



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY / NEUTRON LOG

Company		RITCHIE EXPLORATION, INC.	
Well	#1 REYNOLDS - POTOSI		
Field	THUNDER		
County	FORD	State	KANSAS
Location:	API # : 15-057-20881-0000 2580' FSL & 2080' FEL N/2 - NW - SE SEC 13 TWP 27S RGE 24W		Other Services DIL
Permanent Datum	GROUND LEVEL	Elevation	2432
Log Measured From	KELLY BUSHING 10' A.G.L.		
Drilling Measured From	KELLY BUSHING	Elevation	K.B. 2442 D.F. 2440 G.L. 2432
Date	3/20/13		
Run Number	ONE		
Depth Driller	5100		
Depth Logger	5100		
Bottom Logged Interval	5076		
Top Log Interval	3400		
Casing Driller	8 5/8" @ 409'		
Casing Logger	409		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6,800 PPM	
Density / Viscosity	9.3/55		
pH / Fluid Loss	9.5/10.4		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.700 @ 90F		
Rmf @ Meas. Temp	.525 @ 90F		
Rmc @ Meas. Temp	.840 @ 90F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.500 @ 126F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	2:15 P.M.		
Maximum Recorded Temperature	126F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
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" HAYS, KANSAS (785) 628-6395
DIRECTIONS

FT. DODGE, KS. 1 E. ON HWY 400 TO "RD. 117", 1 1/4S. TO BLKTOP, 1E. PAST ELEVATOR, S. PAST E.
SIDE OF FARM YARD THEN W. INTO AFTER FENCE



NABORS

**COMPLETION
& PRODUCTION**

MAIN SECTION

Database File:

010728ddn.db

Dataset Pathname:

pass3.6

Presentation Format:

den_neu

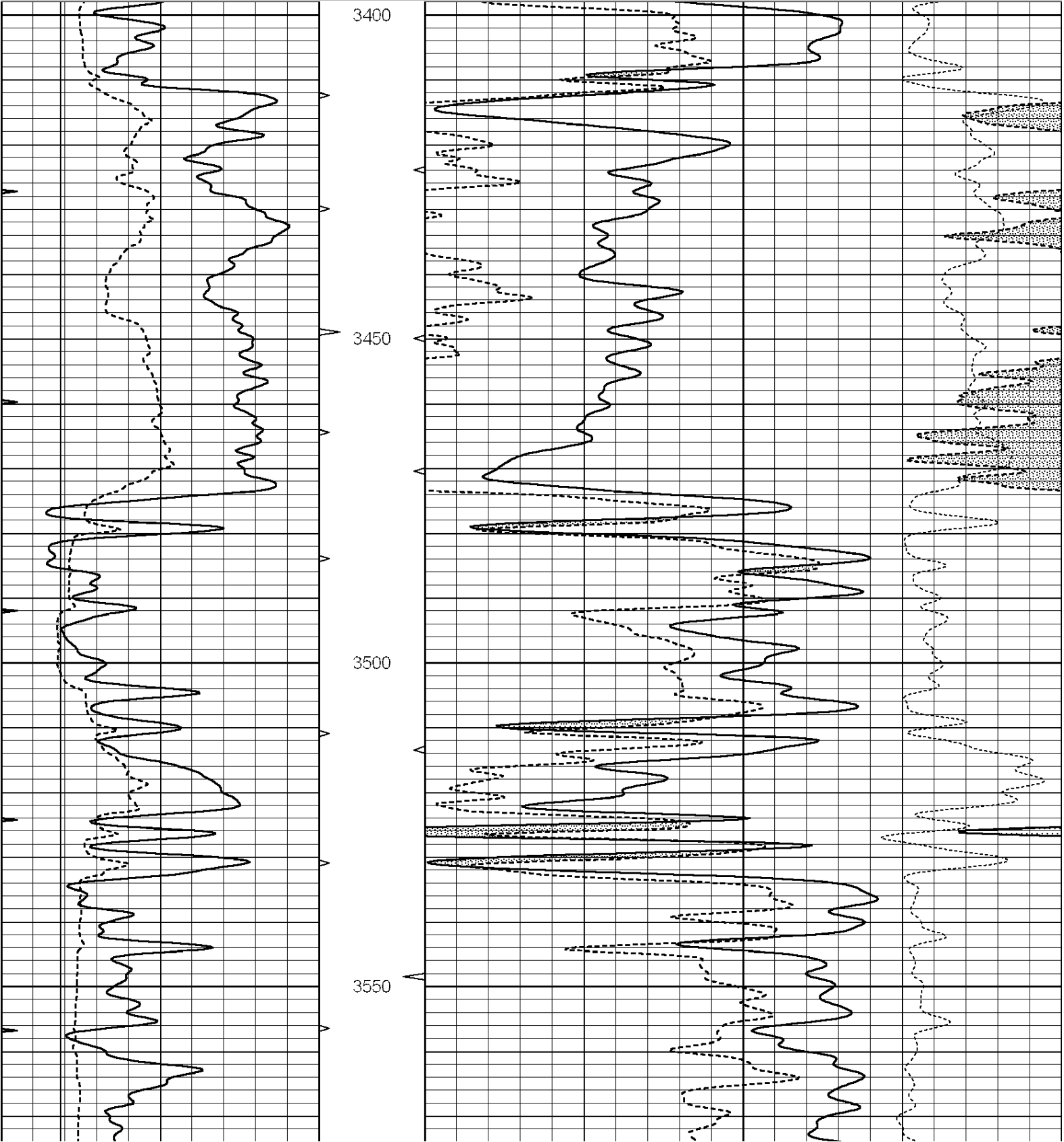
Dataset Creation:

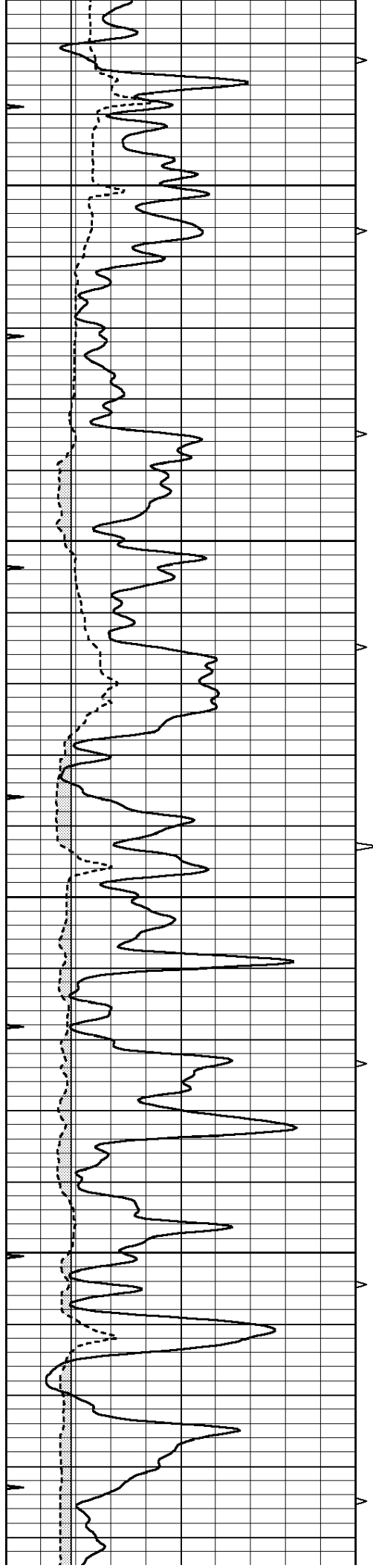
Wed Mar 20 15:55:41 2013 by Calc SOC 120430

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		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		



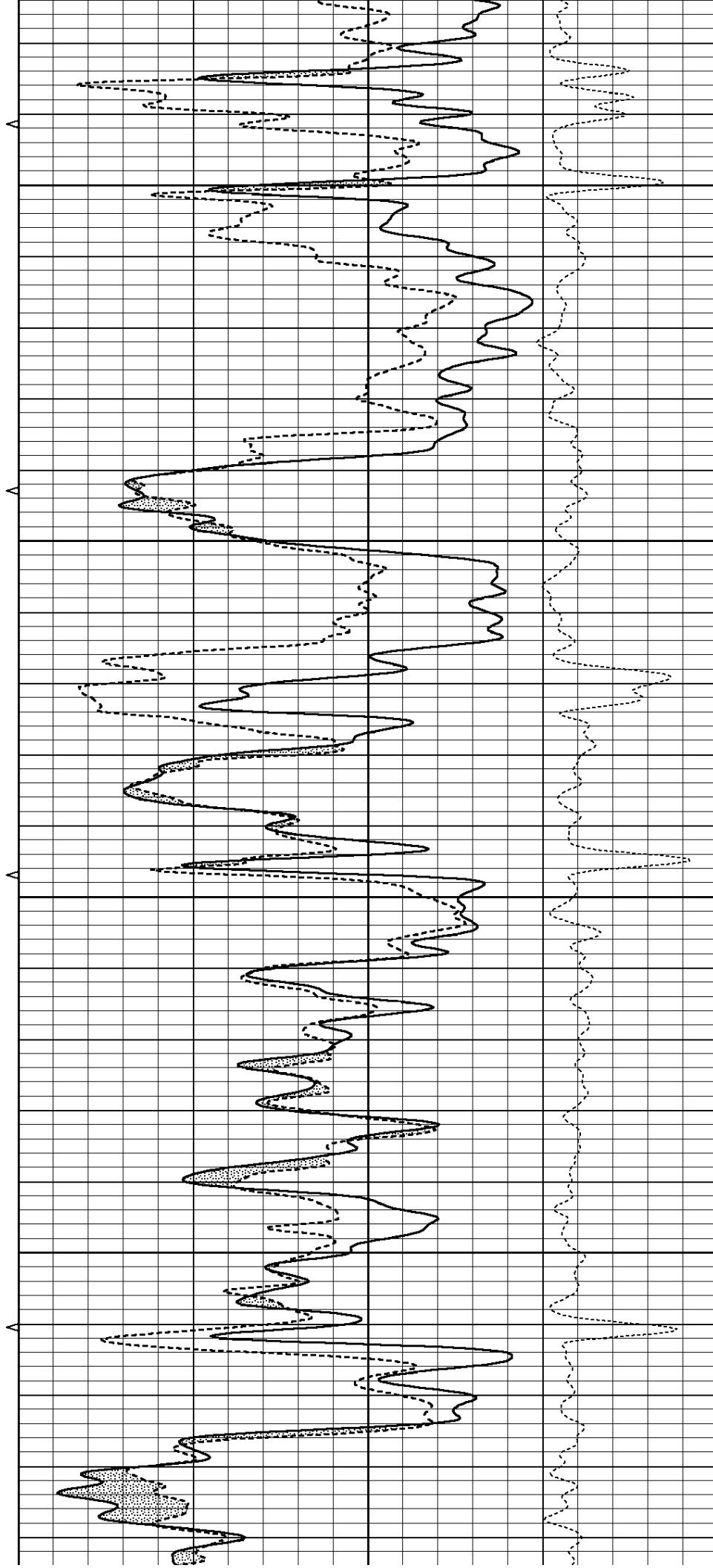


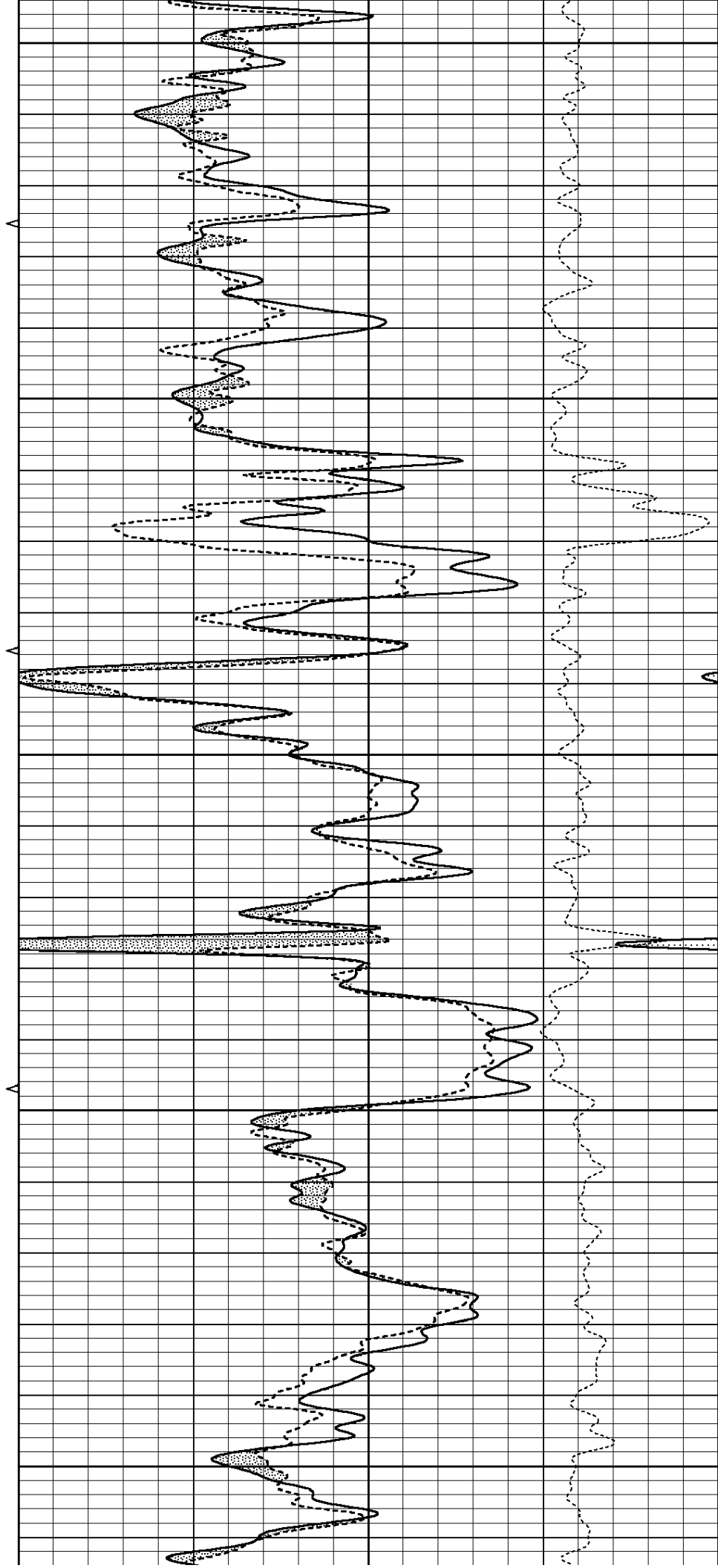
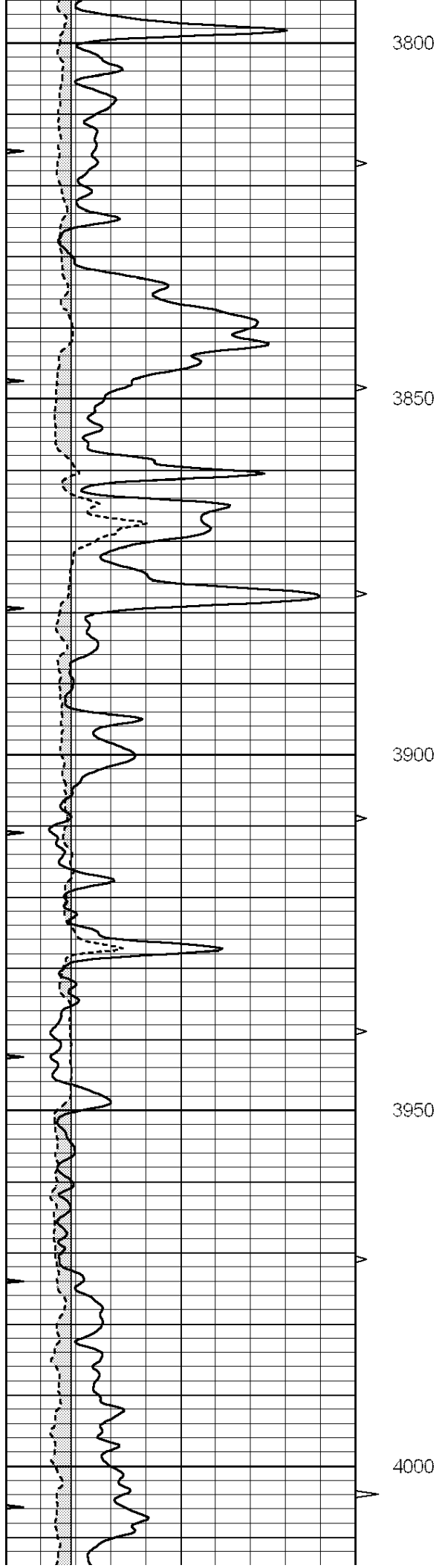
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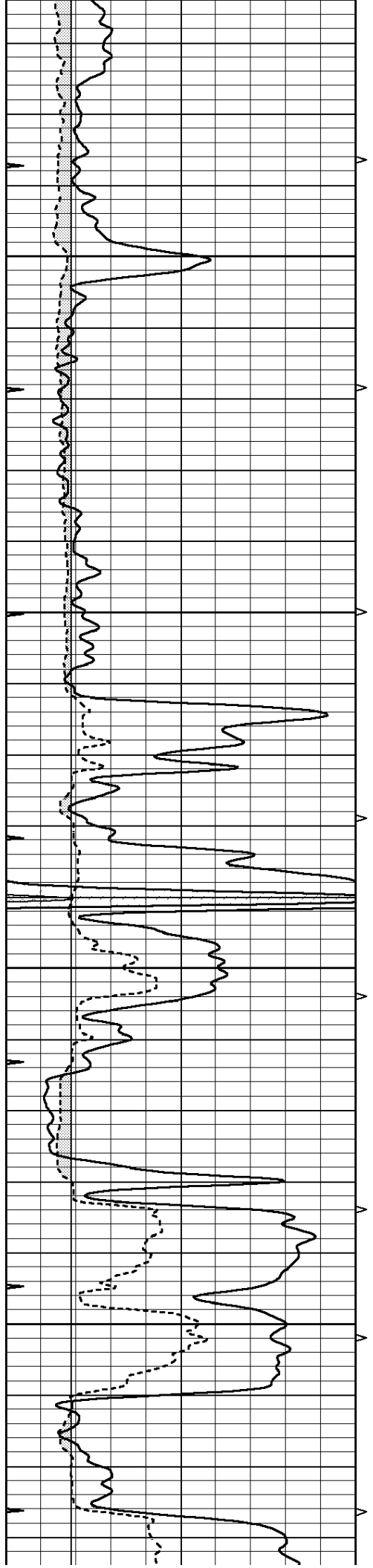
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3700

3750





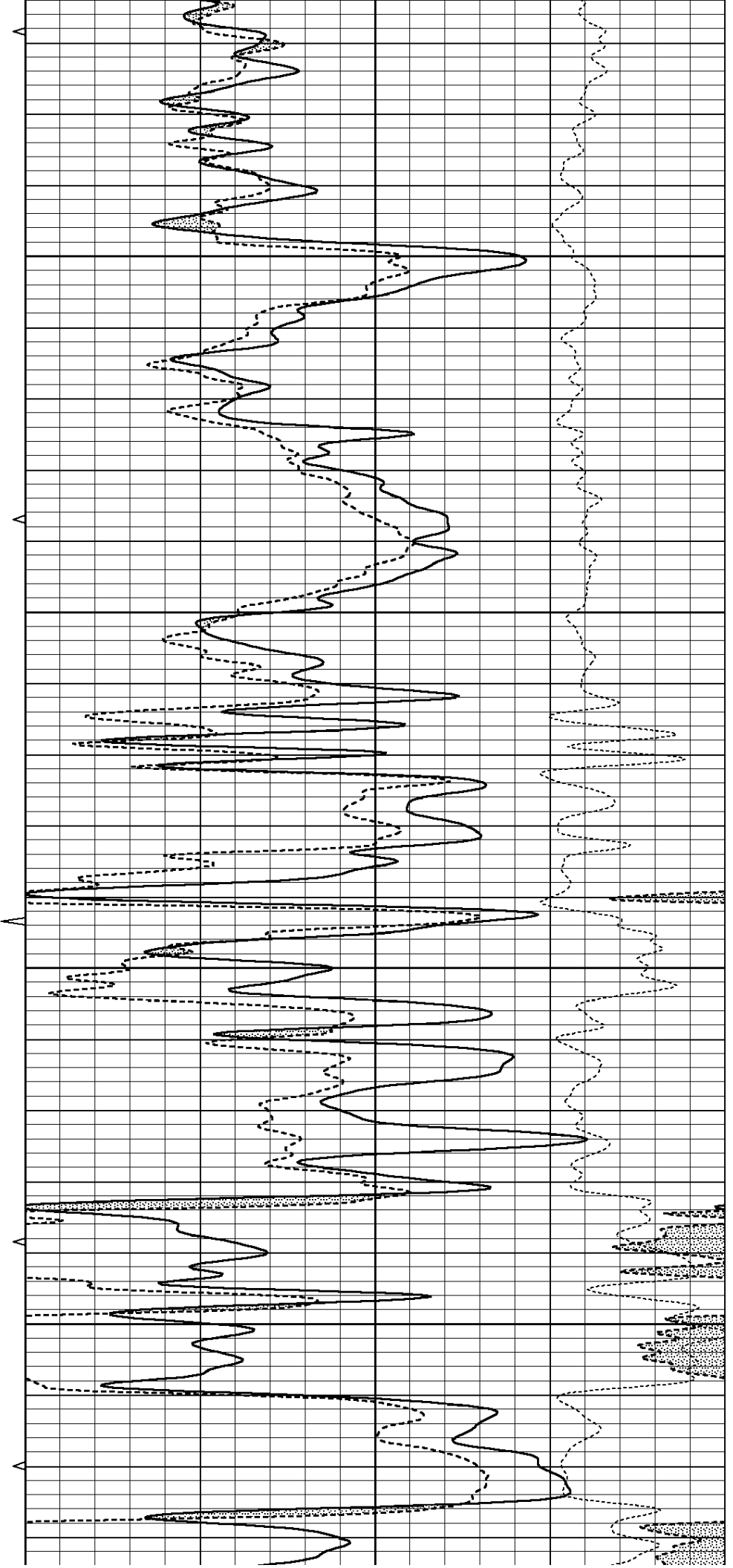


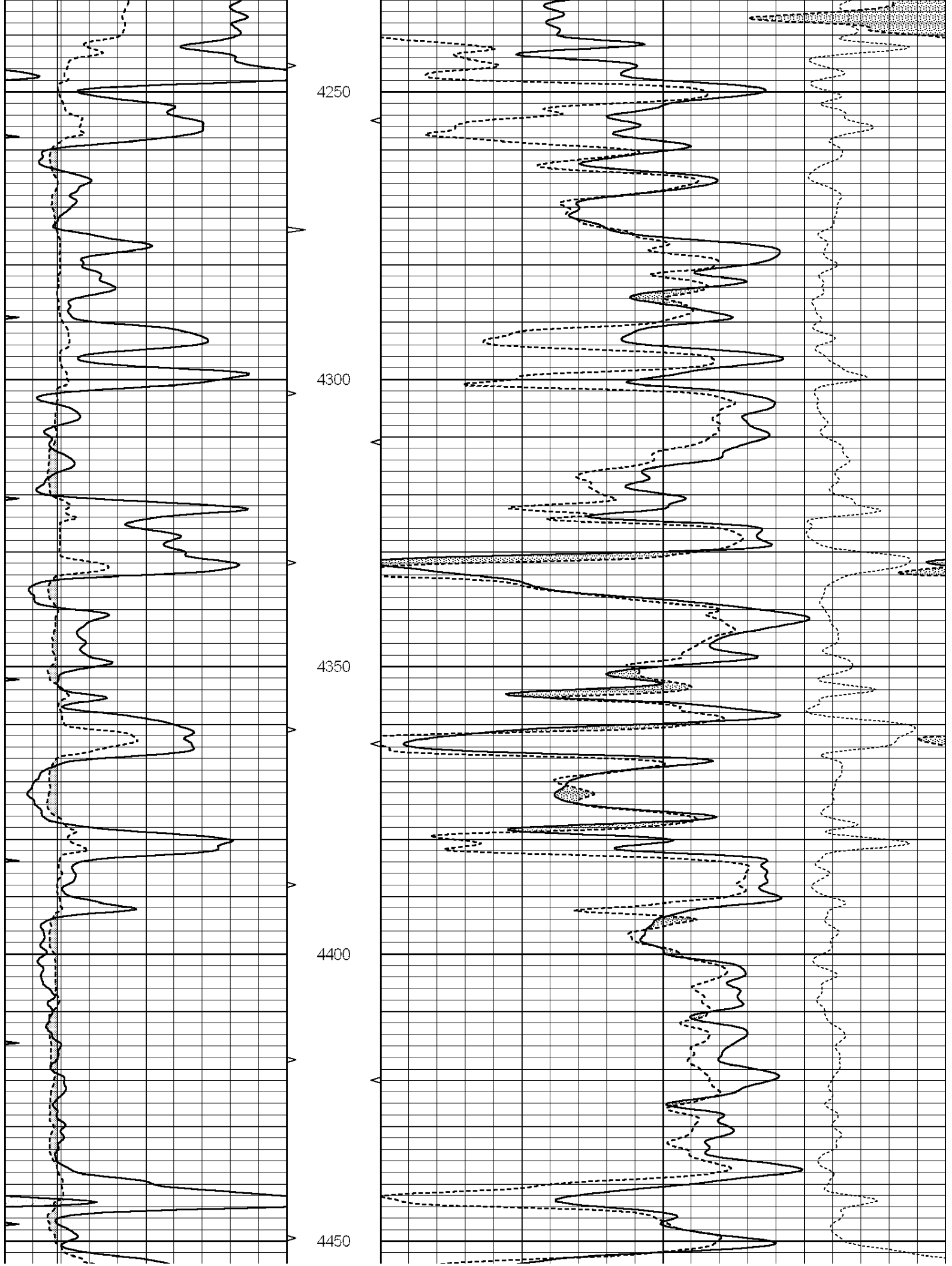
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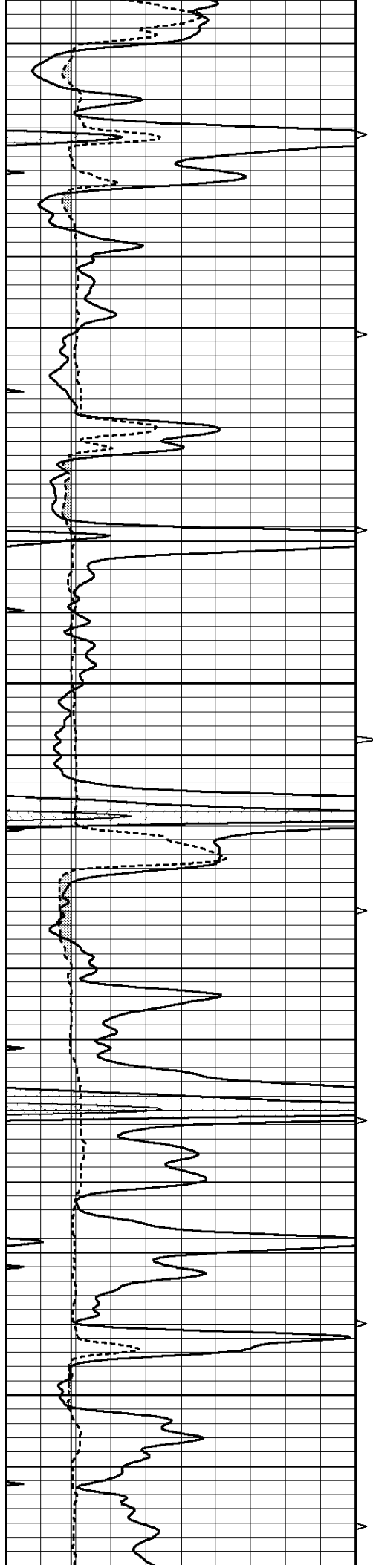
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4150

4200





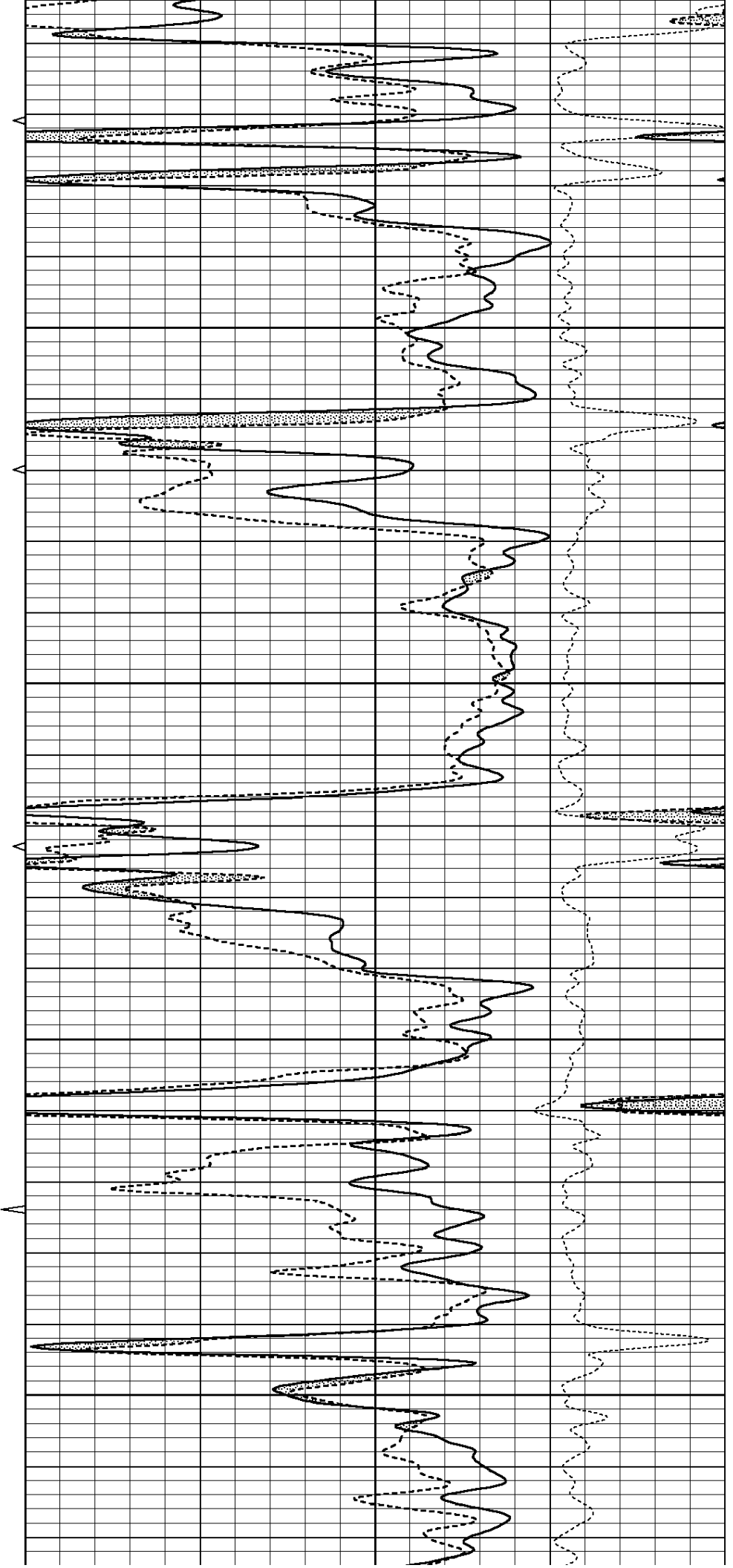


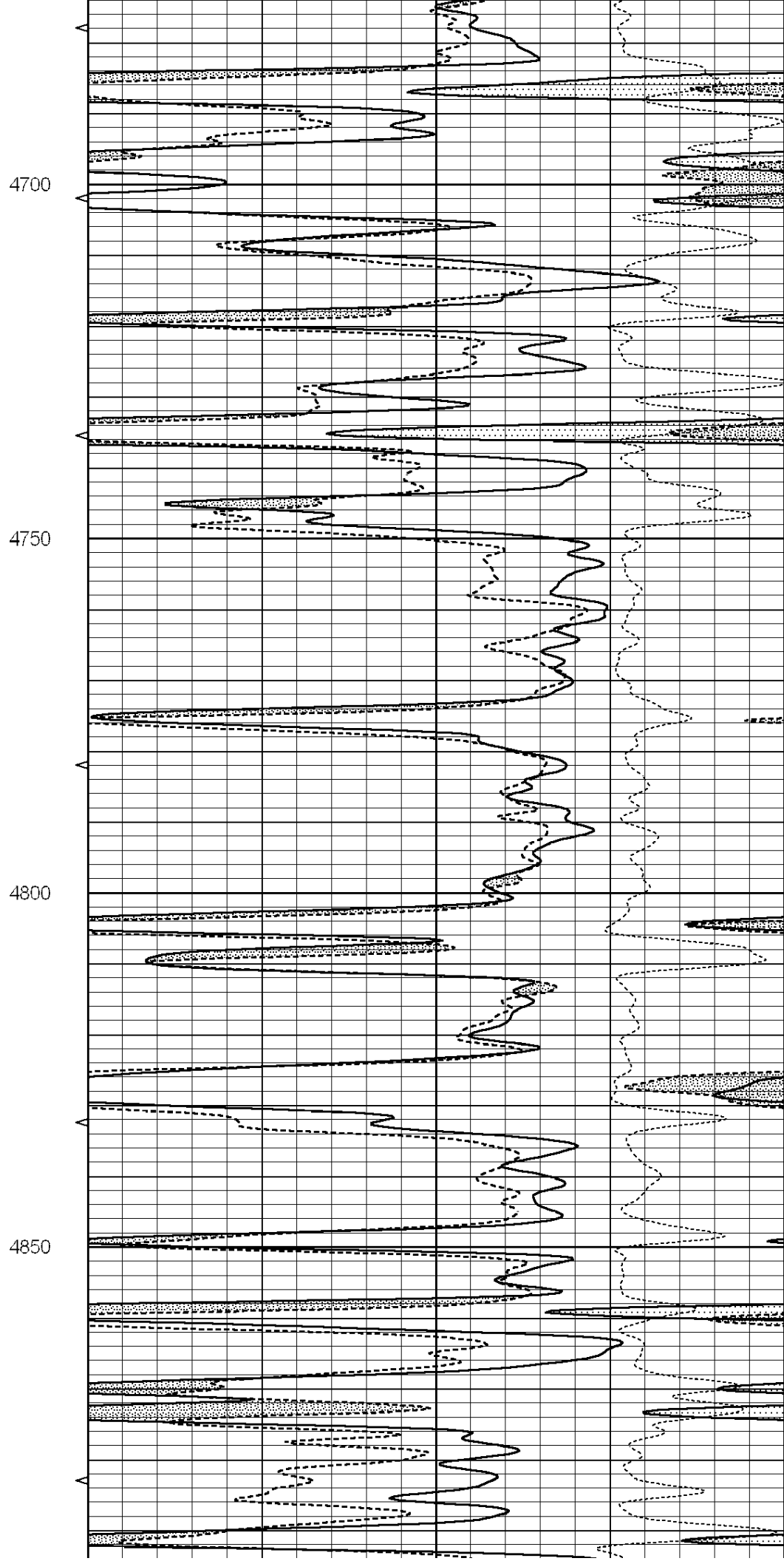
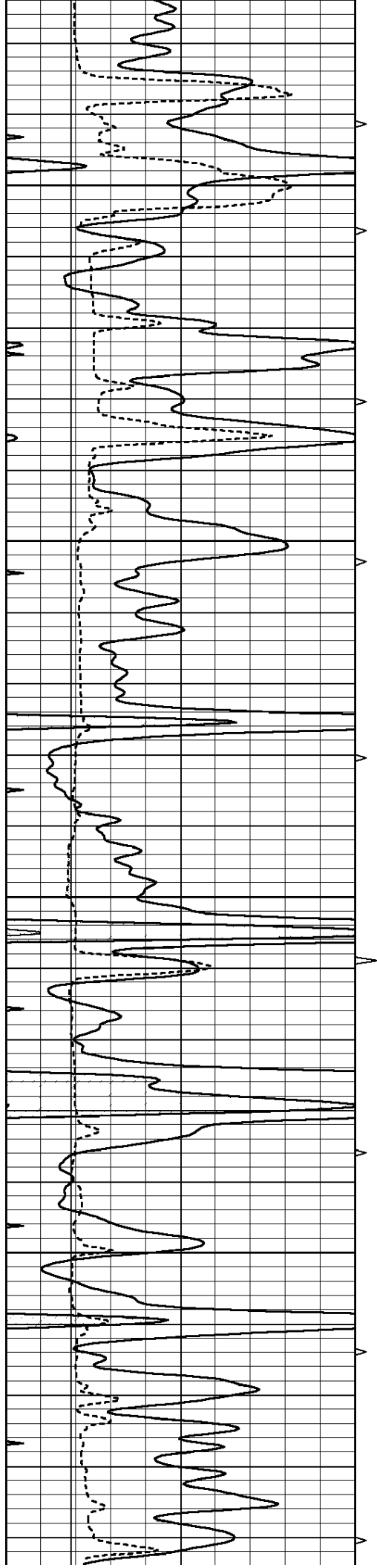
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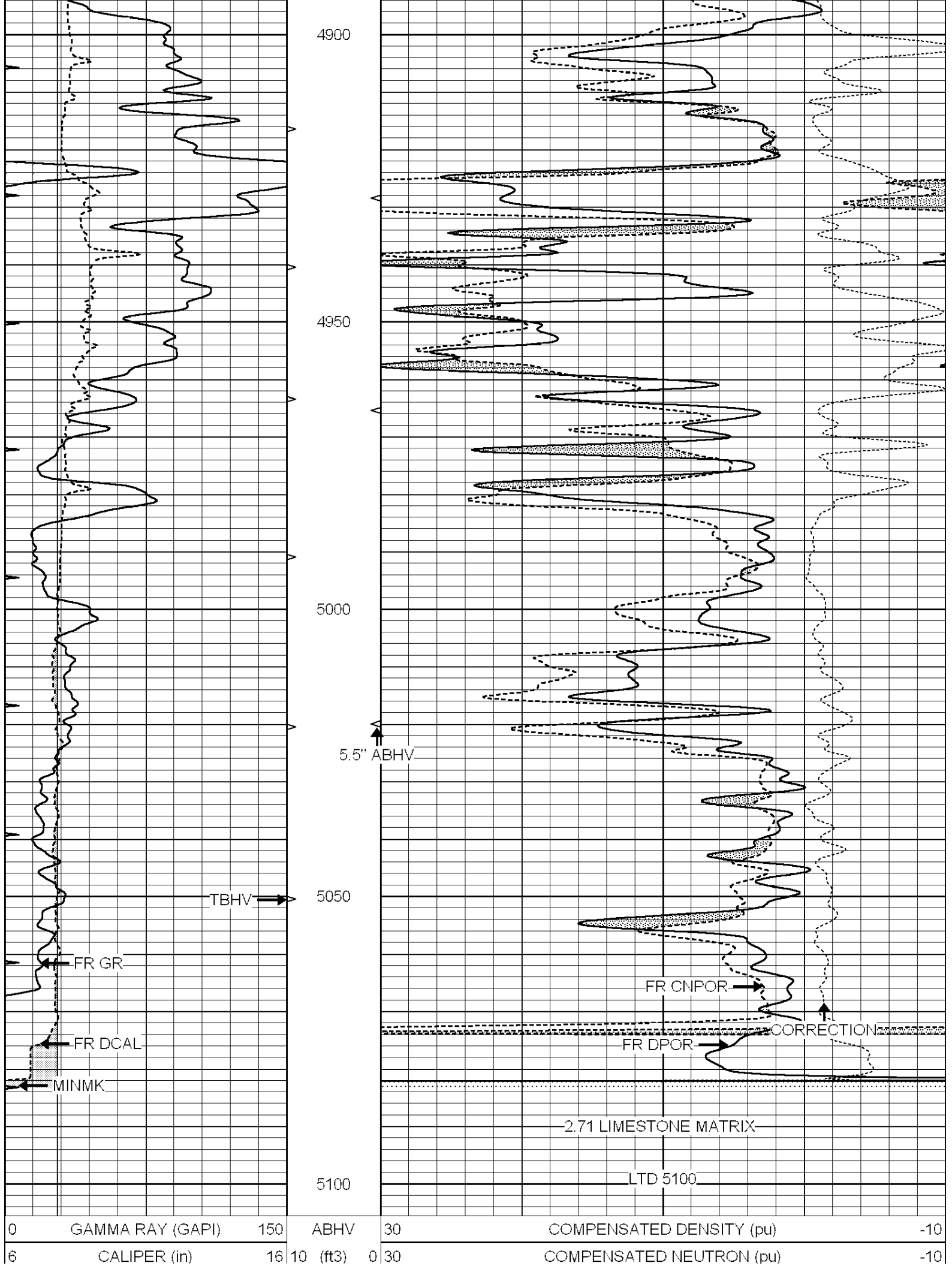
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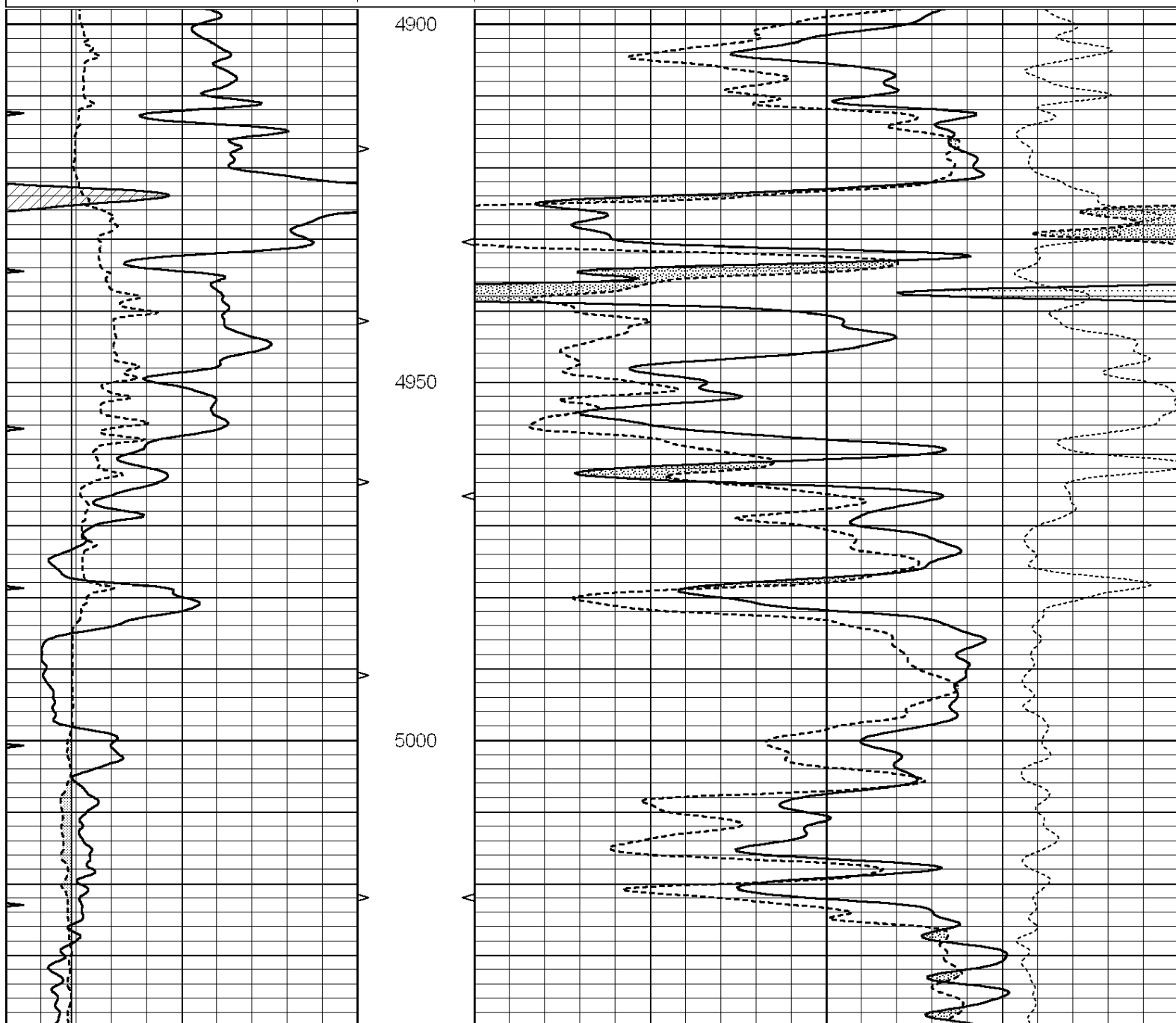
0	MINMK	20	TBHV	-0.25	CORRECTION (g/cc)	0.25
		0	(ft3) 10			

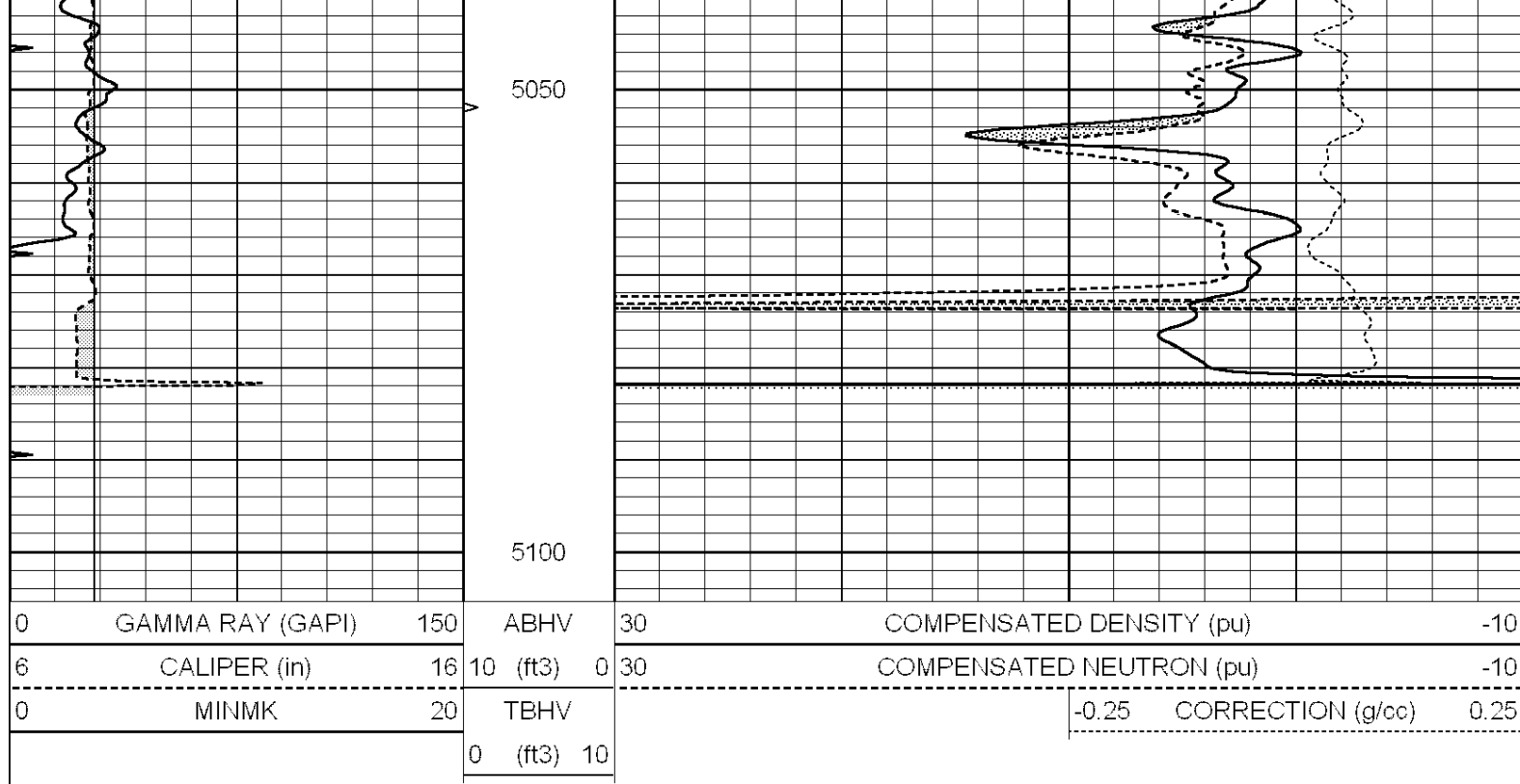


REPEAT SECTION

Database File: 010728ddn.db
Dataset Pathname: pass2.5
Presentation Format: den_neu
Dataset Creation: Wed Mar 20 14:51:26 2013 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		-0.25	CORRECTION (g/cc) 0.25
		0	(ft3) 10			





Calibration Report

Database File: 010728ddn.db
Dataset Pathname: pass3.6
Dataset Creation: Wed Mar 20 15:55:41 2013 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
Surface Cal Performed: Sun Mar 10 00:44:14 2013
Downhole Cal Performed: Mon Jul 28 12:02:56 2008
After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	-14.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-17.500
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration

Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	mmho-m		

After Survey Verification

Readings				Targets		Results	
Zero	Cal			Zero	Cal	m'	b'

Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Litho Density Calibration Report

Serial: 006 Model: PRB

Master Calibration			Performed Sun Aug 15 09:48:41 2010					
	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			0.0000		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

Before Survey Verification			Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0		0.0		0.0		0.0	cps
Window 2	0.0		0.0		0.0		0.0	cps
Window 3	0.0		0.0		0.0		0.0	cps
Window 4	0.0		0.0		0.0		0.0	cps
Long Space	0.0		0.0		0.0		0.0	cps
Short Space	0.0		0.0		0.0		0.0	cps
Measured Rho			0.0000		0.0000		0.0000	g/cc
Measured Correction			0.0000		0.0000		0.0000	g/cc
Measured Pe					0.0000		0.0000	

After Survey Verification			Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0		0.0		0.0		0.0	cps
Window 2	0.0		0.0		0.0		0.0	cps
Window 3	0.0		0.0		0.0		0.0	cps
Window 4	0.0		0.0		0.0		0.0	cps
Long Space	0.0		0.0		0.0		0.0	cps
Short Space	0.0		0.0		0.0		0.0	cps
Measured Rho			0.0000		0.0000		0.0000	g/cc
Measured Correction			0.0000		0.0000		0.0000	g/cc
Measured Pe					0.0000		0.0000	

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:	Sun Mar 10 00:43:54 2013		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3500	GAPI/cps	