



Cement Bond
Gamma Ray CCL
Log

Company Noble Energy
Well Rohn State LD03-65-1HN
Field DJ Basin
County Weld State Colorado

Location: API # : 05-123-37467
2310' FSL & 660' FEL
Section 4, Township 9N, Range 58W
SEC TWP RGE
Permanent Datum Ground Level Elevation 4699'
Log Measured From K.B. 24' APD
Drilling Measured From K.B.
Other Services
Elevation
K.B. 4723'
D.F. 4722'
G.L. 4699'

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Date 10/29/2014

Run Number One
Depth Driller 10266'
Depth Logger 10034'
Bottom Logged Interval 10030'
Top Log Interval 5800'
Open Hole Size 6.125"
Type Fluid Water
Density / Viscosity 8.3
Max. Recorded Temp. -
Estimated Cement Top -
Time Well Ready ROA
Time Logger on Bottom See Log
Equipment Number W-202
Location Ault, Colorado
Recorded By W. Richardson
Witnessed By R. Hamm

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
One	13 1/2"	0'	1223'				
Two	8 3/4"	1223'	6085'				
Three	6 1/8"	6085'	10270'				

Casing Record
Surface String Size 9 5/8" Wgt/Ft 36 Top 0' Bottom 1213'
Prot. String
Production String 7" 26 0' 6074'
Liner 4 1/2" 11.6 5866' 10266'

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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

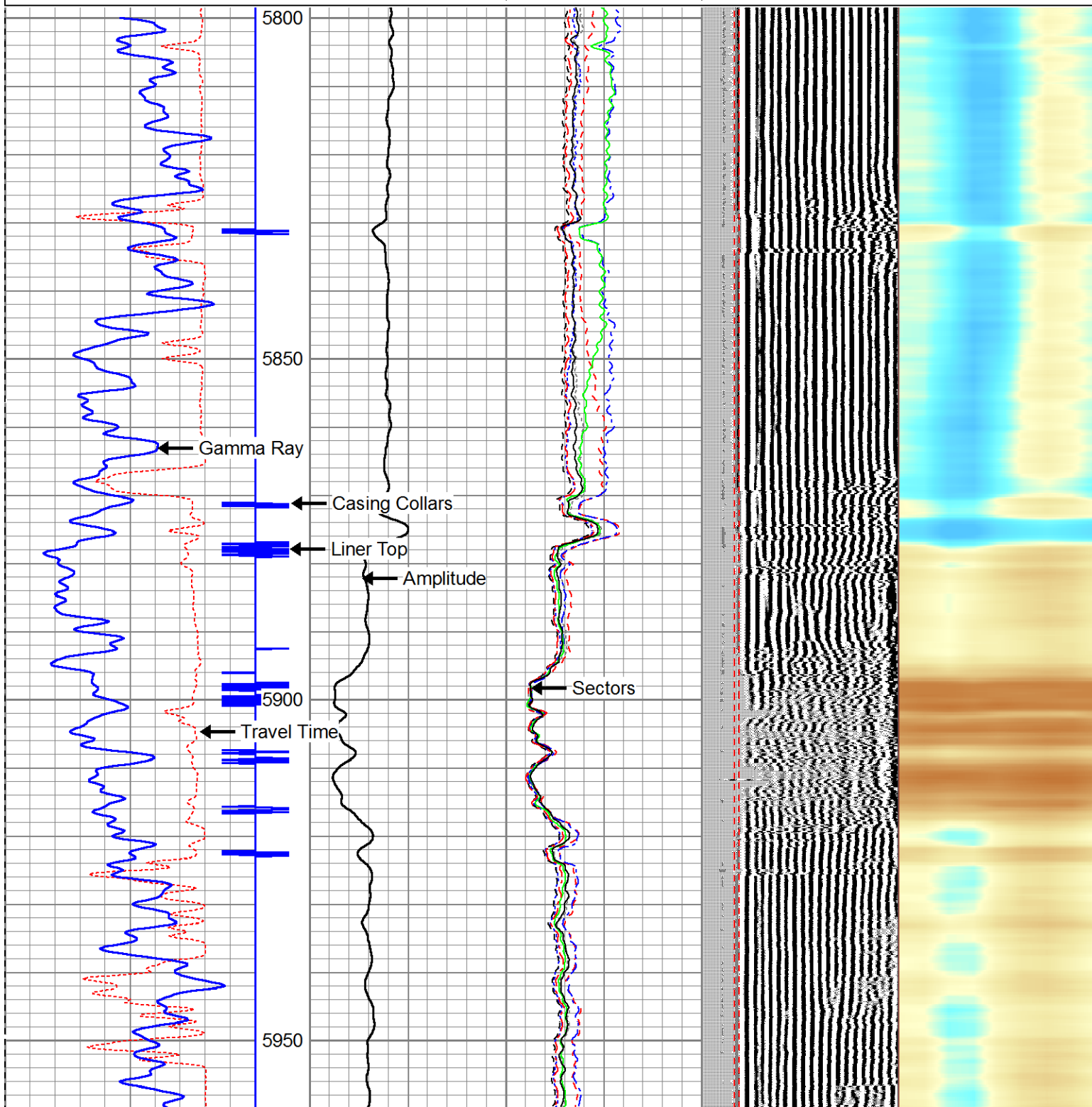
*****Thank You For Using Cutters Wireline*****
Log Ran as Primary Log in Well
Logged Horizontal Liner 4 1/2" 11.6#

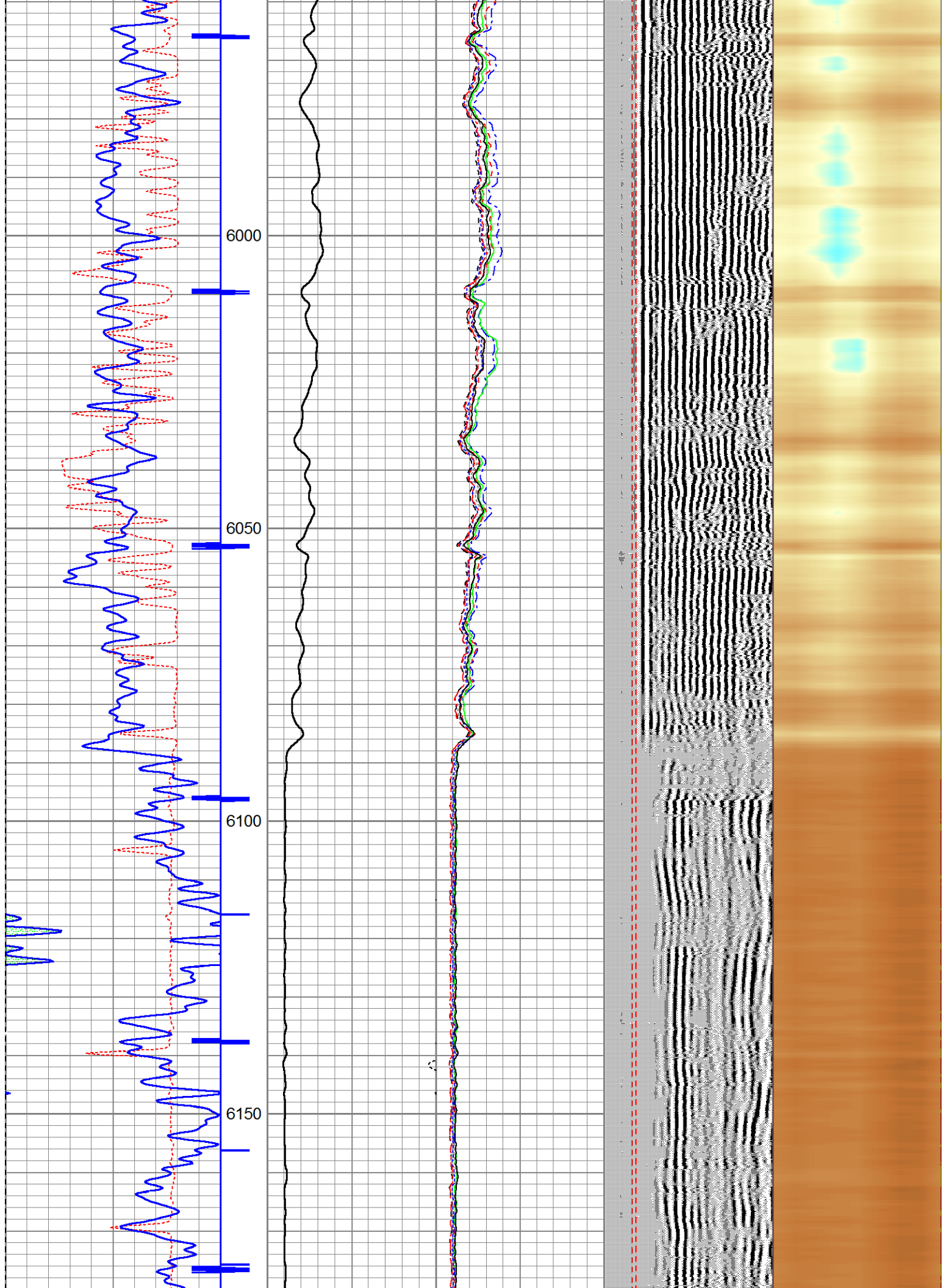


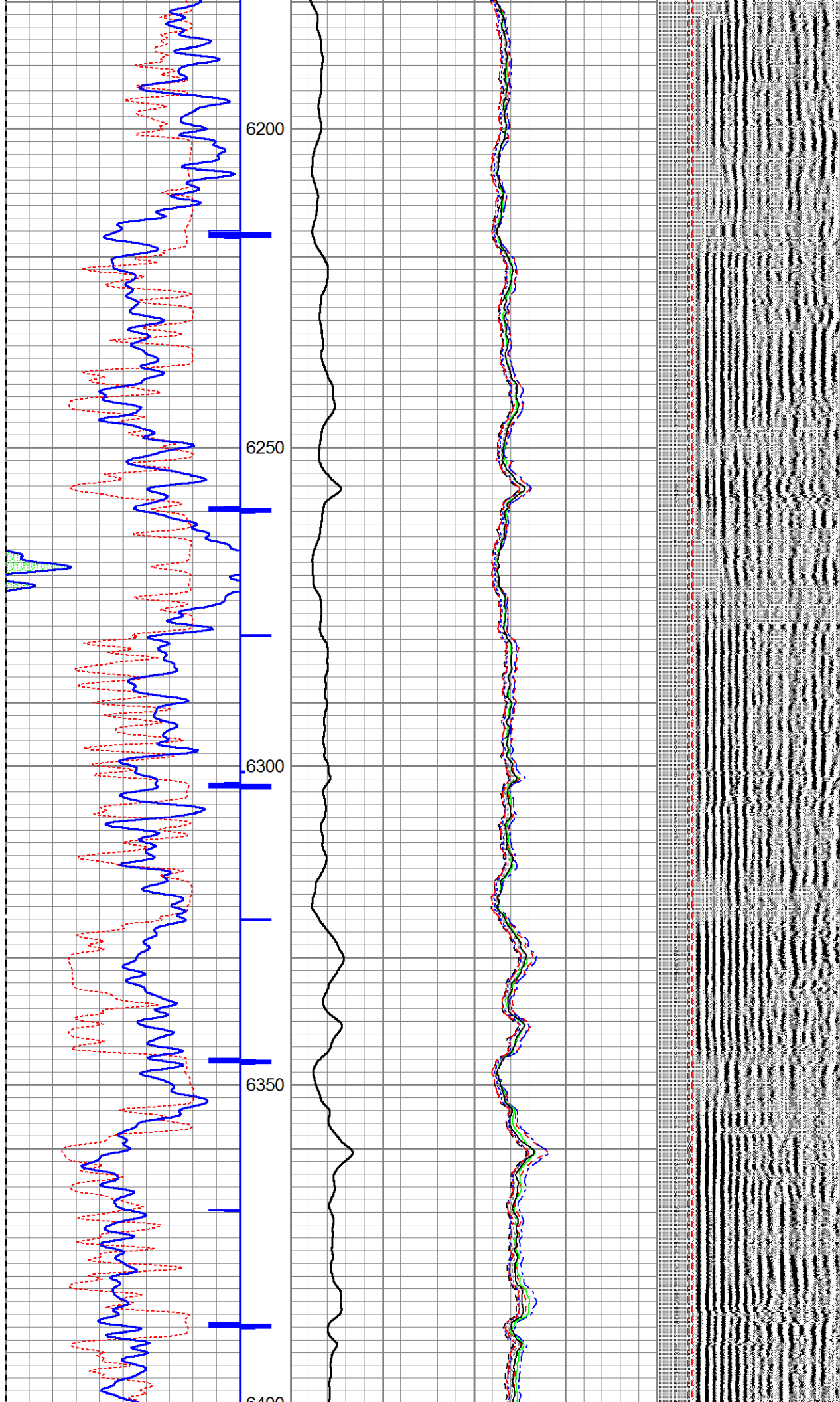
Main Pass 5" = 100'

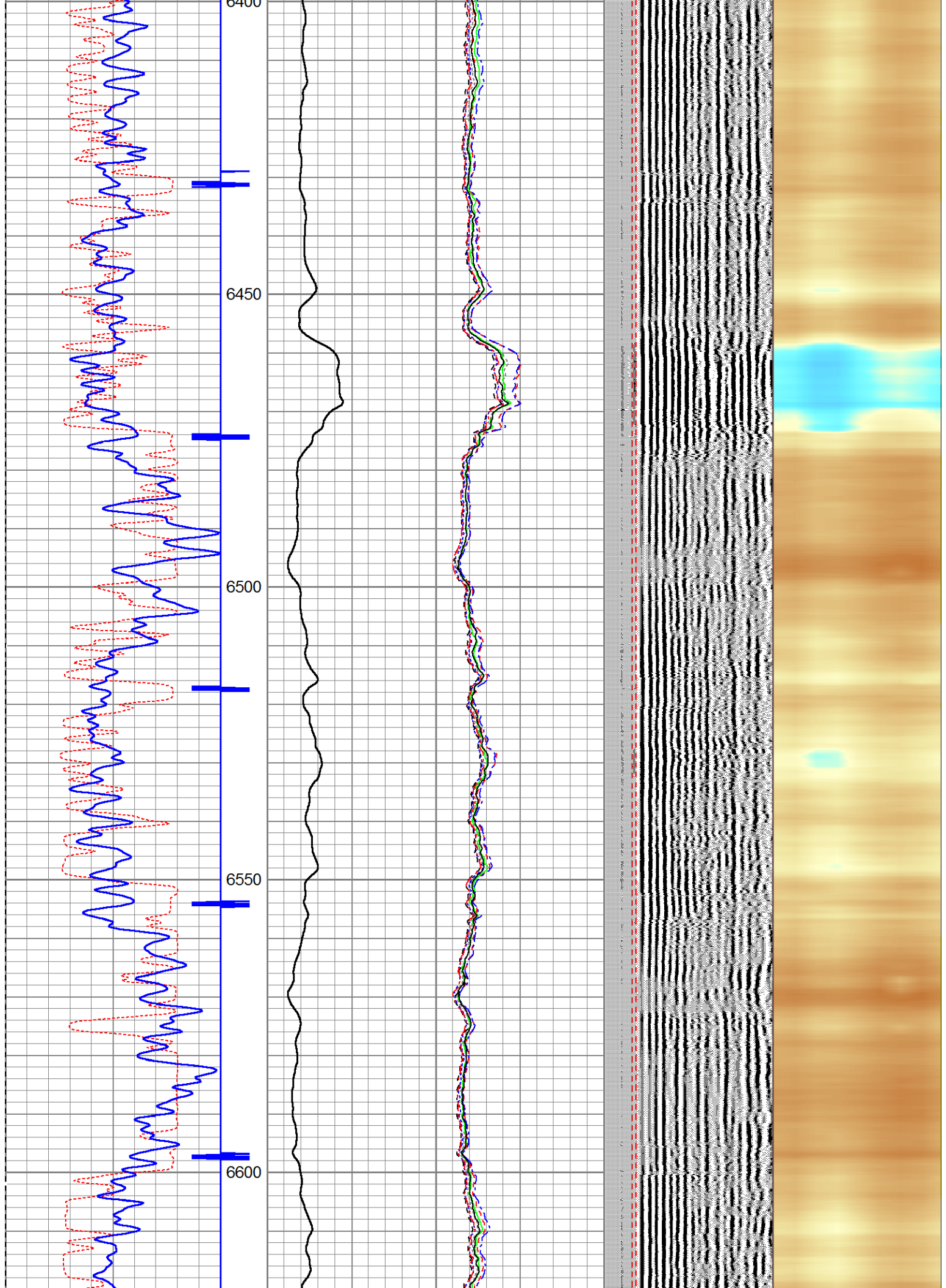
Database File: noble_rohn_state_id_03_65_1hn_rbl.db
Dataset Pathname: pass5
Presentation Format: rbl45
Dataset Creation: Wed Oct 29 12:04:51 2014 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240

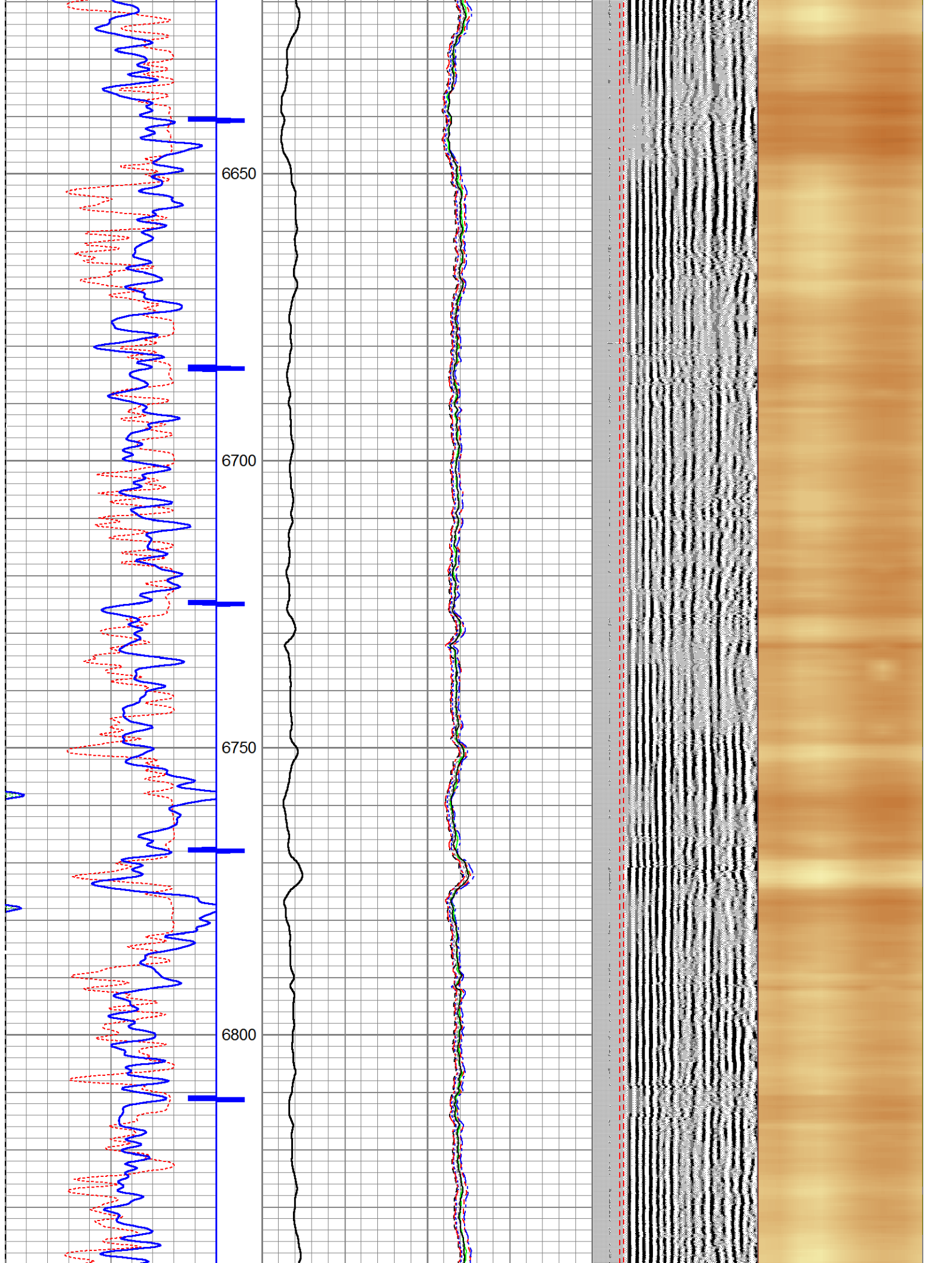
325	TT (usec)	225	0	Amplitude (mV)	100	-5	AMPS2	150	200	VDL	1200	Cement Map
0	GR (GAPI)	150		Amplified Amplitude		-5	AMPS3	150			1	80
0	LTEN (lb)	4000	0	(mV)	10	-5	AMPS4	150	Free Pipe Section			
						-5	AMPS5	150				
						-5	AMPS6	150				
						-5	AMPS7	150				
						-5	AMPS8	150				
						-5	AMPS1	150				

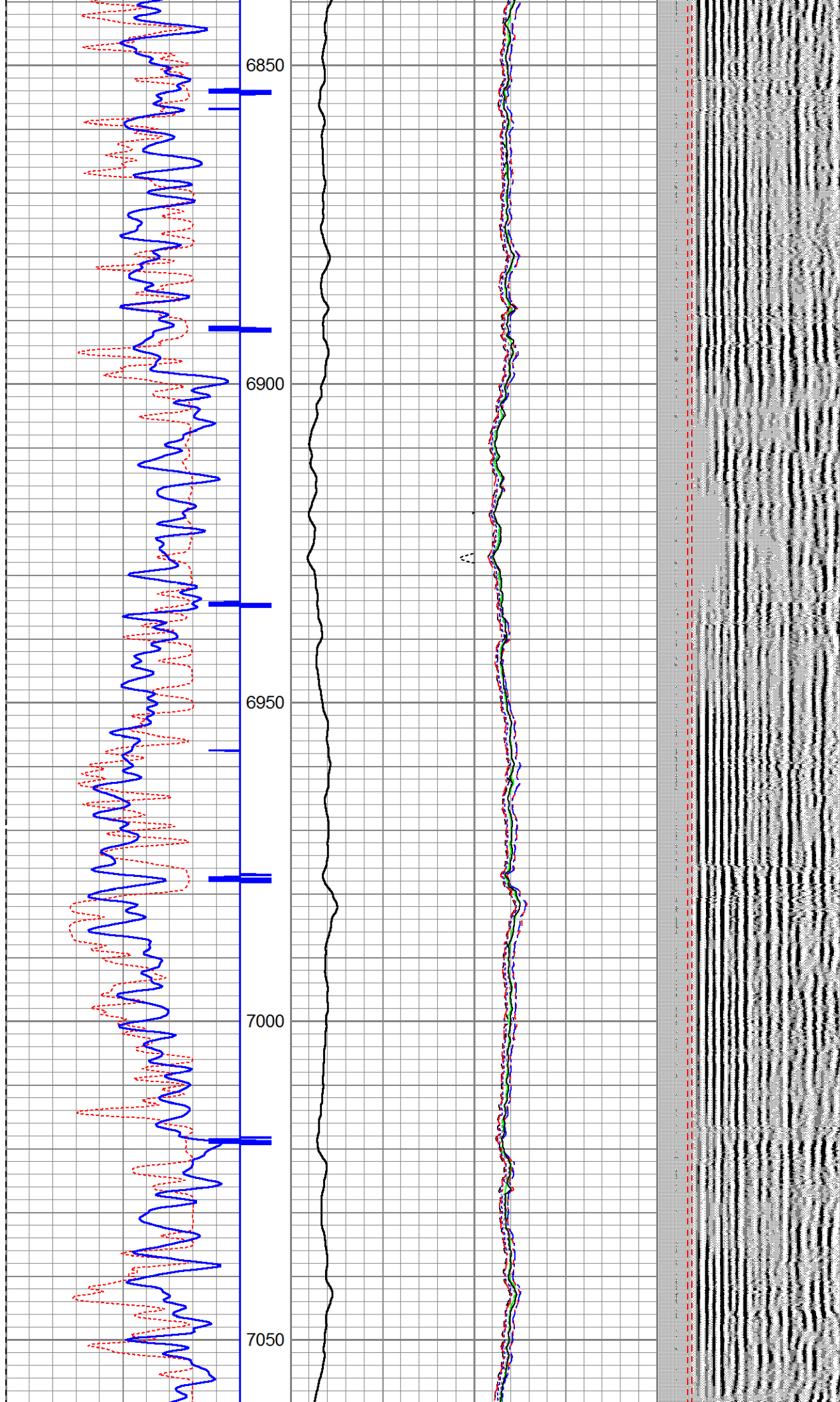


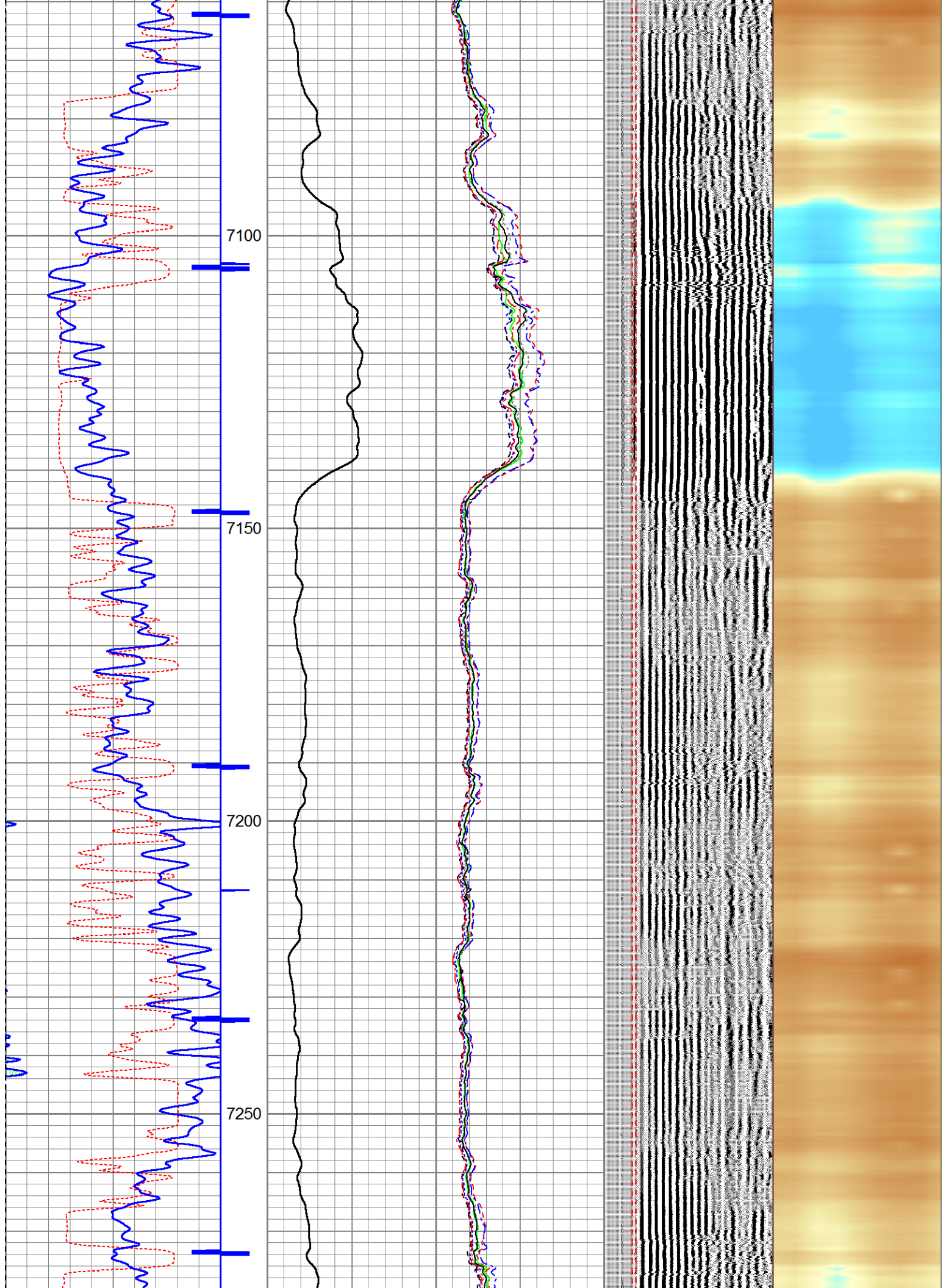


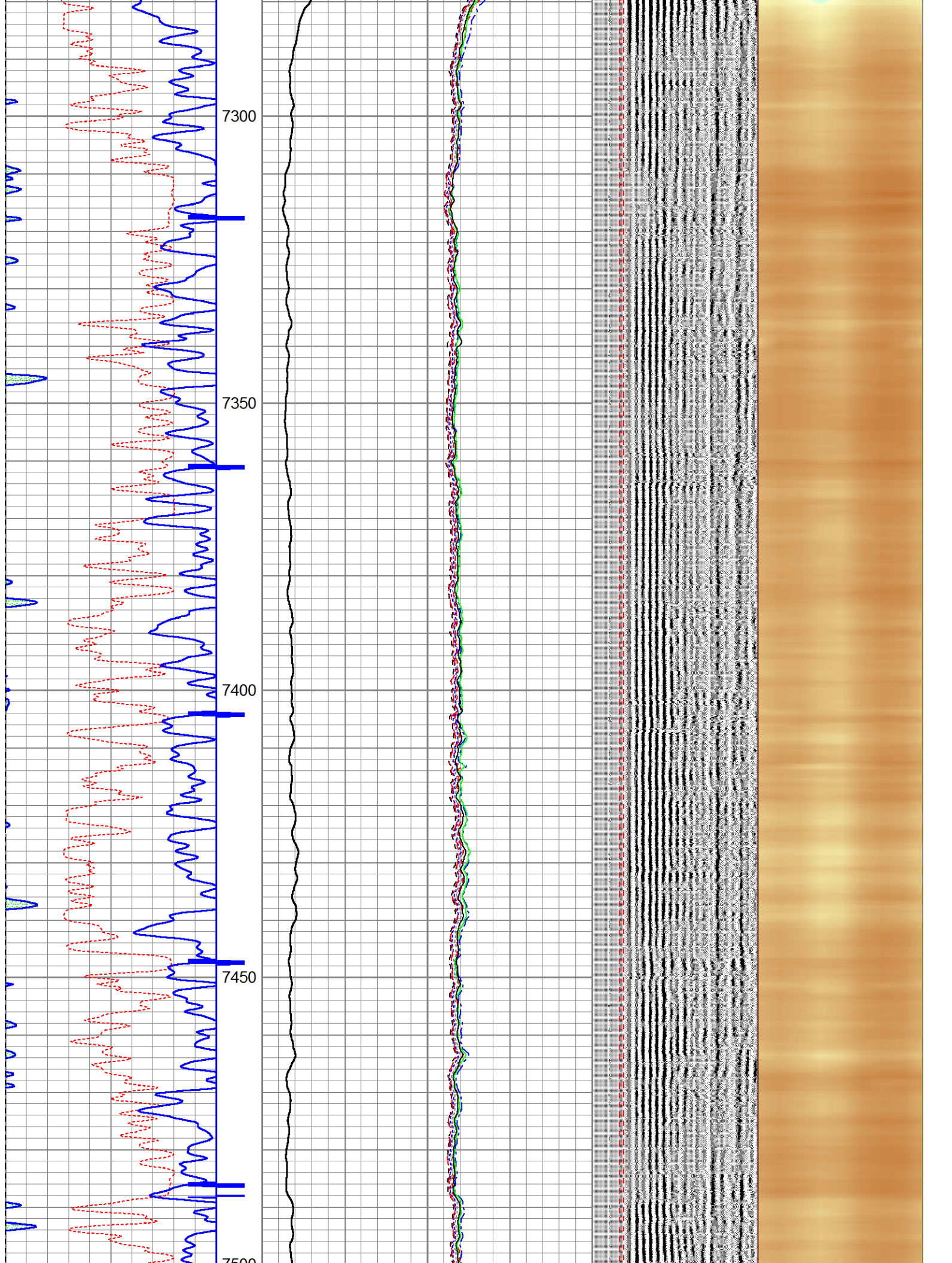


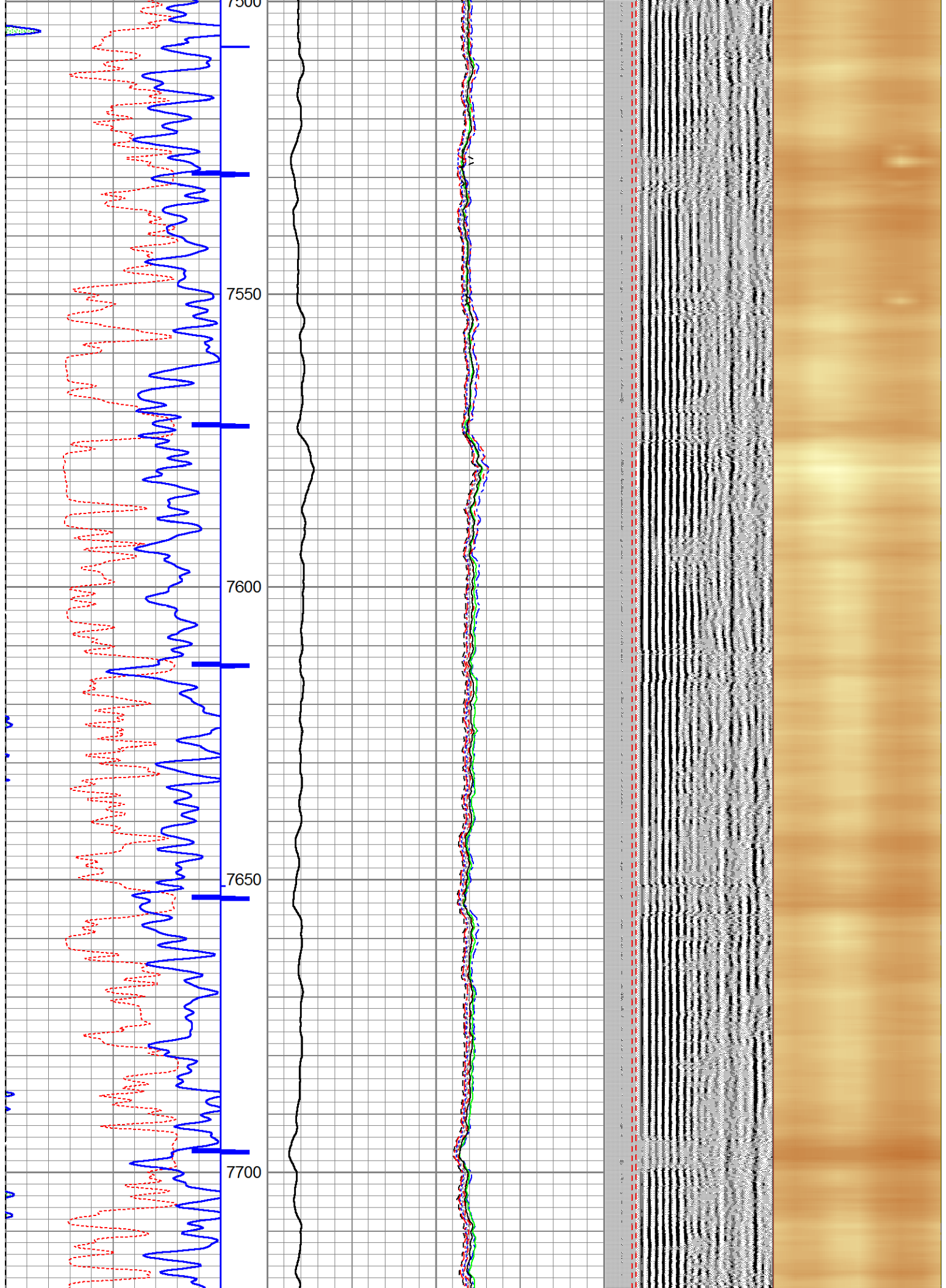


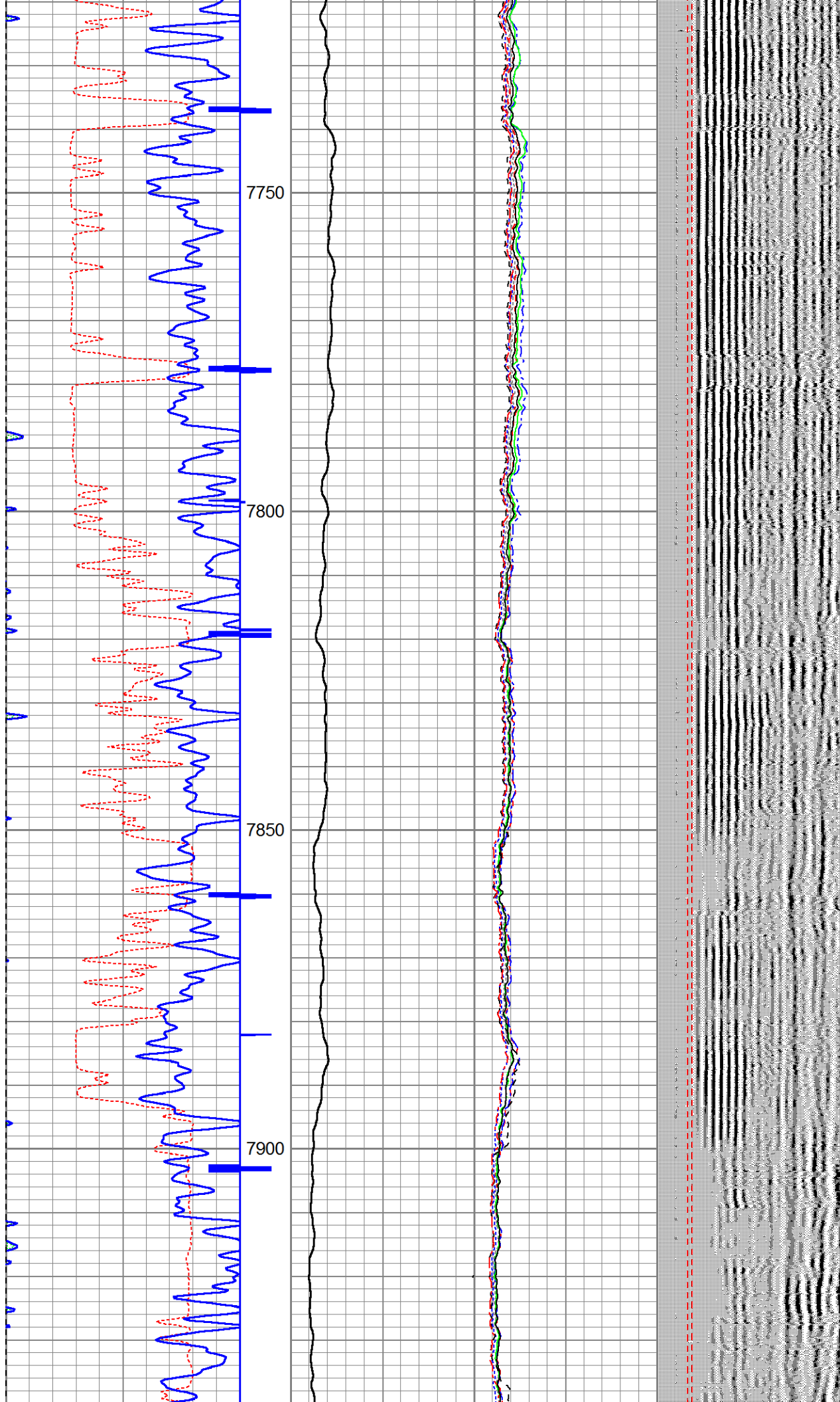


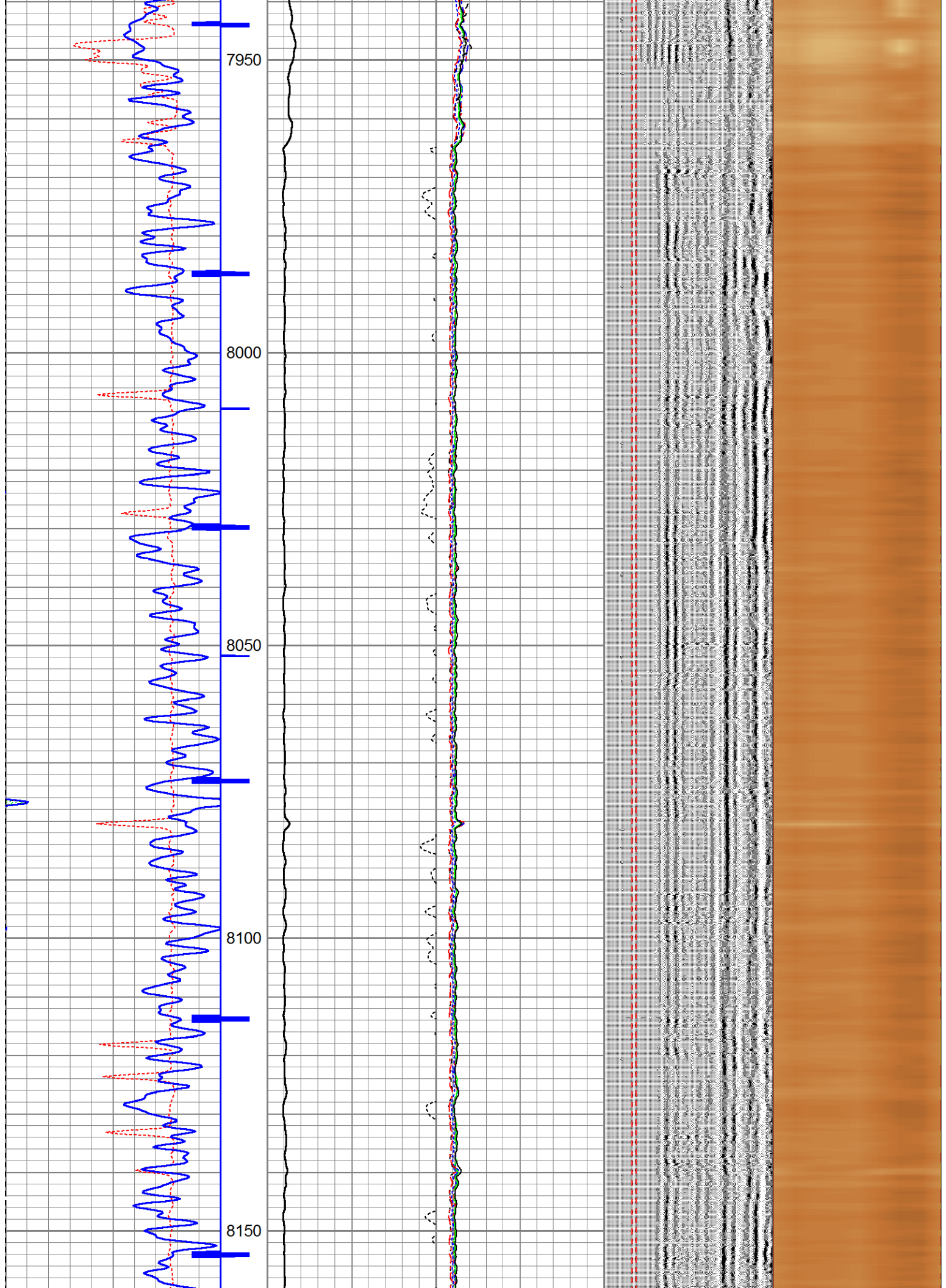


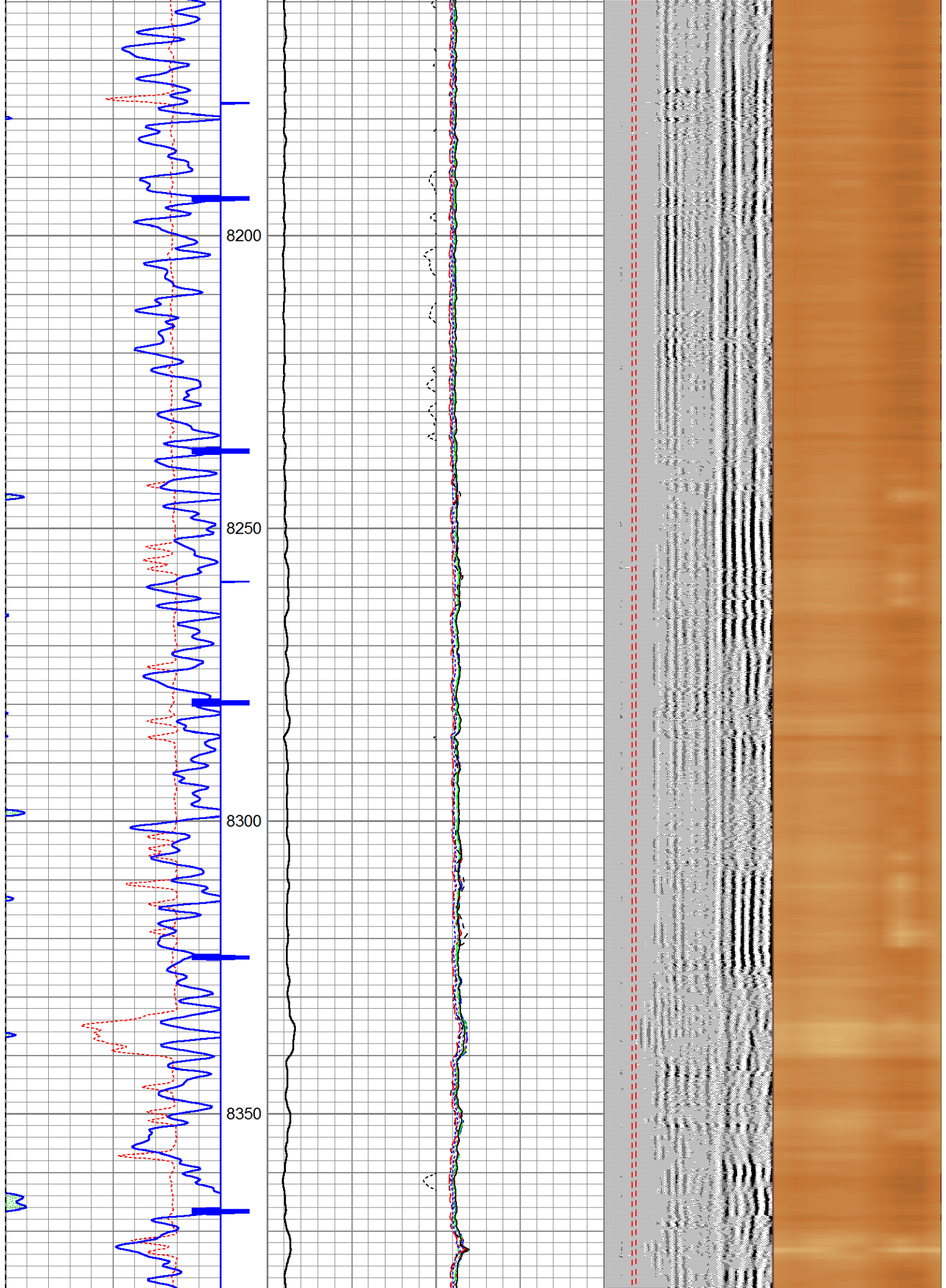


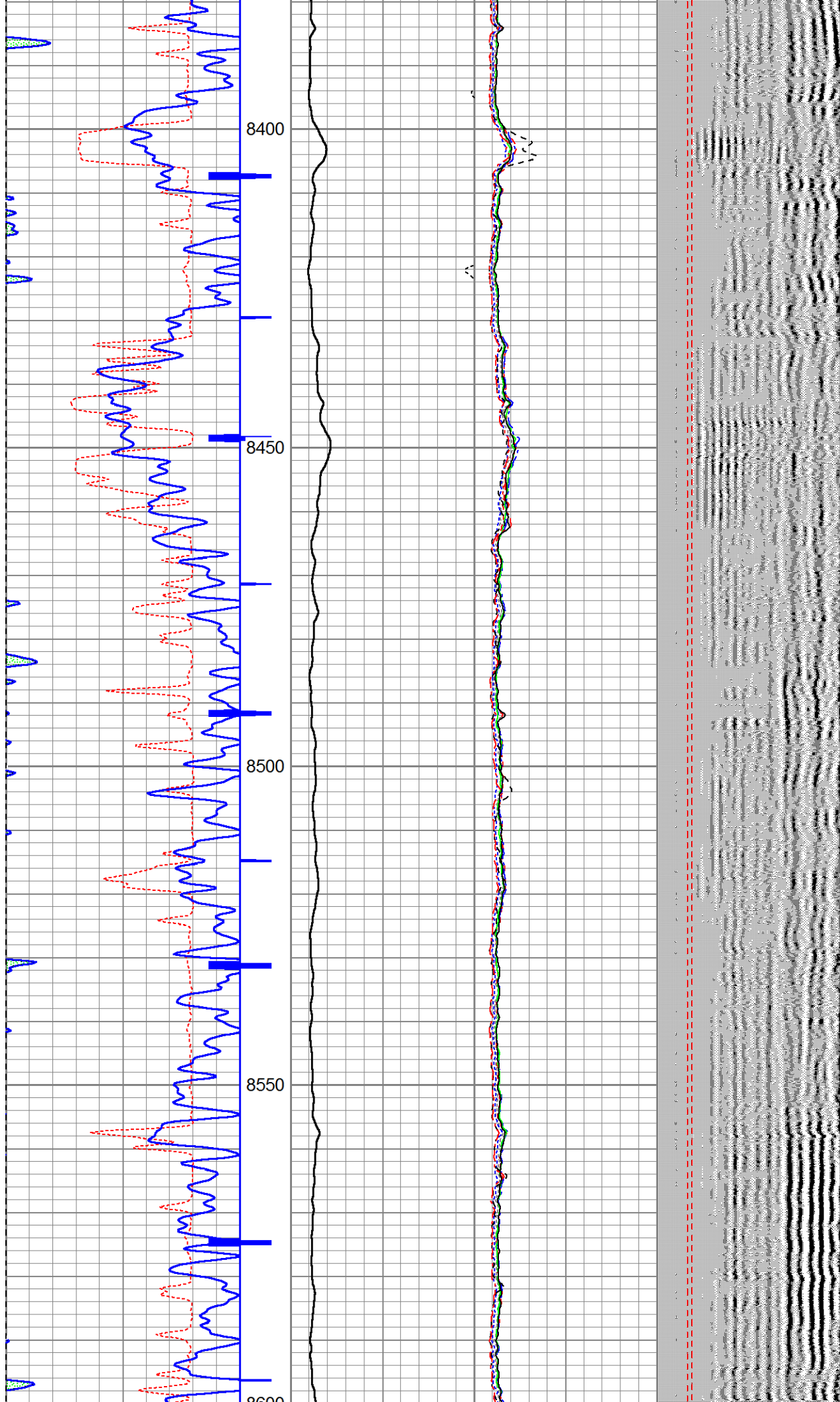


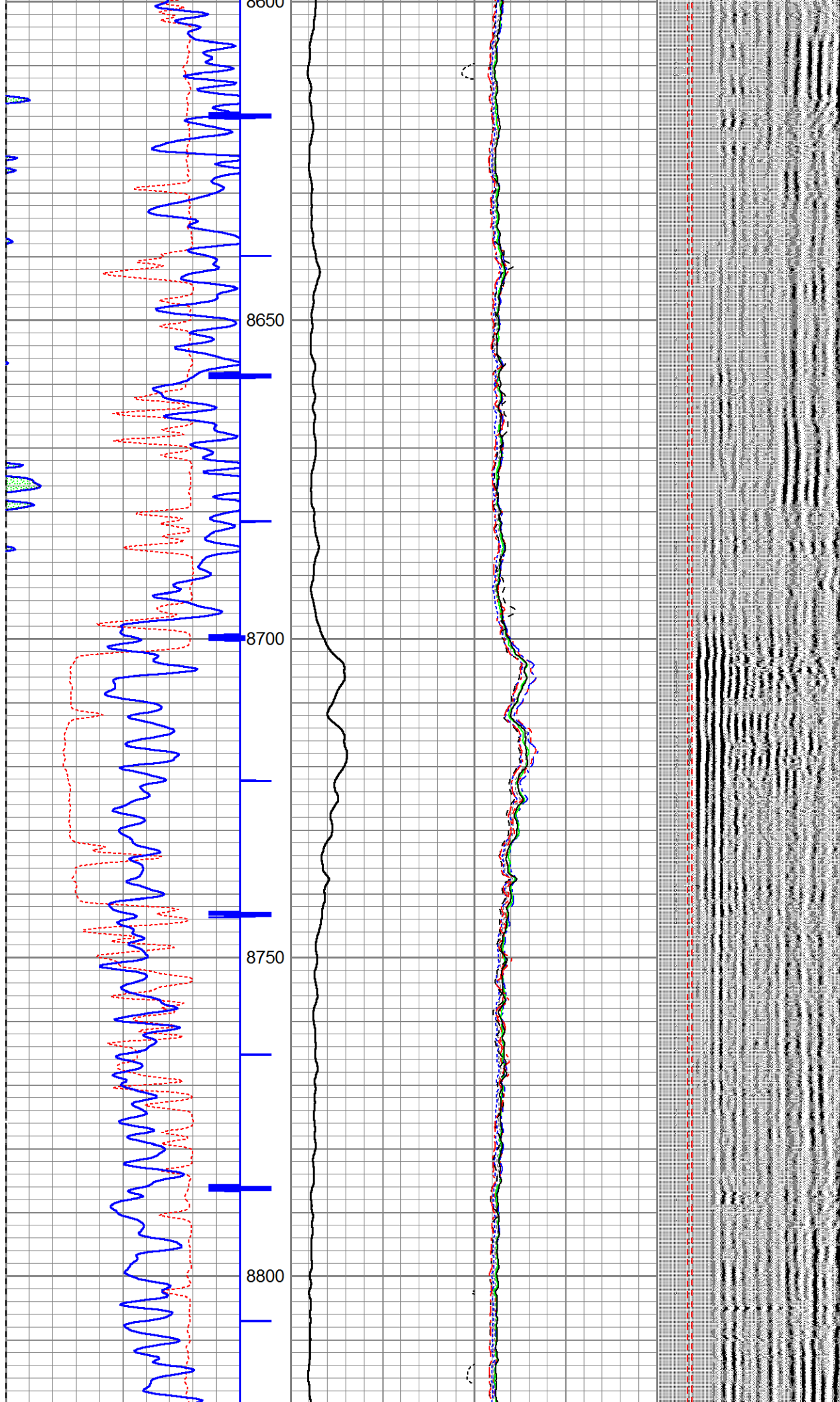


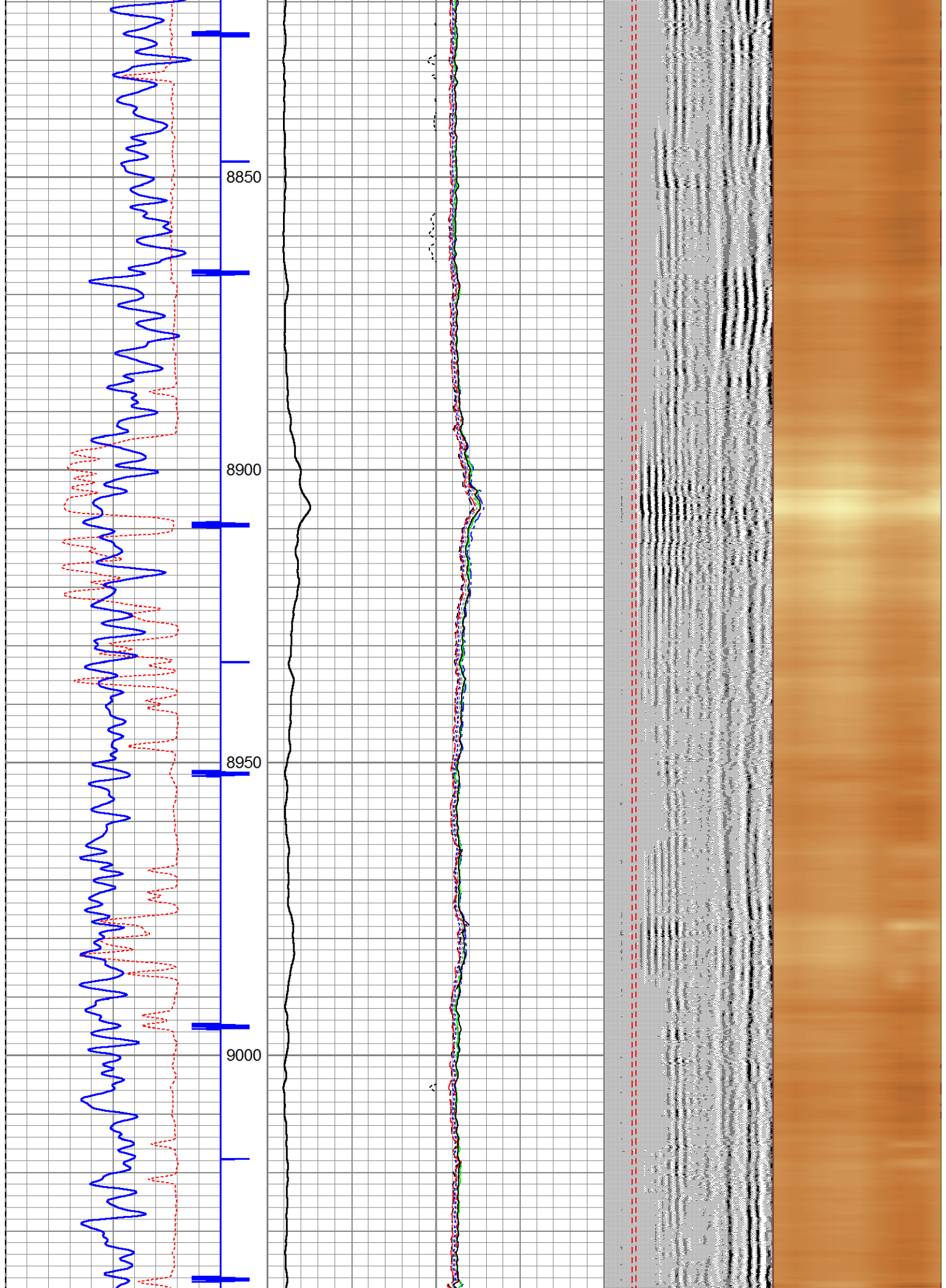


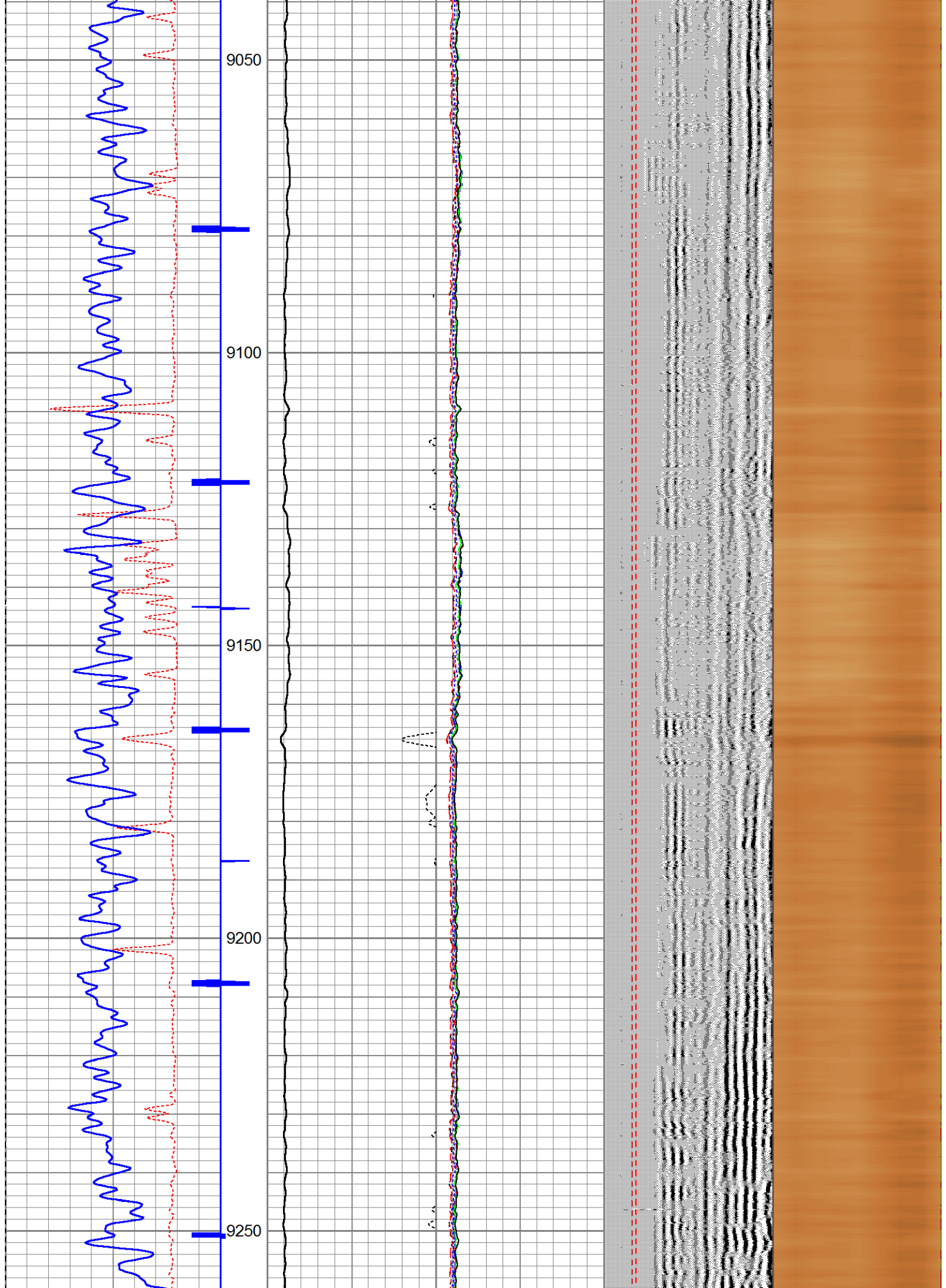


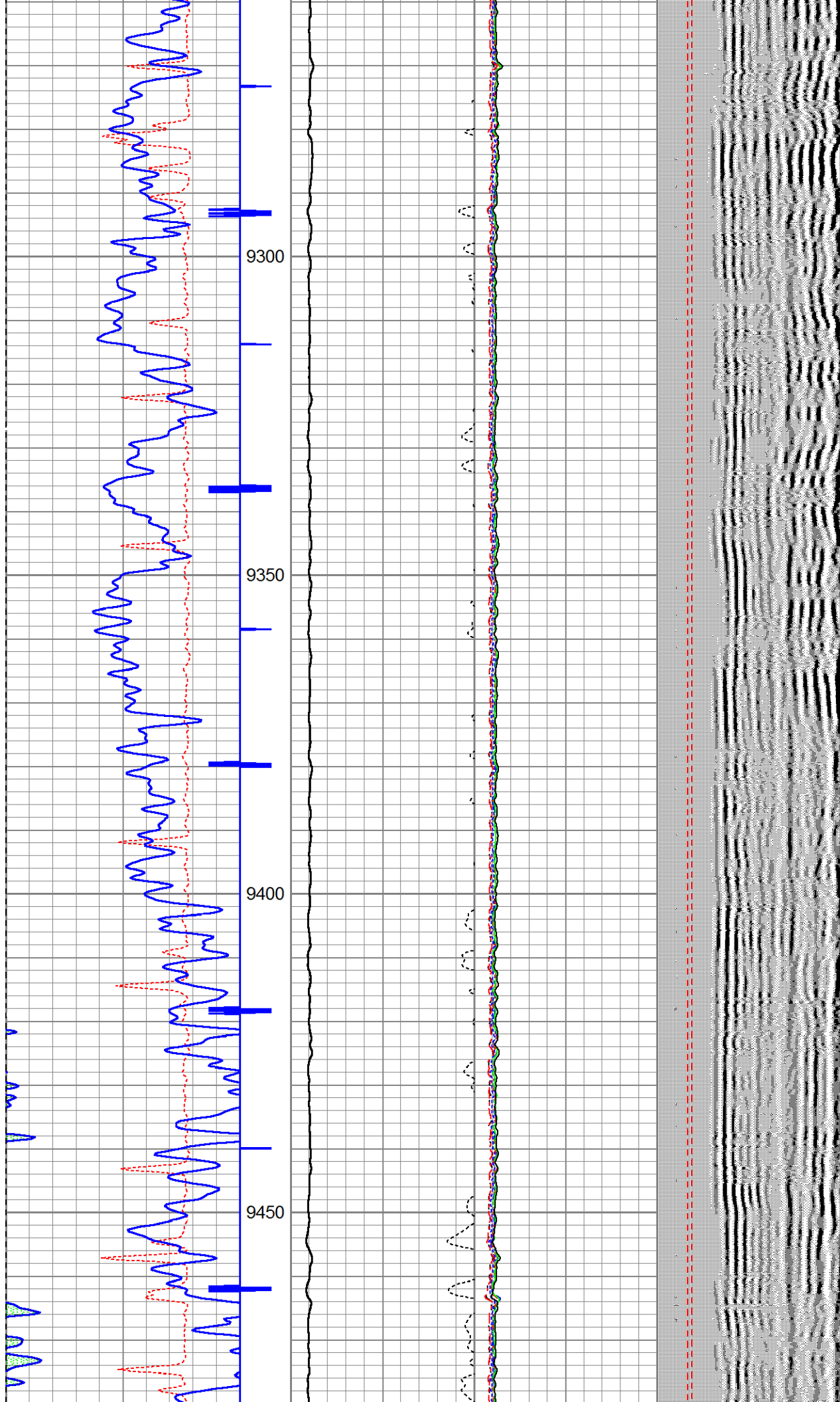


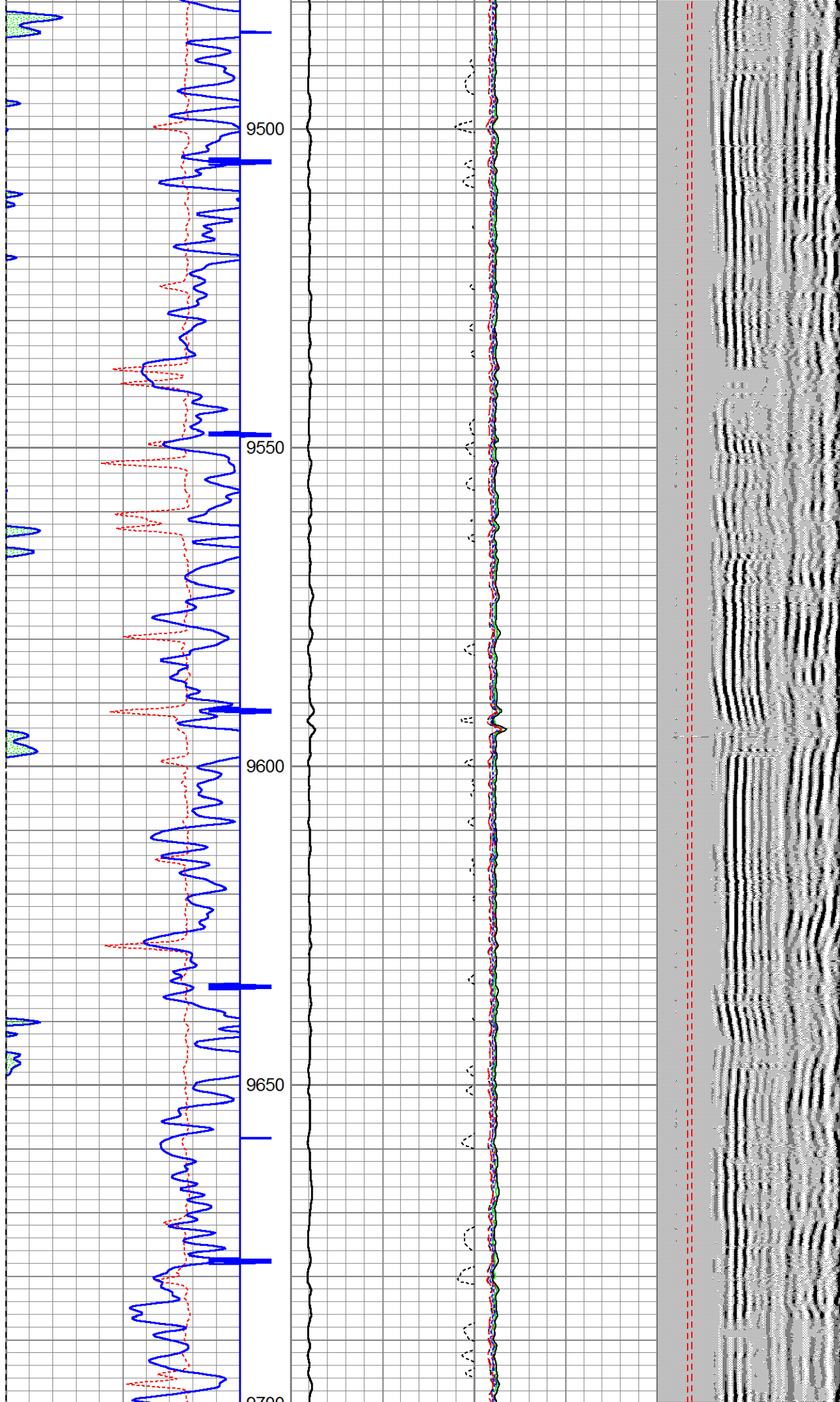


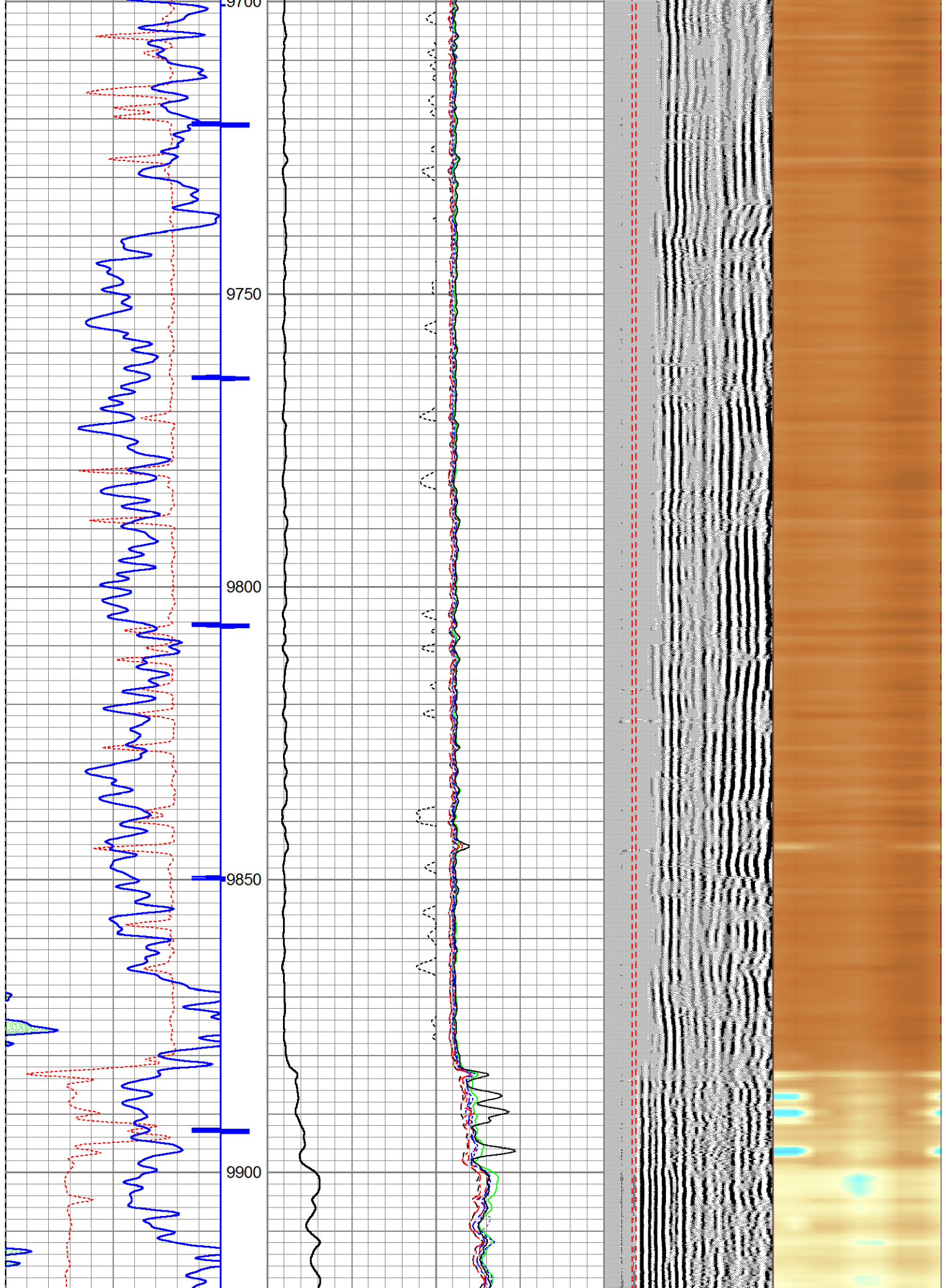


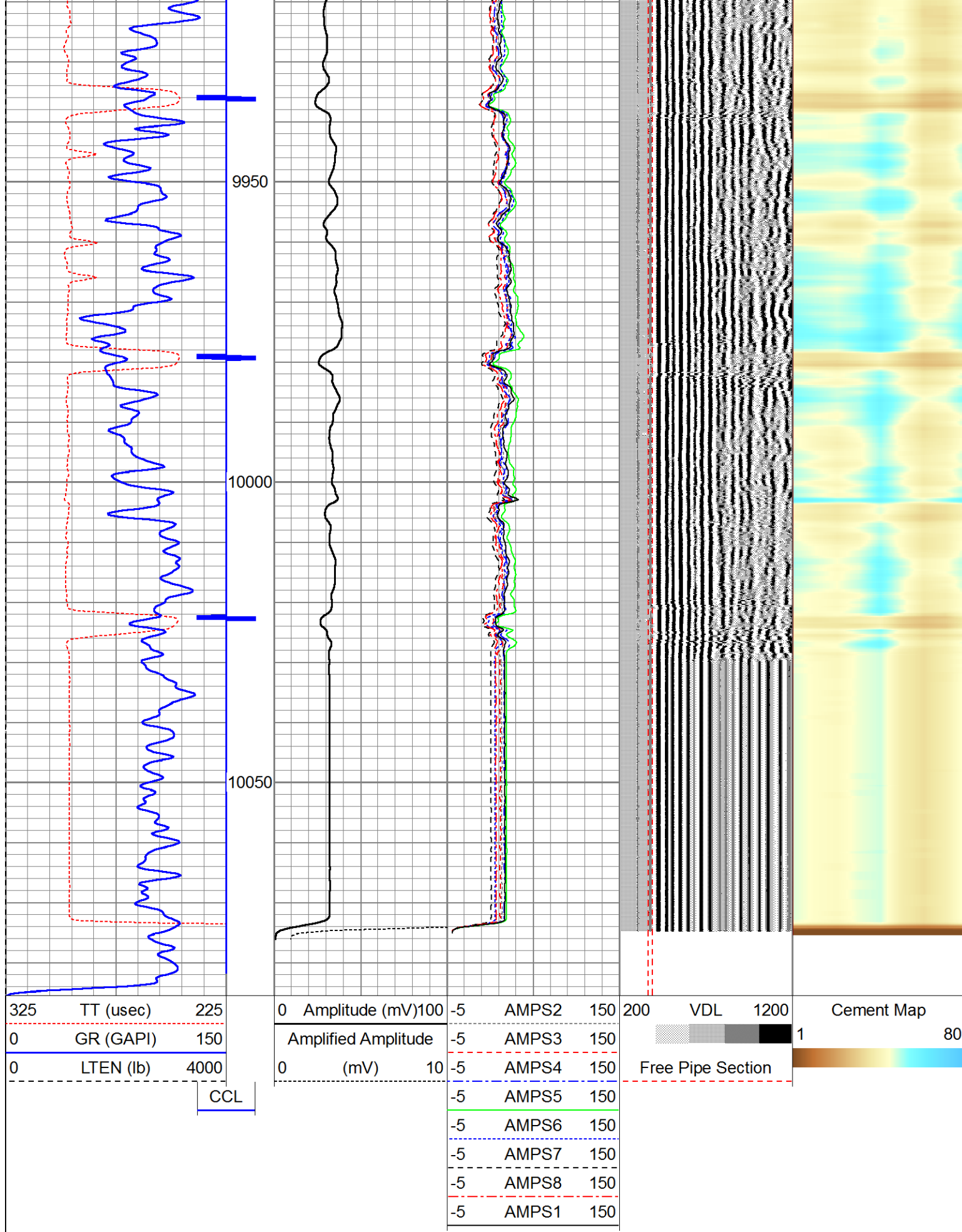












Log Variables

Database: C:\Warrior\Data\noble_rohn_state_ld_03_65_1hn_rbl.db
Dataset: field/well/run1/pass5

Top - Bottom

PPT usec 0	CASEWGHT lb/ft 11.6	MAXAMPL mV 81	MINAMPL mV 1	MINATTN db/ft 0.8	SRFTEMP degF 0	CASEOD in 4.5	PERFS 0
TDEPTH ft 0	BOTTEMP degF 100	BOREID in 6.125					

Calibration Report

Database File: noble_rohn_state_ld_03_65_1hn_rbl.db
Dataset Pathname: pass5
Dataset Creation: Wed Oct 29 12:04:51 2014 by Log 7.0 B1

Gamma Ray Calibration Report

Serial Number: 275_080526
Tool Model: Probe275
Performed: Fri Mar 16 09:12:36 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.8000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: Pro101111
Tool Model: Probe

Calibration Casing Diameter: 4.500 in
Calibration Depth: 780.933 ft

Master Calibration, performed Wed Oct 29 11:14:06 2014:


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.662	1.000	81.196	121.214	0.973
CAL	0.000	0.900				
5'	0.000	0.534	1.000	81.196	150.219	0.987
SUM						
S1	0.000	0.652	0.000	100.000	153.288	-0.007
S2	0.000	0.649	0.000	100.000	154.028	-0.011
S3	0.000	0.674	0.000	100.000	148.478	-0.027
S4	0.000	0.676	0.000	100.000	147.988	-0.020
S5	0.000	0.684	0.000	100.000	146.322	-0.032
S6	0.000	0.697	0.000	100.000	143.453	-0.016
S7	0.000	0.698	0.000	100.000	143.244	-0.024
S8	0.000	0.655	0.000	100.000	152.645	-0.013


Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.000	0.900	1.000	0.000

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			1.4375CHD Titan Cable Head 1 7/16	1.00	1.44	10.00
			Probe Probe 2 3/4 Centralizer	2.88	2.75	20.00
WVF3FT	11.65					
WVFCAL	11.65					
WVFS1	11.65		RBT-Probe (Pro101111) Probe 2.75" Radii Bond Tool	7.00	2.75	90.00
WVFS2	11.65					
WVFS3	11.65					
WVFS4	11.65					
WVFS5	11.65					
WVFS6	11.65					
WVFS7	11.65					
WVFS8	11.65					
WVF5FT	10.65					
			Probe Probe 2 3/4 Centralizer	2.88	2.75	20.00

CCL	3.63		GR-Probe275 (275_080526) Probe Gamma Ray CCL Analog Bottom Det.	4.58	2.75	57.00
GR	0.83					
Dataset: noble_rohn_state_ld_03_65_1hn_rbl.db: field/well/run1/pass5 Total Length: 18.33 ft Total Weight: 197.00 lb O.D. 2.75 in						

	Company	Noble Energy
	Well	Rohn State LD03-65-1HN
	Field	DJ Basin
	County	Weld
	State	Colorado