

Company: Noble Energy Inc

Well: Five Rivers K08-67-1HN  
Field: Wattenberg  
County: Weld State: Colorado

County: Weld		<b>USI-LITE</b>		
Field: Wattenberg				
Location: SWNW Sec 9 T4N R66W				
Well: Five Rivers K08-67-1HN				
Company: Noble Energy Inc				
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
API Serial No. 05-123-39475-0000				
Section 9				
Township 4N Range 66W				
Logging Date	16-Sep-2014			
Run Number	Run 1			
Depth Driller	7557.0 F			
Schlumberger Depth	7557.0 F			
Bottom Log Interval	6340.0 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	637.0 F			
To	7557.0 F			
Casing Size	7.00 IN			
Weight	26.00 LB/F			
Grade	P110			
From	30.0 F			
To	7547.0 F			
Max Recorded Temp	228.0			
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

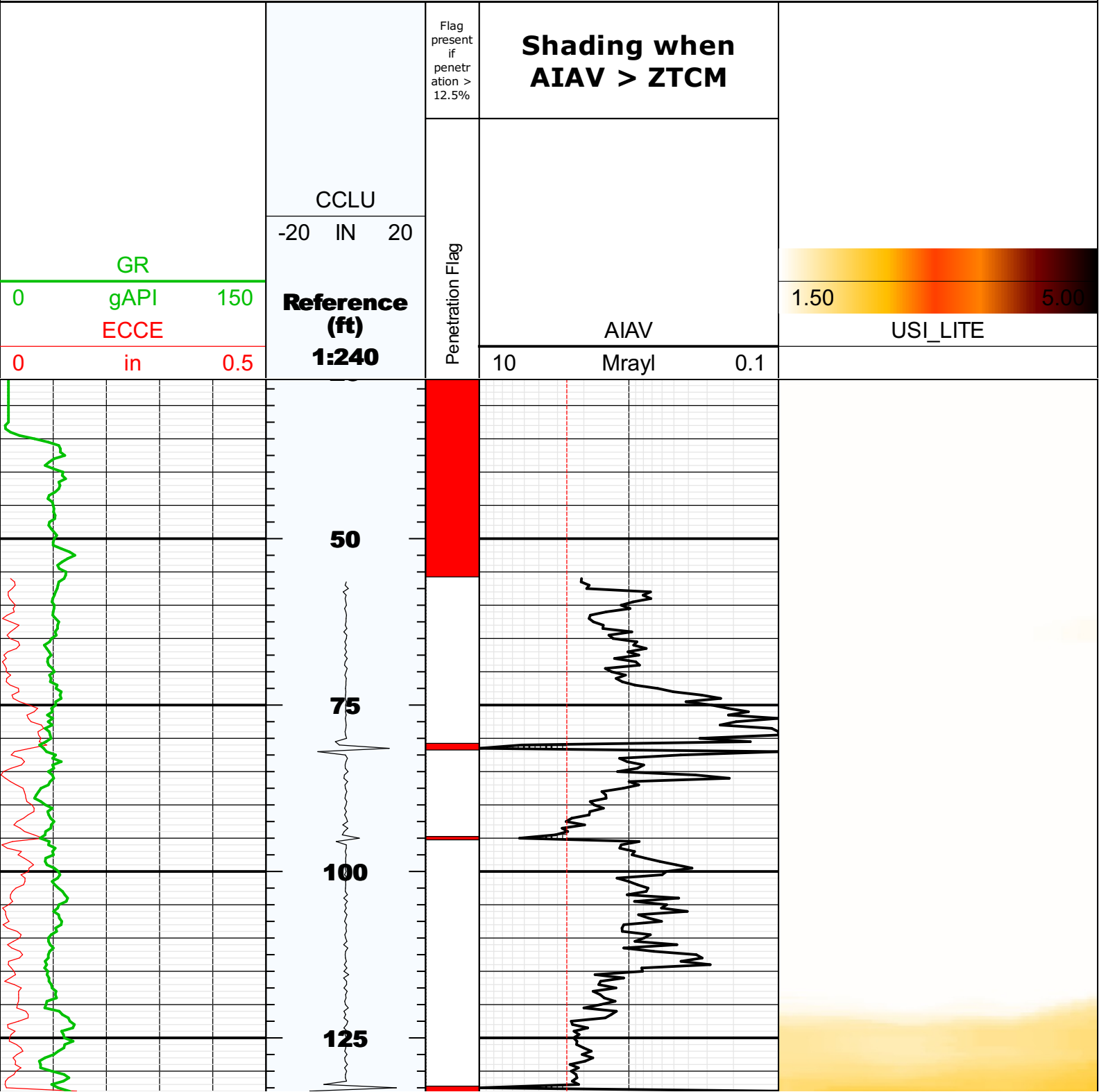
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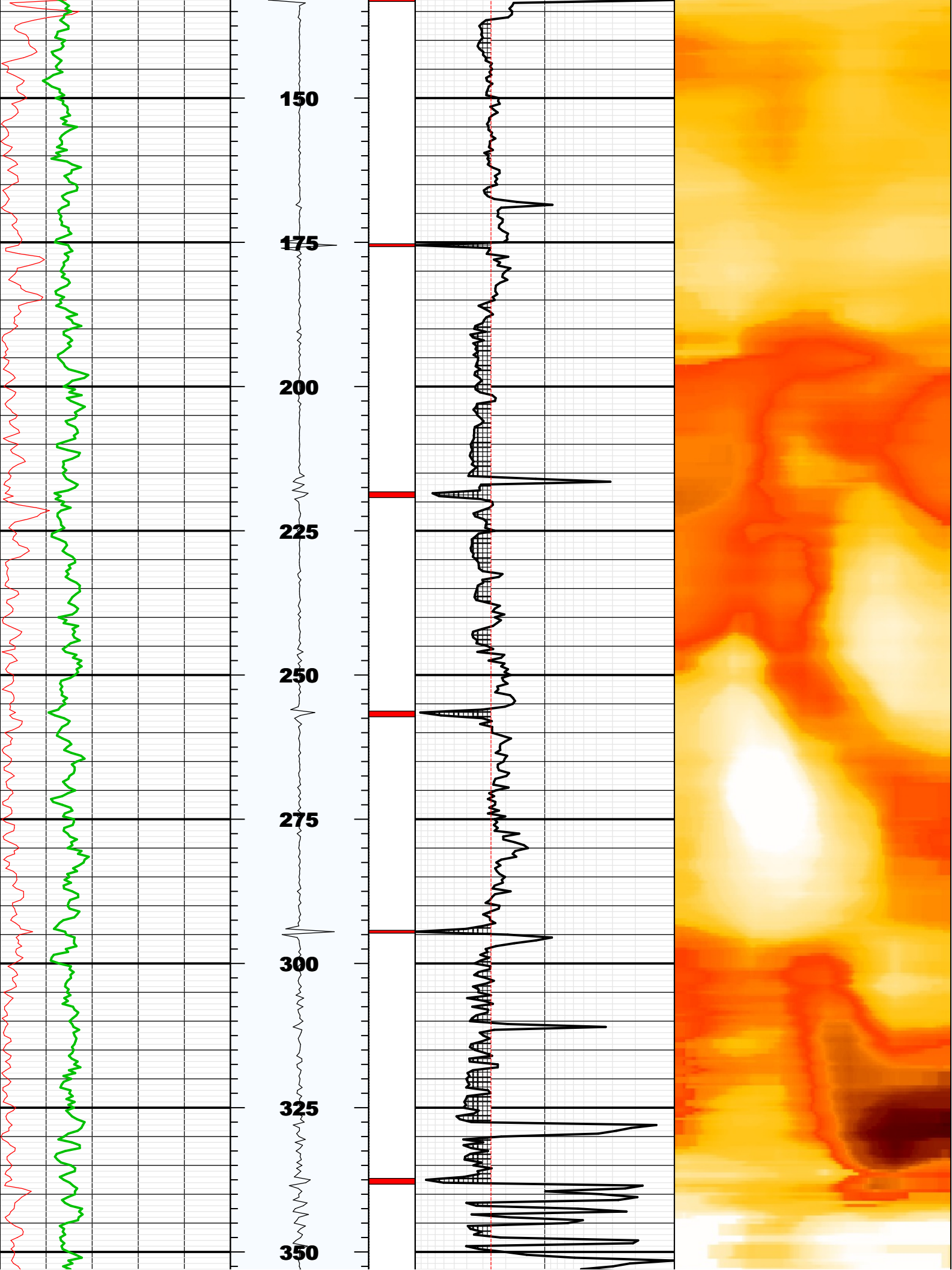
This is the first run in hole.  
Toolstring run as per toolsketch.  
Log objective cement evaluation.  
11.5 PPG tuned spacer 12.5 PPG lead cement and 13.8 ppg tail cement.  
0 PSI repeat pass and 3000 PSI main pass.  
Short pass showed 2500 PSI was not enough pressure increased to 3000 PSI for main pass.  
Per Bill 3000 PSI is the maximum pressure allowed on the well at this time.  
Estimated TOC @ 630'. Expected TOC @ 589'.  
Top of 4.5 liner at 6355.9'.  
Bottom log interval at 6340' to maintain distance from liner top.  
Bottom hole temperature was 228 degF.

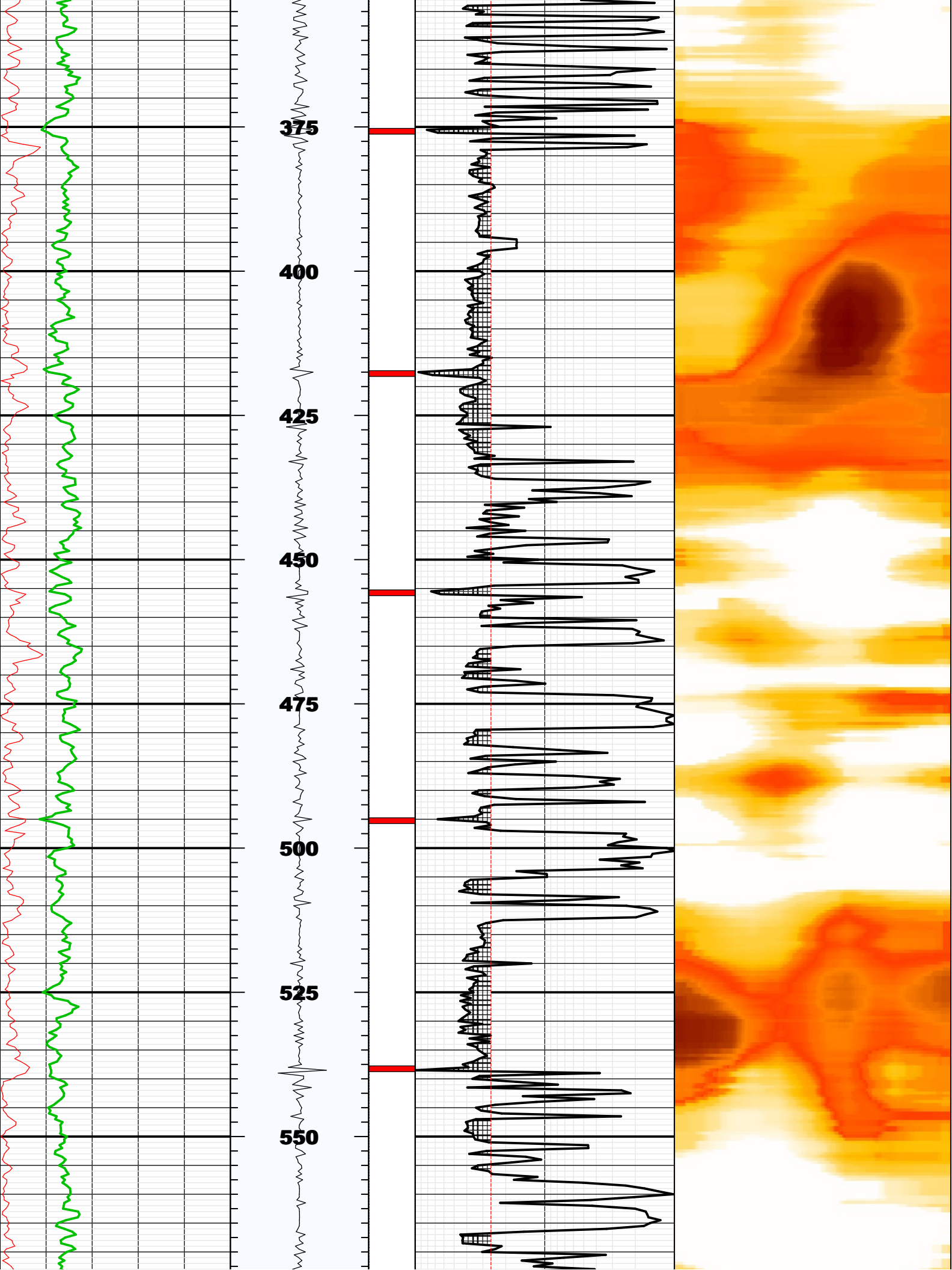
Thank you for choosing Schlumberger Wireline!  
SLB crew Ian Derry Jake Jump and Keri Ondrus.

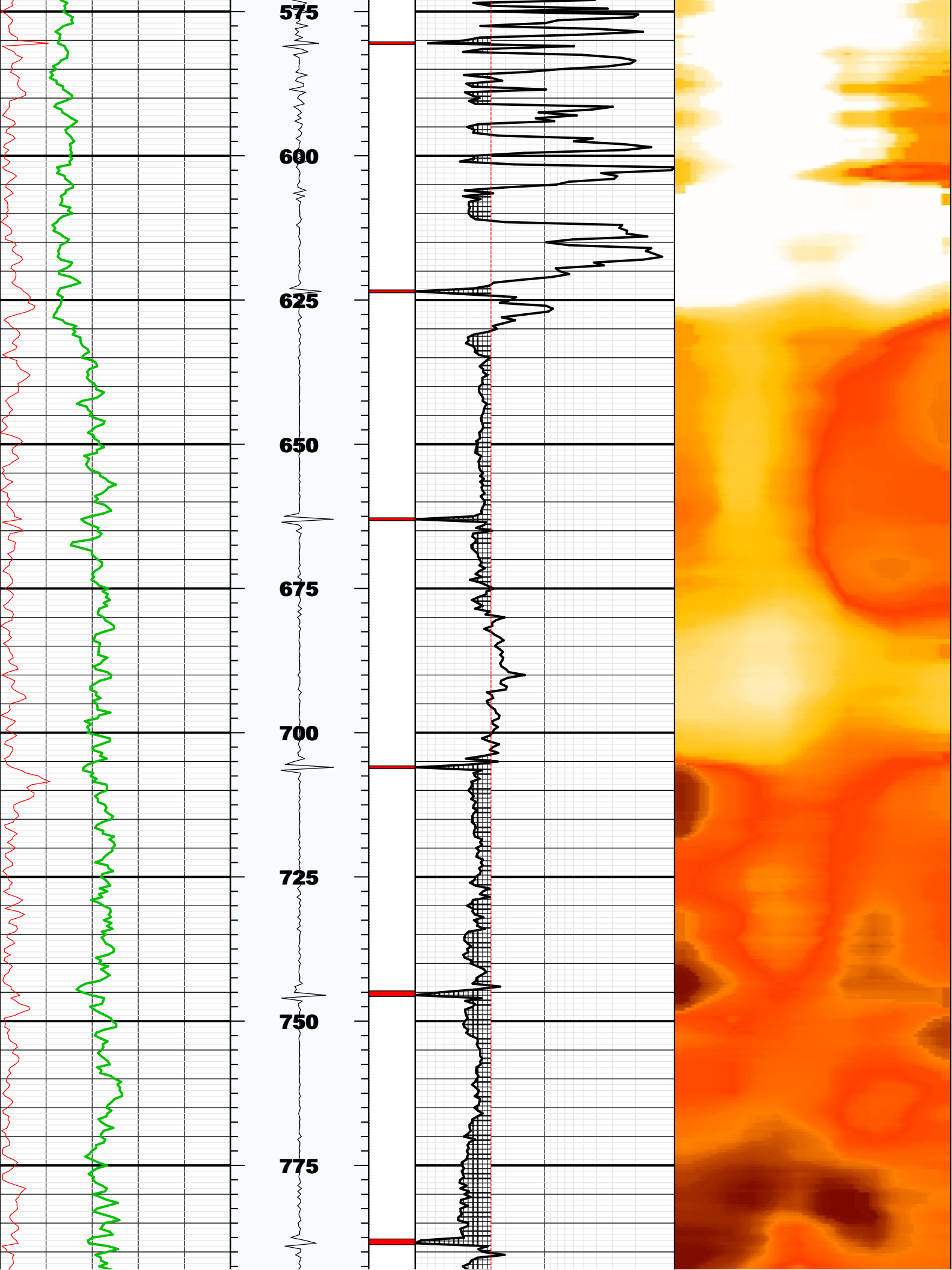
Main Pass

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Field: Wattenberg

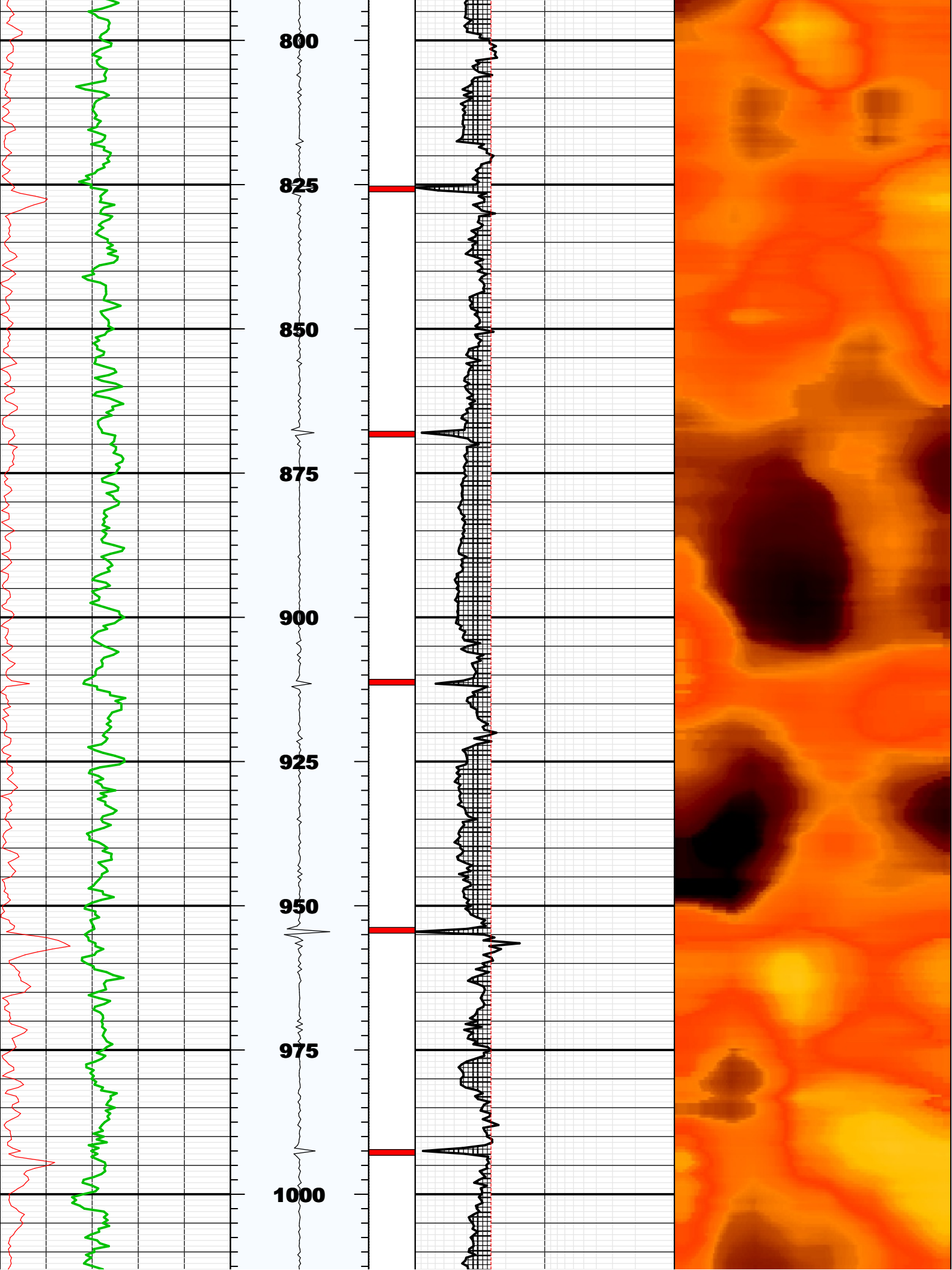


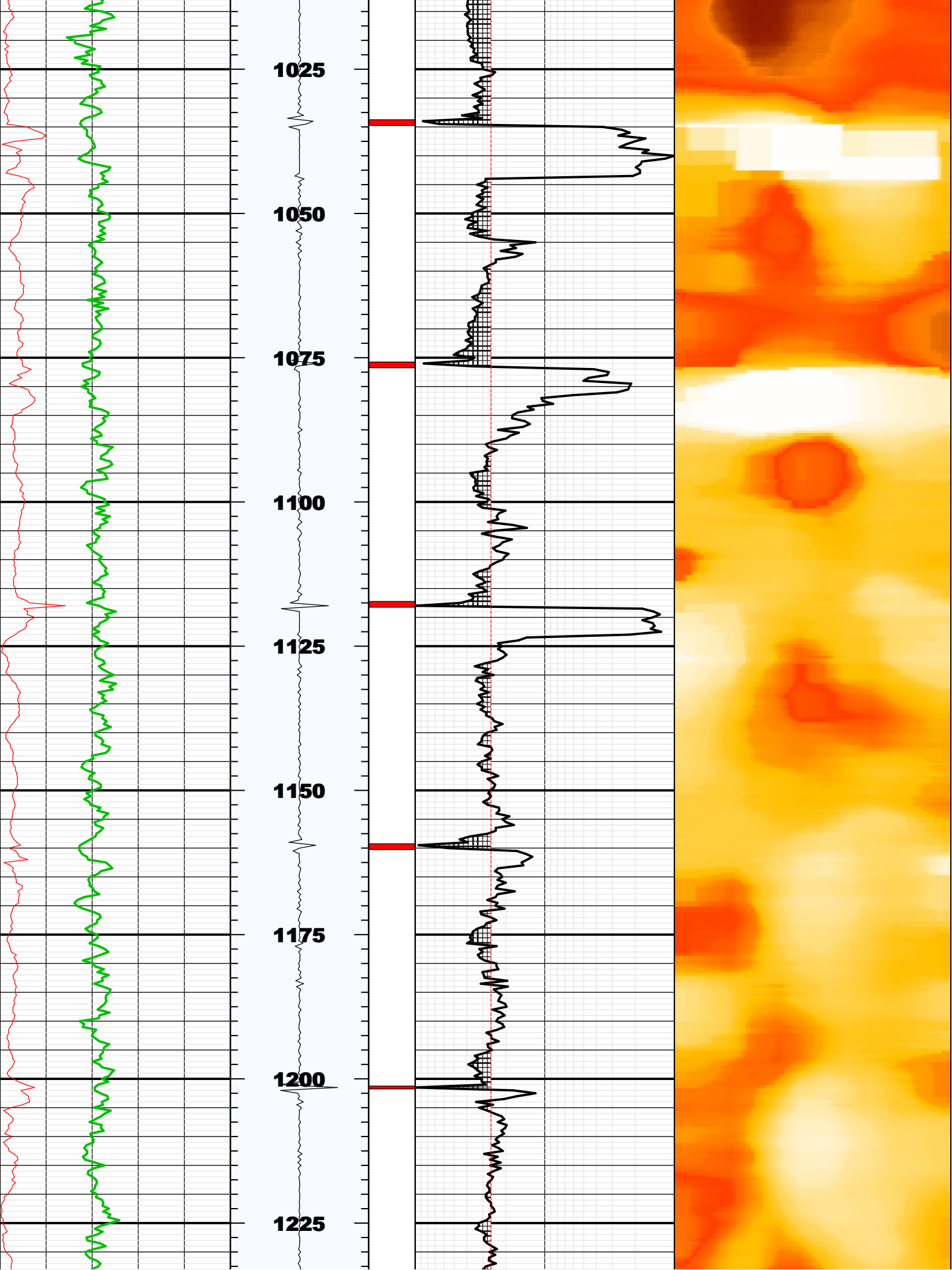




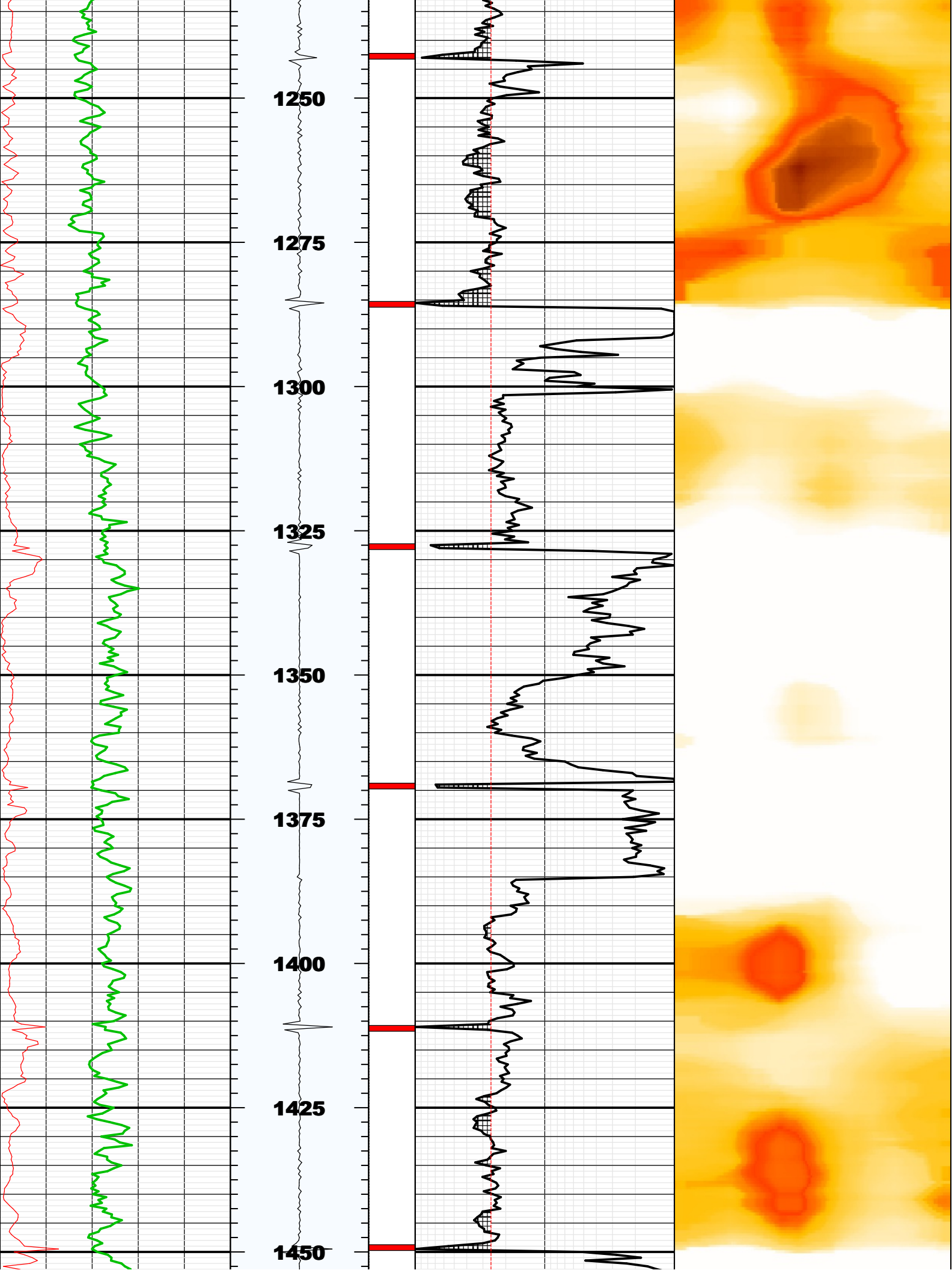


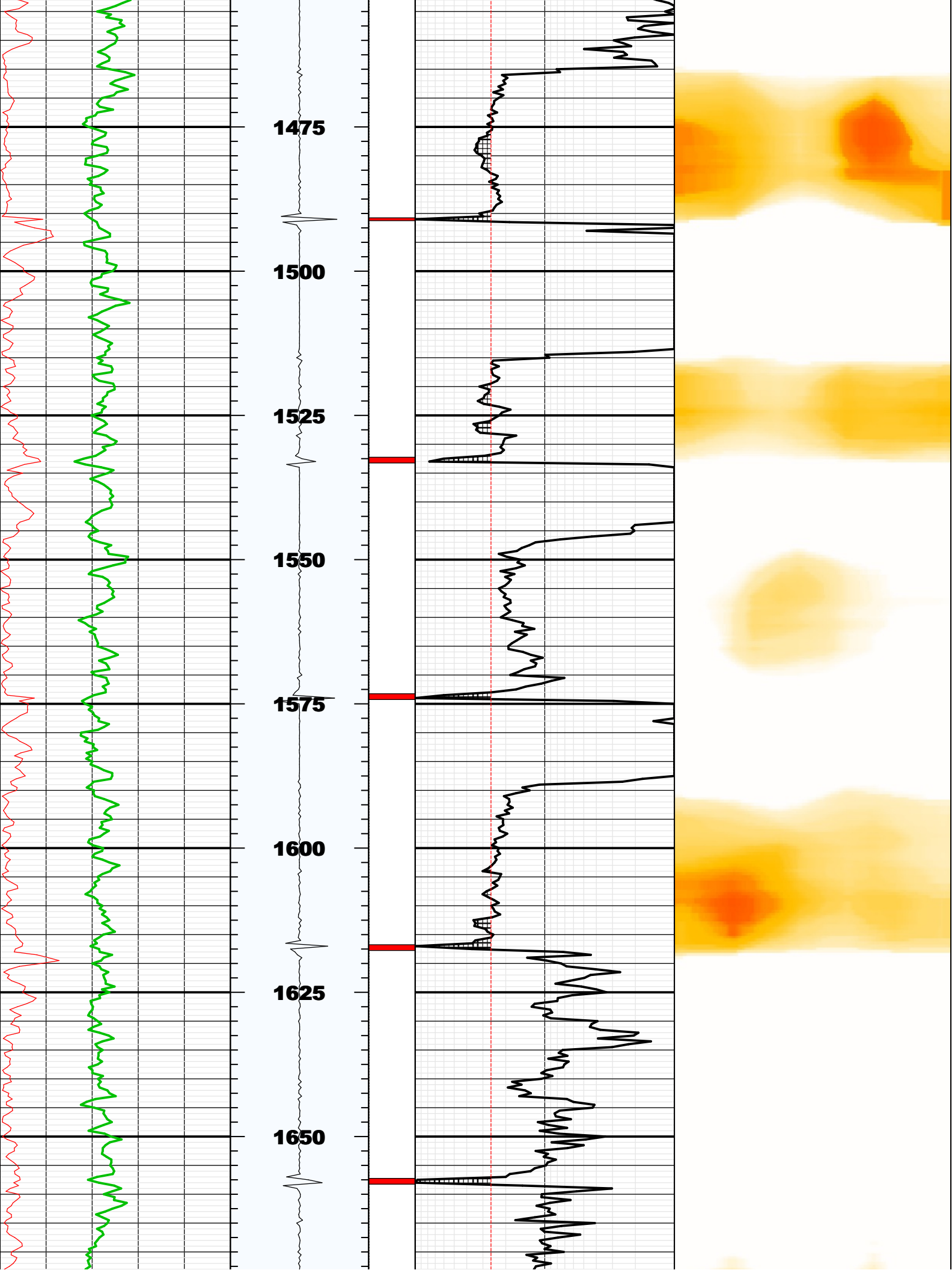


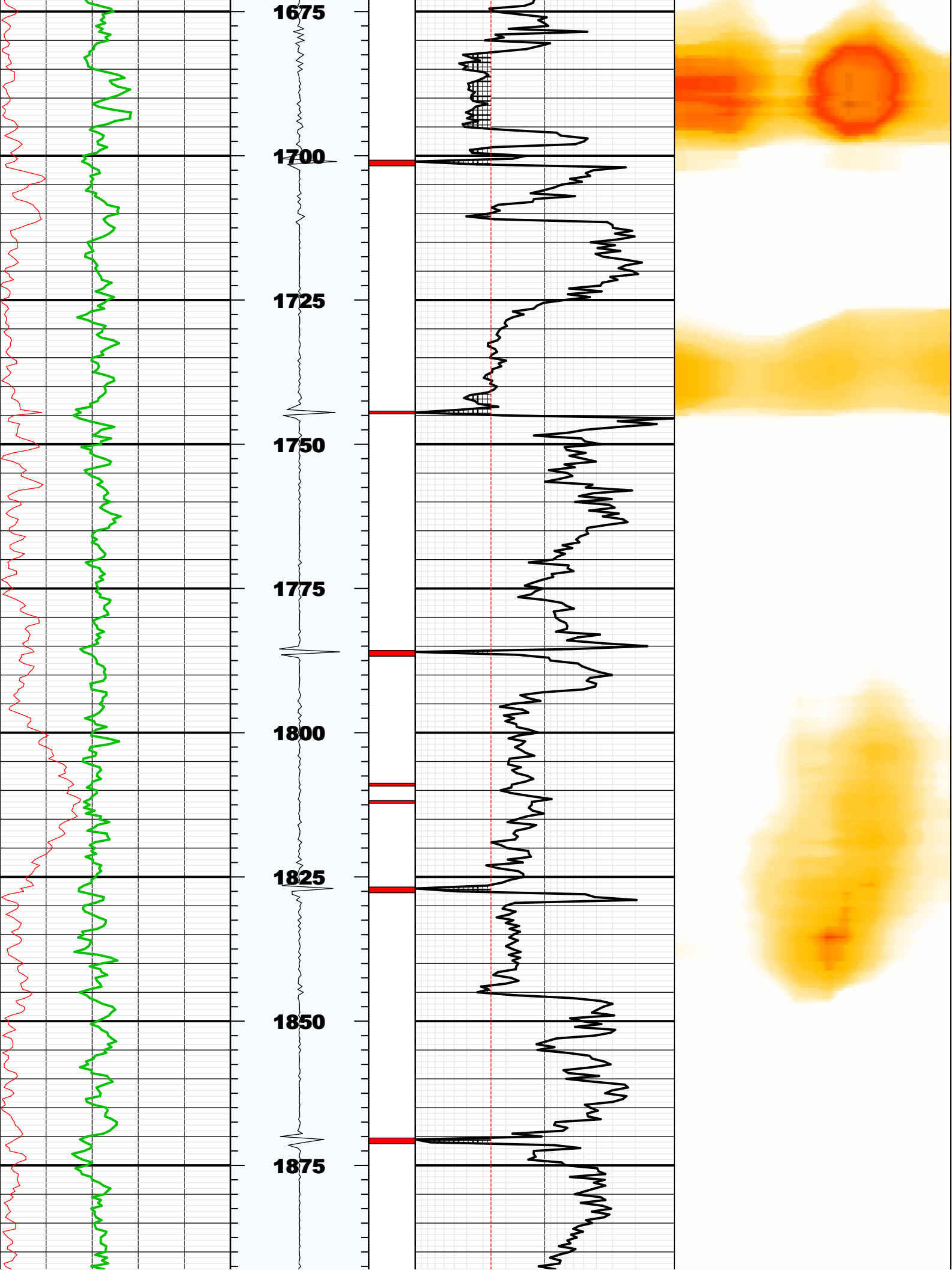


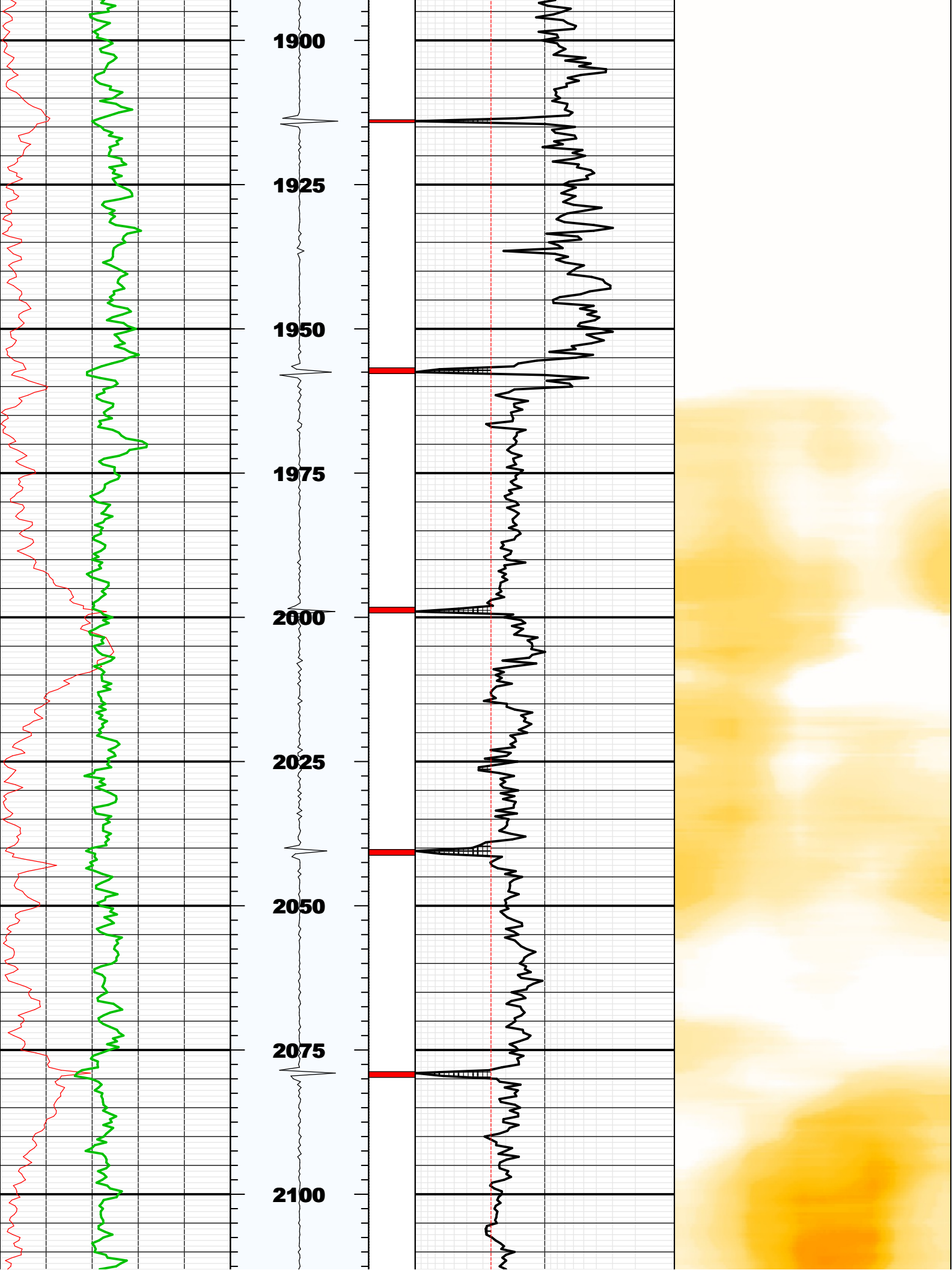


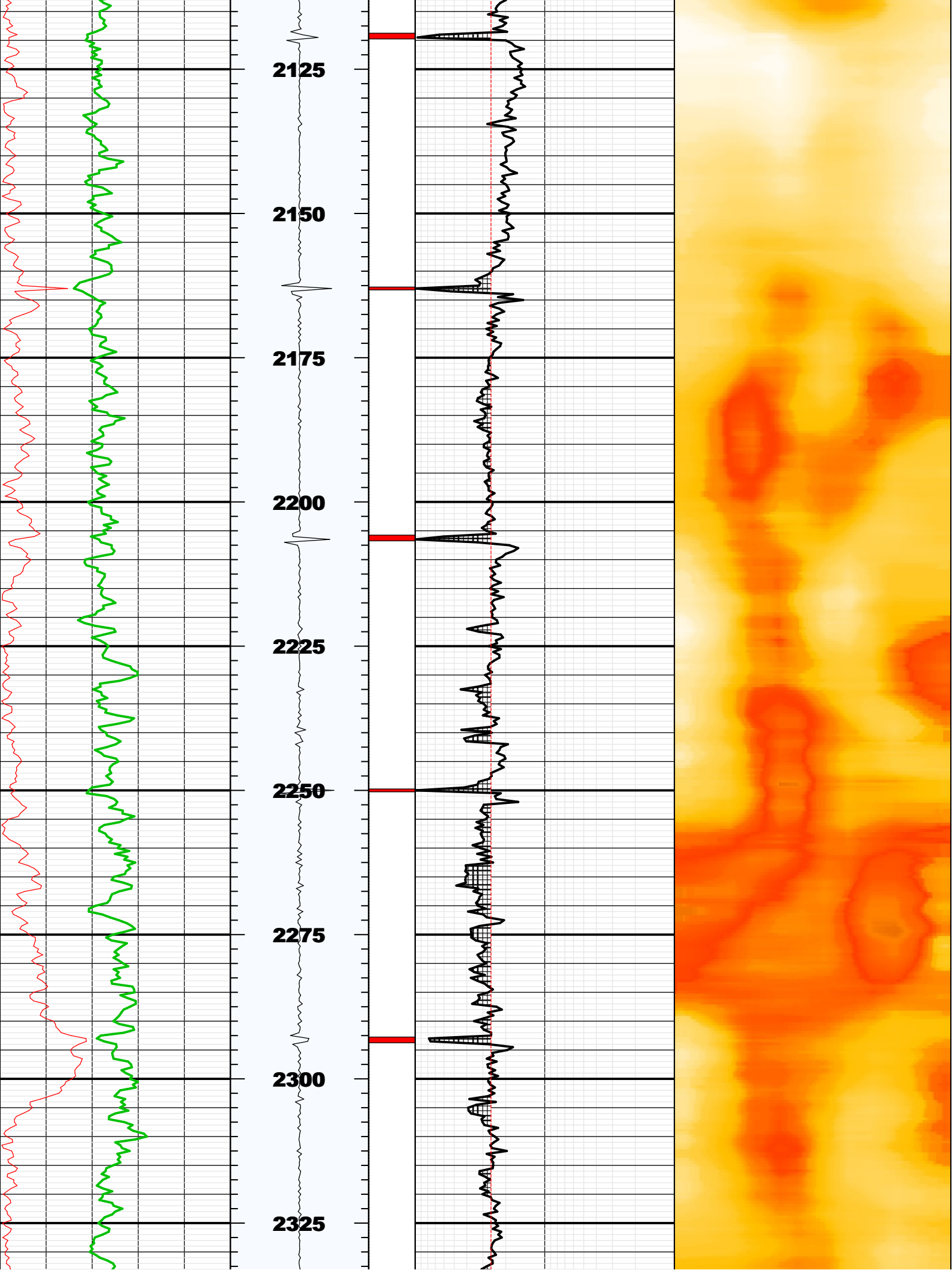




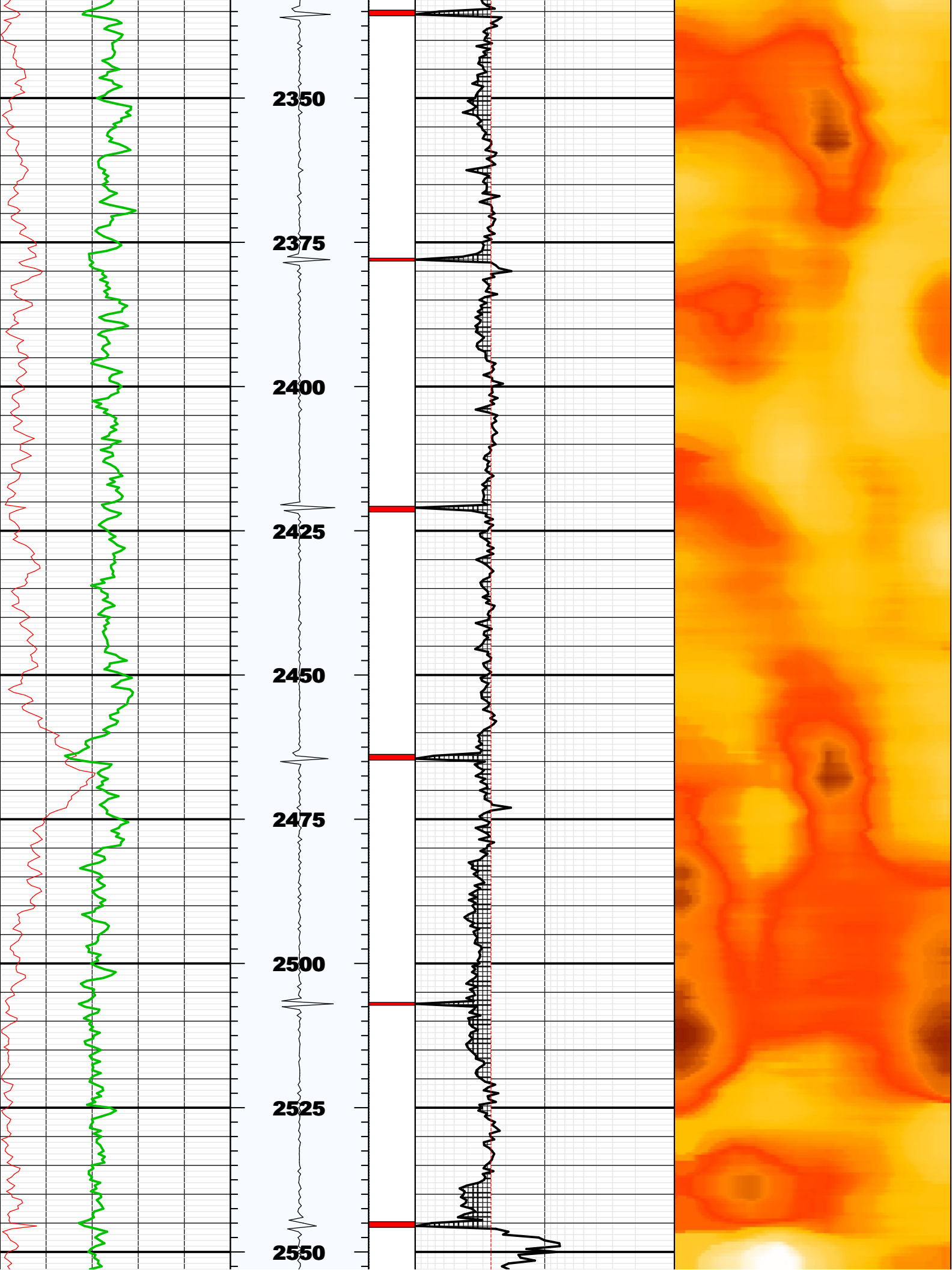




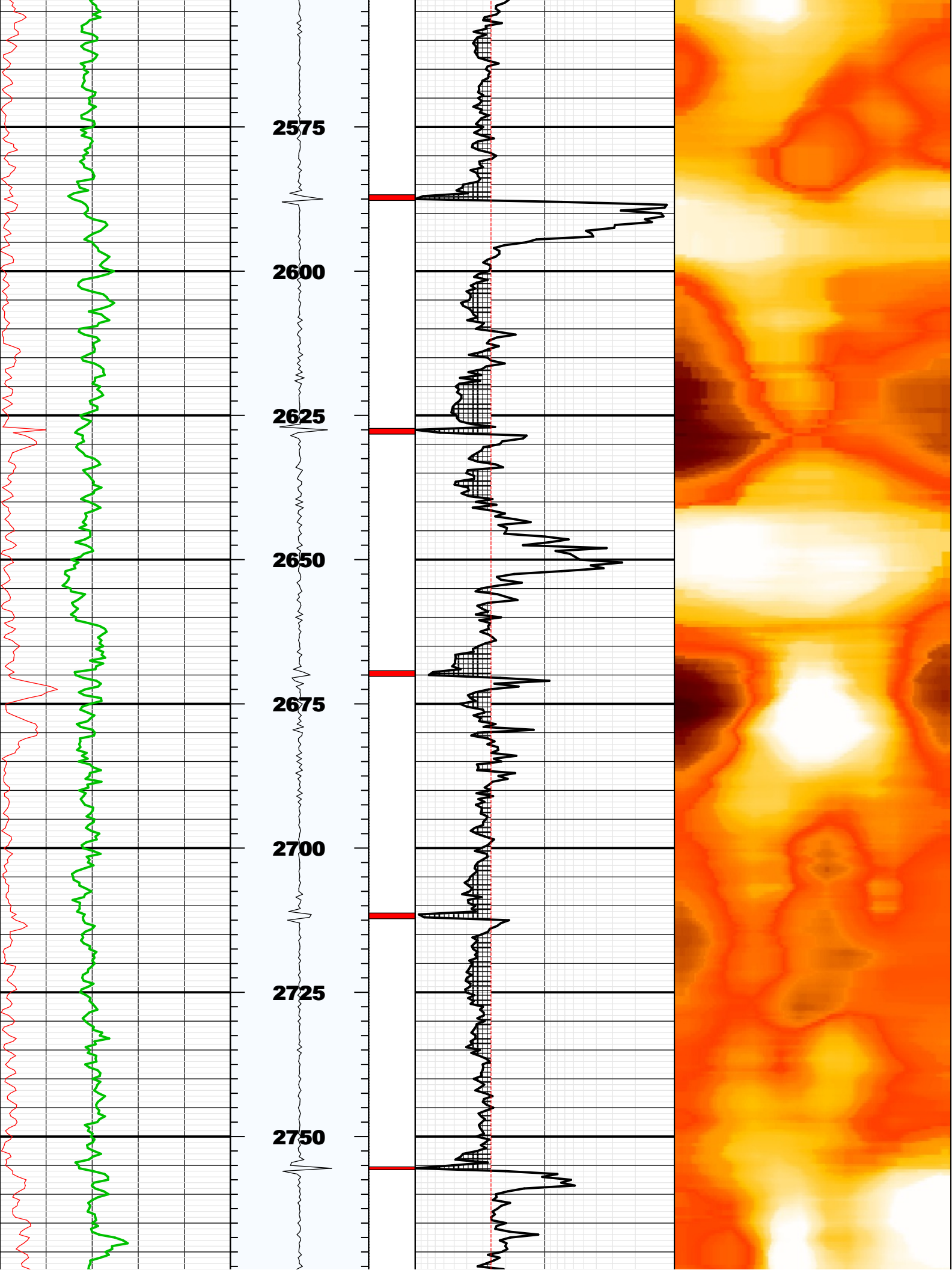


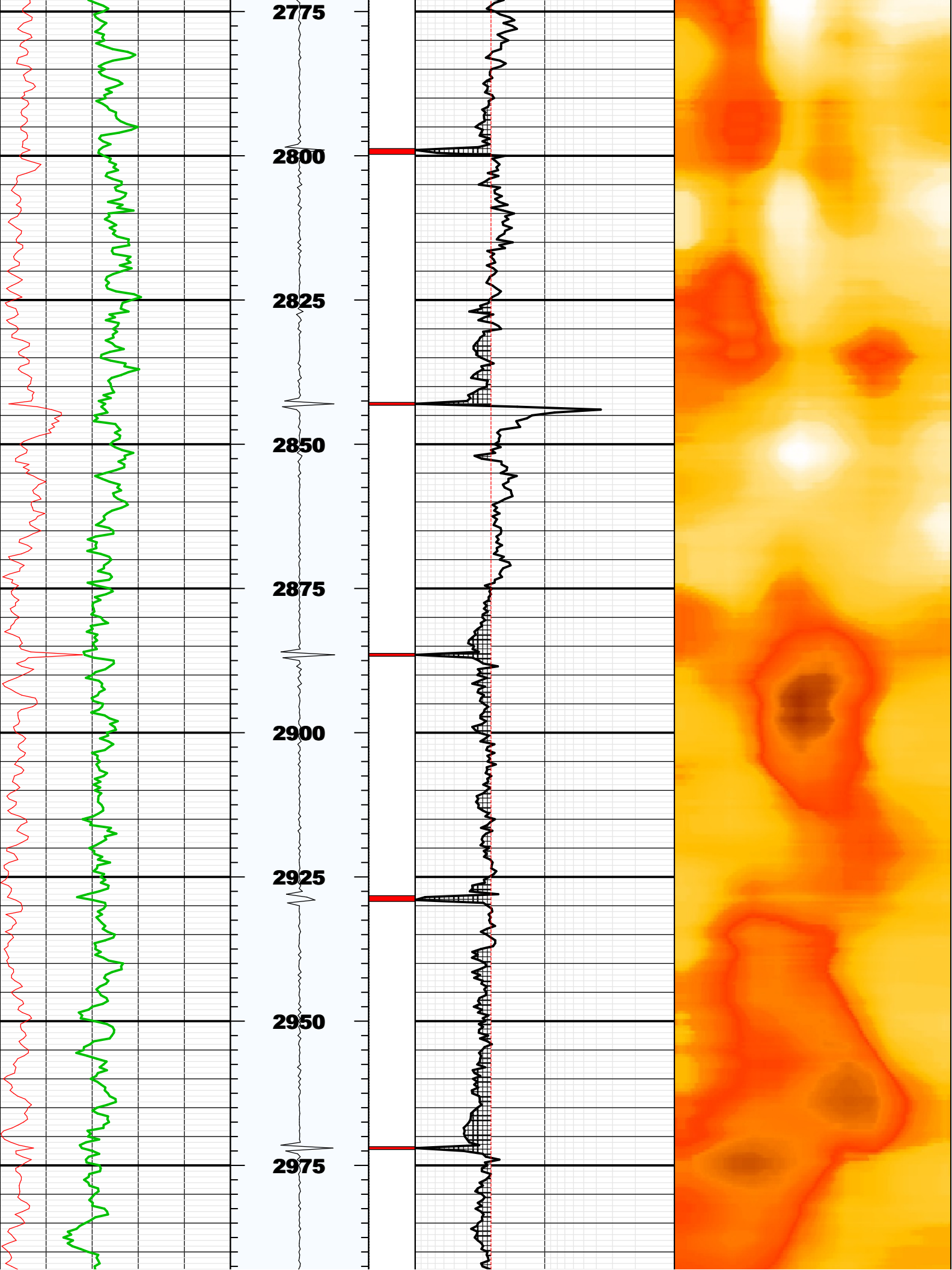


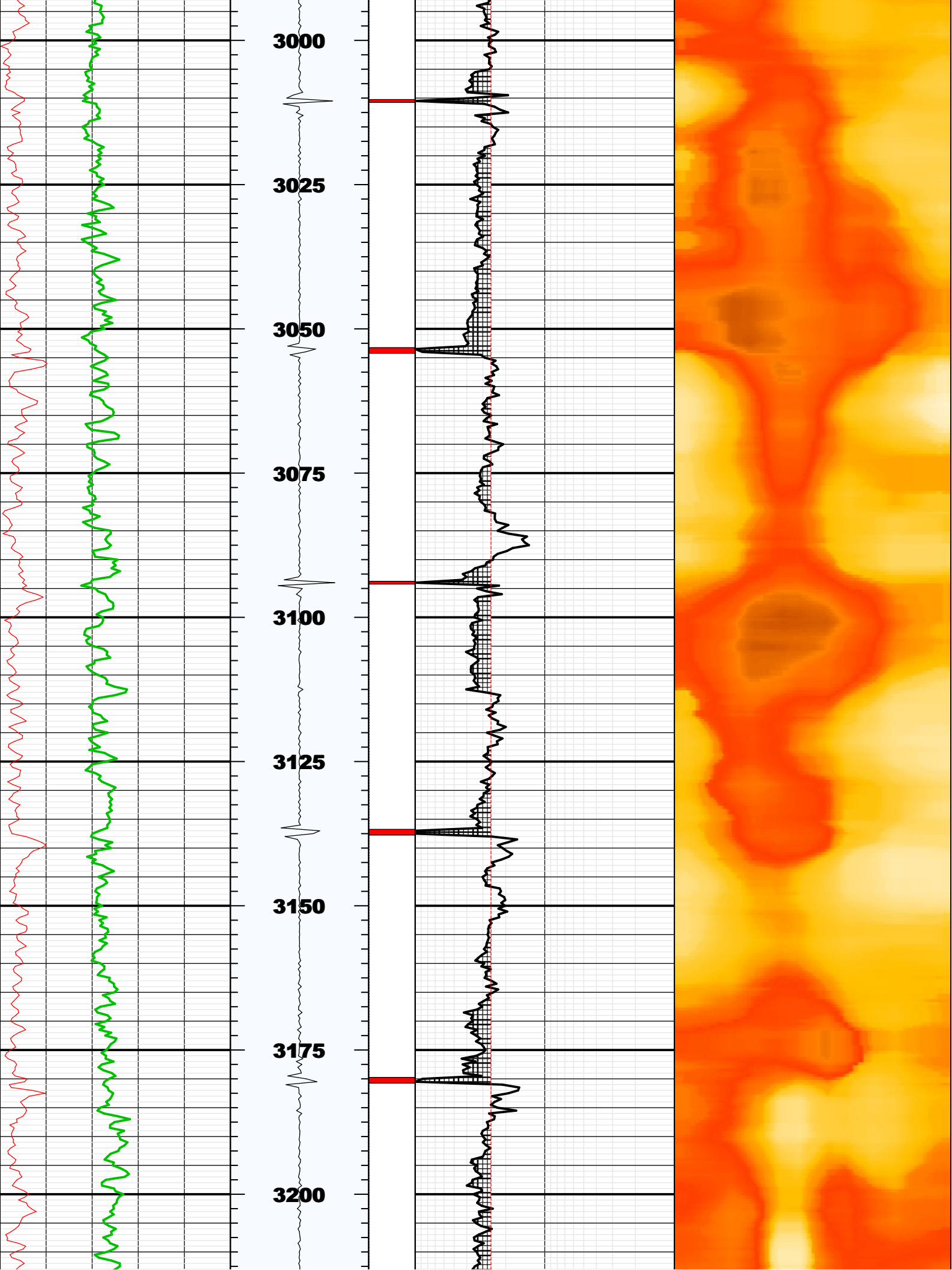


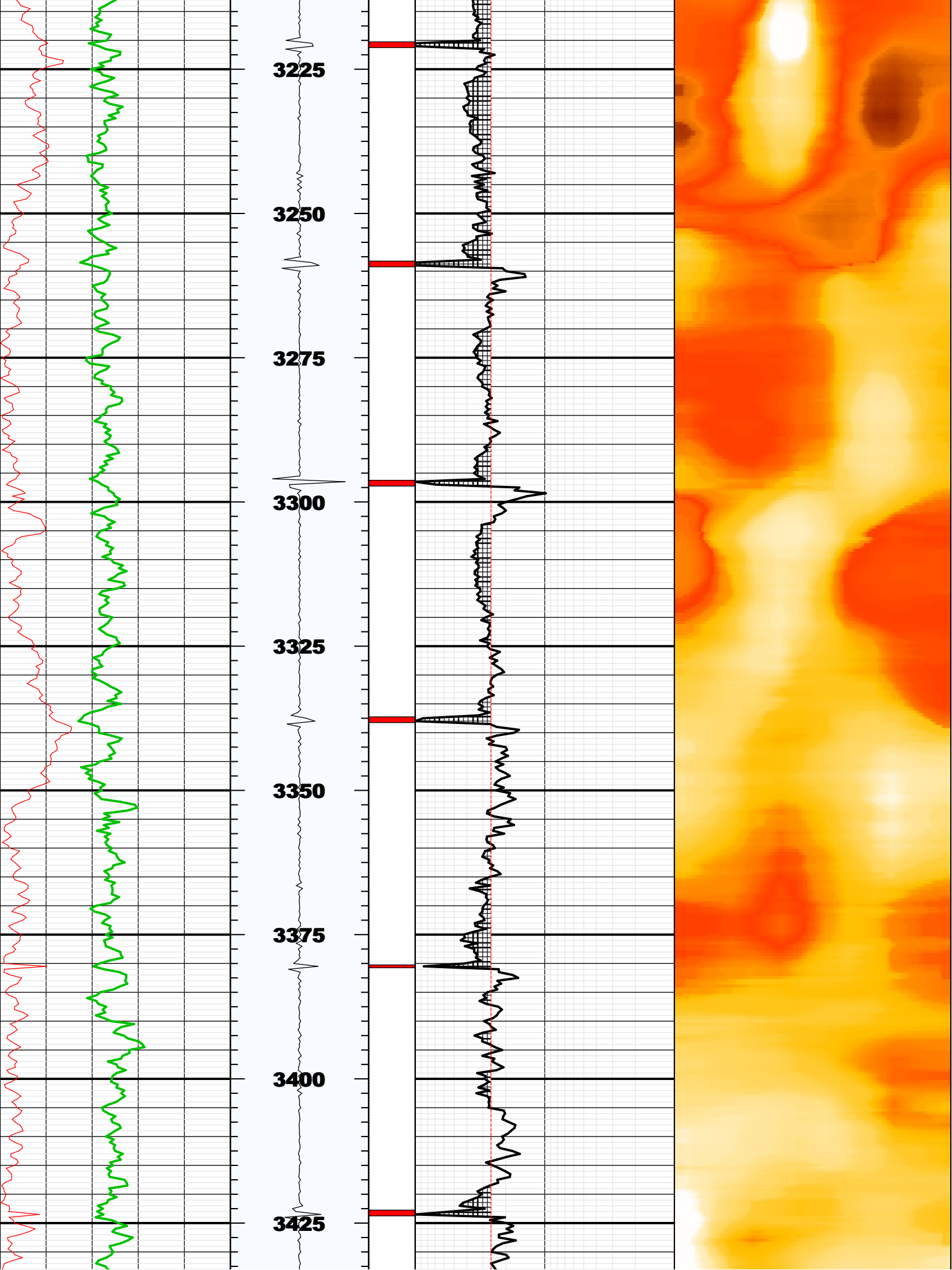




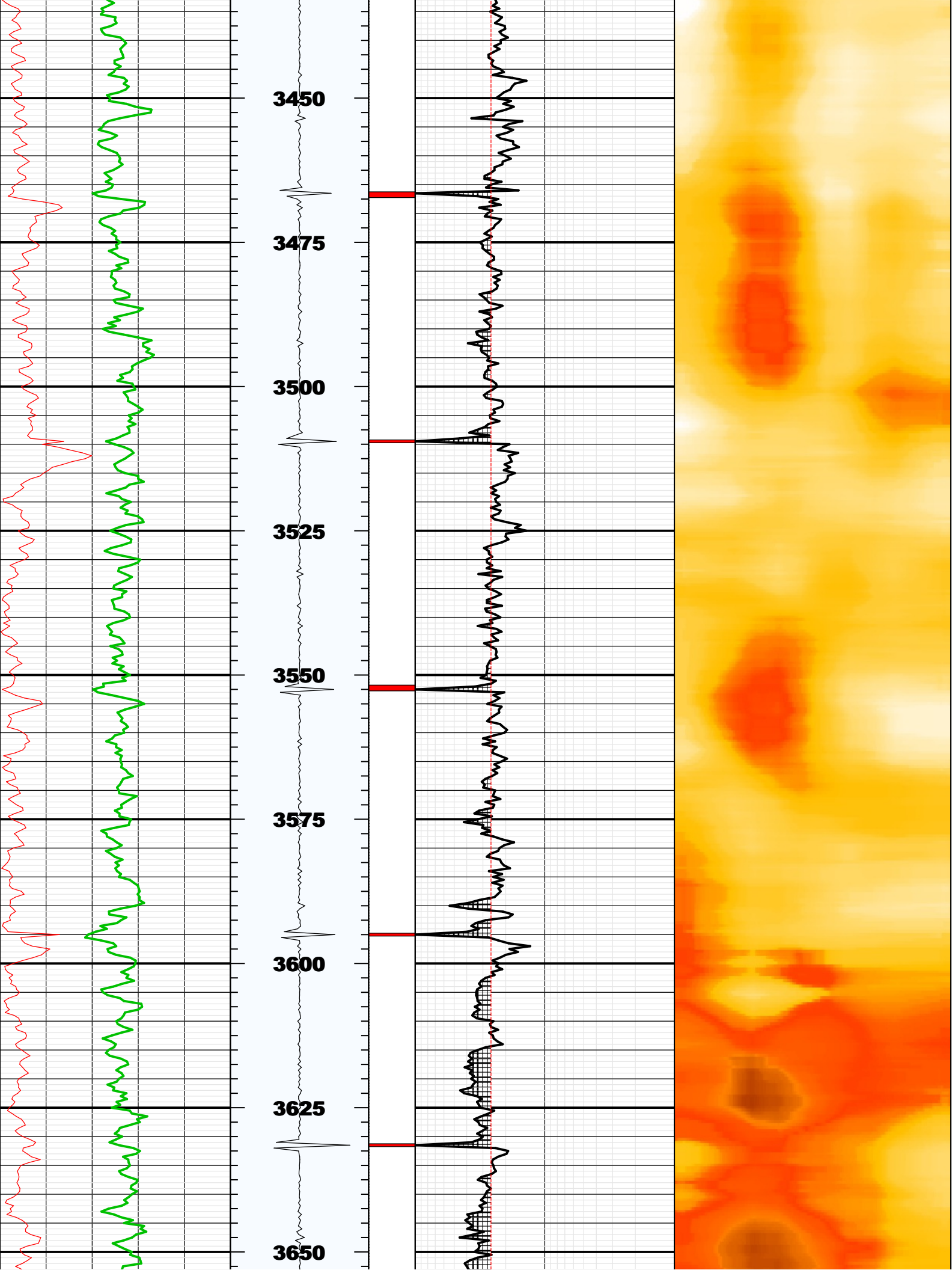


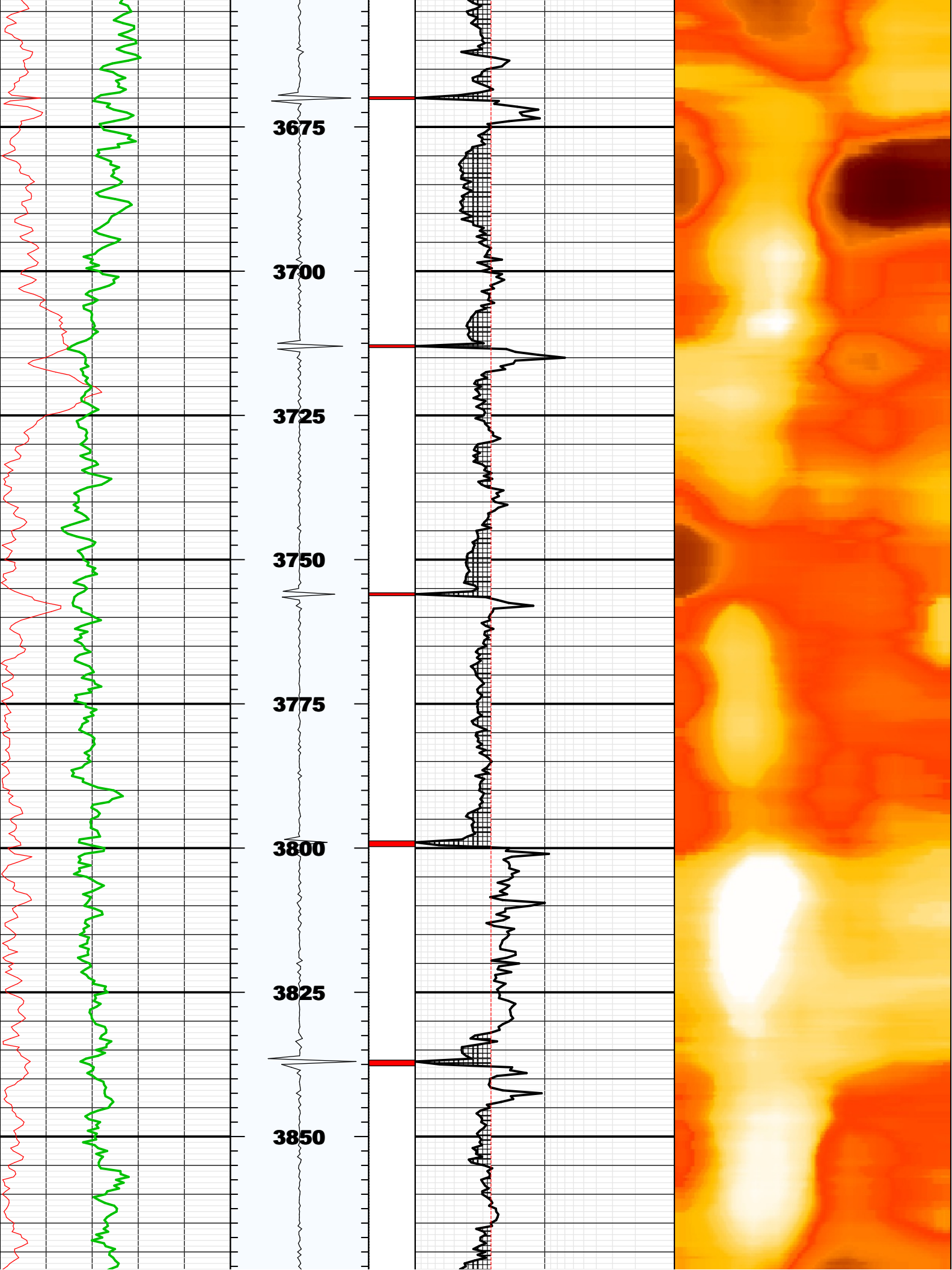




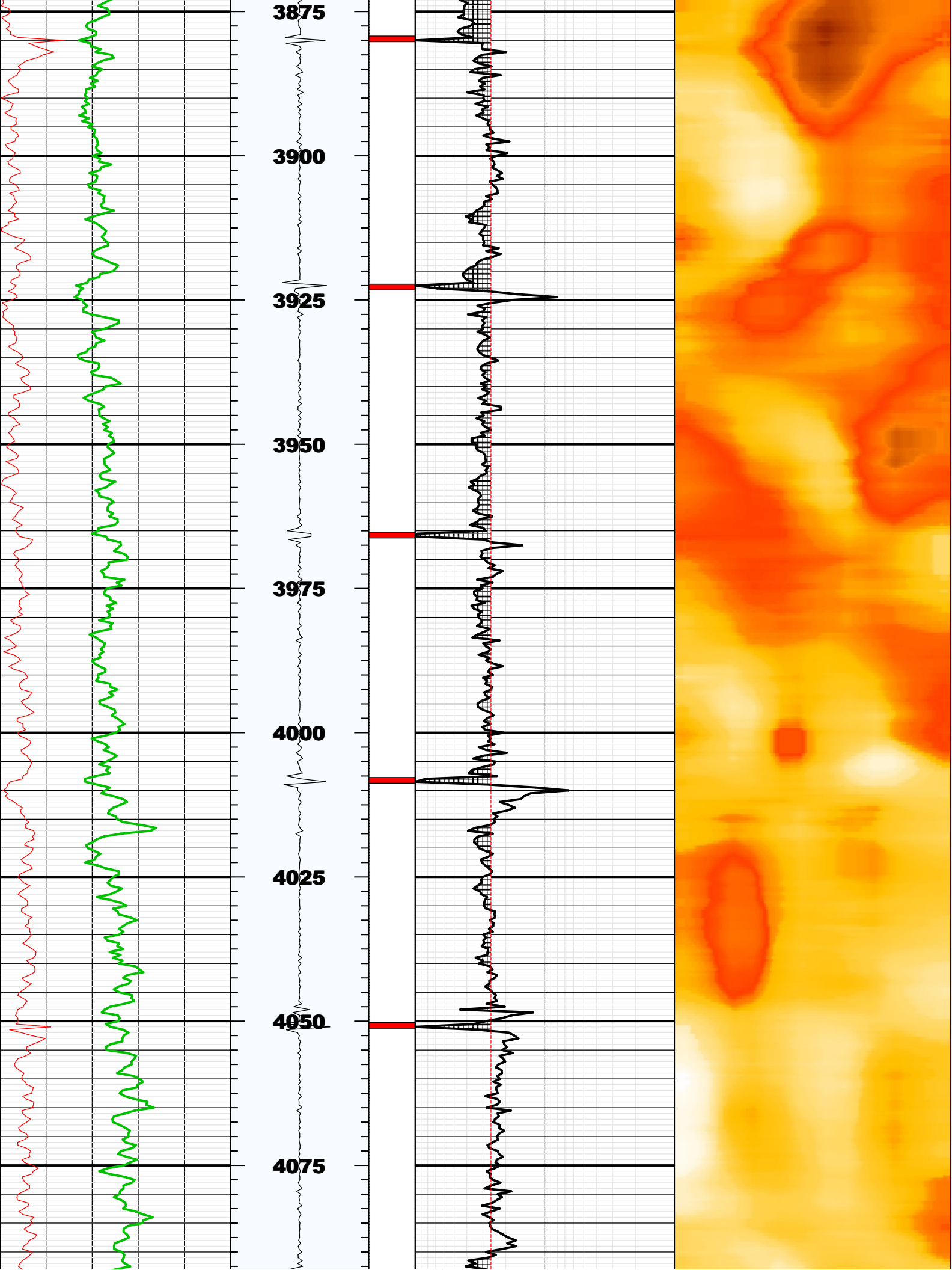


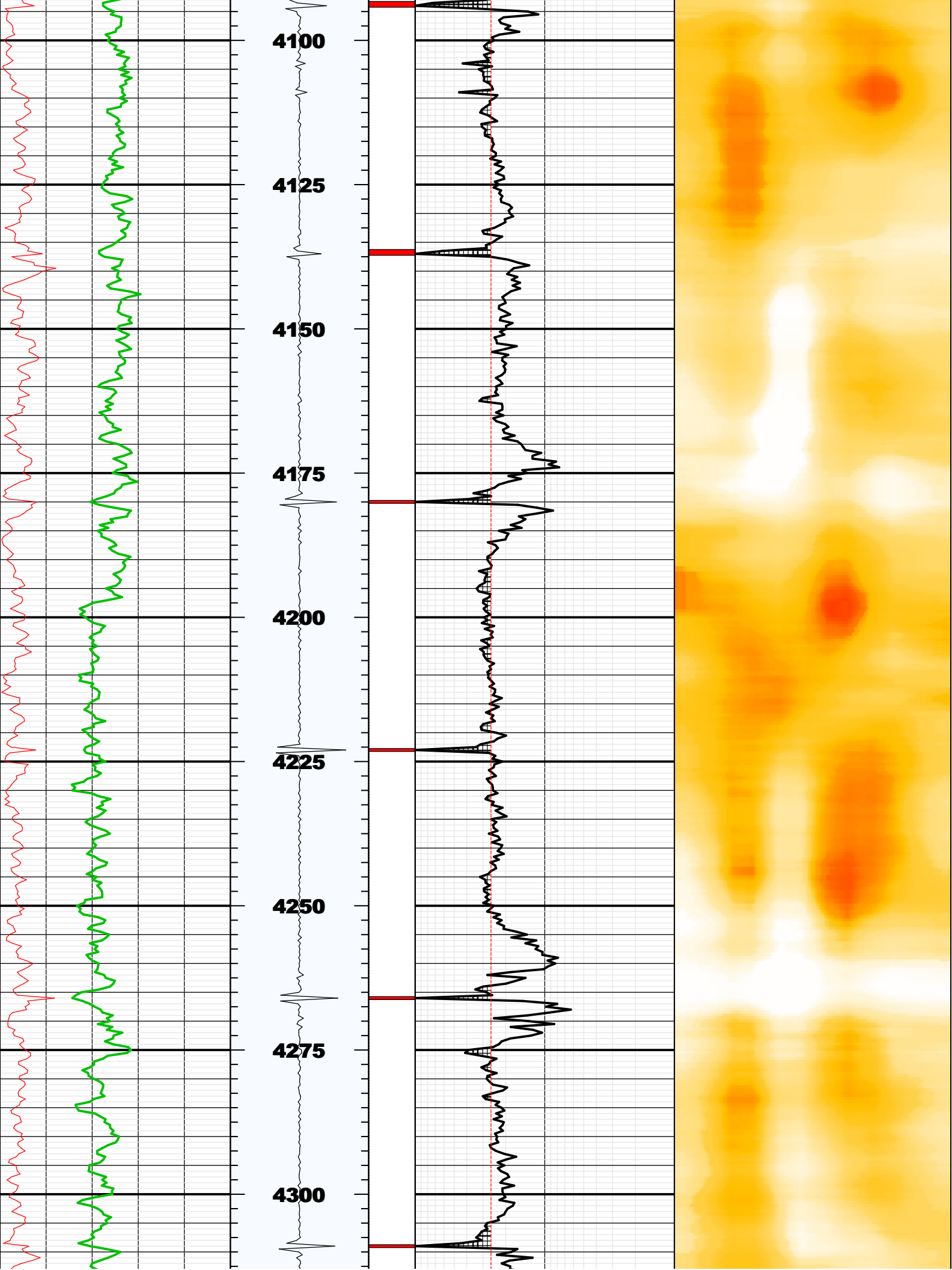


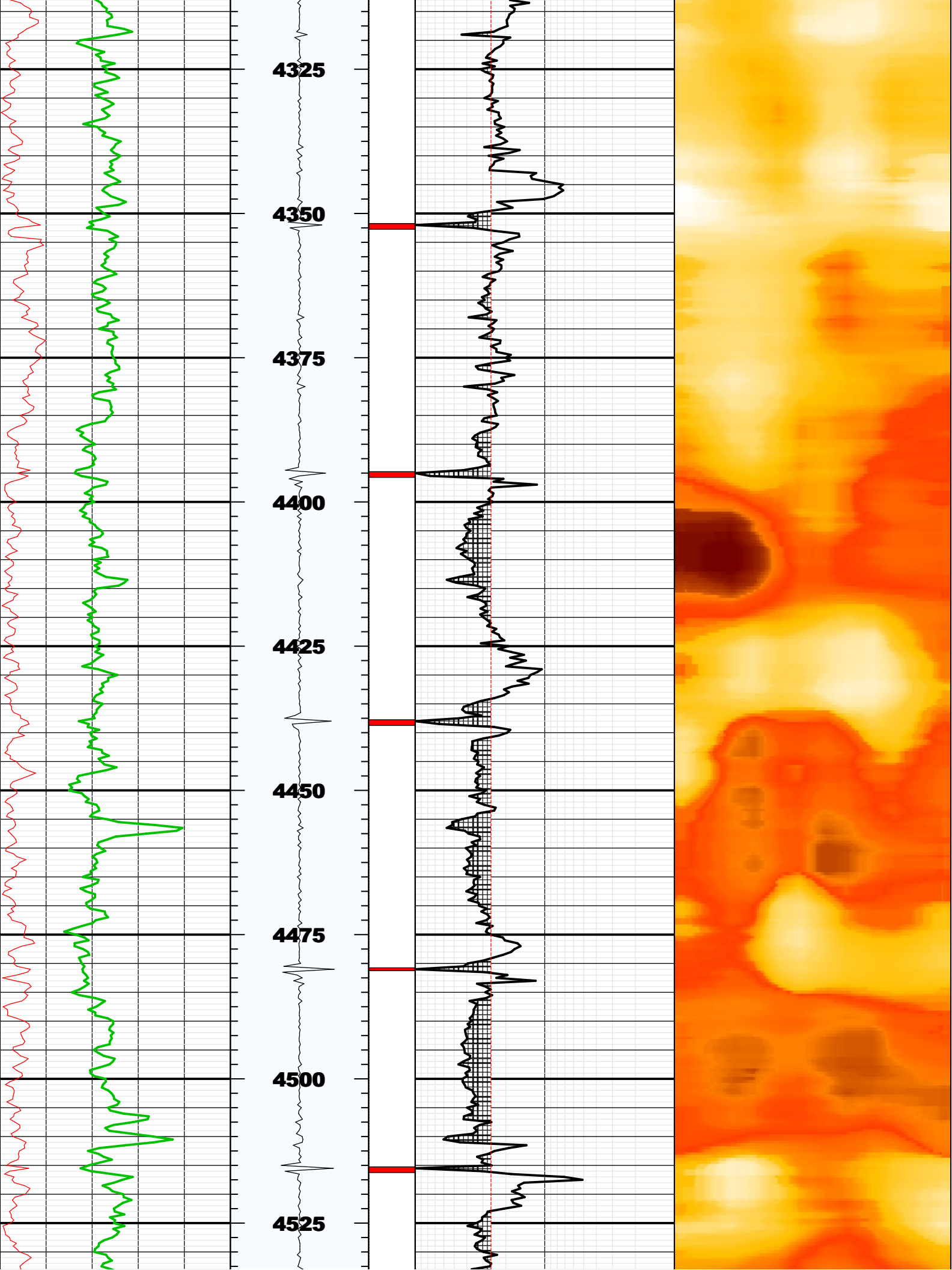


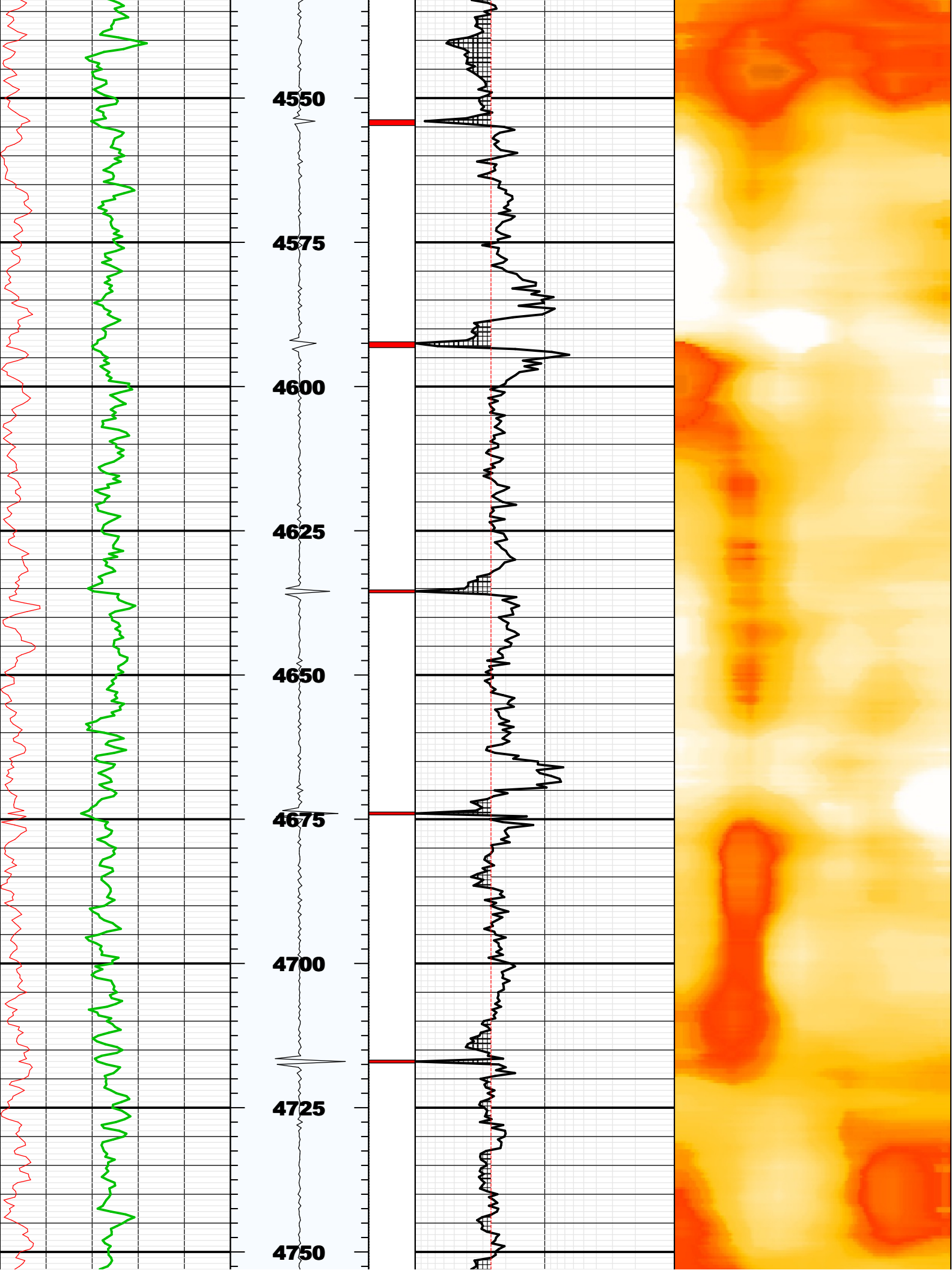




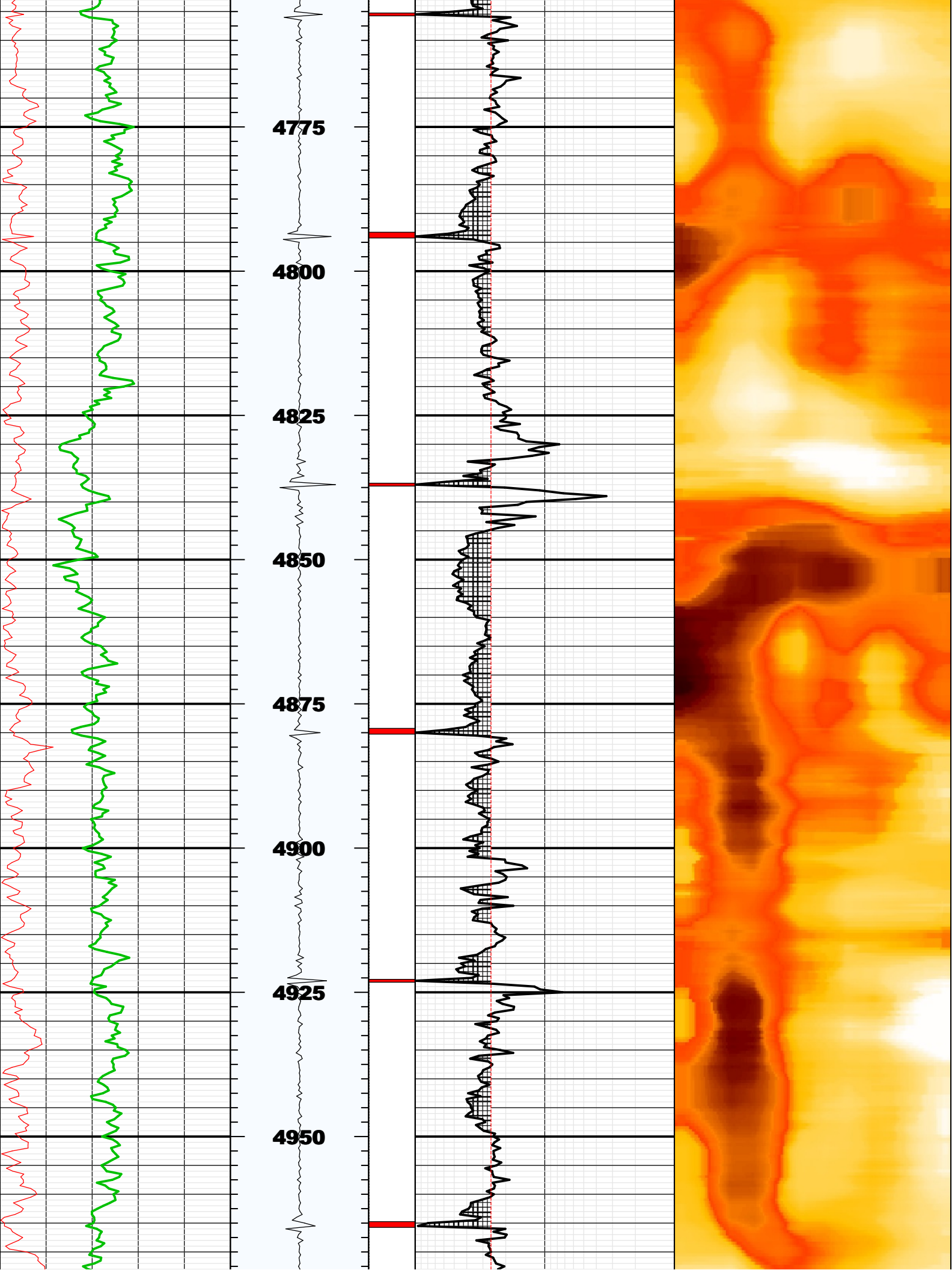


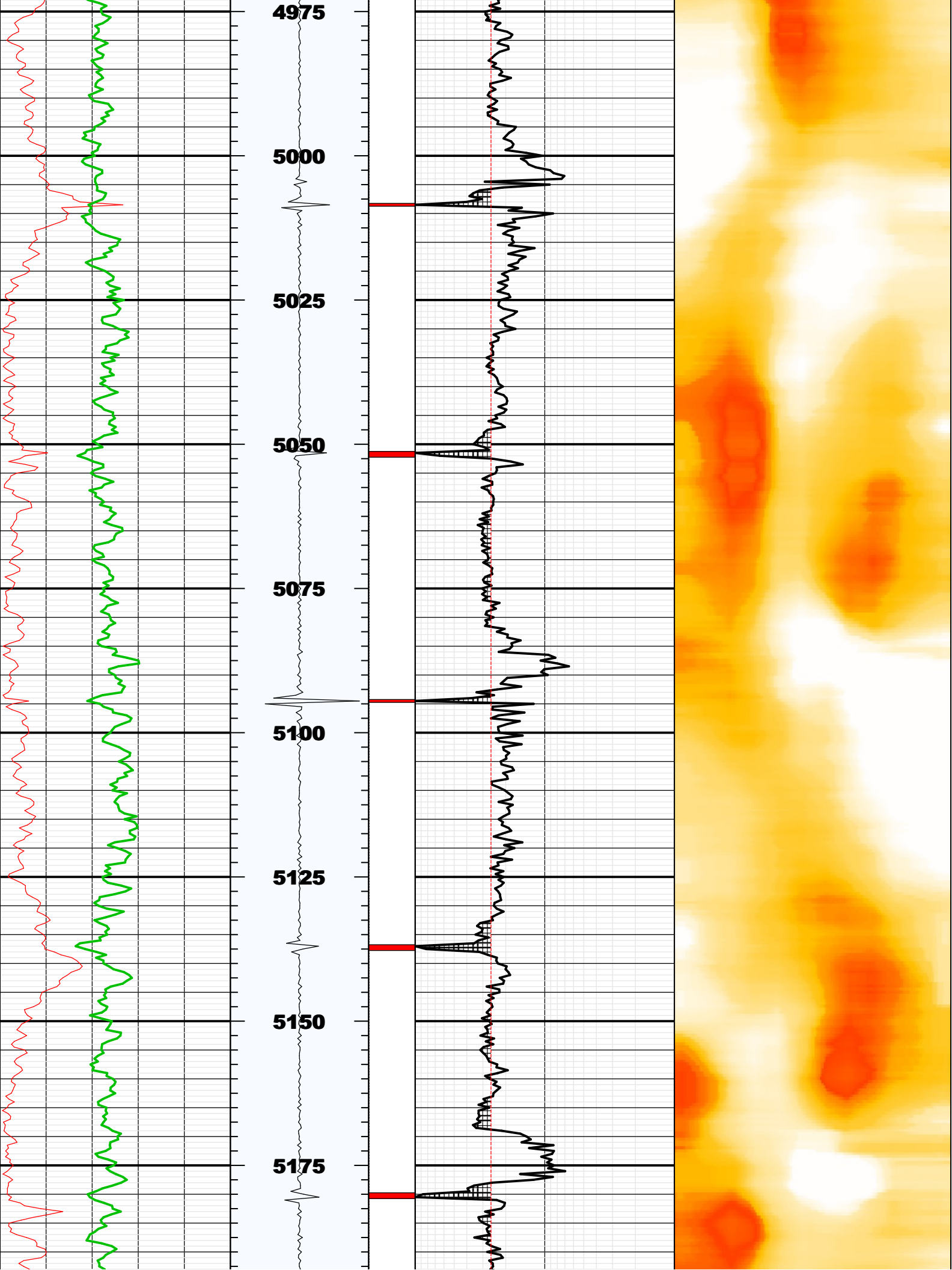




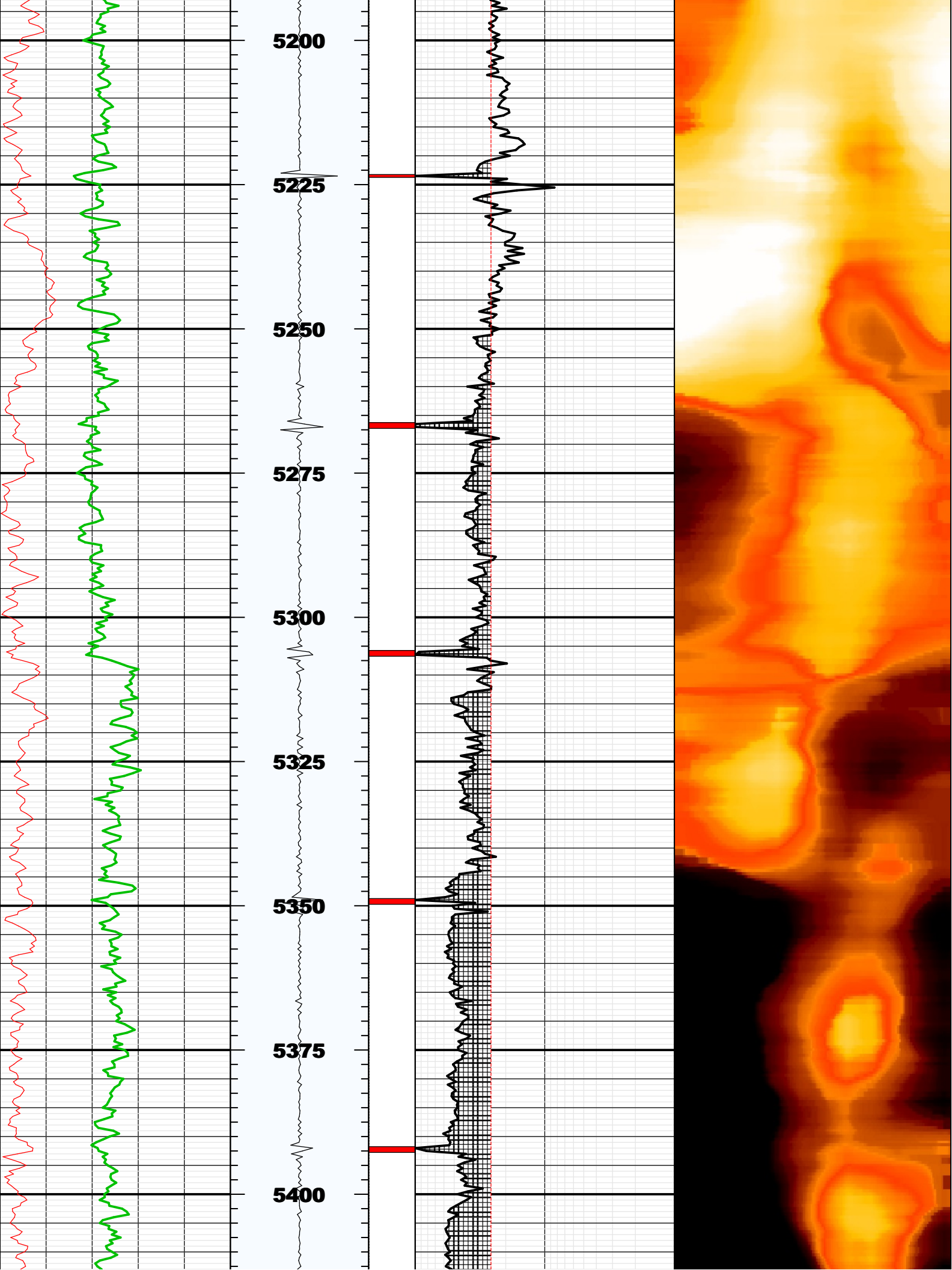


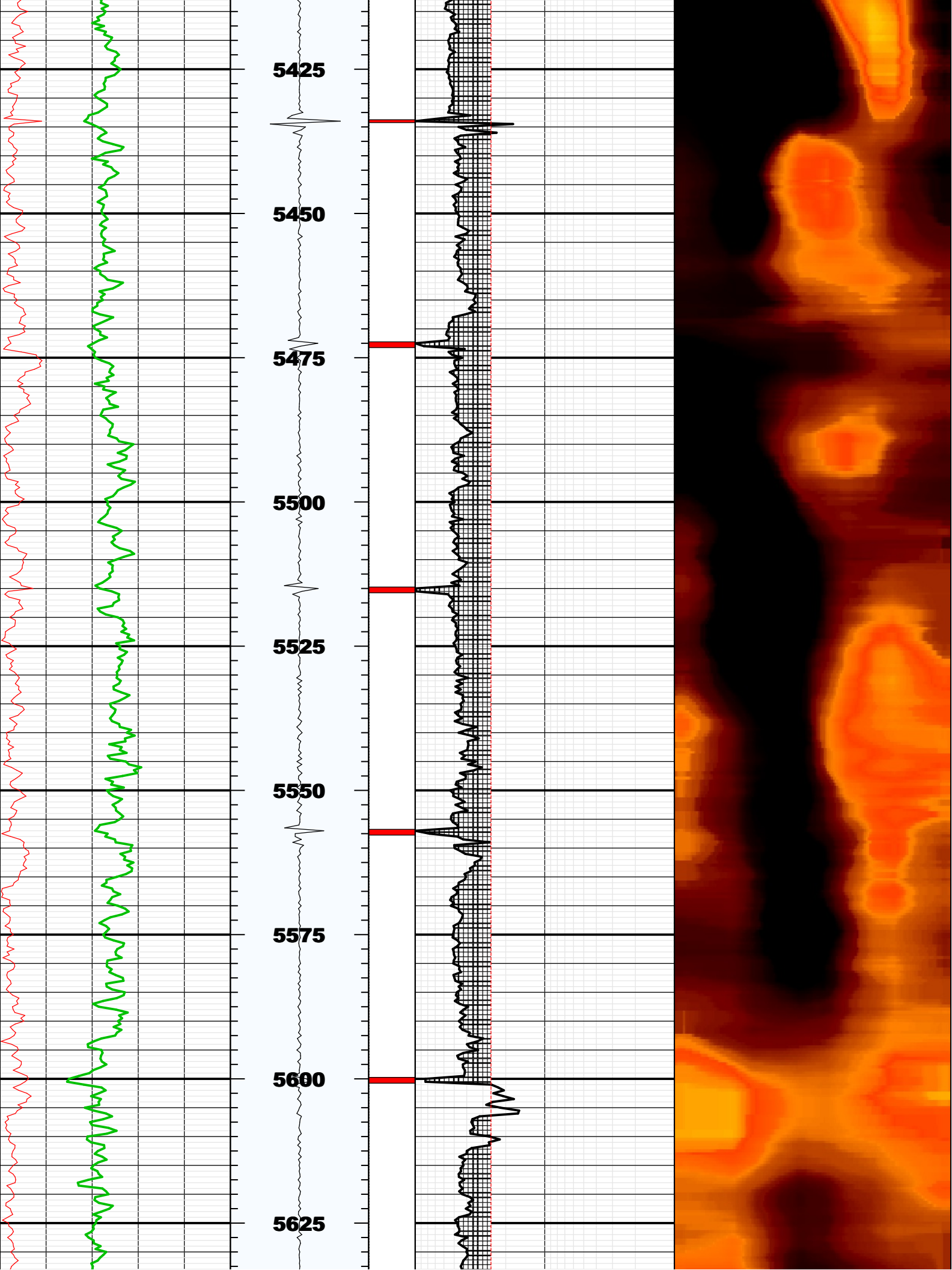


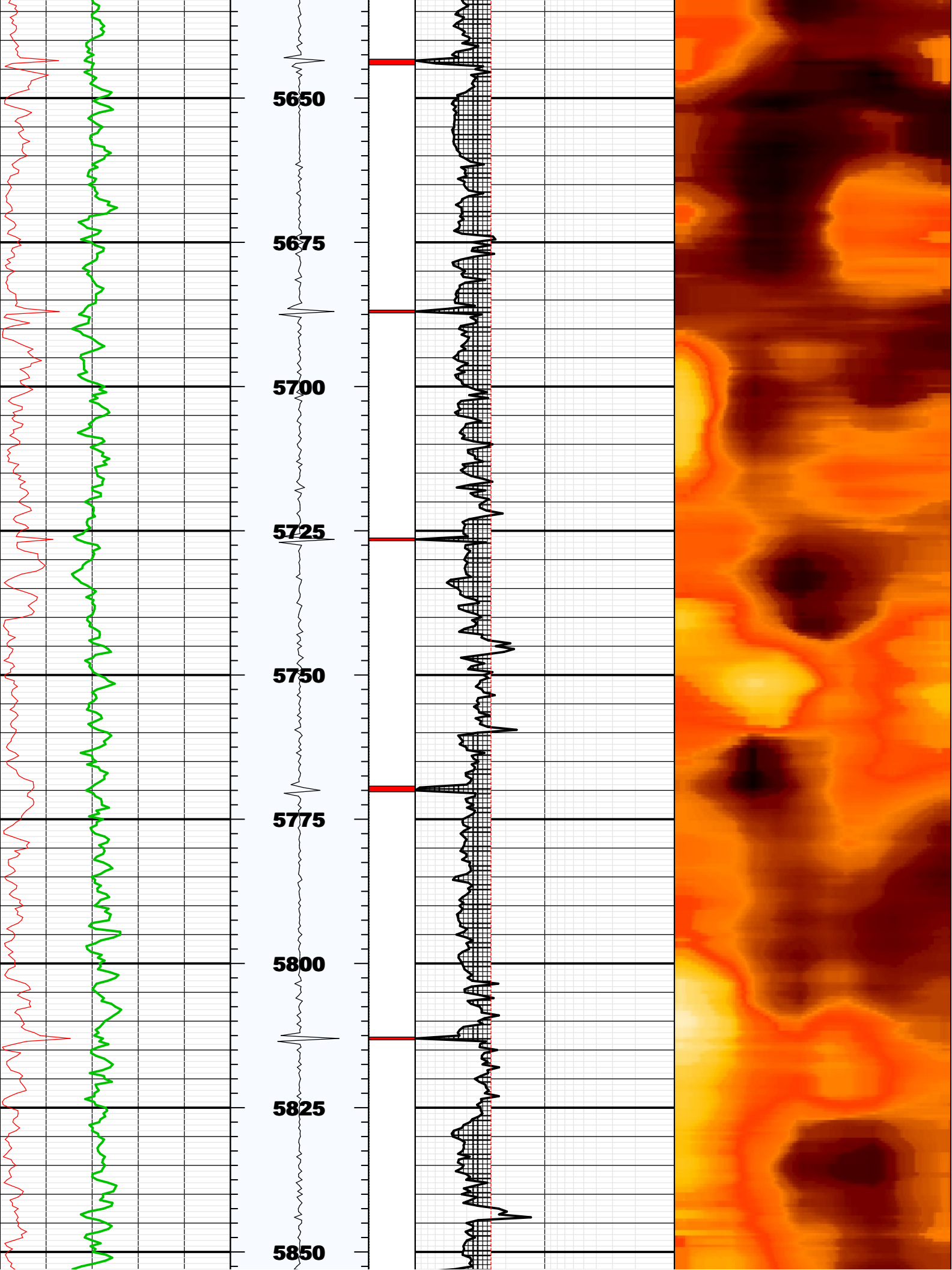




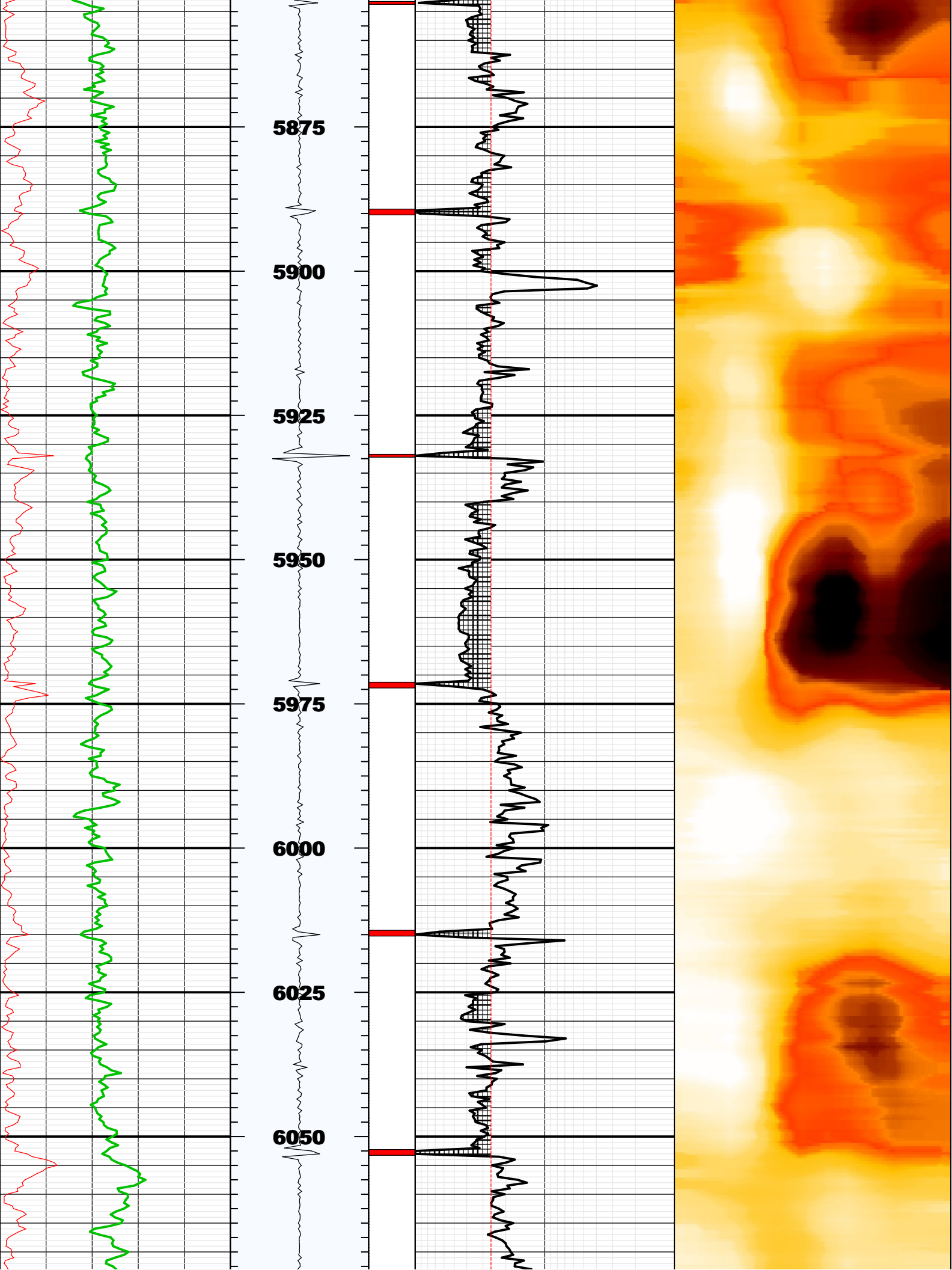


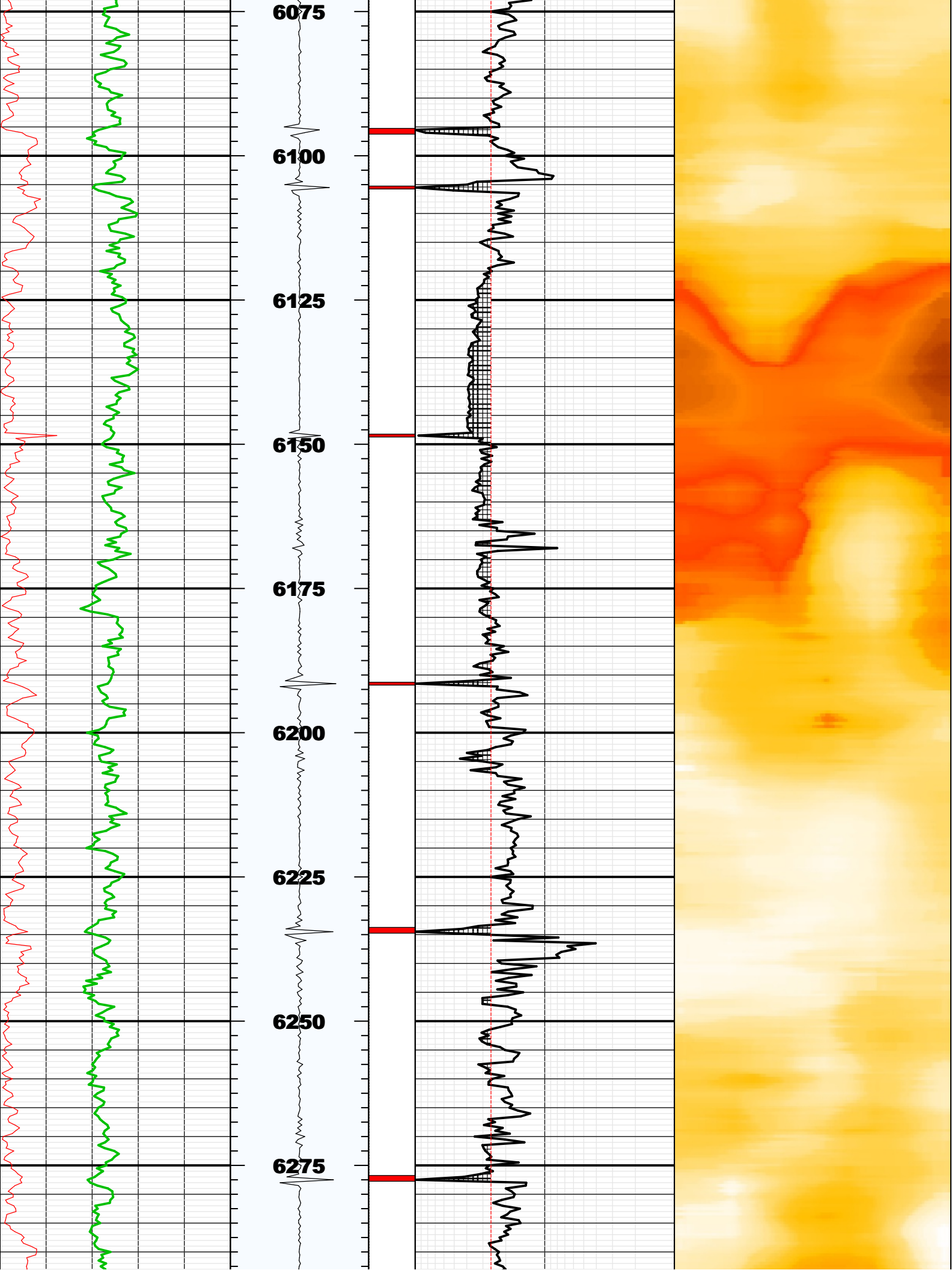


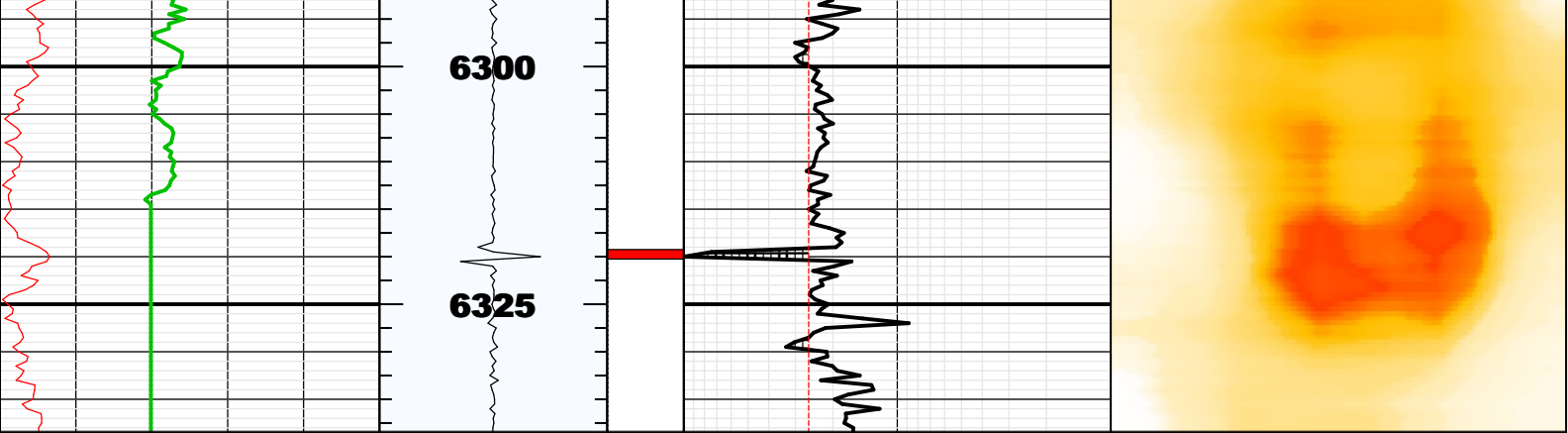










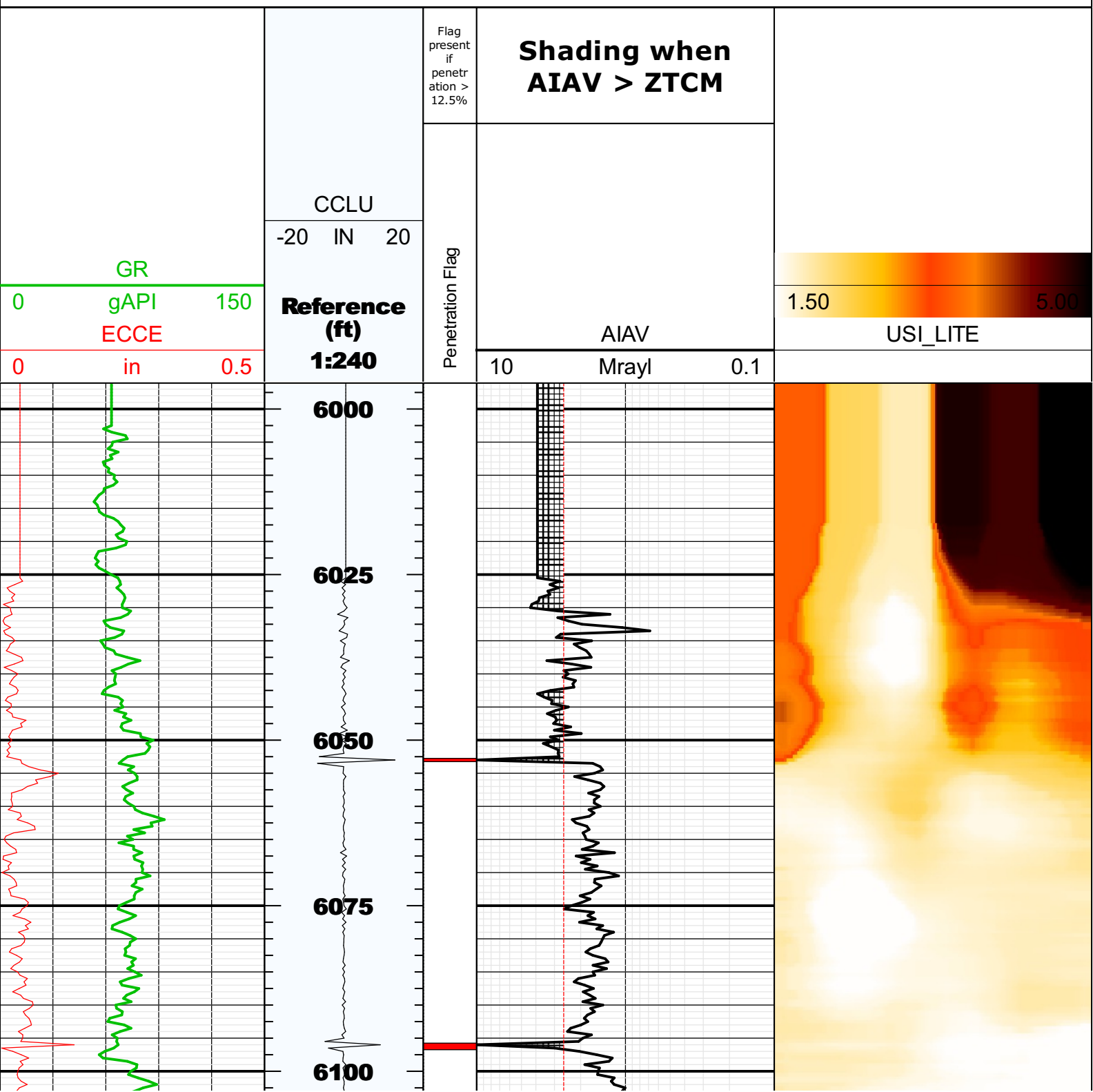


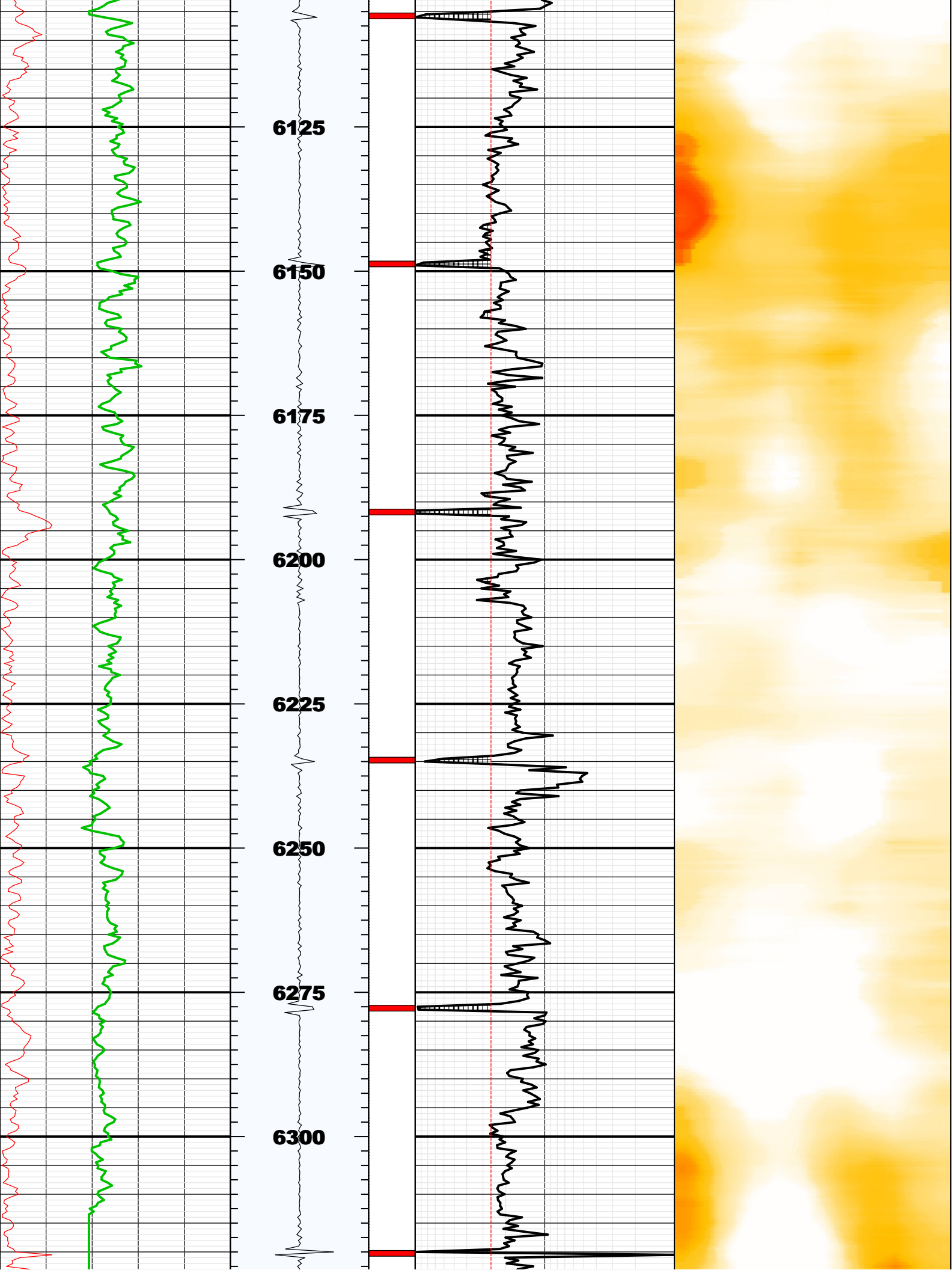


BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	206.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	60	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	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	1.80000	MRAY	Acoustic Impedance of Mud
ZTCM	2.60000	MRAY	Acoustic Impedance Threshold for Cement
ZTGS	0.30000	MRAY	Acoustic Impedance Threshold for Gas
WLEN	22.50350	US	T^3 Processing Length

## Repeat Pass

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Field: Wattenberg









## Fluid Properties Used for Main Pass

