



**SUPERIOR**  
Hays,  
Kansas

**DUAL INDUCTION  
LOG**

Company HESS OIL COMPANY  
Well WOOD #1-7  
Field FREY  
County STAFFORD  
State KANSAS

Company HESS OIL COMPANY  
Well WOOD #1-7  
Field FREY  
County STAFFORD State KANSAS

Location: API # : 15-185-23674-0000  
330' FNL & 2310' FEL  
SEC 7 TWP 21S RGE 14W  
Permanent Datum GROUND LEVEL Elevation 1927  
Log Measured From KELLY BUSHING 5' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
CDL/CNL/PE  
MEL/SONIC  
Elevation  
K.B. 1932  
D.F. 1930  
G.L. 1927

Date	3/29/11
Run Number	ONE
Depth Driller	3840
Depth Logger	3842
Bottom Logged Interval	3840
Top Log Interval	00
Casing Driller	8 5/8"@900'
Casing Logger	900
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.2/50
pH / Fluid Loss	11.0/9.0
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.850@62F
Rmf @ Meas. Temp	.638@62F
Rmc @ Meas. Temp	1.02@62F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.458@115F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	6:15 P.M.
Maximum Recorded Temperature	115F
Equipment Number	0836
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	DEREK PATTERSON

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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  
PAWNEE ROCK, KS. 2 N.E. ON HWY 156 TO "RADIUM RD." 7S. ON BLKTOP TO "RD. 200", 1/2W., S. INTO



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**MAIN SECTION**

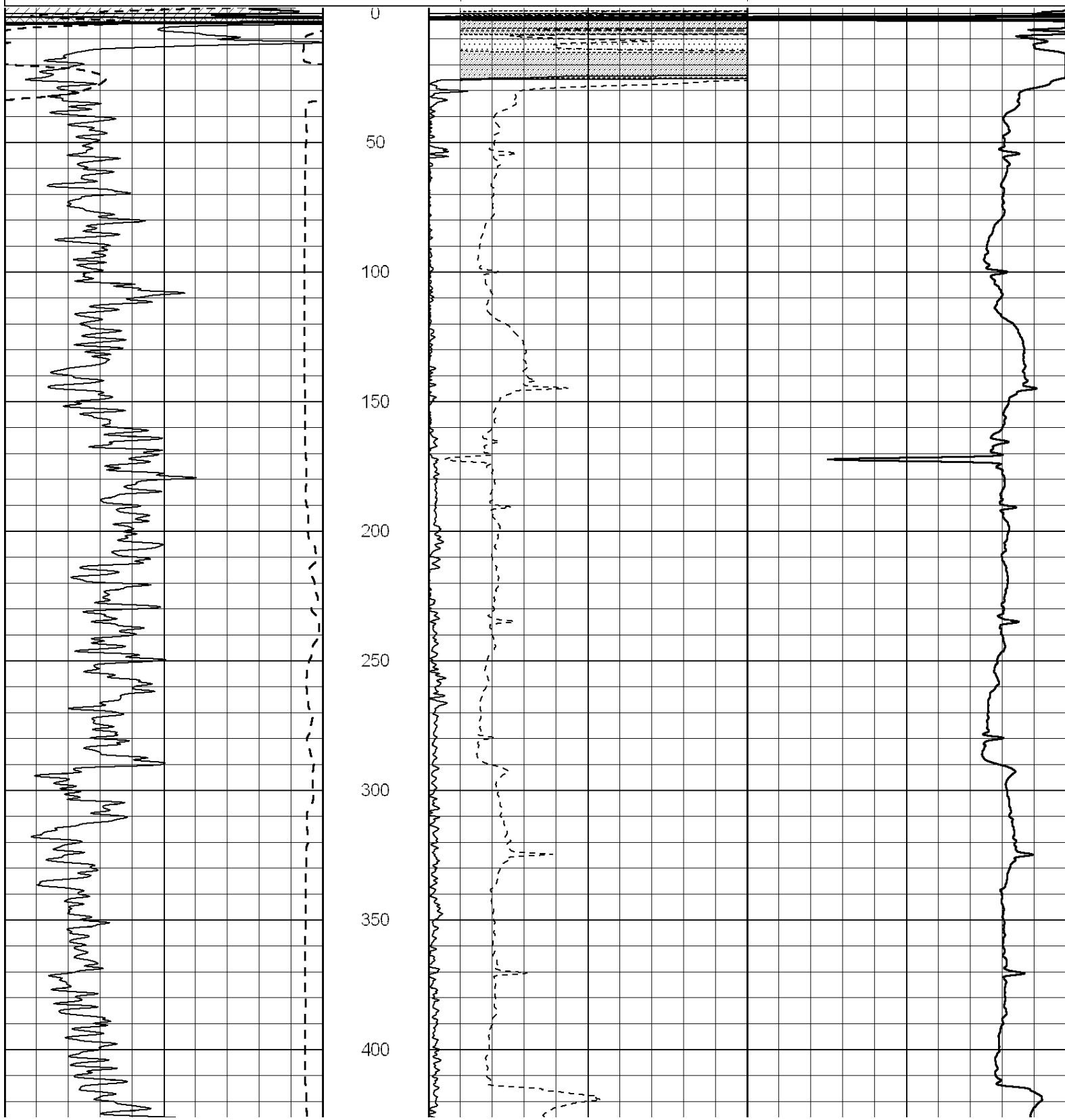
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 Dataset Pathname: pass3.2  
 Presentation Format: dil2  
 Dataset Creation: Tue Mar 29 19:49:52 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:600

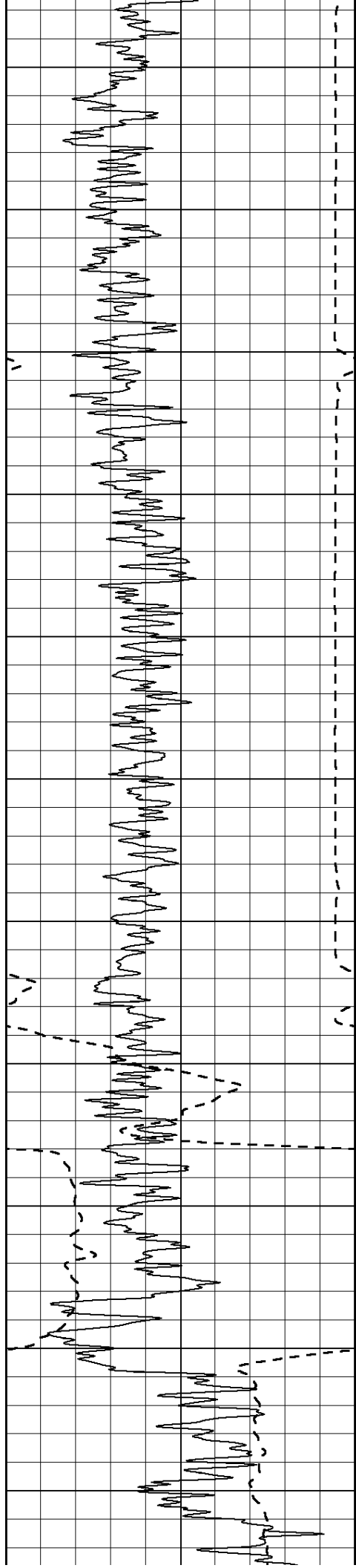
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-100	SP (mV)	100

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

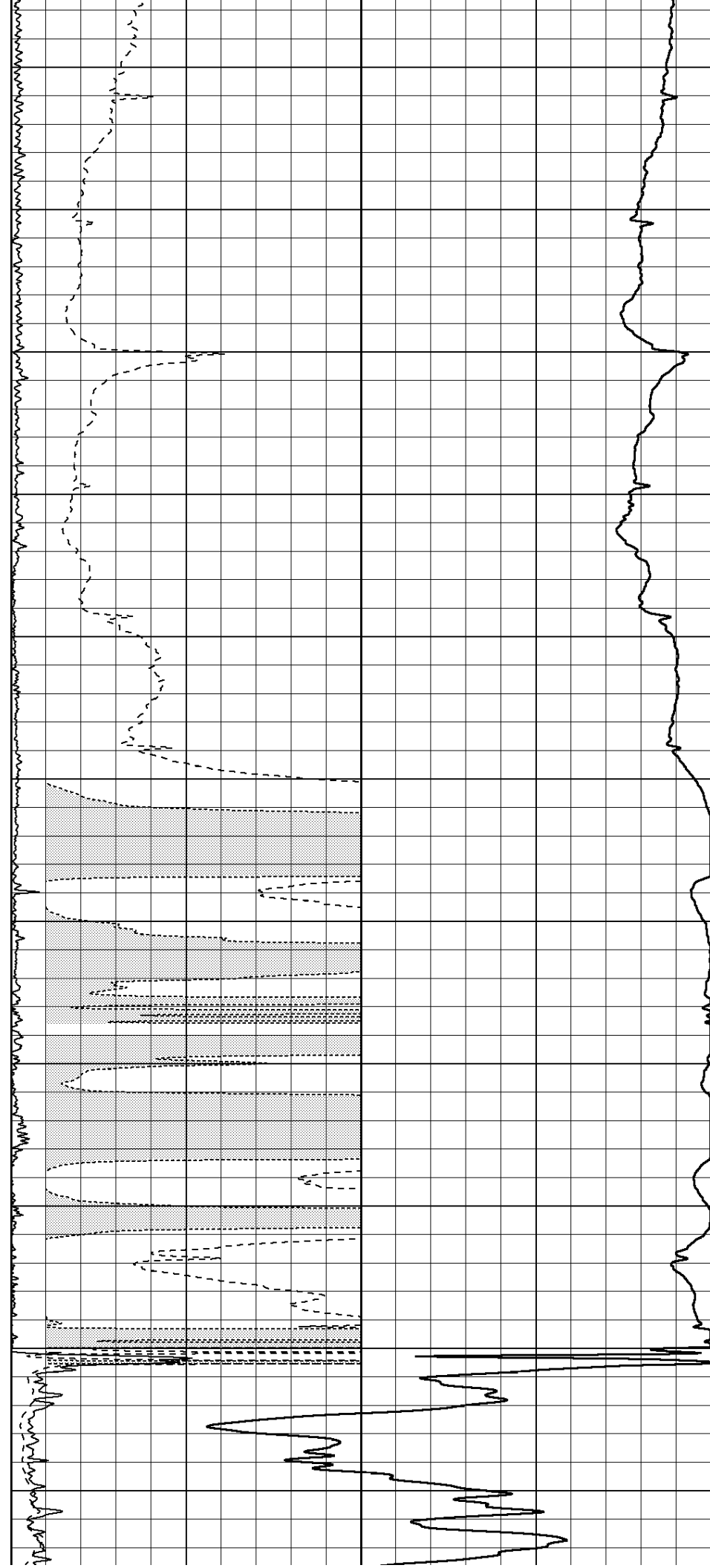
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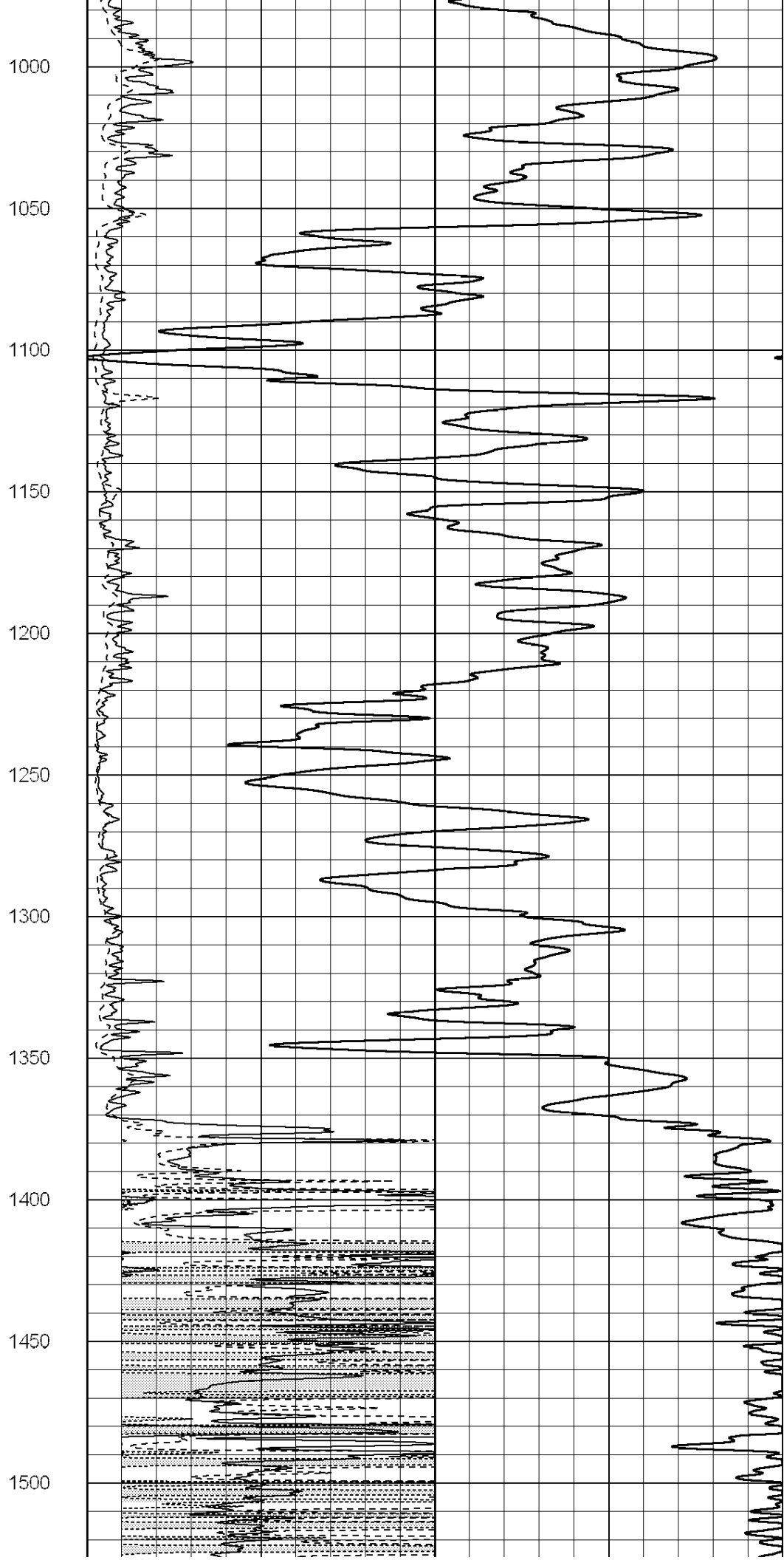
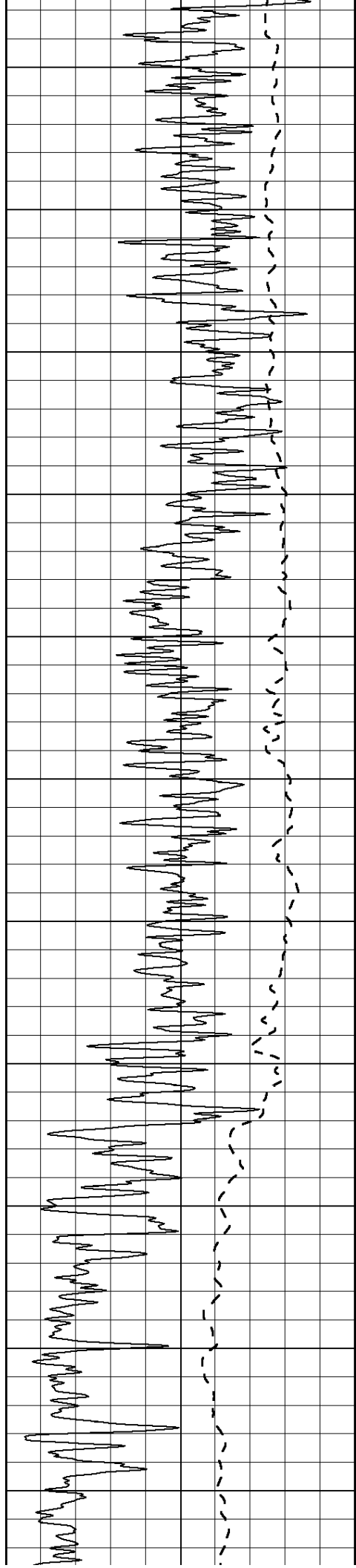
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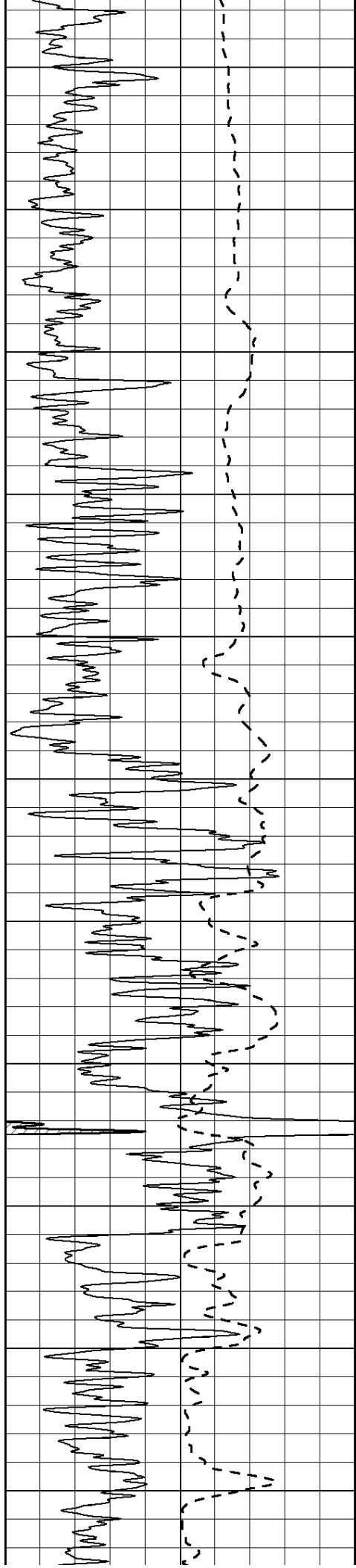
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900

950







1550

1600

1650

1700

1750

1800

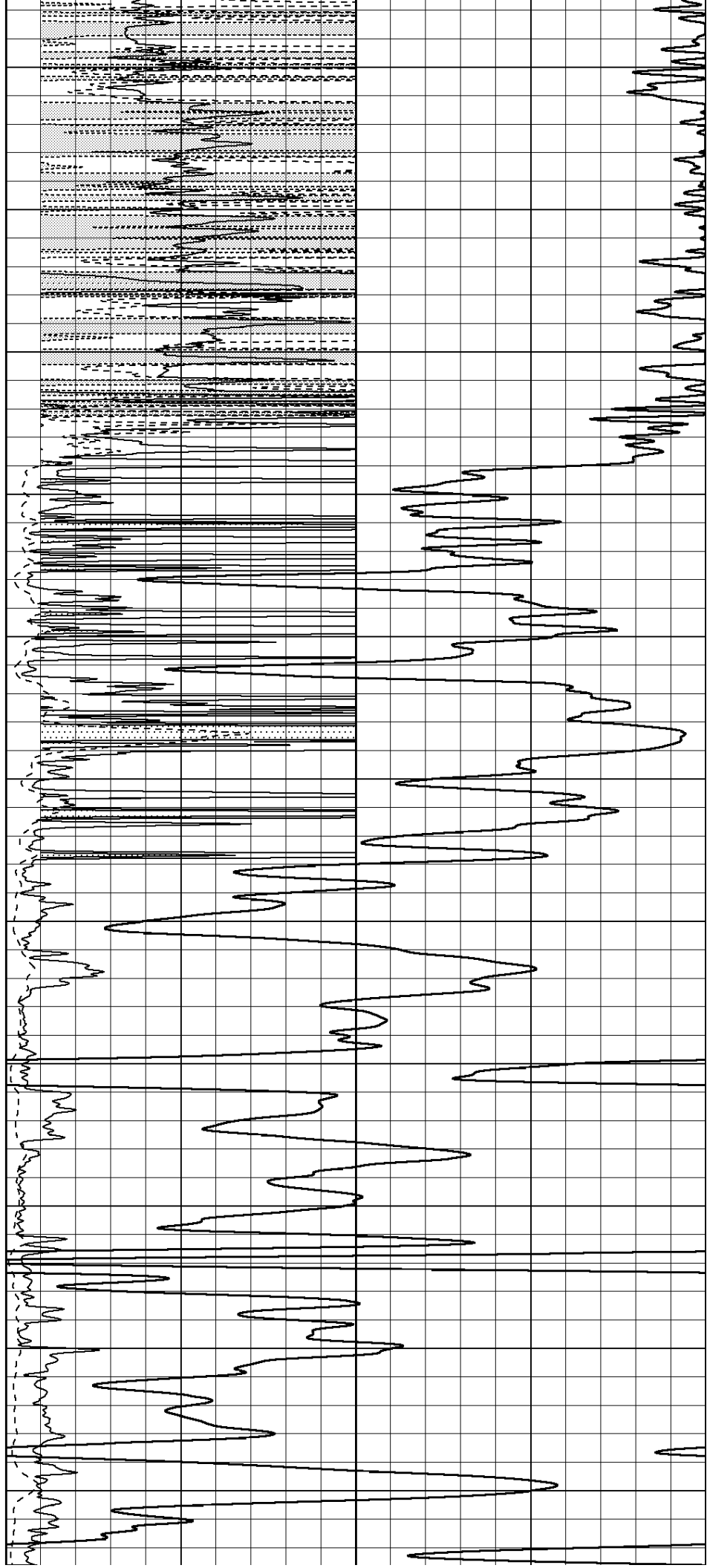
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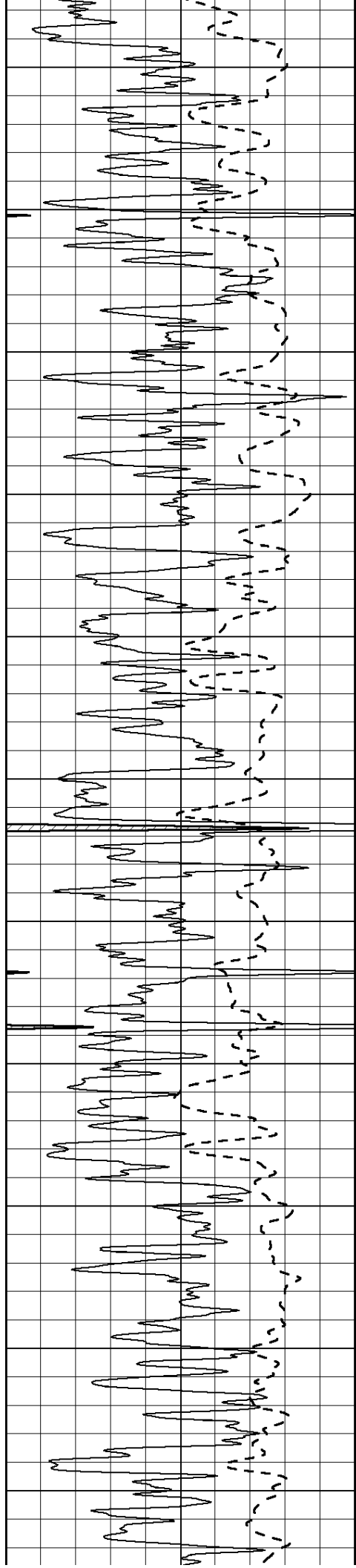
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1950

2000

2050





2100

2150

2200

2250

2300

2350

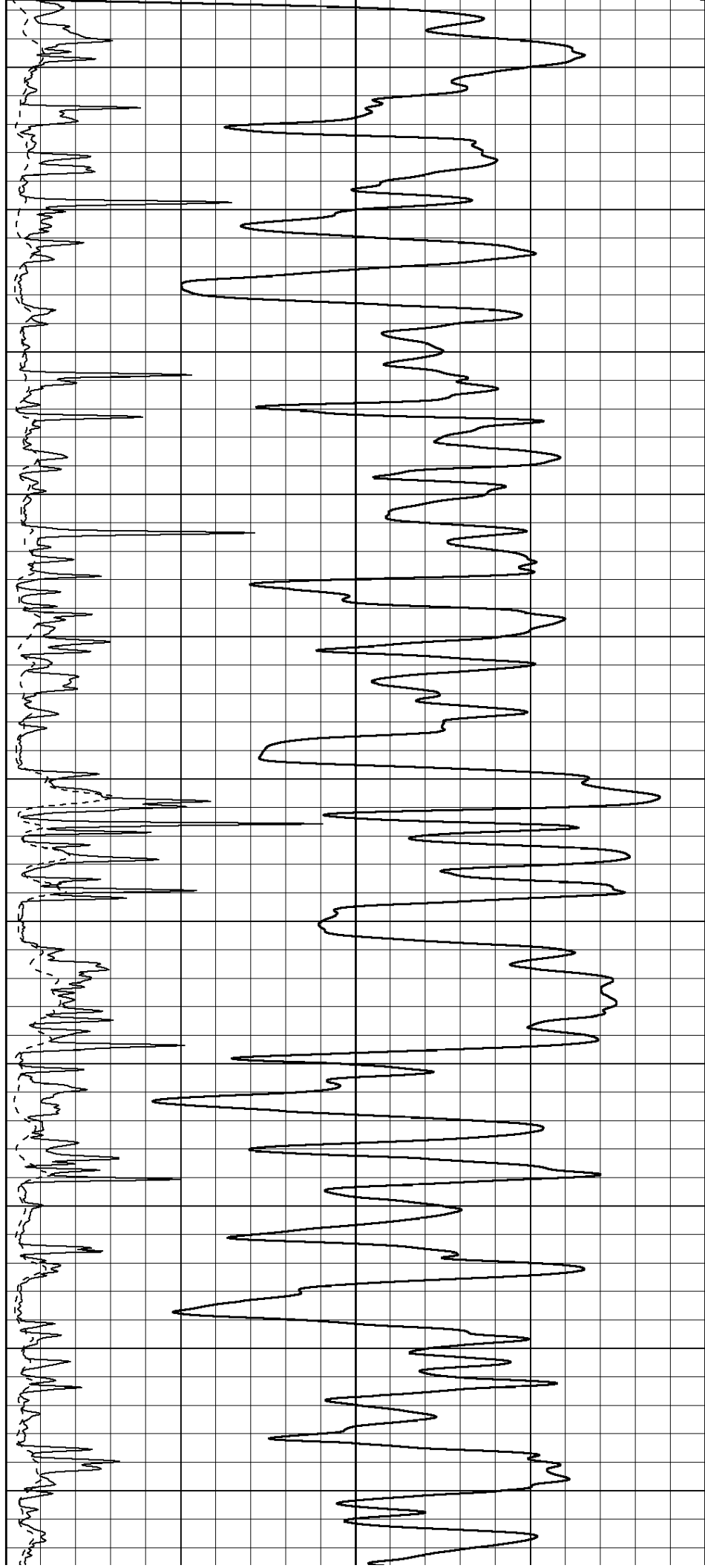
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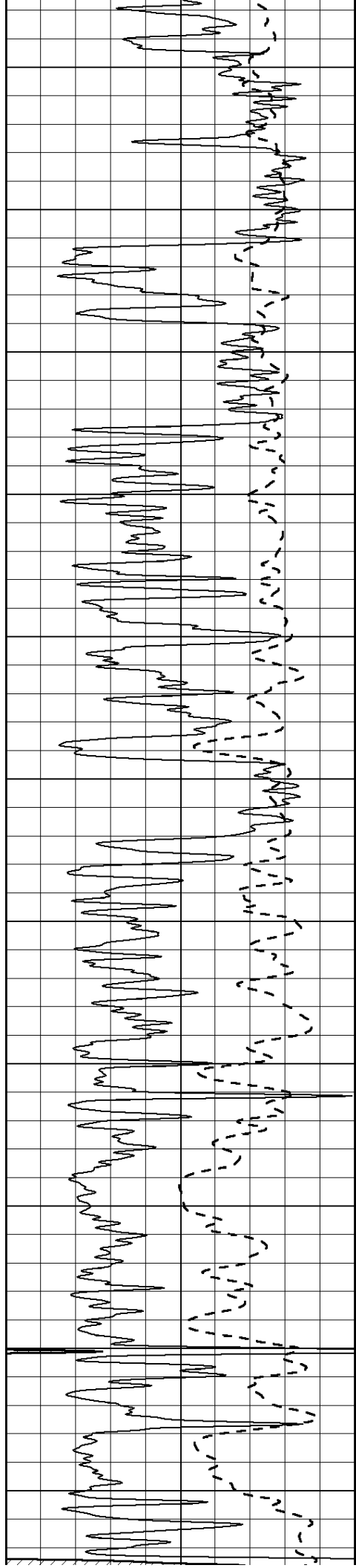
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2550

2600





2650

2700

2750

2800

2850

2900

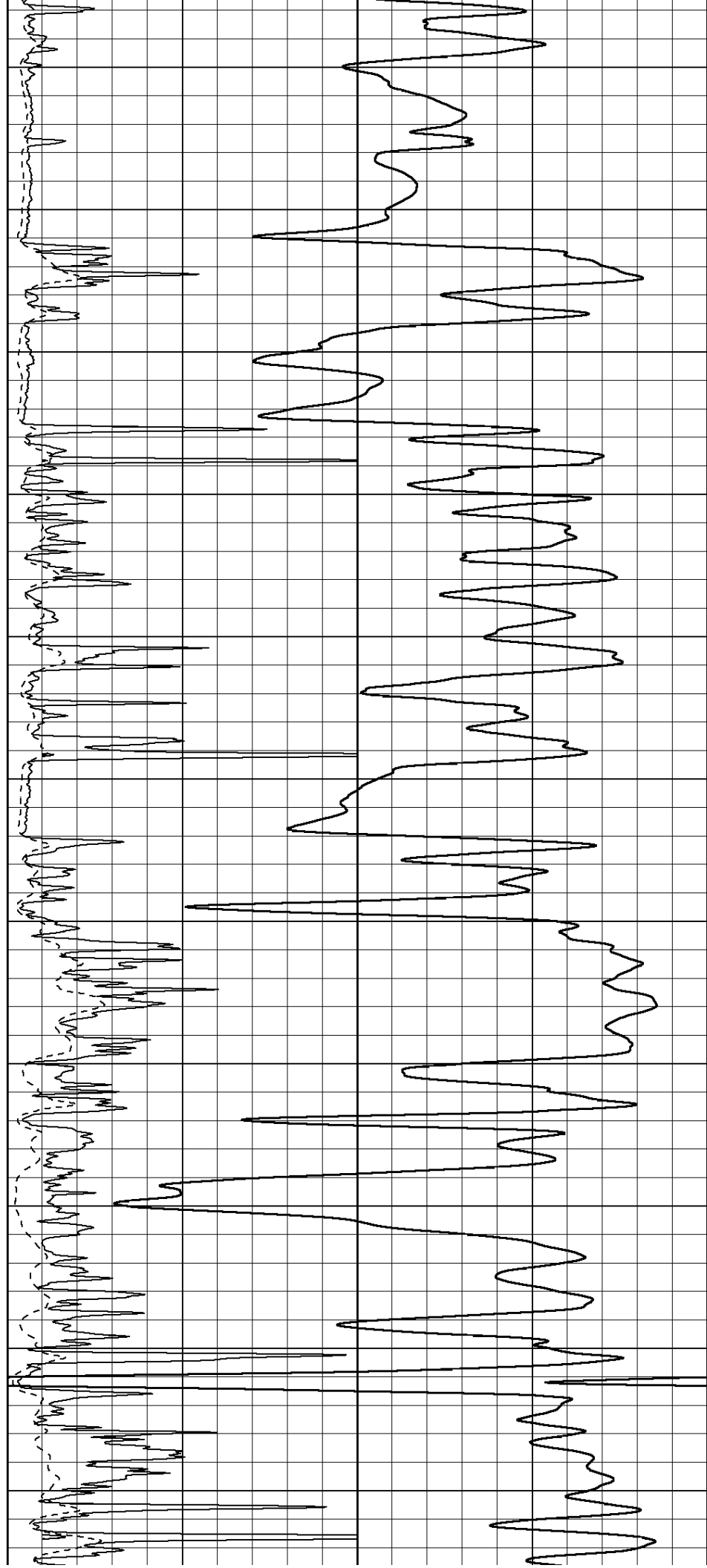
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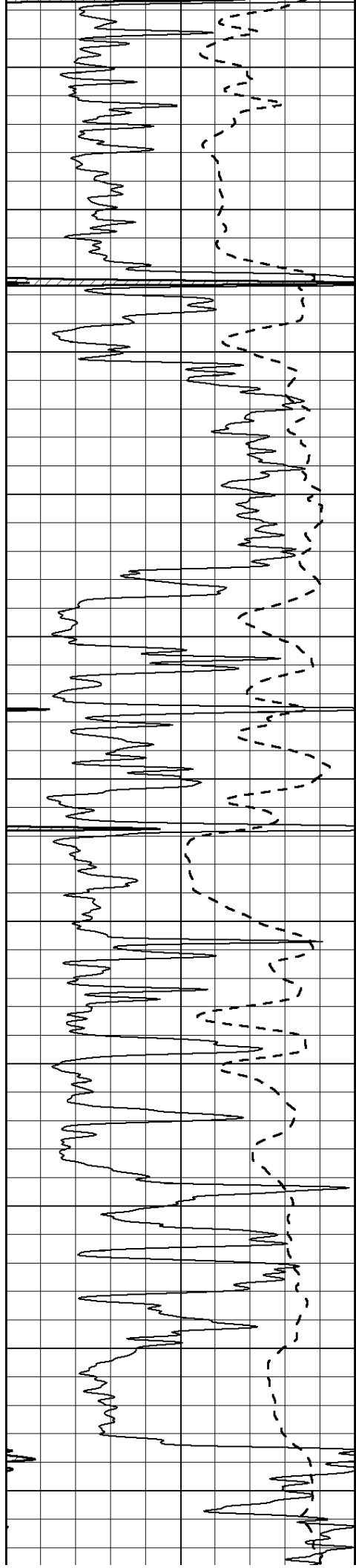
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3050

3100

3150





3200

3250

3300

3350

3400

3450

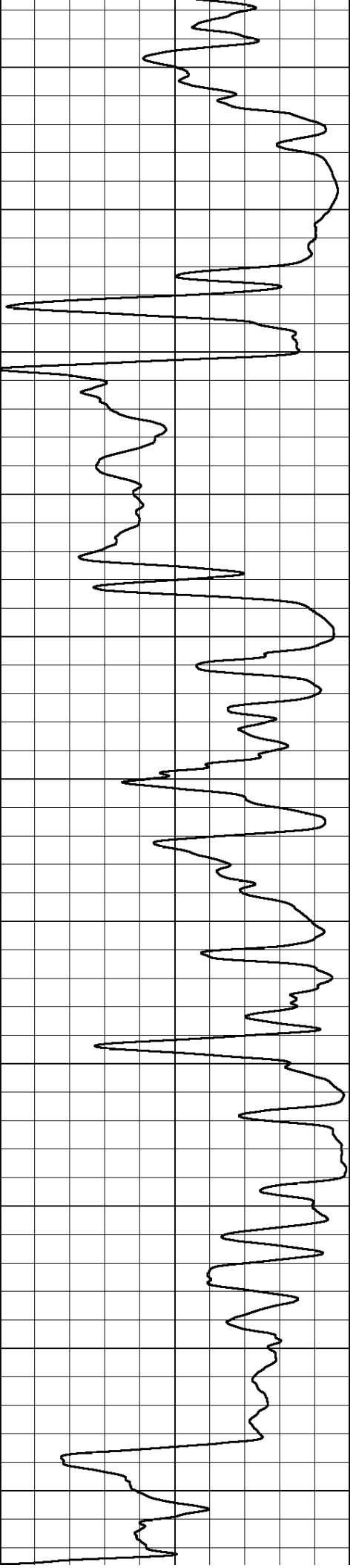
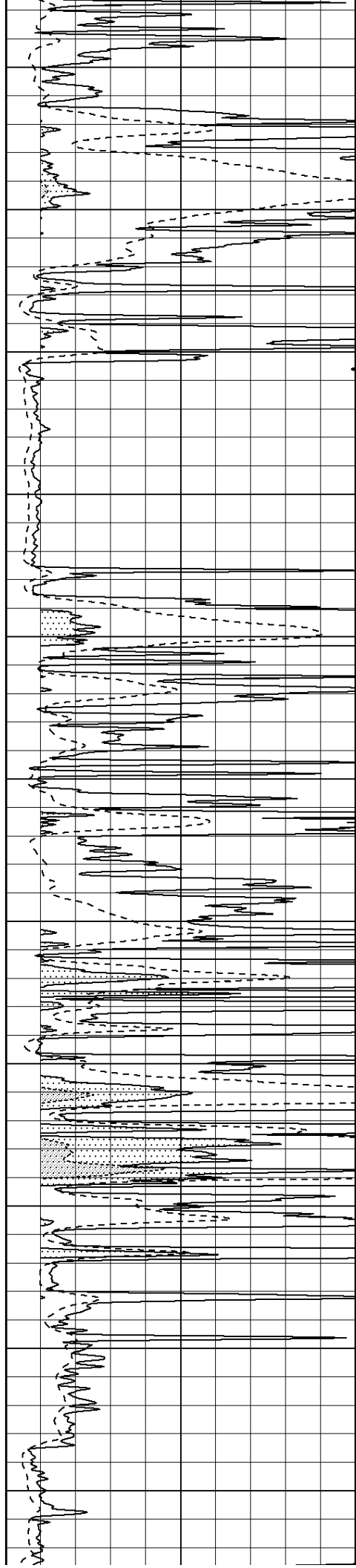
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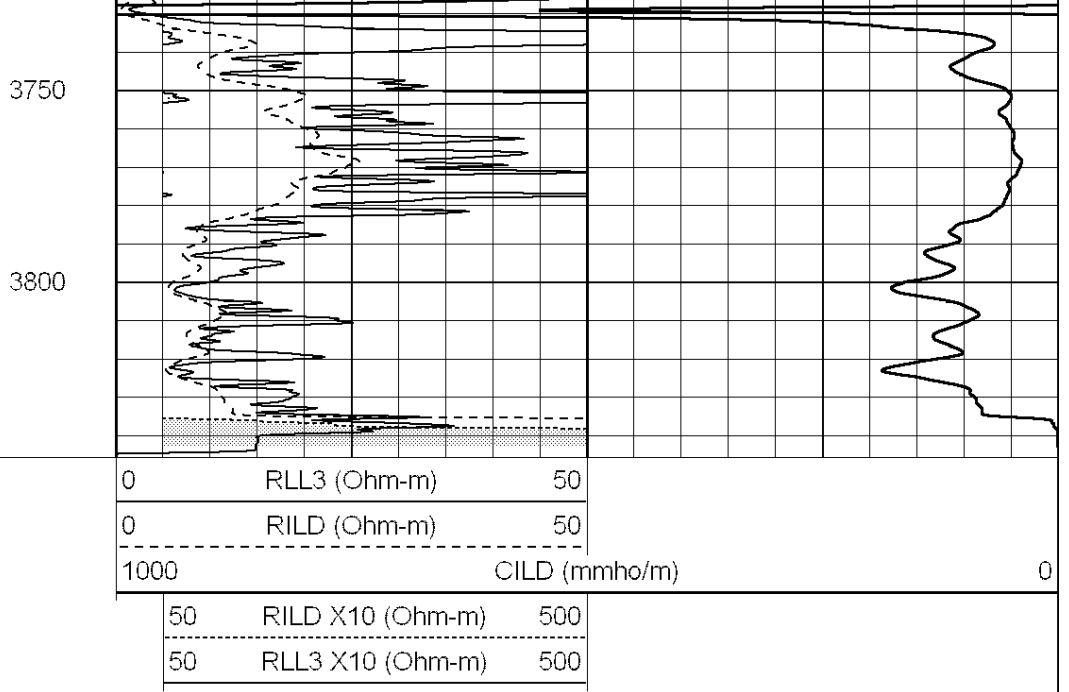
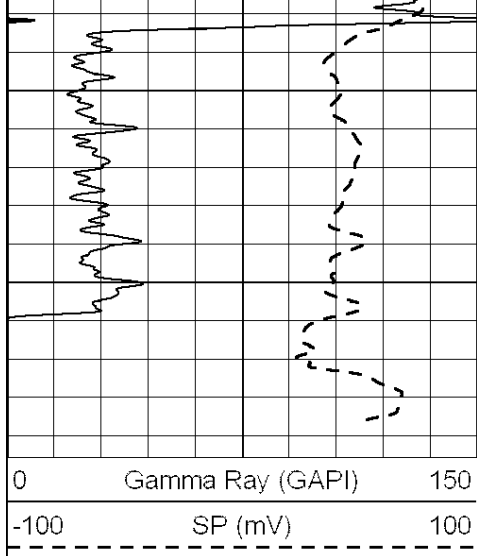
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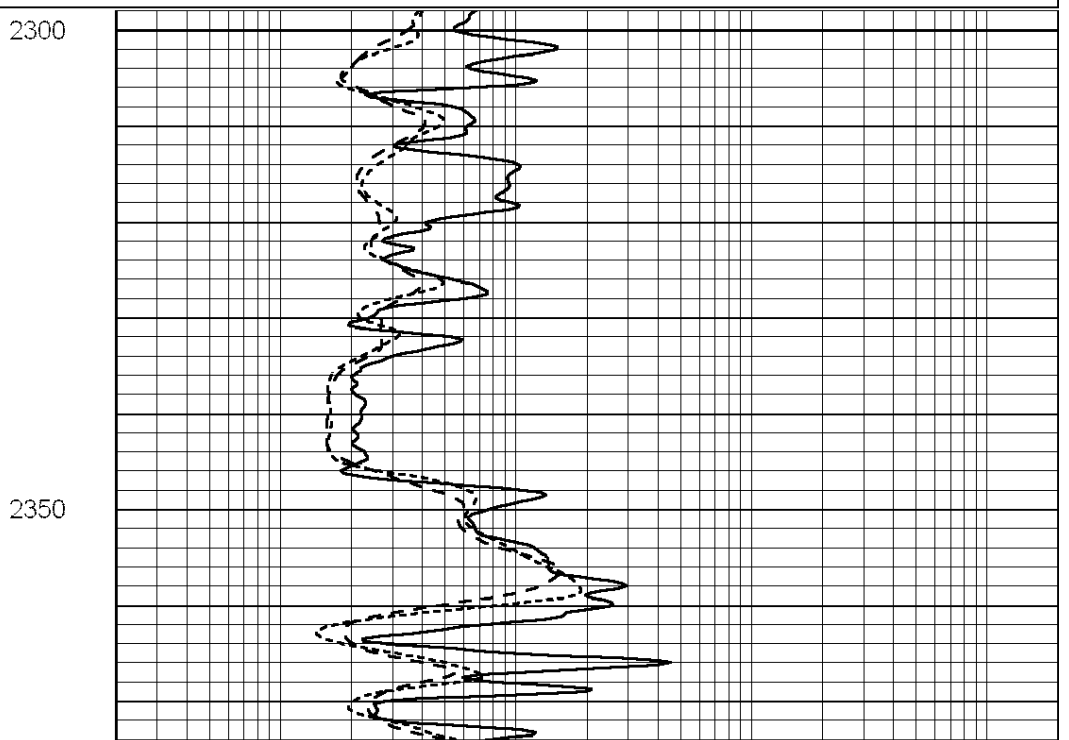
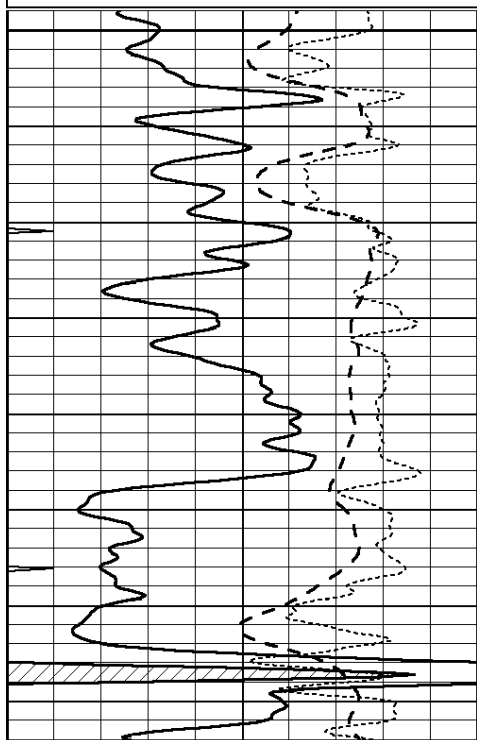
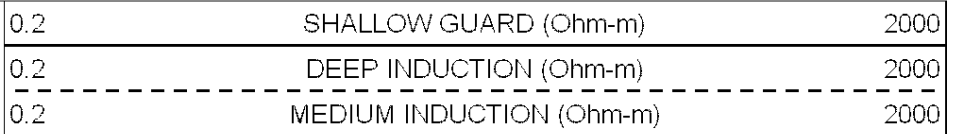
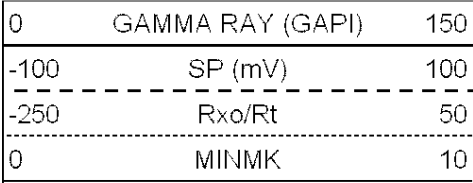


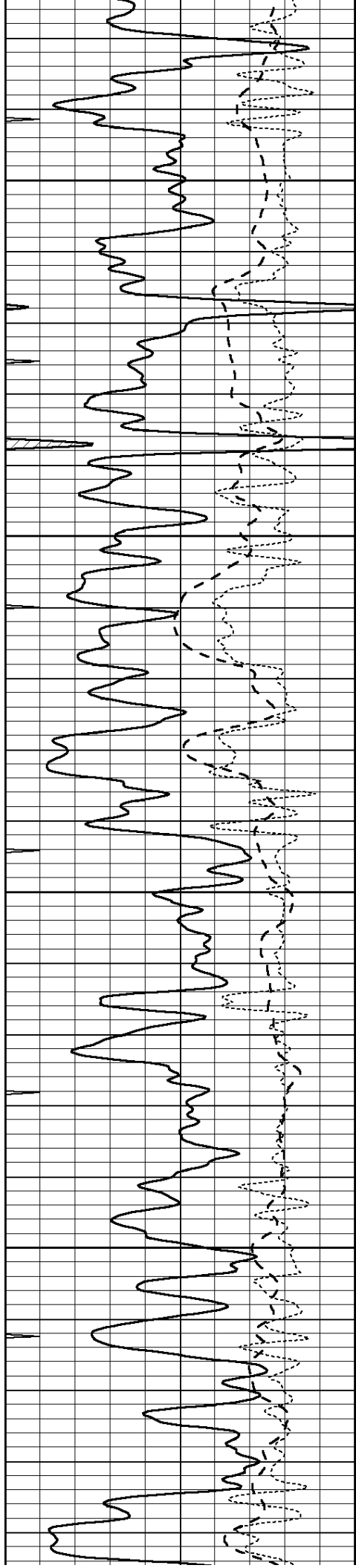


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# MAIN SECTION

Database File: 006624pe.db  
 Dataset Pathname: pass3.2  
 Presentation Format: dil  
 Dataset Creation: Tue Mar 29 19:49:52 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240



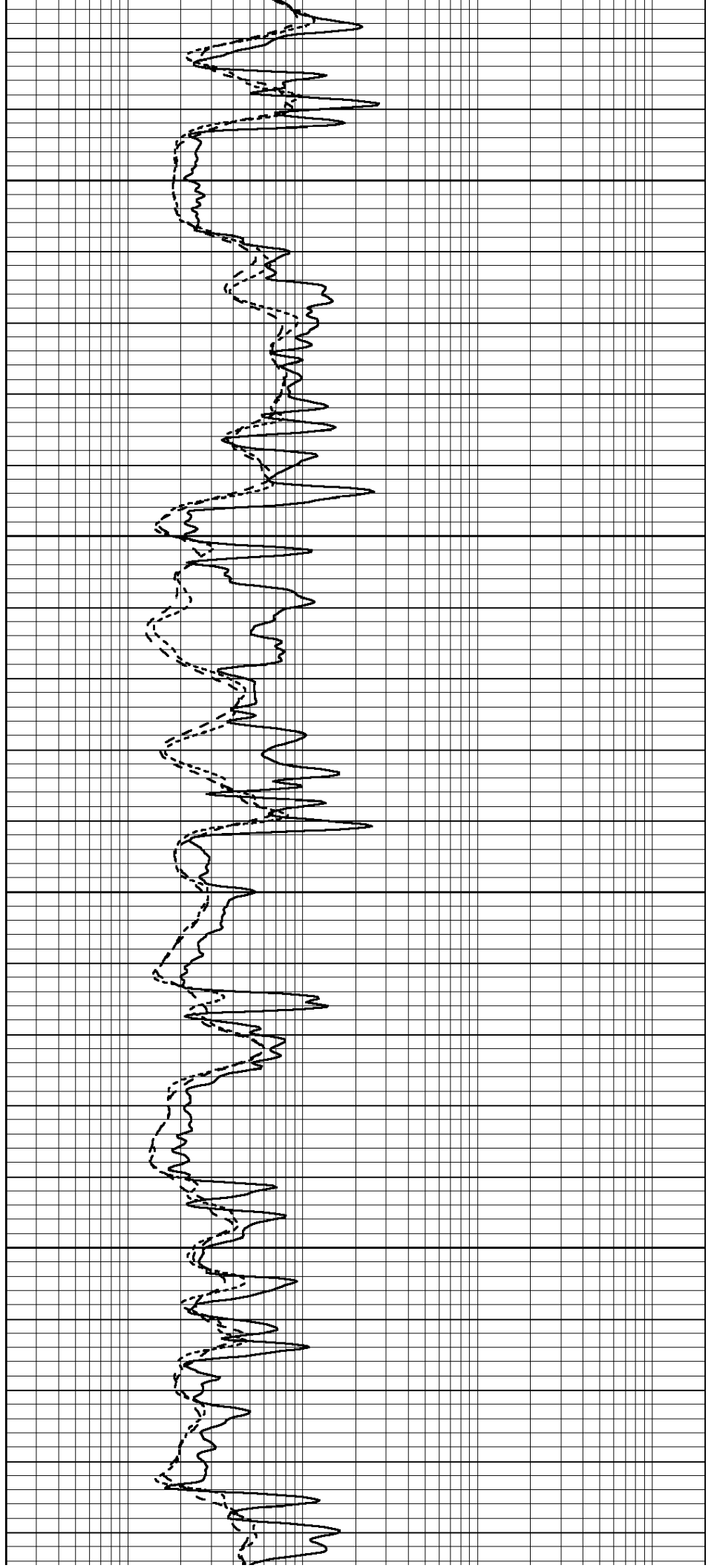


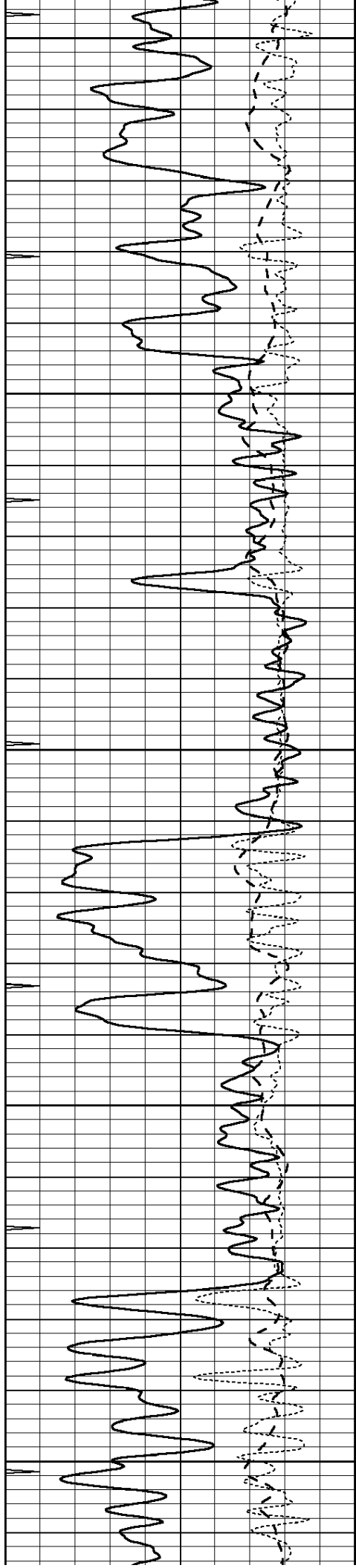
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2550





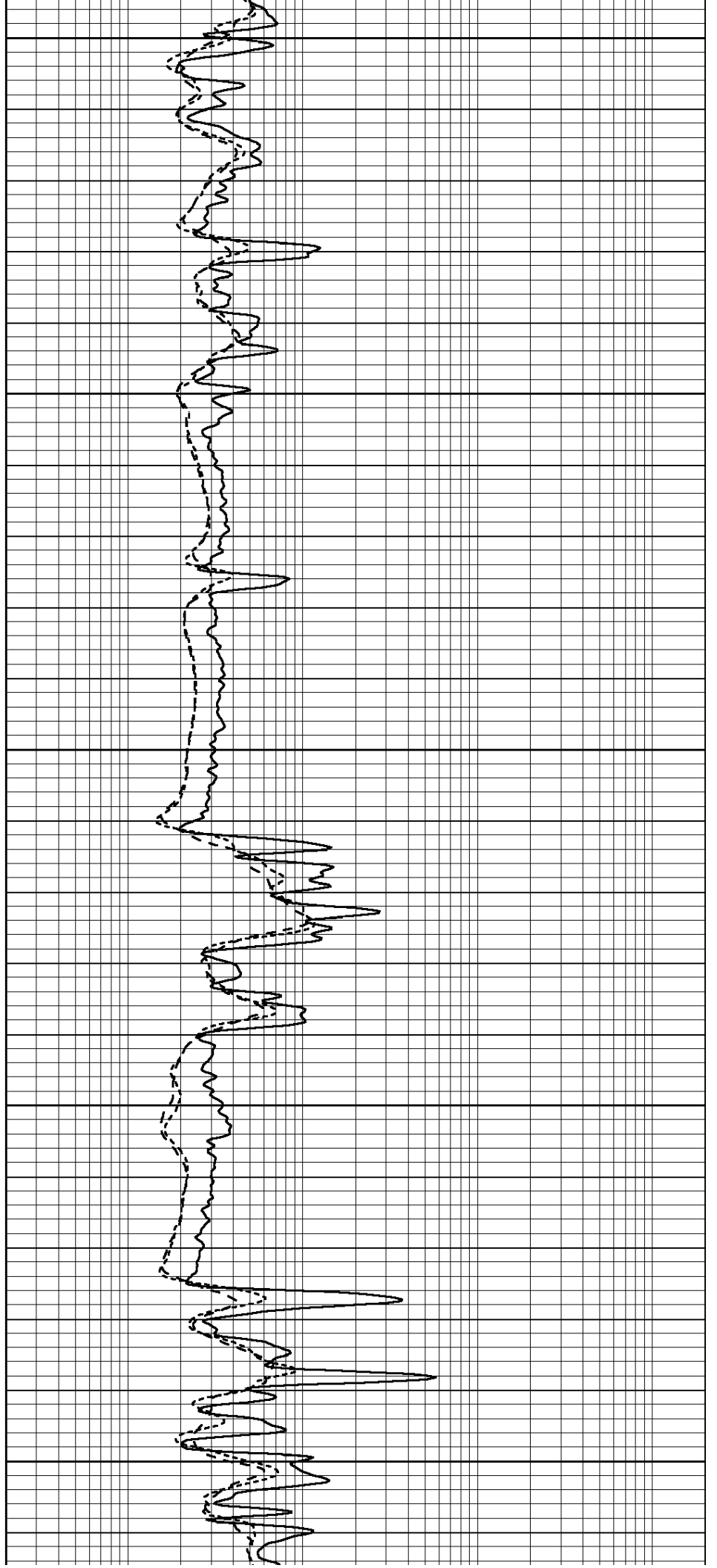
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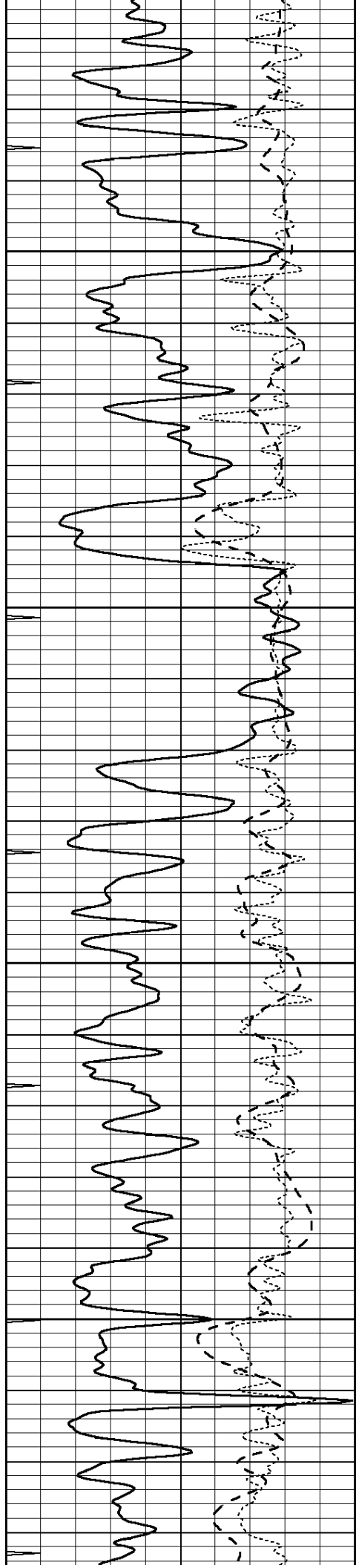
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2750

2800



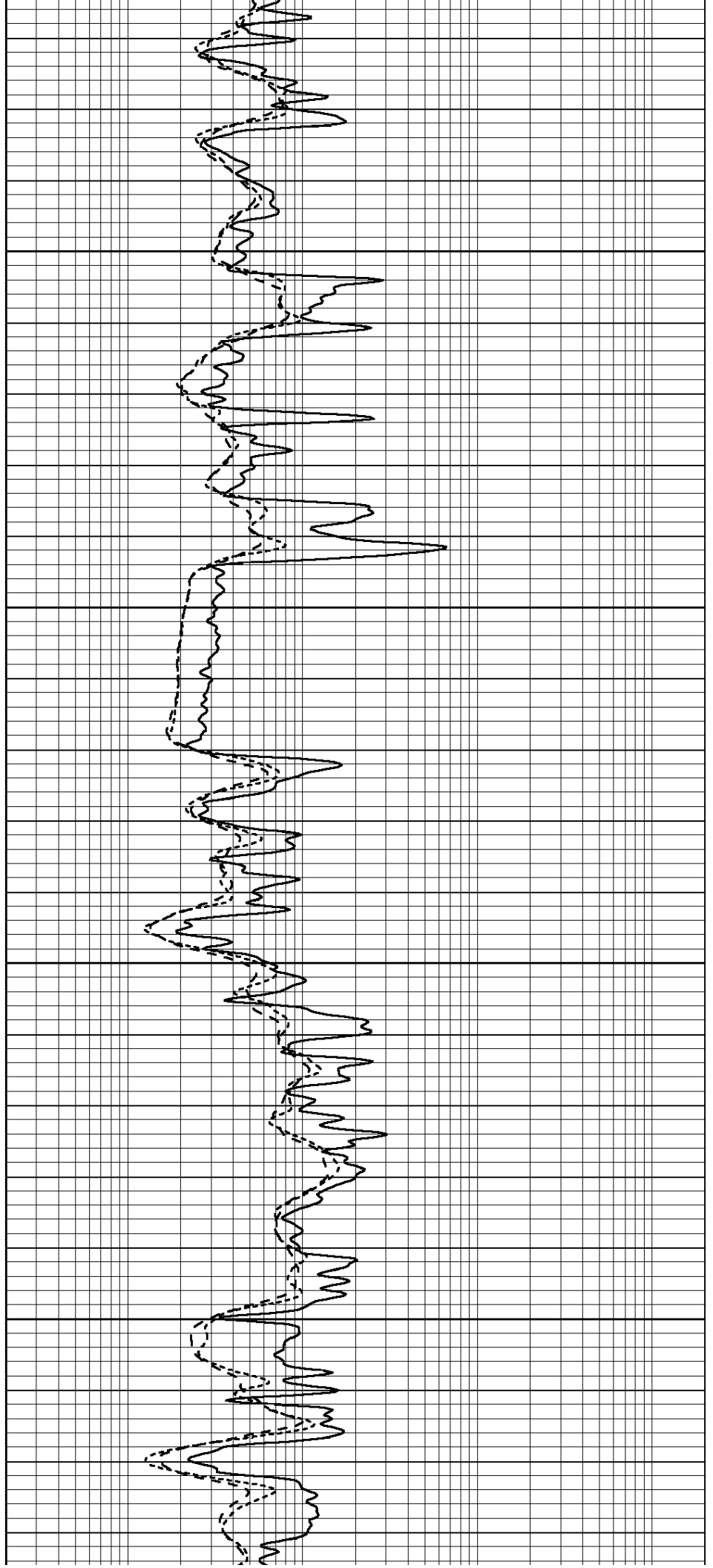


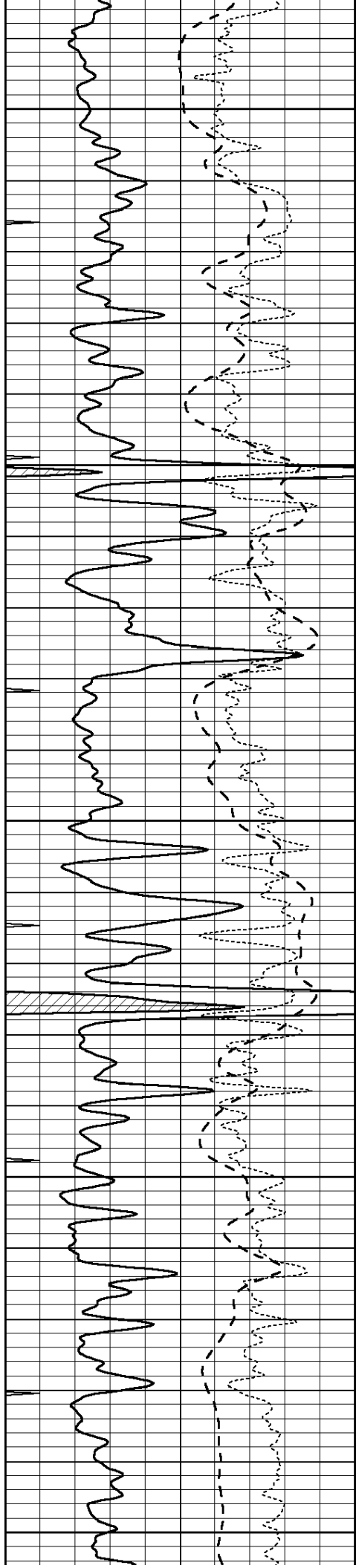
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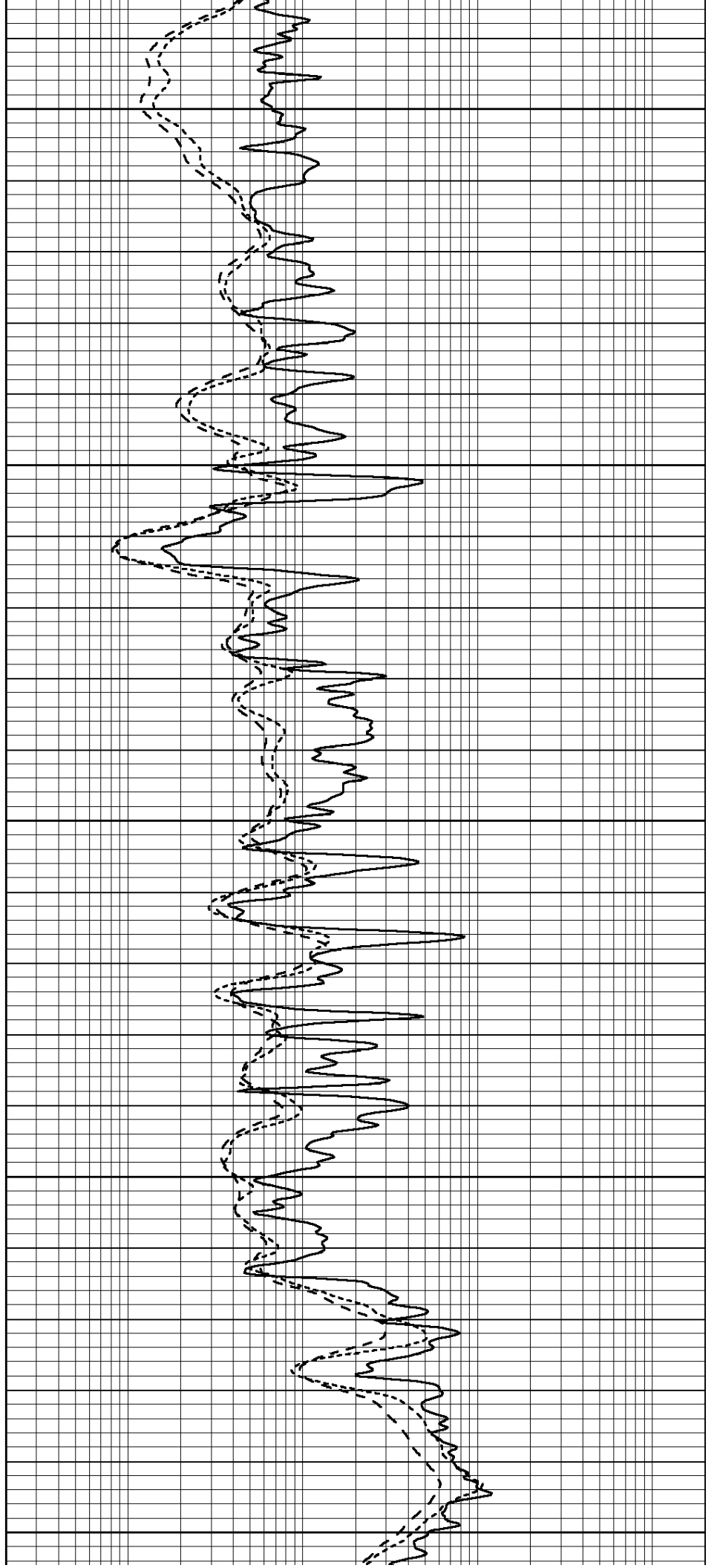
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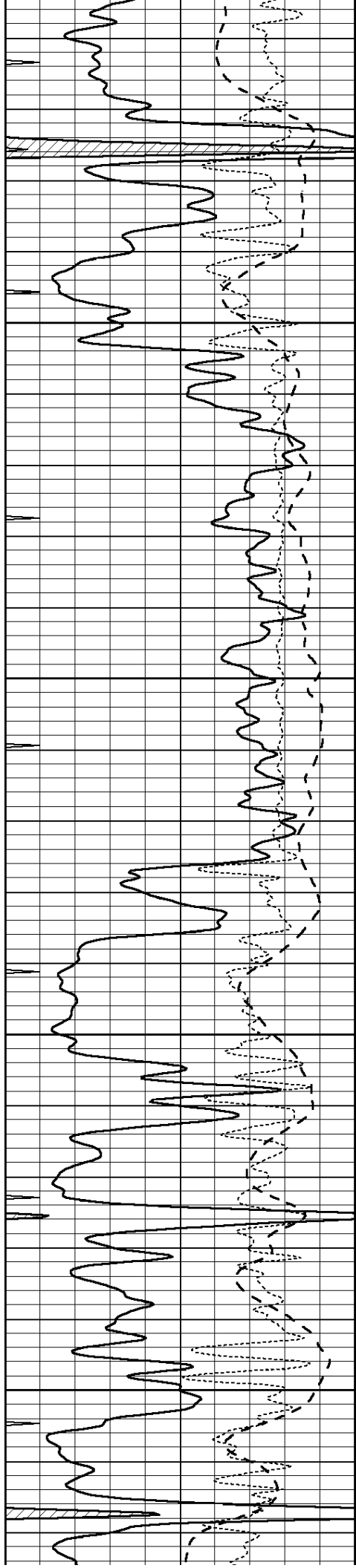
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3200

3250



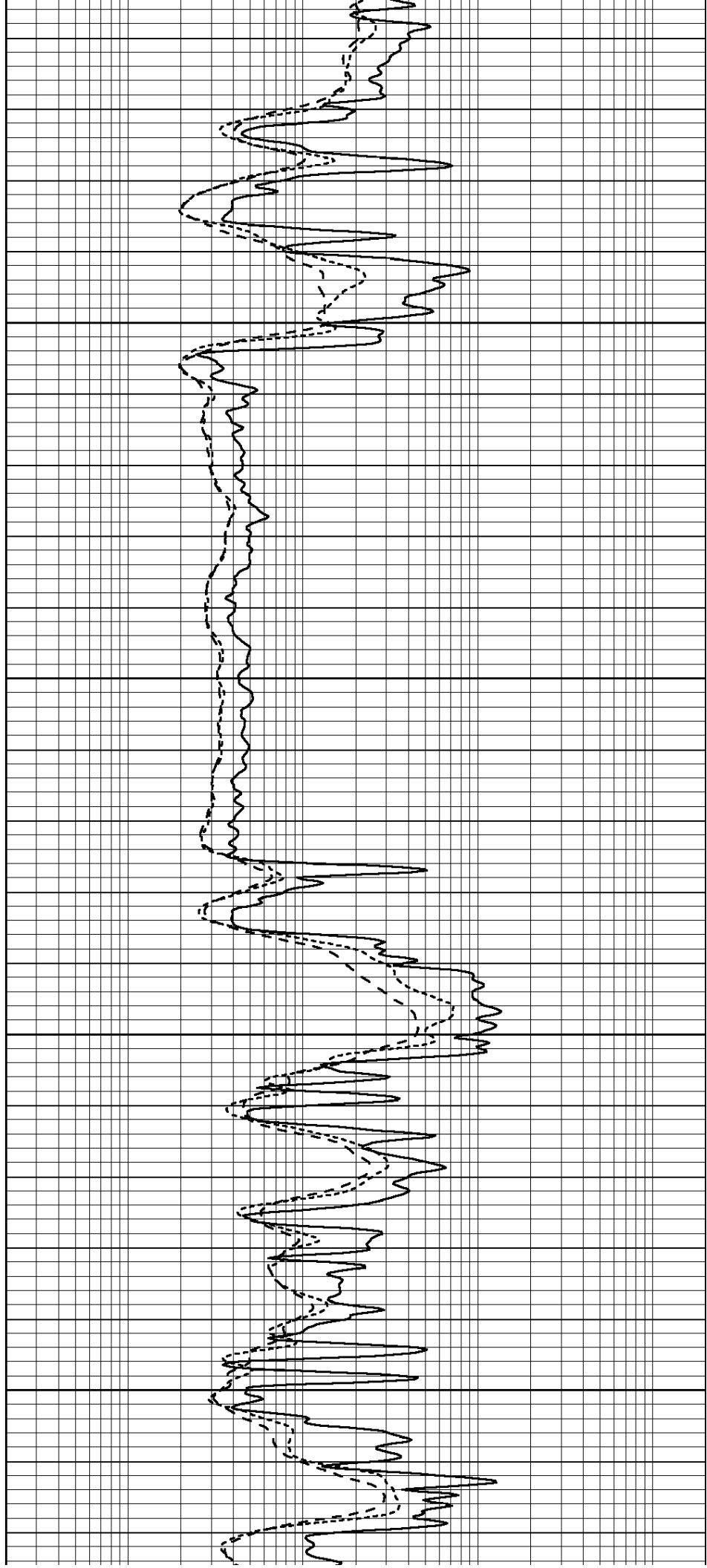


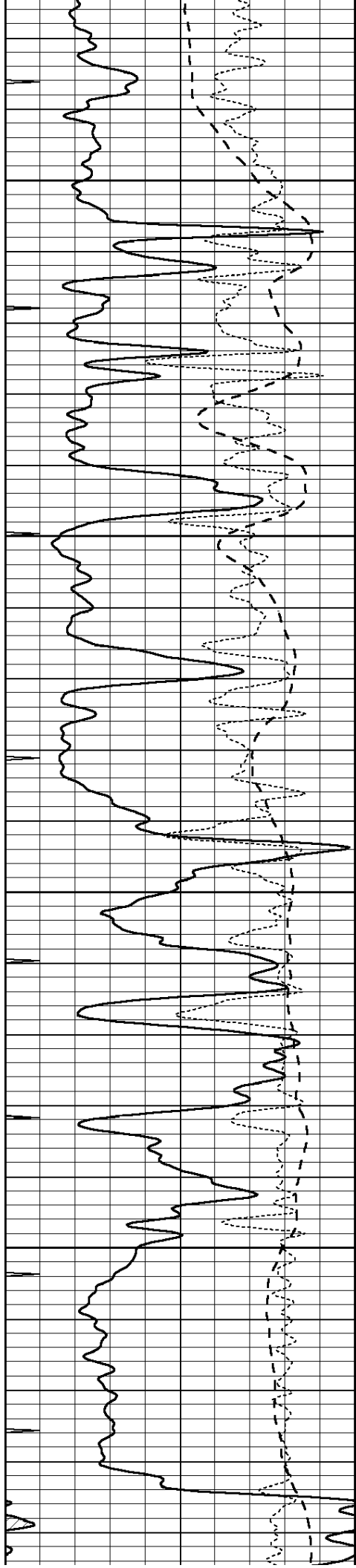
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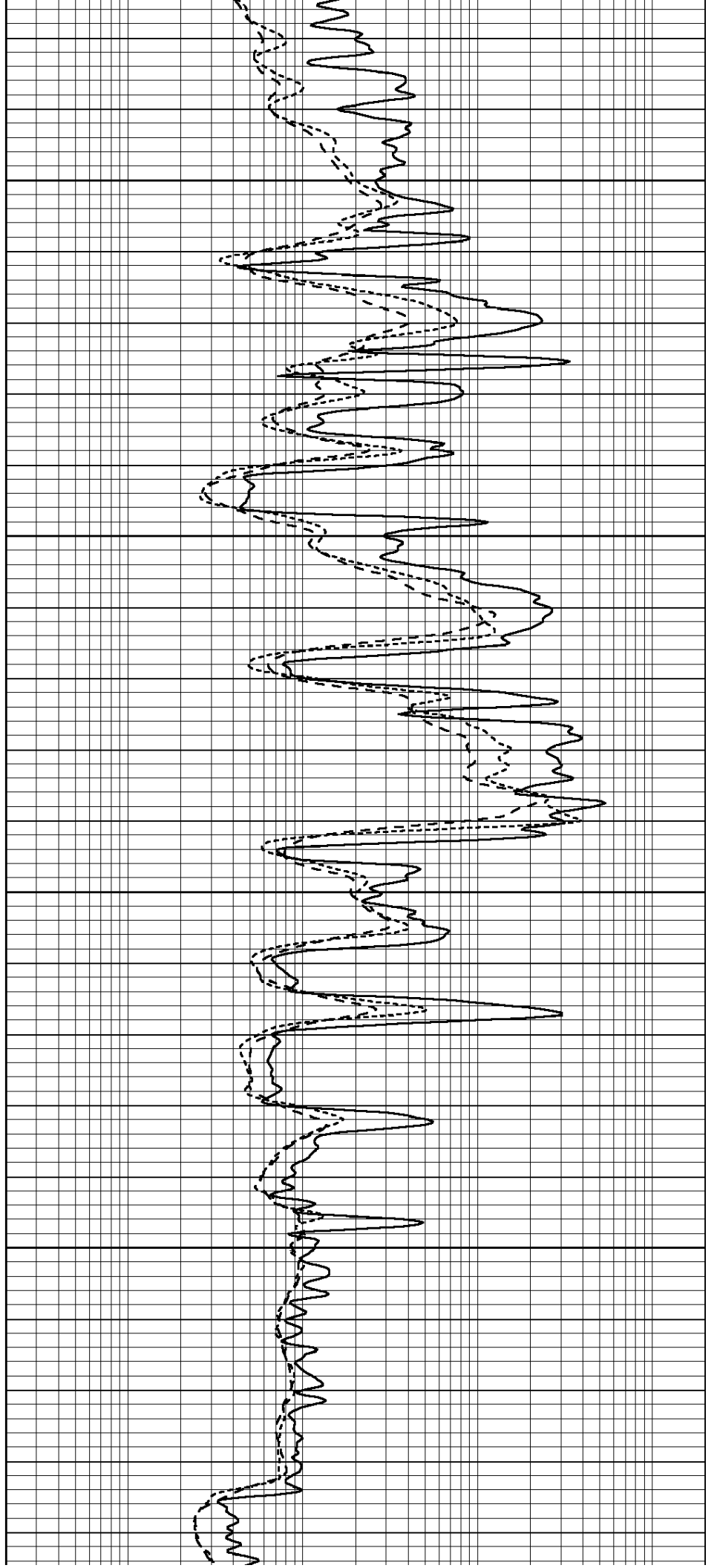


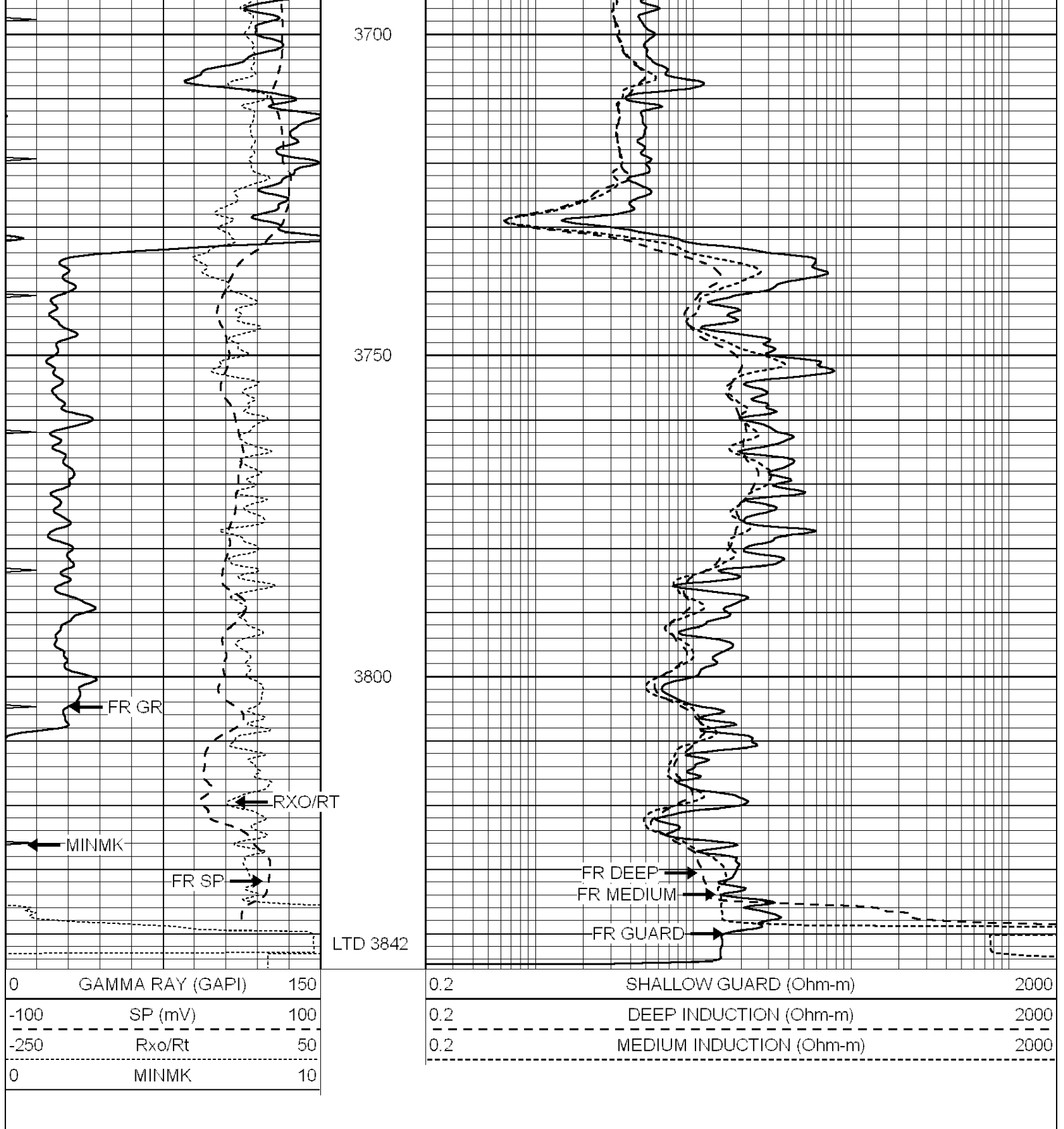
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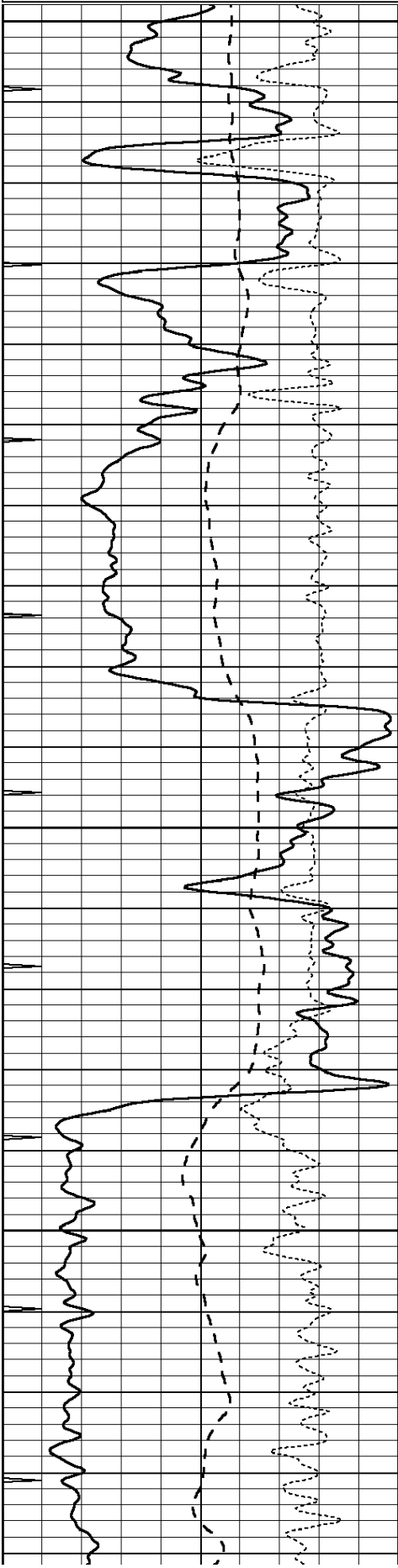
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# REPEAT SECTION

Database File: 006624pe.db  
 Dataset Pathname: pass2.5  
 Presentation Format: dil  
 Dataset Creation: Tue Mar 29 18:46:01 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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

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

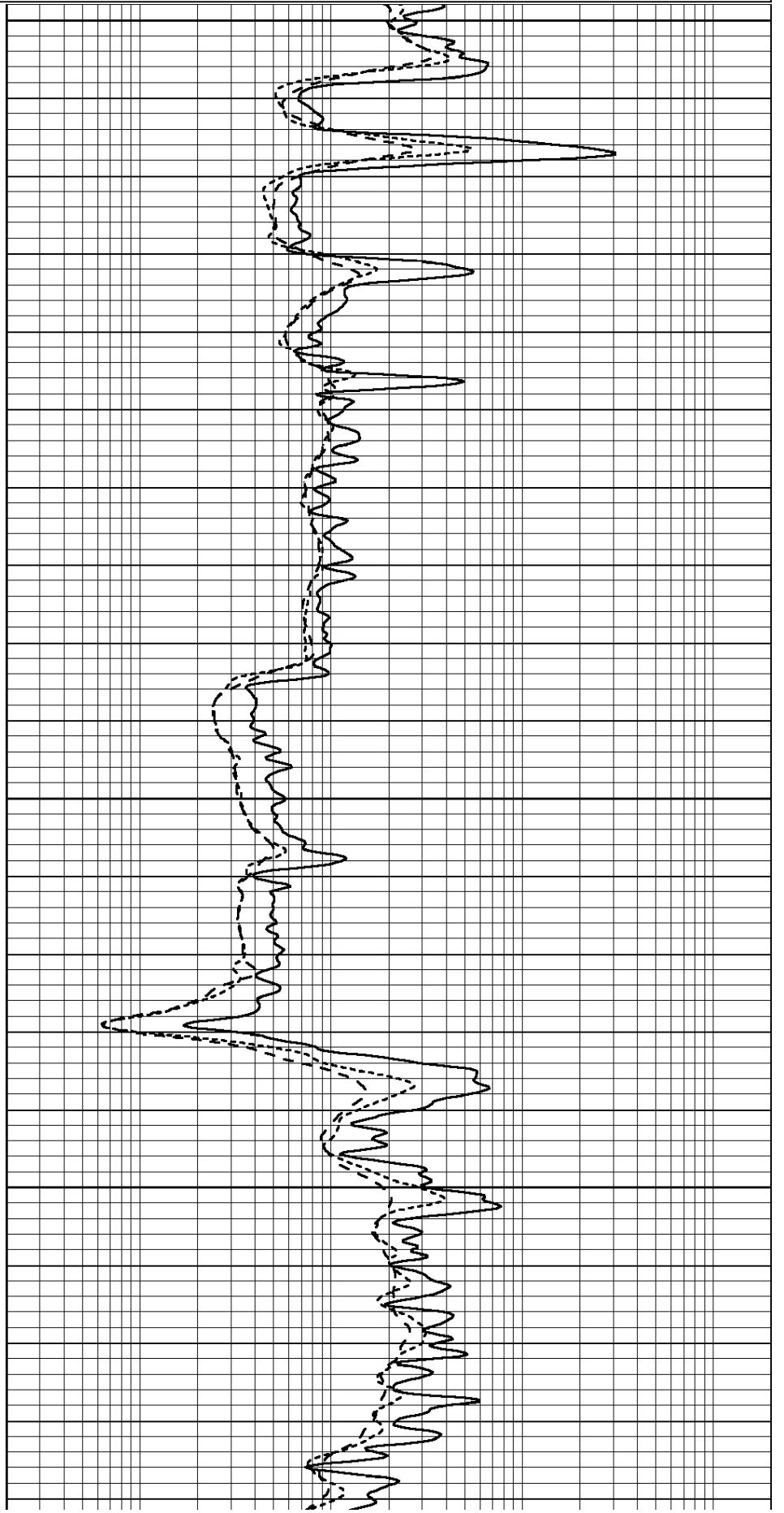


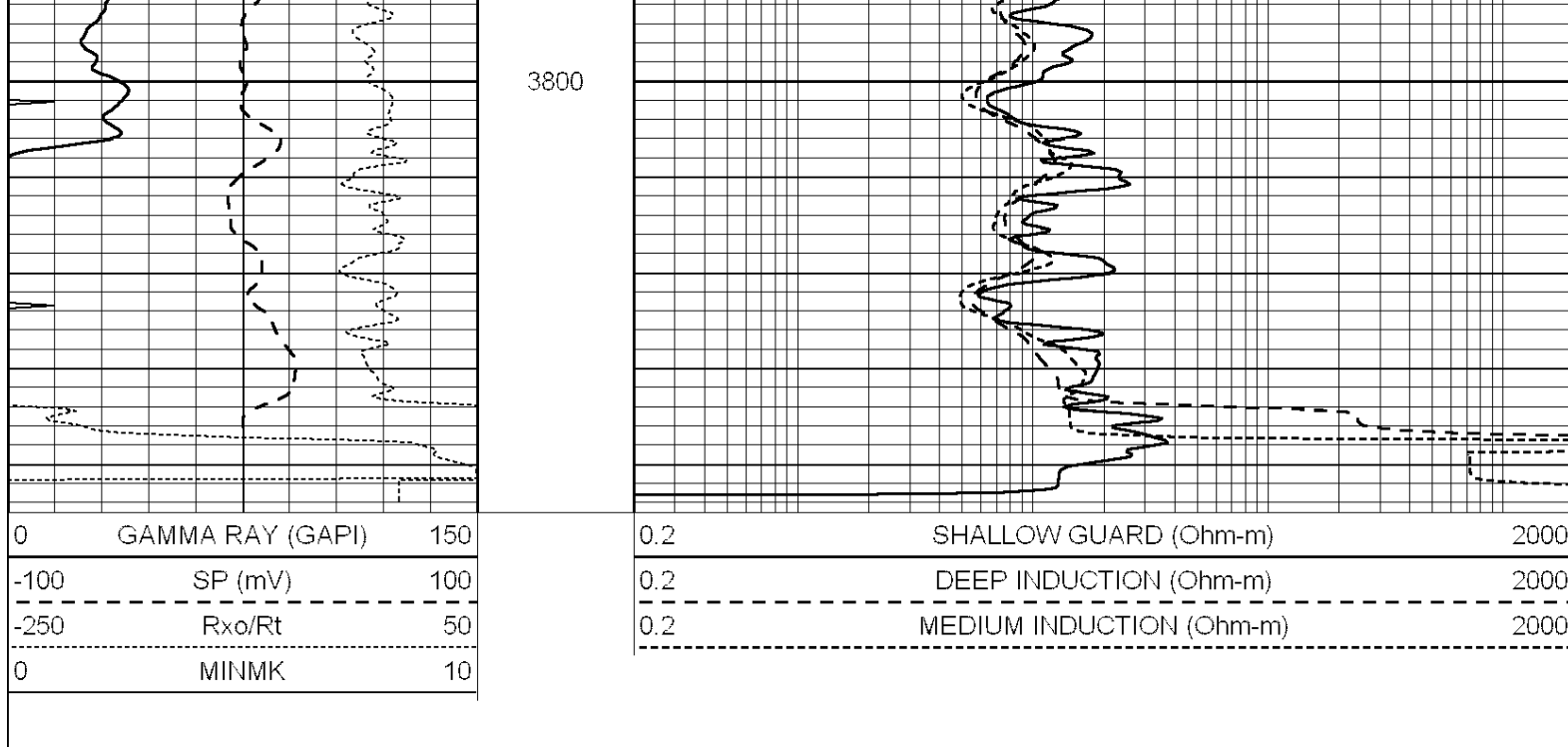
3600

3650

3700

3750





### Calibration Report

Database File: 006624pe.db  
 Dataset Pathname: pass3.2  
 Dataset Creation: Tue Mar 29 19:49:52 2011 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: DIL3-GEAR  
 Performed: Tue Mar 29 19:02:31 2011

Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	2.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-13.000
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

Low Ref  
High Ref

Readings  
2.1  
4.4  
Gain: 3.0

Reference  
7.0  
14.0

Offset: 0.7

Compensated Neutron Calibration Report

Serial Number: NEU\_4I  
Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	996.00 cps	1000.00 cps	1.0000
Long Space	977.00 cps	1000.00 cps	1.0000

Gamma Ray Calibration Report

Serial Number: GR3  
Tool Model: OPEN  
Performed: Tue Mar 29 18:31:35 2011

Calibrator Value: 200.0 GAPI

Background Reading: 3.0 cps  
Calibrator Reading: 186.0 cps

Sensitivity: 0.9000 GAPI/cps