

Company: Noble Energy Inc

Well: Five Rivers K09-66-1AHN
Field: Wattenberg
County: Weld State: Colorado

County: Weld				
Field: Wattenberg				
Location: SWNW Sec 9 T4N R66W				
Well: Five Rivers K09-66-1AHN				
Company: Noble Energy Inc				
USI-LITE				
				LOCATION
Permanent Datum: Log Measured From: Drilling Measured From:		GL KB KB	Elev: K.B. 4729.0 F G.L. 4699.0 F D.F. 4728.0 F	
Logging Date	API Serial No. 05-123-39479-0000	Section 4N	Township 4N	Range 66W
Run Number	Run 1			
Depth Driller	7552.0 F			
Schlumberger Depth	7552.0 F			
Bottom Log Interval	7405.0 F			
Top Log Interval	-999.2 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	633.0 F			
To	7552.0 F			
Casing Size	7.00 IN			
Weight	26.00 LB/F			
Grade	P110			
From	30.0 F			
To	7541.9 F			
Max Recorded Temp	255.0			
Logger on bottom (date)	16-Sep-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: 1109 Calibration Date: Calibrator Serial Number: Number Of Calibration Points: Calibration RMS: Calibration Peak Error:	Serial Number: Length: 11800.00000

DISCLAIMER

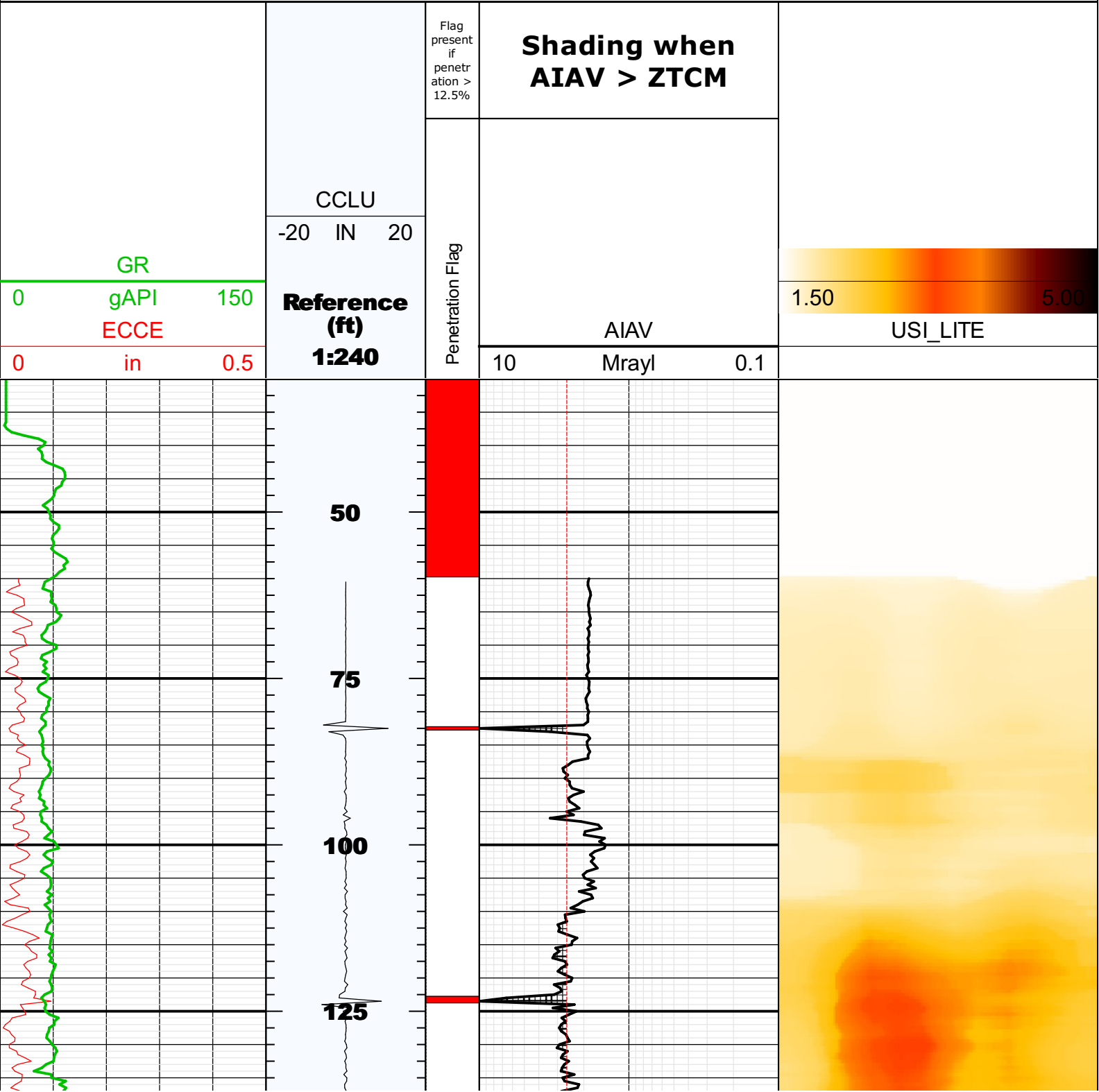
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIIONS ON USE OF THE RECORDED-DATA (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

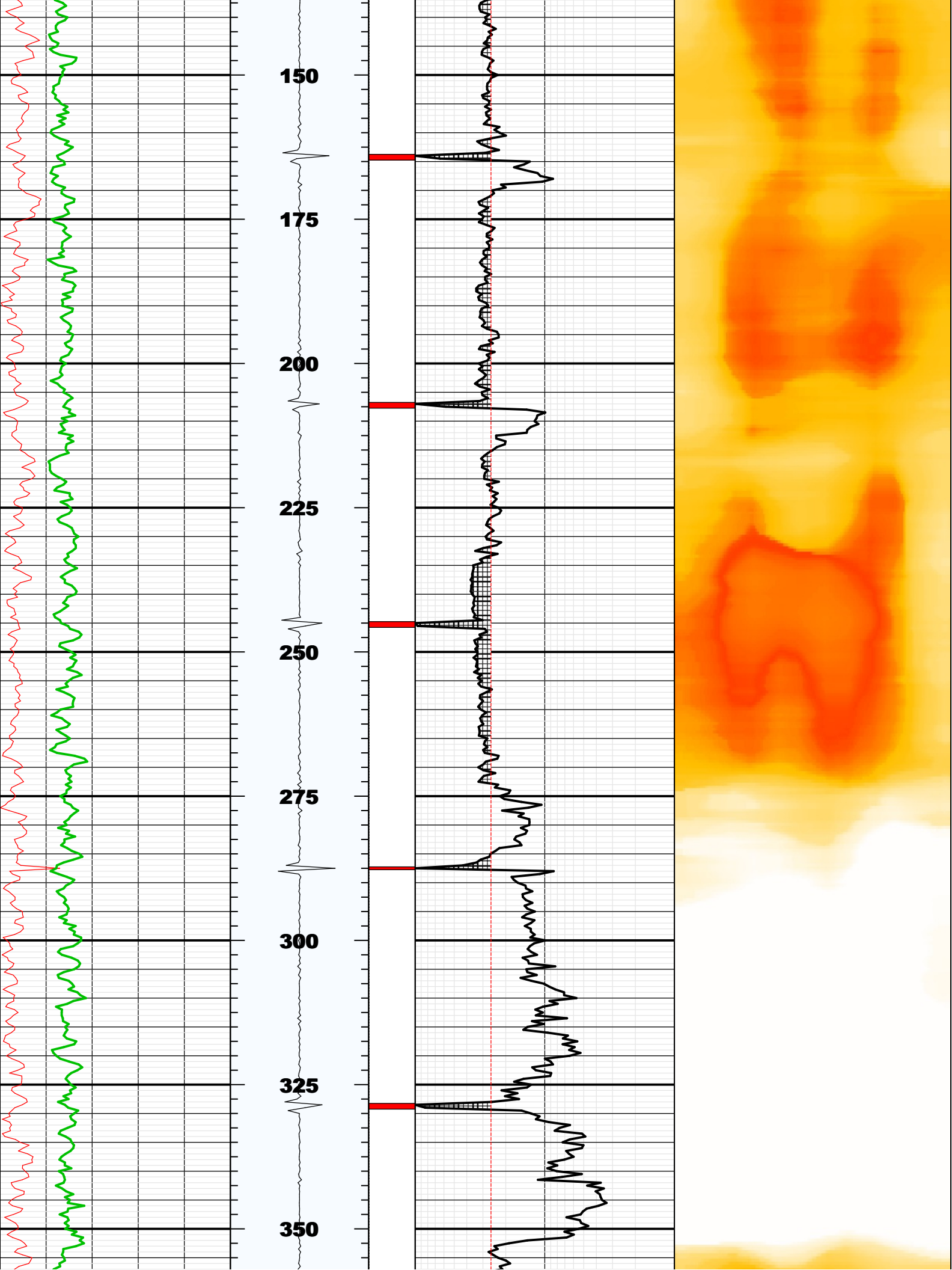
This is a subsequent trip in hole.
Toolstring run as per toolsketch.
Log objective cement evaluation
11.5 PPG Spacer 12.5 PPG Lead and 13.8 PPG Tail cement.
0 PSI repeat pass and 3000 PSI main pass.
Partial pass run under 2500 PSI from TD to 4100'. Dry microannulus suggested more pressure was necessary.
Per Bill 3000 PSI is maximum however this did not close the noted microannulus.
Estimated TOC @ 390'. Expected TOC @ 522'.
Top of 4.5 liner at 7412.4'.
Bottom log interval at 7405' to maintain distance from liner top.
Bottom hole temperature was 255 degF

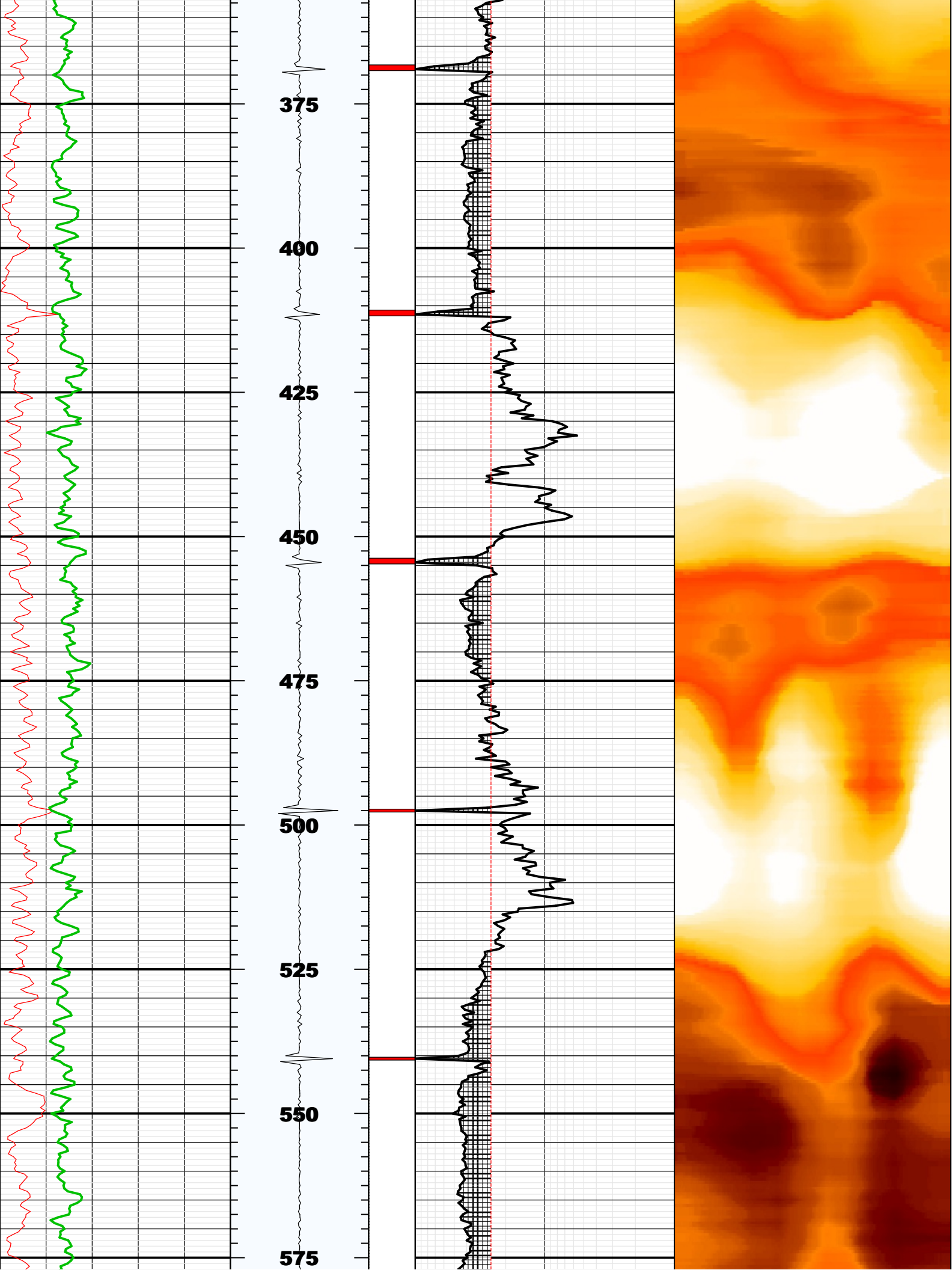
Thank you for choosing Schlumberger Wireline!
SLB crew Ian Derry Jake Jump and Keri Ondrus.

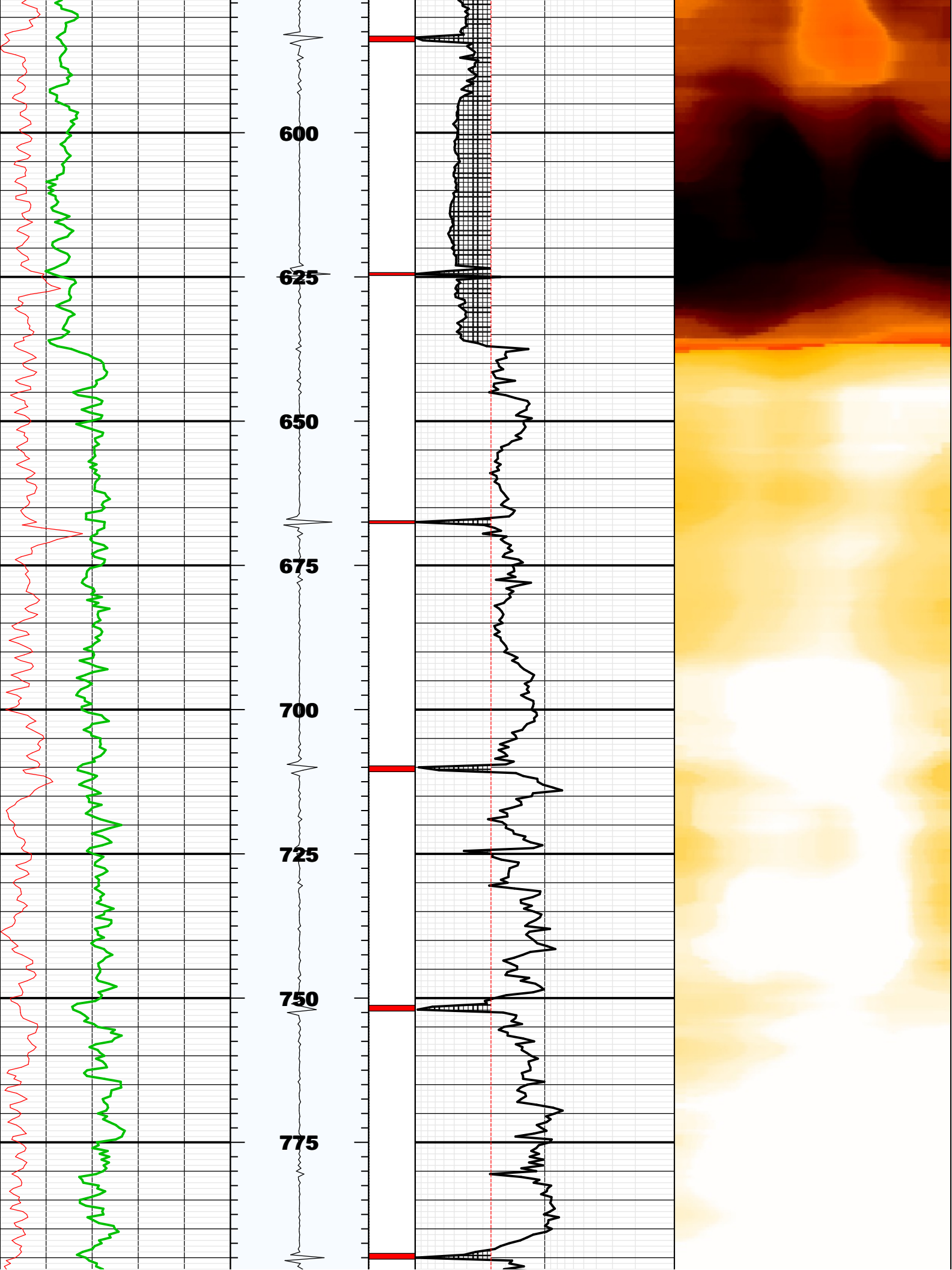
Main Pass

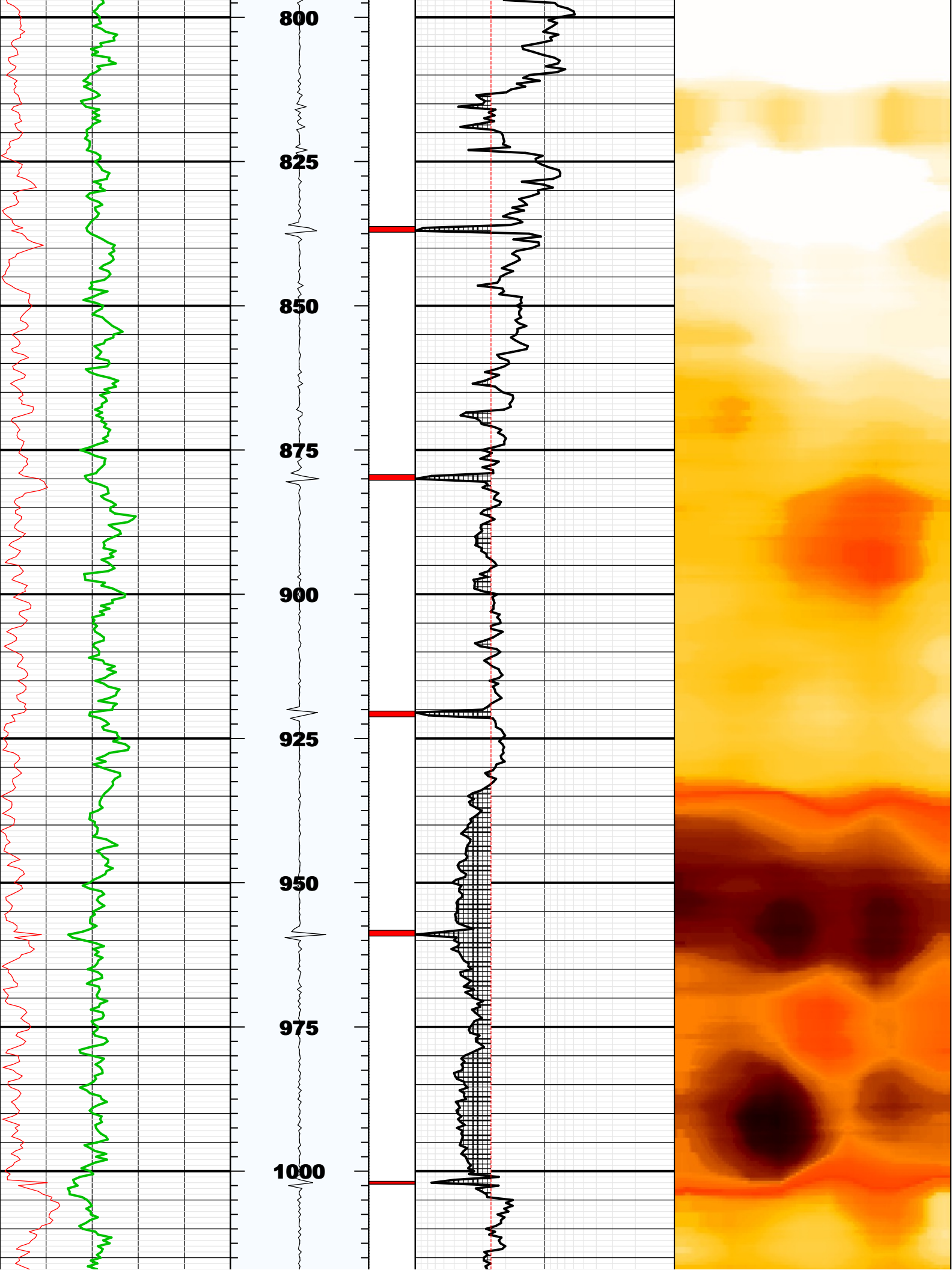
Company: Noble Energy Inc
Well: Five Rivers K09-66-1AHN
Field: Wattenberg

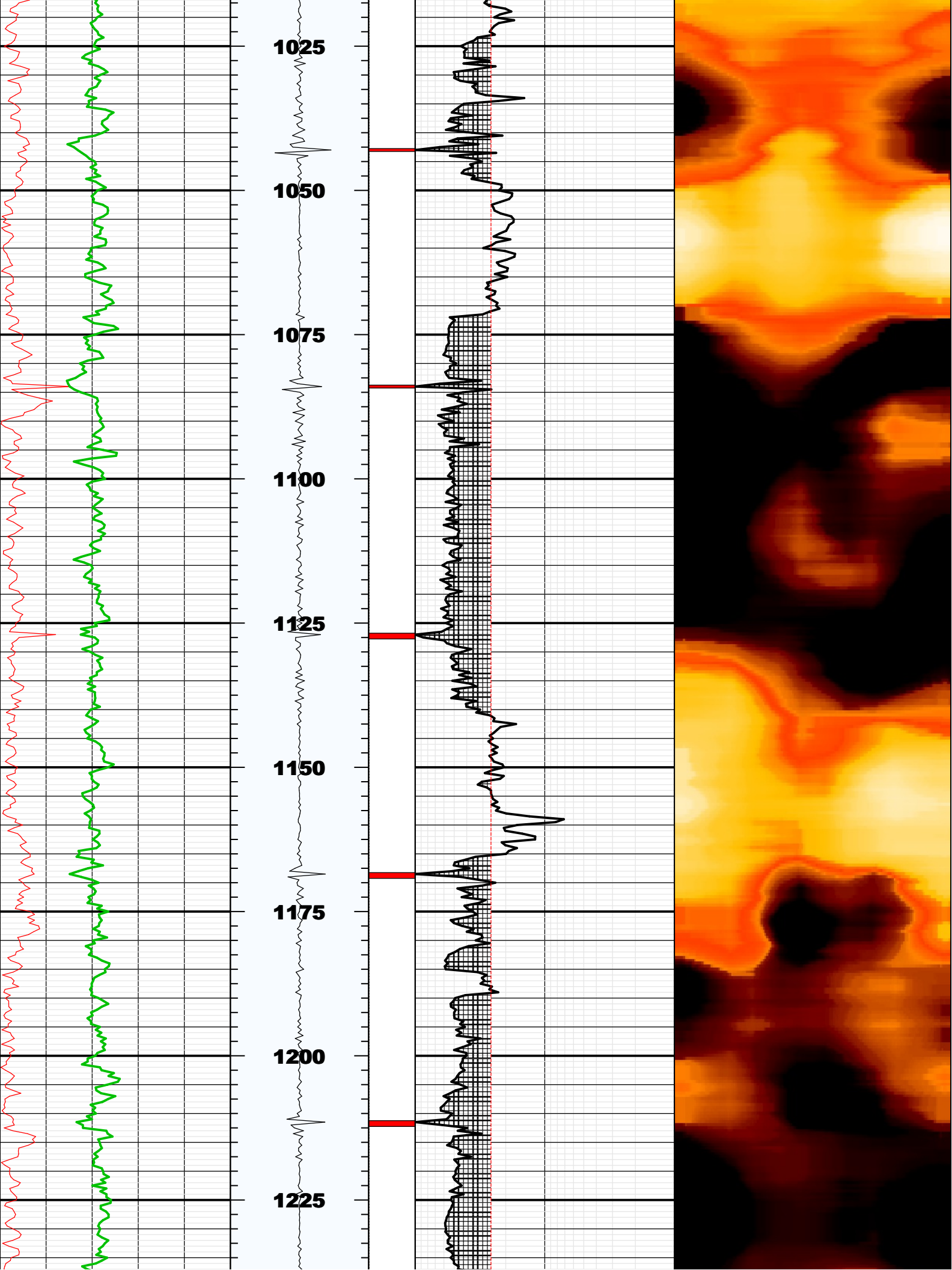


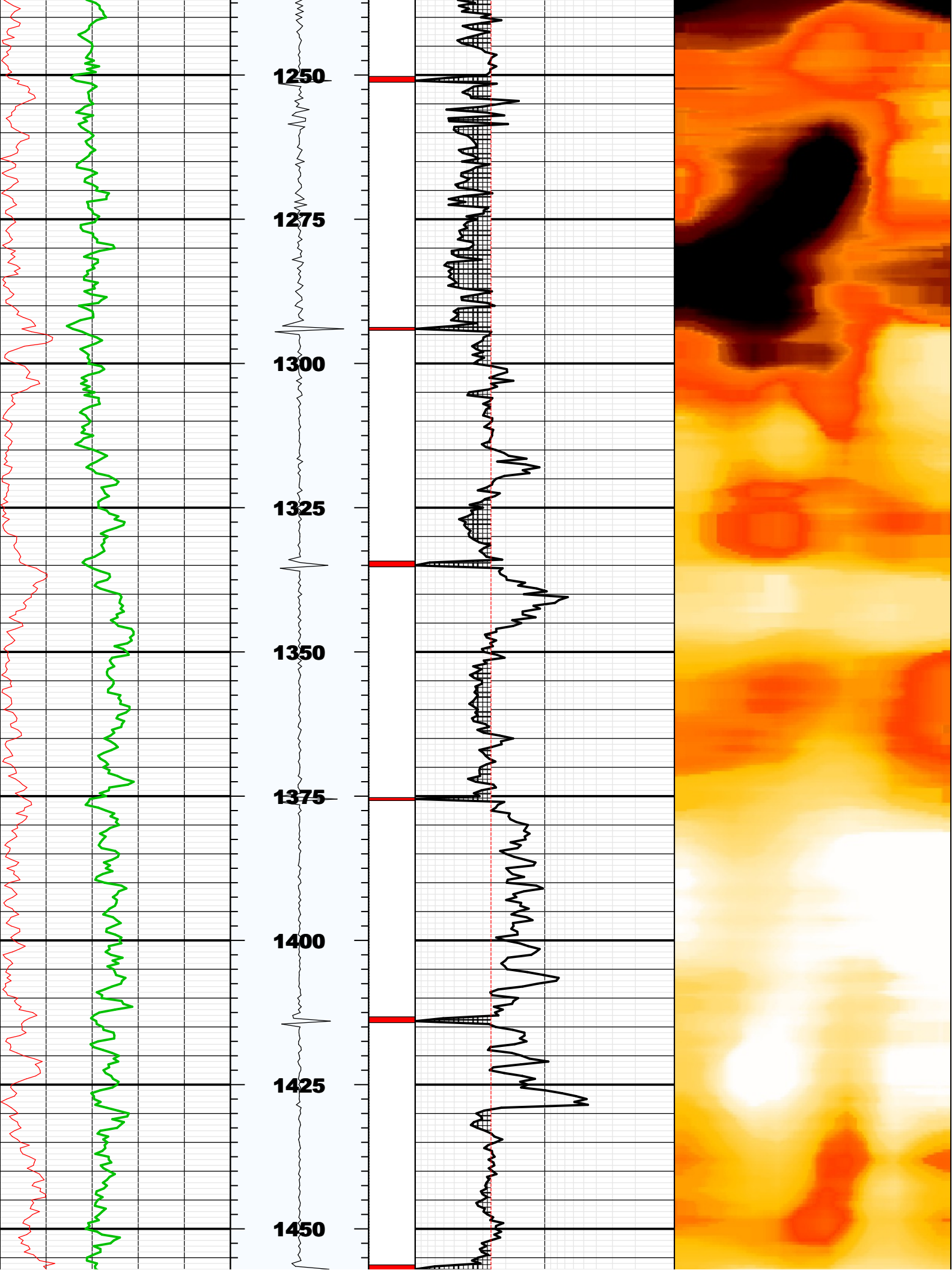


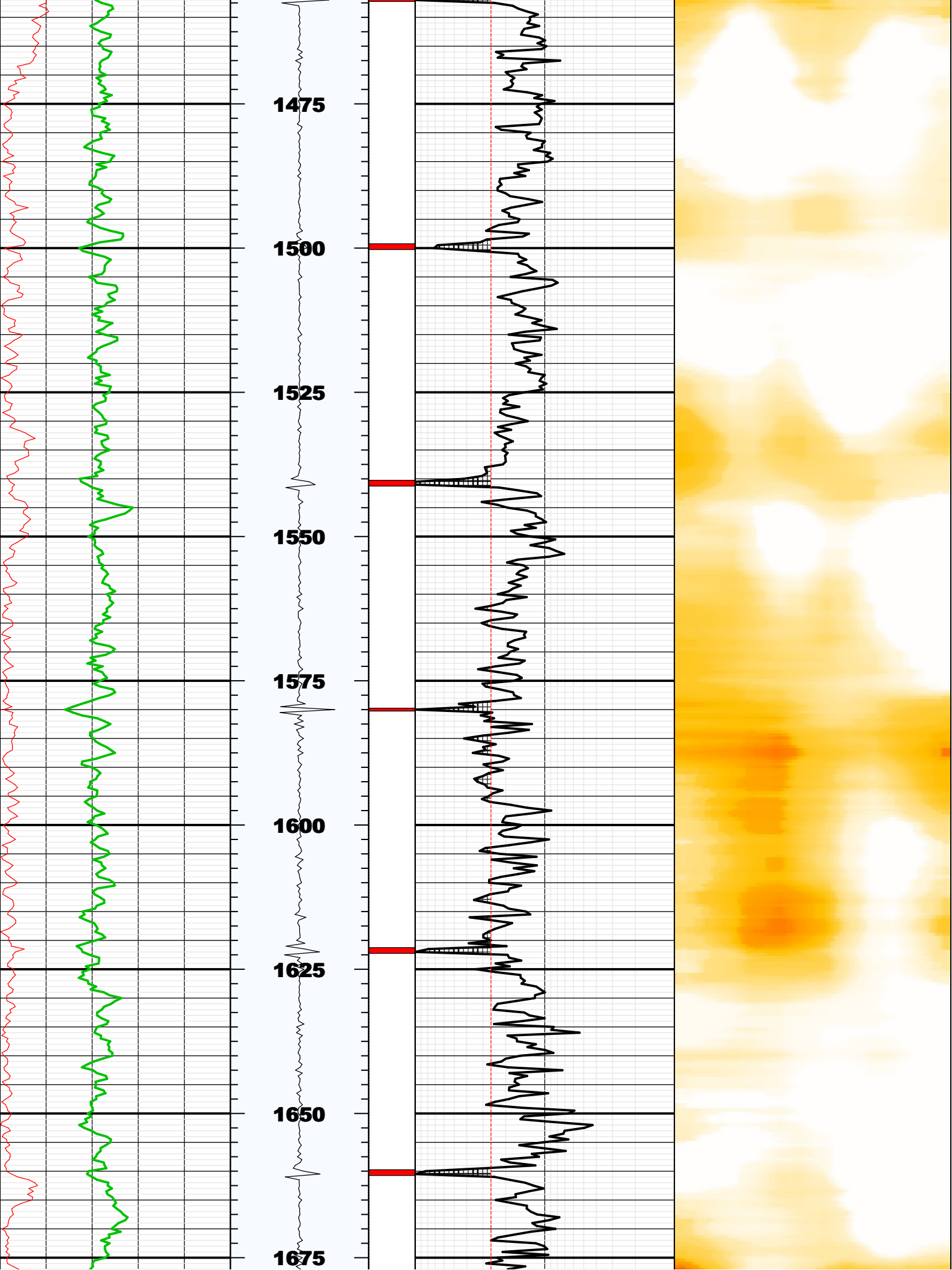


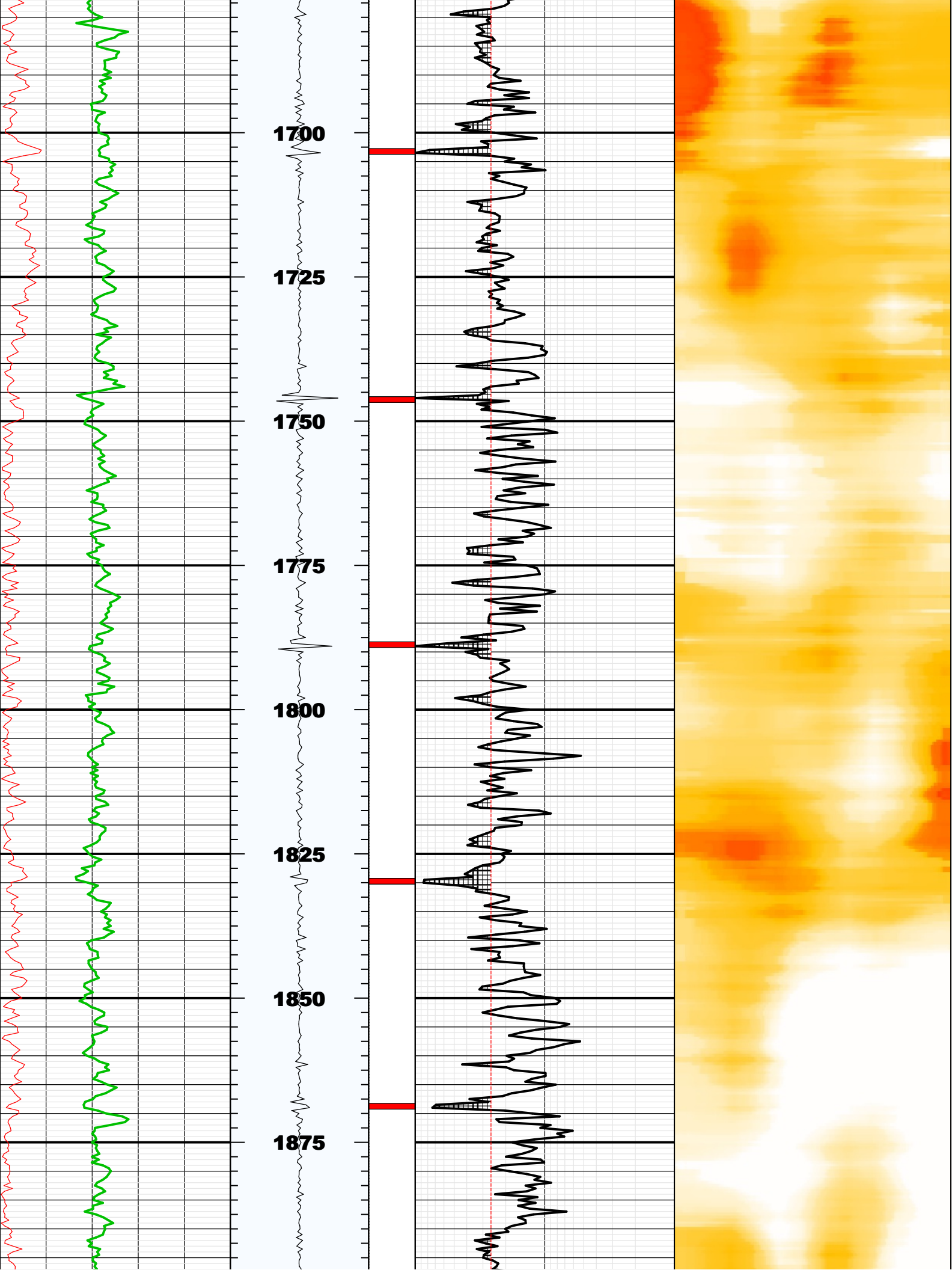


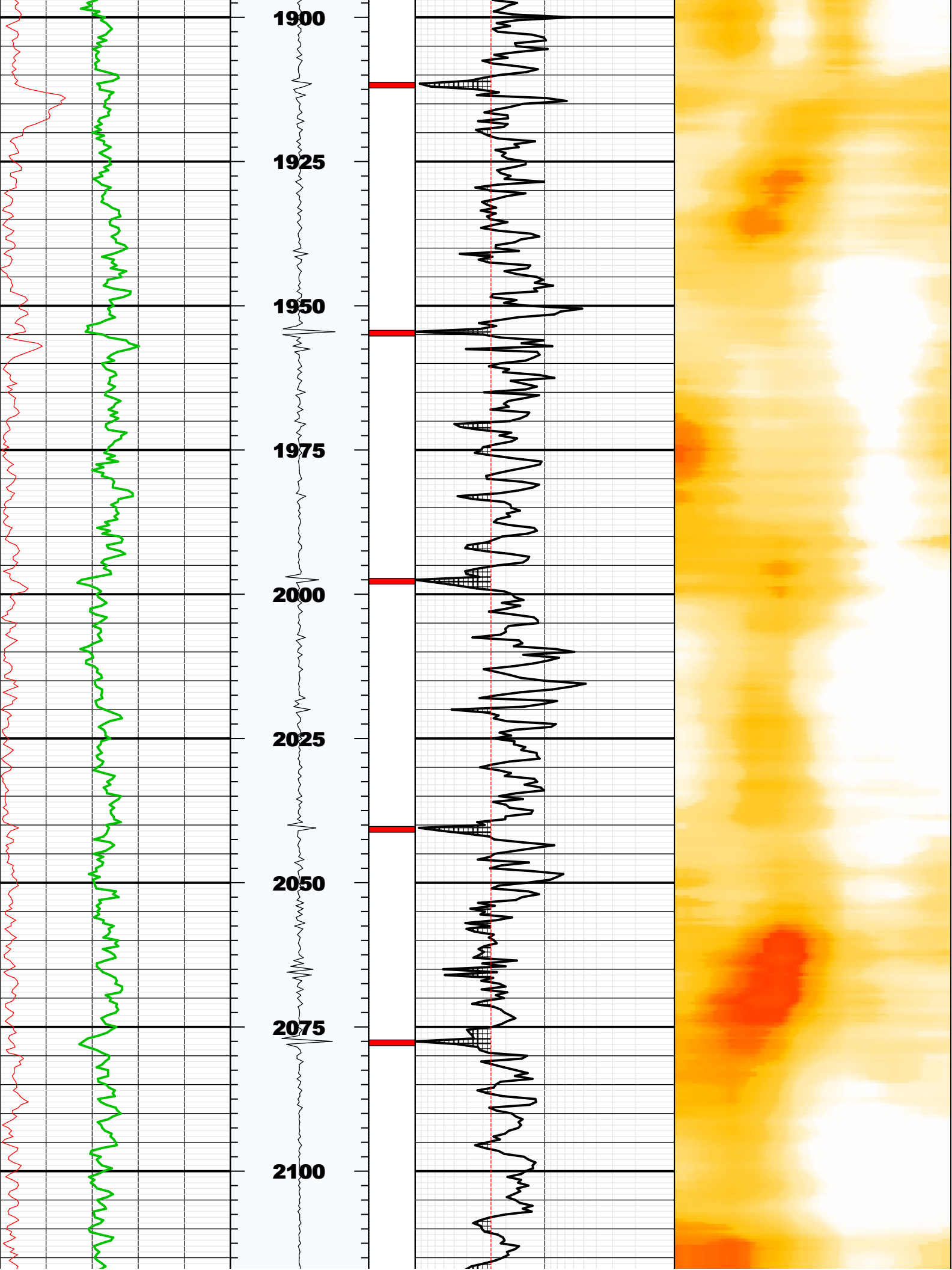


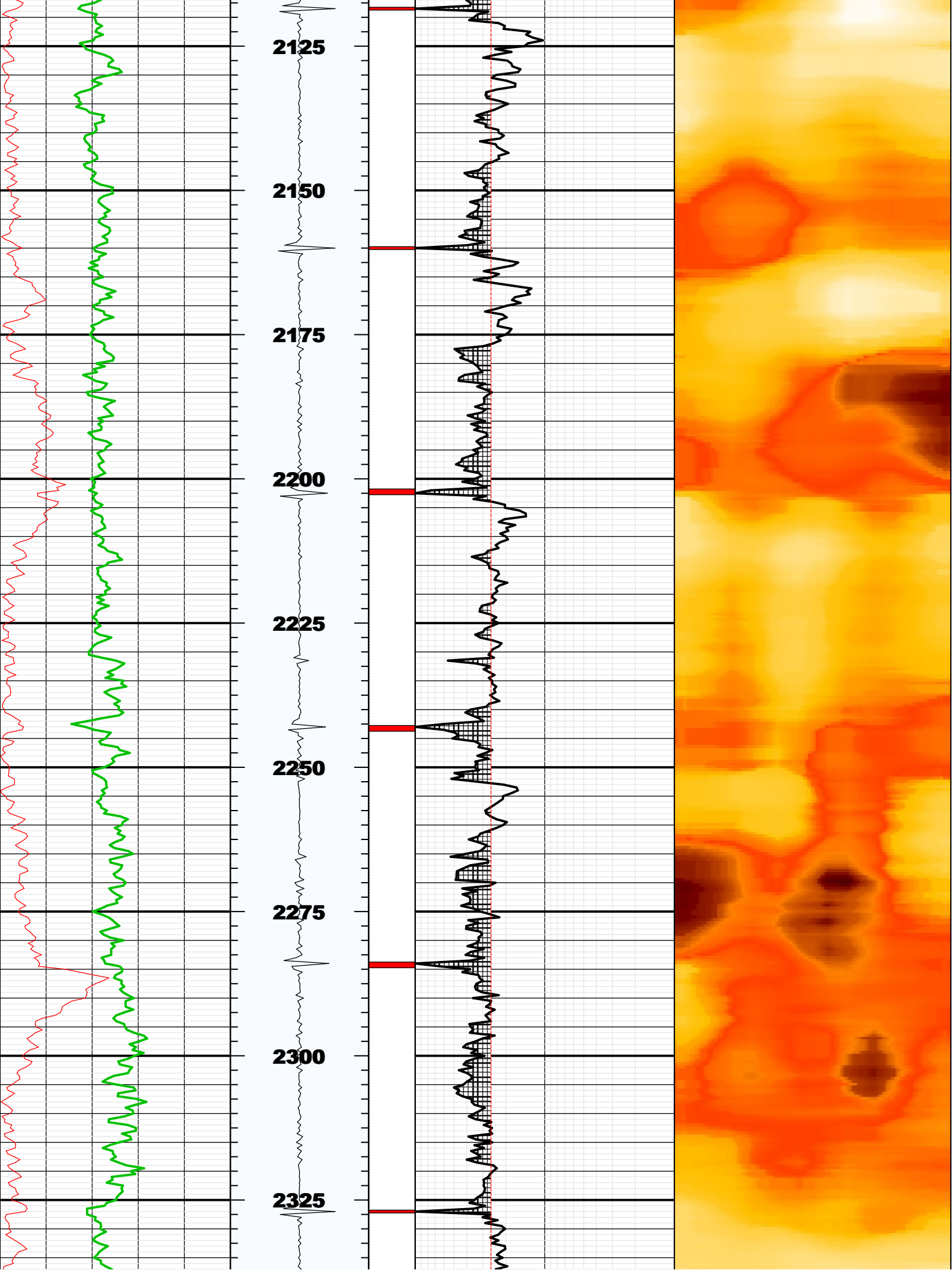


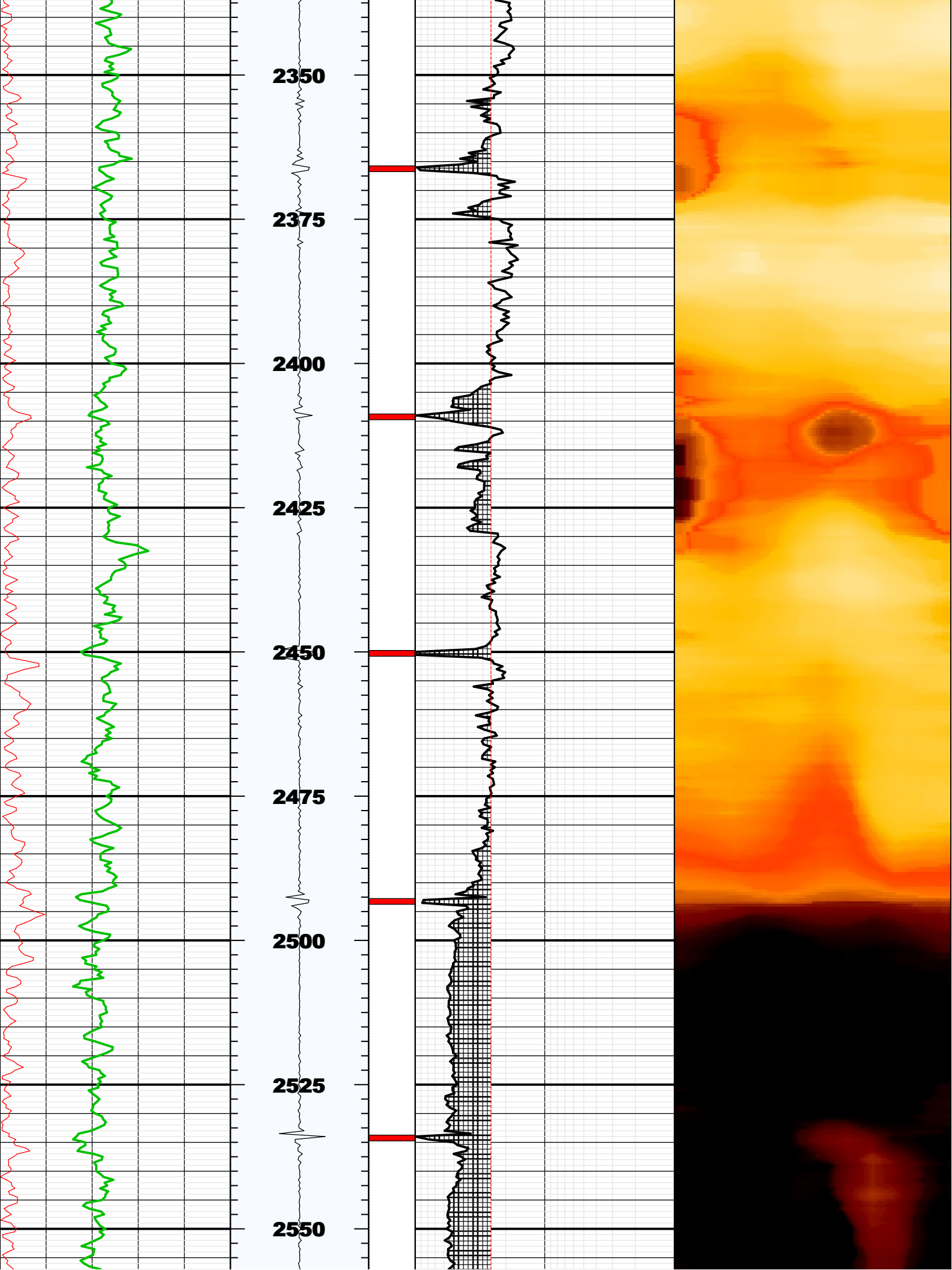


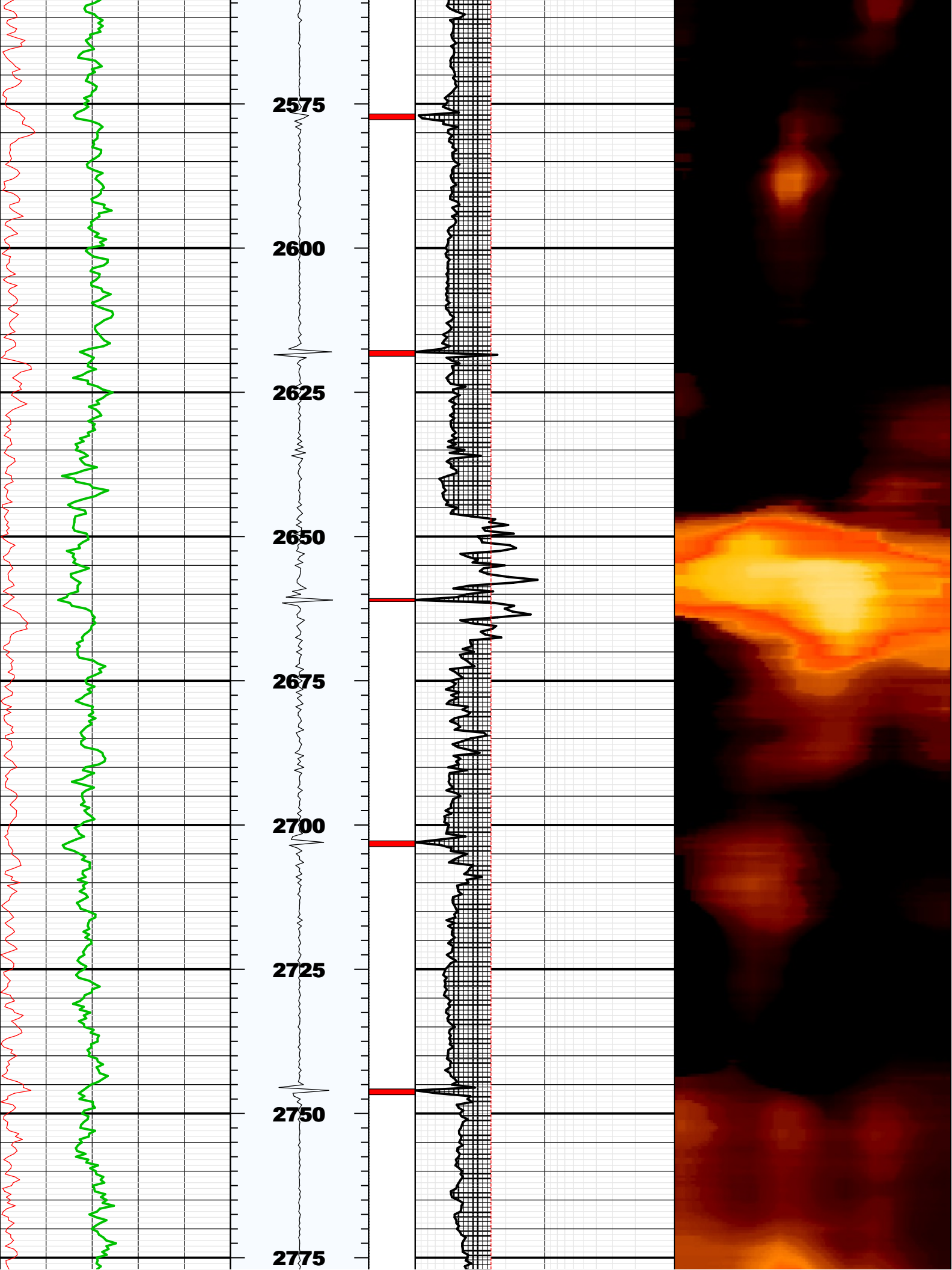


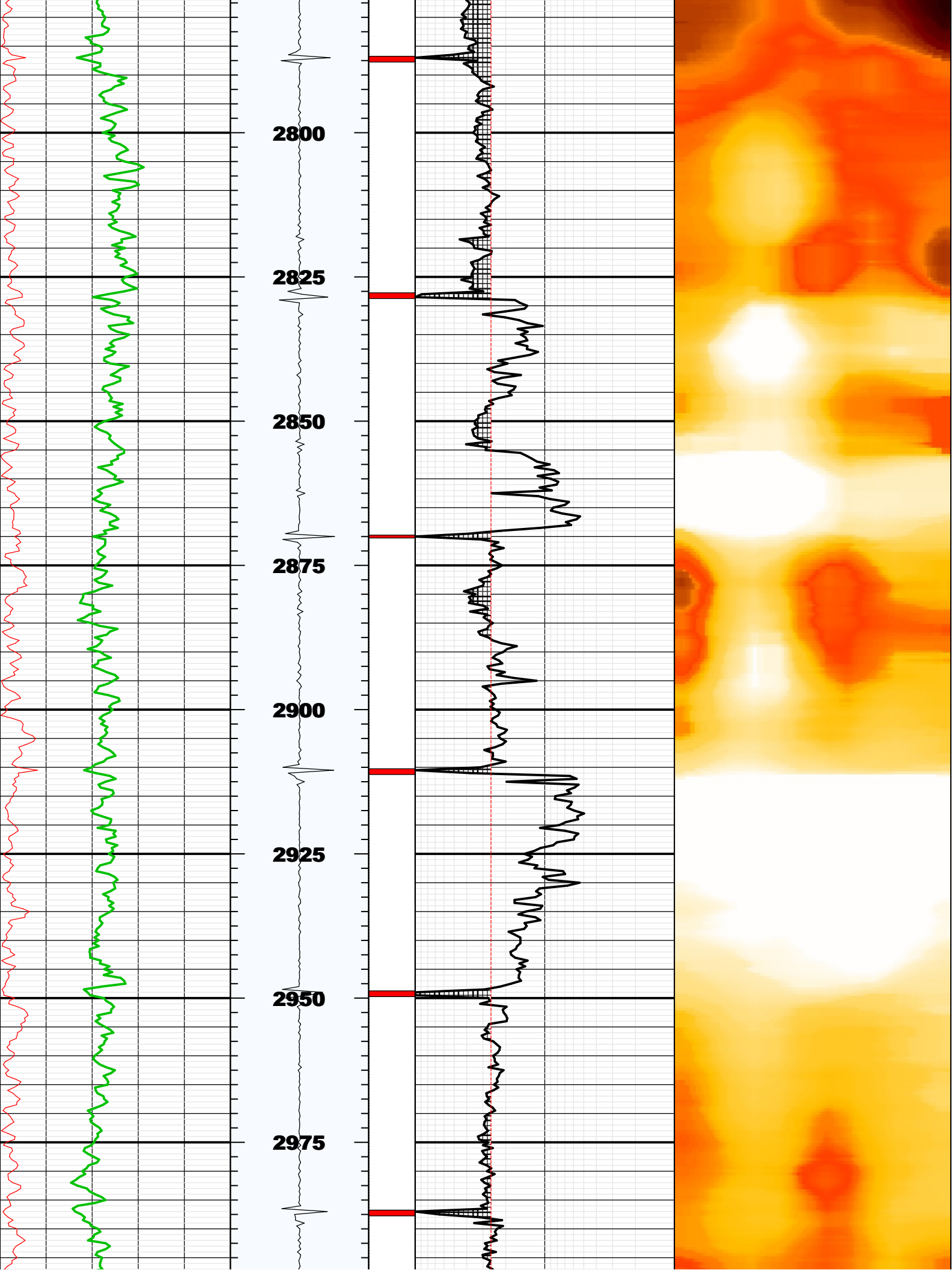


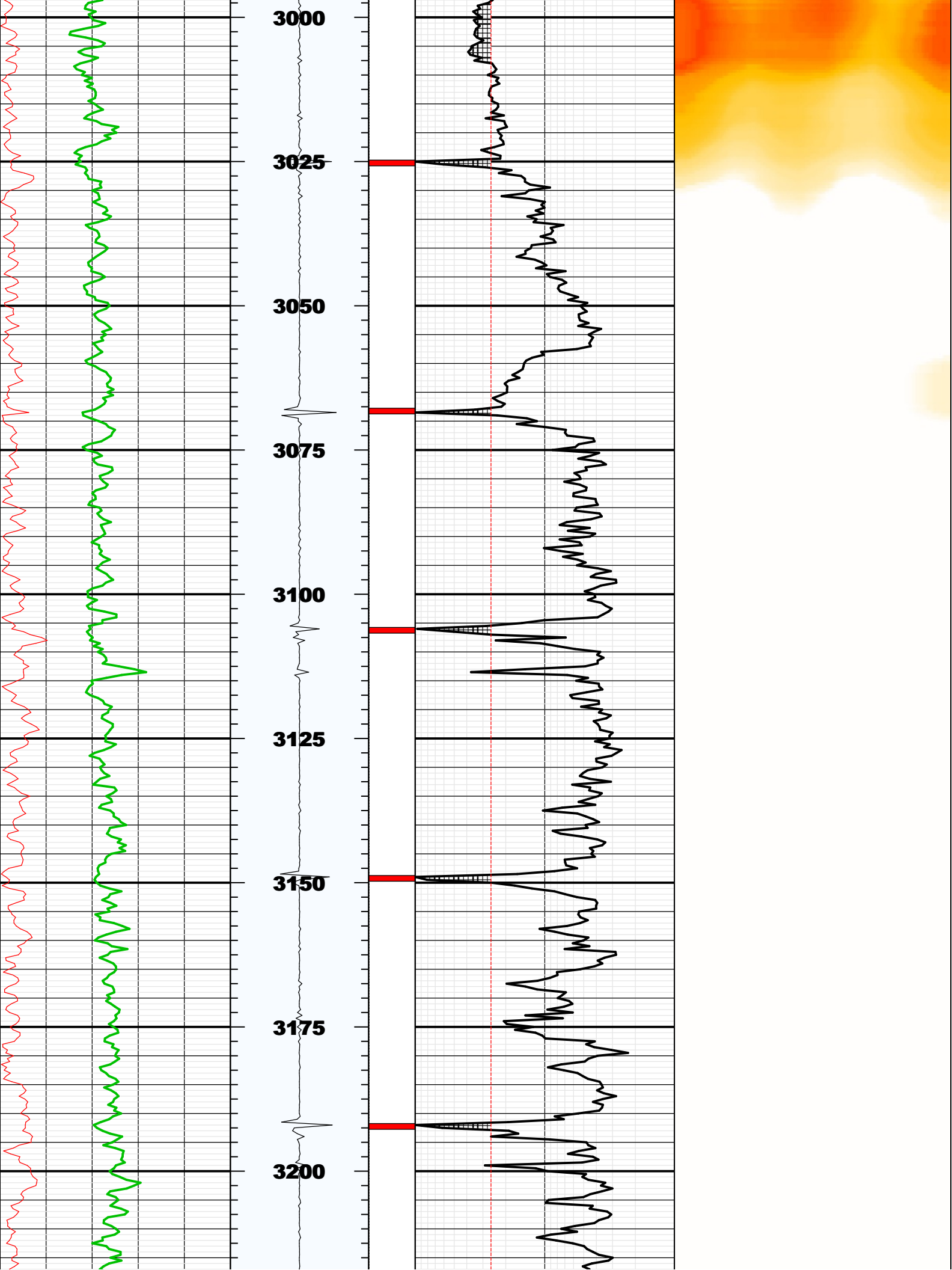


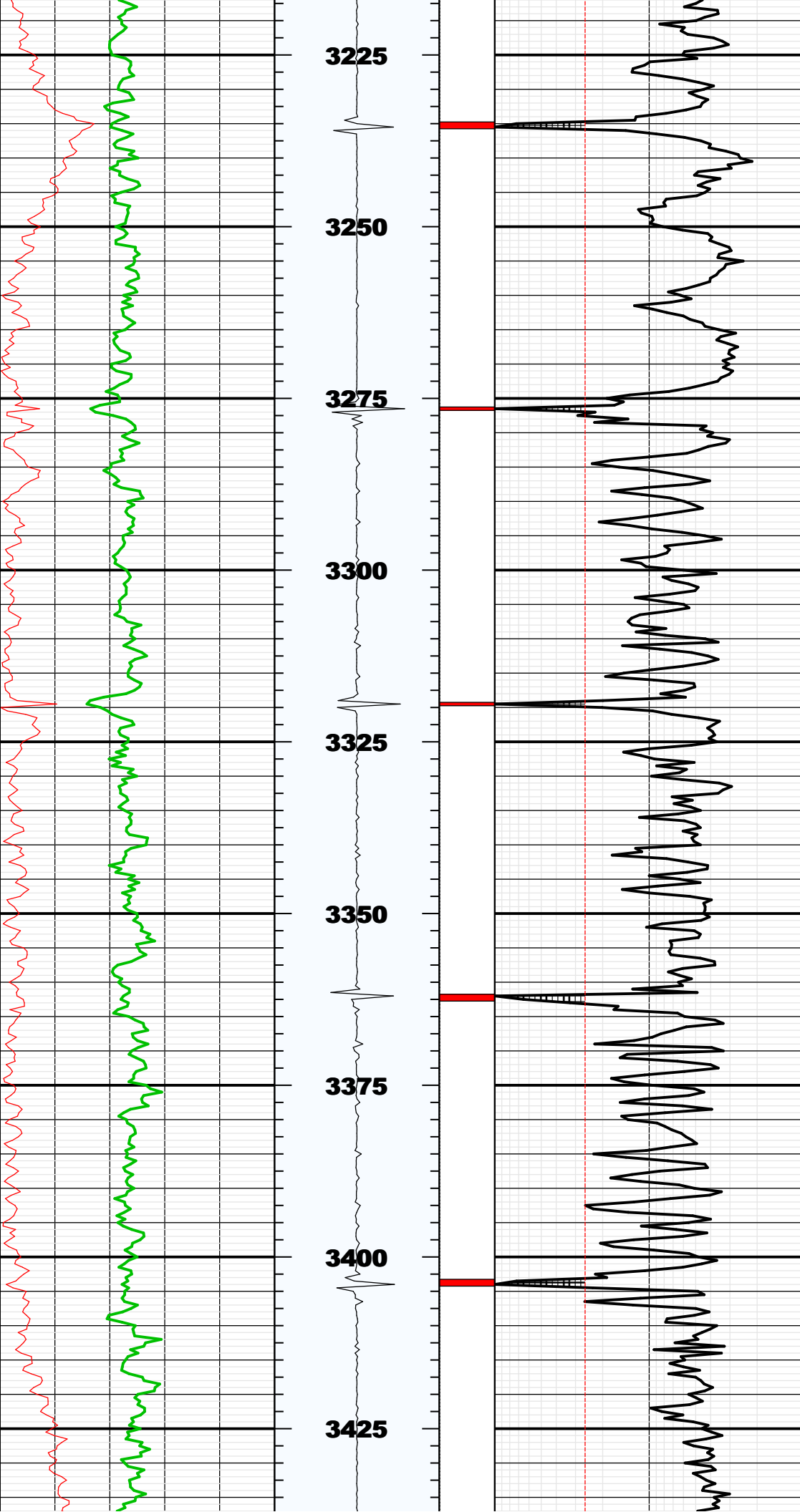


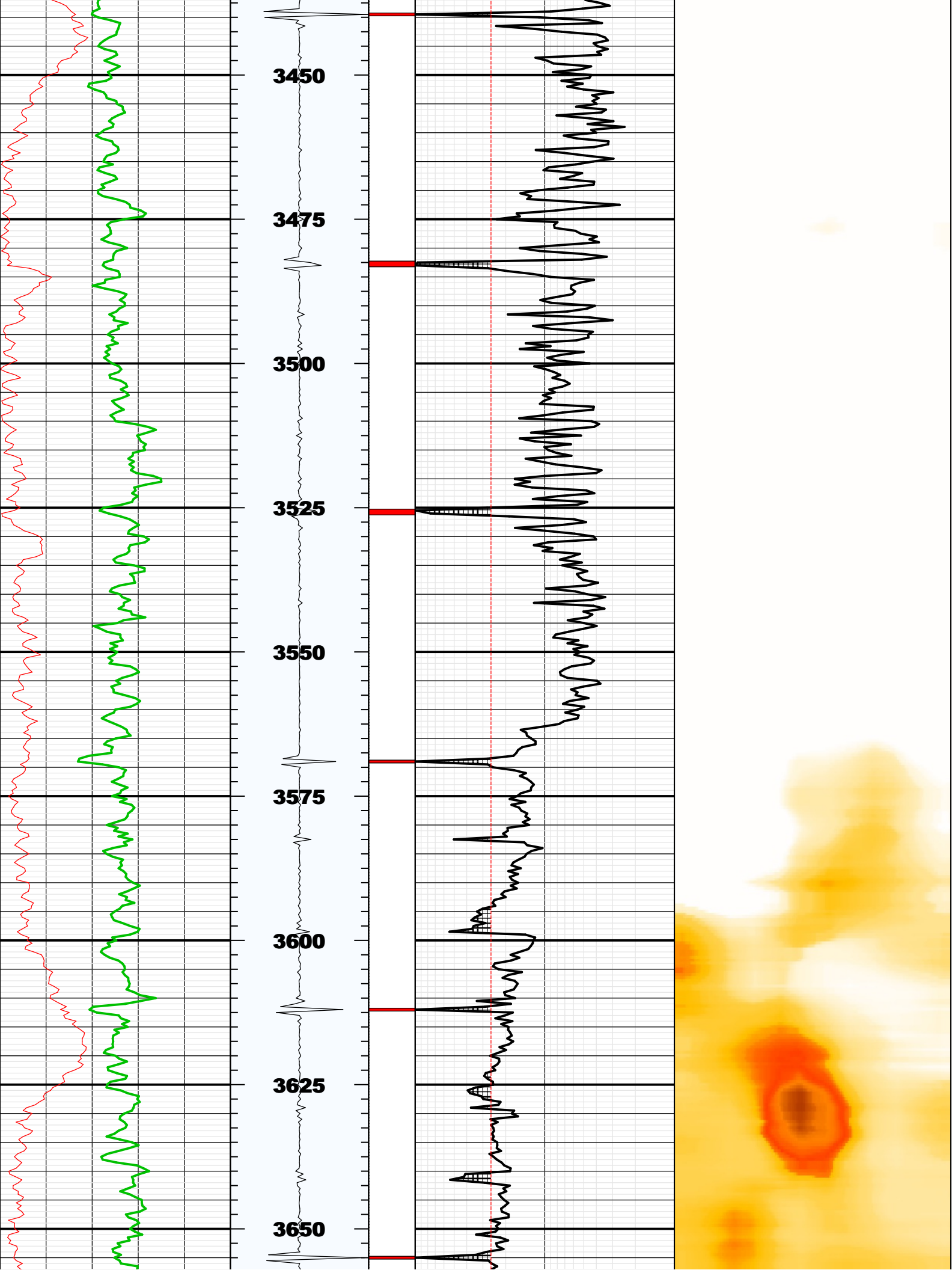


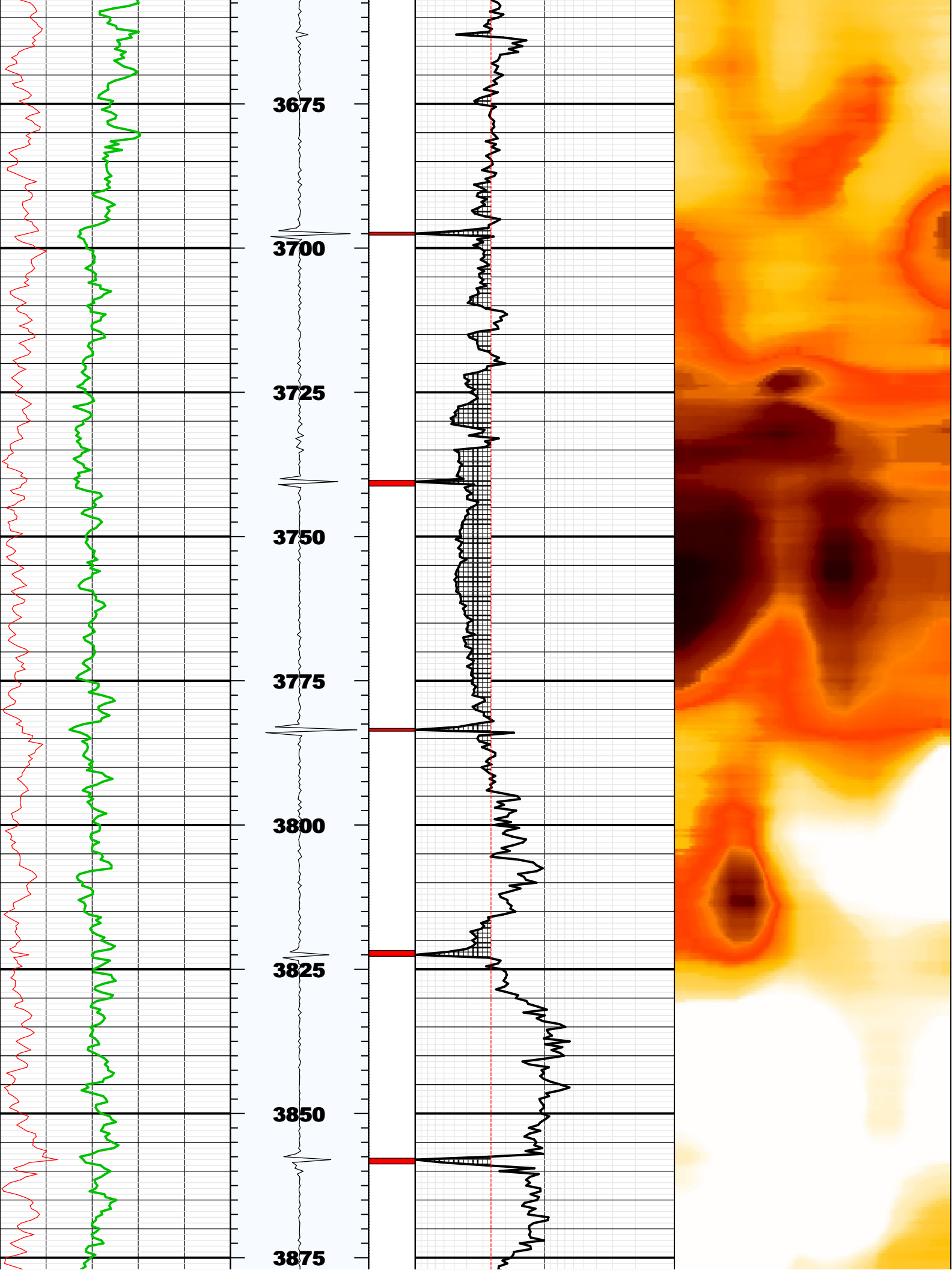


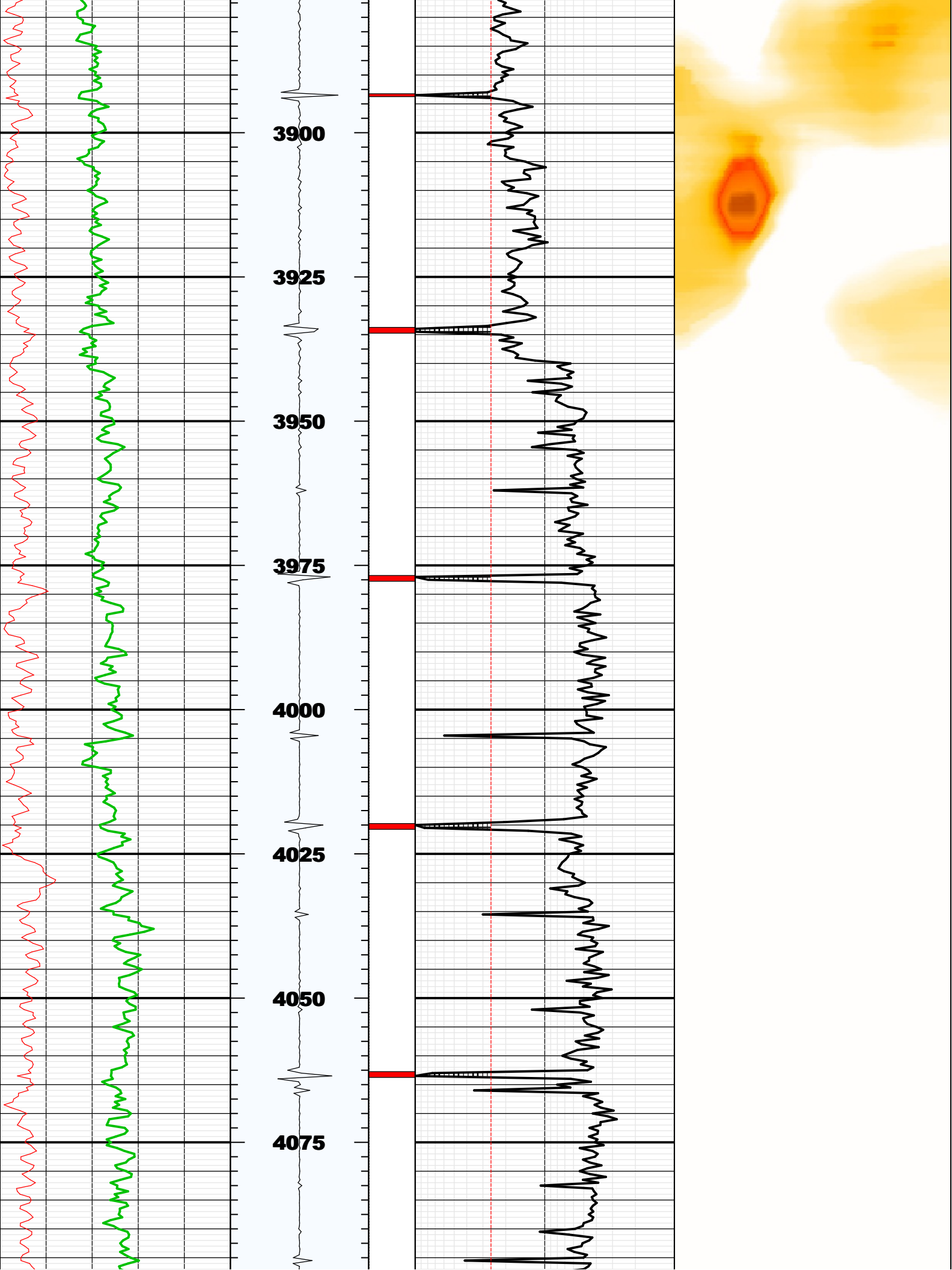


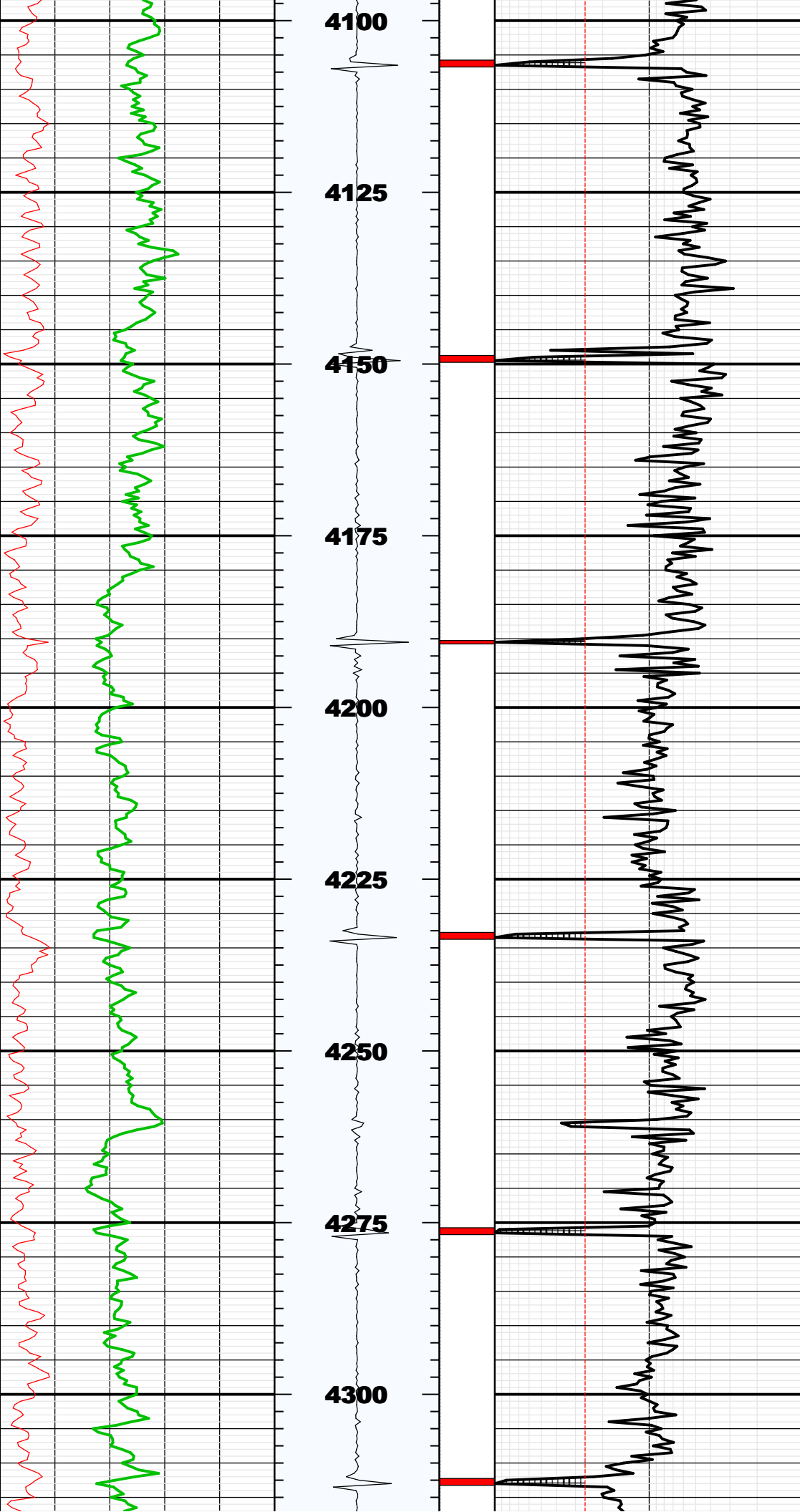


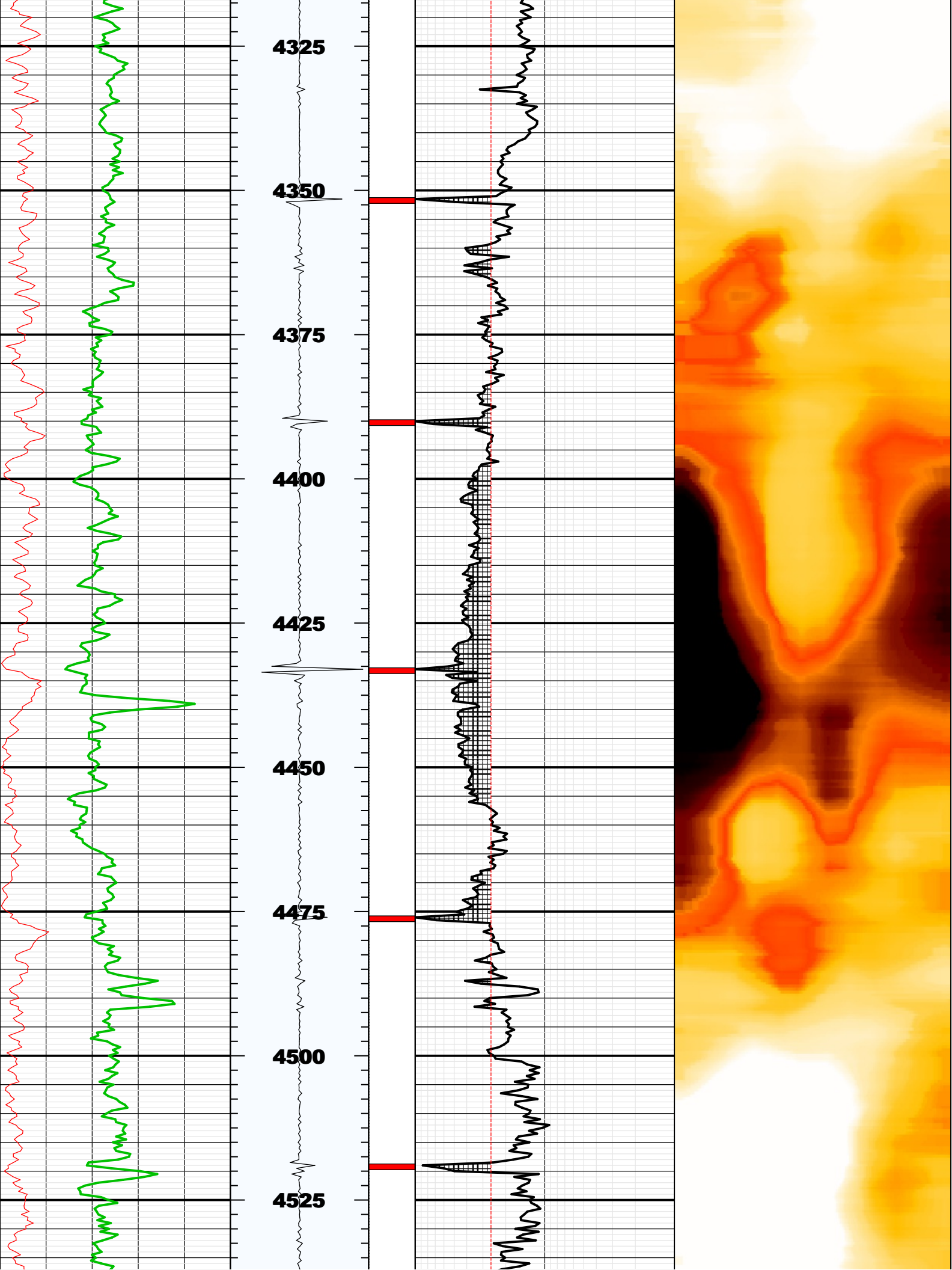


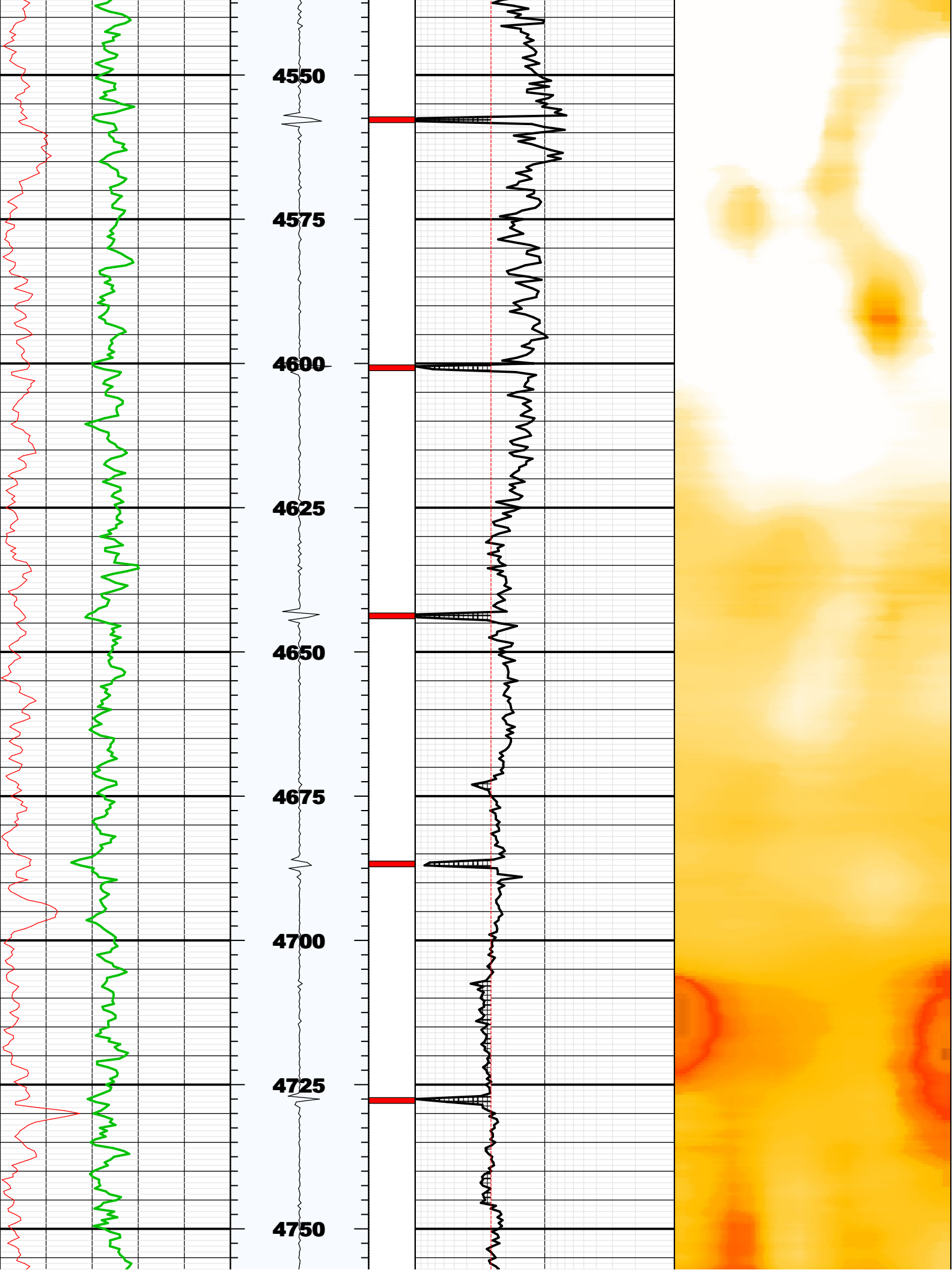


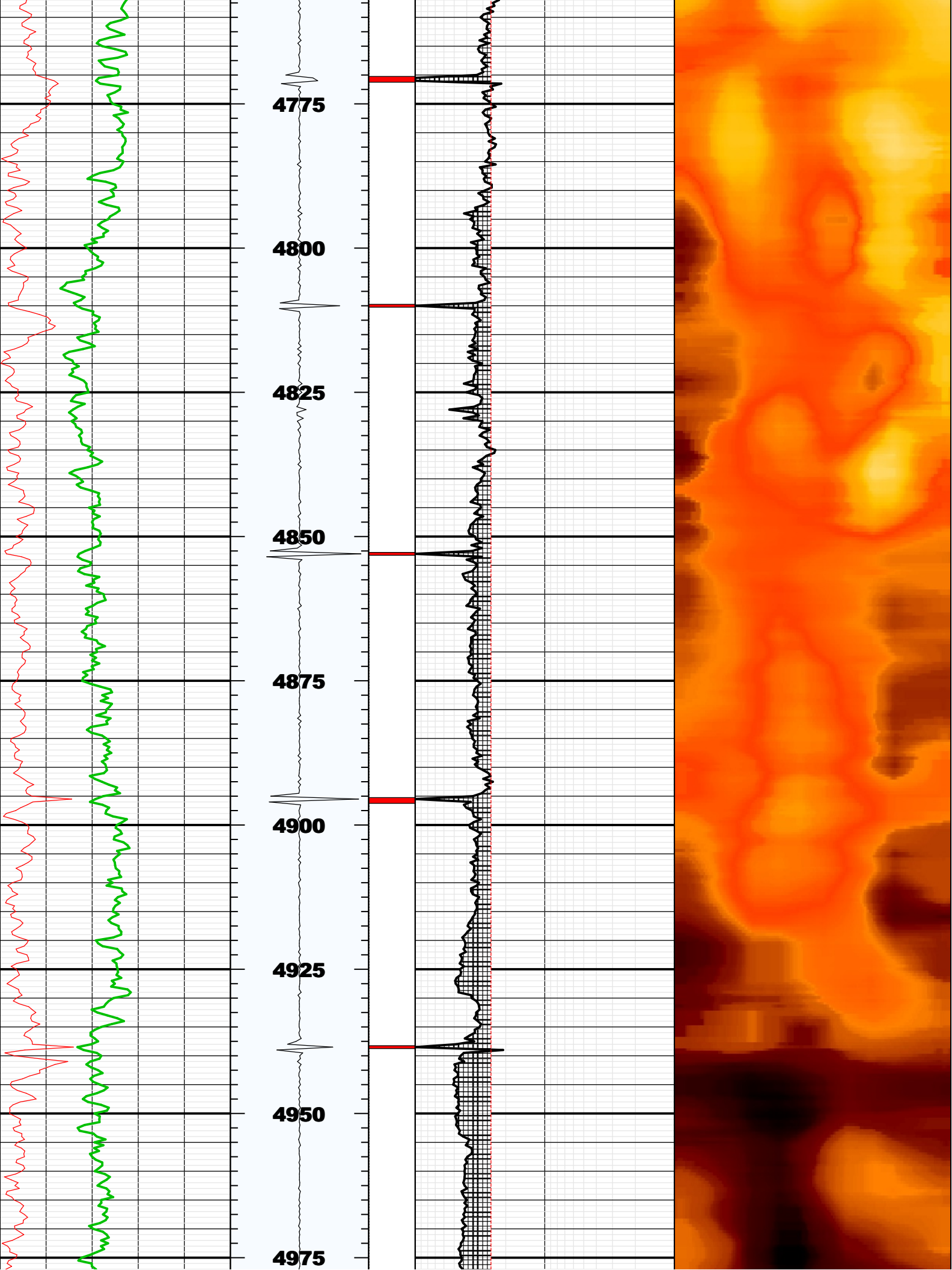


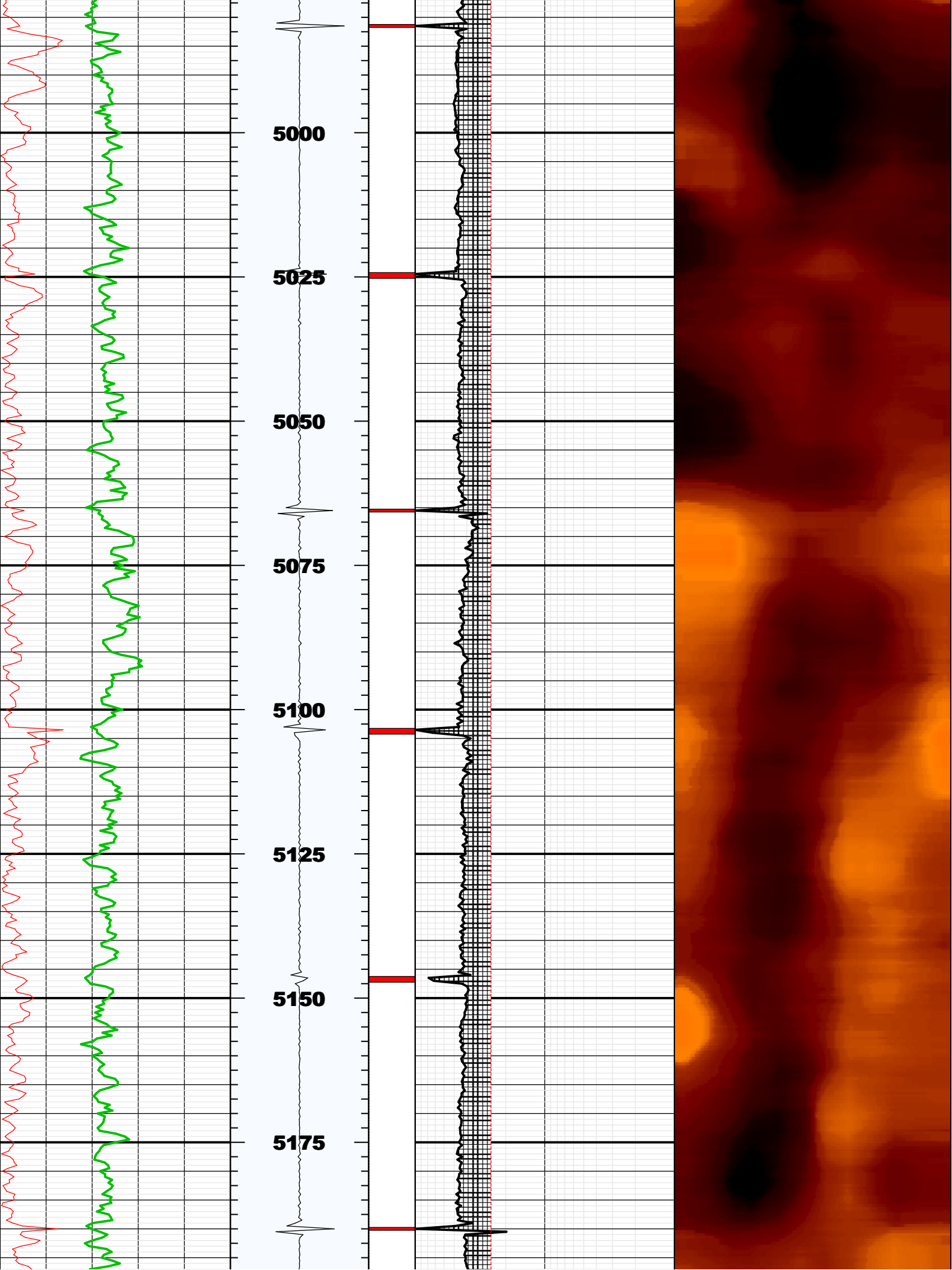


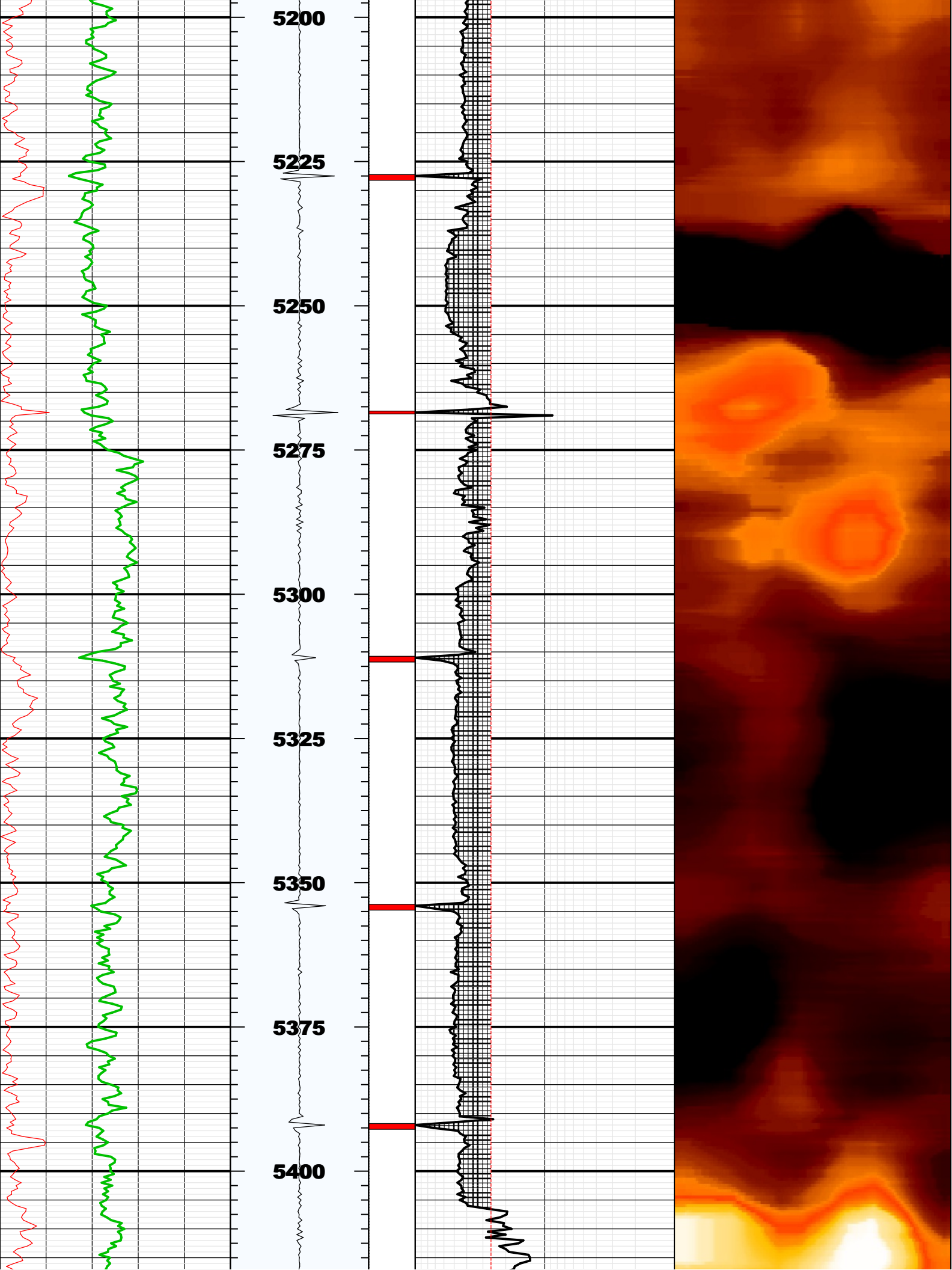


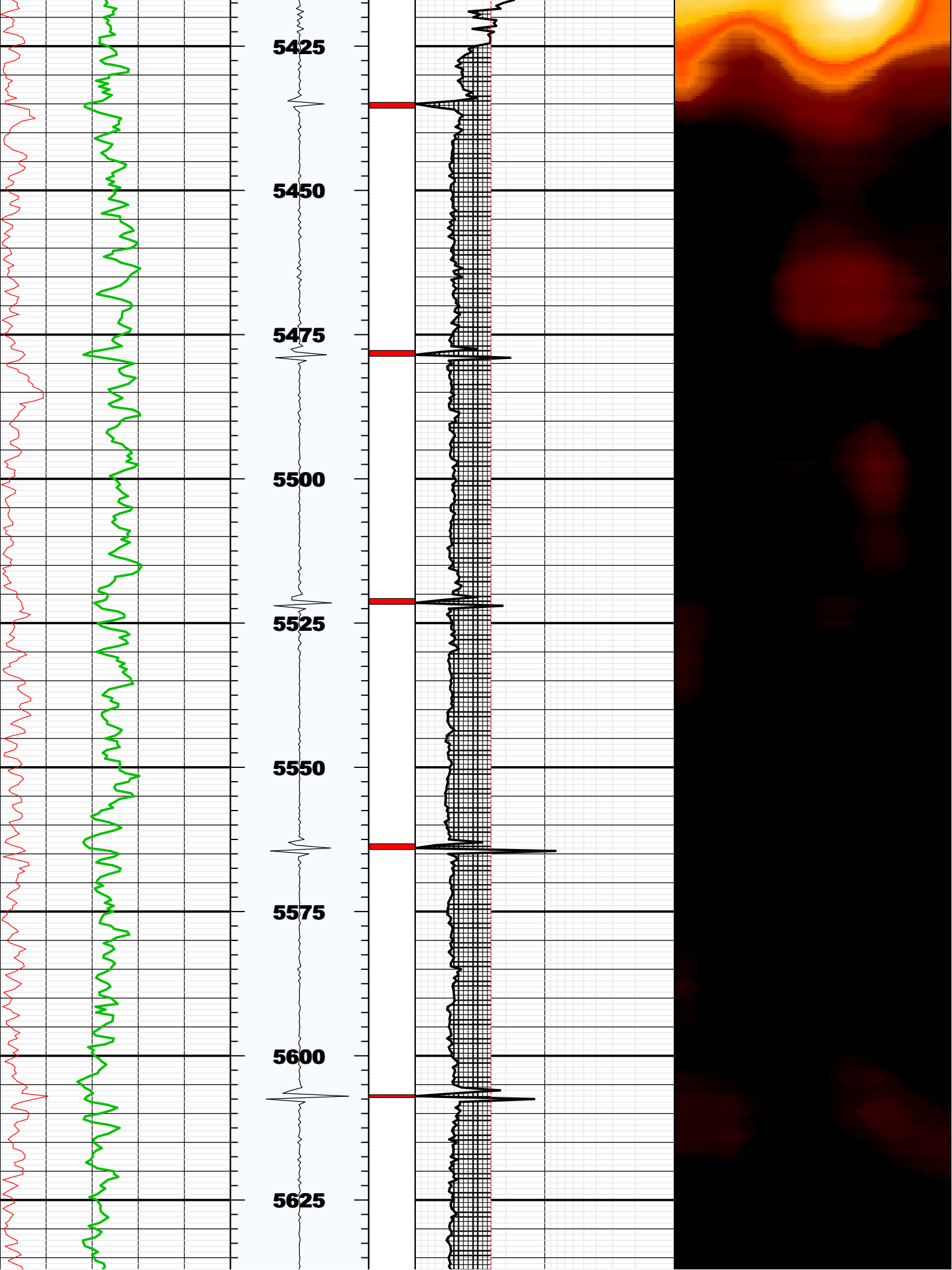


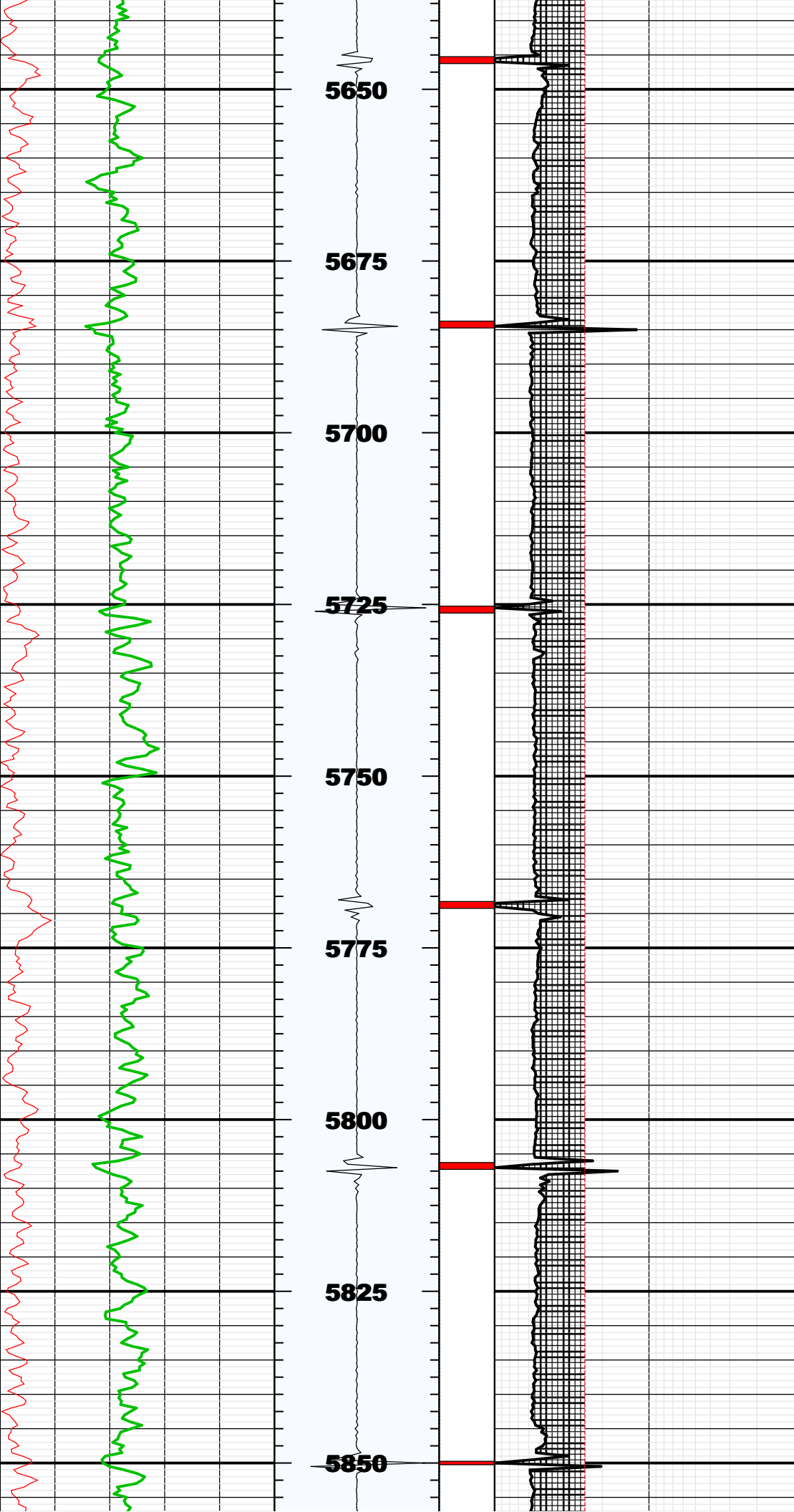


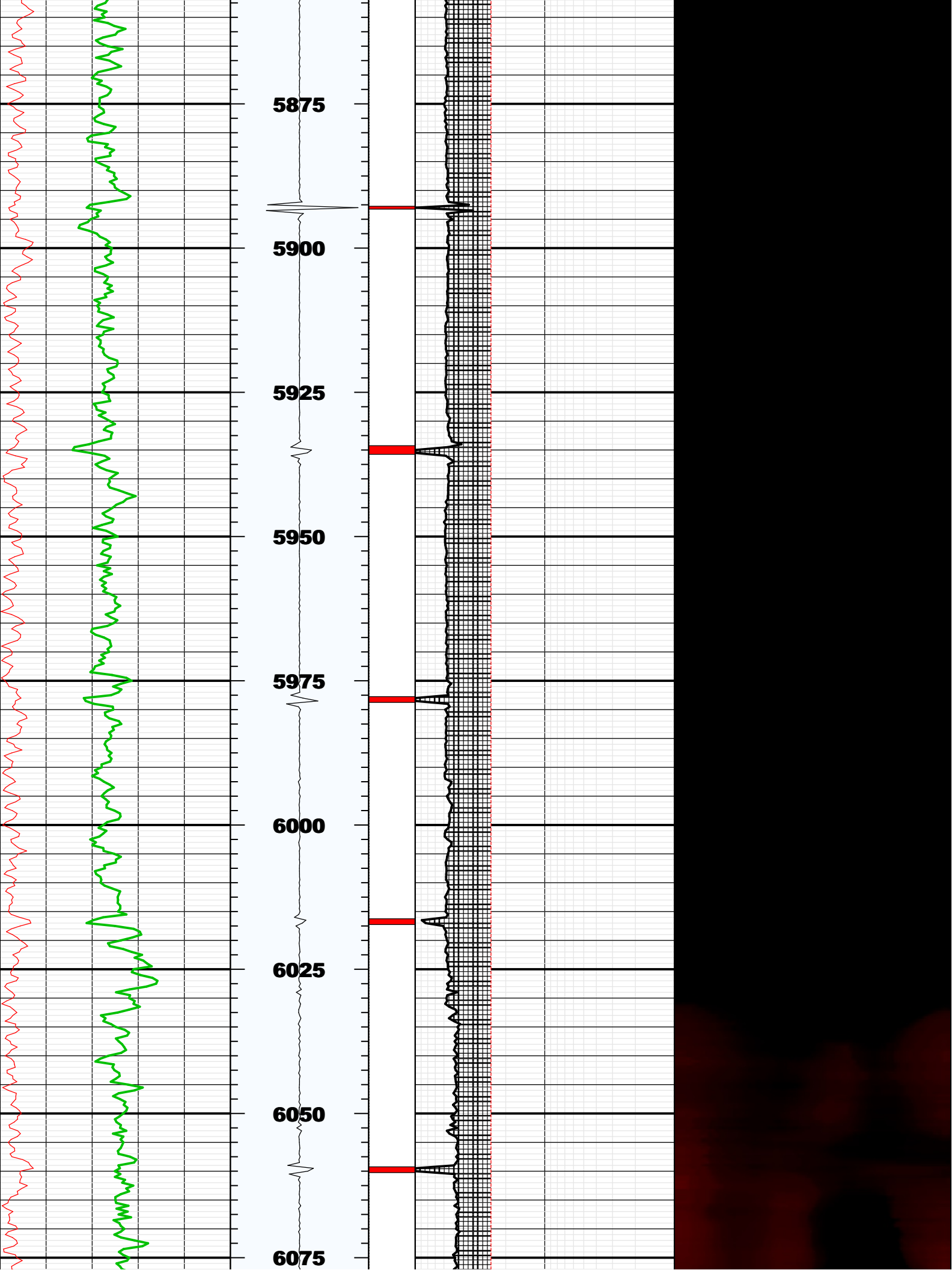


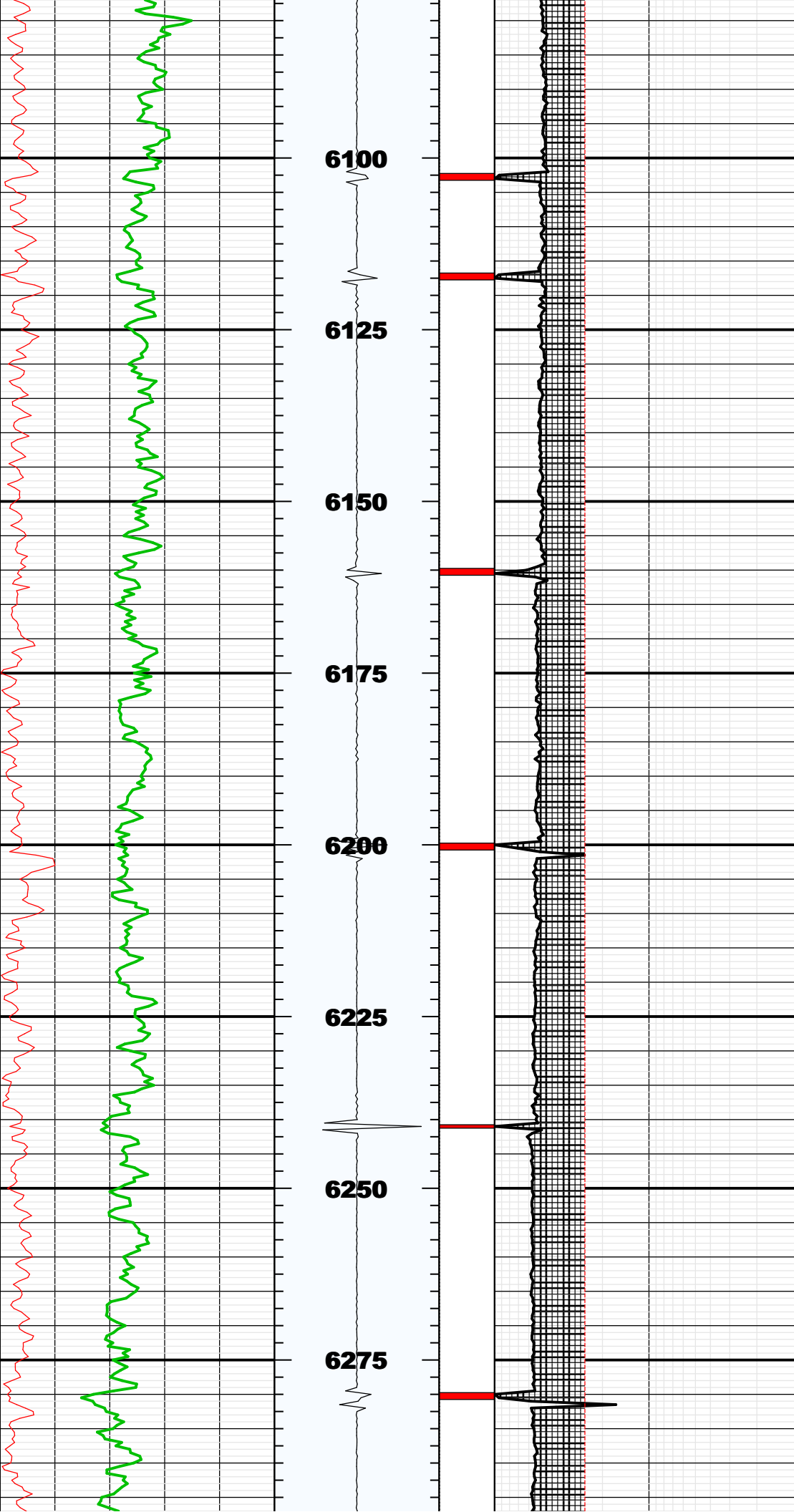


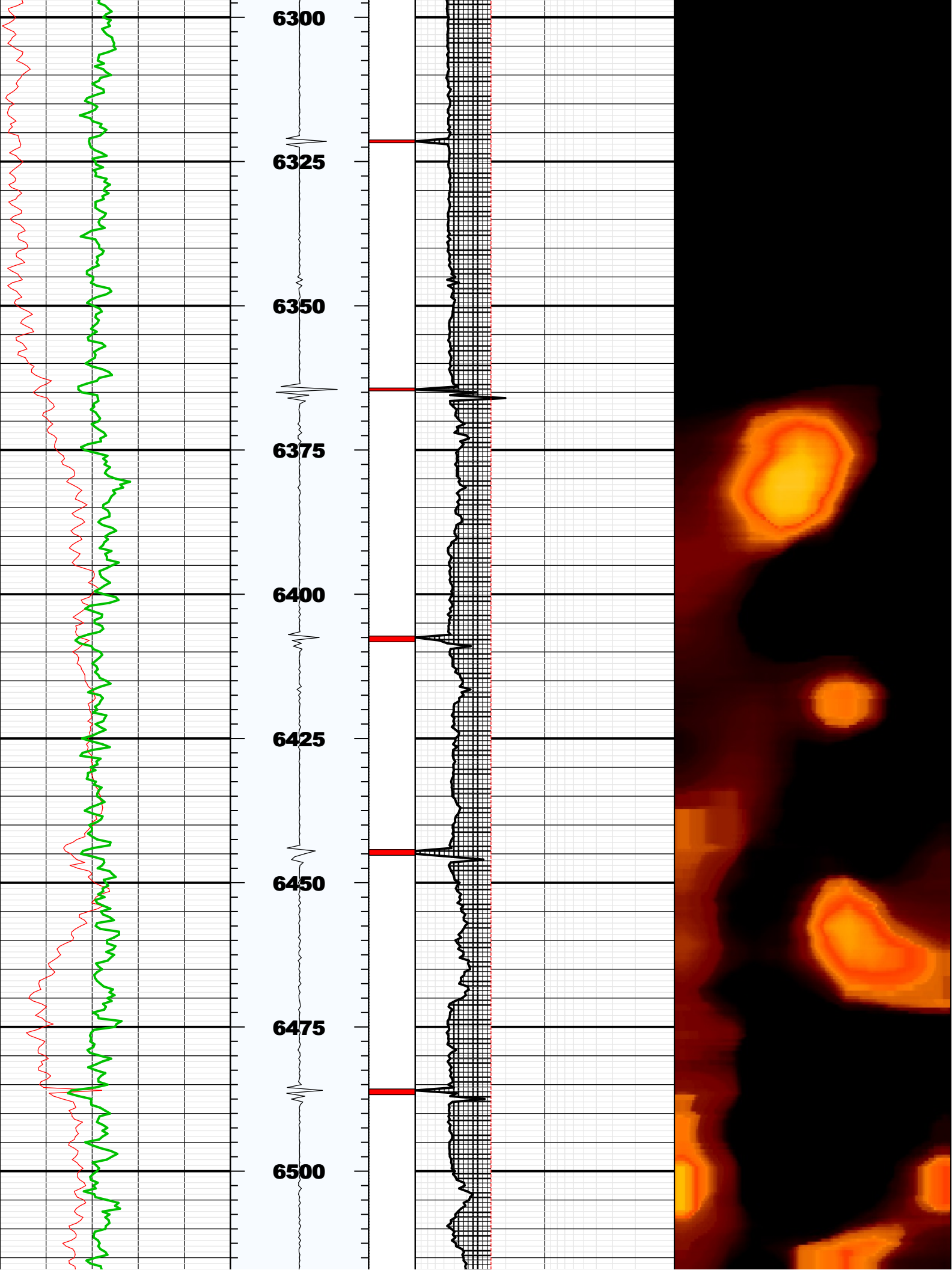


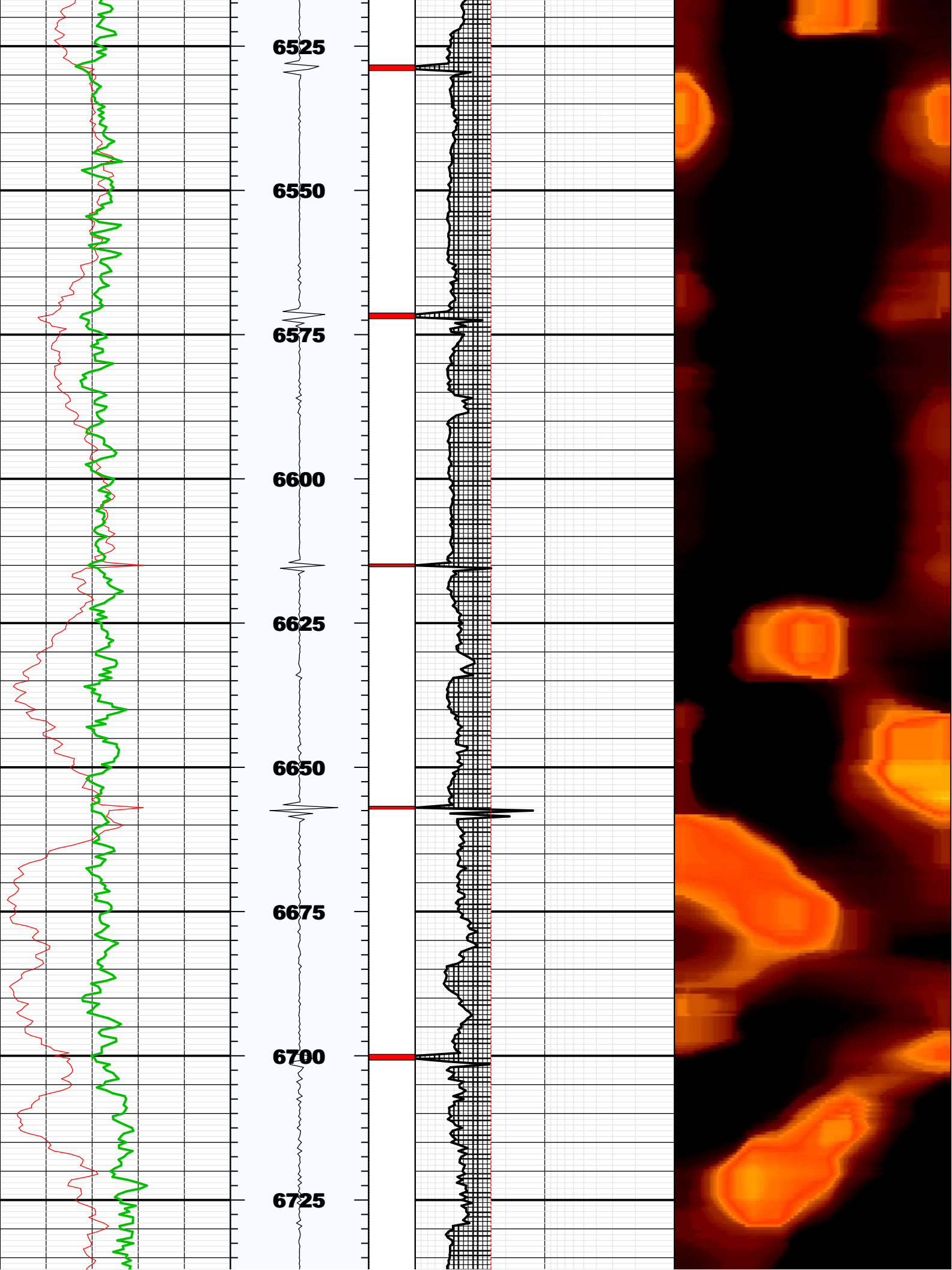


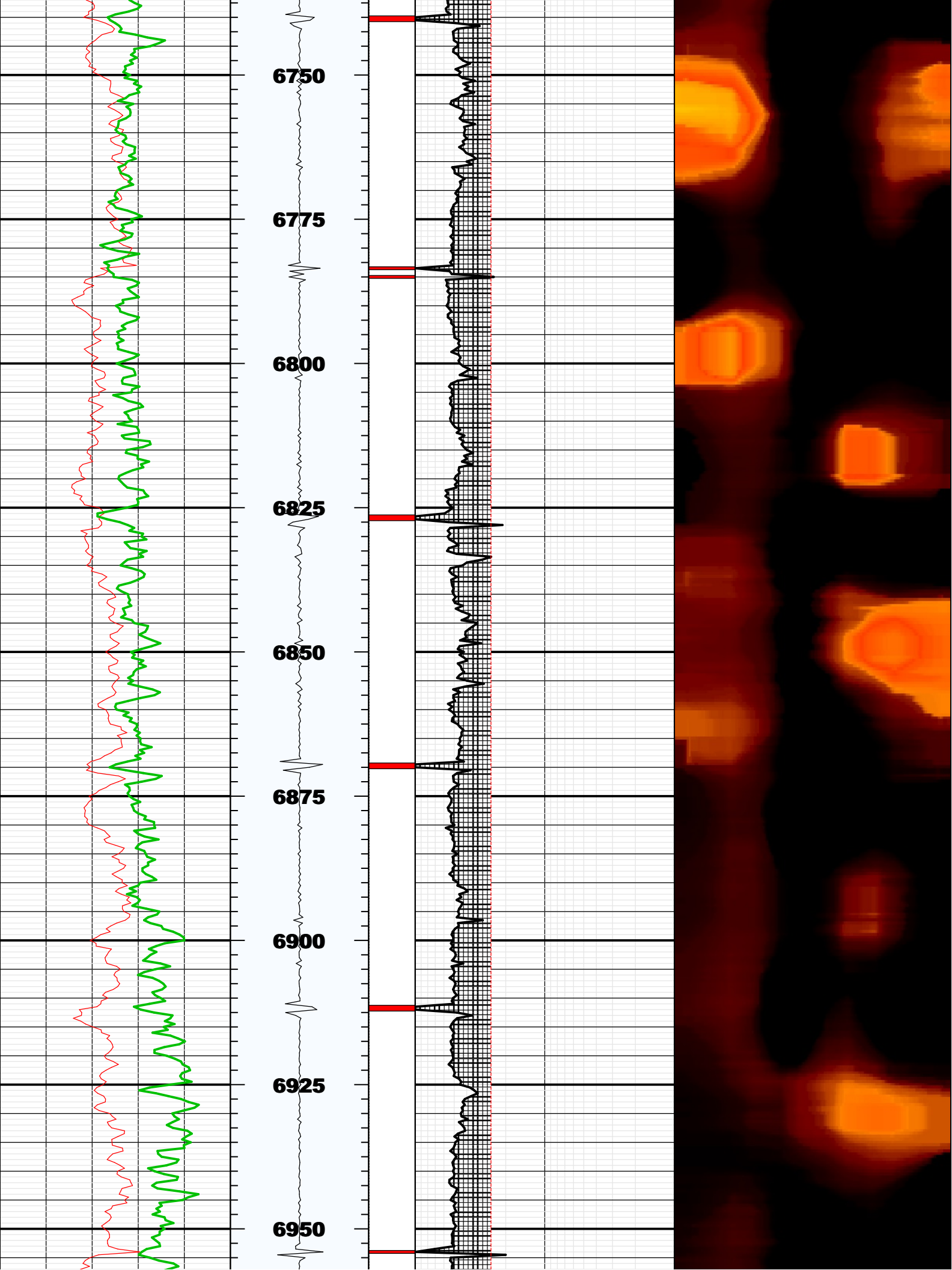


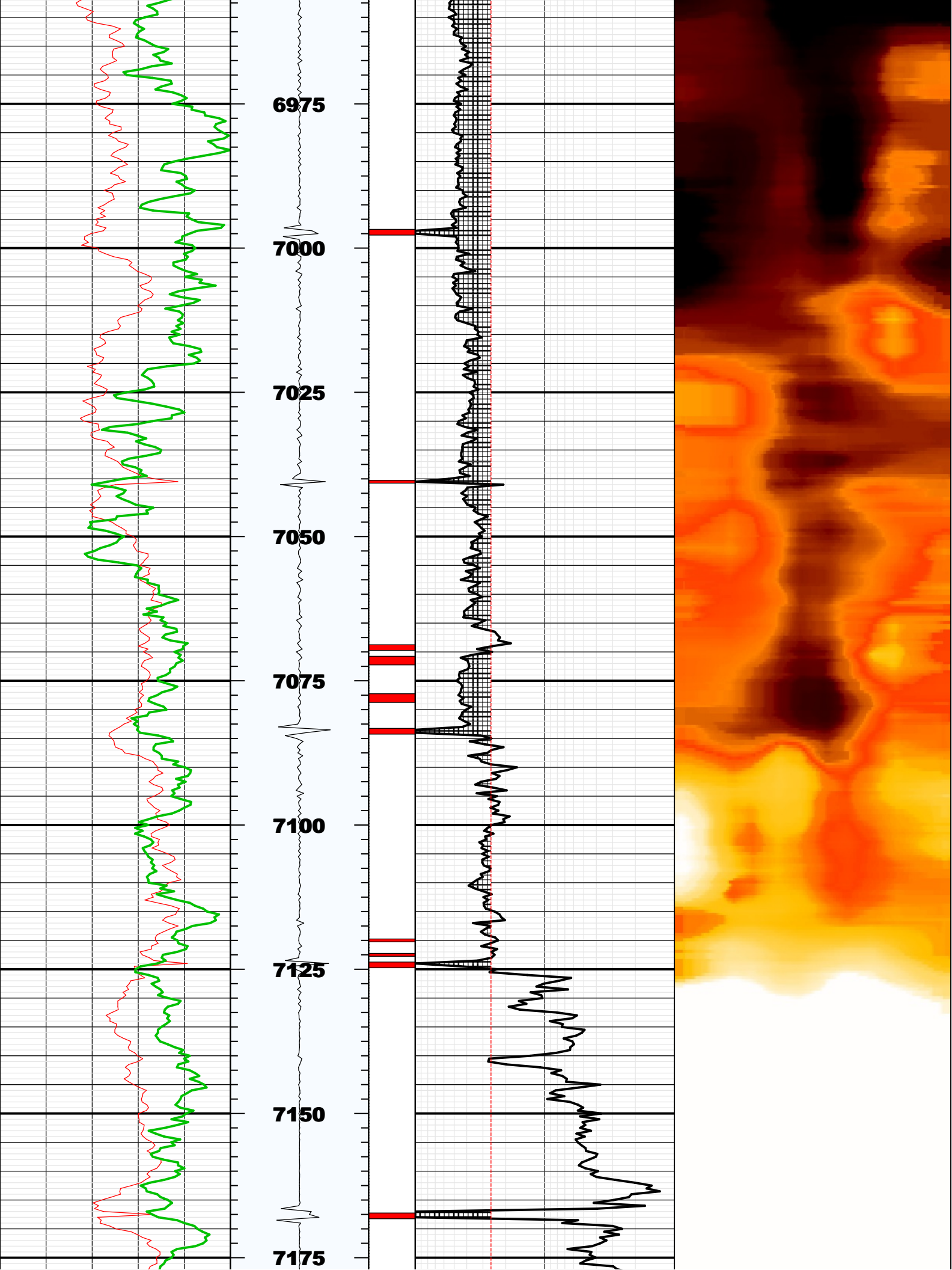


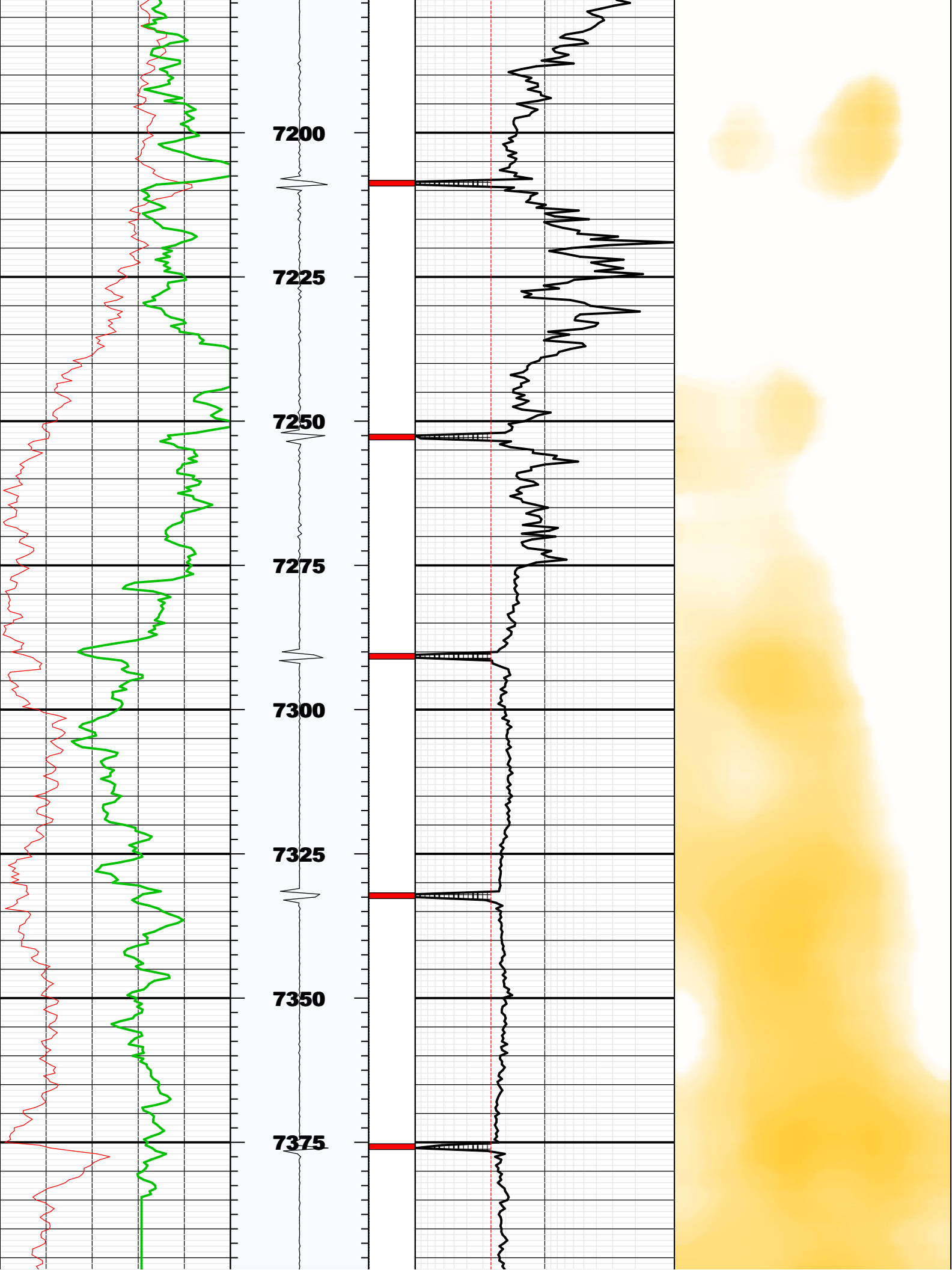










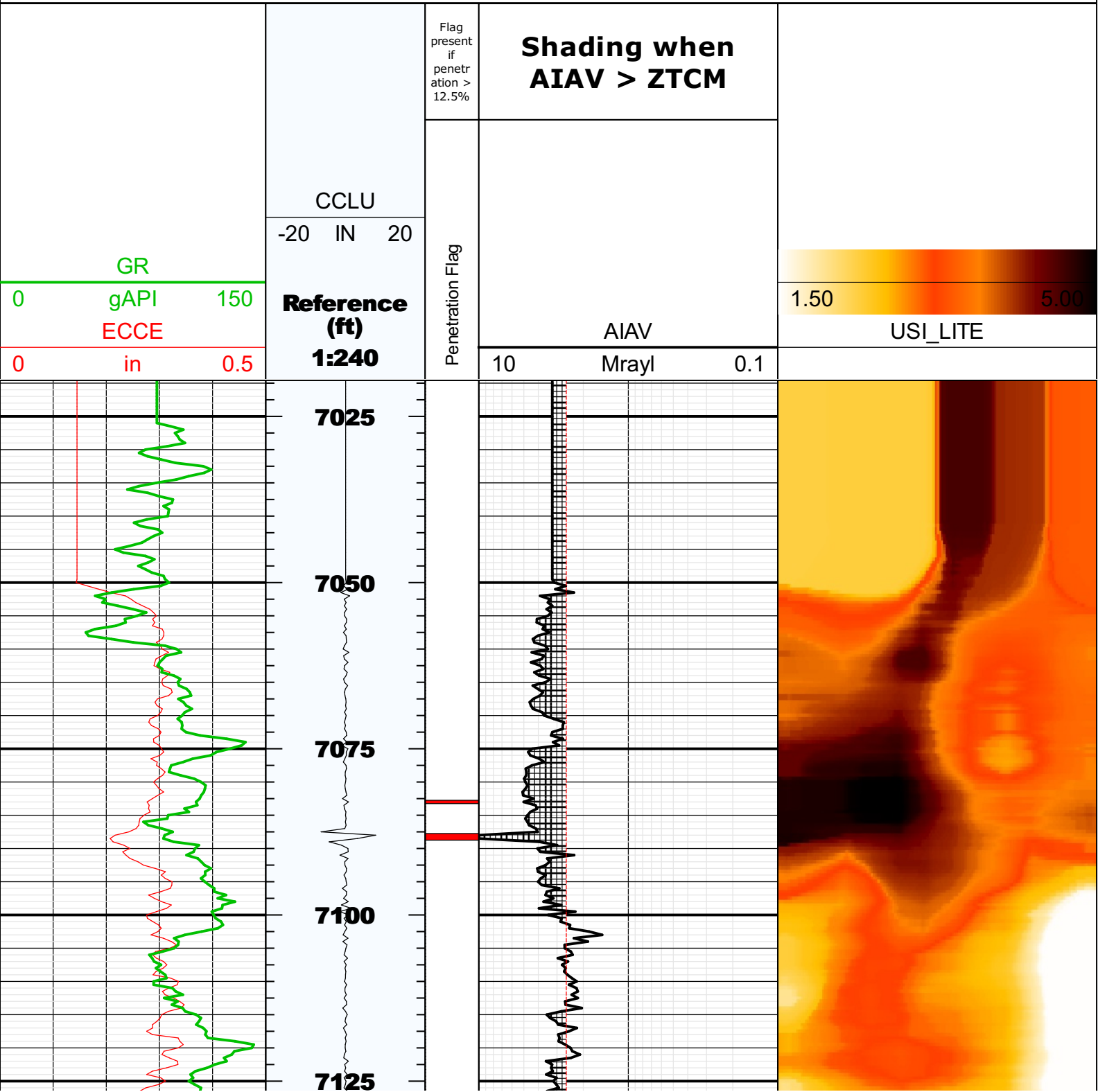


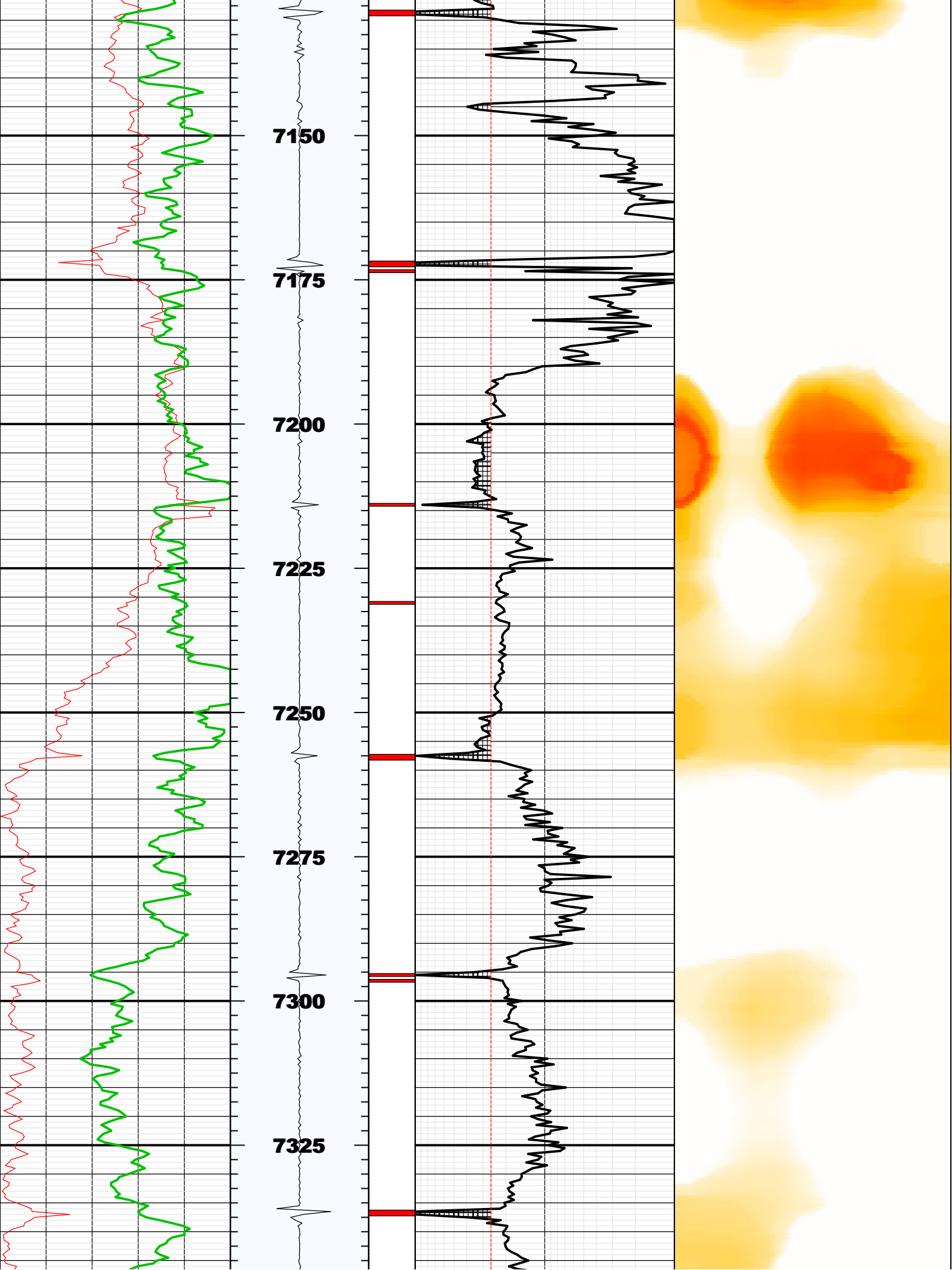


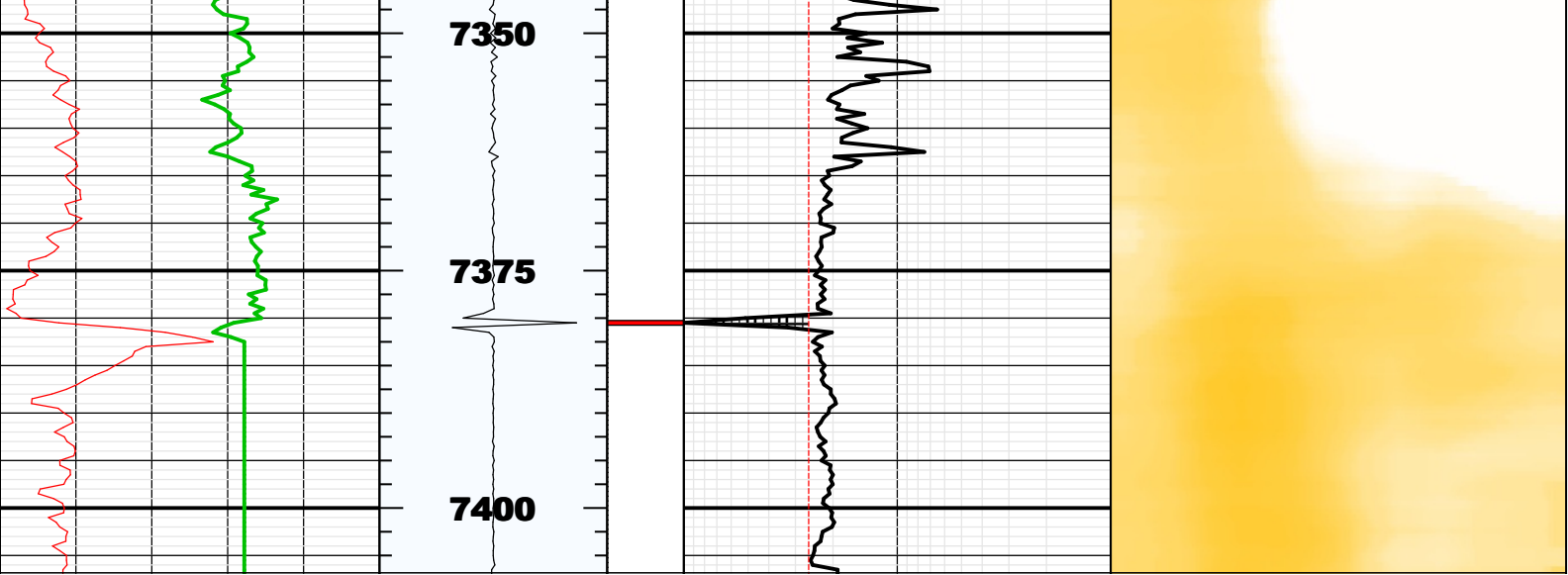
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	206.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	80	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	26.11428	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	1.75000	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: Five Rivers K09-66-1AHN
Field: Wattenberg







Fluid Properties Used for Main Pass

