



SUPERIOR
Hays,
Kansas

**DUAL INDUCTION
LOG**

Company MULL DRILLING COMPANY, INC.
Well #1-20 SIMPSON-MAST UNIT
Field WILDCAT
County NESS
State KANSAS

Company MULL DRILLING COMPANY, INC.
Well #1-20 SIMPSON-MAST UNIT
Field WILDCAT
County NESS
State KANSAS

Location: API # : 15-135-25353-0000
80' FSL & 1193' FWL
SEC 20 TWP 16S RGE 23W
Permanent Datum GROUND LEVEL Elevation 2502
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
Elevation
K.B. 2507
D.F. 2505
G.L. 2502

Date	3/7/12		
Run Number	ONE		
Depth Driller	4600		
Depth Logger	4598		
Bottom Logged Interval	4596		
Top Log Interval	00		
Casing Driller	8 5/8"@233'		
Casing Logger	233		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4,000 PPM	
Density / Viscosity	8.6/54		
pH / Fluid Loss	8.5/6.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.10@50F		
Rmt @ Meas. Temp	.825@50F		
Rmc @ Meas. Temp	1.32@50F		
Source of Rm/f / Rmc	MEASUREMENT		
Rm @ BHT	.455@121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	4:00 P.M.		
Maximum Recorded Temperature	121F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	KEVIN KESSLER		

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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
RANSOM, KS. (JUNCTION OF HWY 4 & 283) 1/4N., 1/4E., N. INTO



SUPERIOR
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Kansas

MAIN SECTION

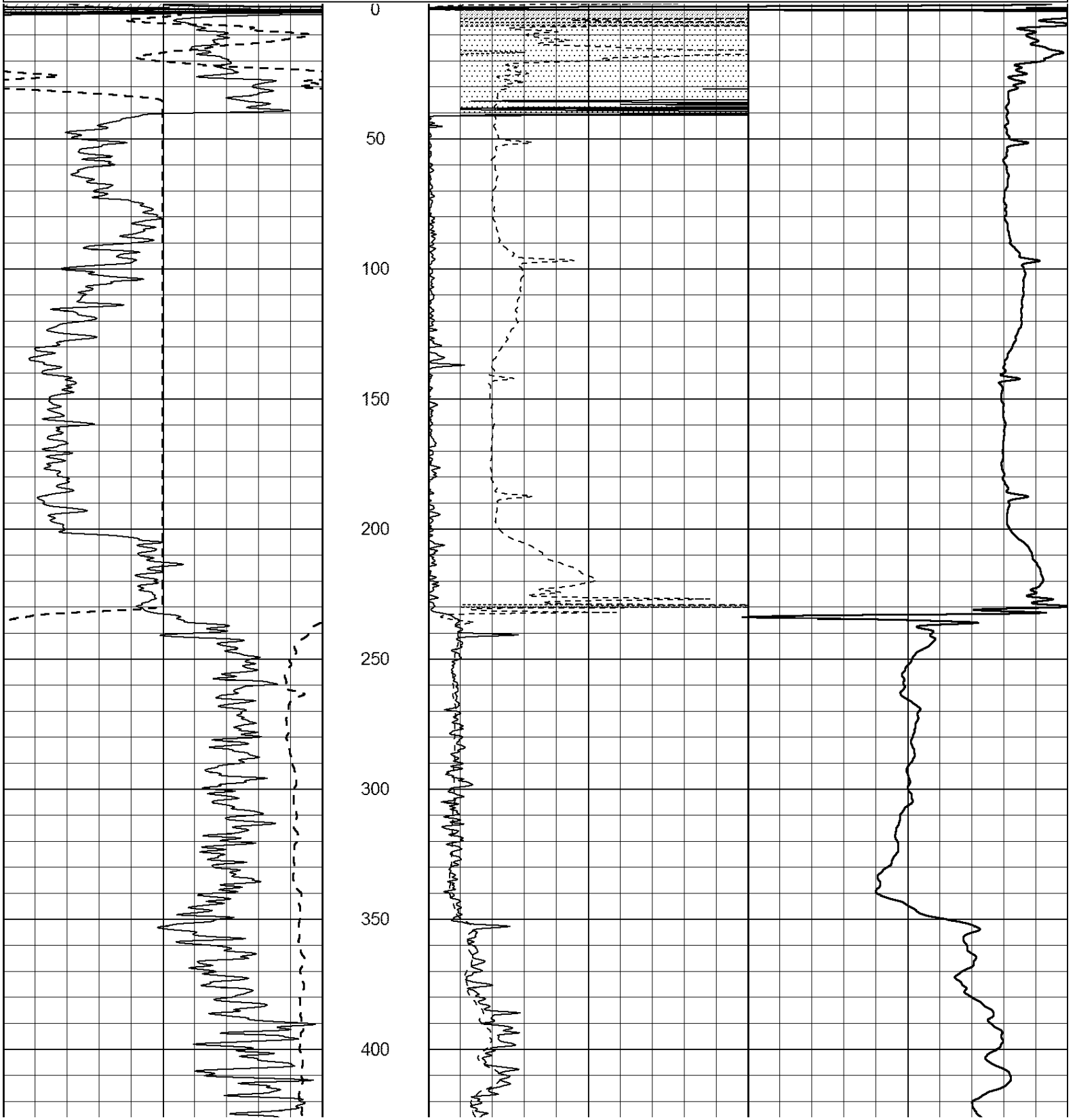
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 Presentation Format: dil2
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 Charted by: Depth in Feet scaled 1:600

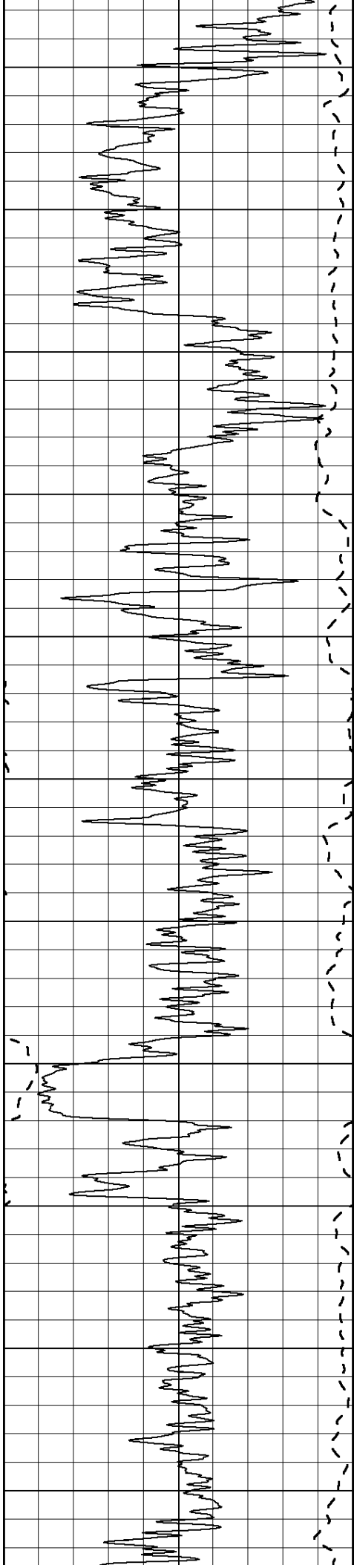
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-100	SP (mV)	100

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

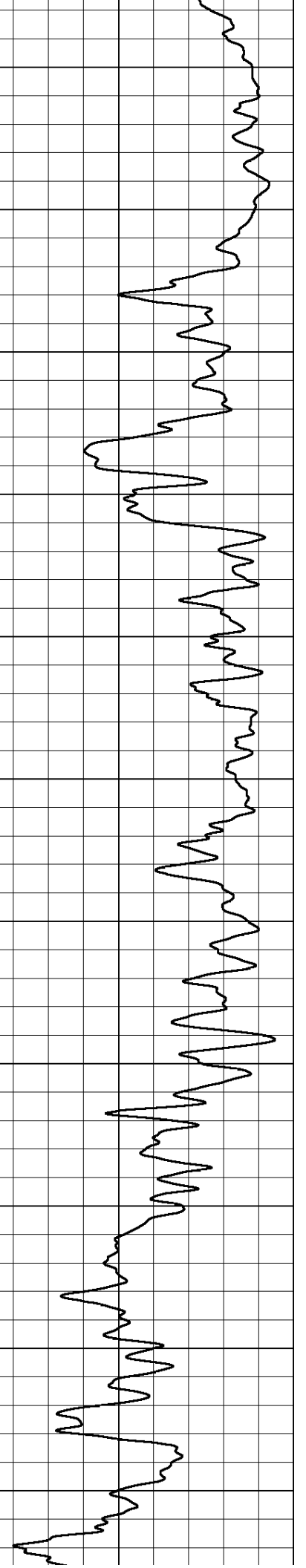
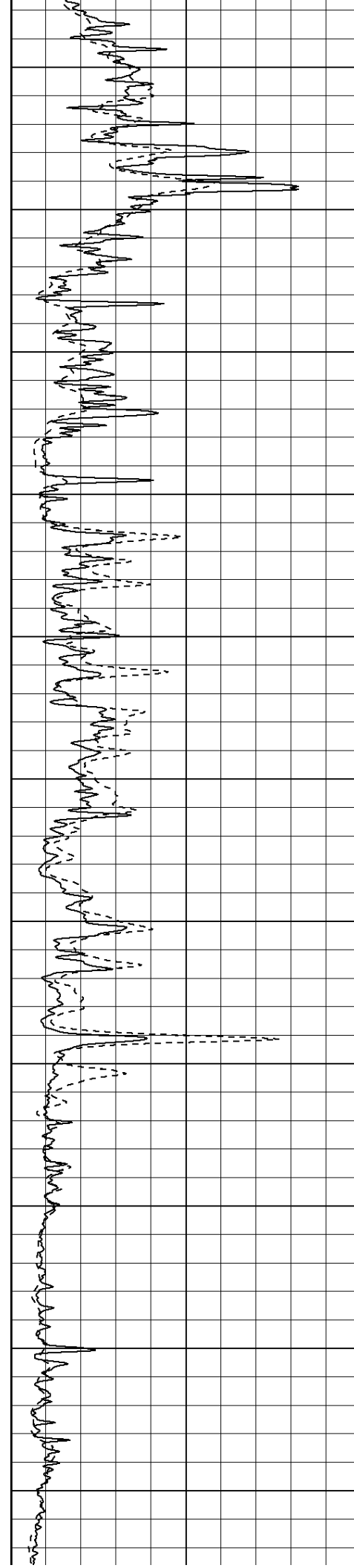
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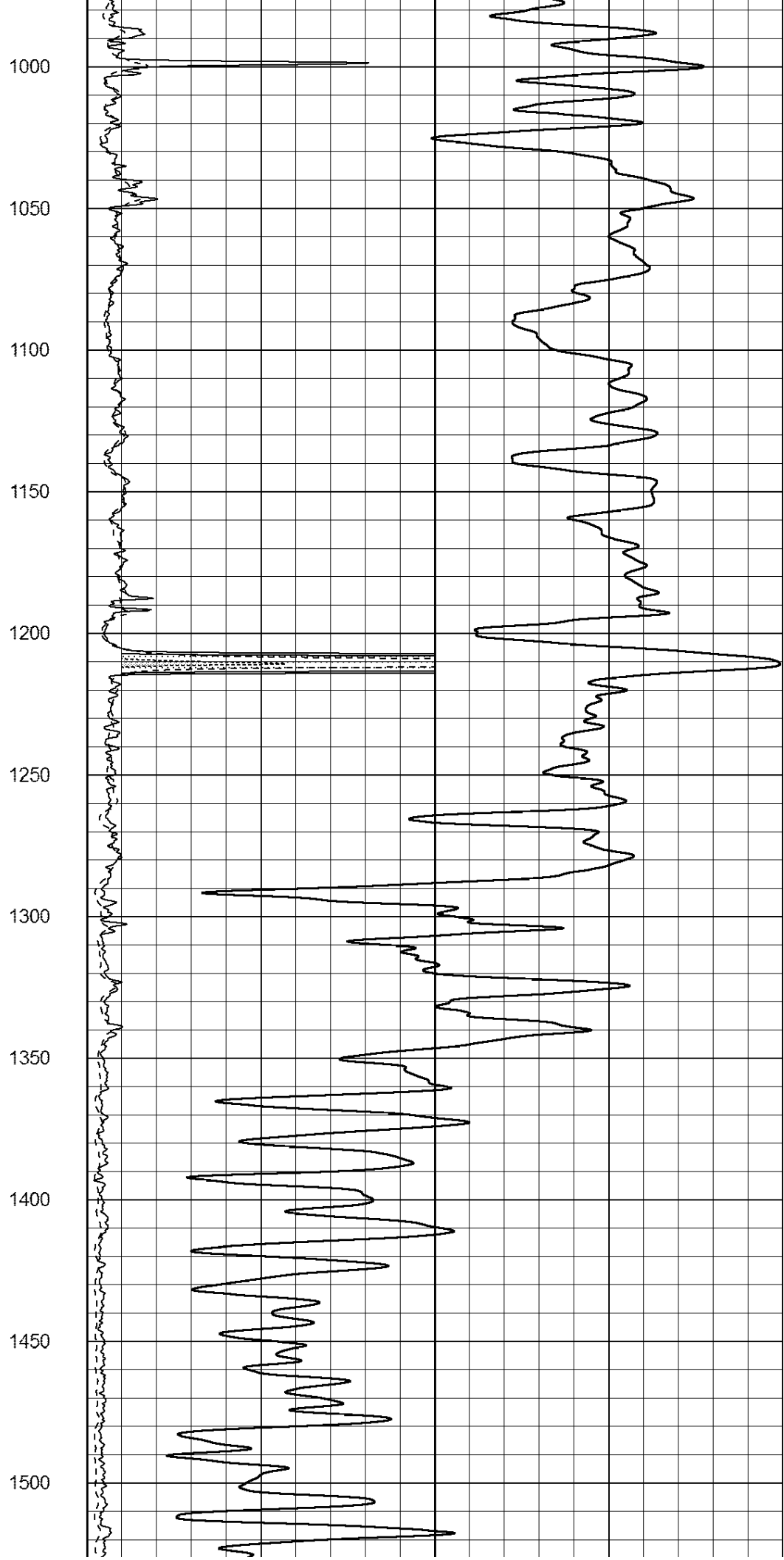
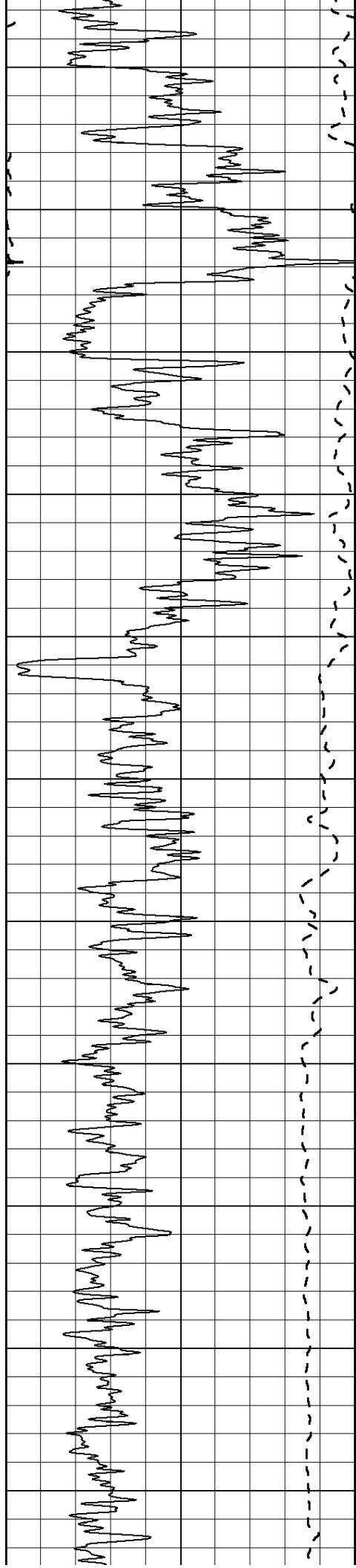
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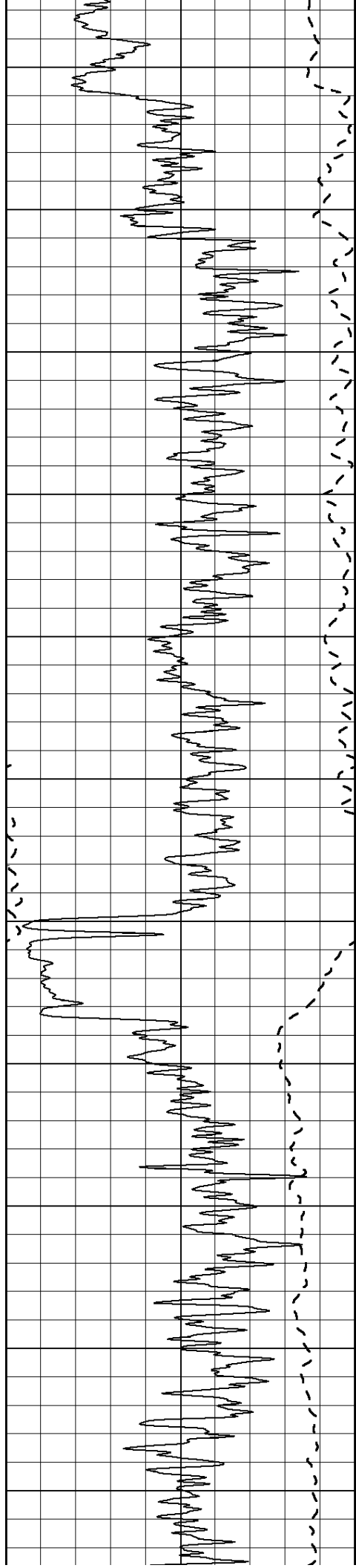
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900

950







1550

1600

1650

1700

1750

1800

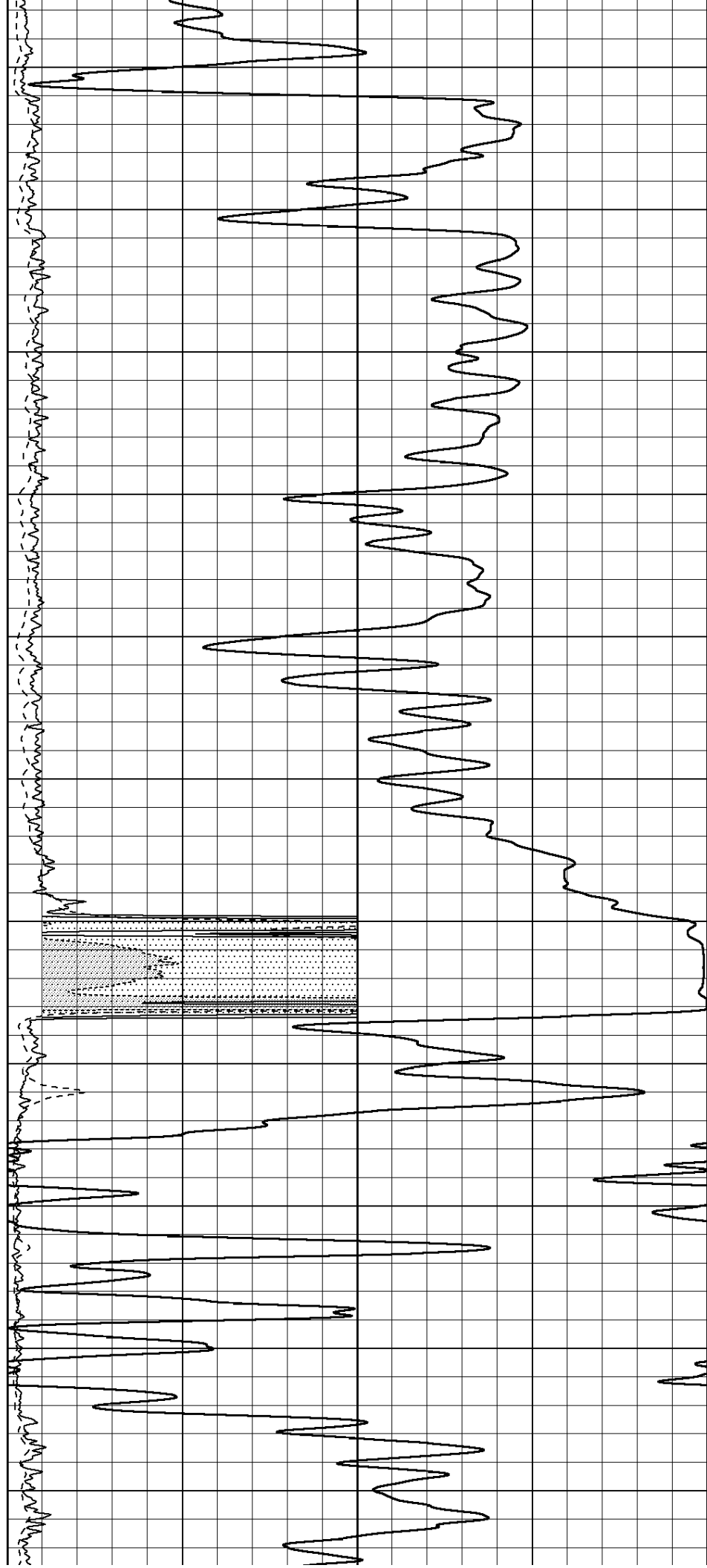
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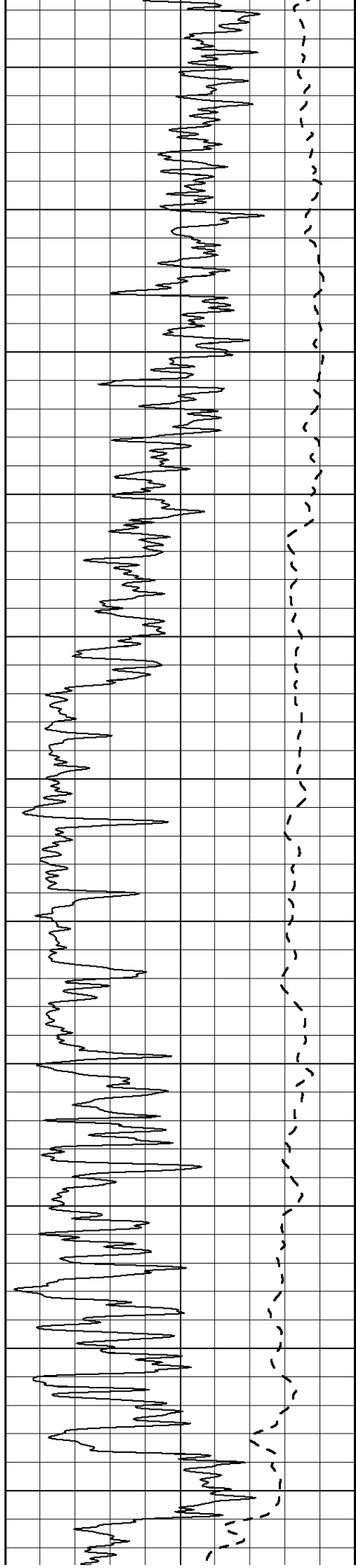
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1950

2000

2050





2100

2150

2200

2250

2300

2350

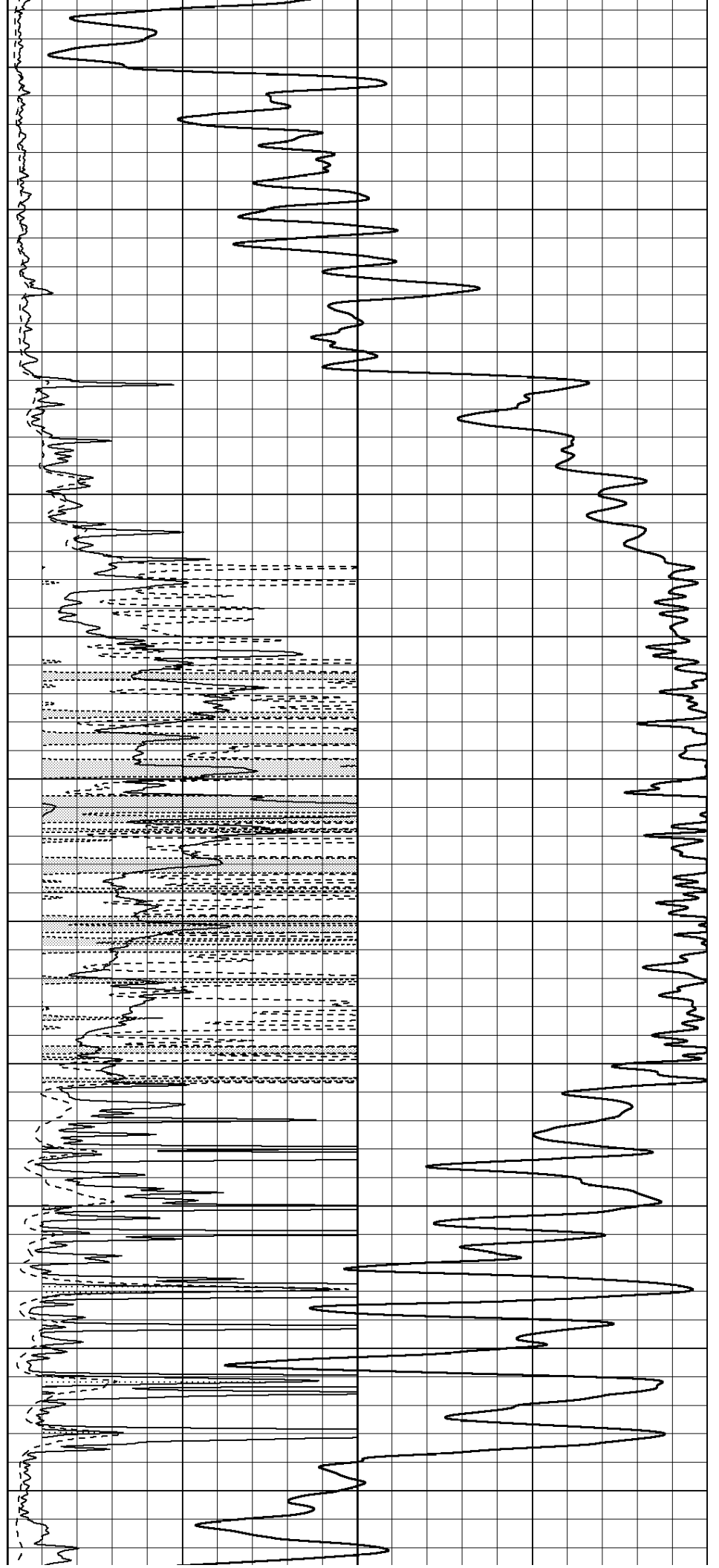
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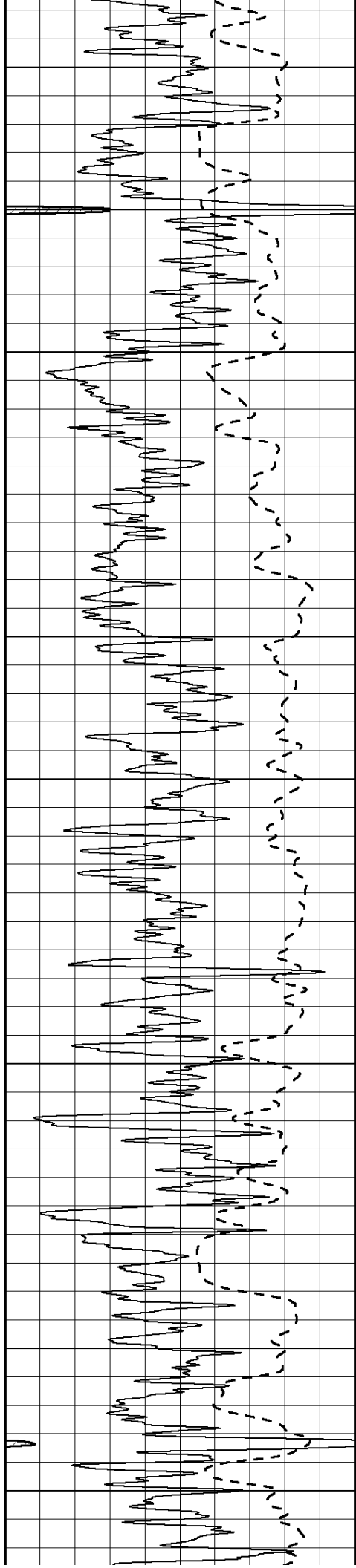
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2500

2550

2600





2650

2700

2750

2800

2850

2900

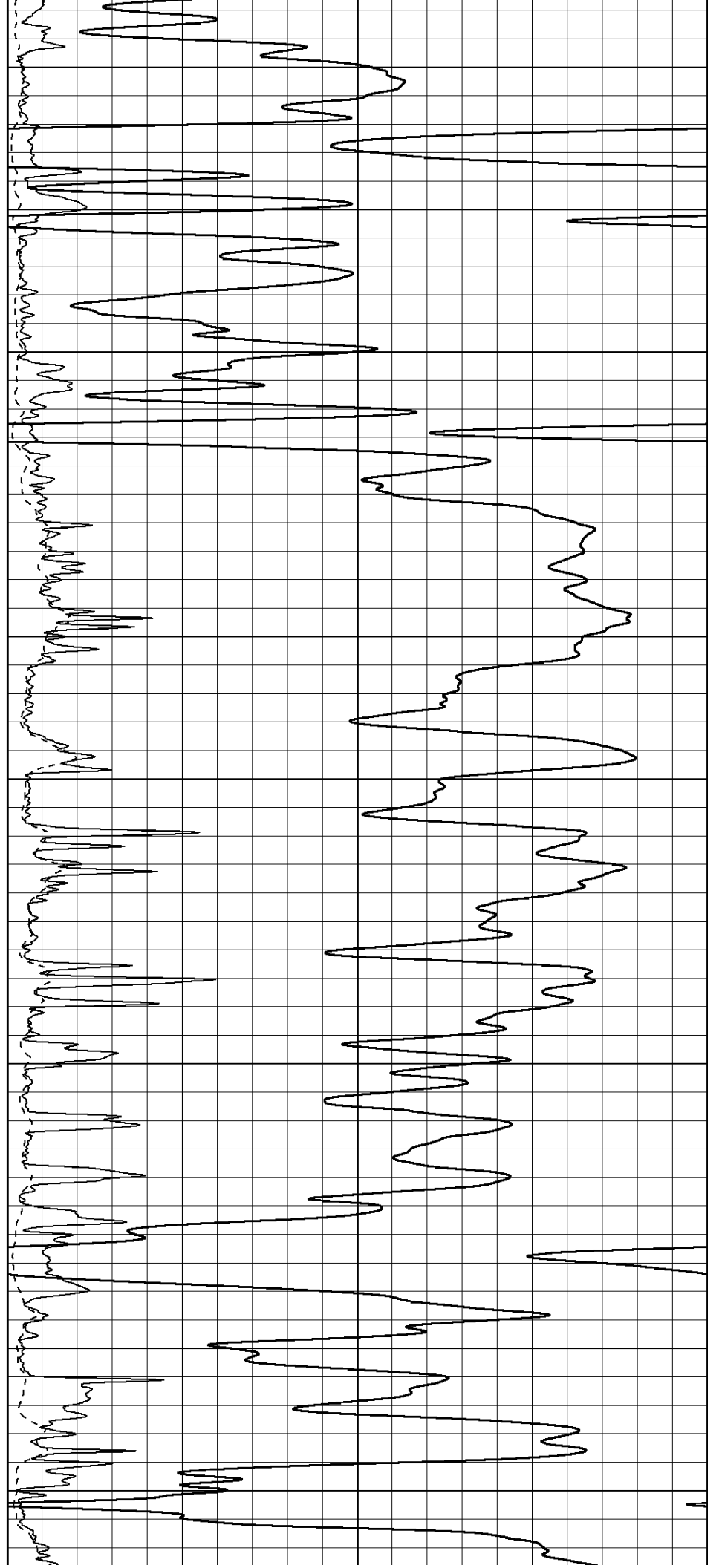
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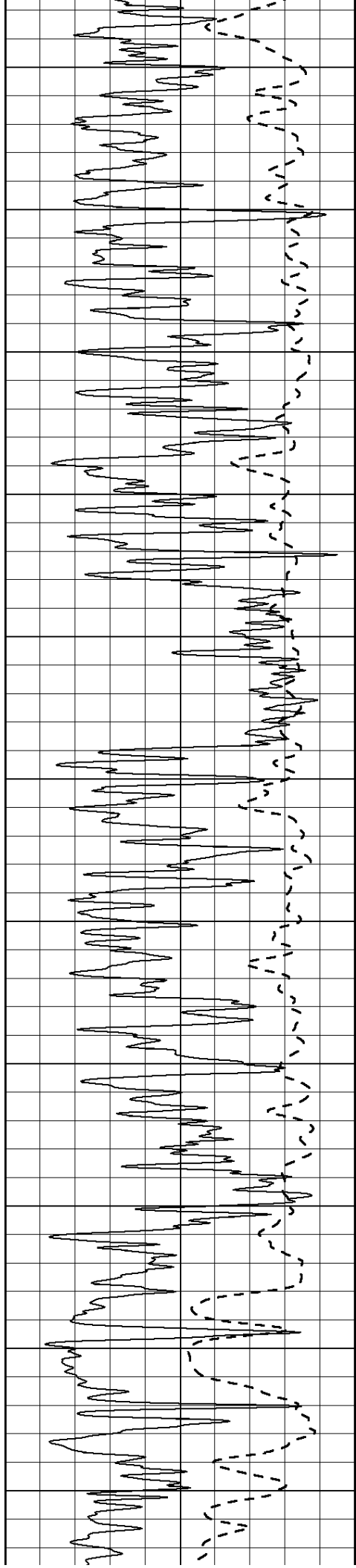
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3050

3100

3150





3200

3250

3300

3350

3400

3450

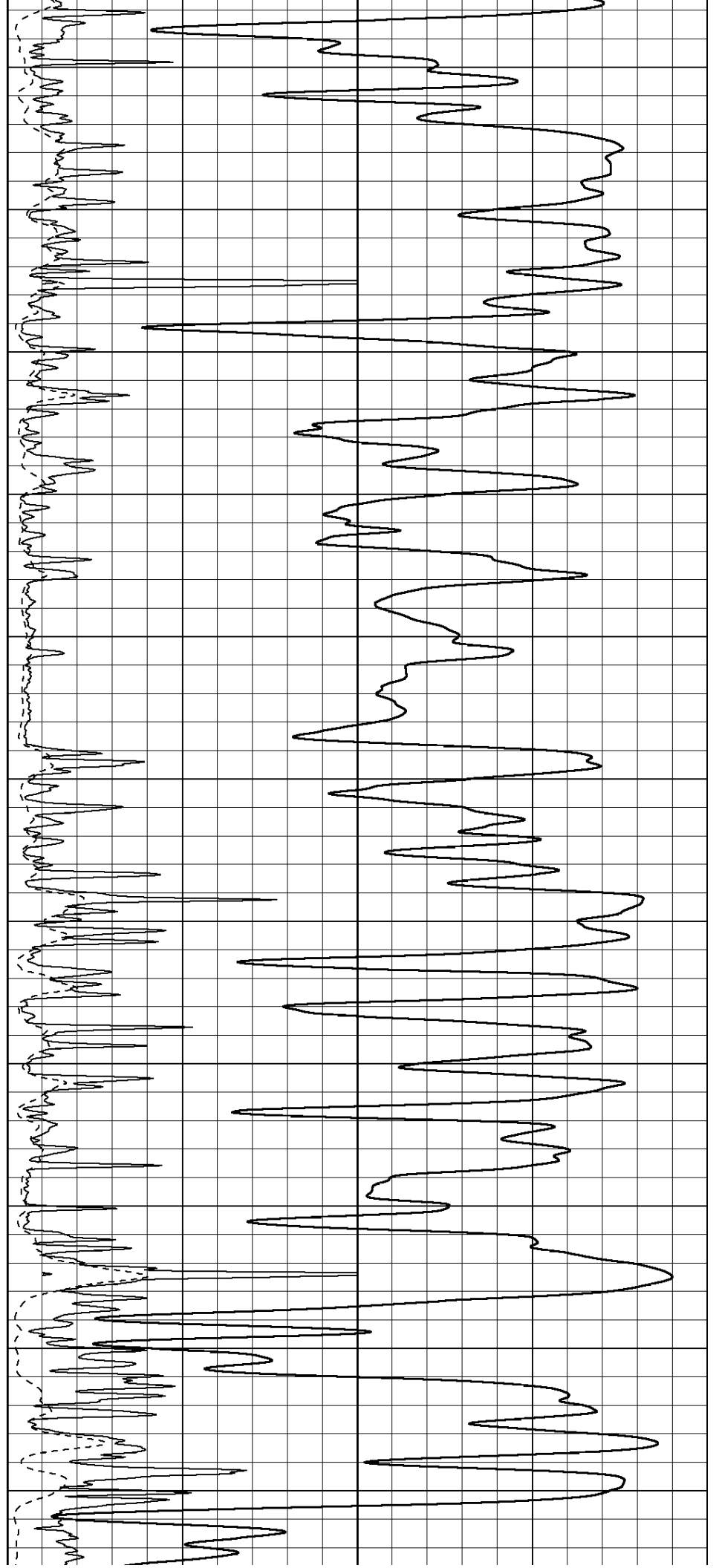
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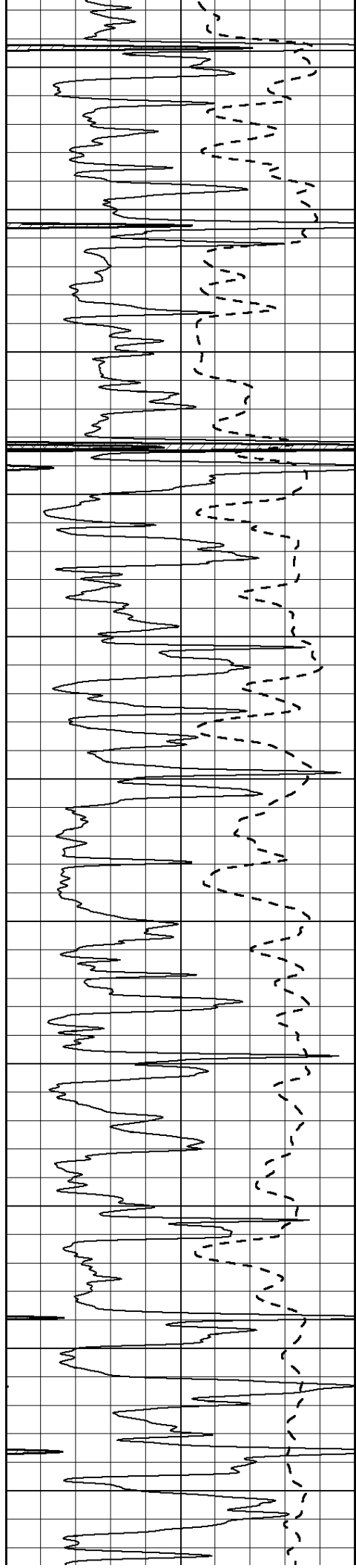
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3600

3650

3700





3750

3800

3850

3900

3950

4000

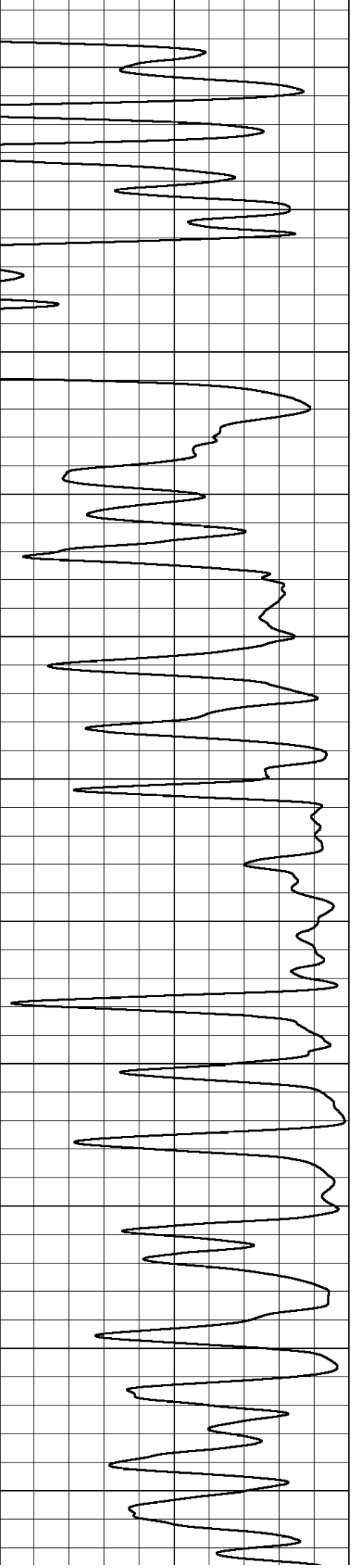
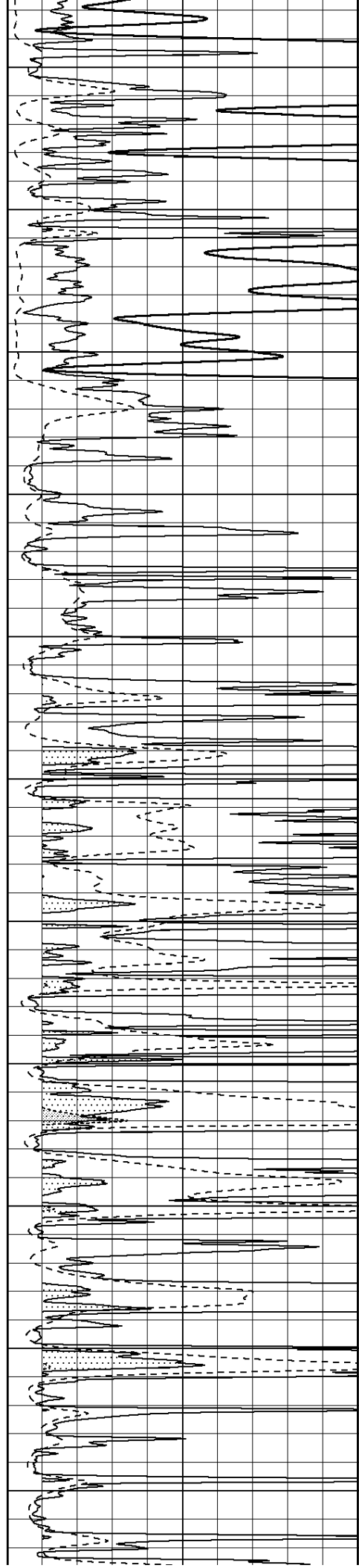
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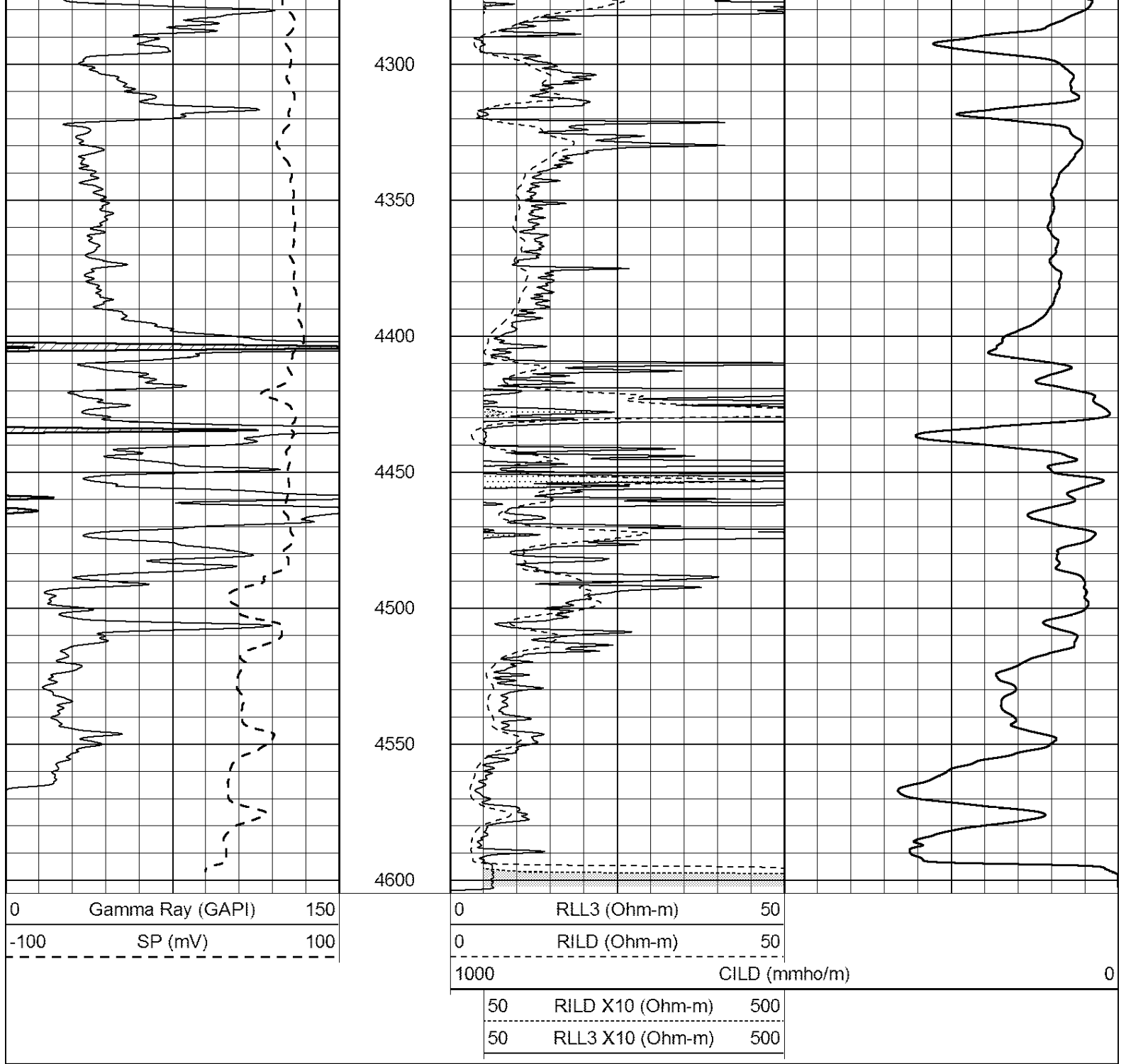
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4150

4200

4250





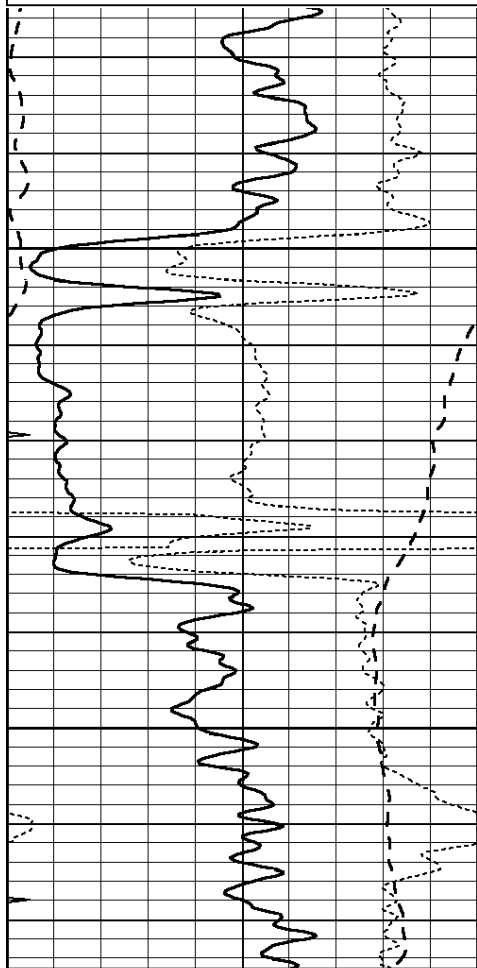
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ANHYDRITE

Database File: 408425pe.db
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 Dataset Creation: Wed Mar 07 17:30:41 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

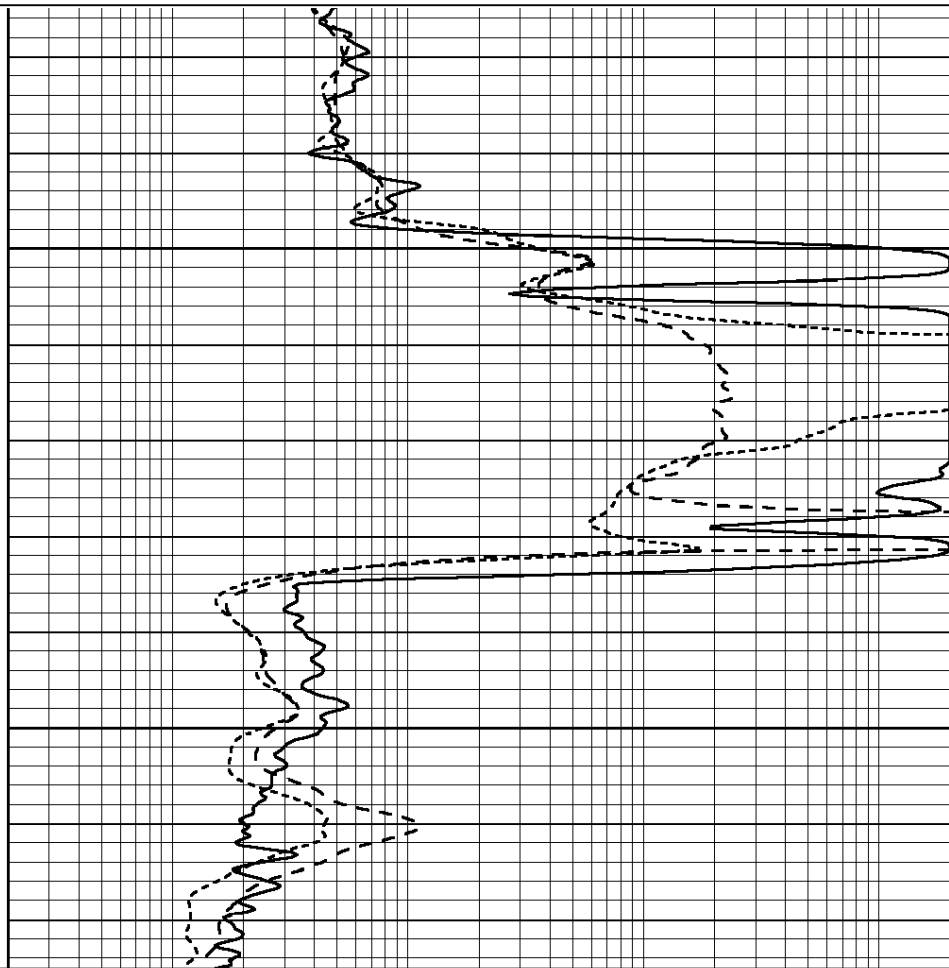
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



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

1850

1900



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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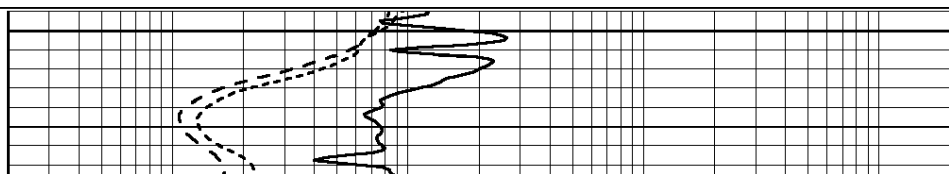
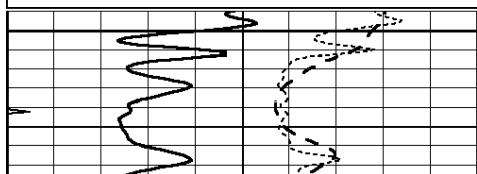
MAIN SECTION

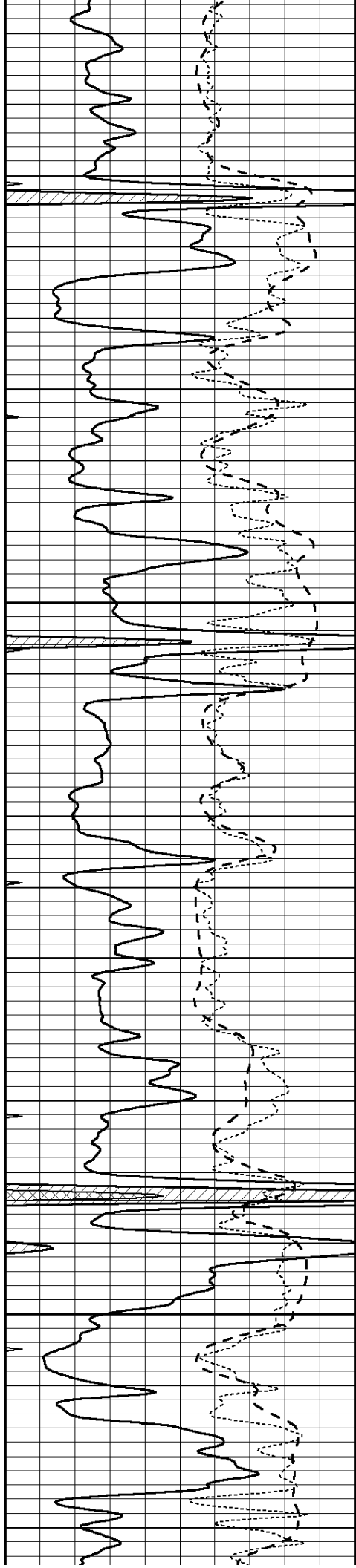
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 Presentation Format: dil
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 Charted by: Depth in Feet scaled 1:240

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



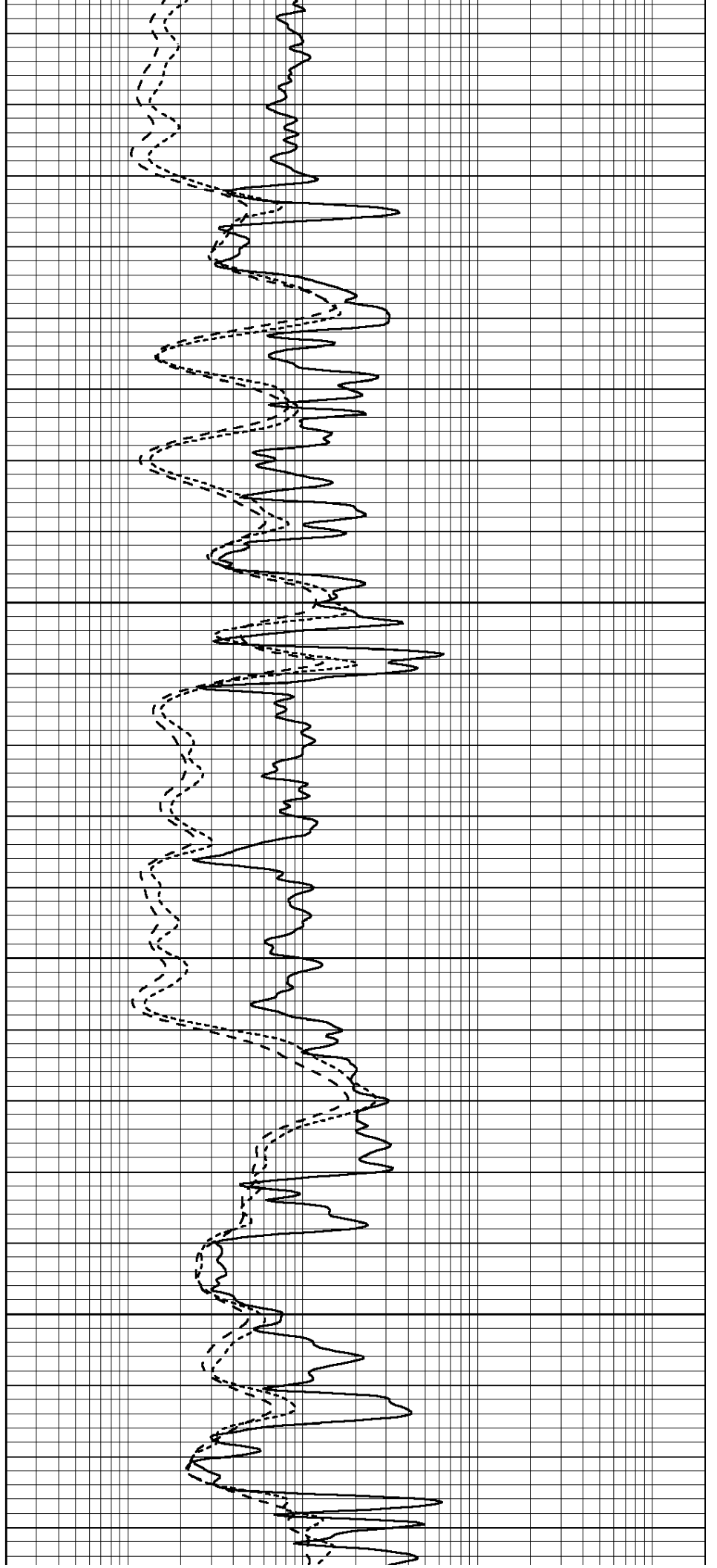


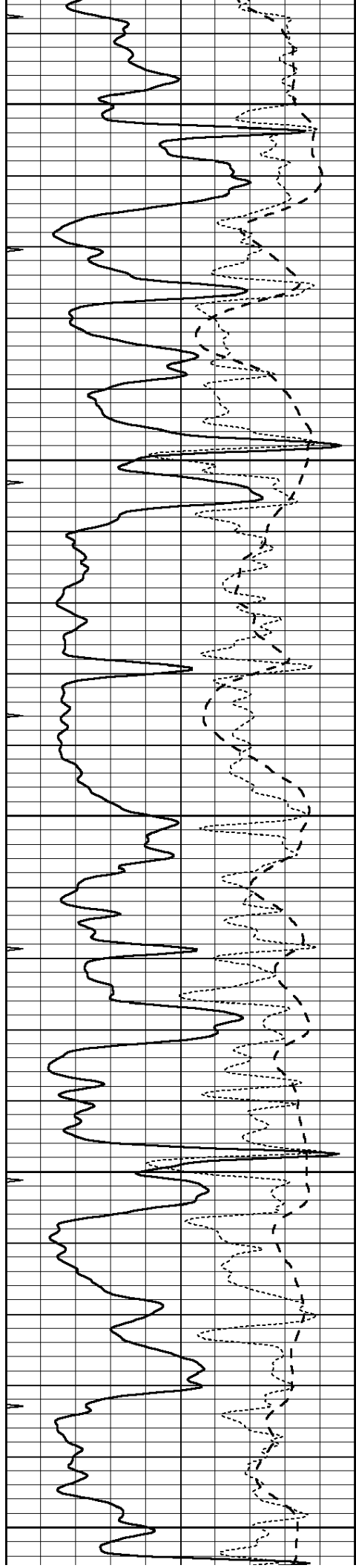
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3800

3850

3900





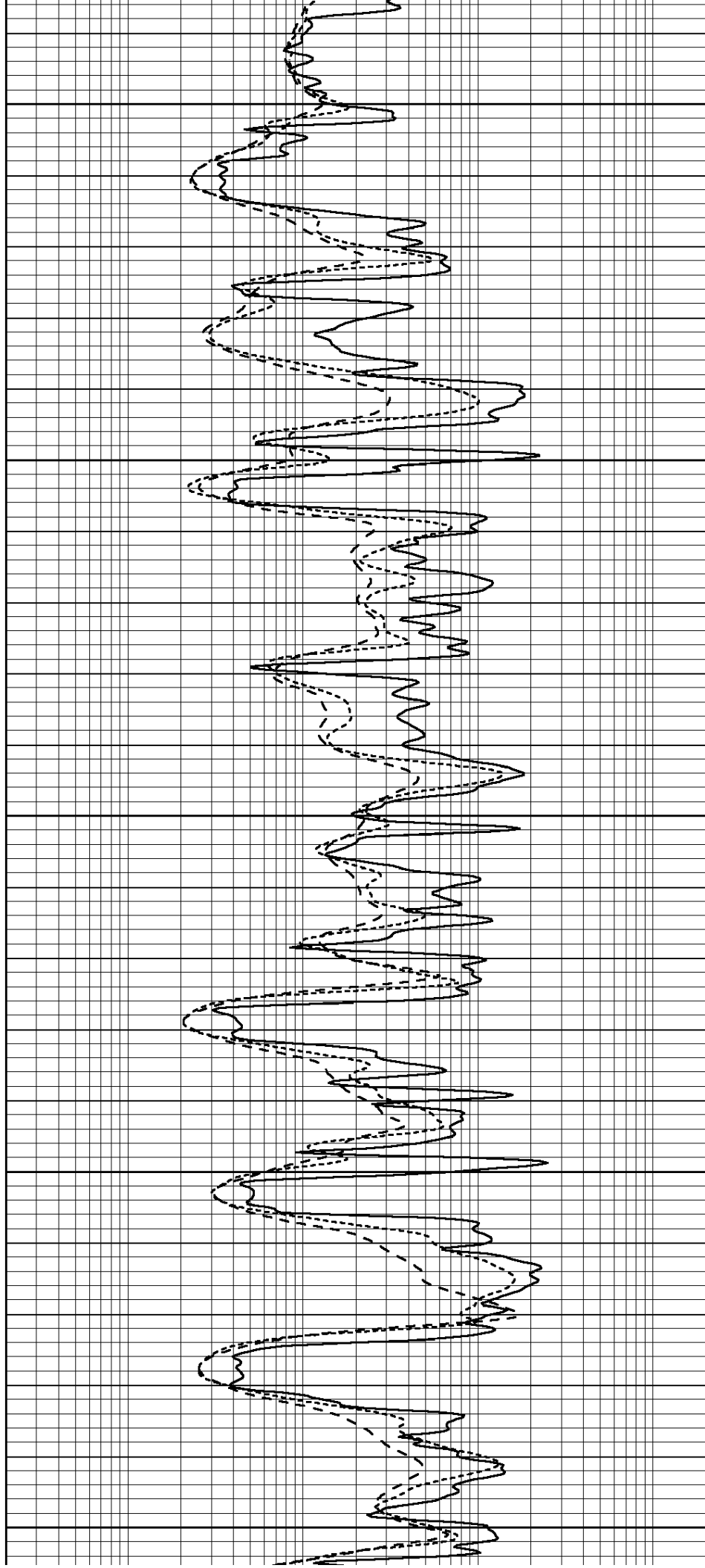
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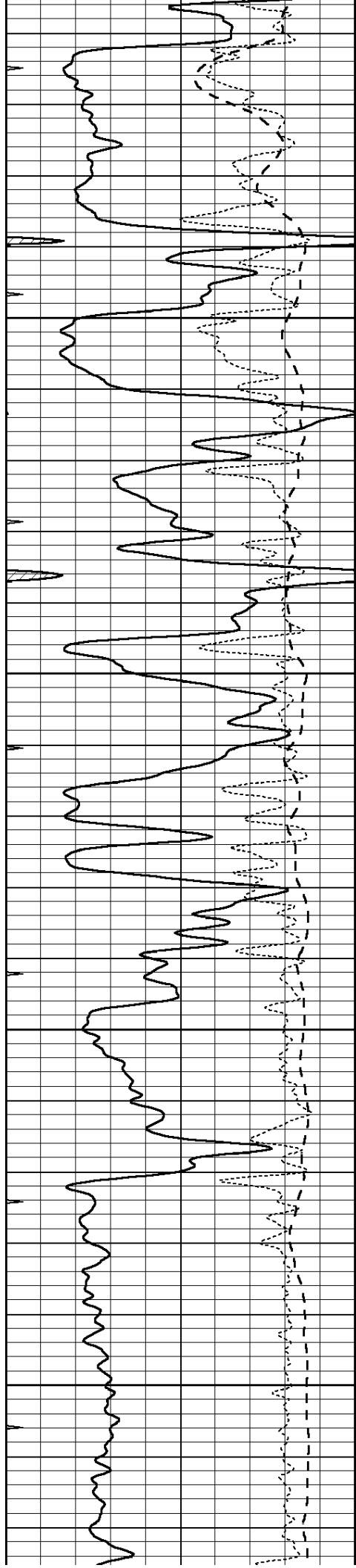
4000

4050

4100

4150



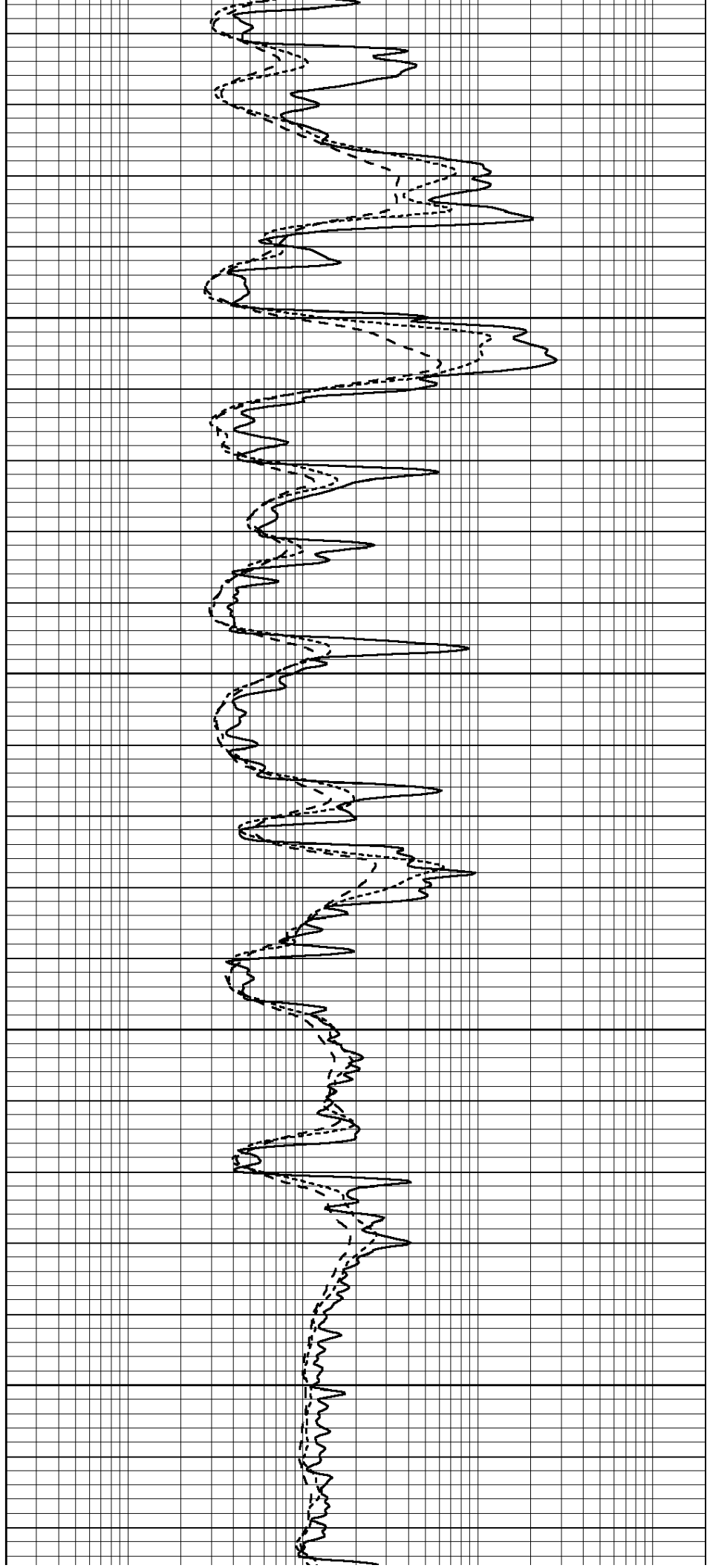


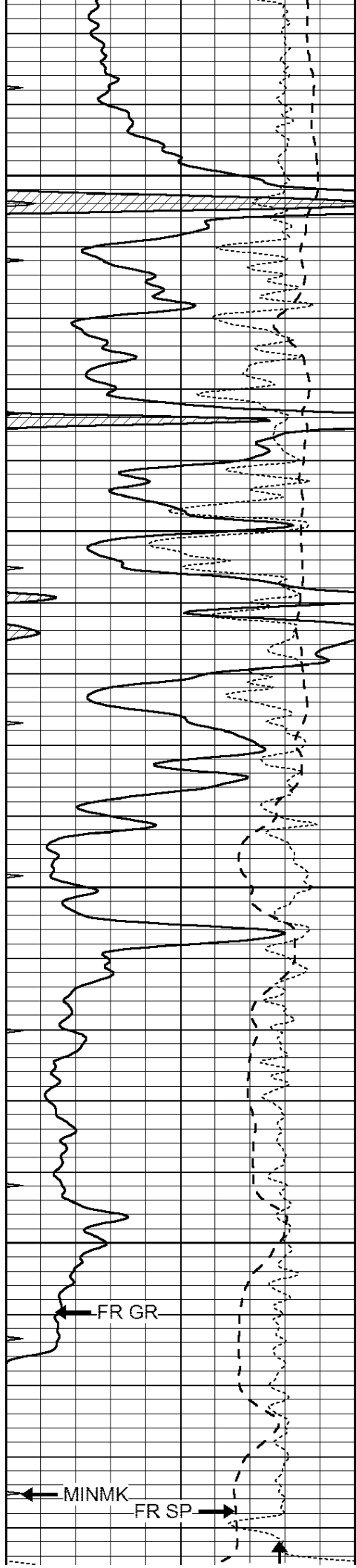
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4250

4300

4350





4400

4450

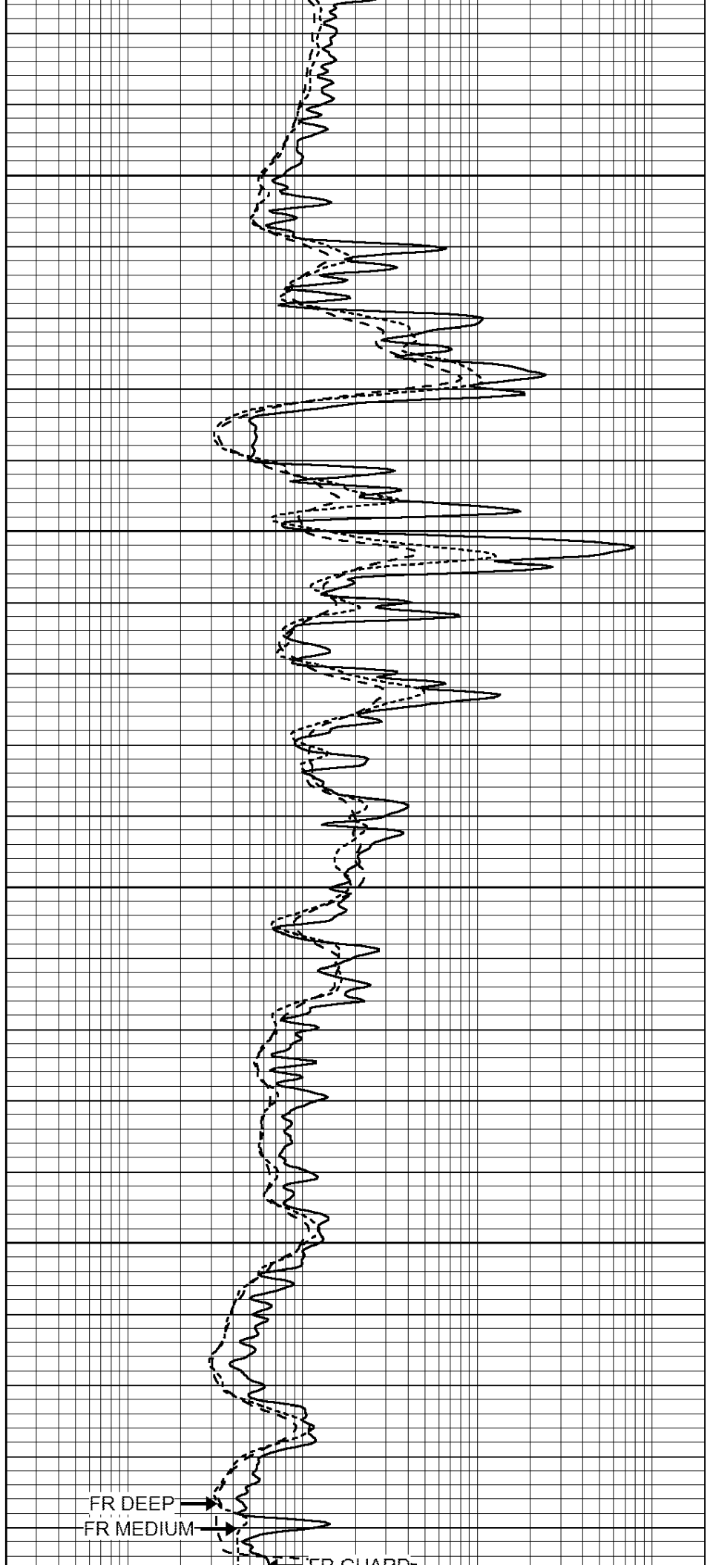
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4550

FR GR

MINMK

FR SP



FR DEEP

FR MEDIUM

FR SHALLOW

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

LTD 4598
4600

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



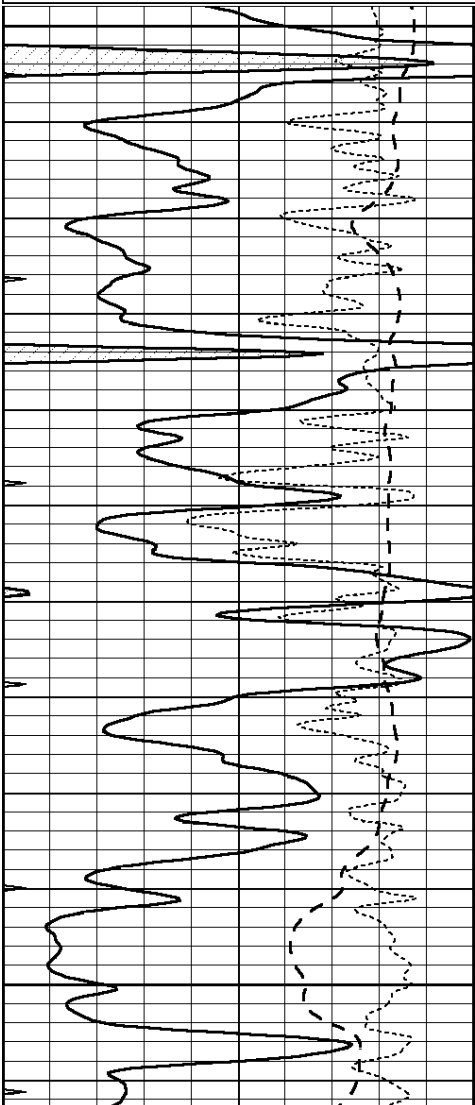
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REPEAT SECTION

Database File: 408425pe.db
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 Presentation Format: dil
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 Charted by: Depth in Feet scaled 1:240

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

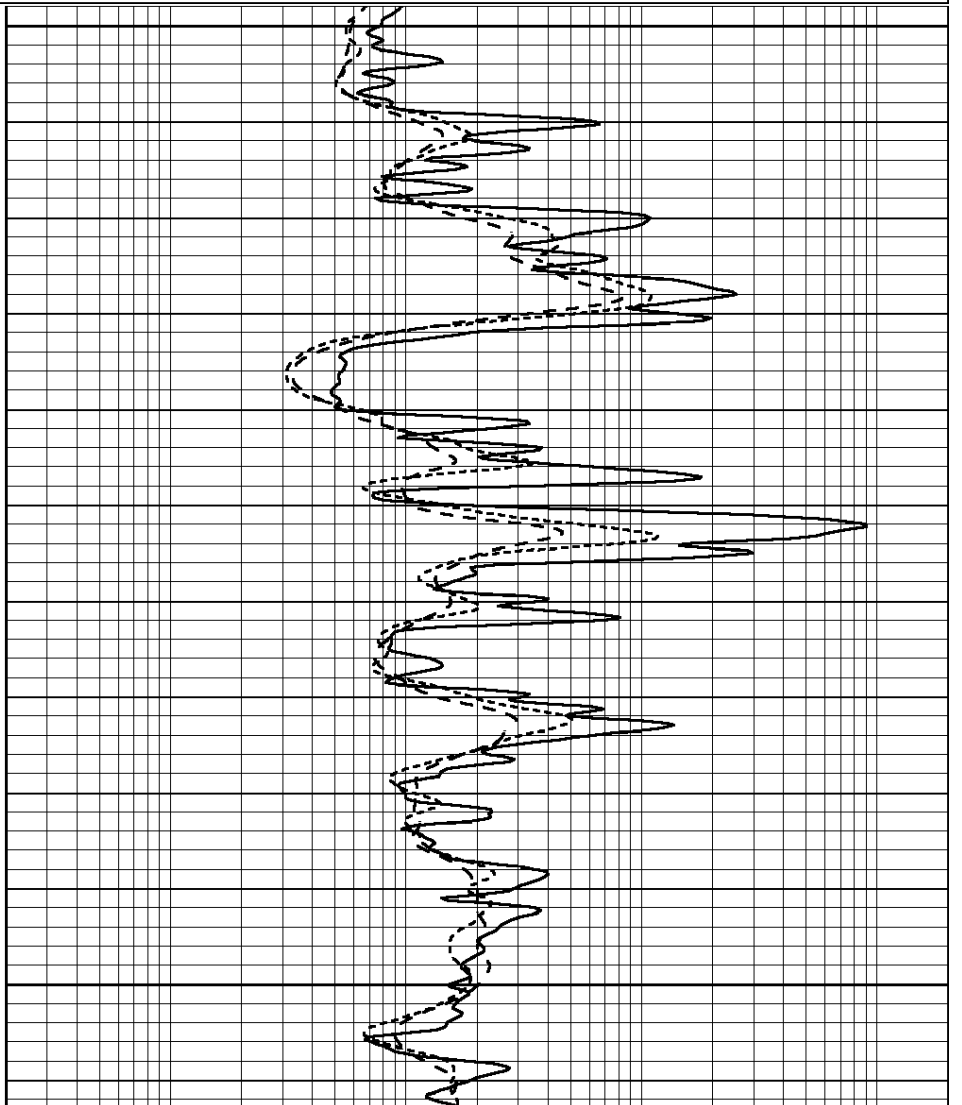
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

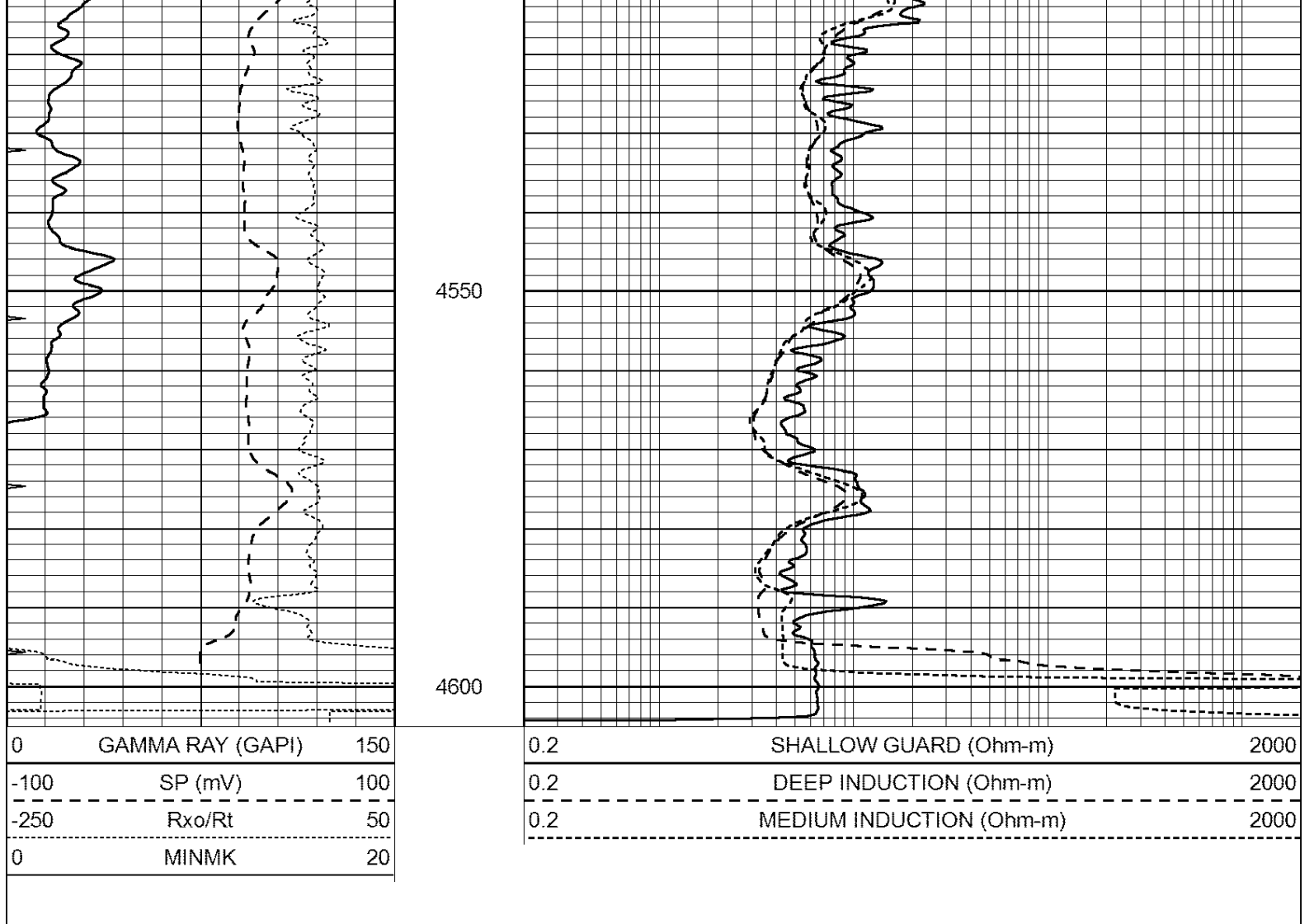


4400

4450

4500





Calibration Report

Database File: 408425pe.db
 Dataset Pathname: pass3.4
 Dataset Creation: Wed Mar 07 17:24:18 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Wed Mar 07 16:40:41 2012

Loop:	Readings				References			Results	
	Air	Loop			Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	5.000	
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-10.000	
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: 006 Model: PRB
 Performed Sun Aug 15 09:48:41 2010

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

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:	Fri Mar 02 09:11:18 2012
Calibrator Value:	1.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	1.0 cps
Sensitivity:	0.3000 GAPI/cps