

Company: Noble Energy Inc

Well: Oscar Y10-78-1HC  
Field: Wattenberg  
County: Weld

State: Colorado

County: Weld		<div>USI-LITE</div>		
Field: Wattenberg				
Location: NWSW Sec. 10 T2N R64W				
Well: Oscar Y 10-78-1HC				
Company: Noble Energy Inc				
LOCATION		Permanent Datum: Log Measured From: Drilling Measured From:		
Logging Date	API Serial No. 05-123-38193-0000	GL KB KB	Elev: K.B. 4973.0 F G.L. 4943.0 F D.F. 4972.0 F	
Run Number	1	Section 10	Township 2N	Range 64W
Depth Driller	7482.0 F			
Schlumberger Depth	7482.0 F			
Bottom Log Interval	7242.0 F			
Top Log Interval	275.0 F			
Casing Fluid Level	0.0 F			
Salinity				
Density	8.40 LB/G			
Fluid Level	0.0 F			
BIT/CASING/TUBING STRING				
Bit Size	8.750 IN			
From	-999.2 F			
To	7482.0 F			
Casing Size	7.00 IN			
Weight	26.00 LB/F			
Grade	P110			
From	0.0 F			
To	7472.0 F			
Max Recorded Temp	220.0			
Logger on bottom (date)	18-Apr-2014			
Location	Fort Morgan CO			
Recorded By	Elizabeth Wilson			
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: 22000.00000

DISCLAIMER

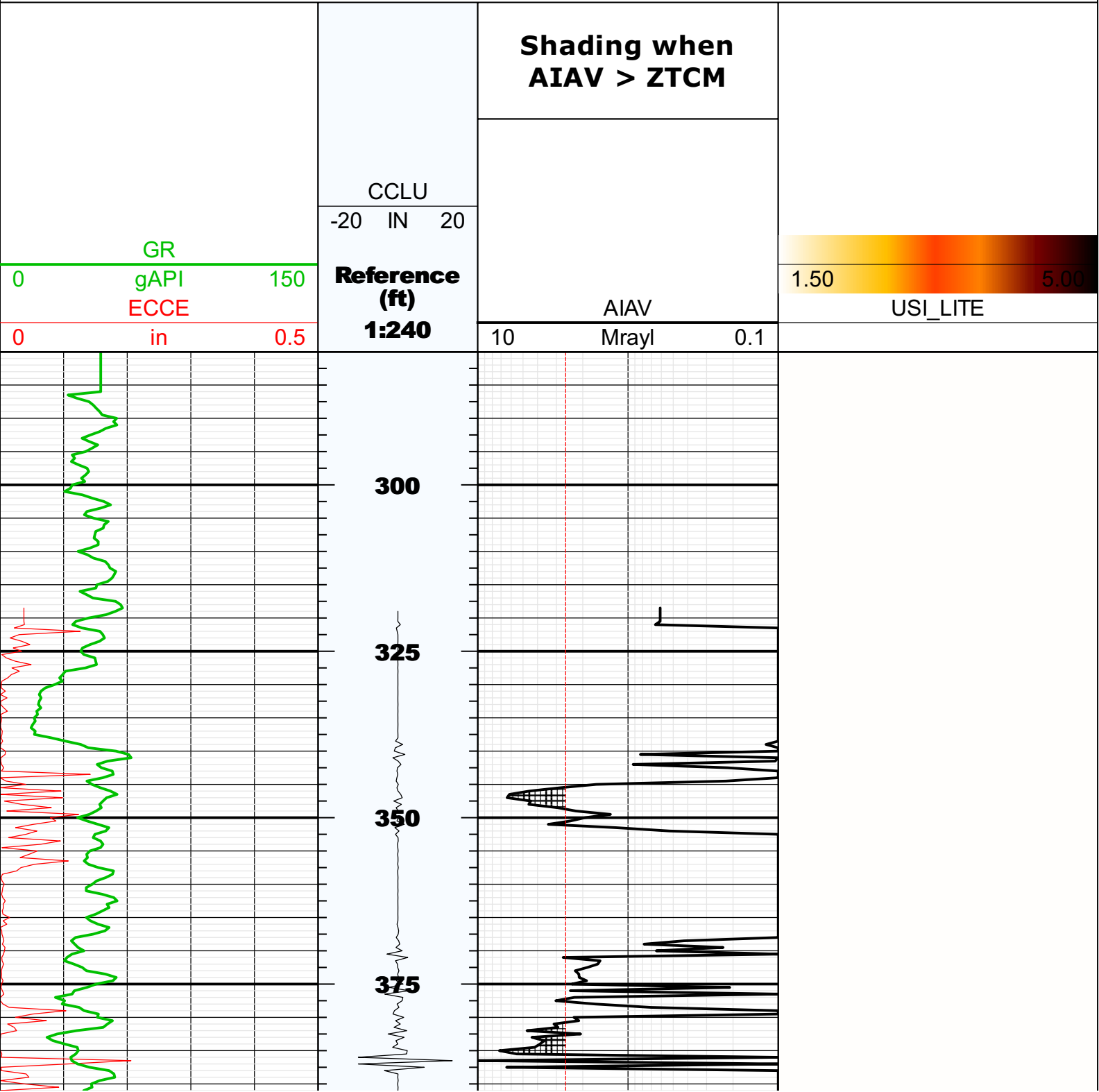
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIIONS ON USE OF THE RECORDED-DATA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

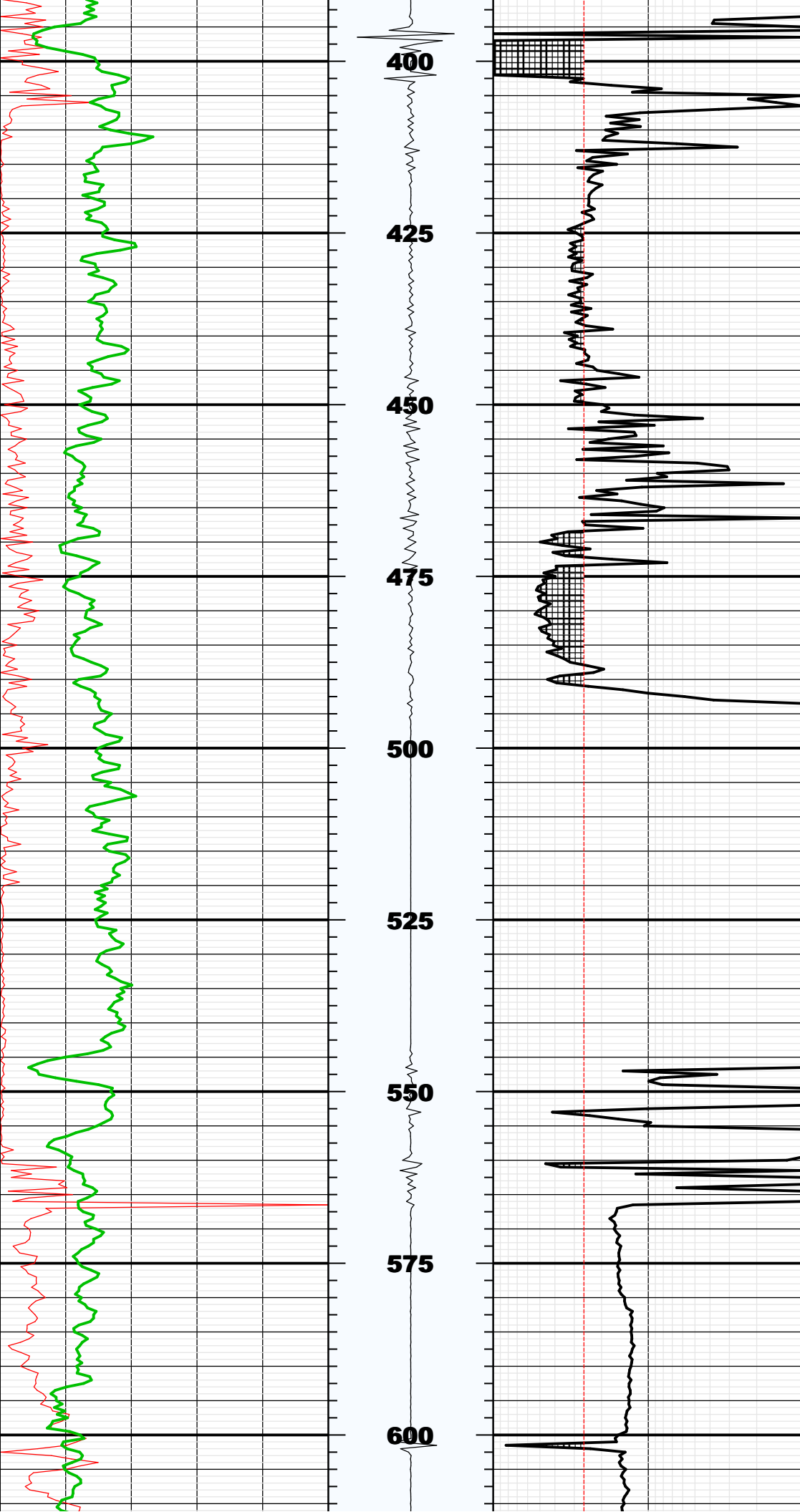
Toolstring ran as per tool sketch  
While pressuring up to log main pass at 2500 psi sleeve broke at 2200 psi  
Main pass logged at 0 psi  
Repeat pass ran at 0 psi  
Lead cement 12.5 ppg  
Tail cement 13.8 ppg

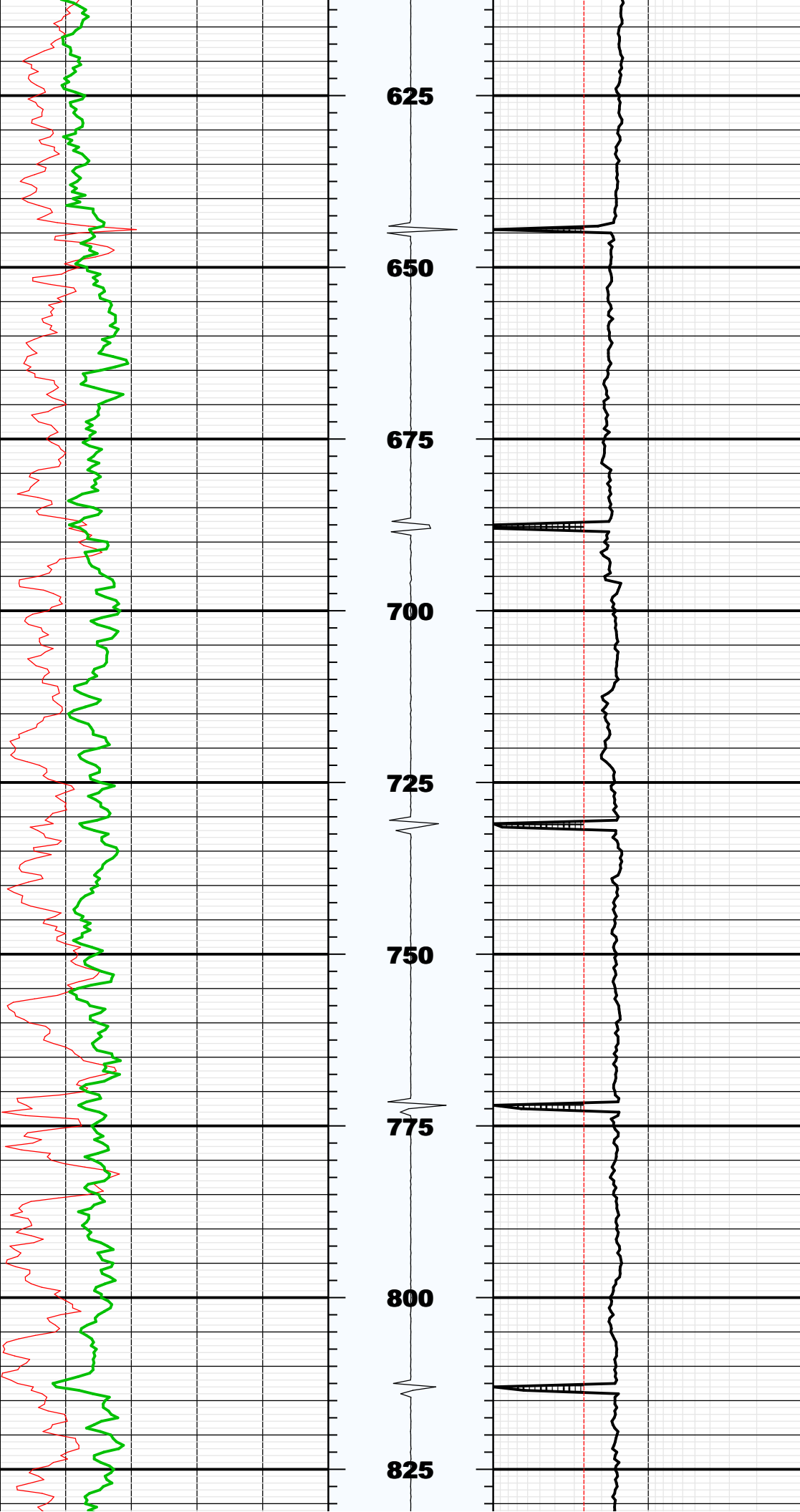
Crew Heather Hoffman Jake Jump Josh Strand Elizabeth Wilson

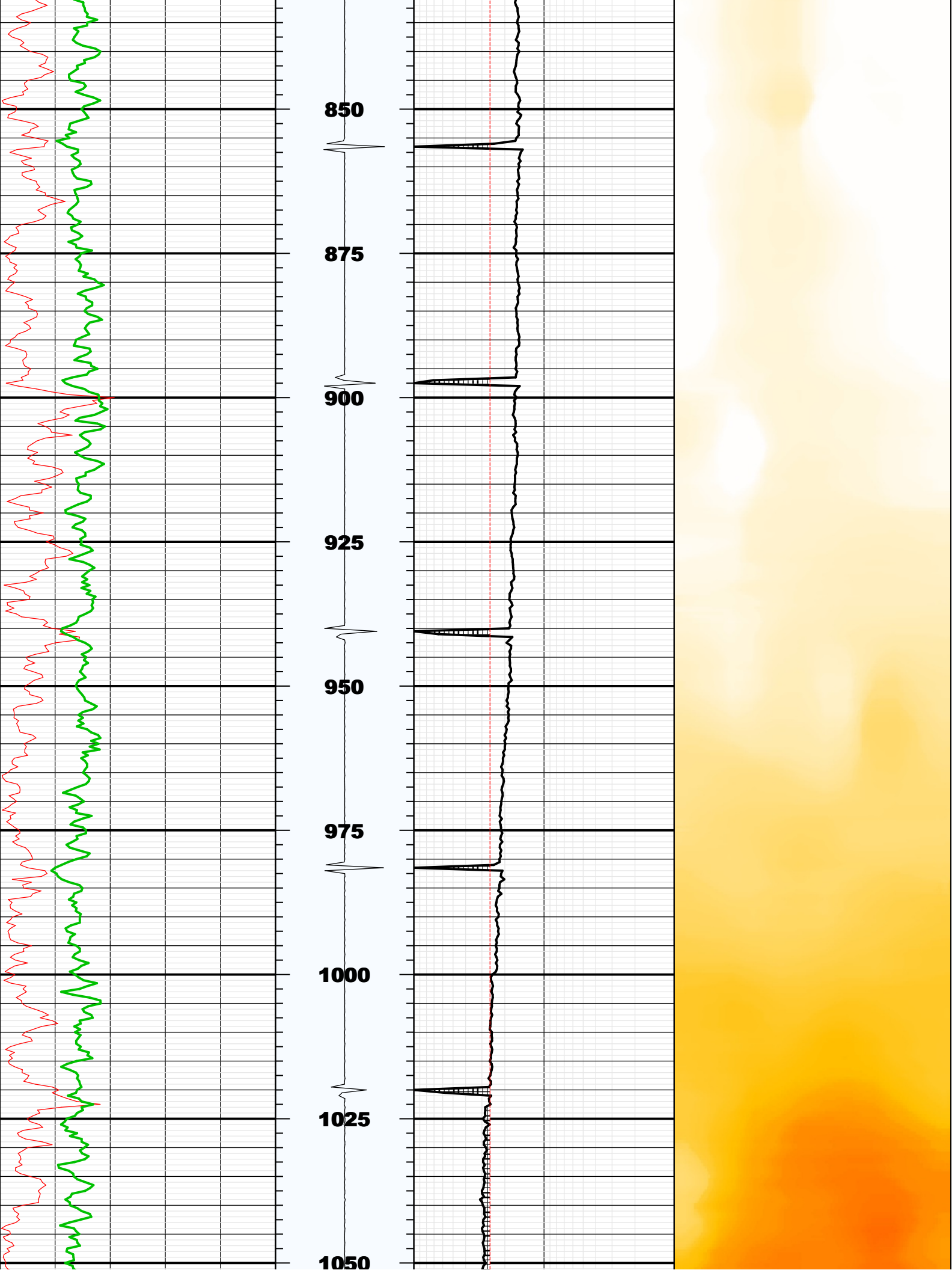
Main Pass

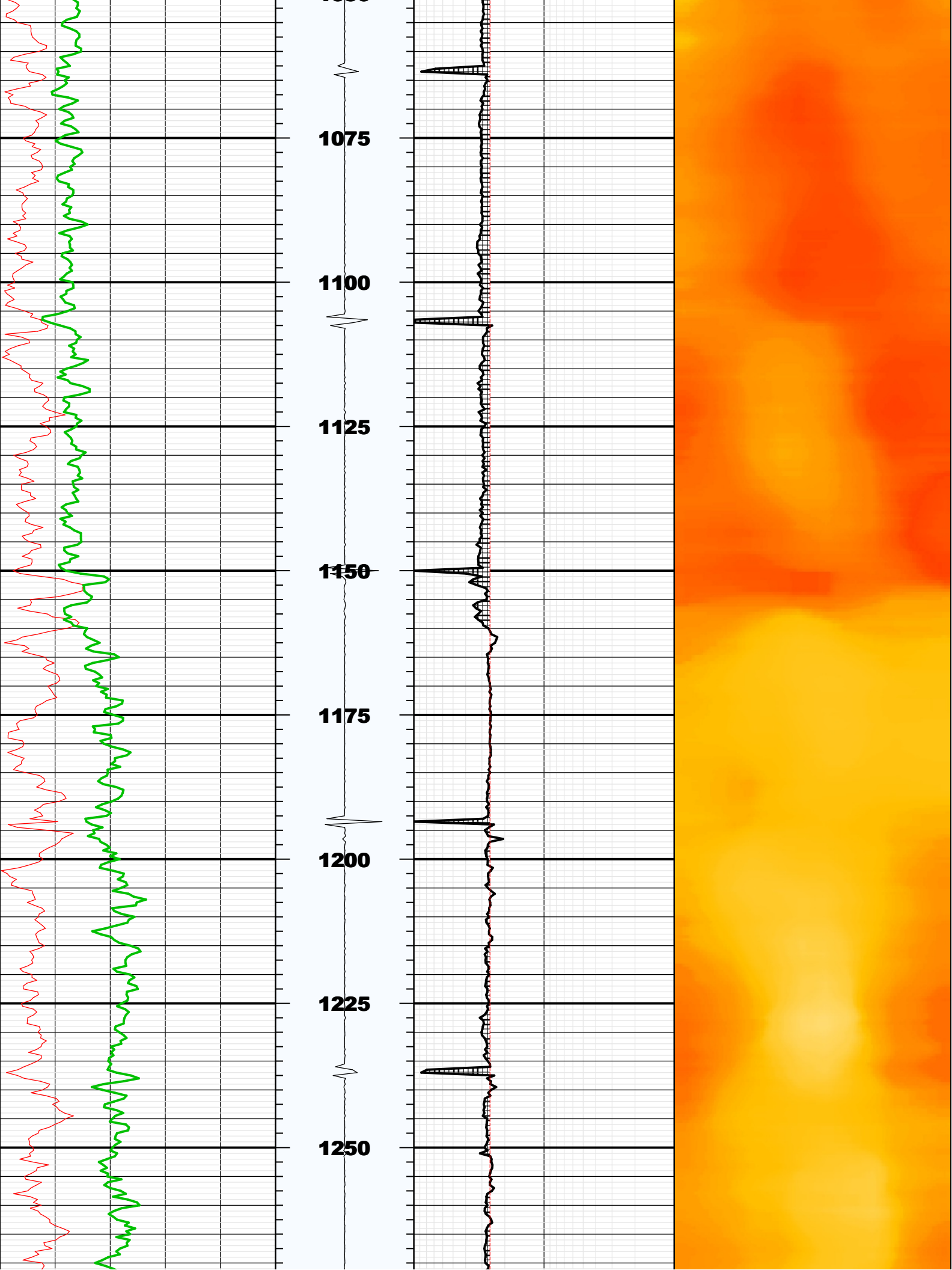
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Well: Oscar Y 10-78-1HC  
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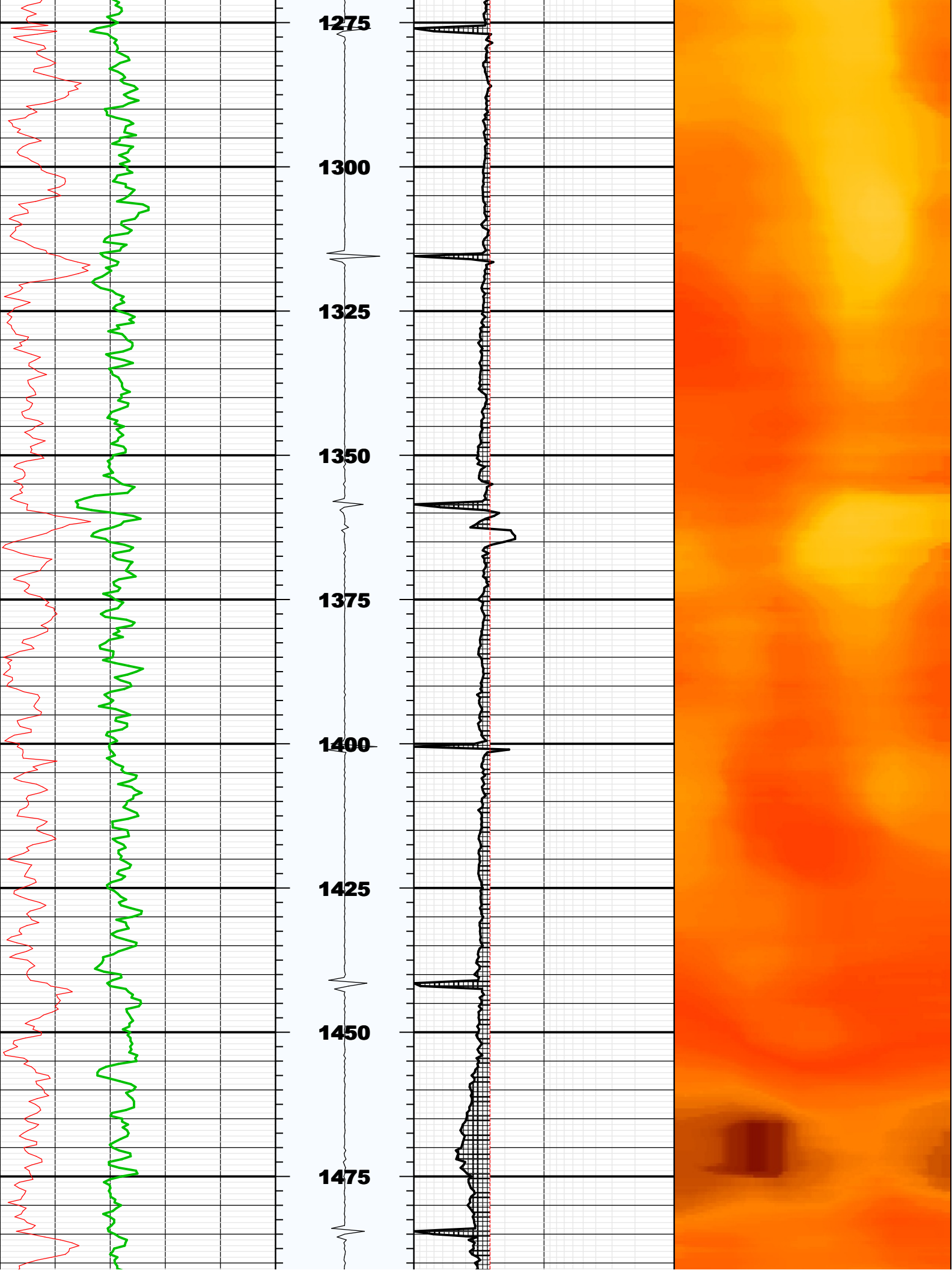




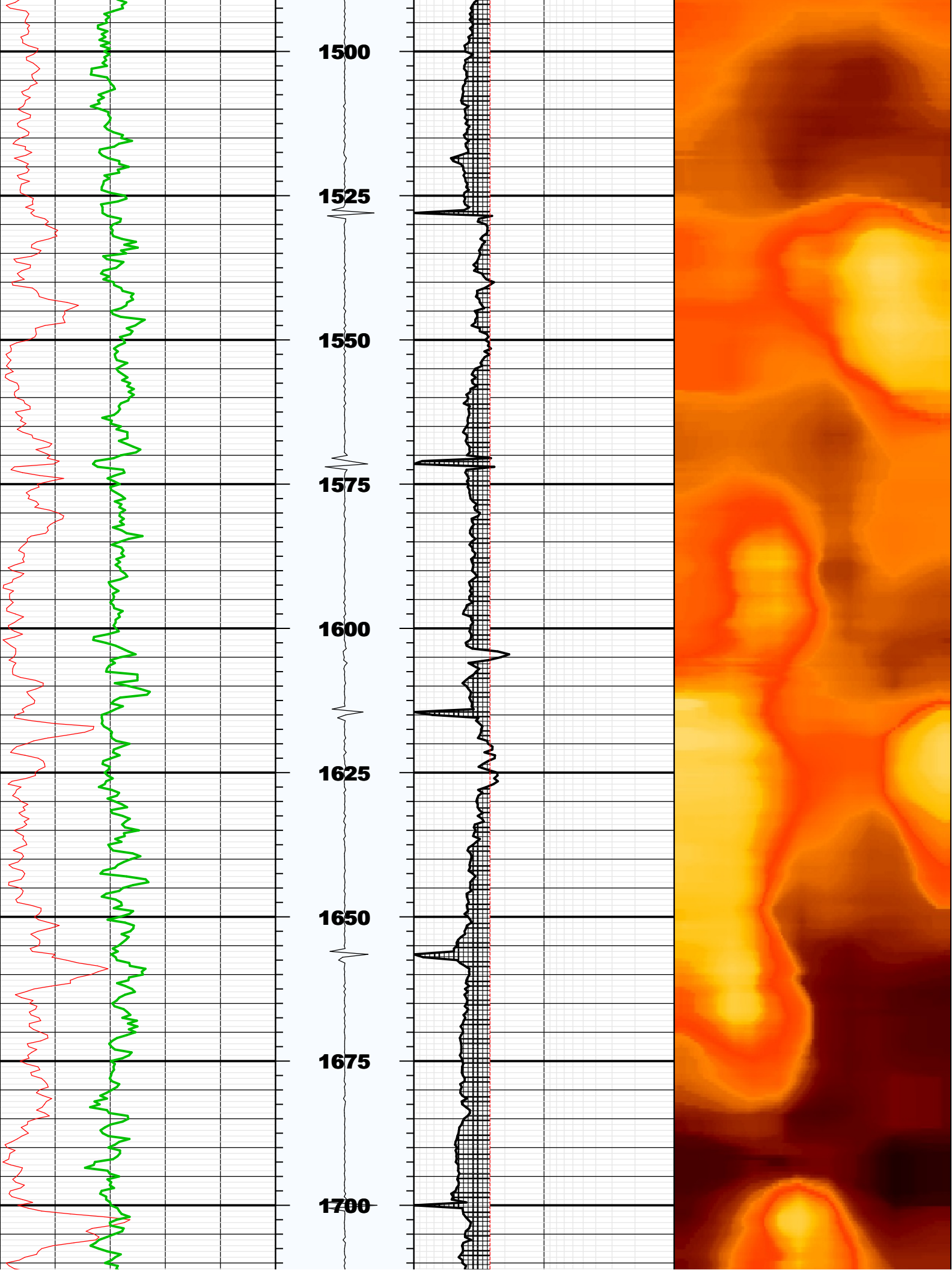


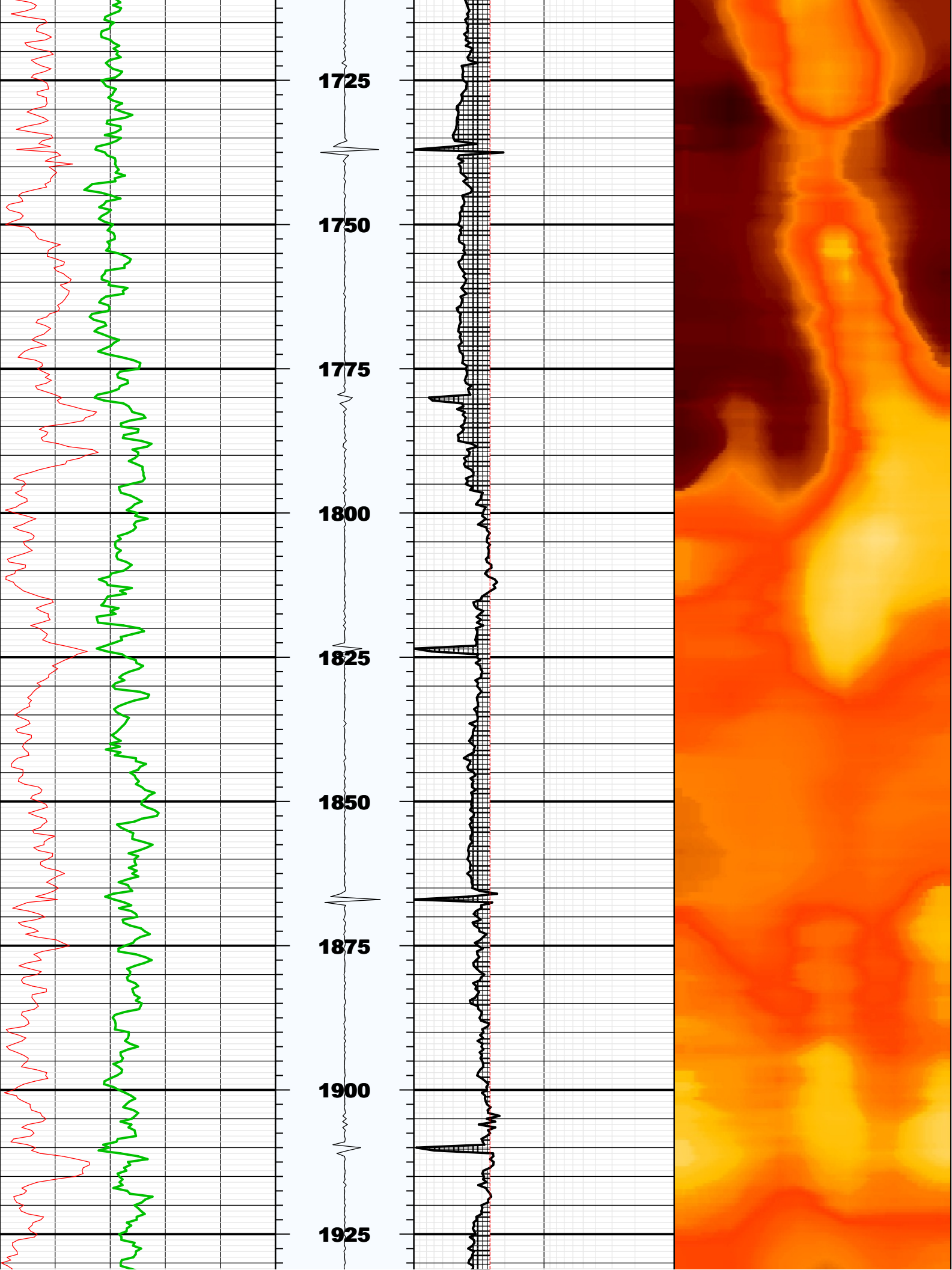


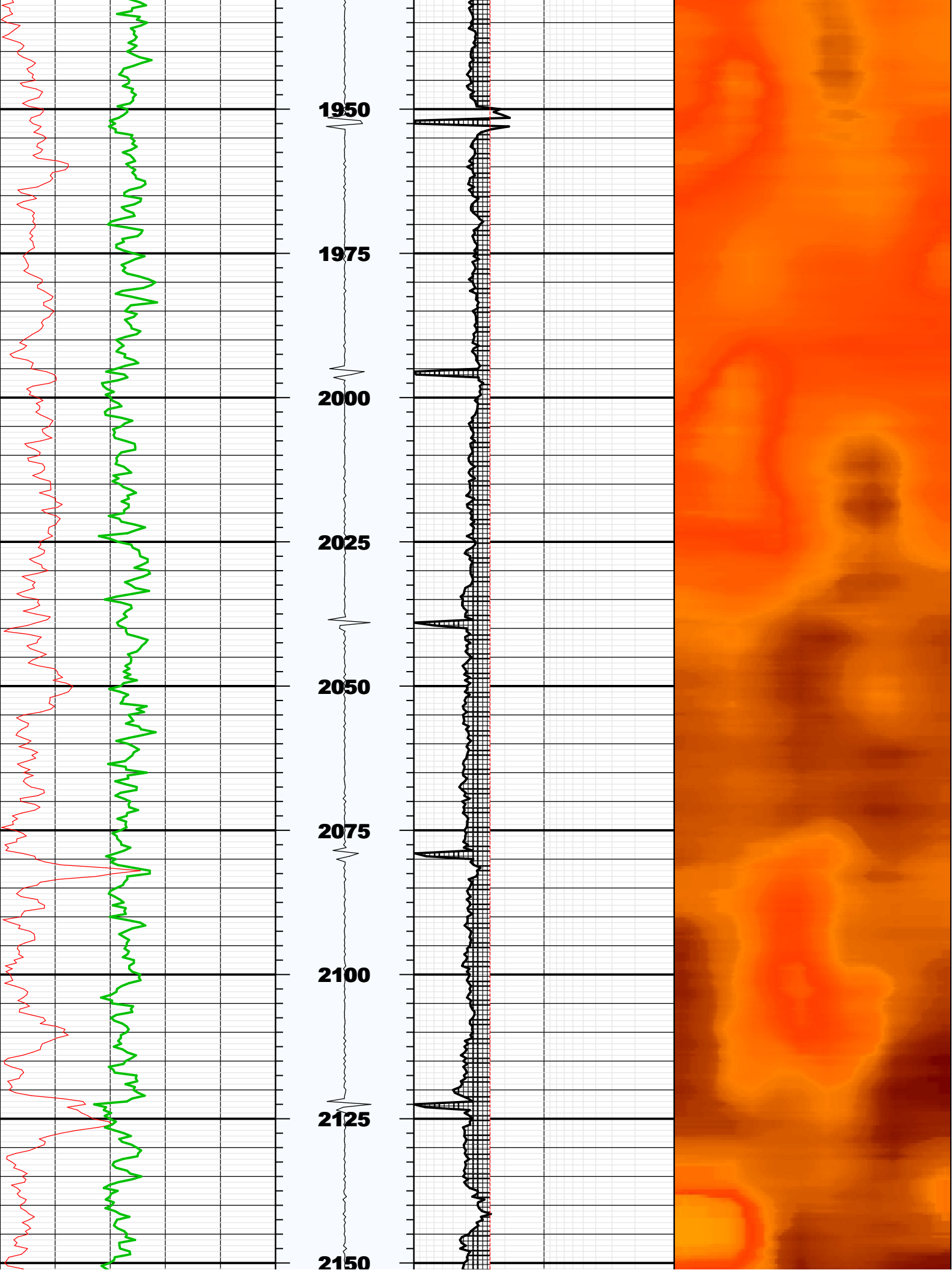


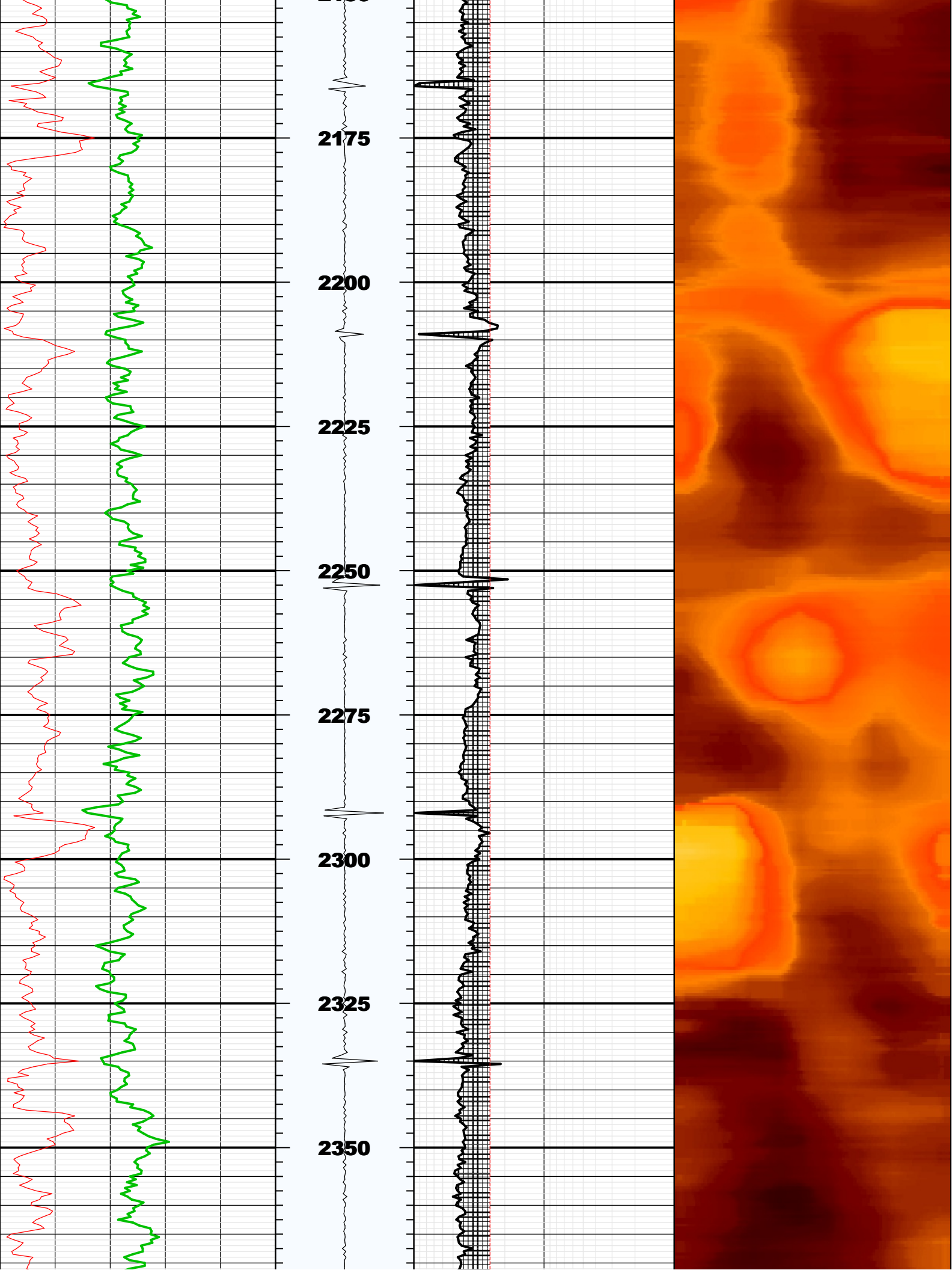




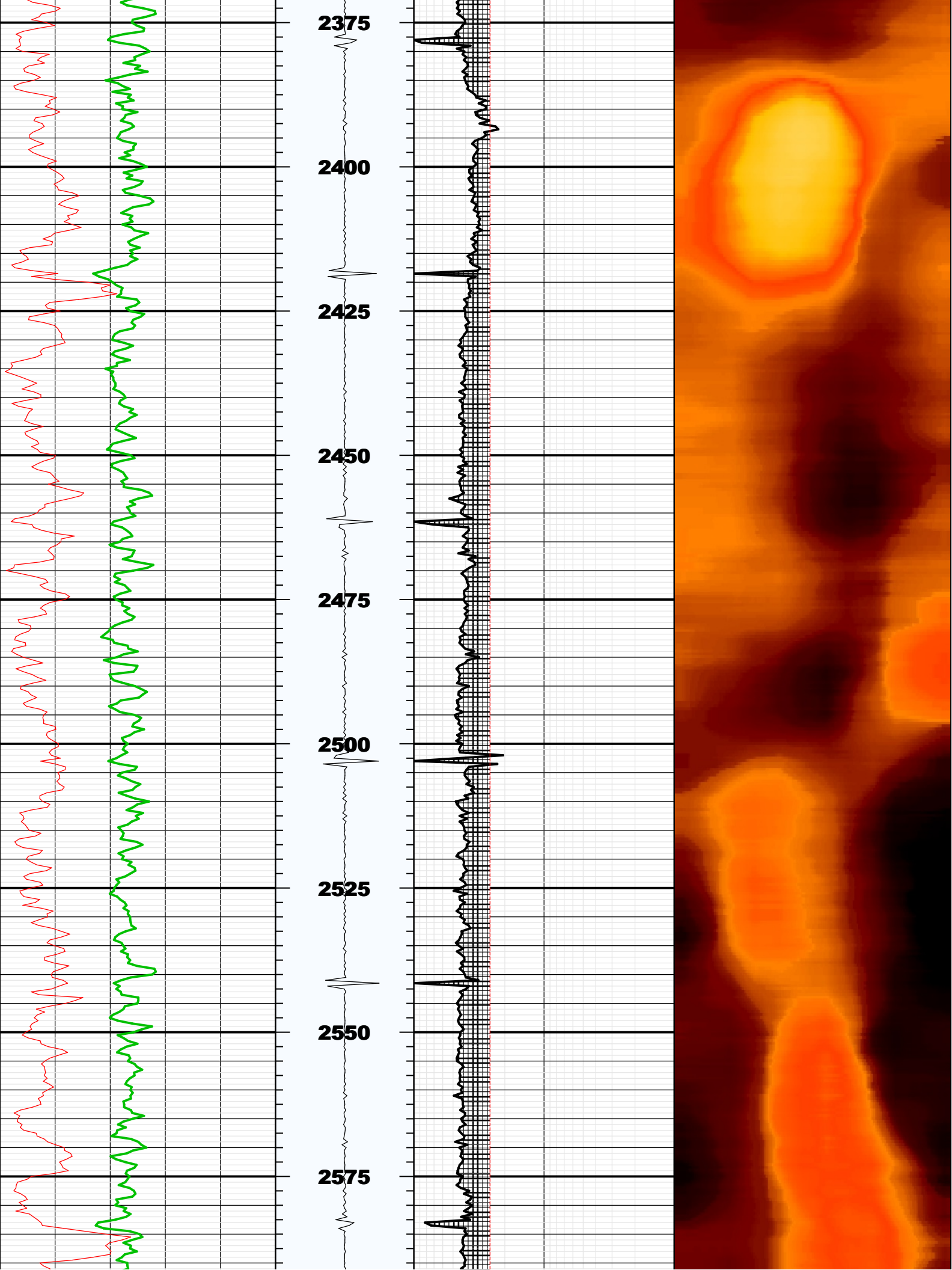


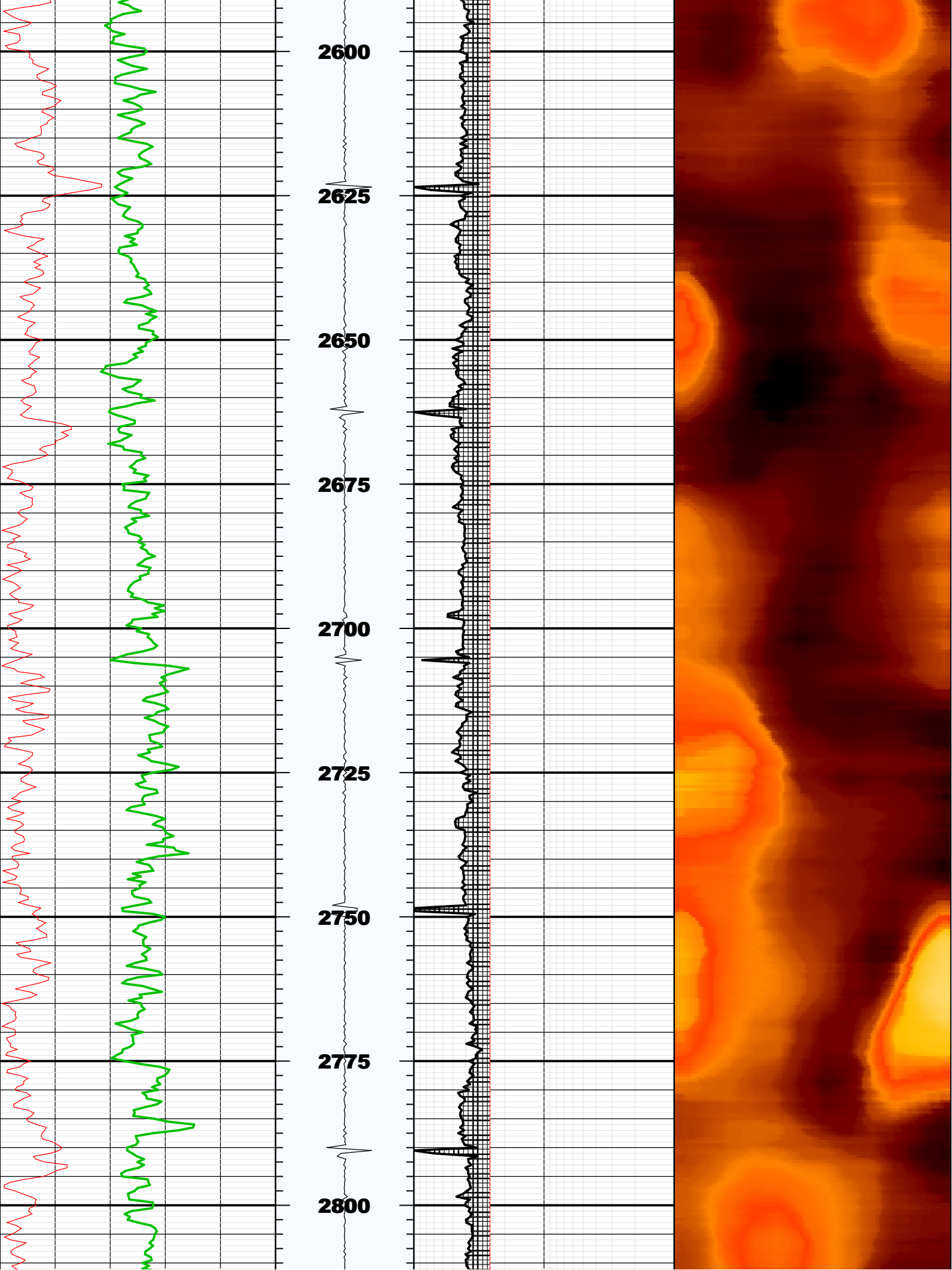


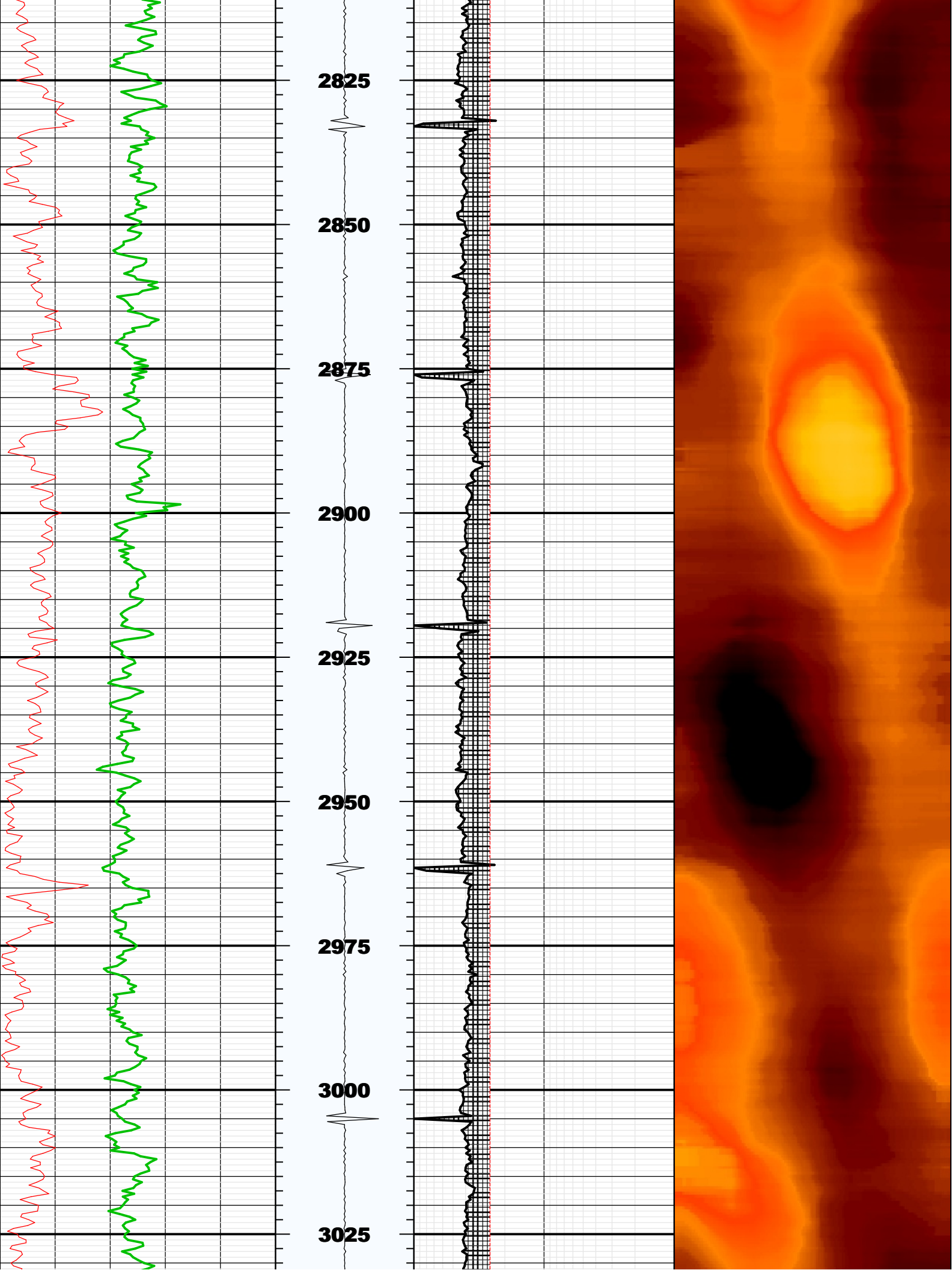


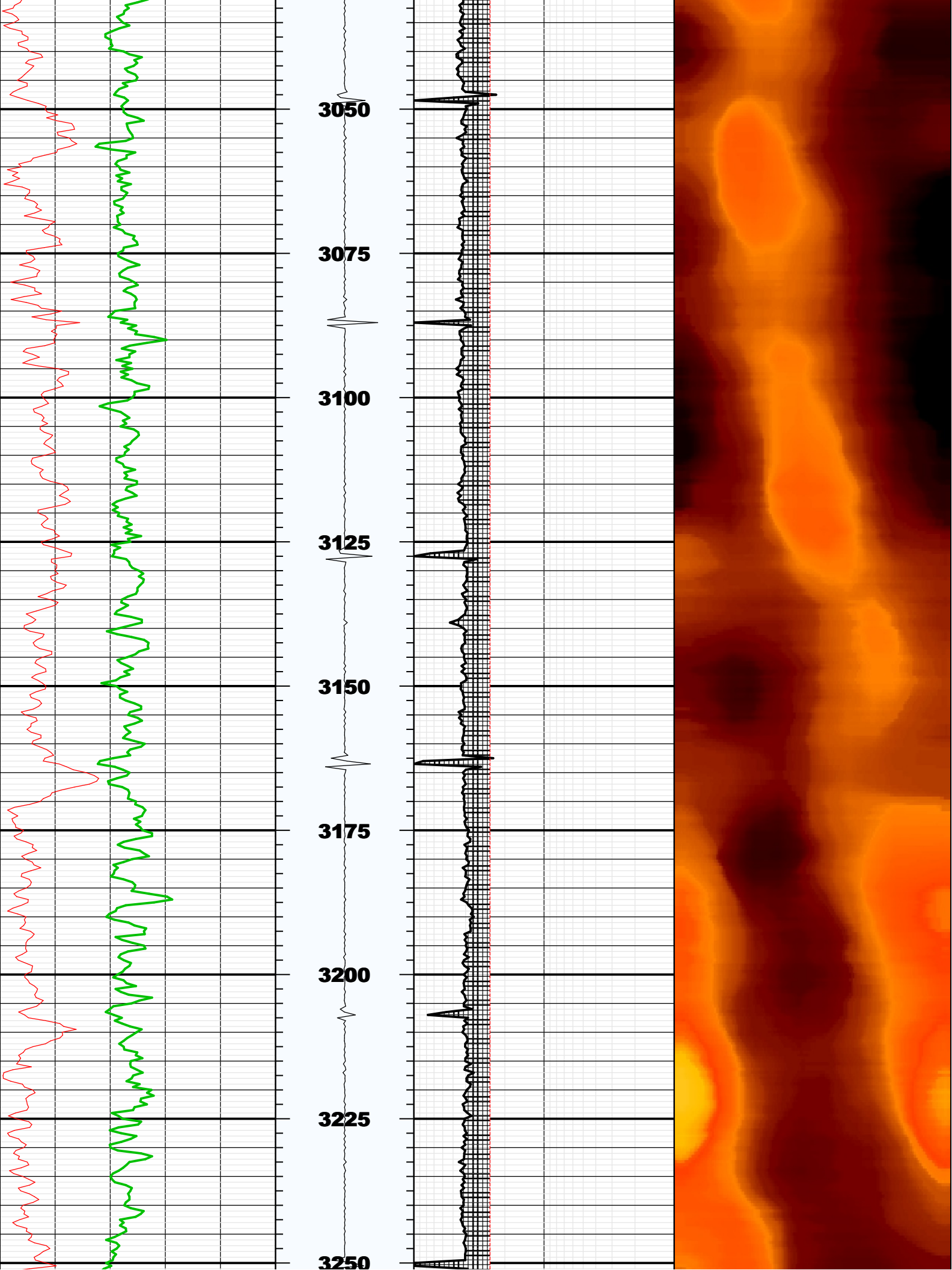




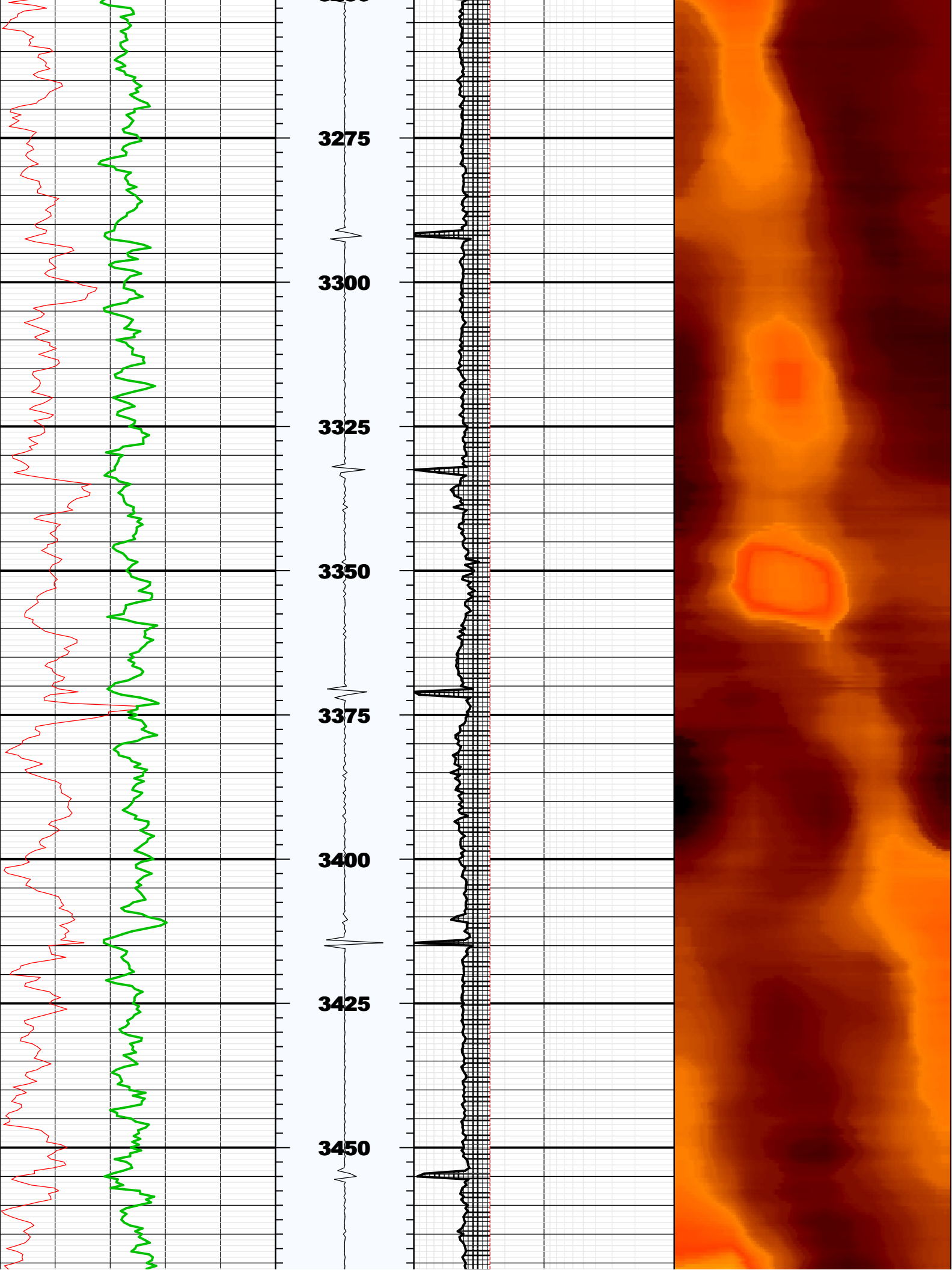


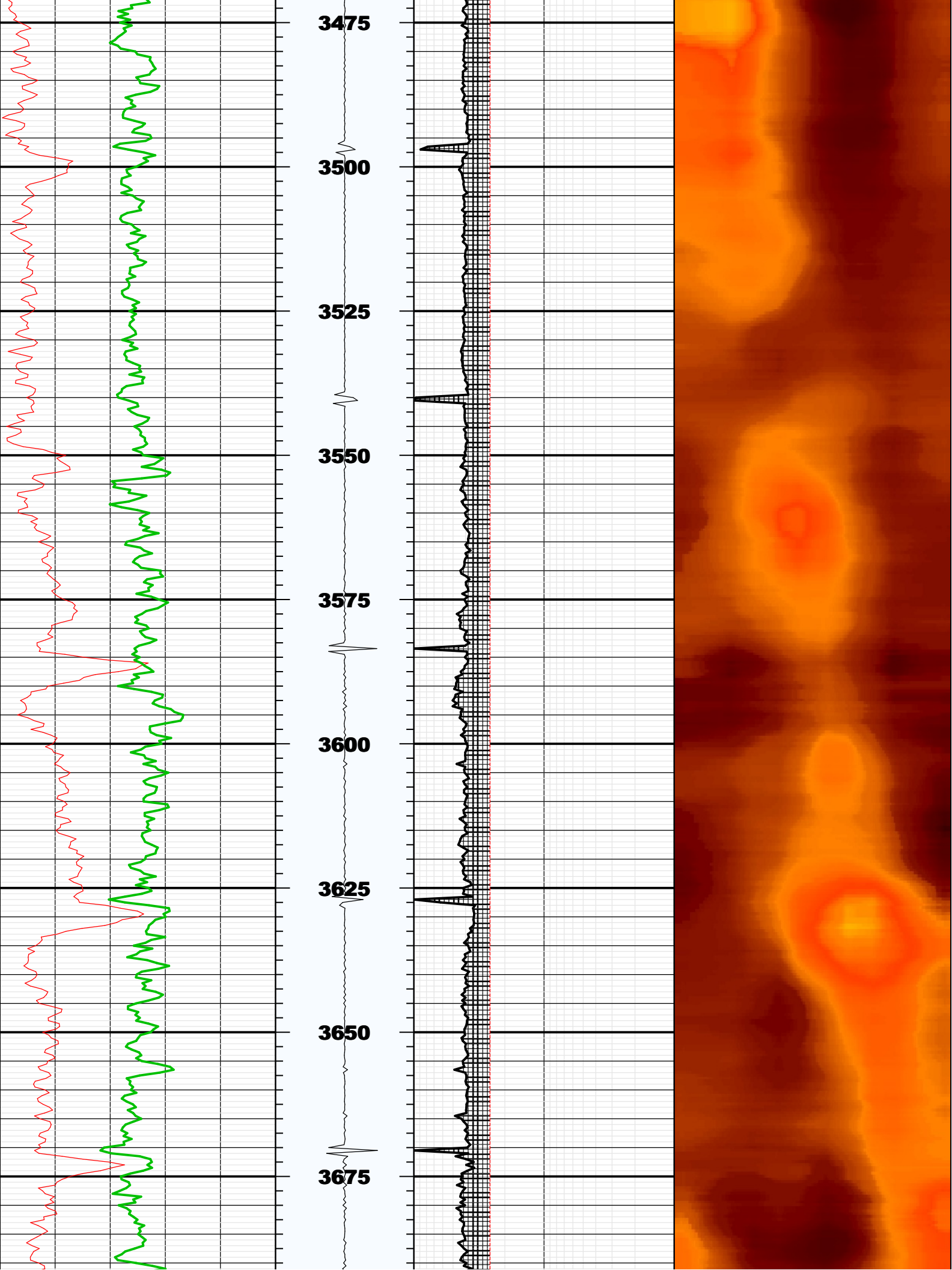


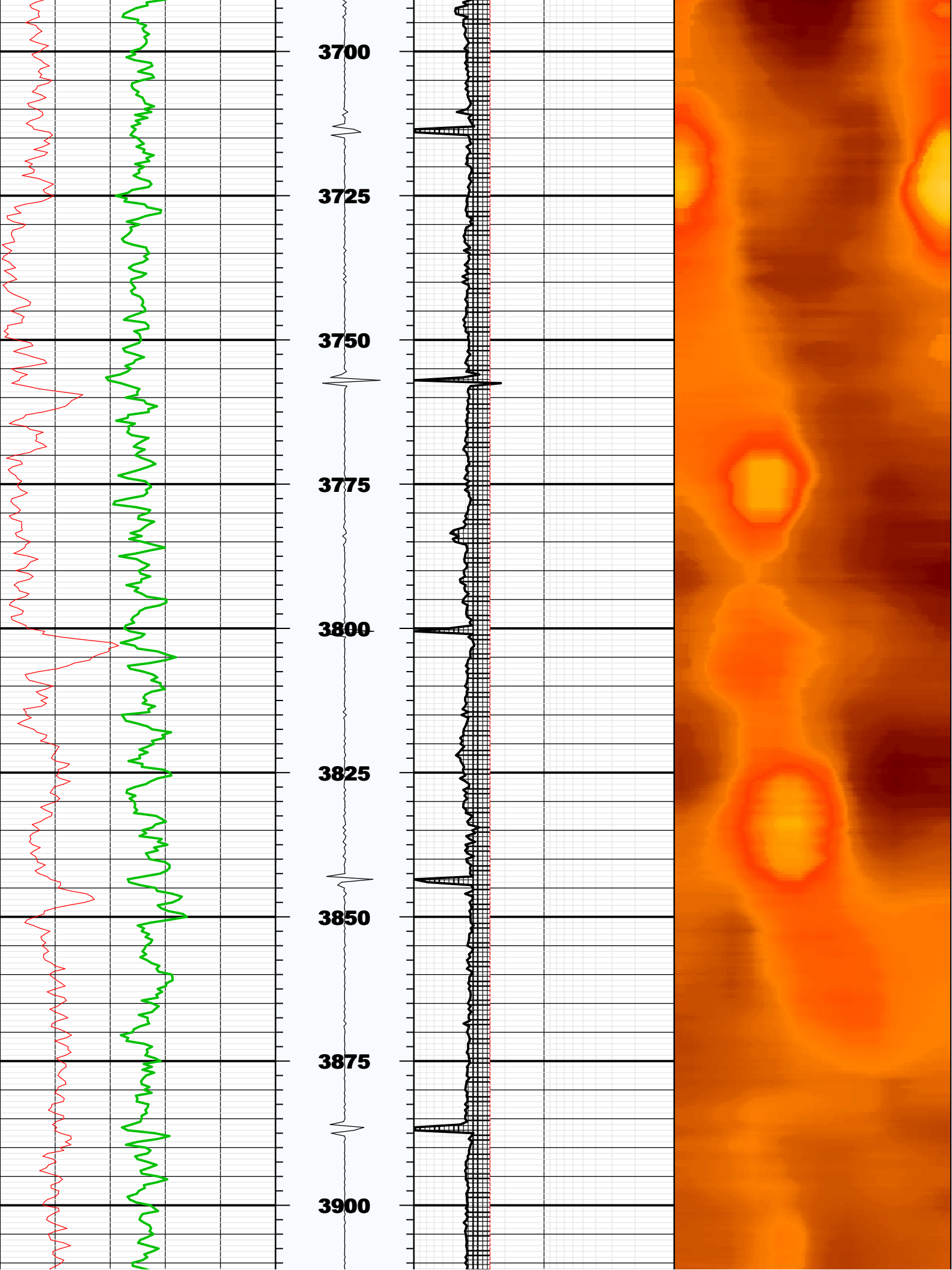


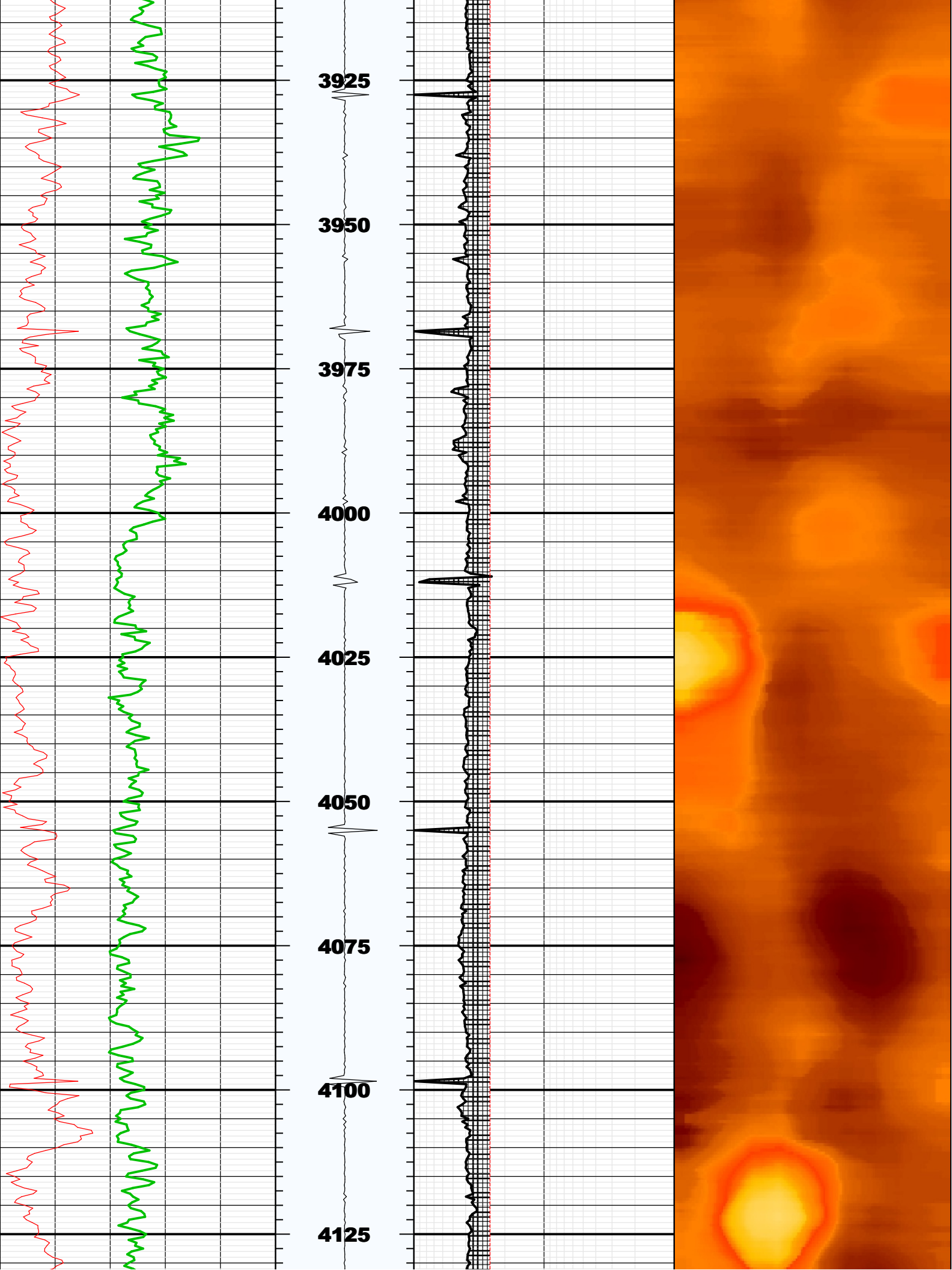




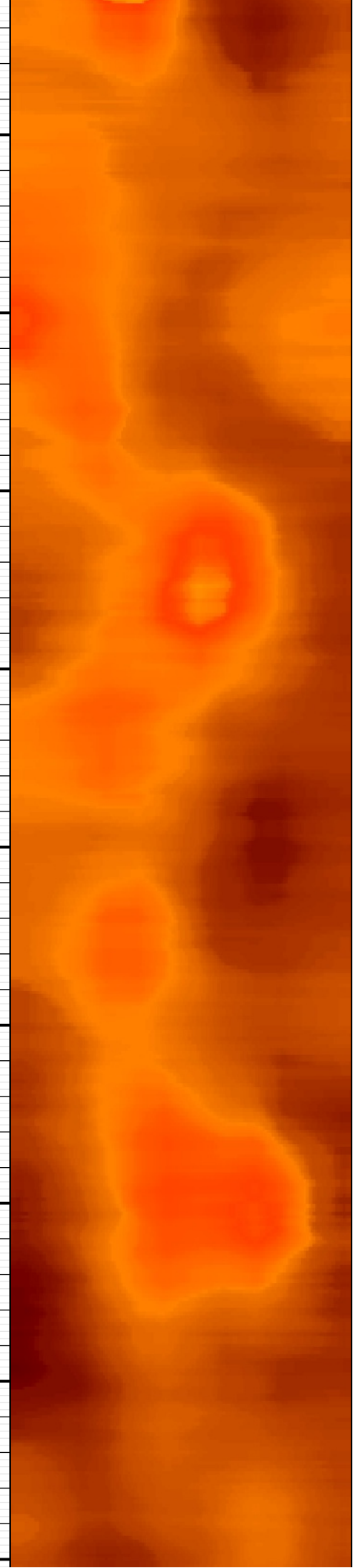
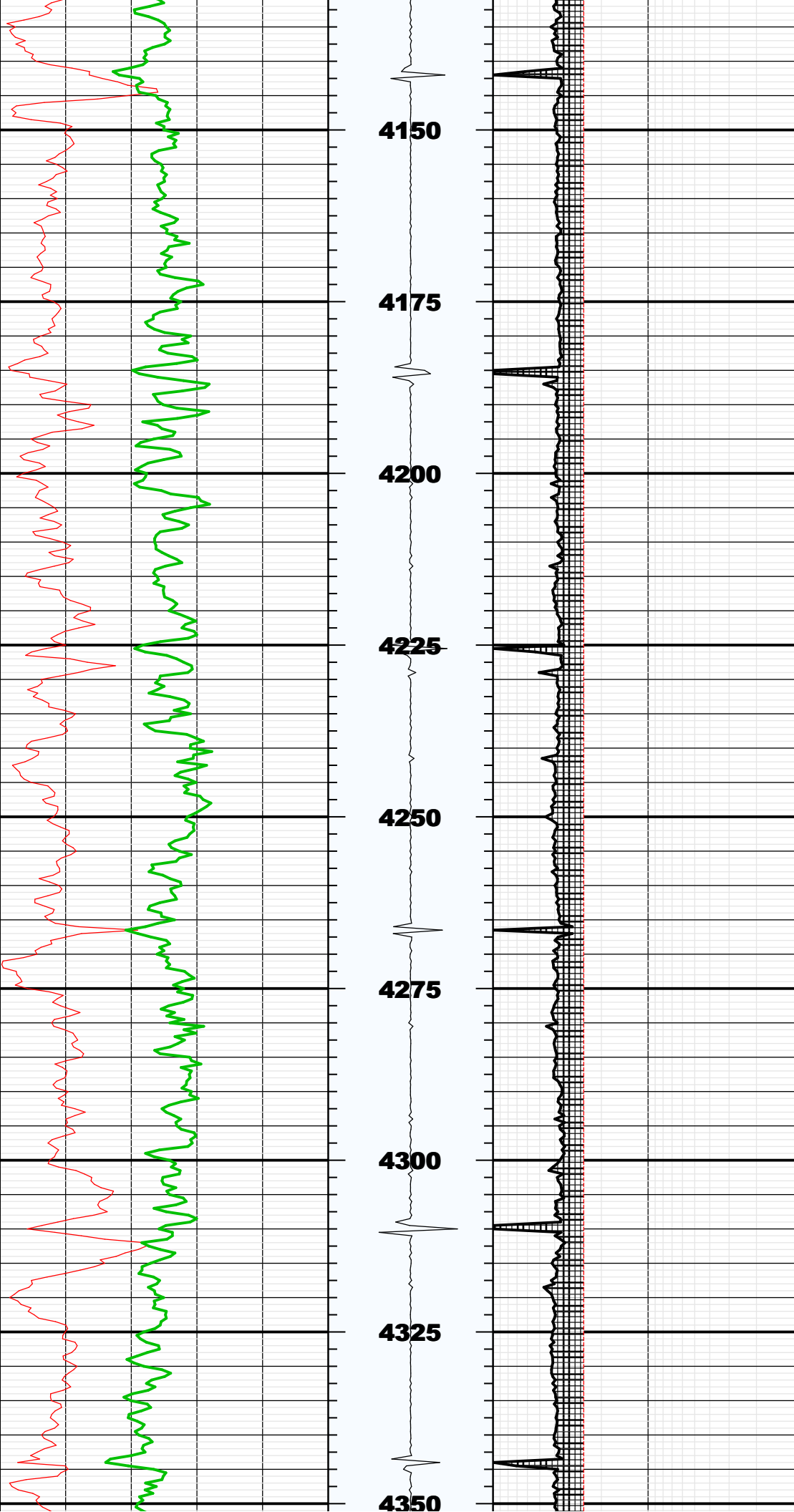


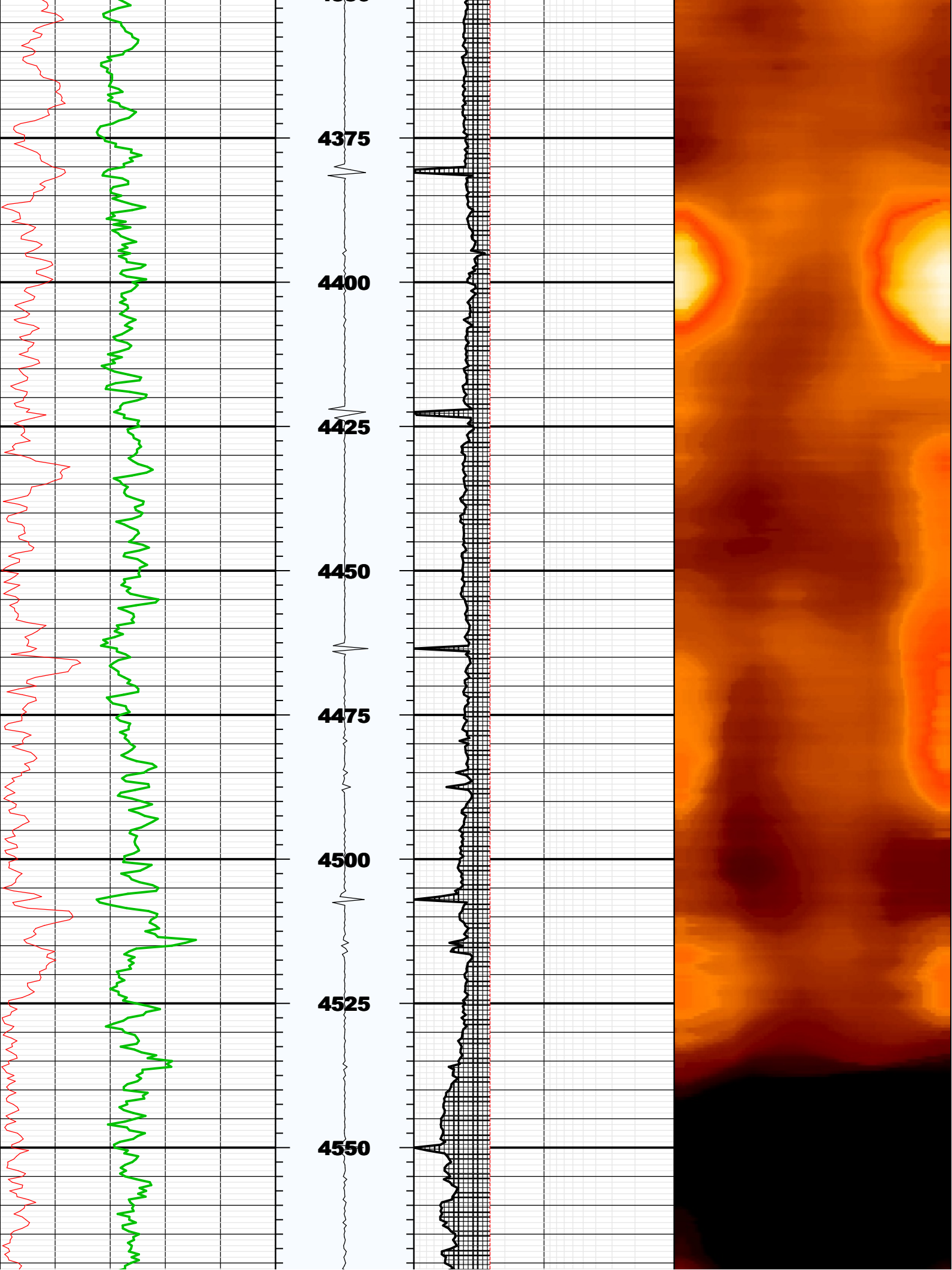


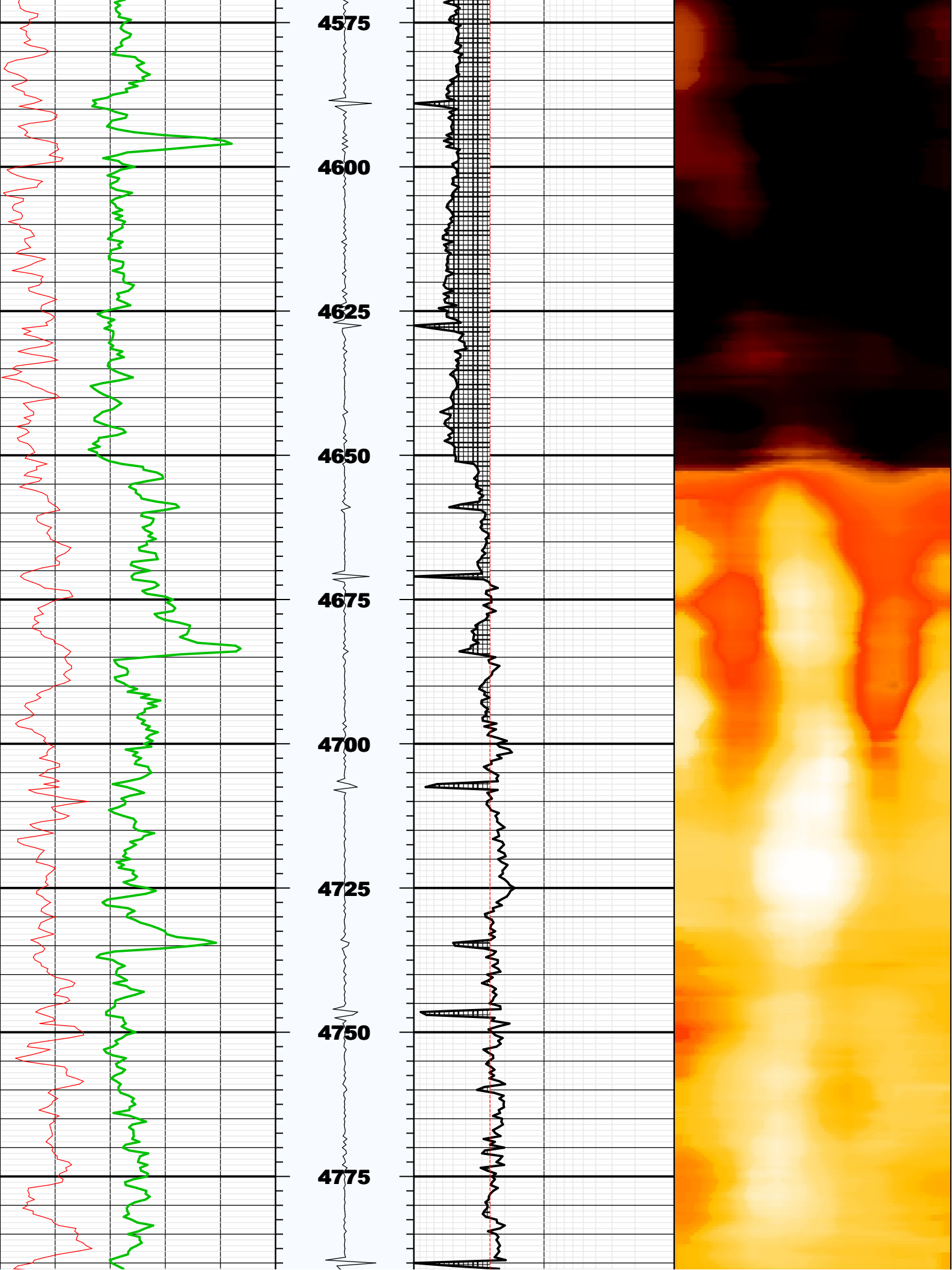


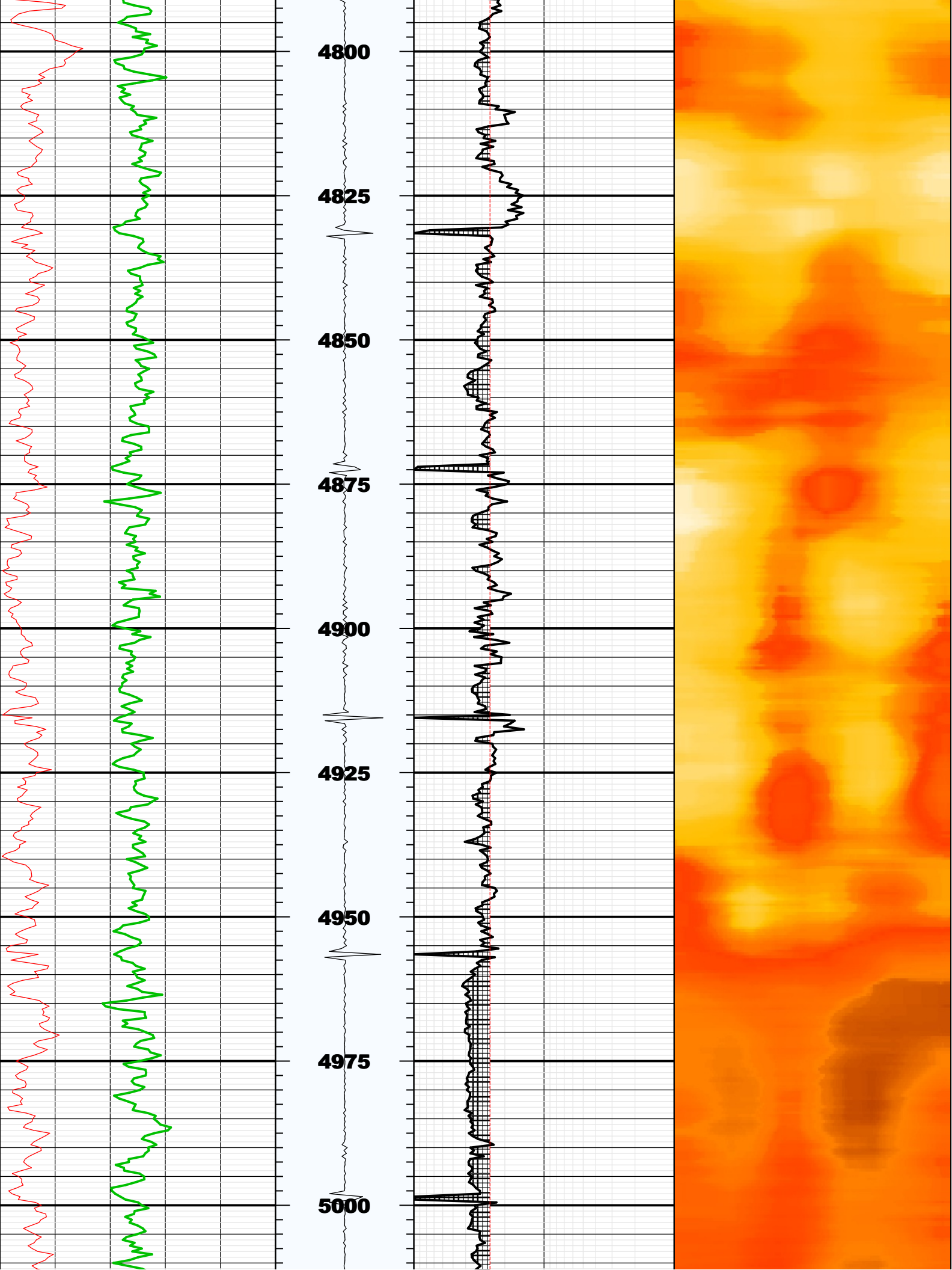




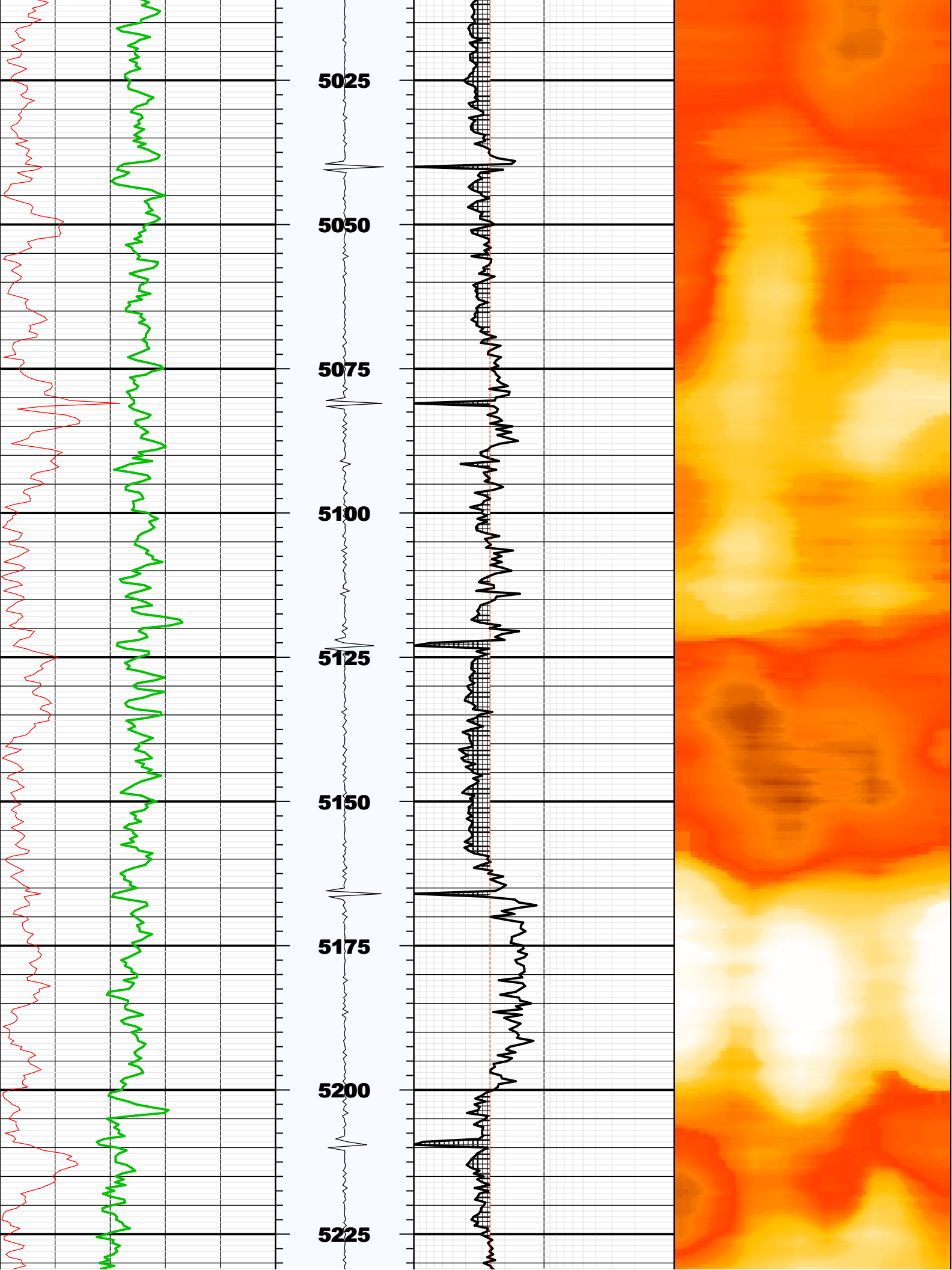


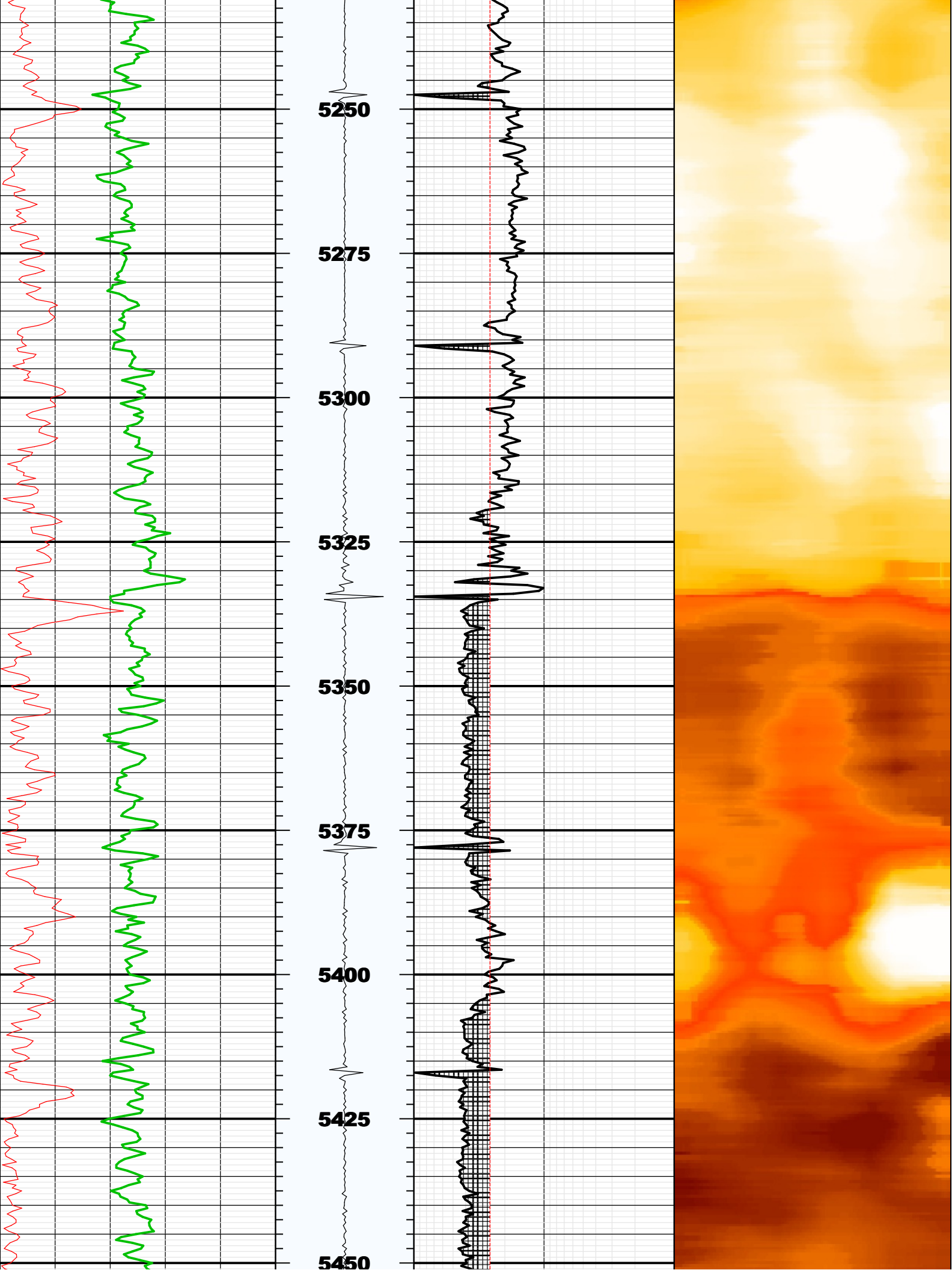


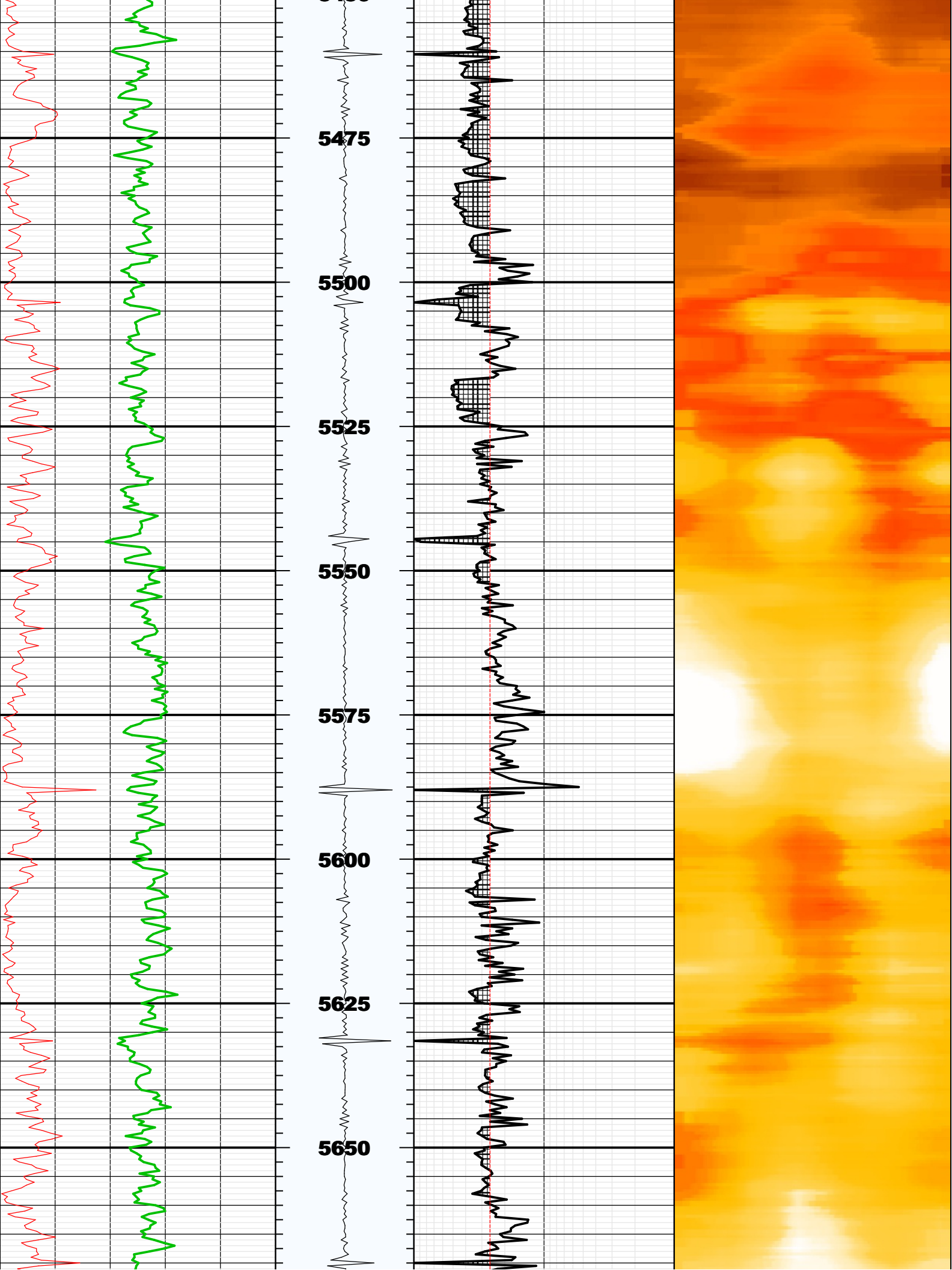


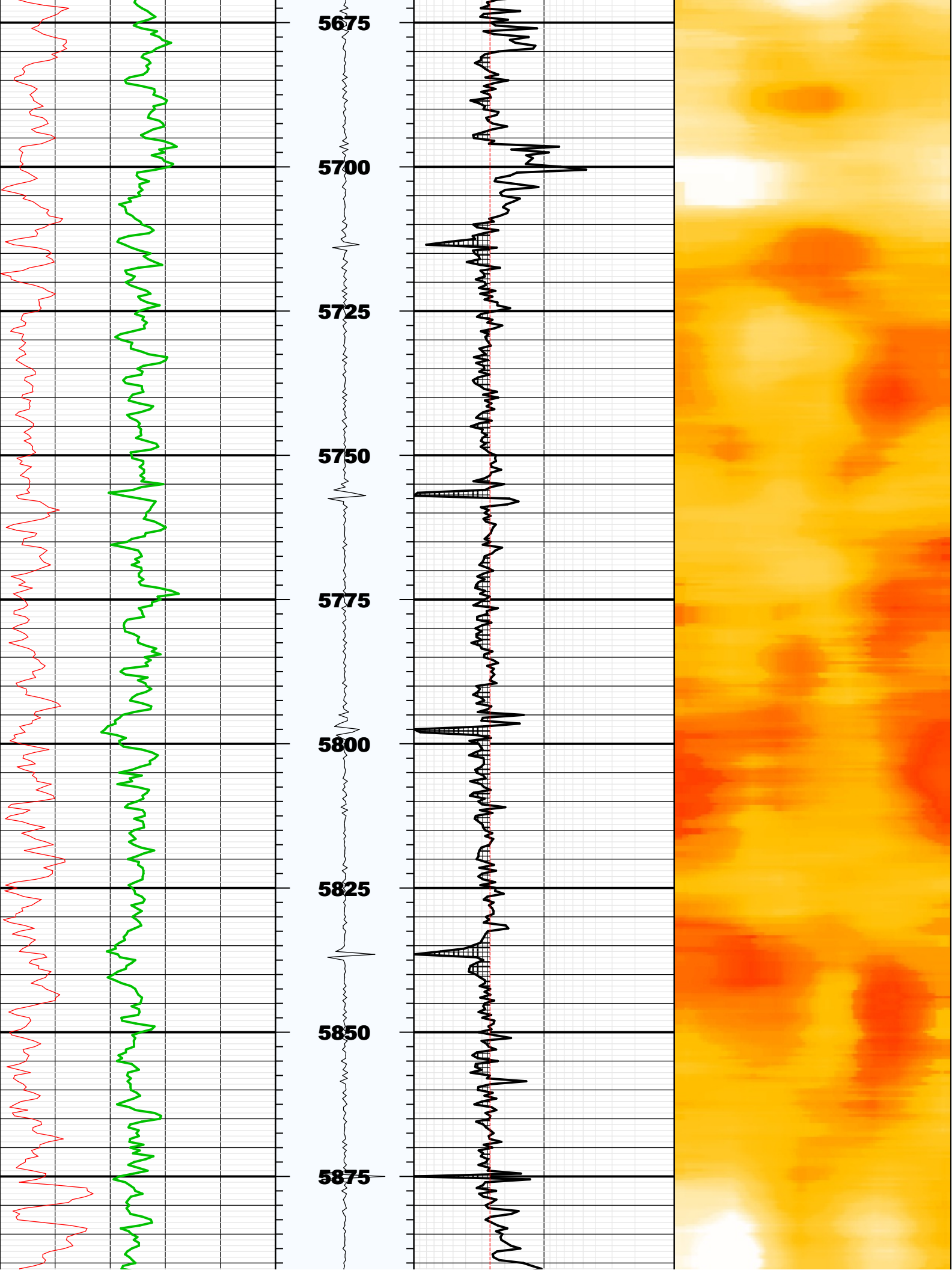




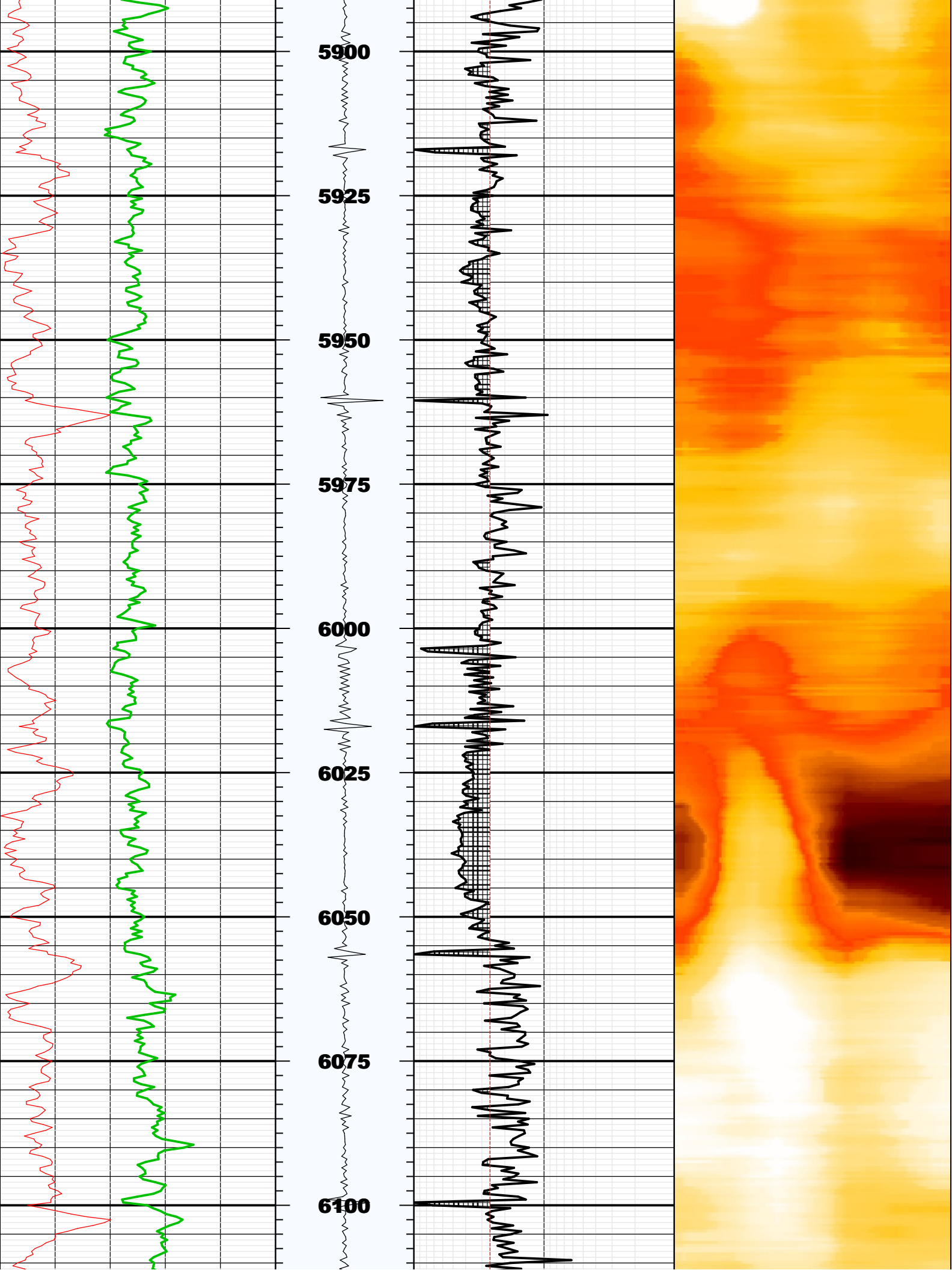


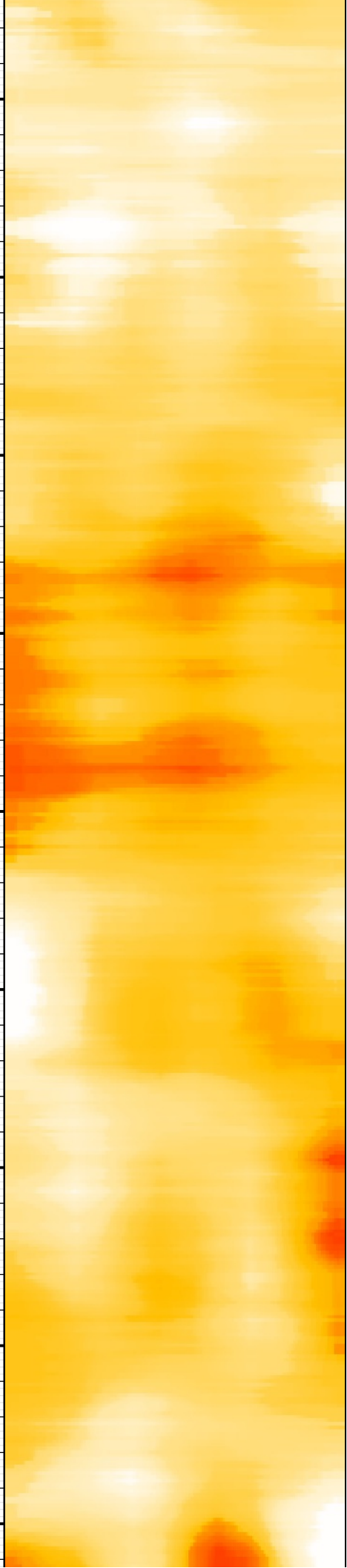
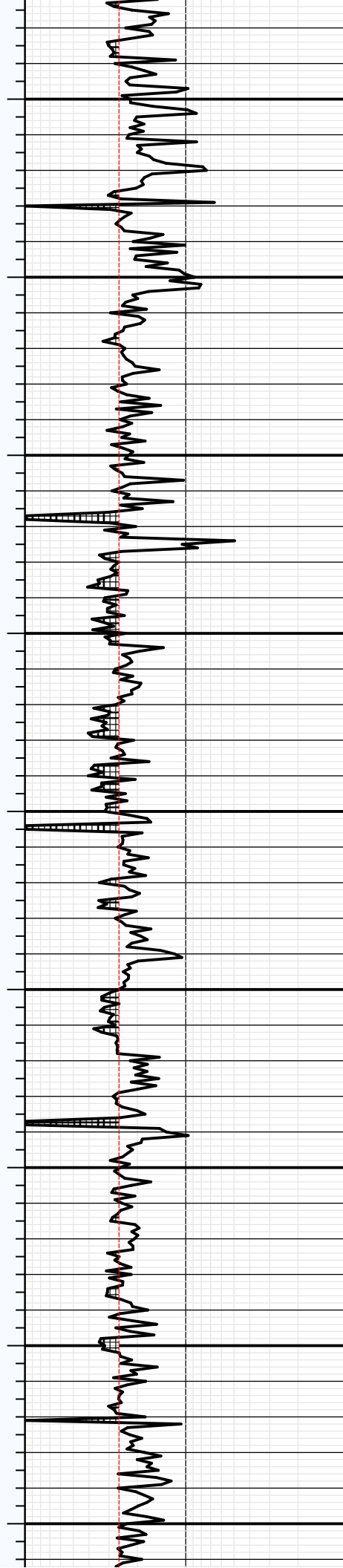
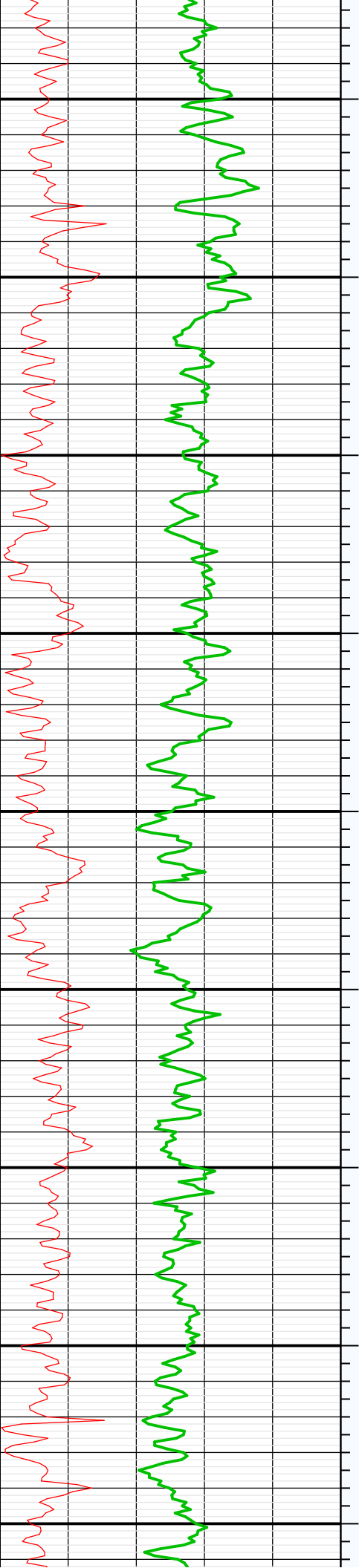


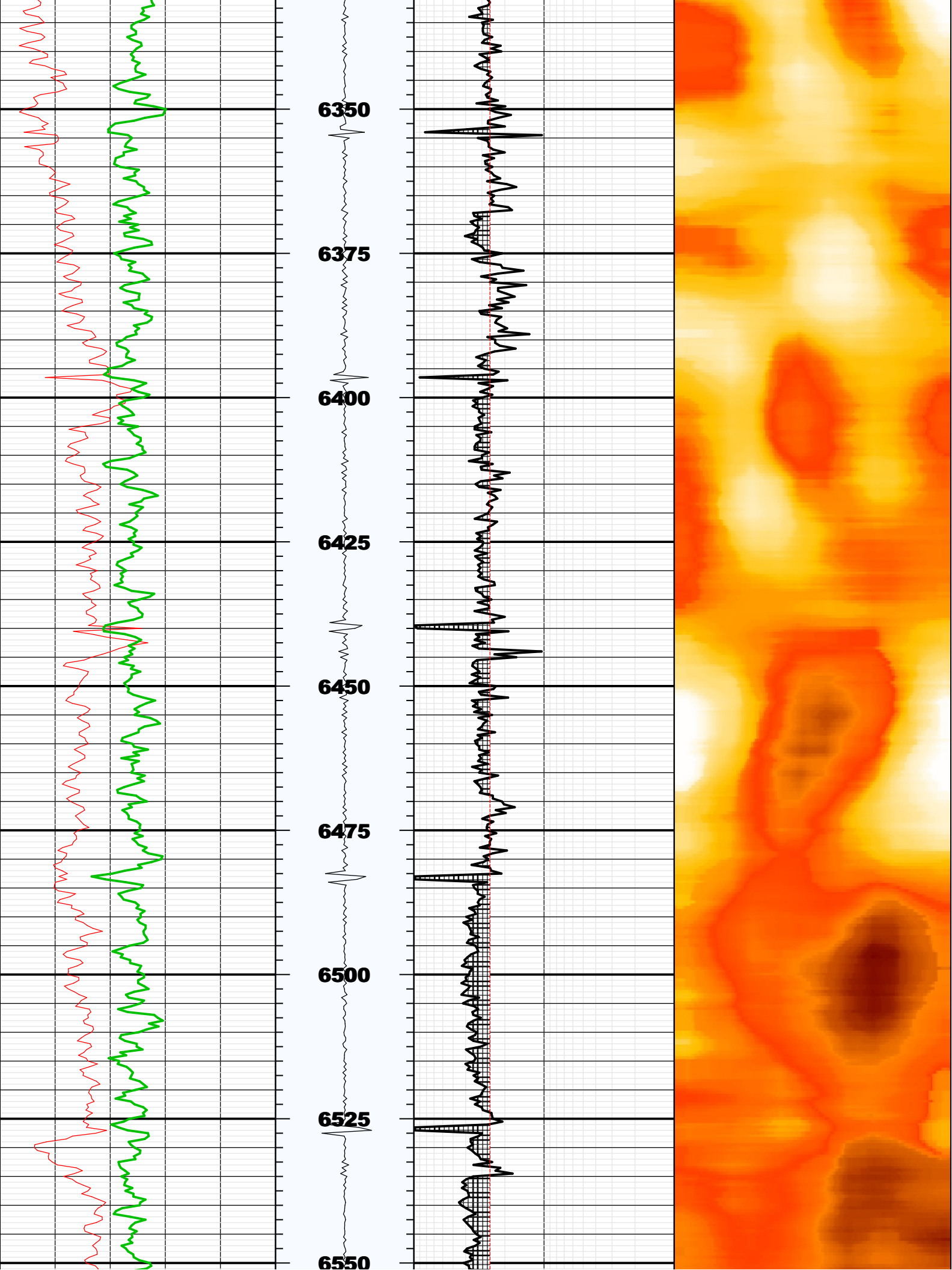


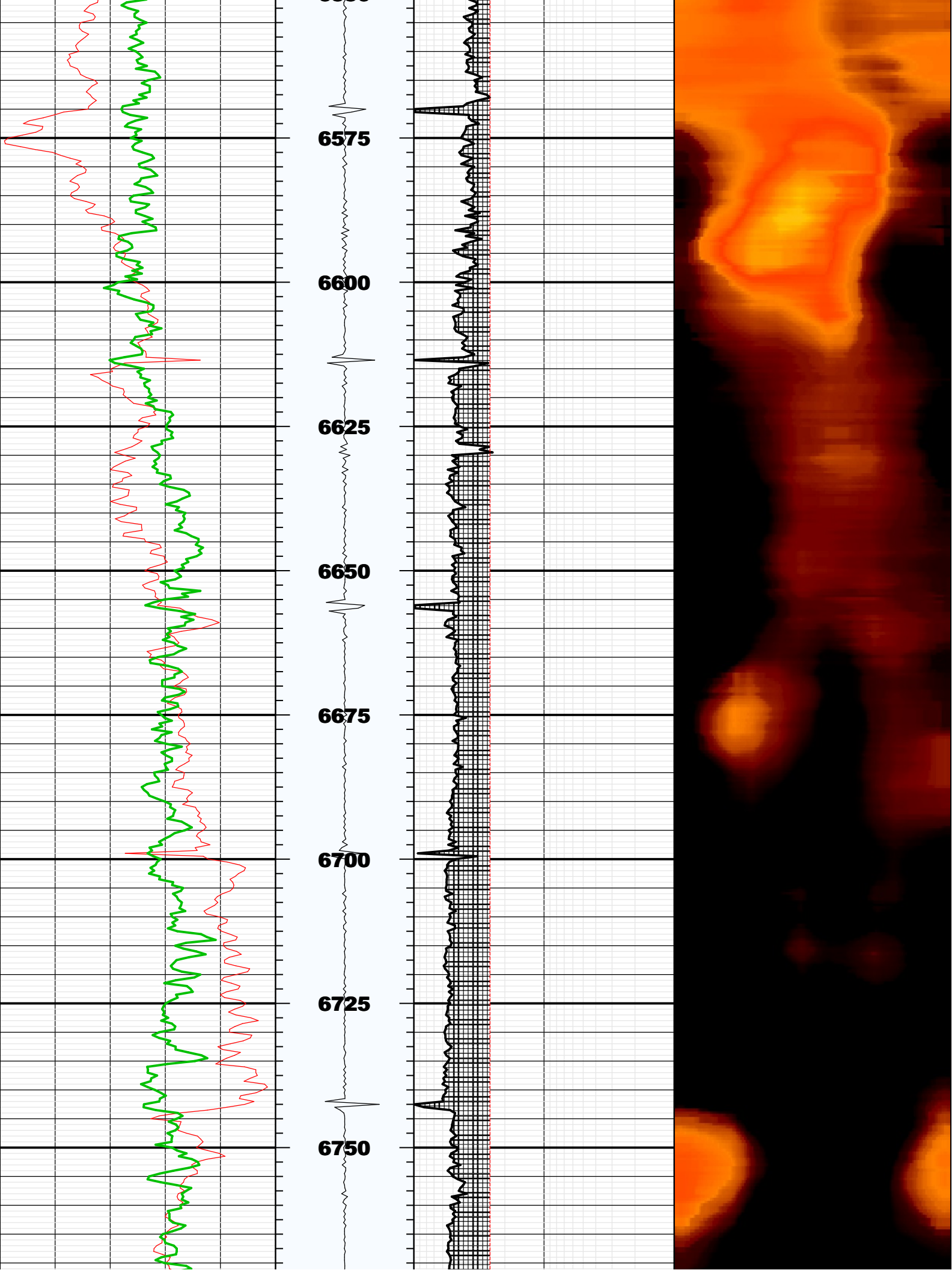




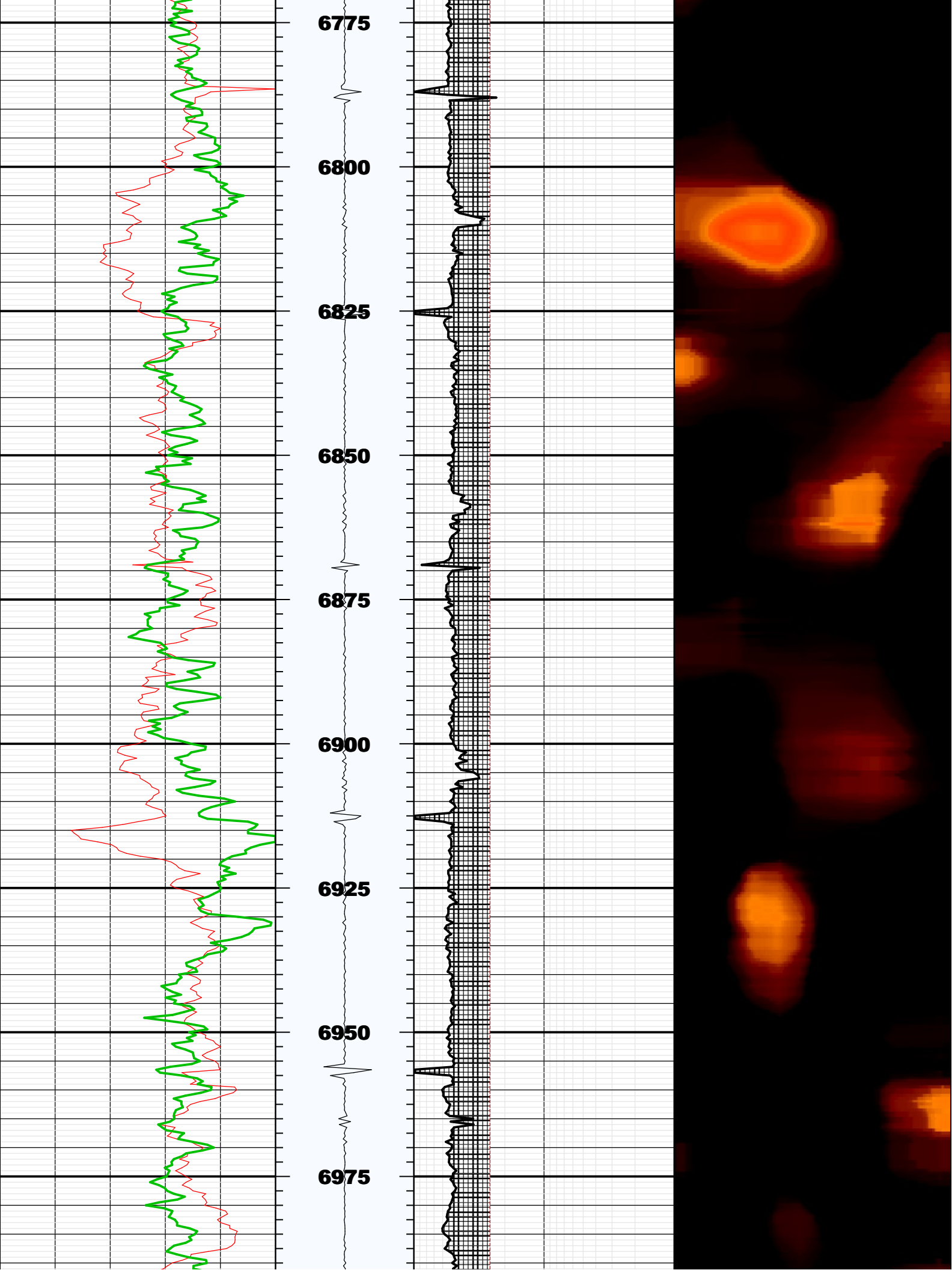


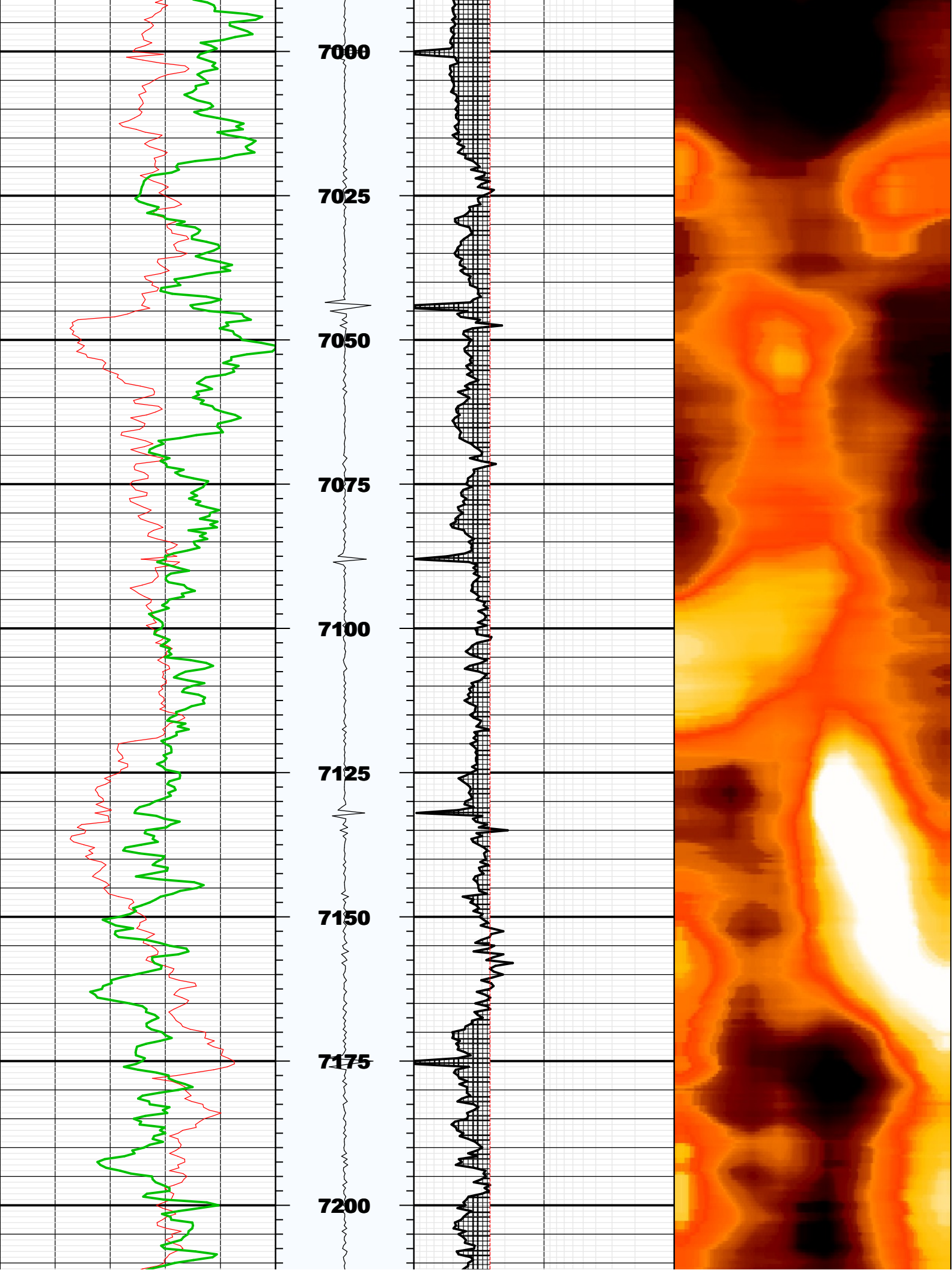


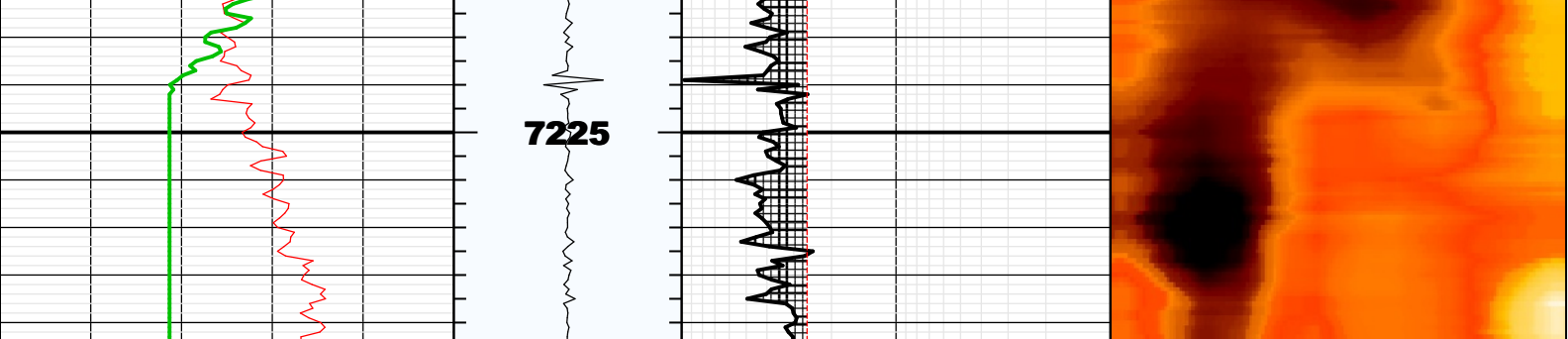








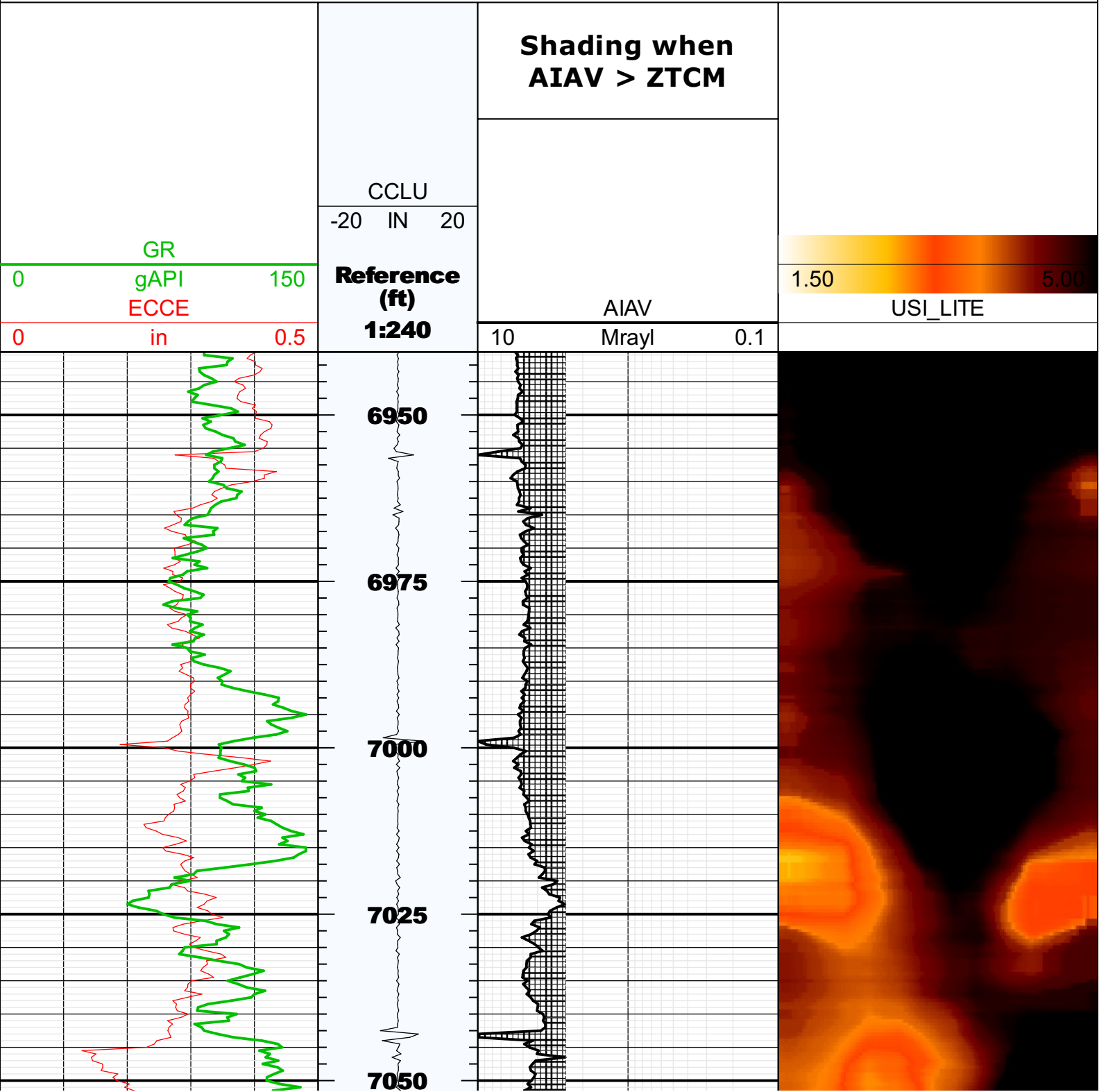


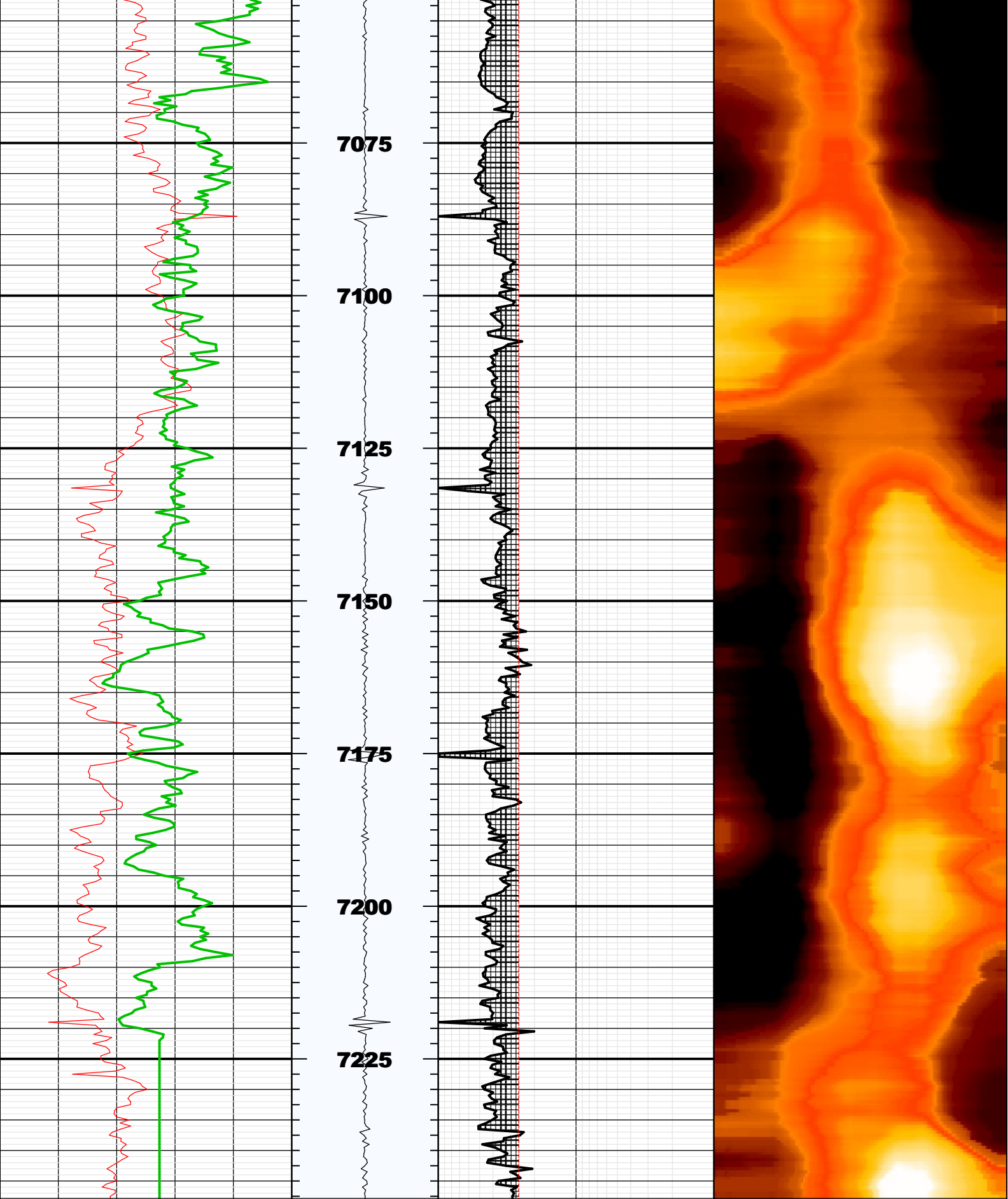


BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	190.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	70	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	1.72000	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 <sup>3</sup> Processing Length

Repeat Pass

Company: Noble Energy Inc  
Well: Oscar Y 10-78-1HC  
Field: Wattenberg

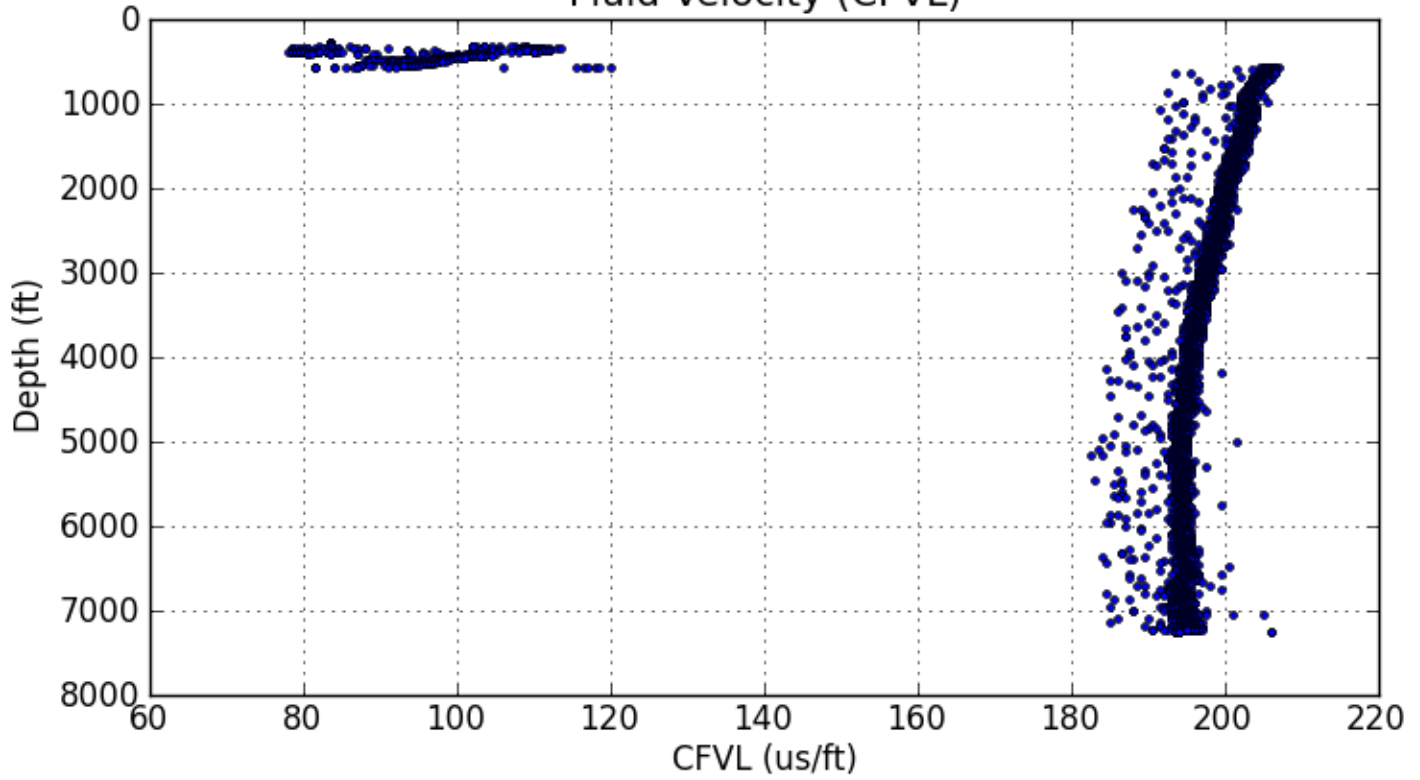






## Fluid Properties Used for Main Pass

### Fluid Velocity (CFVL)



### Acoustic Impedance of Mud (CZMD)

