



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company		MULL DRILLING COMPANY, INC.	
Well	SAT UNIT #1-14		
Field	WILDCAT		
County	KIOWA	State	COLORADO
Location:	APL # : 05-061-06877		Other Services DIL/MEL SONIC
Permanent Datum		GROUND LEVEL	Elevation 4101
Log Measured From		KELLY BUSHING 11' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 14 TWP 17S RGE 45W			
Date	10/13/12		
Run Number	ONE		
Depth Driller	5300		
Depth Logger	5302		
Bottom Logged Interval	5278		
Top Log Interval	3600		
Casing Driller	8 5/8"@352'		
Casing Logger	350		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICALMUD	CHLORIDES 3,000 PPM	
Density / Viscosity	9.2/60		
pH / Fluid Loss	9.5/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.900@80F		
Rmt @ Meas. Temp	.675@80F		
Rmc @ Meas. Temp	1.08@80F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.563@128F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	8:15 A.M.		
Maximum Recorded Temperature	128F		
Equipment Number	4010		
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, KS. (785) 628-6395
DIRECTIONS
CHEYENNE WELLS, CO. 18S. ON HWY 385 TO "RD. Z", 6W. TO "RD. 59", 1/2S., E. INTO



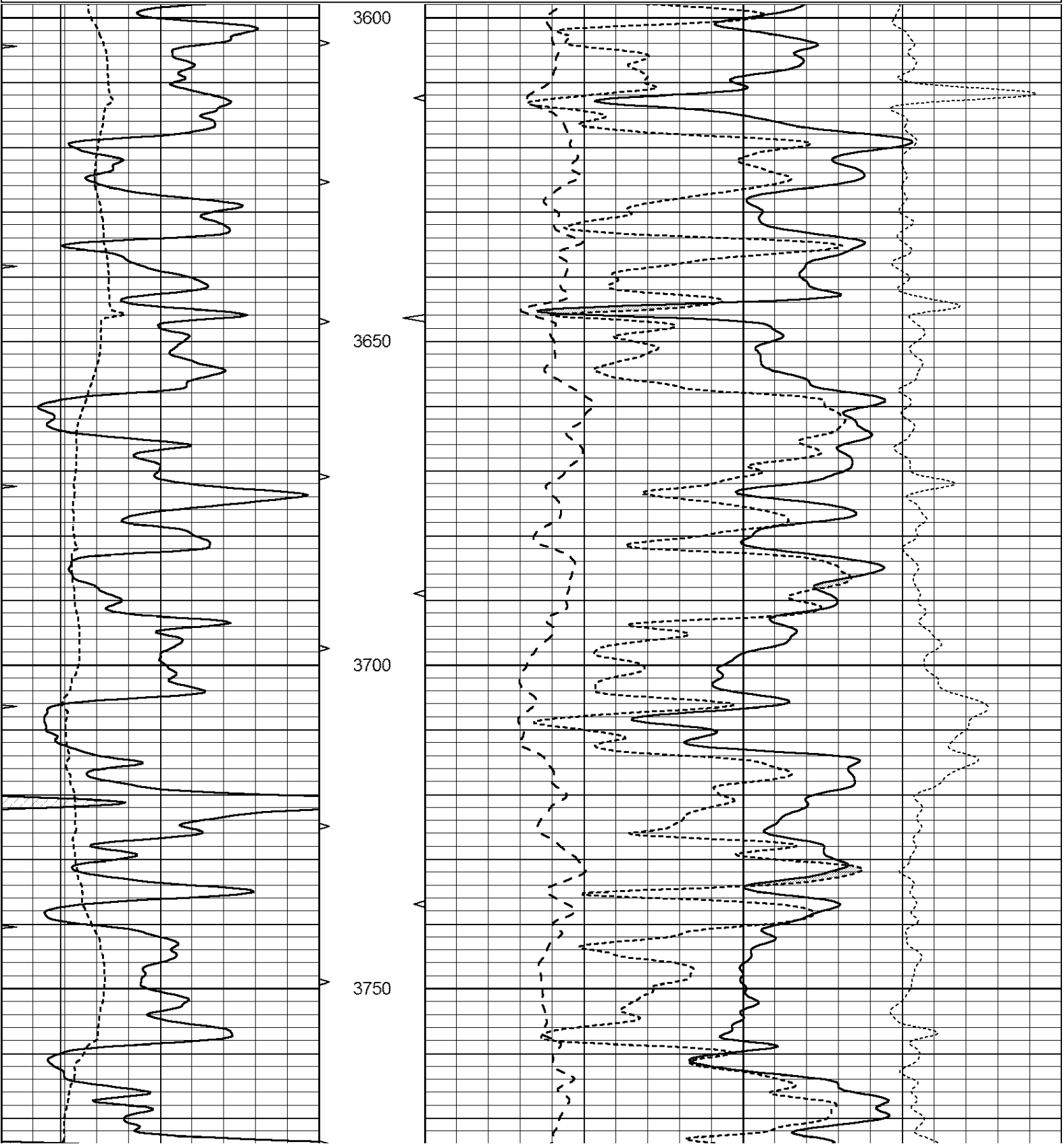
NABORS

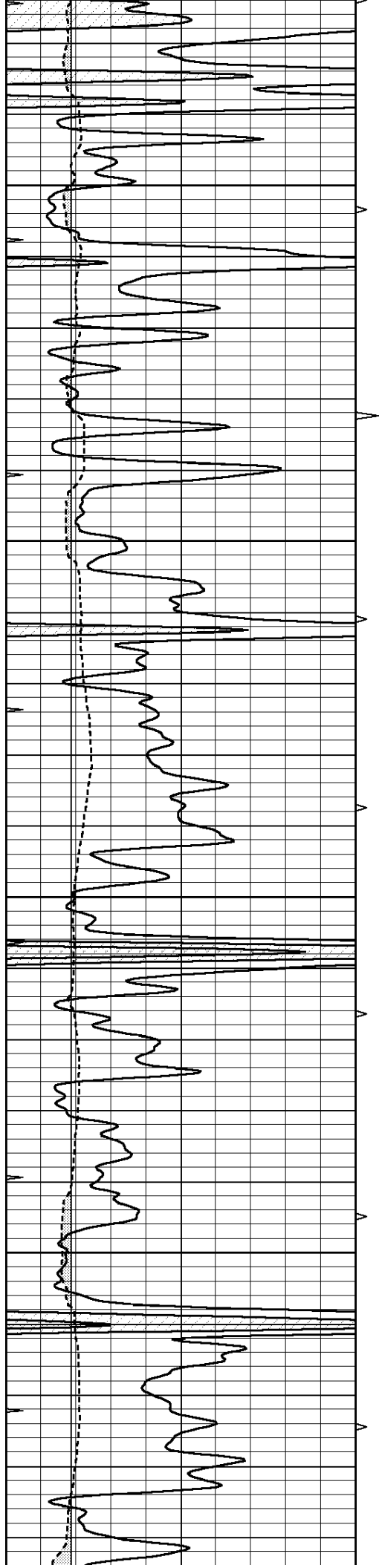
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MAIN SECTION

Database File: 409693pe.db
 Dataset Pathname: pass3.5
 Presentation Format: _ldt_neu
 Dataset Creation: Sat Oct 13 10:22:42 2012 by Calc Open-Cased 110302
 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			



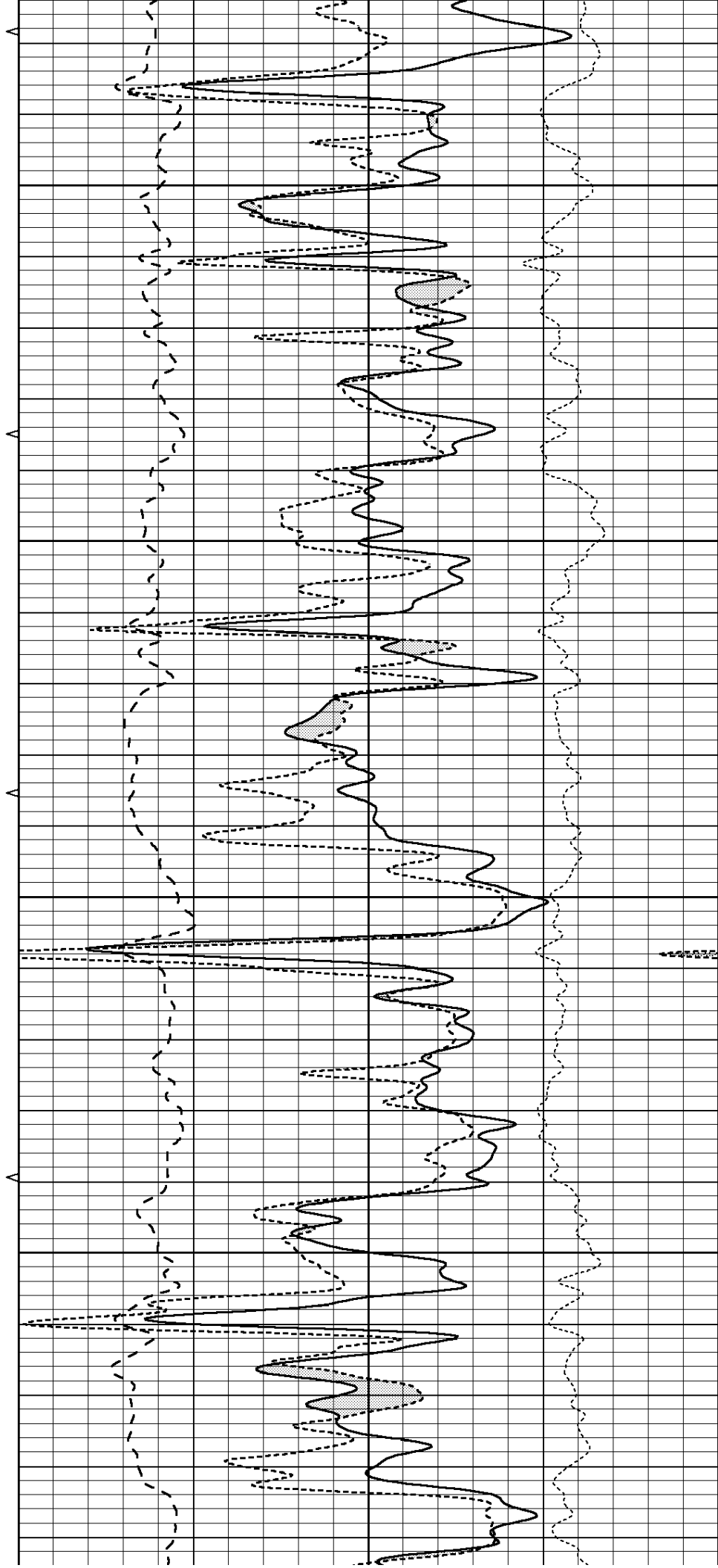


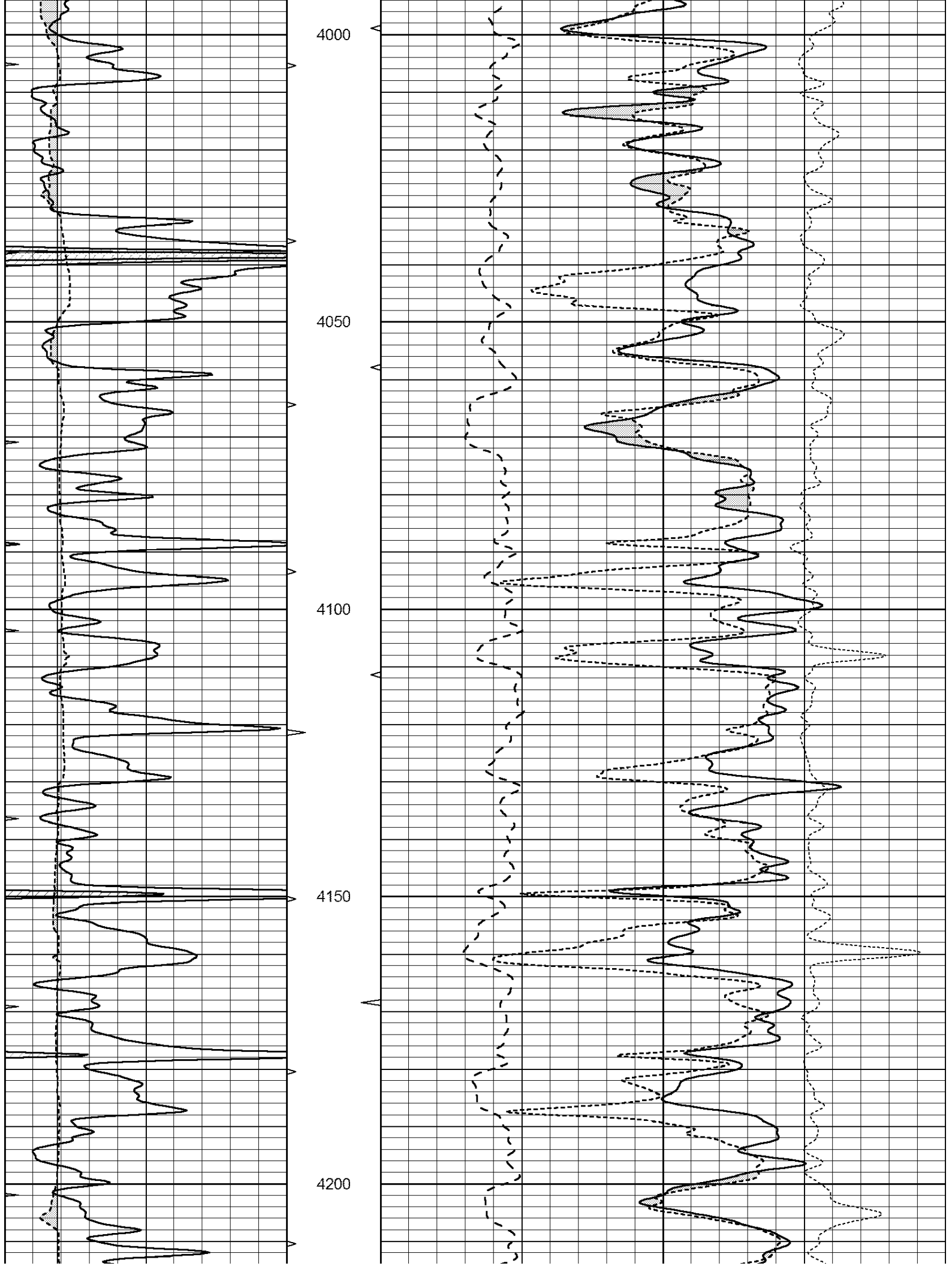
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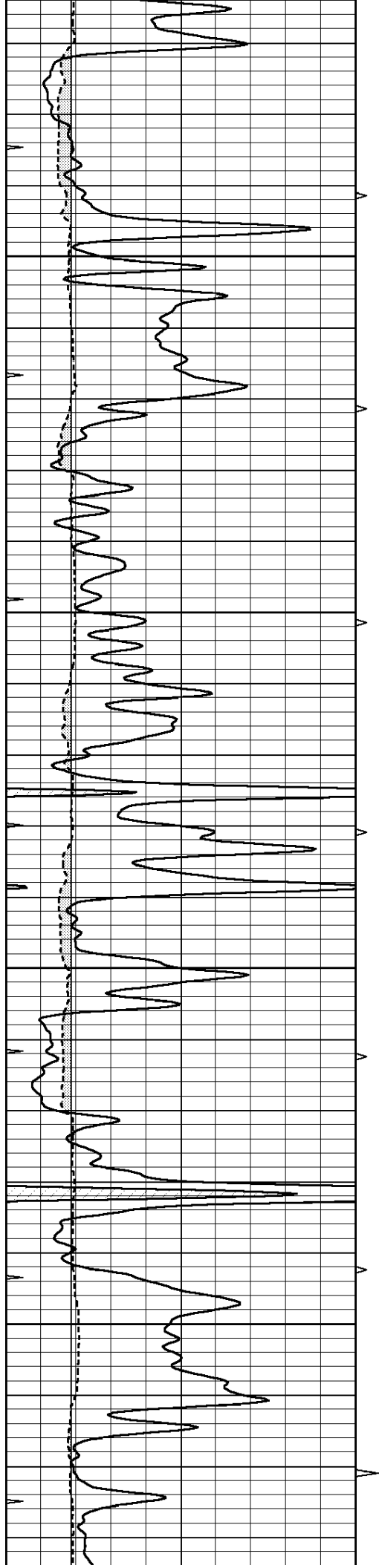
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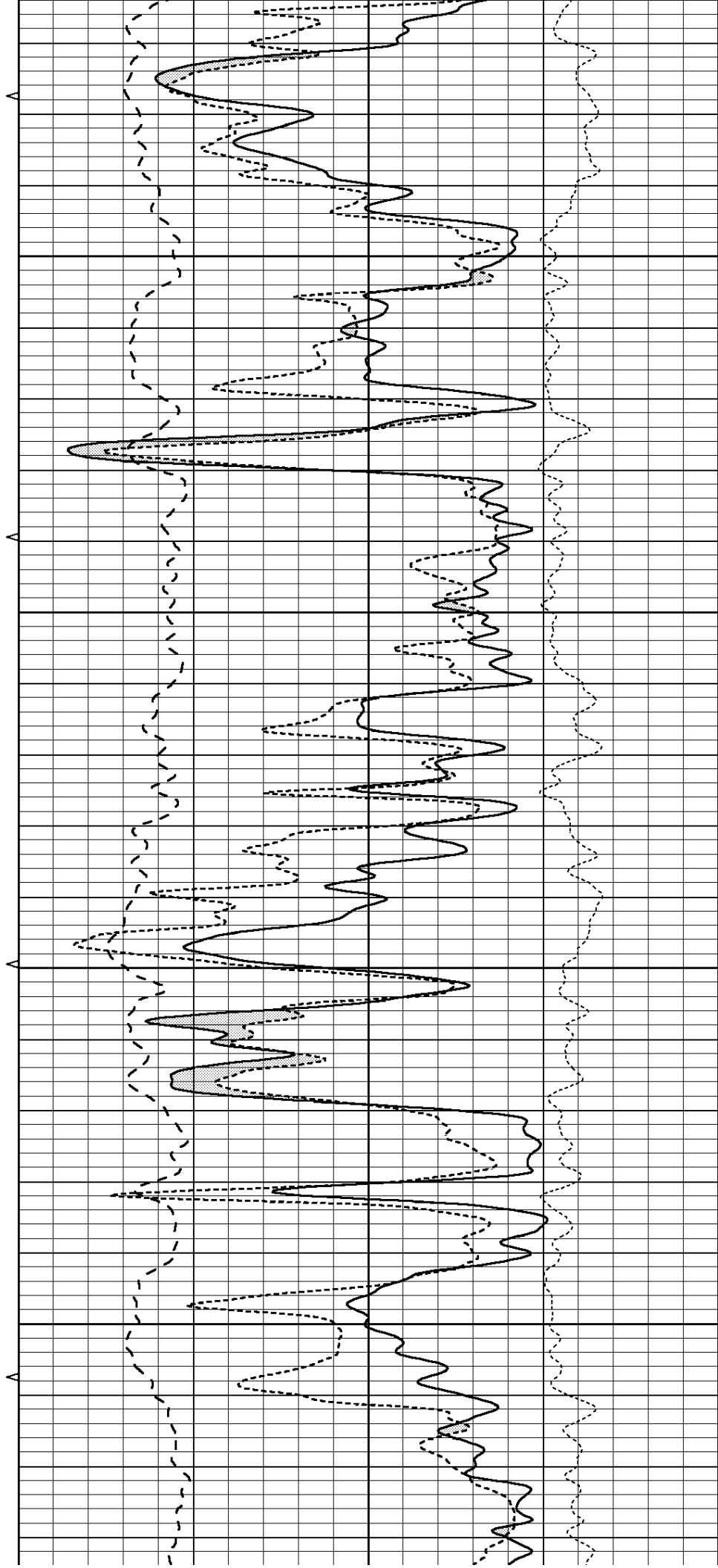


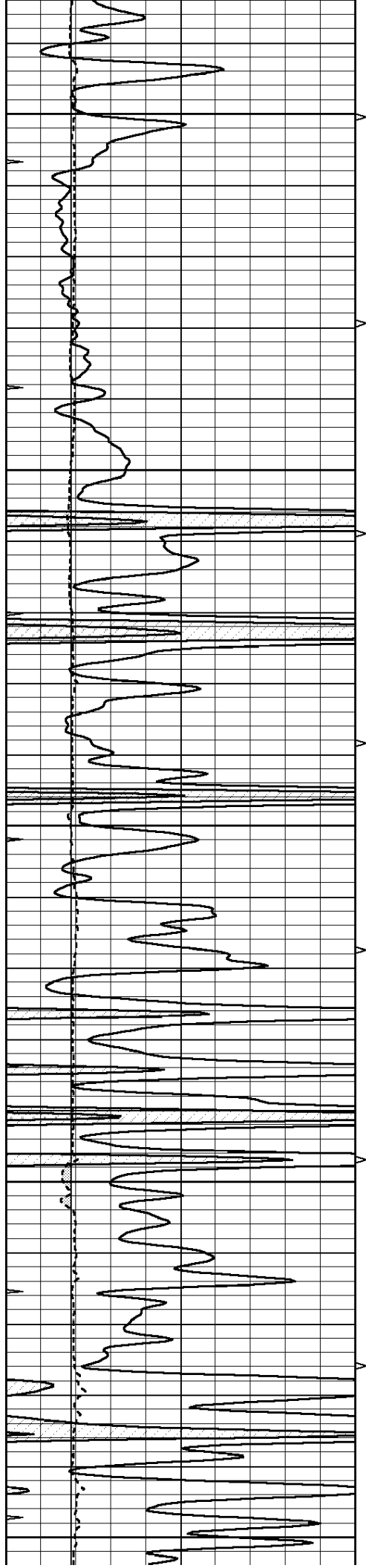
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4400





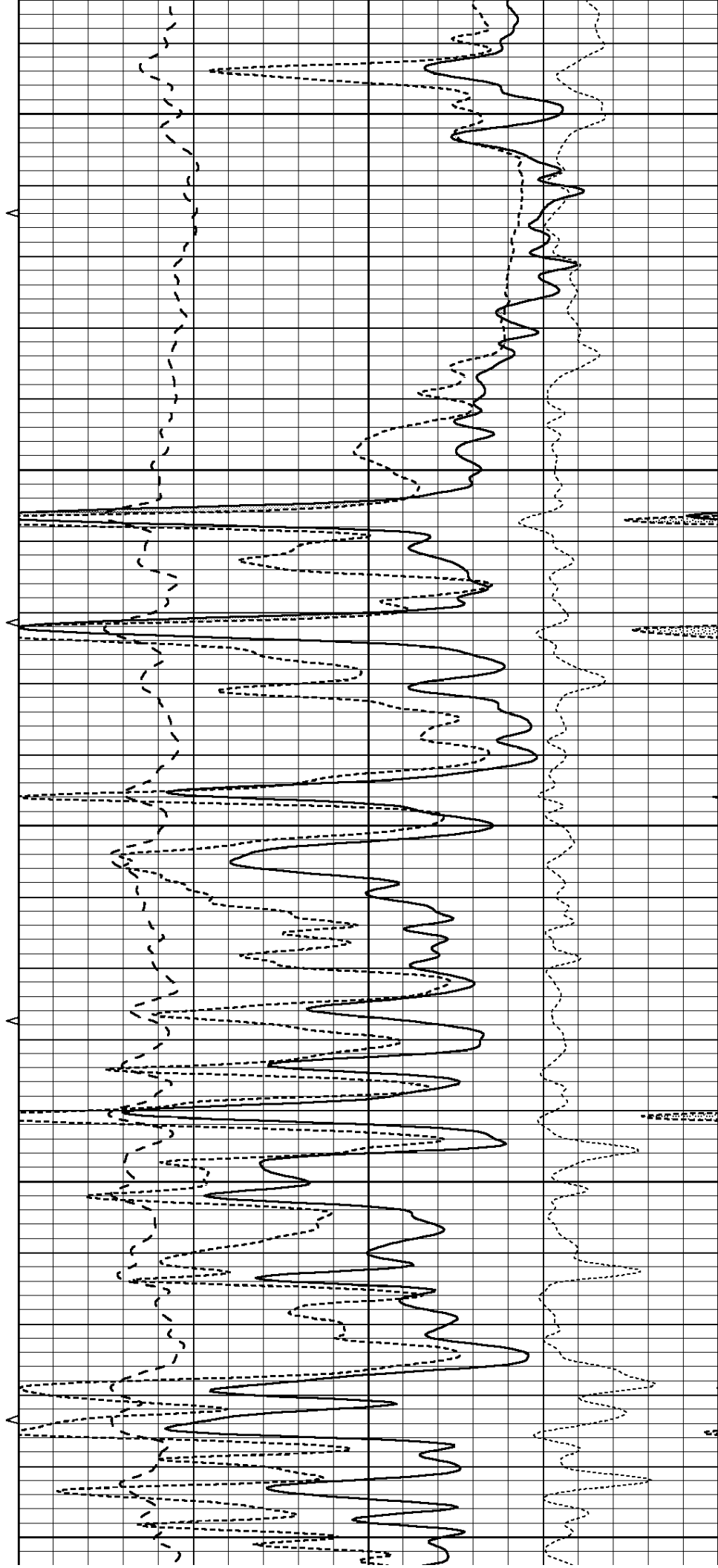
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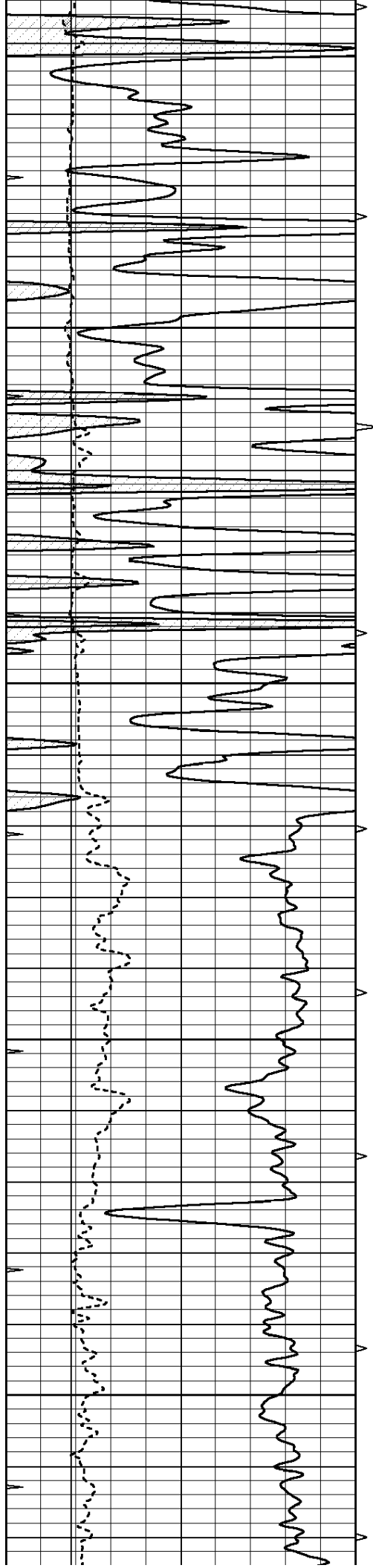
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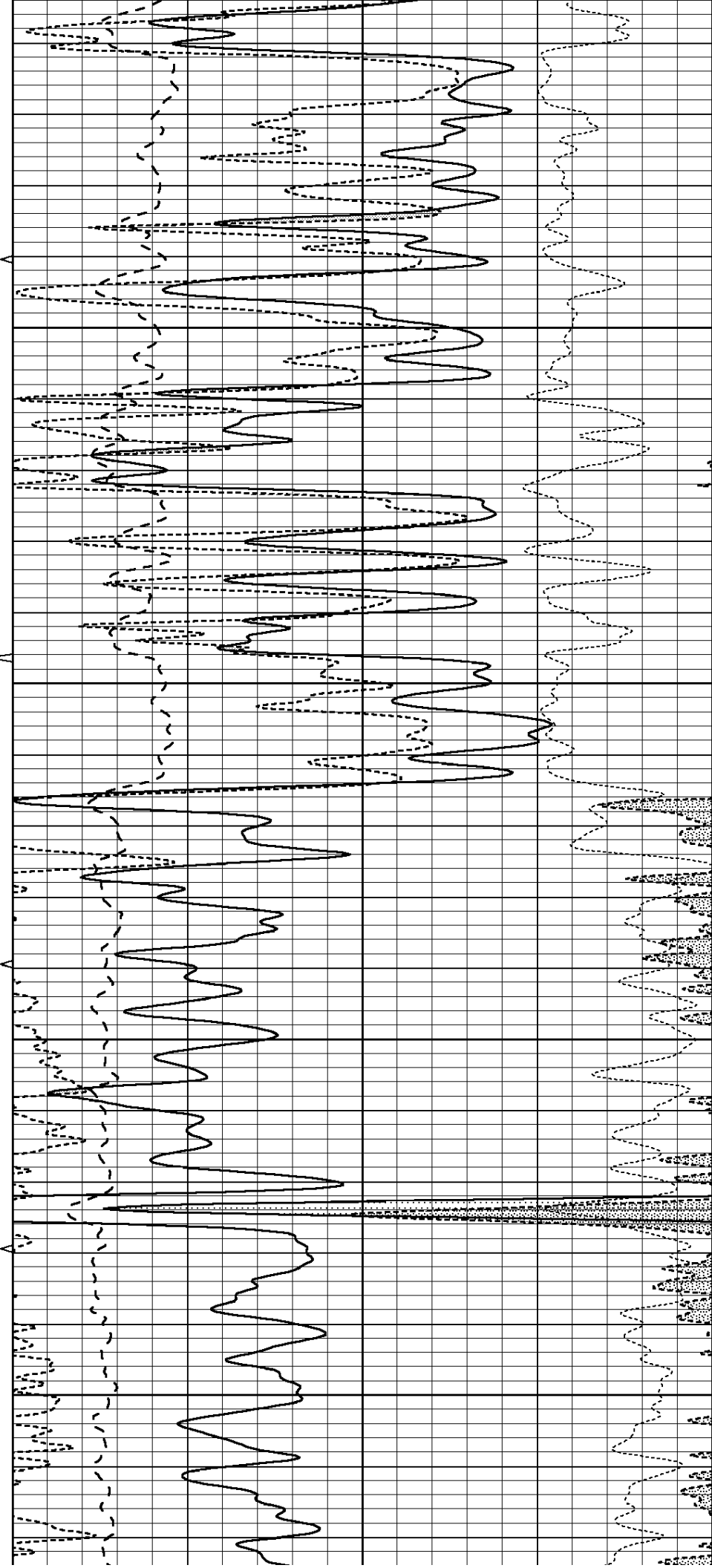


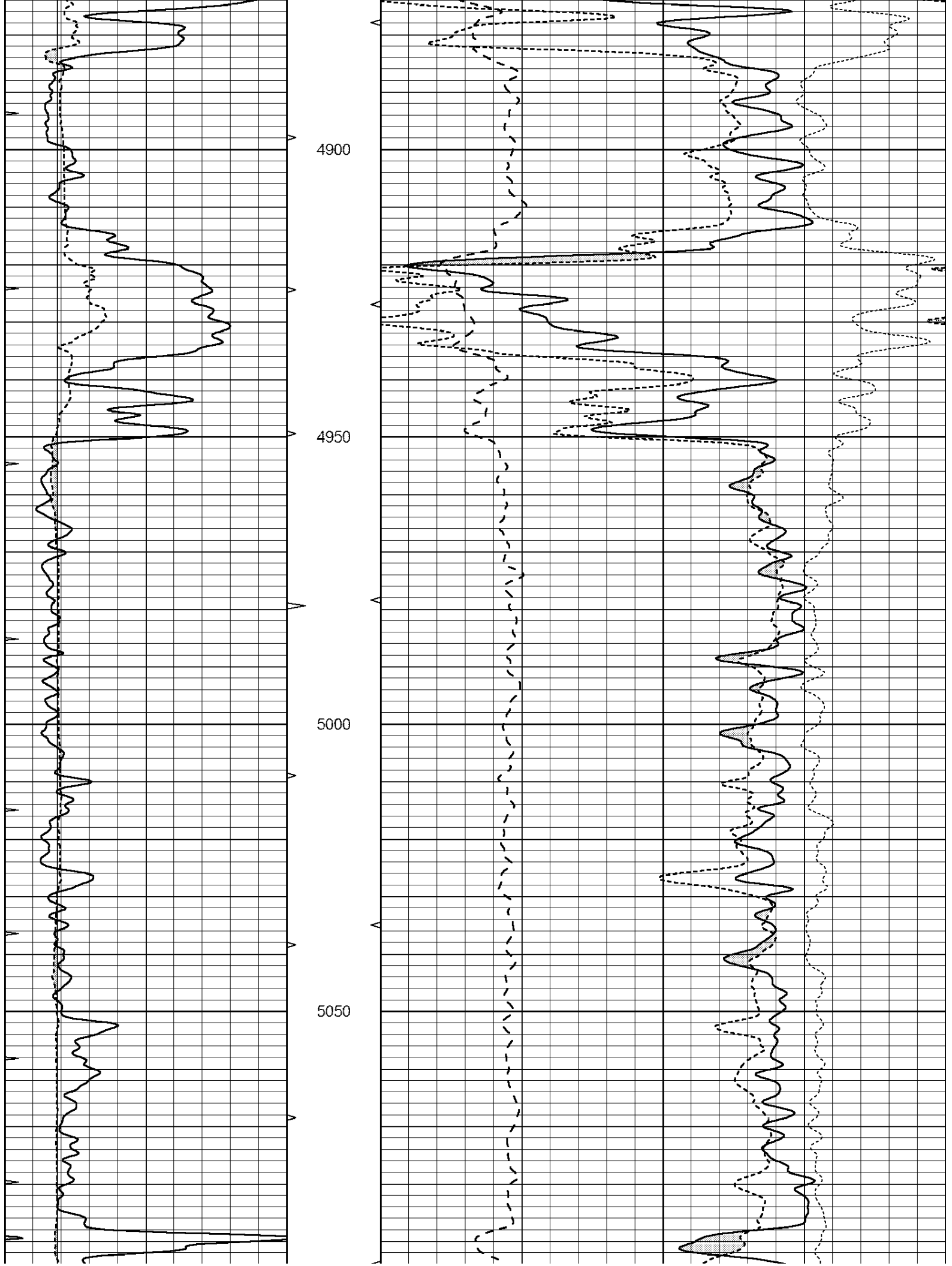
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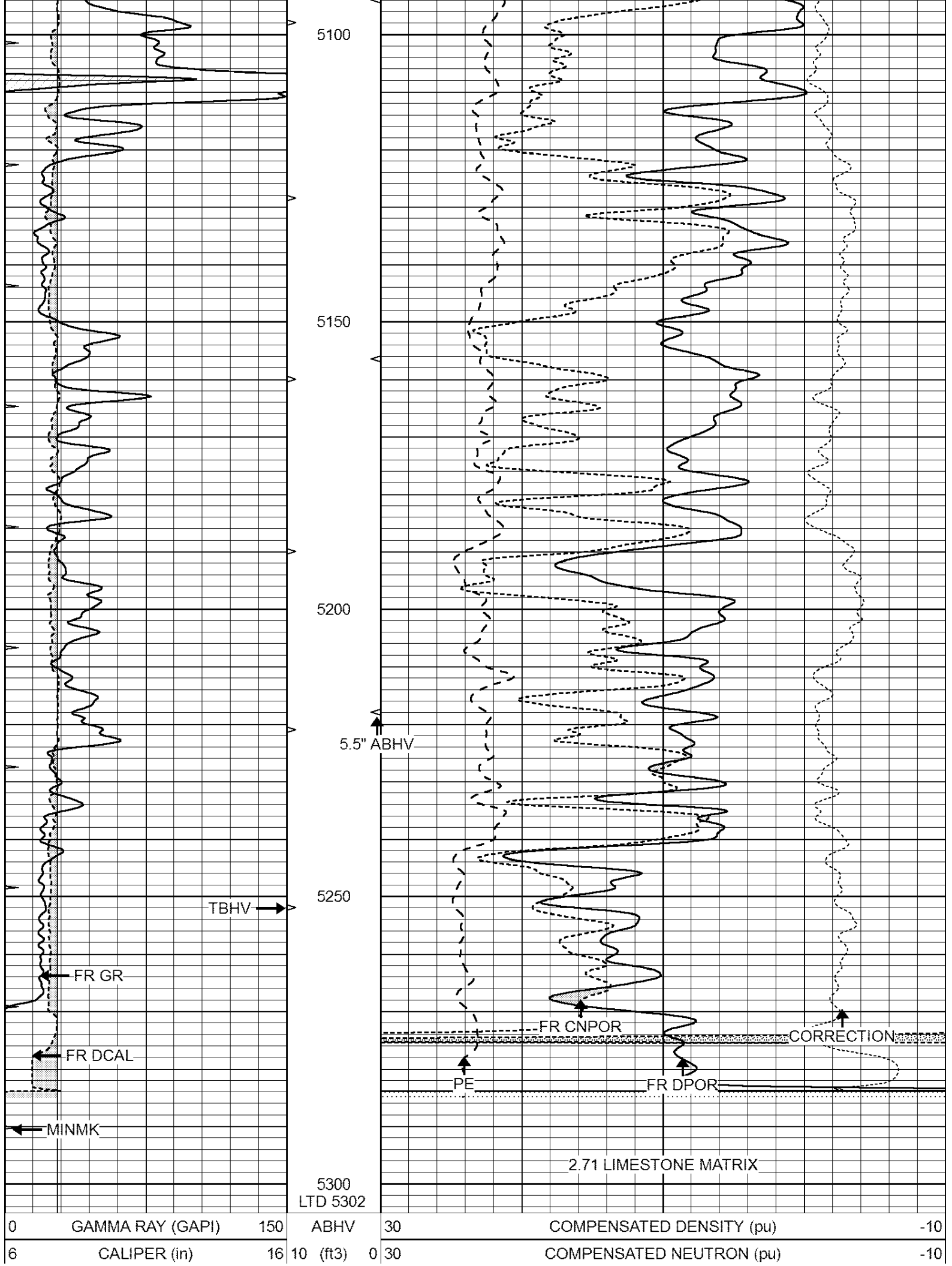
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0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3) 10						

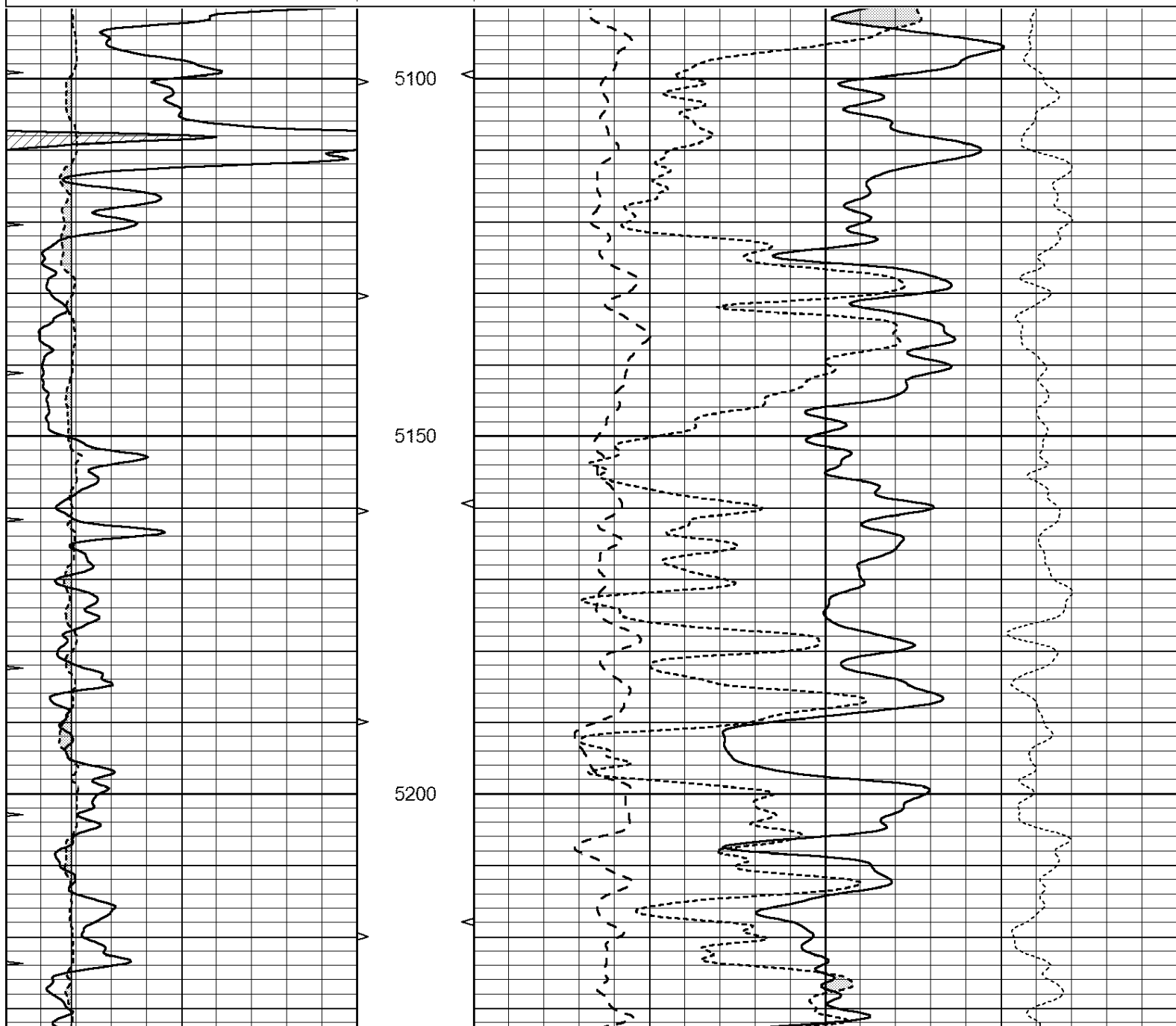


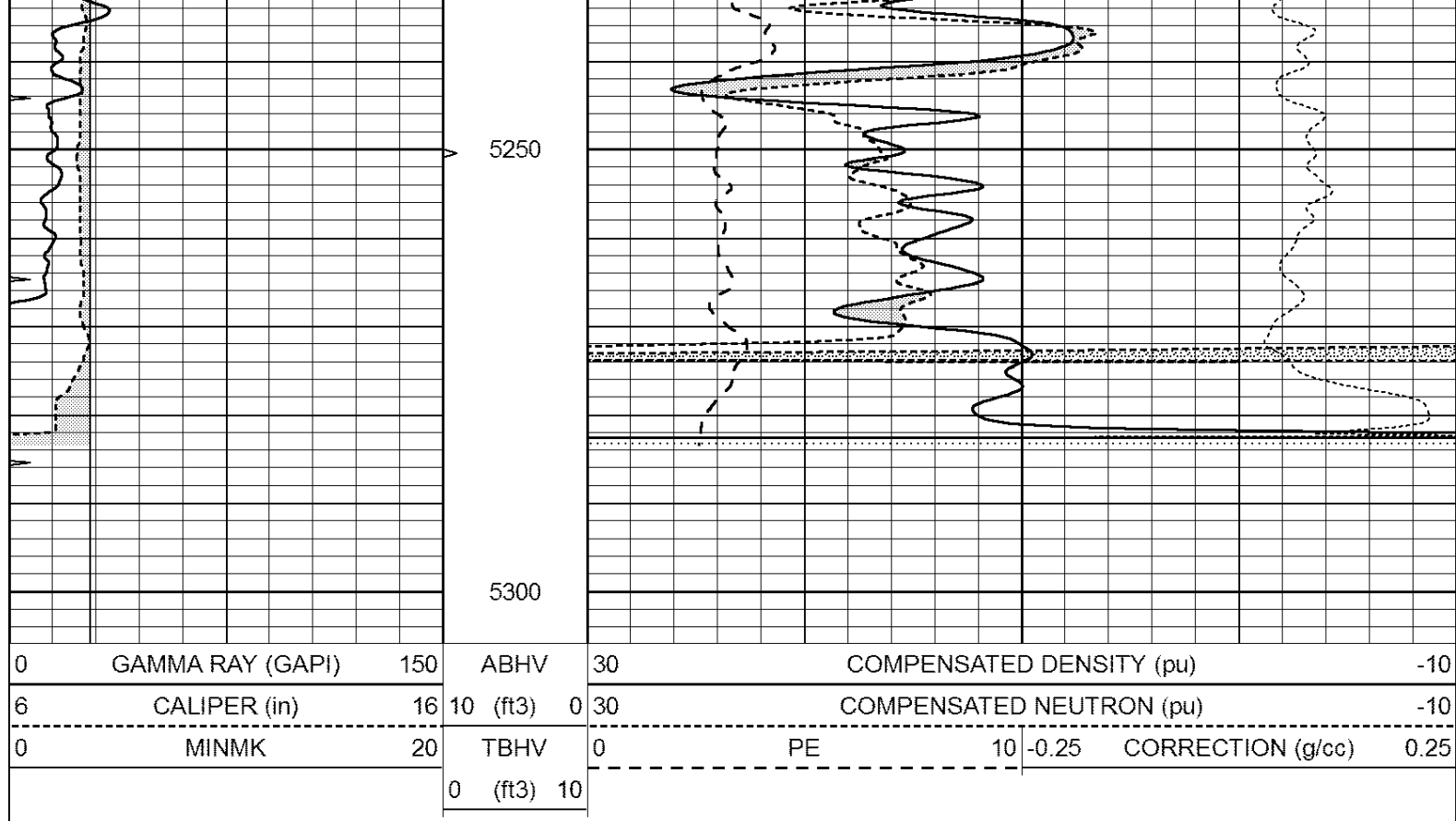
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REPEAT SECTION

Database File: 409693pe.db
Dataset Pathname: pass2.4
Presentation Format: ldt_neu
Dataset Creation: Sat Oct 13 10:29:38 2012 by Calc Open-Cased 110302
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: 409693pe.db
 Dataset Pathname: pass3.5
 Dataset Creation: Sat Oct 13 10:22:42 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Mon Oct 01 18:43:03 2012

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	15.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-1.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555

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					
Low Ref	Readings 3.5	Reference 6.6			
High Ref	5.5	15.0			
	Gain: 4.4		Offset: -8.8		
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 Sep 19 15:58:00 2012			
Calibrator Value:		1.0	GAPI		
Background Reading:		0.0	cps		
Calibrator Reading:		1.0	cps		
Sensitivity:		0.3000	GAPI/cps		