

**RADIAL CEMENT BOND
GAMMA RAY
CCL**

Company KERR McGEE OIL AND GAS
Well HSR-HOWARD 15-11
Field WATTENBERG
County WELD State CO

Location: API #: 05-123-15682
SW/SE

LAT : 40.23370 & LONG : -104.74150

SEC 11 TWP 3N RGE 66W

Permanent Datum	GL	Elevation	4945'
Log Measured From	KB 10'		
Drilling Measured From	KB		

Elevation
K.B. 4955'
D.F. 4954'
G.L. 4945'

Date 06-27-2014

Run Number	ONE
Depth Driller	8006'
Depth Logger	5200'
Bottom Logged Interval	5200'
Top Log Interval	3200'
Open Hole Size	7.875
Type Fluid	WATER
Density / Viscosity	1.0
Max. Recorded Temp.	177 Deg F
Estimated Cement Top	3486'
Time Well Ready	N/A
Time Logger on Bottom	N/A
Equipment Number	4310
Location	GREELEY
Recorded By	M. JANDREAU
Witnessed By	BILL SMITH

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	559
Prot. String				
Production String	4.5	11.6#	SURFACE	7484'
Liner	2.88	6.5#	7435'	8013'

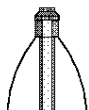
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on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

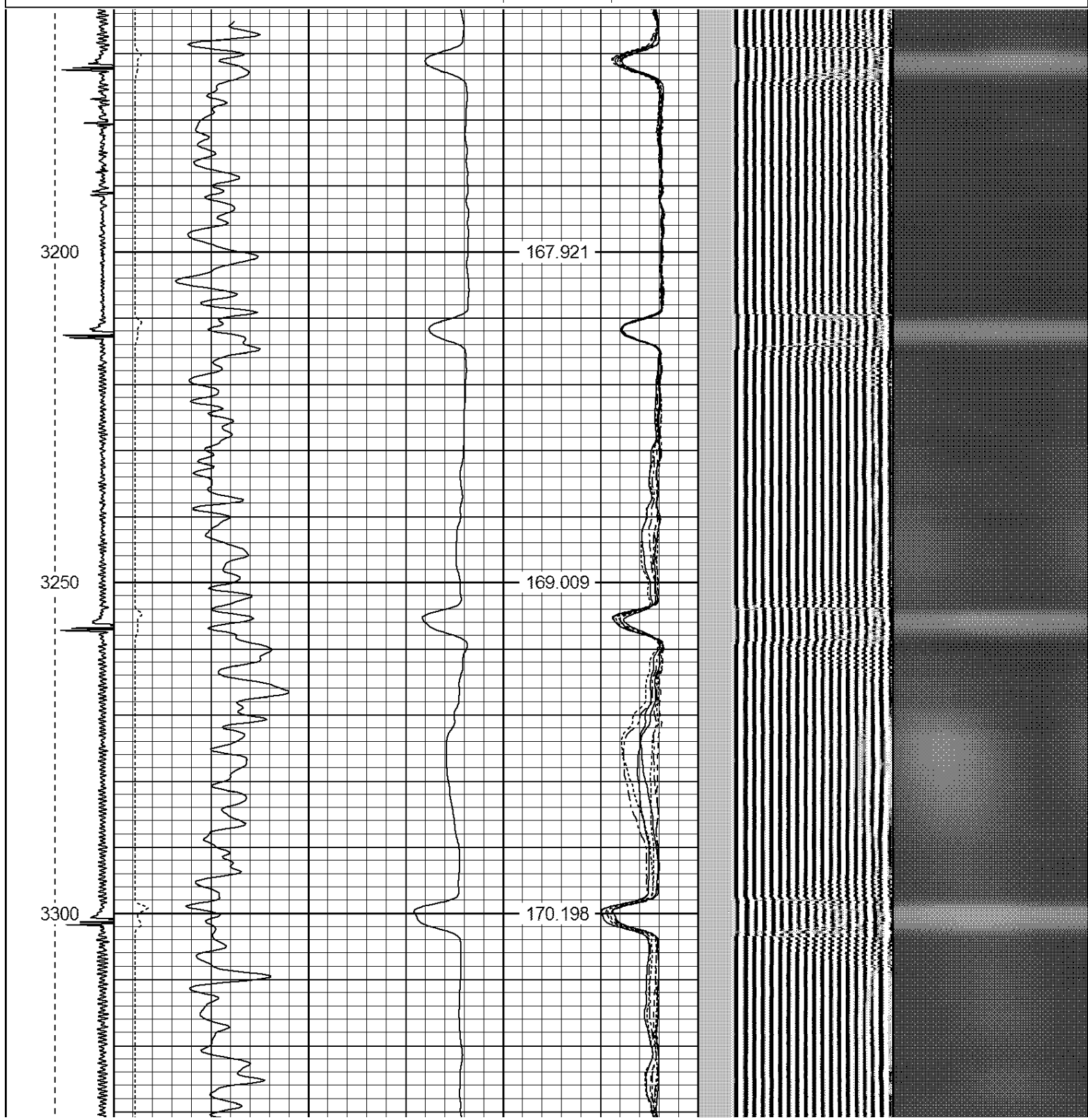
RAN CBL TO VERIFY CEMENT BOND

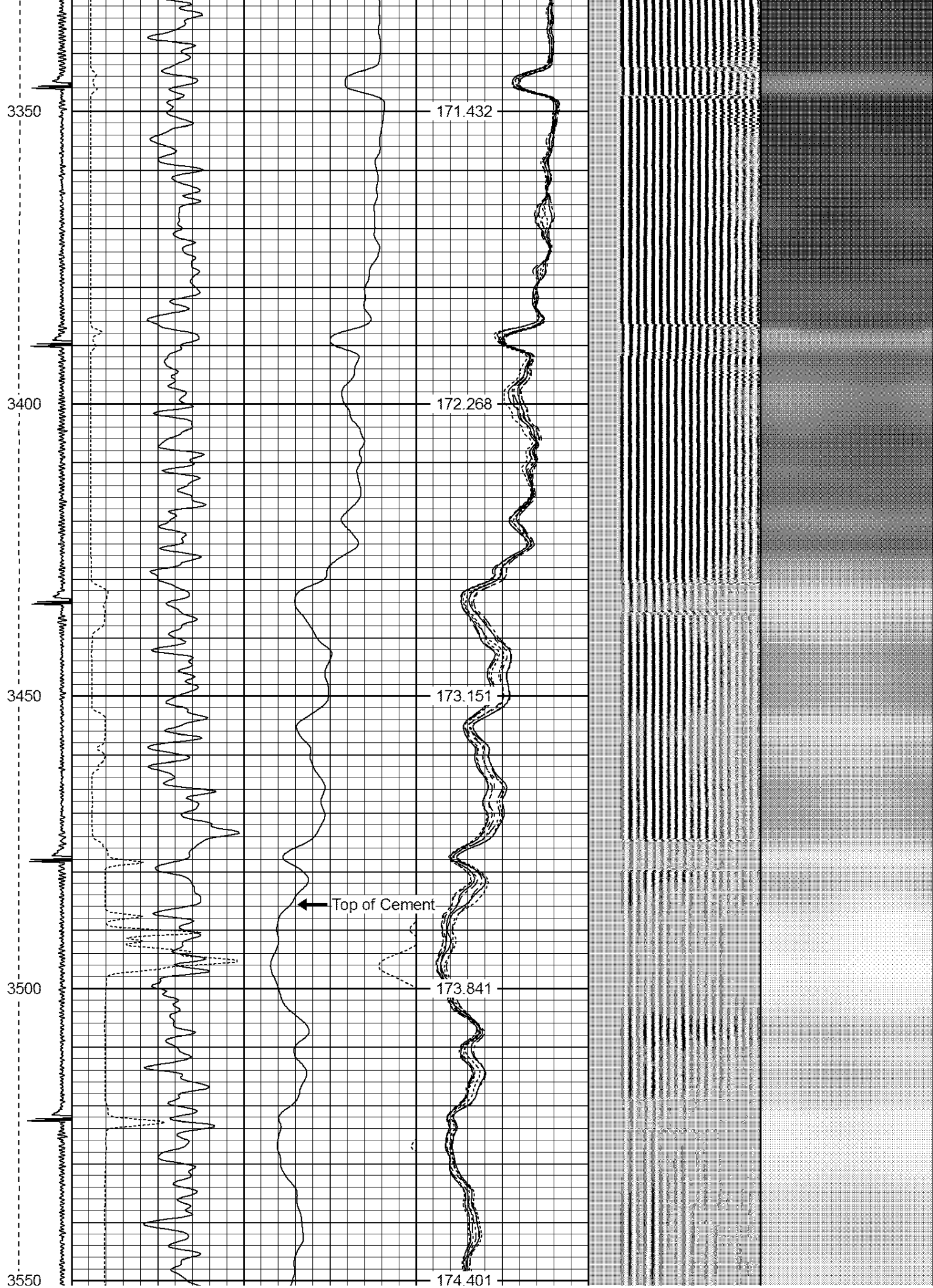
THANK YOU FOR USING WARRIOR !!!!!!!

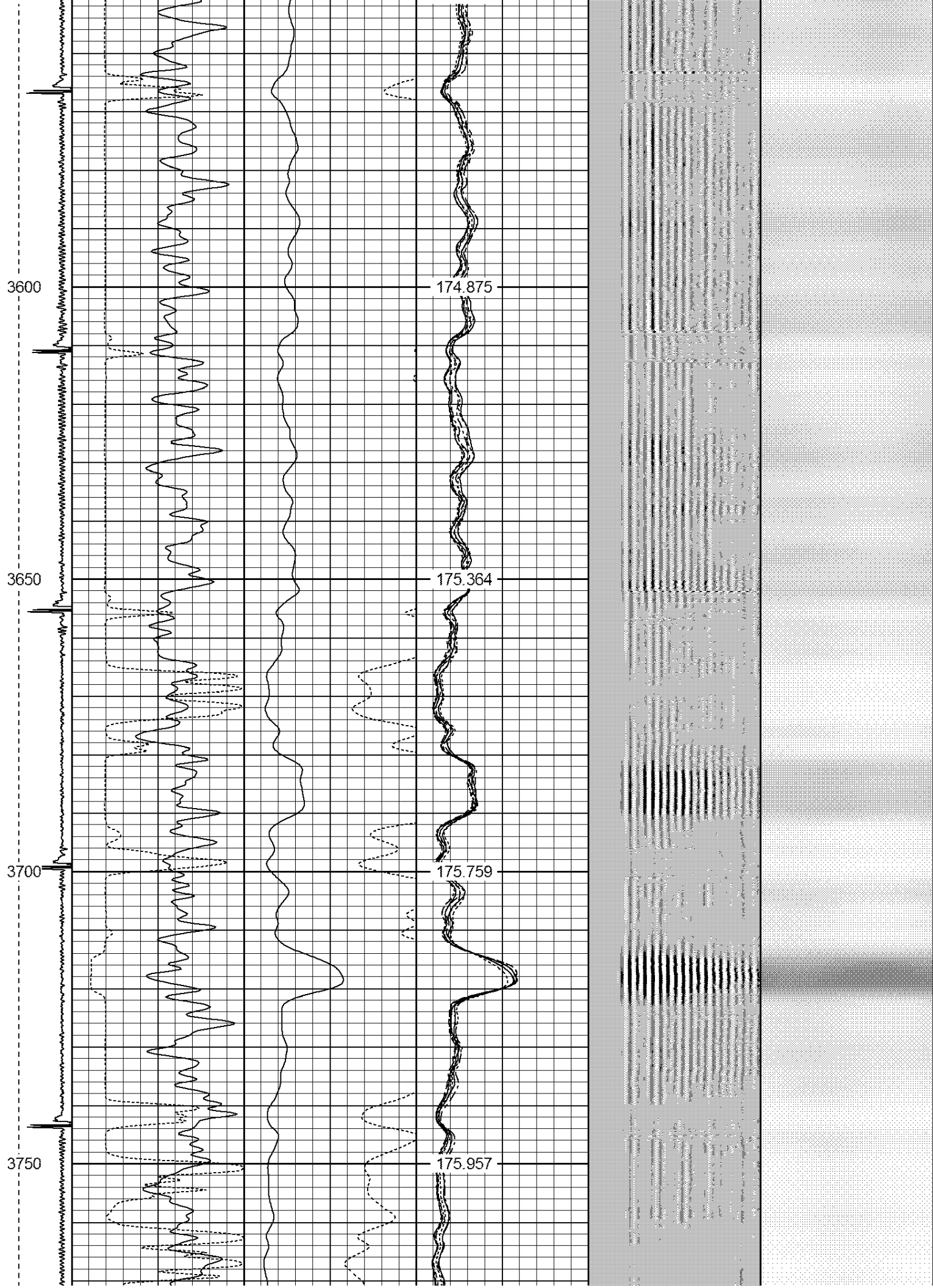
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
						

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		RBT-Probe (Base) Probe Radli Bond Tool with Digital Telemetry	8.92	2.75	90.00
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					
			PTS275	2.83	2.75	
CCL	3.64					
			GR-Probe (275) Probe 2.75"	4.33	2.75	30.00
GR	0.90					
Dataset: hsr howard 15-11.db: field/well/run1/pass3 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			0	GR (GAPI)	200	0	AMPx5 (mV)	20	0	AMPS2	100				1		100
(ft/min)			200	GR (GAPI)	400				0	AMPS4	100						
0	250								0	AMPS5	100						
									0	AMPS6	100						
									0	AMPS7	100						
									0	AMPS8	100						
										IntTemp							
										(degF)							







3800

175.974

3850

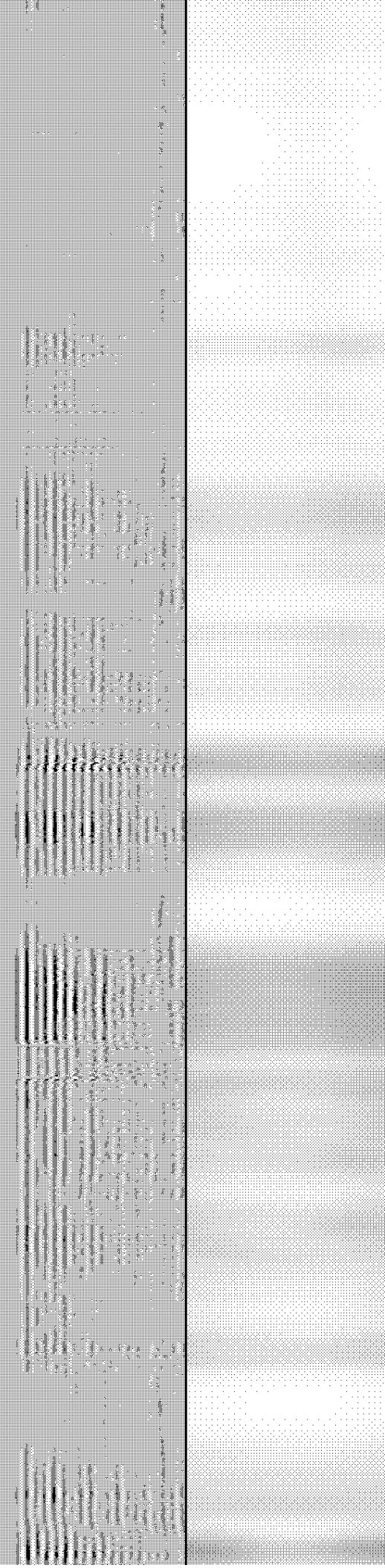
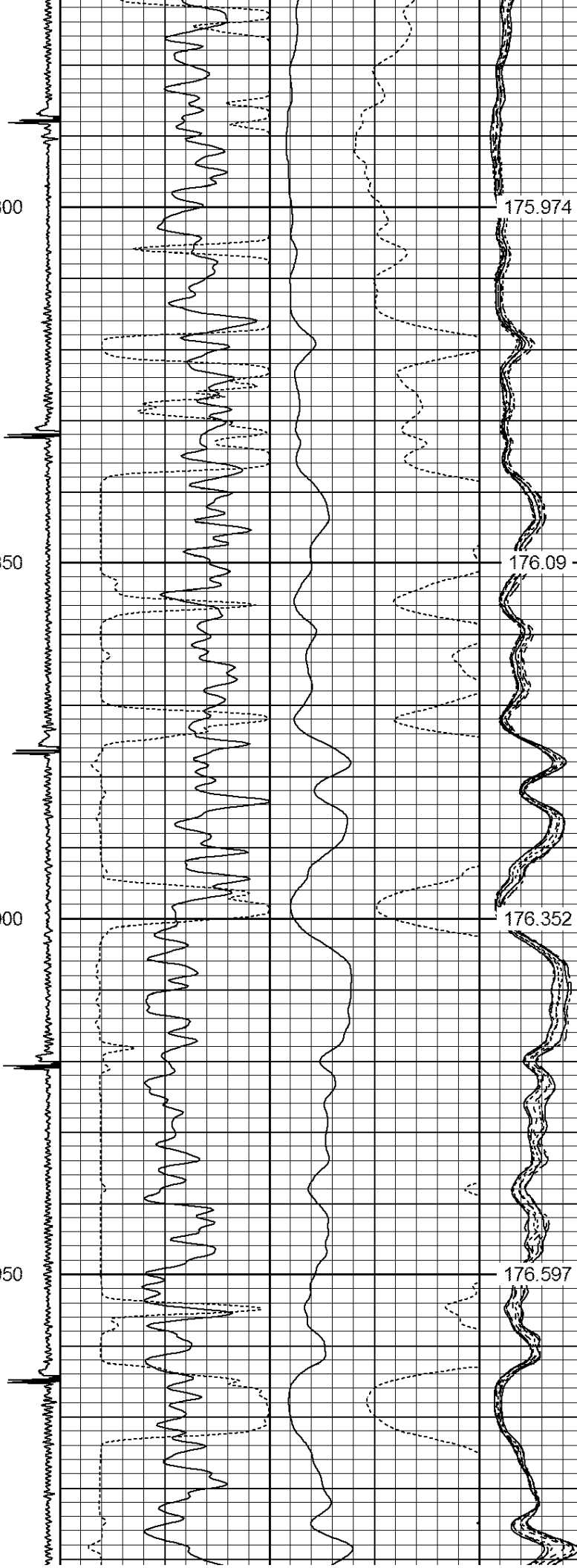
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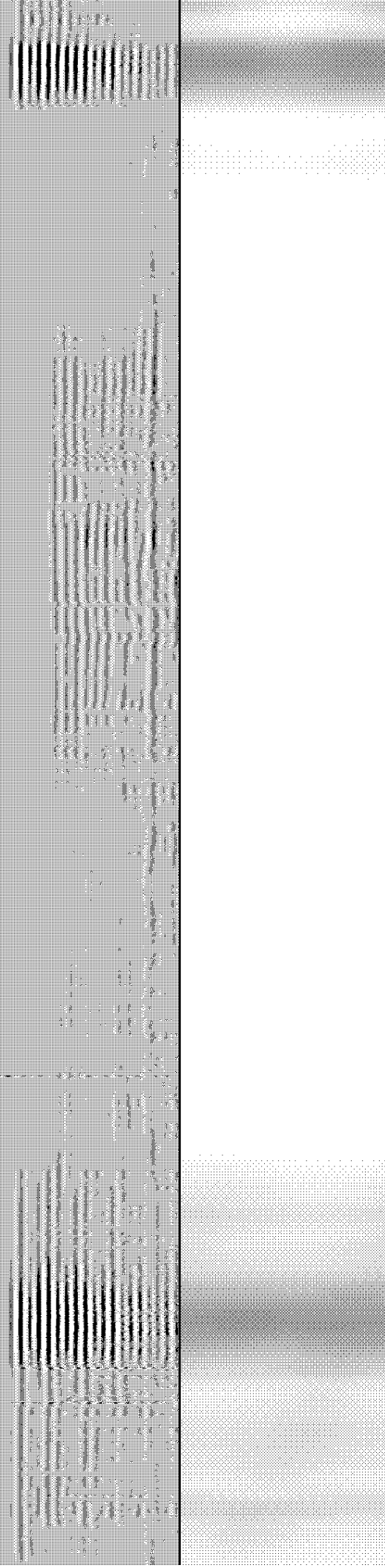
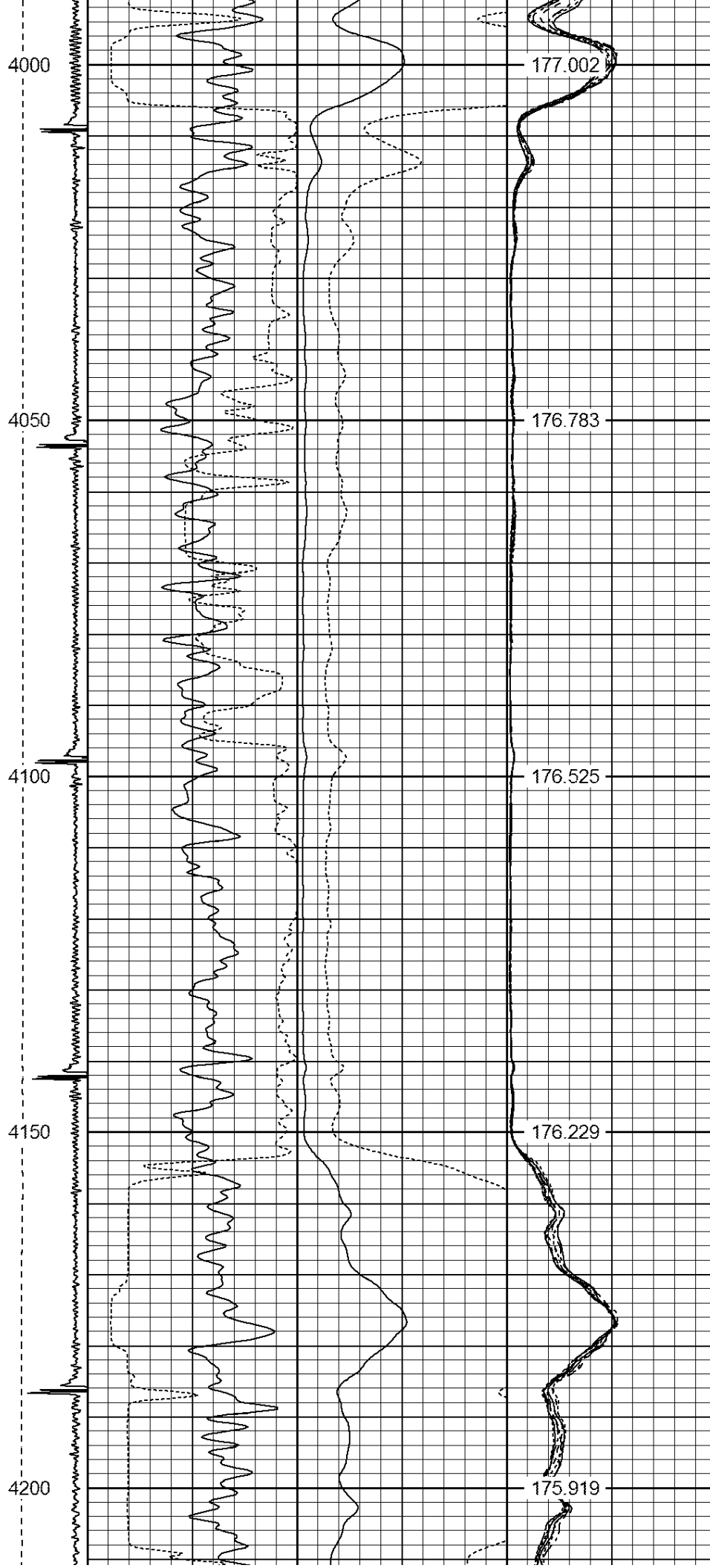
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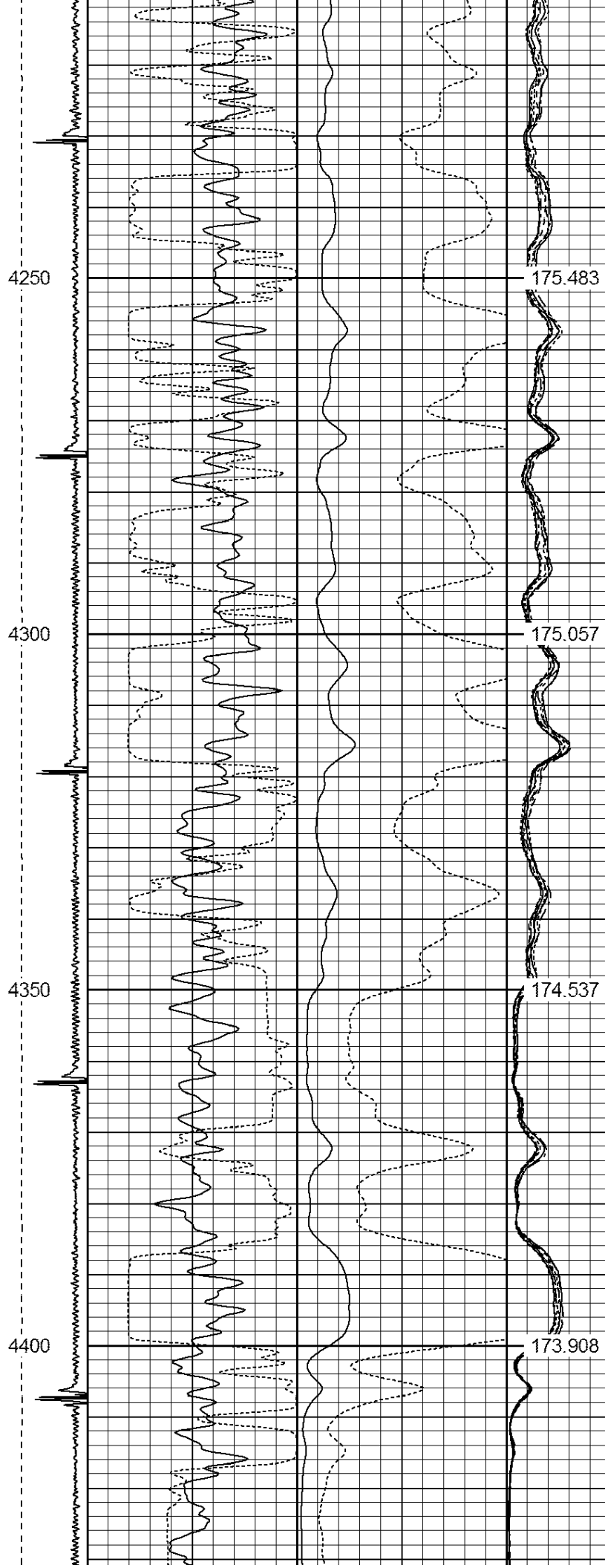
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3950

176.597







4450

173.063

4500

172.062

4550

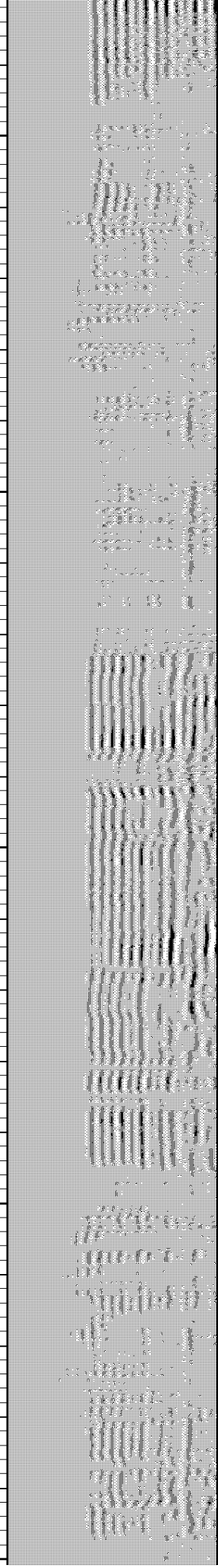
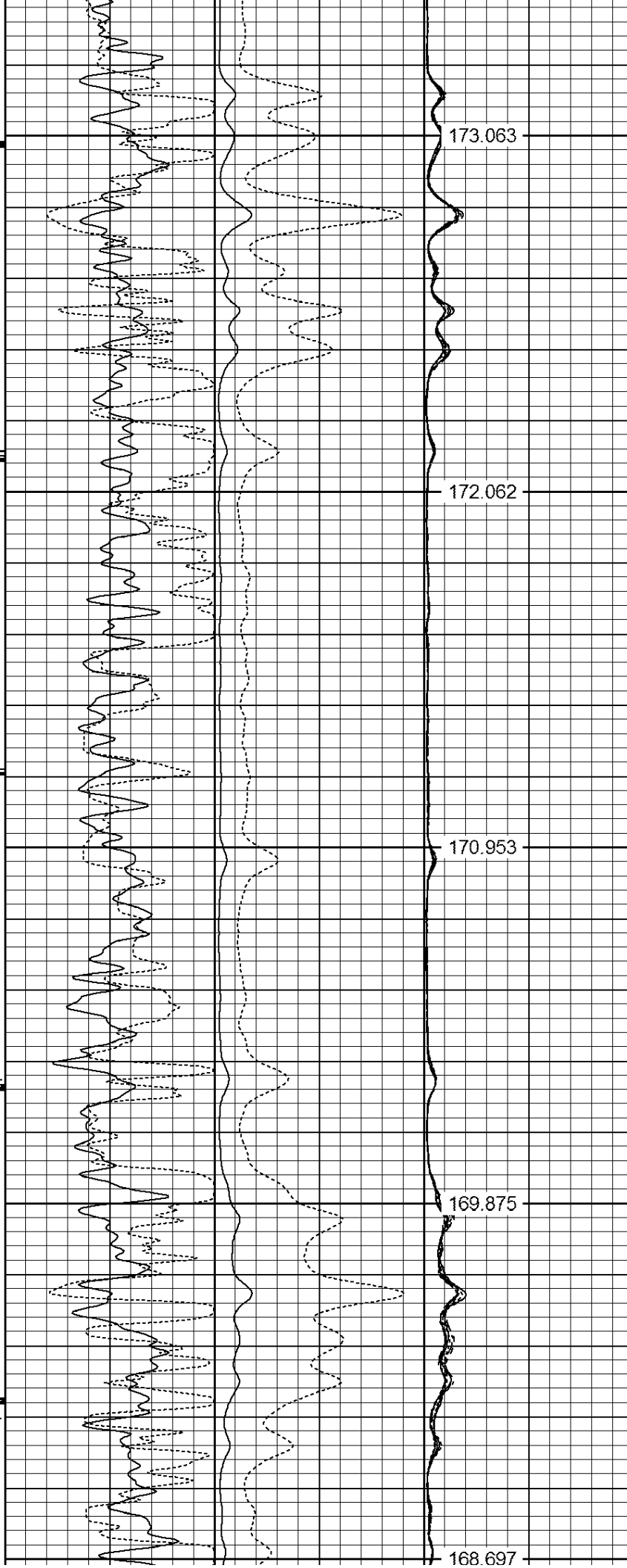
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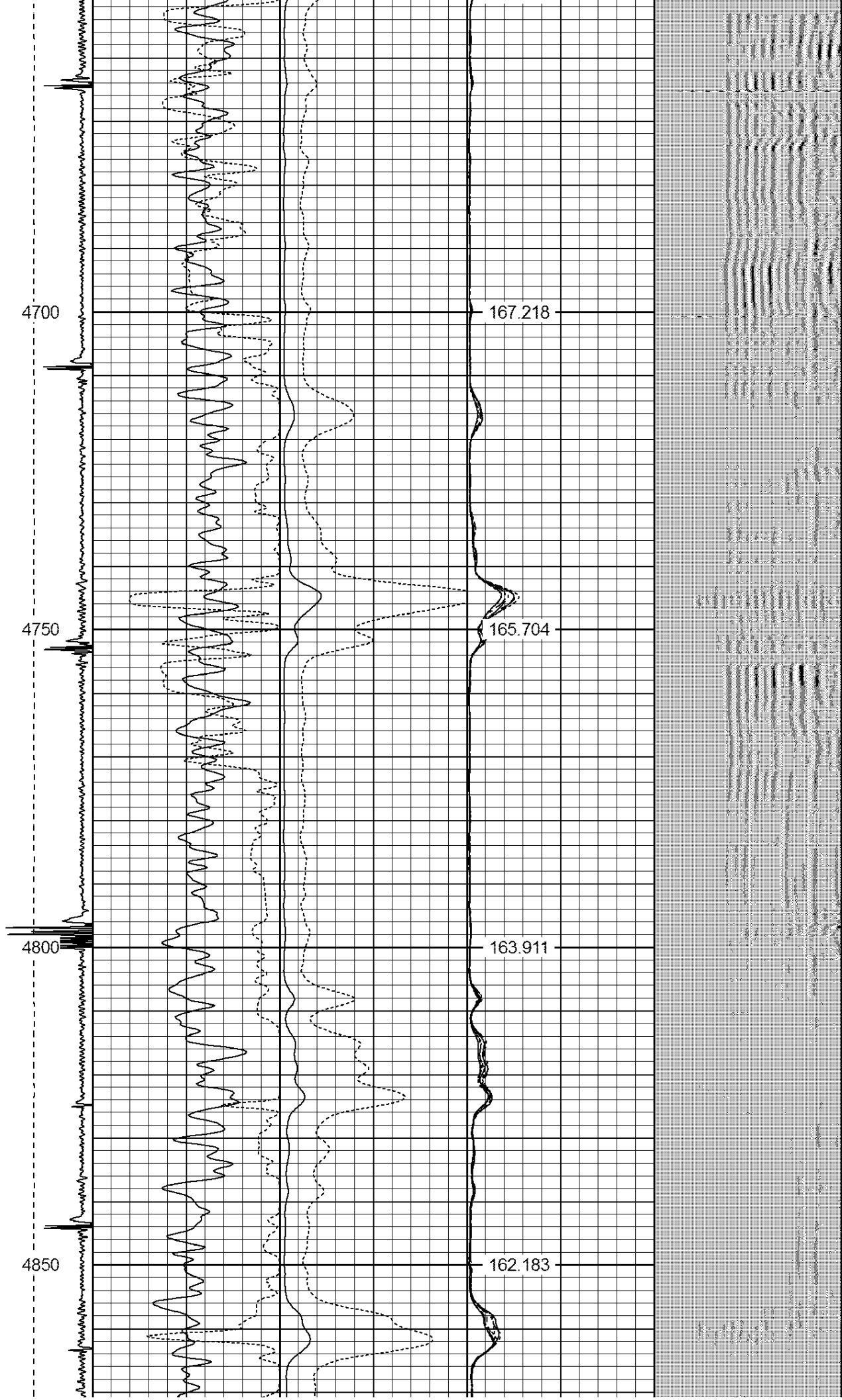
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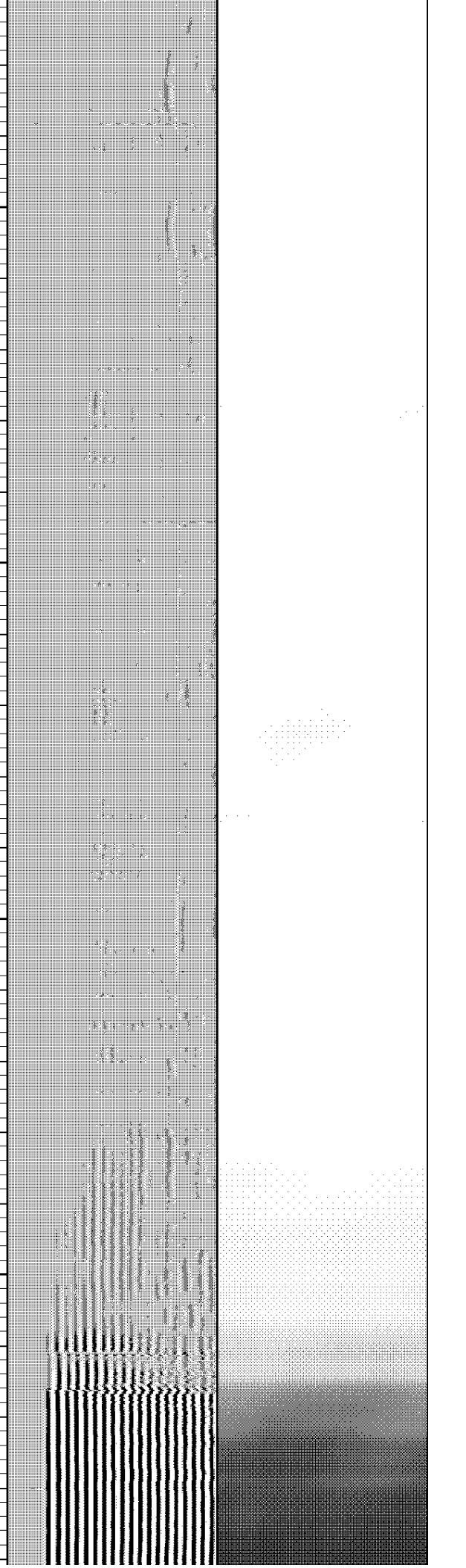
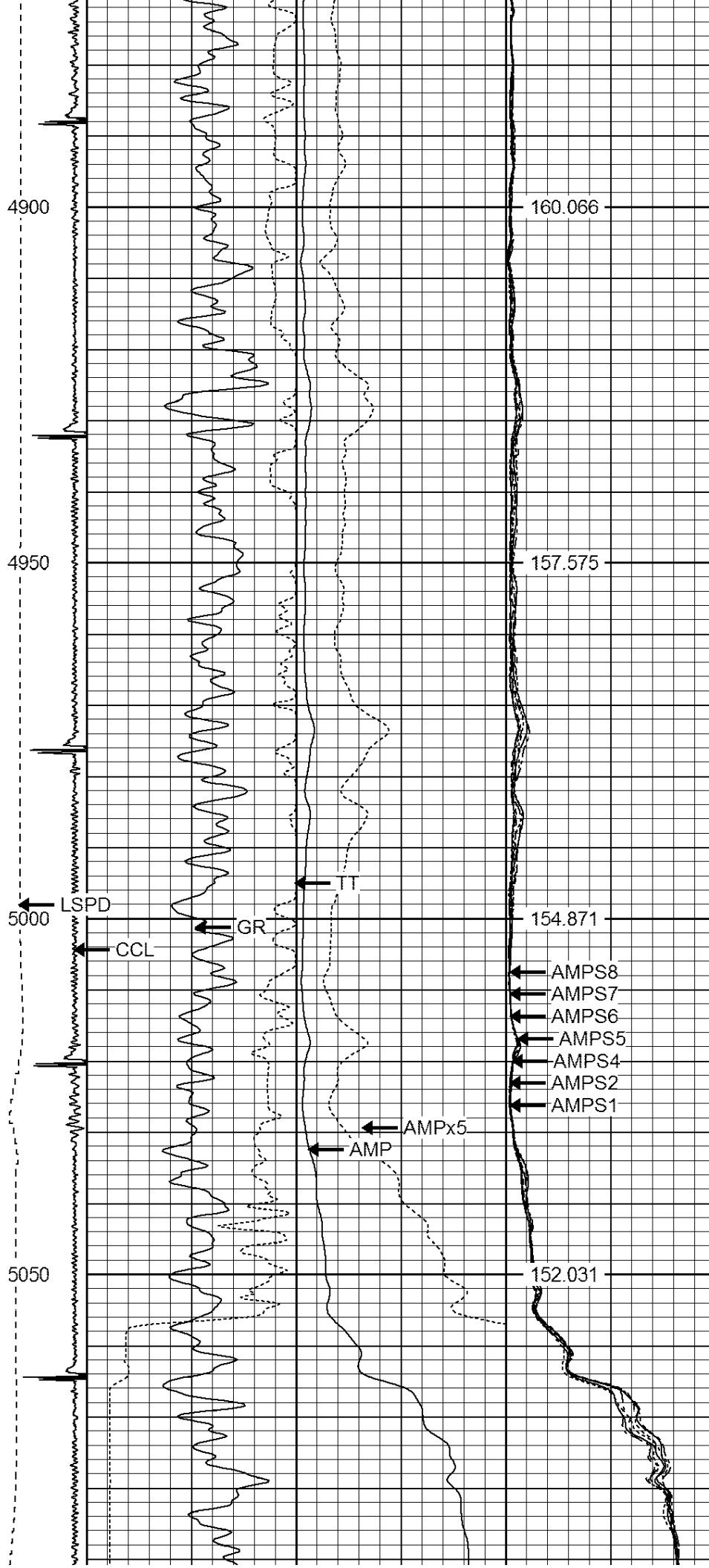
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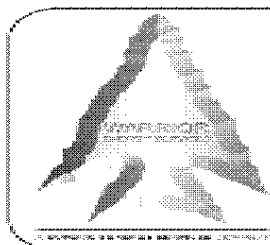
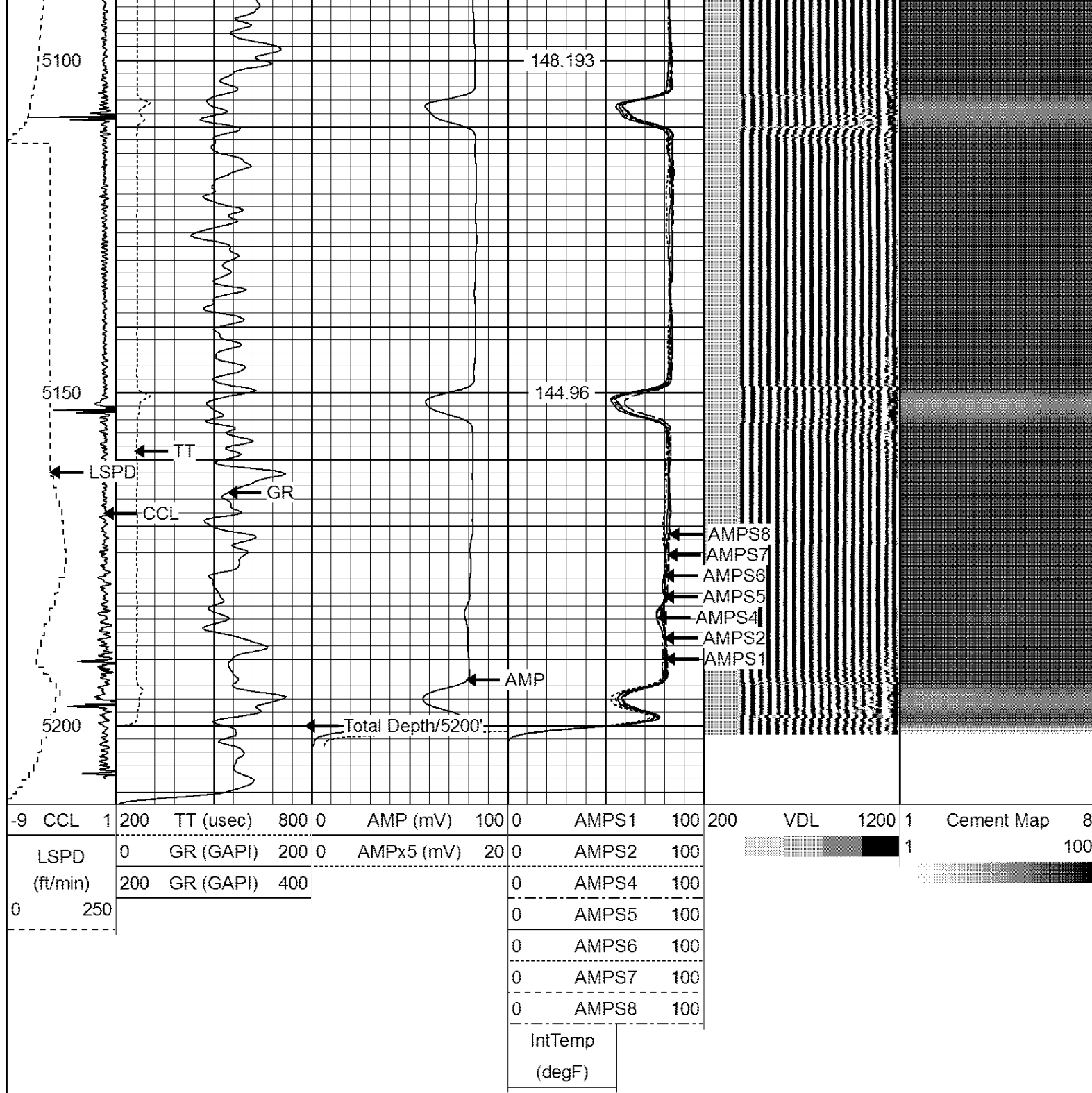
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168.697









WARRIOR
ENERGY SERVICES

Company KERR McGEE OIL AND GAS

Well HSR-HOWARD 15-11

Field WATTENBERG

County WELD

State CO