



Well Services
E-LINE

RADIAL CEMENT BOND
GAMMA RAY
CCL LOG

Company	NOBLE ENERGY		
Well	GUTTERSON STATE D16-15X		
Field	WATTENBURG		
County	WELD	State	CO
Location:	API # : 05-123-29244 SW/SE		Other Services
LAT. 40.22031399 LONG. -104.55417968			
SEC 16	TWP 3N	RGE 64W	
Permanent Datum	GL	Elevation	4,796'
Log Measured From	K.B. OF 15'	Elevation	K.B. 4,811' D.F. 4,810' G.L. 4,796'
Drilling Measured From	KELLY BUSHING		

Date	2/1/2019
Run Number	ONE
Depth Driller	7,597'
Depth Logger	6,410'
Bottom Logged Interval	6,400'
Top Log Interval	SURFACE
Open Hole Size	7 7/8"
Type Fluid	WATER
Density / Viscosity	1.0
Max. Recorded Temp.	202 DEG.F.
Estimated Cement Top	1,530'
Time Well Ready	ON ARRIVAL
Time Logger on Bottom	N/A
Equipment Number	3812
Location	GREELEY, CO
Recorded By	ANDREW KLARICH
Witnessed By	D.RUSSELL

Borehole Record			Tubing Record				
Run Number	Bit	From	To	Size	Weight	From	To


Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8"	24 #	SURFACE	641'
Prot. String				
Production String	4.5"	11.6#	SURFACE	7,943'
Liner				

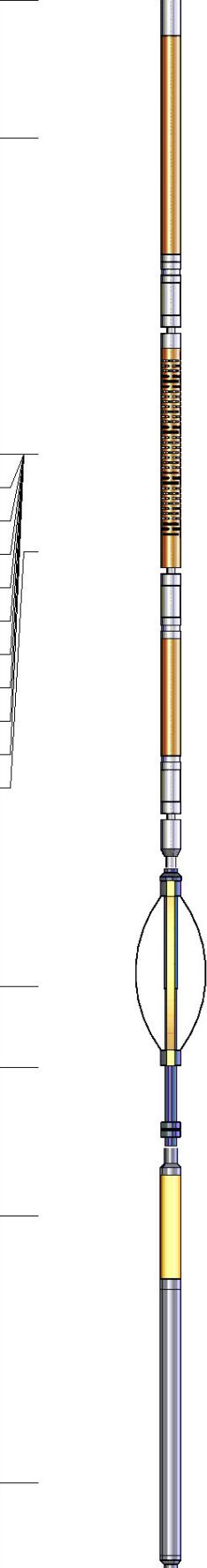
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on 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.

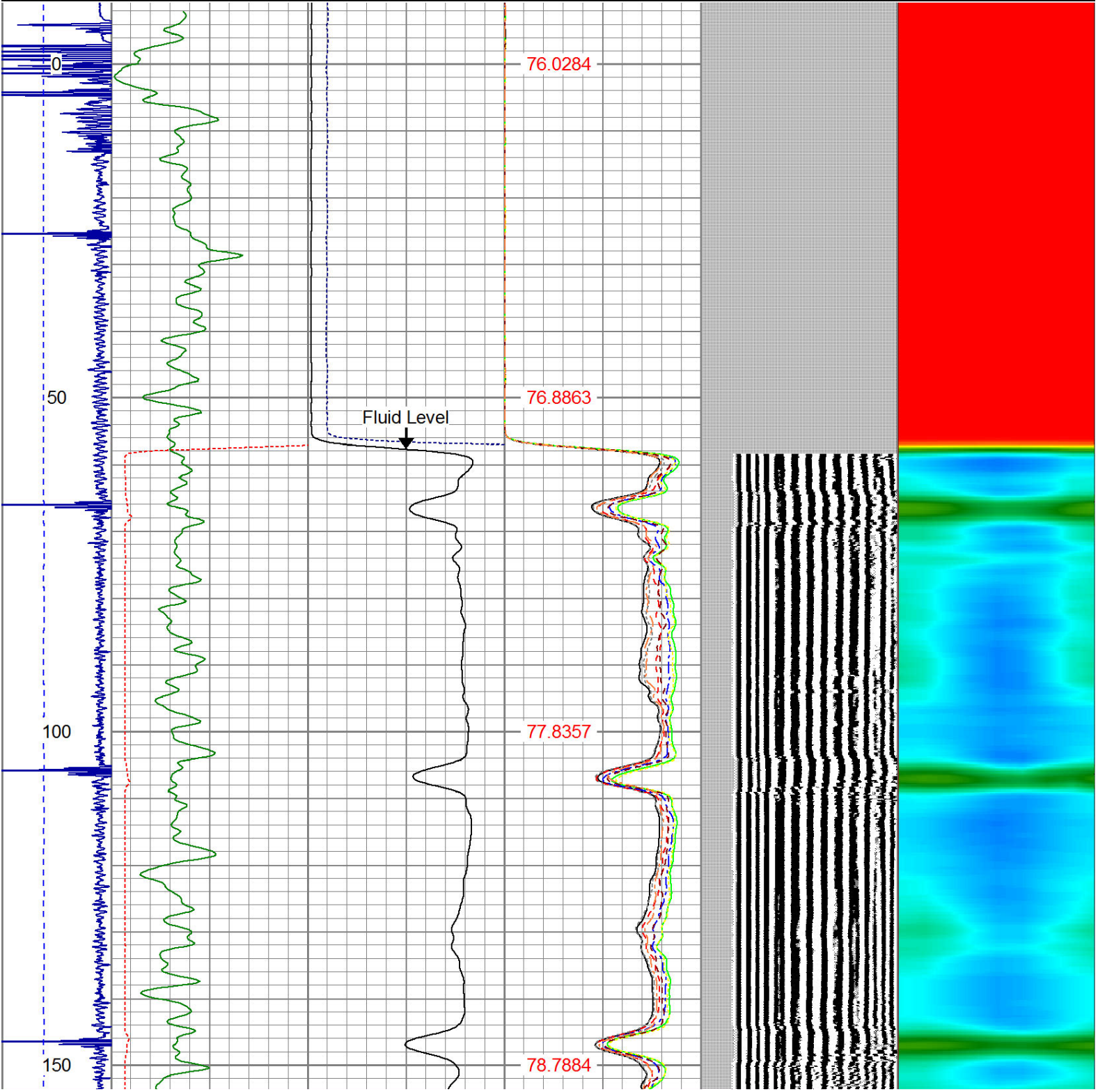
Comments

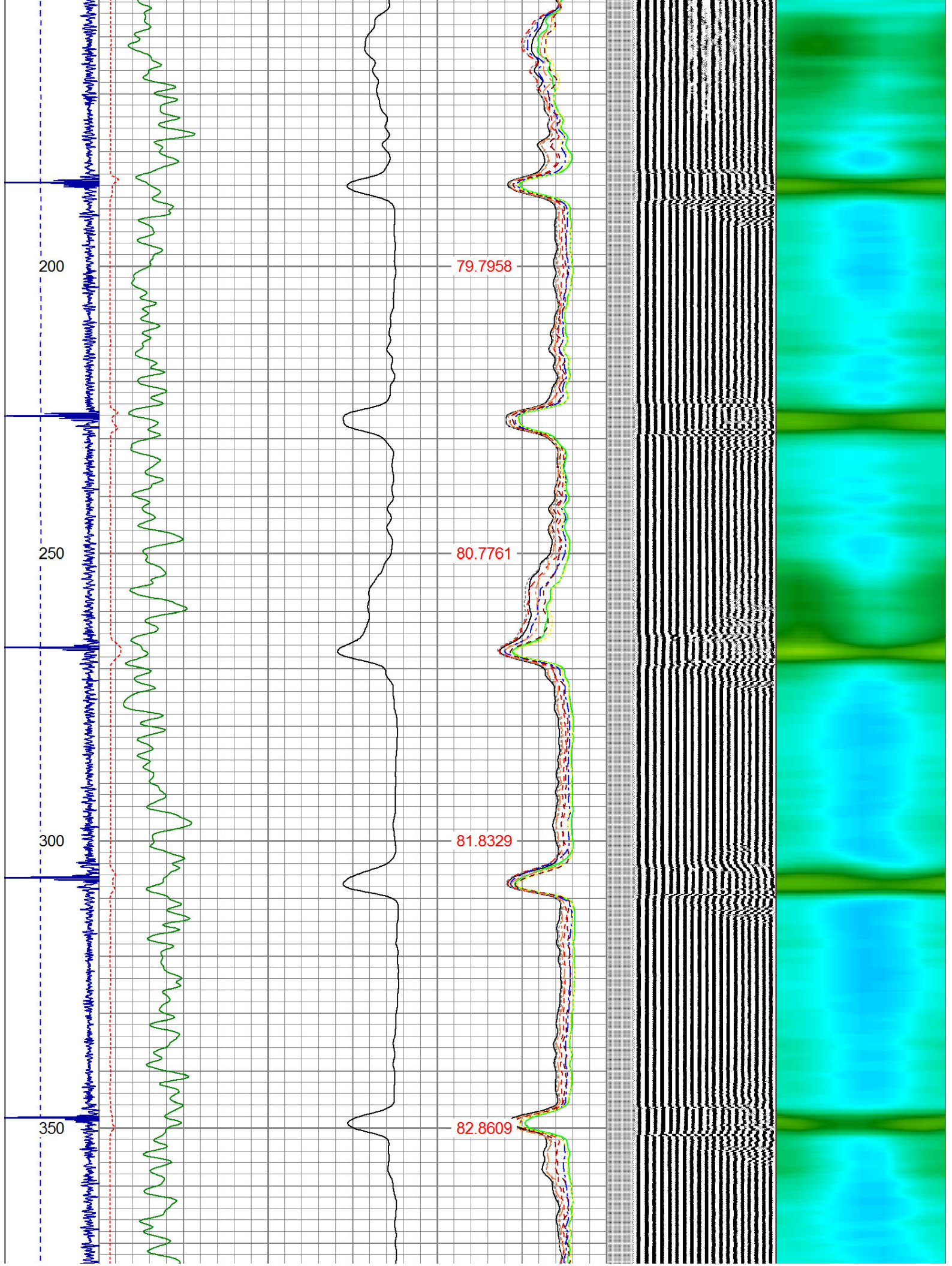
RAN CBL TO VERIFY CEMENT COVERAGE
LOG RAN OFF KB OF 15'

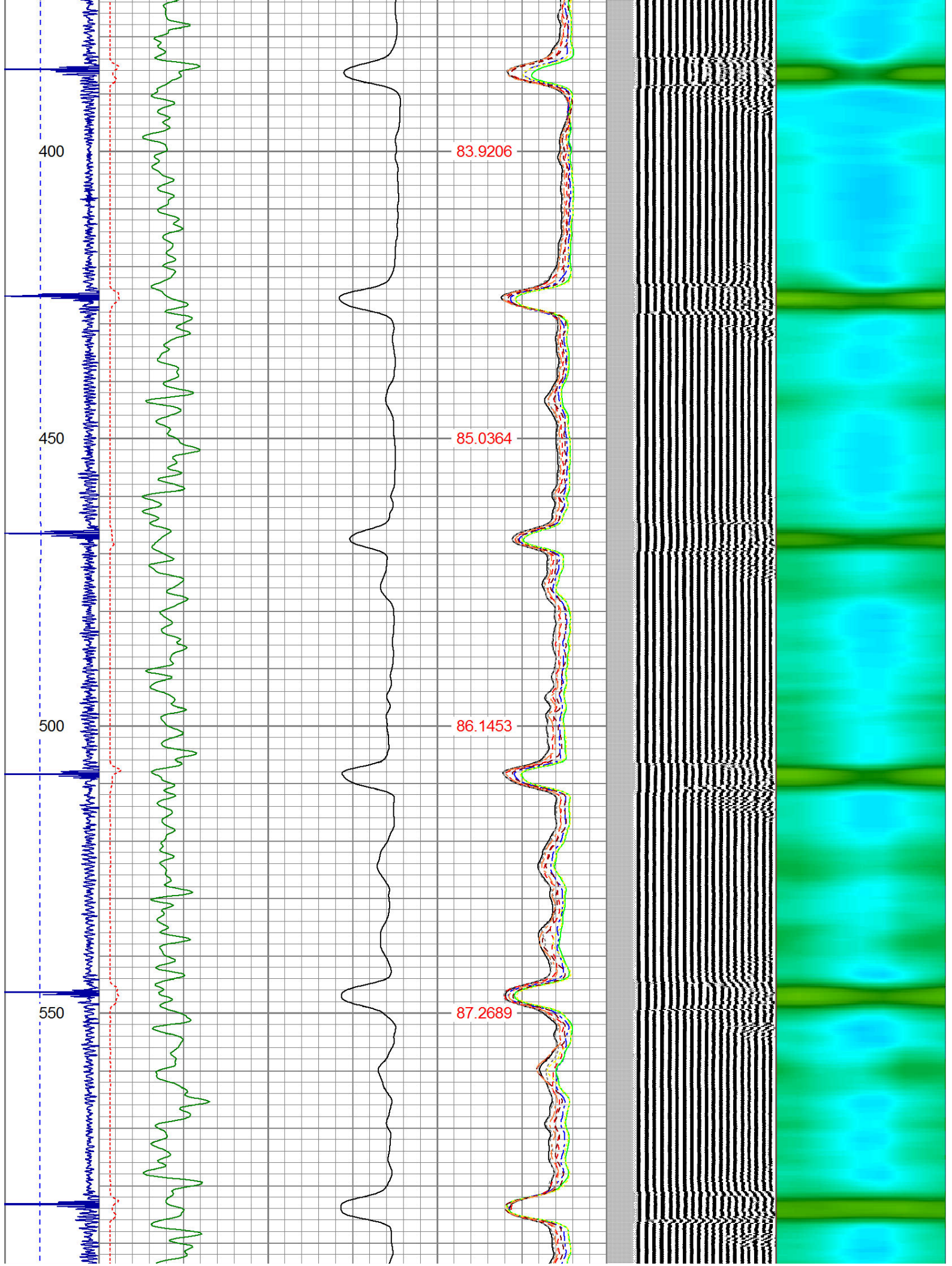
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
HEAD/COIL	16.13		1_4	1.00	1.36	5.00

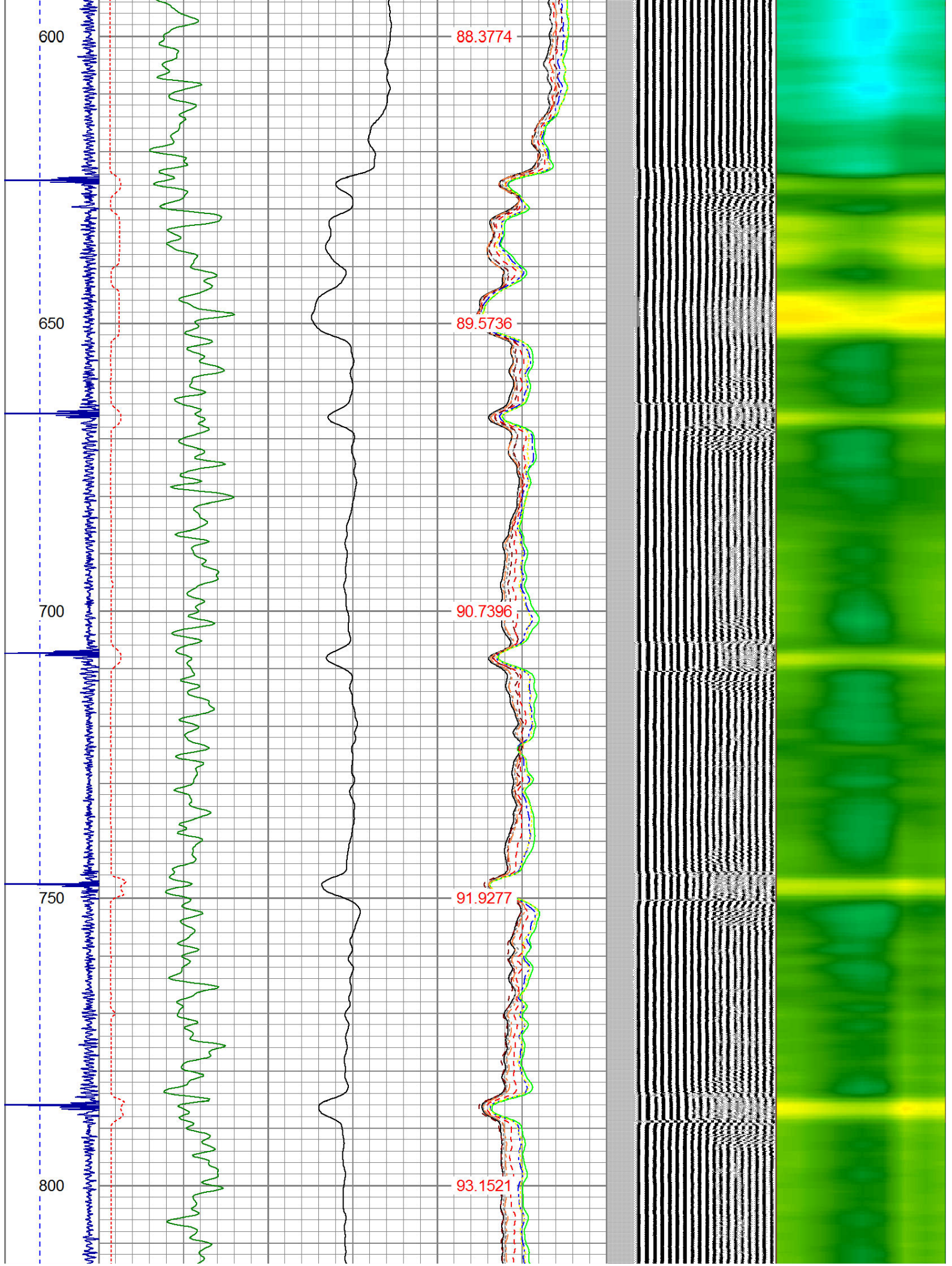
HEADVOLT	16.13					
IntTemp	14.71					
WVF3FT	11.46		RBT-Probe (Base) Probe Radii Bond Tool with Digital Telemetry	8.92	2.75	90.00
WVFCAL	11.46					
WVFS1	11.46					
WVFS2	11.46					
WVFS3	11.46					
WVFS4	11.46					
WVFS5	11.46					
WVFS6	11.46					
WVFS7	11.46					
WVFS8	11.46					
WVF5FT	10.46					
CNLSC	6.00		CNT-Probe_B (275) Bow centralizer	2.88	2.75	40.00
CNSSC	5.17					
CCL	3.64					
GR	0.90		GR-Probe (275) Probe 2.75"	4.33	2.75	30.00
Dataset: guttersen state d16-15x.db: field/well/run1/pass2 Total Length: 17.13 ft Total Weight: 165.00 lb O.D. 2.75 in						

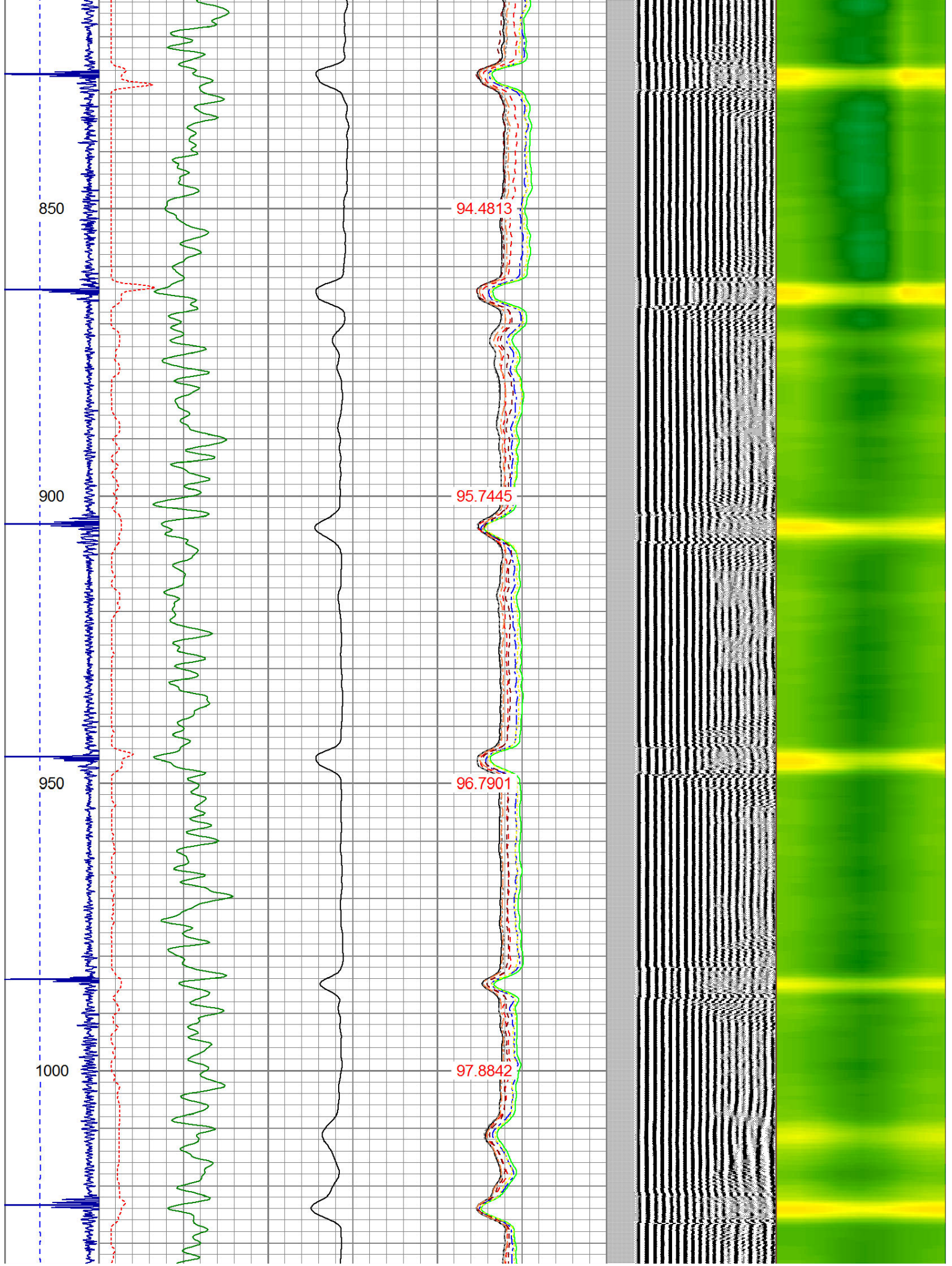
Dataset Creation:		Fri Feb 01 16:15:47 2019 by Log SCH 120126																	
Charted by:		Depth in Feet scaled 1:240																	
-9	CCL	1	200	TT (usec)	1100	0	AMP (mV)	100	0	AMPS1	100	200	VDL	1200	1	Cement Map	8		
LSPD (ft/min)	0		0	GR (GAPI)	200	0	AMPx5 (mV)	20	0	AMPS2	100								
	200		200	GR (GAPI)	400			0	AMPS3	100									
	0		0					0	AMPS4	100									
								0	AMPS5	100									
								0	AMPS6	100									
								0	AMPS7	100									
								0	AMPS8	100									
								IntTemp											
								(degF)											

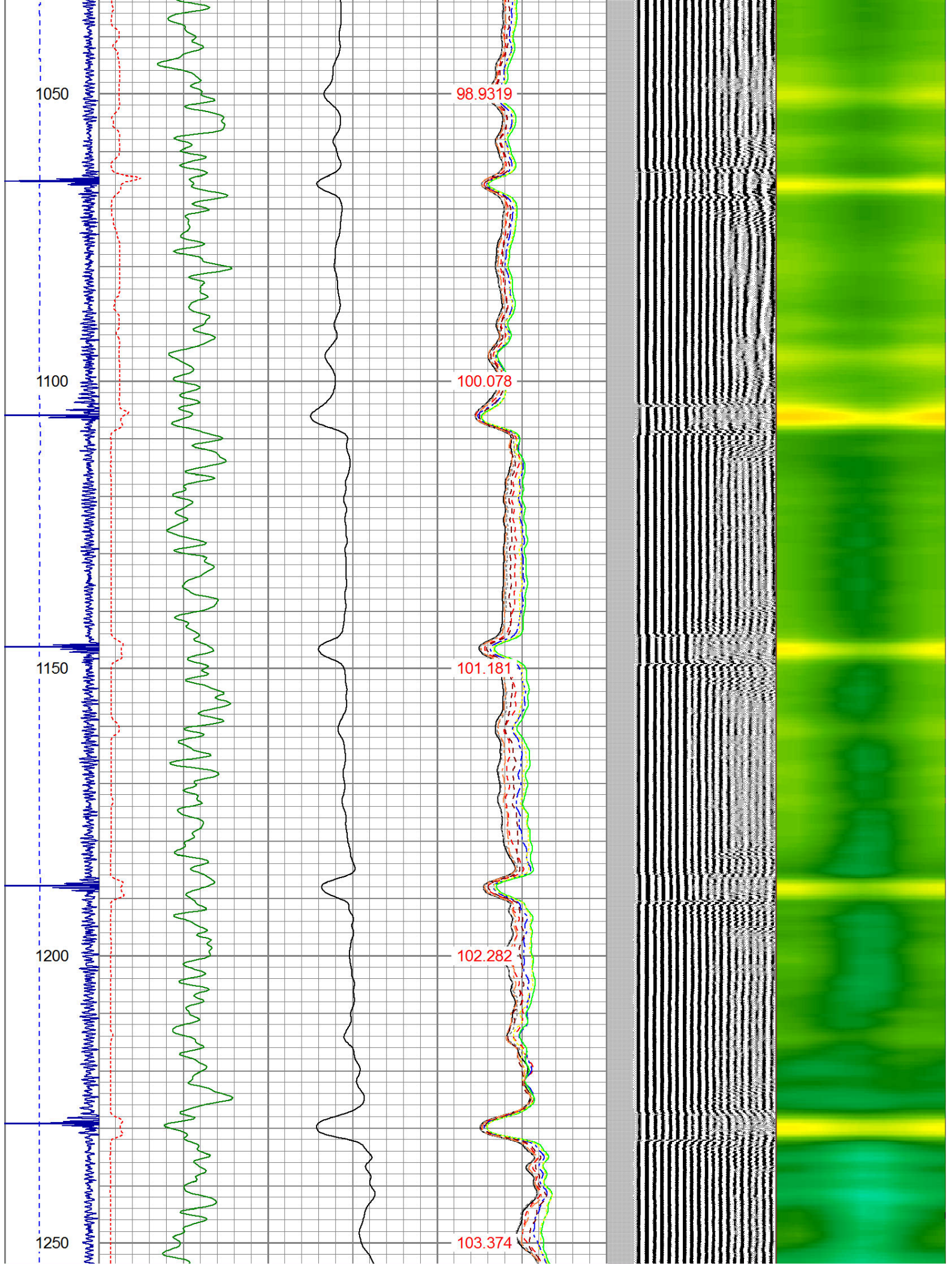


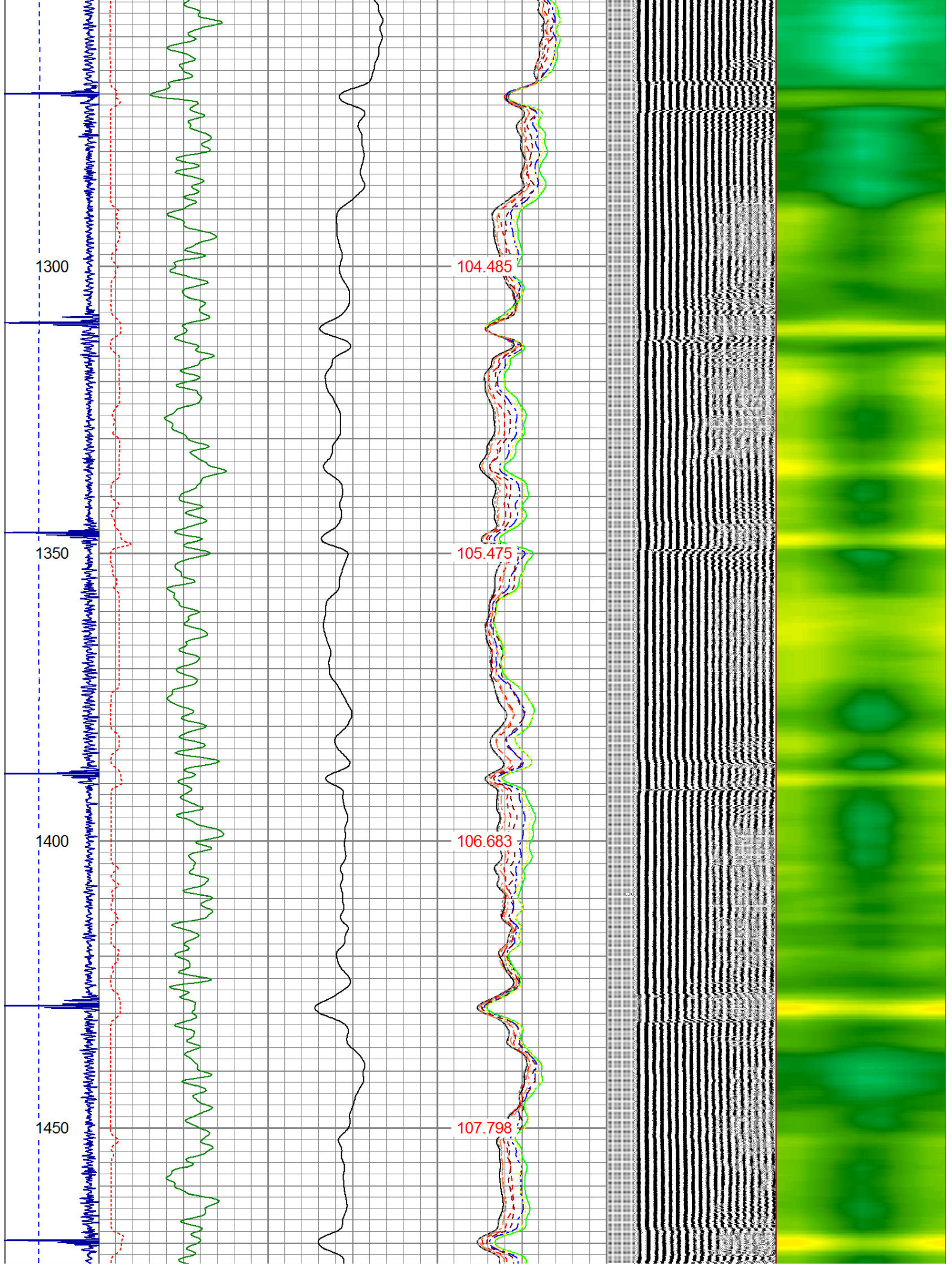


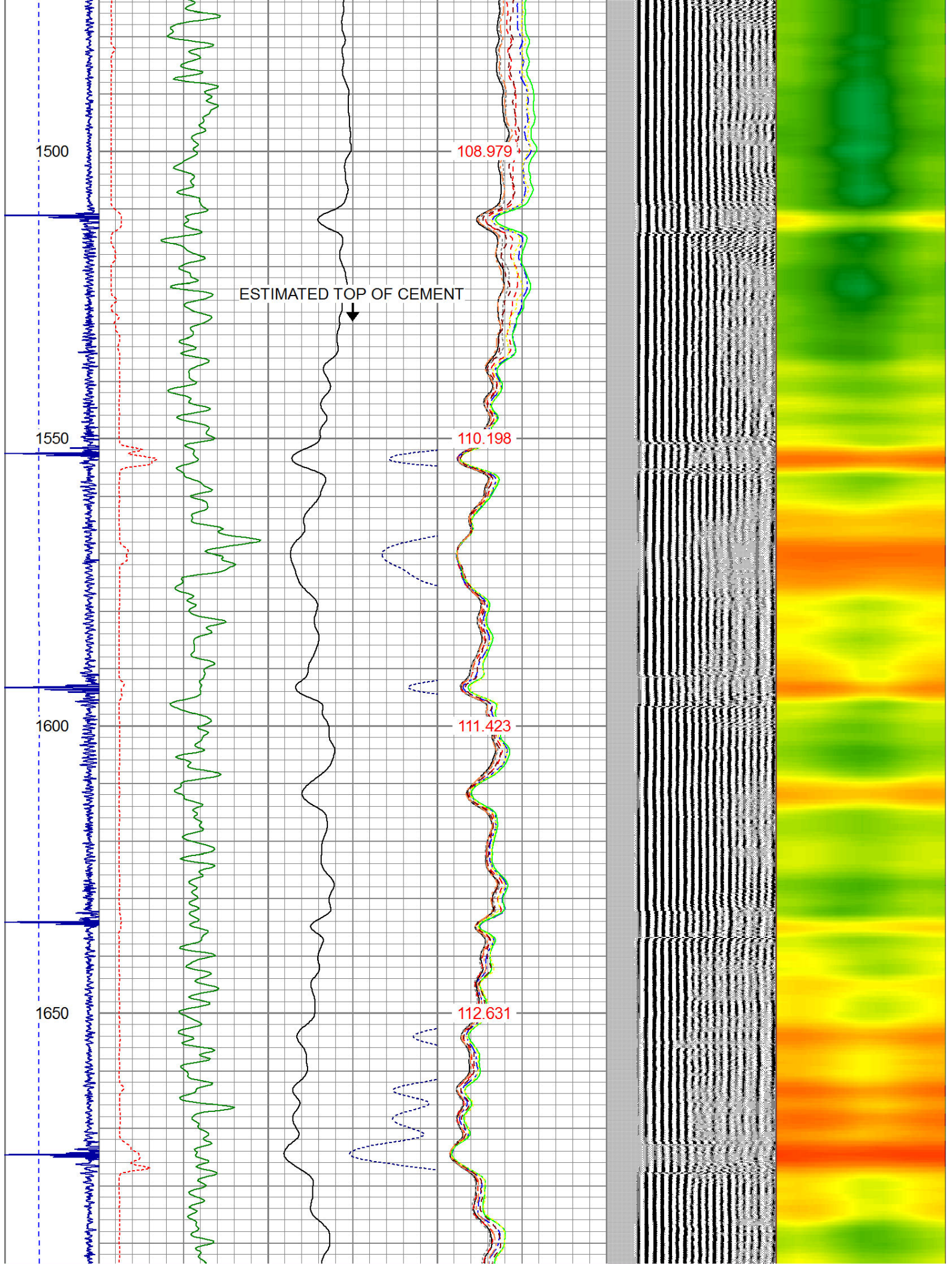


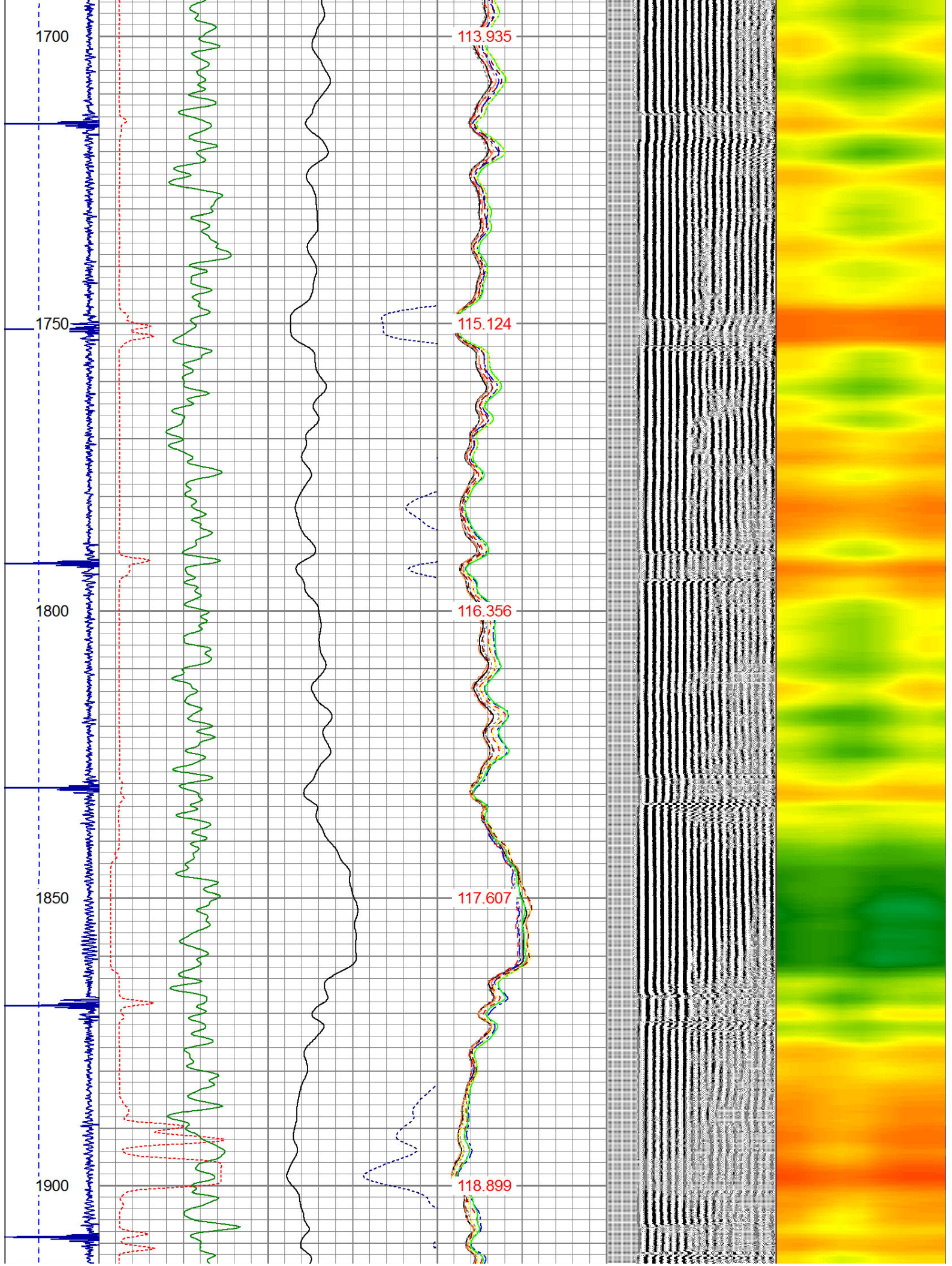


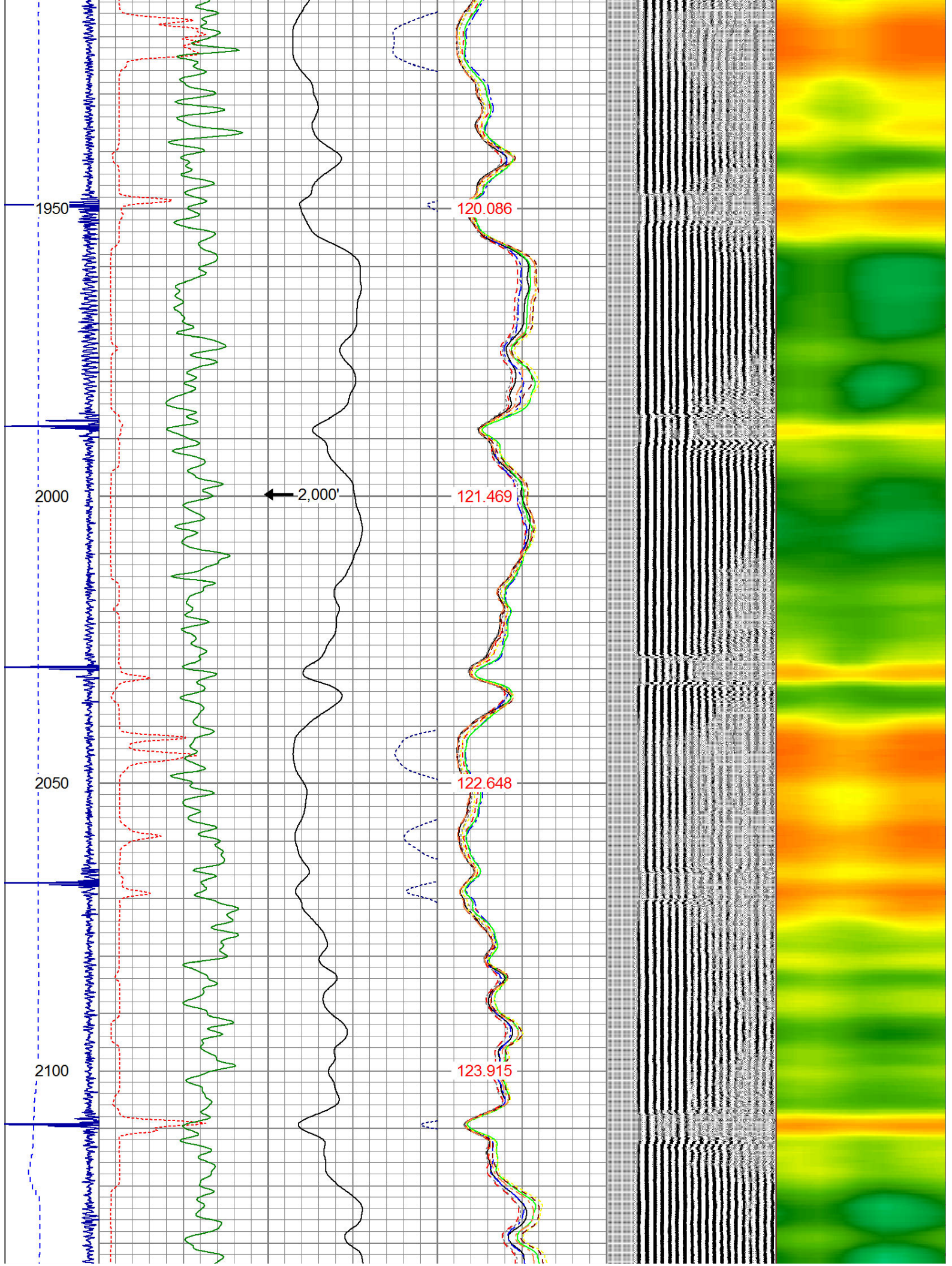


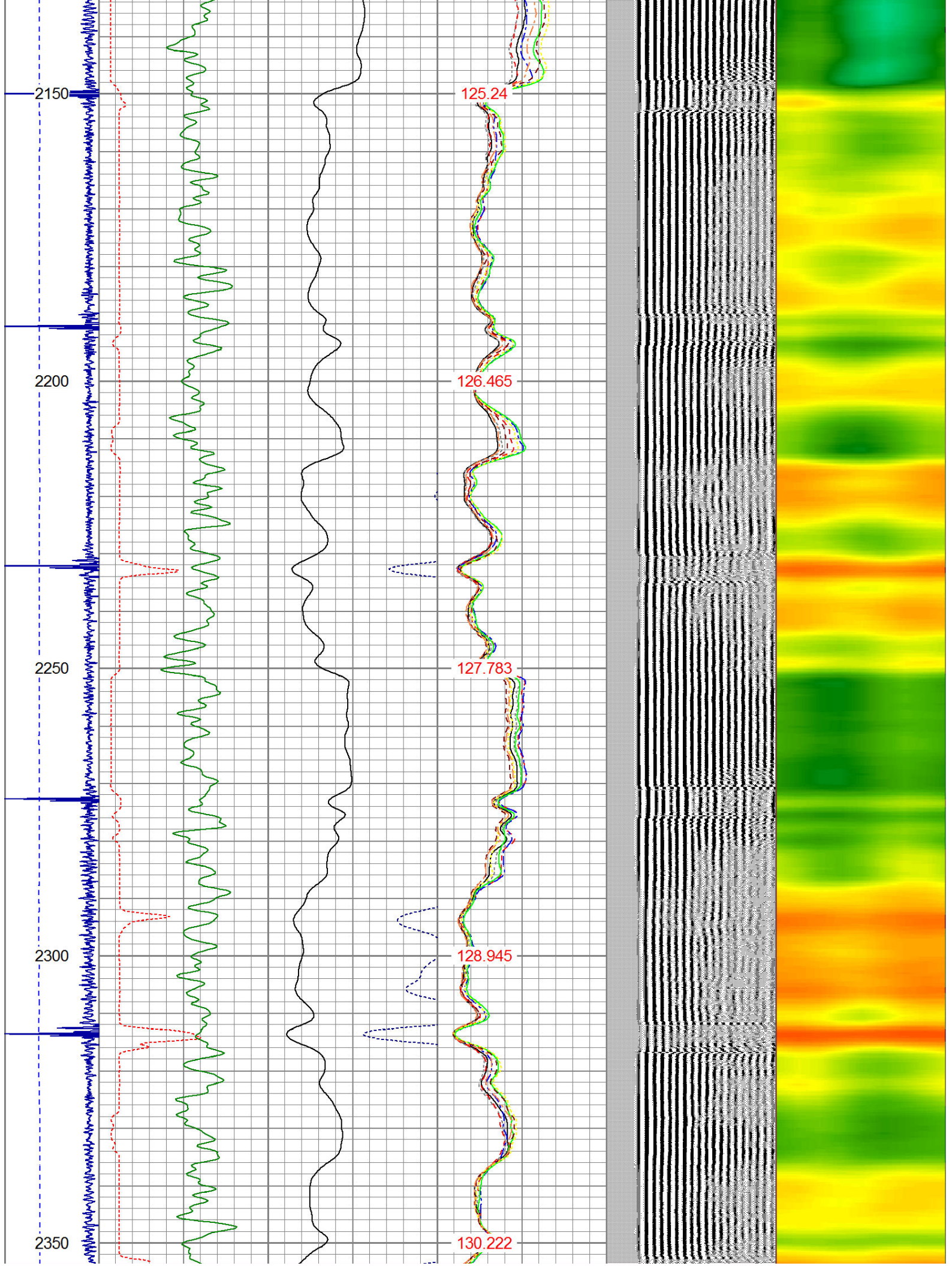


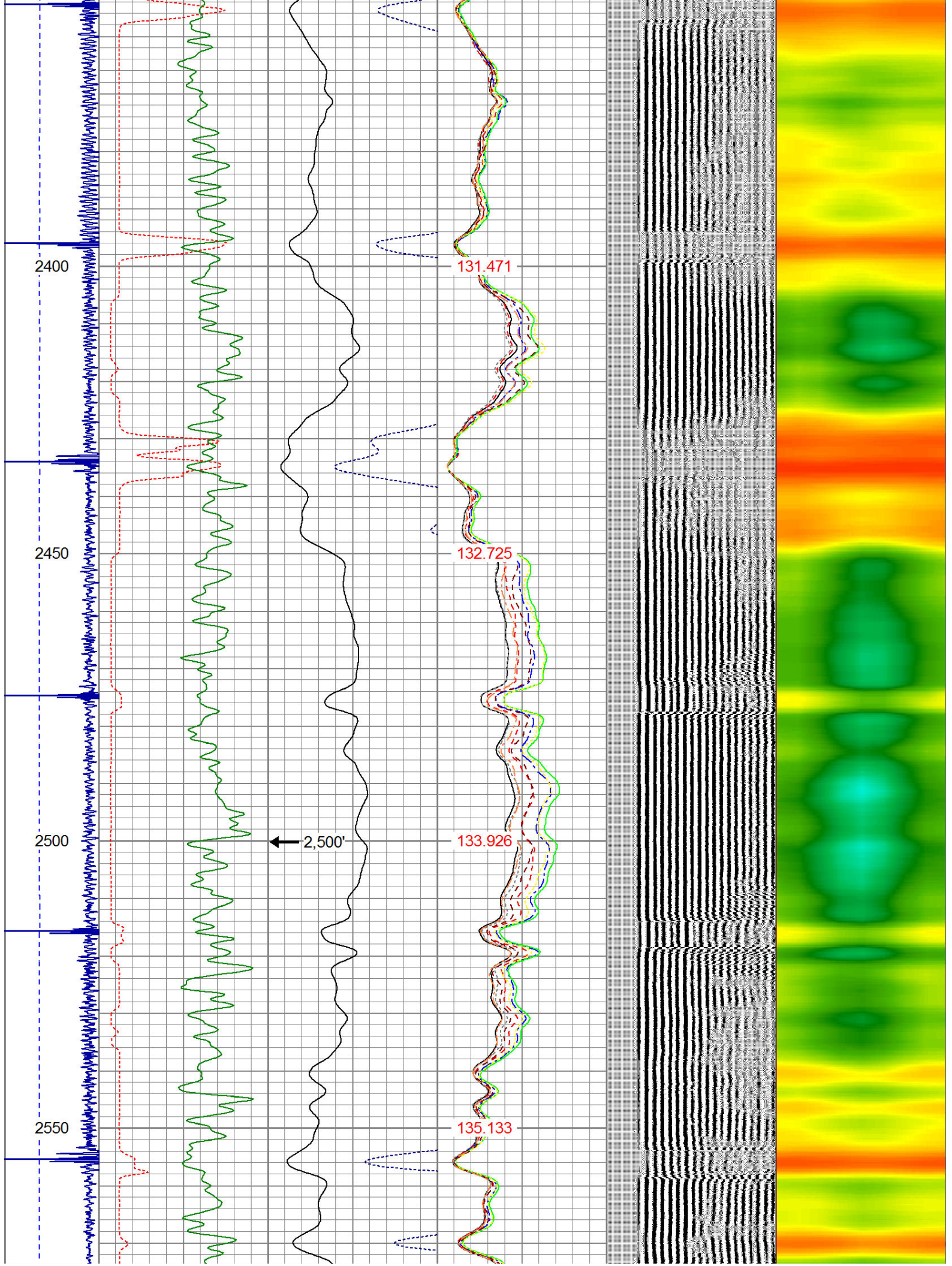


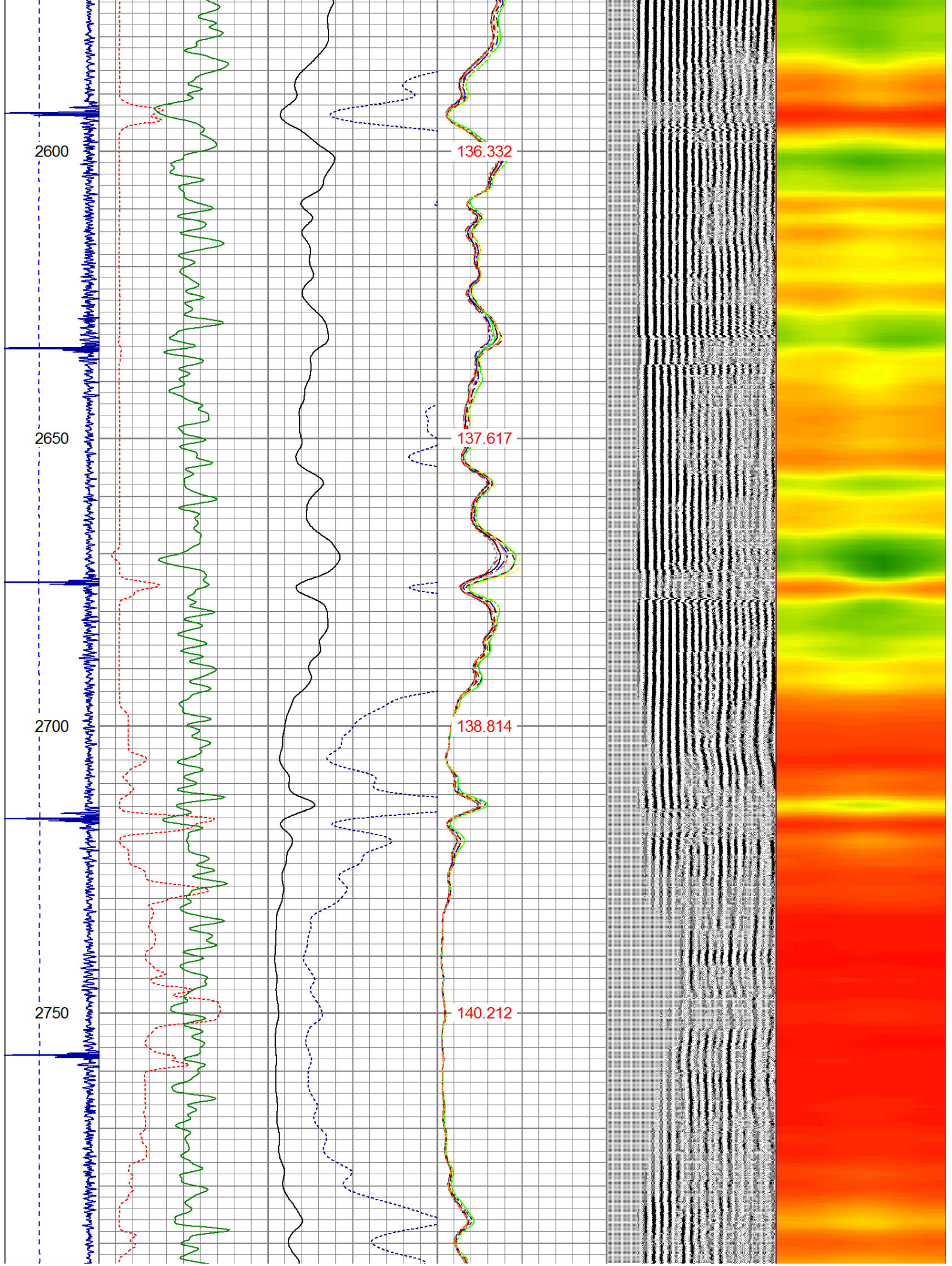


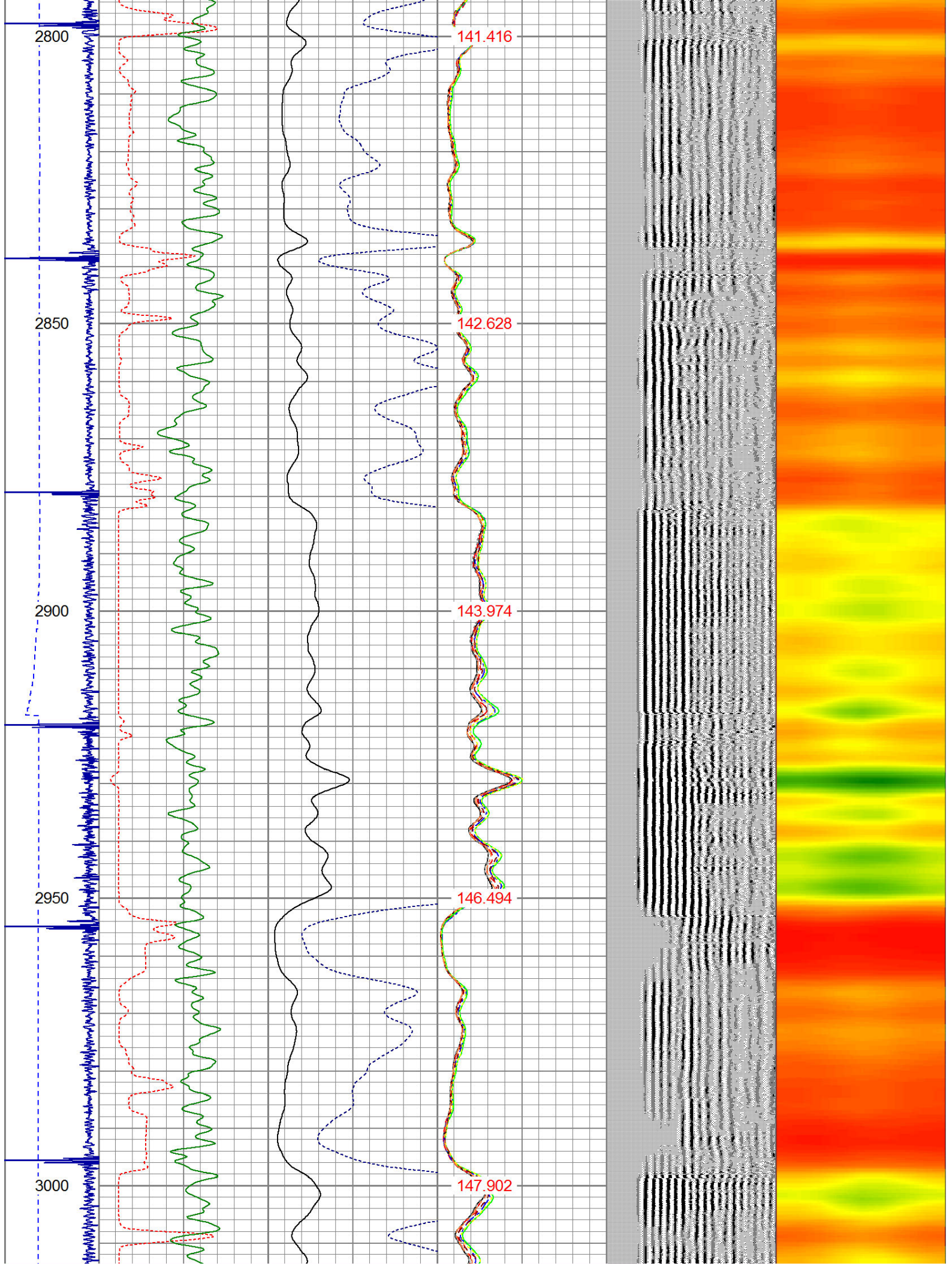


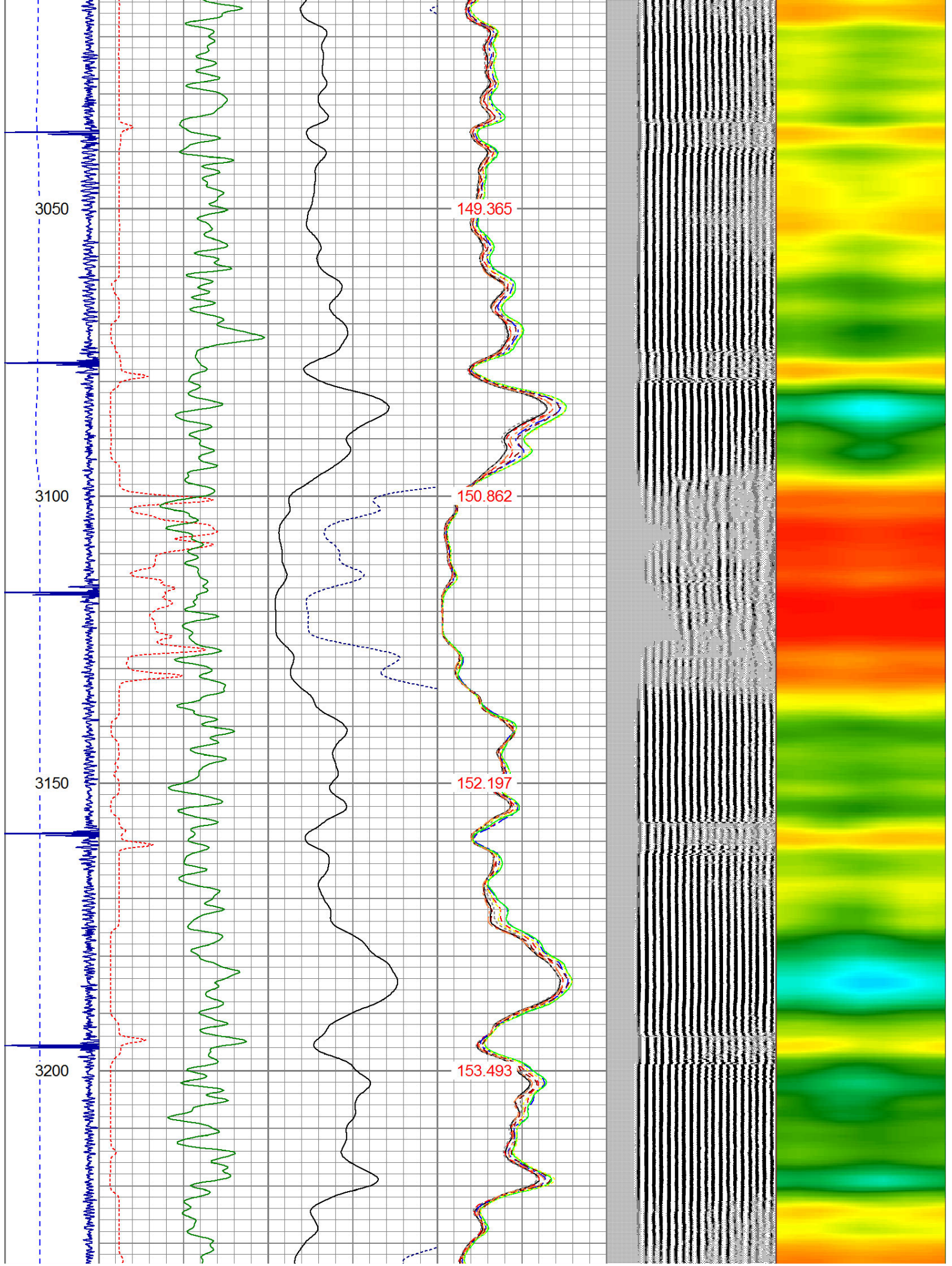


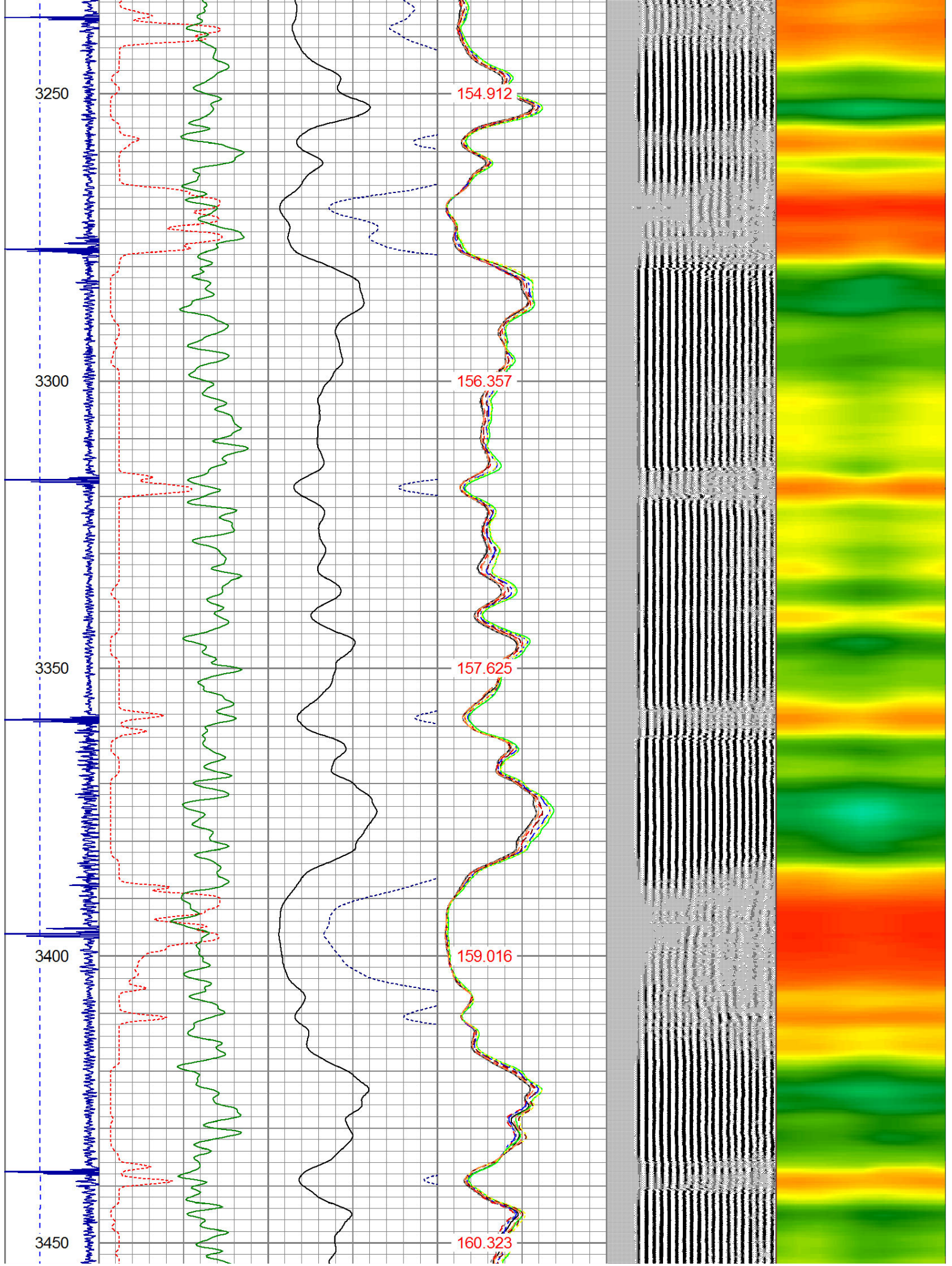


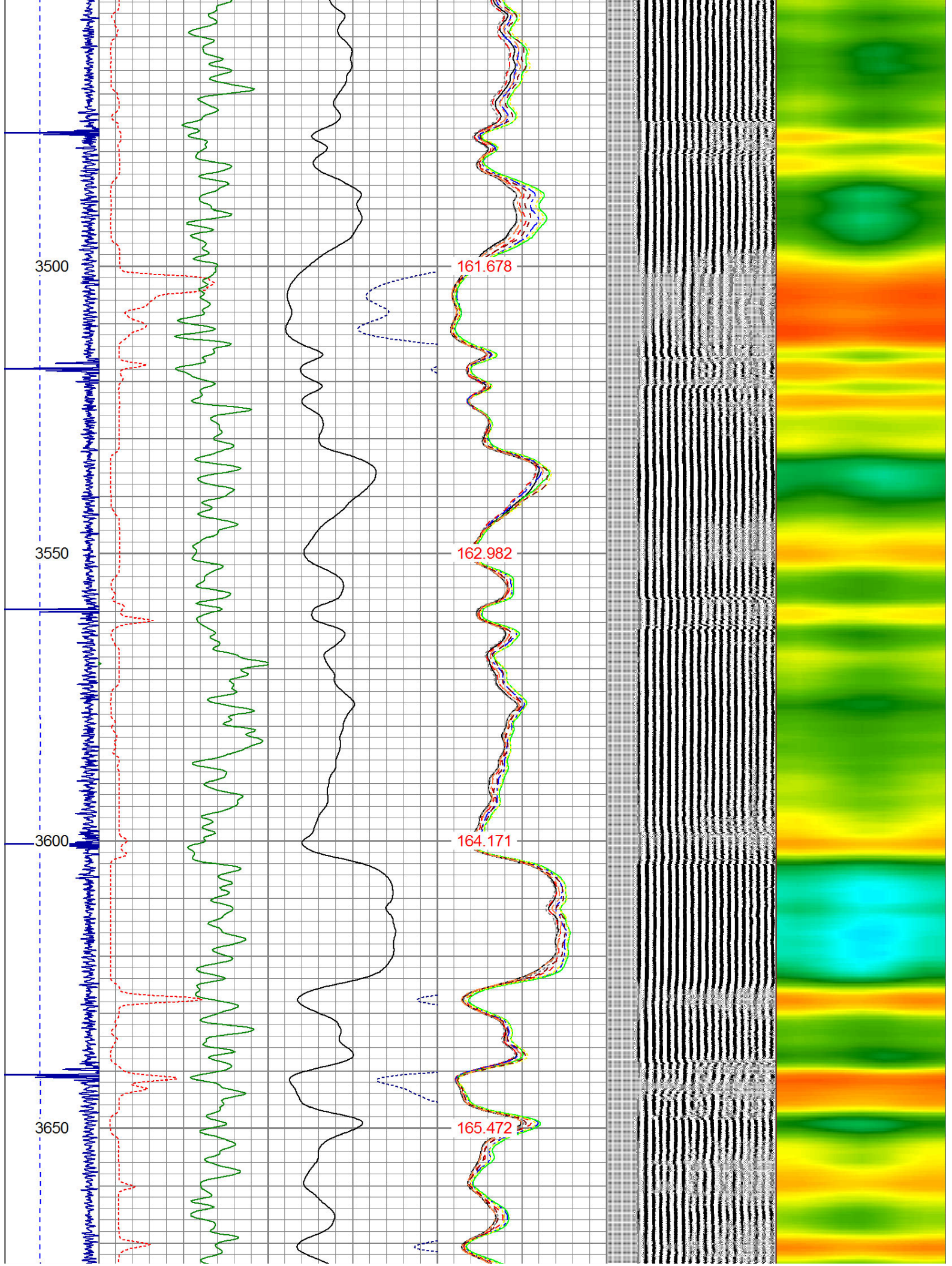


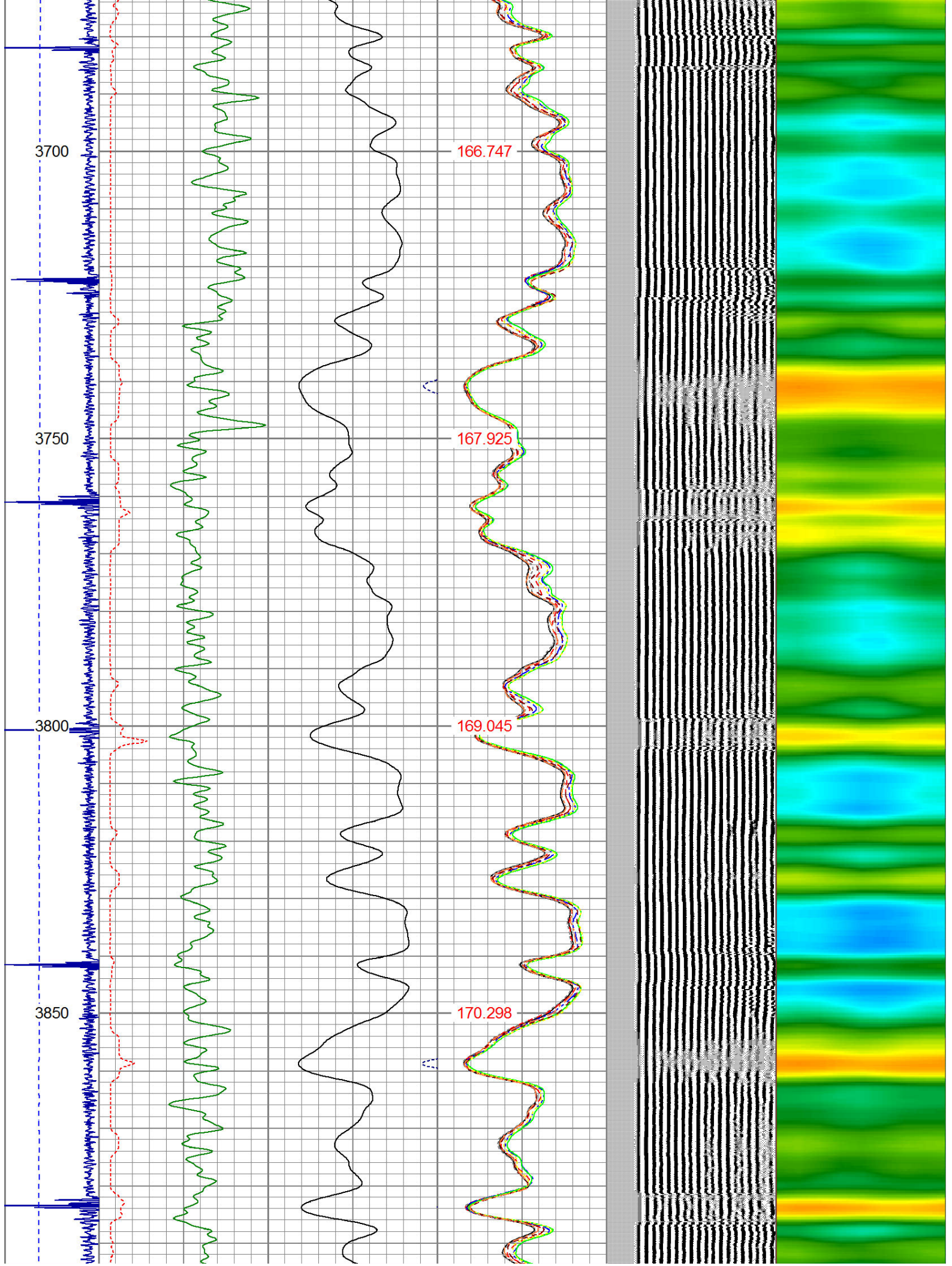


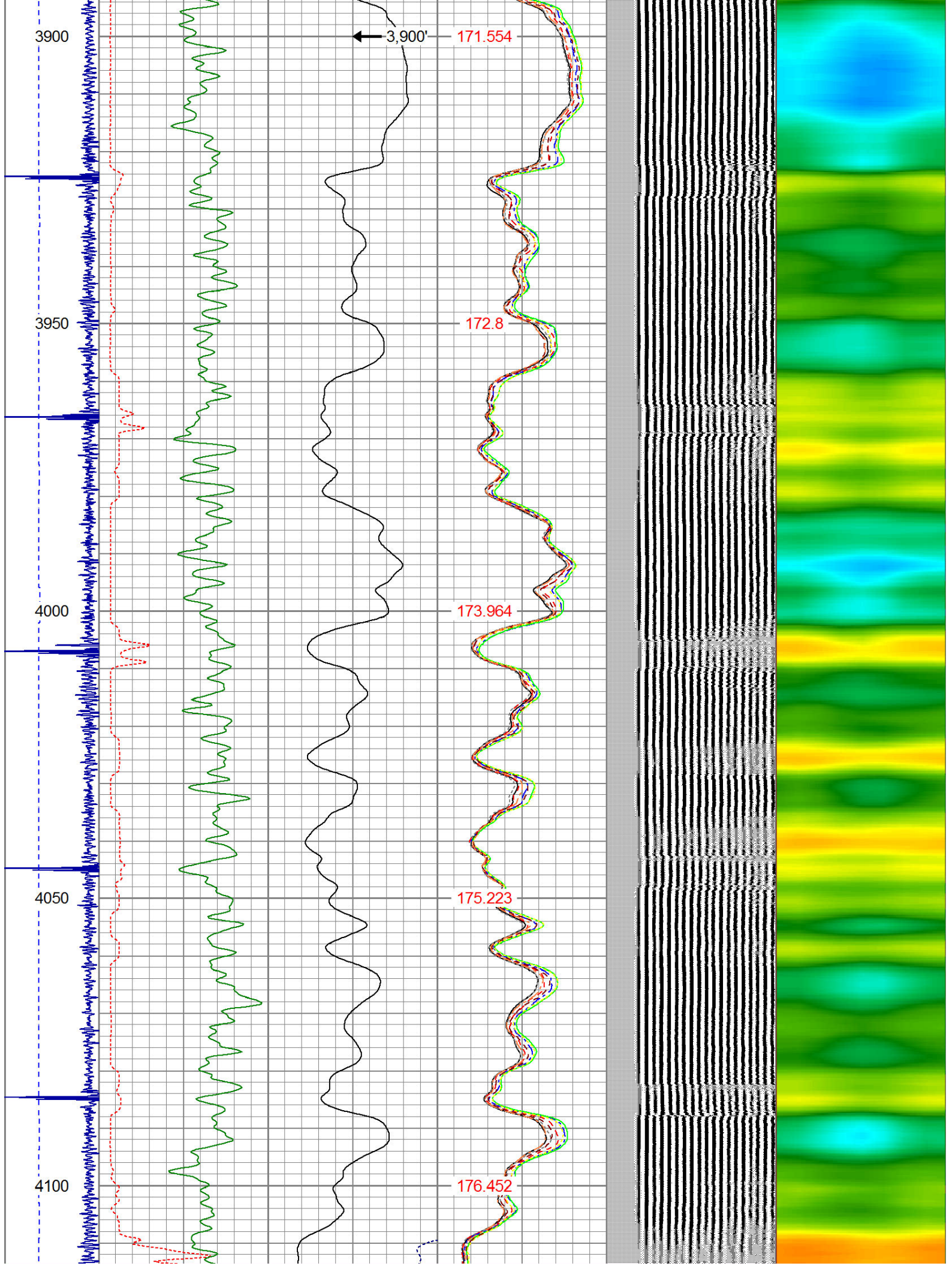


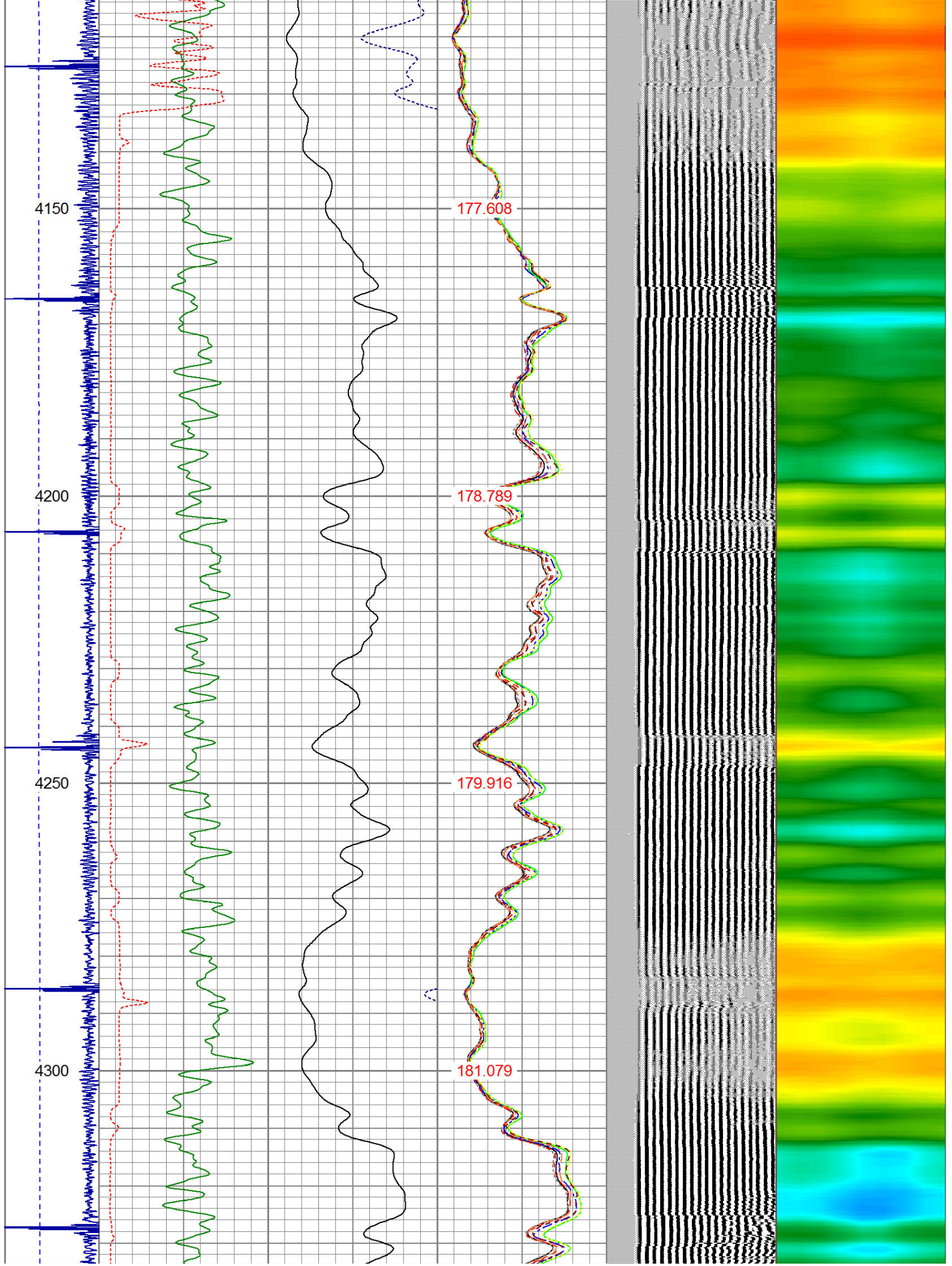


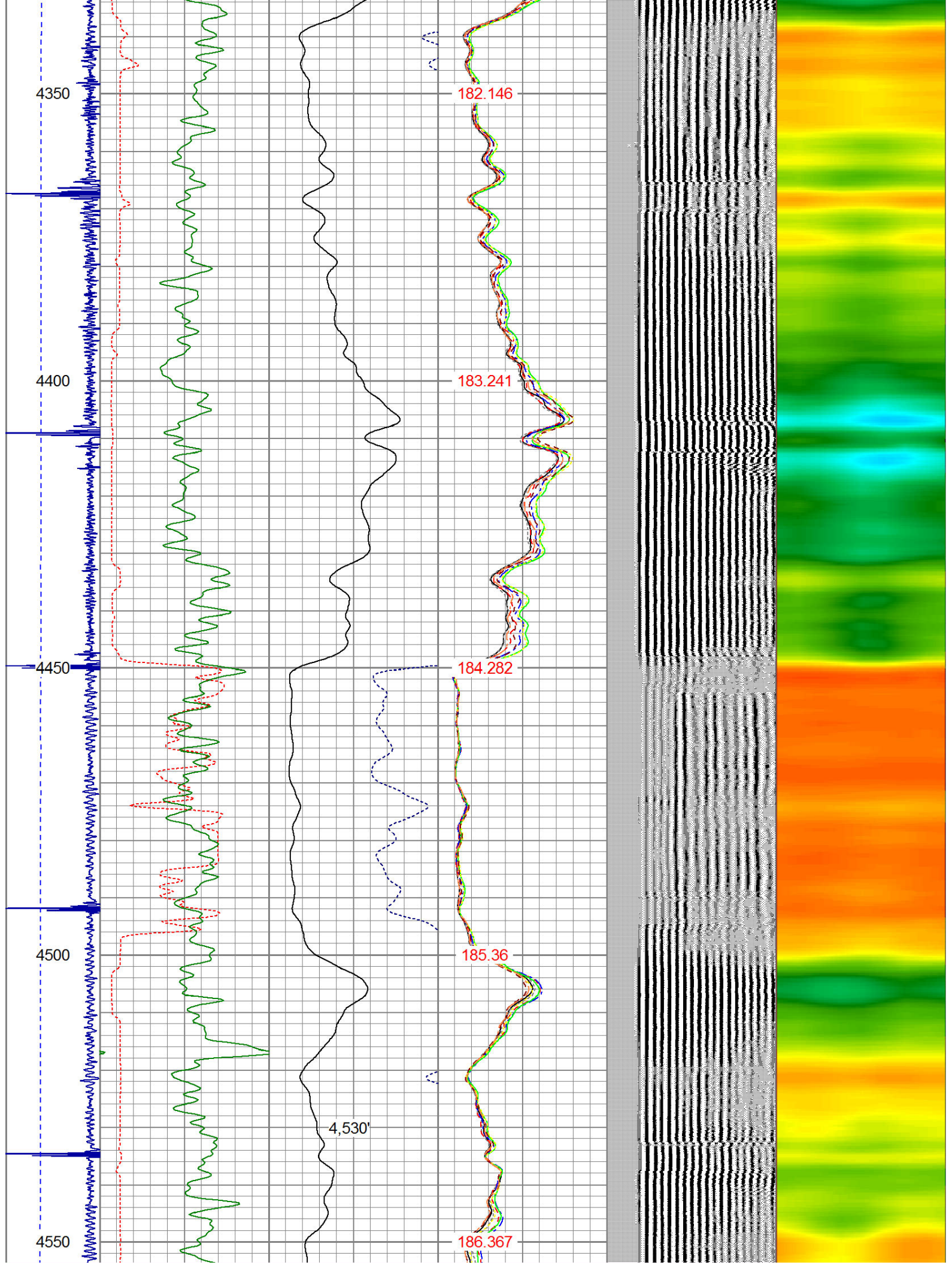


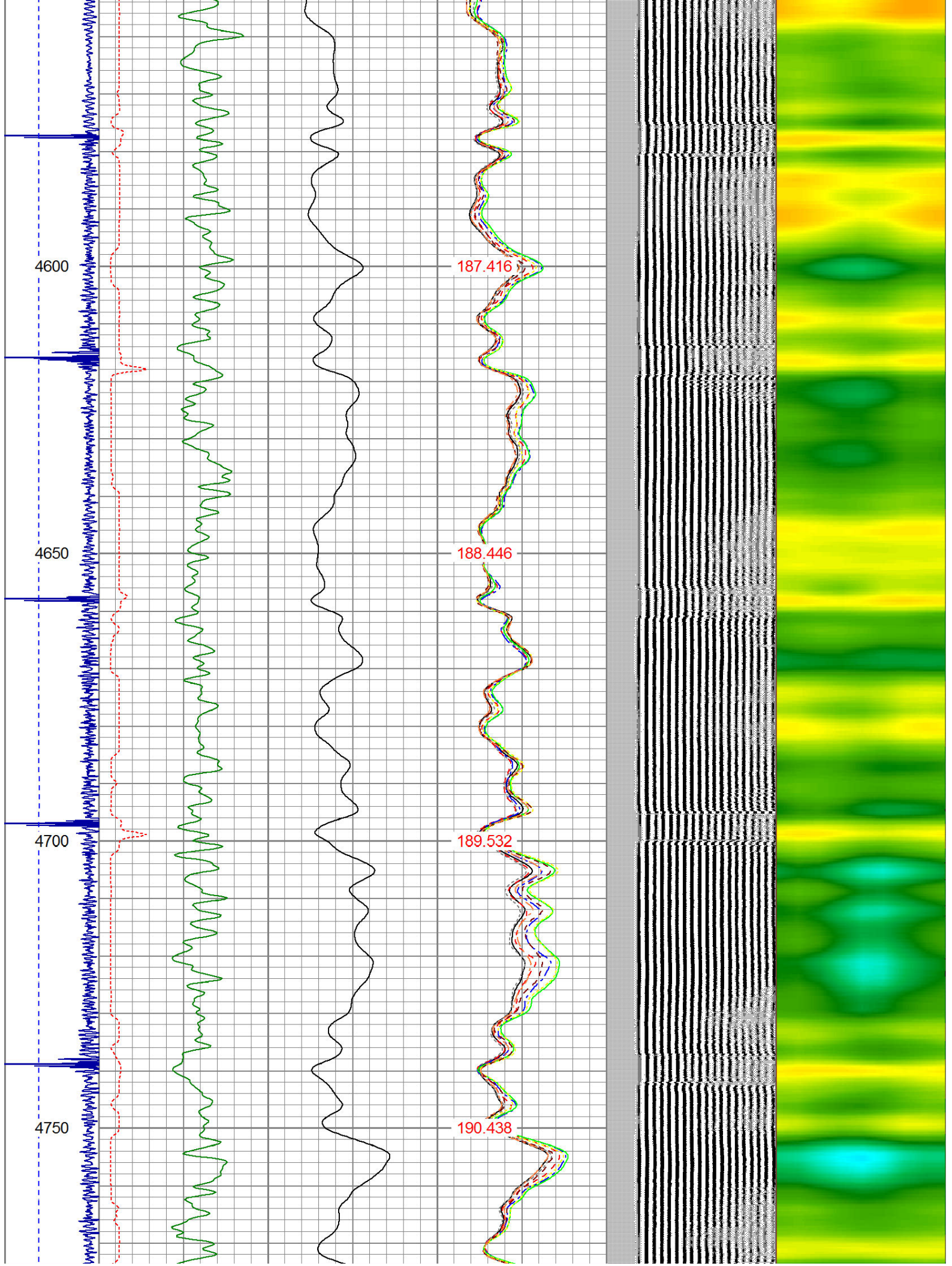


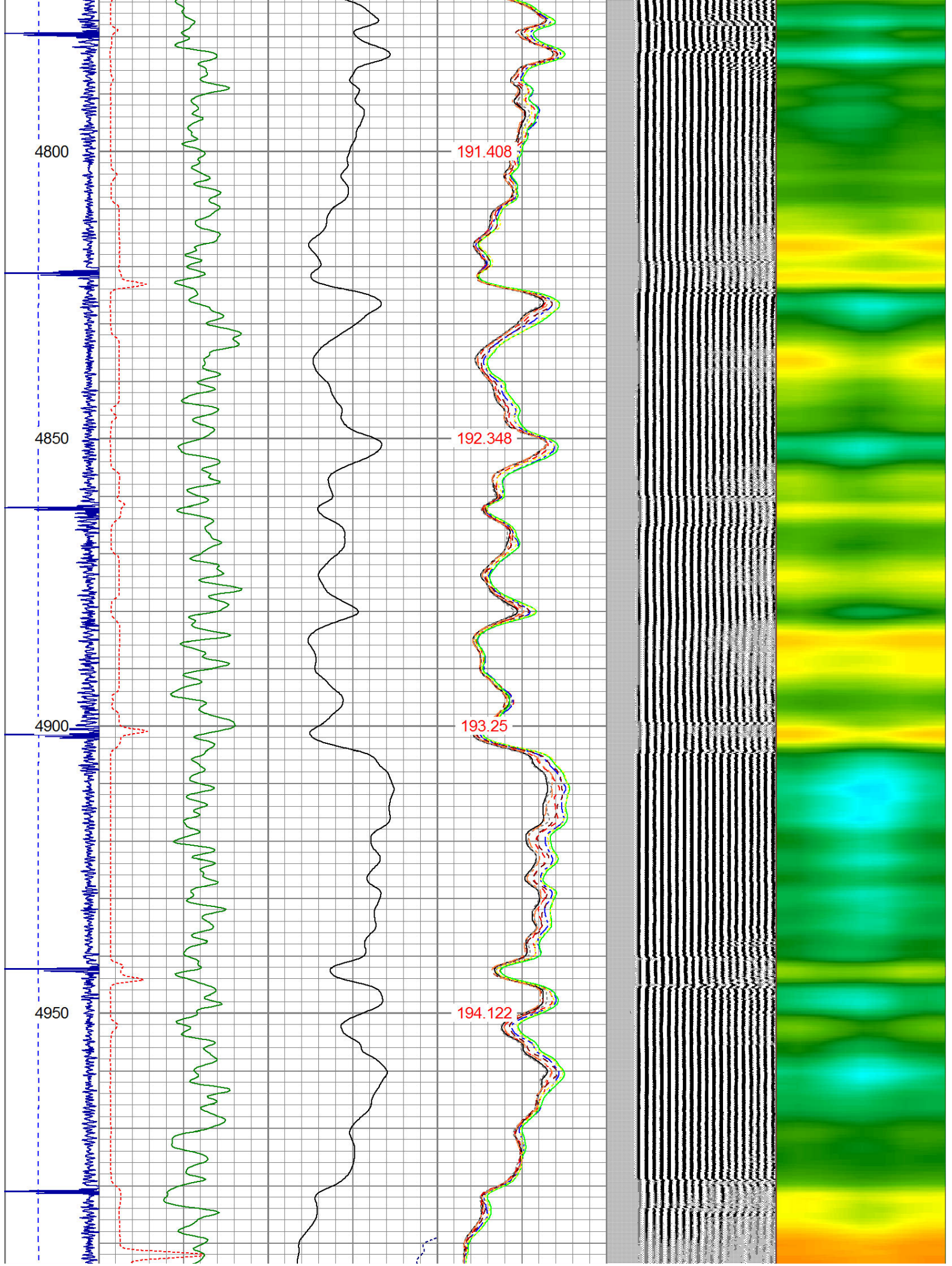


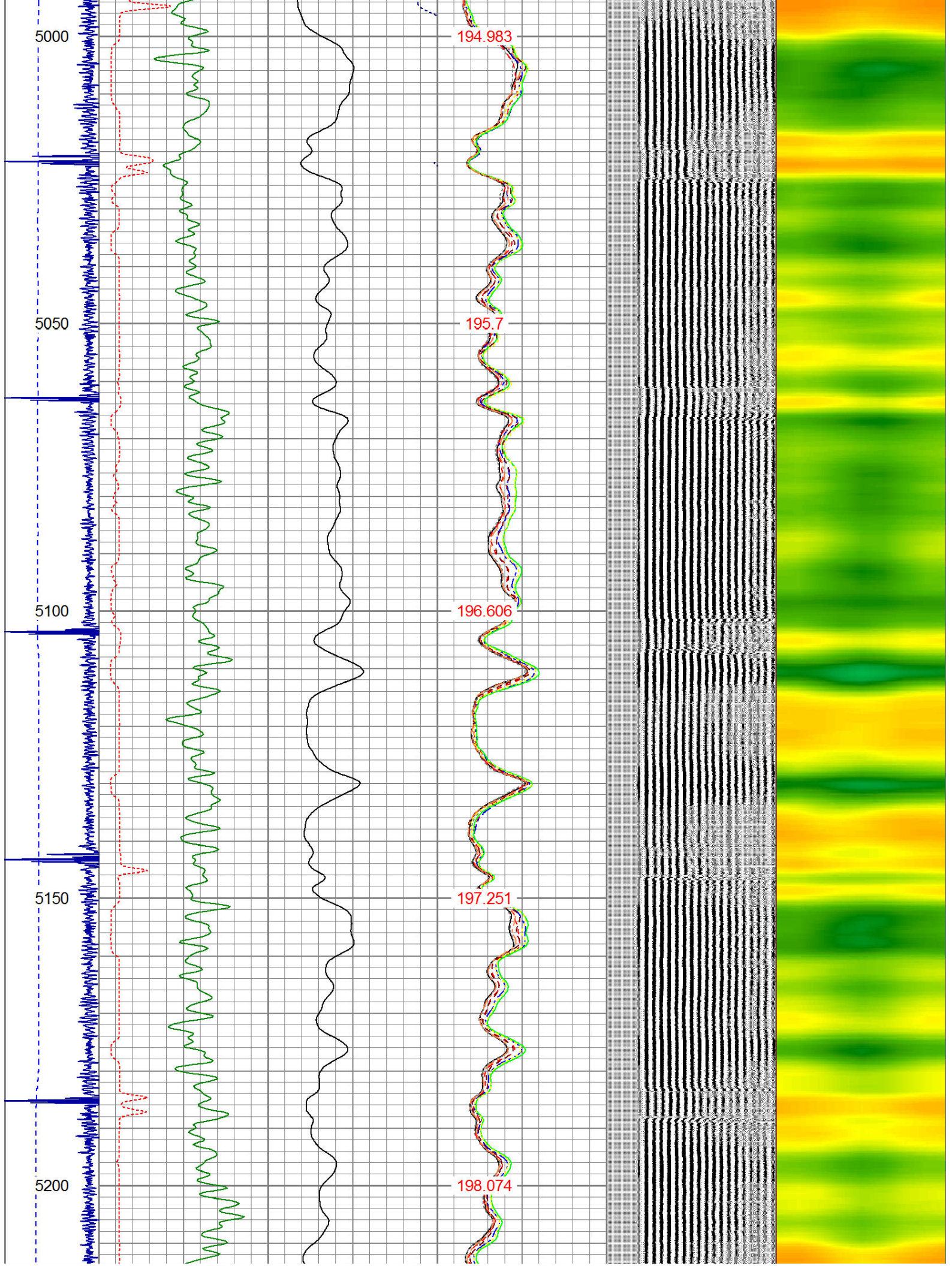


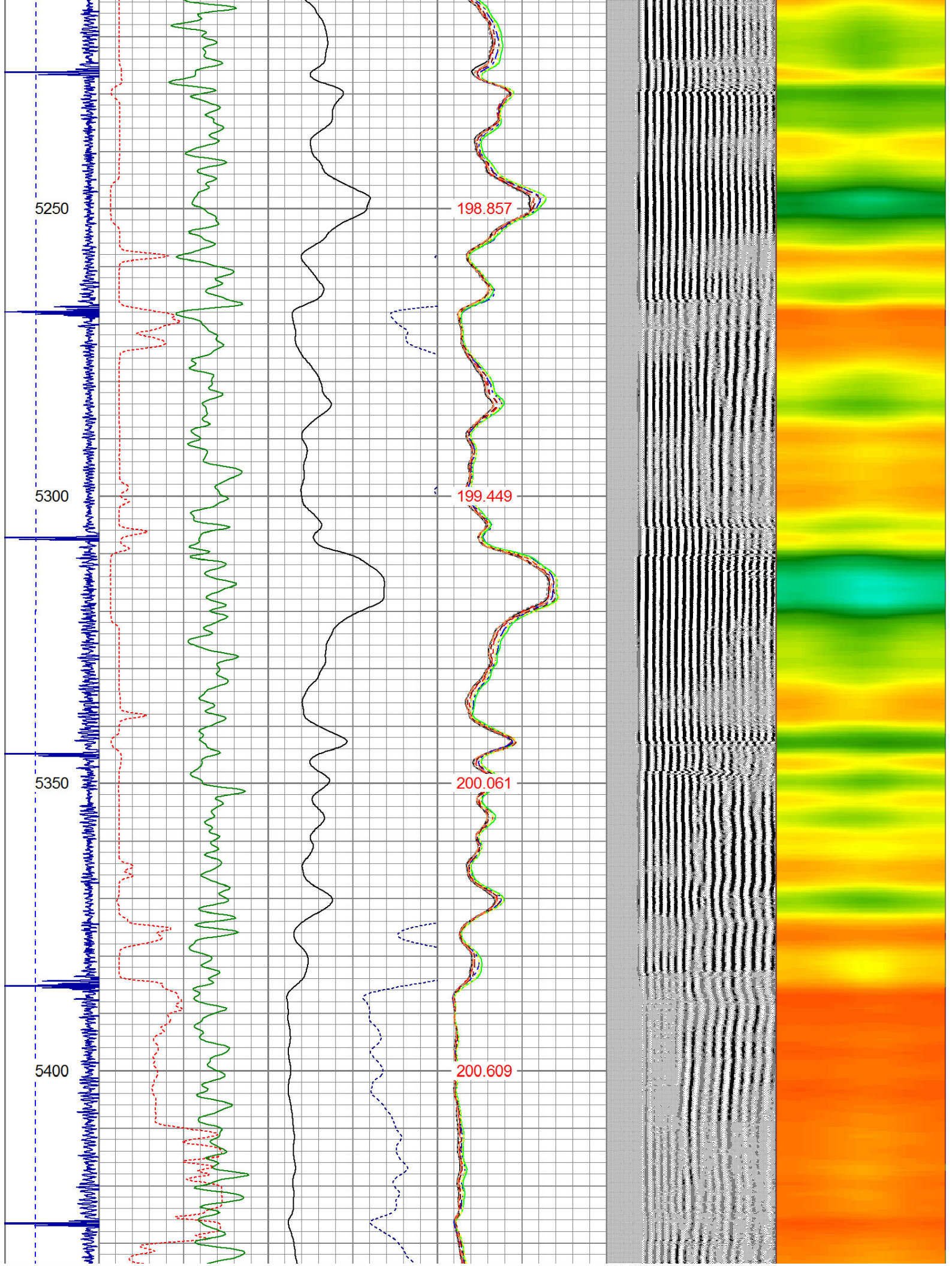


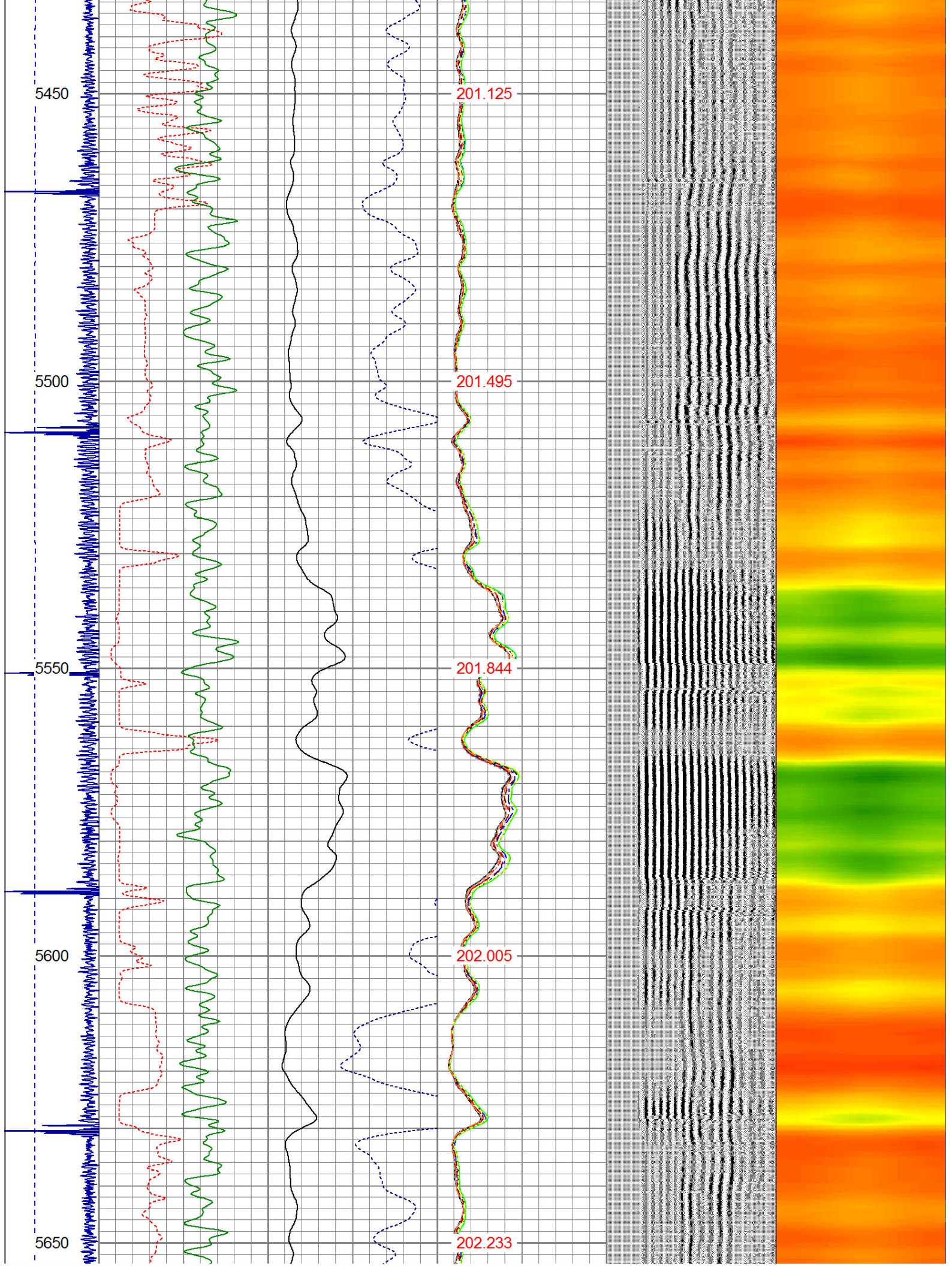


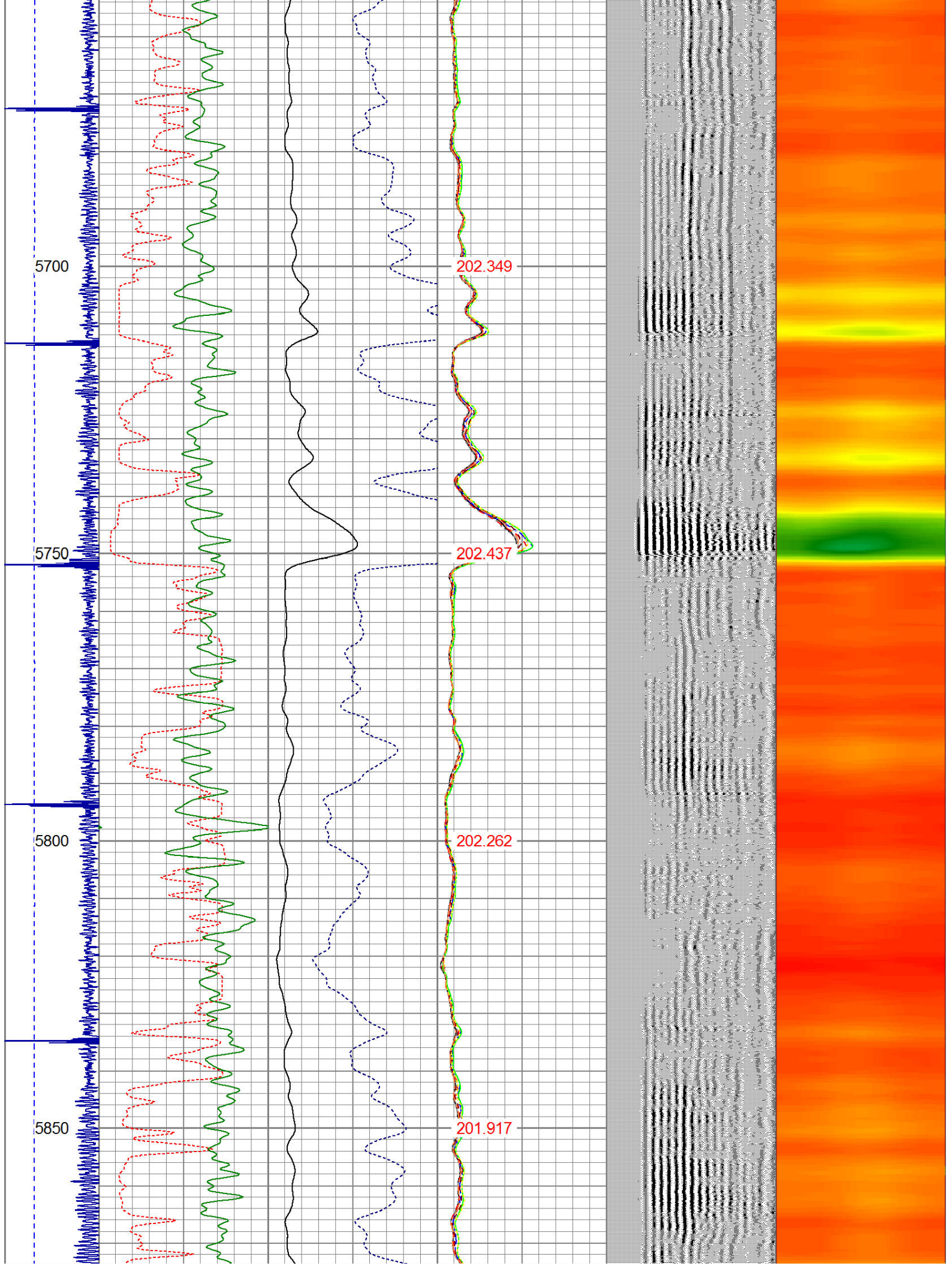


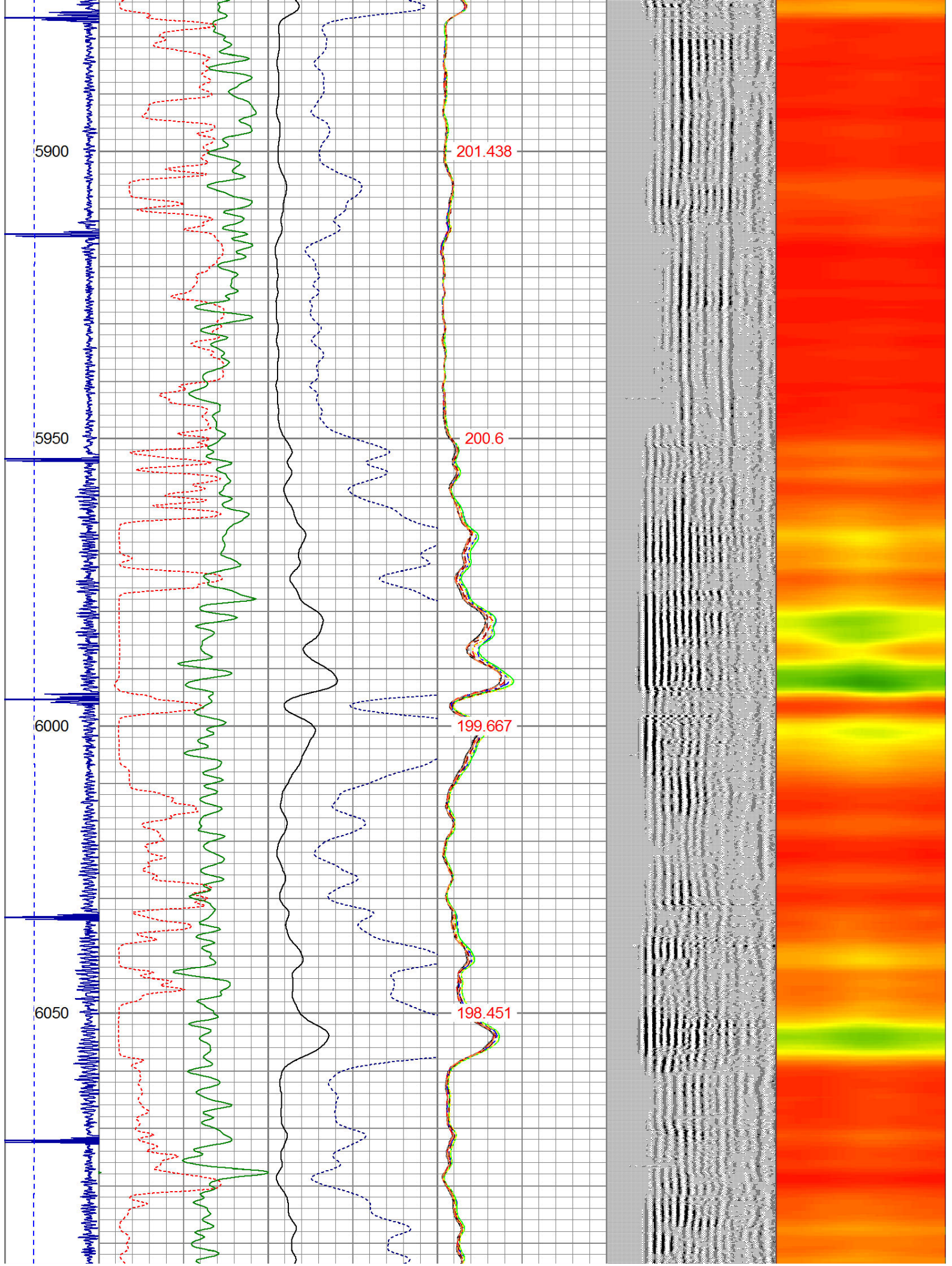


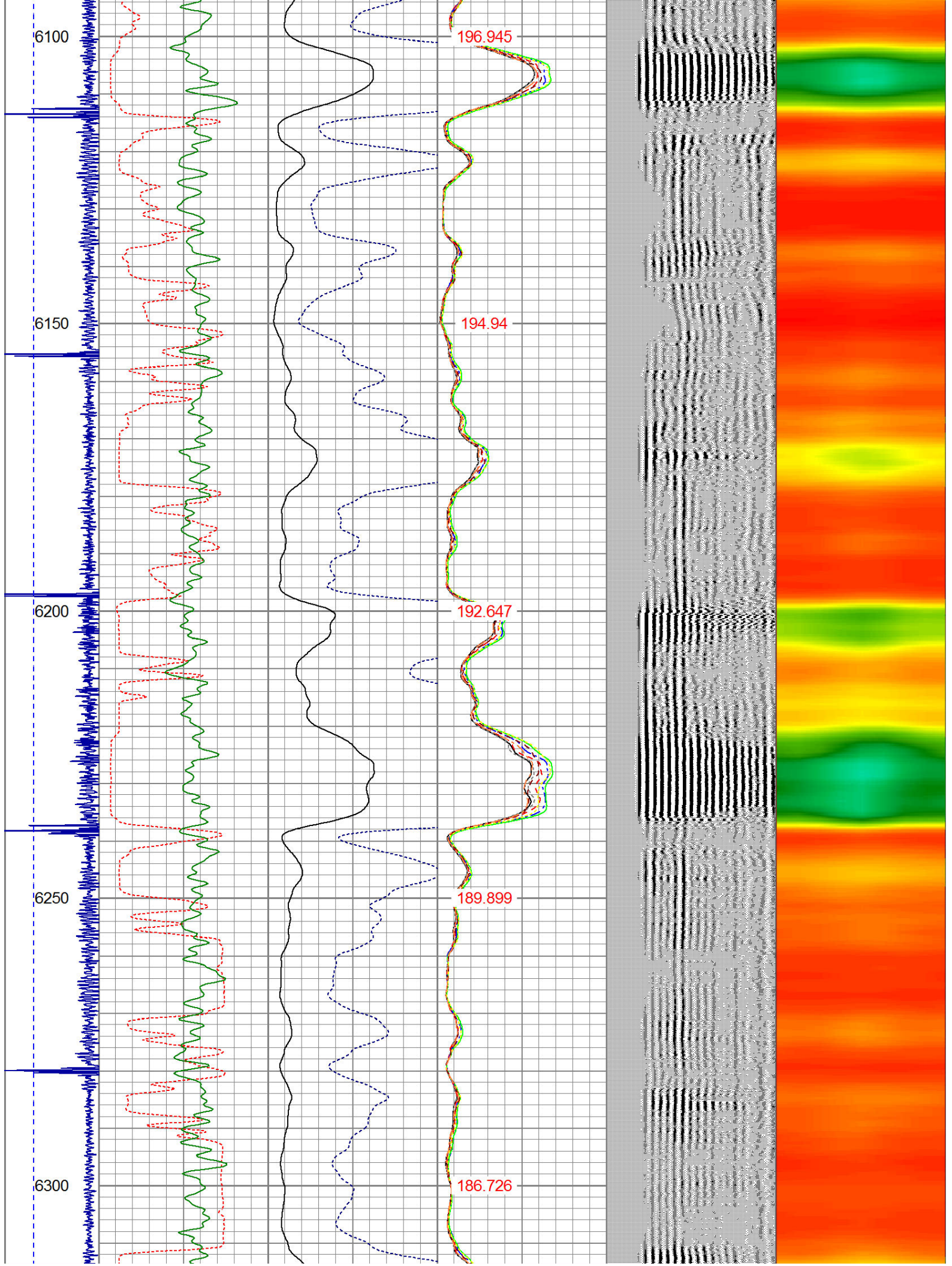


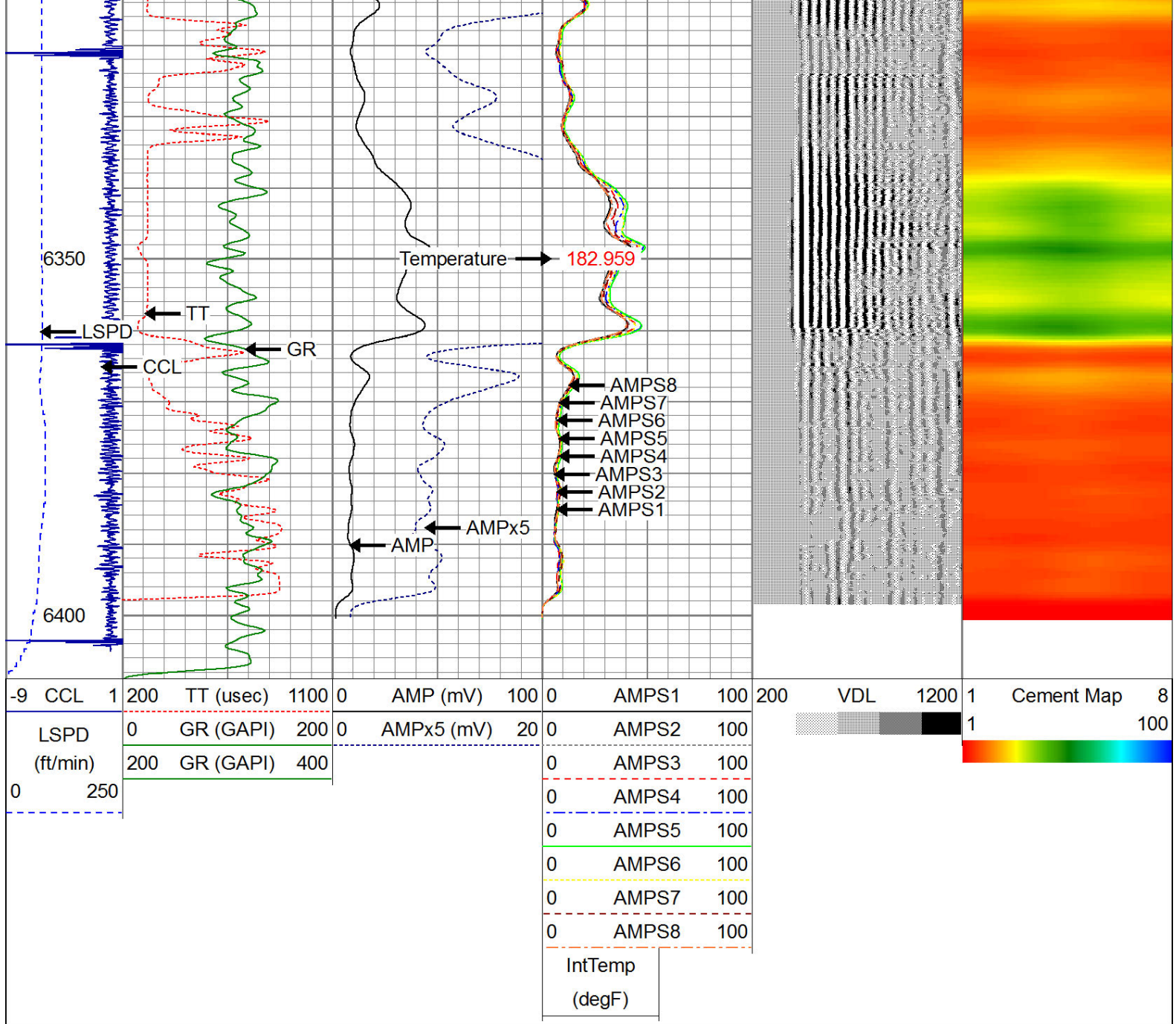












Calibration Report

Database File: guttersen state d16-15x.db
 Dataset Pathname: pass2
 Dataset Creation: Fri Feb 01 16:15:47 2019 by Log SCH 120126

Gamma Ray Calibration Report

Serial Number: 275
 Tool Model: Probe
 Performed: Tue Sep 23 07:13:12 2014

Calibrator Value: 100.0 GAPI

Background Reading: 35.0 cps
 Calibrator Reading: 160.0 cps

Sensitivity: 1.0000 GAPI/cps

Compensated Neutron Calibration Report

Serial Number: 275
 Tool Model: Probe R

CALIBRATION		Wed Jul 30 08:47:19 2008				
Detector		Readings		Target		Normalization
Short Space		5001.20	cps	0.00	cps	1.0000
Long Space		1029.31	cps	0.00	cps	1.0000

PRE-SURVEY VERIFICATION						
Detector		Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			
	Long Space		cps	pu		

POST-SURVEY VERIFICATION						
Detector		Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		pu
3)	Short Space		cps			
	Long Space		cps	pu		pu

Segmented Cement Bond Log Calibration Report

Serial Number:		Base	
Tool Model:		Probe	
Calibration Casing Diameter:		4.500	in
Calibration Depth:		-0.008	ft

Master Calibration, performed Fri Feb 01 15:36:47 2019:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	1.508	2.000	81.196	52.668	1.783
CAL	0.004	1.502				
5'	0.004	1.515	2.000	81.196	52.389	1.809
SUM						
S1	0.004	1.499	0.500	81.196	53.964	0.310
S2	0.004	1.473	0.500	81.196	54.921	0.283
S3	0.004	1.465	0.500	81.196	55.241	0.295
S4	0.004	1.501	0.500	81.196	53.896	0.284
S5	0.004	1.517	0.500	81.196	53.314	0.300
S6	0.004	1.545	0.500	81.196	52.352	0.306
S7	0.004	1.570	0.500	81.196	51.526	0.298
S8	0.004	1.535	0.500	81.196	52.681	0.306

Internal Reference Calibration, performed Tue Jun 05 07:53:42 2012:						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.004	1.500	1.000	0.000

CAL 0.000 0.000 0.004 1.502 1.000 0.000

Air Zero Calibration, performed Fri Feb 01 15:32:10 2019:

	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



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