



GAMMA RAY

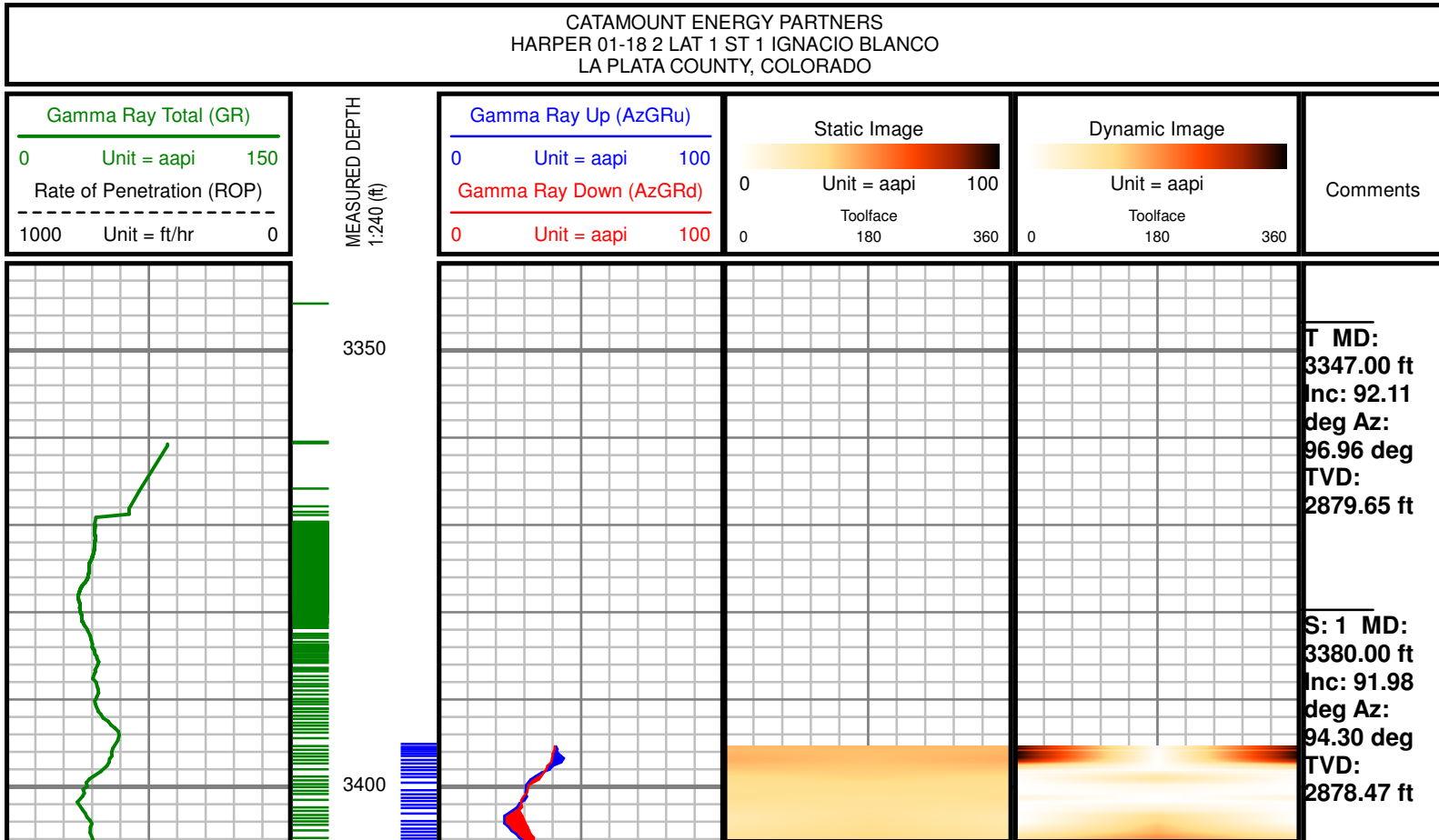
5" = 100' MD

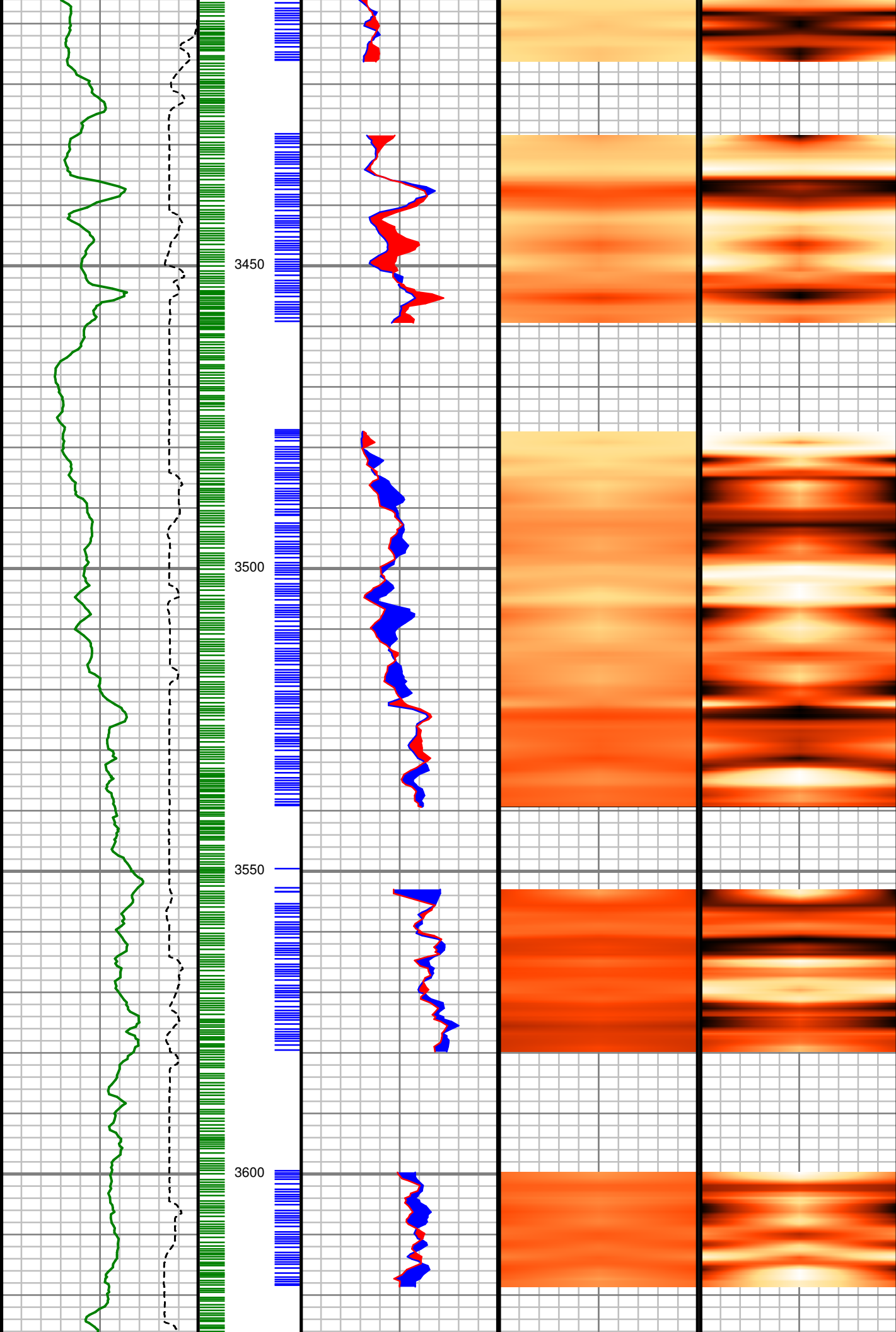
[illegible]

Run Data						
RUN NUMBER	1					
START DATE	MWD RUN 001					
START TIME	19:30					
END DATE						
END TIME						
DEPTH IN (ft)	3400					
DEPTH OUT (ft)						
LOG TOP (ft)	3400					
LOG BOTTOM (ft)						
HOLE SIZE (in)	4.75					
MUD DATA @ (ft)						
MUD TYPE	WATER-BASED					
DENSITY (lb / gal)	9.4					
VISCOSITY (s / qt)	28					
pH	8.0					
FLUID LOSS (cm3 / 30)	-					
SALINITY (ppm)	87000					
Rm (ohmm @ deg F)	-					
Rmf (ohmm @ deg F)	-					
MAX TEMP (deg F)						
Rm @ MAX TEMP (ohmm)	-					
LWD ENGINEER #1	R. CUEVAS					
LWD ENGINEER #2	G. TOMLINSON					
LWD ENGINEER #3						
LOG WITNESS #1						
LOG WITNESS #2						

Remarks
CATAMOUNT EP PRODUCTION AFE#
SCIENTIFIC DRILLING INTERNATIONAL JOB# OP.029487
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY TOTAL CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY UP CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY DOWN CURVE
RUN #7: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: EM5 = 1352 / MWD EYE = 1035 / GAMMA = 1213 / AZI GAIN = 145
SENSOR OFFSETS: SURVEY = 42 FT. / GAMMA = 30.93 FT. / GAIN-INC = 27.63 FT. / GAIN-GR = 25.88 FT.
MNEMONICS LIST:
GR = GAMMA RAY TOTAL
ROP = RATE OF PENETRATION
AZGRU = GAMMA RAY UP
AZGRD = GAMMA RAY DOWN

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.



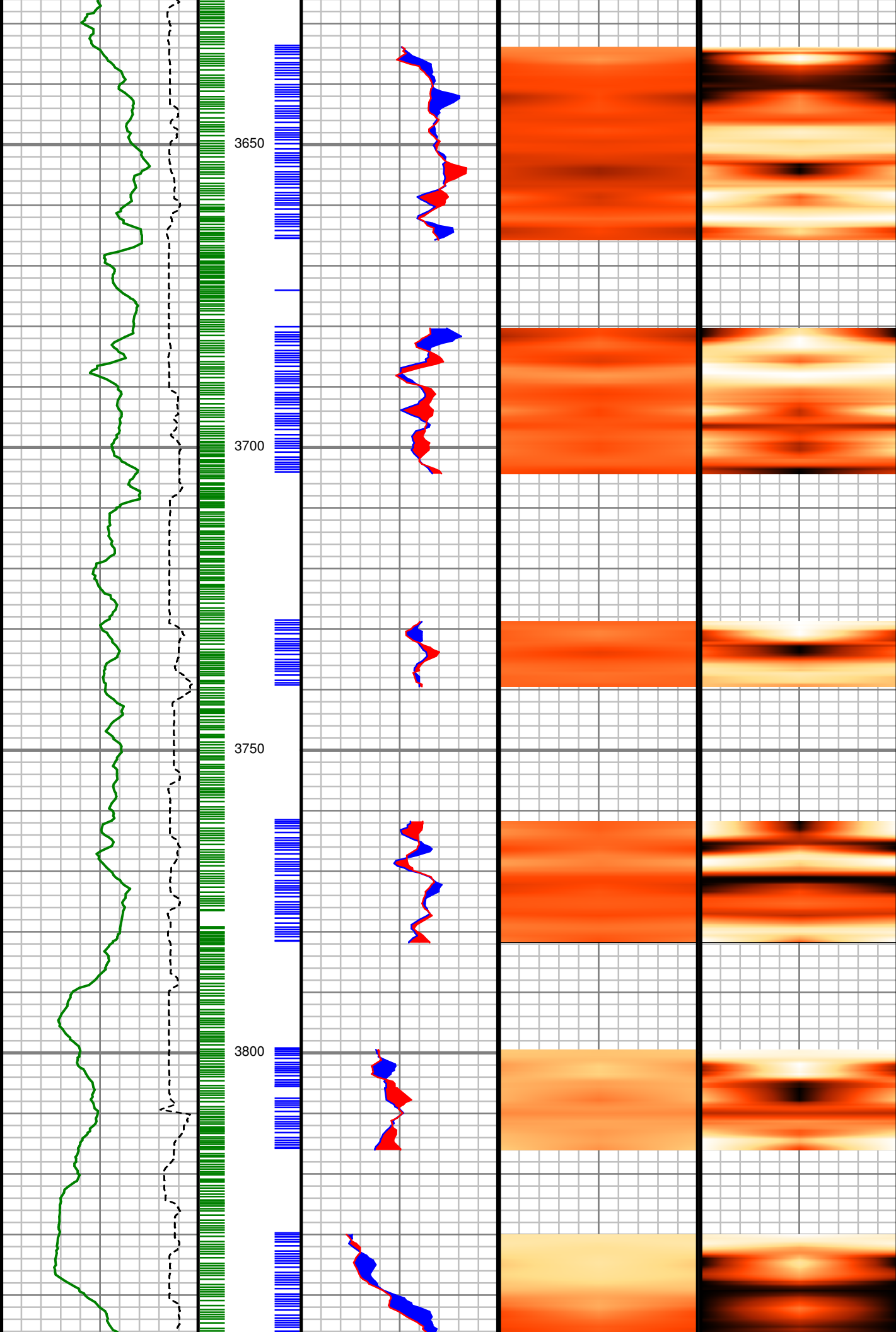


S: 2 MD:
3411.00 ft
Inc: 90.91
deg Az:
95.55 deg
TVD:
2877.69 ft

S: 3 MD:
3474.00 ft
Inc: 94.10
deg Az:
104.15 deg
TVD:
2874.94 ft

S: 4 MD:
3537.00 ft
Inc: 91.81
deg Az:
102.41 deg
TVD:
2871.69 ft

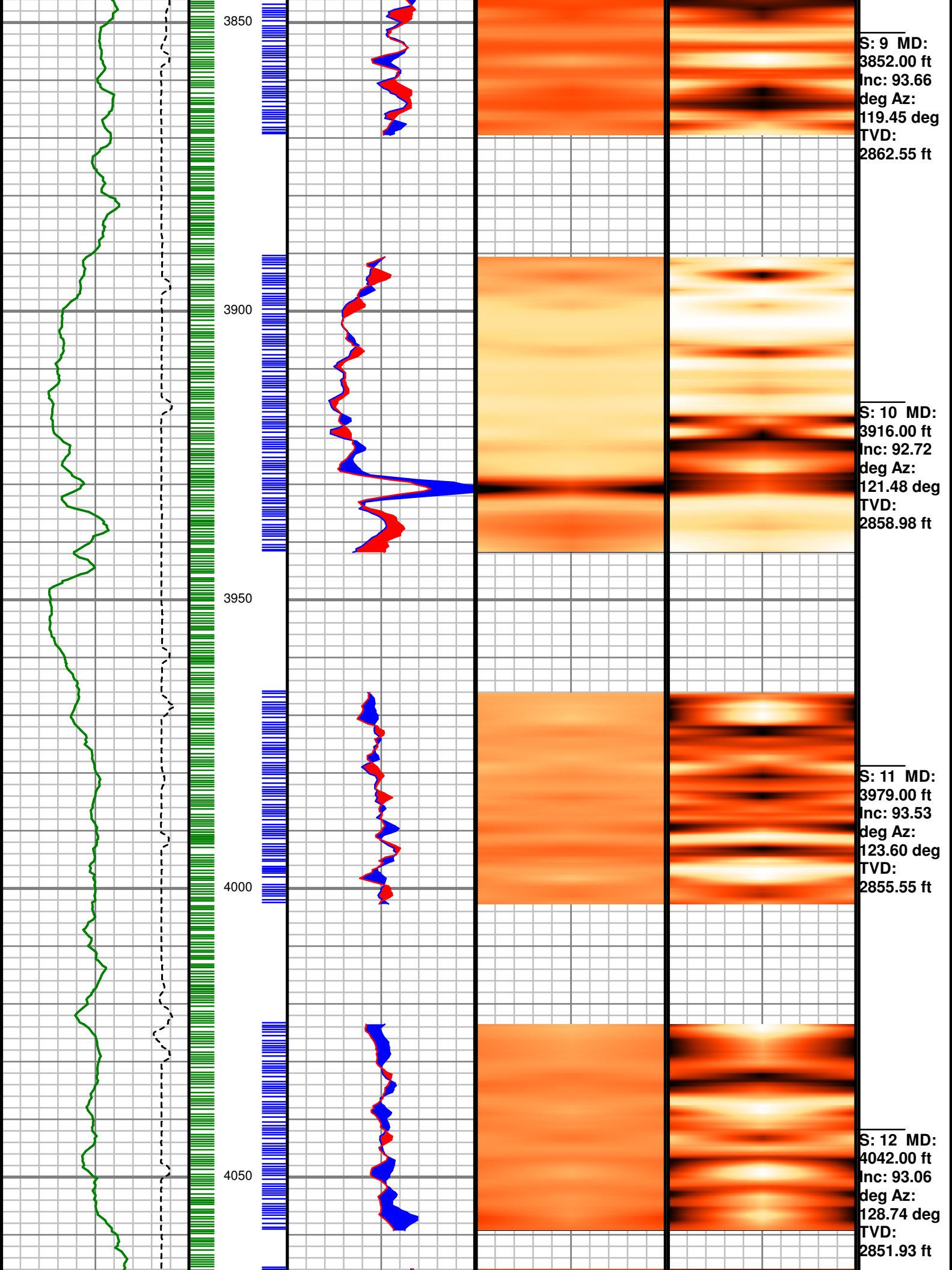
S: 5 MD:
3600.00 ft
Inc: 90.77
deg Az:
103.64 deg
TVD:
2870.27 ft

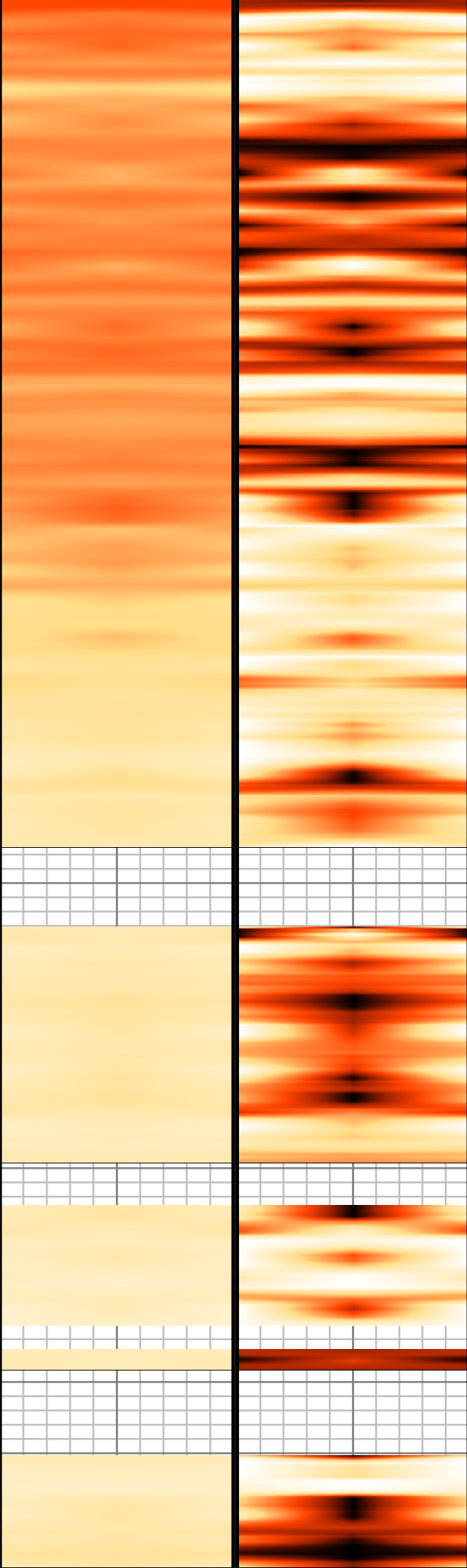
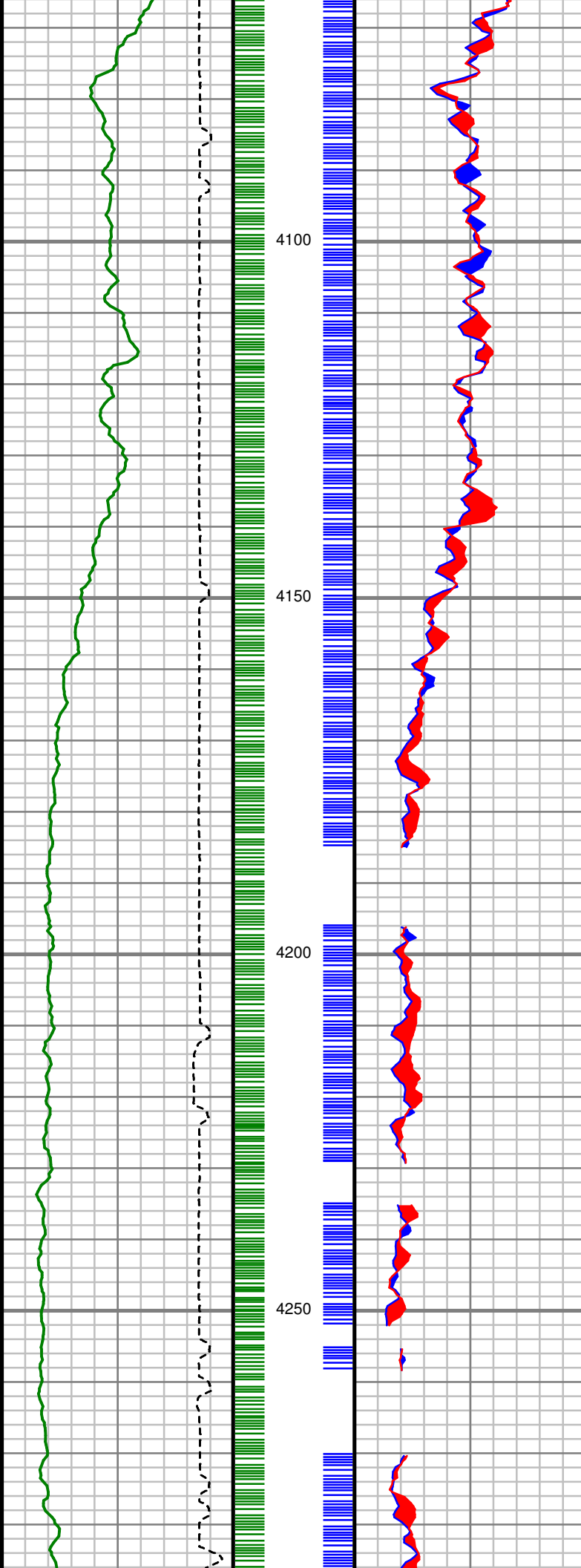


S: 6 MD: 3663.00 ft
Inc: 90.84 deg Az: 107.09 deg
TVD: 2869.38 ft

S: 7 MD: 3726.00 ft
Inc: 91.21 deg Az: 107.25 deg
TVD: 2868.26 ft

S: 8 MD: 3789.00 ft
Inc: 92.75 deg Az: 114.94 deg
TVD: 2866.07 ft

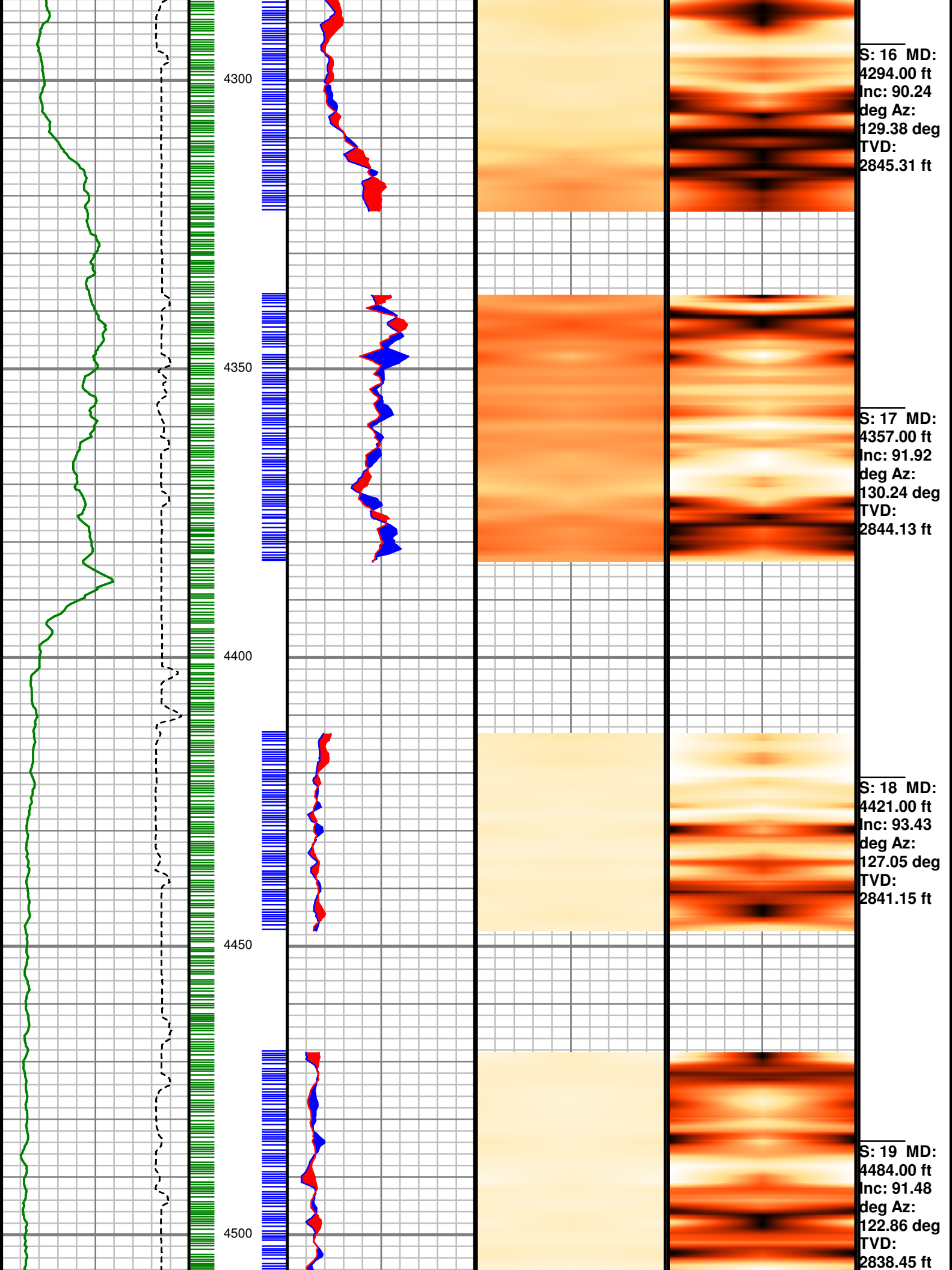


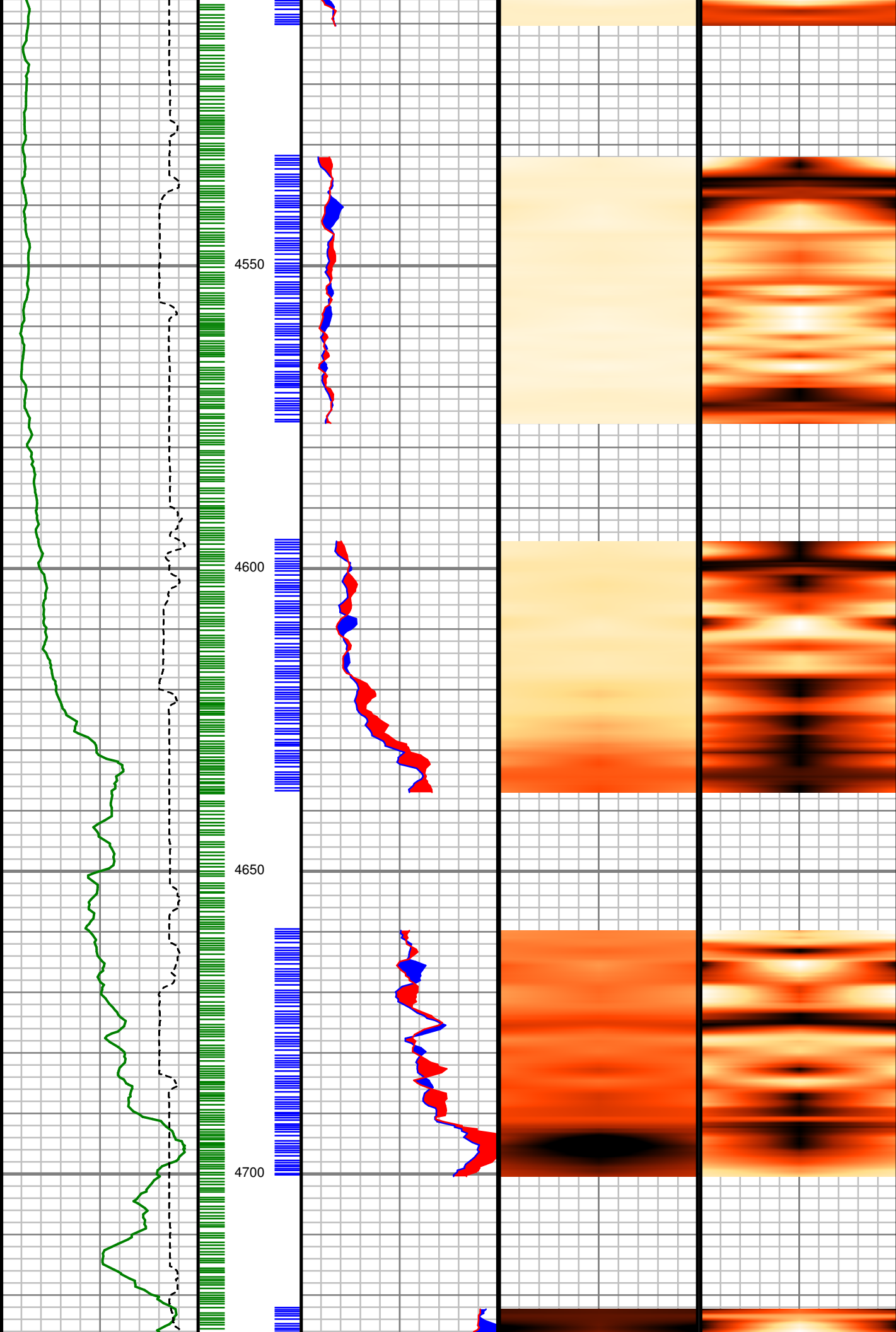


S: 13 MD:
4105.00 ft
Inc: 91.18
deg Az:
129.61 deg
TVD:
2849.60 ft

S: 14 MD:
4168.00 ft
Inc: 91.38
deg Az:
131.82 deg
TVD:
2848.19 ft

S: 15 MD:
4231.00 ft
Inc: 91.81
deg Az:
130.78 deg
TVD:
2846.44 ft





S: 20 MD:
4547.00 ft
Inc: 91.58
deg Az:
118.44 deg
TVD:
2836.77 ft

S: 21 MD:
4610.00 ft
Inc: 91.55
deg Az:
116.11 deg
TVD:
2835.05 ft

S: 22 MD:
4673.00 ft
Inc: 92.75
deg Az:
112.43 deg
TVD:
2832.69 ft

