



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY / NEUTRON
PE LOG

Company MULL DRILLING COMPANY, INC.
Well TUBS UNIT #1-21
Field WILDCAT
County KIOWA
State COLORADO

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Location:

API # : 05-061-06849
378' FSL & 1319' FEL

Other Services
DIL/MEL
SONIC

SEC 21 TWP 18S RGE 45W

Permanent Datum GROUND LEVEL Elevation 3903
Log Measured From KELLY BUSHING 13' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 3916
D.F. 3914
G.L. 3903

Date 11/17/10

Run Number ONE

Depth Driller 5000

Depth Logger 4998

Bottom Logged Interval 4974

Top Log Interval 3200

Casing Driller 8 5/8" @ 327'

Casing Logger 324

Bit Size 7 7/8"

Type Fluid in Hole CHEMICAL MUD

Density / Viscosity 9.2/53

pH / Fluid Loss 10.5/9.6

Source of Sample FLOWLINE

Rim @ Meas. Temp .850 @ 100F

Rmf @ Meas. Temp .638 @ 100F

Rmc @ Meas. Temp 1.02 @ 100F

Source of Rmf / Rmc MEASUREMENT

Rim @ BHT .680 @ 125F

Time Circulation Stopped 2.5 HOURS

Time Logger on Bottom 11:00 P.M.

Maximum Recorded Temperature 125F

Equipment Number 0836

Location HAYS, KANSAS

Recorded By JEFF LUEBBERS

Witnessed By MACKLIN ARMSTRONG

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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 SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
BRANDON, CO. 1W. ON HWY 96 TO "RD. 58", 1 1/2N., 1/4W., N. INTO

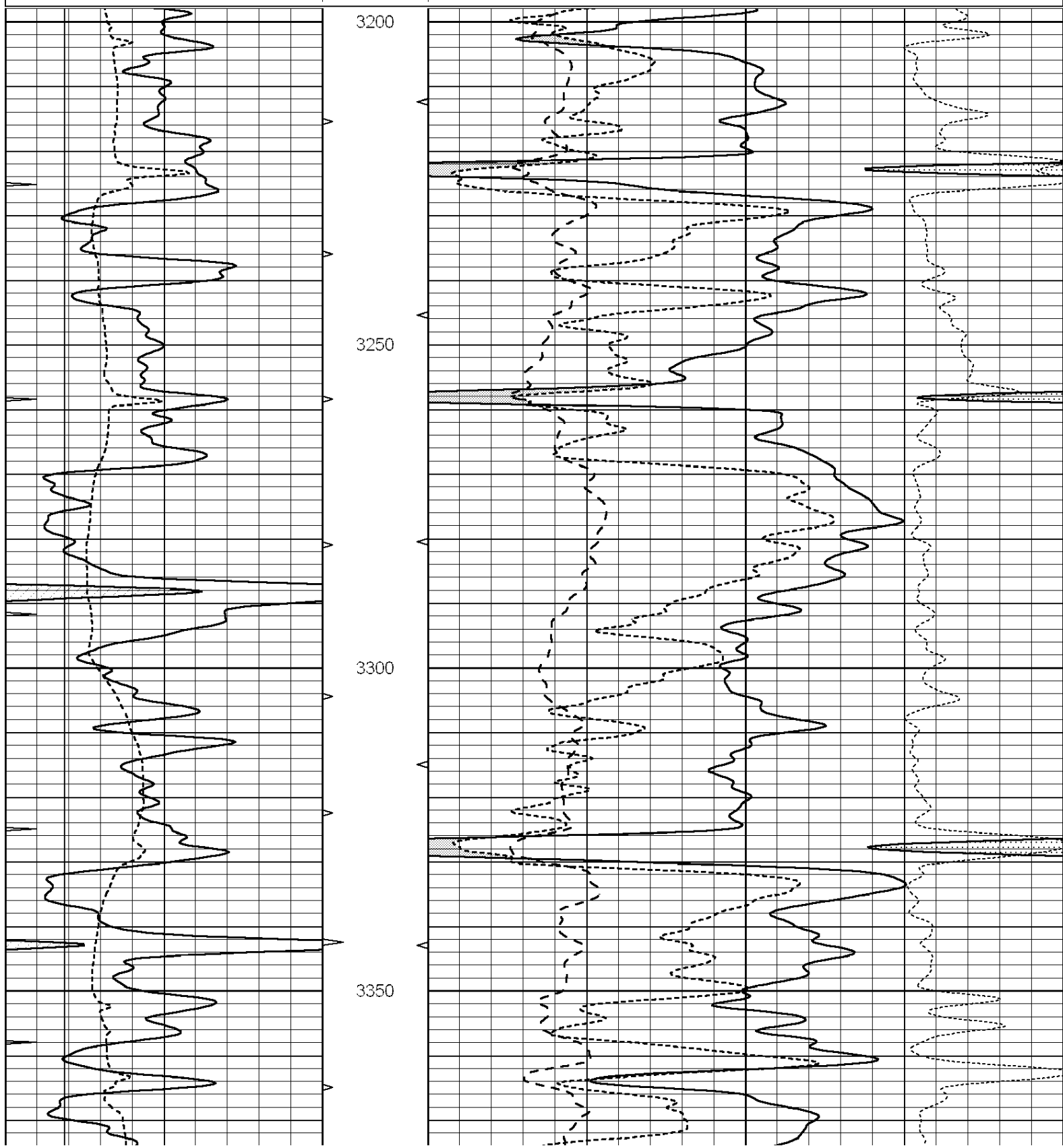


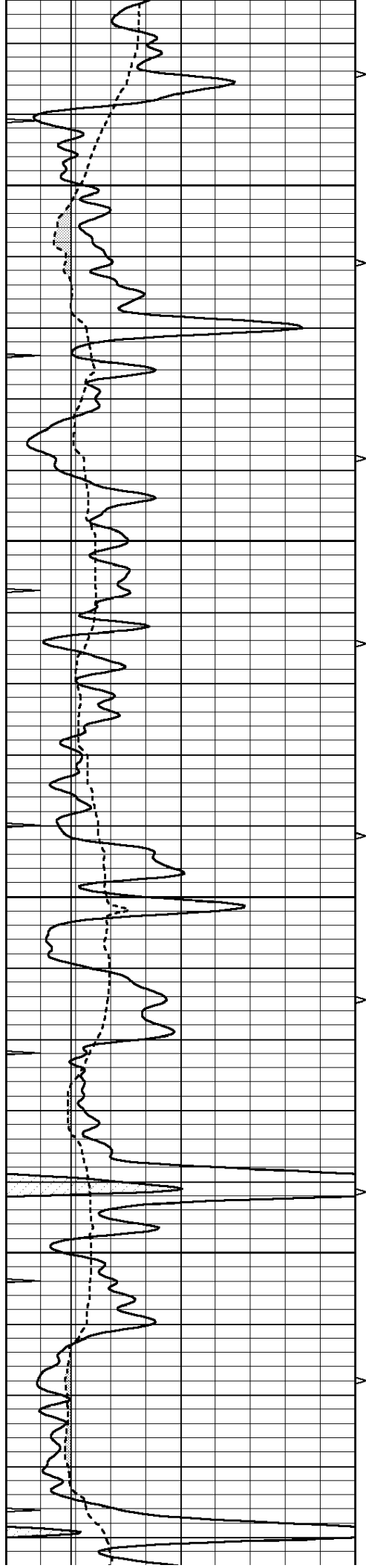
SUPERIOR
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MAIN SECTION

Database File: 005803pe.db
Dataset Pathname: pass5.10
Presentation Format: ldt_neu
Dataset Creation: Tue Nov 02 03:32:10 2010
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	10	TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10		



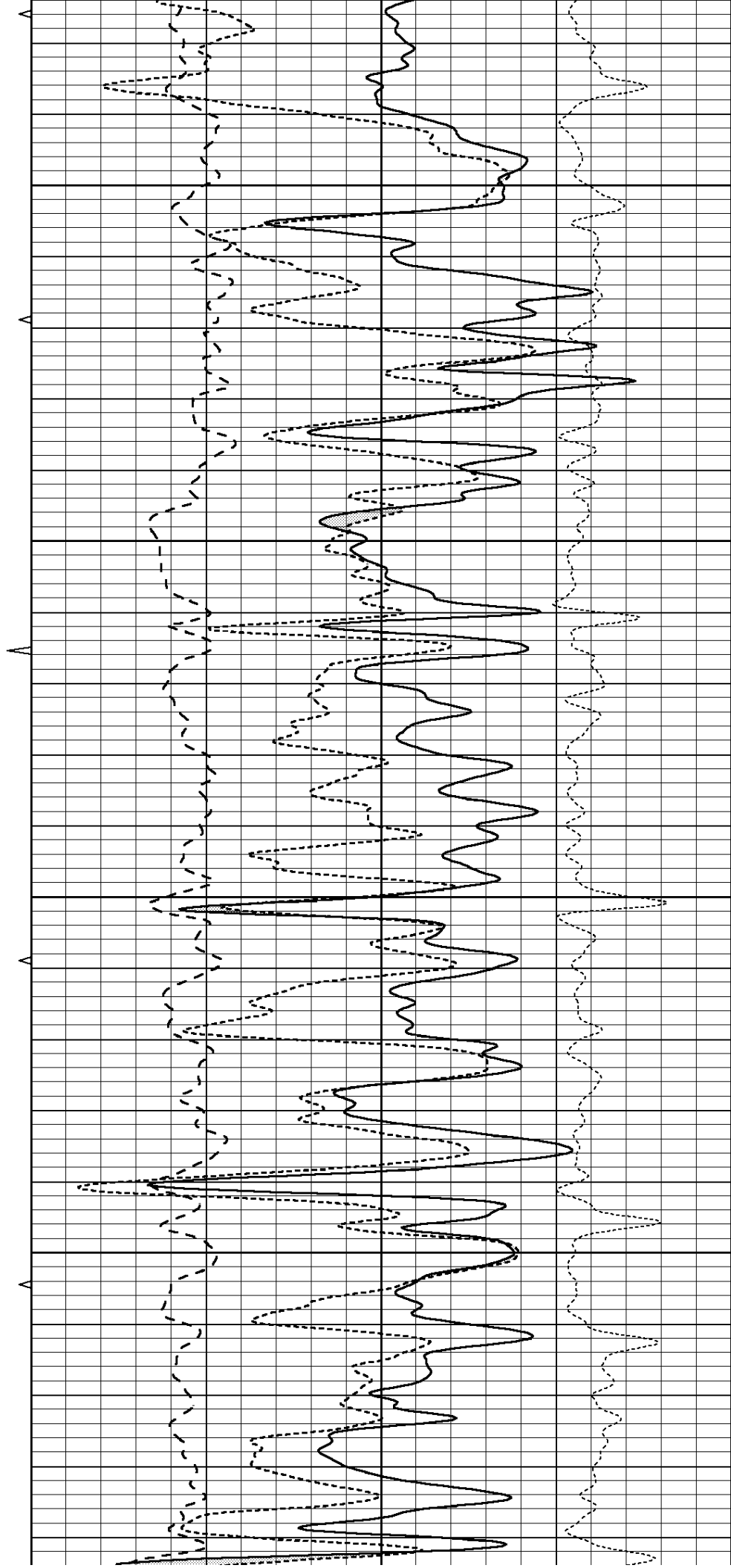


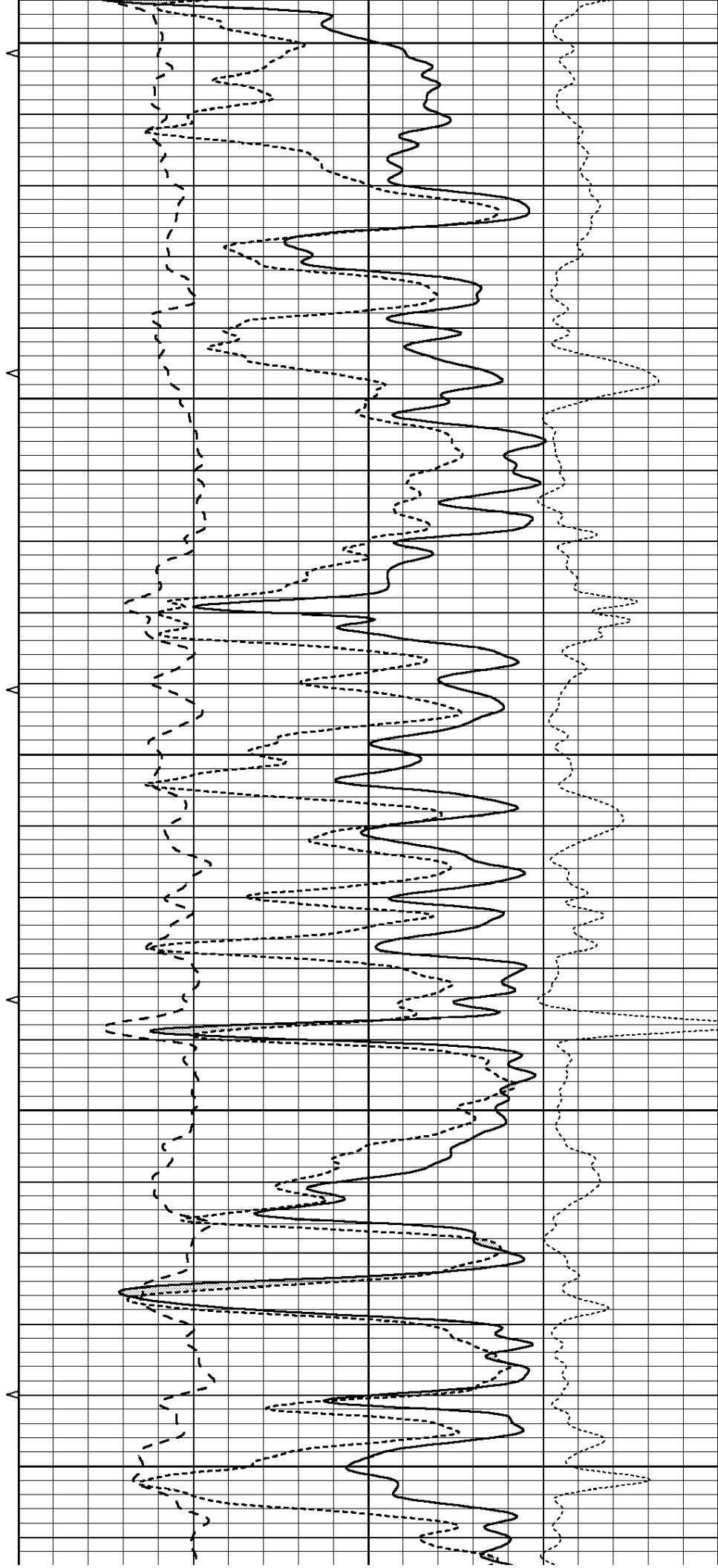
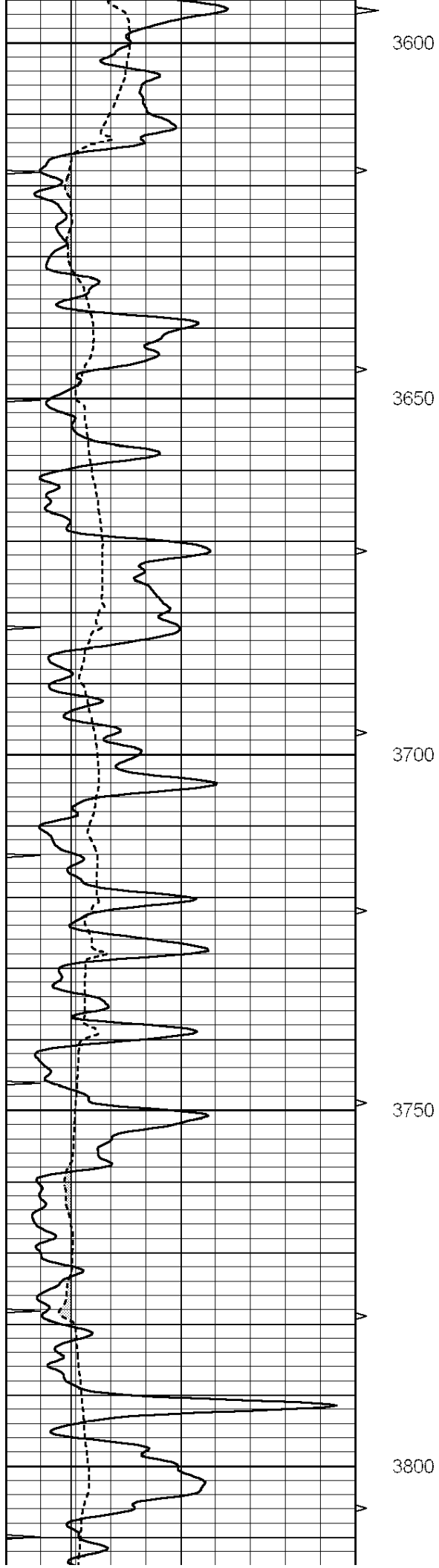
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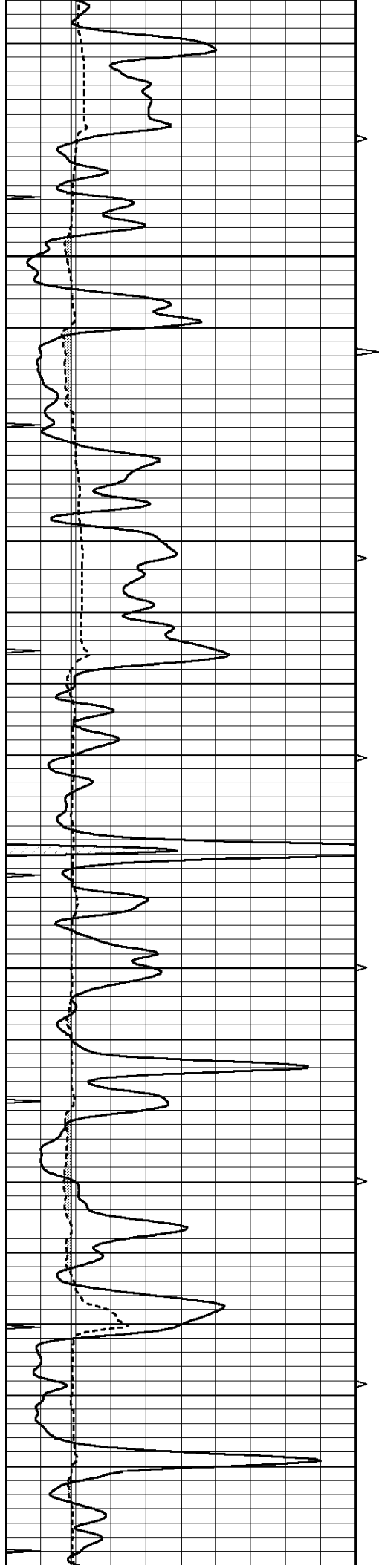
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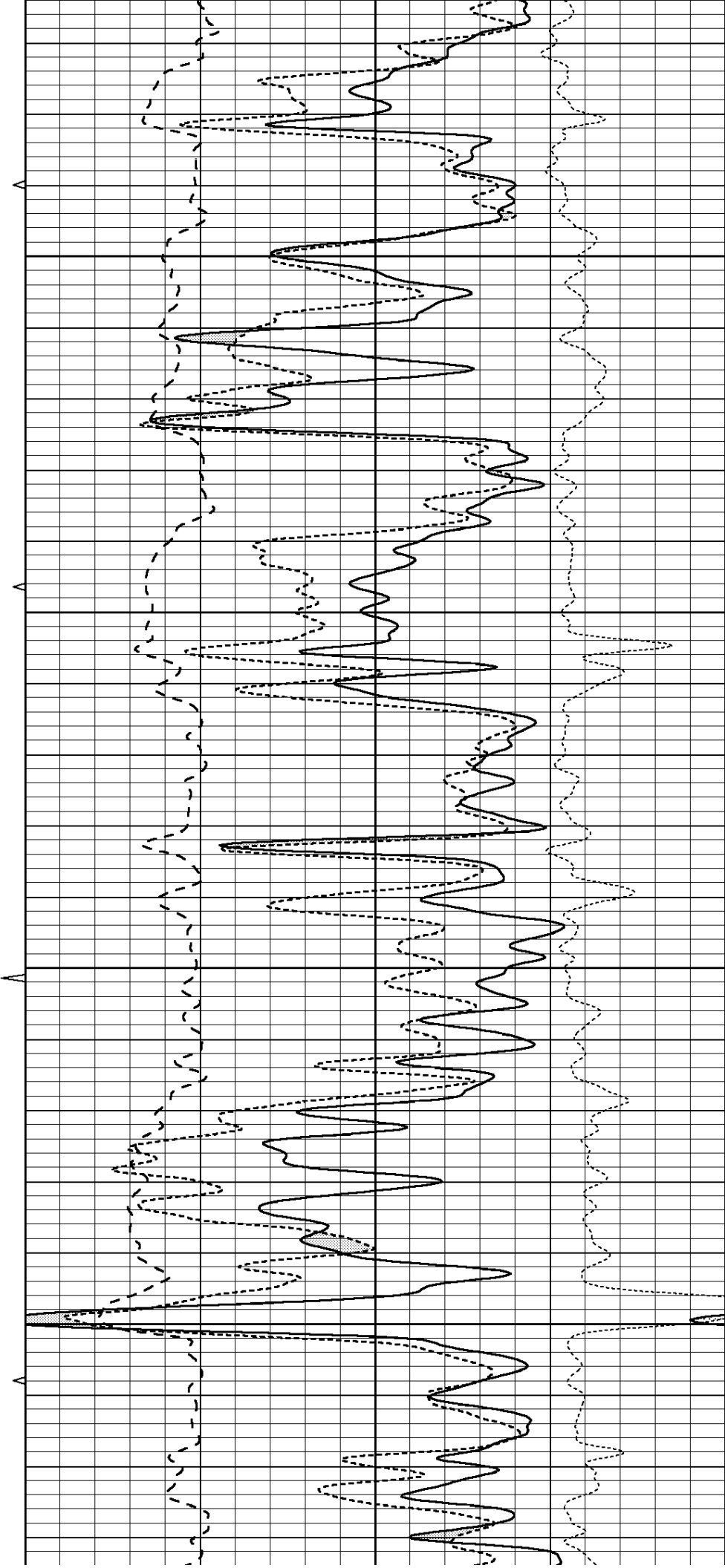


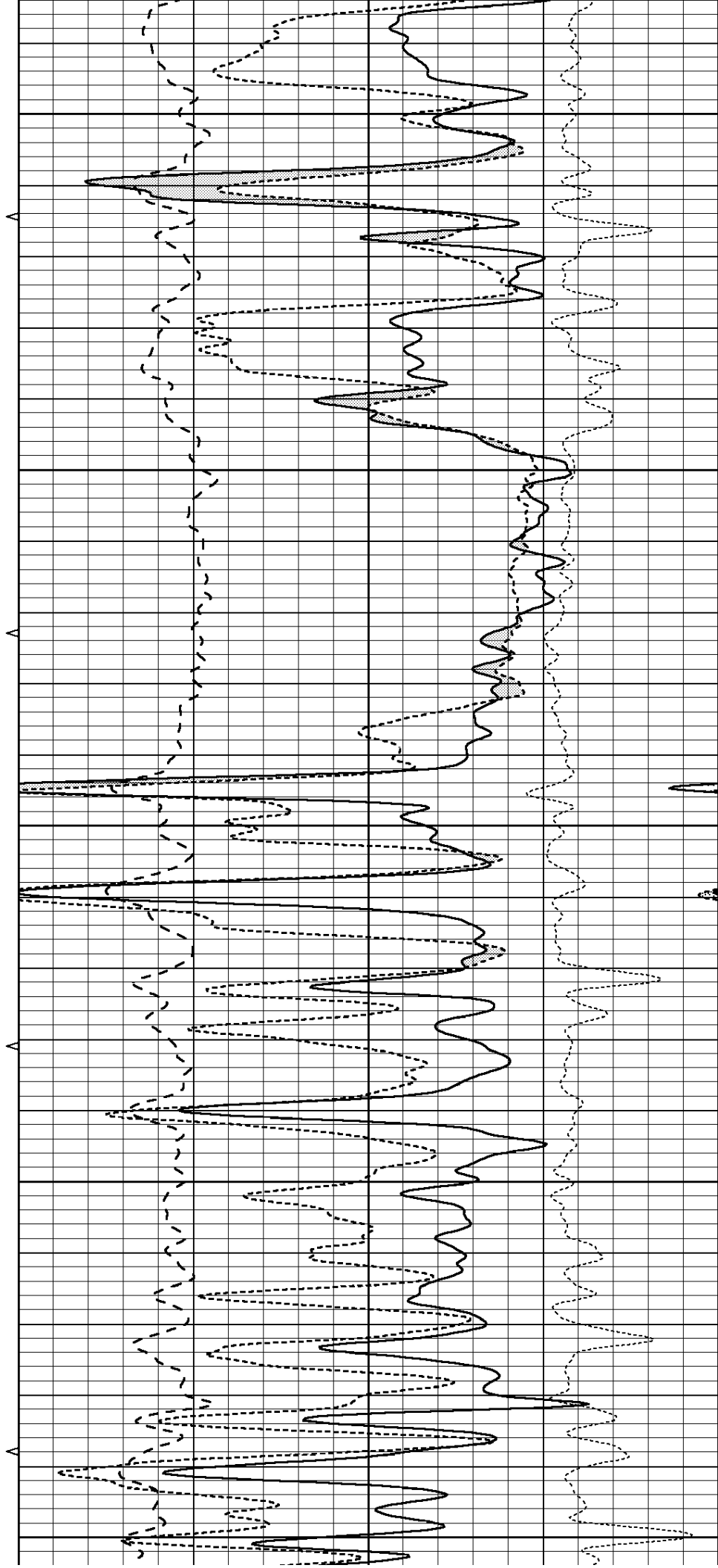
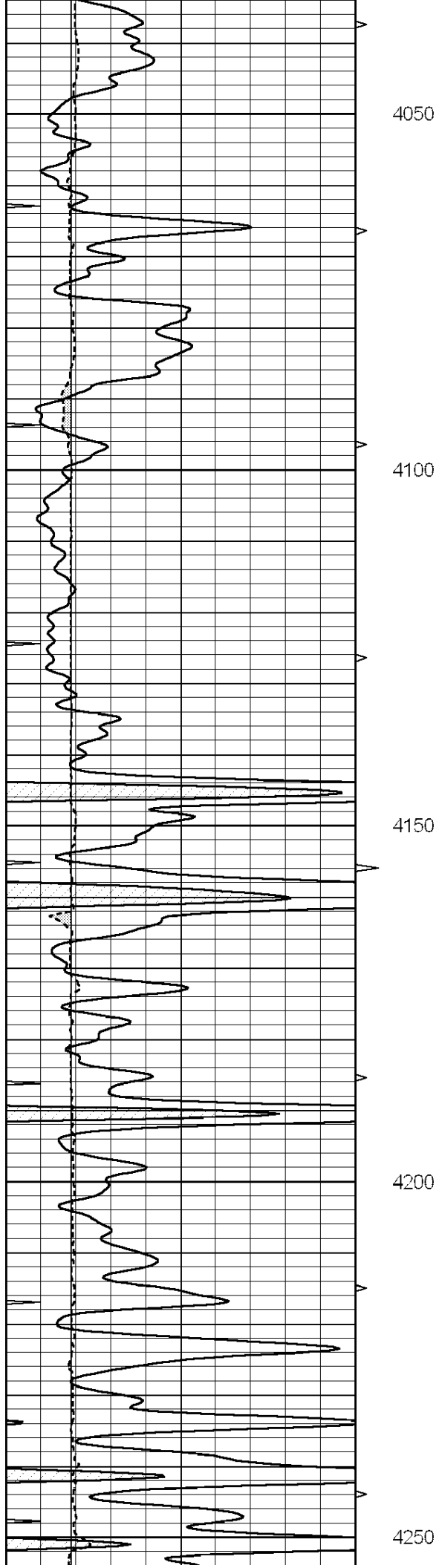
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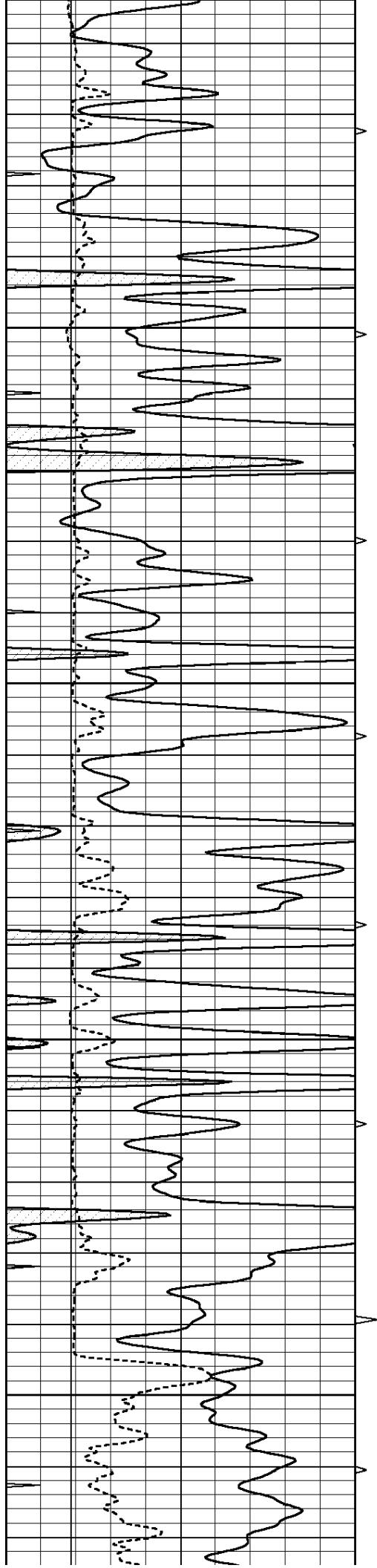
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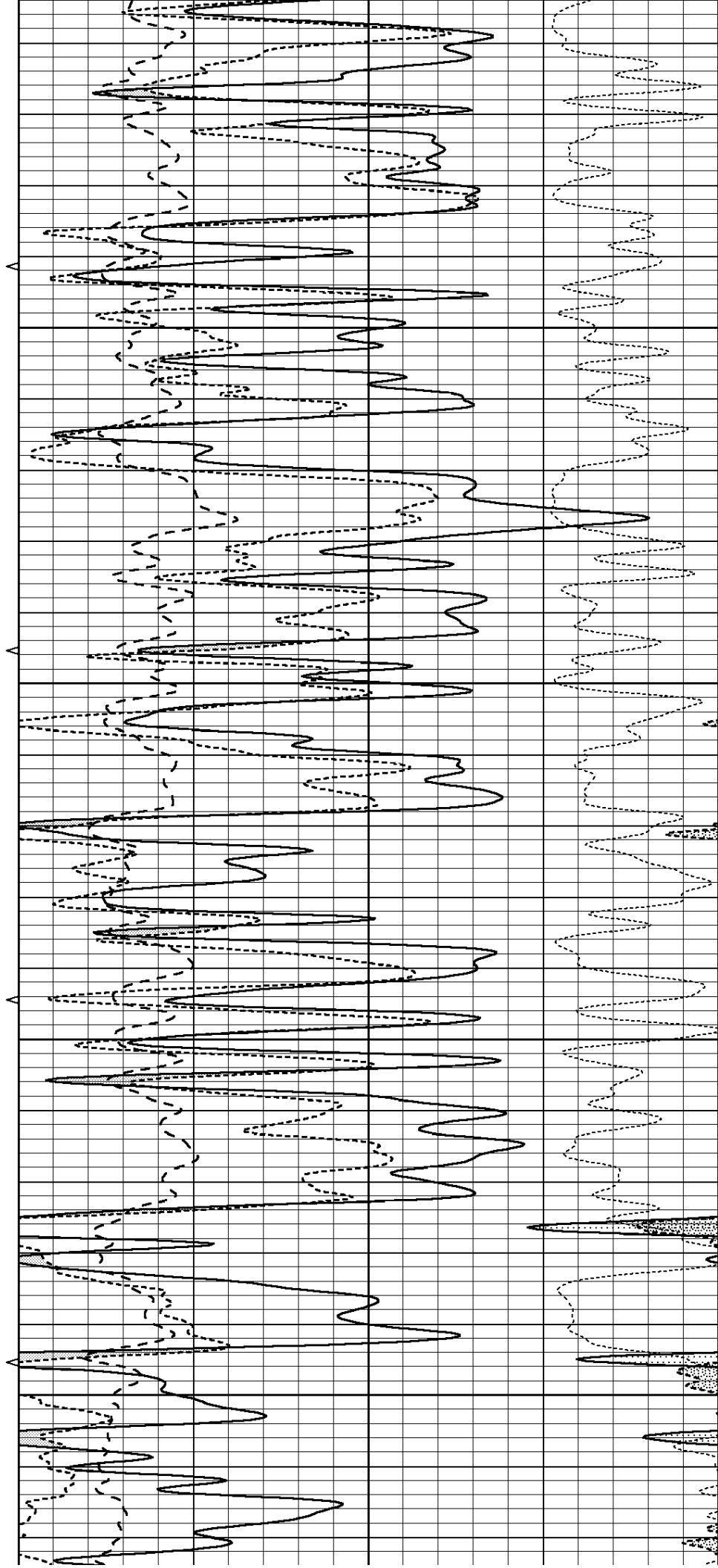


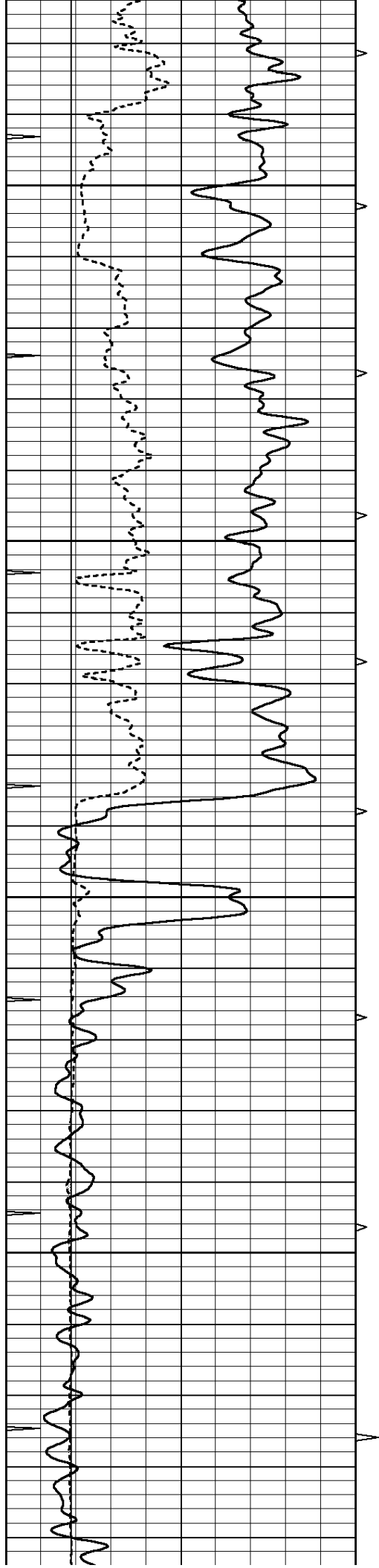
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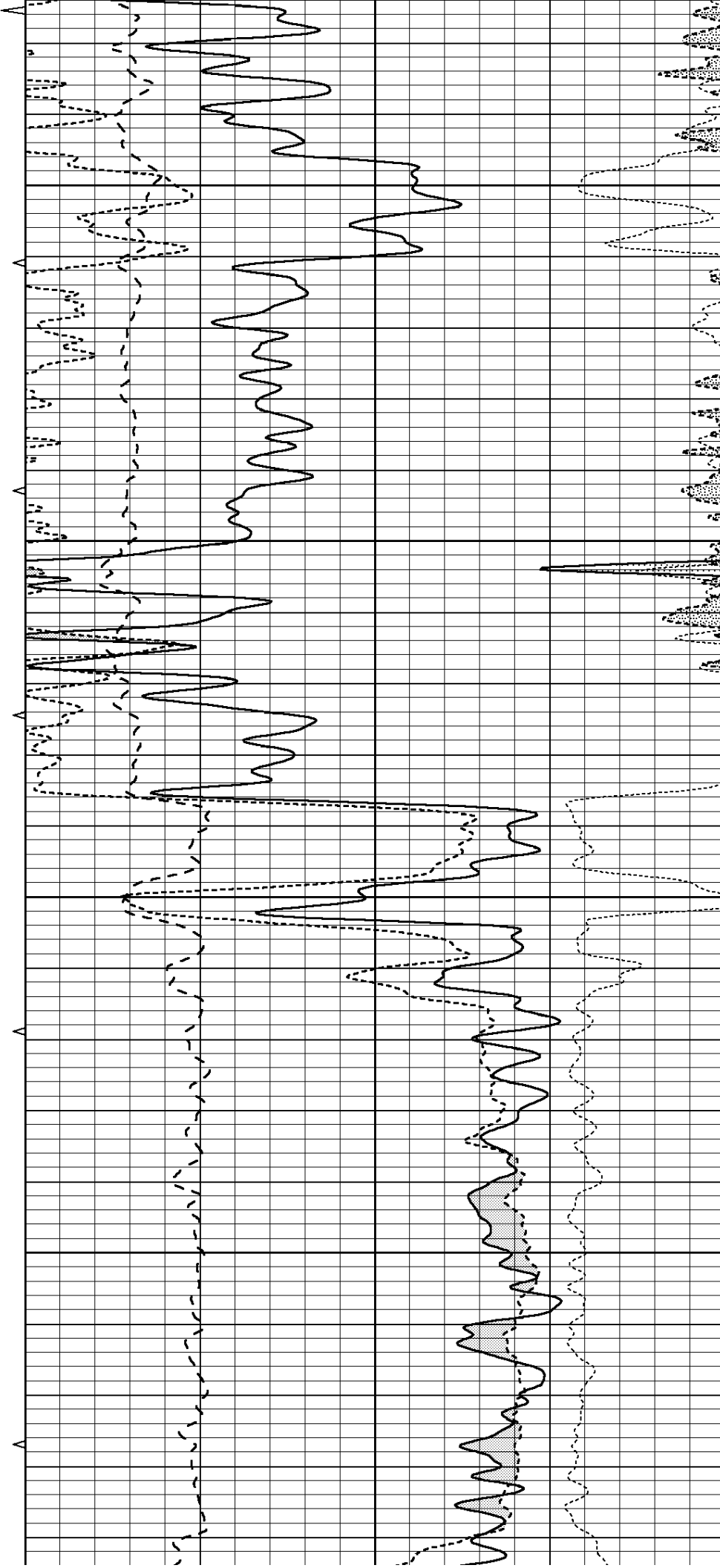


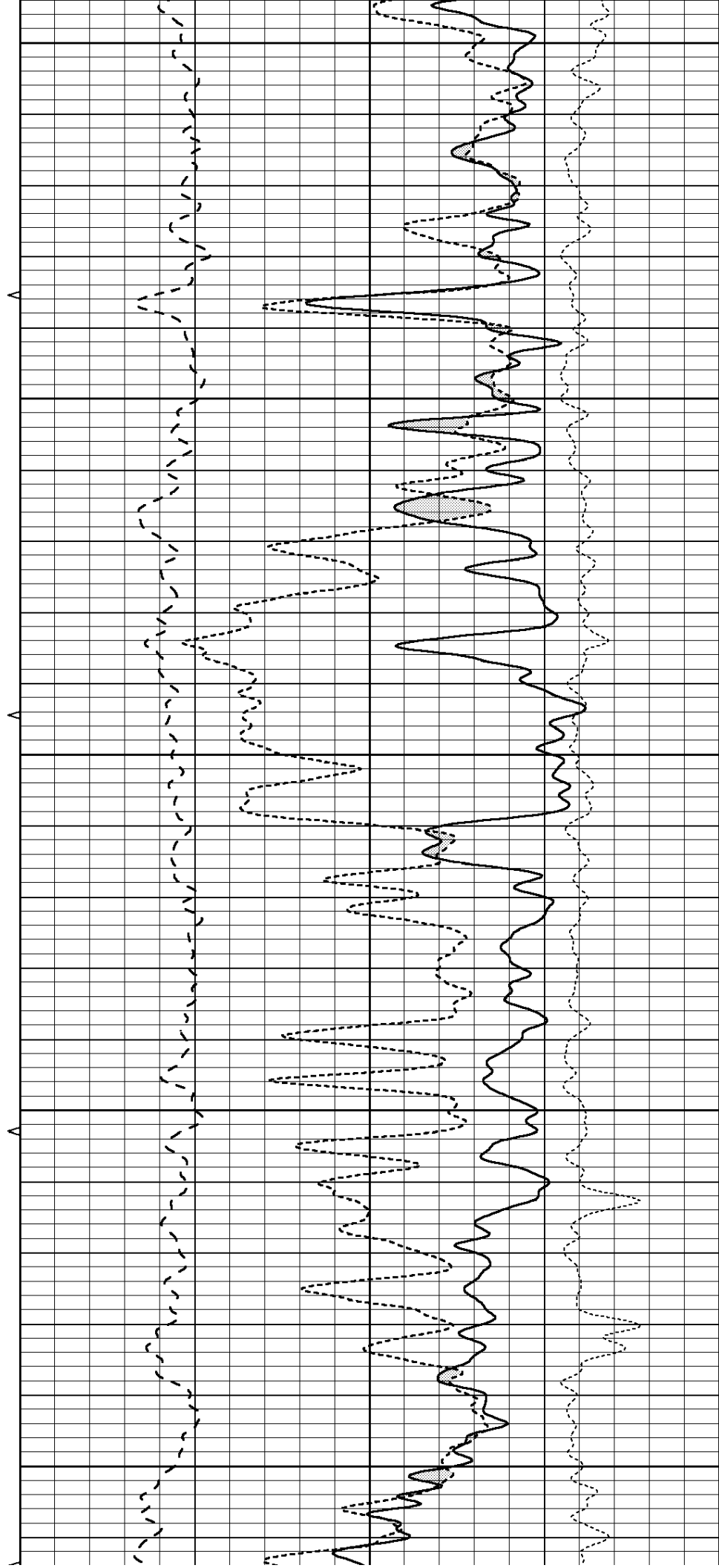
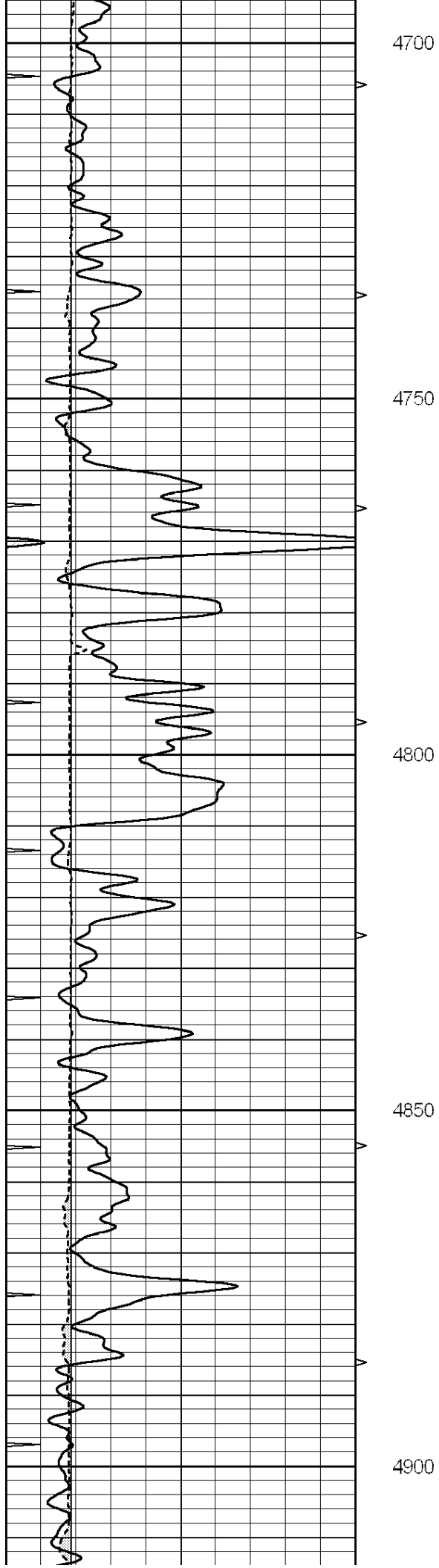
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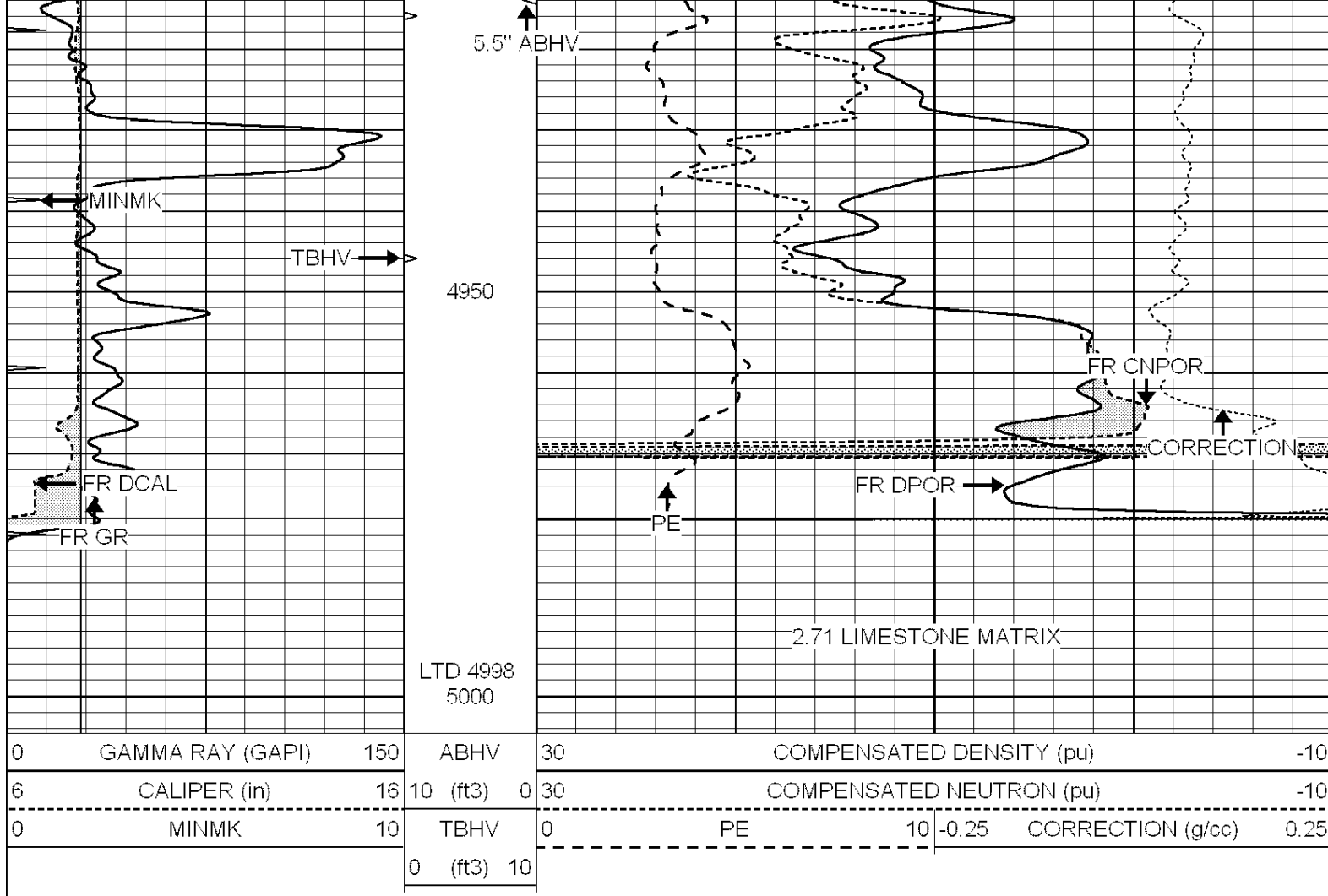
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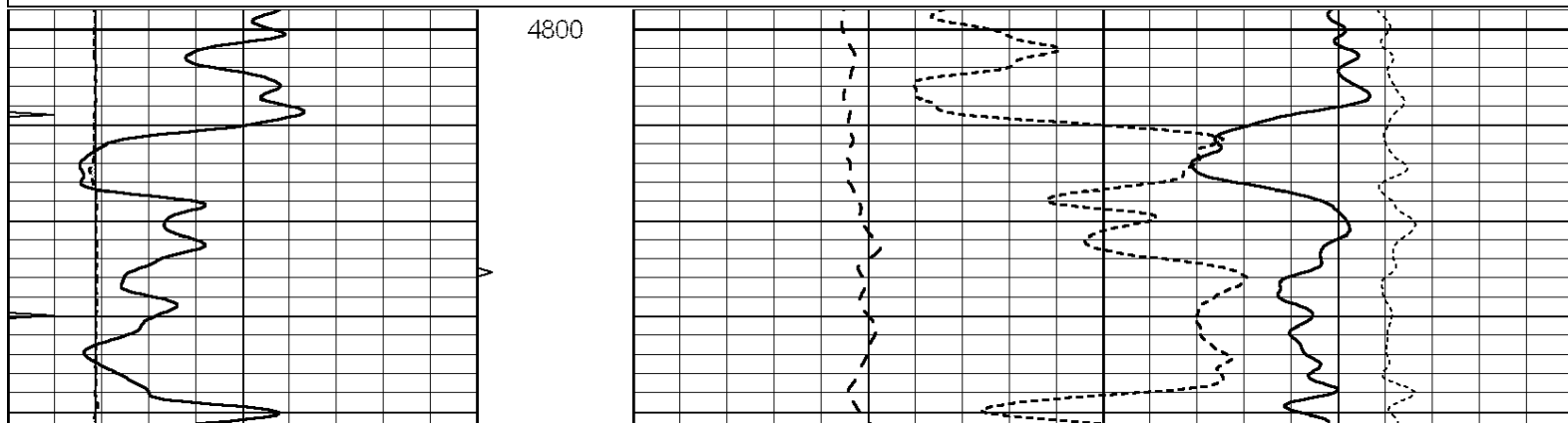


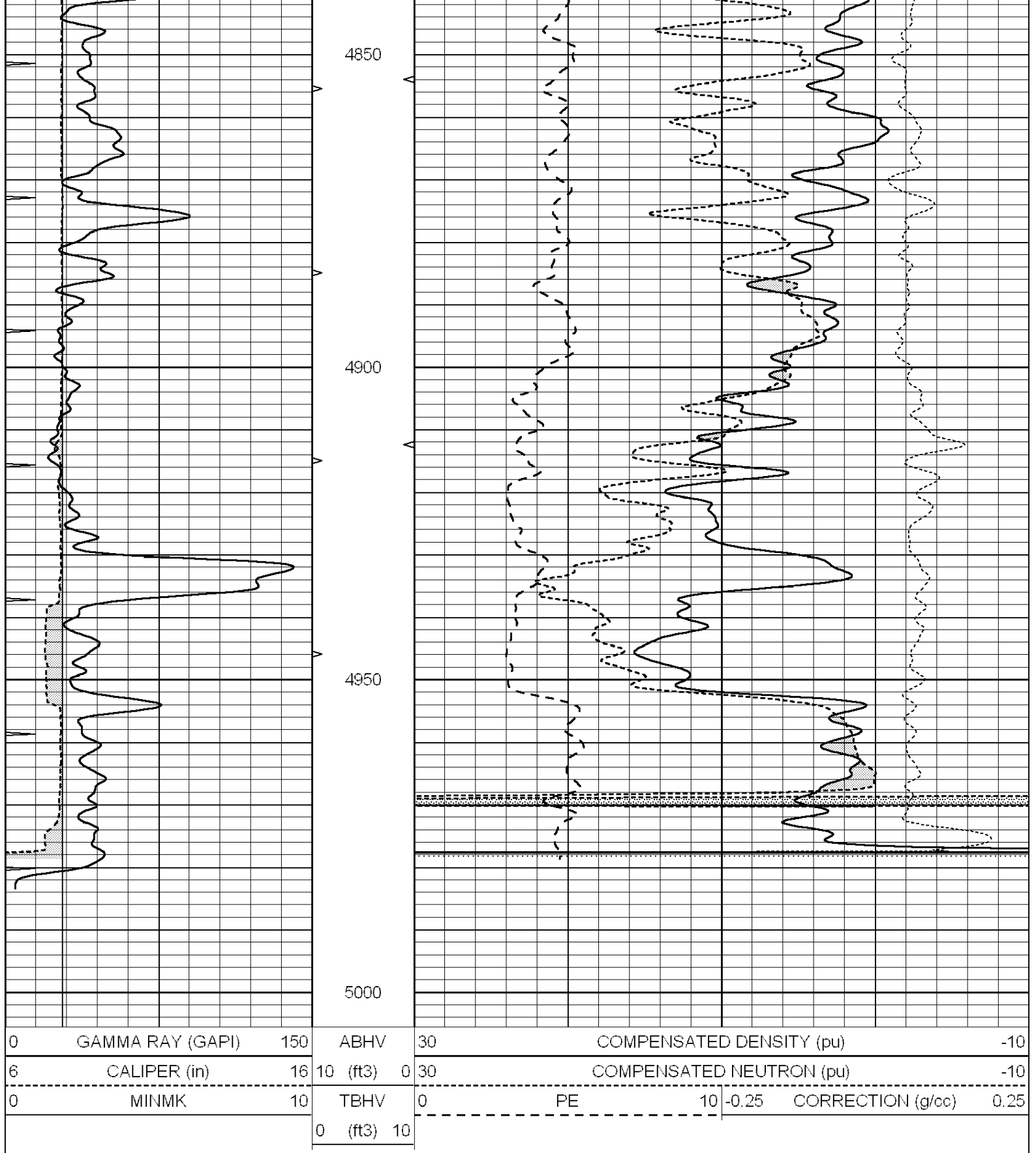
SUPERIOR
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REPEAT SECTION

Database File: 005803pe.db
 Dataset Pathname: pass4.8
 Presentation Format: ldt_neu
 Dataset Creation: Tue Nov 02 01:52:16 2010
 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	10	TBHV	0	PE	10 -0.25
			0 (ft3)	10		CORRECTION (g/cc) 0.25





Calibration Report

Database File: 005803pe.db
Dataset Pathname: pass5.10
Dataset Creation: Tue Nov 02 03:32:10 2010

Dual Induction Calibration Report

Serial-Model:
Performed:

DIL3-GEAR
Mon Nov 01 22:58:38 2010

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	2.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-13.000
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

	Readings	Reference
Low Ref	3.2	7.0
High Ref	6.2	14.0
Gain: 2.3		Offset: -0.2

Compensated Neutron Calibration Report

Serial Number: NEU_3I
Tool Model: G

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	997.00	cps	1000.00	cps	1.0000
Long Space	986.00	cps	1000.00	cps	1.0000

Gamma Ray Calibration Report

Serial Number: GR4
Tool Model: OPEN
Performed: Mon Nov 01 22:56:35 2010

Calibrator Value: 200.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 189.0 cps

Sensitivity: 1.5000 GAPI/cps