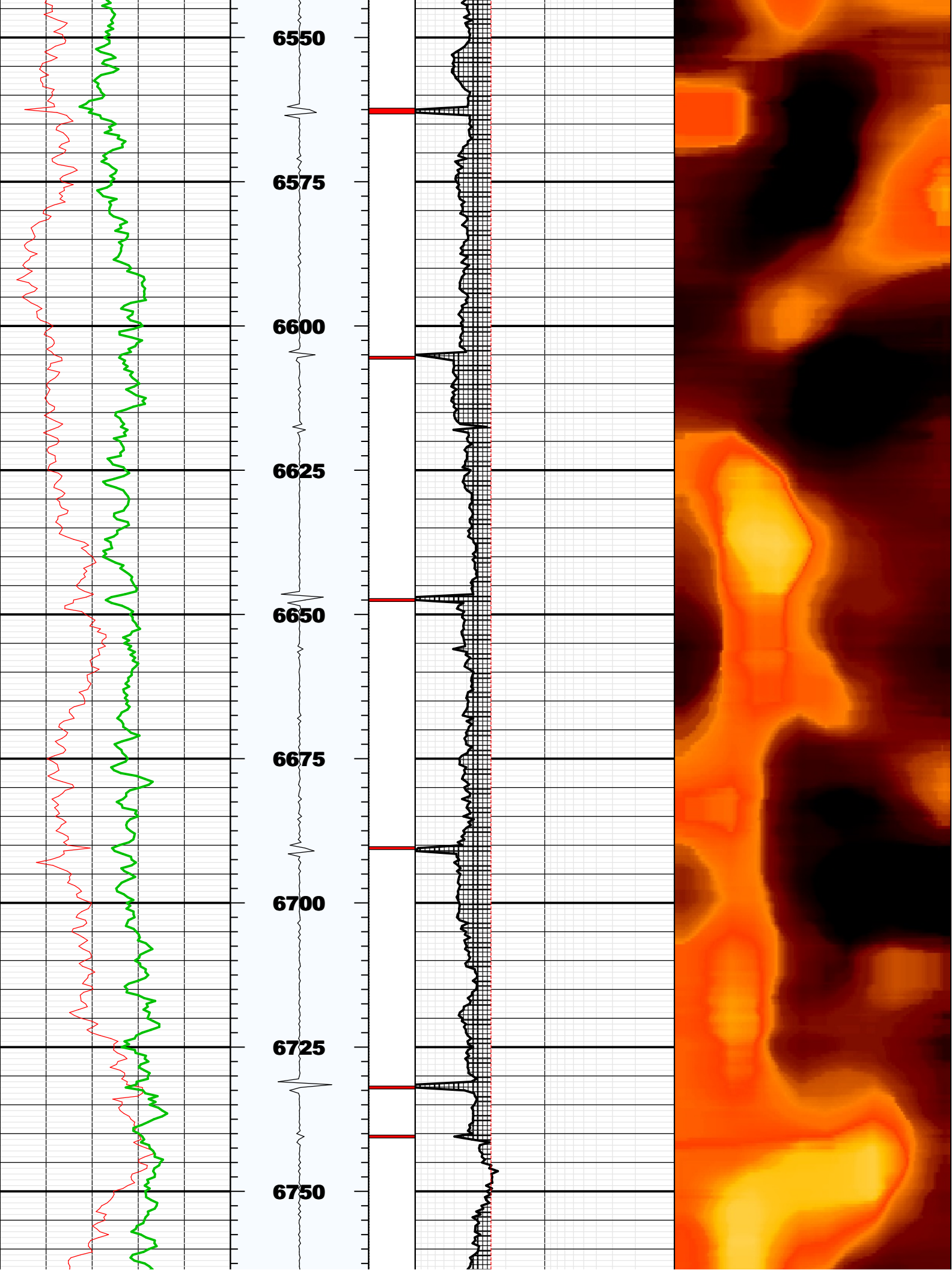


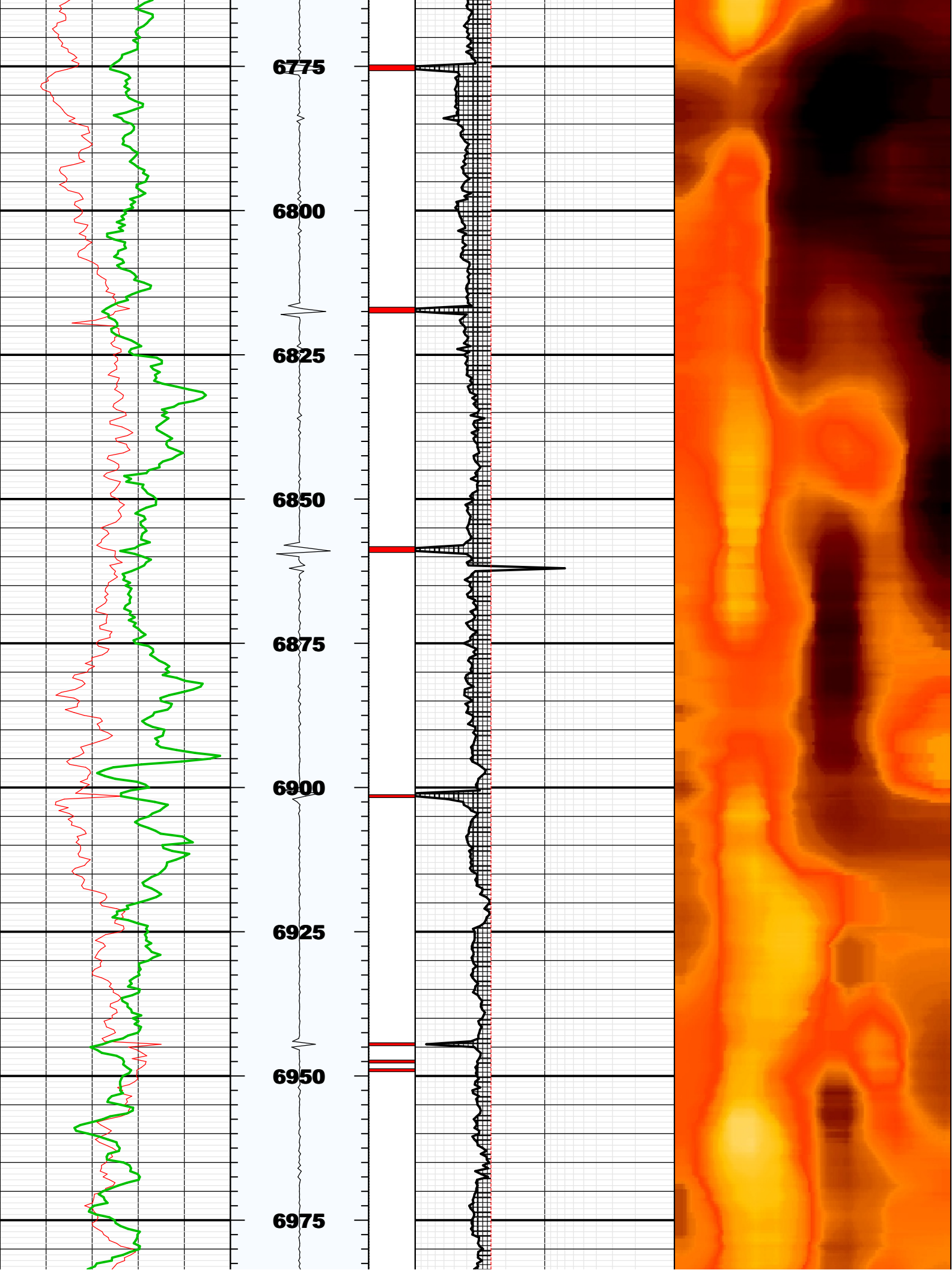


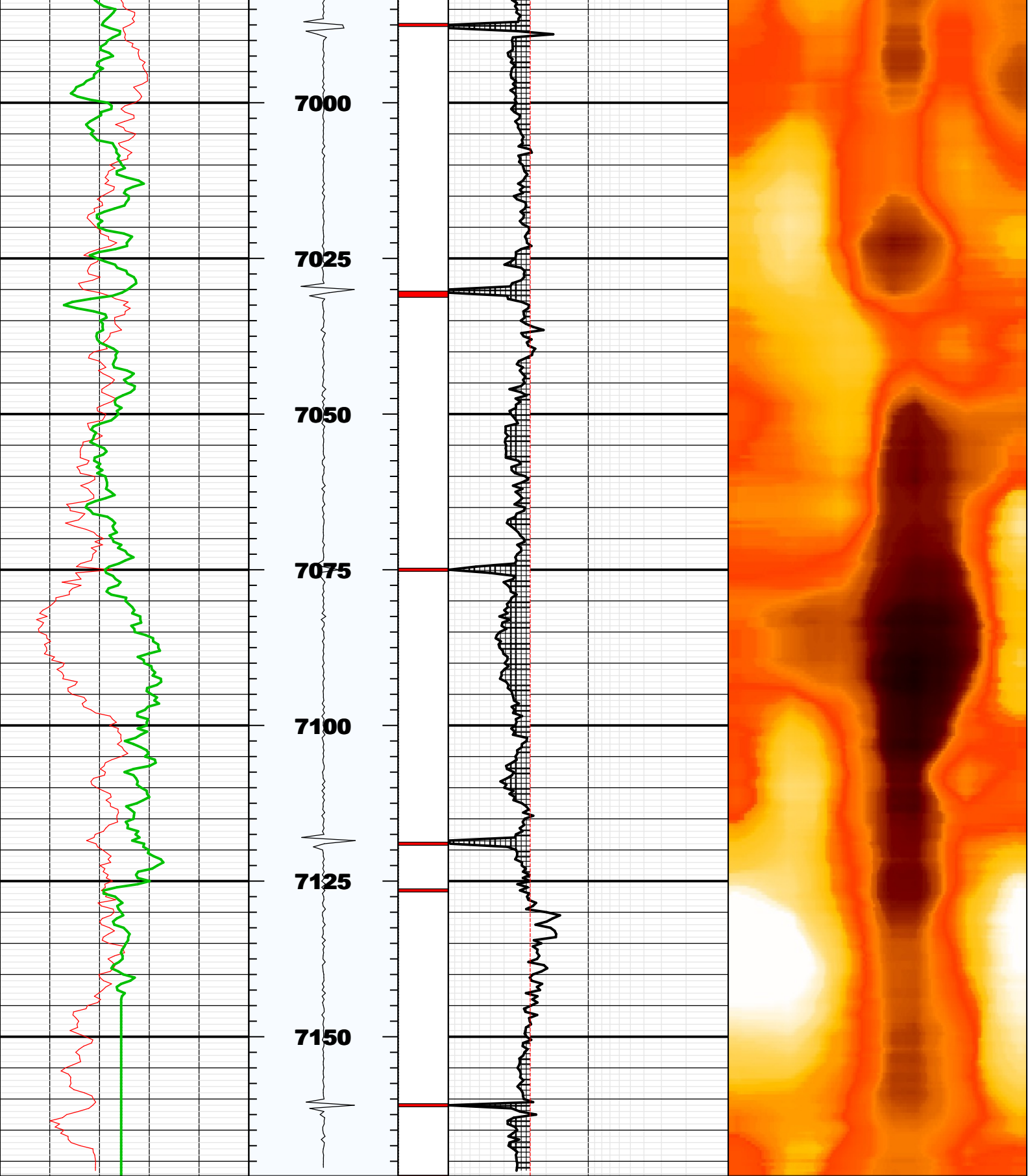








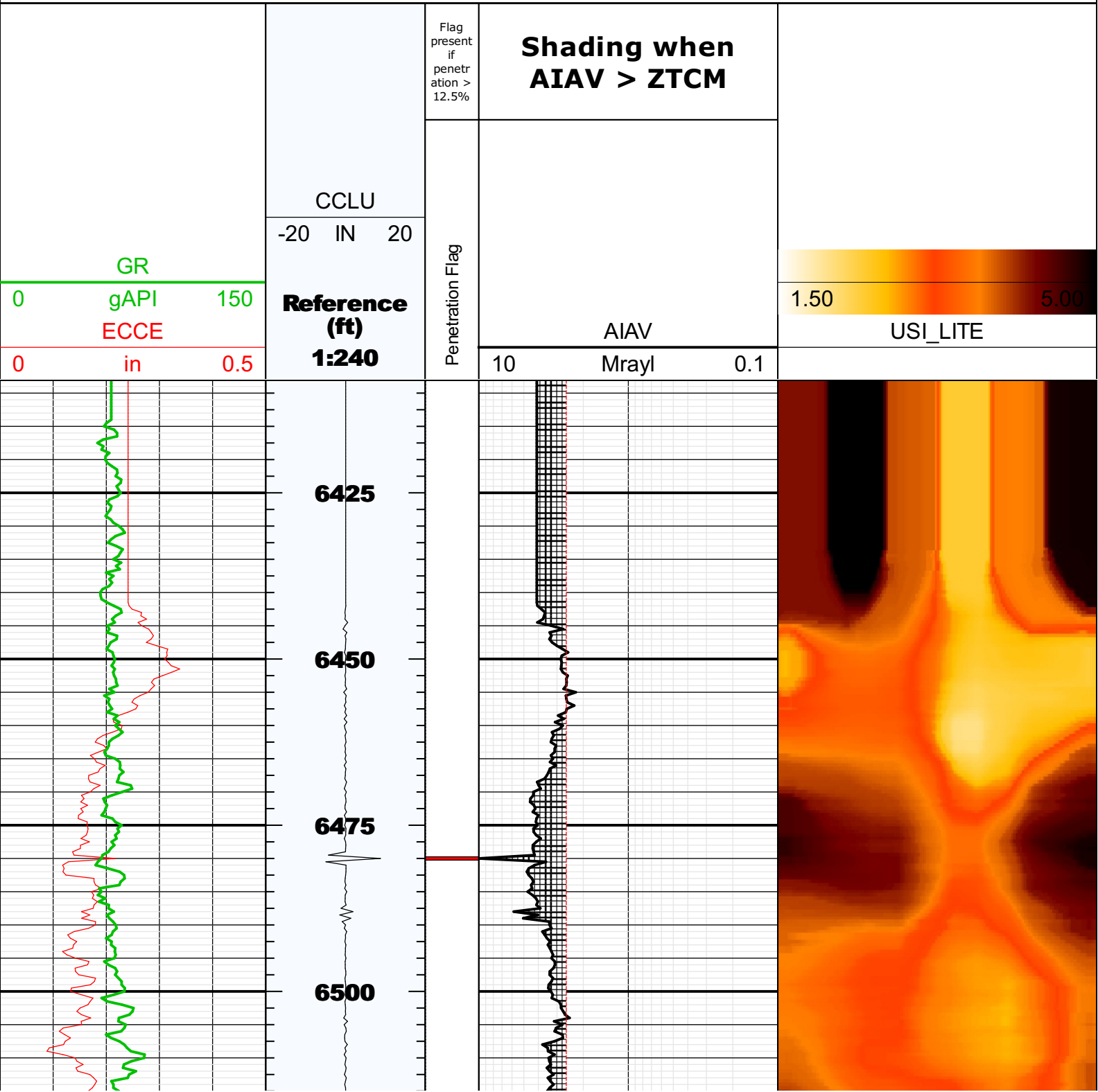




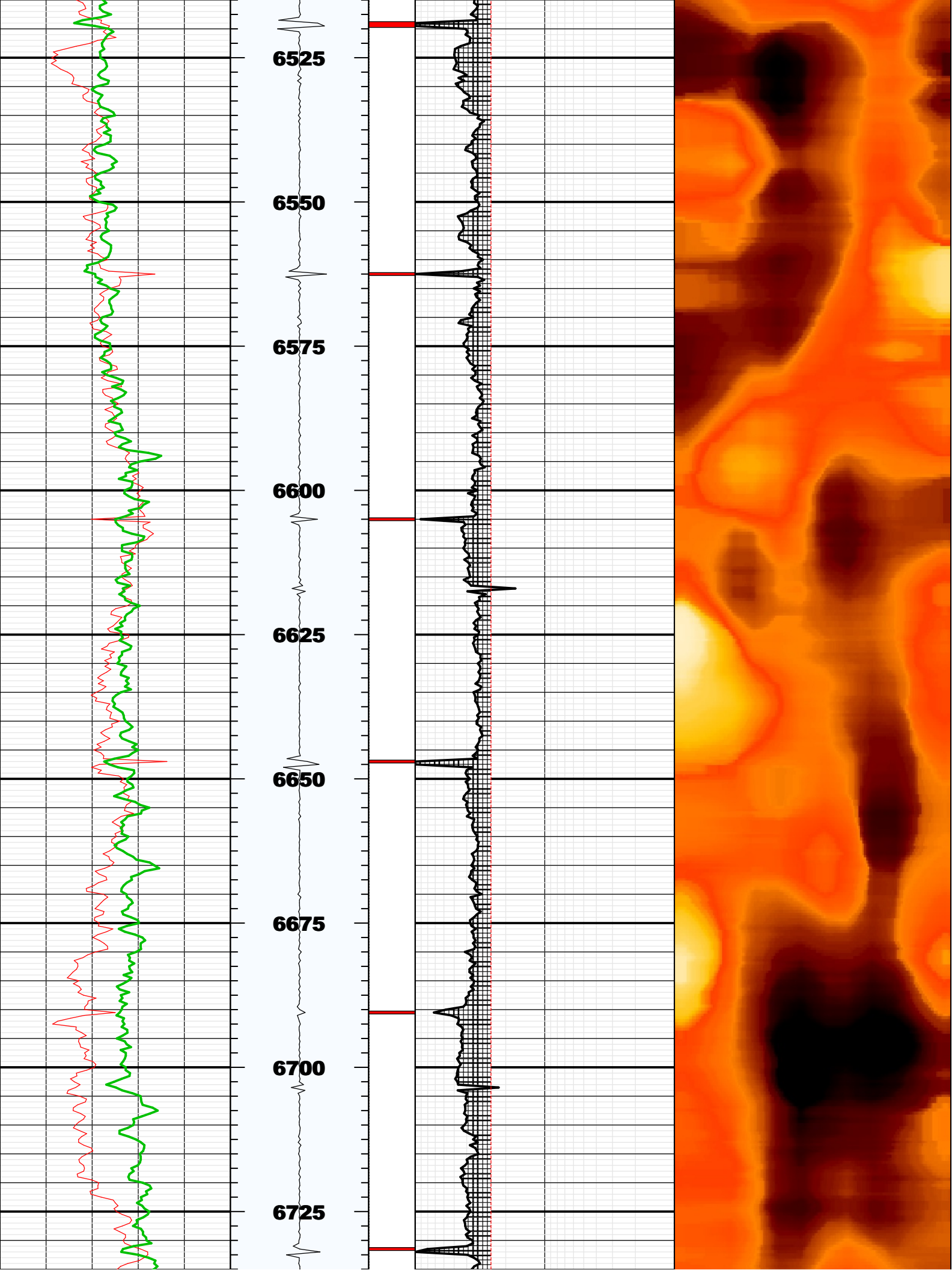
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID	6.34100	IN	Casing Inner Diameter
CSIZ	7.00000	IN	Current Casing Size
CWEI	24.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	188.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	90	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	0.32939	IN	Nominal Thickness of Casing
TMUC	WRM		Type of Mud
U-USIT_DT3P			
UPAT	500K		Emission Pattern
USUB	7INC		USIT Sub Identifier
UWKM	D603010L		Working Mode
VCAS	51.40000	US/F	Ultrasonic Transversal Velocity in Casing
WINB	34.31968	US	Window Begin Time
WINE	74.31967	US	Window End Time
ZCAS	46.25000	MRAY	Acoustic Impedance of Casing
ZINI	-1.00000	MRAY	Initial Estimate of Cement Impedance
ZMUD	1.80000	MRAY	Acoustic Impedance of Mud
ZTCM	2.60000	MRAY	Acoustic Impedance Threshold for Cement
ZTGS	0.30000	MRAY	Acoustic Impedance Threshold for Gas
WLEN	20.40916	US	T <sup>^</sup> 3 Processing Length

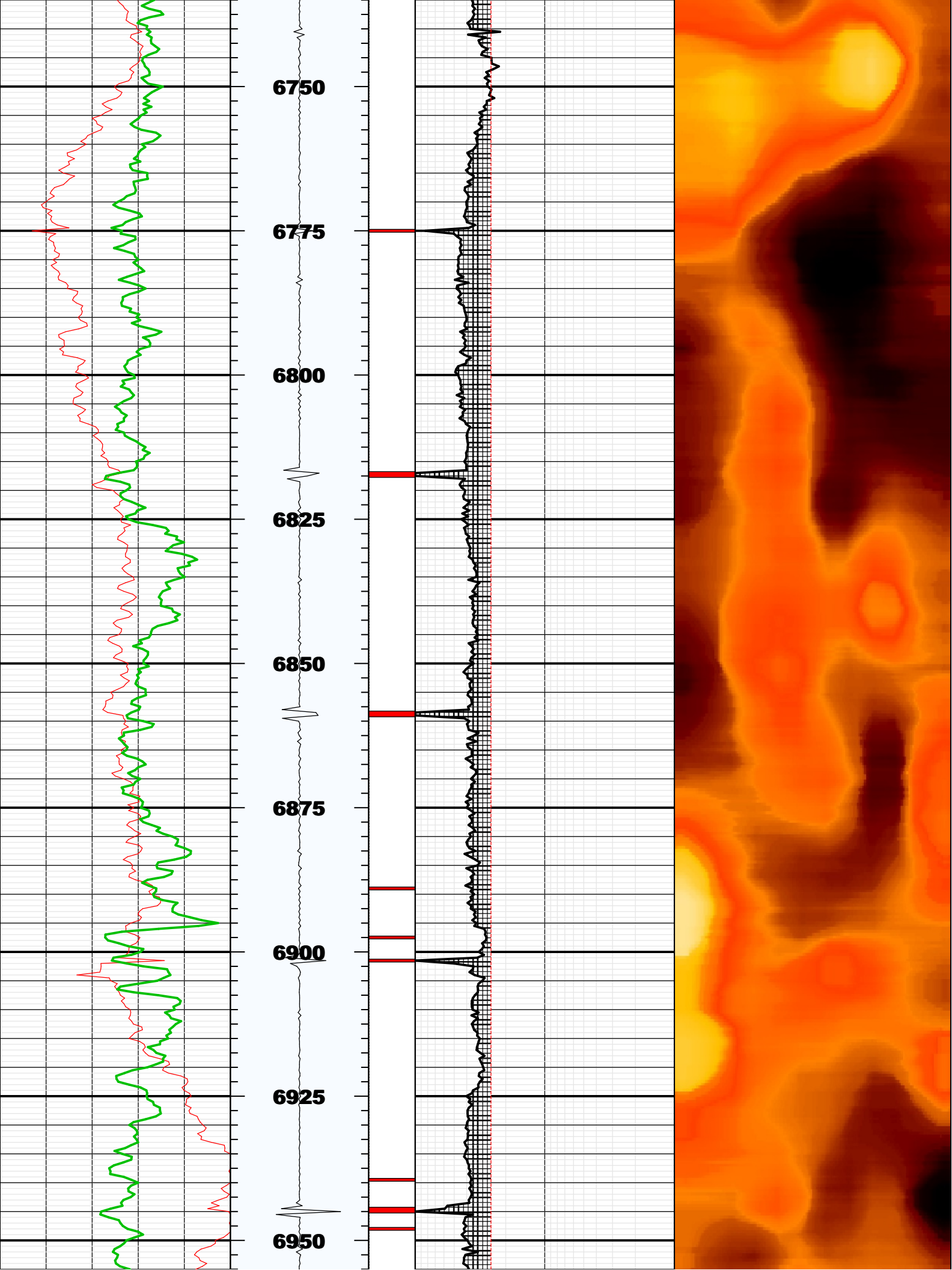
Repeat Pass

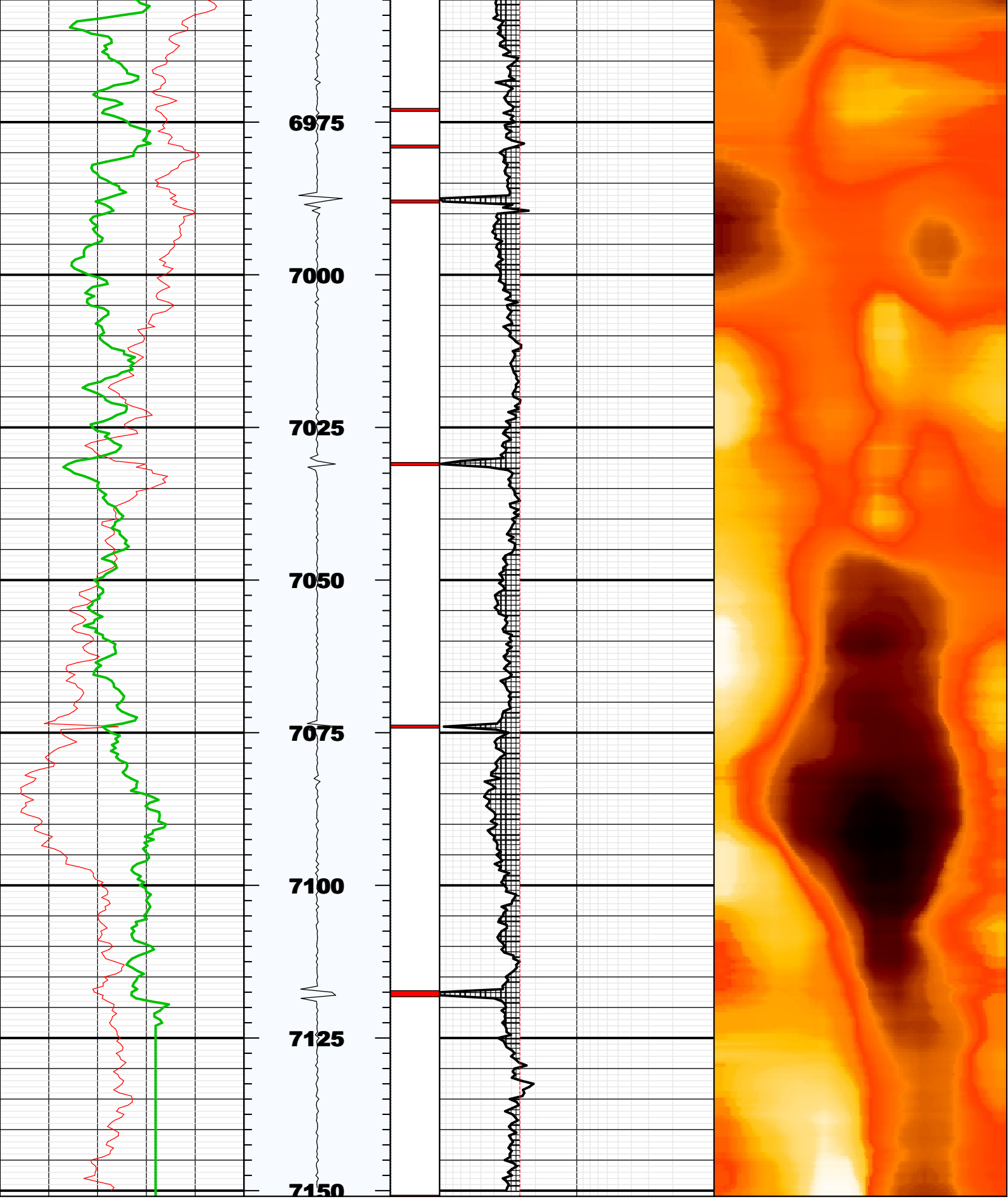
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## Fluid Properties Used for Main Pass

