

Company: Noble Energy Inc

Well: Wells Ranch AA35-66-1AHNC
Field: Wattenberg
County: Weld

State: Colorado

County: Weld Field: Wattenberg Location: SWNW Sec 36 T6N R63W Well: Wells Ranch AA35-66-1AHNC Company: Noble Energy Inc		USI-LITE			
Permanent Datum: Log Measured From: Drilling Measured From:				GL KB KB	Elev: K.B. 4811.0 F G.L. 4787.0 F D.F. 4787.0 F
Logging Date	02-May-2014	API Serial No. 05-123-38660-0000	Section 36	Township 6N	Range 63W
Run Number	Run 1				
Depth Driller	11190.0 F				
Schlumberger Depth	11190.0 F				
Bottom Log Interval	6670.0 F				
Top Log Interval	50.0 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	670.0 F				
To	6981.0 F				
Casing Size	7.00 IN				
Weight	26.00 LB/F				
Grade	P110				
From	24.0 F				
To	6971.0 F				
Max Recorded Temp	-999.2				
Logger on bottom (date)	02-May-2014				
Location	Fort Morgan CO				
Recorded By	Keri Ondrus				
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: 2858 Calibration Date: Calibrator Serial Number: Number Of Calibration Points: Calibration RMS: Calibration Peak Error:	Serial Number: 713277 Length: 18240.00000

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) RESTRICTIONS 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

Toolstring run as per toolsketch.

Lead cement 12.5 ppg Tail cement 13.8 ppg

0 PSI repeat pass 2500 PSI main pass.

Liner top at 6858.8 feet.

Tagged obstruction at 6740 feet Tried multiple attempts to spin sub without success moving 5 feet higher between each attempt.

Sub able to spin at 6670 feet. Bottom log interval at 6670 feet.

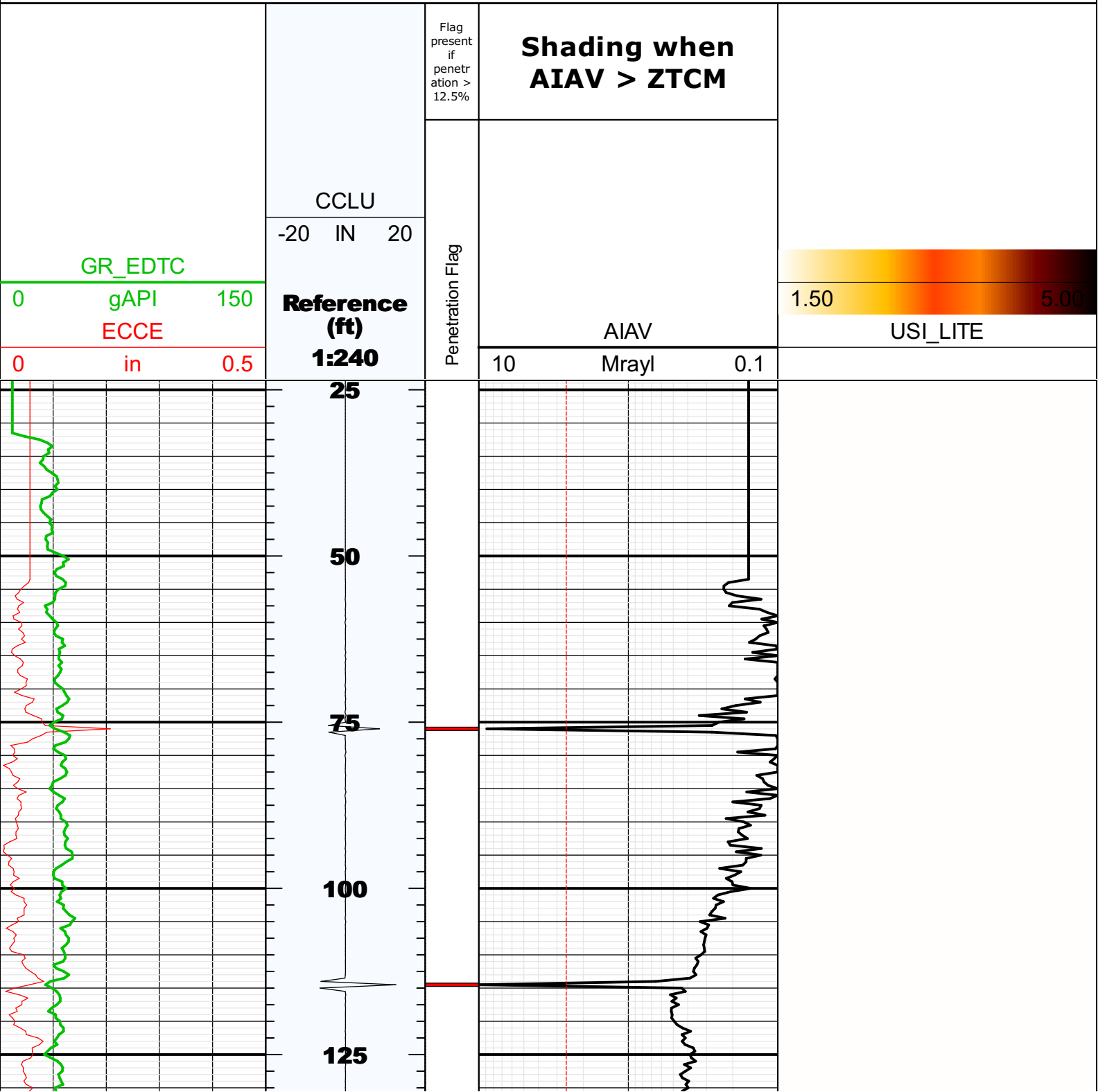
Estimated TOC @ 775 feet.

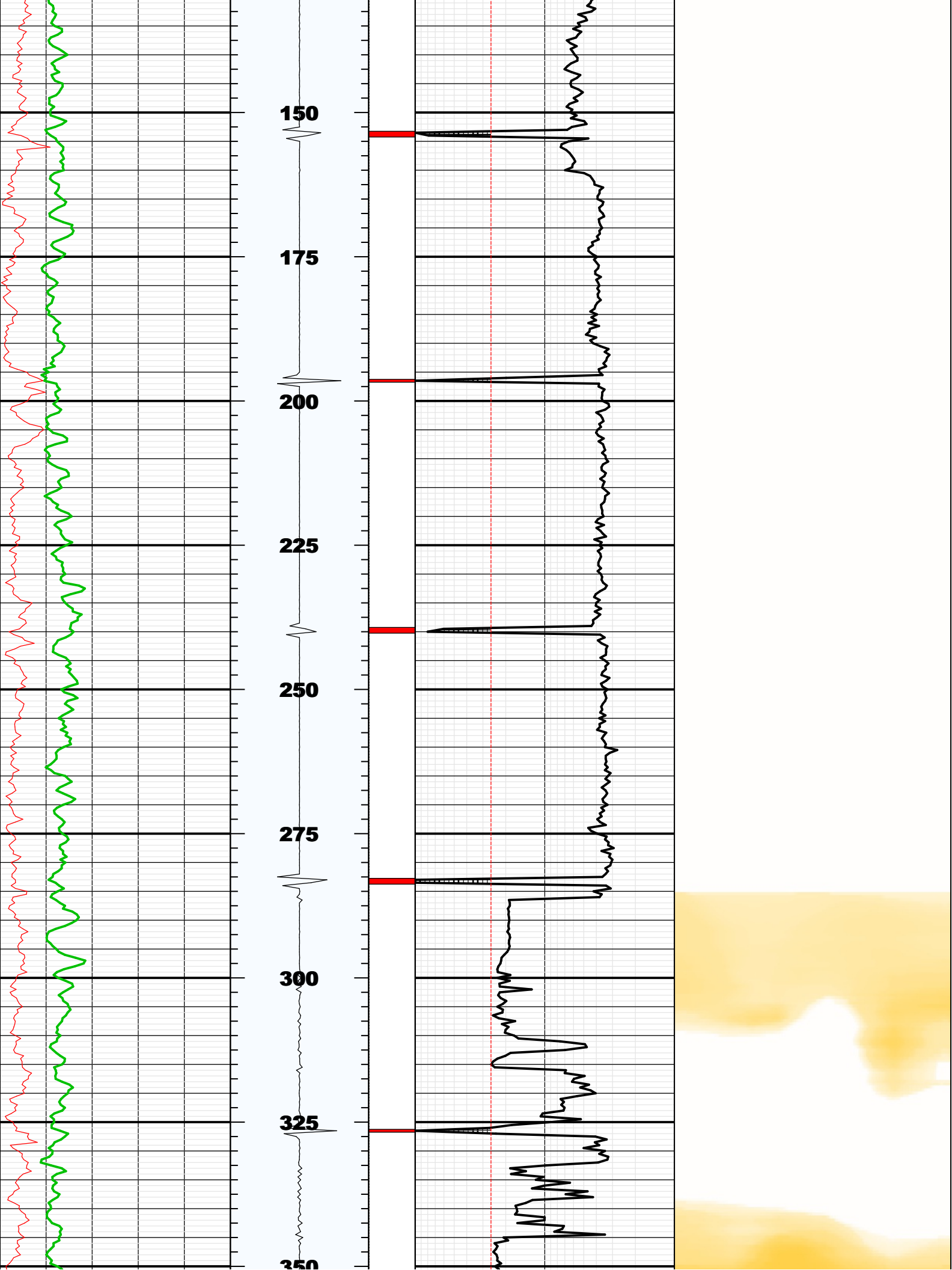
Thank you for choosing Schlumberger Wireline.

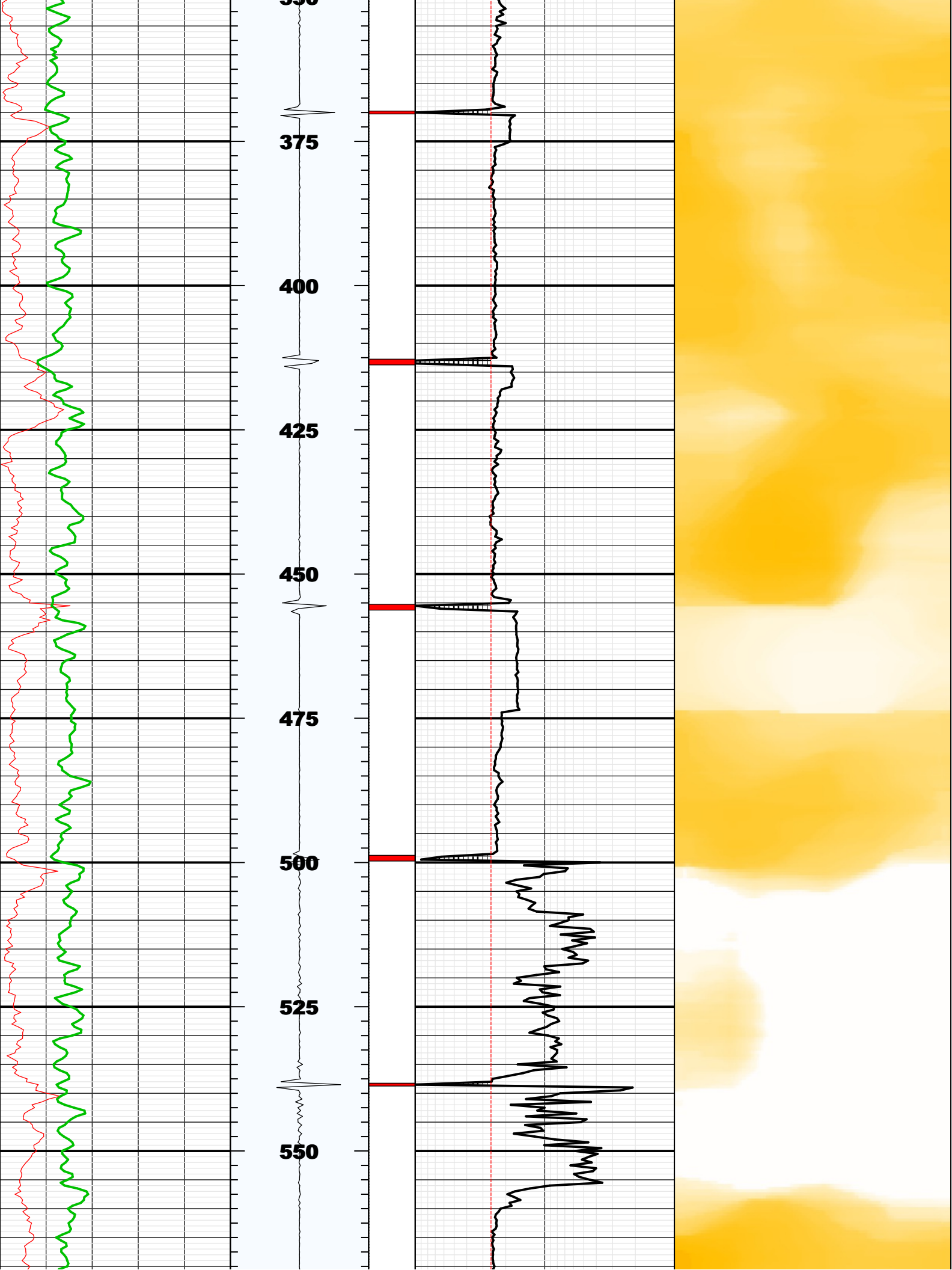
Schlumberger crew Derrick Hunter Josh Strand

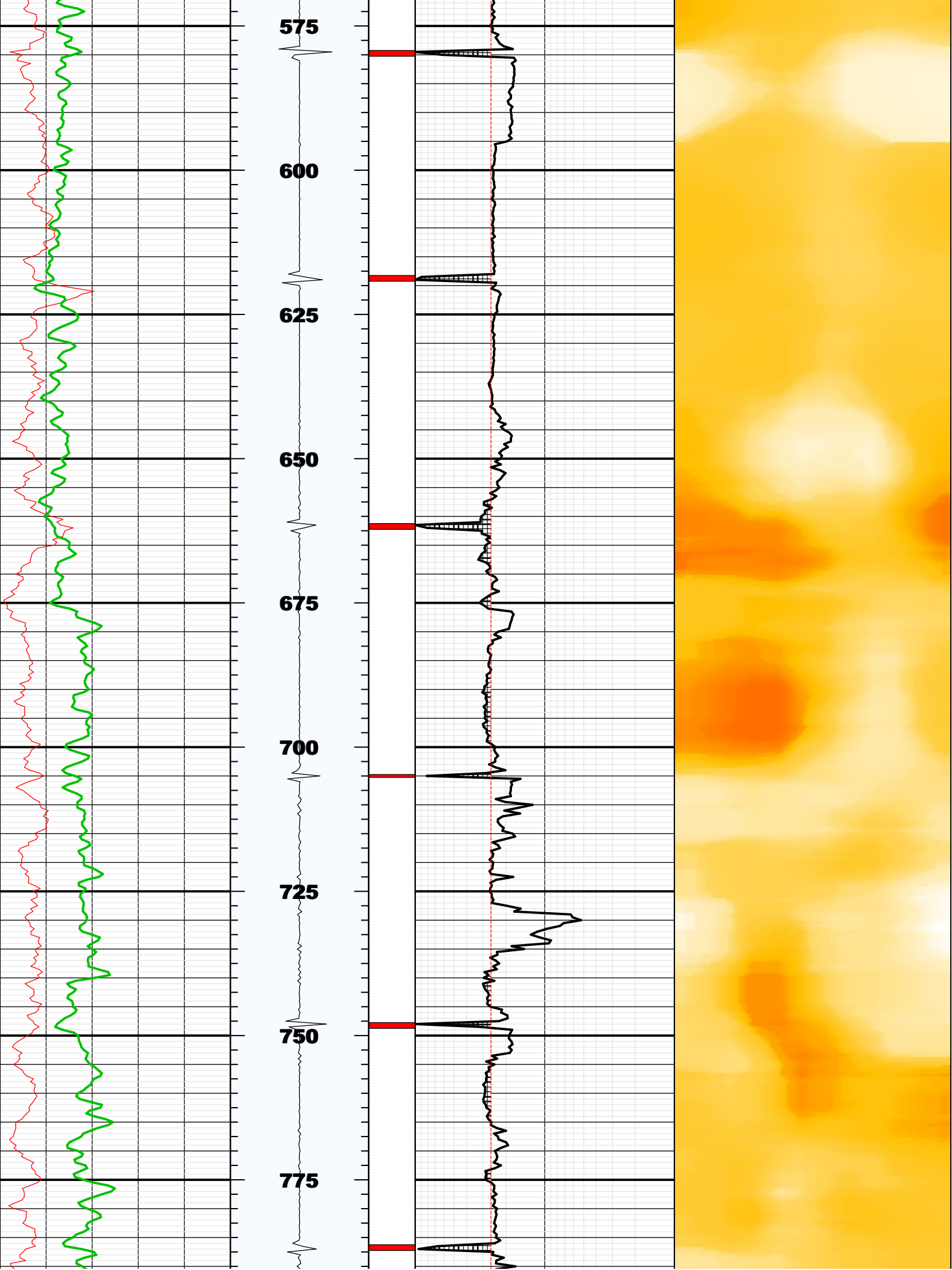
Main Pass

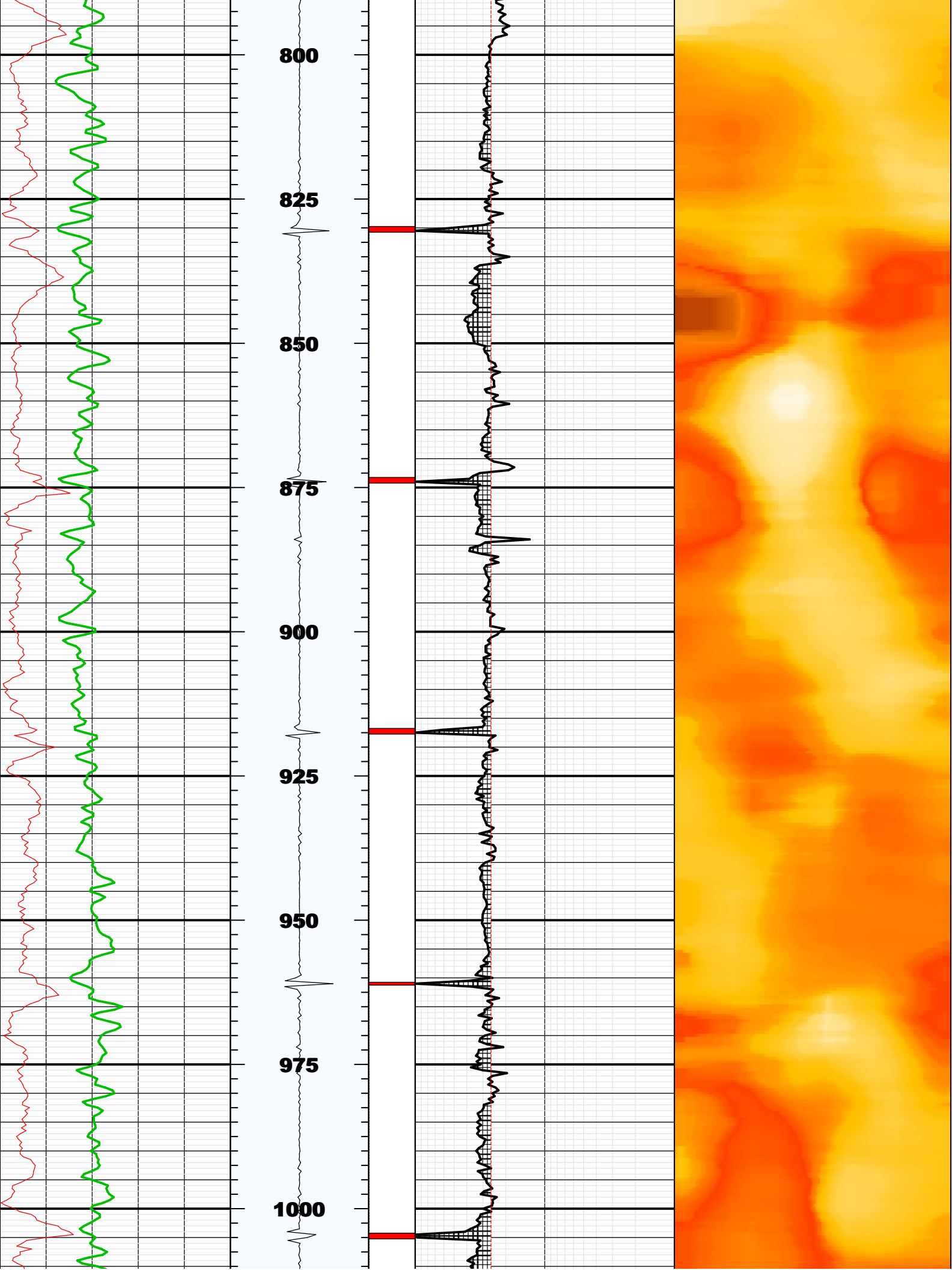
Company: Noble Energy Inc
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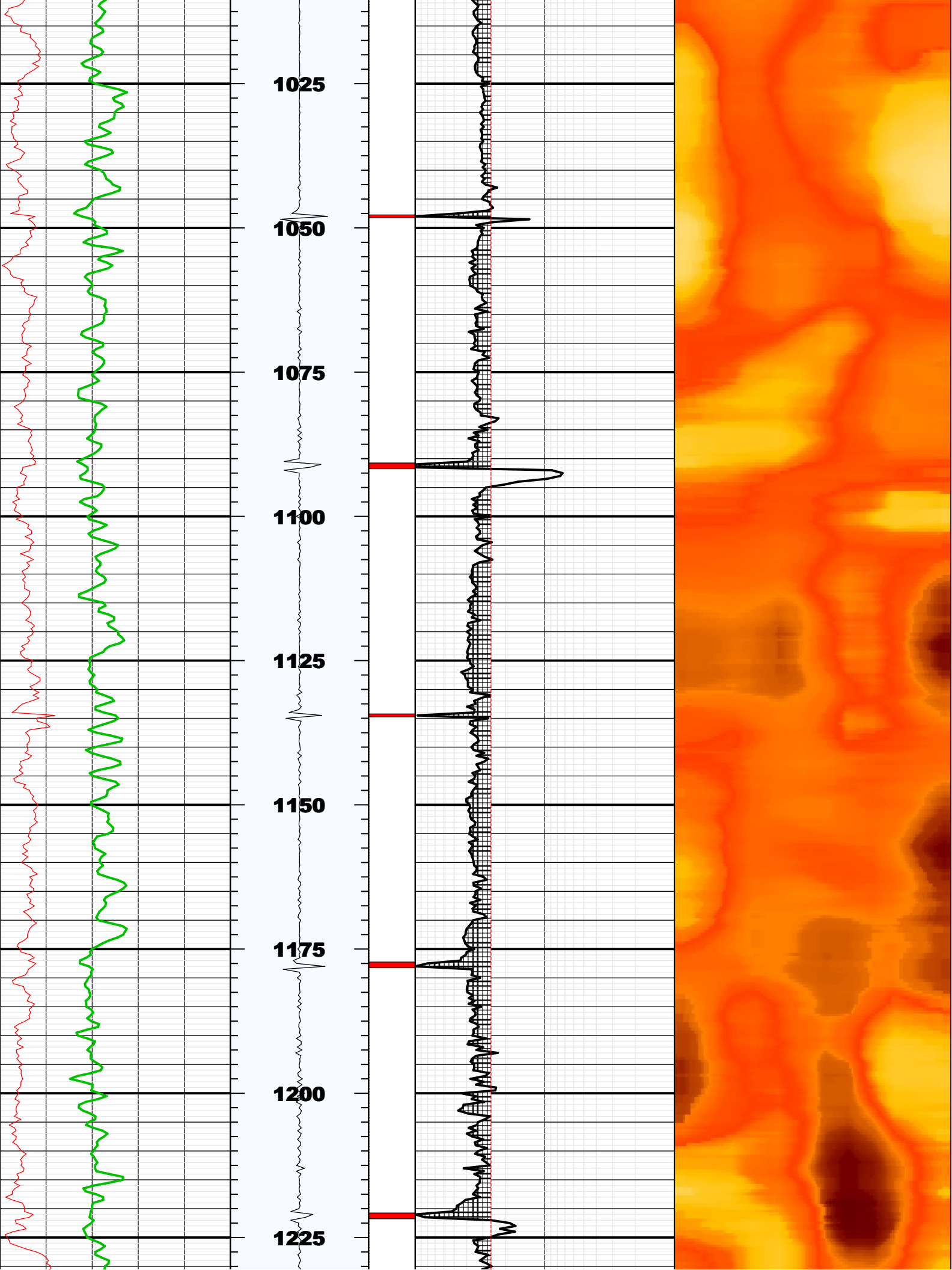


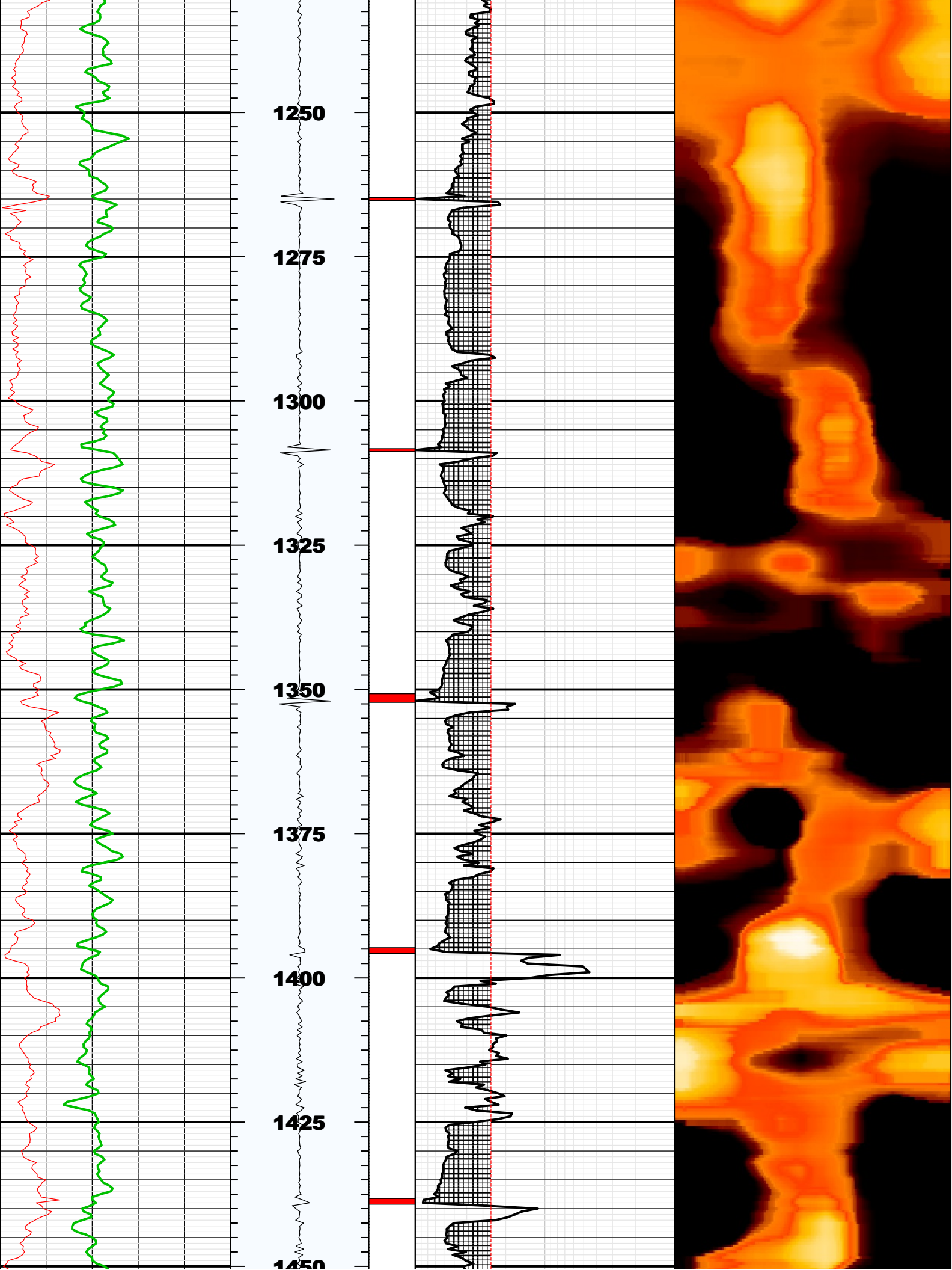


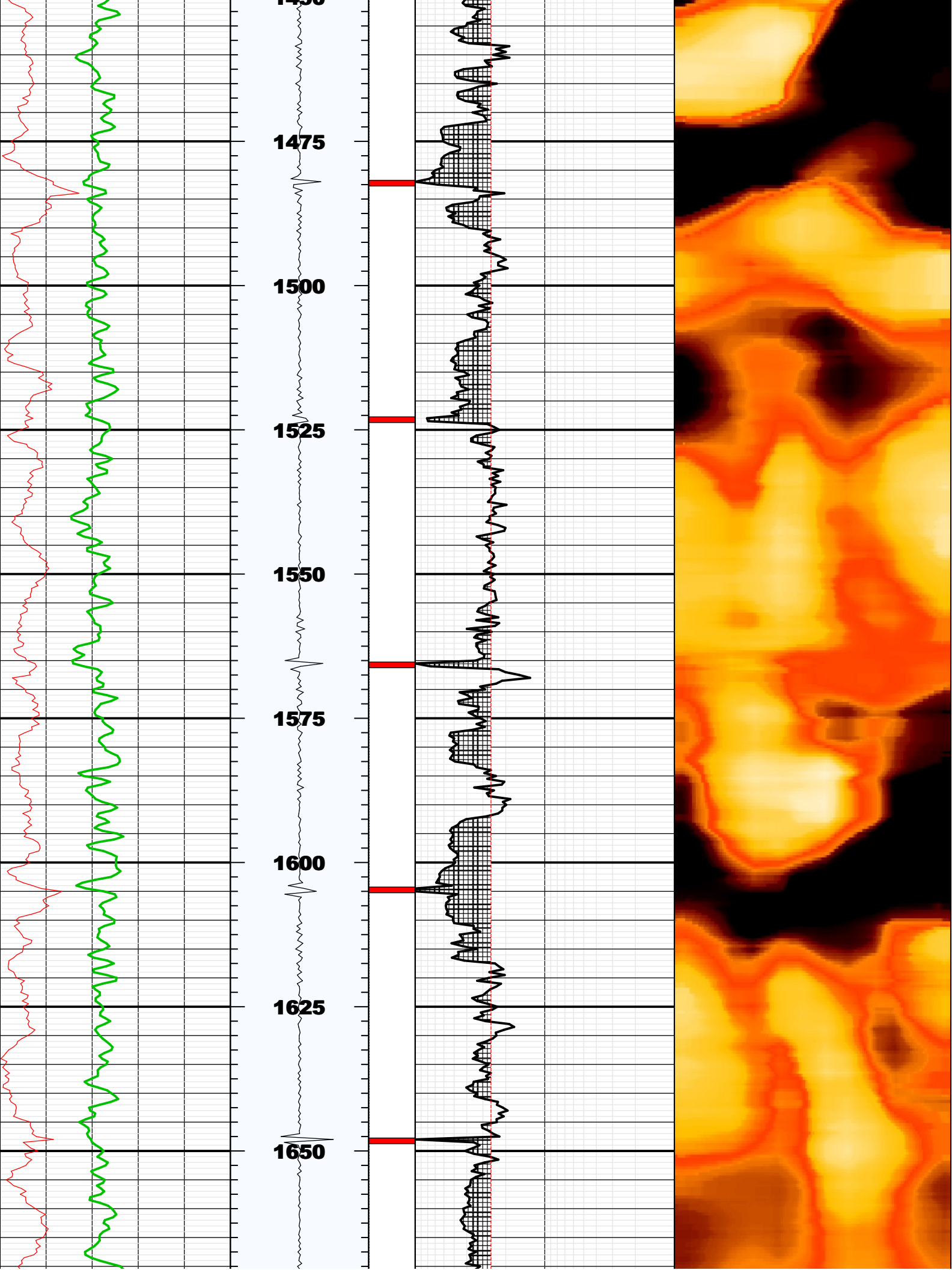


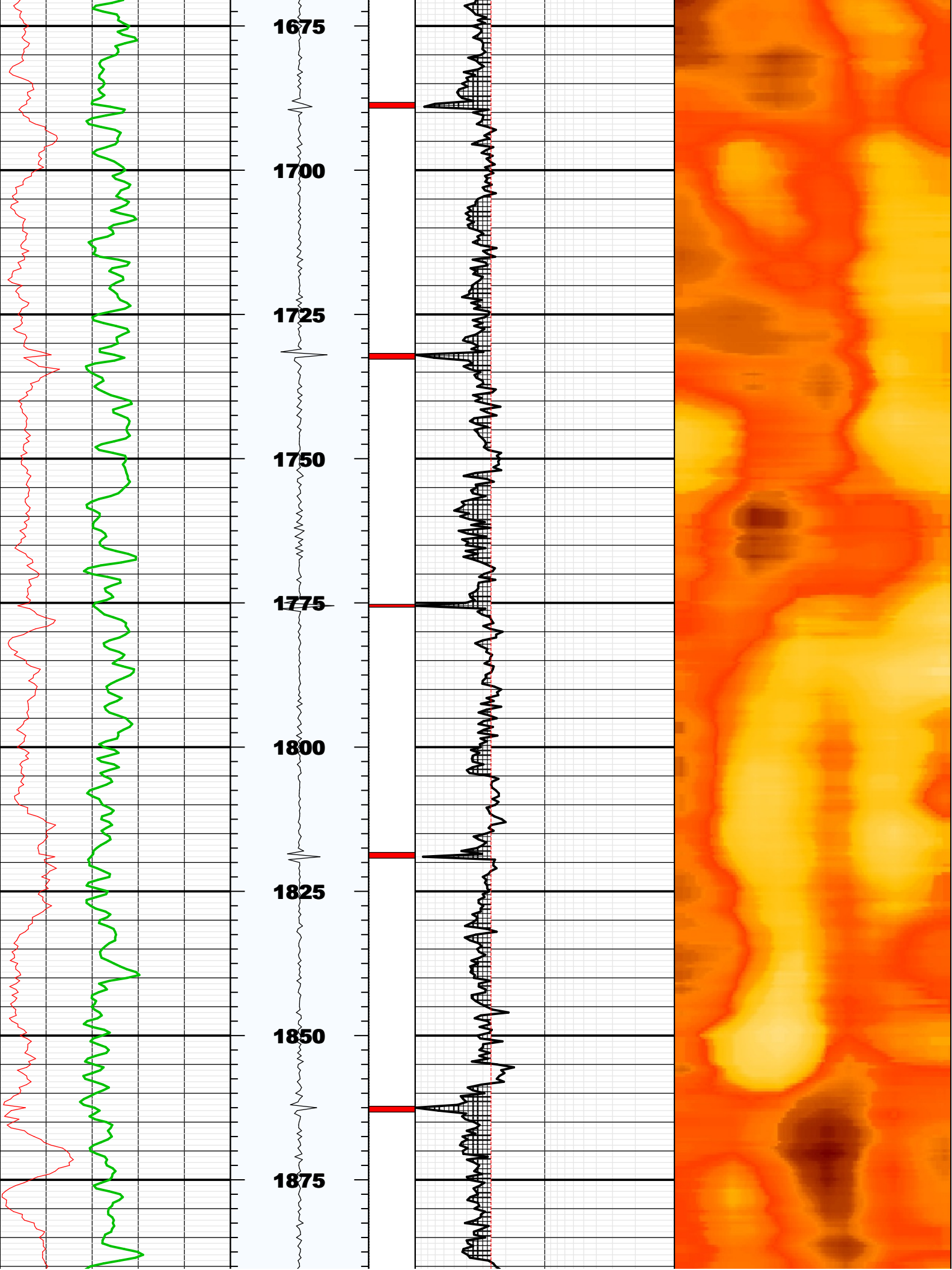


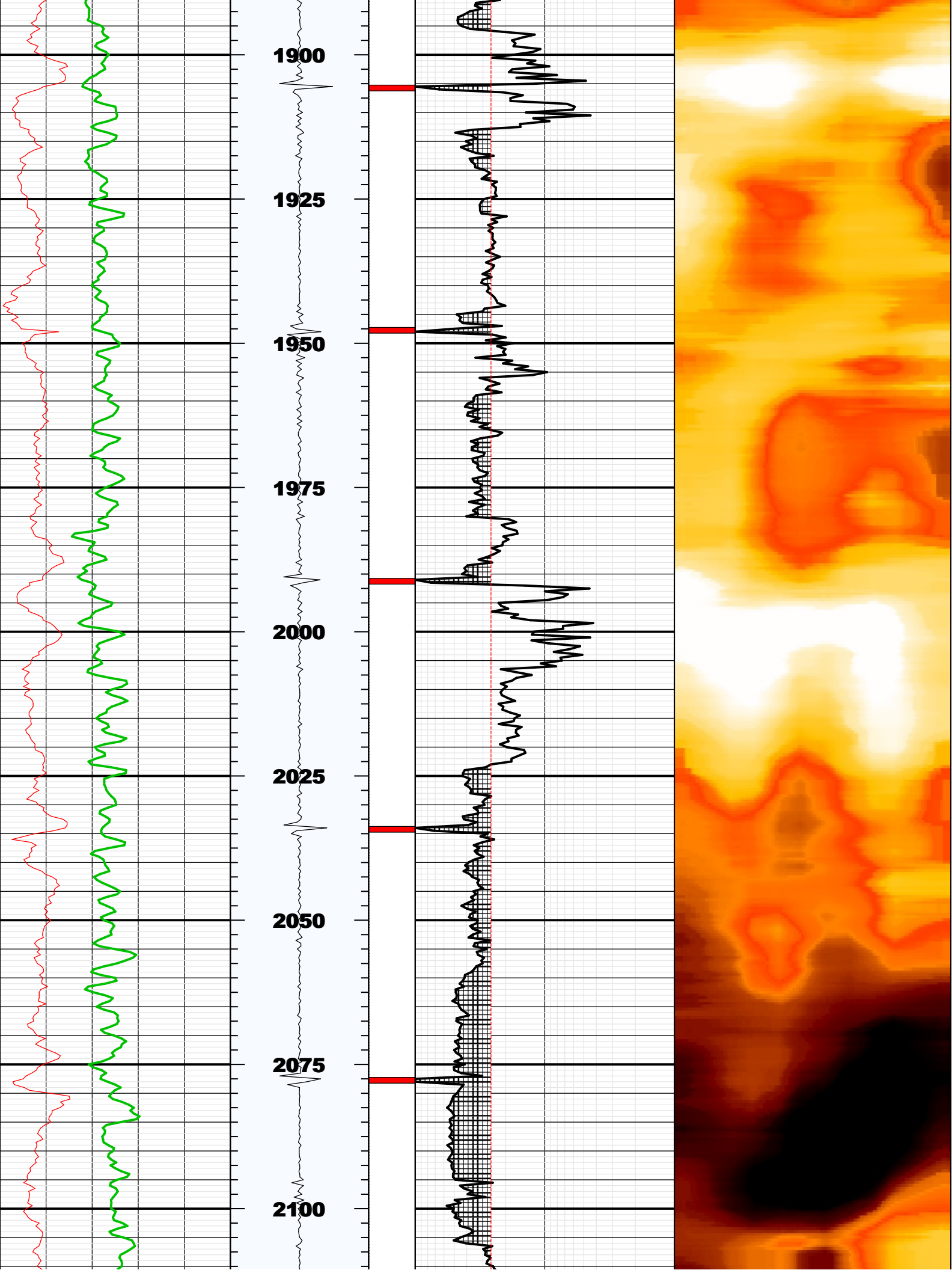


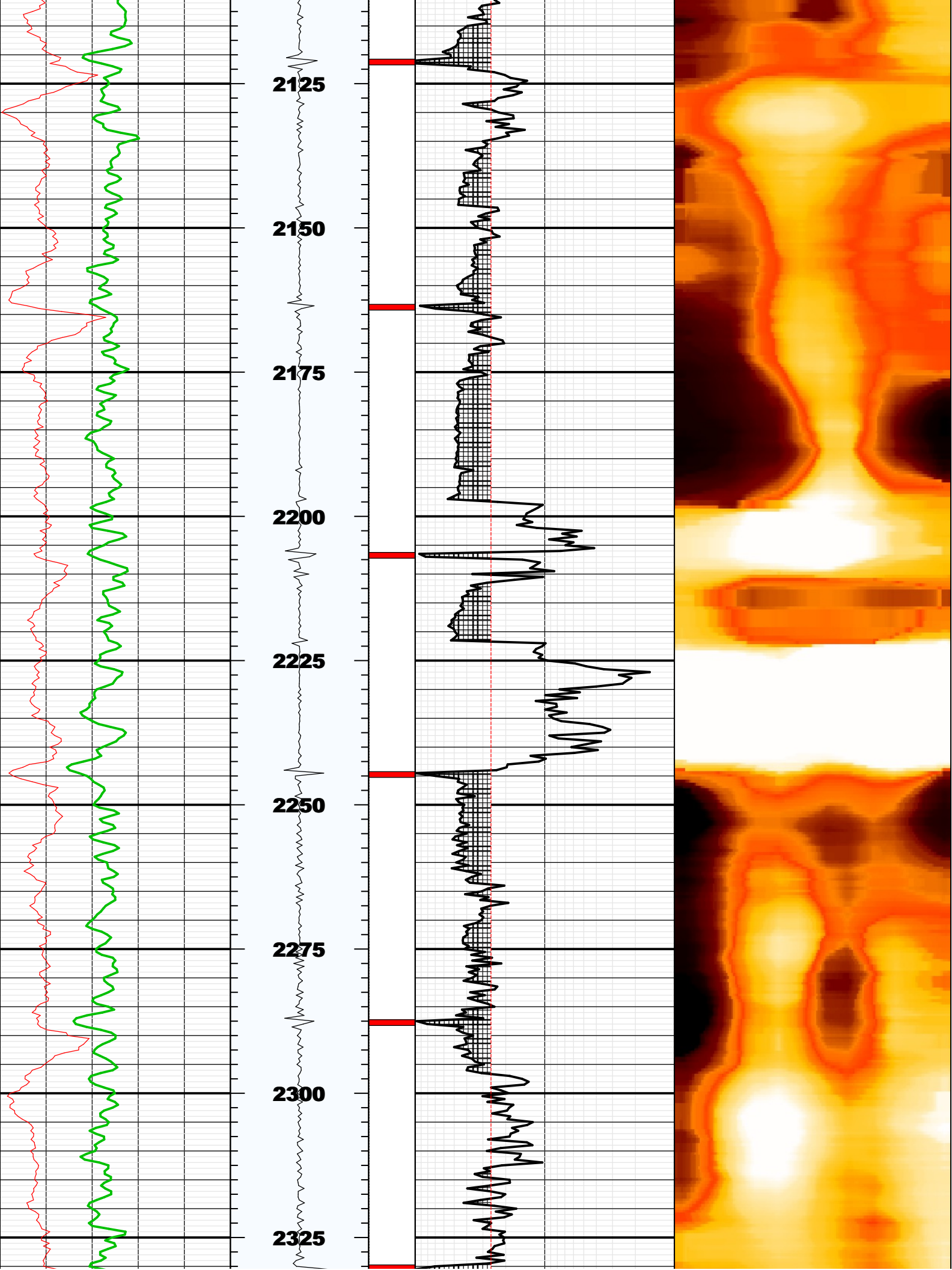


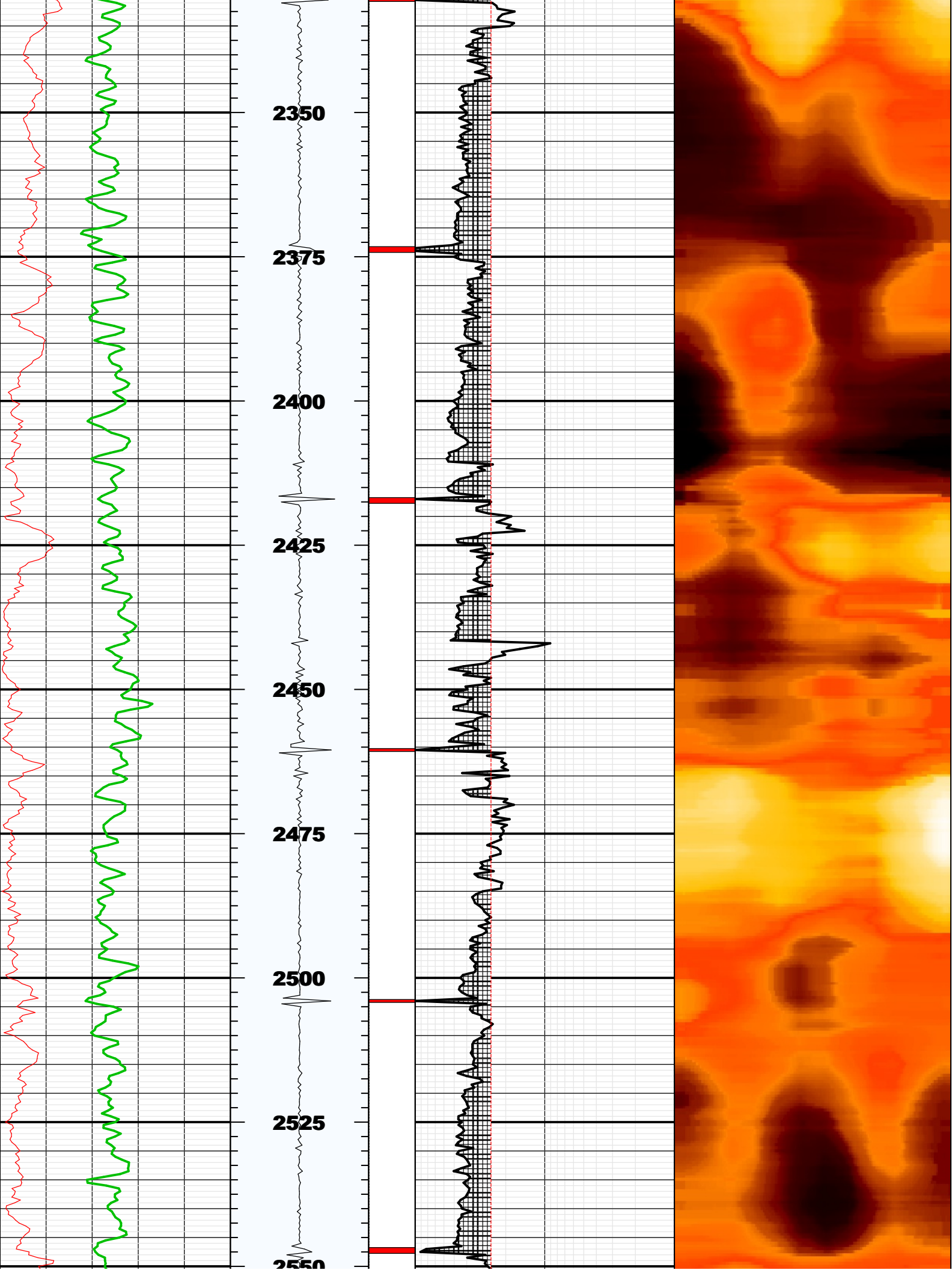


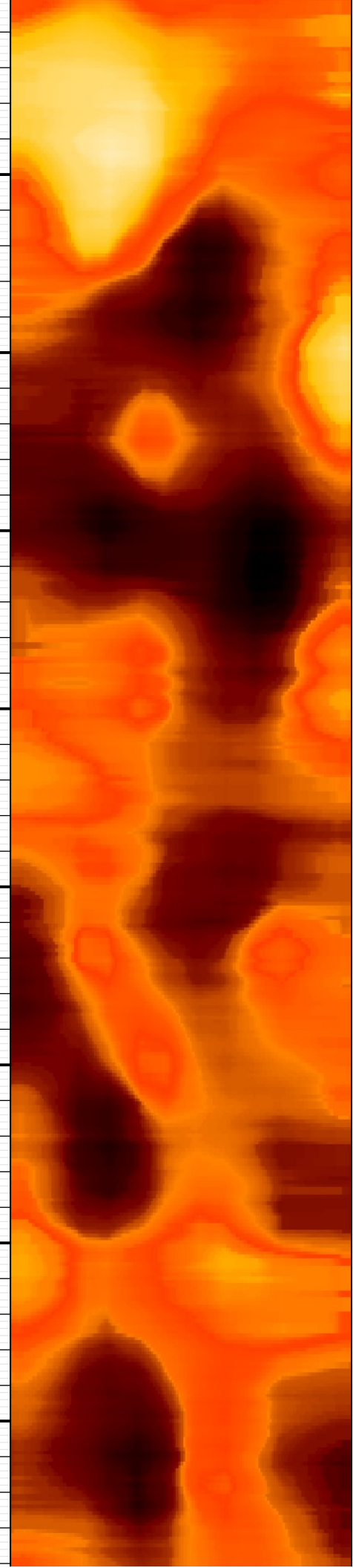
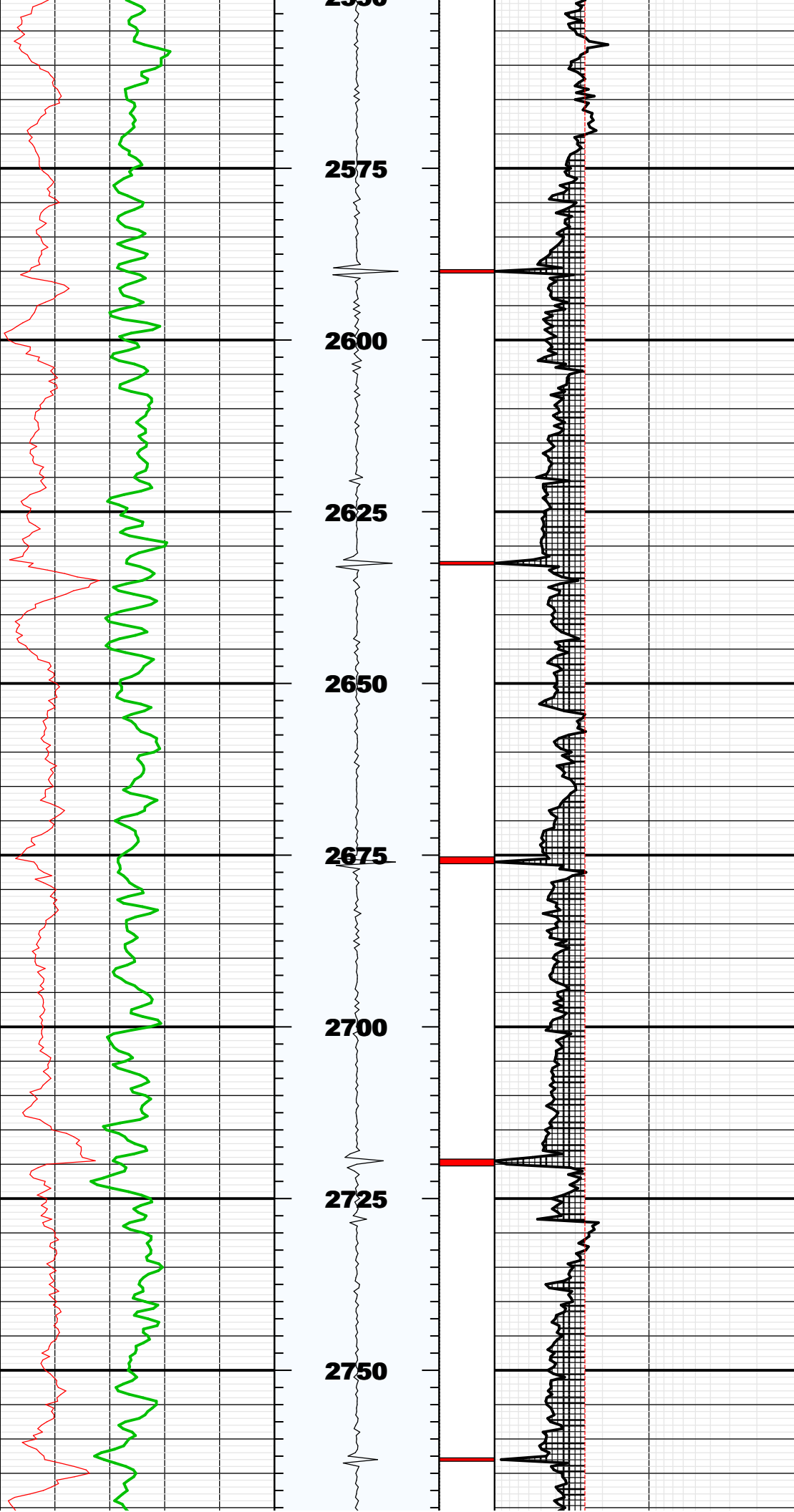


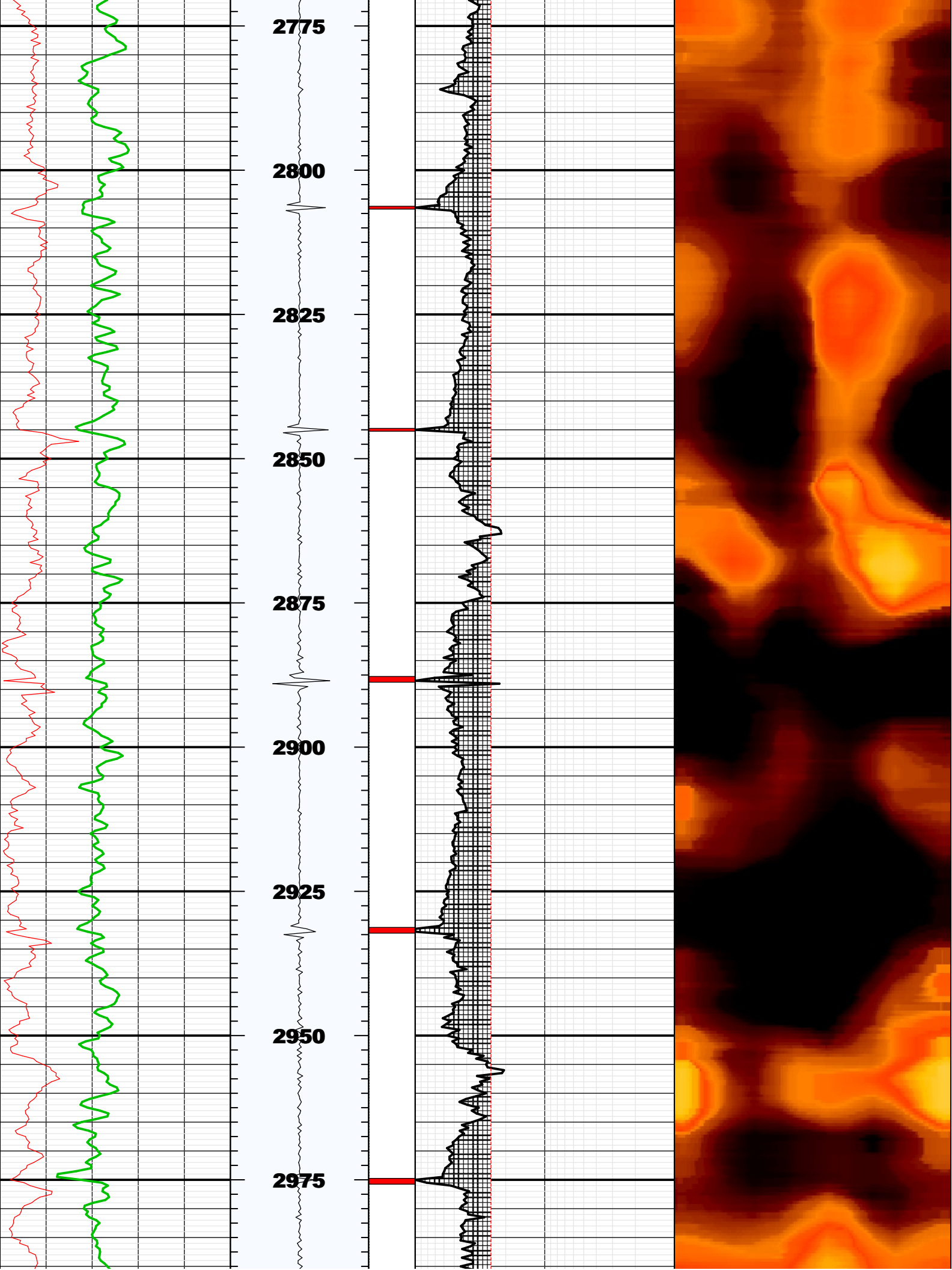


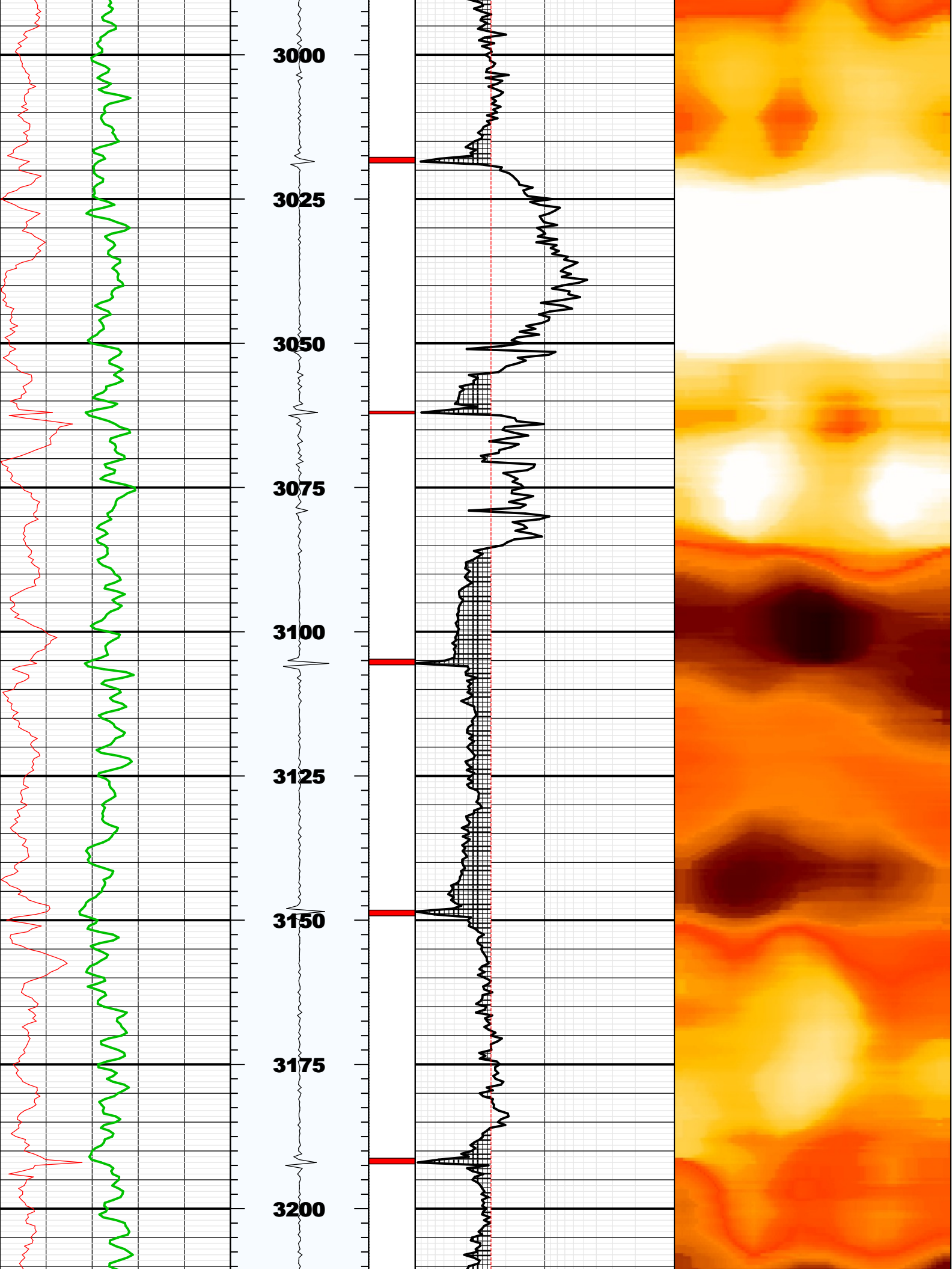


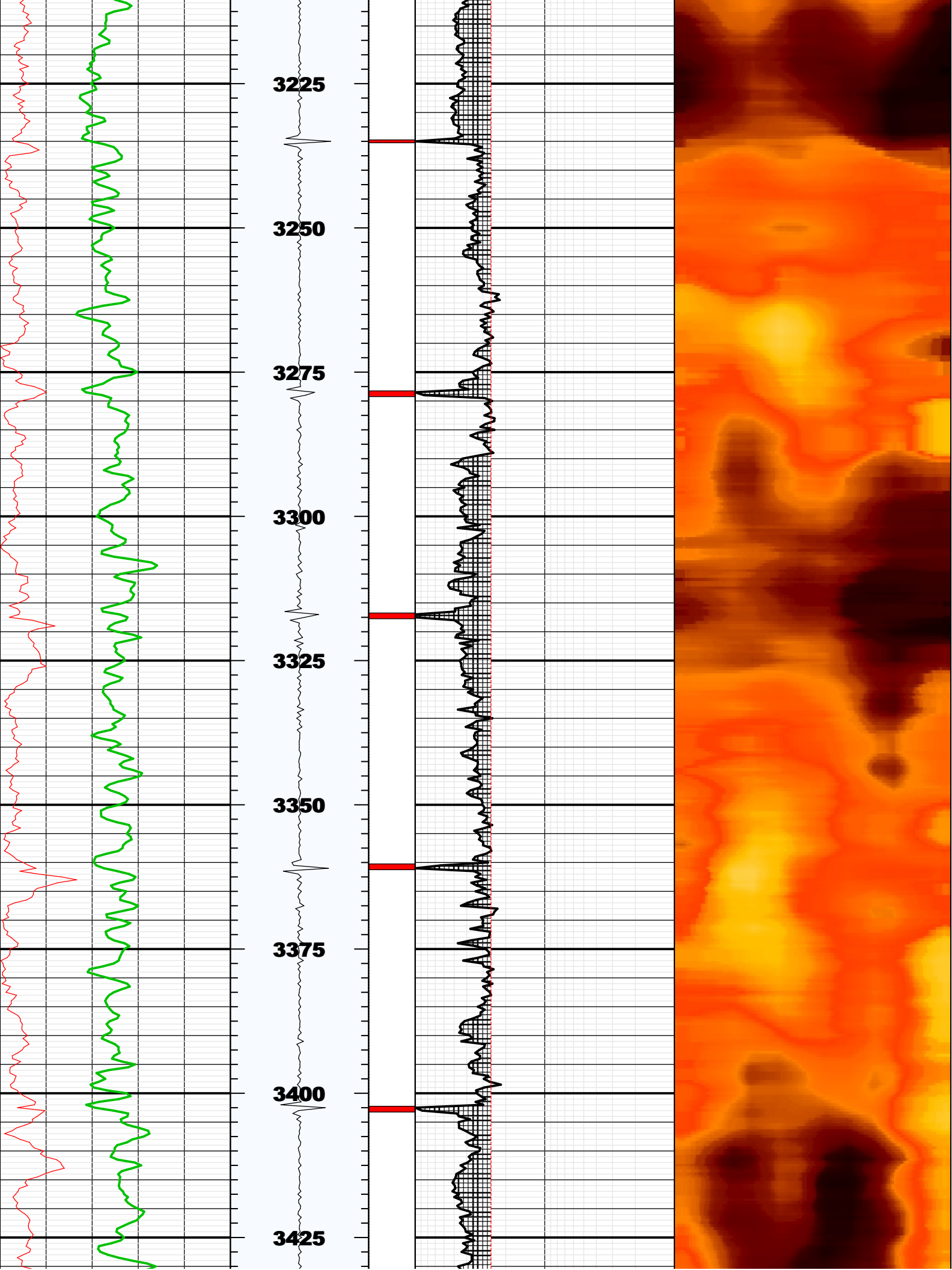


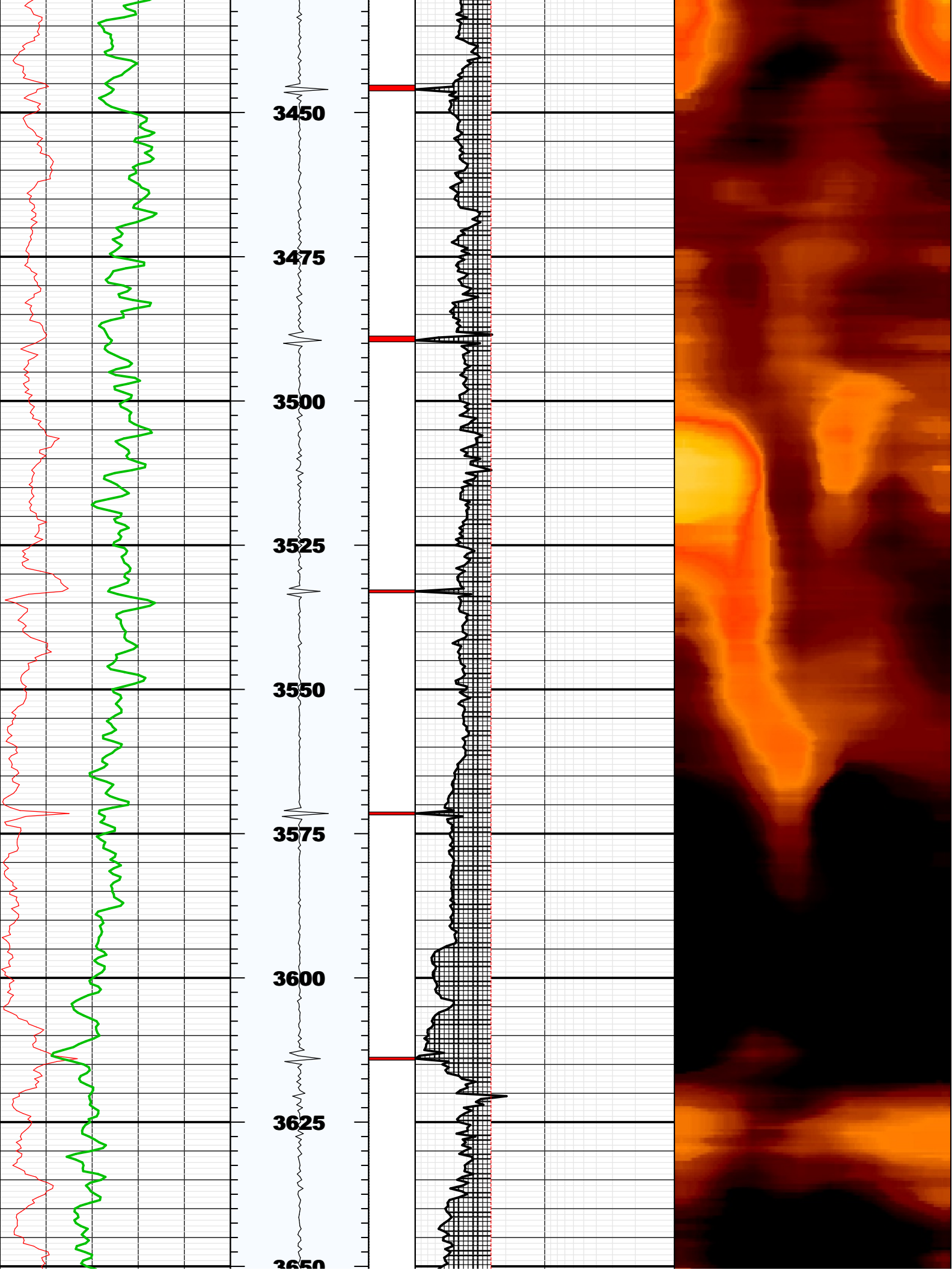


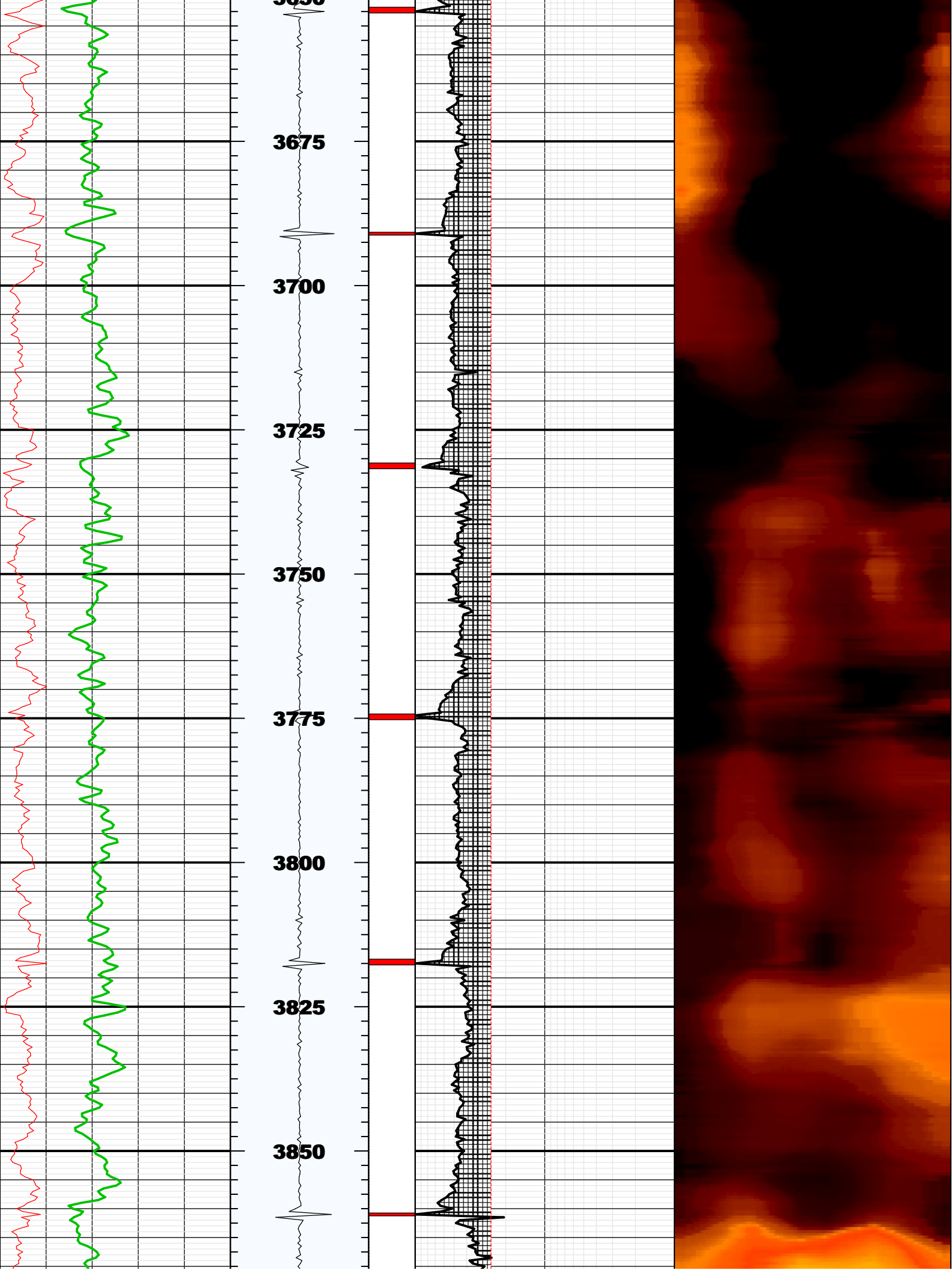


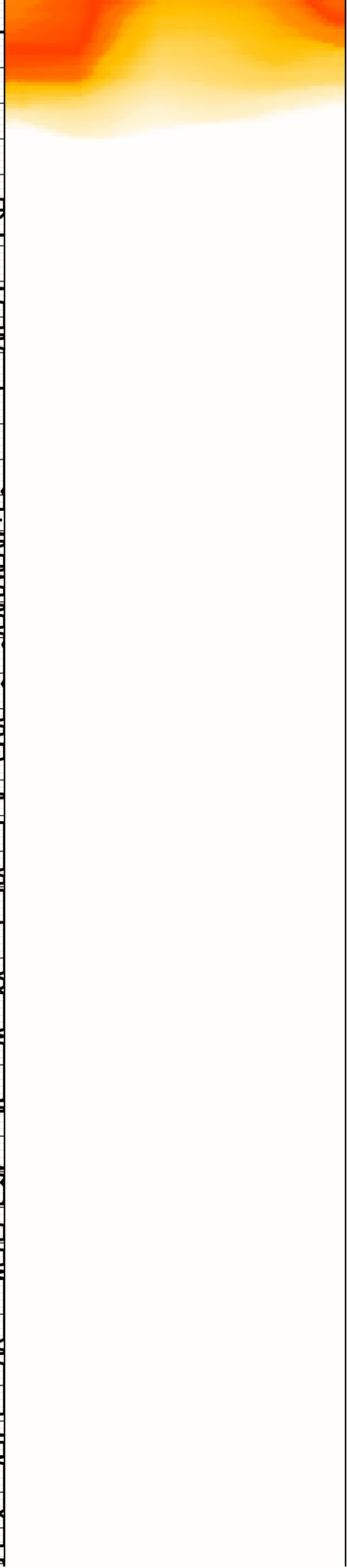
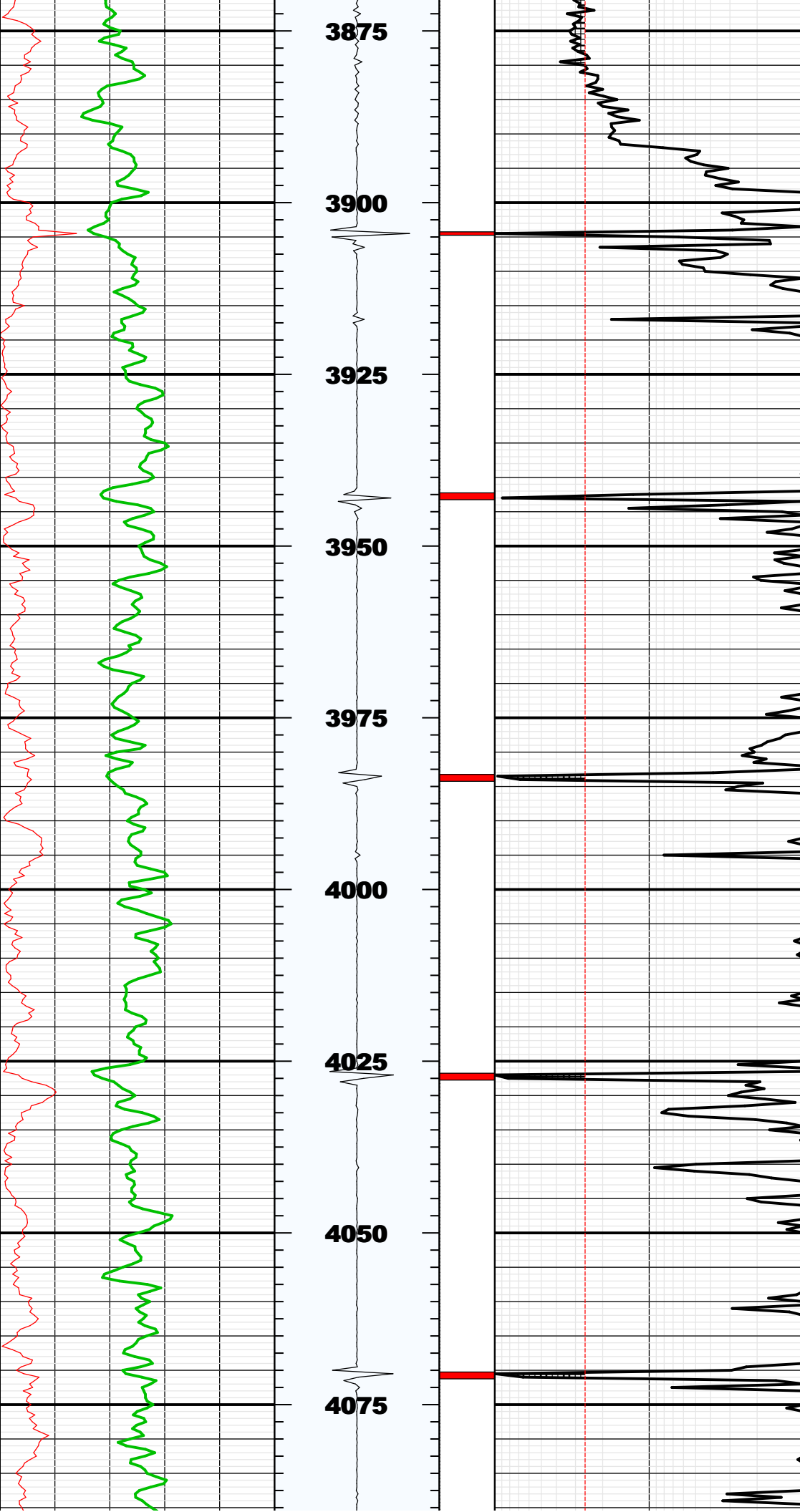


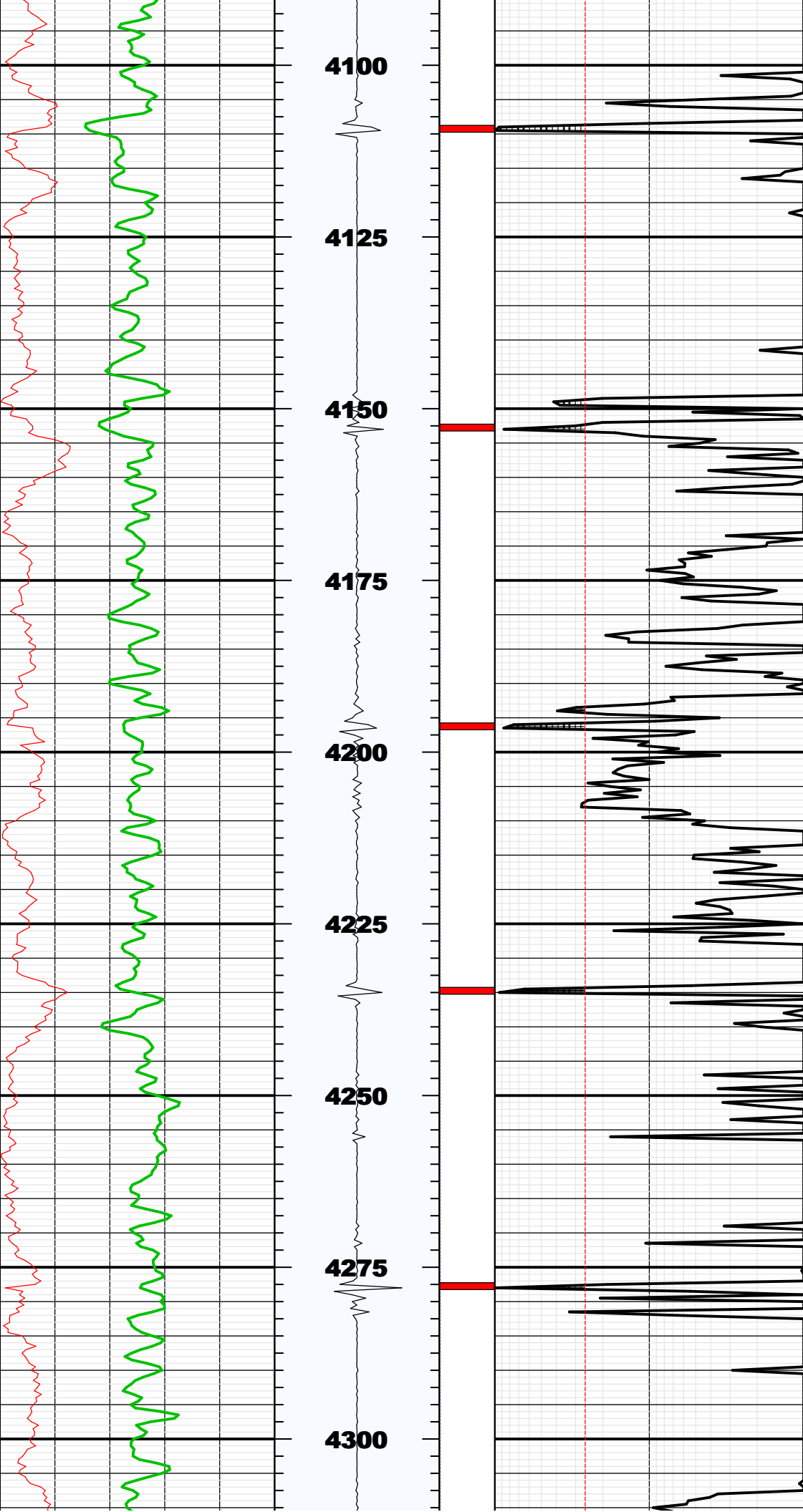


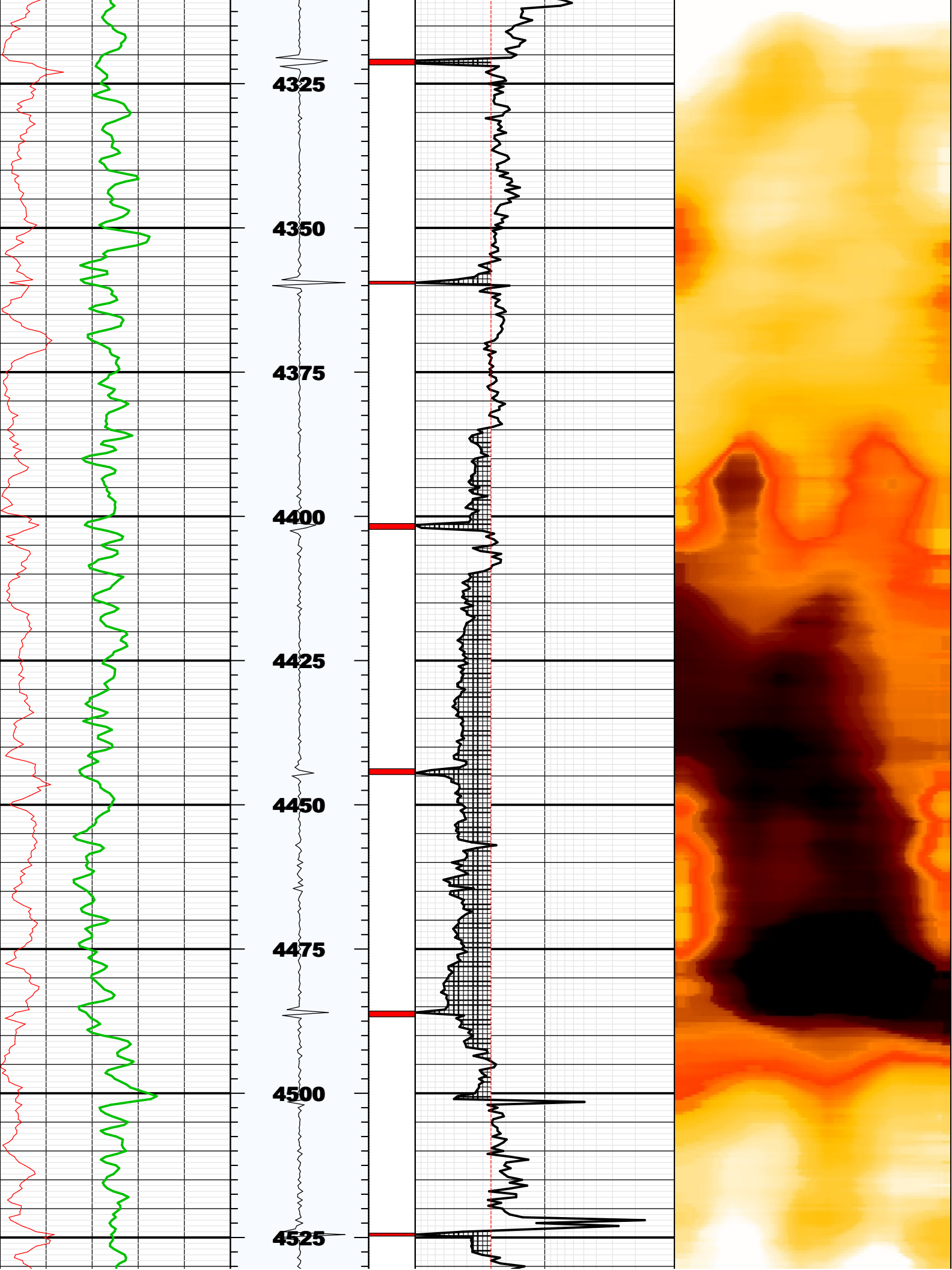


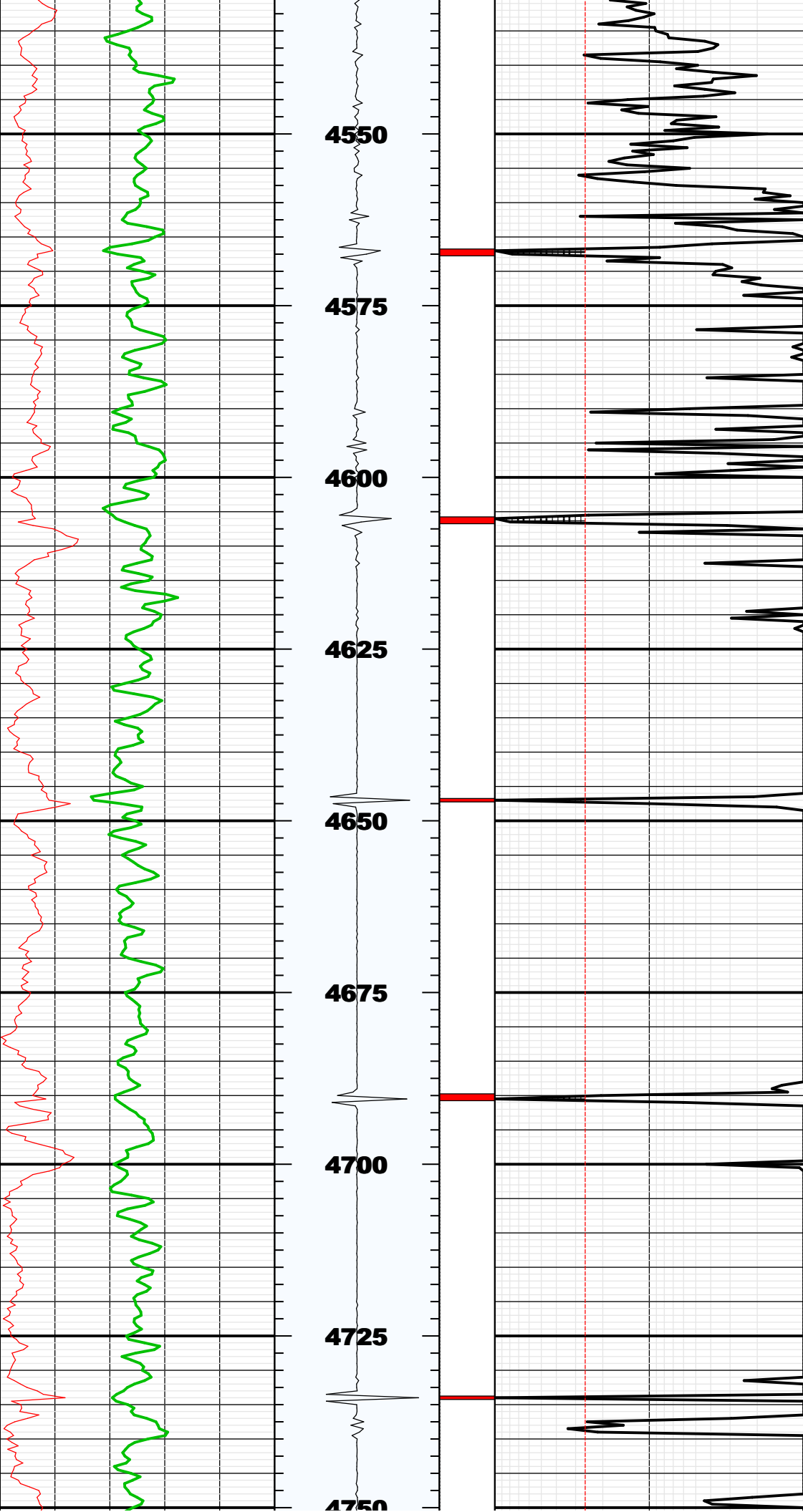


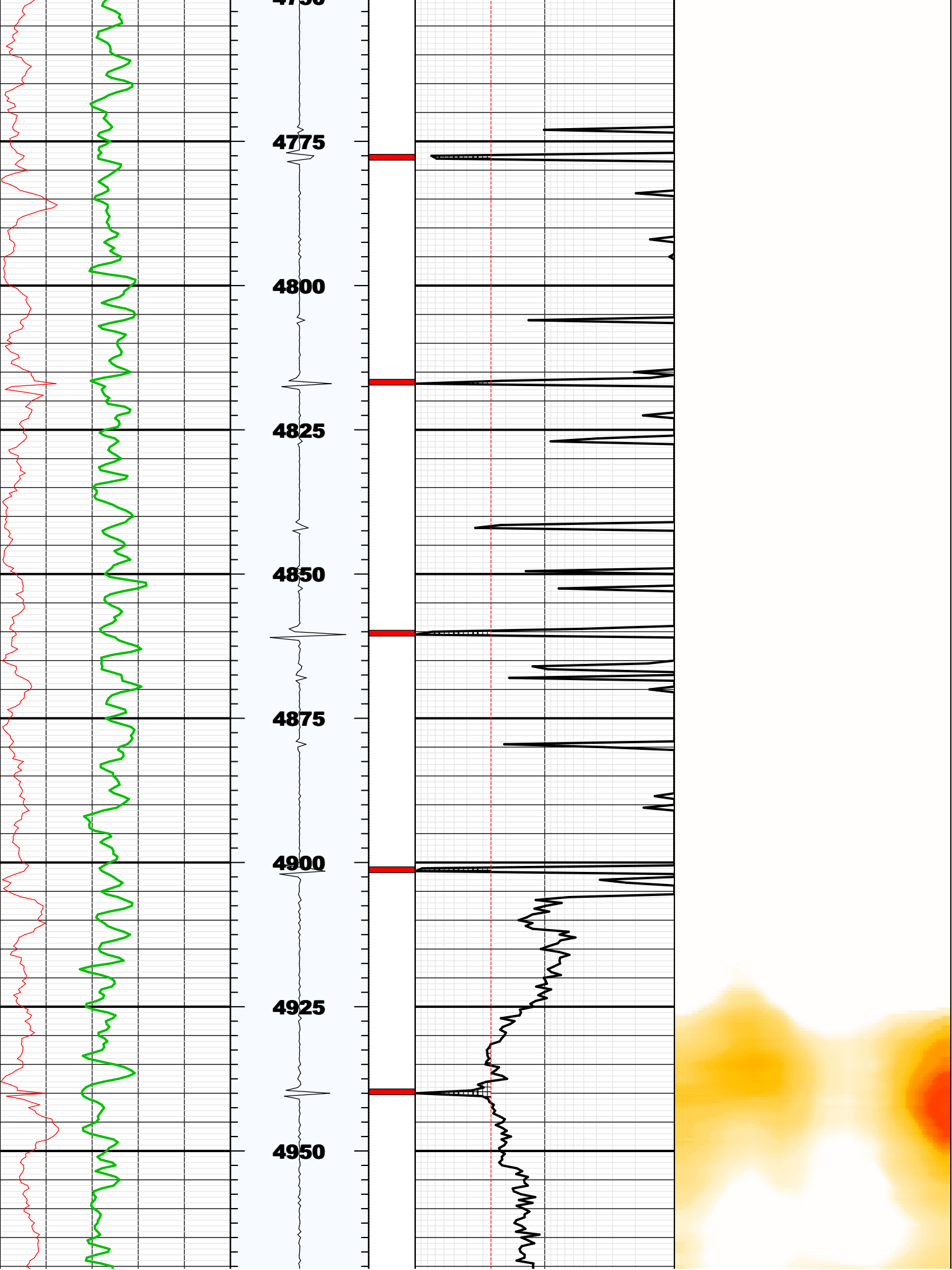


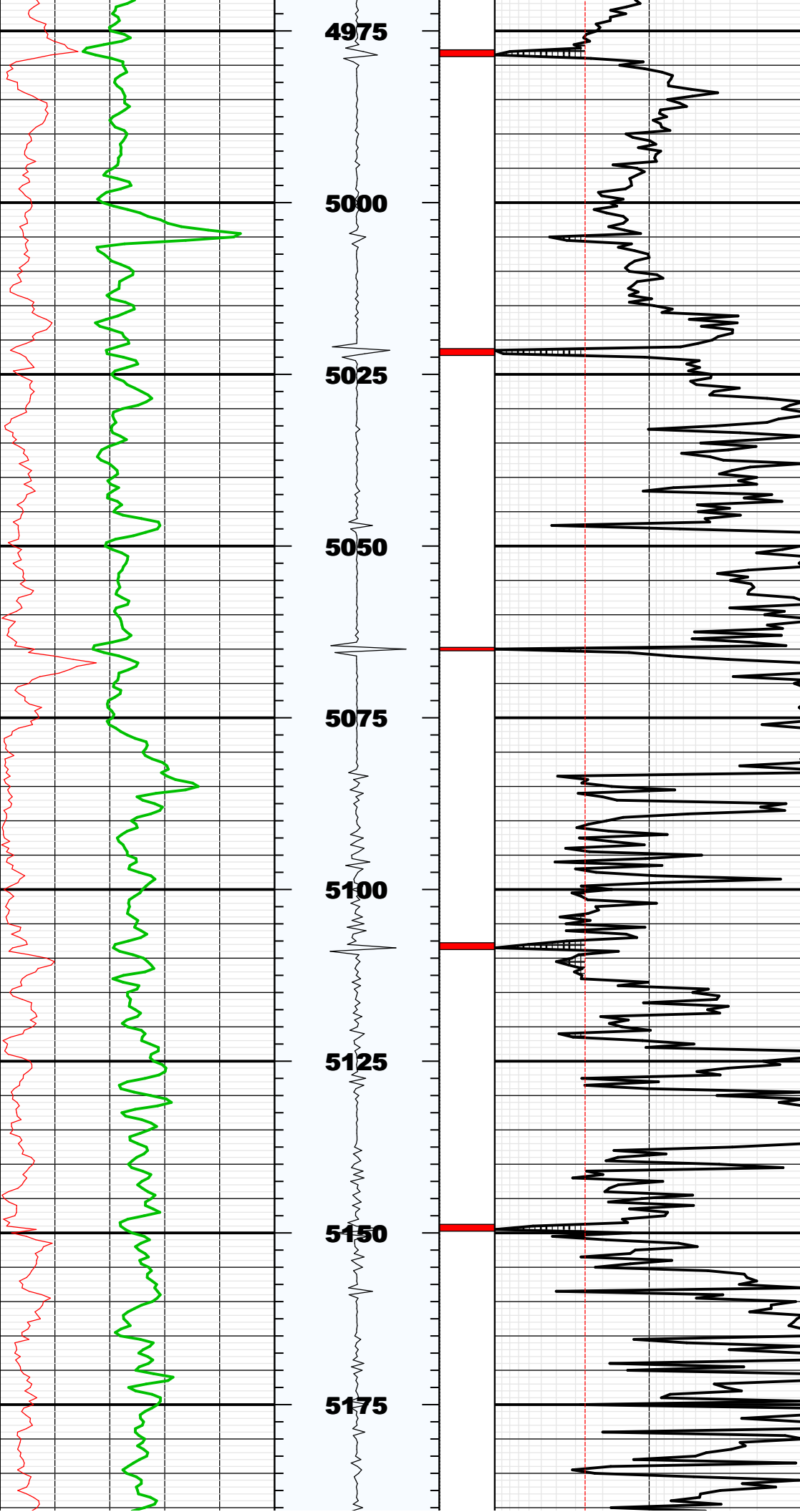


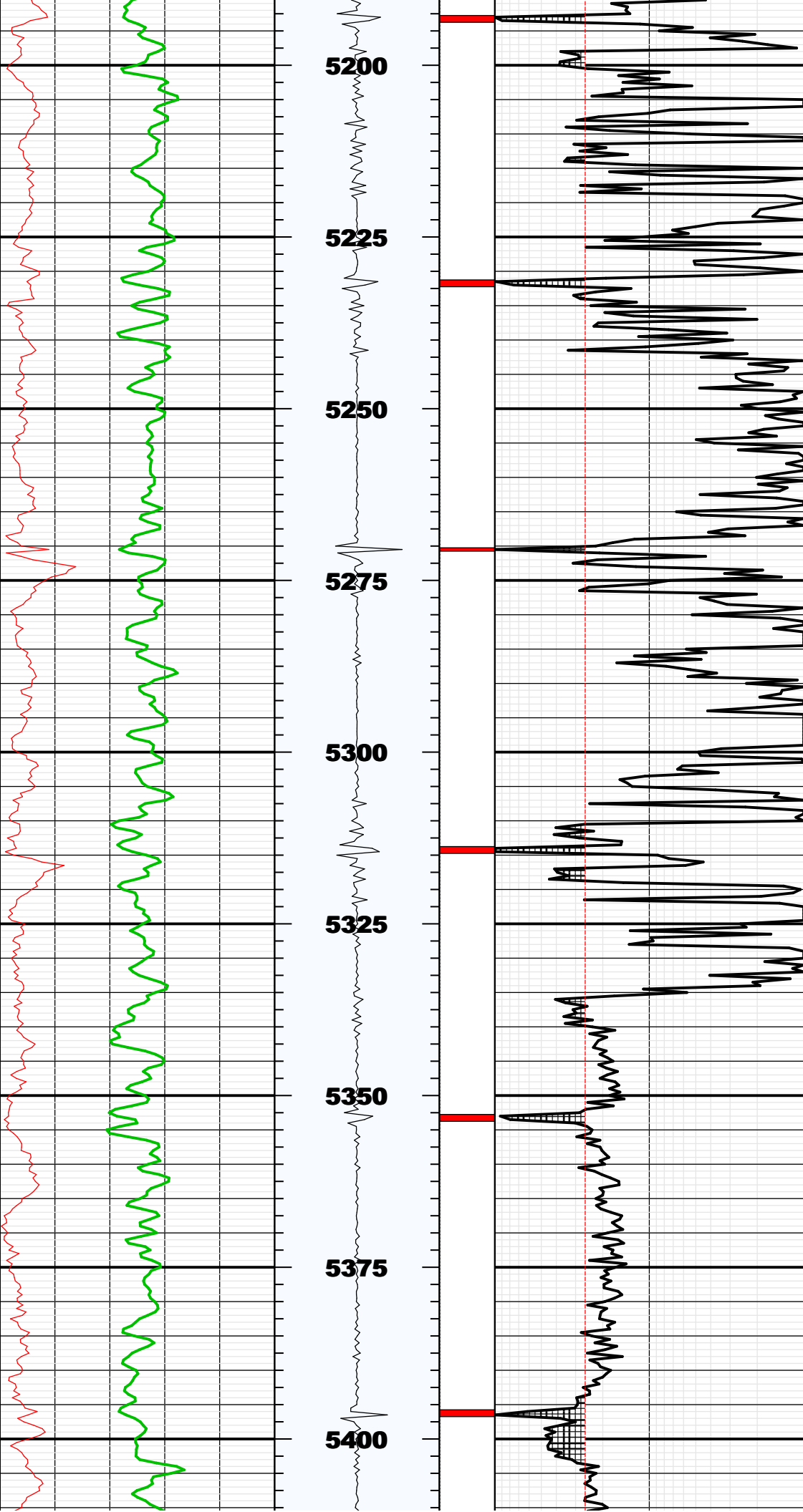


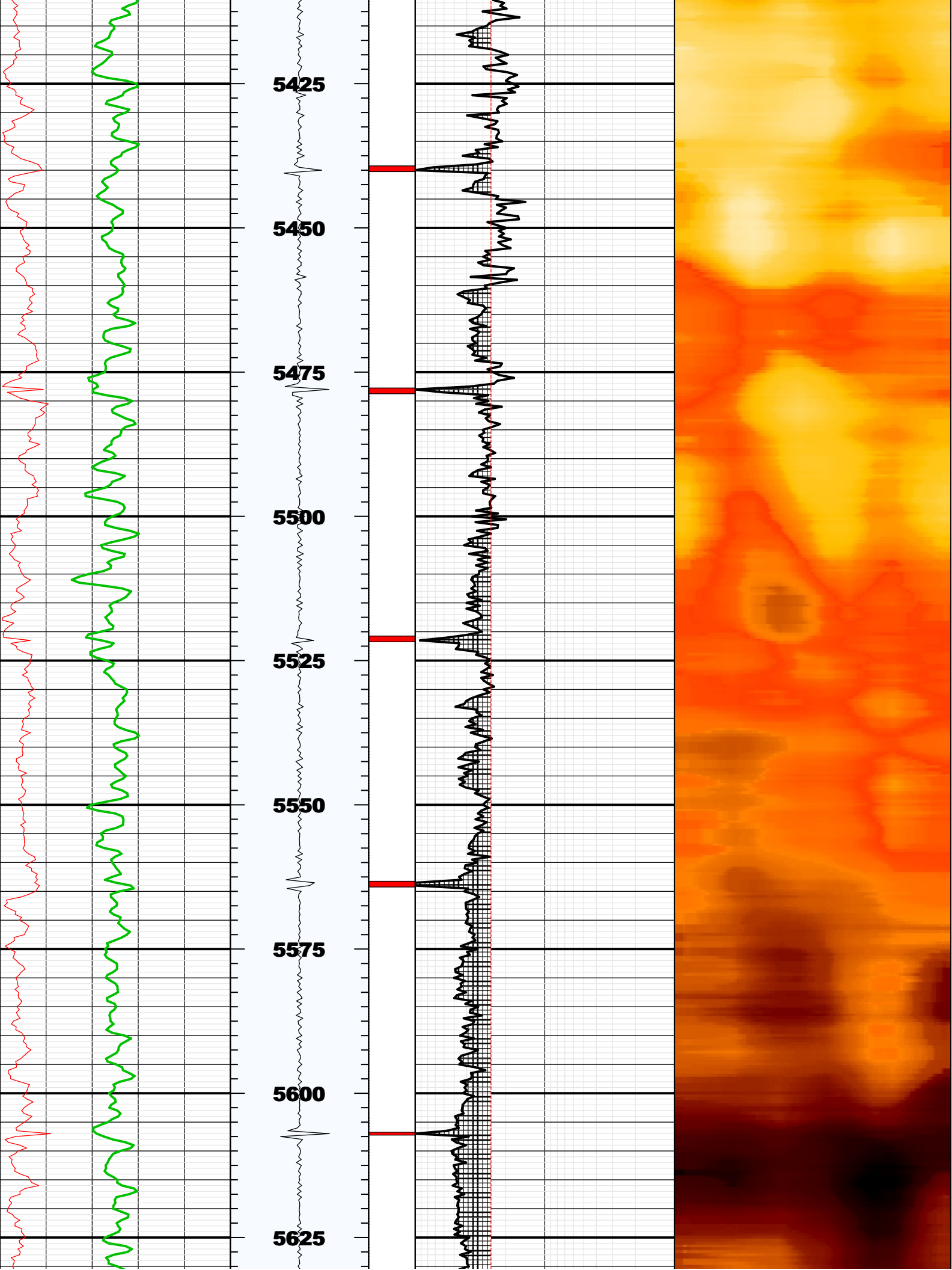


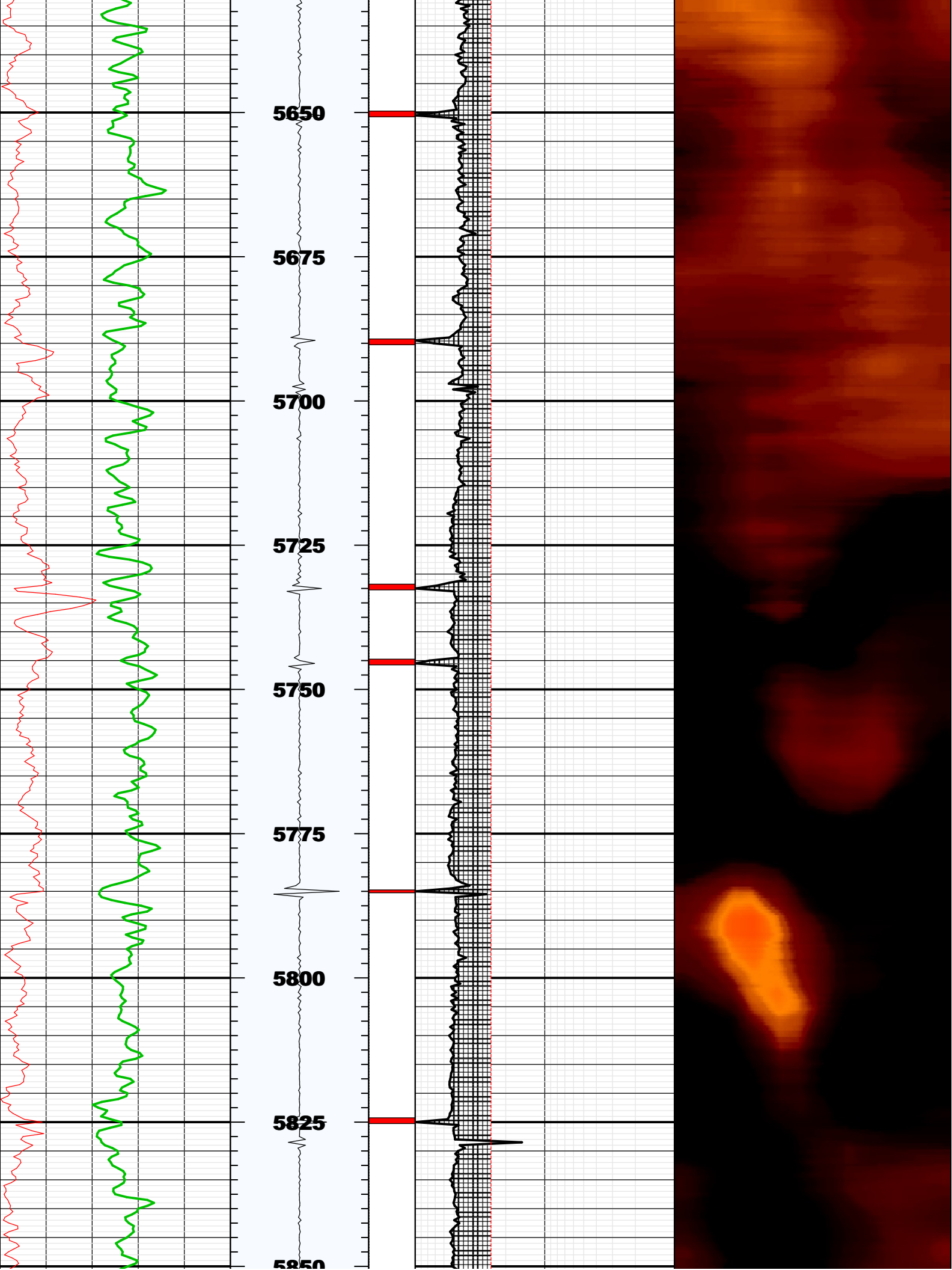


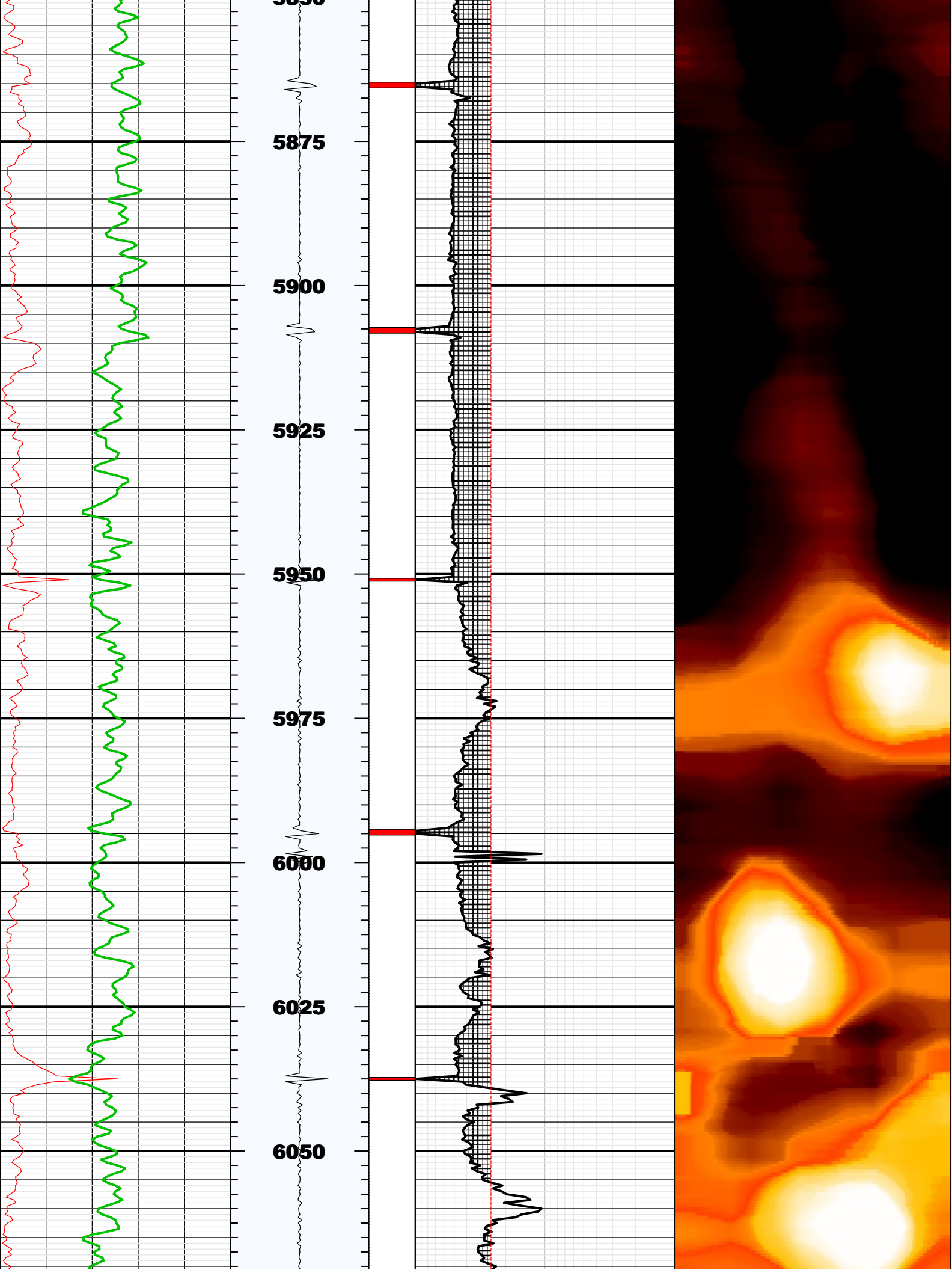


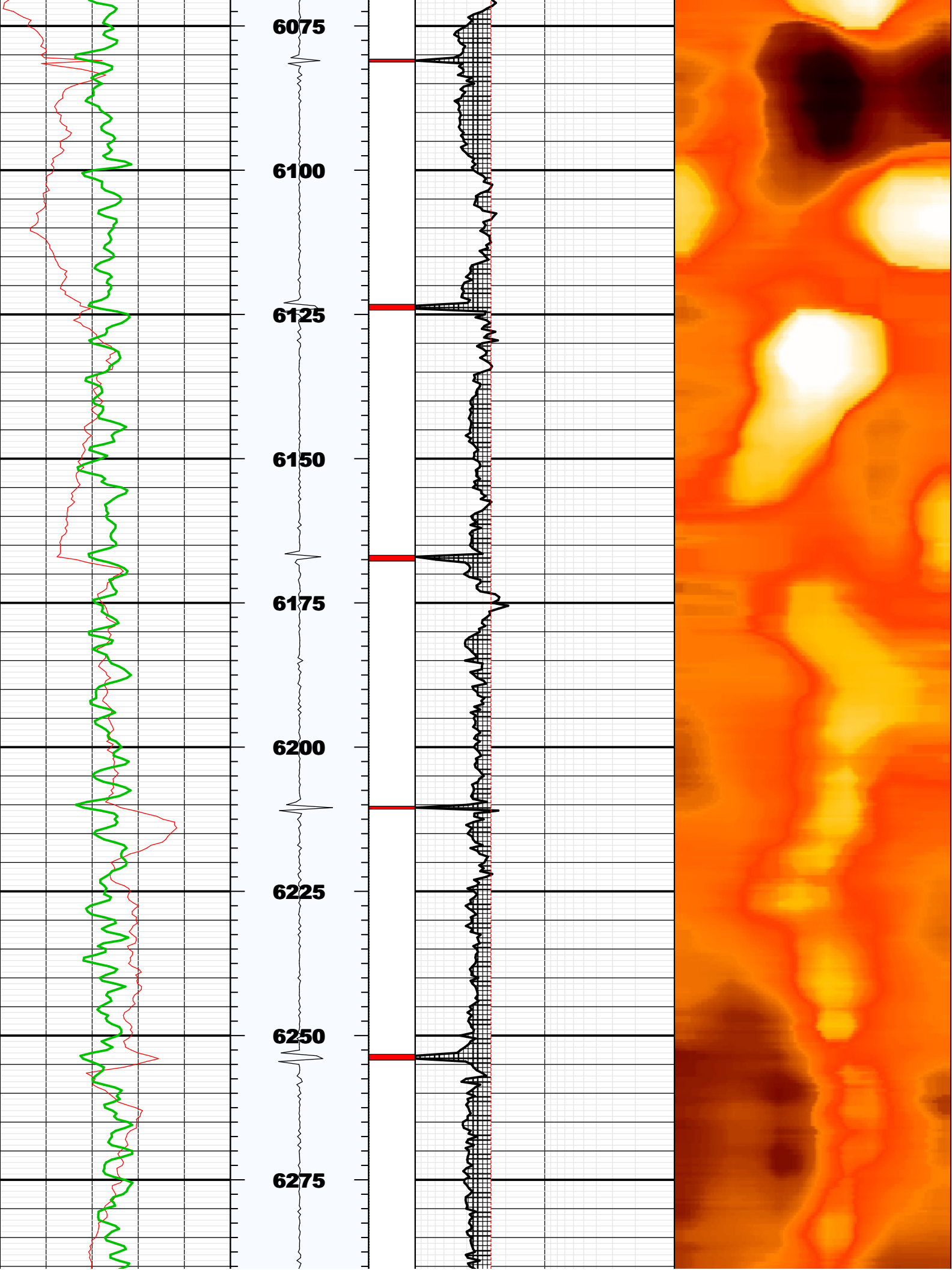


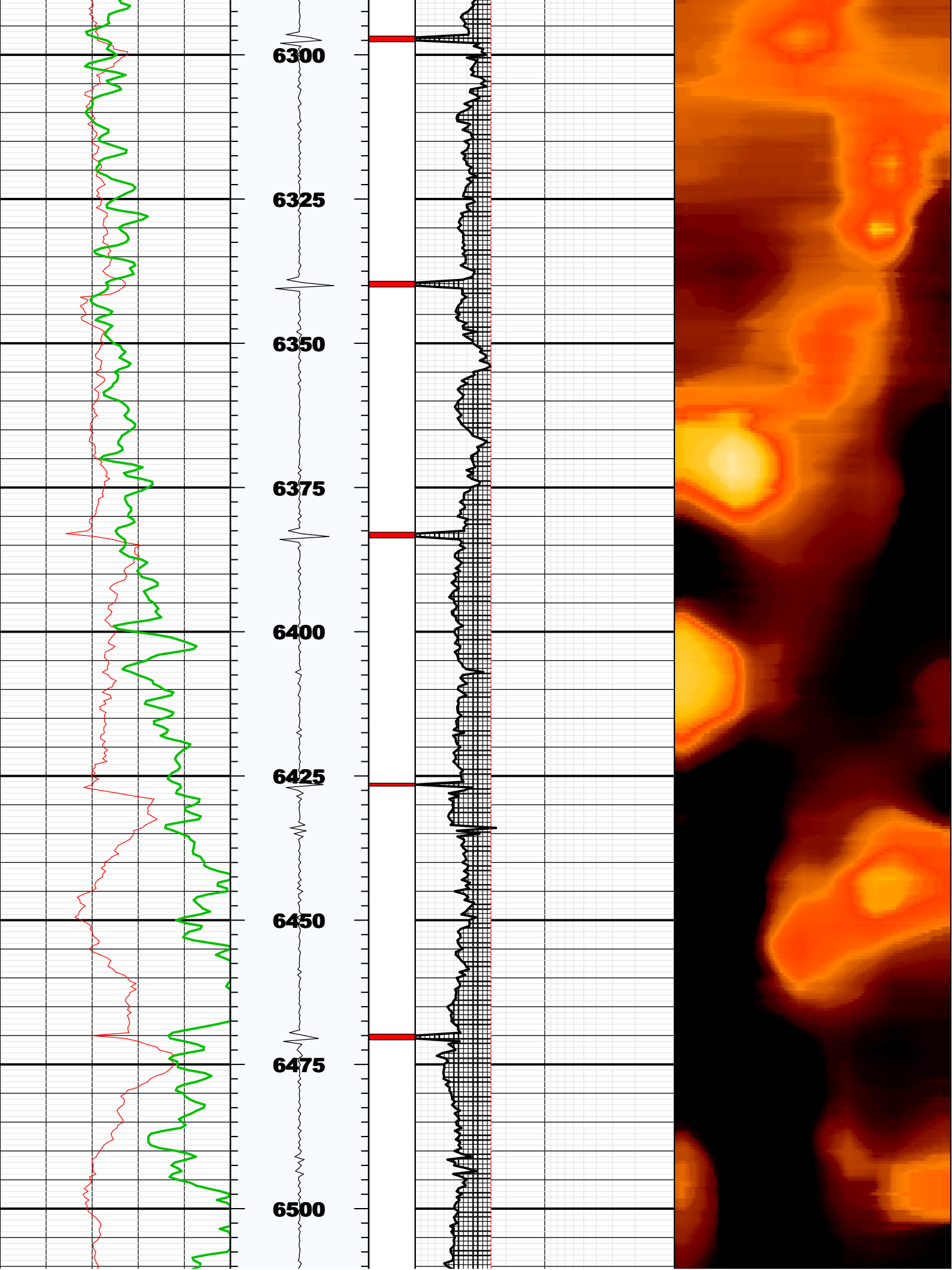


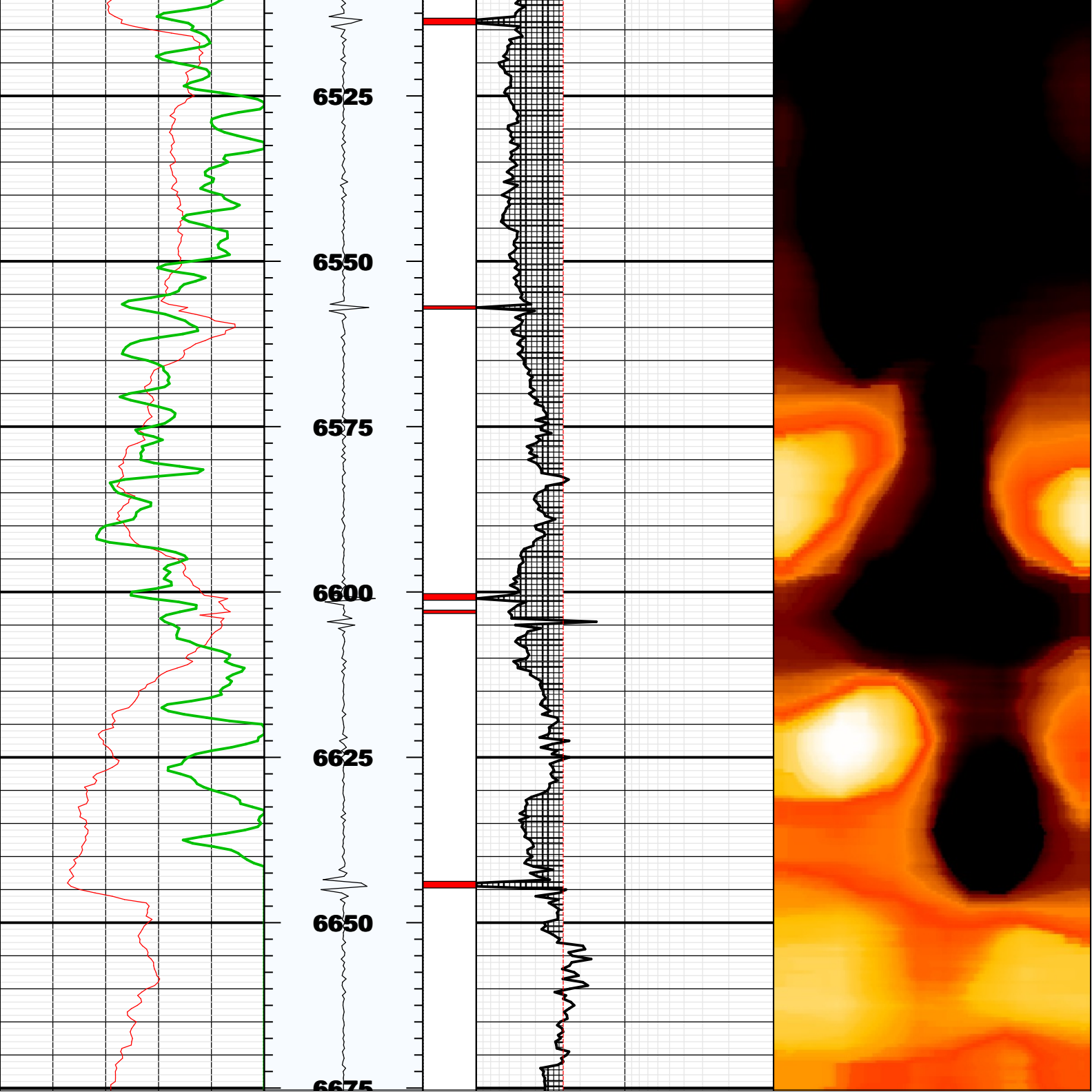




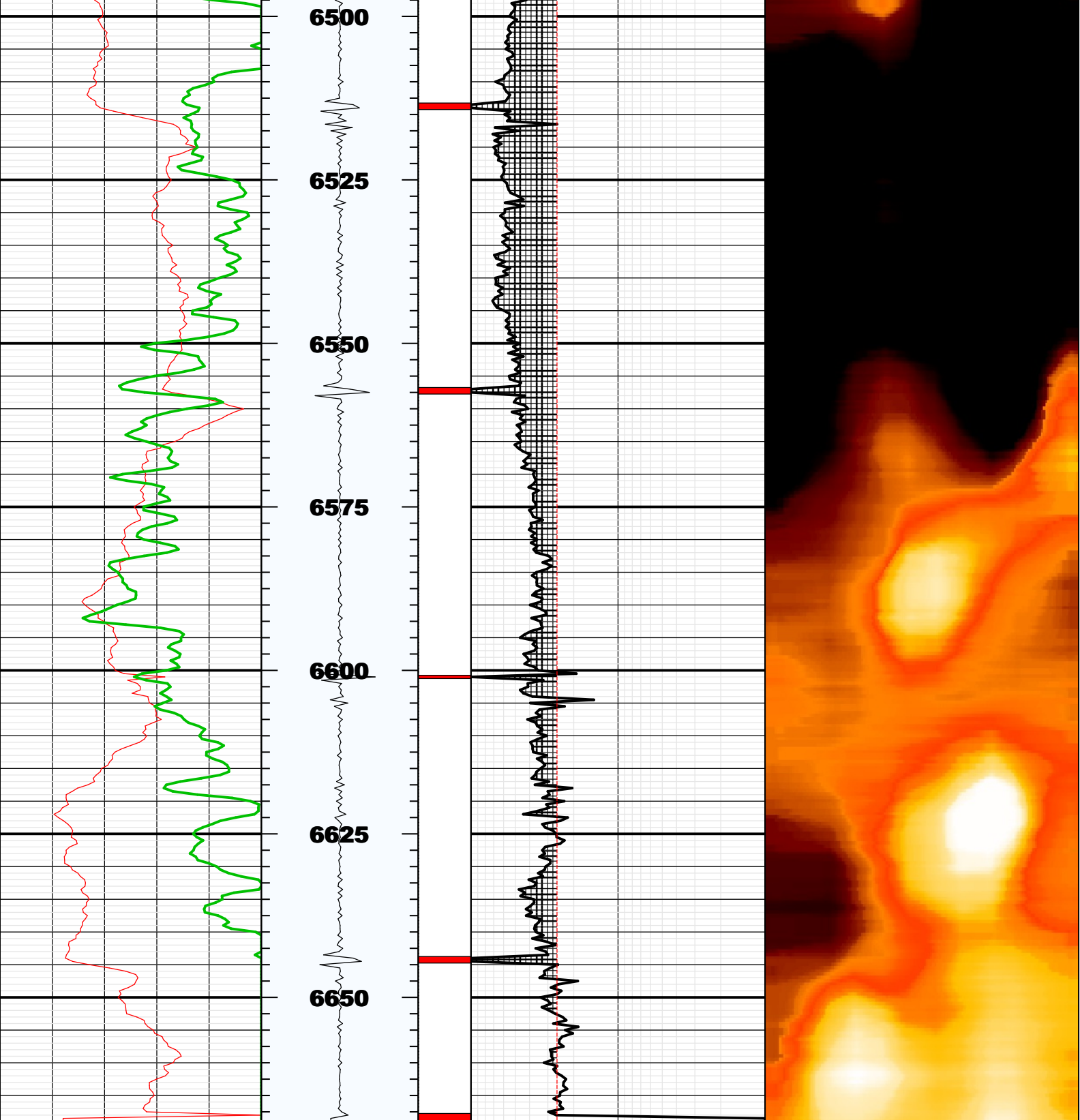






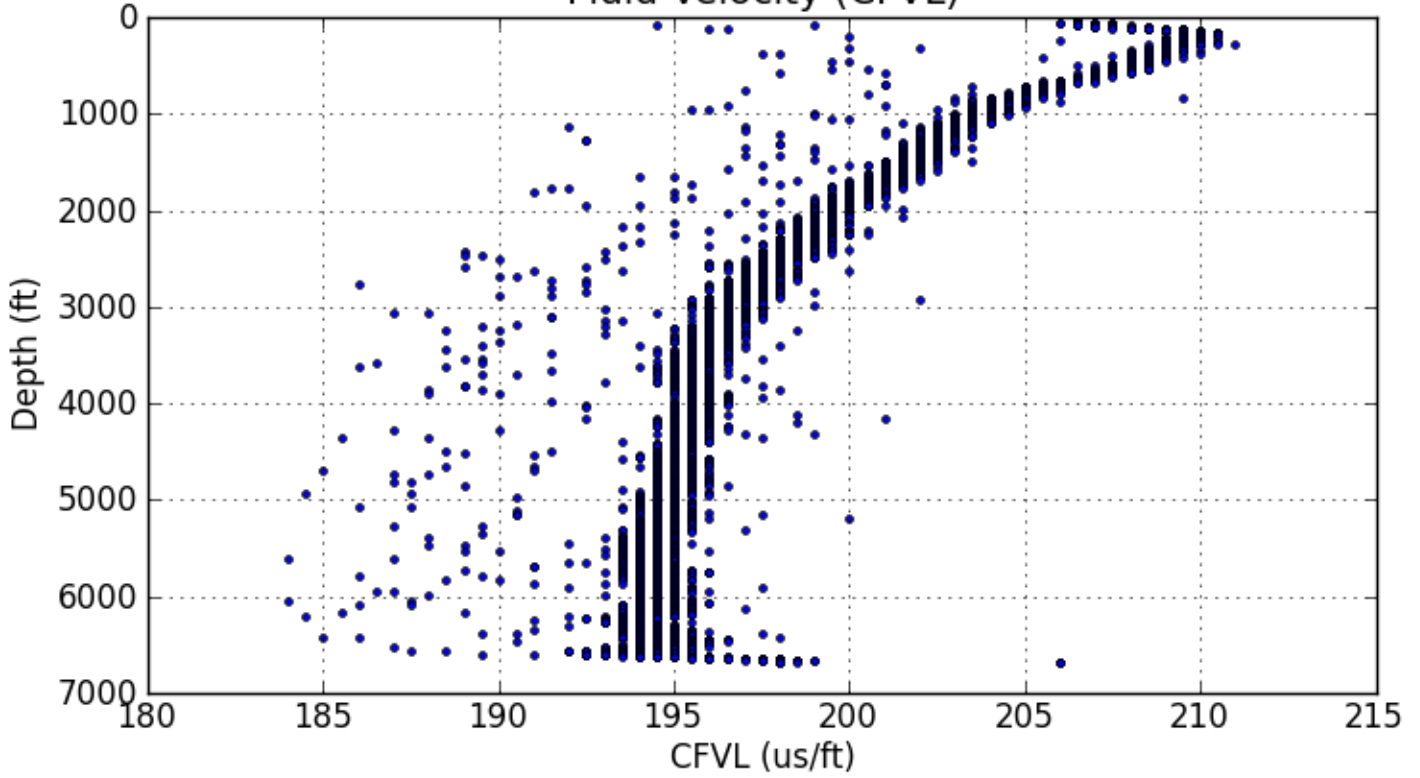


BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	206.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	88	V	EMEX Voltage
FDII	3.00000	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	38.40100	US	Window Begin Time
WINE	78.40100	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	15.36685	US	T^3 Processing Length



Fluid Properties Used for Main Pass

Fluid Velocity (CFVL)



Acoustic Impedance of Mud (CZMD)

