

Company: Noble Energy Inc

Well: Gradishar State LD11-72-1BHN
Field: Wildcat
County: Weld State: Colorado

County: Weld			
Field: Wildcat			
Location: SESE Sec.2 T9N R58W			
Well: Gradishar State LD11-72-1BHN			
Company: Noble Energy Inc			
USI-LITE (2500 psi)			
Permanent Datum: Log Measured From: Drilling Measured From:		GL KB KB	Elev: K.B. 4685.0 F G.L. 4661.0 F D.F. 4684.0 F
Logging Date	27-Jan-2015	API Serial No. 05-123-39812	Section 2
Run Number	Run 1	Township 9N	Range 58W
Depth Driller	5868.0 F		
Schlumberger Depth	5868.0 F		
Bottom Log Interval	5692.0 F		
Top Log Interval	15.0 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	1208.0 F		
To	5868.0 F		
Casing Size	7.00 IN		
Weight	26.00 LB/F		
Grade	P110		
From	0.0 F		
To	5863.0 F		
Max Recorded Temp	211.0		
Logger on bottom (date)	27-Jan-2015		
Location	Fl. Morgan CO		
Recorded By	Aleksei Bekhterev		
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: 1109 Calibration Date: Calibrator Serial Number: Number Of Calibration Points: Calibration RMS: Calibration Peak Error:	Serial Number: Length: 14500.00000

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

Repeat pass logged with 0 psi, Main pass is done under 2500 psi

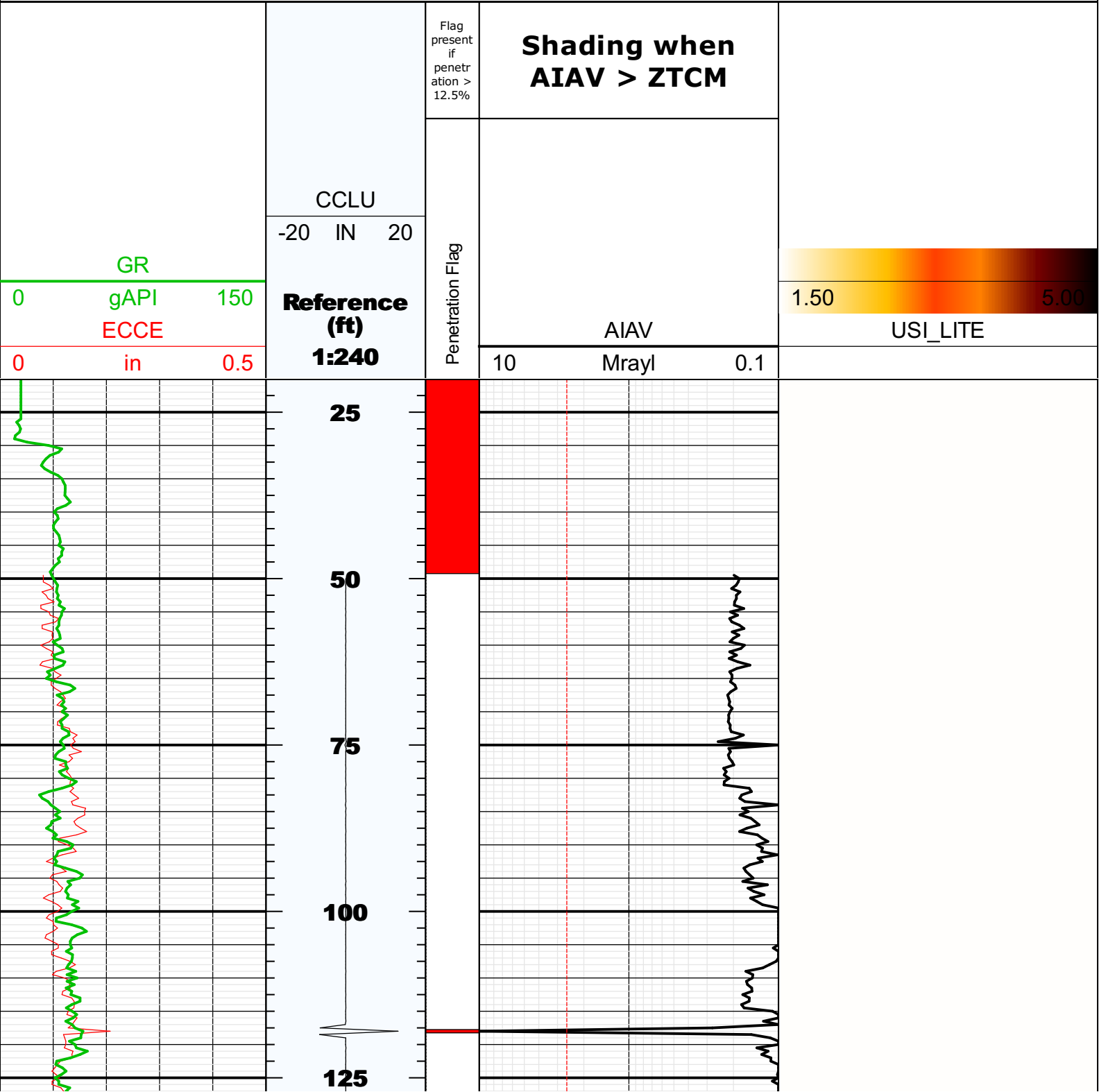
Top of cement seen at 1760'.

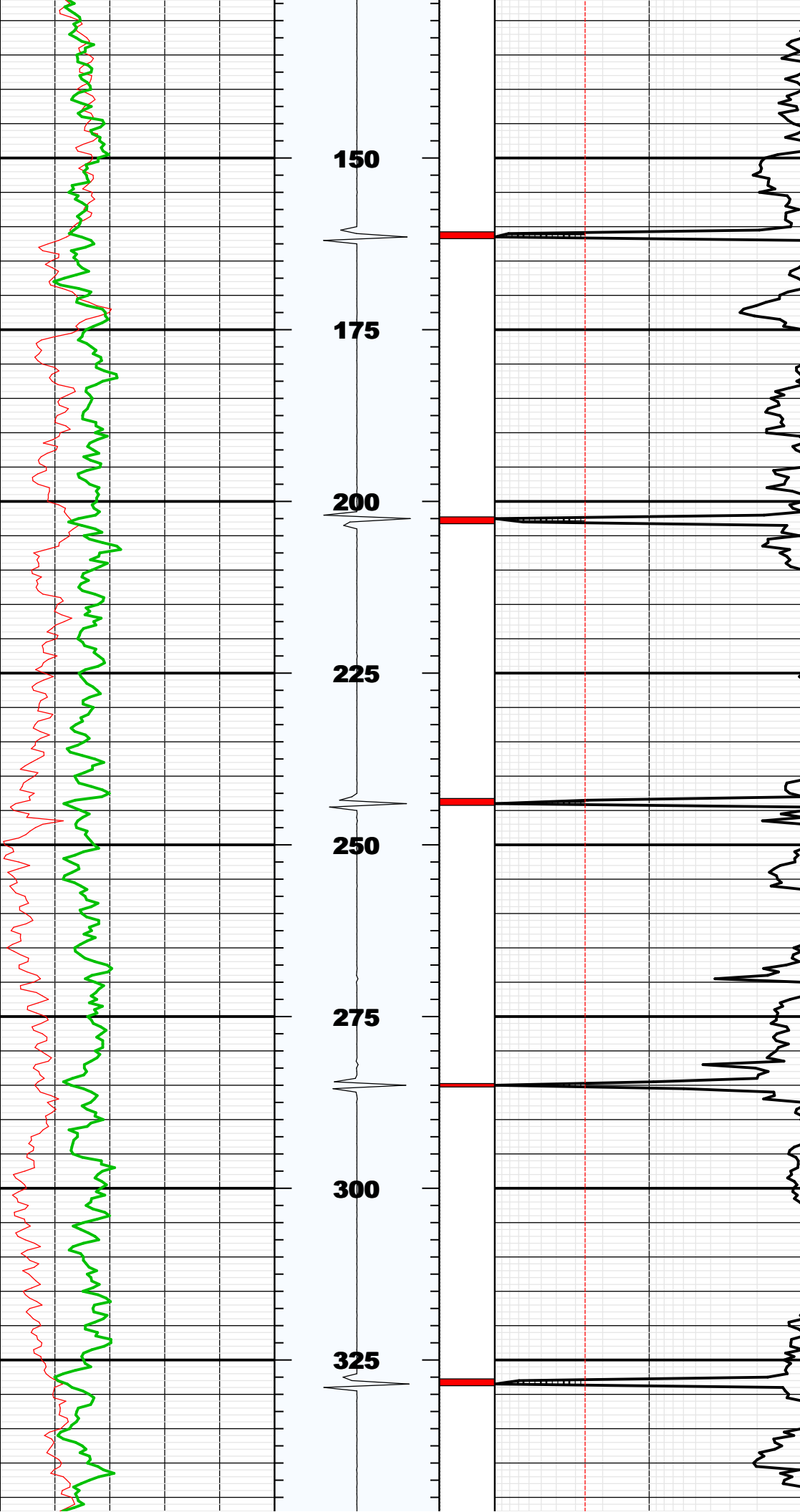
Log started 30 ft above top of the liner (5692 ft)

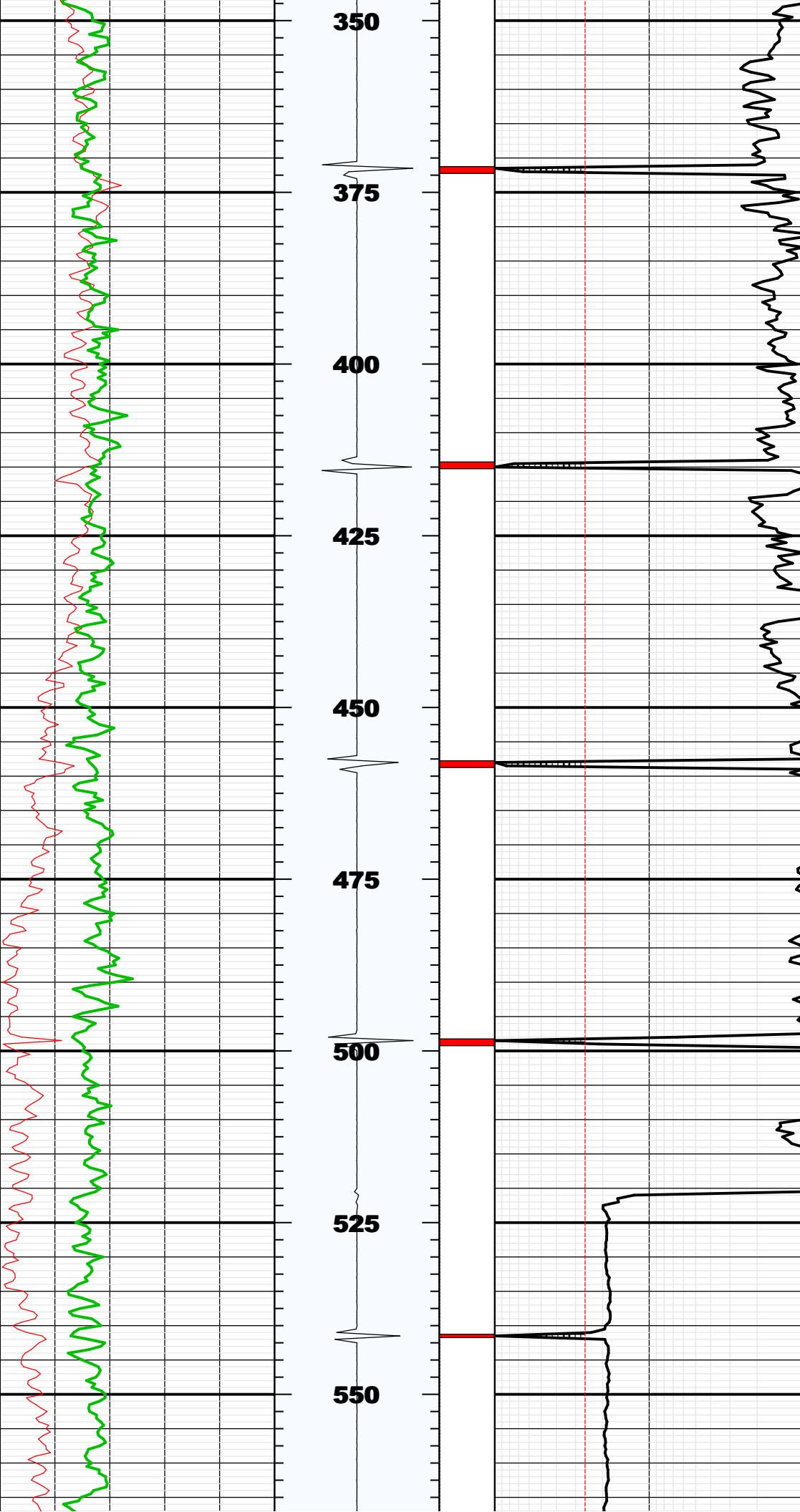
Temperature was 211 degF measured at depth.

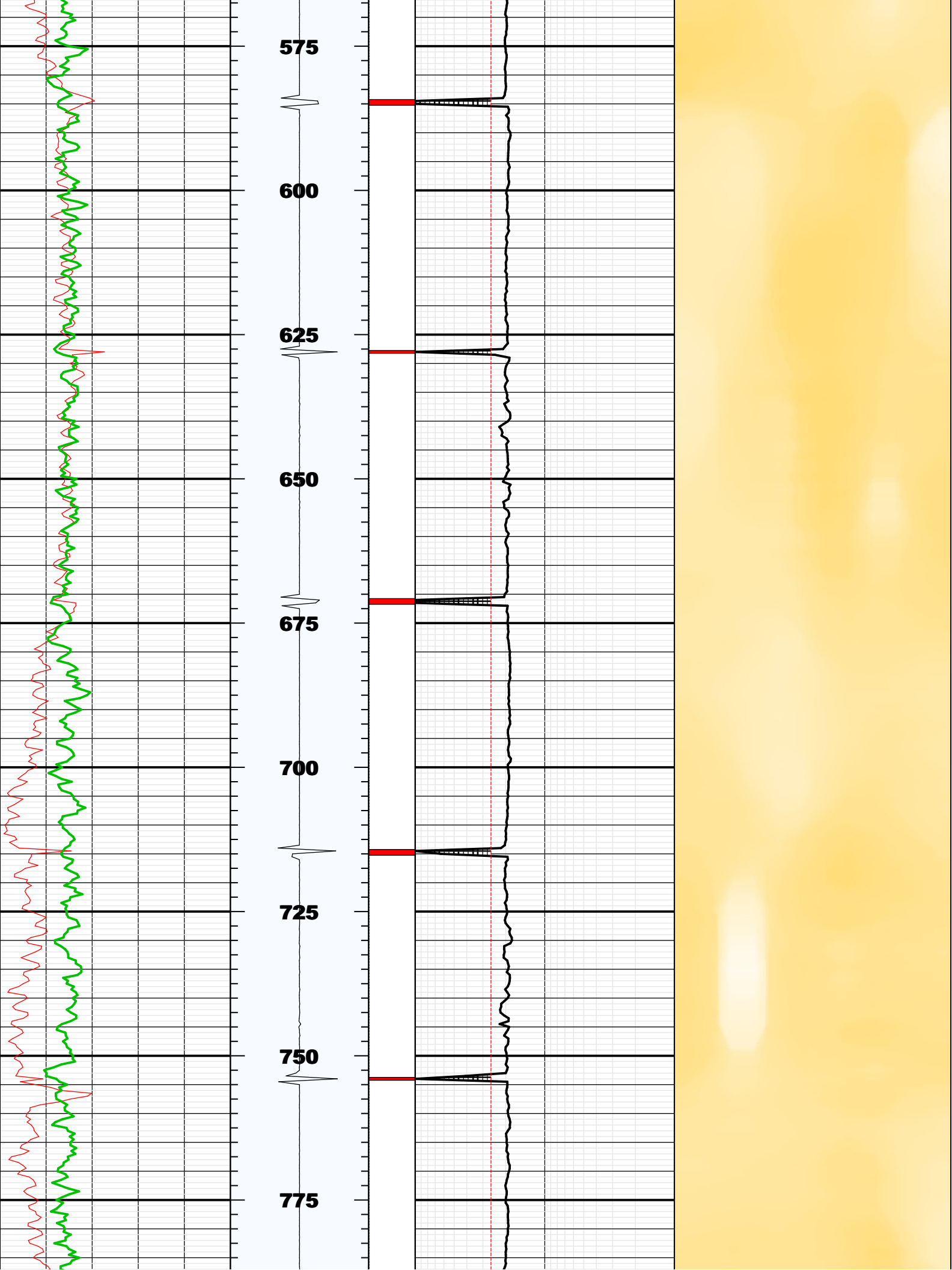
Main Pass

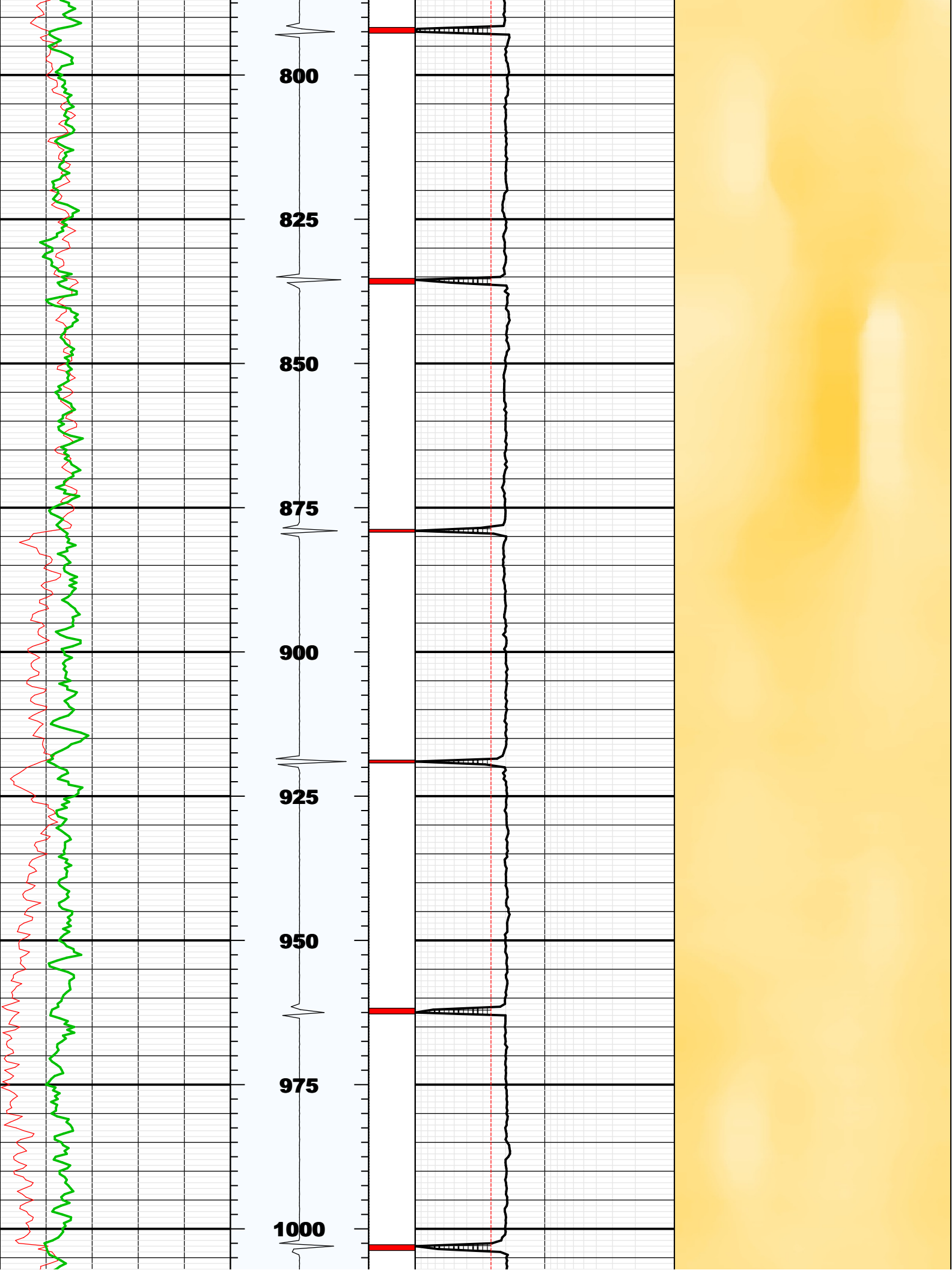
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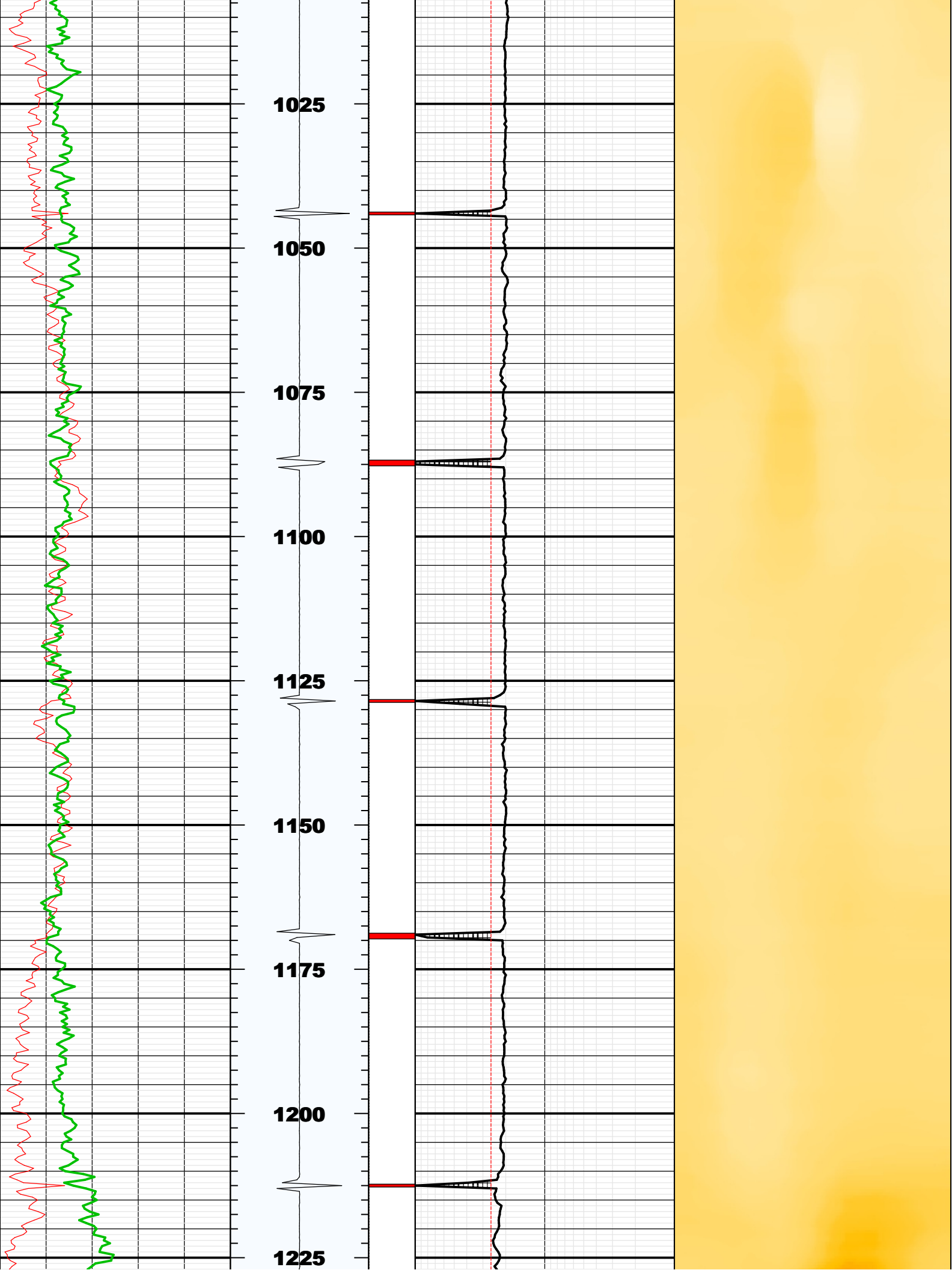


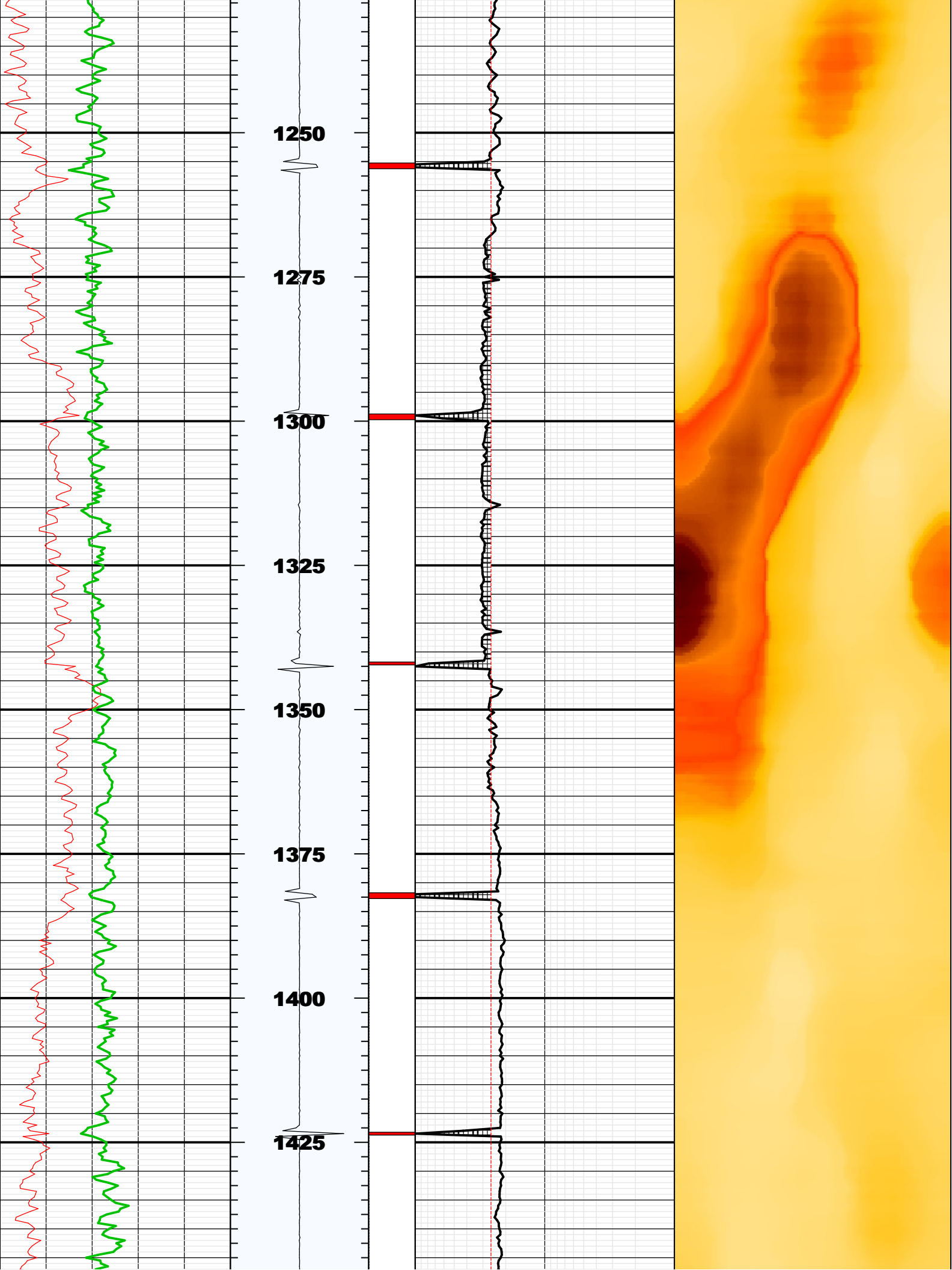


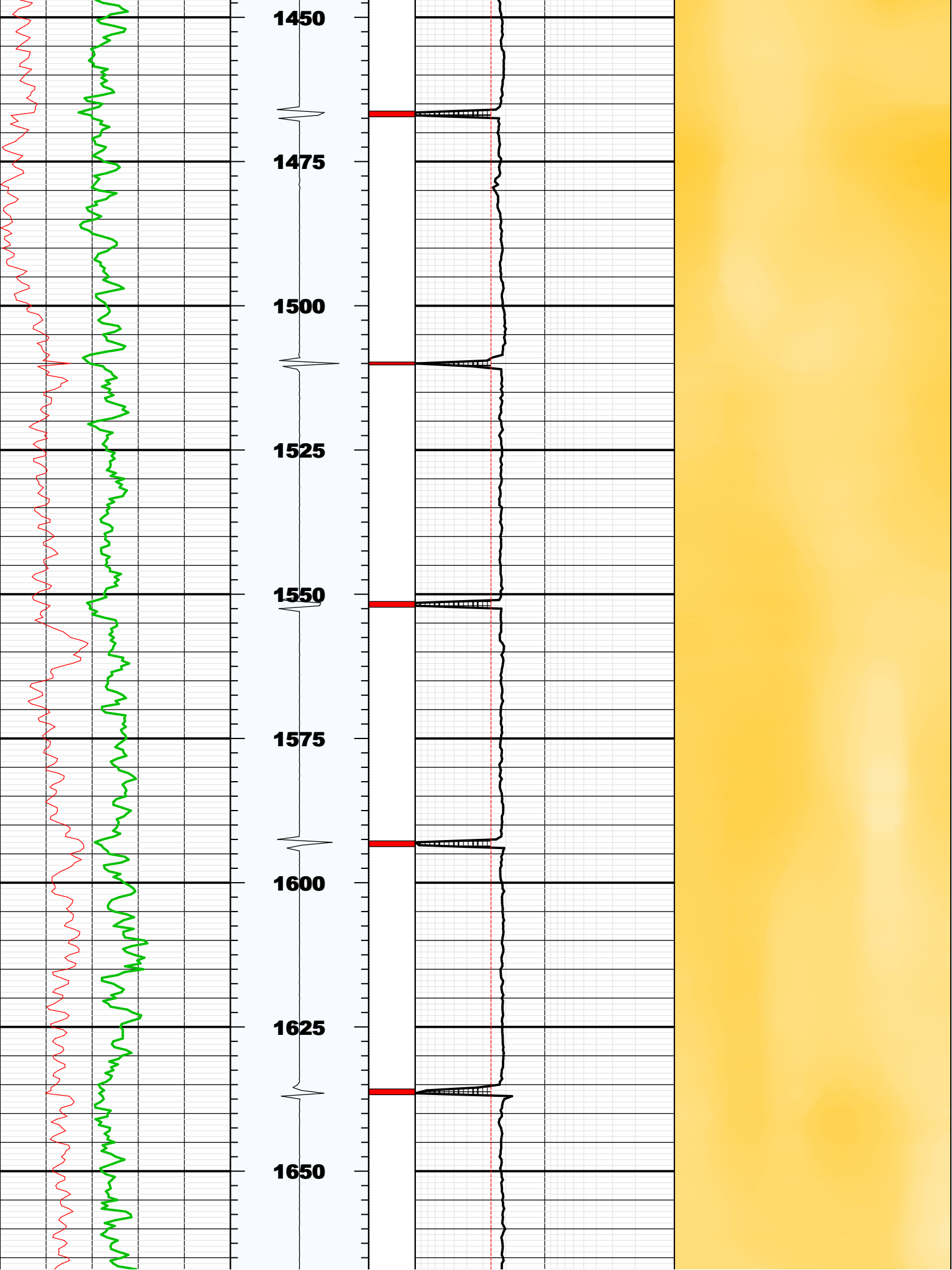


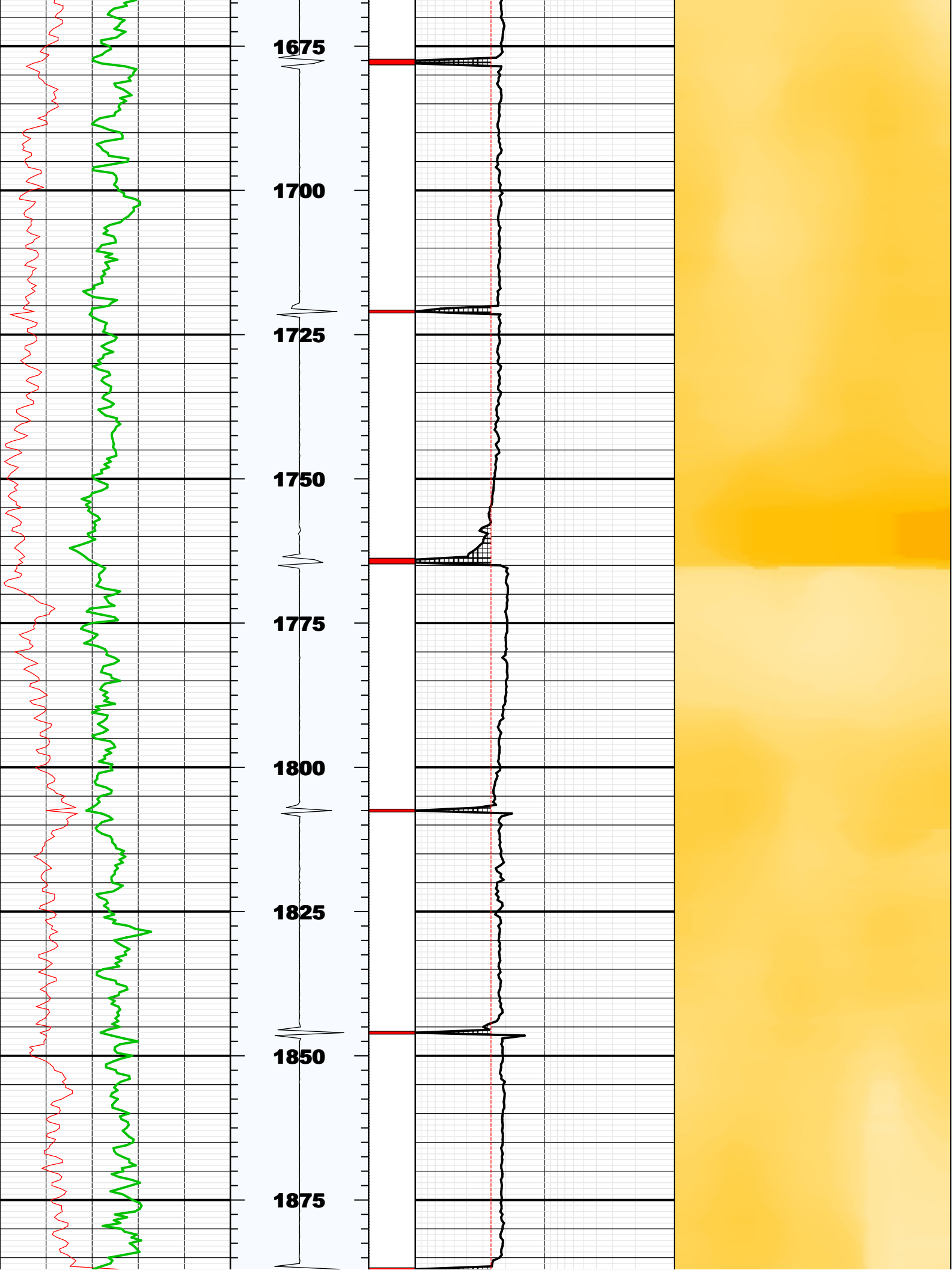


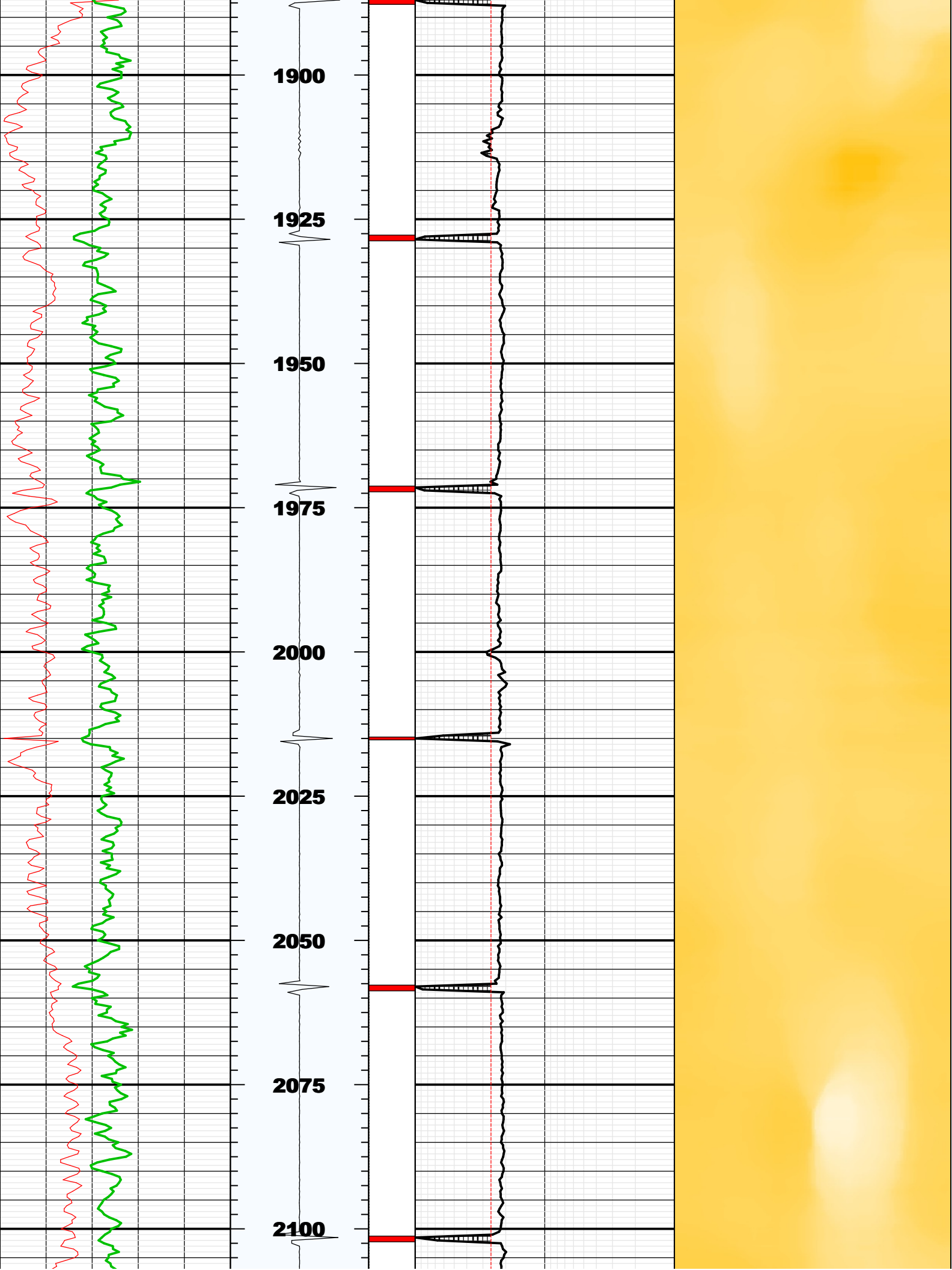


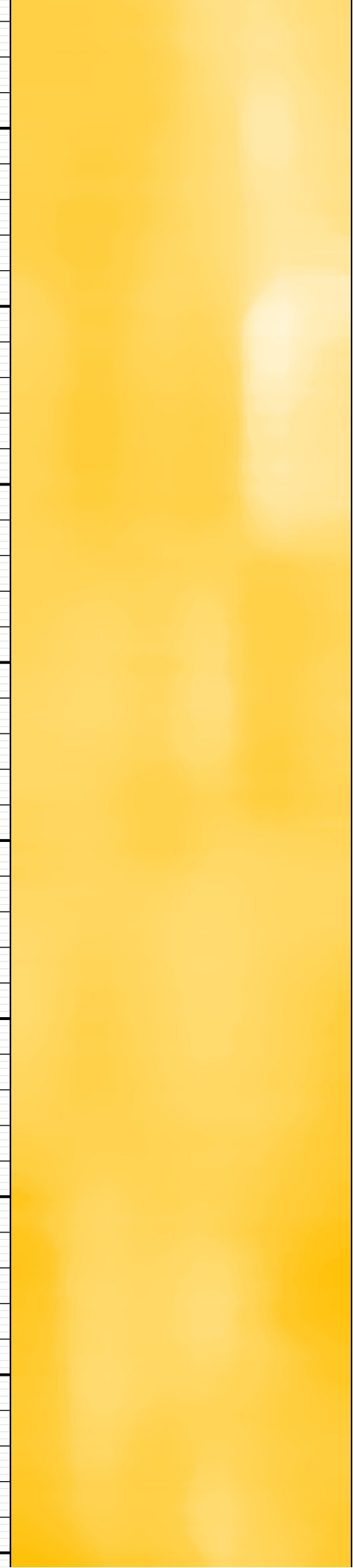
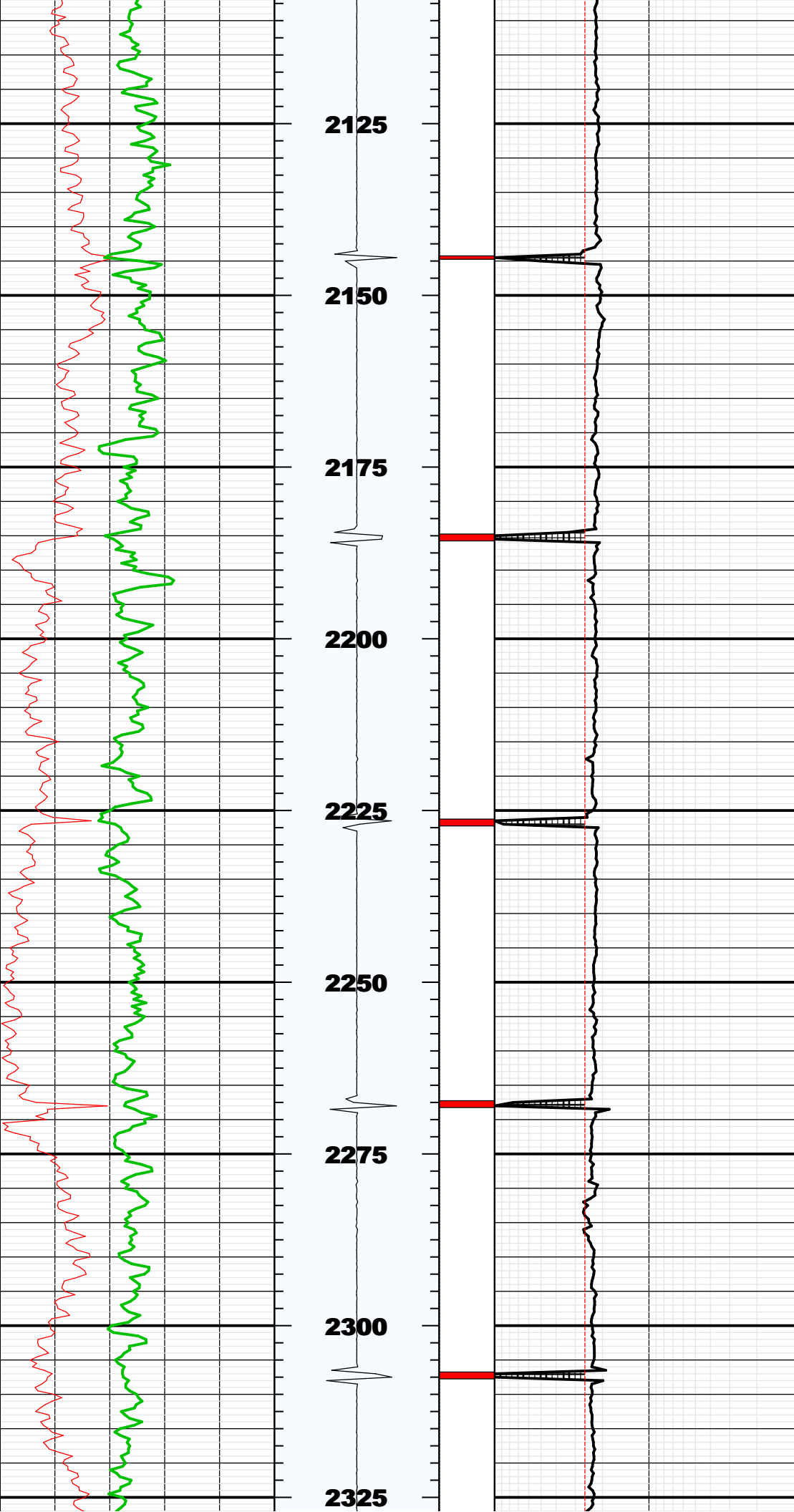


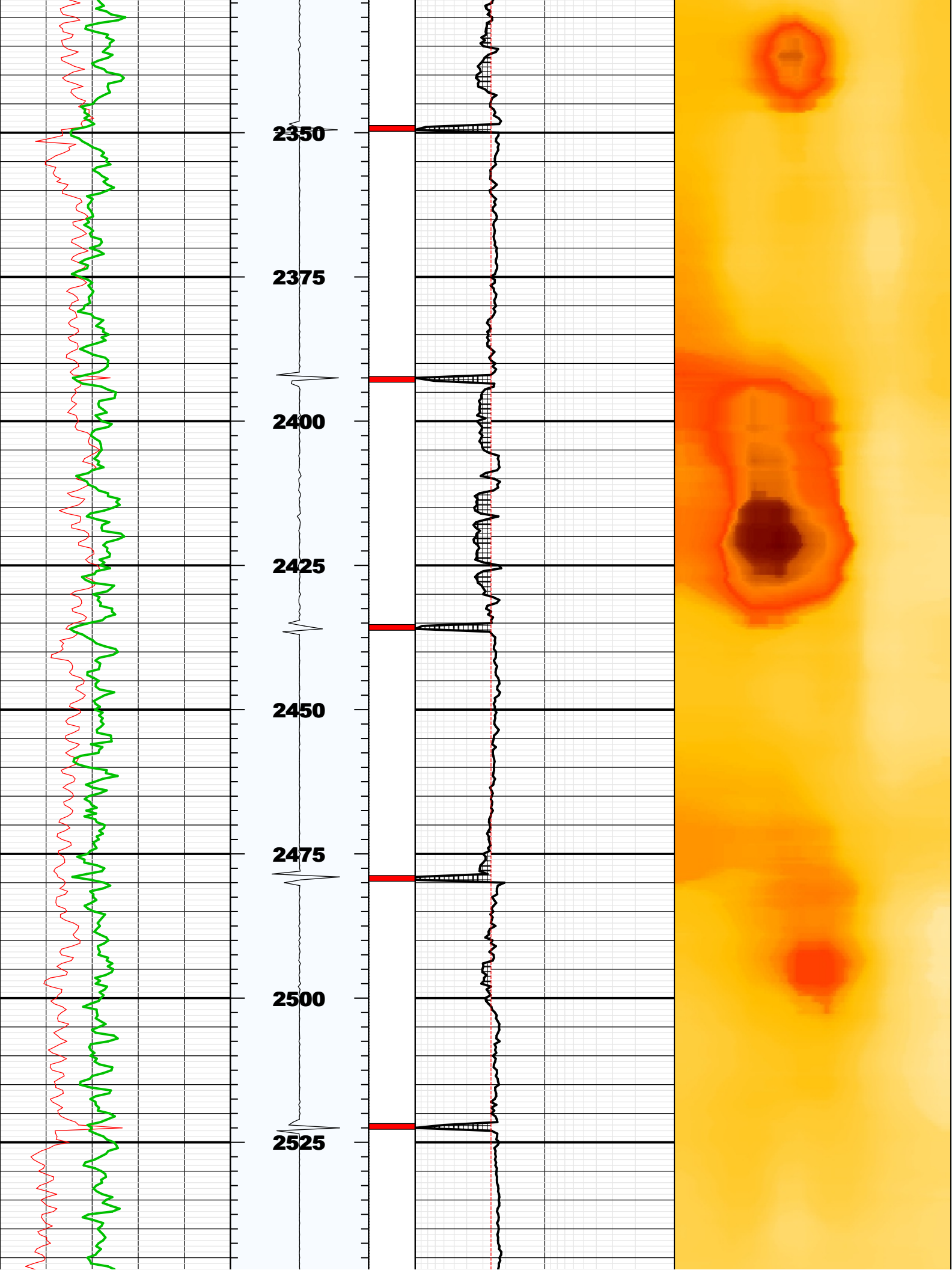


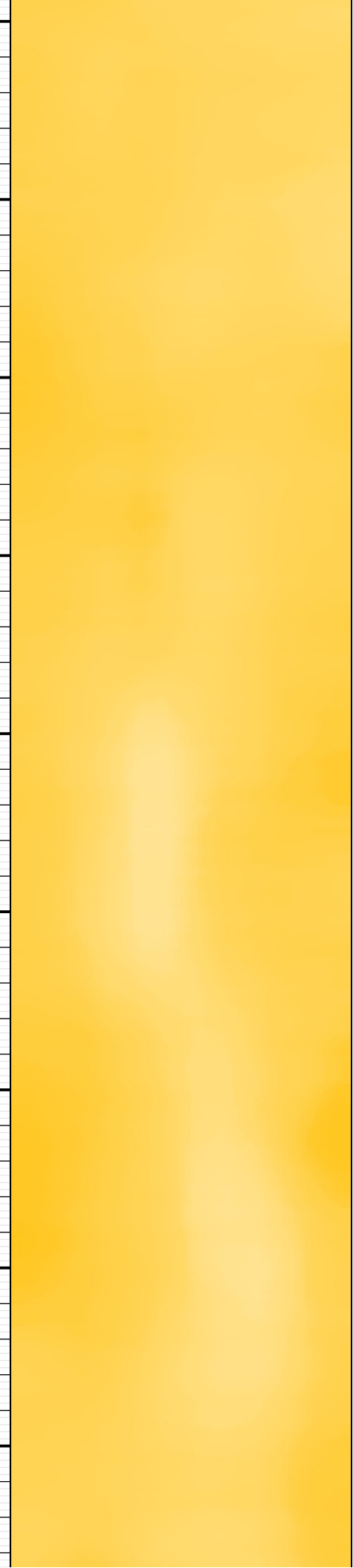
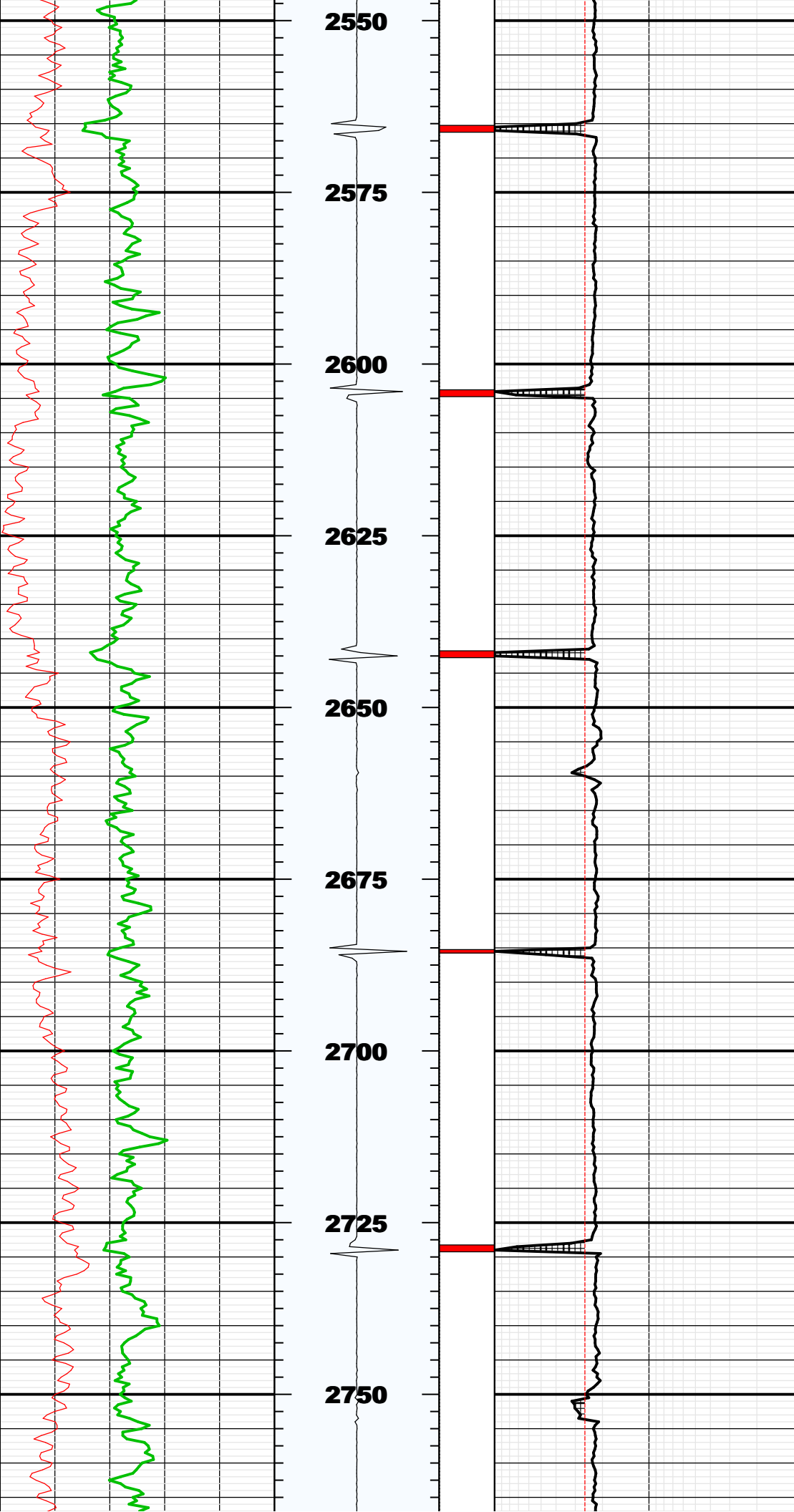


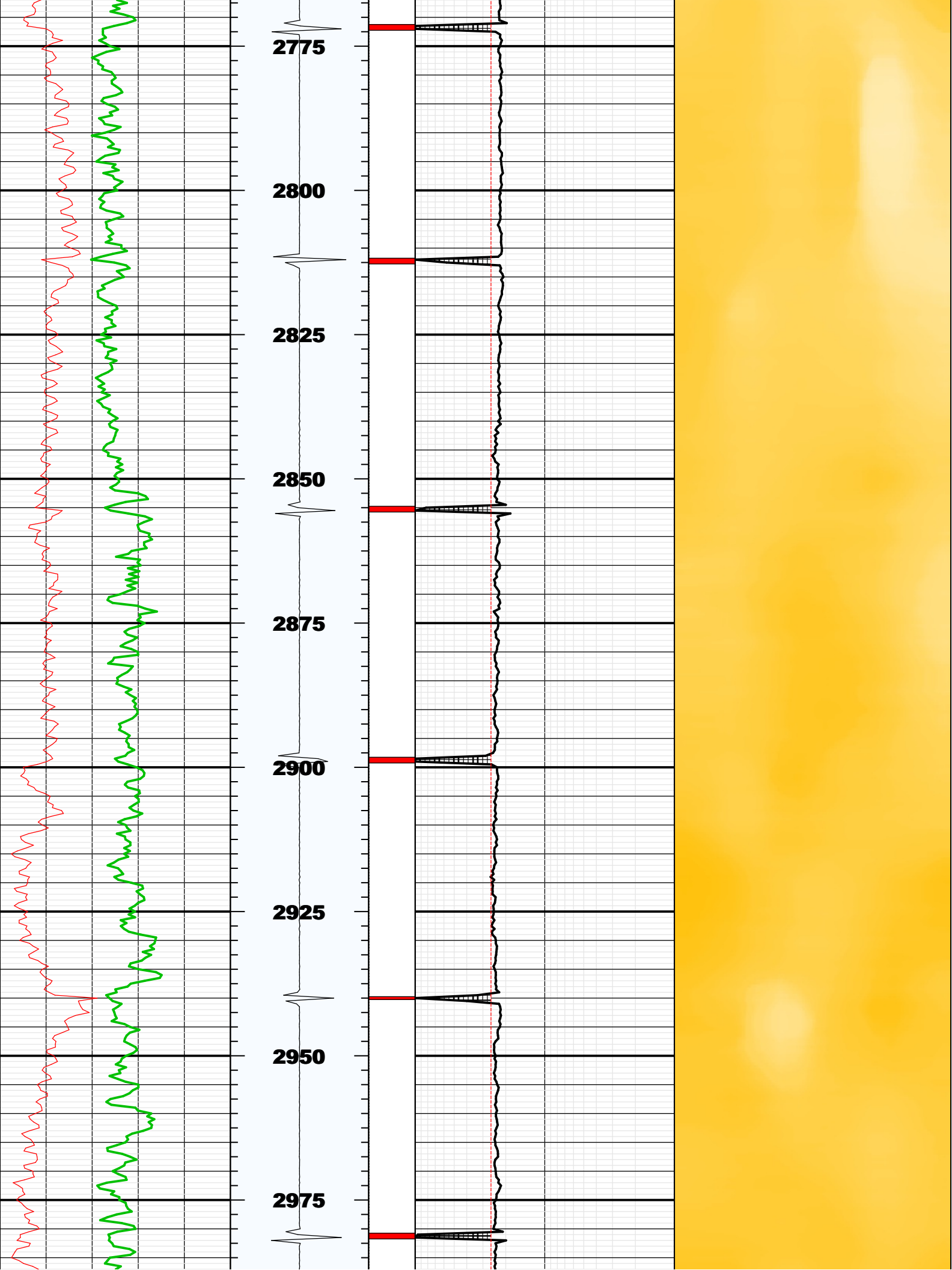


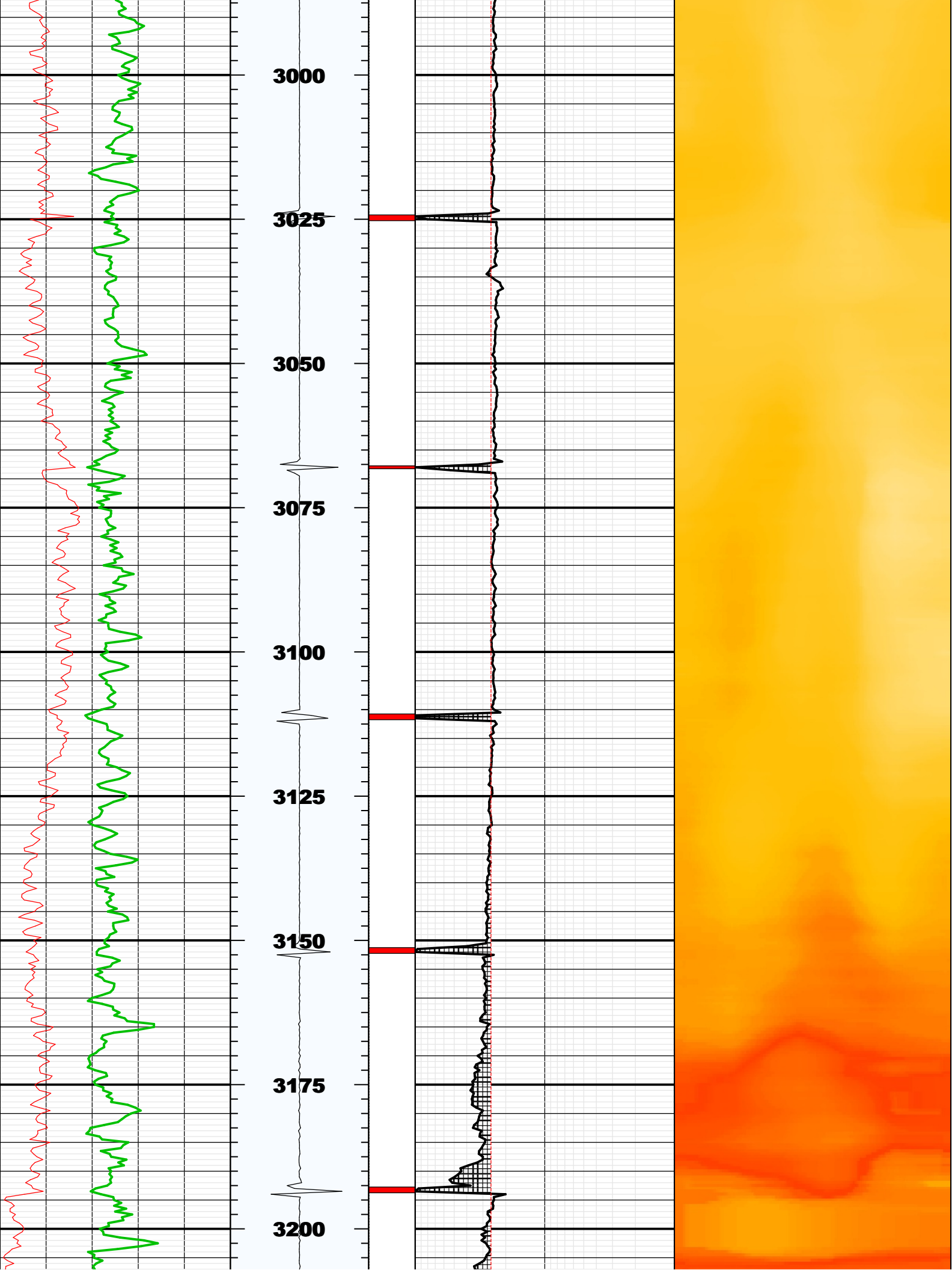


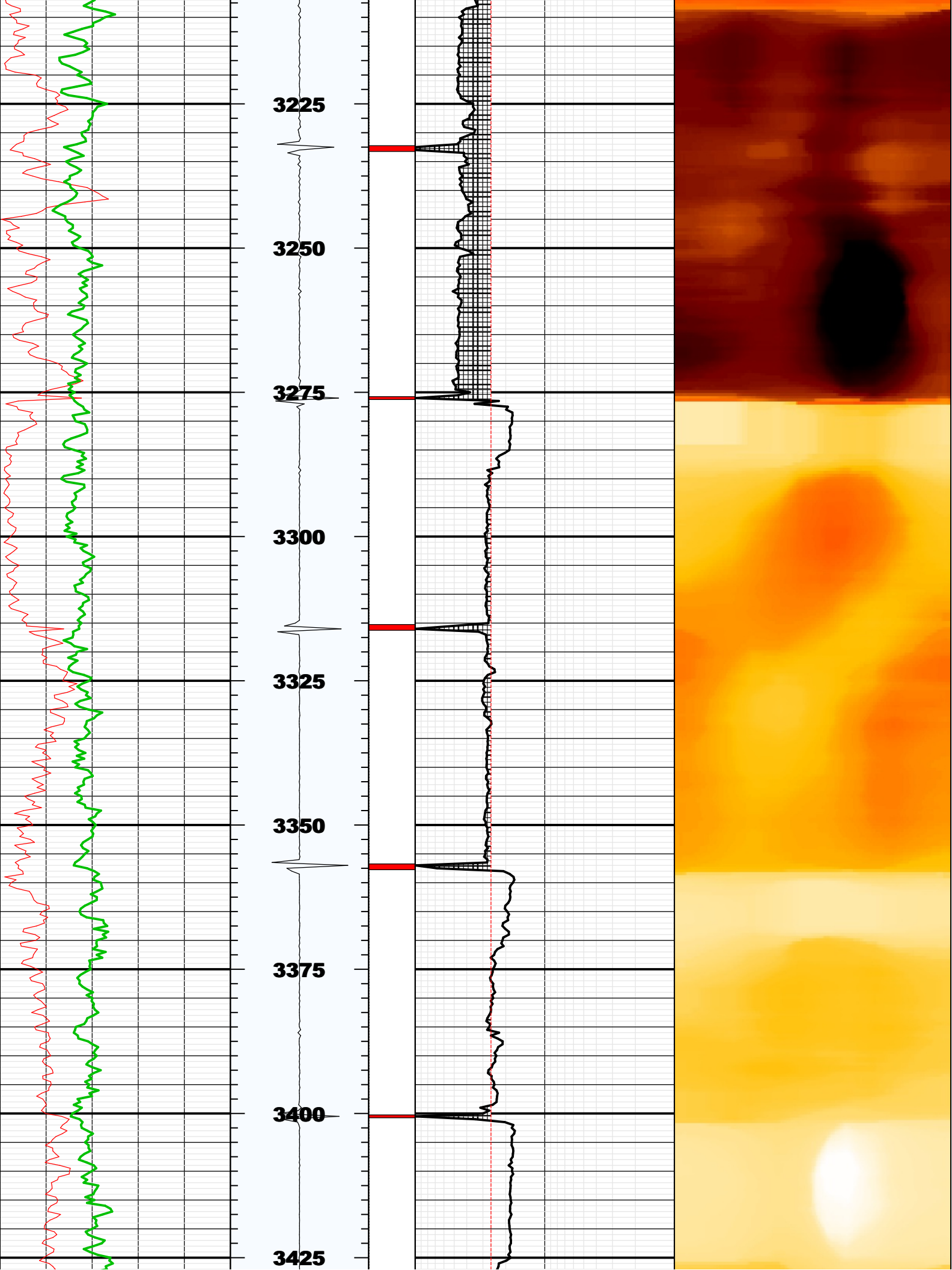


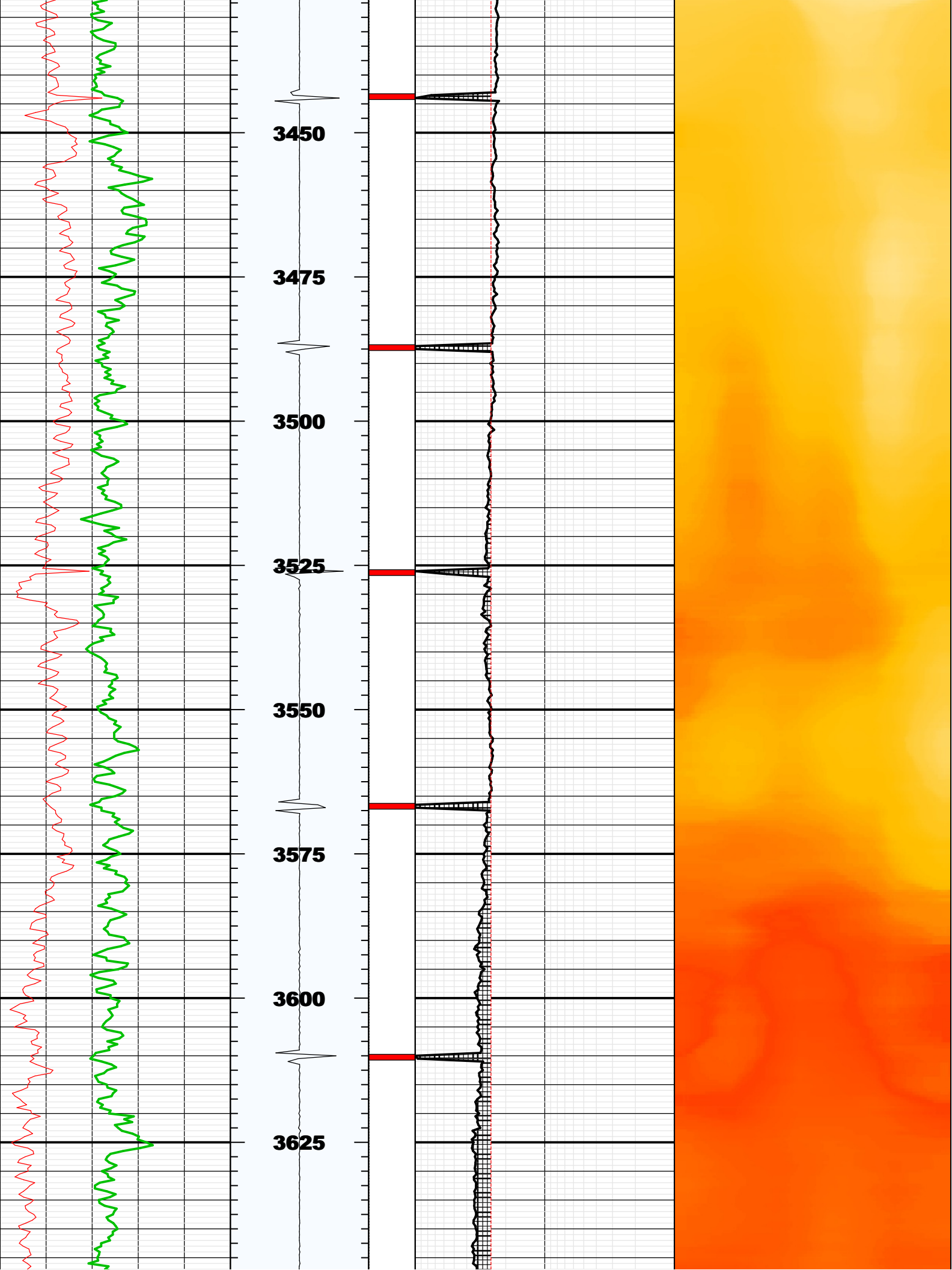


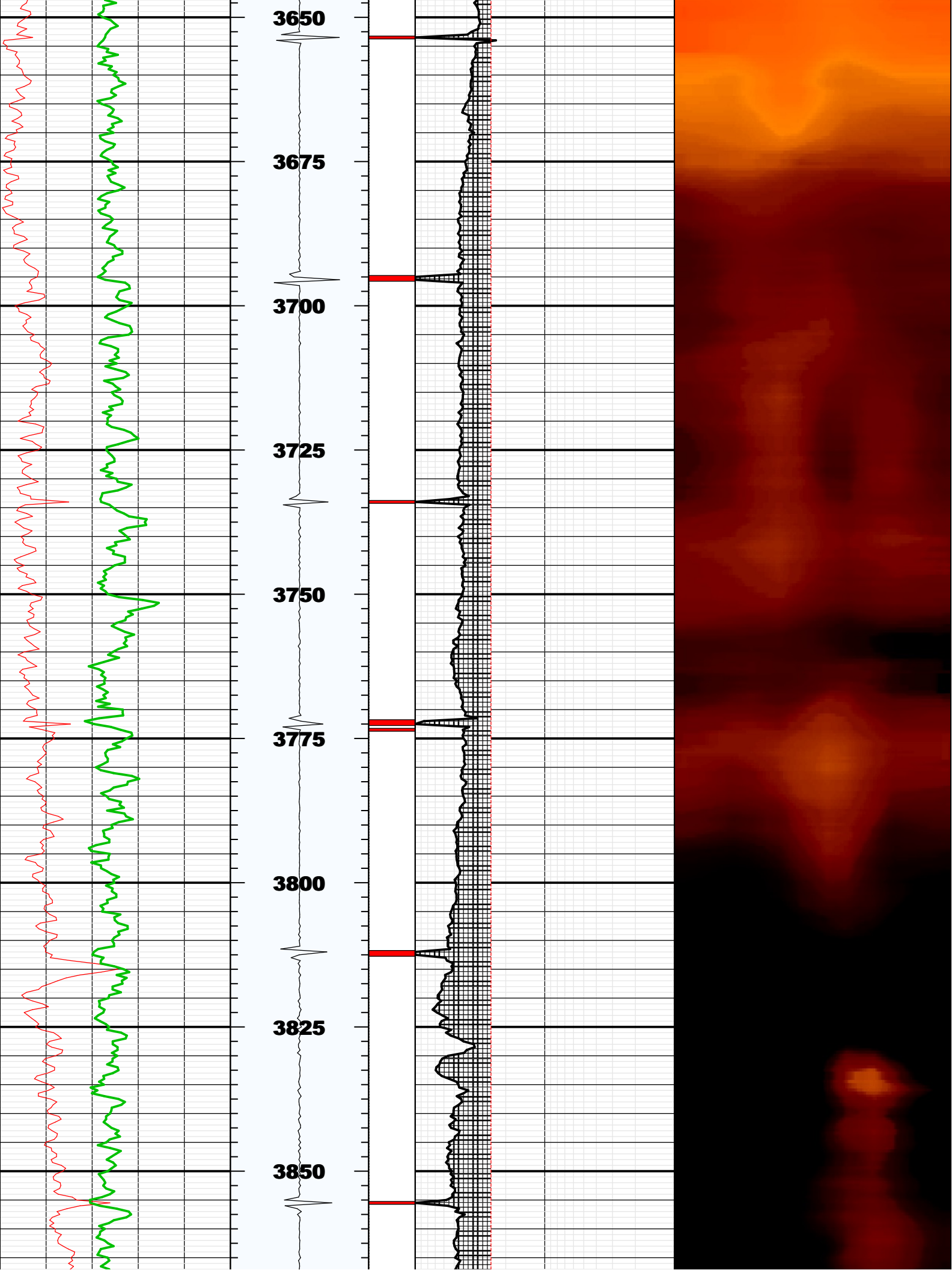


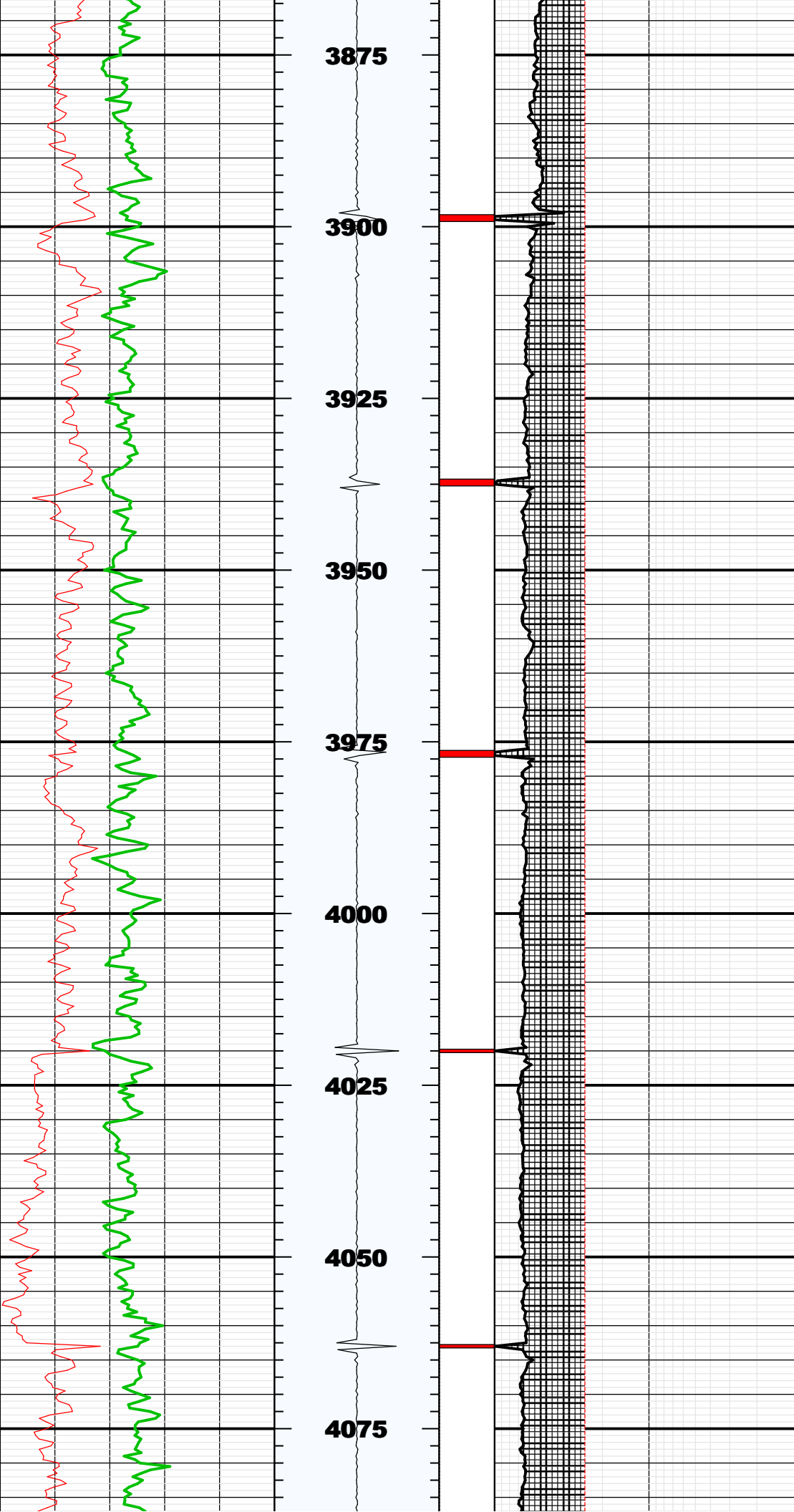


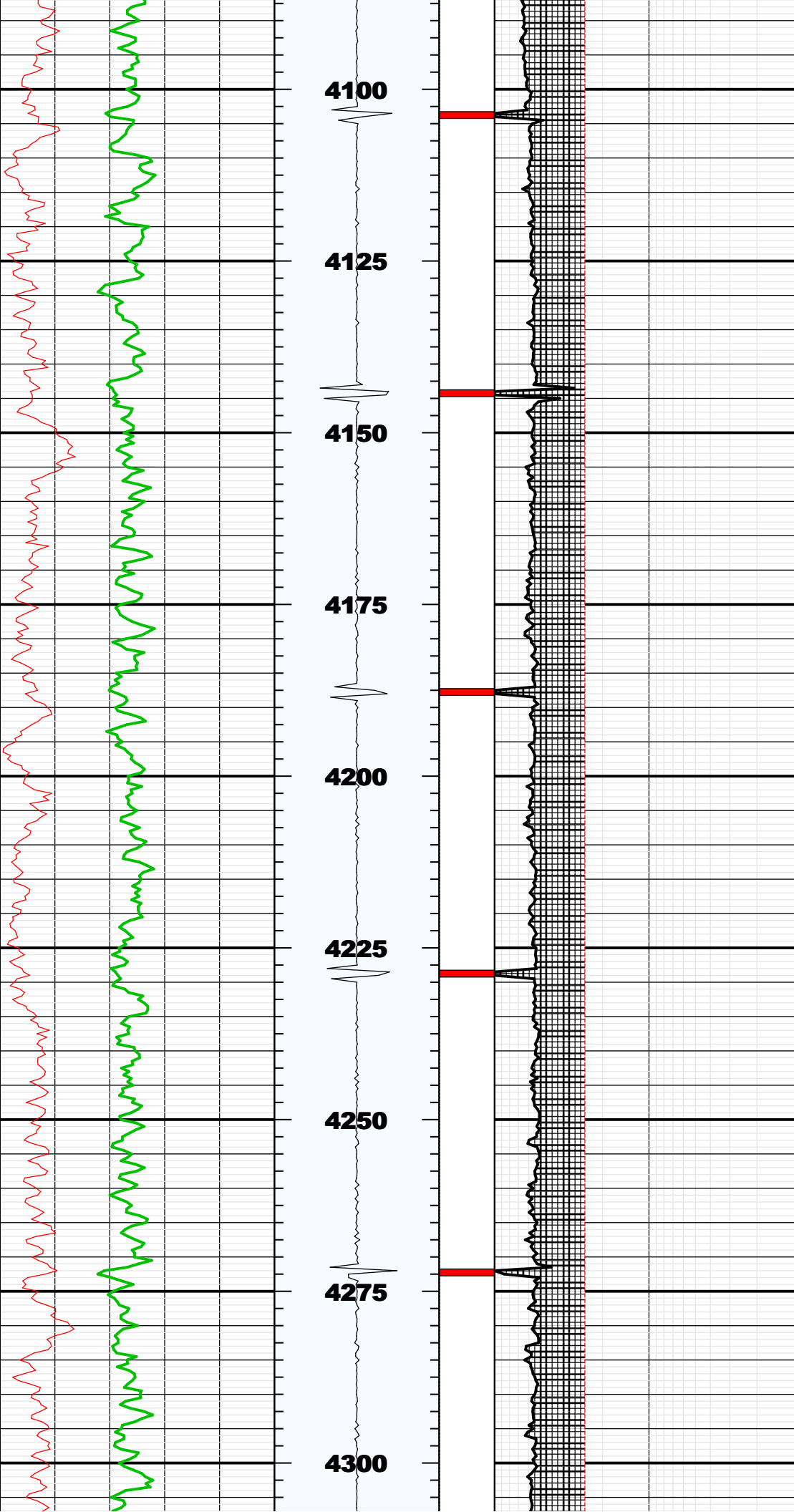


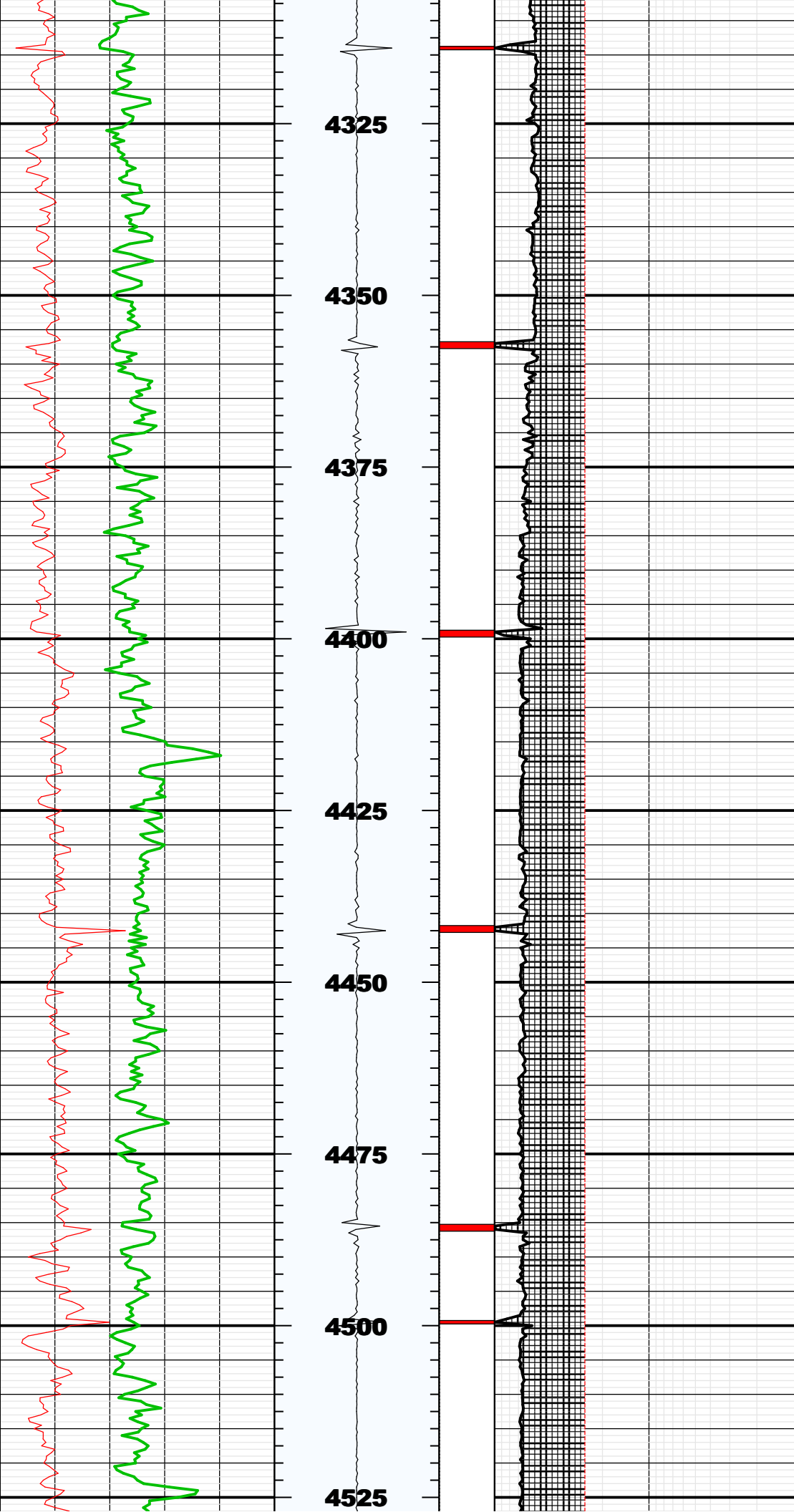


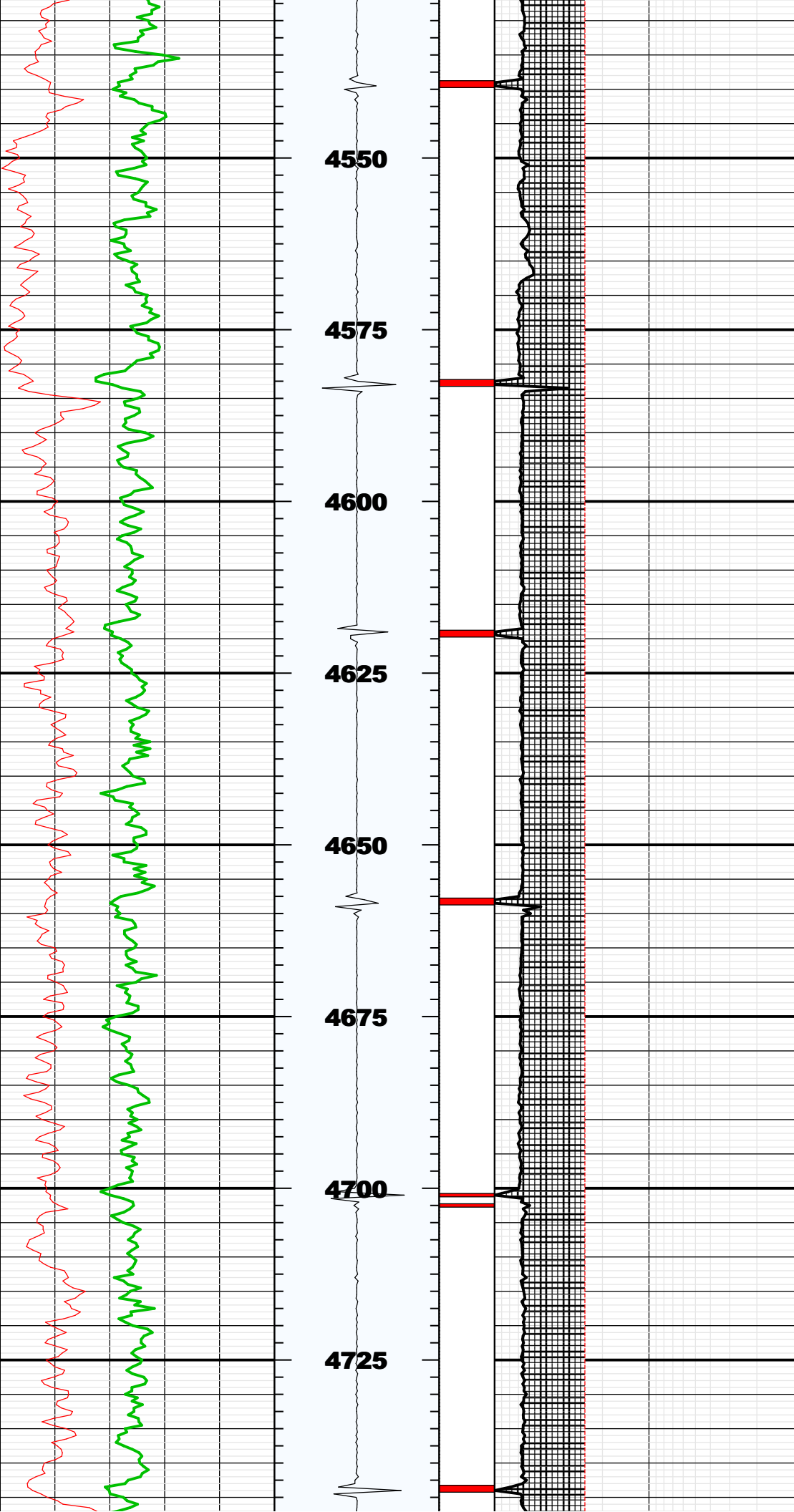


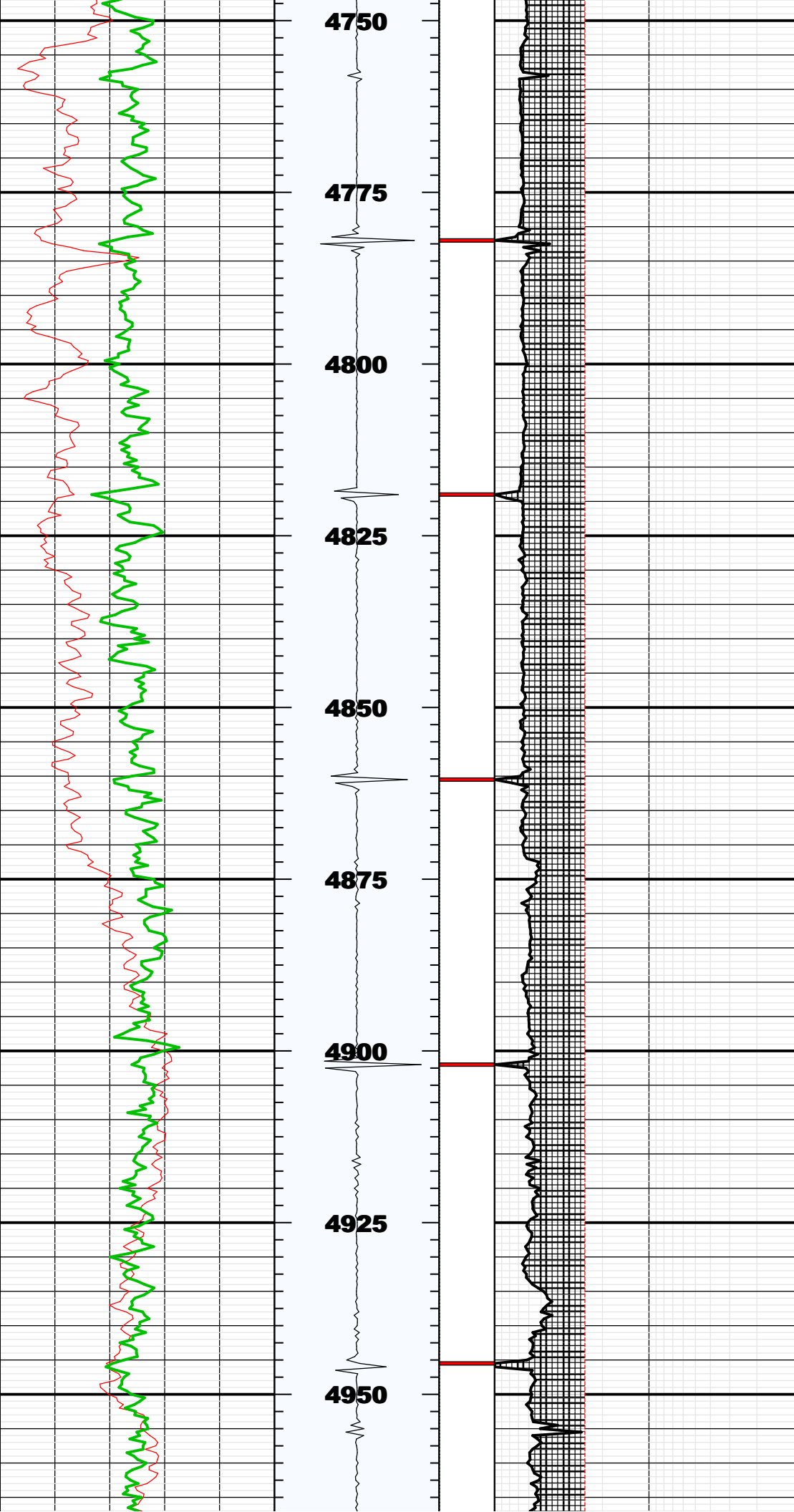


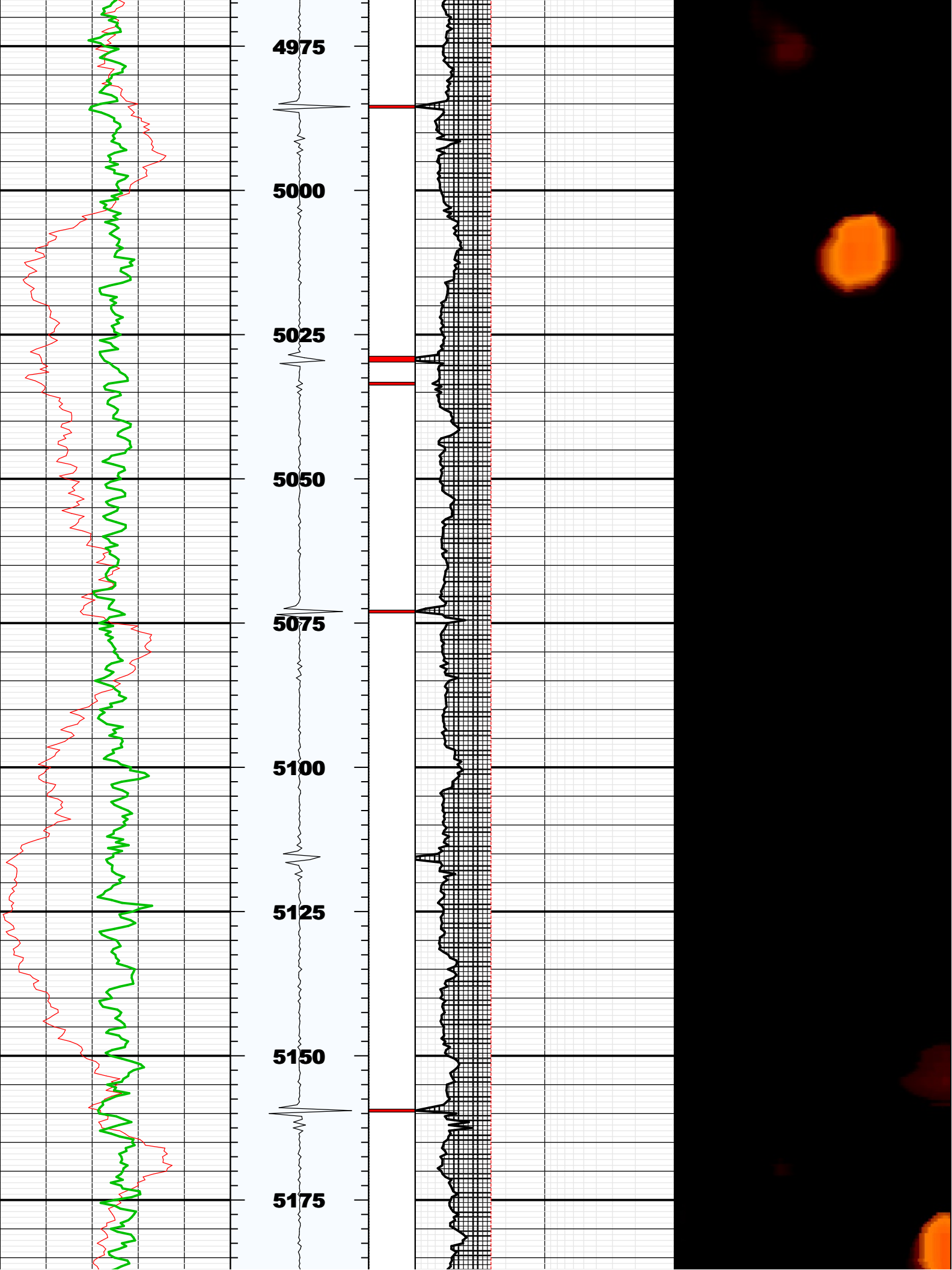


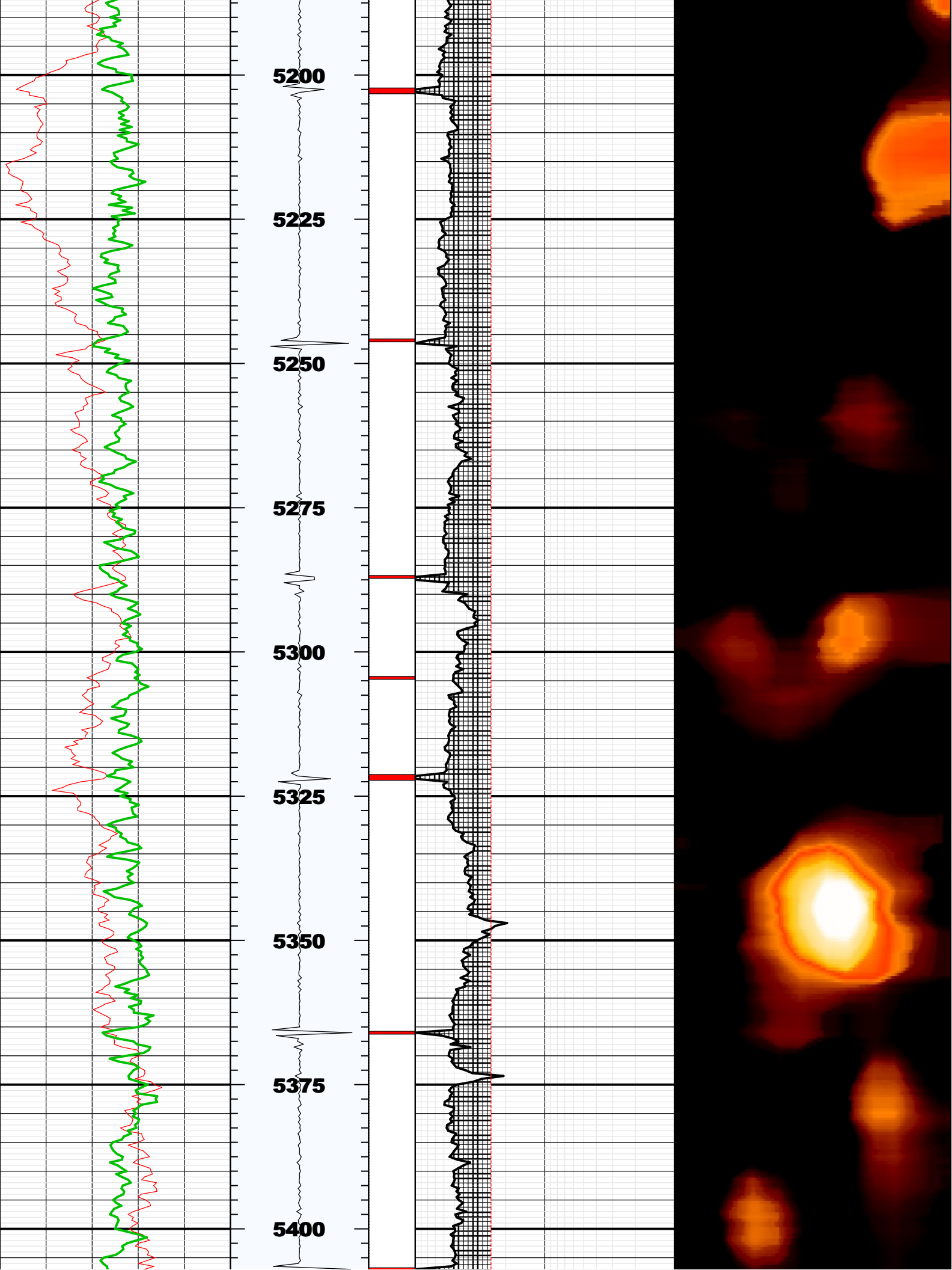


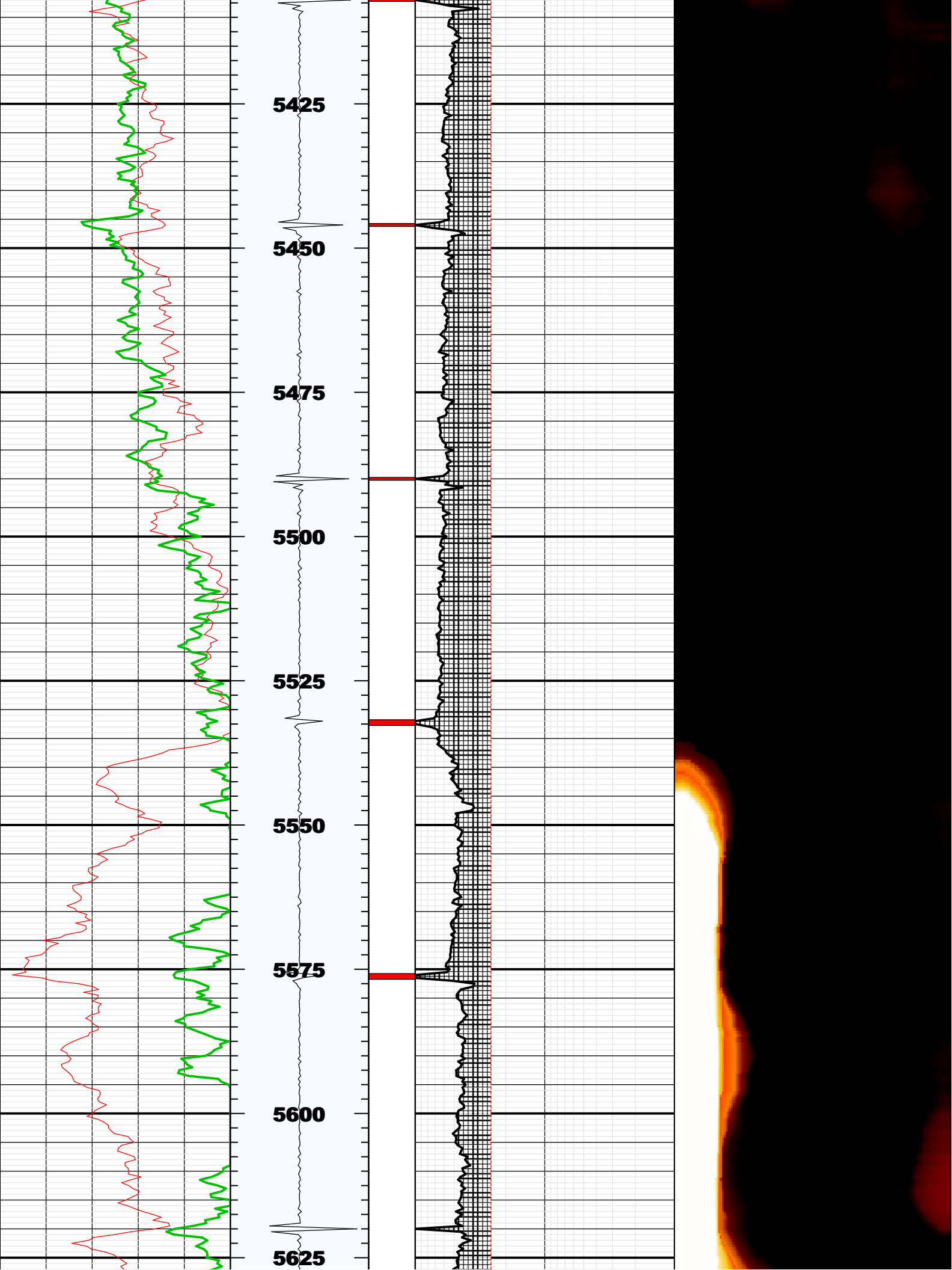


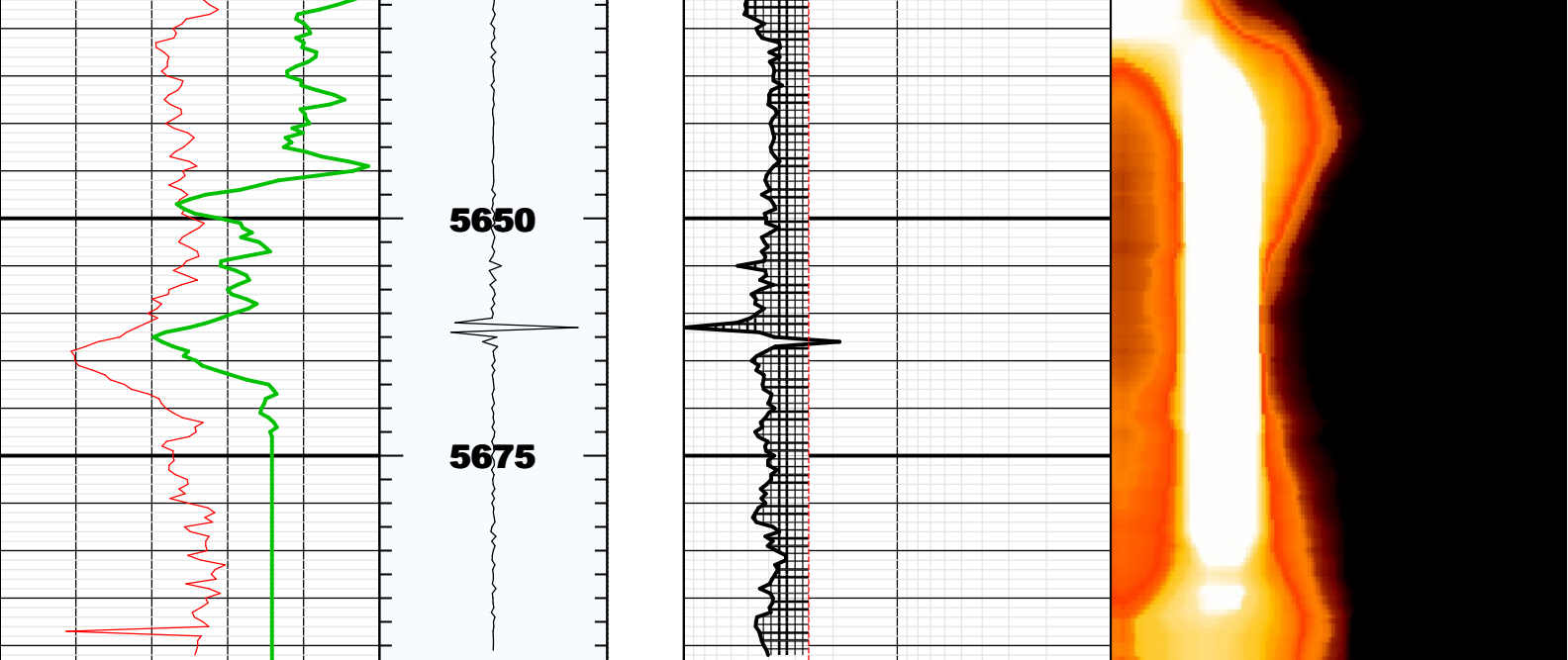








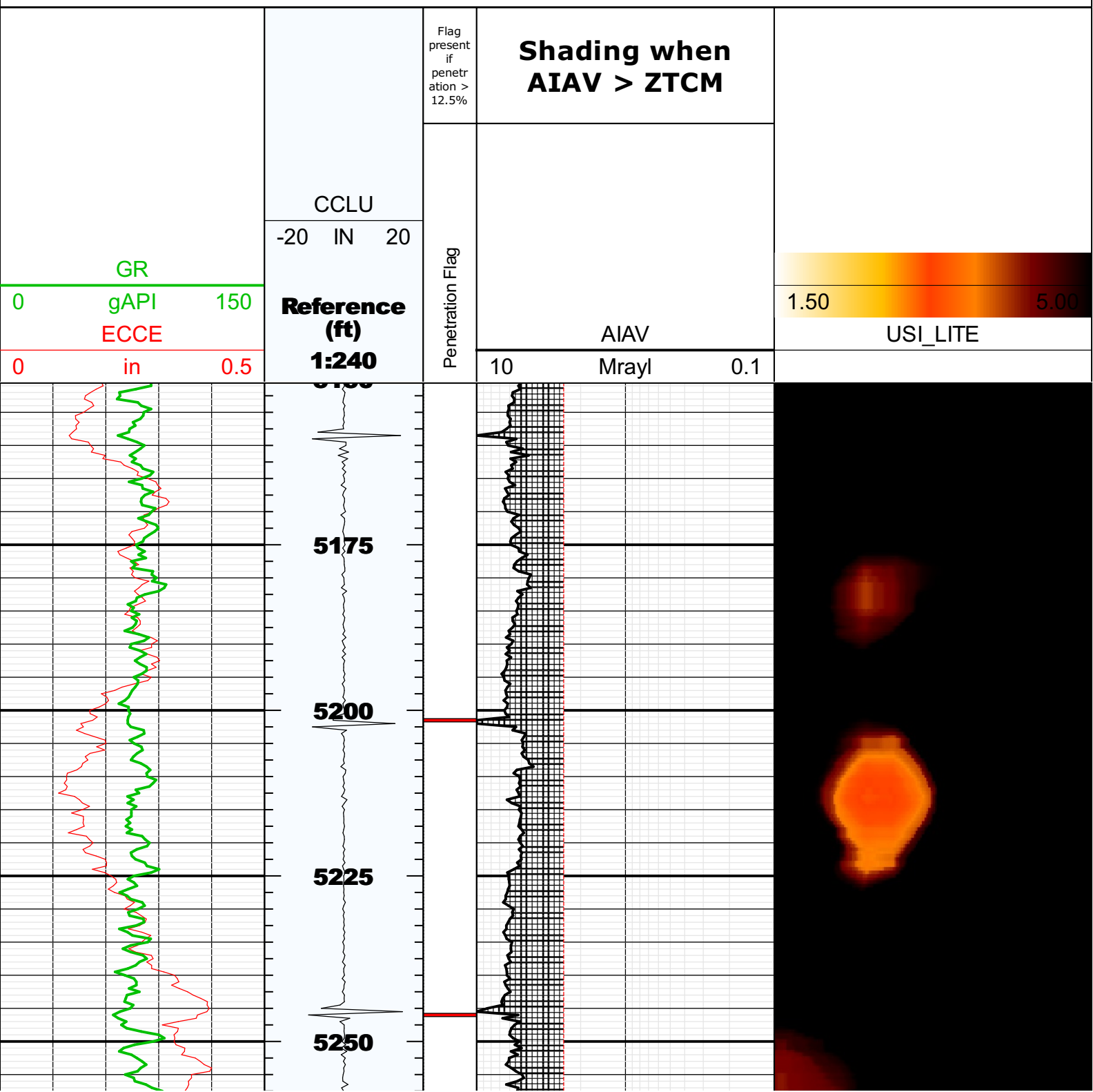


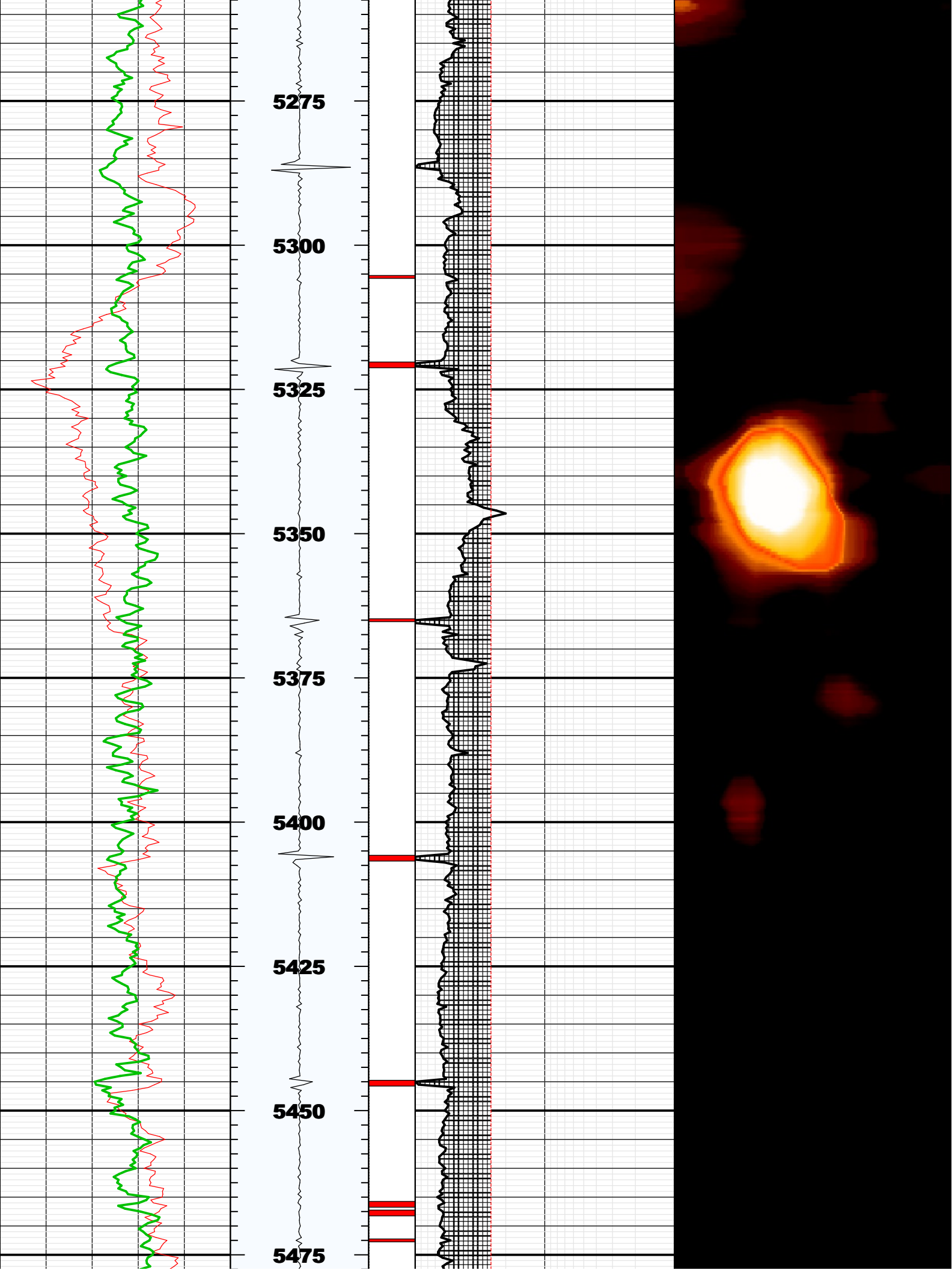


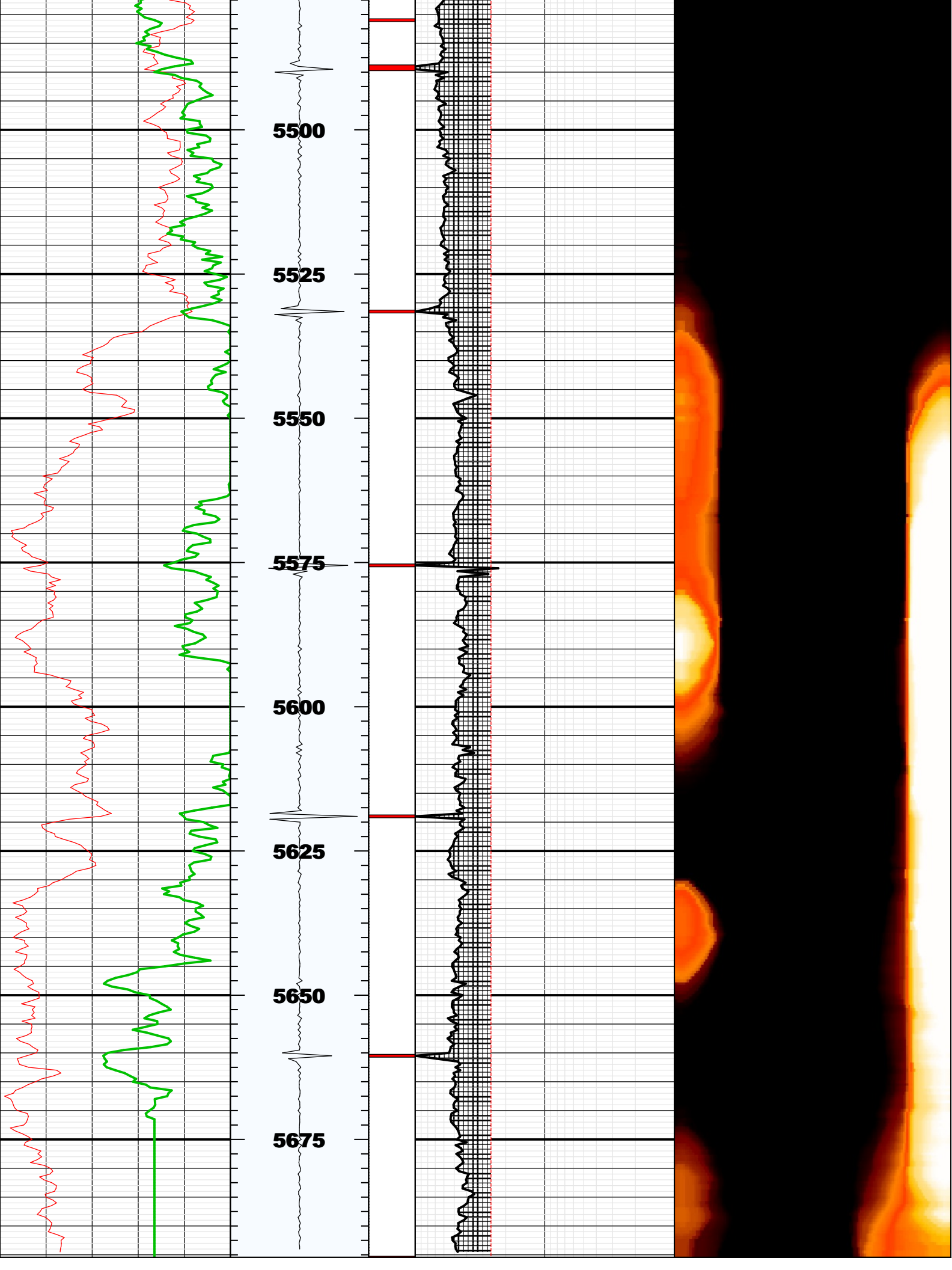
BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID	6.27600	IN	Casing Inner Diameter
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	206.00000	US/F	Default Fluid Velocity
DO			
DOT	2.87400	IN	Diameter of Transducer Sensor
EMXV	35	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	26.69276	US	Window Begin Time
WINE	85.22038	US	Window End Time
ZCAS	46.25000	MRAY	Acoustic Impedance of Casing
ZINI	-1.00000	MRAY	Initial Estimate of Cement Impedance
ZMUD	1.72000	MRAY	Acoustic Impedance of Mud
ZTCM	2.60000	MRAY	Acoustic Impedance Threshold for Cement
ZTGS	0.30000	MRAY	Acoustic Impedance Threshold for Gas
WLEN	20.00000	US	T ³ Processing Length

Repeat Pass

Company: Noble Energy Inc
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Field: Wildcat







Fluid Properties Used for Main Pass

