

Company: Noble Energy Inc

Well: Sandau State K25-62-1HNL
Field: Hambert
County: Weld State: Colorado

County: Weld		Field: Hambert	
Location: SWSW Sec. 25 T4N R66W		Well: Sandau K25-62-1HNL	
Company: Noble Energy Inc			
USI-LITE		LOCATION	
		Permanent Datum: Log Measured From: Drilling Measured From:	GL KB KB
API Serial No. 05-123-38087-0000		Section 25	Township 4N
Logging Date 19-Apr-2014		Range 66W	
Run Number	1		
Depth Driller	16640.0 F		
Schlumberger Depth	7165.0 F		
Bottom Log Interval	7165.0 F		
Top Log Interval	56.0 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	667.0 F		
To	7491.9 F		
Casing Size	7.00 IN		
Weight	26.00 LB/F		
Grade	P110		
From	16.5 F		
To	7484.0 F		
Max Recorded Temp	220.0		
Logger on bottom (date)	19-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

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Toolstring ran as per tool sketch

Main pass ran at 2500 psi

Repeat pass ran at 0 psi

Lead cement 12.5 ppg

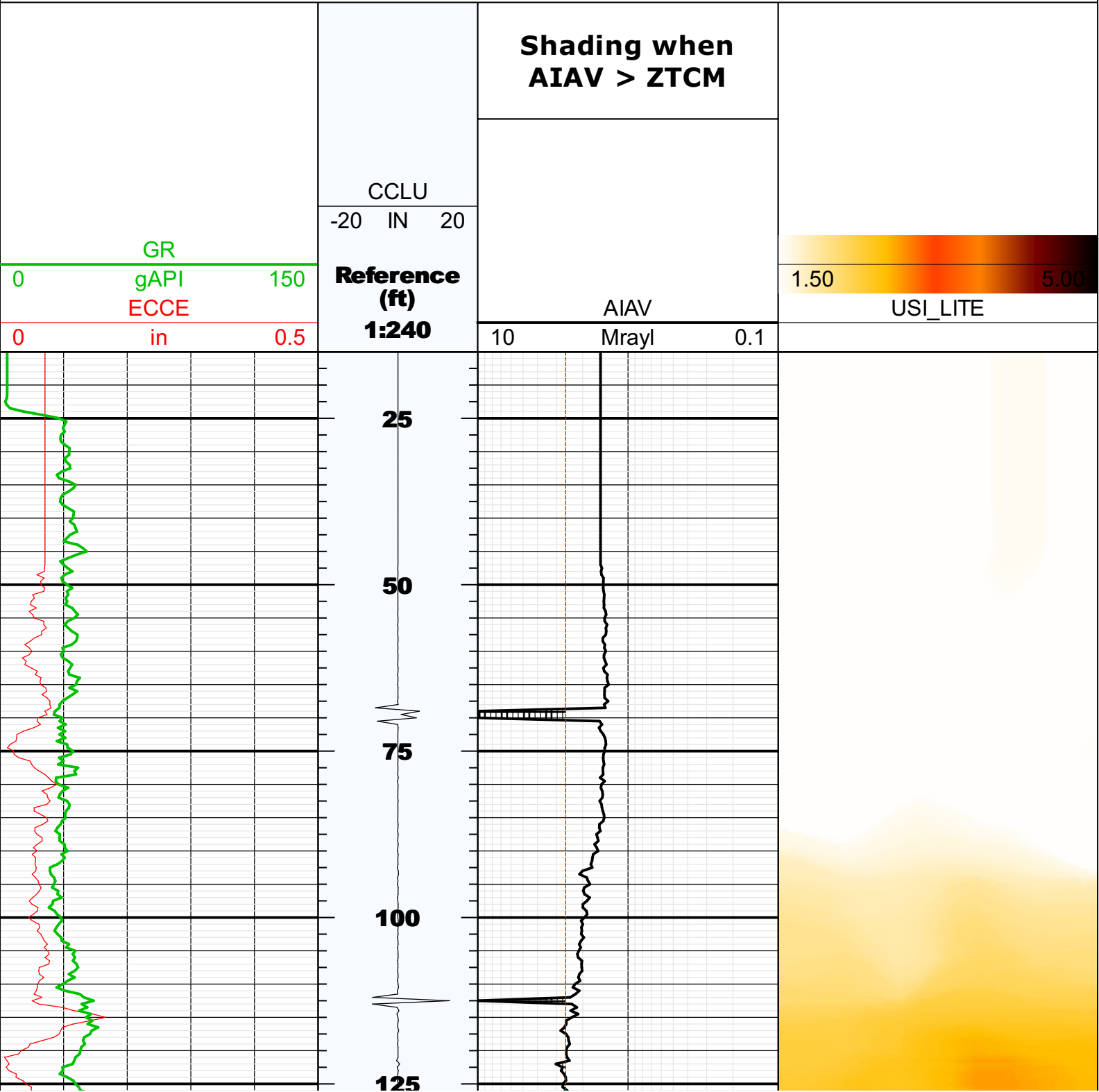
Tail cement 13.8 ppg

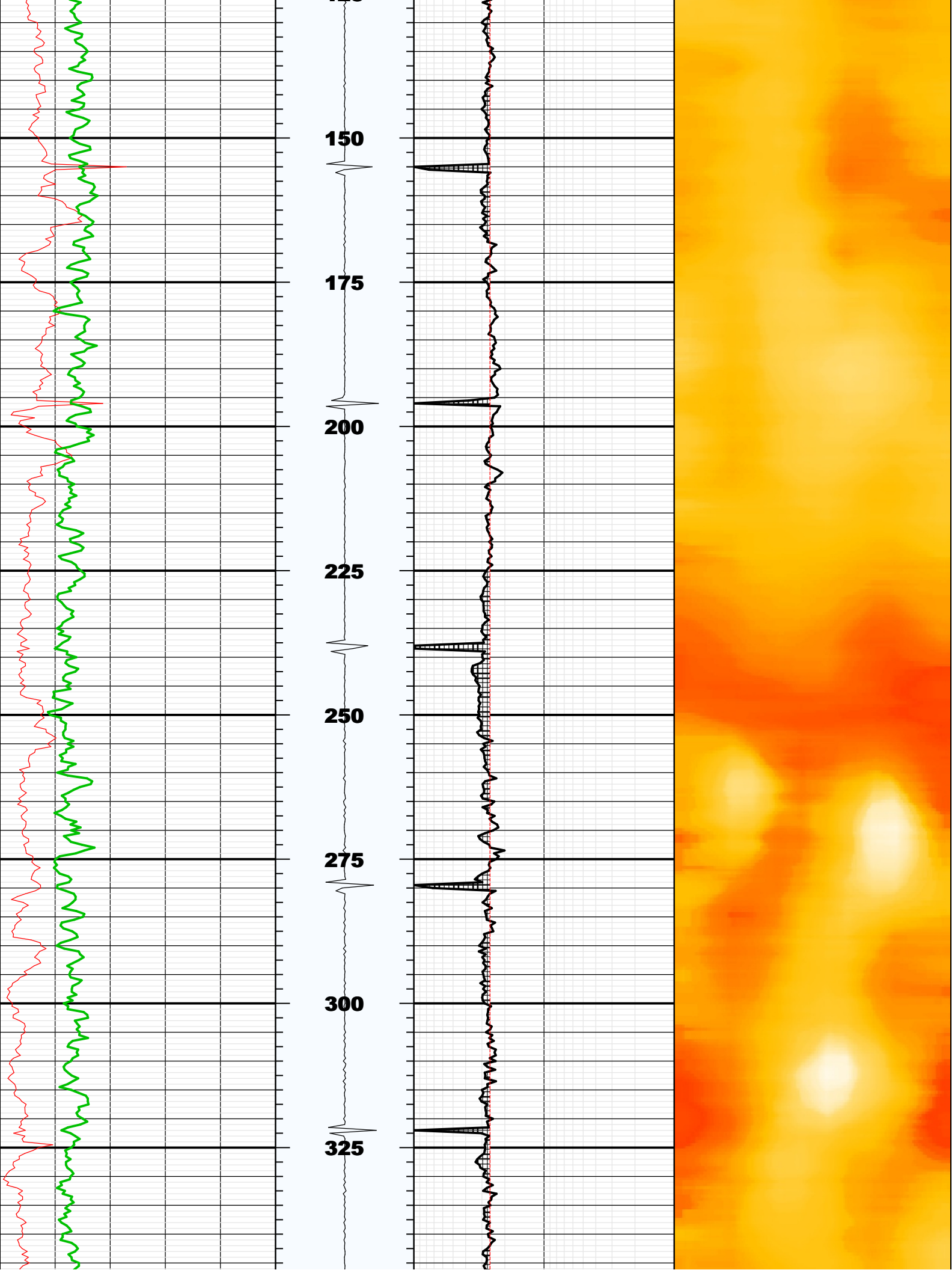
Correlated to Schumberger PPC-AIT-GR log

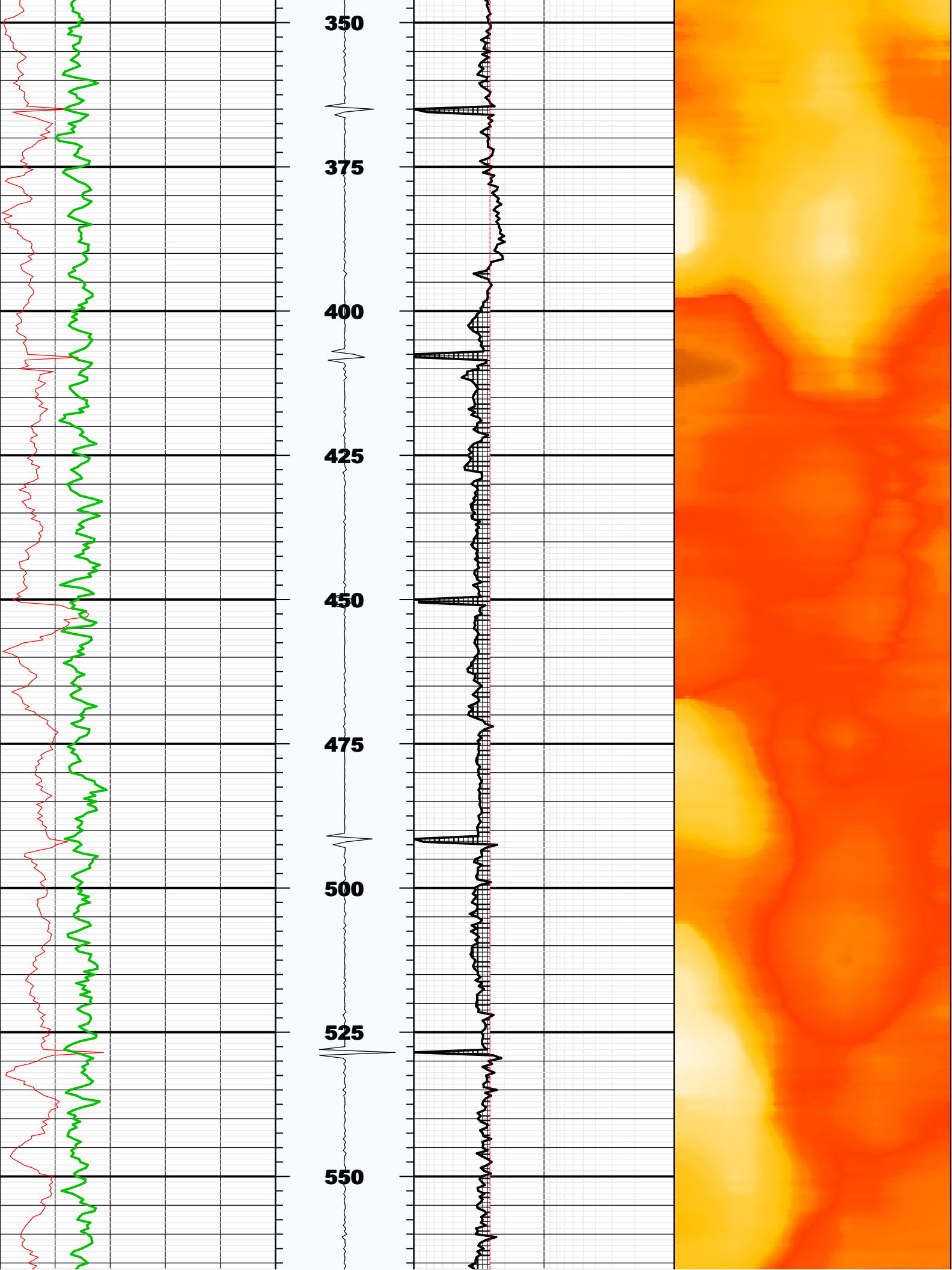
Crew Heather Hoffman Jake Jump Josh Strand Elizabeth Wilson

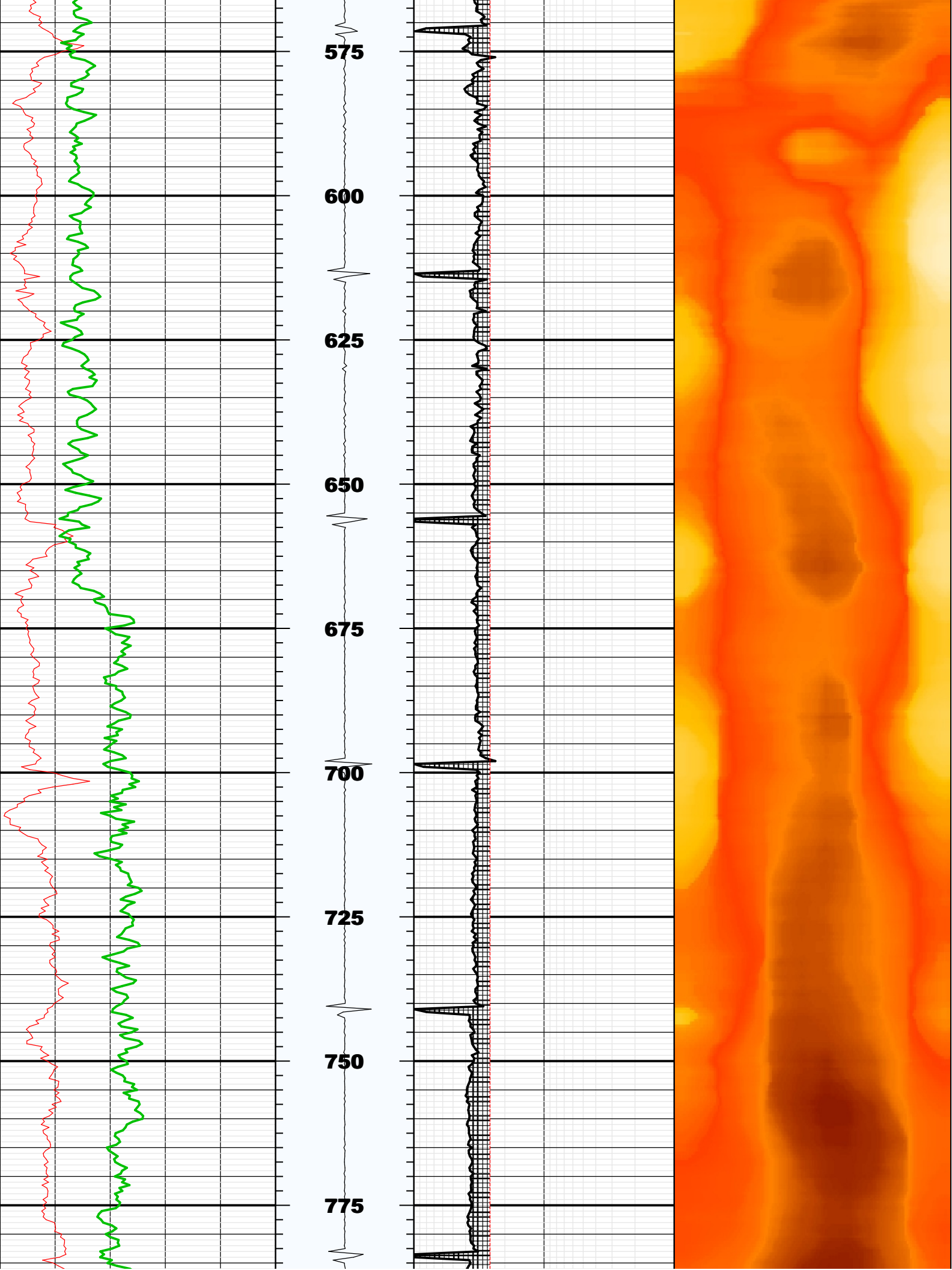
Main Pass

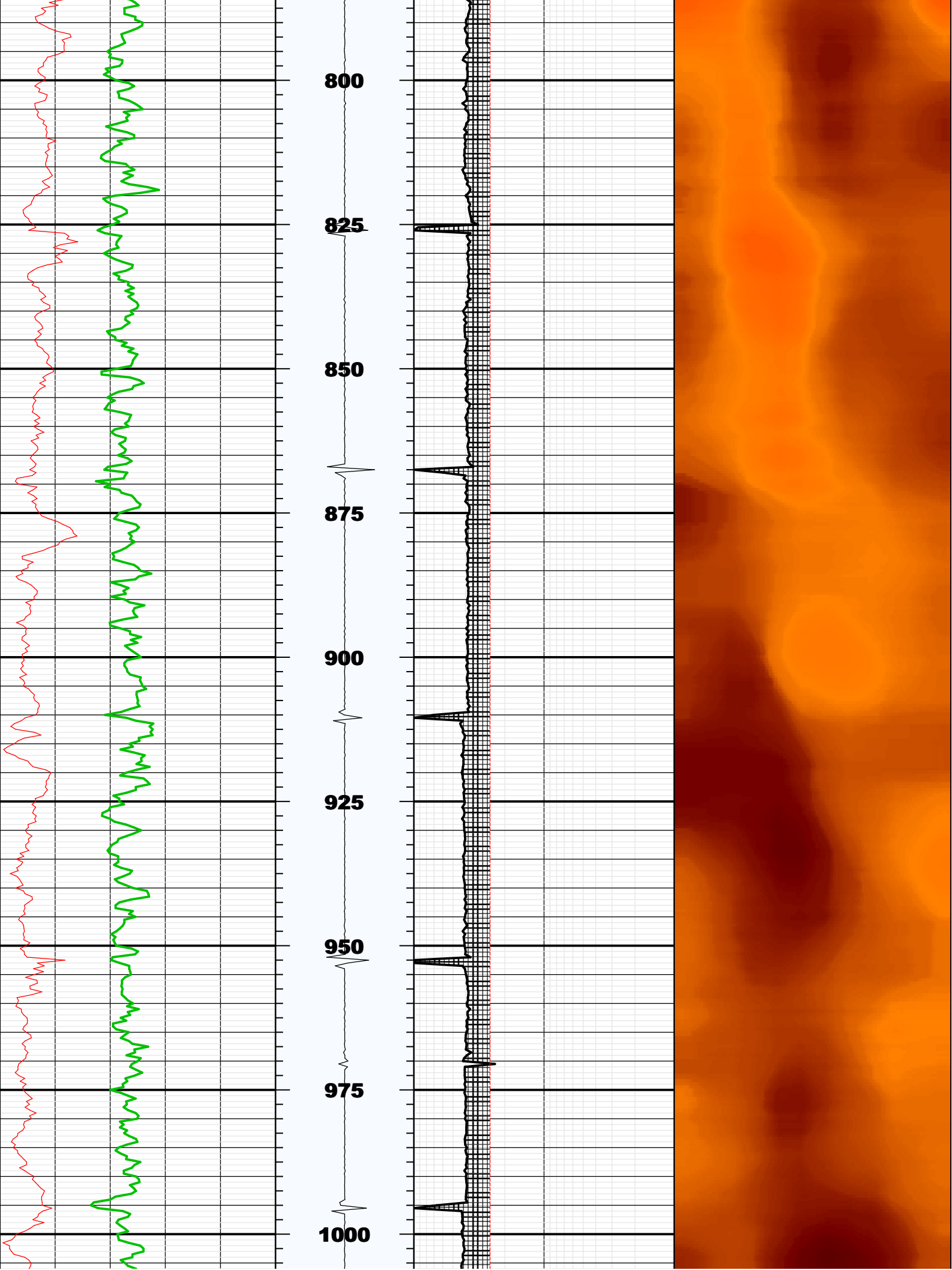
Company: Noble Energy Inc
Well: Sandau K25-62-1HNL
Field: Hambert

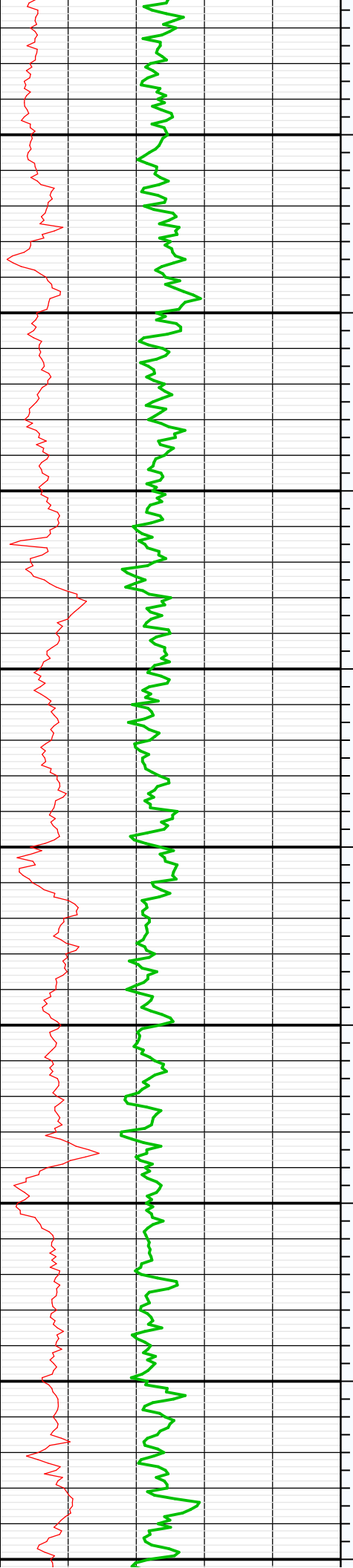












1025

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1075

1100

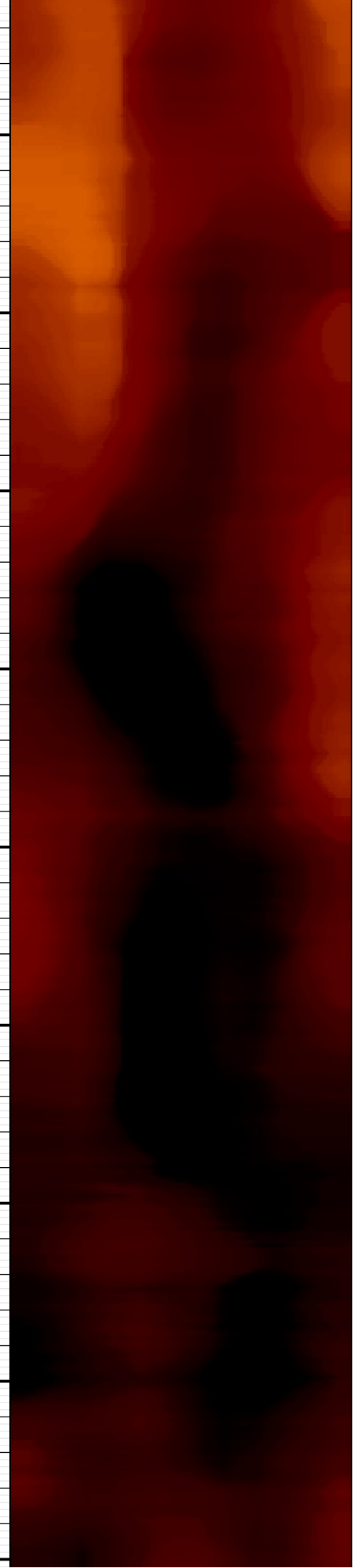
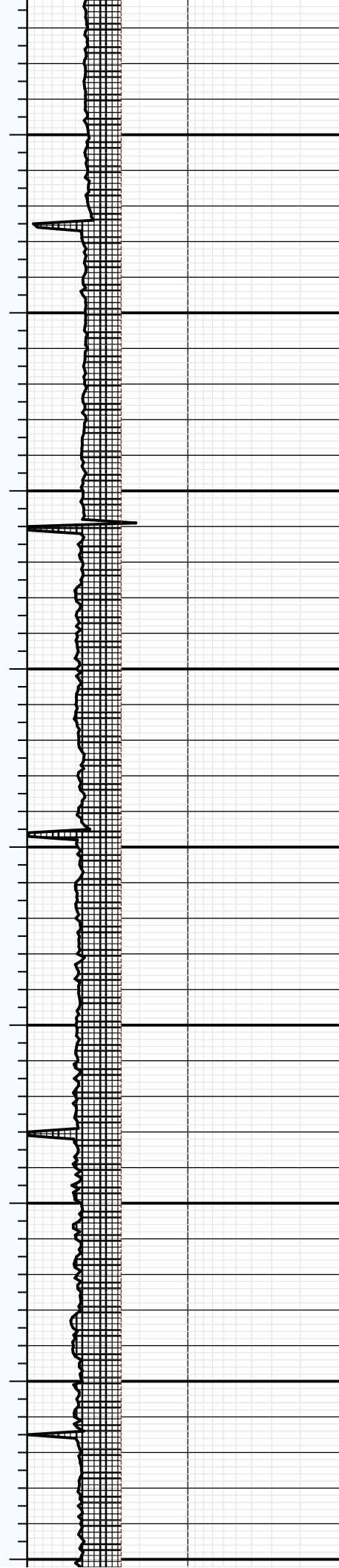
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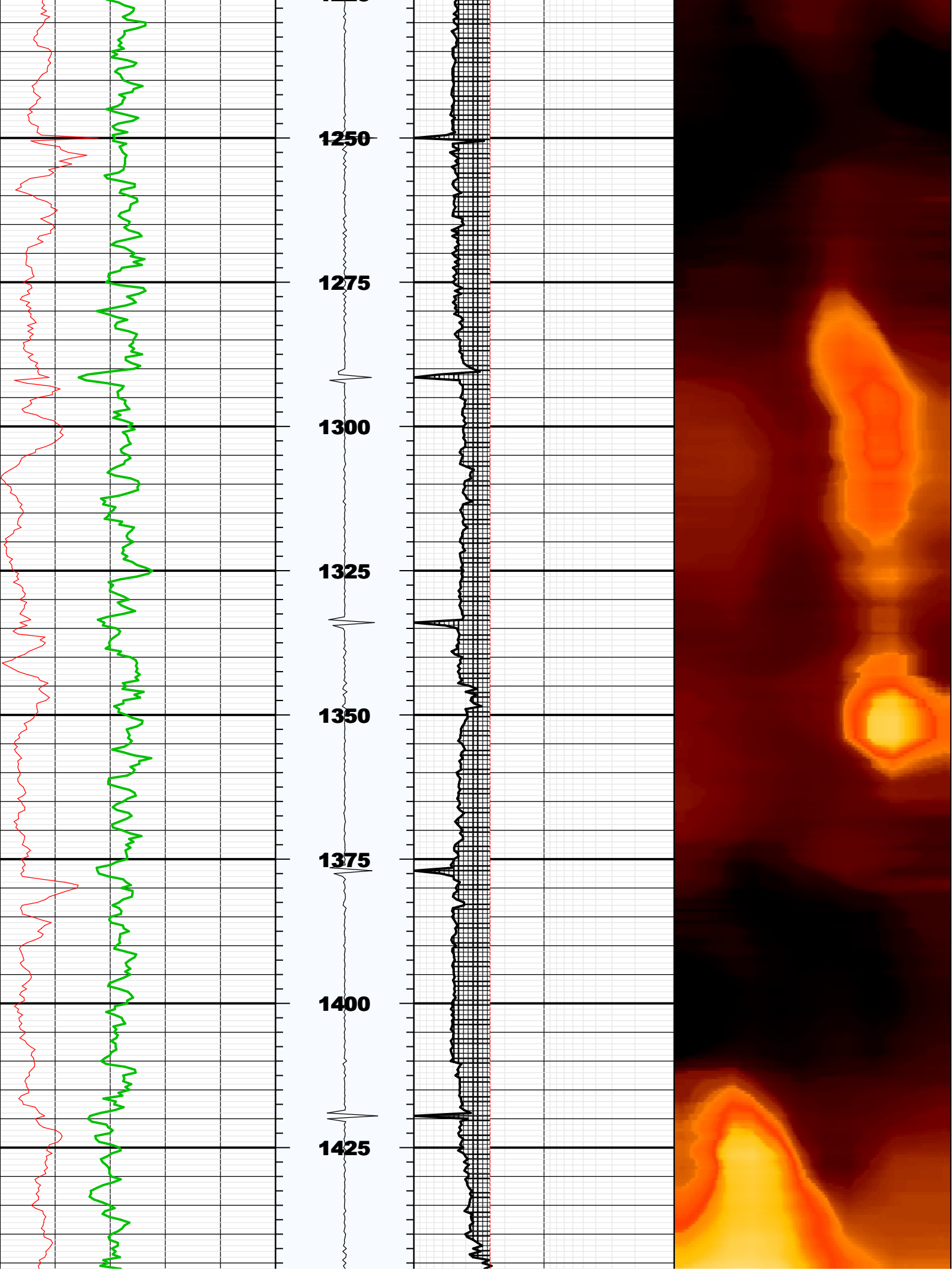
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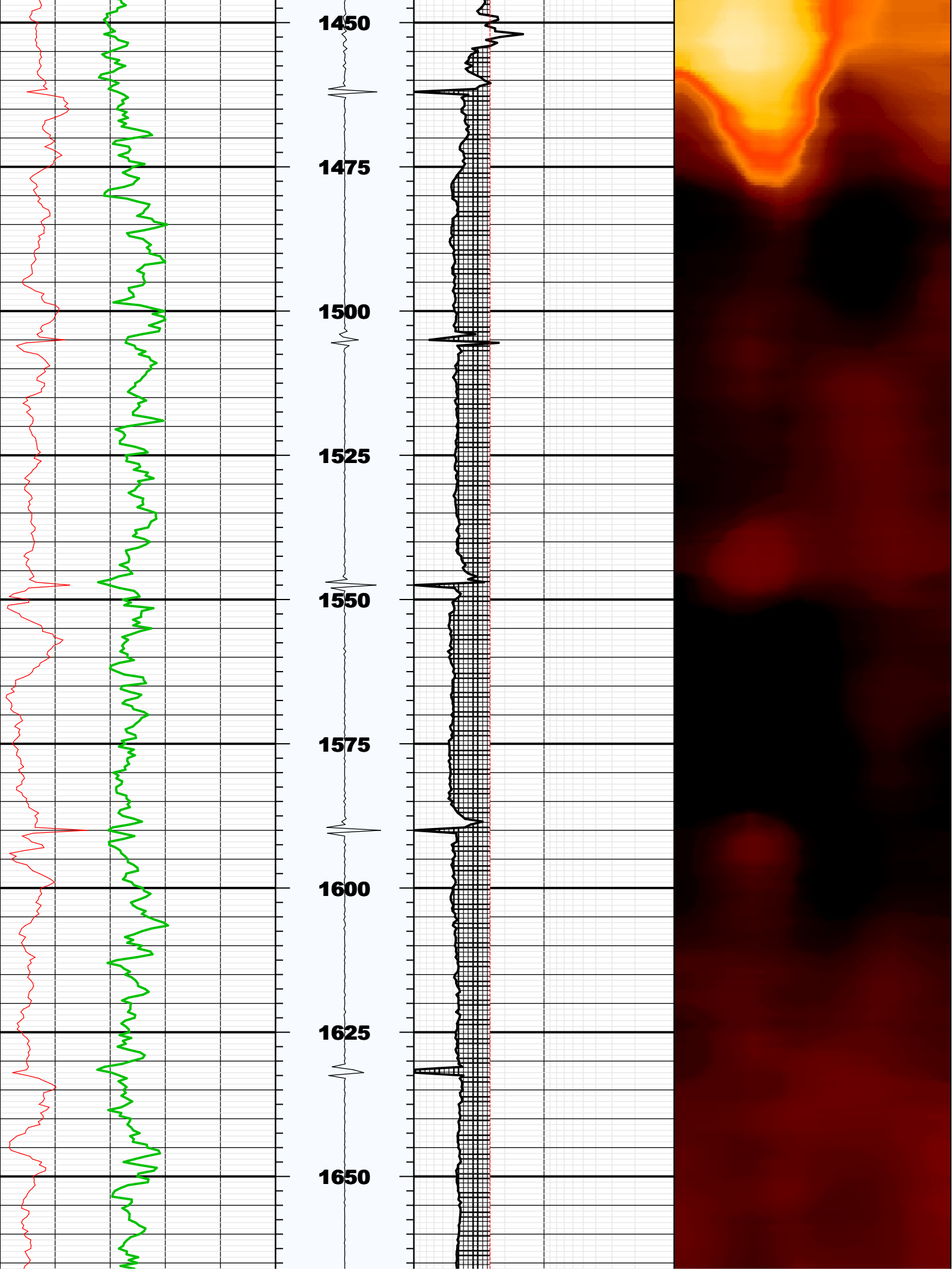
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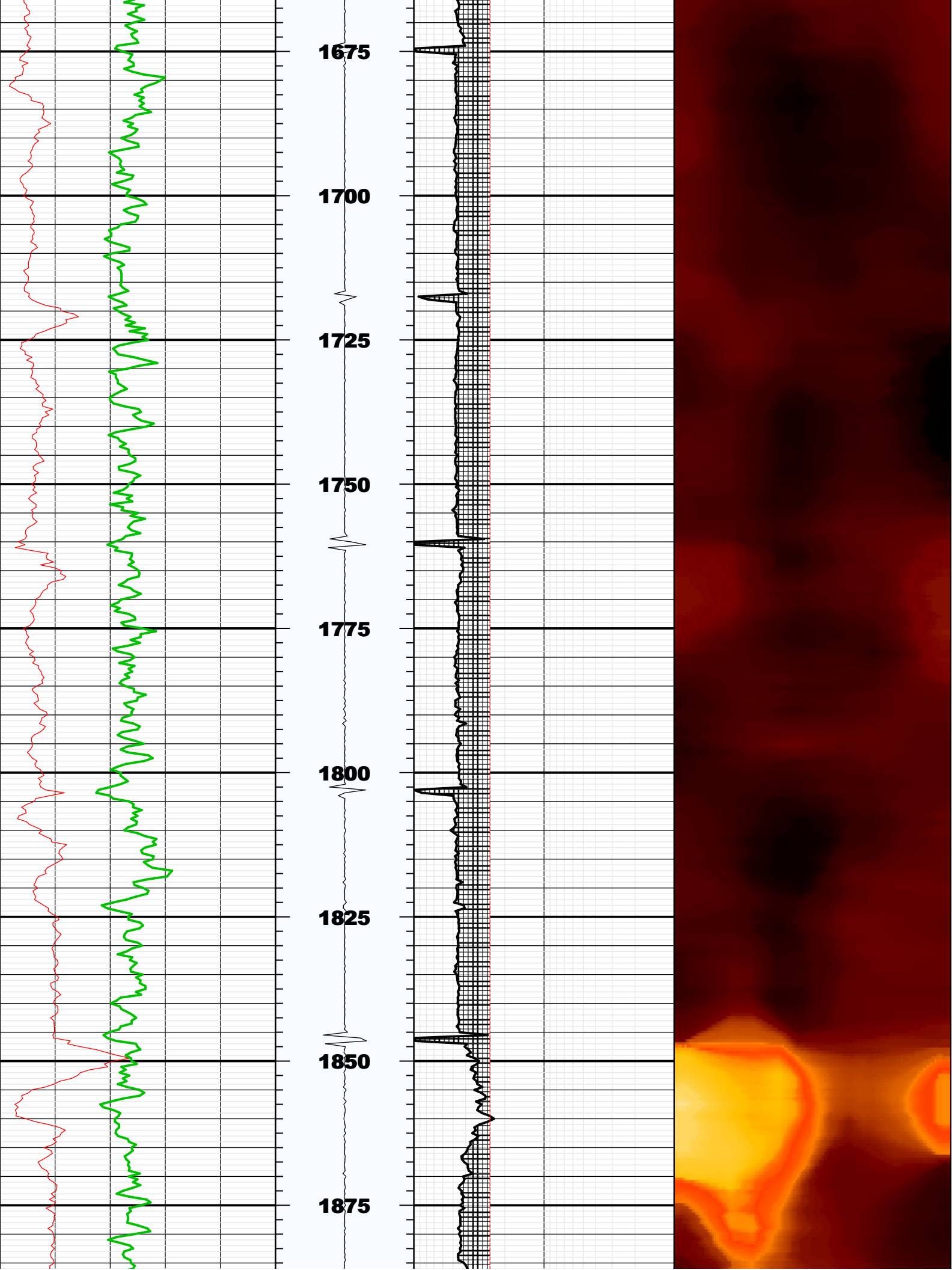
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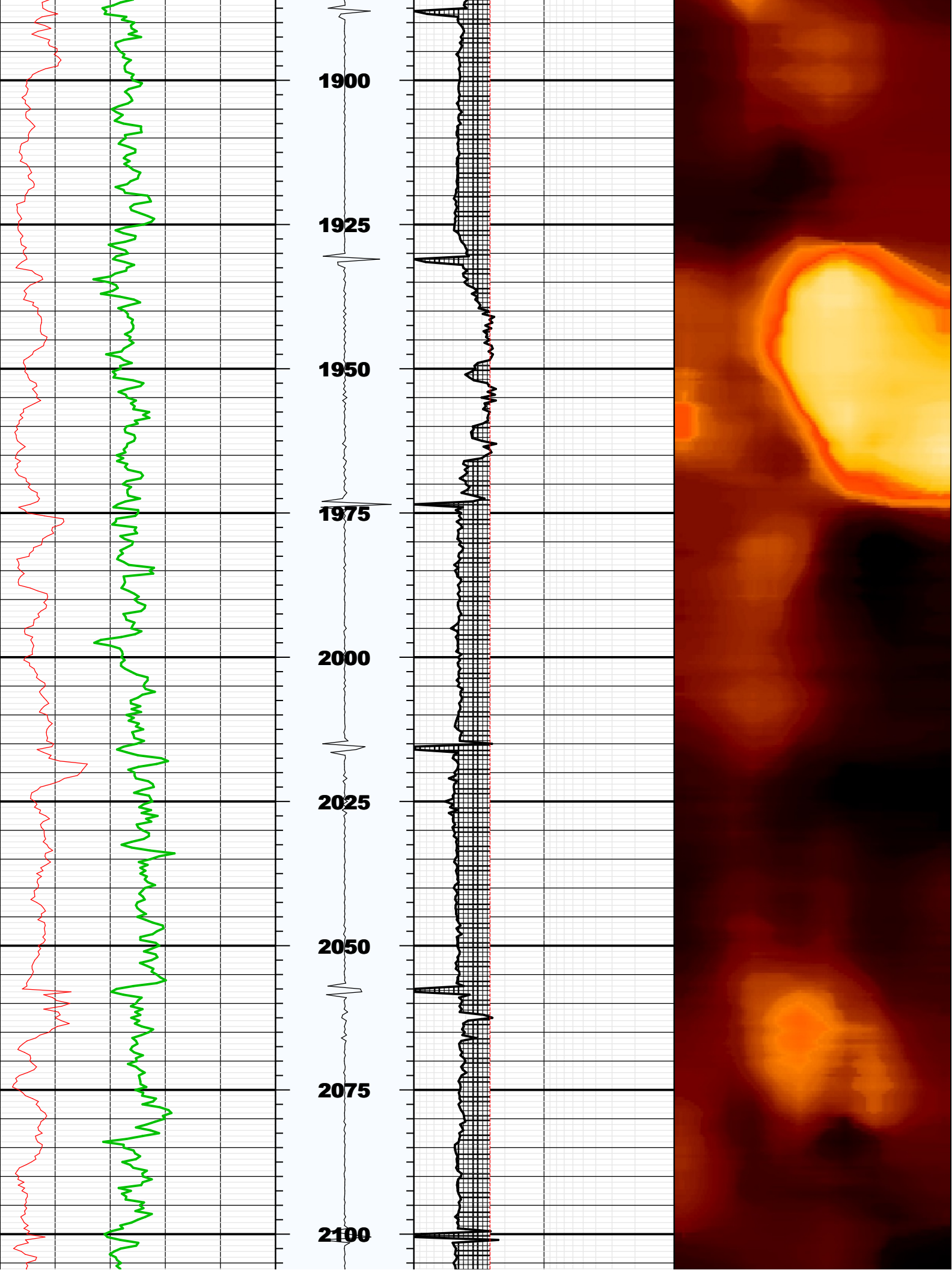
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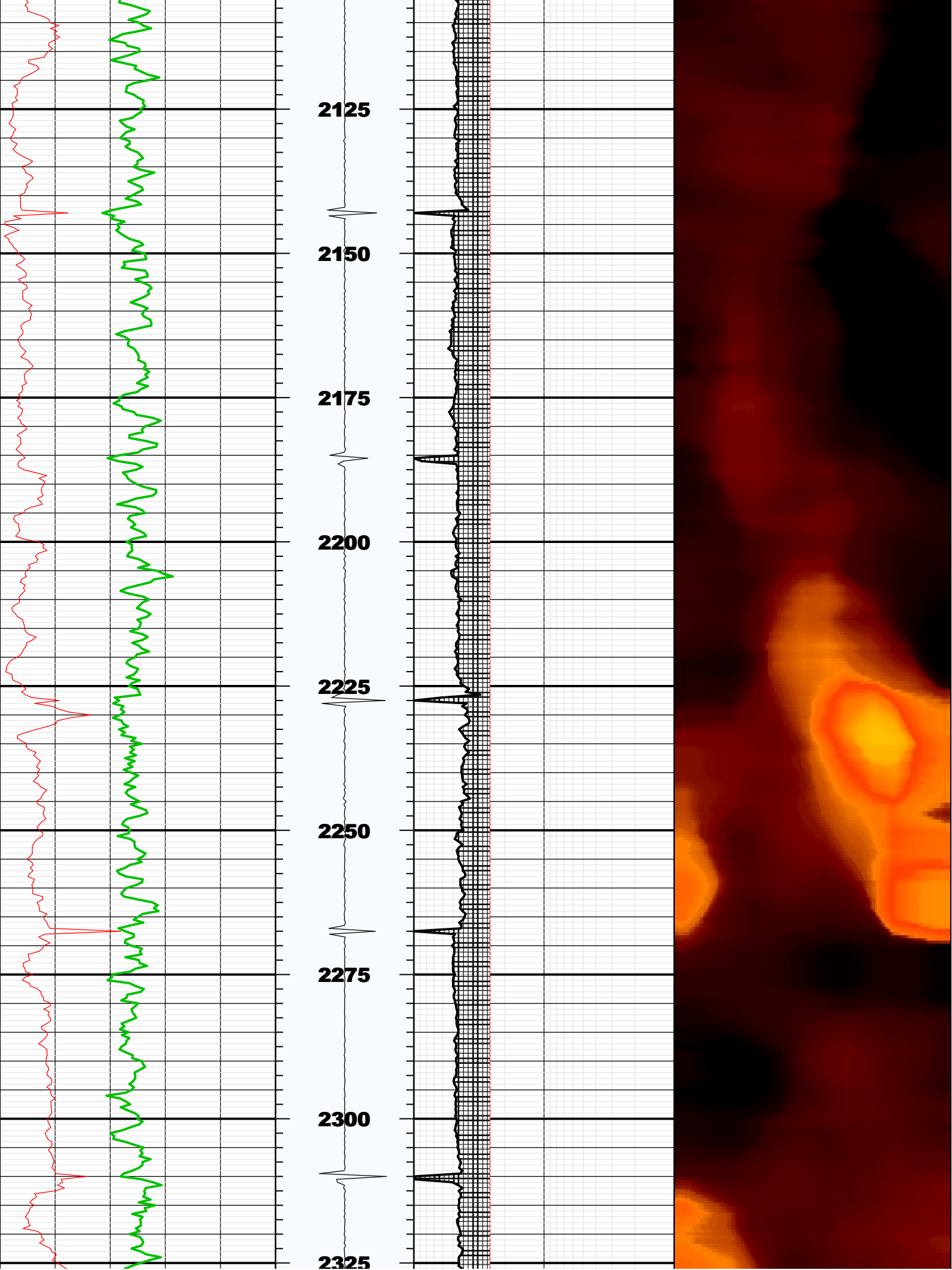


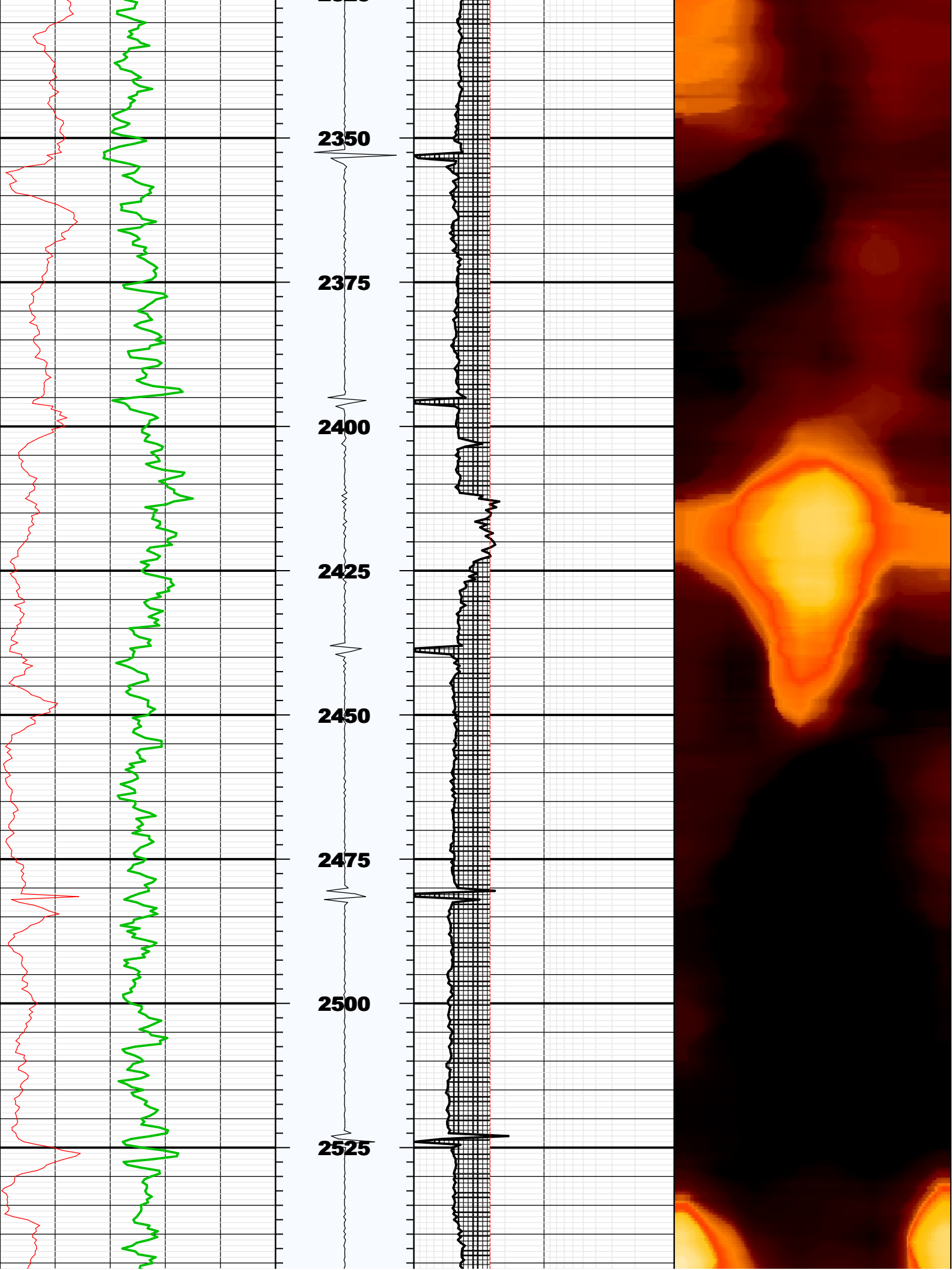


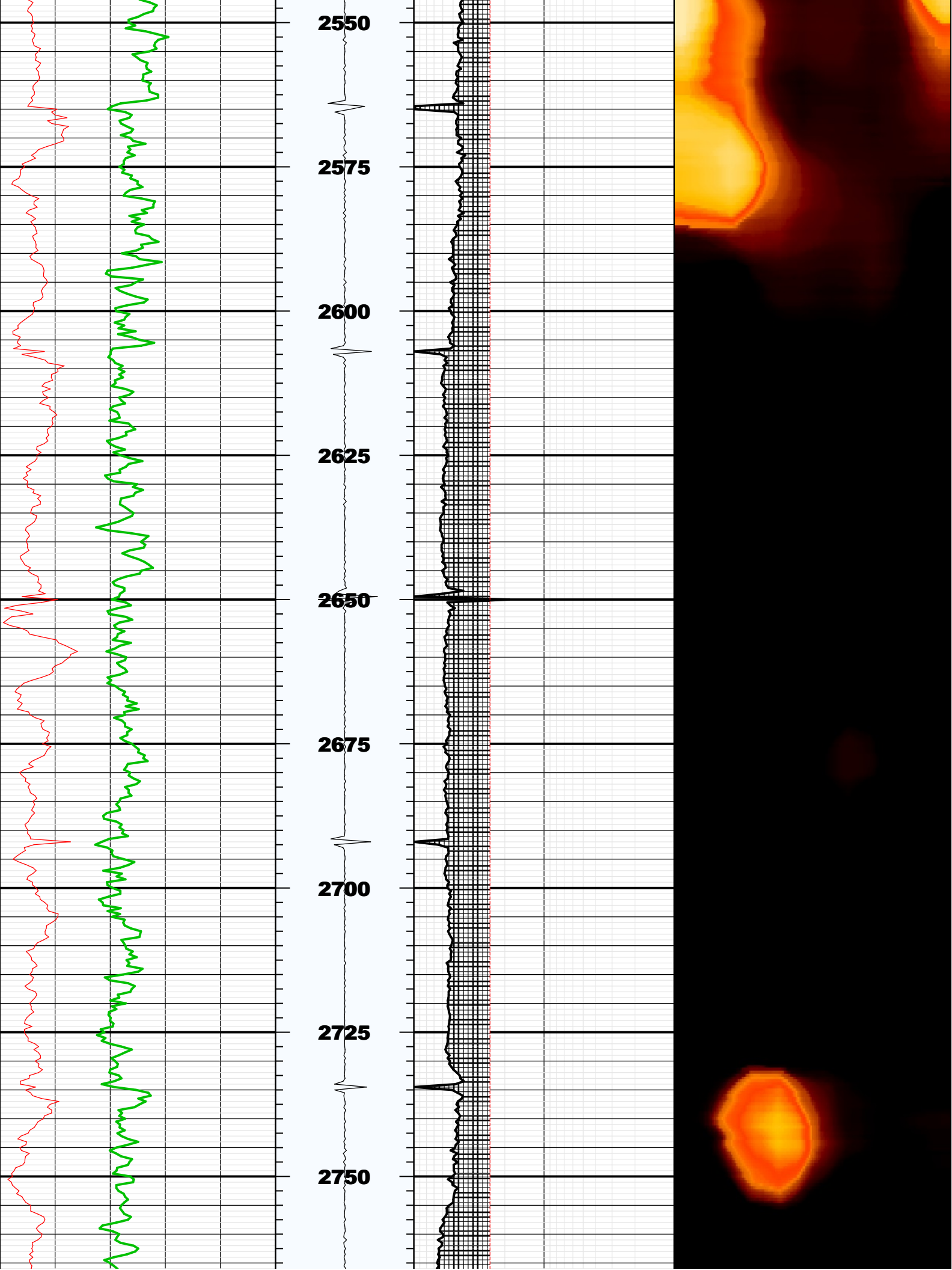


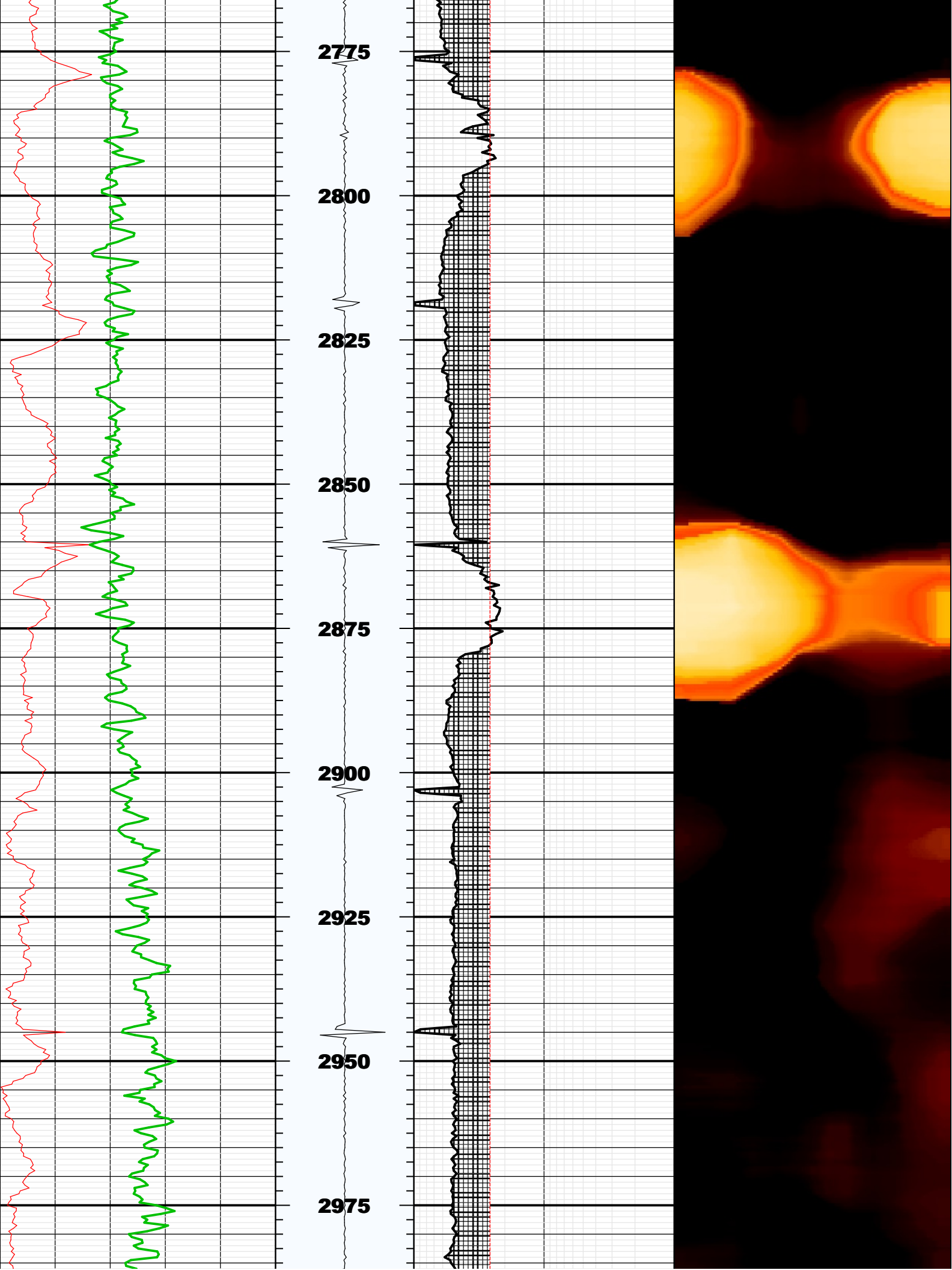


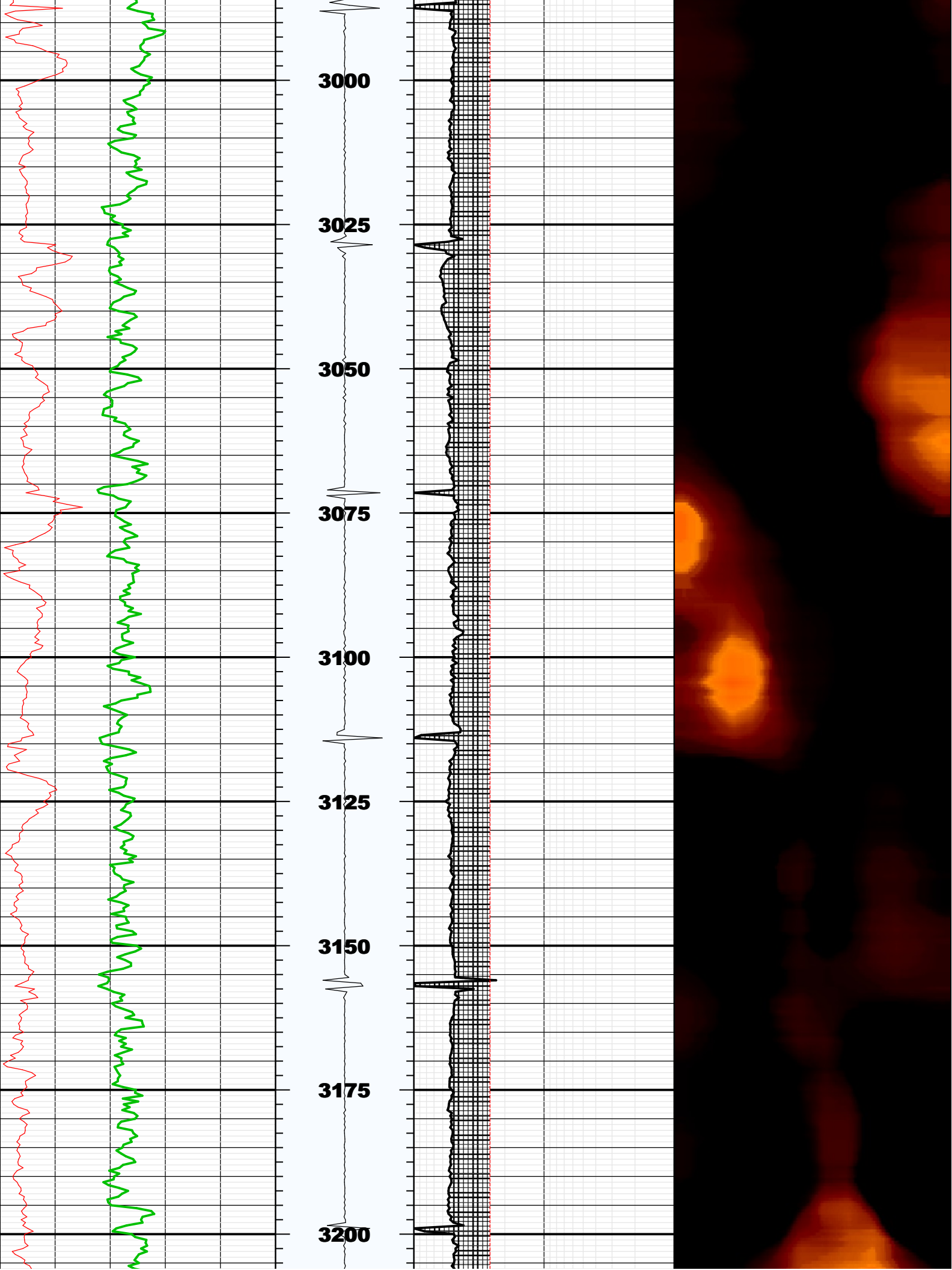


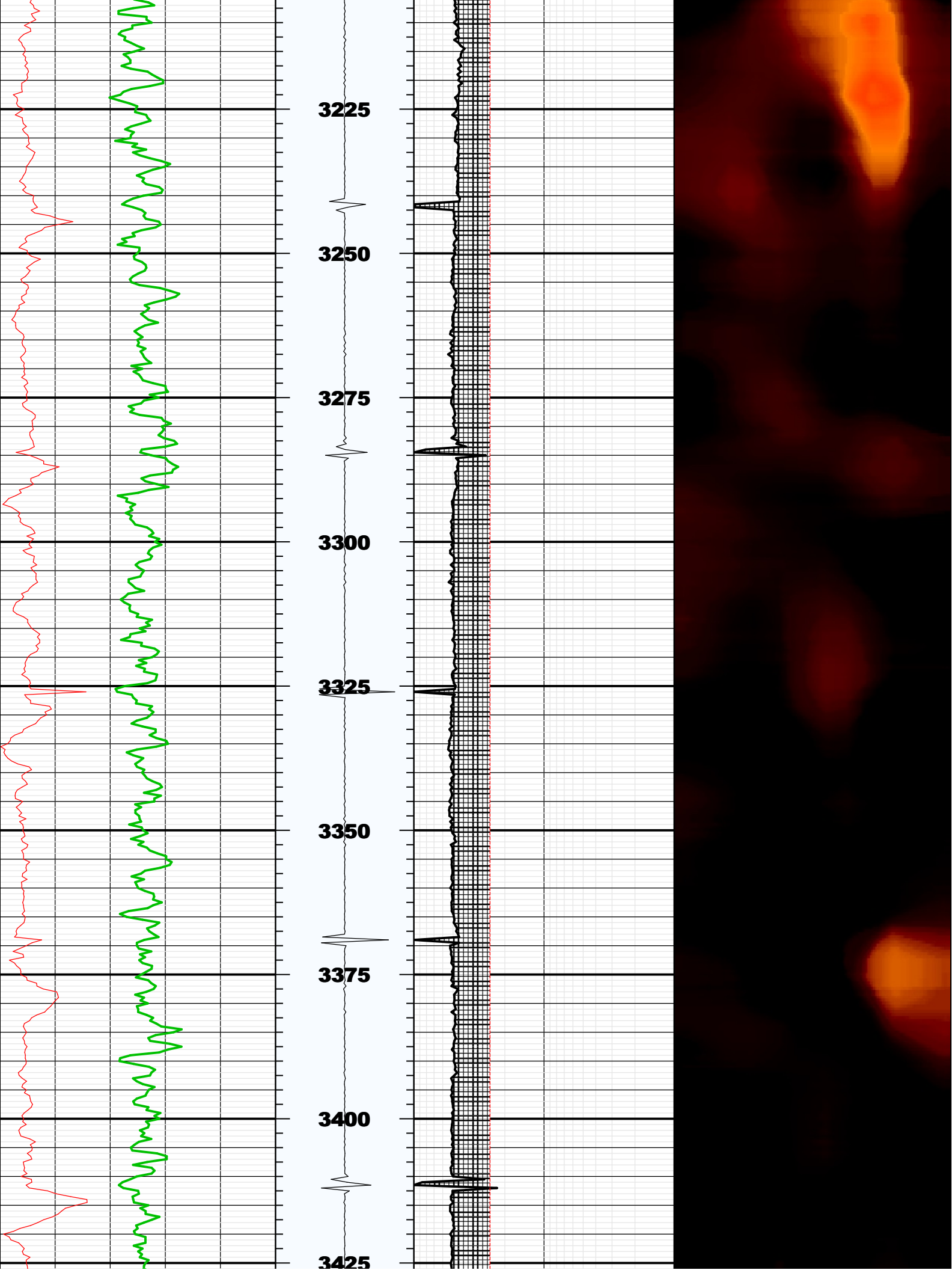


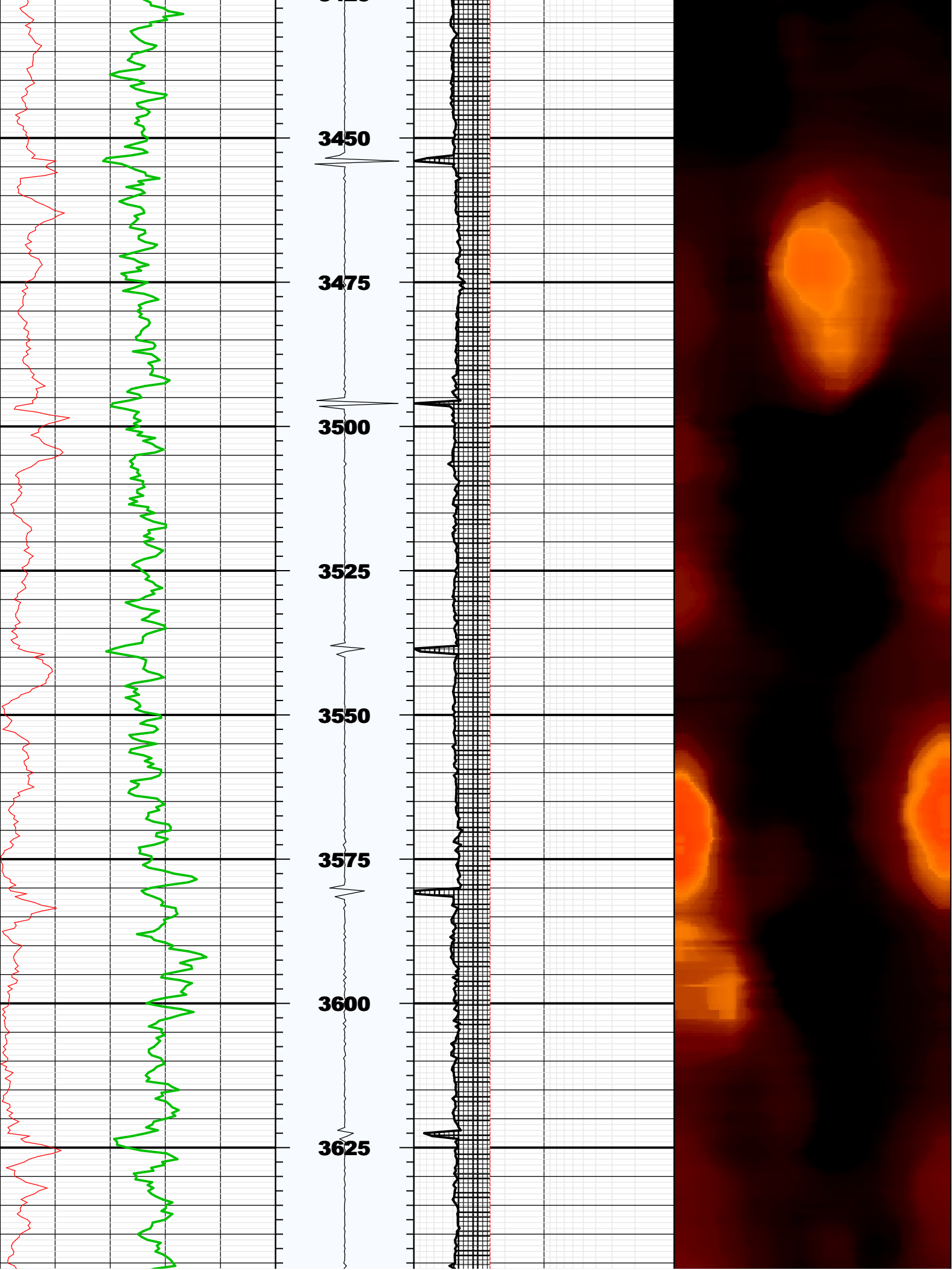


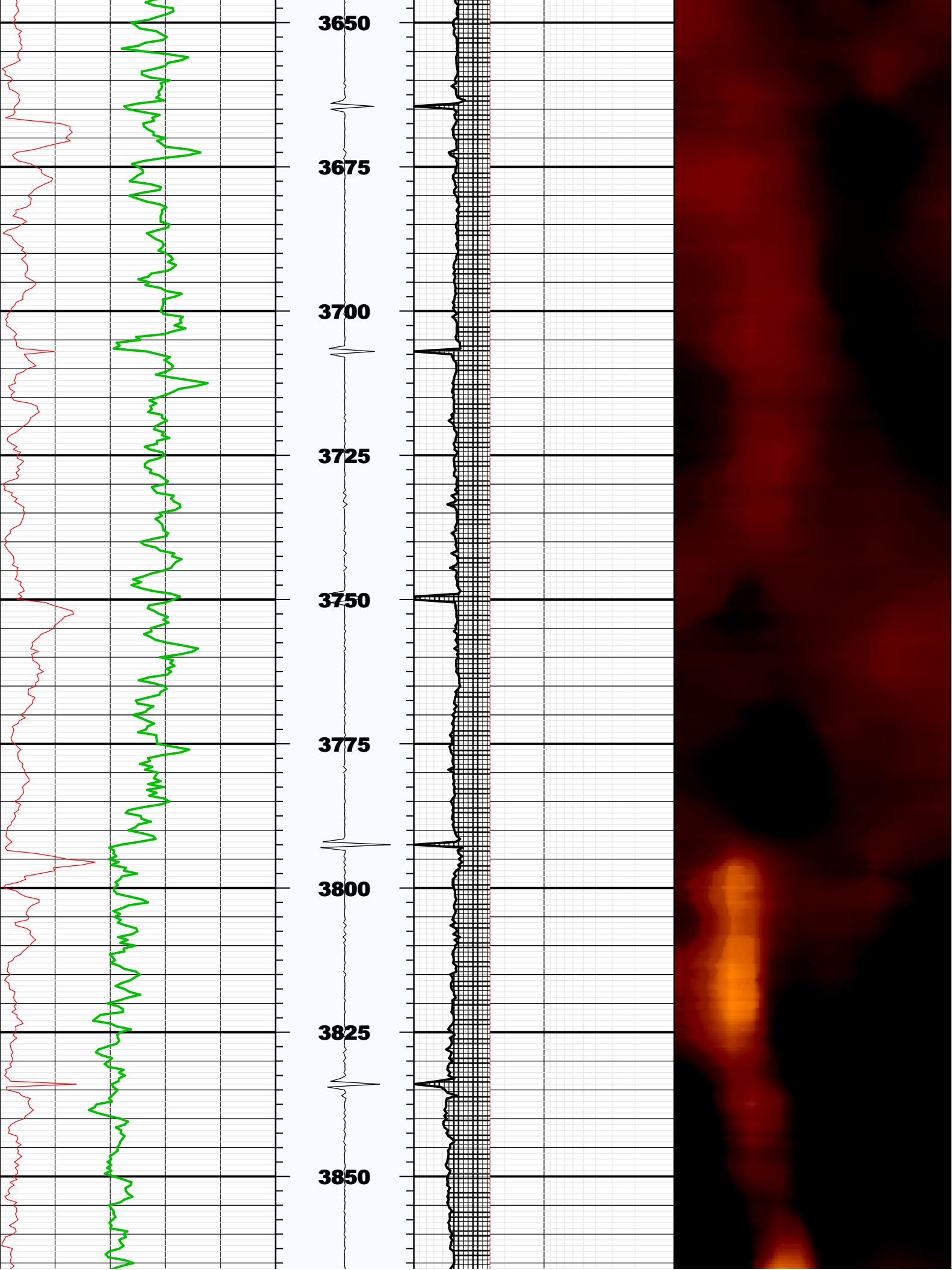


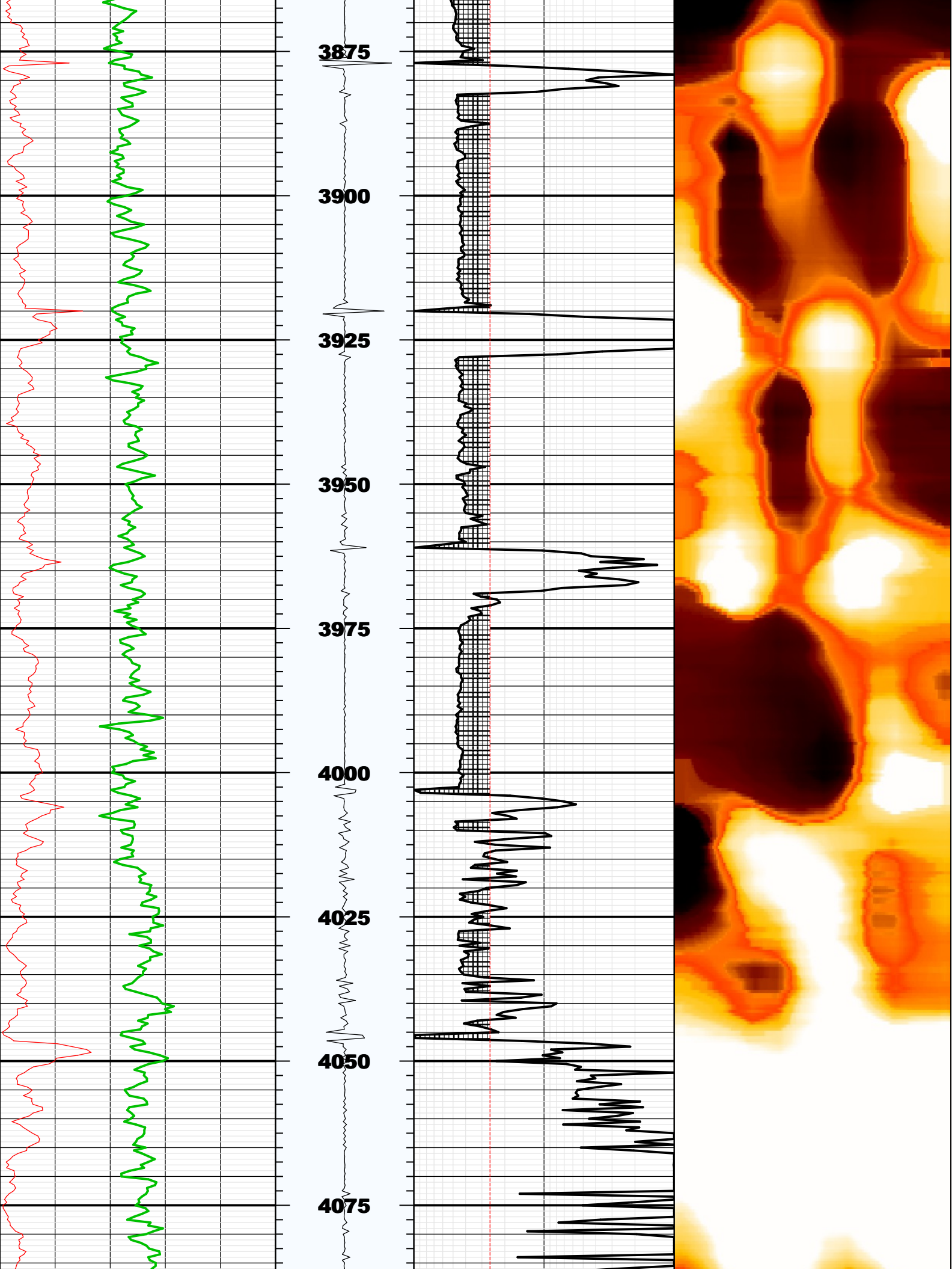


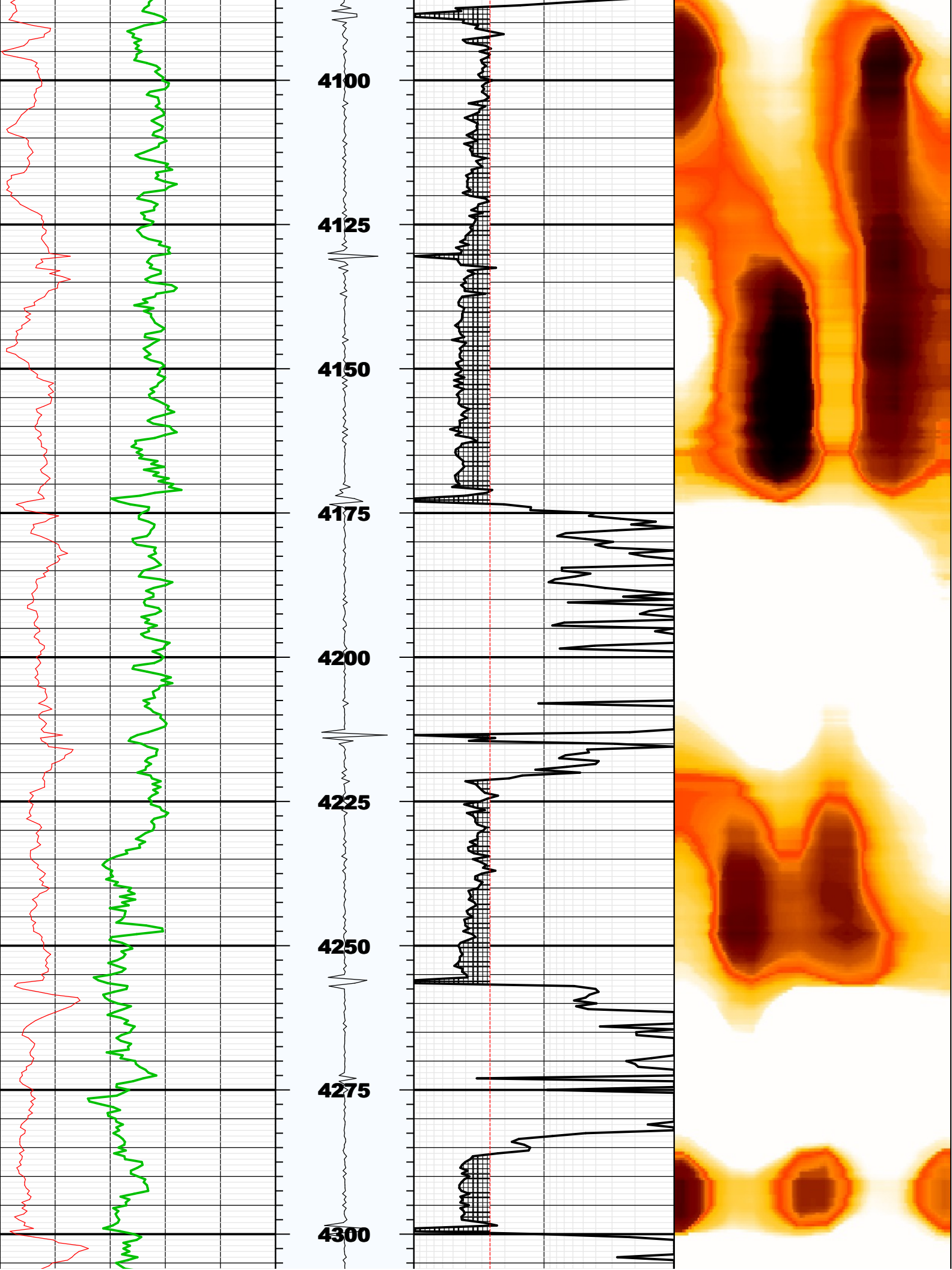


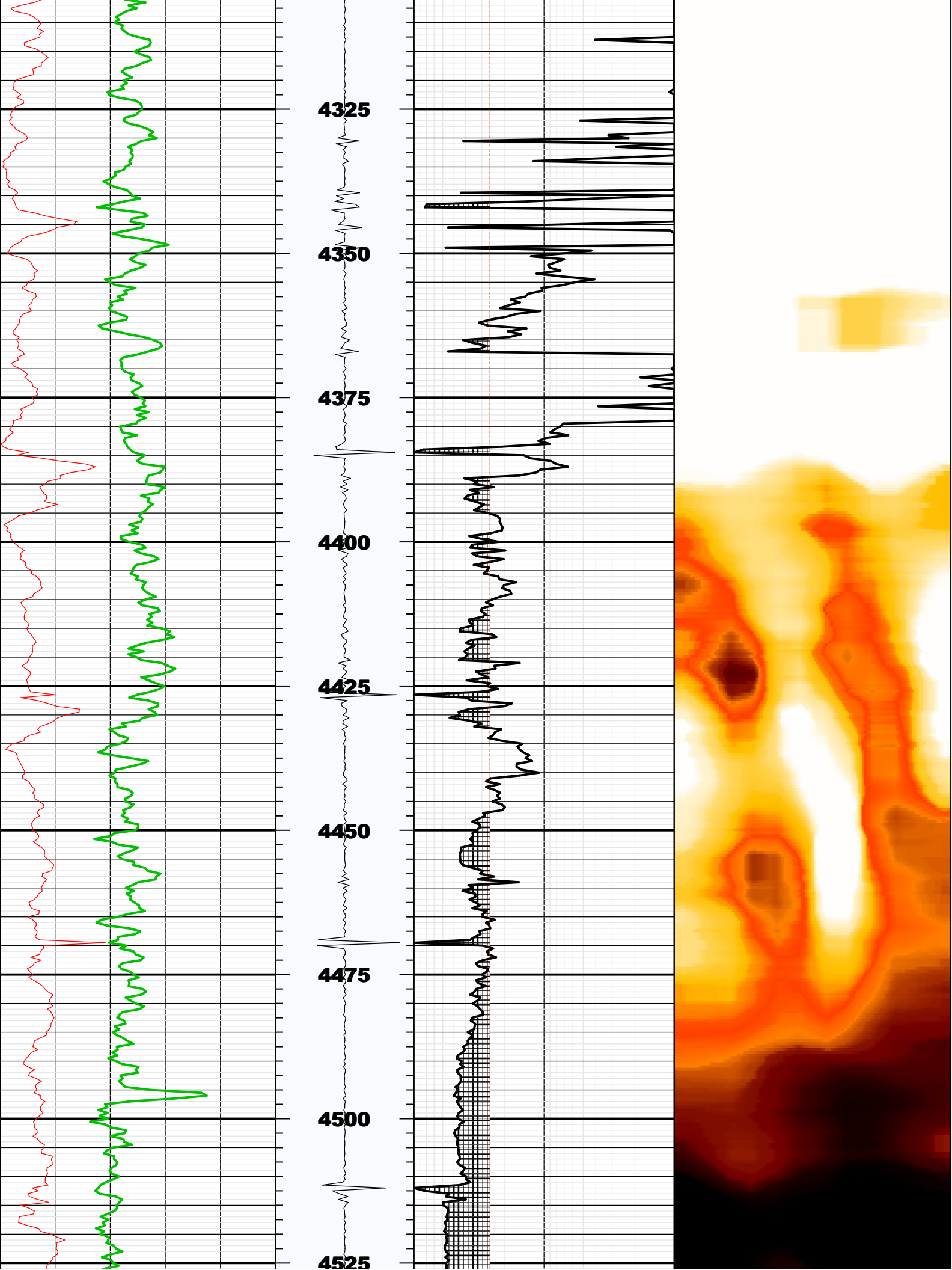


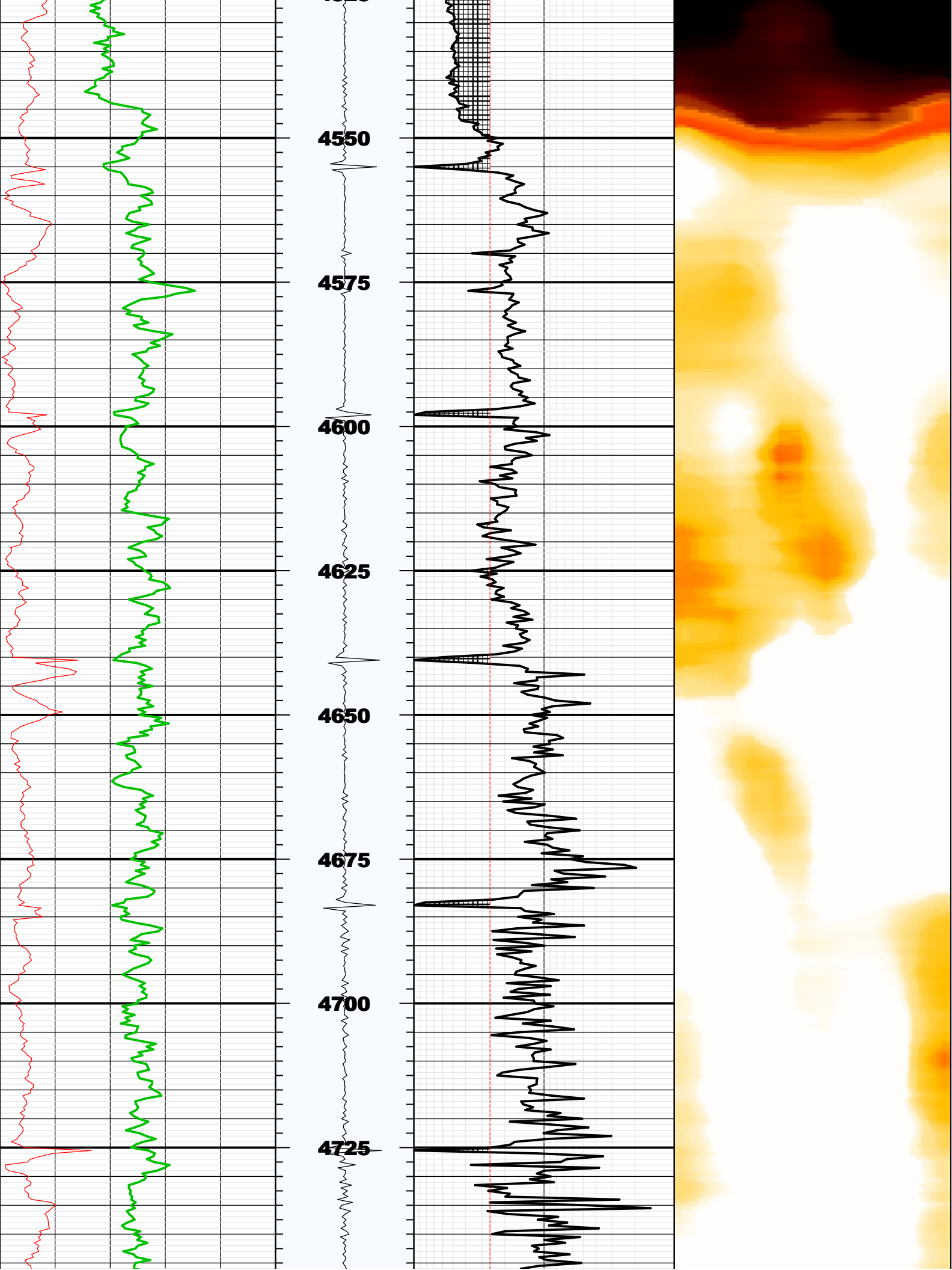


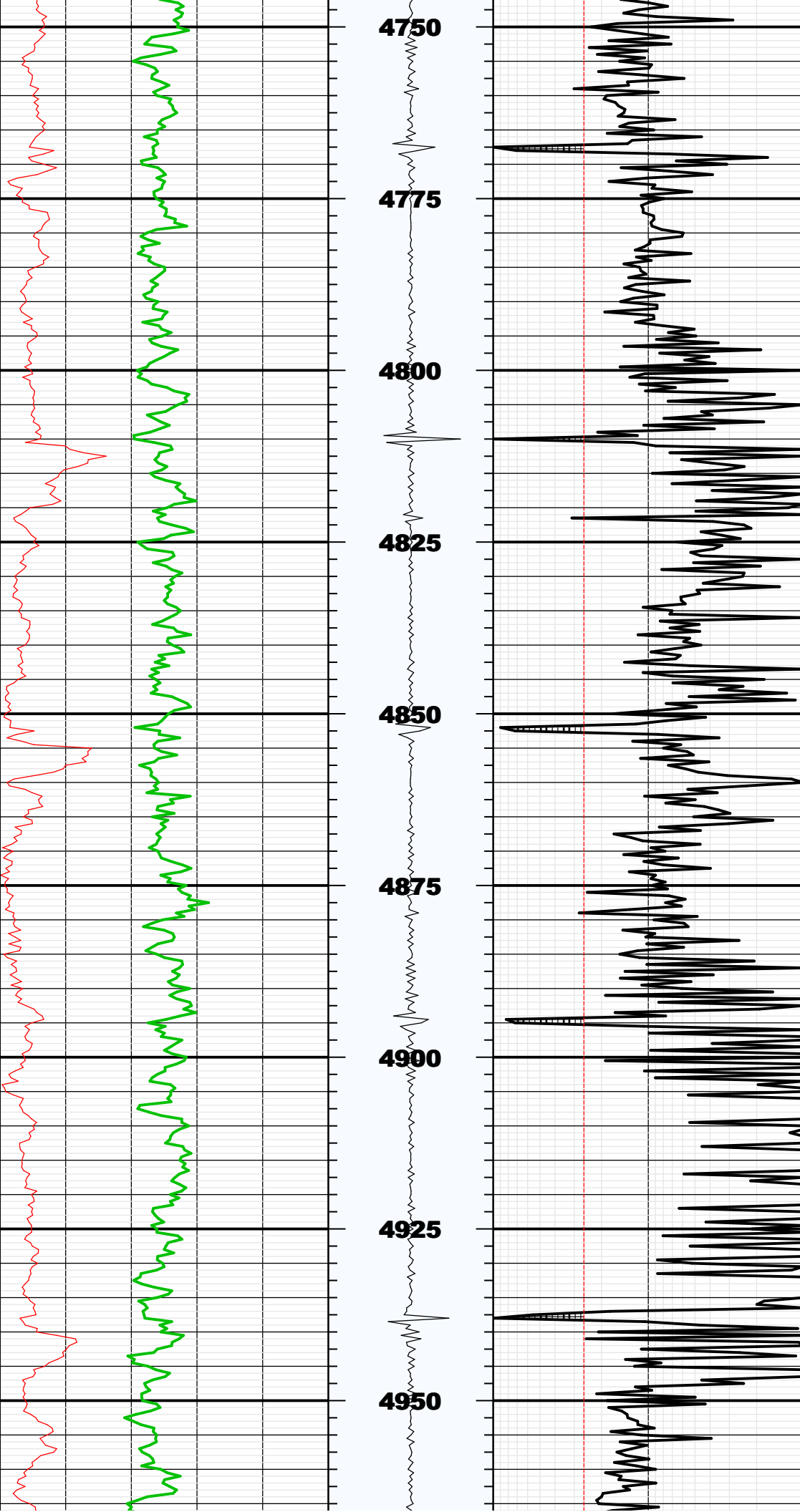


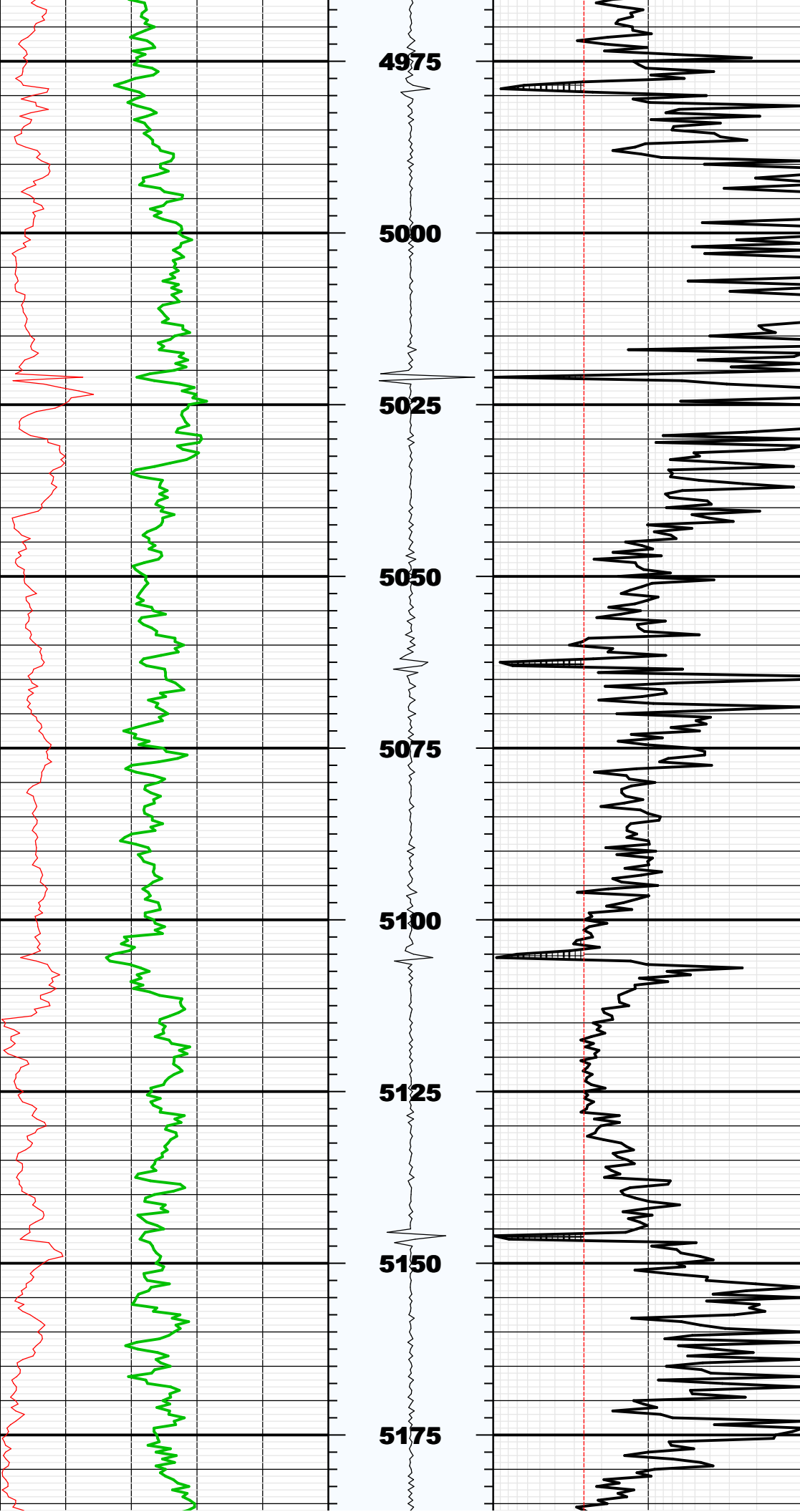


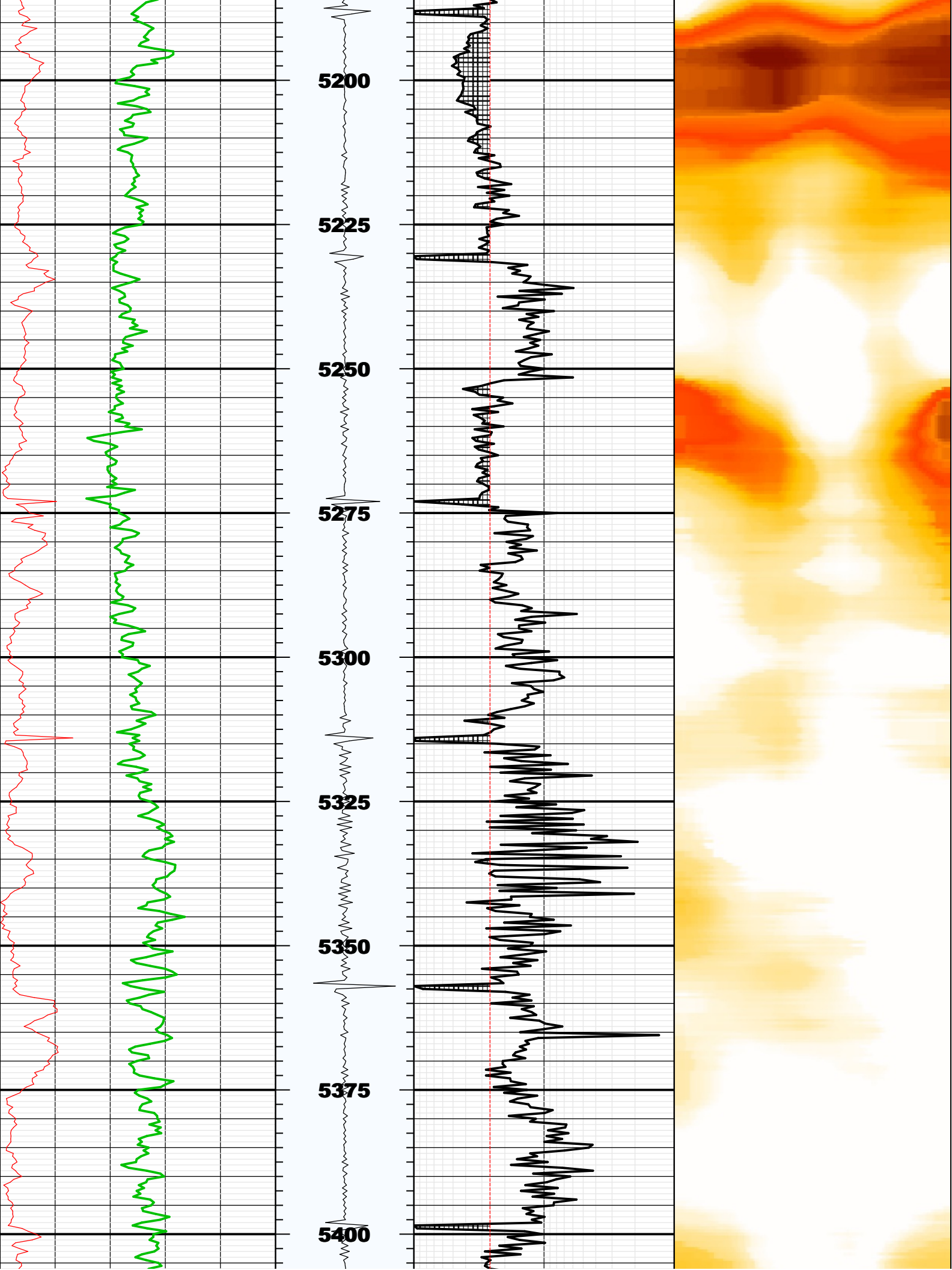


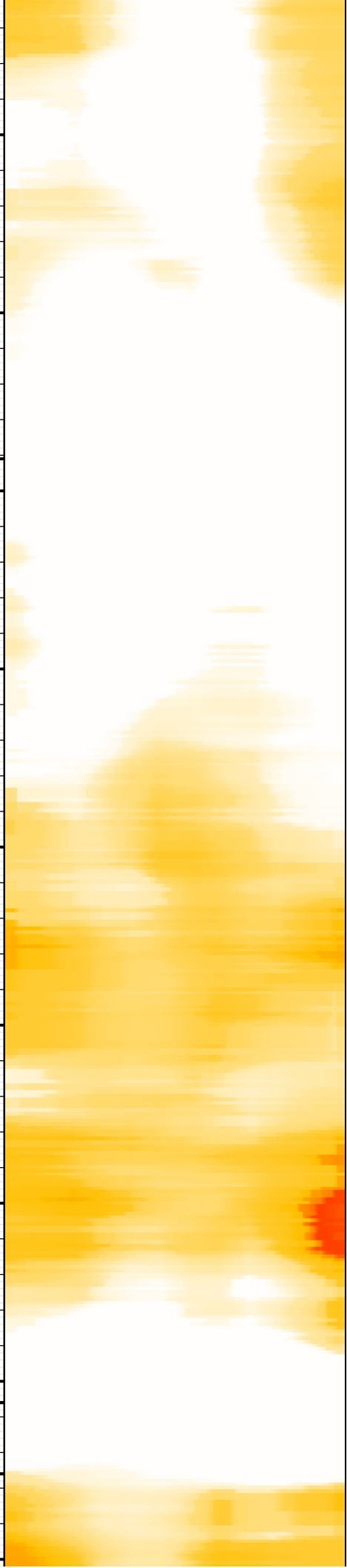
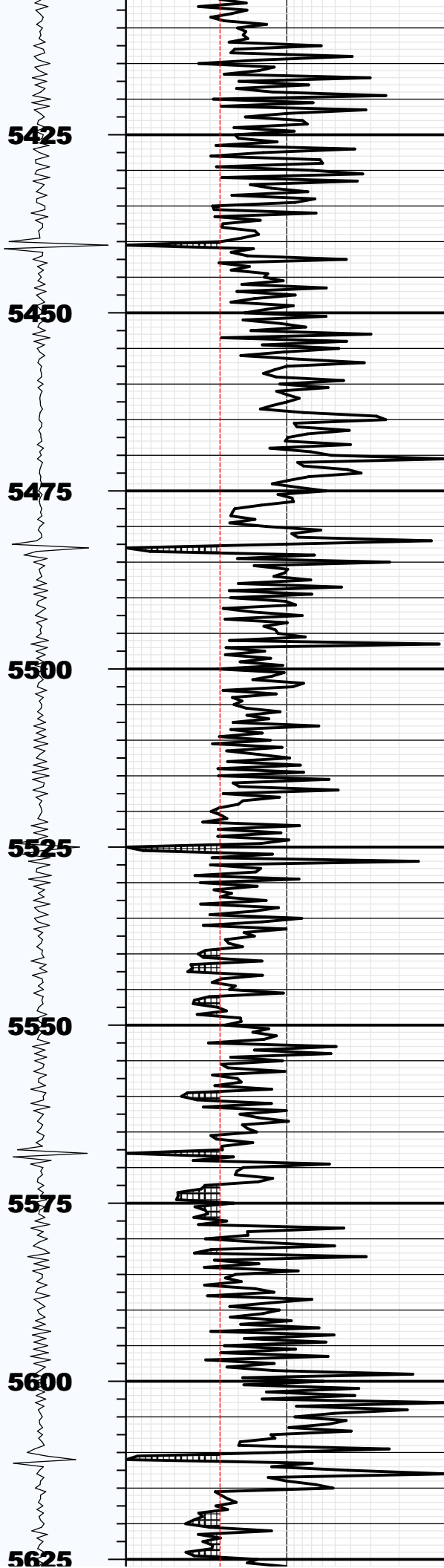
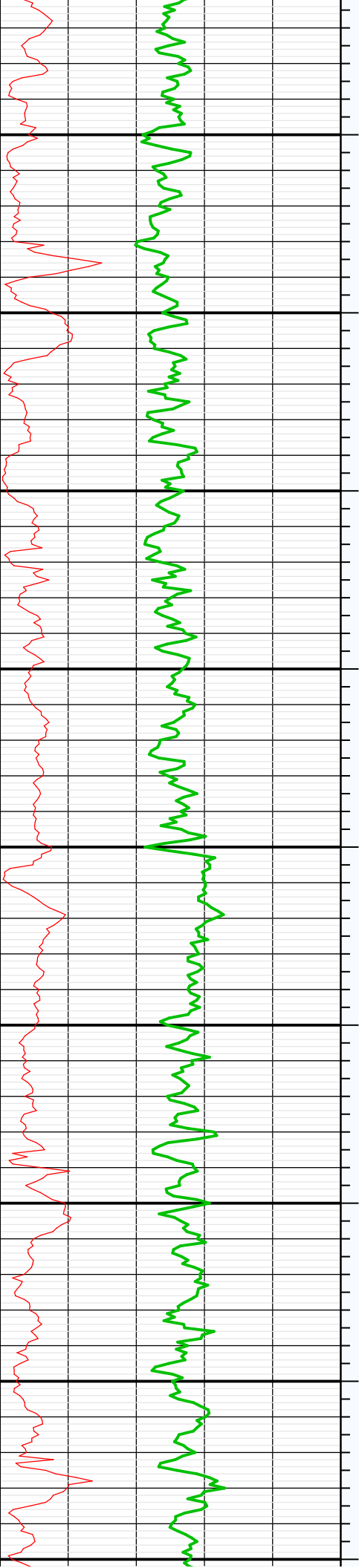


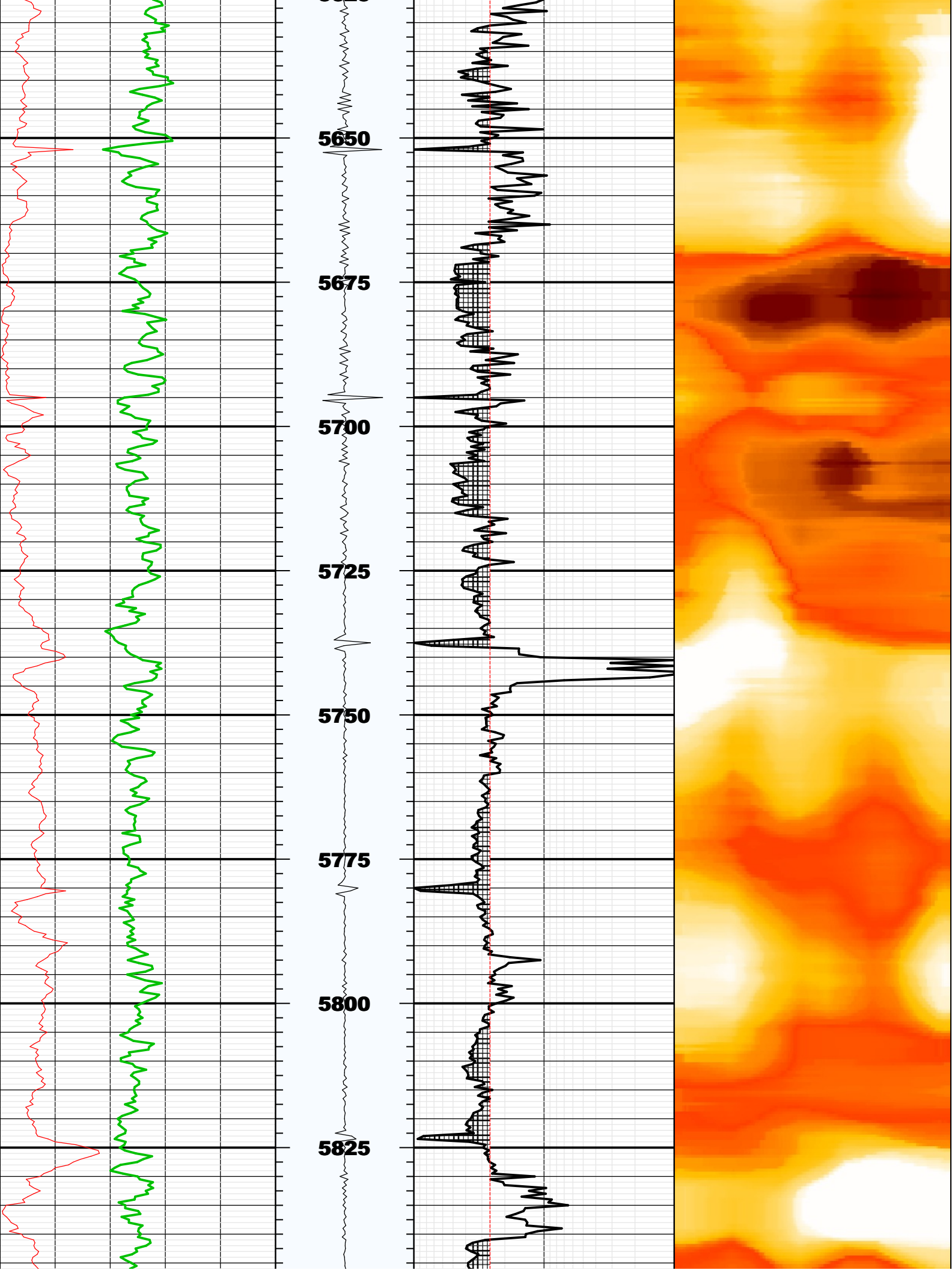


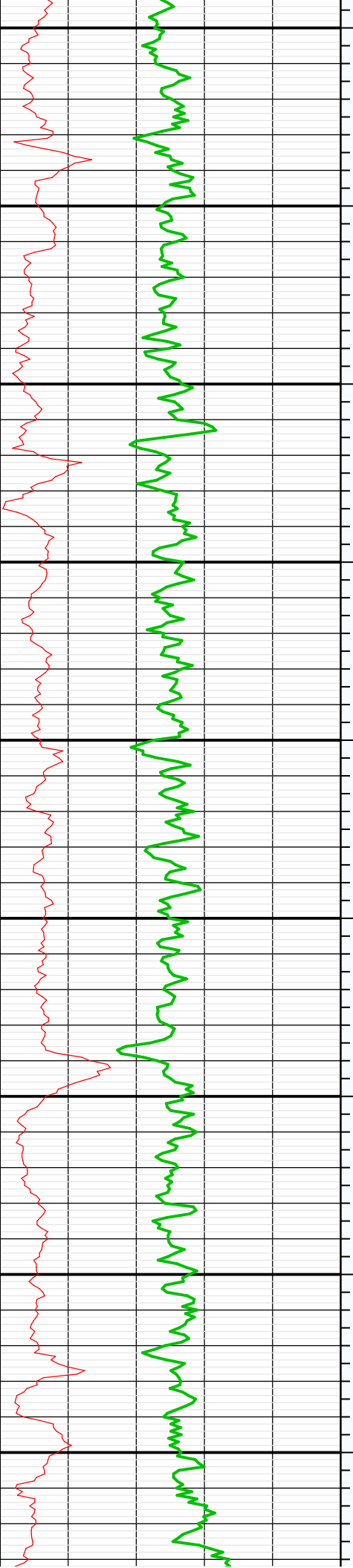












5850

5875

5900

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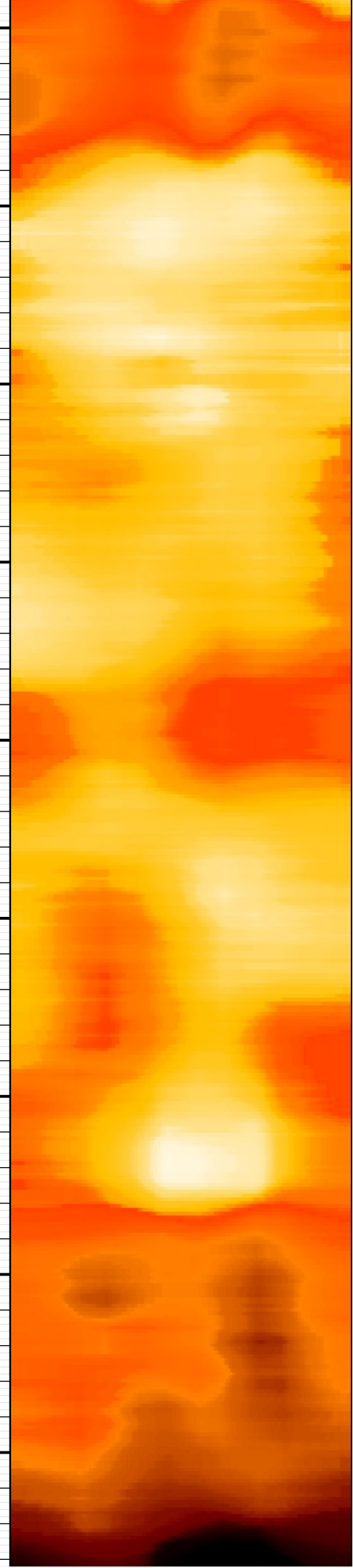
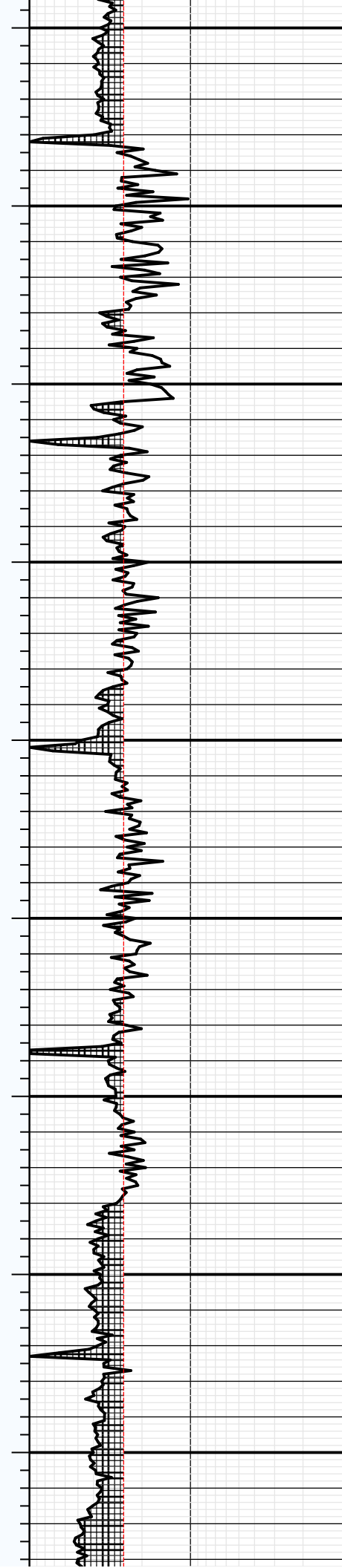
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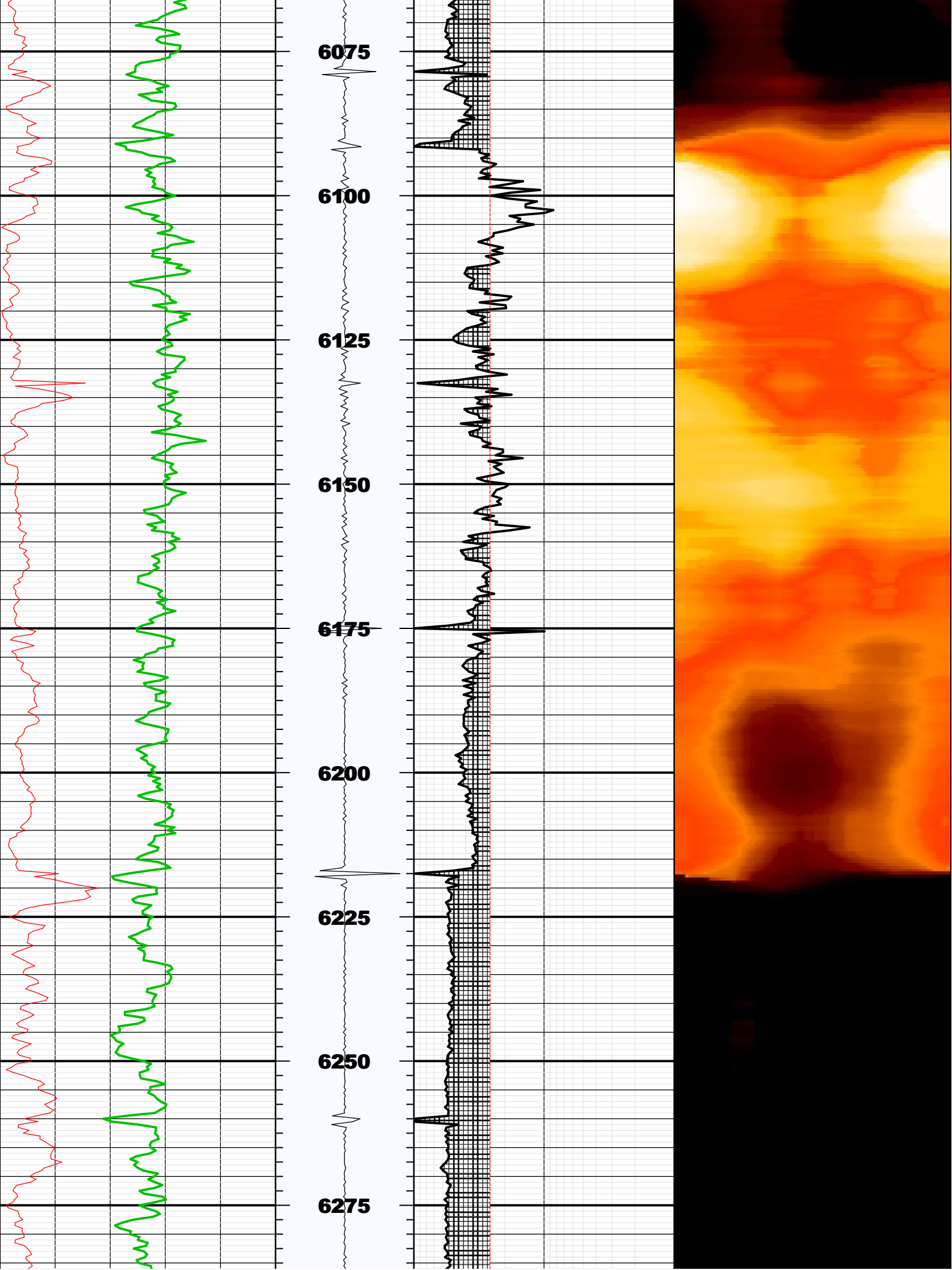
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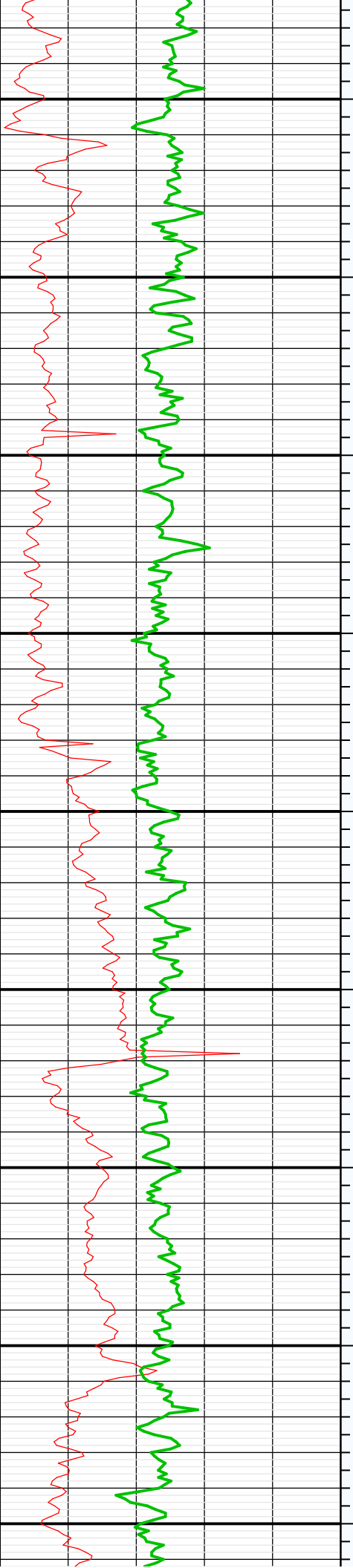
6000

6025

6050







6300

6325

6350

6375

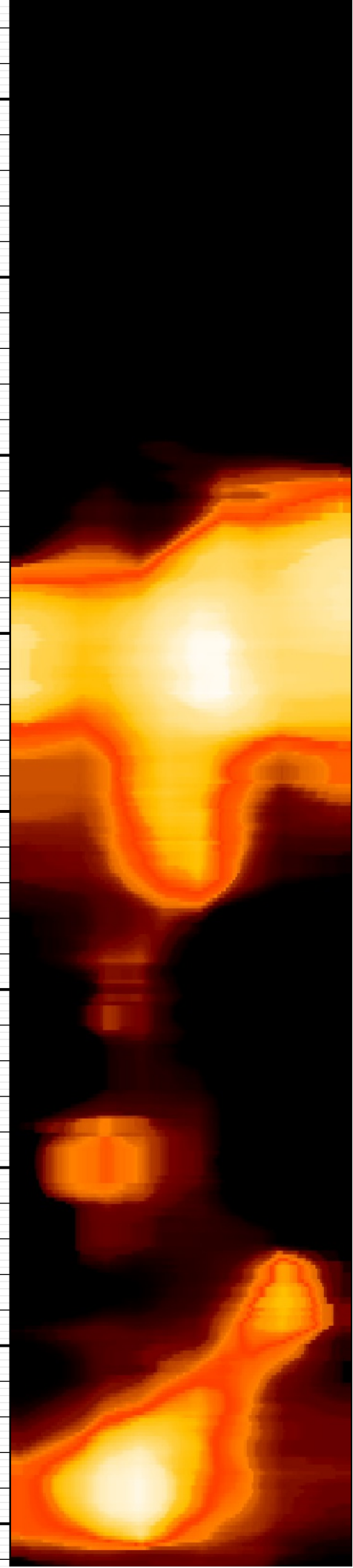
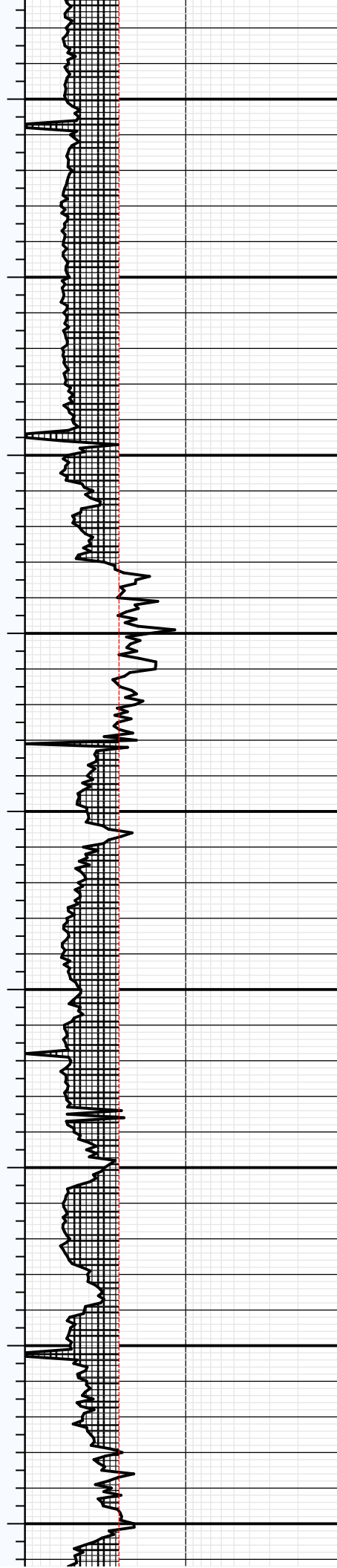
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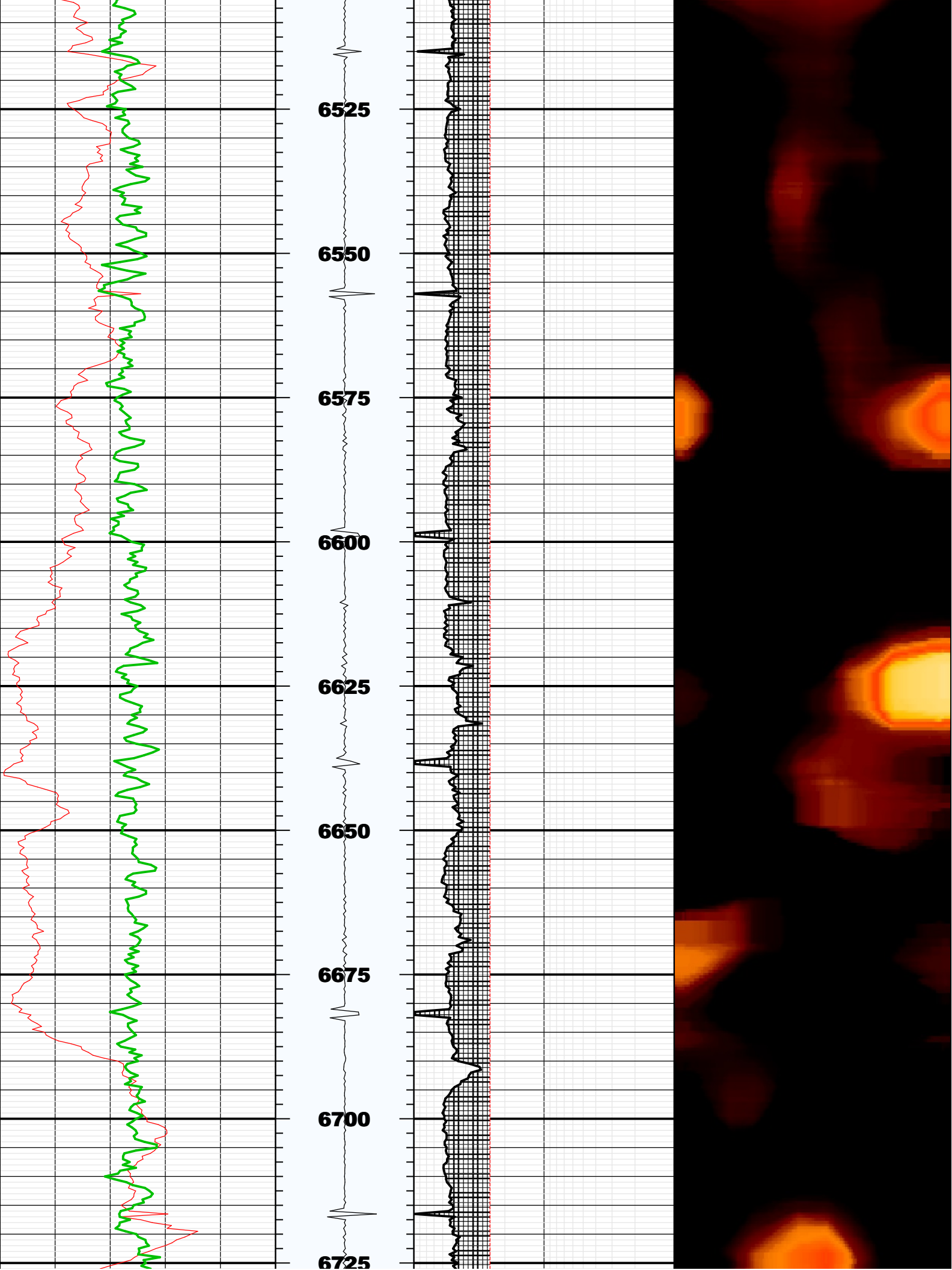
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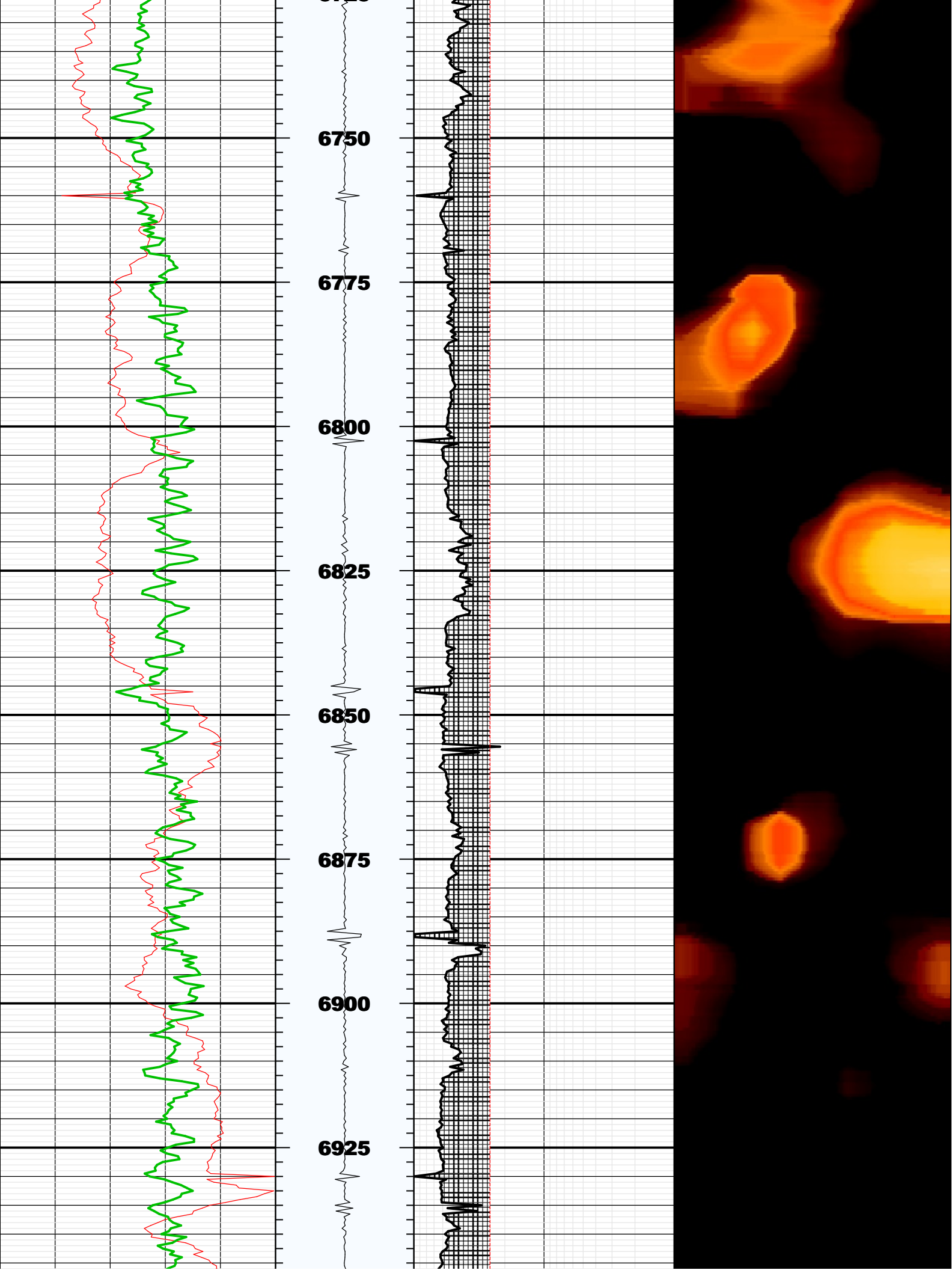
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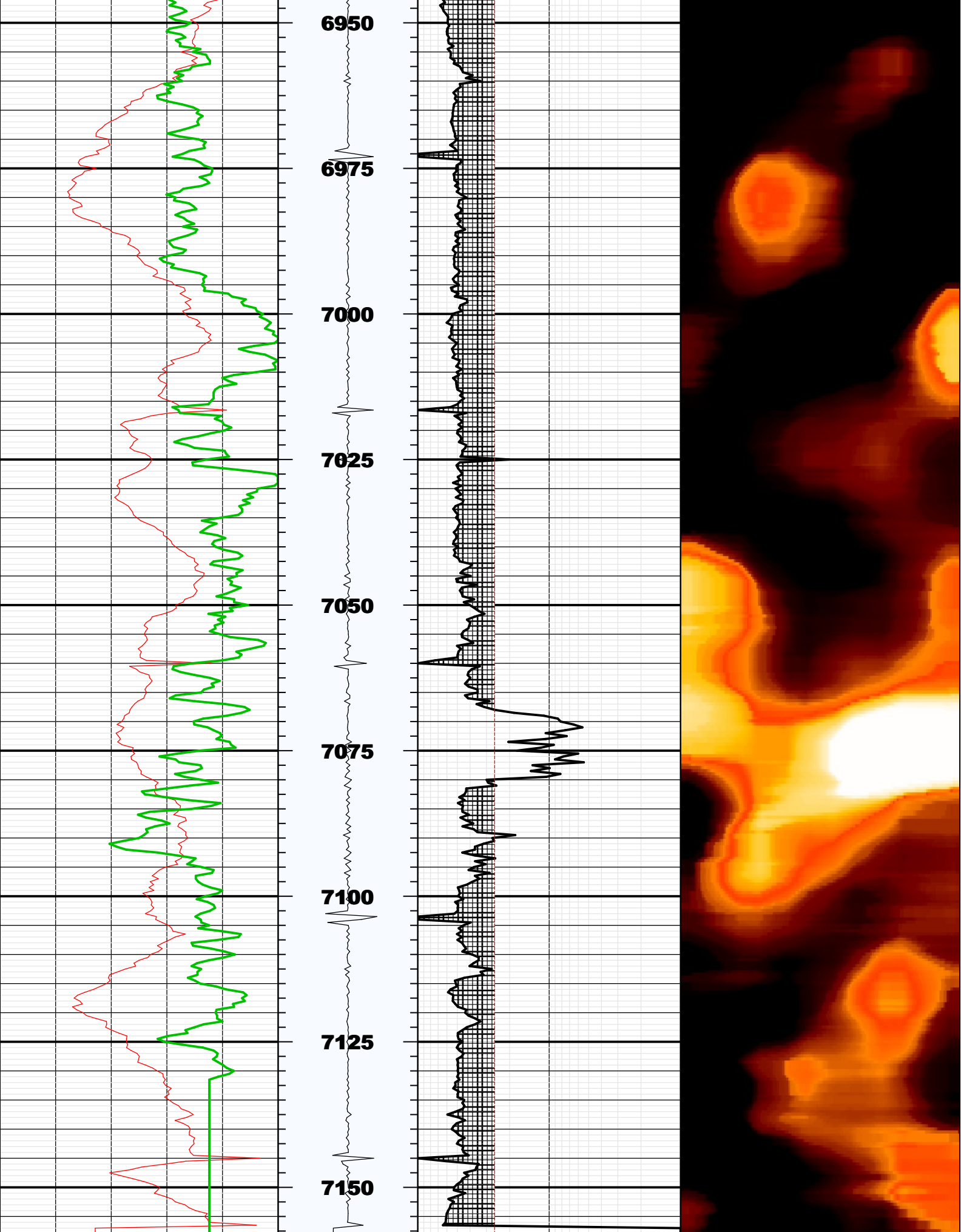
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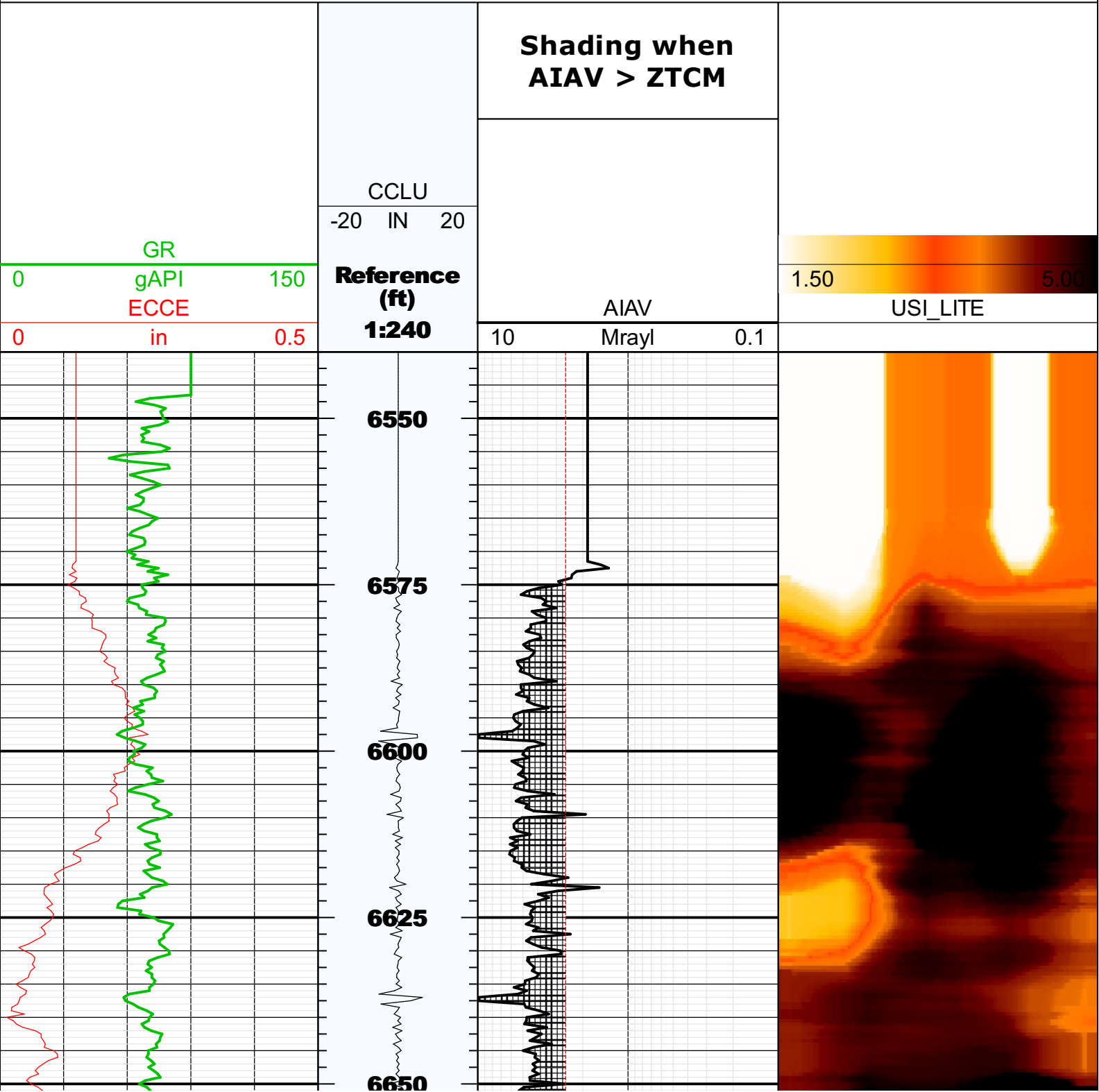


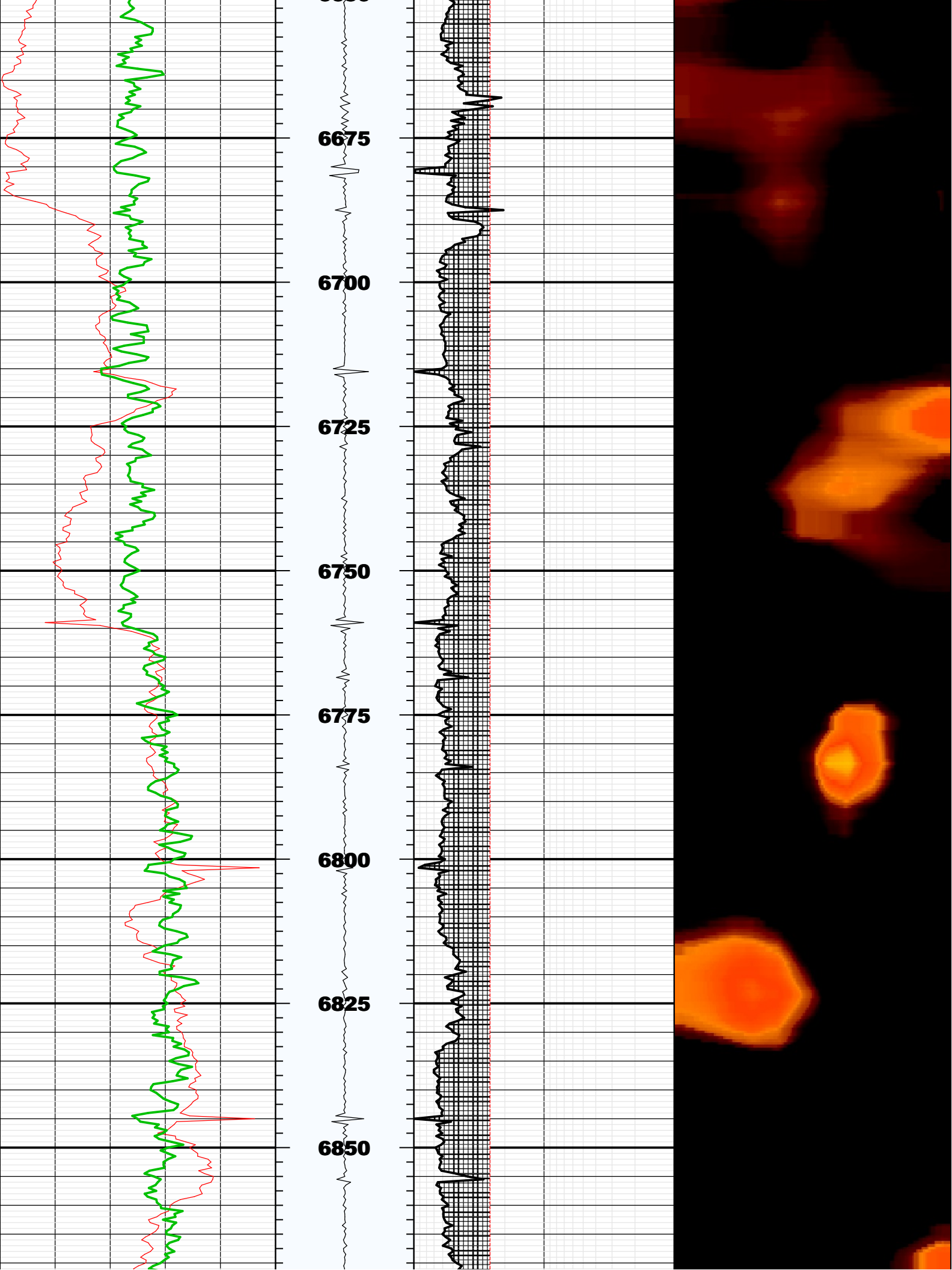


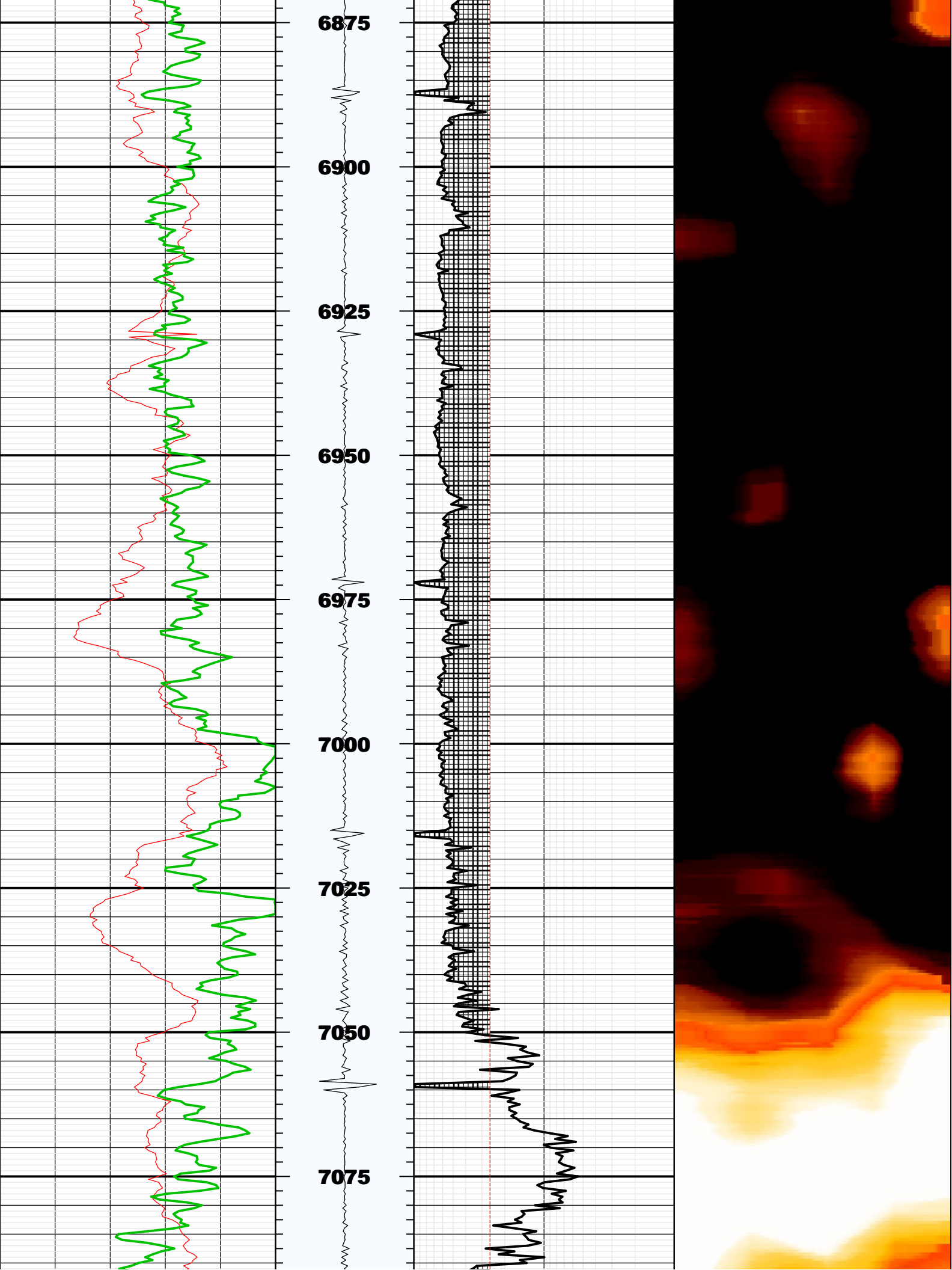
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	190.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	65	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	1.78000	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

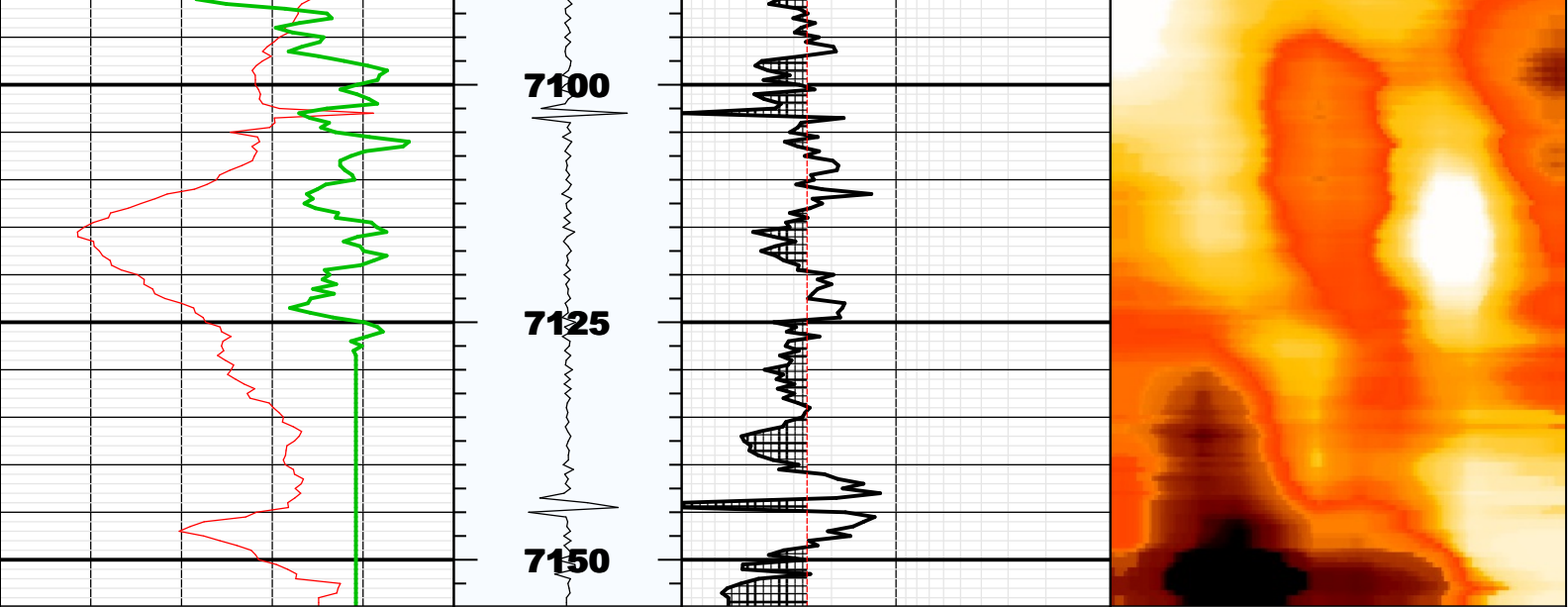
Repeat Pass

Company: Noble Energy Inc
Well: Sandau K25-62-1HNL
Field: Hambert









Fluid Properties Used for Main Pass

