

Company: Noble Energy Inc

Well: Wells Ranch AE30-68-1BHNA
Field: Wattenberg
County: Weld State: Colorado

County: Weld				
Field: Wattenberg				
Location: NWNW Sec. 29 T6N R62W				
Well: Wells Ranch AE30-68-1BHNA				
Company: Noble Energy Inc				
USI-LITE	LOCATION			
	Permanent Datum:		Elev: K.B. 4799.0 F	
	Log Measured From:		G.L. 4775.0 F	
	Drilling Measured From:		D.F. 4798.0 F	
Logging Date	API Serial No. 05-123-38676-0000	Section 29	Township 6N	Range 62W
Run Number	Run 2d			
Depth Driller	11541.0 F			
Schlumberger Depth	11541.0 F			
Bottom Log Interval	10680.0 F			
Top Log Interval	150.0 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	-999.2 F			
To	7035.0 F			
Casing Size	7.00 IN			
Weight	26.00 LB/F			
Grade	P110			
From	0.0 F			
To	6681.0 F			
Max Recorded Temp	-999.2			
Logger on bottom (date)	03-Jun-2014			
Location	Fl. Morgan CO			
Recorded By	Keri Ondrus			
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: 24100.00000

DISCLAIMER

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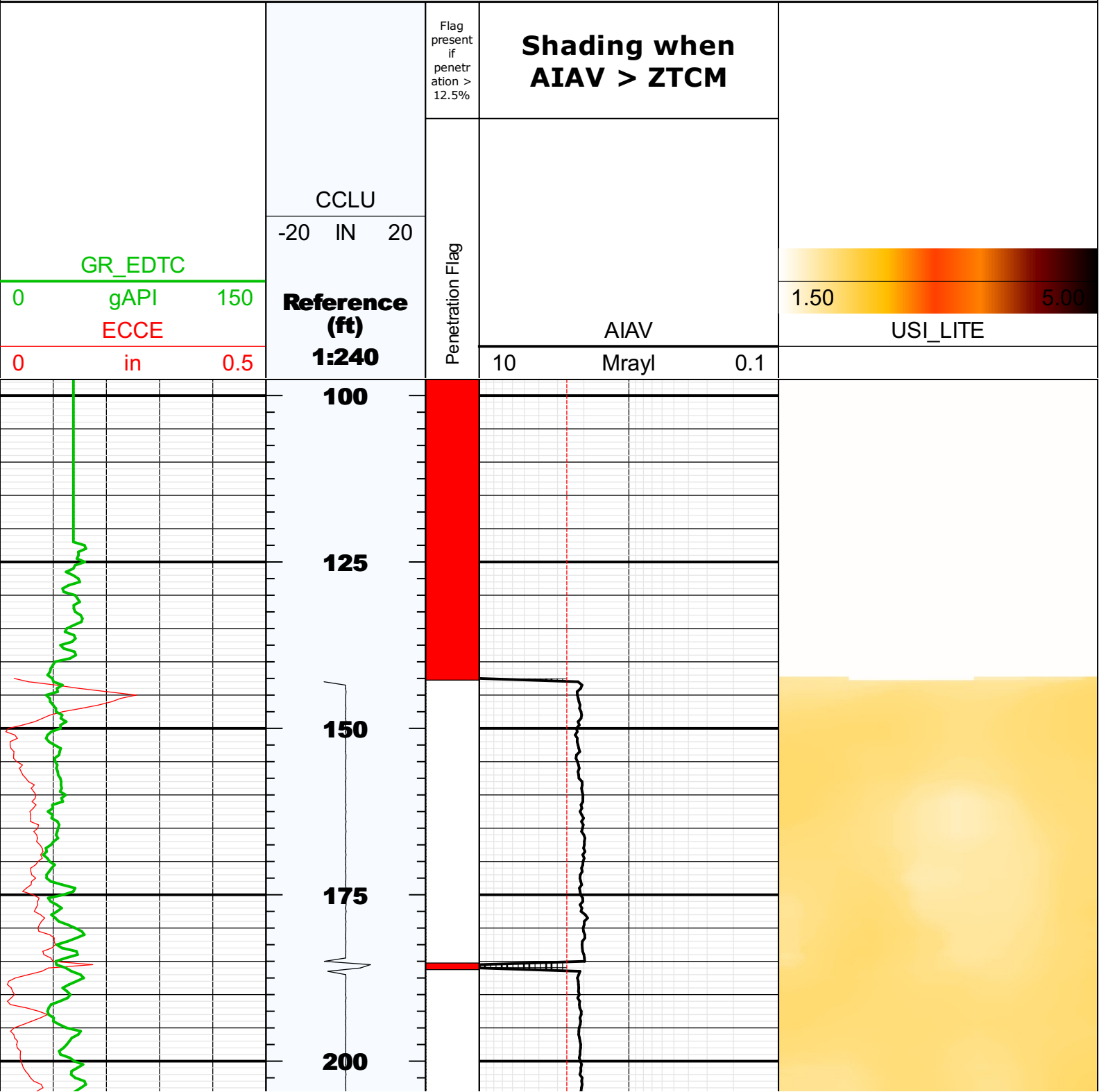
Toolstring run as per toolsketch

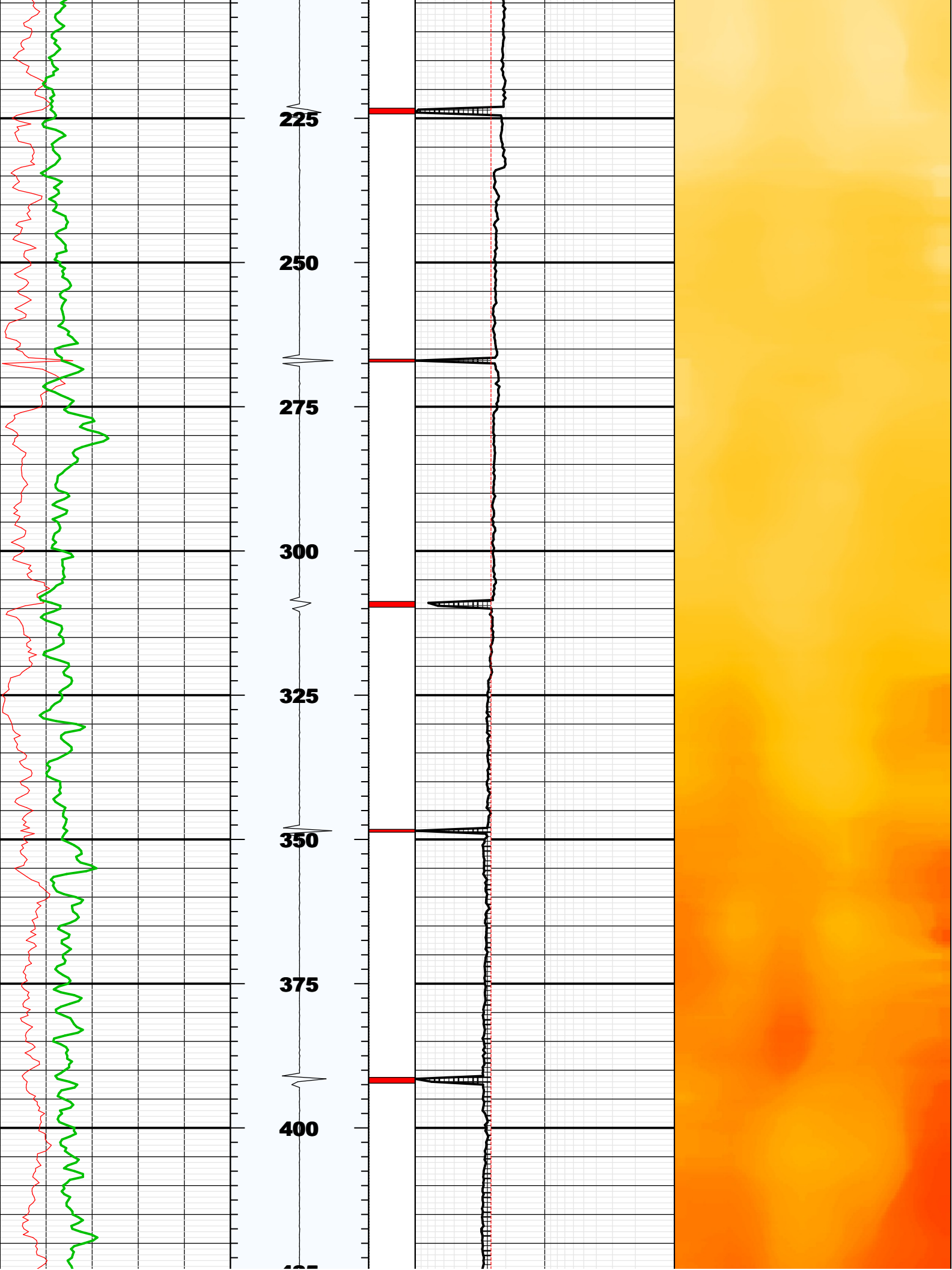
Production liner cemented on 26 May 2014 by Halliburton. 11.5 ppg spacer 13.8 ppg lead and 13.8 ppg tail.
5 barrels spacer to surface. No barrels cement to surface.

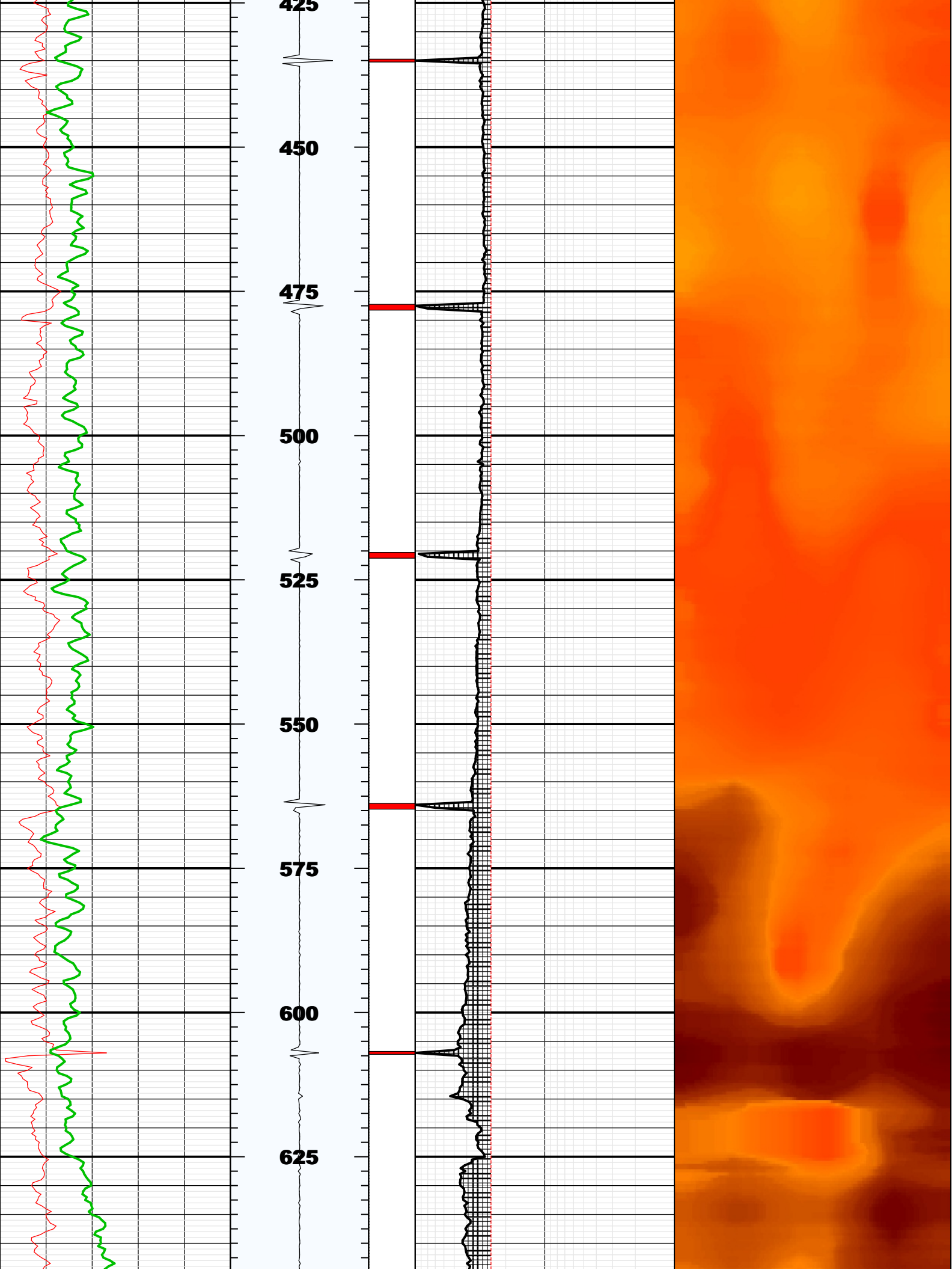
Tractored to depth of 10800' where obstructed. Could not spin sub at this depth. BLI at 10680' where sub could spin freely.
Sub stopped spinning several times while logging. To prevent burning motor tool was moved uphole before trying to spin again.
High deviation from approx. 5950'-6650'. Slow sub rotation prevented data acquisition of the entire curve.

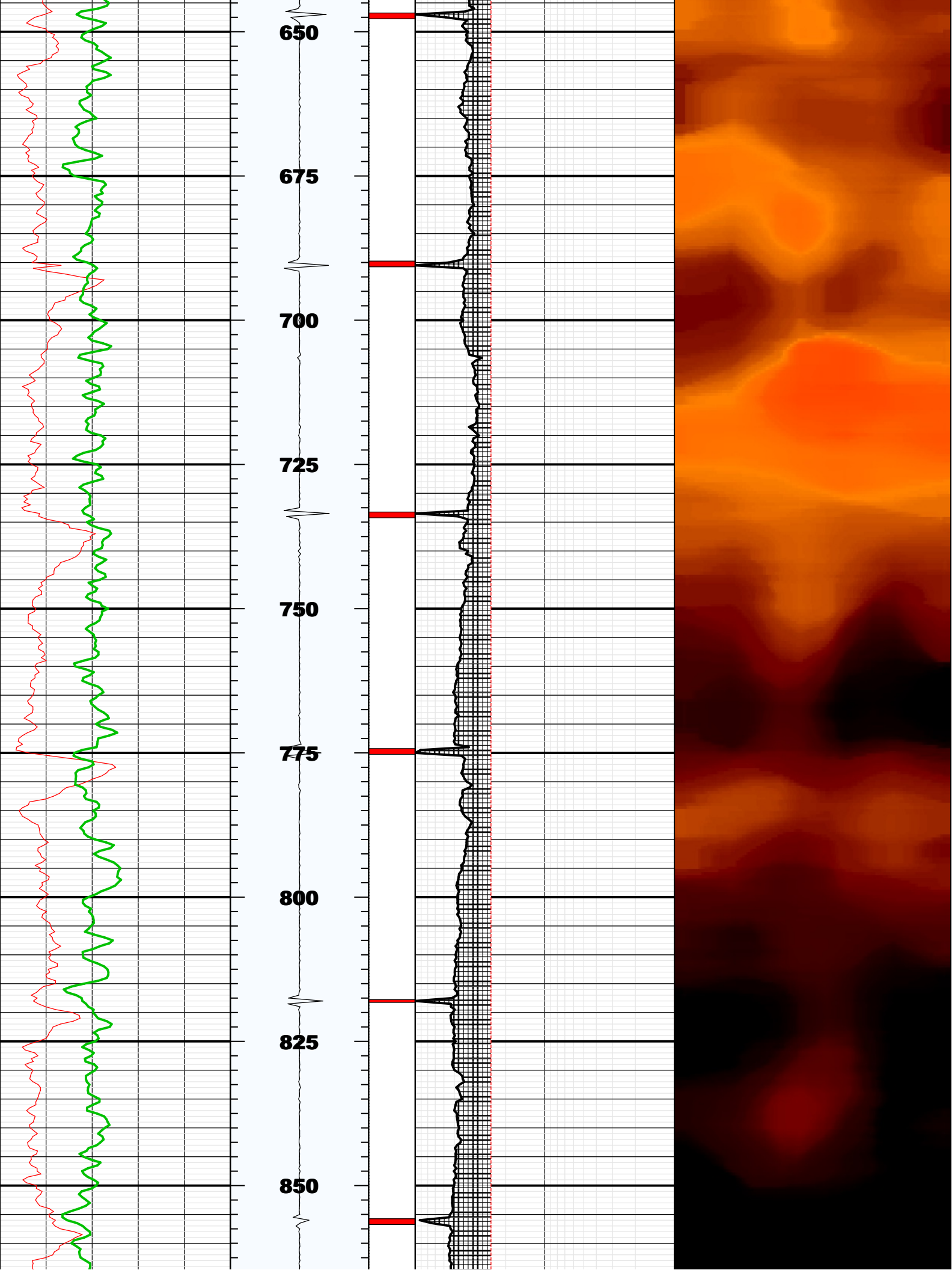
Main Pass

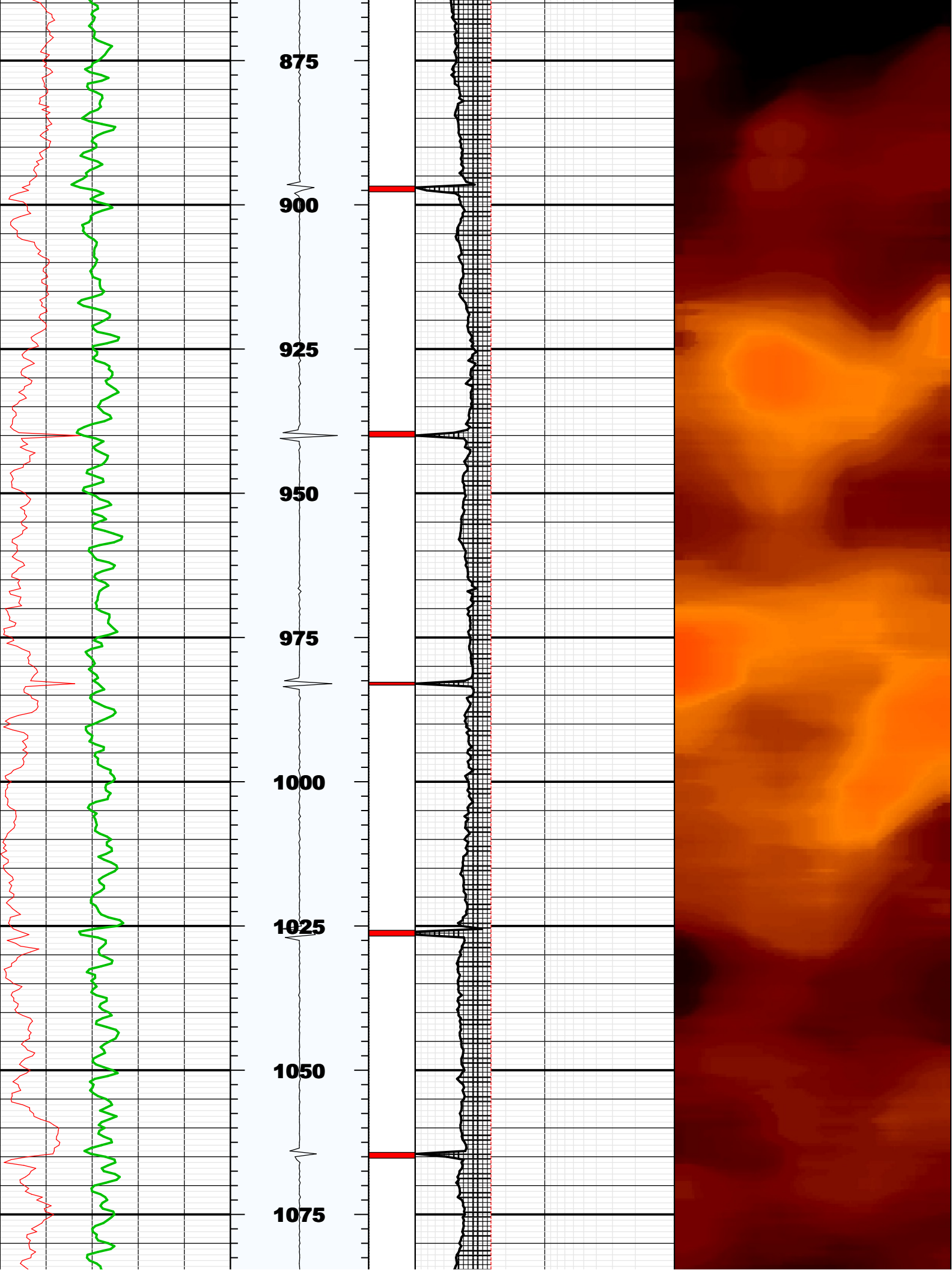
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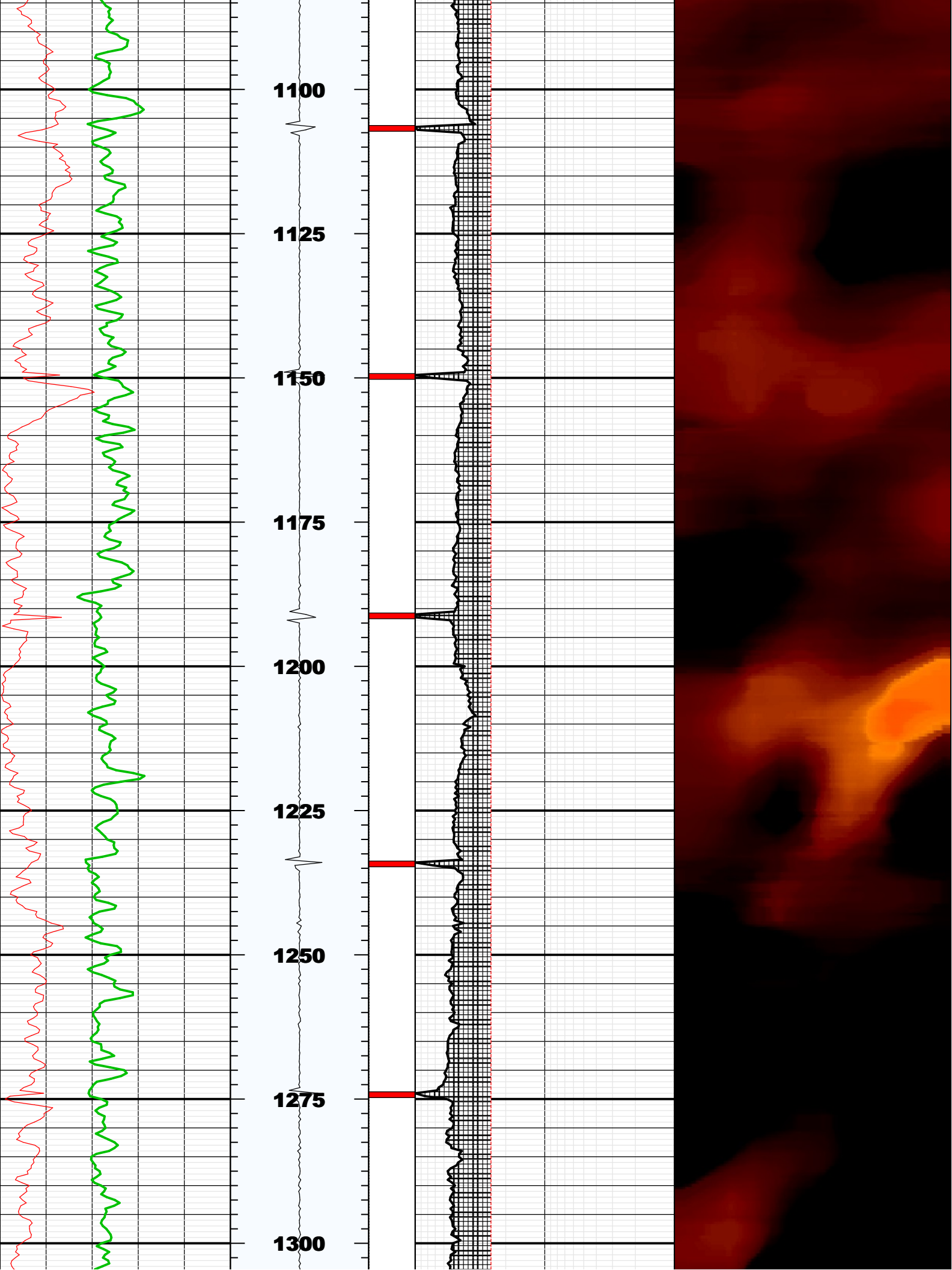


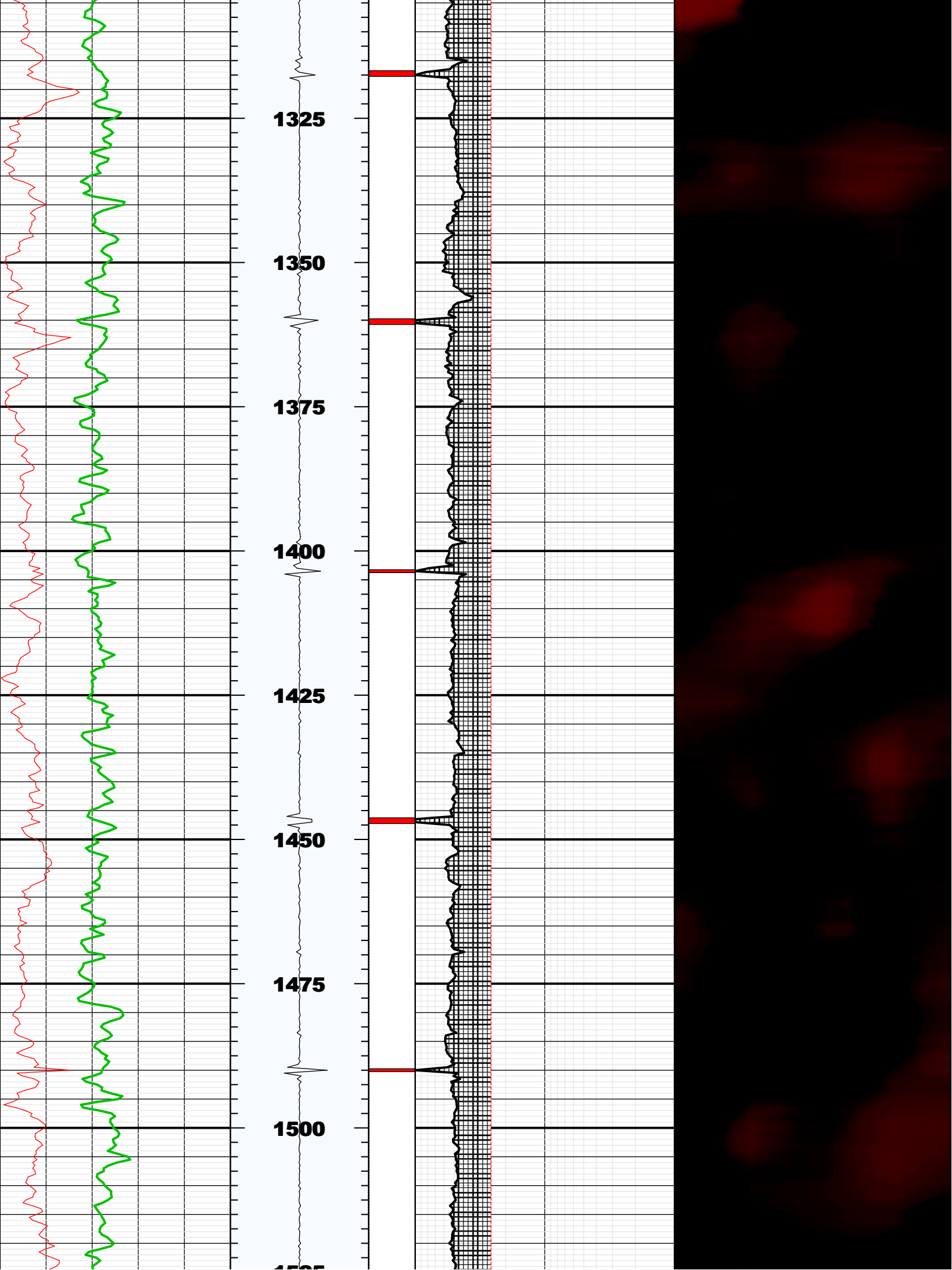


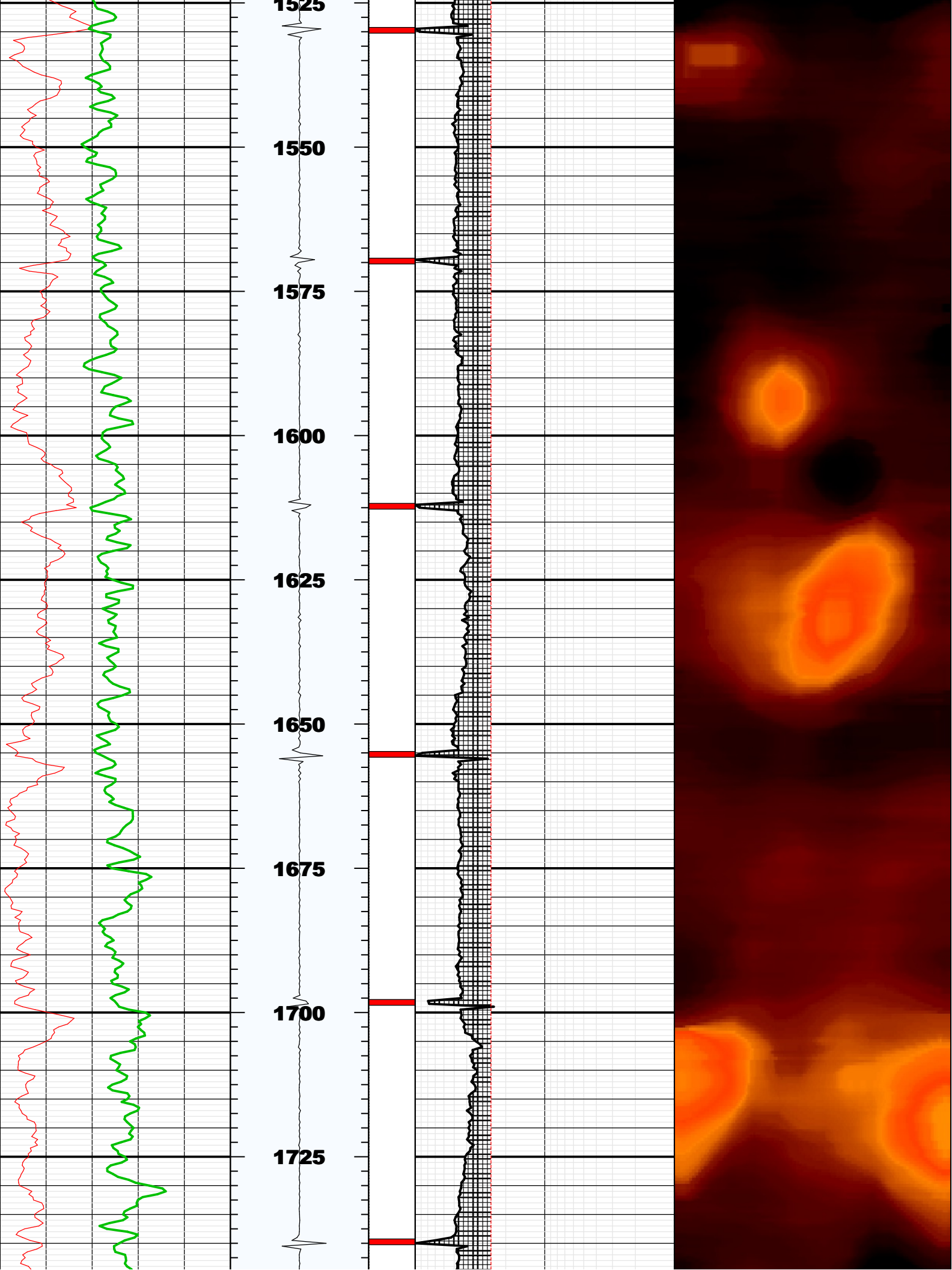


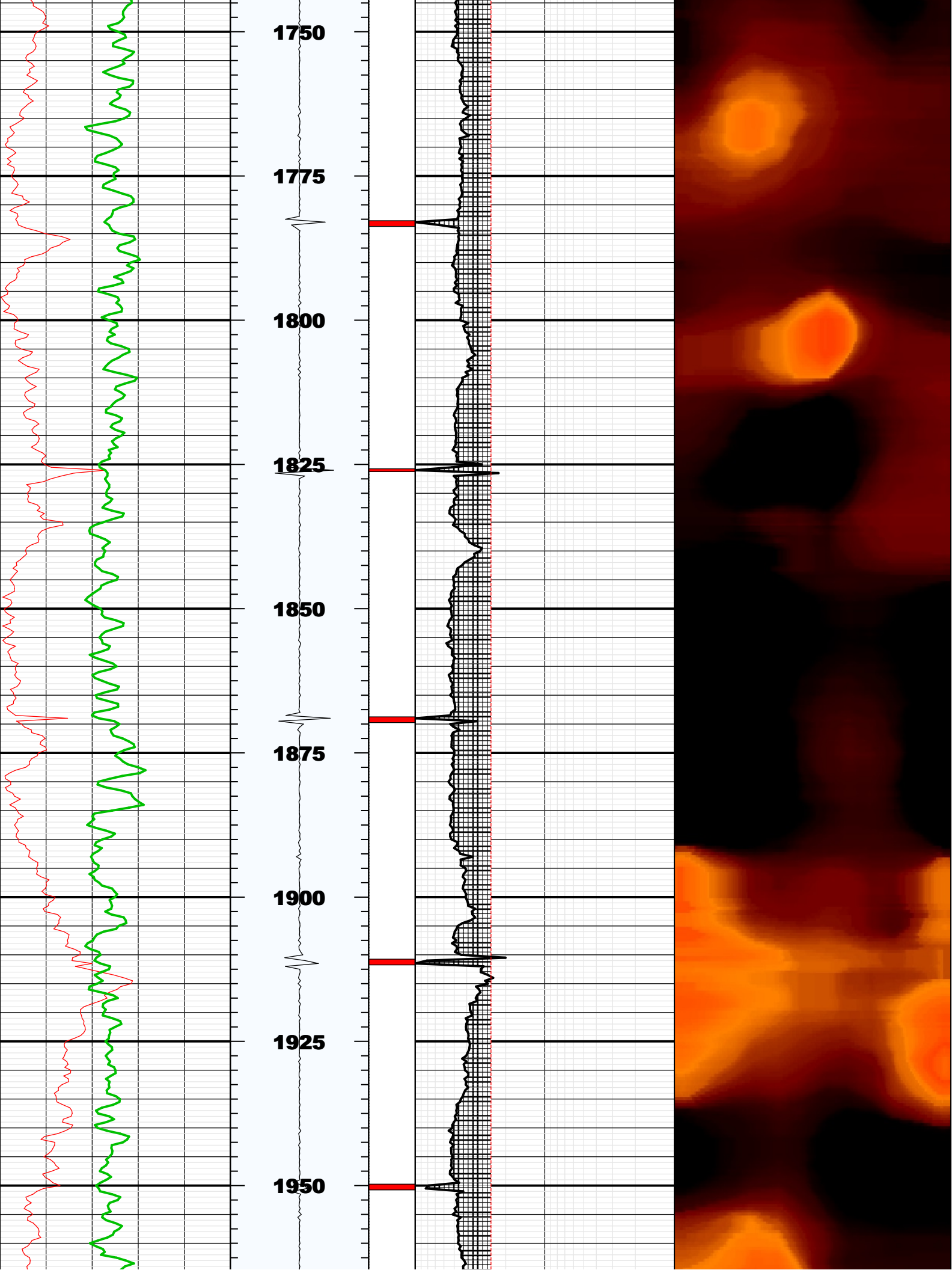


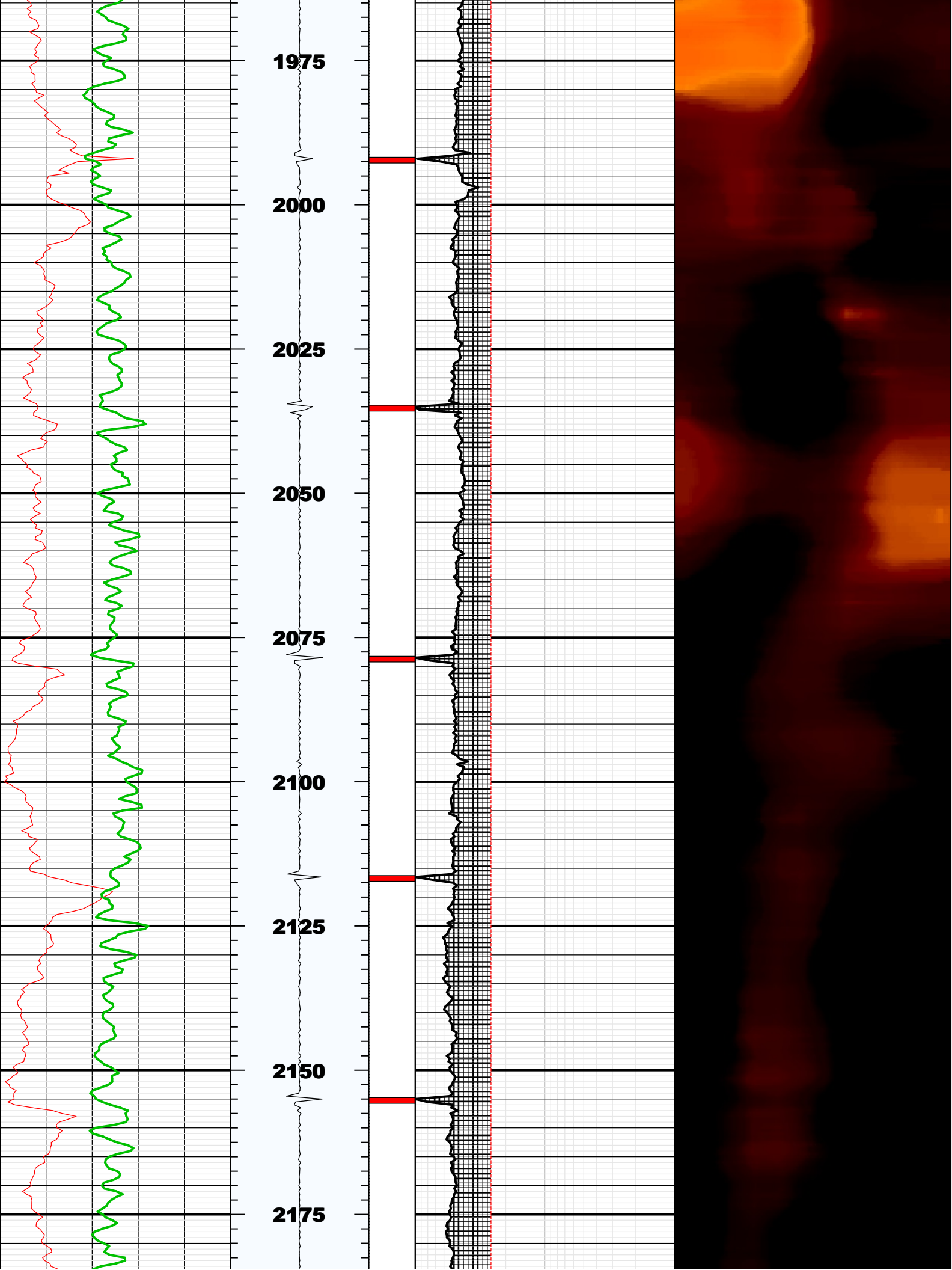


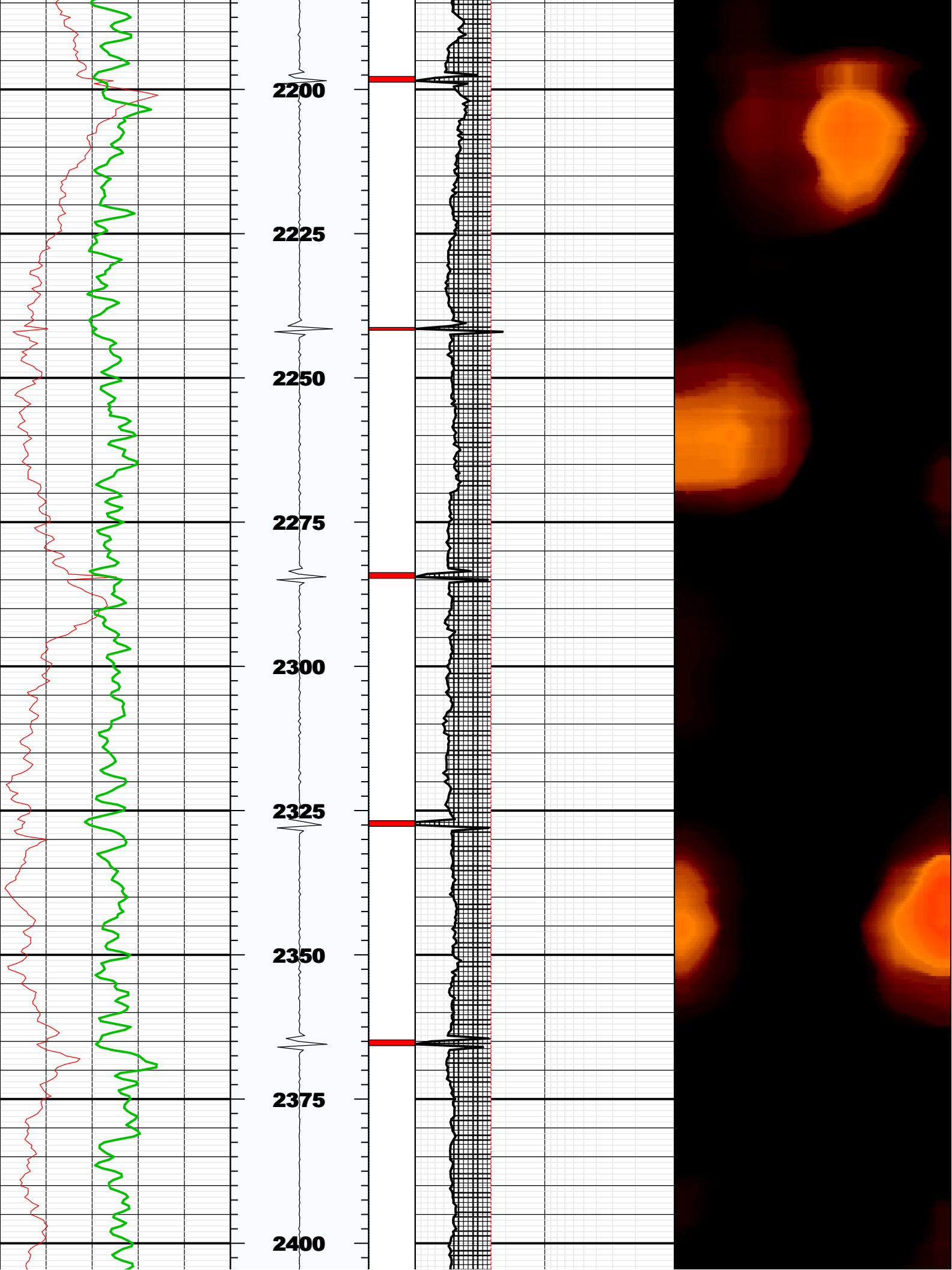


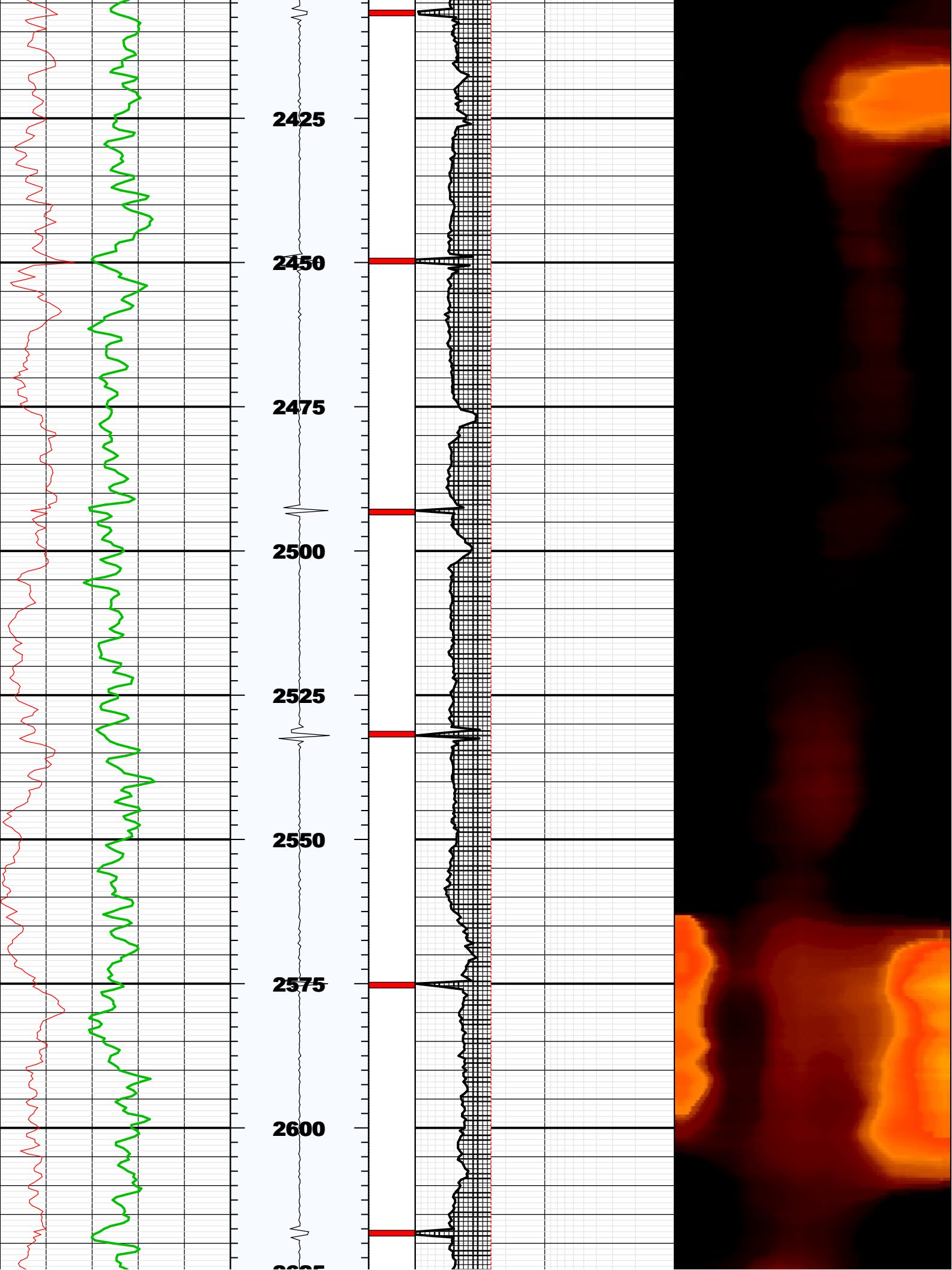


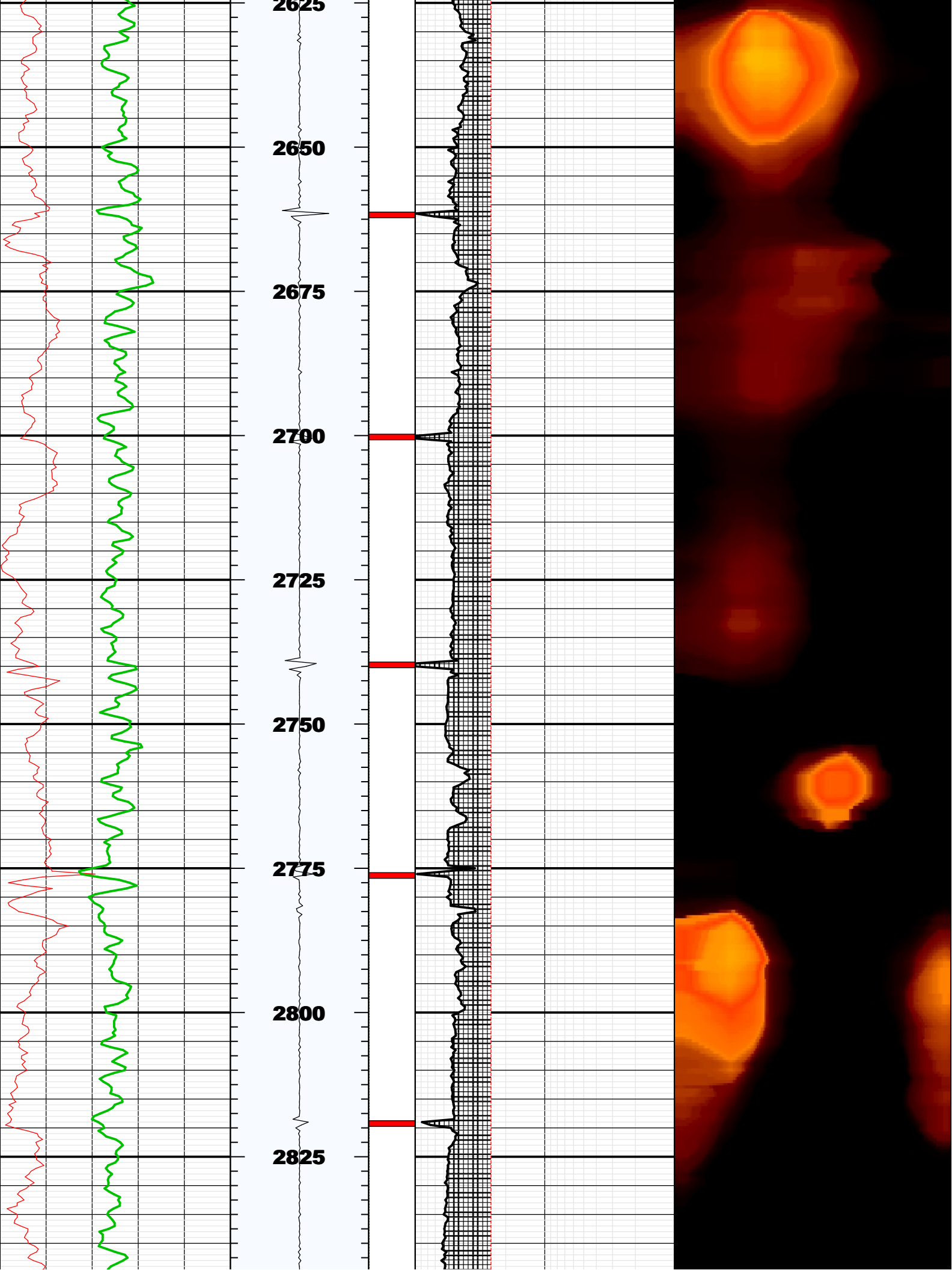


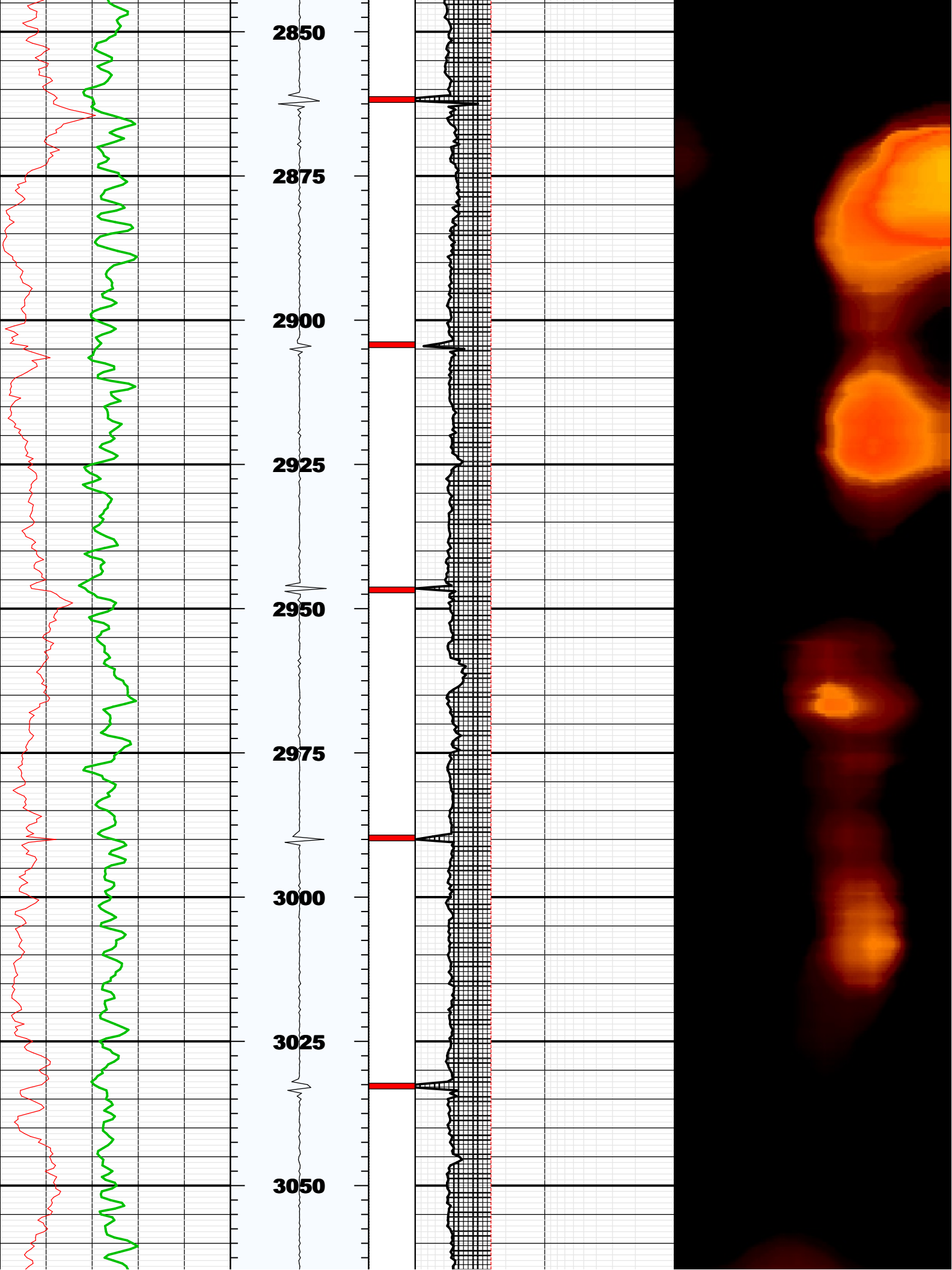


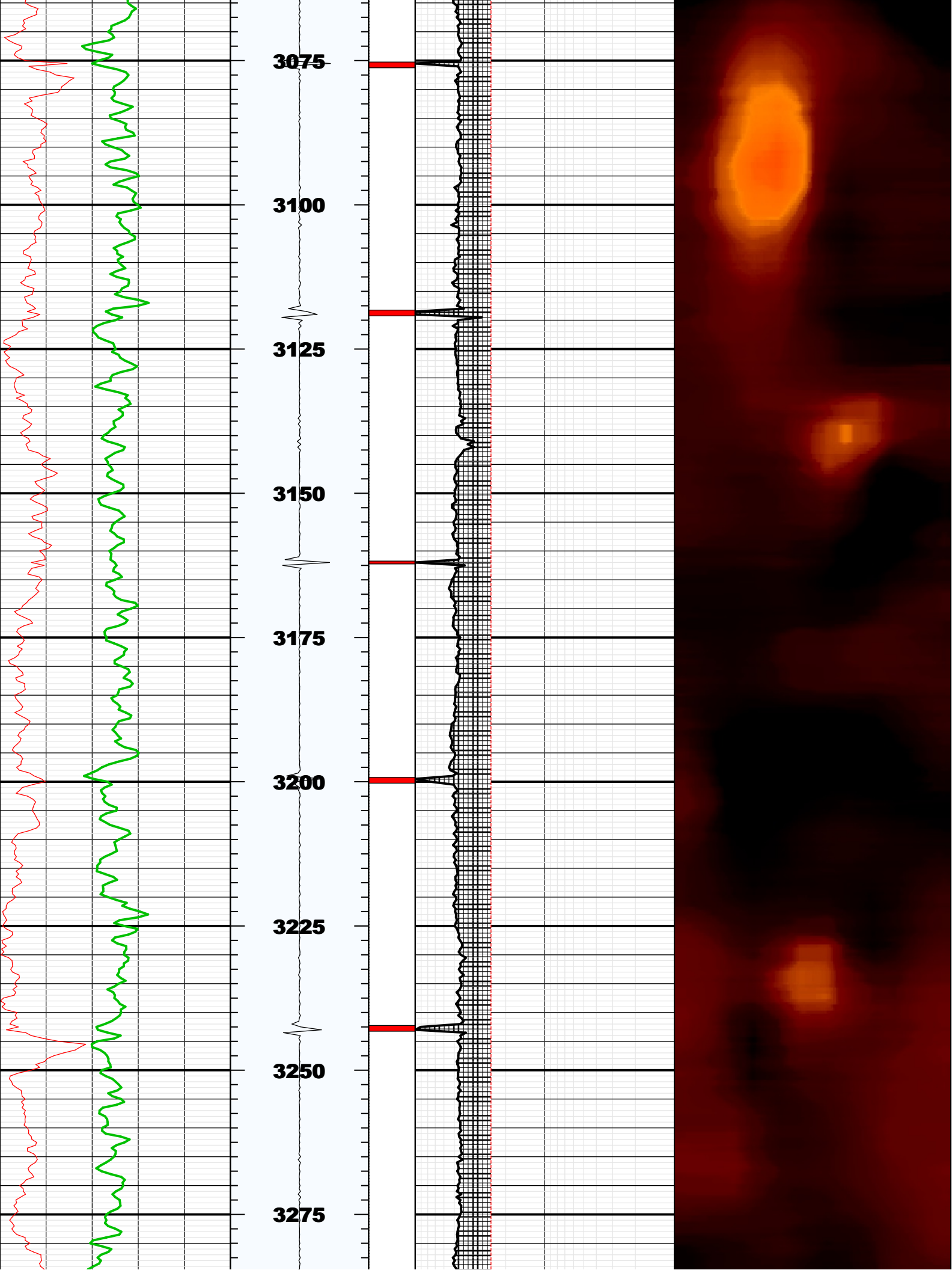


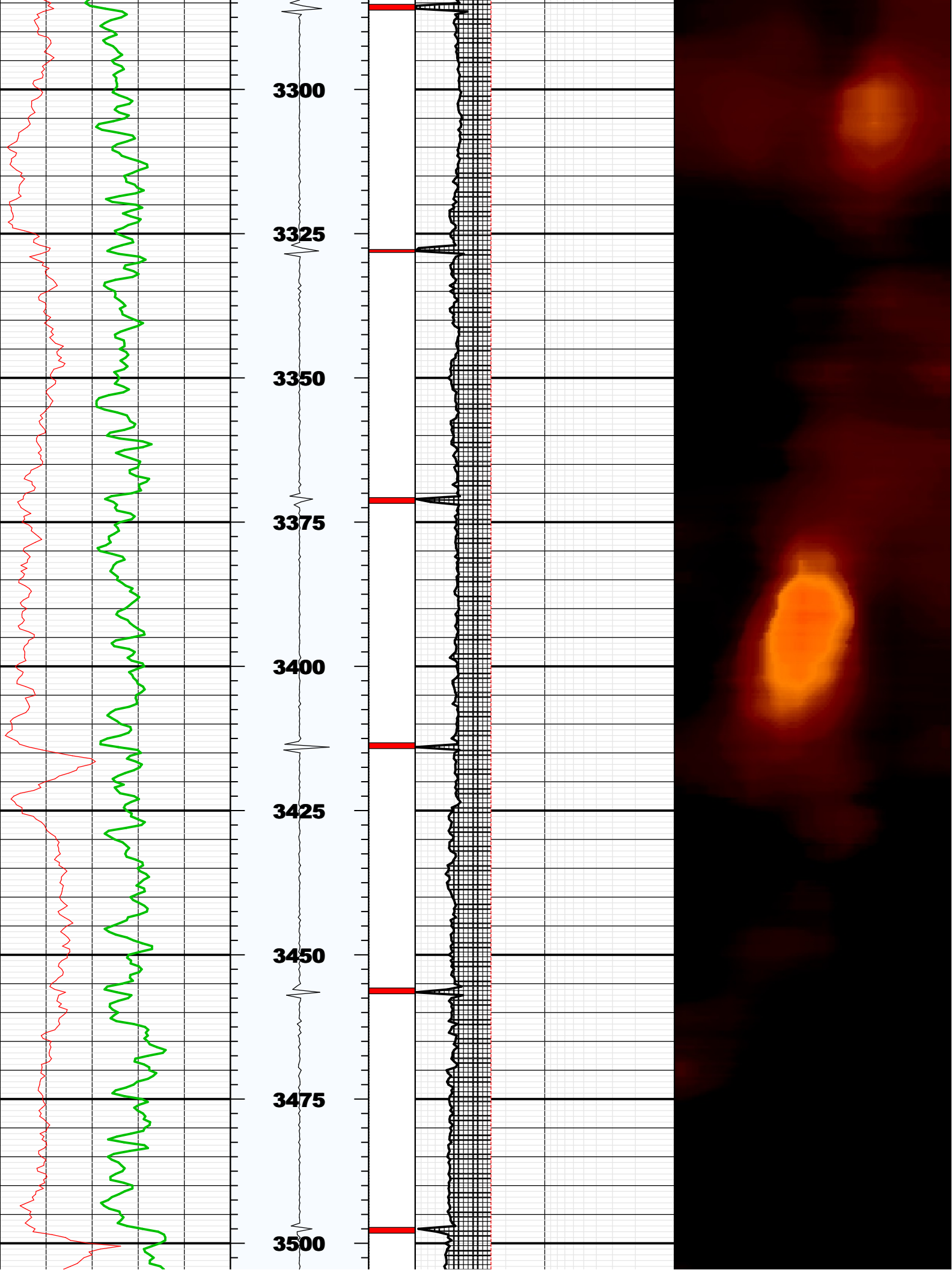


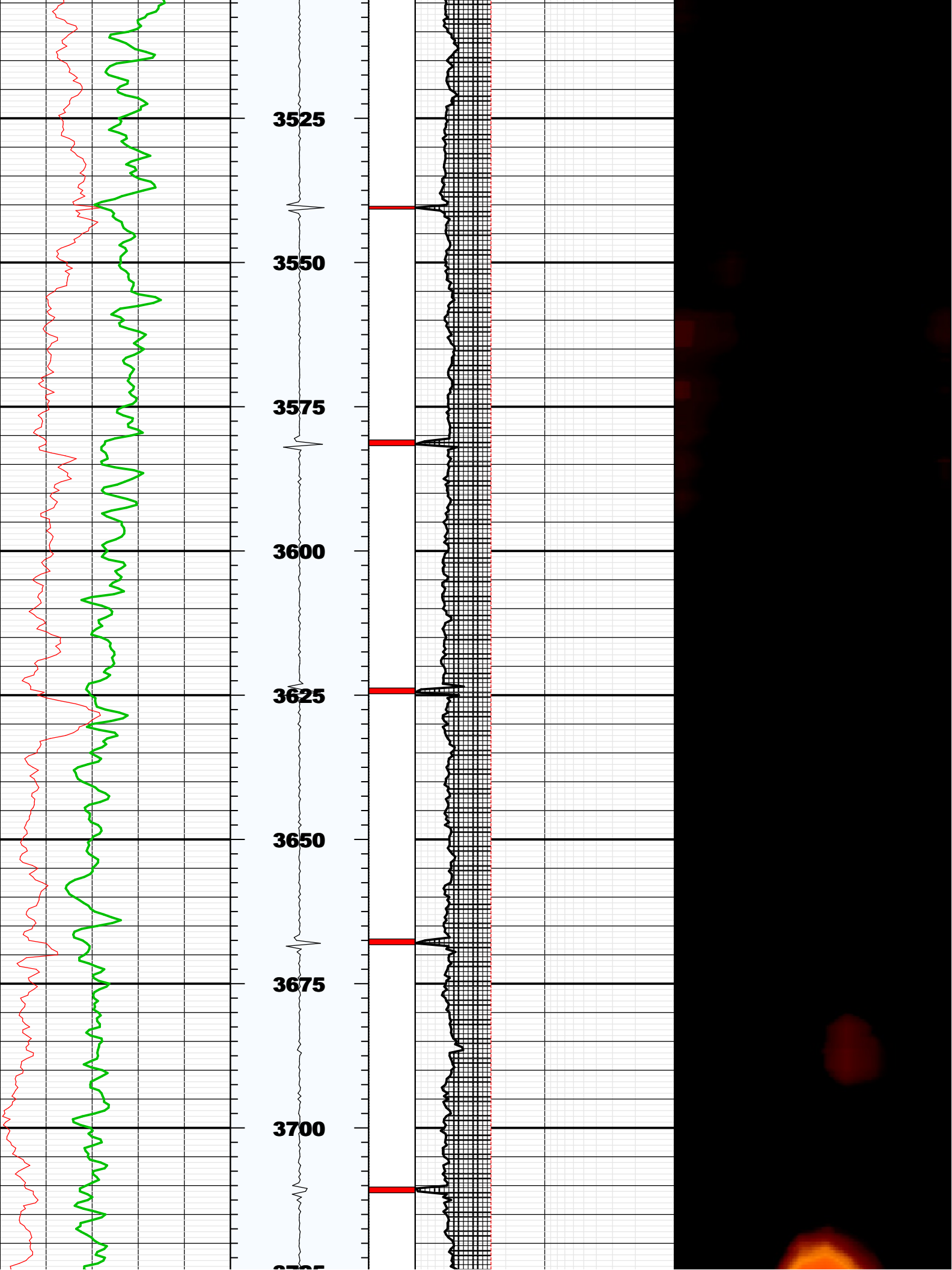


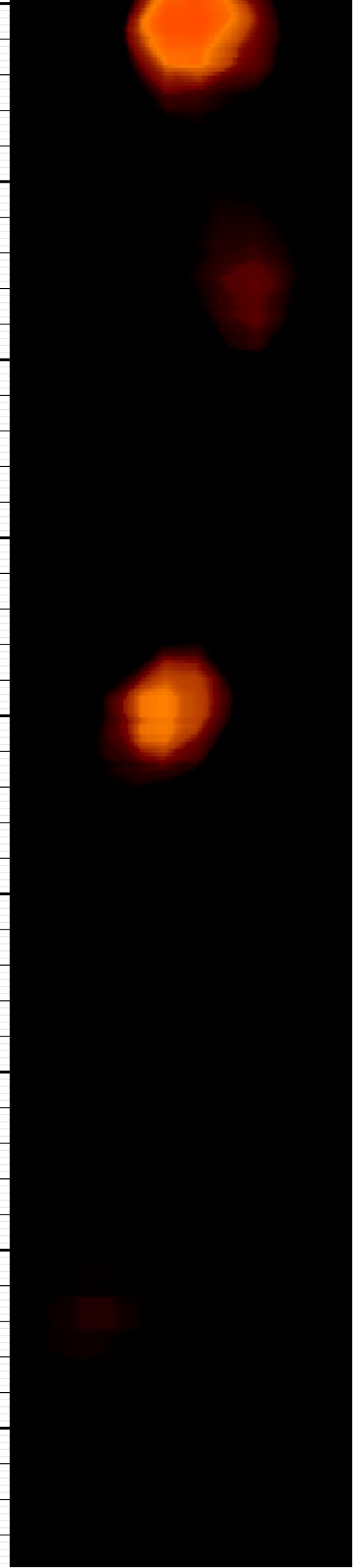
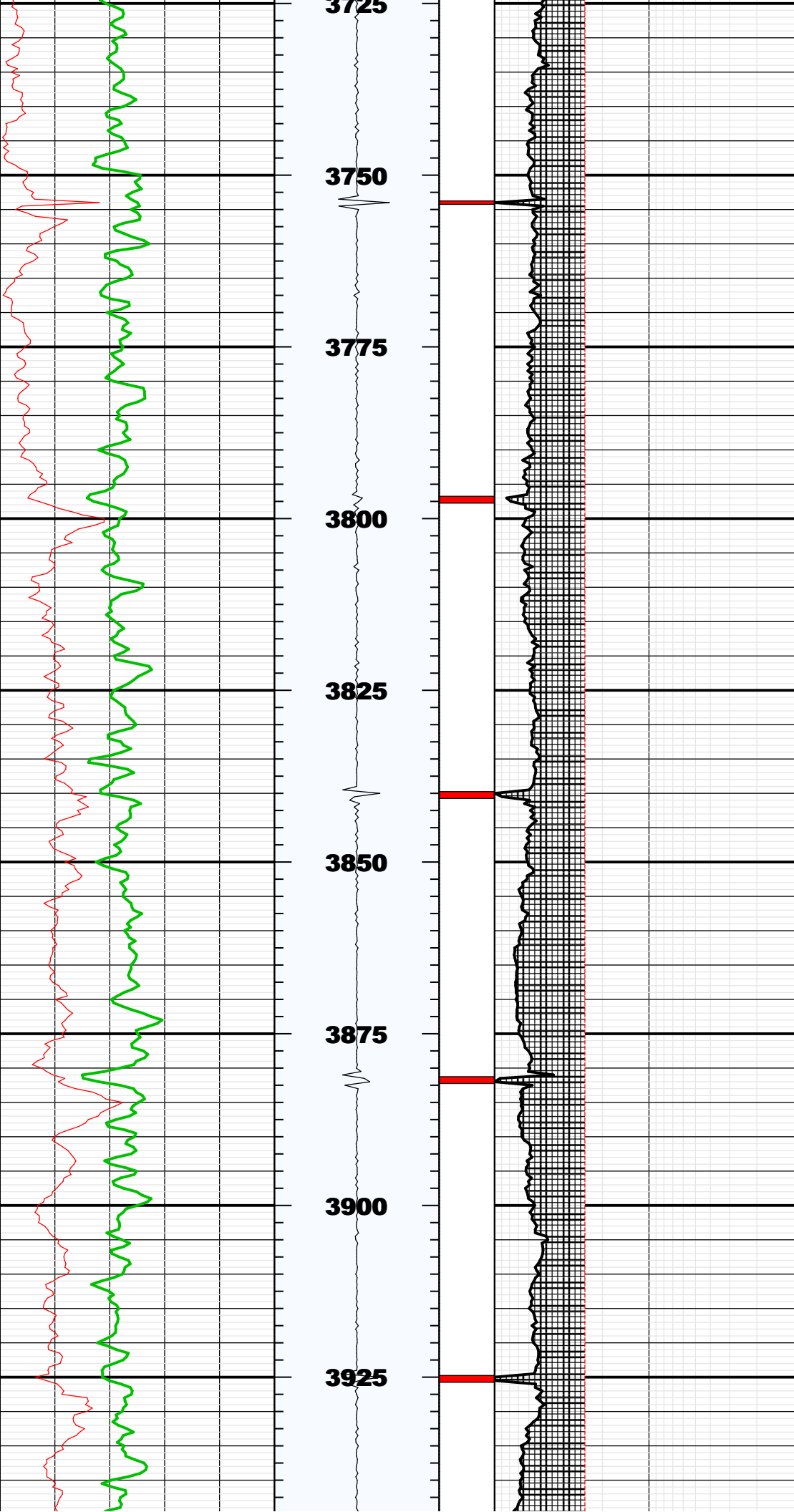


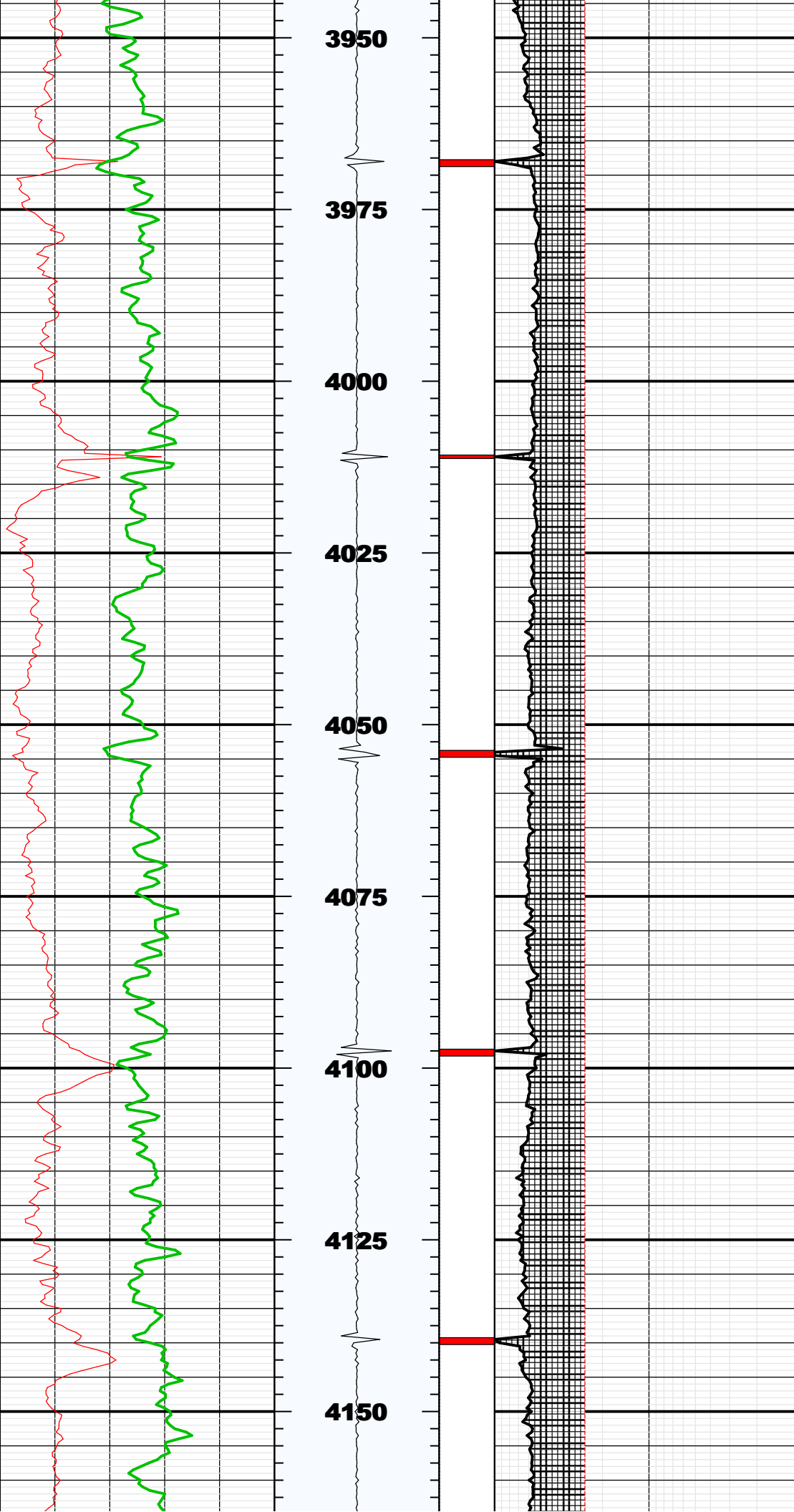


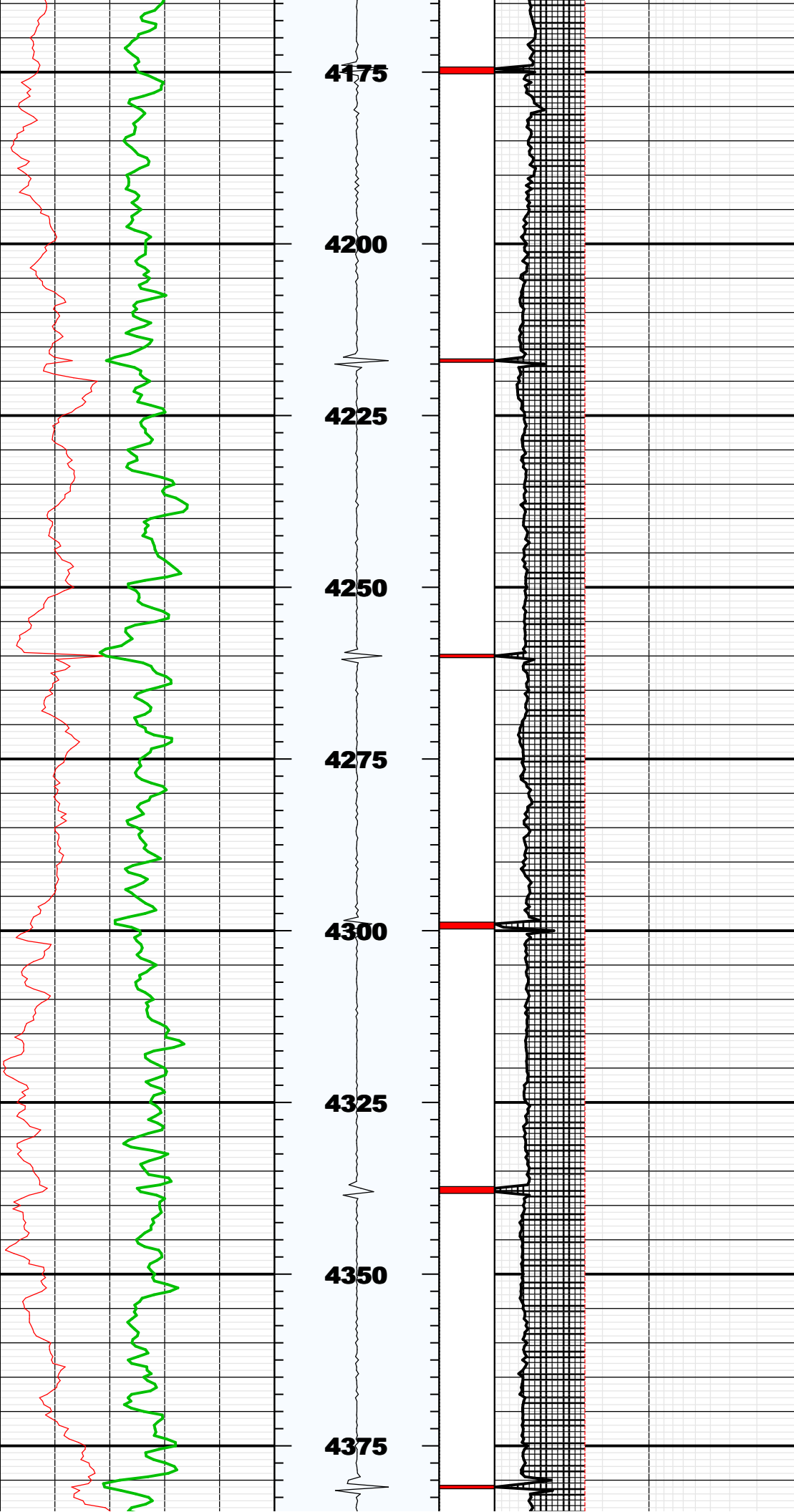


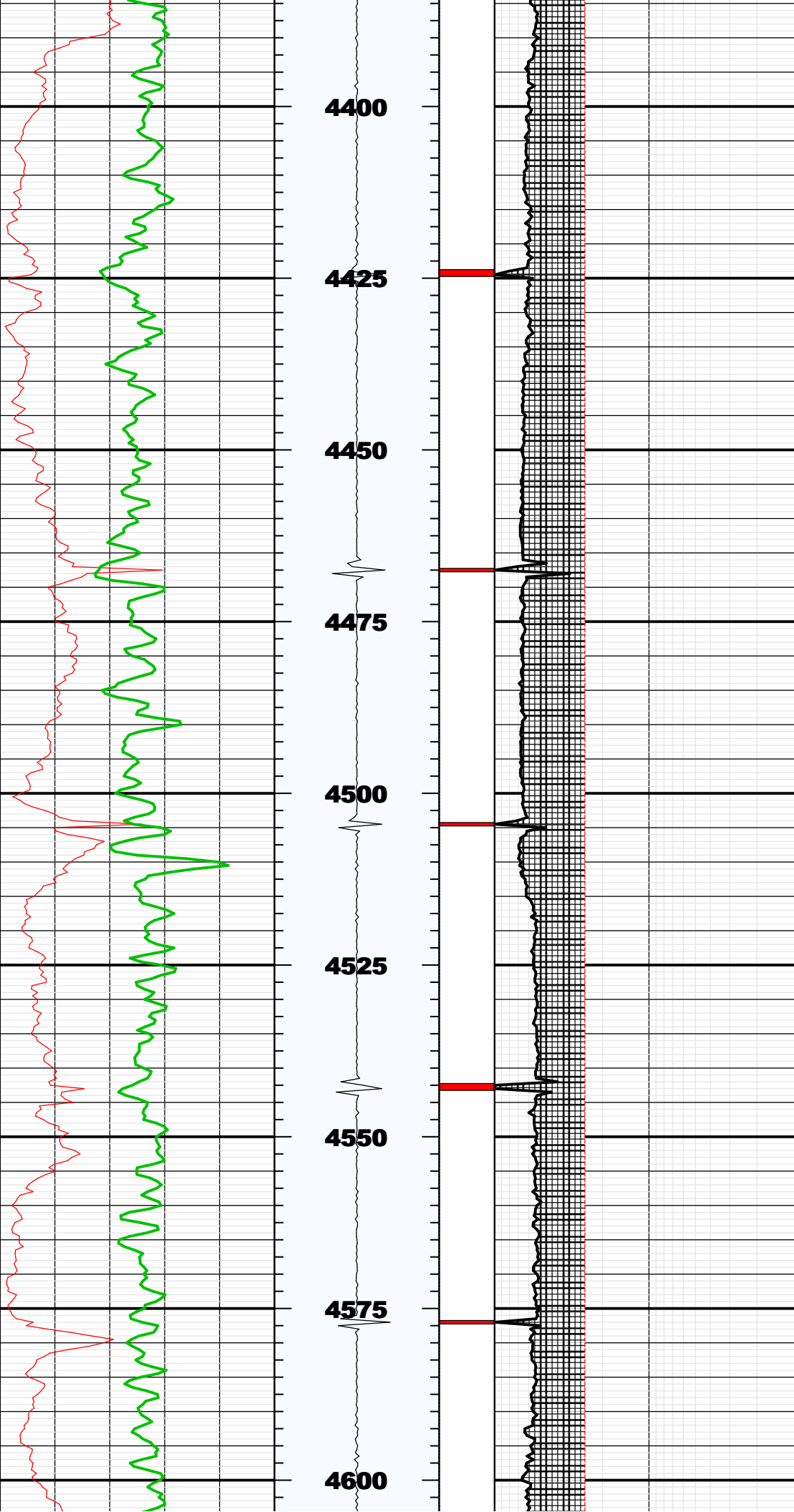


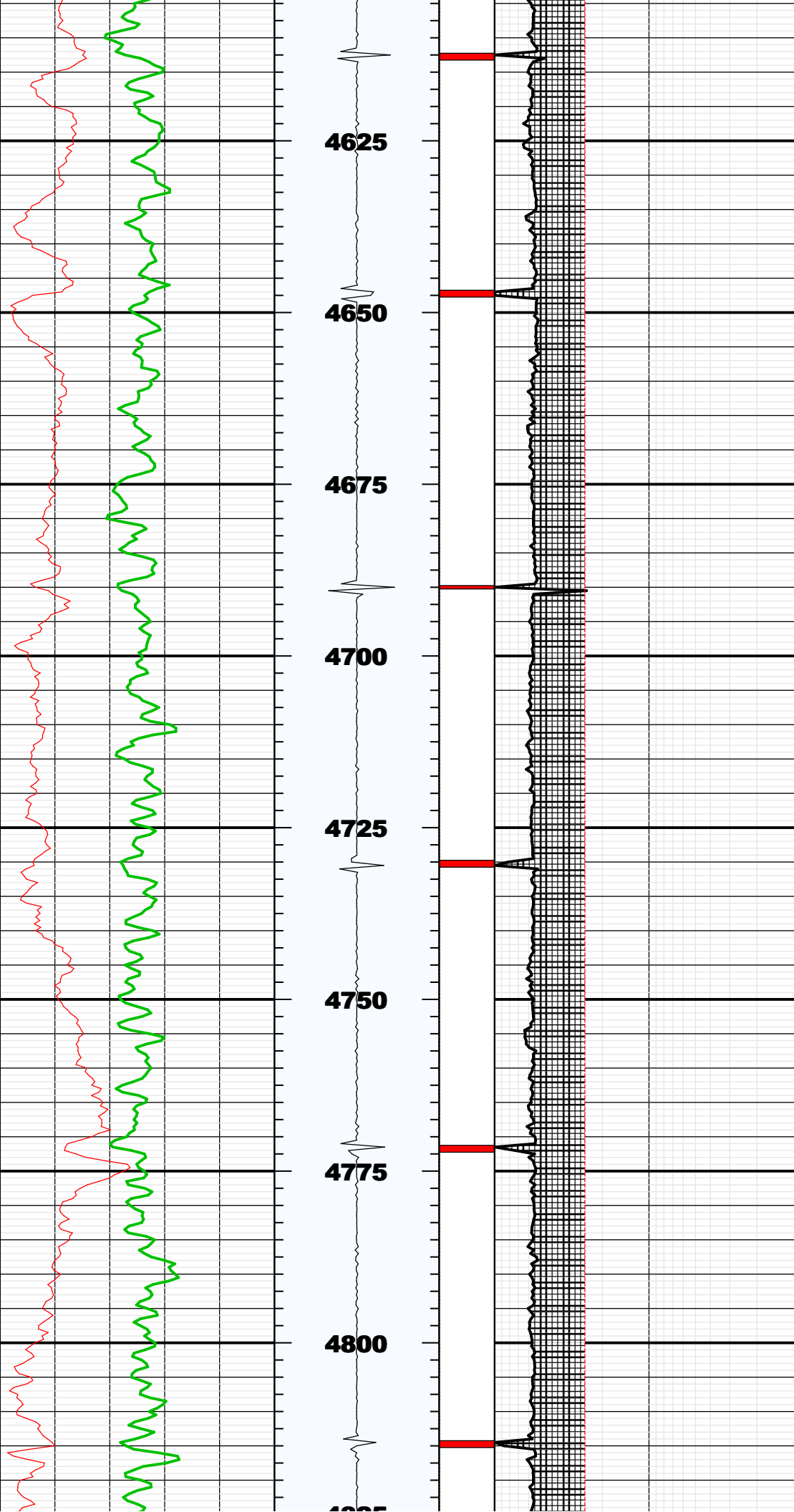


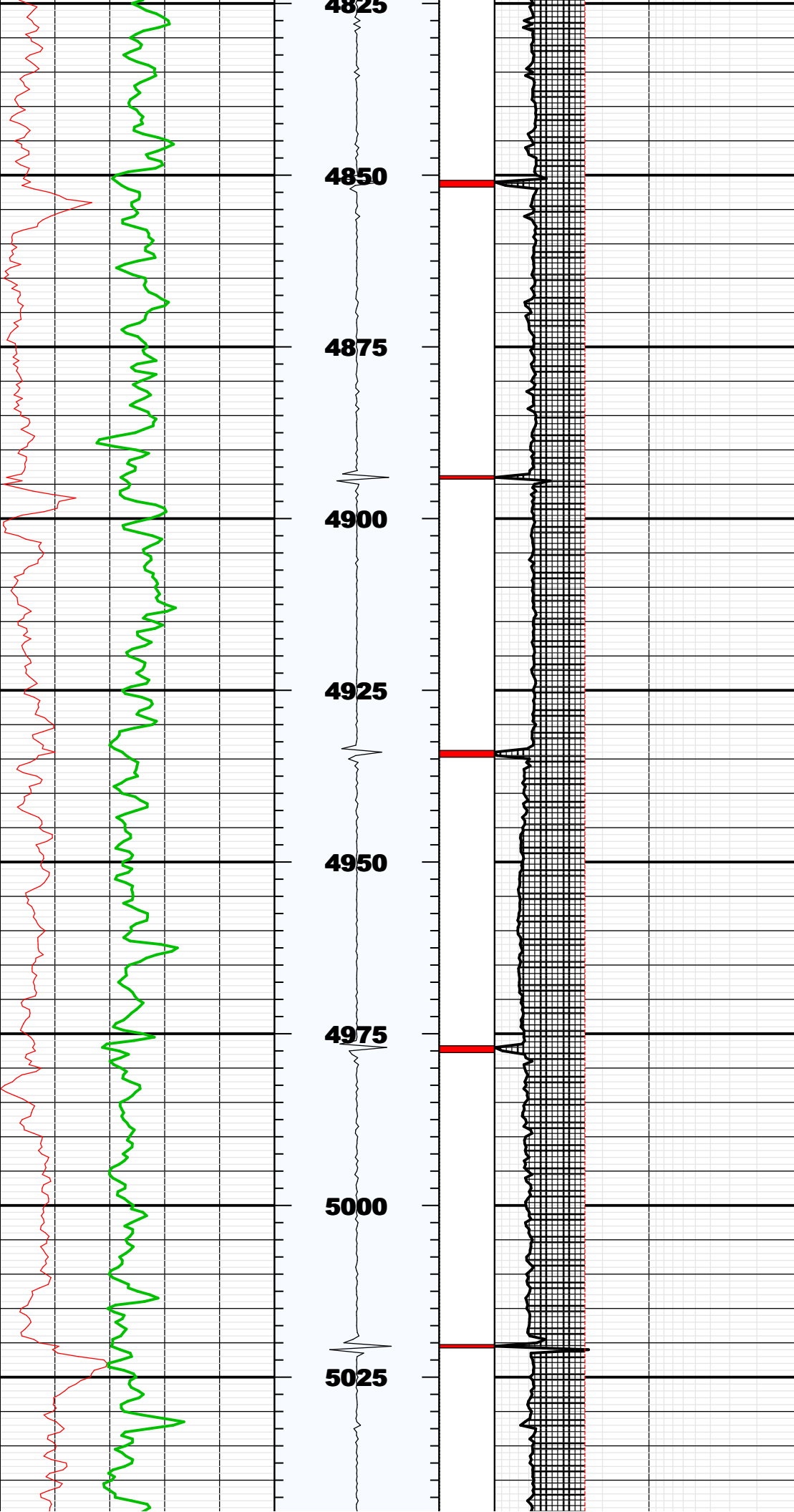


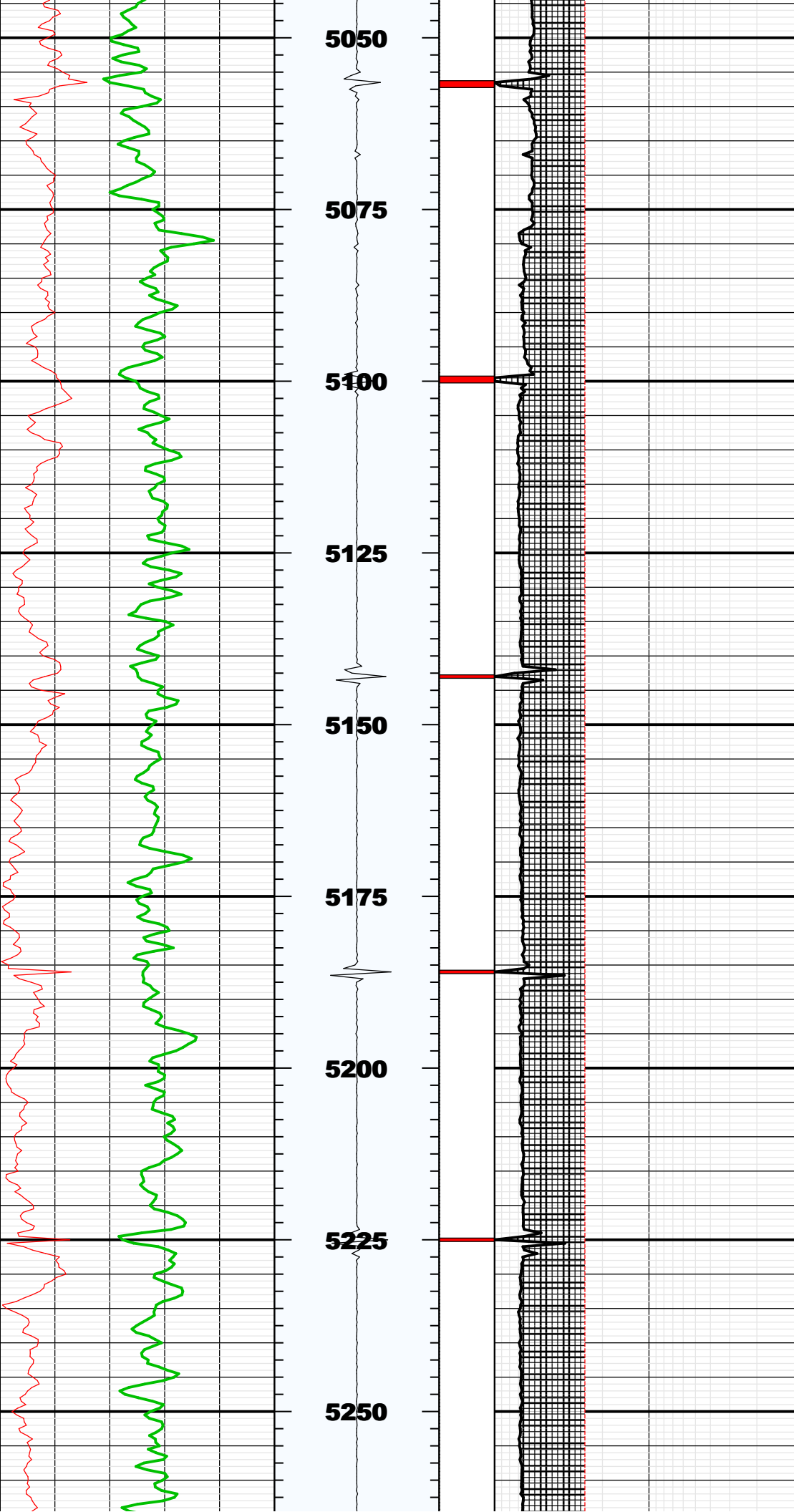


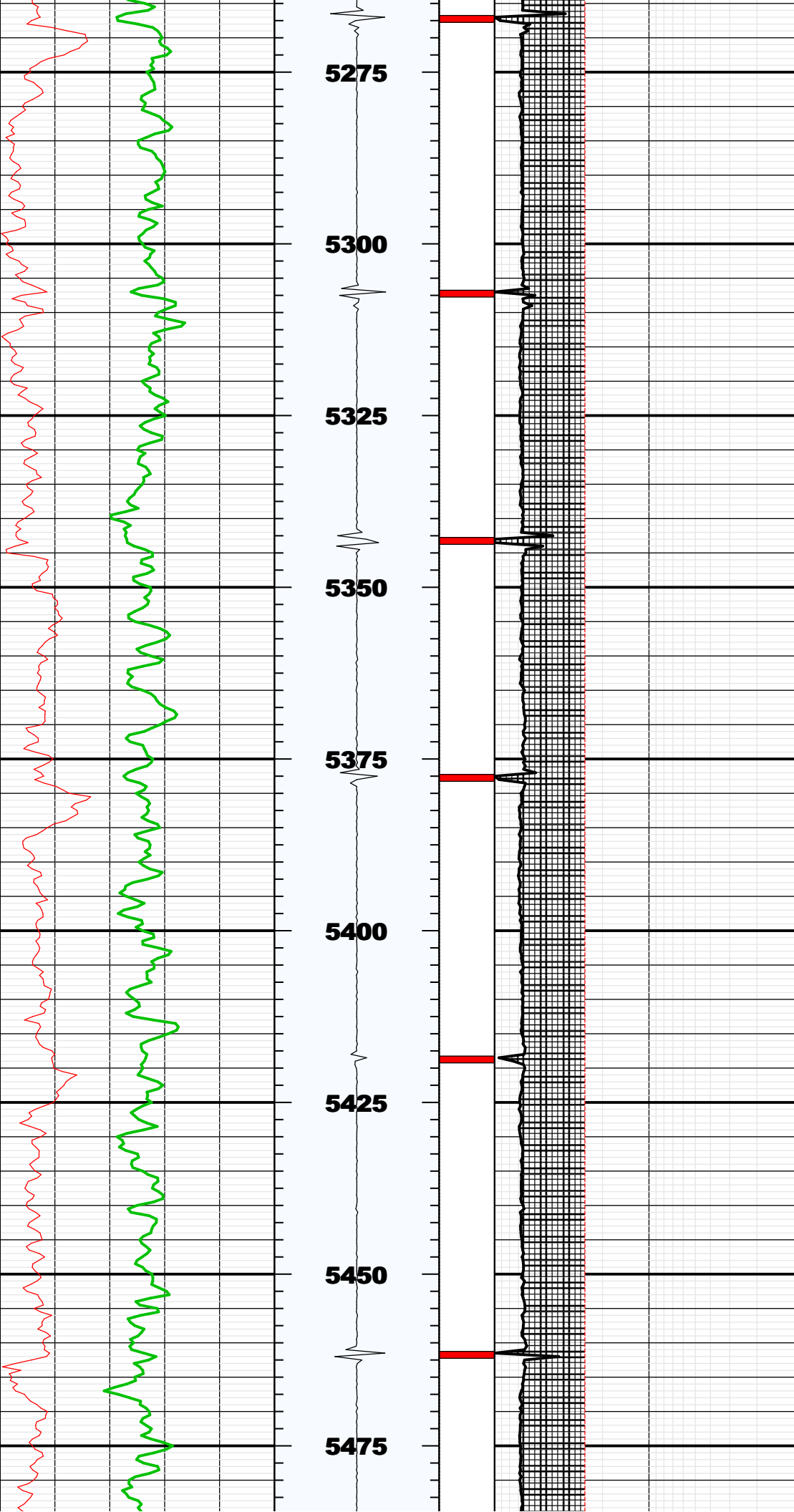


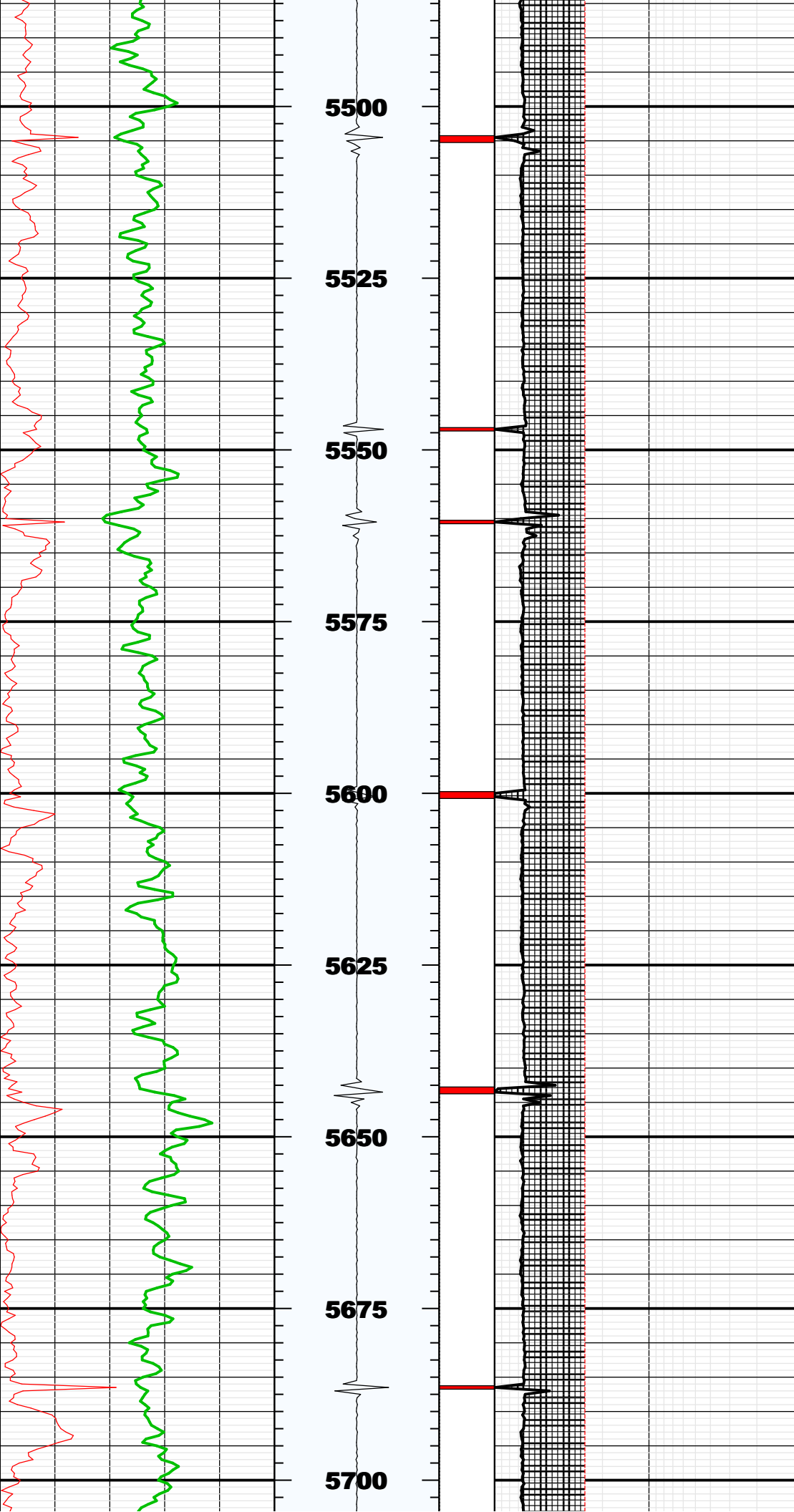


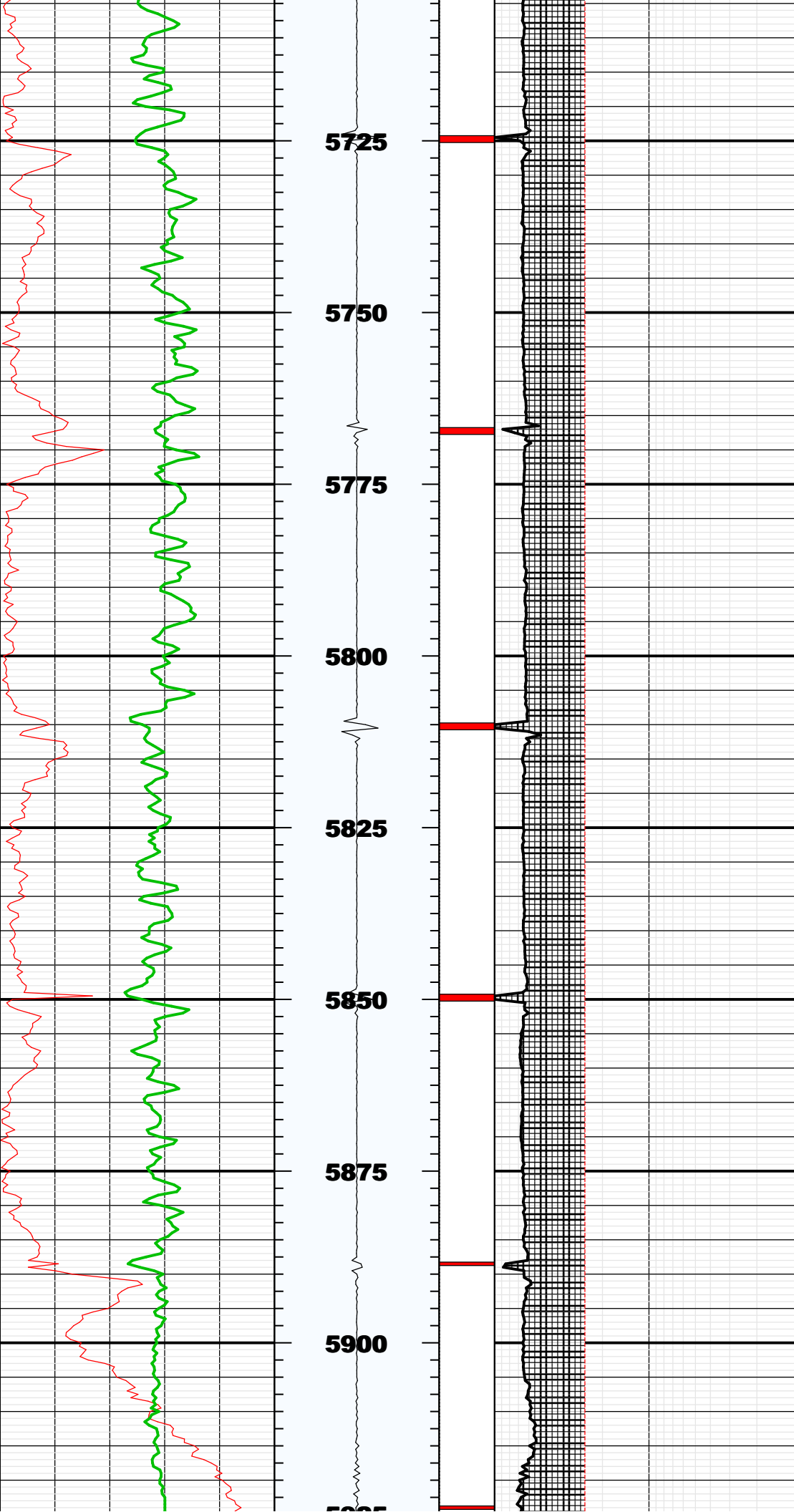


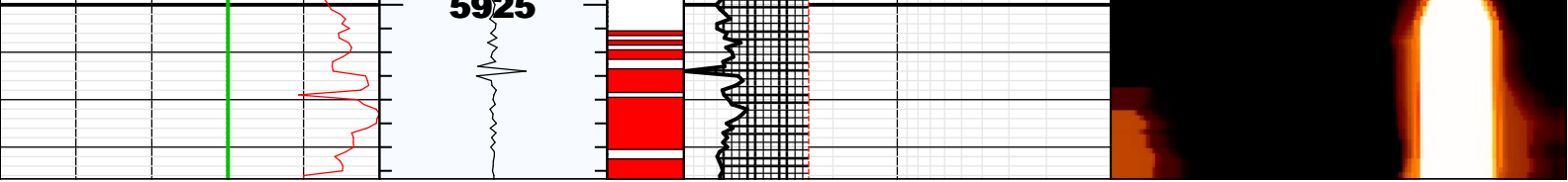












BS	8.75000	IN	Bit Size
CASG	P110		Casing Grade
CDIA	7.00000	IN	Casing Outer Diameter
CSID			
CSIZ	7.00000	IN	Current Casing Size
CWEI	26.00000	LB/F	Casing Weight
DFD	8.40000	LB/G	Drilling Fluid Density
DFVL	206.00000	US/F	Default Fluid Velocity
DO			
DOT	1.75600	IN	Diameter of Transducer Sensor
EMXV	70	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	5INC		USIT Sub Identifier
UWKM	D603010L		Working Mode
VCAS	51.40000	US/F	Ultrasonic Transversal Velocity in Casing
WINB	44.30212	US	Window Begin Time
WINE	109.64732	US	Window End Time
ZCAS	46.25000	MRAY	Acoustic Impedance of Casing
ZINI	-1.00000	MRAY	Initial Estimate of Cement Impedance
ZMUD	1.88000	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

Fluid Properties Used for Main Pass

