



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company	MULL DRILLING COMPANY, INC.	Company	MULL DRILLING COMPANY, INC.
Well	APC - MEDFORD STATE UNIT #1-9	Well	APC - MEDFORD STATE UNIT #1-9
Field	WILDCAT	Field	WILDCAT
County	CHEYENNE	County	CHEYENNE
State	COLORADO	State	COLORADO
Location:	API # : 05-017-07706 398' FSL & 1083' FEL	Other Services CDL/CNL/PE MEL/SONIC	
Permanent Datum Log Measured From Drilling Measured From	GROUND LEVEL KELLY BUSHING 11' A.G.L. KELLY BUSHING	Elevation K.B. 4213 D.F. 4211 G.L. 4202	
Date	11/7/11		
Run Number	ONE		
Depth Driller	5500		
Depth Logger	5500		
Bottom Logged Interval	5498		
Top Log Interval	00		
Casing Driller	8 5/8" @ 526'		
Casing Logger	526		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3,000 PPM	
Density / Viscosity	9.3/55		
pH / Fluid Loss	10.0/8.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.900 @ 80F		
Rmf @ Meas. Temp	.675 @ 80F		
Rmc @ Meas. Temp	1.08 @ 80F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.554 @ 130F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	9:45 P.M.		
Maximum Recorded Temperature	130F		
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

CHEYENNE WELLS, CO. (JUNCTION OF OLD 40 & HWY 385) 9S. ON HWY 385 TO "RD. G", 12W. TO "RD. 34", 2 1/2S., TO "RD. D", 1W., 1N., 1/4 W. INTO



SUPERIOR
Hays,
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MAIN SECTION

Database File: 007982pe.db
Dataset Pathname: pass4.12
Presentation Format: dil2
Dataset Creation: Tue Nov 08 00:54:27 2011
Charted by: Depth in Feet scaled 1:600

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

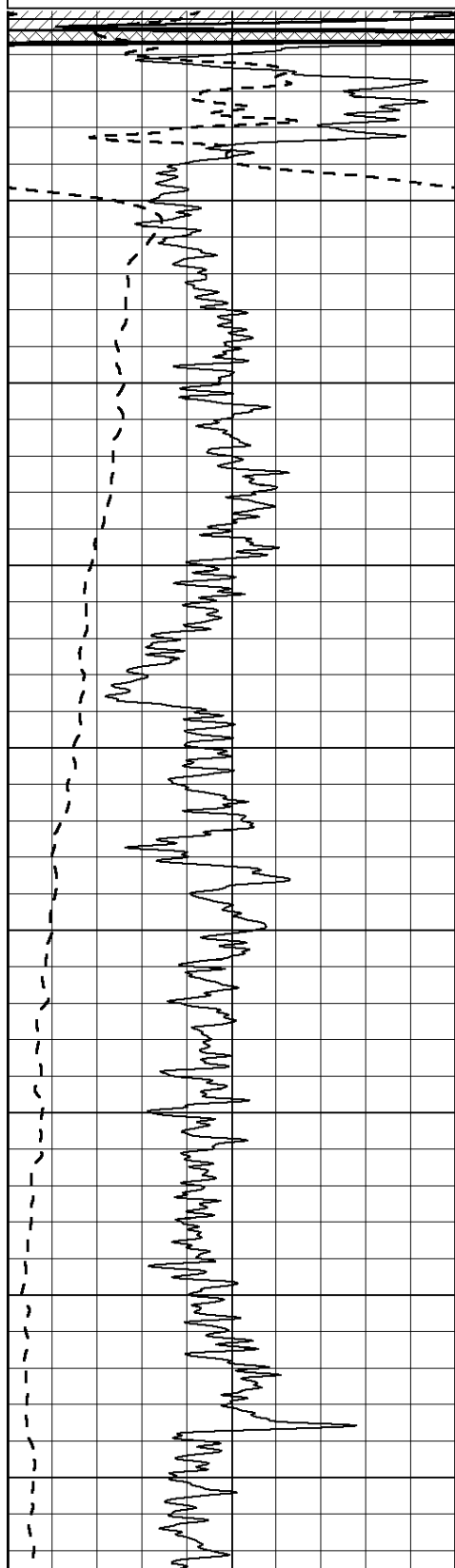
0	RLL3 (Ohm-m)	50
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0	RILD (Ohm-m)	50
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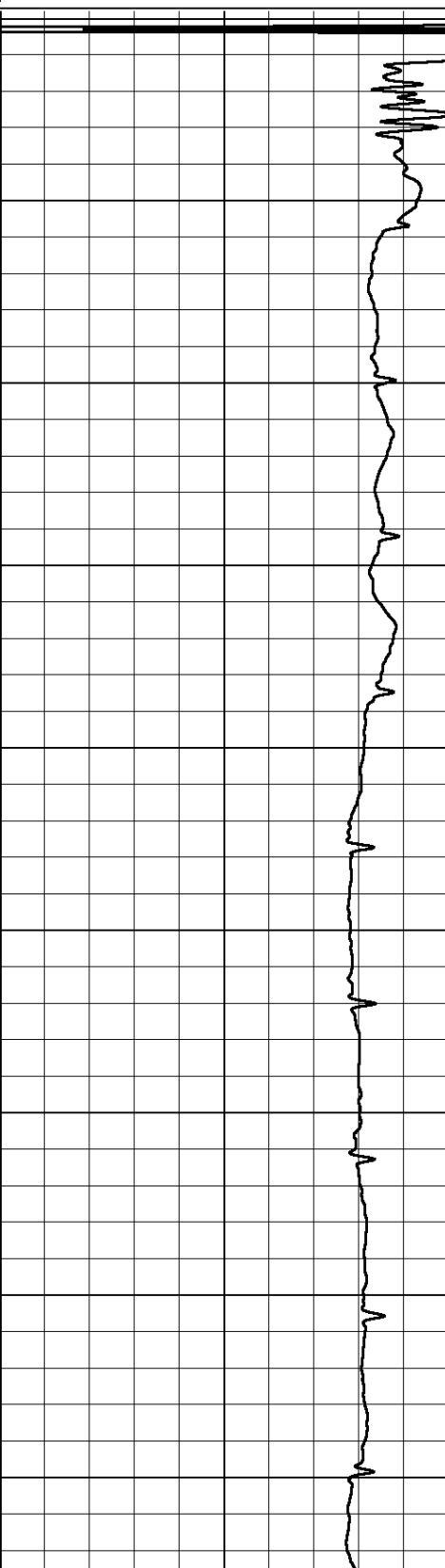
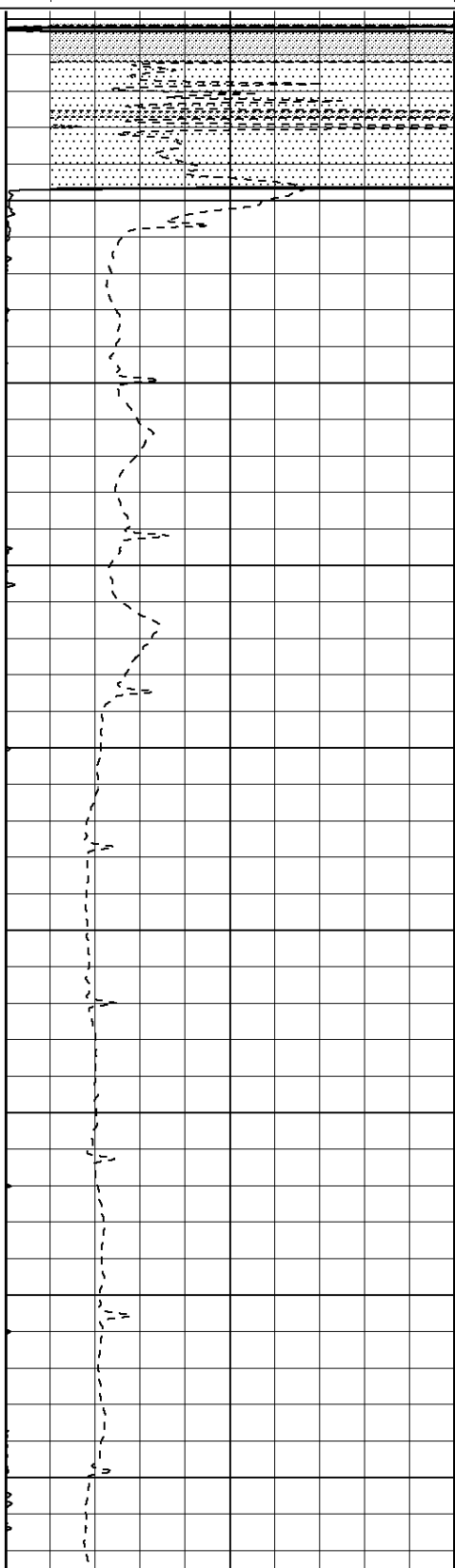
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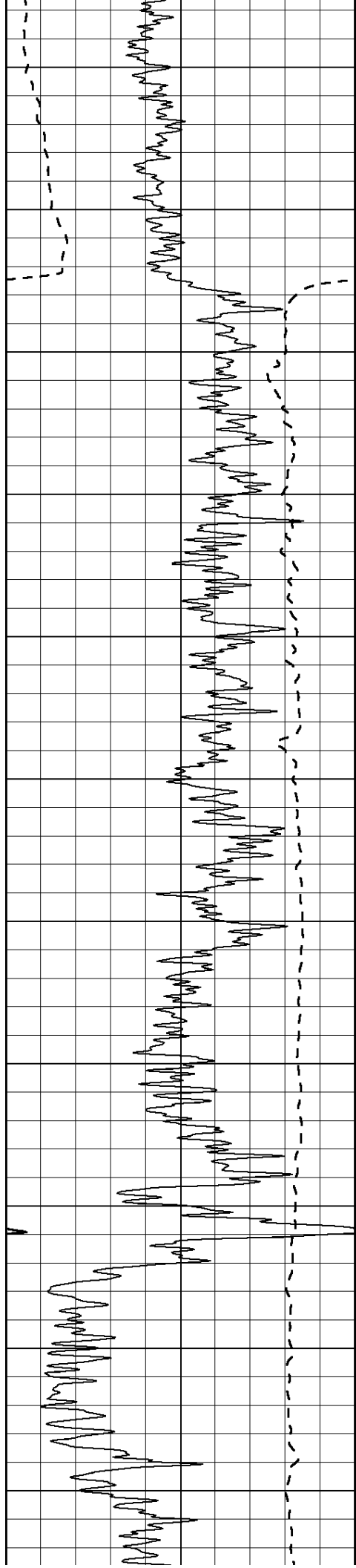
50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

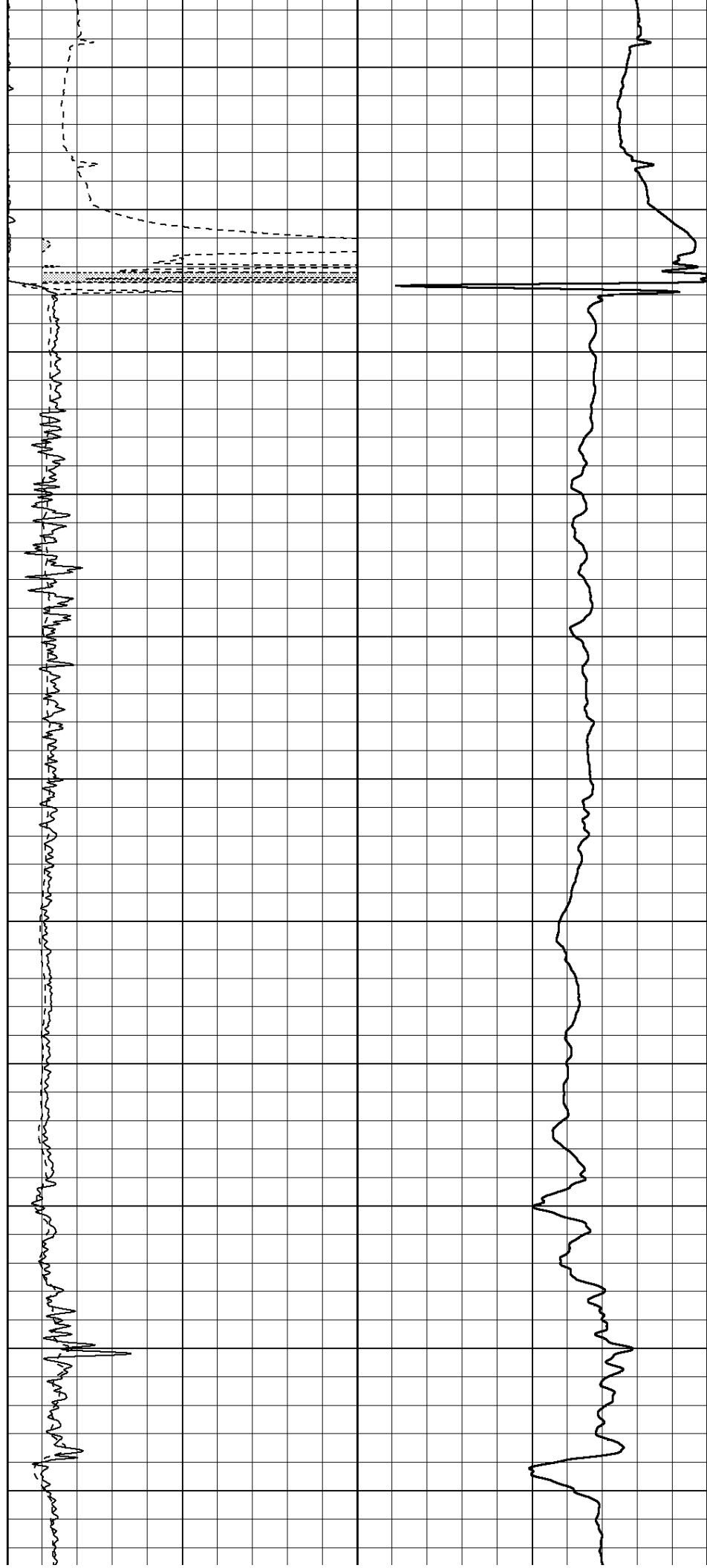
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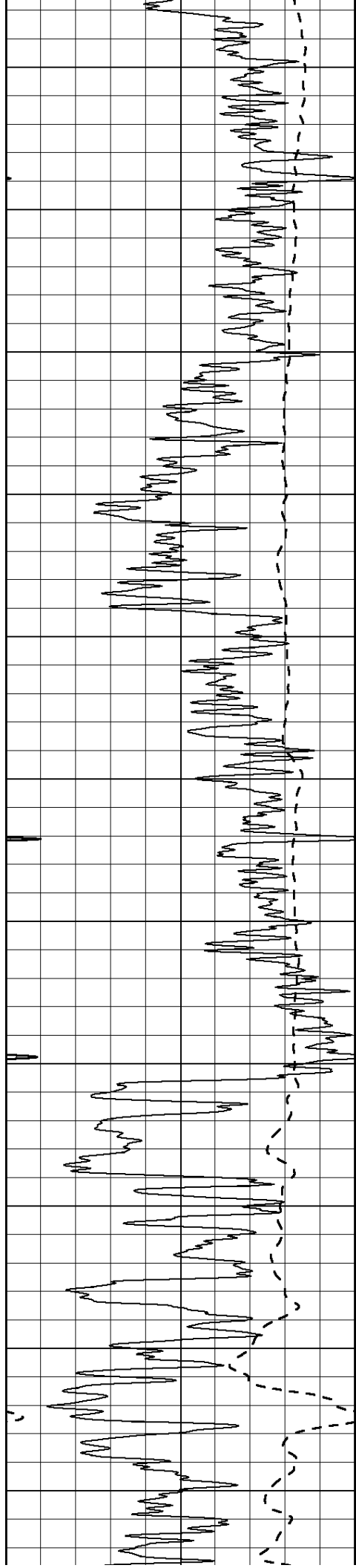
800

850

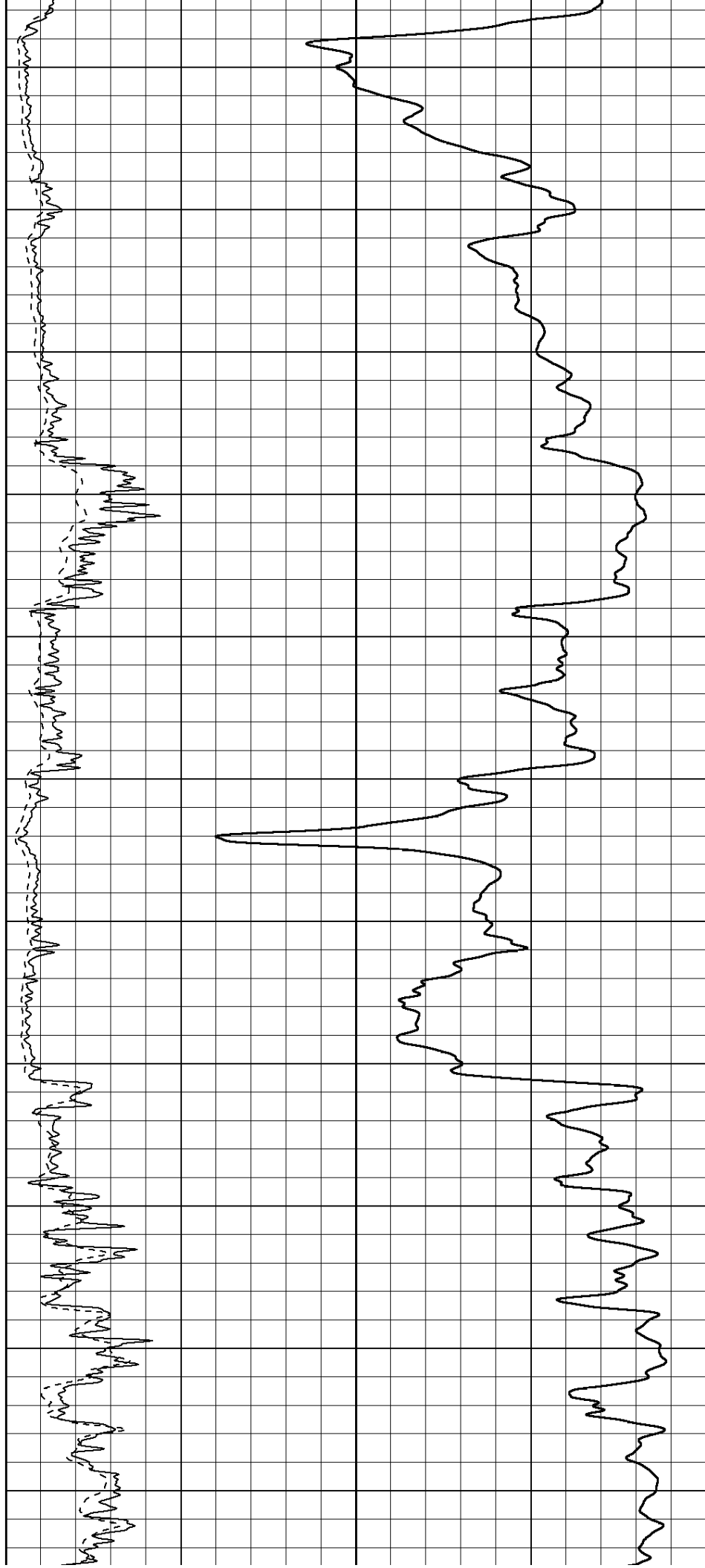
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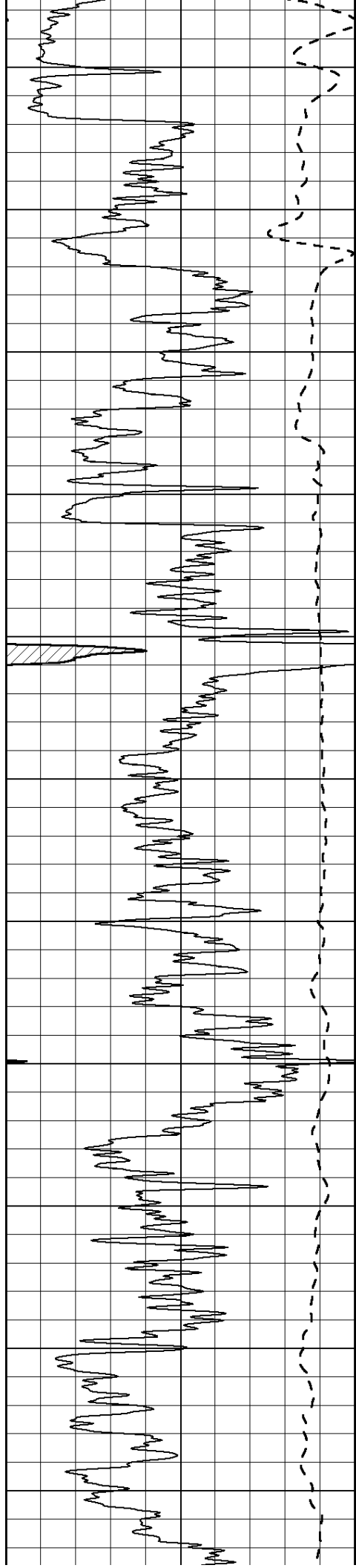
950





1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550

1600

1650

1700

1750

1800

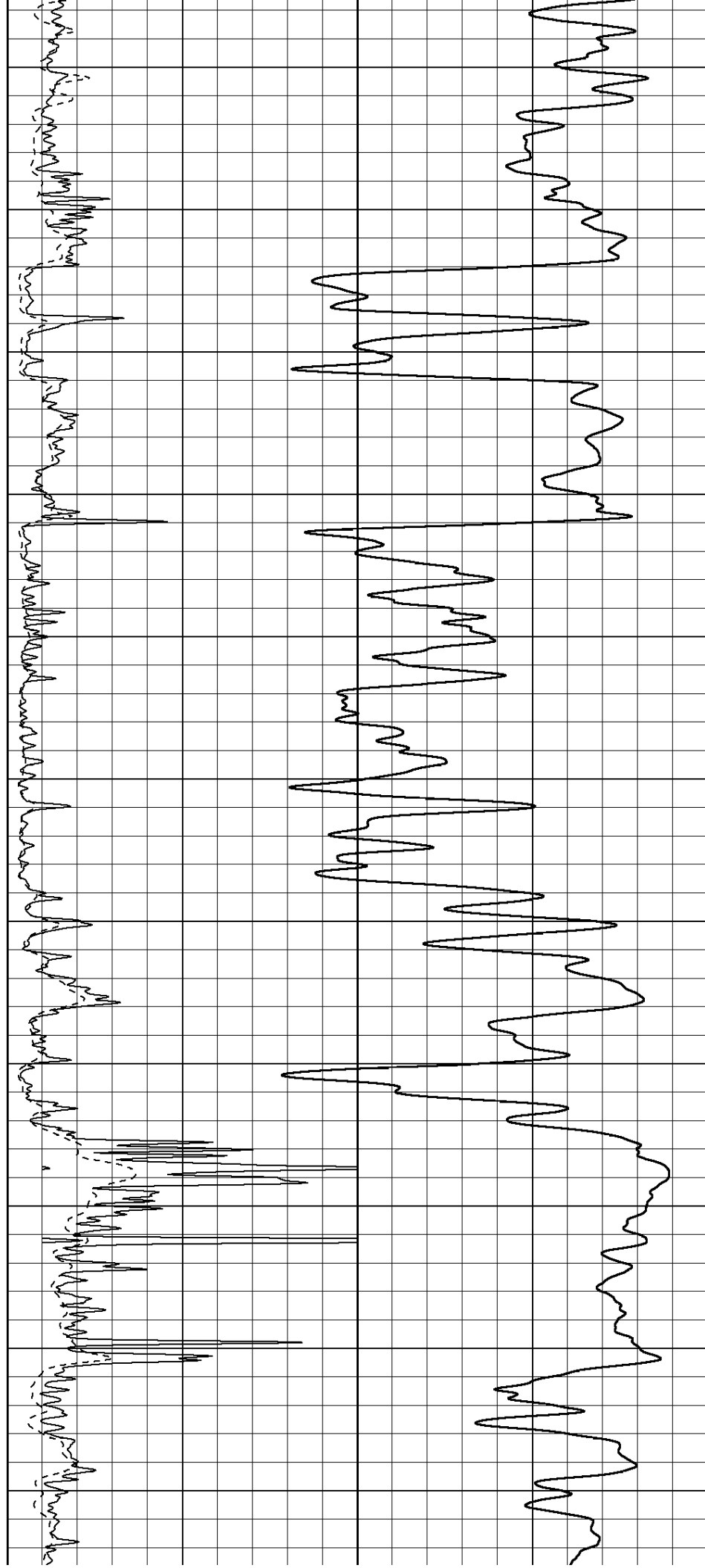
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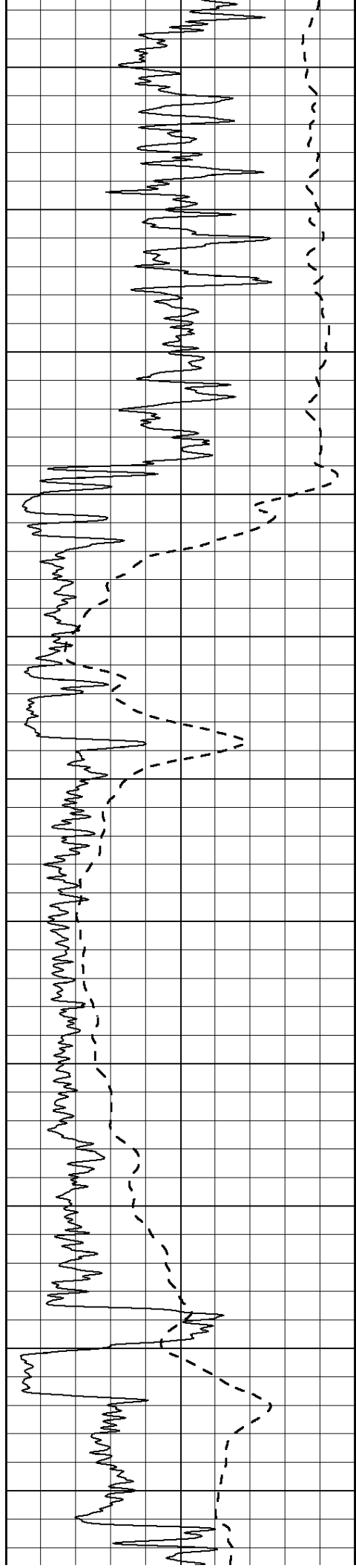
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1950

2000

2050





2100

2150

2200

2250

2300

2350

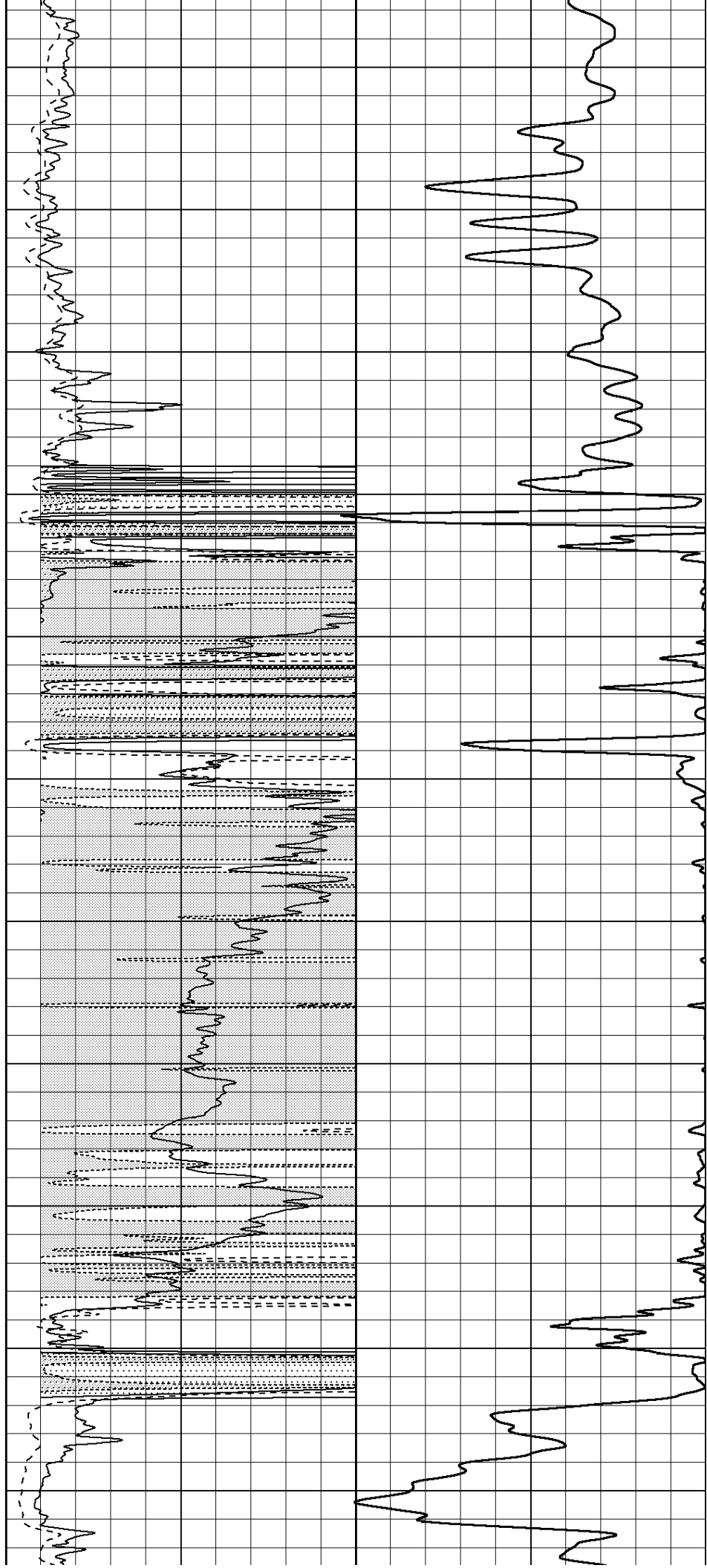
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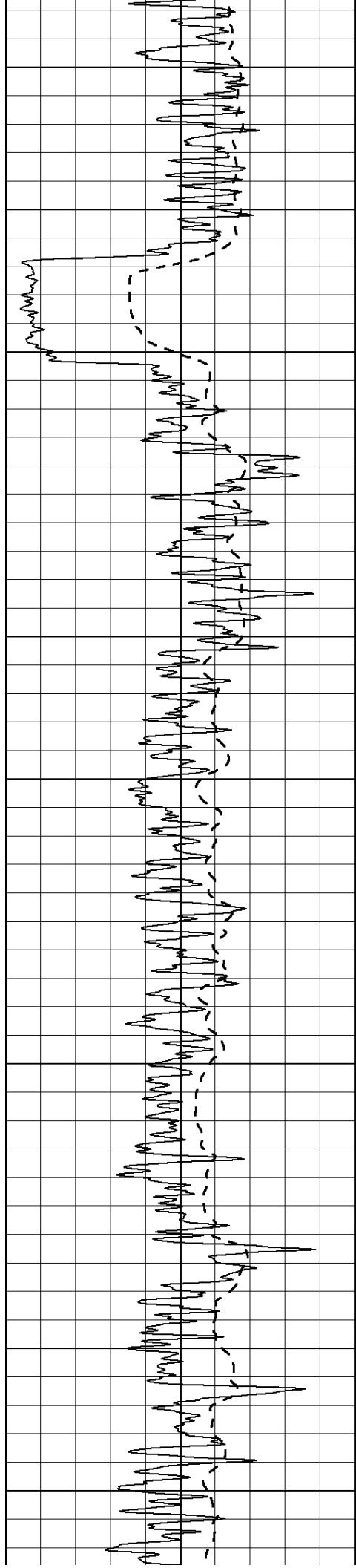
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2500

2550

2600





2650

2700

2750

2800

2850

2900

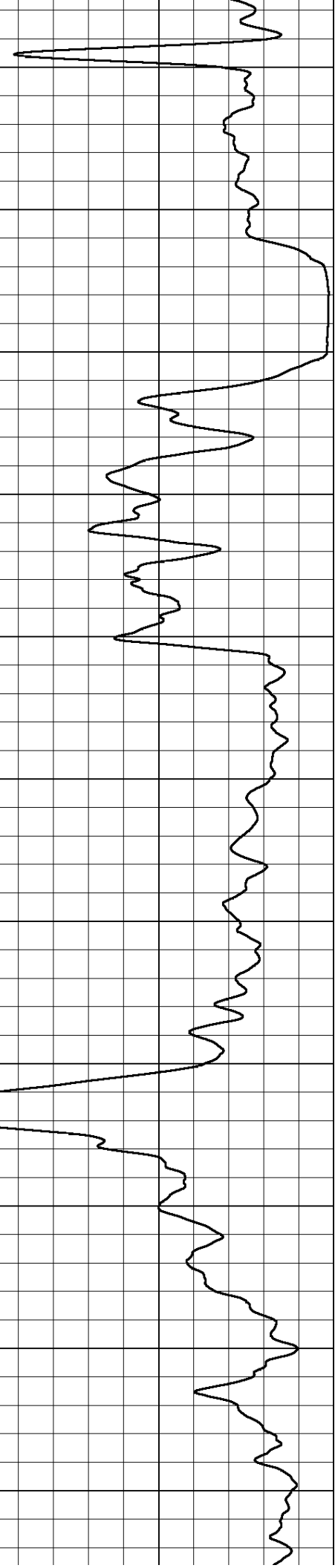
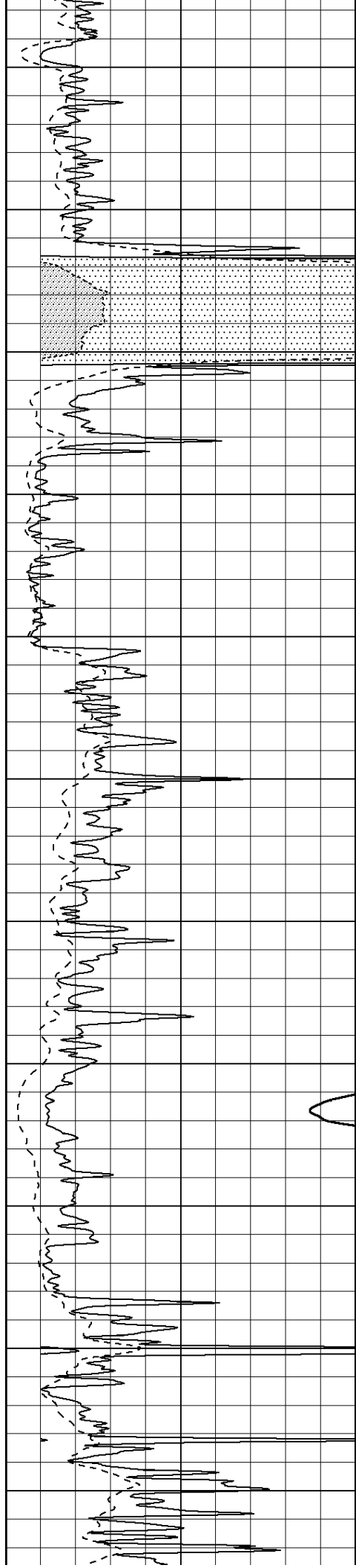
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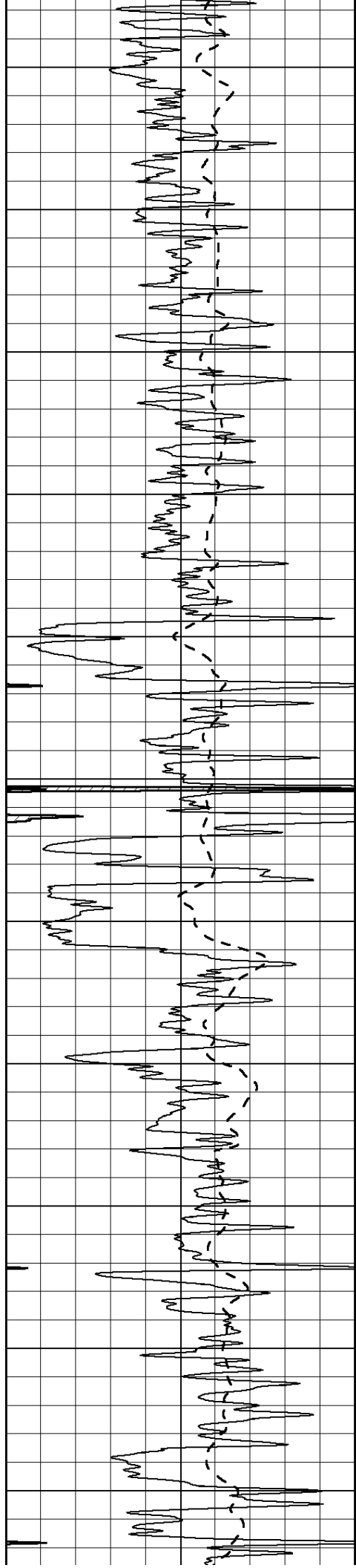
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3050

3100

3150





3200

3250

3300

3350

3400

3450

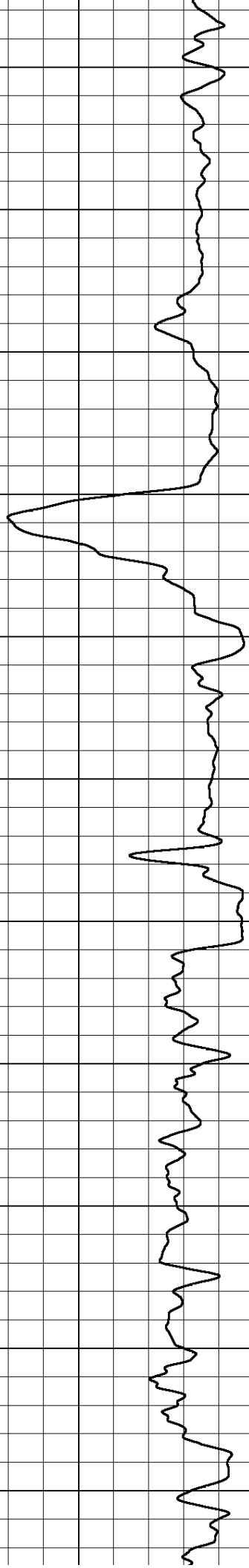
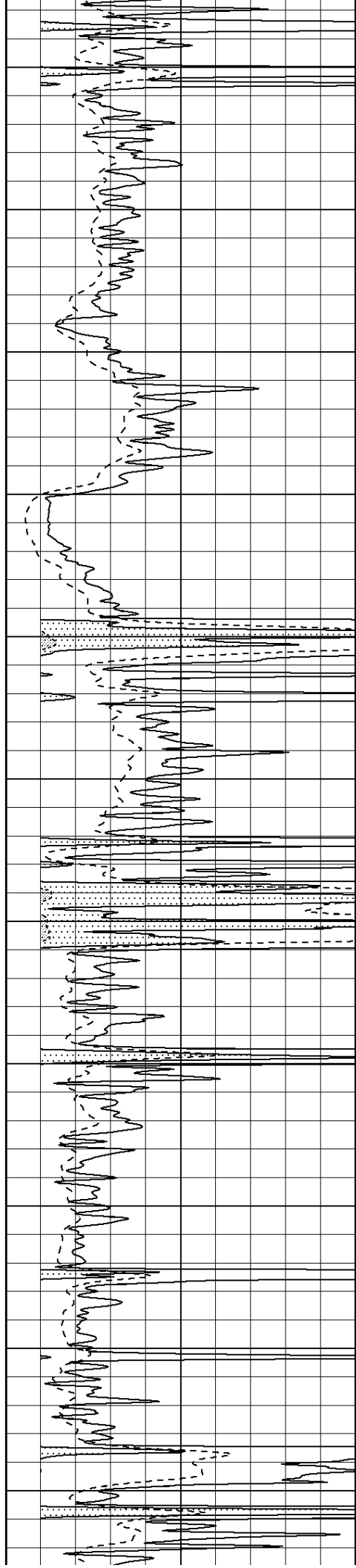
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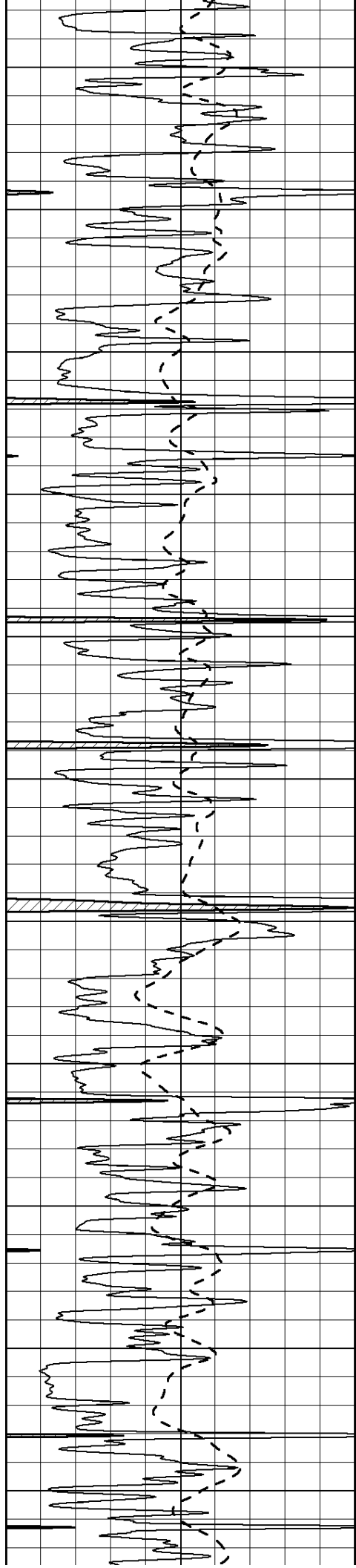
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3600

3650

3700





3750

3800

3850

3900

3950

4000

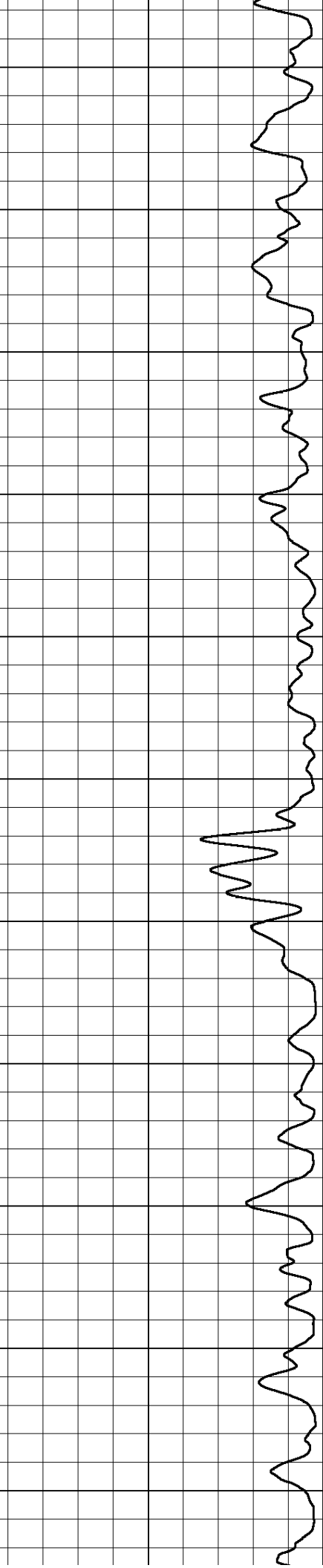
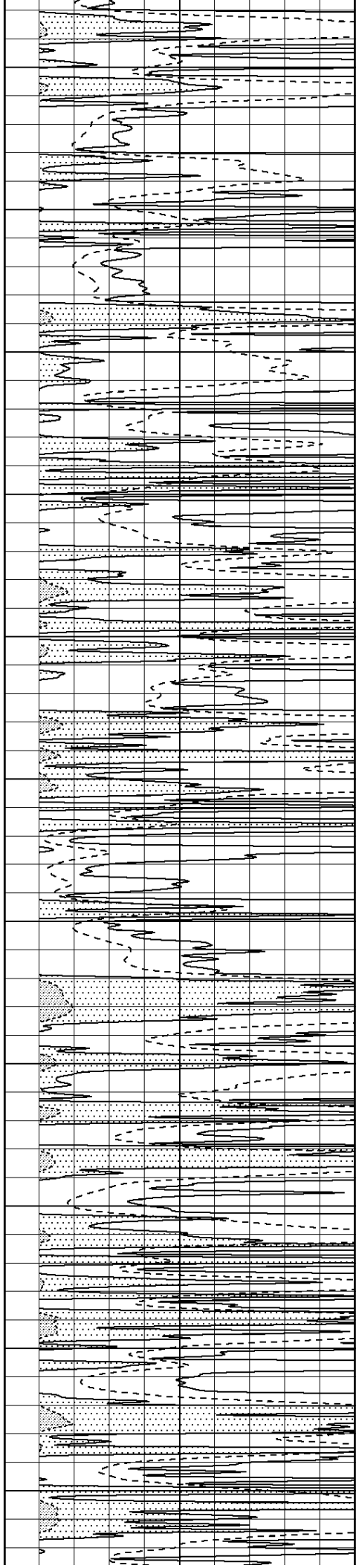
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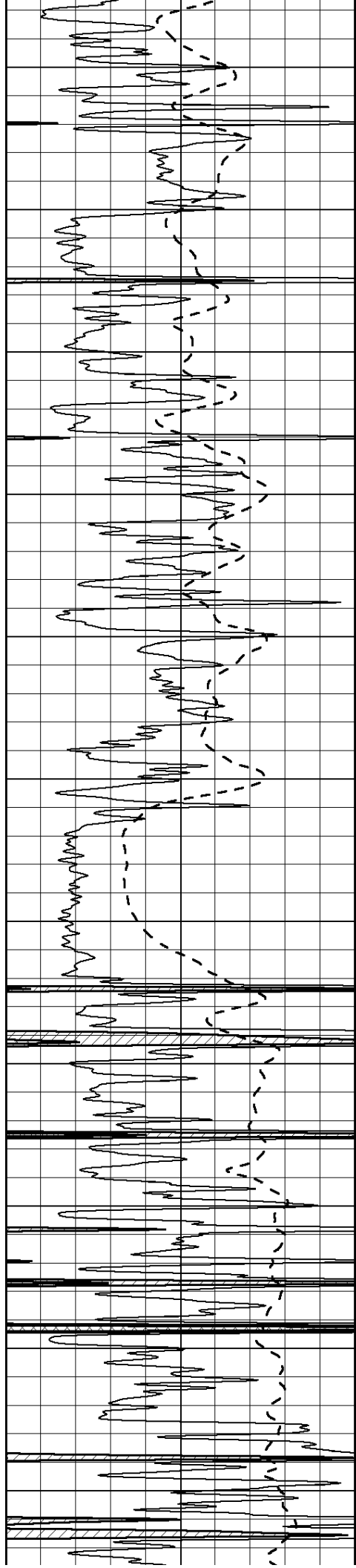
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4150

4200

4250





4300

4350

4400

4450

4500

4550

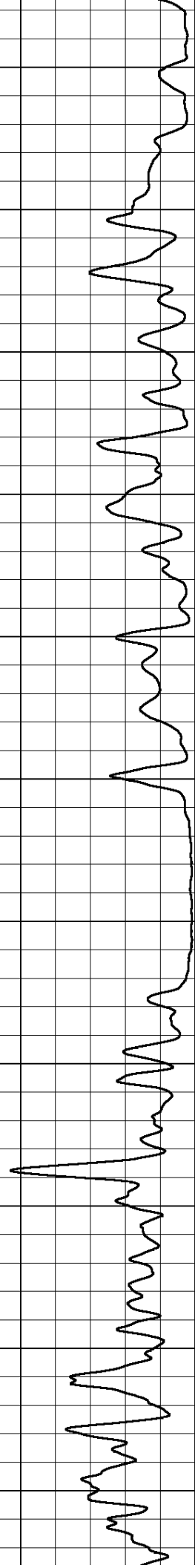
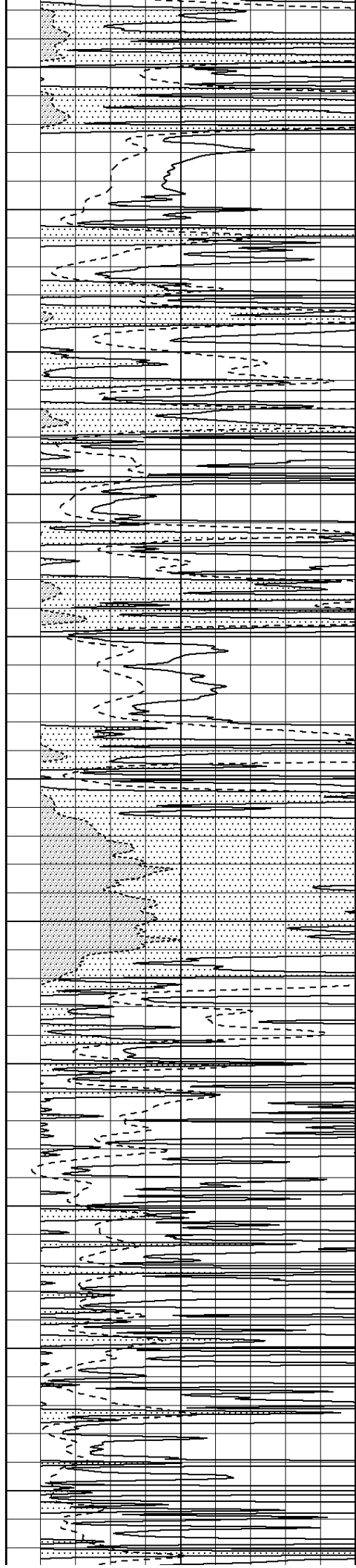
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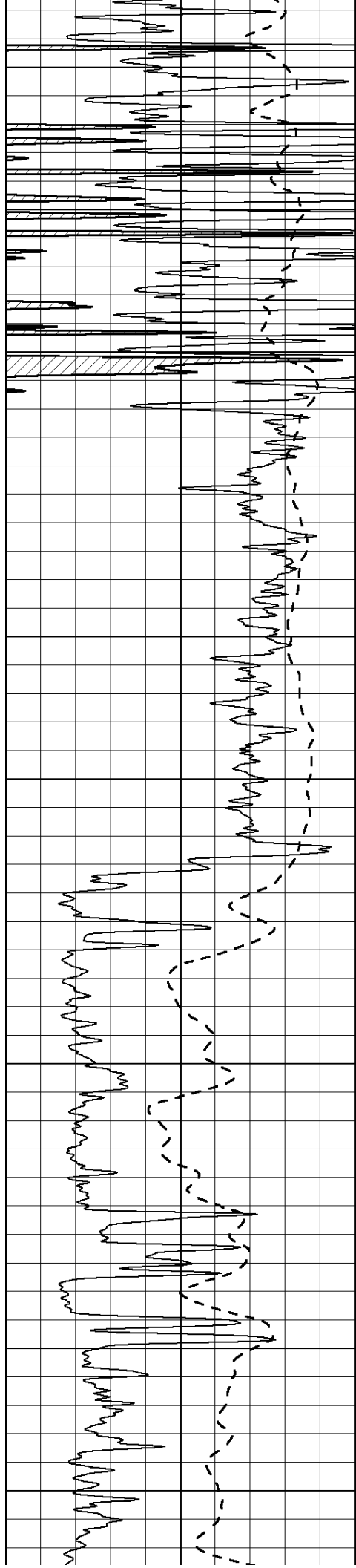
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4700

4750

4800





4850

4900

4950

5000

5050

5100

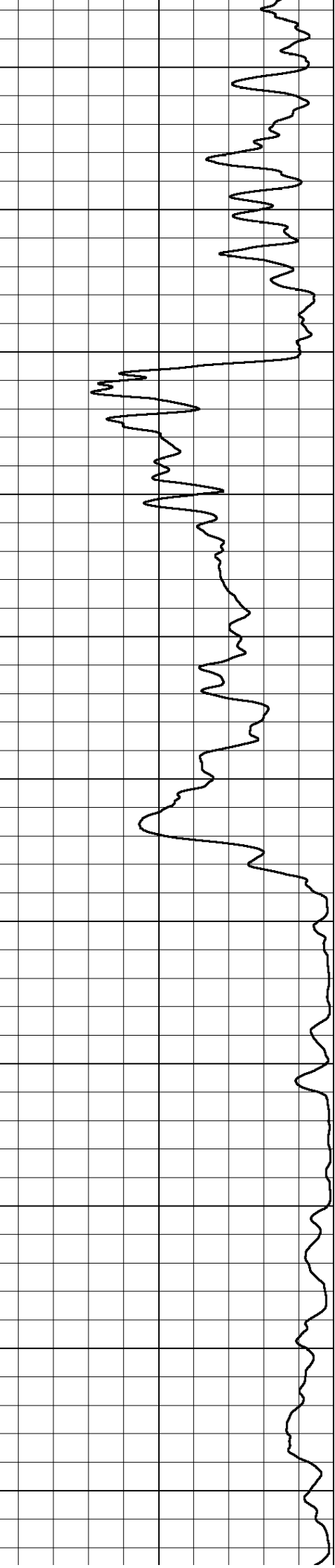
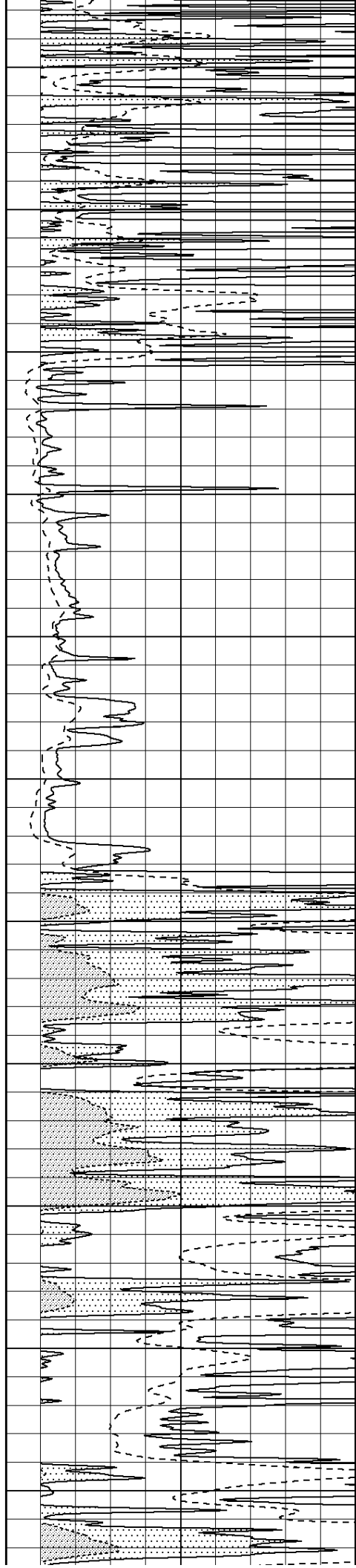
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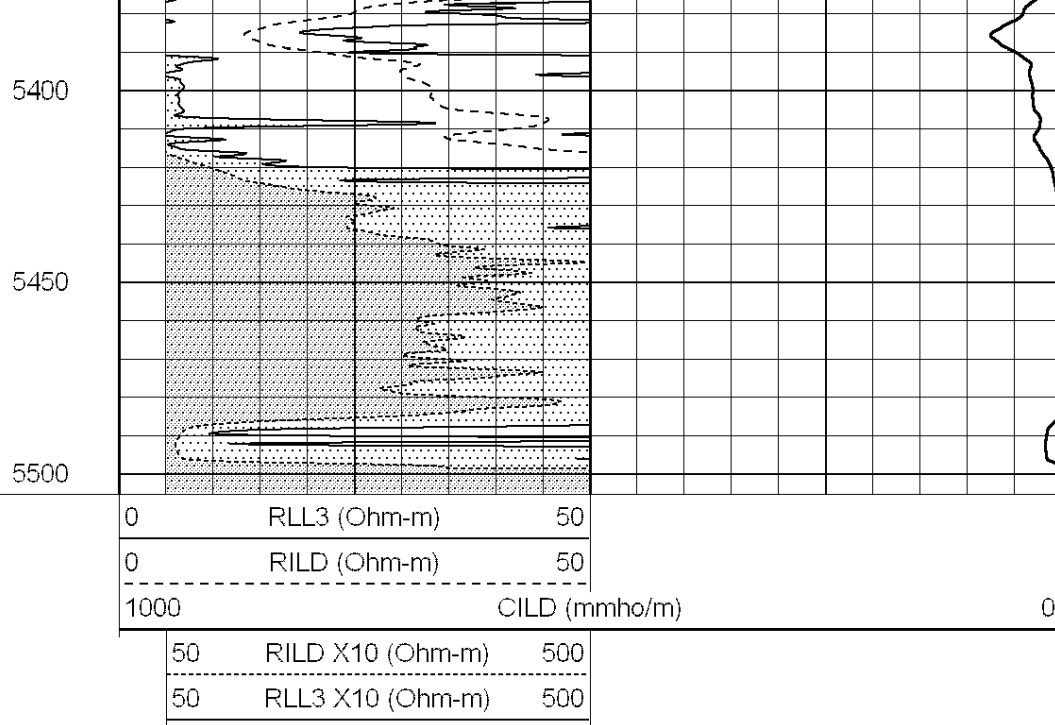
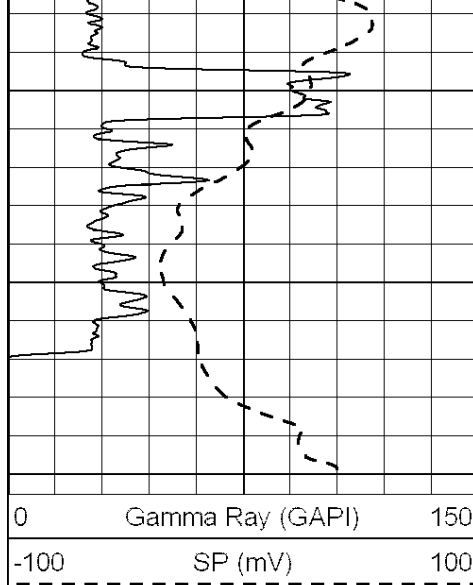
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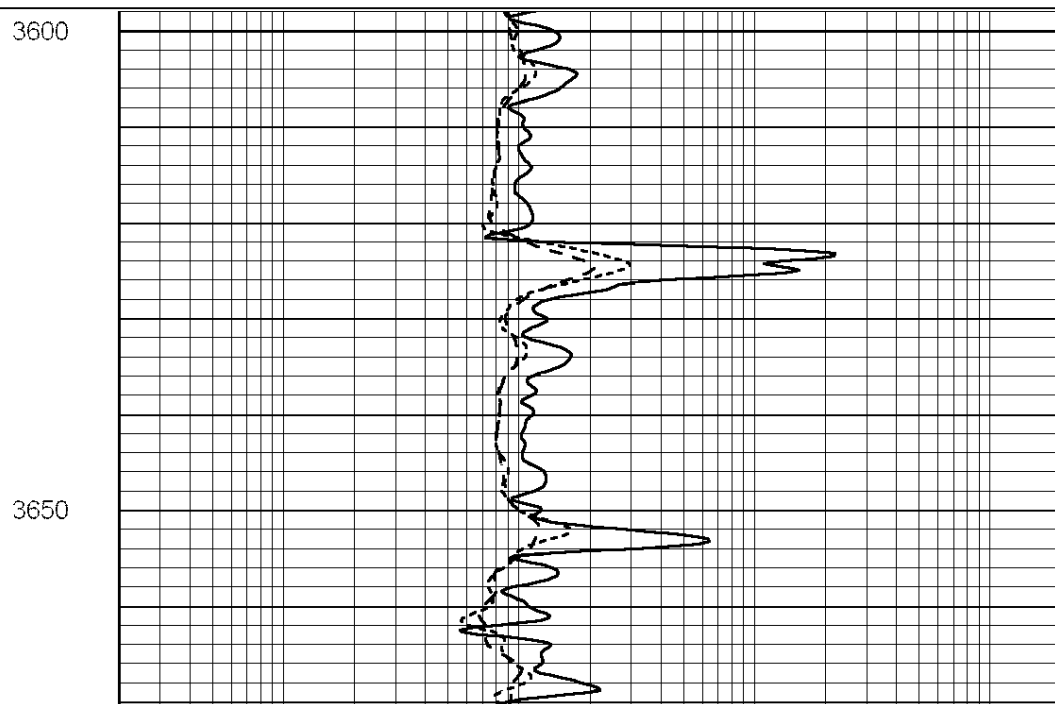
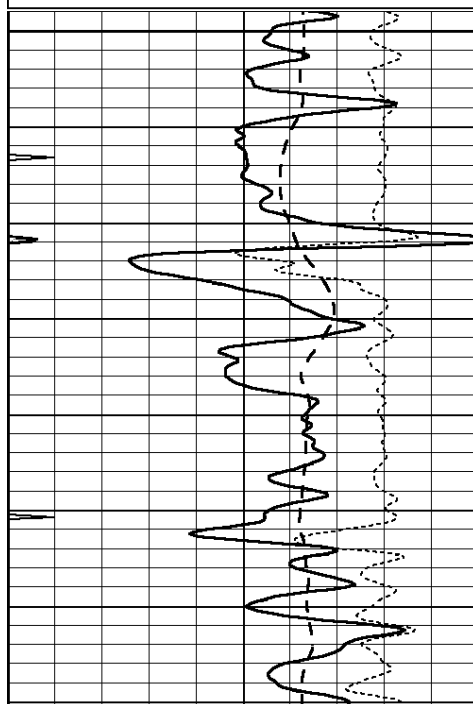
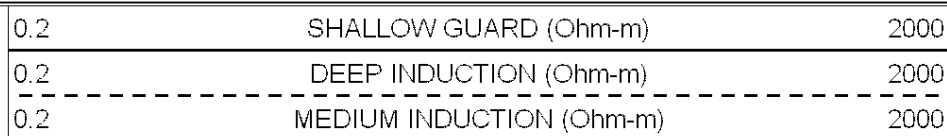
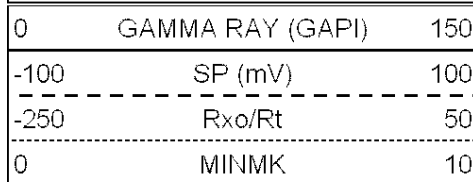


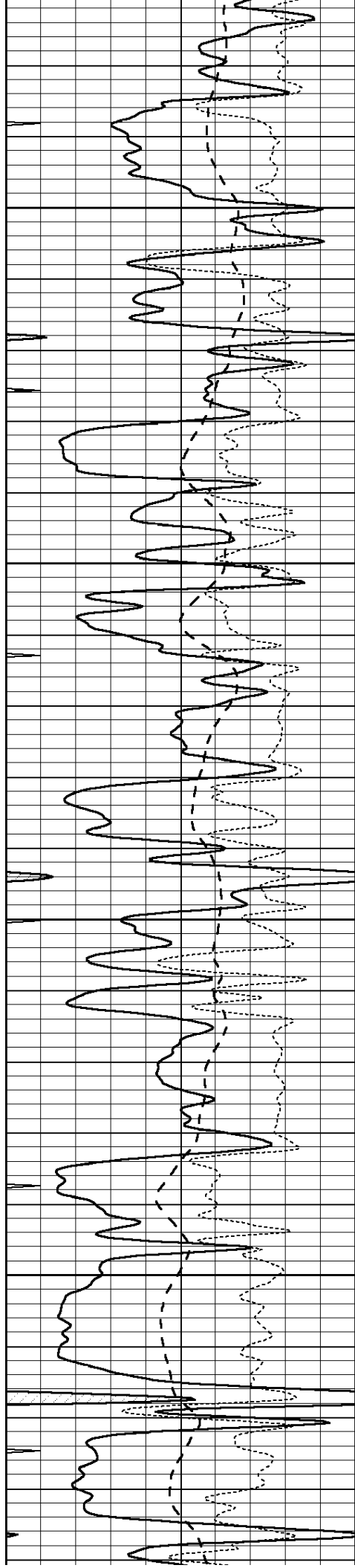


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MAIN SECTION

Database File: 007982pe.db
Dataset Pathname: pass4.12
Presentation Format: dil
Dataset Creation: Tue Nov 08 00:54:27 2011
Charted by: Depth in Feet scaled 1:240



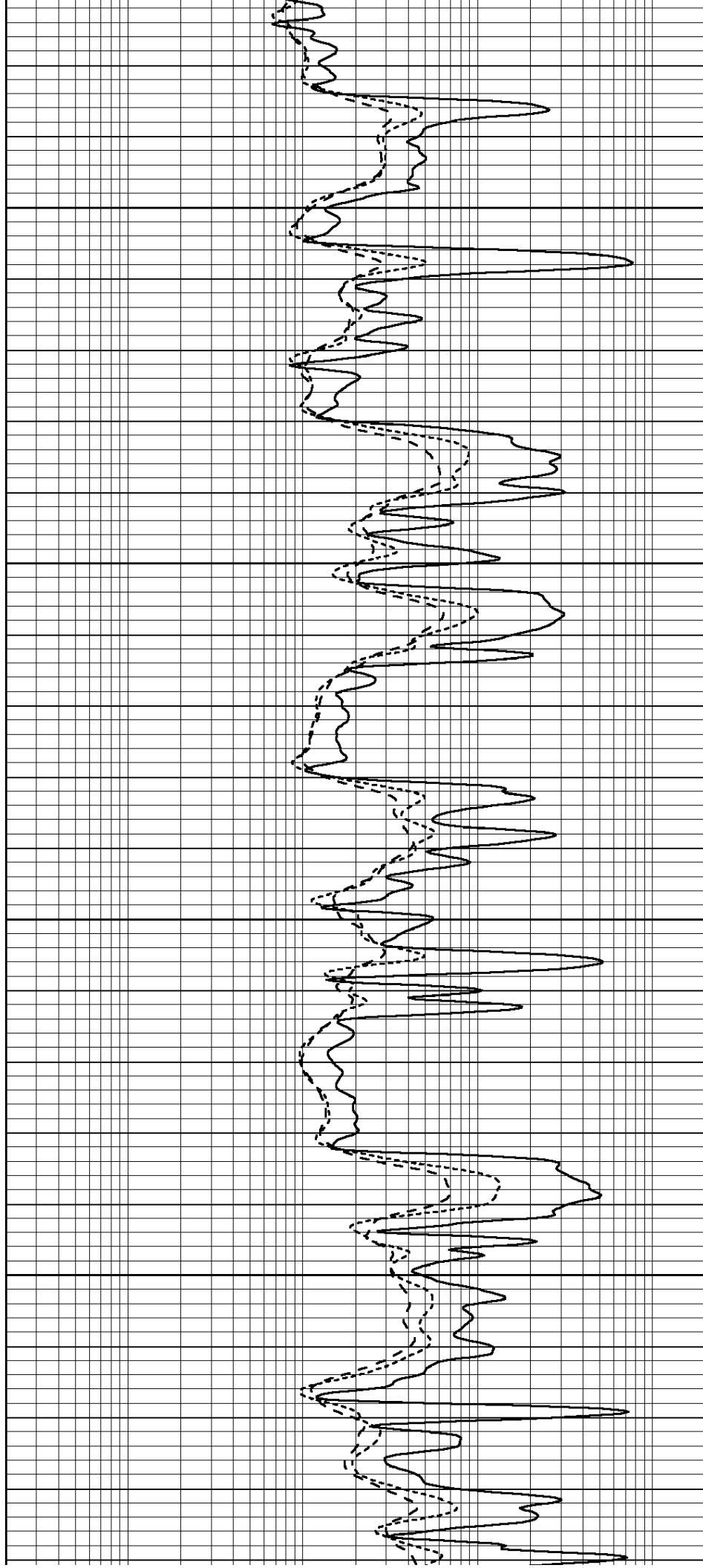


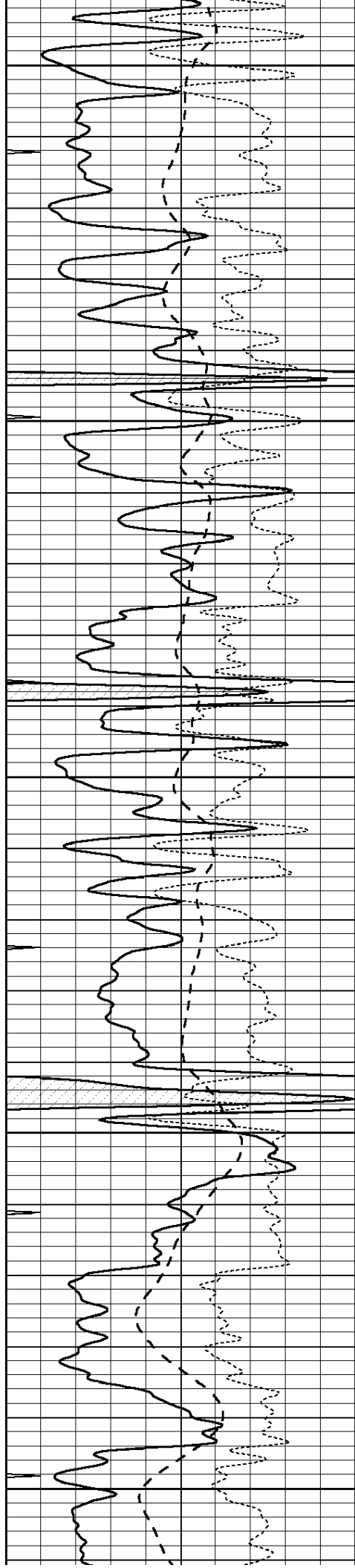
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3750

3800

3850





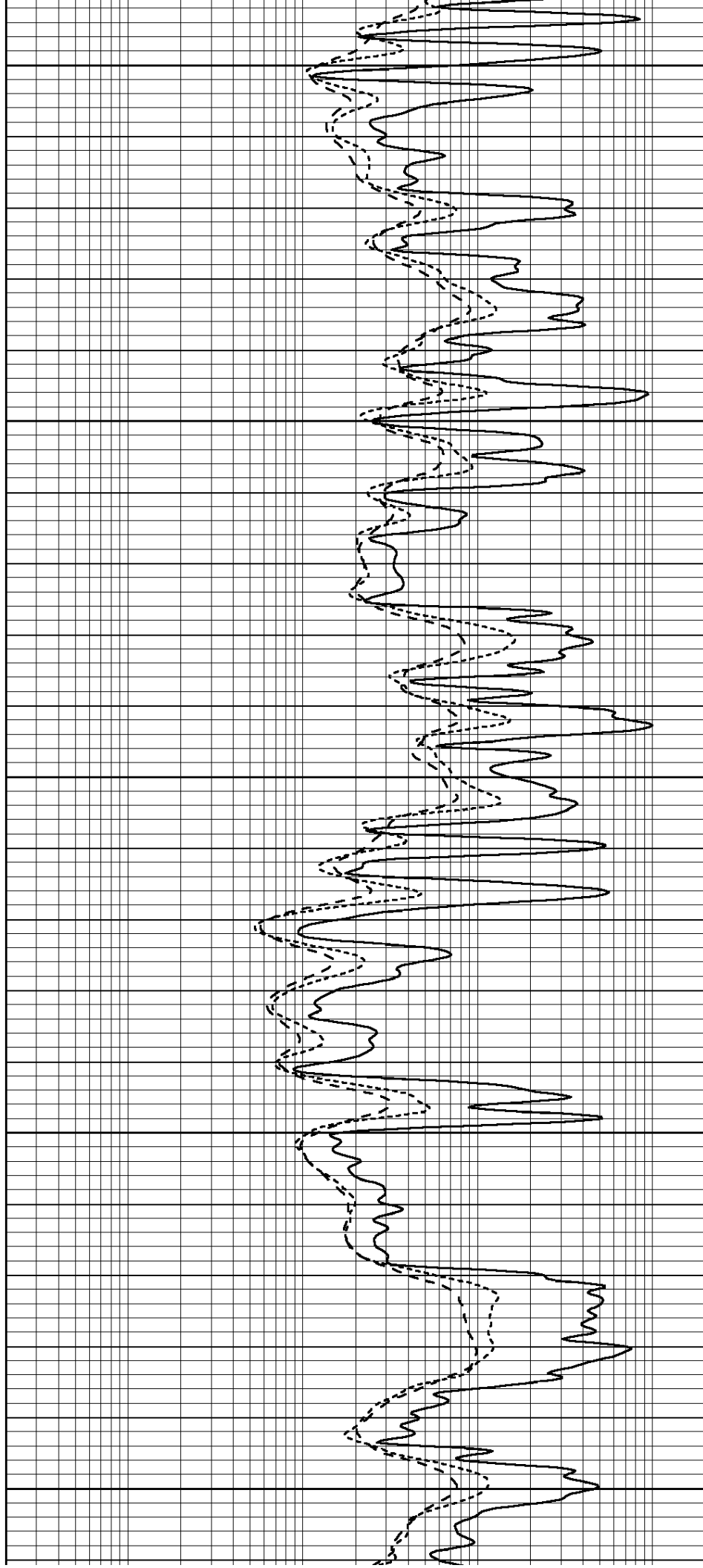
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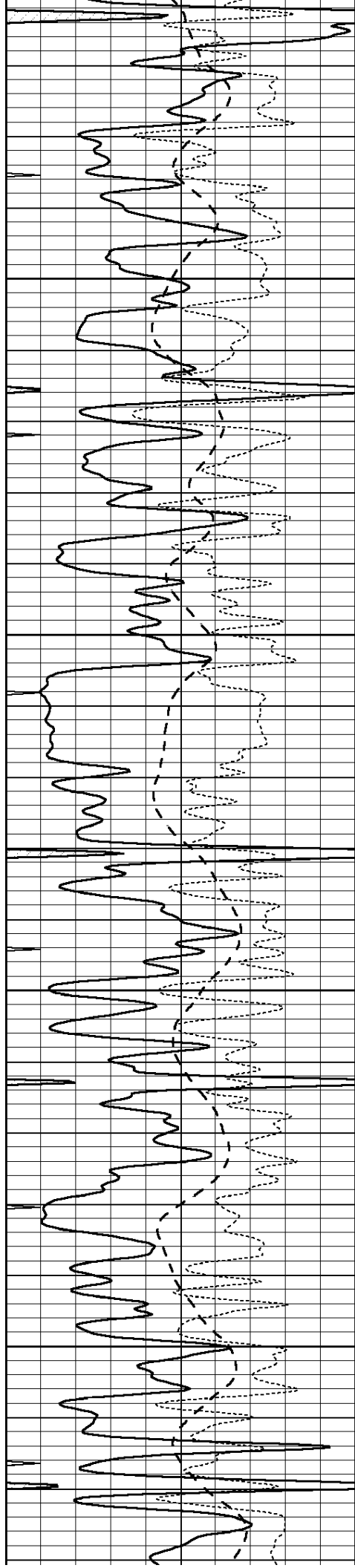
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4000

4050

4100



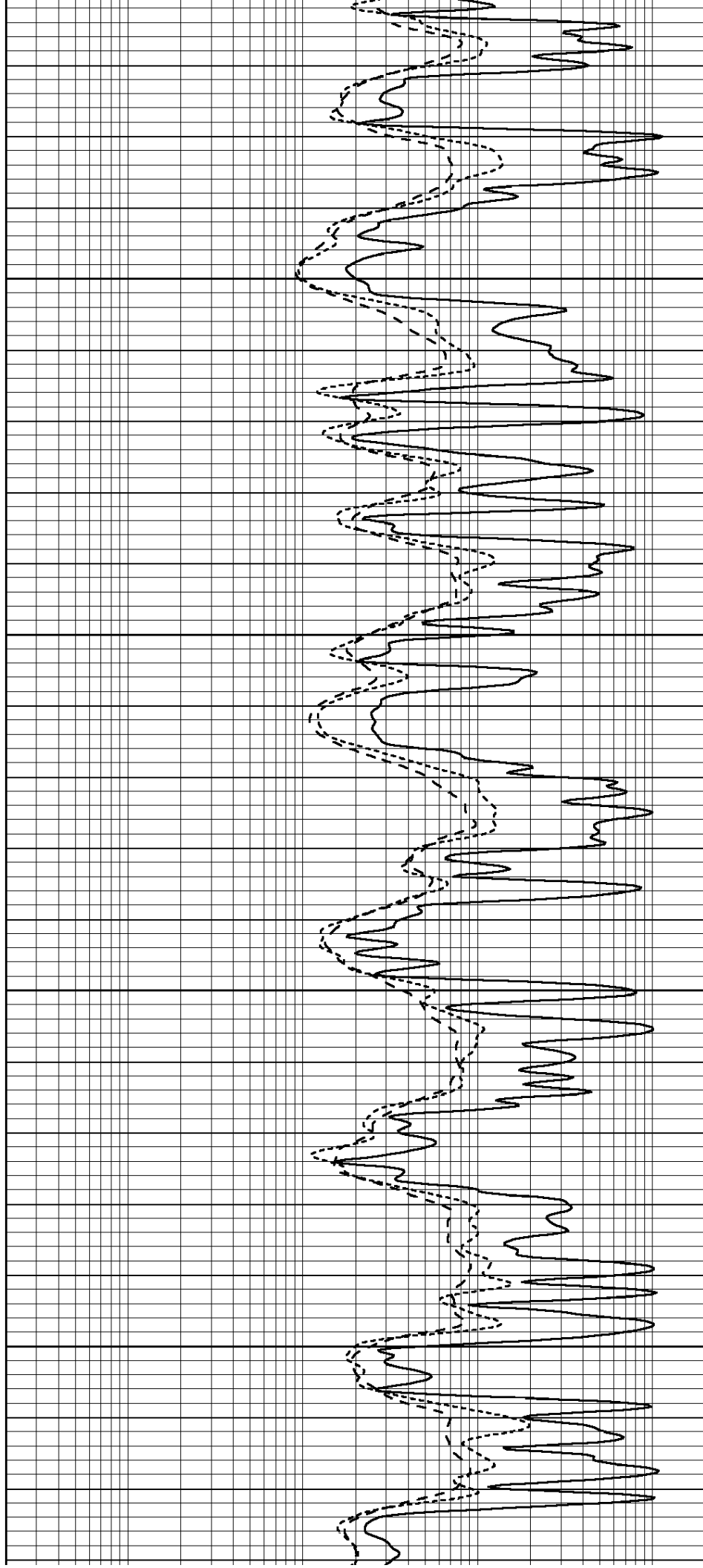


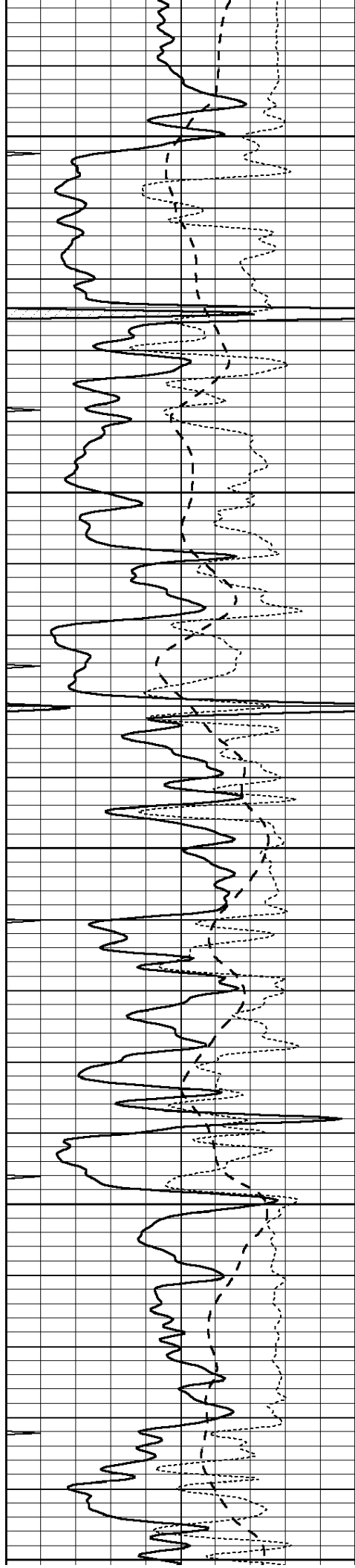
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4200

4250

4300





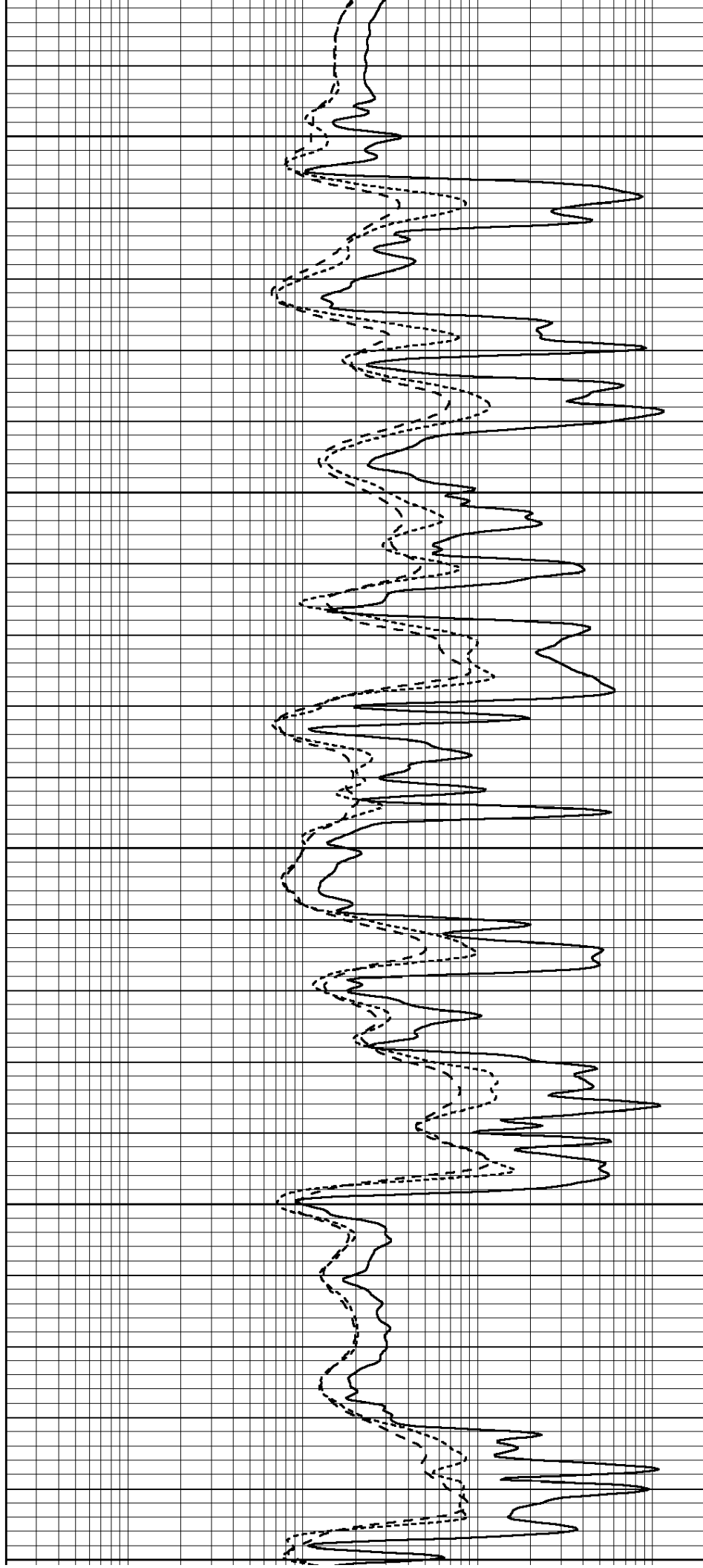
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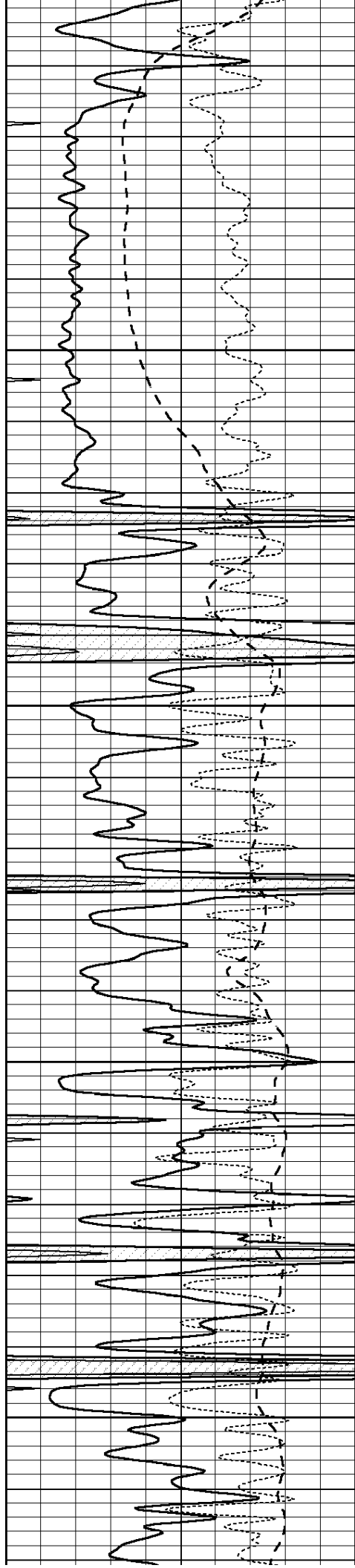
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4450

4500

4550



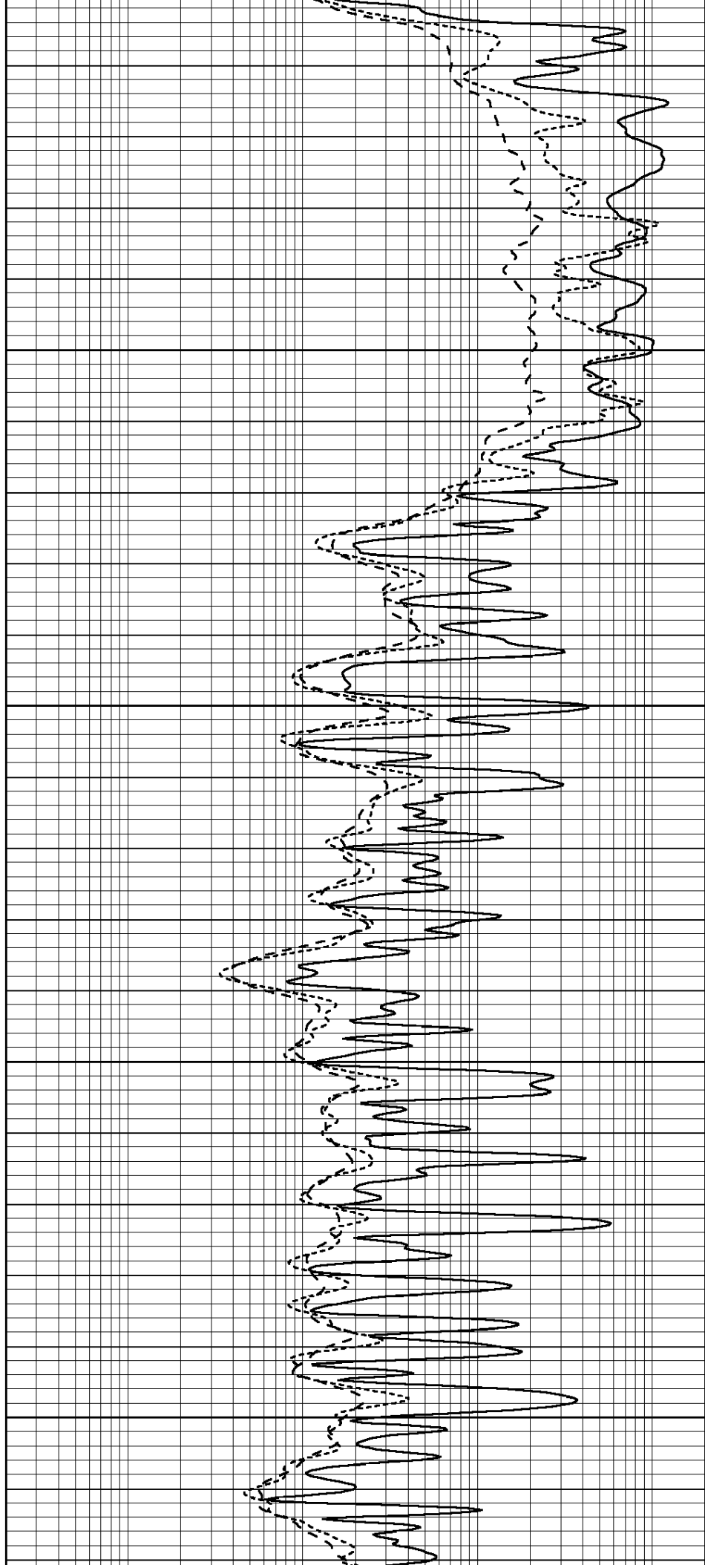


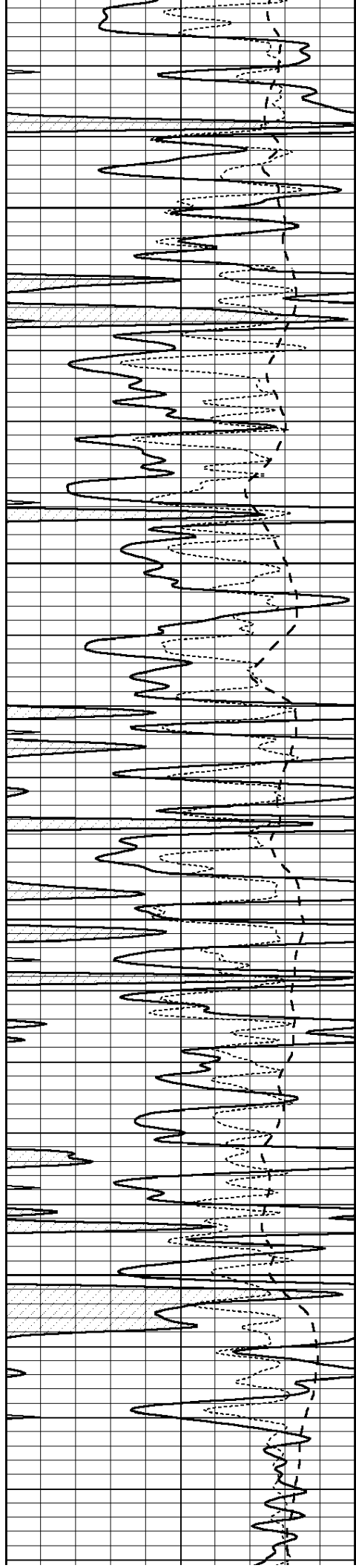
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4750



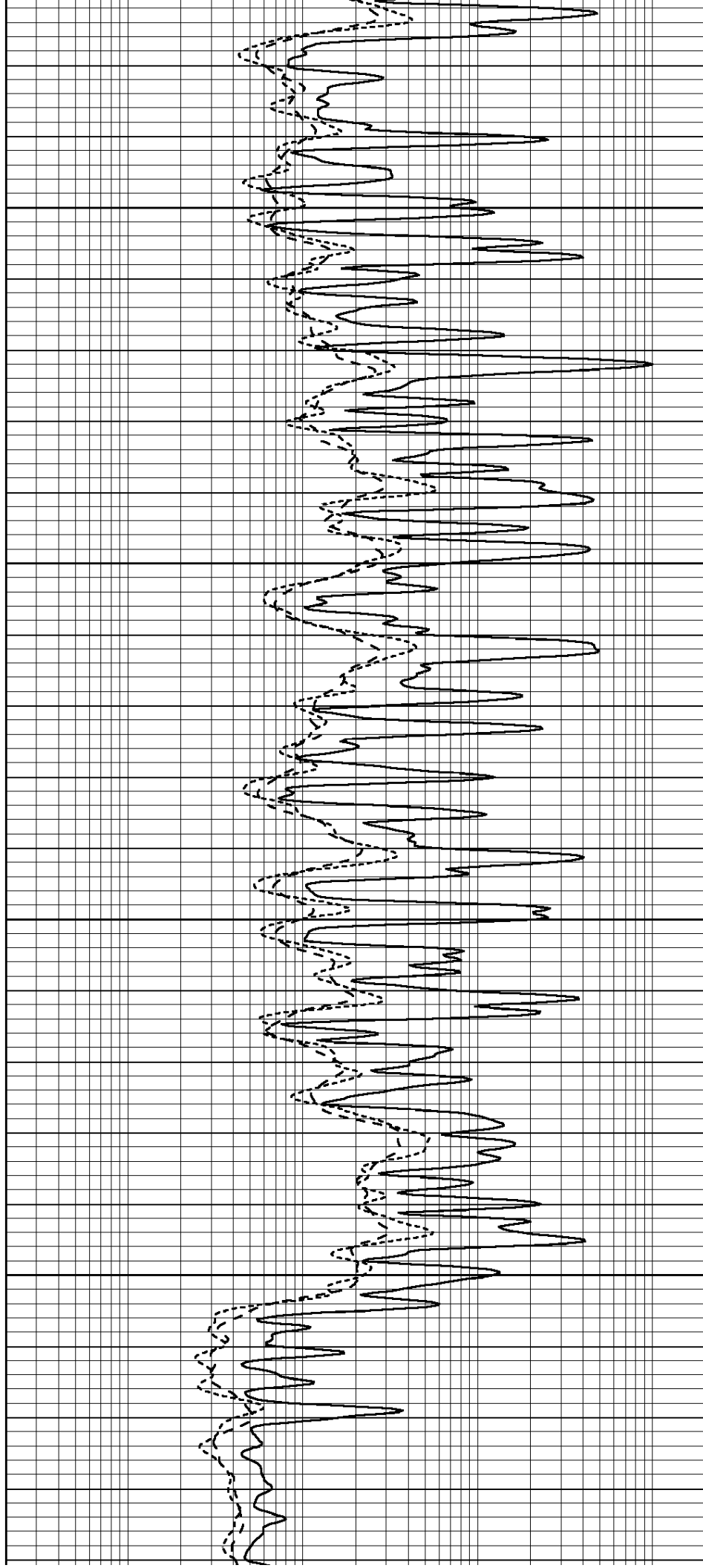


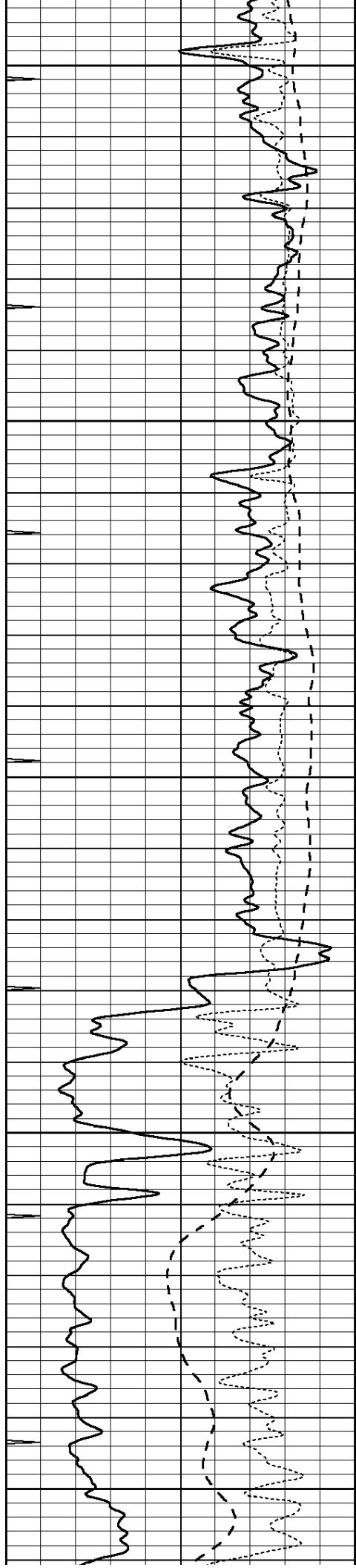
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4950





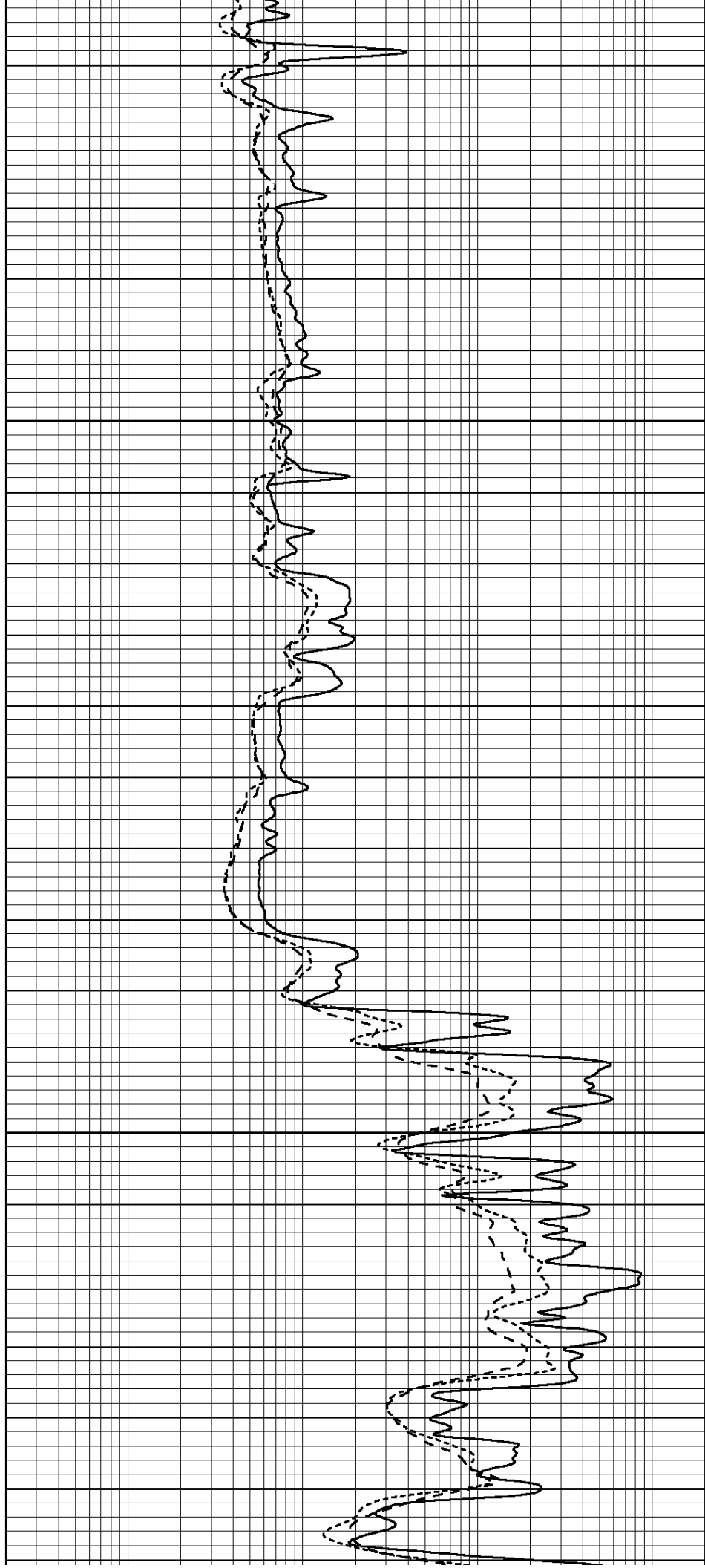
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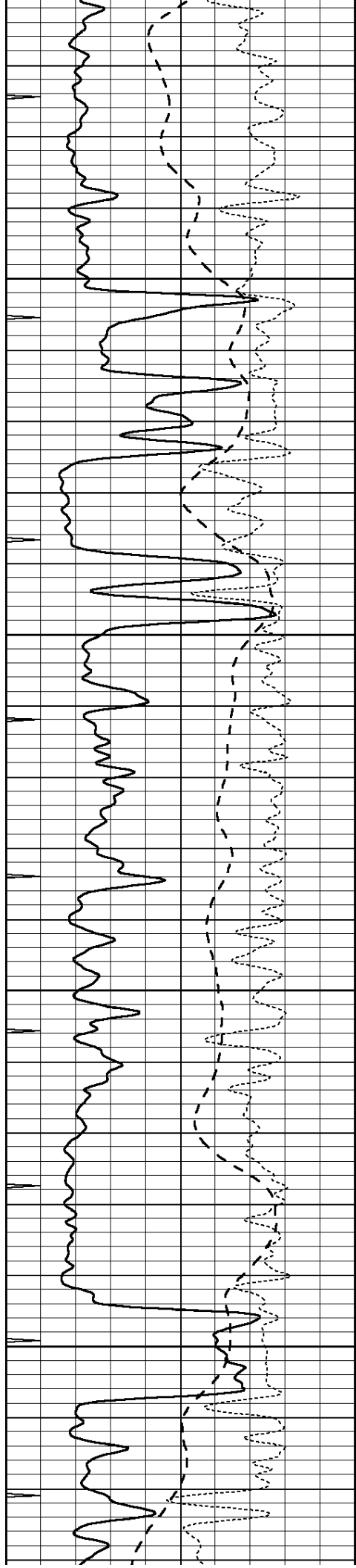
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5150

5200



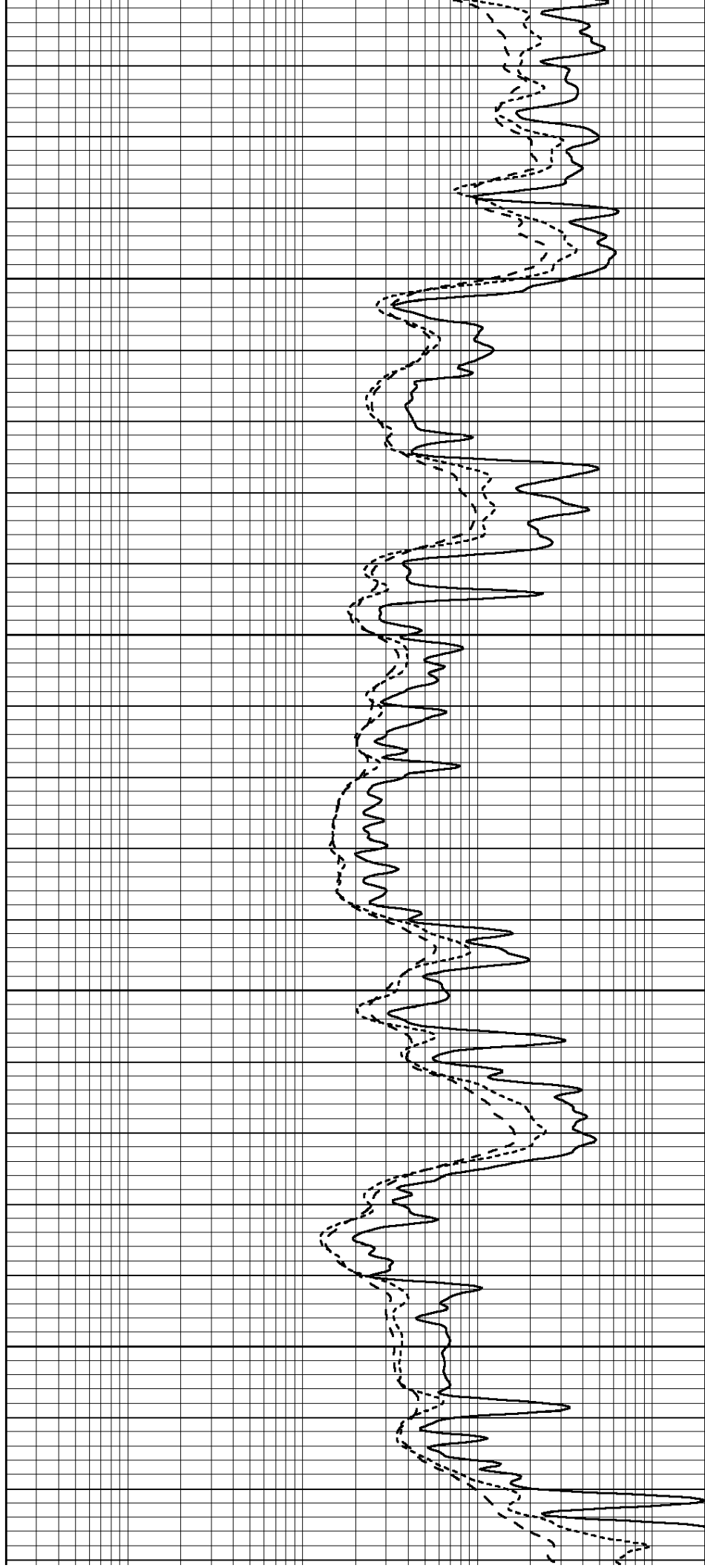


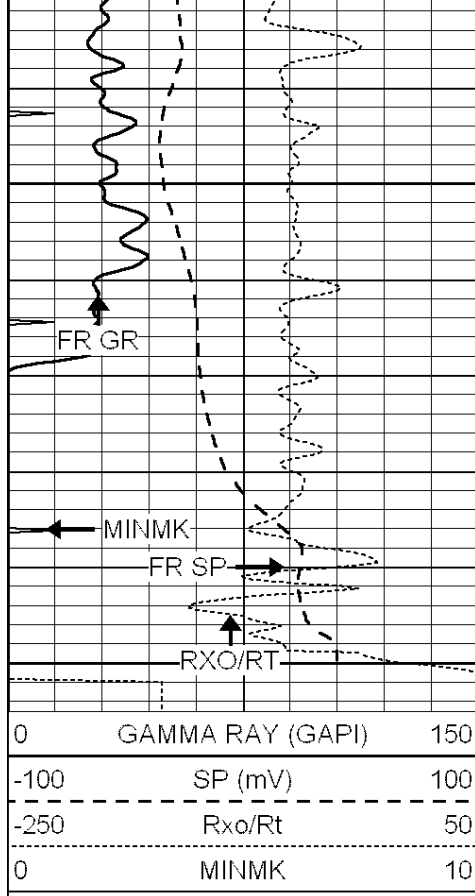
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5300

5350

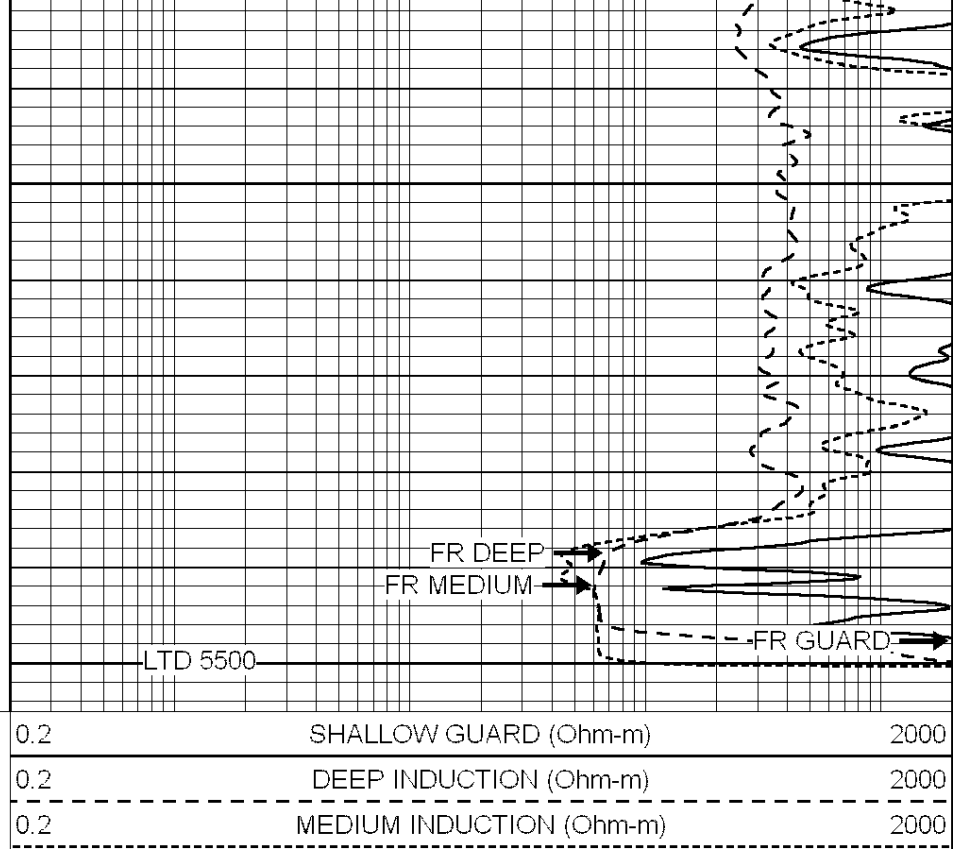
5400





5450

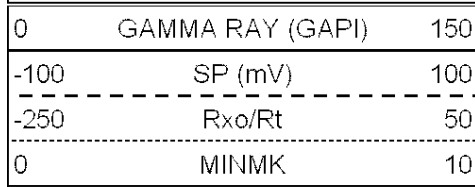
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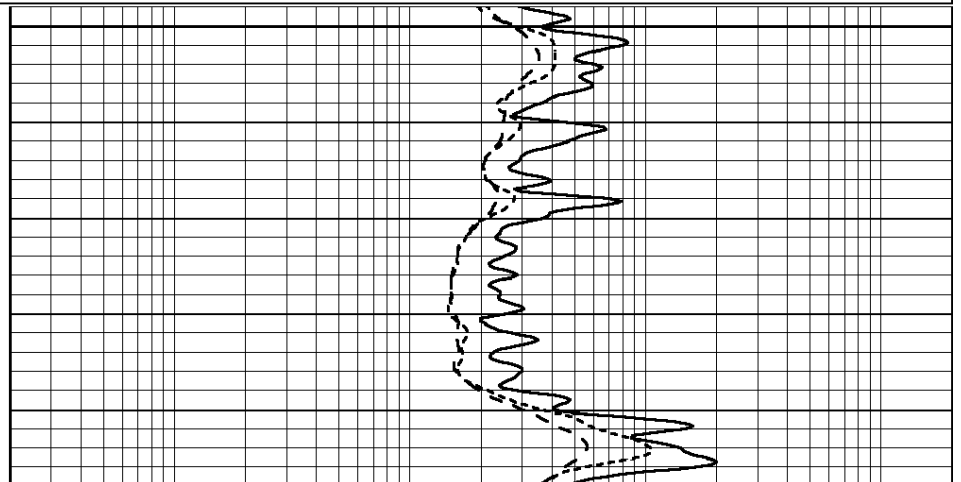
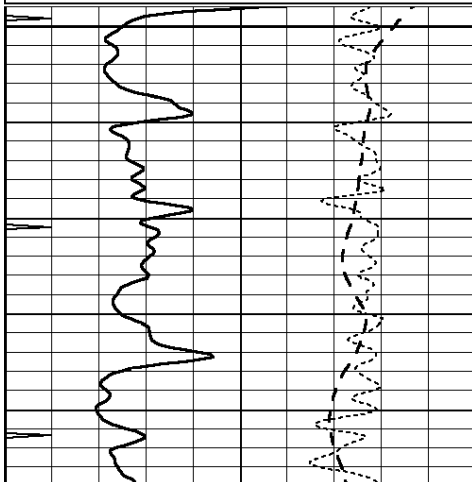
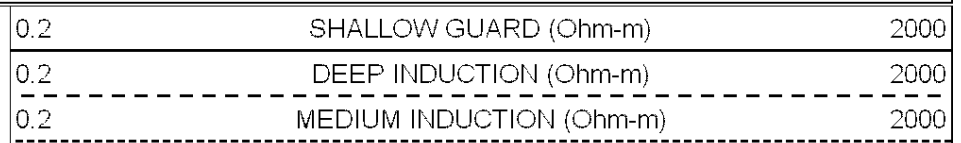
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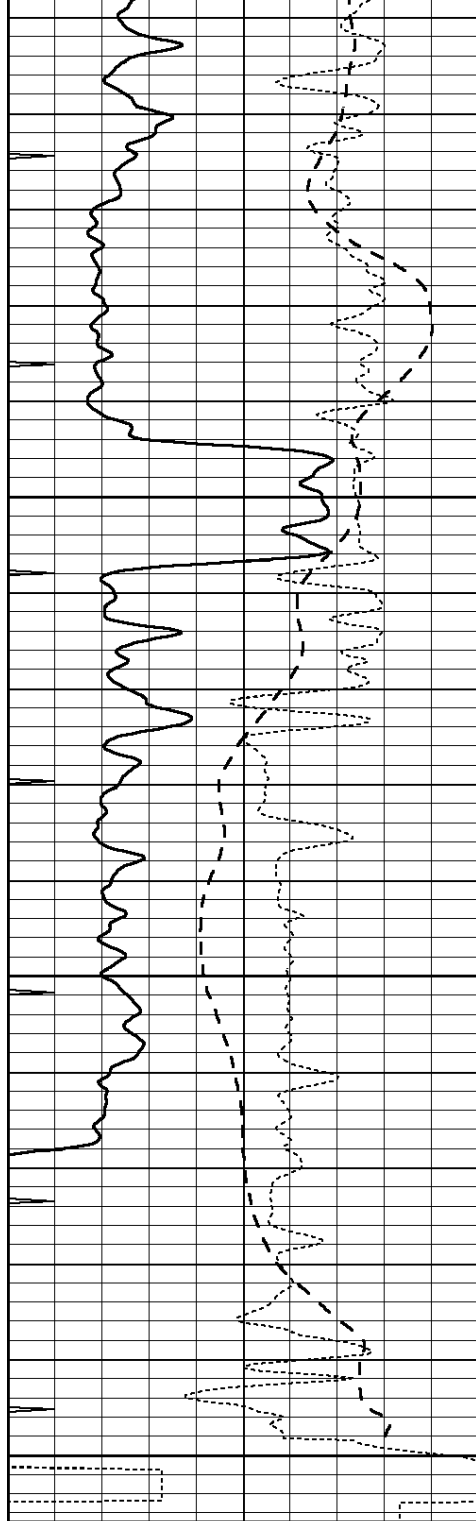
REPEAT SECTION

Database File: 007982pe.db
 Dataset Pathname: pass2.12
 Presentation Format: dil
 Dataset Creation: Tue Nov 08 01:00:22 2011 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240



5300





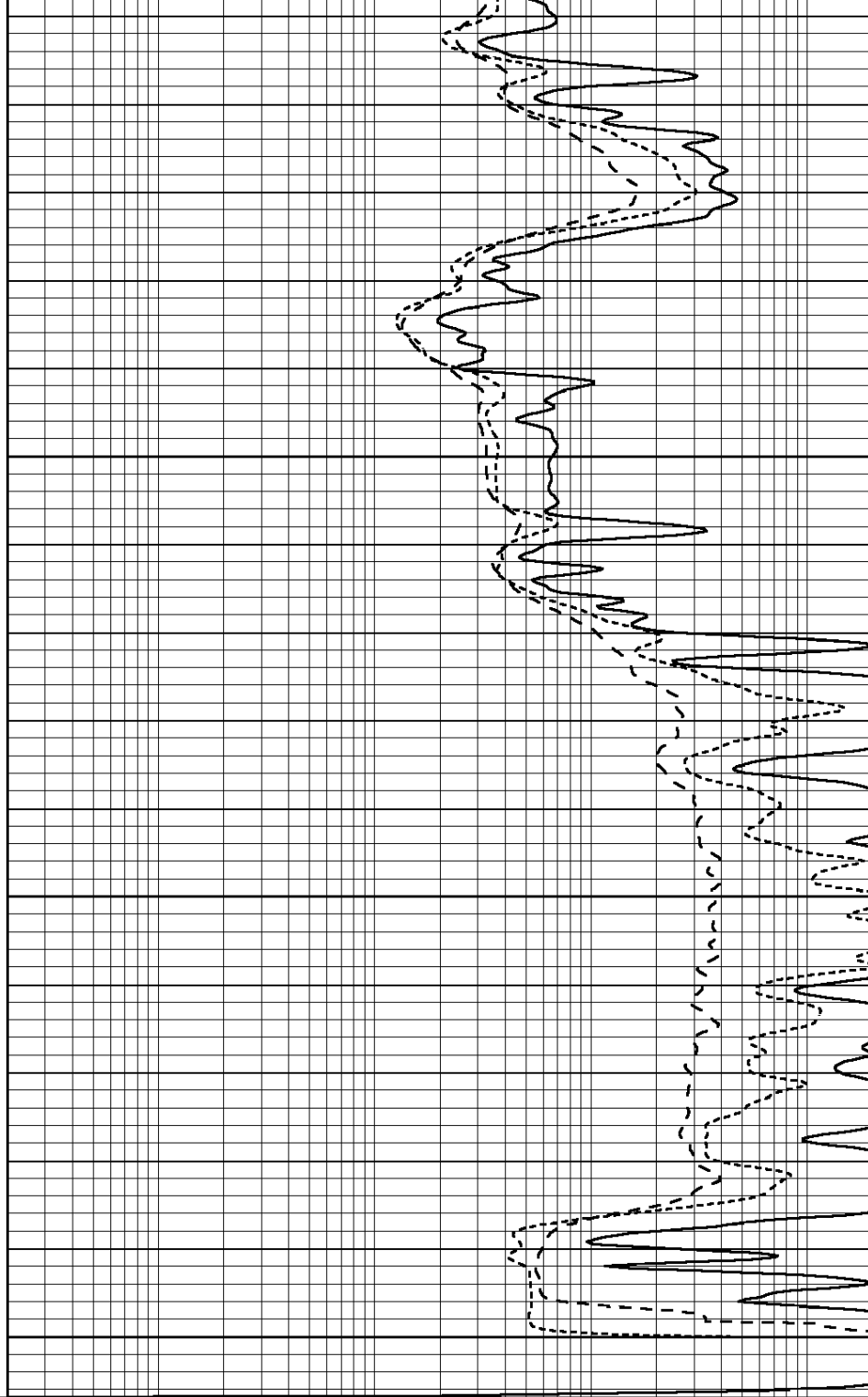
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	10

5350

5400

5450

5500



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: 007982pe.db
 Dataset Pathname: pass4.10
 Dataset Creation: Tue Nov 08 00:00:49 2011 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:
 Performed:

DIL3-GEAR
 Mon Nov 07 21:56:36 2011

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	4.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-9.500
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: 003N Model: PRB

Performed Tue Sep 08 14:14:44 2009

Litho Density Calibration					
	Background	Magnesium	Aluminum	Sandstone	
Window 1	2042.6	12312.8	4225.8	13758.4	cps
Window 2	1855.8	10134.7	3624.2	11113.1	cps
Window 3	1639.4	6760.2	2716.3	7260.3	cps
Window 4	466.4	469.2	466.1	476.5	cps
Long Space	0.0	8278.9	1768.4	9257.4	cps
Short Space	2.2	2377.3	1544.1	2574.2	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.549
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept	: -18.8

Caliper		
	Readings	Reference
Low Ref	1.9	7.0
High Ref	4.0	14.0
	Gain: 3.3	Offset: 0.7

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:	070558	
Tool Model:	OPEN_GR	
Performed:	Mon Nov 07 22:12:29 2011	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps

Sensitivity:

0.2500

GAPI/cps