

Company: Noble Energy Inc.

Well: Haley LC27-745  
Field: WILDCAT  
County: WELD  
State: COLORADO

County: WELD		USI-LITE		
Field: WILDCAT				
Location: WILDCAT				
Well: Haley LC27-745				
Company: Noble Energy Inc.				
LOCATION		Permanent Datum: Log Measured From: Drilling Measured From:	GL KB KB	Elev: K.B. 4864.0 F G.L. 4840.0 F D.F. 4864.0 F
Logging Date	13-Jun-2015			
Run Number	ONE			
API Serial No. 05-123-40601	Section 34			
Depth Driller	6493.0 F	Township 9N	Range 59W	
Schlumberger Depth	6493.0 F			
Bottom Log Interval	6063.0 F			
Top Log Interval	-999.2 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	626.0 F			
To	6493.0 F			
Casing Size	7.00 IN			
Weight	26.00 LB/F			
Grade	P110			
From	24.0 F			
To	6485.0 F			
Max Recorded Temp	197.0			
Logger on bottom (date)	13-Jun-2015			
Location	Fort Morgan CO.			
Recorded By	Benjamin Marmon			
Witnessed By	Bill Mansfield			

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: 653 Calibration Date: Calibrator Serial Number: Number Of Calibration Points: Calibration RMS: Calibration Peak Error:	Serial Number: F713384 Length: 20000.00000

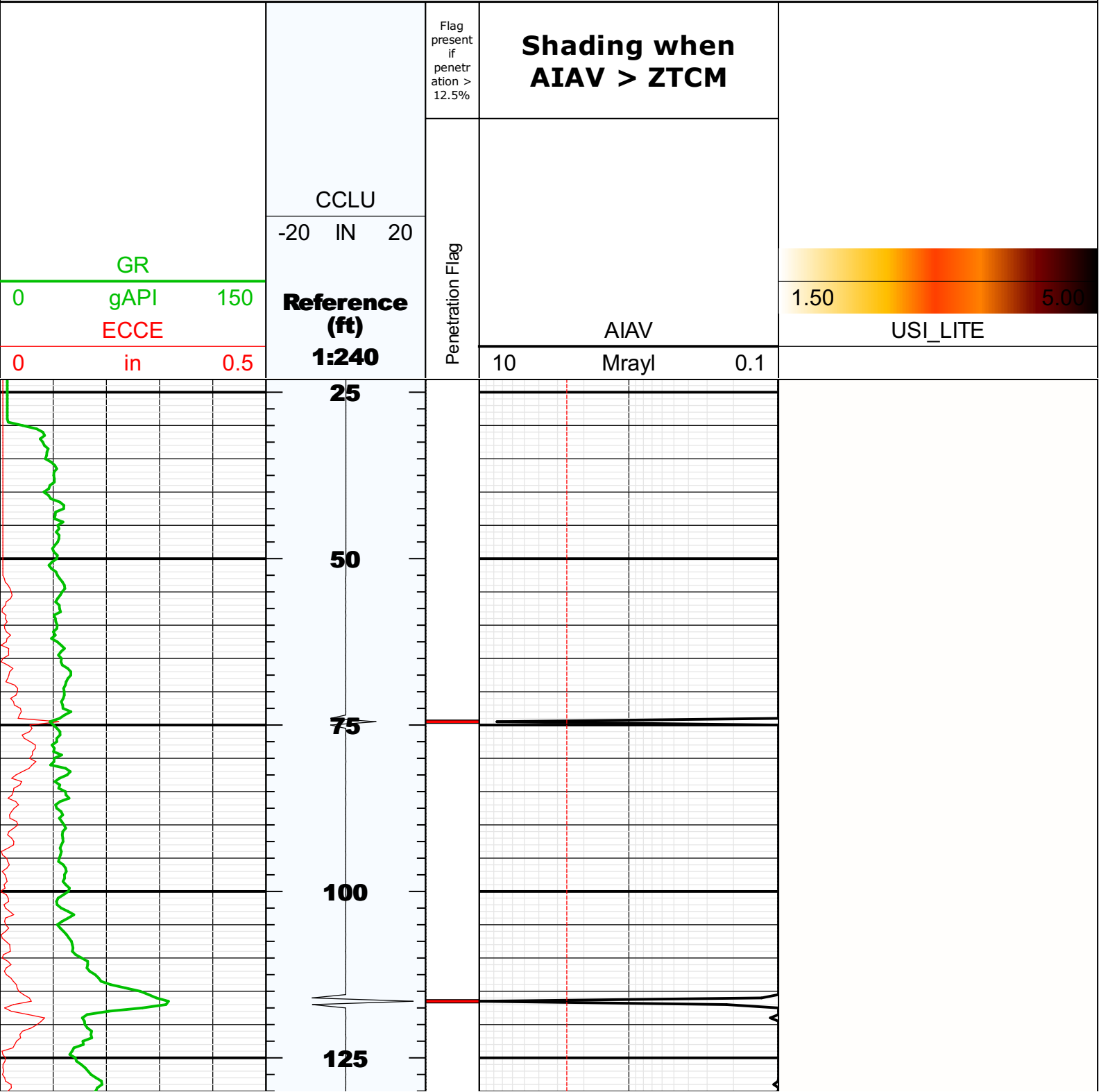
DISCLAIMER

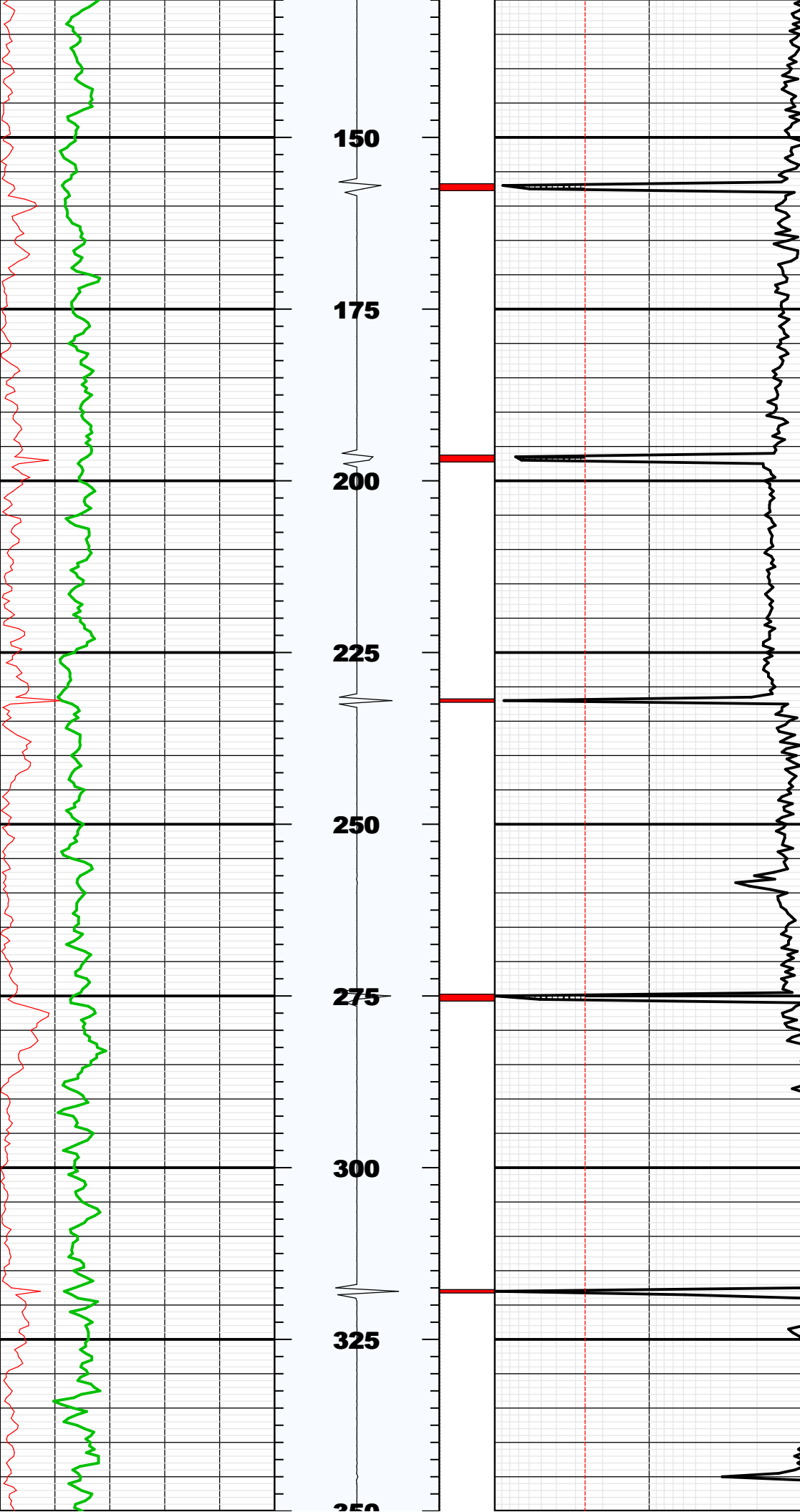
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIIONS ON USE OF THE RECORDED-DATA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

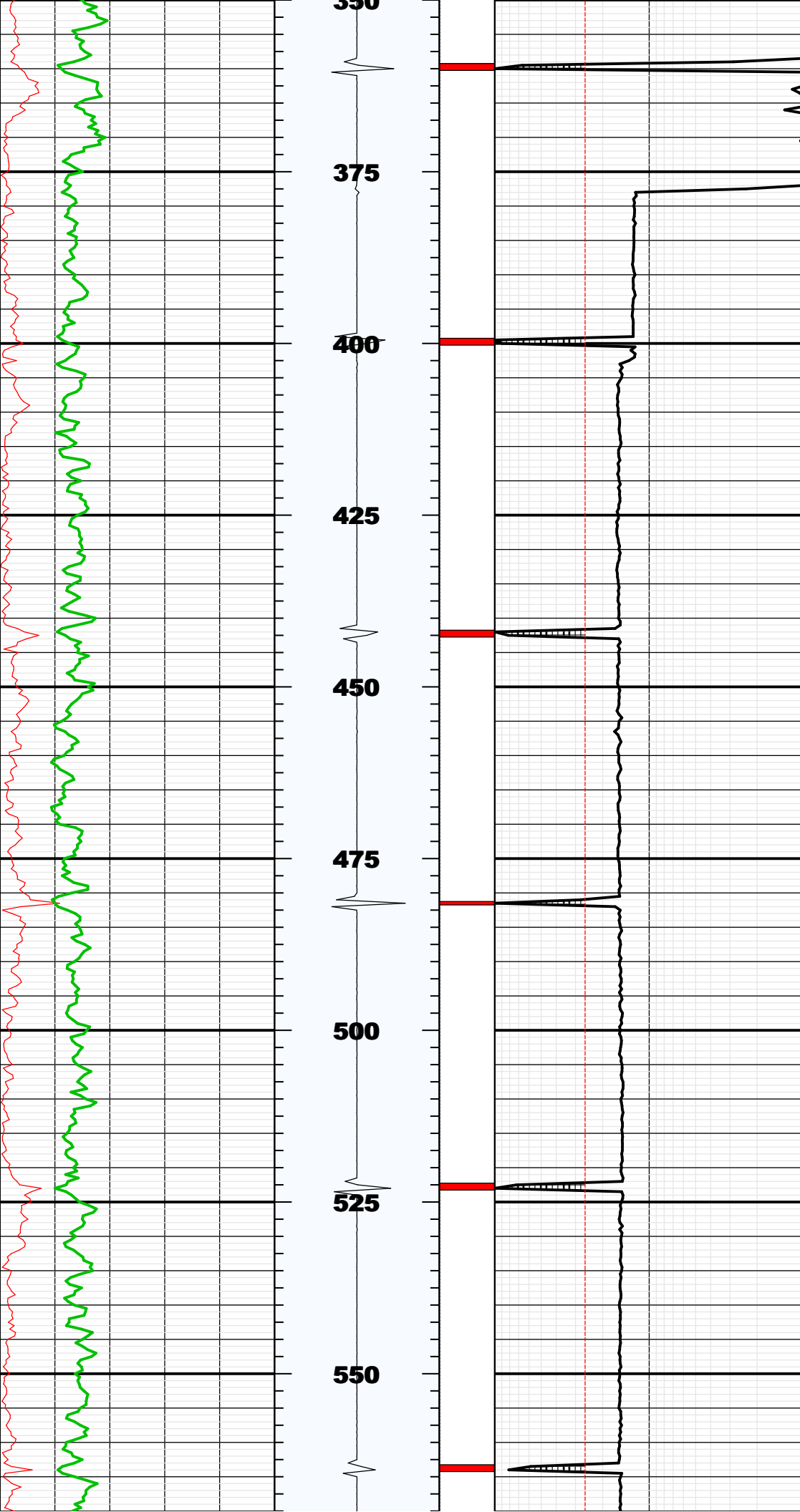
This is the first run in the well.  
Toolstring run as per toolsketch.  
Log Objective Cement Evaluation.  
0 PSI Repeat Pass and 2500 PSI Main Pass.  
Estimated TOC @ 2414'. Expected TOC @ 1775'.  
Bottom Log Interval at 6063'. Sub would not spin below this depth.  
Bottom hole temperature was 197 degF.

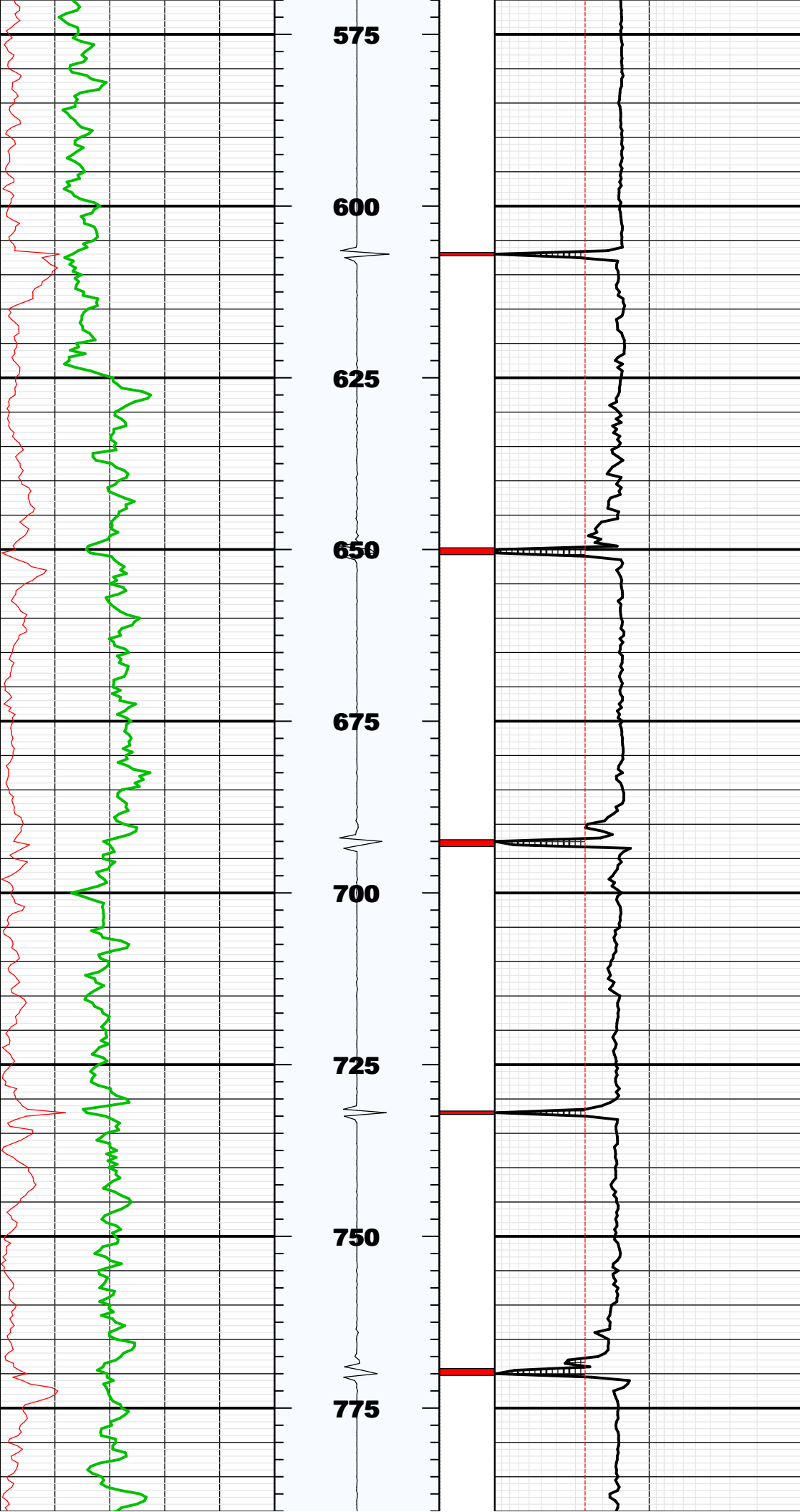
Main Pass

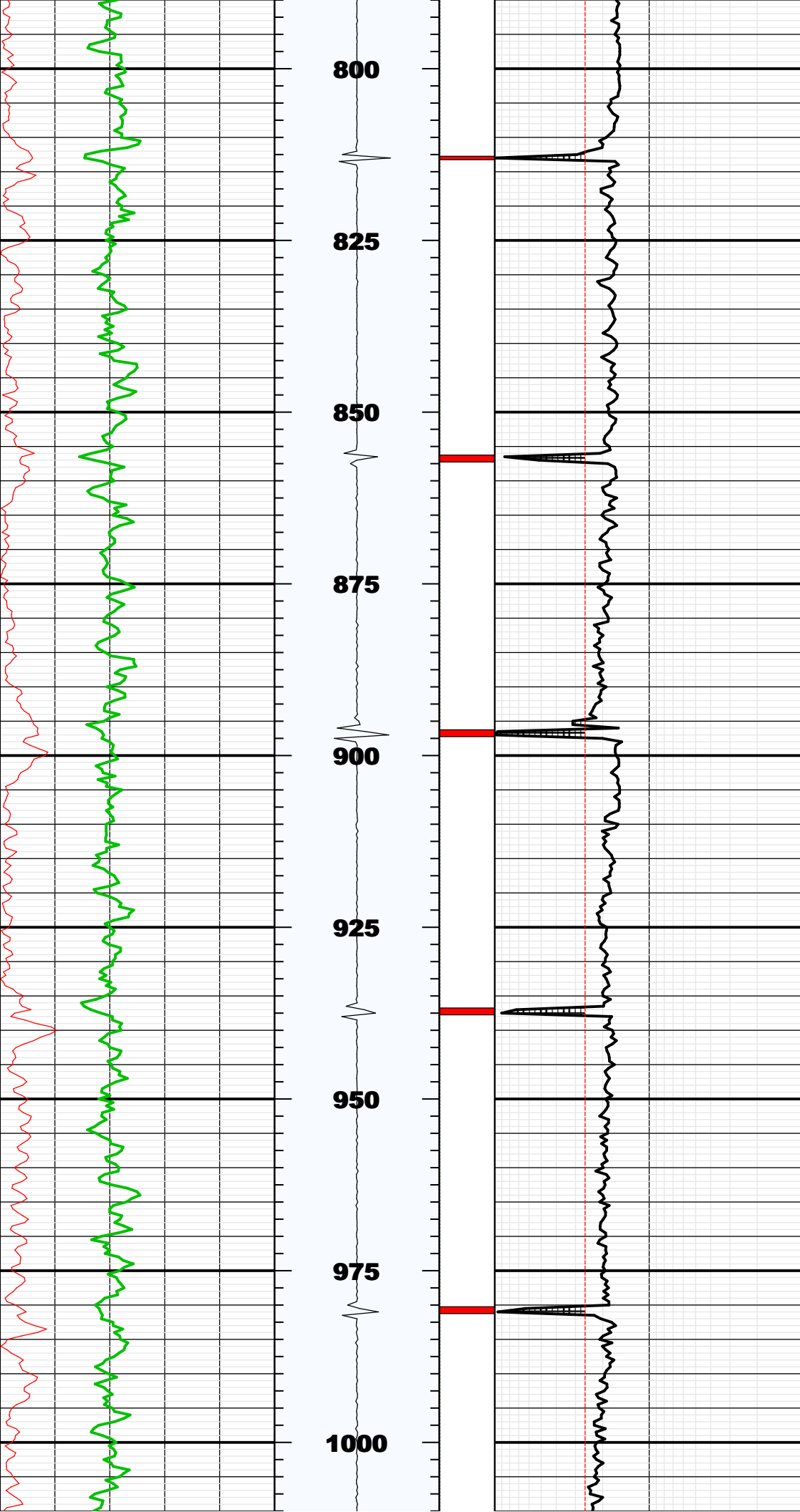
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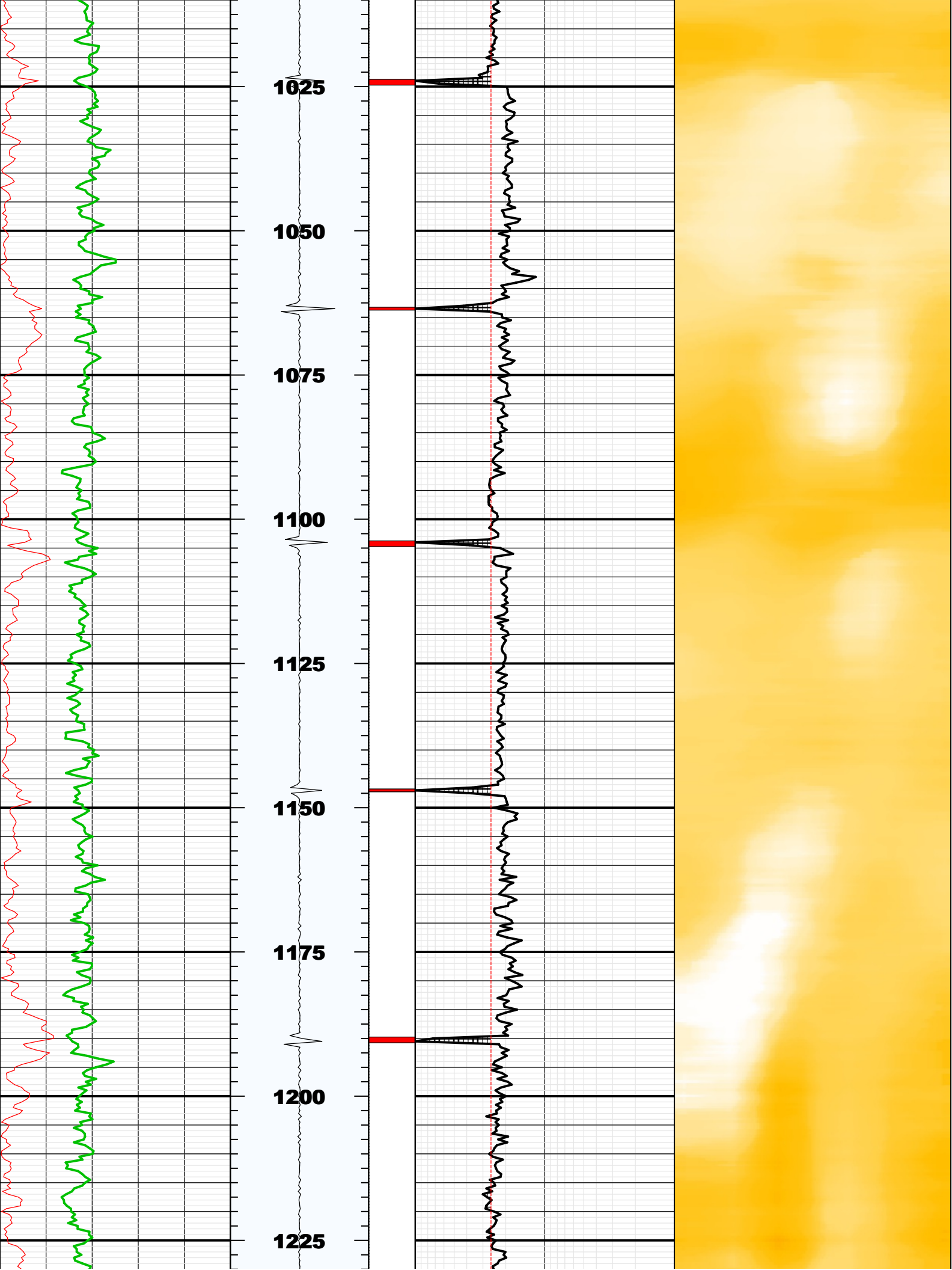




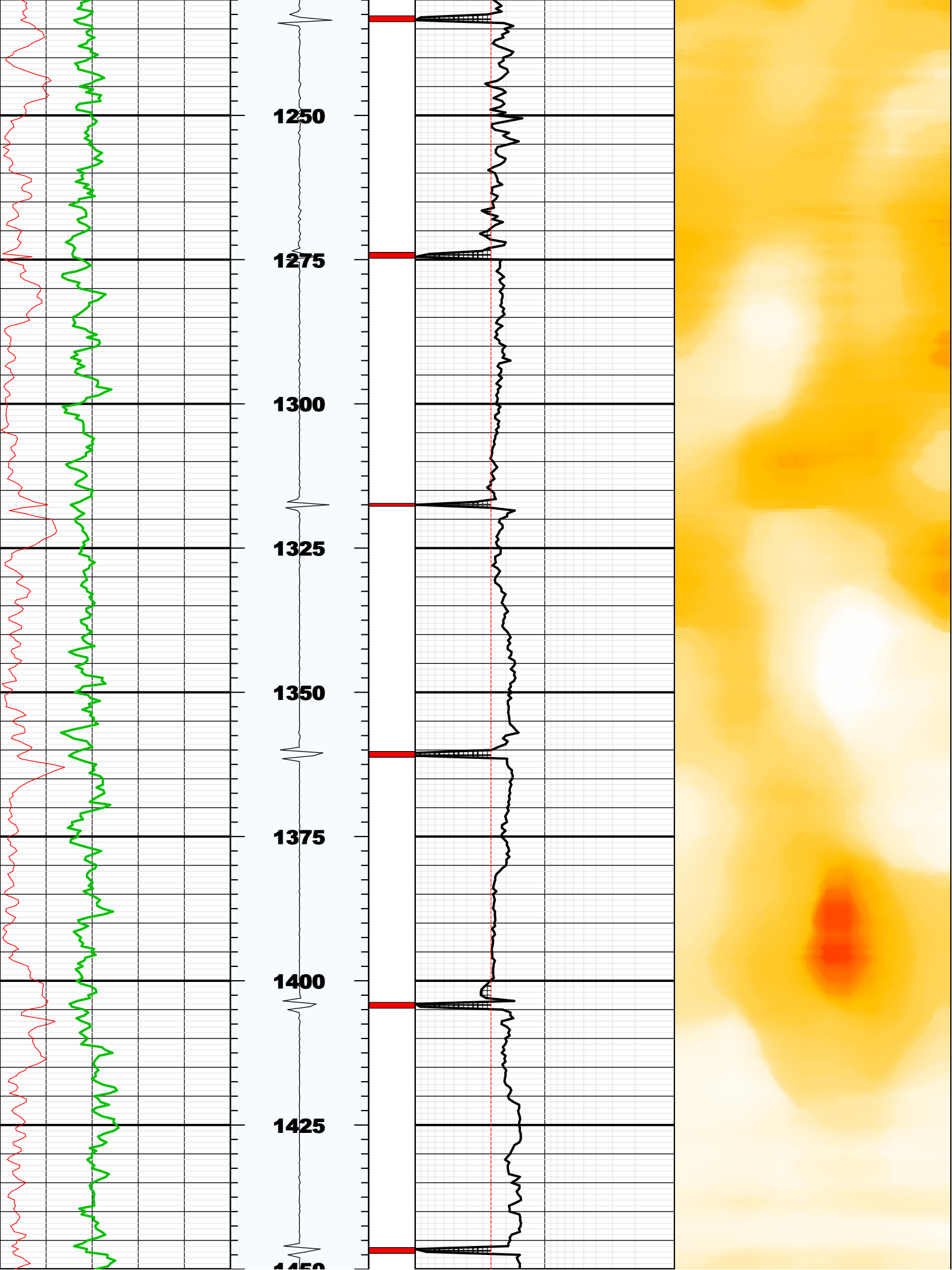


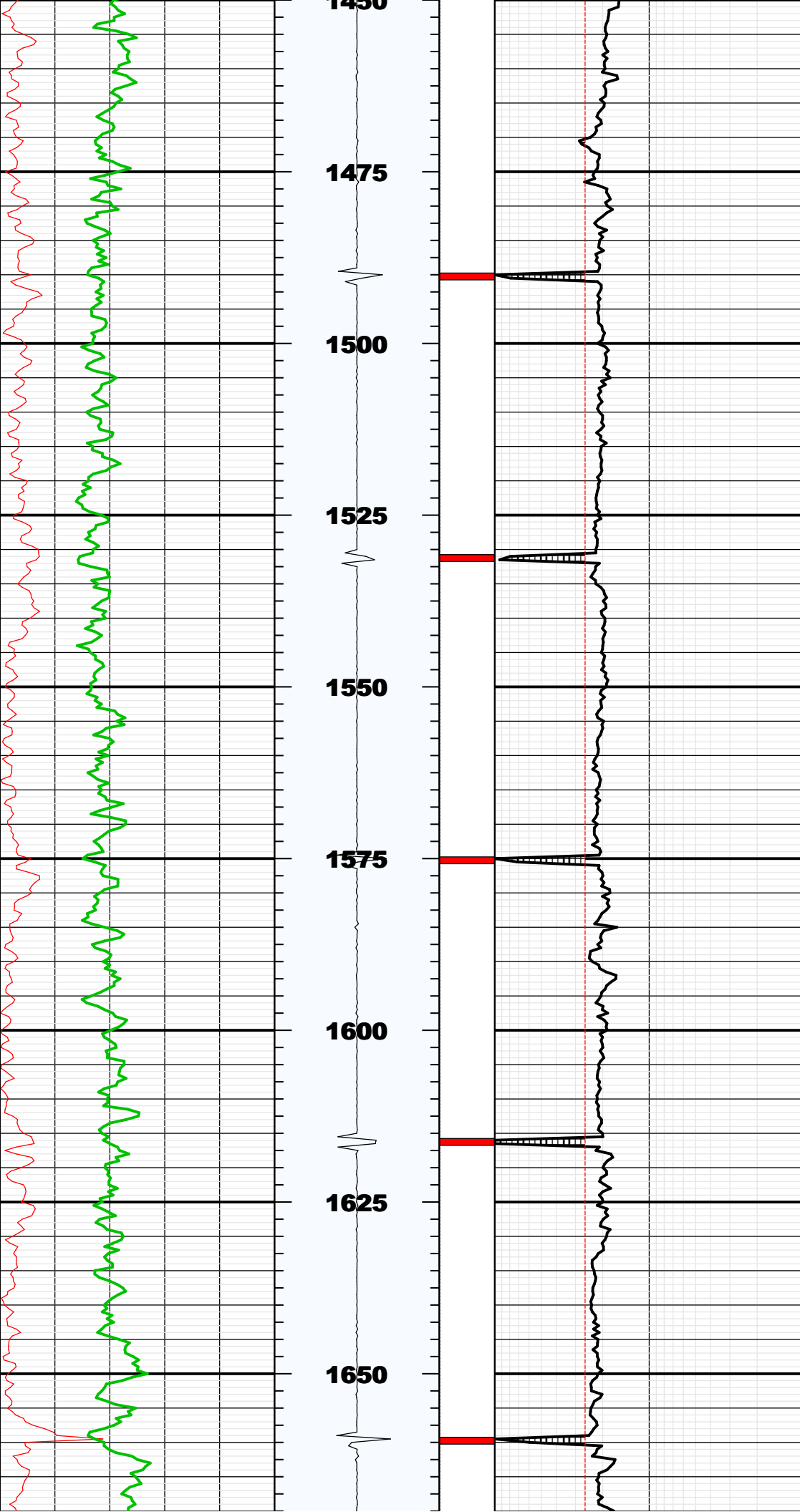


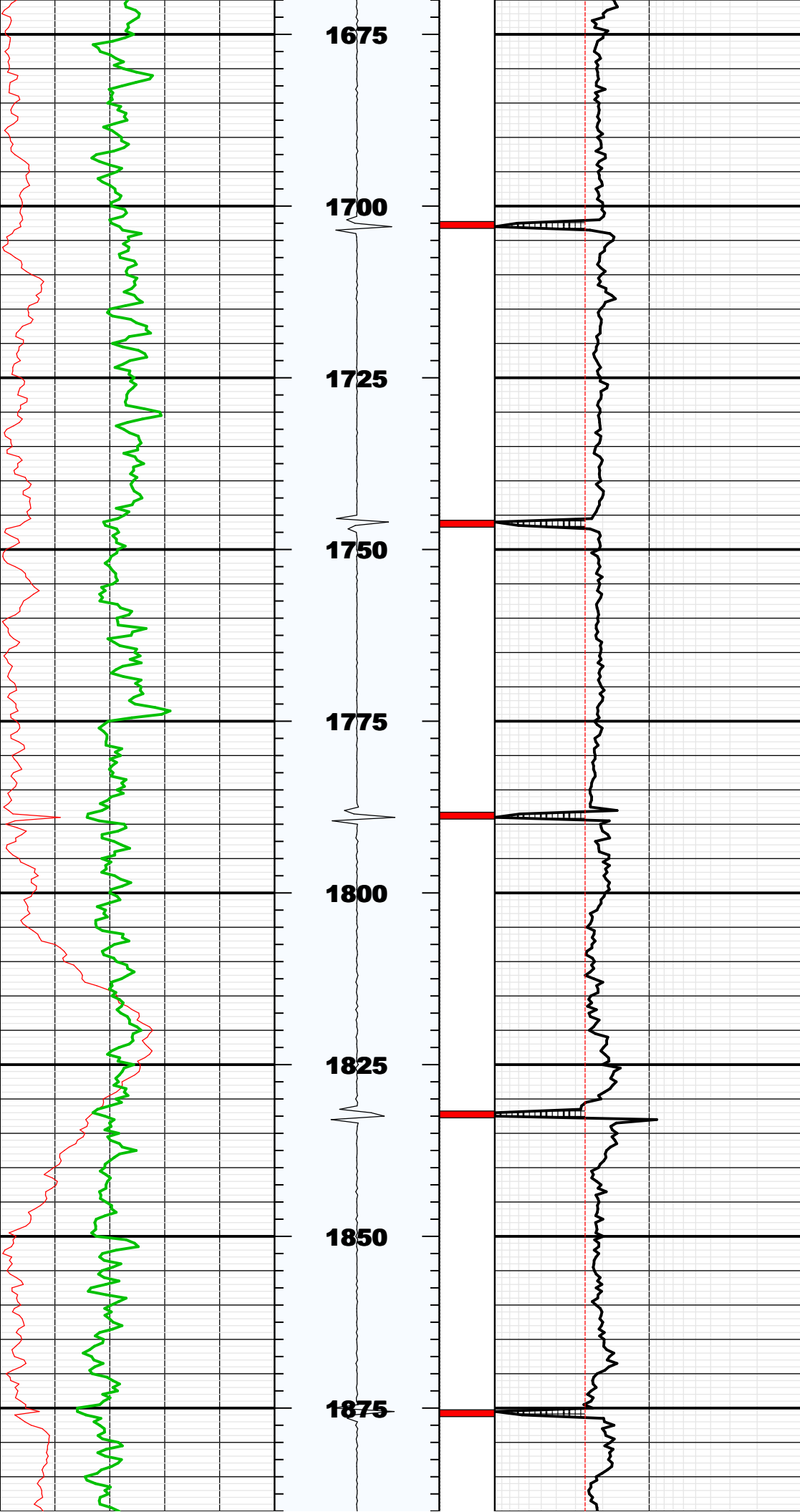


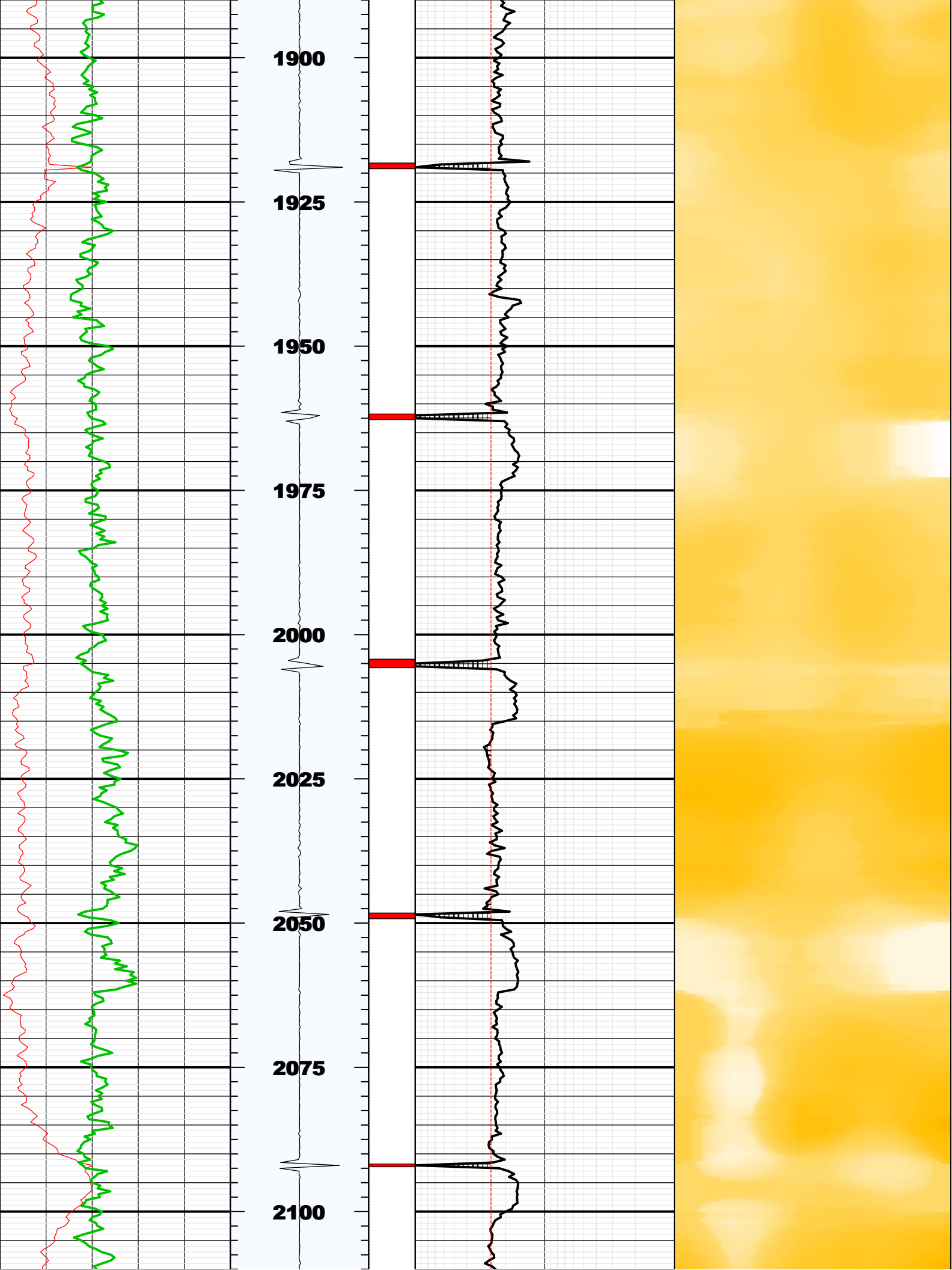


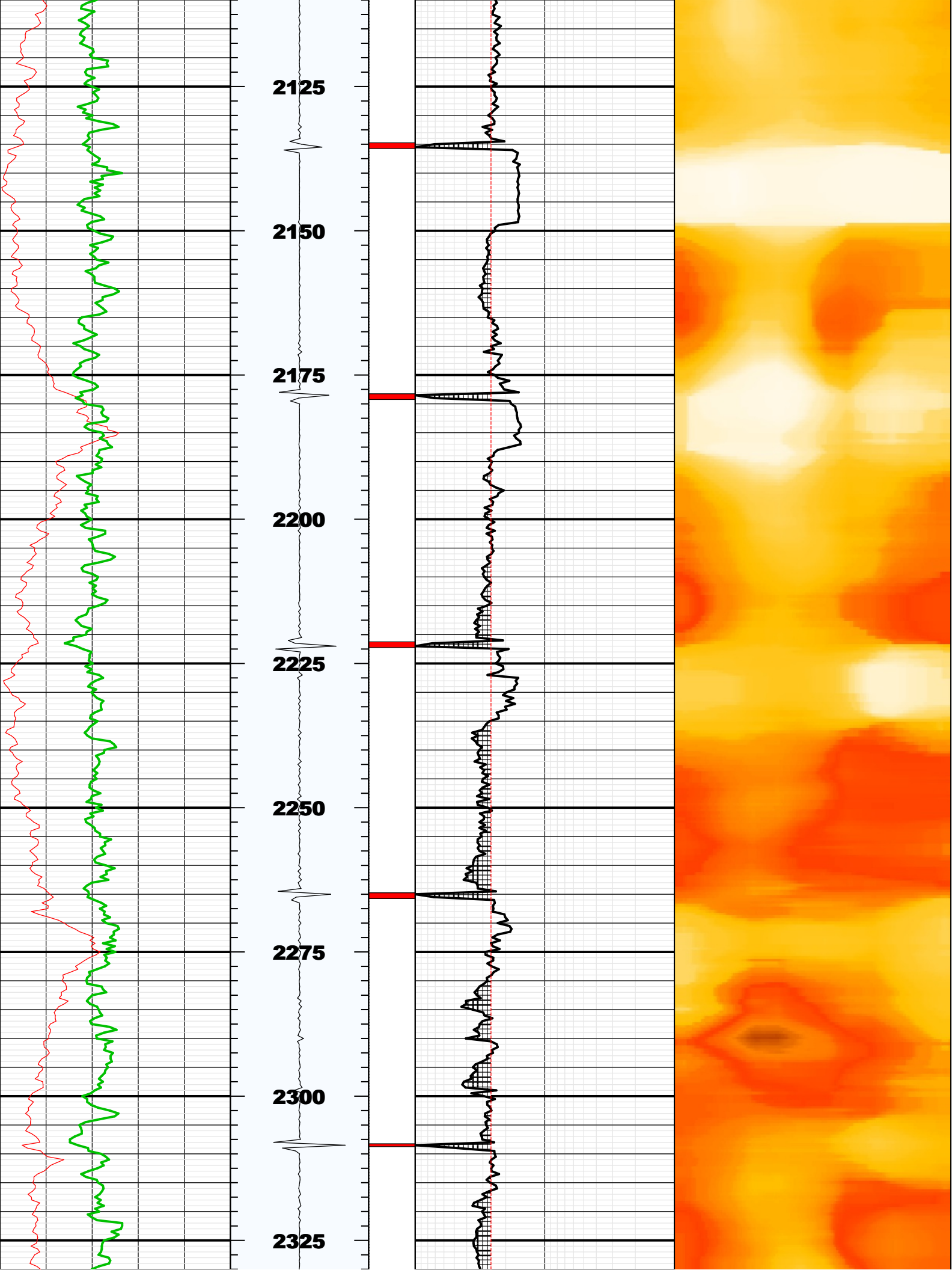




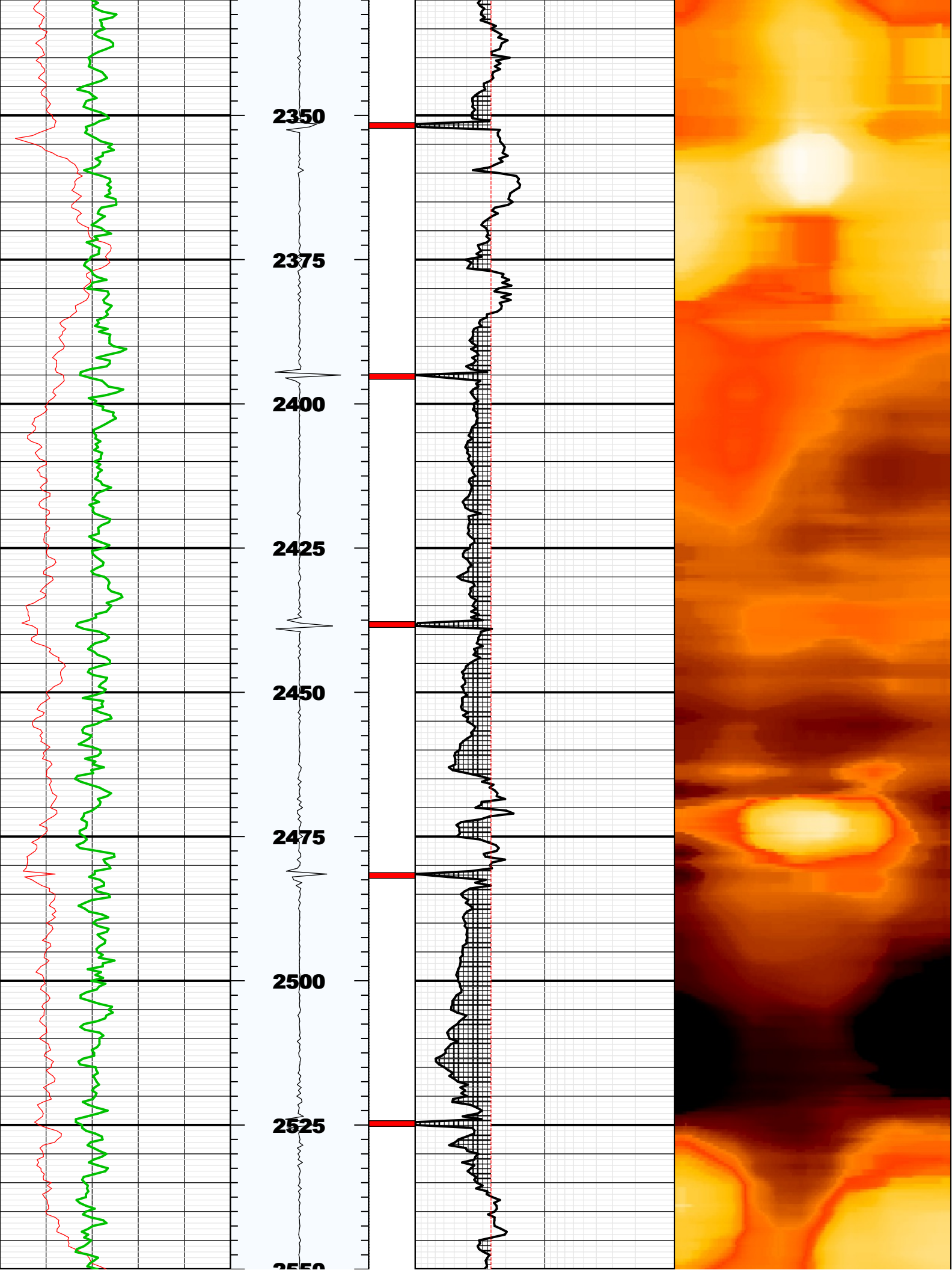


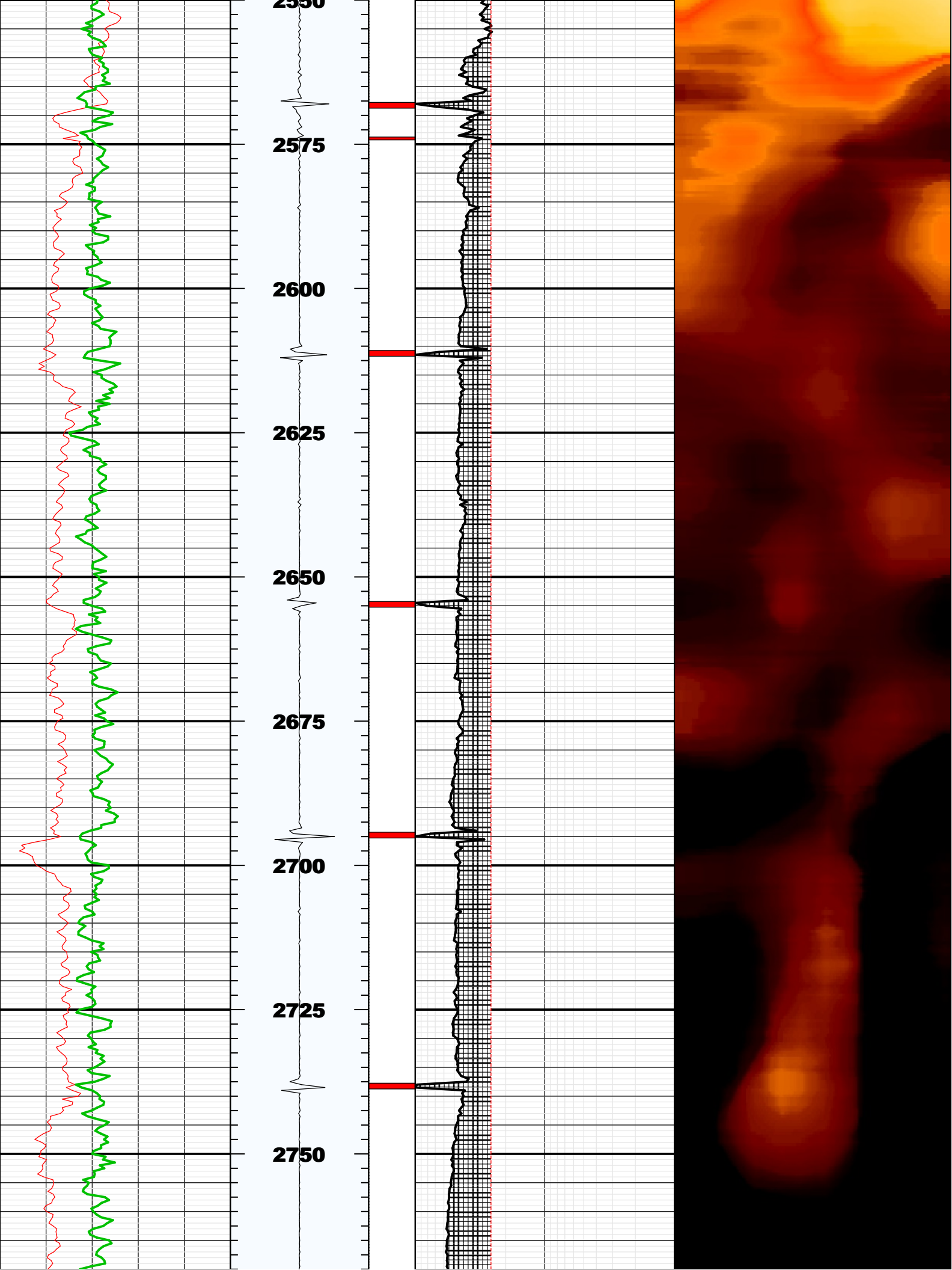


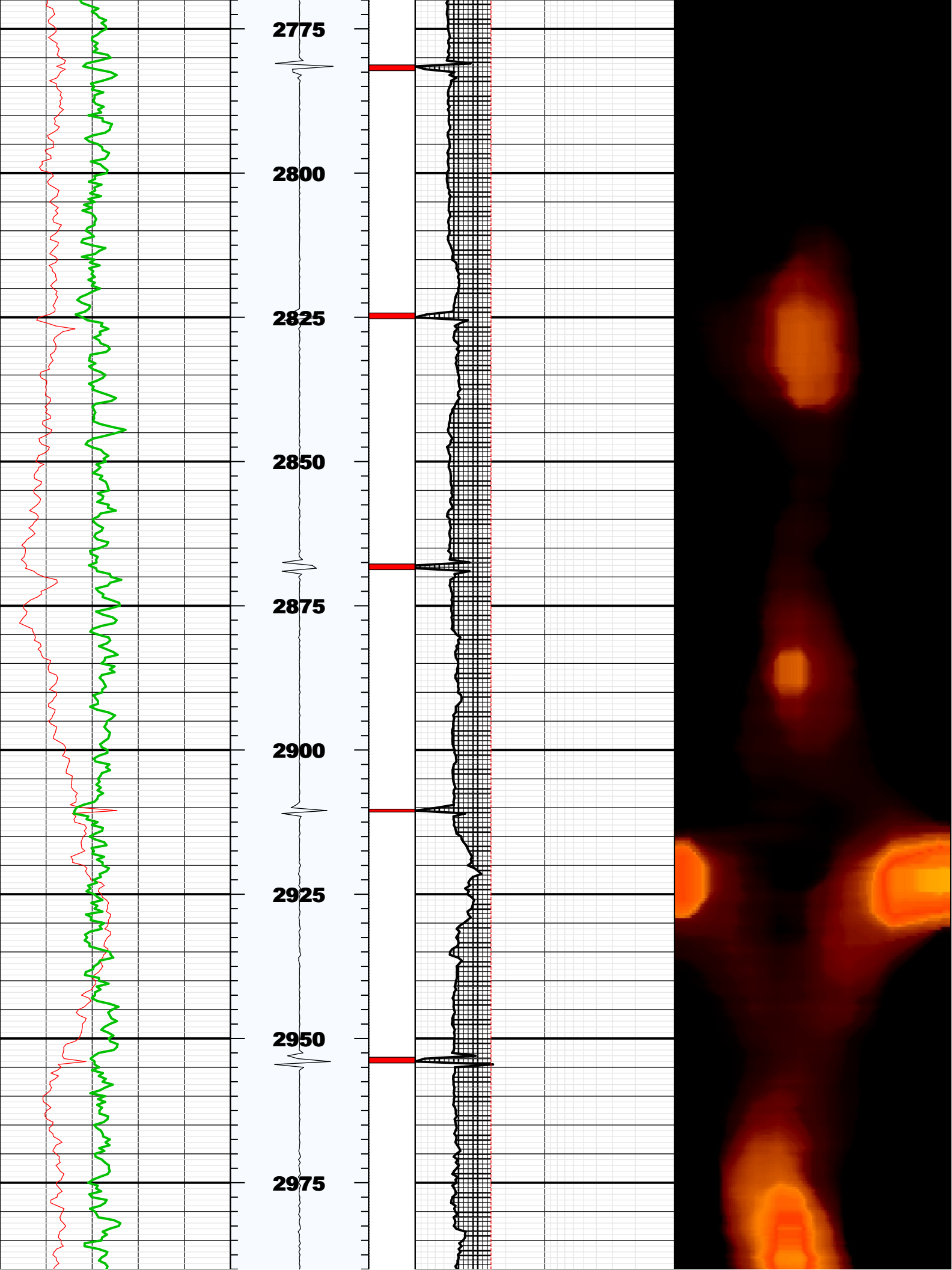




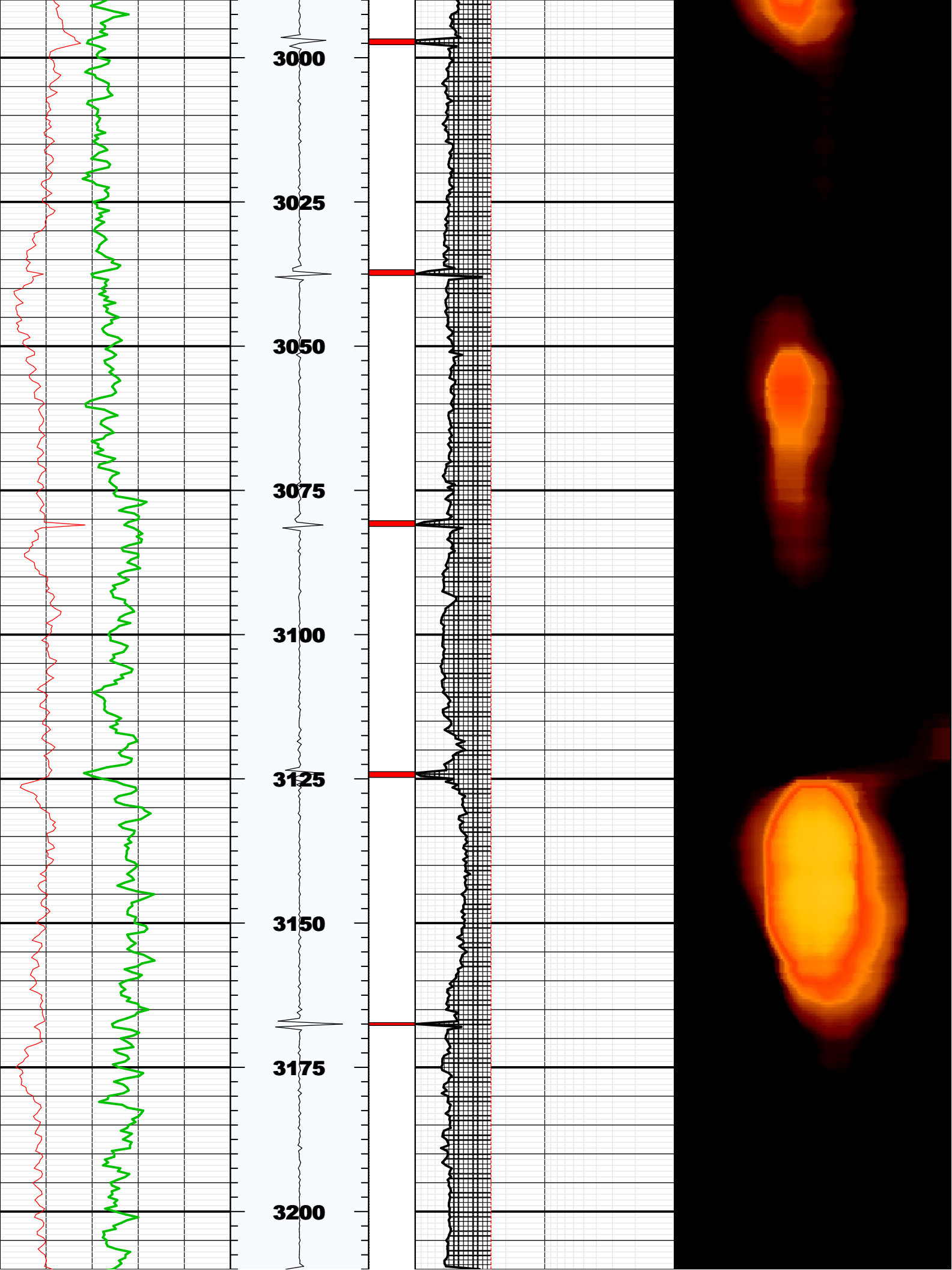


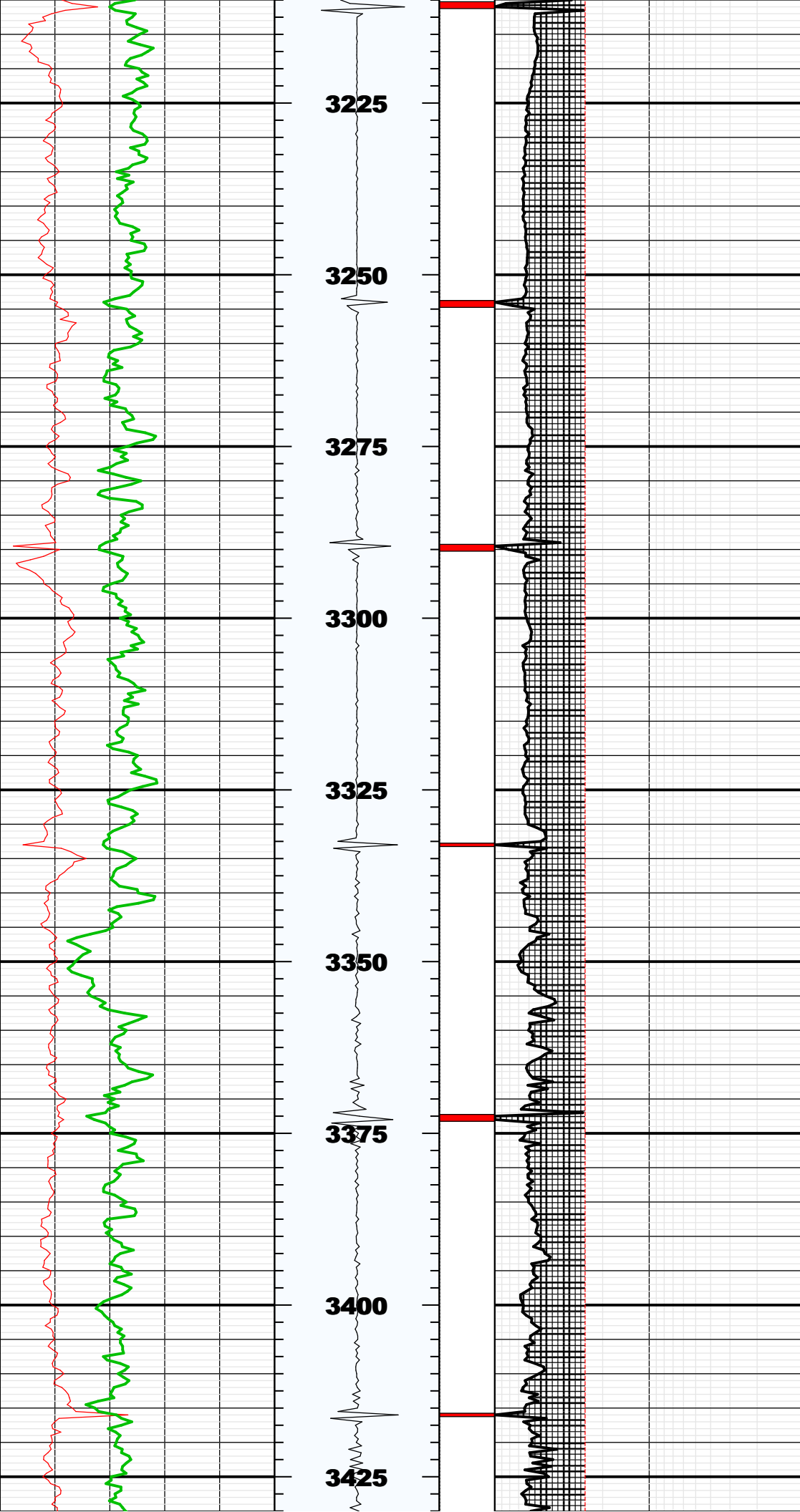


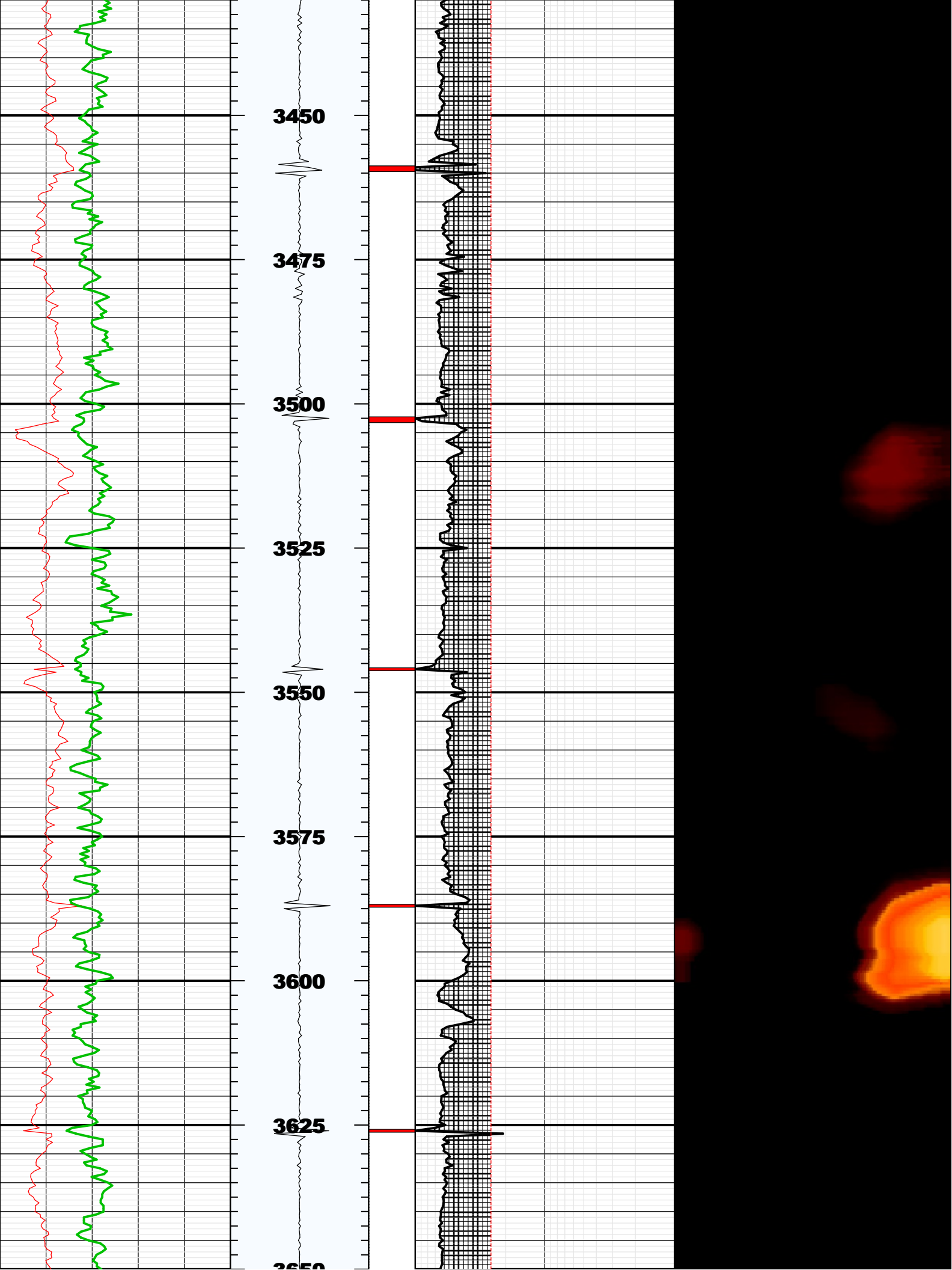


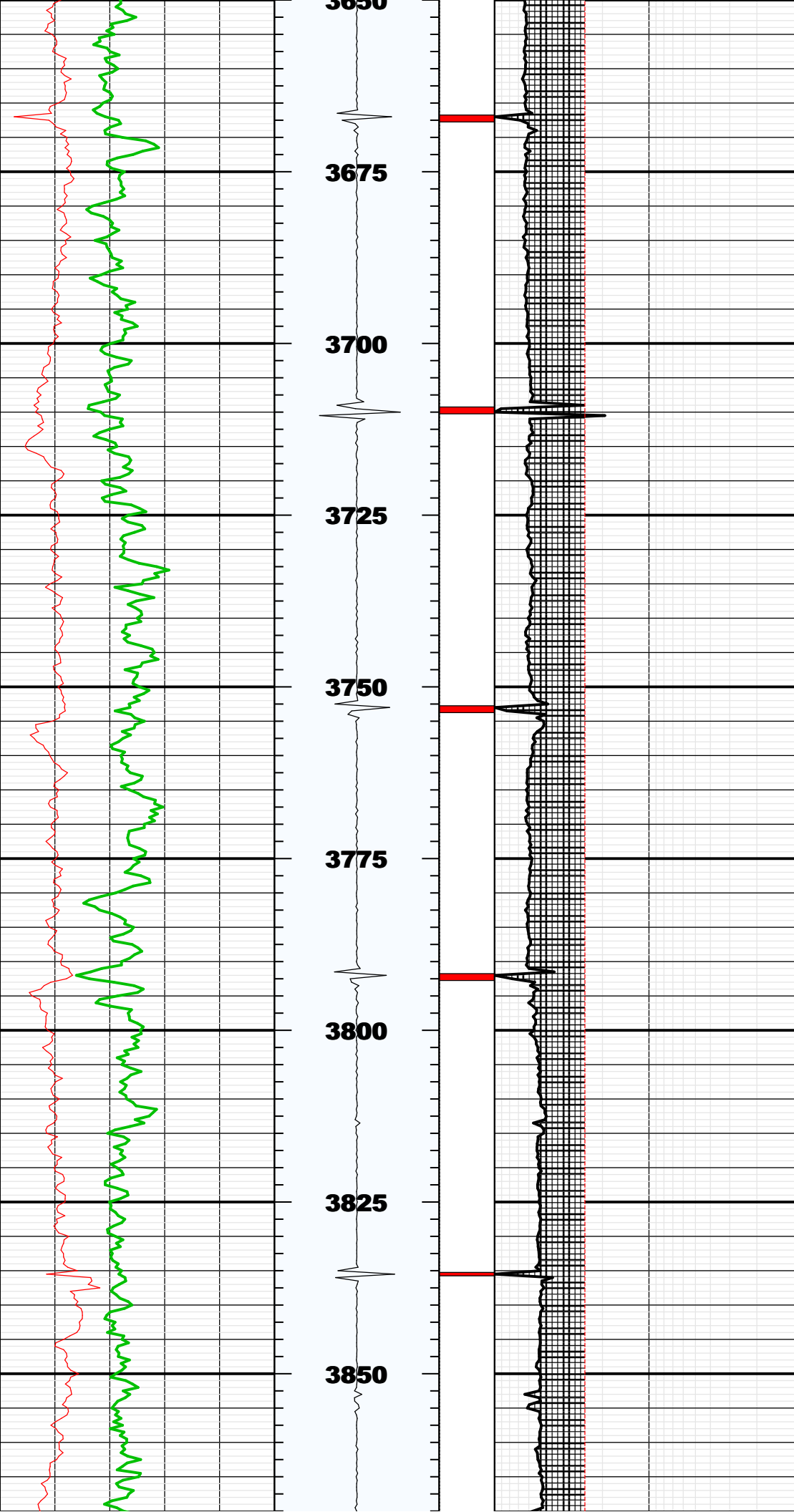


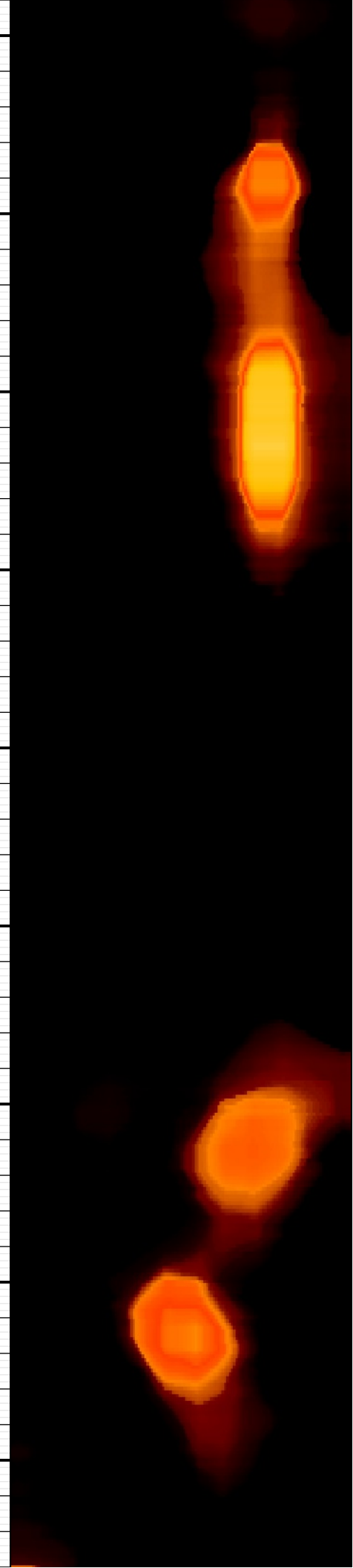
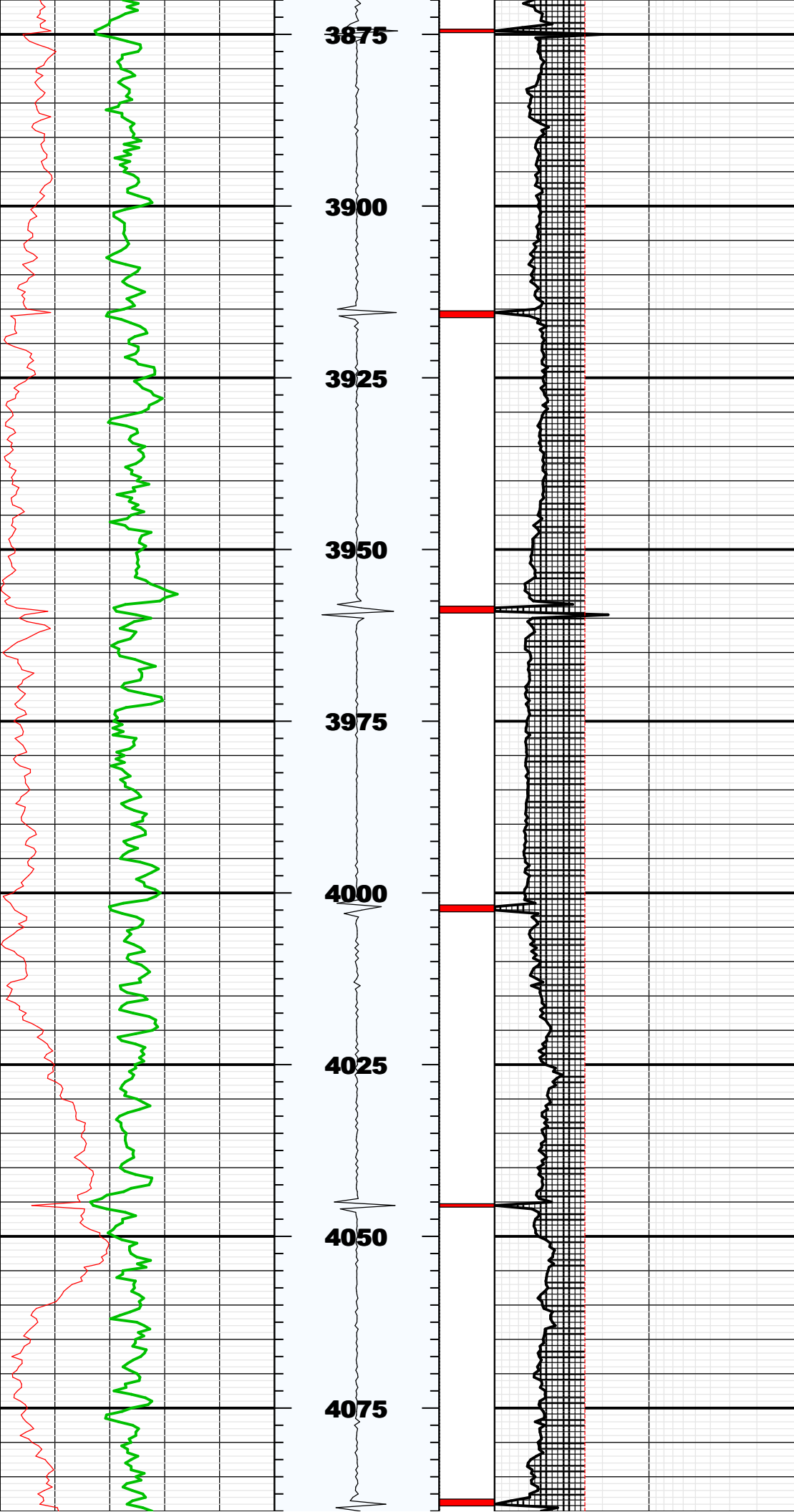


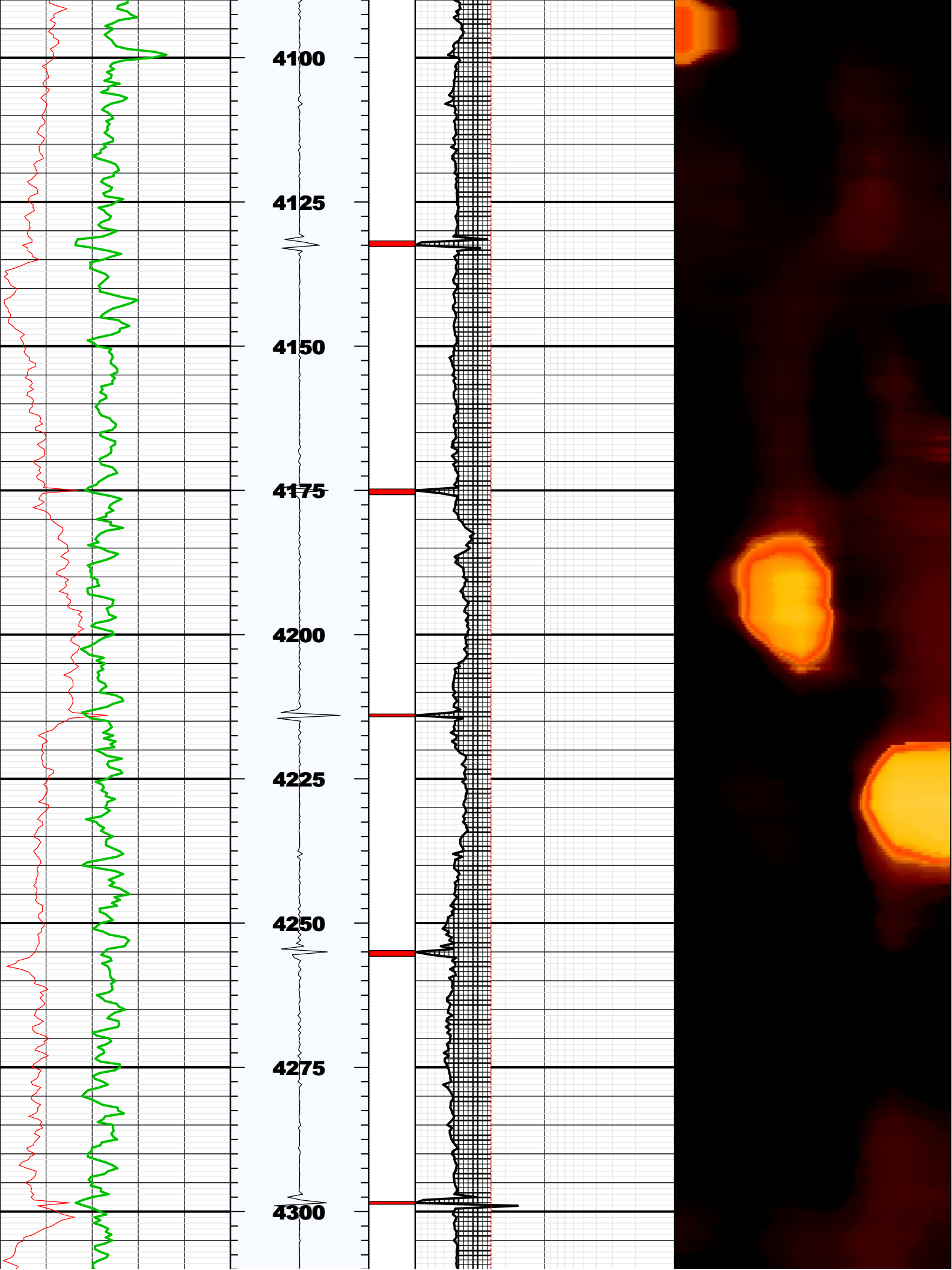




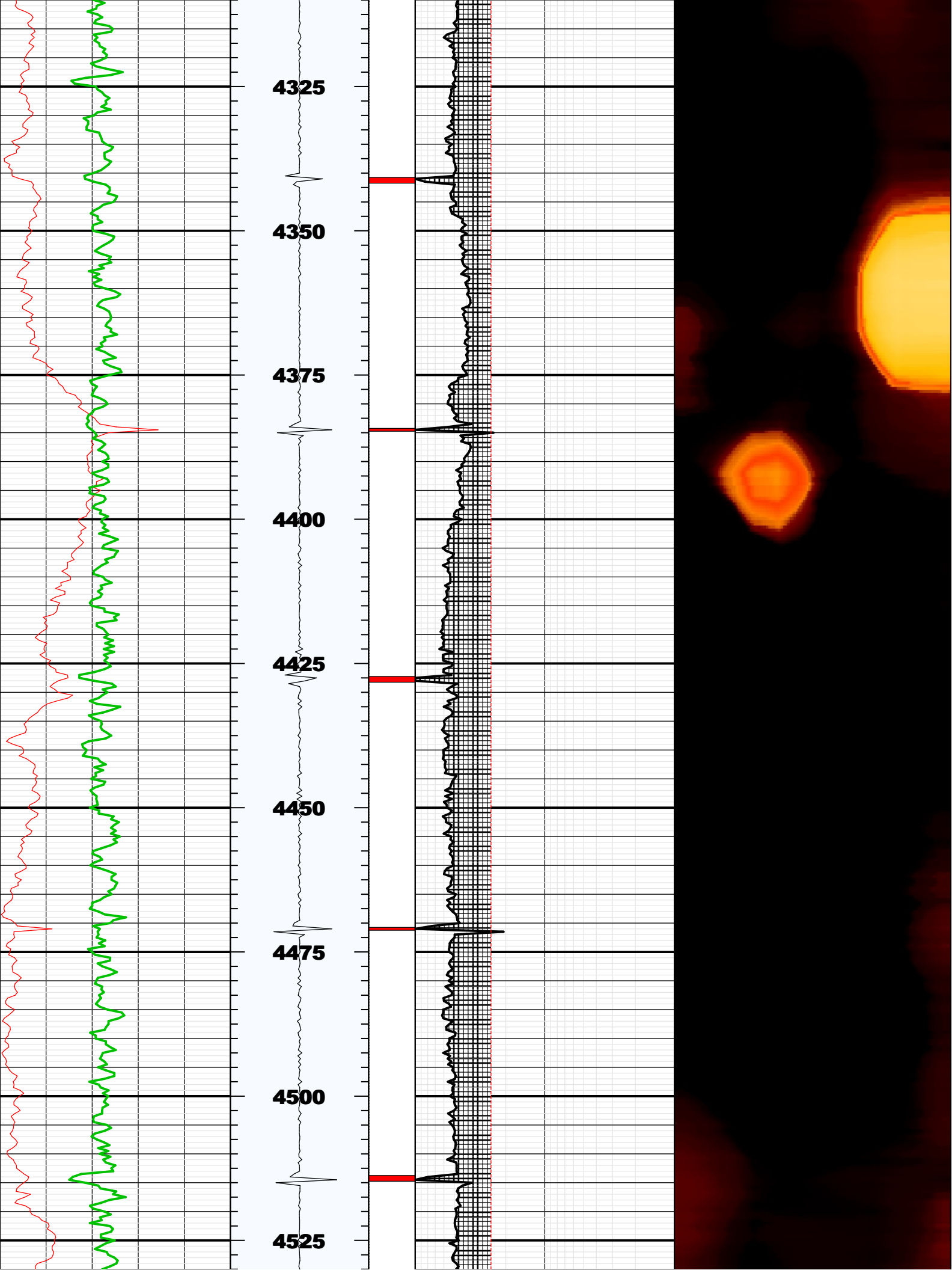


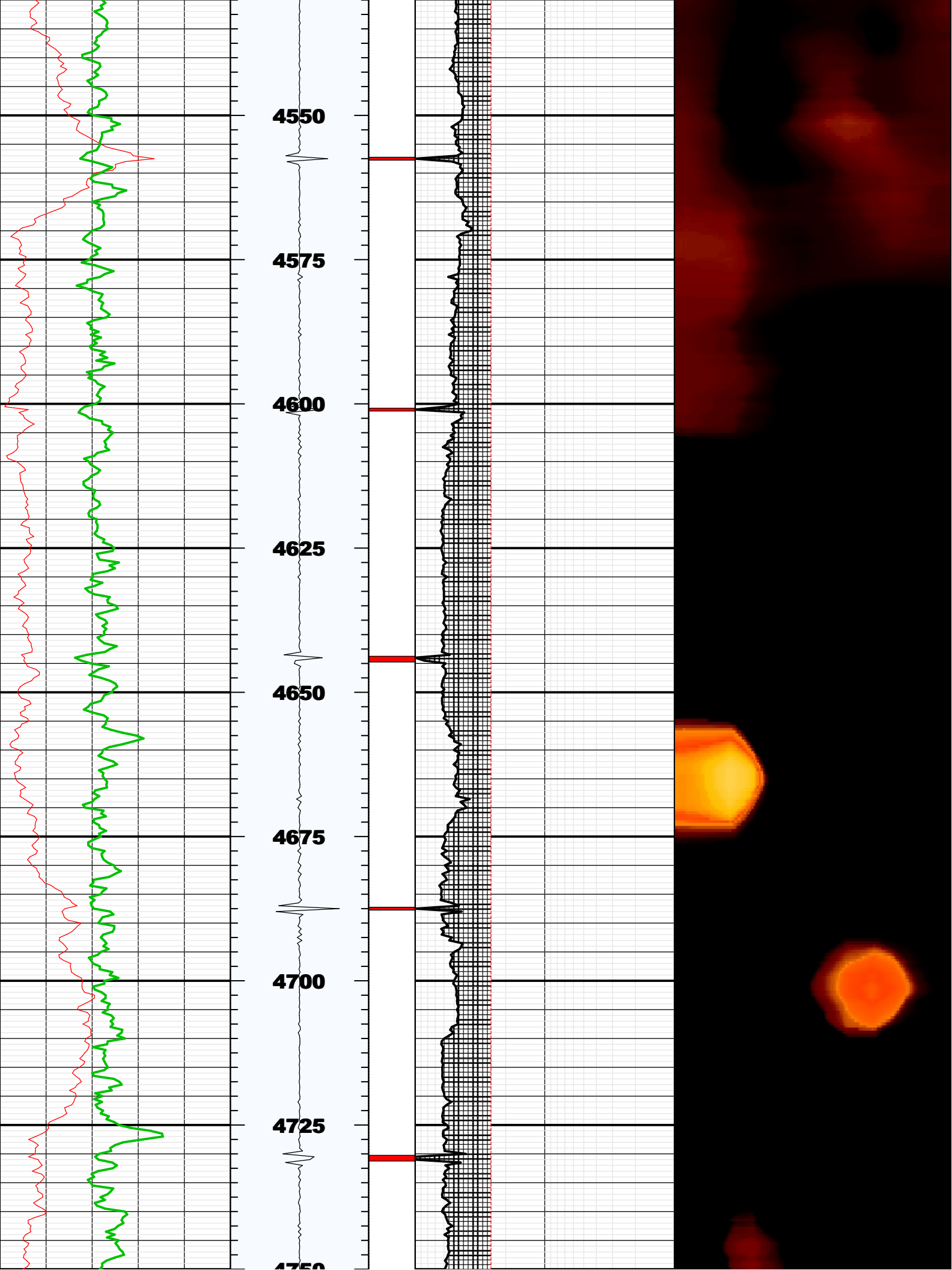




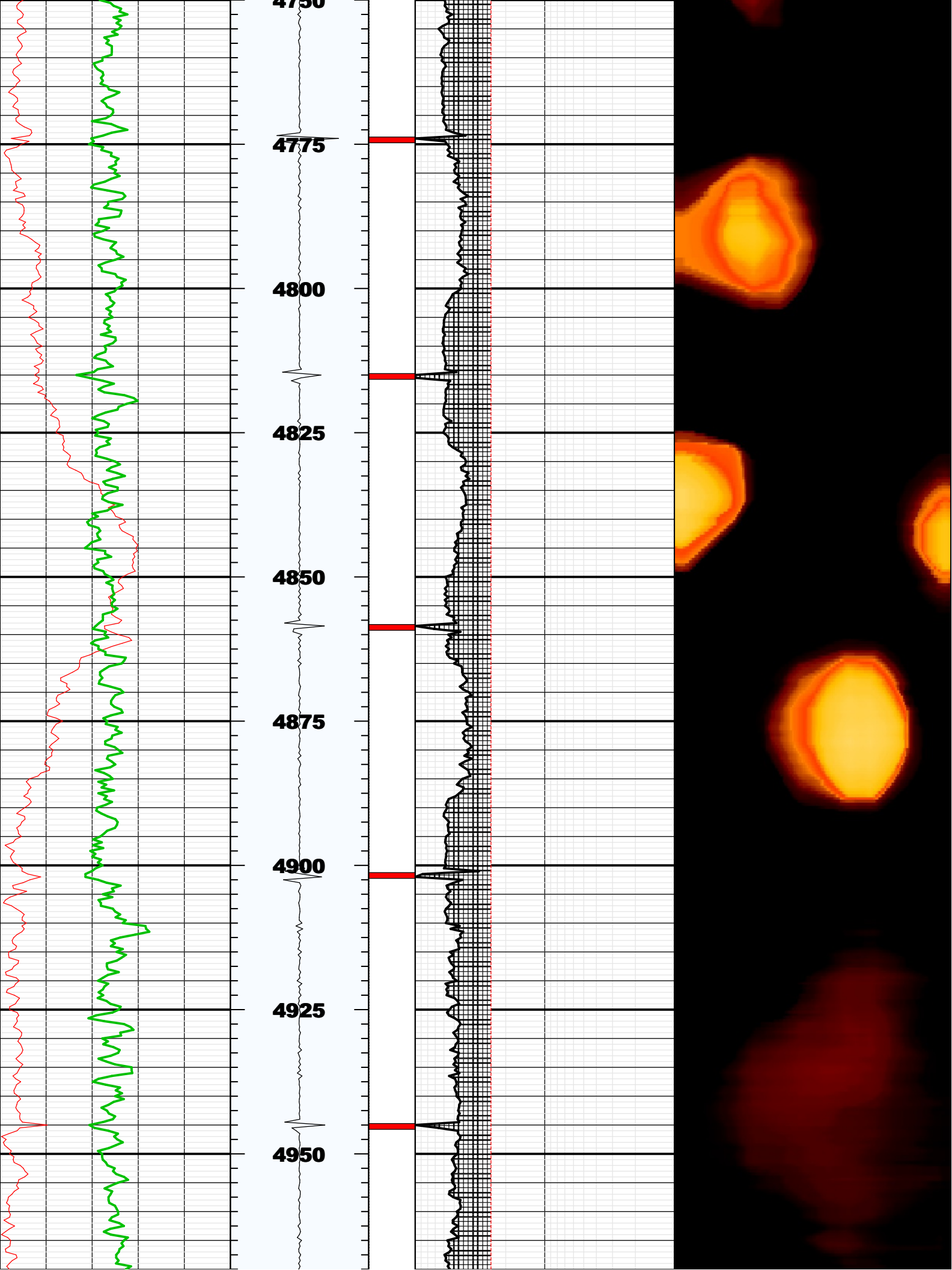


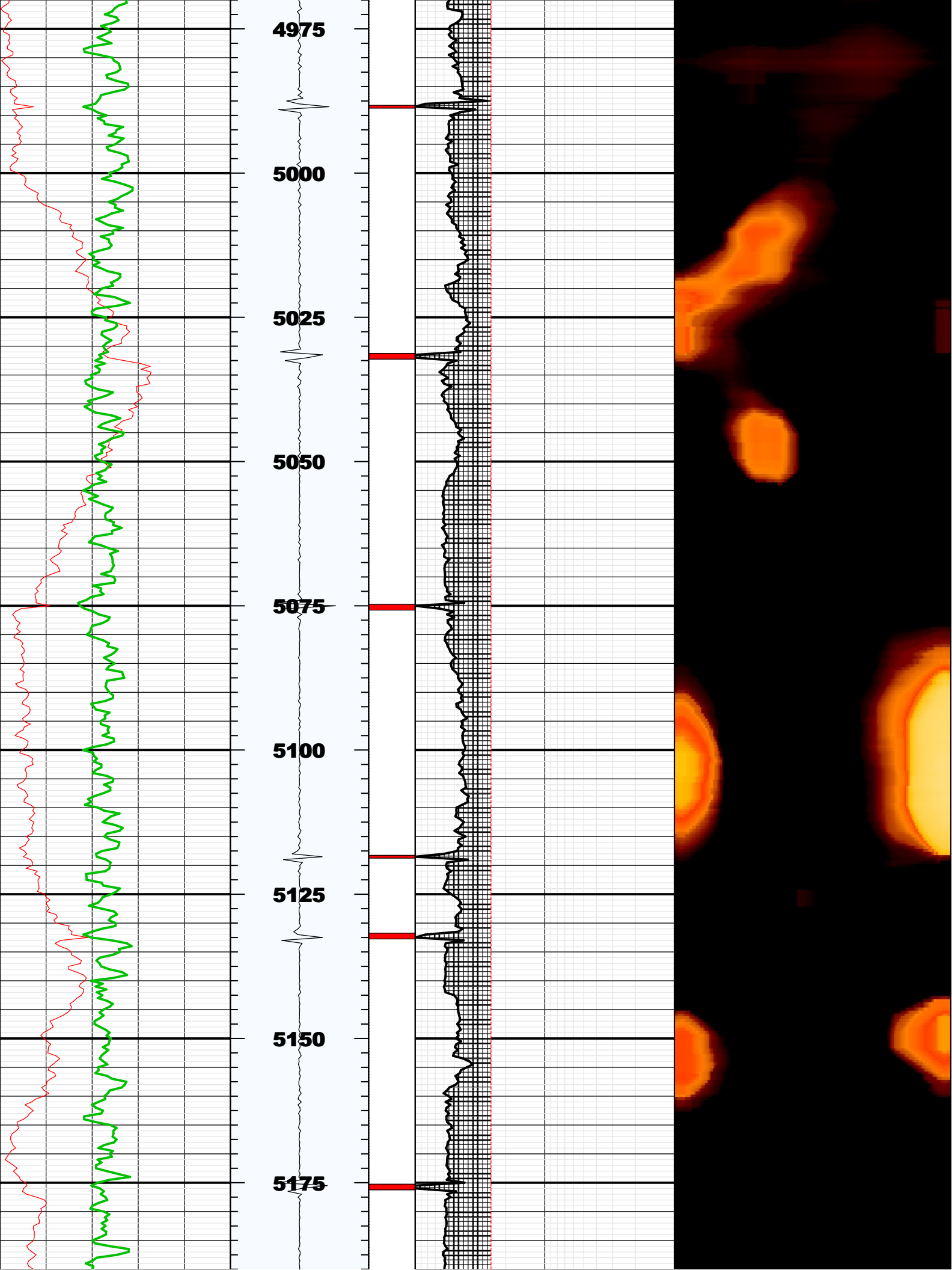


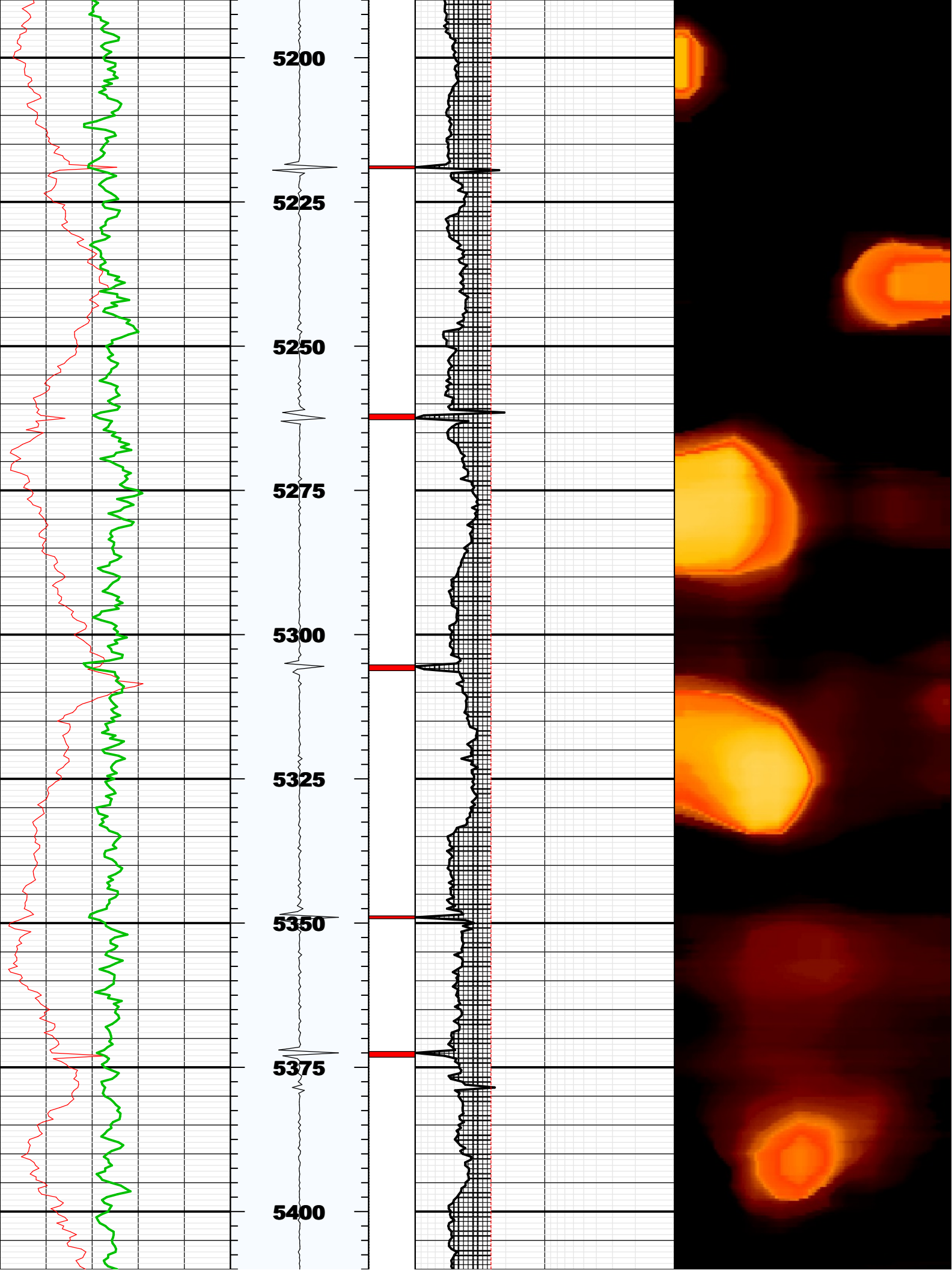


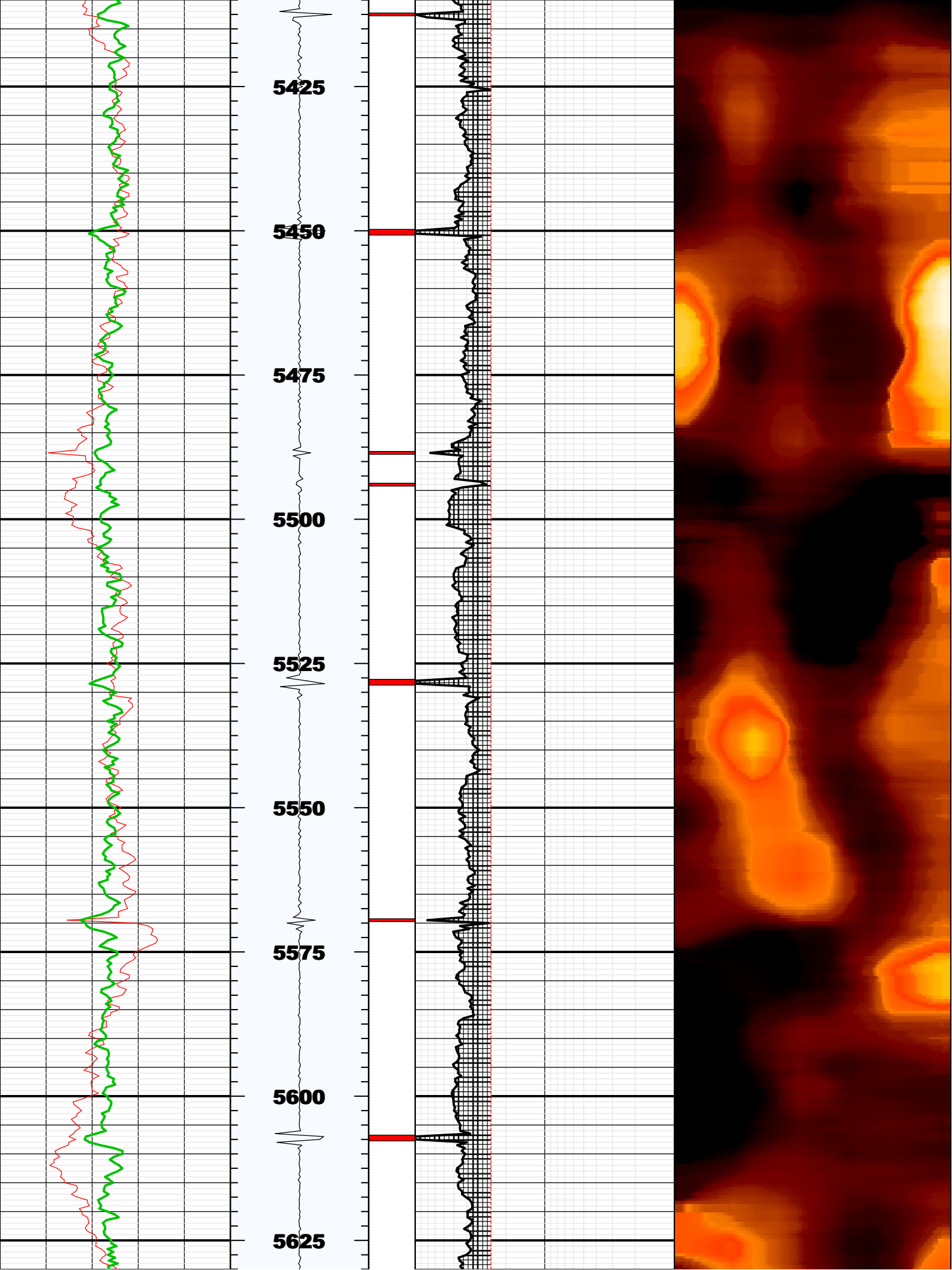


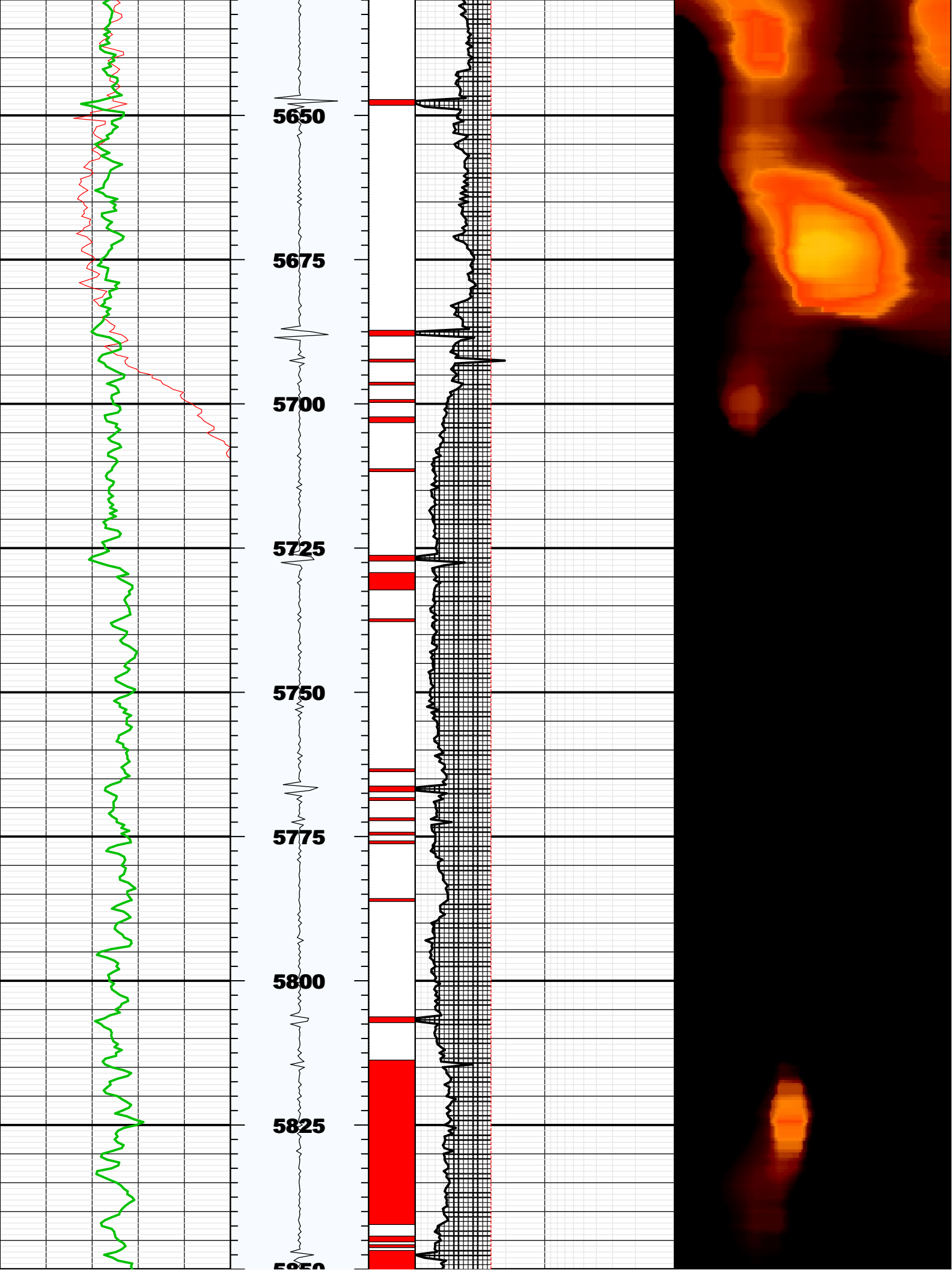




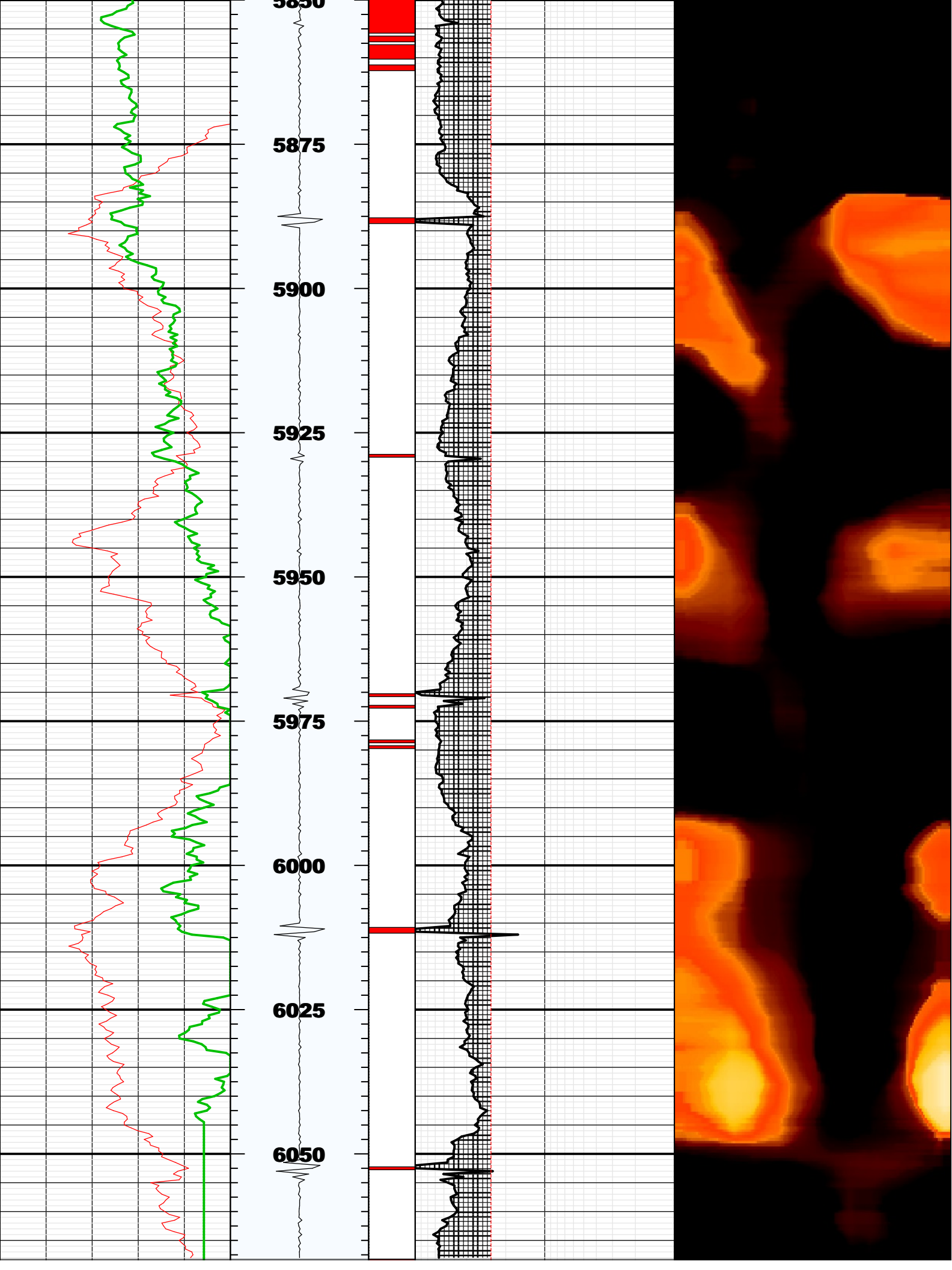








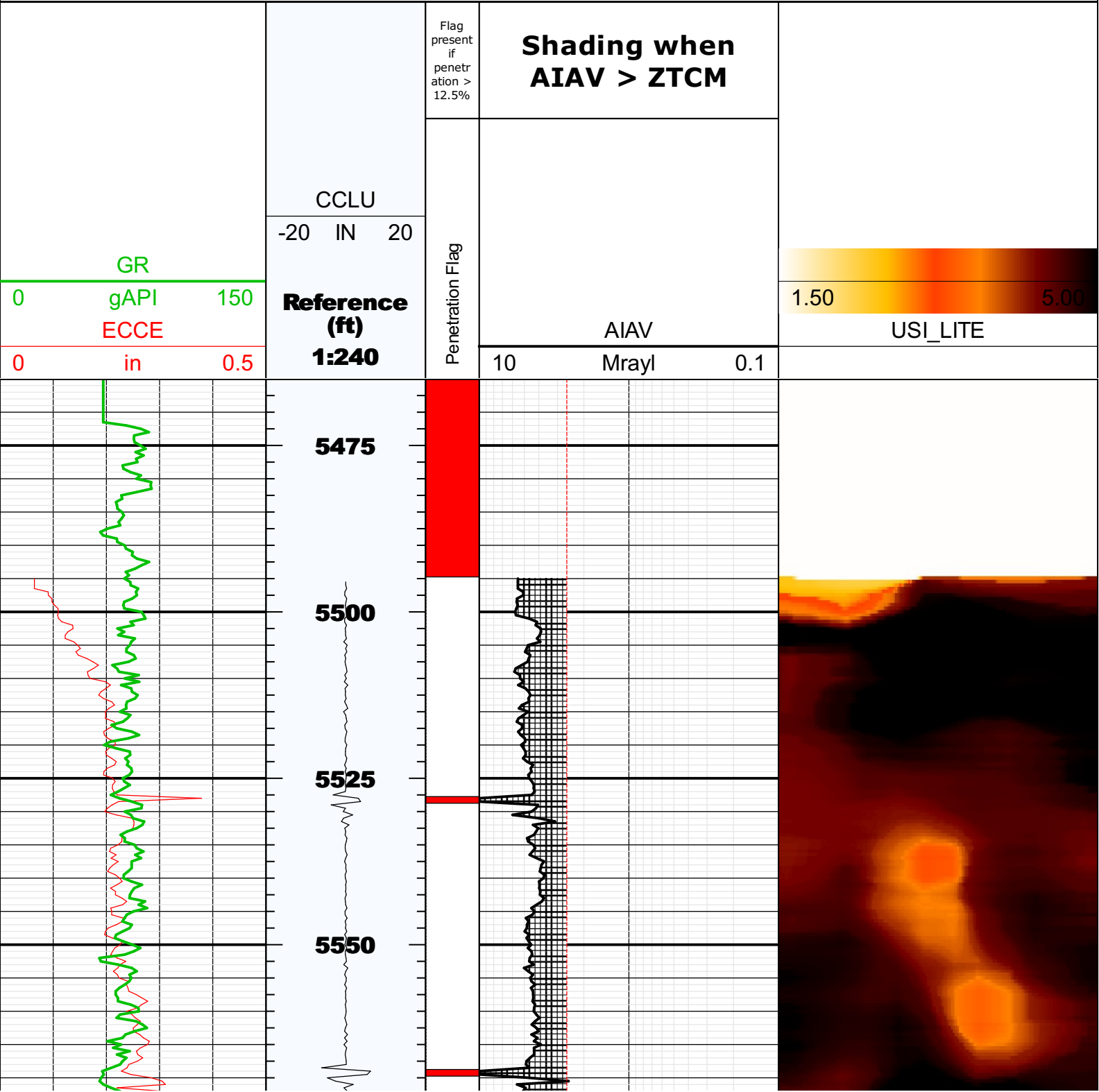




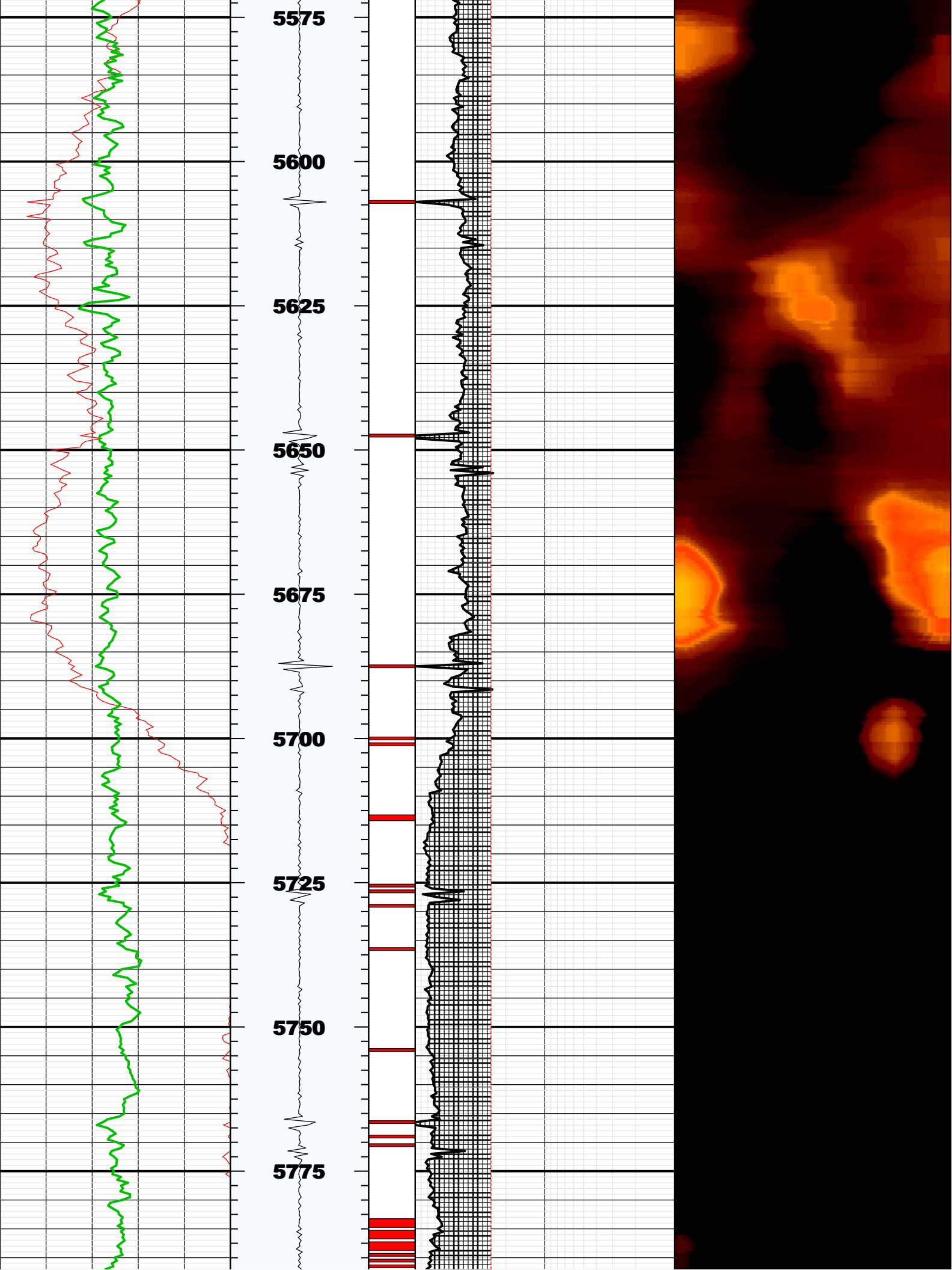
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID	6.27600	IN	Casing Inner Diameter
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	190.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	45	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	25.00000	US	Window Begin Time
WINE	85.00000	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	22.50350	US	T <sup>^</sup> 3 Processing Length

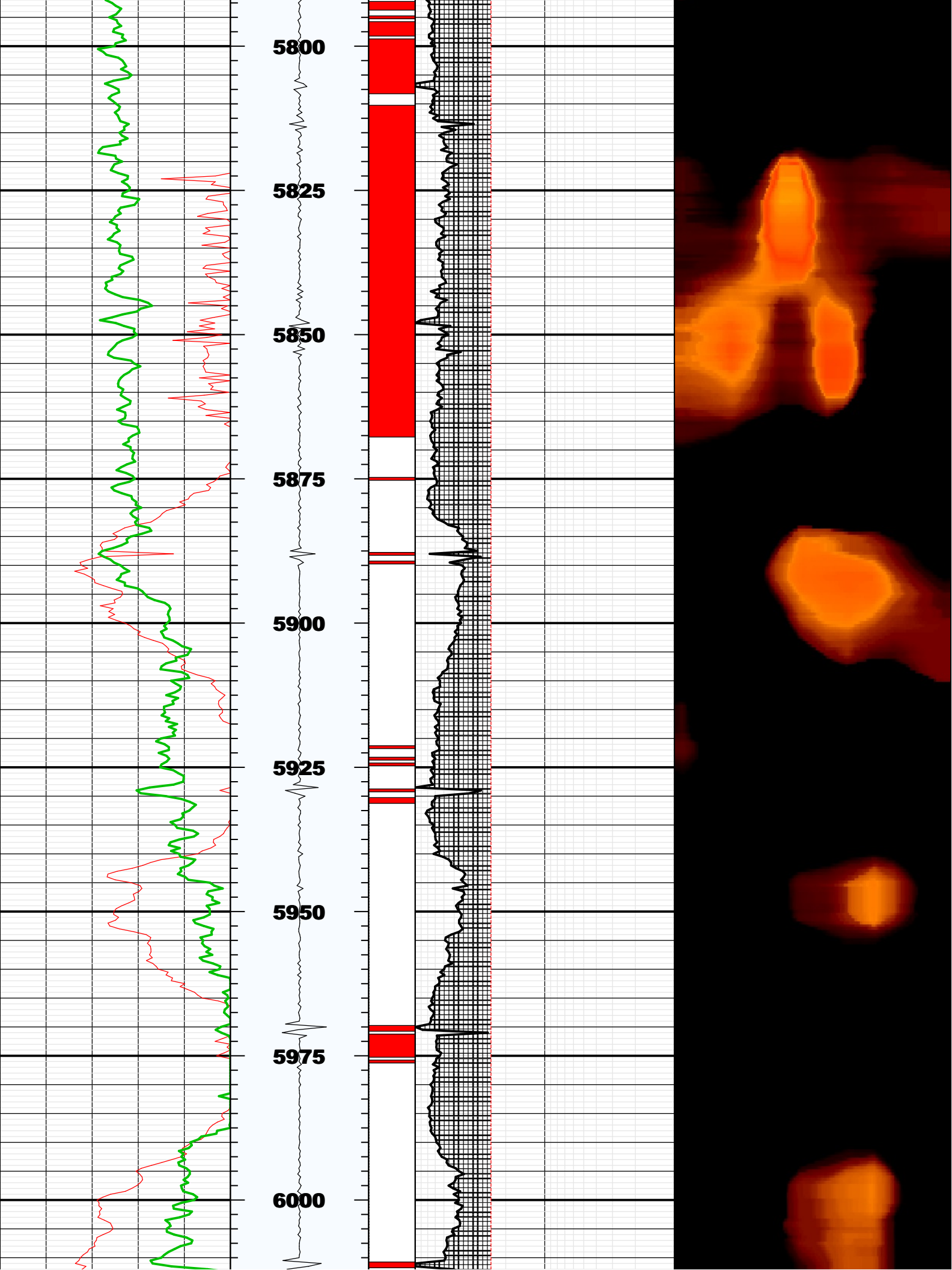
Repeat Pass

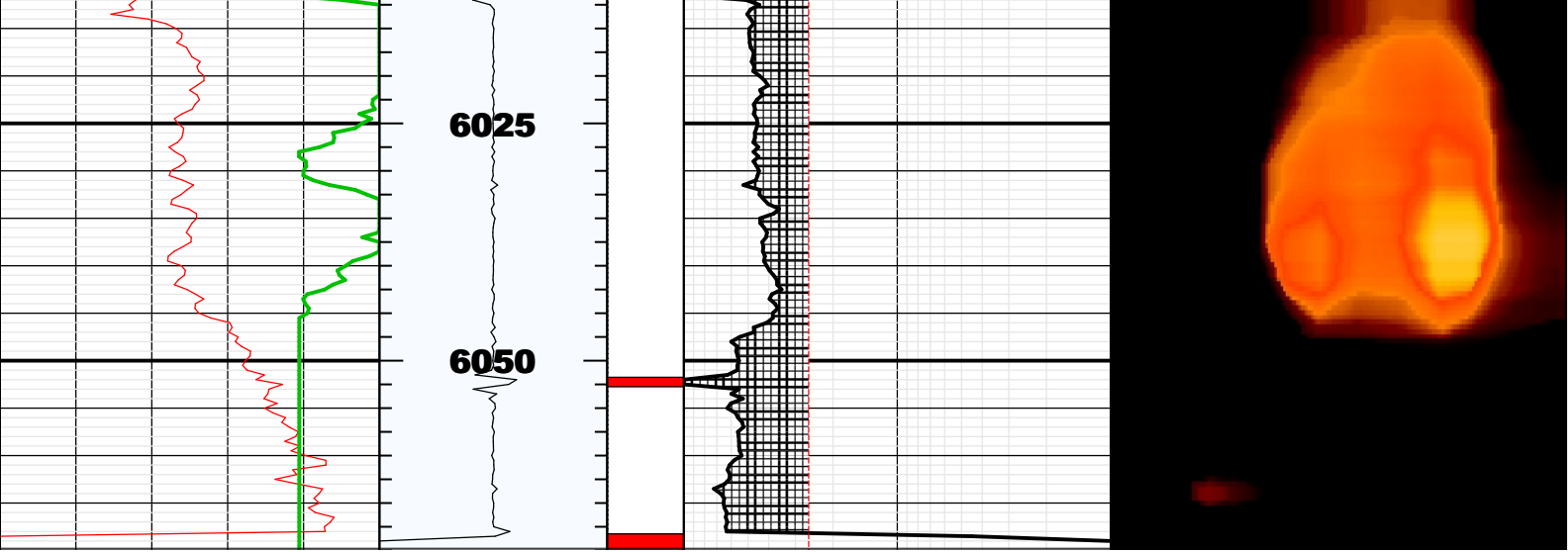
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## Fluid Properties Used for Main Pass

