

Company: Noble Energy Inc

Well: Cutthroat LC28-79HNB  
Field: Wattenberg  
County: Weld State: Colorado

USI-LITE									
County: Weld									
Field: Wattenberg									
Location: SWSW Sec. 28 T9N R59W									
Well: Cutthroat LC28-79HNB									
Company: Noble Energy Inc									
LOCATION									
Permanent Datum: Log Measured From: Drilling Measured From:									
GL KB KB									
Elev: K.B. 4884.0 F G.L. 4854.0 F D.F. 4883.0 F									
API Serial No. 05-123-38855-0000									
Section 28									
Township 9N									
Range 59W									
Logging Date									
Run Number									
Depth Driller									
Schlumberger Depth									
Bottom Log Interval									
Top Log Interval									
Casing Fluid Level									
Salinity									
Density									
Fluid Level									
BIT/CASING/TUBING STRING									
Bit Size									
From									
To									
Casing Size									
Weight									
Grade									
From									
To									
Max Recorded Temp									
Logger on bottom (date)									
Location									
Recorded By									
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

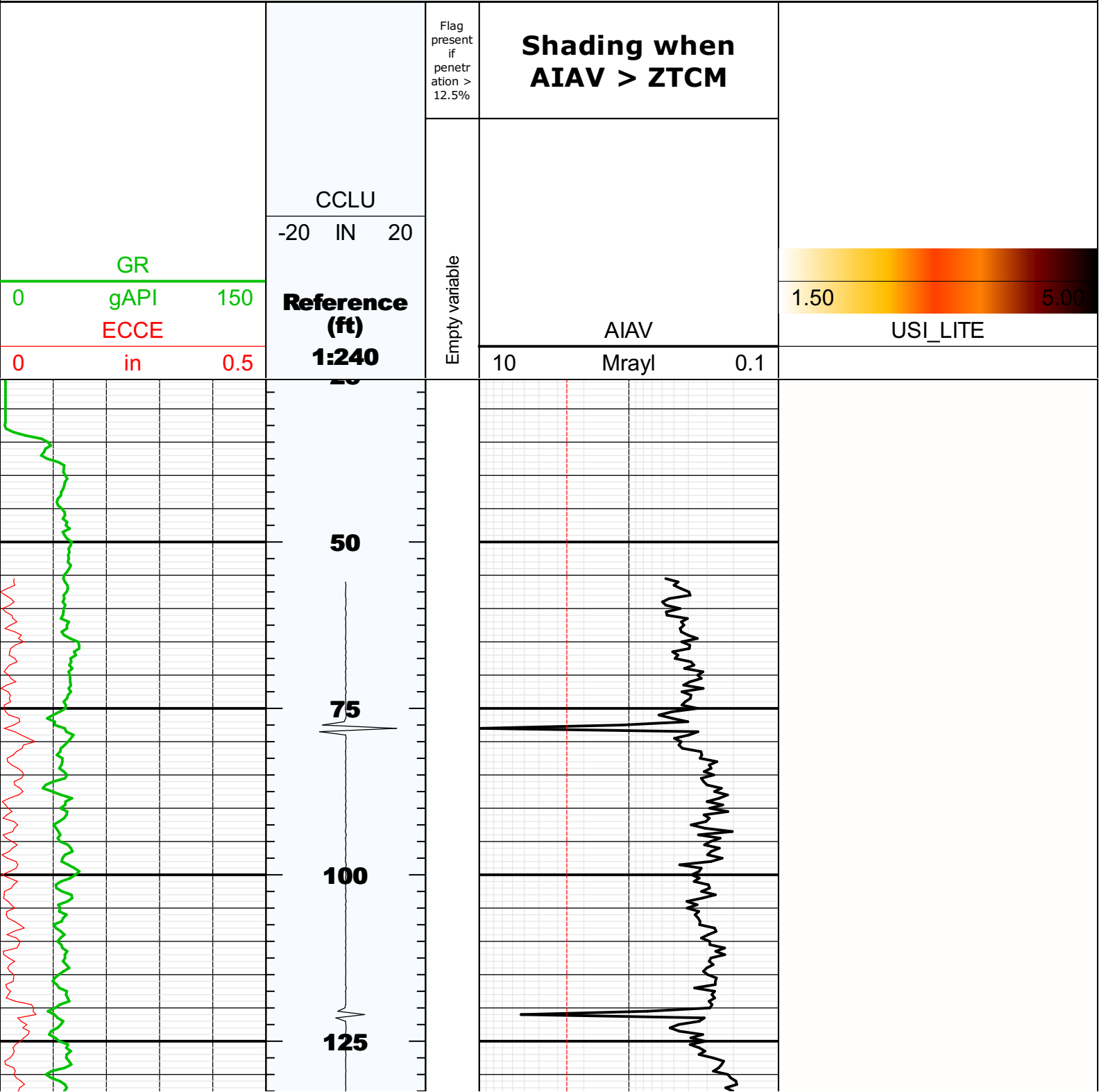
## DISCLAIMER

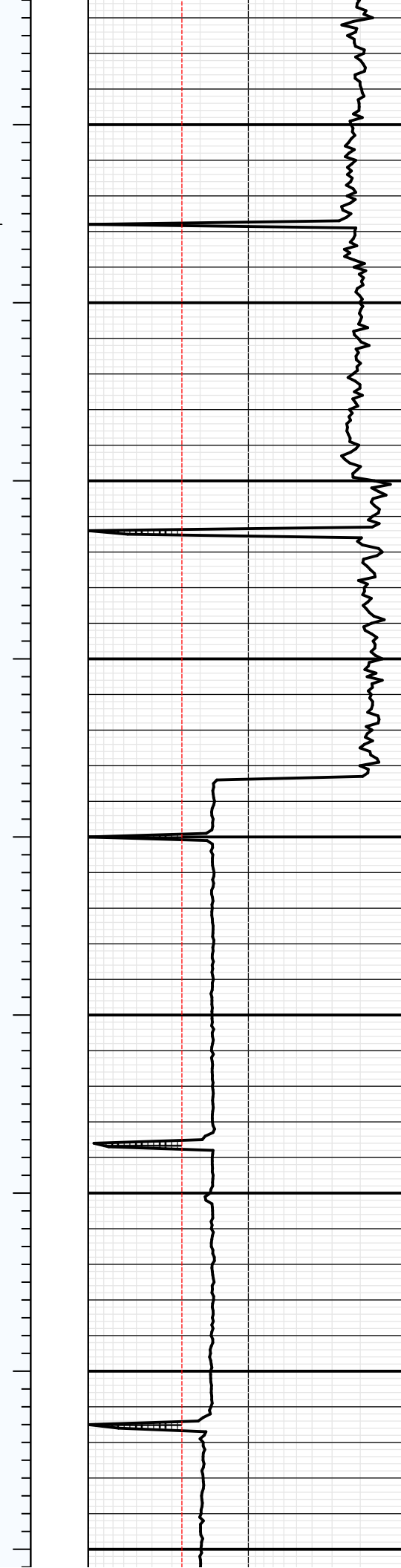
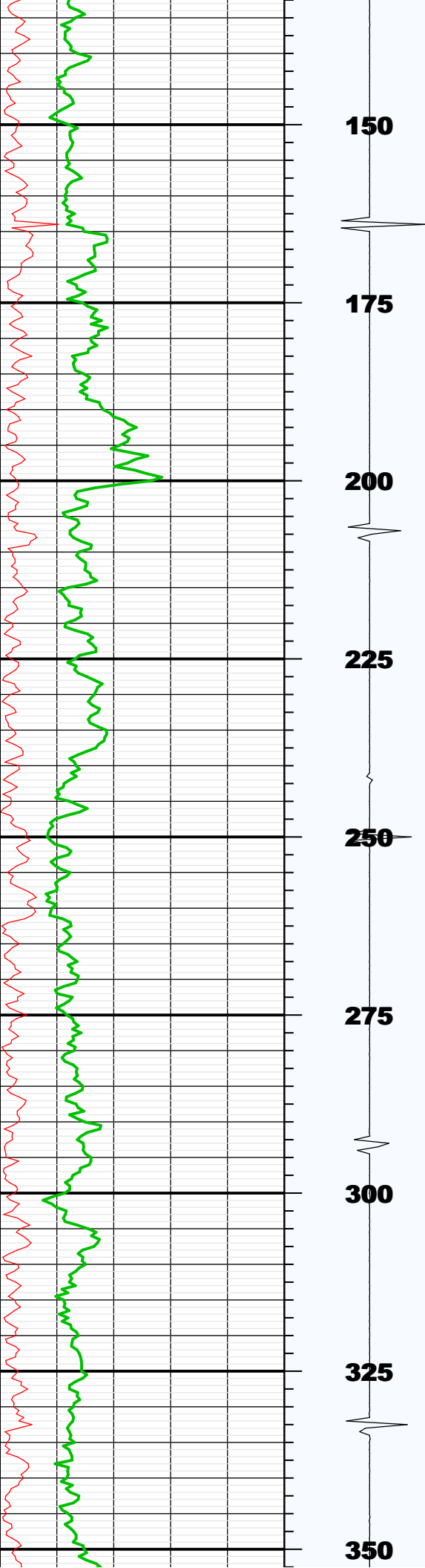
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA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

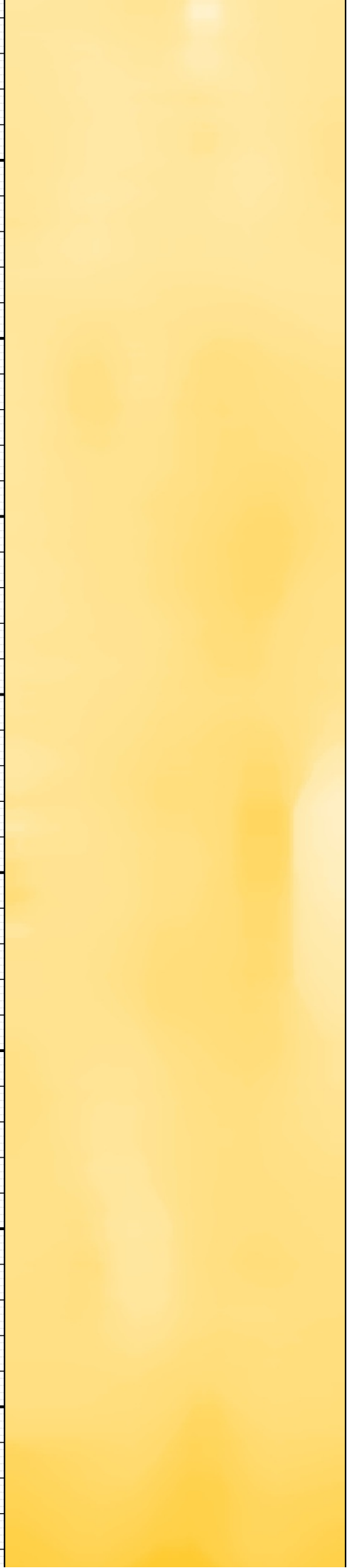
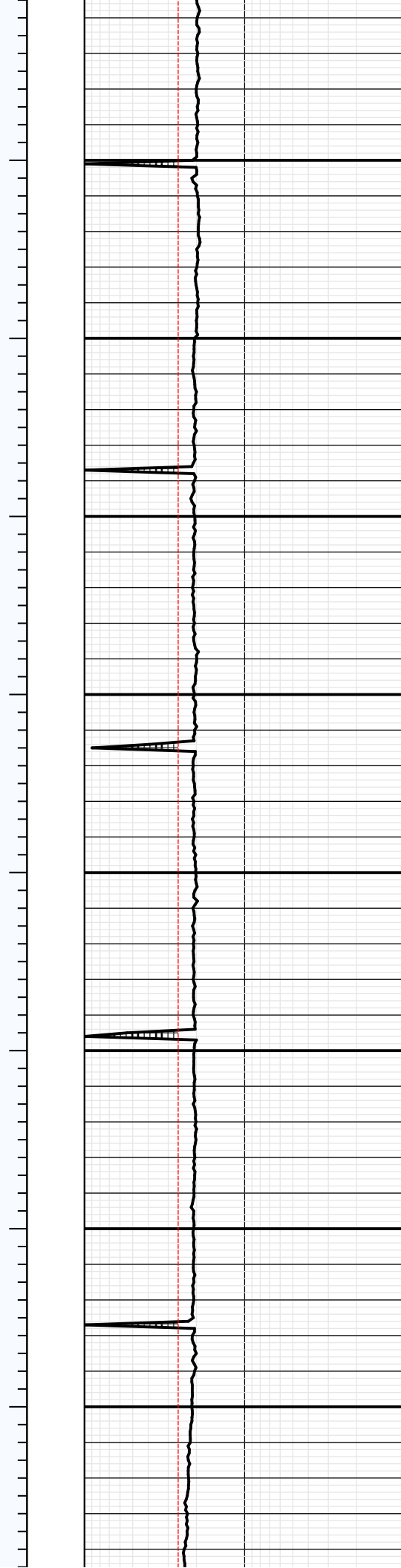
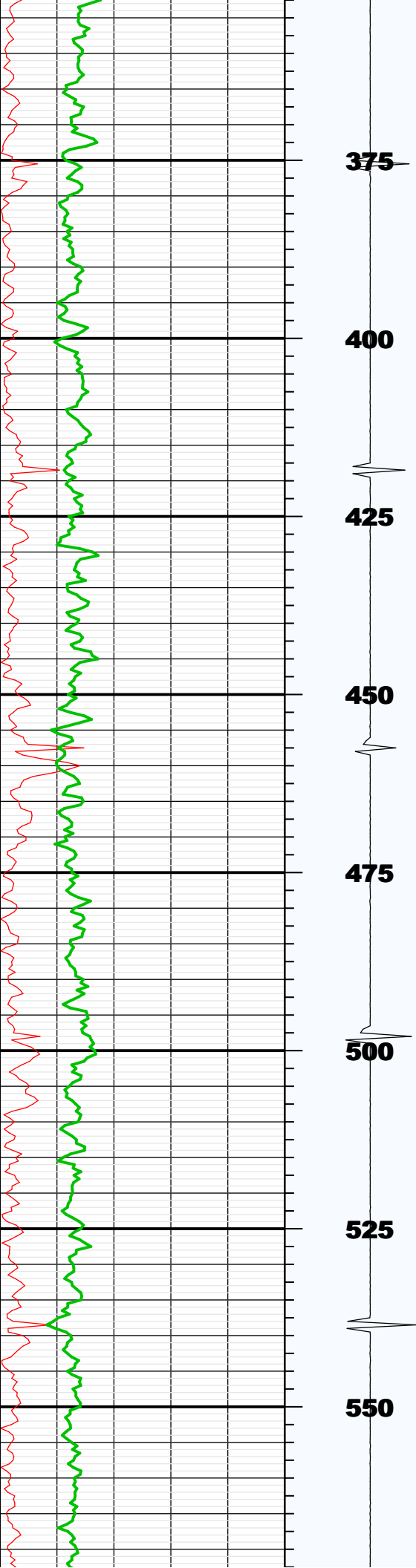
This is first run in hole  
Toolstring run as per tool sketch  
12.5 ppg lead cement  
13.8 ppg tail cement  
0 PSI repeat pass  
2500 PSI main pass  
Bottom log temperature 225 degF  
Top of cement 620ft  
Crew Jay Musgrave Ian Derry

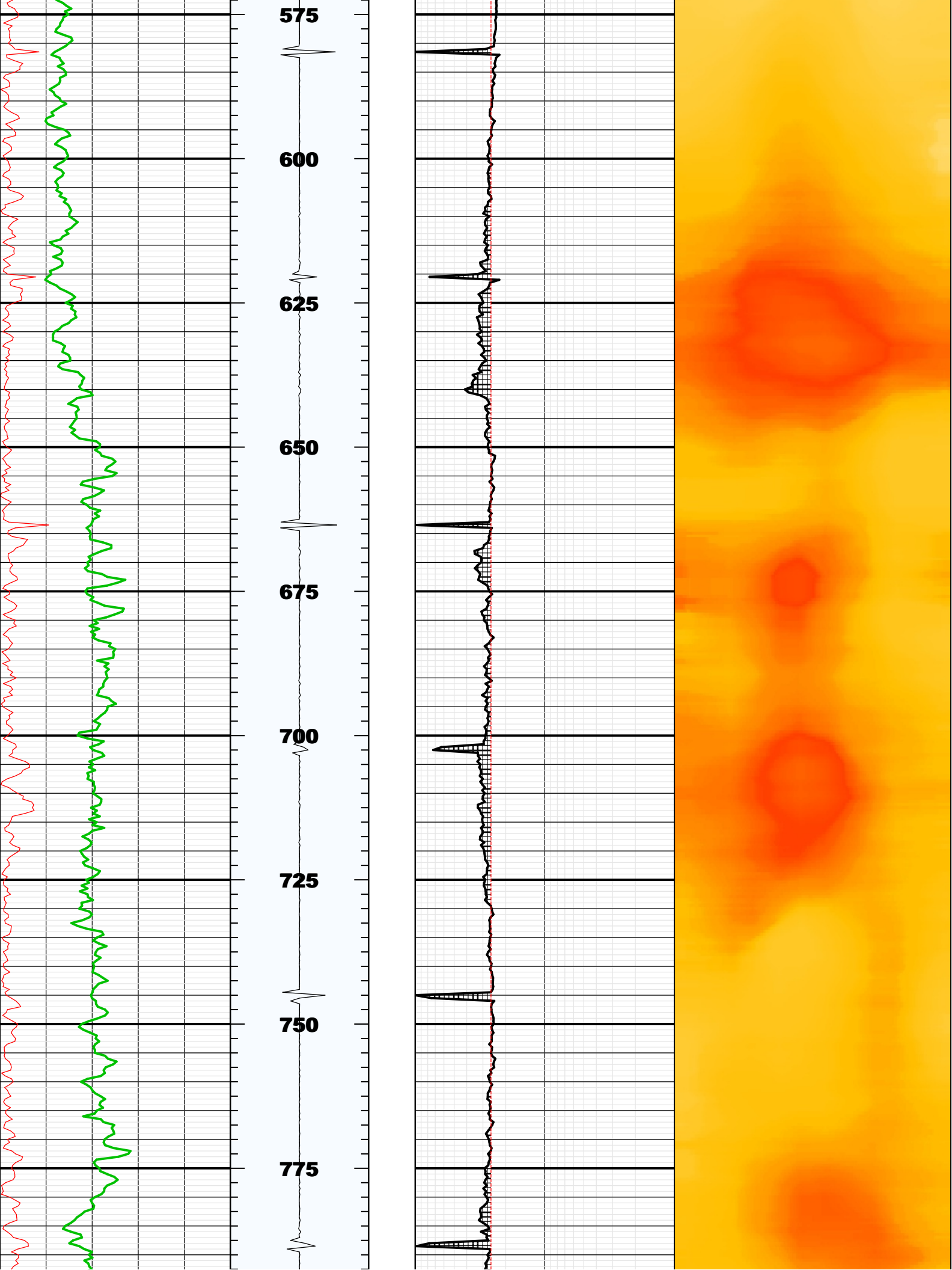
Main Pass

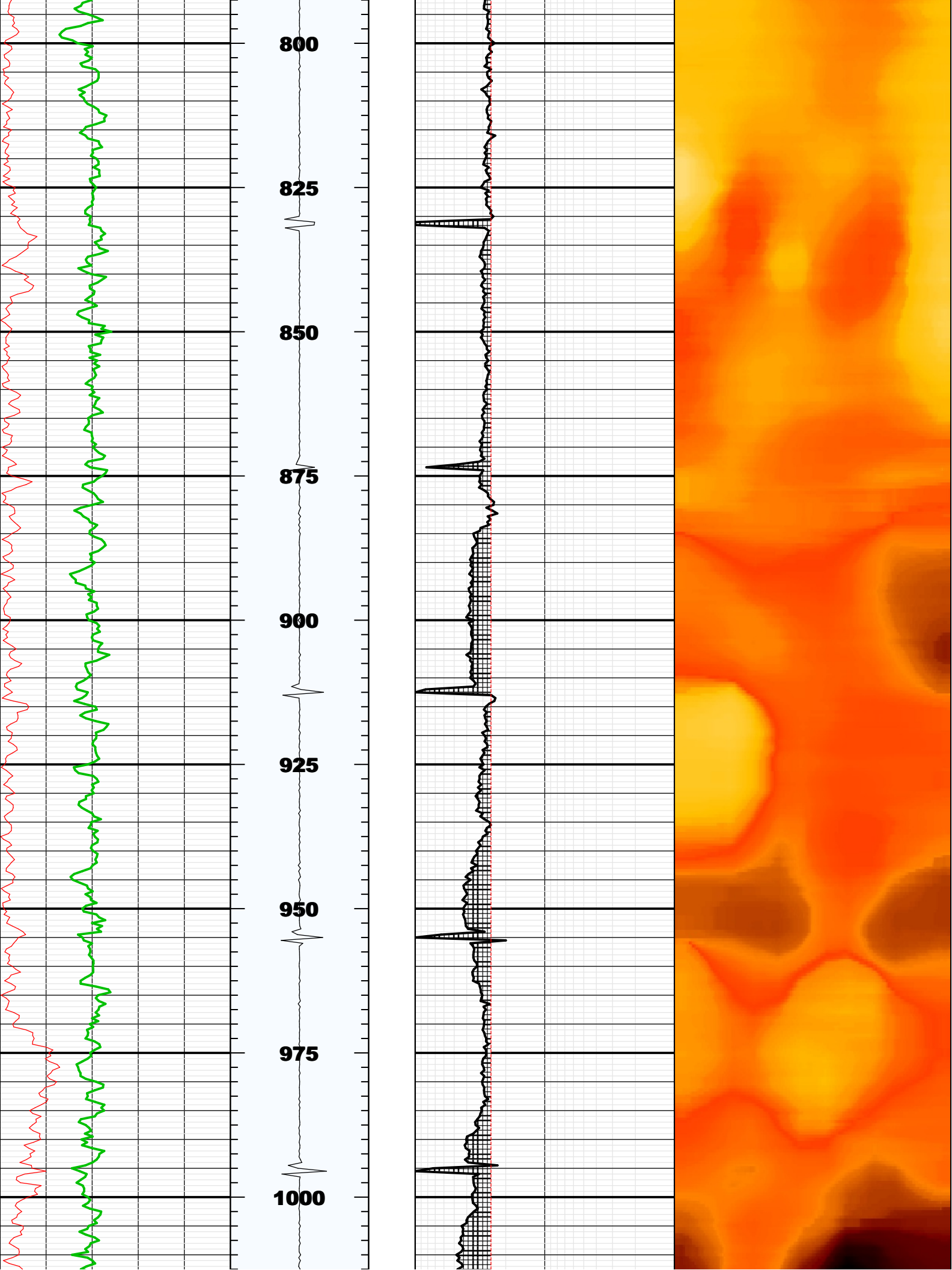
Company: Noble Energy Inc  
Well: Cutthroat LC28-79HNB  
Field: Wattenberg

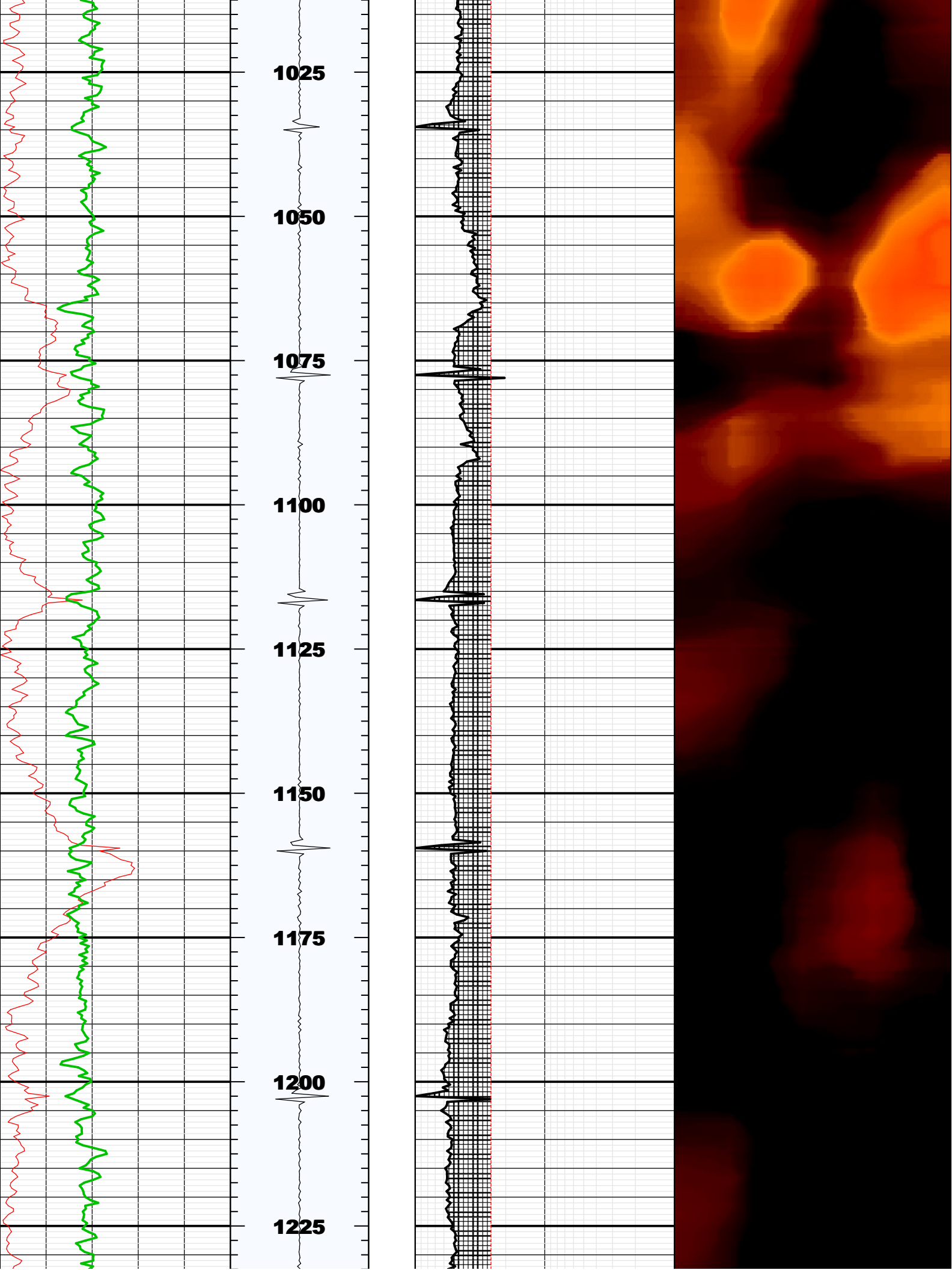


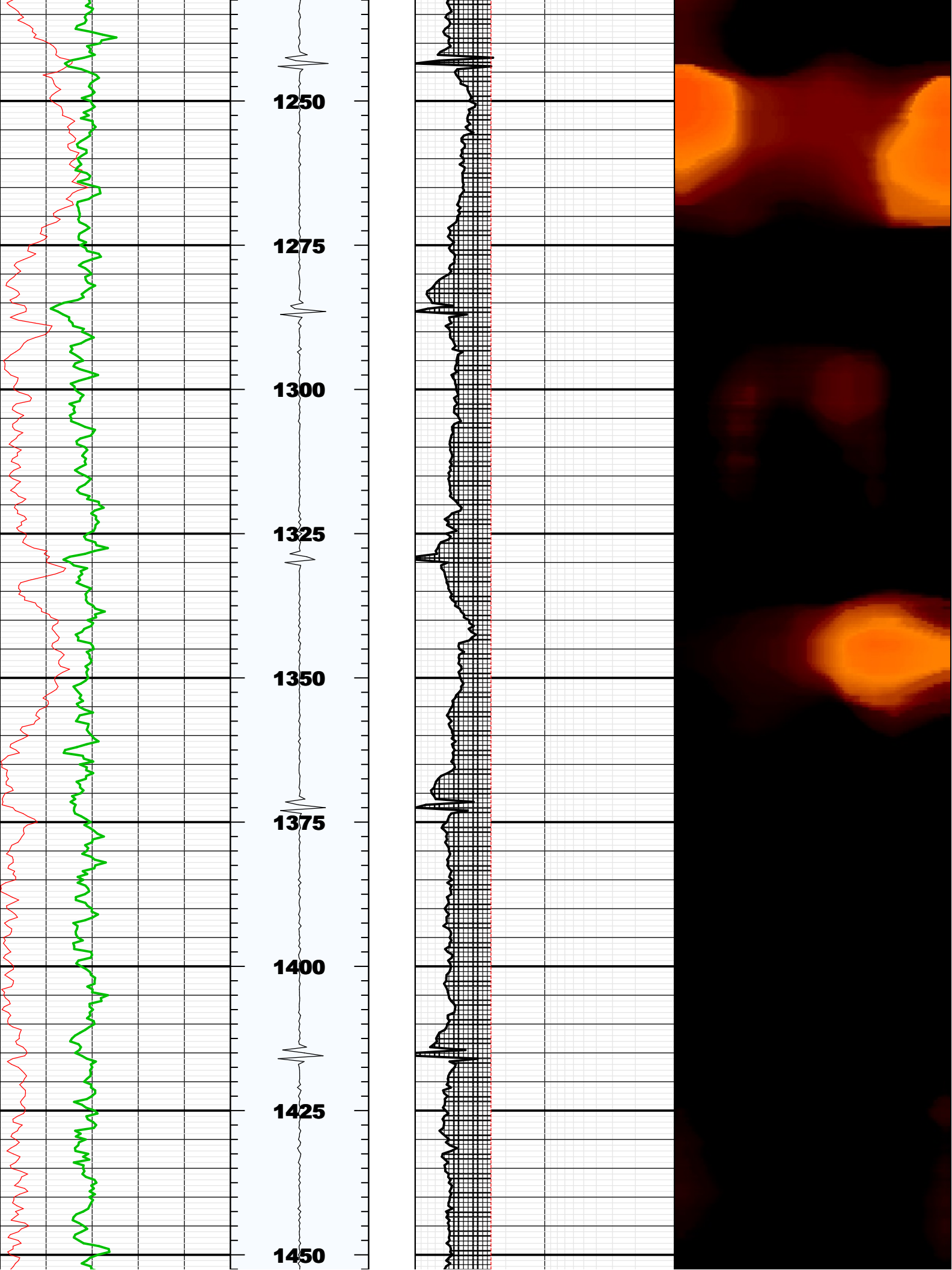


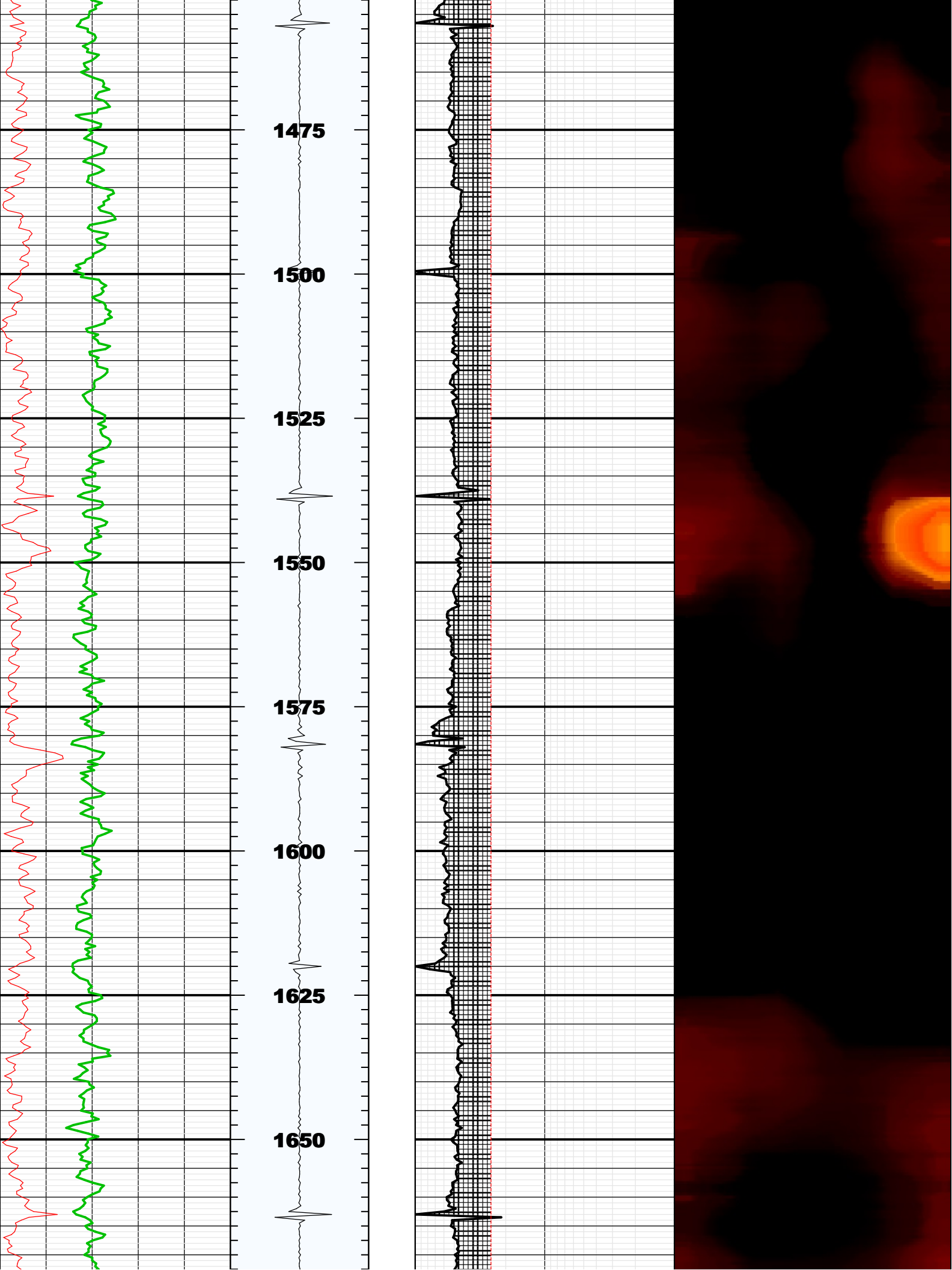


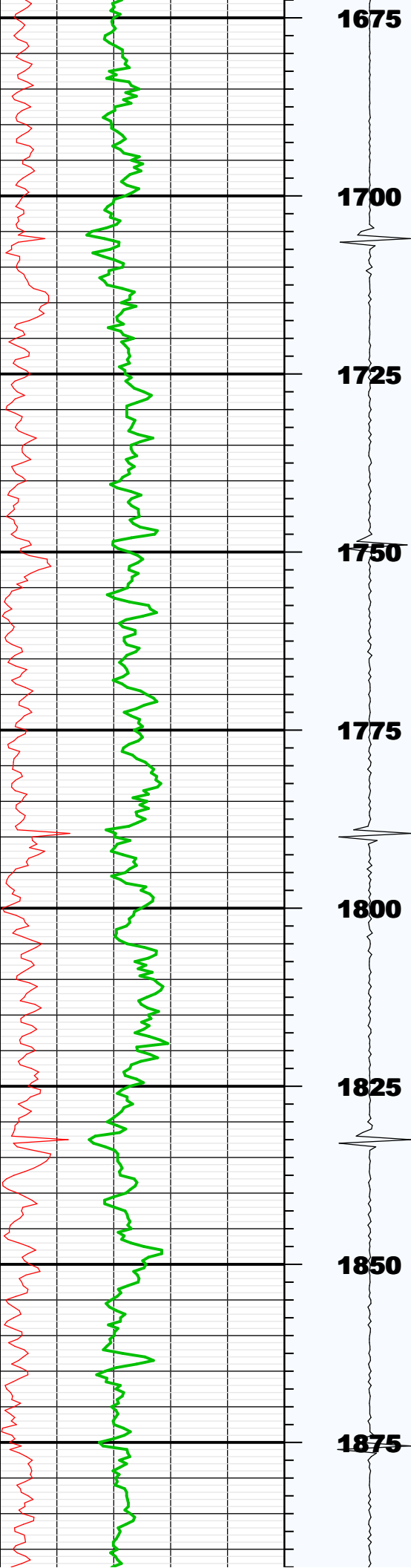












1675

1700

1725

1750

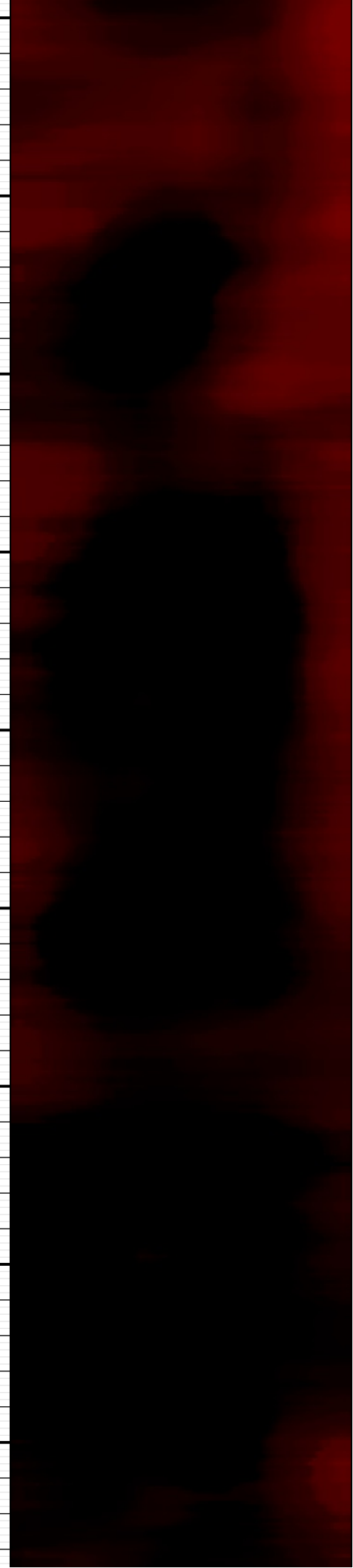
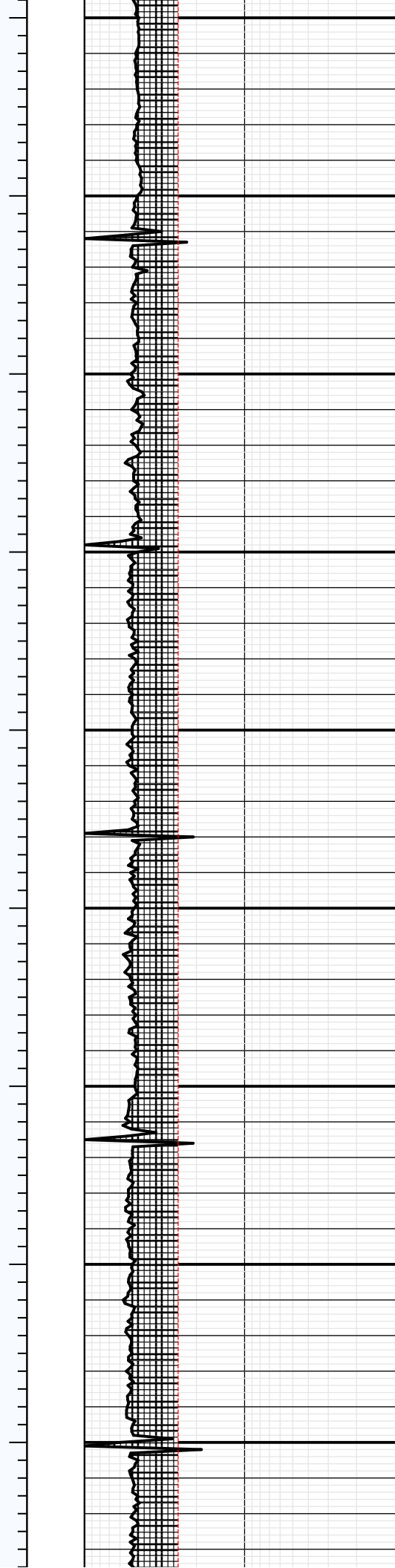
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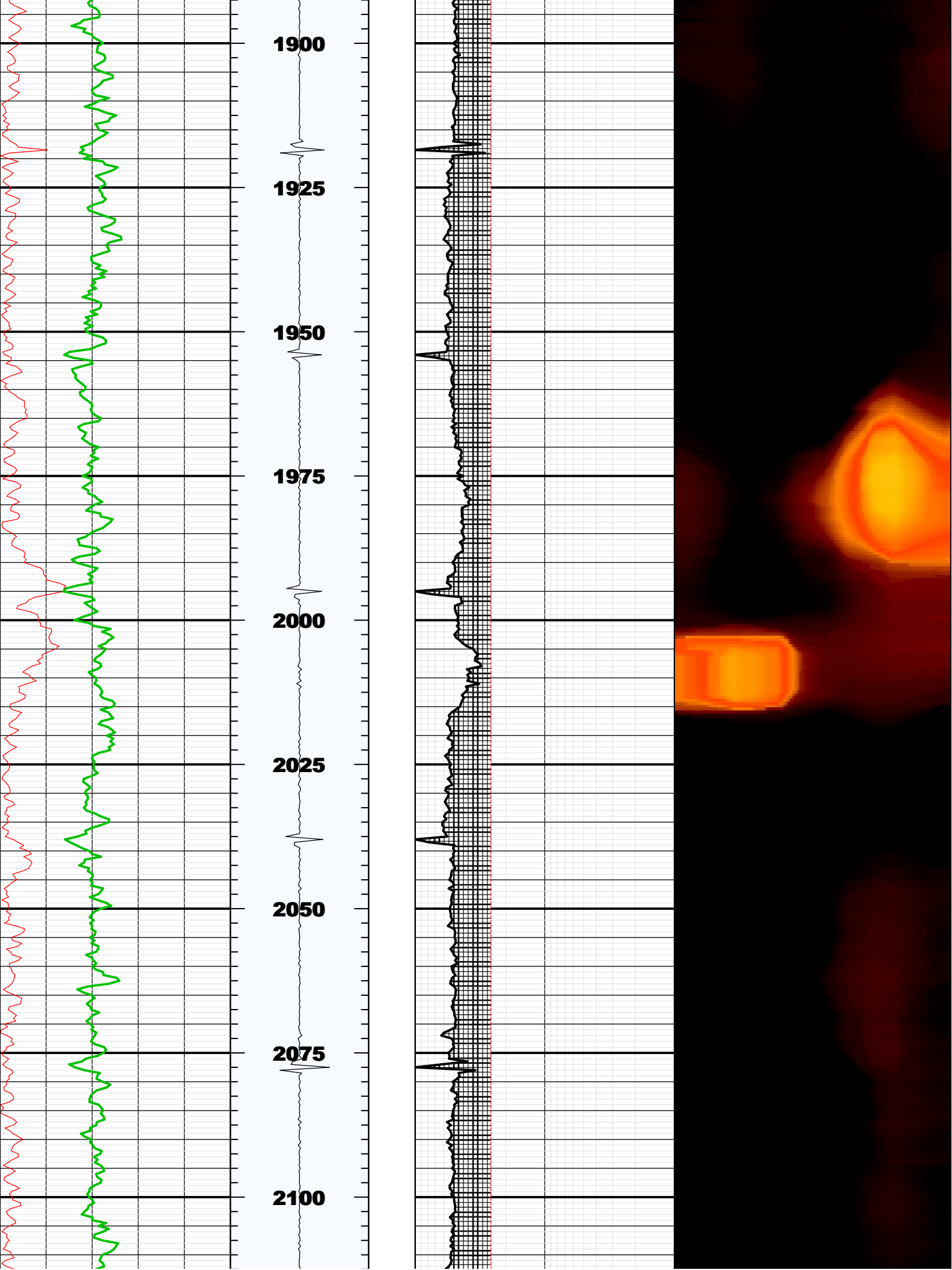
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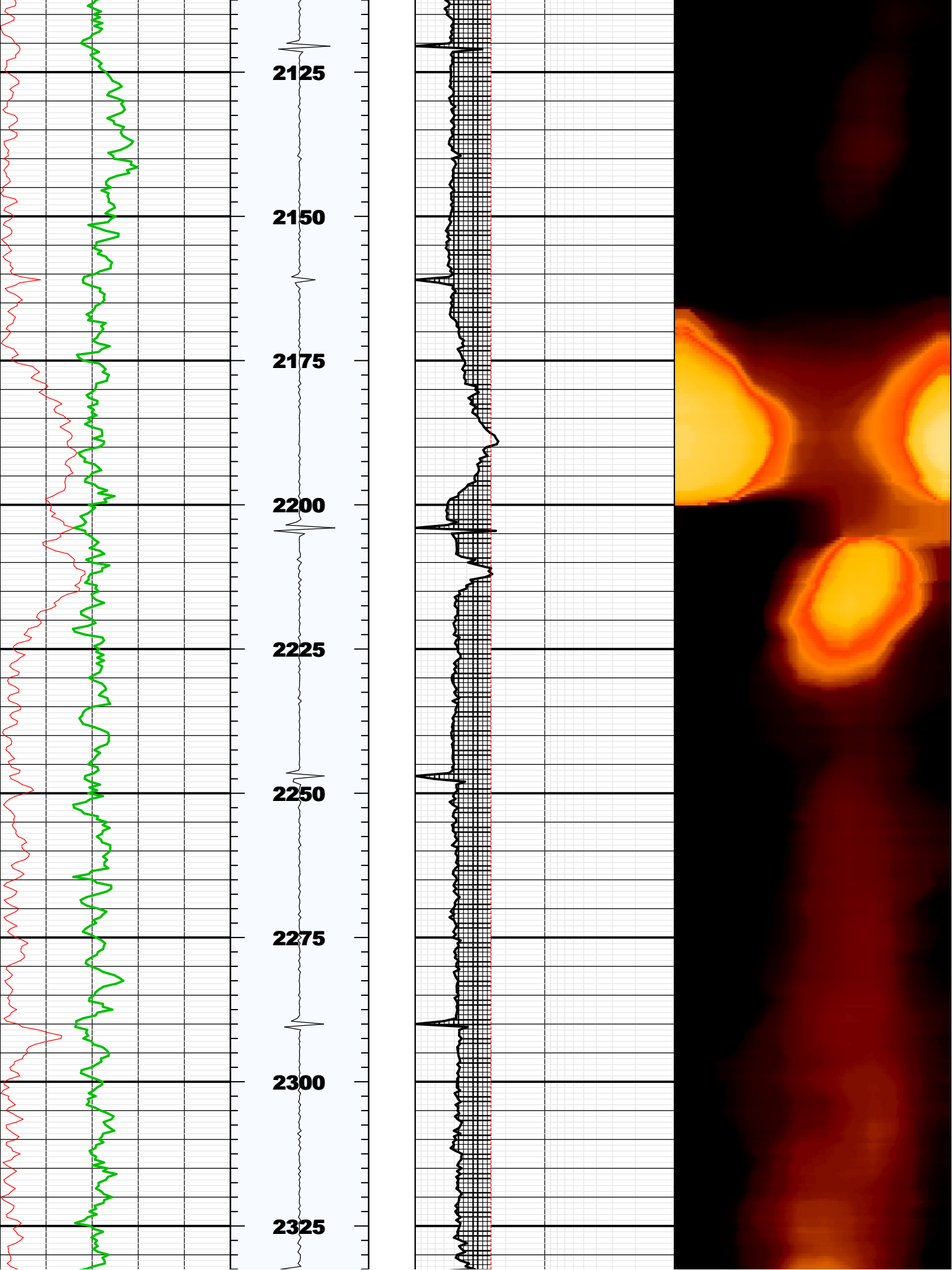
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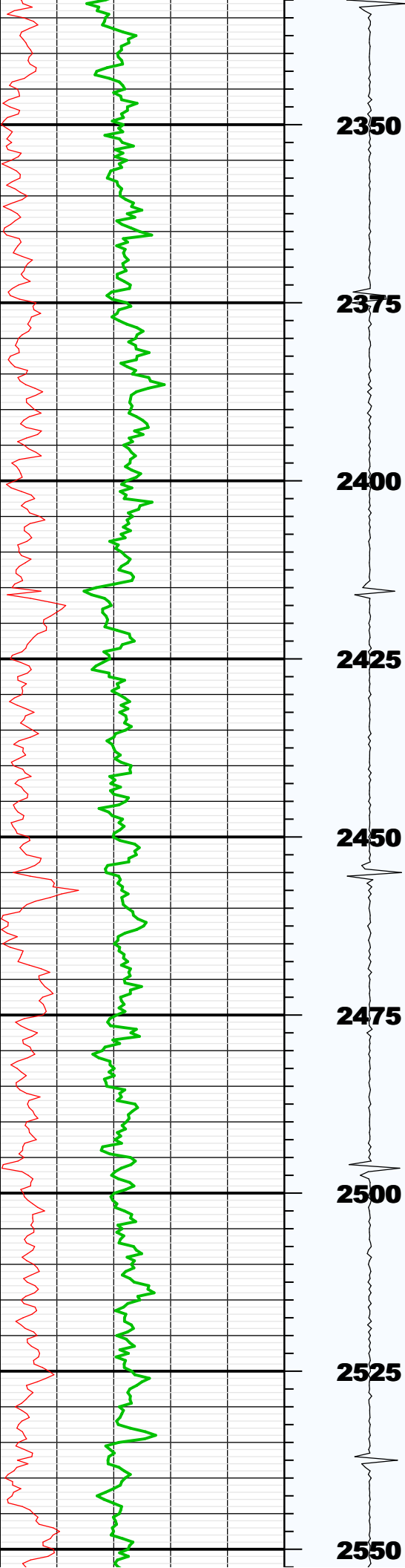
1850

1875









2350

2375

2400

2425

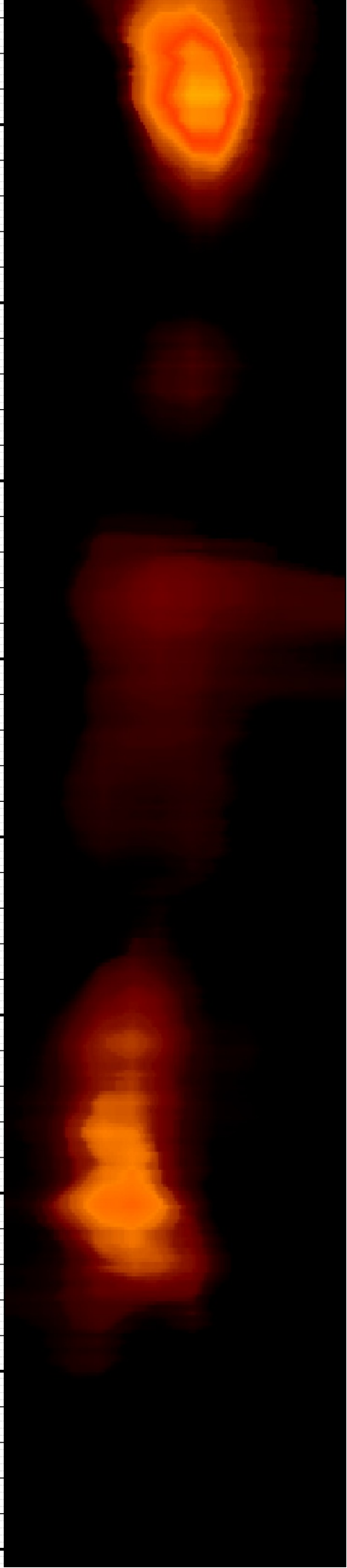
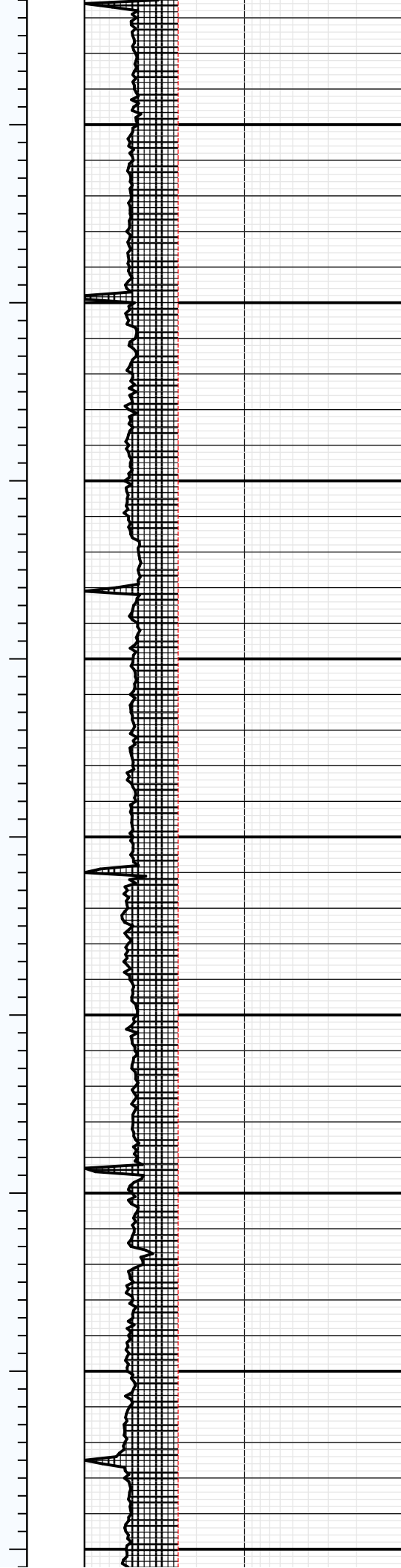
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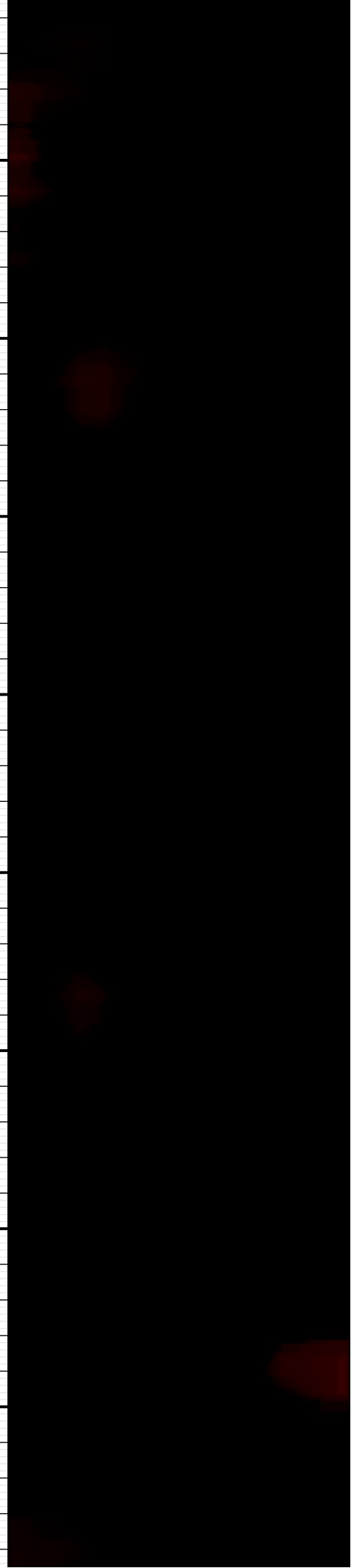
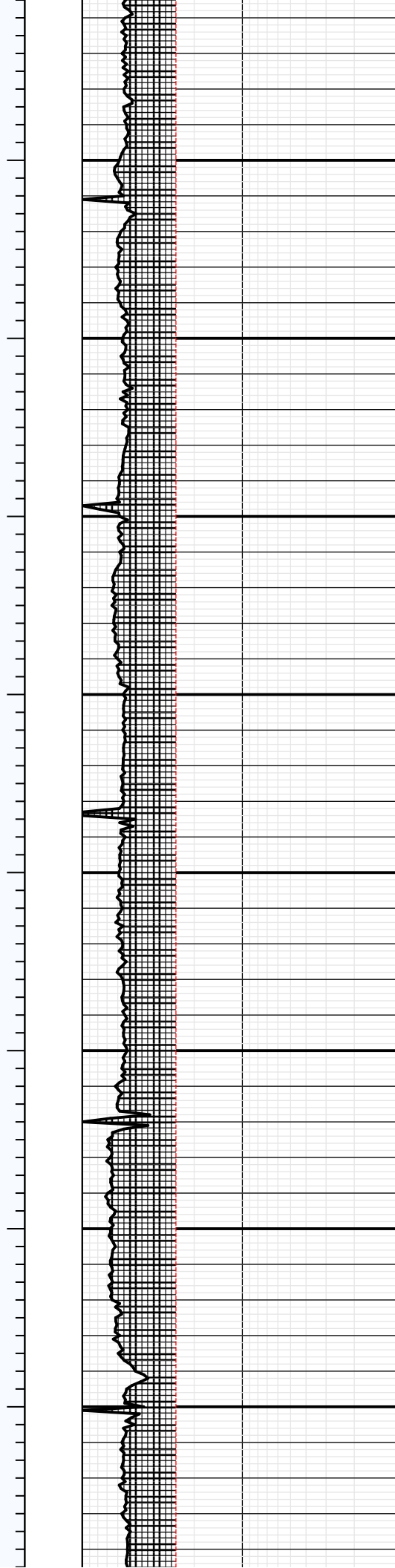
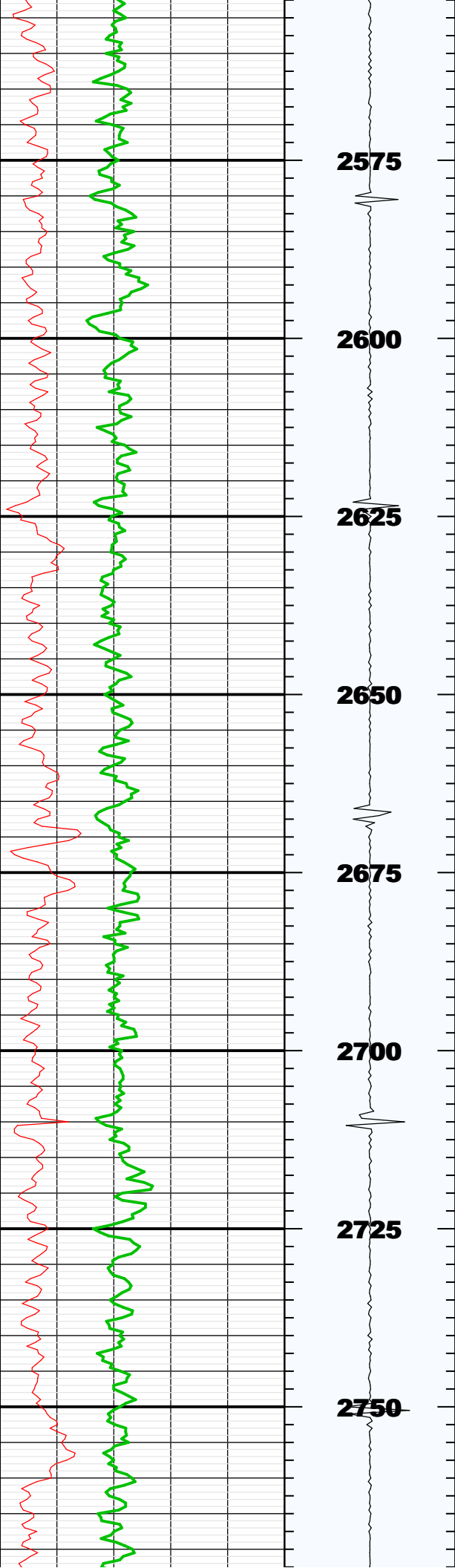
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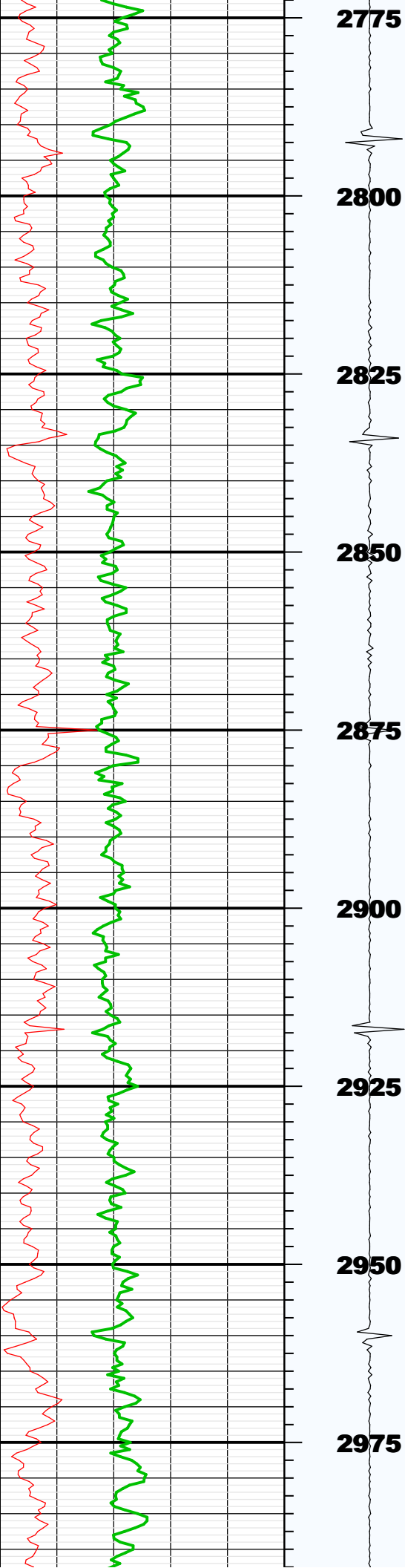
2500

2525

2550







**2775**

**2800**

**2825**

**2850**

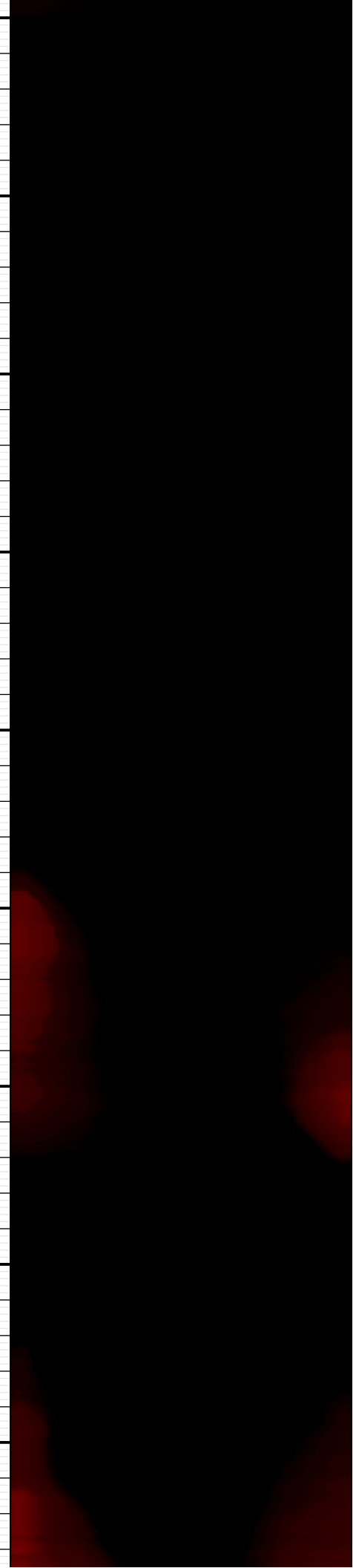
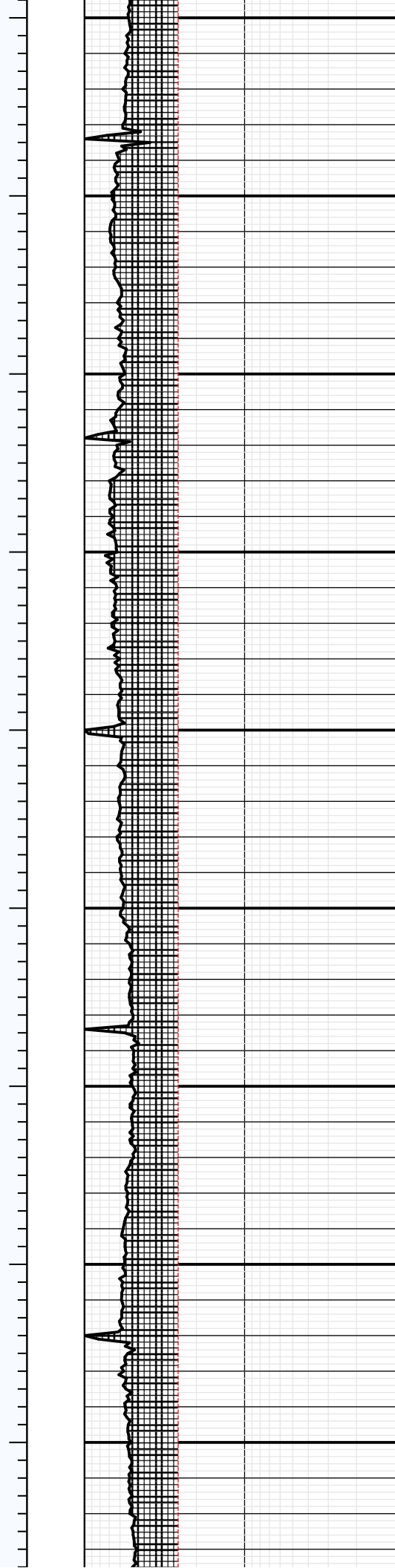
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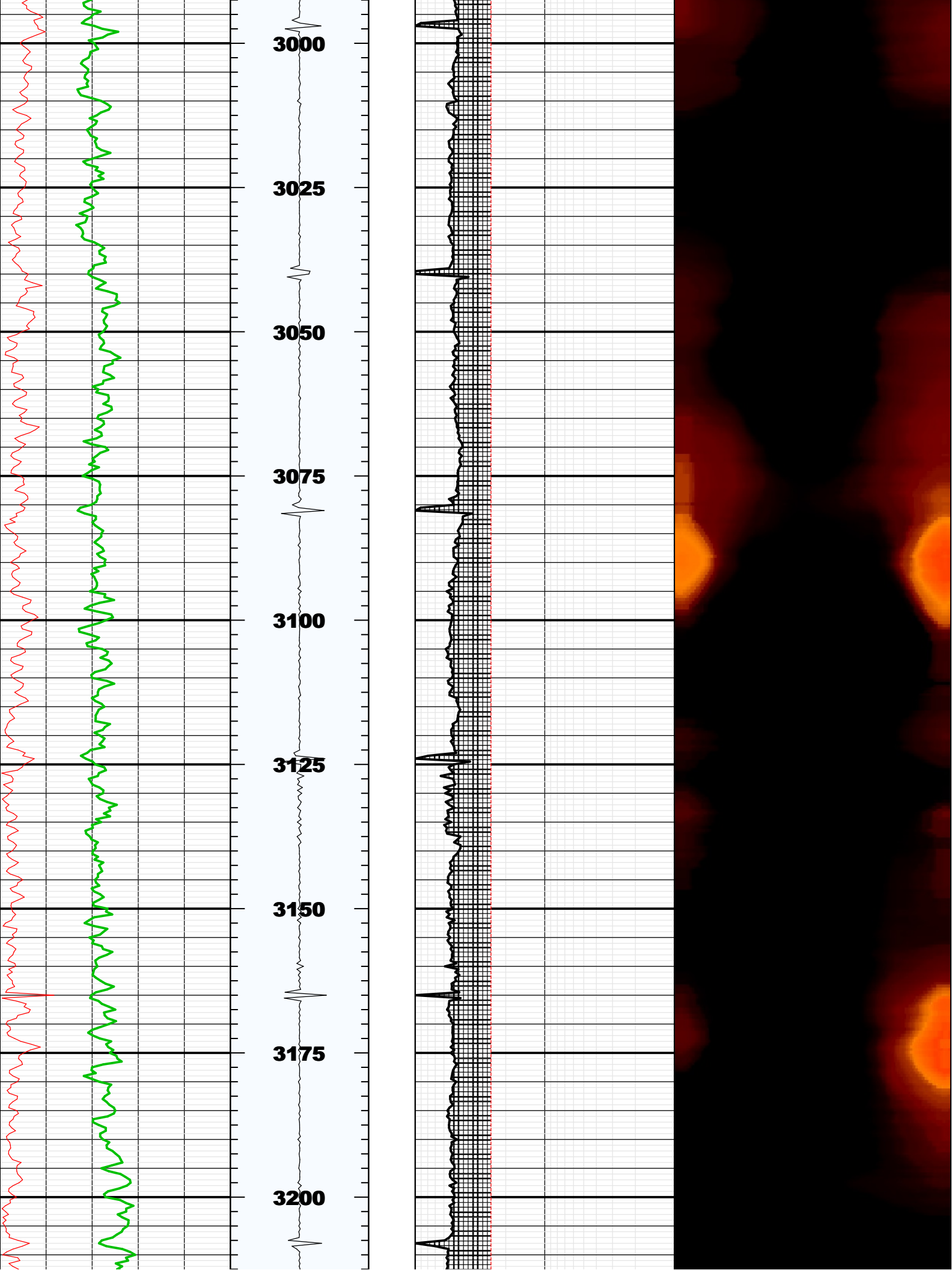
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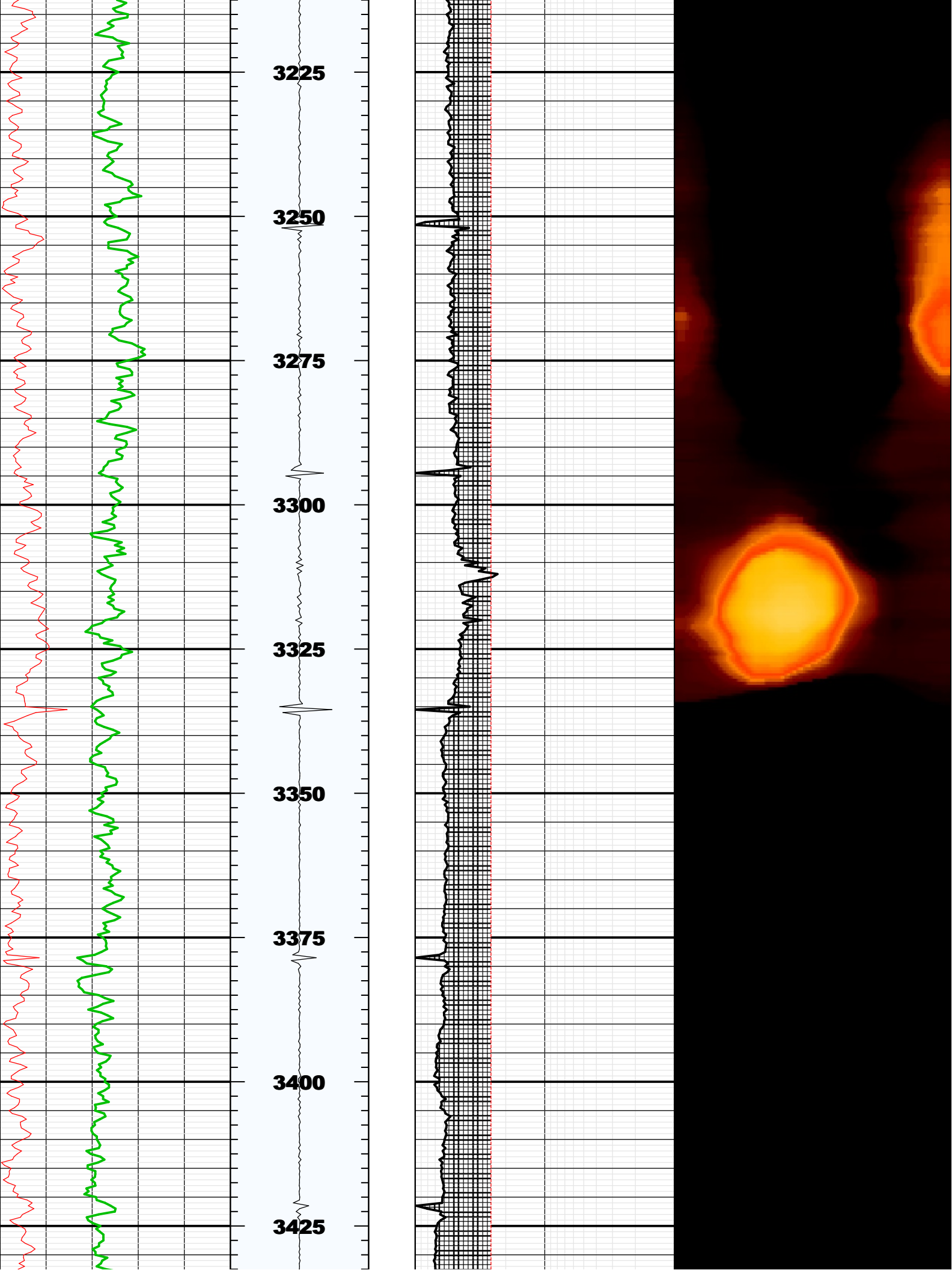
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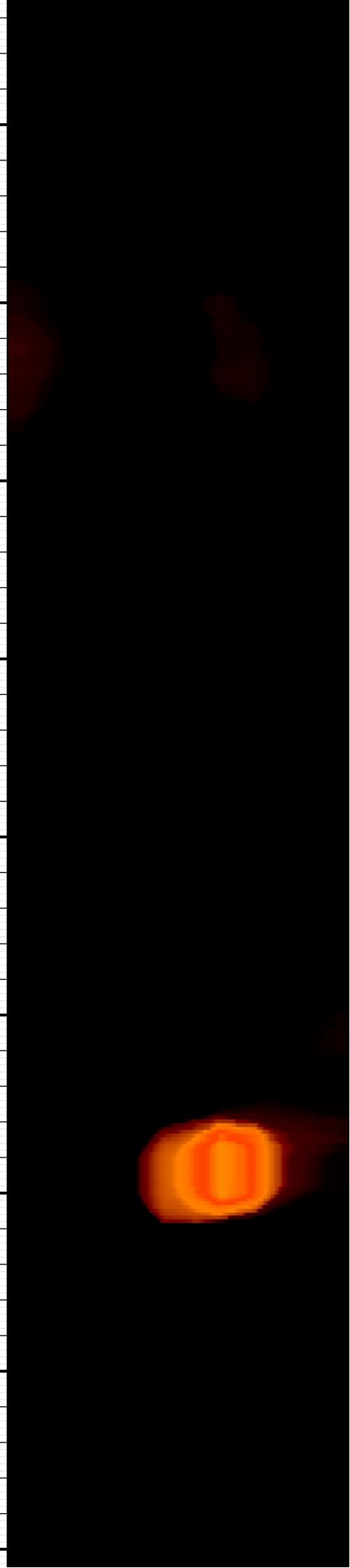
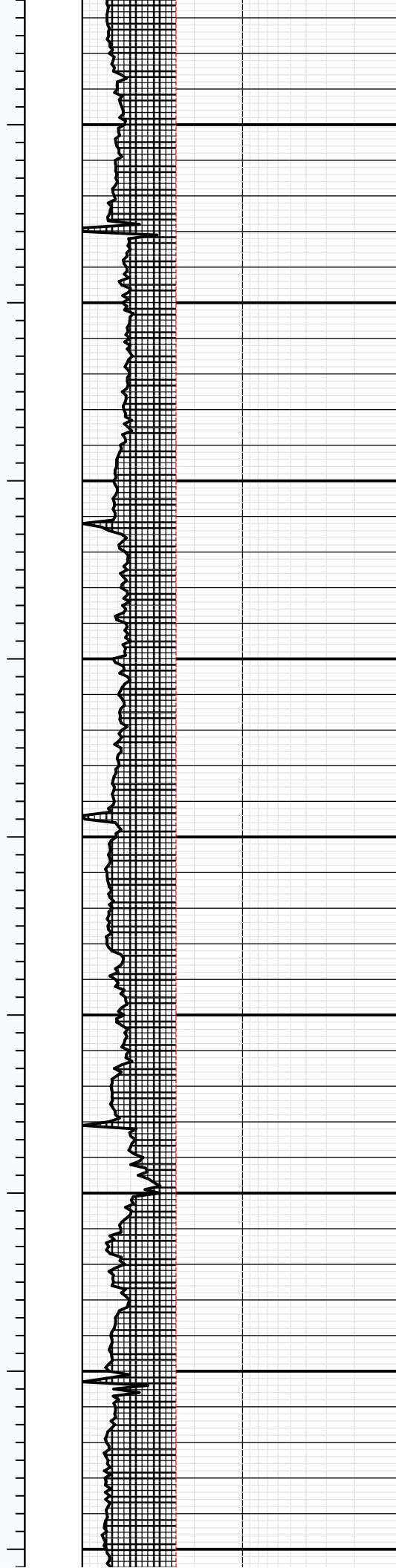
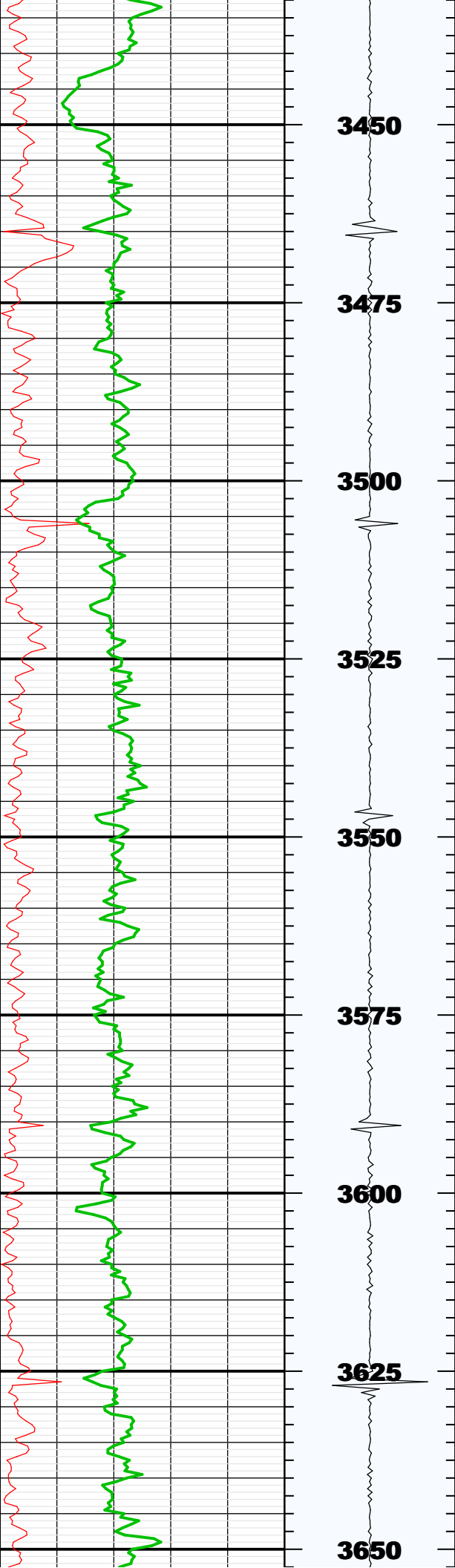
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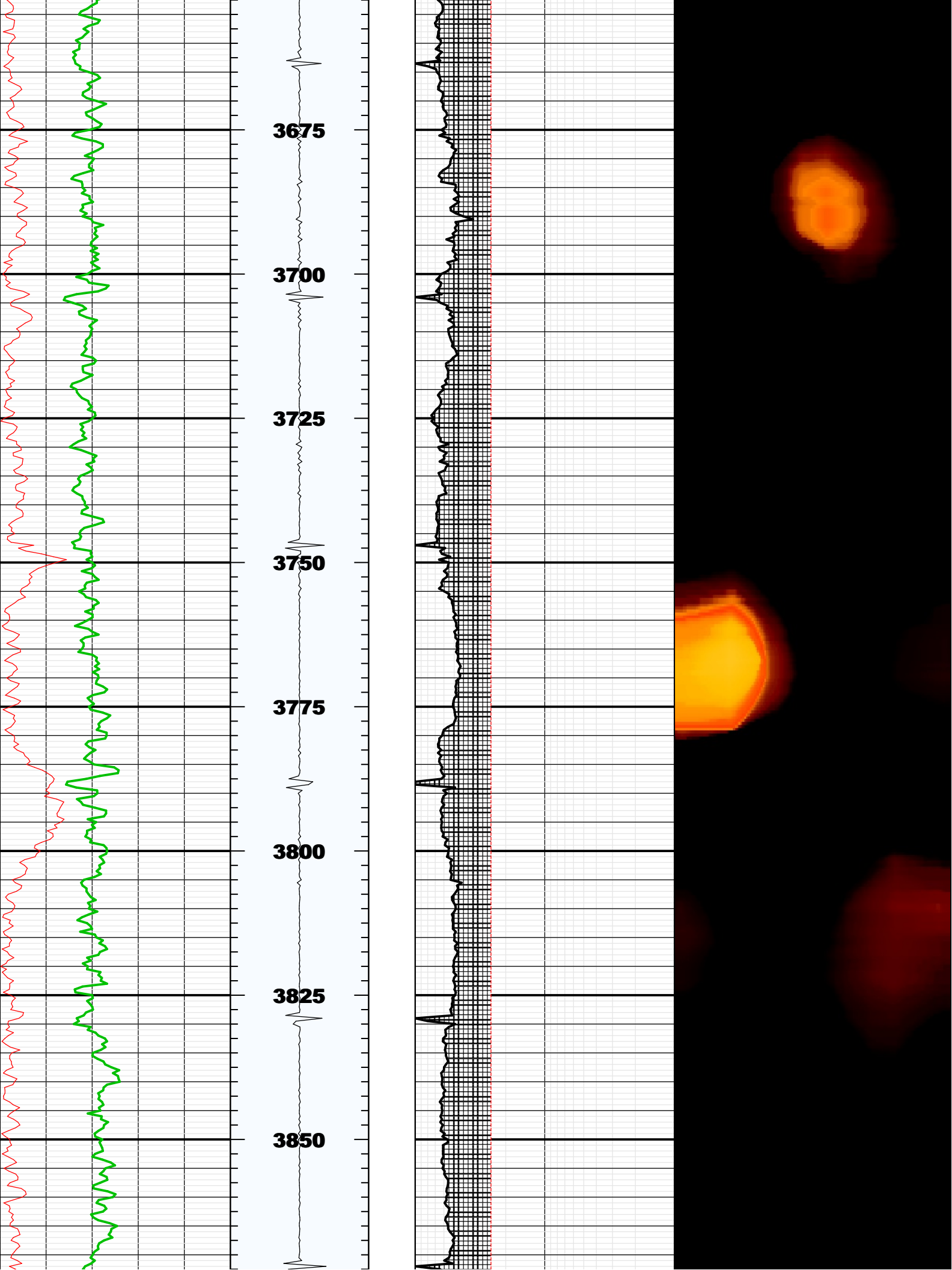
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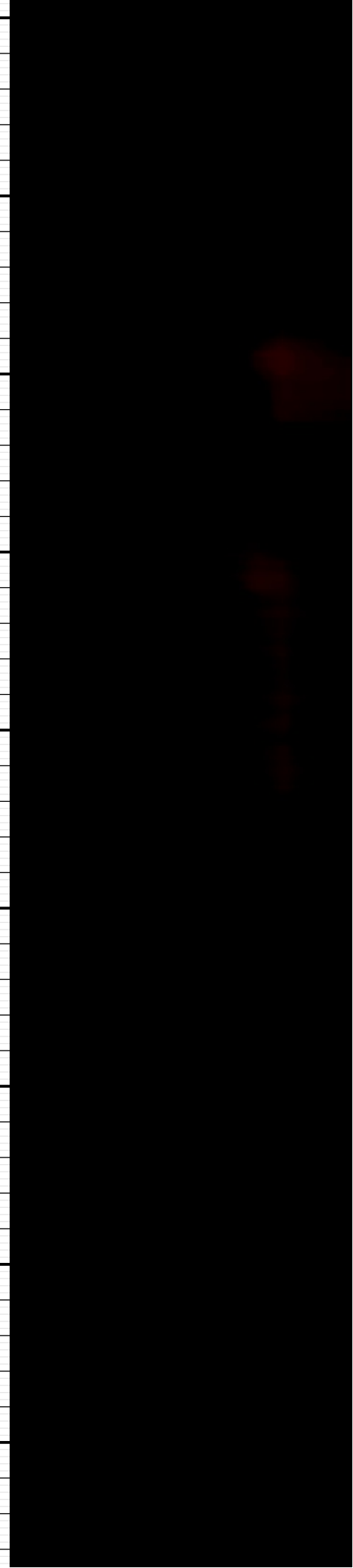
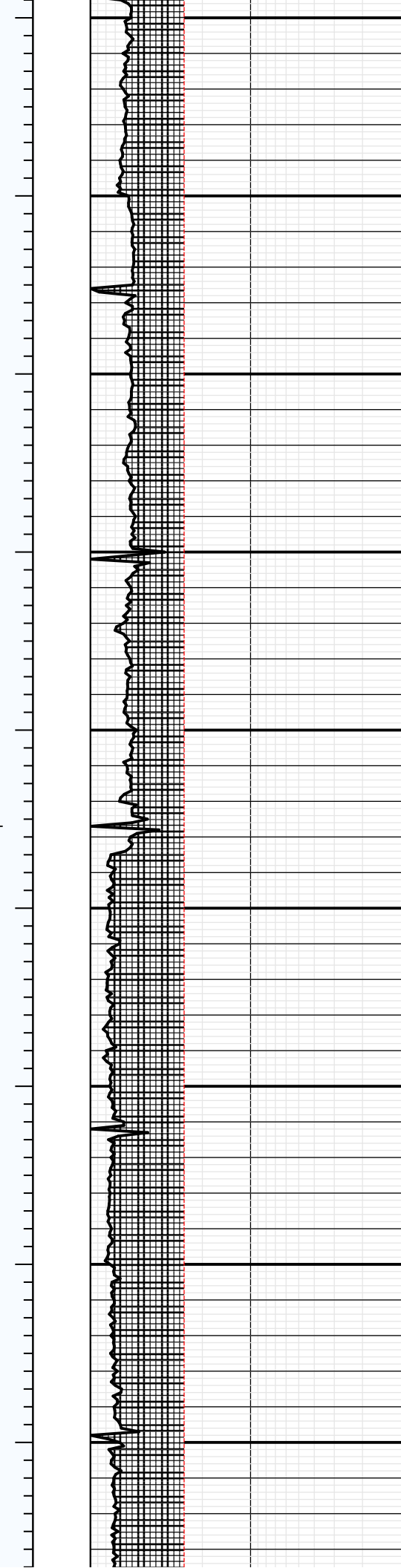
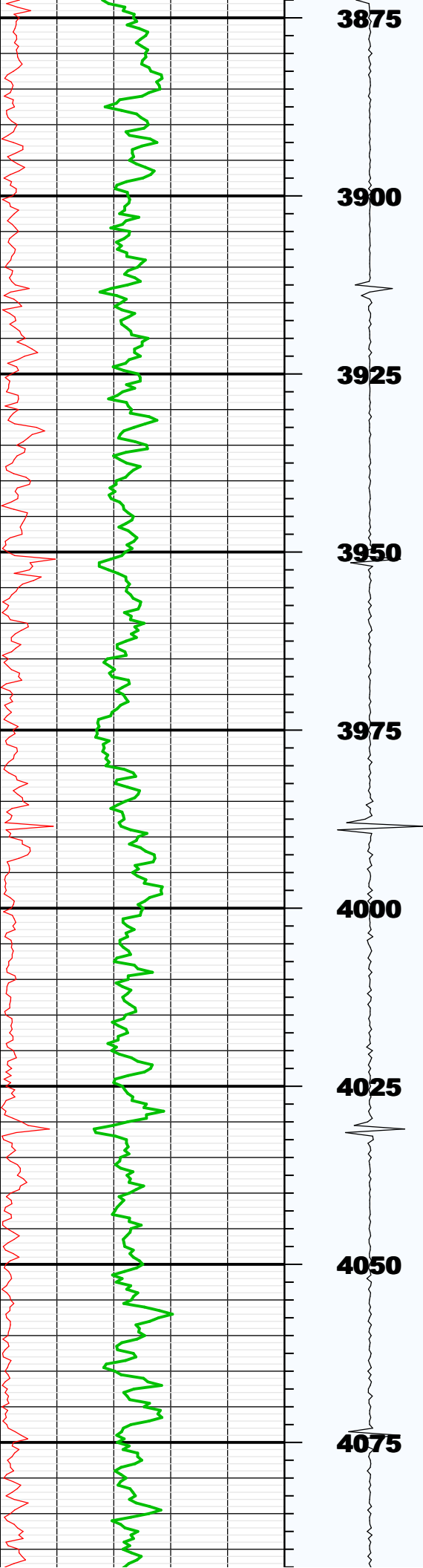


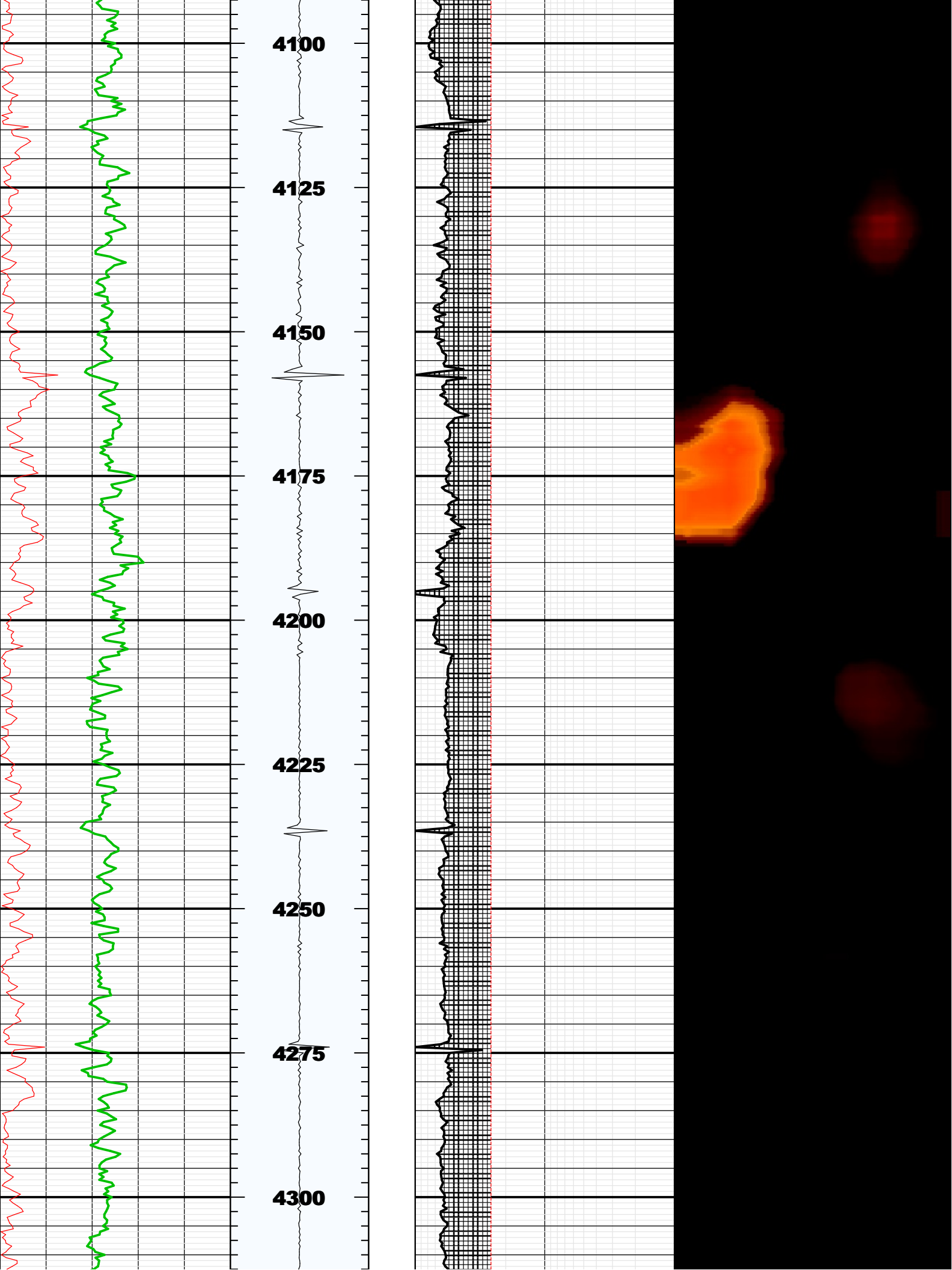


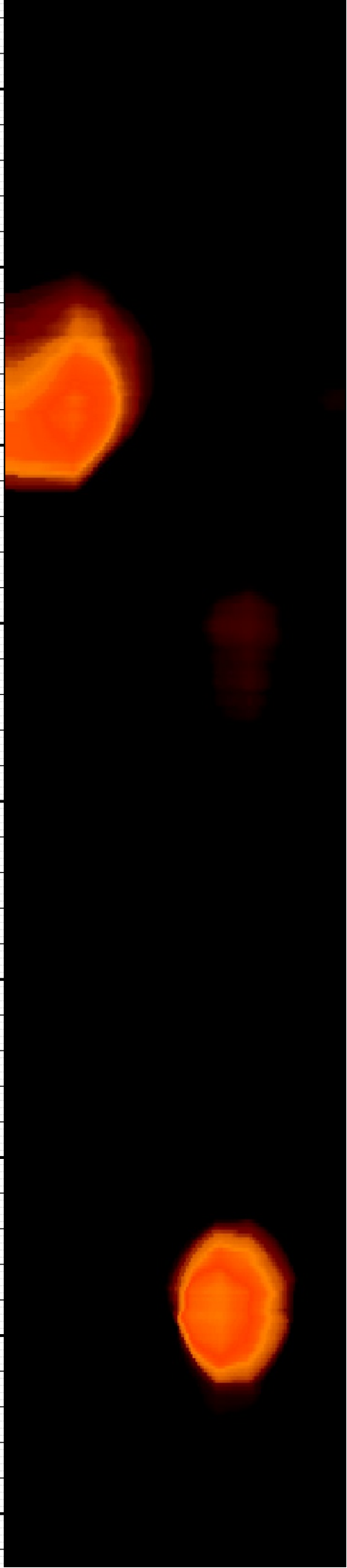
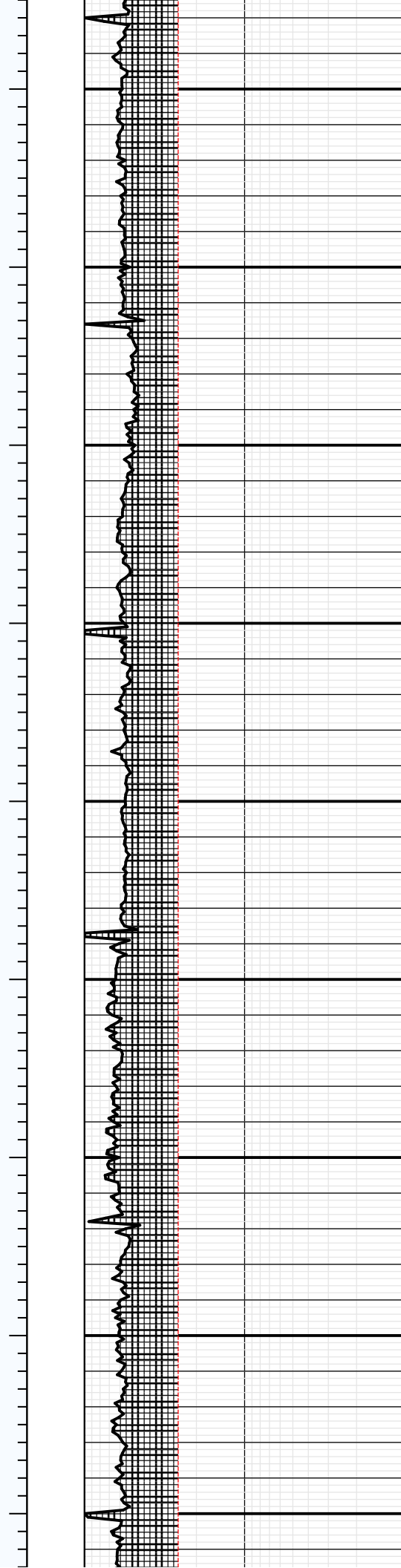
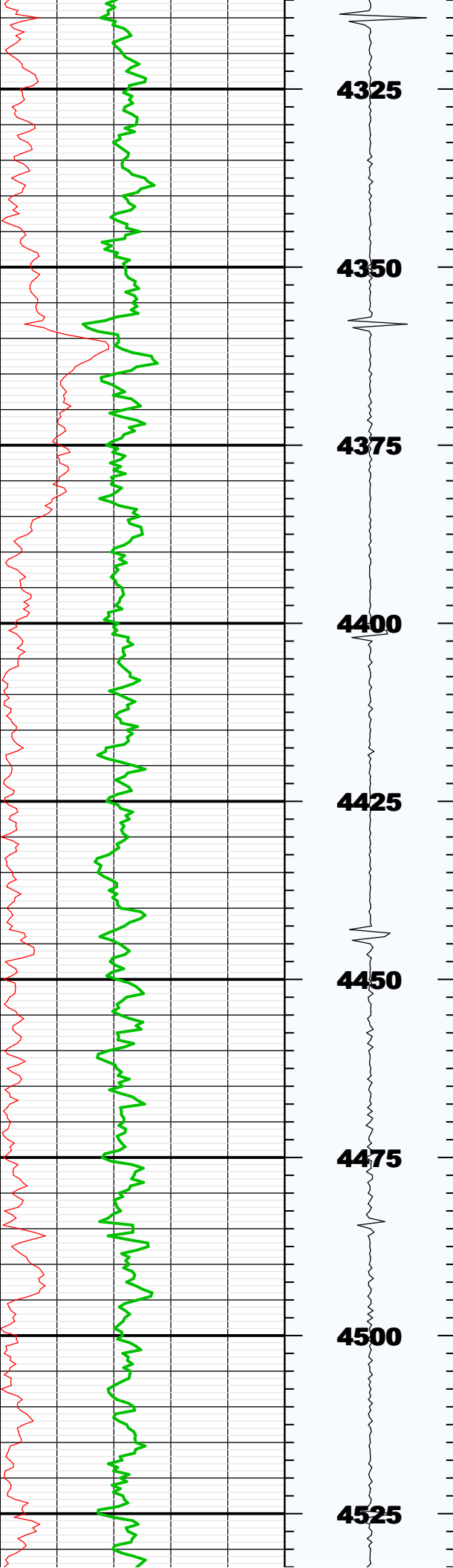


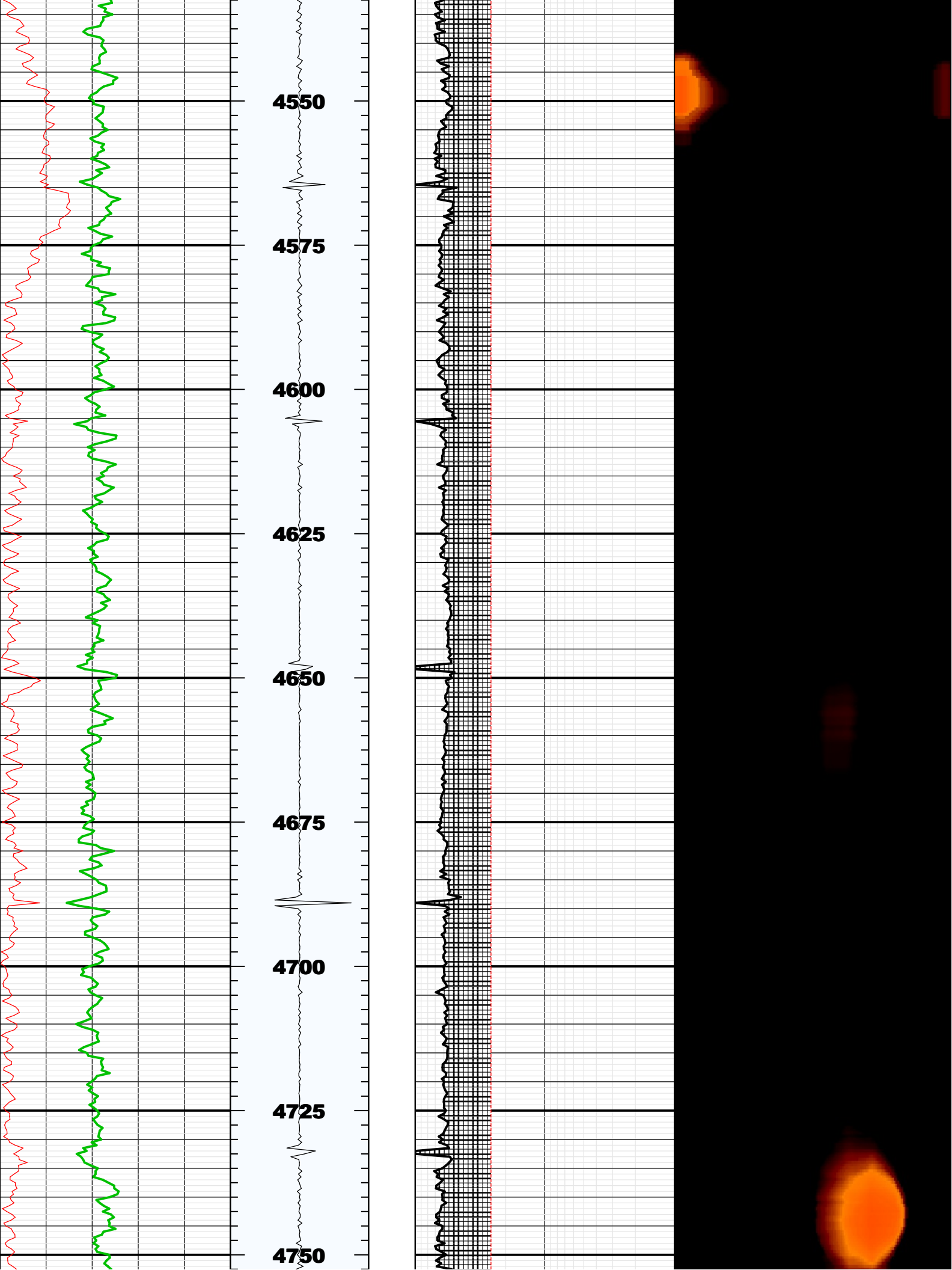


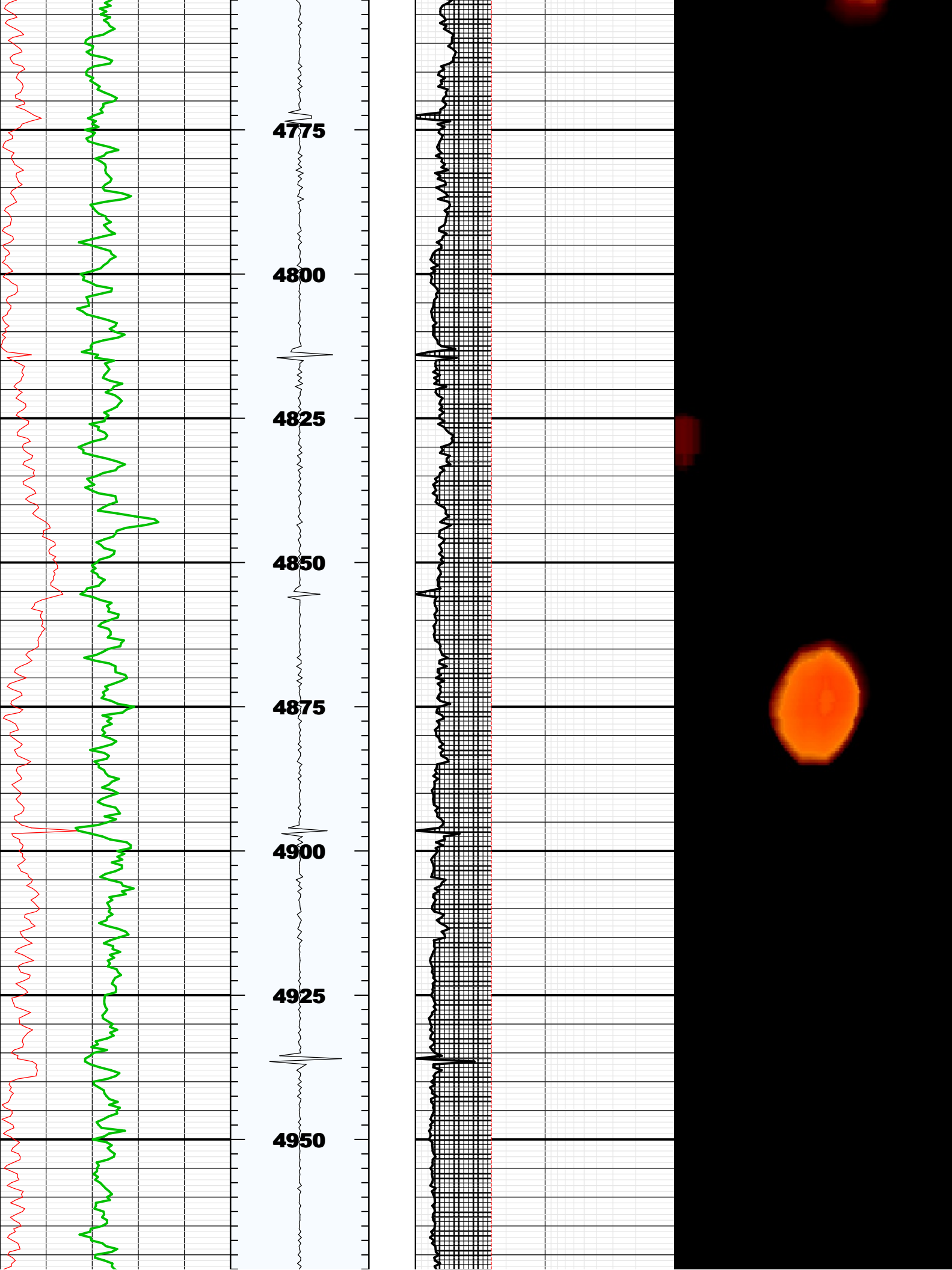


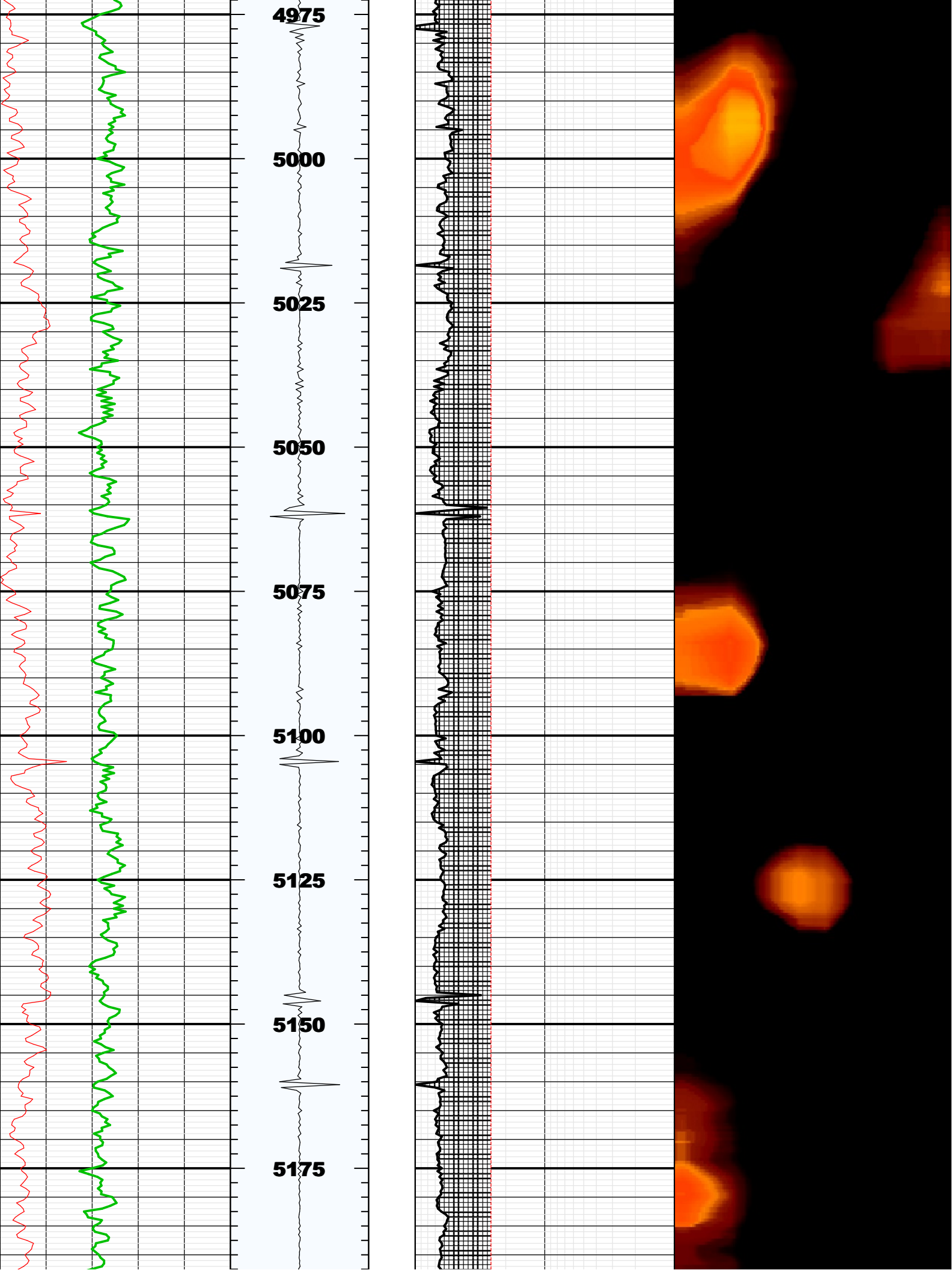


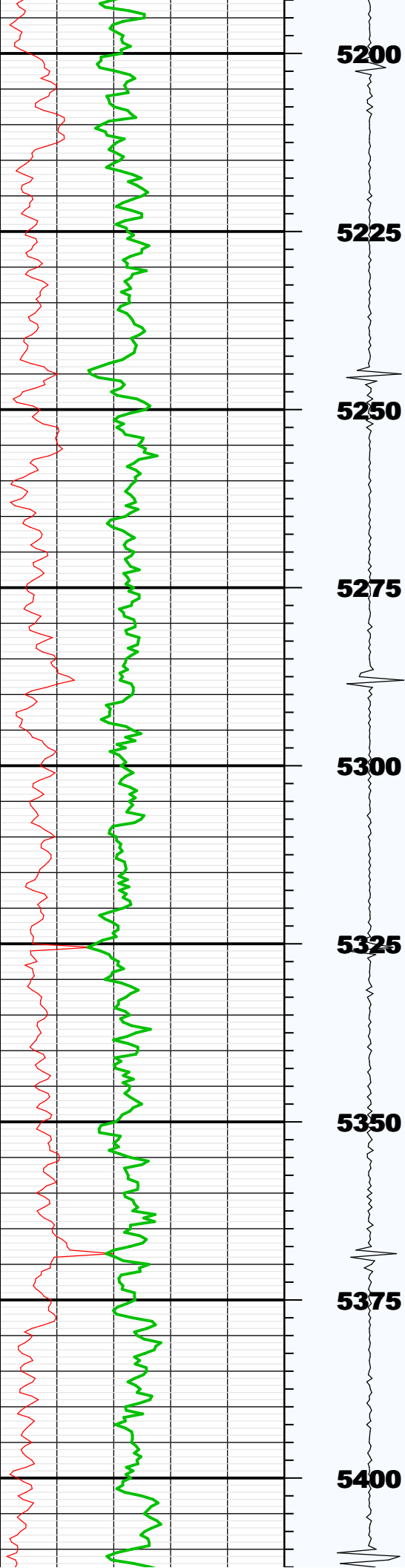












5200

5225

5250

5275

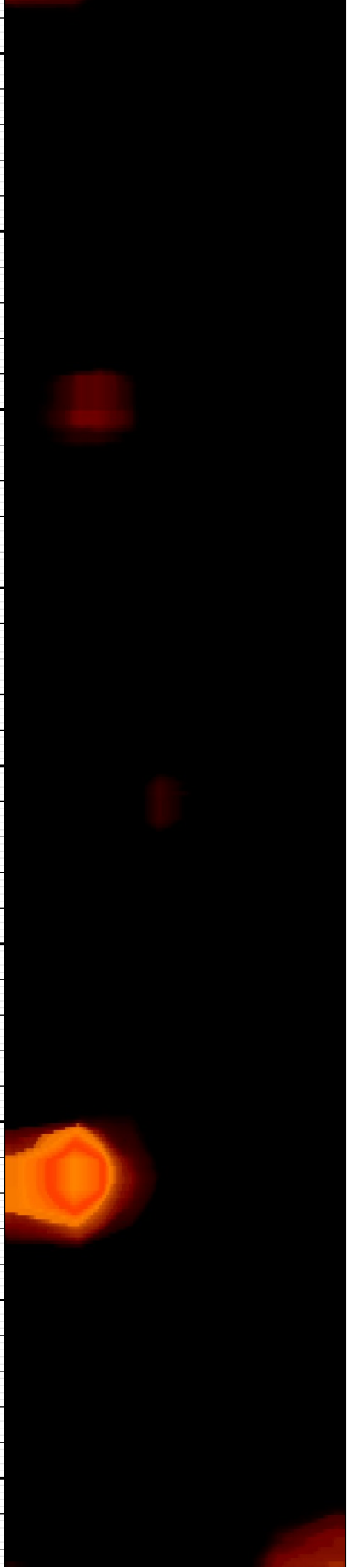
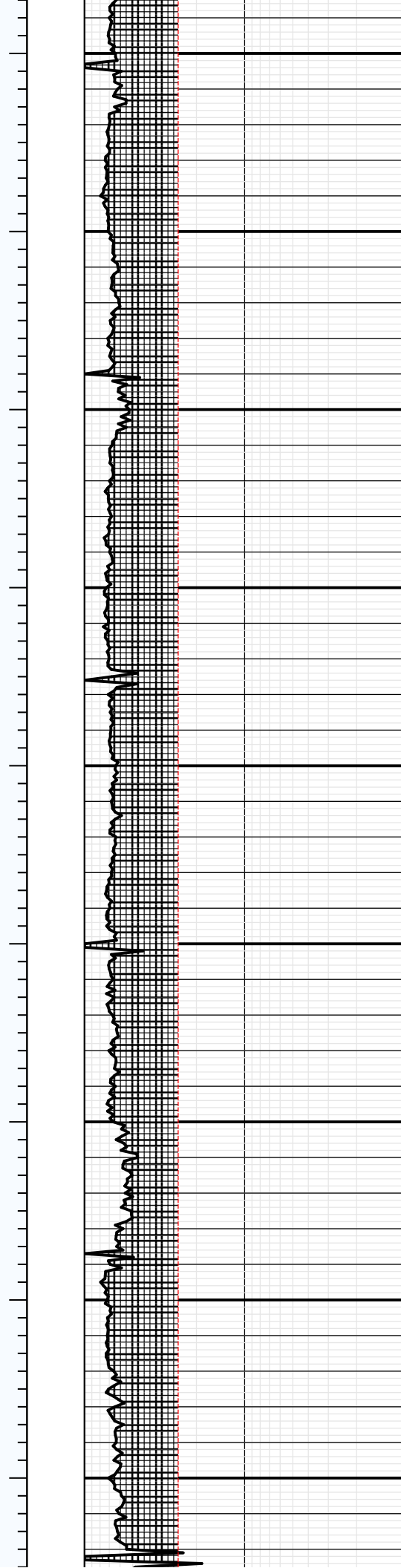
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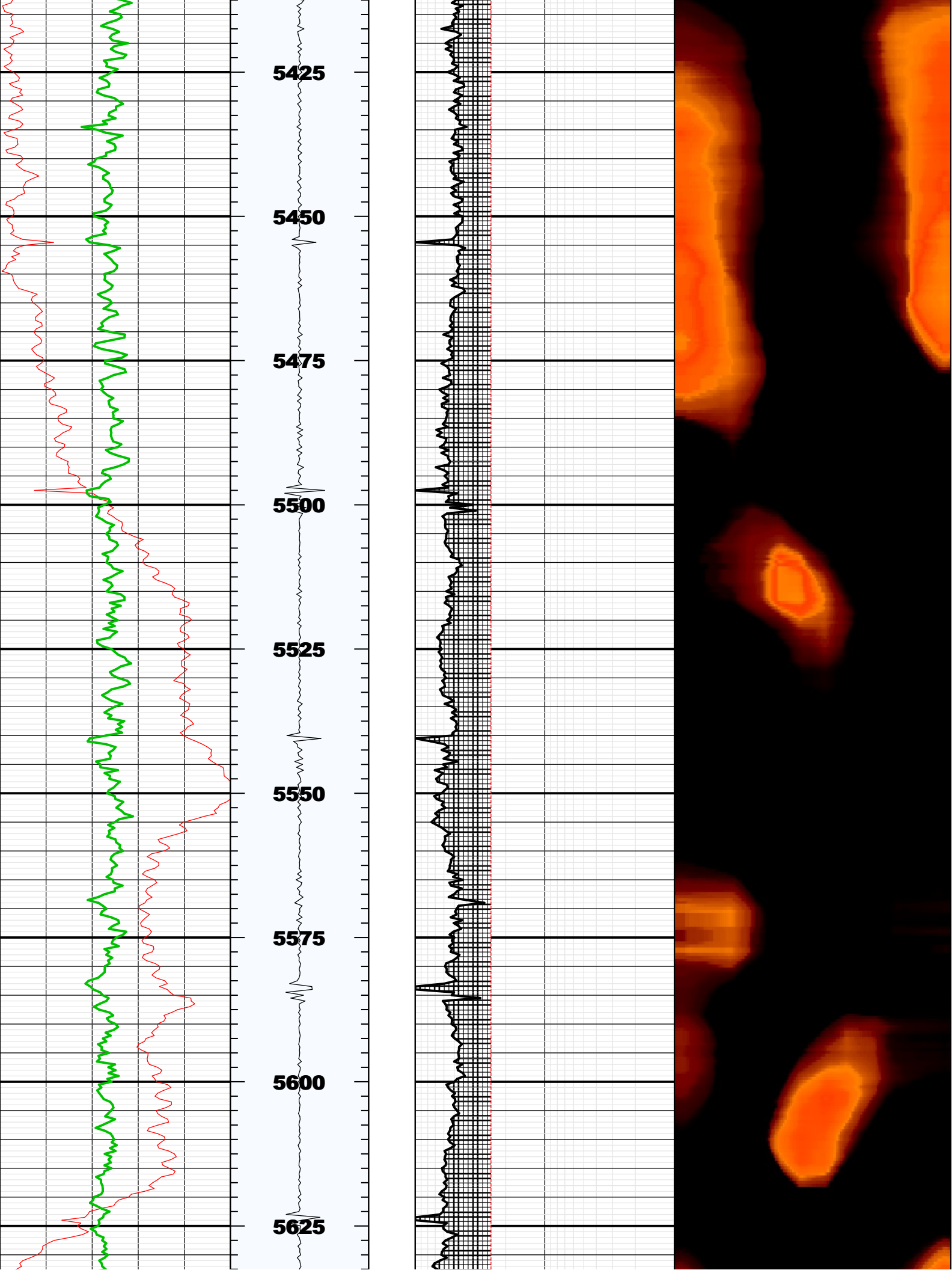
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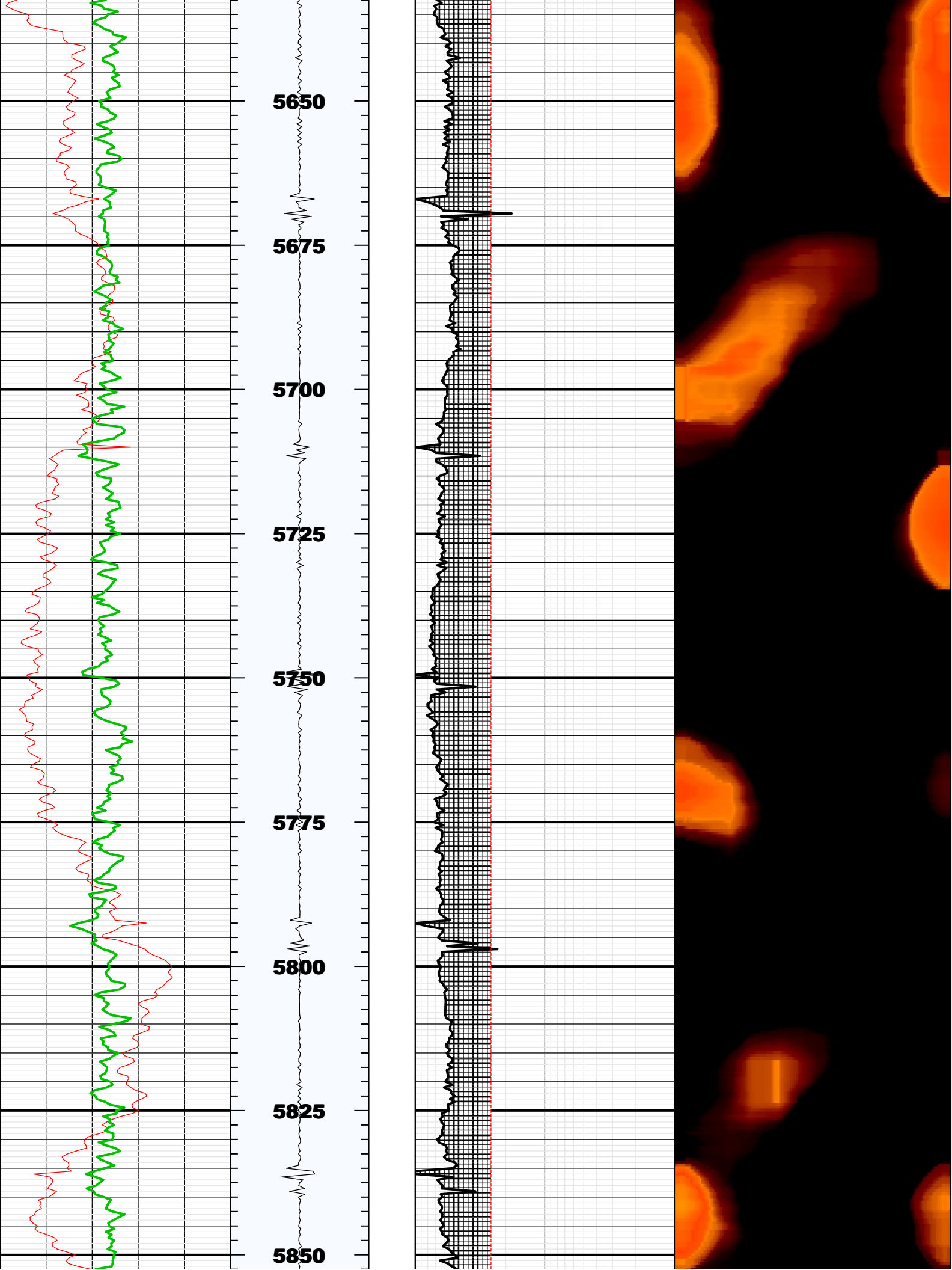
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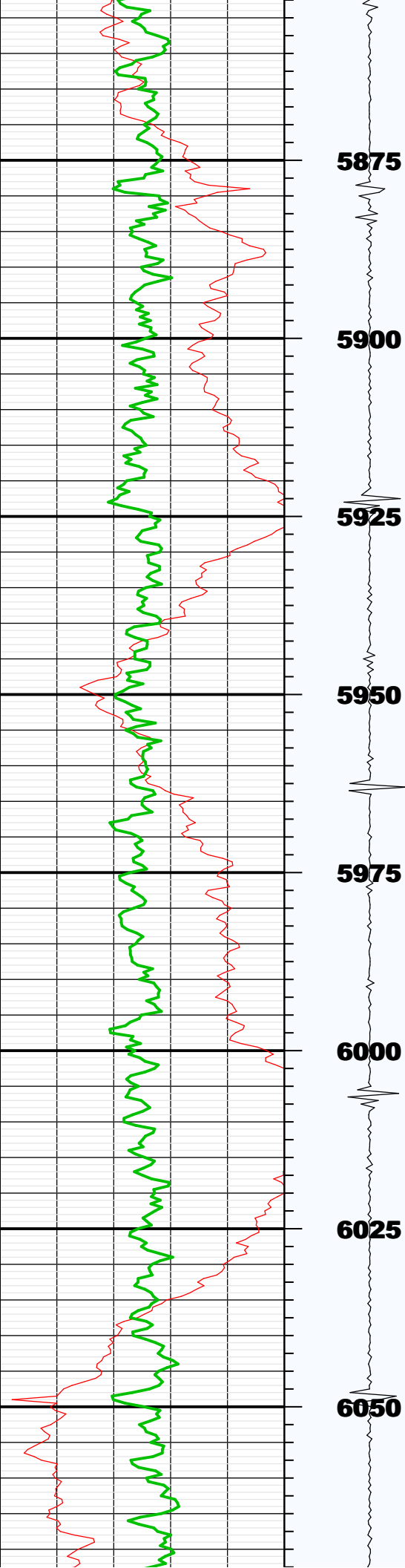
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5400









5875

5900

5925

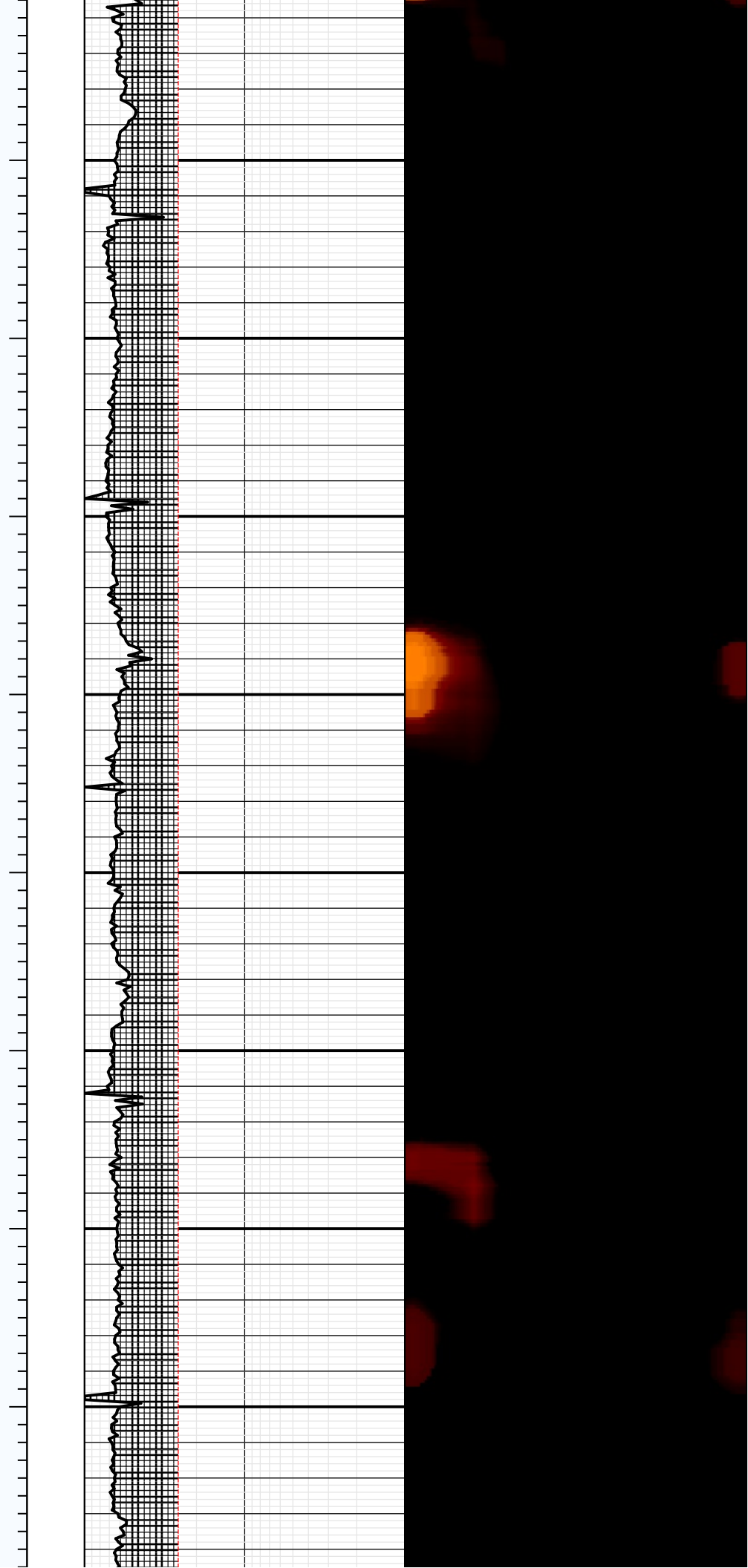
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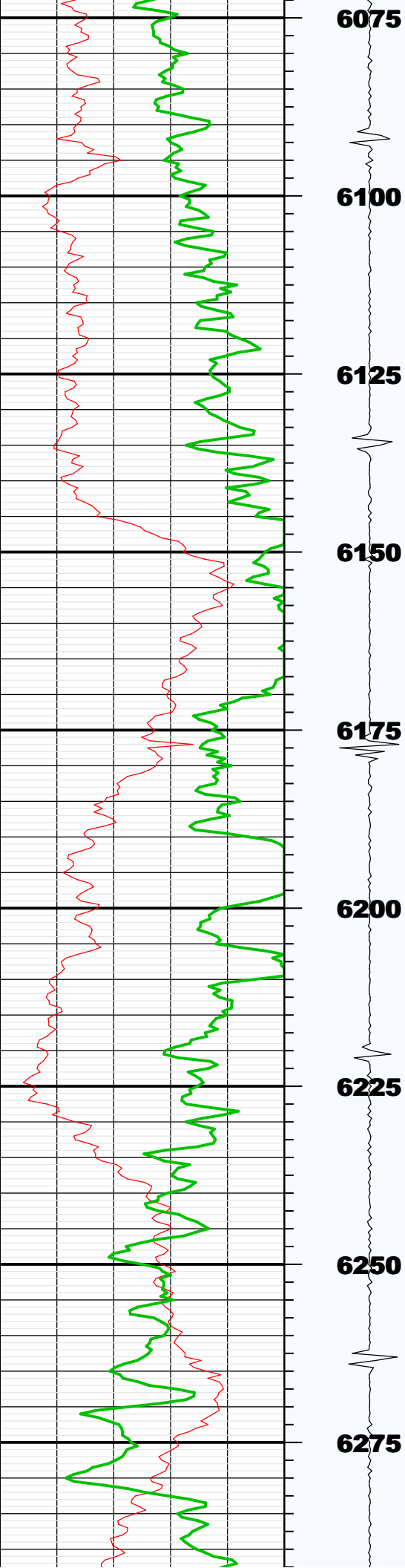
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6000

6025

6050





6075

6100

6125

6150

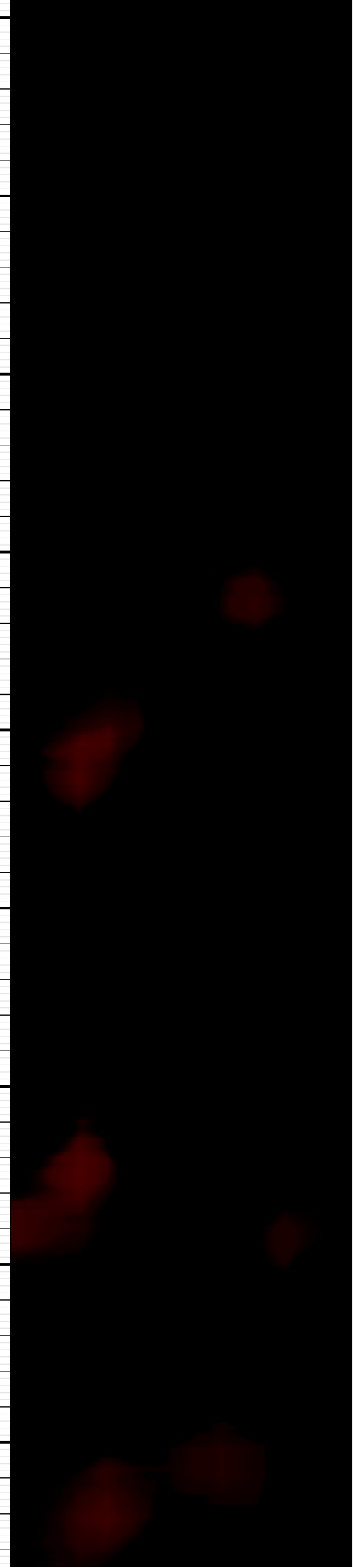
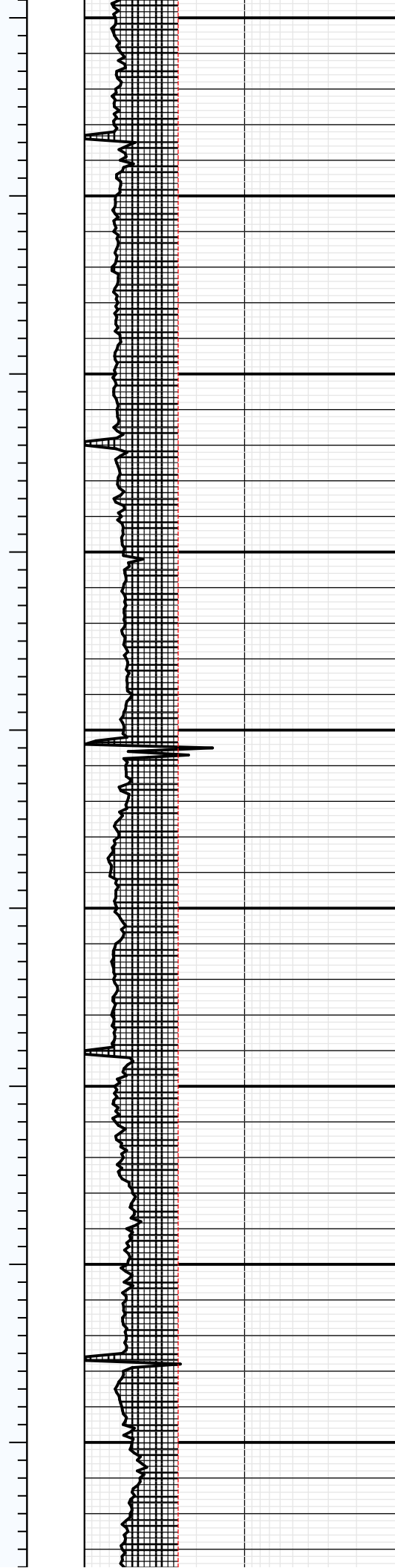
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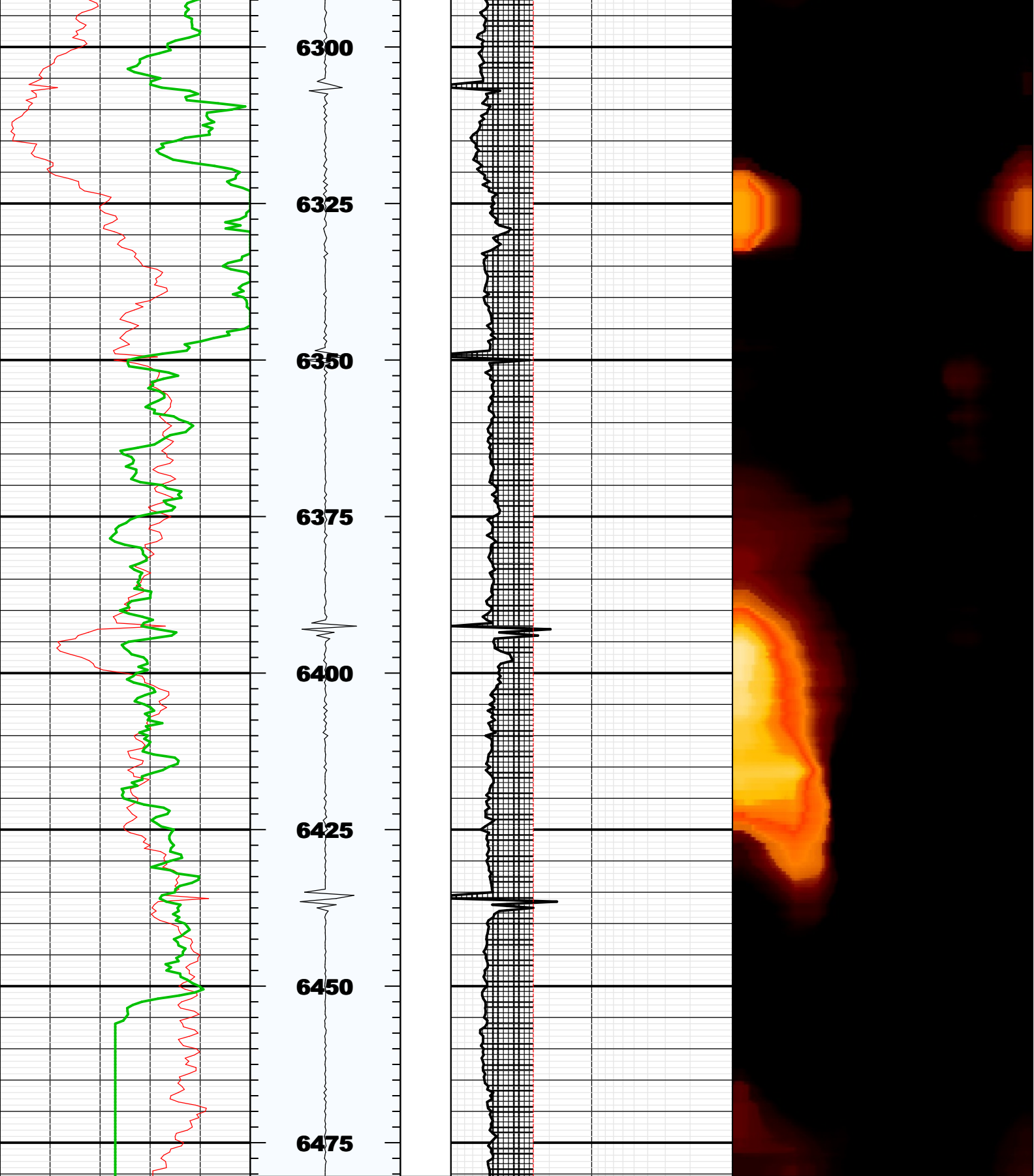
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6250

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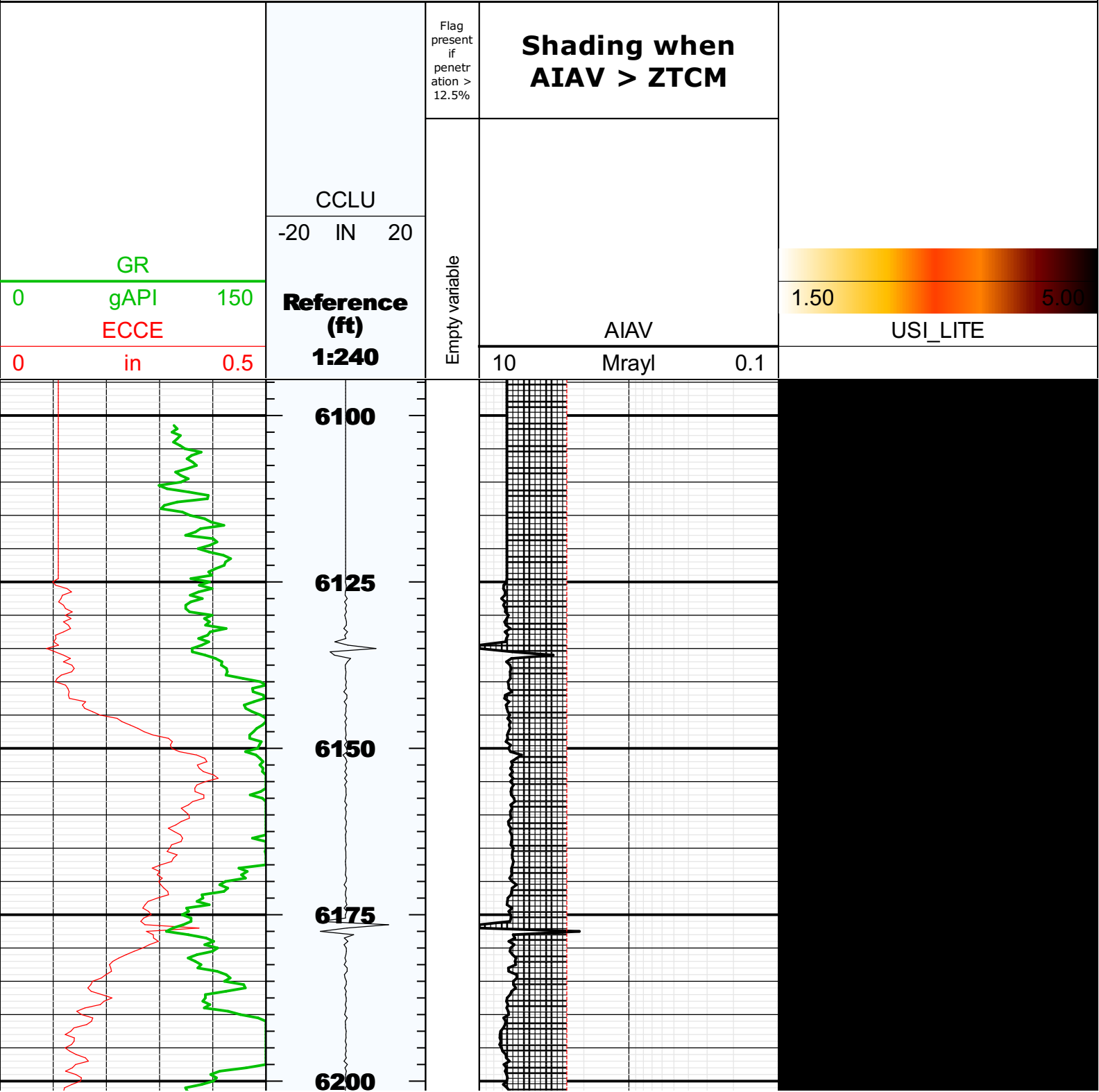


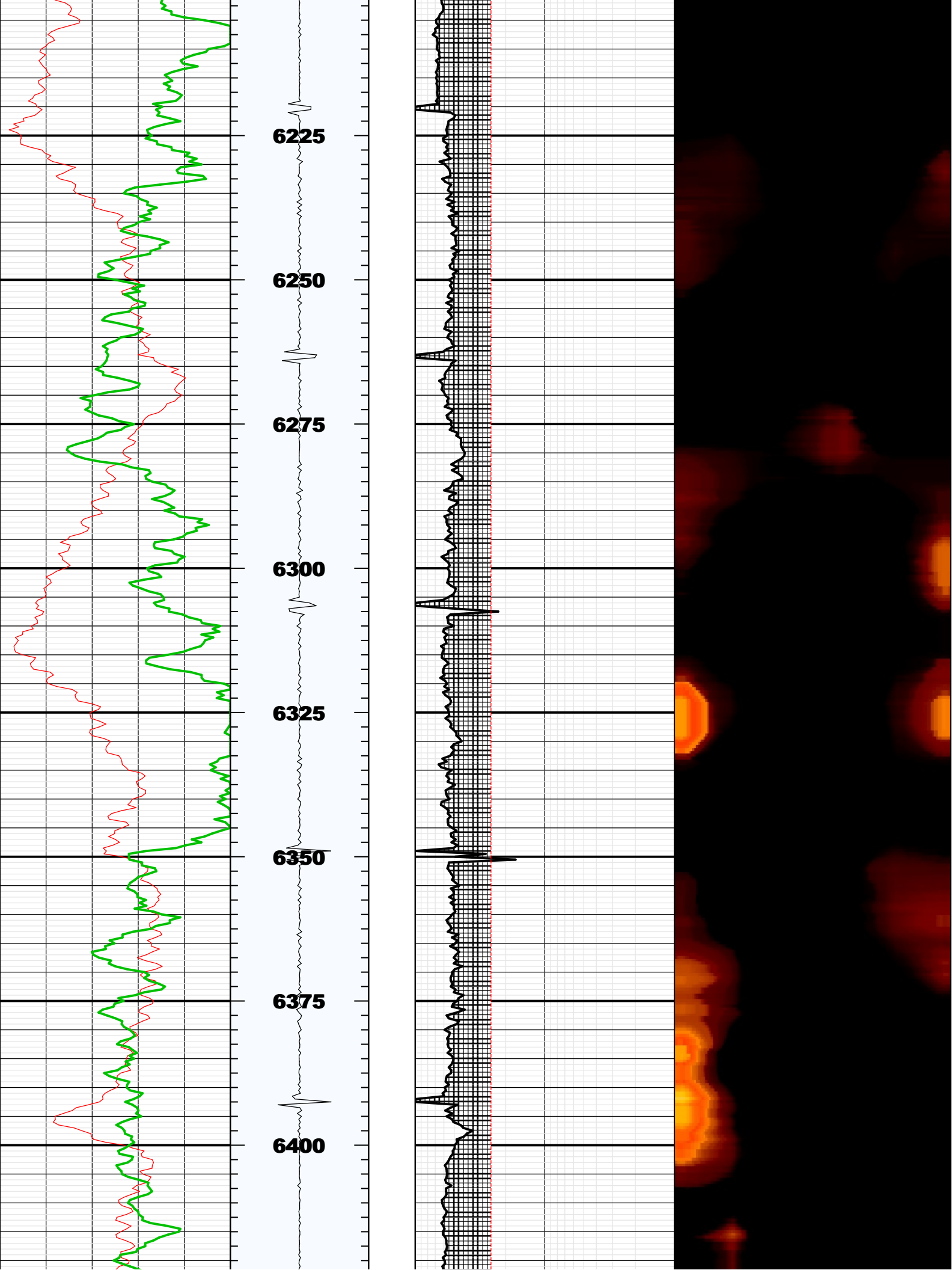


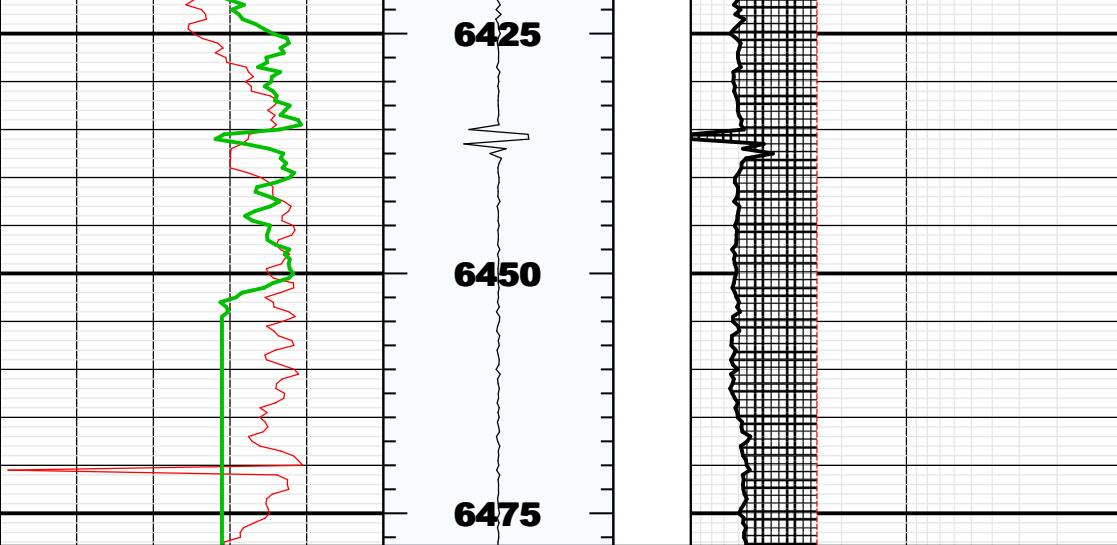
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	188.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	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	22.84226	US	Window Begin Time
WINE	80.59977	US	Window End Time
ZCAS	46.25000	MRAY	Acoustic Impedance of Casing
ZINI	-1.00000	MRAY	Initial Estimate of Cement Impedance
ZMUD	1.82000	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

Company: Noble Energy Inc  
Well: Cutthroat LC28-79HNB  
Field: Wattenberg







## Fluid Properties Used for Main Pass

