

Company: Noble Energy Inc

Well: Wells Ranch AA 21-65HN
Field: Wattenberg
County: Weld State: Colorado

County: Weld				USI-LITE			
Field: Wattenberg							
Location: SENE Sec. 21 T6N R63W							
Well: Wells Ranch AA 21-65HN							
Company: Noble Energy Inc							
				LOCATION			
				Permanent Datum: Log Measured From: Drilling Measured From:		Ground Level Kelly Bushing Kelly Bushing	
						Elev: K.B. 4751.0 F G.L. 4727.0 F D.F. 4750.0 F	
Logging Date				API Serial No. 05-123-37810-0000		Section 21	
Run Number				28-Mar-2014		Township 6N	
Depth Driller				1		Range 63W	
Schlumberger Depth				10932.0 F			
Bottom Log Interval				7000.0 F			
Top Log Interval				7000.0 F			
Casing Fluid Level				0.0 F			
Salinity				0.0 F			
Density				8.40 LB/G			
Fluid Level				0.0 F			
BIT/CASING/TUBING STRING							
Bit Size				8.750 IN			
From							
To							
Casing Size				7.00 IN			
Weight				26.00 LB/F			
Grade				P-110			
From							
To							
Max Recorded Temp							
Logger on bottom (date)				28-Mar-2014			
Location				Fl. Morgan CO			
Recorded By				Tim Hoffman			
Witnessed By				Eric Klem			

DEPTH SUMMARY LISTING

DEPTH SYSTEM EQUIPMENT

Depth Measuring Device	Tension Device	Logging Cable
Type: IDW-B Serial Number: 6239 Calibration Date: 10-Jan-2014 Calibration Cable Type: 7-39P-LXS Wheel Correction 1: -4 Wheel Correction 2: -2	Type: CMTD-B/A Serial Number: 1109 Calibration Date: 17-Mar-2014 Calibrator Serial Number: 78135 Number Of Calibration Points: 10 Calibration RMS: 4.00000 Calibration Peak Error: 7.00000	Serial Number: 711136 Length: 13500

DISCLAIMER

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This is the first run in hole
Toolstring run as per tool sketch

Lead Cement 12.5 ppg
Tail Cement 13.8 ppg

0 PSI repeat pass
3200 PSI main pass

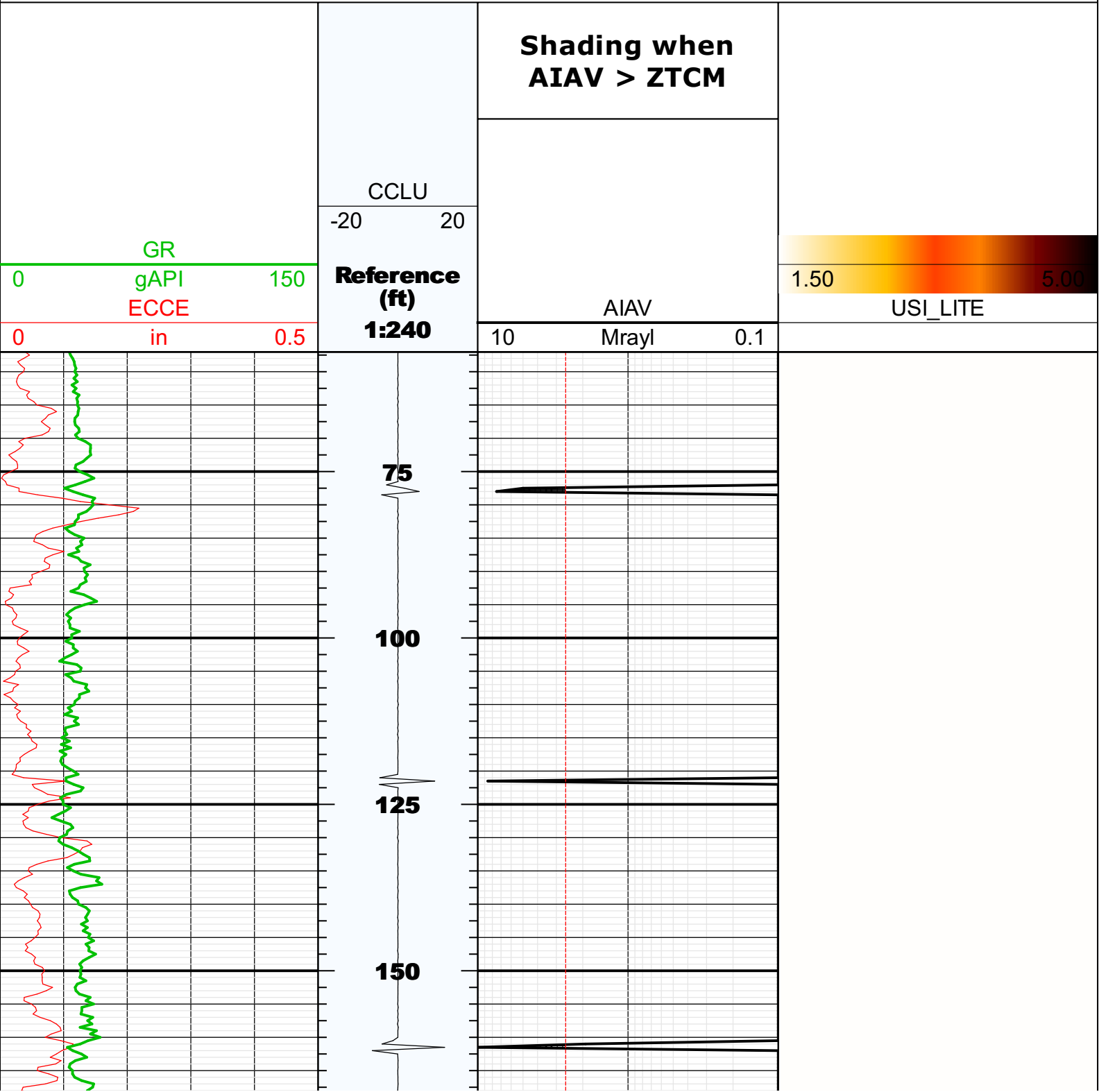
Production casing top set at 7035'

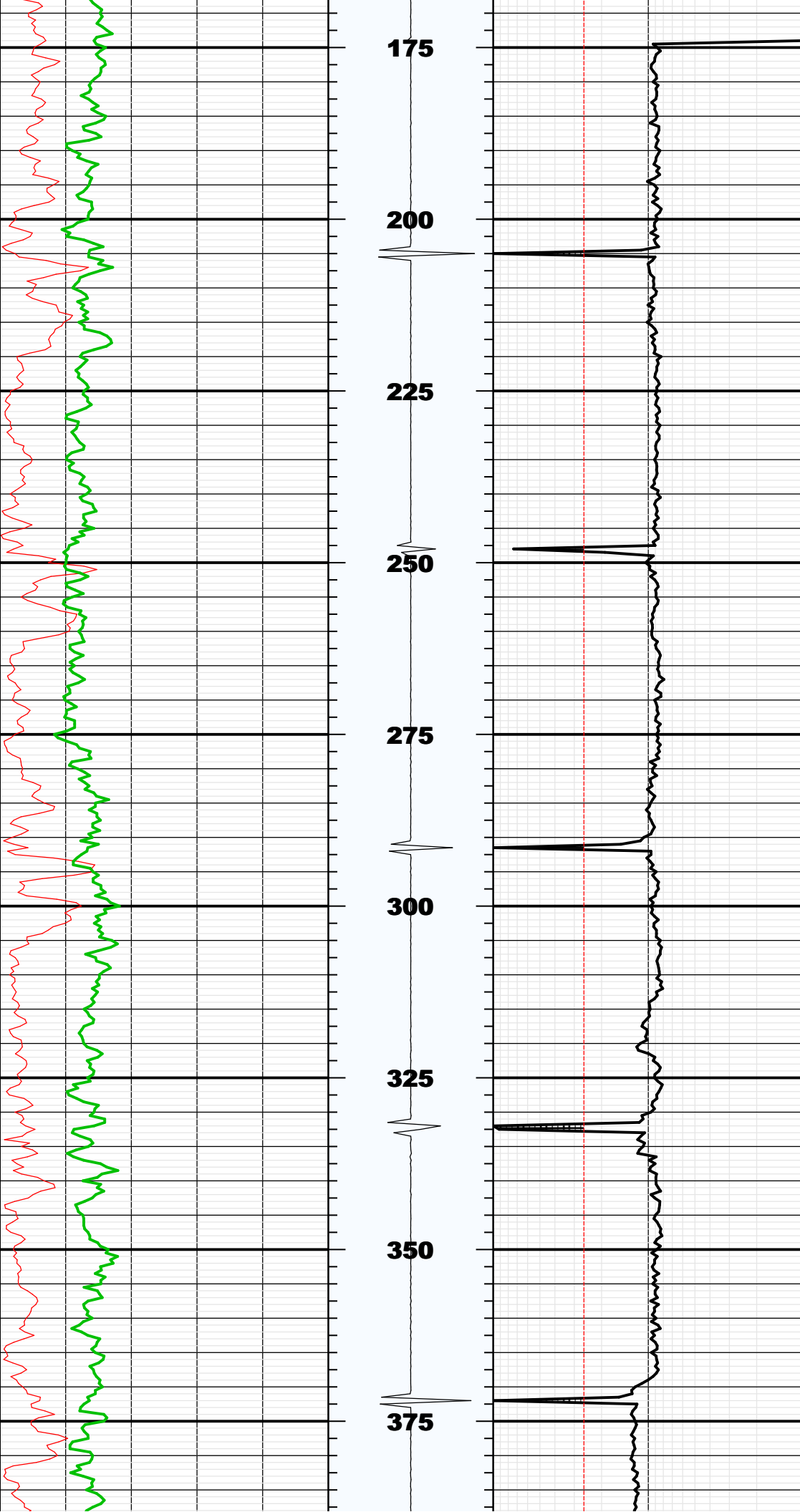
Rig Crane

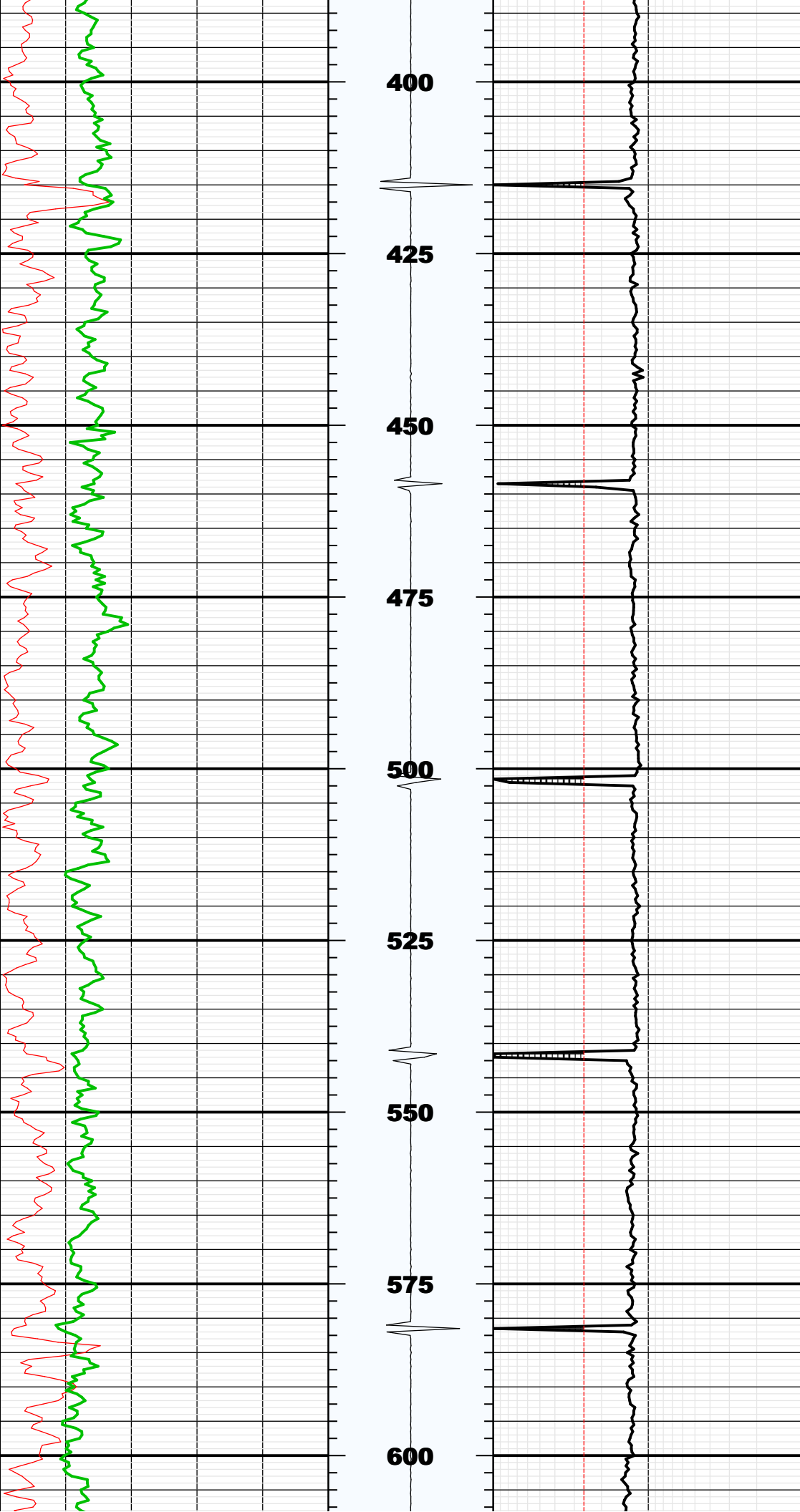
Crew Derrick Hunter Troy Ocanas

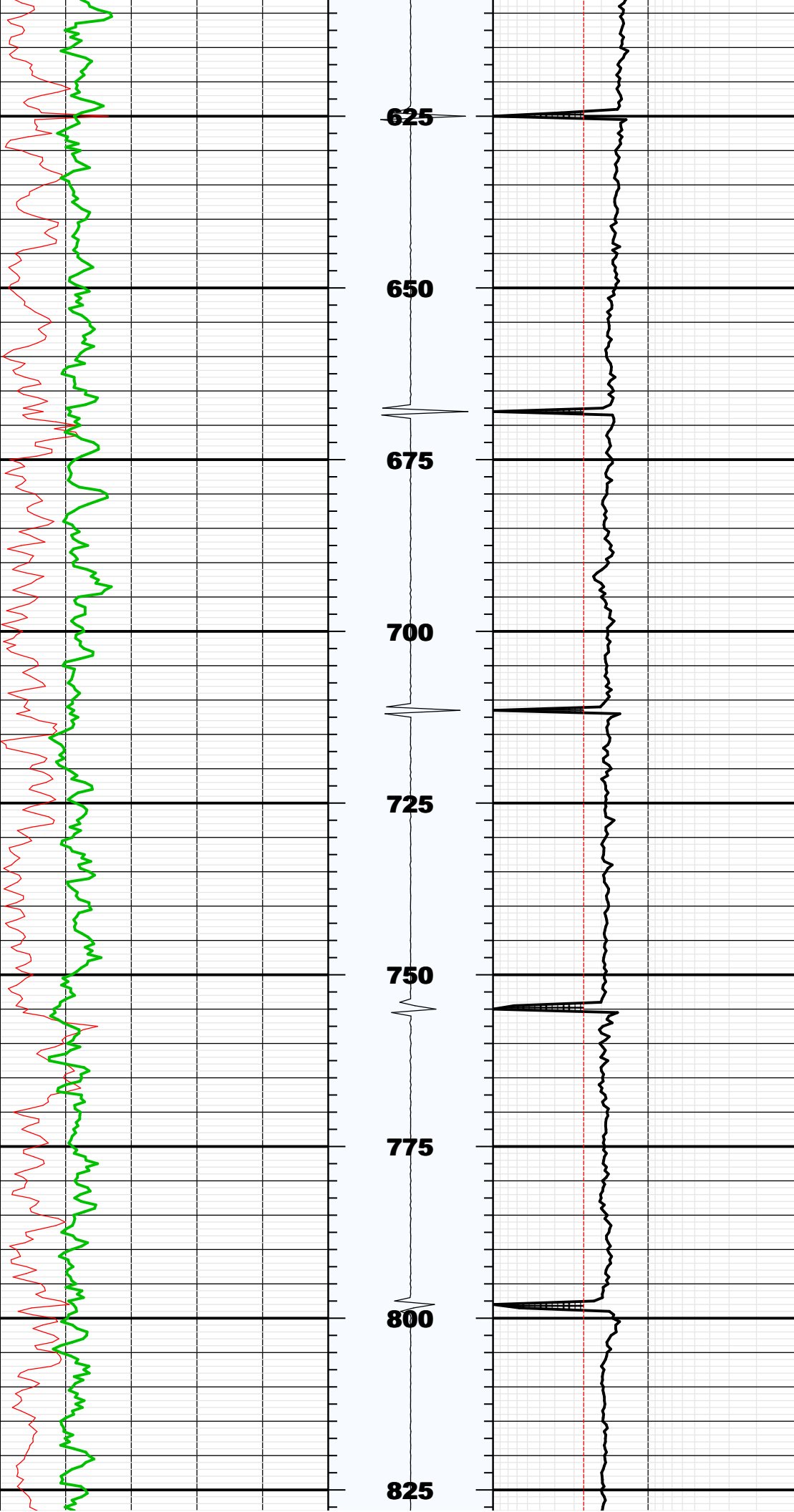
Main Pass

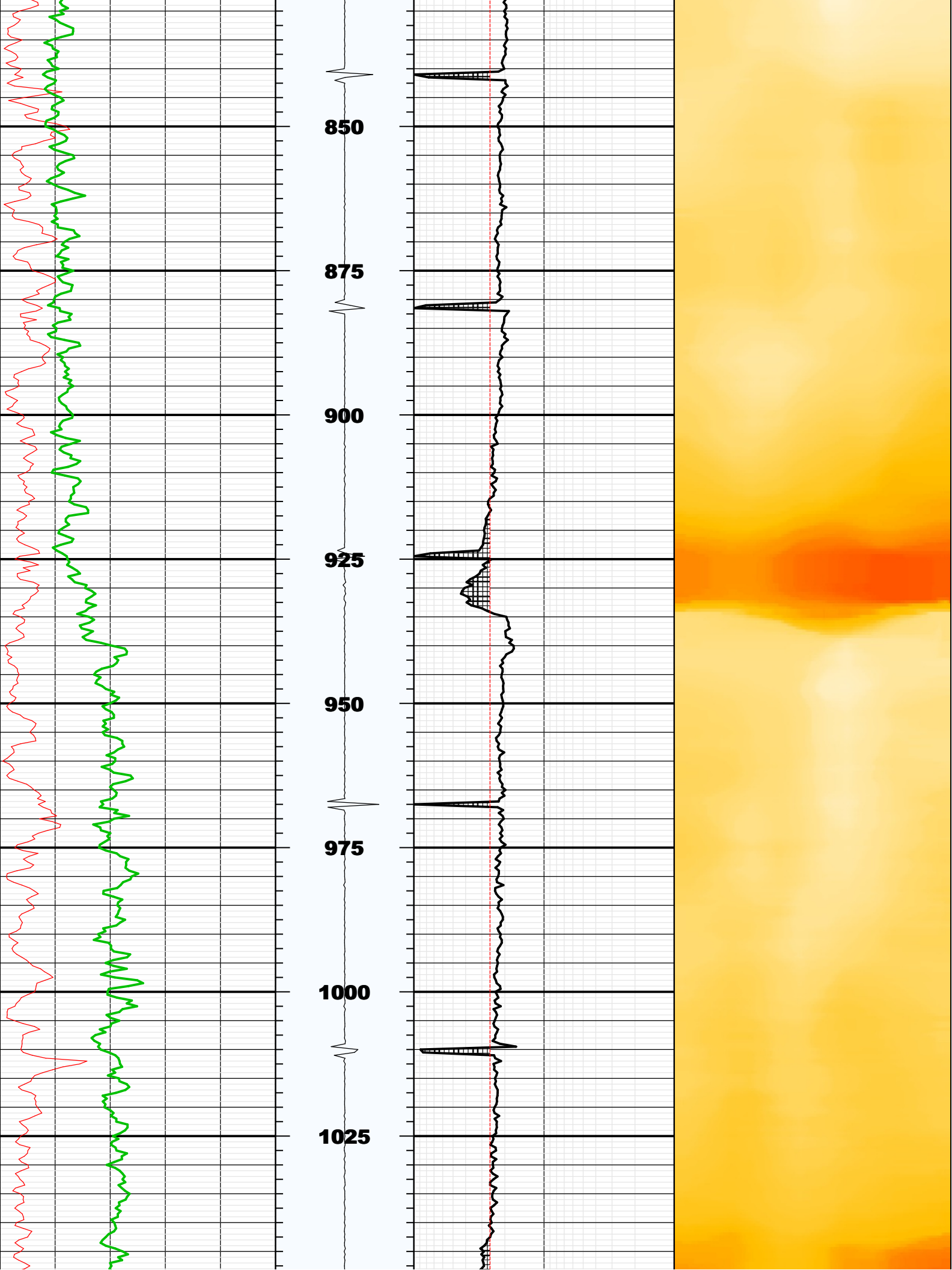
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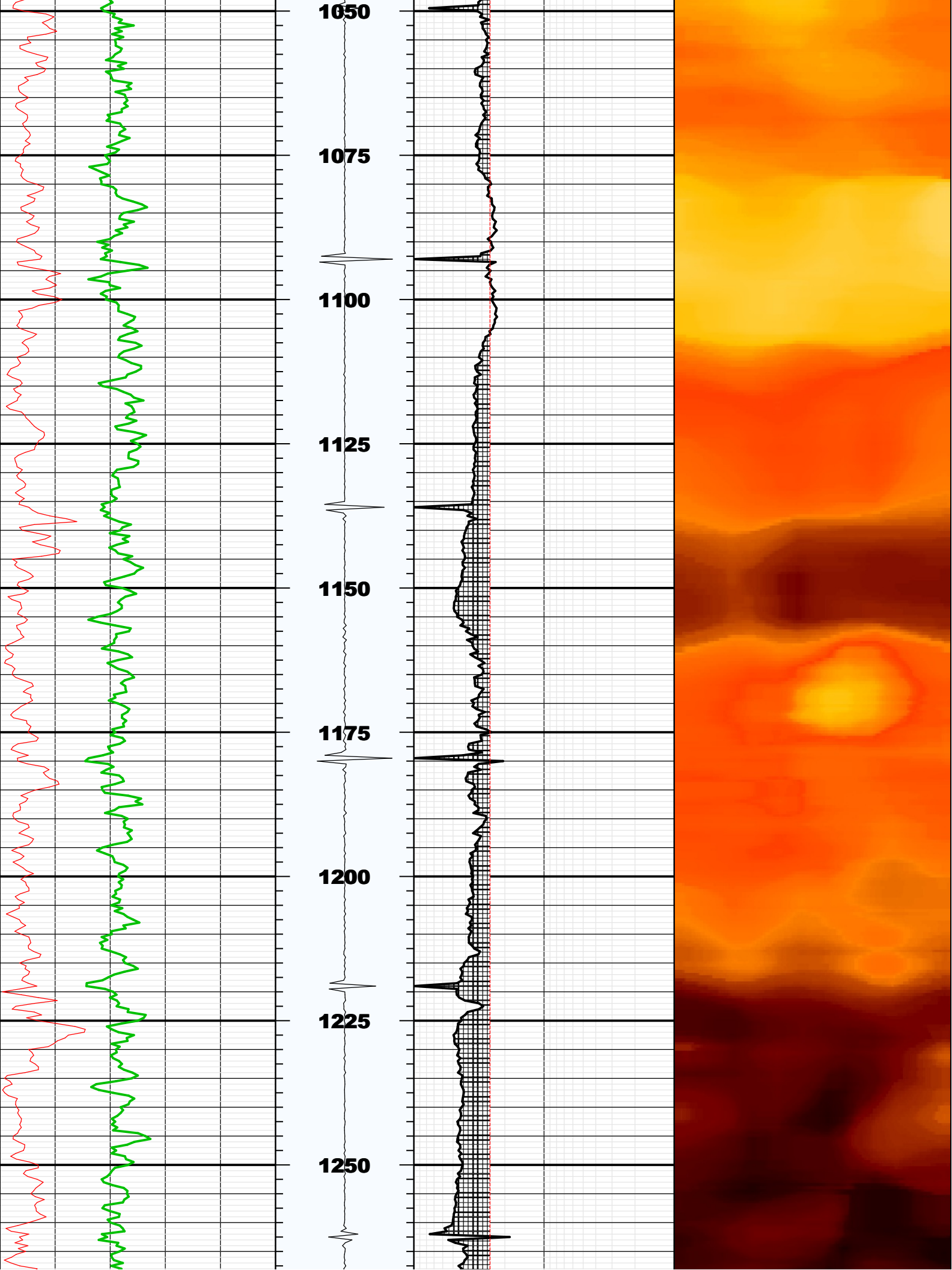


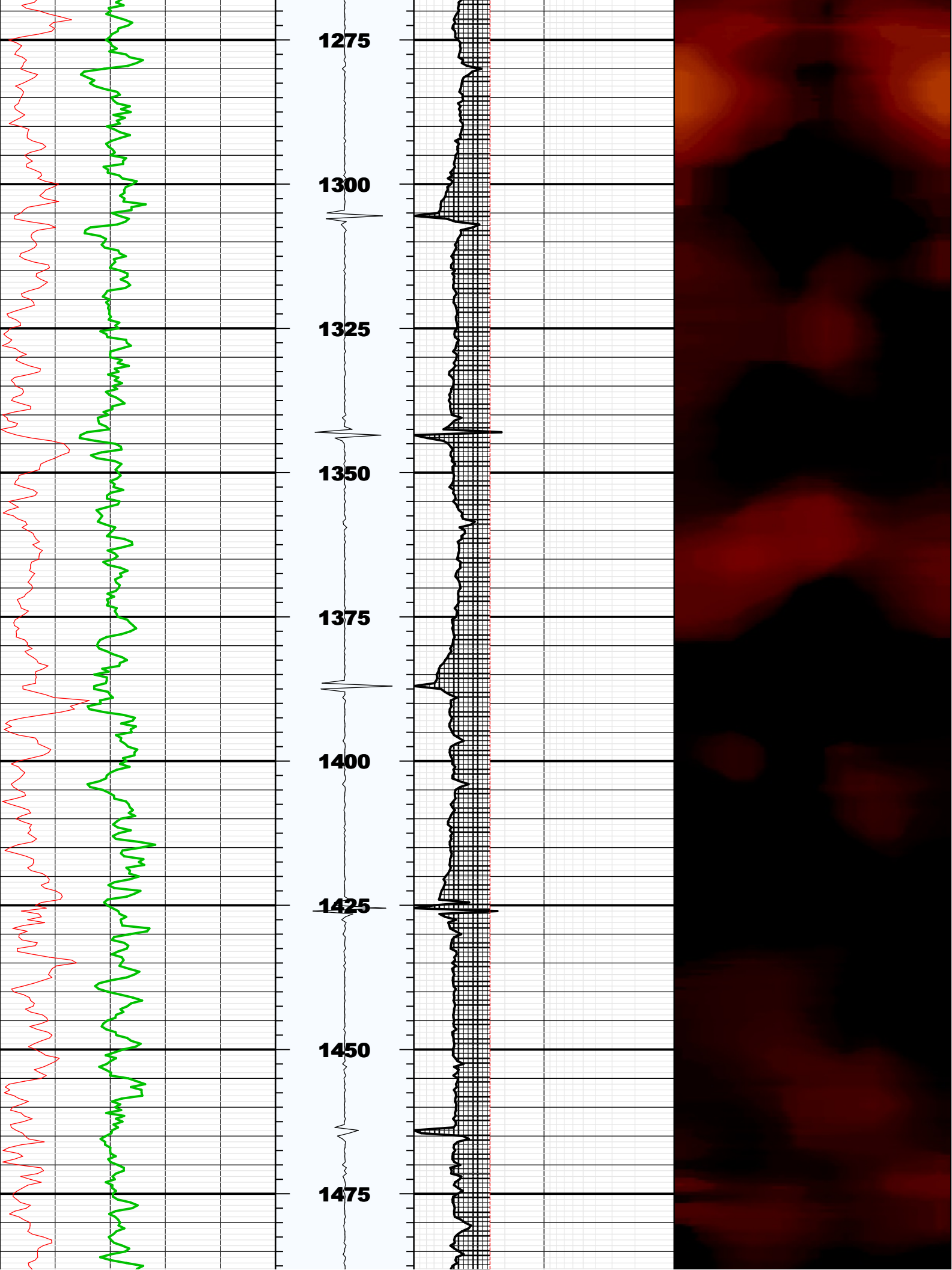


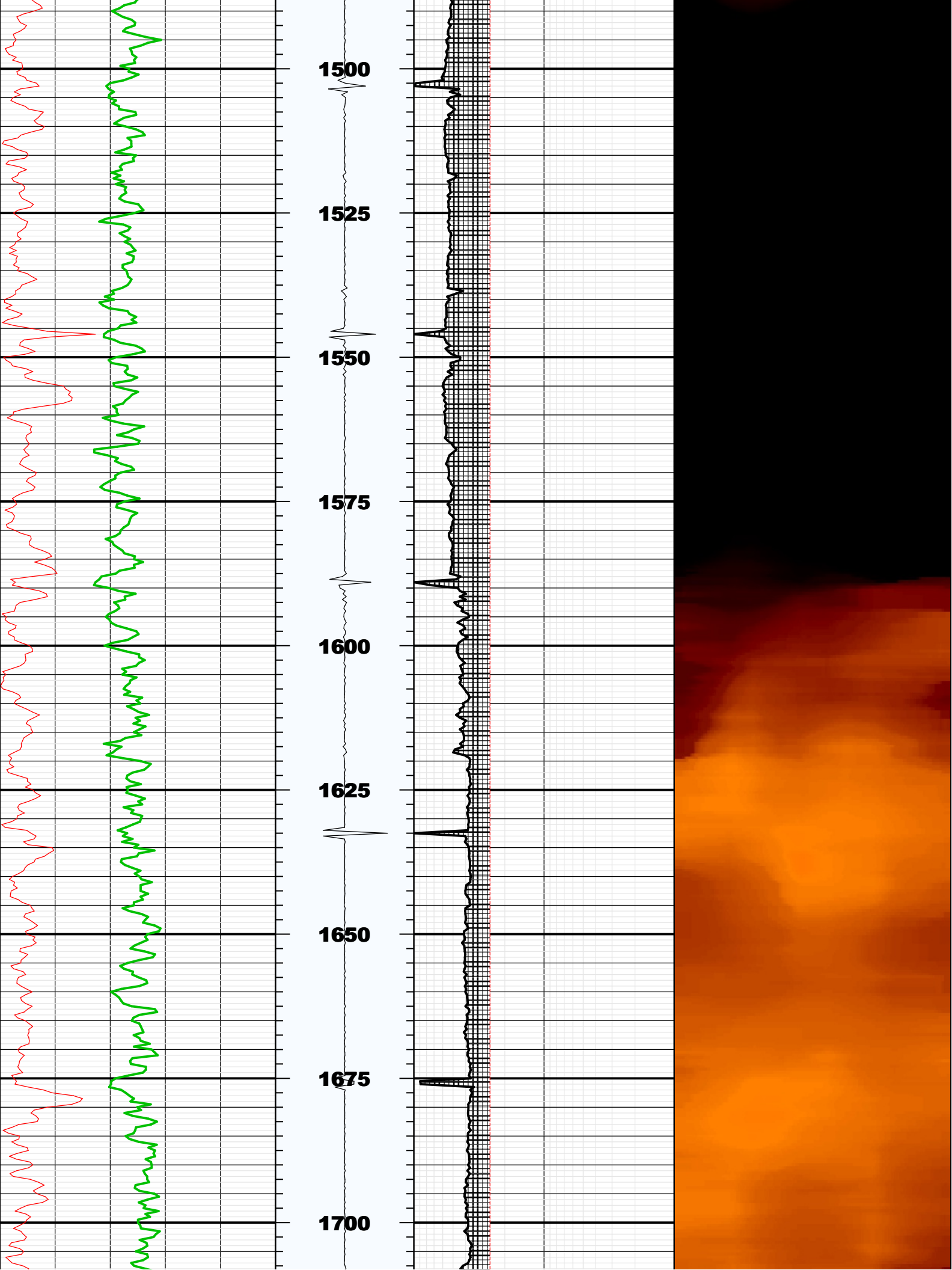


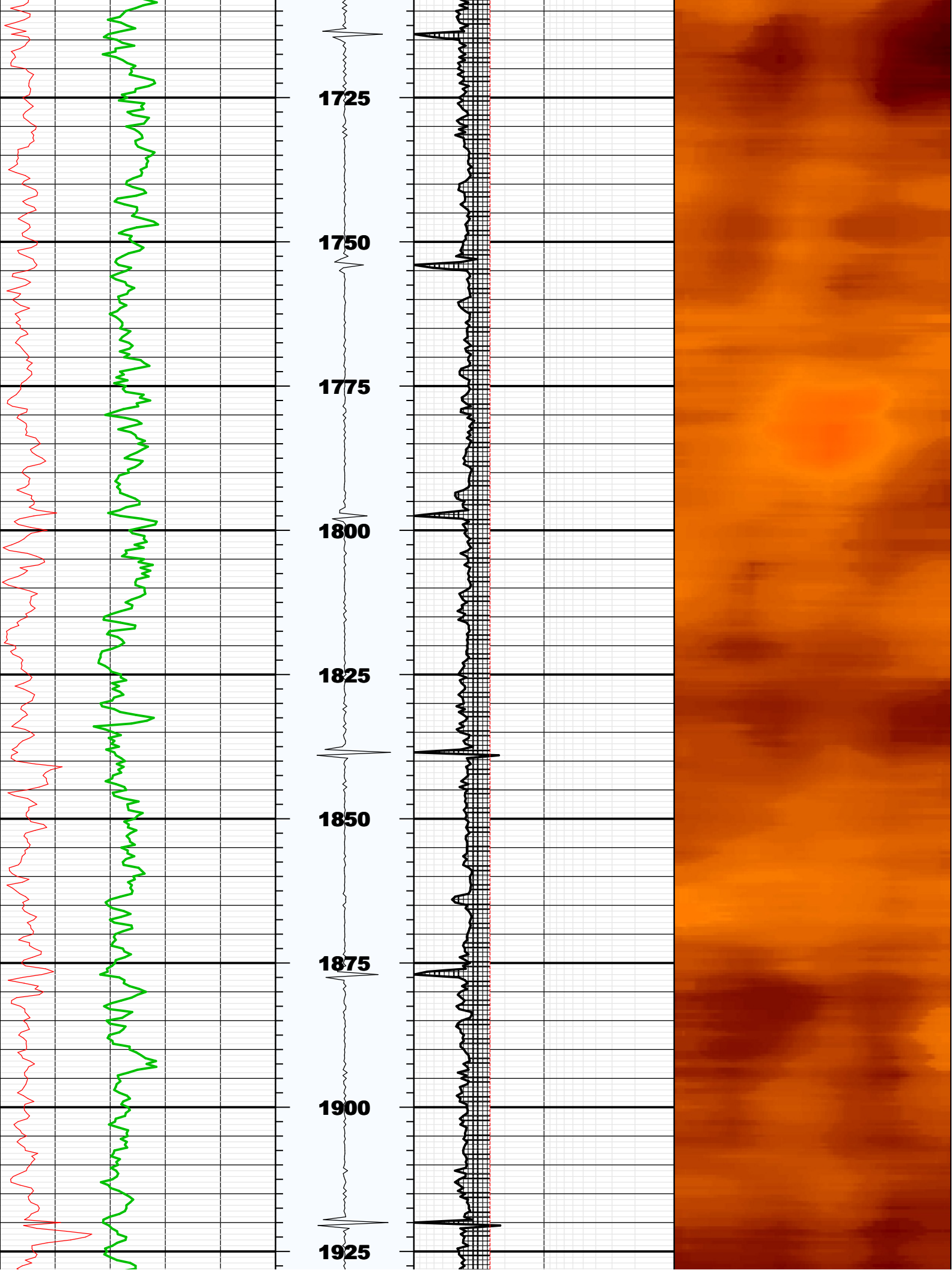


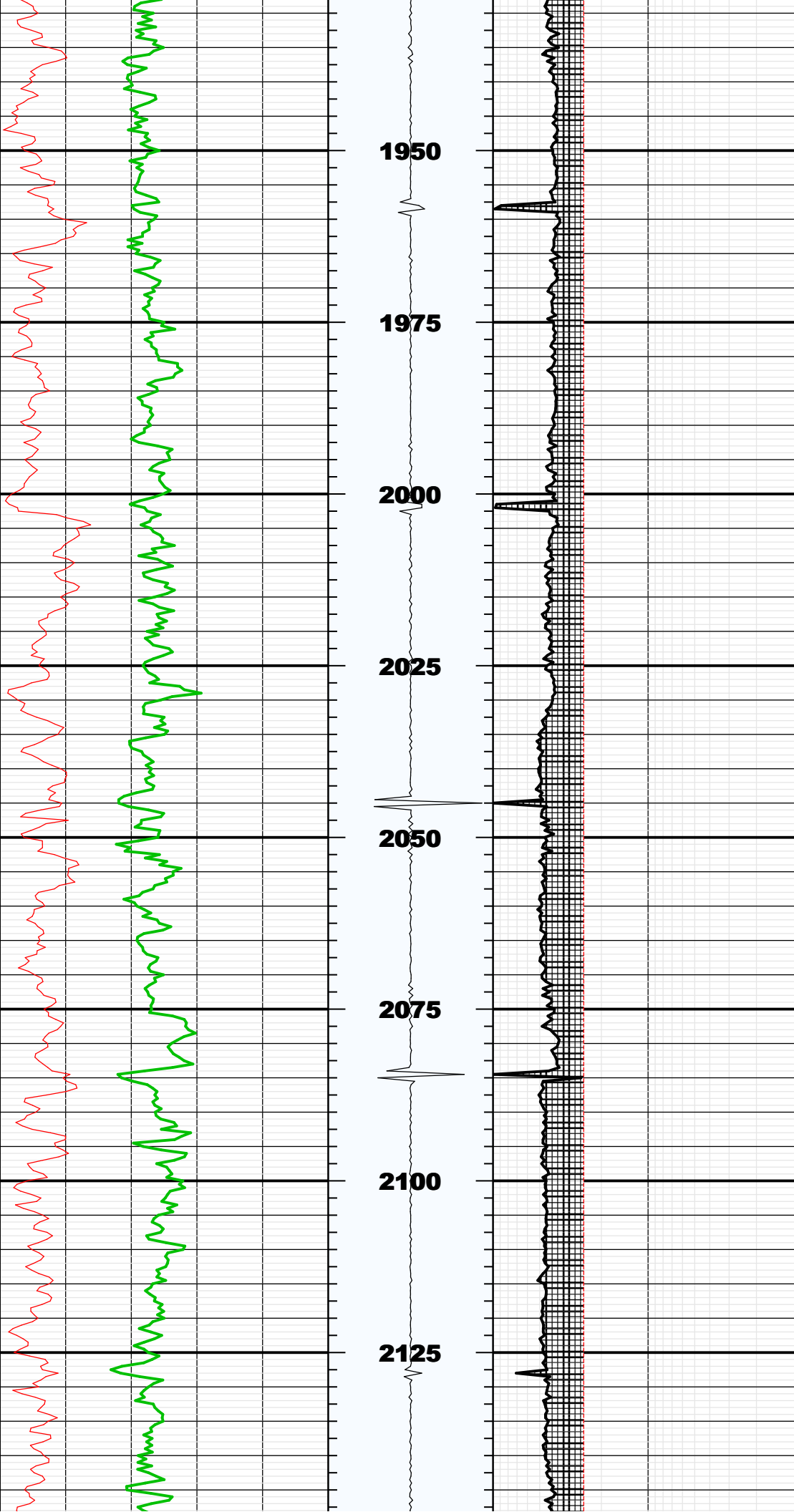


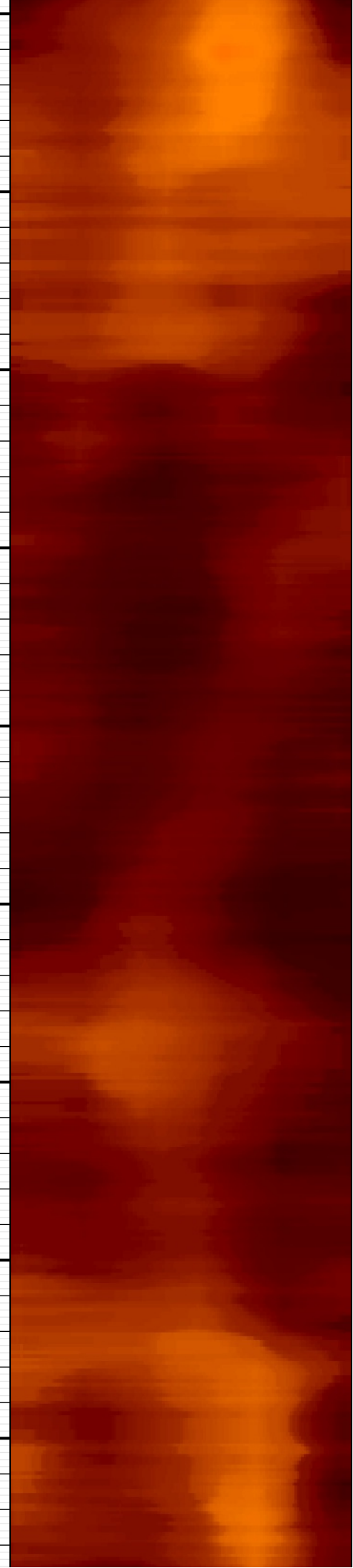
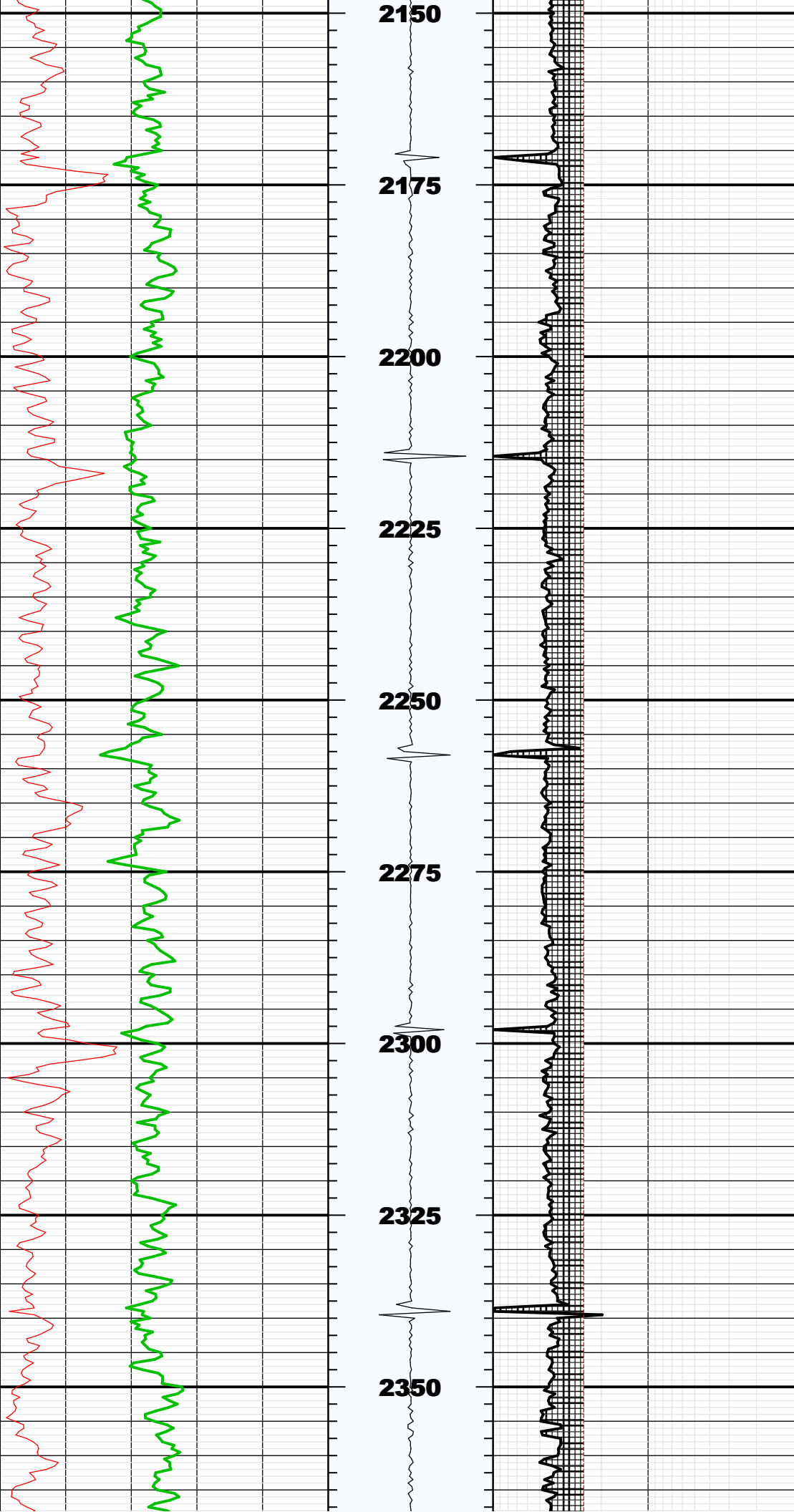


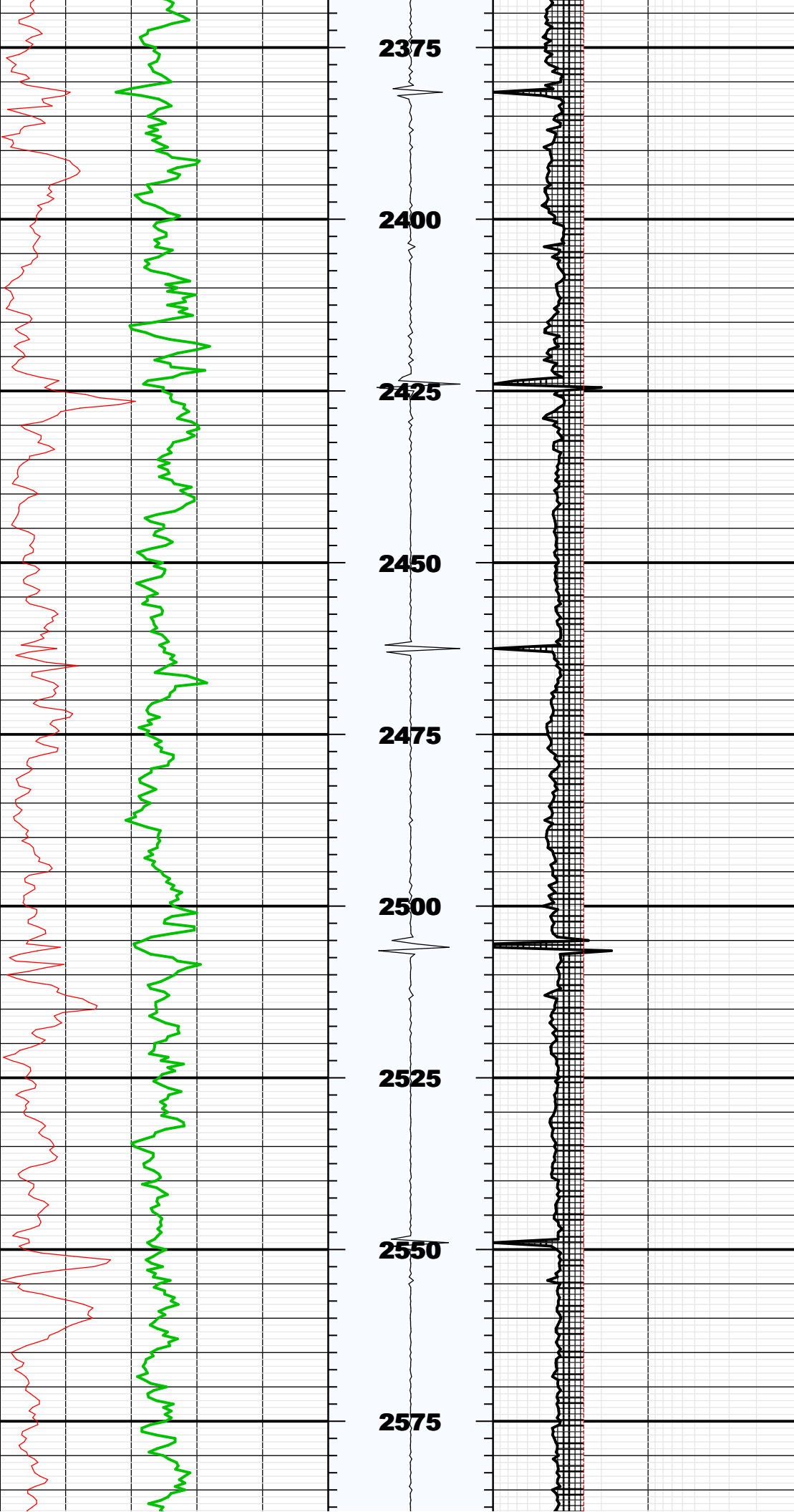


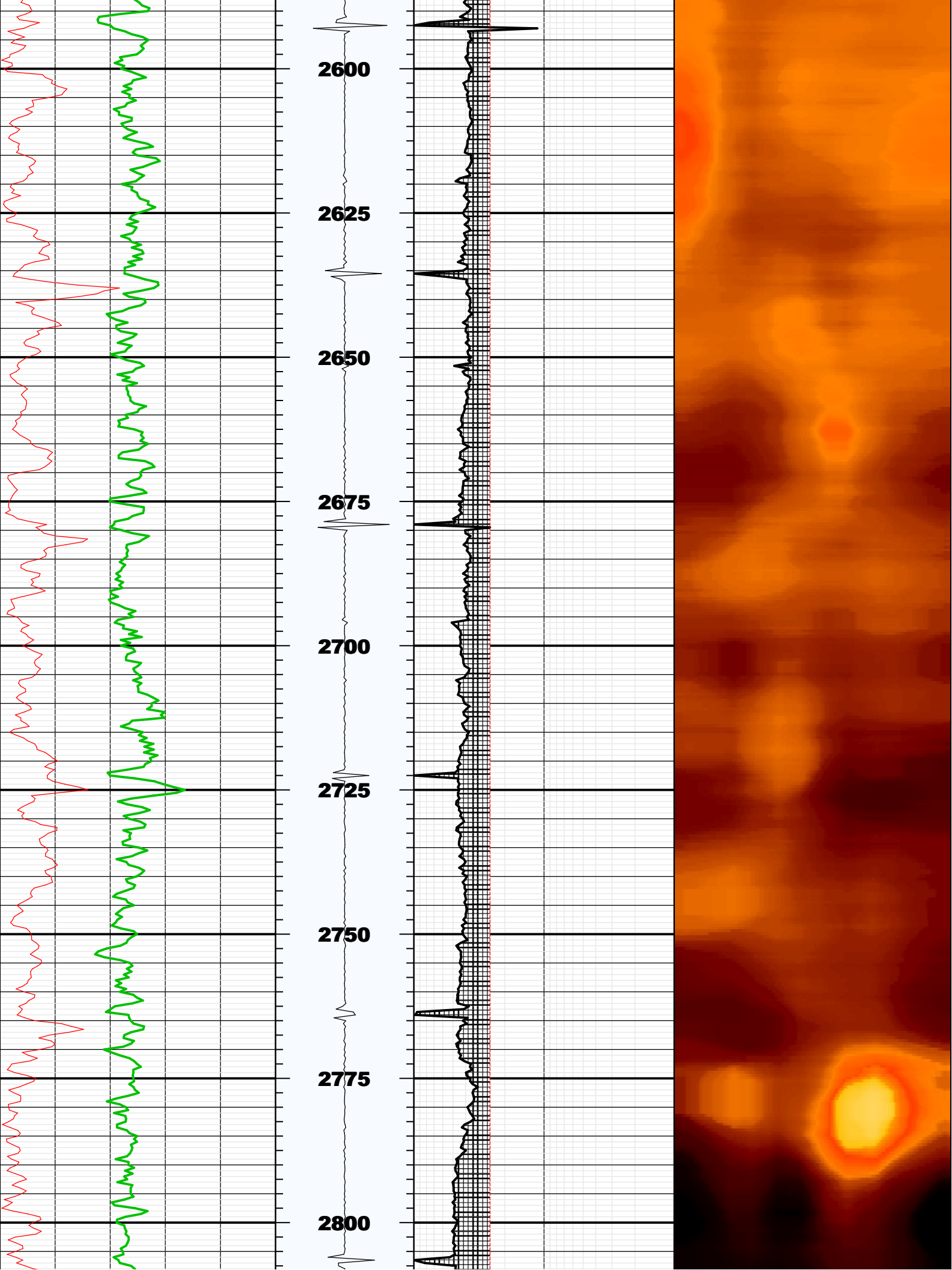


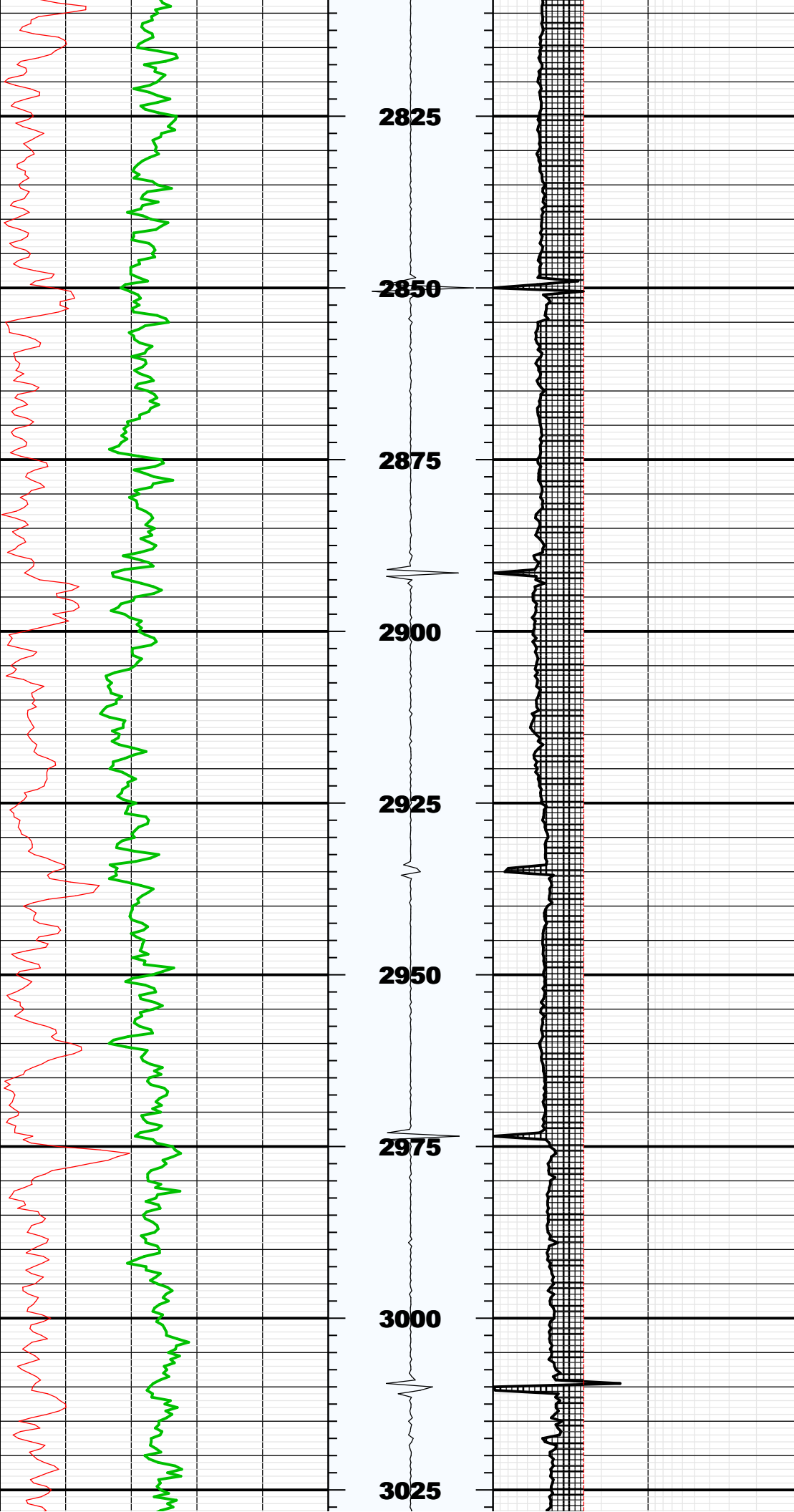


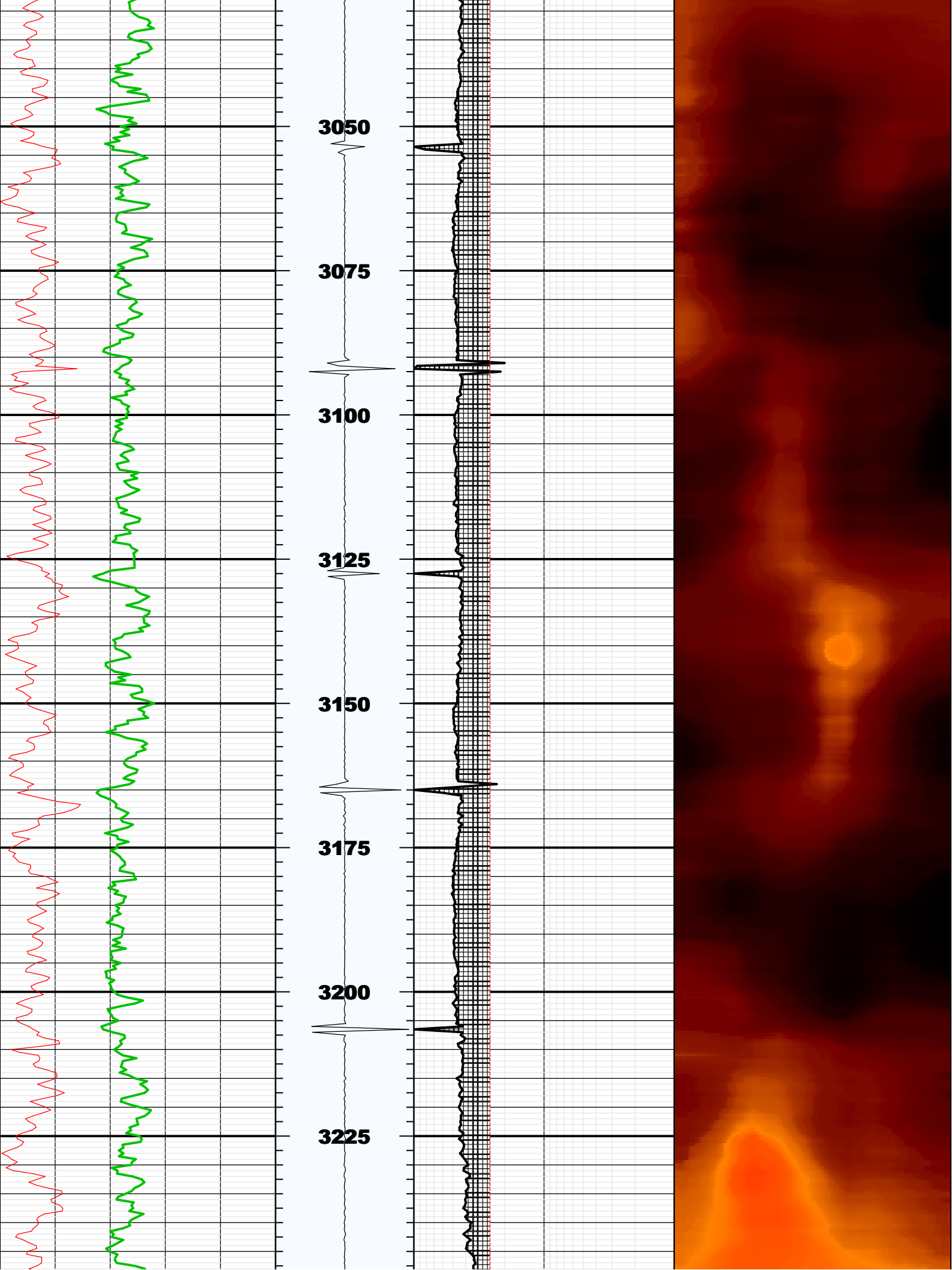


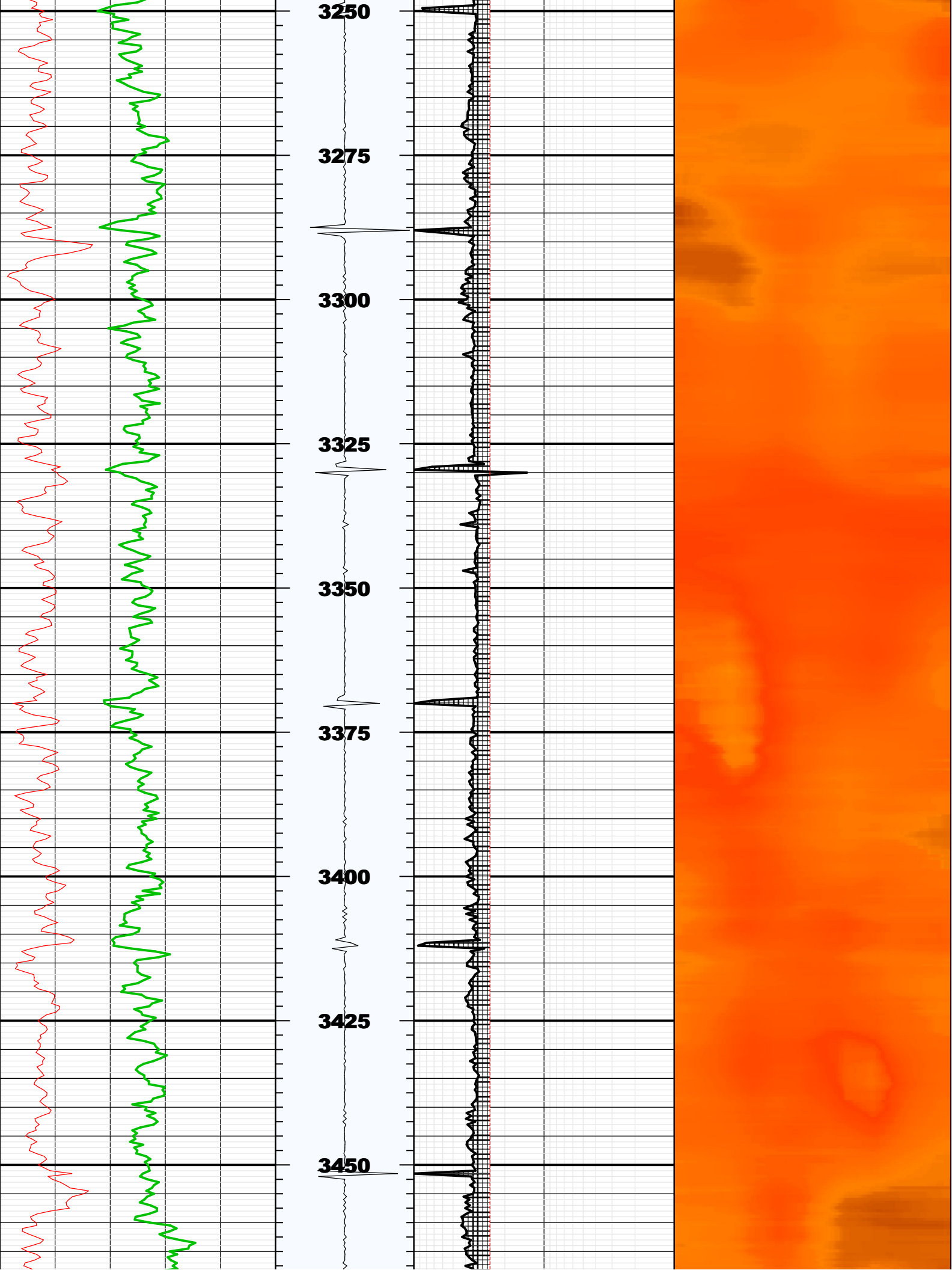


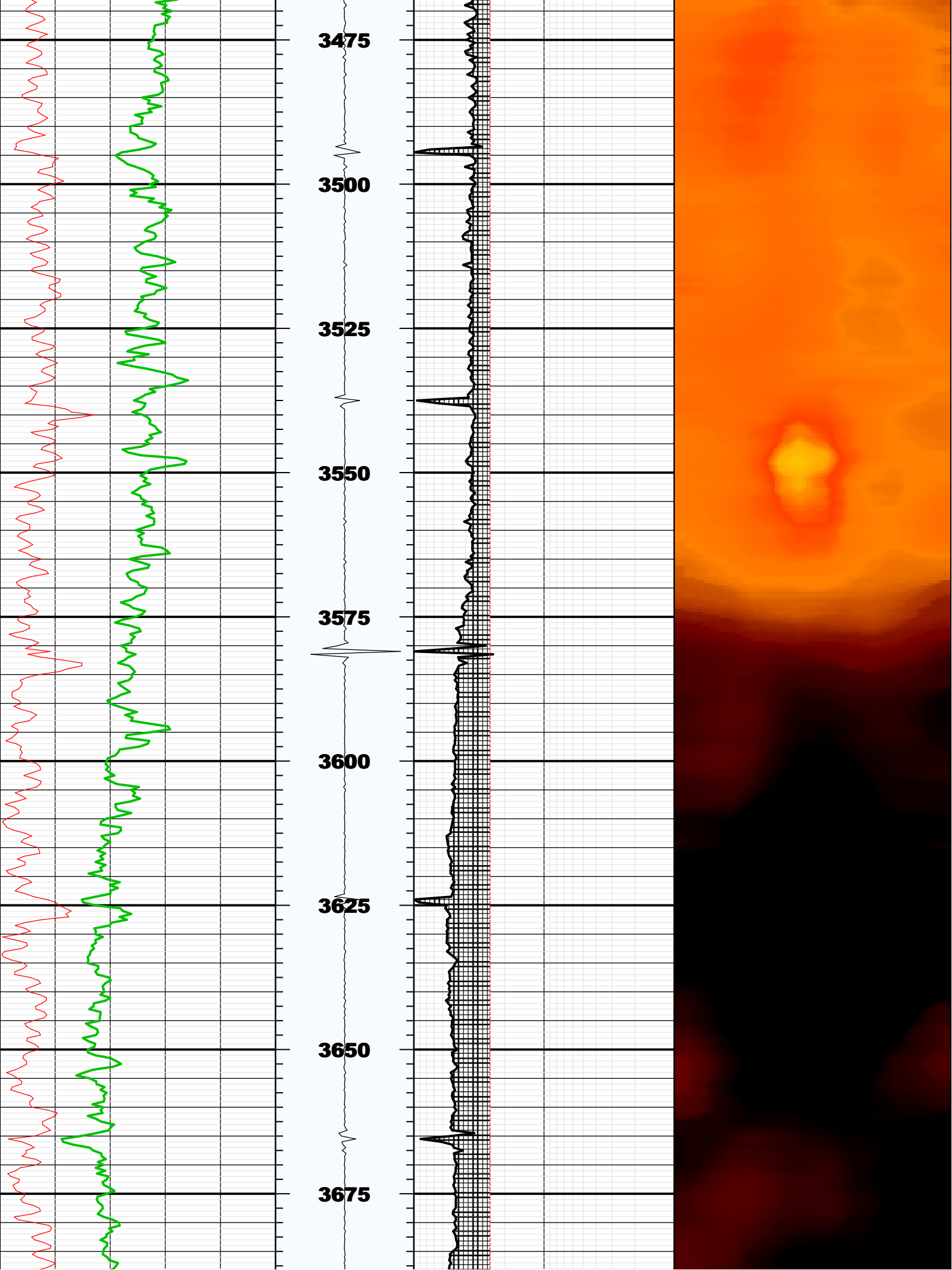


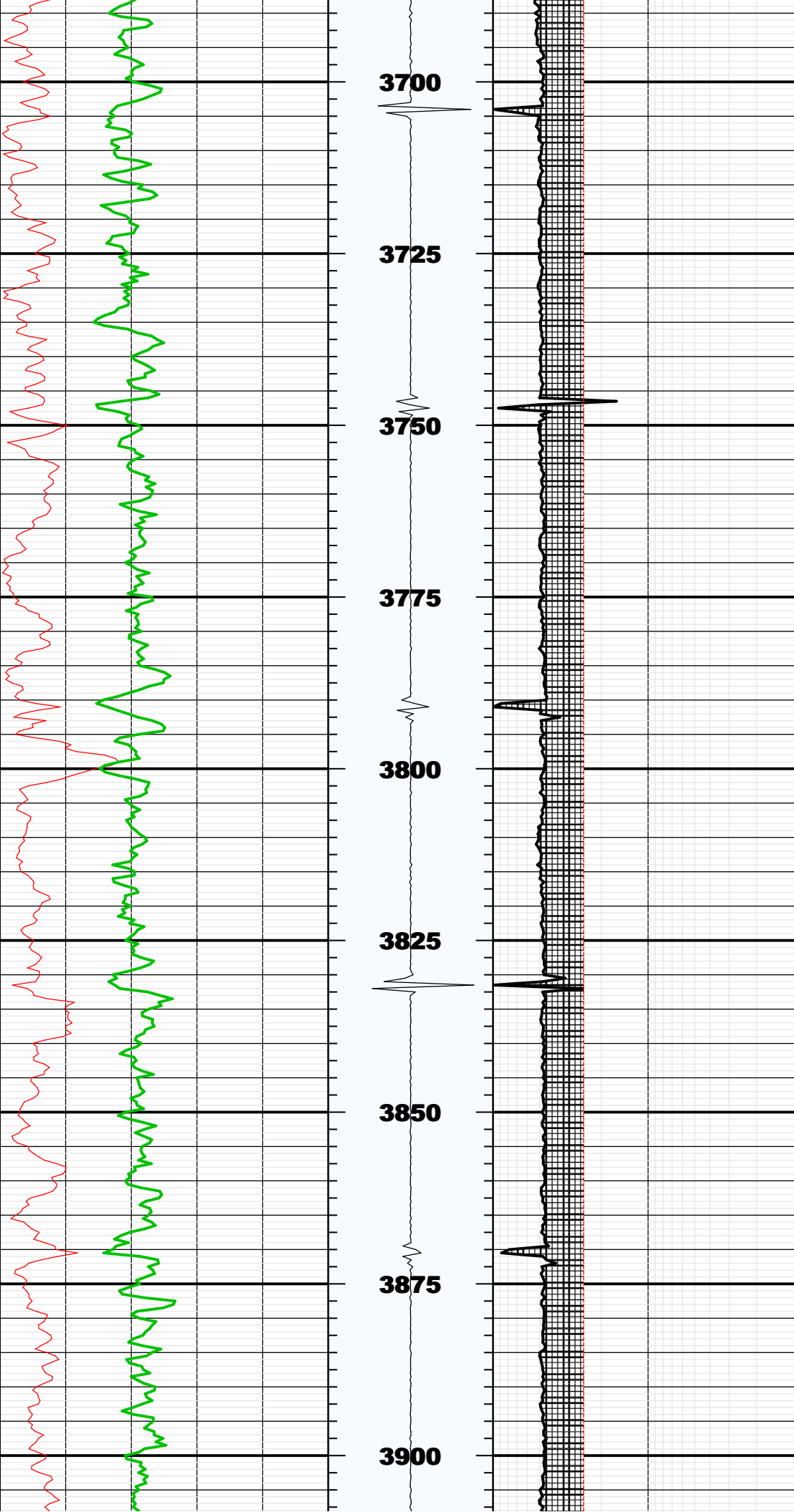


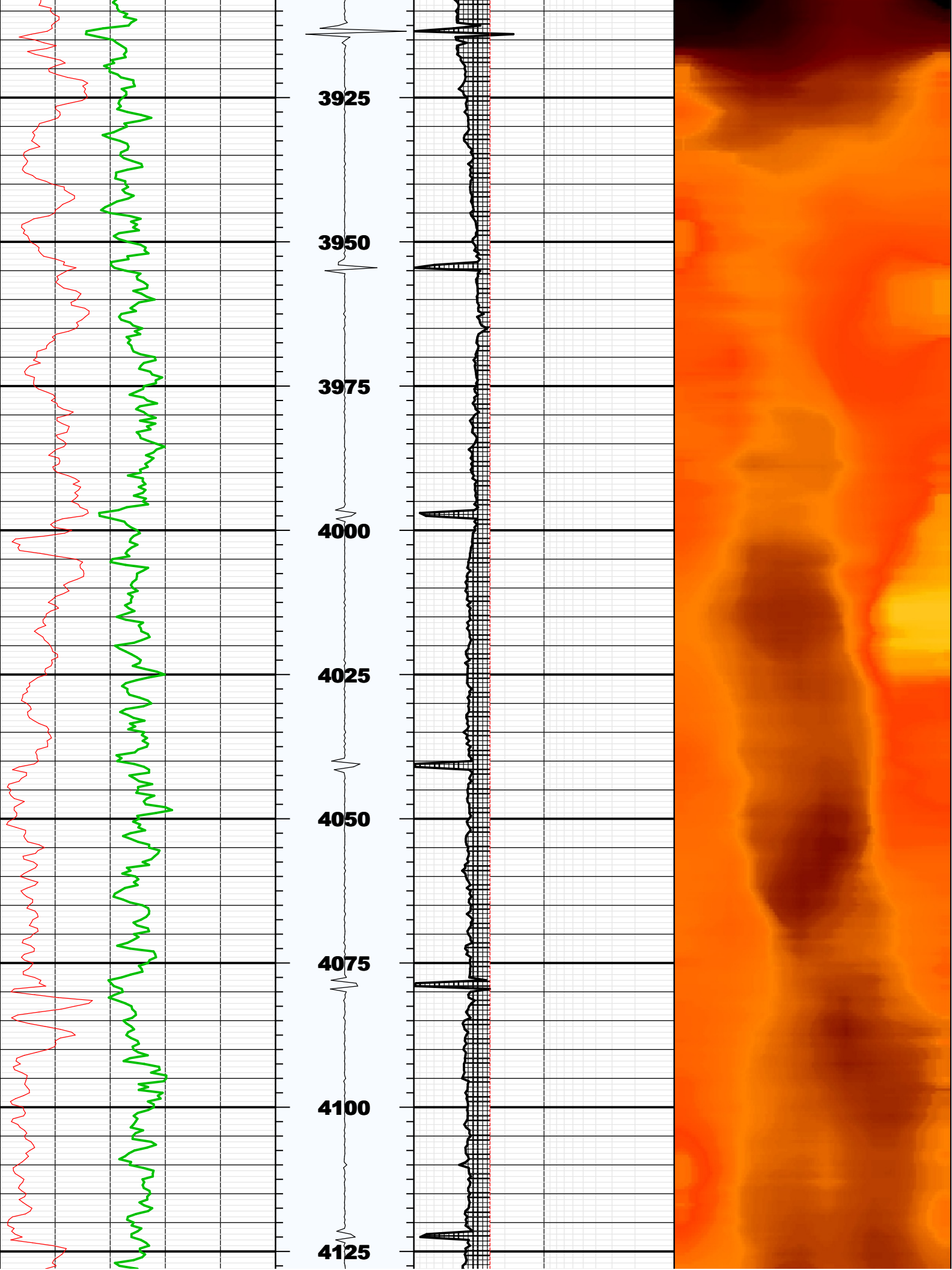


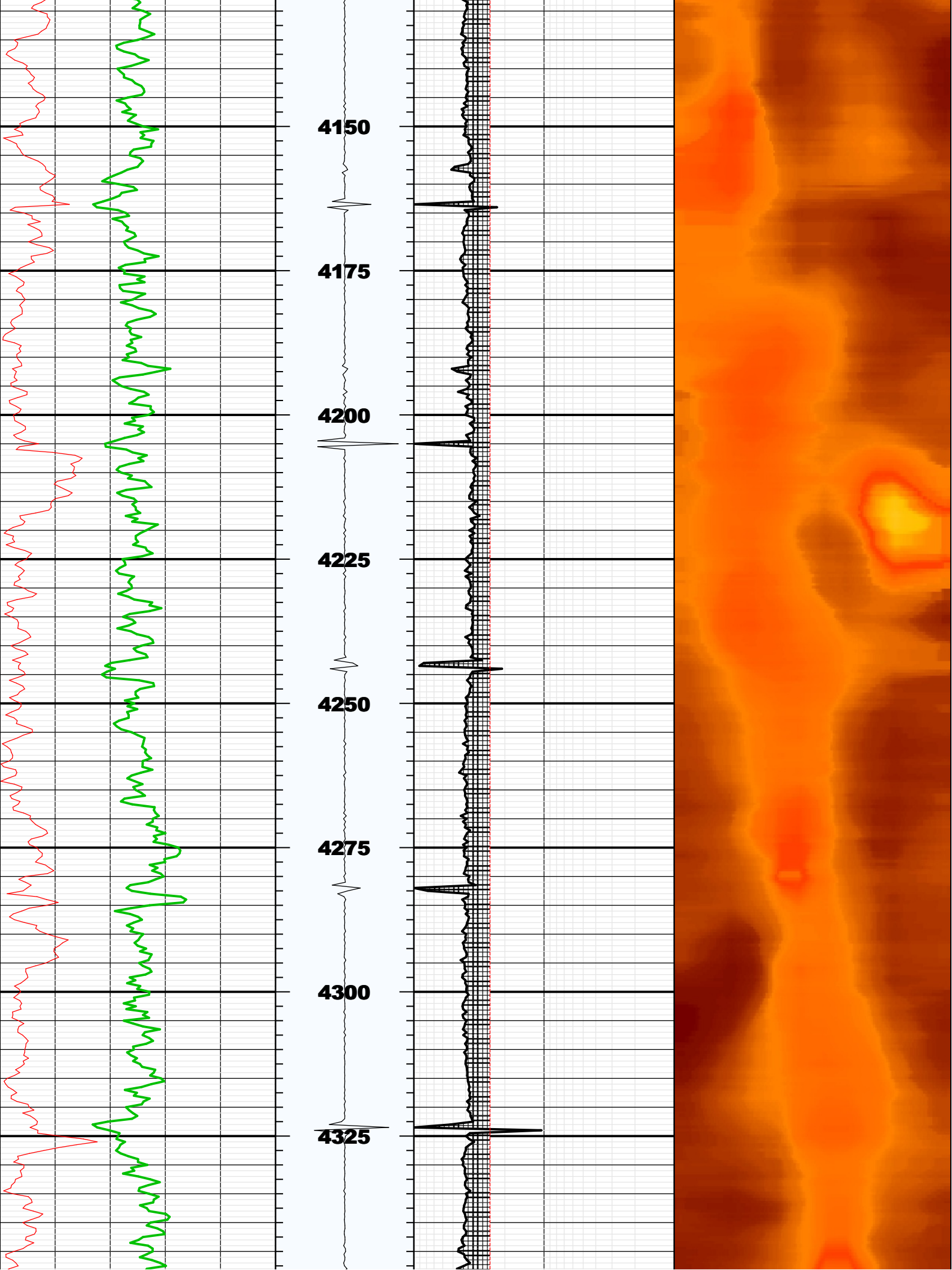


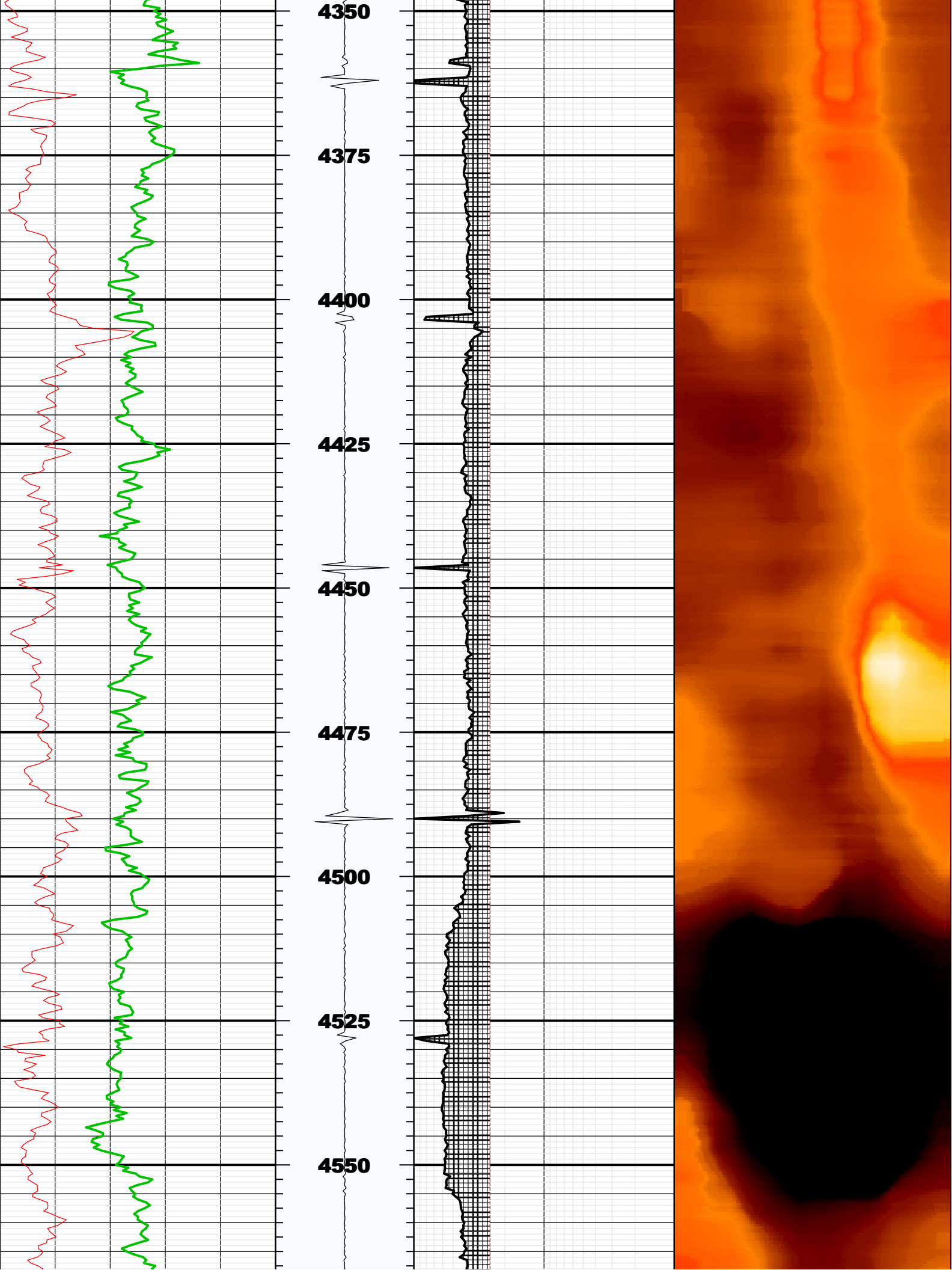


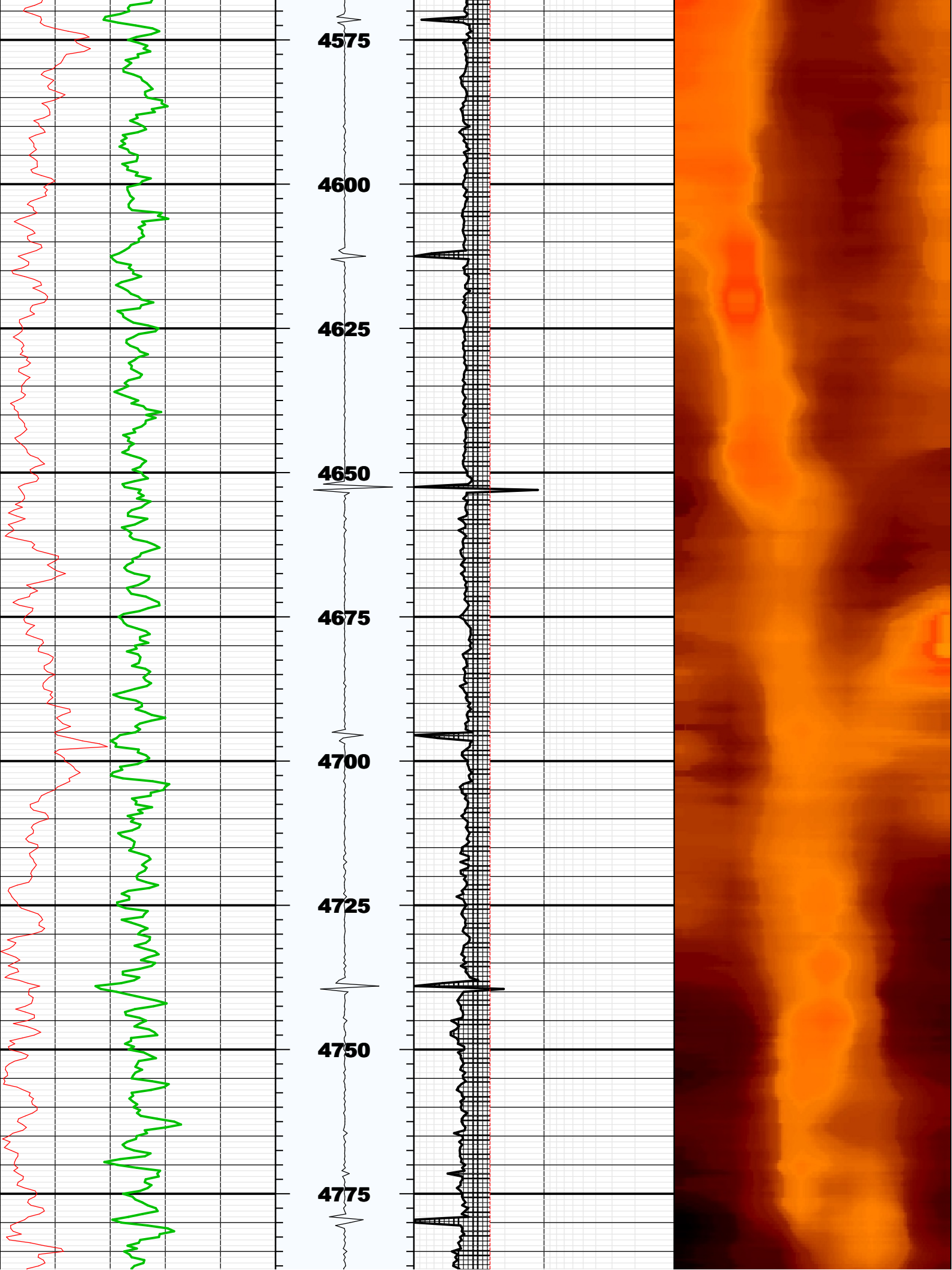


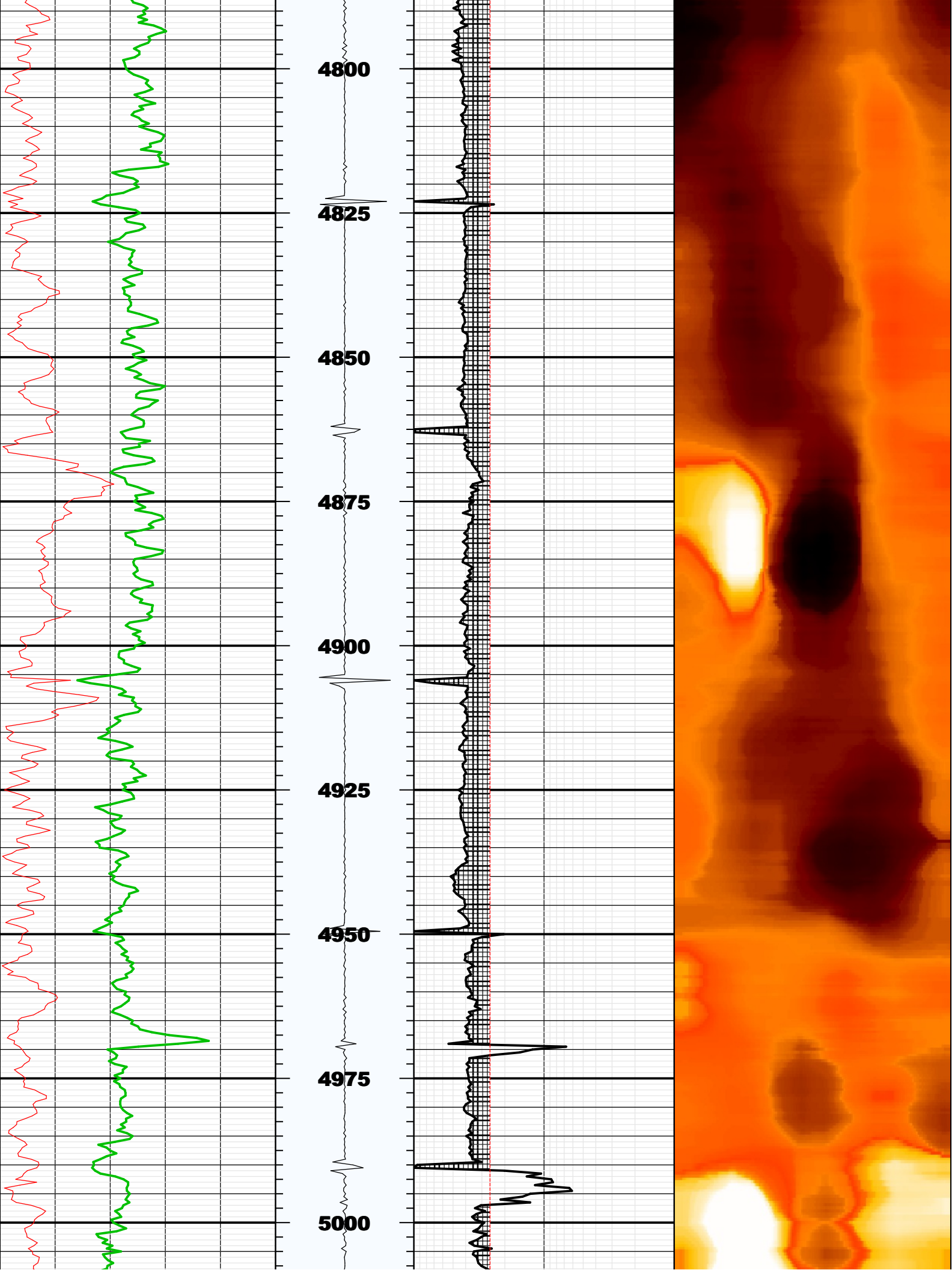


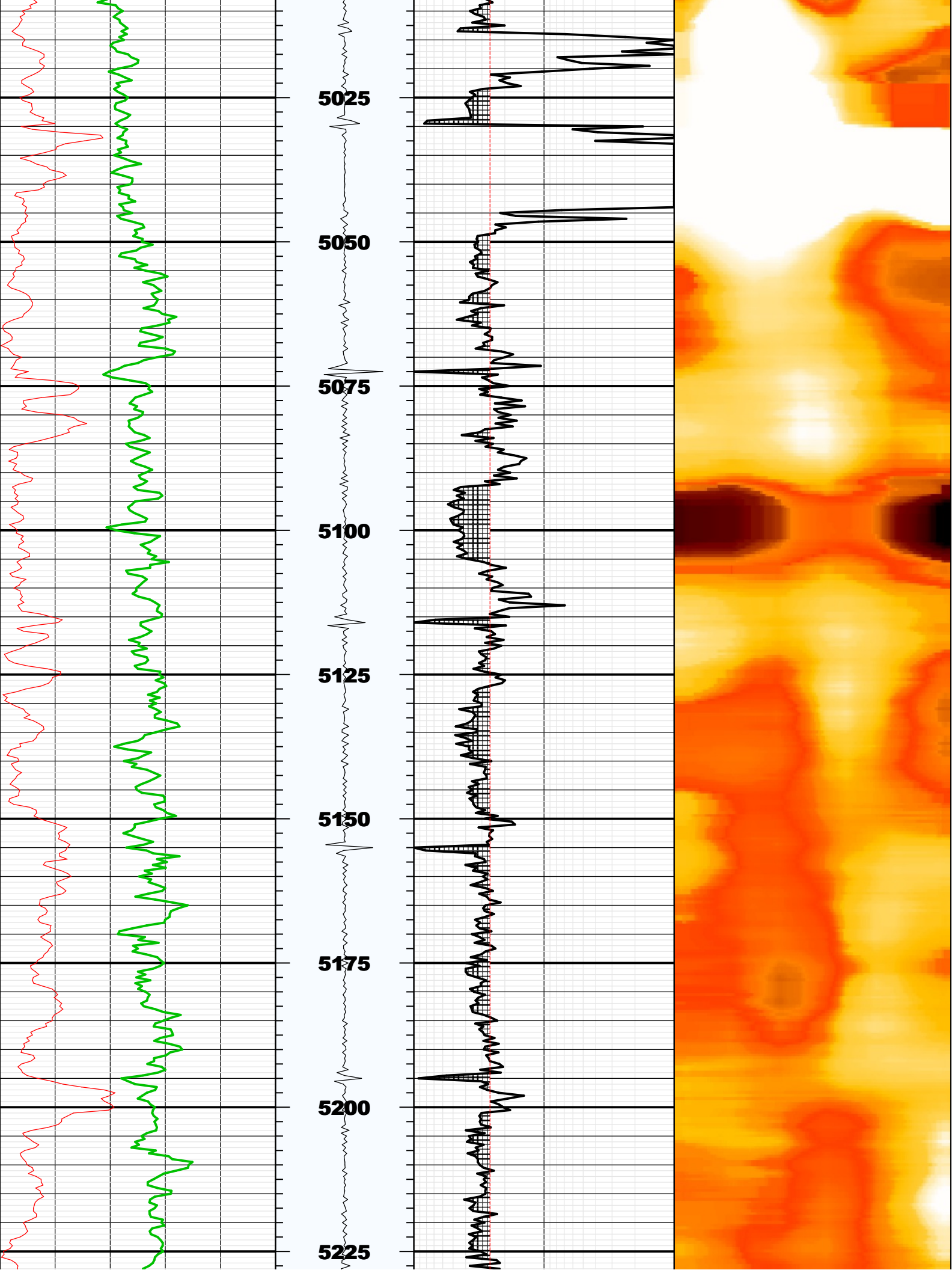


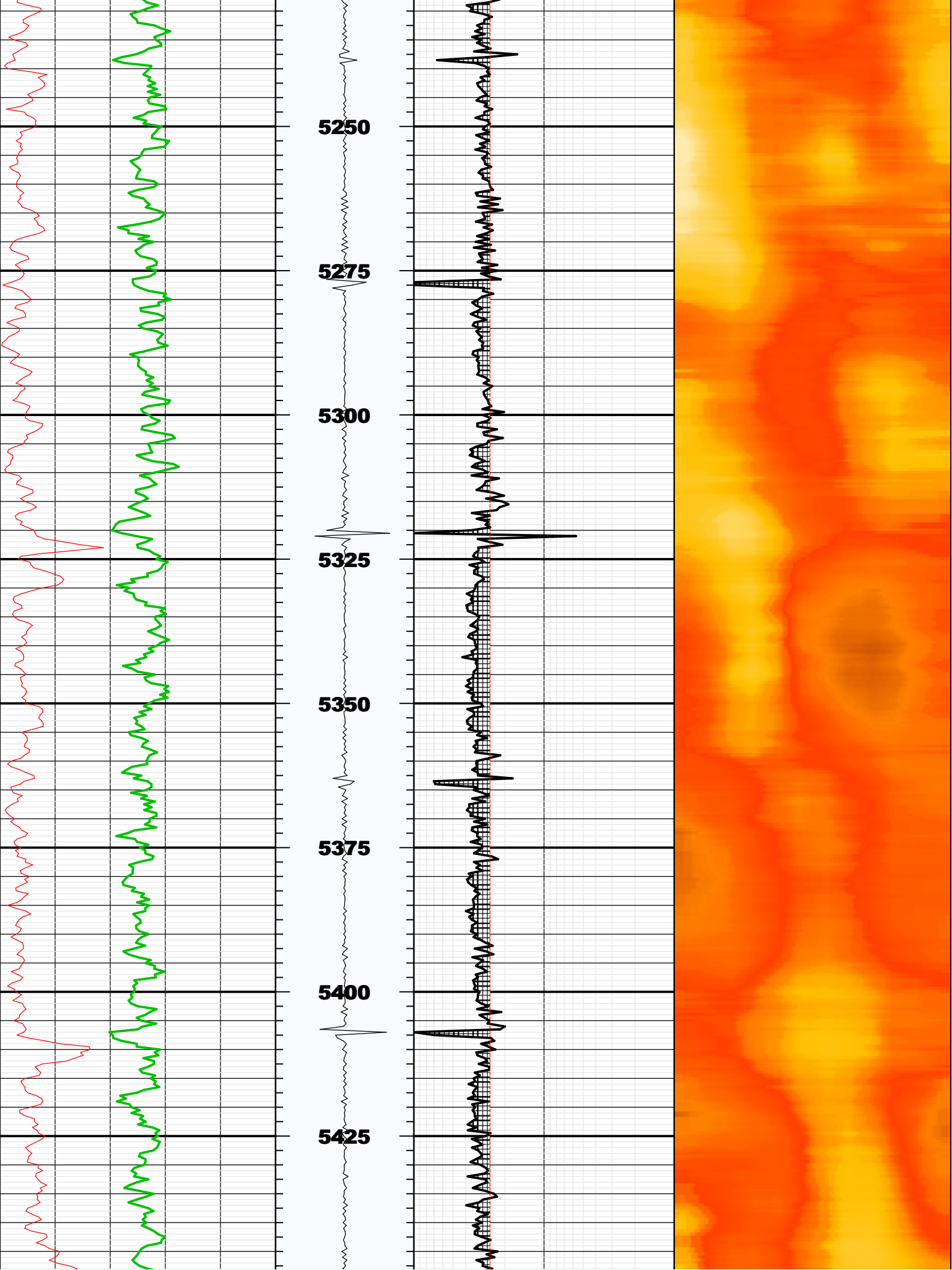


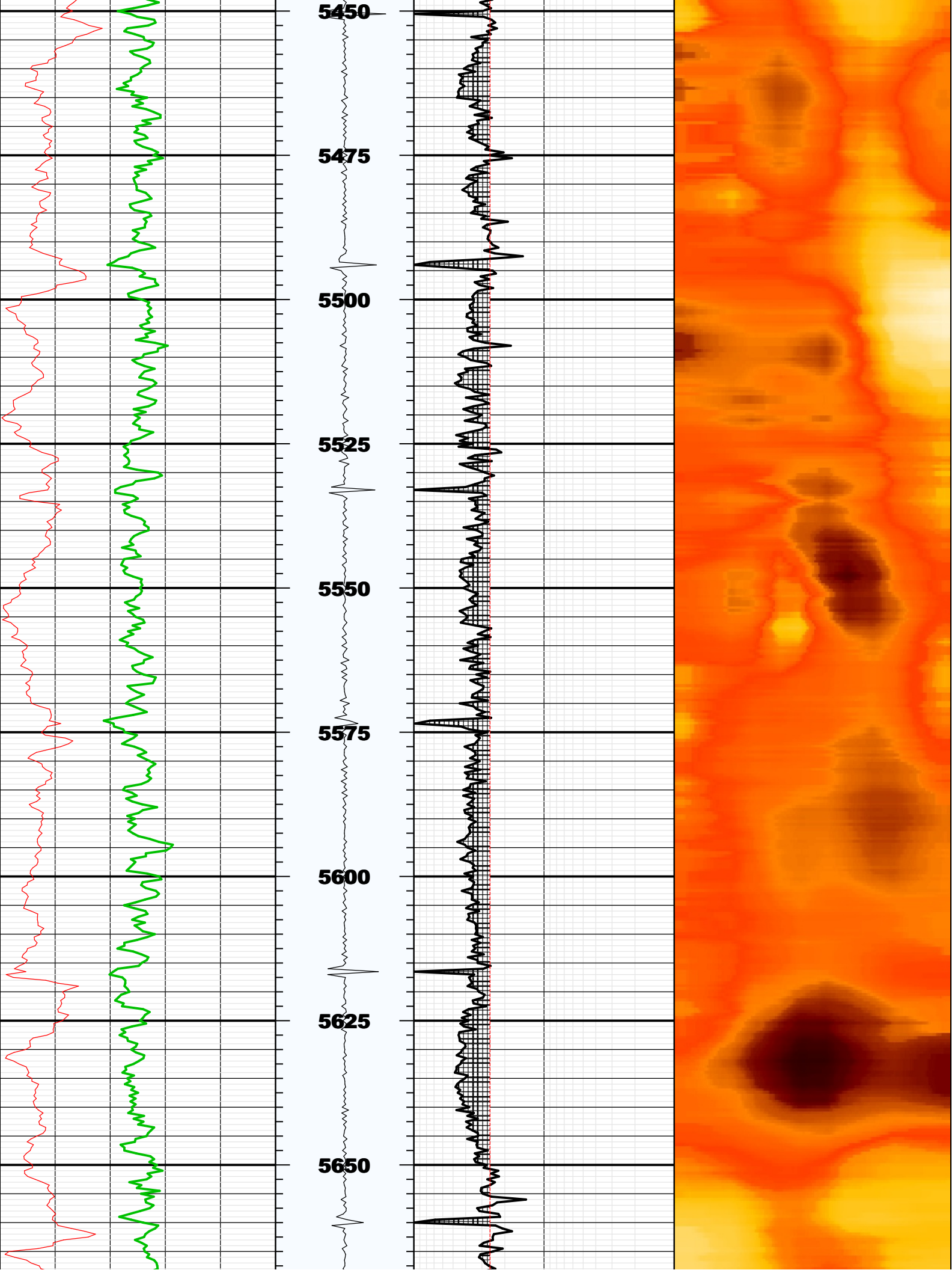


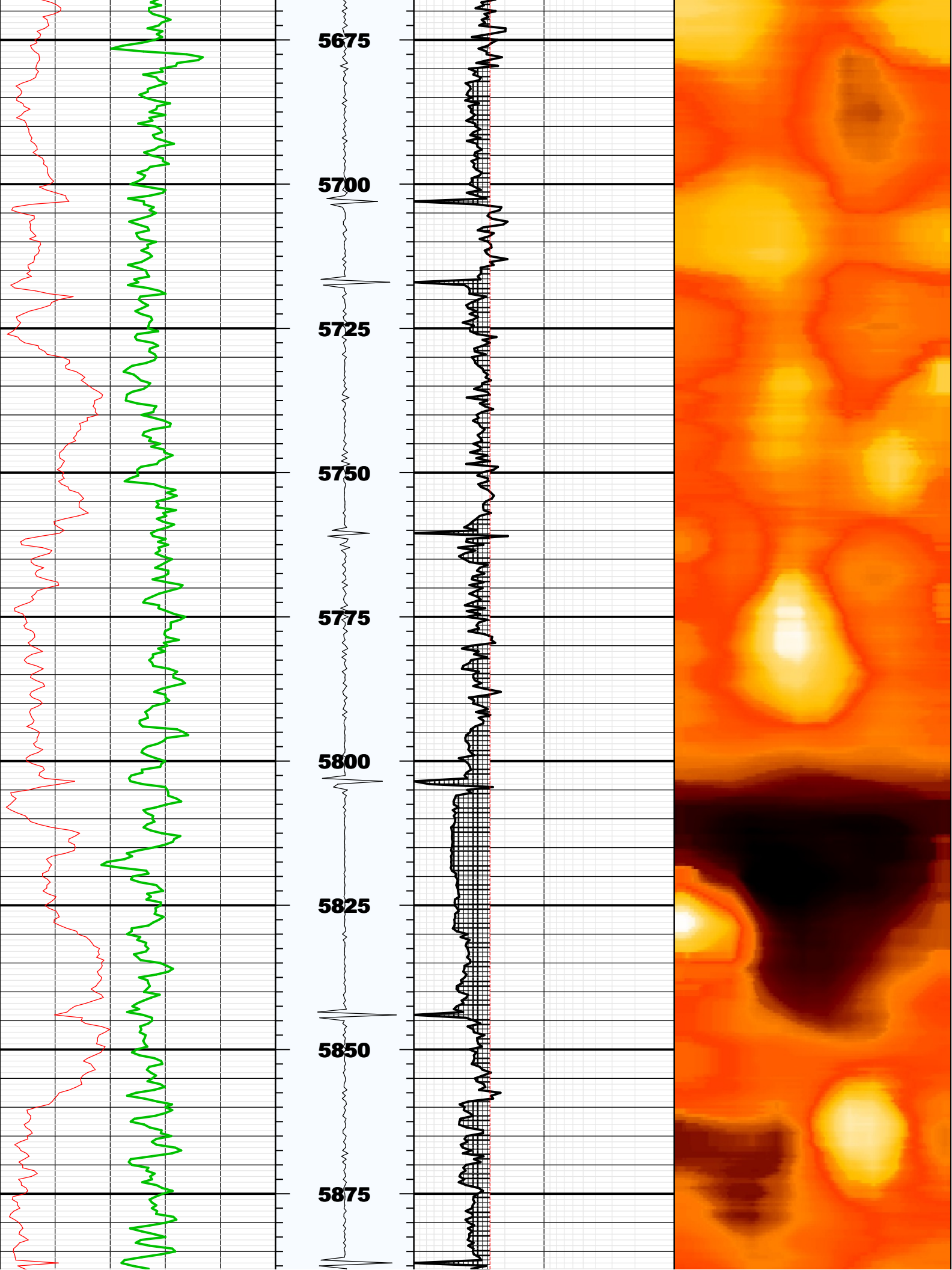


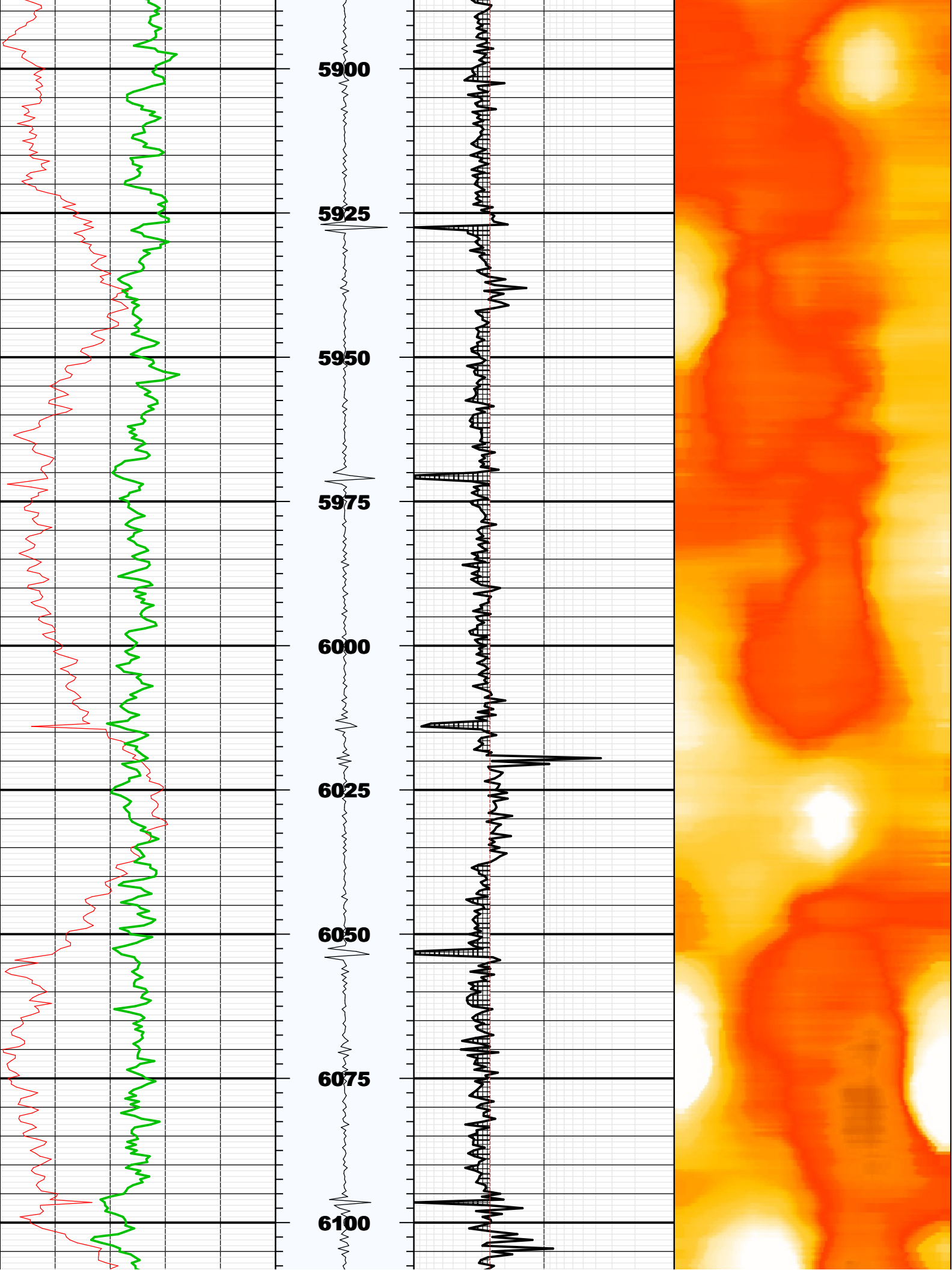


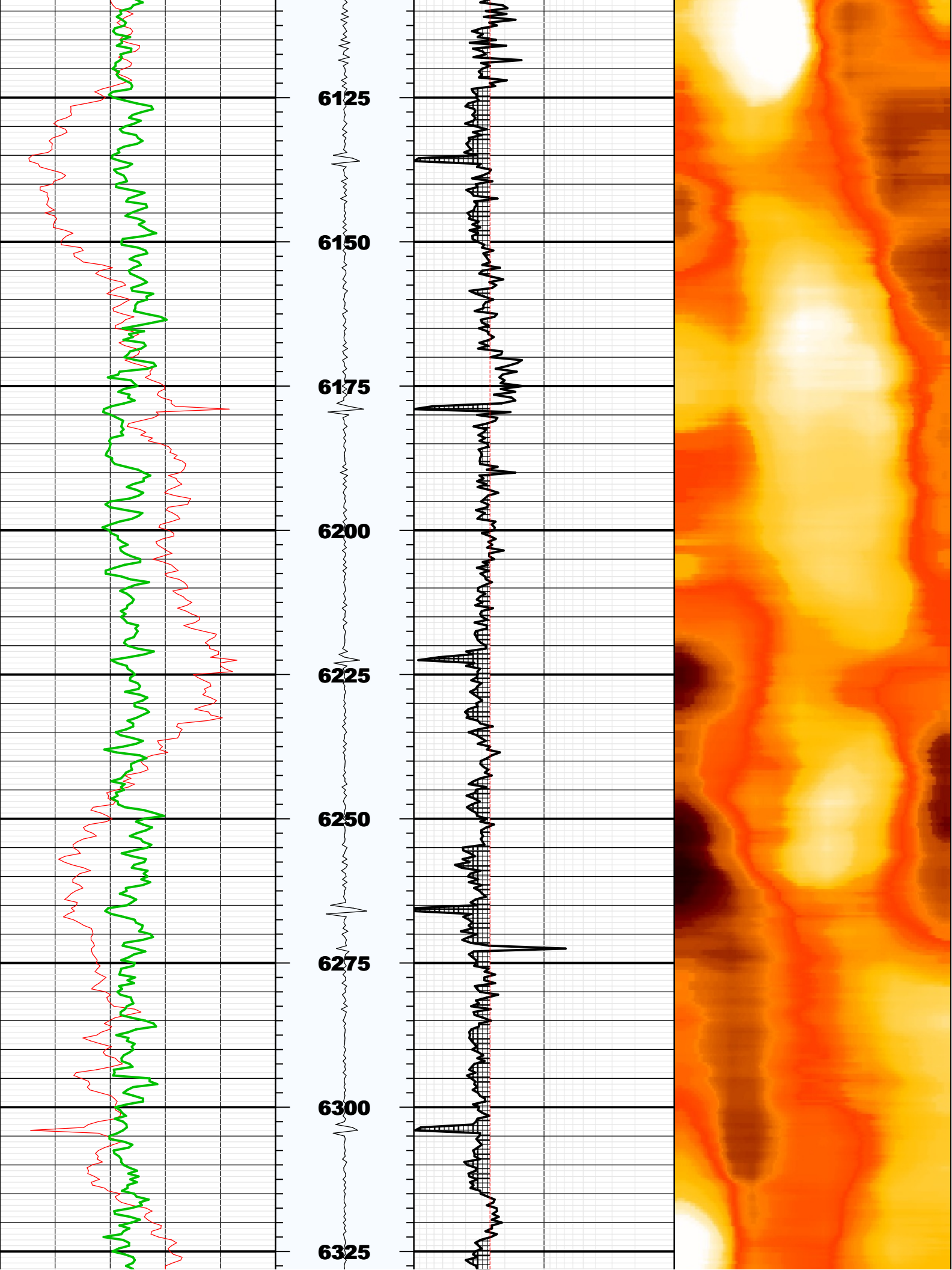


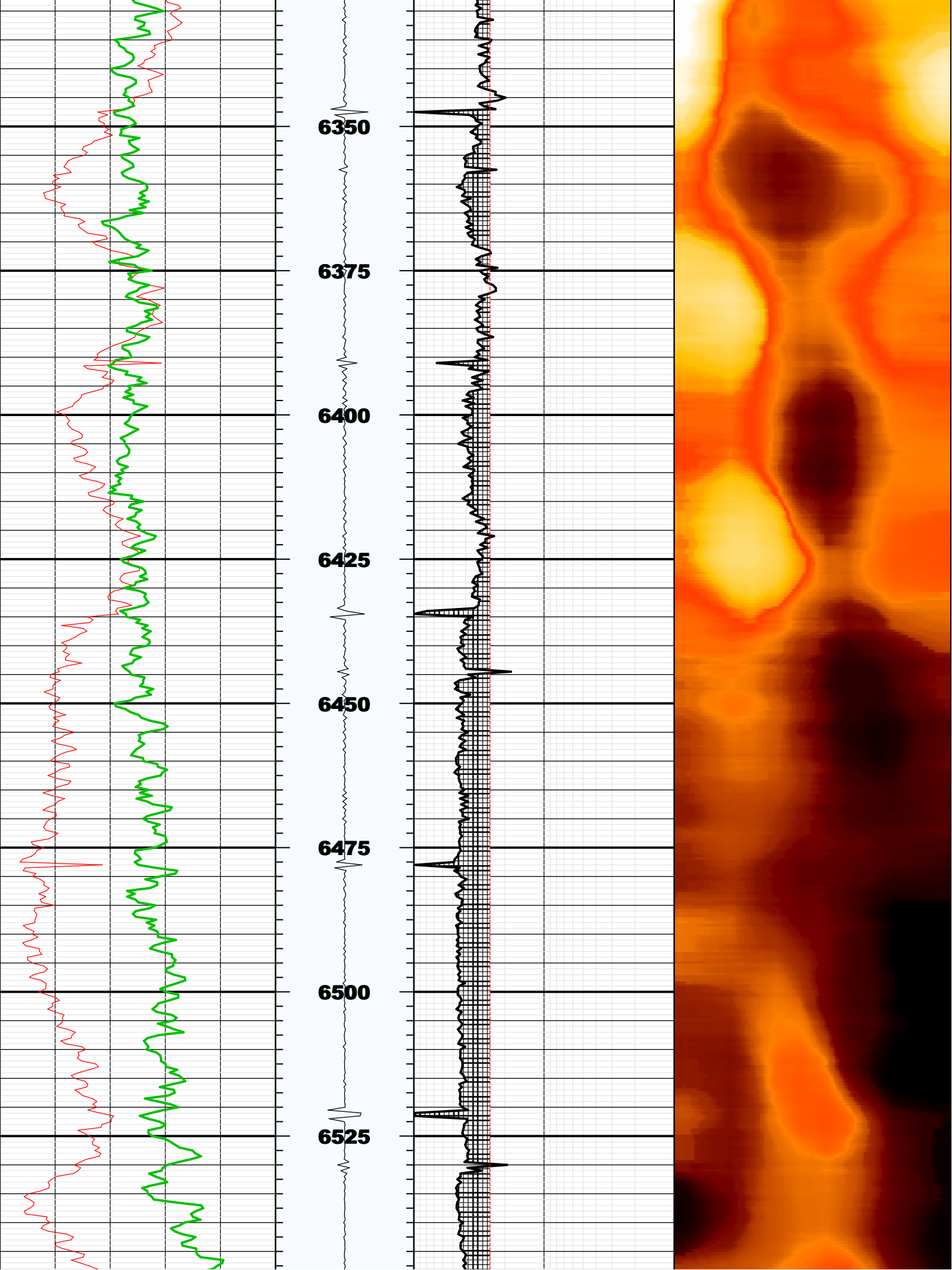


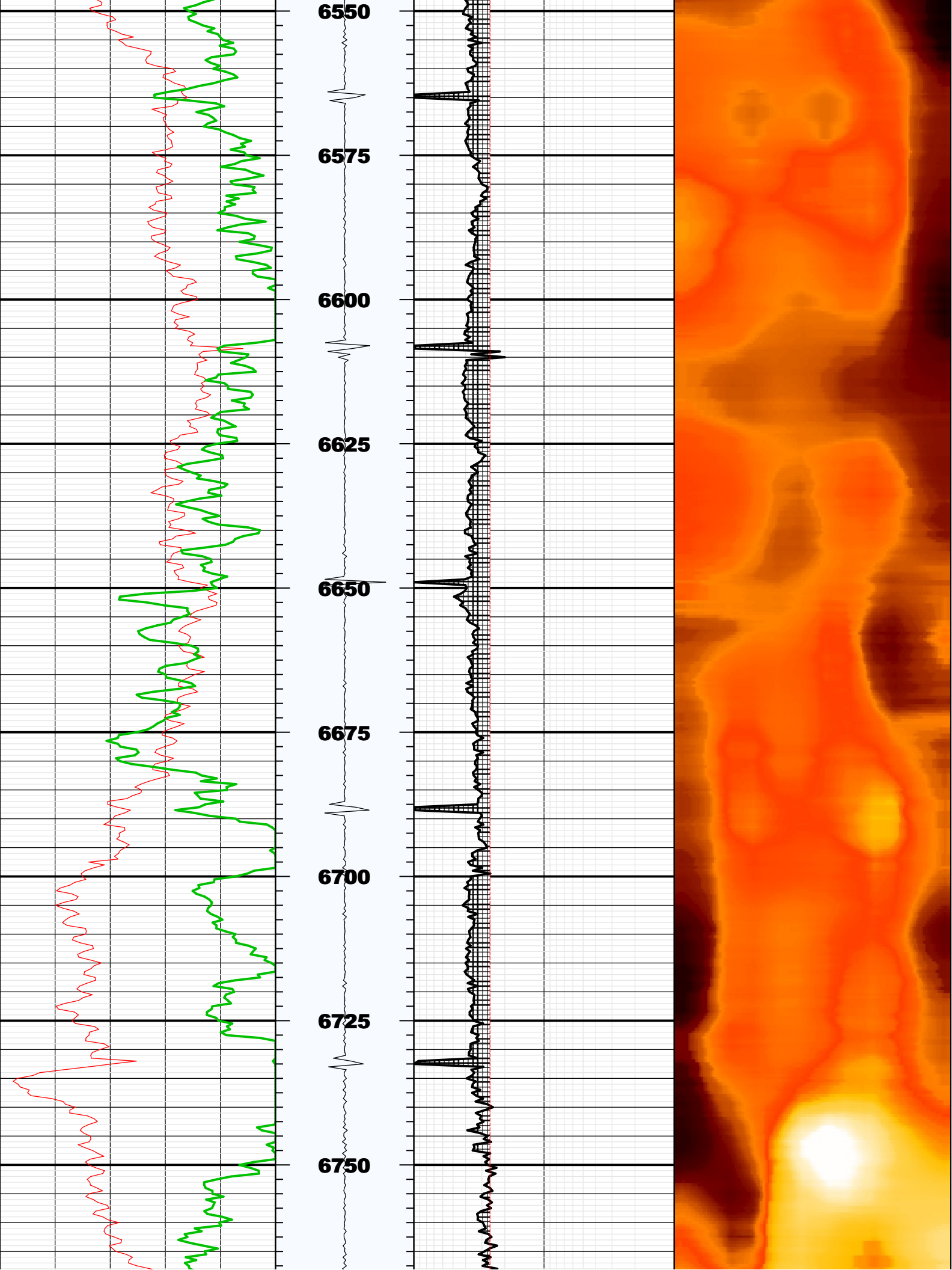


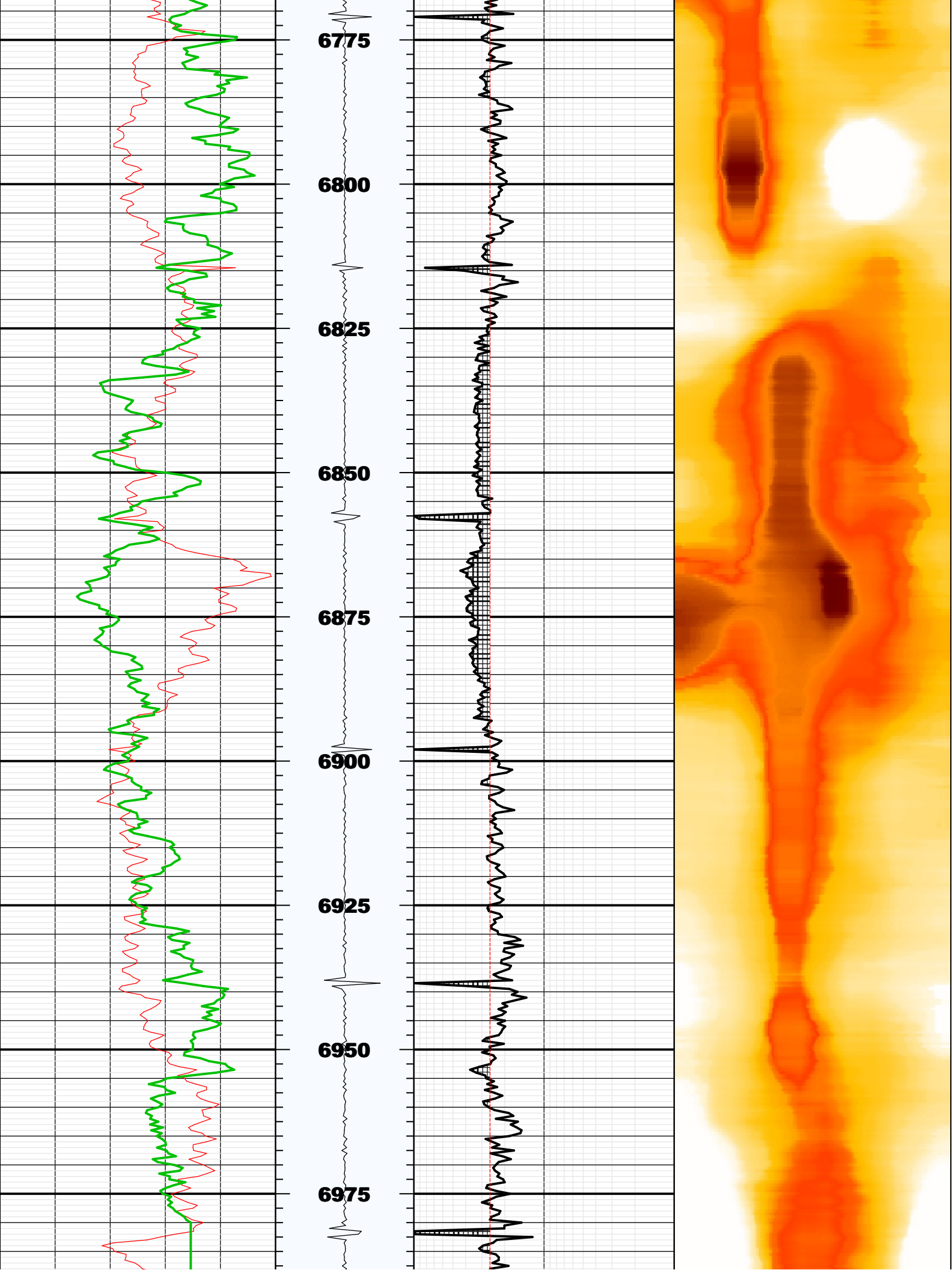










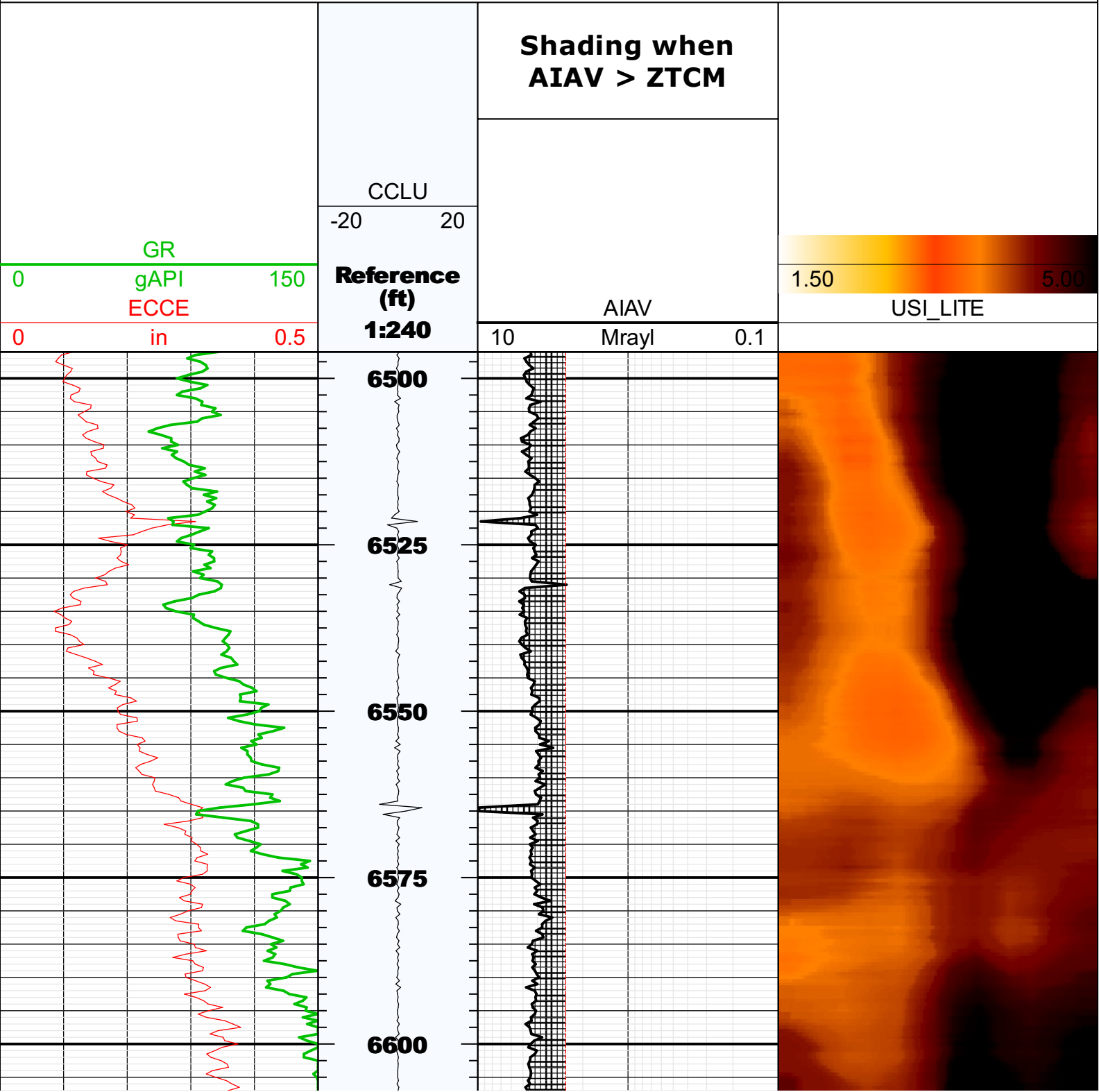


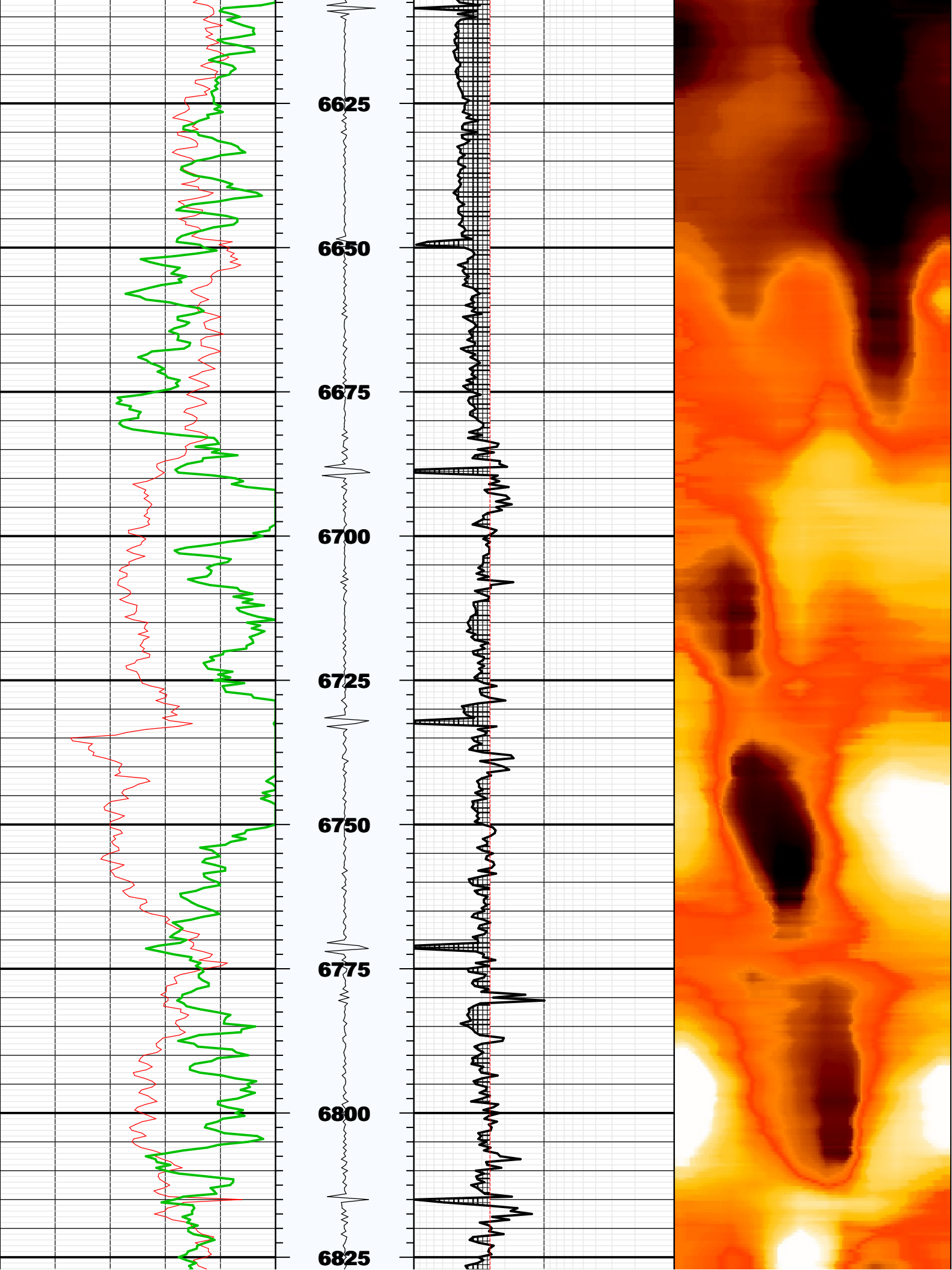


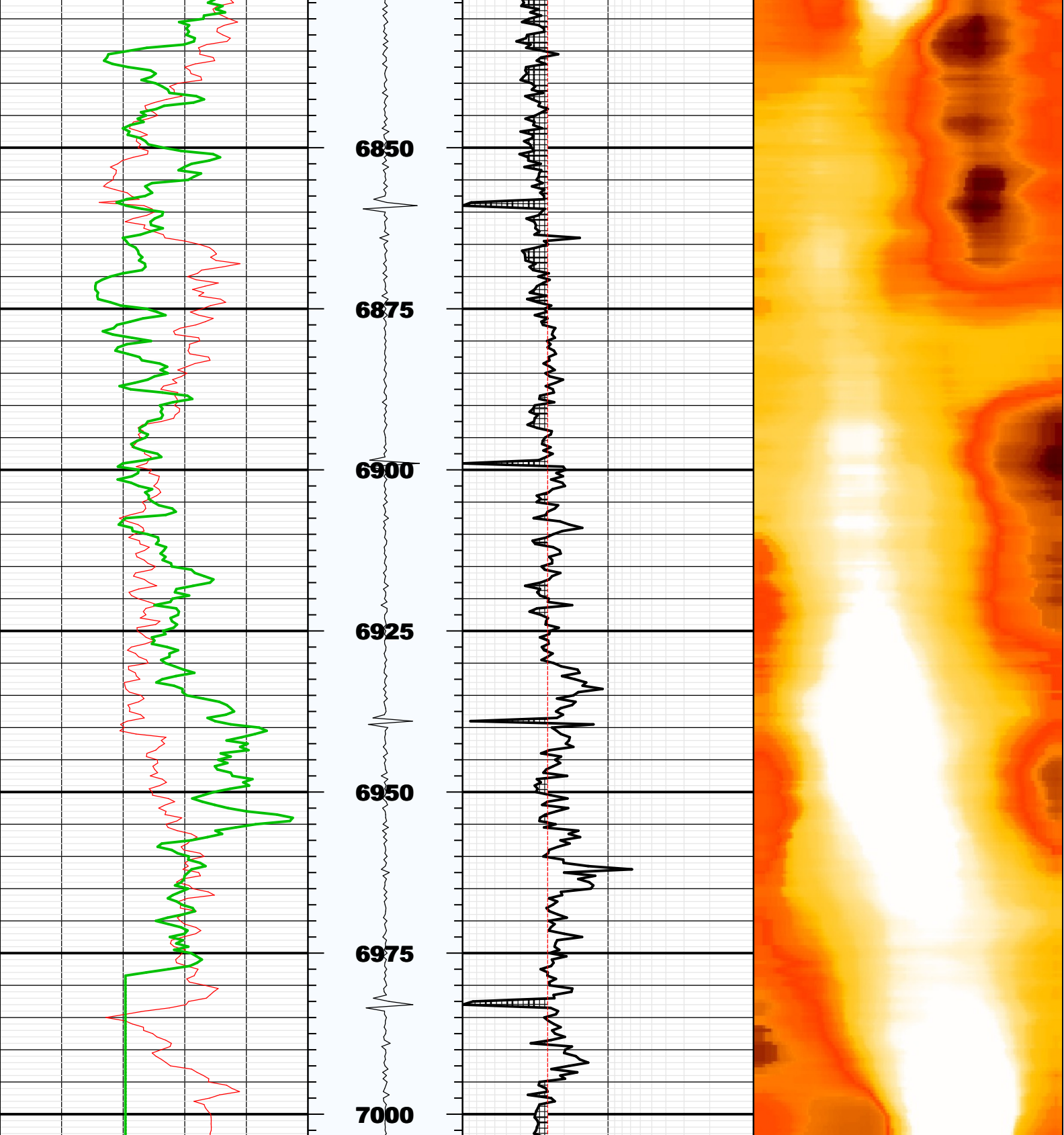
BS	8.75000	IN	Bit Size
CASG	P-110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID	6.27600	IN	Casing Inner Diameter
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	190.00000	US/F	Default Fluid Velocity
DO	5.00000	F	Depth Offset for Playback
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	65	V	EMEX Voltage
FDII	0.00000	F	FPM Data Interpolation Interval
FSOD	0_OFF		Fluid Slowness Fits Casing Outer Diameter
LOGMODE	MEASURED_DEPTH		Depth Logging Mode
PP	RECOMPUTE		Playback Processing
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	BRI		Type of Mud
U-USIT_DT3P	C		Decimated Tcube Policy
UPAT	375K		Emission Pattern
USUB	7INC		Ultrasonic Subassembly Identifier
UWKM	D603010L		Ultrasonic Working Mode
VCAS	51.40000	US/F	Ultrasonic Transversal Velocity in Casing
WINB	33.86500	US	Window Begin Time
WINE	73.86500	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	21.70779	US	T^3 Processing Length

Repeat Pass

Company: Noble Energy Inc
Well: Wells Ranch AA 21-65HN
Field: Wattenberg







Fluid Properties Used for Main Pass

