



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY / NEUTRON
PE LOG

Company	MULL DRILLING CO., INC.	Company	MULL DRILLING COMPANY, INC.
Well	APC-TENNEL #1-33	Well	APC-TENNEL #1-33
Field		Field	
County	KIOWA	County	KIOWA
State	COLORADO	State	COLORADO
Location:	API # : 05-061-06853-00	Other Services DIL SONIC/MEL	
	1204' FNL & 1798' FWL		
	SEC 33 TWP 17S RGE 45W		
Permanent Datum	GROUND LEVEL	Elevation	
Log Measured From	KELLY BUSHING 11' A.G.L.	K.B. 4009	
Drilling Measured From	KELLY BUSHING	D.F.	
		G.L. 3998	
Date	8-5-11		
Run Number	ONE		
Depth Driller	5213		
Depth Logger	5214		
Bottom Logged Interval	5190		
Top Log Interval	3400		
Casing Driller	336		
Casing Logger	336		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.3 / 54		
pH / Fluid Loss	9.5 / 8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.80 @ 85F		
Rmf @ Meas. Temp	0.60 @ 85F		
Rmc @ Meas. Temp	0.96 @ 85F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.540 @ 127F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	12:15 A.M.		
Maximum Recorded Temperature	127F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	PHIL ASKEY		

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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

SUPERIOR WELL SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: BRANDON, CO., W EGDE TO RD. #58, 6N, E INTO.

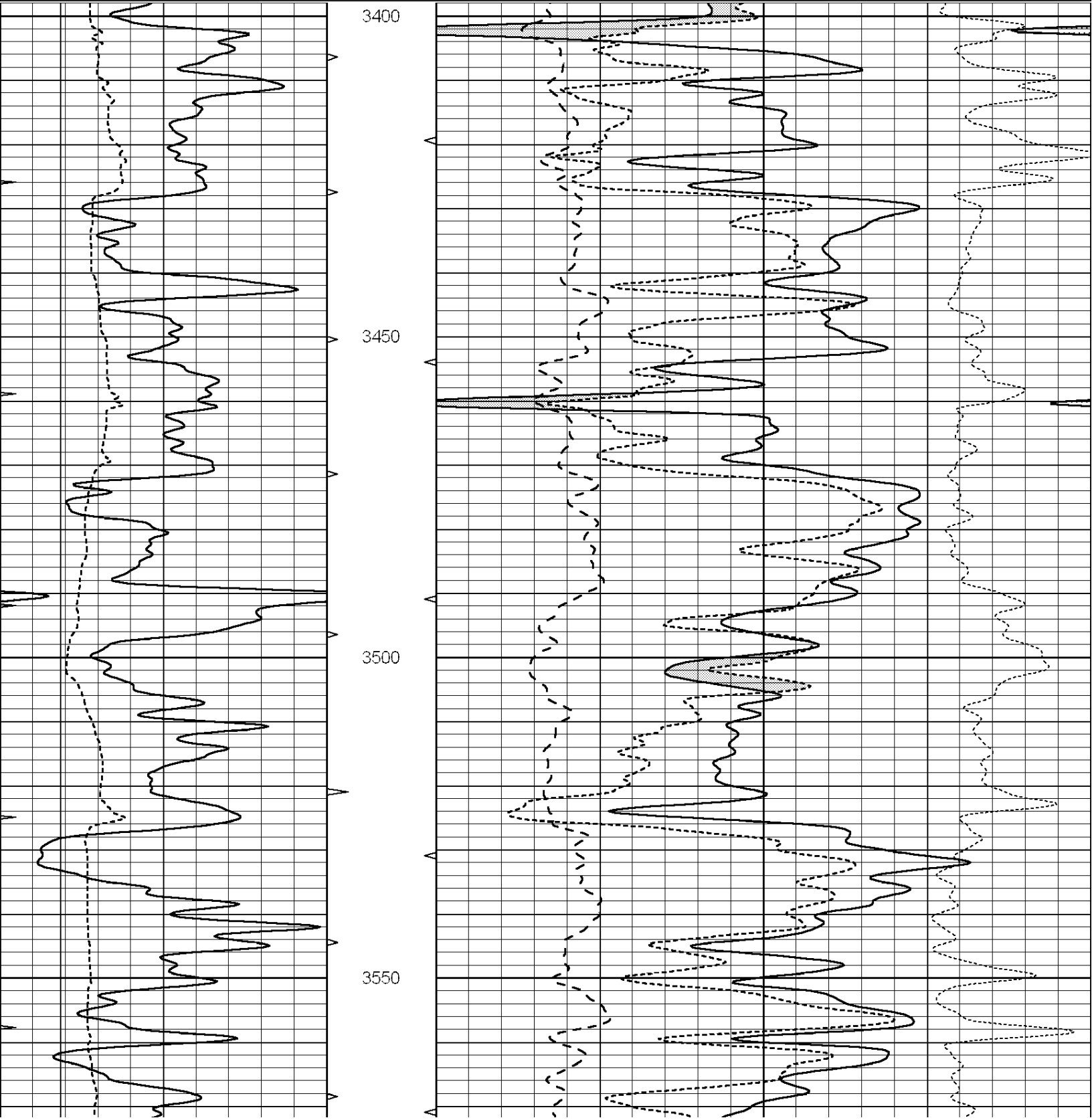


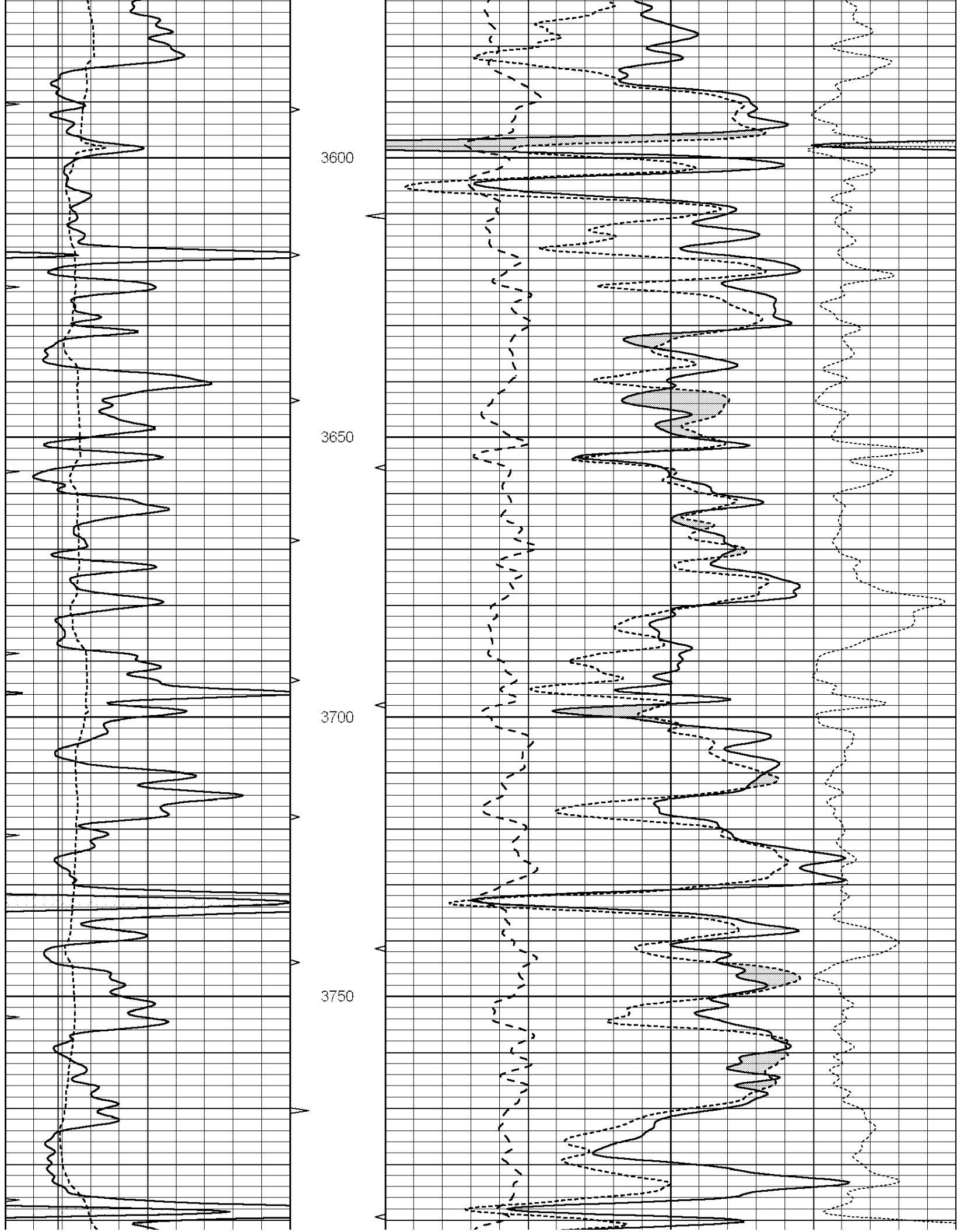
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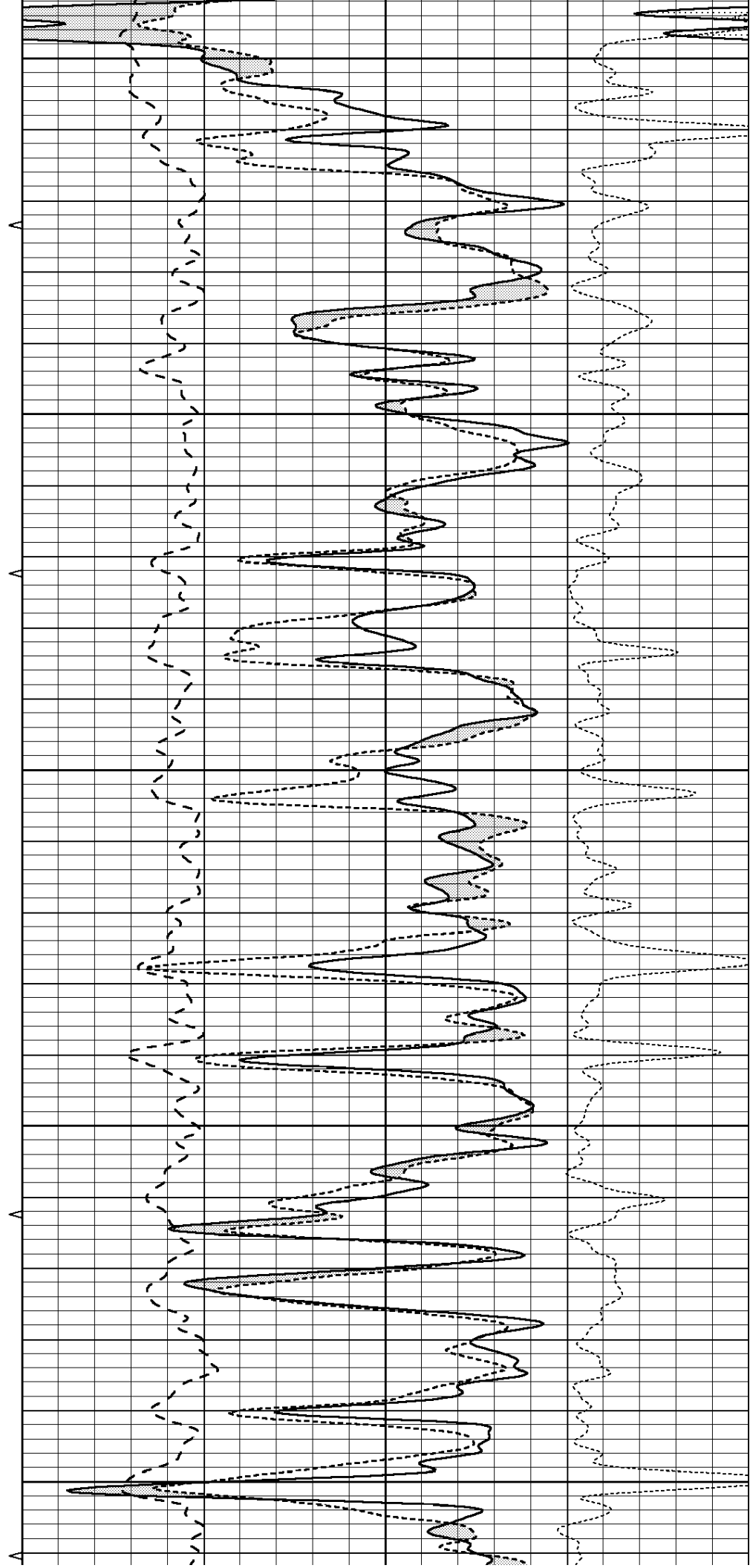
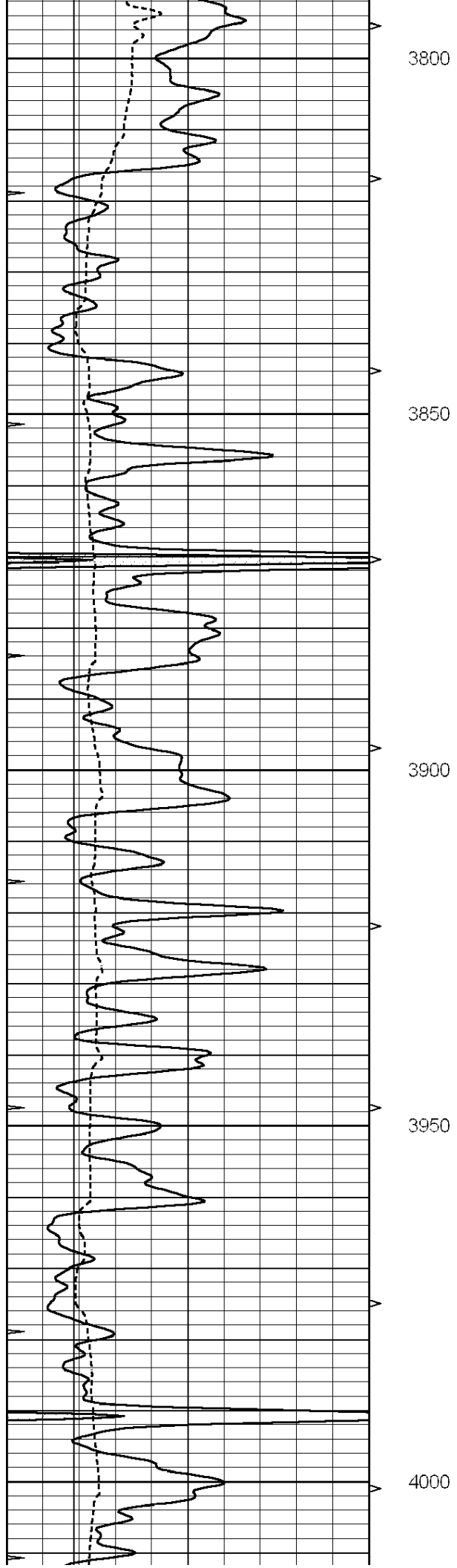
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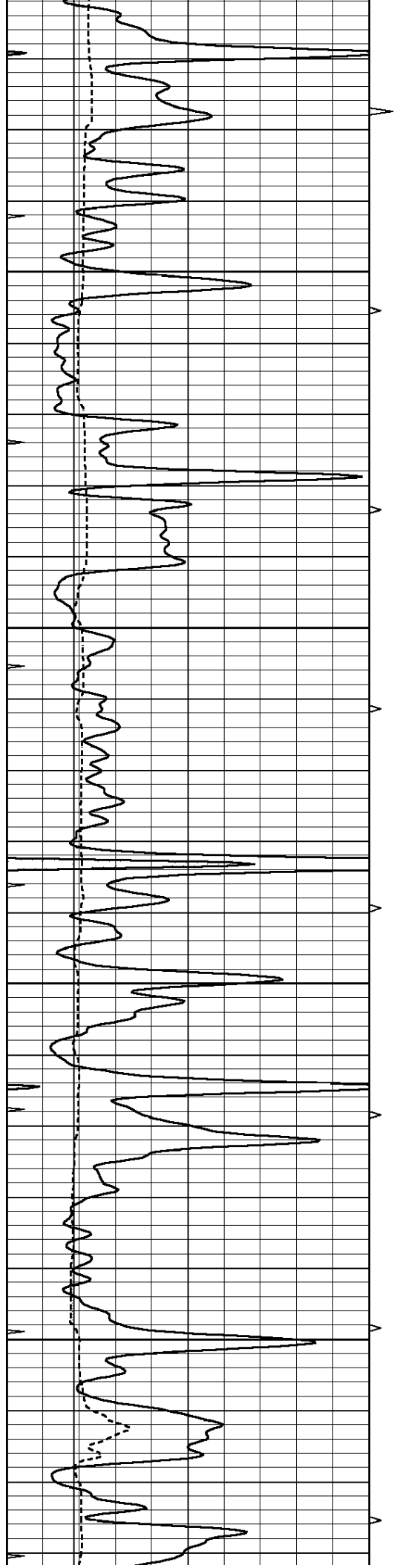
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Dataset Pathname: pass3.1A
Presentation Format: ldt_neu
Dataset Creation: Fri Aug 05 05:45:11 2011
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10		







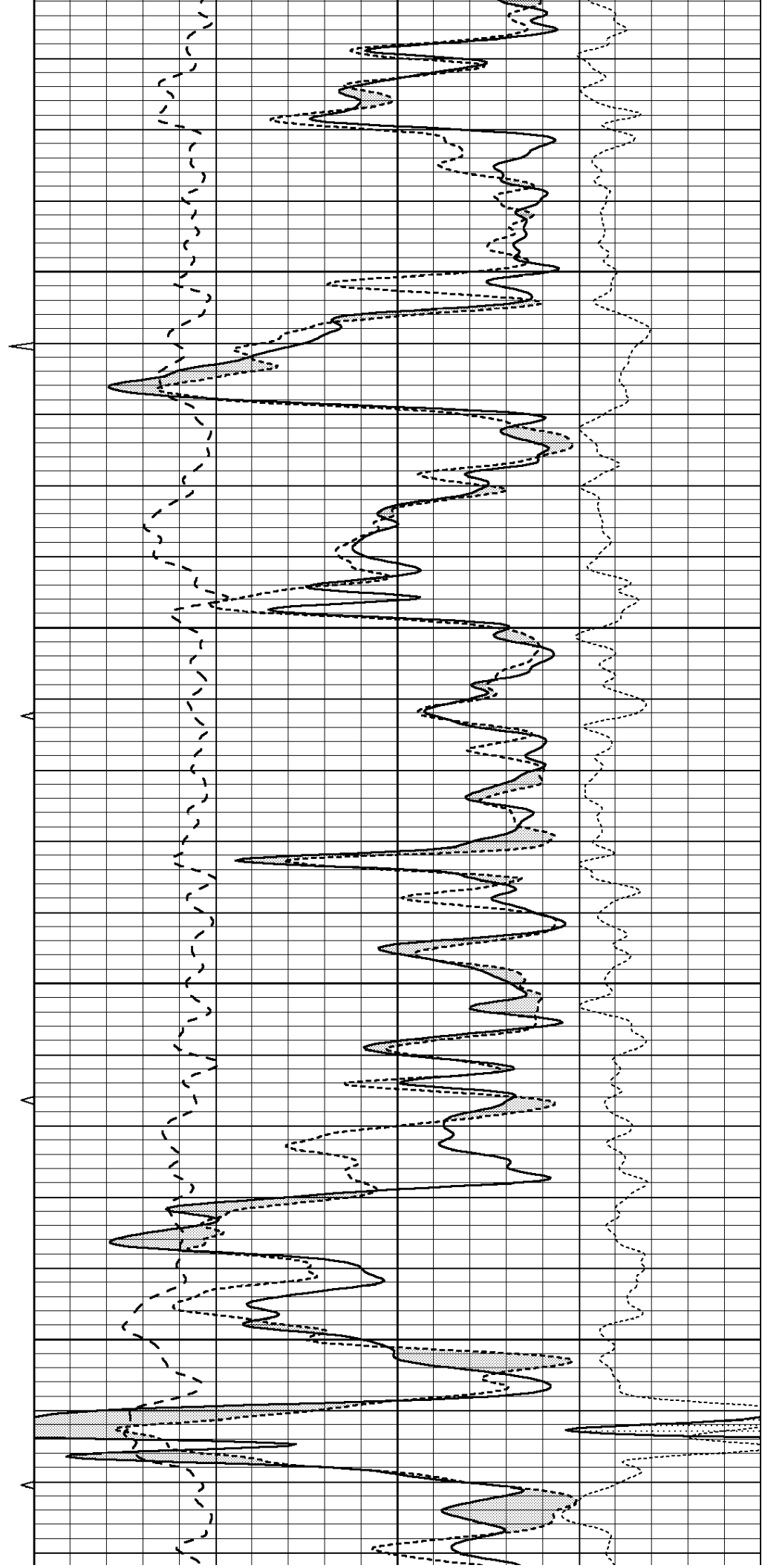


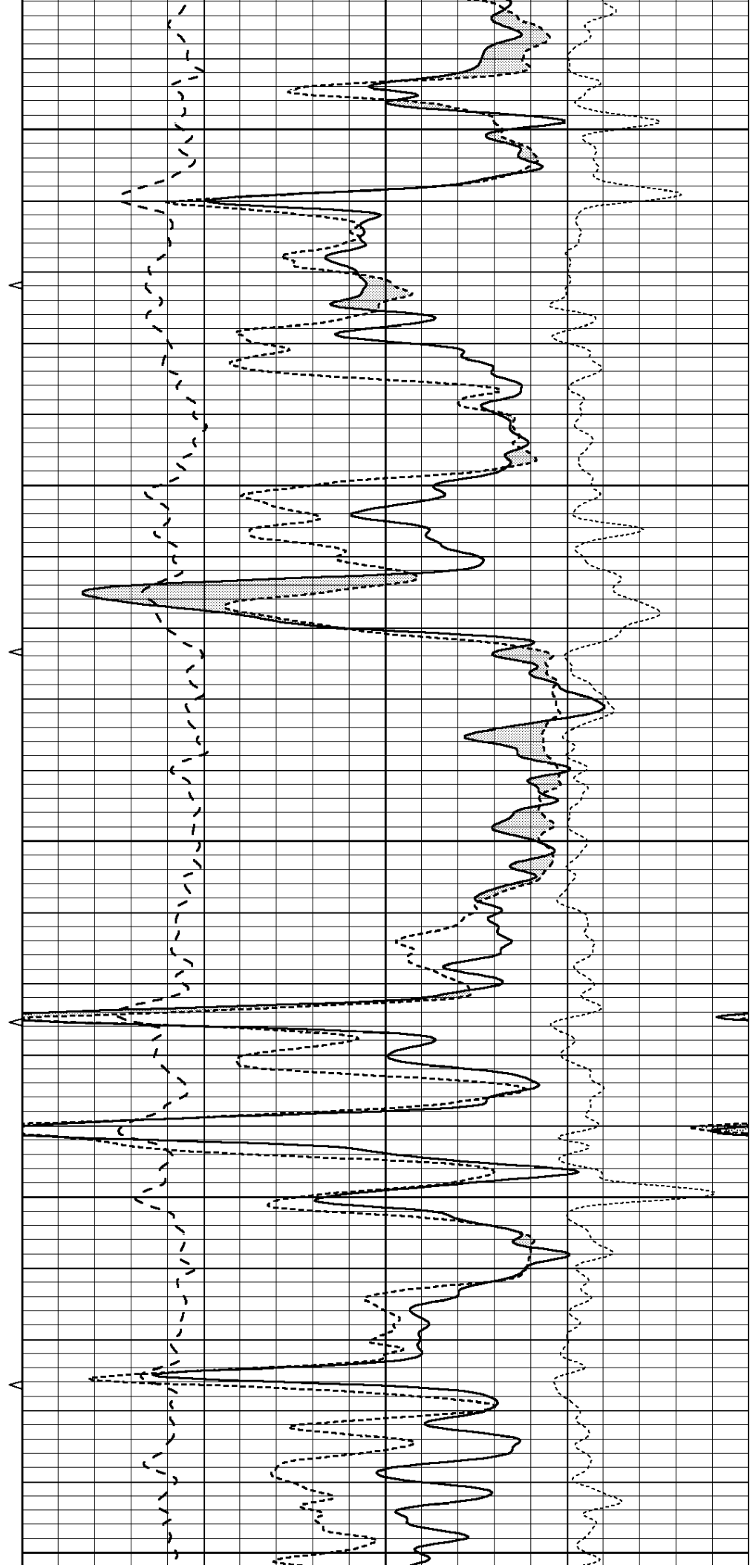
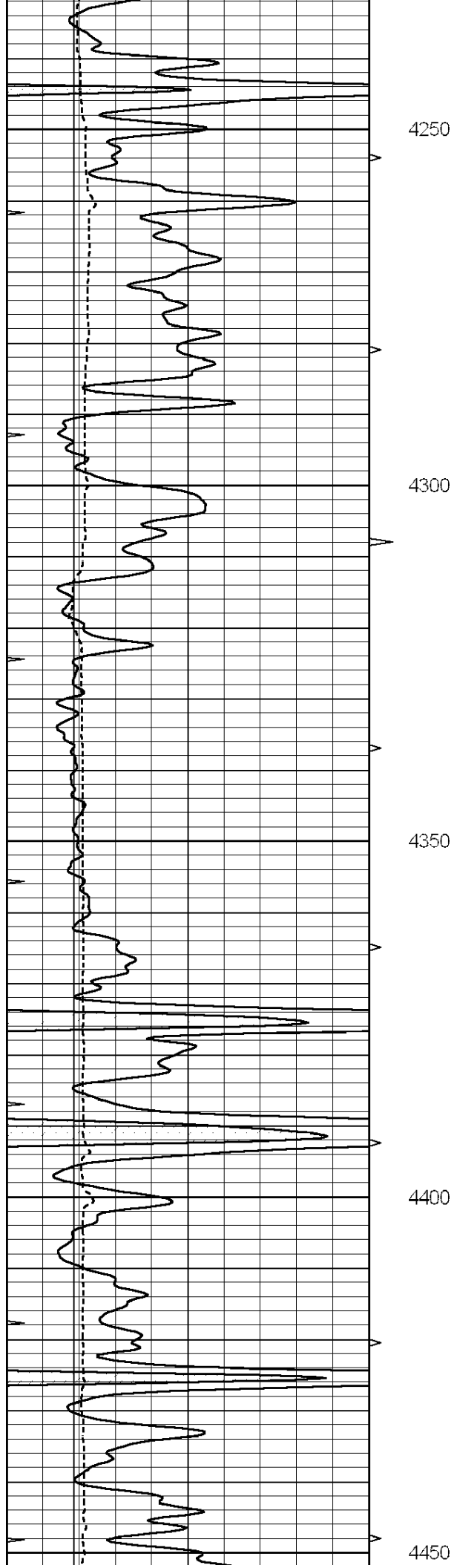
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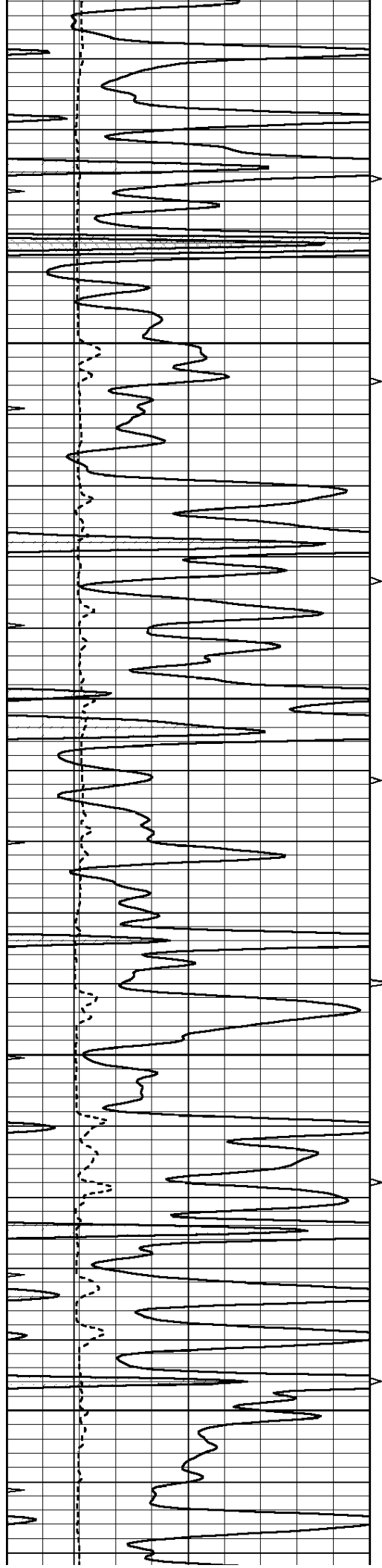
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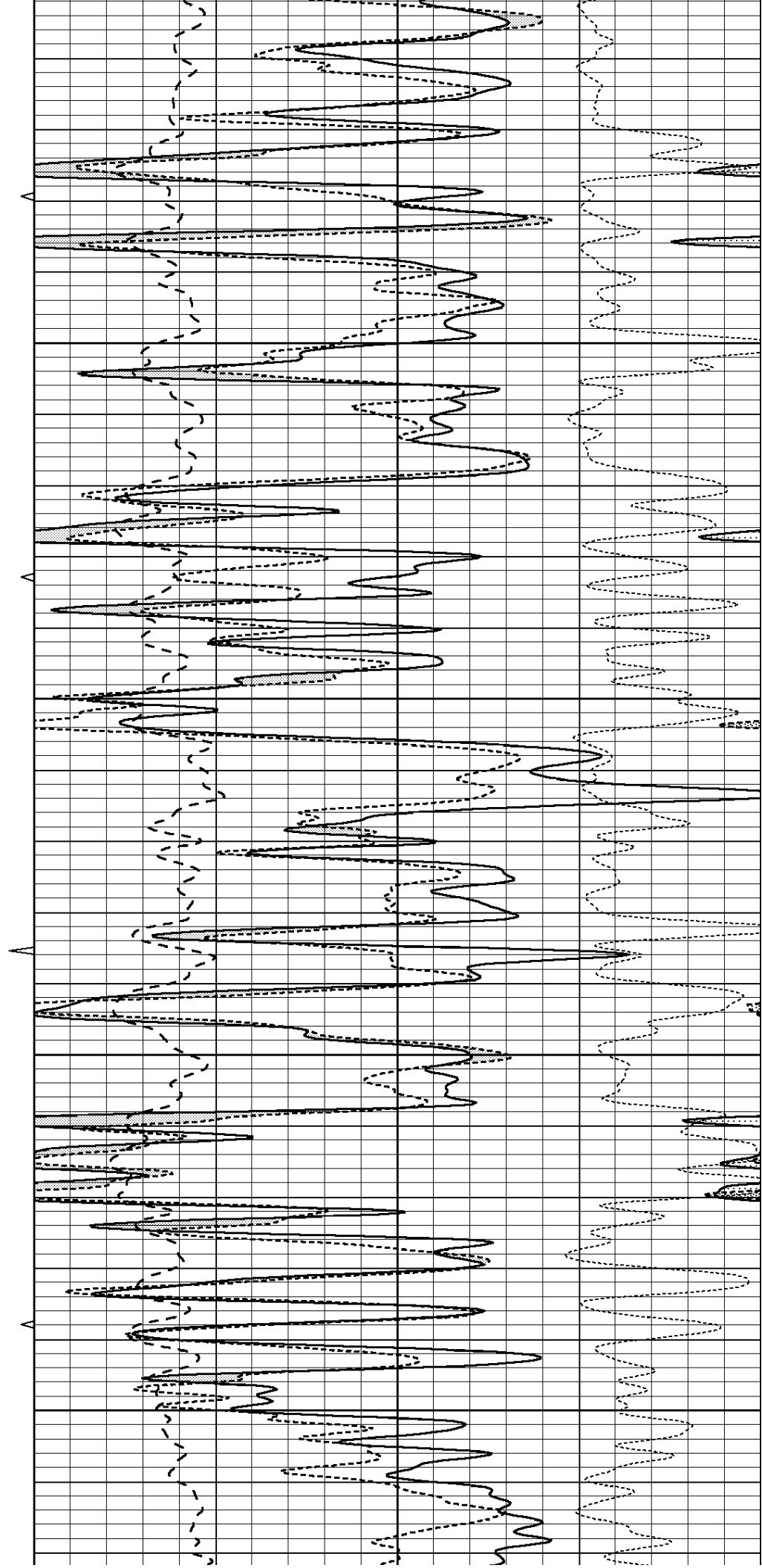


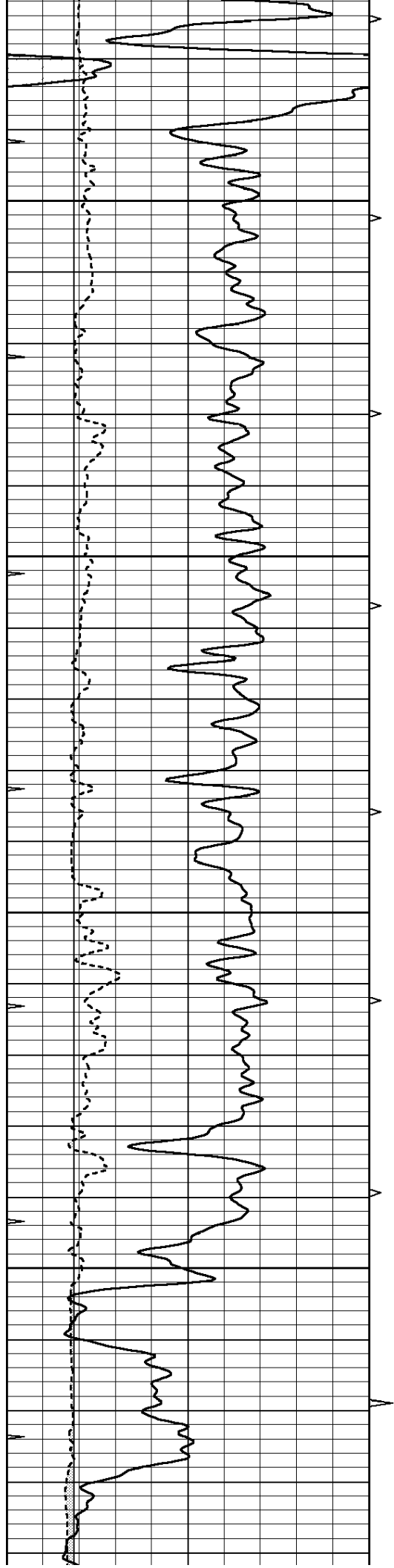
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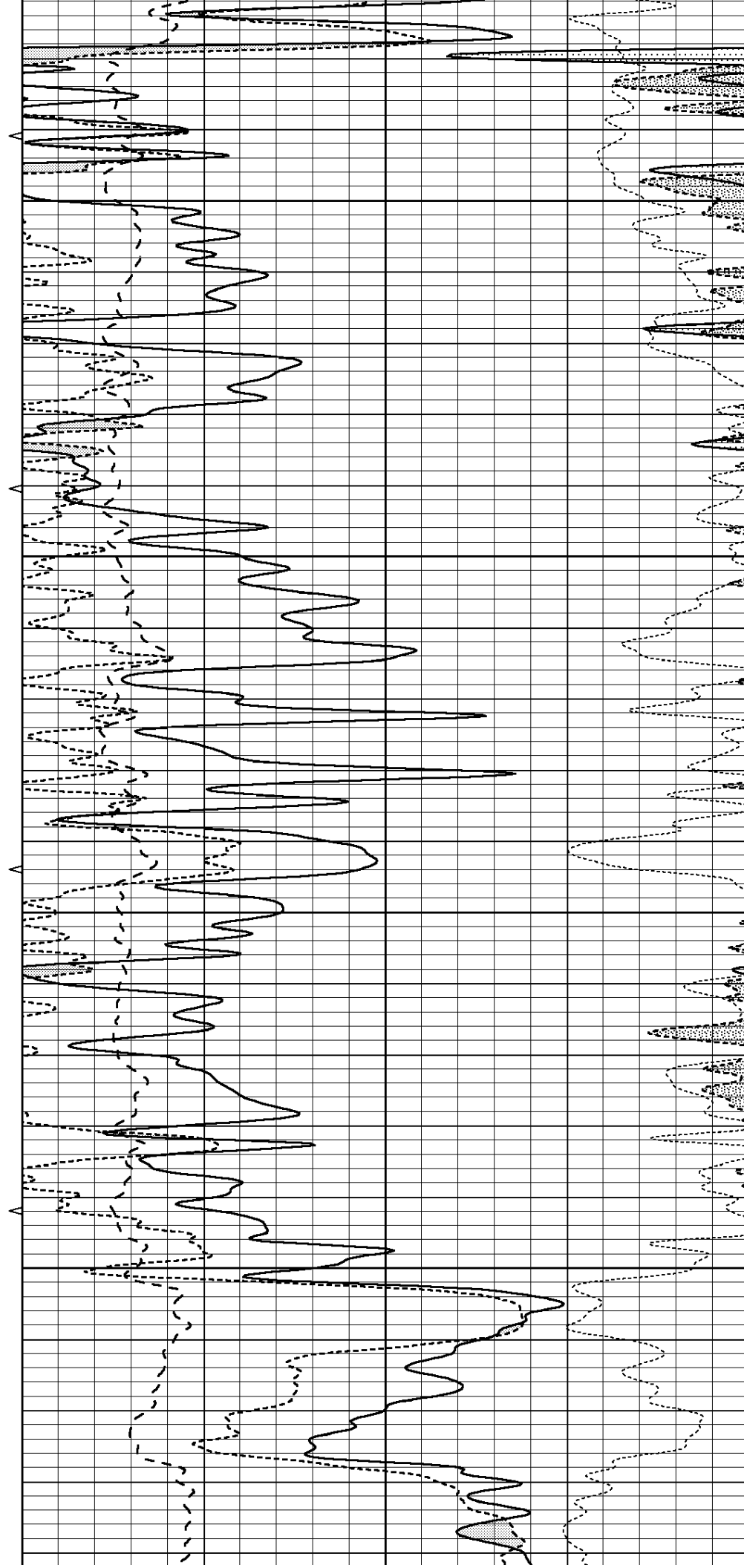


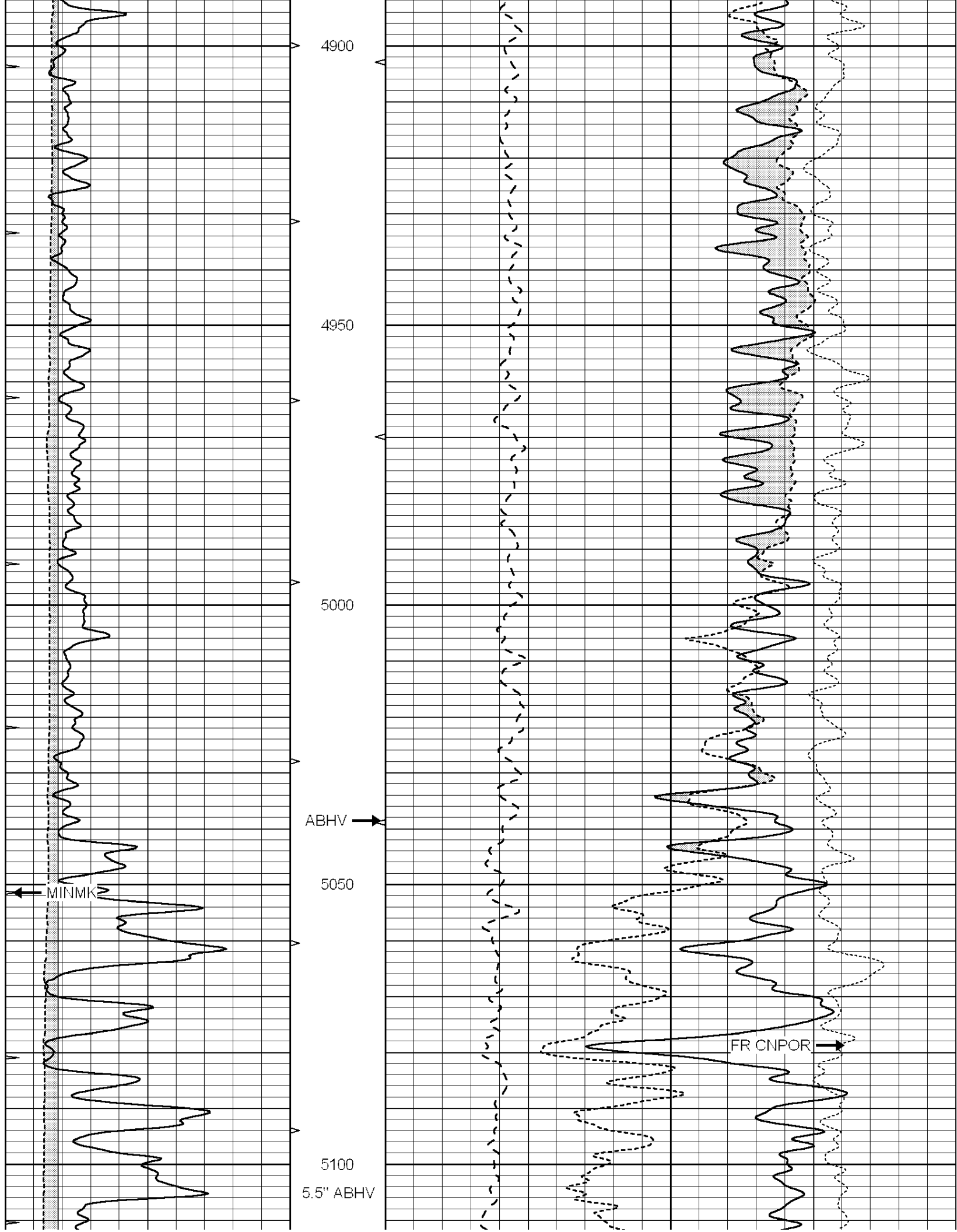
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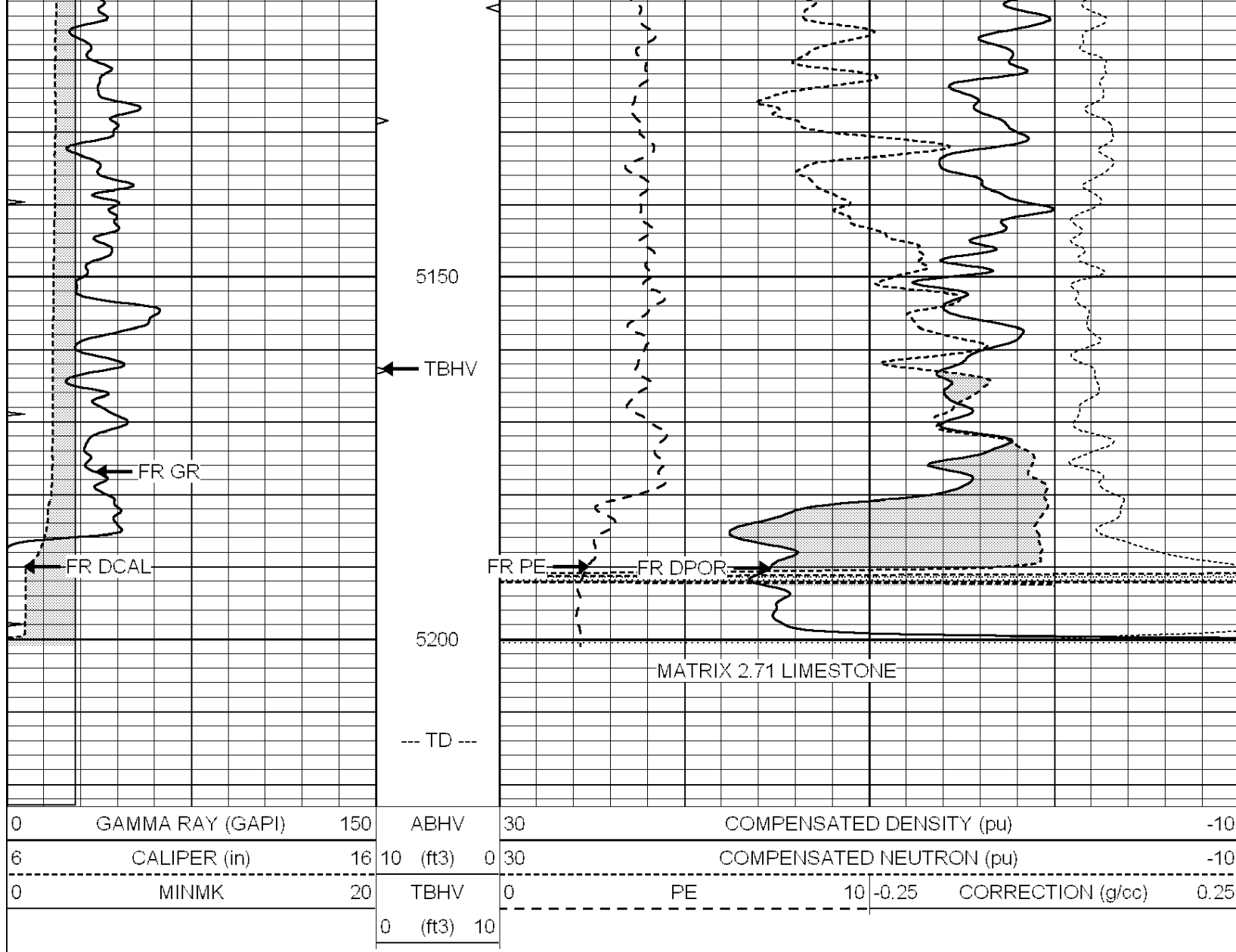
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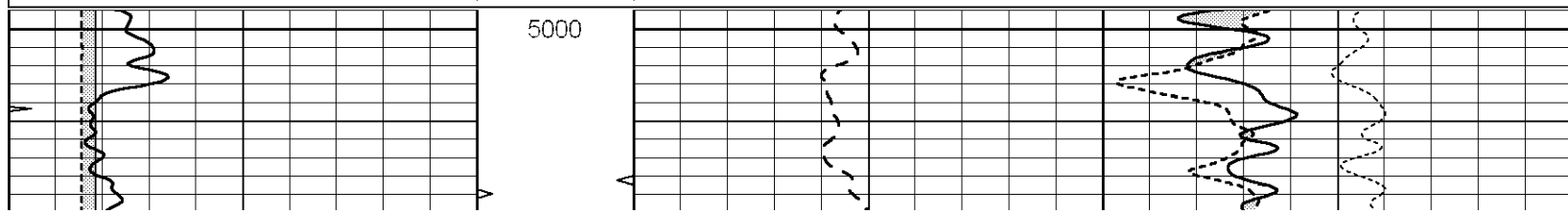


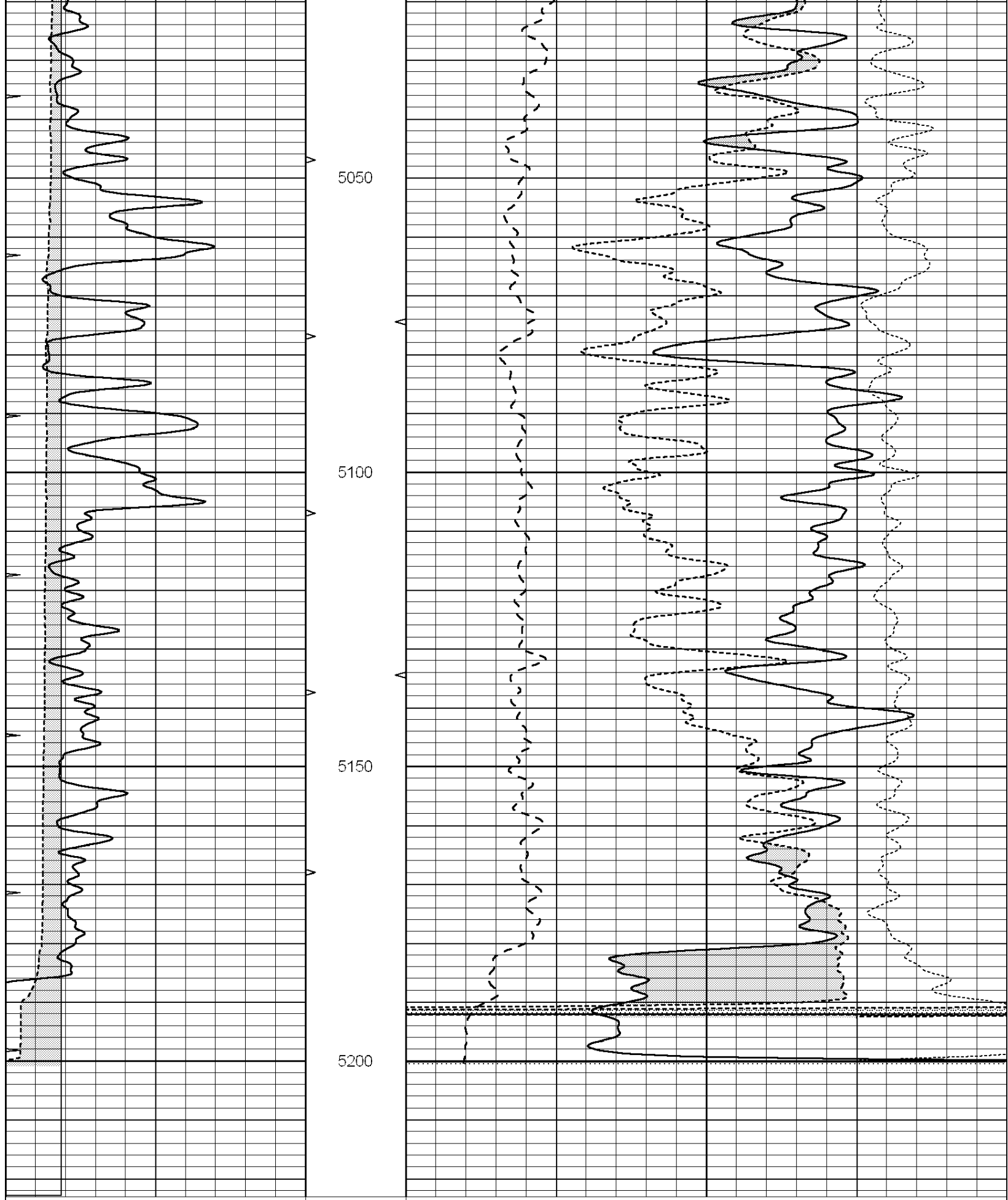
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REPEAT SECTION

Database File: 007342pdn.db
 Dataset Pathname: pass2.2A
 Presentation Format: ldt_neu
 Dataset Creation: Fri Aug 05 05:56:44 2011
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
			0 (ft3) 10			





0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
0			0 (ft3)	10		

Calibration Report		
Database File:	007342pdn.db	
Dataset Pathname:	pass3.1A	
Dataset Creation:	Fri Aug 05 05:45:11 2011	

Dual Induction Calibration Report

Serial-Model:	DIL5-GEAR
Performed:	Fri Aug 05 03:42:11 2011

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	540.000	-12.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	560.000	-6.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.006	0.655	V	0.000	400.000	mmho/m	615.668	-3.483
Medium	0.010	0.747	V	0.000	462.500	mmho/m	627.607	-6.064

Litho Density Calibration Report
 Serial: 002 Model: PRB
 Performed Tue Jul 03 11:12:28 2007

Litho Density Calibration					
	Background	Magnesium	Aluminum	Sandstone	
Window 1	1059.5	9172.0	2859.6	10210.6	cps
Window 2	976.0	7793.2	2486.1	8515.6	cps
Window 3	689.8	2930.5	1159.0	3096.2	cps
Window 4	231.9	237.2	231.1	234.0	cps
Long Space	0.0	6817.1	1510.1	7539.6	cps
Short Space	1.6	1758.1	1188.6	1898.8	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 45.4	Rib Slope	: 1.015	Density/Spine Ratio	: 0.569
Spine Angle	: 75.4	Spine Slope	: 3.850	Spine Intercept	: -19.9

Caliper		
Low Ref	Readings	Reference
High Ref	3.8	9.7
	5.9	14.0
	Gain: 2.0	Offset: 2.1

Compensated Neutron Calibration Report

Serial Number:	NUE_2I
Tool Model:	G

CALIBRATION				
Detector	Readings		Target	Normalization
Short Space	1.00	cps	1.00	cps
Long Space	1.00	cps	1.00	cps
				1.0000
				1.0000

Gamma Ray Calibration Report

Serial Number:	GR5
Tool Model:	OPEN
Performed:	Fri Aug 05 03:36:27 2011

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6500	GAPI/cps