



**Company** ANADARKO  
**Well** LUDWIG 30-1  
**Field** WATTENBERG  
**County** WELD  
**State** COLORADO

**Location:** API #: 05-123-30698  
 NW NW 1 3N 66W 783' FNL 775' FWL  
 LAT 40.25900  
 LONG -104.73210  
 SEC 1 TWP 3N RGE 66W  
**Permanent Datum** Elevation 4872'  
**Log Measured From** 4000' TO SURFACE  
**Drilling Measured From** 7618'  
**Other Services** K.B. 4887'  
 D.F. 4887'  
 G.L. 4872'

**Date** 2-23-2018  
**Run Number** 1  
**Depth Driller** 7618'  
**Depth Logger** 4000'  
**Bottom Logged Interval**  
**Top Log Interval** SURFACE  
**Open Hole Size** 4.5"  
**Type Fluid** WATER  
**Density / Viscosity** 8.6  
**Max. Recorded Temp.** 153.5  
**Estimated Cement Top** 545'  
**Time Well Ready** 0730  
**Time Logger on Bottom** 0750  
**Equipment Number** 058  
**Location** 2142857  
**Recorded By** RYAN ALLES  
**Witnessed By** IAN

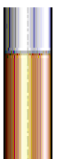
Run Number	Borehole Record			Tubing Record			
	Bit	From	To	Size	Weight	From	To
Casing Record							
Surface String				Size	Wgt/Ft	Top	Bottom
Prot. String				8.63	24.00	15'	632'
Production String				4.5	11.6	15'	7575'
Liner							

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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 interpretation, 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 set out in our current Price Schedule.

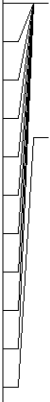
Comments

RAN CEMENT BOND LOG TO VERIFY CEMENT  
 THANK YOU FOR USING CUTTERS WIRELINE

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
						

WVF3FT 9.44  
 WVFCAL 9.44  
 WVFS1 9.44  
 WVFS2 9.44  
 WVFS3 9.44  
 WVFS4 9.44  
 WVFS5 9.44  
 WVFS6 9.44  
 WVFS7 9.44  
 WVFS8 9.44  
 WVF5FT 8.44

9.44  
 9.44  
 9.44  
 9.44  
 9.44  
 9.44  
 9.44  
 9.44  
 9.44  
 9.44  
 8.44



RBT-Probe (060112\_55)  
 Probe 2.75" Radii Bond Tool

8.75 2.75 90.00

CCL 4.75

4.75

GR-Probe (060109)  
 Probe 2.75" 4 Channel Pulse

4.00 2.75 30.00

GR 2.25

2.25

TEMP-1.375TEMP (060110)  
 Temperature Tool

1.25 1.38 30.00

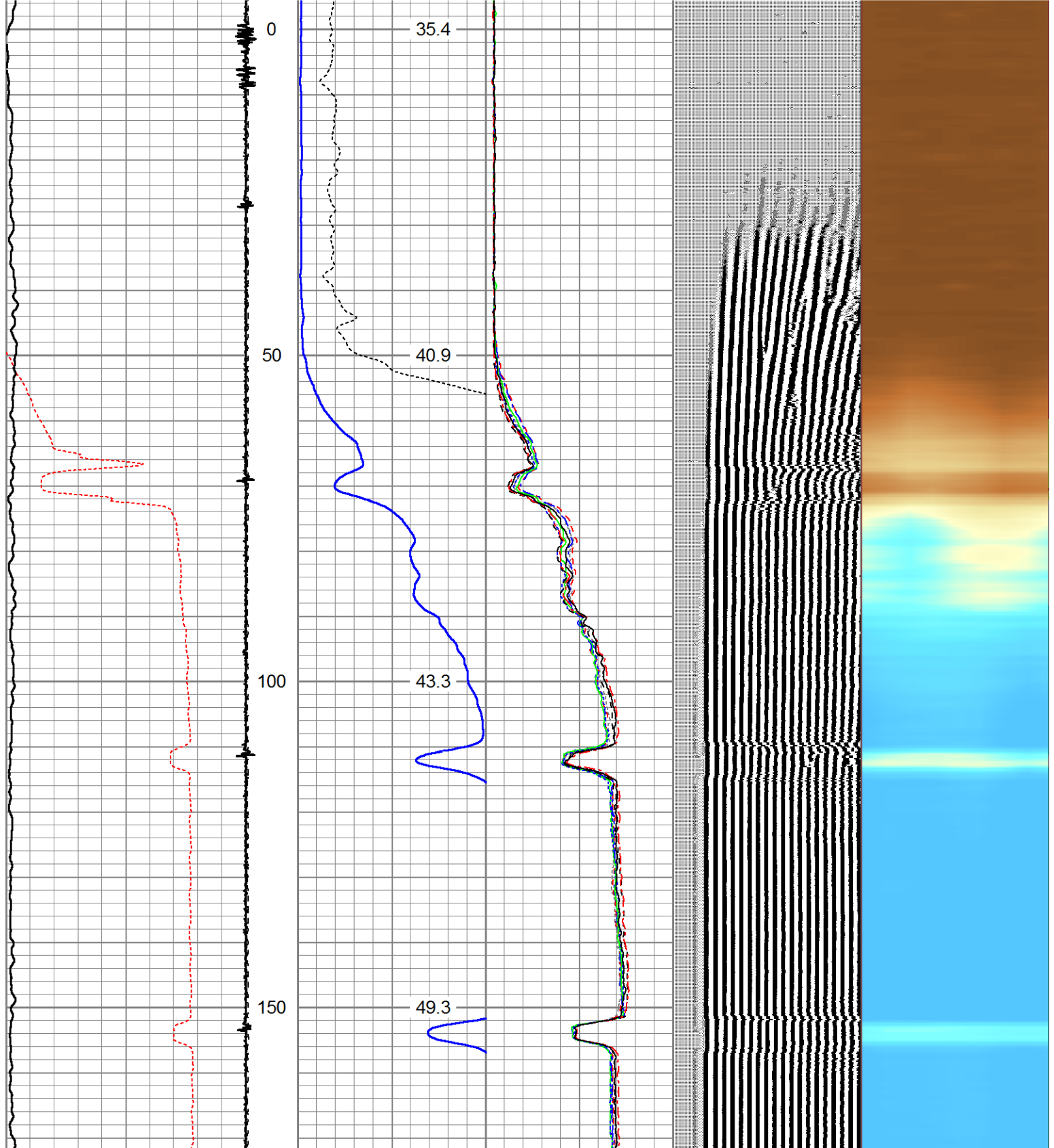
TEMP 0.08

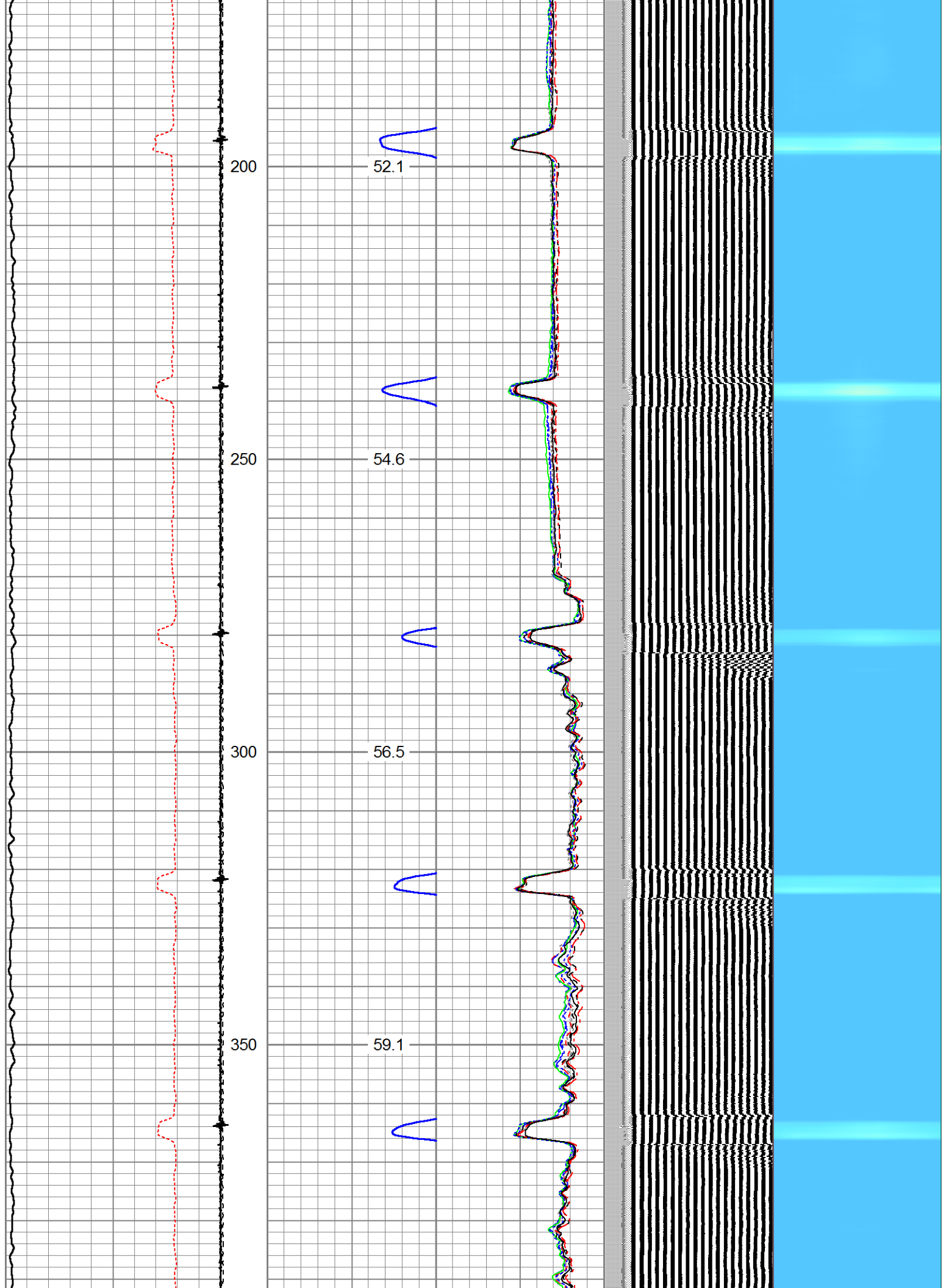
0.08

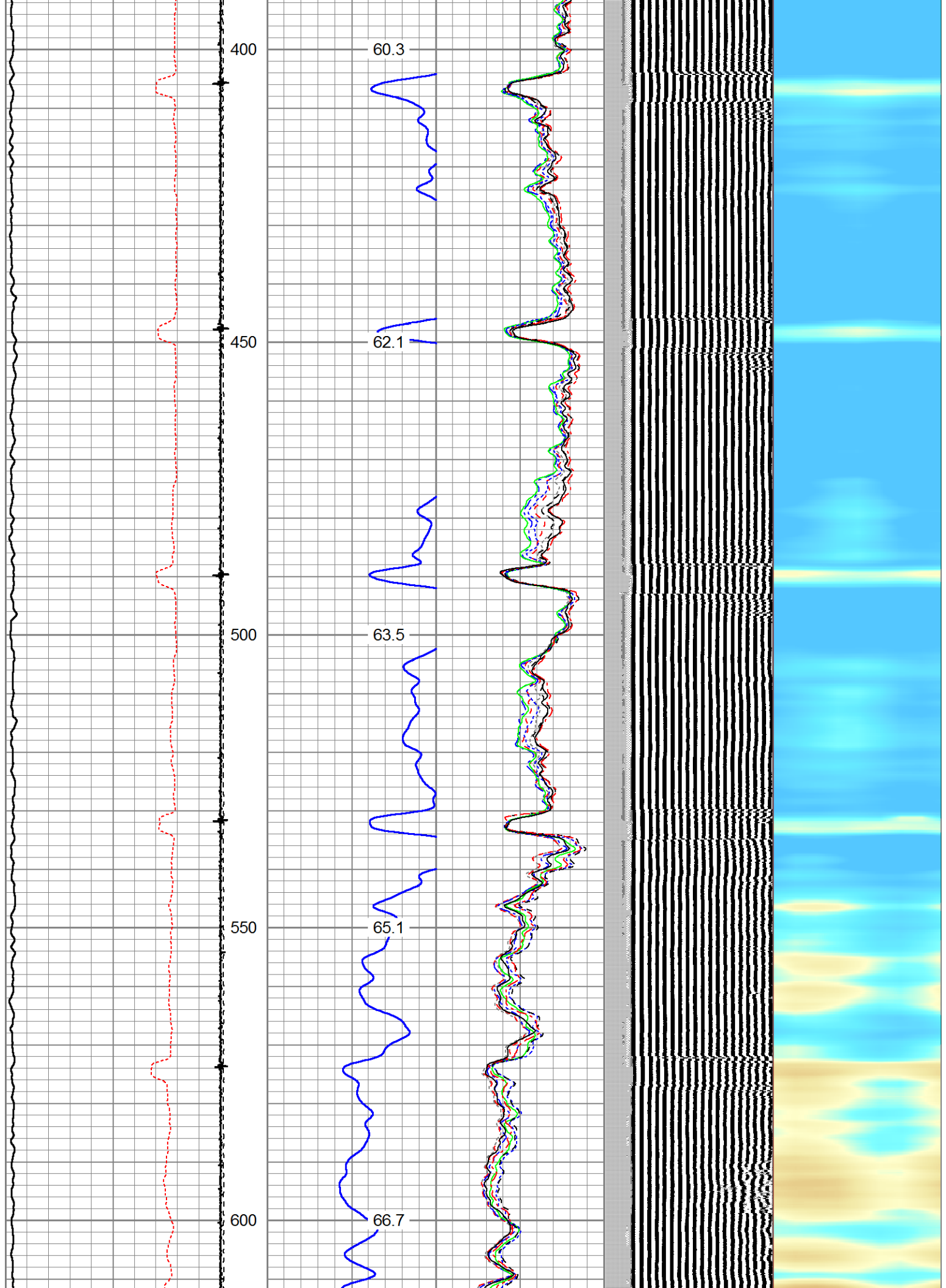
Dataset: ludwig 30-1.db: field/well/run1/pass3  
 Total Length: 14.00 ft  
 Total Weight: 150.00 lb  
 O.D.: 2.75 in

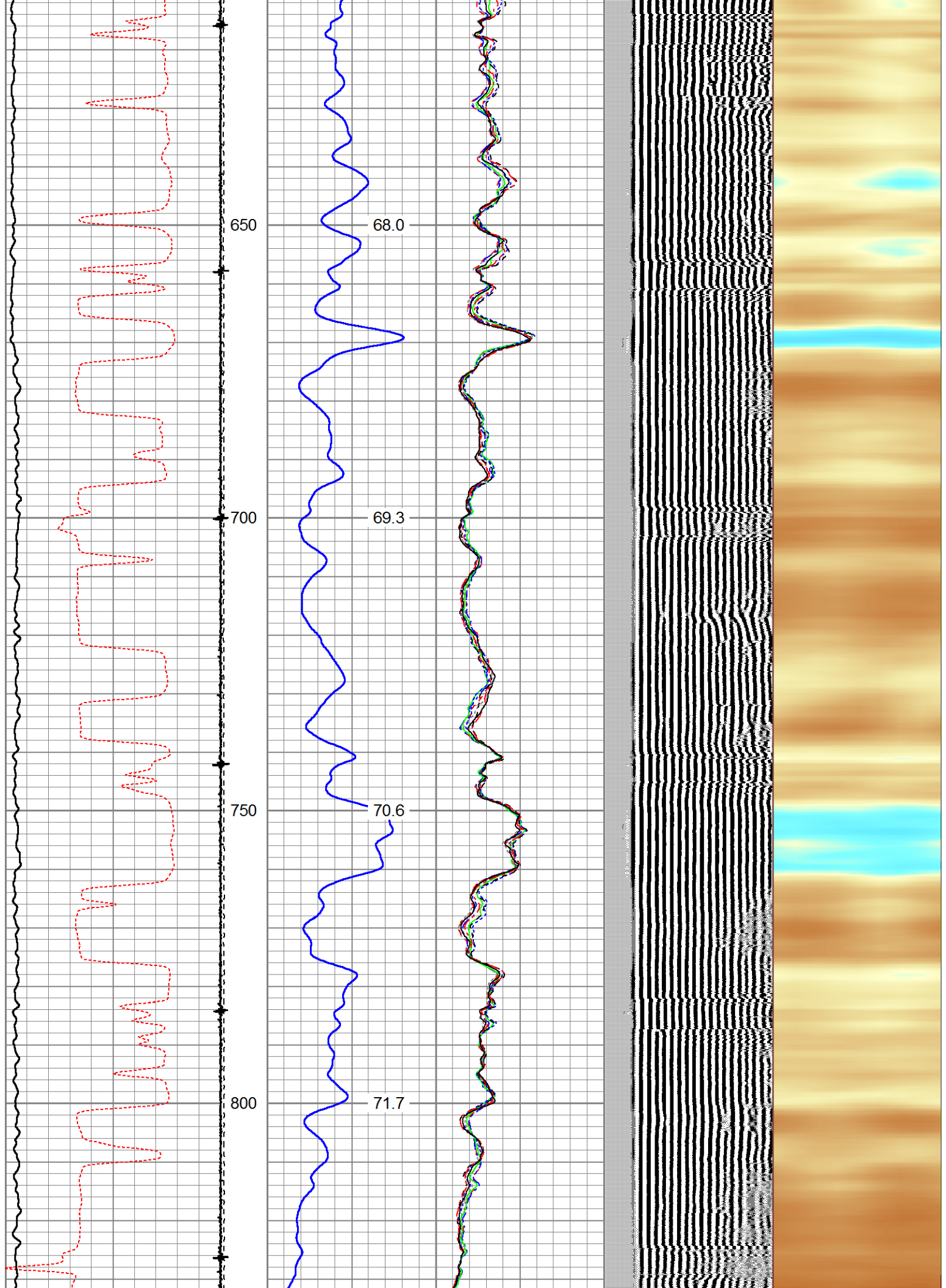
Database File: ludwig 30-1.db  
 Dataset Pathname: pass3  
 Presentation Format: rbl55  
 Dataset Creation: Fri Feb 23 08:21:03 2018 by Log 7.0 B1  
 Charted by: Depth in Feet scaled 1:240

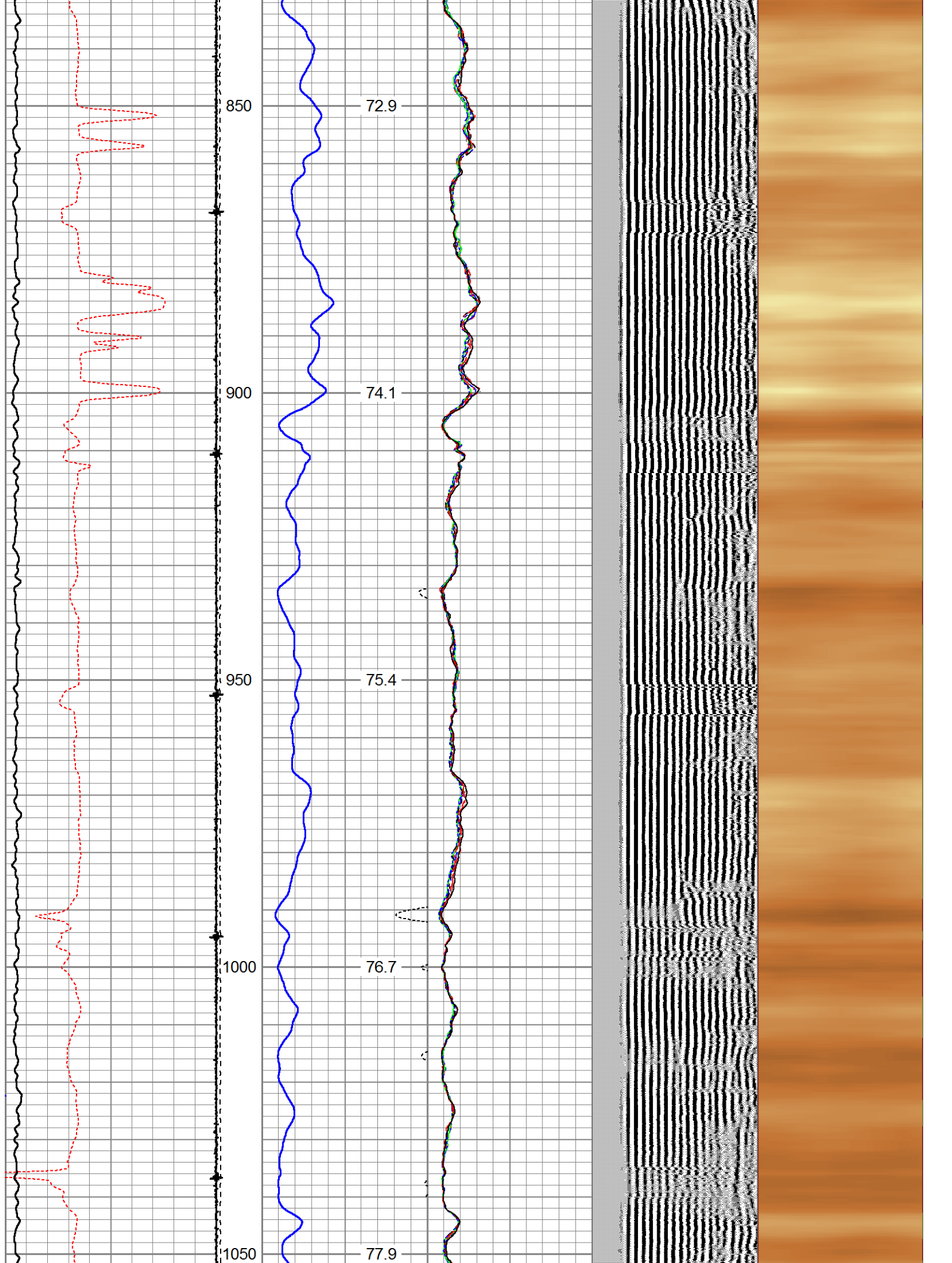
325	TT (usec)	225	LTEN (lb)	0	Amplitude (mV)	100	-5	AMPS2	150	200	VDL	1200	Cement Map
2000	GR (GAPI)	4000		0	Amplified Amplitude	10	-5	AMPS3	150				
			CCL	0	(mV)	10	-5	AMPS4	150				
					TEMP		-5	AMPS5	150				
					(degF)		-5	AMPS6	150				
							-5	AMPS7	150				
							-5	AMPS8	150				
							-5	AMPS1	150				

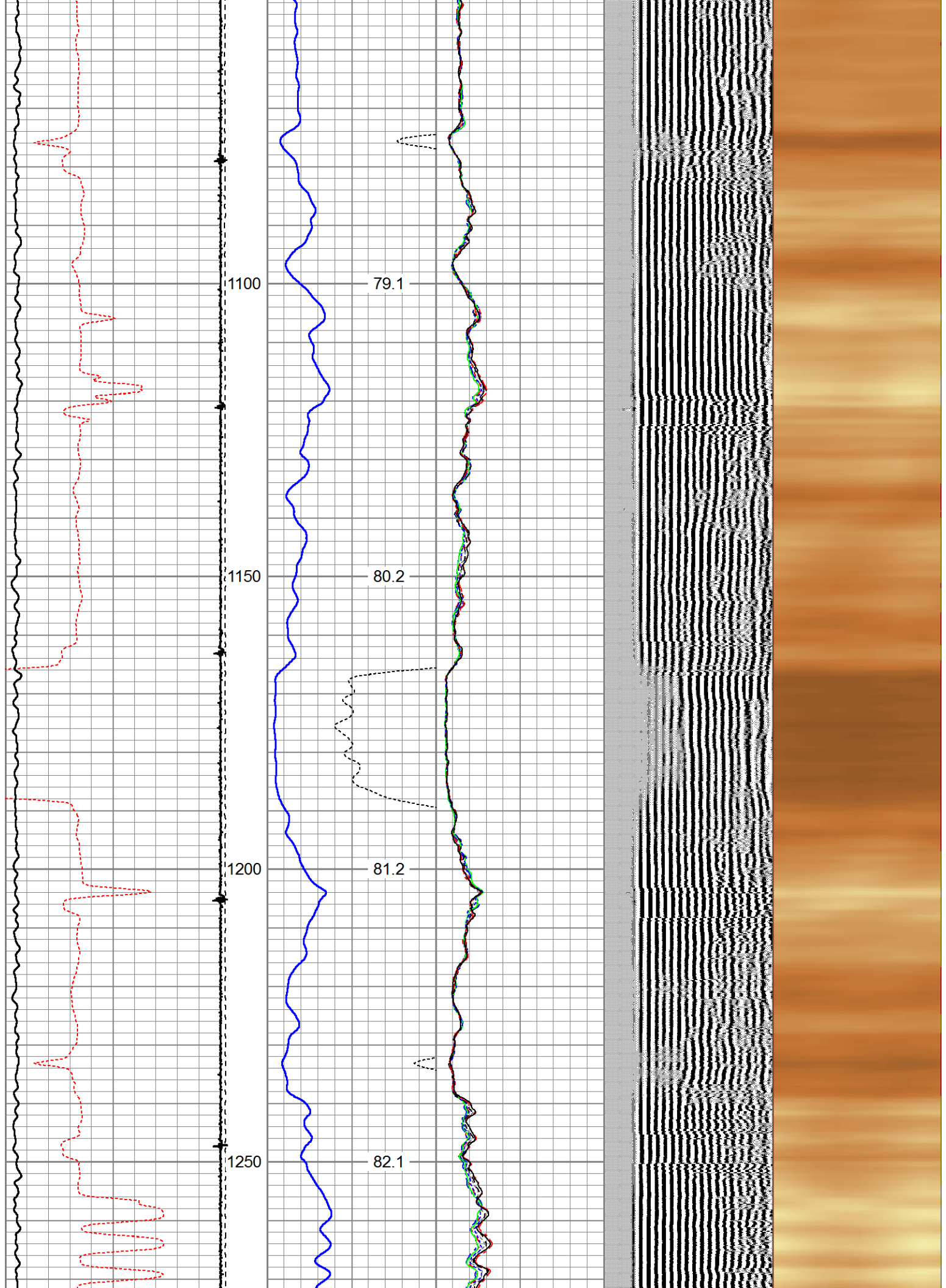


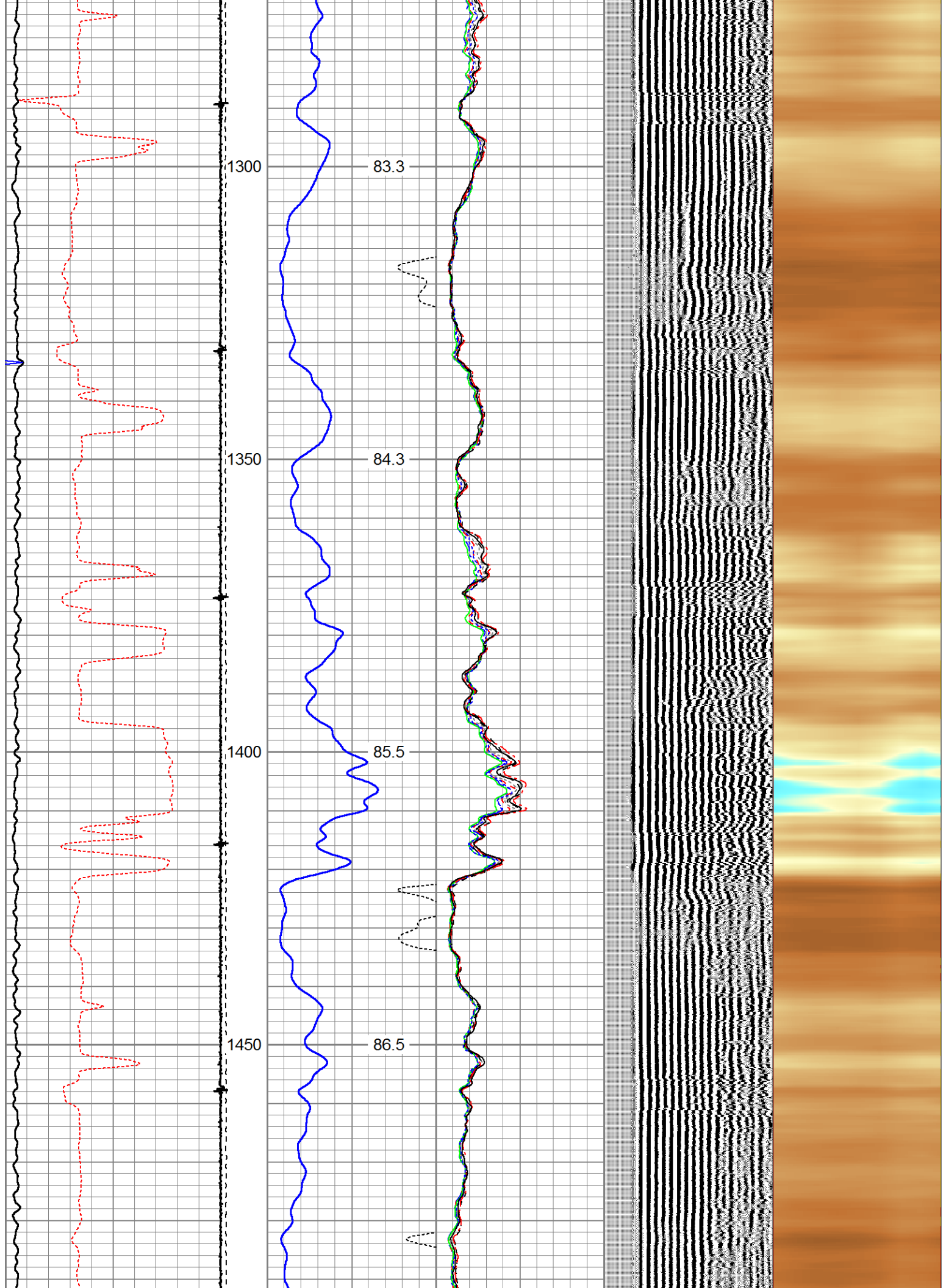


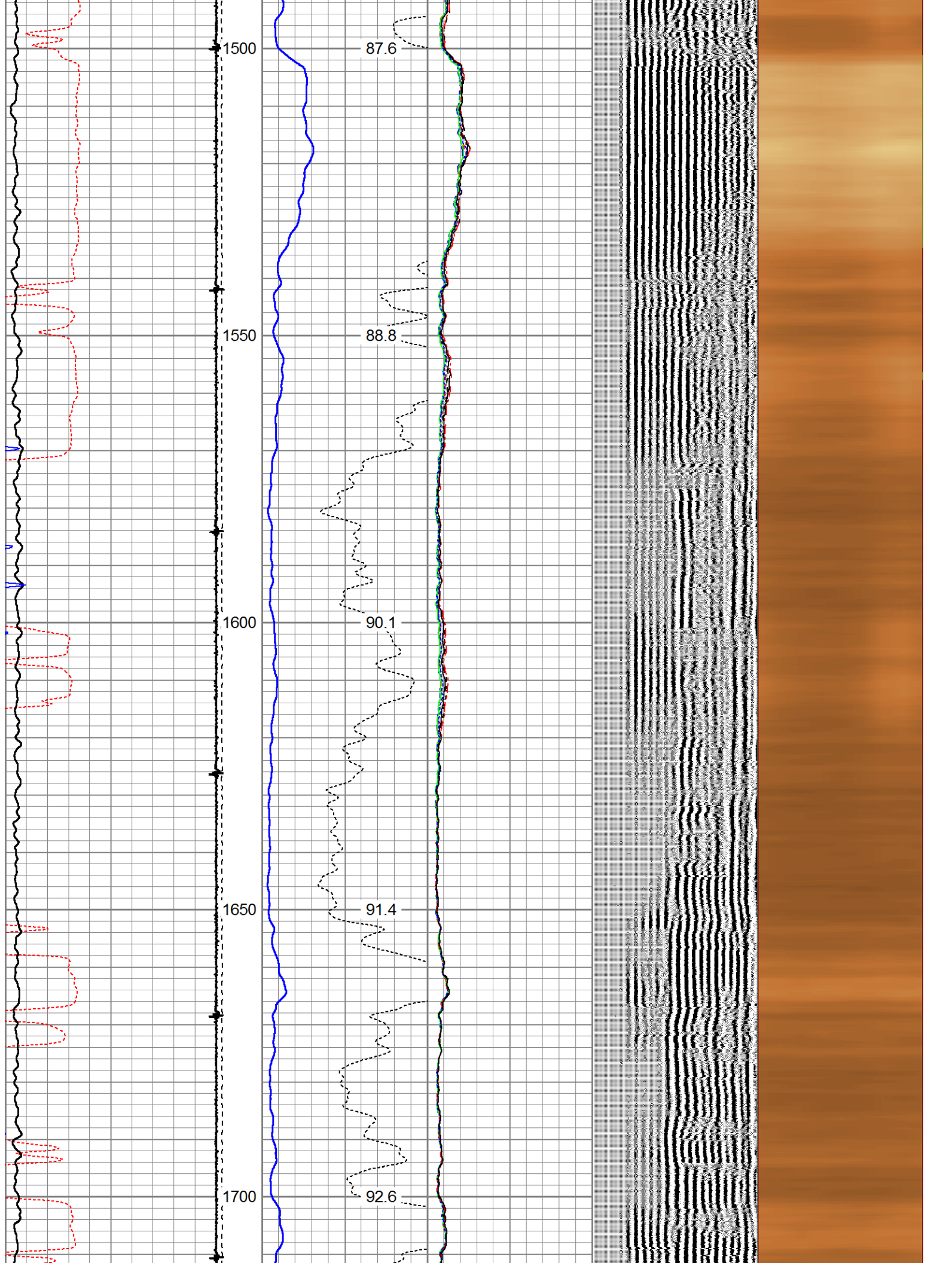


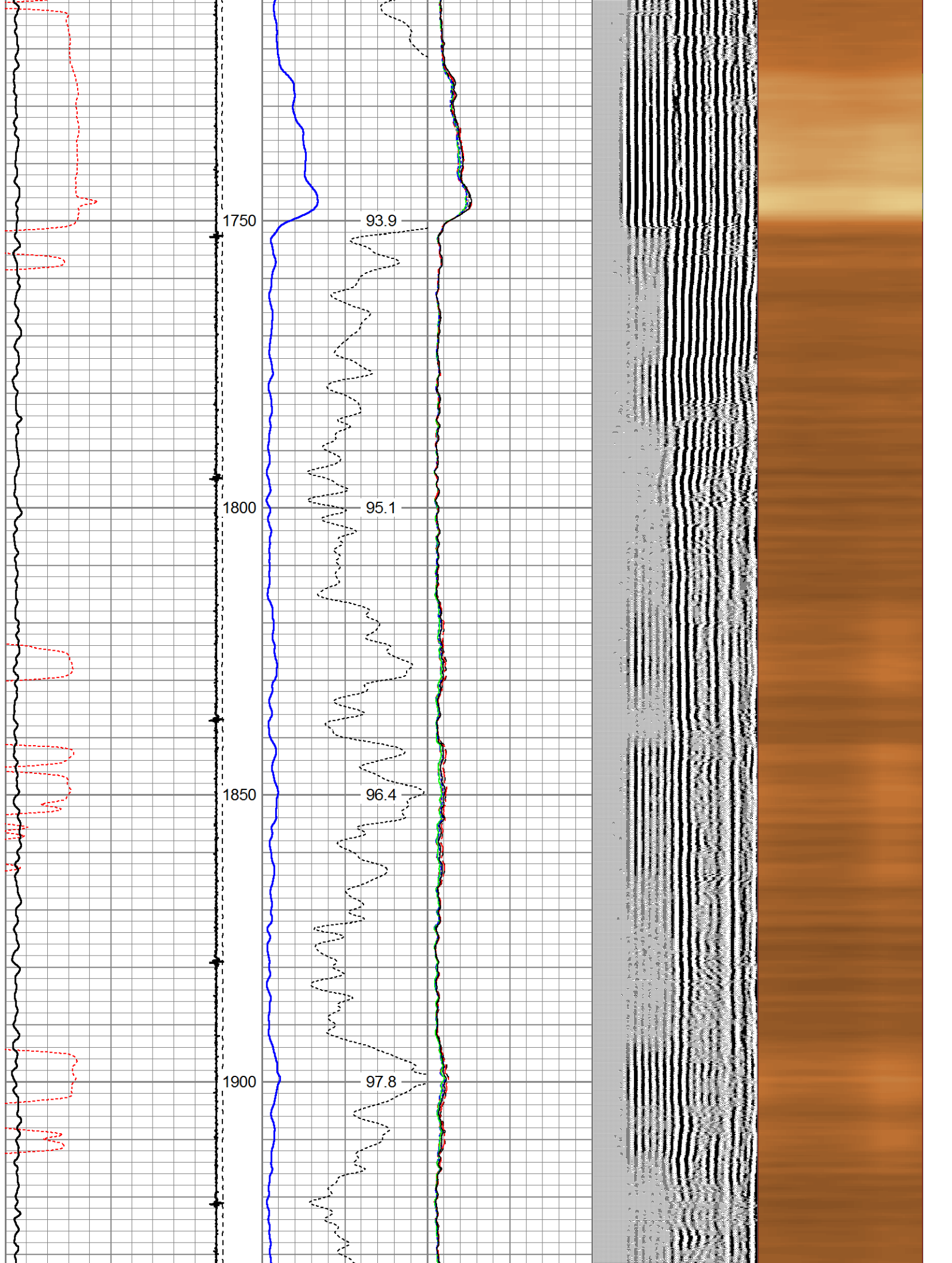


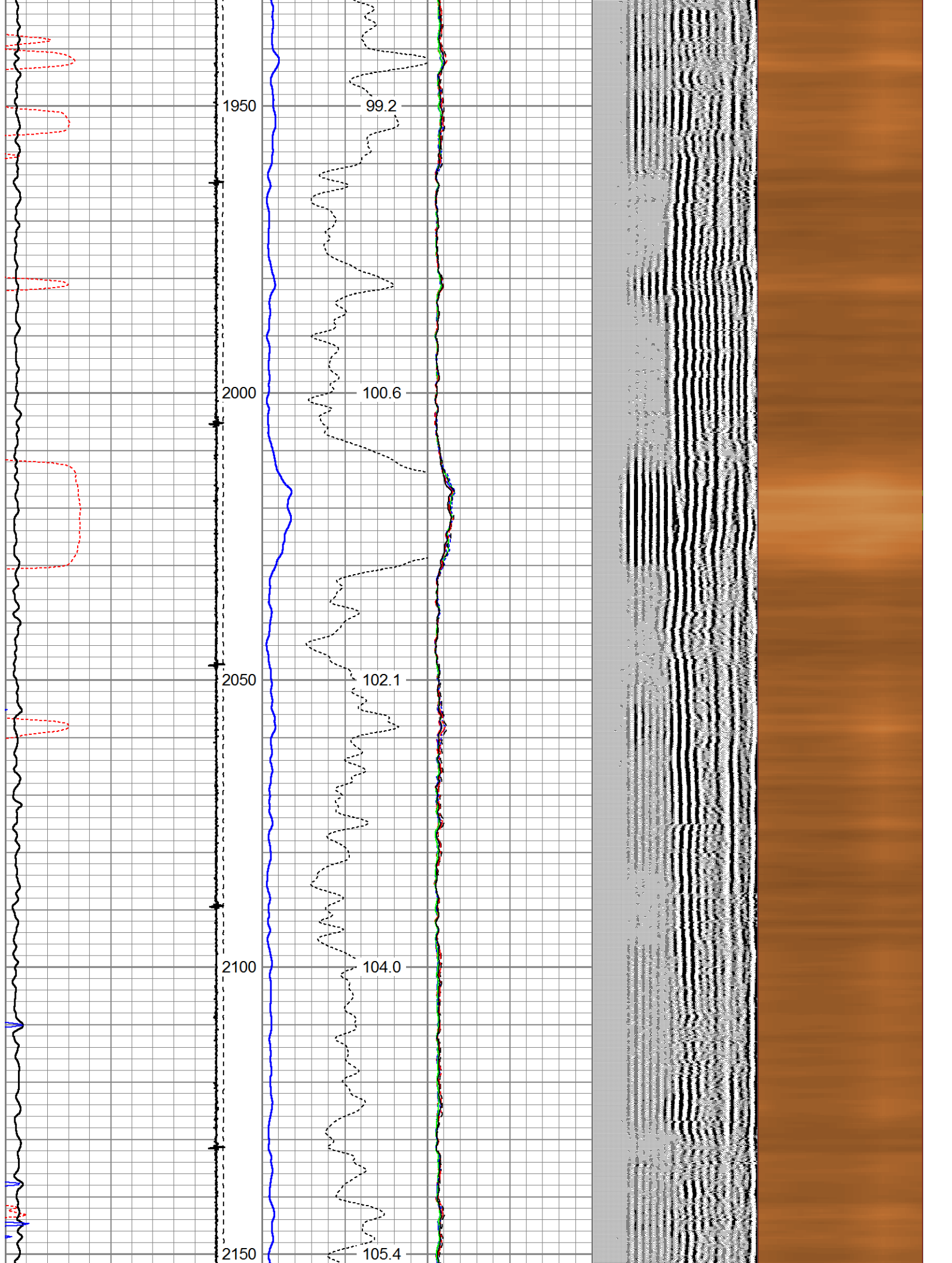


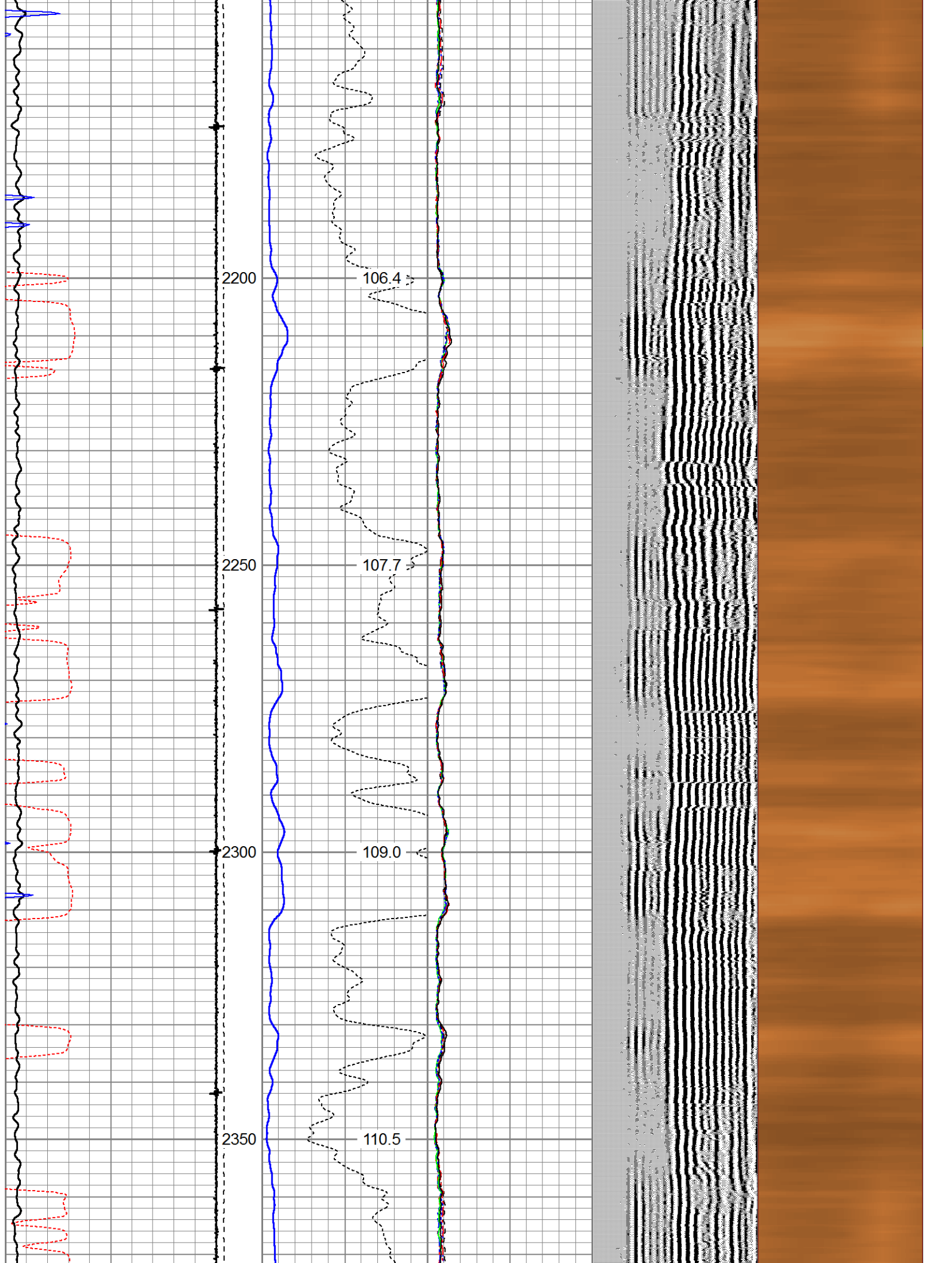


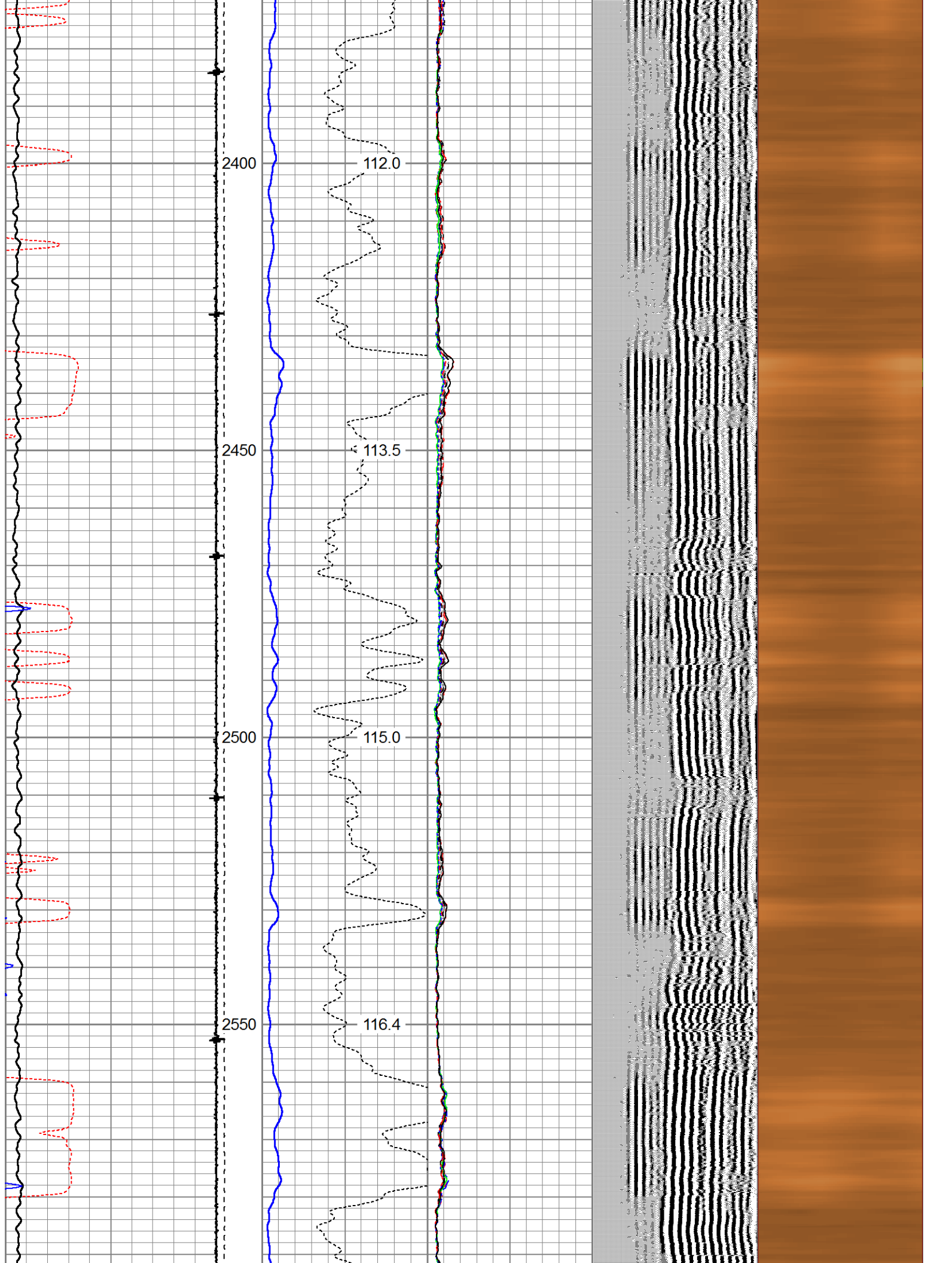


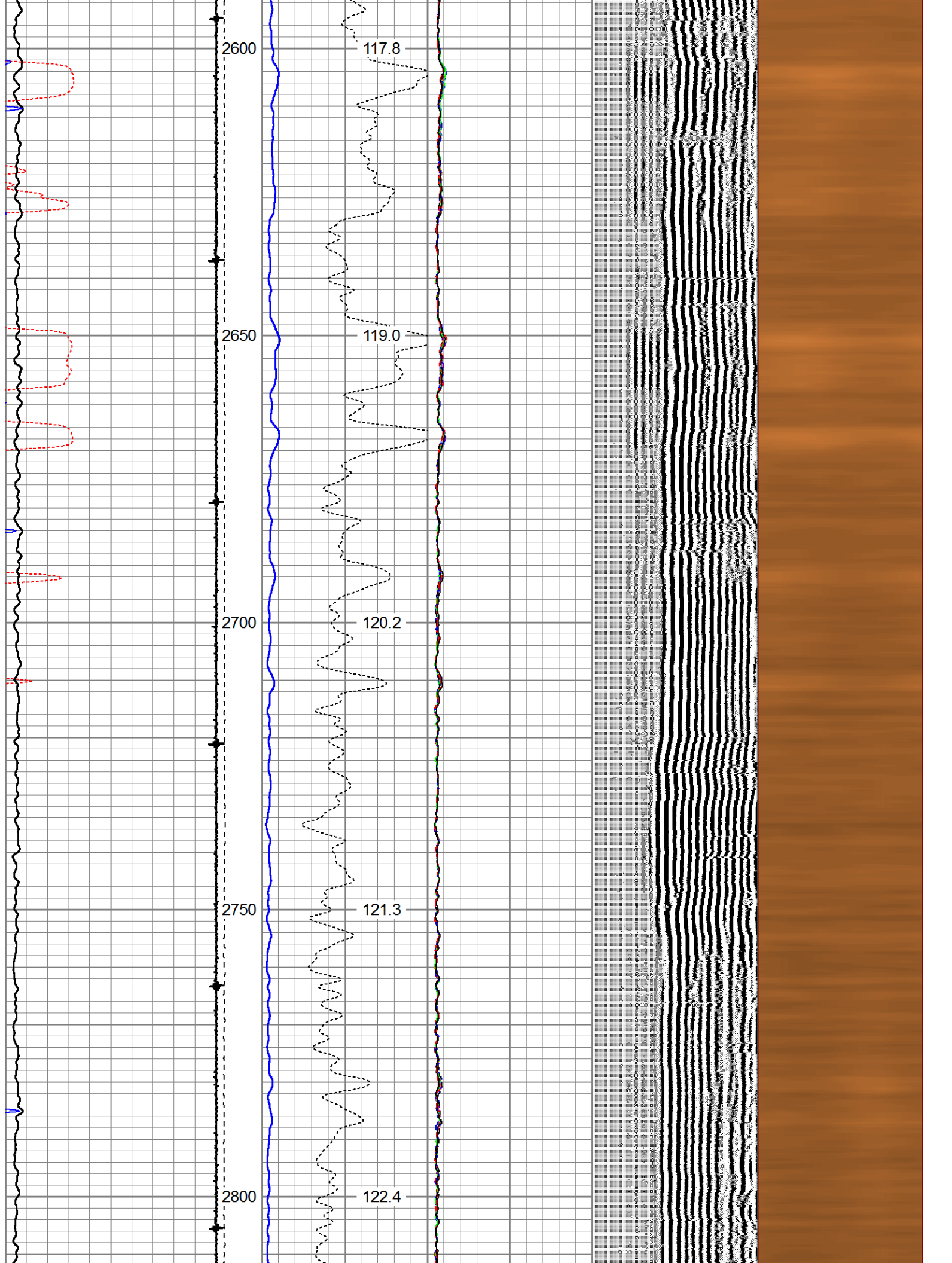


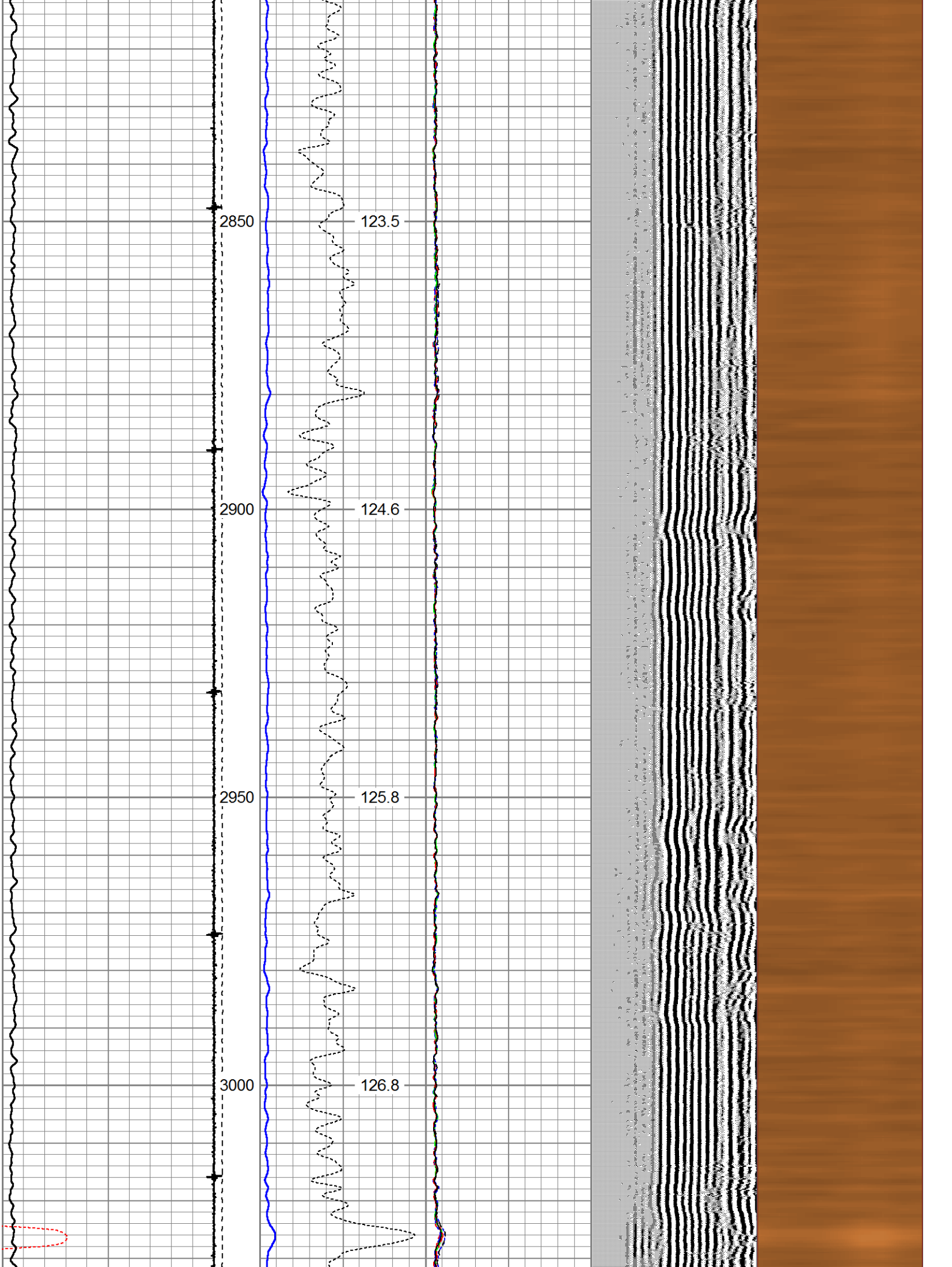


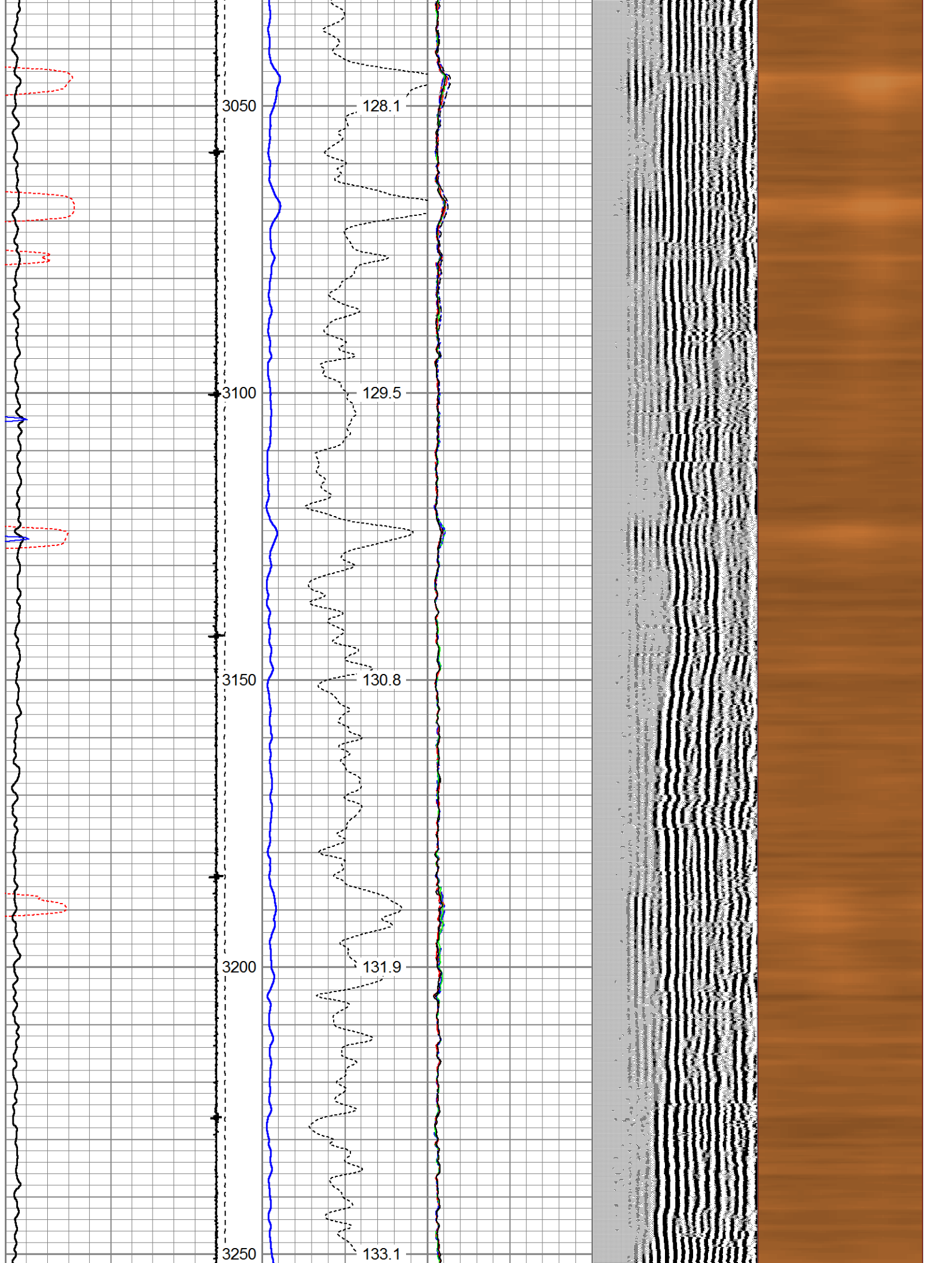


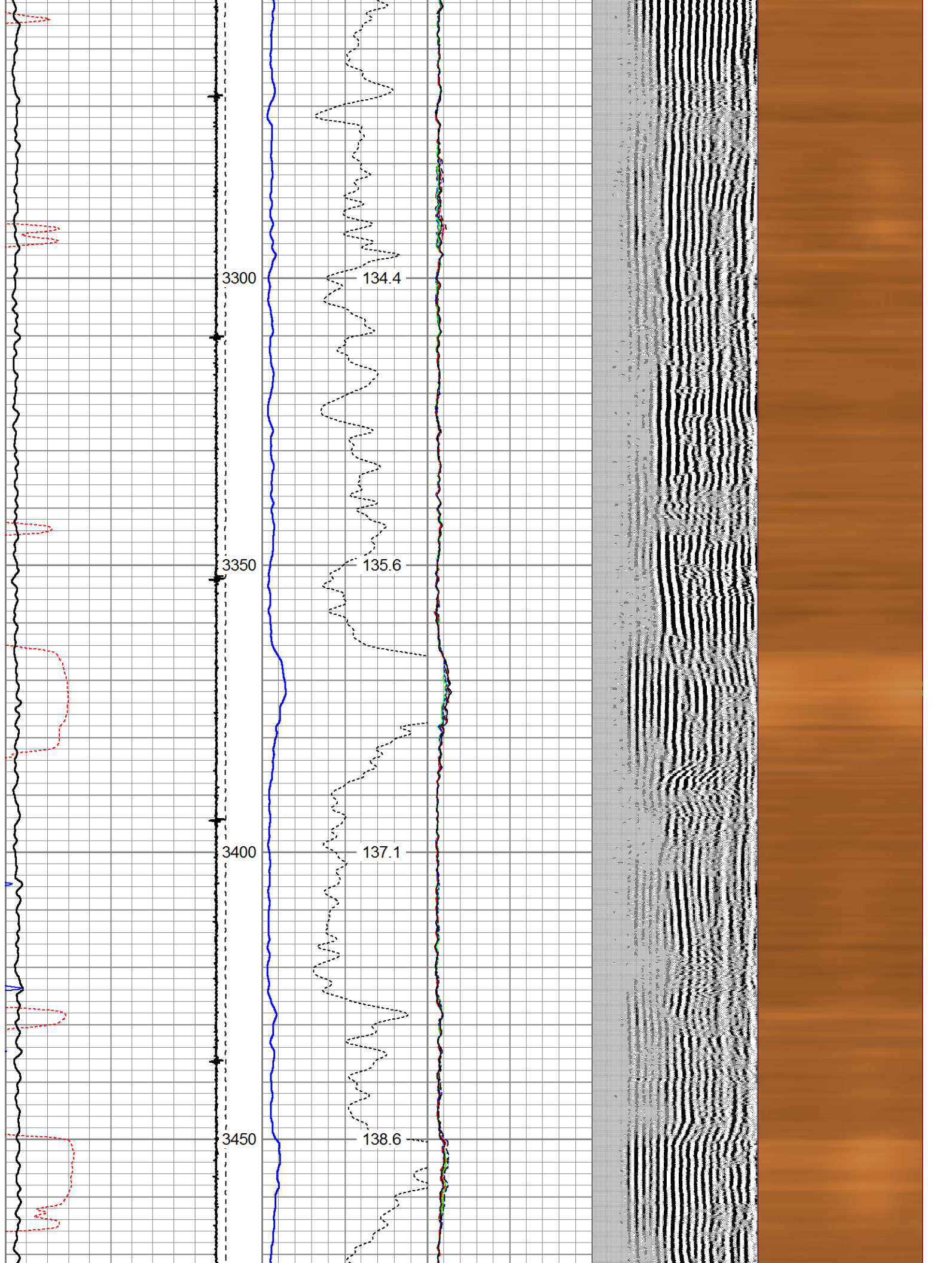


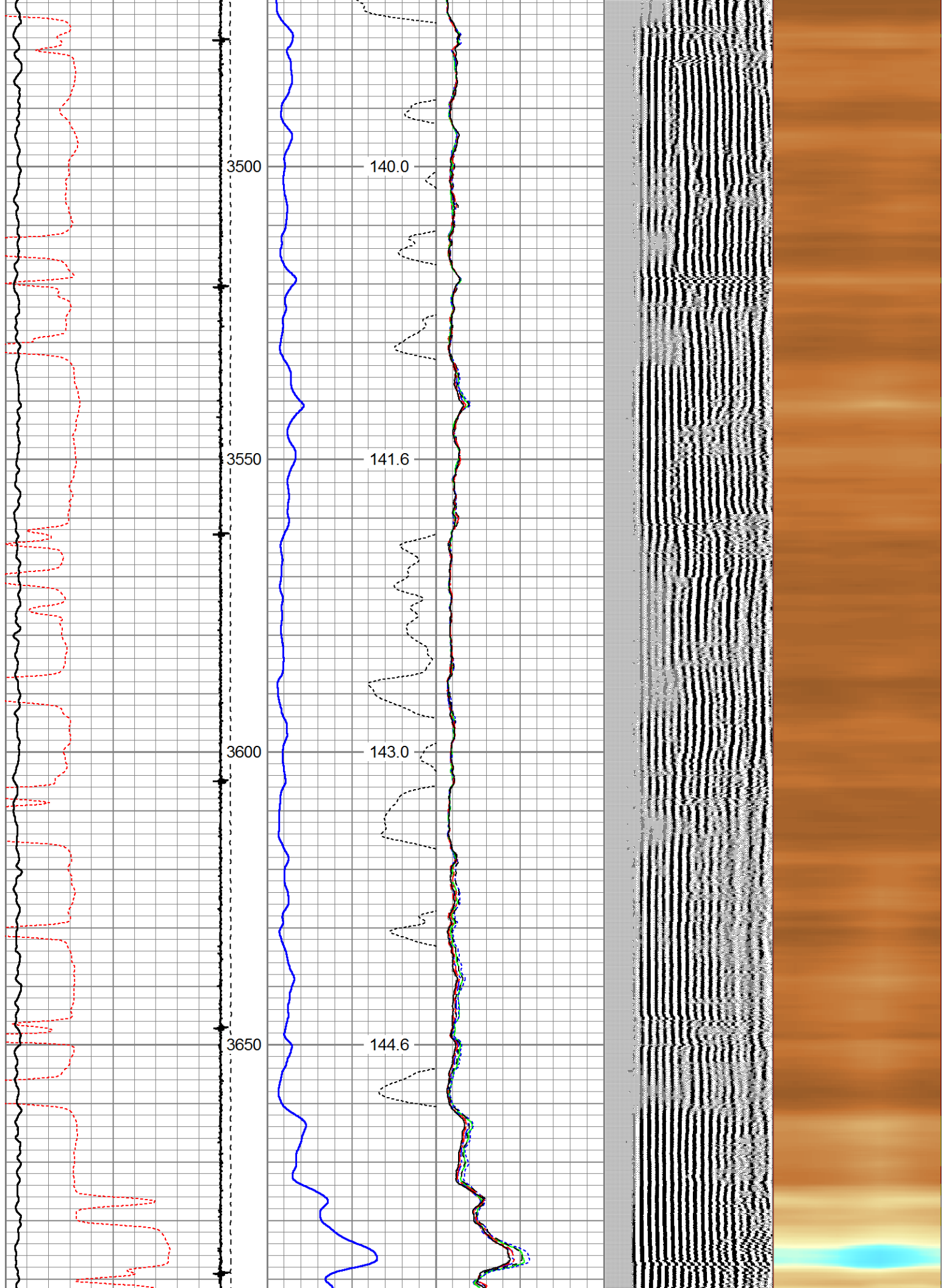


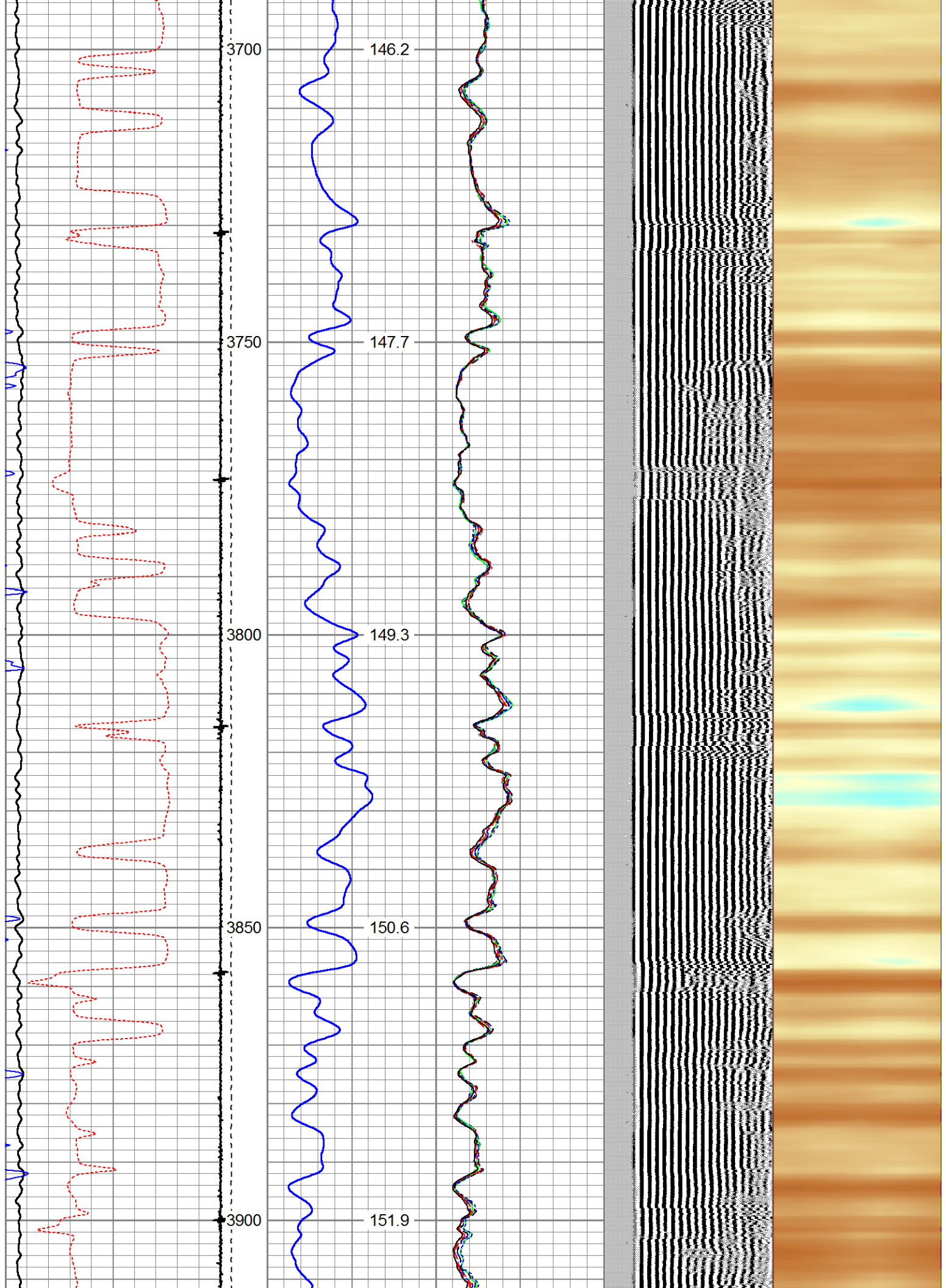


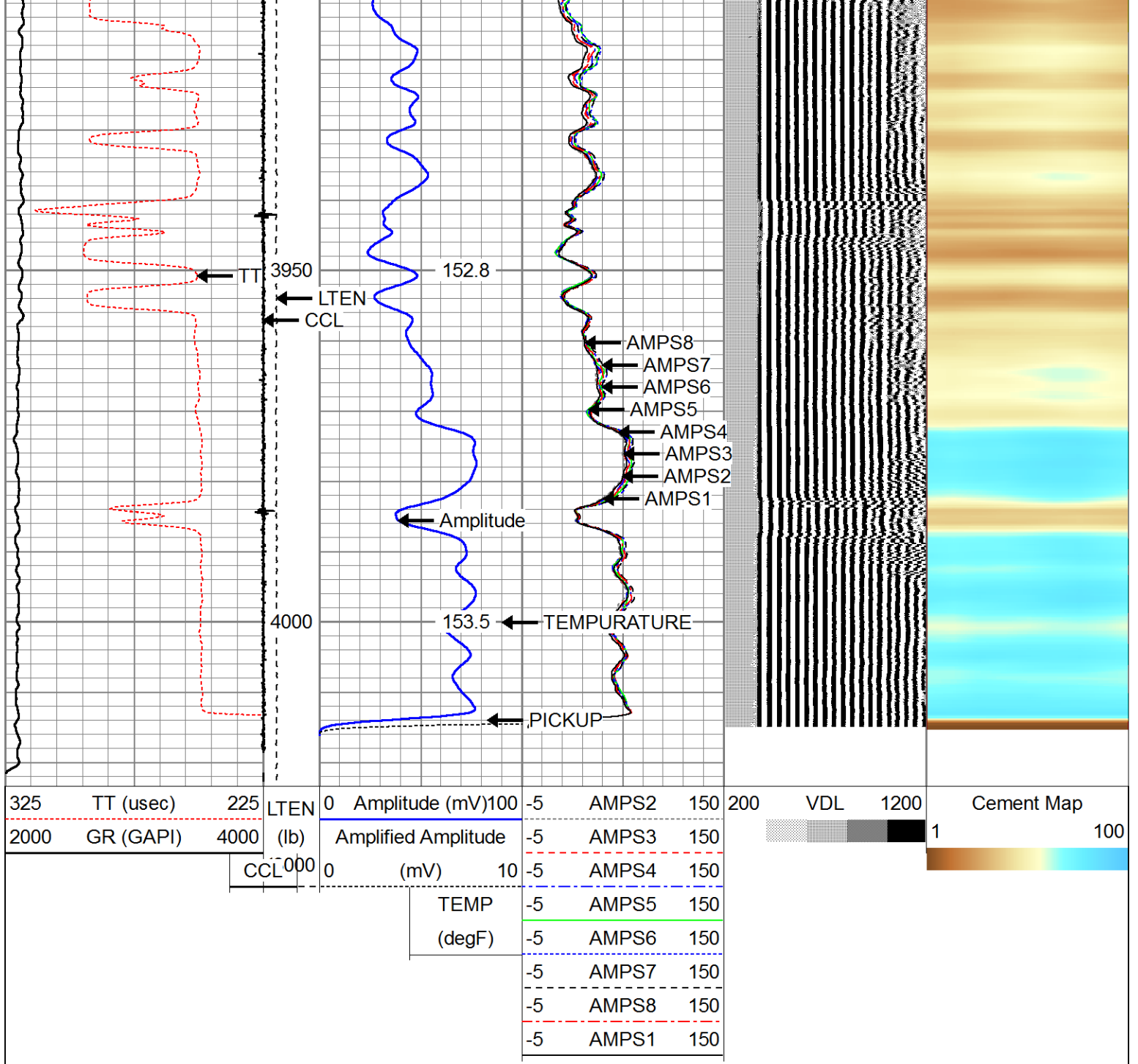












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 Well LUDWIG 30-1  
 Field WATTENBERG  
 County WELD  
 State COLORADO