



**SUPERIOR**  
**Hays,**  
**Kansas**

**DUAL**  
**INDUCTION**  
**LOG**

Company	MULL DRILLING COMPANY, INC.		
Well	MCBRIDE-MICHEL "A" #1-31		
Field			
County	KIOWA	State	COLORADO
Location:	AP1 # : 05-061-06867-0000		Other Services CDL/CNL/PE MEL/SON
605' FNL & 2400' FEL NW/4 - NE/4			
Permanent Datum	GROUND LEVEL	Elevation	3904
Log Measured From	KELLY BUSHING 11' A.G.L.		
Drilling Measured From	KELLY BUSHING		
SEC 31 TWP 18S RGE 45W			
Run Number	ONE		
Depth Driller	4918		
Depth Logger	4917		
Bottom Logged Interval	4915		
Top Log Interval	0		
Casing Driller	8 5/8"@355'		
Casing Logger	353'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6200 PPM	
Density / Viscosity	9.3/50		
pH / Fluid Loss	9.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.85@70F		
Rmt @ Meas. Temp	0.64@70F		
Rmc @ Meas. Temp	1.02@70F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	0.48@124F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	124F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
Witnessed By	PHIL ASKEY		

<<< Fold Here >>>

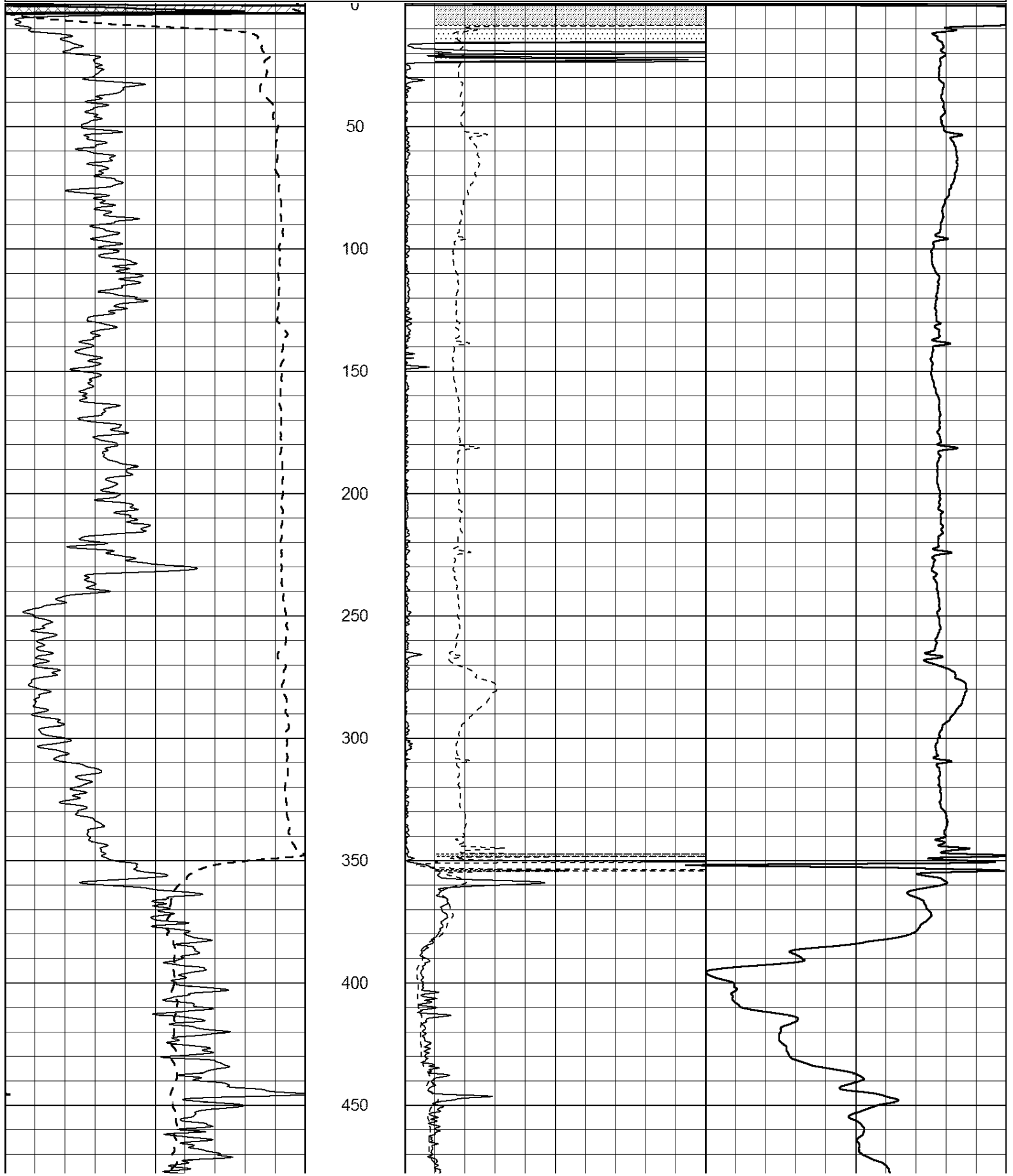
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

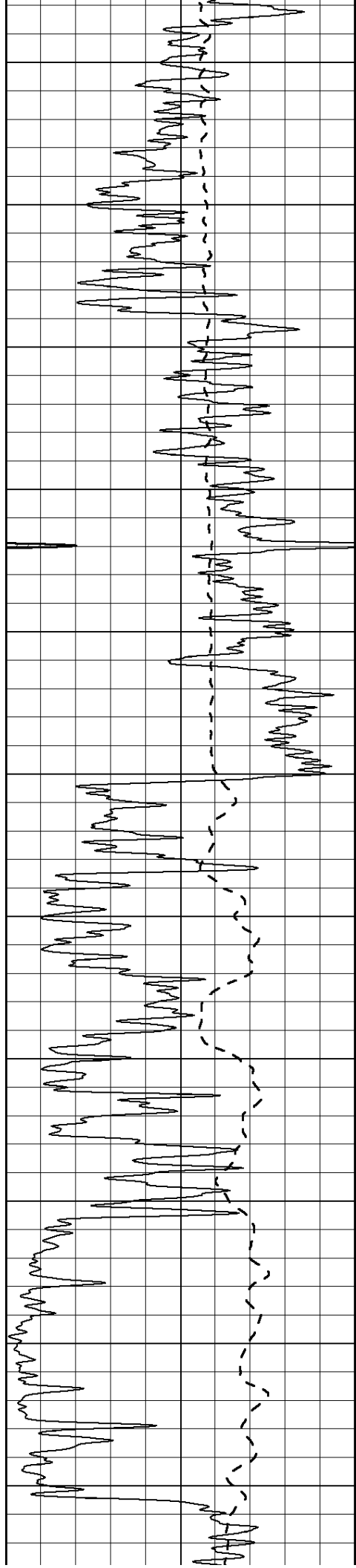
Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
BRANDON, CO - 5 MILES WEST TO RD 54 - 1/8 MILE NORTH  
EAST INTO 2 1/2 MILES

Database File: 008150pe.db  
Dataset Pathname: pass3.3  
Presentation Format: \_dil2  
Dataset Creation: Sat Jan 28 09:42:36 2012 by Calc Open-Cased 110302  
Charted by: Depth in Feet scaled 1:600

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





500

550

600

650

700

750

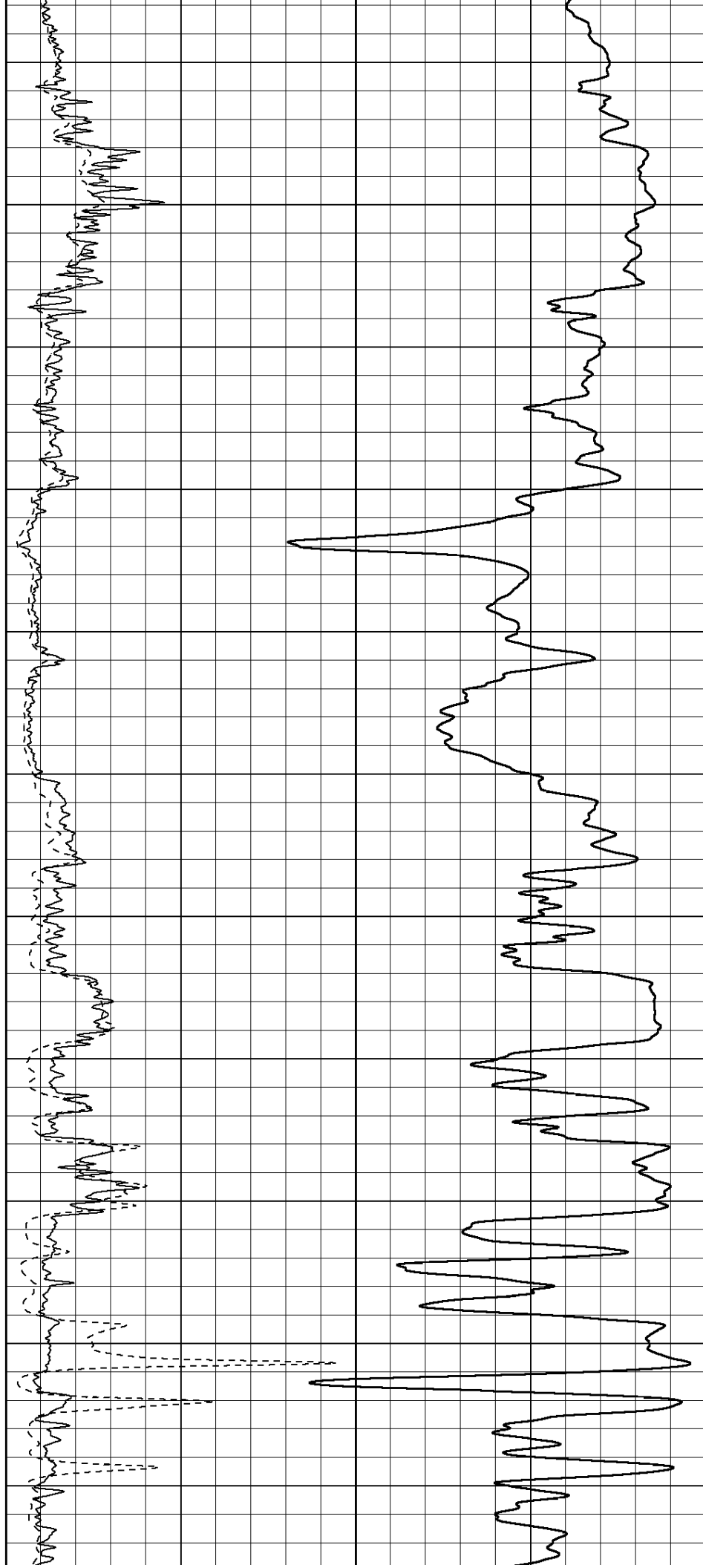
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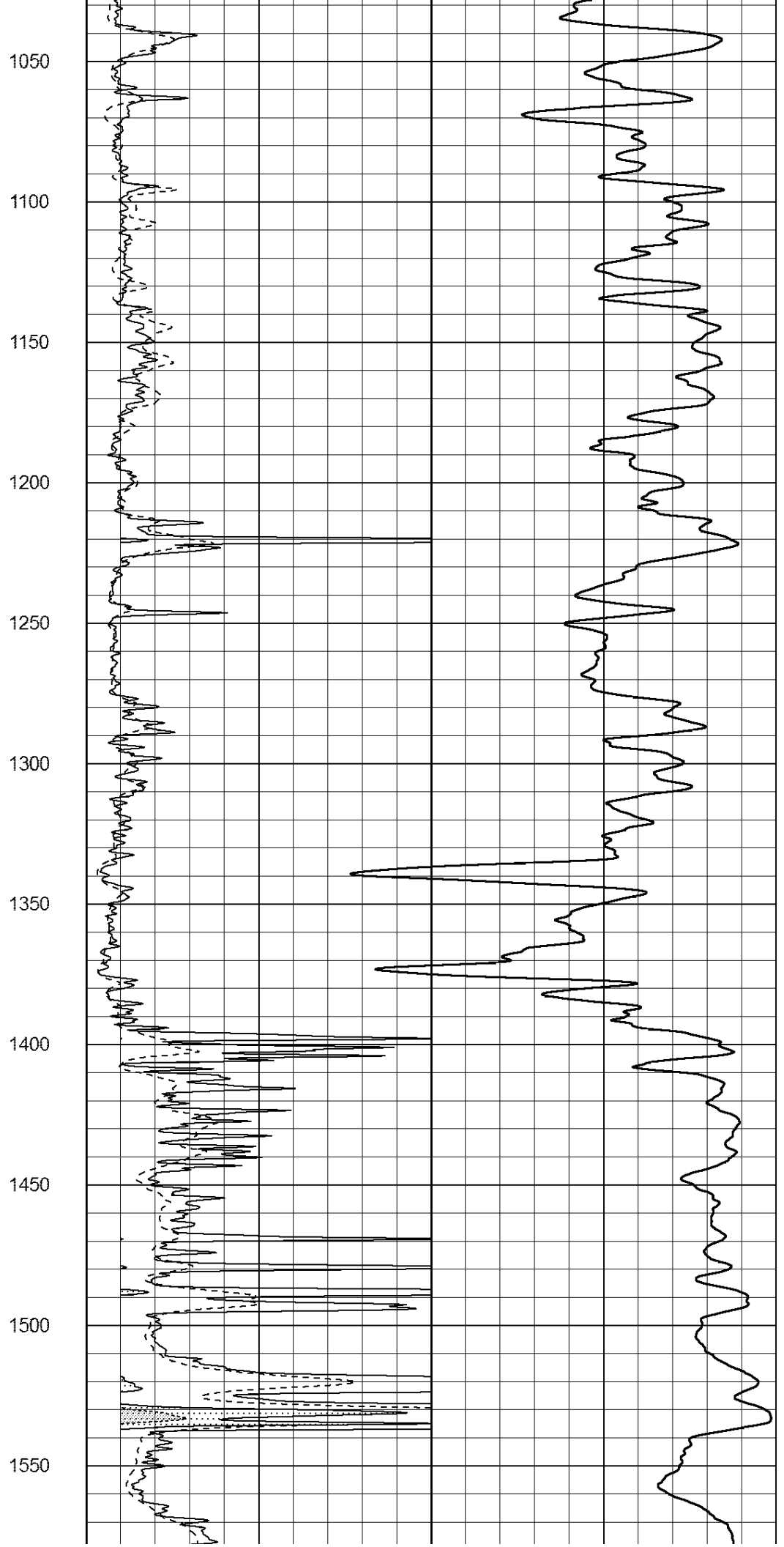
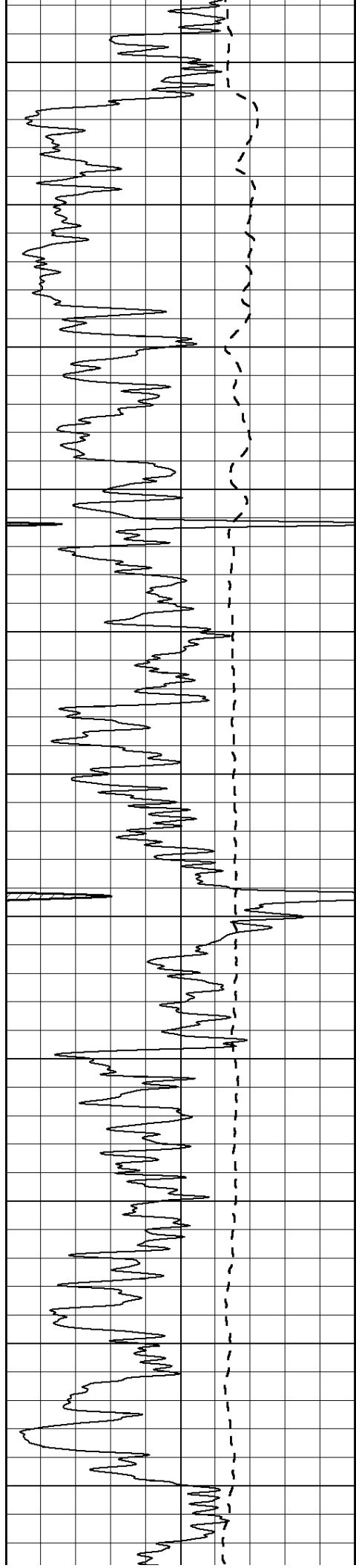
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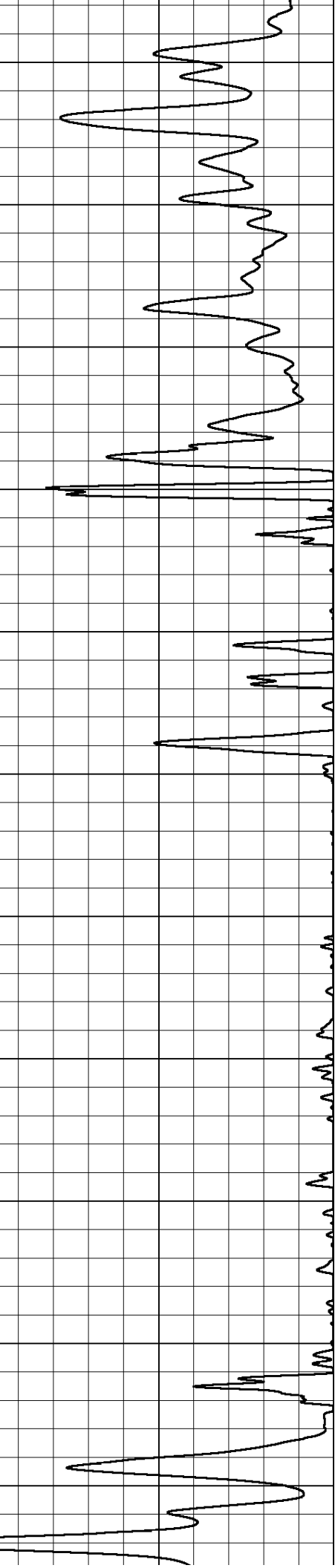
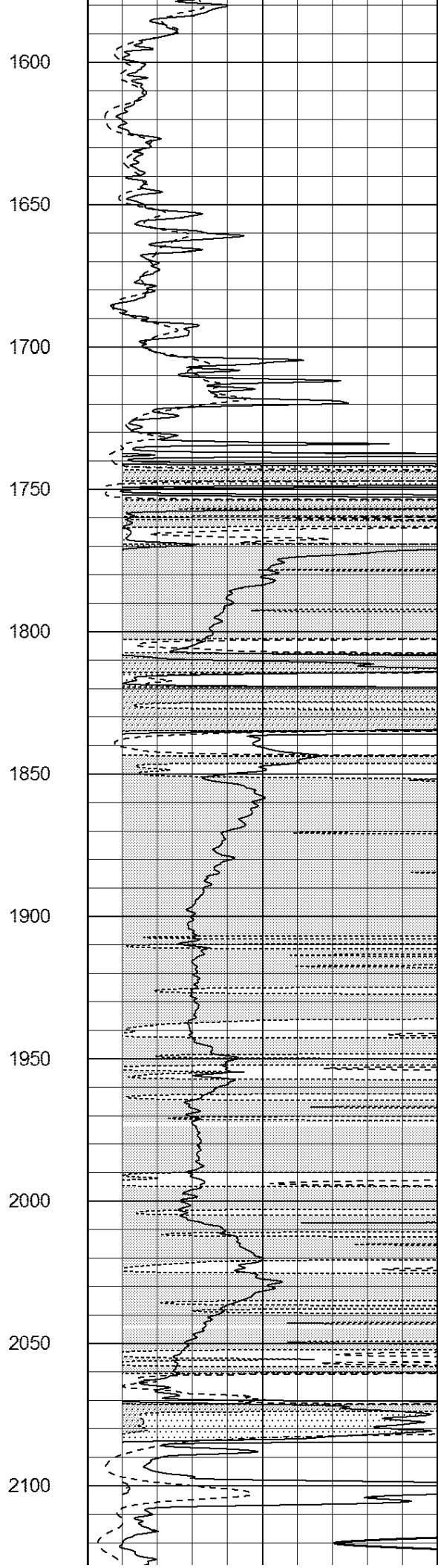
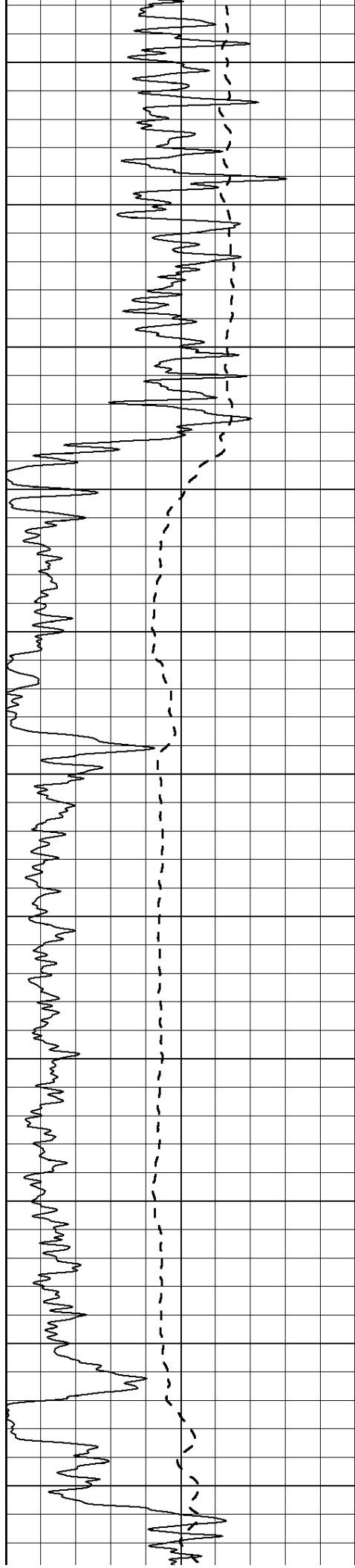
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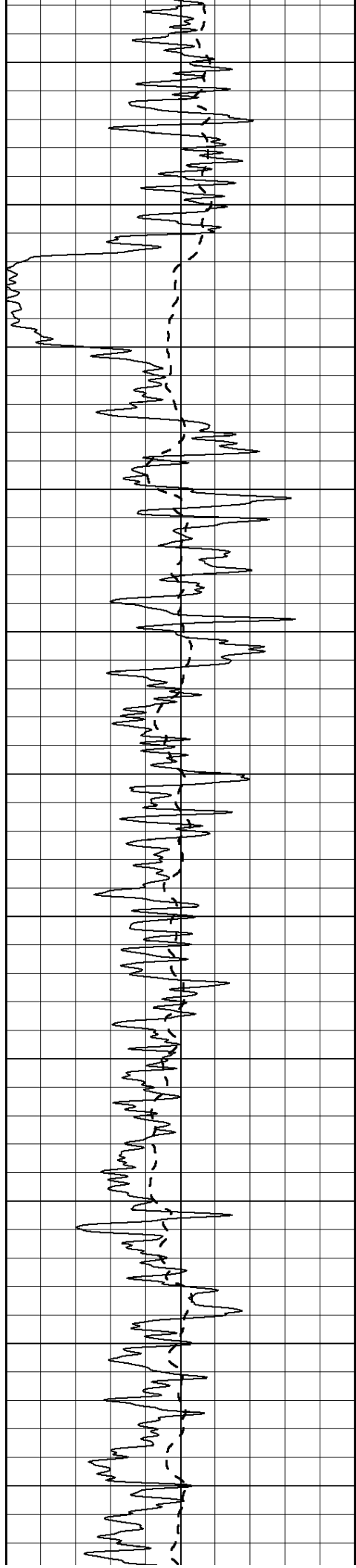
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1000









2150

2200

2250

2300

2350

2400

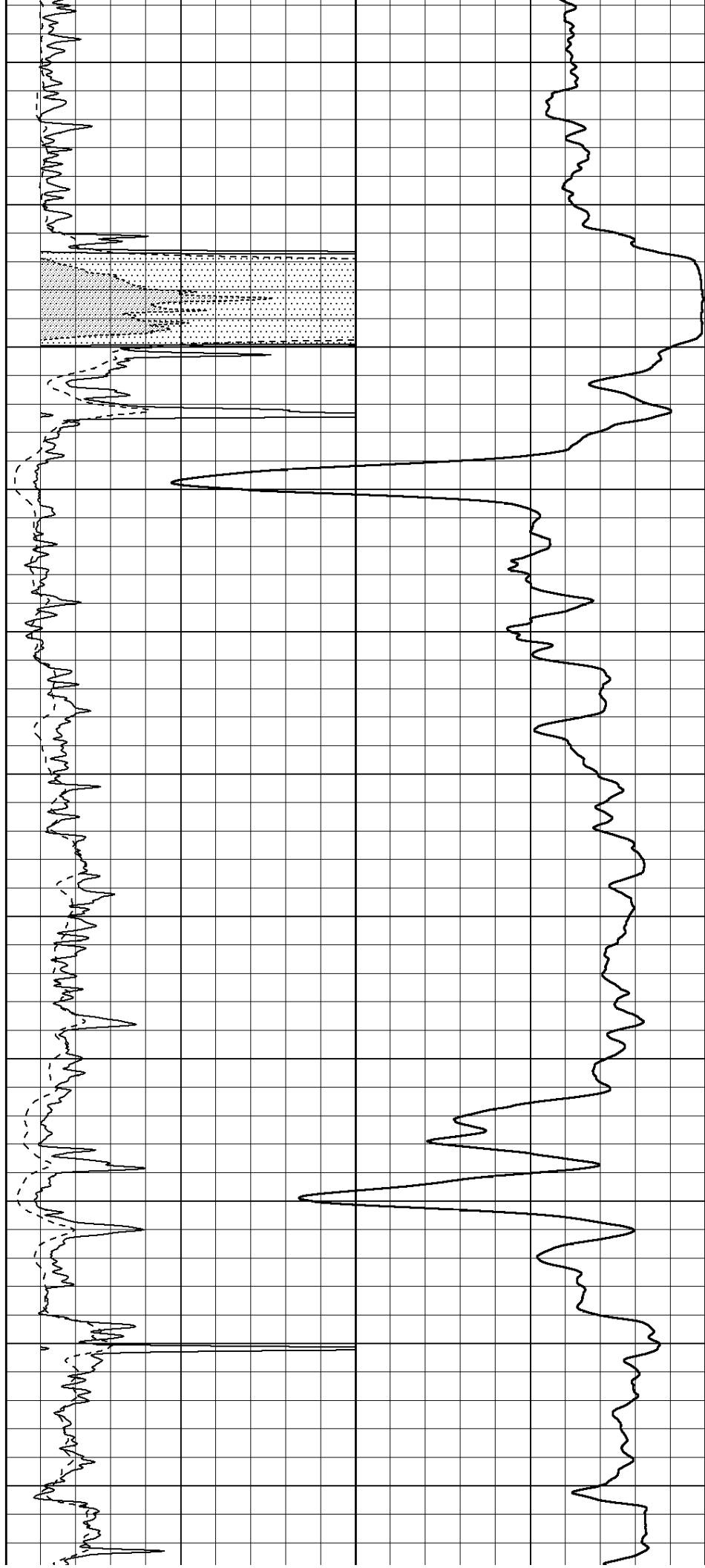
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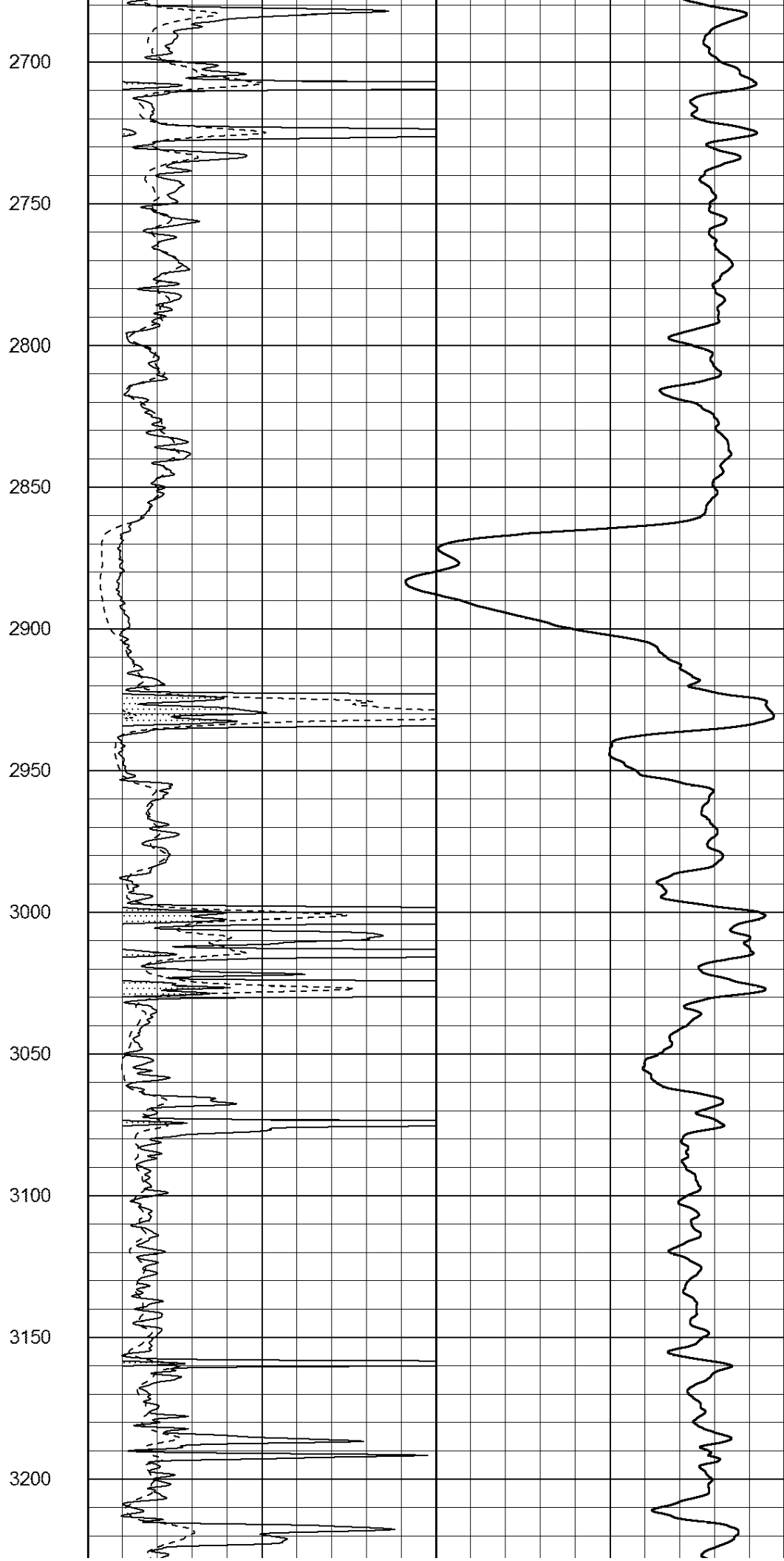
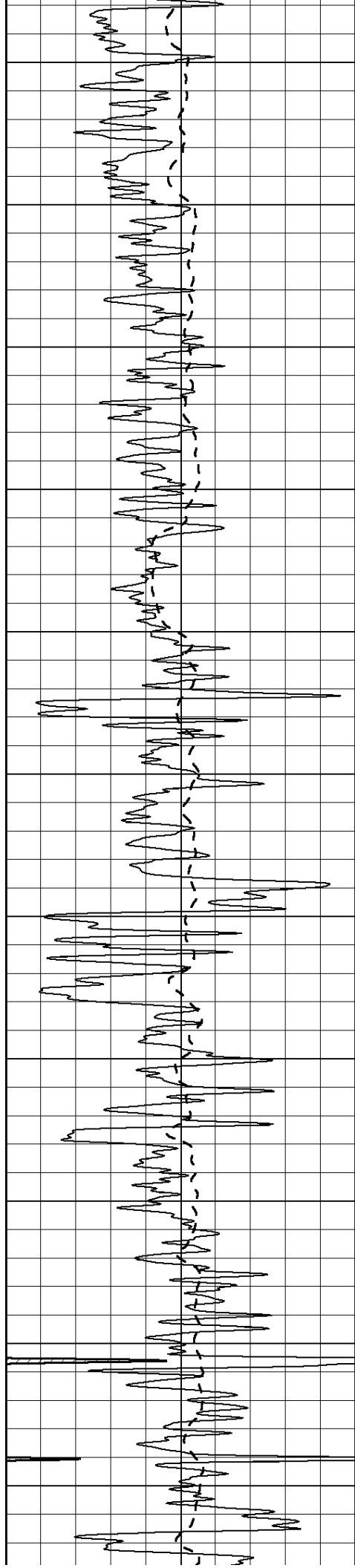
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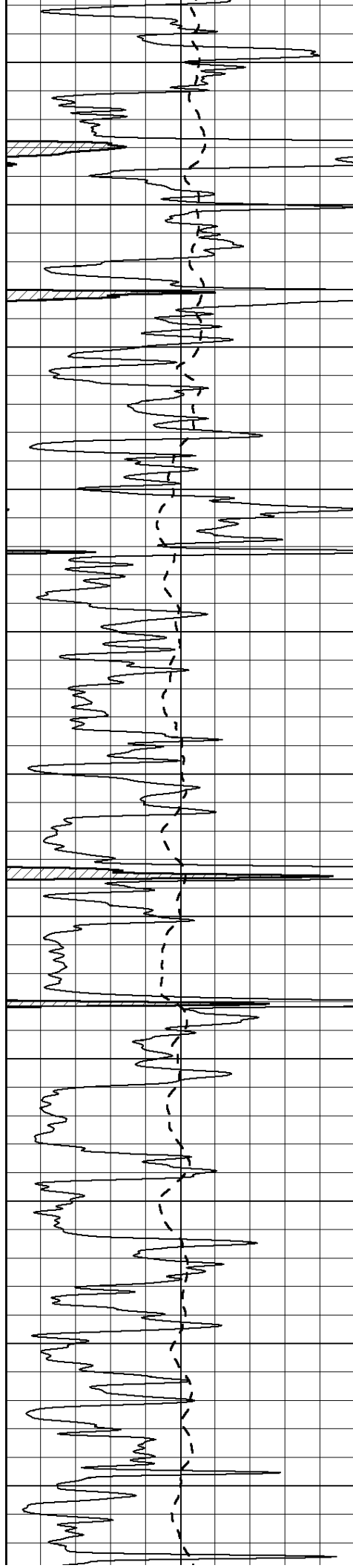
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2600

2650







3250

3300

3350

3400

3450

3500

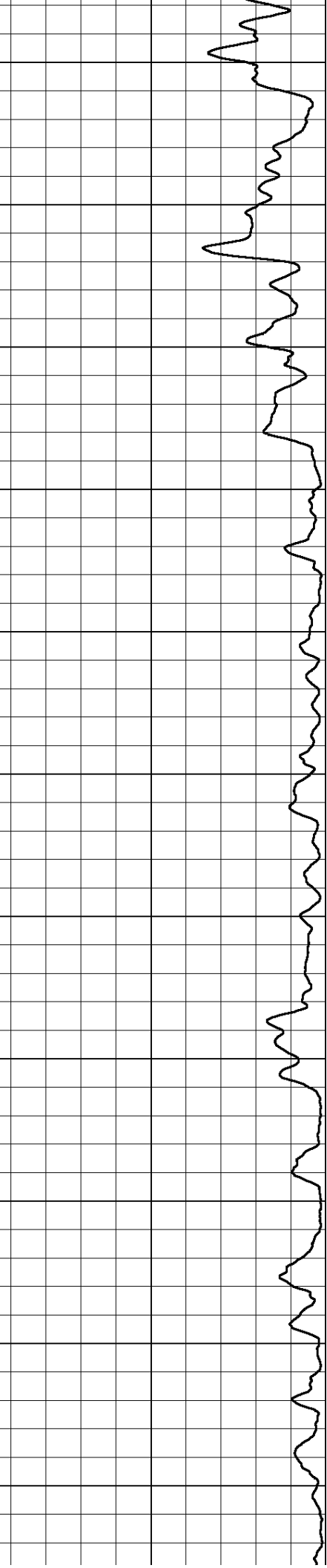
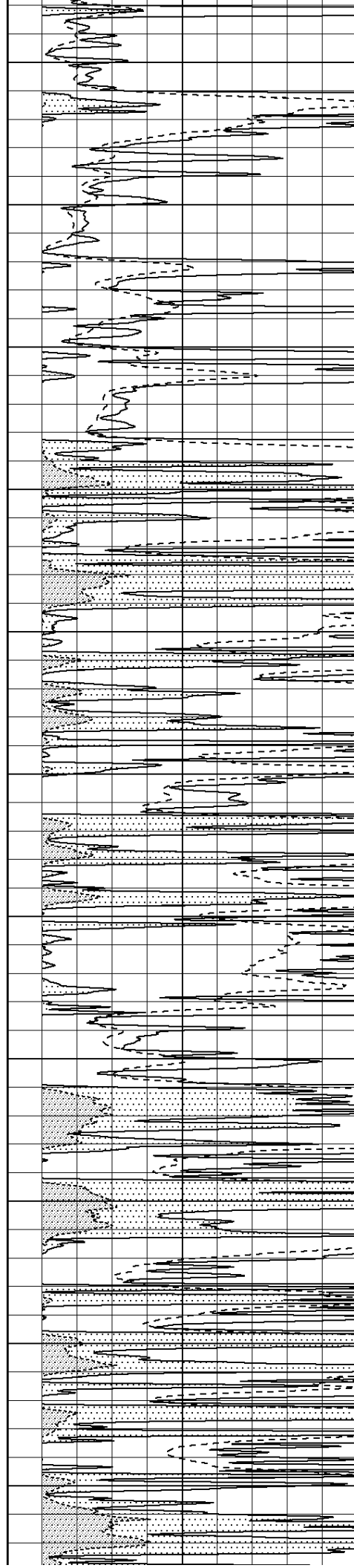
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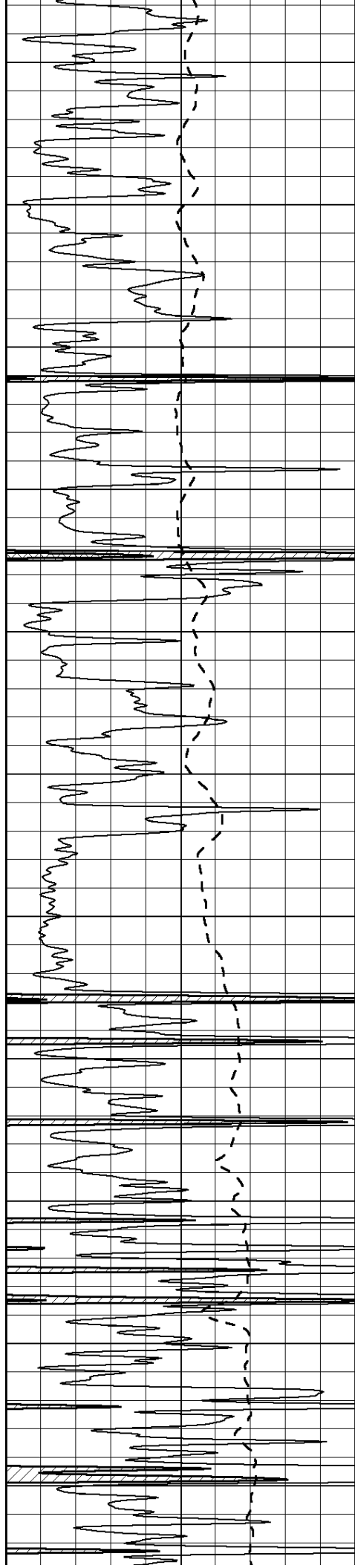
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3700

3750







3800

3850

3900

3950

4000

4050

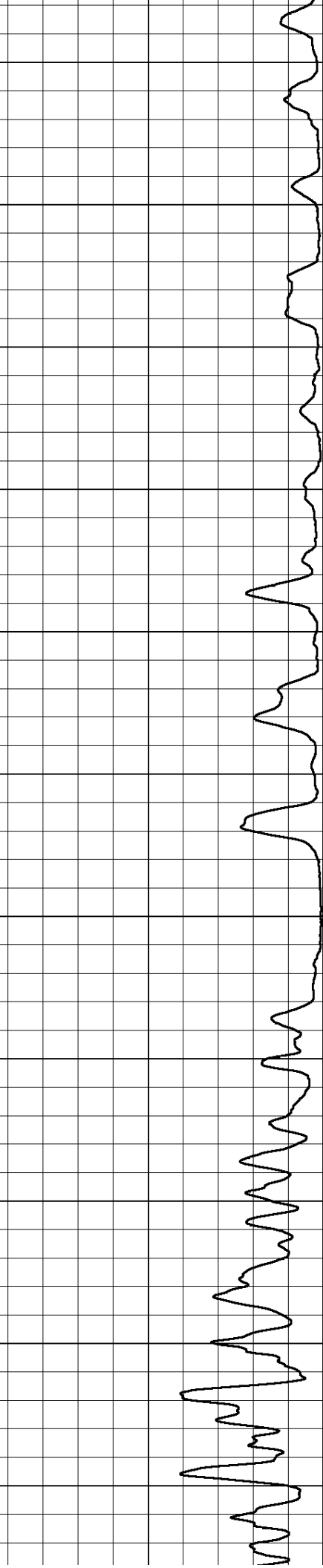
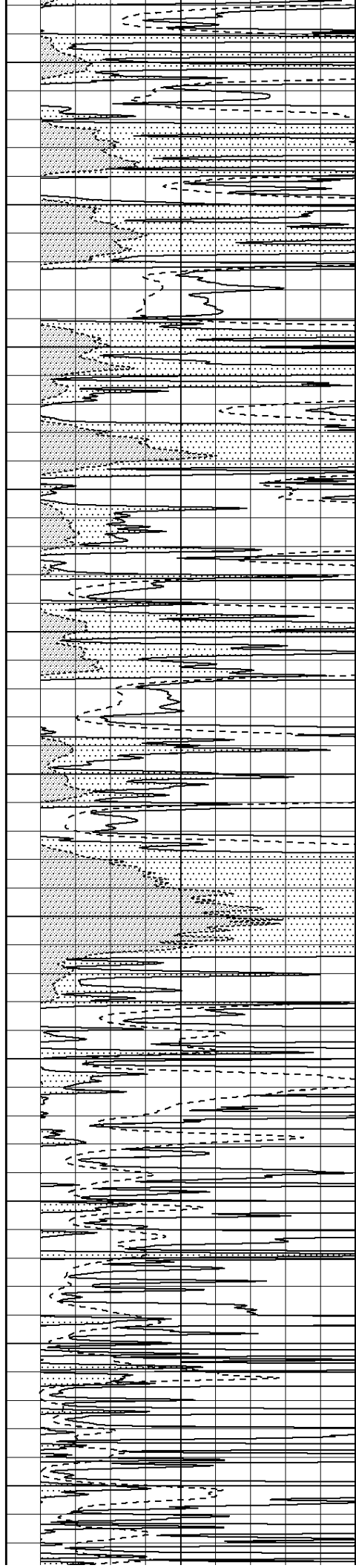
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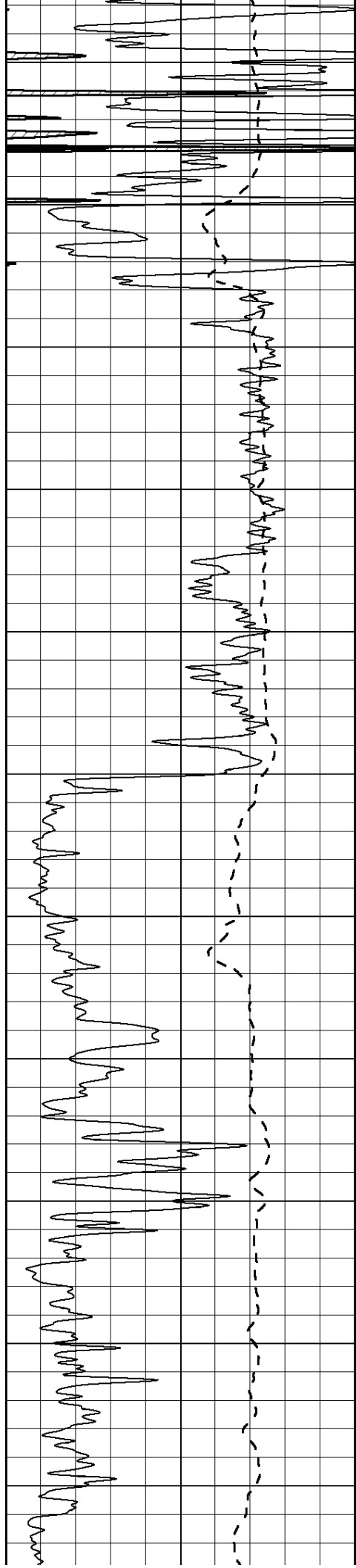
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4200

4250

4300





4350

4400

4450

4500

4550

4600

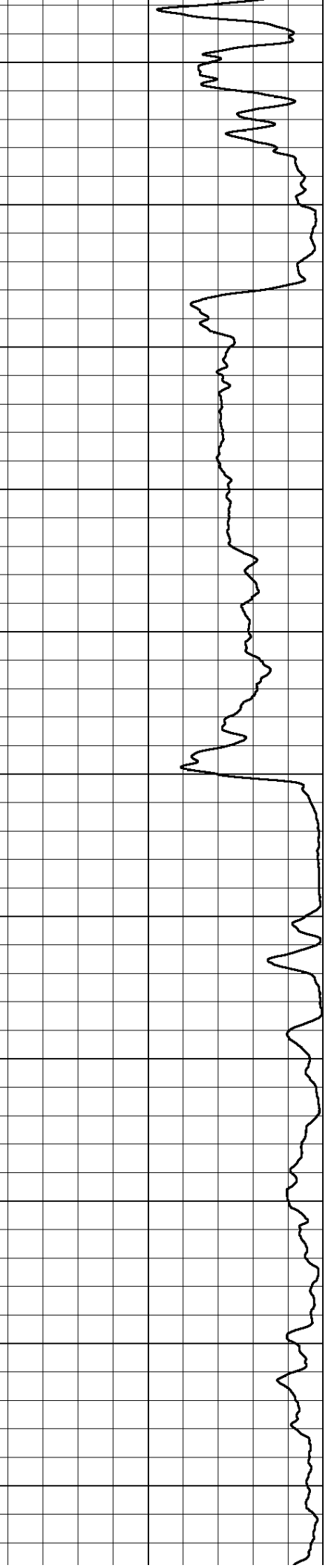
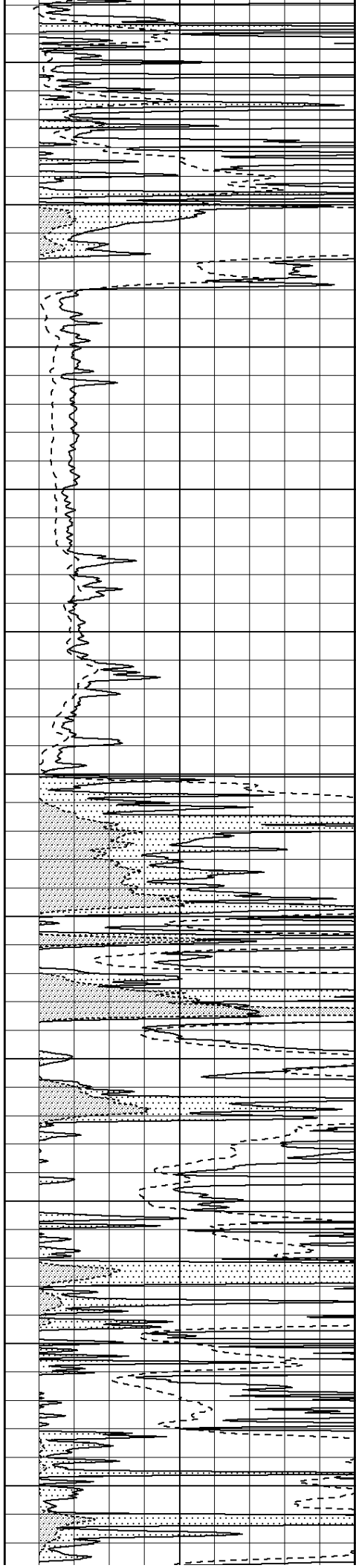
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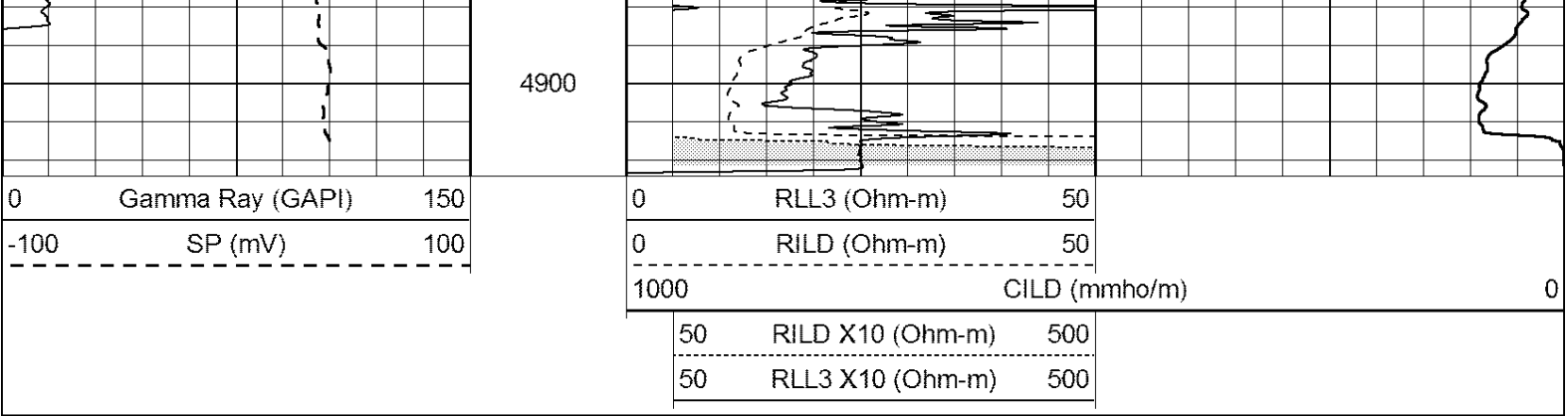
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4800

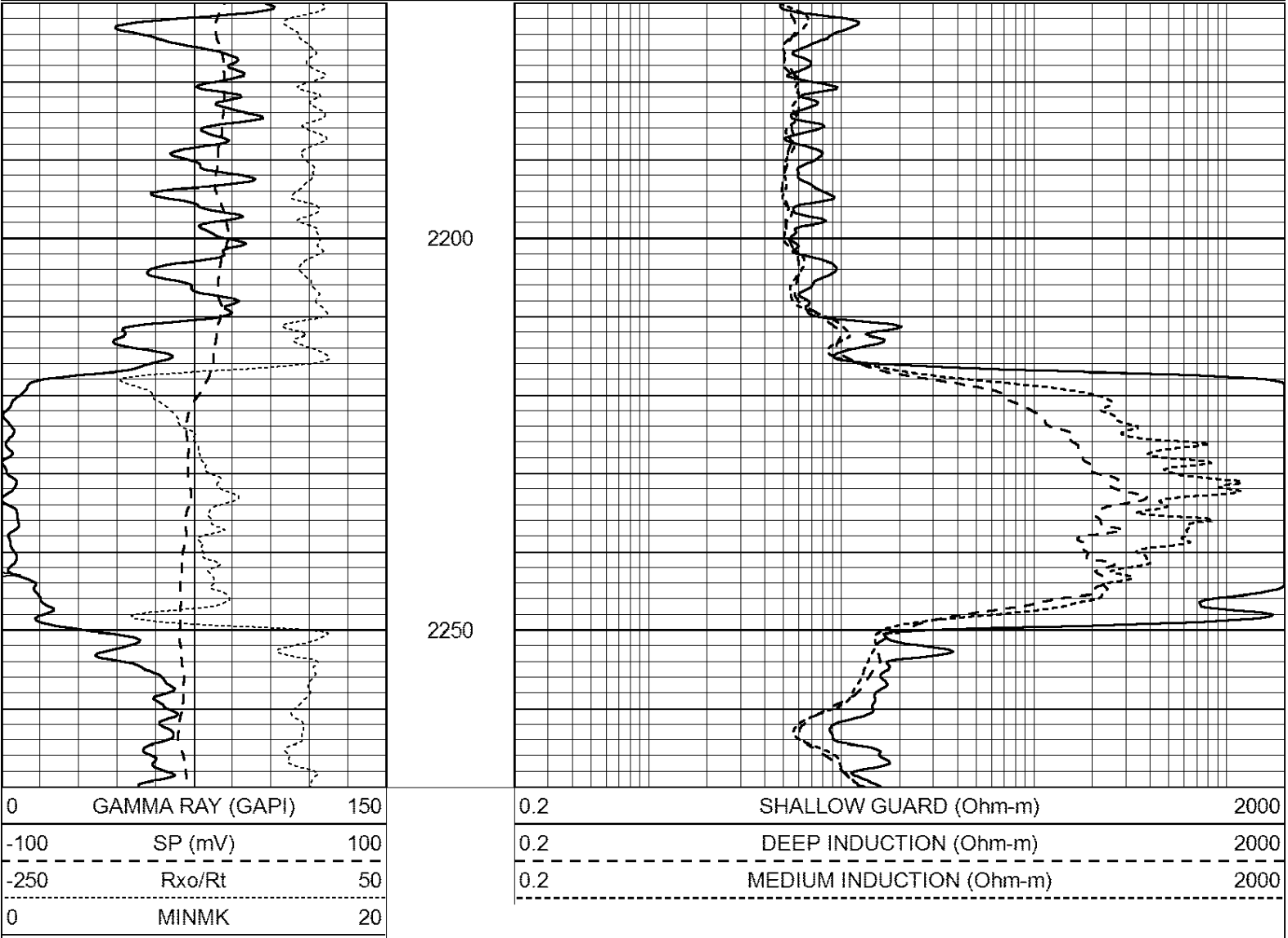
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Database File: 008150pe.db  
Dataset Pathname: pass3.3  
Presentation Format: \_dil  
Dataset Creation: Sat Jan 28 09:42:36 2012 by Calc Open-Cased 110302  
Charted by: Depth in Feet scaled 1:240

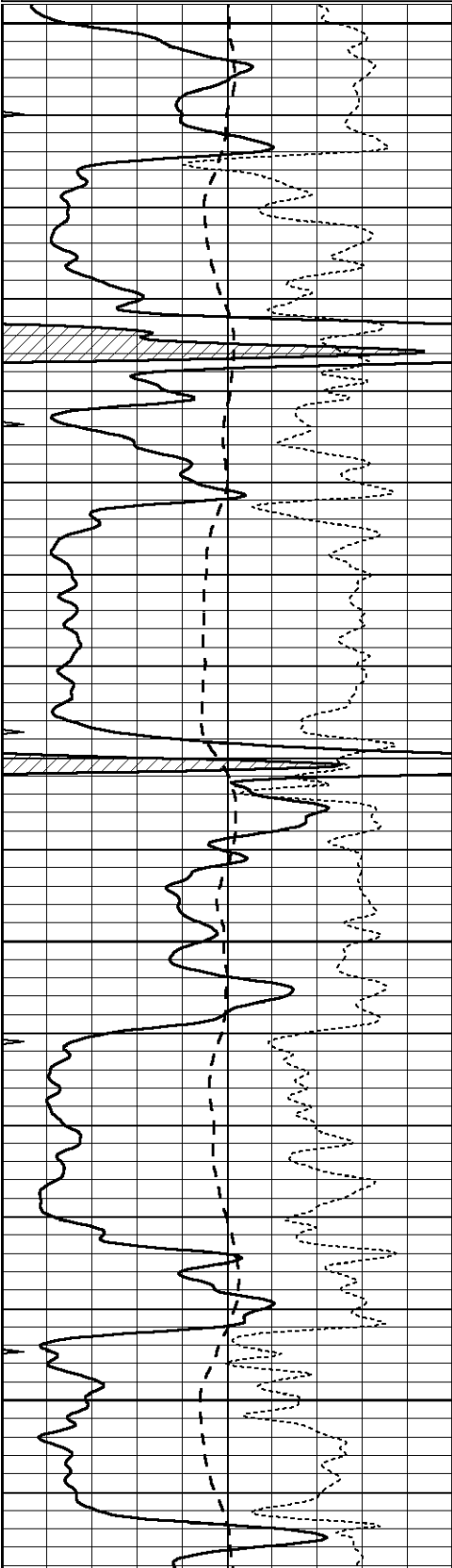
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



Database File: 008150pe.db  
Dataset Pathname: pass3.2  
Presentation Format: \_dil  
Dataset Creation: Sat Jan 28 07:29:26 2012 by Calc Open-Cased 110302  
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

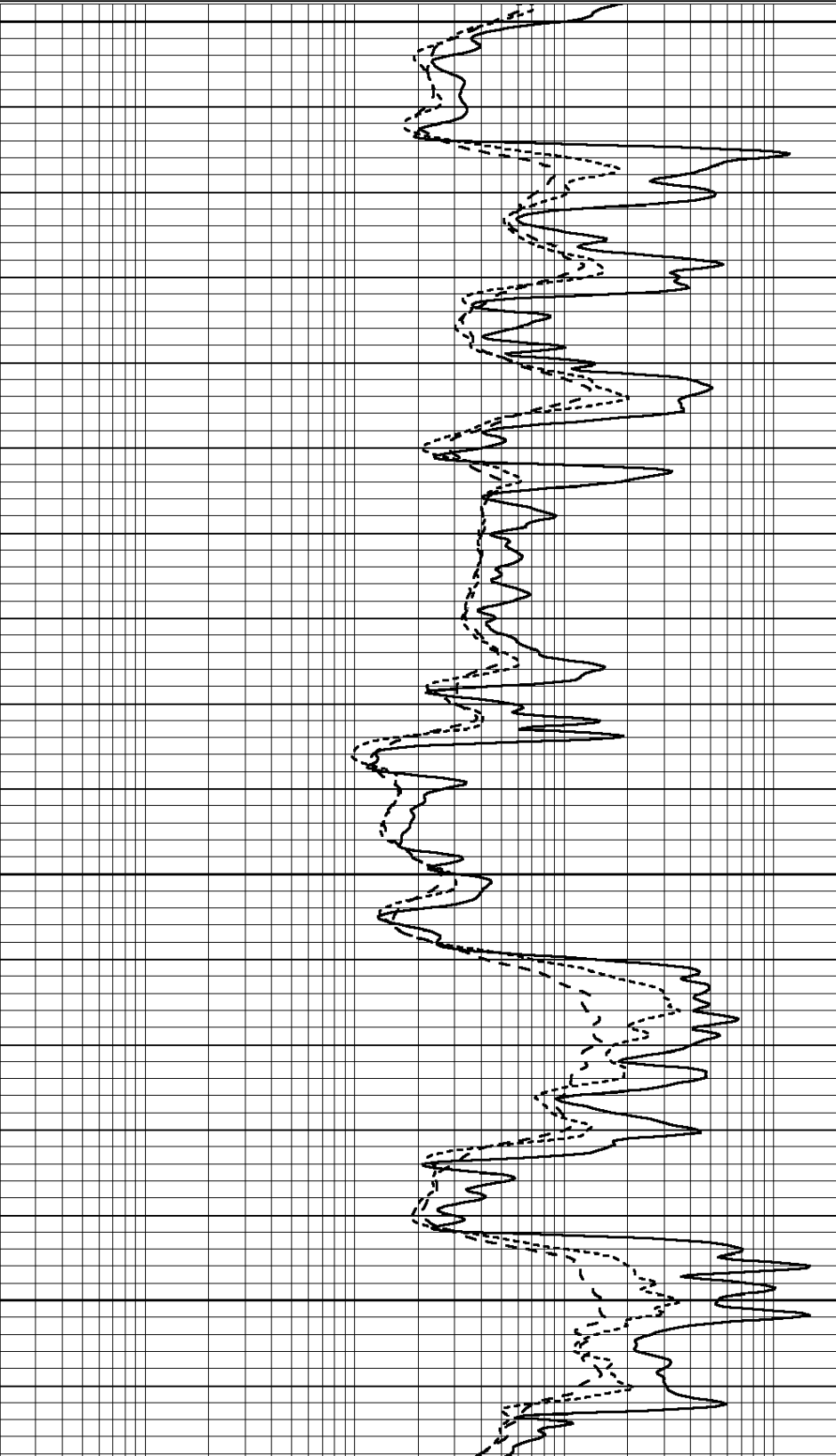


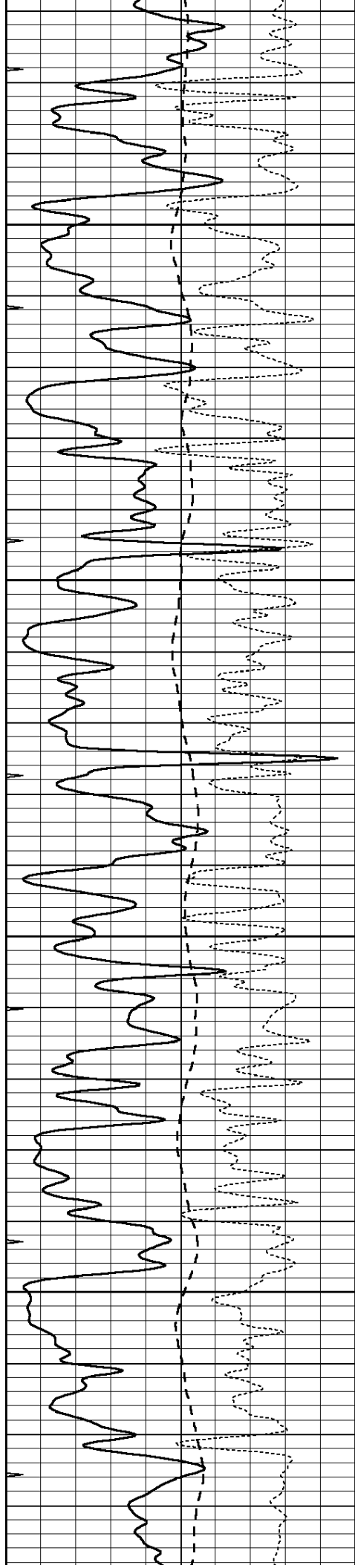
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3550

3600

3650



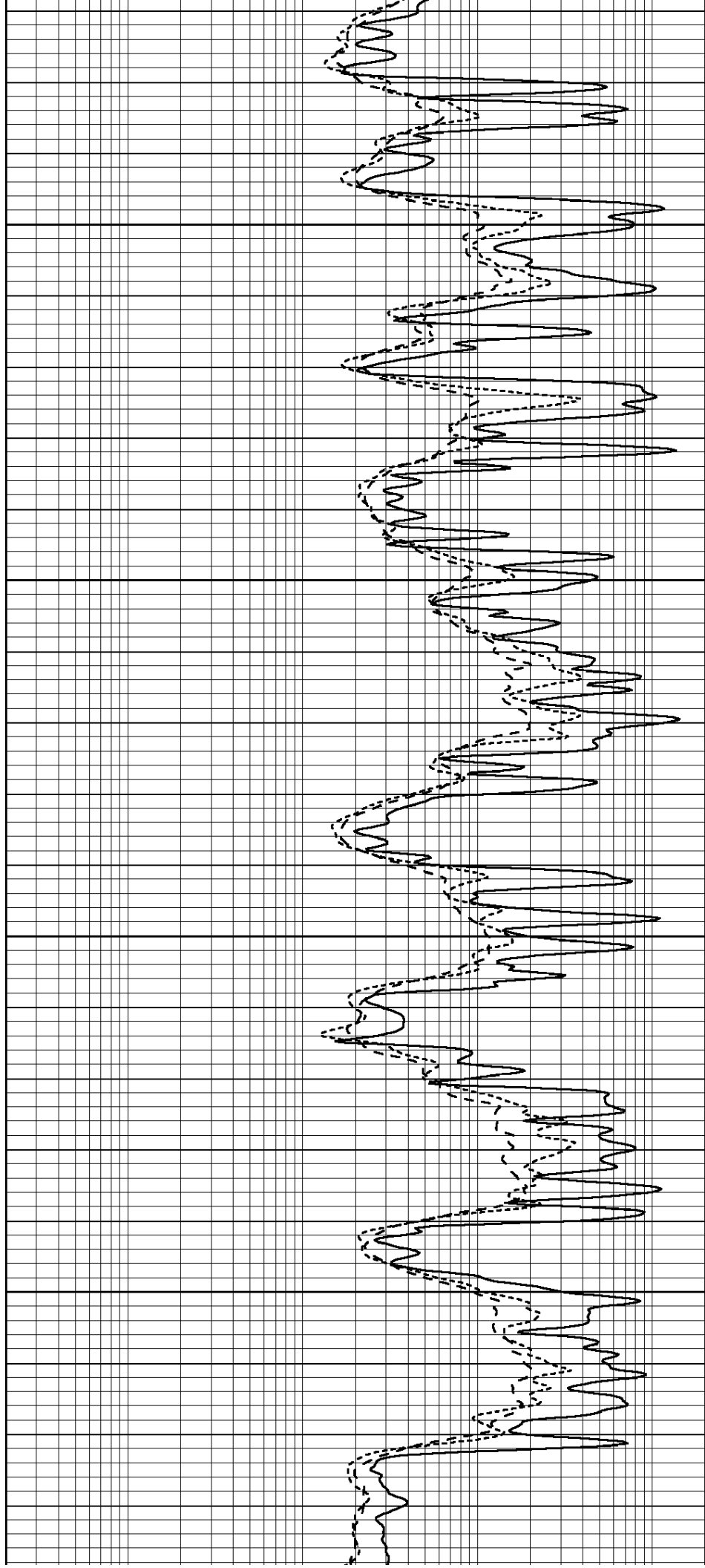


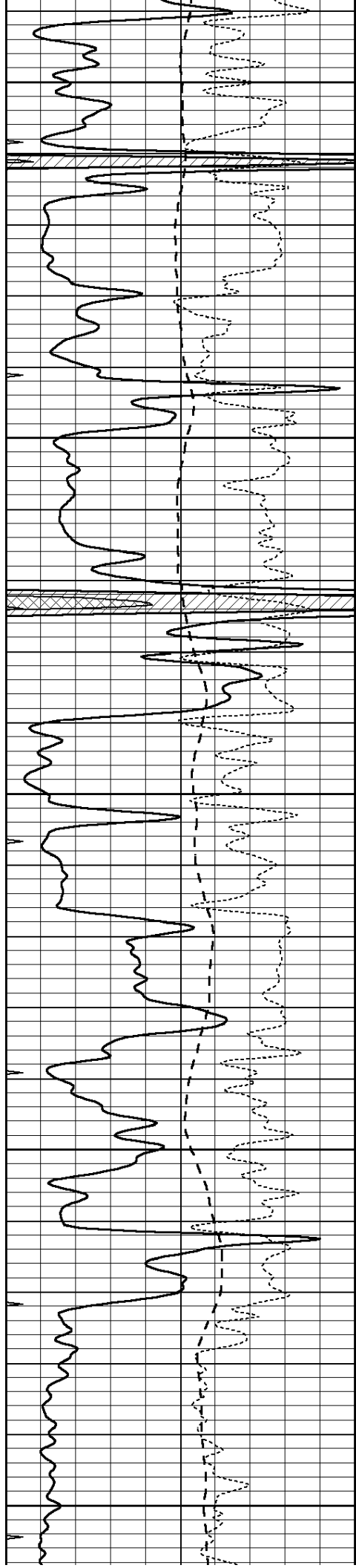
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3750

3800

3850





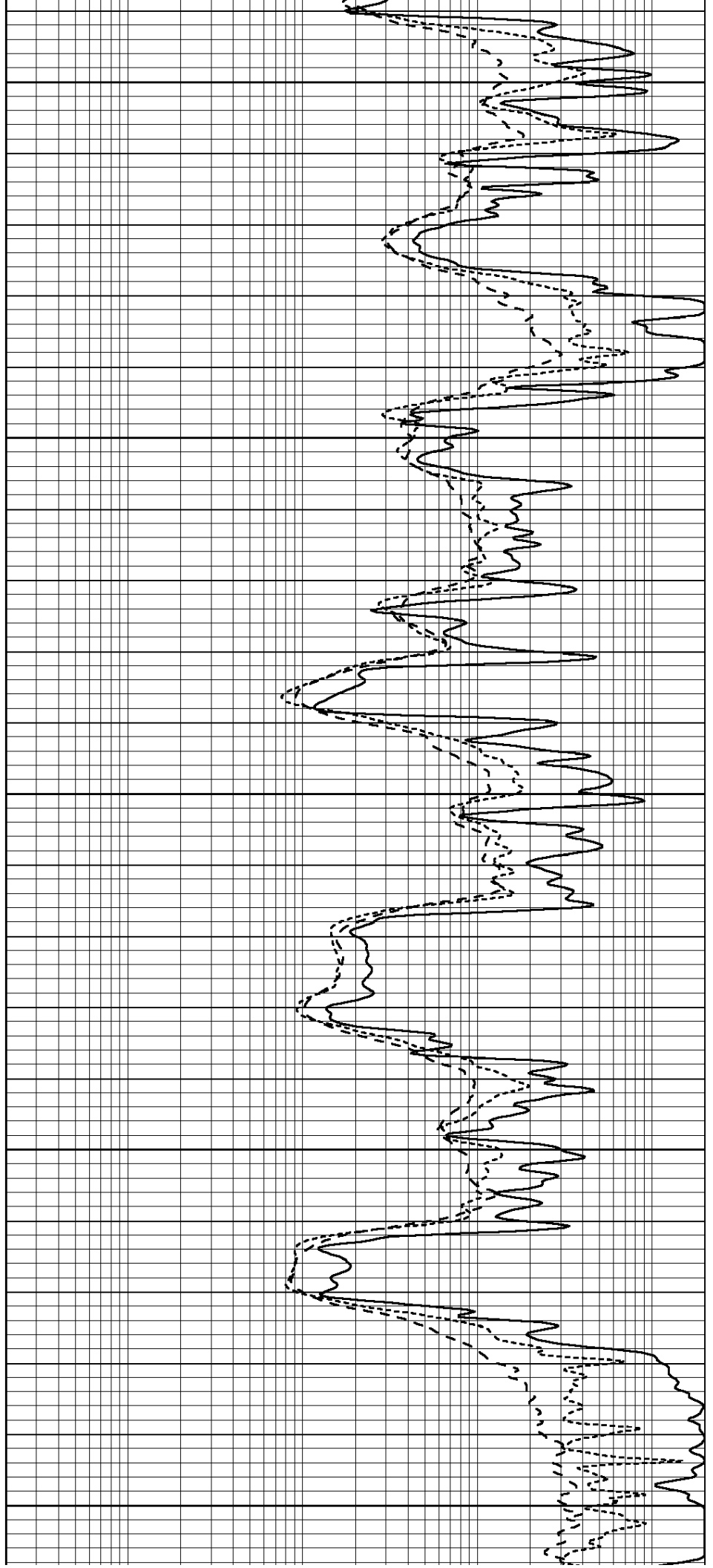
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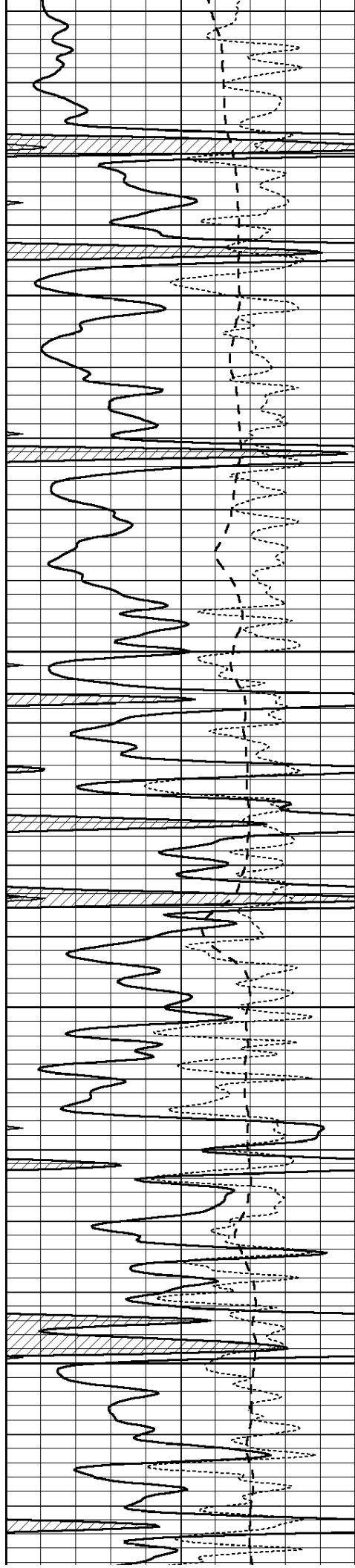
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4050

4100



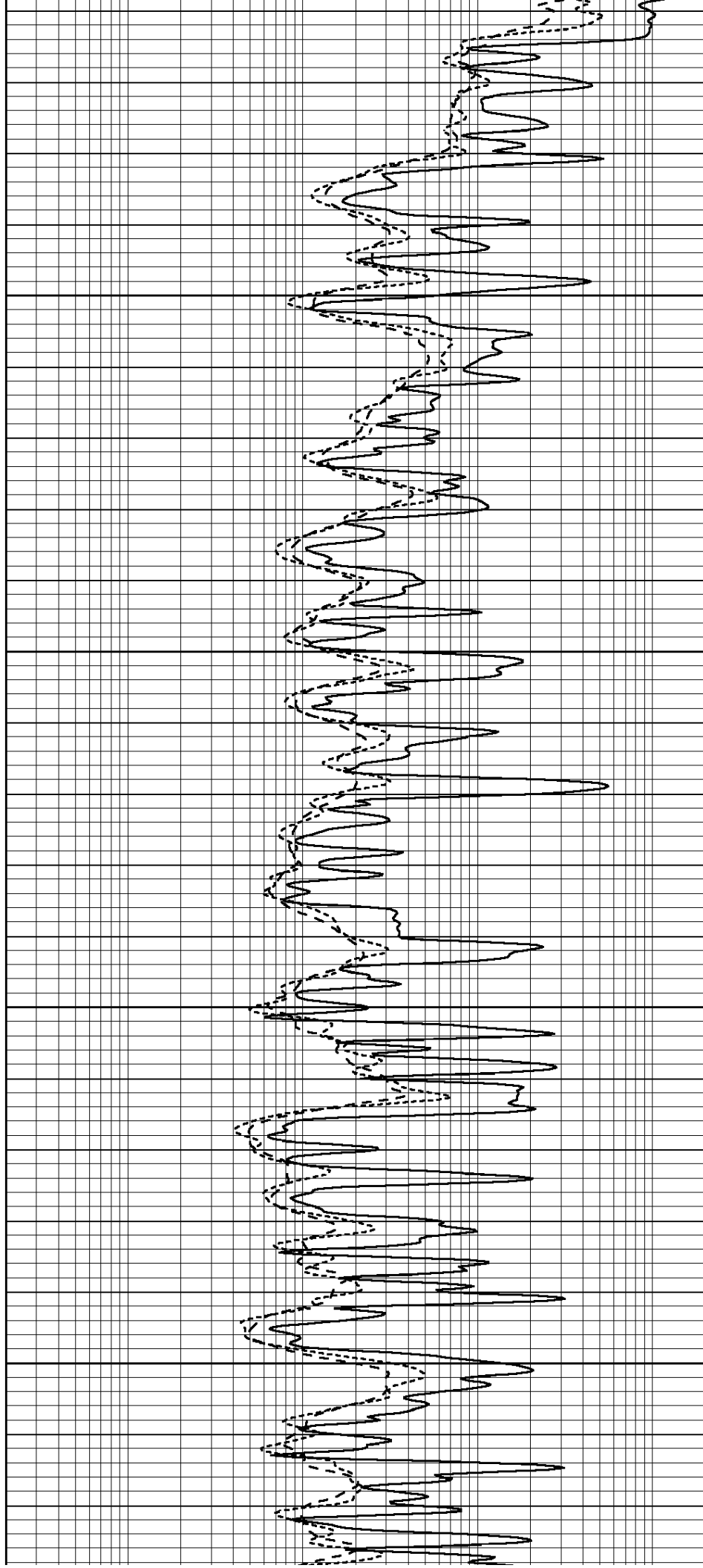


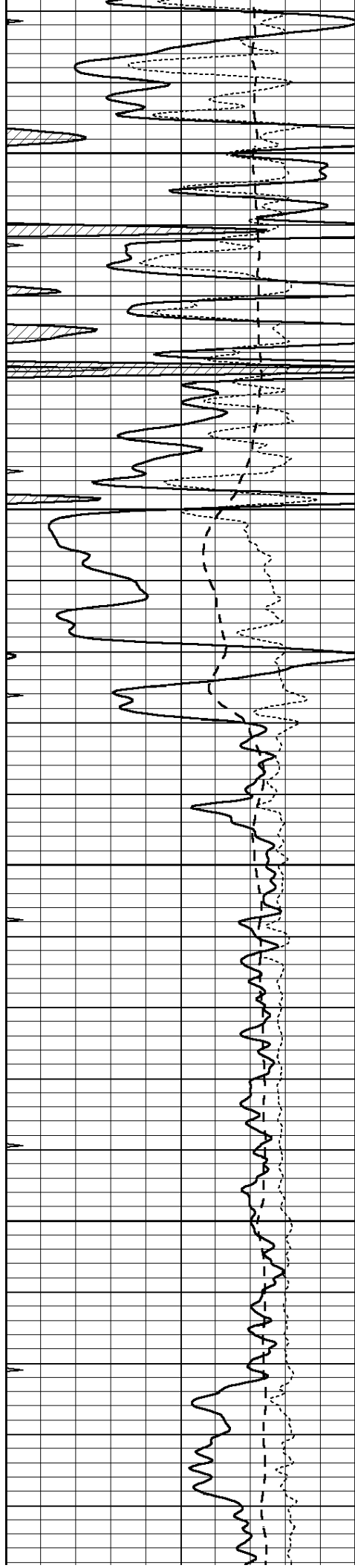
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4200

4250

4300



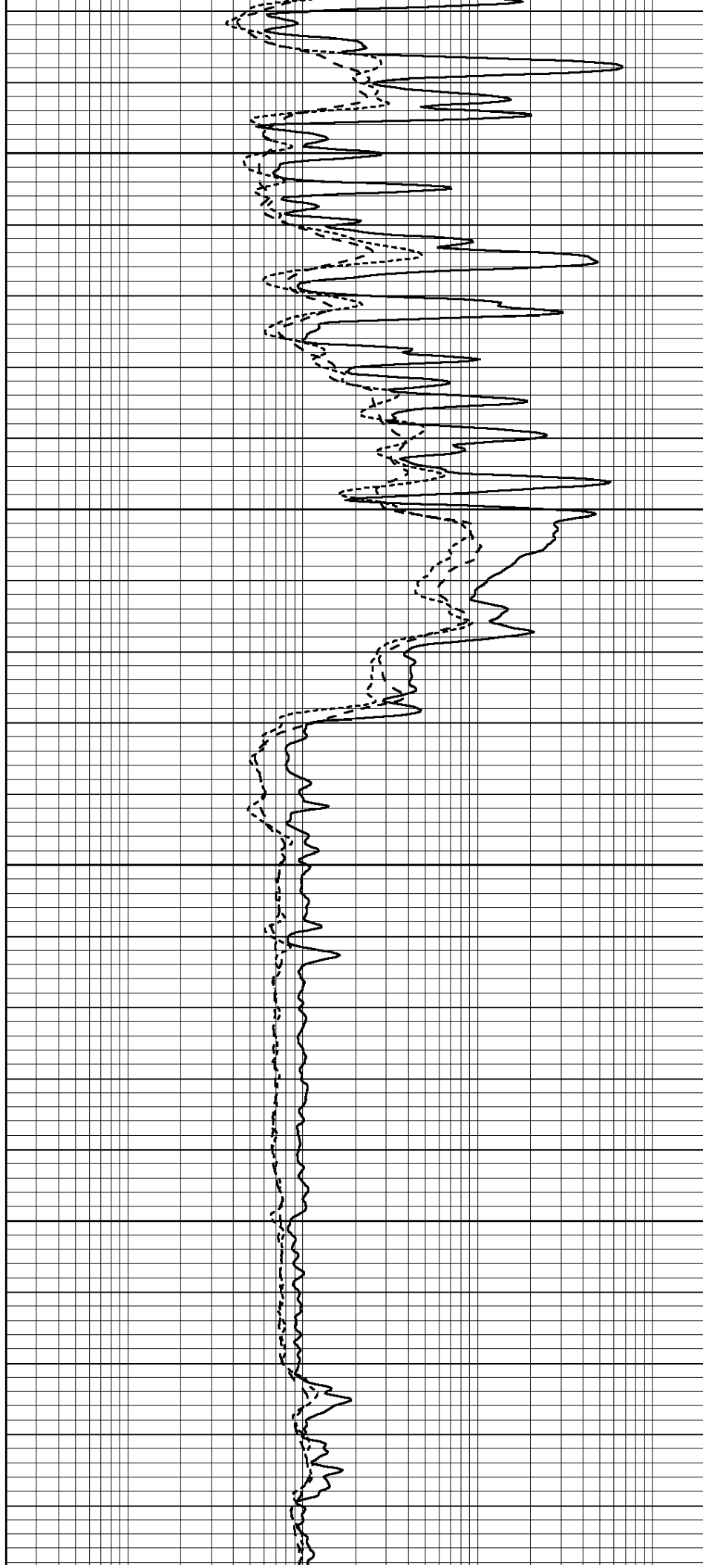


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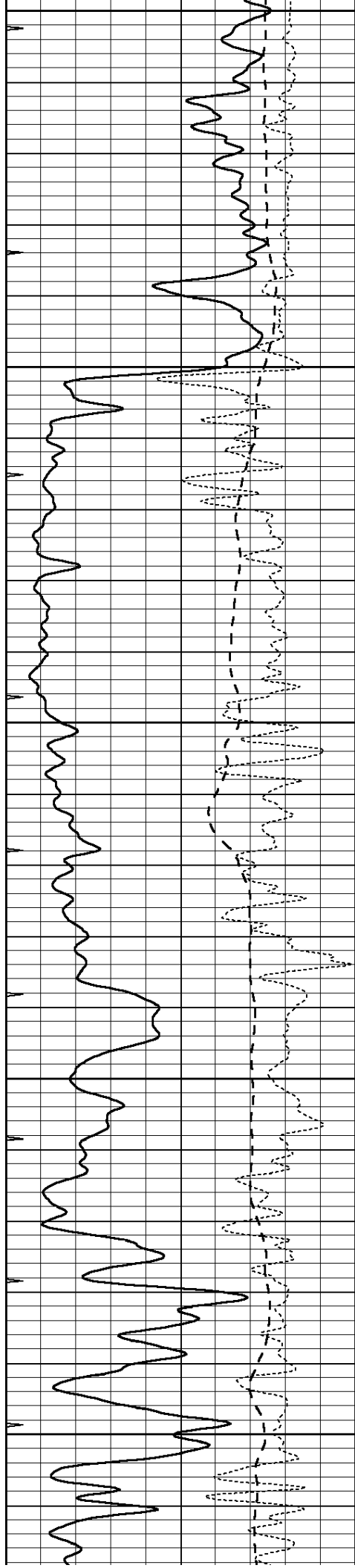
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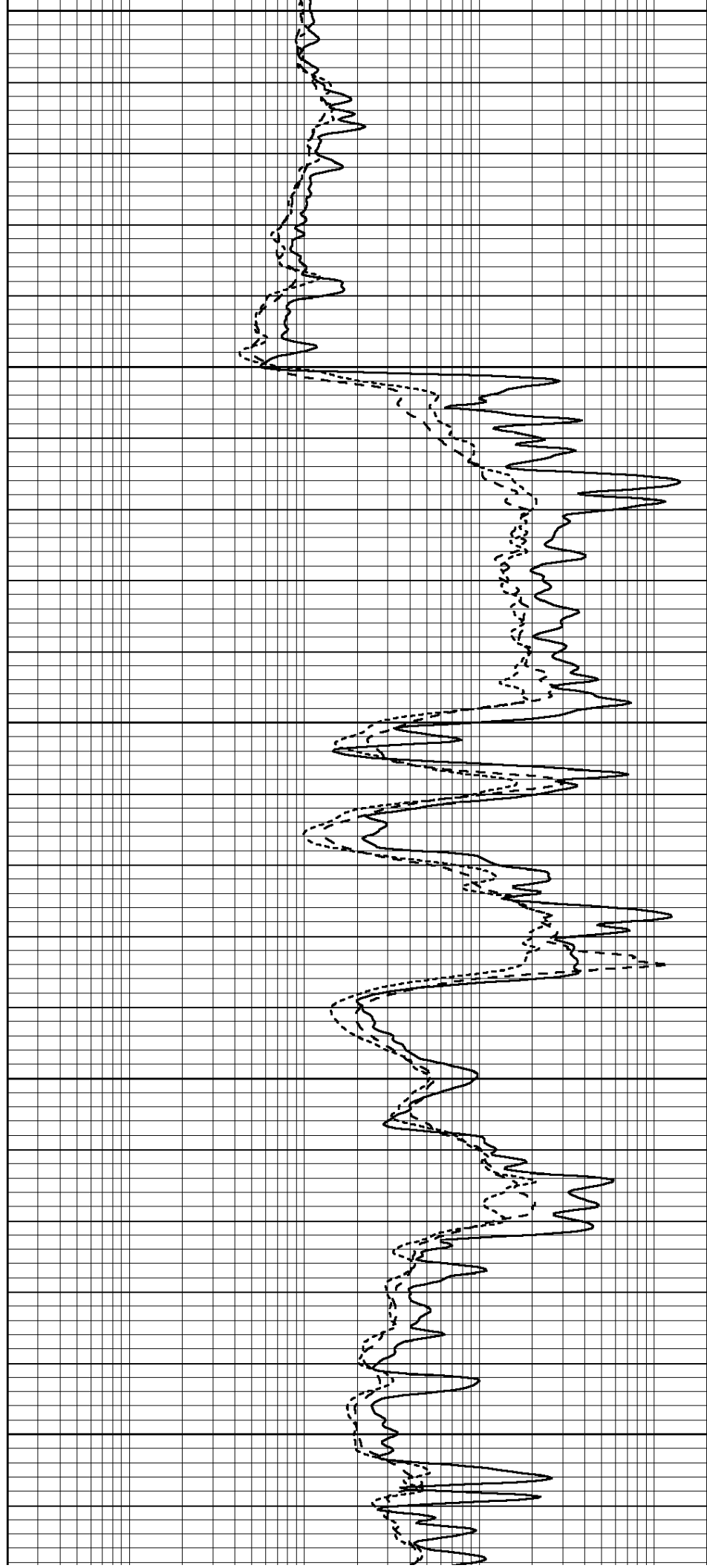
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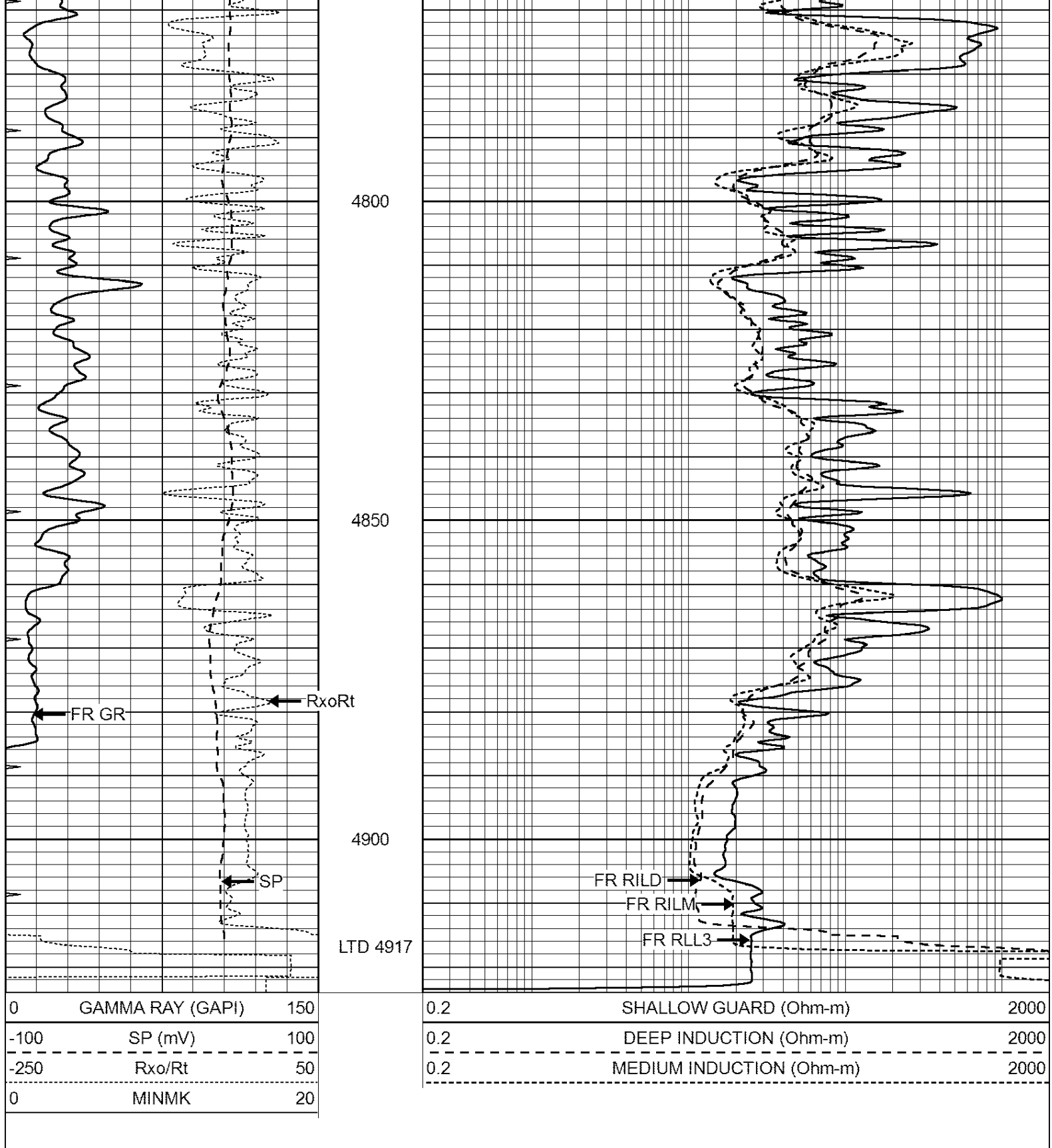
4600

4650

4700

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SUPERIOR  
Hays,  
Kansas

# REPEAT SECTION

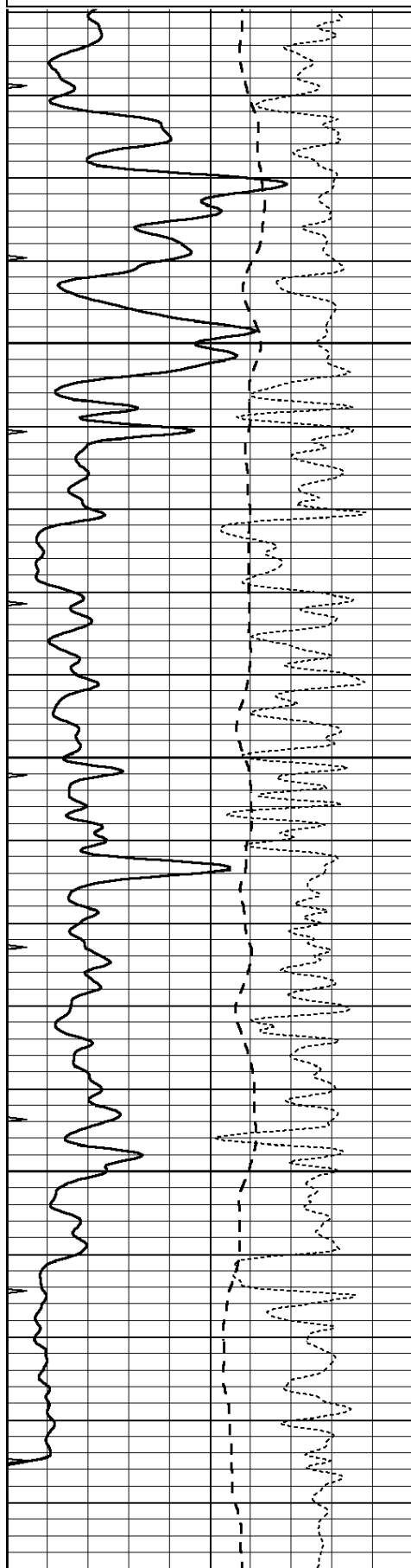
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 Dataset Pathname: pass2.1  
 Presentation Format: \_dil  
 Dataset Creation: Sat Jan 28 09:30:38 2012 by Calc Open-Cased 110302

Charted by:

Depth in Feet scaled 1:240

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

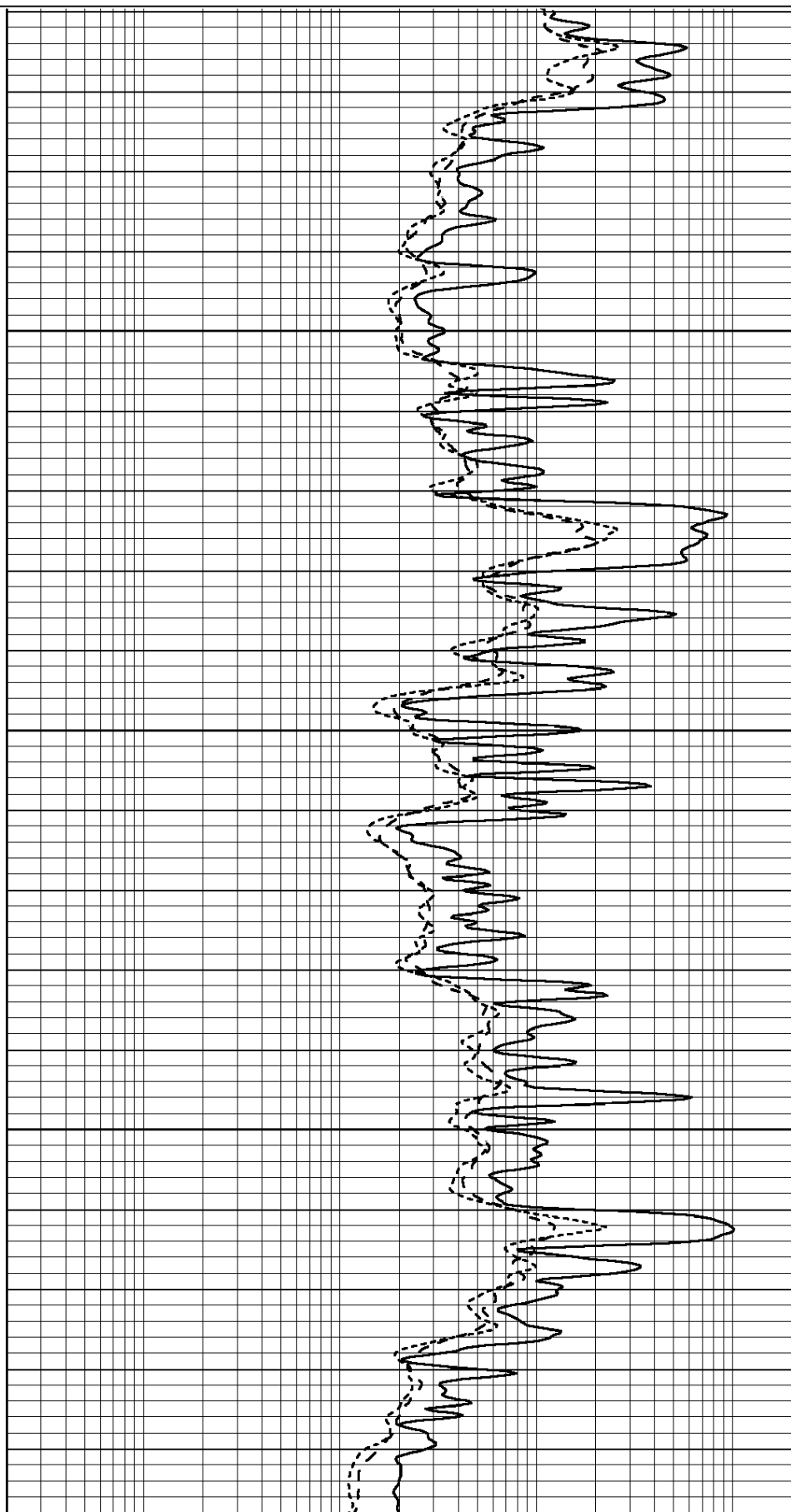
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



4750

4800

4850





## Compensated Neutron Calibration Report

Caliper			
	Readings	Reference	
Low Ref	4.0	8.3	
High Ref	5.9	15.0	
	Gain: 3.5		Offset: -5.5

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:	Fri Jan 27 16:46:37 2012		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.2800	GAPI/cps	