

Company: Noble Energy Inc.

Well: Wells Ranch BB01-615  
Field: Wattenberg  
County: Weld State: Colorado

County: Weld		<b>USI-LITE</b>				
Field: Wattenberg						
Location: SWSW 5 5N 62W 6 PM						
Well: Wells Ranch BB01-615						
Company: Noble Energy Inc.						
LOCATION		Permanent Datum: Log Measured From: Drilling Measured From:	GL KB KB	Elev: K.B. 4685.9 F G.L. 4662.0 F D.F. 4685.9 F		
API Serial No. 05-123-41988	Section 5				Township 5N	Range 62W
Logging Date 14-Apr-2016	Run Number ONE					
Depth Driller	16386.0 F					
Schlumberger Depth	16386.0 F					
Bottom Log Interval	6859.0 F					
Top Log Interval	54.0 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	1954.9 F					
To	16386.0 F					
Casing Size	5.50 IN					
Weight	20.00 LB/F					
Grade	P110					
From	0.0 F					
To	16376.0 F					
Max Recorded Temp	-999.2					
Logger on bottom (date)	14-Apr-2016					
Location	Fort Morgan Colorado					
Recorded By	Evan Meadows					
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: Calibration Date: Calibrator Serial Number: Number Of Calibration Points: Calibration RMS: Calibration Peak Error:	Serial Number: Length: 24000.00000

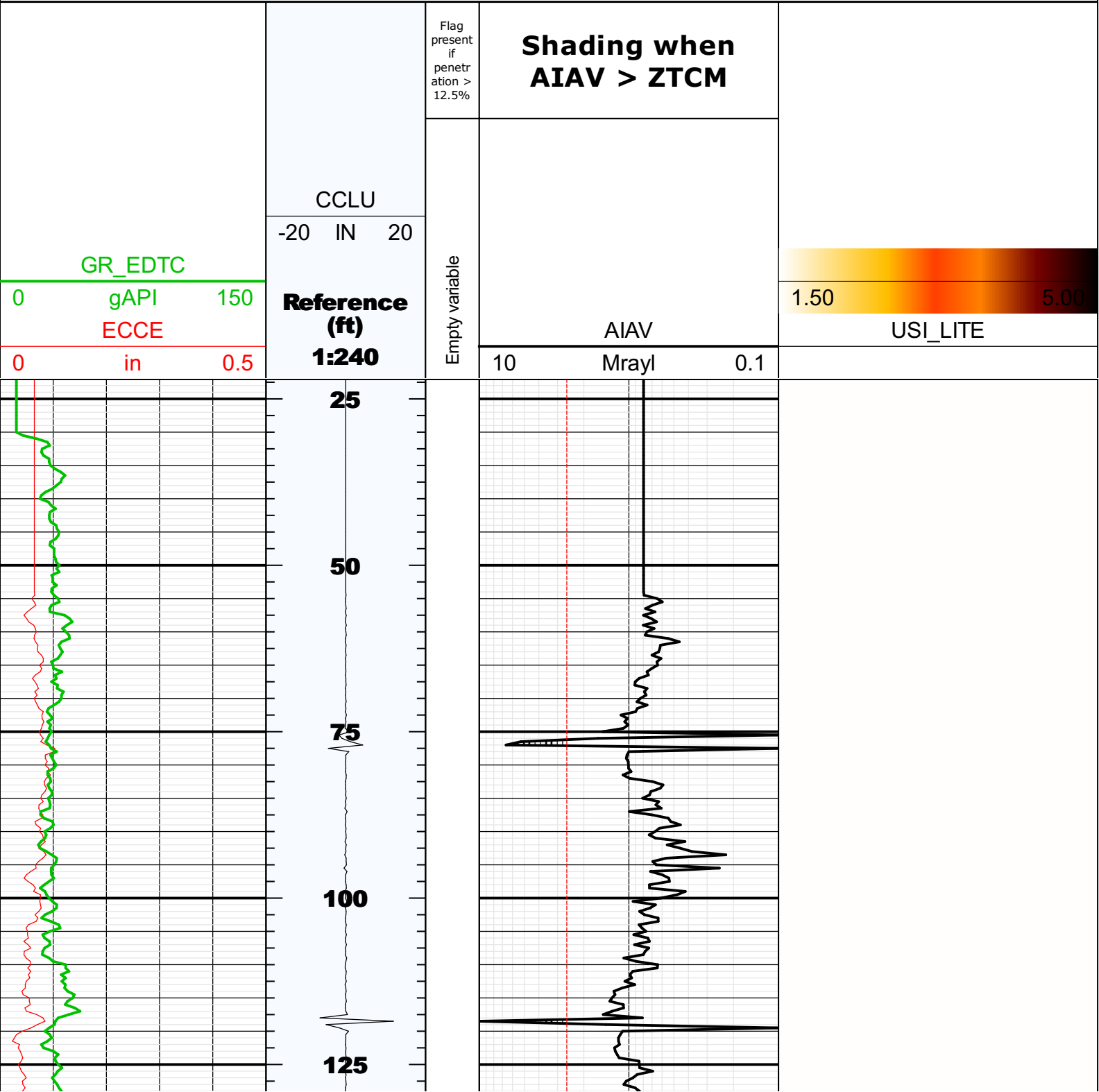
DISCLAIMER

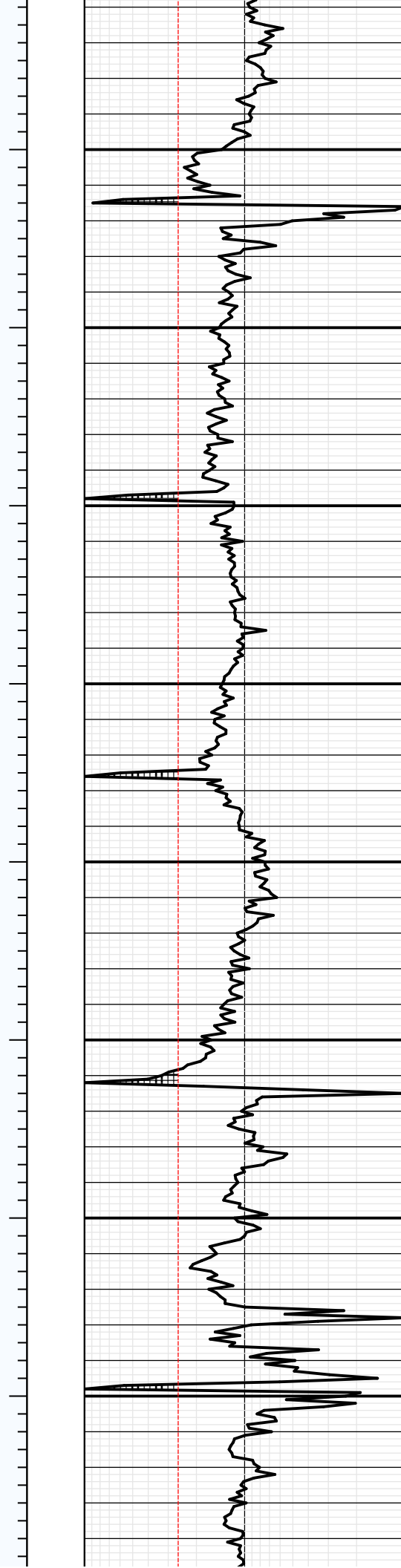
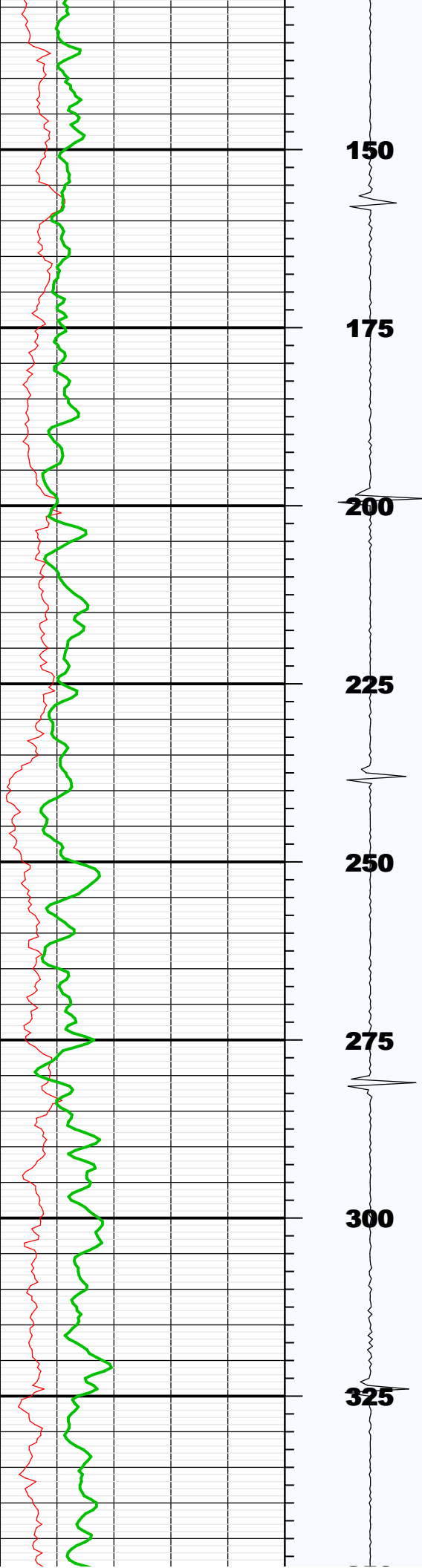
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIIONS ON USE OF THE RECORDED-DATA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

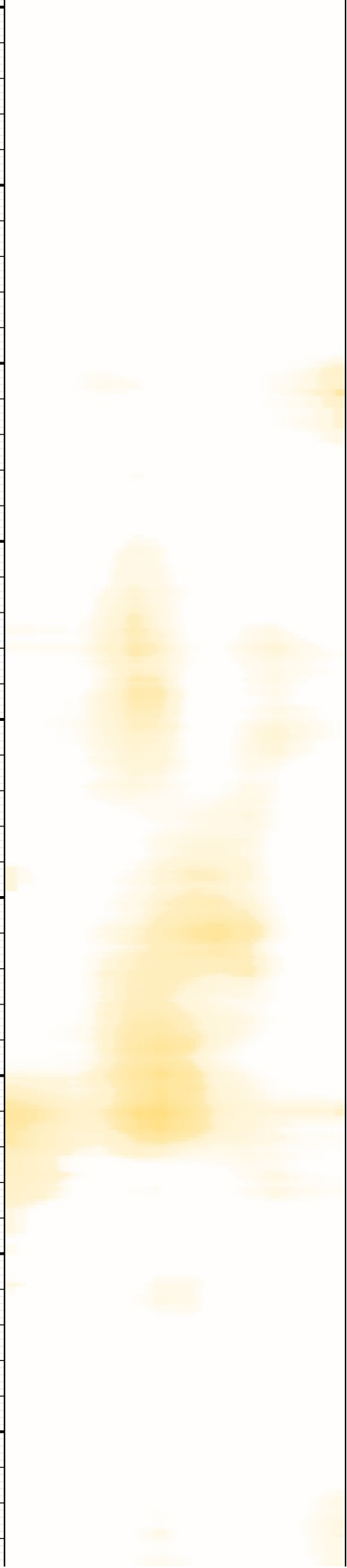
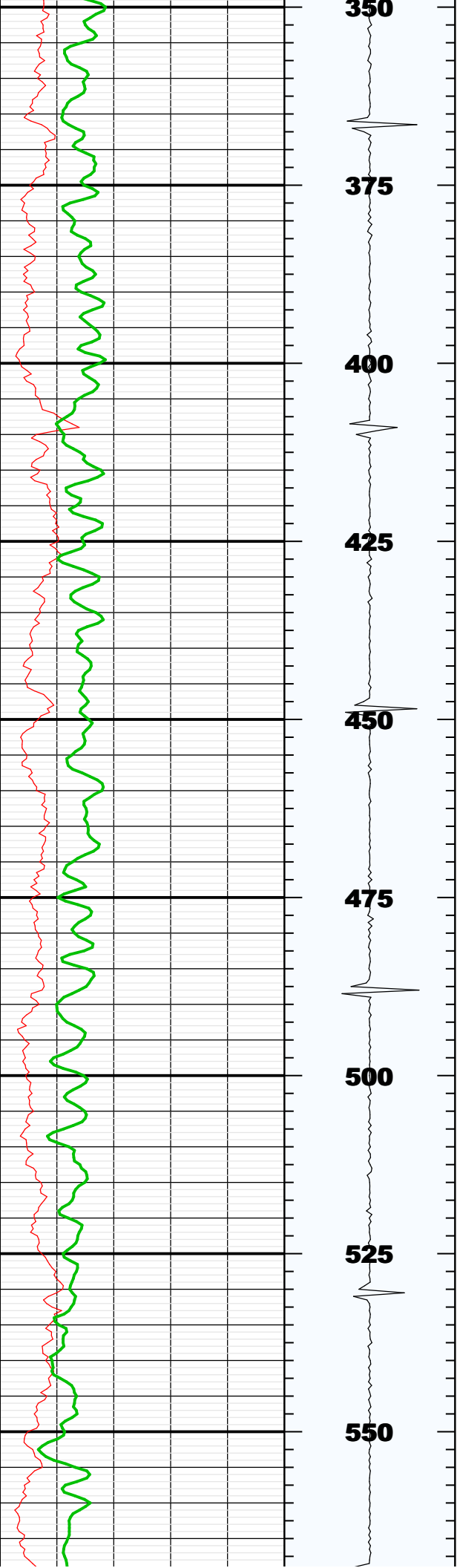
1. THIS IS THE FIRST RUN IN THE WELL
2. TOOL RAN AS PER TOOL SKETCH
3. CSG 5.5 20 LB/FT
4. WELL FLUID 8.4 PPG FRESH WATER
5. SPACER/LEAD/TAIL 11.2 PPG MUDPUSH / 12 PPG / 13 PPG
6. REPEAT PASS RECORDED AT 0 PSI. MAIN PASS RECORDED AT 2500 PSI
7. BHT 201 F

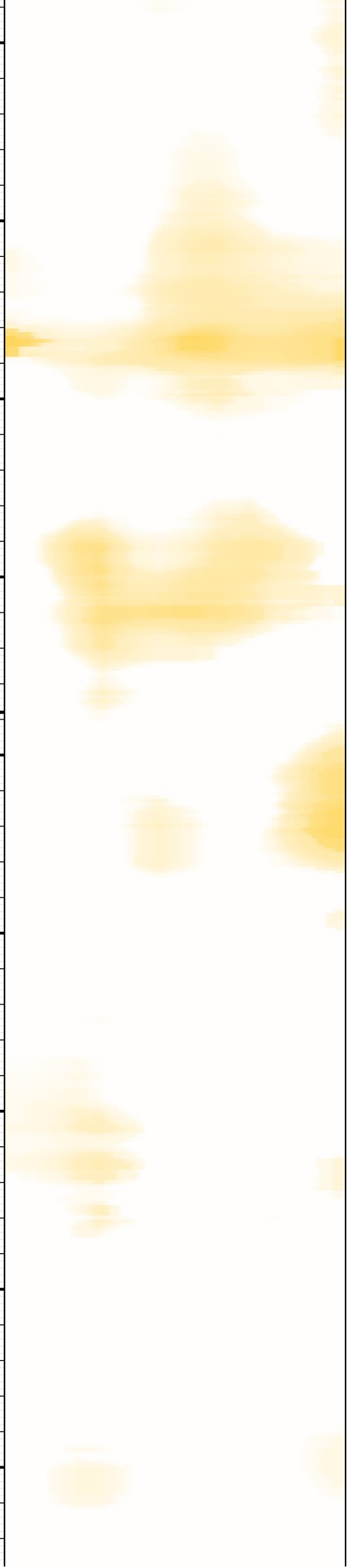
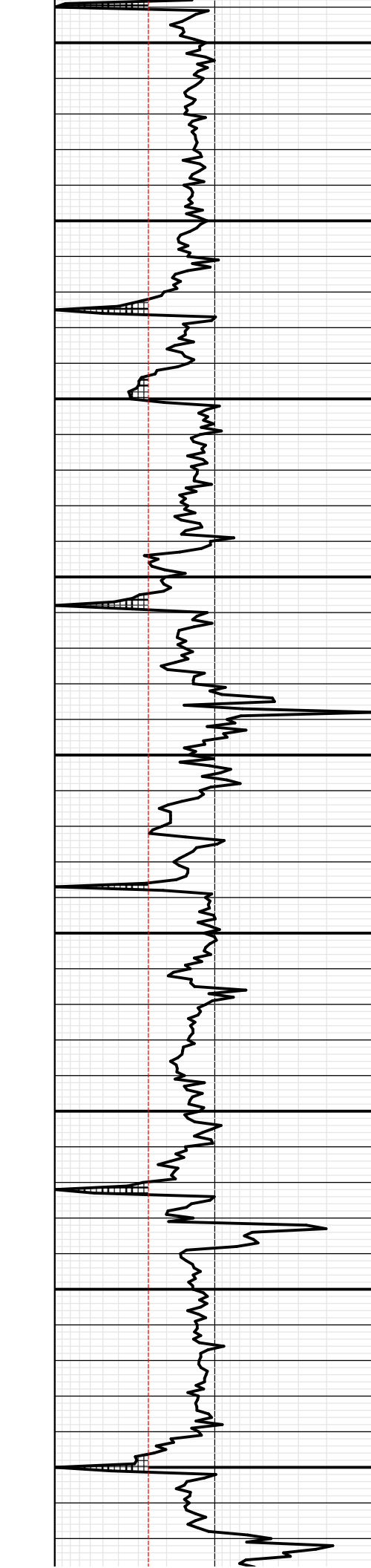
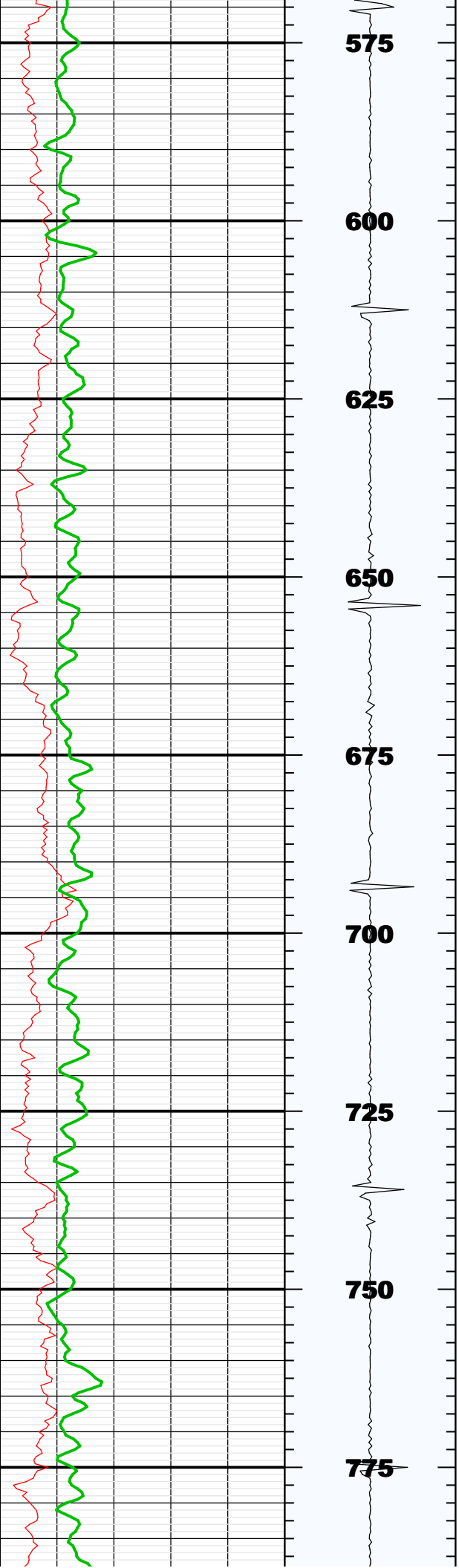
Main Pass

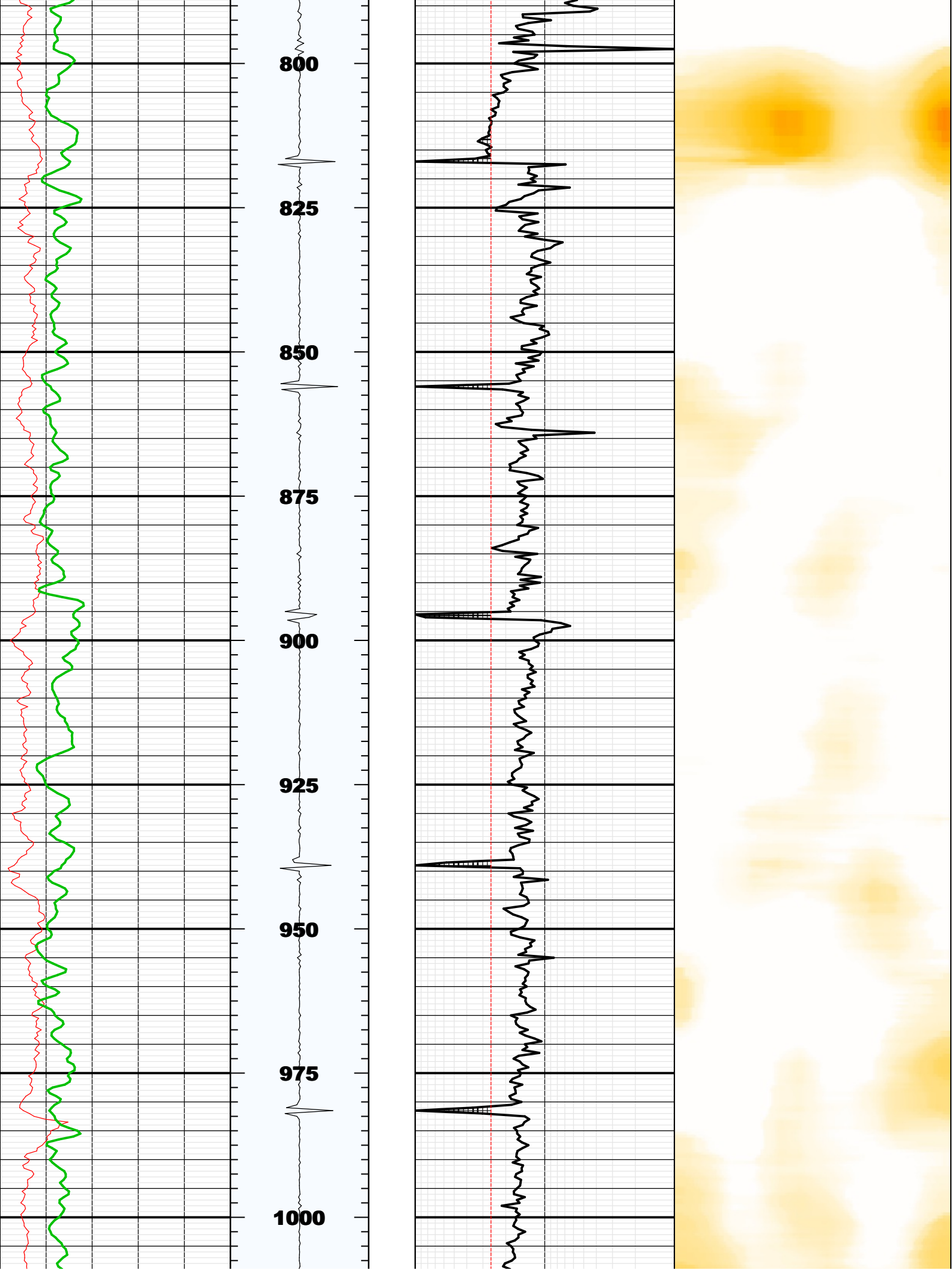
Company: Noble Energy Inc.  
Well: Wells Ranch BB01-615  
Field: Wattenberg

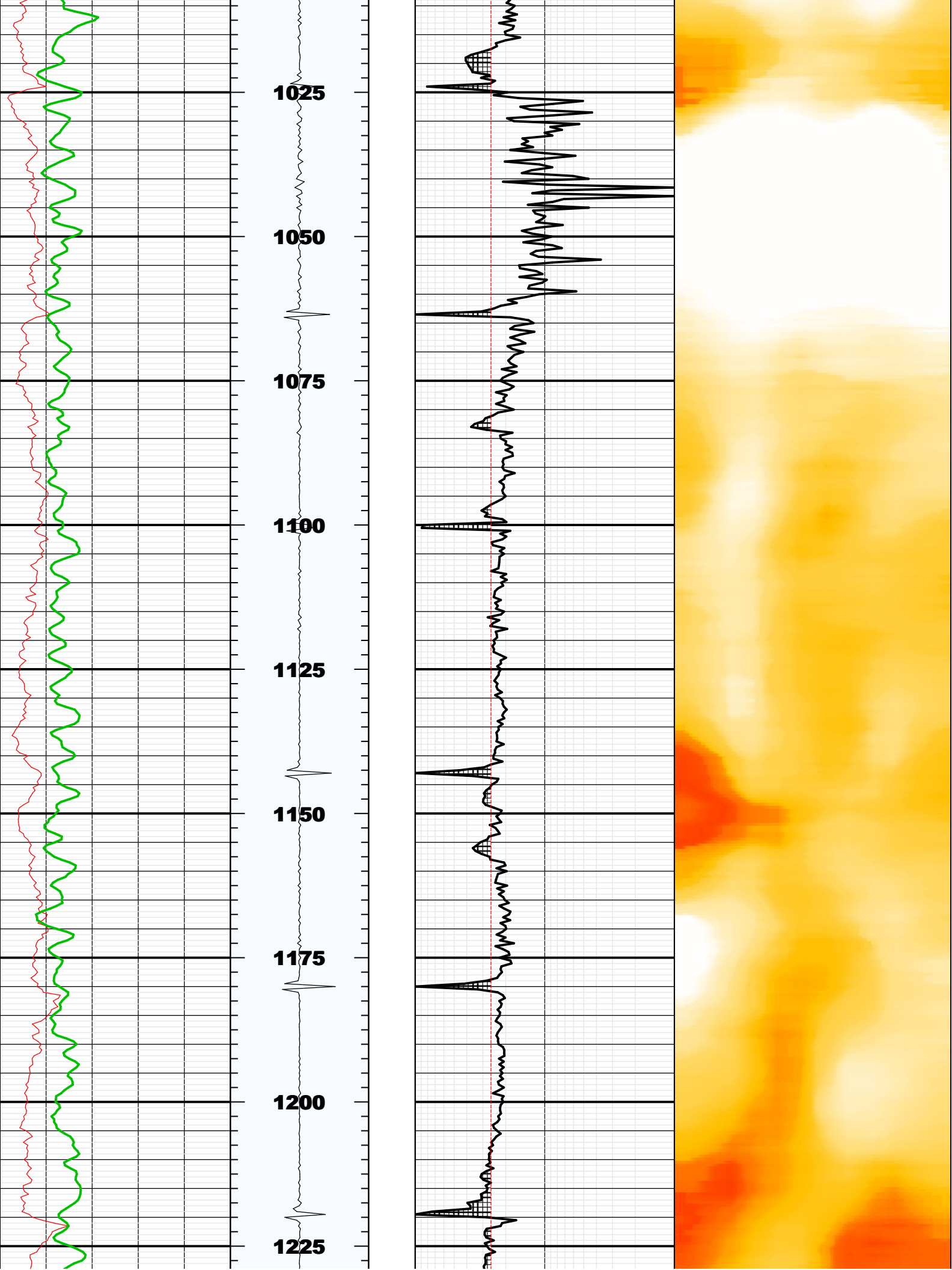




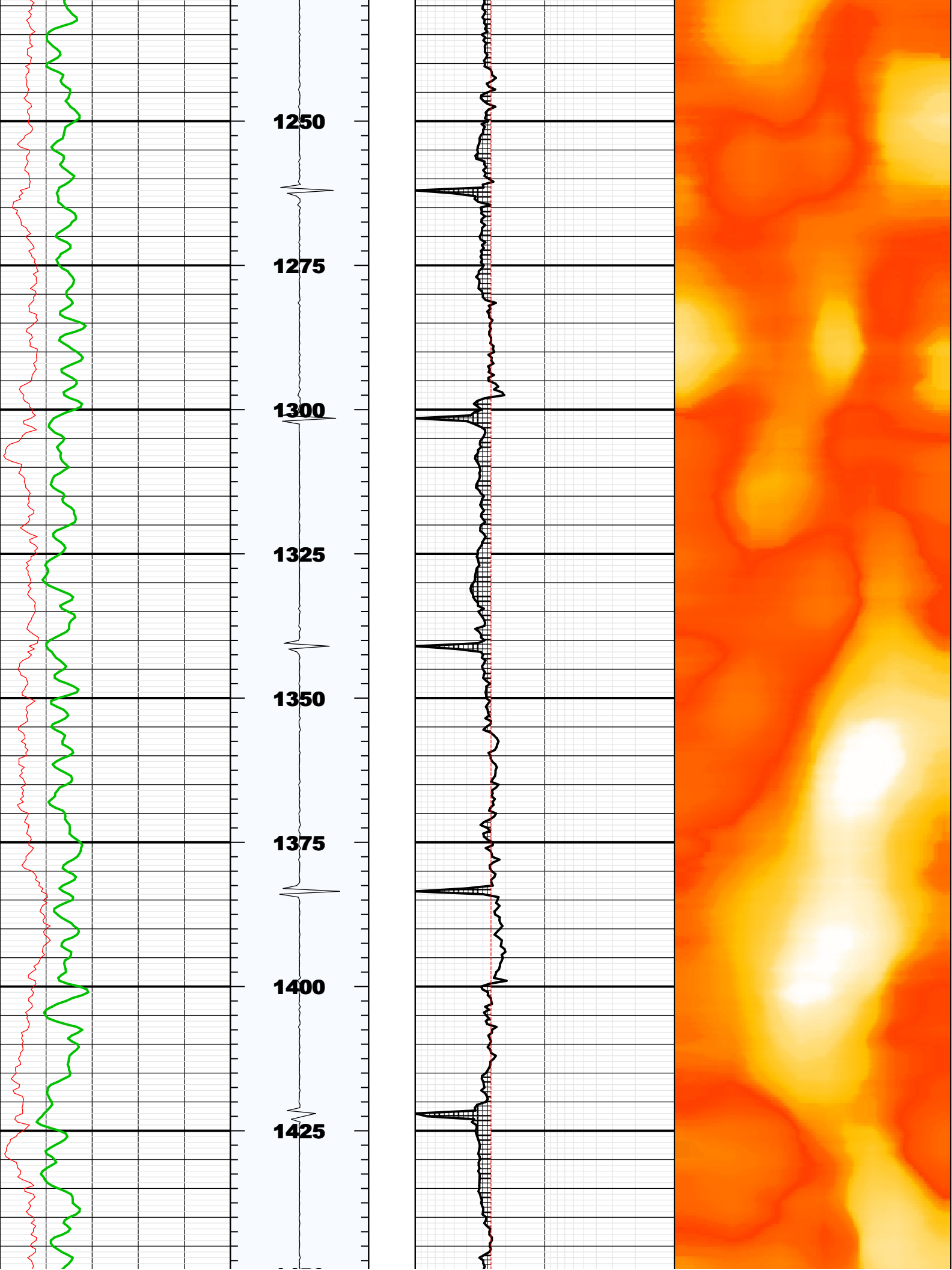


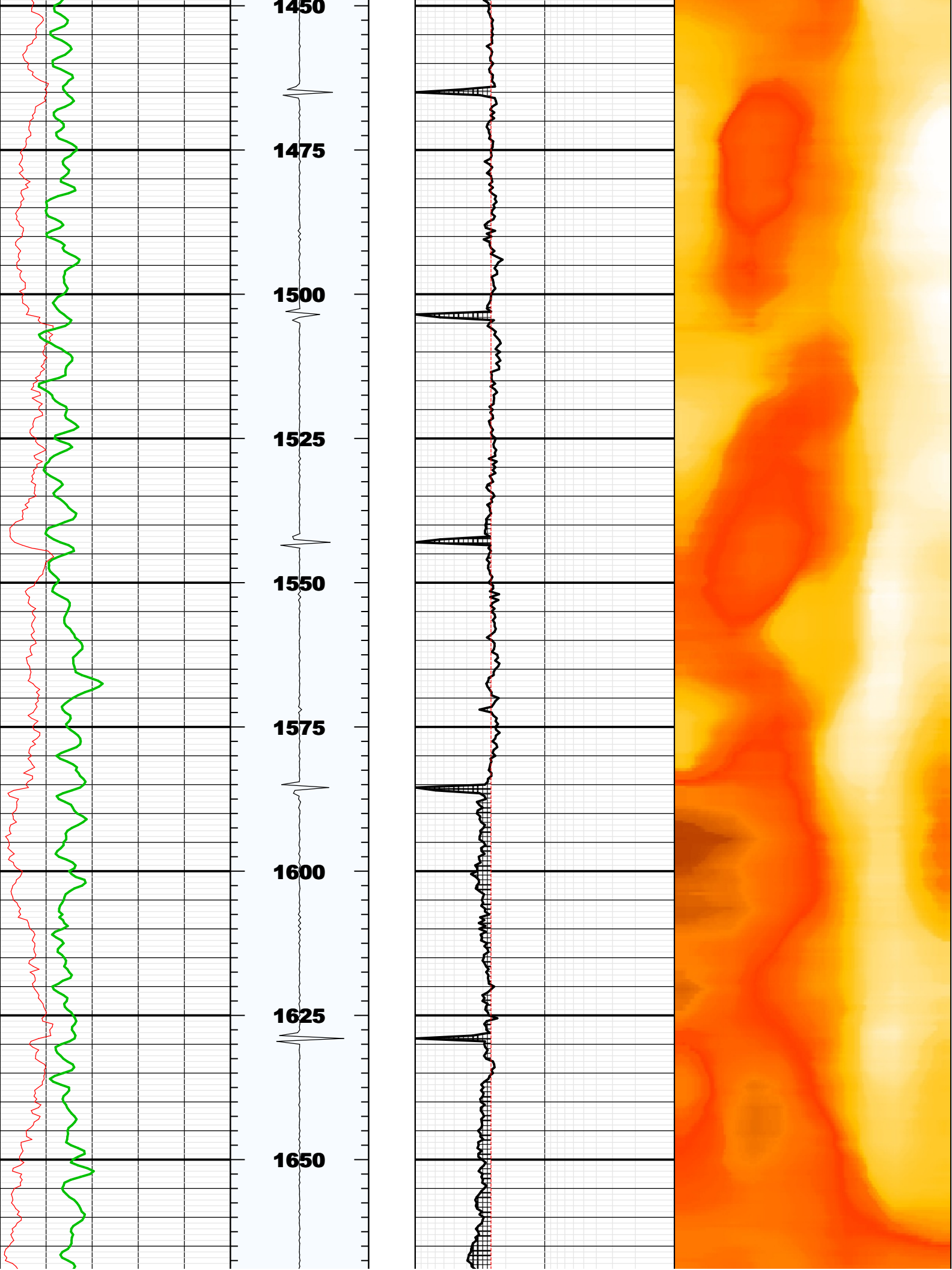


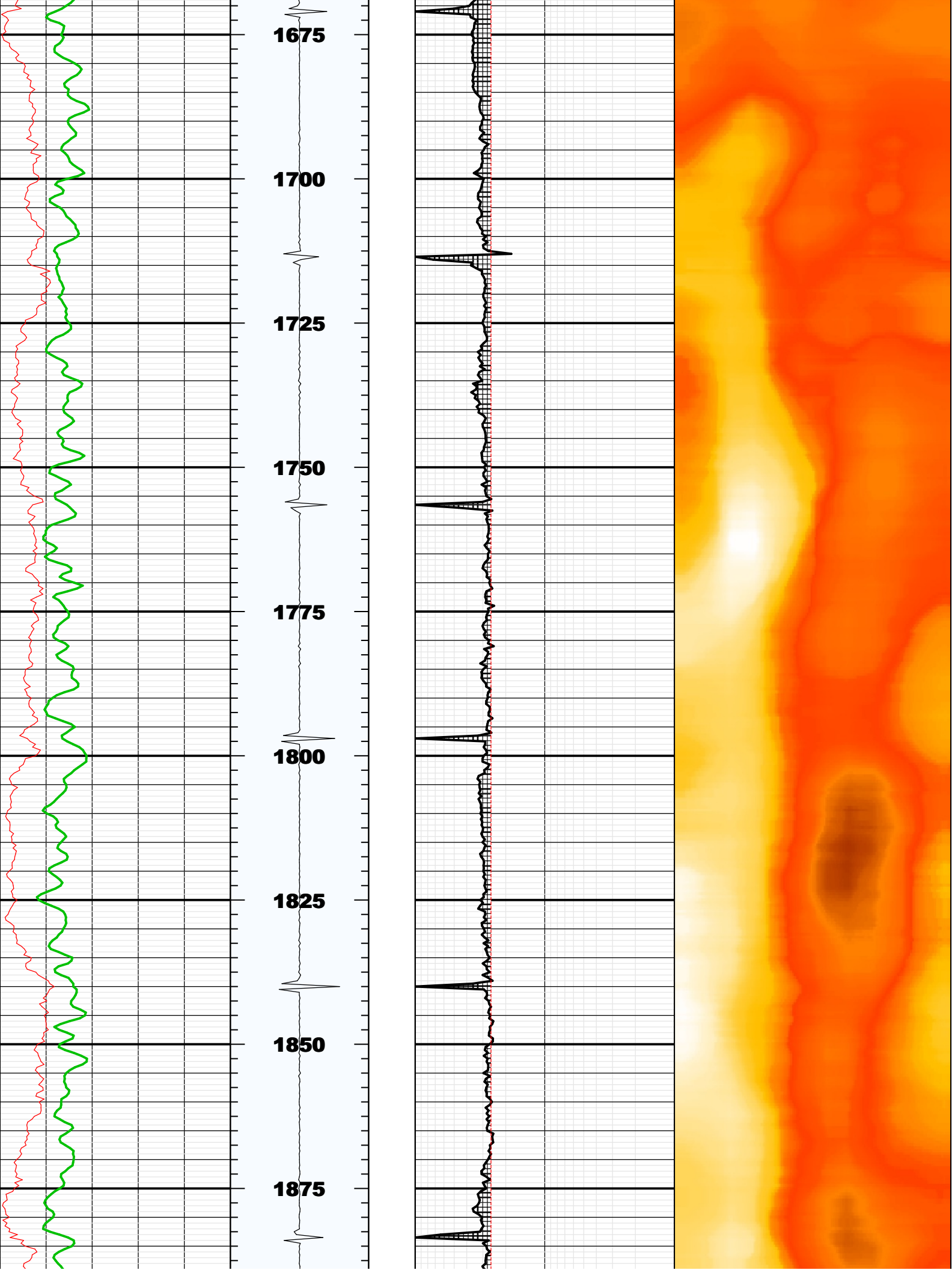


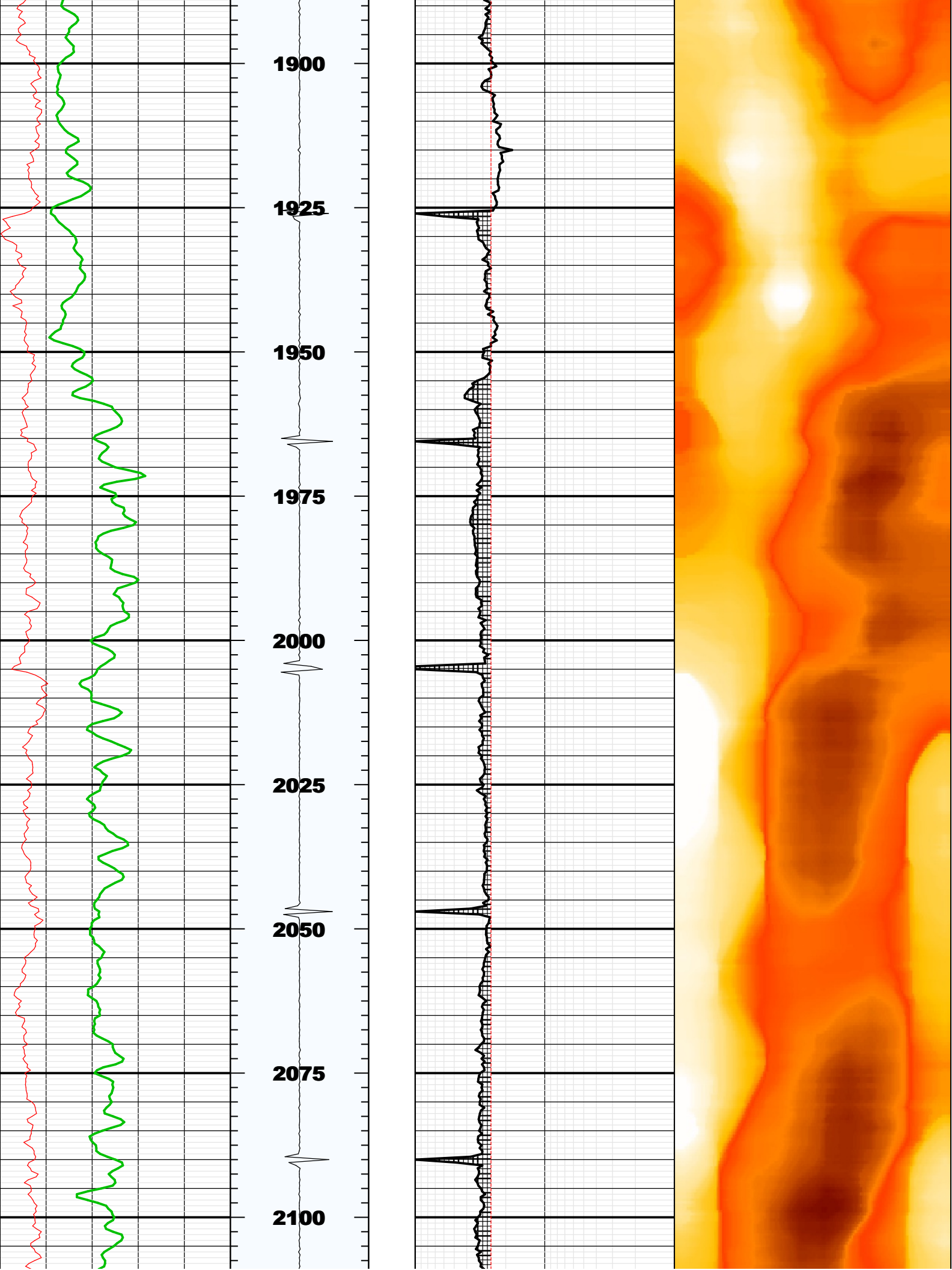




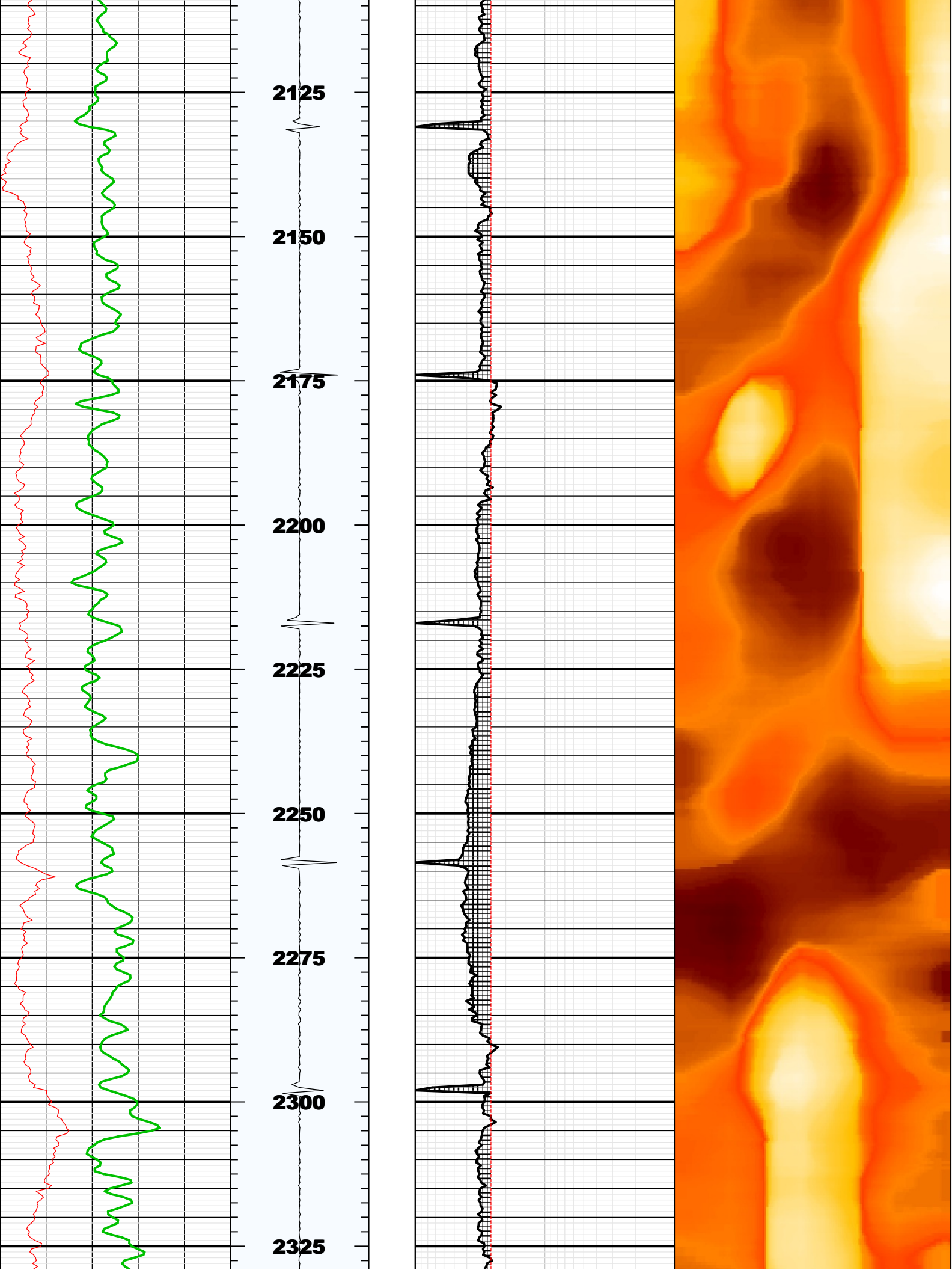


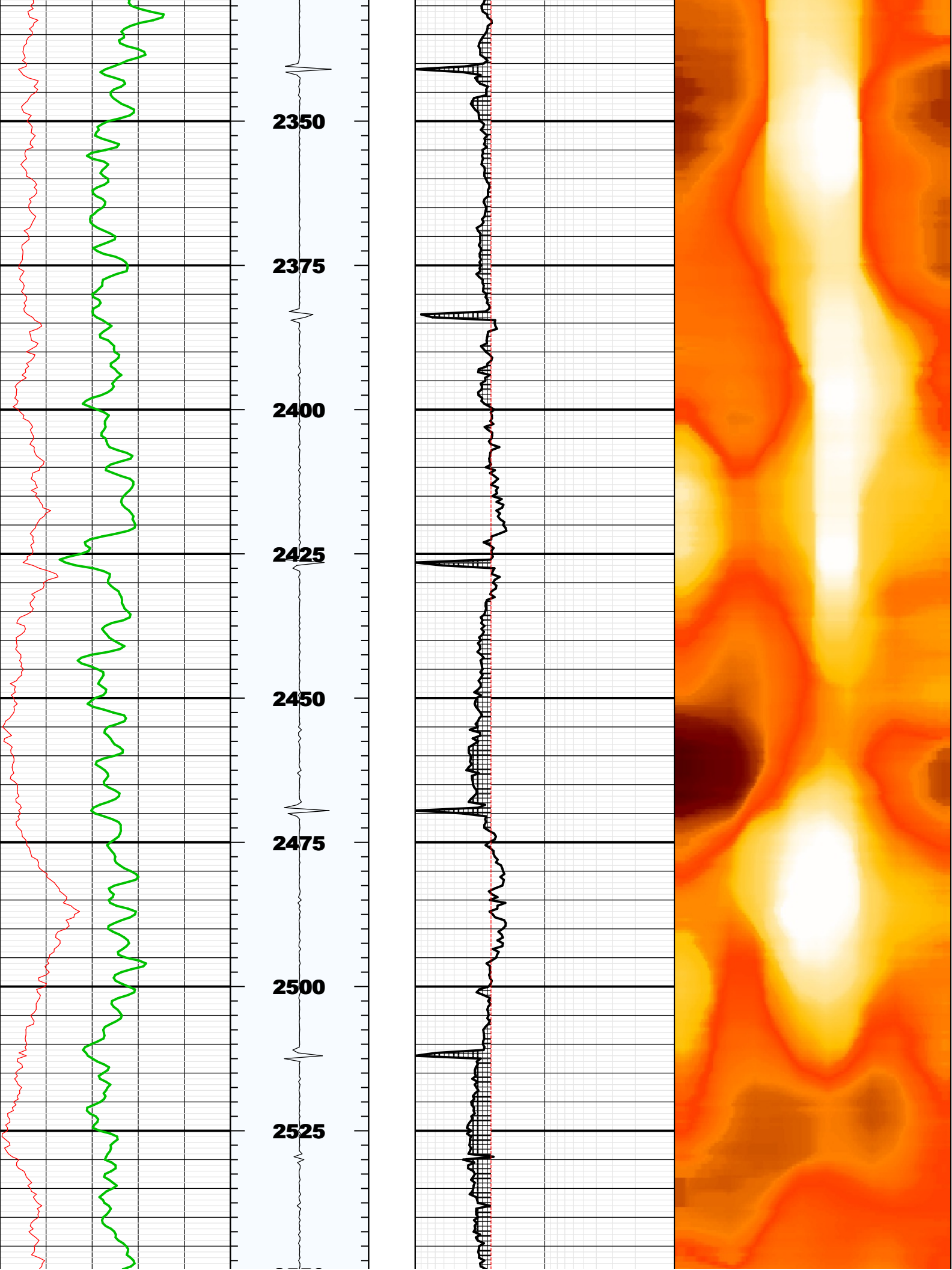


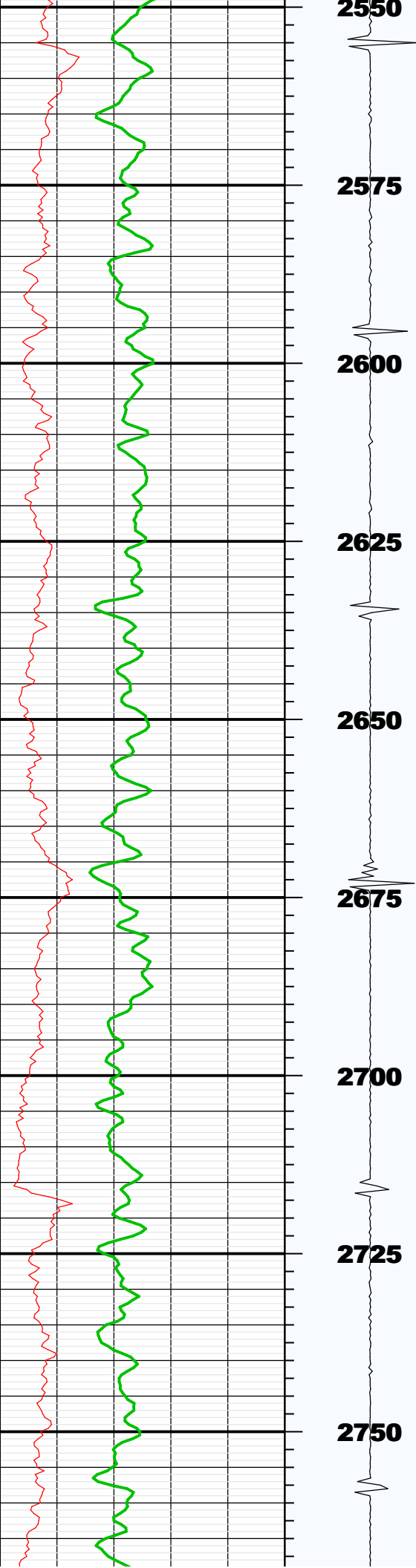












2575

2600

2625

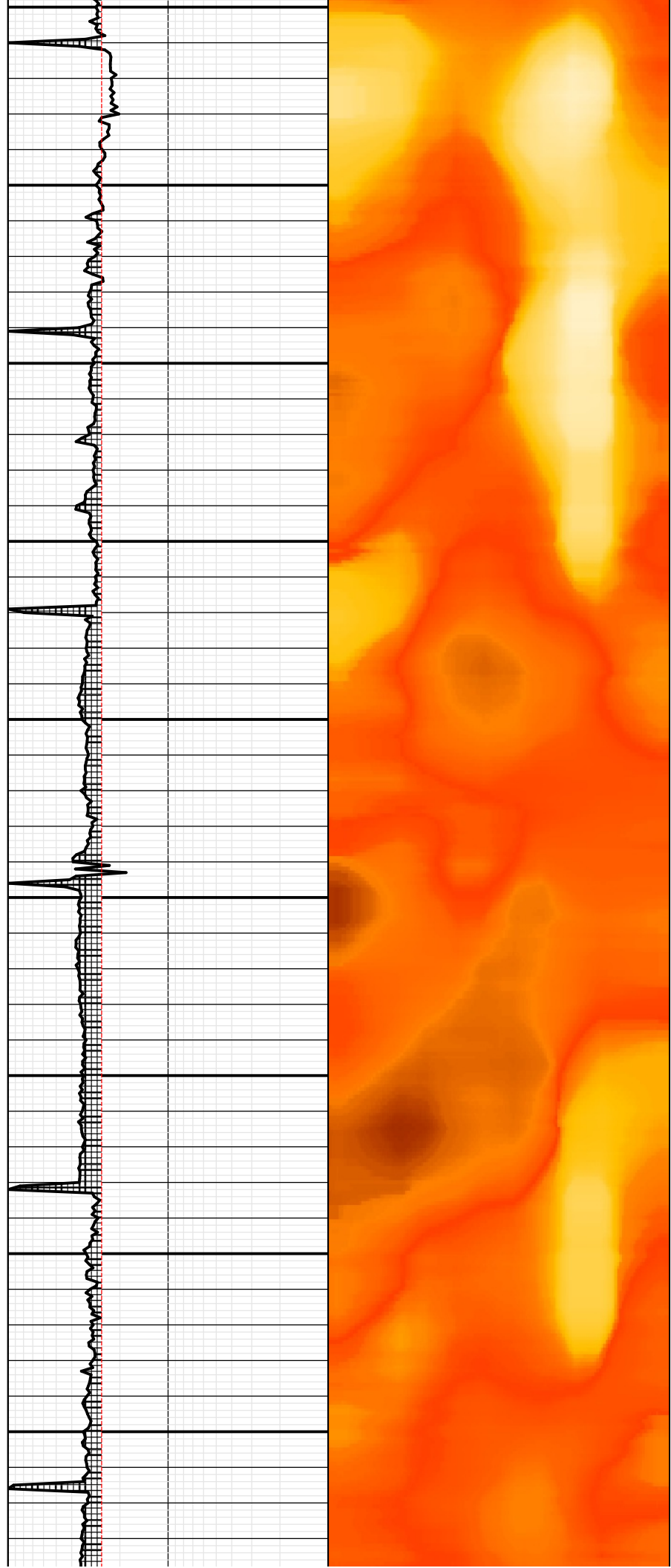
2650

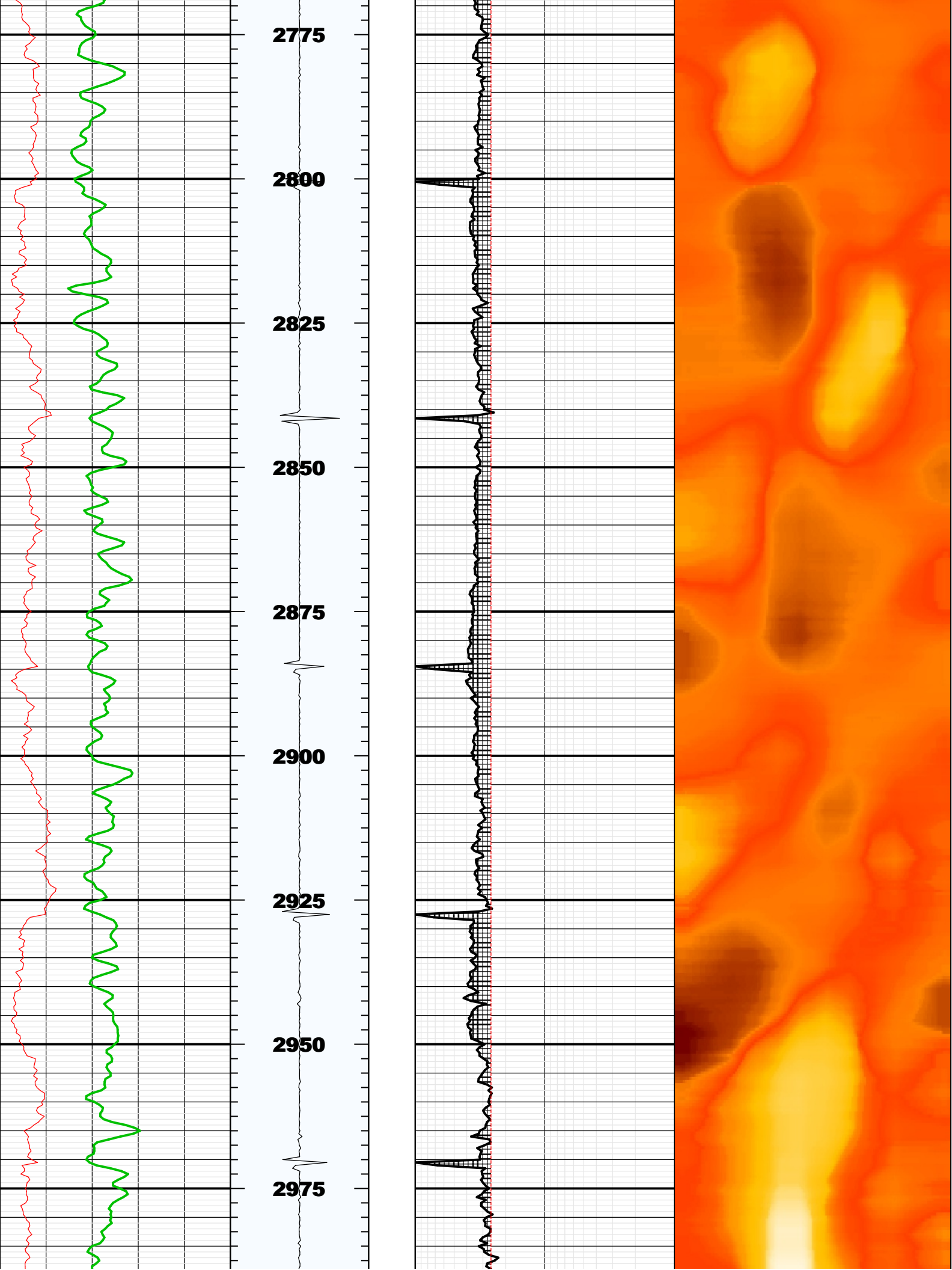
2675

2700

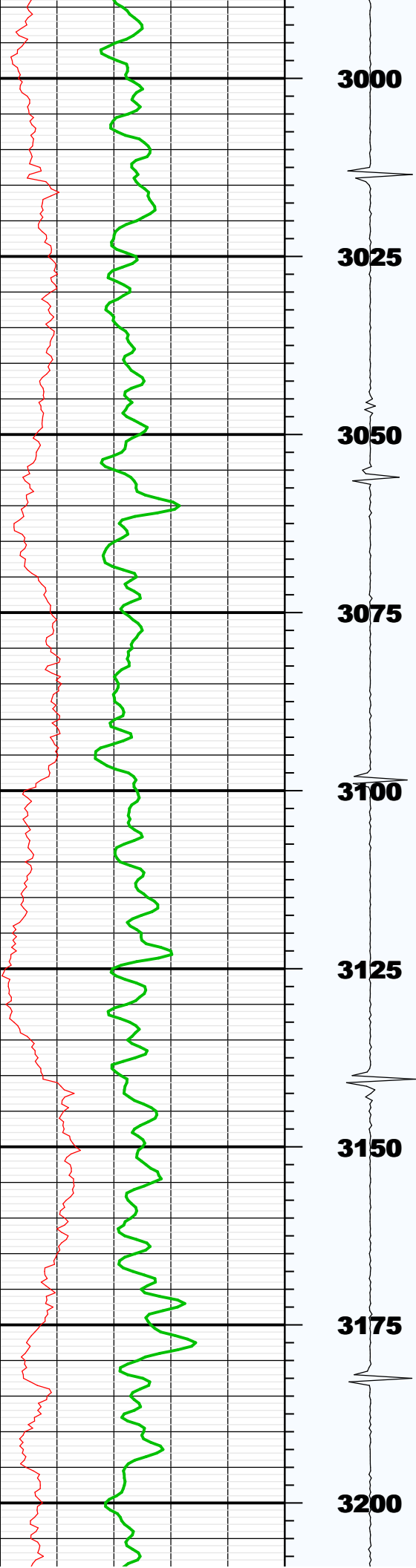
2725

2750









3000

3025

3050

3075

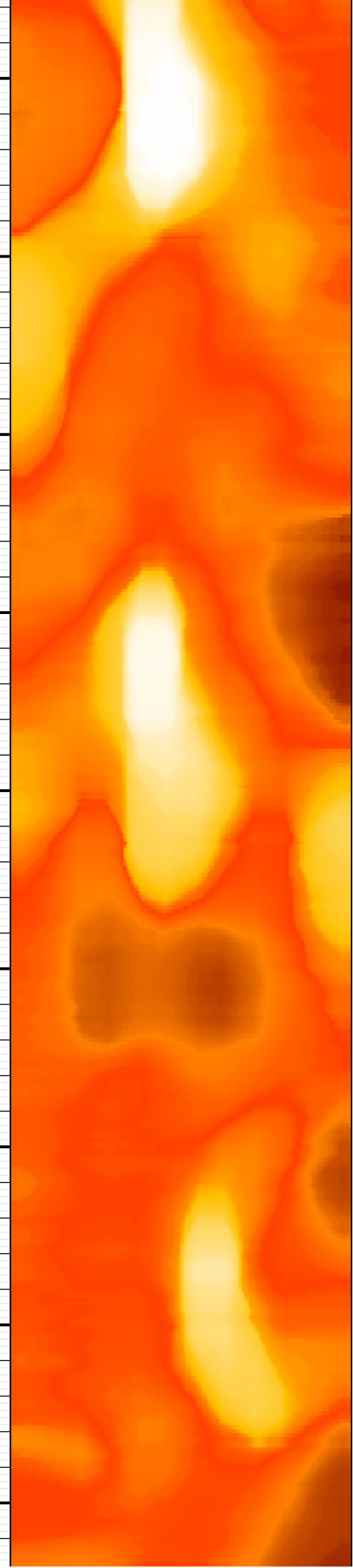
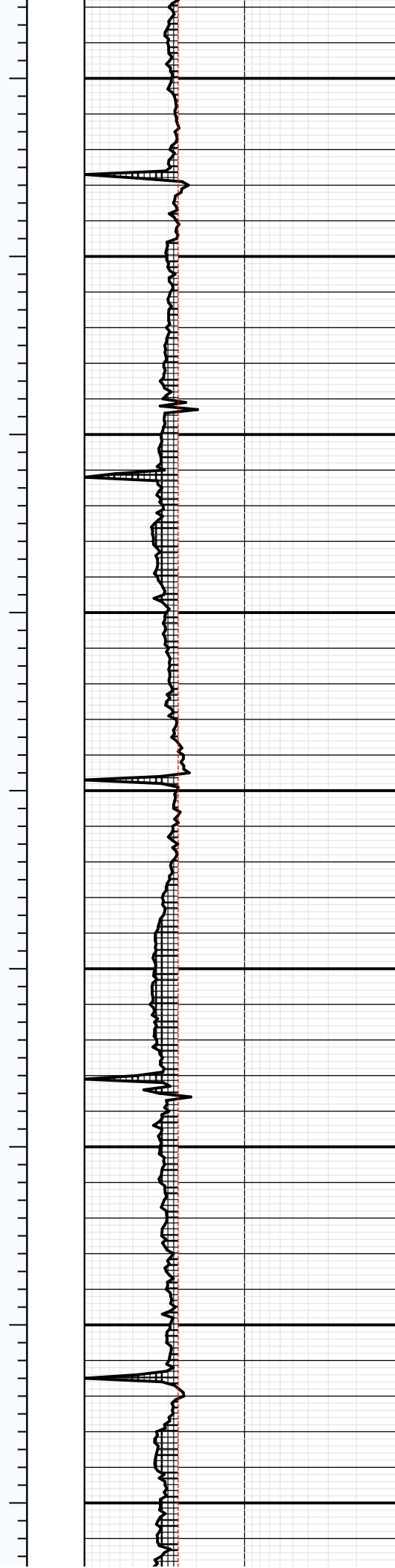
3100

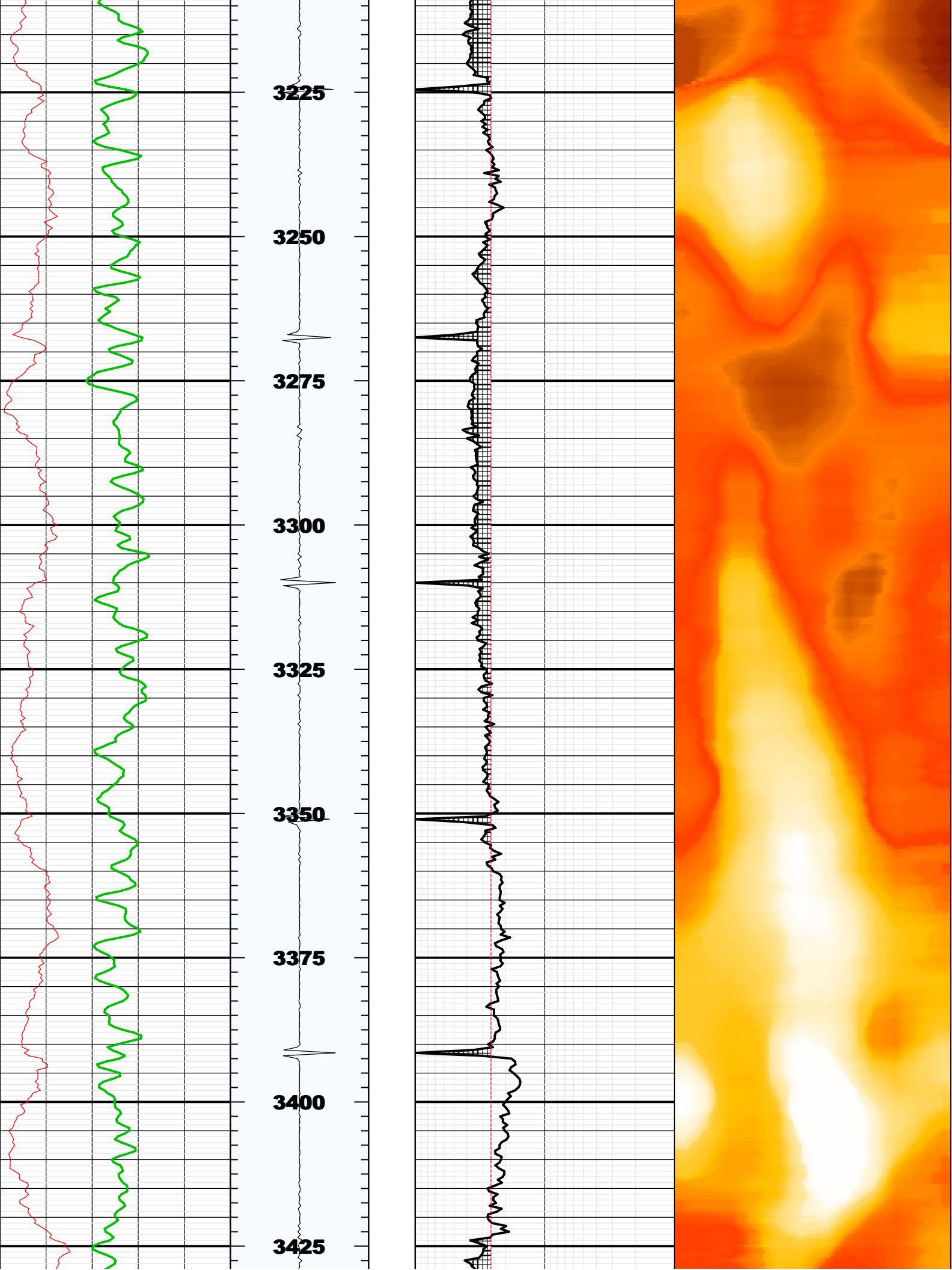
3125

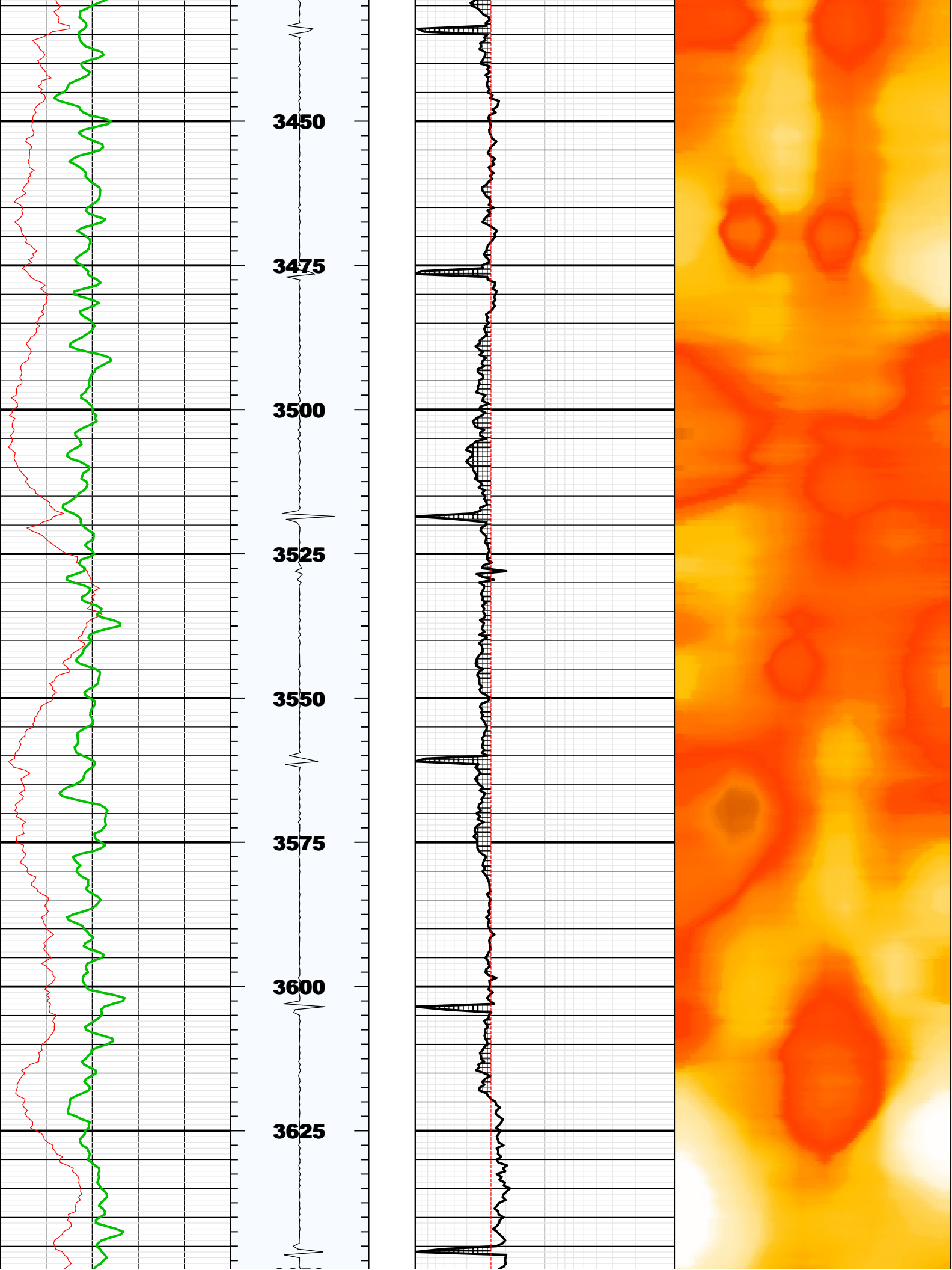
3150

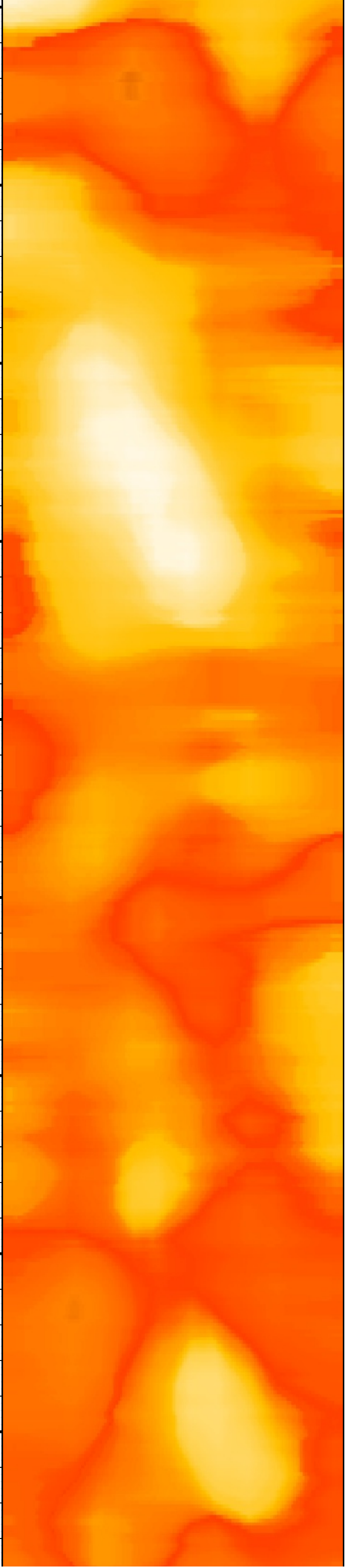
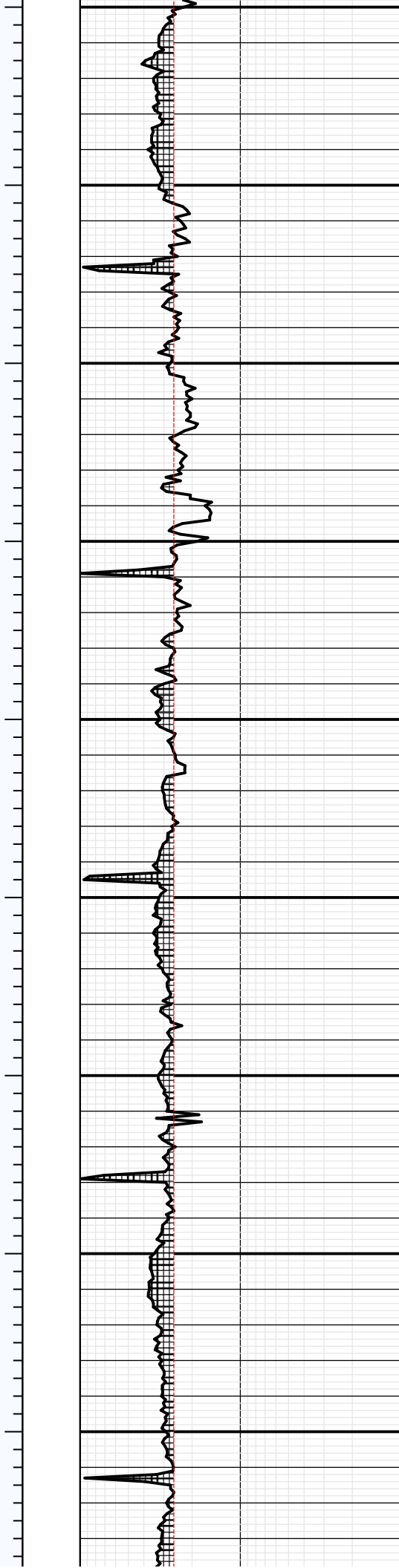
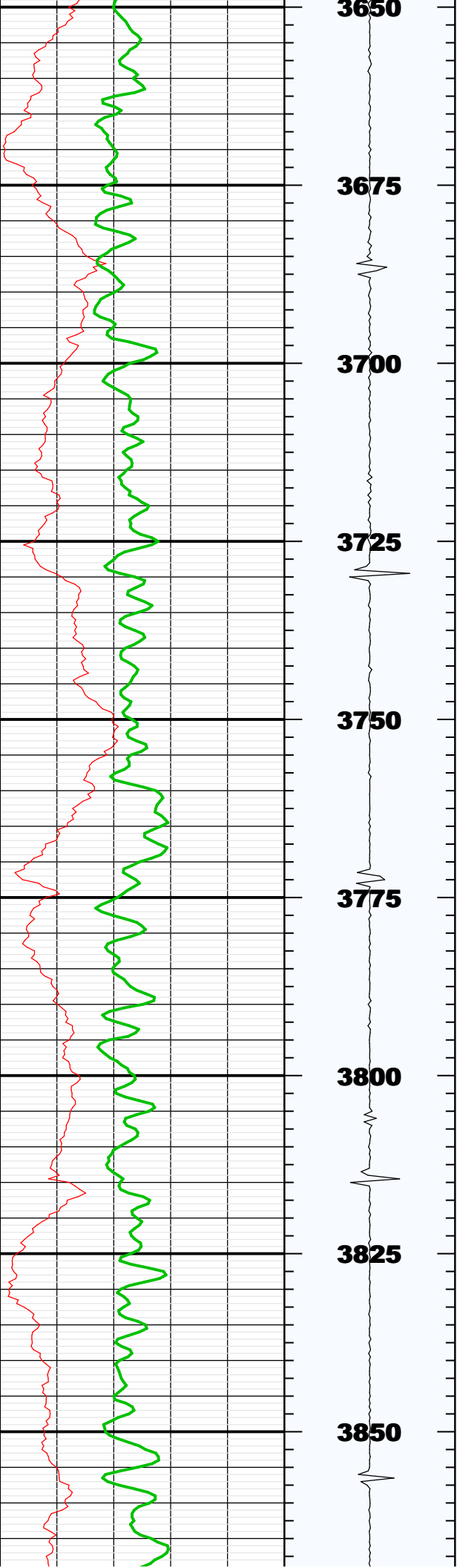
3175

3200

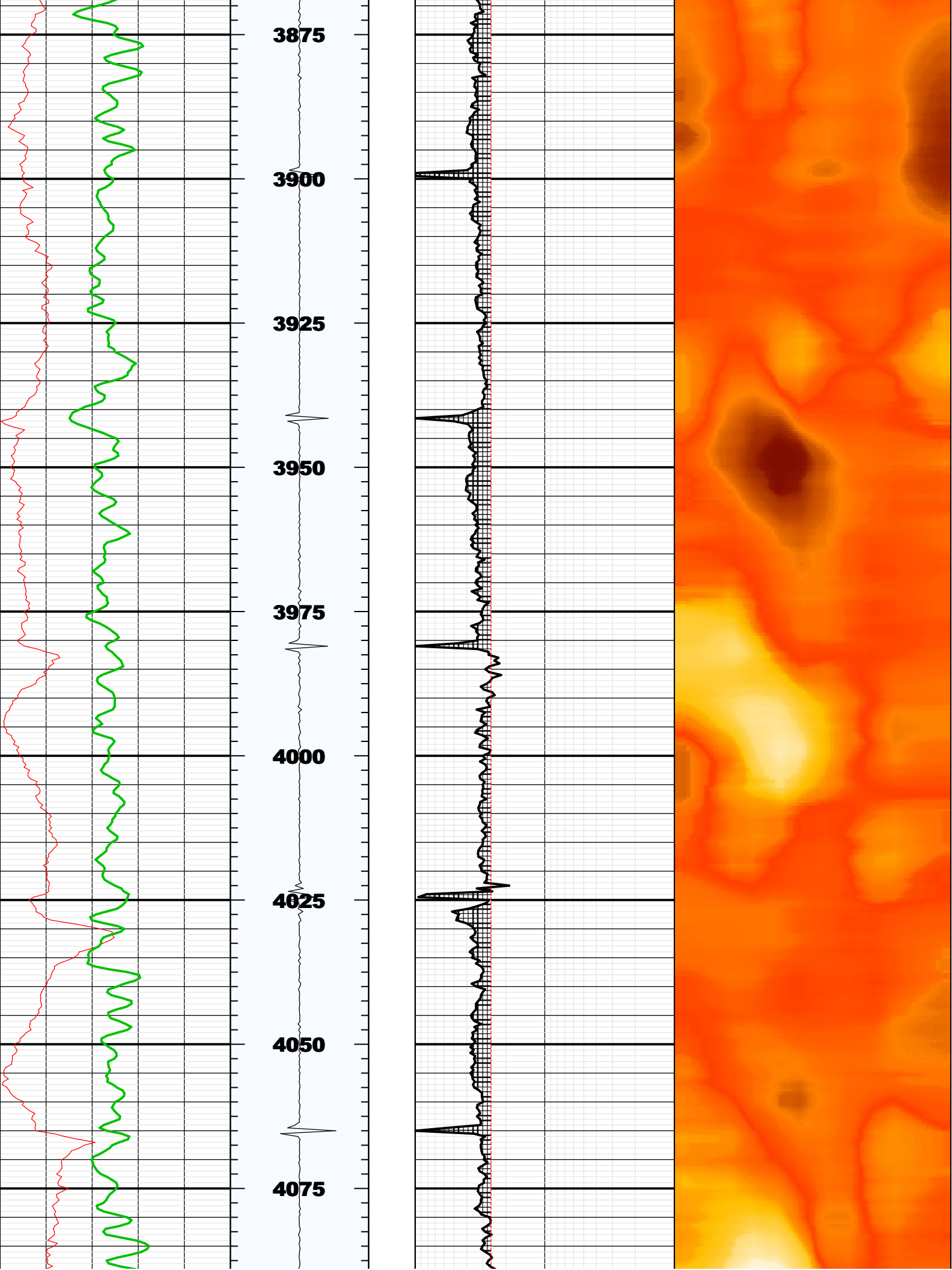


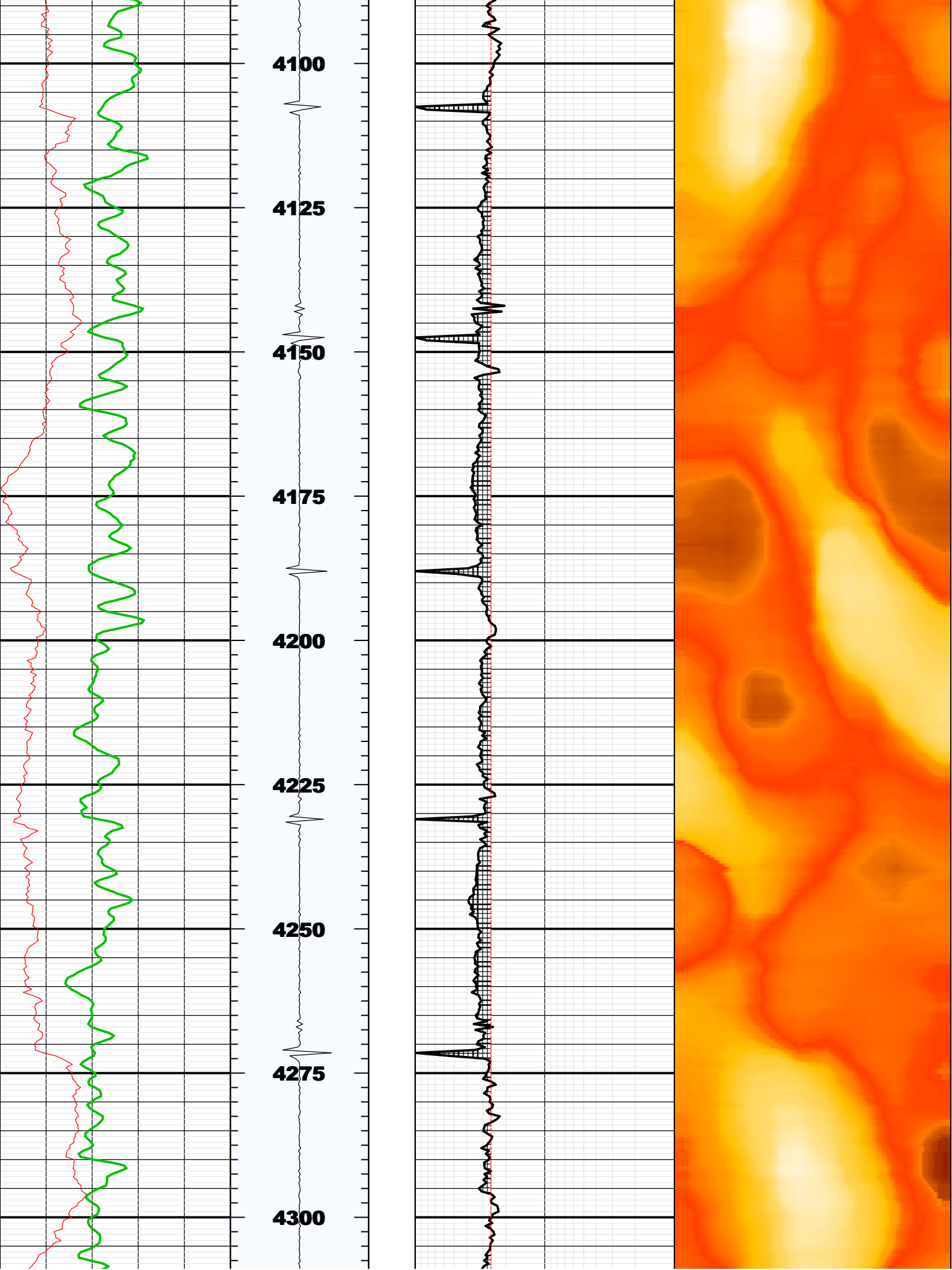


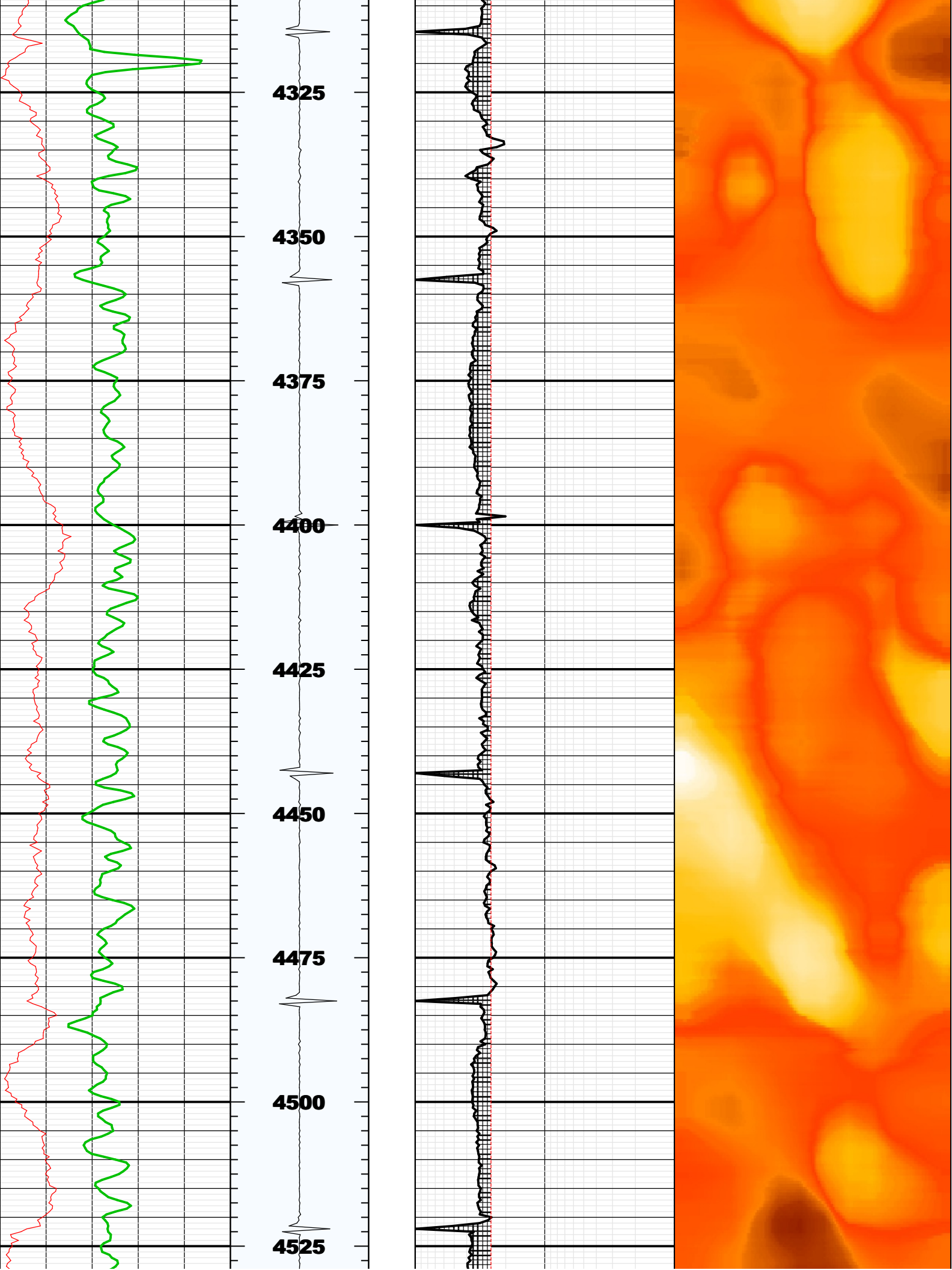


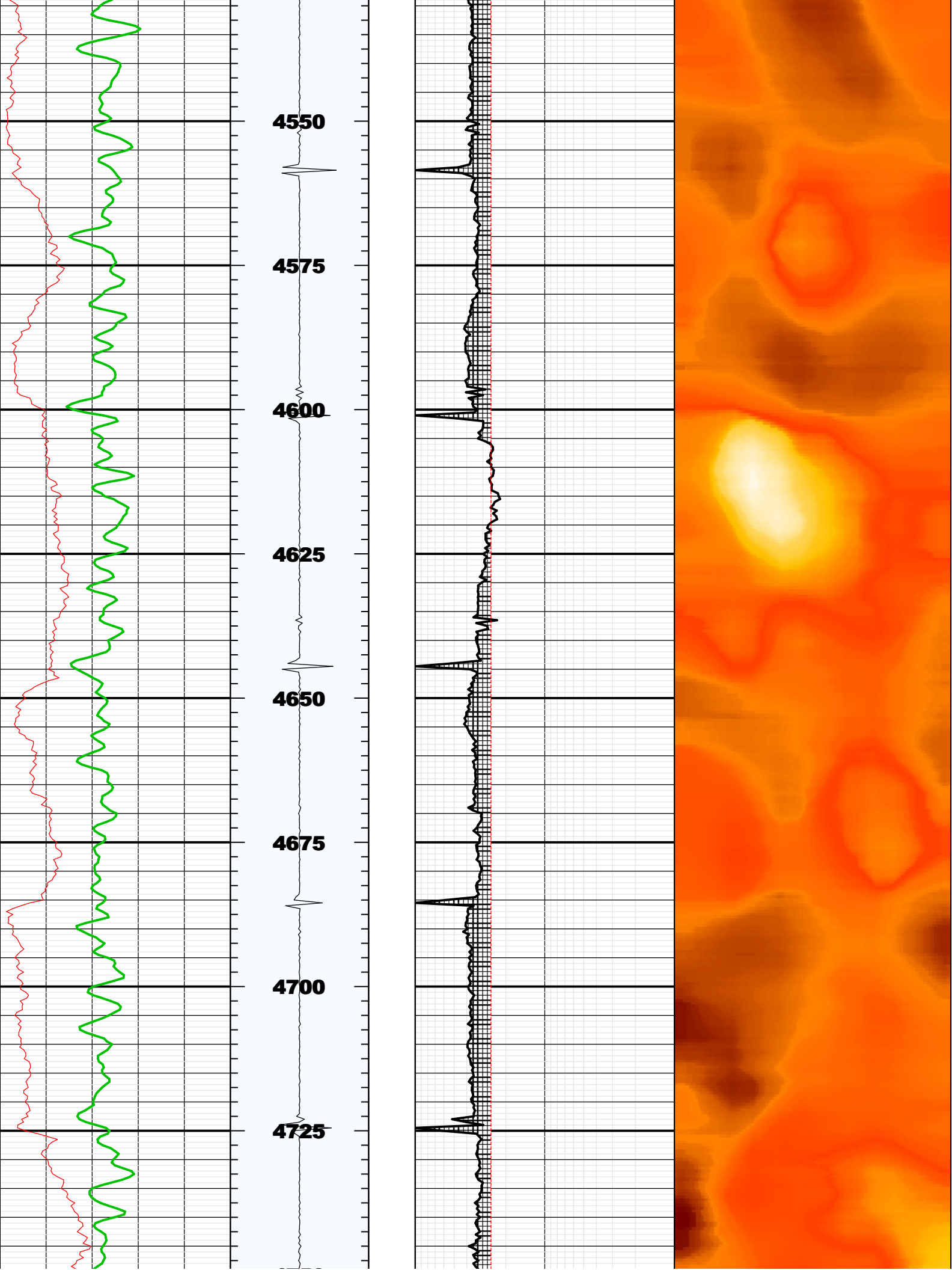




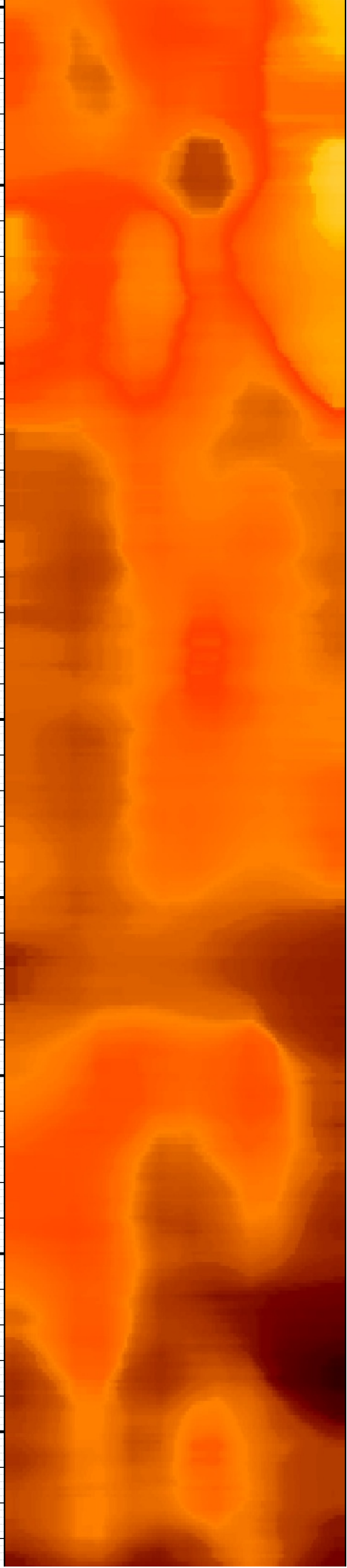
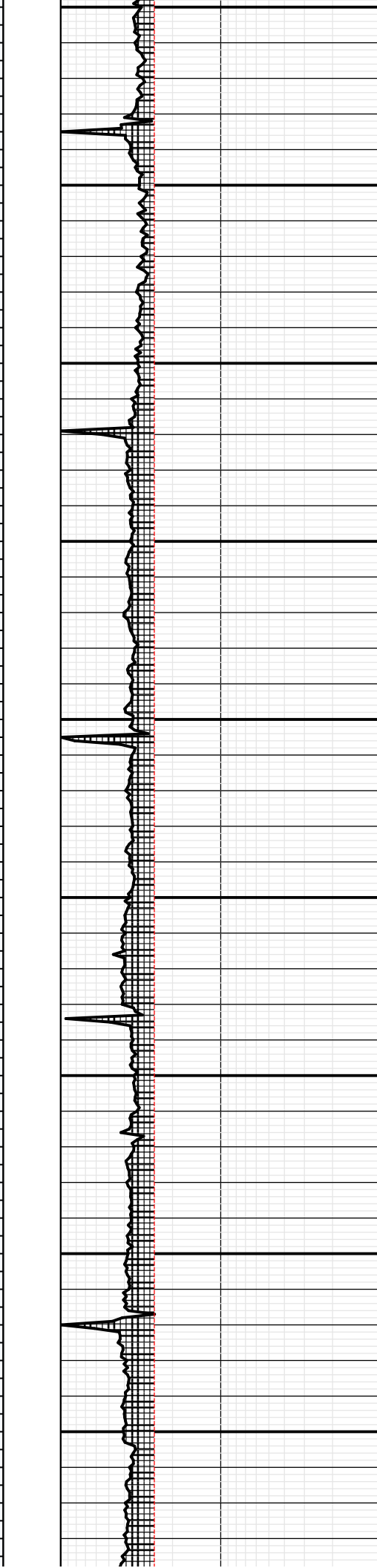
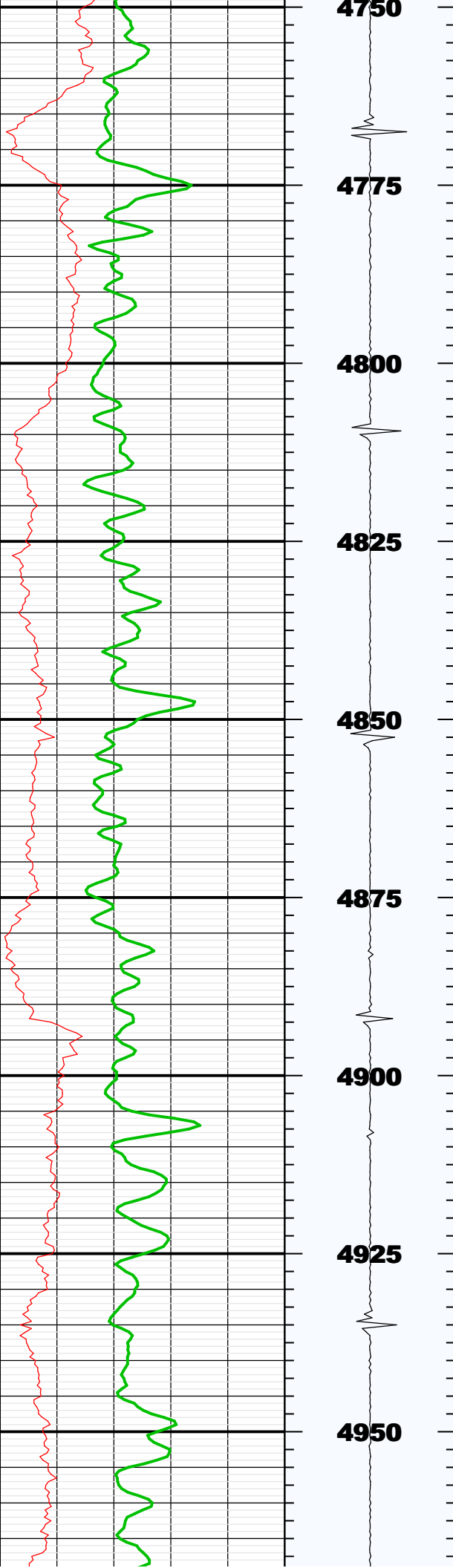


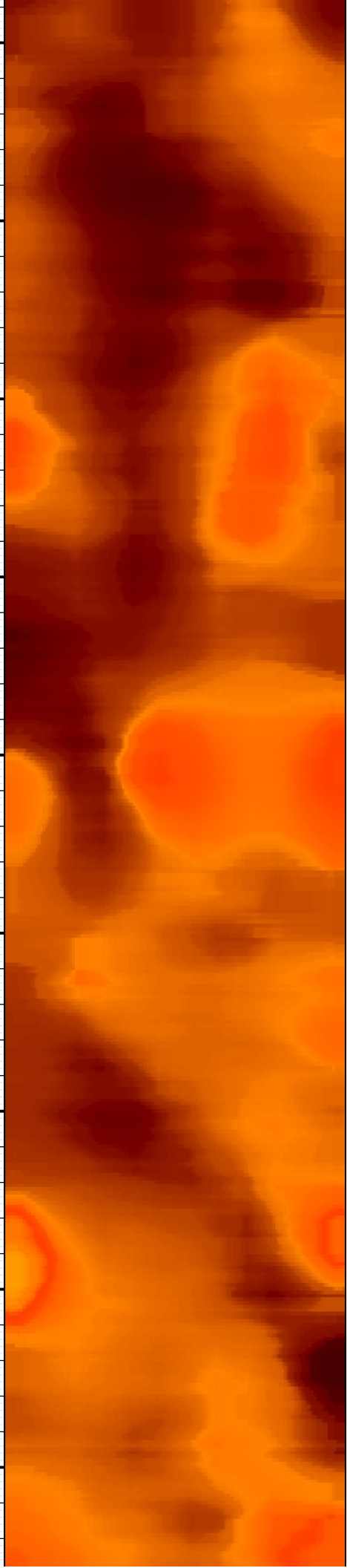
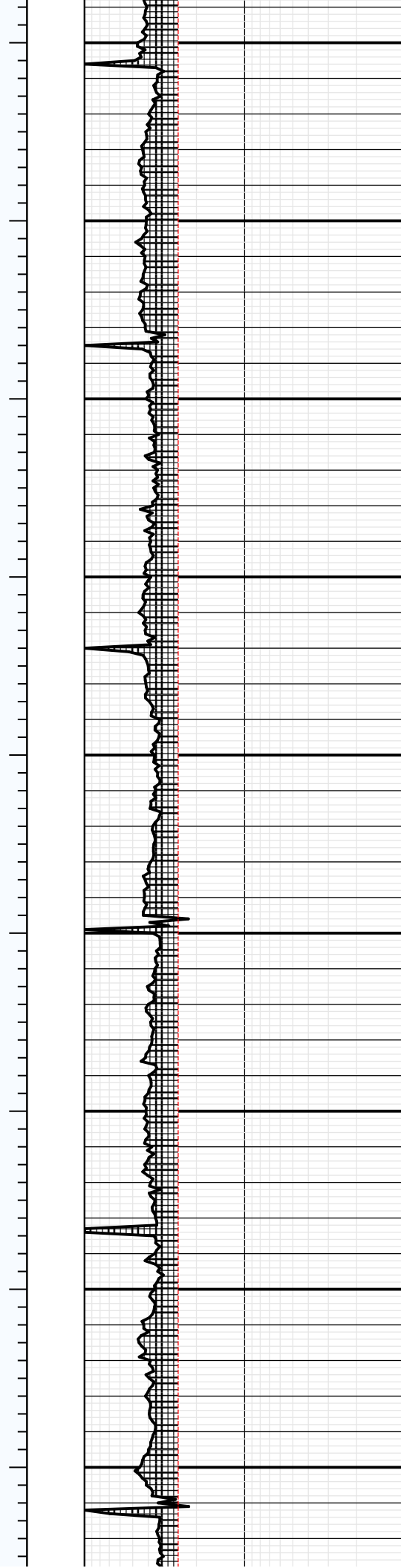
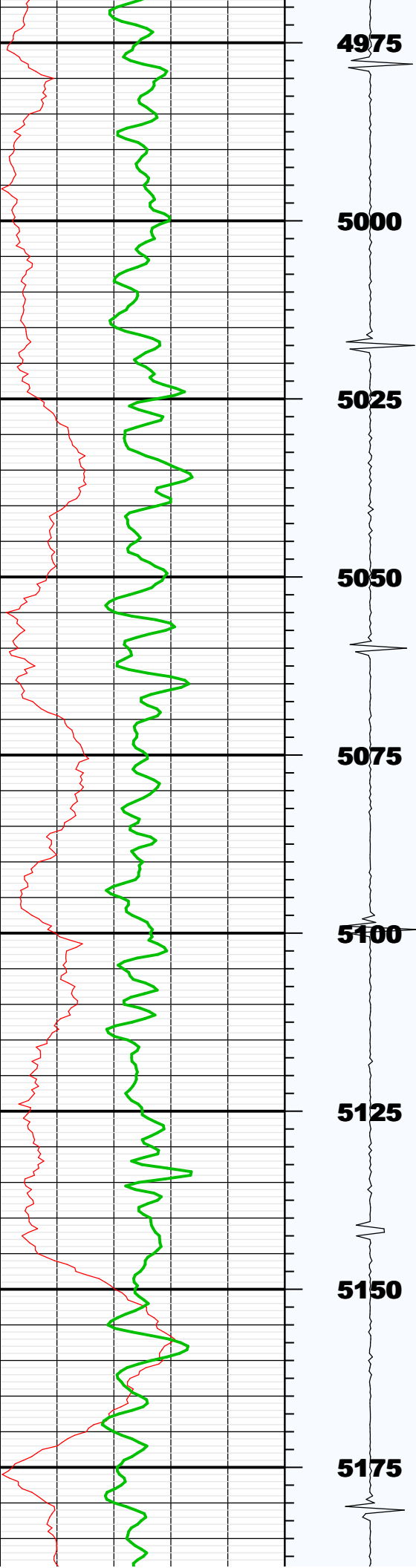


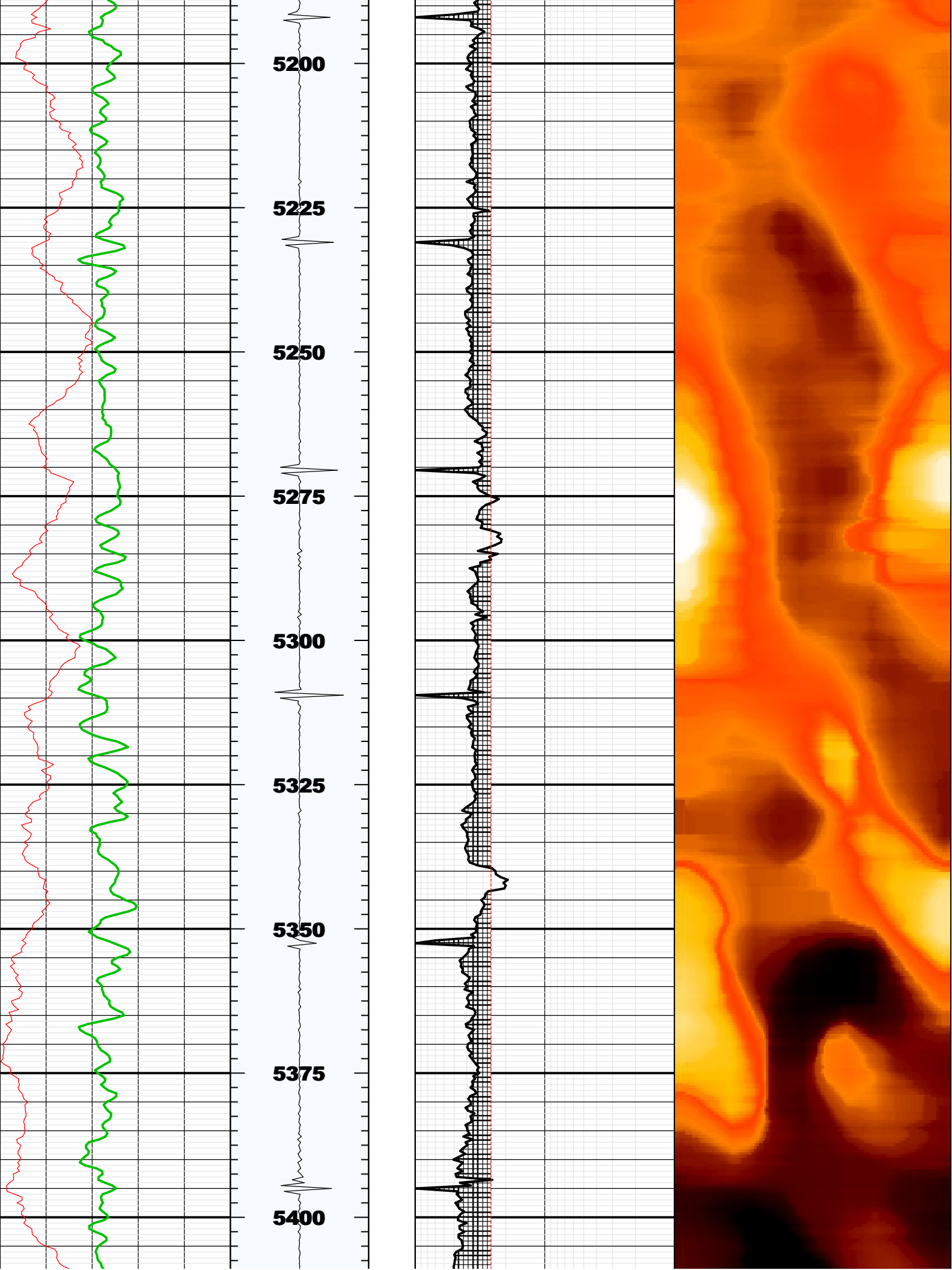


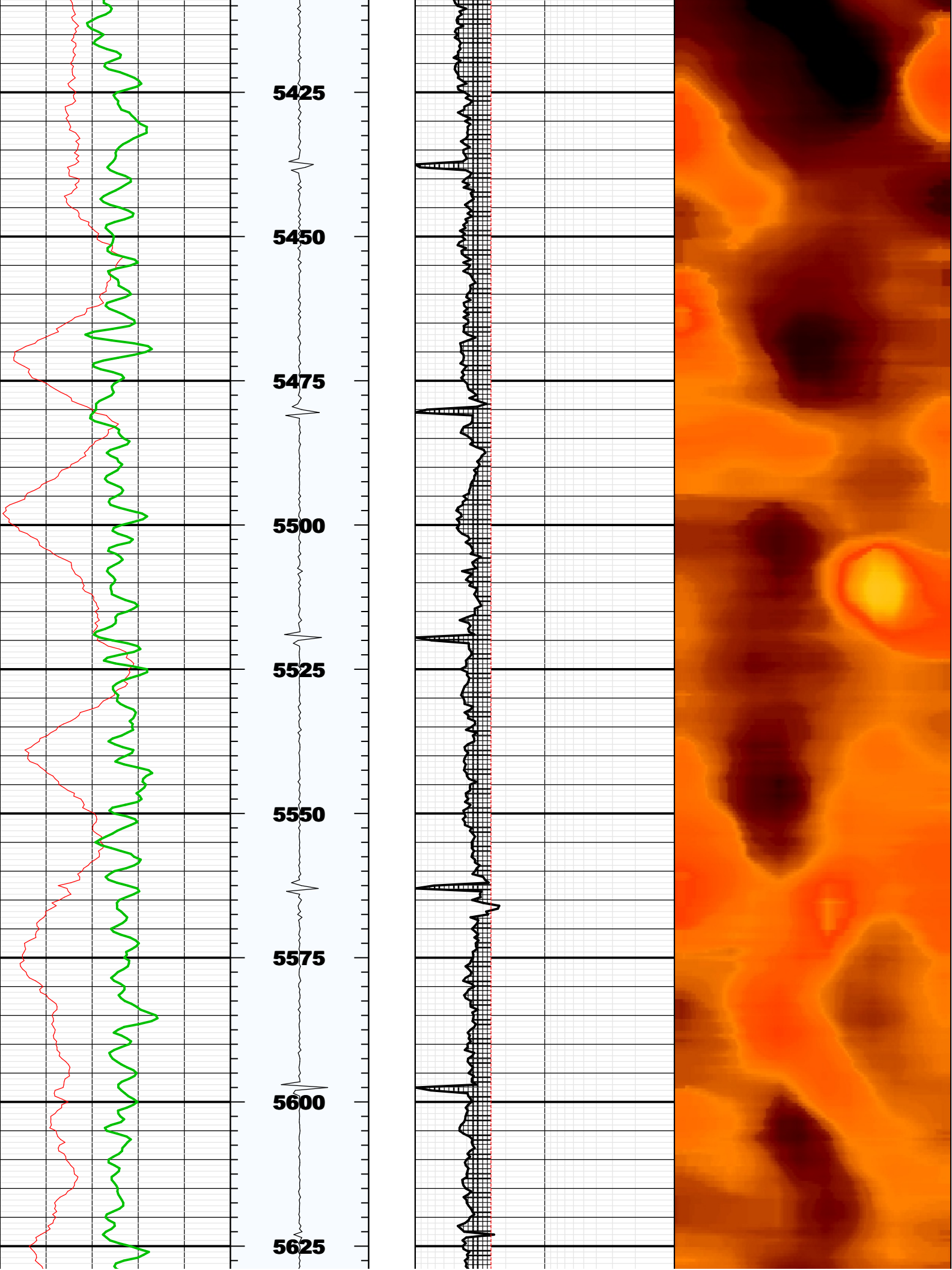




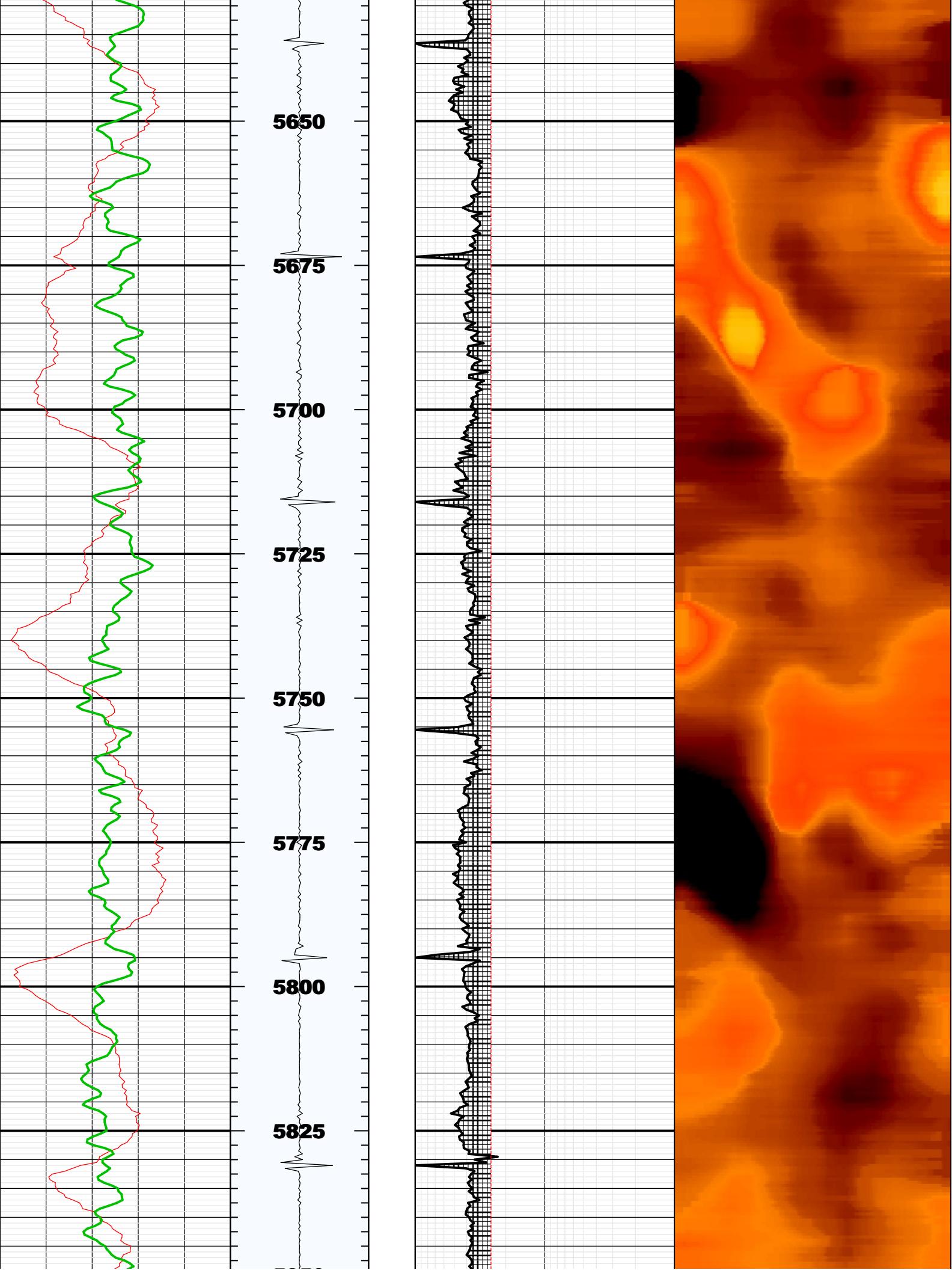


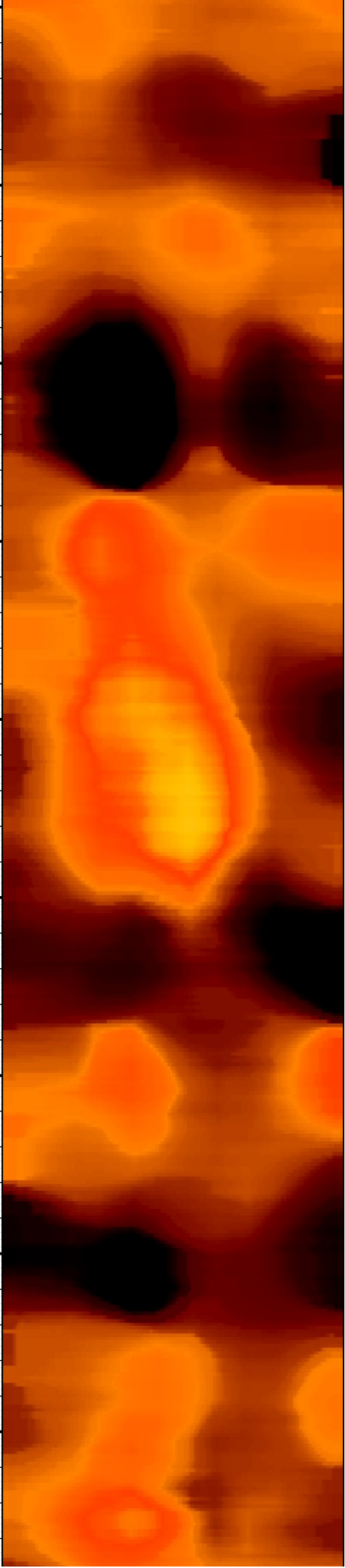
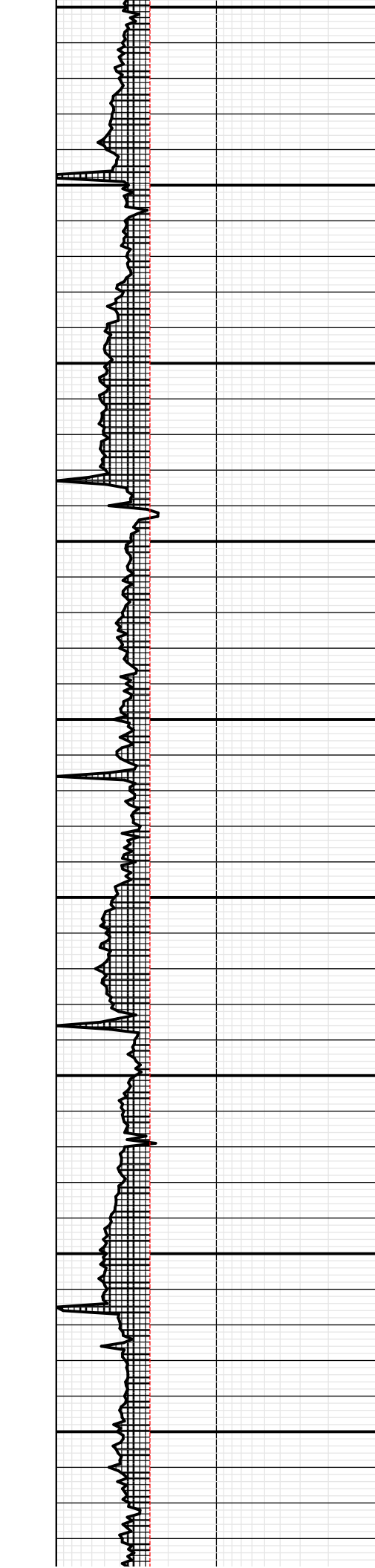
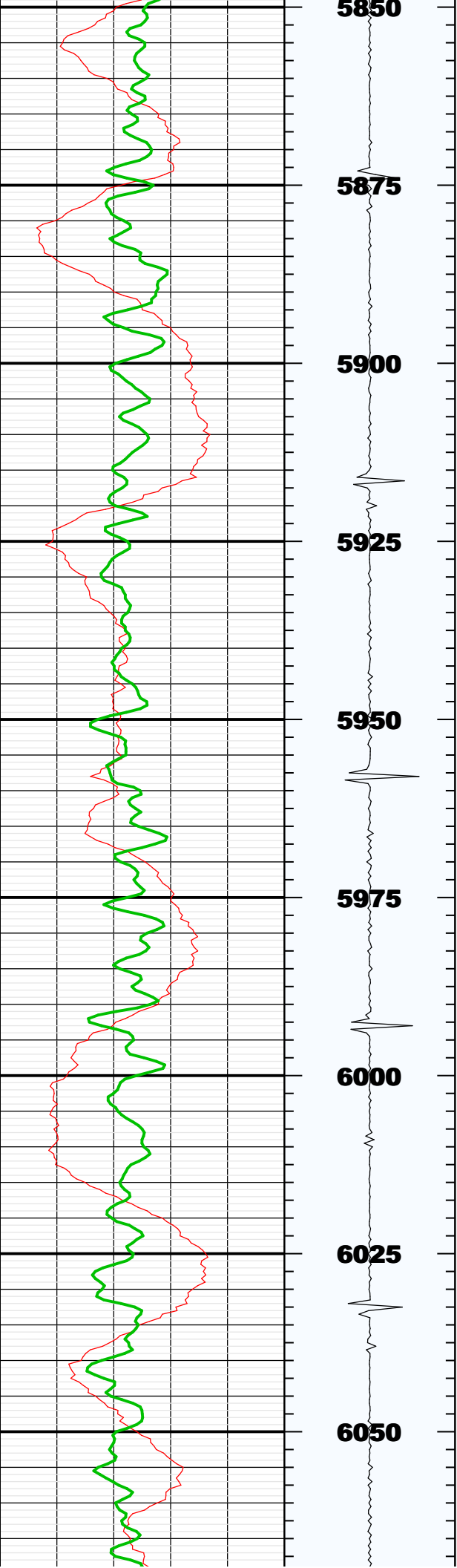


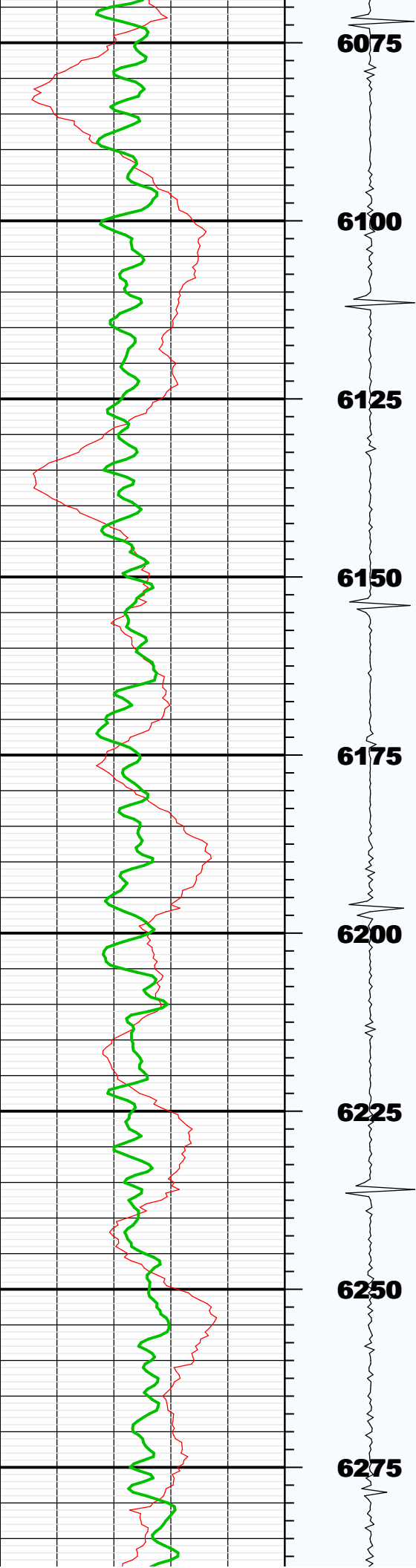












6075

6100

6125

6150

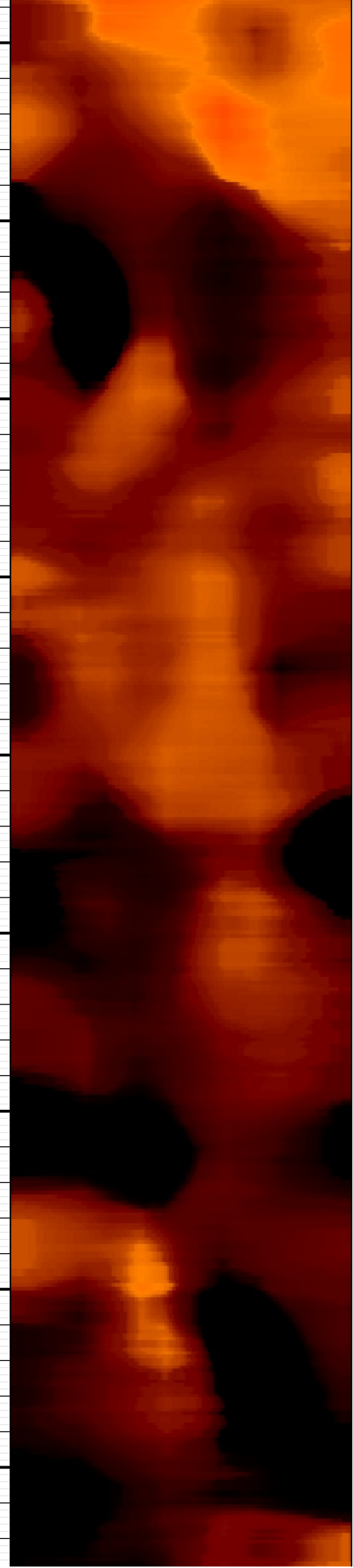
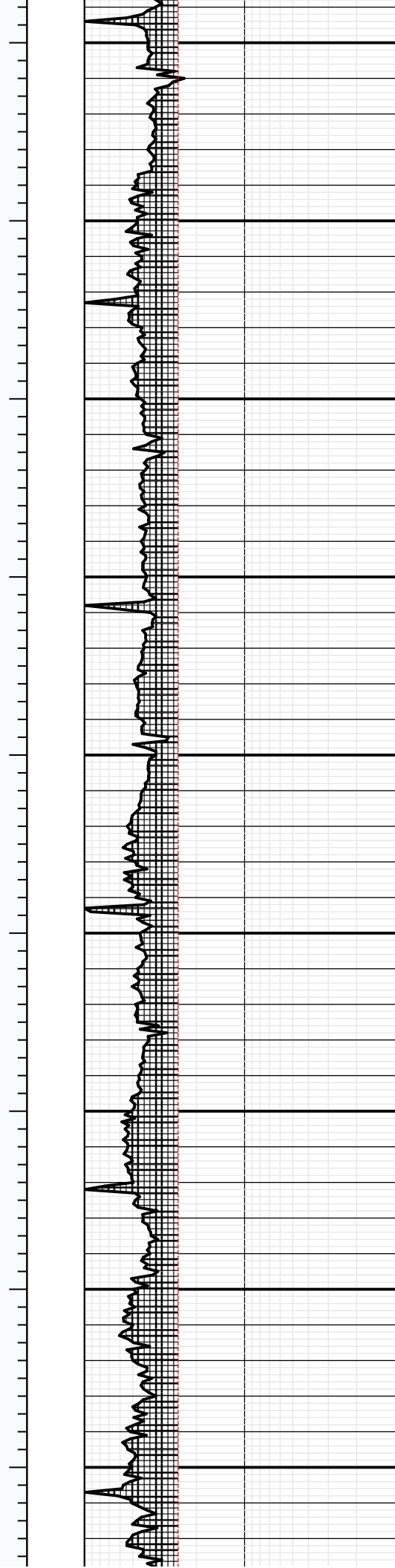
6175

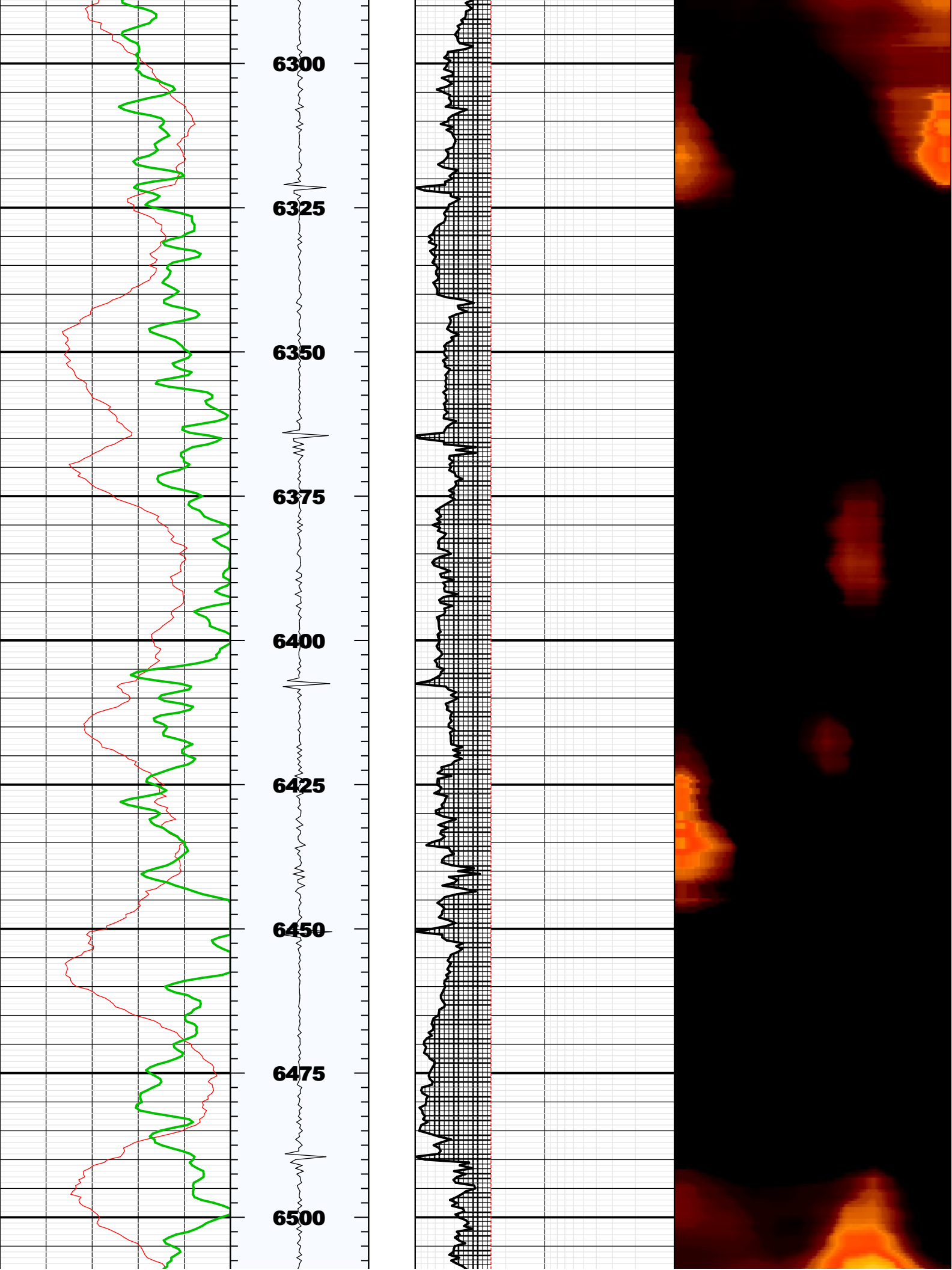
6200

6225

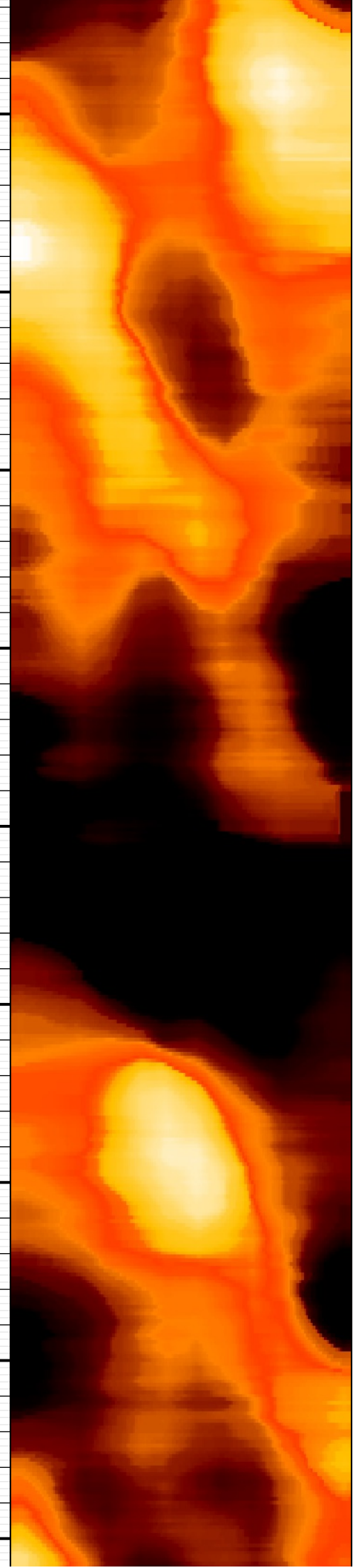
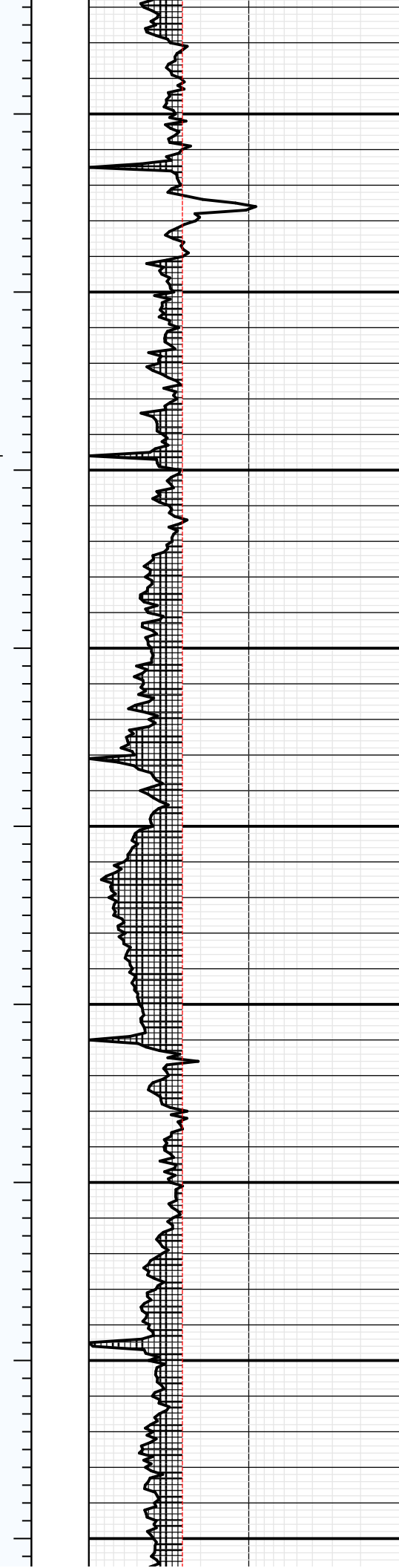
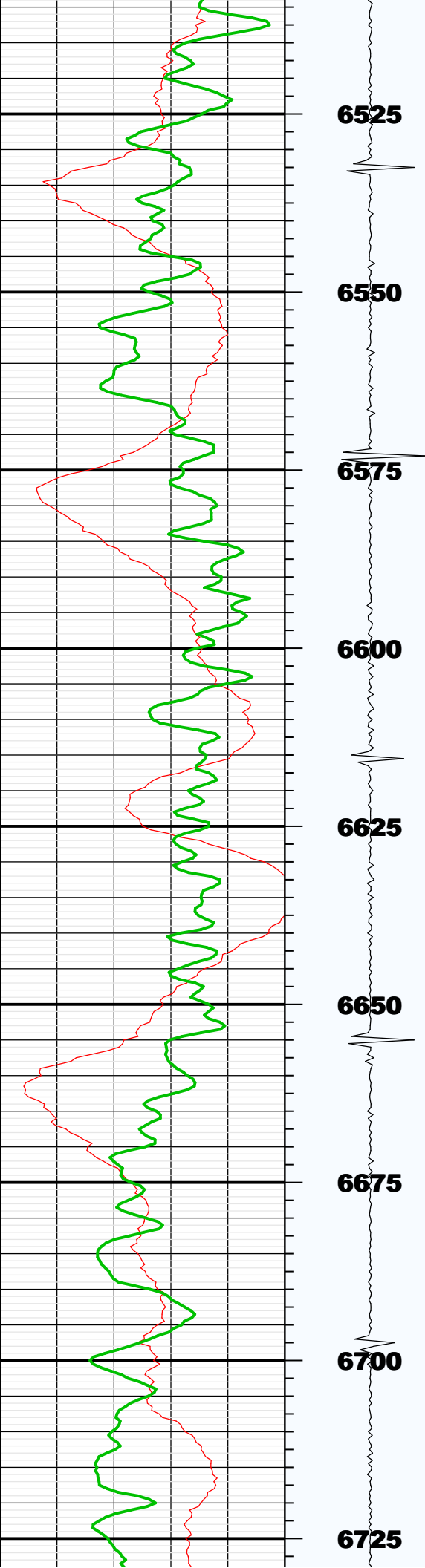
6250

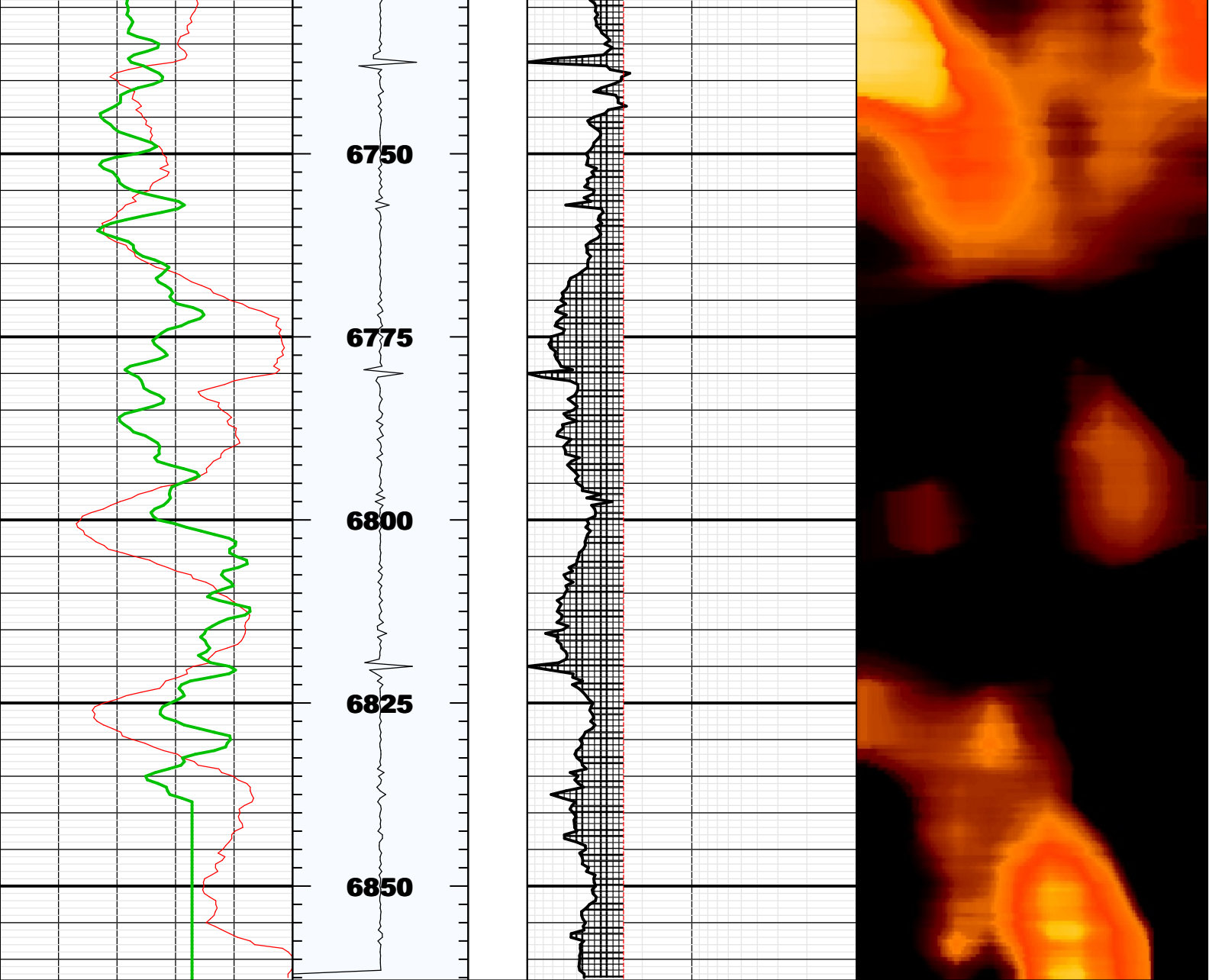
6275







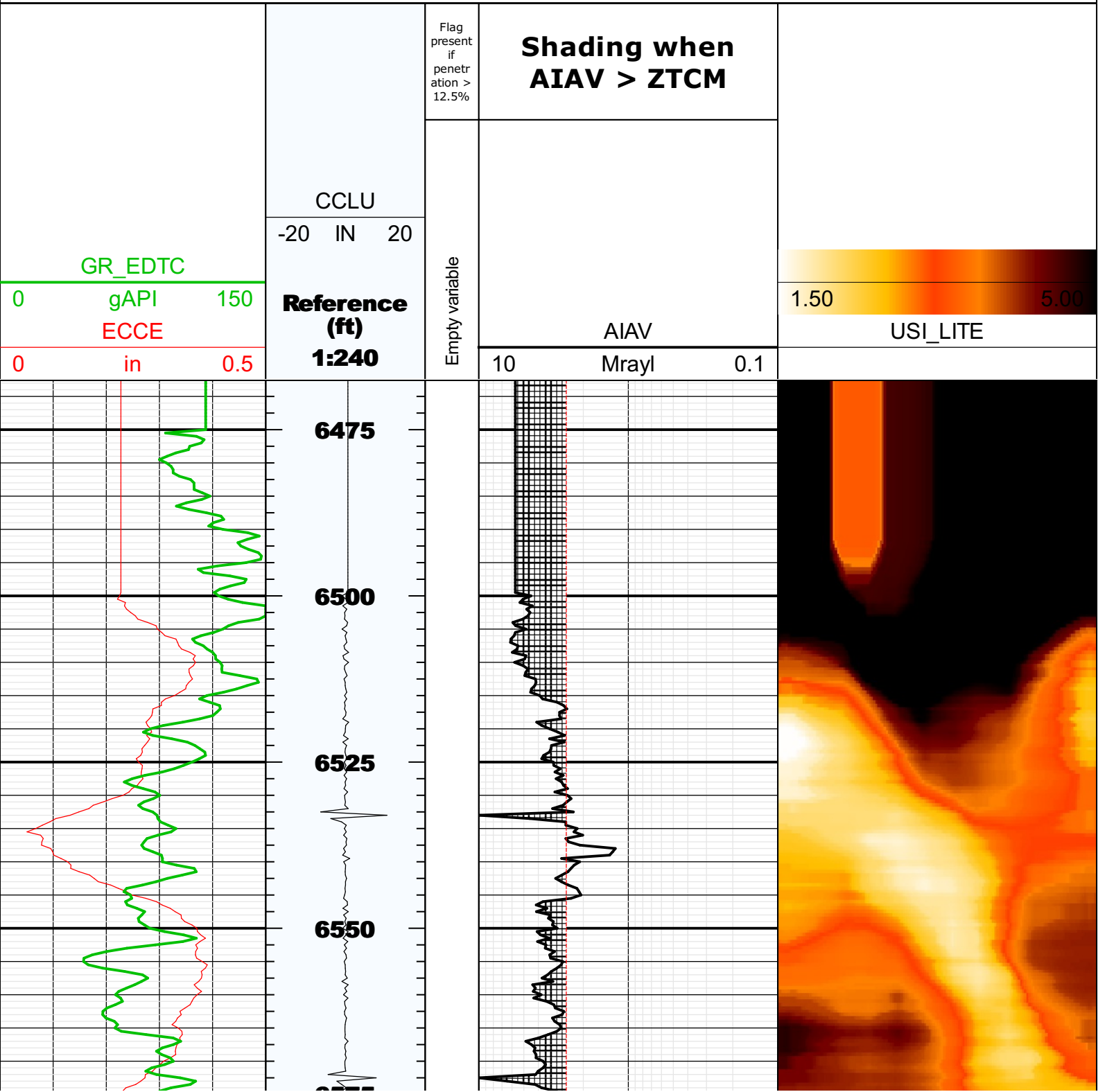


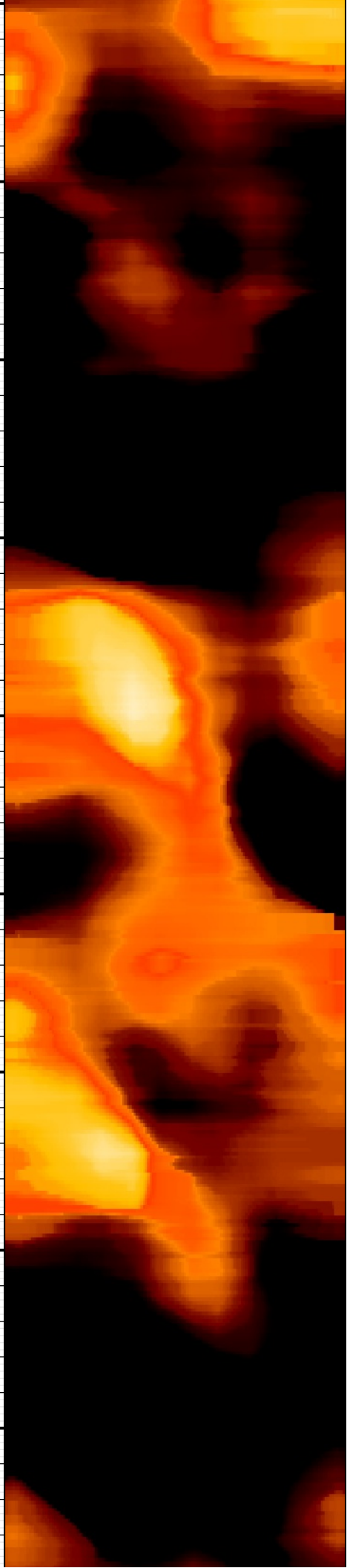
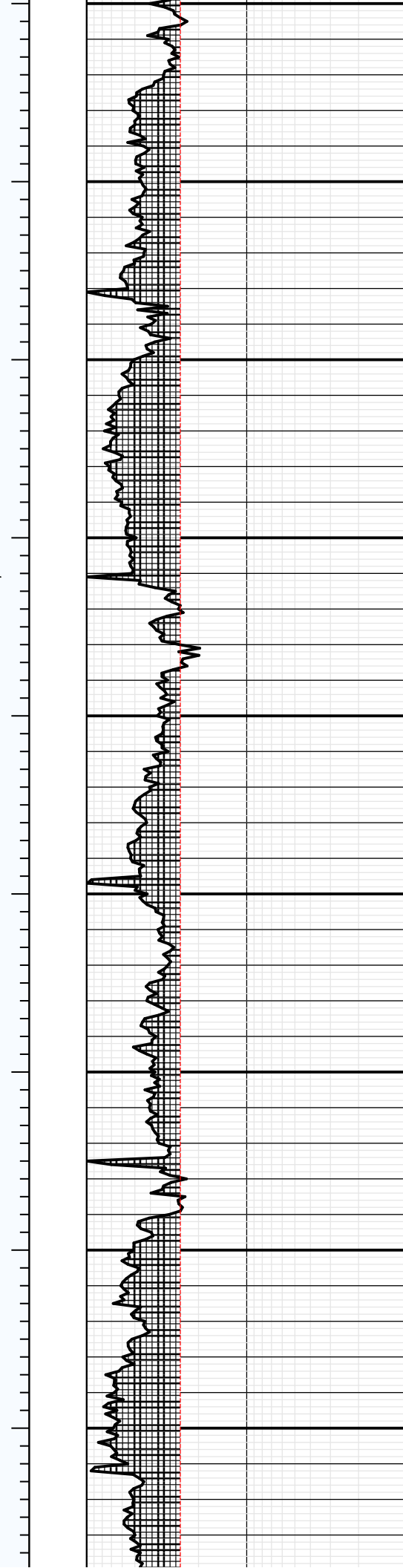
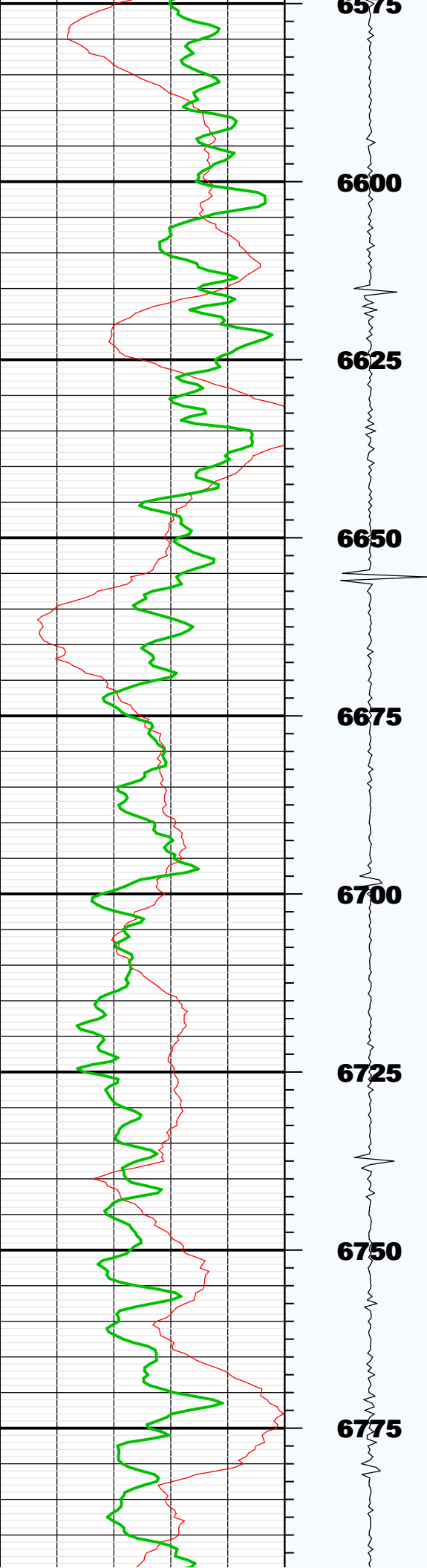


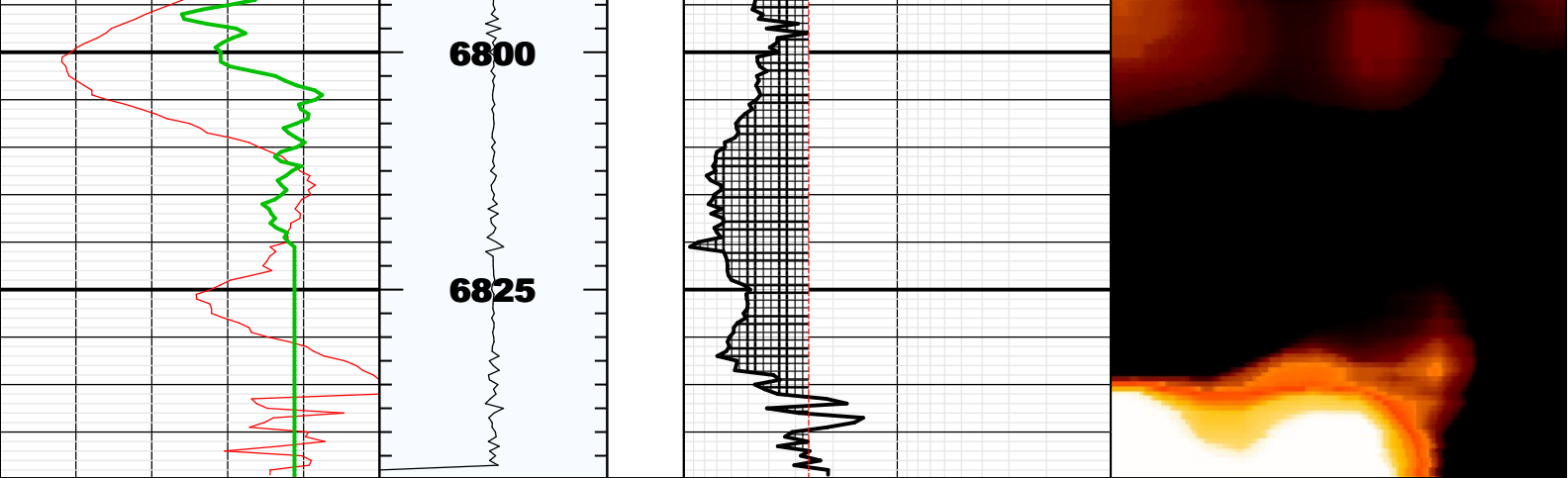
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	5.50000	IN	Casing Outer Diameter
CSID	4.77800	IN	Casing Inner Diameter
CSIZ	5.50000	IN	Current Casing Size
CWEI	20.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	190.00000	US/F	Default Fluid Velocity
DO			
DOT	1.75600	IN	Diameter of Transducer Sensor
EMXV	50	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	0.36100	IN	Nominal Thickness of Casing
TMUC	WRM		Type of Mud
U-USIT_DT3P			
UPAT	375K		Emission Pattern
USUB	5INC		USIT Sub Identifier
UWKM	D606010L		Working Mode
VCAS	51.40000	US/F	Ultrasonic Transversal Velocity in Casing
WINB	27.84833	US	Window Begin Time
WINE	74.94674	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	22.43906	US	T <sup>3</sup> Processing Length

Repeat Pass

Company: Noble Energy Inc.  
Well: Wells Ranch BB01-615  
Field: Wattenberg









## Fluid Properties Used for Main Pass

