



DUAL INDUCTION LOG

Company	WOOLSEY OPERATING COMPANY, LLC.		
Well	BAUER#1		
Field	BAUER SOUTH		
County	HARPER		
State	KANSAS		
Company	WOOLSEY OPERATING COMPANY, LLC.		
Well	BAUER#1		
Field	BAUER SOUTH		
County	HARPER		
State	KANSAS		
Location:	API # : 15-077-22183-00-00		Other Services CDL/CNL SONIC
SEC 16 TWP 31S RGE 6W			
Permanent Datum	GROUND LEVEL		Elevation 1460
Log Measured From	KELLY BUSHING 13' A.G.L.		
Drilling Measured From	KELLY BUSHING		
Date	08/12/19		
Run Number	ONE		
Depth Driller	4415		
Depth Logger	4411		
Bottom Logged Interval	4410		
Top Log Interval	00		
Casing Driller	8 5/8" @ 265		
Casing Logger	265		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.4/63		
pH / Fluid Loss	10.5/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.9@82		
Rmt @ Meas. Temp	.66@82		
Rmc @ Meas. Temp	1.08@82		
Source of Rmt / Rmc	MEASURED		
Rm @ BHT	.62@120		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	///		
Maximum Recorded Temperature	120F		
Equipment Number	1523		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	BILLY KLAVER		
	TJ DREILING		

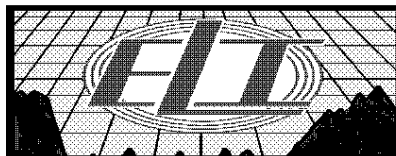
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on 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 ELI WIRELINE, HAYS, KS. (785) 628-6395

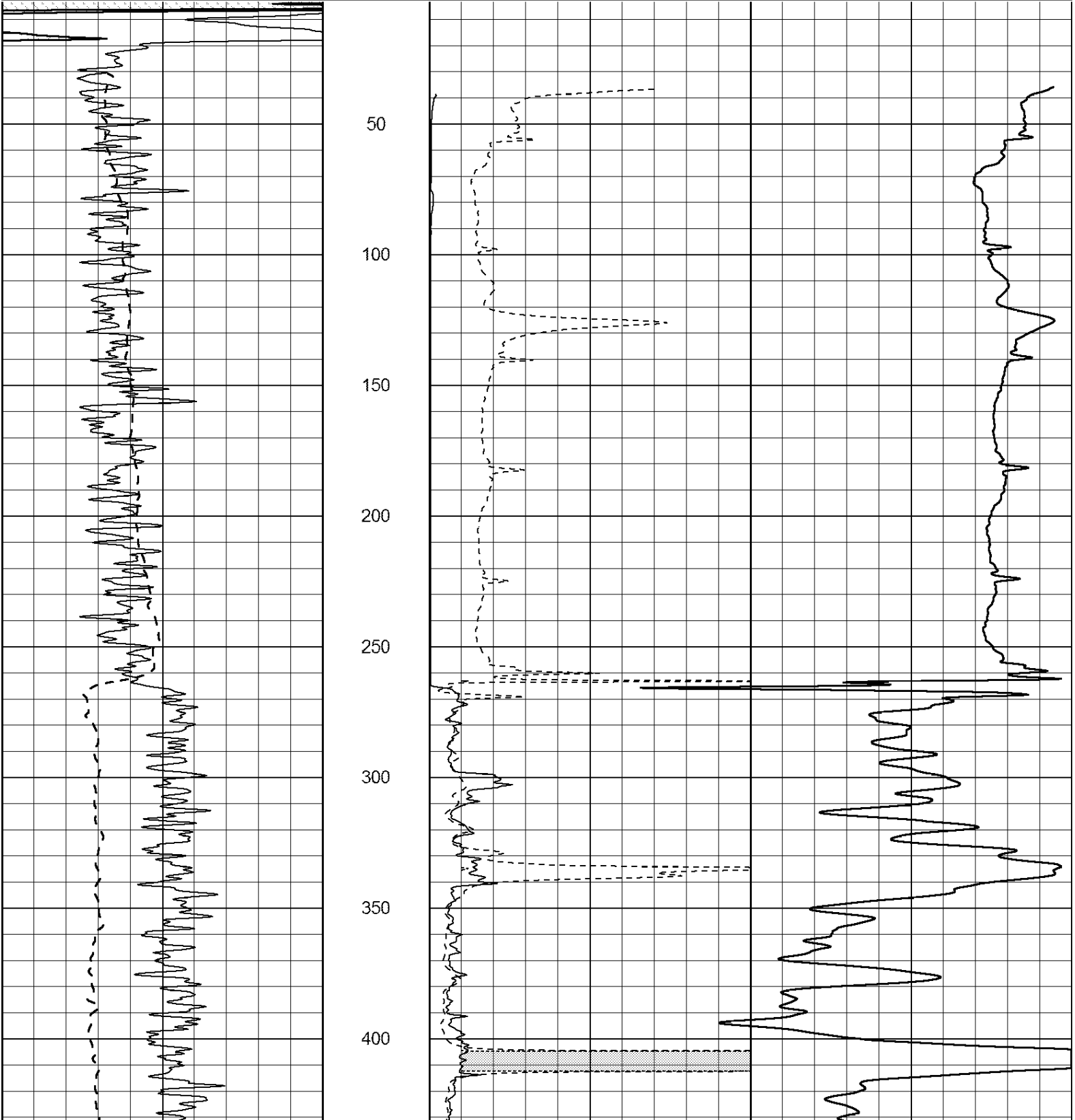
DIRECTIONS
NE HARPER 3 MILES, 1.5 NORTH, WEST INTO.

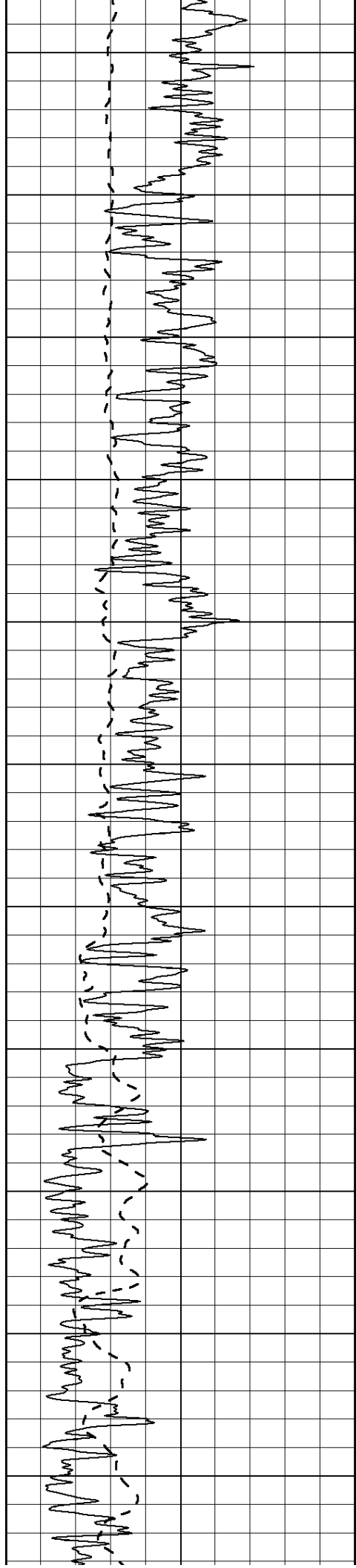


MAIN PASS

Database File: 4083pe.db
Dataset Pathname: pass3.1
Presentation Format: _dil2
Dataset Creation: Mon Aug 12 13:23:27 2019
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50	
-100	SP (mV)	100	0	RILD (Ohm-m)	50	
-----			1000	CILD (mmho/m)		0
			50	RILD X10 (Ohm-m)	500	
			50	RLL3 X10 (Ohm-m)	500	





450

500

550

600

650

700

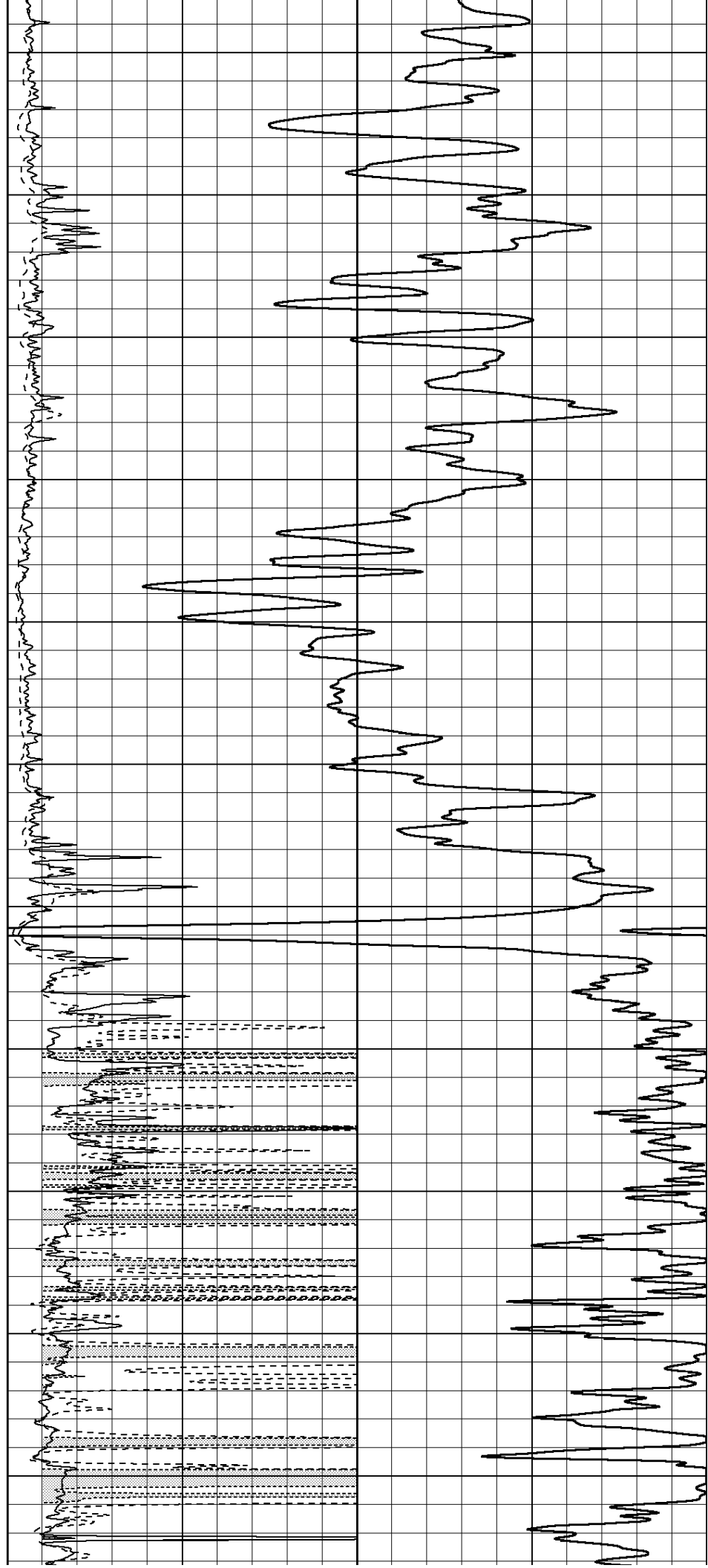
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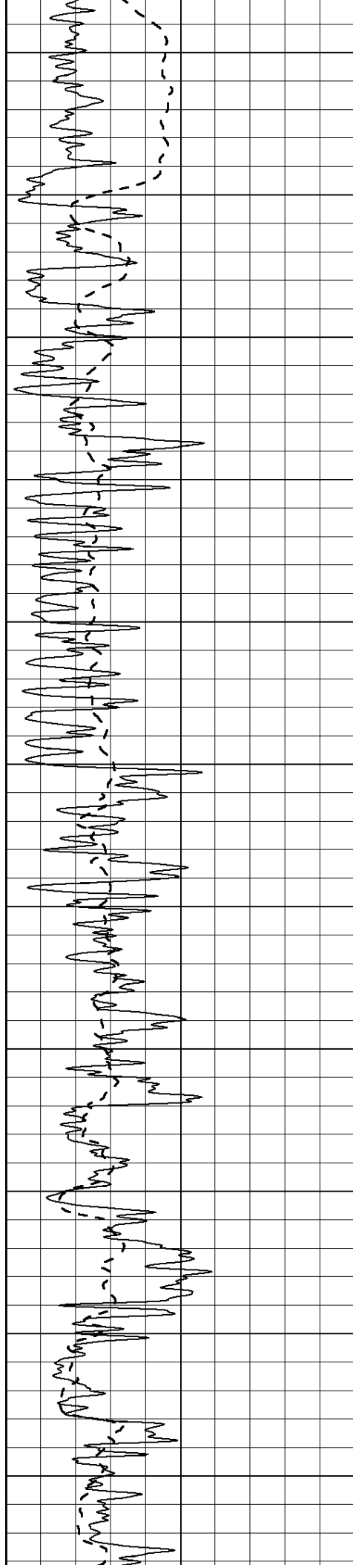
800

850

900

950





1000

1050

1100

1150

1200

1250

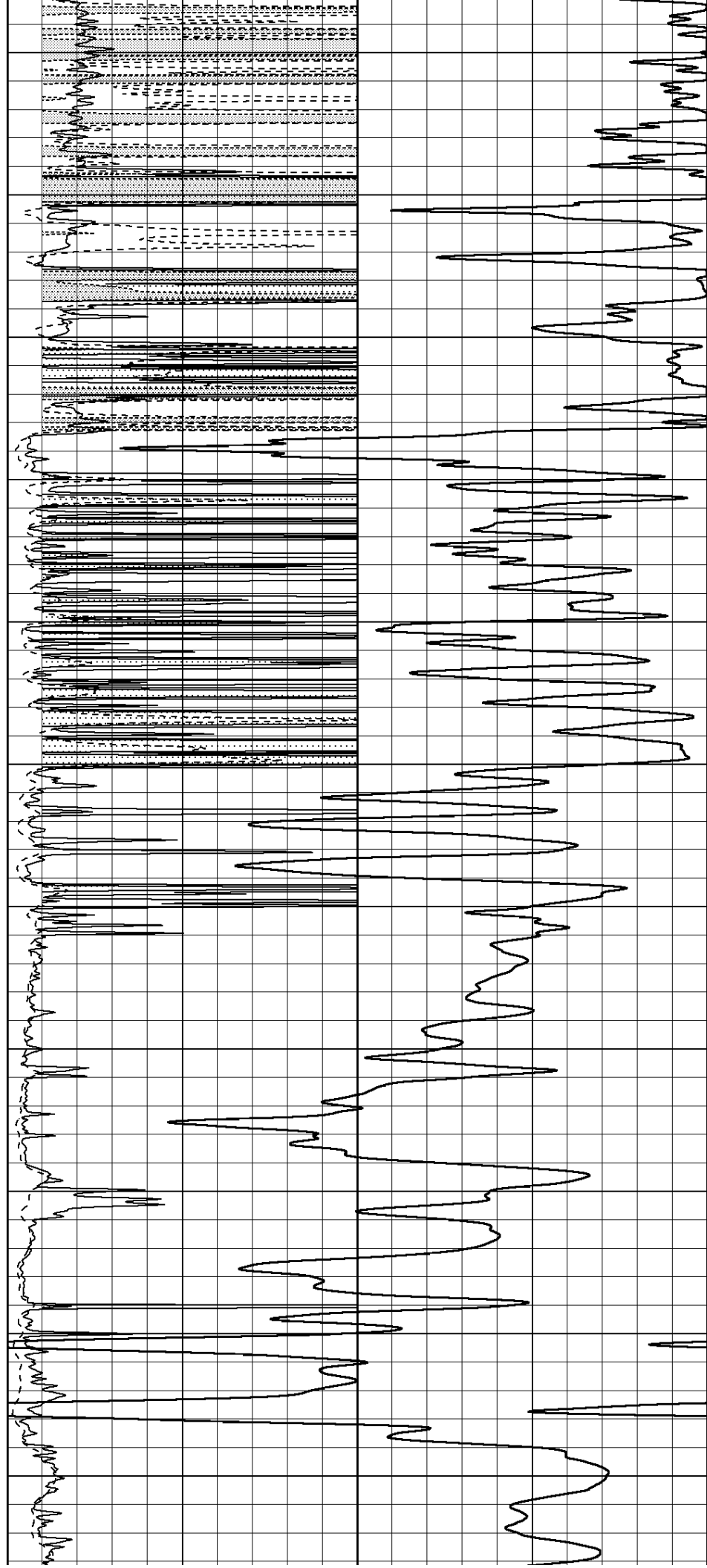
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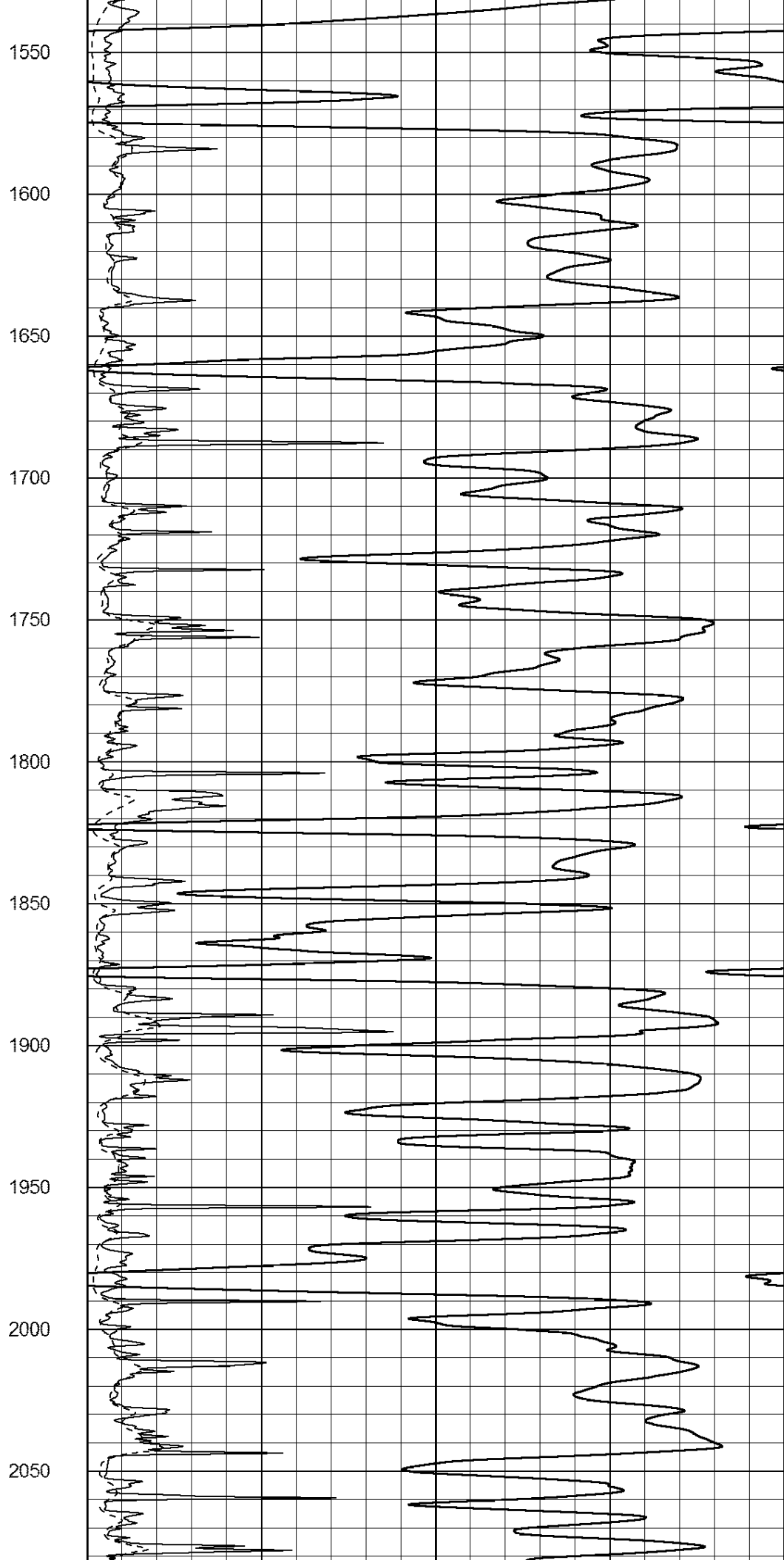
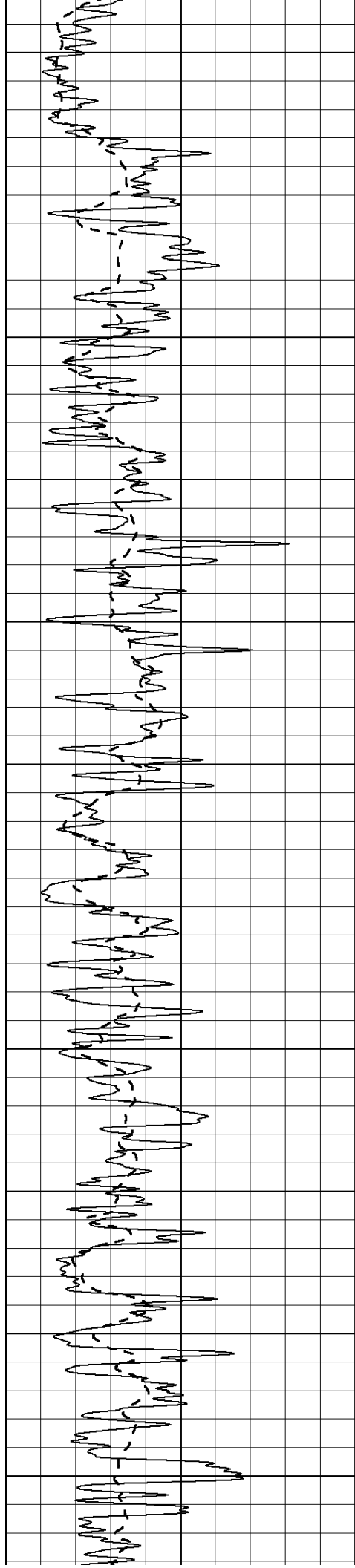
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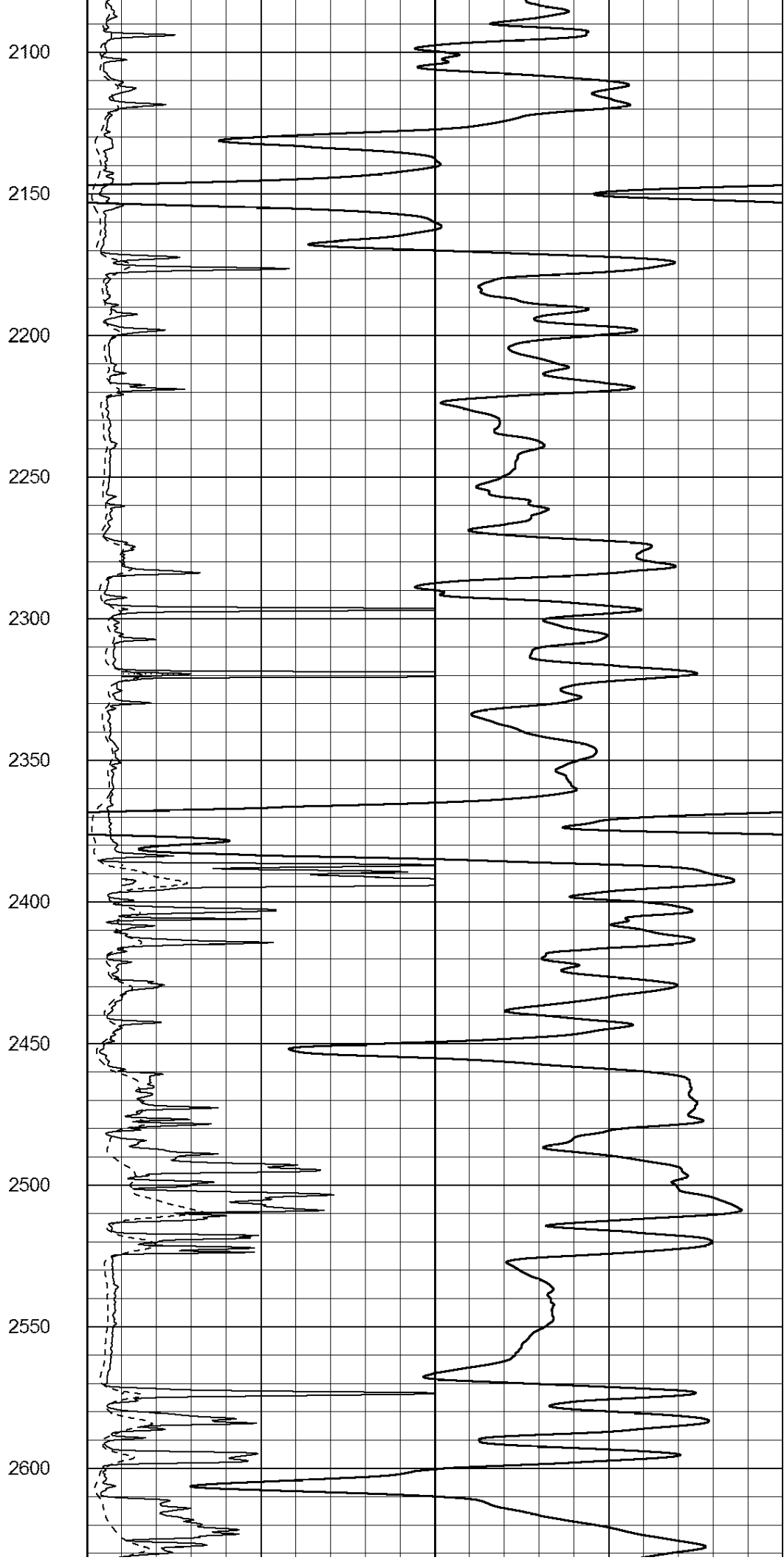
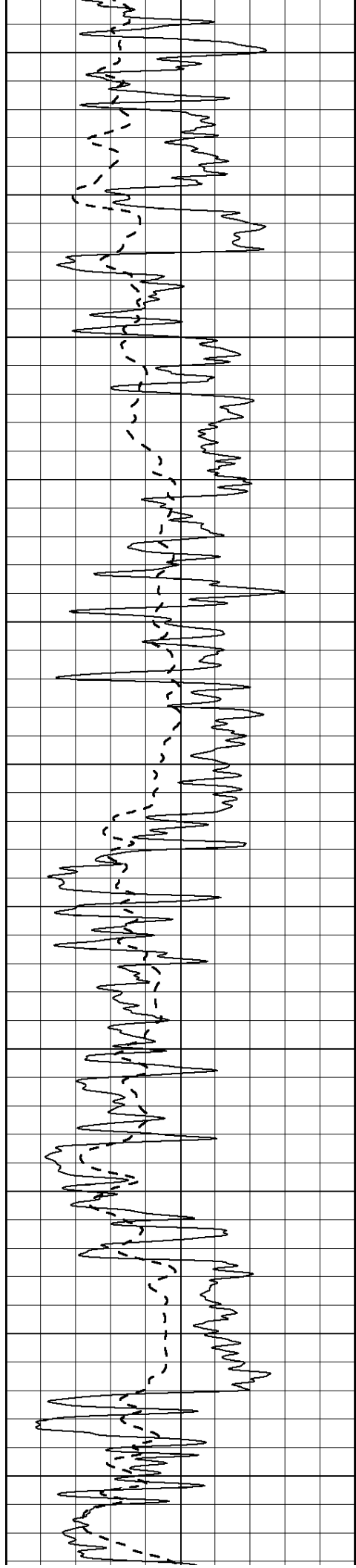
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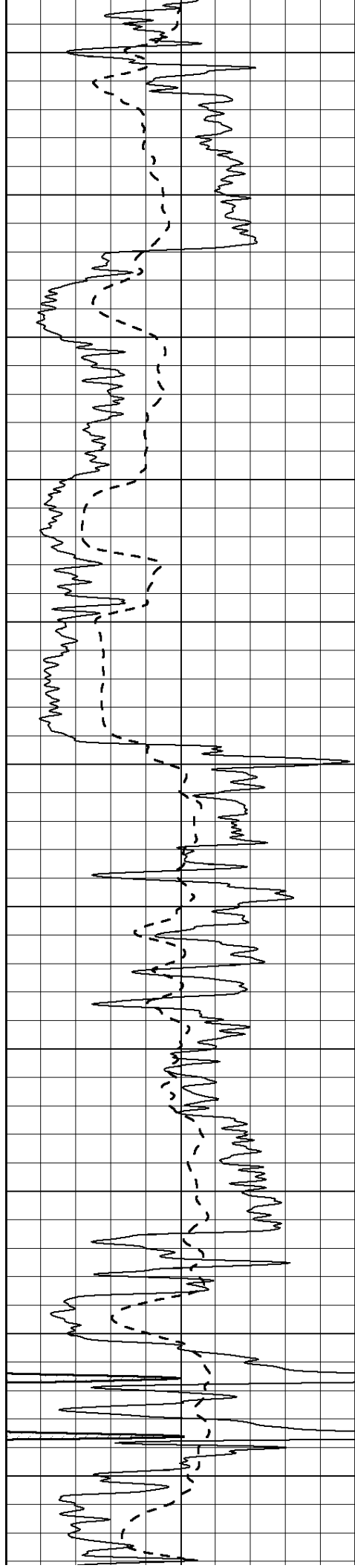
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1500









2650

2700

2750

2800

2850

2900

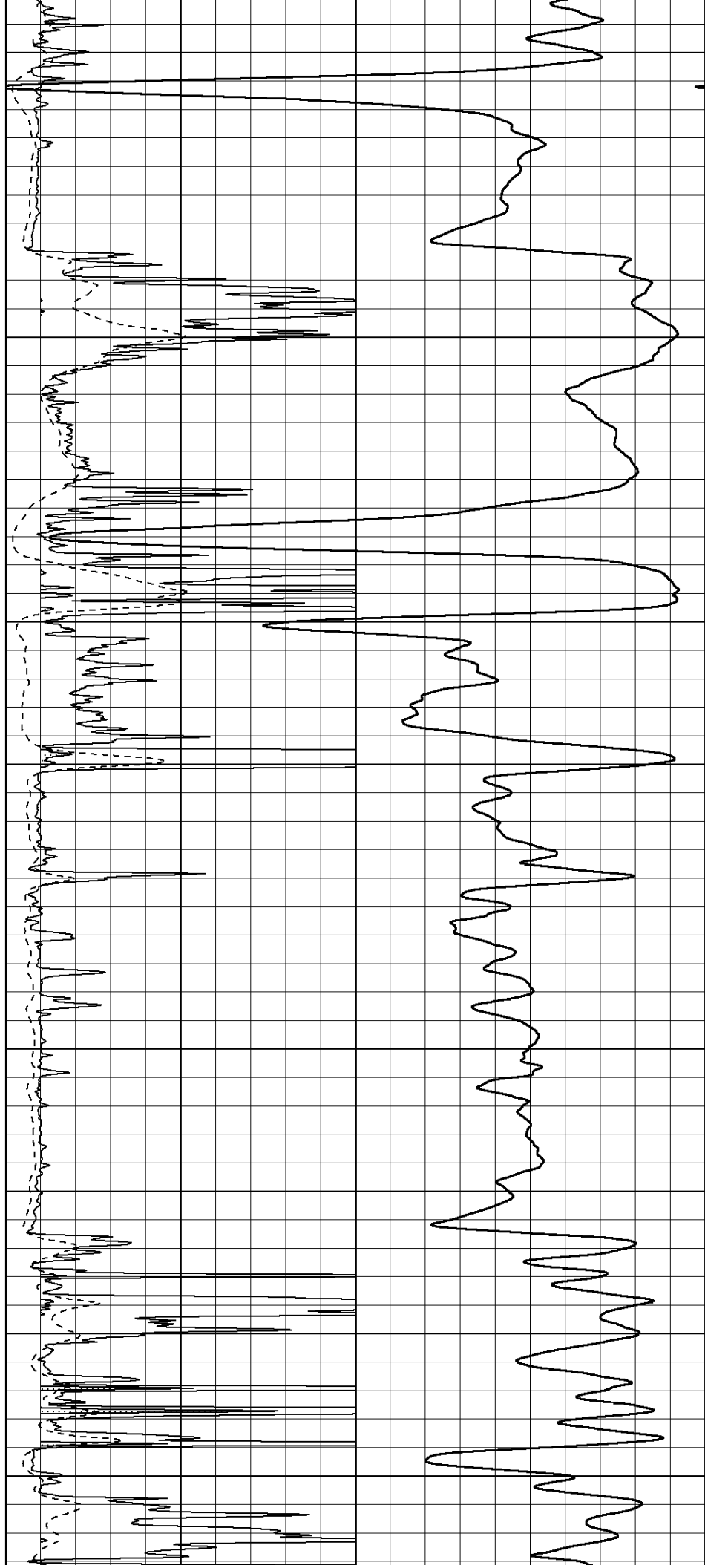
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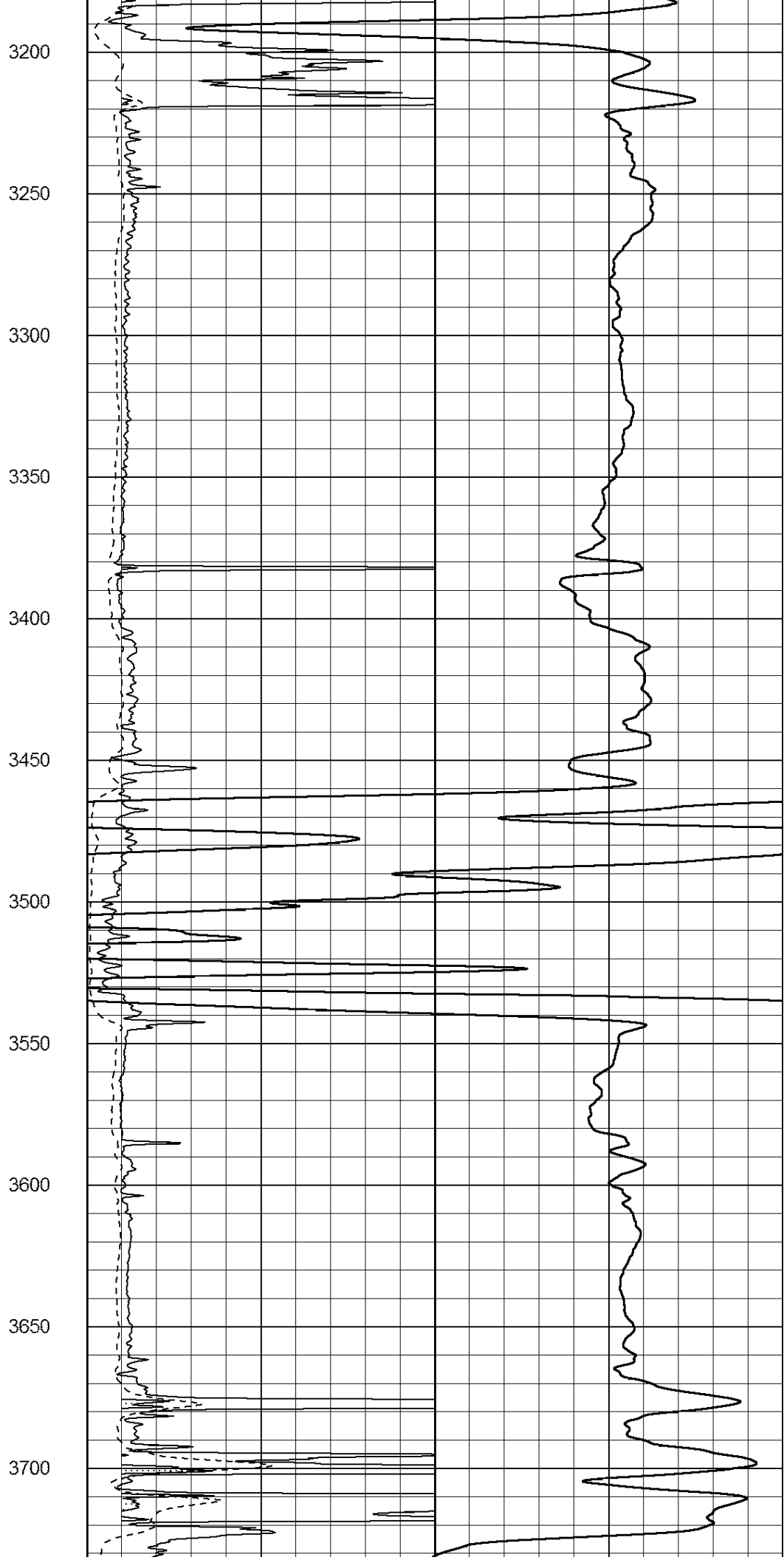
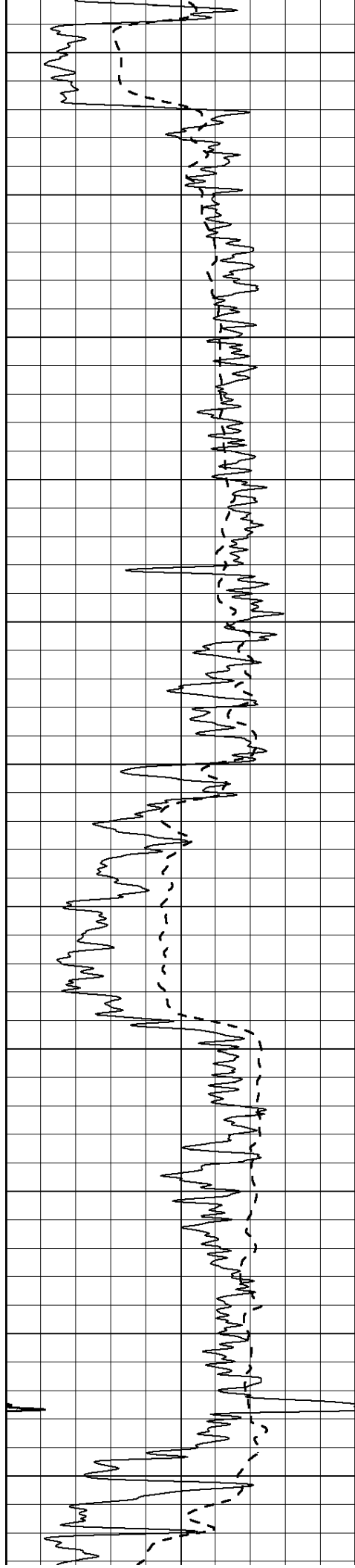
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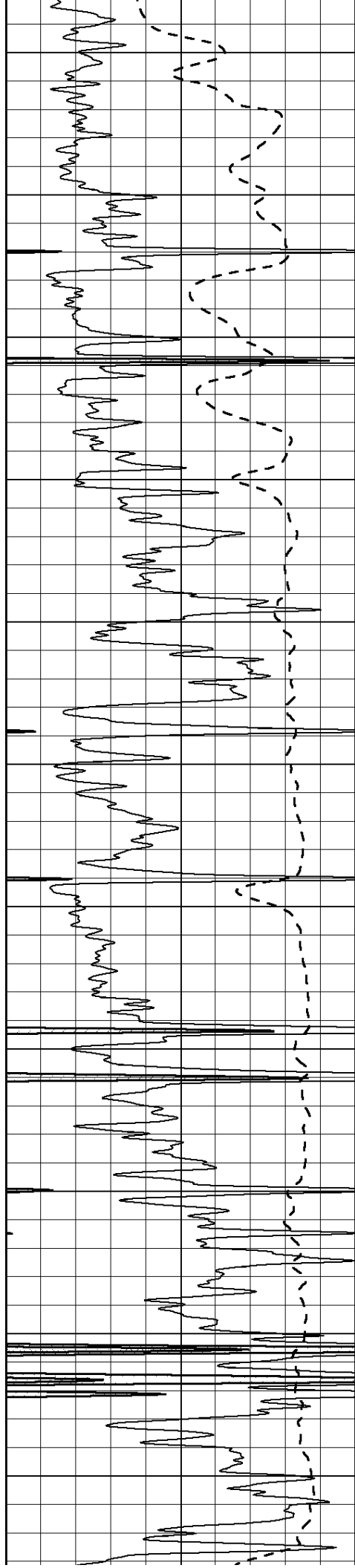
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3100

3150







3750

3800

3850

3900

3950

4000

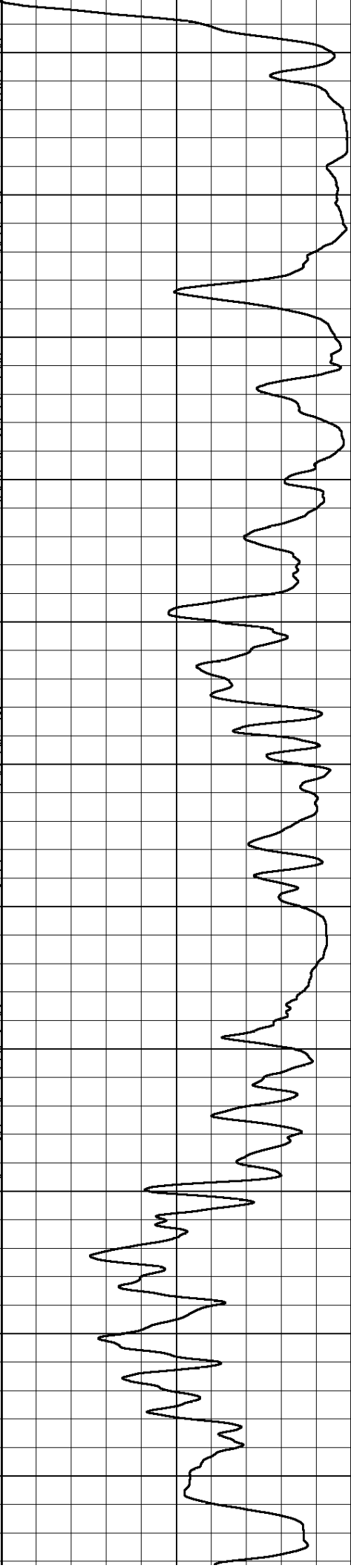
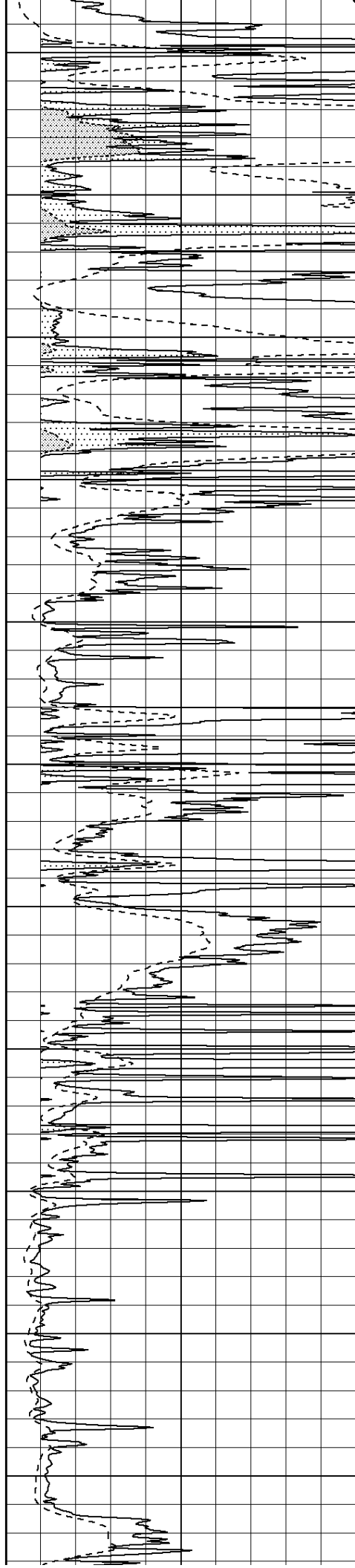
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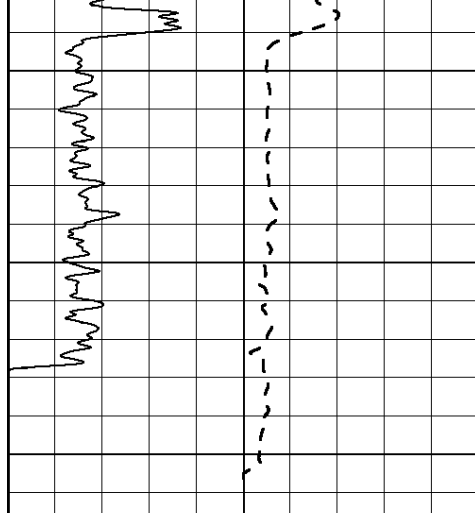
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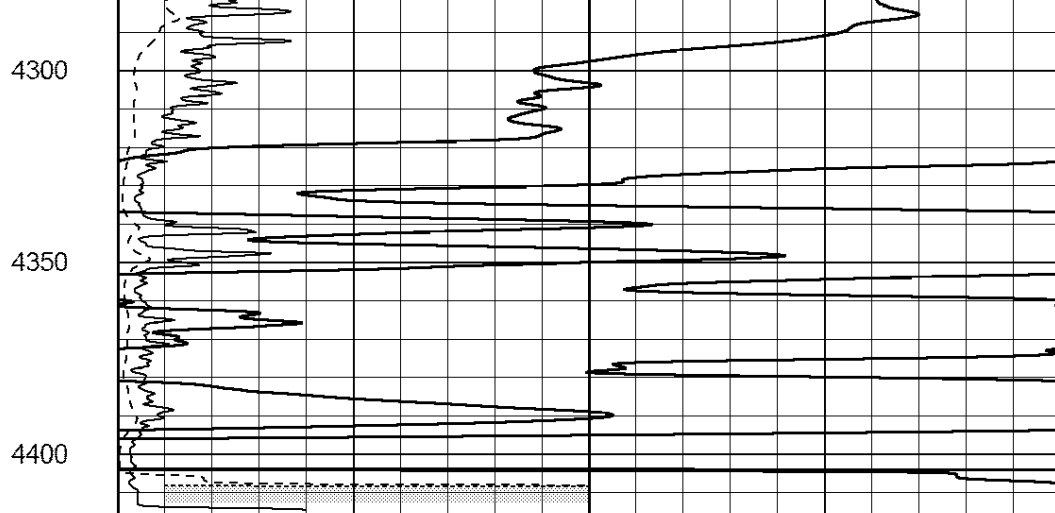
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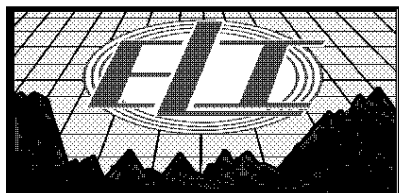




0 Gamma Ray (GAPI) 150
-100 SP (mV) 100



4300
4350
4400
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

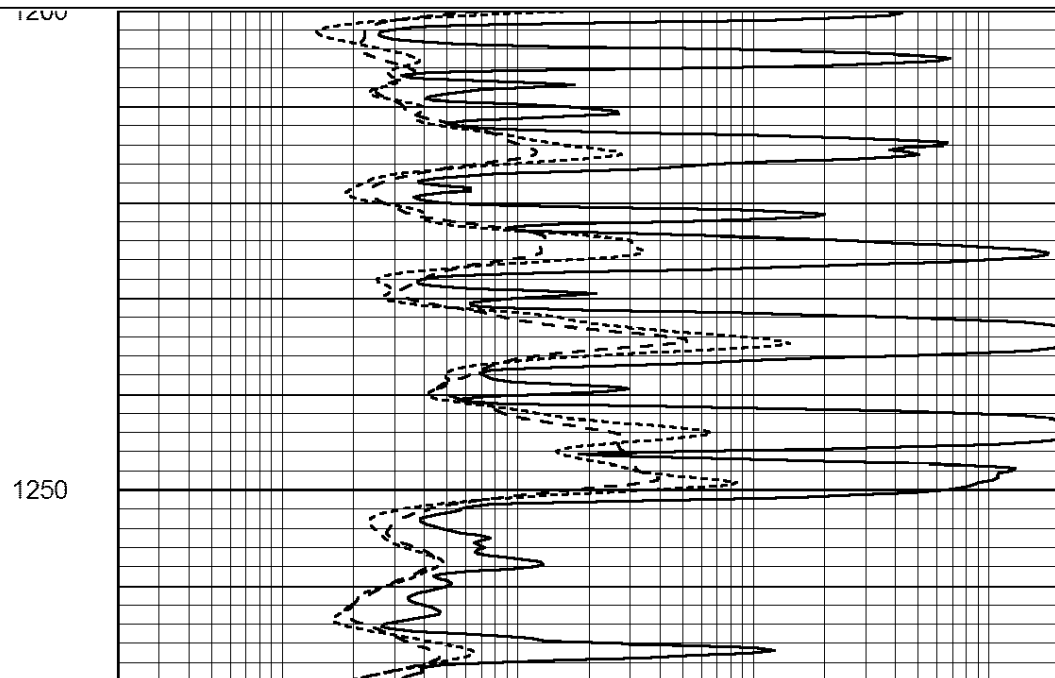
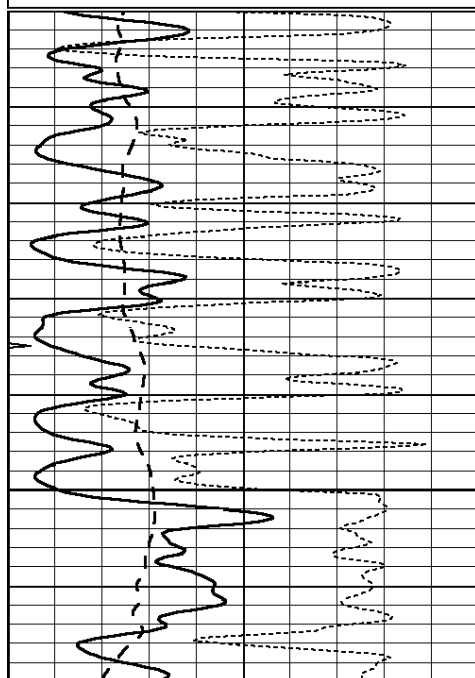


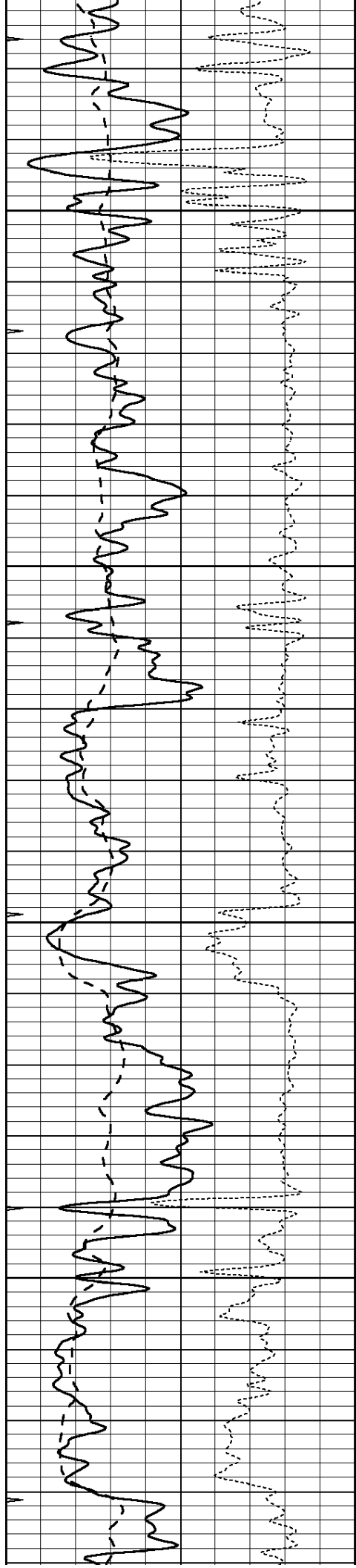
MAIN PASS

Database File: 4083pe.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Mon Aug 12 13:23:27 2019
Charted by: Depth in Feet scaled 1:240

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



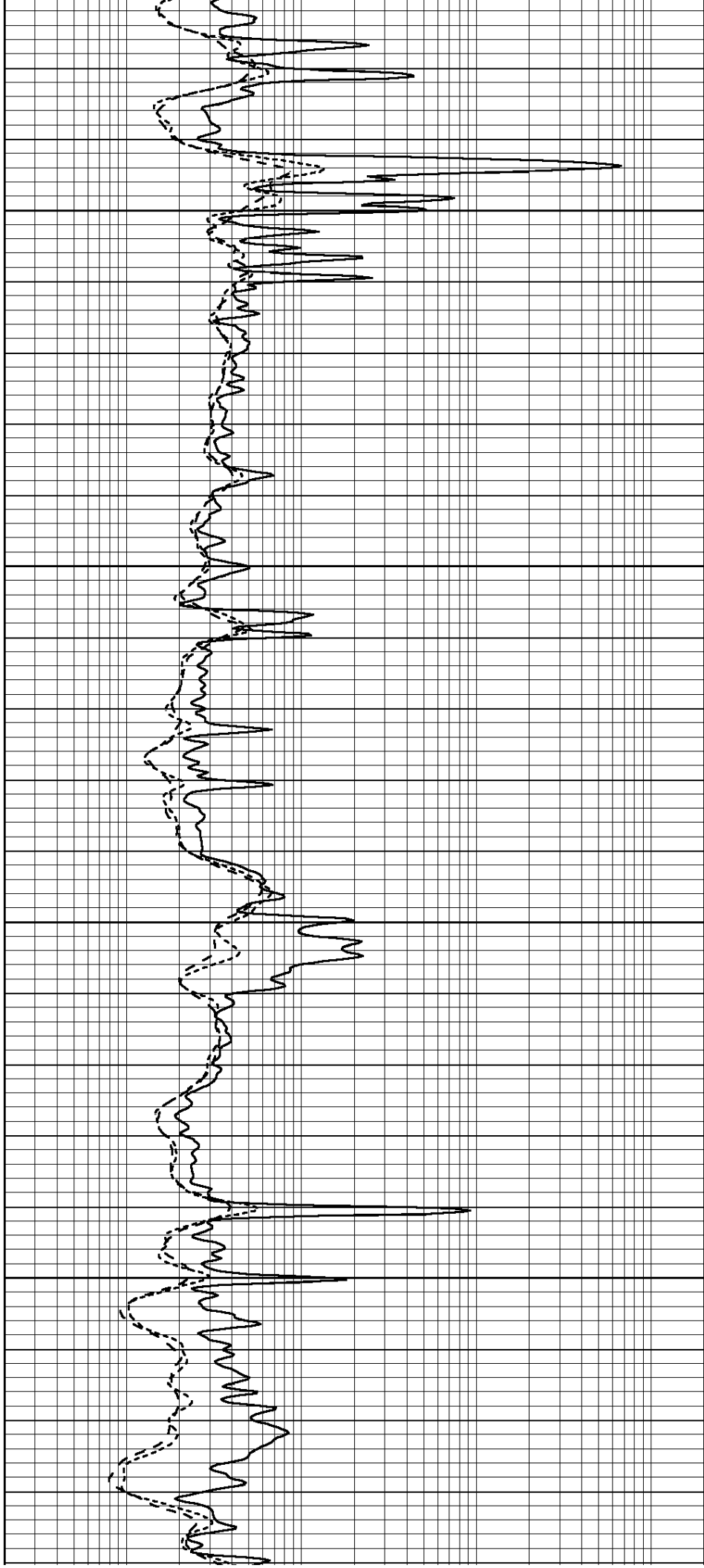


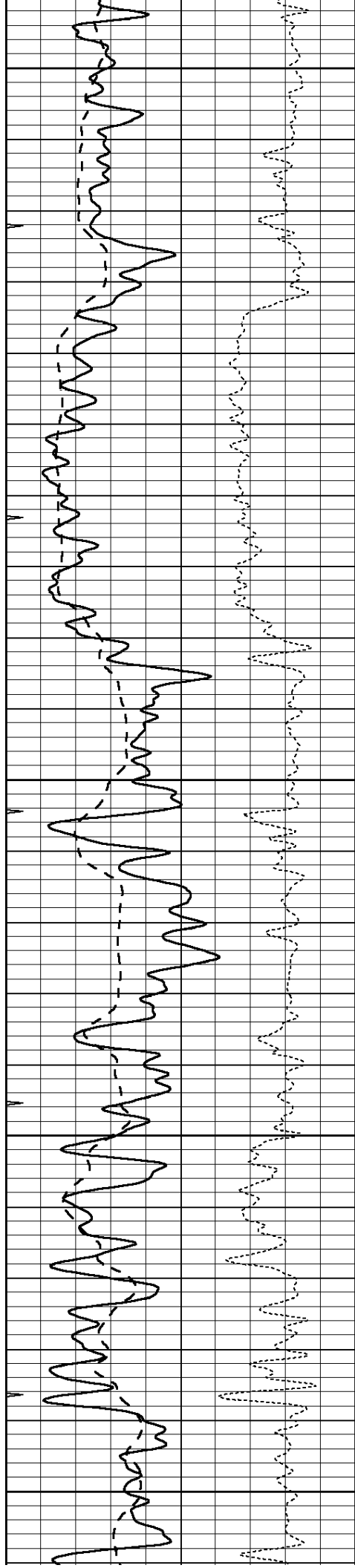
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1350

1400

1450





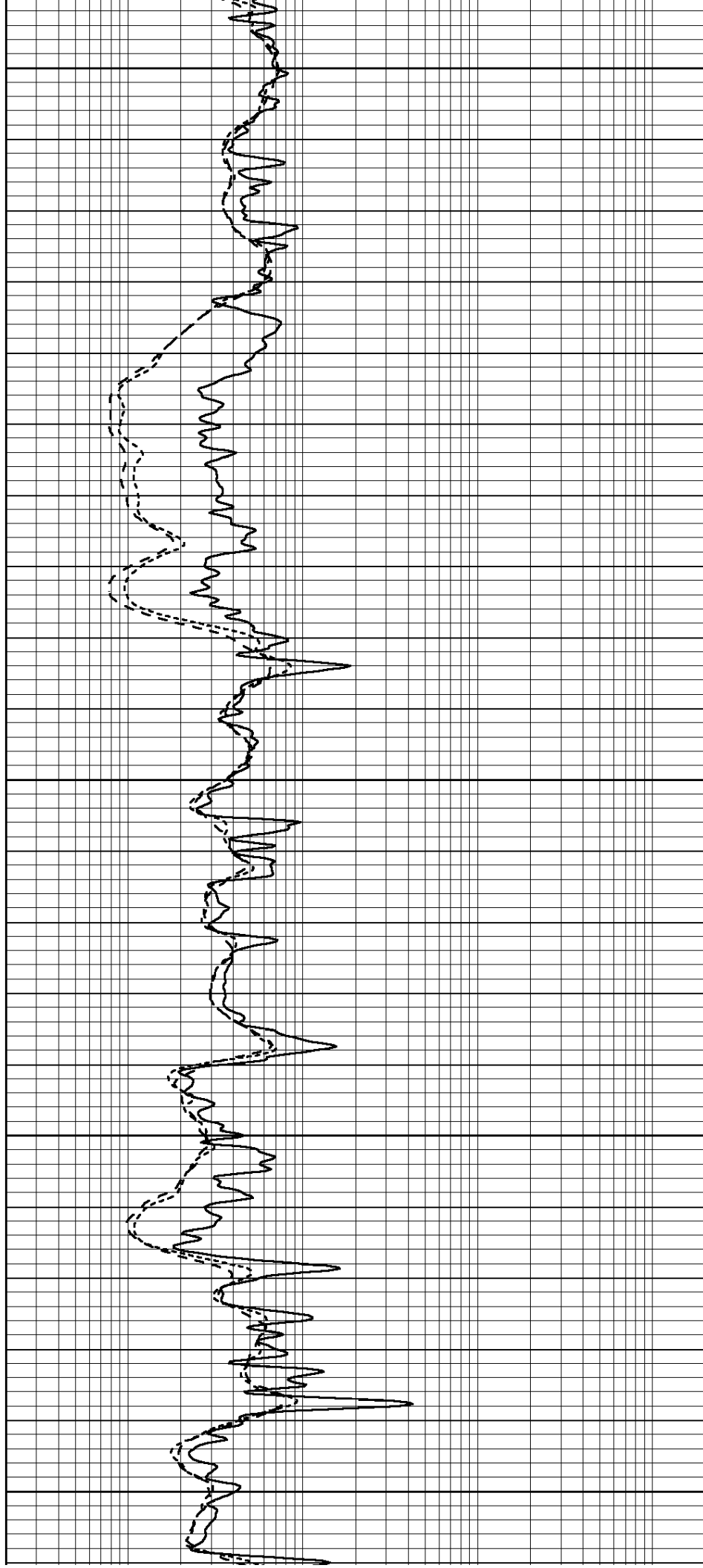
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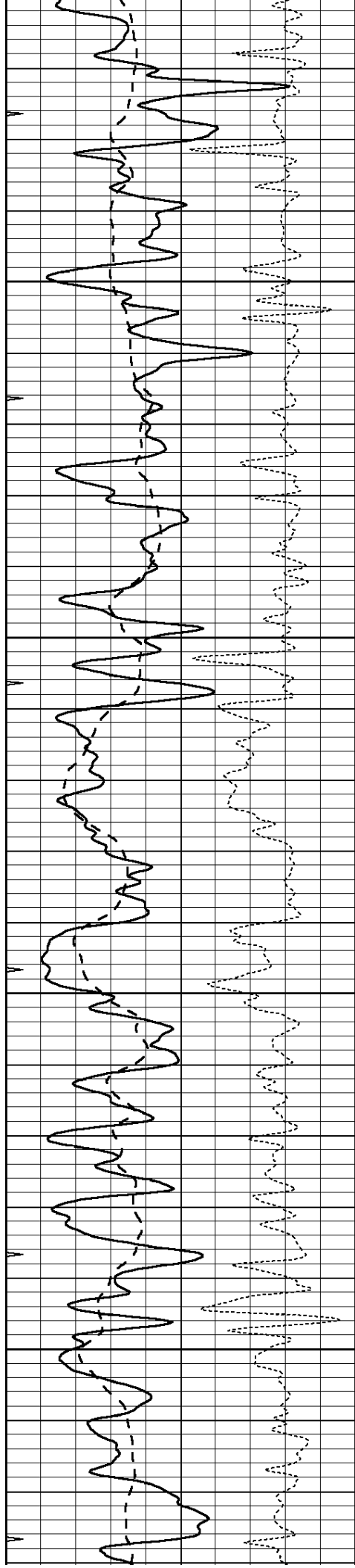
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1600

1650

1700



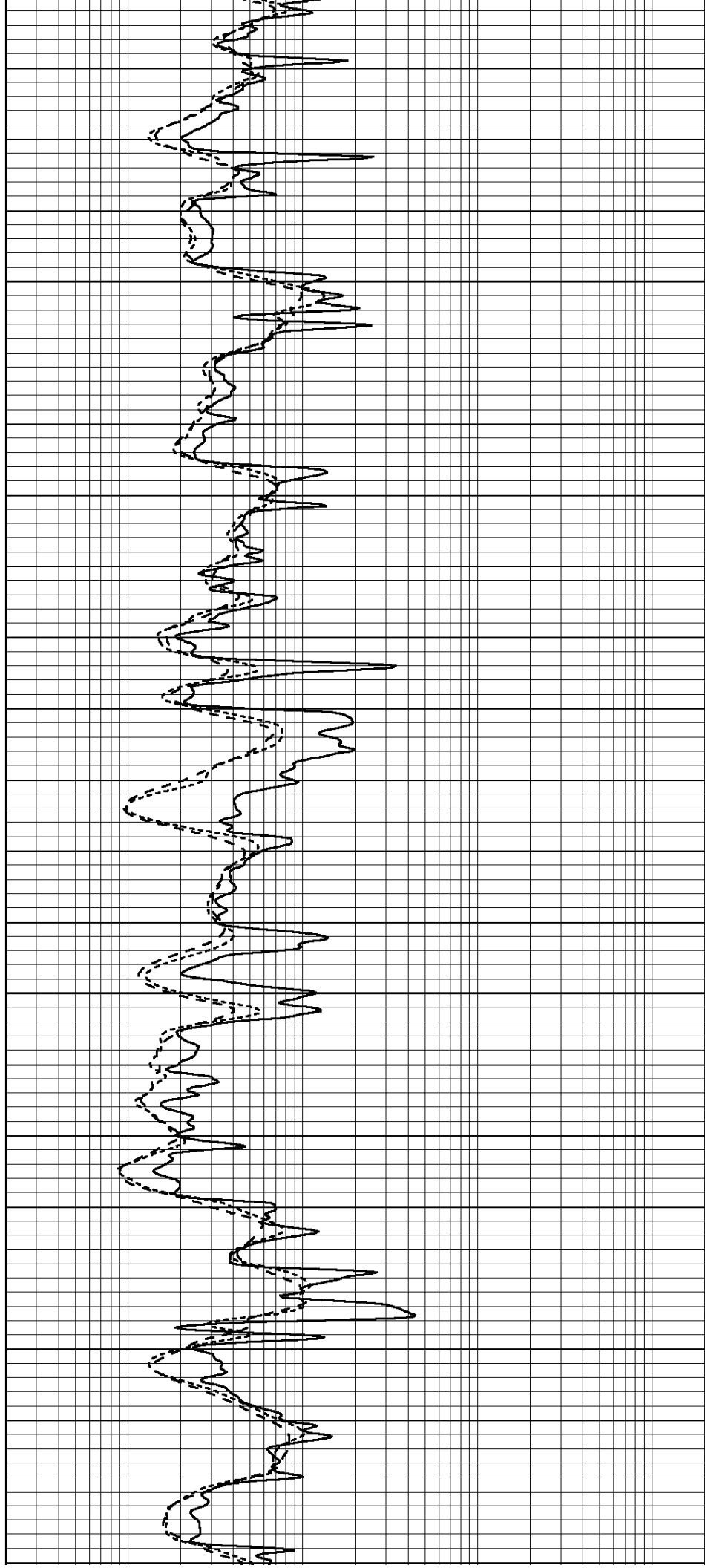


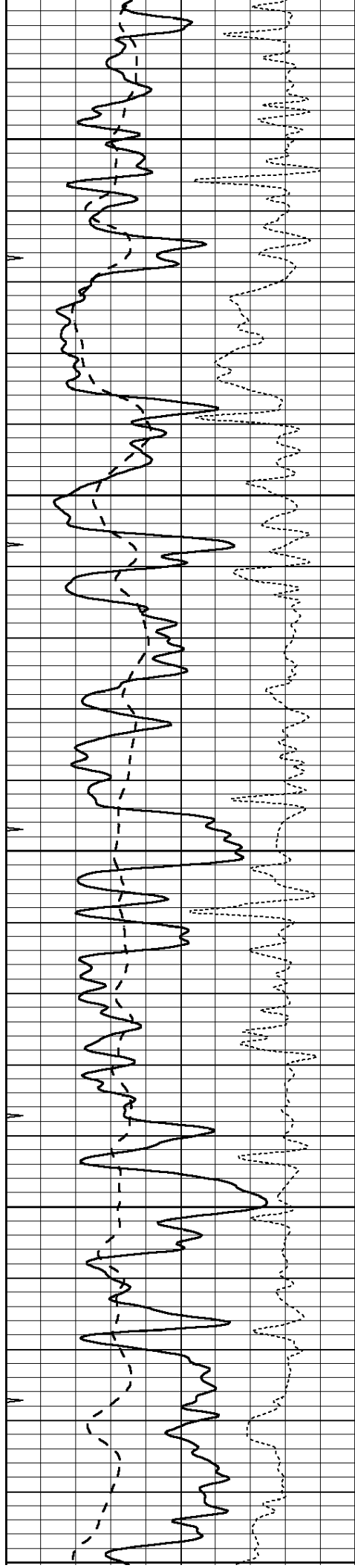
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1800

1850

1900





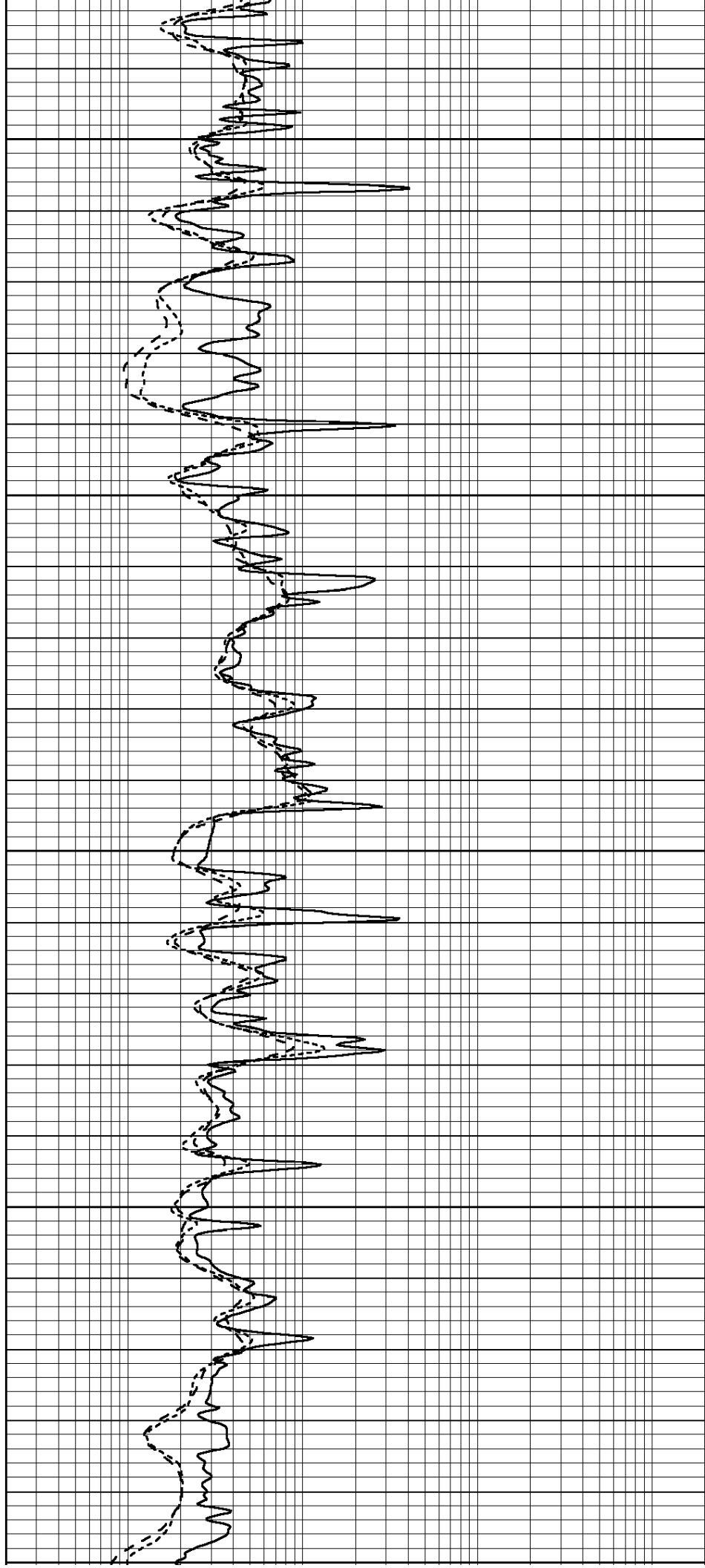
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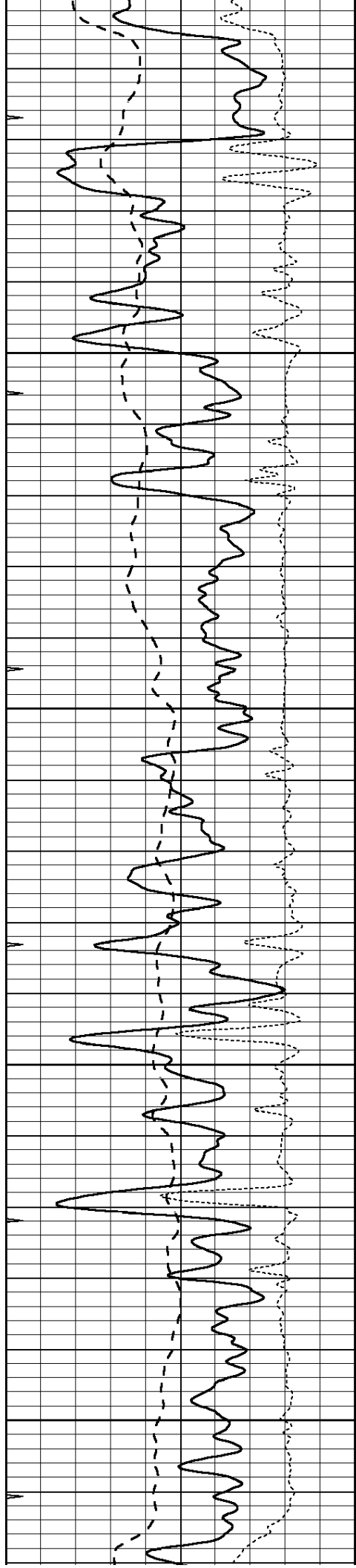
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2050

2100

2150





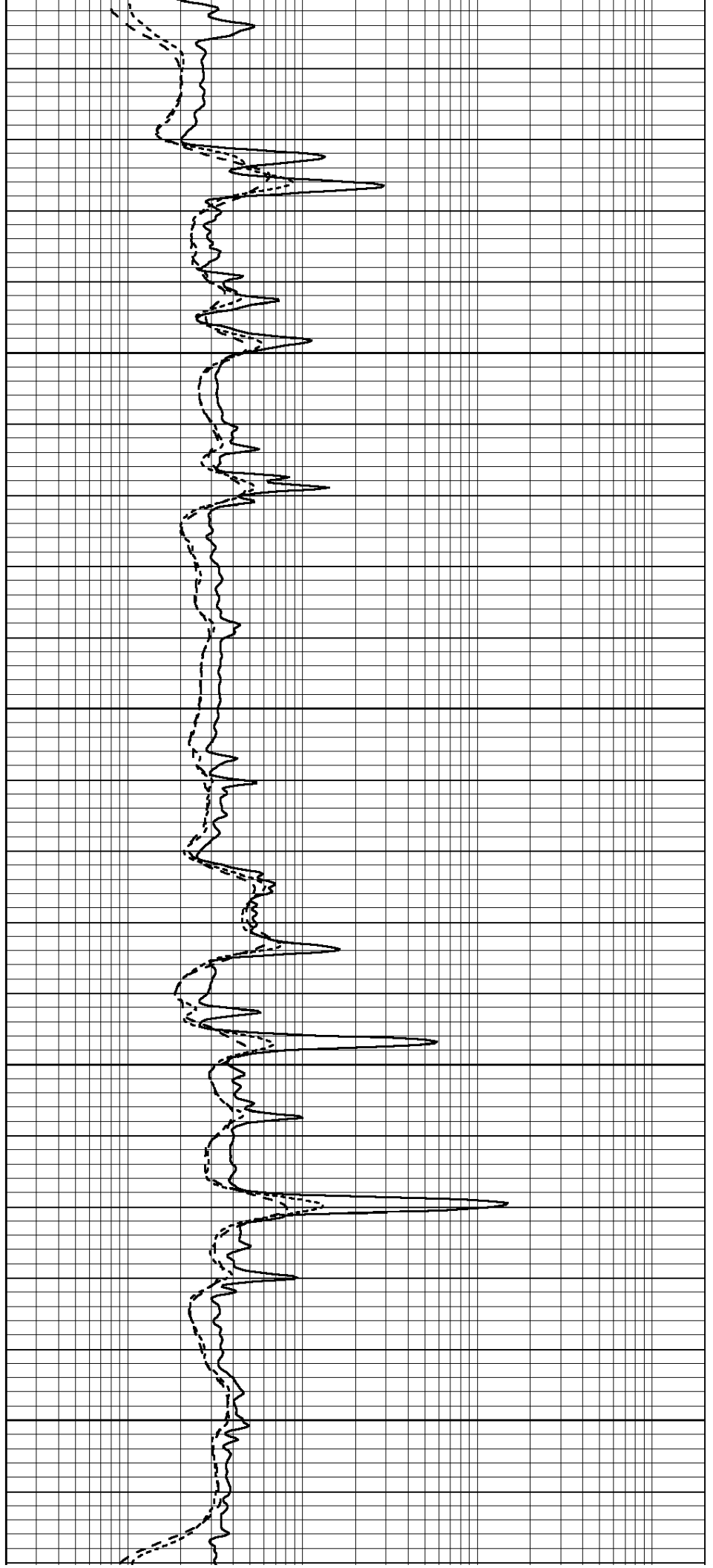
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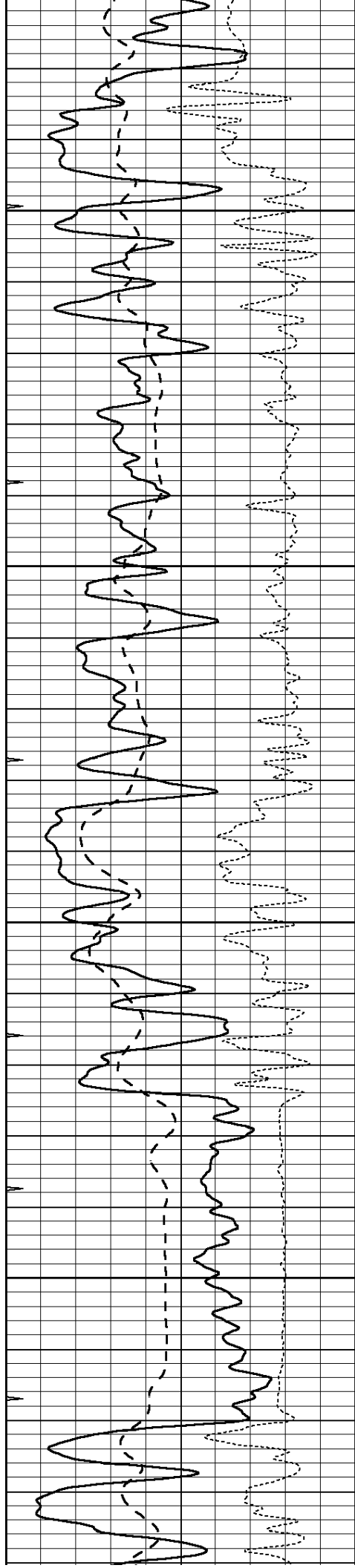
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2300

2350



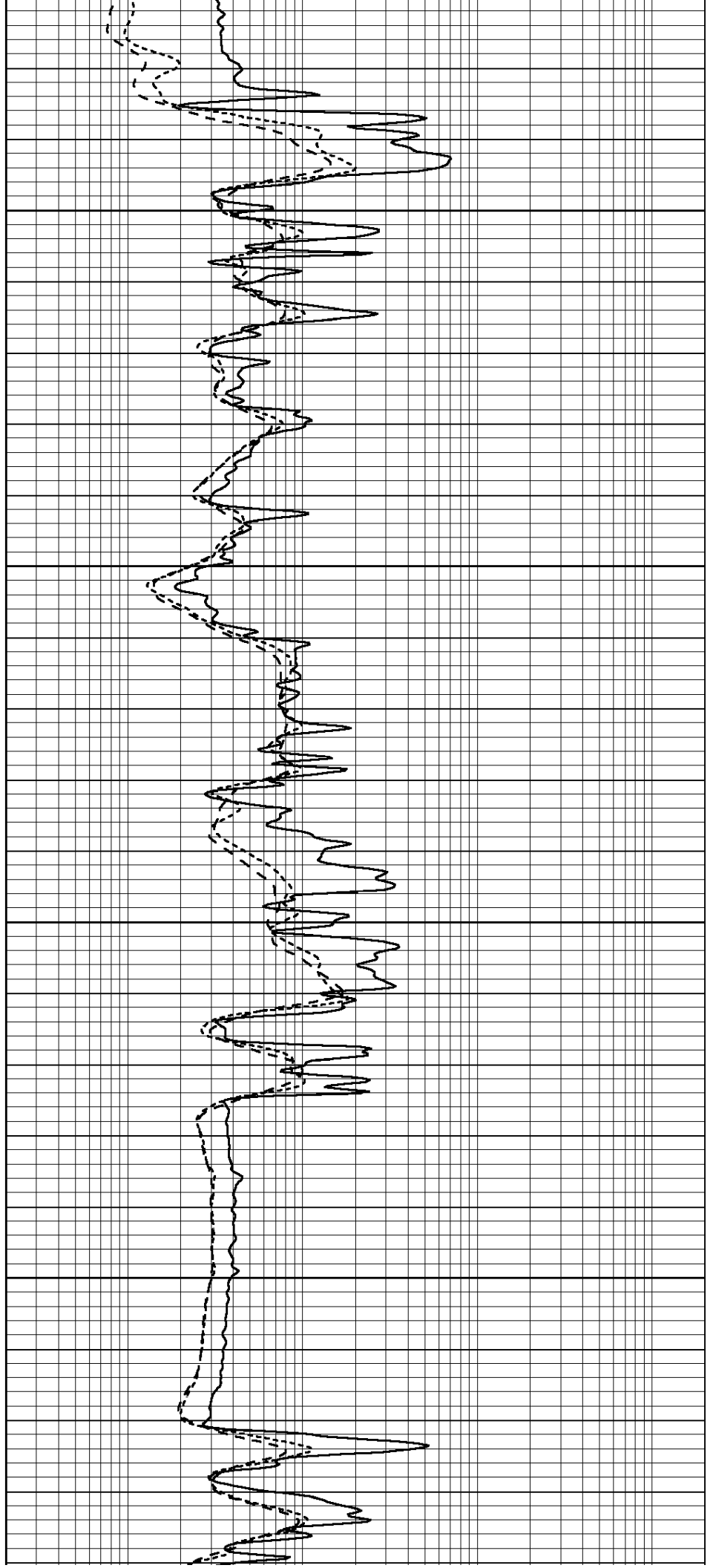


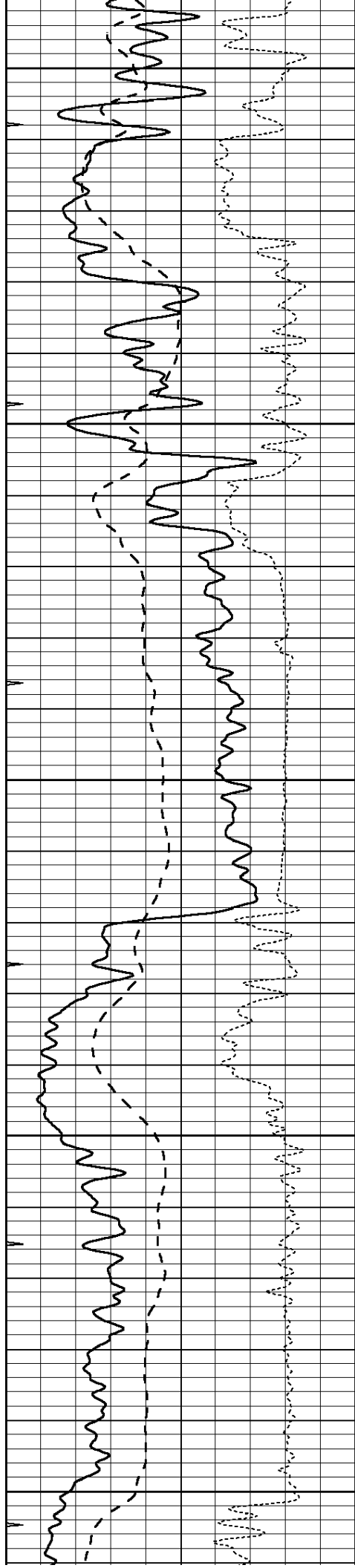
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2450

2500

2550





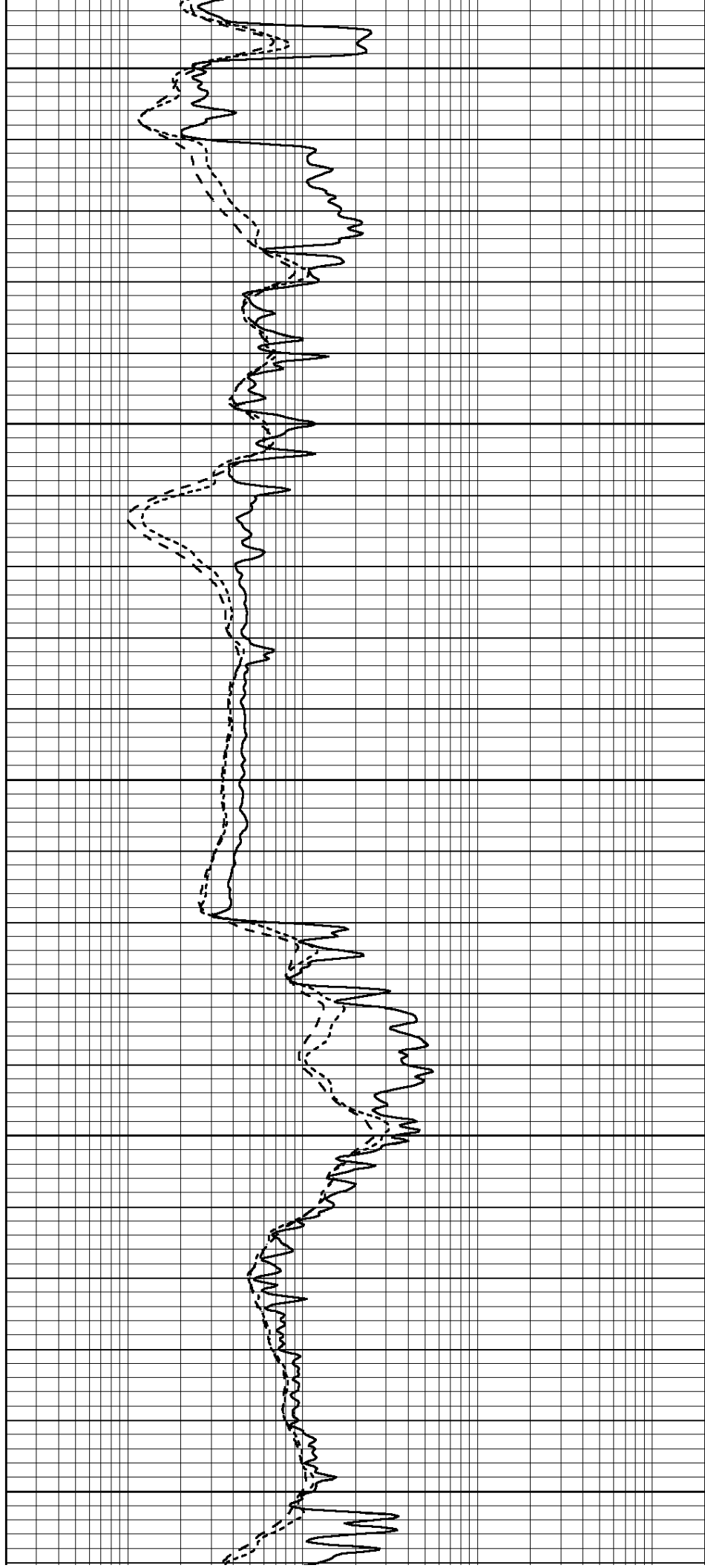
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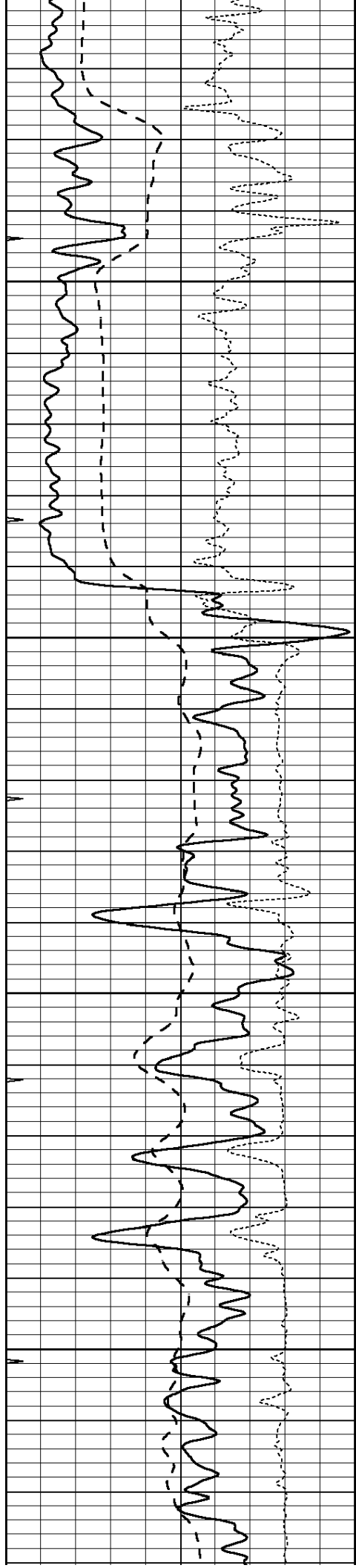
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2700

2750

2800



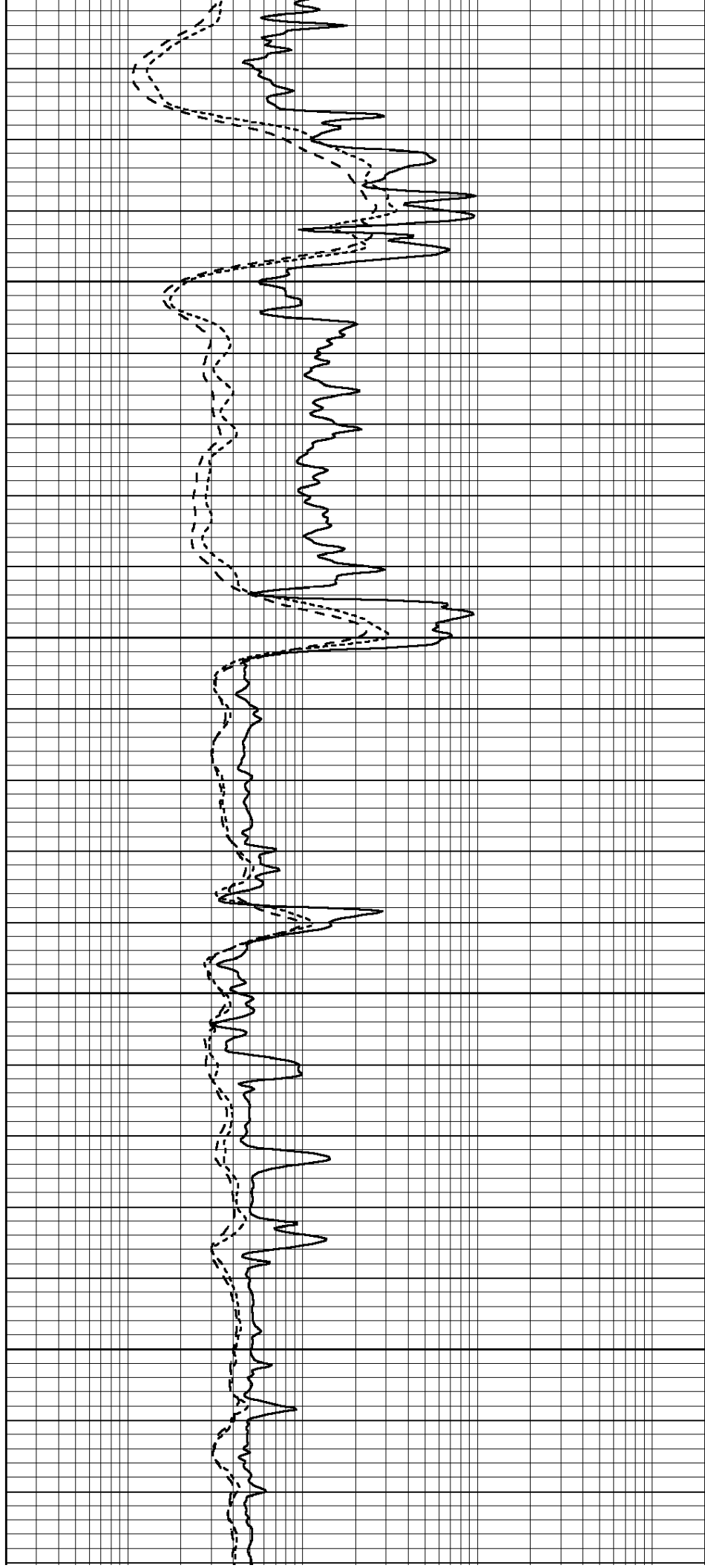


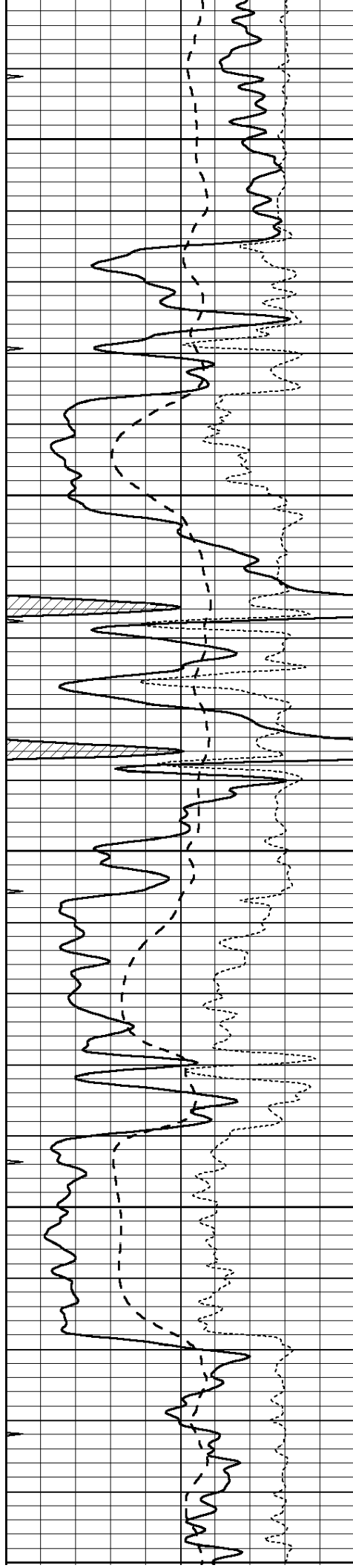
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2900

2950

3000





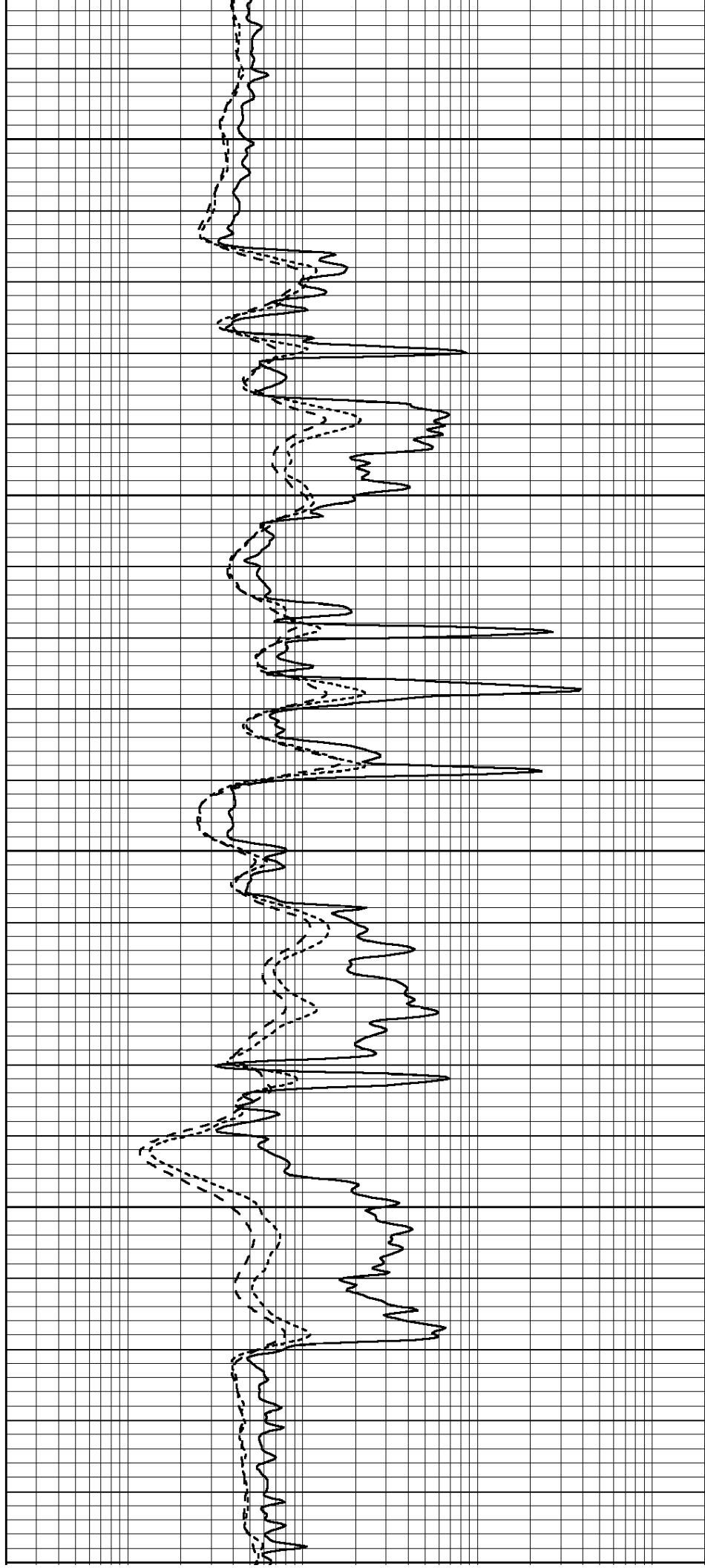
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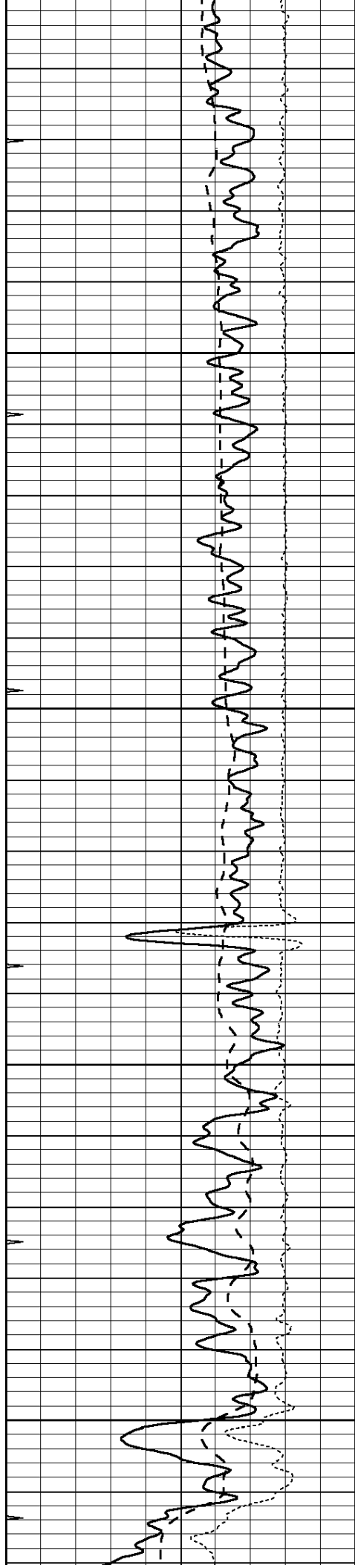
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3150

3200

3250





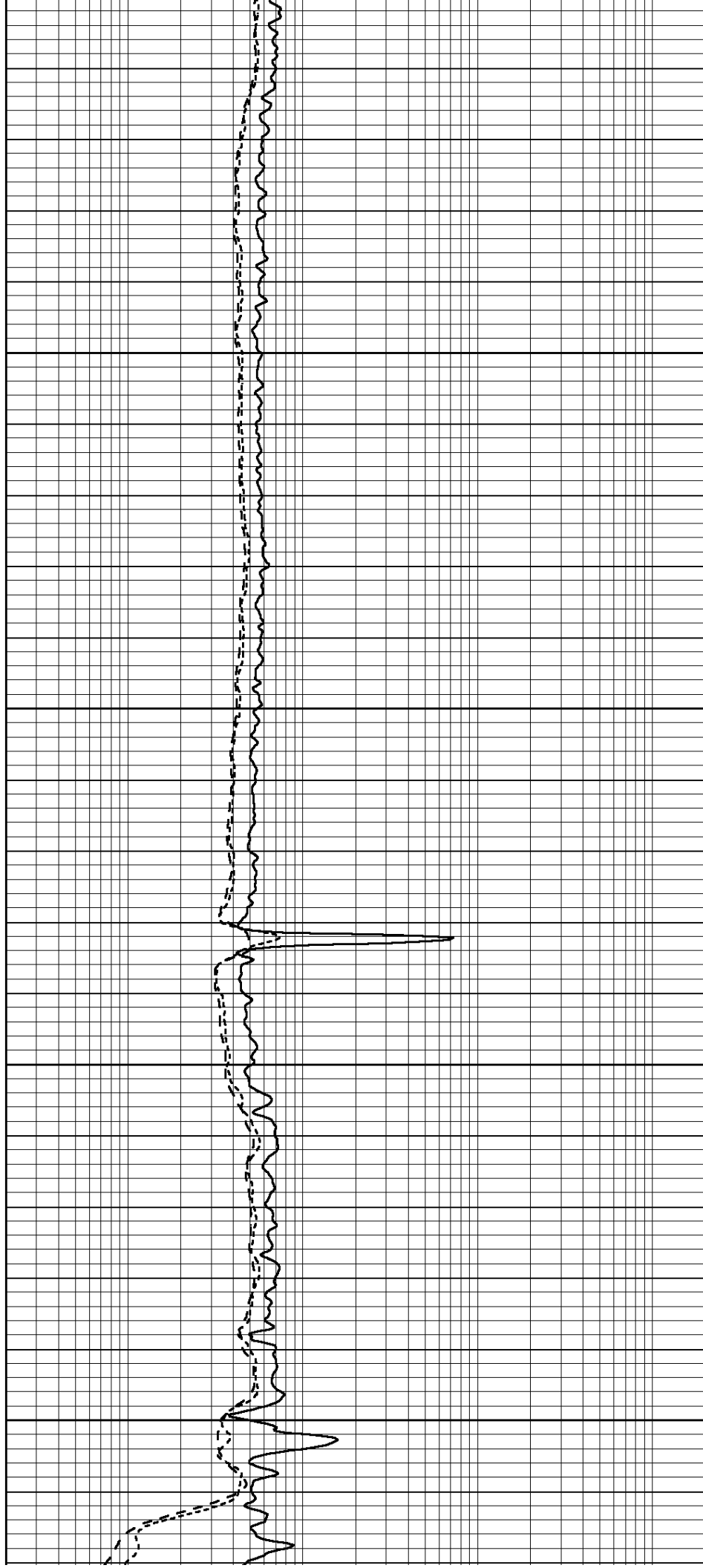
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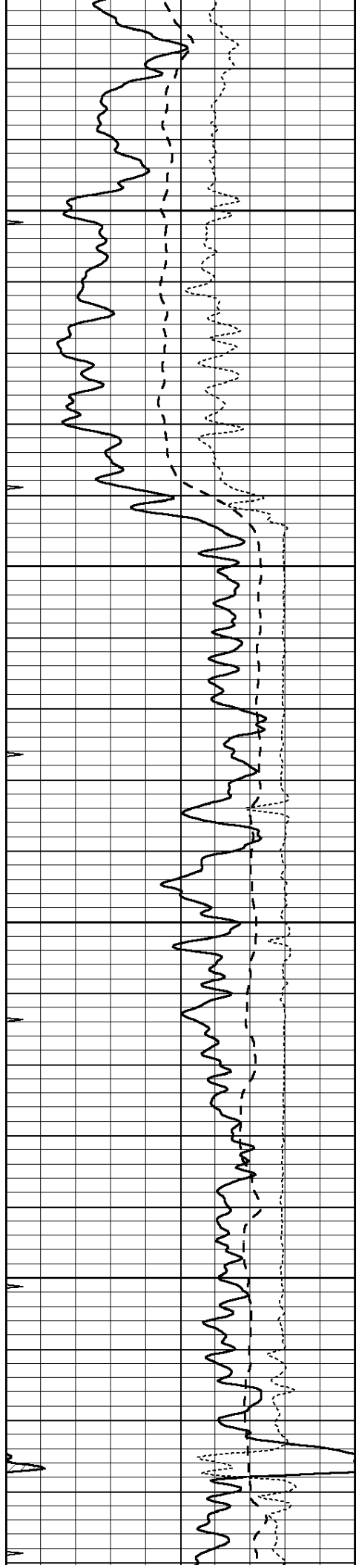
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3350

3400

3450



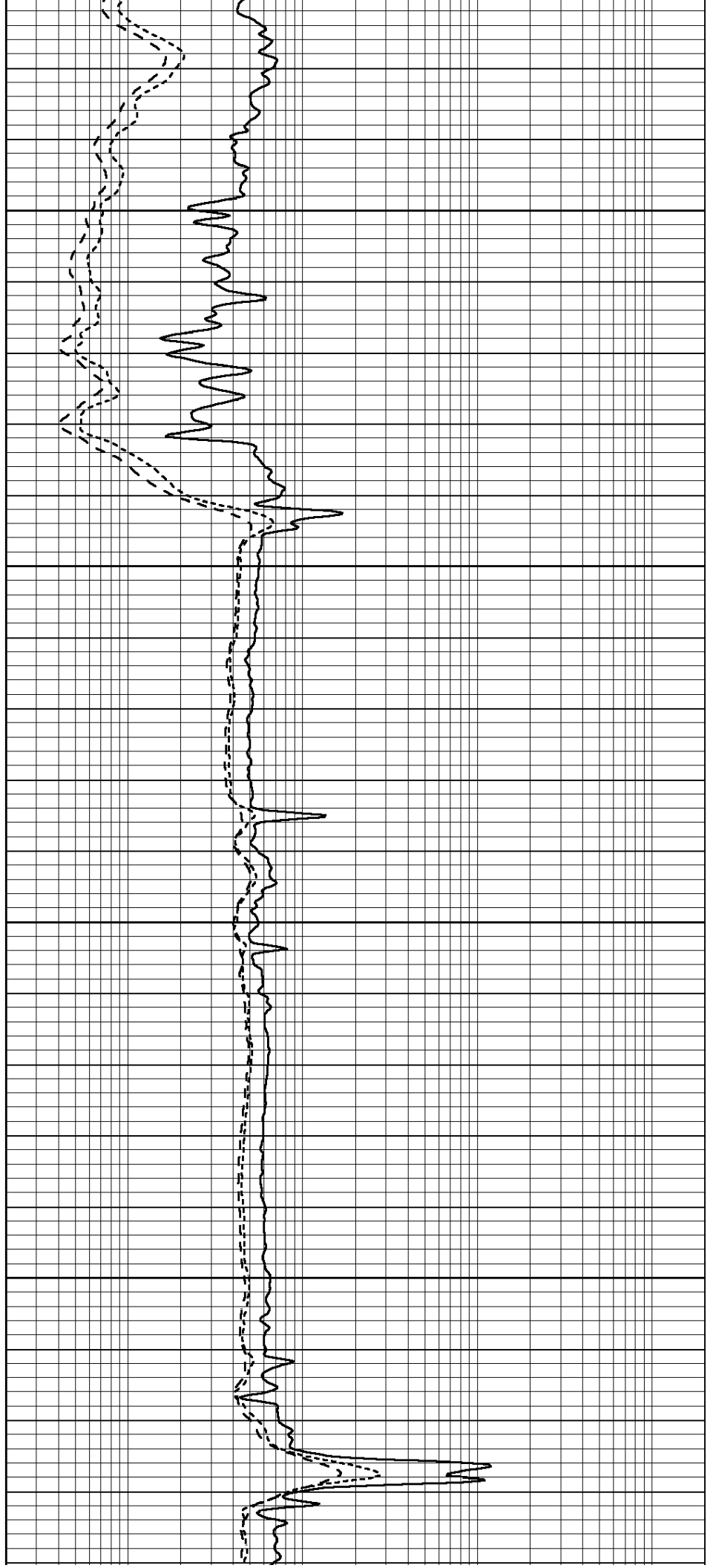


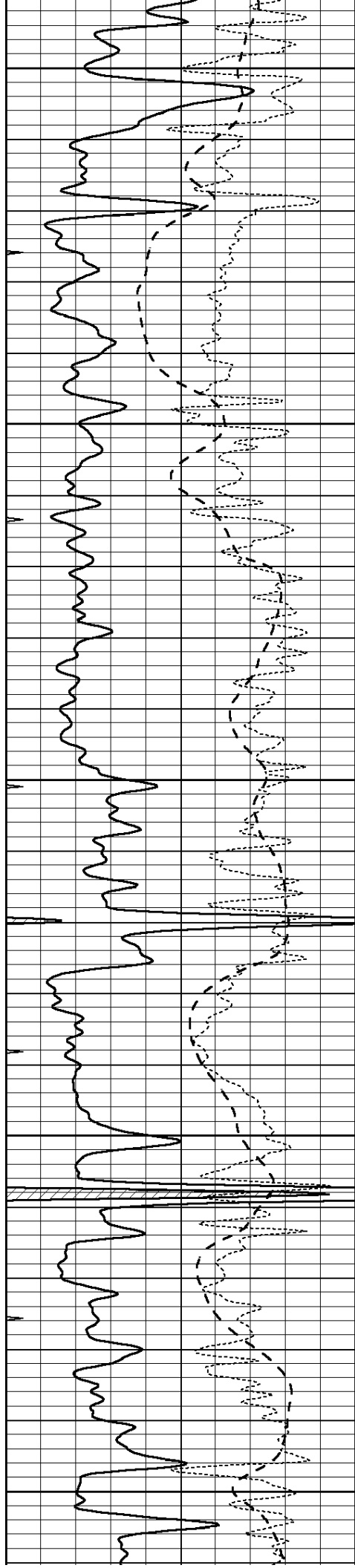
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3550

3600

3650





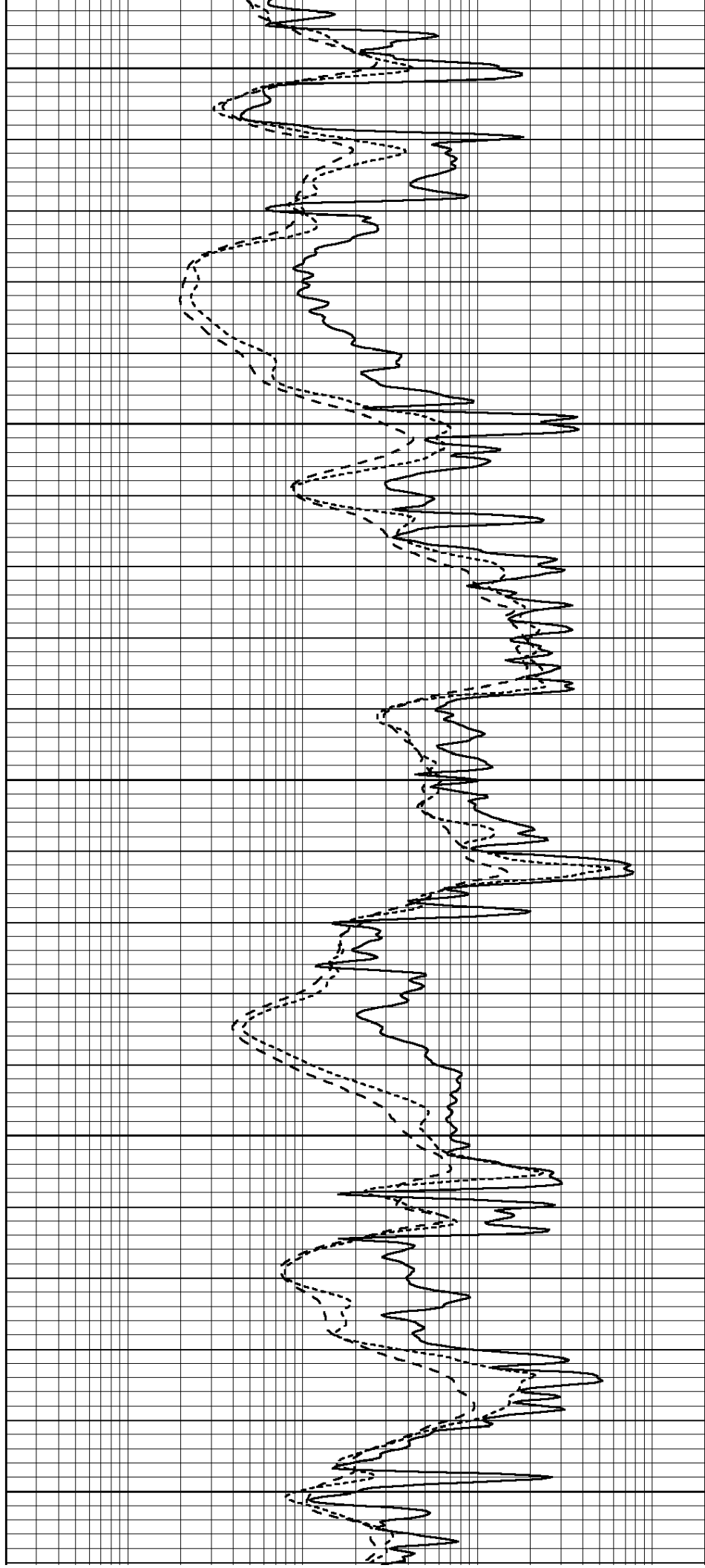
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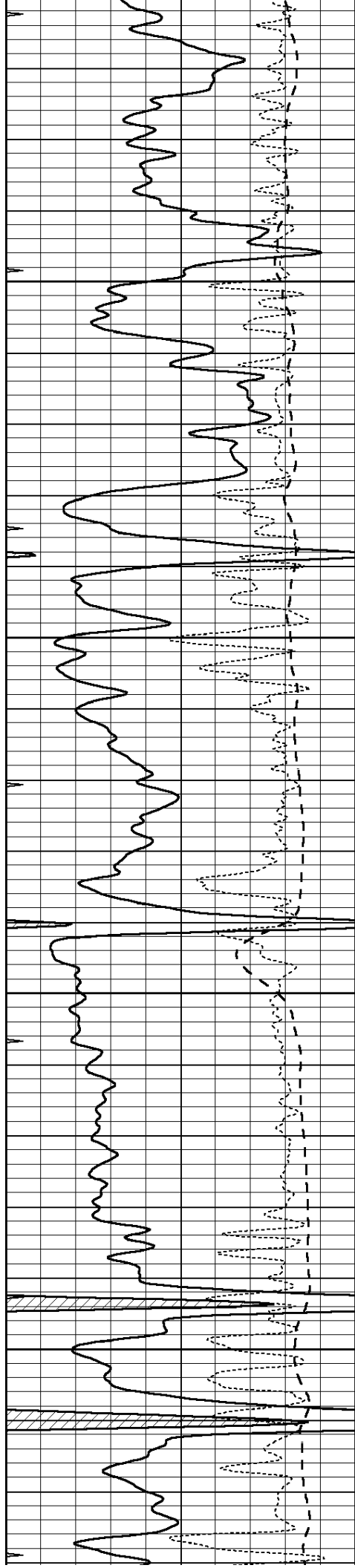
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3800

3850

3900



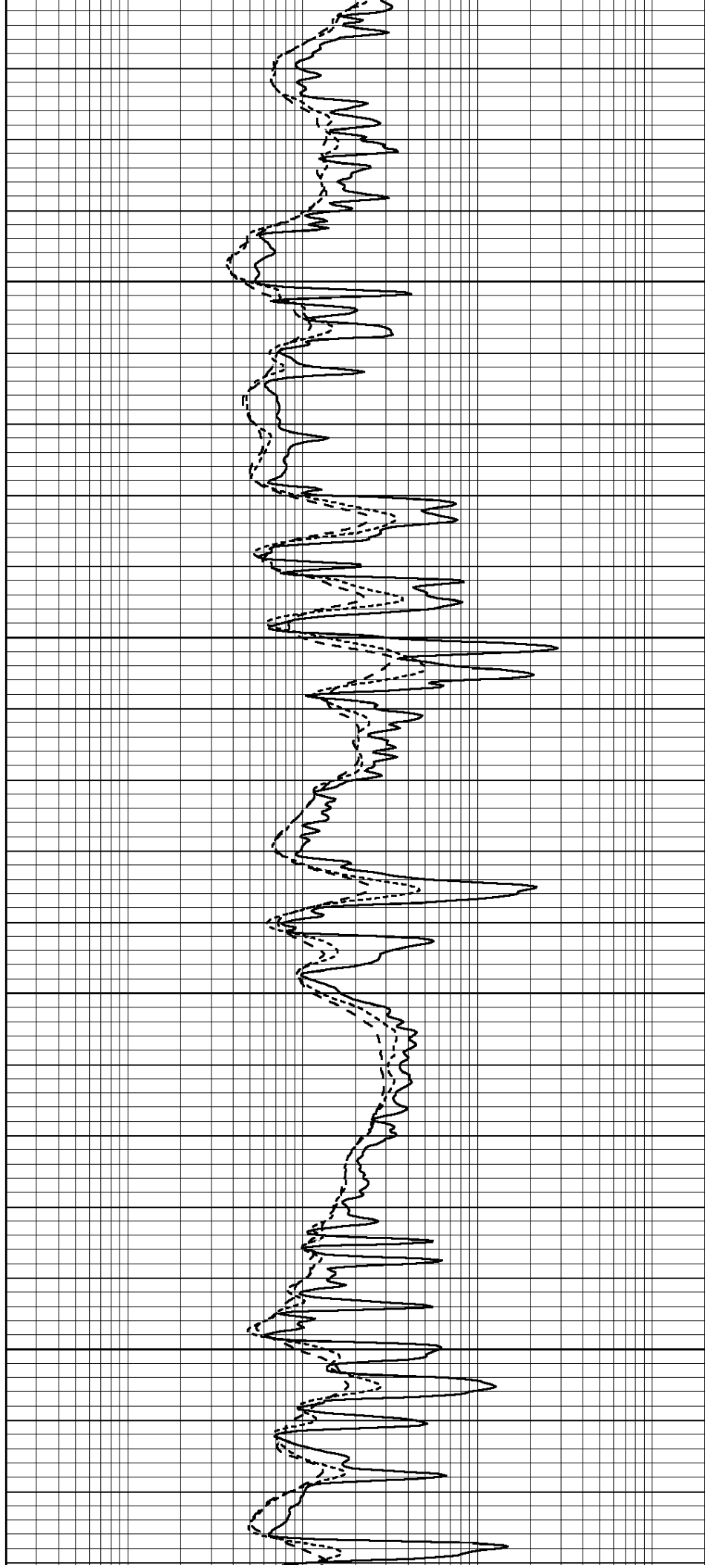


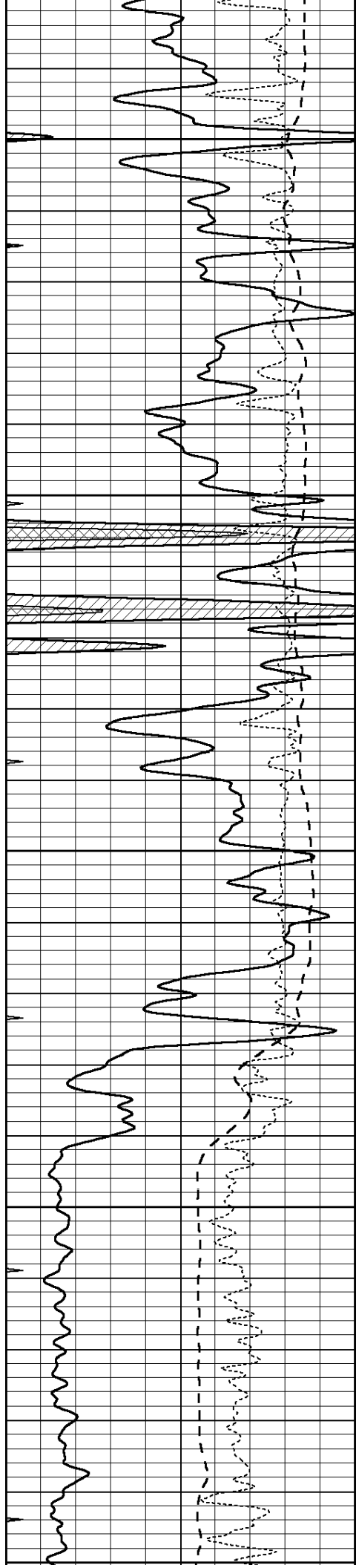
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4050

4100





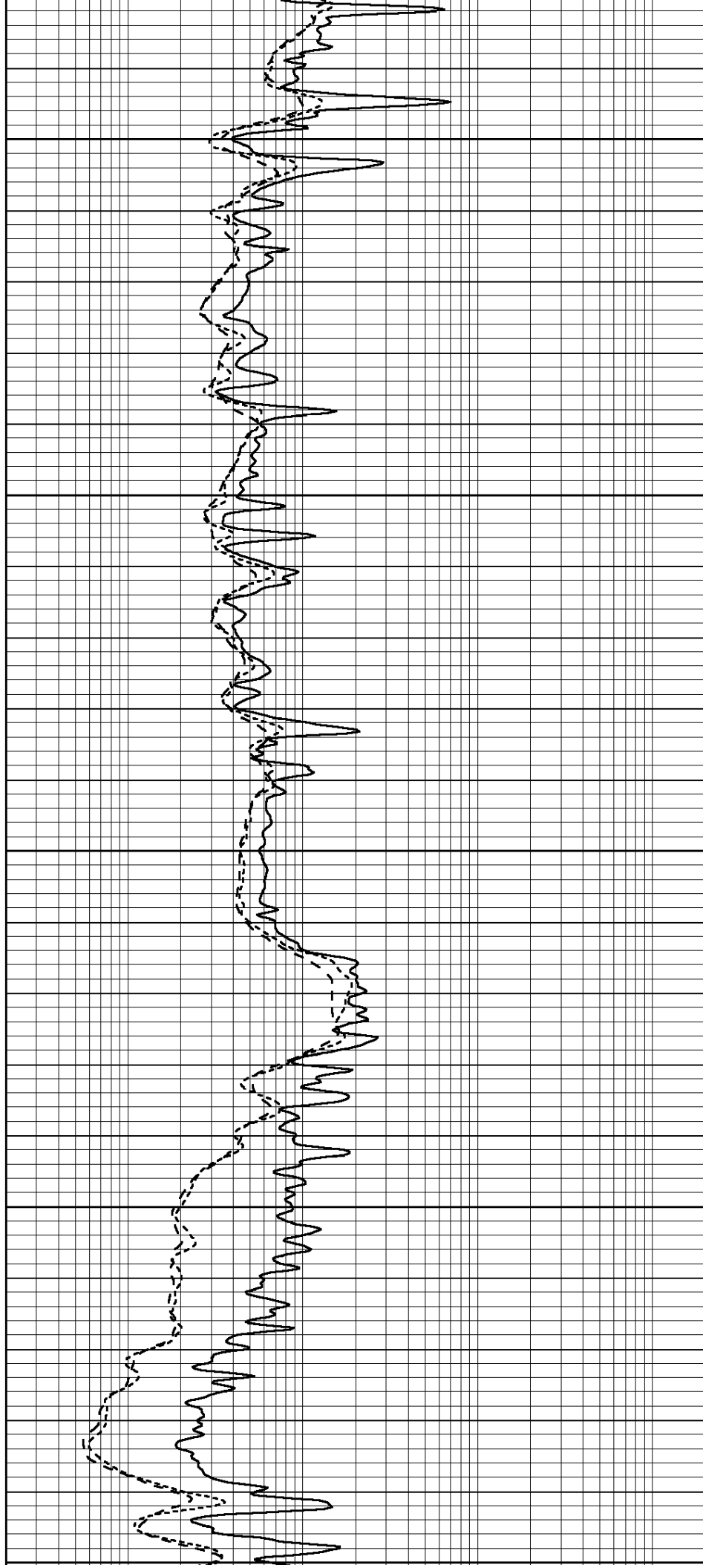
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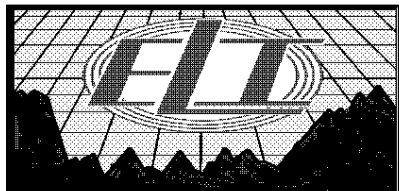
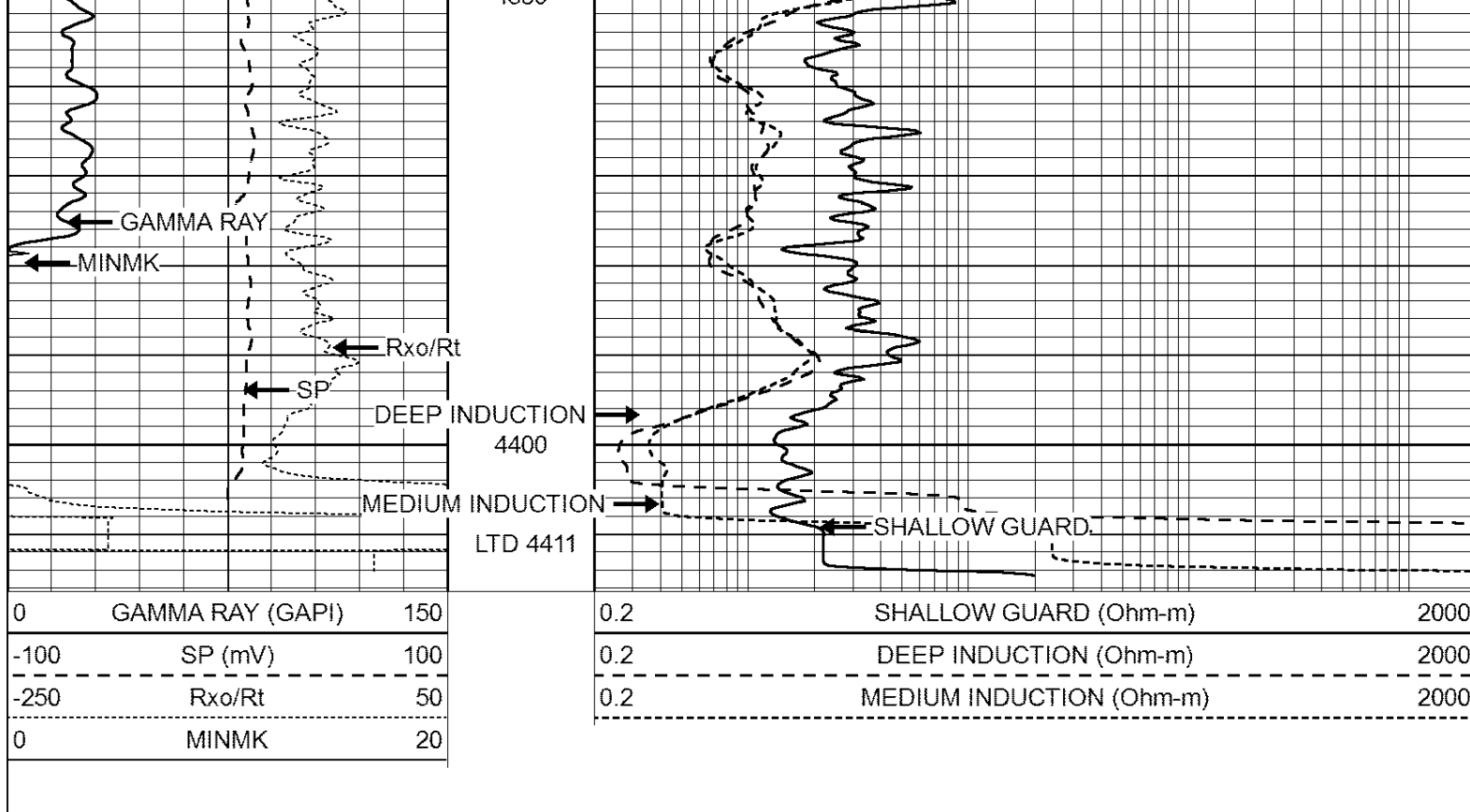
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4250

4300

4350

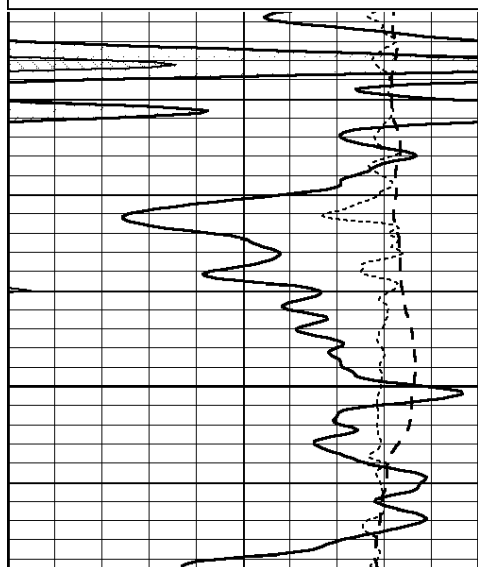




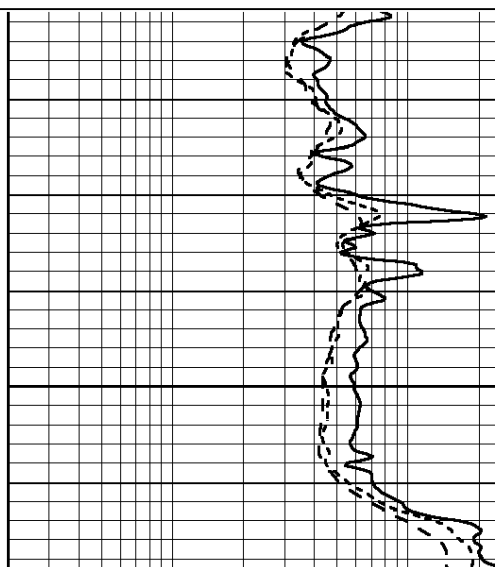
REPEAT SECTION

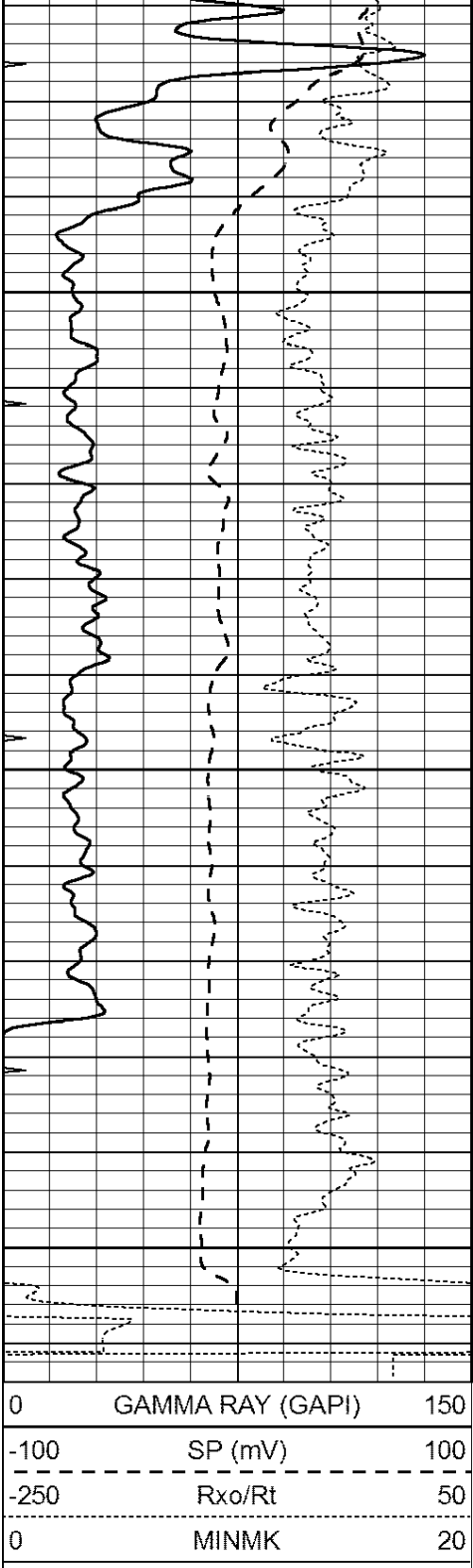
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 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Mon Aug 12 11:41:06 2019 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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			



4250

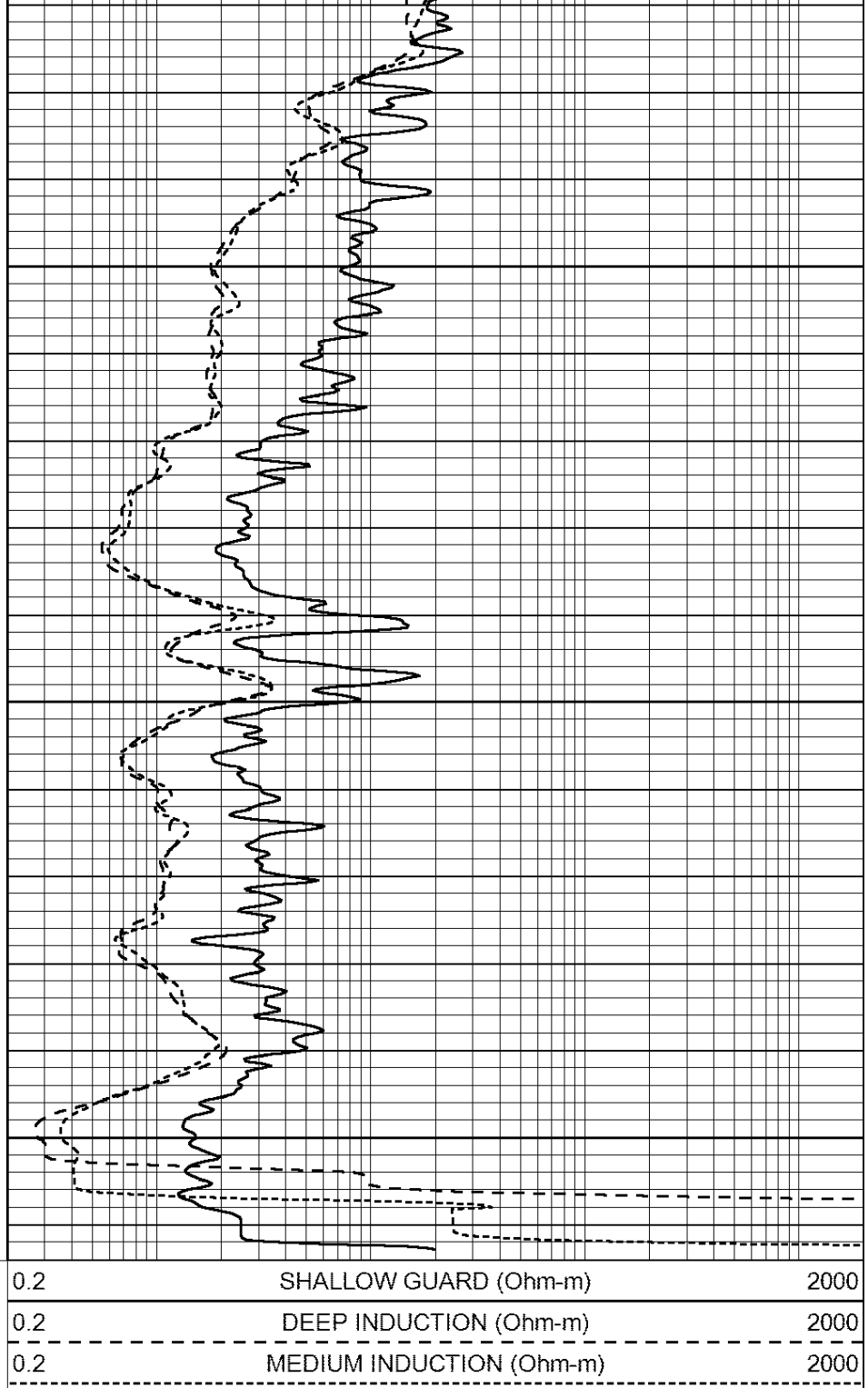




4300

4350

4400



Calibration Report

Database File: 4083pe.db
Dataset Pathname: pass2.1
Dataset Creation: Mon Aug 12 11:41:06 2019 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
Surface Cal Performed: Mon Sep 10 14:28:35 2018
Downhole Cal Performed: Mon Sep 10 14:28:38 2018
After Survey Verification Performed: Mon Sep 10 14:28:40 2018

Surface Calibration

Readings

References

Results

Readings			References			Results		
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration								
Readings			References			Results		
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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: 001N Model: PRB								

Master Calibration					Performed Fri Feb 22 10:21:38 2019			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	1650.2	7609.7	2906.5	8386.5				cps
Window 2	1538.2	6635.9	2614.4	7212.4				cps
Window 3	1257.0	3718.7	1765.8	3927.1				cps
Window 4	376.8	375.6	373.4	374.5				cps
Long Space	0.0	5097.7	1076.2	5674.2				cps
Short Space	2.8	1704.3	1106.3	1723.6				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.5	Rib Slope	: 0.982	Density/Spine Ratio				: 0.545
Spine Angle	: 74.5	Spine Slope	: 3.599	Spine Intercept				: -18.2

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			
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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: 6I
Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	1.00 cps	1.00 cps	1.0000
Long Space	1.00 cps	1.00 cps	1.0000

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number: GR6
Tool Model: OPEN
Performed: Wed Jul 03 12:57:34 2019

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 276.0 cps

Sensitivity: 0.5700 GAPI/cps