



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company ATLAS OPERATING, LLC.
Well GARDEN CITY #26-19
Field DAMME
County FINNEY
State KANSAS

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Well GARDEN CITY #26-19
Field DAMME
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Location: API #: 15-055-22144-0000

1650' FNL & 1650' FEL

SEC 19 TWP 22S RGE 33W

Permanent Datum GROUND LEVEL Elevation 2900
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL/PE
MEL

Elevation

K.B. 2908
D.F. 2906
G.L. 2900

Date 6/4/12

Run Number ONE

Depth Driller 4950

Depth Logger 4971

Bottom Logged Interval 4969

Top Log Interval 00

Casing Driller 8 5/8" @ 342'

Casing Logger 340

Bit Size 7 7/8"

Type Fluid in Hole CHEMICAL MUD

Density / Viscosity 9.3/56

pH / Fluid Loss 10.0/8.8

Source of Sample FLOWLINE

Rm @ Meas. Temp .950 @ 70F

Rmt @ Meas. Temp .713 @ 70F

Rmc @ Meas. Temp 1.14 @ 70F

Source of Rmt / Rmc MEASUREMENT

Rm @ BHT .532 @ 125F

Time Circulation Stopped 4 HOURS

Time Logger on Bottom 9:45 A.M.

Maximum Recorded Temperature 125F

Equipment Number 4010

Location HAYS, KANSAS

Recorded By JEFF LUEBBERS

Witnessed By PAT DEENIHAN

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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

GARDEN CITY, KS. (HWY 83 & 400 JUNCTION) 6W. TO "BIG LOWE RD."(HOLCOMB, KS. EXIT) 8 1/2N.,
1/2E. INTO AFTER TANK BATTERY, THEN N. & E. AGAIN



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MAIN SECTION

Database File: 409134pe.db
 Dataset Pathname: pass3.8
 Presentation Format: dil2
 Dataset Creation: Mon Jun 04 12:05:39 2012
 Charted by: Depth in Feet scaled 1:600

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

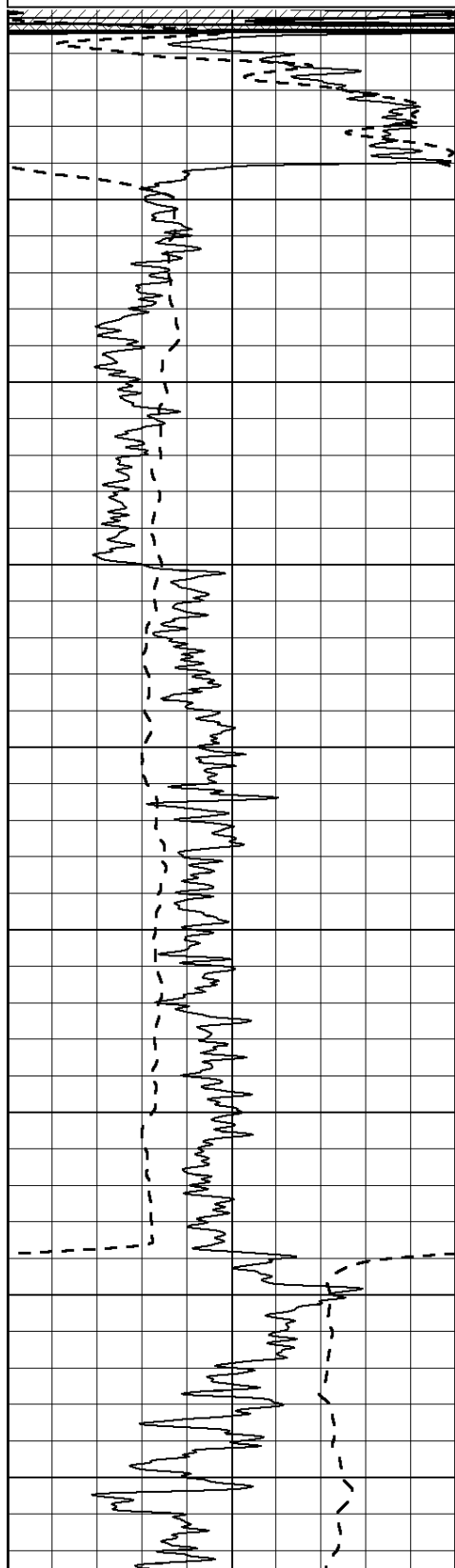
0	RLL3 (Ohm-m)	50
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0	RILD (Ohm-m)	50
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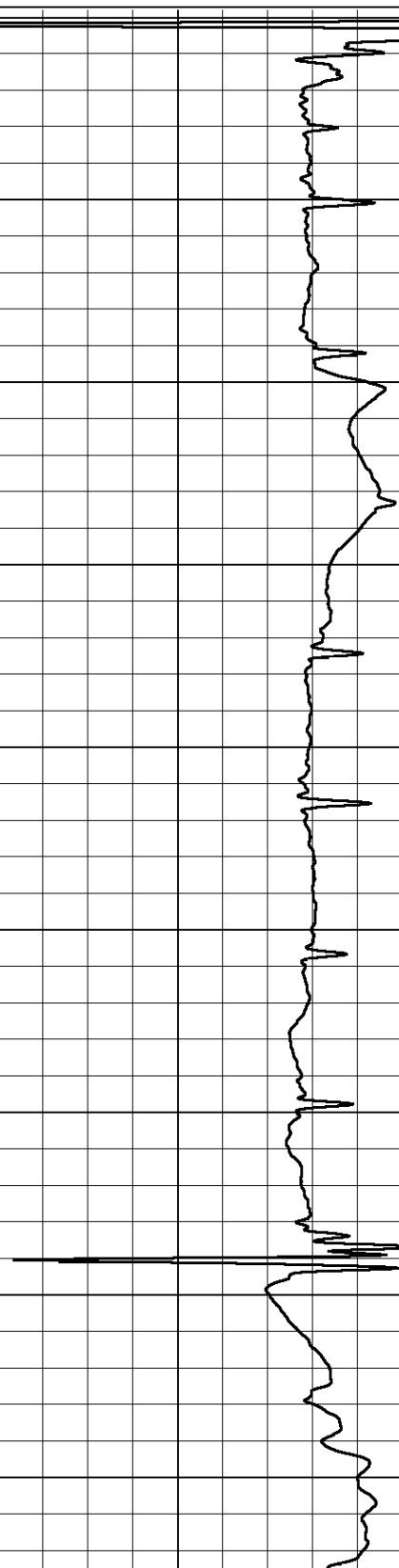
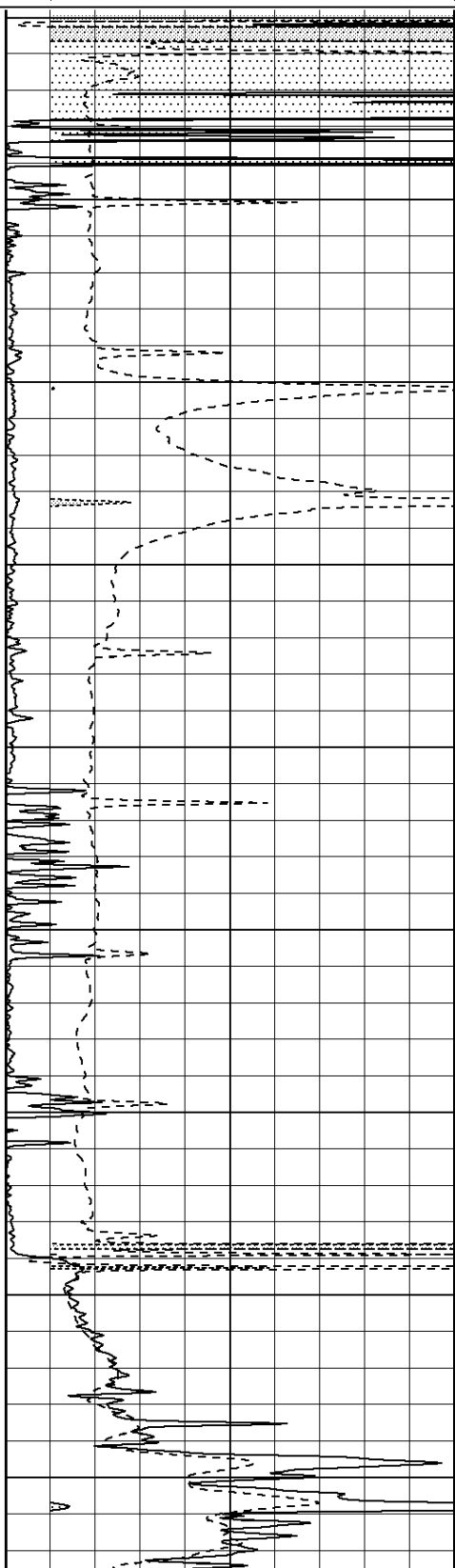
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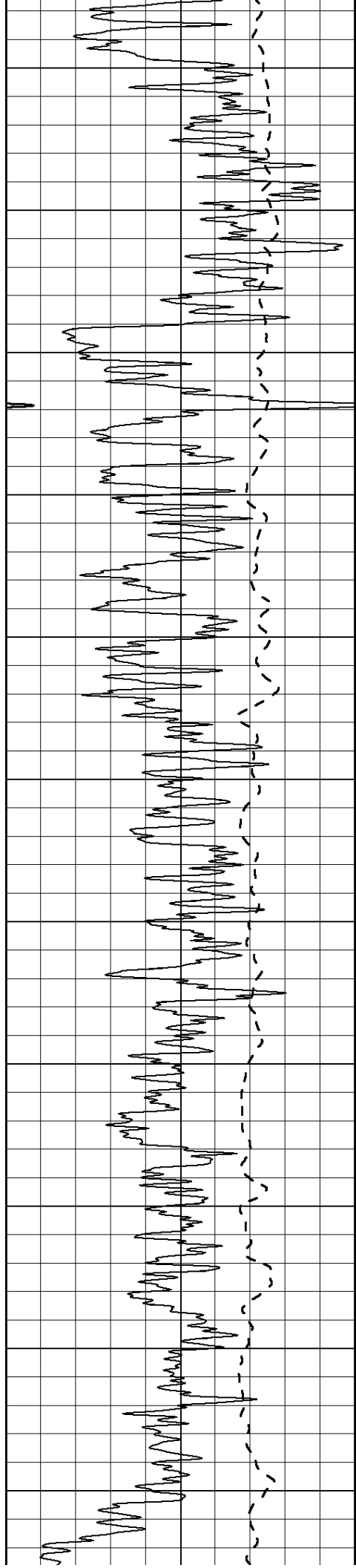
50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

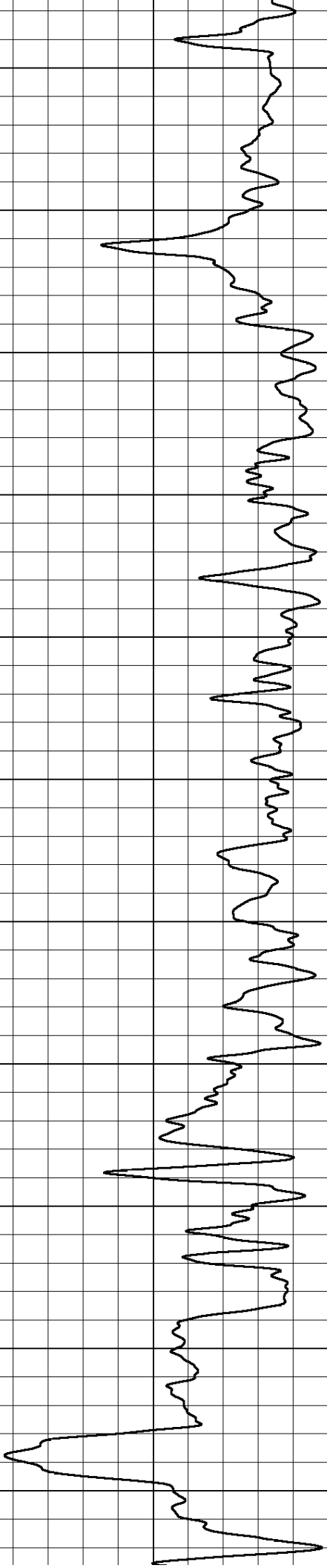
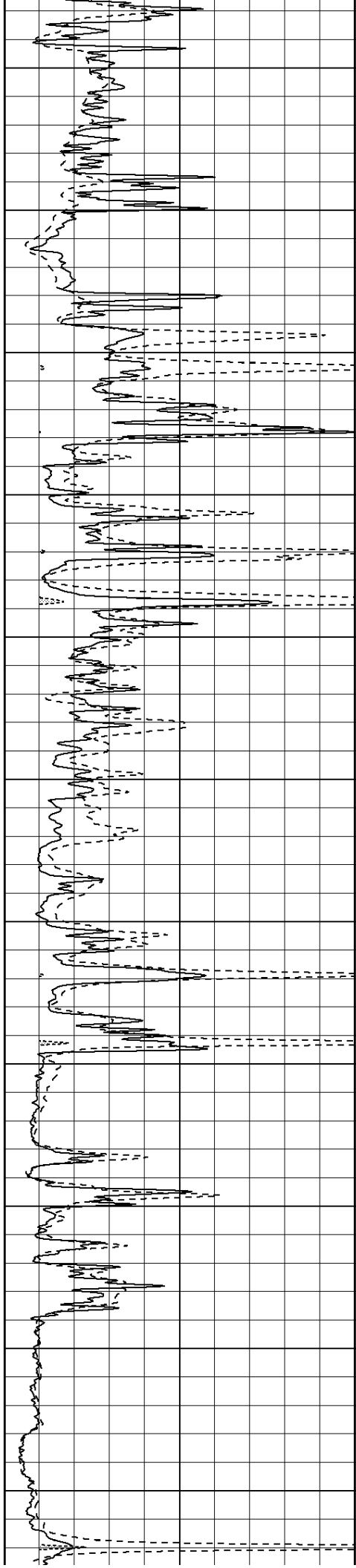
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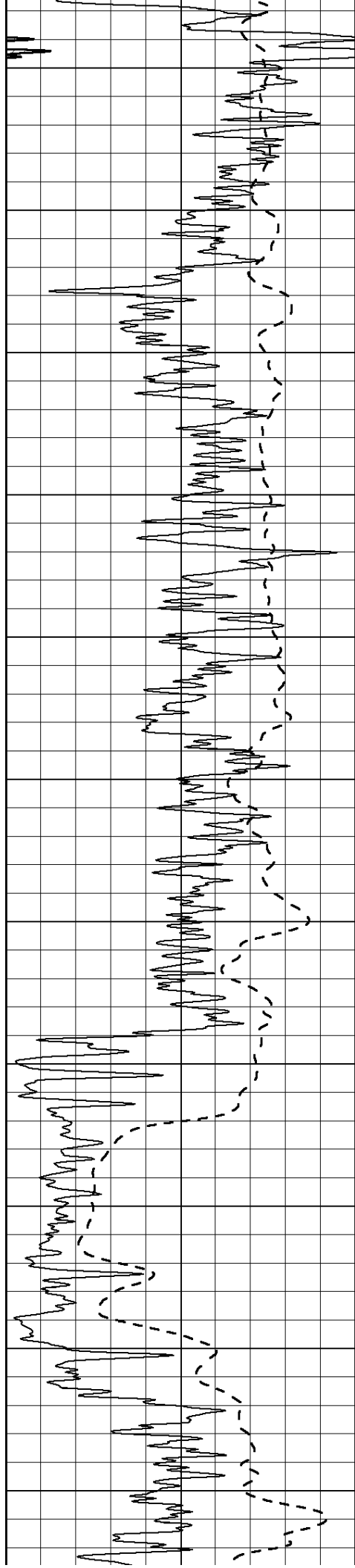
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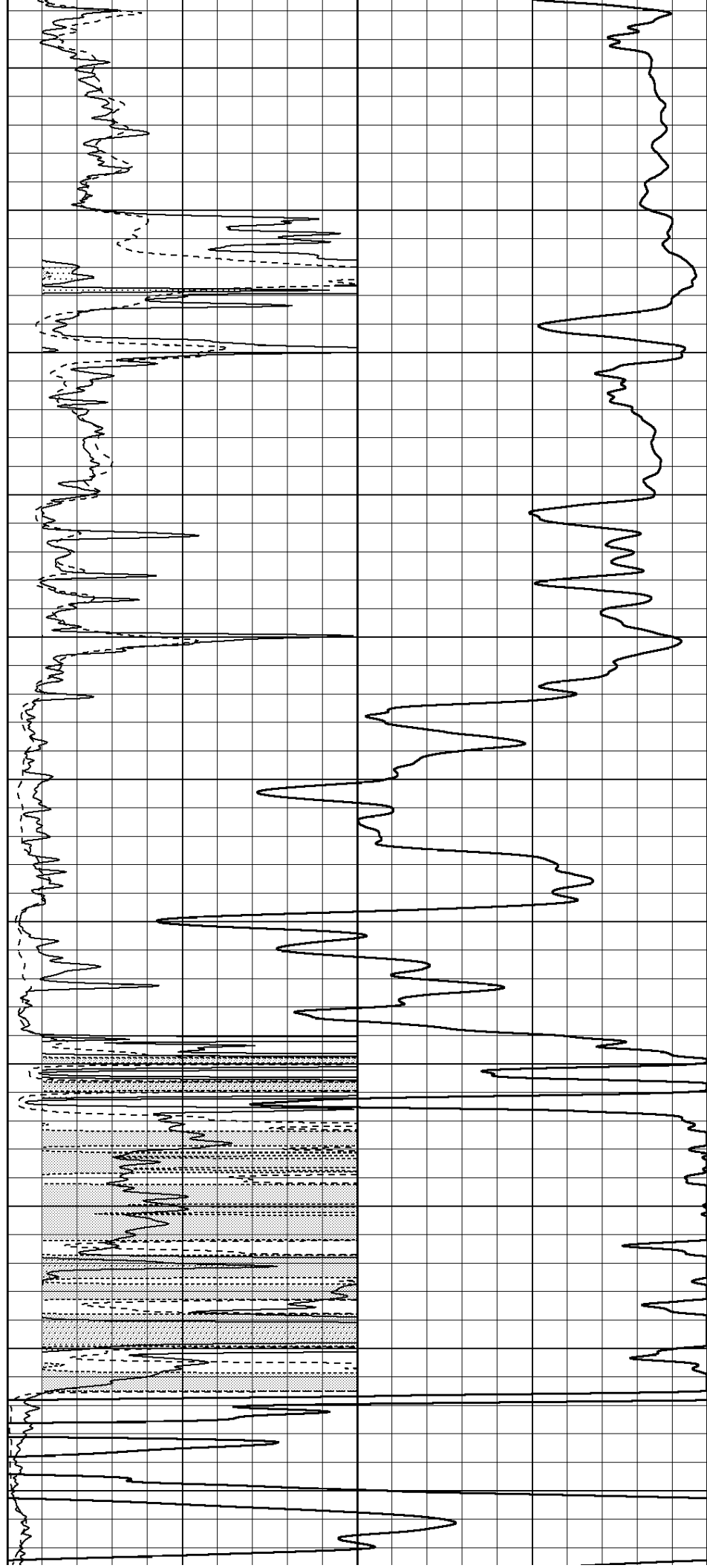
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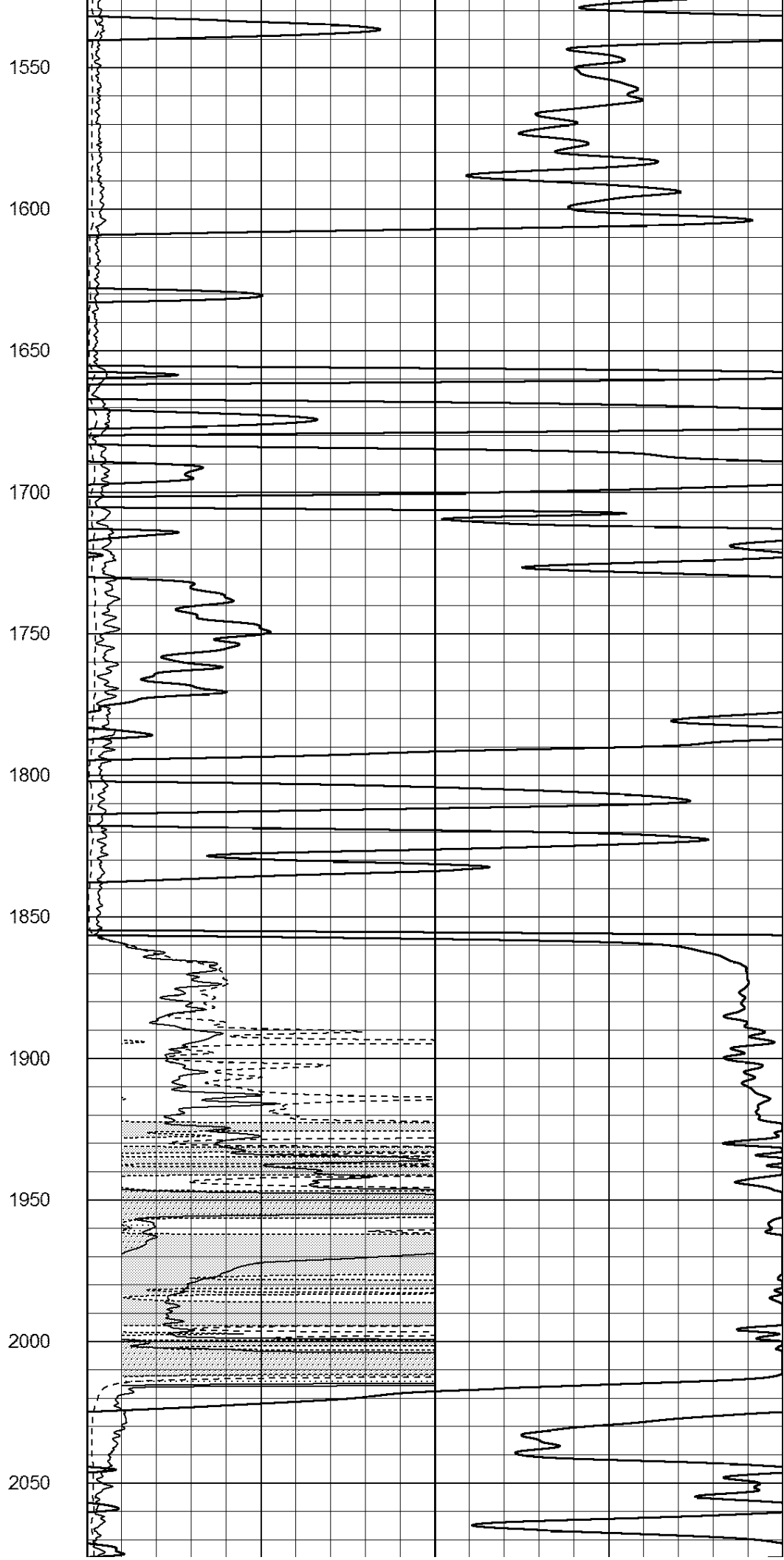
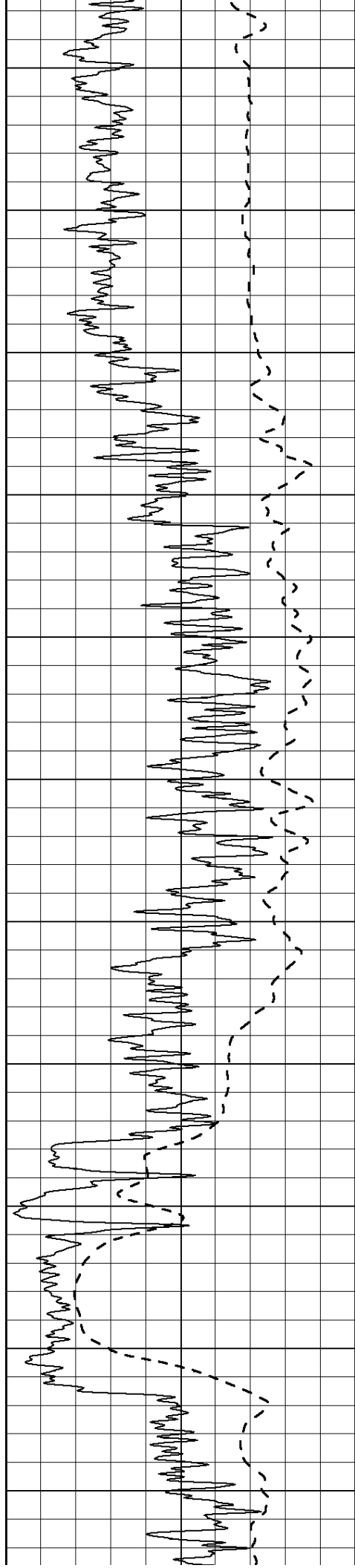
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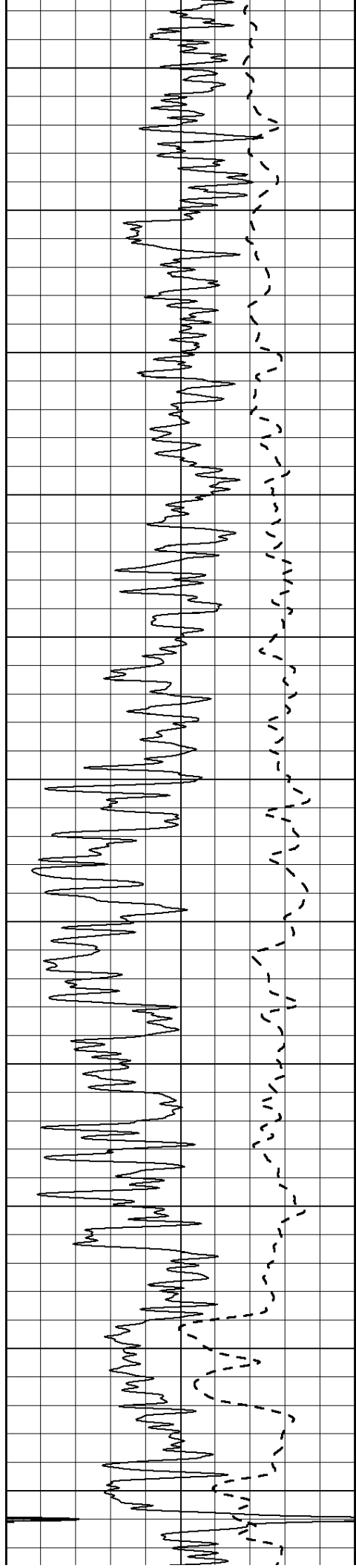




1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500







2100

2150

2200

2250

2300

2350

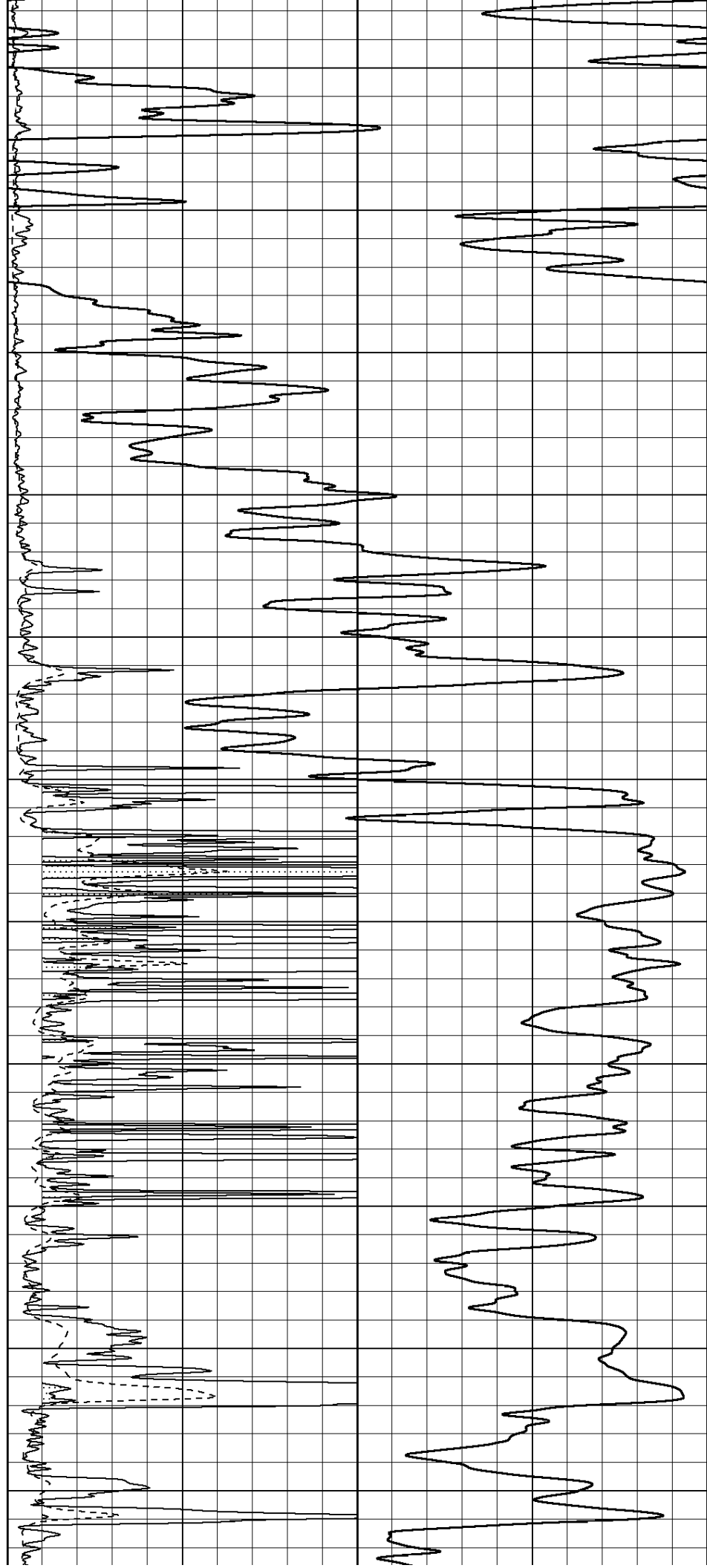
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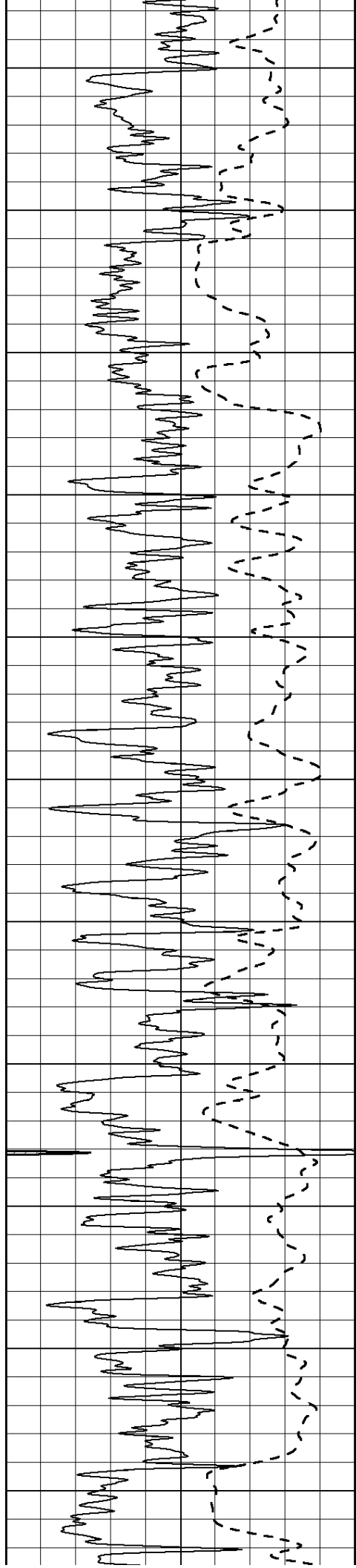
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2500

2550

2600





2650

2700

2750

2800

2850

2900

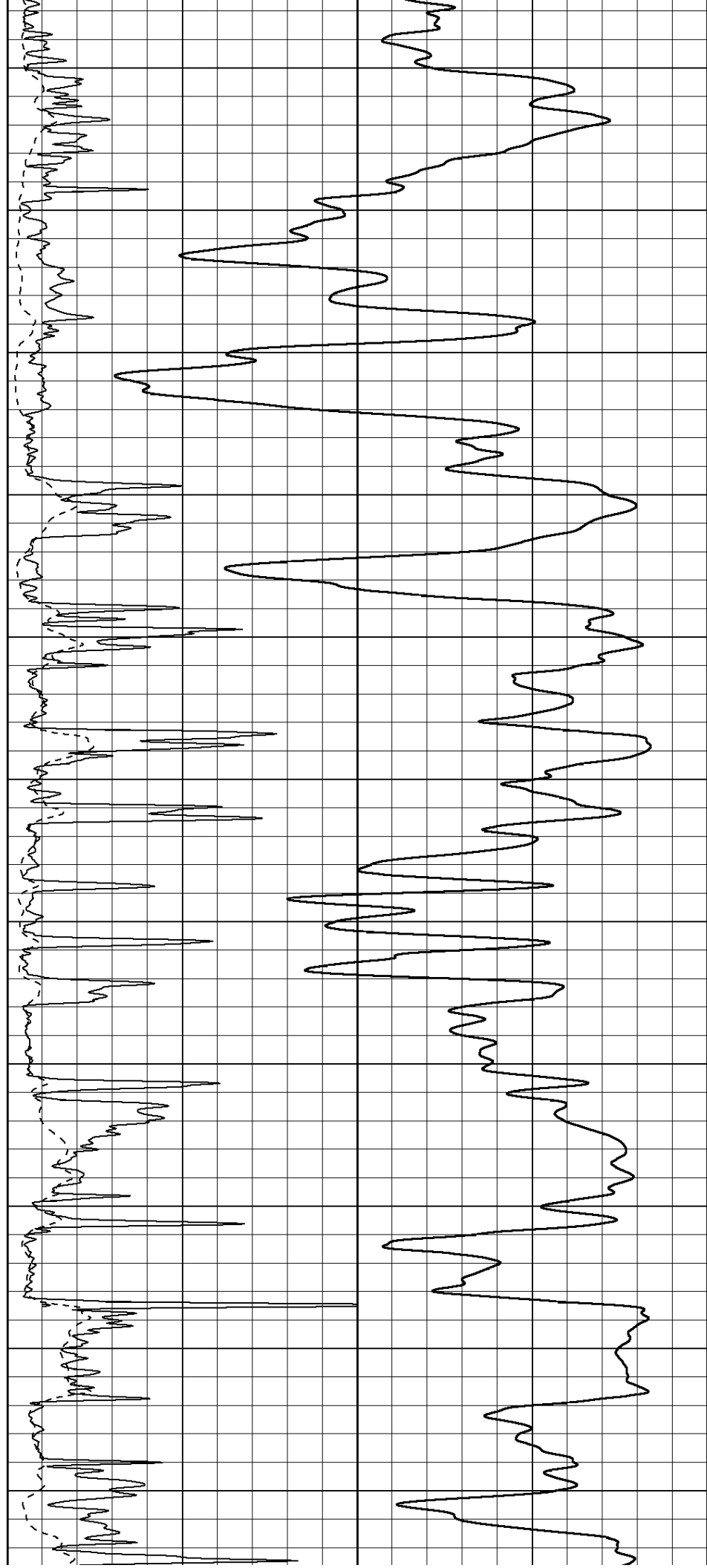
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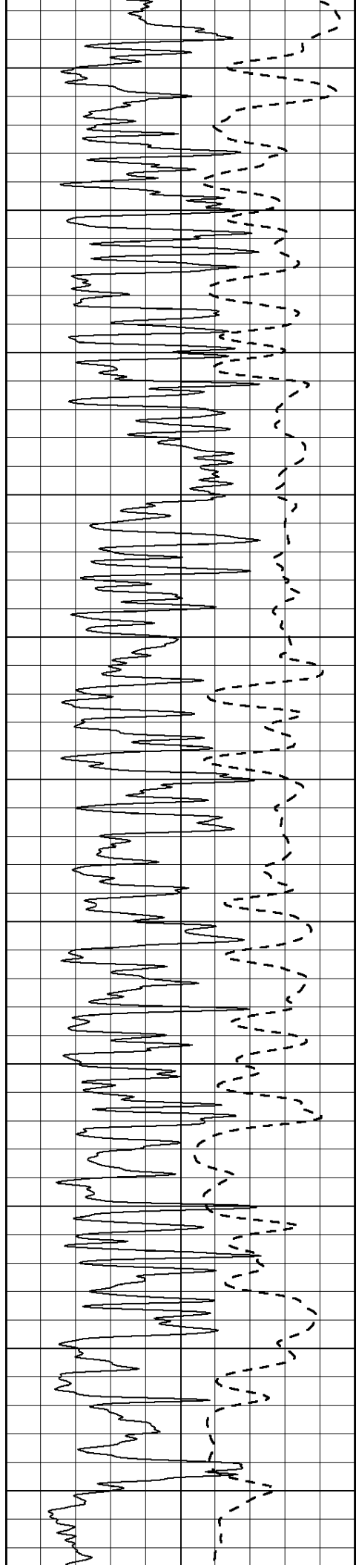
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3050

3100

3150





3200

3250

3300

3350

3400

3450

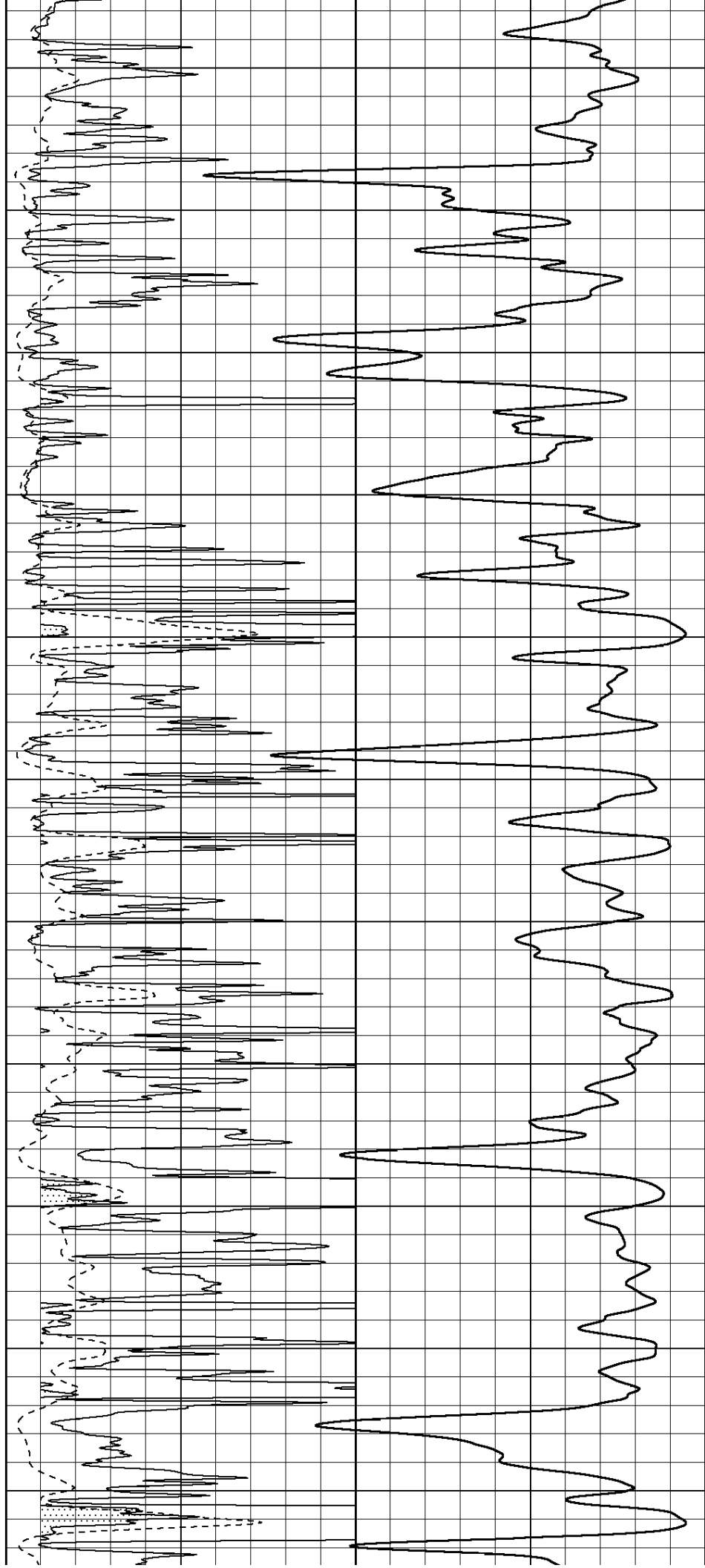
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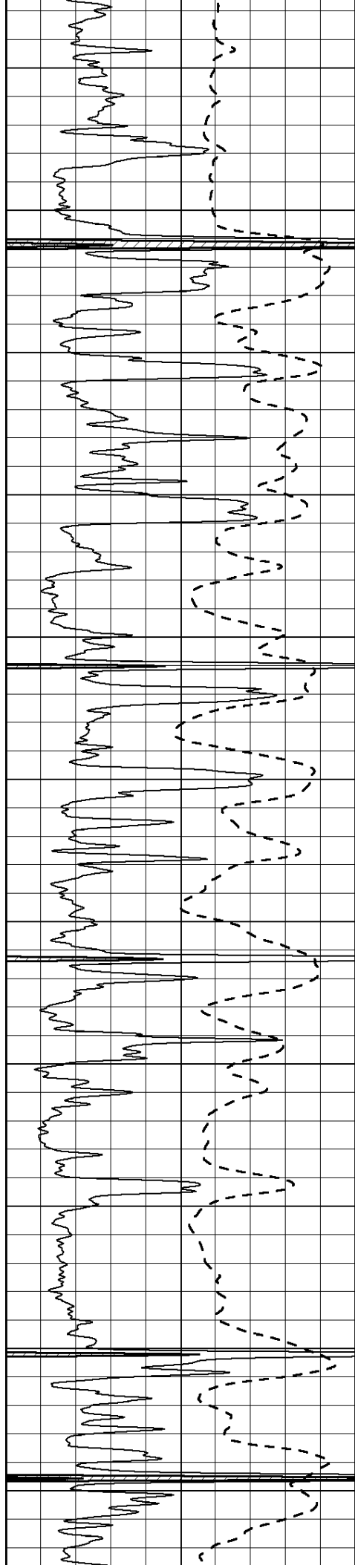
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3600

3650

3700





3750

3800

3850

3900

3950

4000

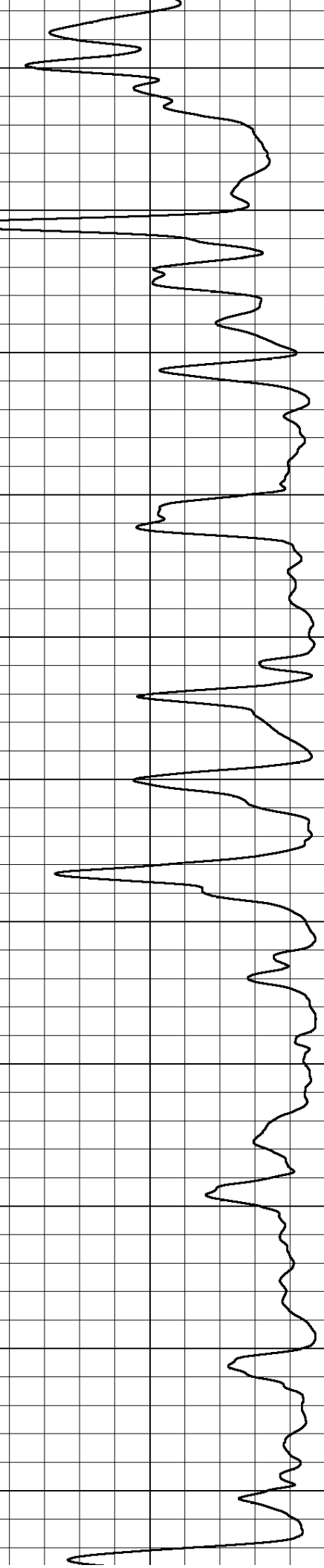
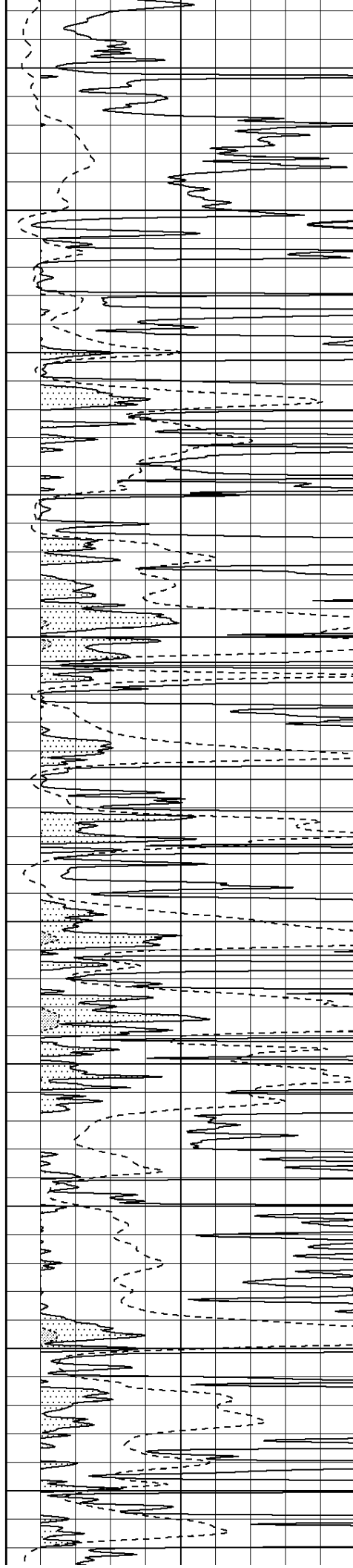
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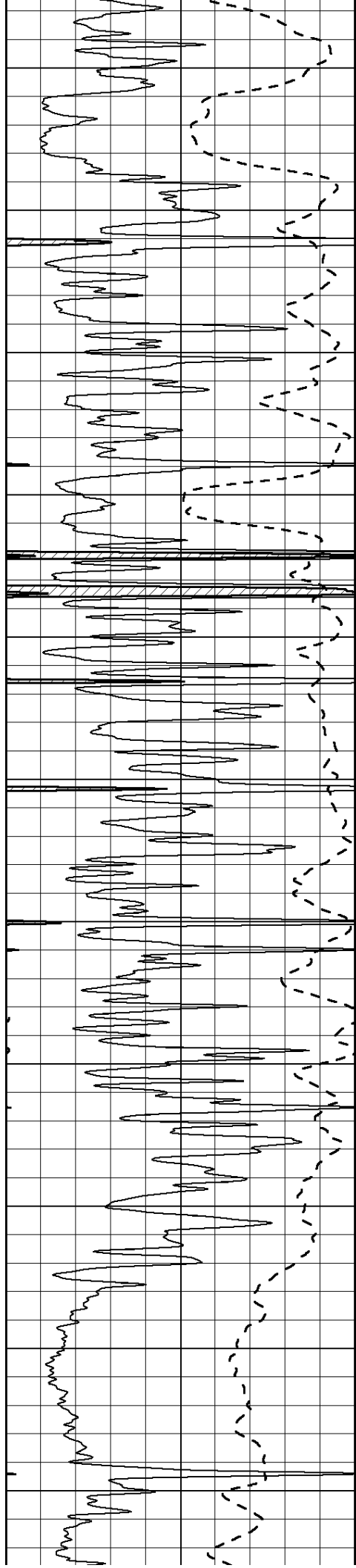
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4150

4200

4250





4300

4350

4400

4450

4500

4550

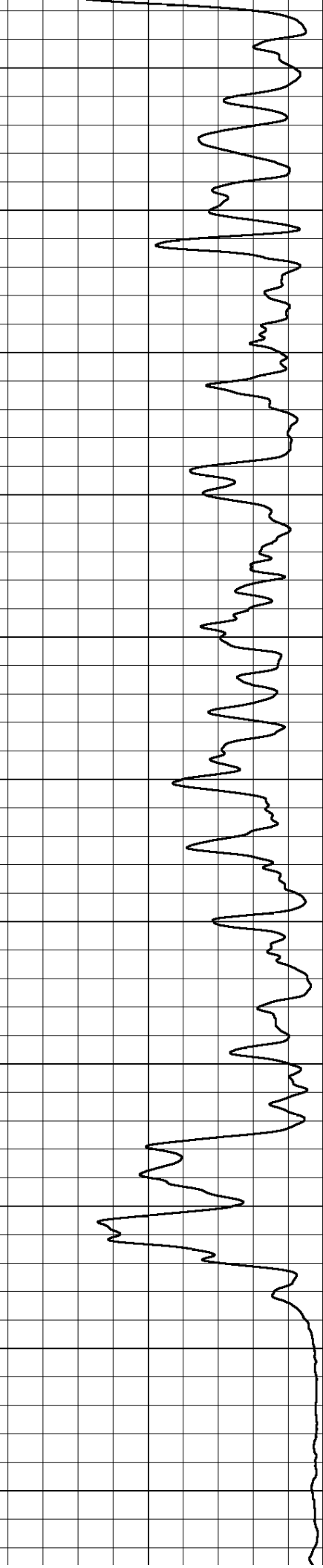
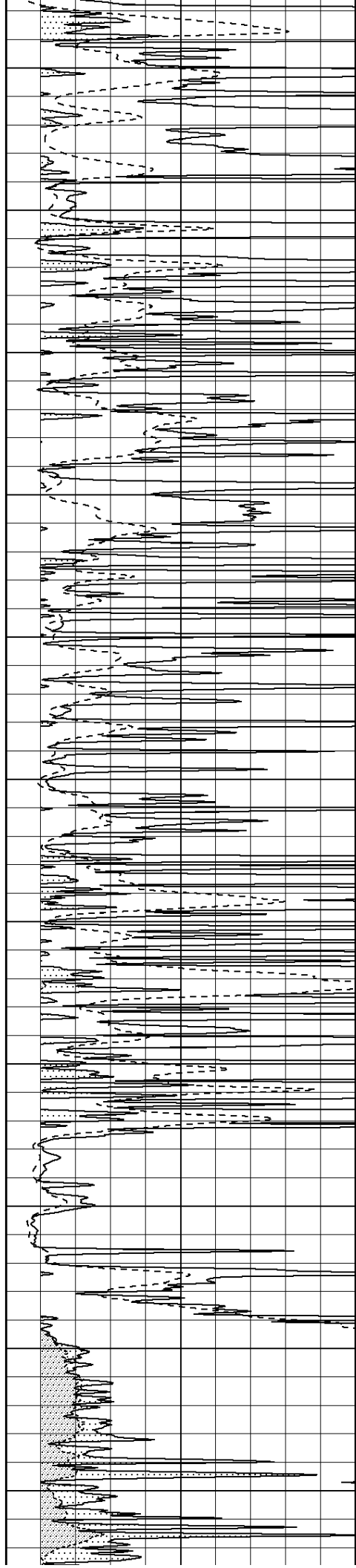
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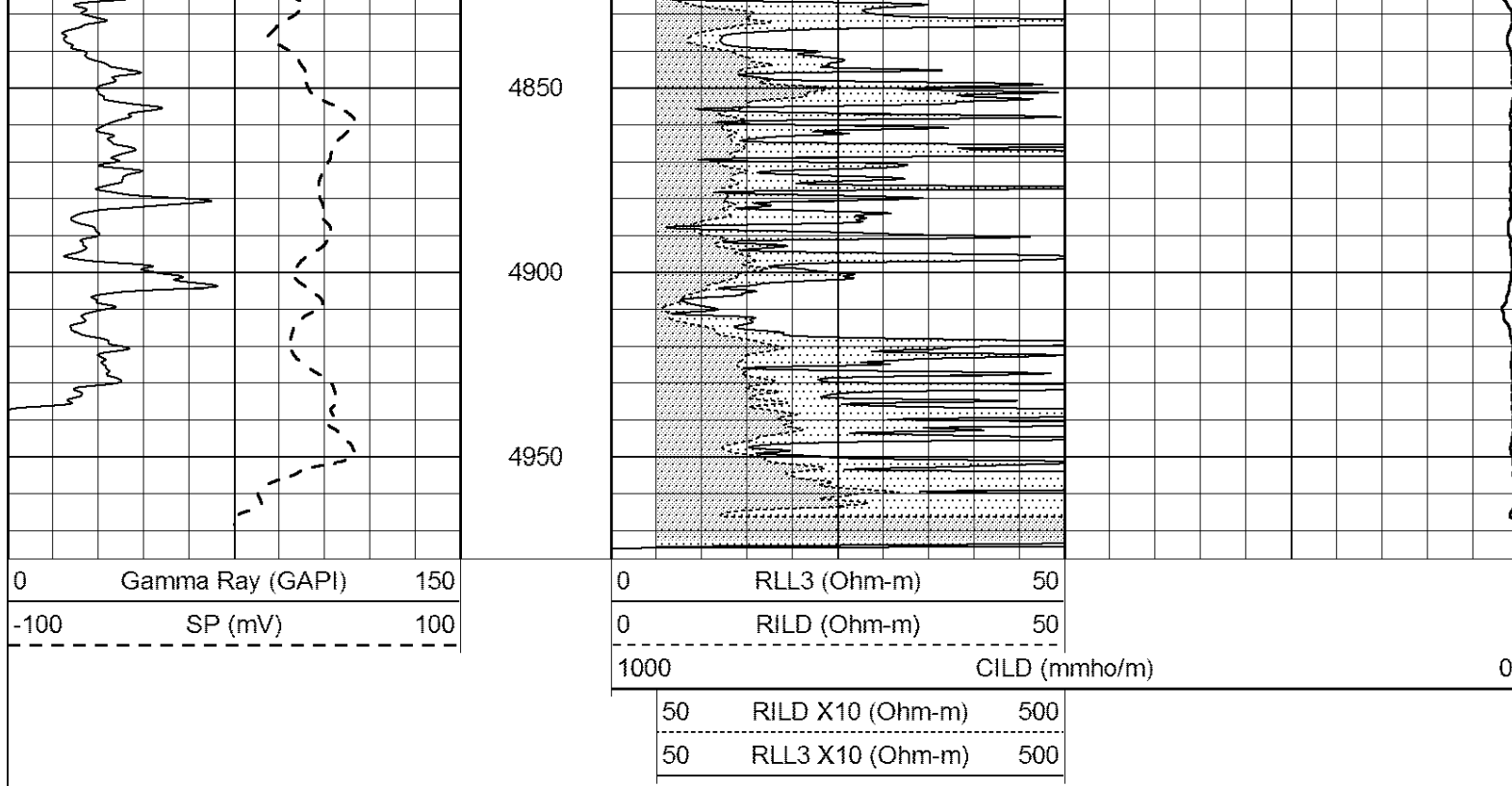
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4700

4750

4800





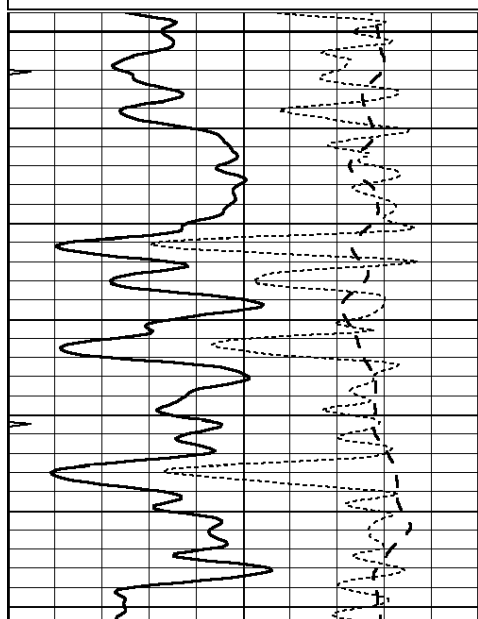
SUPERIOR
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UPPER SECTION

Database File: 409134pe.db
Dataset Pathname: pass3.9
Presentation Format: dil
Dataset Creation: Mon Jun 04 12:07:16 2012
Charted by: Depth in Feet scaled 1:240

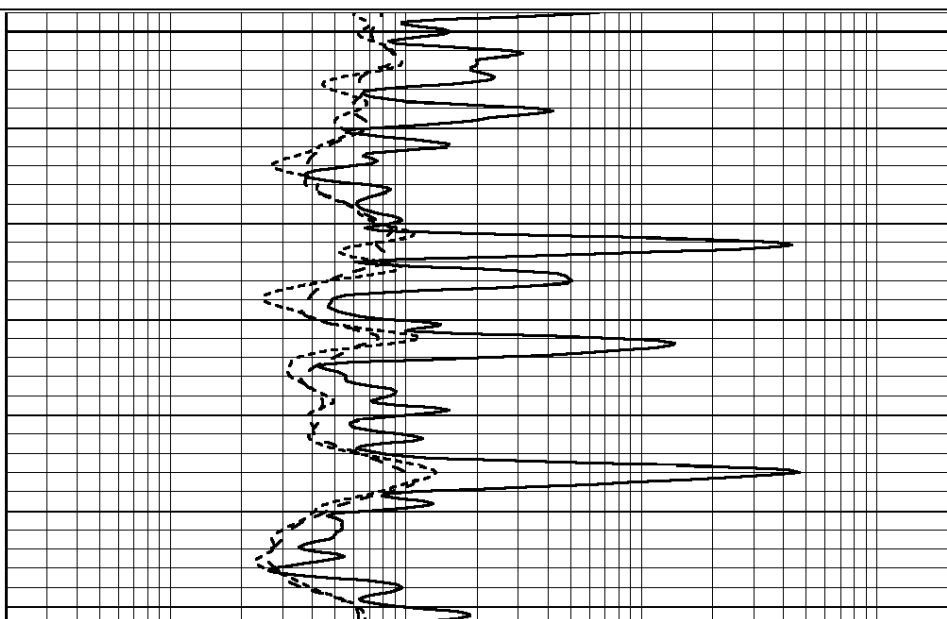
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

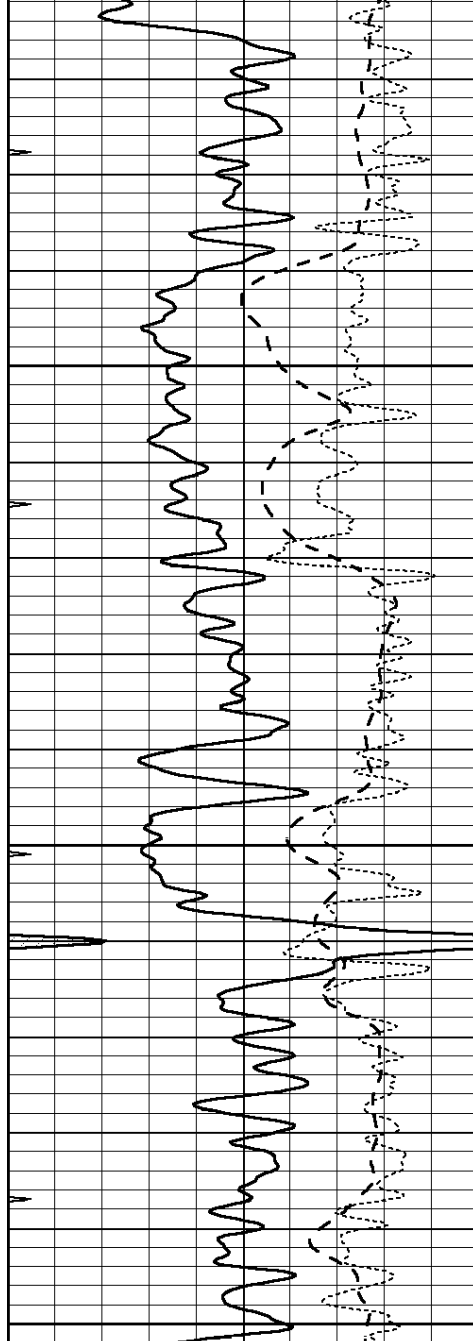
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



2450

2500



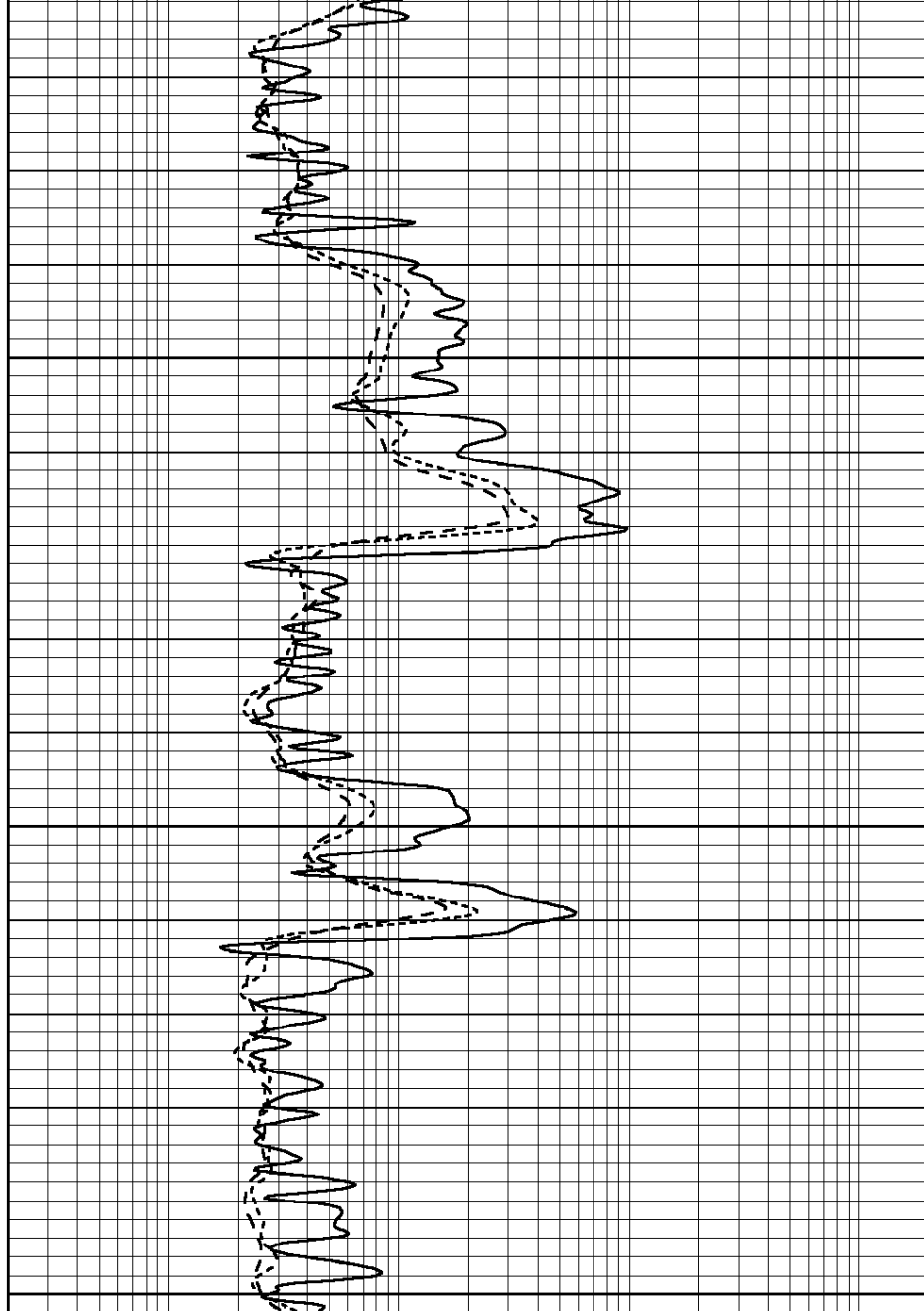


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

2550

2600

2650



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

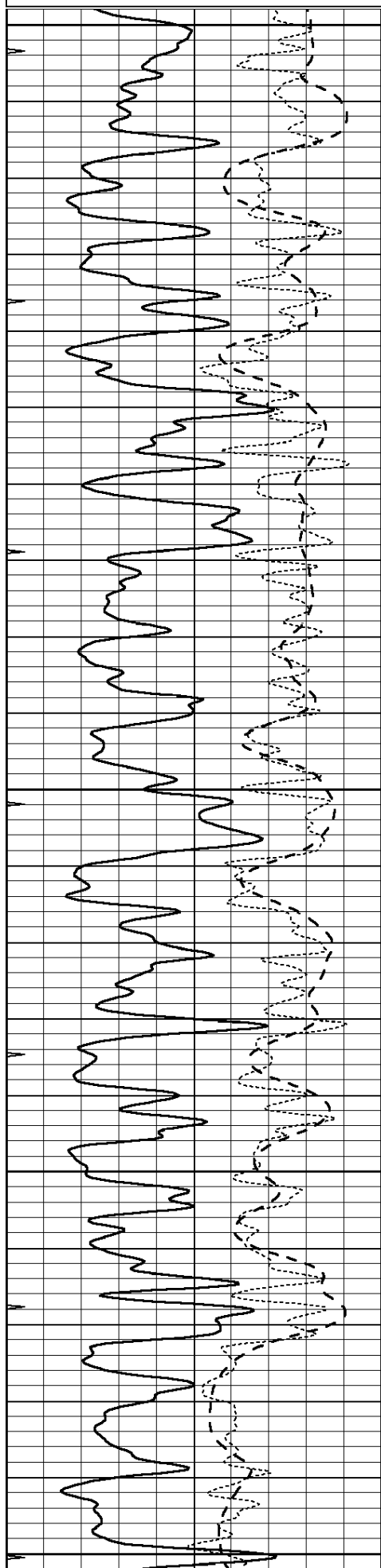
Database File: 409134pe.db
 Dataset Pathname: pass3.8
 Presentation Format: dil
 Dataset Creation: Mon Jun 04 12:05:39 2012
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100

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

-250	Rxo/Rt	50
0	MINMK	20

0.2	MEDIUM INDUCTION (Ohm-m)	2000
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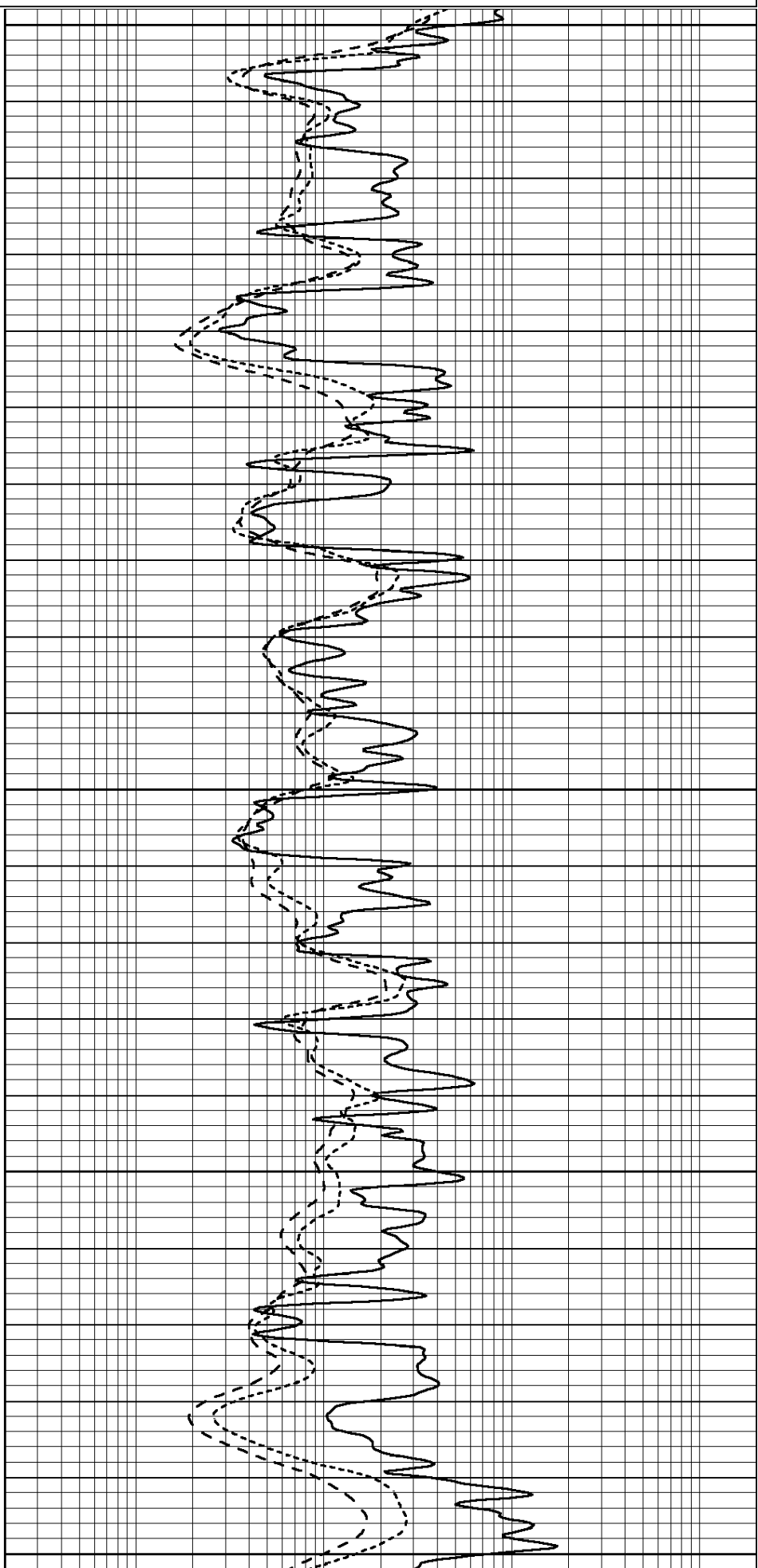
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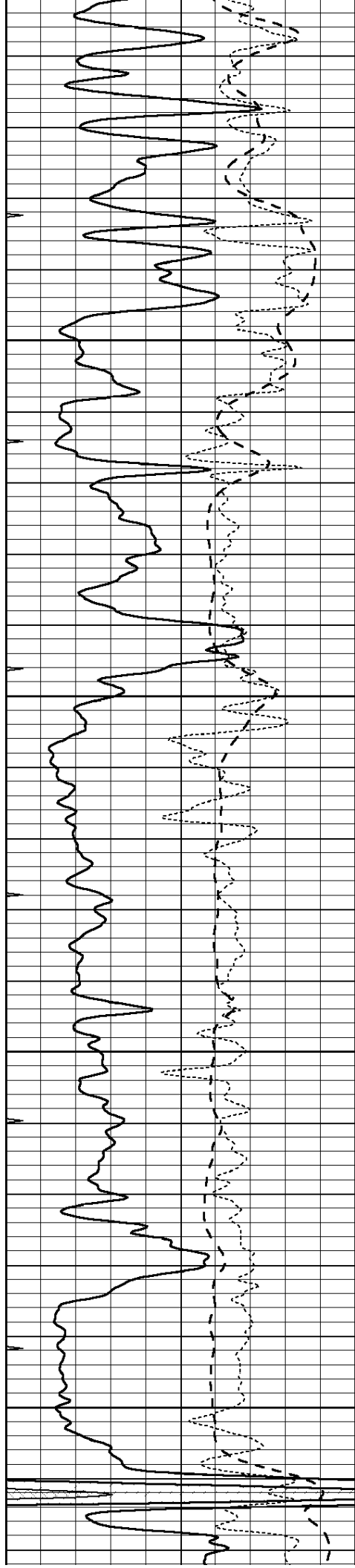
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3500

3550

3600



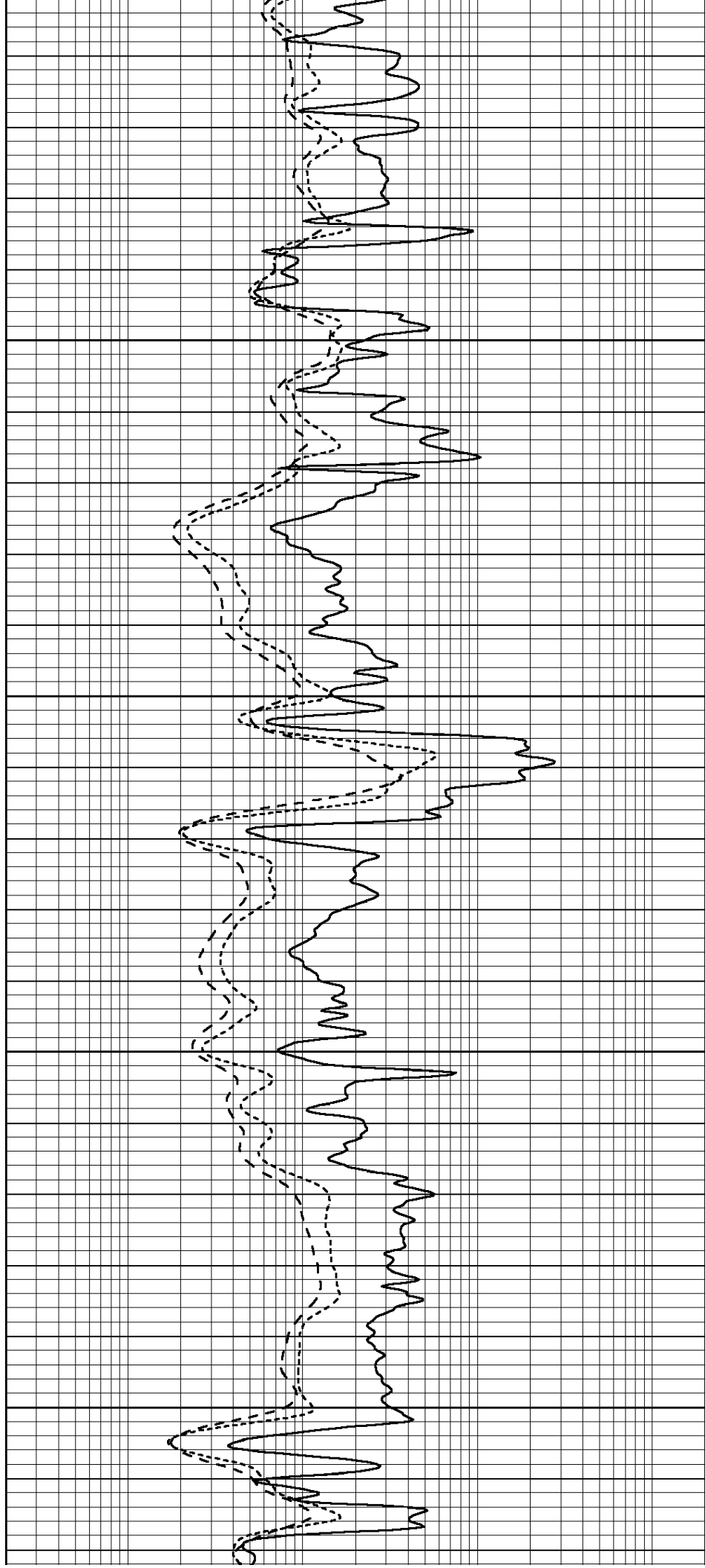


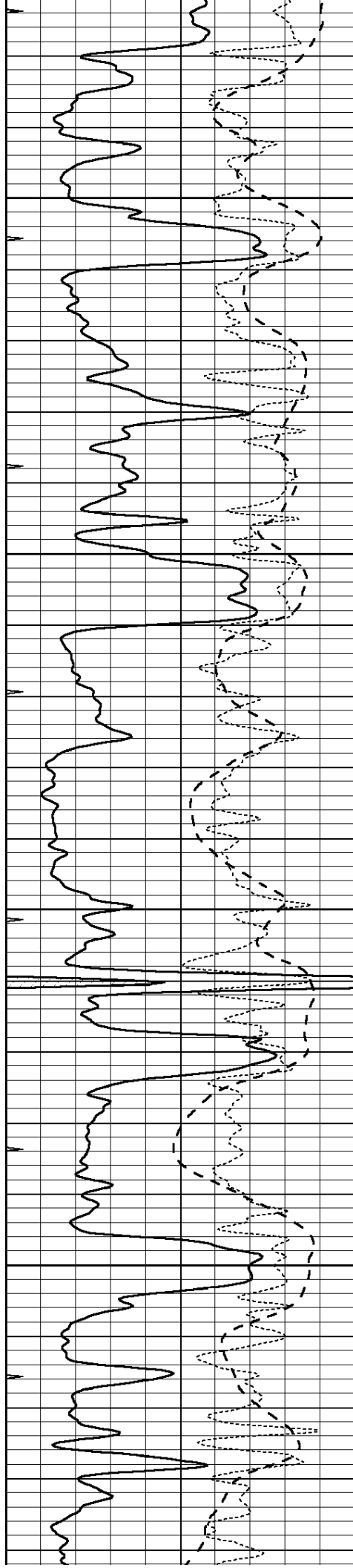
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3700

3750

3800



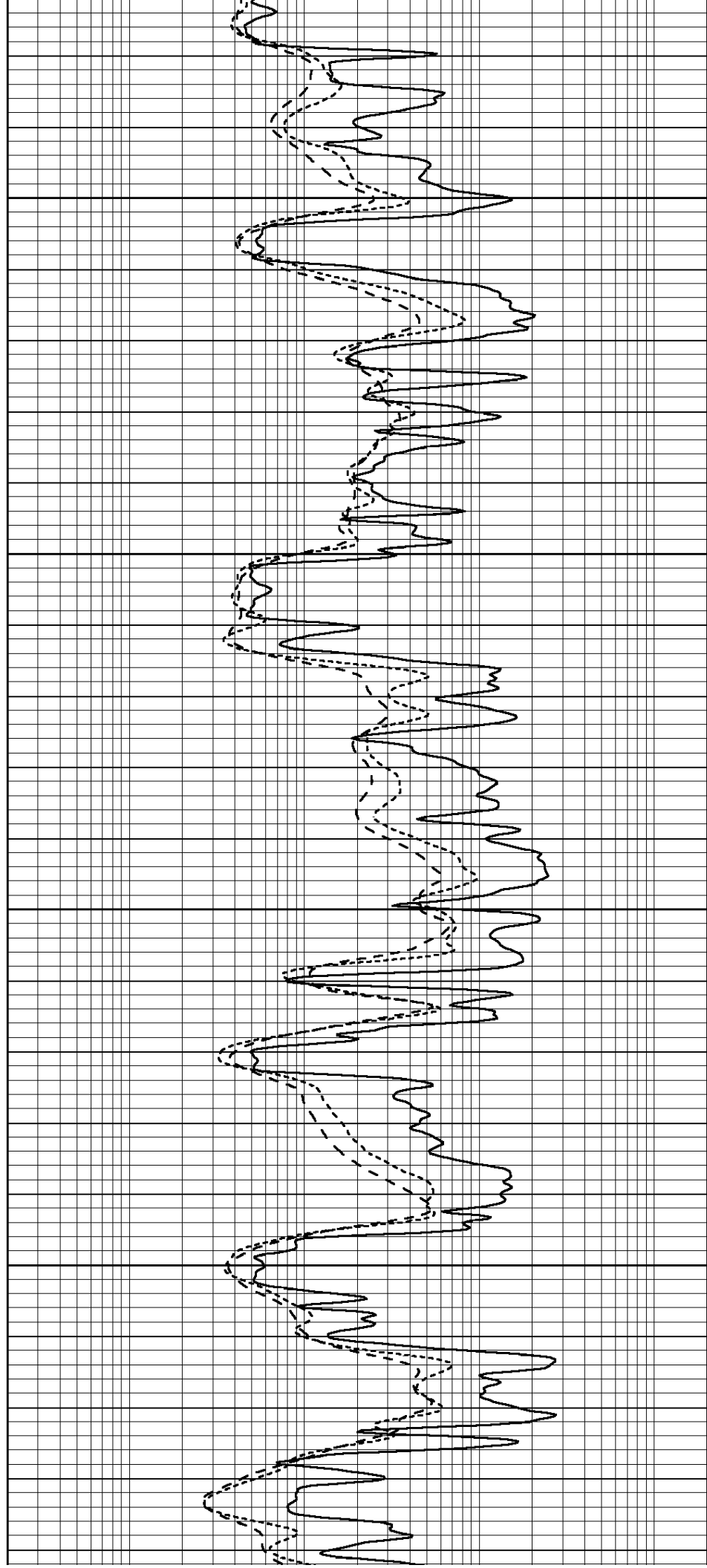


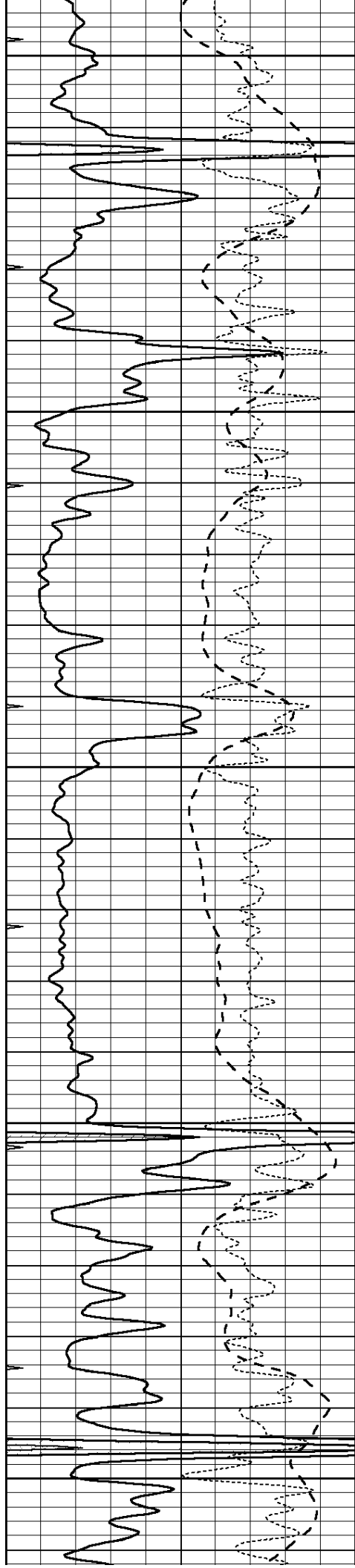
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3900

3950

4000





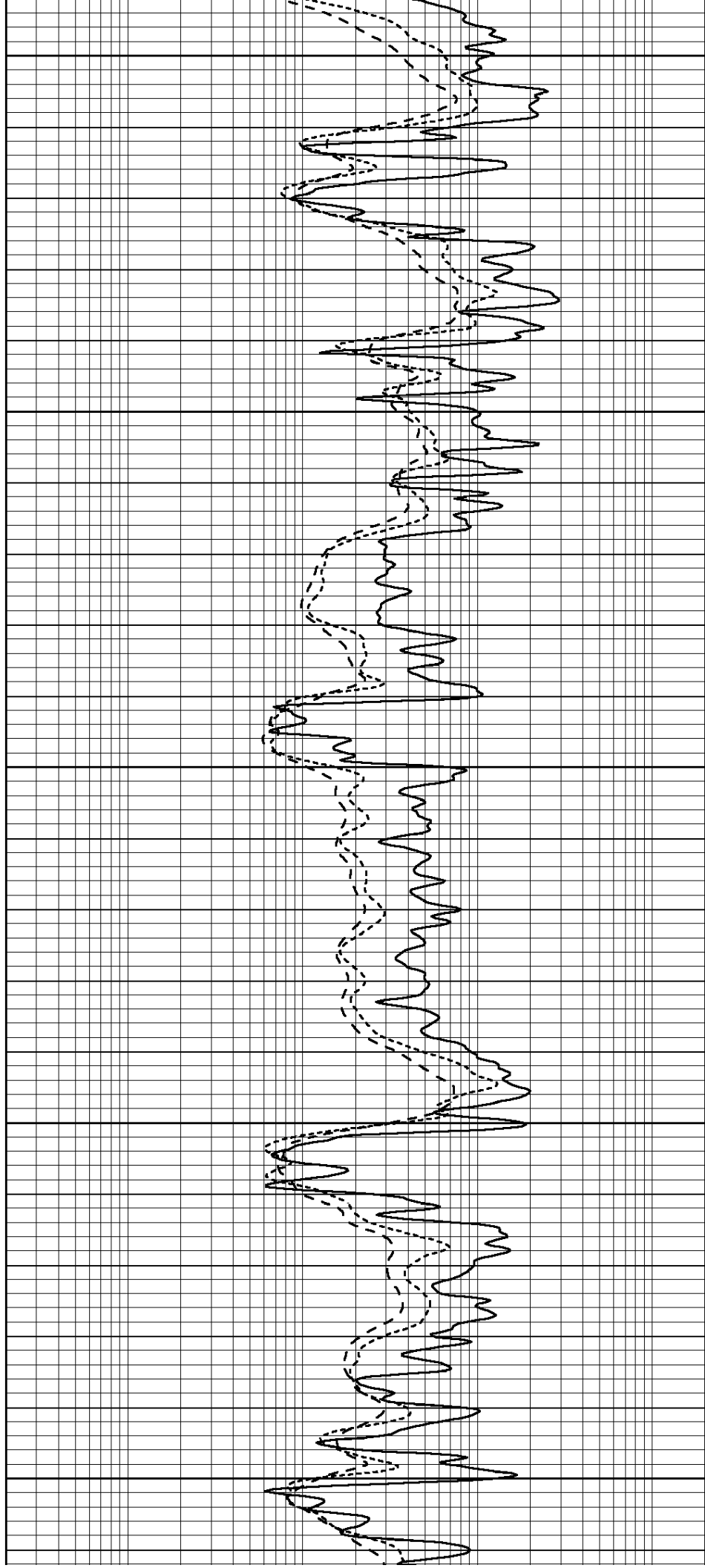
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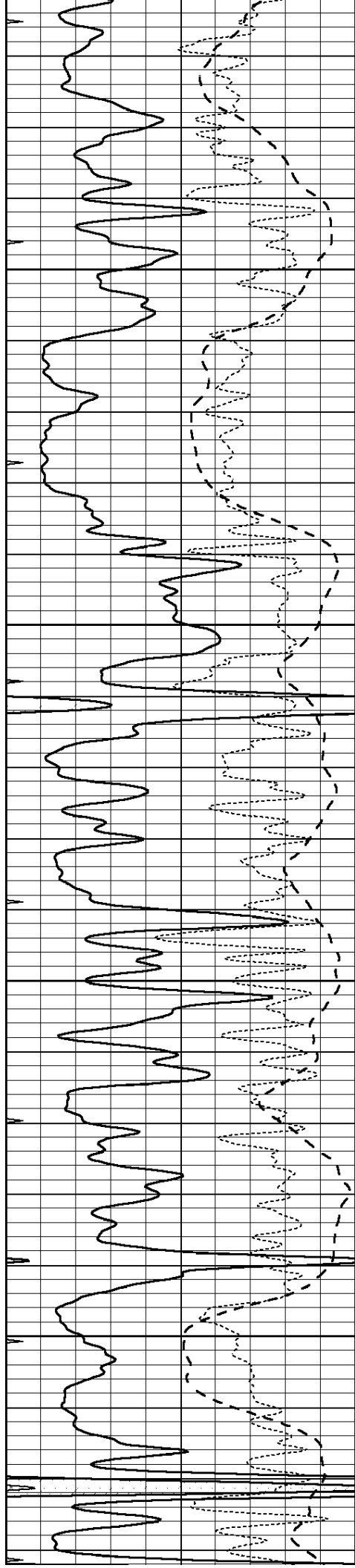
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4150

4200

4250



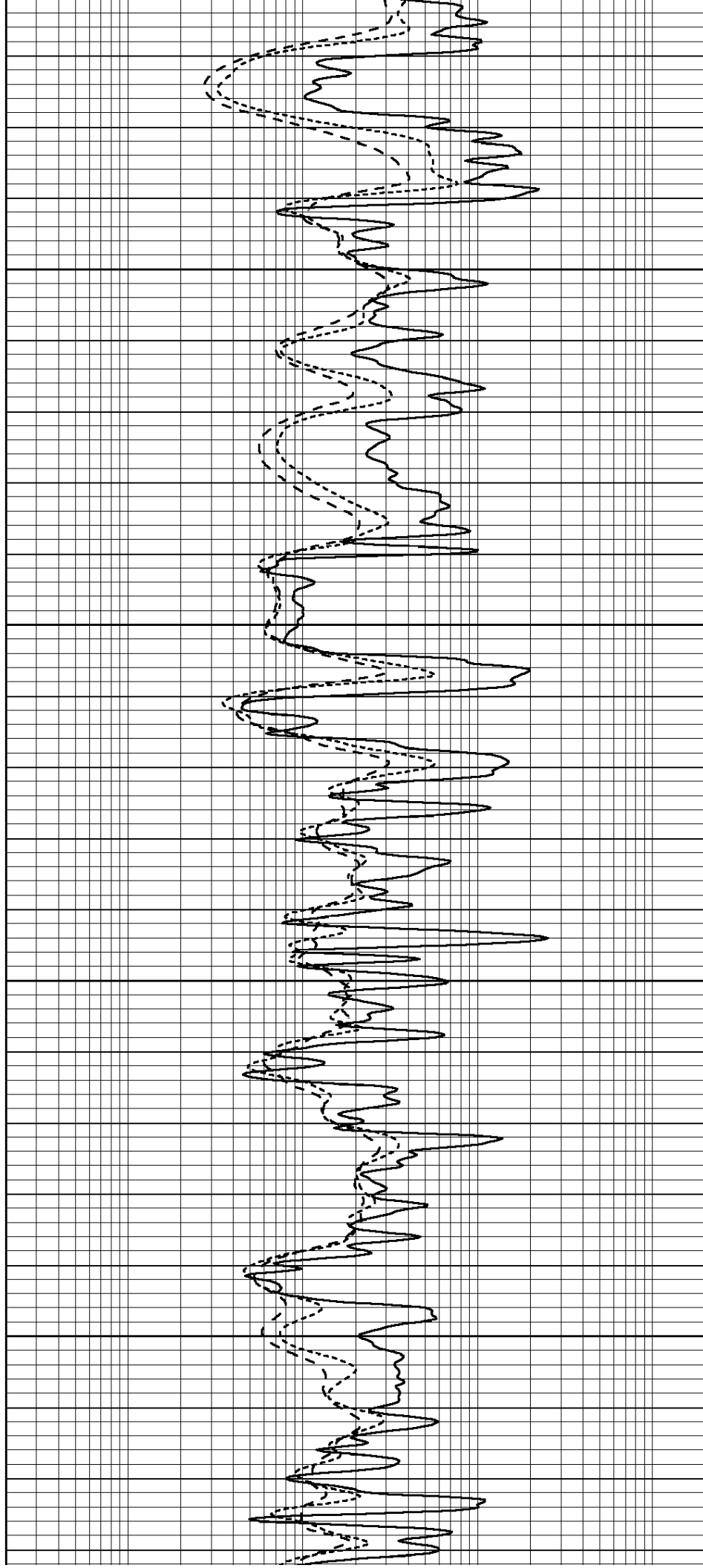


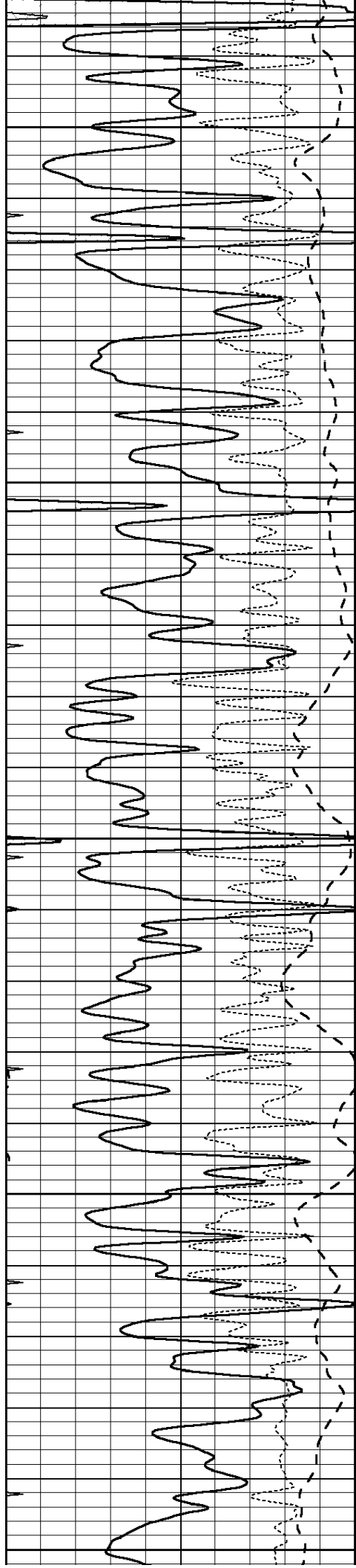
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4400

4450





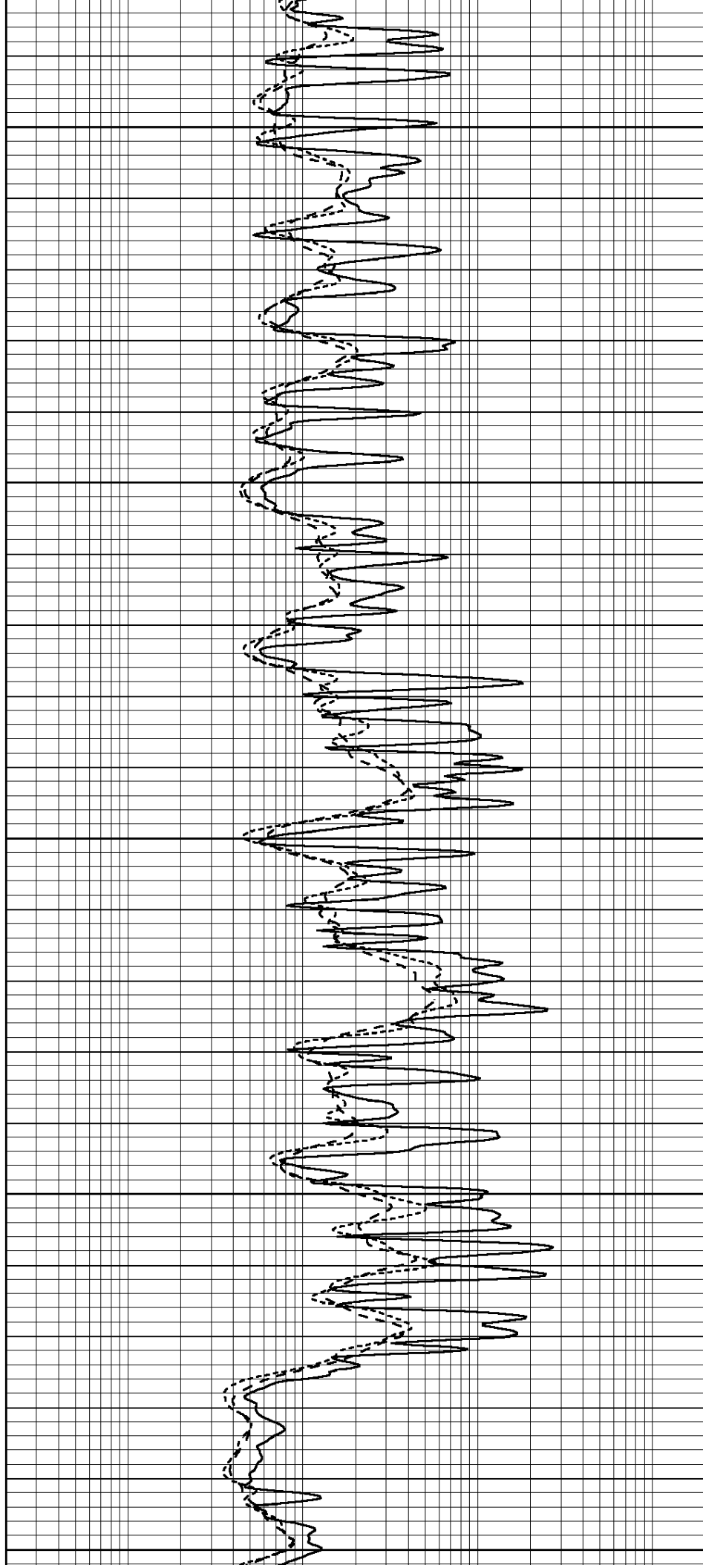
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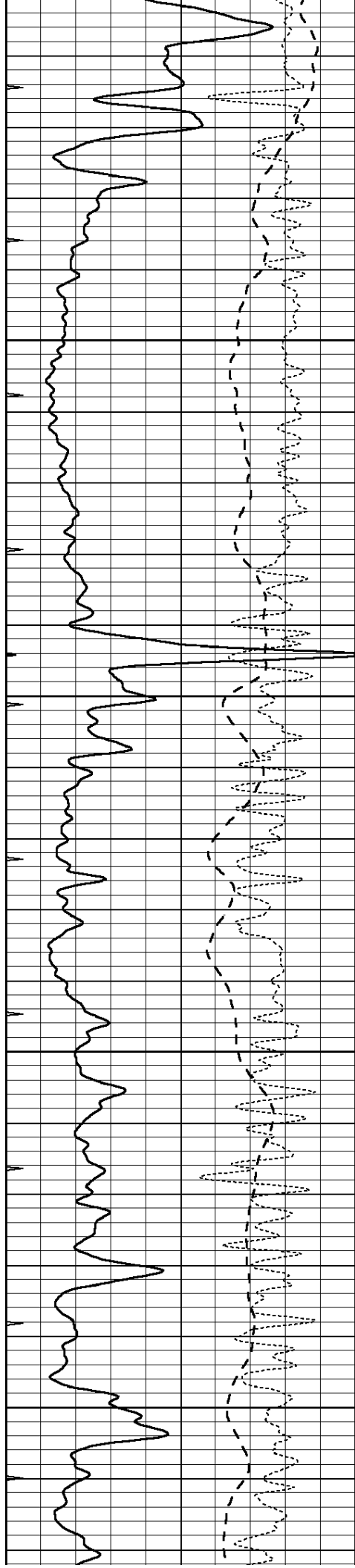
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4600

4650

4700



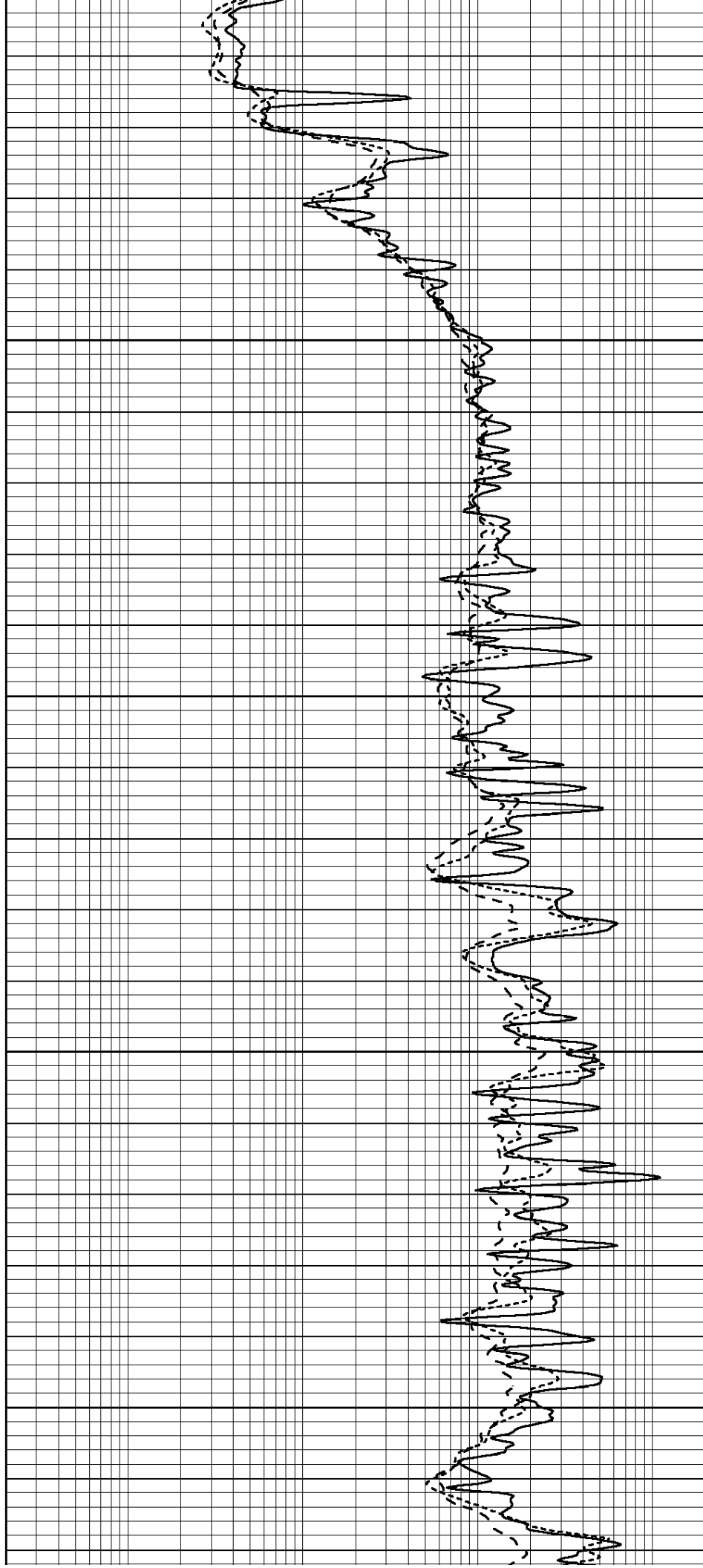


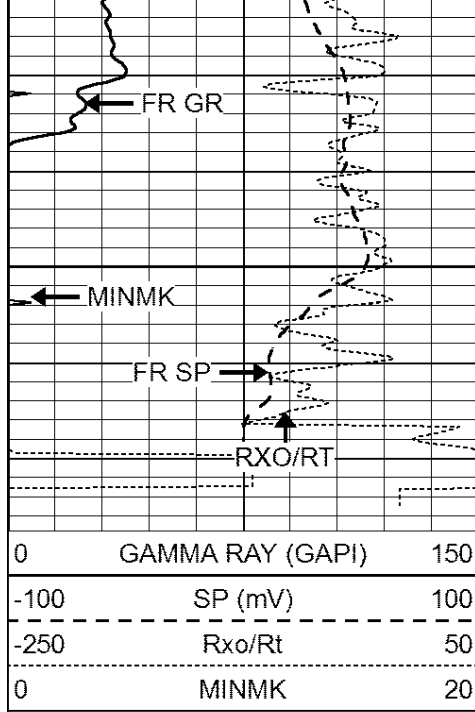
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4800

4850

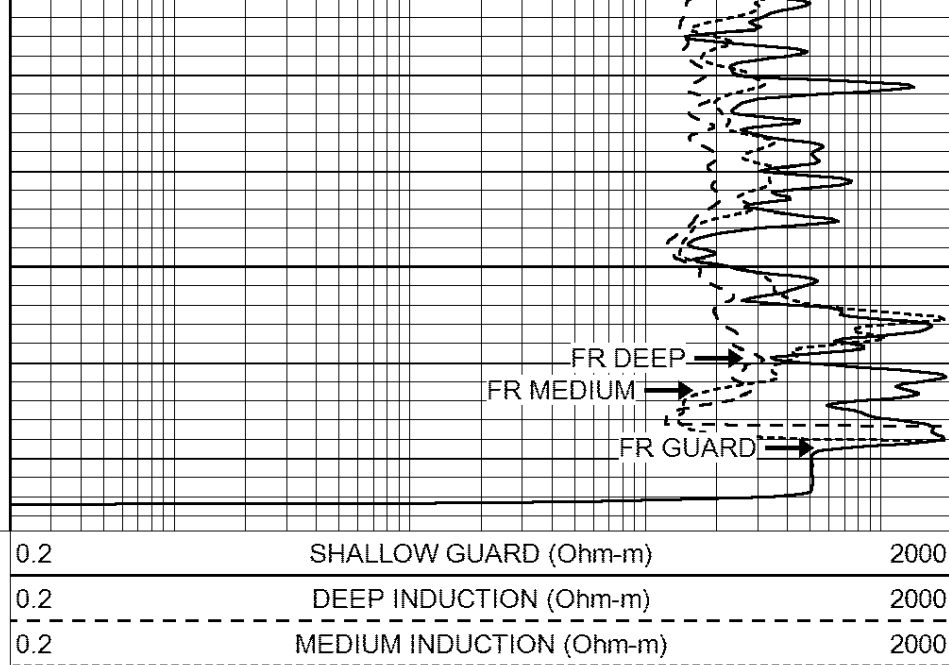
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4950

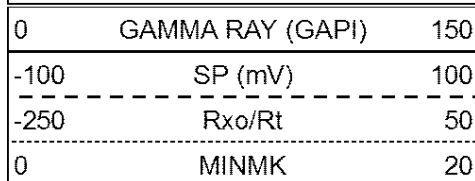
LTD 4971



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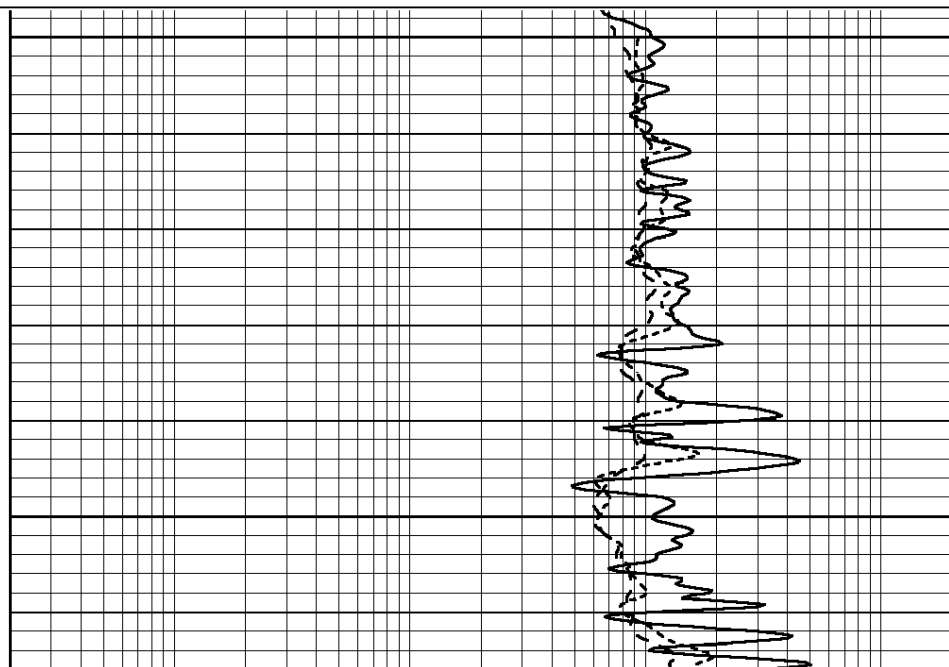
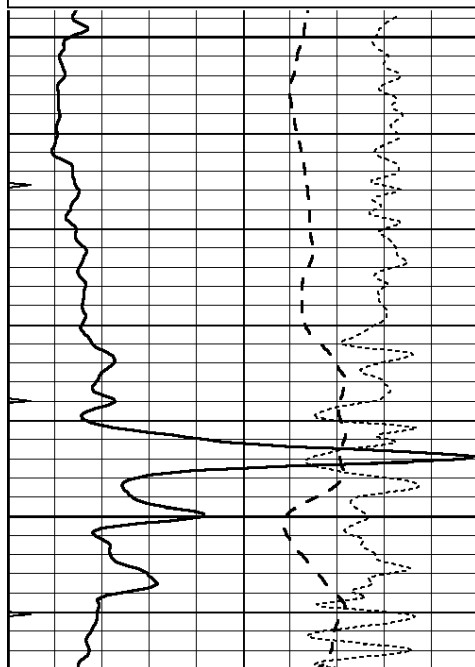
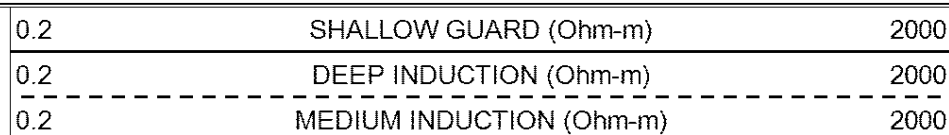
REPEAT SECTION

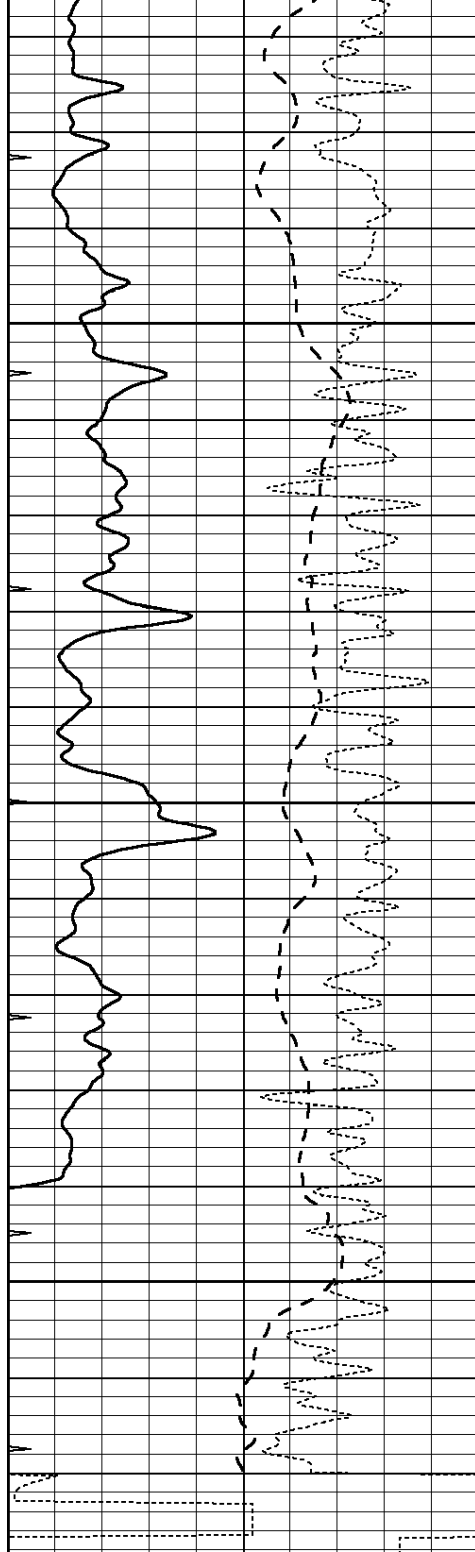
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 Dataset Pathname: pass2.5
 Presentation Format: dil
 Dataset Creation: Mon Jun 04 11:10:40 2012 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:240



4750

4800



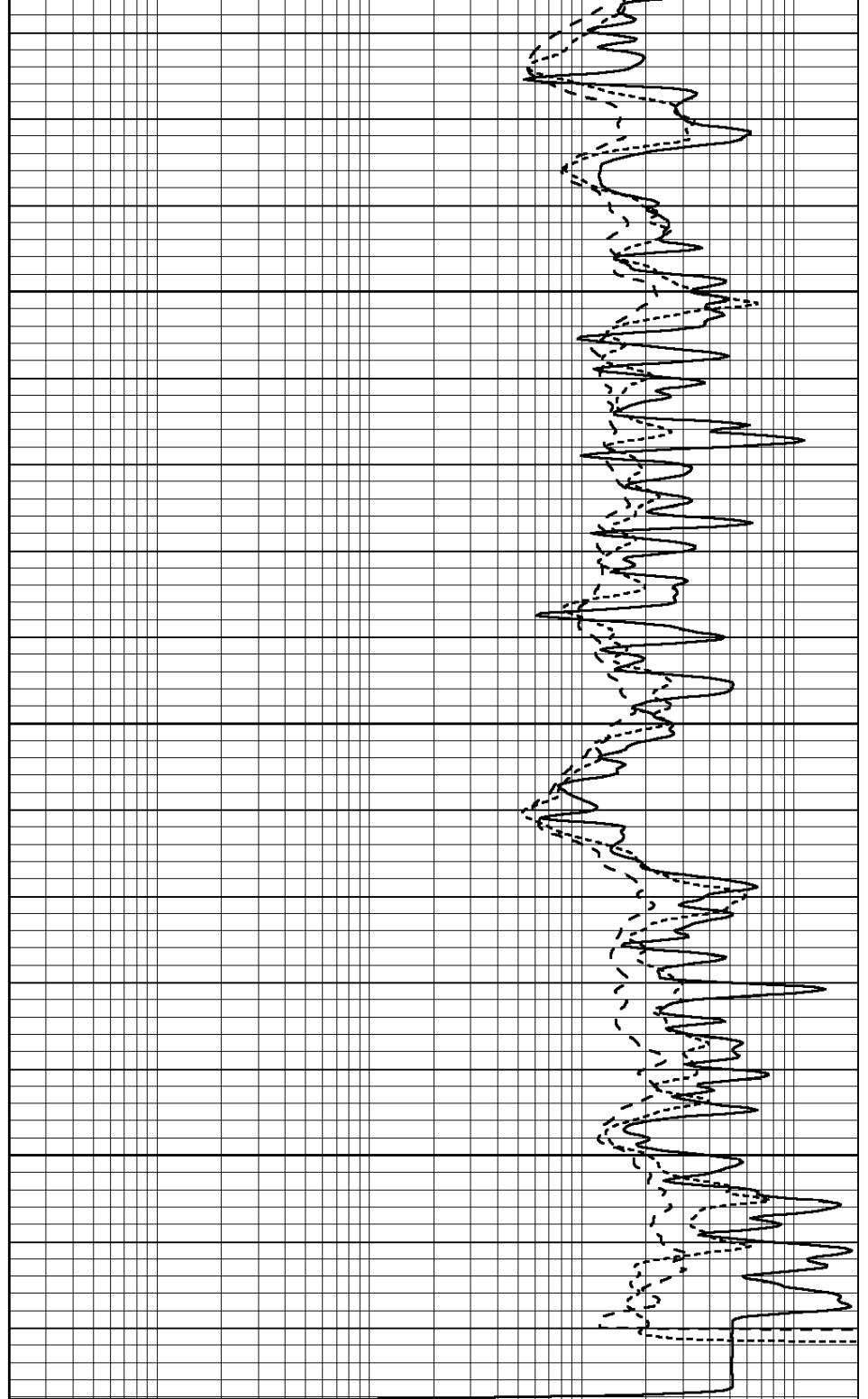


4850

4900

4950

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

Calibration Report

Database File: 409134pe.db
 Dataset Pathname: pass3.8
 Dataset Creation: Mon Jun 04 12:05:39 2012

Dual Induction Calibration Report

Serial-Model:

DIL3-GEAR

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	8.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-3.500
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

	Readings	Reference
Low Ref	4.0	8.3
High Ref	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: Tue May 22 19:38:45 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Calibrator Reading:

1.0

cps

Sensitivity:

0.3000

GAPI/cps