

Company: Noble Energy Inc

Well: Reliance E23-69HN
Field: Greeley
County: Weld
State: Colorado

| | | | | | | | | | | |
|-------------------------------------|--|--|--|--|---------------------------------|--|----------------|--|--------------|--|
| <div>USI-LITE</div> | | | | | County: Weld | | | | | |
| | | | | | Field: Greeley | | | | | |
| | | | | | Location: NWNW Sec. 23 T6N R65W | | | | | |
| | | | | | Well: Reliance E23-69HN | | | | | |
| | | | | | Company: Noble Energy Inc | | | | | |
| Logging Date | | | | | 25-Mar-2015 | | Run Number | | Run 1 | |
| | | | | | | | | | | |
| API Serial No. 05-123-38143-0000 | | | | | Section 23 | | Township 6N | | Range 65W | |
| | | | | | | | | | | |
| Depth Driller | | | | | 7408.0 F | | | | | |
| Schlumberger Depth | | | | | 7270.0 F | | | | | |
| Bottom Log Interval | | | | | 7270.0 F | | | | | |
| Top Log Interval | | | | | 30.0 F | | | | | |
| Casing Fluid Level | | | | | 8.0 F | | | | | |
| Salinity | | | | | | | | | | |
| Density | | | | | 8.70 LB/G | | | | | |
| Fluid Level | | | | | 8.0 F | | | | | |
| BIT/CASING/TUBING STRING | | | | | | | | | | |
| Bit Size | | | | | 8.750 IN | | | | | |
| From | | | | | 7270.0 F | | | | | |
| To | | | | | -999.2 F | | | | | |
| Casing Size | | | | | 7.00 IN | | | | | |
| Weight | | | | | 26.00 LB/F | | | | | |
| Grade | | | | | P110 | | | | | |
| From | | | | | 30.0 F | | | | | |
| To | | | | | 7398.1 F | | | | | |
| Max Recorded Temp | | | | | 239.6 | | | | | |
| Logger on bottom (date) | | | | | 25-Mar-2015 | | | | | |
| Location | | | | | Fort 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: 1109 Calibration Date: Calibrator Serial Number: Number Of Calibration Points: Calibration RMS: Calibration Peak Error: | Serial Number: U711136 Length: 17200.00000 |

DISCLAIMER

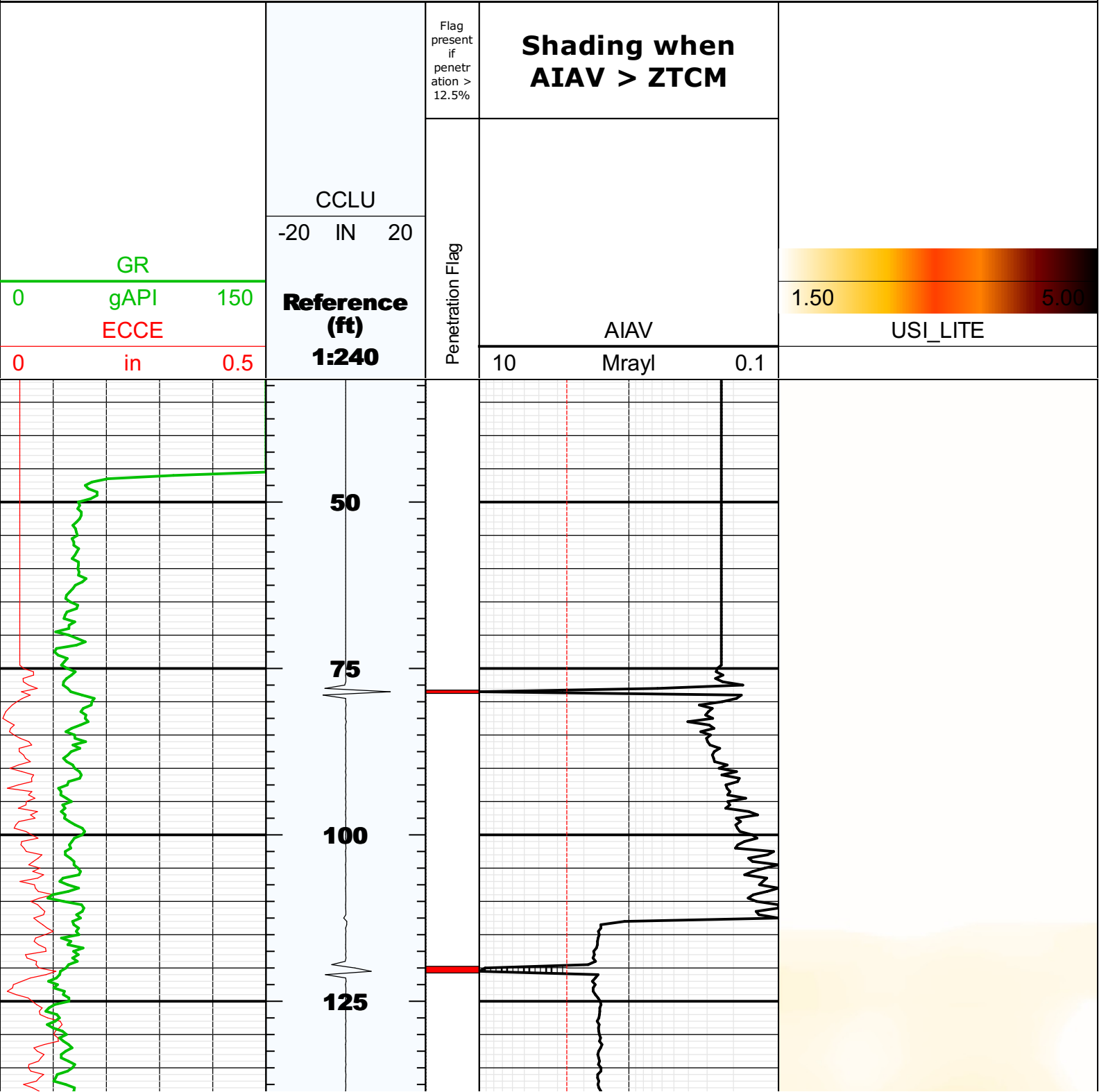
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA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

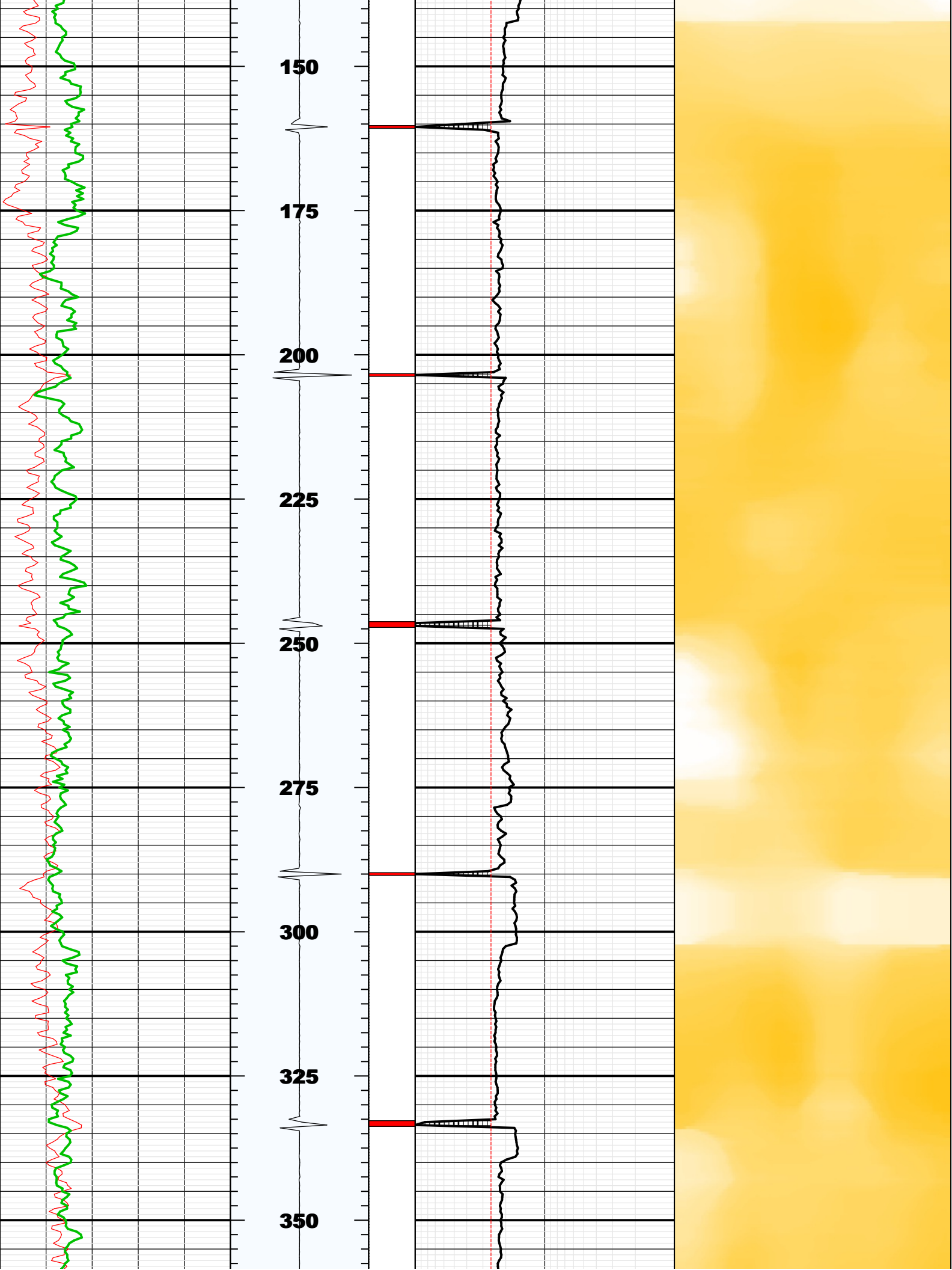
This is the first run in hole.
Toolstring run as per toolsketch.
Log objective Cement Evaluation
0 PSI repeat pass. 2500 PSI main pass for USIT and 0 PSI main pass for HGNS.
High resolution repeat pass from 7185-7270' to examine casing.
Estimated TOC @ 980'. Expected TOC @ 30'.
Top of 4.5 liner at 7285.2'.
Bottom log interval at 7270' to maintain distance from liner top.
Bottom hole temperature was 239.67 degF.

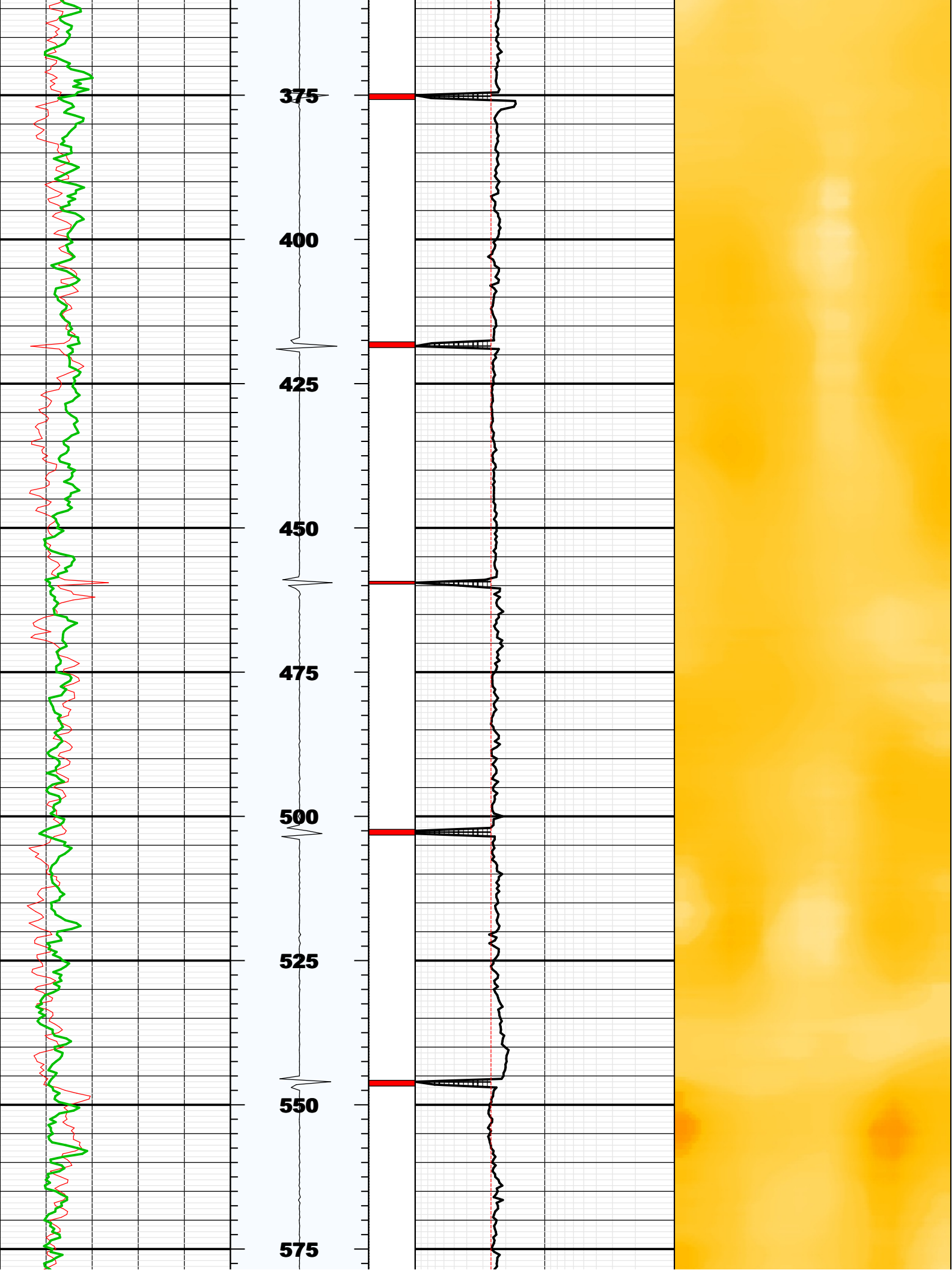
Thank you for choosing Schlumberger Wireline!
SLB crew K. Krentz J. Jump and K. Ondrus.

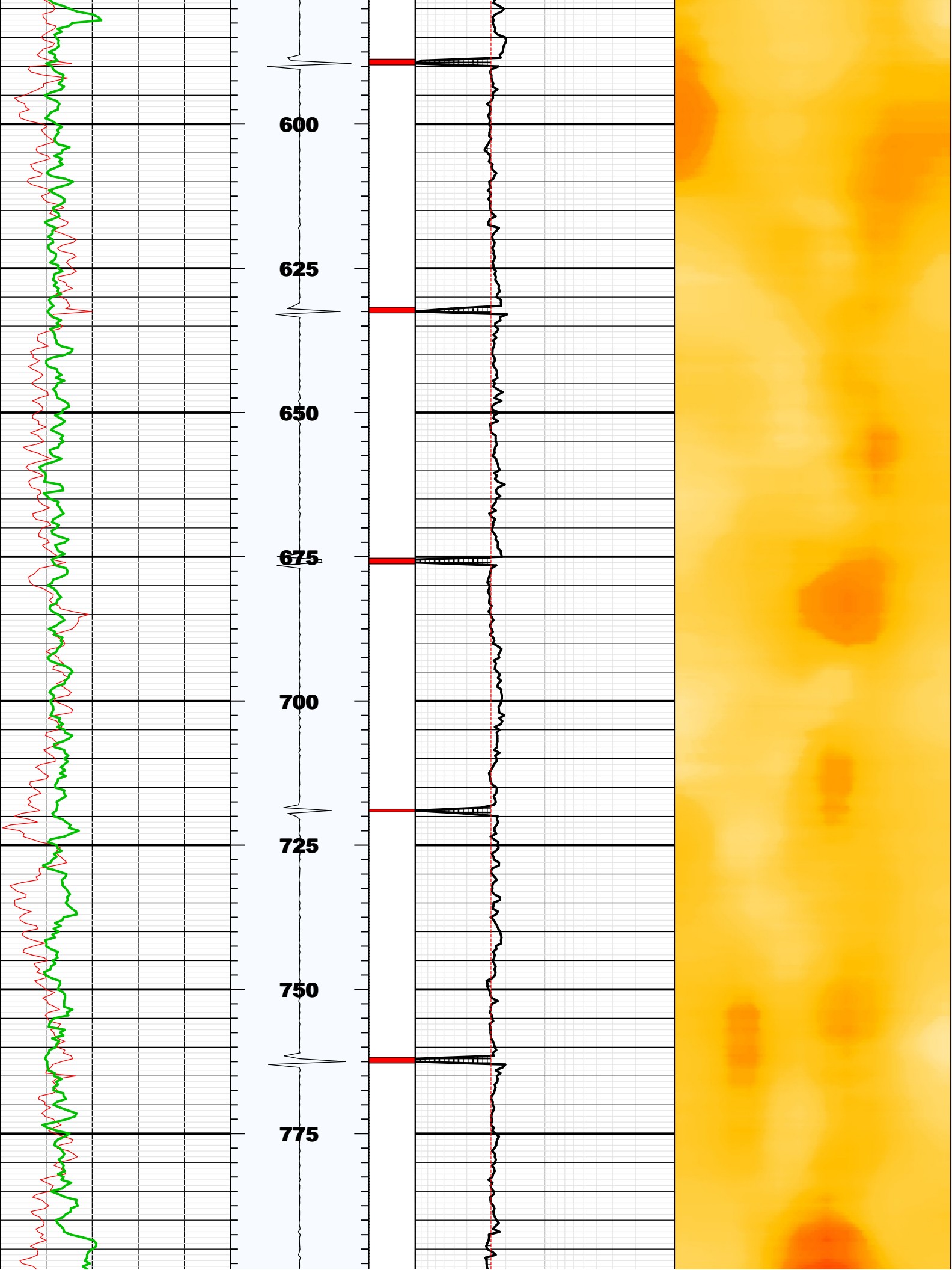
Main Pass

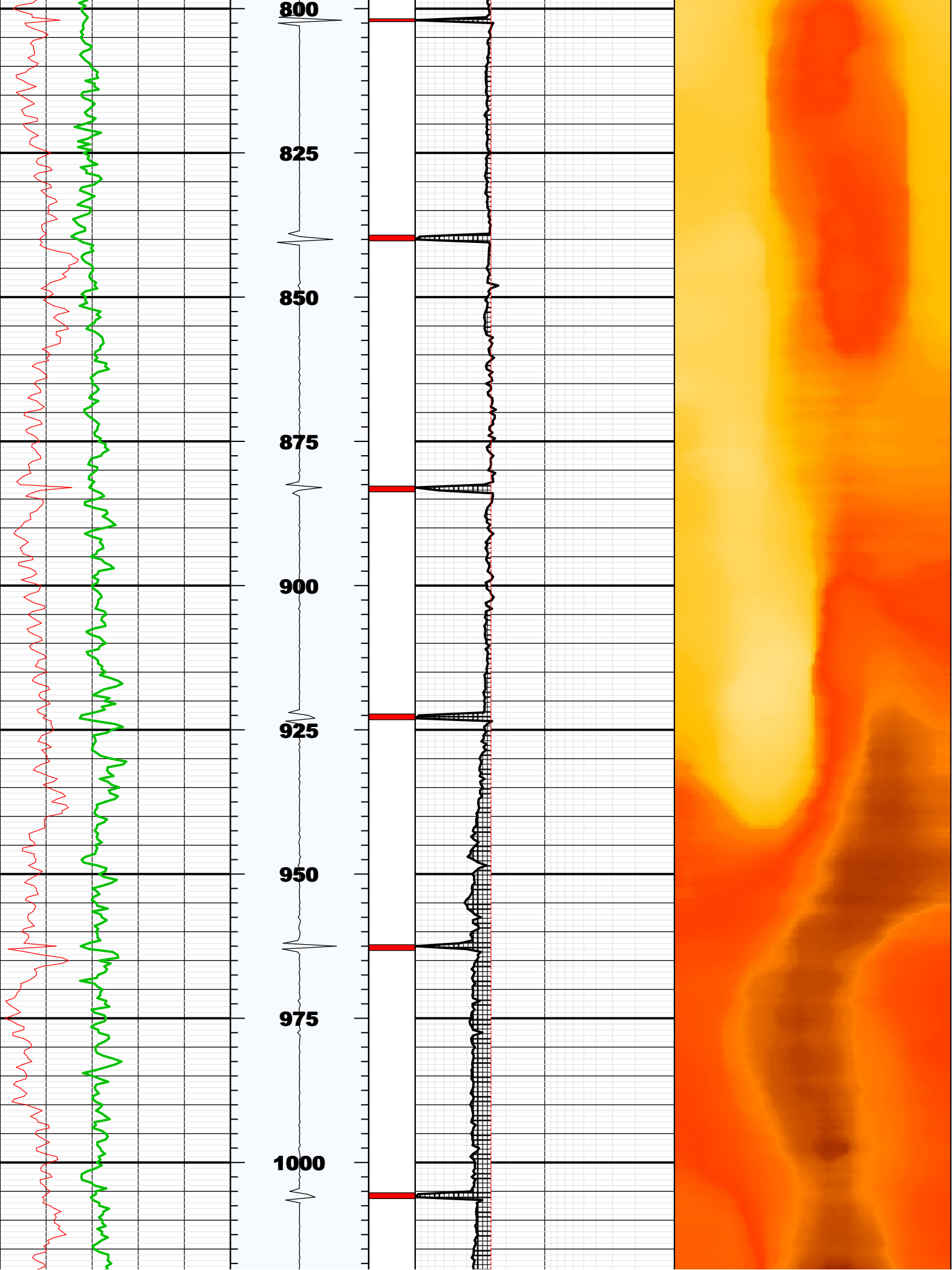
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Field: Greeley

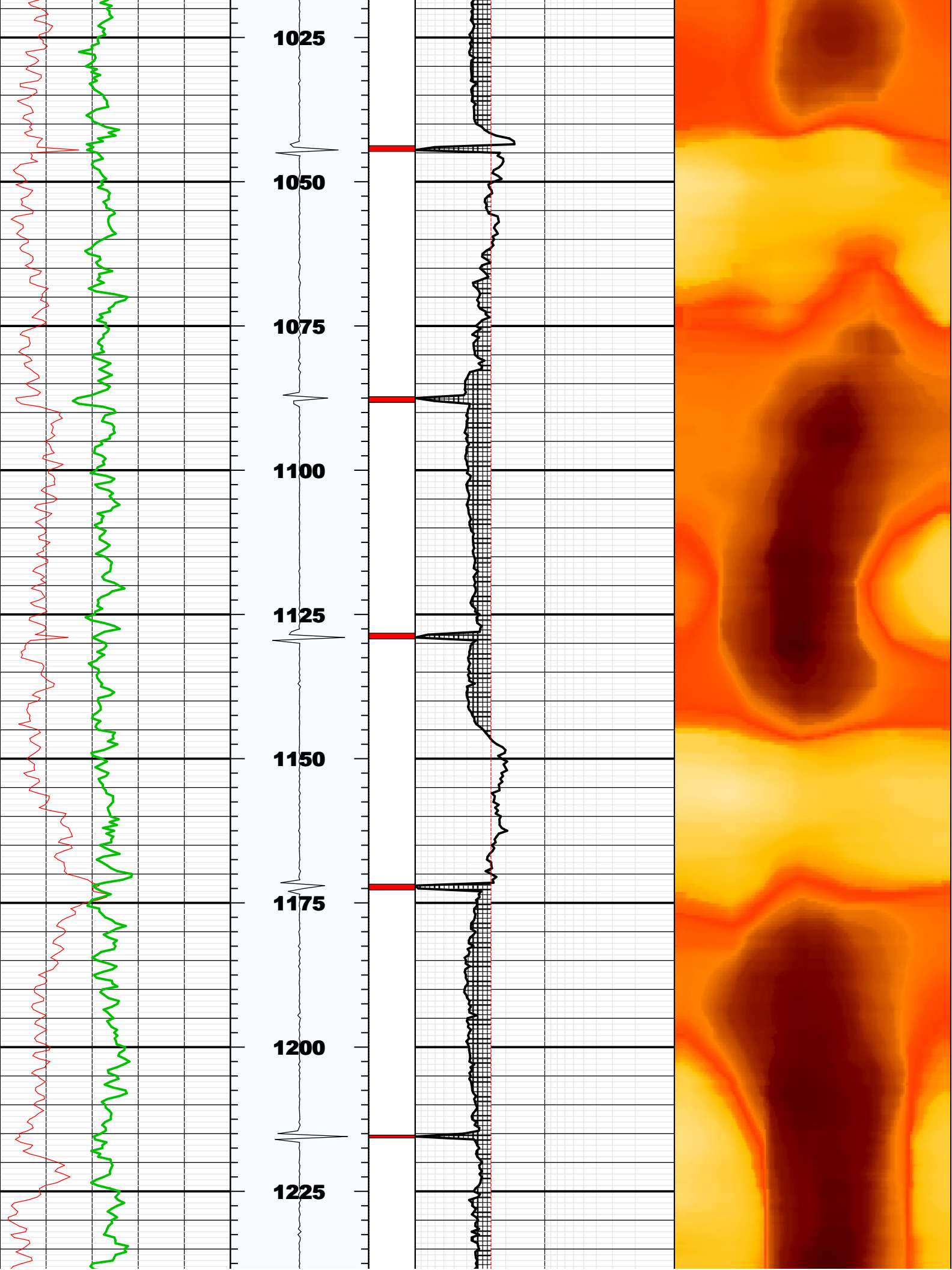


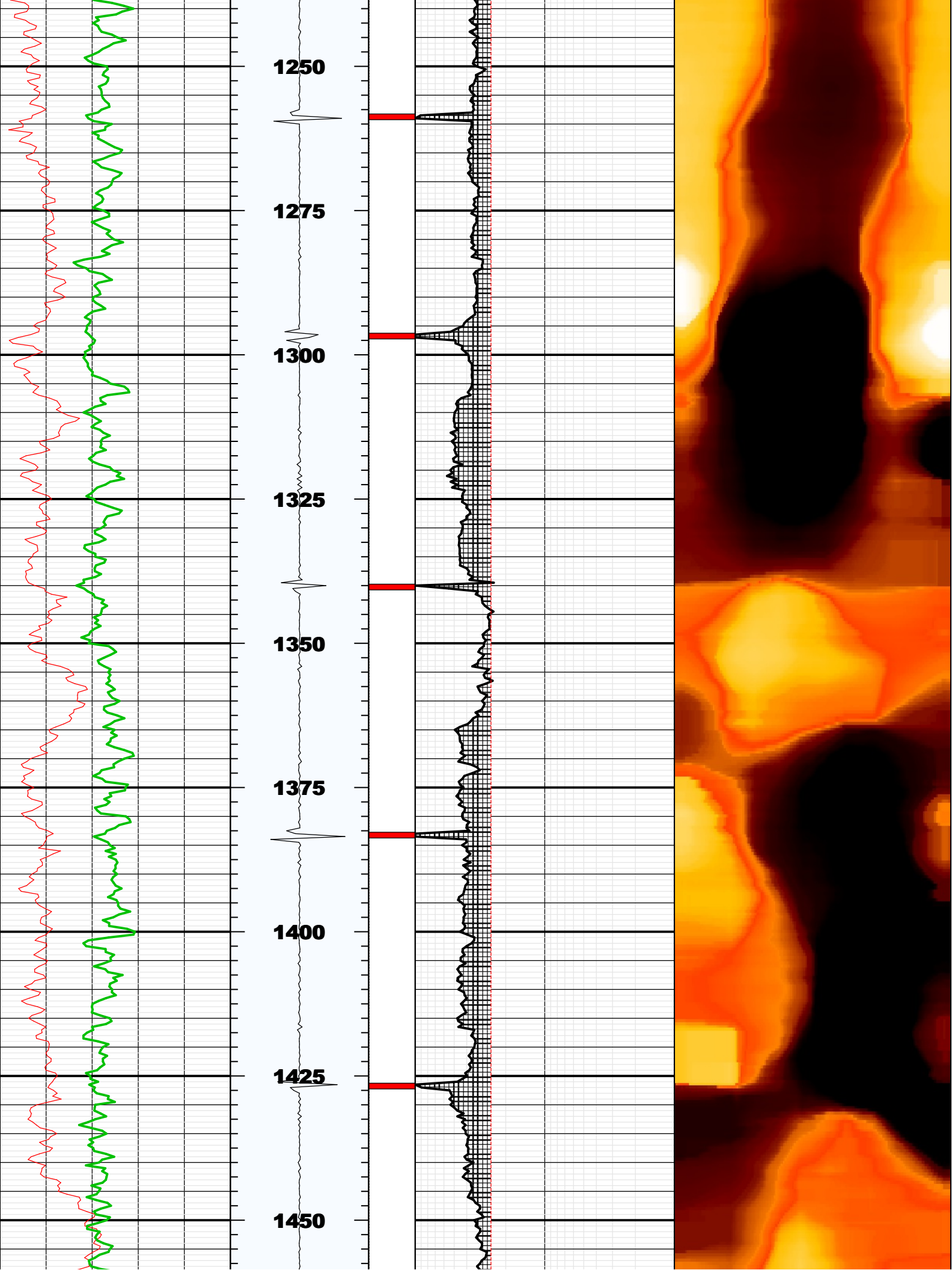


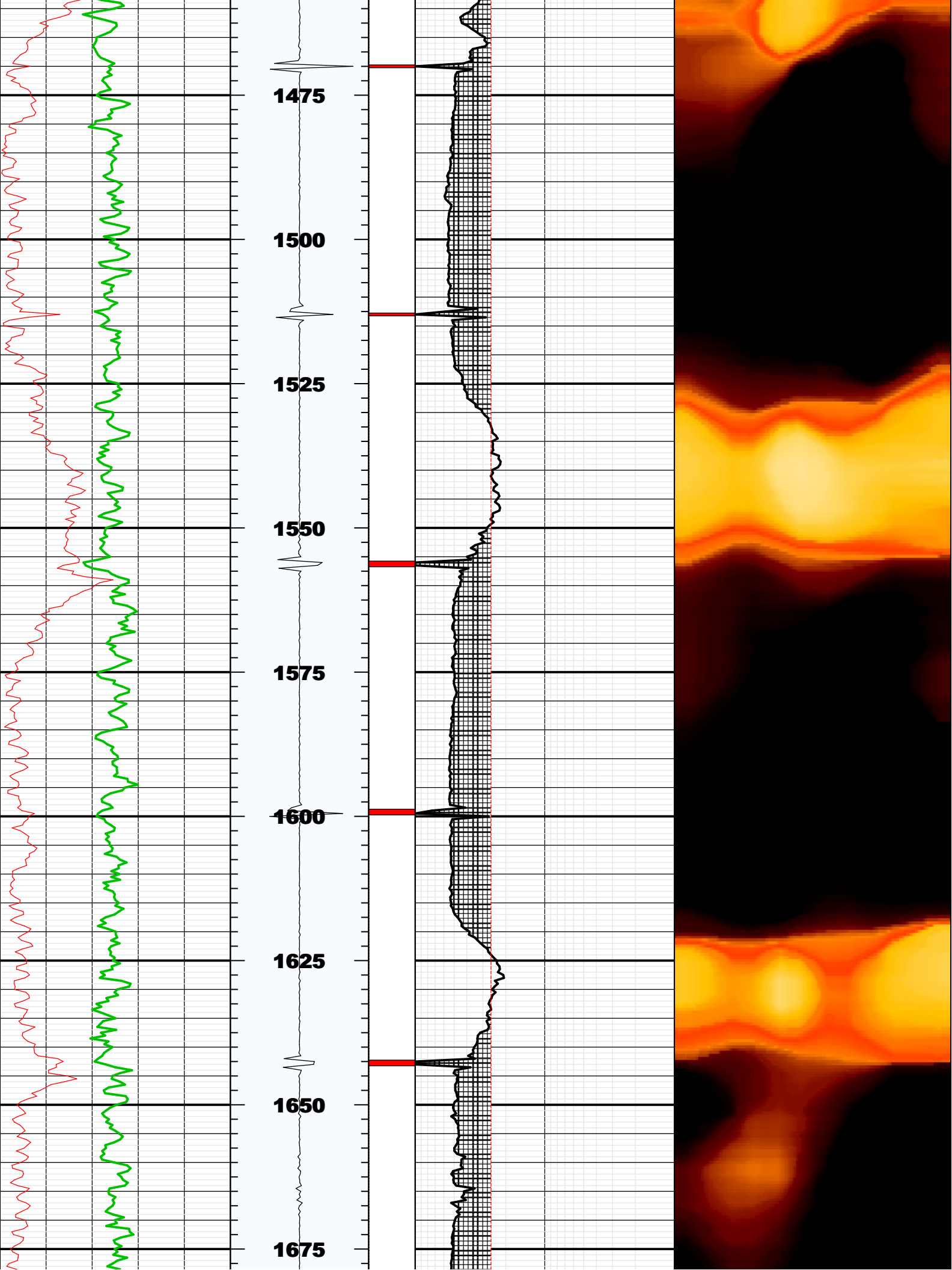


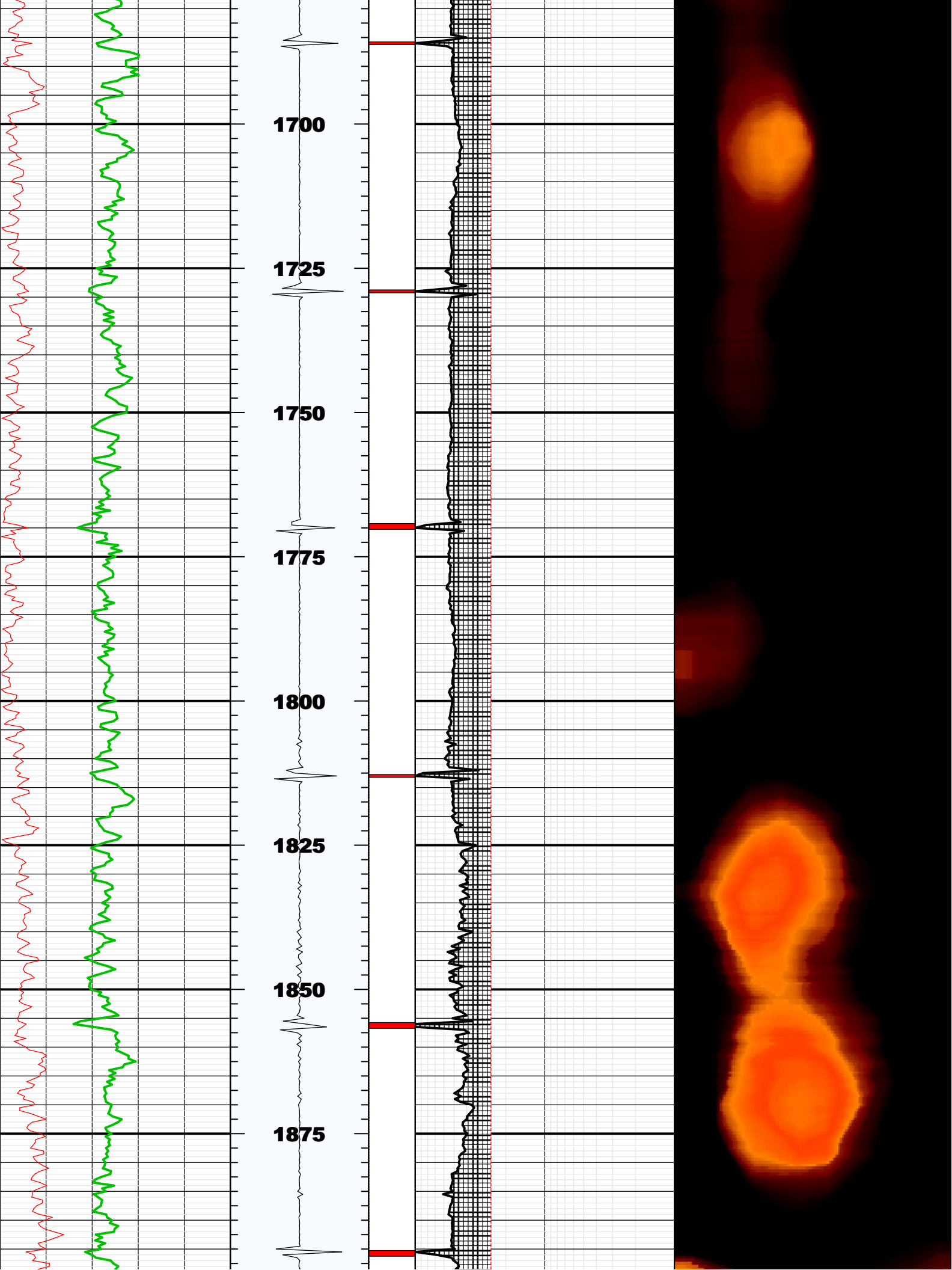


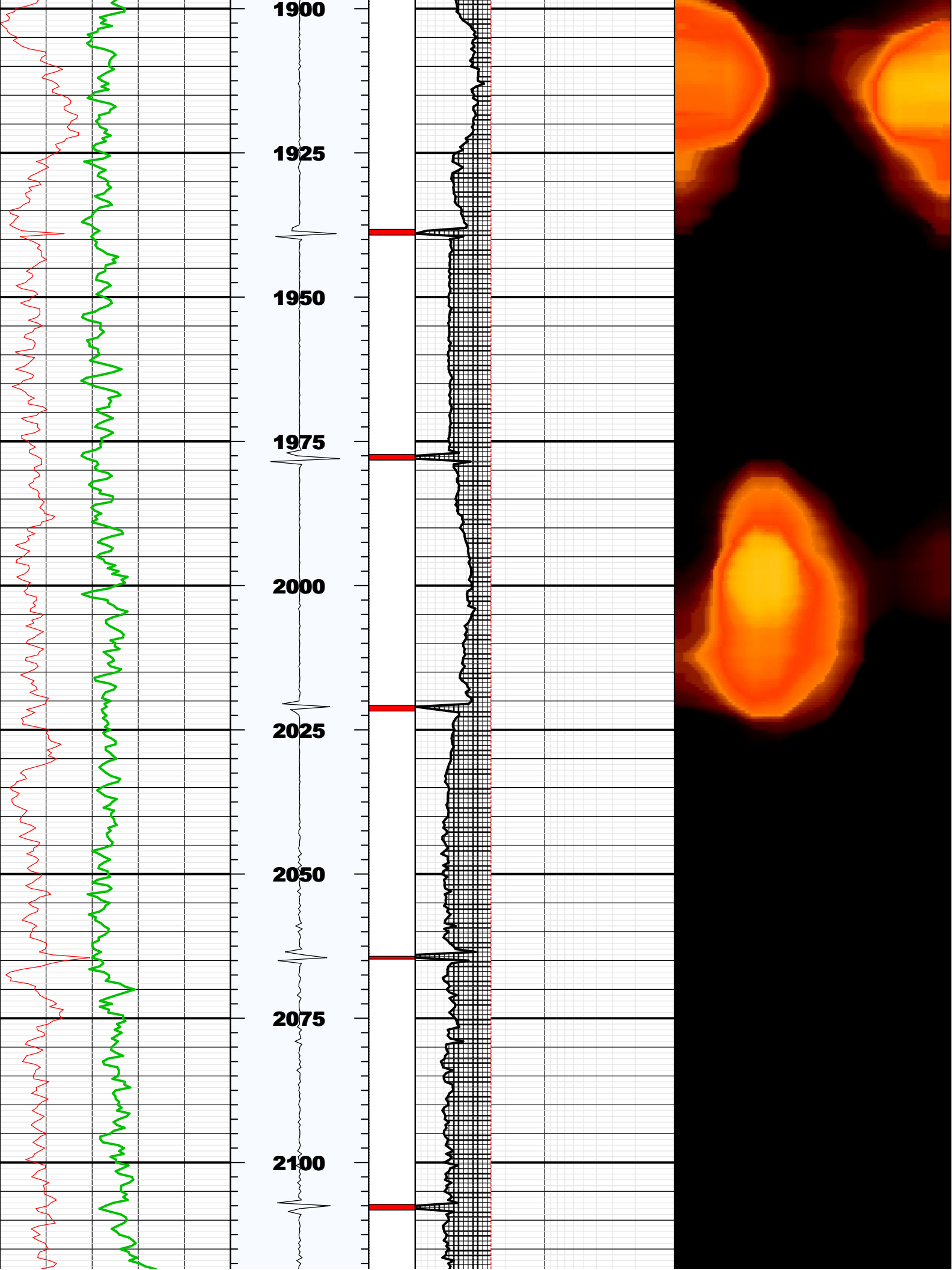


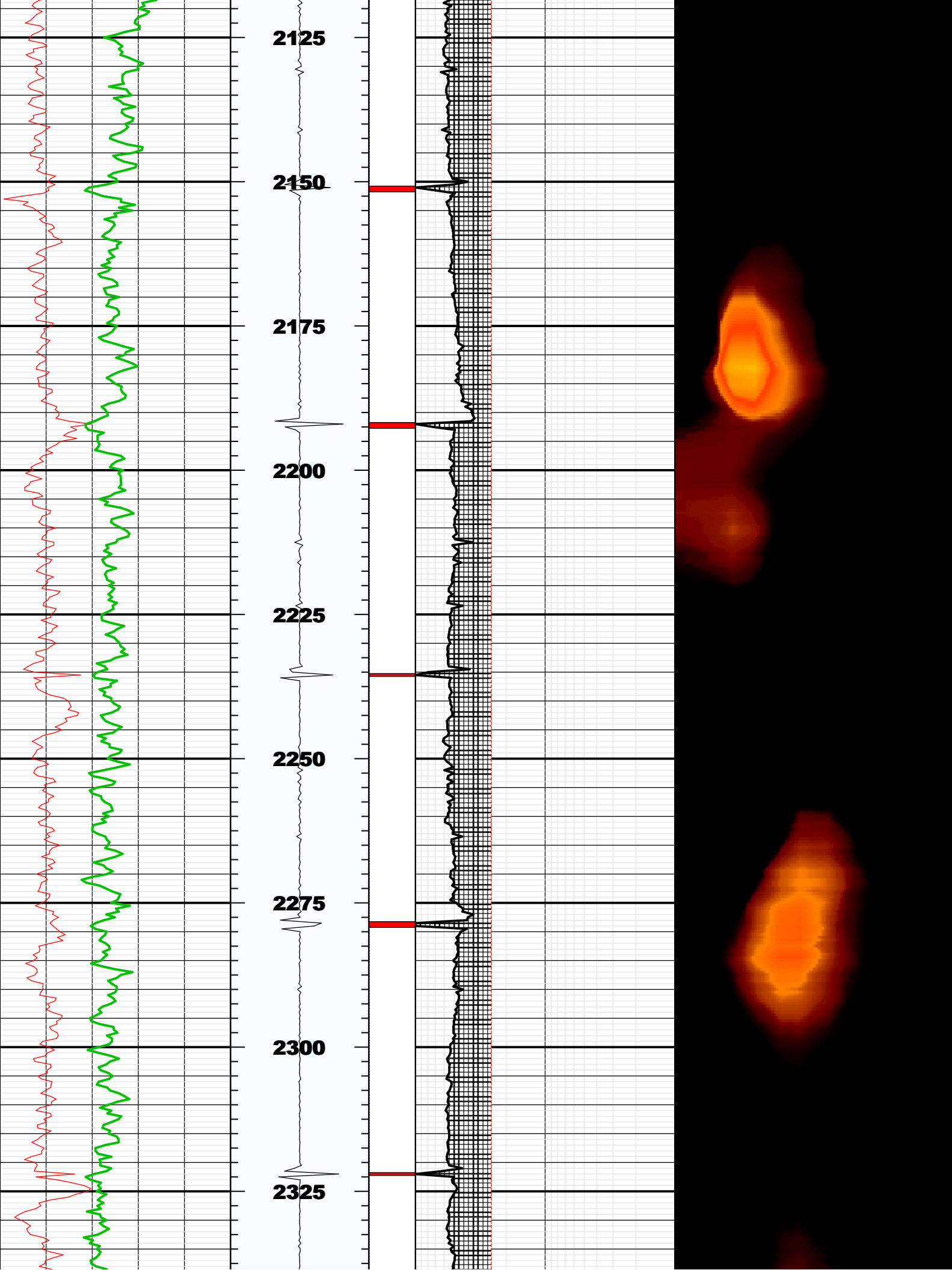


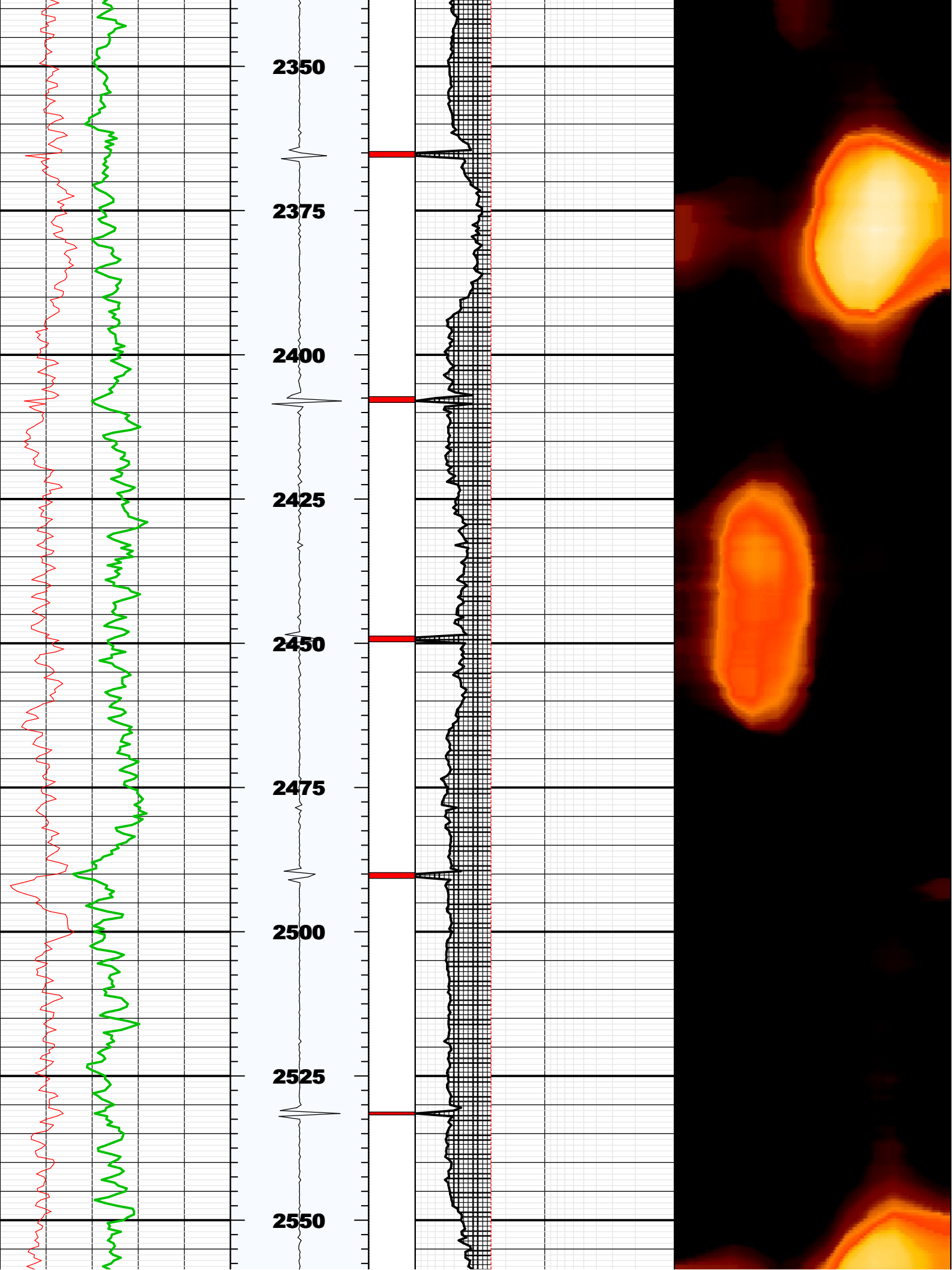


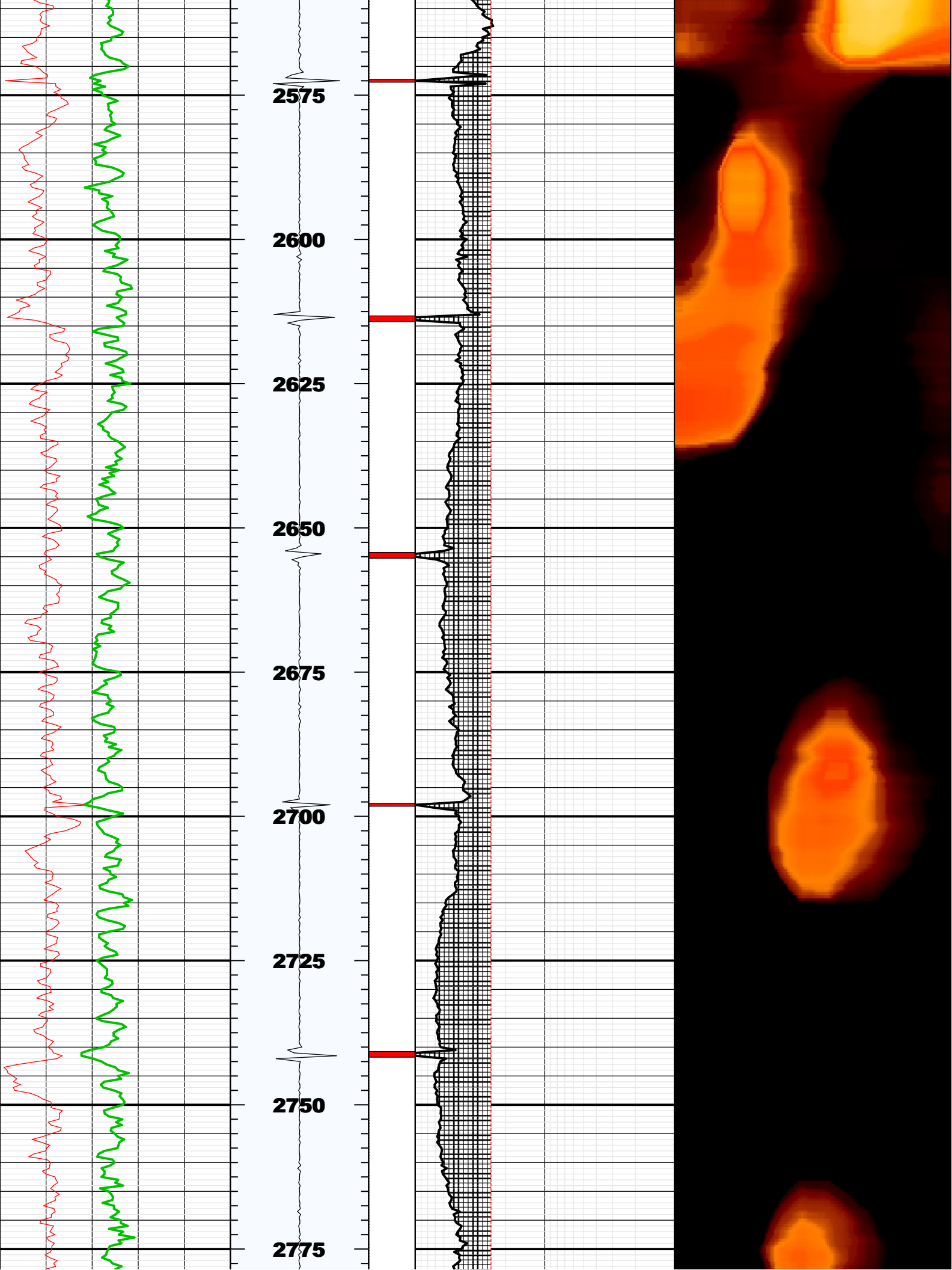


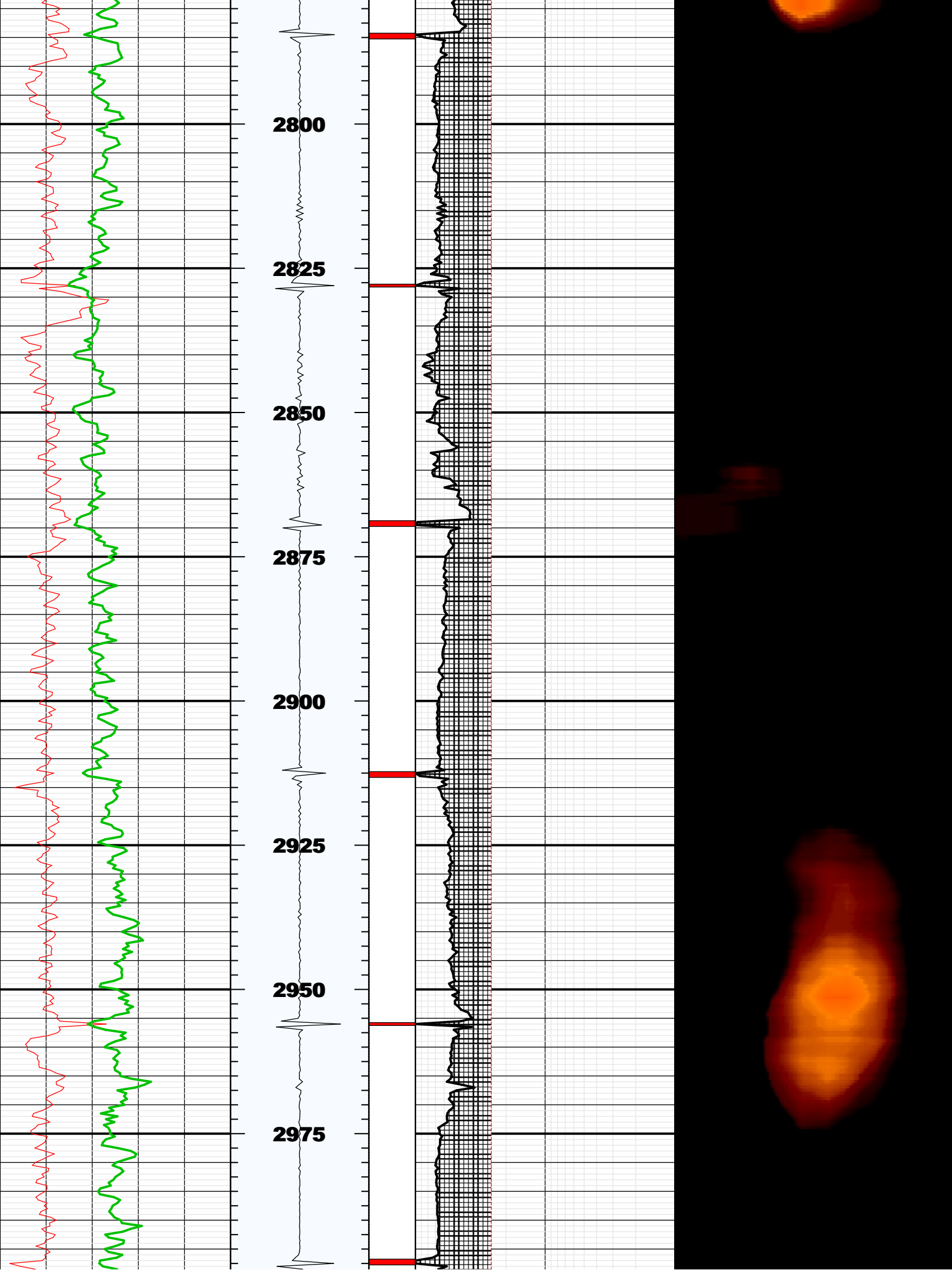


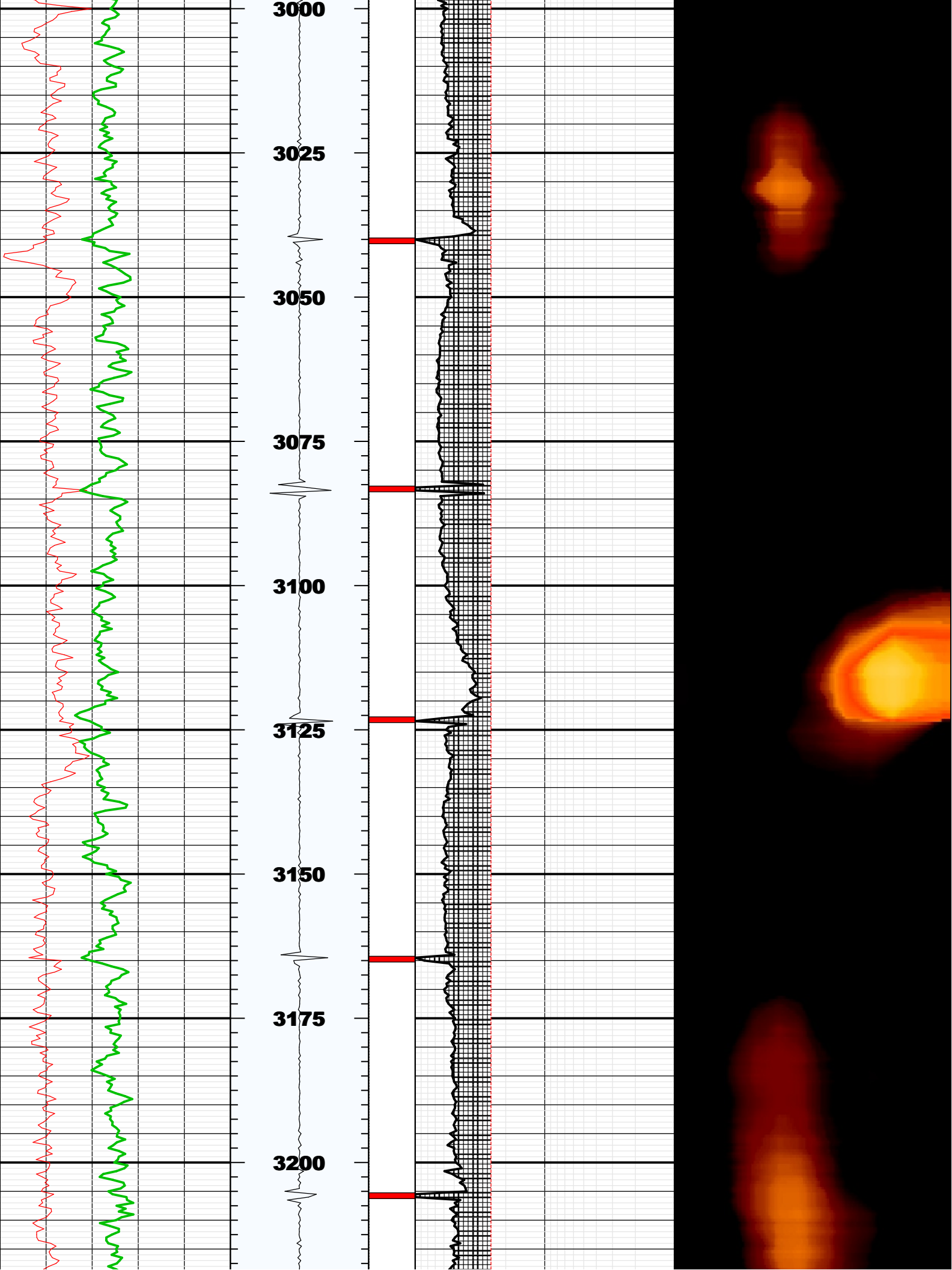


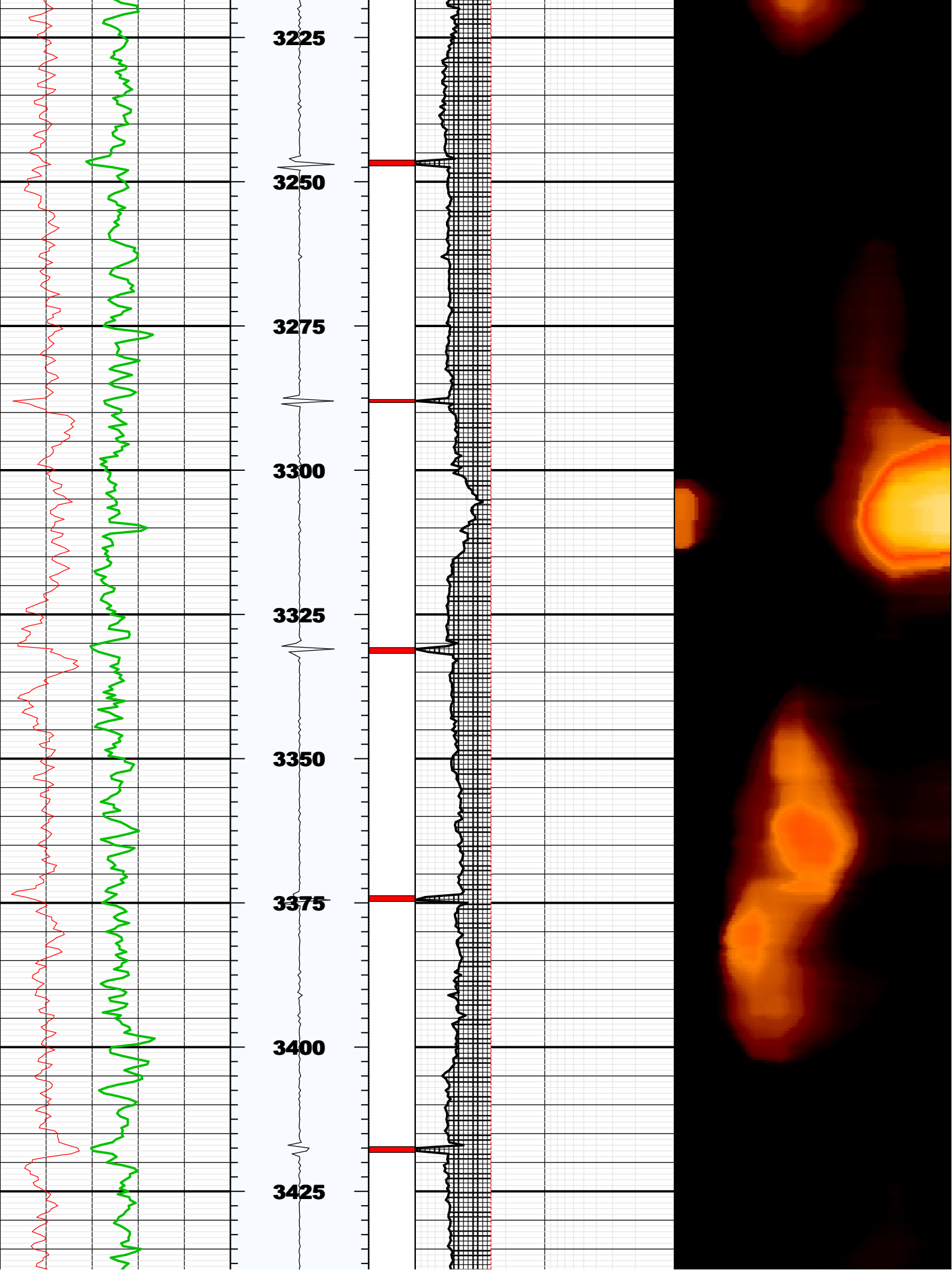


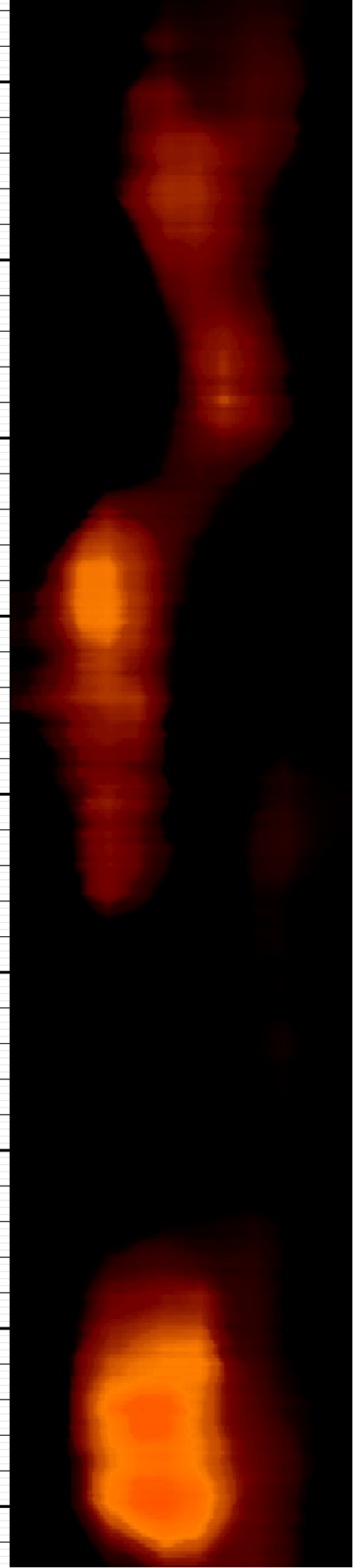
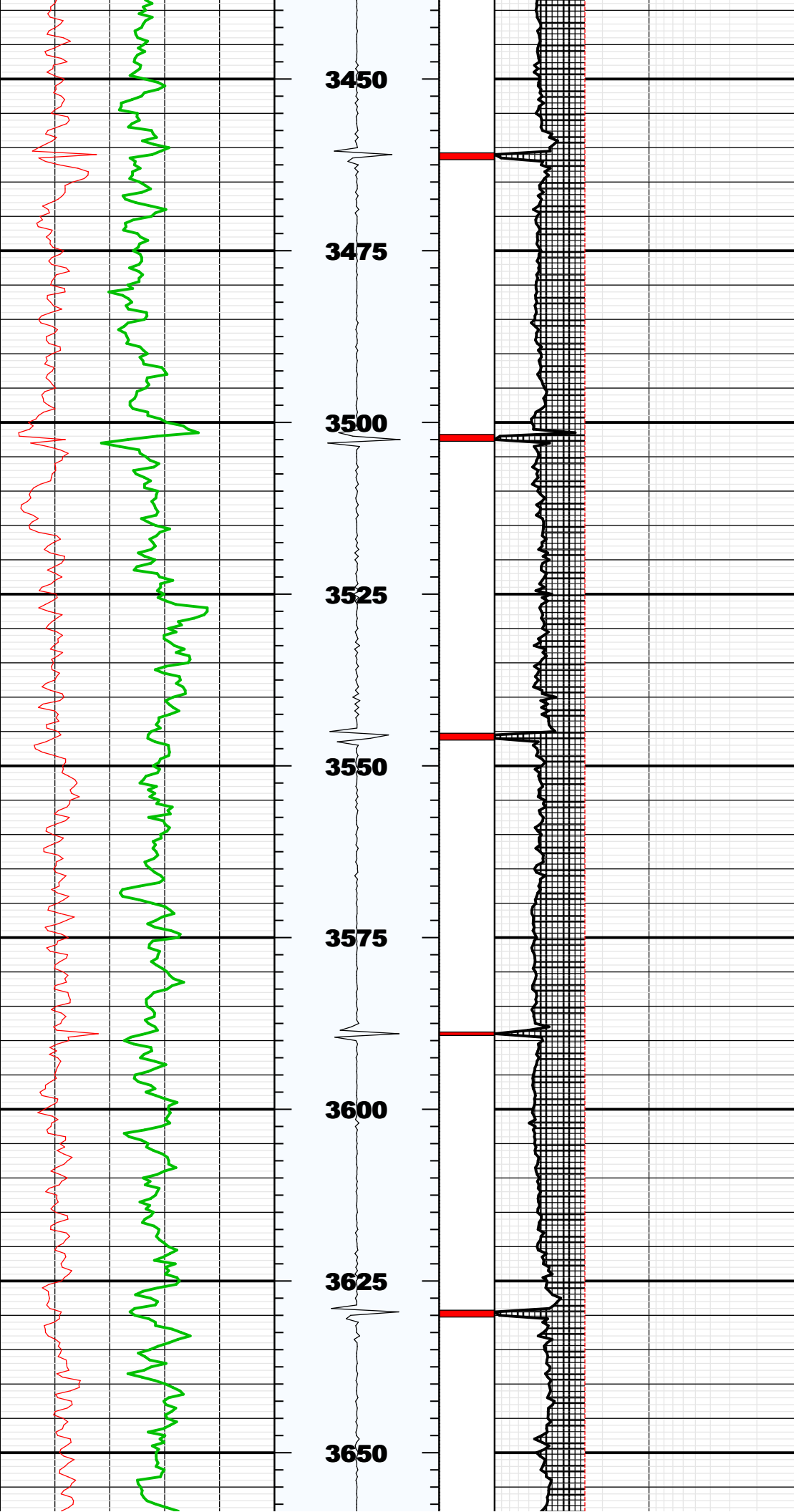


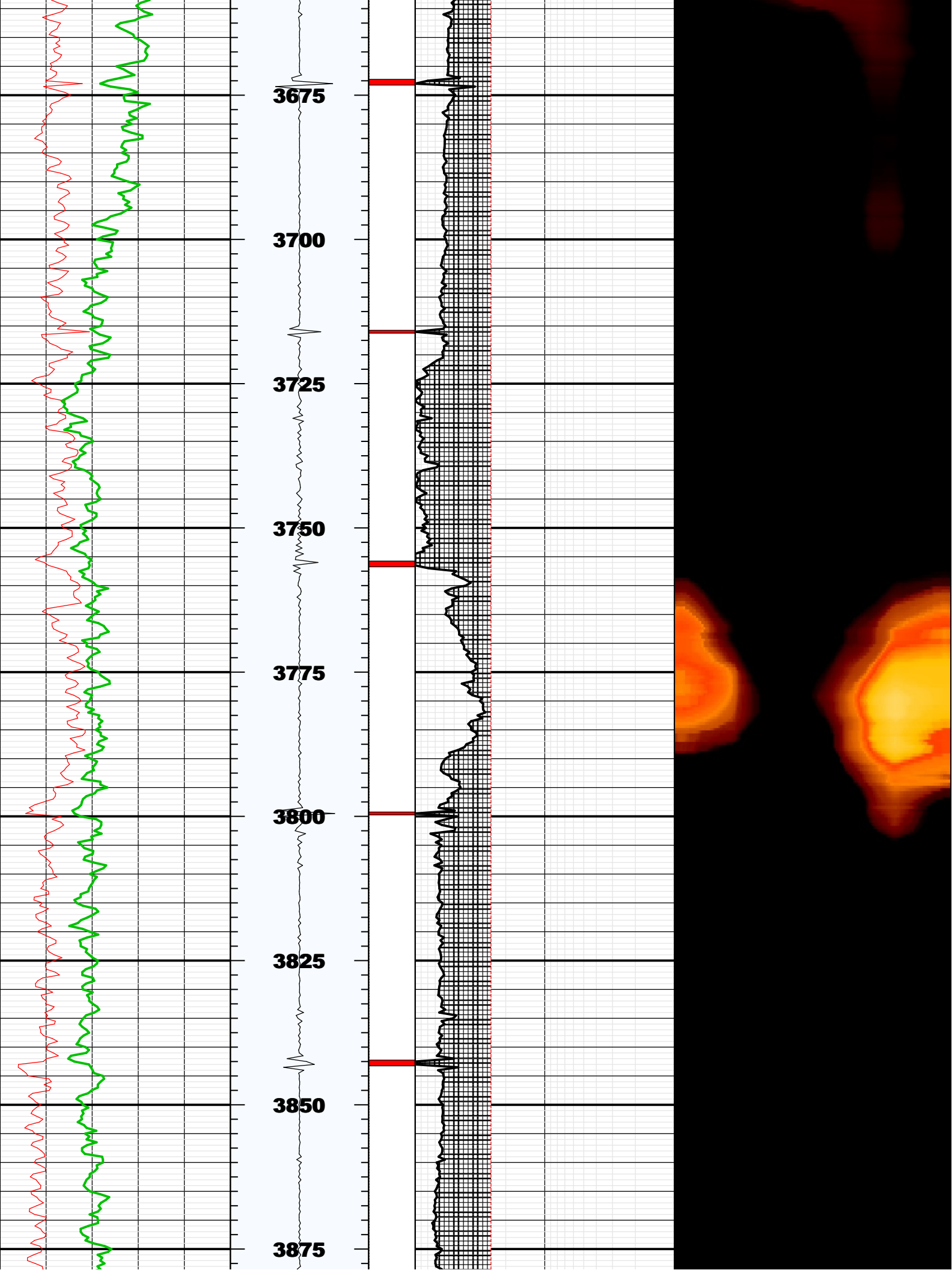


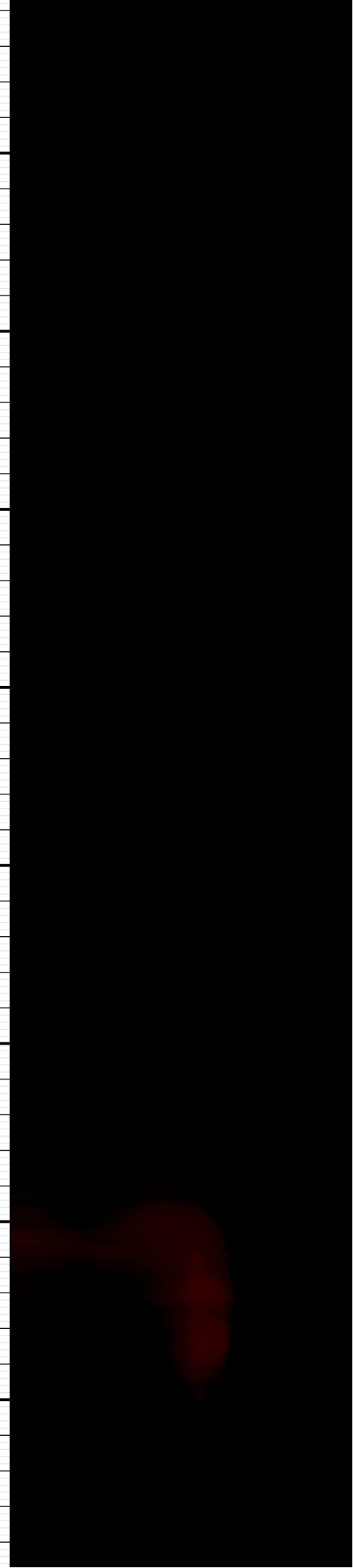
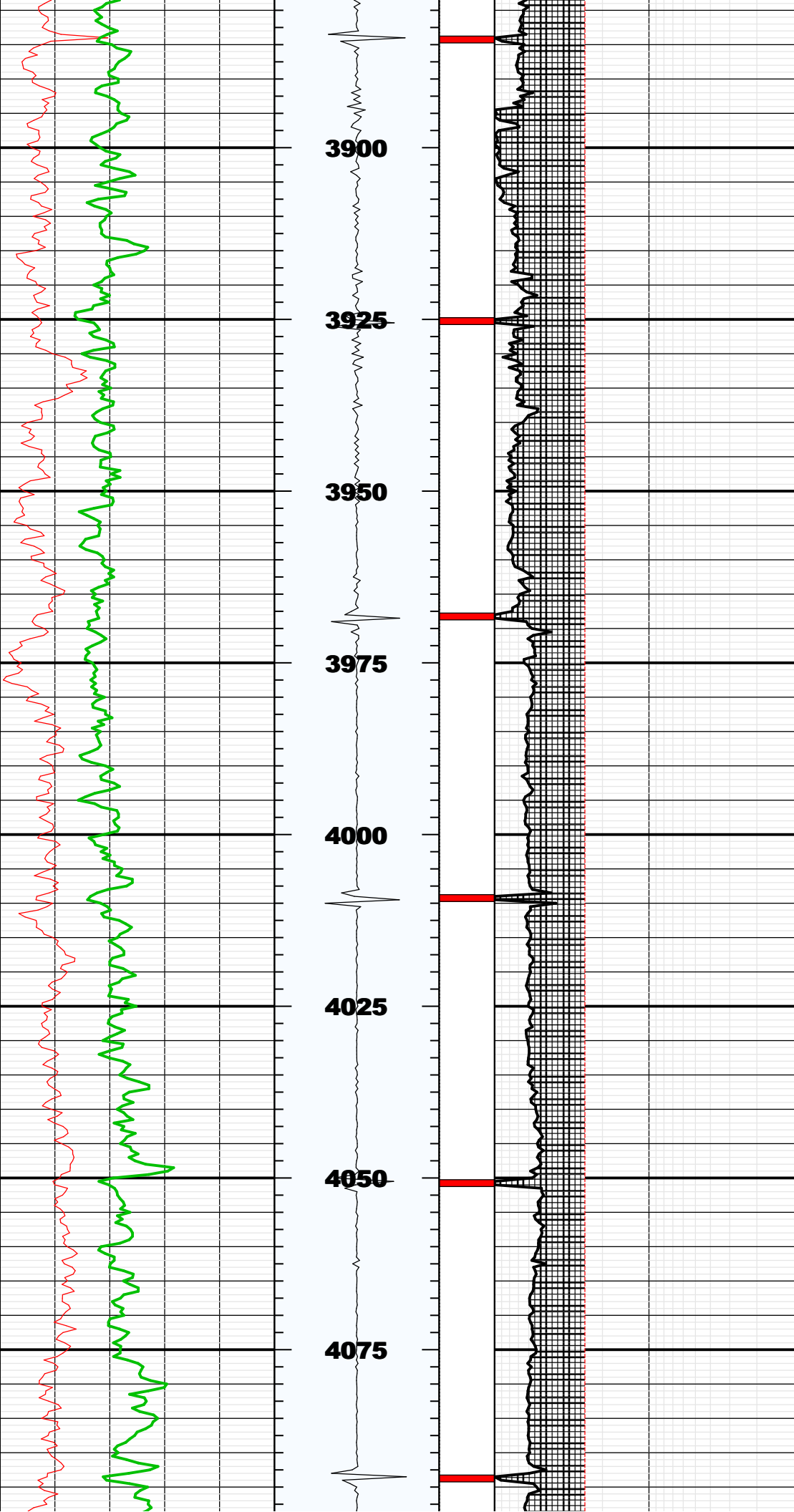


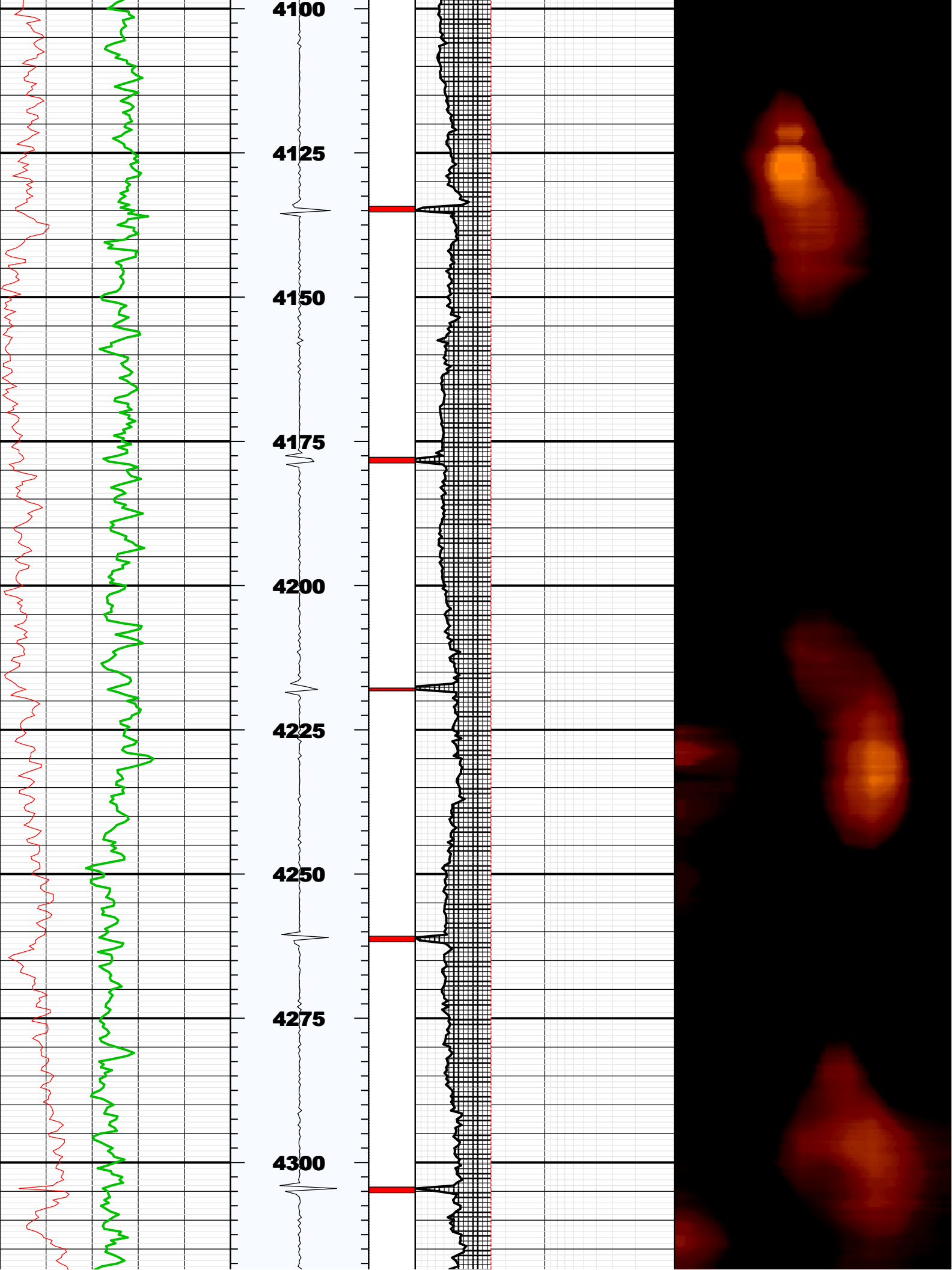


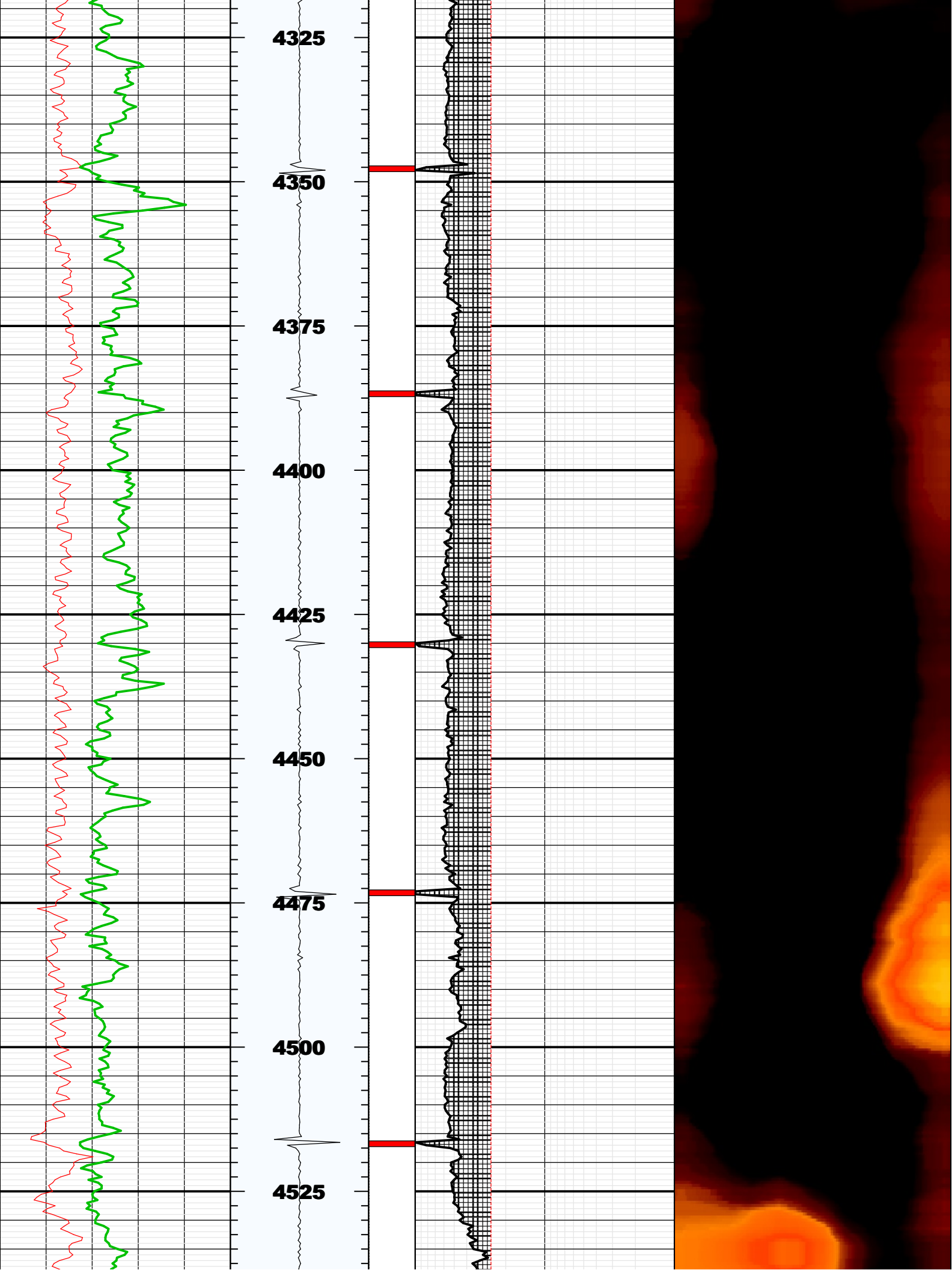


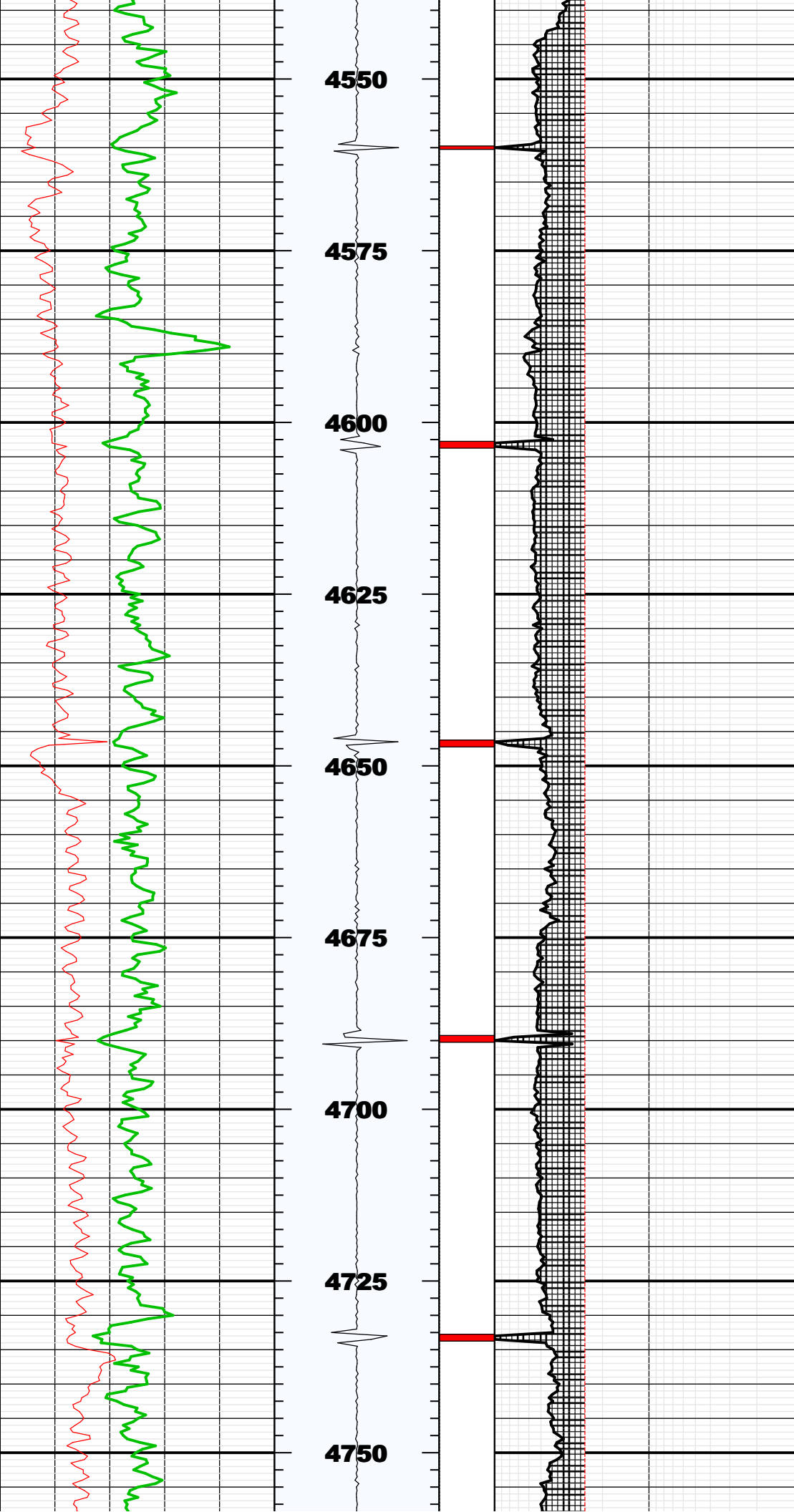


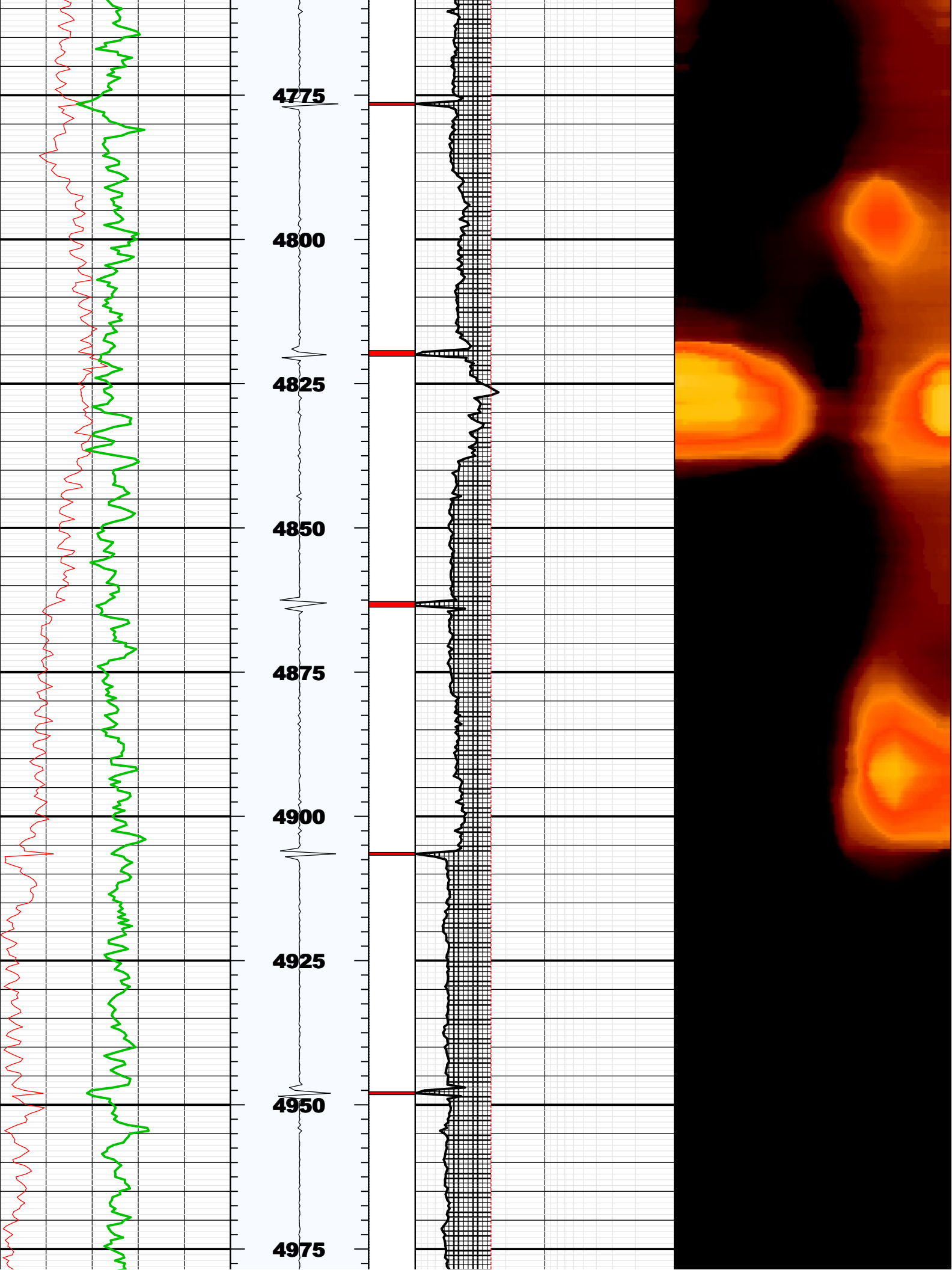


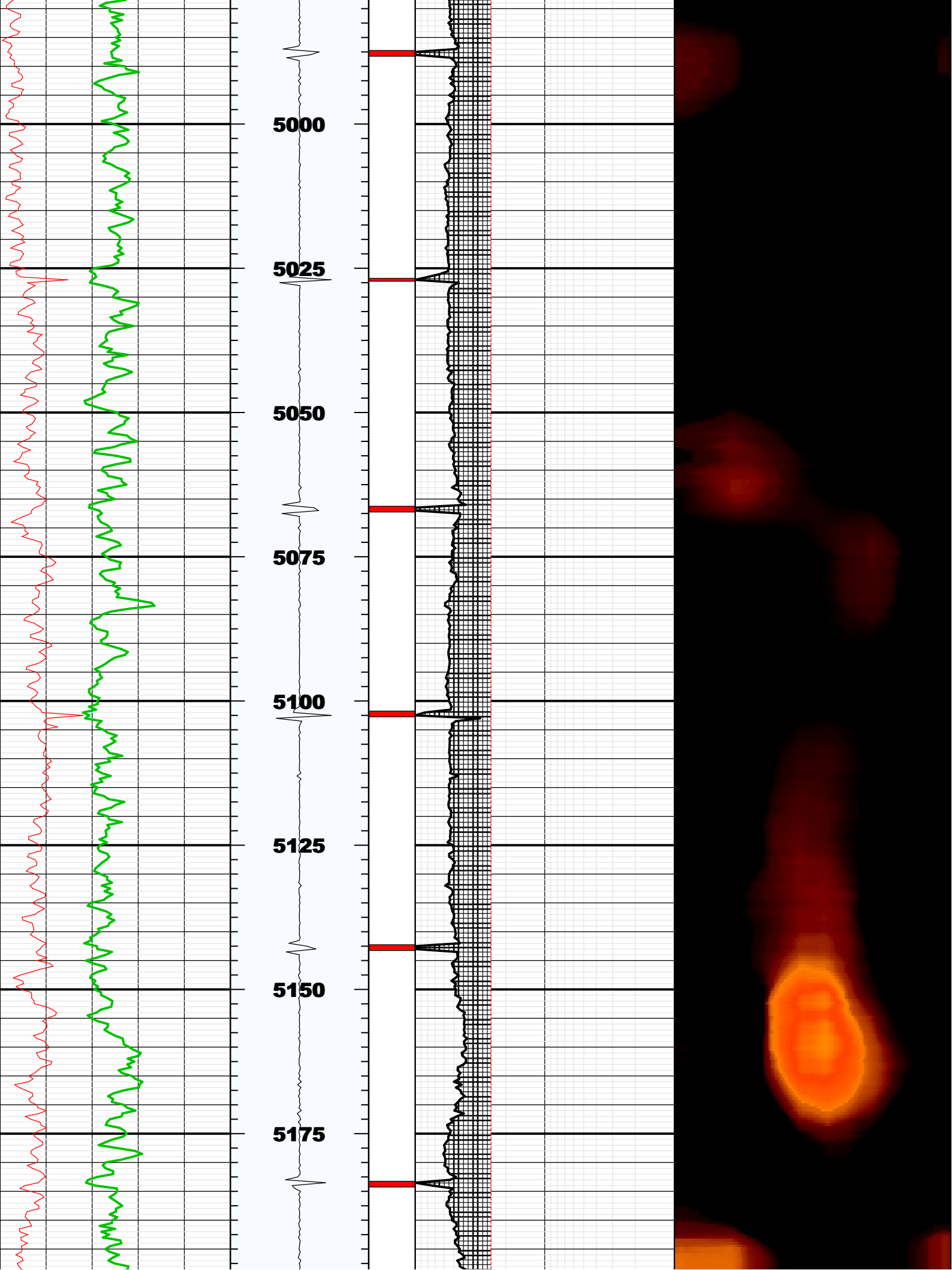


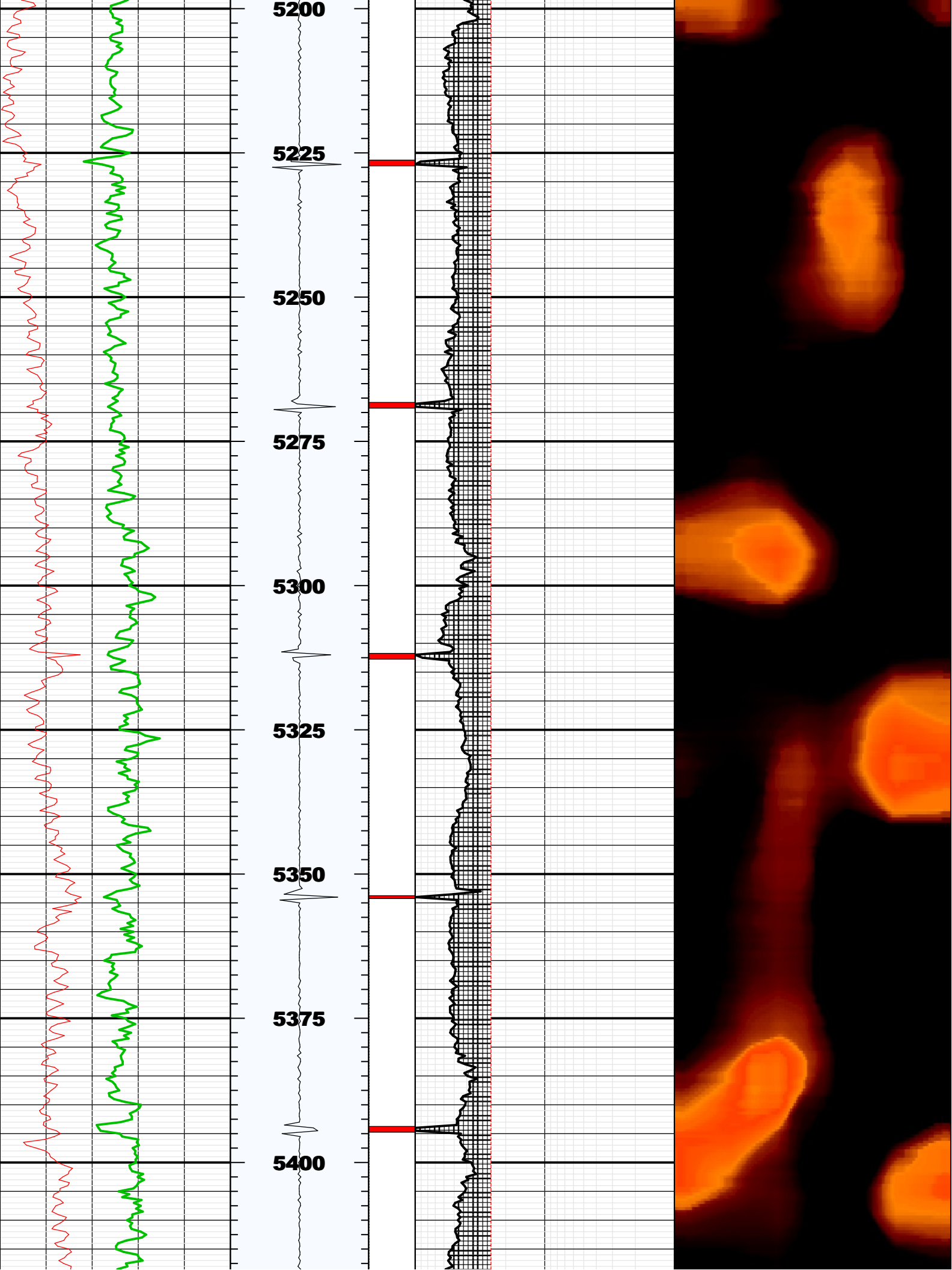


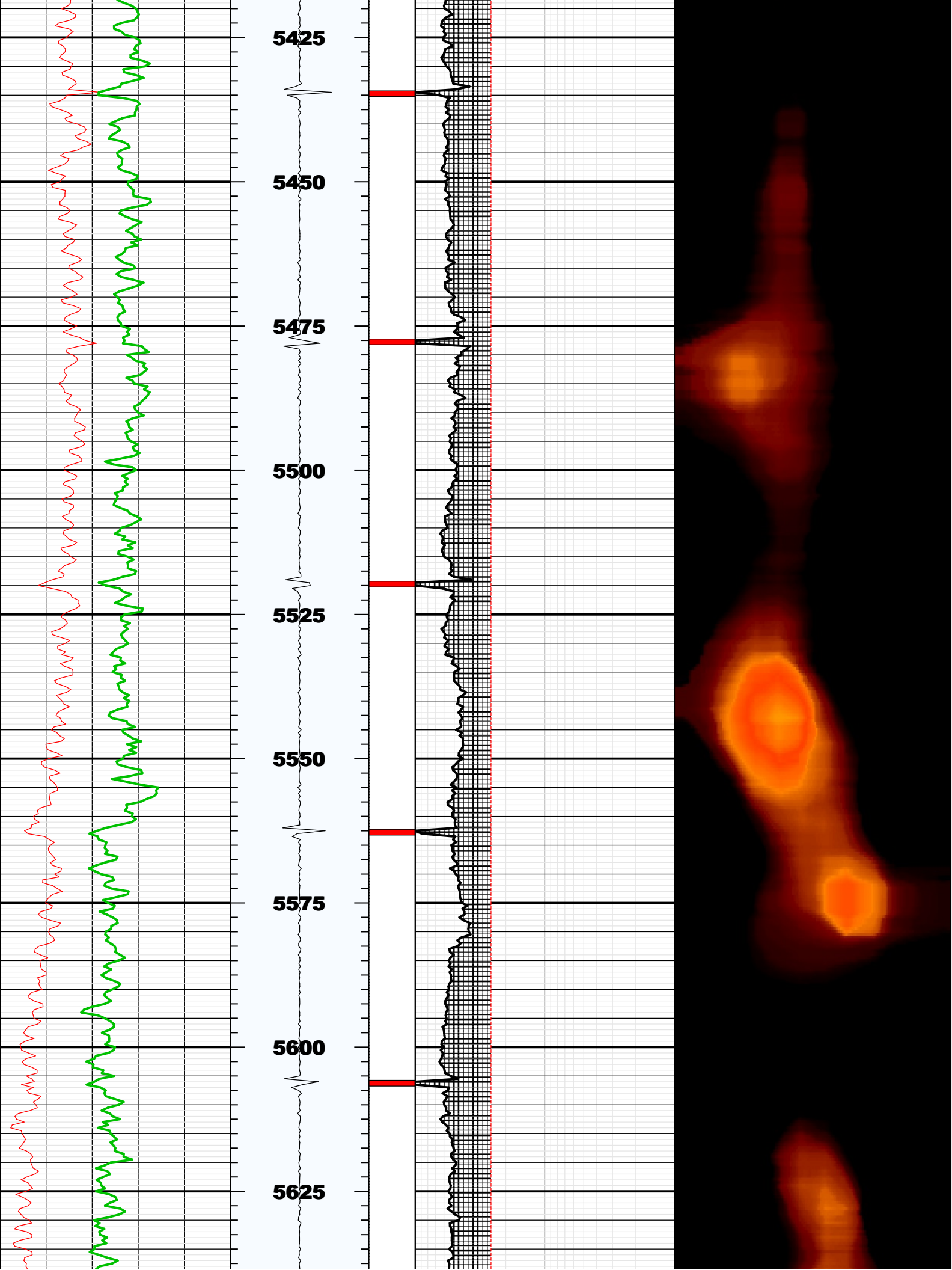


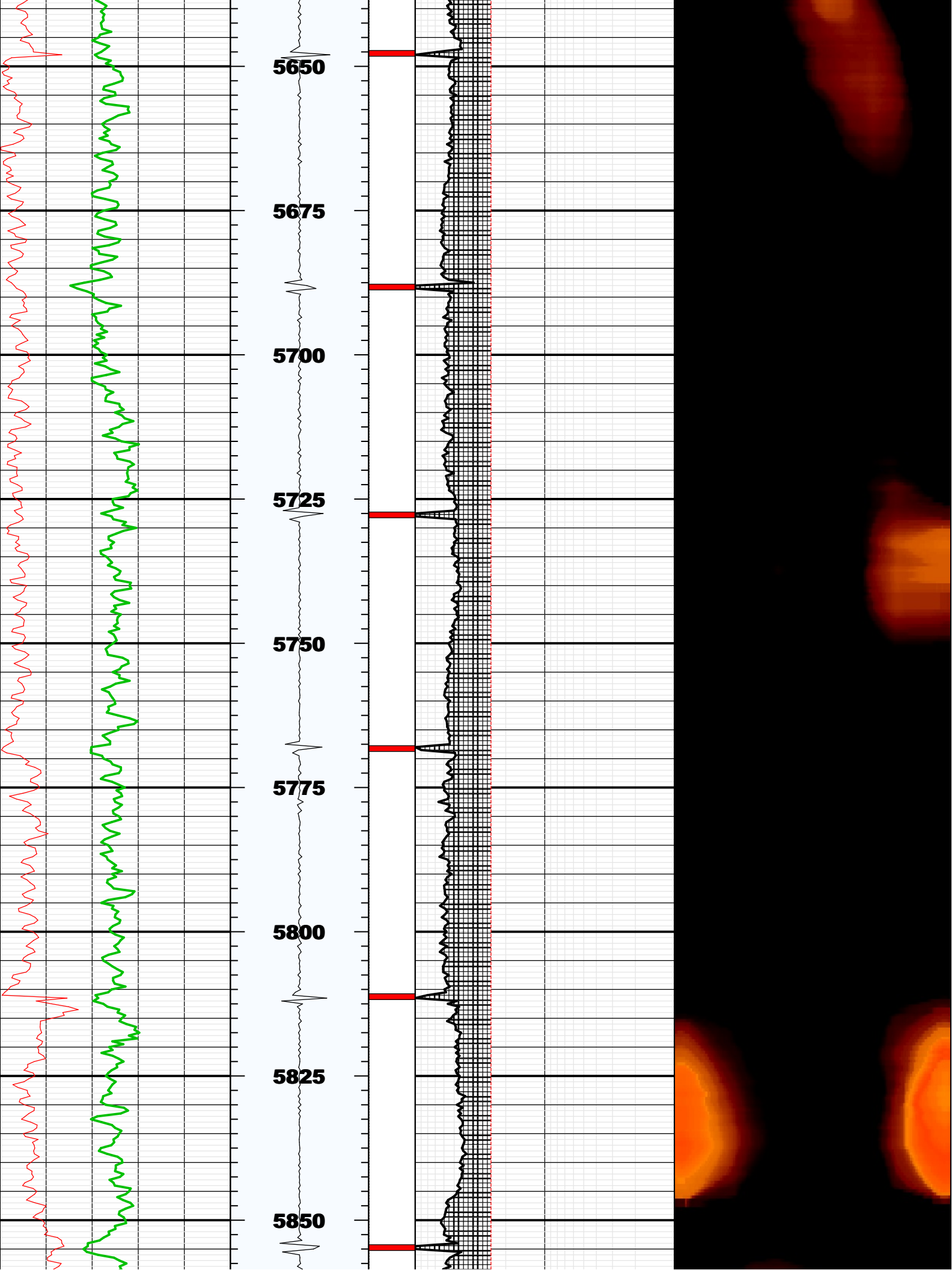


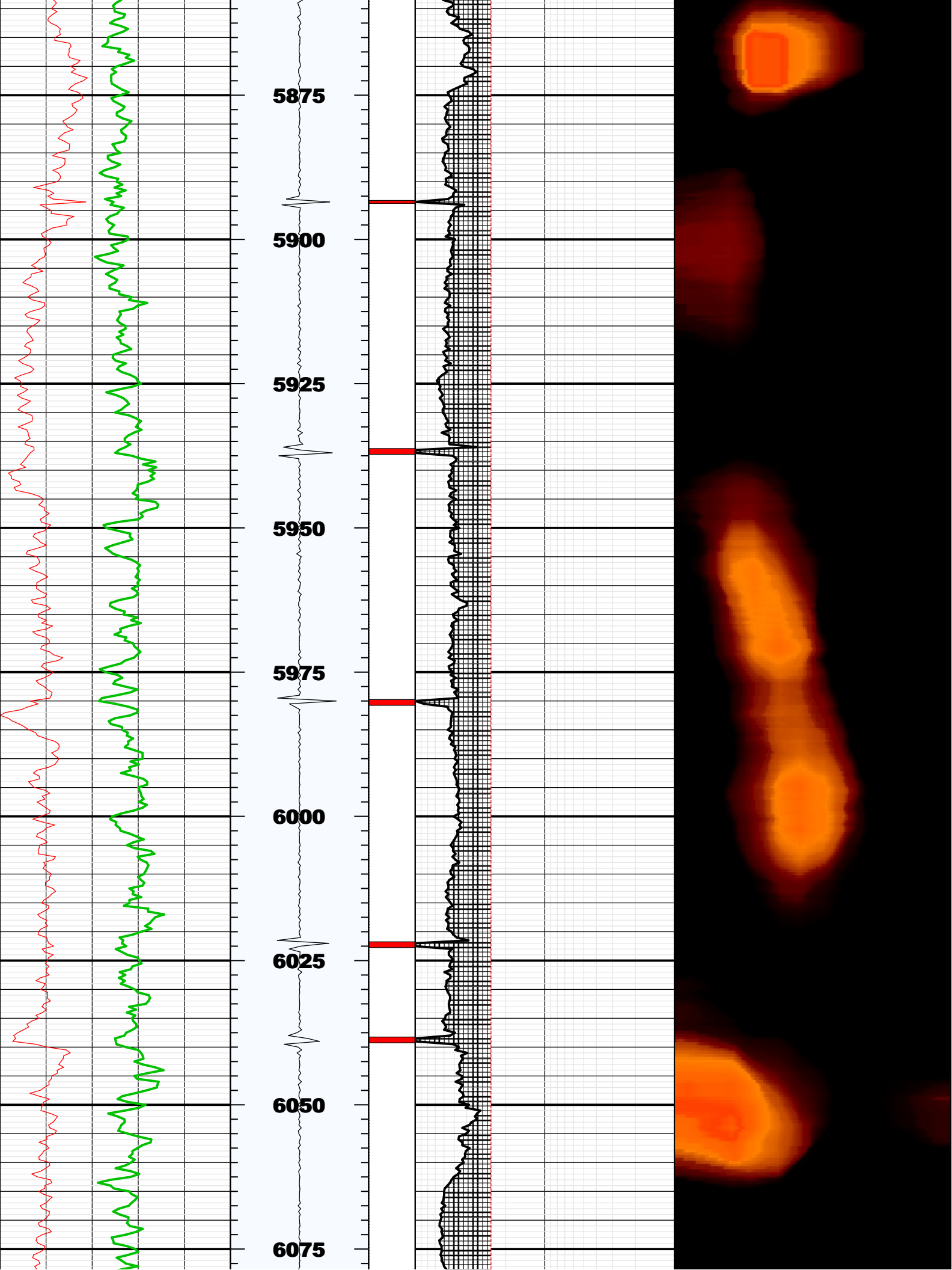


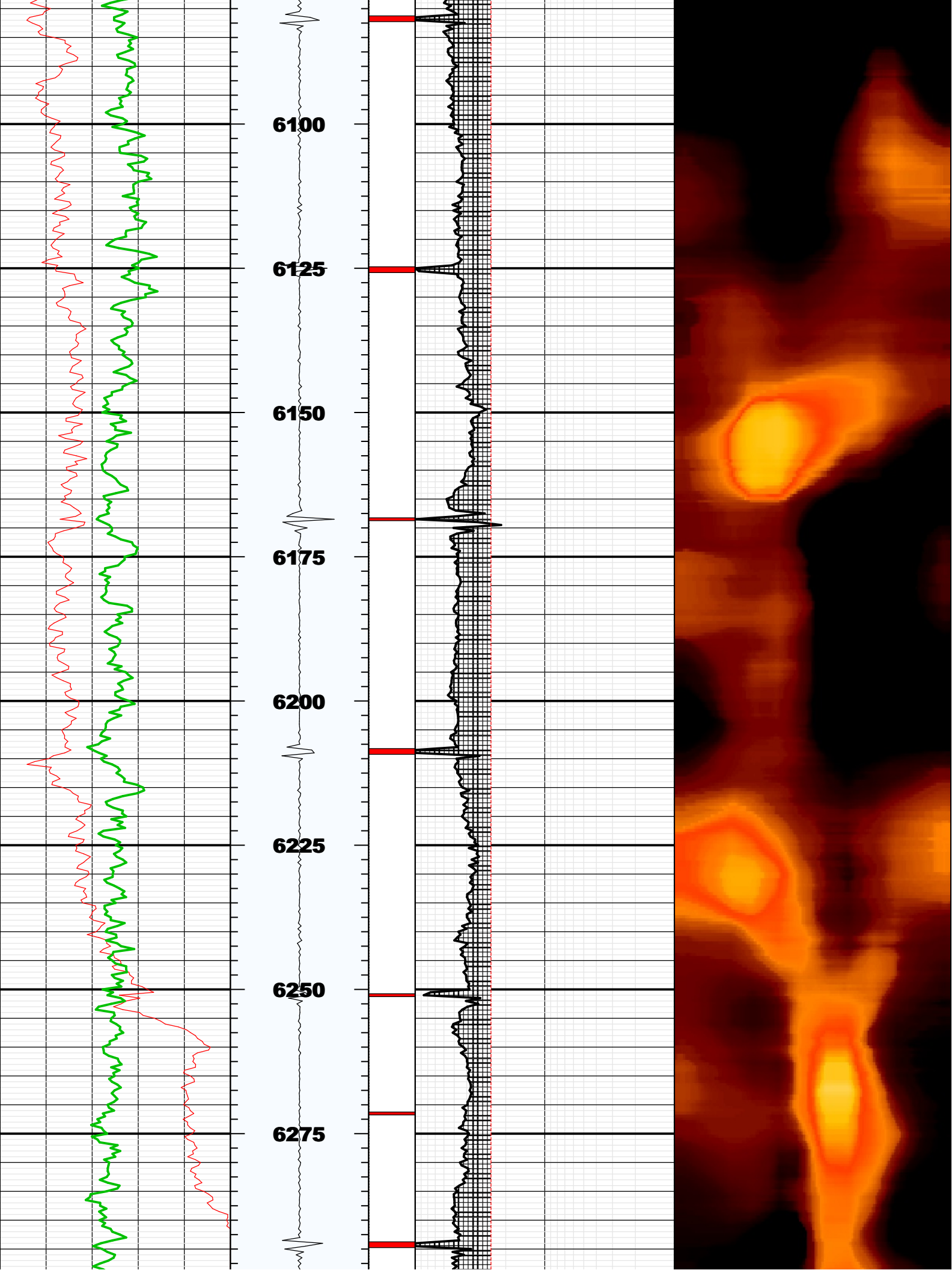


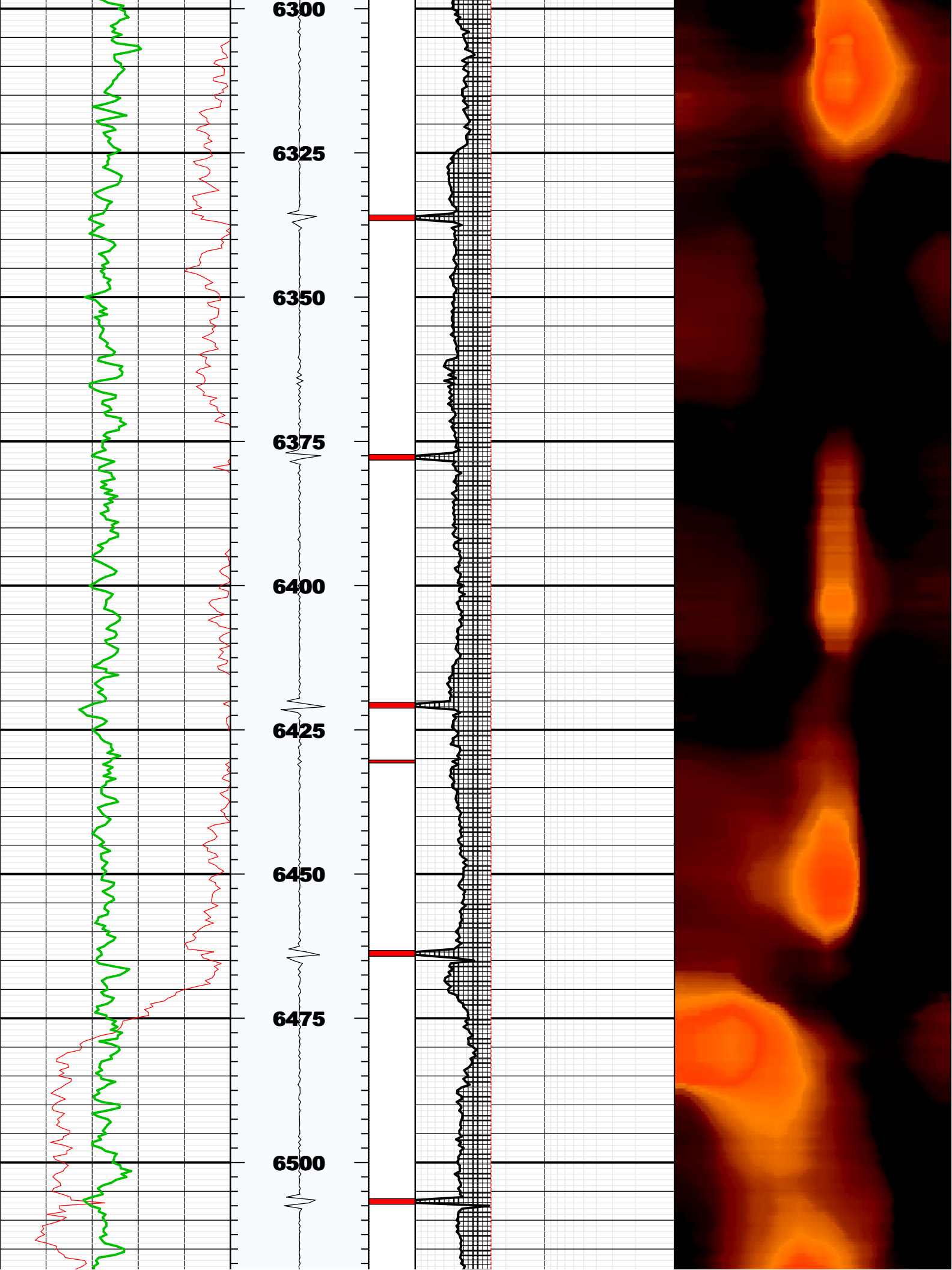


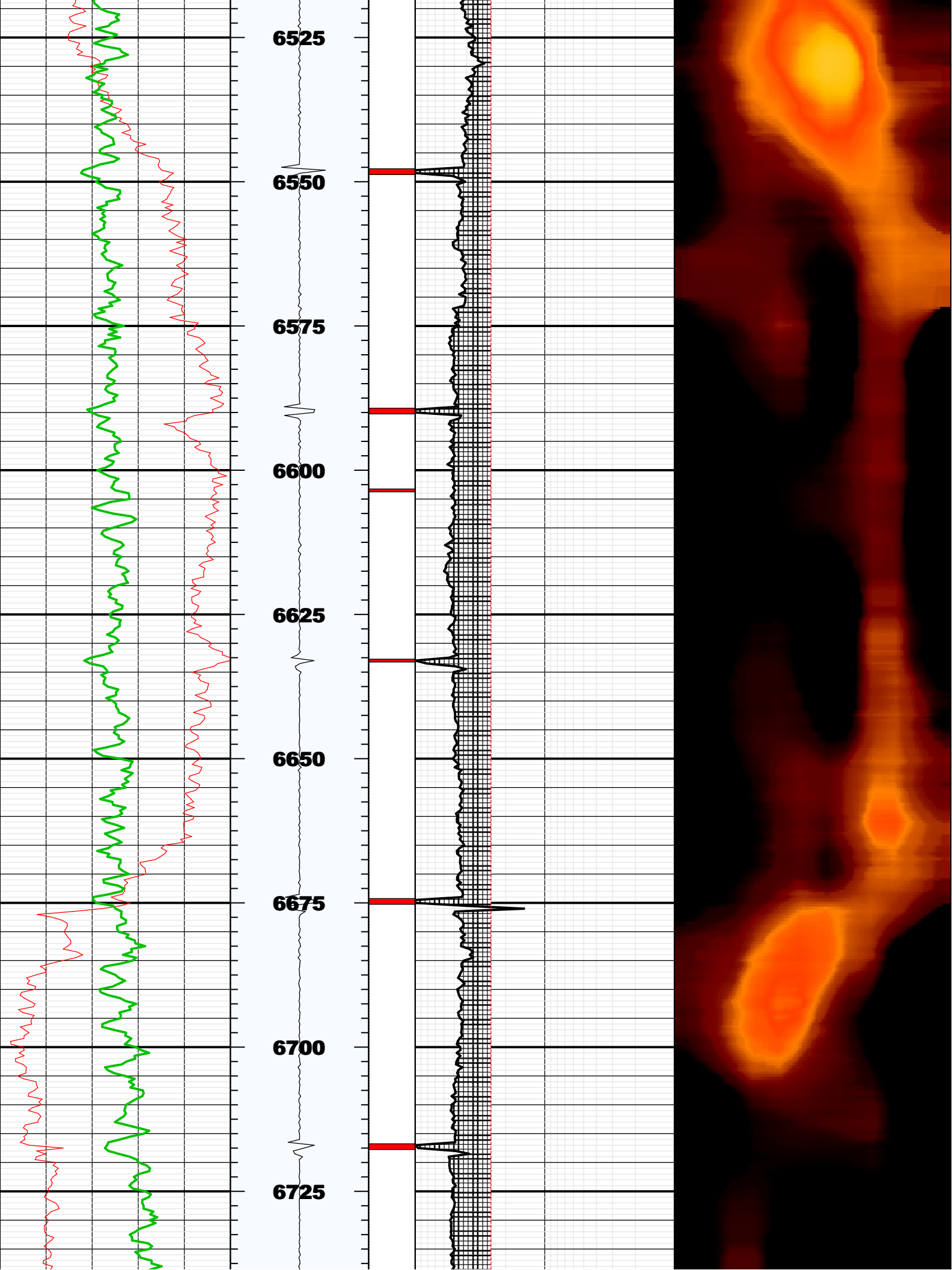


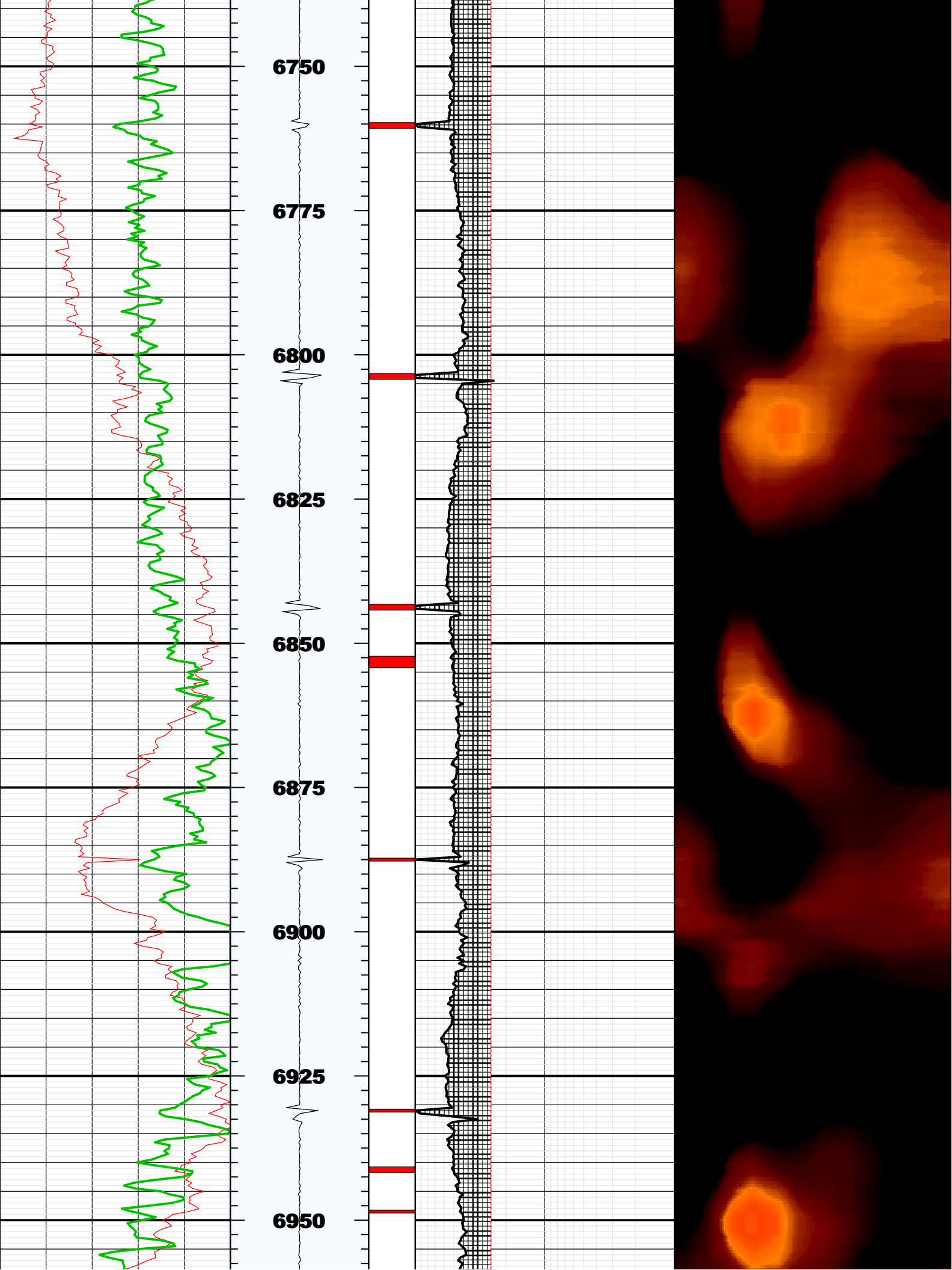


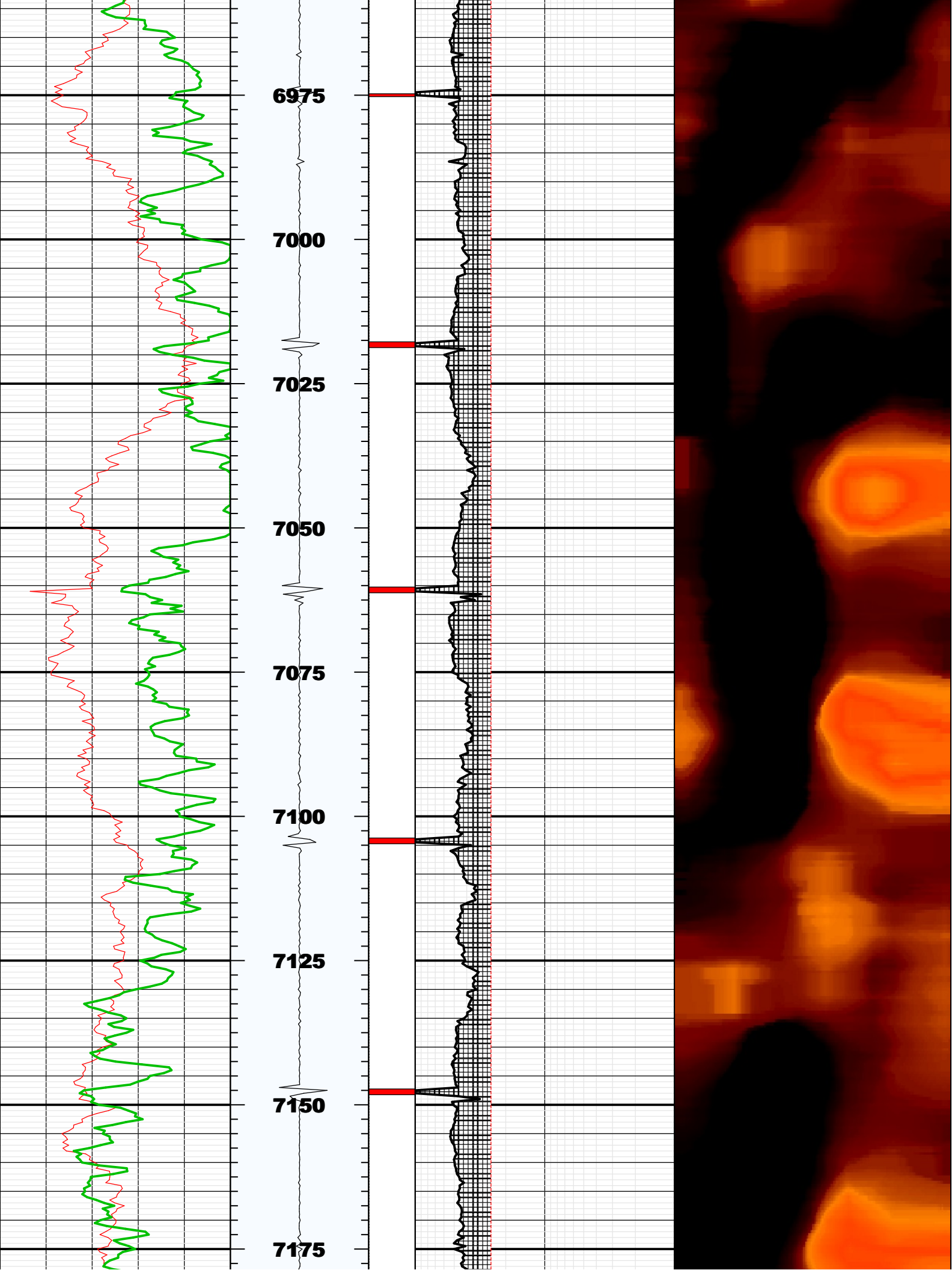


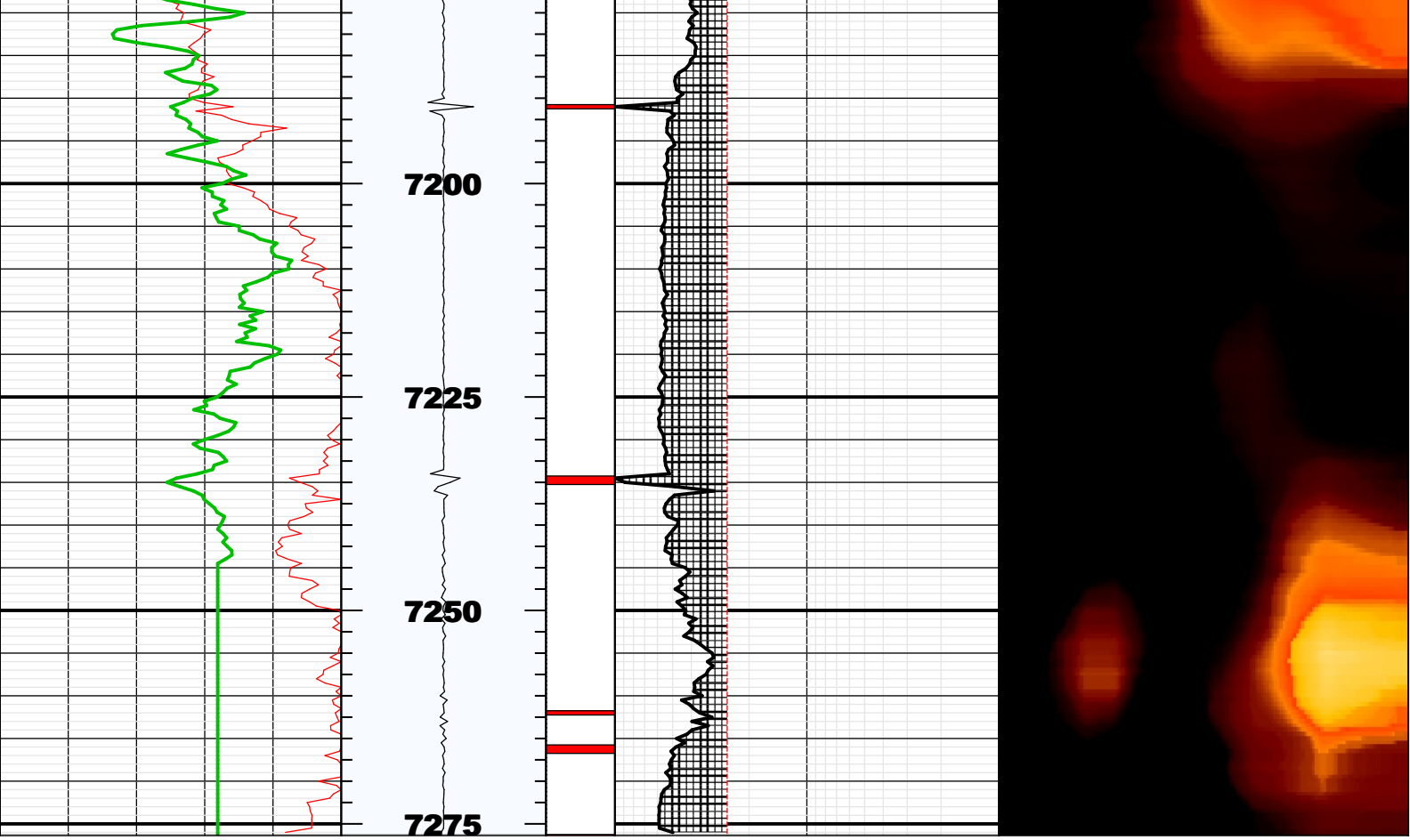








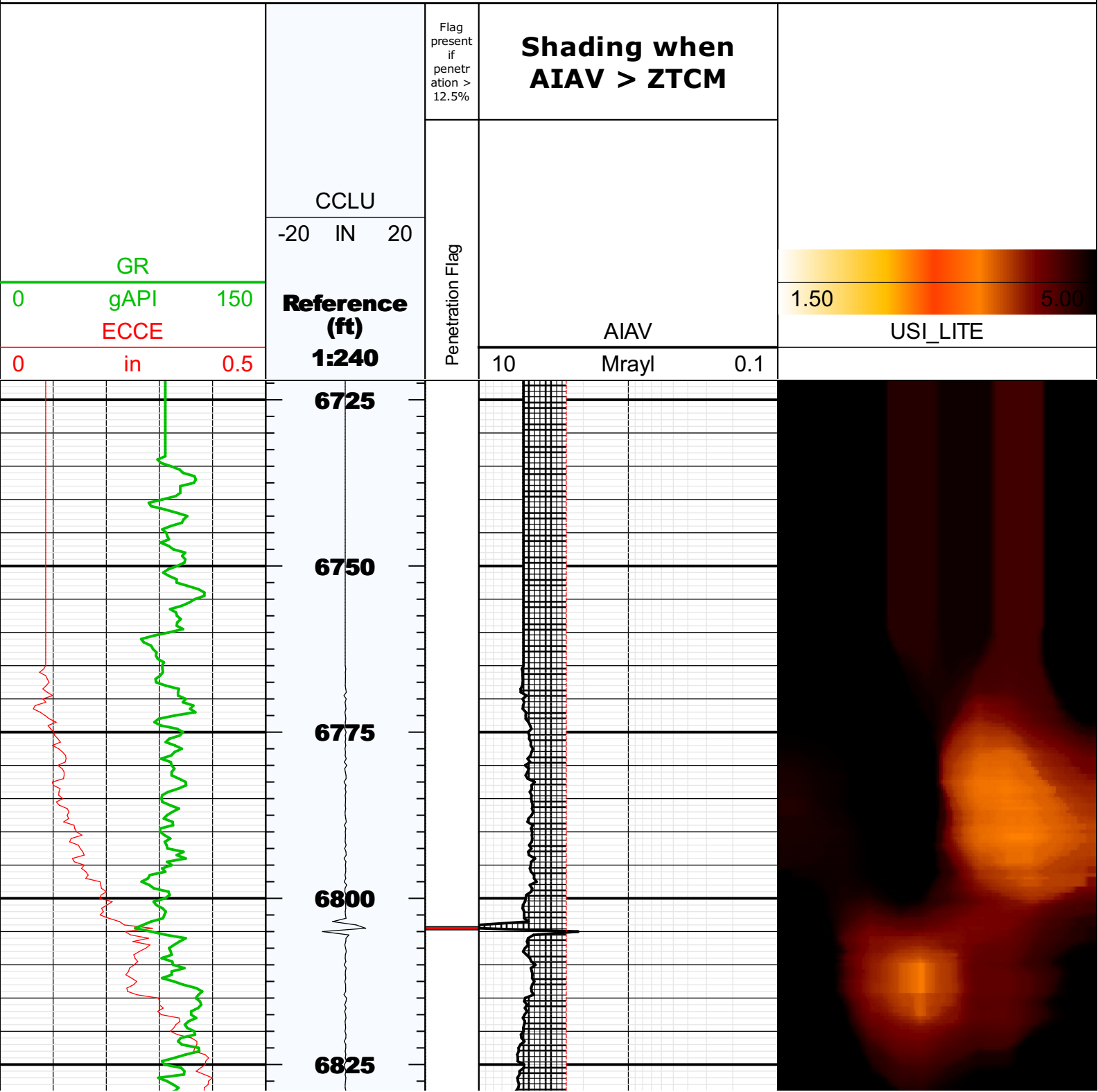


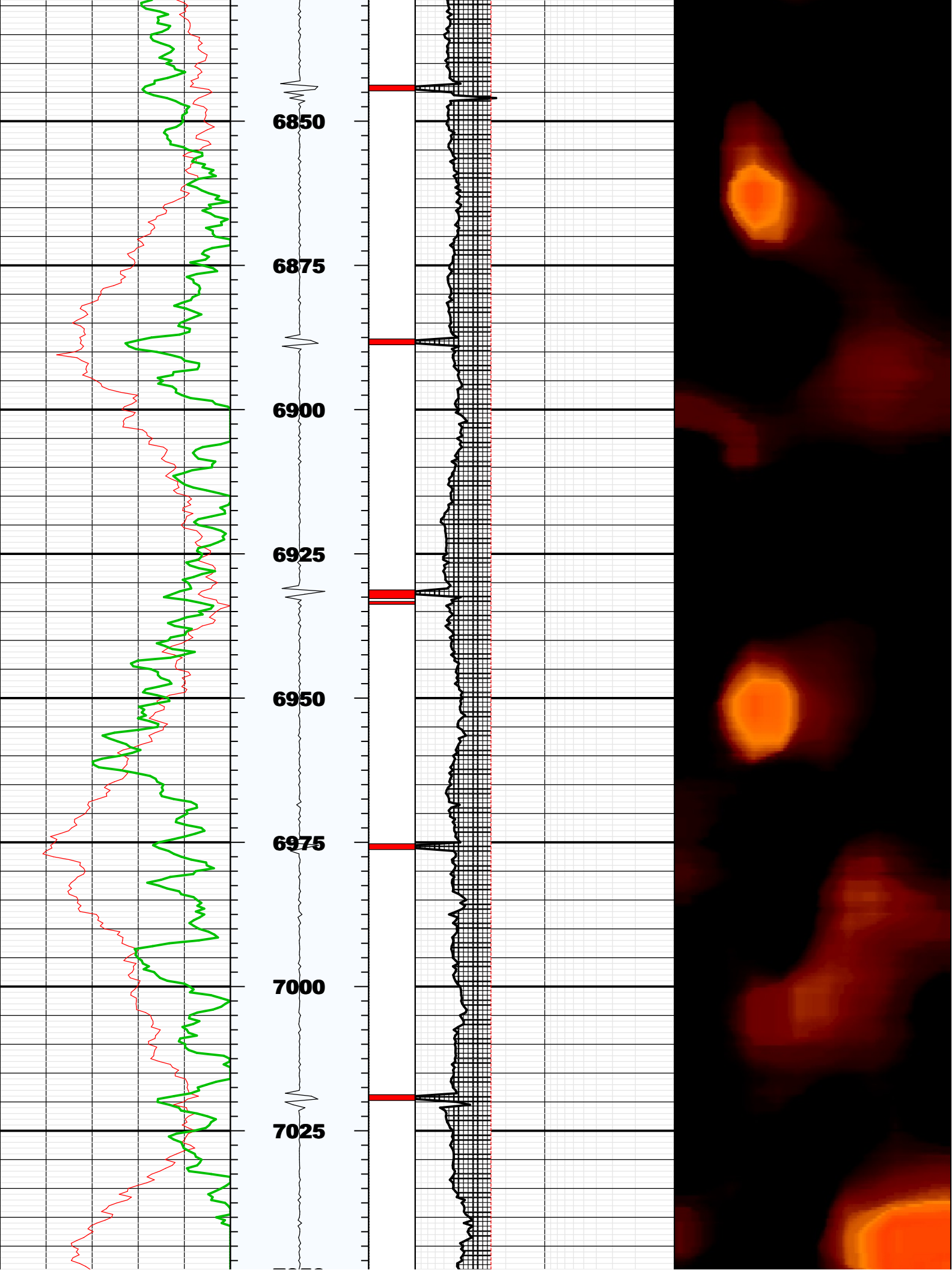


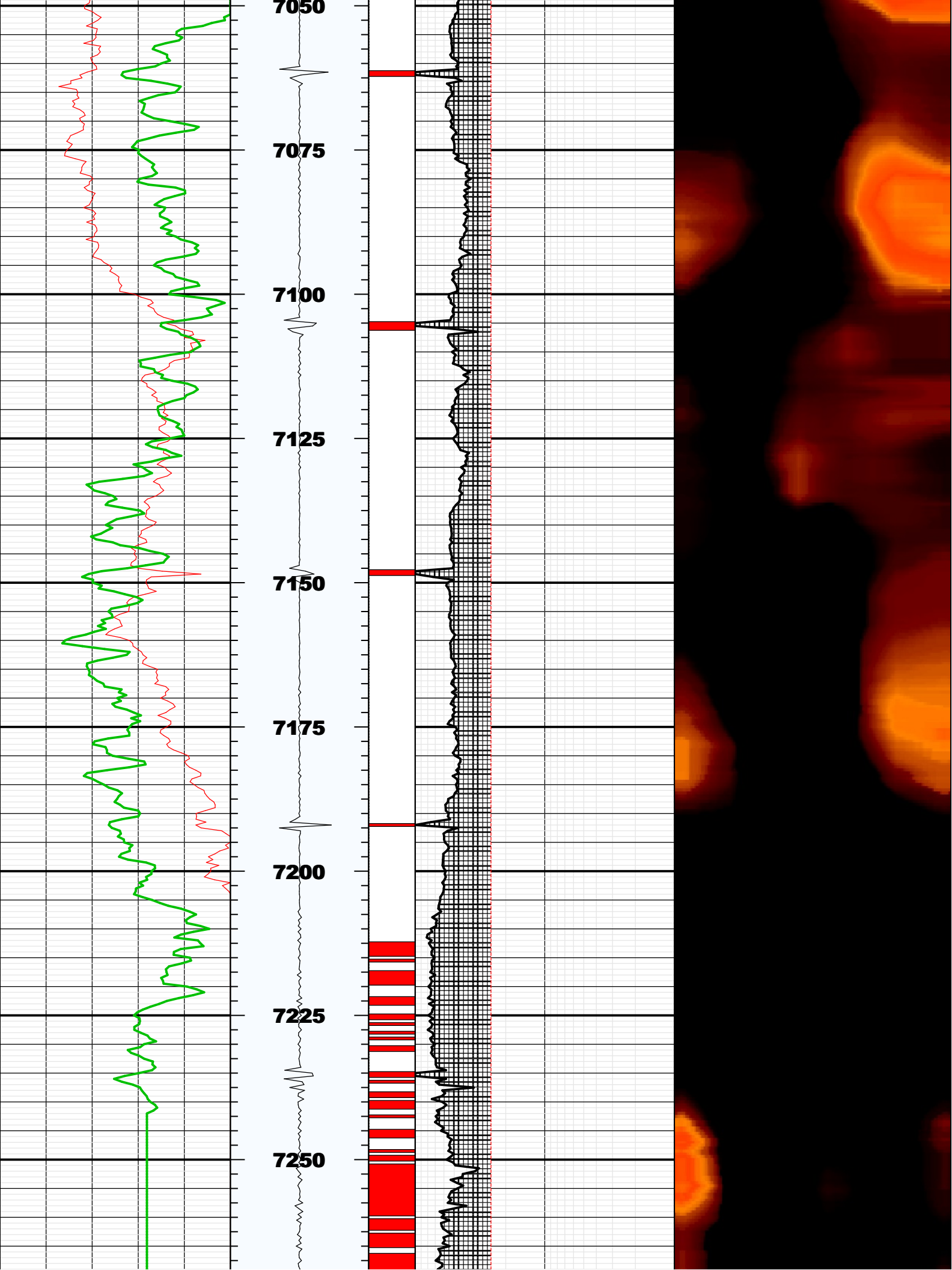
| | | | |
|-------------|-------------|------|--|
| BS | 8.75000 | IN | Bit Size |
| CASG | P110 | | Casing Grade |
| CDIA | 7.00000 | IN | Casing Outer Diameter |
| CSID | 6.27600 | IN | Casing Inner Diameter |
| CSIZ | 7.00000 | IN | Current Casing Size |
| CWEI | 26.00000 | LB/F | Casing Weight |
| DFD | 8.70000 | LB/G | Drilling Fluid Density |
| DFVL | 206.00000 | US/F | Default Fluid Velocity |
| DO | | | |
| DOT | 2.87400 | IN | Diameter of Transducer Sensor |
| EMXV | 125 | 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 | 30.93264 | US | Window Begin Time |
| WINE | 81.40314 | US | Window End Time |
| ZCAS | 46.25000 | MRAY | Acoustic Impedance of Casing |
| ZINI | -1.00000 | MRAY | Initial Estimate of Cement Impedance |
| ZMUD | 1.85000 | 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 |

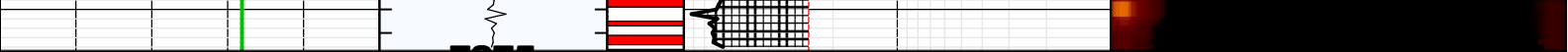
Repeat Pass

Company: Noble Energy Inc
Well: Reliance E23-69HN
Field: Greeley









Fluid Properties Used for Main Pass

