



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company	MULL DRILLING COMPANY, INC.	Company	MULL DRILLING COMPANY, INC.
Well	APC - DOUG #1-25	Well	APC - DOUG #1-25
Field	LOMA	Field	LOMA
County	CHEYENNE	County	CHEYENNE
State	COLORADO	State	COLORADO
Location:	API # : 05-017-07732-0000 825' FSL & 1620' FEL SW/4 - SE/4	Other Services DIL/MEL SONIC	
Permanent Datum	GROUND LEVEL	Elevation	4295
Log Measured From	KELLY BUSHING 11' A.G.L.	K.B. 4306 D.F. 4304 G.L. 4295	
Drilling Measured From	KELLY BUSHING		
Date	12/10/12		
Run Number	ONE		
Depth Driller	5560		
Depth Logger	5565		
Bottom Logged Interval	5541		
Top Log Interval	3900		
Casing Driller	8 5/8" @ 323'		
Casing Logger	326		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3,800 PPM	
Density / Viscosity	9.2/57		
pH / Fluid Loss	9.5/8.8		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.950 @ 84F		
Rmf @ Meas. Temp	.713 @ 84F		
Rmc @ Meas. Temp	1.14 @ 84F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.614 @ 130F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	12:30 P.M.		
Maximum Recorded Temperature	130F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
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

THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS

CHEYENNE WELLS, CO., 12 1/2S. ON HWY 385 TO "RD. C", 5 1/2W. TO RADIO TOWER, 1S., 1E. INTO



NABORS
**COMPLETION
& PRODUCTION**

MAIN SECTION

Database File:

010031pe.db

Dataset Pathname:

pass3.10

Presentation Format:

ldt_neu

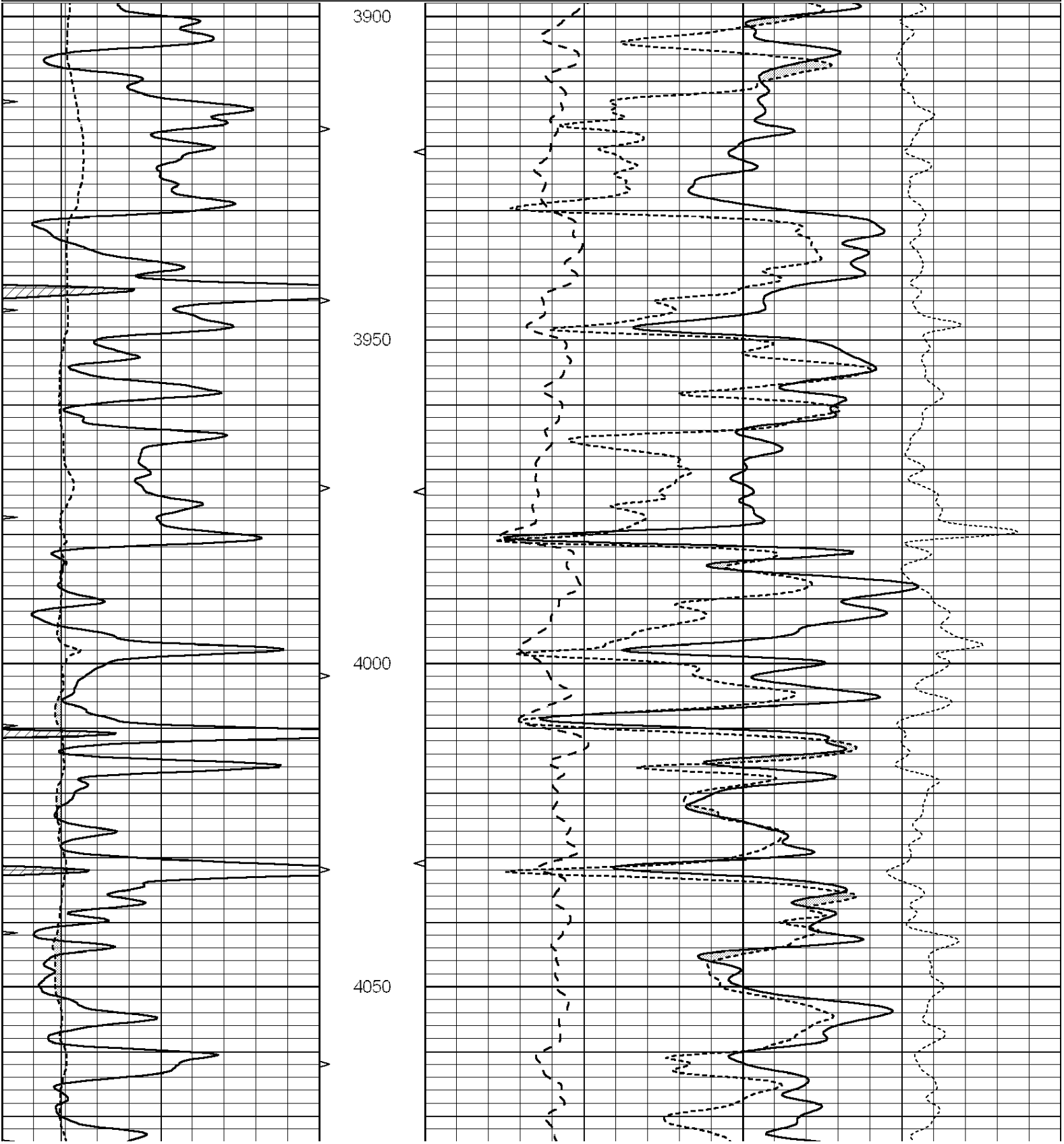
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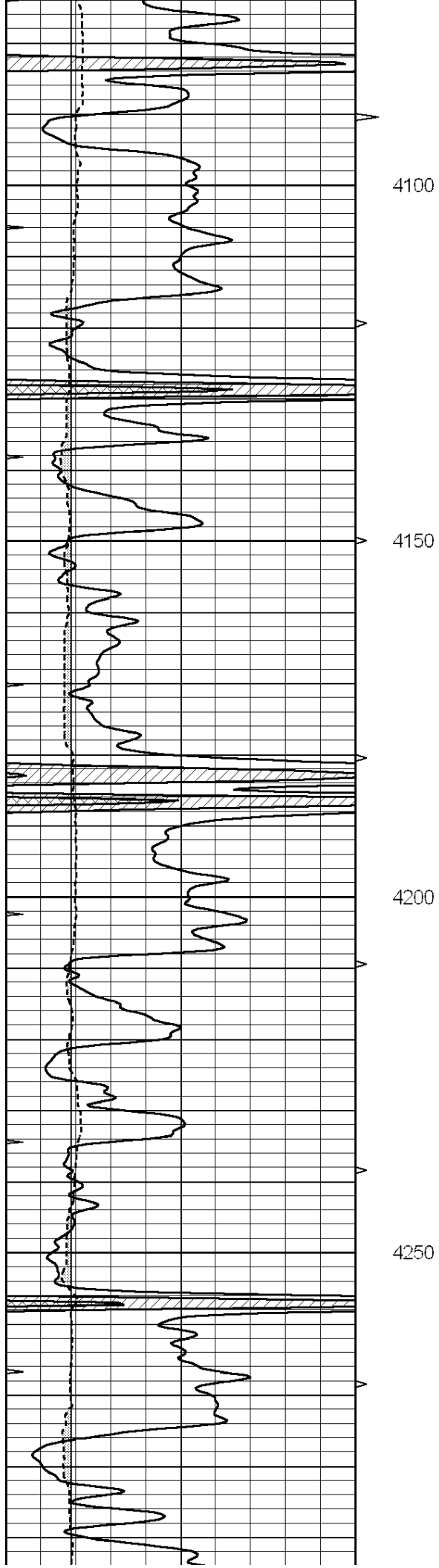
Mon Dec 10 14:20:06 2012

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						



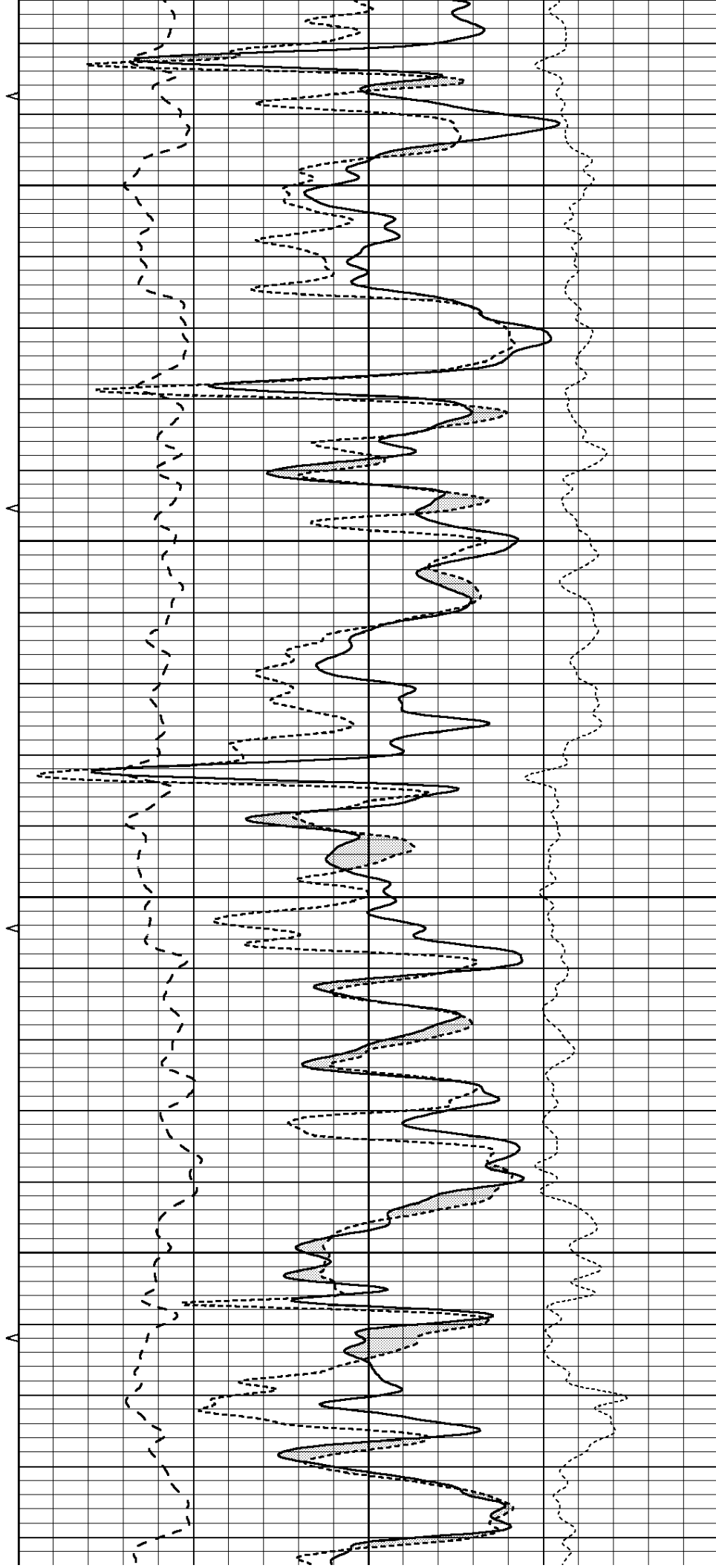


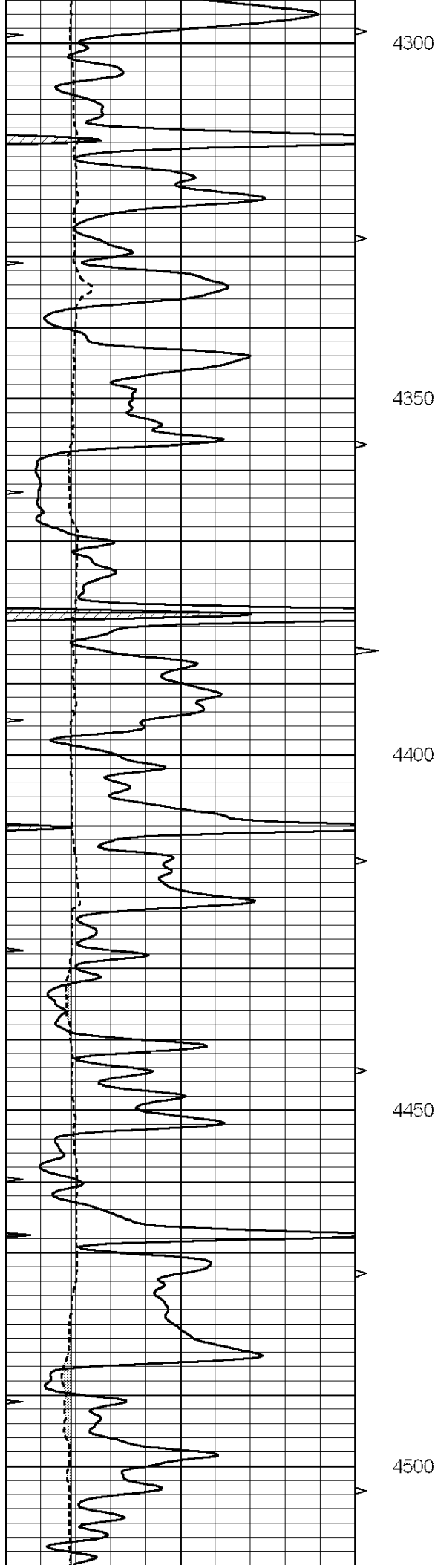
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4150

4200

4250





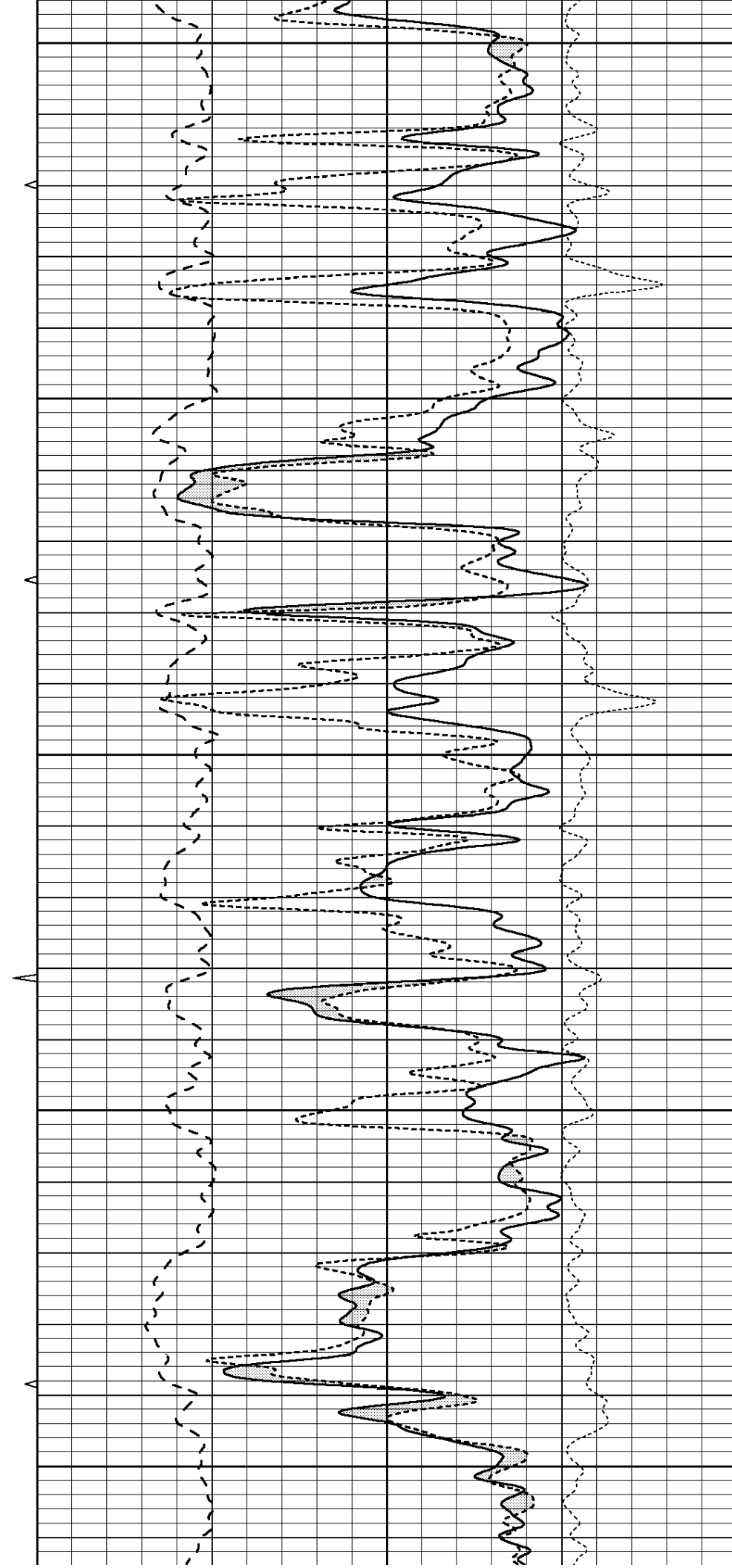
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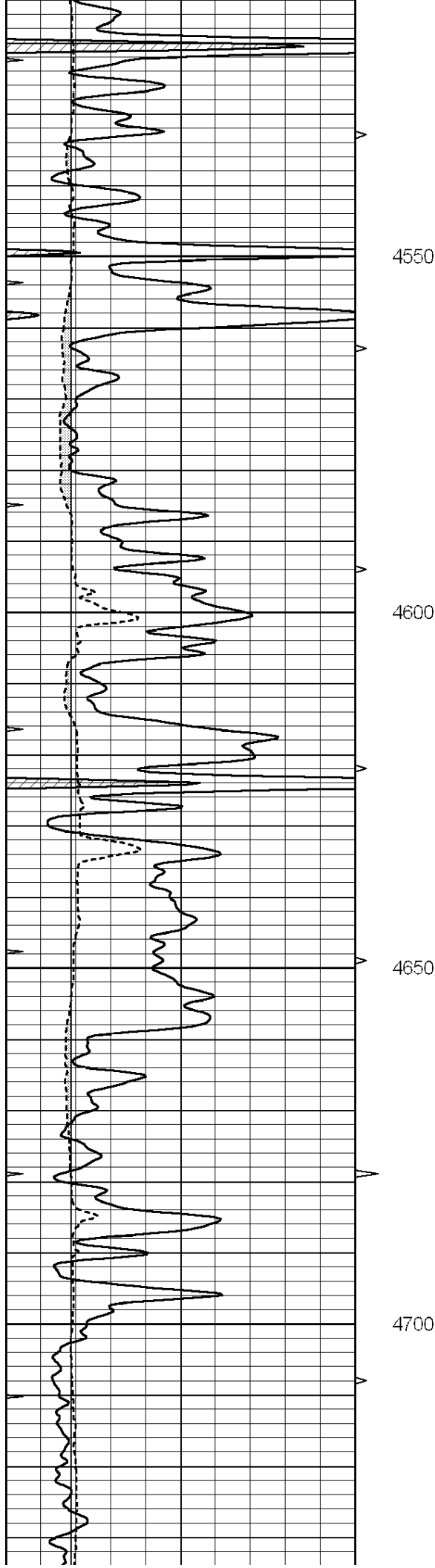
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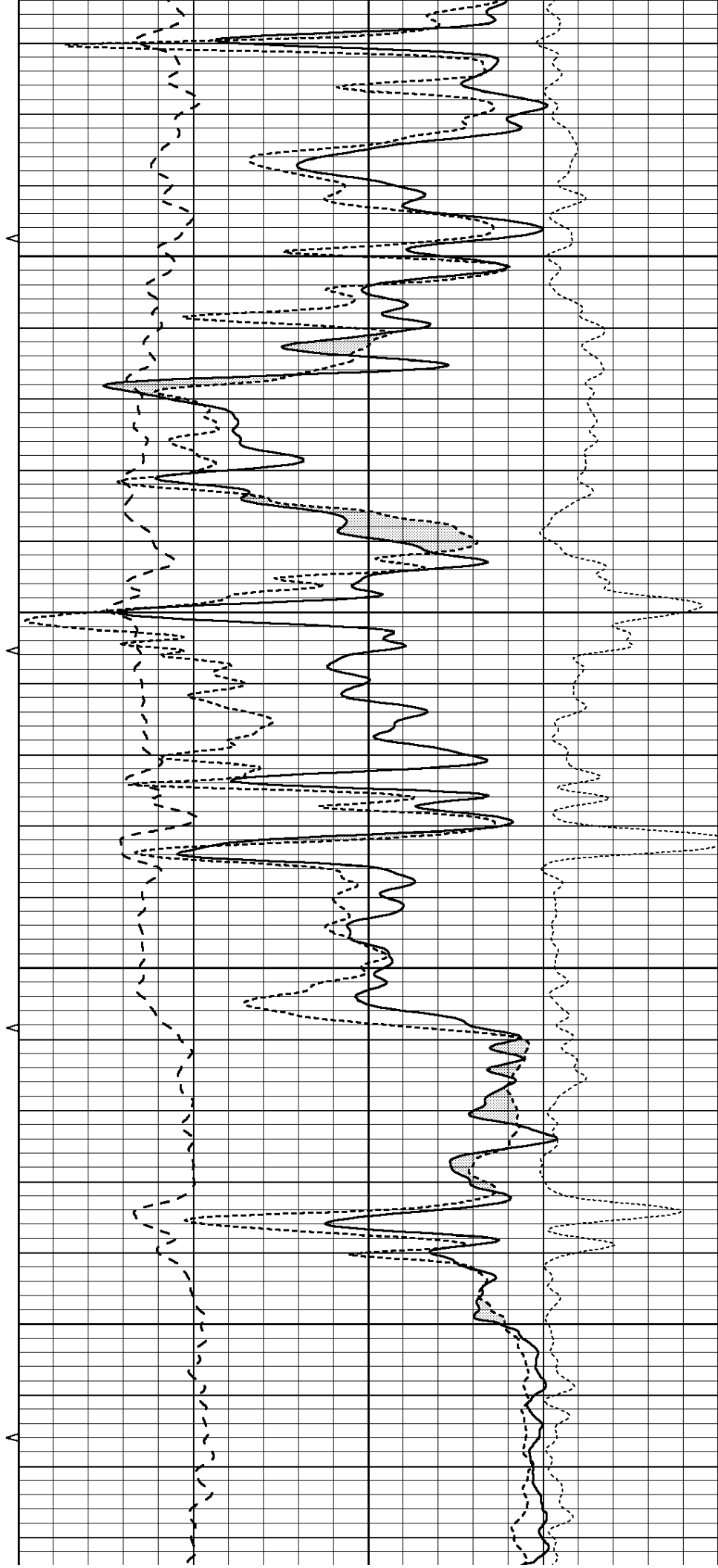


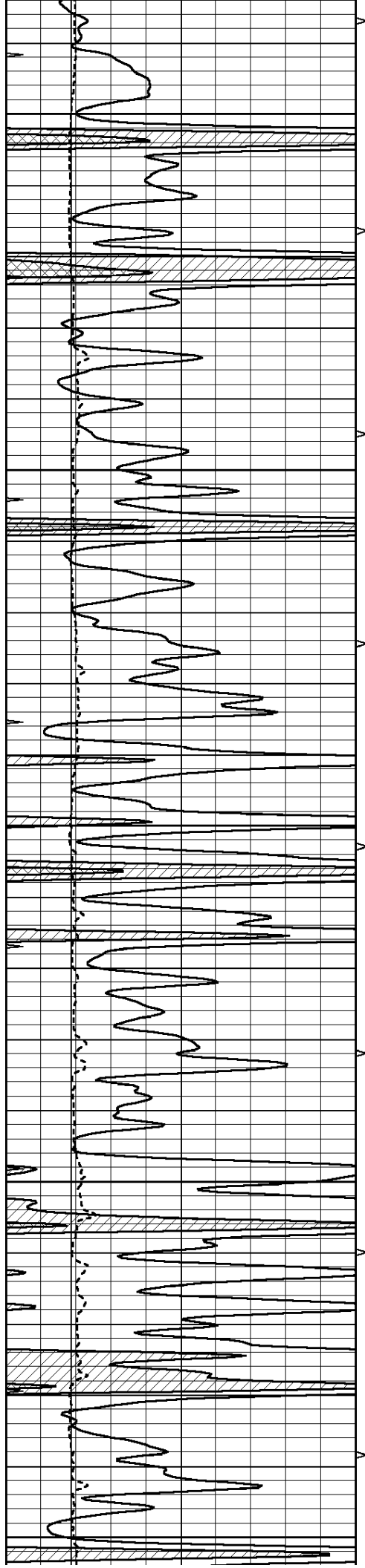
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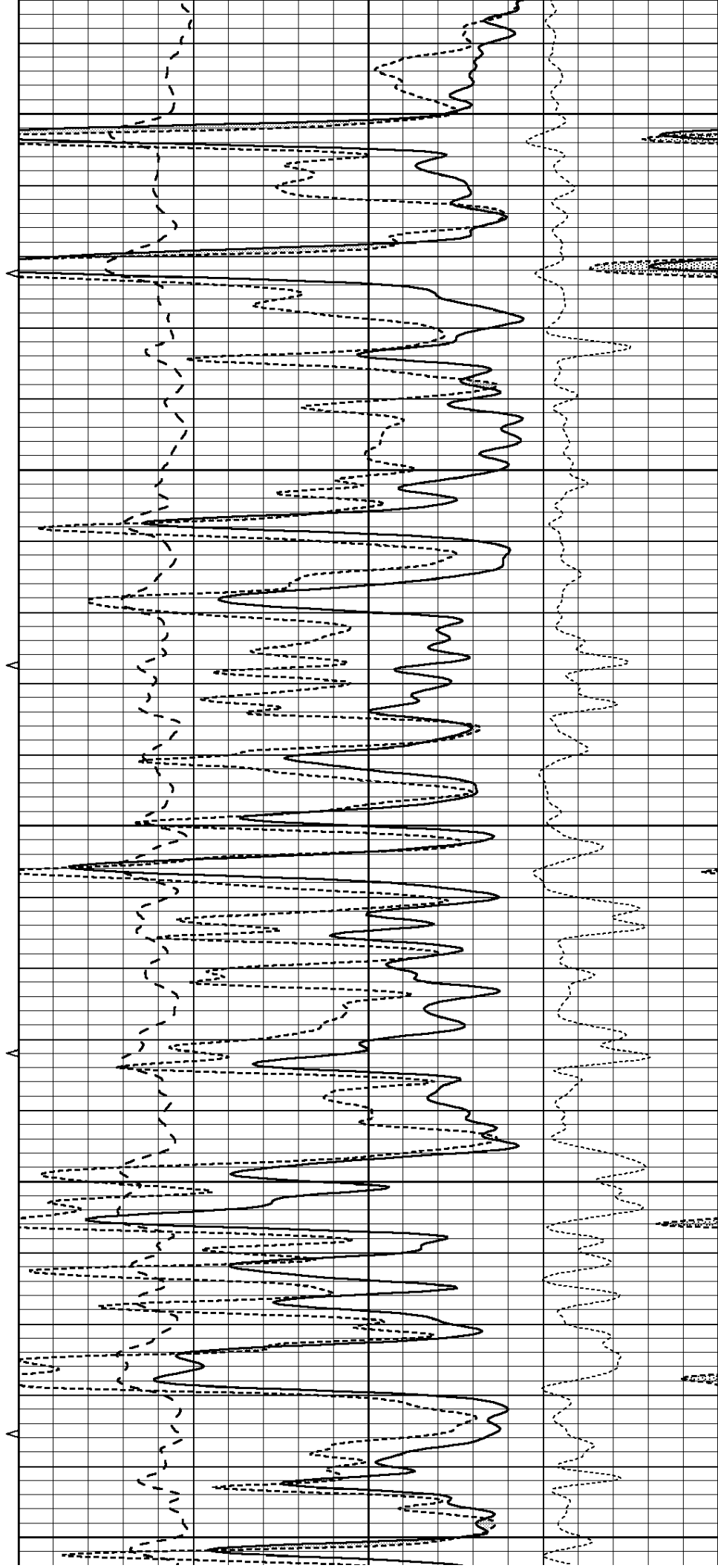
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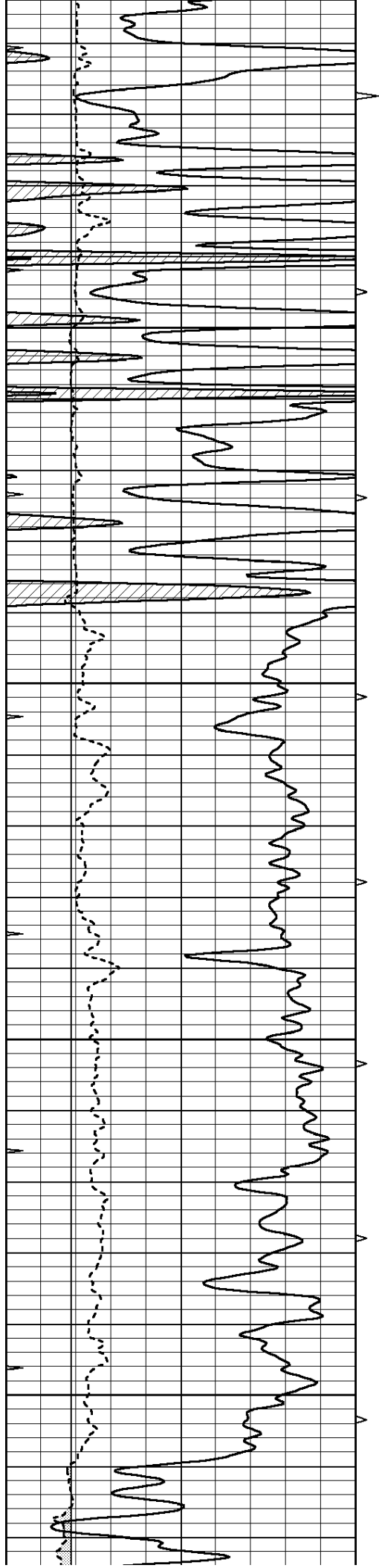
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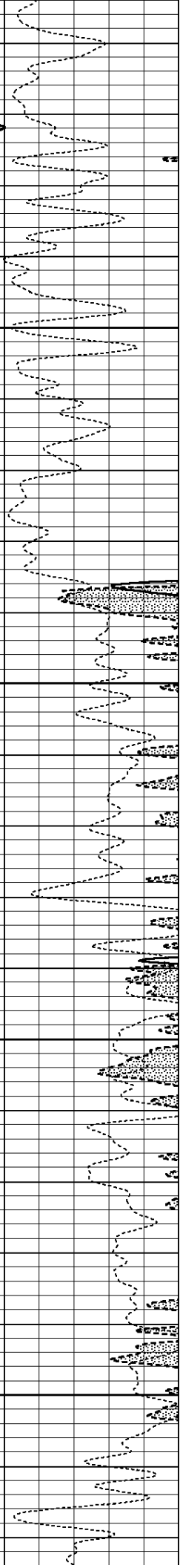
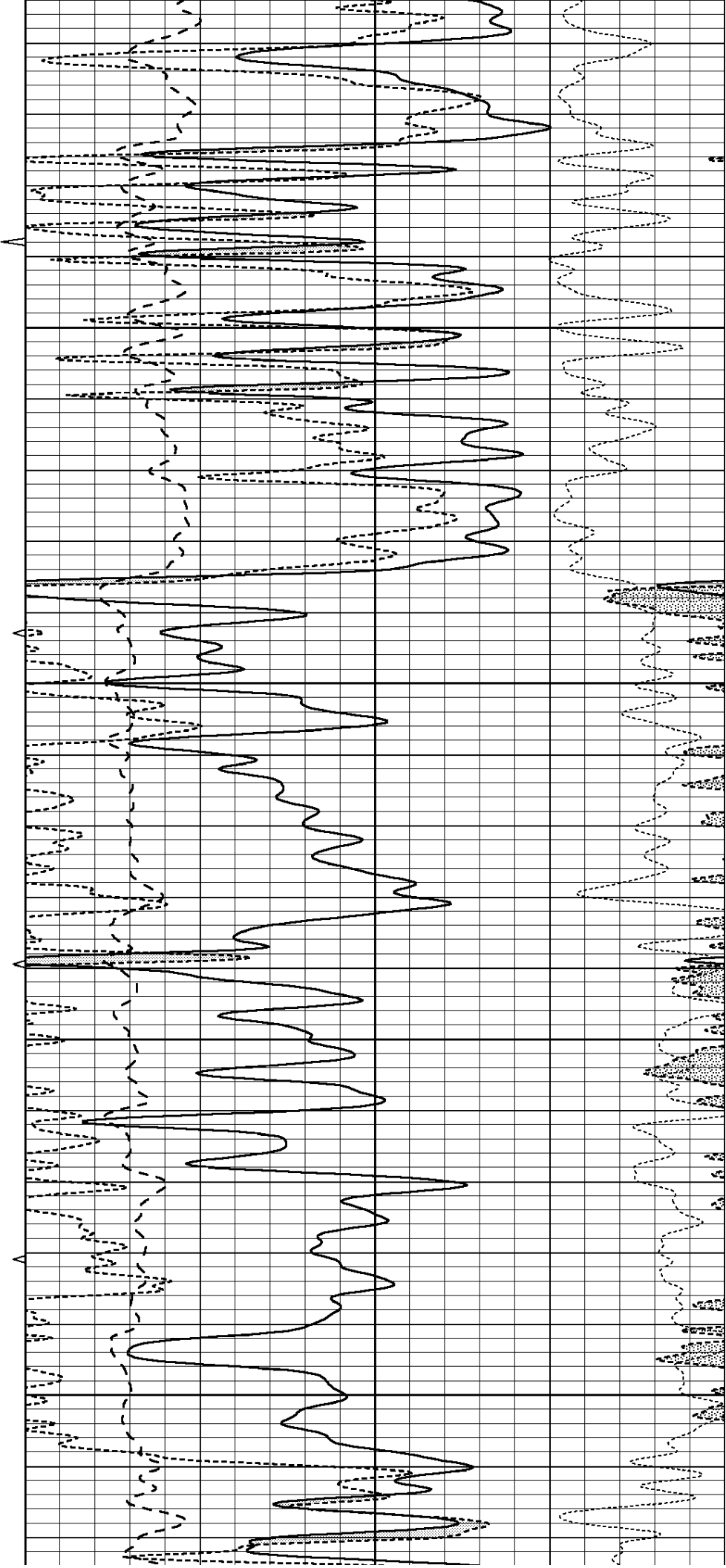


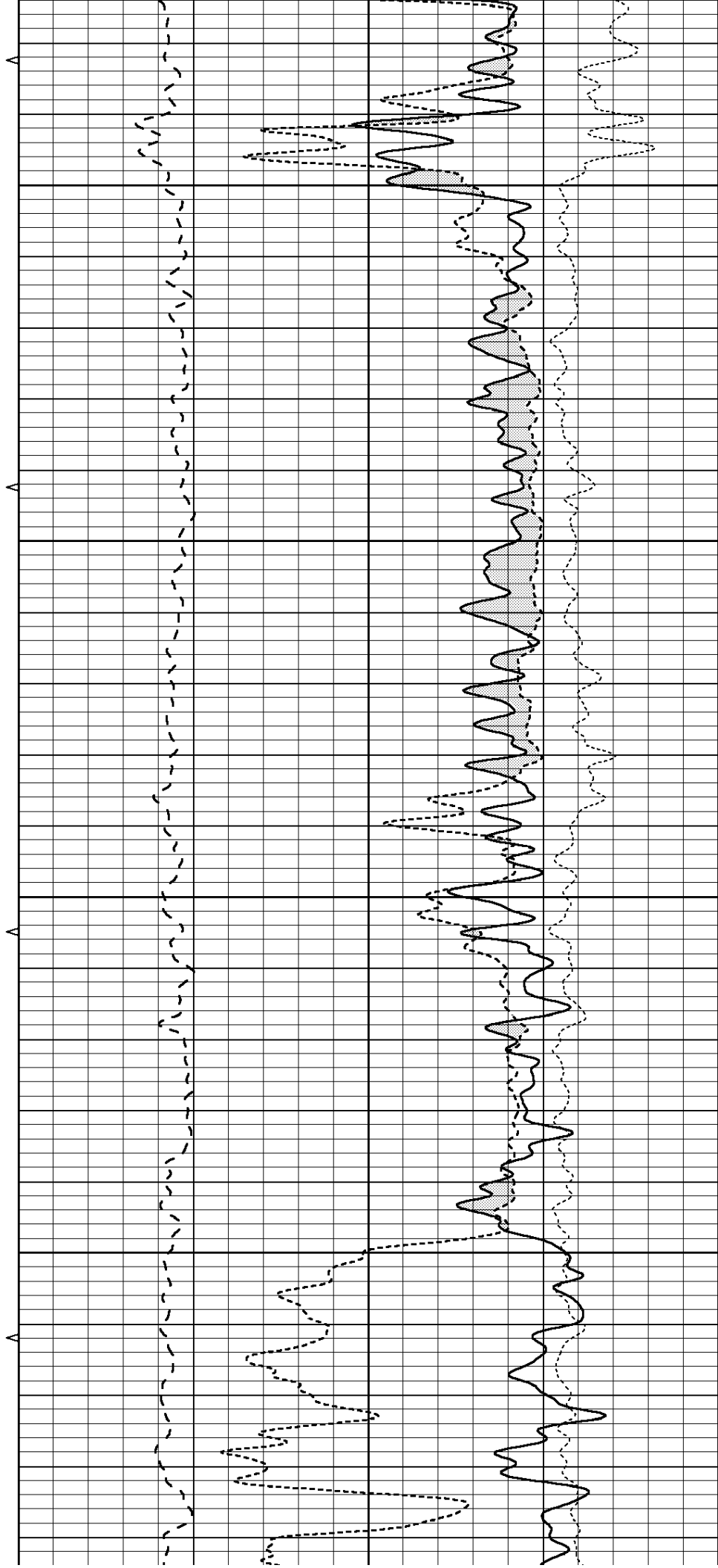
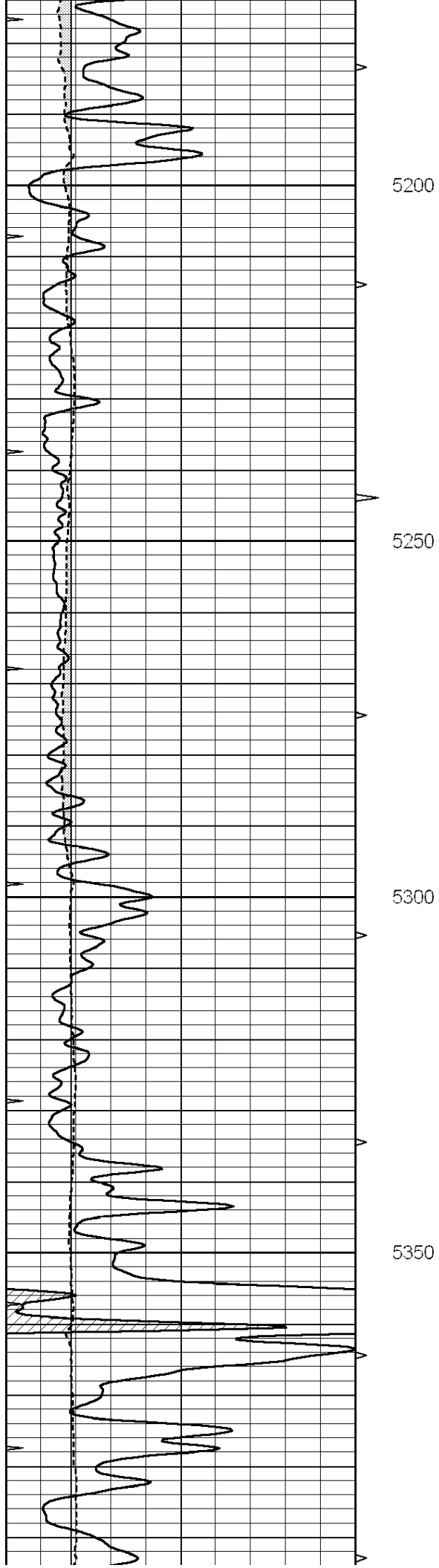
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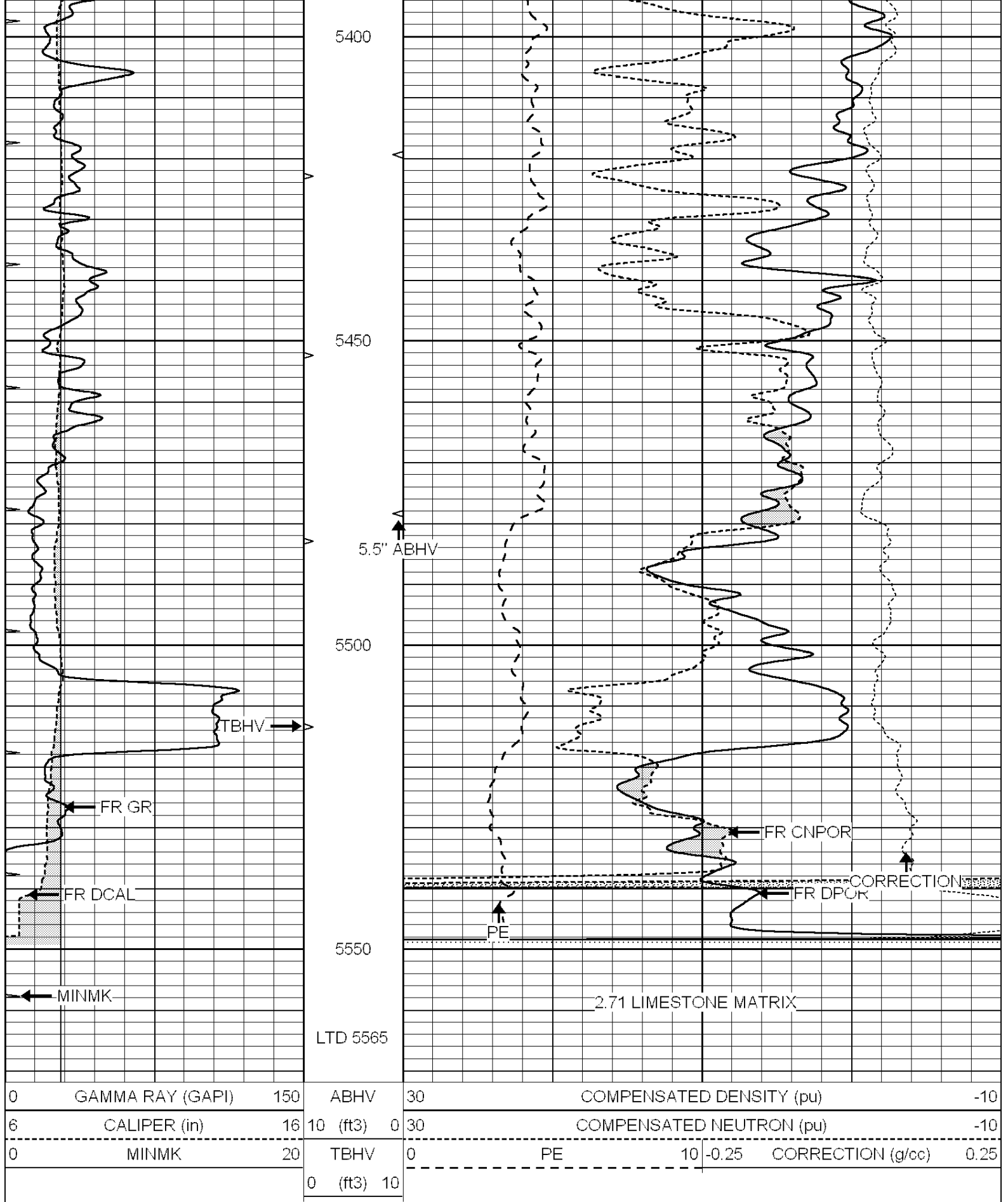
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Database File:

010031pe.db

Dataset Pathname:

pass2.9

Presentation Format:

ldt_neu

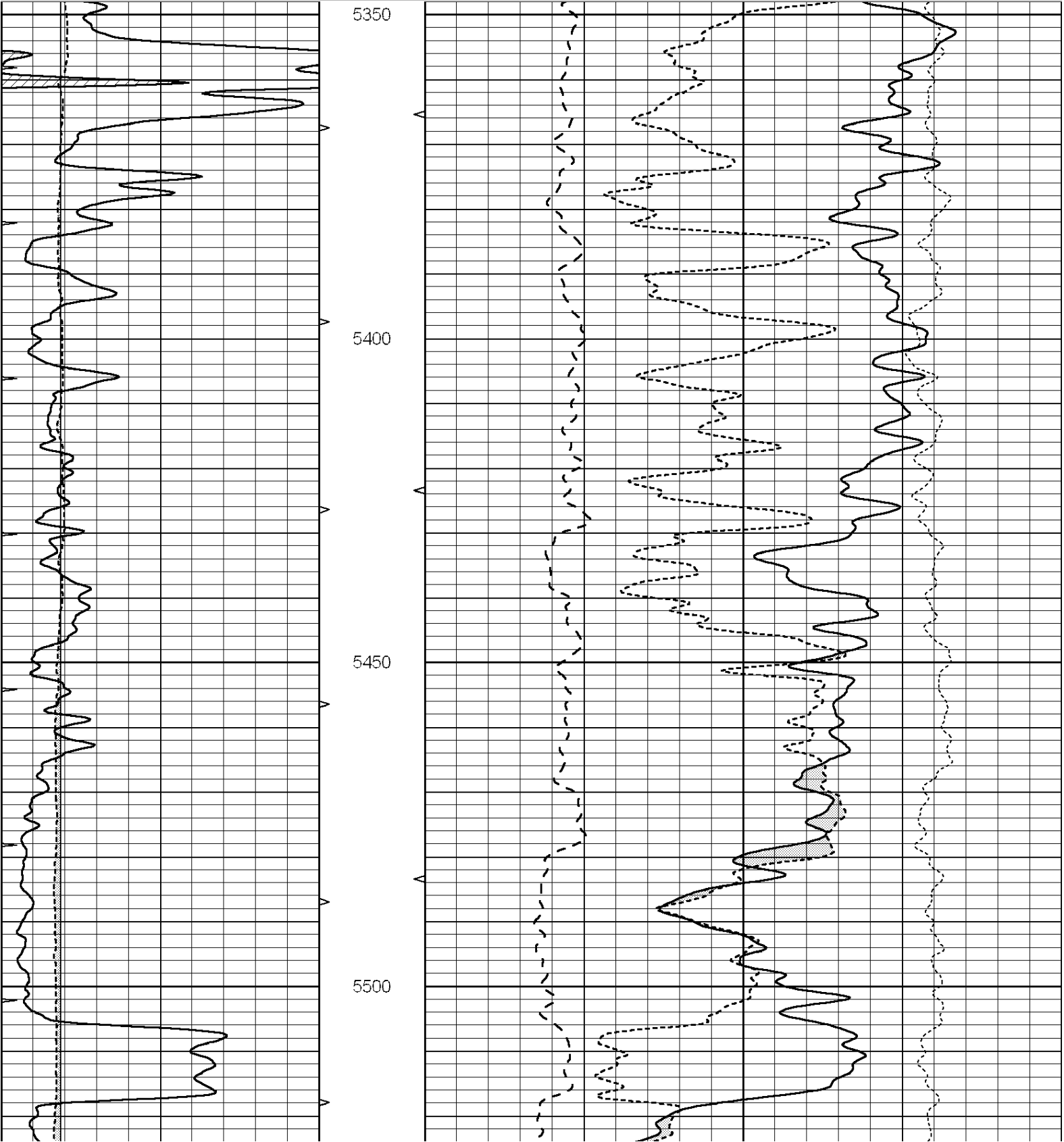
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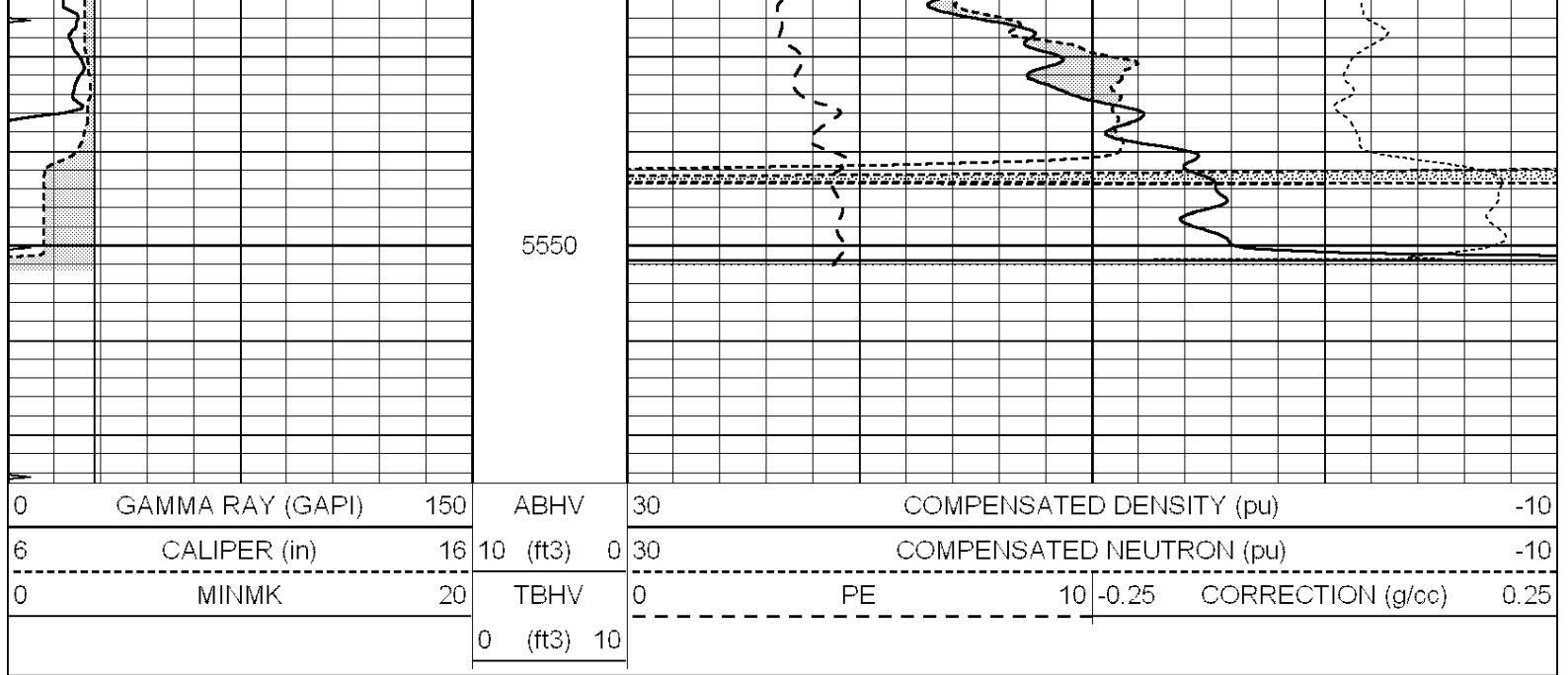
Mon Dec 10 14:44:53 2012 by Calc SOC 120430

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					





Calibration Report		
Database File:	010031pe.db	
Dataset Pathname:	pass3.10	
Dataset Creation:	Mon Dec 10 14:20:06 2012	

Dual Induction Calibration Report

Serial-Model:		DIL3-GEAR	
Performed:		Mon Dec 10 12:16:40 2012	
Readings		References	
Loop:	Air	Loop	Results
Deep	0.011	0.656	V
Medium	0.013	0.740	V
Internal:	Zero	Cal	Results
Deep	0.002	0.645	V
Medium	0.007	0.740	V

Litho Density Calibration Report

Serial: 006 Model: PRB
Performed Sun Aug 15 09:48:41 2010

Litho Density Calibration					
	Background	Magnesium	Aluminum	Sandstone	
Window 1	1686.6	11612.8	3932.0	12718.8	cps
Window 2	1531.4	9204.7	3267.8	9851.9	cps
Window 3	1198.3	4733.6	1952.5	4920.6	cps
Window 4	317.3	321.2	325.9	303.6	cps
Long Space	0.0	7673.3	1736.4	8320.4	cps
Short Space	1.7	2548.5	1657.2	2628.8	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 43.8	Rib Slope	: 0.961	Density/Spine Ratio	: 0.569
Spine Angle	: 73.8	Spine Slope	: 3.453	Spine Intercept	: -18.1

Caliper	
Readings	Reference

Low Ref	3.5	6.7	
High Ref	5.5	15.0	
	Gain: 4.3		Offset: -8.5
Compensated Neutron Calibration Report			
		Serial Number:	070808
		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:	070559		
Tool Model:	OPEN_GR		
Performed:	Wed Nov 28 18:32:17 2012		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3000	GAPI/cps	