



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY/NEUTRON
LOG**

Company RITCHIE EXPLORATION, INC.
Well HAMMEKE UNIT #1
Field WILDCAT
County LANE State KANSAS

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Location: API #: 15-101-22485-00-00
335' FSL & 2470' FWL
SE - SE - SW
Other Services
DIL
Elevation
Permanent Datum GROUND LEVEL Elevation 2717
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Date	1-23-14		
Run Number	ONE		
Depth Driller	4717		
Depth Logger	4722		
Bottom Logged Interval	4698		
Top Log Interval	3500		
Casing Driller	8 5/8" @ 239		
Casing Logger	238		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3,000 PPM	
Density / Viscosity	9.3/54		
pH / Fluid Loss	5.6/11.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	1.20 @ 65F		
Rmf @ Meas. Temp	0.90 @ 65F		
Rmc @ Meas. Temp	1.44 @ 65F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	0.64 @ 122F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	122F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	IAN MABB		
Witnessed By	MIKE ENGELBRECHT		

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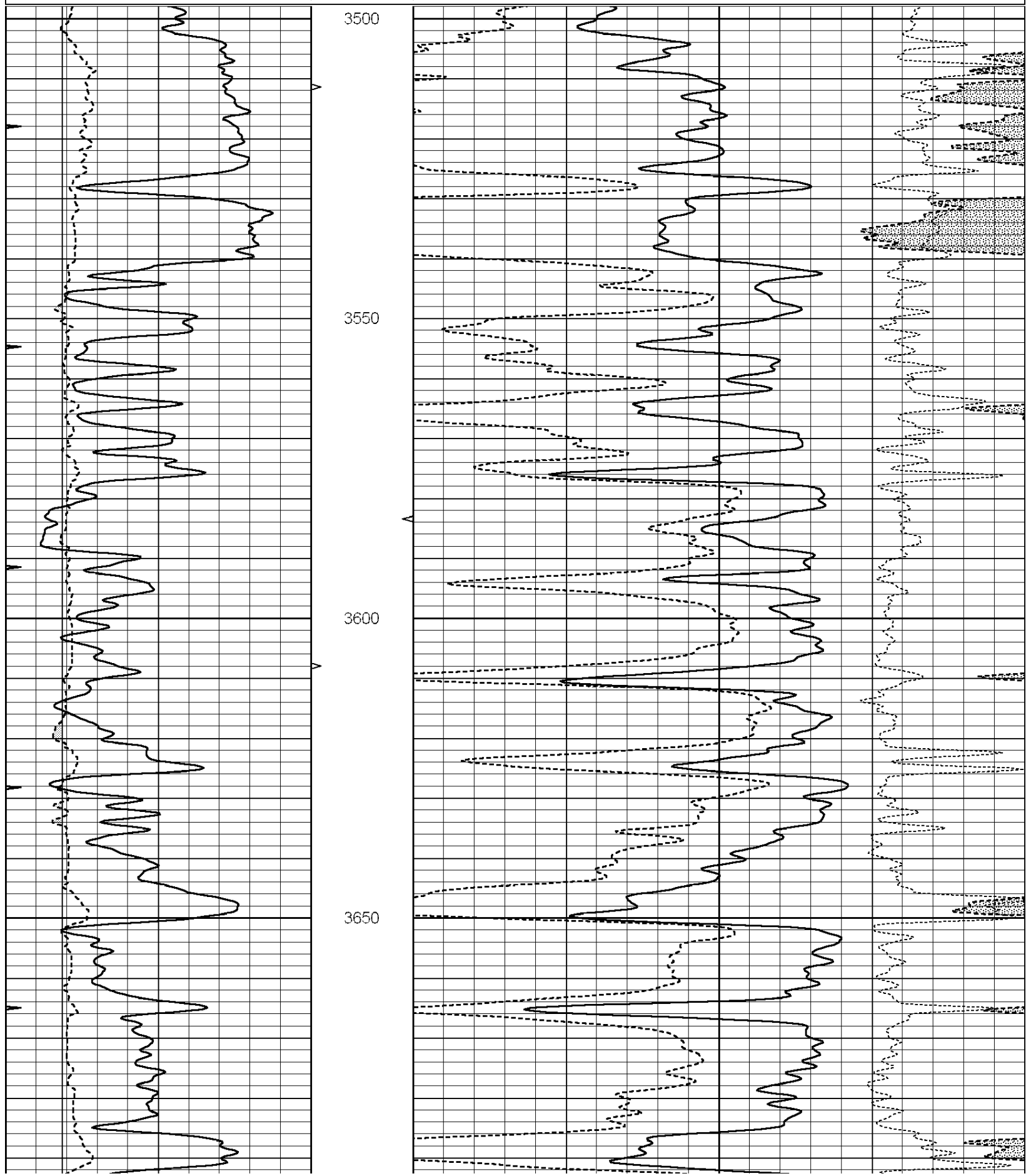
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

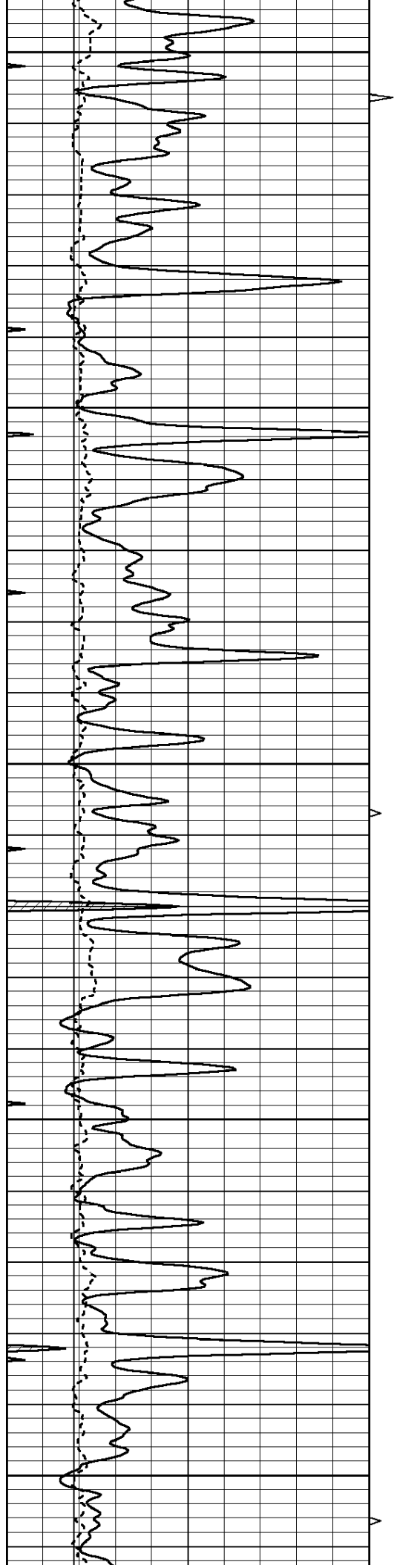
Comments

THANK YOU FOR USING NABORS COMPLETION & PRODUCTION SVCS. (785) 628-6395

DIRECTIONS:
DIGHTON, KS. - 3 MILES EAST NORTH INTO

0	GAMMA RAY (GAPI)	150	AVTX	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (m3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	BVTX		-0.25 CORRECTION (g/cc)	0.25
			0 (m3) 10			





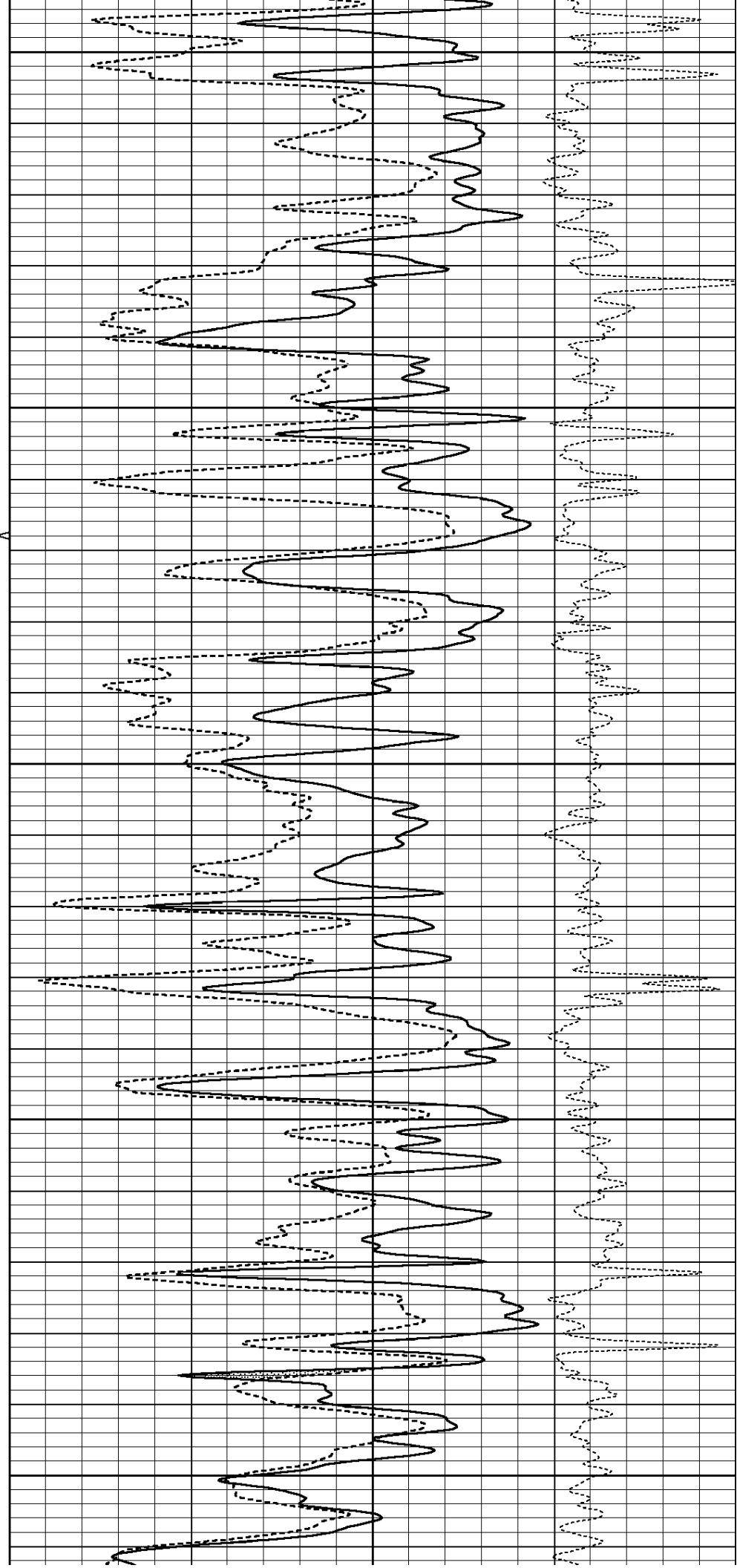
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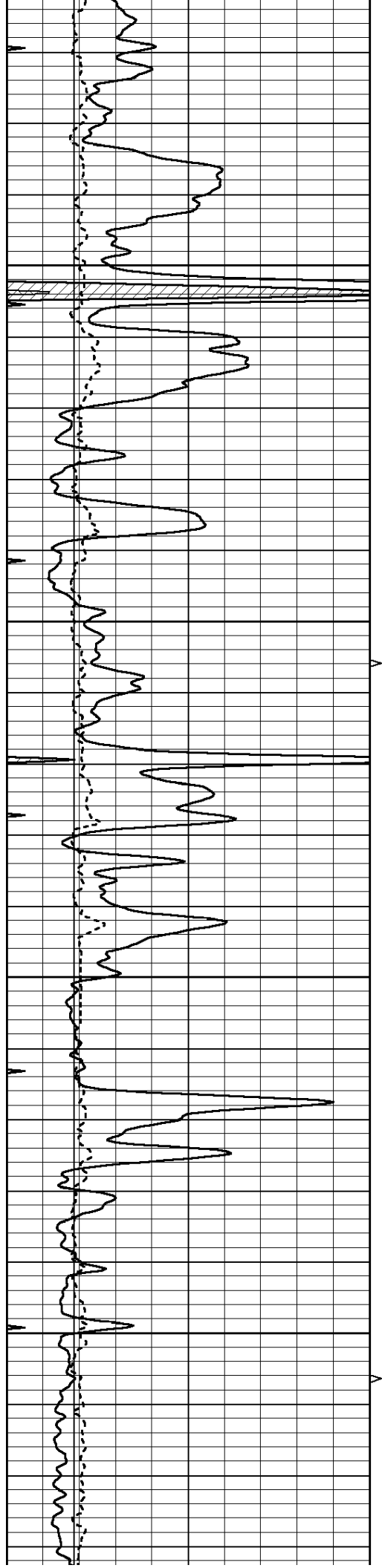
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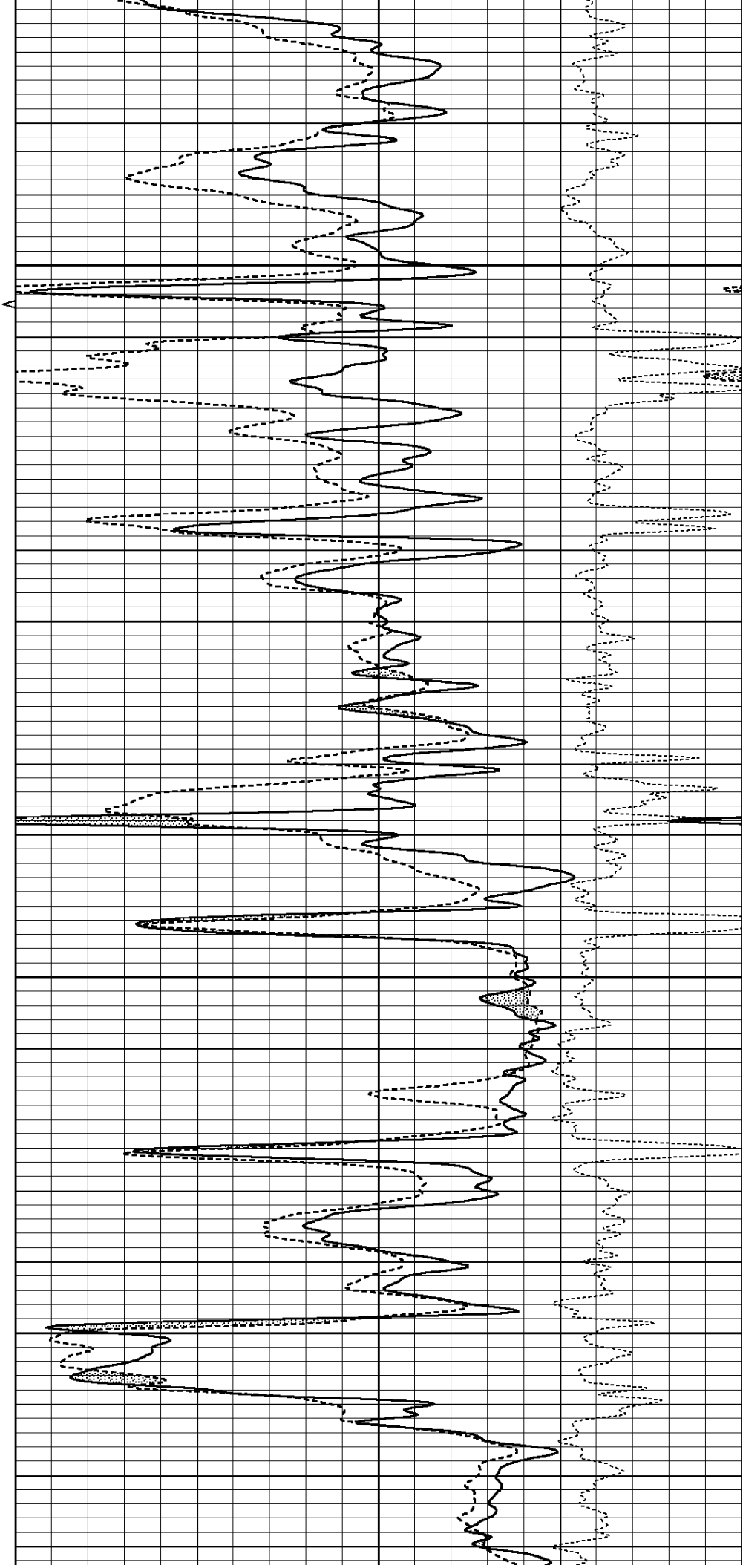


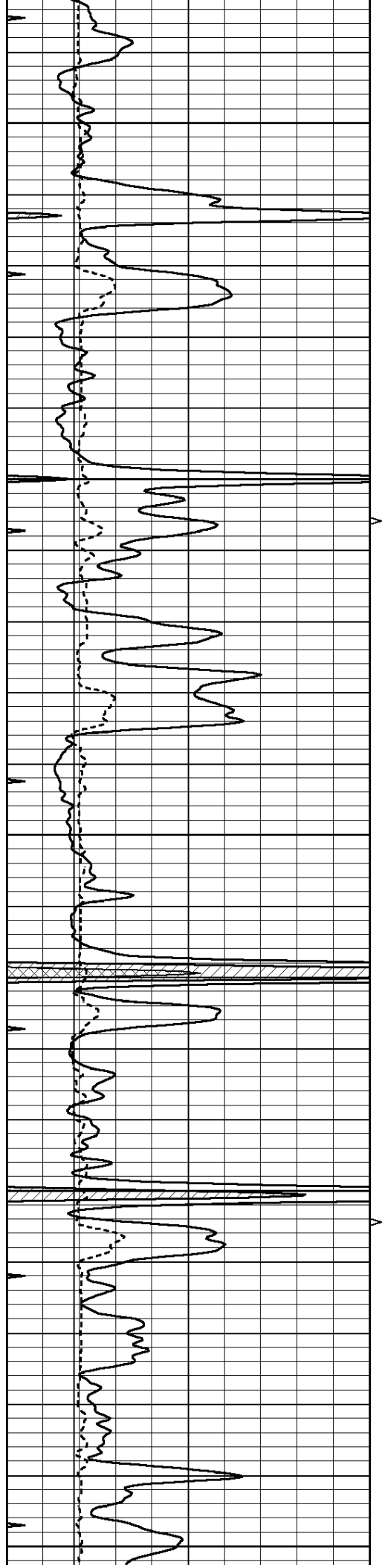
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4000

4050

4100





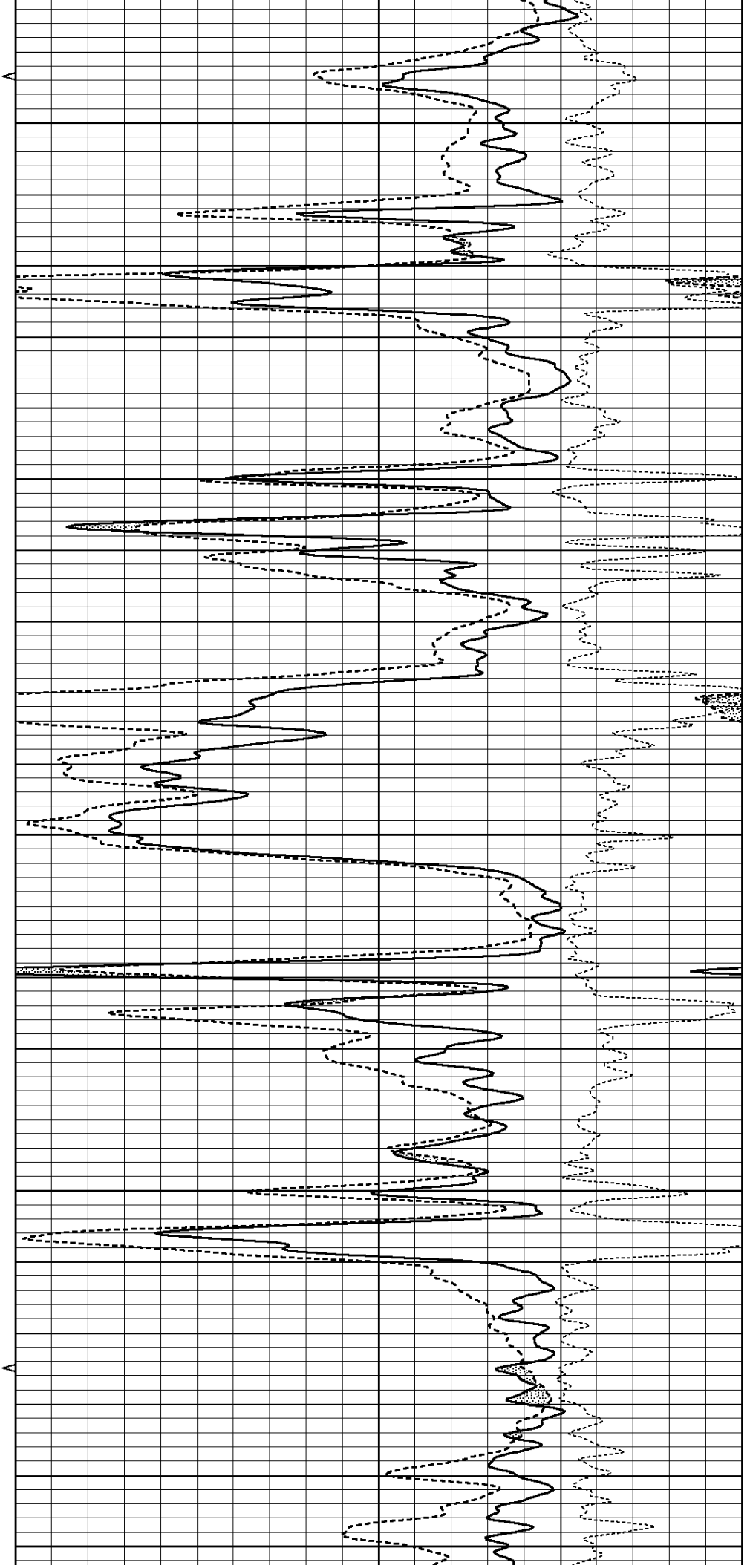
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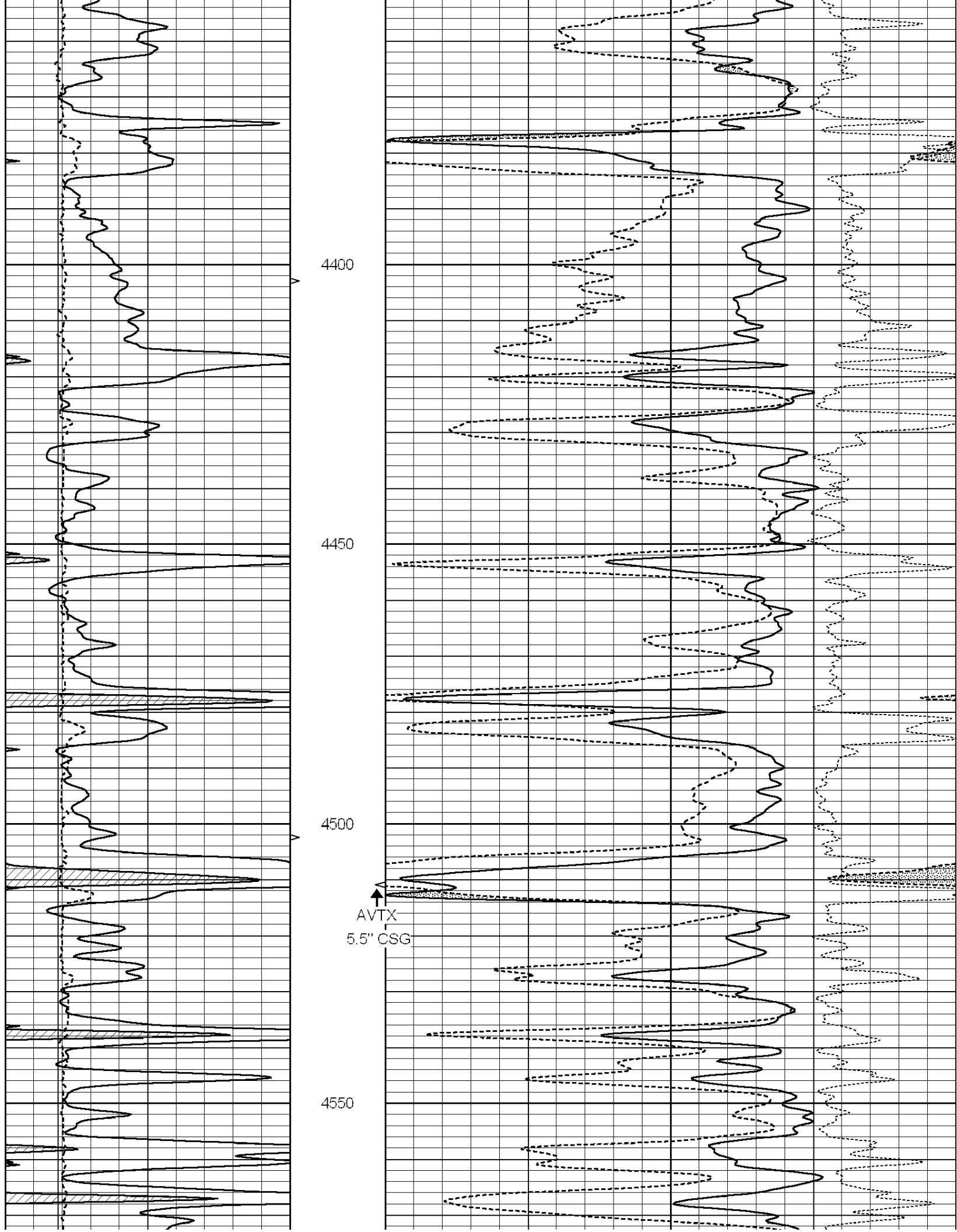
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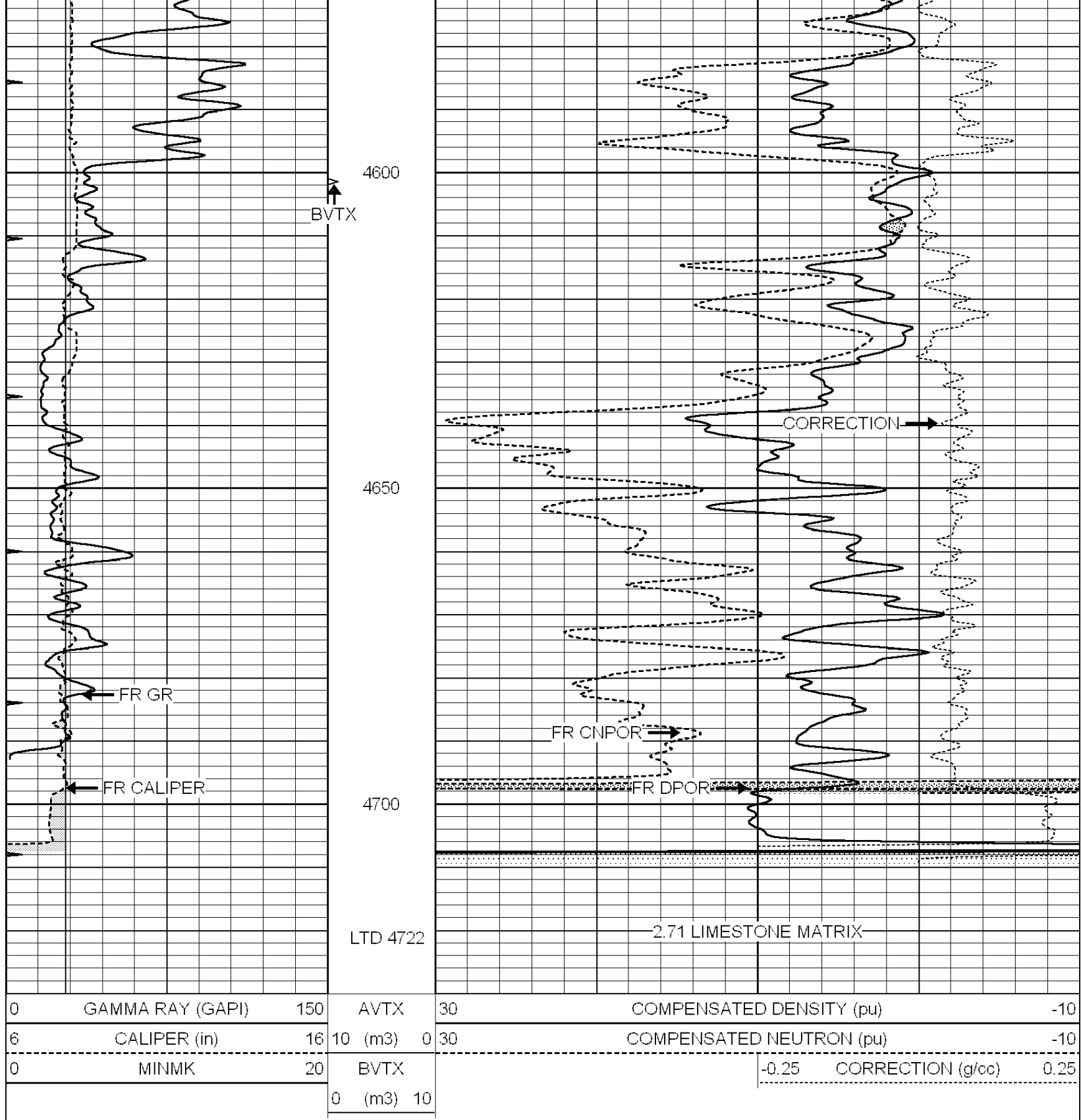
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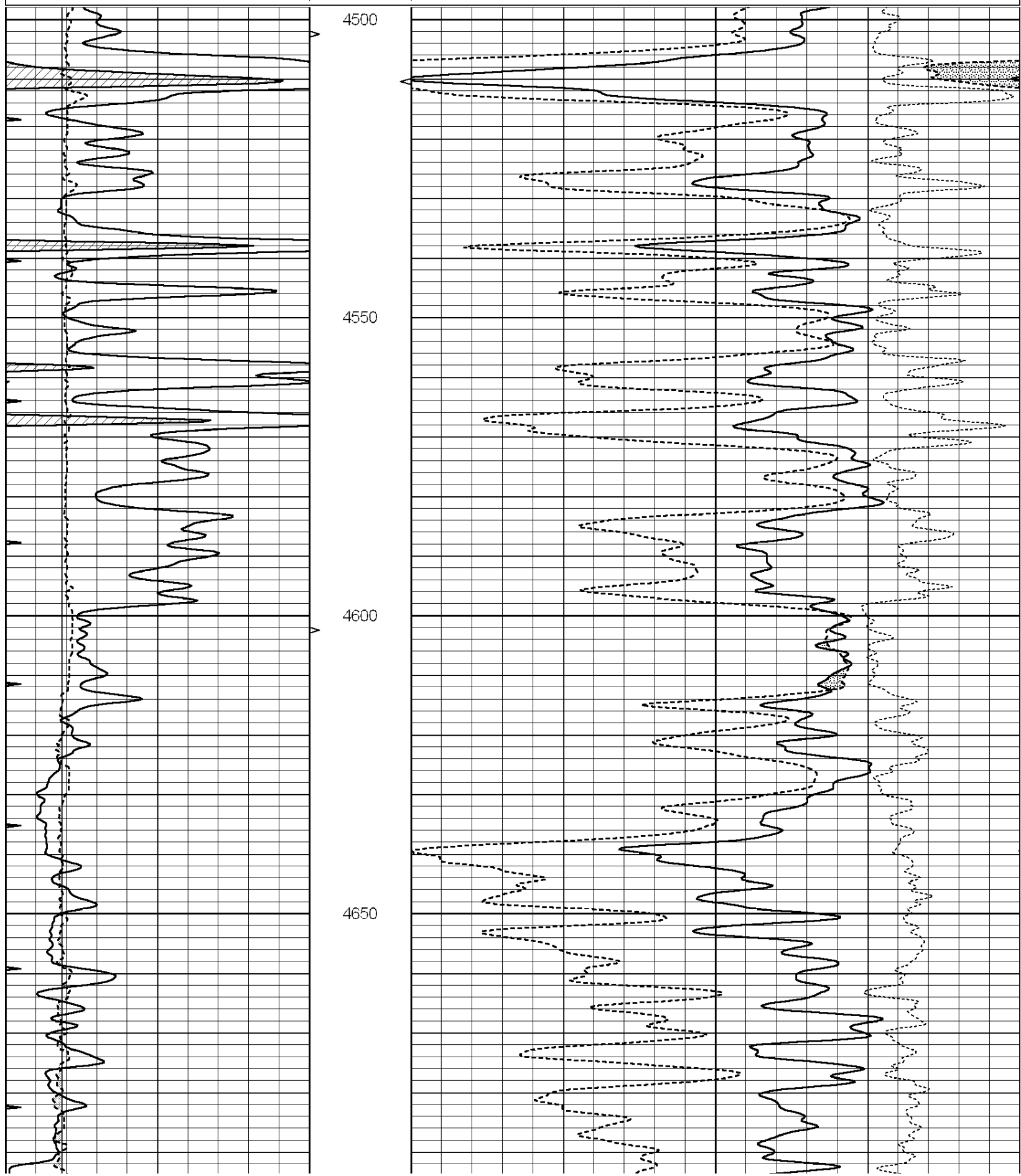


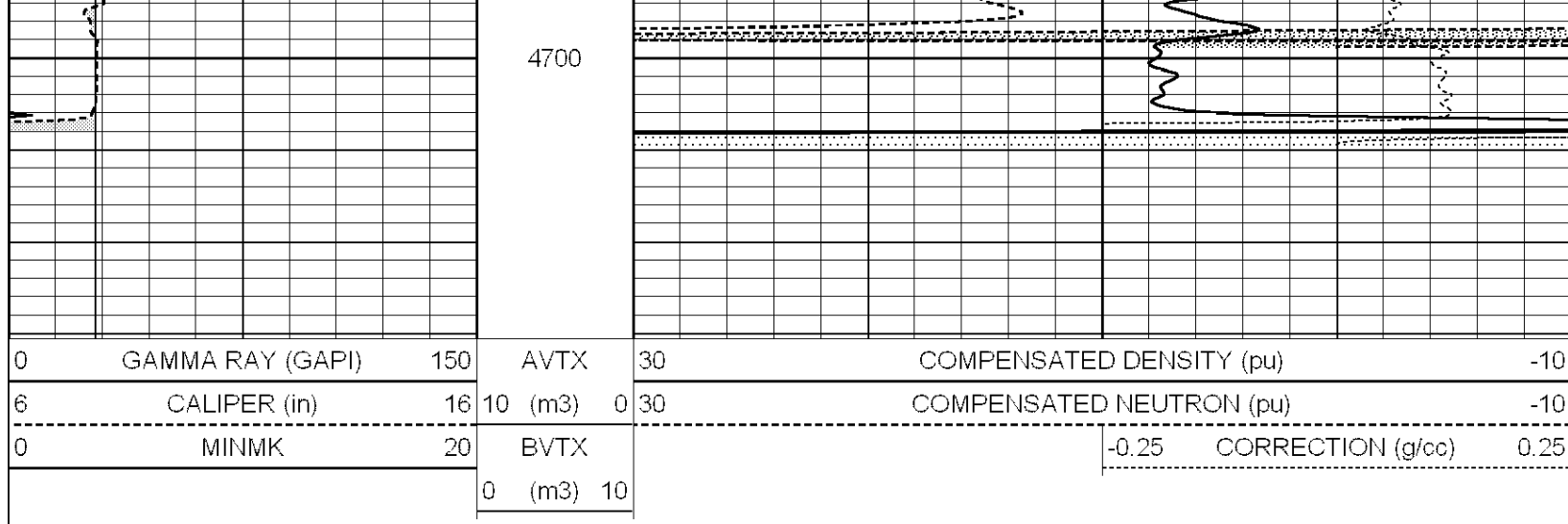
NABORS
COMPLETION & PRODUCTION SERVICES CO.

REPEAT SECTION

Database File: 22222ddn.db
 Dataset Pathname: pass6.3
 Presentation Format: _den_neu
 Dataset Creation: Thu Jan 23 21:28:46 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	AVTX	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (m3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	BVTX		-0.25 CORRECTION (g/cc)	0.25
			0 (m3)	10		





Calibration Report

Database File: 22222ddn.db
 Dataset Pathname: pass7.3
 Dataset Creation: Thu Jan 23 22:06:18 2014 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Sat Jan 04 10:54:27 2014

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	500.000	2.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	580.000	3.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	560.000	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	540.000	-4.000

Compensated Density Calibration Report

Serial-Model: GEAR2-GEARHART
 Source / Verifier: 147 / 147
 Master Calibration Performed: Fri Nov 08 12:50:12 2013

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	923.76	475.45	cps
Aluminum	2.580	g/cc	205.31	331.69	cps
Spine Angle = 76.54			Density/Spine Ratio = 0.563		
	Size		Reading		
Small Ring	8.40	in	3.59	V	
Large Ring	14.00	in	5.47	V	

Compensated Neutron Calibration Report

Serial Number: 080620
 Tool Model: Probe

PRE-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	7		
Tool Model:	Probe1		
Performed:	Sat Jan 04 10:53:32 2014		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.4600	GAPI/cps	