



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company	MESSENGER PETROLEUM, INC.	Company	MESSENGER PETROLEUM, INC.
Well	HAYES #1	Well	HAYES #1
Field	CHITWOOD	Field	CHITWOOD
County	PRATT	County	PRATT
State	KANSAS	State	KANSAS
Location:	API # : 15-151-22387-0000	Other Services	CDL/CNL/PE MEL
Permanent Datum	GROUND LEVEL	Elevation	1861
Log Measured From	KELLY BUSHING 9' A.G.L.	K.B.	1870
Drilling Measured From	KELLY BUSHING	D.F.	1868
		G.L.	1861
Date	4/26/12		
Run Number	ONE		
Depth Driller	4575		
Depth Logger	4574		
Bottom Logged Interval	4572		
Top Log Interval	00		
Casing Driller	8 5/8"@301		
Casing Logger	300		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES	8,500 PPM
Density / Viscosity	9.3/49		
pH / Fluid Loss	10.0/12.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.450@72F		
Rmt @ Meas. Temp	.336@72F		
Rmc @ Meas. Temp	.540@72F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.268@121F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	8:15 A.M.		
Maximum Recorded Temperature	121F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	FRANK MIZE		

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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

PRATT, KS.(EAST EDGE) 6E. ON HWY 54 TO "SE 70 RD.", 4S. TO "SE 40 RD.", 1/2E., N. INTO



SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File: 408755pe.db
Dataset Pathname: pass3.4
Presentation Format: dil2
Dataset Creation: Thu Apr 26 10:33:57 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150
-100 SP (mV) 100

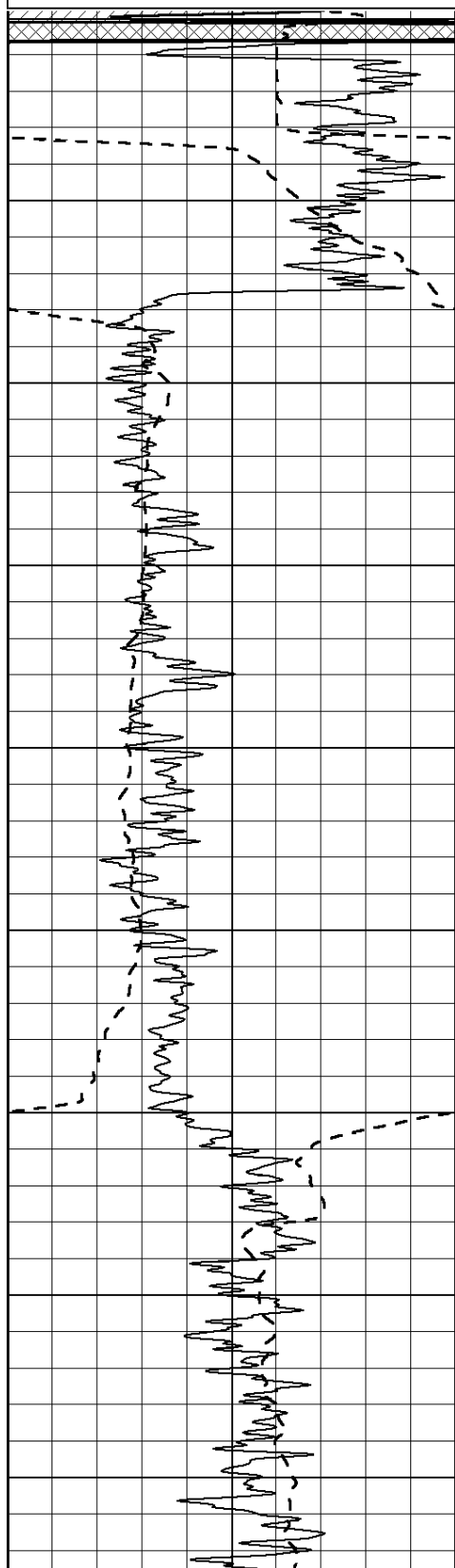
0 RLL3 (Ohm-m) 50

0 RILD (Ohm-m) 50

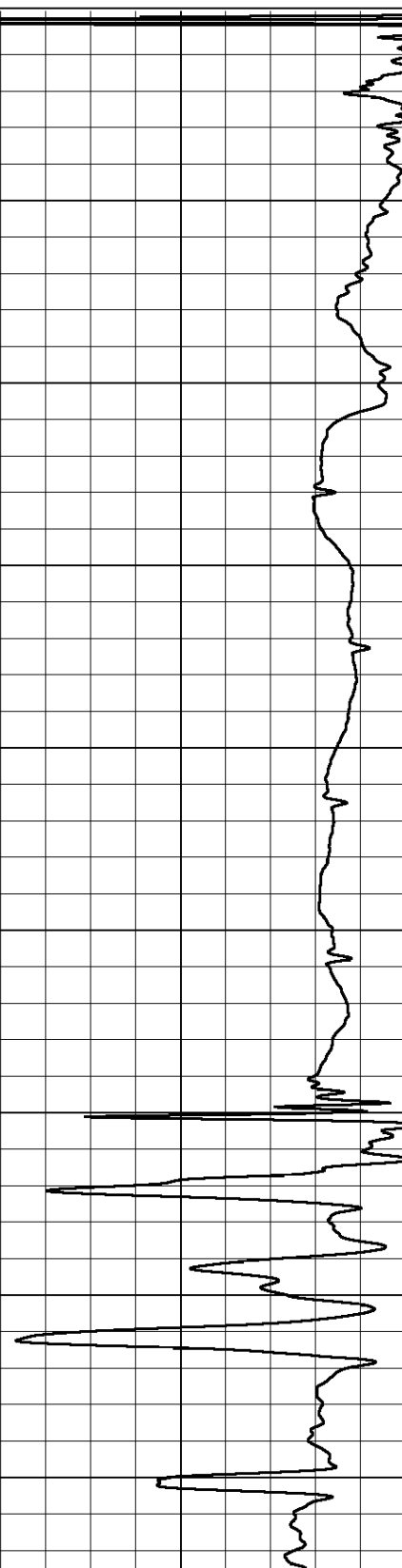
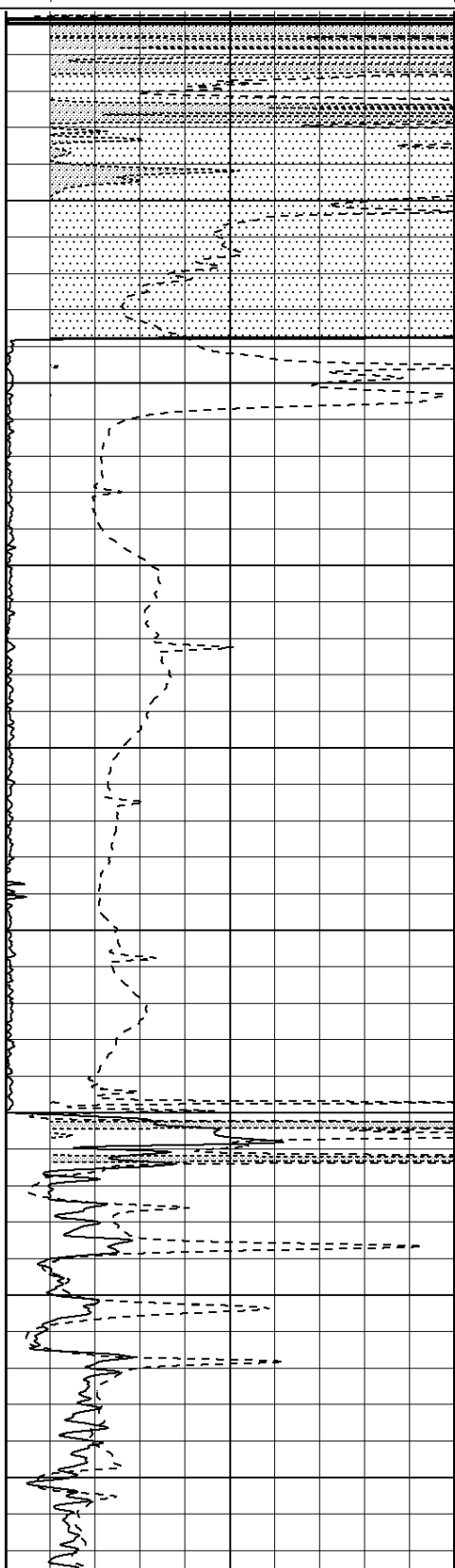
1000 CILD (mmho/m) 0

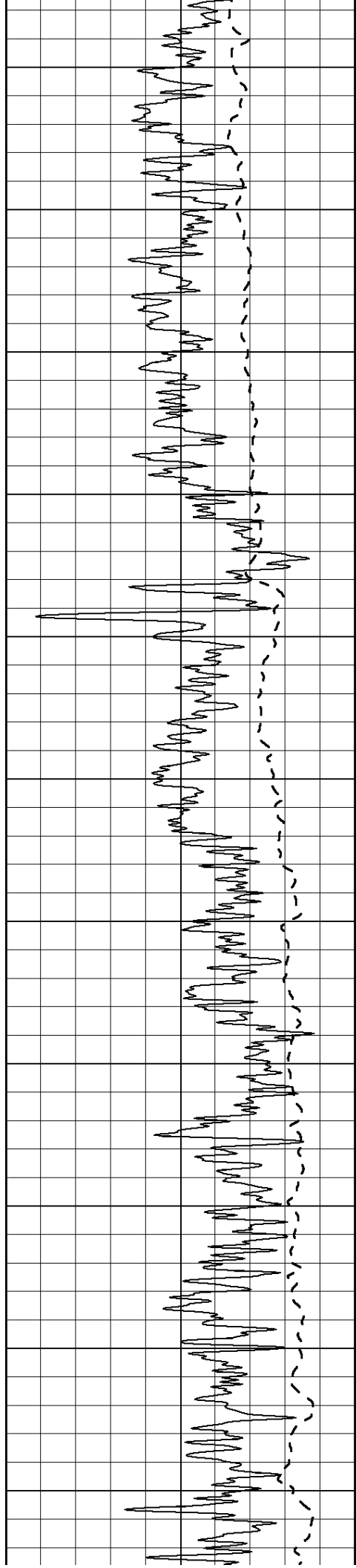
50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500



0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

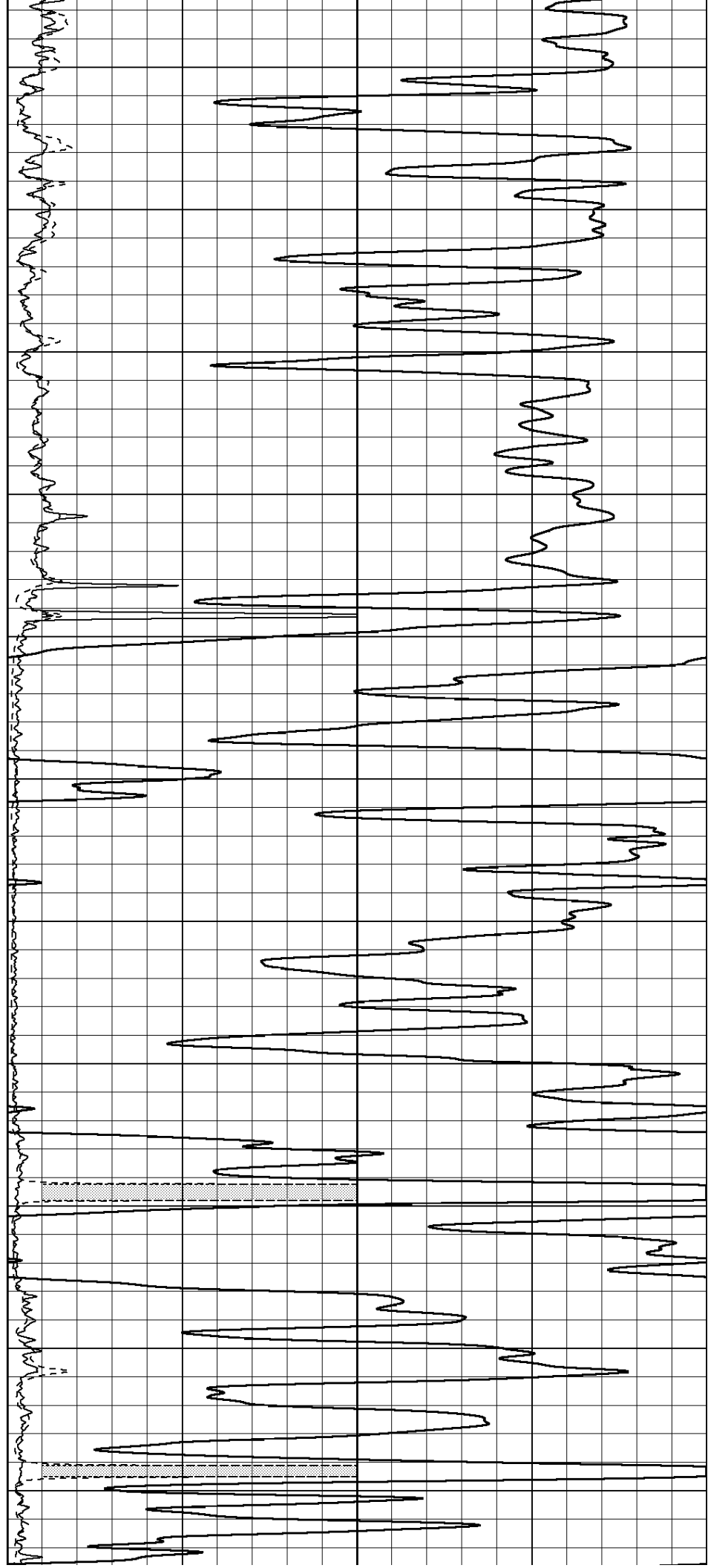
750

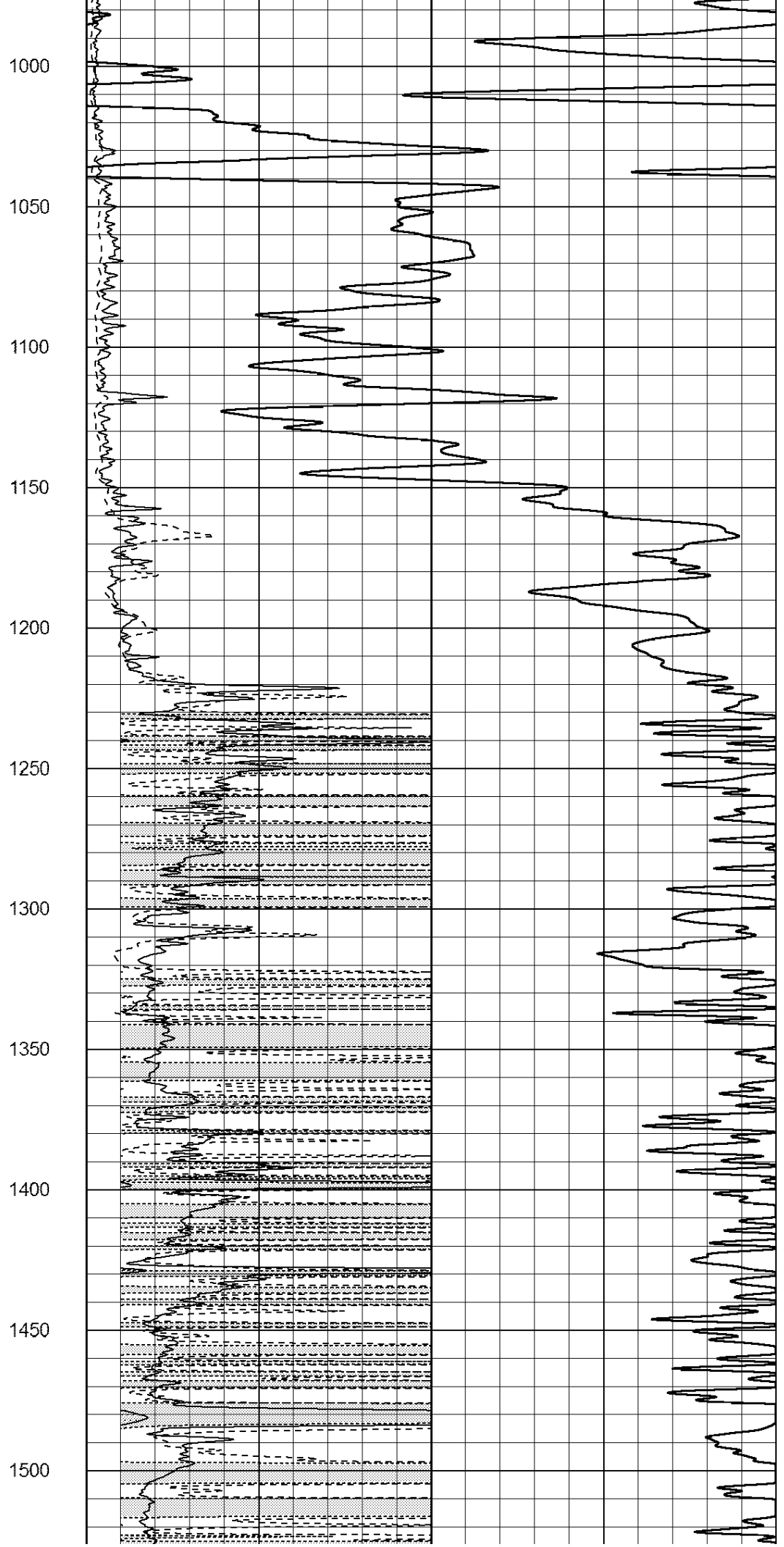
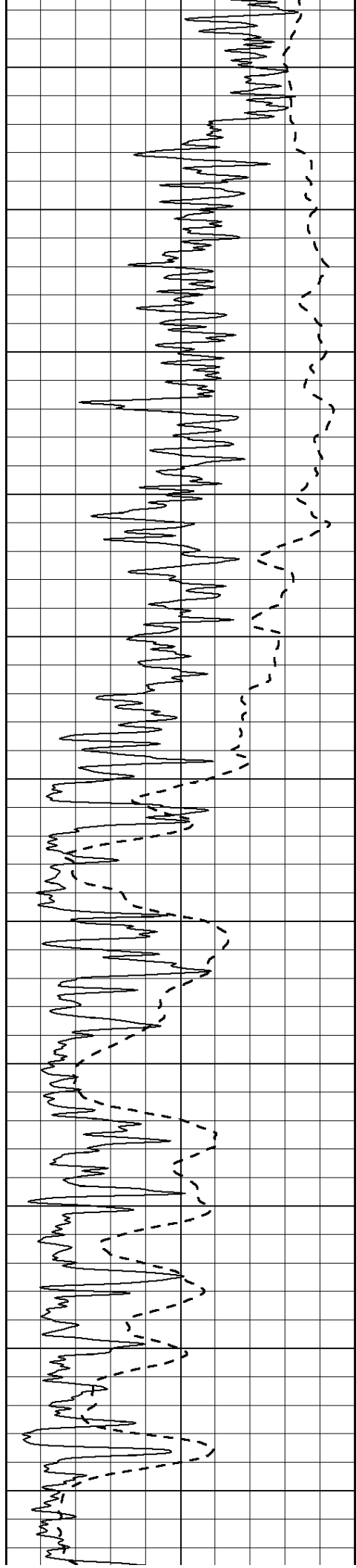
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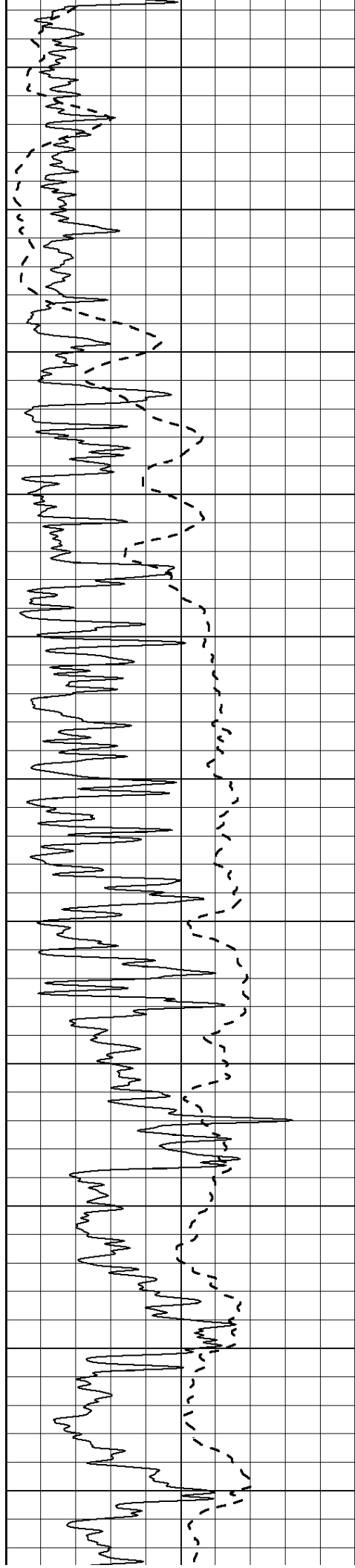
850

900

950







1550

1600

1650

1700

1750

1800

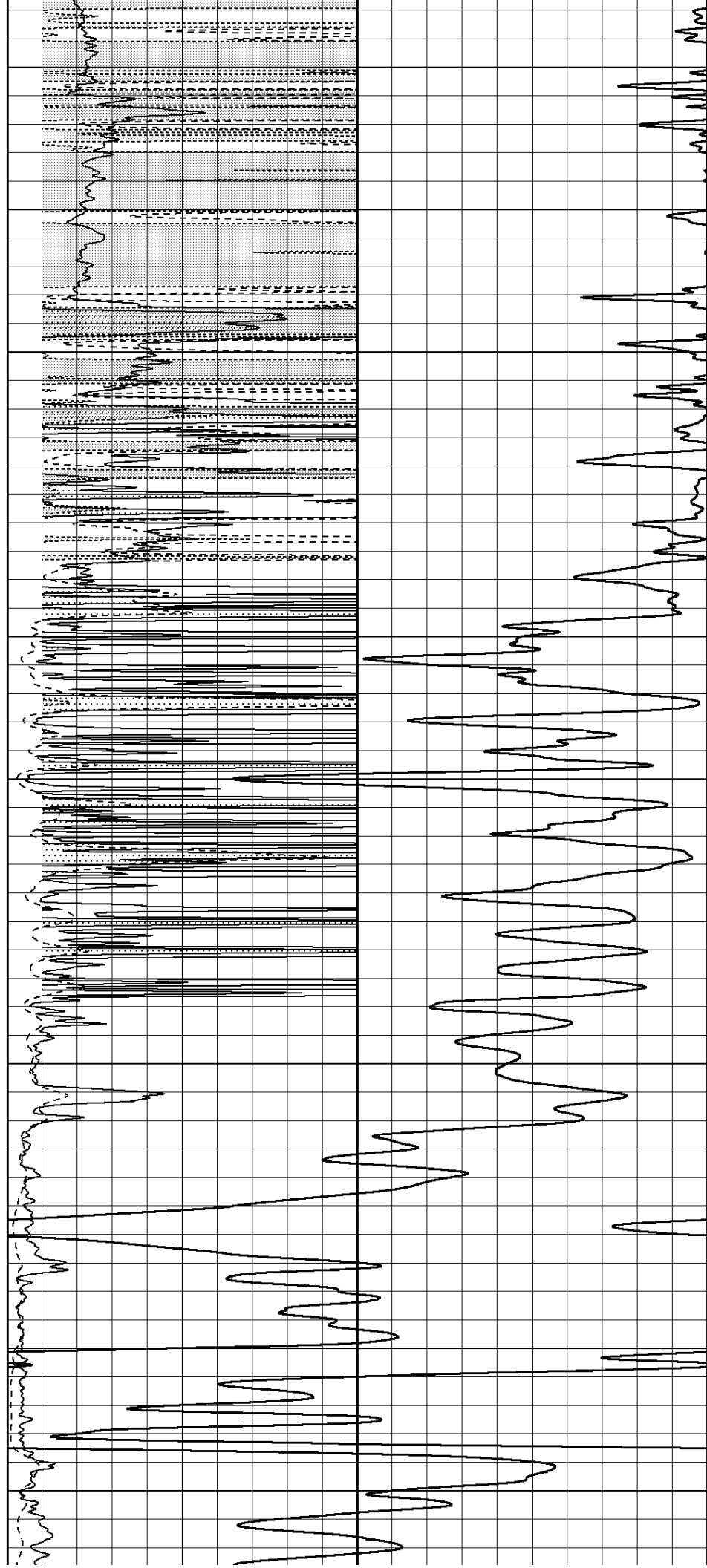
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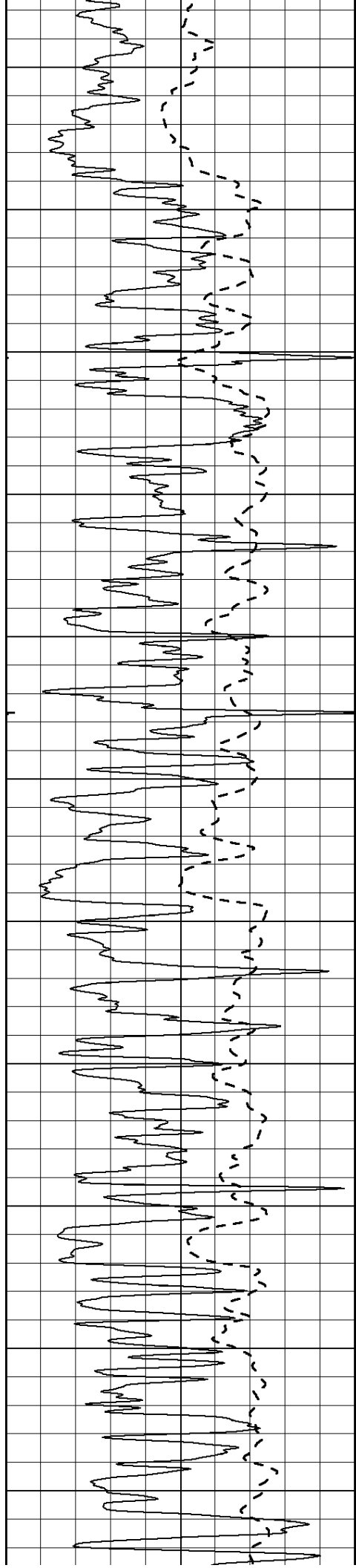
1900

1950

2000

2050





2100

2150

2200

2250

2300

2350

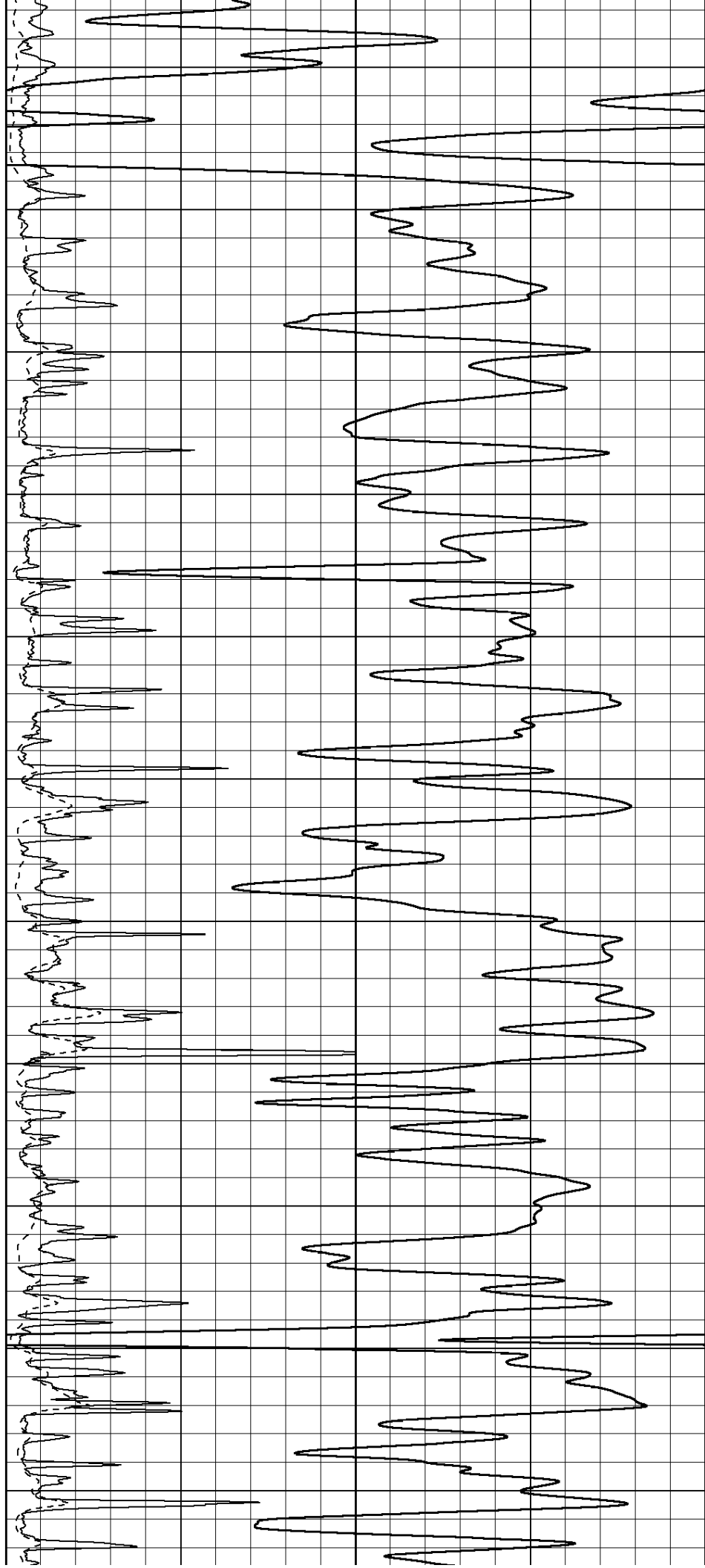
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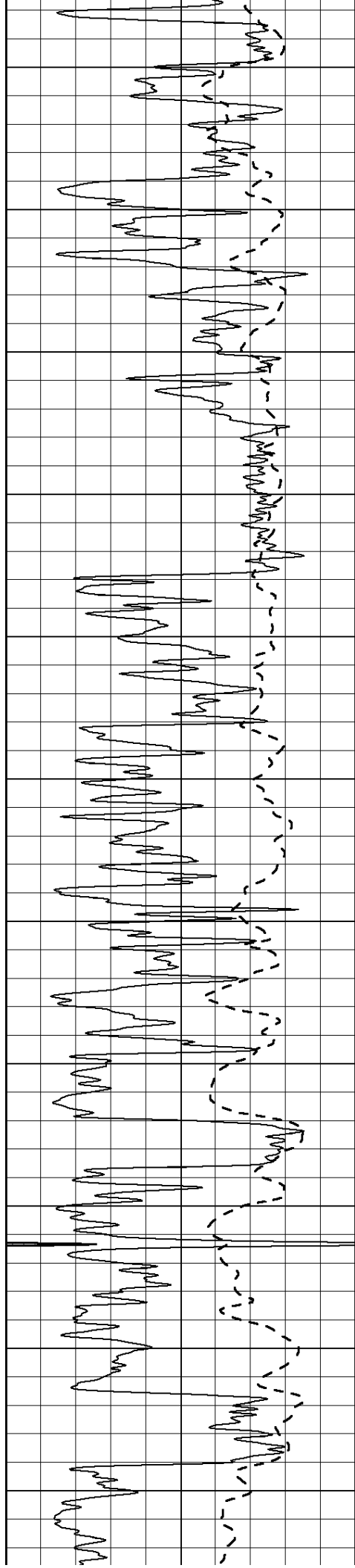
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2500

2550

2600





2650

2700

2750

2800

2850

2900

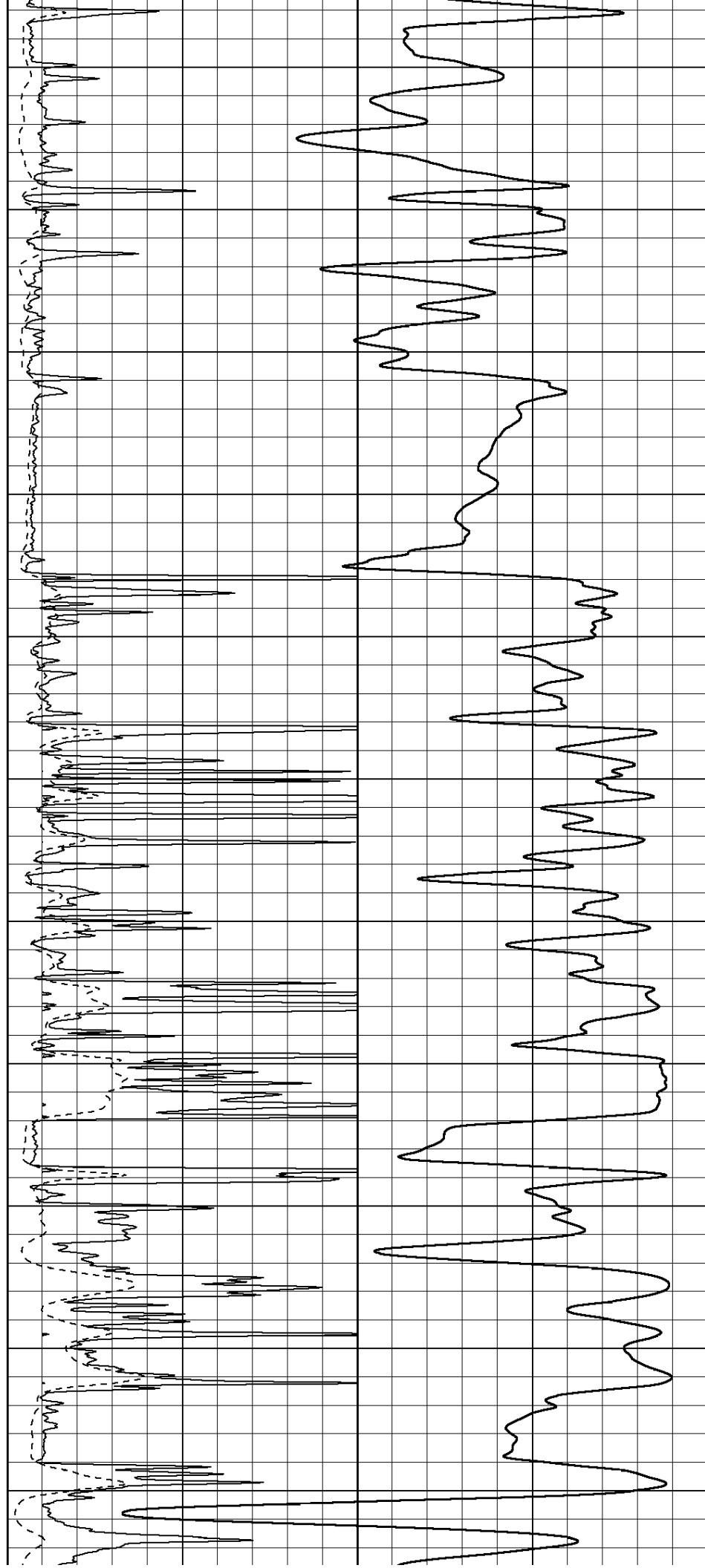
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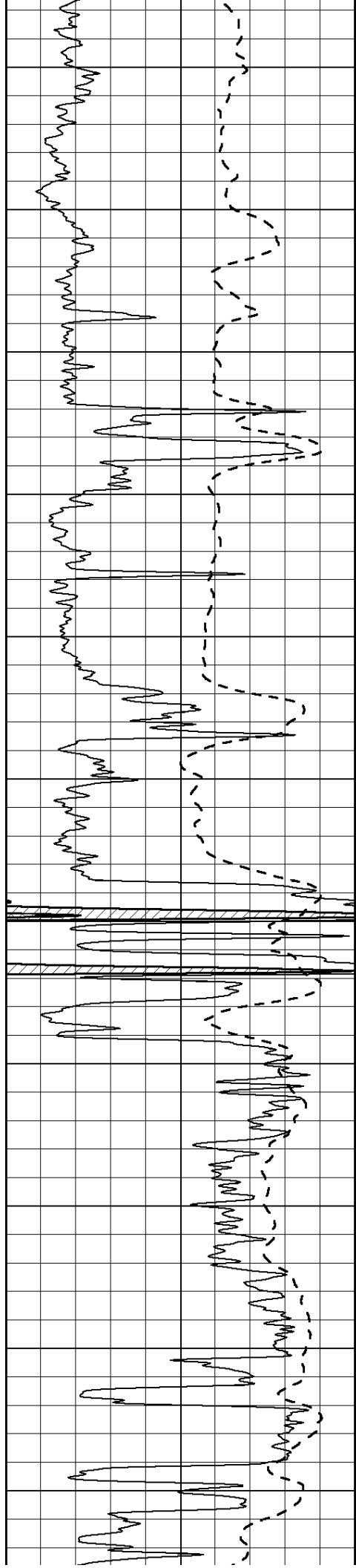
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

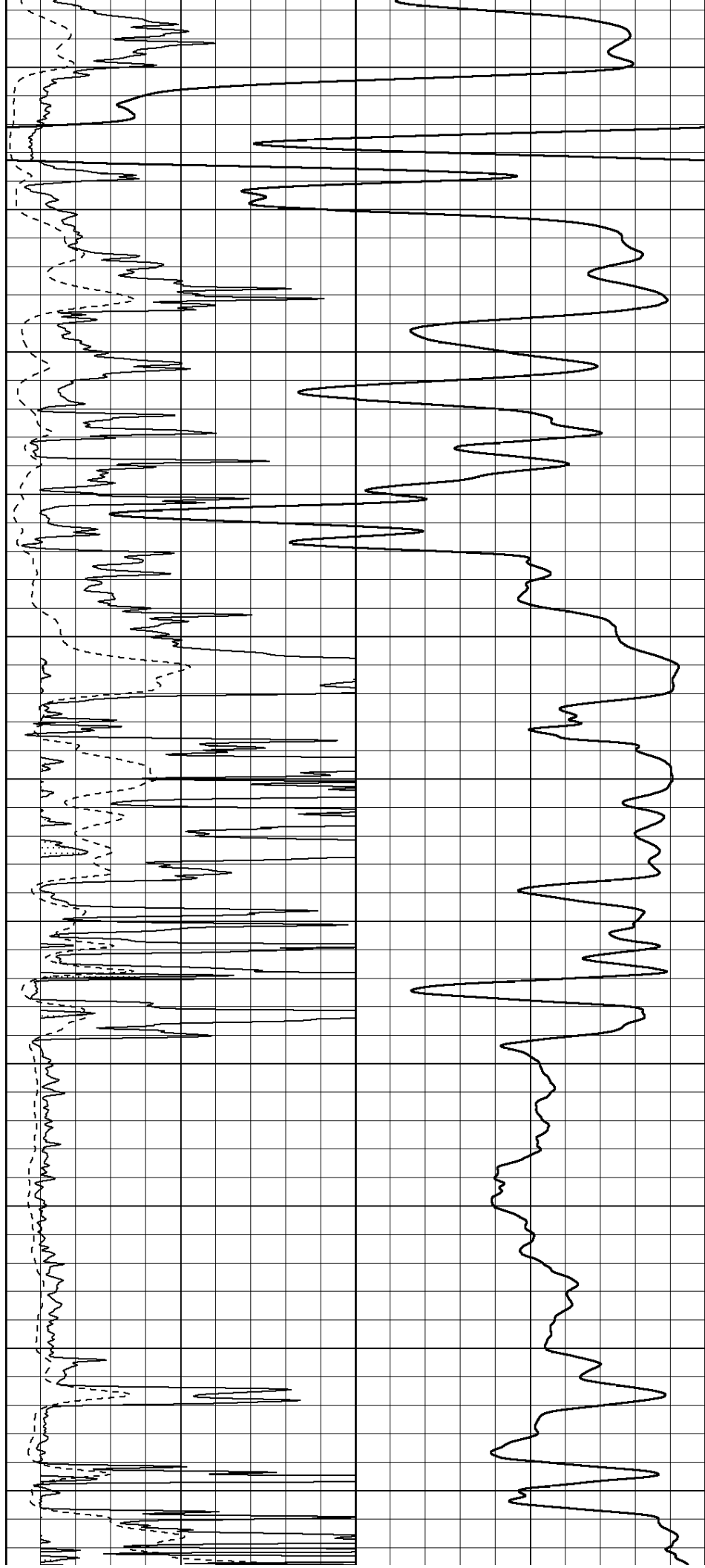
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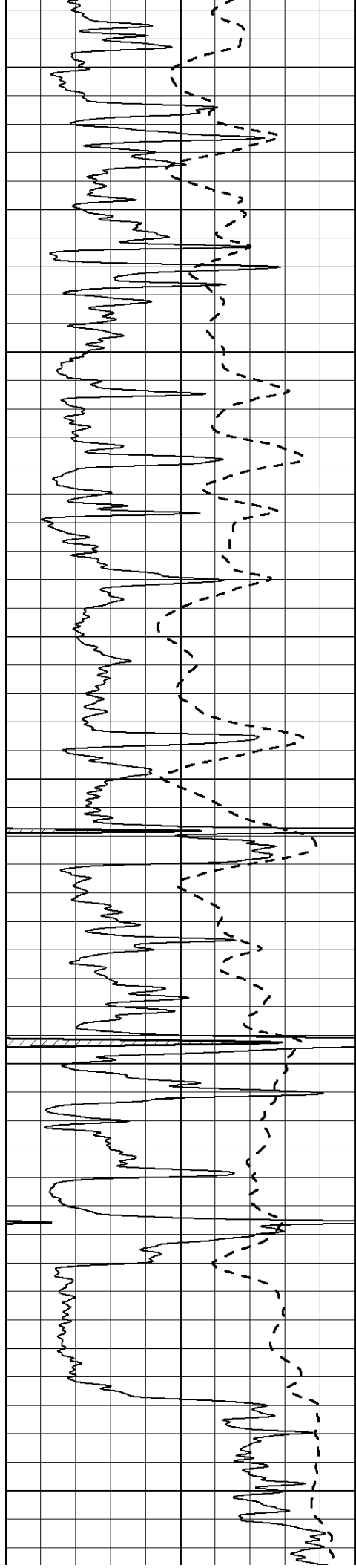
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3600

3650

3700





3750

3800

3850

3900

3950

4000

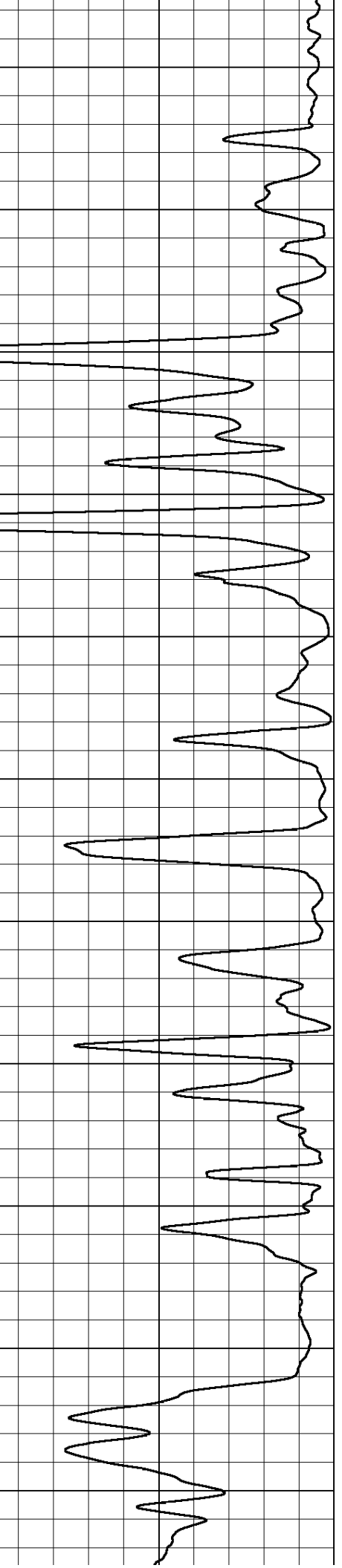
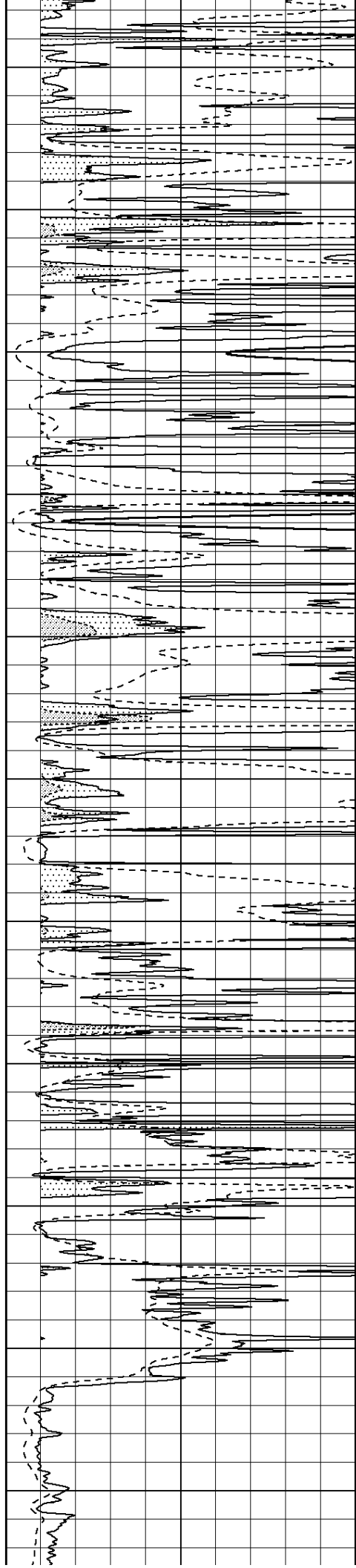
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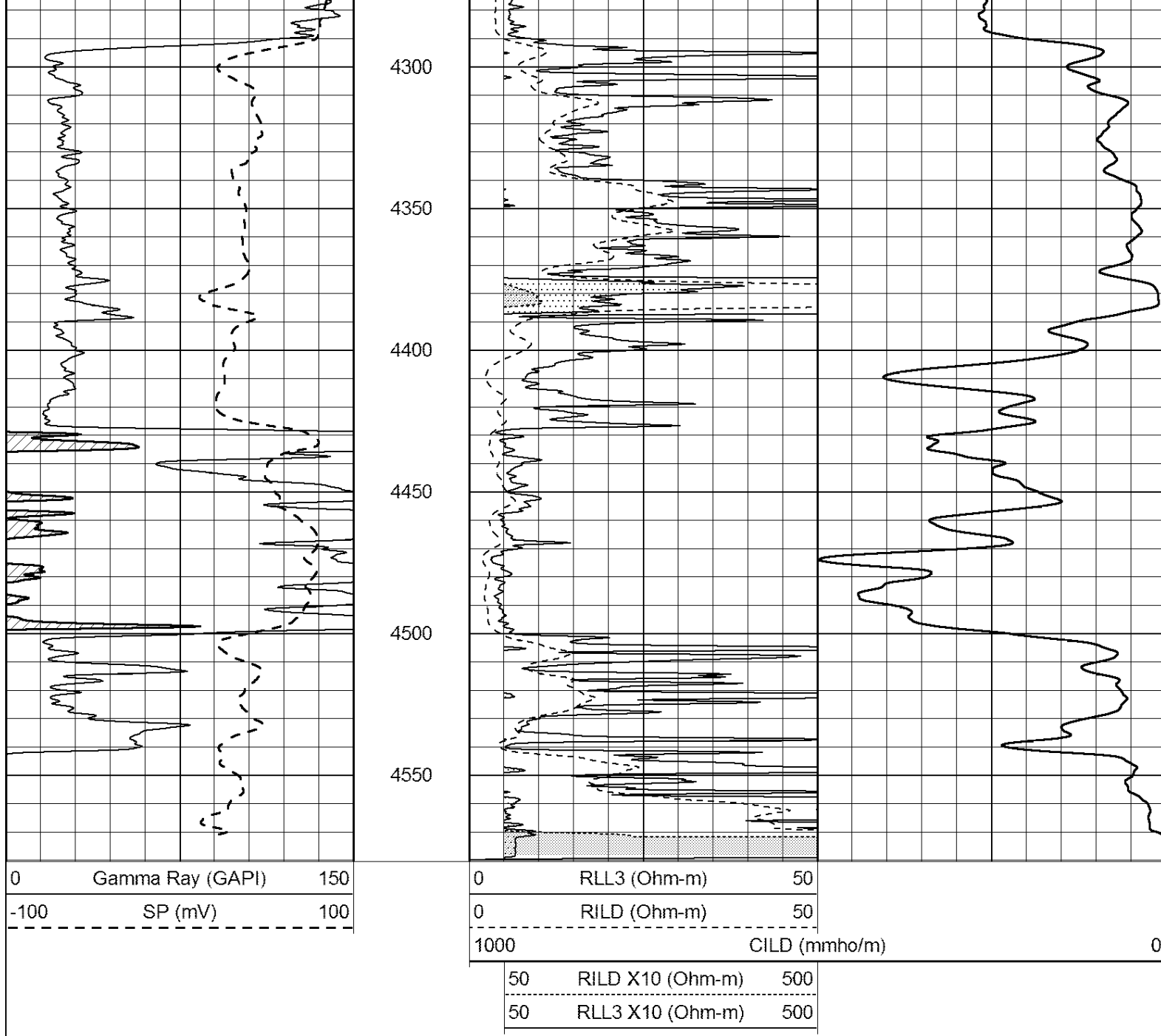
4100

4150

4200

4250





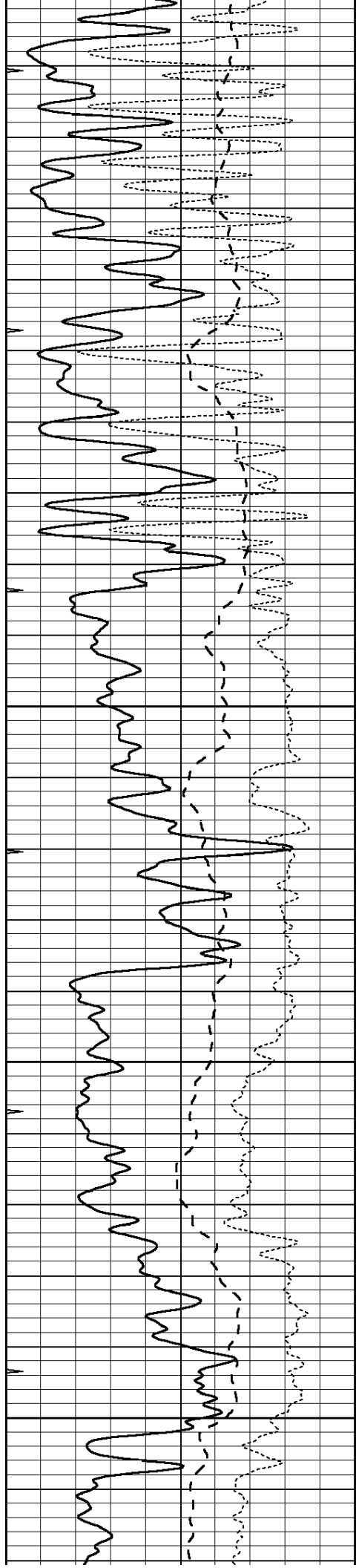
SUPERIOR
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MAIN SECTION

Database File: 408755pe.db
Dataset Pathname: pass3.4
Presentation Format: dil
Dataset Creation: Thu Apr 26 10:33:57 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



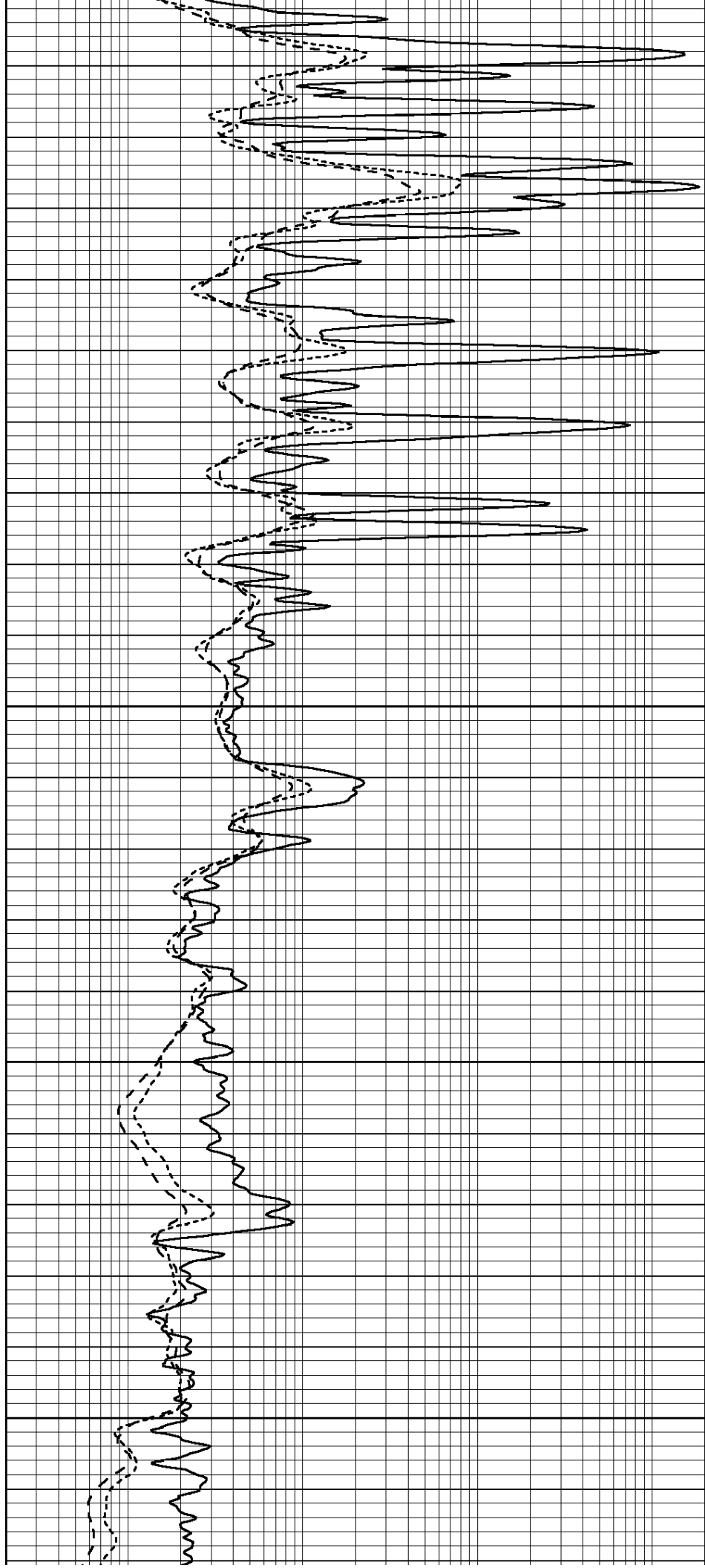


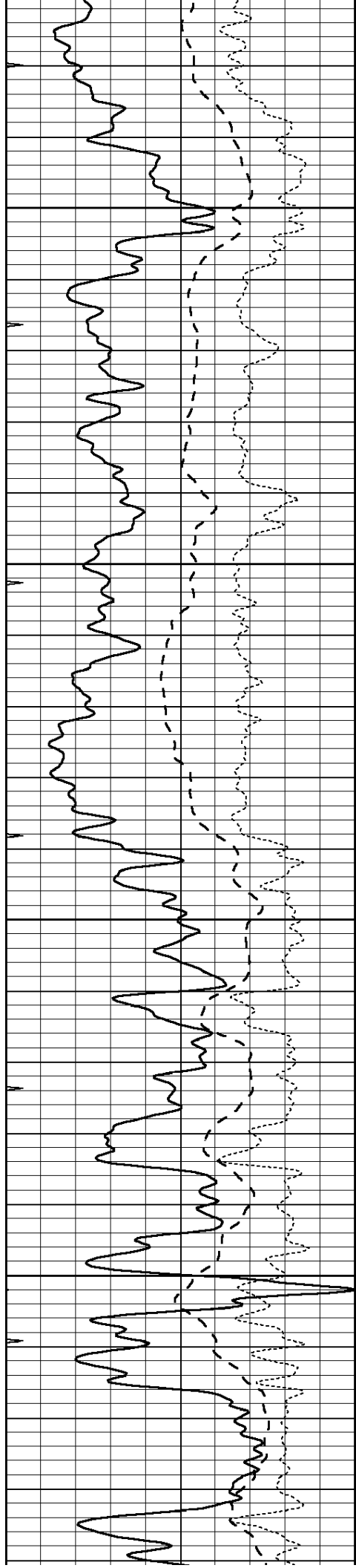
1850

1900

1950

2000



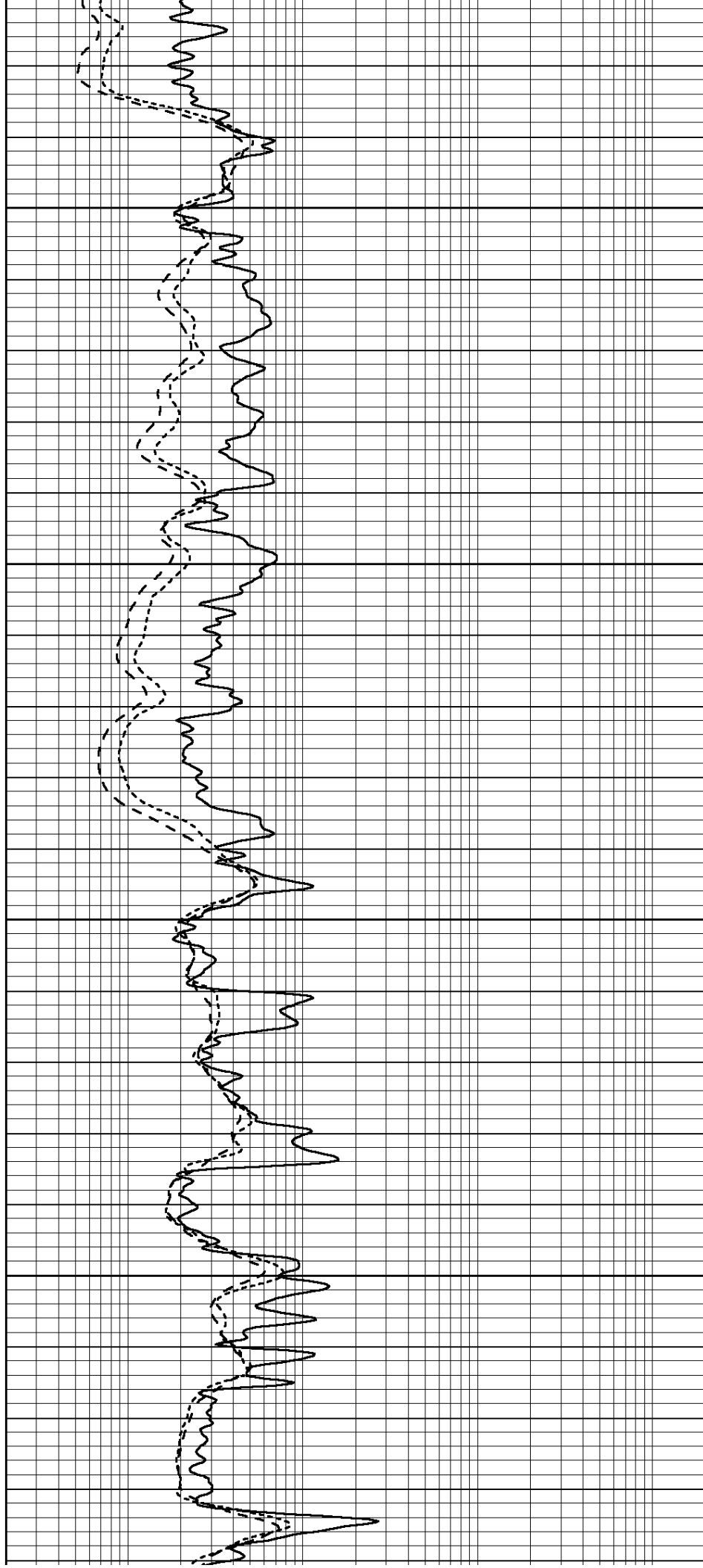


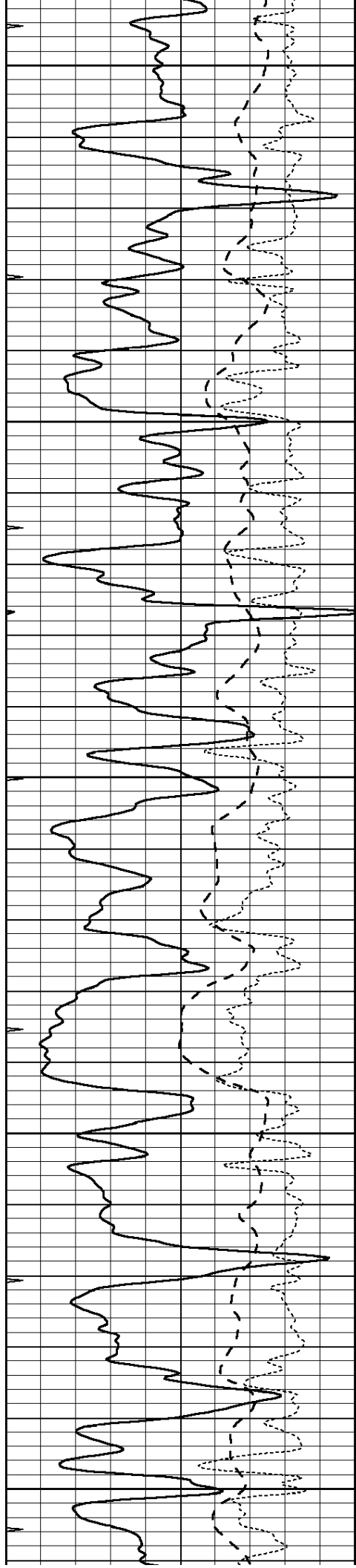
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2100

2150

2200





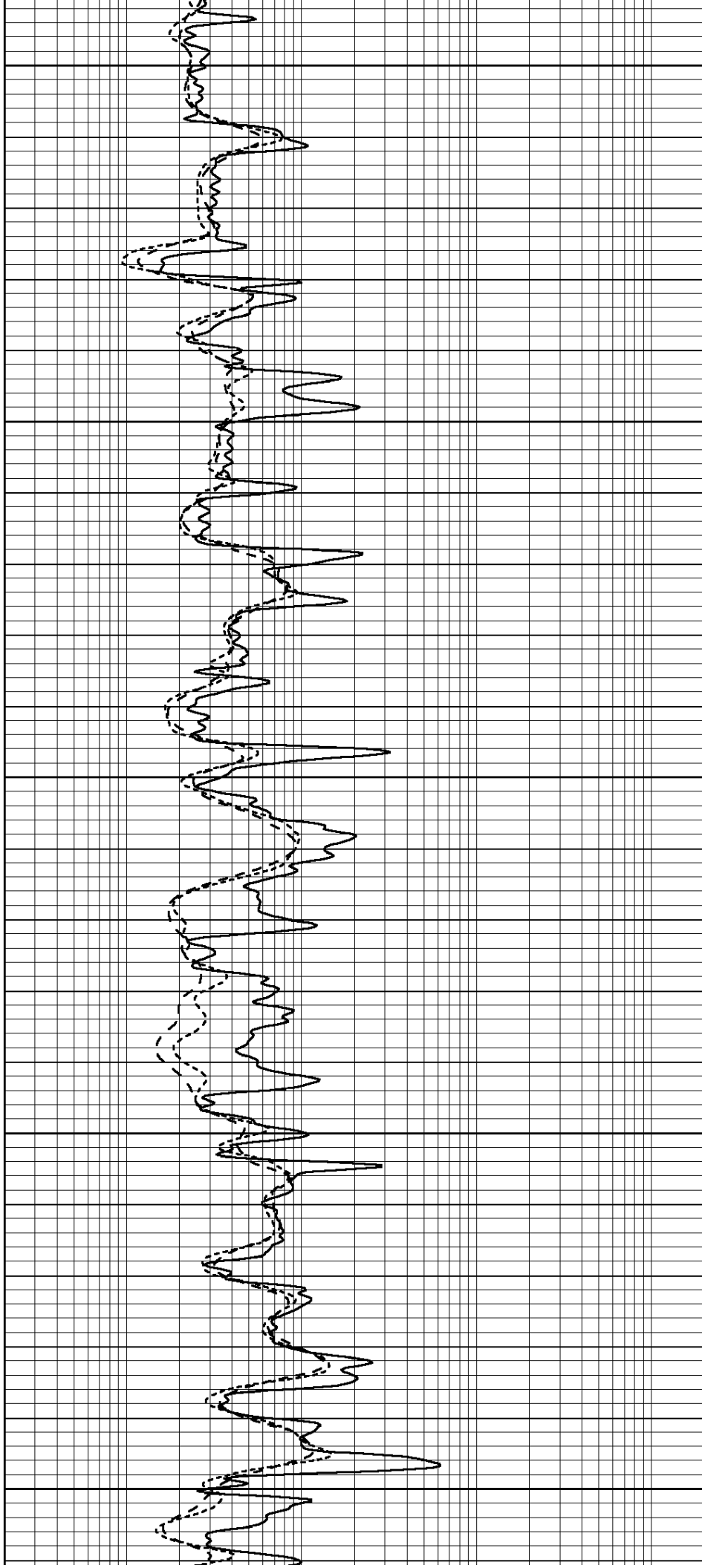
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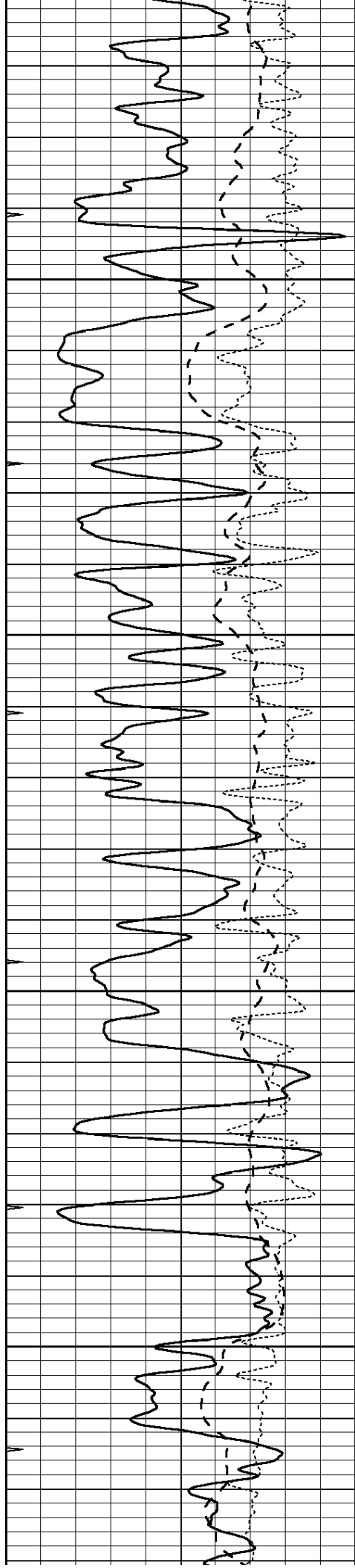
2300

2350

2400

2450



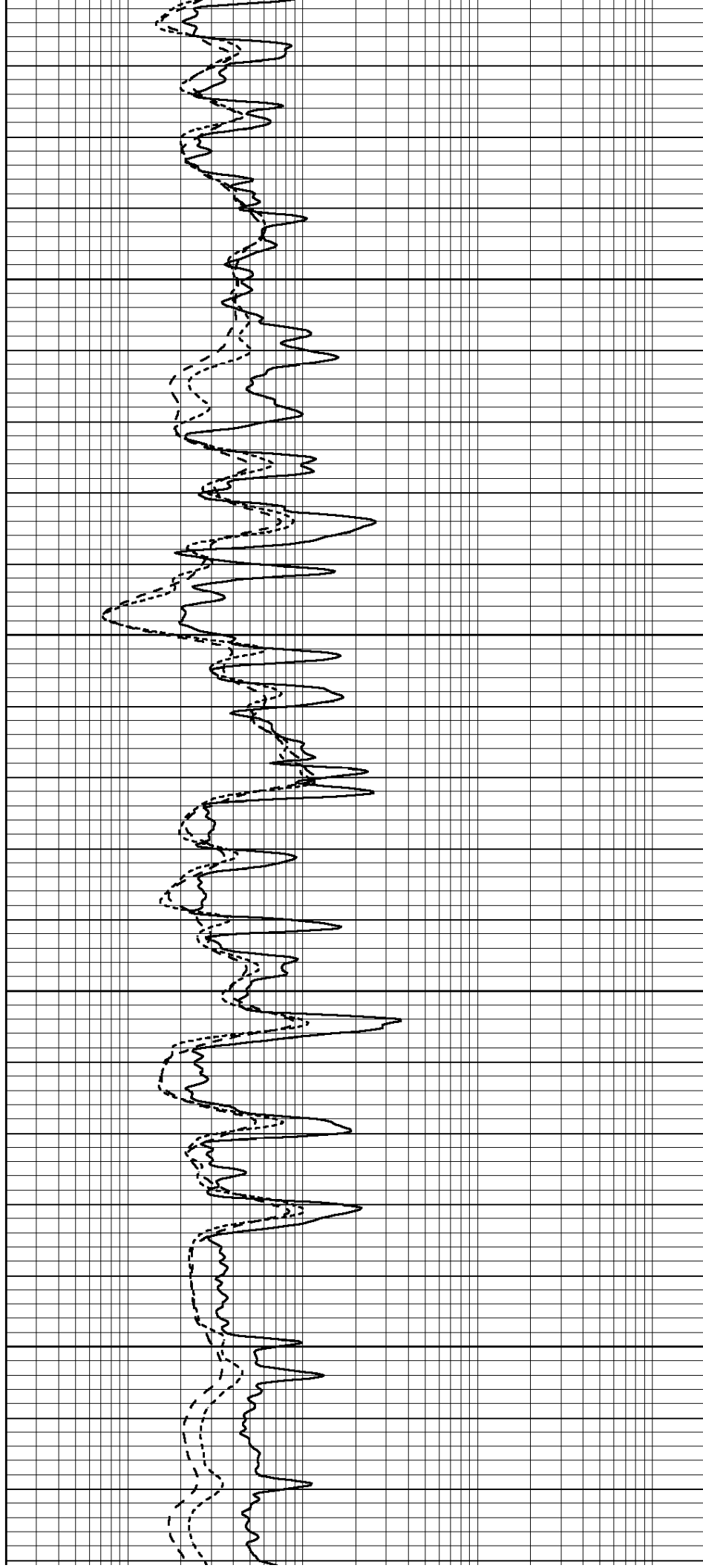


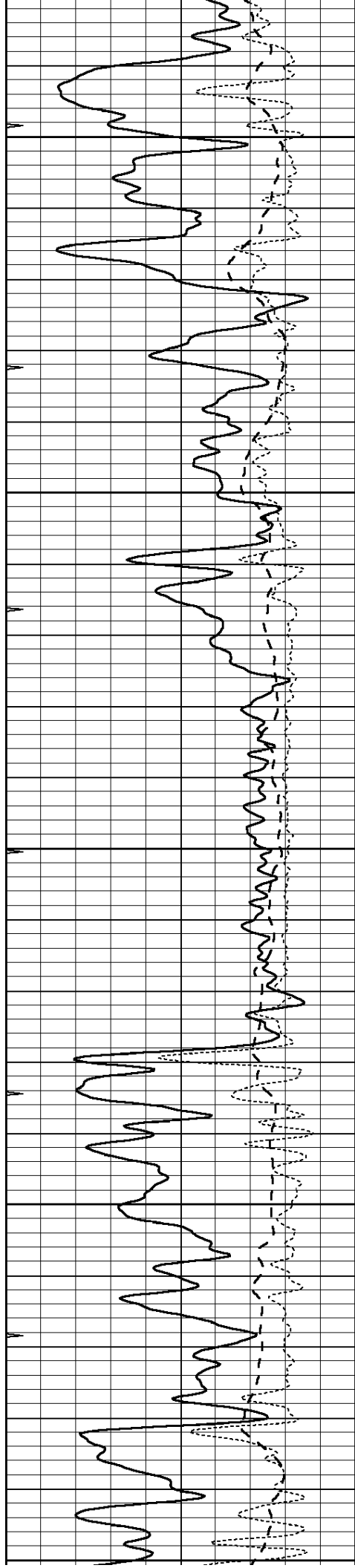
2500

2550

2600

2650





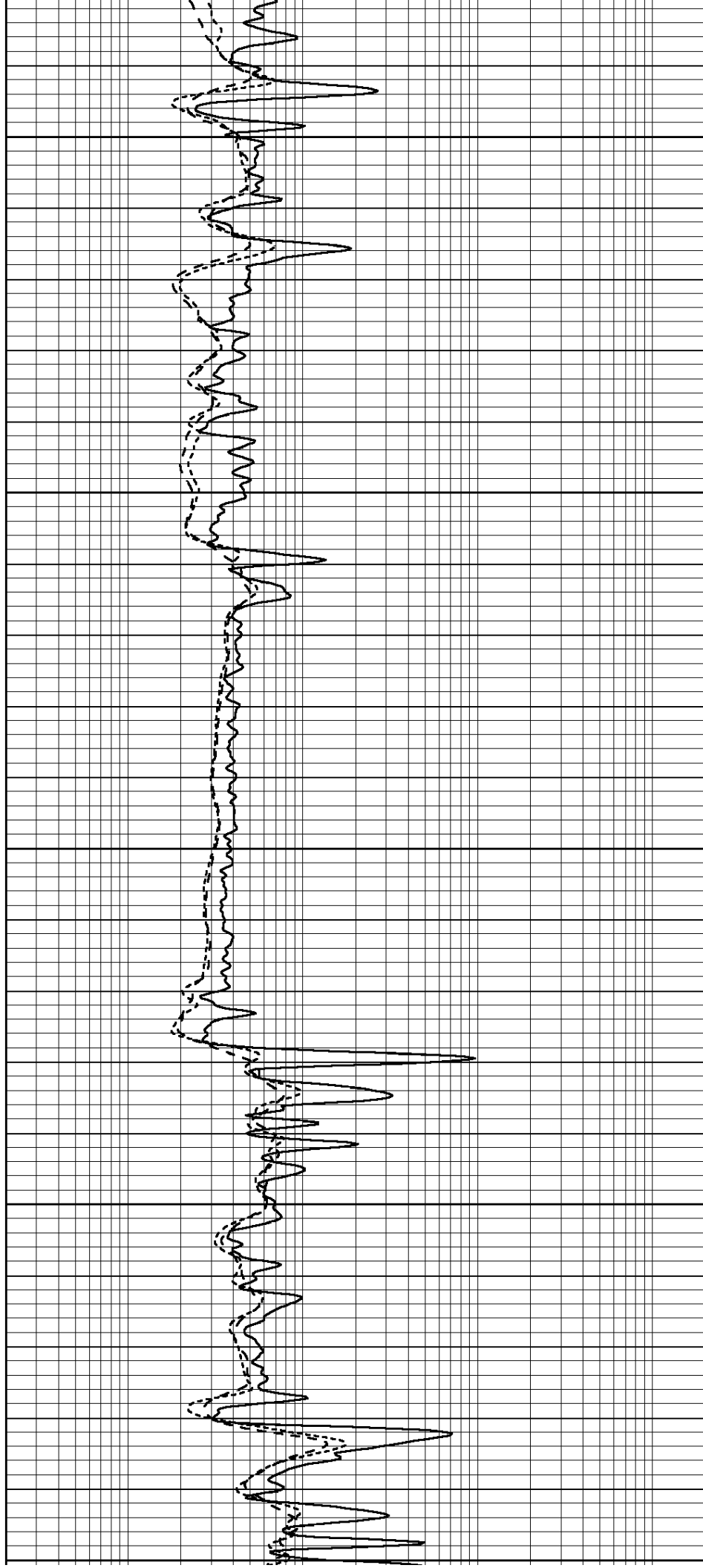
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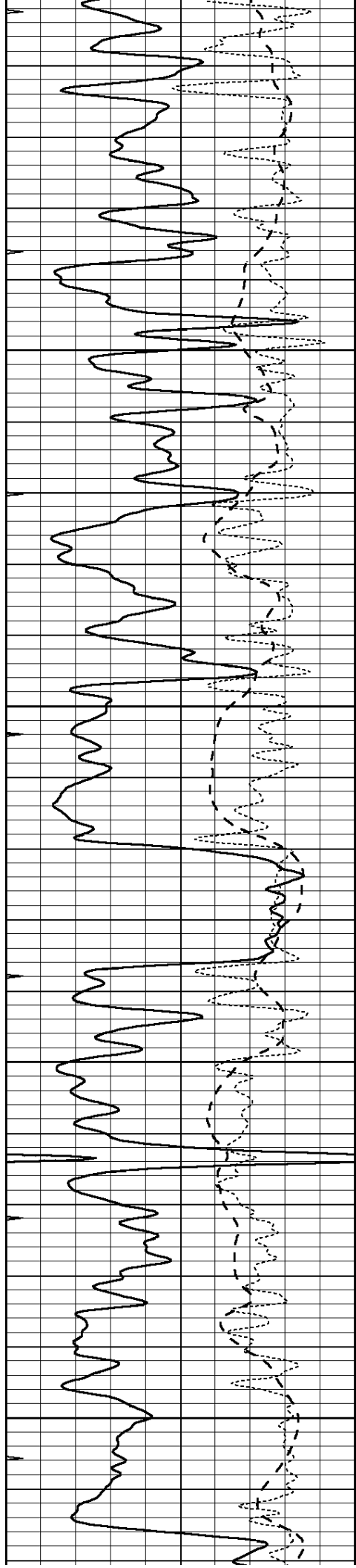
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2800

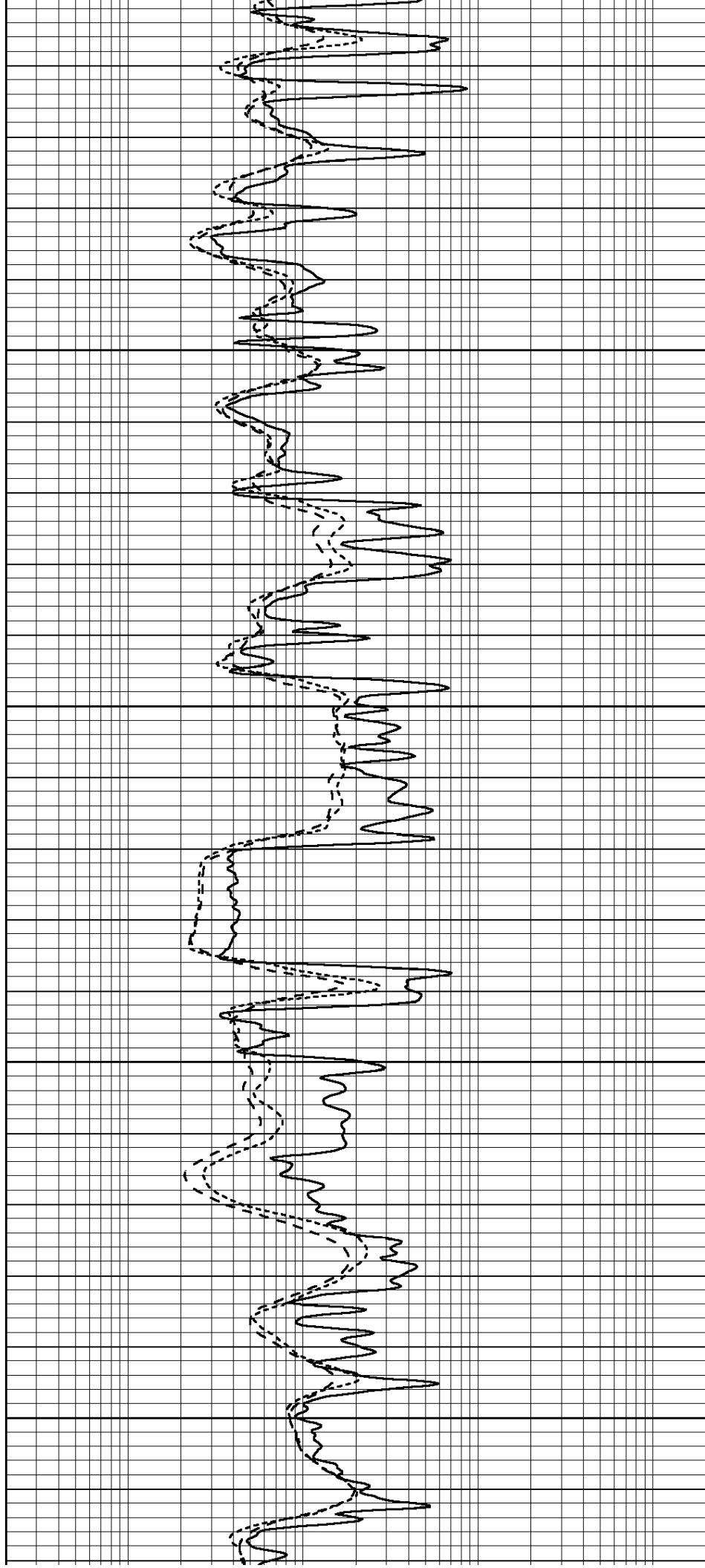
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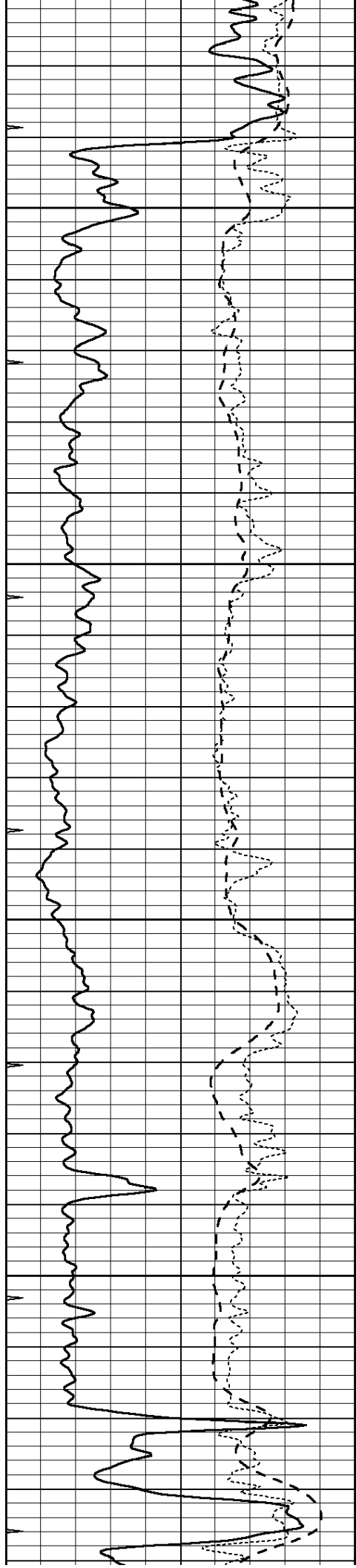
2900





2900
2950
3000
3050
3100



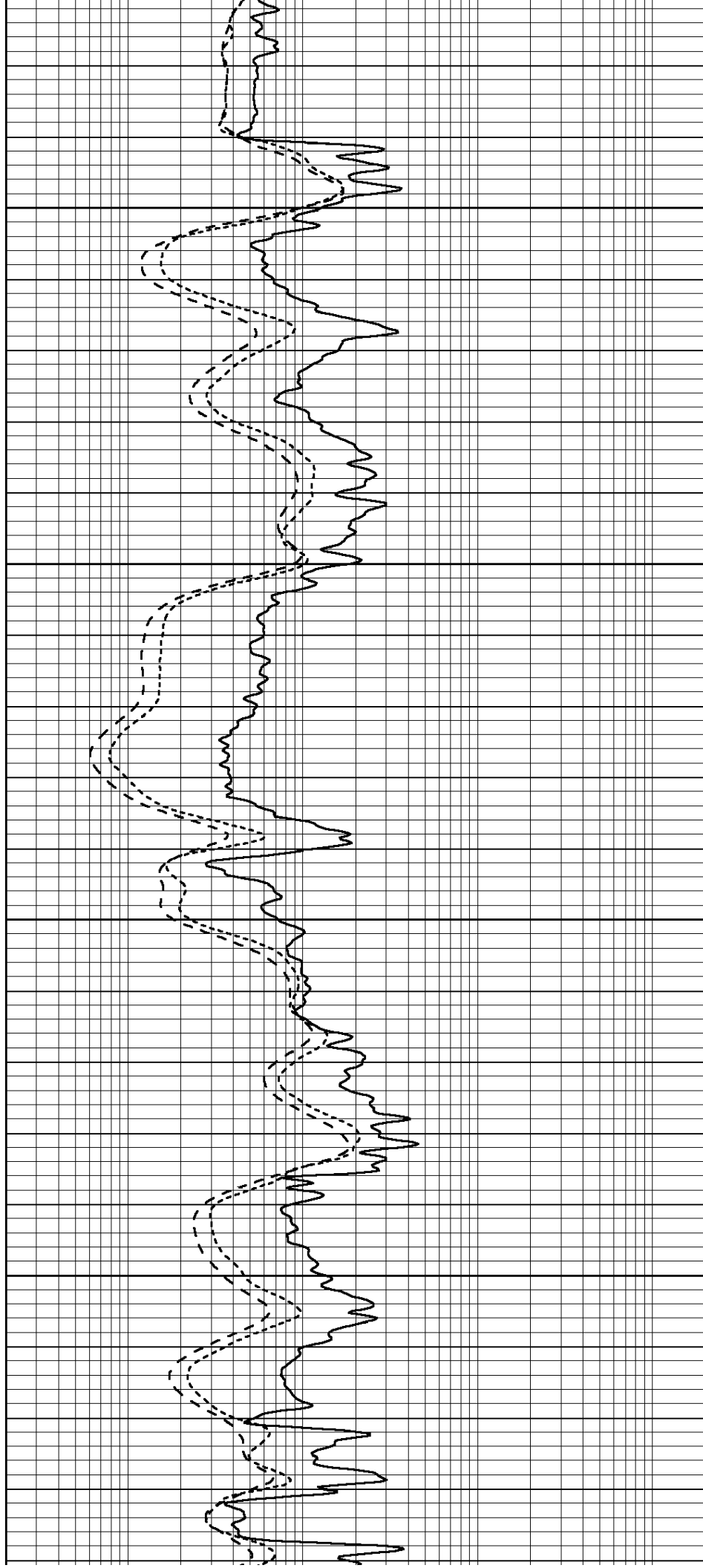


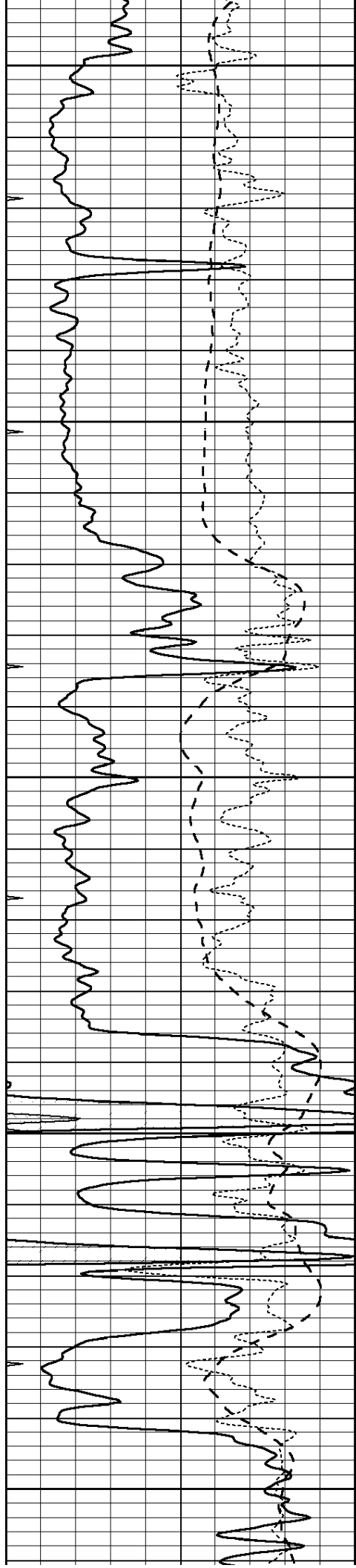
3150

3200

3250

3300





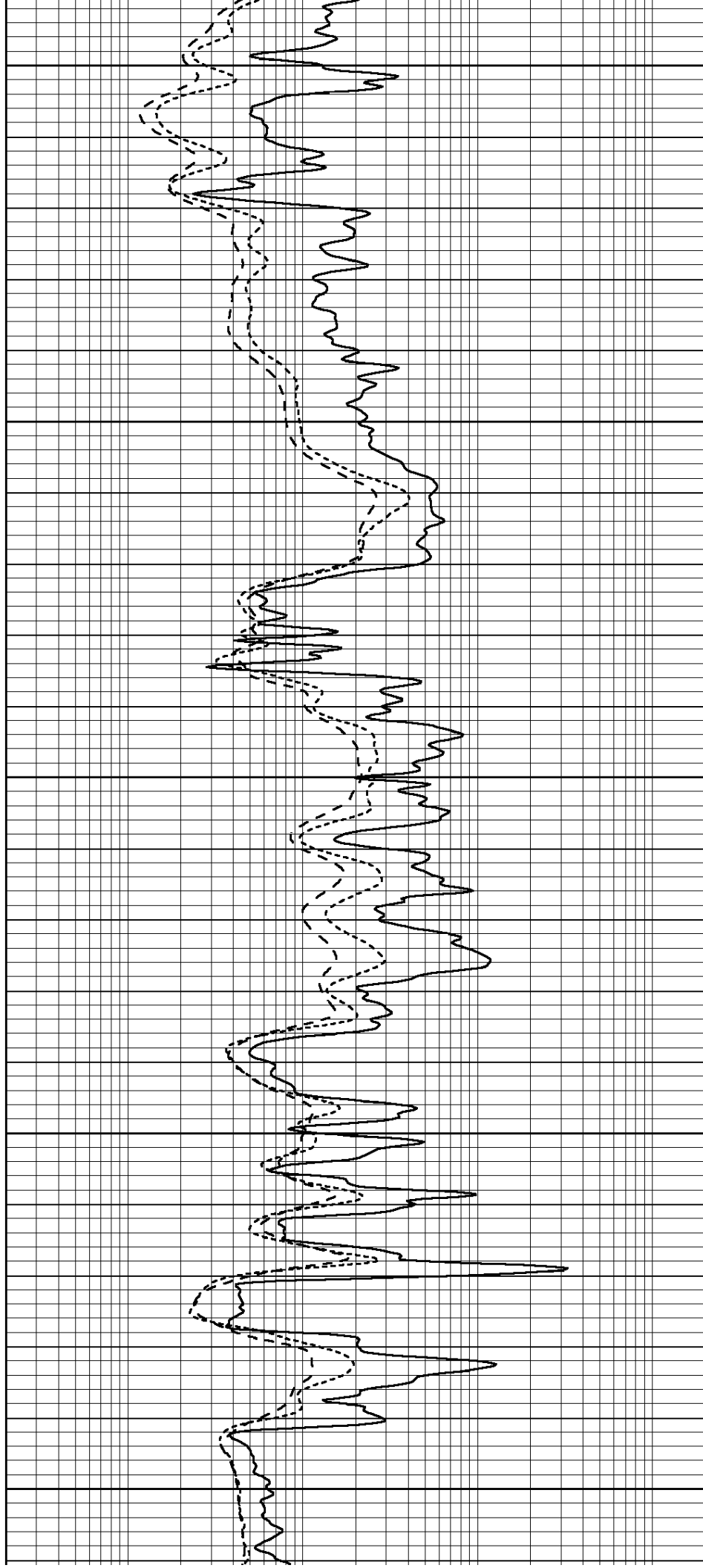
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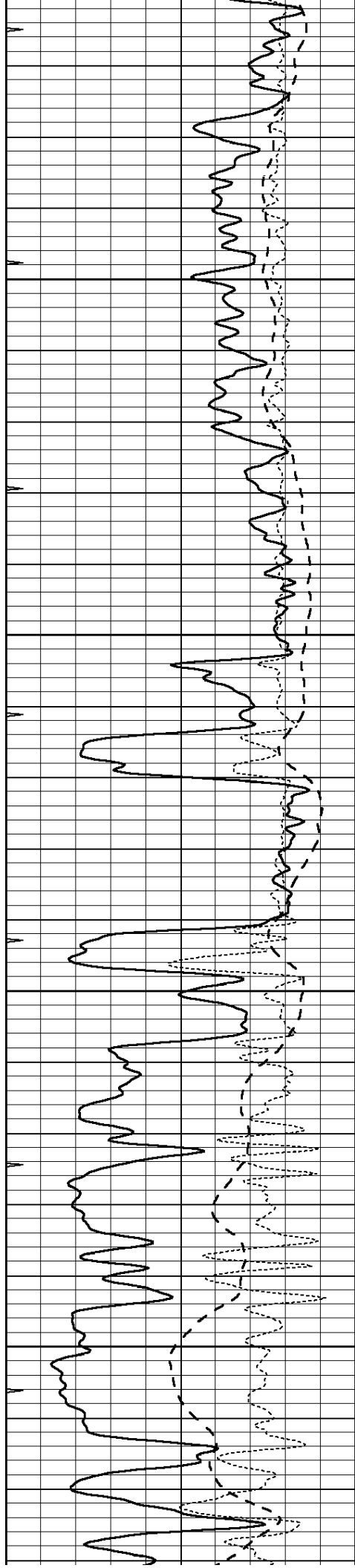
3400

3450

3500

3550



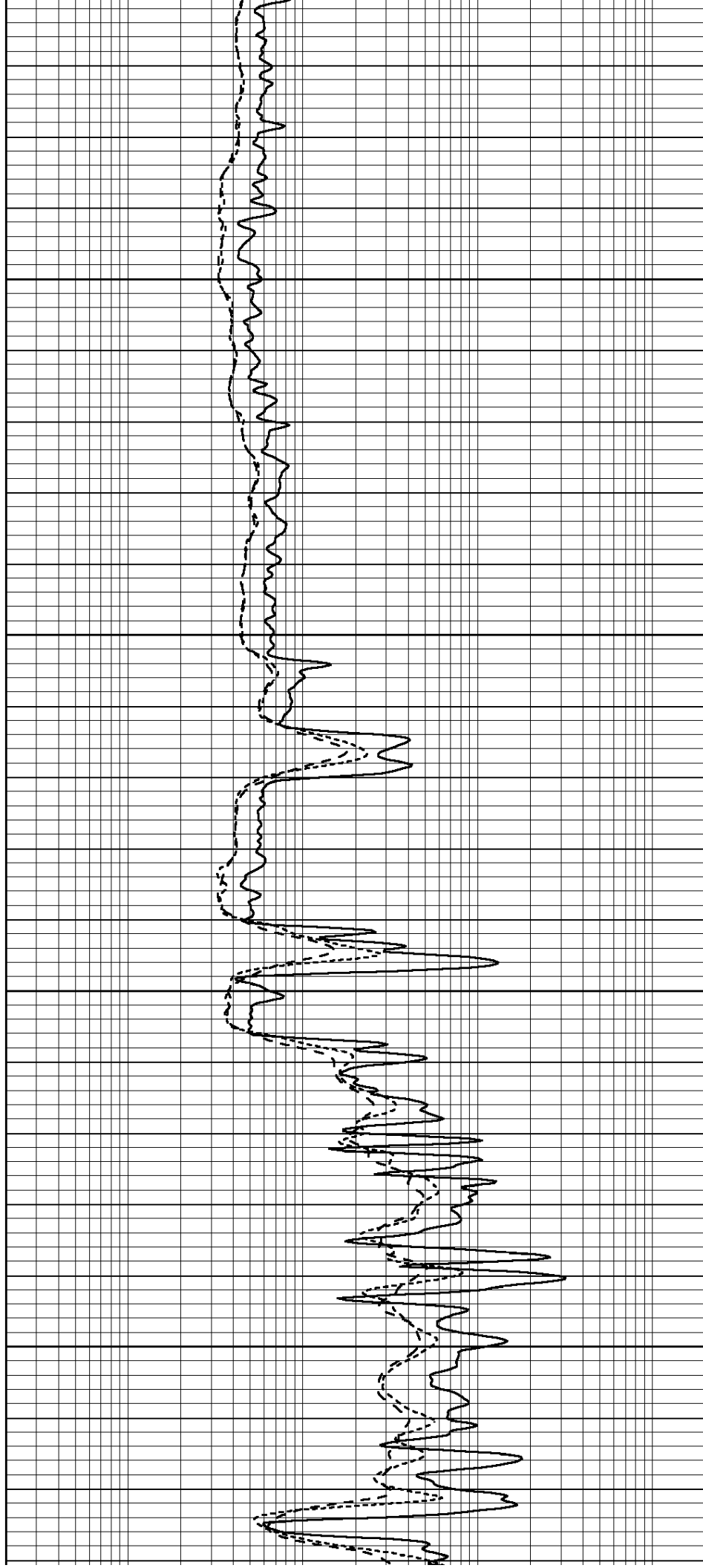


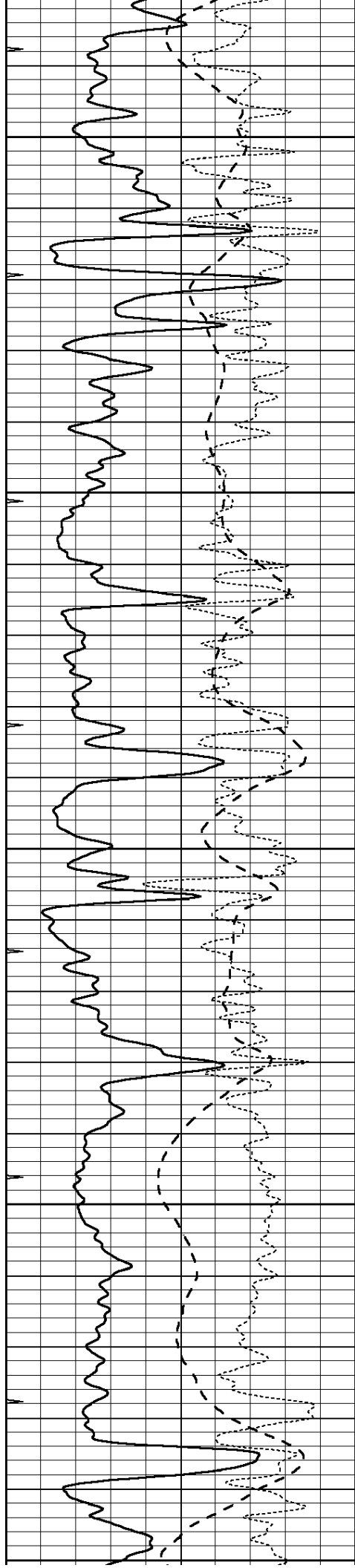
3600

3650

3700

3750





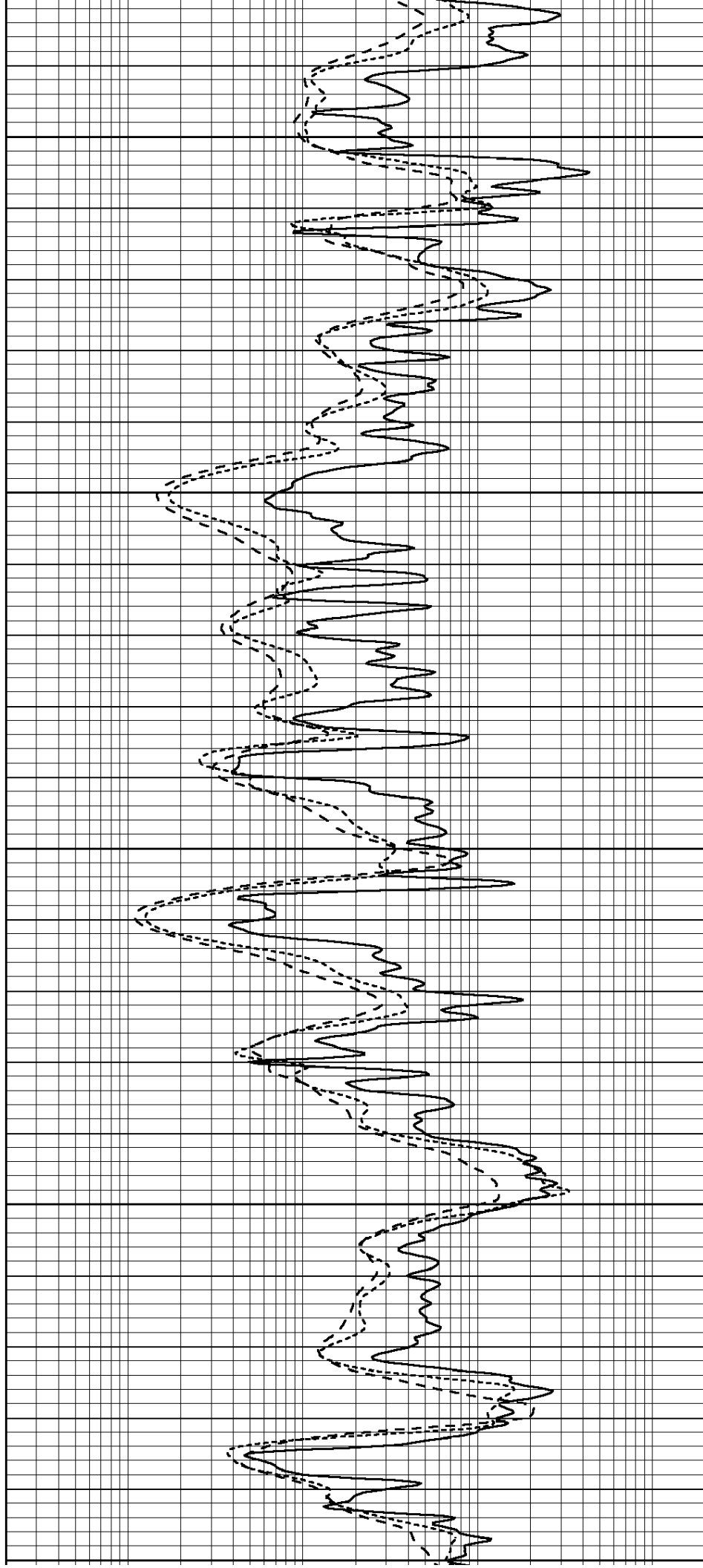
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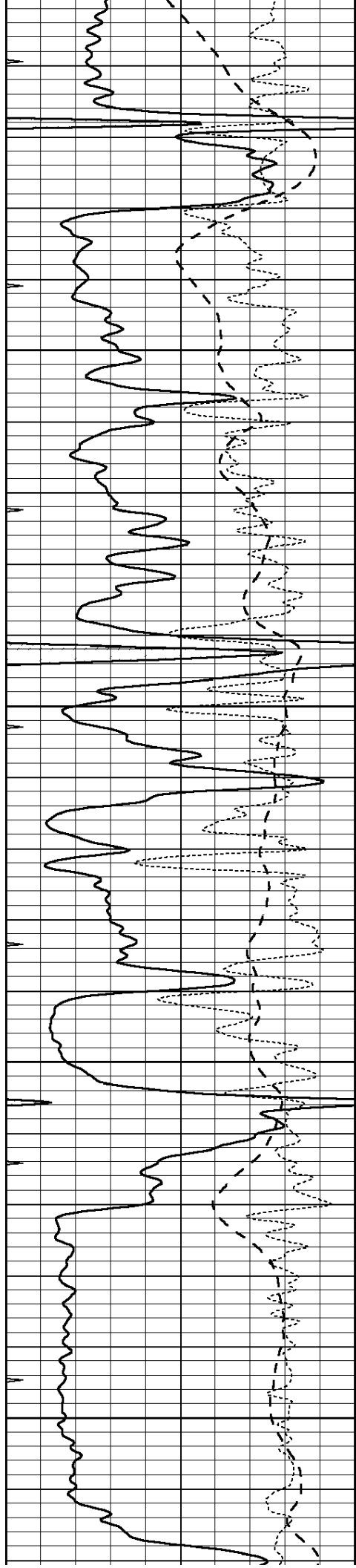
3850

3900

3950

4000



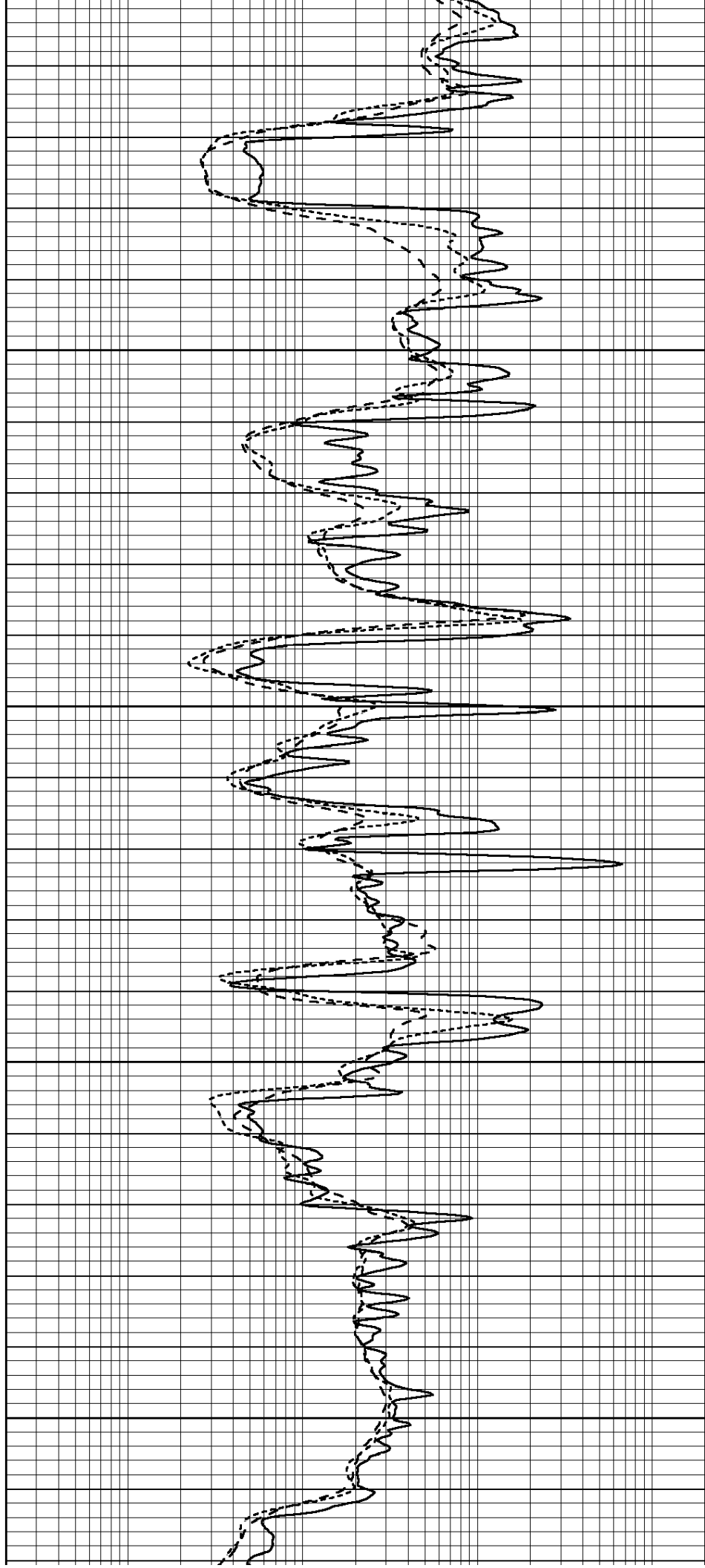


4050

4100

4150

4200



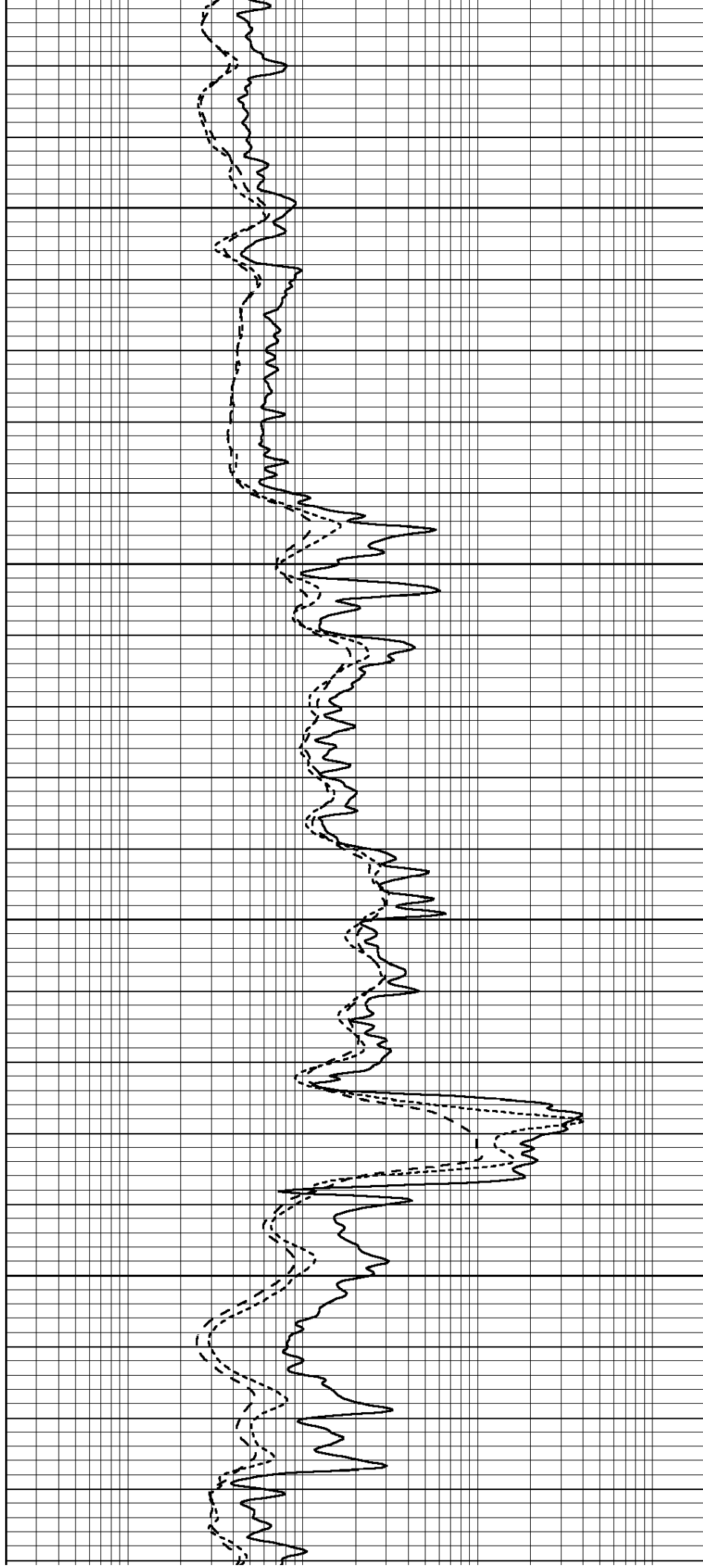


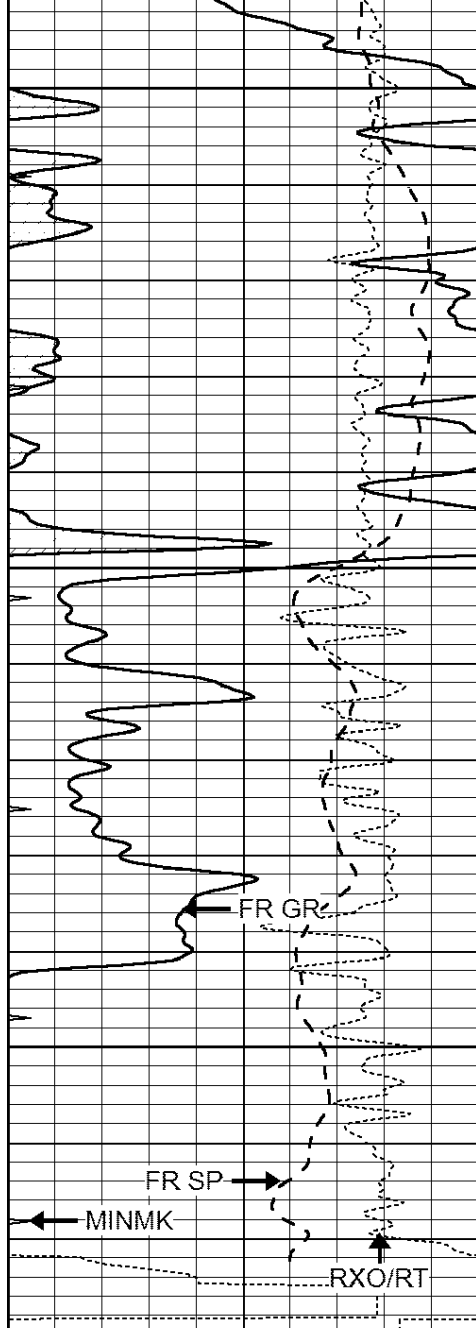
4250

4300

4350

4400





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

4450

4500

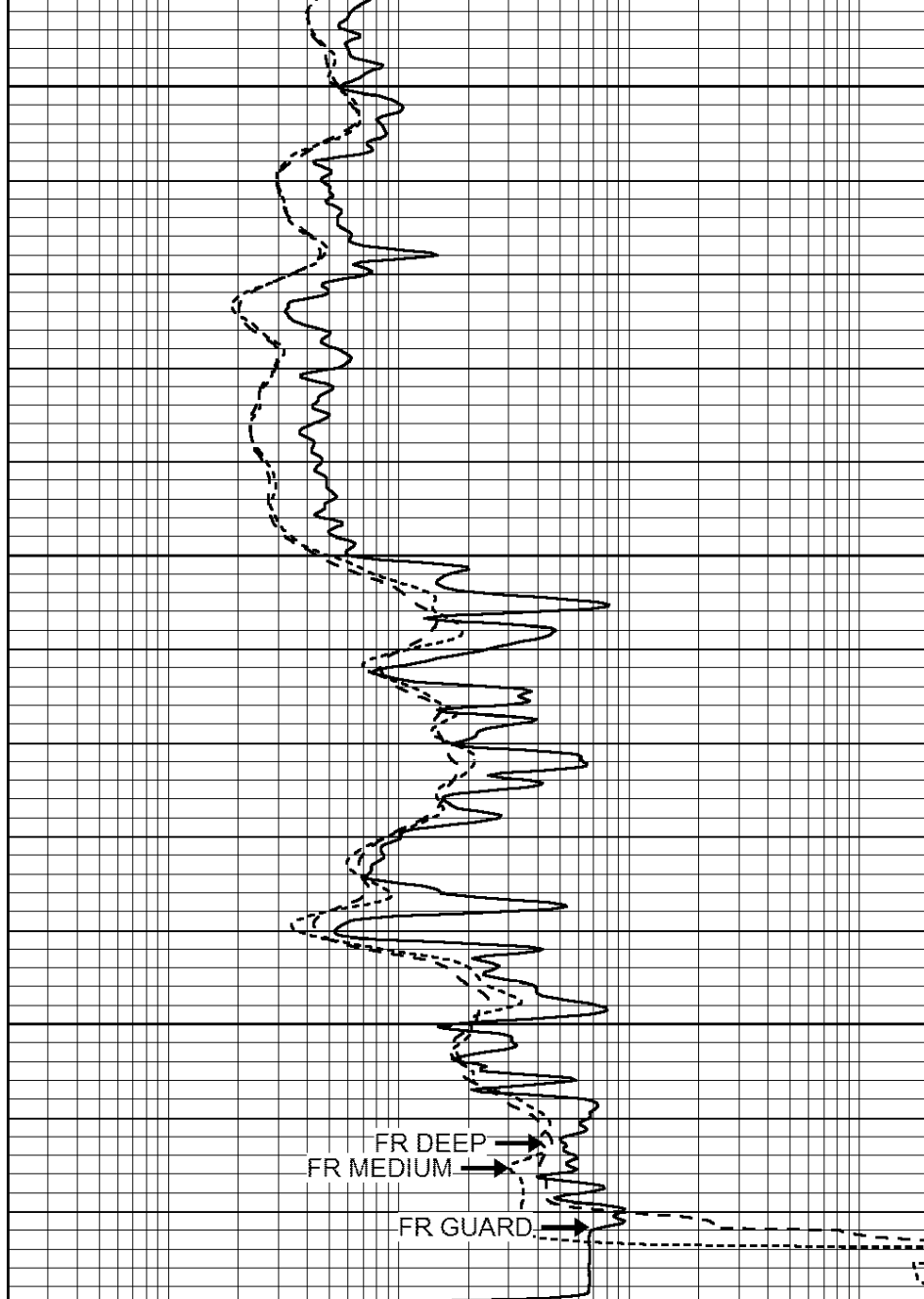
4550

FR GR

FR SP

MINMK

RXO/RT



0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

FR DEEP

FR MEDIUM

FR GUARD



SUPERIOR
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Kansas

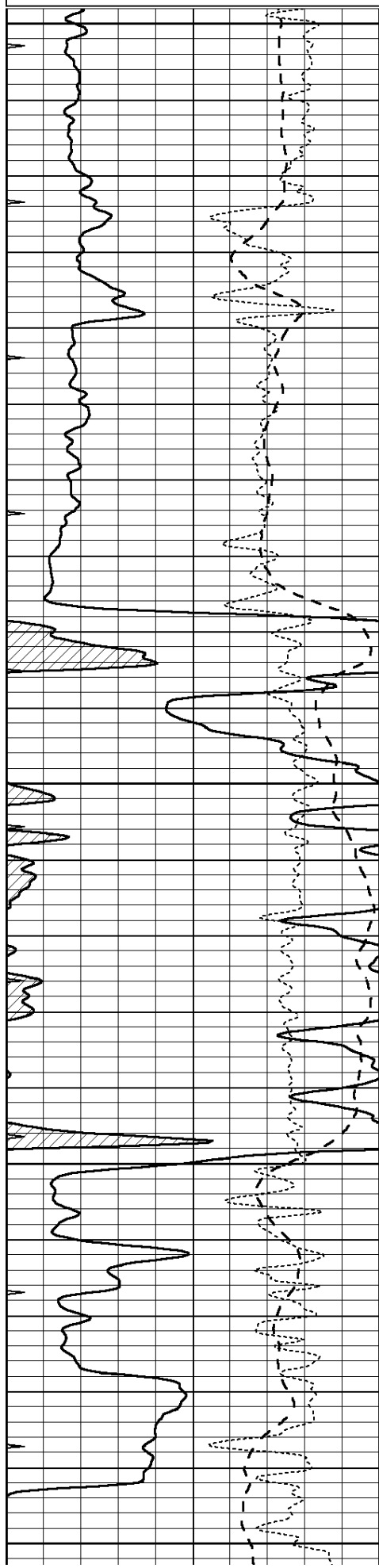
REPEAT SECTION

Database File: 408755pe.db
 Dataset Pathname: pass2.6
 Presentation Format: cil
 Dataset Creation: Thu Apr 26 08:49:45 2012
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

-250 Rxo/Rt 50
0 MINMK 20



4350

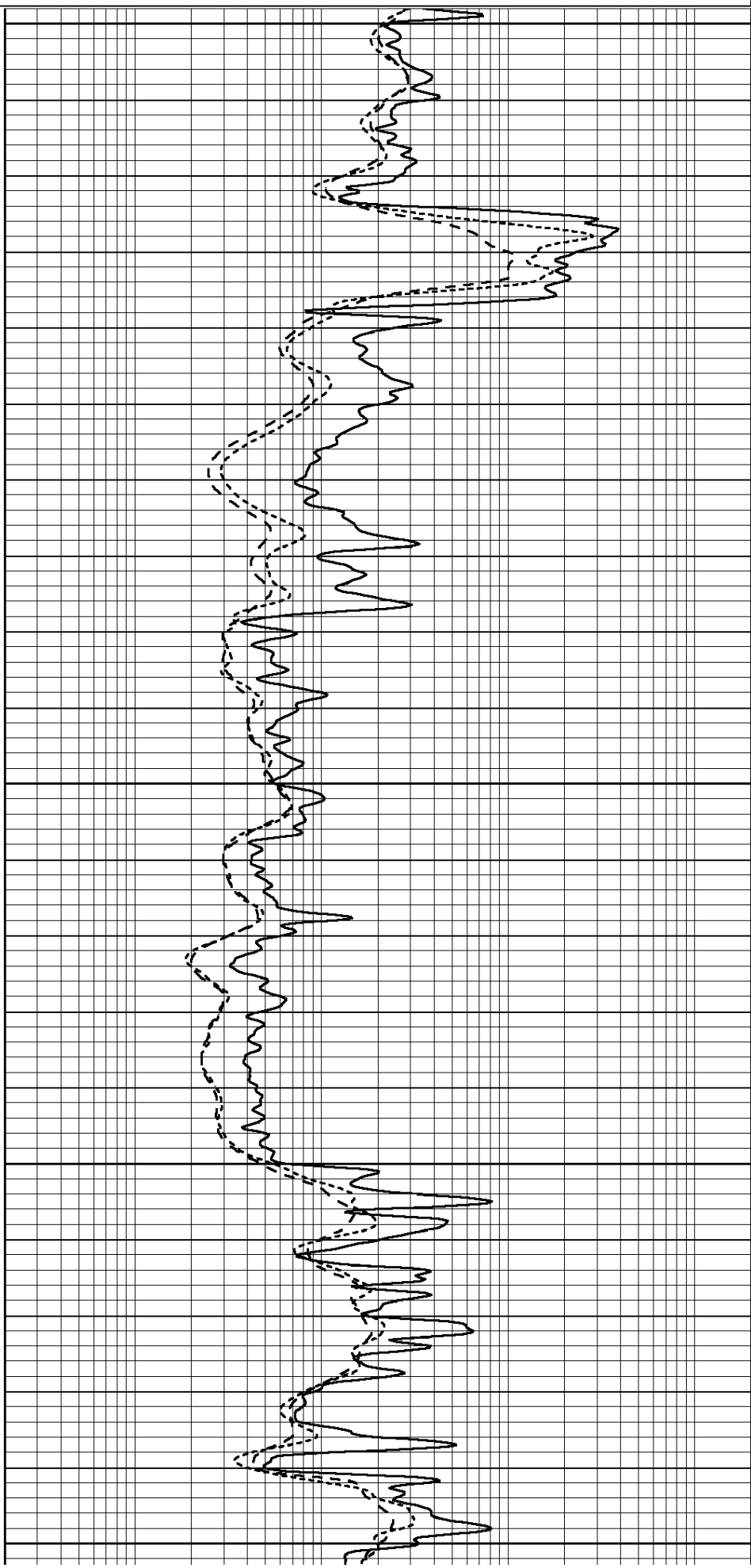
4400

4450

4500

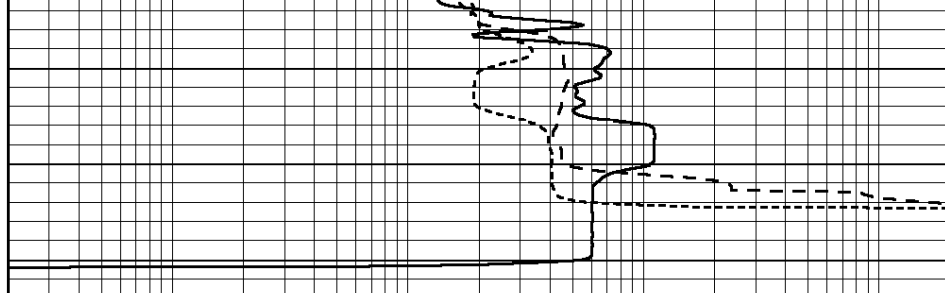
4550

0.2 MEDIUM INDUCTION (Ohm-m) 2000





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Calibration Report

Database File: 408755pe.db
 Dataset Pathname: pass3.4
 Dataset Creation: Thu Apr 26 10:33:57 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Tue Apr 17 08:21:26 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	3.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-8.000
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	4.0	8.2
High Ref	5.9	15.0
Gain: 3.5		Offset: -5.8

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:	Mon Apr 16 22:08:41 2012		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3000	GAPI/cps	