



DUAL INDUCTION LOG

Company L.D. DRILLING, INC.
 Well DEEDS #1-15
 Field WILDCAT
 County CHEYENNE State KANSAS

Location: API # : 15-023-21461-00-00
 2254' FSL & 1978' FEL
 SEC 15 TWP 5S RGE 37W
 Permanent Datum GROUND LEVEL Elevation 3395'
 Log Measured From KELLY BUSHING 5' A.G.L.
 Drilling Measured From KELLY BUSHING
 Other Services CDL/CNL MEL
 Elevation K.B. 3400
 D.F. 3398
 G.L. 3395

Date	03/16/17
Run Number	ONE
Depth Driller	5050
Depth Logger	5048
Bottom Logged Interval	5046
Top Log Interval	00
Casing Driller	8 5/8" @ 348
Casing Logger	348
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.360
pH / Fluid Loss	10.5/7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.0@74
Rmt @ Meas. Temp	.75@74
Rmc @ Meas. Temp	1.20@74
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.59@125
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	125F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	GUS PFANENSTIEL
Witnessed By	KIM SHOEMAKER

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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, KS. (785) 628-6395

DIRECTIONS
 NORTH OF BREWSTER TO BB RD.
 WEST TO 32 RD, NORTH TO D RD.
 EAST 2 MILES, NORTH 1/2 MILE
 WEST INTO.



MAIN PASS

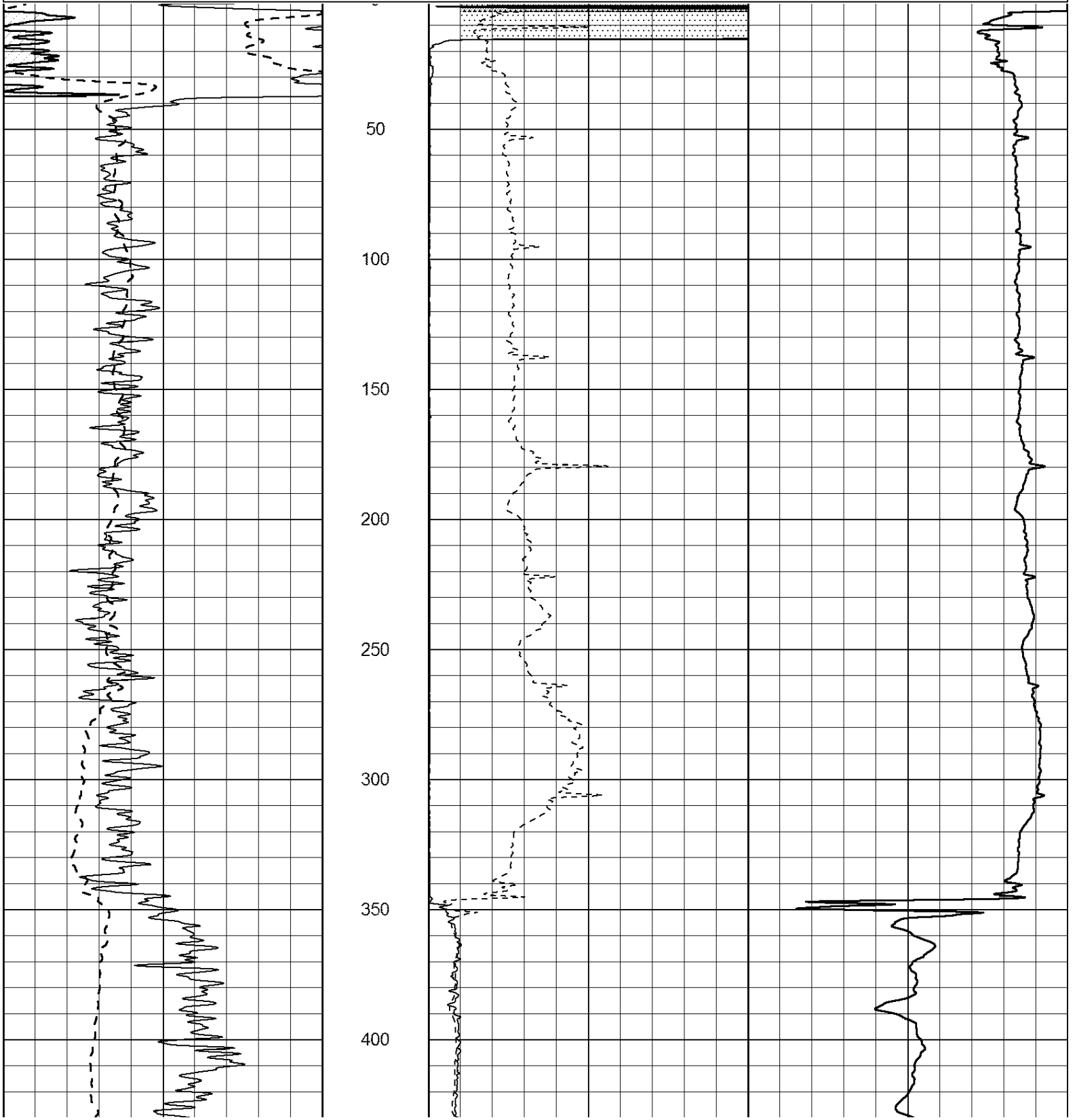
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 Charted by: Depth in Feet scaled 1:600

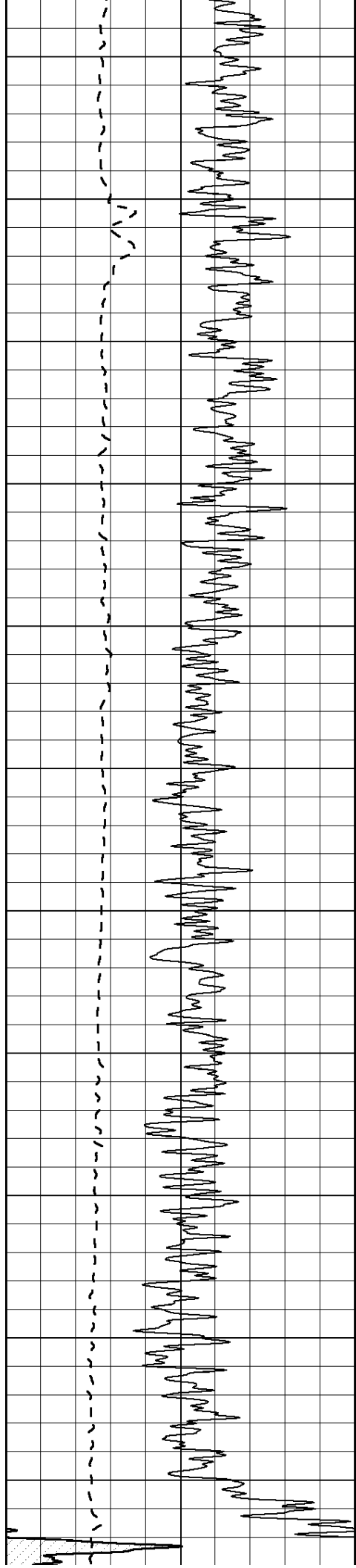
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 -100 SP (mV) 100

0 RLL3 (Ohm-m) 50
 0 RILD (Ohm-m) 50

1000 CILD (mmho/m) 0

50 RILD X10 (Ohm-m) 500
 50 RLL3 X10 (Ohm-m) 500





450

500

550

600

650

700

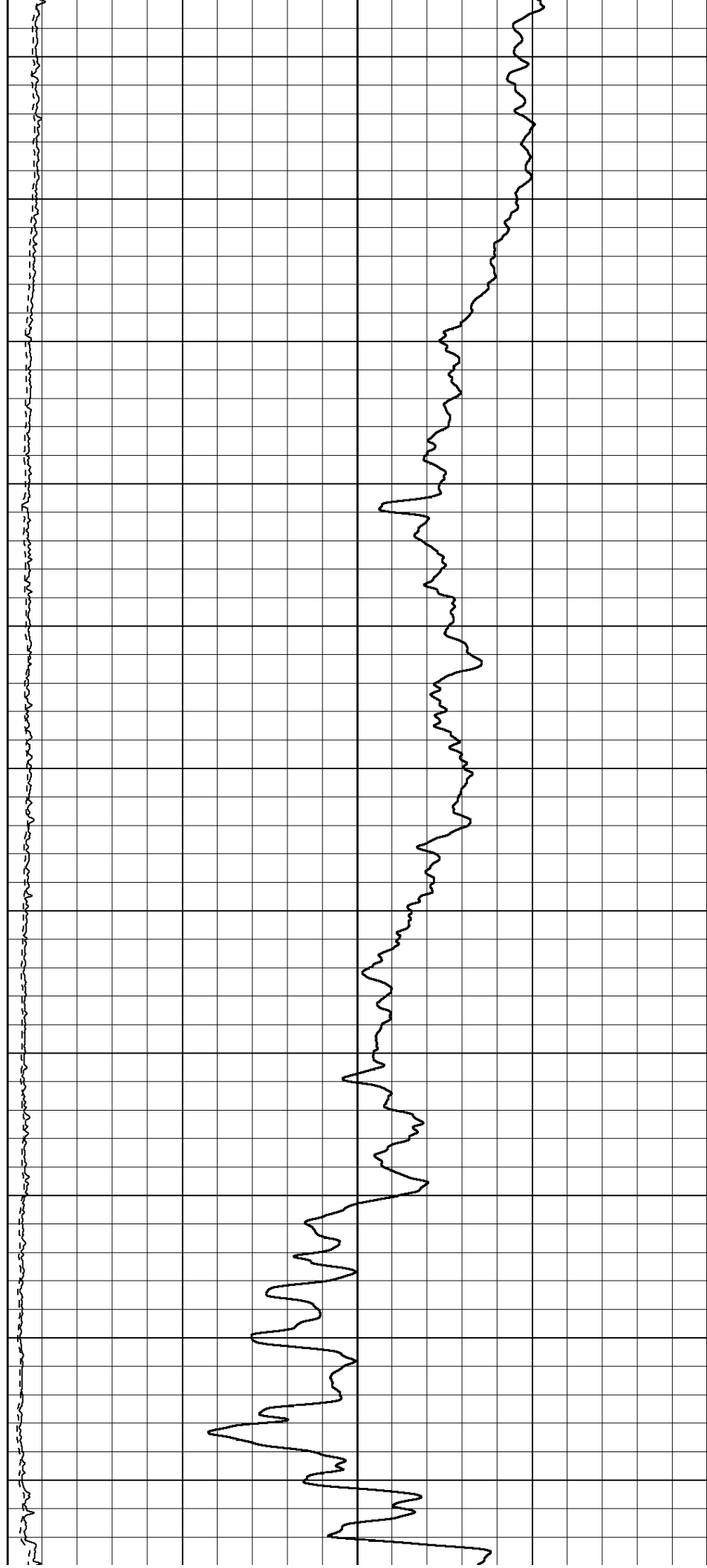
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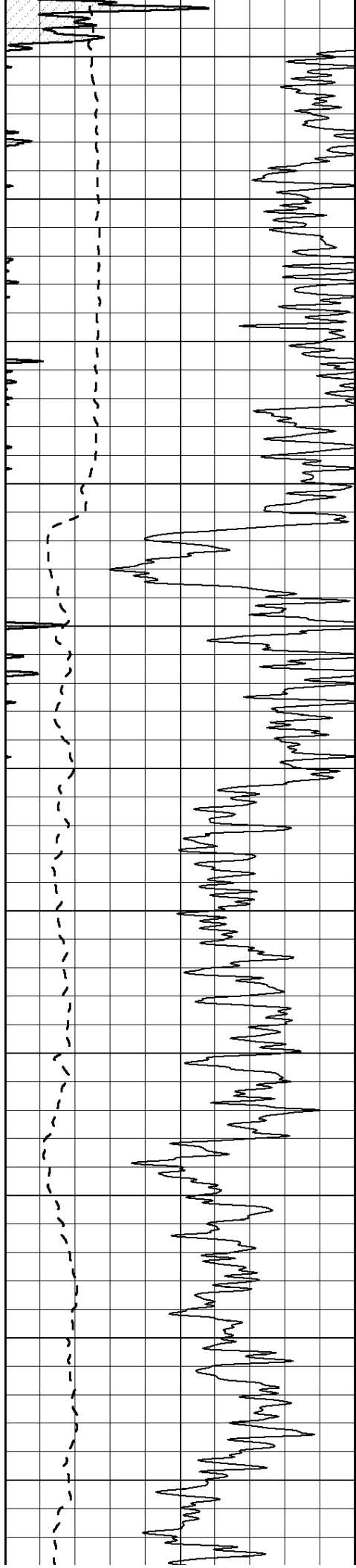
800

850

900

950





1000

1050

1100

1150

1200

1250

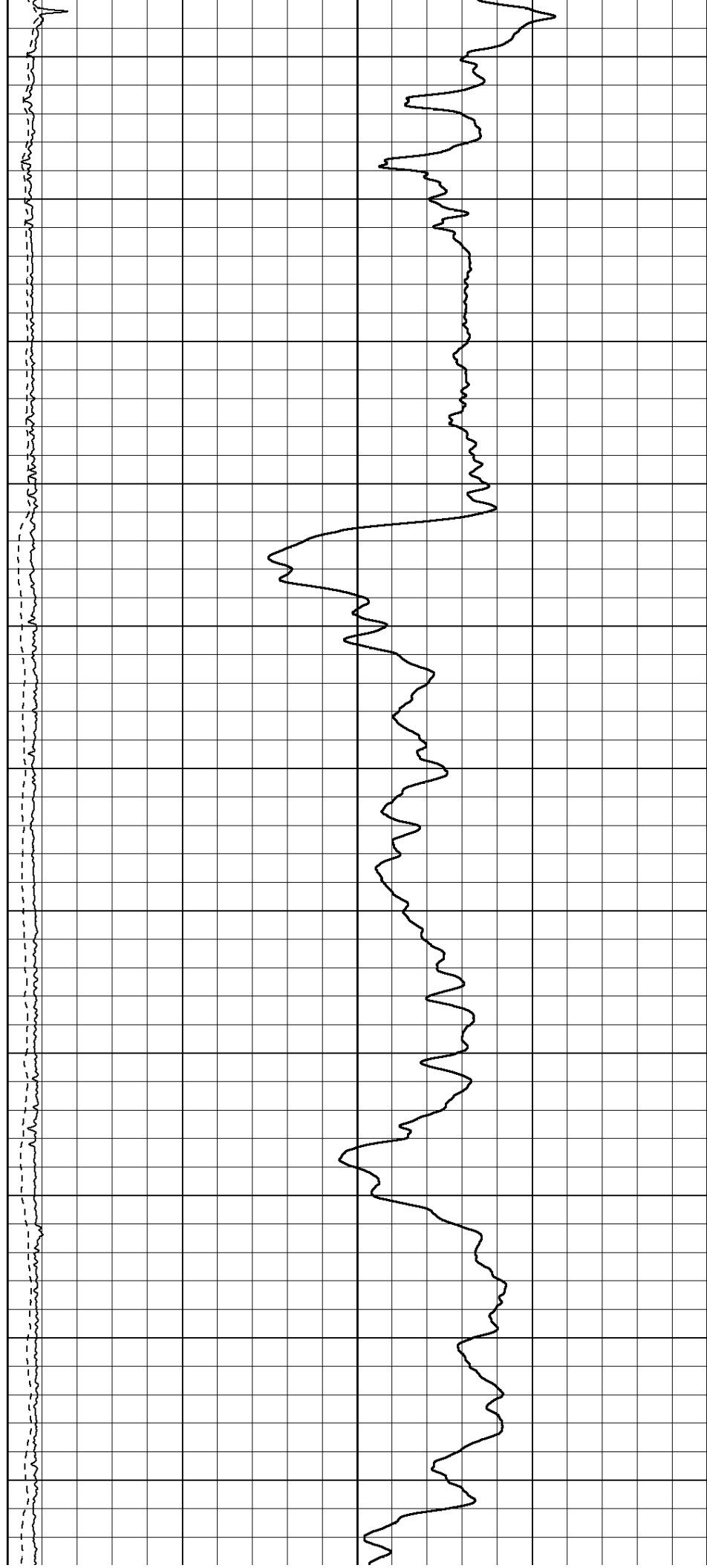
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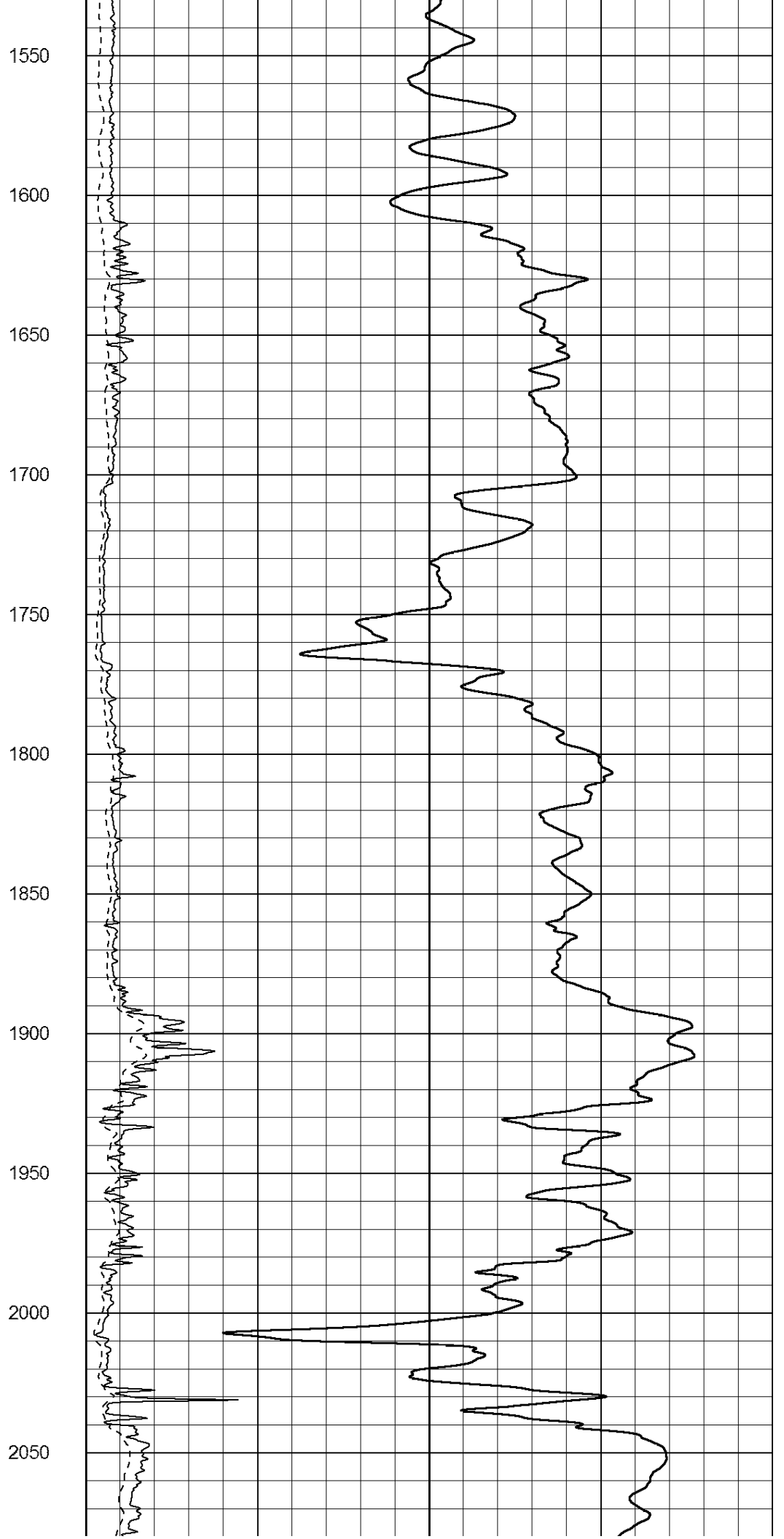
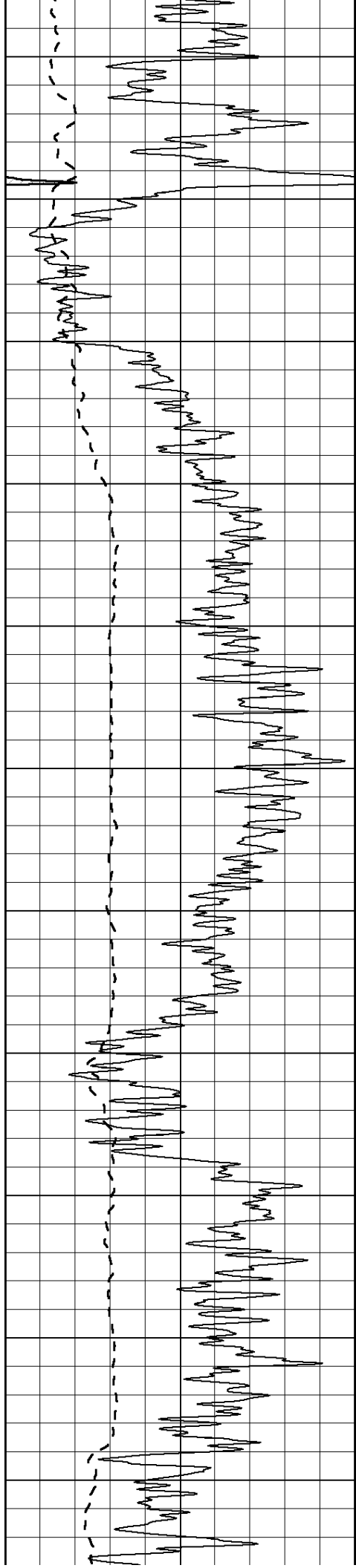
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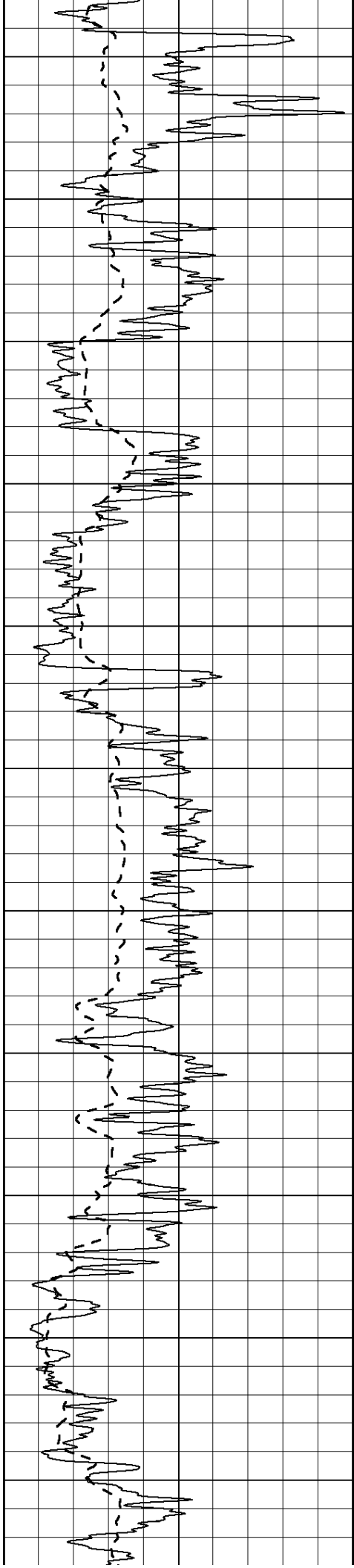
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1450

1500







2100

2150

2200

2250

2300

2350

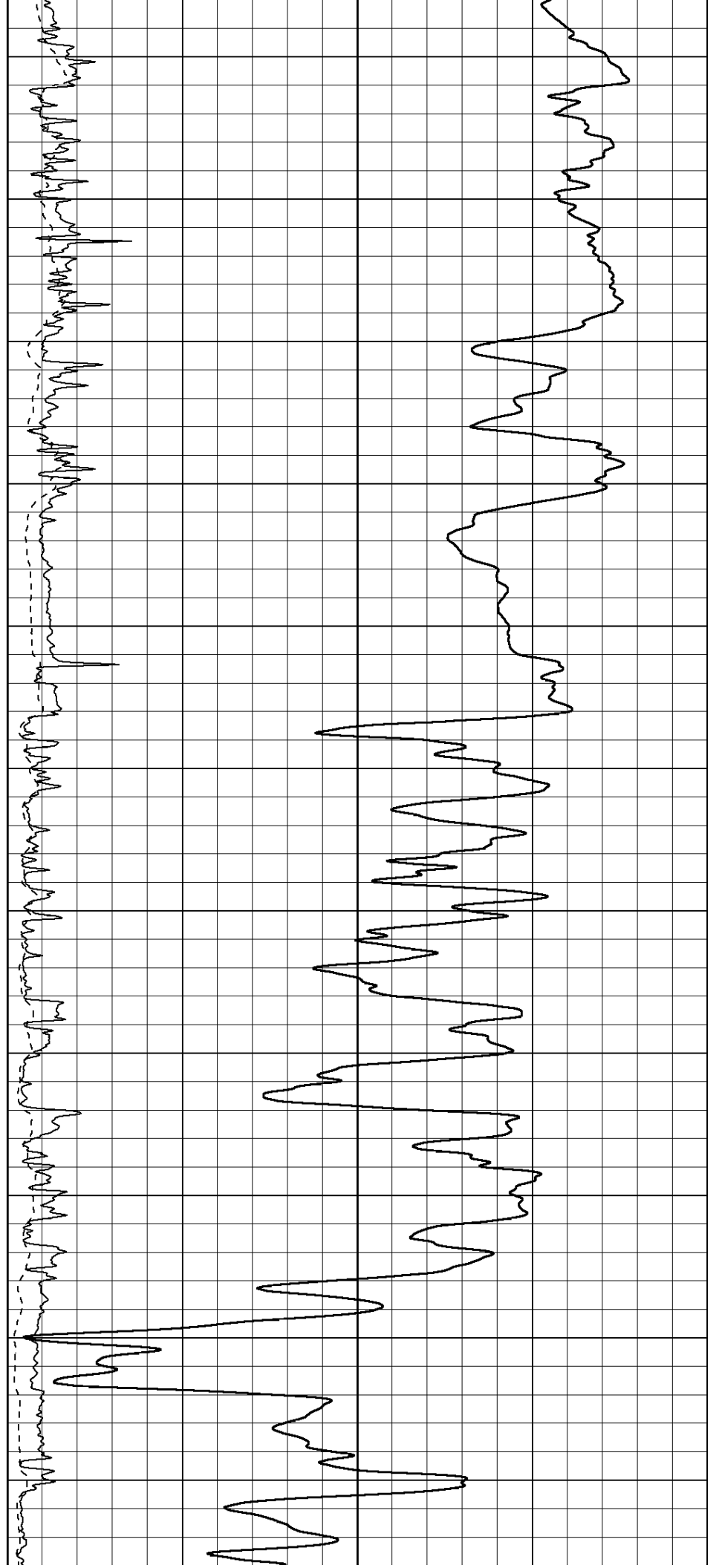
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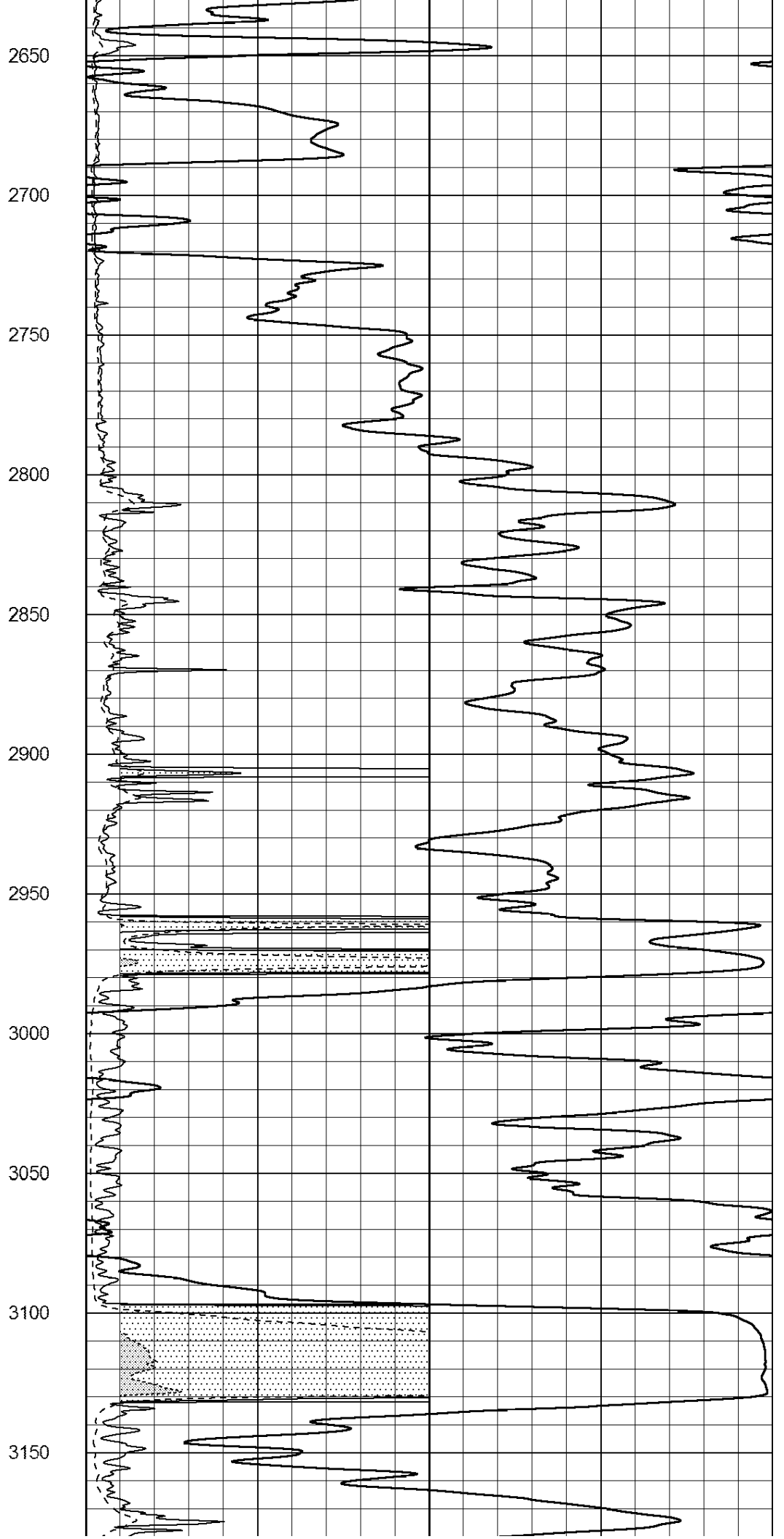
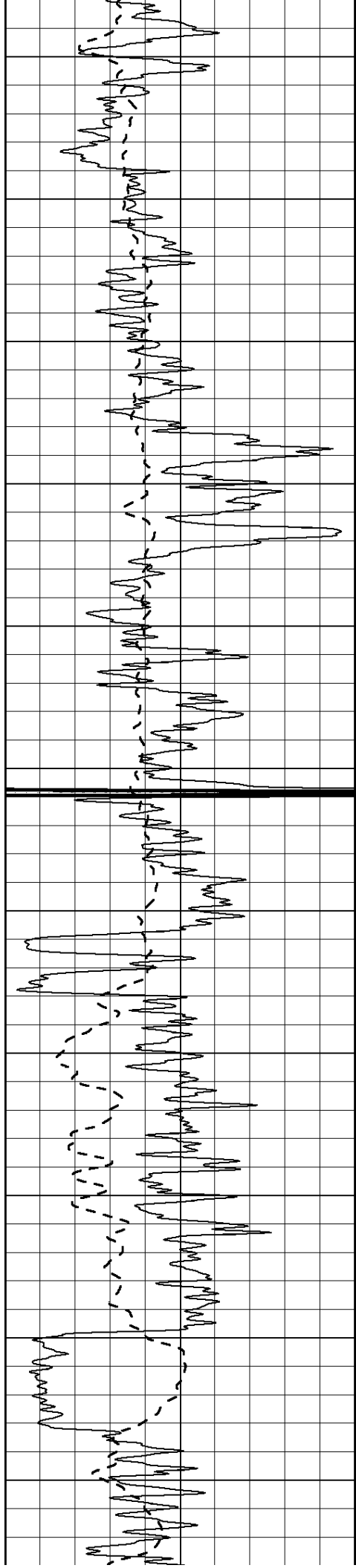
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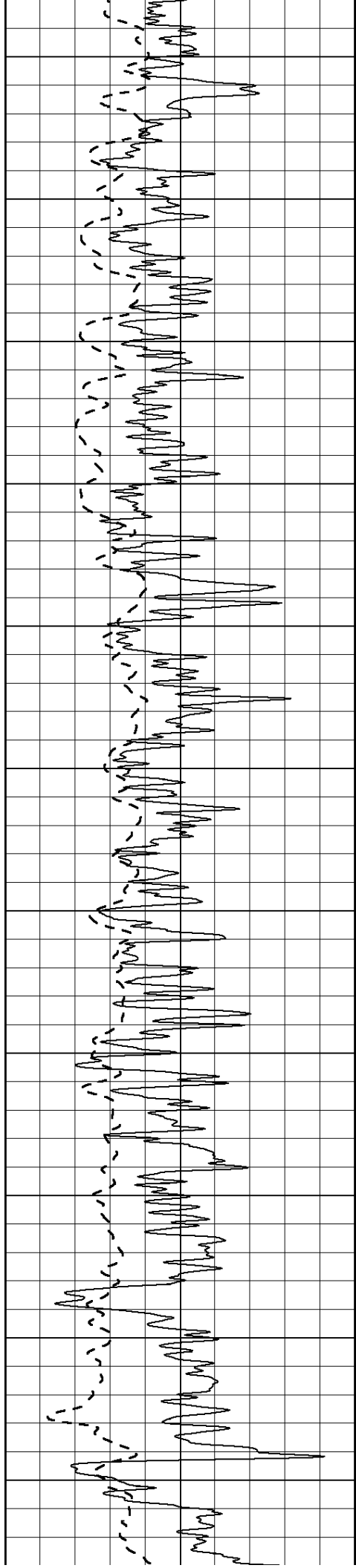
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2550

2600







3200

3250

3300

3350

3400

3450

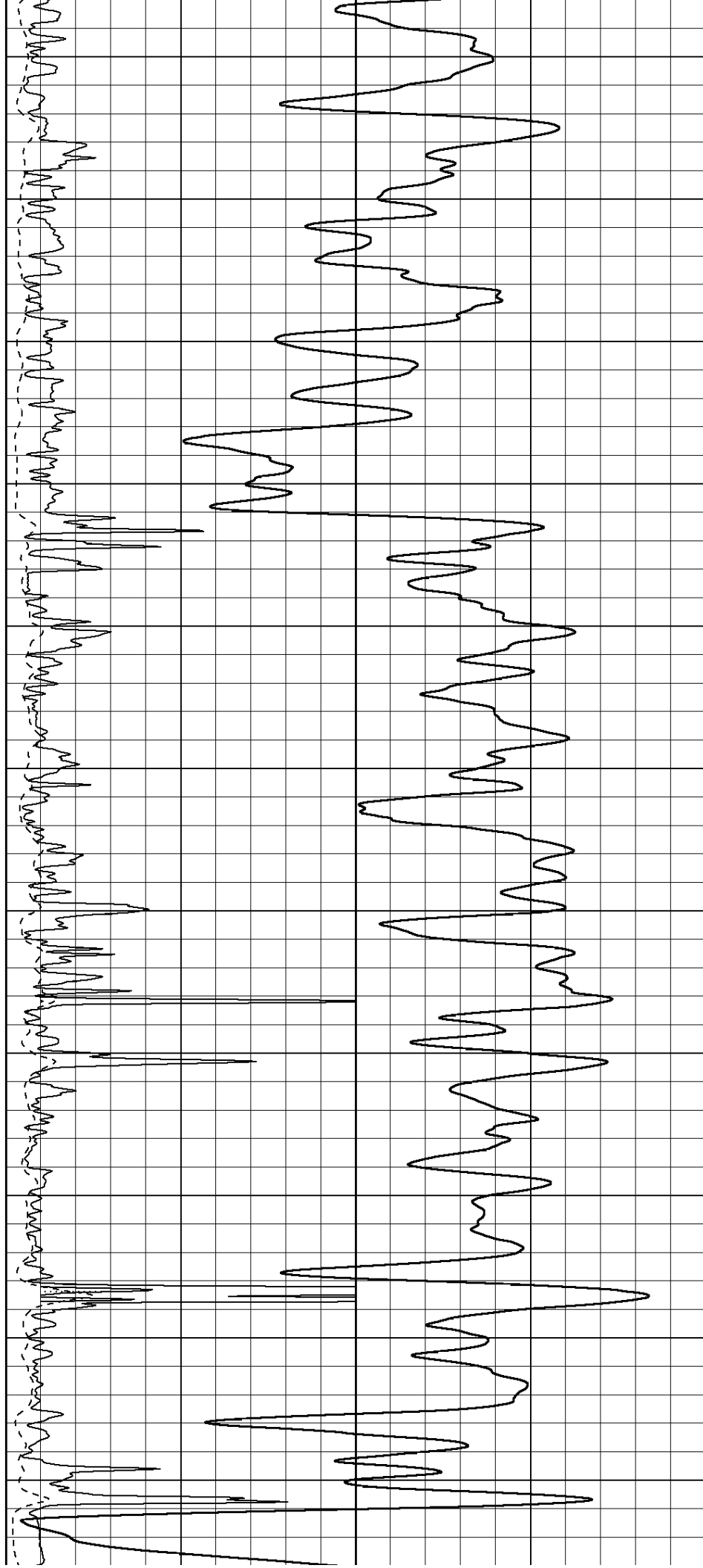
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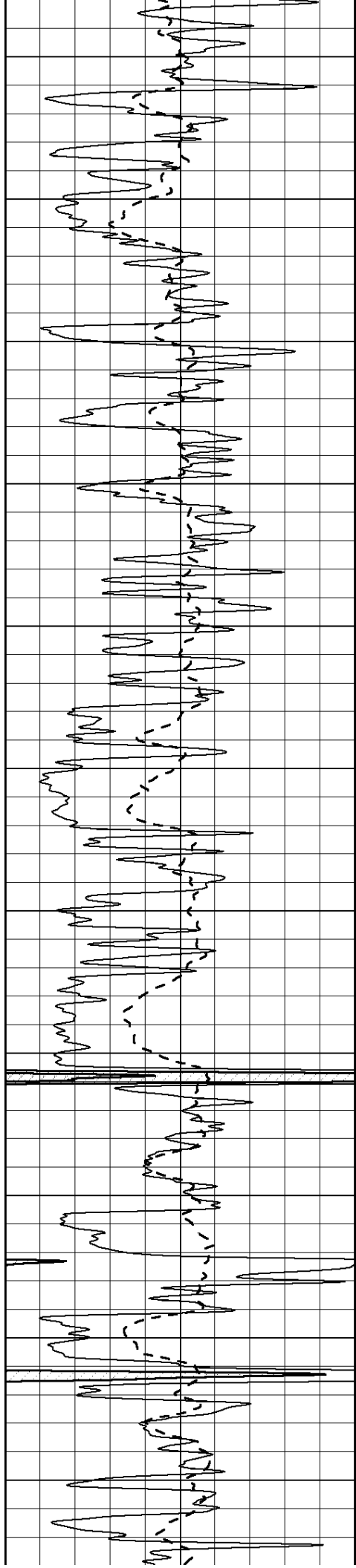
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3600

3650

3700





3750

3800

3850

3900

3950

4000

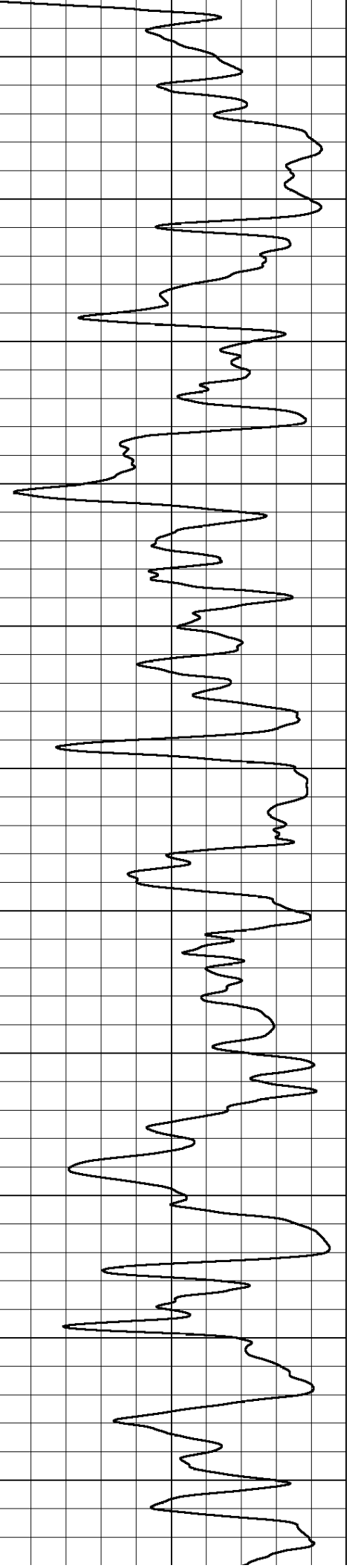
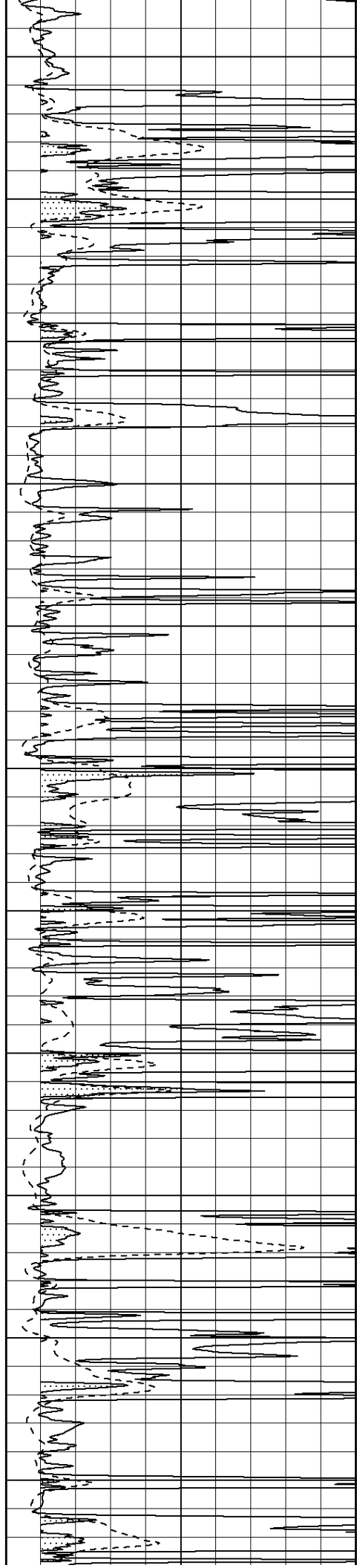
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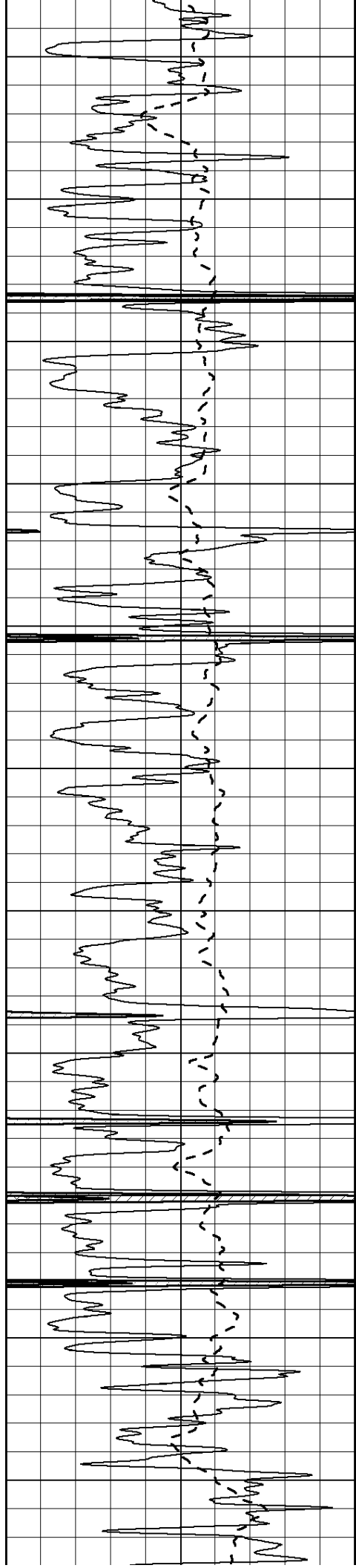
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4150

4200

4250





4300

4350

4400

4450

4500

4550

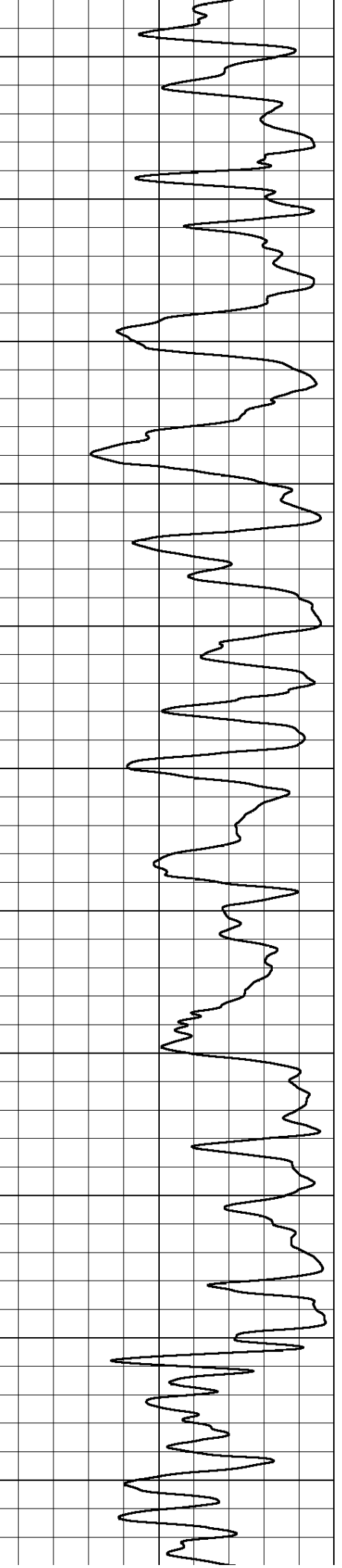
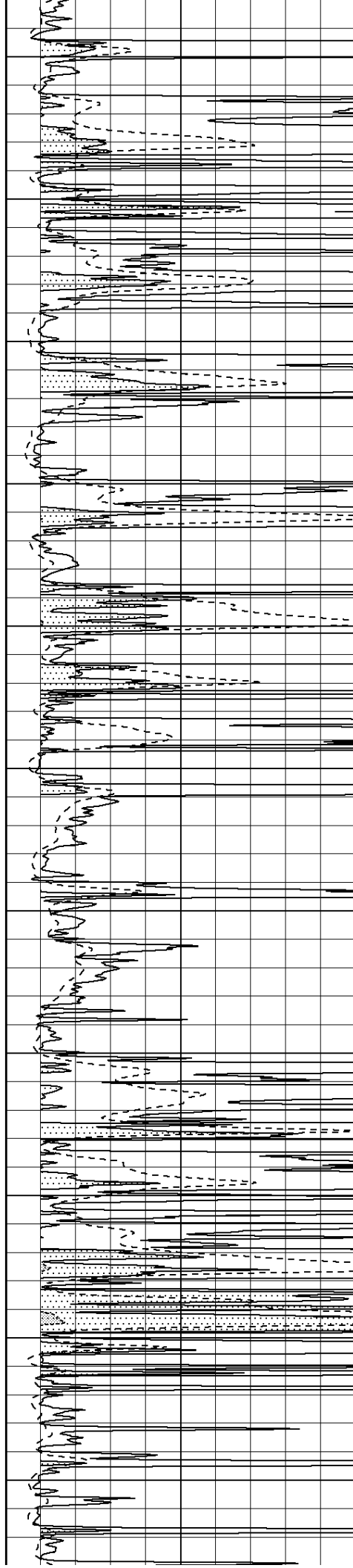
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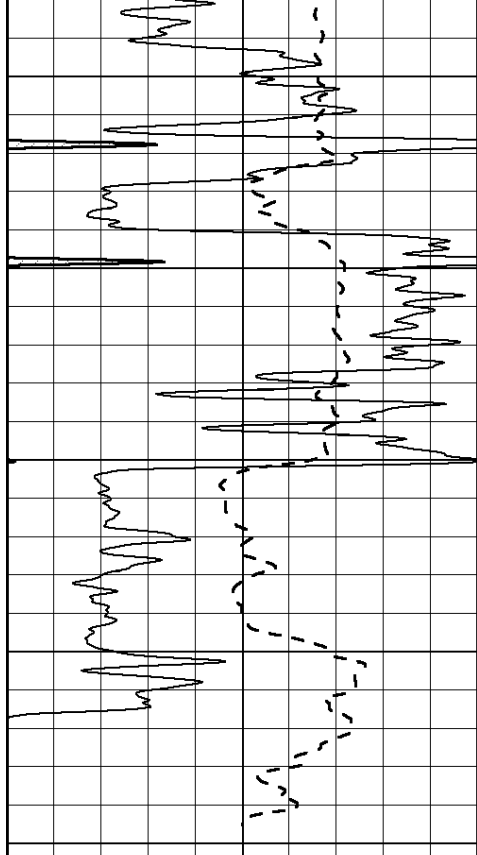
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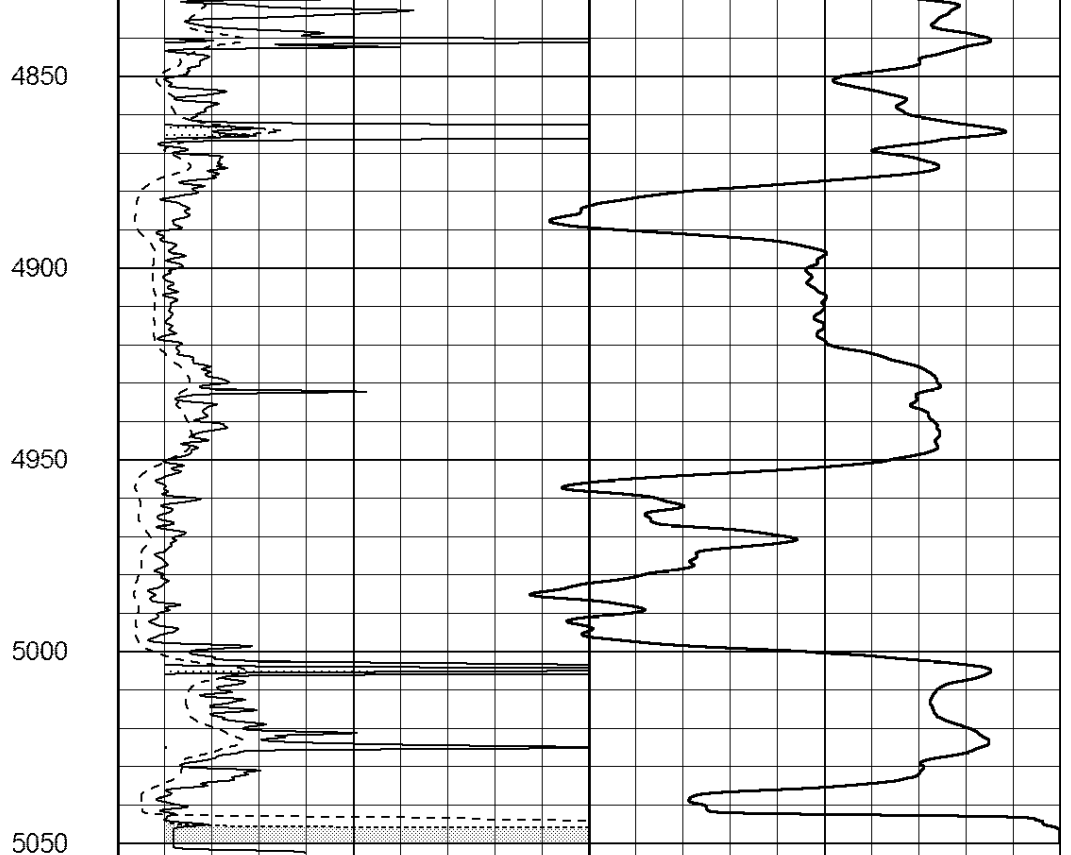
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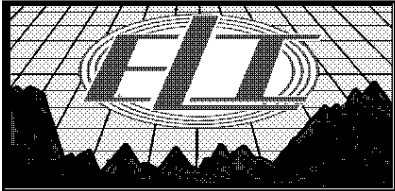




0 Gamma Ray (GAPI) 150
 -100 SP (mV) 100



4850
 4900
 4950
 5000
 5050
 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

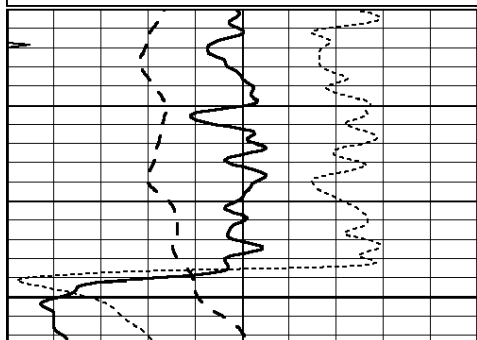


ANHYDRITE

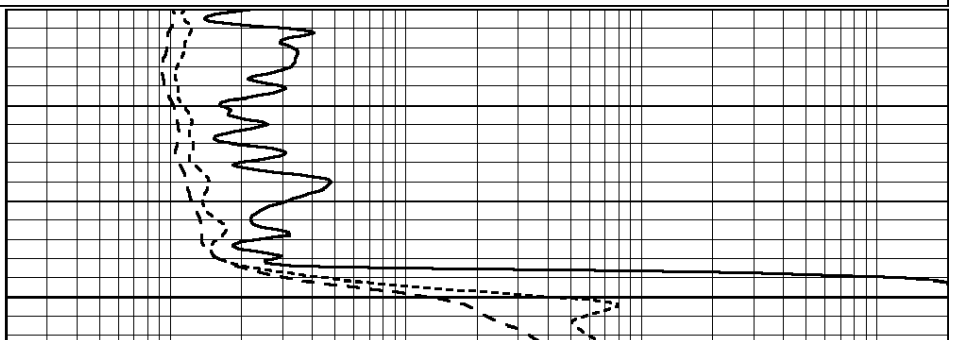
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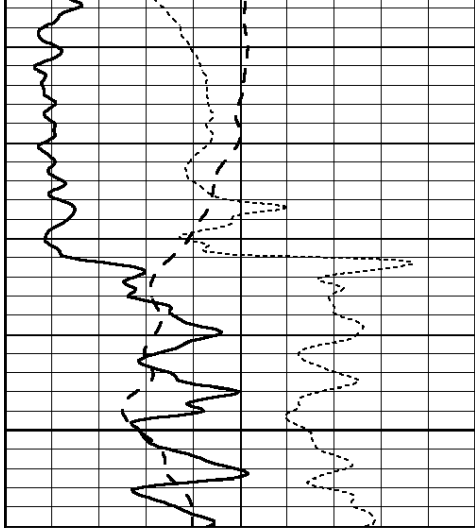
0 GAMMA RAY (GAPI) 150
 -100 SP (mV) 100
 -250 Rxo/Rt 50
 0 MINMK 20

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



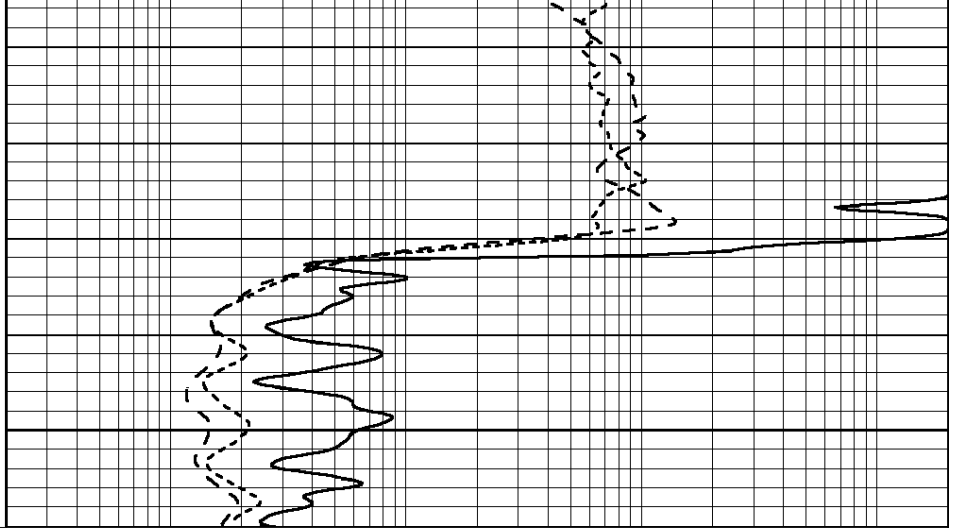
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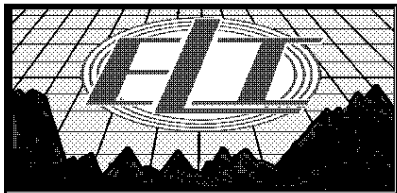


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3150



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

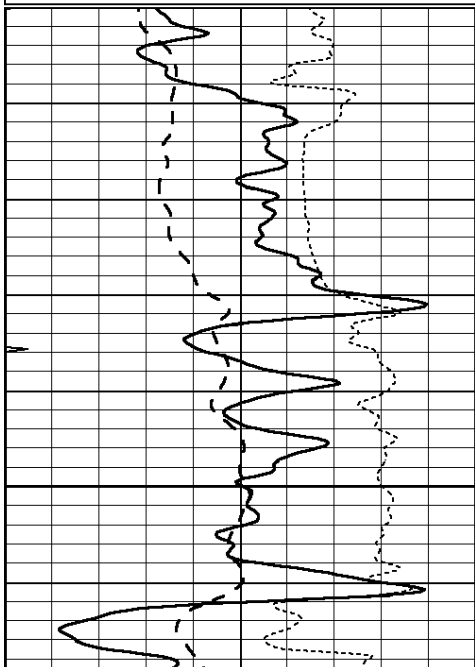


MAIN PASS

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 Charted by: Depth in Feet scaled 1:240

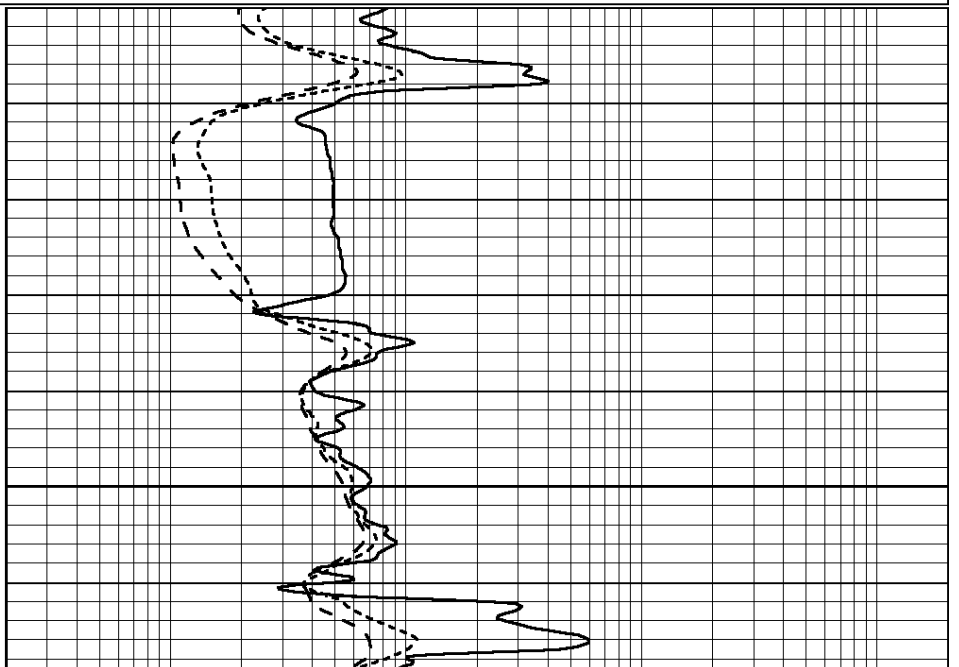
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

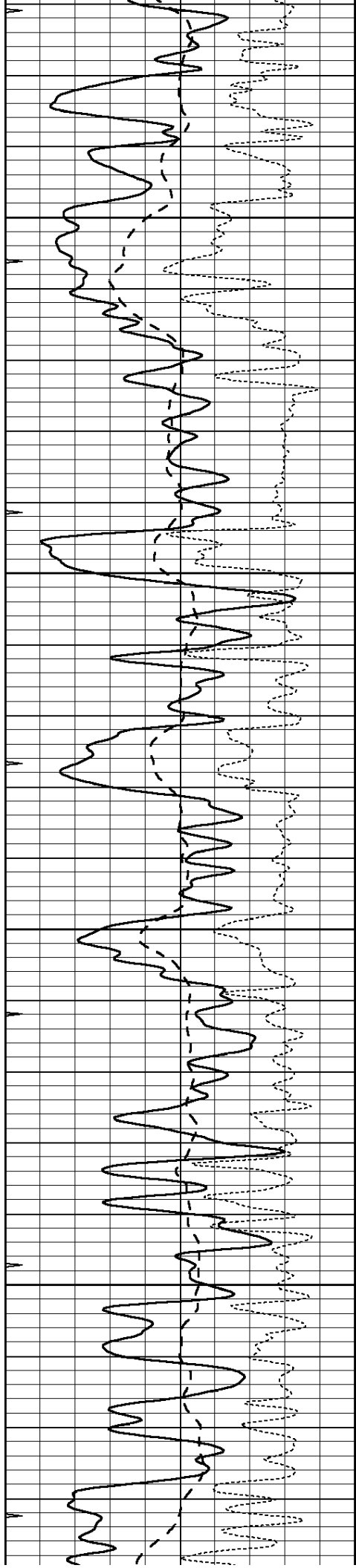
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3700

3750



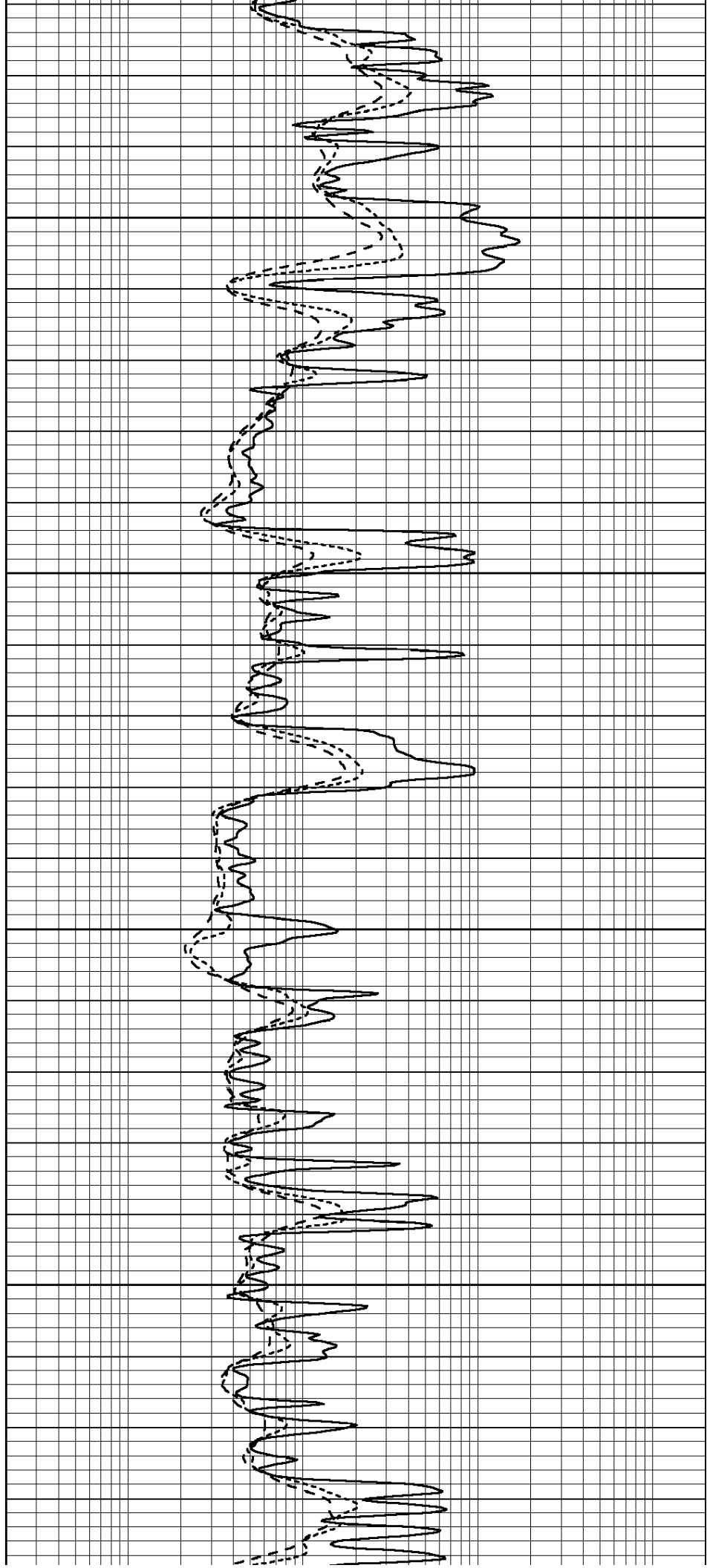


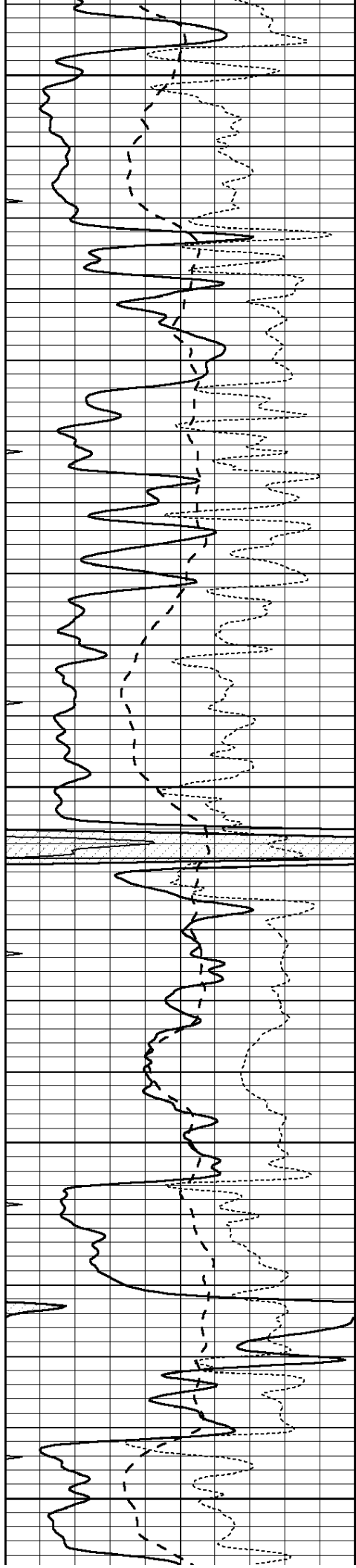
3800

3850

3900

3950





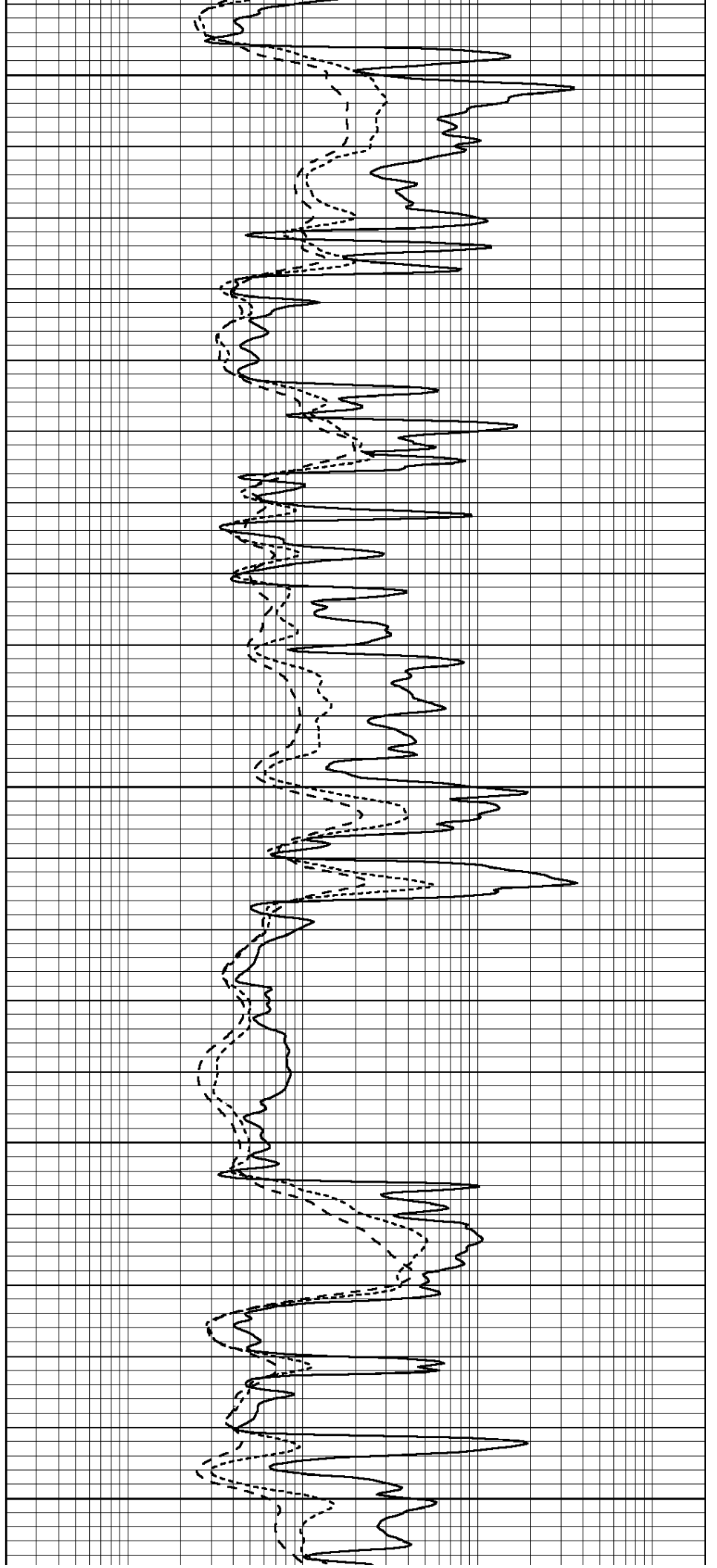
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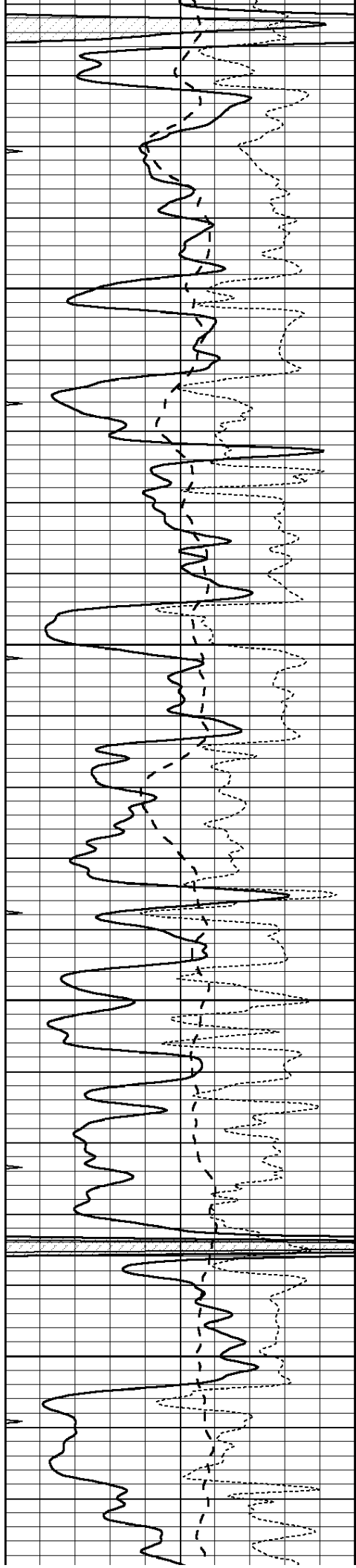
4050

4100

4150

4200



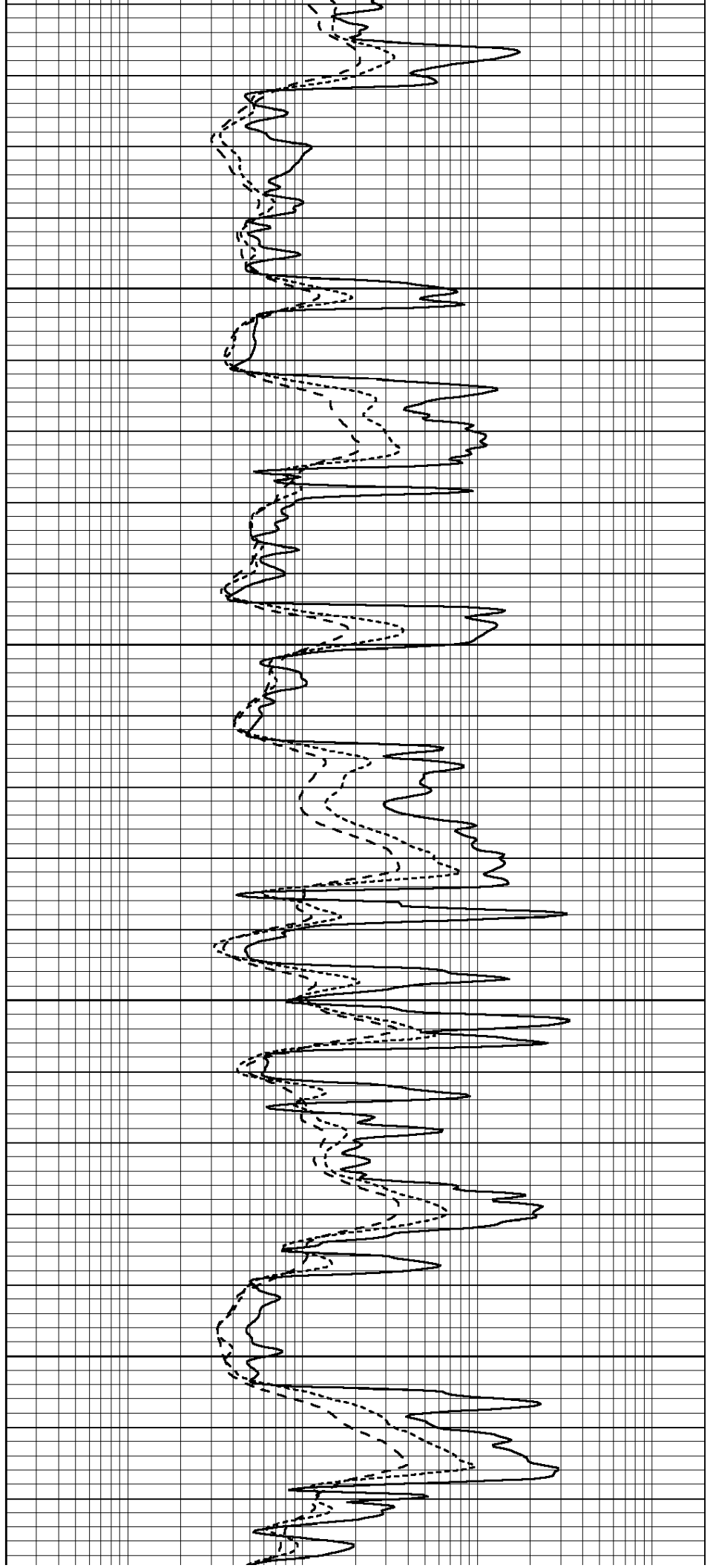


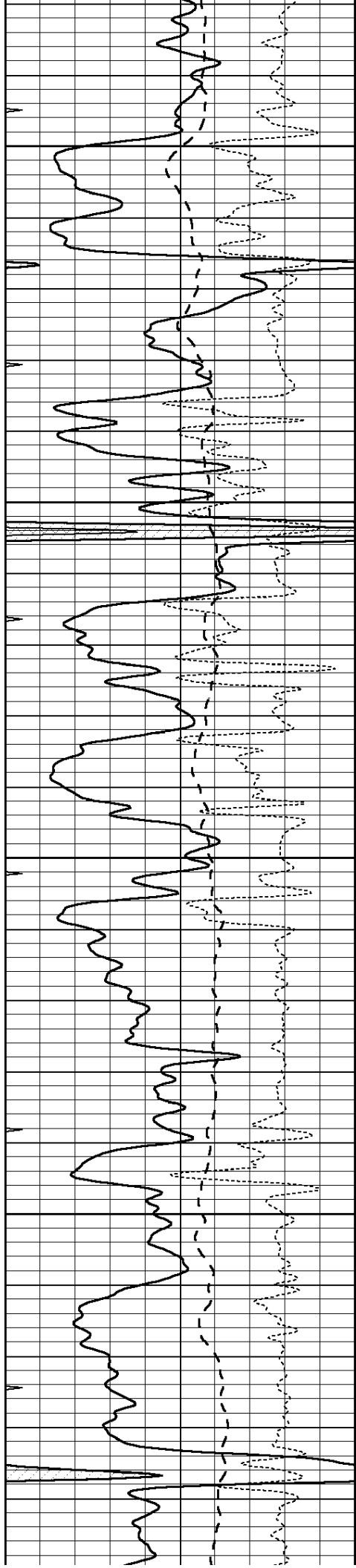
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4300

4350

4400





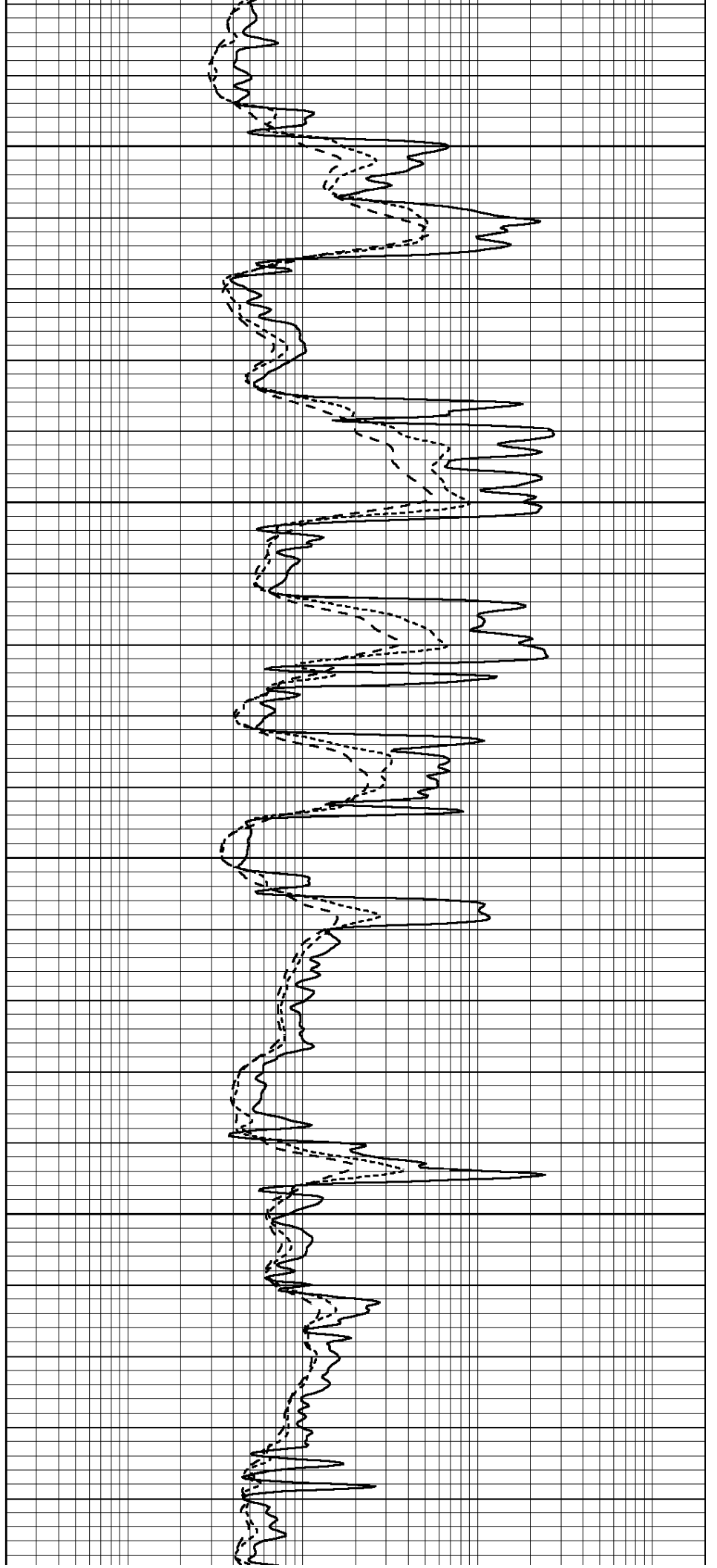
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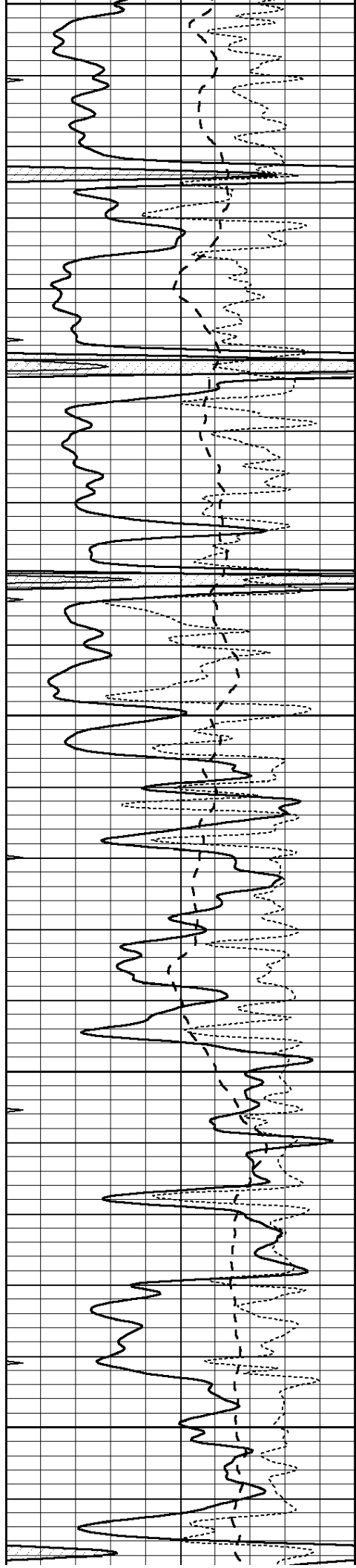
4500

4550

4600

4650





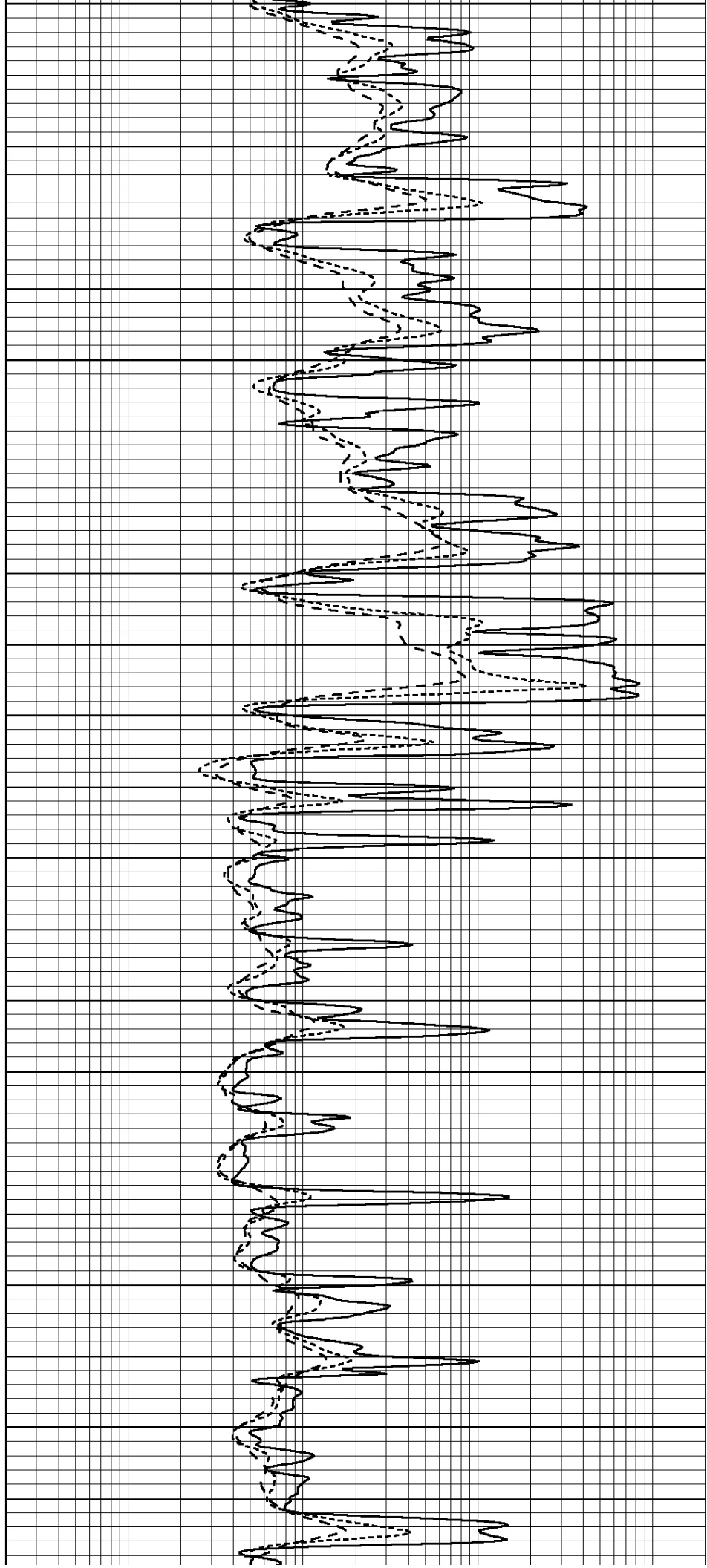
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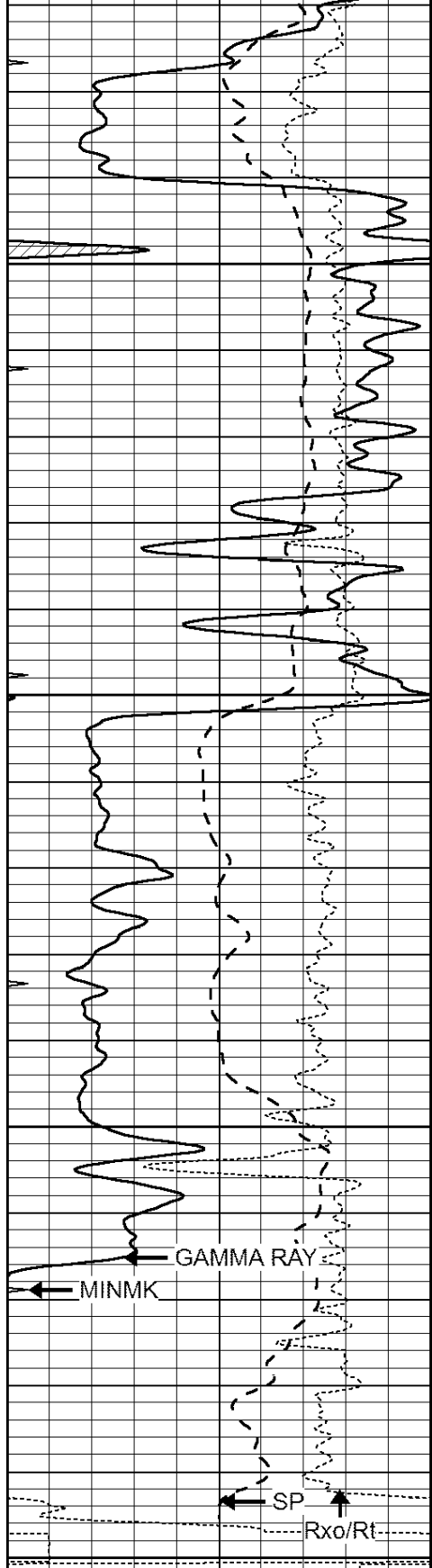
4700

4750

4800

4850





4900

4950

5000

GAMMA RAY

MINMK

SP

Rxo/Rt

LTD 5048
5050

DEEP INDUCTION

MEDIUM INDUCTION

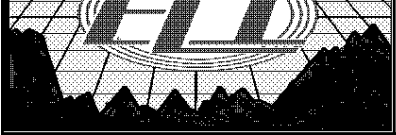
SHALLOW GUARD

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



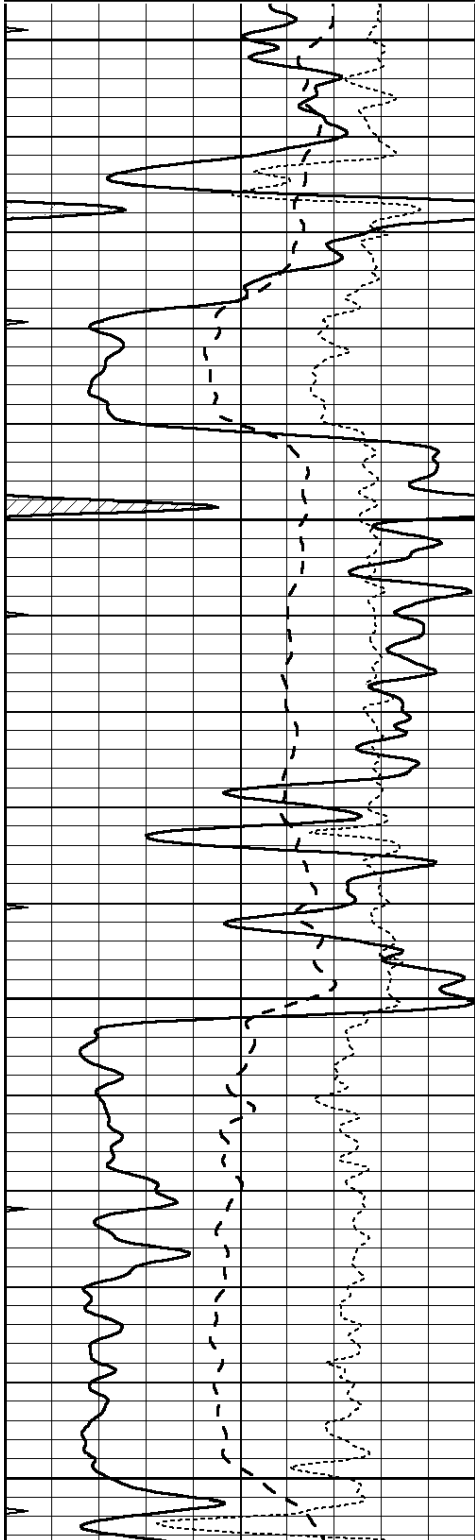
REPEAT SECTION



Database File: 1456ddn.db
Dataset Pathname: pass2RP
Presentation Format: _dil
Dataset Creation: Thu Mar 16 18:51:07 2017 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	20

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

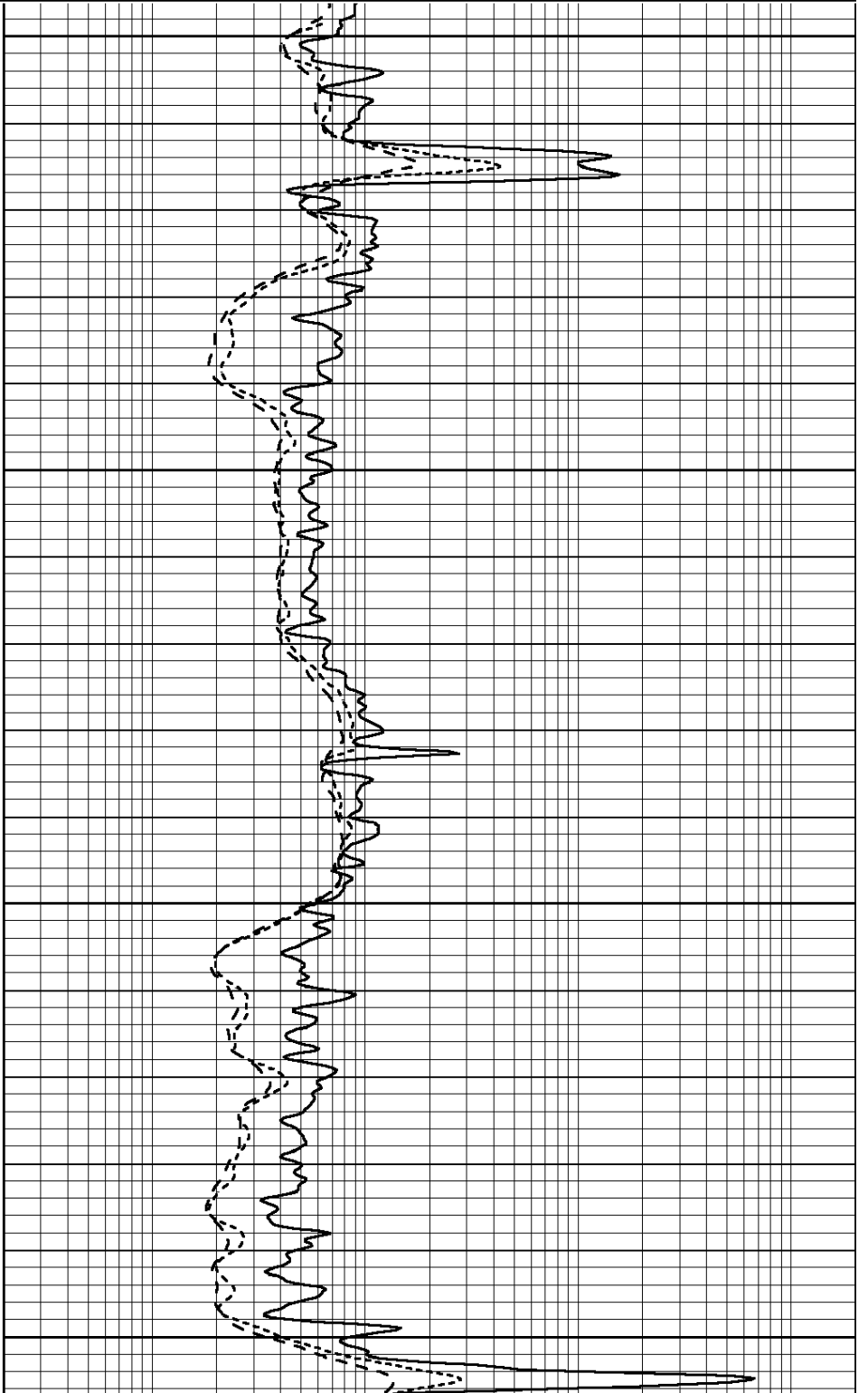


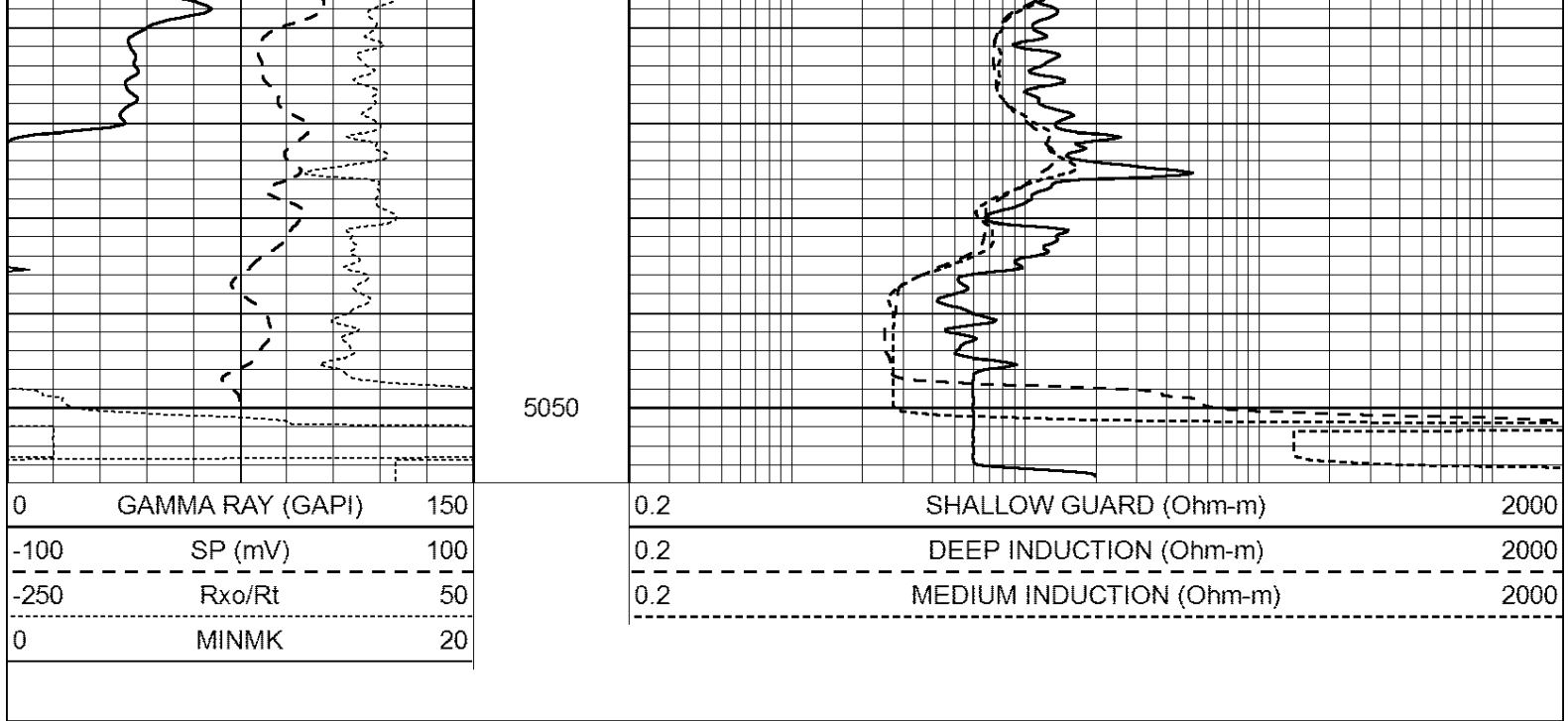
4850

4900

4950

5000





Calibration Report

Database File: 1456ddn.db
 Dataset Pathname: pass2RP
 Dataset Creation: Thu Mar 16 18:51:07 2017 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Sun May 10 19:54:09 2015
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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		

1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Thu Nov 12 05:47:01 2015	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.5000	GAPI/cps