



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company LOTUS OPERATING COMPANY, LLC.	
Well #5 KOPPITZ	
Field STRANATHAN	
County BARBER	
State KANSAS	
Location: API #: 15-007-23782-0000	
670' FNL & 2290' FEL	
SEC 2 TWP 35S RGE 12W	
Permanent Datum GROUND LEVEL	Elevation 1391
Log Measured From KELLY BUSHING 12' A.G.L.	
Drilling Measured From KELLY BUSHING	
Other Services CDL/CNL/PE MEL/SONIC	
Elevation K.B. 1403 D.F. 1401 G.L. 1391	
Date 10/24/11	
Run Number ONE	
Depth Driller 5500	
Depth Logger 5498	
Bottom Logged Interval 5496	
Top Log Interval 00	
Casing Driller 10 3/4"@263'	
Casing Logger 263	
Bit Size 7 7/8"	
Type Fluid in Hole CHEMICAL MUD	CHLORIDES 4,500 PPM
Density / Viscosity 9.2/54	
pH / Fluid Loss 9.6/10.5	
Source of Sample FLOWLINE	
Rm @ Meas. Temp 2.00@90F	
Rmt @ Meas. Temp 1.50@90F	
Rmc @ Meas. Temp 2.40@90F	
Source of Rmt / Rmc MEASUREMENT	
Rm @ BHT 1.38@130F	
Time Circulation Stopped 3.5 HOURS	
Time Logger on Bottom 4:30 P.M.	
Maximum Recorded Temperature 130F	
Equipment Number 4010	
Location HAYS, KANSAS	
Recorded By JEFF LUEBBERS	
Witnessed By TIM HELLMAN	

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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

MEDICINE LODGE, KS. (JUNCTION OF HWY 160 & 281) 16 1/2S. ON HWY 281 TO "DRIFTWOOD RD.",
1W., JOG N. TO "DRIFTWOOD RD.", 1/2 W., S. INTO



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MAIN SECTION

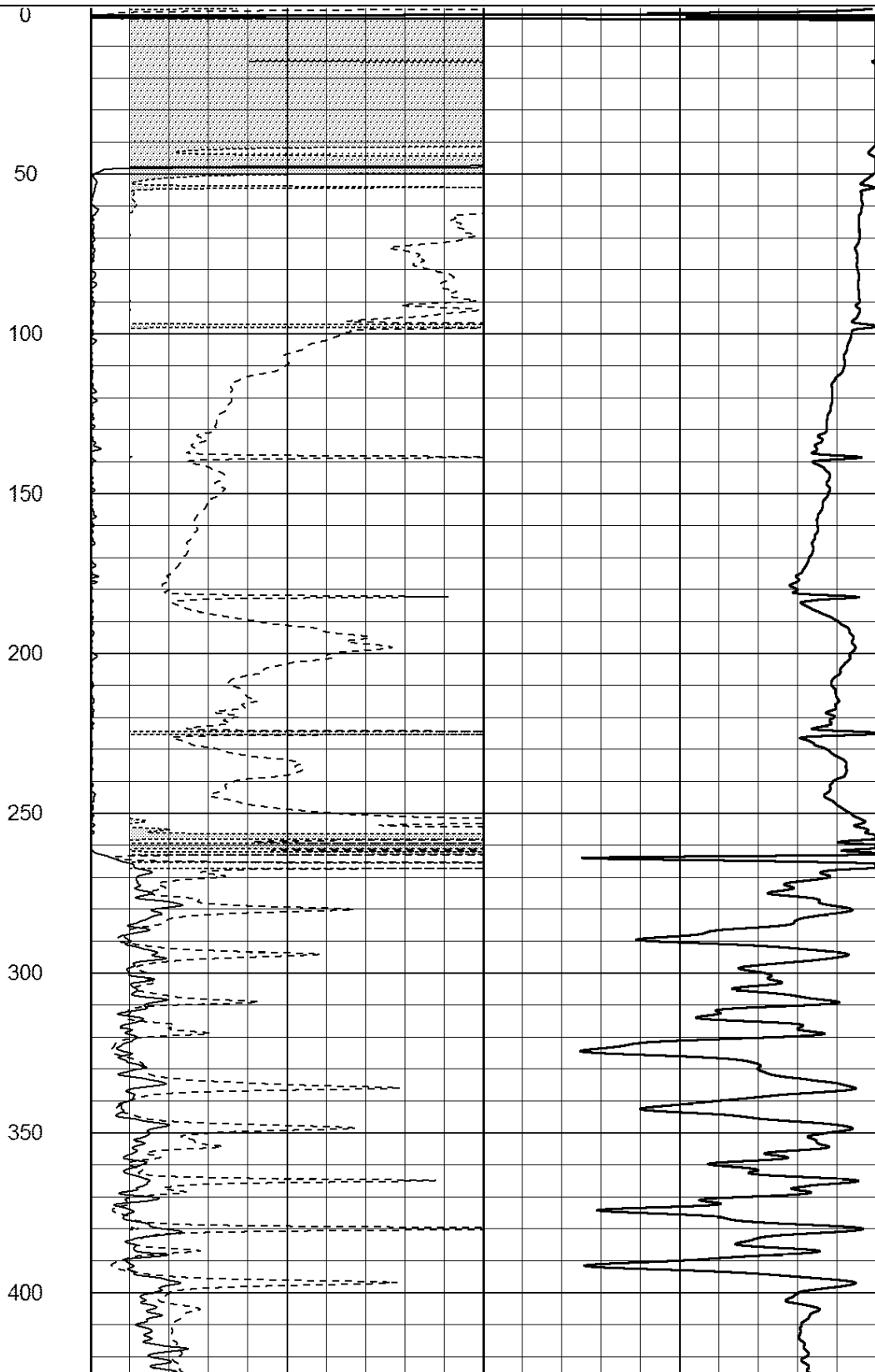
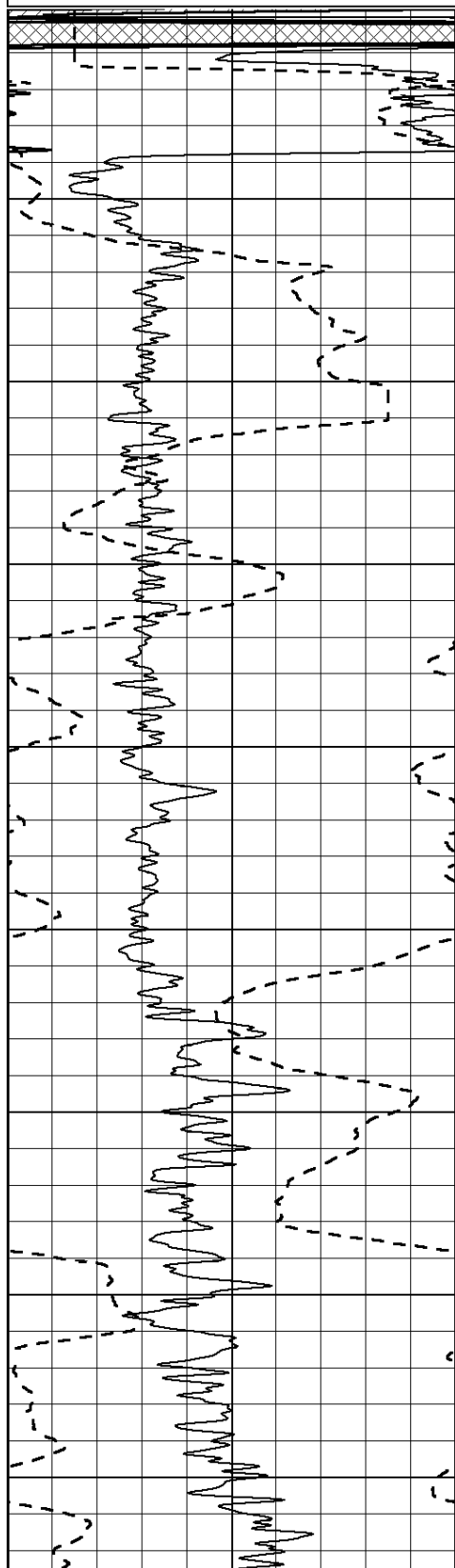
Database File: 007471pe.db
Dataset Pathname: pass3.16
Presentation Format: dil2
Dataset Creation: Mon Oct 24 18:39:21 2011
Charted by: Depth in Feet scaled 1:600

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

0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50

1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500



450

500

550

600

650

700

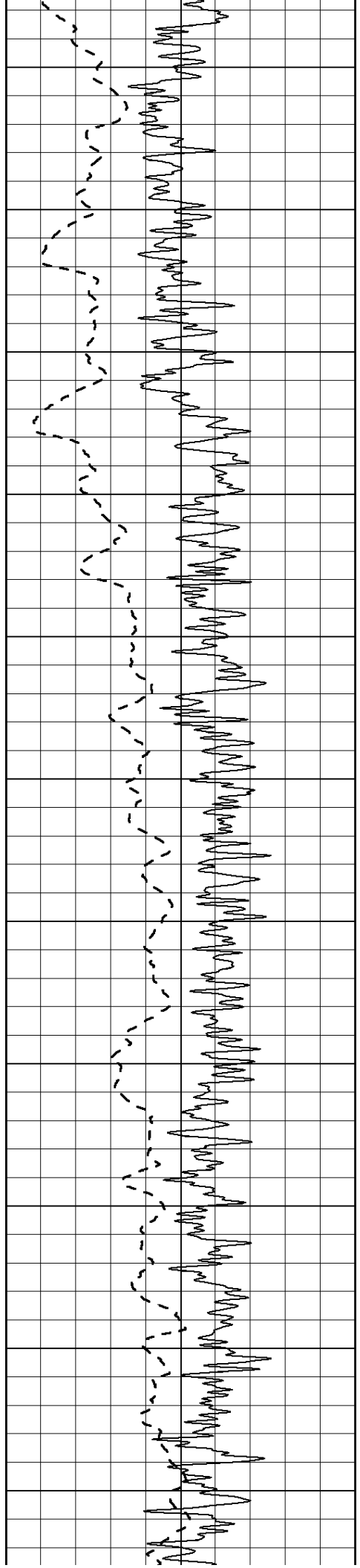
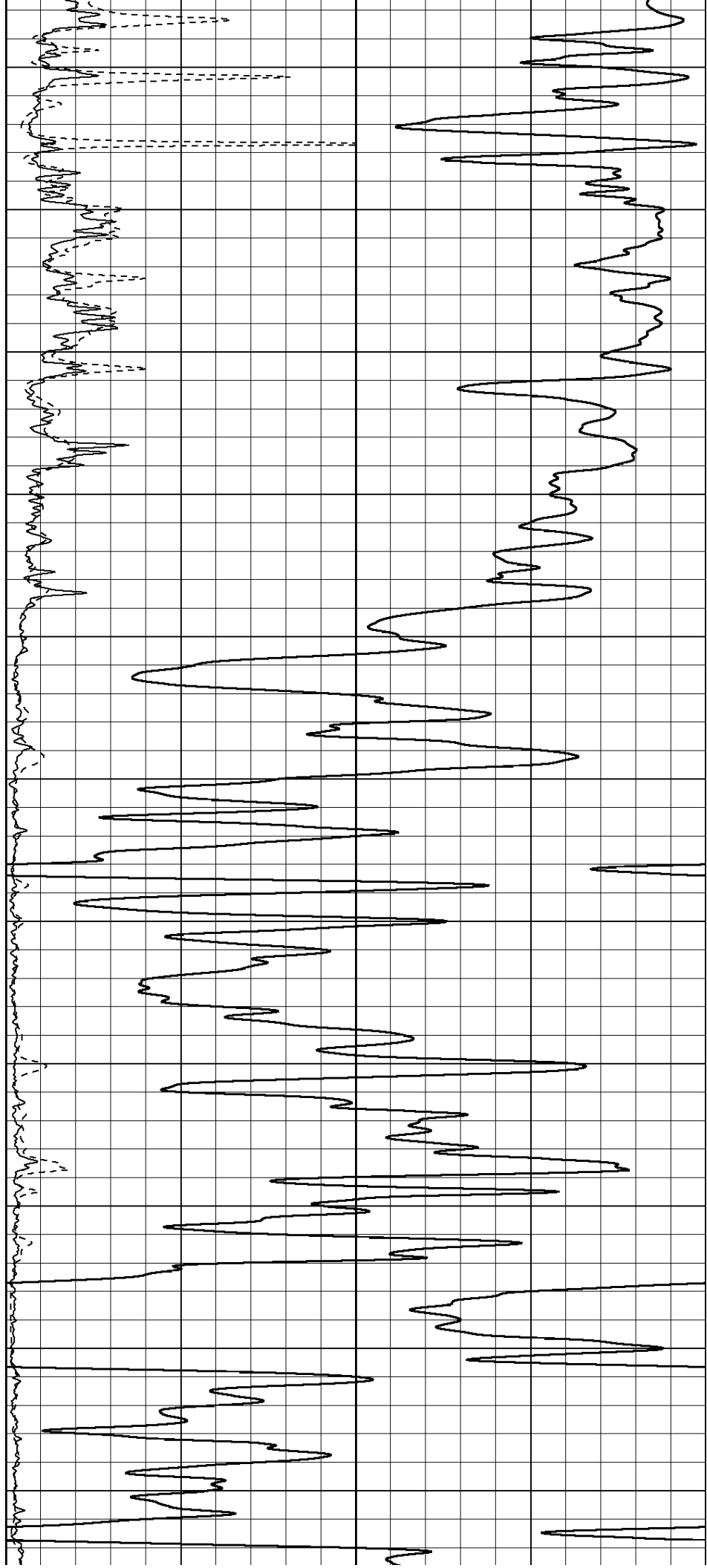
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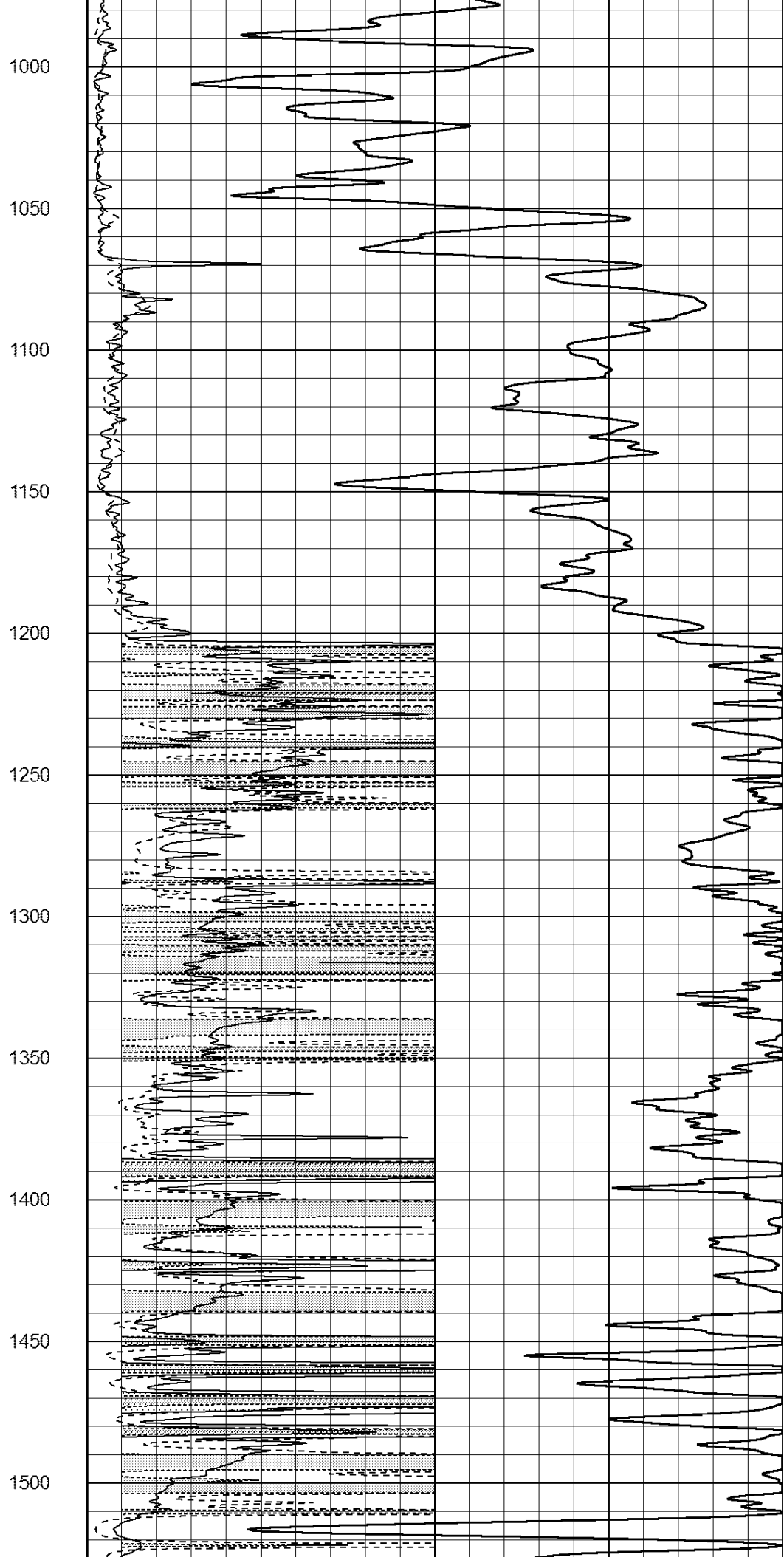
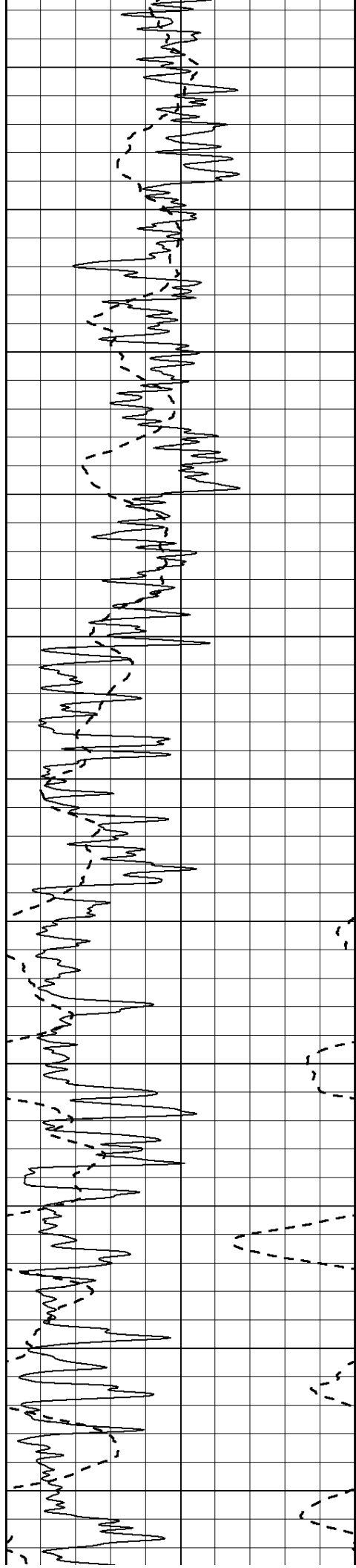
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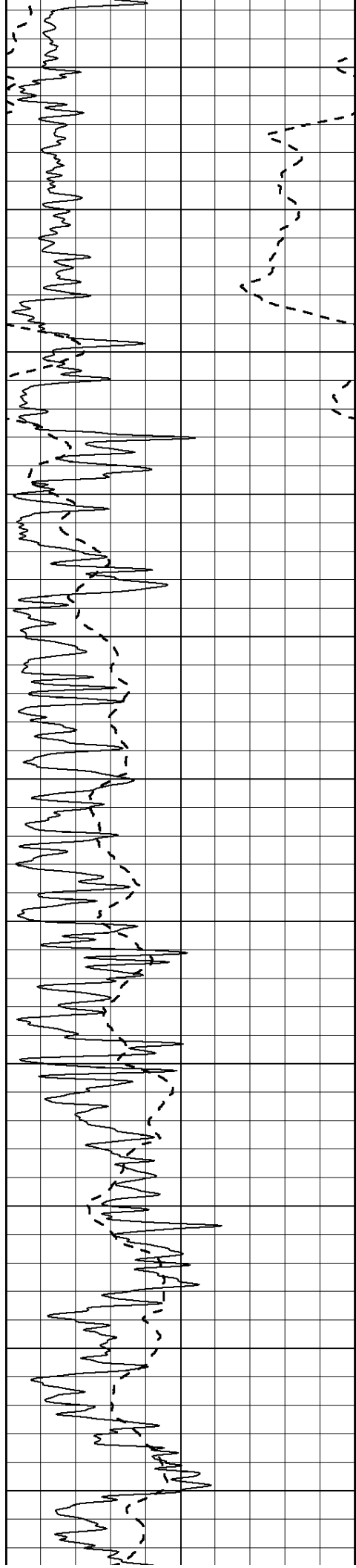
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900

950







1550

1600

1650

1700

1750

1800

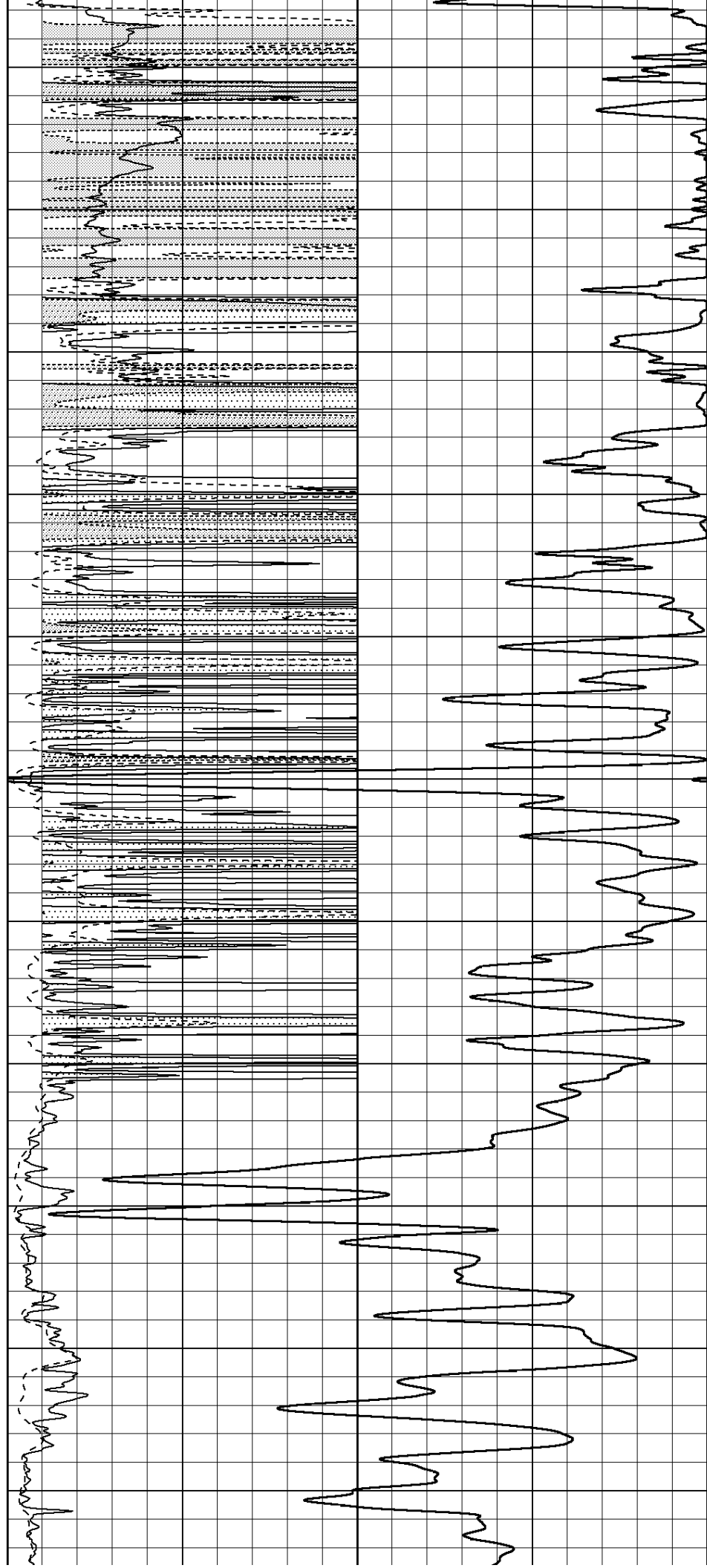
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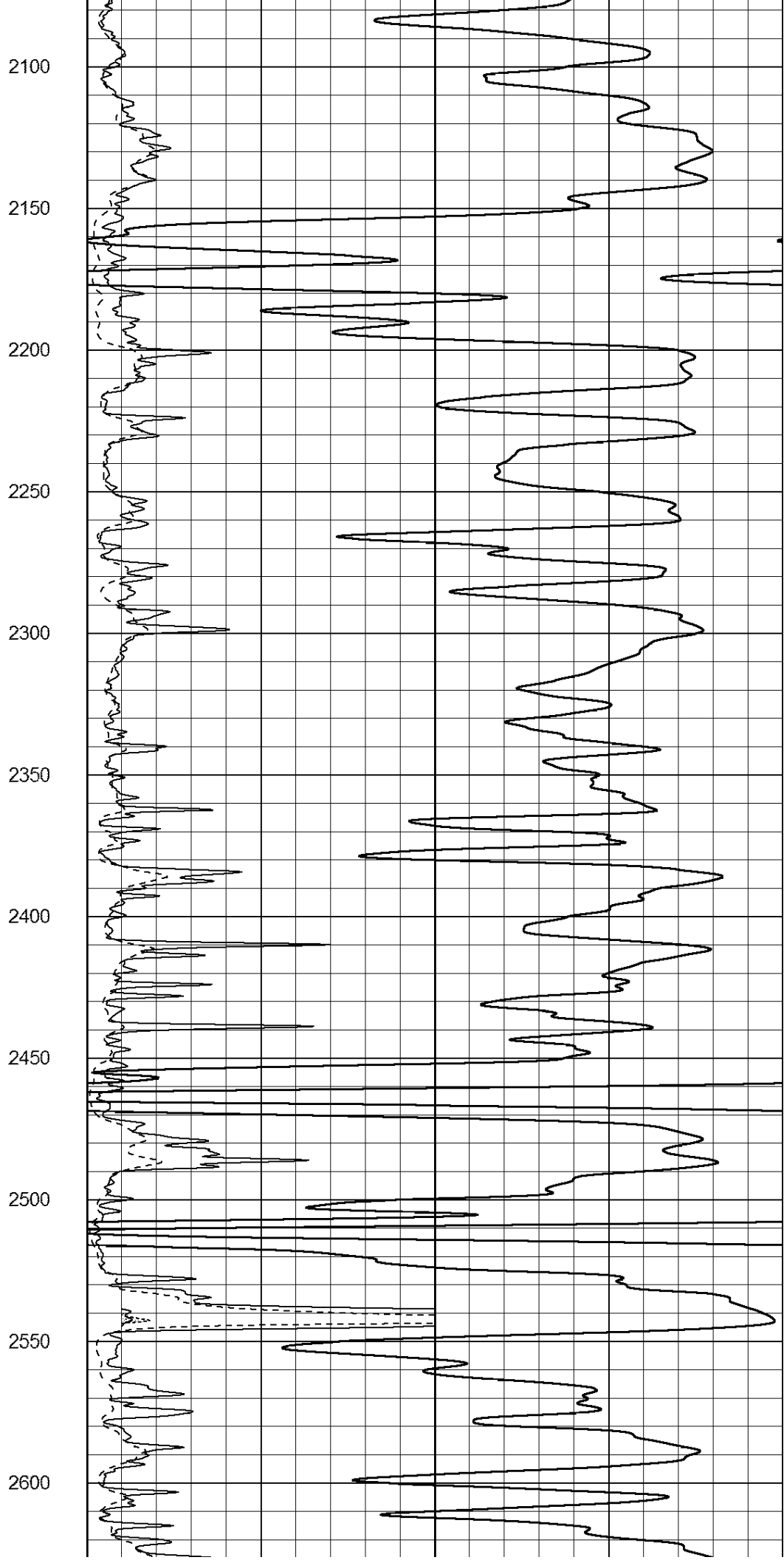
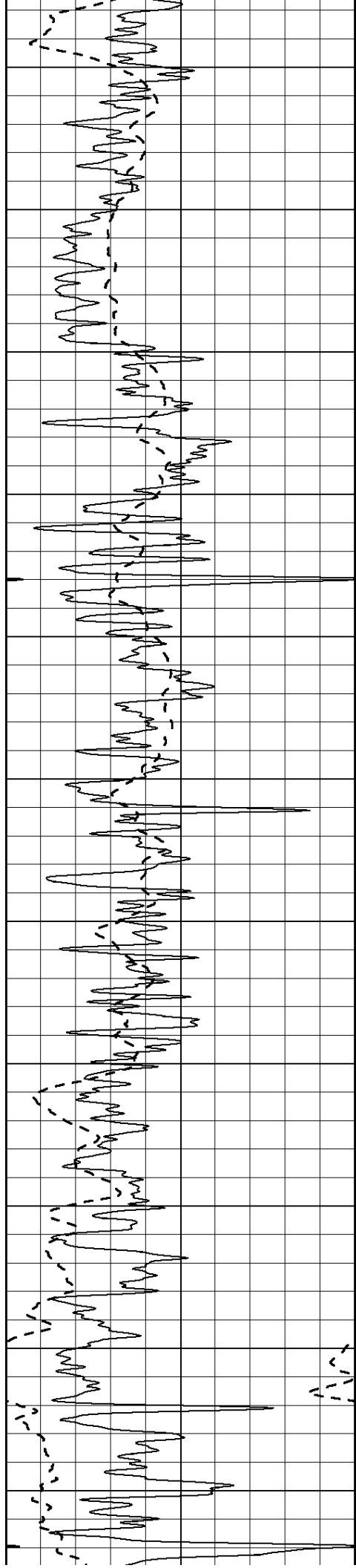
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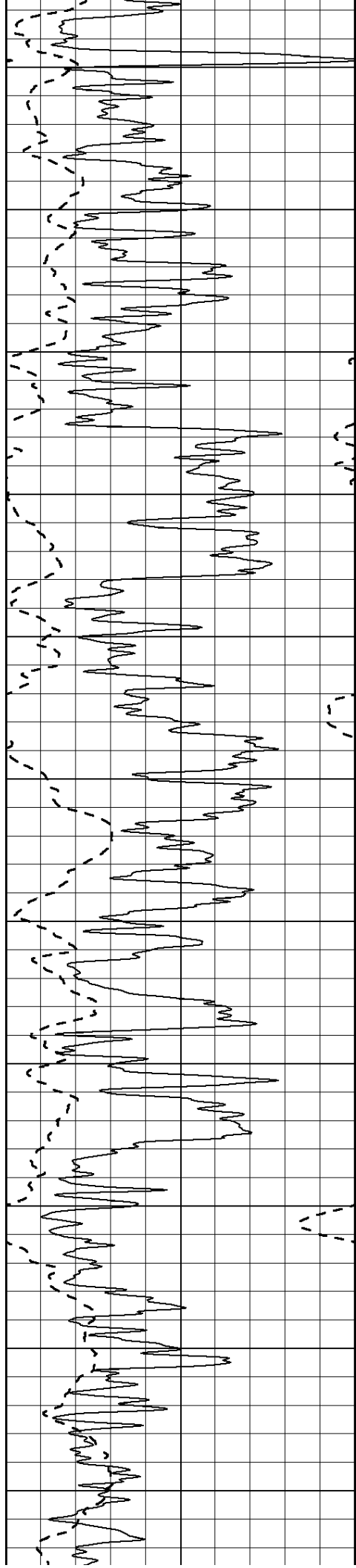
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2000

2050







2650

2700

2750

2800

2850

2900

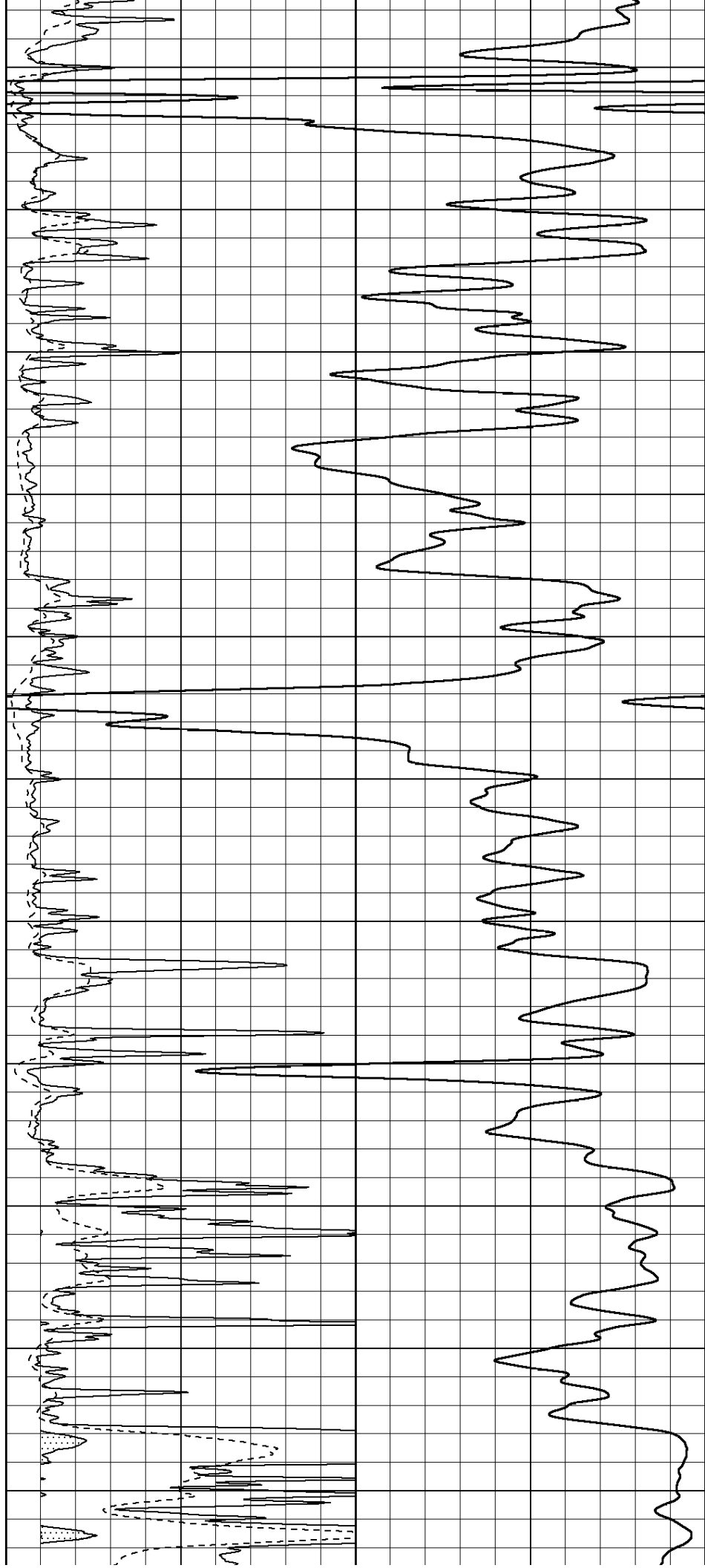
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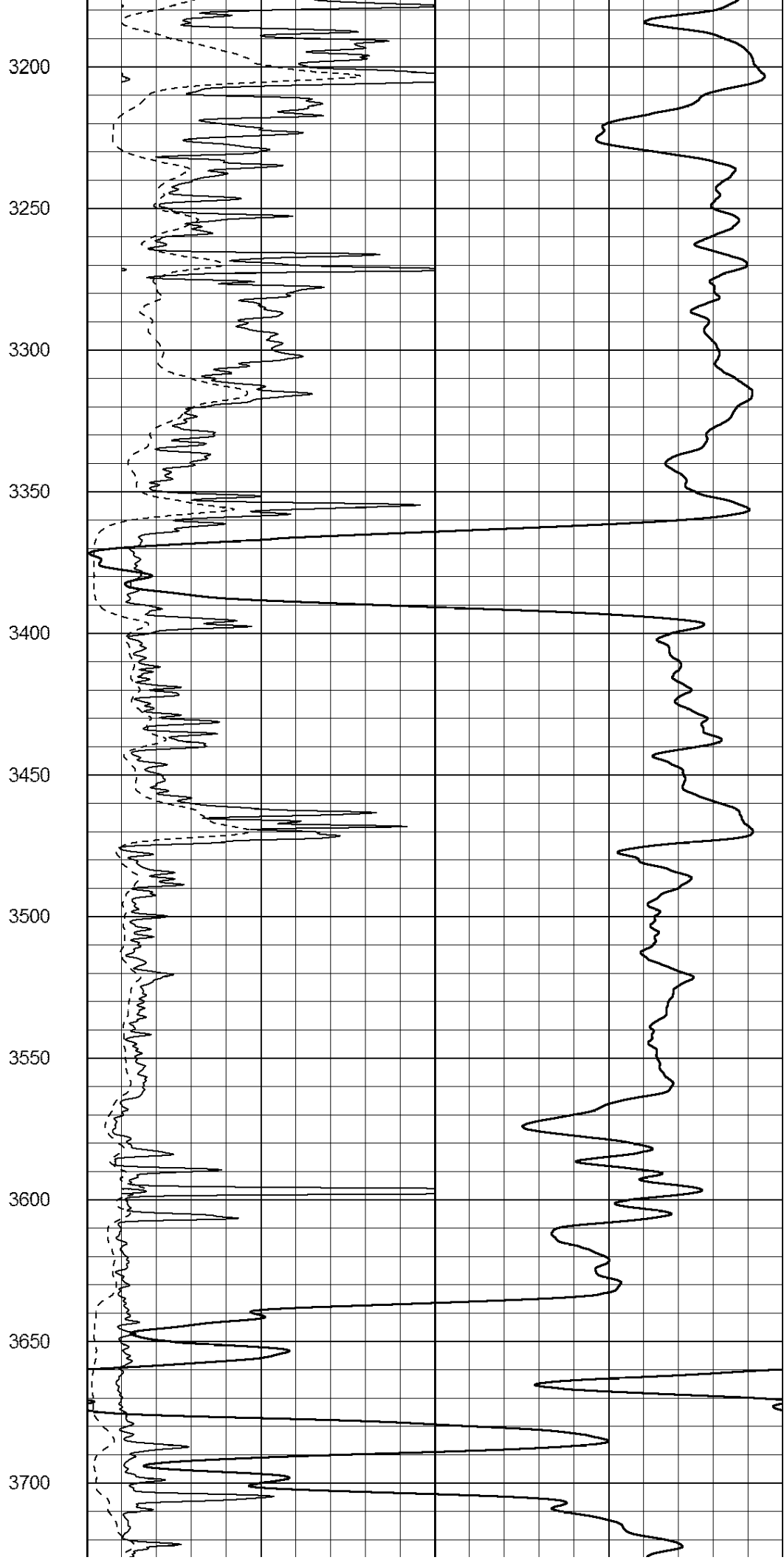
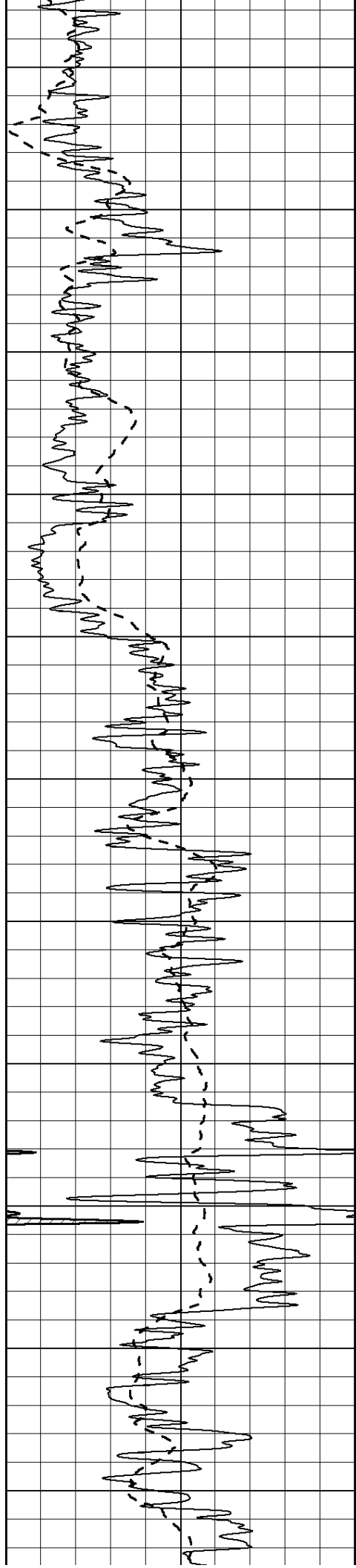
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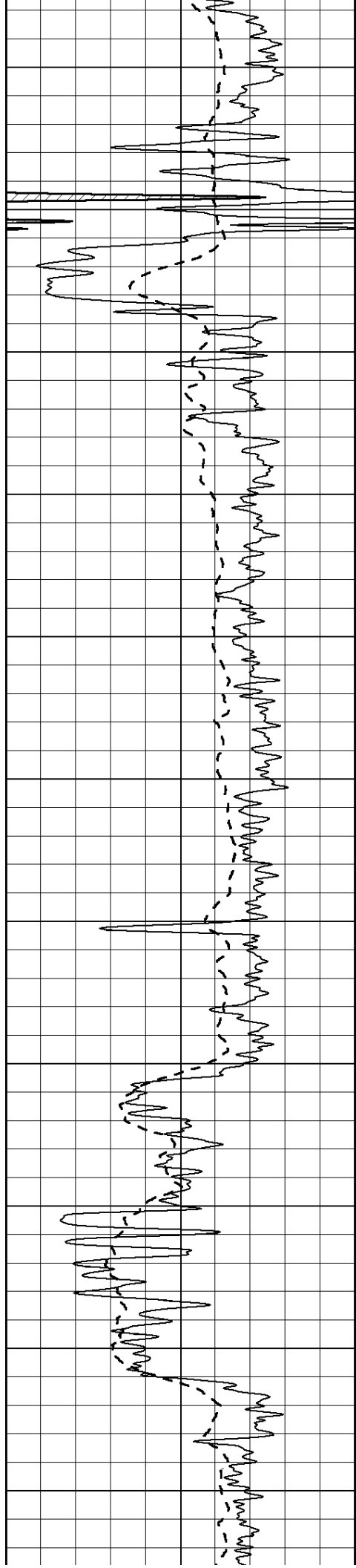
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3100

3150







3750

3800

3850

3900

3950

4000

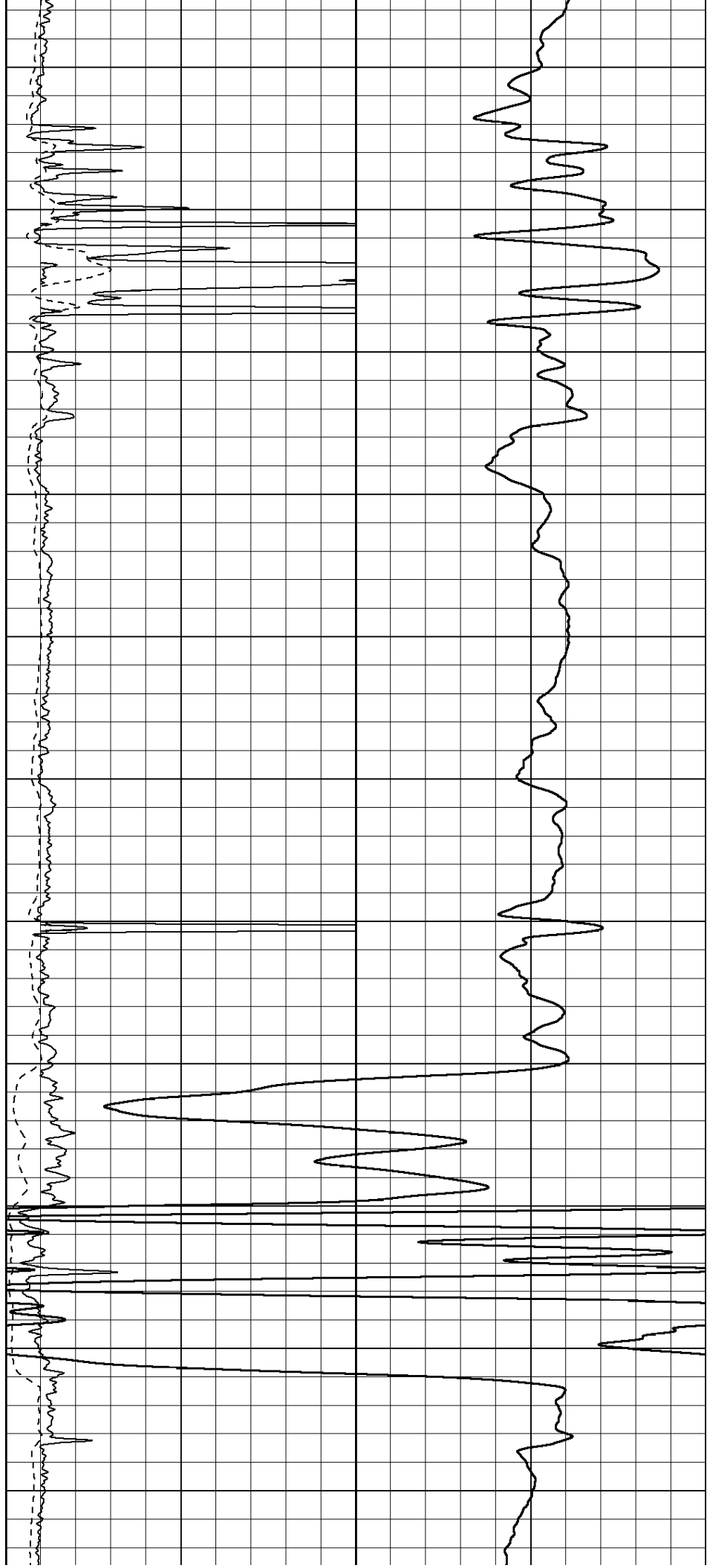
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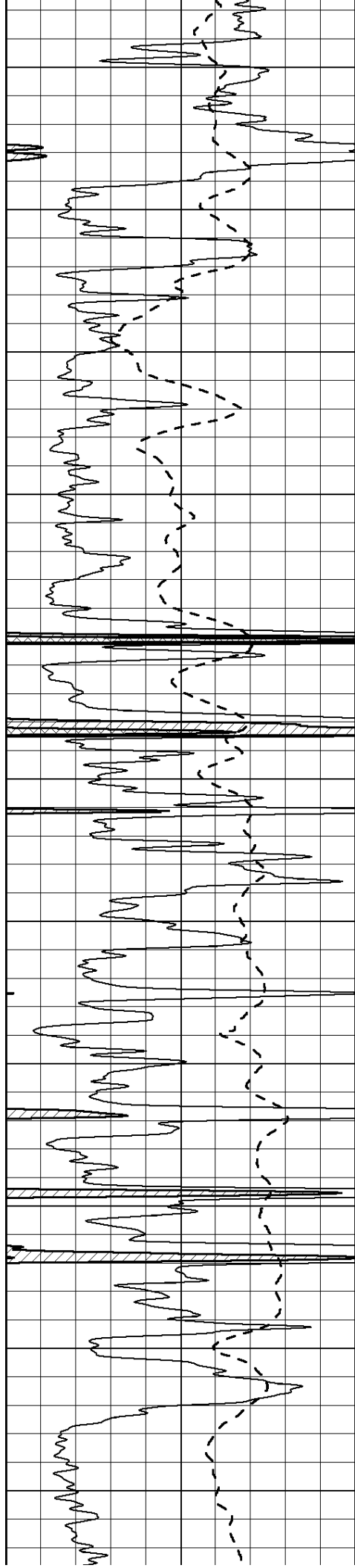
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4150

4200

4250





4300

4350

4400

4450

4500

4550

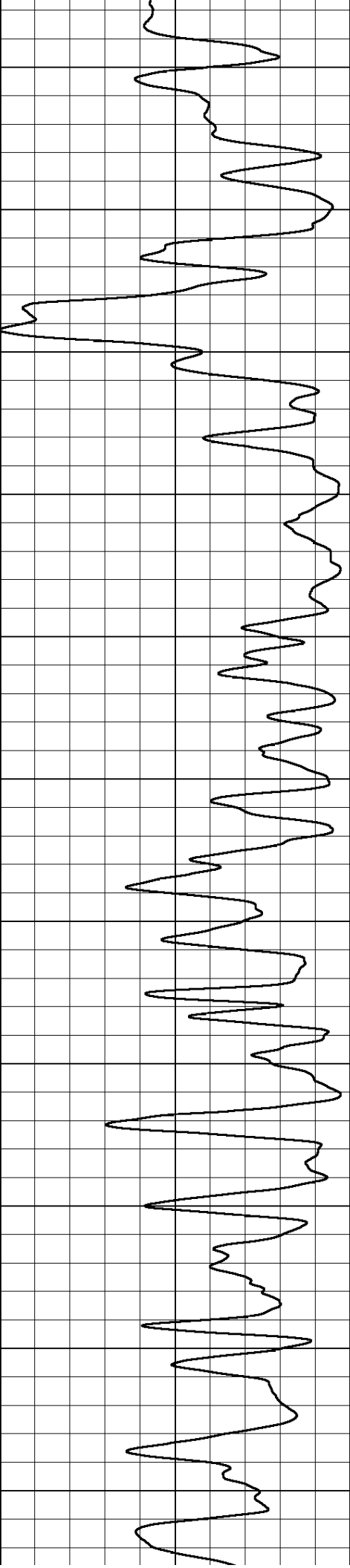
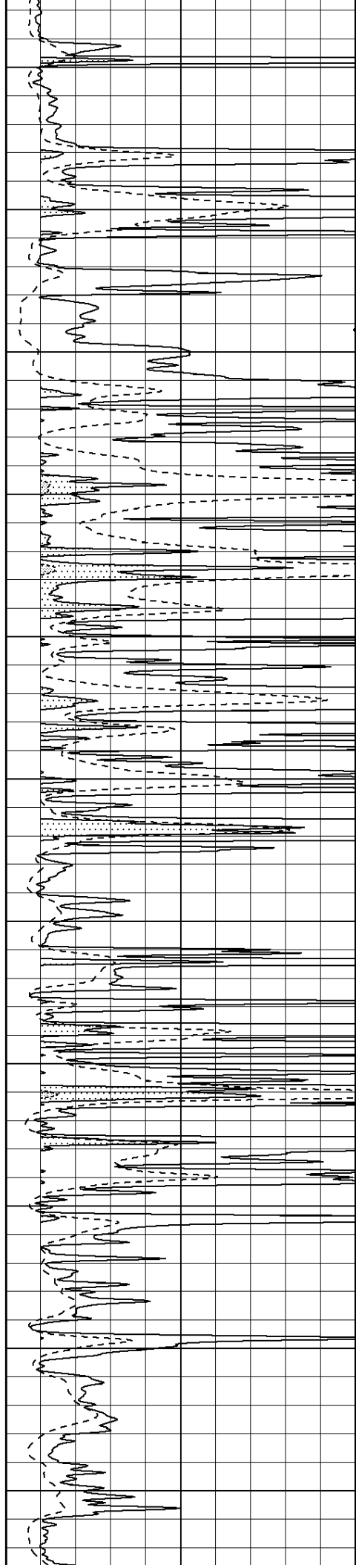
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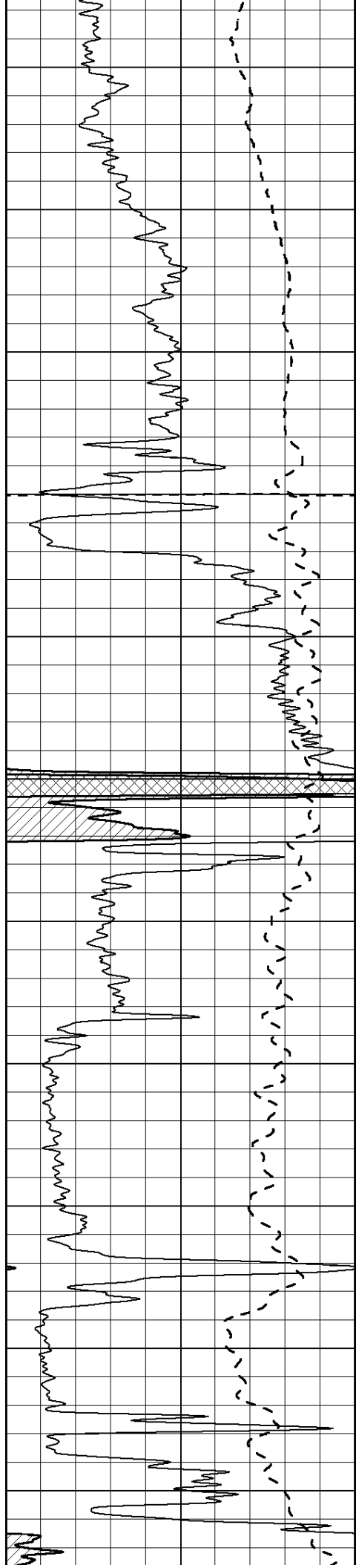
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4700

4750

4800





4850

4900

4950

5000

5050

5100

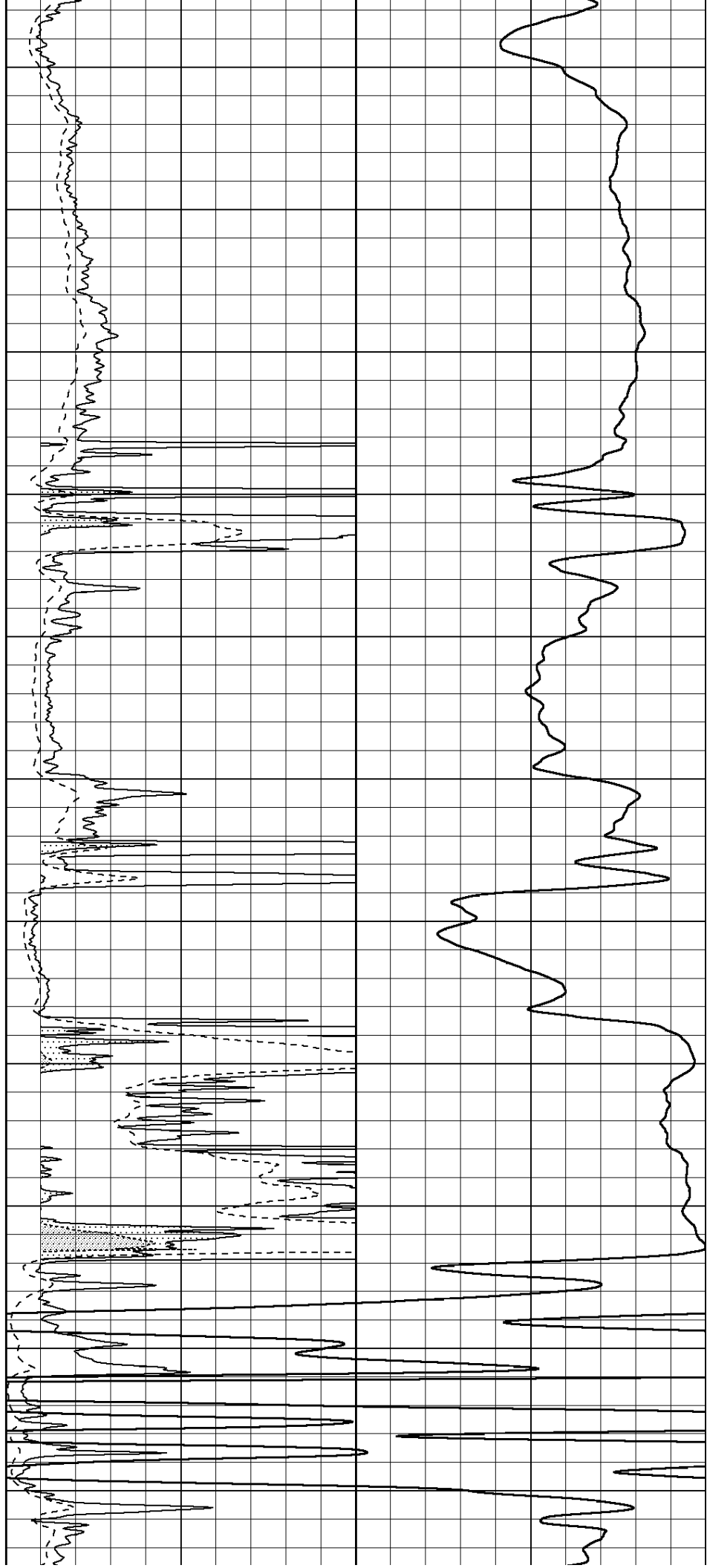
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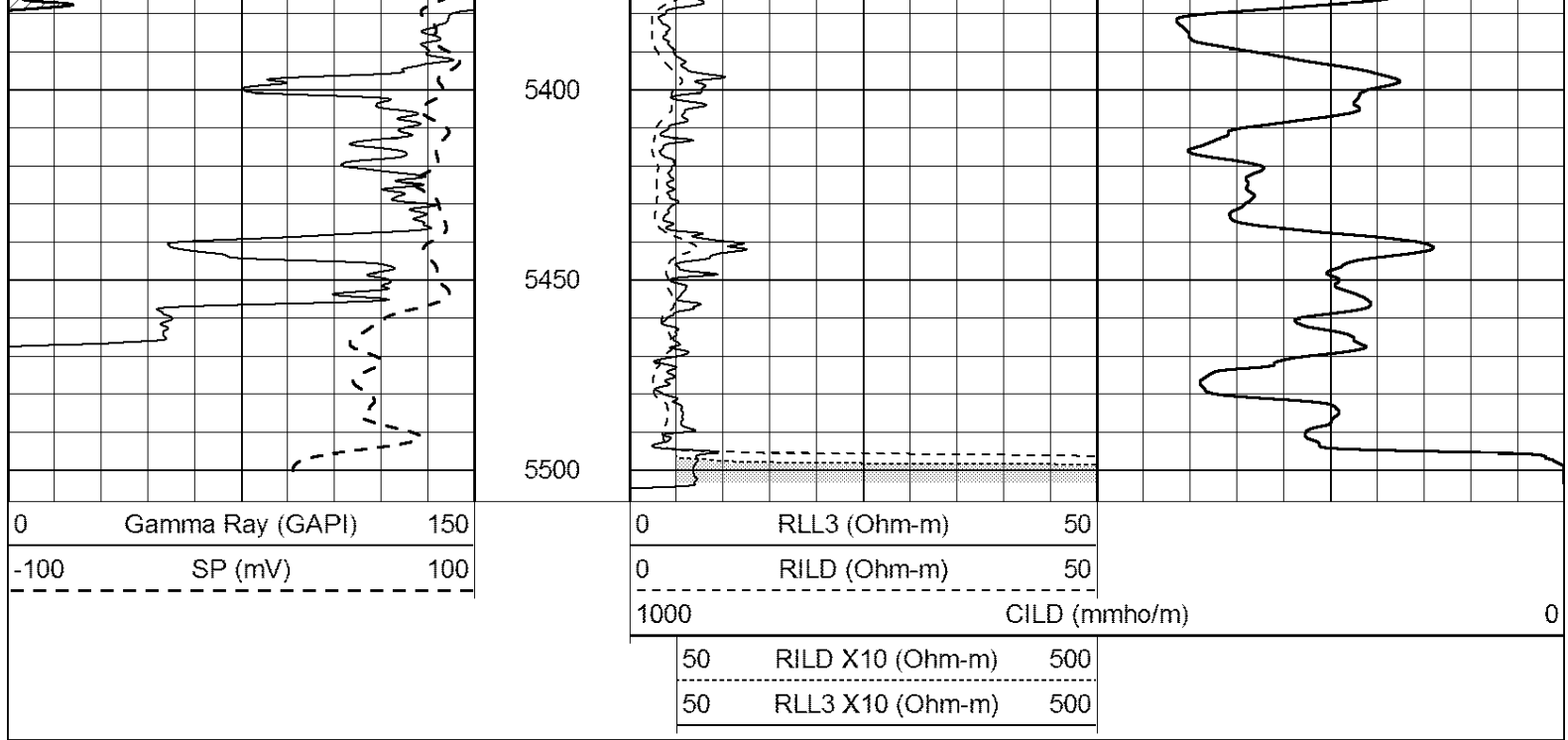
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5250

5300

5350





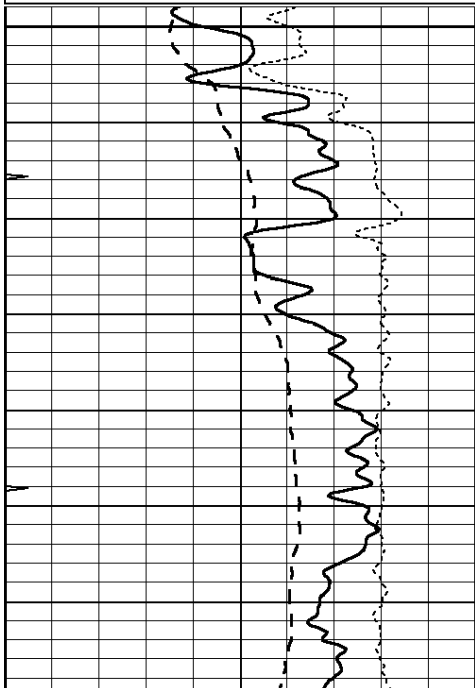
SUPERIOR
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MAIN SECTION

Database File: 007471pe.db
Dataset Pathname: pass3.16
Presentation Format: dil
Dataset Creation: Mon Oct 24 18:39:21 2011
Charted by: Depth in Feet scaled 1:240

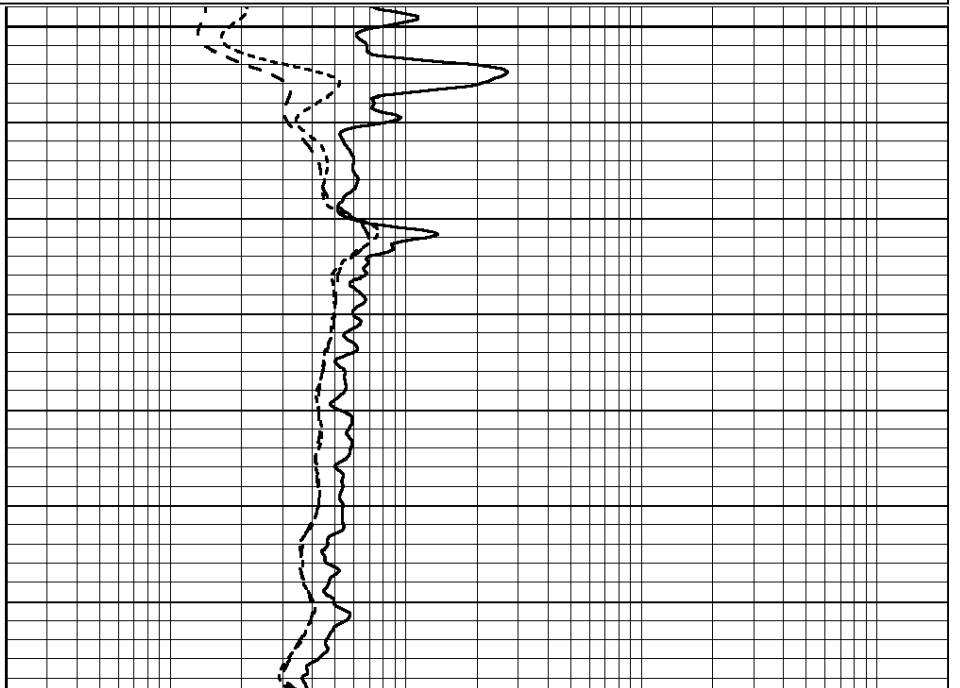
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

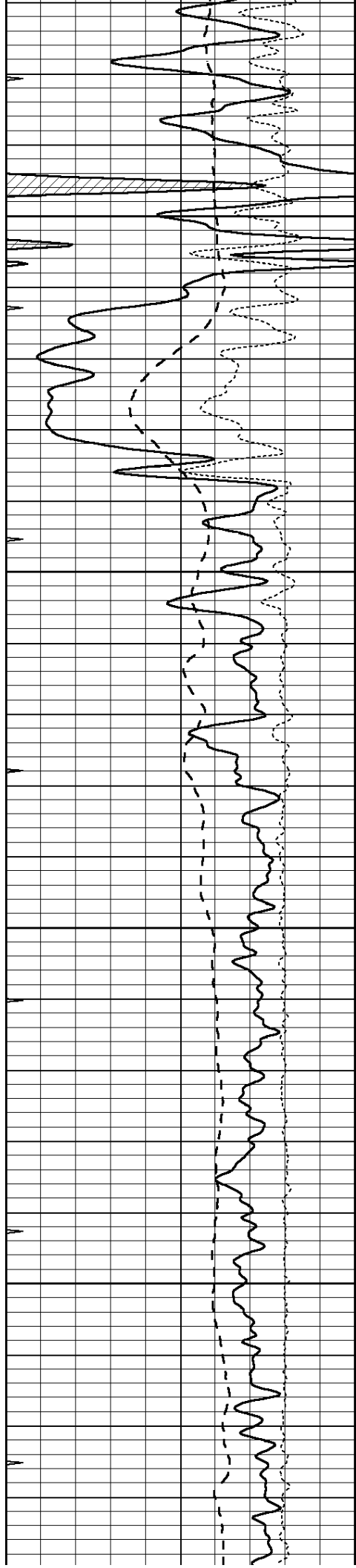
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3700

3750



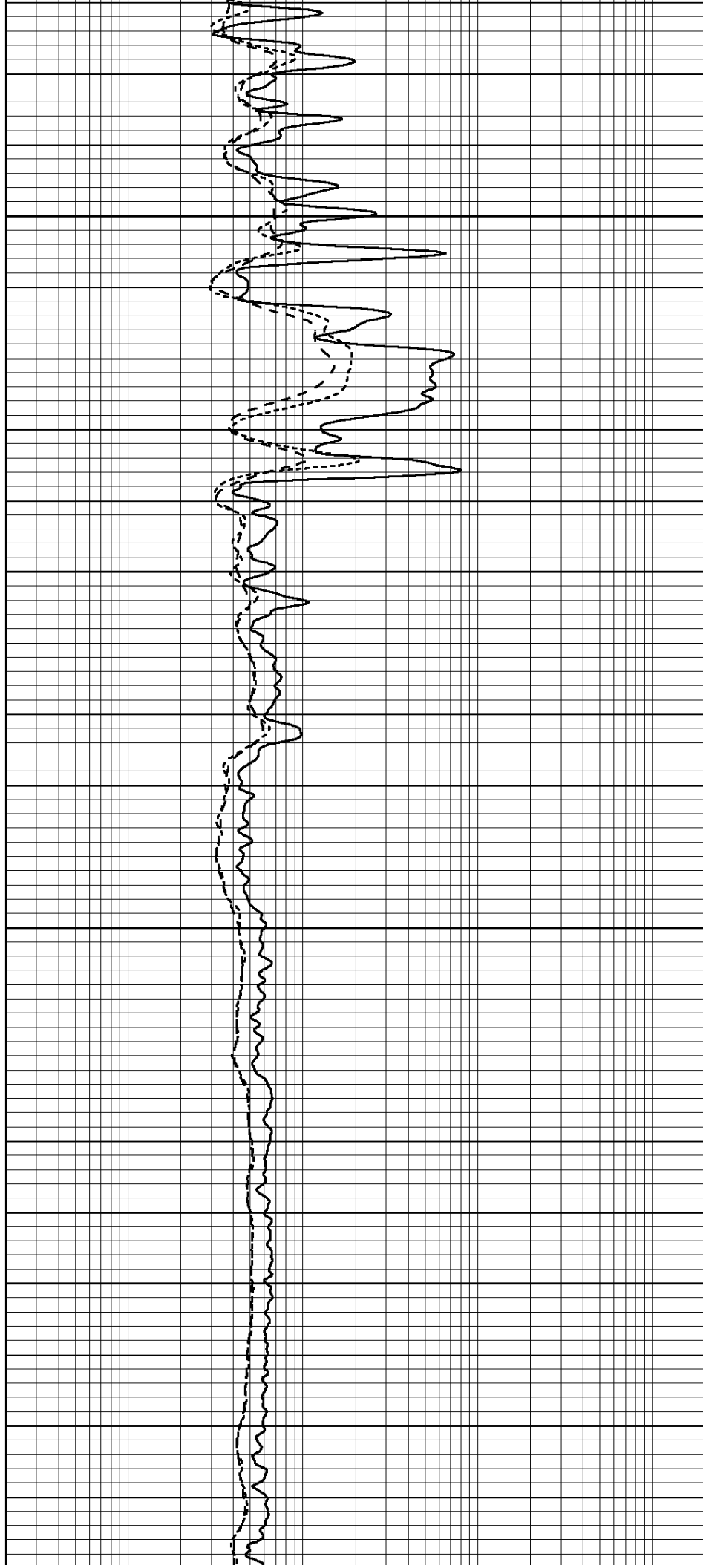


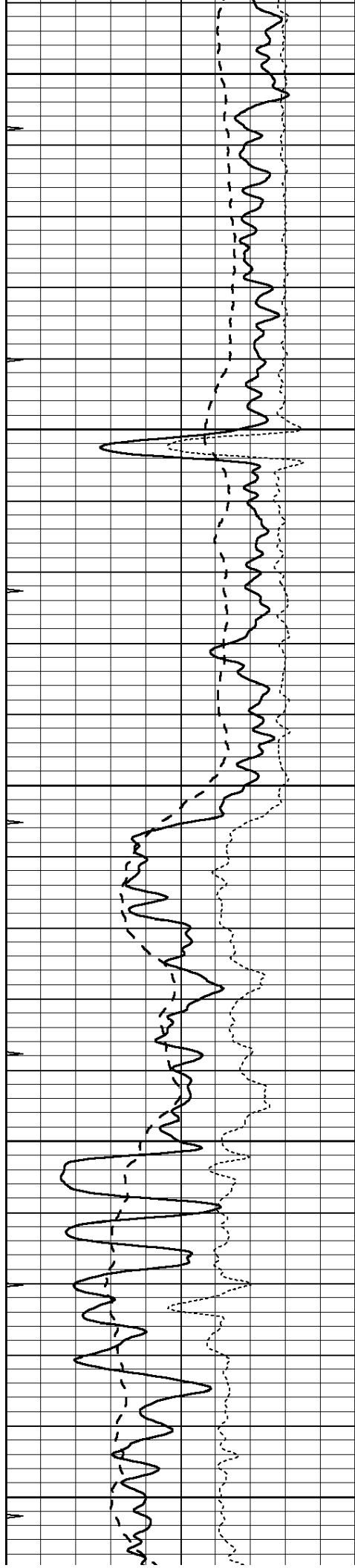
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3850

3900

3950





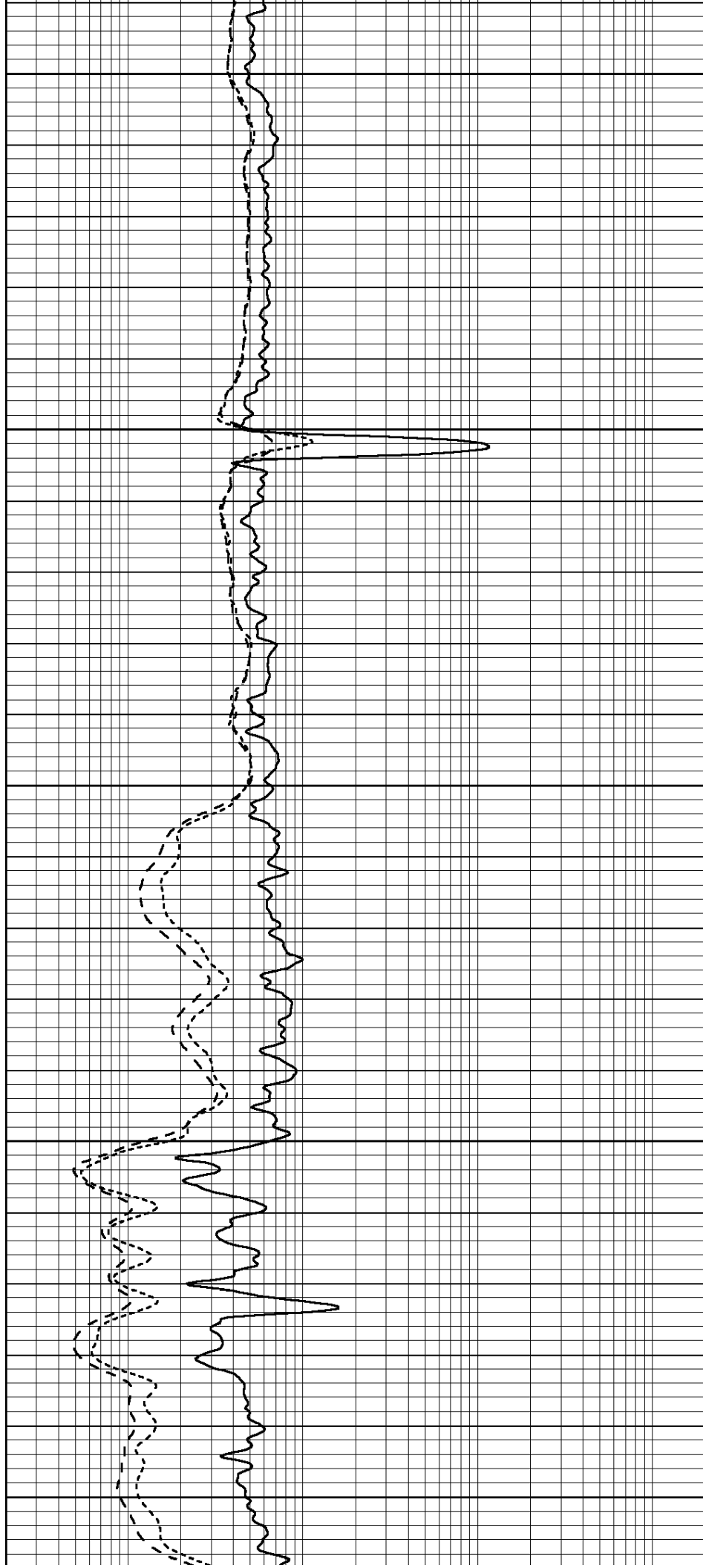
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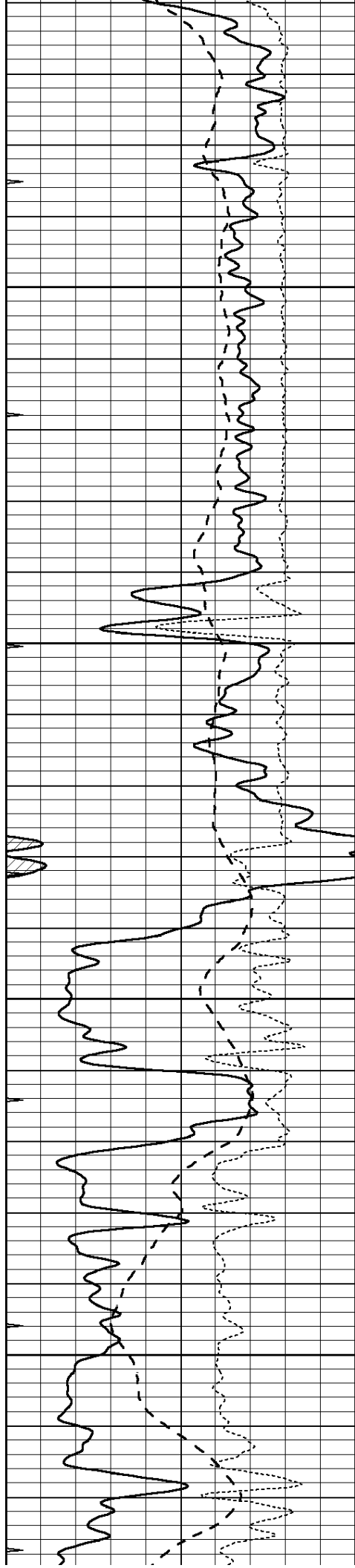
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4100

4150

4200



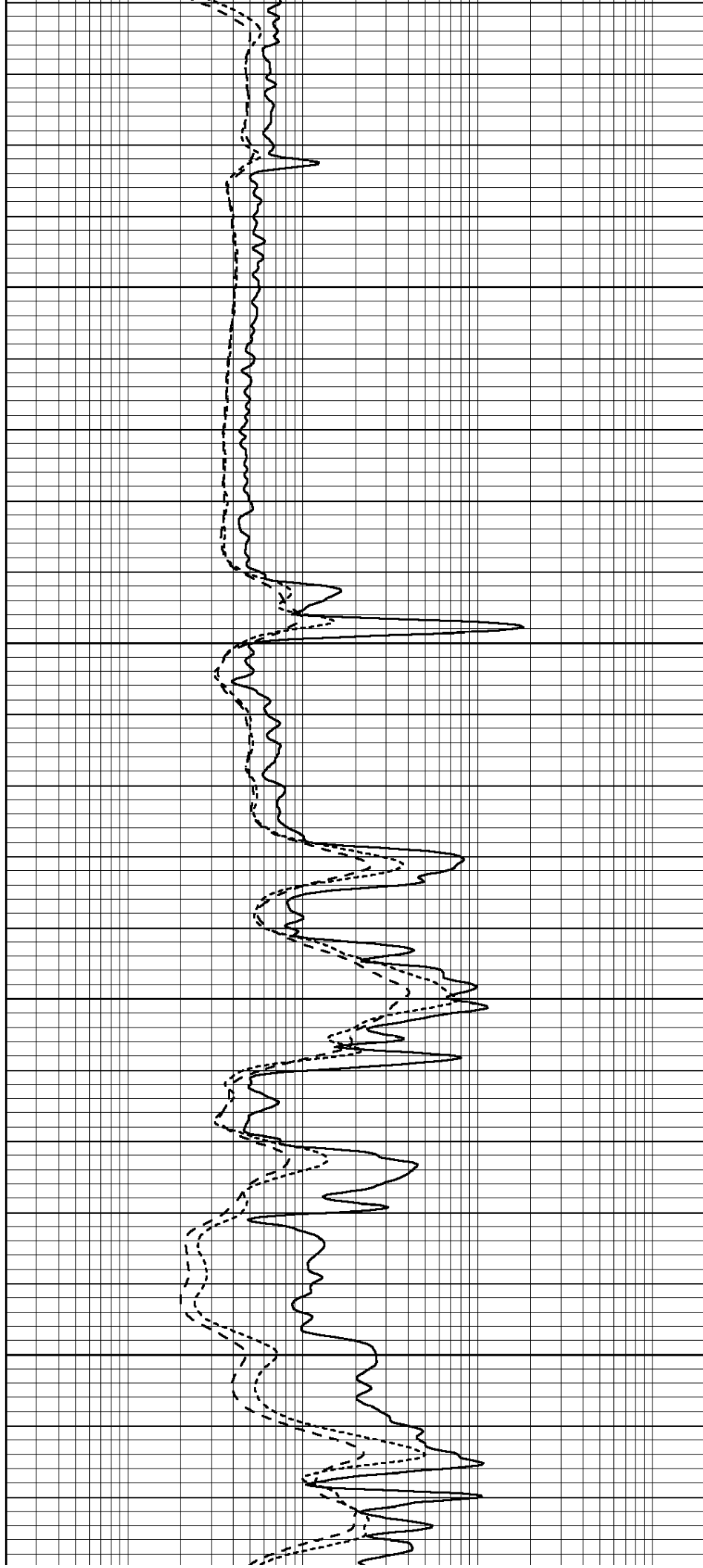


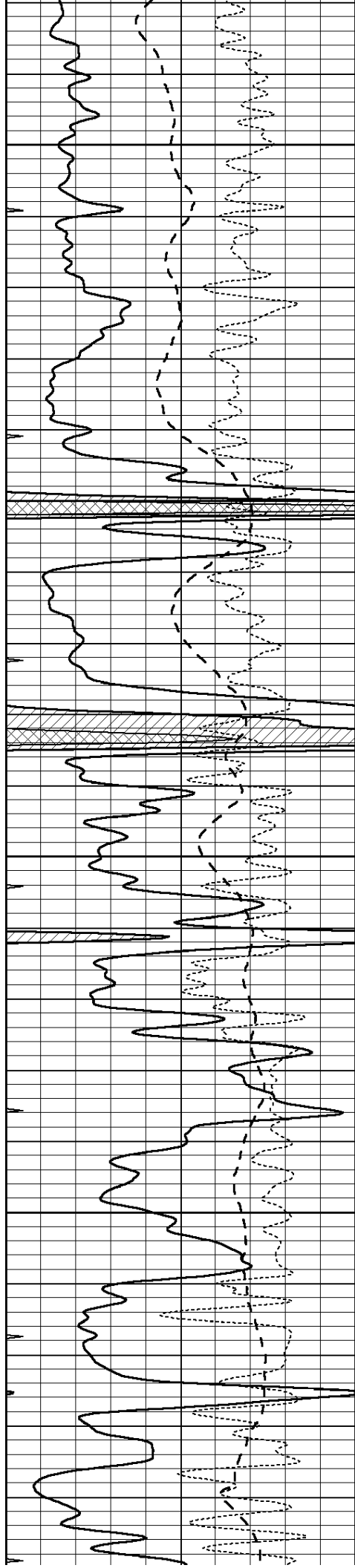
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4300

4350

4400





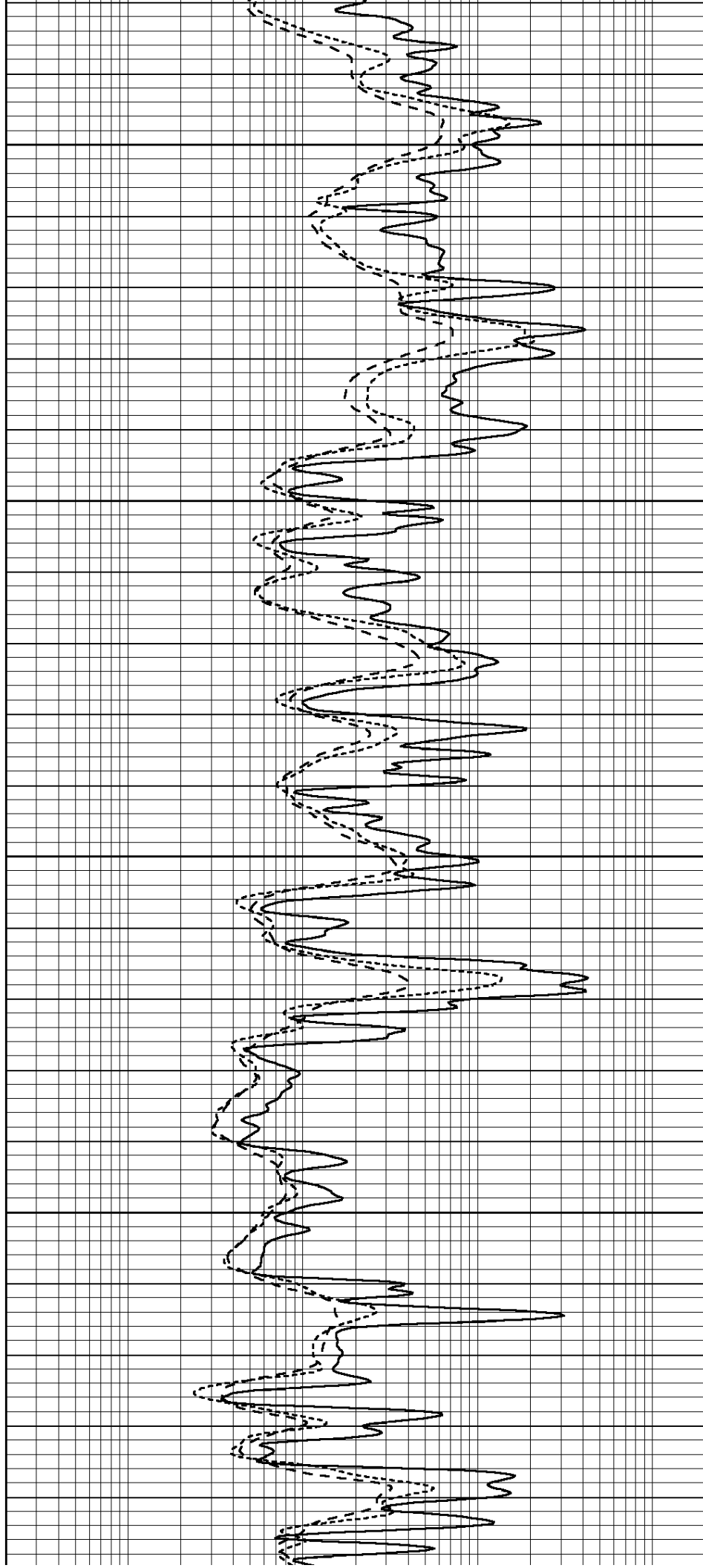
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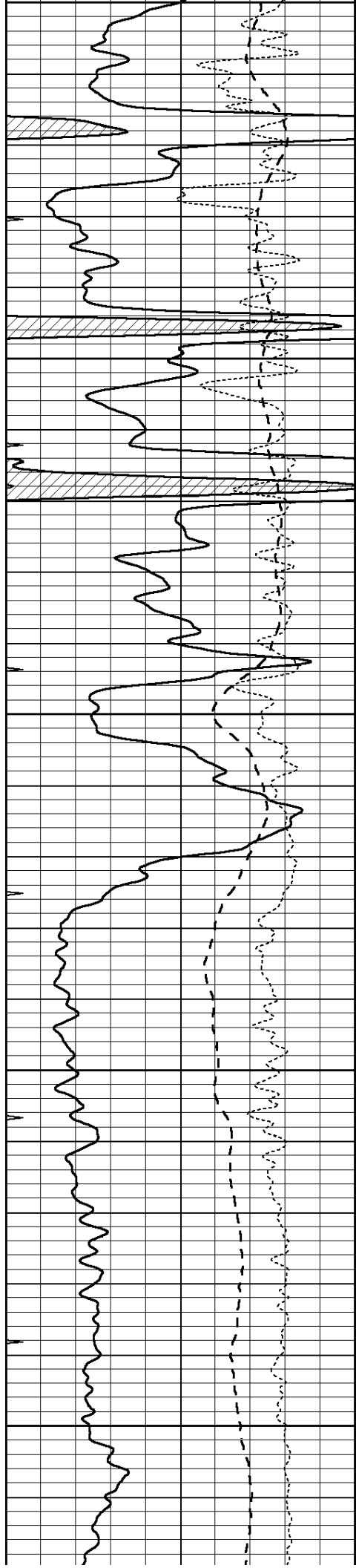
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4550

4600

4650





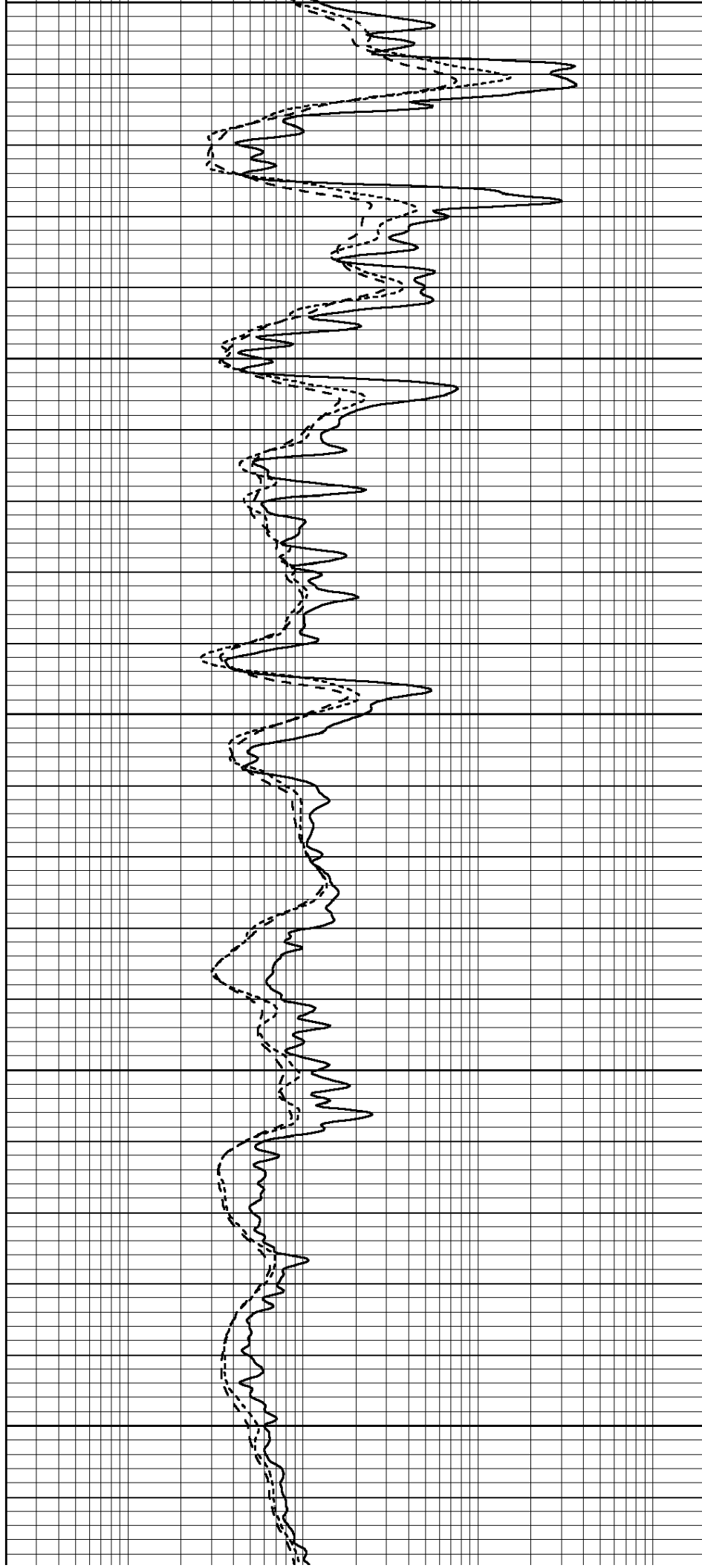
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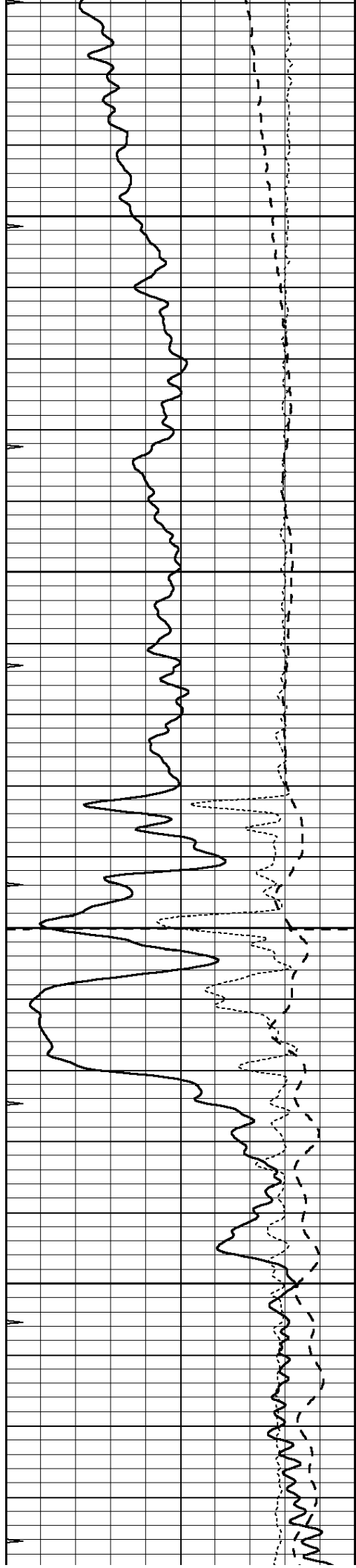
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4750

4800

4850



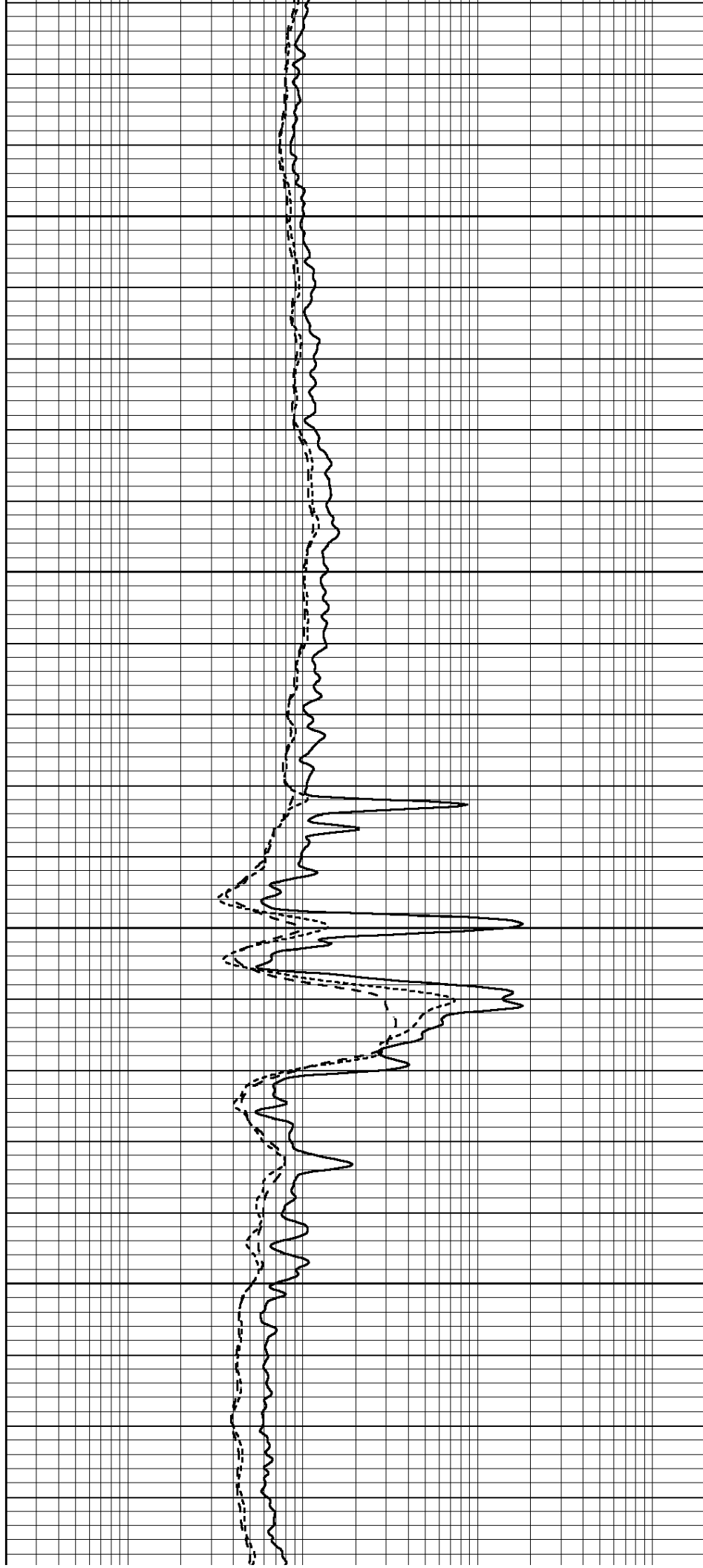


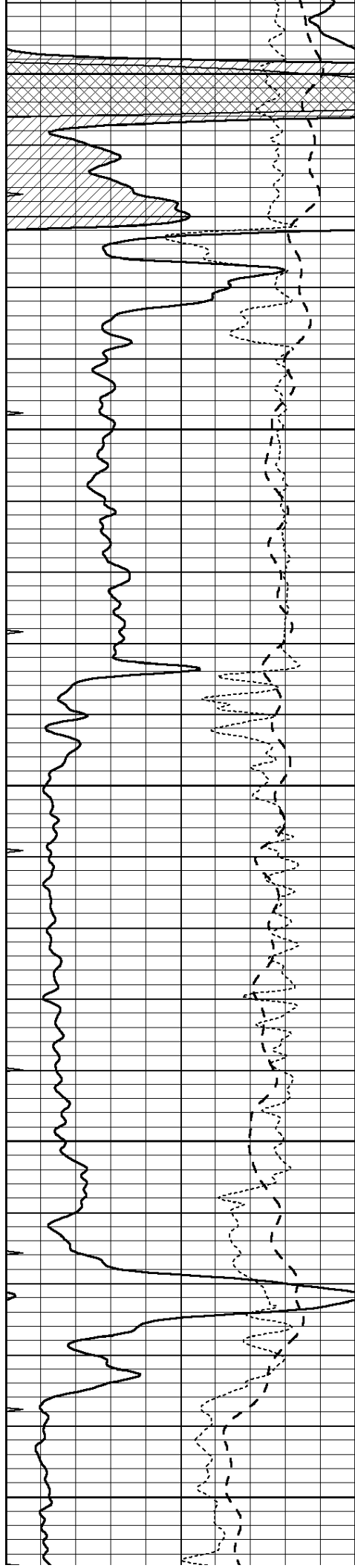
4900

4950

5000

5050





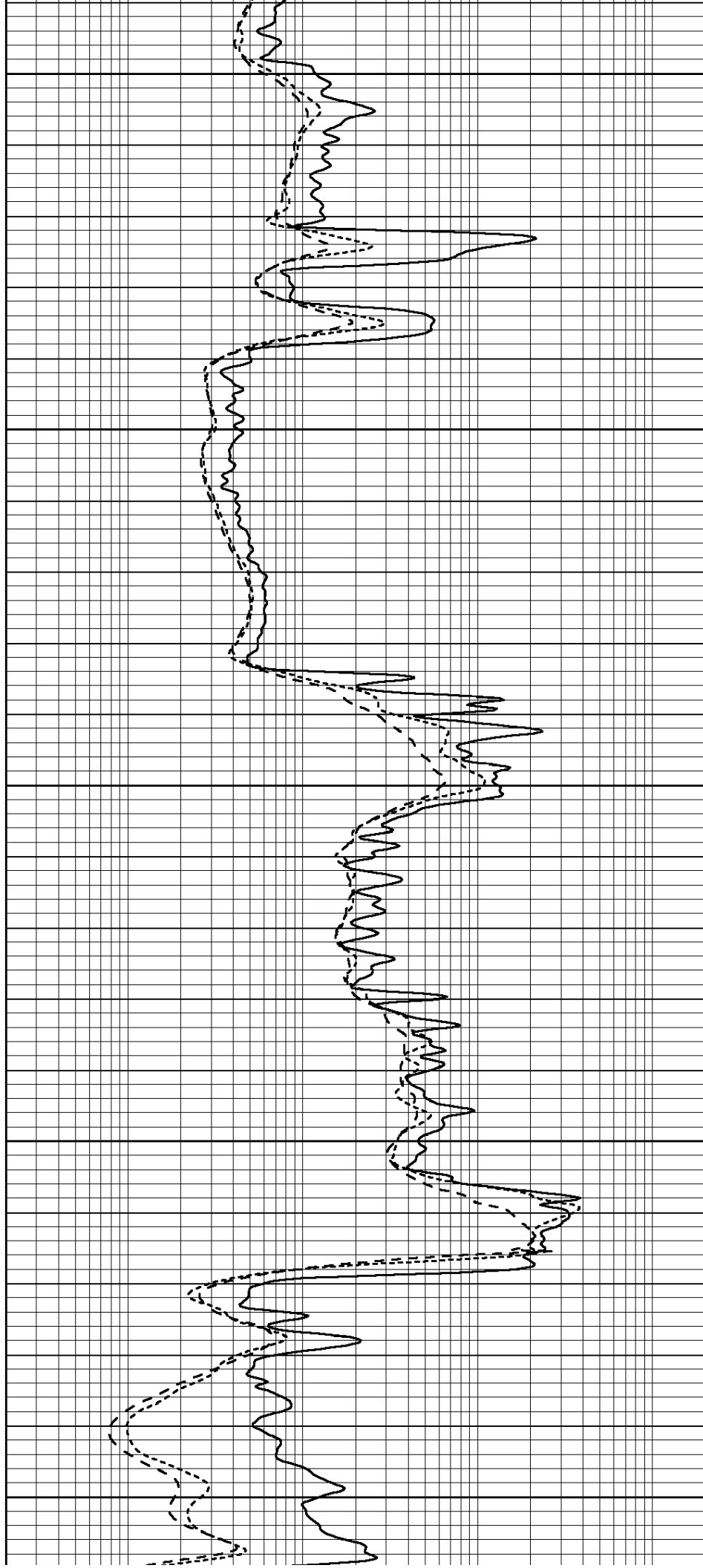
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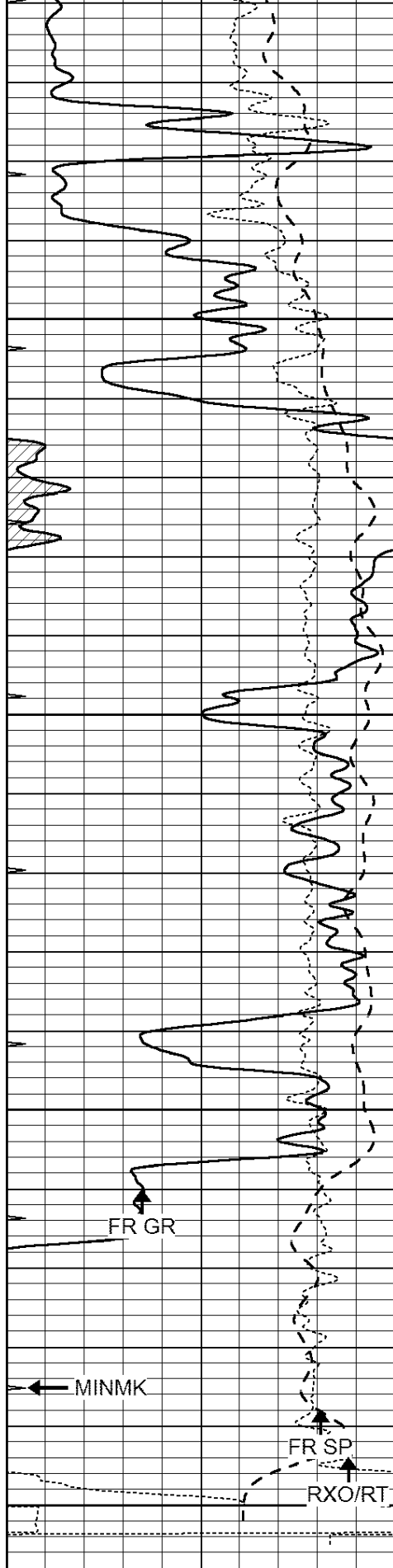
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5200

5250

5300





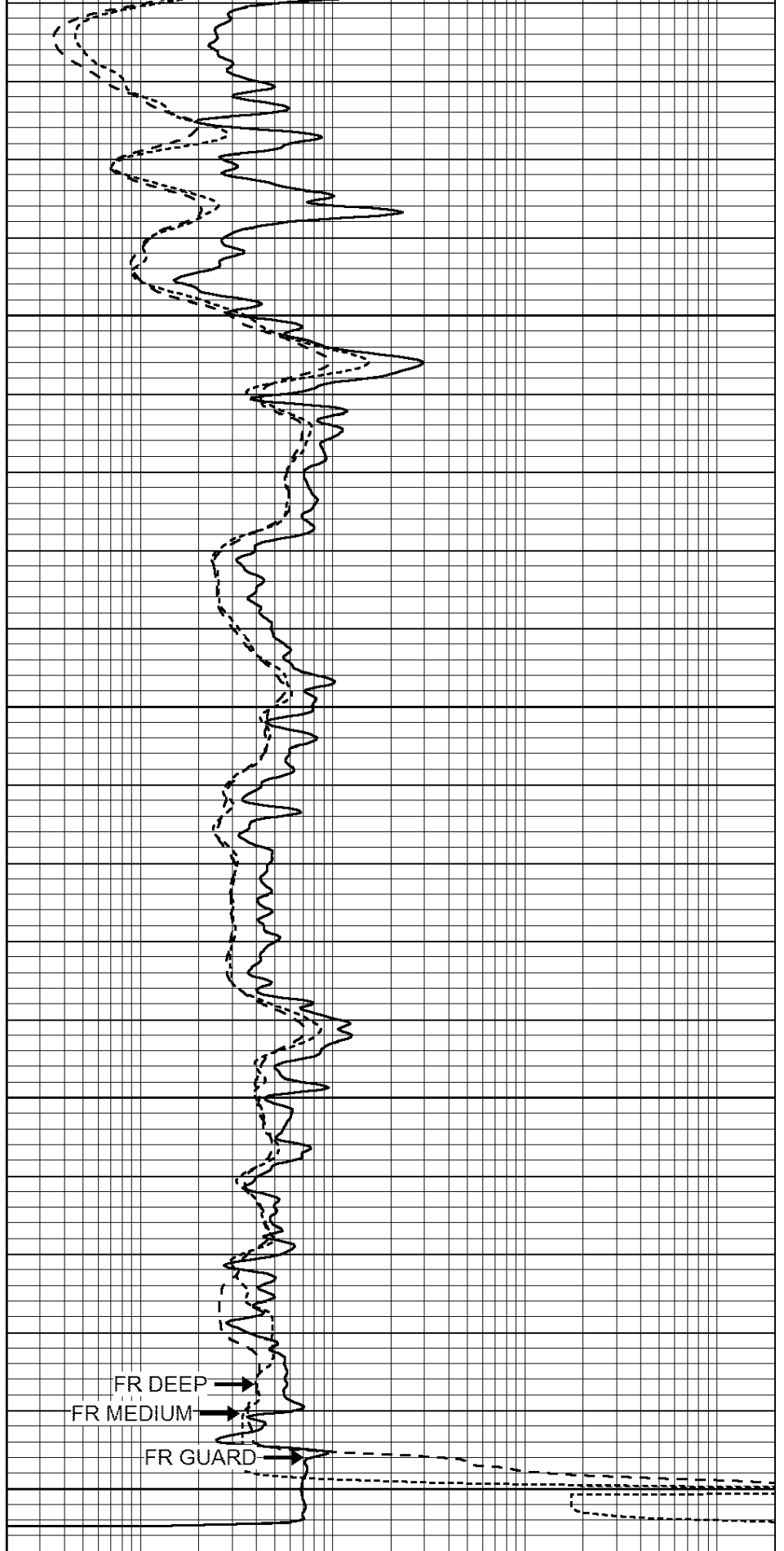
5350

5400

5450

LTD 5498
5500

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



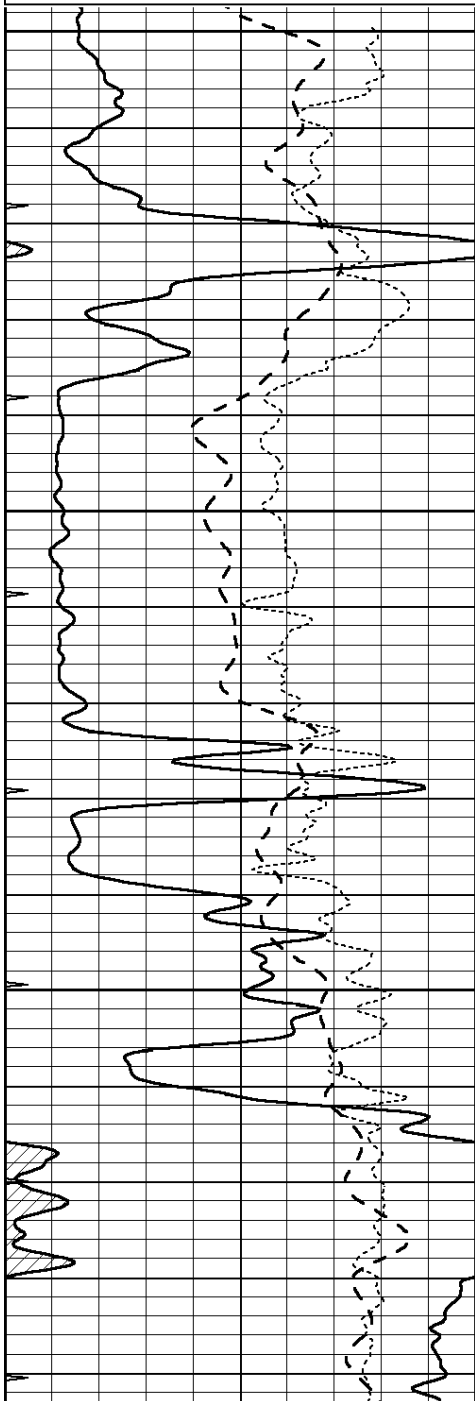
SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 007471pe.db
Dataset Pathname: pass2.6
Presentation Format: dil
Dataset Creation: Mon Oct 24 17:02:12 2011
Charted by: Depth in Feet scaled 1:240

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

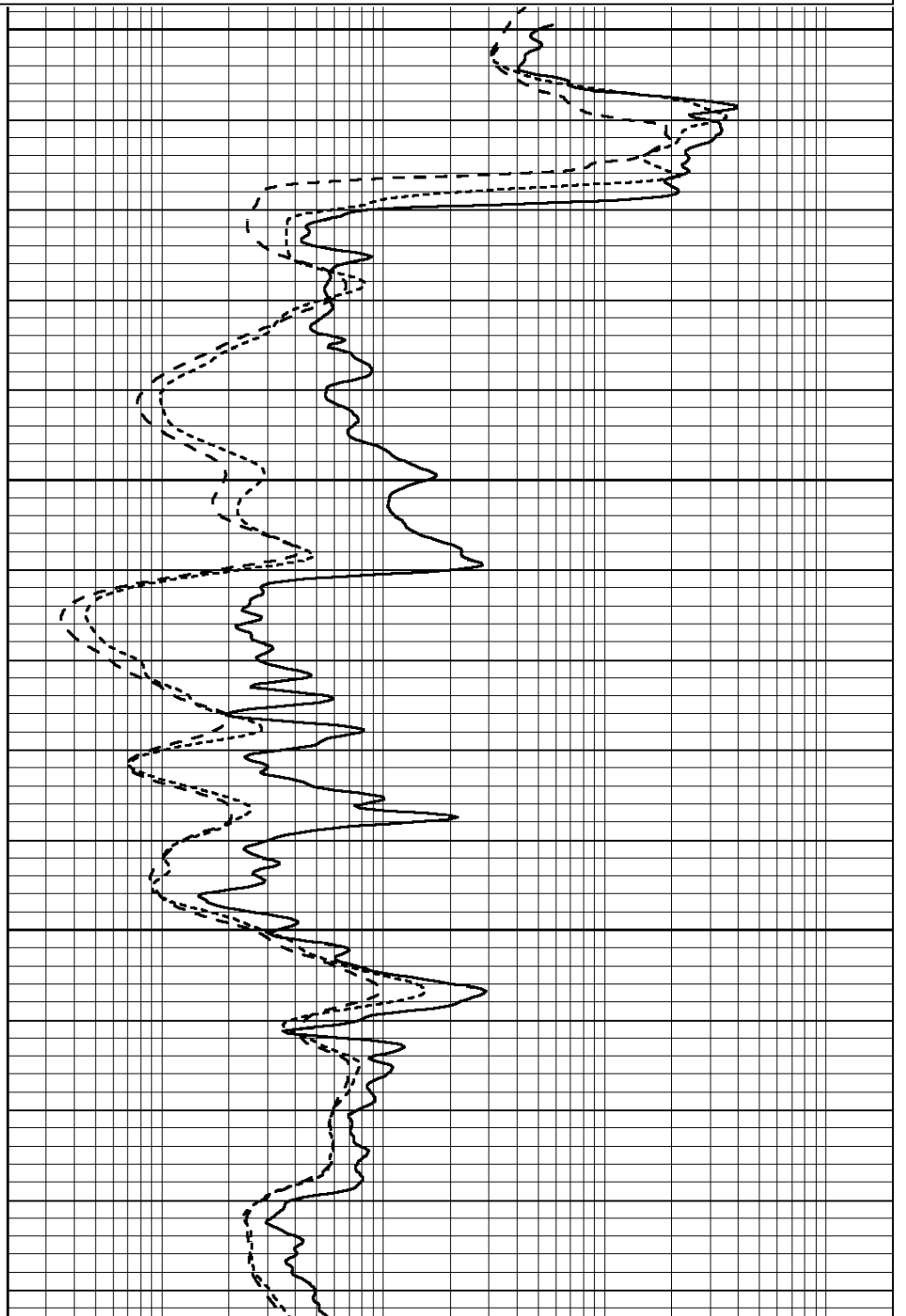
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



5250

5300

5350





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

Litho Density Calibration Report

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

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: Mon Oct 24 16:50:24 2011

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.2500 GAPI/cps