

RADIAL CEMENT BOND LOG
GAMMA RAY
CCL

Company		Kerr McGee Oil & Gas	
Well		DAVIS STATE 20-16	
Field		Wattenberg	
County		Weld	
State		CO	
Location:		API #: 05-123-22247	
SW/SE		LAT 40.22190 LONG -104.89170	
SEC 16 TWP 3N RGE 67W		Elevation 4790'	
Permanent Datum		GL KB 12'	
Log Measured From		KB 12'	
Drilling Measured From		KB	
Date		11-17-15	
Run Number		ONE	
Depth Driller		7300'	
Depth Logger		3308'	
Bottom Logged Interval		3301'	
Top Log Interval		SURFACE	
Open Hole Size		7 7/8	
Type Fluid		WATER	
Density / Viscosity		1.0	
Max. Recorded Temp.		114	
Estimated Cement Top		360'	
Time Well Ready		NA	
Time Logger on Bottom		NA	
Equipment Number		7770	
Location		GREELEY	
Recorded By		A.STEERMAN	
Witnessed By		B.SMITH	
Run Number		Borehole Record	
Bit		From	
		To	
		Size	
		Weight	
		From	
		To	
Casing Record		Tubing Record	
Surface String		Size	
8 5/8		Wgt/Ft	
		24#	
Prot. String		Top	
Production String		SURFACE	
4 1/2		11.6#	
		SURFACE	
Liner		7288'	


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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

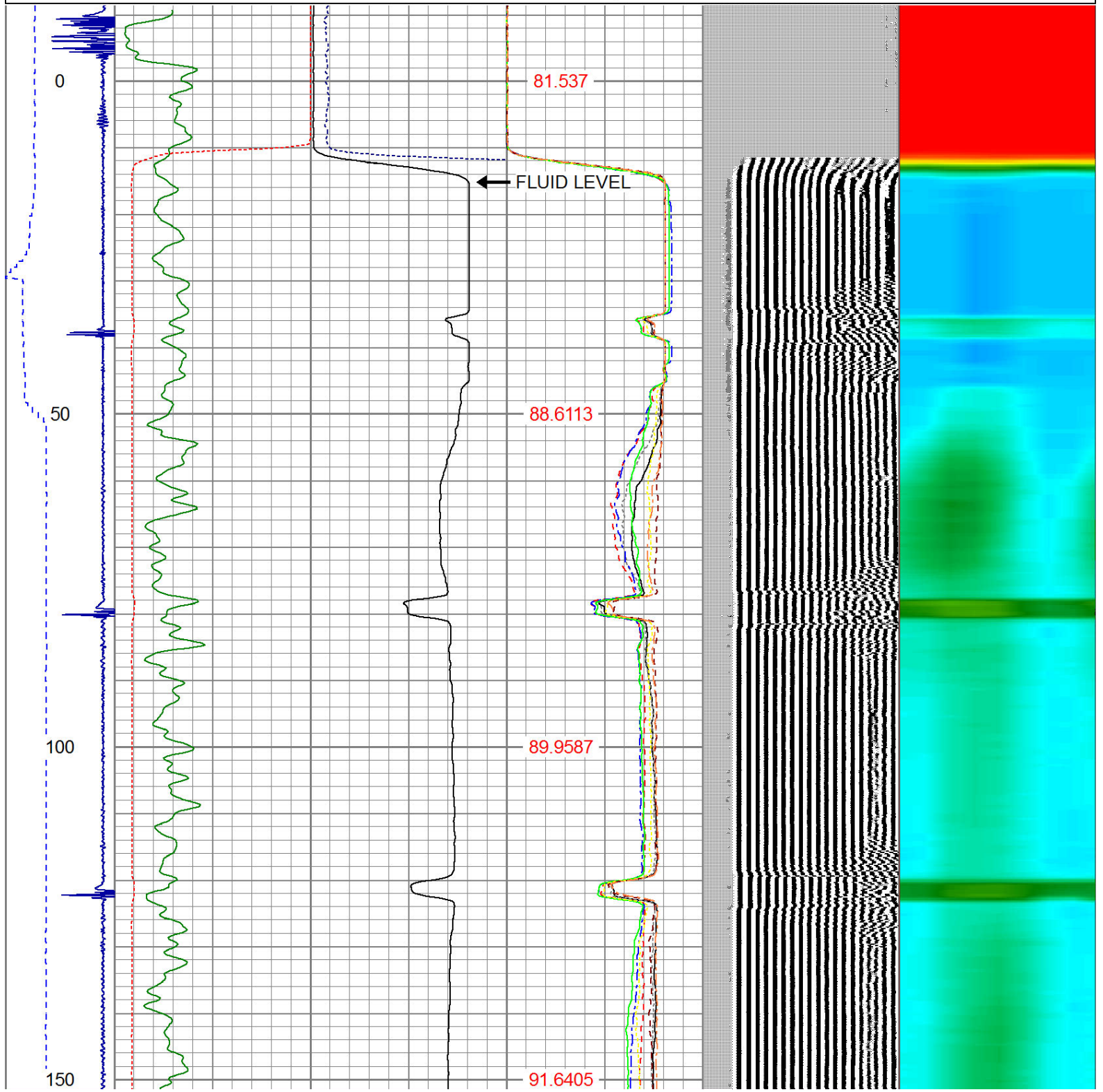
NOT CORRELATED
WELL LOADED BEFORE ARRIVING
RAN CBL TO VERIFY CEMENT.

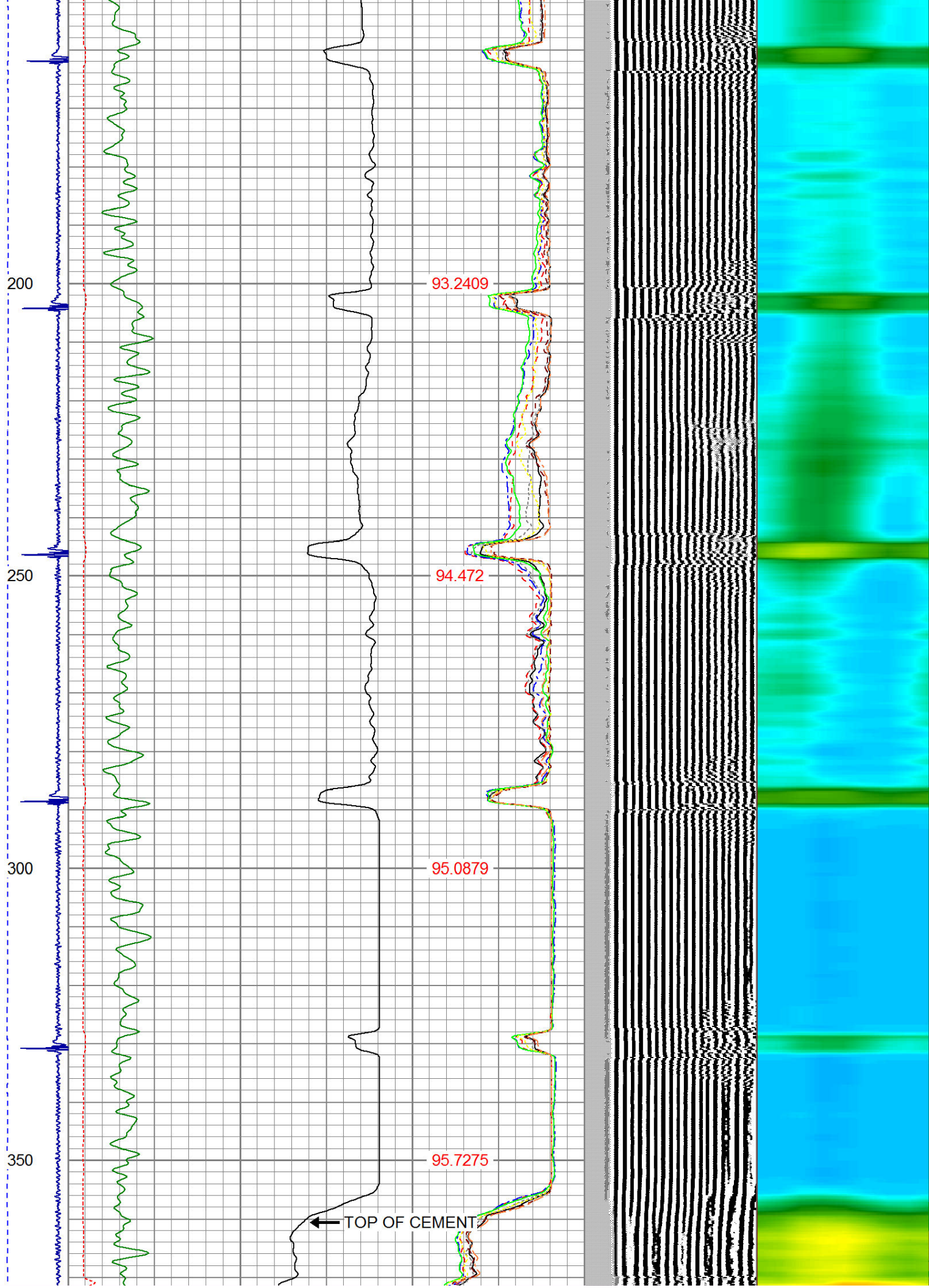
THANK YOU FOR USING WARRIOR ENERGY!

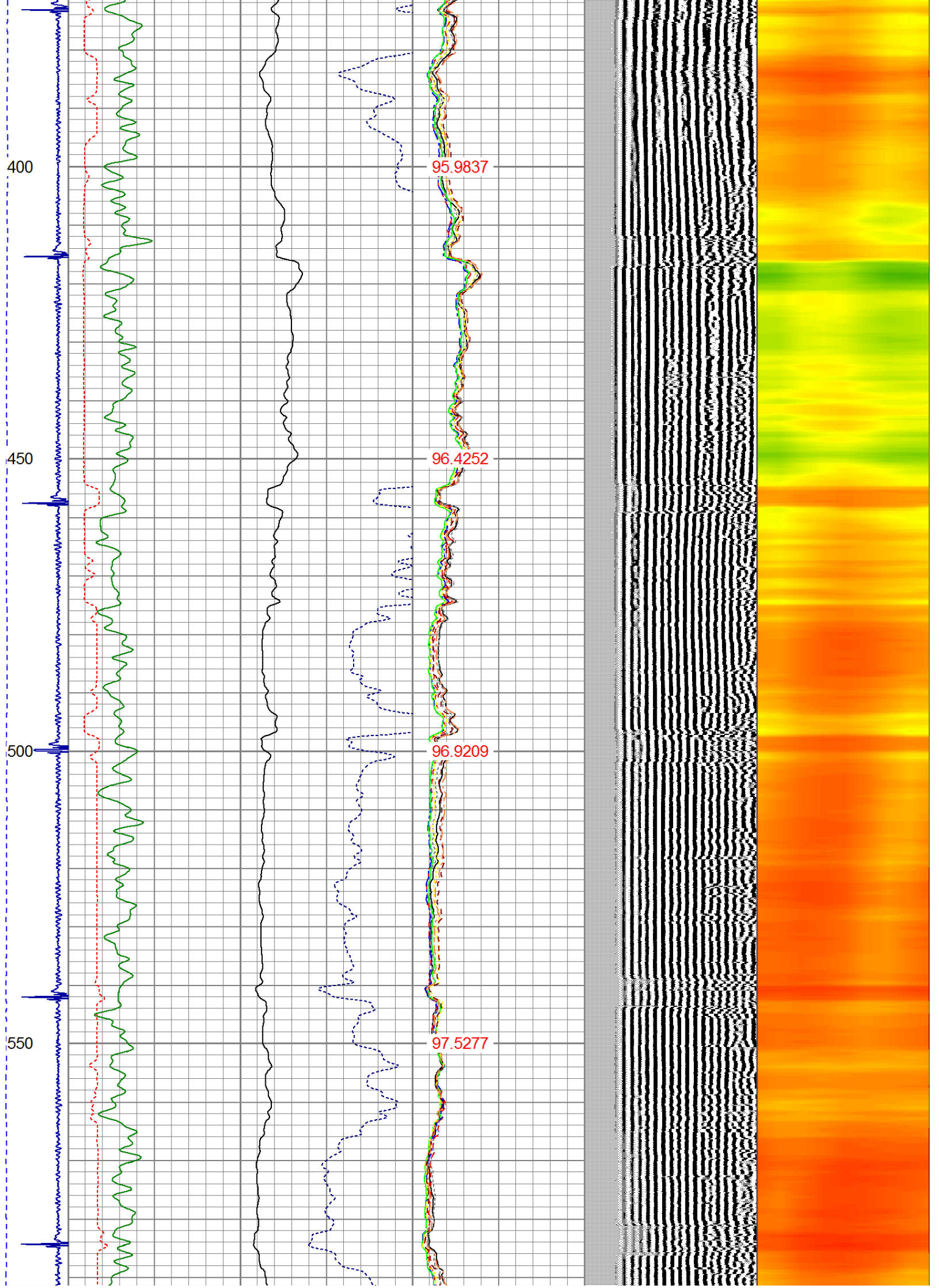
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
						

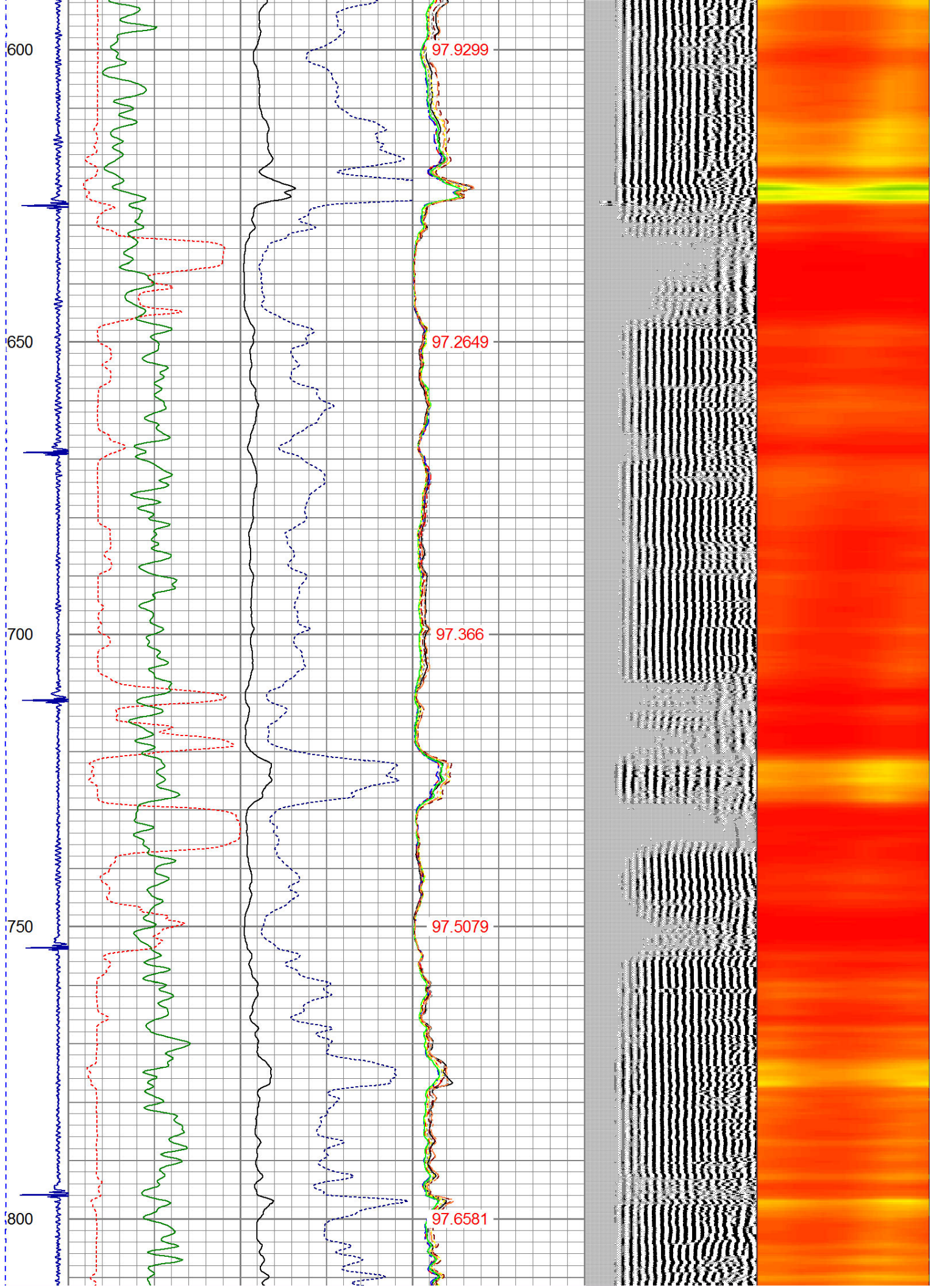
			PTS275	2.83	2.75	
HEADVOLT	16.13					
IntTemp	14.71					
WVF3FT	11.46		RBT-Probe (Base)	8.92	2.75	90.00
WVFCAL	11.46		Probe Radii Bond Tool with Digital Telemetry			
WVFS1	11.46					
WVFS2	11.46					
WVFS3	11.46					
WVFS4	11.46					
WVFS5	11.46					
WVFS6	11.46					
WVFS7	11.46					
WVFS8	11.46					
WVF5FT	10.46					
CNLSC	6.00					
CNSSC	5.17		CNT-Probe_B (275)	2.88	2.75	40.00
			6 bow centralizer			
CCL	3.64					
GR	0.90		GR-Probe (275)	4.33	2.75	30.00
			Probe 2.75"			
Dataset: davis state 20-16.db: field/well/run1/pass3 Total Length: 18.96 ft Total Weight: 160.00 lb O.D. 2.75 in						

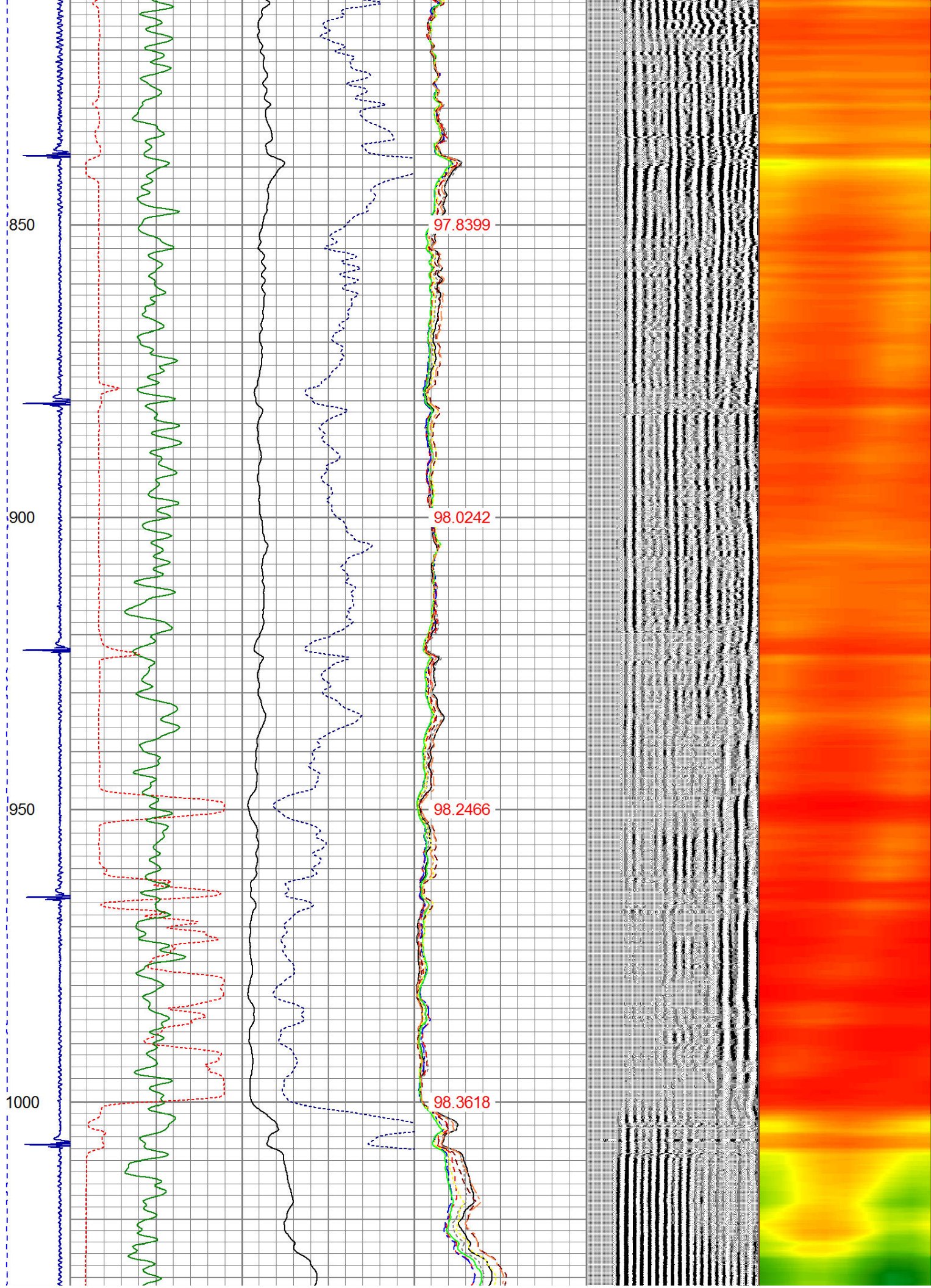
-9	CCL	1	200	TT (usec)	800	0	AMP (mV)	100	0	AMPS1	100	200	VDL	1200	1	Cement Map	8						
LSPD (ft/min)	0	250	0	GR (GAPI)	200	0	AMPx5 (mV)	20	0	AMPS2	100		1	100									
			200	GR (GAPI)	400				0	AMPS3	100												
									0	AMPS4	100												
									0	AMPS5	100												
									0	AMPS6	100												
									0	AMPS7	100												
									0	AMPS8	100												
									IntTemp (degF)														

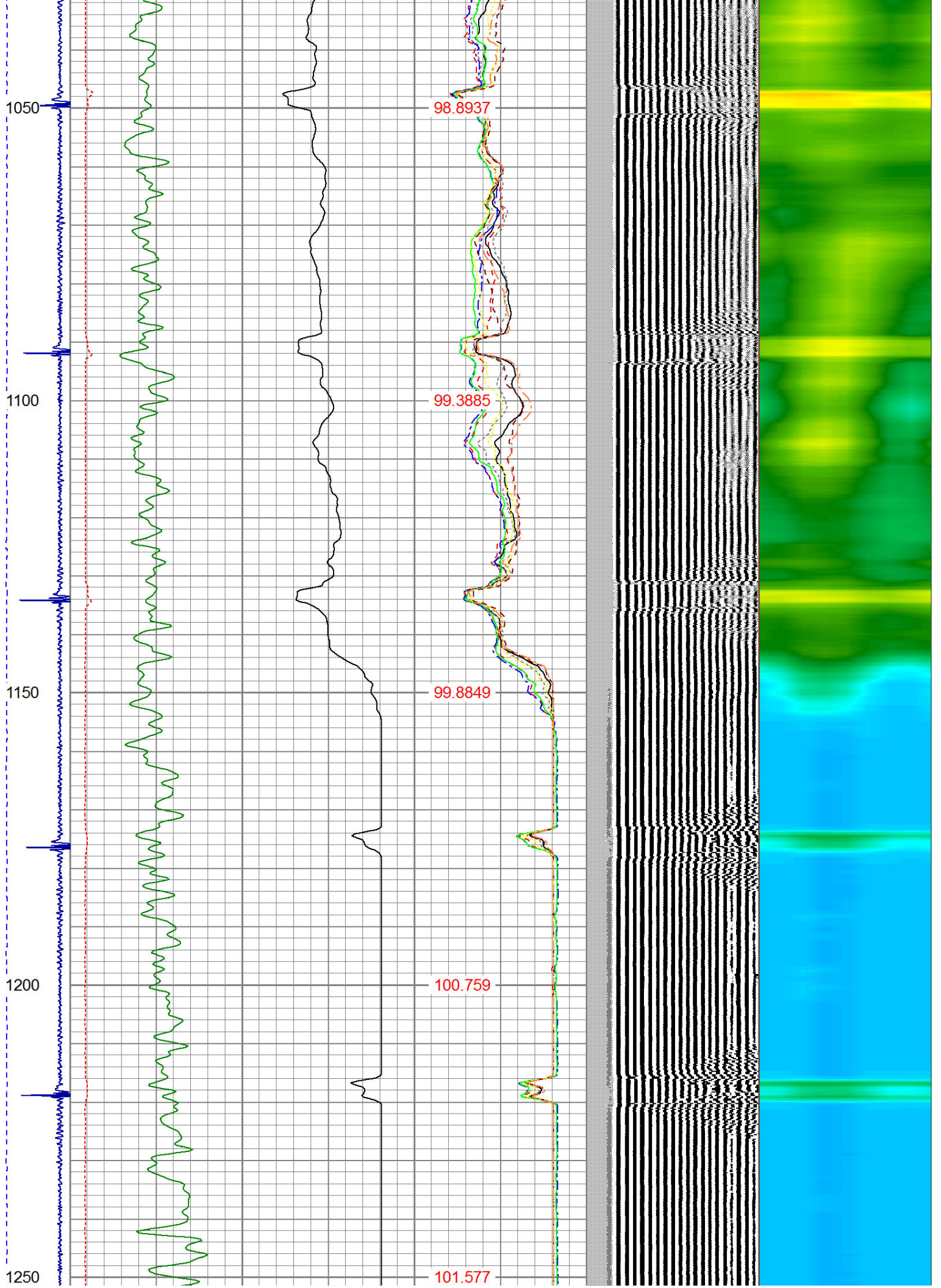


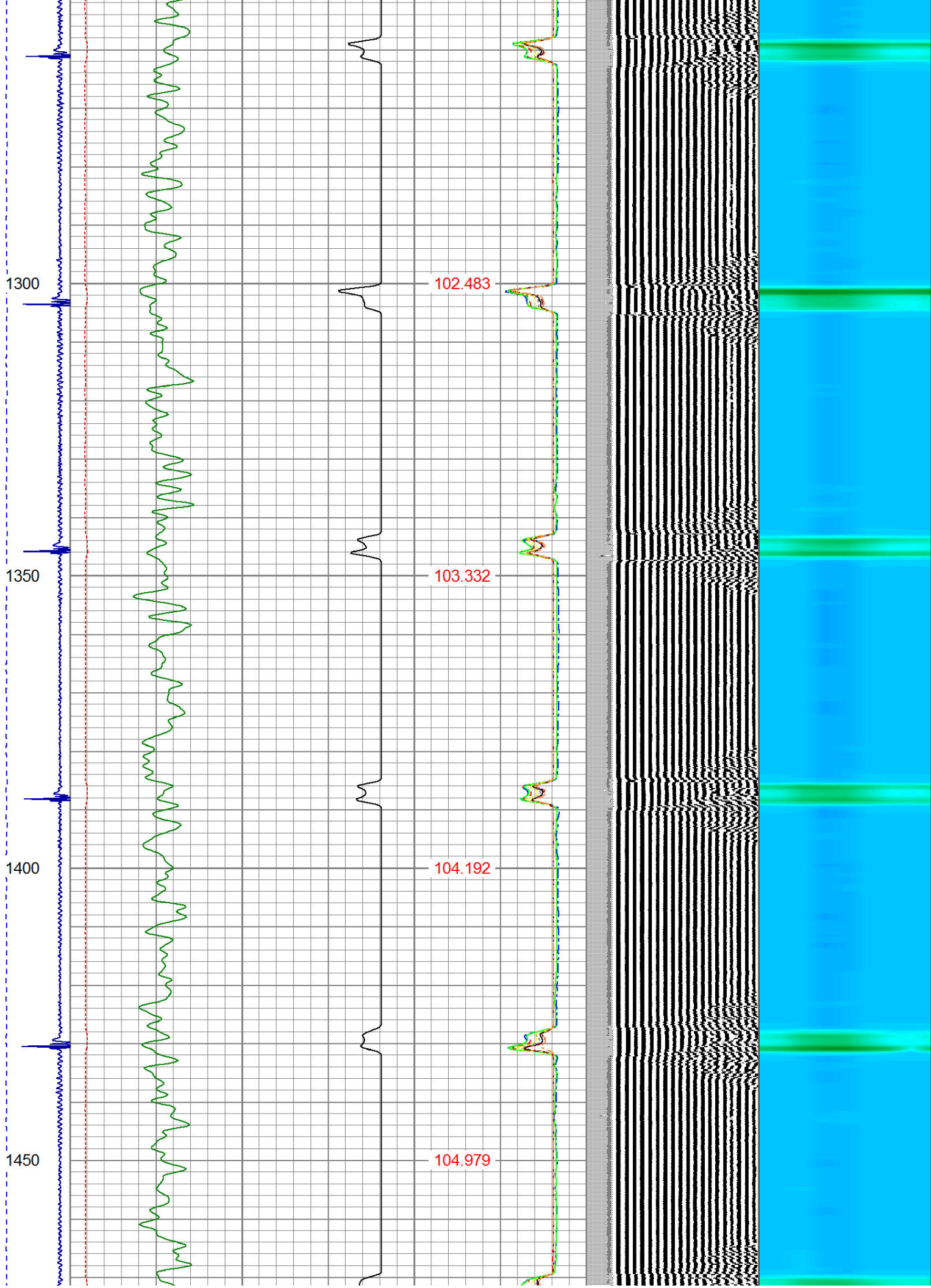


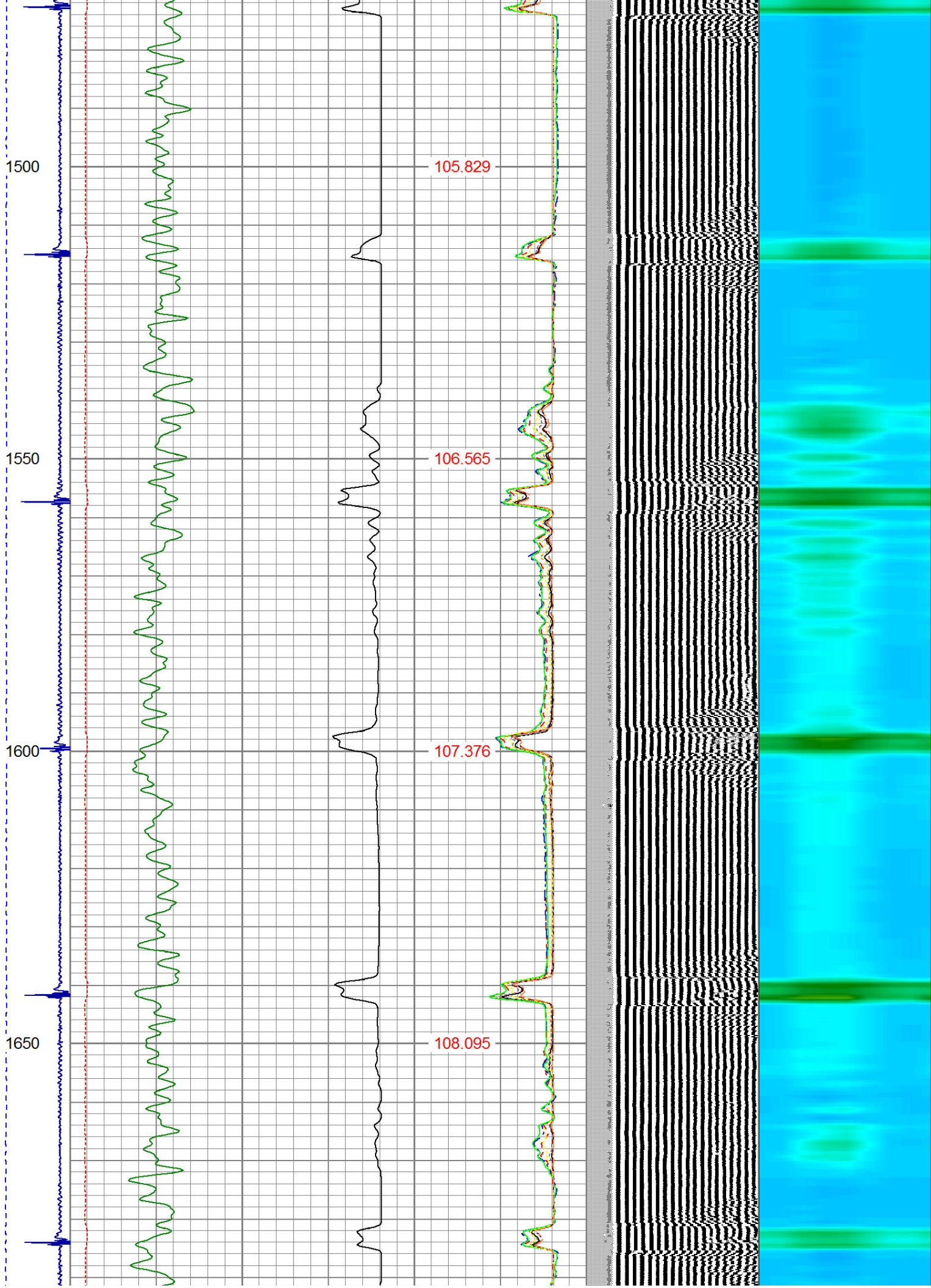








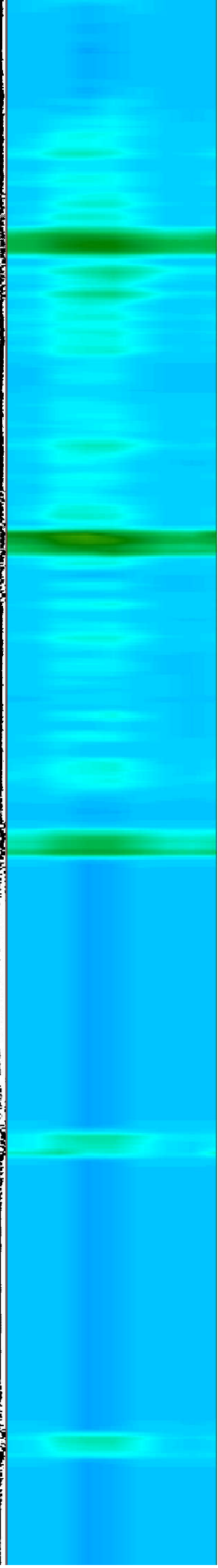
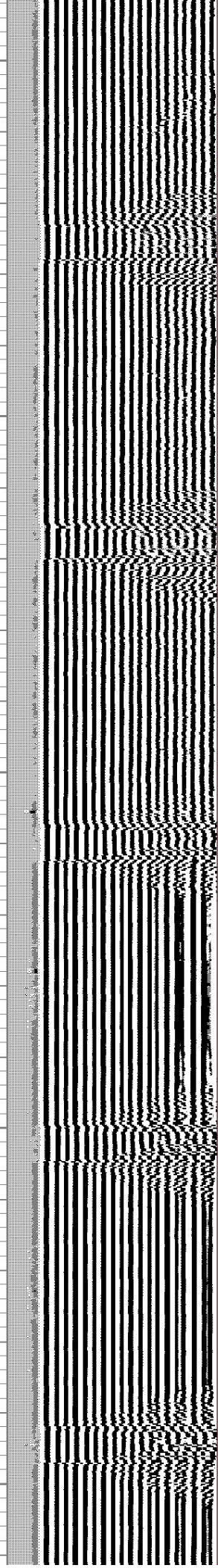
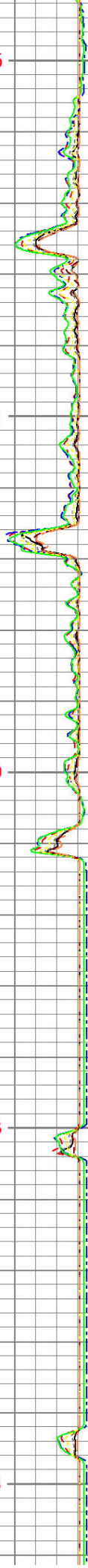


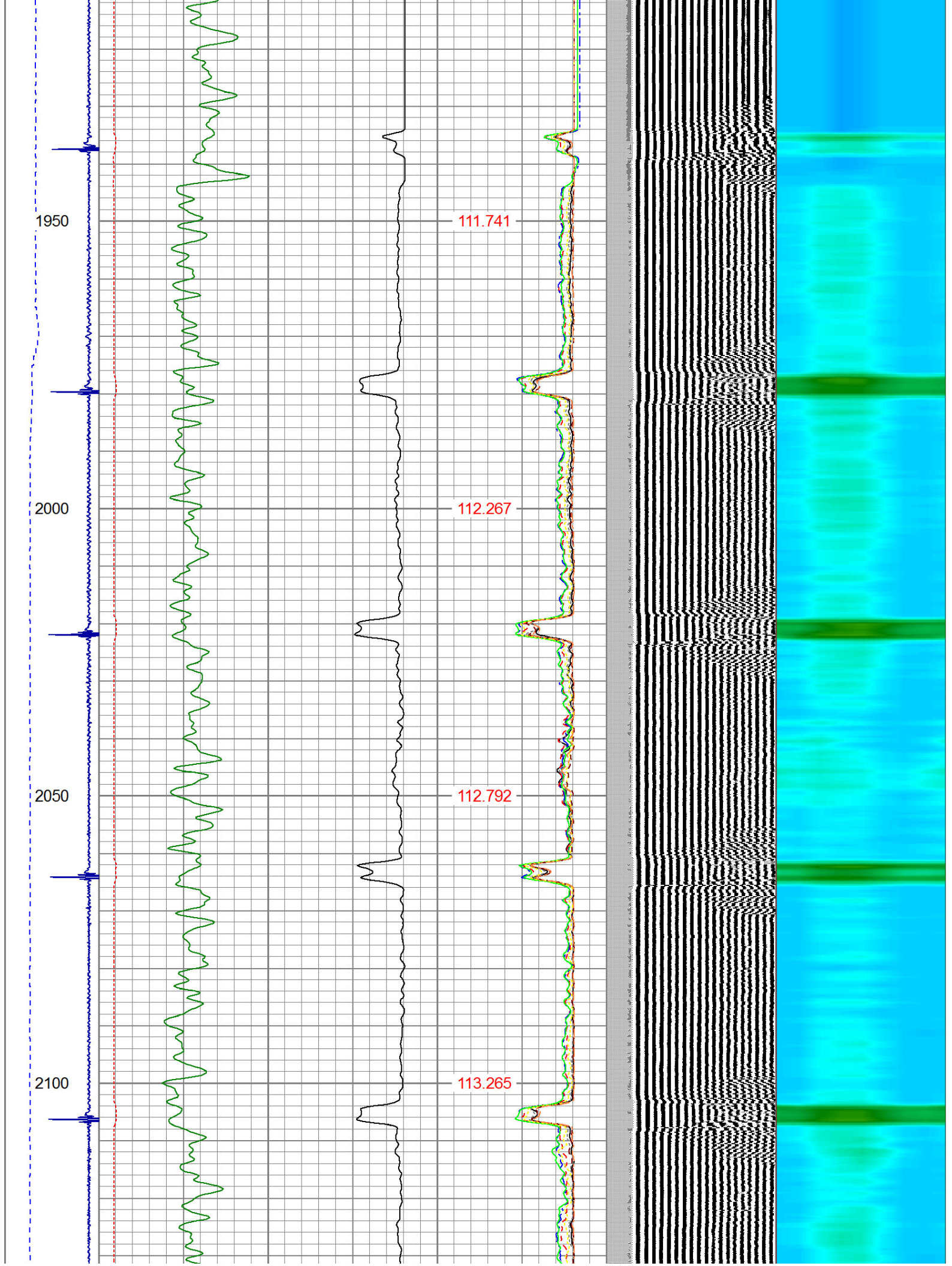


1700
1750
1800
1850
1900



108.745
109.491
110.099
110.753
111.253





2150

113.558

2200

113.809

2250

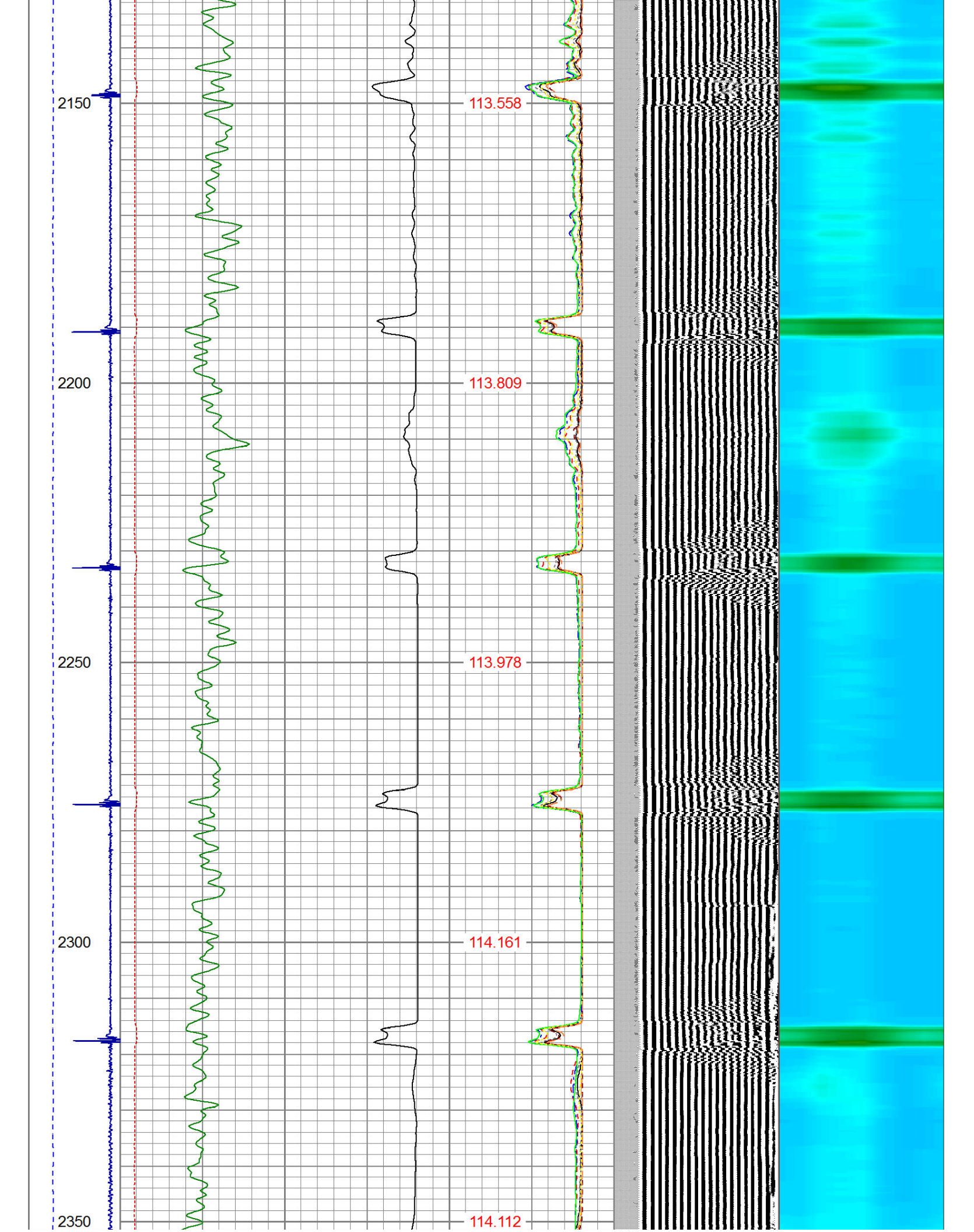
113.978

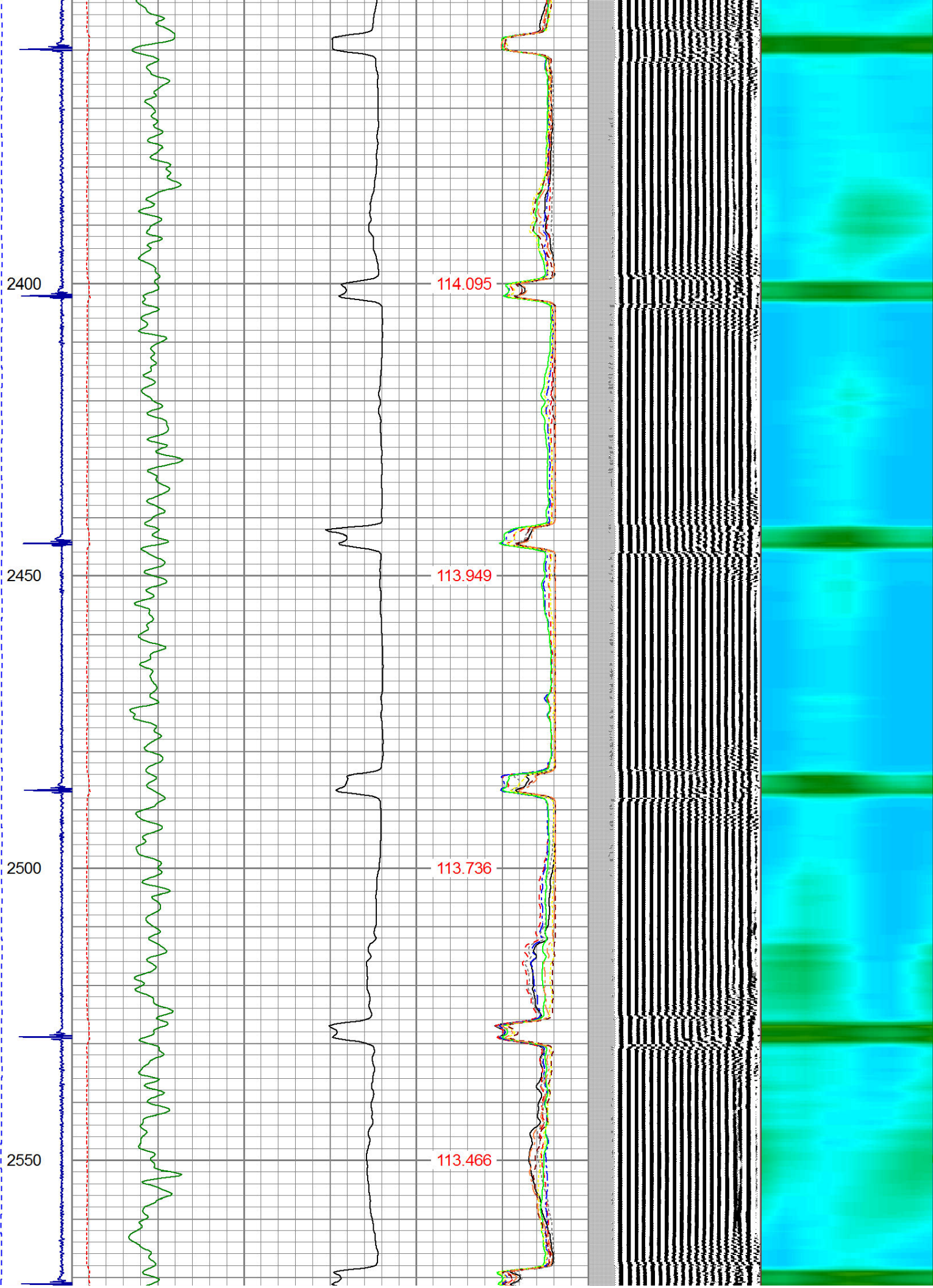
2300

114.161

2350

114.112





2600

2650

2700

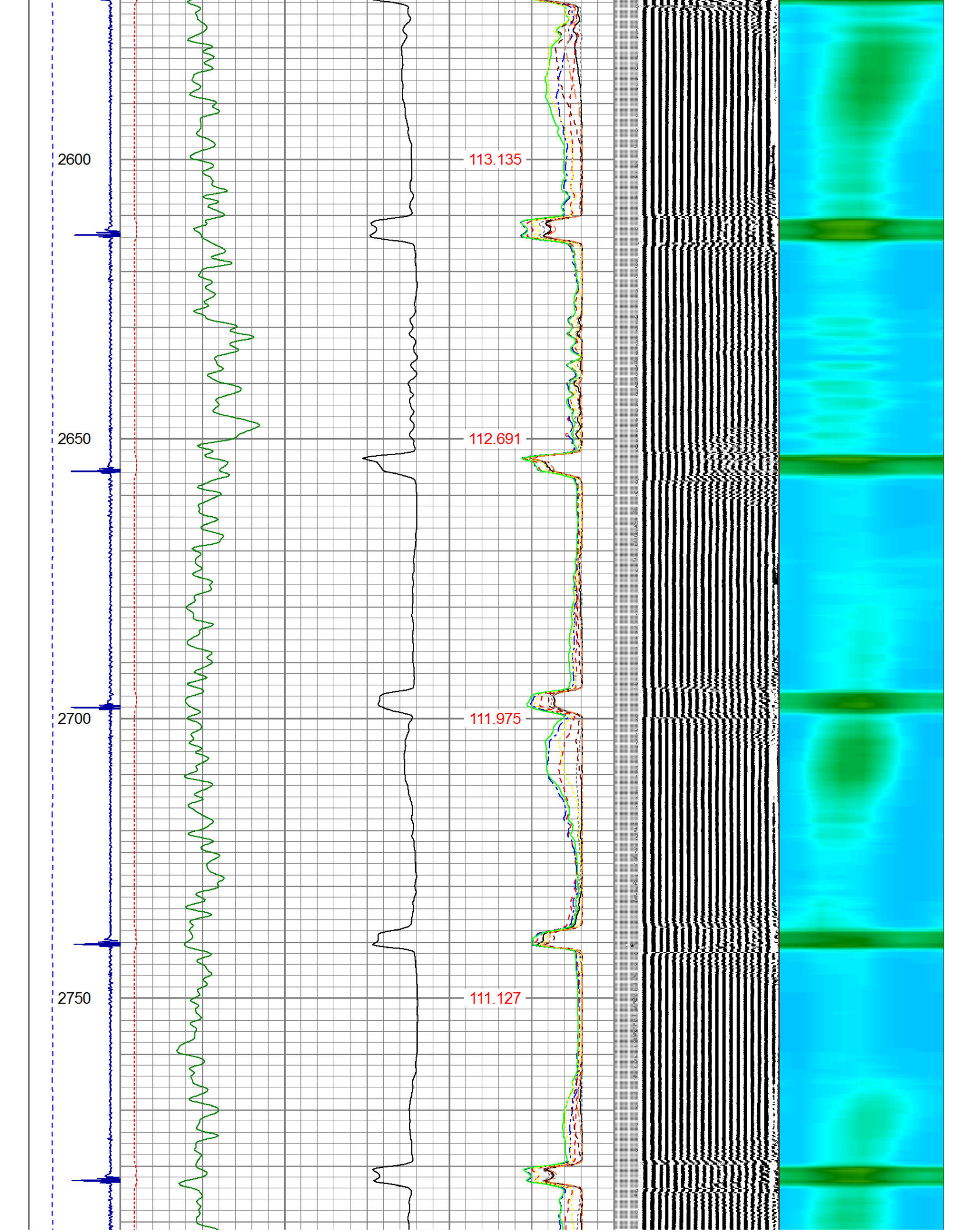
2750

113.135

112.691

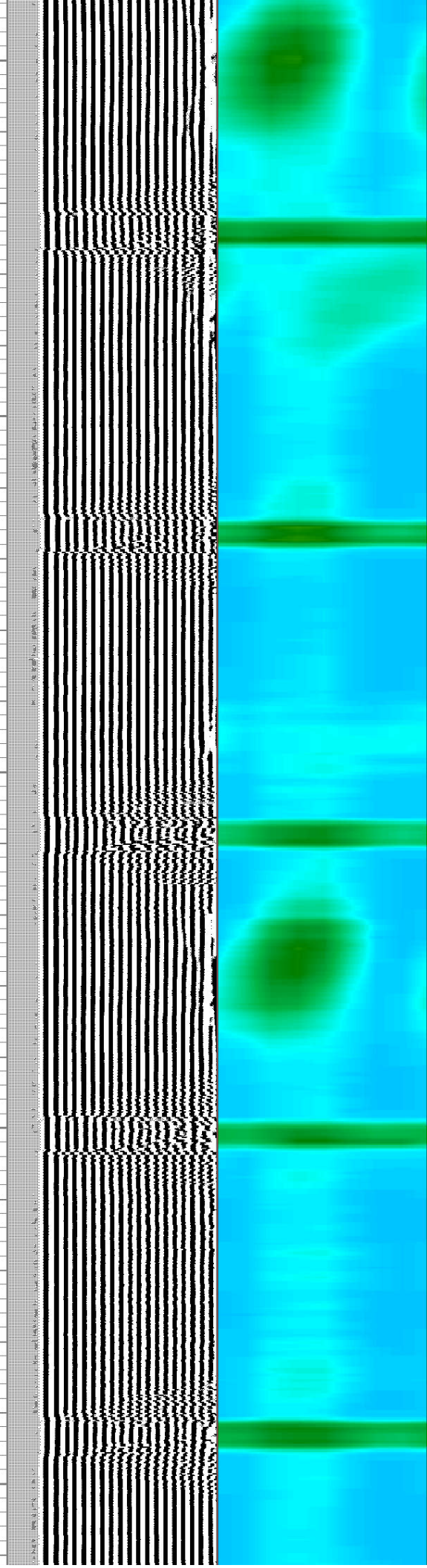
111.975

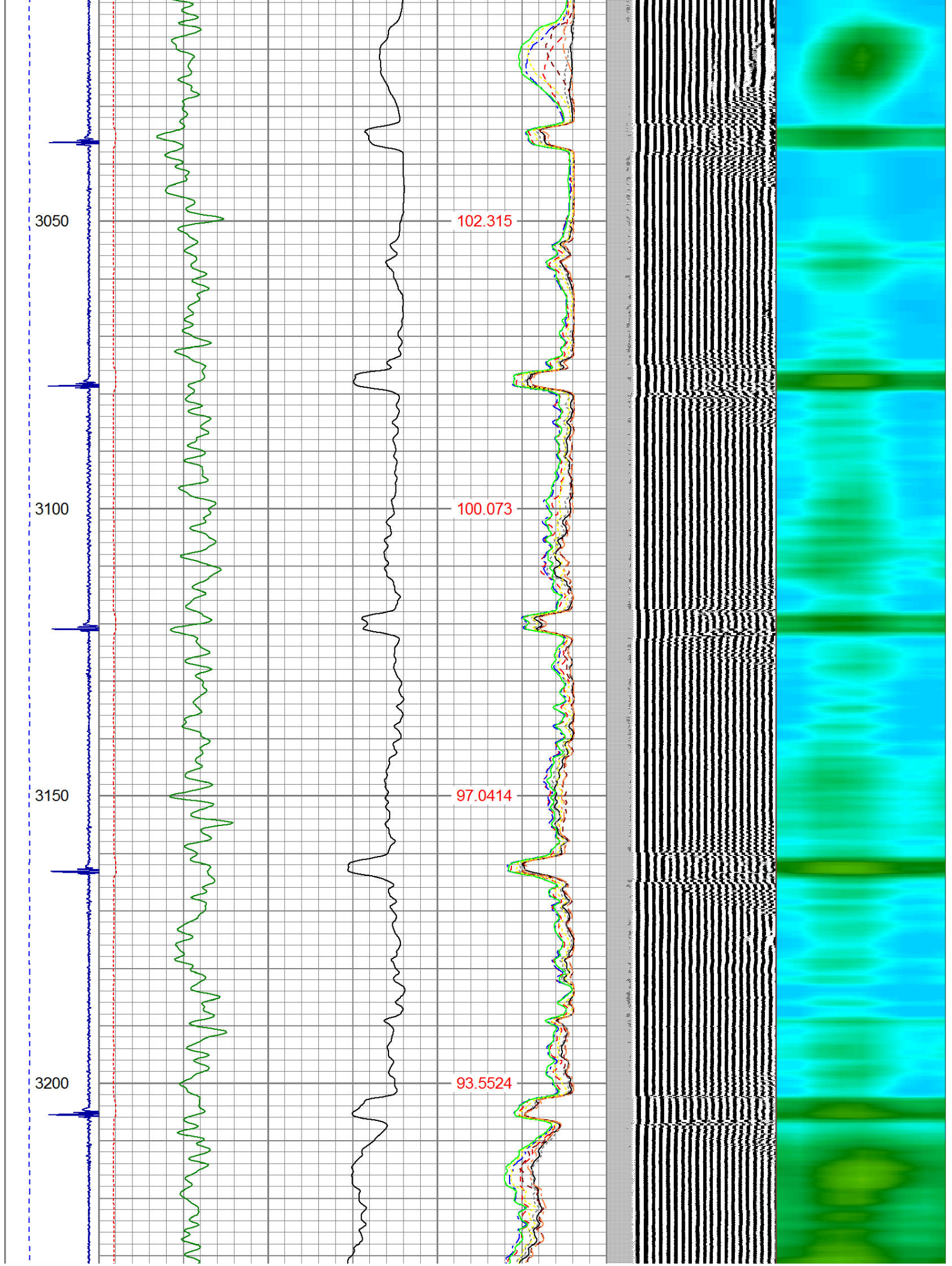
111.127

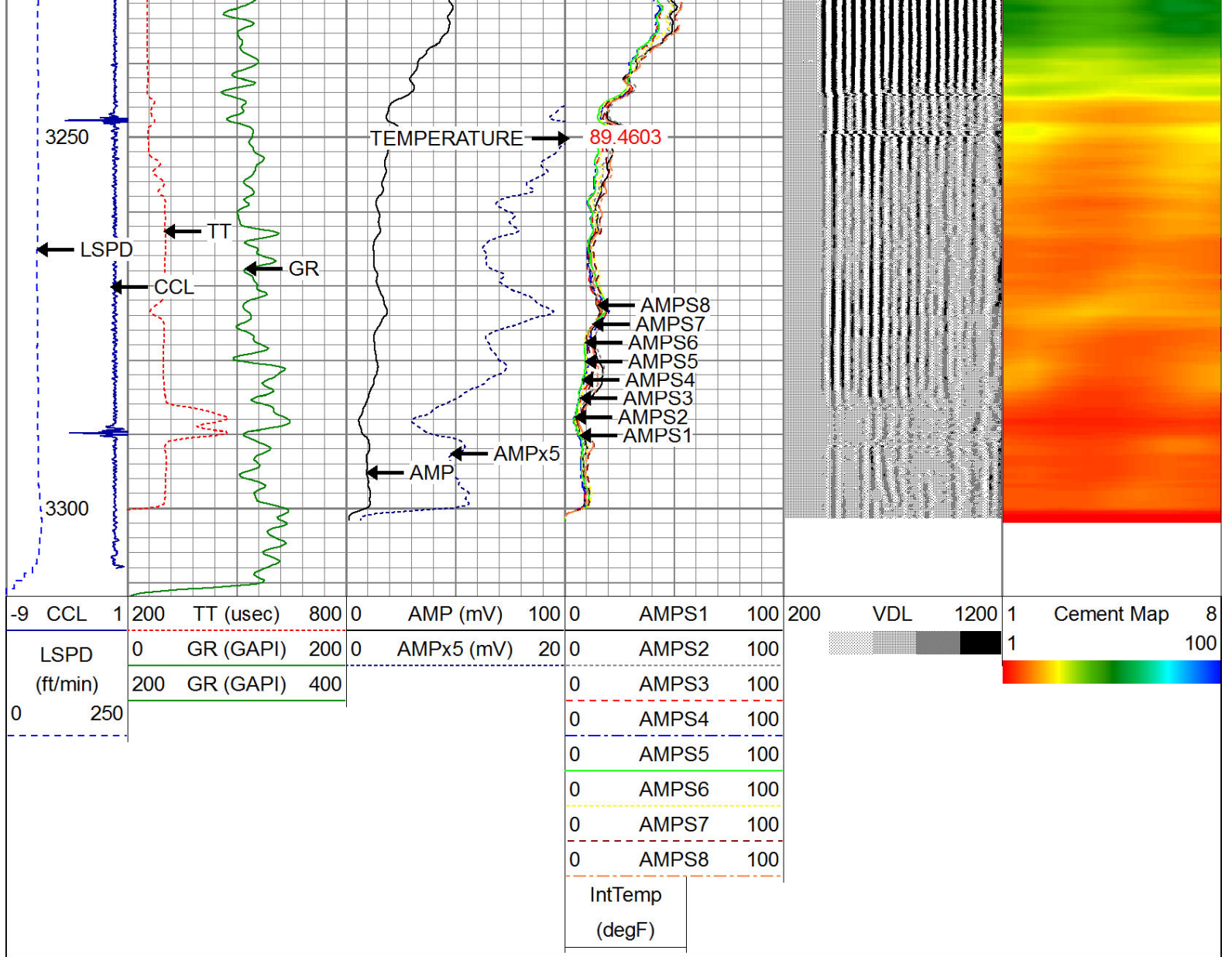


2800
2850
2900
2950
3000

110.257
109.067
107.716
106.135
104.211







Calibration Report			
Database File:	davis state 20-16.db		
Dataset Pathname:	pass3		
Dataset Creation:	Tue Nov 17 07:44:14 2015 by Log Std Casedhole 09061		
Gamma Ray Calibration Report			
Serial Number:	275		
Tool Model:	Probe		
Performed:	Wed Nov 06 11:09:15 2013		
Calibrator Value:	100.0	GAPI	
Background Reading:	35.0	cps	
Calibrator Reading:	160.0	cps	
Sensitivity:	0.9000	GAPI/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:	331.008	ft

Master Calibration, performed Tue Nov 17 07:37:48 2015:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.003	2.500	1.500	81.196	31.923	1.389
CAL	1.039	2.500				
5'	0.004	2.403	1.500	81.196	33.216	1.372
SUM						
S1	0.002	2.500	0.500	81.000	32.230	0.424
S2	0.006	2.500	0.500	81.000	32.272	0.321
S3	0.004	2.492	0.500	81.000	32.364	0.357
S4	0.004	2.397	0.500	81.000	33.646	0.350
S5	0.005	2.437	0.500	81.000	33.100	0.325
S6	0.006	2.500	0.500	81.000	32.273	0.317
S7	0.006	2.500	0.500	81.000	32.280	0.301
S8	0.004	2.500	0.500	81.000	32.256	0.360

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	1.039	2.500	1.000	0.000

Air Zero Calibration, performed Tue Nov 17 07:34:07 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

 <div> <h1>WARRIOR</h1> <h2>ENERGY SERVICES</h2> </div>	<p>Company Kerr McGee Oil & Gas</p> <p>Well DAVIS STATE 20-16</p> <p>Field Wattenberg</p> <p>County Weld</p> <p>State CO</p>
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