

RADIAL CEMENT BOND LOG GAMMA RAY CCL

Company	ANADARKO PETROLEUM CORP.						
Well	ST. VRAIN 31-34						
Field	WATTENBERG						
County	WELD	State					
State	COLORADO						
Location:	API # : 05-123-26262						
SHL: 1564' FNL 1143' FWL LAT: 40.18530 LONG: -104.99430	Other Services						
SEC 34 TWP 3N RGE 66W SW/NW	Elevation						
Permanent Datum	GL	4930					
Log Measured From	KB 17'	K.B. 4947 D.F. 4946 G.L. 4930					
Drilling Measured From	KB						
Date	12-23-2015						
Run Number	ONE						
Depth Driller	7465						
Depth Logger	3342						
Bottom Logged Interval	3333						
Top Log Interval	SURFACE						
Open Hole Size	7 7/8						
Type Fluid	WATER						
Density / Viscosity	1.0						
Max. Recorded Temp.	109 DEG F						
Estimated Cement Top	324						
Time Well Ready	N/A						
Time Logger on Bottom	N/A						
Equipment Number	3812						
Location	GREELEY						
Recorded By	N.POLLOCK						
Witnessed By	RIGO V.						
Borehole Record							
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record							
Surface String	Size	8.63	Wgt/Ft	24#	Top		Bottom
Prot. String					SURFACE		707
Production String							
Liner	4.5			11.6#	SURFACE		7447

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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

CORRELATED TO IPS LOG RAN ON 3-20-2008

RAN CBL TO VERIFY CEMENT TOP

THANK YOU FOR USING IPS!!

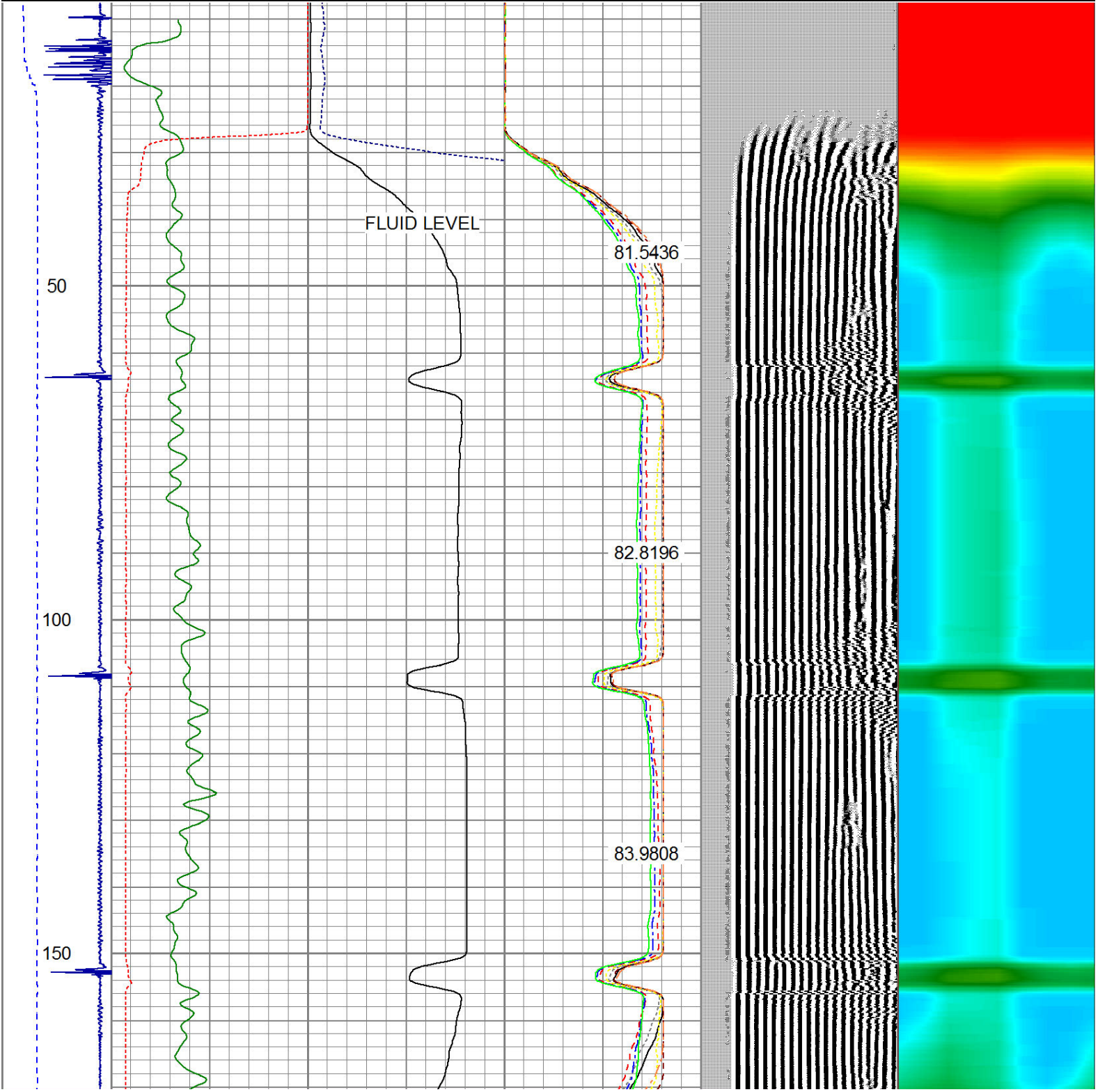
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CENT	19.08					

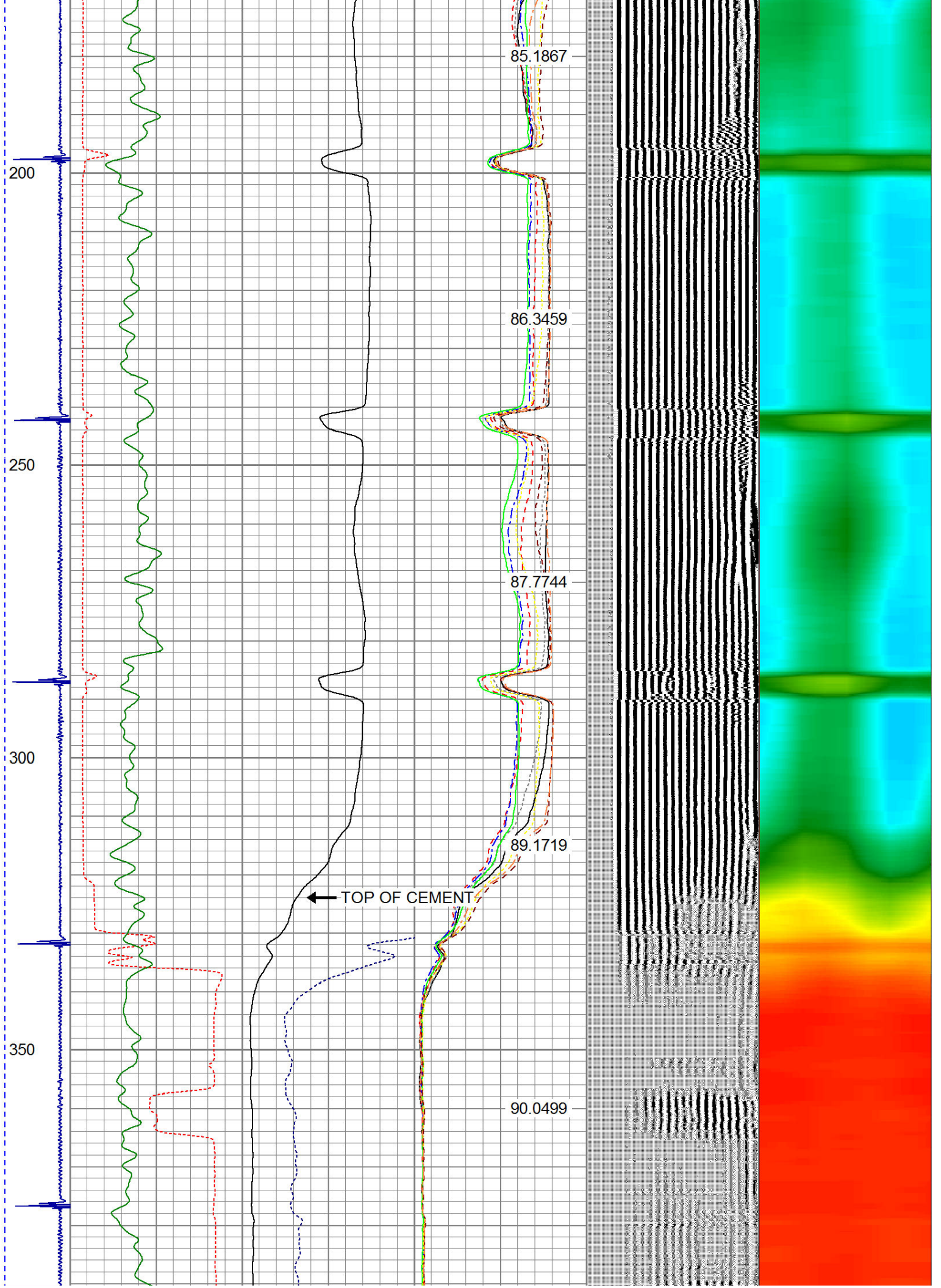
			PTS275	2.83	2.75	
HEADVOLT	16.25					
RBT	16.25					
IntTemp	14.83					
WVF3FT	11.58		RBT-Probe (Base)	8.92	2.75	90.00
WVFCAL	11.58		Probe Radii Bond Tool with Digital Telemetry			
WVFS1	11.58					
WVFS2	11.58					
WVFS3	11.58					
WVFS4	11.58					
WVFS5	11.58					
WVFS6	11.58					
WVFS7	11.58					
WVFS8	11.58					
WVF5FT	10.58					
CNLSC	6.00		CNT-Probe_B (275)	3.00	2.75	40.00
CNSSC	5.17		6 bow centralizer			
GR	4.33					
CCL	3.64					
			GR-Probe (275)	4.33	2.75	30.00
			Probe 2.75"			
GR	0.90					
Dataset: st vrain 31-34.db: field/well/run1/pass4 Total Length: 19.08 ft Total Weight: 160.00 lb O.D. 2.75 in						

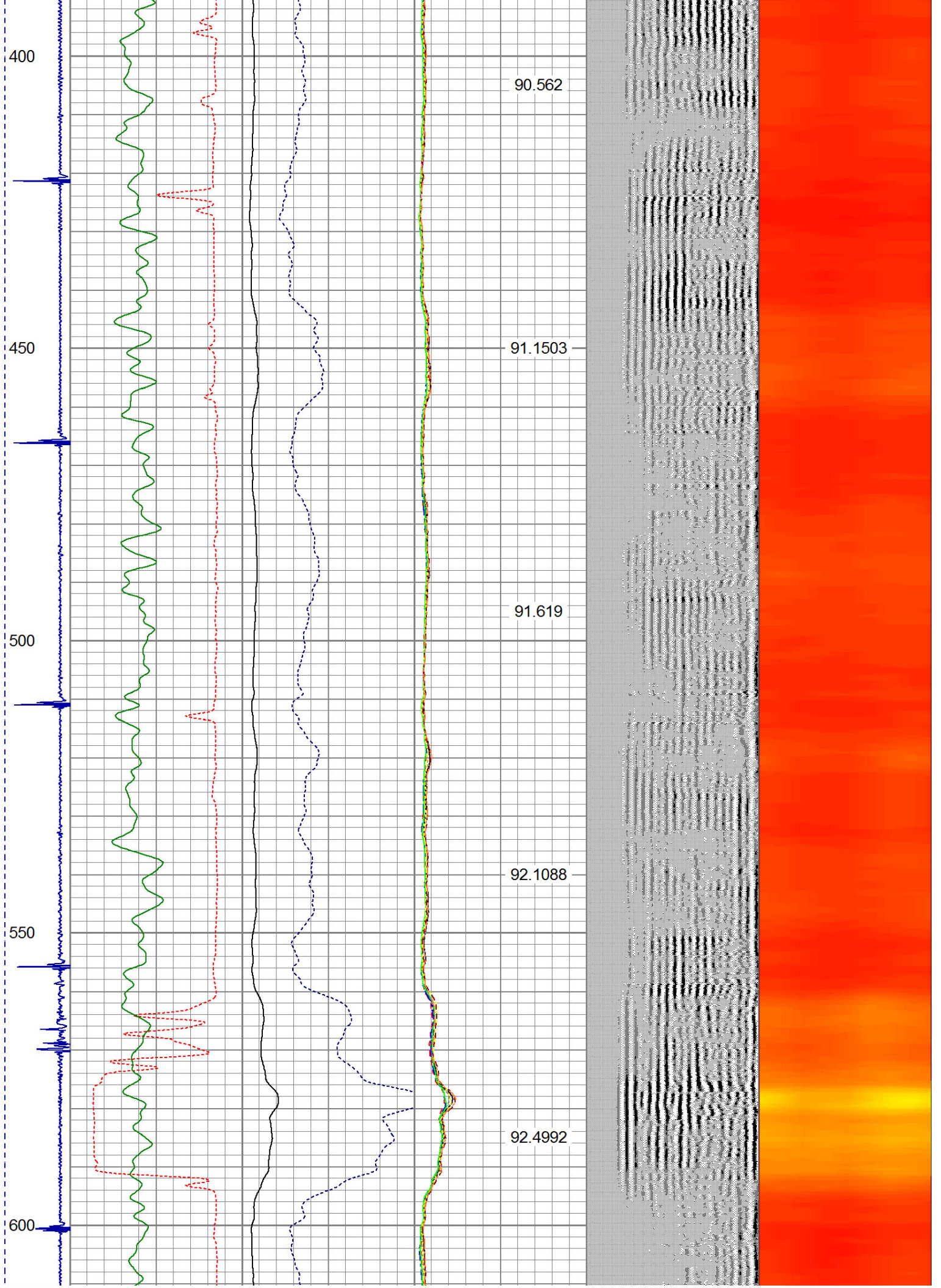
Dataset Creation: Wed Dec 23 10:03:32 2015 by Log 7.0 B1

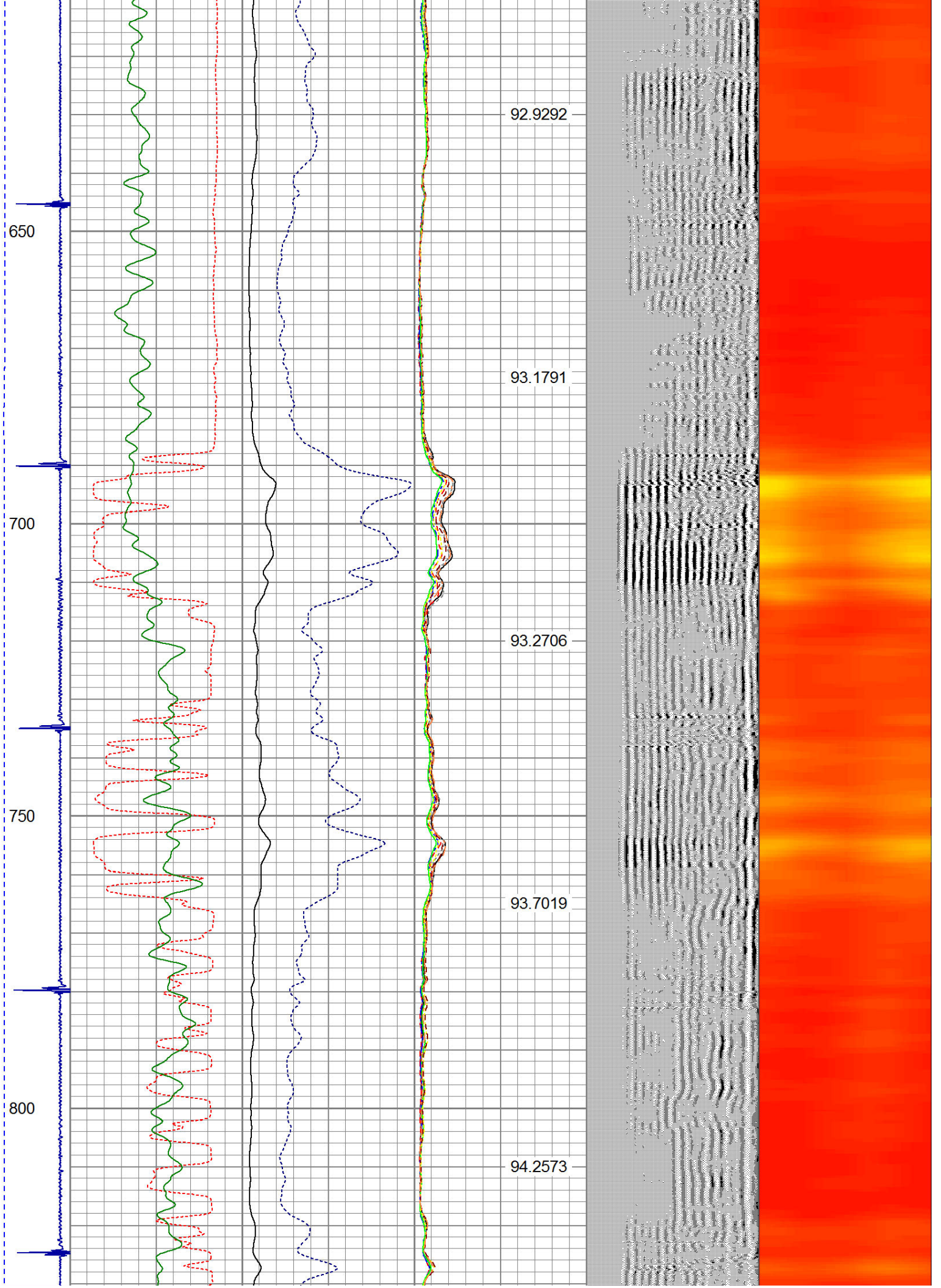
Charted by: Depth in Feet scaled 1:240

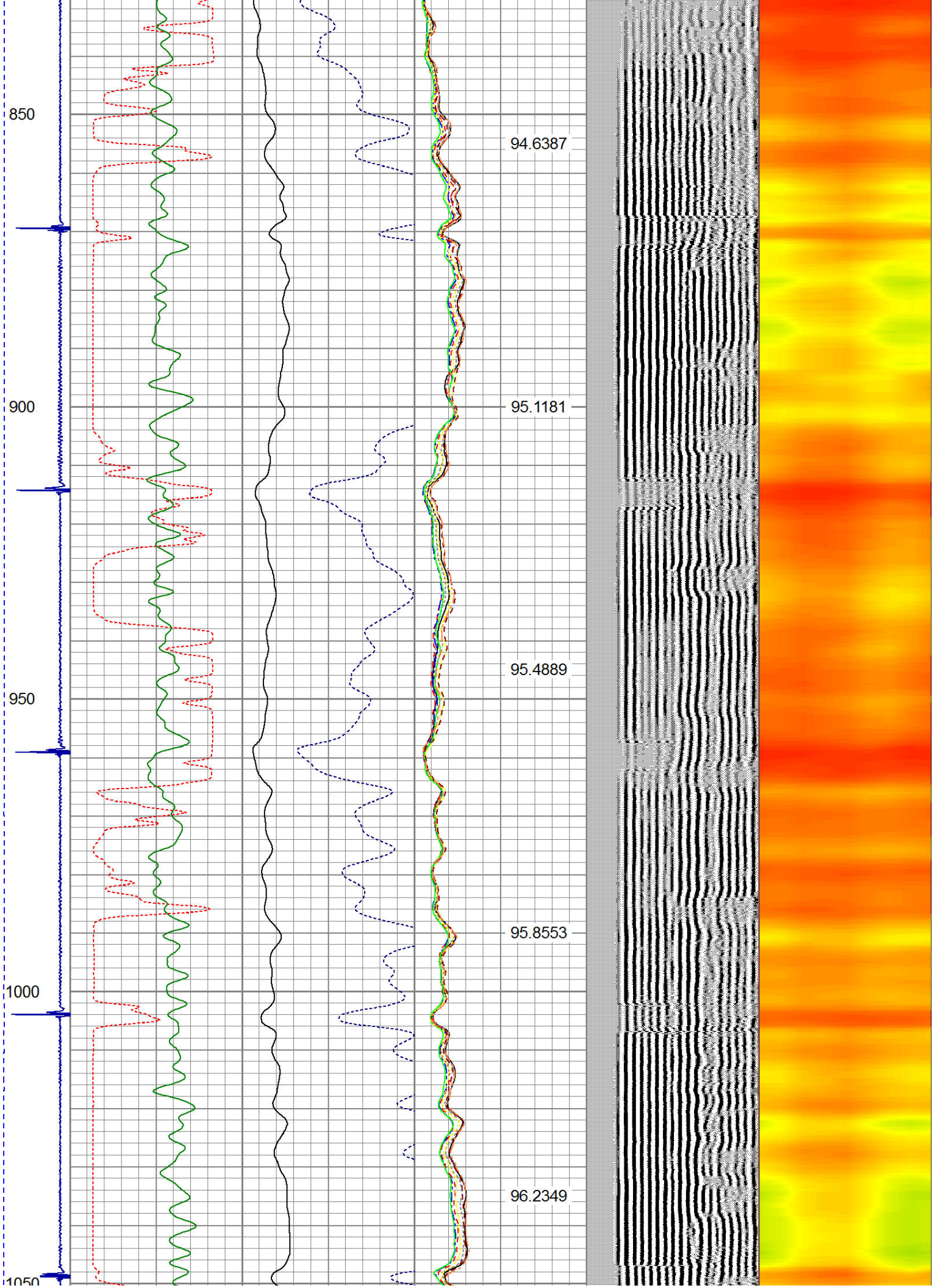
-9	CCL	1	200	TT (usec)	1000	0	AMP (mV)	100	0	AMPS1	100	200	VDL	1200	1	Cement Map	8
LSPD			0	GR (cps)	200	0	AMPx5 (mV)	20	0	AMPS2	100				1		100
(ft/min)			200	GR (cps)	400				0	AMPS3	100						
0		250							0	AMPS4	100						
									0	AMPS5	100						
									0	AMPS6	100						
									0	AMPS7	100						
									0	AMPS8	100						
										IntTemp							
										(degF)							

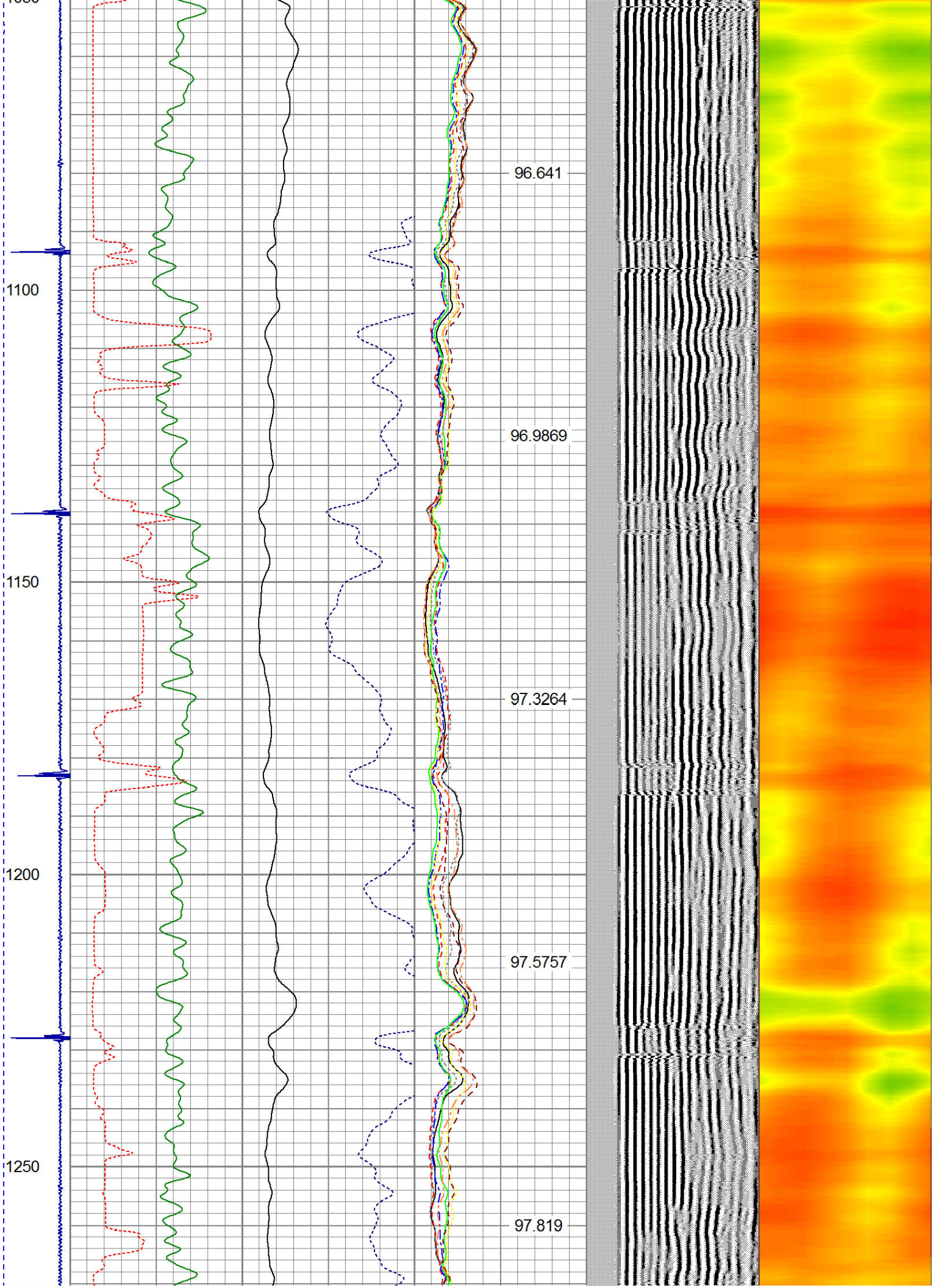


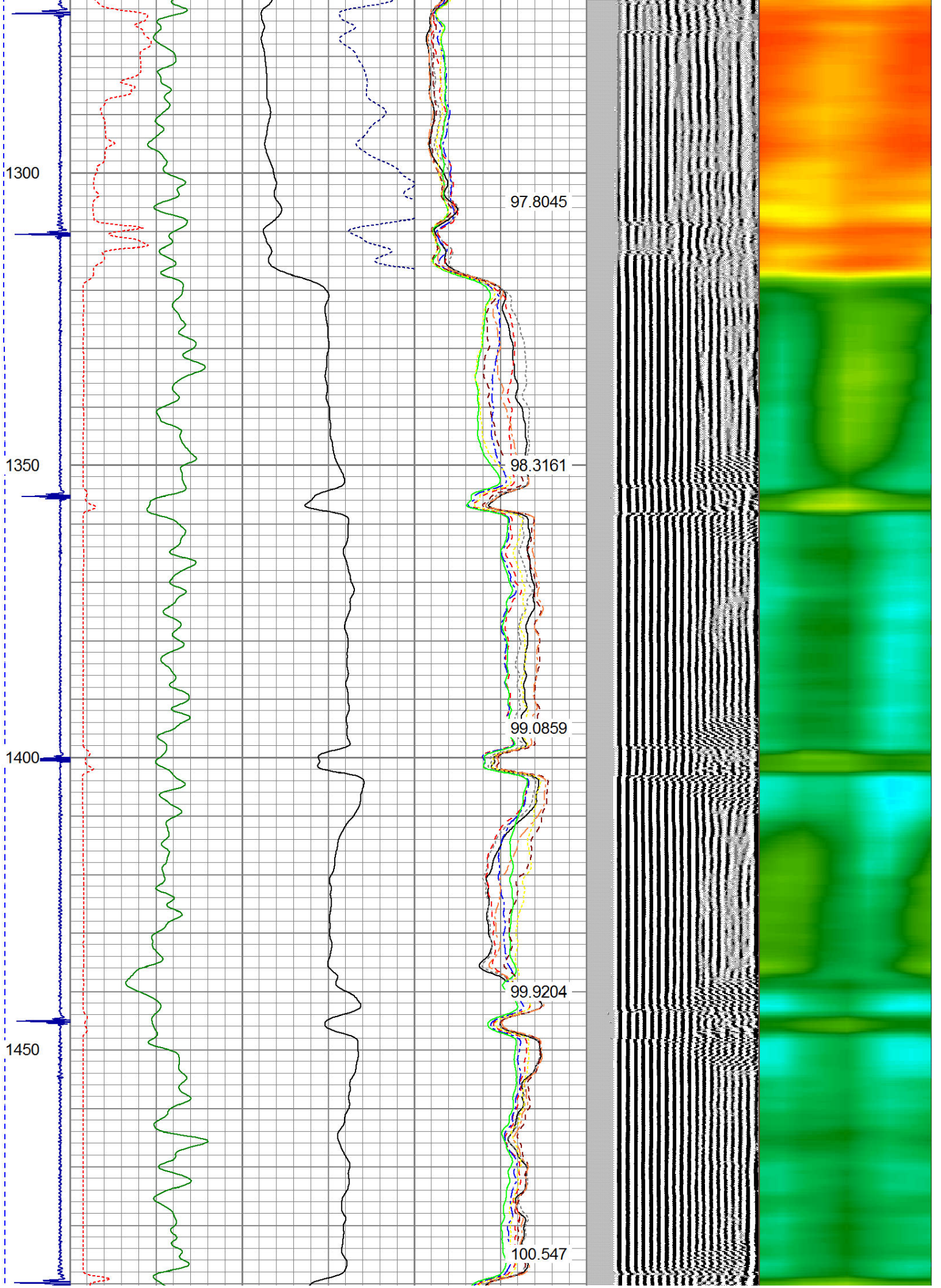


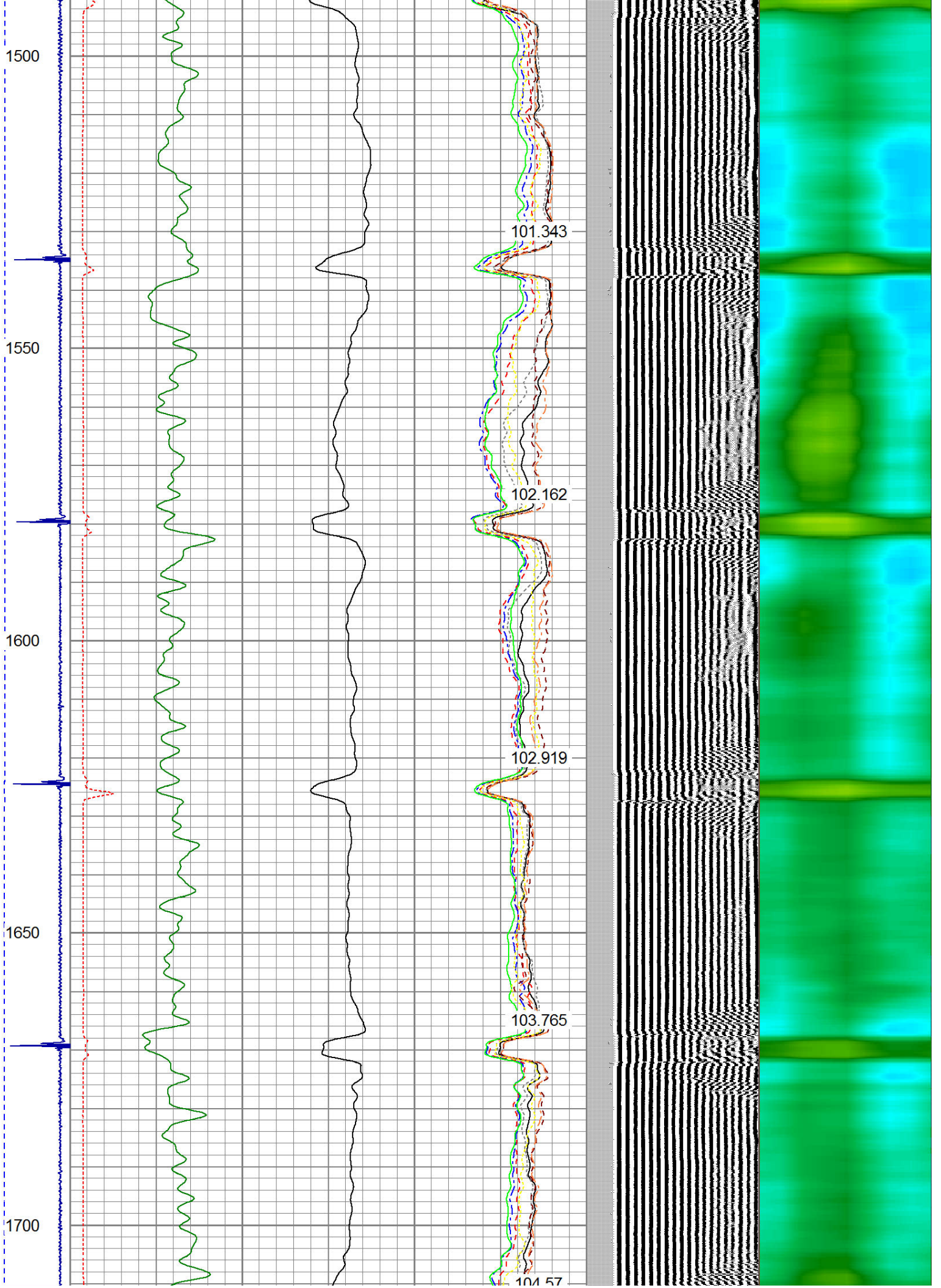


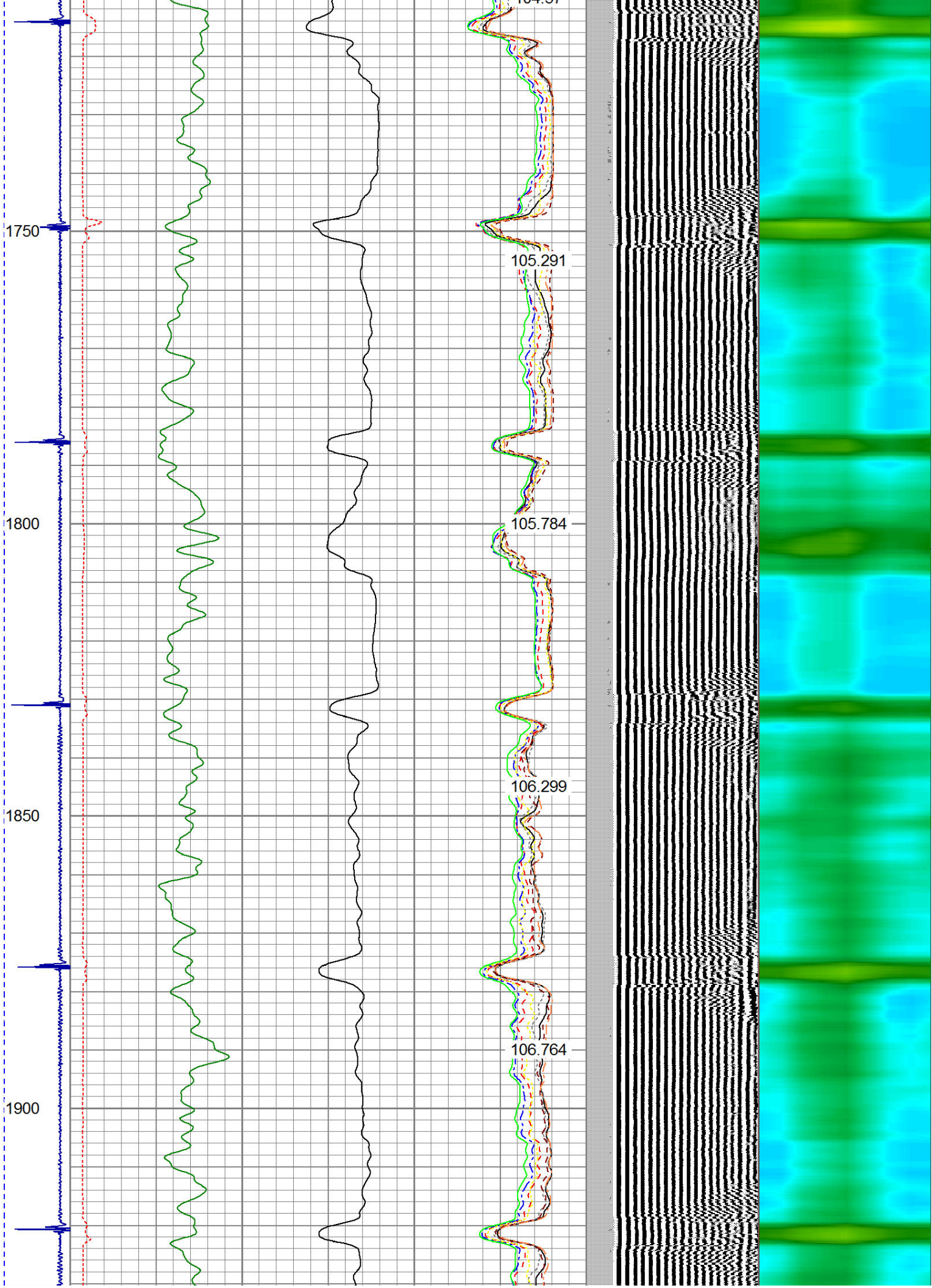


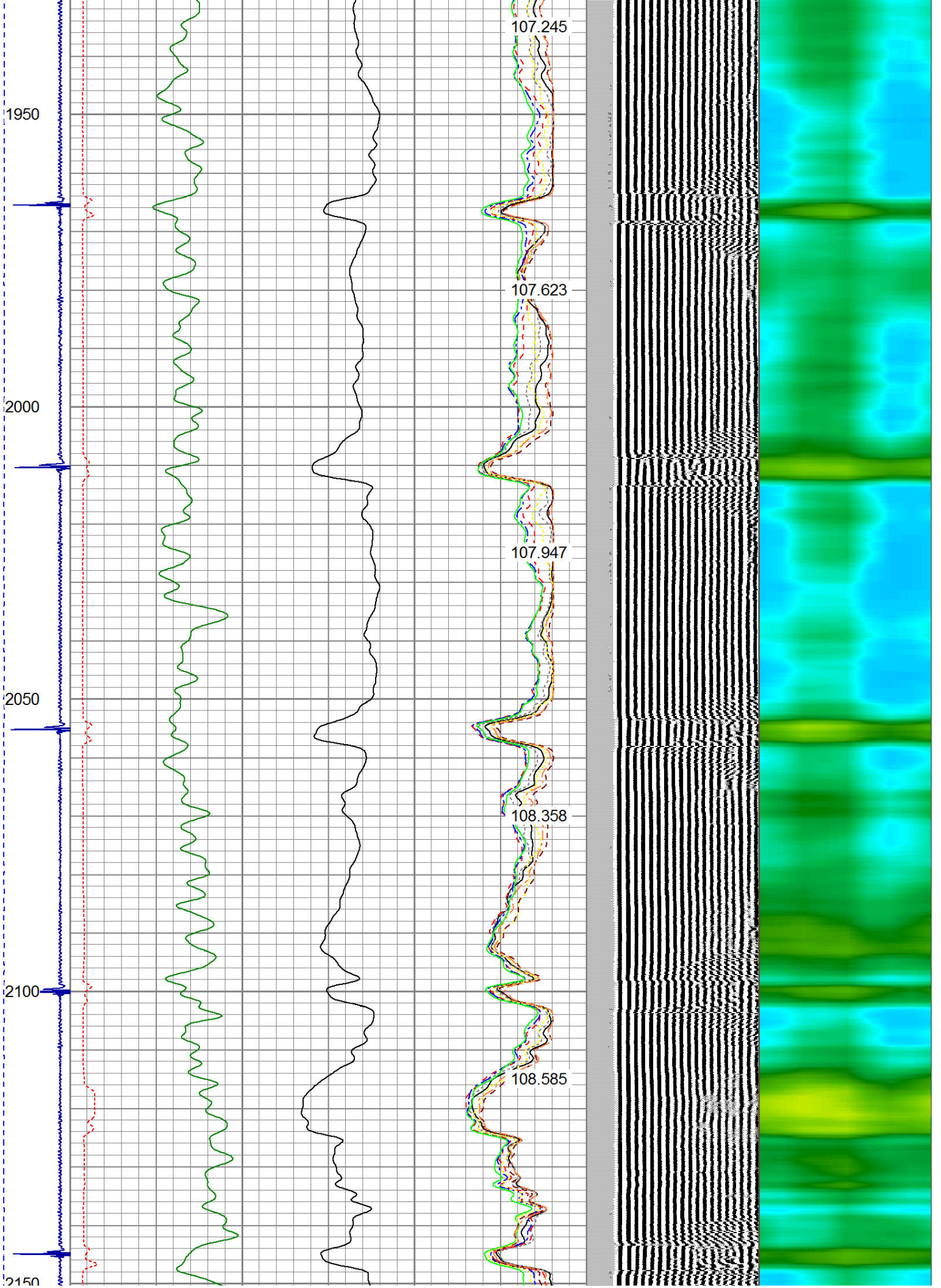


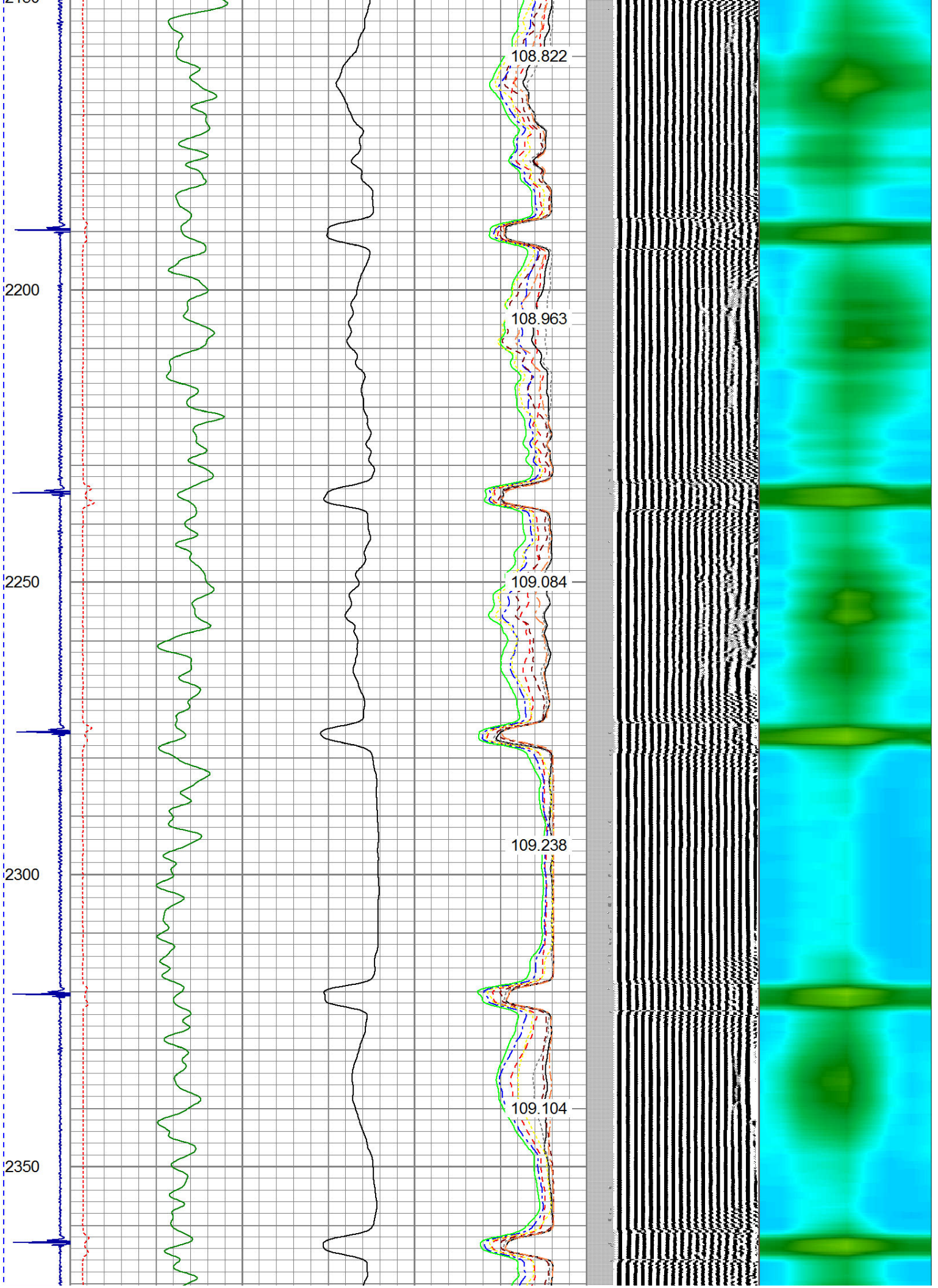












2400

2450

2500

2550

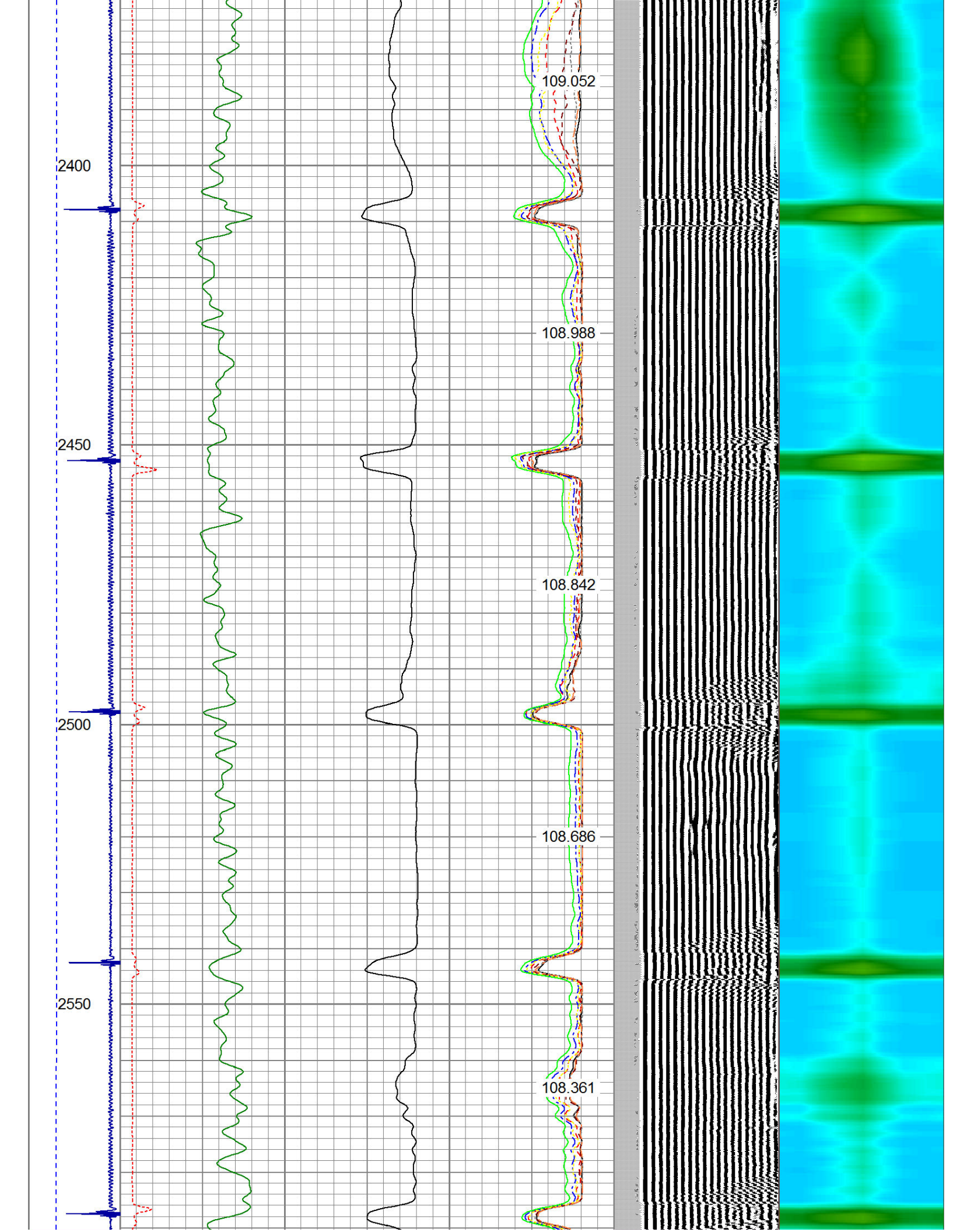
109.052

108.988

108.842

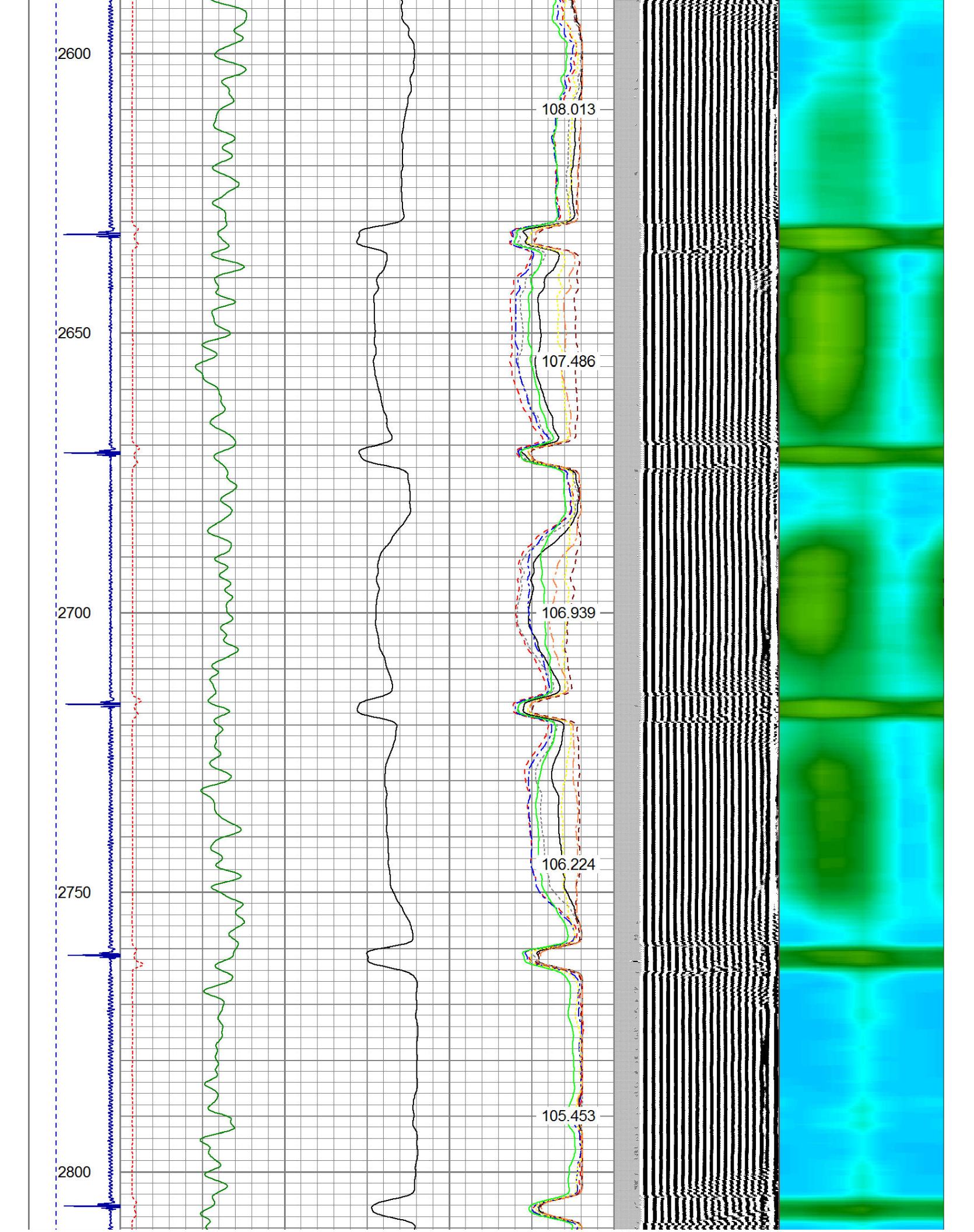
108.686

108.361



2600
2650
2700
2750
2800

108.013
107.486
106.939
106.224
105.453



2850

2900

2950

3000

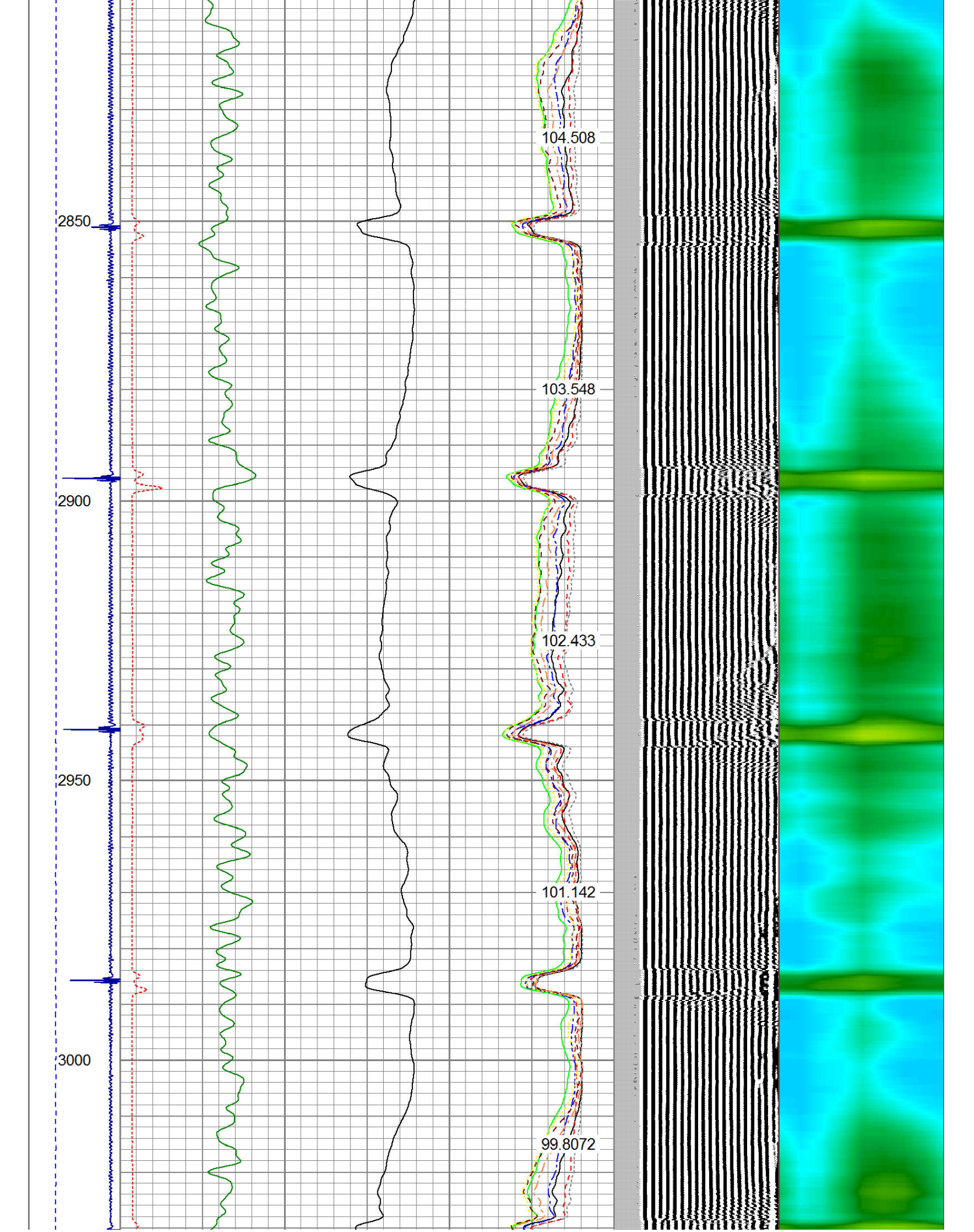
104.508

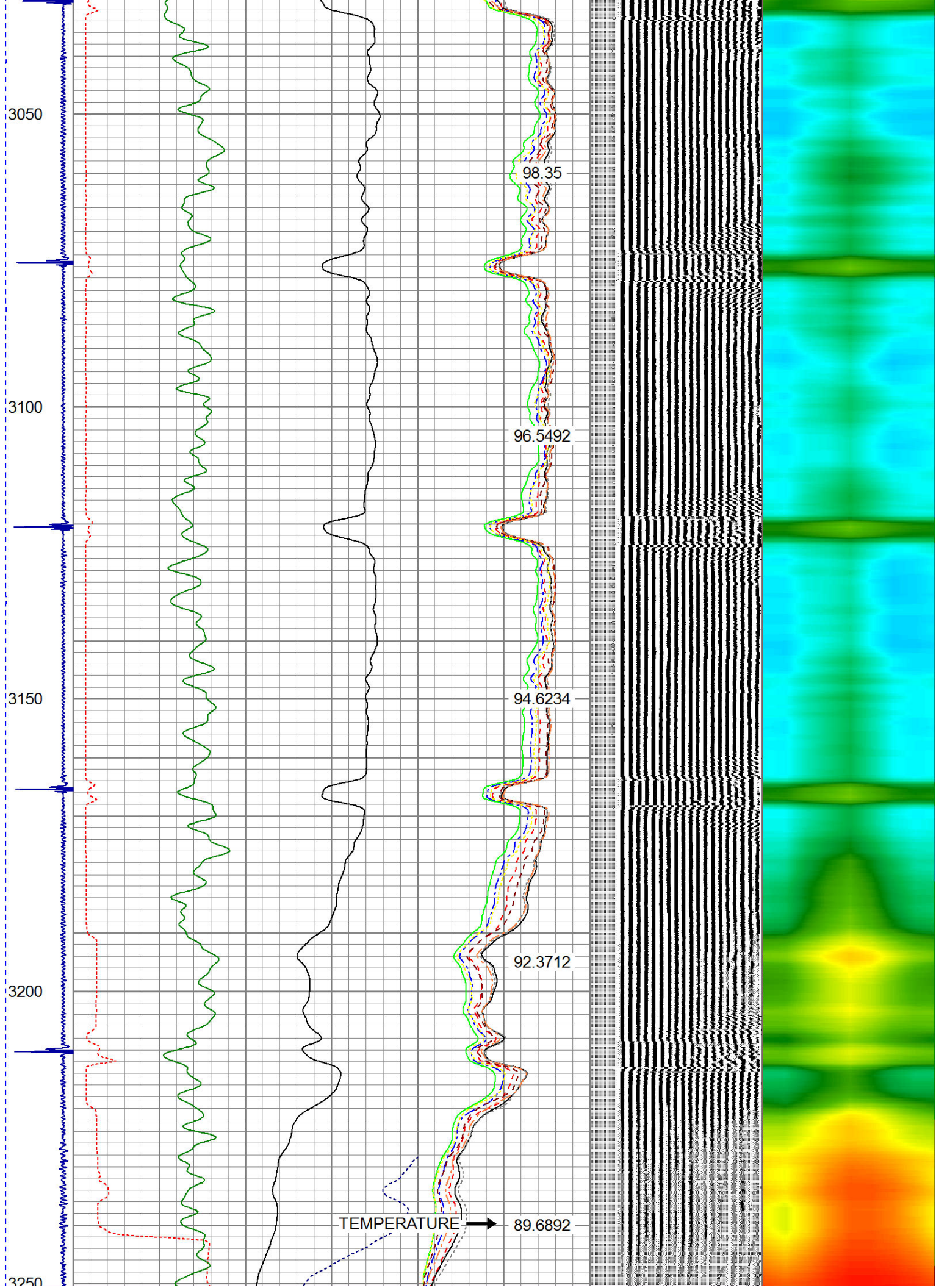
103.548

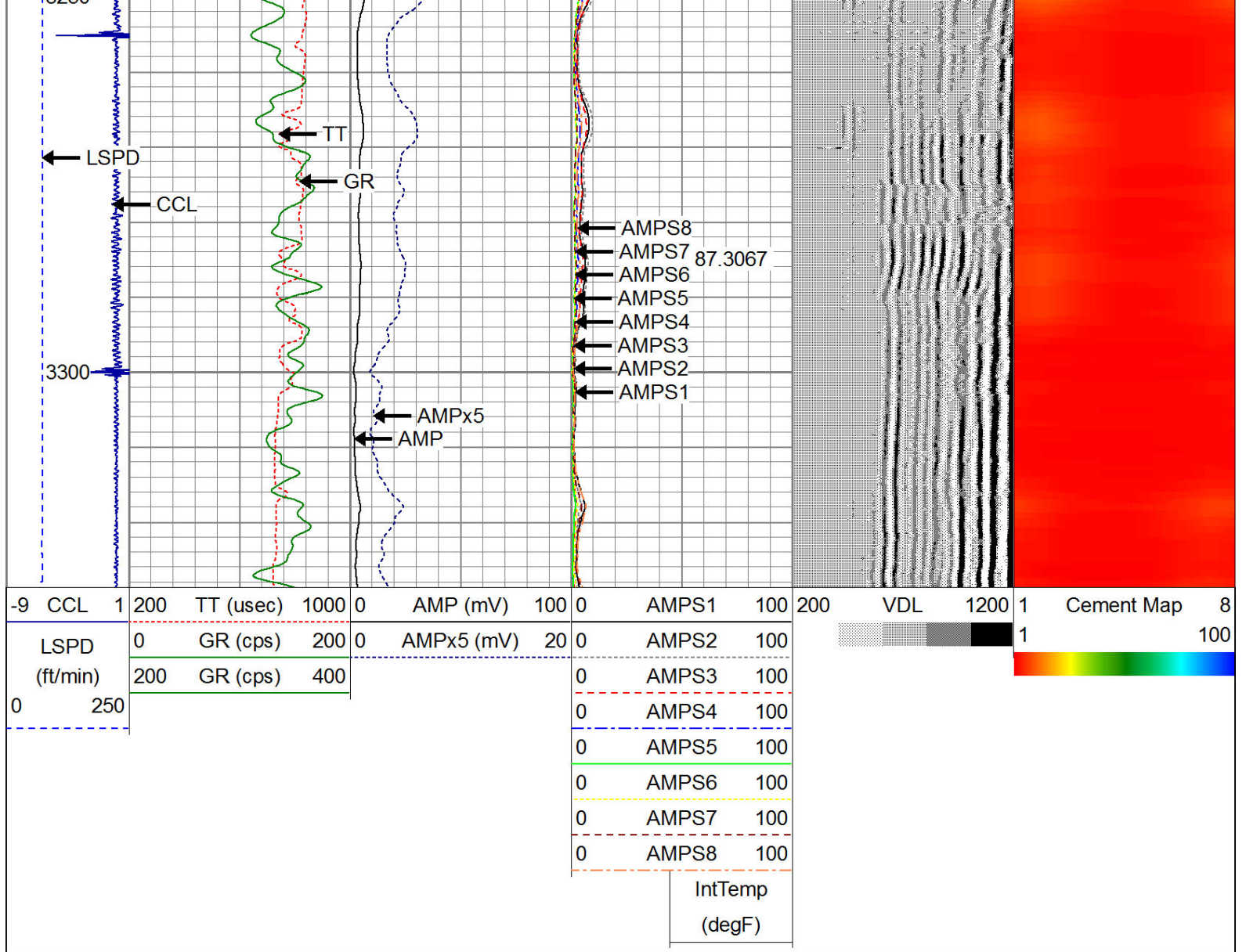
102.433

101.142

99.8072







Calibration Report			
Database File:	st vrain 31-34.db		
Dataset Pathname:	pass4		
Dataset Creation:	Wed Dec 23 10:03:32 2015 by Log 7.0 B1		
Gamma Ray Calibration Report			
Serial Number:	275		
Tool Model:	Probe		
Performed:	Wed Jul 16 08:14:01 2014		
Calibrator Value:	120.0	cps	
Background Reading:	30.0	cps	
Calibrator Reading:	210.0	cps	
Sensitivity:	1.1000	cps/cps	
Compensated Neutron Calibration Report			
Serial Number:	275		
Tool Model:	Probe_B		
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:	119.278	ft

Master Calibration, performed Wed Dec 23 09:55:12 2015:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.012	2.500	1.500	81.196	32.033	1.114
CAL	1.553	2.500				
5'	0.011	2.500	1.500	81.196	32.022	1.140
SUM						
S1	0.011	2.500	0.500	81.000	32.343	0.142
S2	0.012	2.500	0.500	81.000	32.350	0.124
S3	0.010	2.480	0.500	81.000	32.601	0.164
S4	0.010	2.359	0.500	81.000	34.283	0.142
S5	0.011	2.499	0.500	81.000	32.356	0.129
S6	0.010	2.500	0.500	81.000	32.335	0.163
S7	0.015	2.500	0.500	81.000	32.397	0.008
S8	0.012	2.500	0.500	81.000	32.349	0.127

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	1.553	2.500	1.000	0.000

Air Zero Calibration, performed Wed Dec 23 09:51:08 2015:						
	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

	Company	ANADARKO PETROLEUM CORP.
	Well	ST. VRAIN 31-34
	Field	WATTENBERG
	County	WELD
	State	COLORADO