



RADIAL CEMENT BOND
GAMMA RAY
CCL

Company KERR MCGEE OIL AND GAS
Well HALE 21-13
Field WATTENBERG
County WELD State CO

Location: SHL 1641' FNL & 1654' FEL SW/NE
API # : 05-123-26959
Other Services
SEC 13 TWP 3N RGE 67W
Permanent Datum GL Elevation 4799'
Log Measured From KB 12'
Drilling Measured From KB
Elevation K.B. 4811'
D.F. 4810'
G.L. 4799'

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Date 8-7-2014

Run Number ONE
Depth Driller 7575'
Depth Logger 1620'
Bottom Logged Interval 1617'
Top Log Interval 565'
Open Hole Size 7.875
Type Fluid WATER
Density / Viscosity 1.0
Max. Recorded Temp. 93 DEG F
Estimated Cement Top 745'
Time Well Ready N/A
Time Logger on Bottom N/A
Equipment Number 4310
Location GREELEY
Recorded By N. BREHMER
Witnessed By M. VANDAGRIF

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8.63	24#	SURFACE	810'
Prot. String				
Production String	4.5	11.6#	SURFACE	7562'
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.

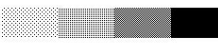

Comments

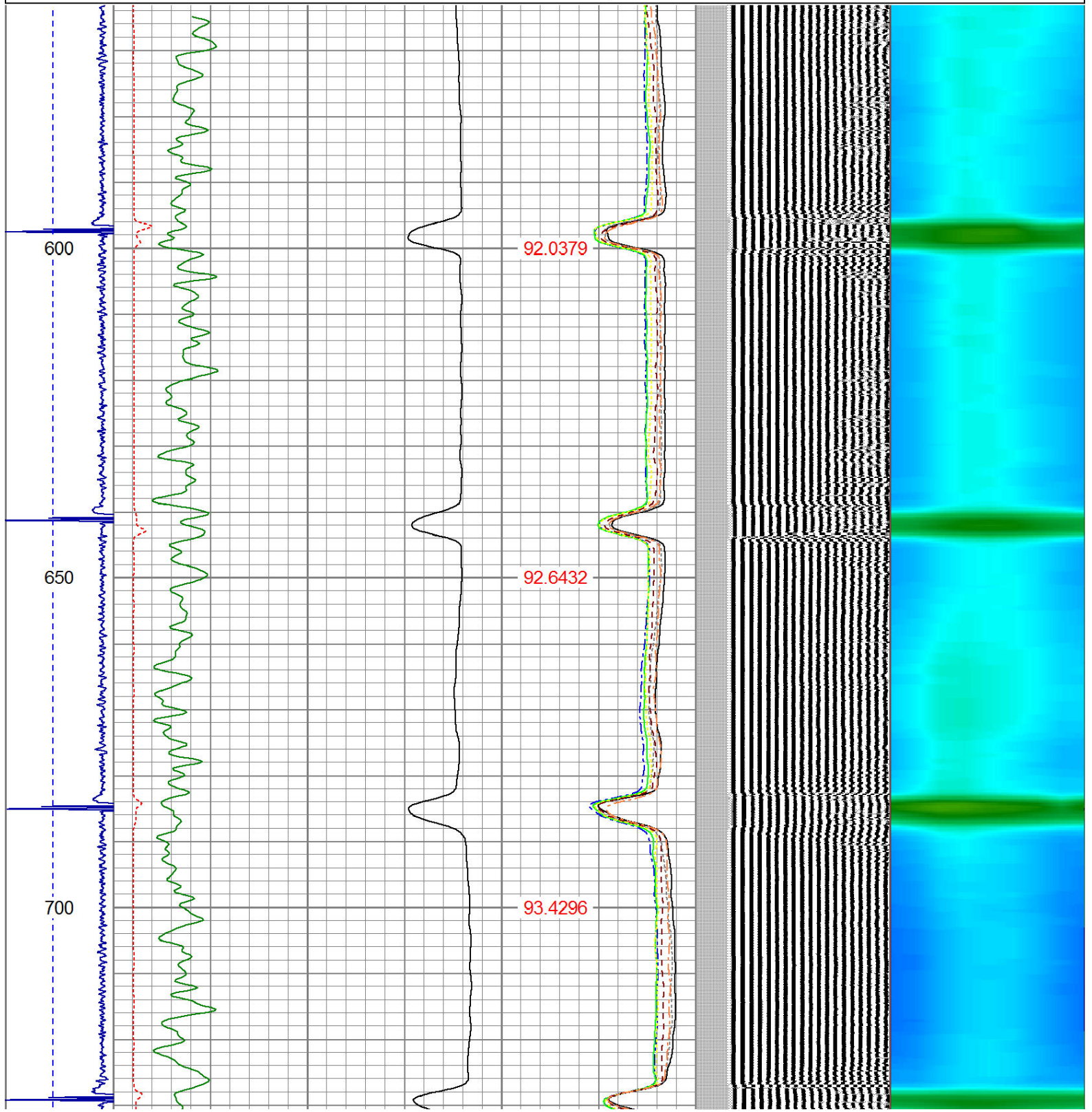
RAN CBL TO VERIFY CEMENT BOND

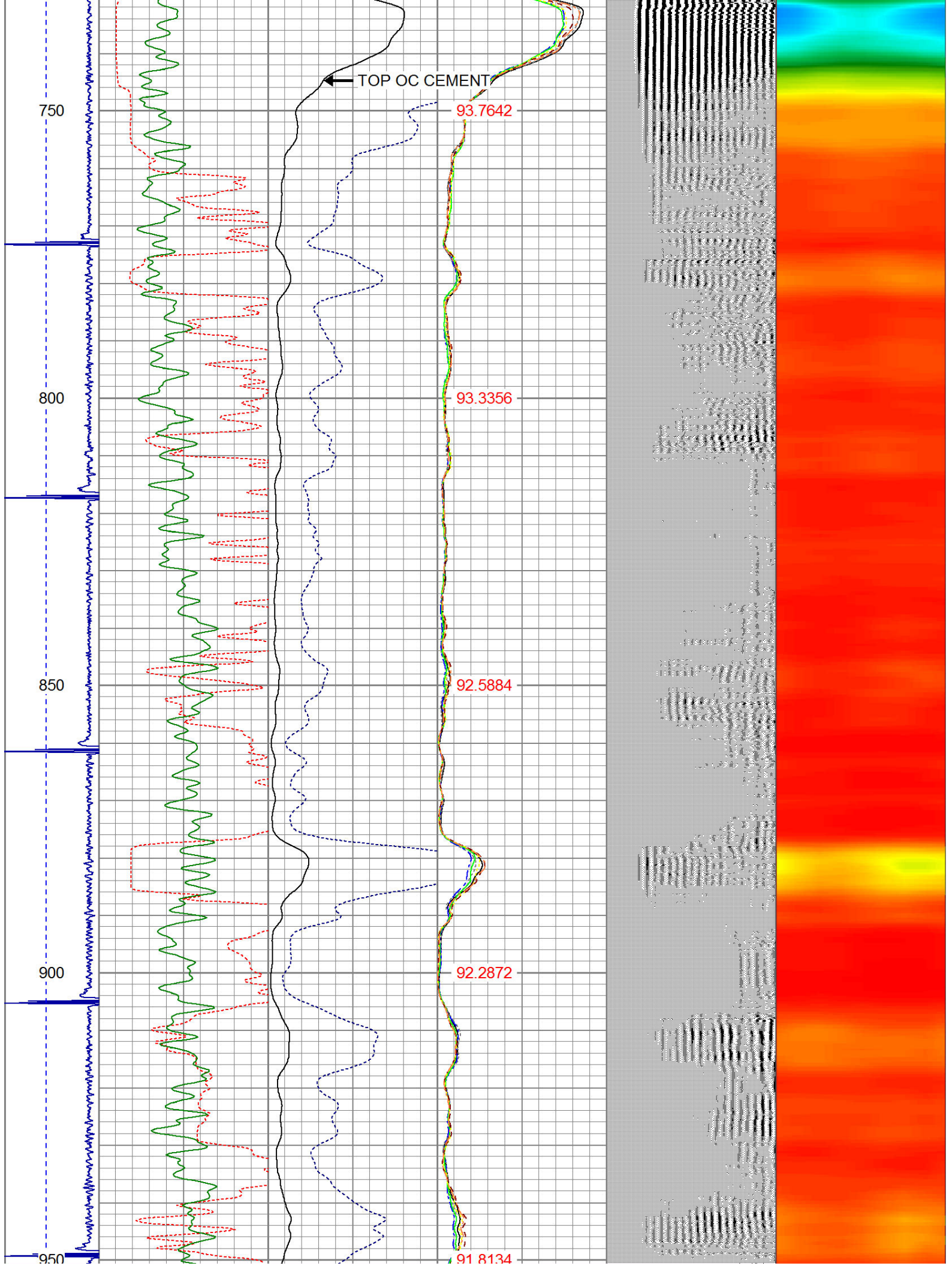
THANK YOU FOR USING WARRIOR !!!!!!!

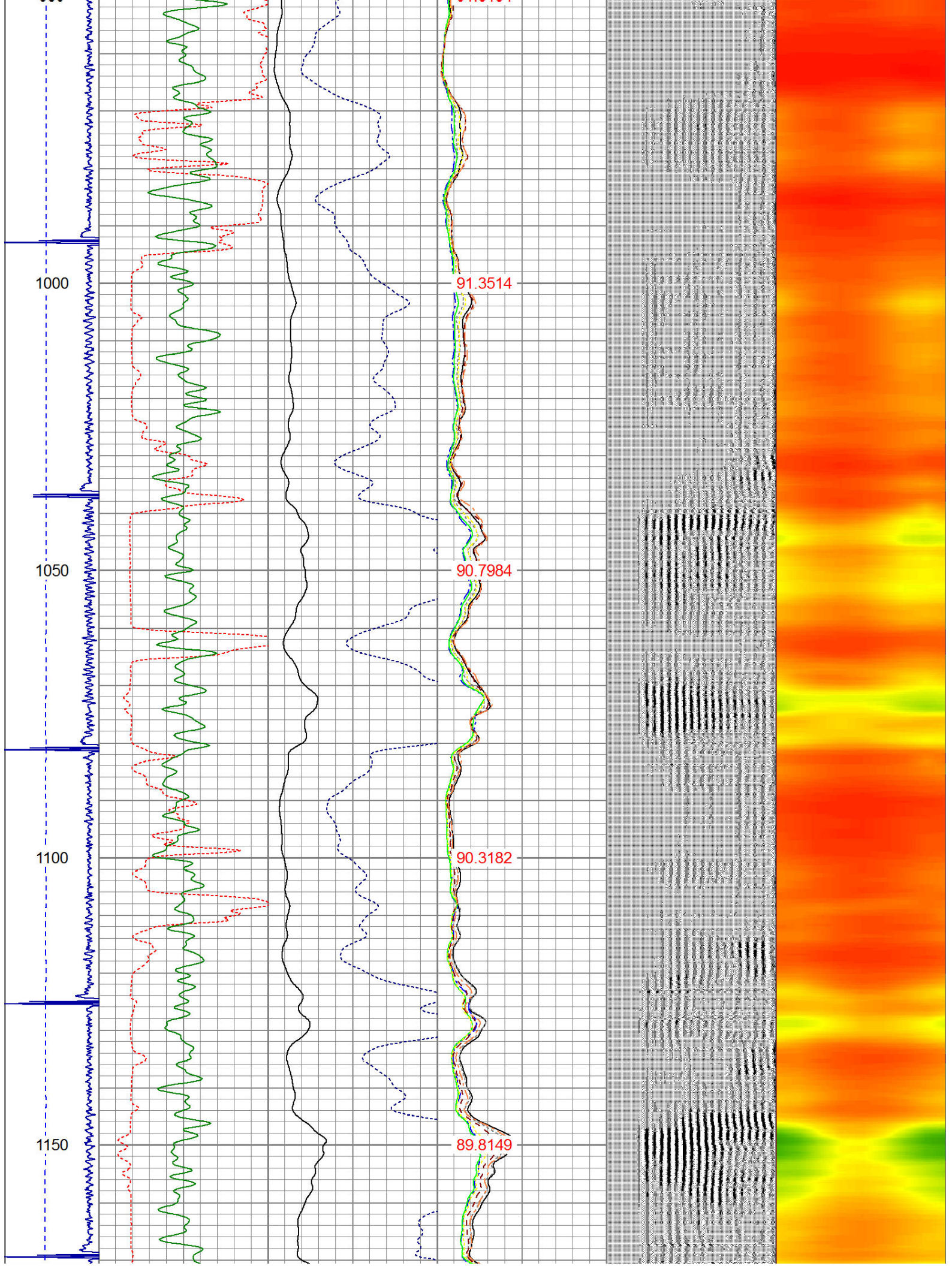
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)

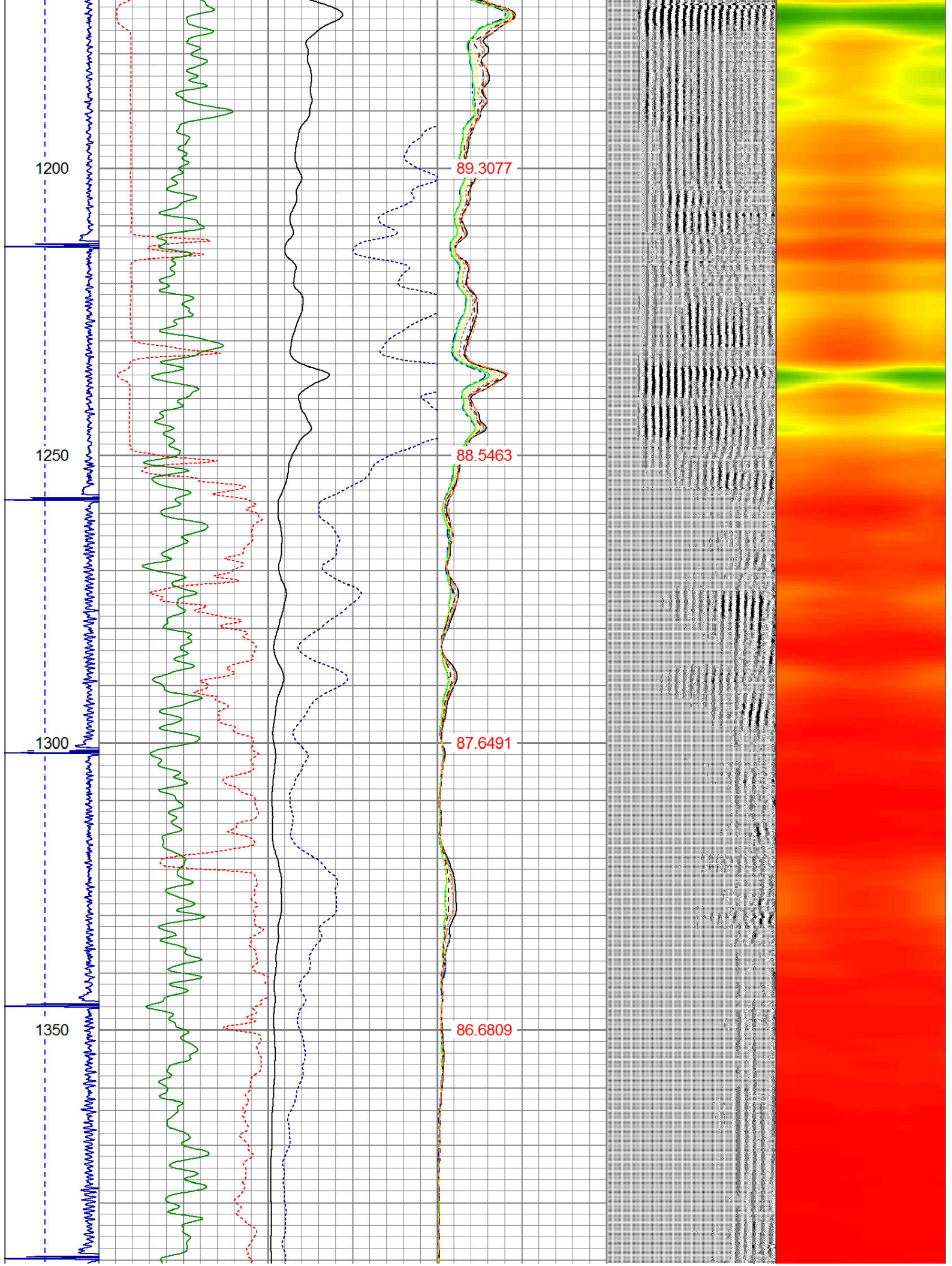
CNLSC	17.75		CNT-Probe_B (275) 6 bow centralizer	3.00	2.75	40.00
CNSSC	16.92					
HEADVOLT	16.08					
IntTemp	14.67					
WVF3FT	11.42					
WVFCAL	11.42					
WVFS1	11.42					
WVFS2	11.42					
WVFS3	11.42					
WVFS4	11.42					
WVFS5	11.42					
WVFS6	11.42					
WVFS7	11.42					
WVFS8	11.42					
WVF5FT	10.42					
			RBT-Probe (Base) Probe Radii Bond Tool with Digital Telemetry	8.92	2.75	90.00
			PTS275	2.83	2.75	
CCL	3.64					
			GR-Probe (275) Probe 2.75"	4.33	2.75	30.00
GR	0.90					
Dataset: hale 21-13.db: field/well/run1/pass2 Total Length: 19.08 ft Total Weight: 160.00 lb O.D. 2.75 in						

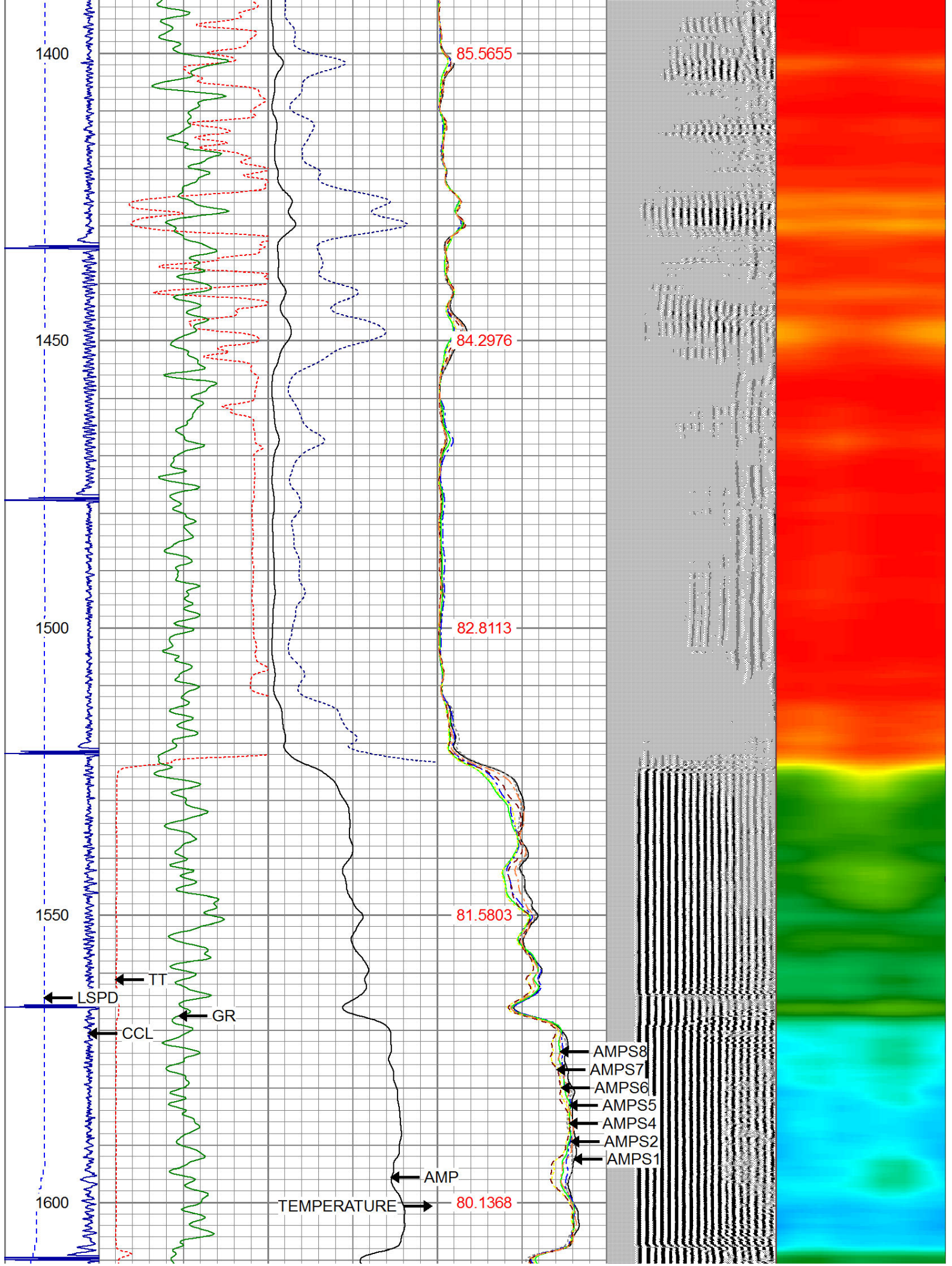
-9	CCL	1	200	TT (usec)	800	0	AMP (mV)	100	0	AMPS1	100	200	VDL	1200	1	Cement Map	8
LSPD (ft/min)	0	250	0	GR (GAPI)	200	0	AMPx5 (mV)	20	0	AMPS2	100		1	100			
			200	GR (GAPI)	400				0	AMPS4	100						
									0	AMPS5	100						
									0	AMPS6	100						
									0	AMPS7	100						
									0	AMPS8	100	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

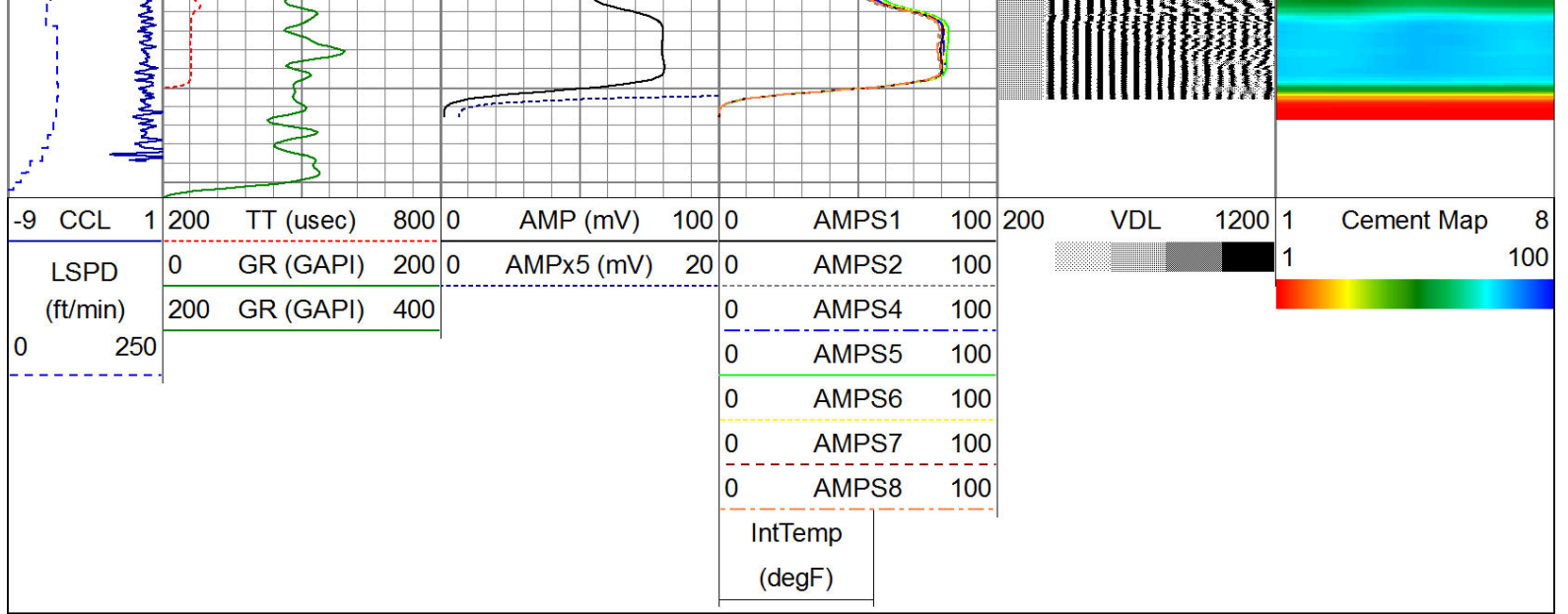












WARRIOR
ENERGY SERVICES

Company KERR McGEE OIL AND GAS

Well HALE 21-13

Field WATTENBERG

County WELD

State CO