

DUAL INDUCTION LOG

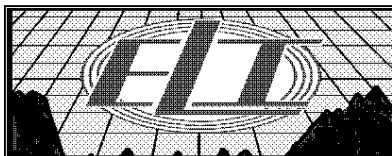
Company	C & K OPERATING, LLC.		
Well	ALAMEDA #3-10		
Field	ALAMEDA		
County	KINGMAN	State	KANSAS
Location:	SEC 28 TWP 28S RGE 7W		Other Services CDL/CNL/PE MEL/SONIC
Permanent Datum	GROUND LEVEL	Elevation	1601
Log Measured From	KELLY BUSHING 10' A.G.L.		
Drilling Measured From	KELLY BUSHING		
Date	12/20/19		
Run Number	ONE		
Depth Driller	4430		
Depth Logger	4428		
Bottom Logged Interval	4426		
Top Log Interval	00		
Casing Driller	13 3/8" @ 246'		
Casing Logger	246		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,500 PPM	
Density / Viscosity	9.4/50		
pH / Fluid Loss	10.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.800 @ 62F		
Rmf @ Meas. Temp	.600 @ 62F		
Rmc @ Meas. Temp	.960 @ 62F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.413 @ 120F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	10:30 P.M.		
Maximum Recorded Temperature	120F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	WYATT URBAN		

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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, KANSAS (785) 628-6395
DIRECTIONS
KINGMAN, KS., 5S. TO "RD. 50" 1E., N. INTO



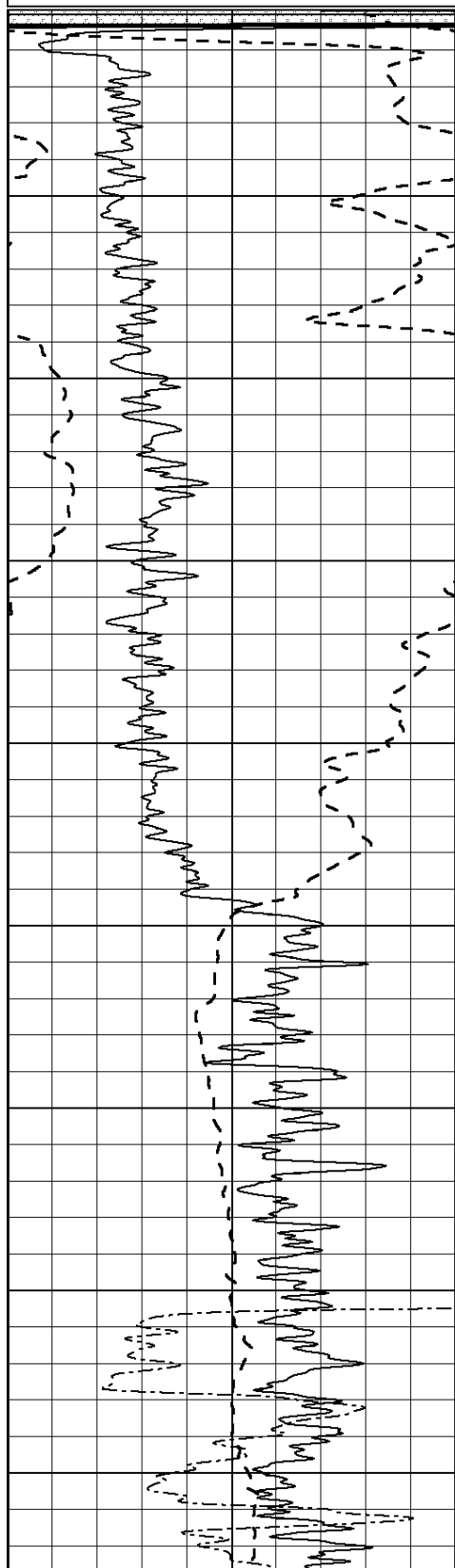
MAIN SECTION

Database File: 4394pe.db
 Dataset Pathname: pass3.4
 Presentation Format: dil2
 Dataset Creation: Fri Dec 20 23:58:12 2019 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:600

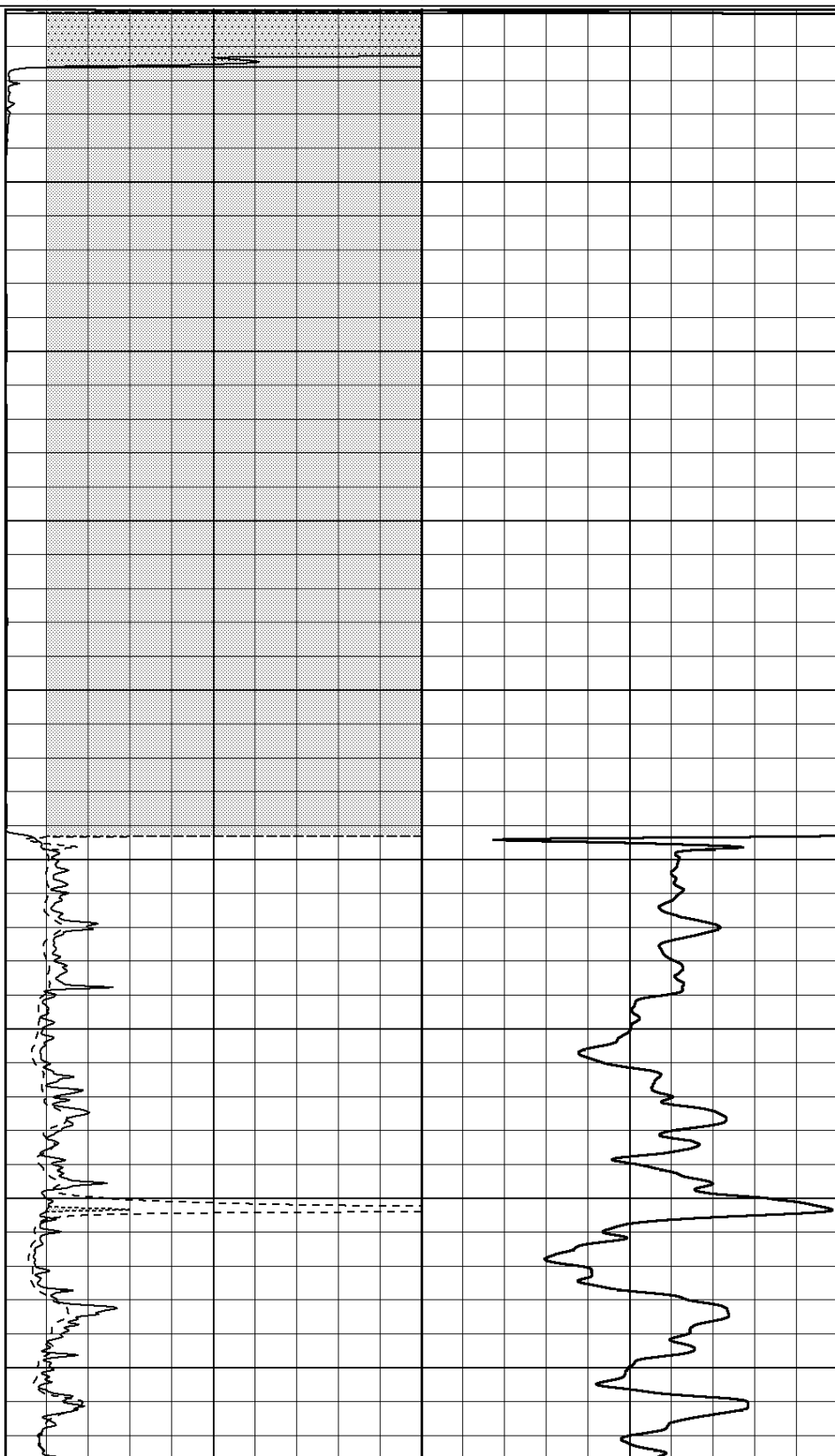
0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

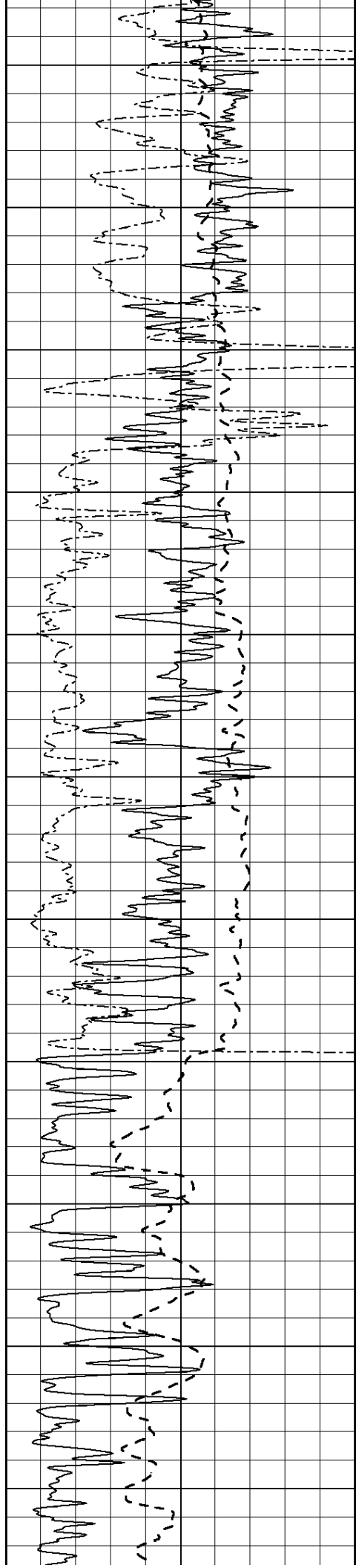
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
1000	CILD (mmho/m)	0

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

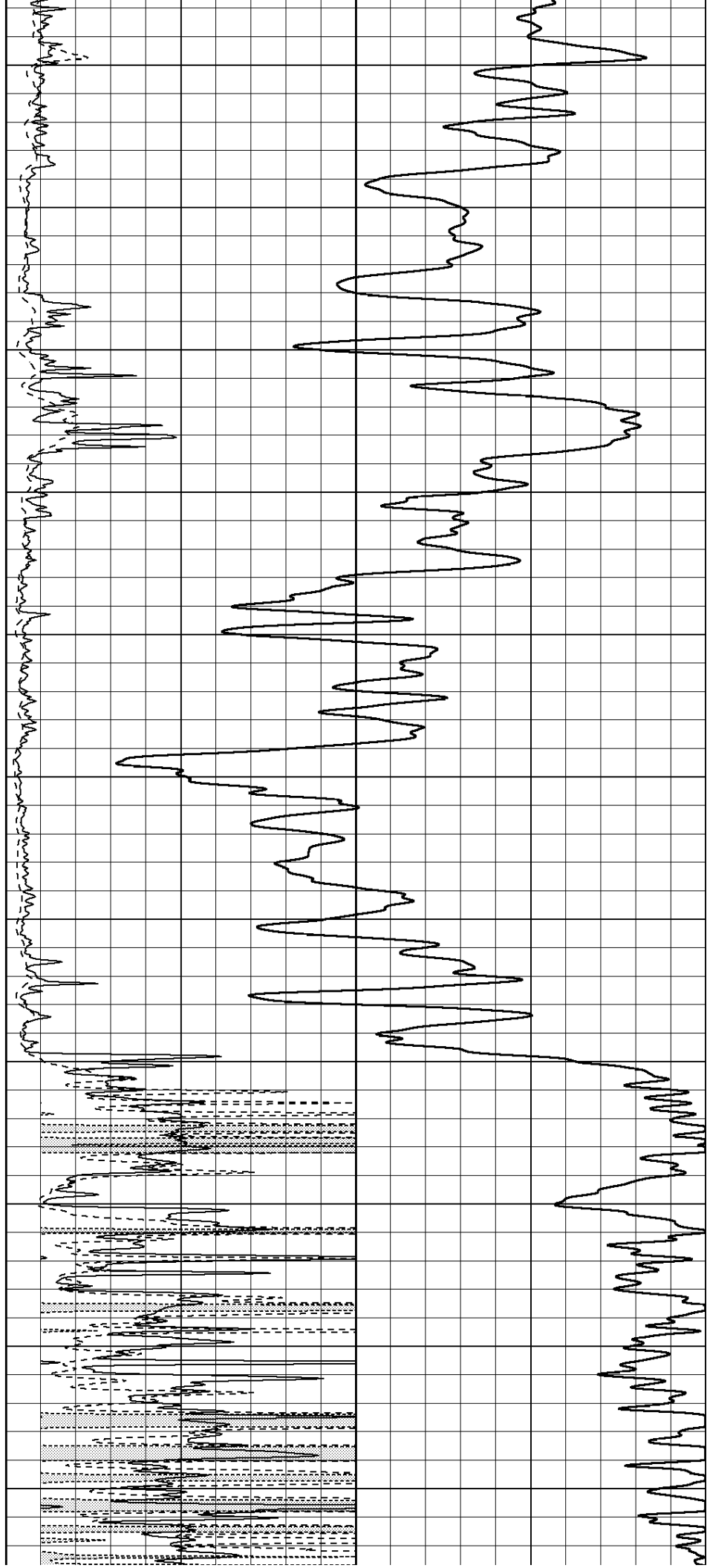
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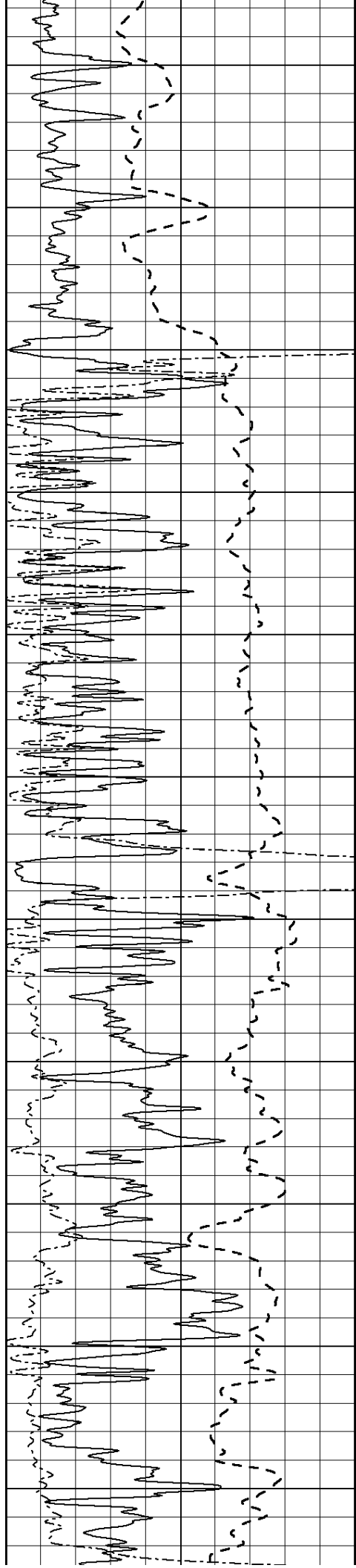
800

850

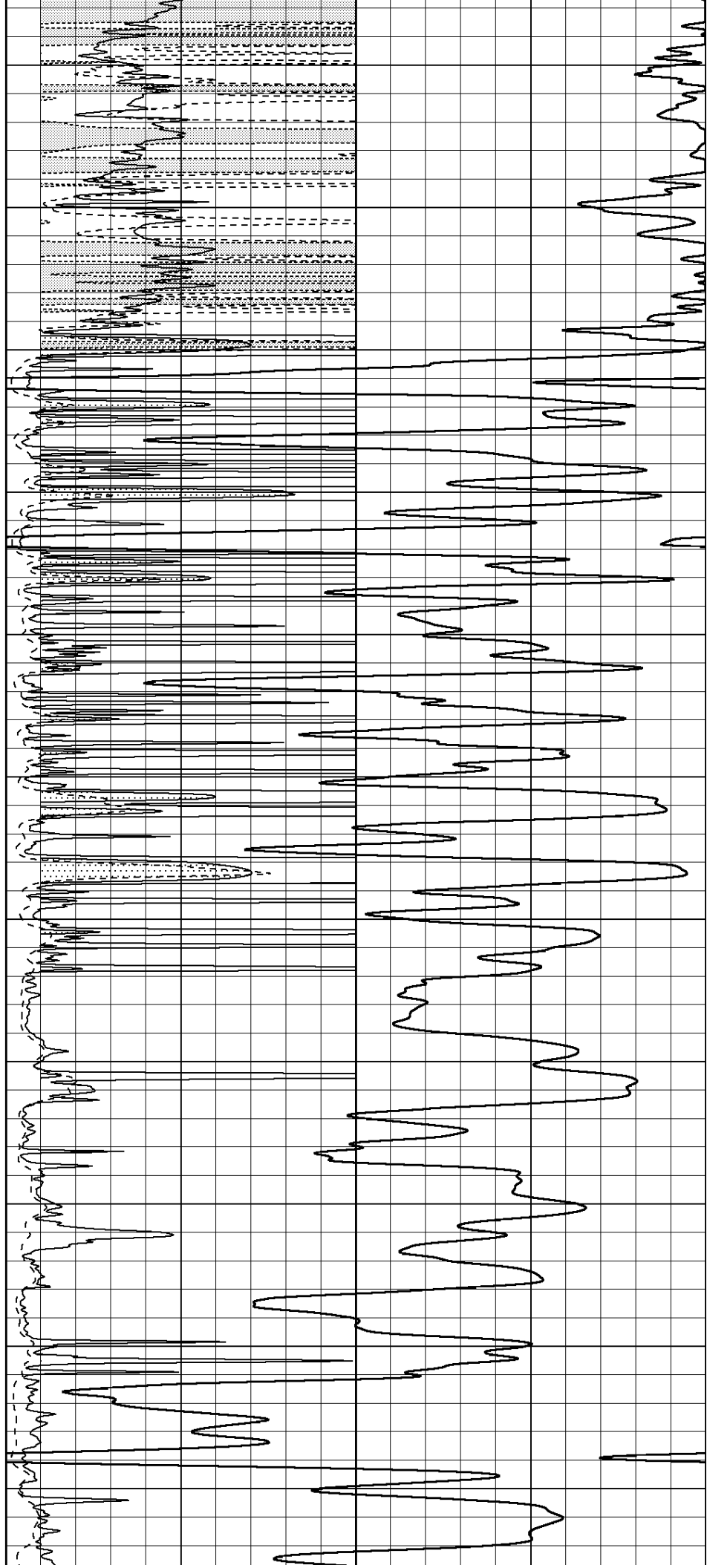
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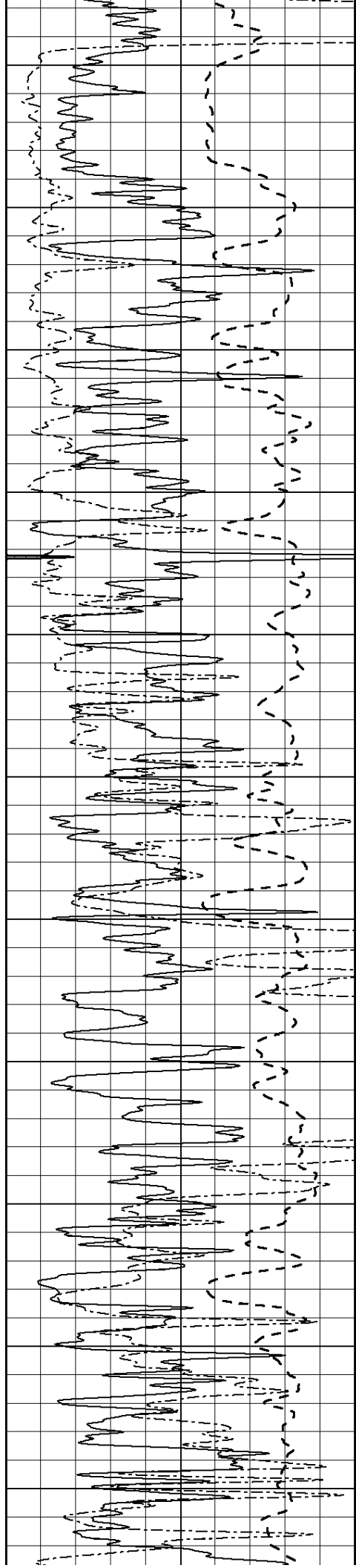
950





1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550

1600

1650

1700

1750

1800

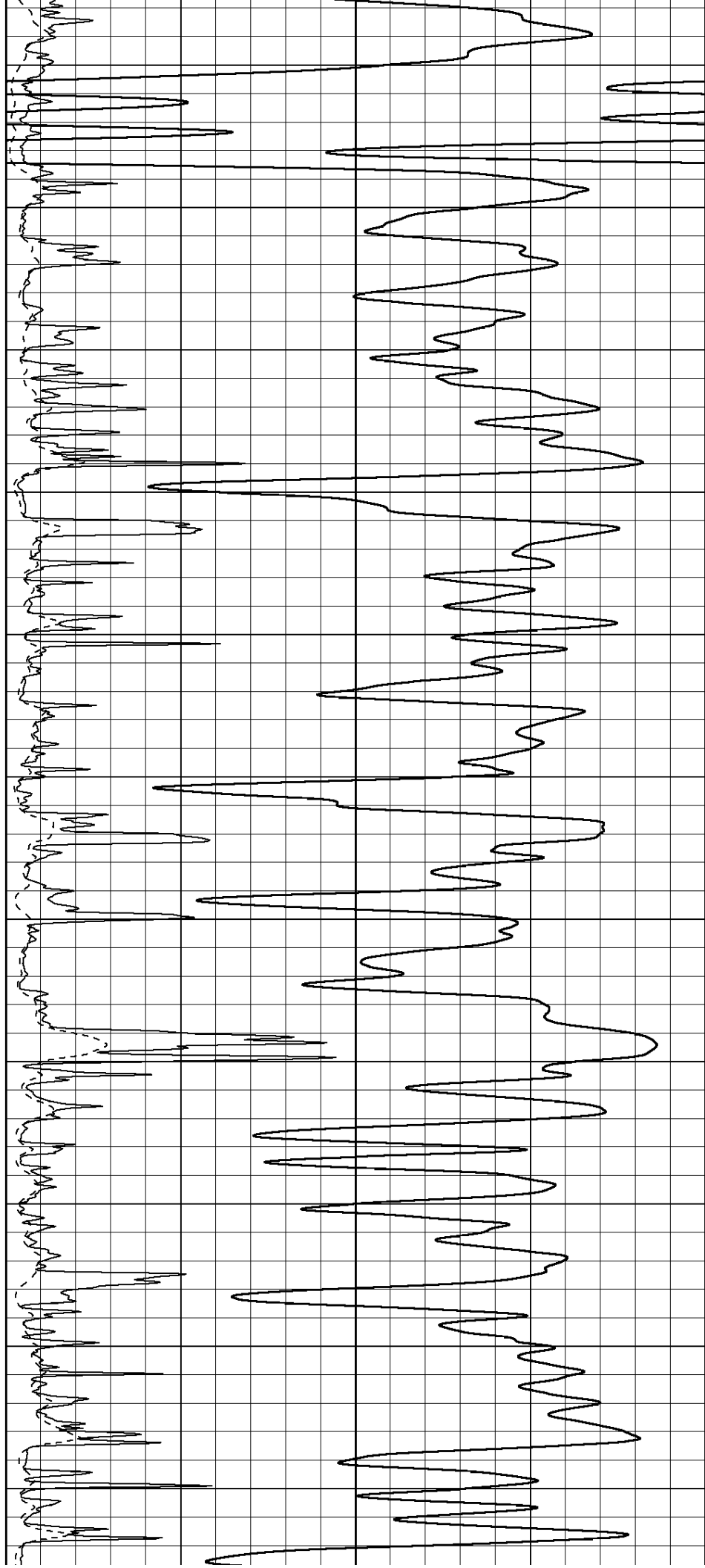
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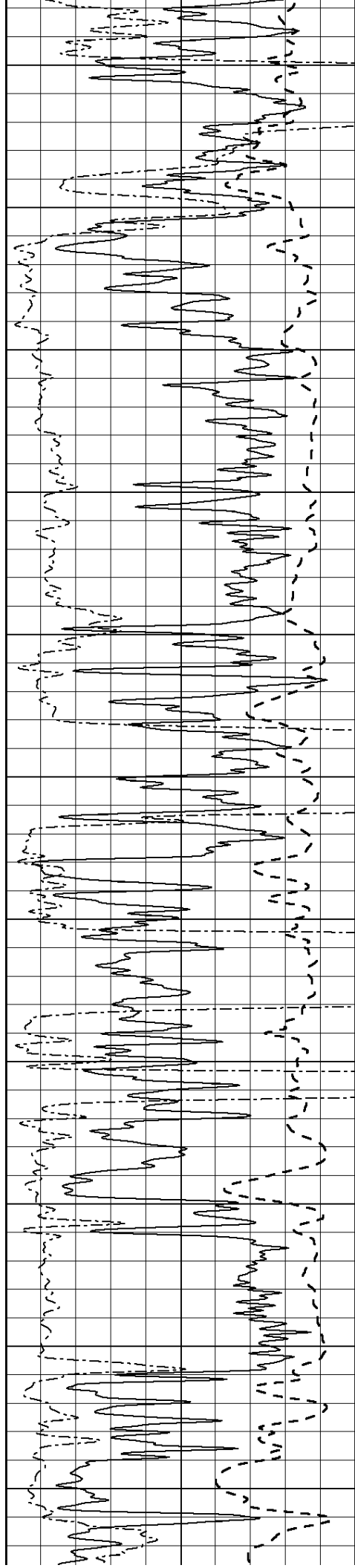
1900

1950

2000

2050





2100

2150

2200

2250

2300

2350

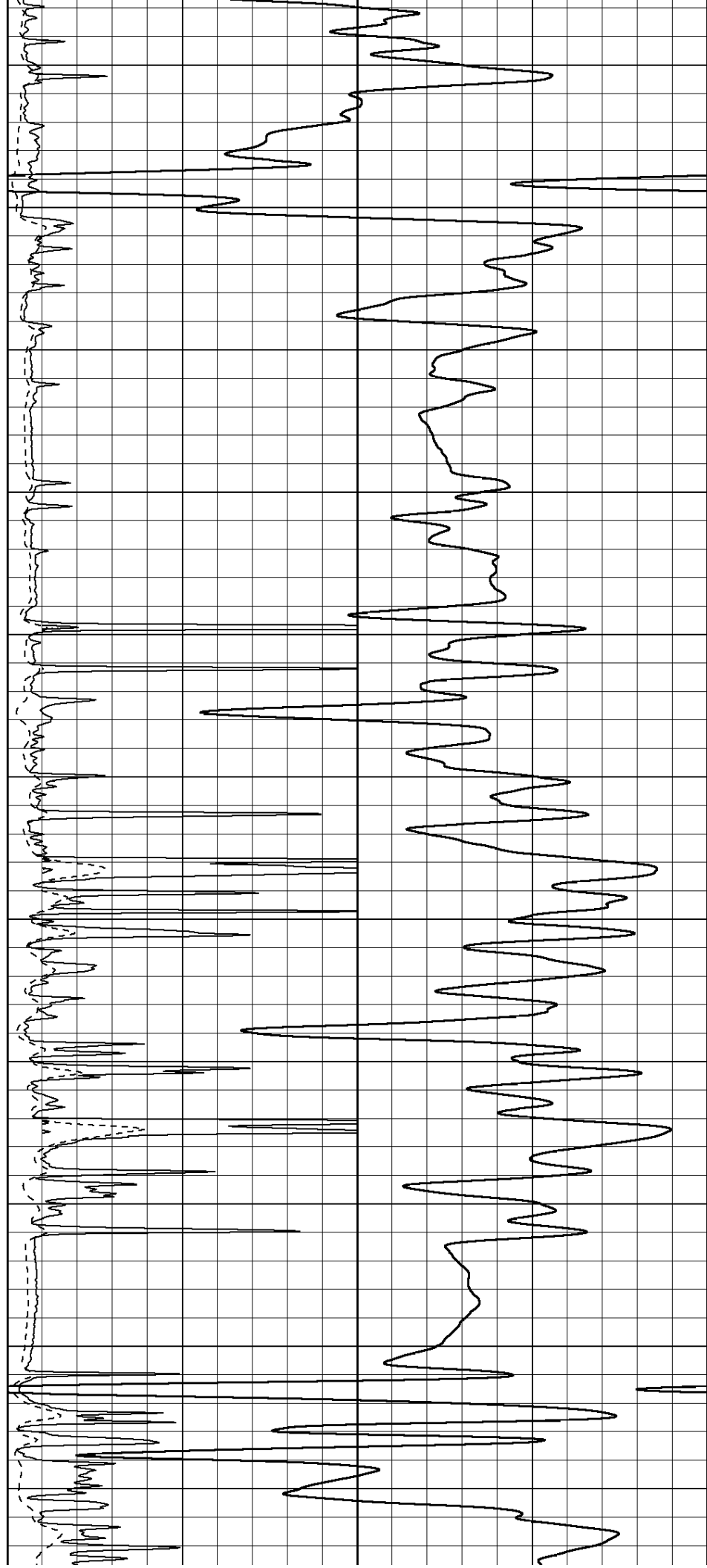
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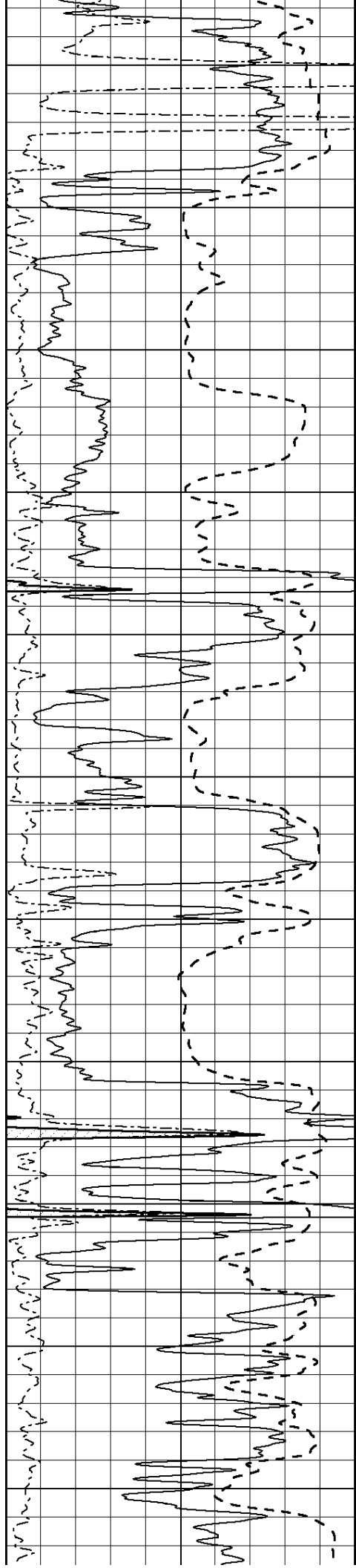
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2500

2550

2600





2650

2700

2750

2800

2850

2900

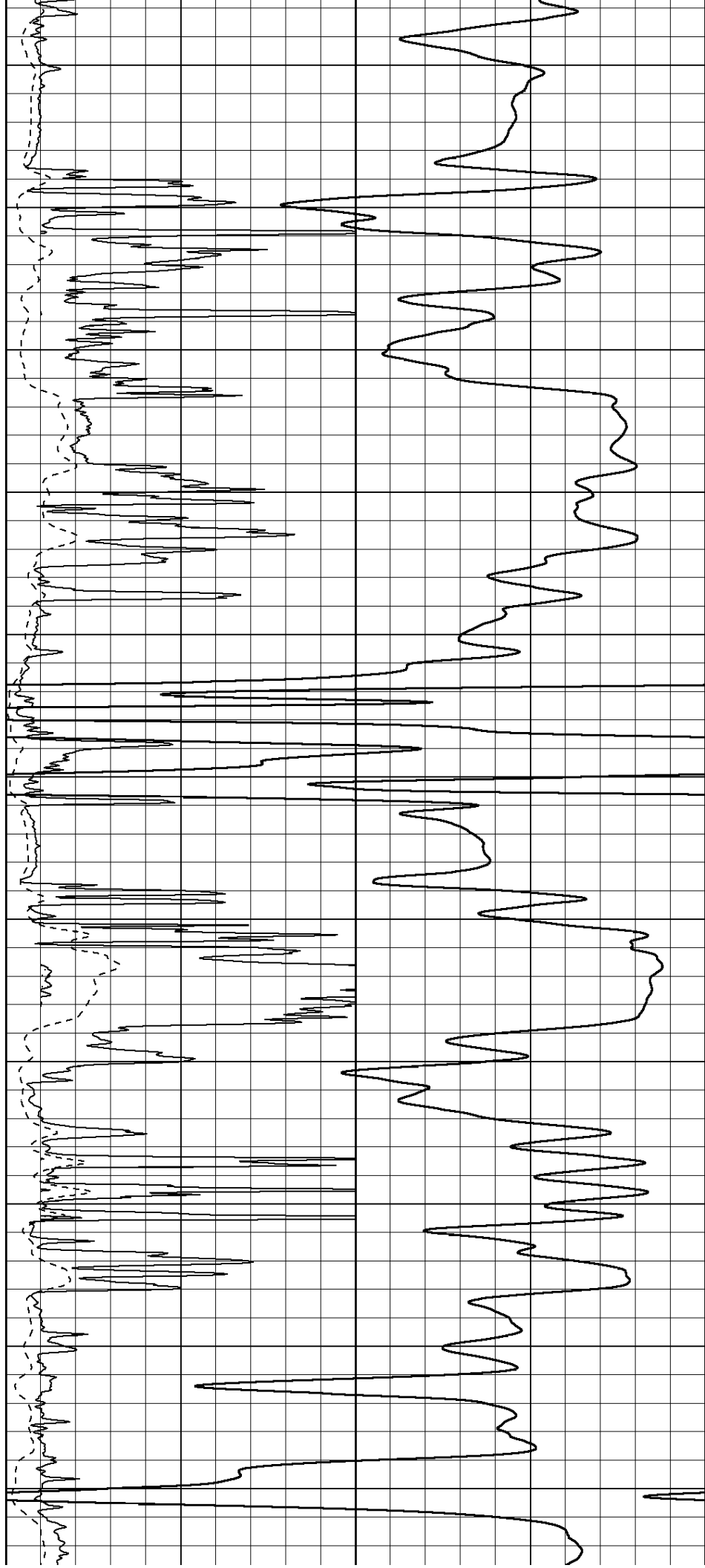
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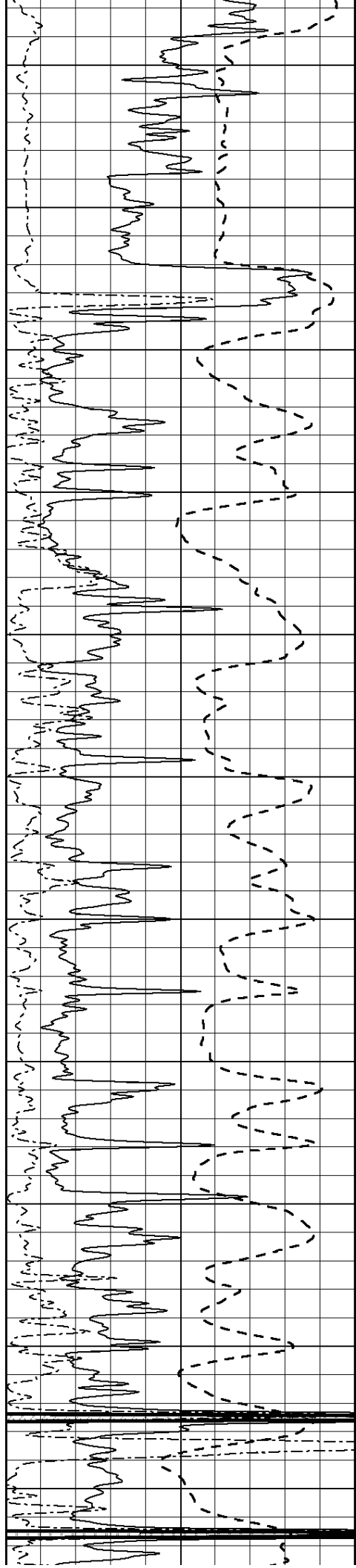
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

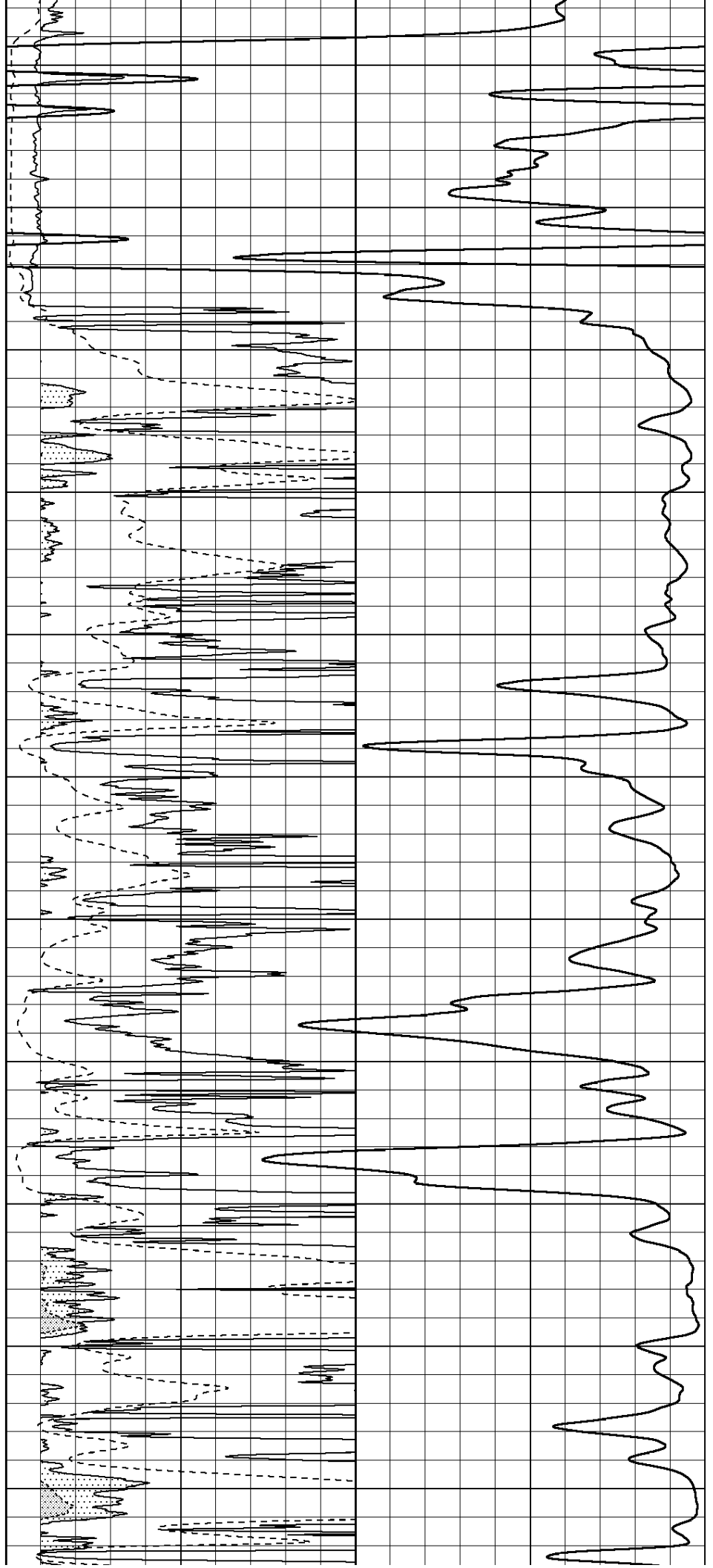
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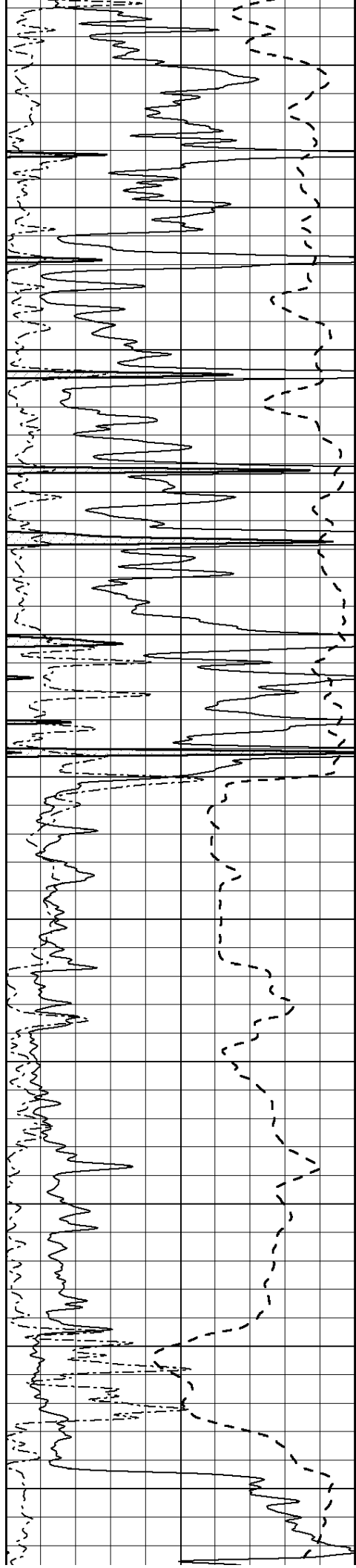
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3600

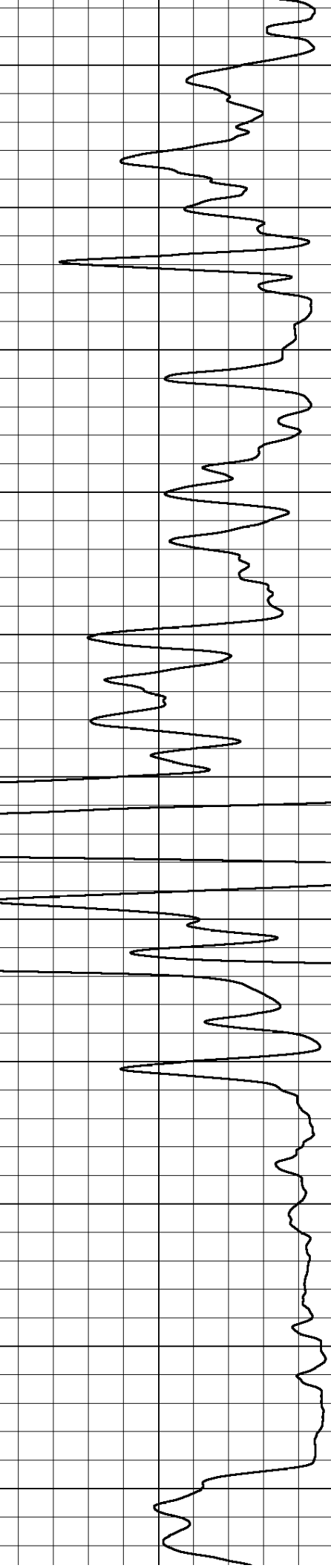
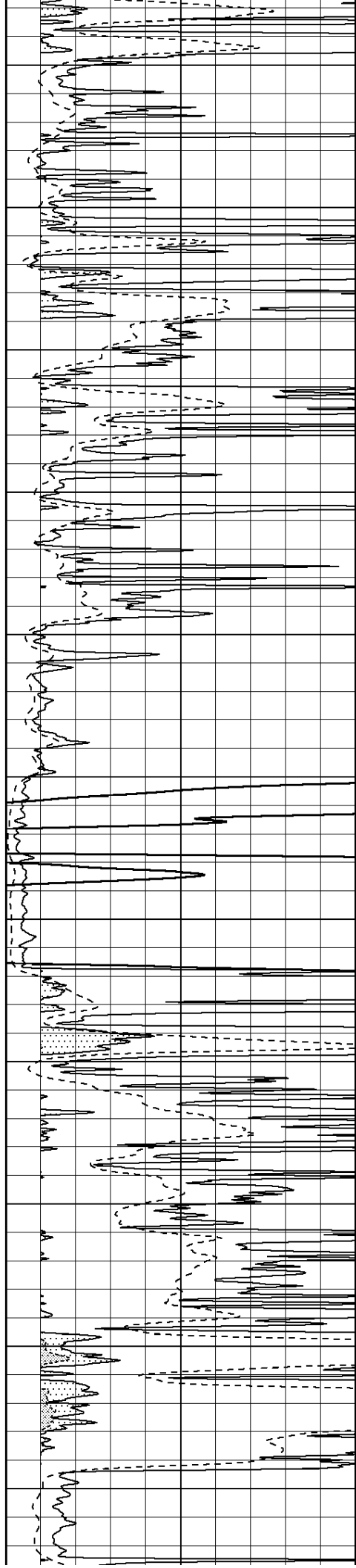
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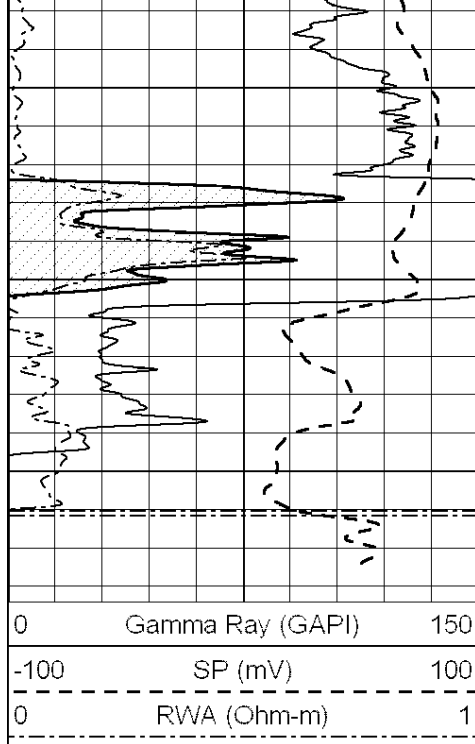
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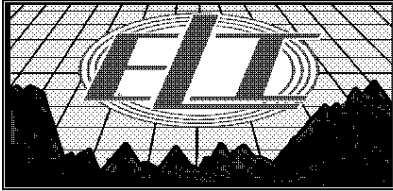
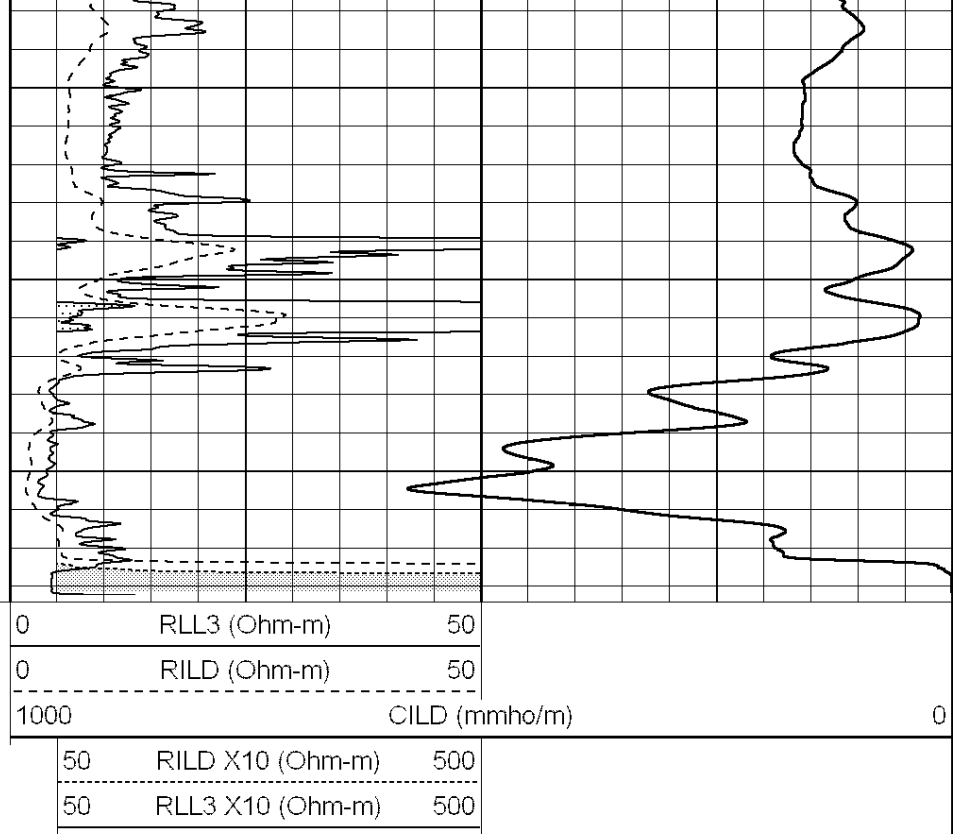


3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250



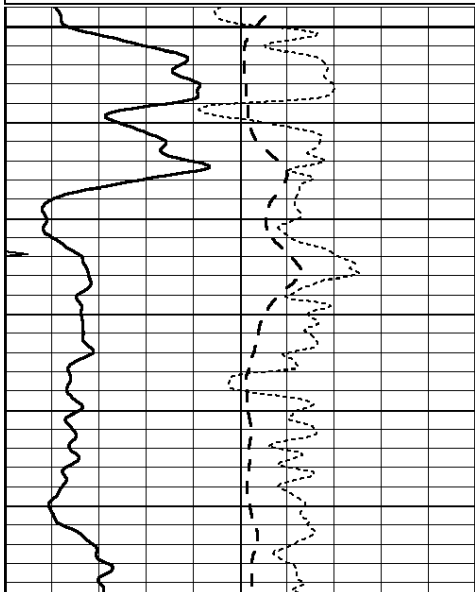
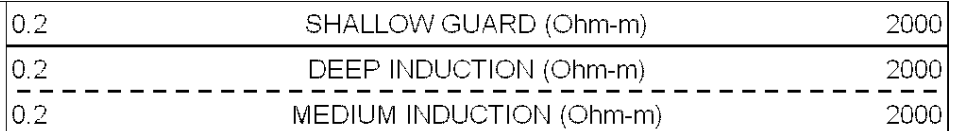
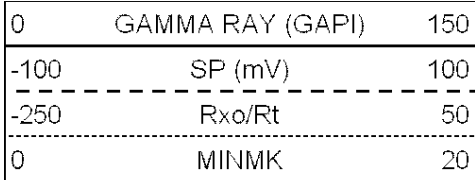


4300
4350
4400

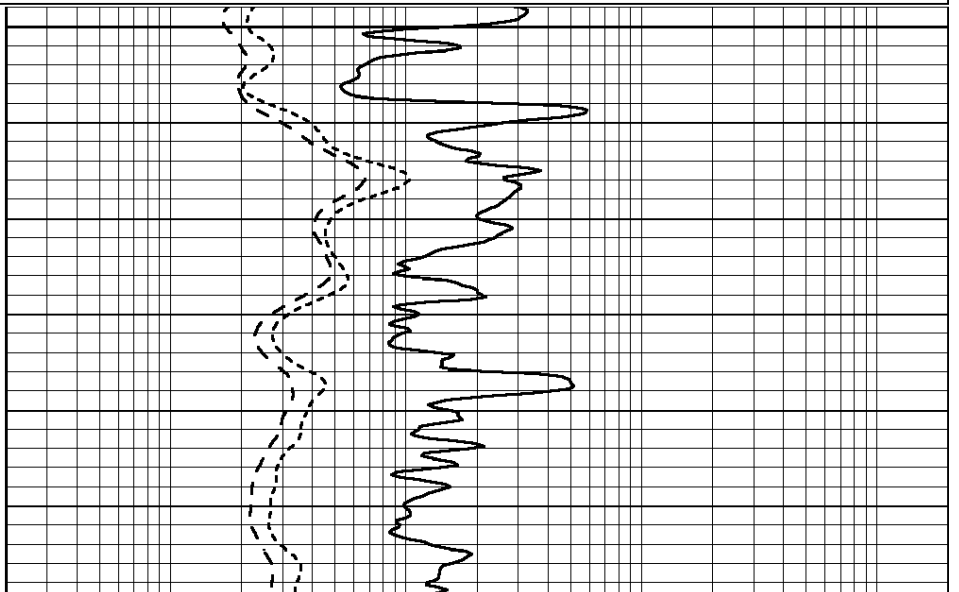


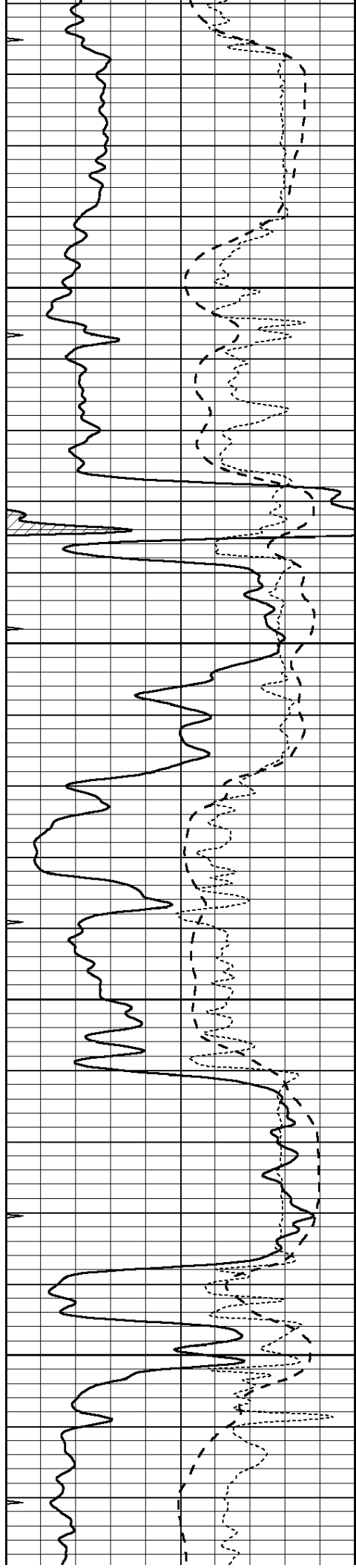
MAIN SECTION

Database File: 4394pe.db
 Dataset Pathname: pass3.4
 Presentation Format: _dil
 Dataset Creation: Fri Dec 20 23:58:12 2019 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240



2700
2750



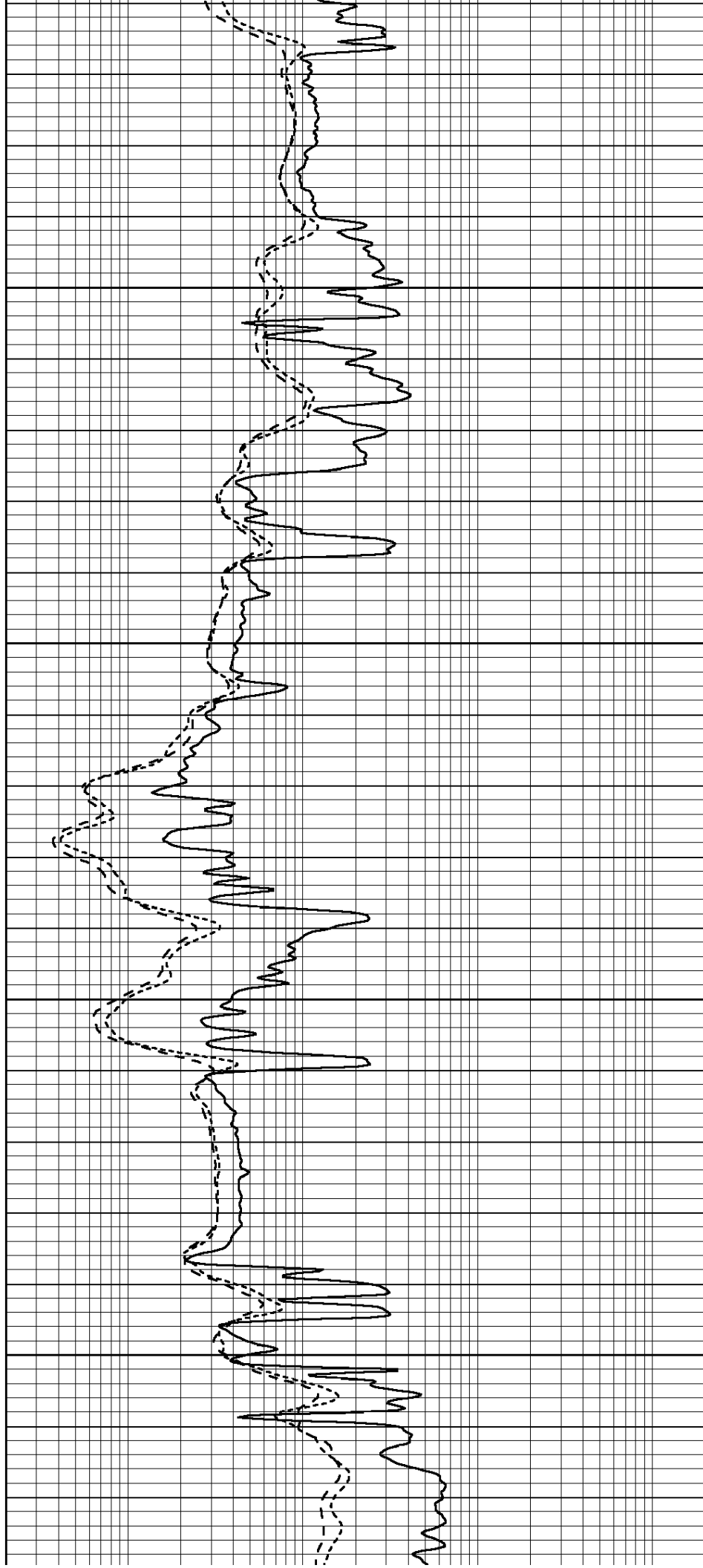


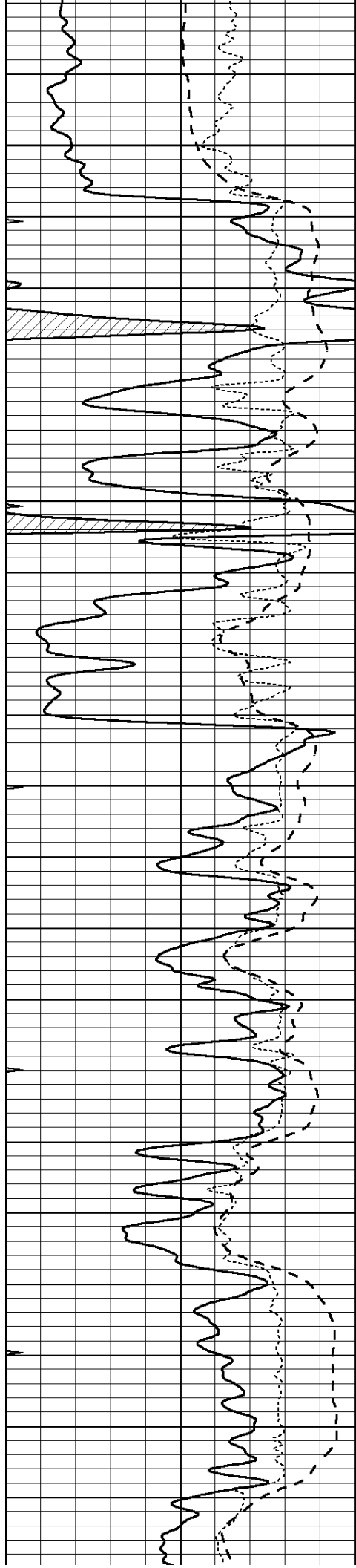
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2850

2900

2950





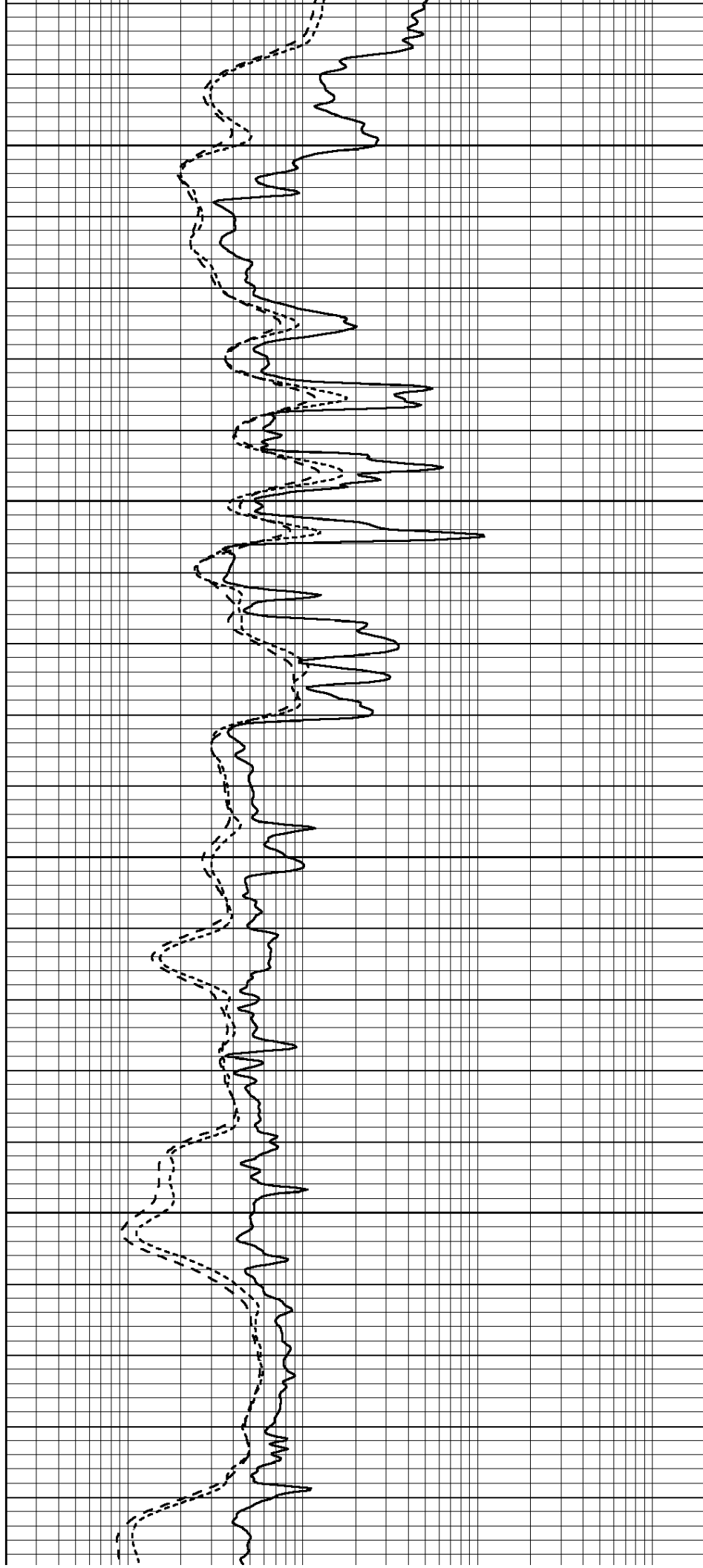
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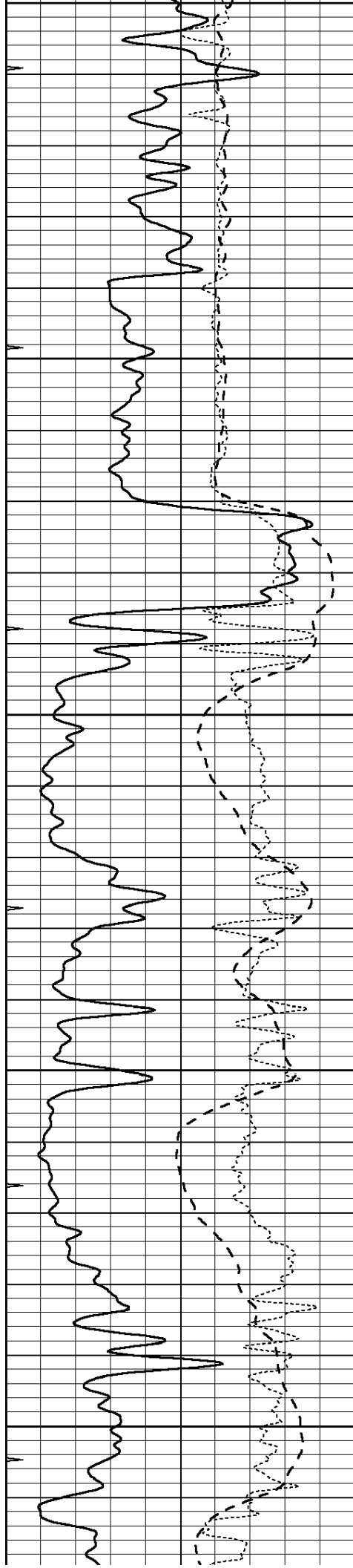
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3100

3150

3200





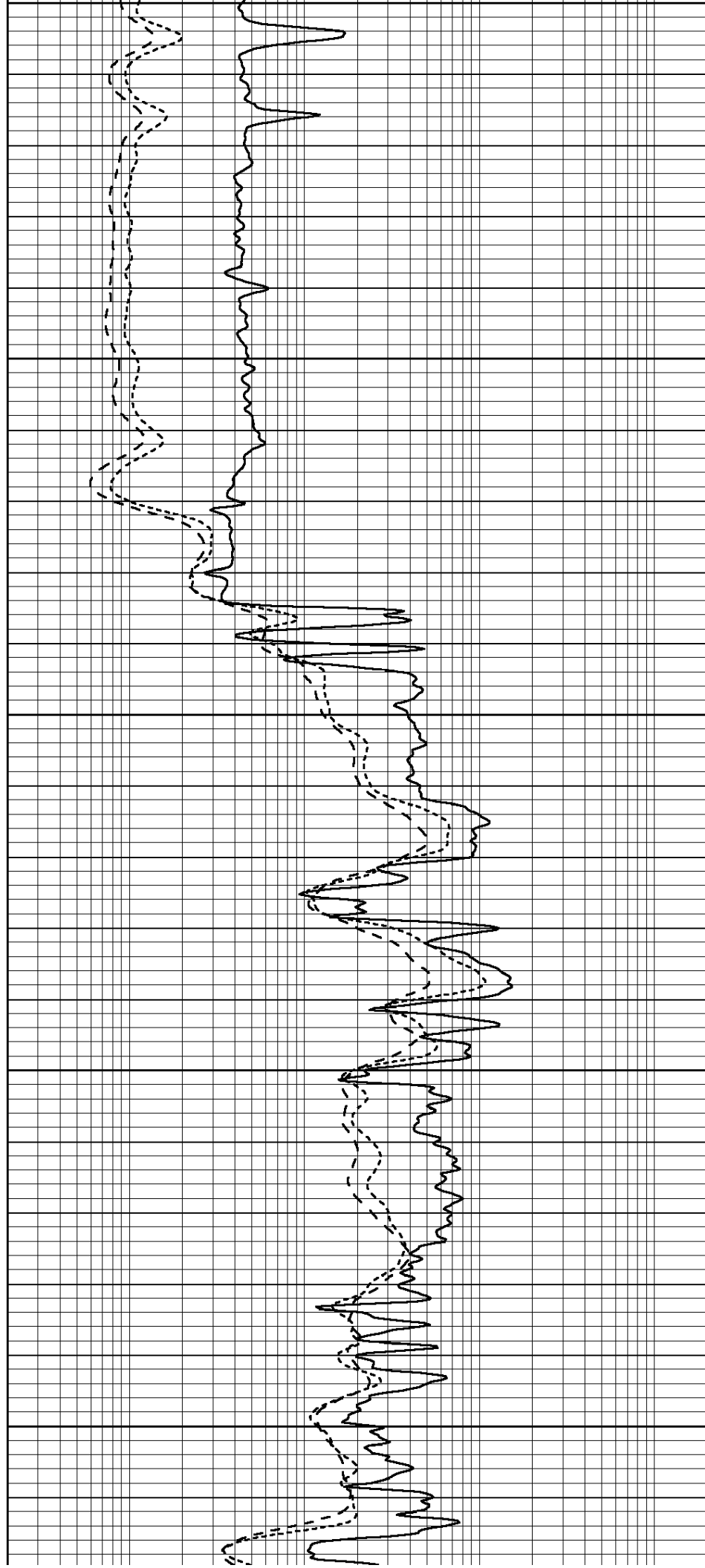
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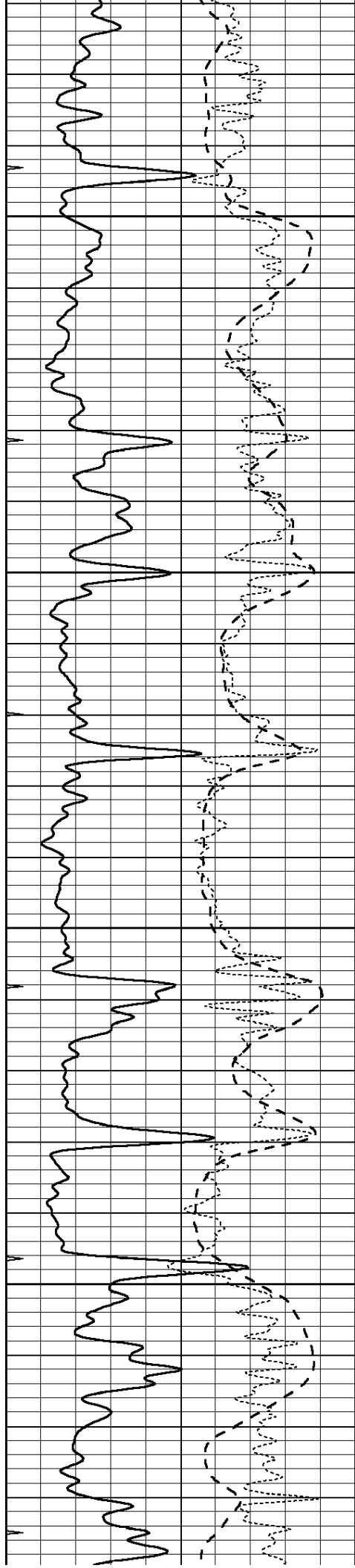
3250

3300

3350

3400



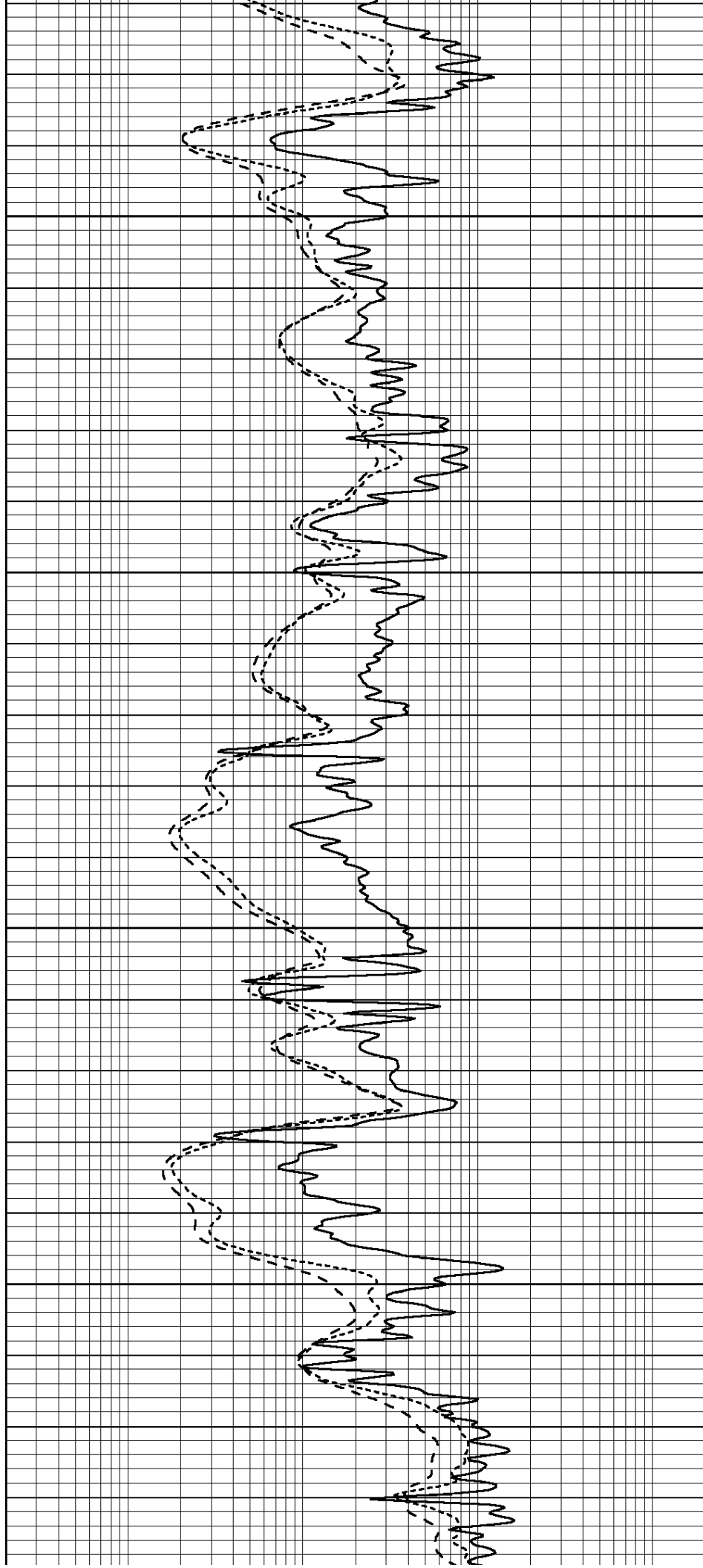


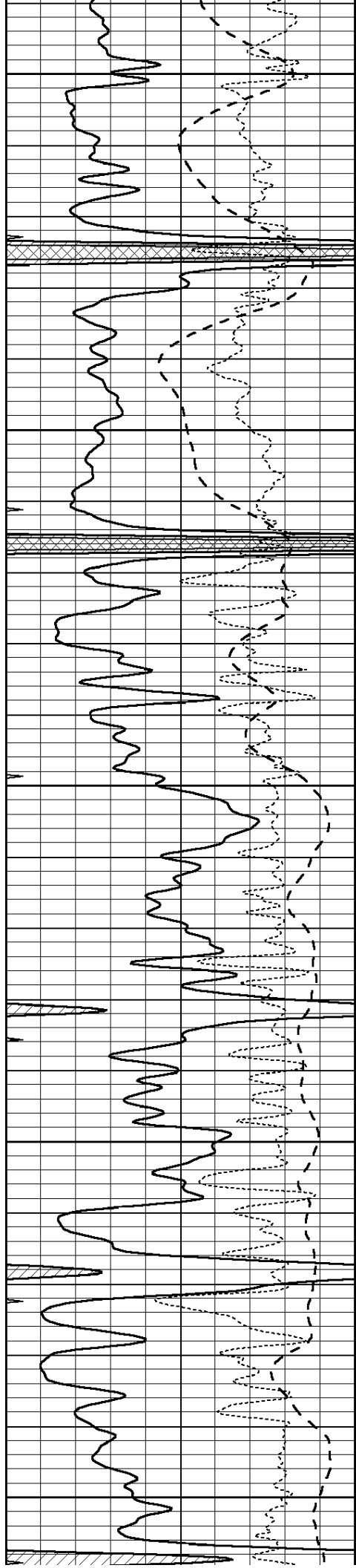
3450

3500

3550

3600





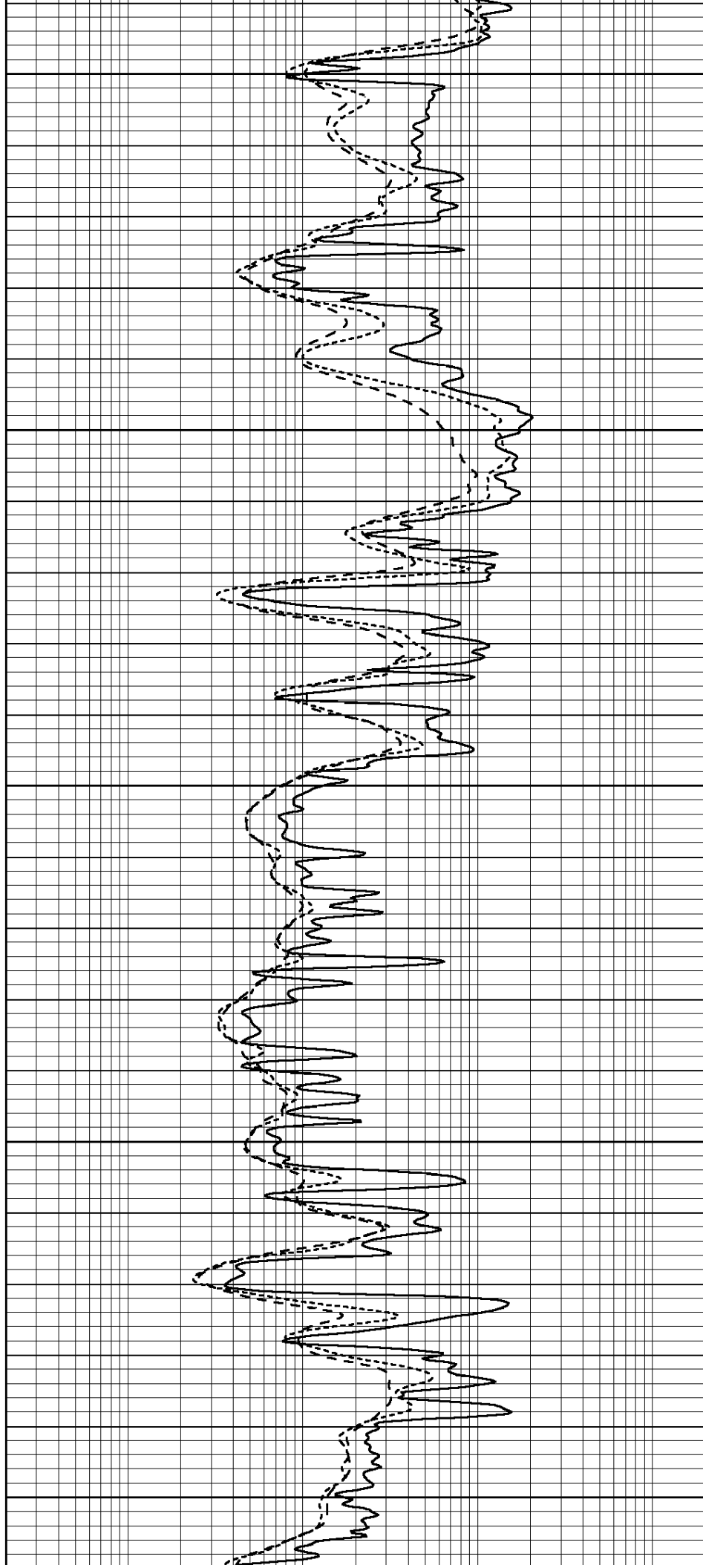
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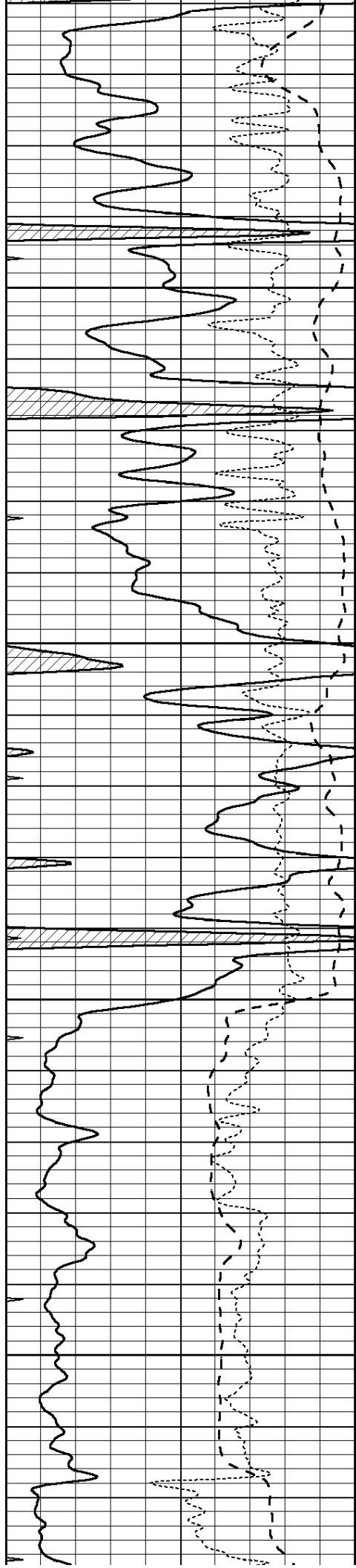
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3750

3800

3850



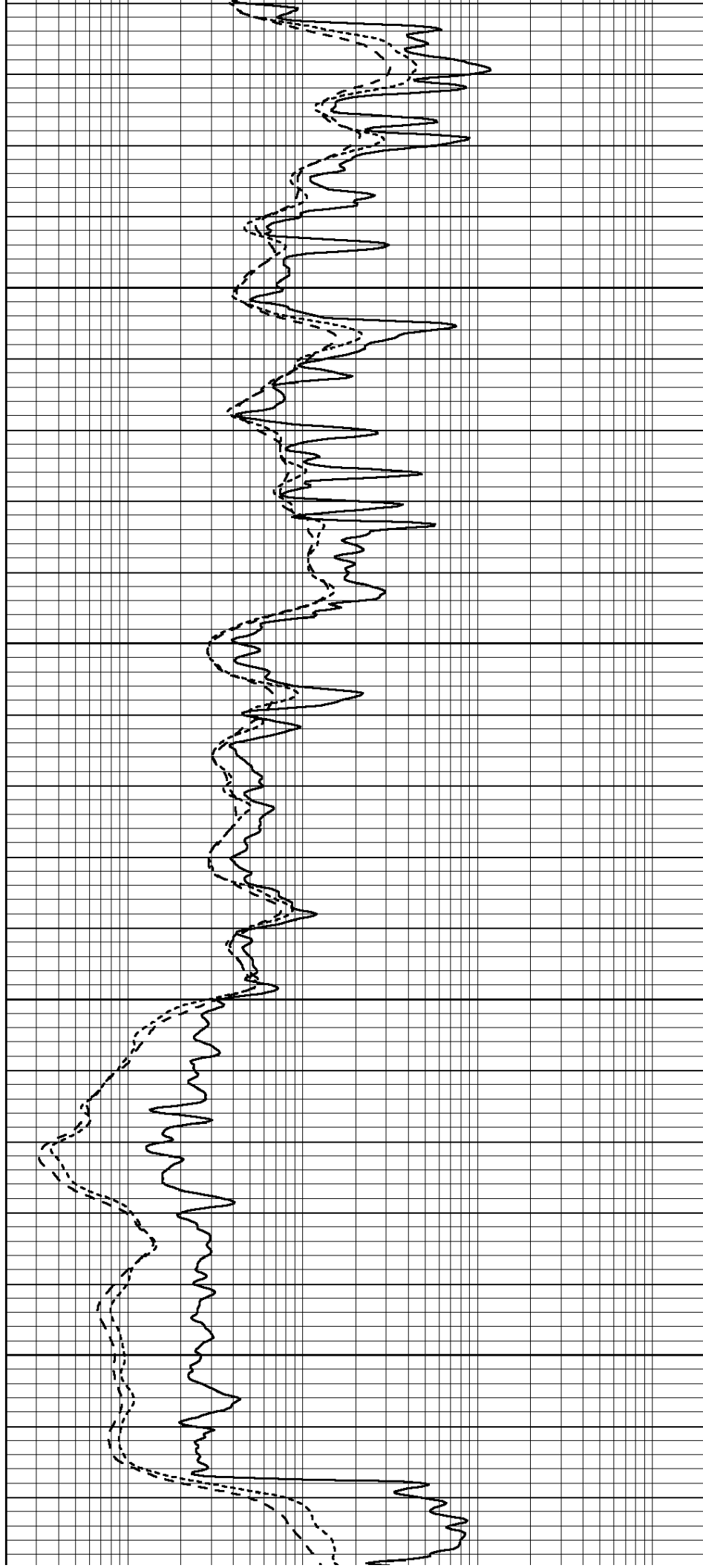


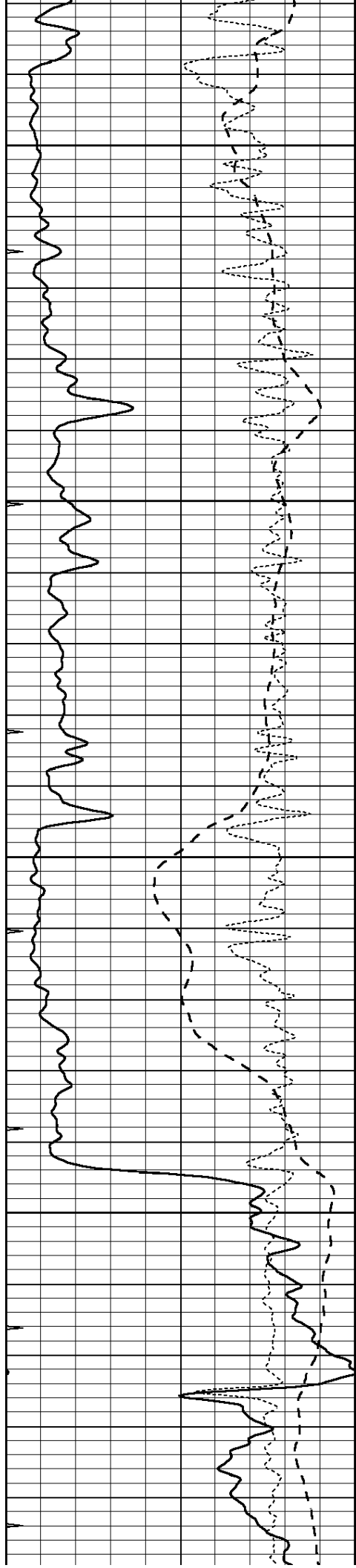
3900

3950

4000

4050





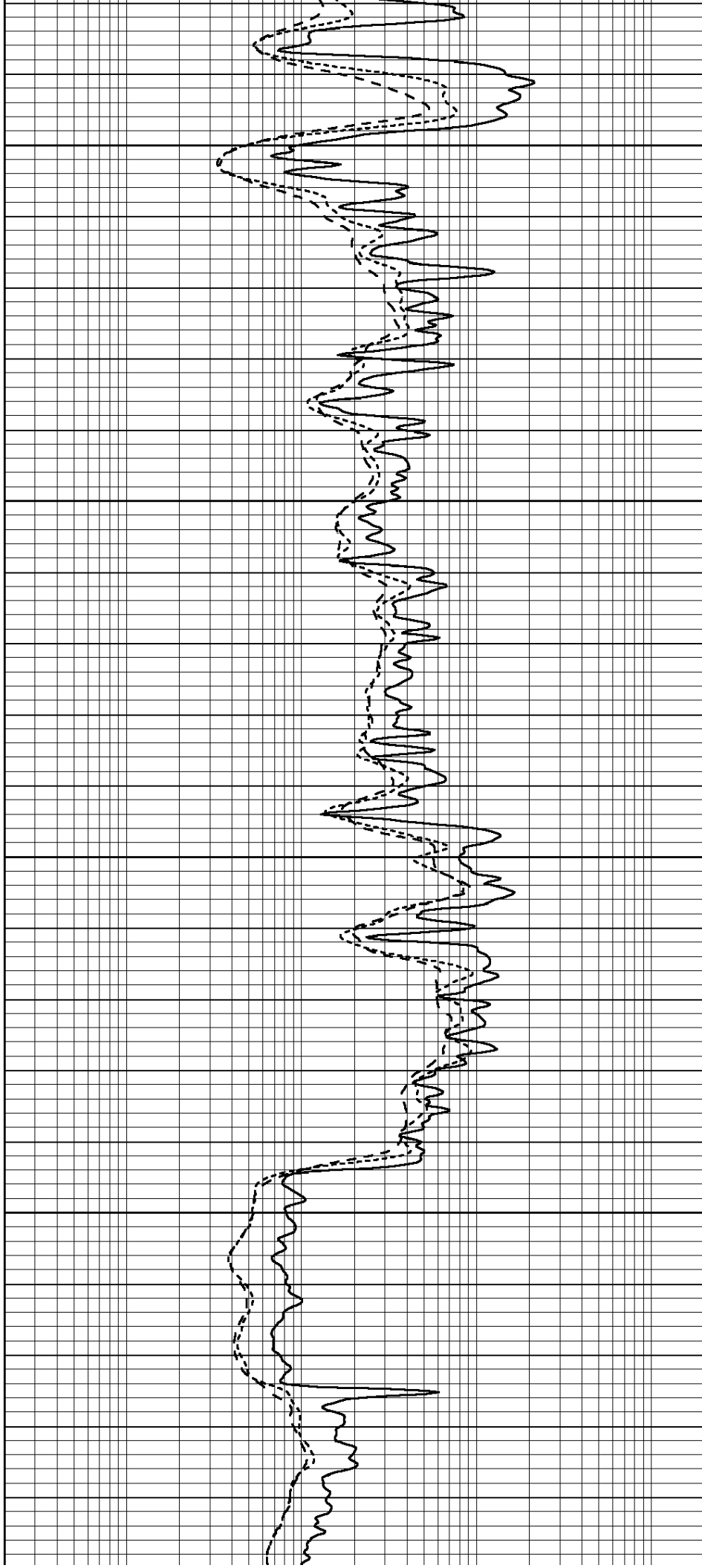
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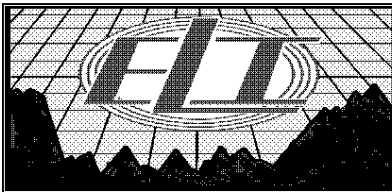
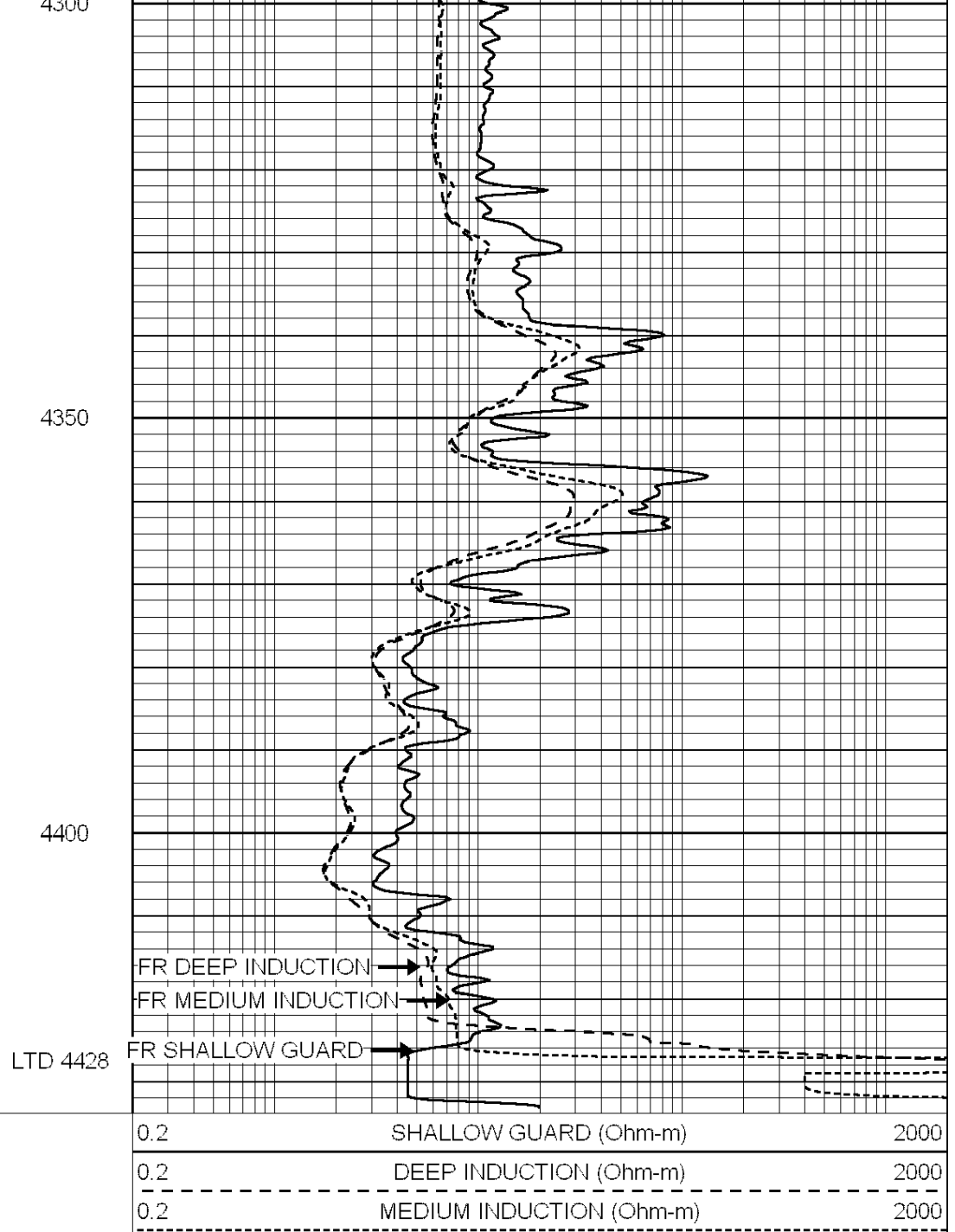
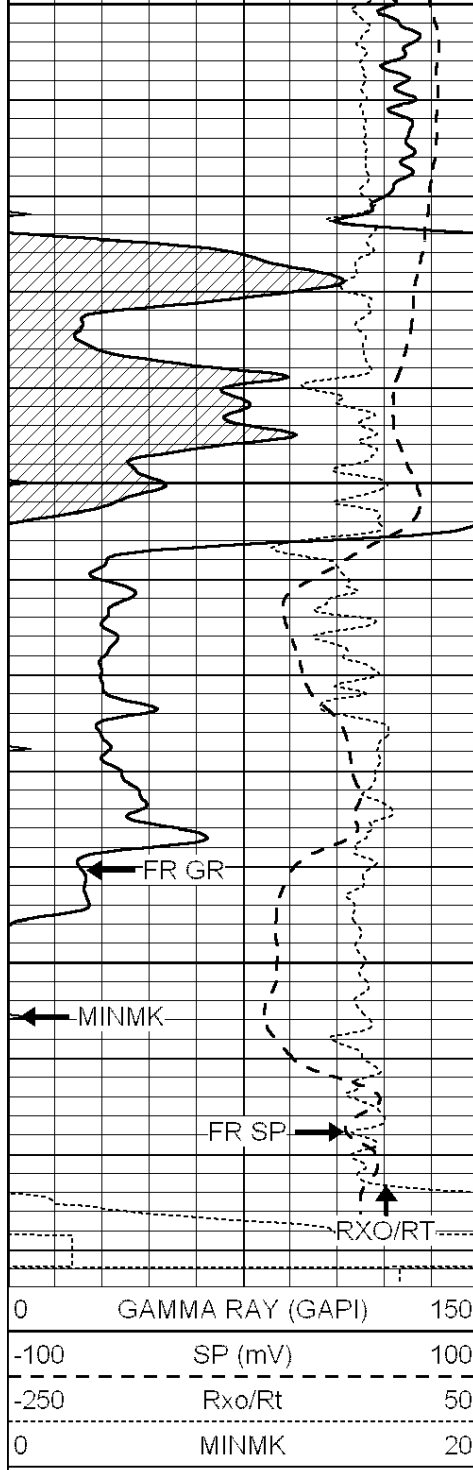
4150

4200

4250

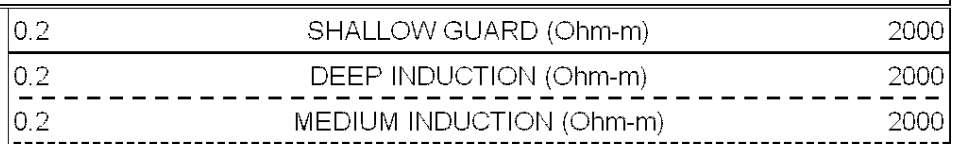
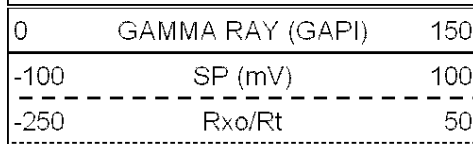
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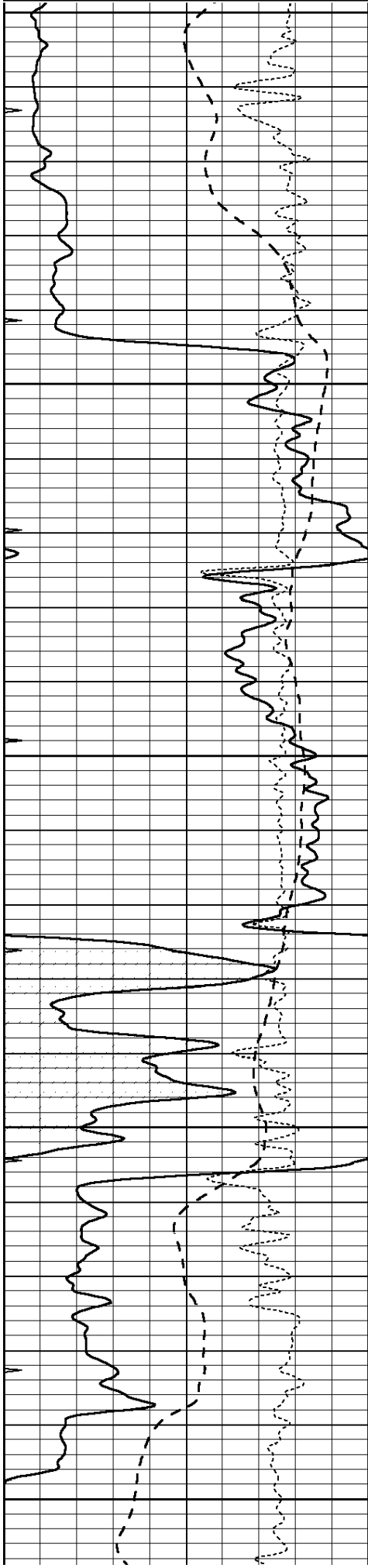




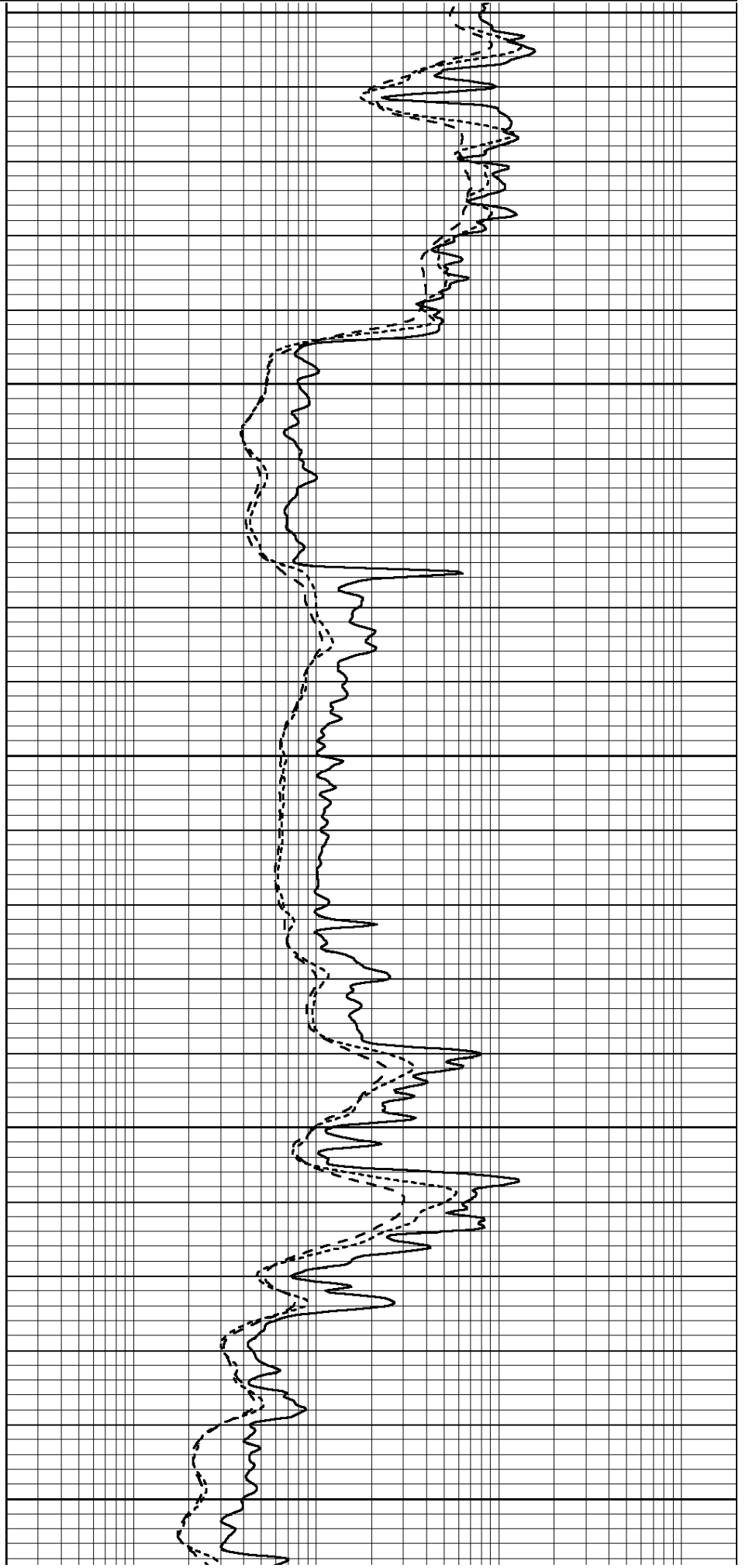
REPEAT SECTION

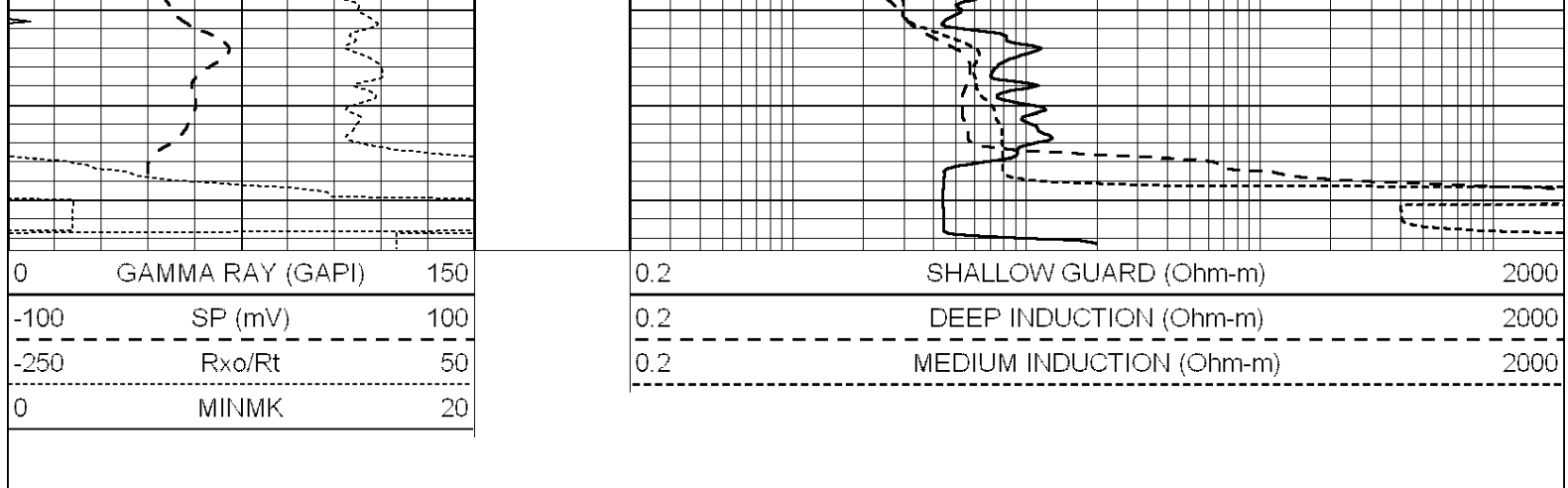
Database File: 4394pe.db
 Dataset Pathname: pass2.5
 Presentation Format: _dil
 Dataset Creation: Fri Dec 20 22:50:14 2019 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240





4200
4250
4300
4350
4400





Calibration Report									
Database File:		1598ddn.db							
Dataset Pathname:		pass4							
Dataset Creation:		Wed Aug 30 02:13:00 2017 by Log SOC 120430							
Dual Induction Calibration Report									
Serial-Model:					PROBE7-DILG				
Surface Cal Performed:					Wed Aug 30 00:06:33 2017				
Downhole Cal Performed:					Mon Jul 28 12:02:56 2008				
After Survey Verification Performed:					Mon Jul 28 12:02:56 2008				
Surface Calibration									
Readings				References			Results		
Loop:	Air	Loop		Air	Loop		m	b	
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	620.000	0.000	
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-44.000	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256	
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102	
Downhole Calibration									
Readings				References			Results		
	Zero	Cal		Zero	Cal		m'	b'	
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000	
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000	
LL3		7.500	V		1400.000	Ohm-m			
		0.000	V		20.000	Ohm-m			
		-7.200	V		4000.000	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: 002		Model: PRB							
Master Calibration					Performed Mon Aug 21 11:27:42 2017				

	Background	Magnesium	Aluminum	Sandstone	
Window 1	837.1	10632.5	2945.1	12110.1	cps
Window 2	772.0	9117.4	2570.1	10197.3	cps
Window 3	631.7	4669.0	1481.9	5042.9	cps
Window 4	187.0	187.5	185.9	189.9	cps
Long Space	0.0	8345.4	1798.1	9425.3	cps
Short Space	1.1	1927.9	1285.9	2050.2	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 45.2	Rib Slope	: 1.008	Density/Spine Ratio	: 0.558
Spine Angle	: 75.2	Spine Slope	: 3.790	Spine Intercept	: -19.6

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			
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:	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

Test Measr:

ST LN_OR

Performed:

Wed May 31 00:09:32 2017

Calibrator Value:

1.0

GAPI

Background Reading:

0.0

cps

Calibrator Reading:

1.0

cps

Sensitivity:

0.2800

GAPI/cps