



SUPERIOR
Hays,
Kansas

**DUAL INDUCTION
LOG**

Company RITCHIE EXPLORATION, INC.
Well #2 HESS 29D
Field ANTELOPE RIDGE
County GOVE
State KANSAS

Company RITCHIE EXPLORATION, INC.
Well #2 HESS 29D
Field ANTELOPE RIDGE
County GOVE State KANSAS

Location: API # : 15-063-21928-0000
1055' FSL & 1800' FEL
NE - SW - SE
SEC 29 TWP 13S RGE 31W
Permanent Datum GROUND LEVEL Elevation 2932
Log Measured From KELLY BUSHING 10' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
CDL/CNL
Elevation
K.B. 2942
D.F. 2940
G.L. 2932

Date	7/20/11
Run Number	ONE
Depth Driller	4710
Depth Logger	4711
Bottom Logged Interval	4709
Top Log Interval	00
Casing Driller	8 5/8"@215'
Casing Logger	215
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.169
pH / Fluid Loss	9.5/8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.650@94F
Rmt @ Meas. Temp	.488@94F
Rmc @ Meas. Temp	.780@94F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.501@122F
Time Circulation Stopped	3 HOURS
Time Logger on Bottom	11:45 A.M.
Maximum Recorded Temperature	122F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	MIKE ENGELBRECHT

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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
OAKLEY, KS.(JUNCTION OF OLD 40 & HWY 83) 13S. ON HWY 83 TO "QUAIL RD.", 3E., 3S., 1E. INTO PAS



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MAIN SECTION

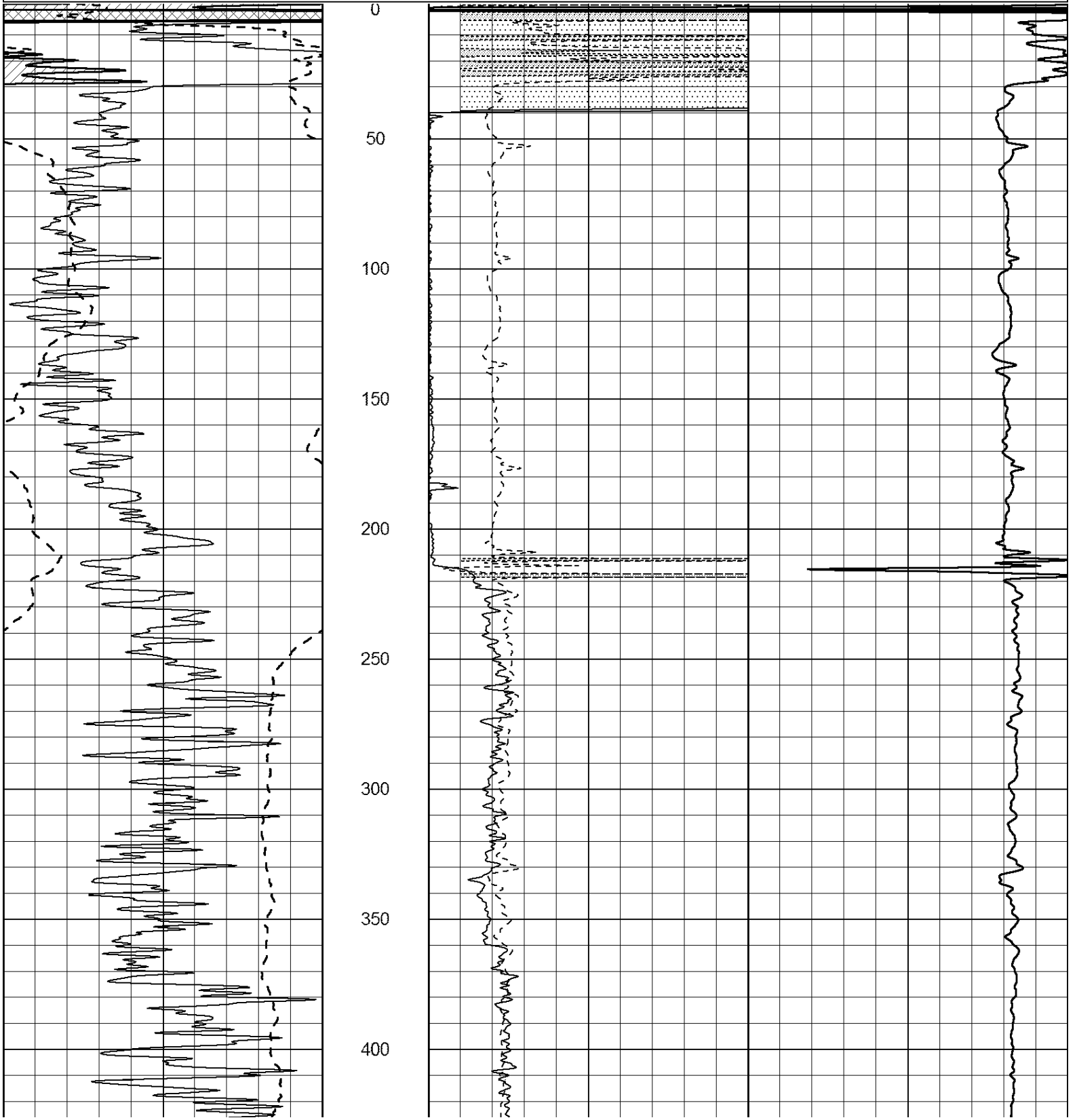
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 Charted by: Depth in Feet scaled 1:600

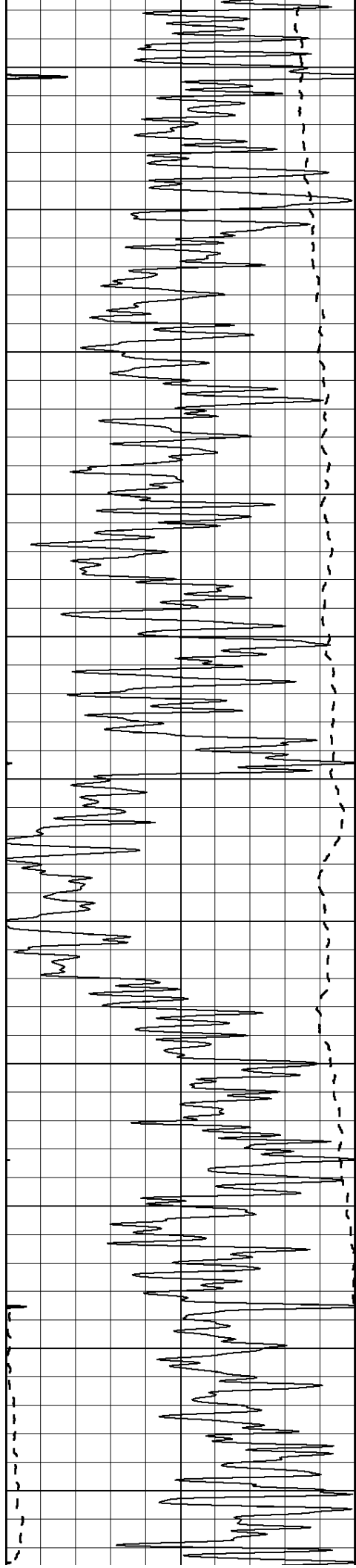
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 -100 SP (mV) 100

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

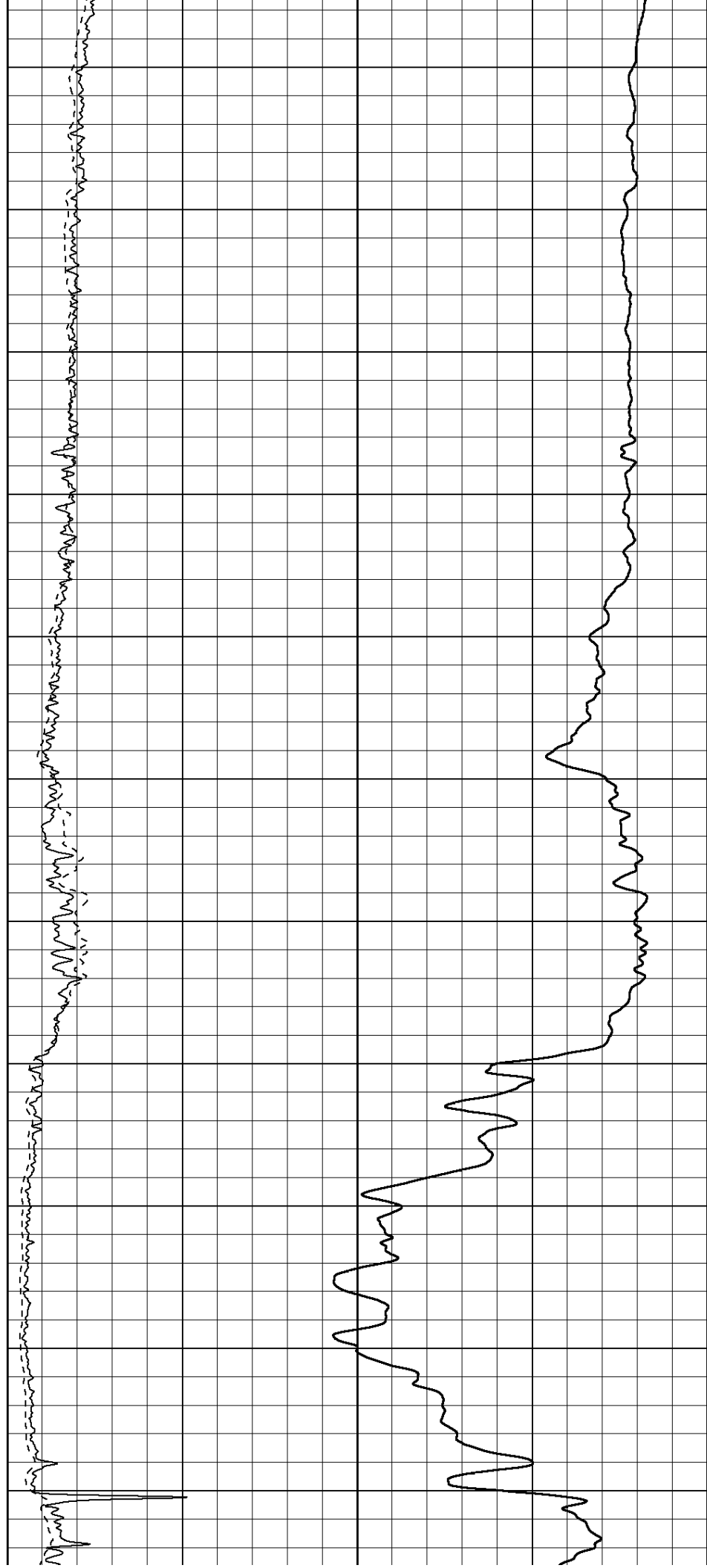
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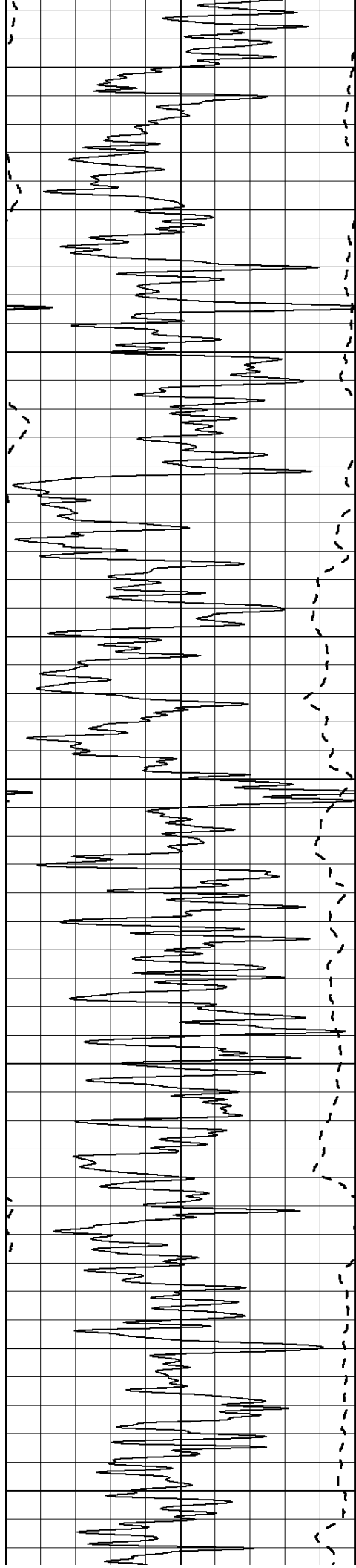
800

850

900

950





1000

1050

1100

1150

1200

1250

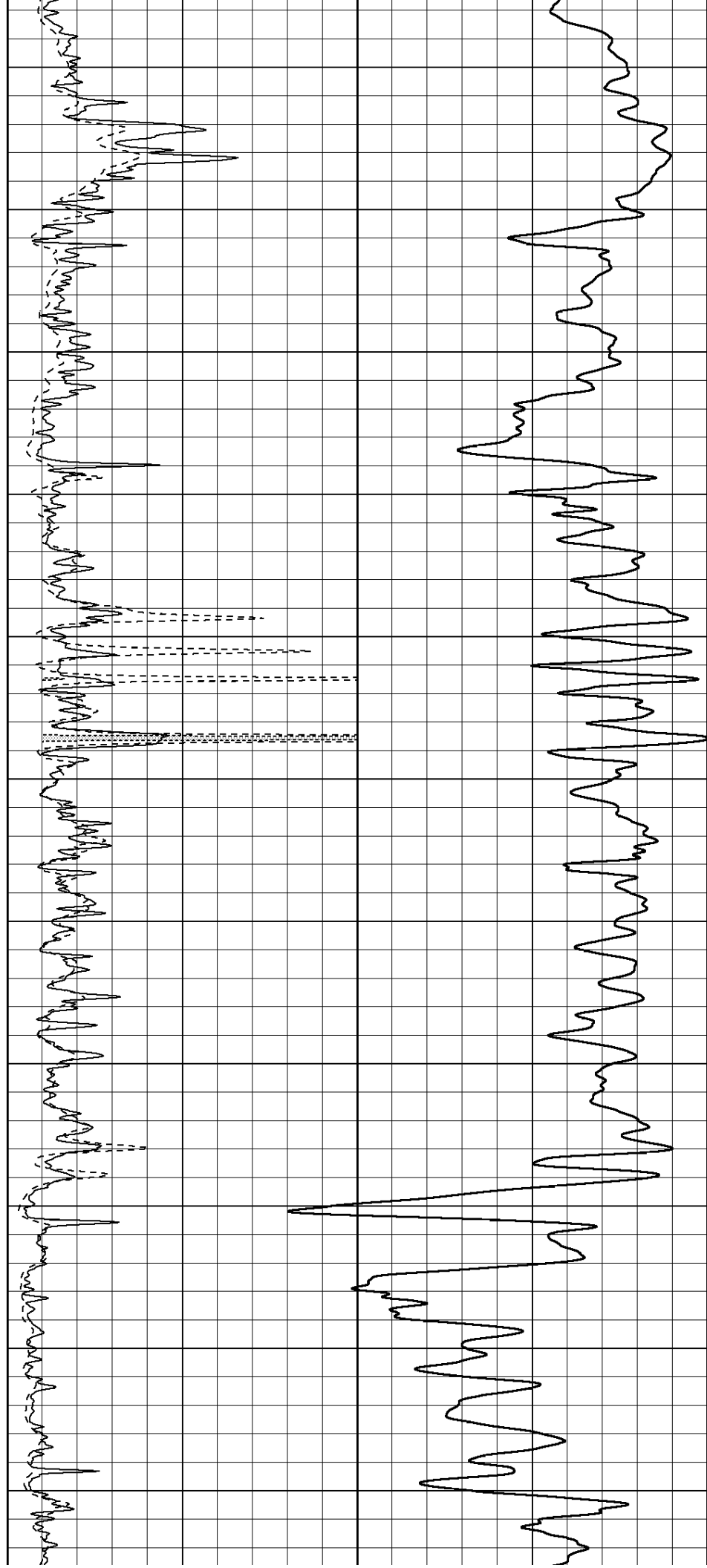
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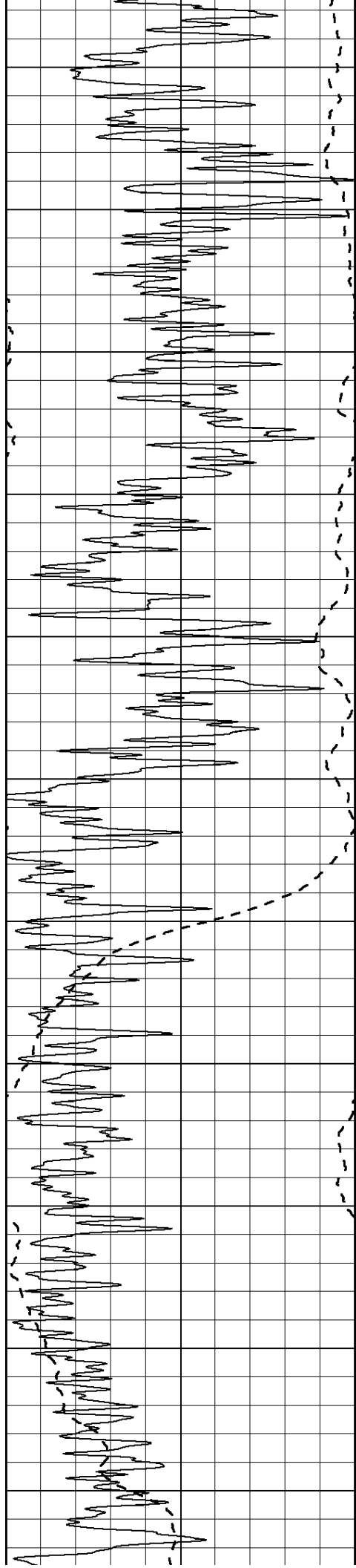
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1400

1450

1500





1550

1600

1650

1700

1750

1800

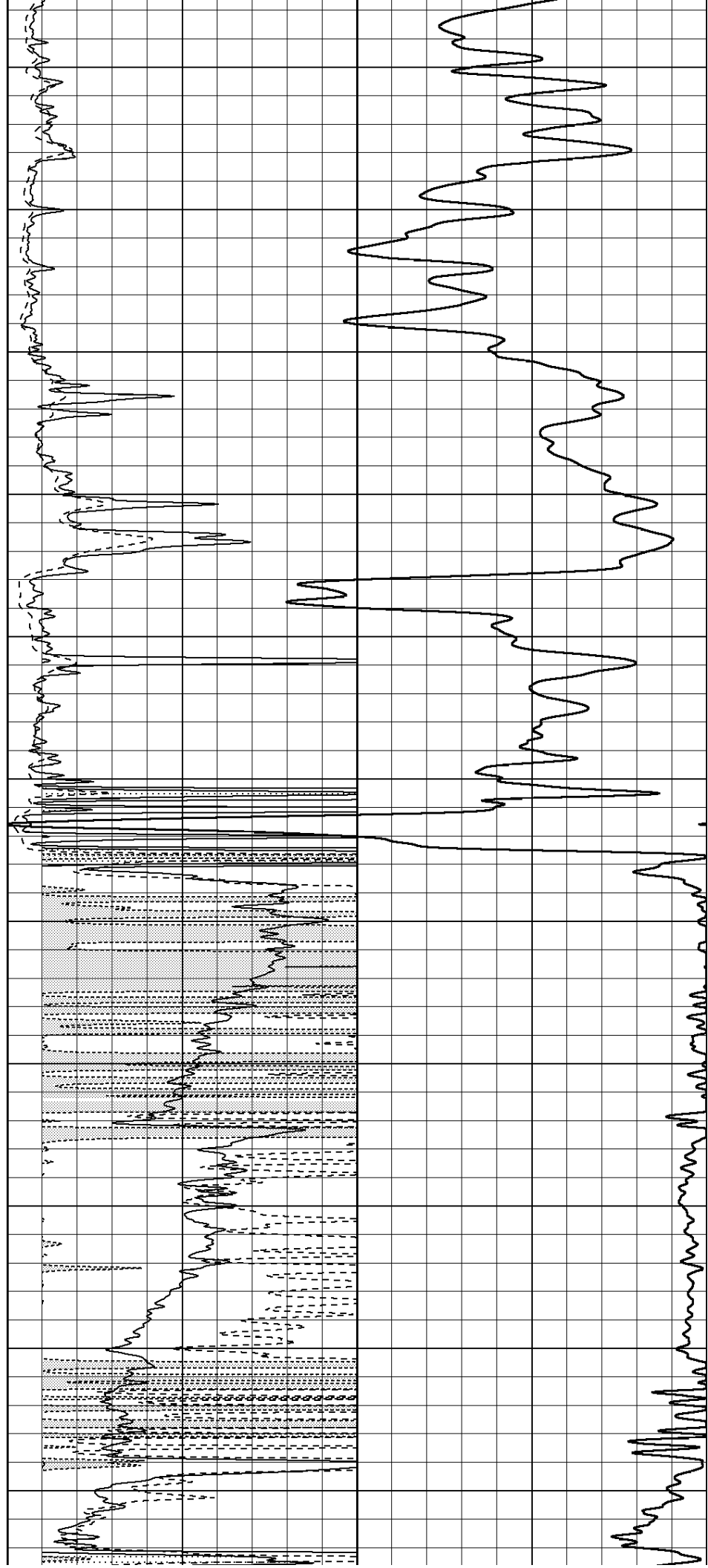
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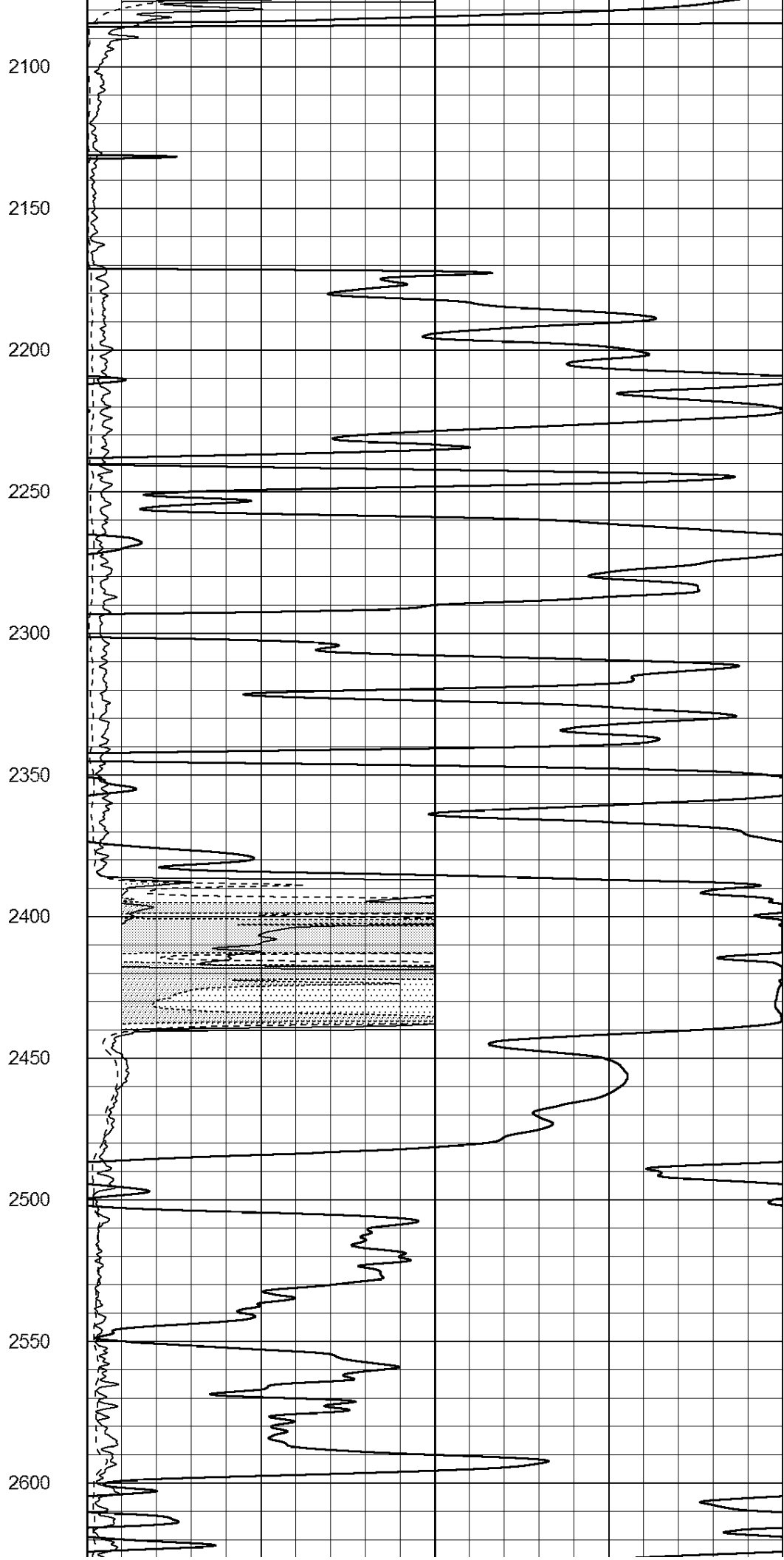
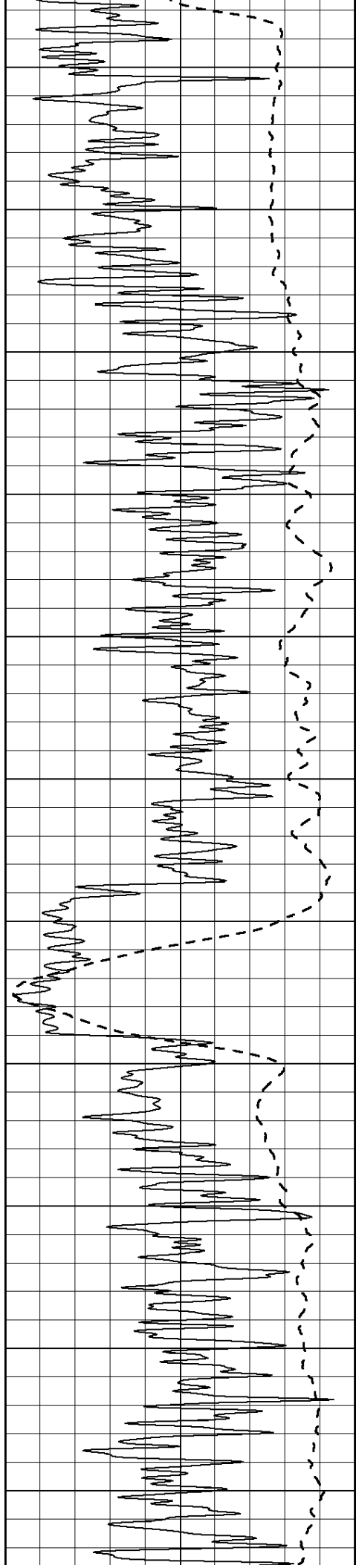
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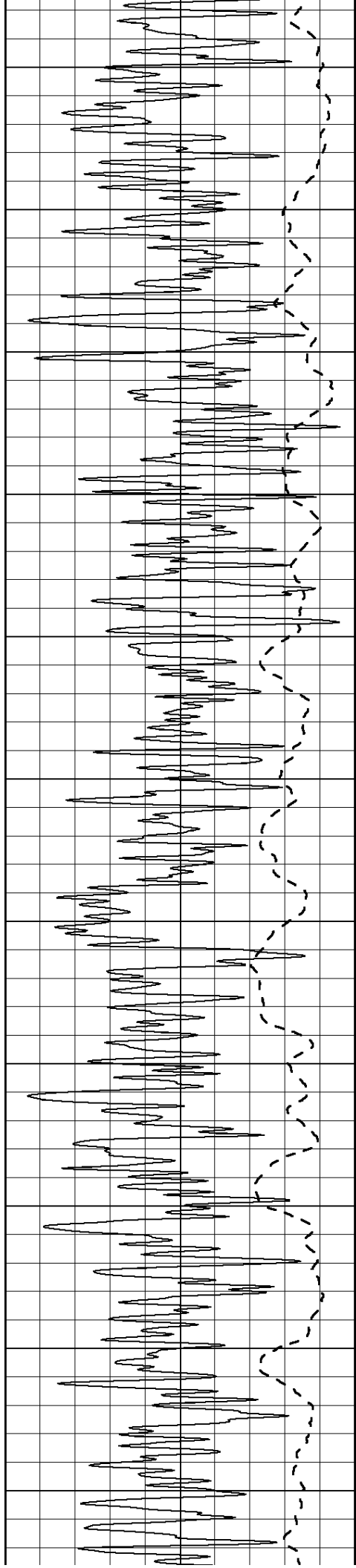
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2000

2050







2650

2700

2750

2800

2850

2900

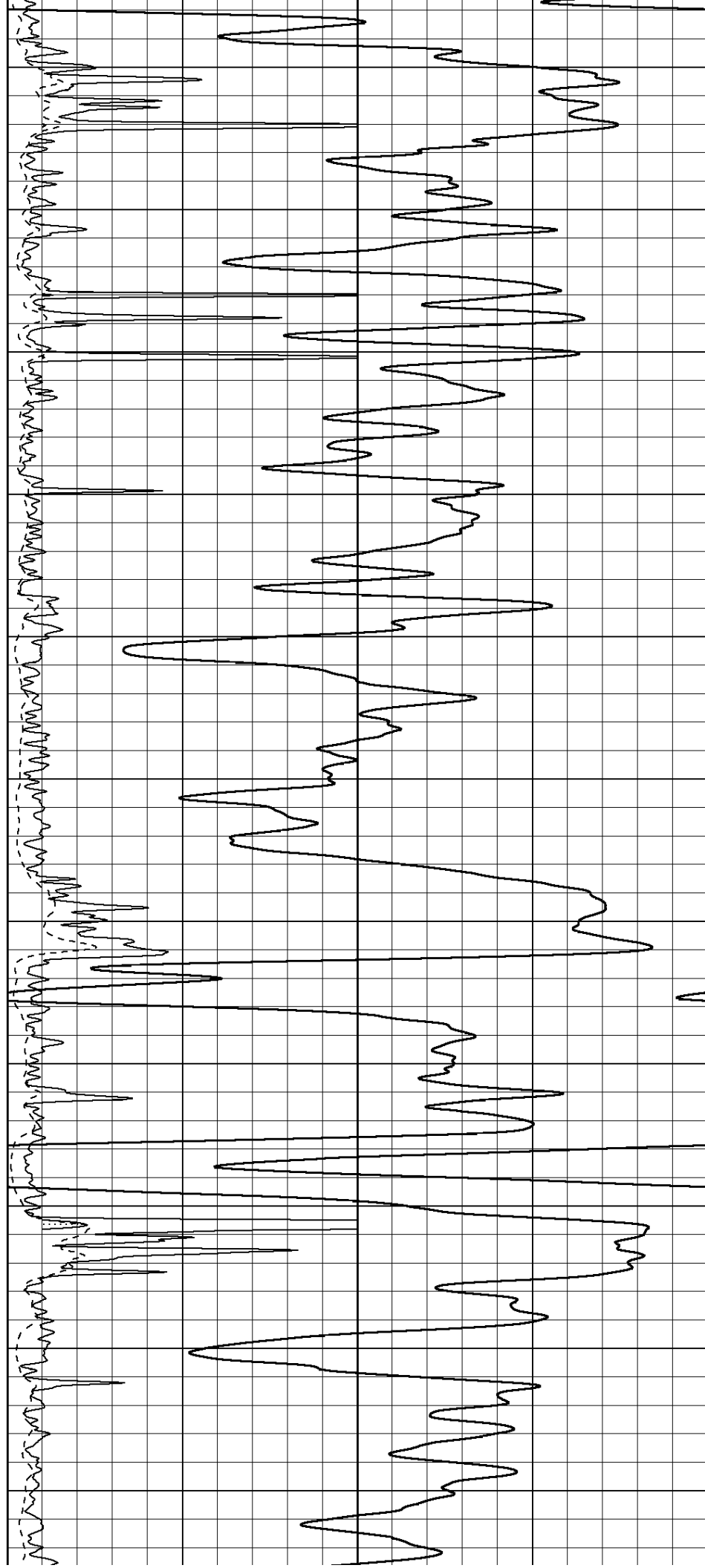
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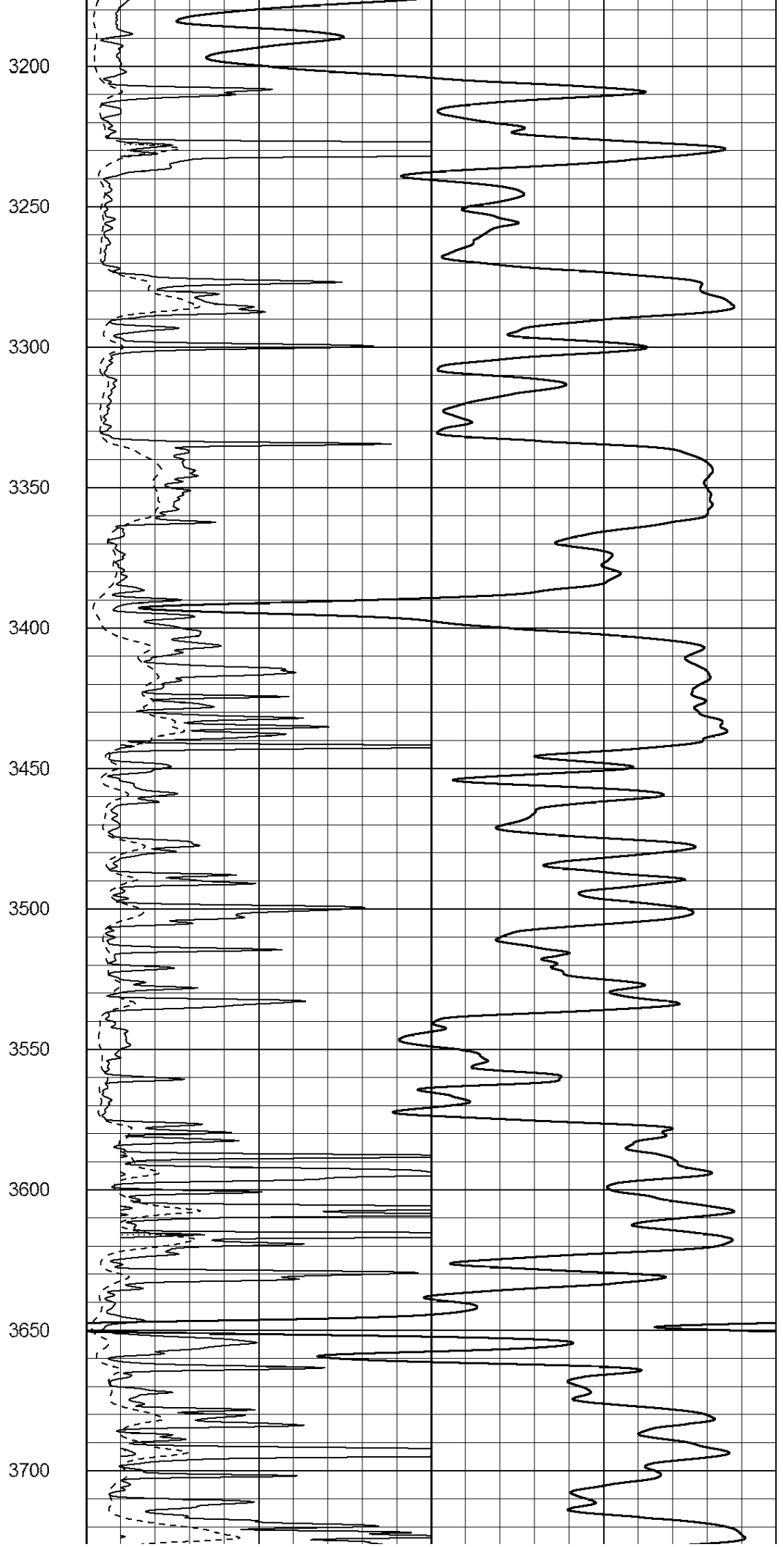
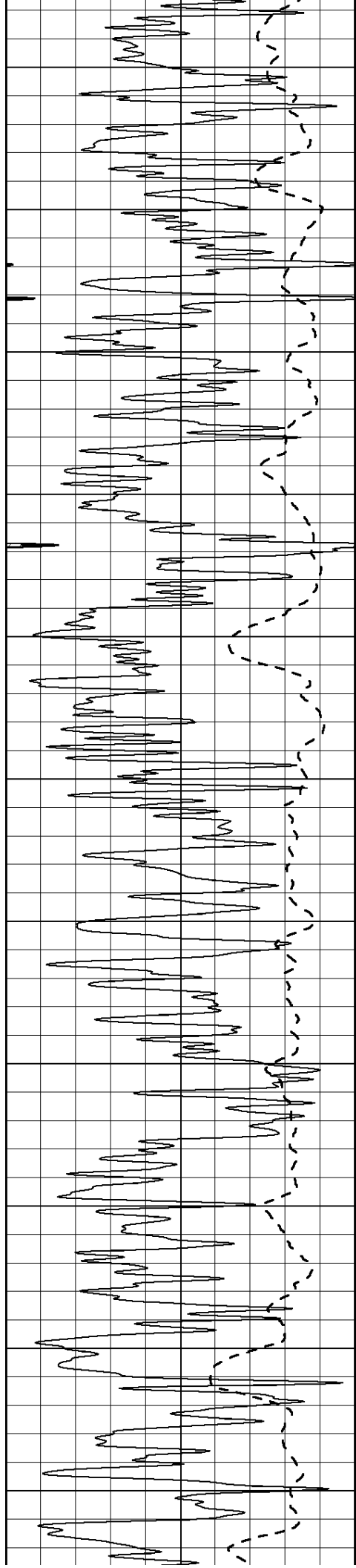
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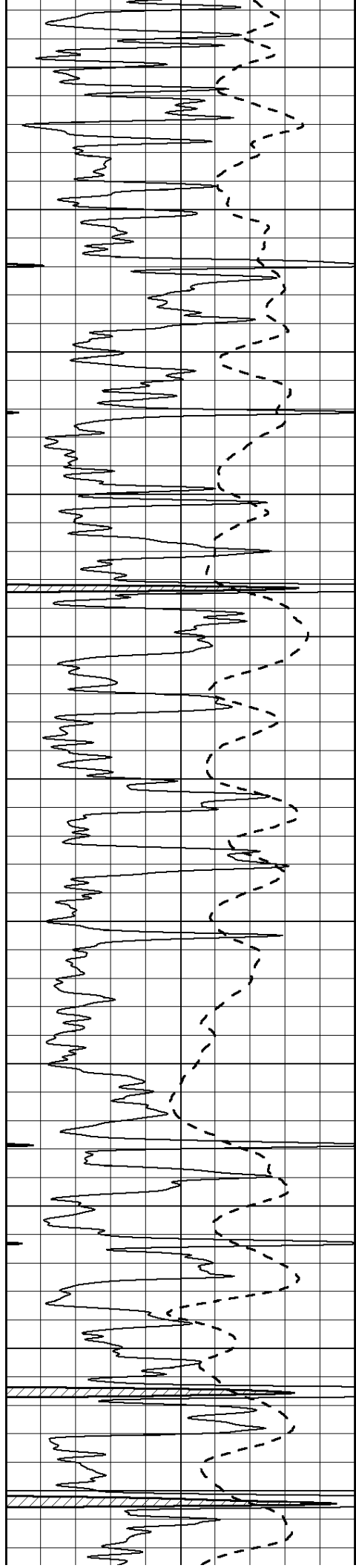
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3100

3150







3750

3800

3850

3900

3950

4000

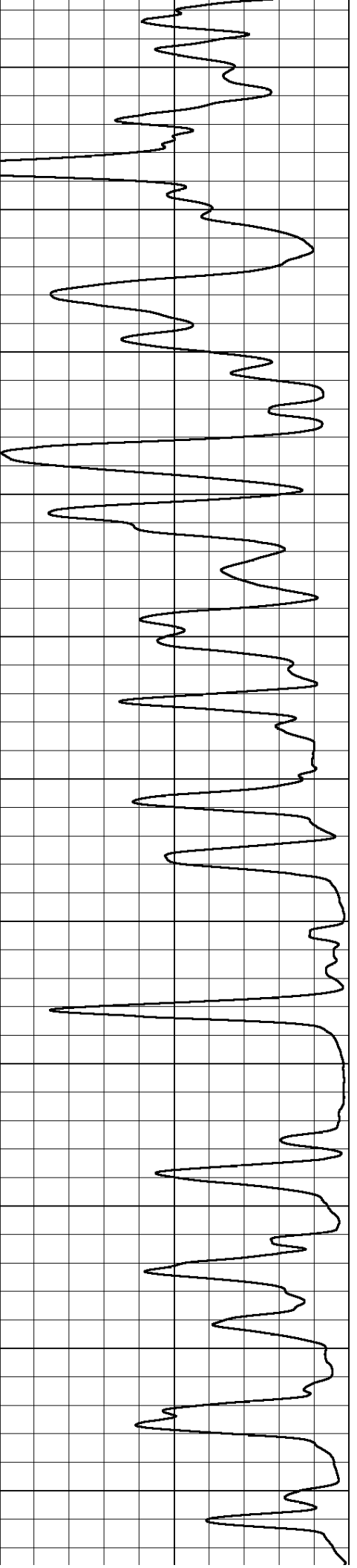
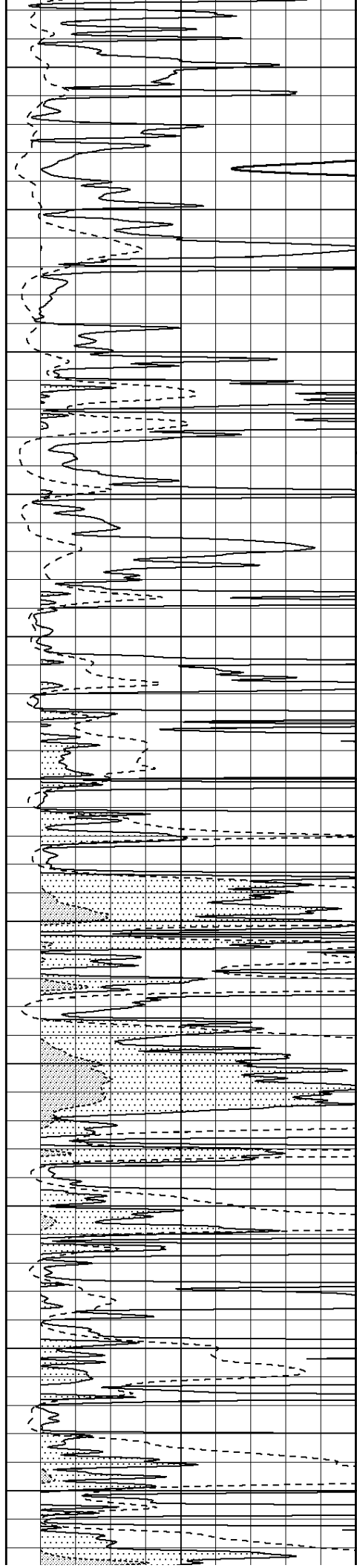
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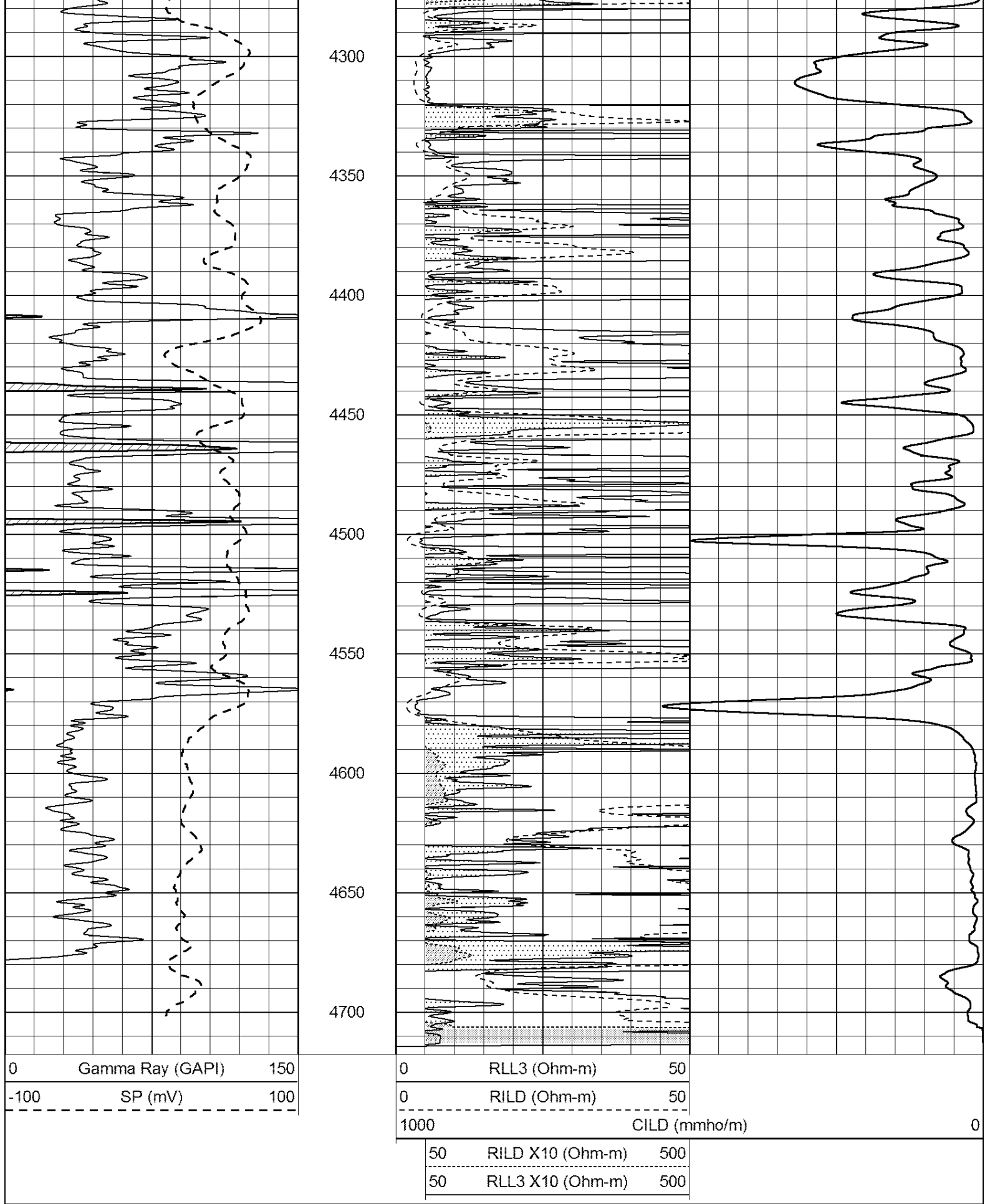
4100

4150

4200

4250





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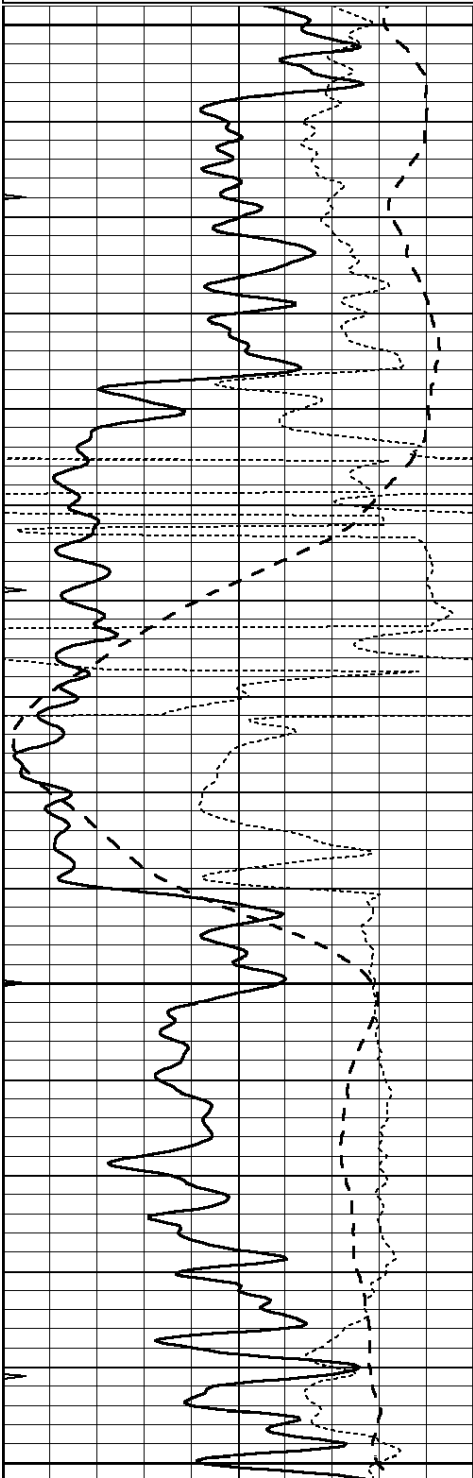
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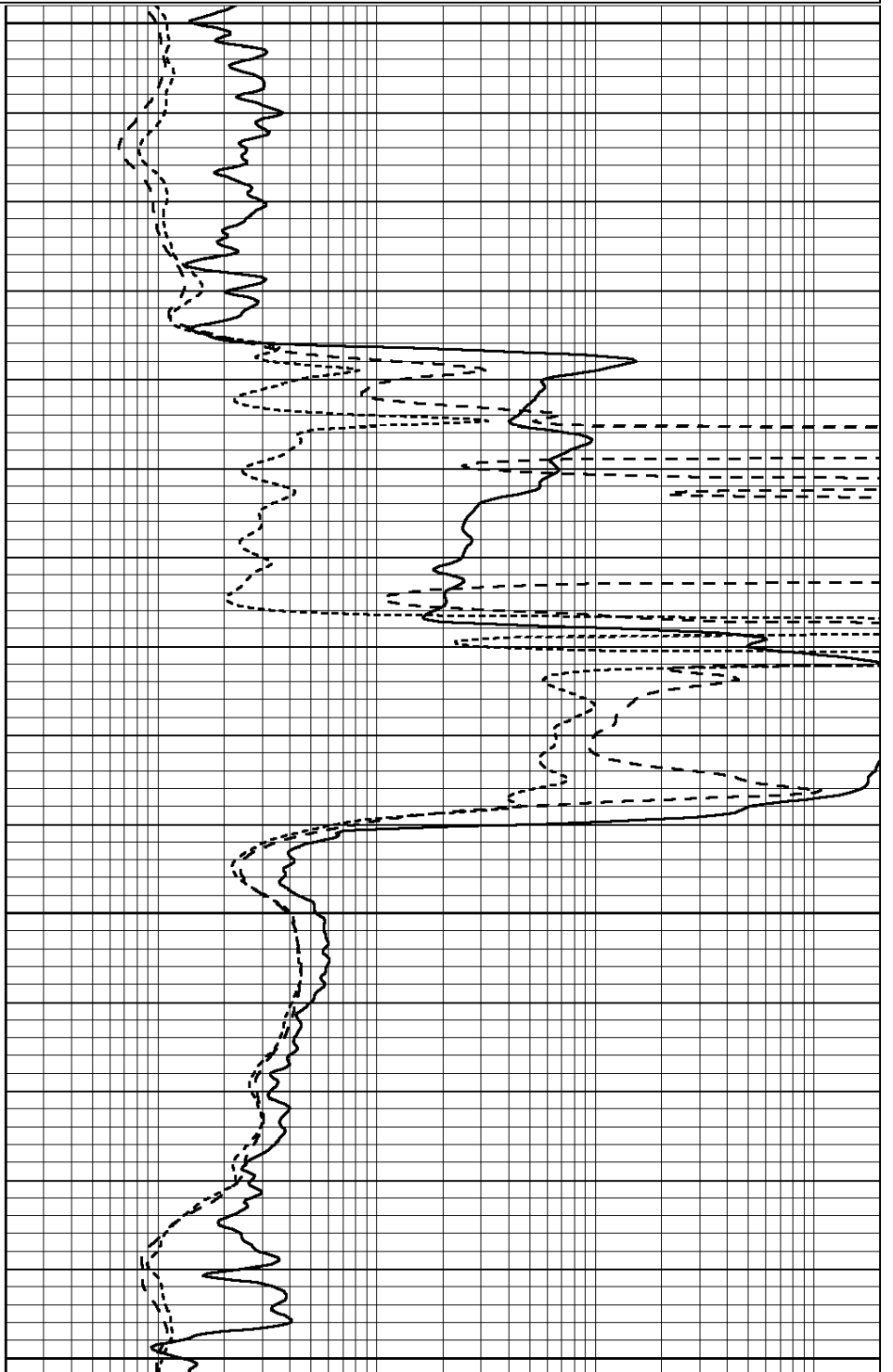
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 Charted by: Depth in Feet scaled 1:240

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



2350
2400
2450
2500



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

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



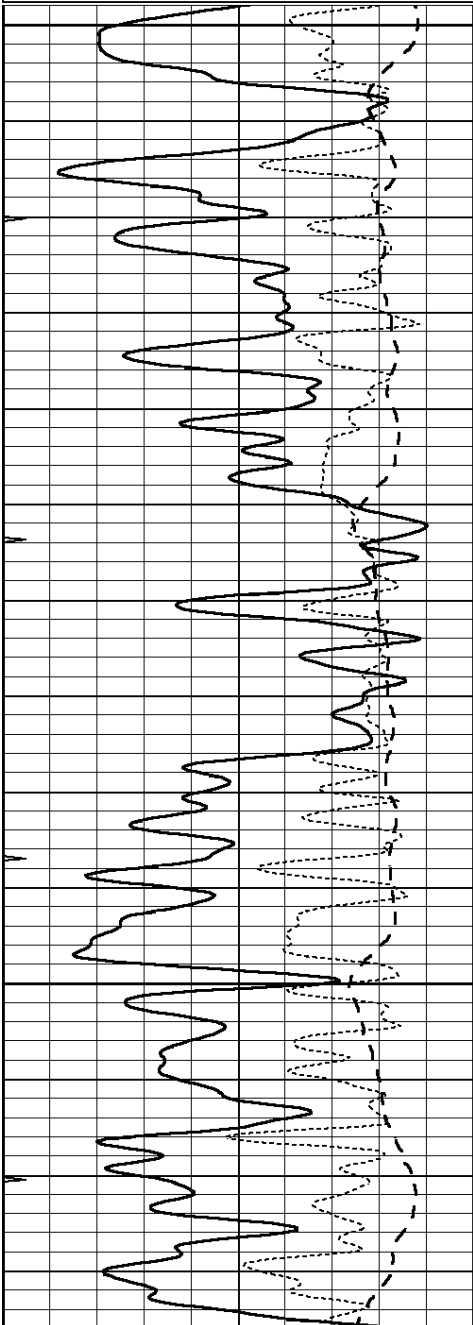
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MAIN SECTION

Database File: 007094ddn.db
 Dataset Pathname: pass3.5
 Presentation Format: dil
 Dataset Creation: Wed Jul 20 13:19:20 2011
 Charted by: Depth in Feet scaled 1:240

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

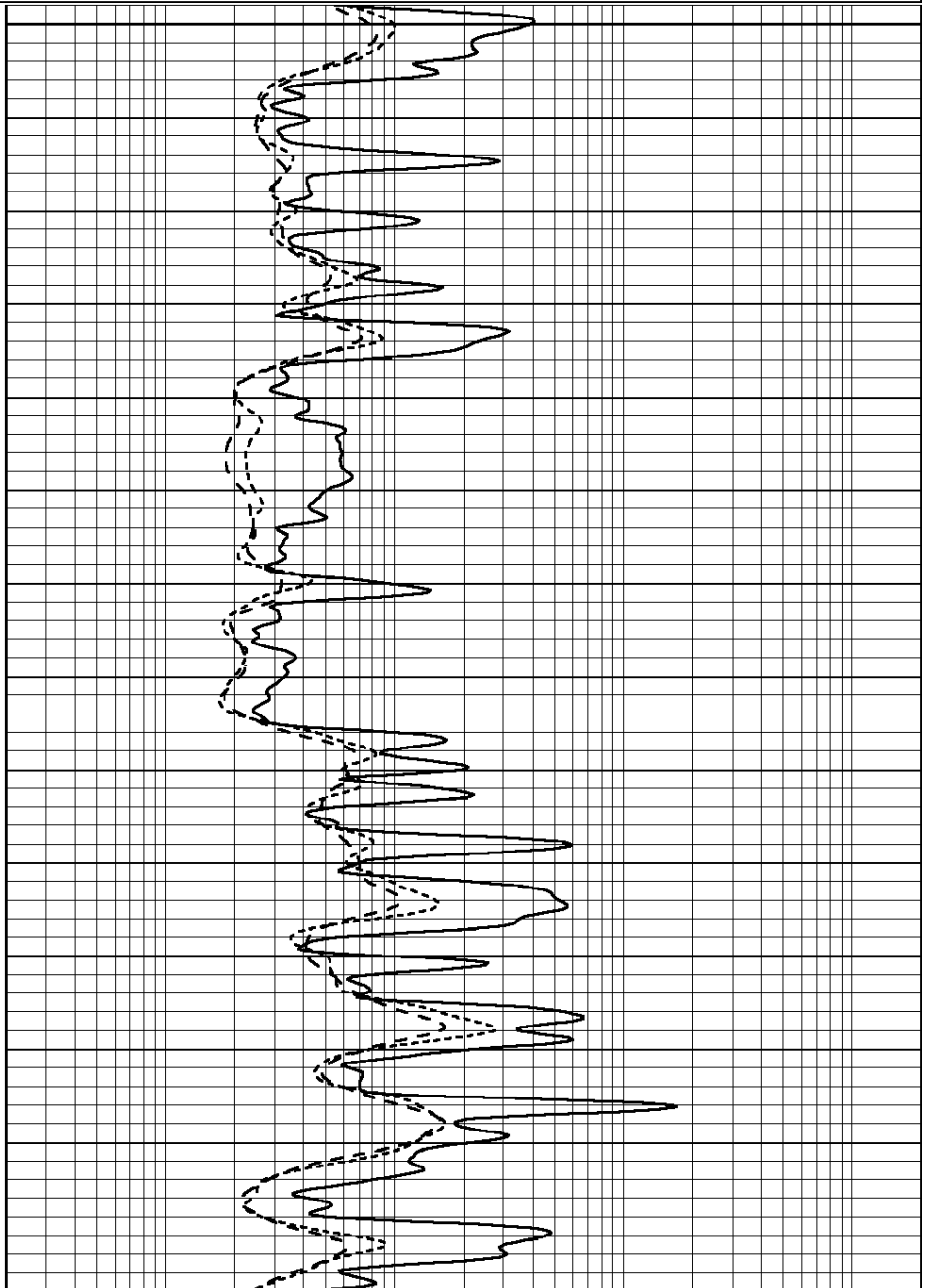
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0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

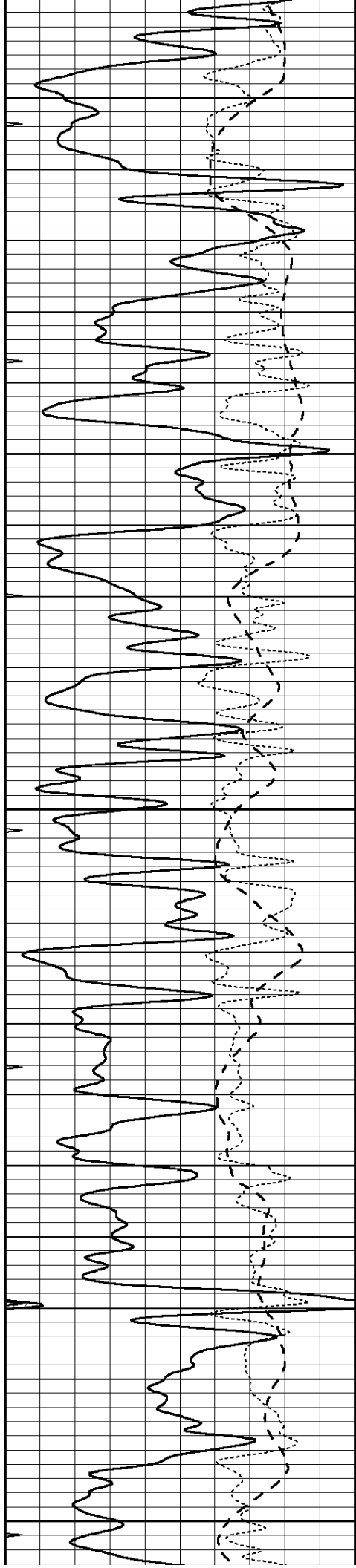


3500

3550

3600





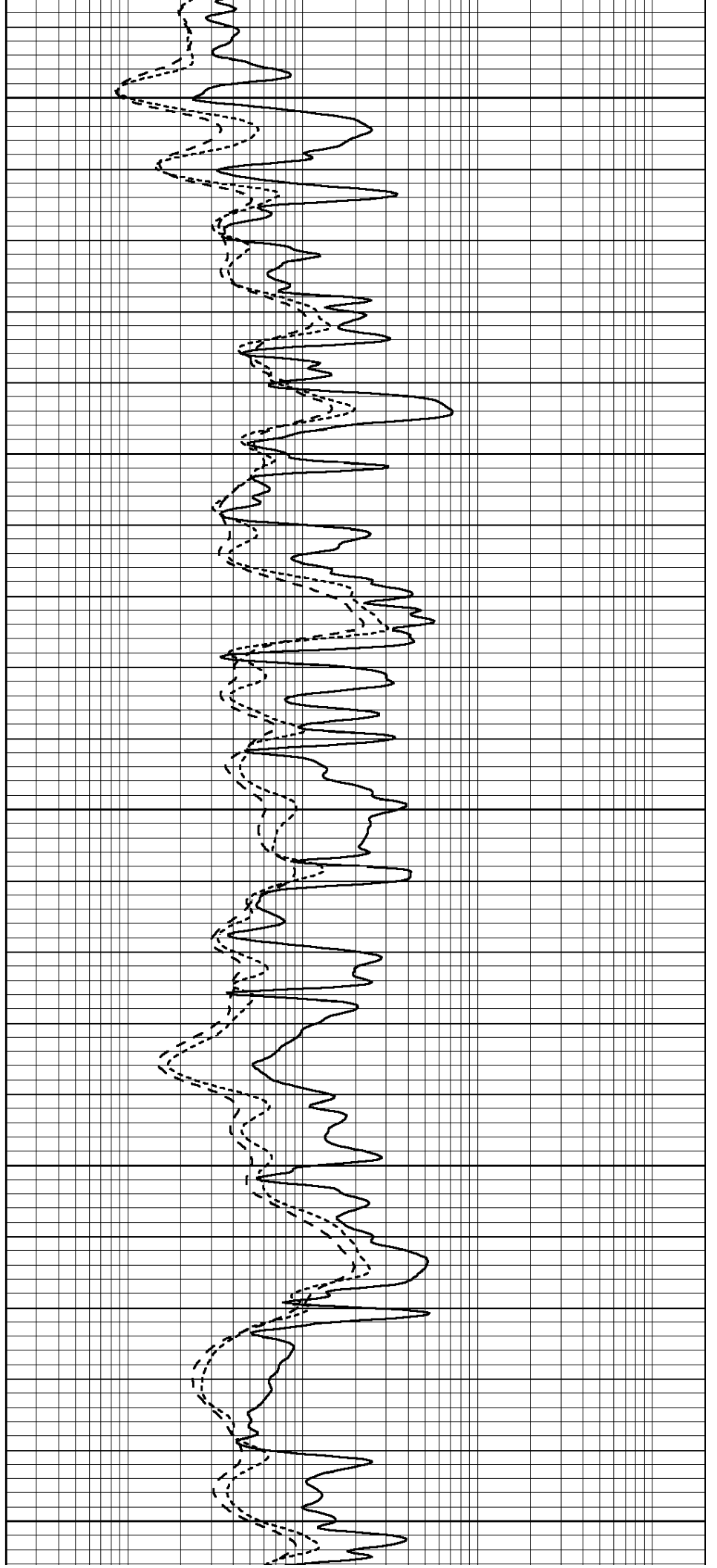
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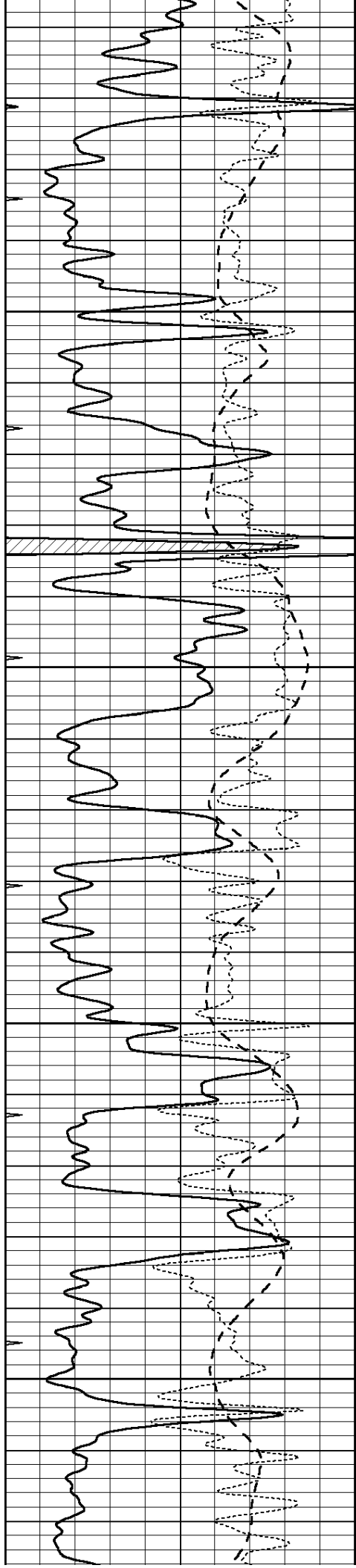
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3750

3800

3850



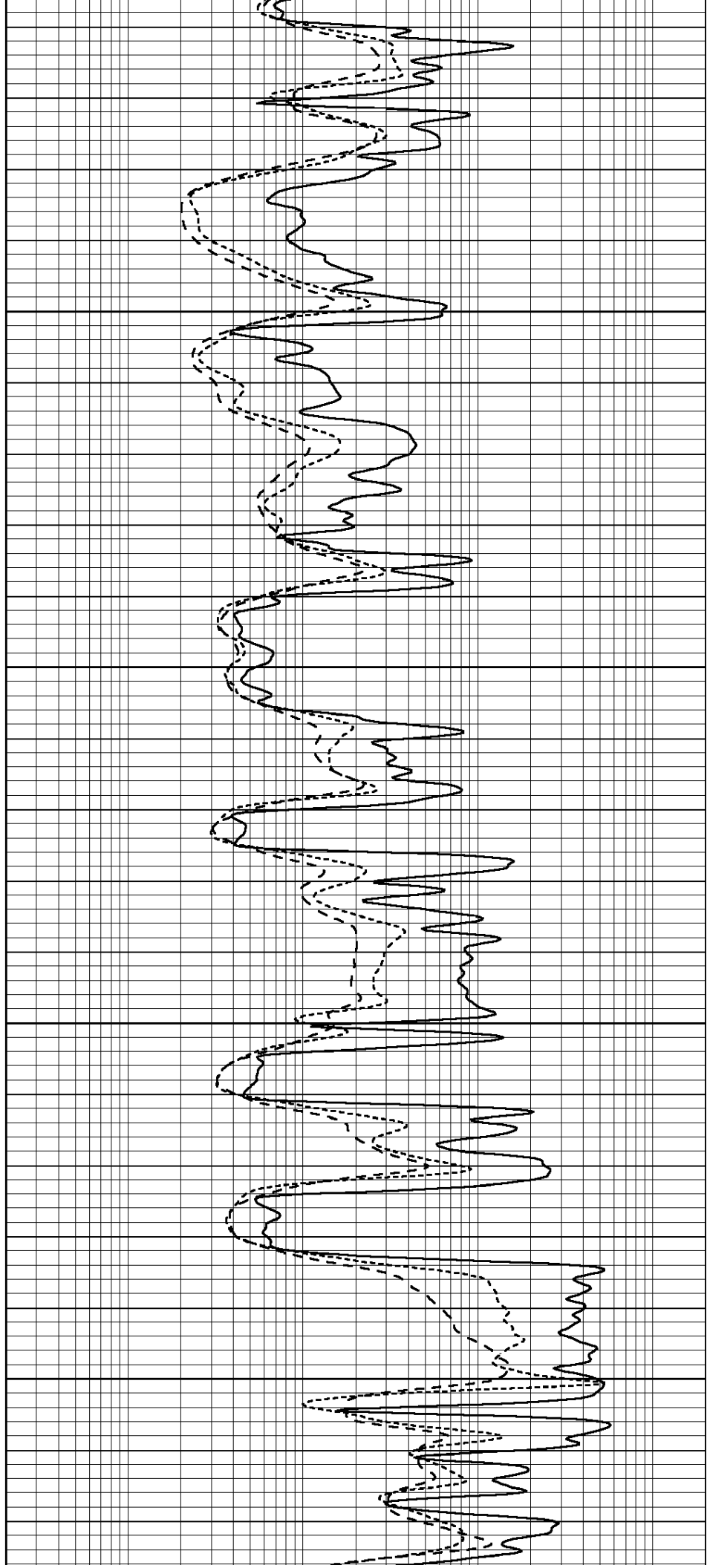


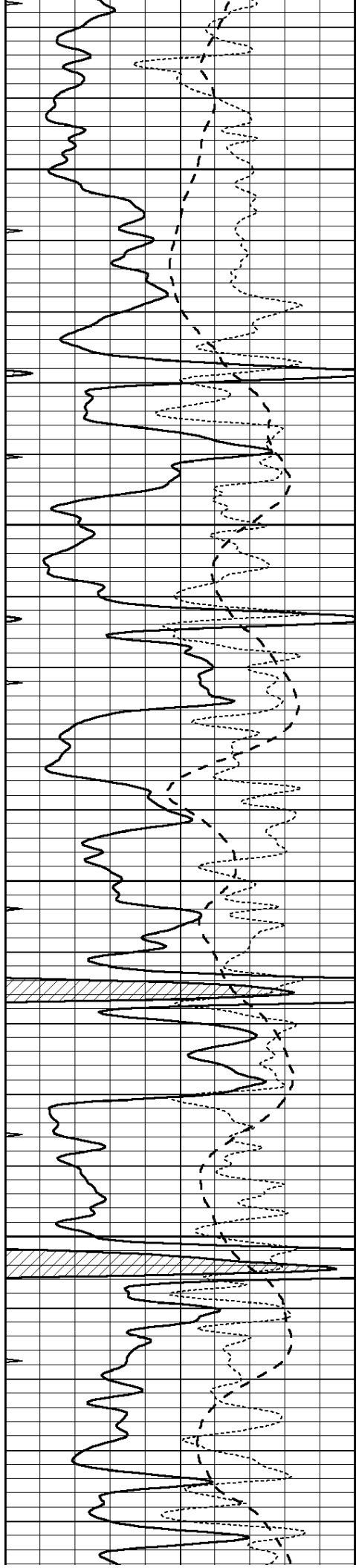
3900

3950

4000

4050



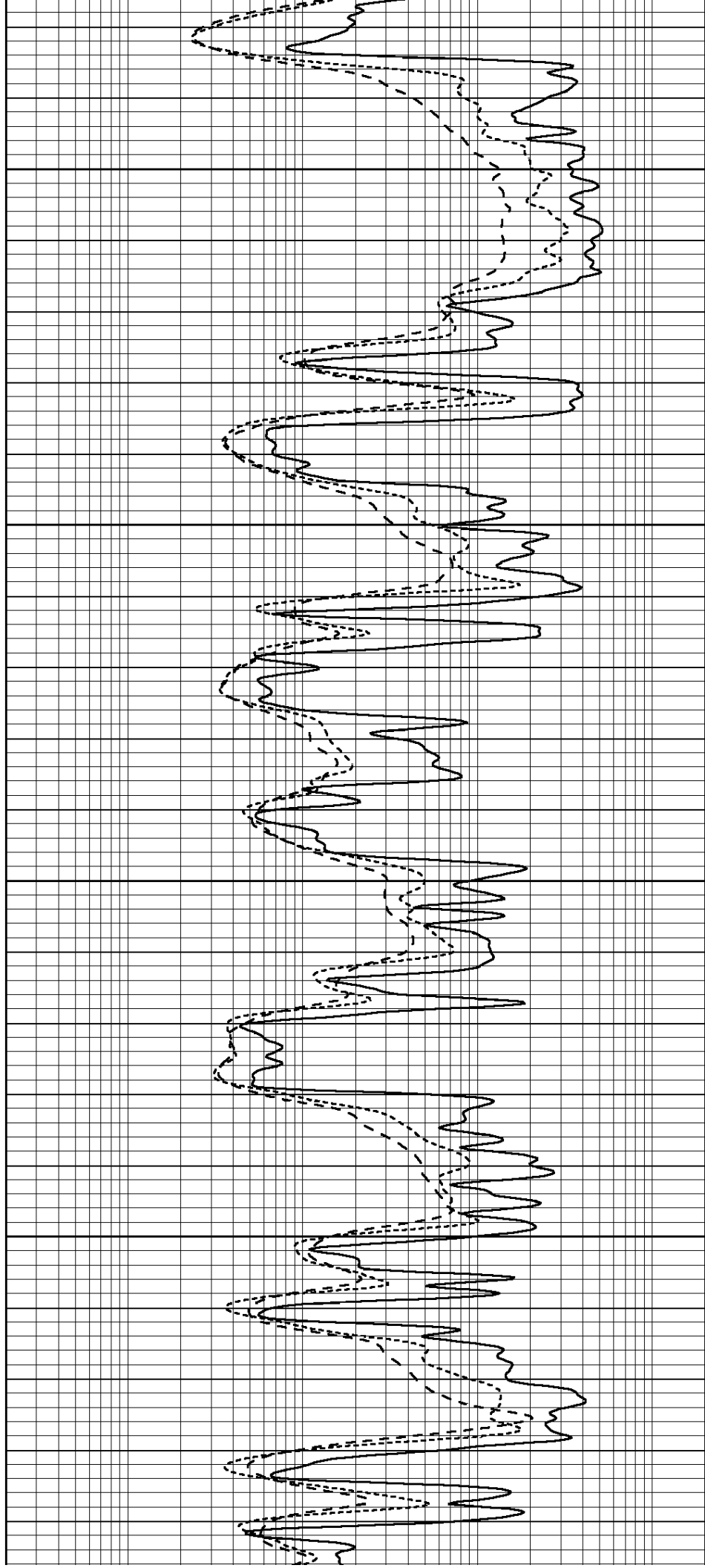


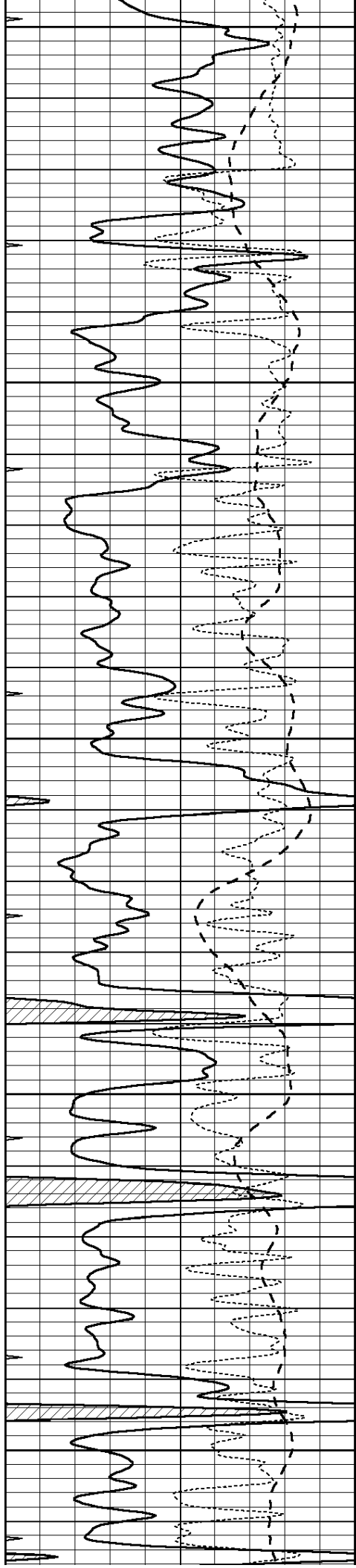
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4150

4200

4250





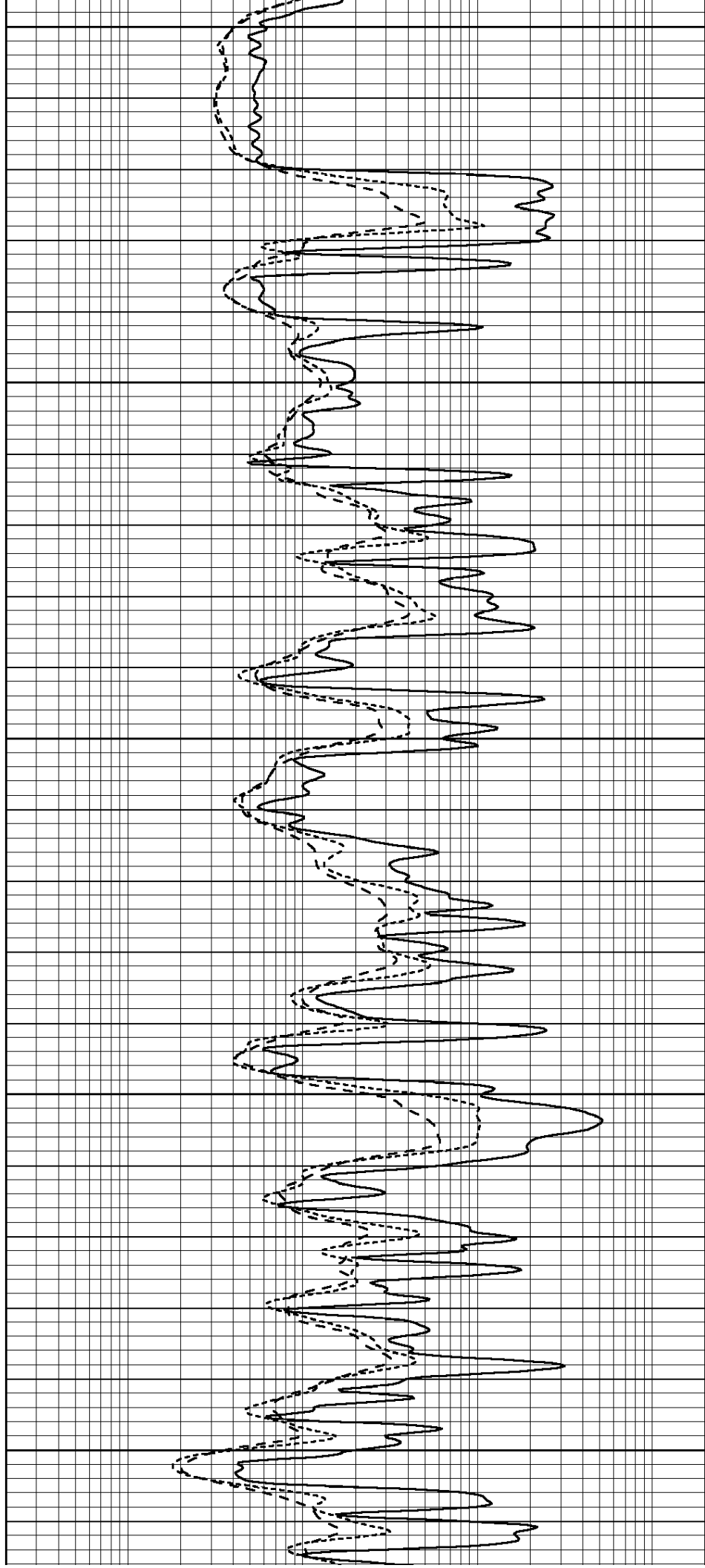
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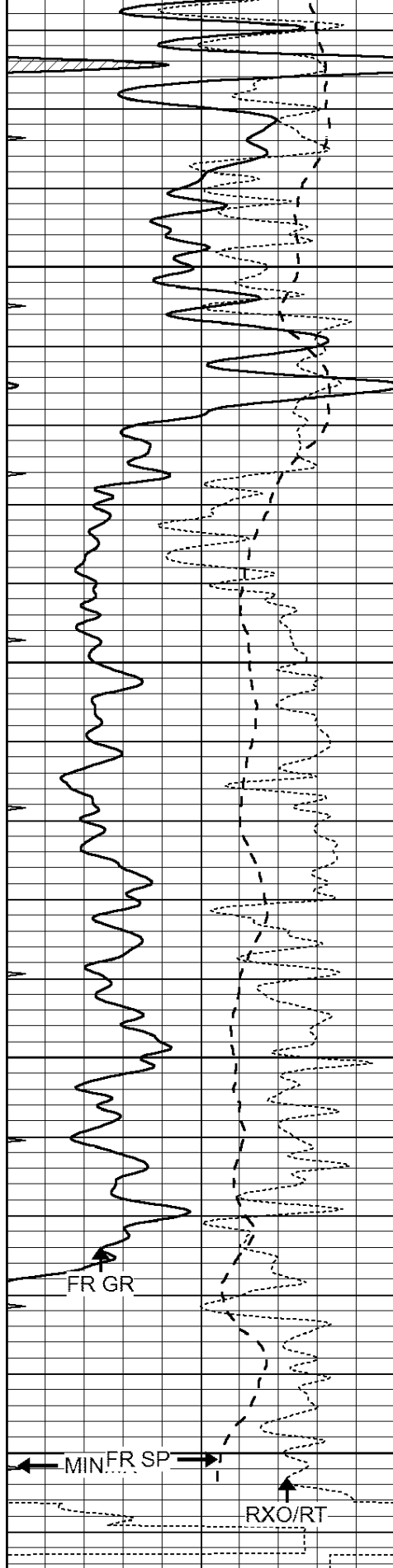
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4400

4450

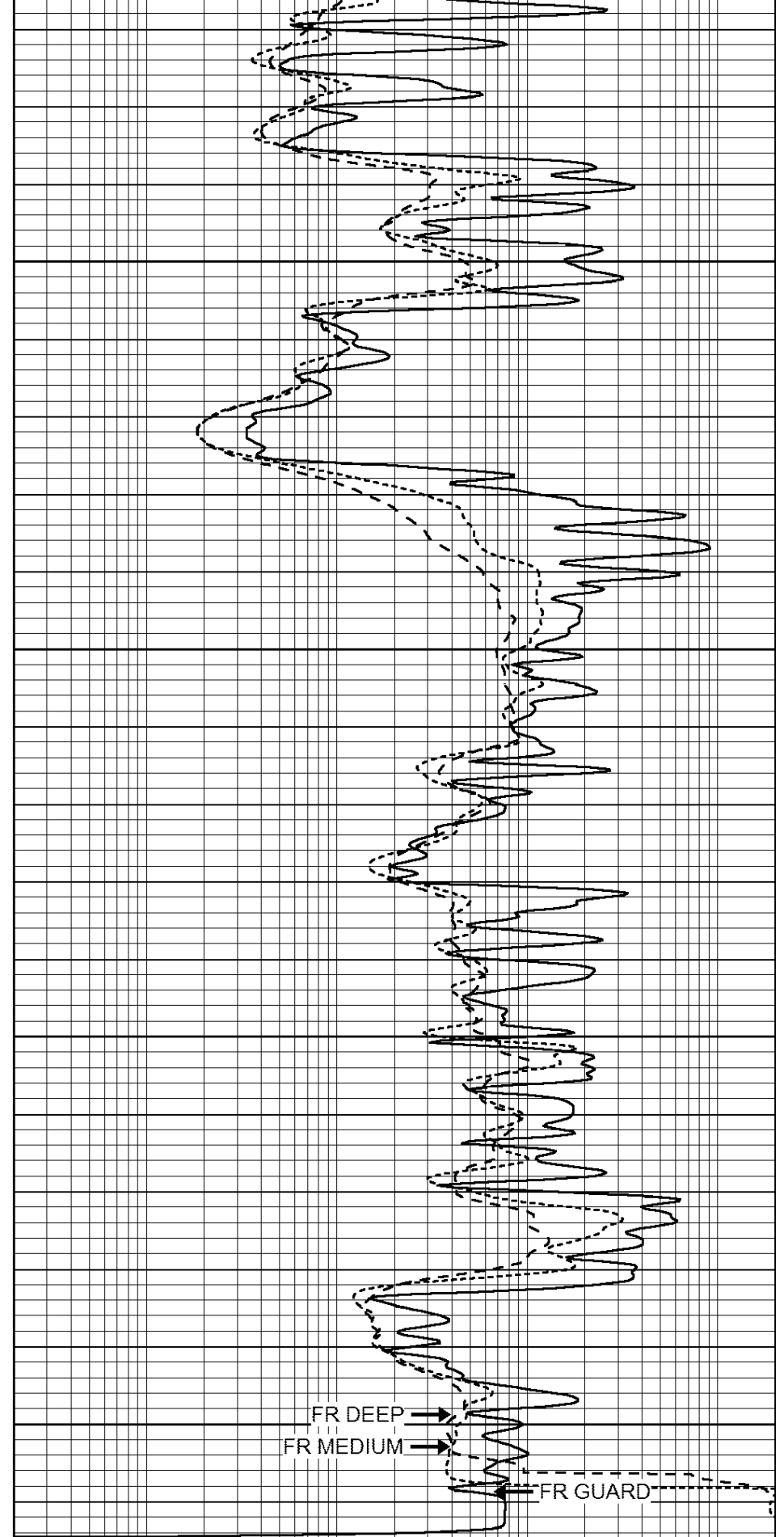
4500





4550
4600
4650
4700
LTD 4711

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



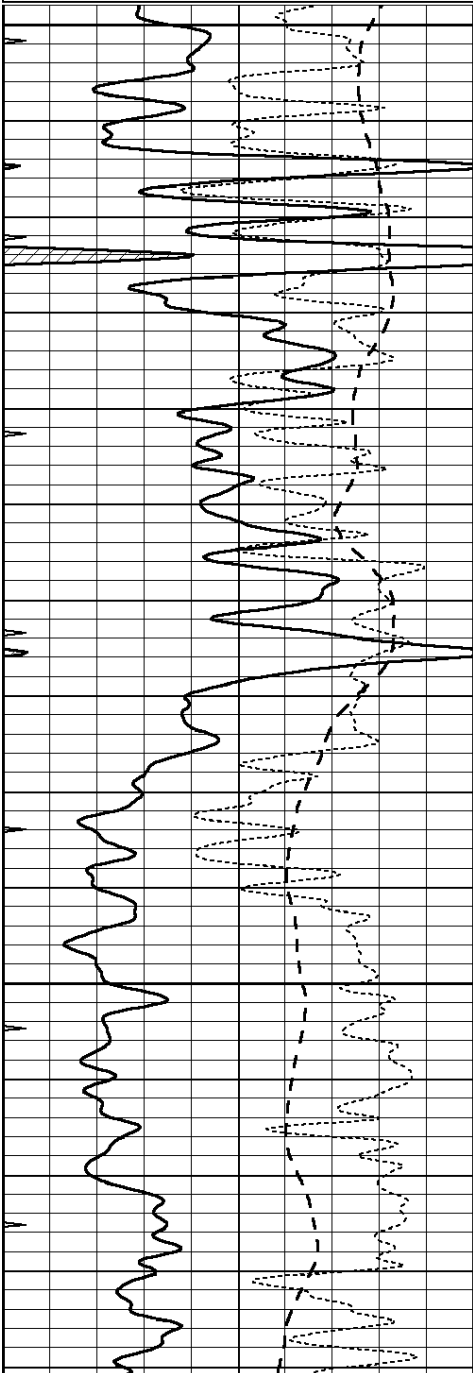
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REPEAT SECTION

Database File: 007094ddn.db
Dataset Pathname: pass2.5
Presentation Format: dil
Dataset Creation: Wed Jul 20 12:37:39 2011
Charted by: Depth in Feet scaled 1:240

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

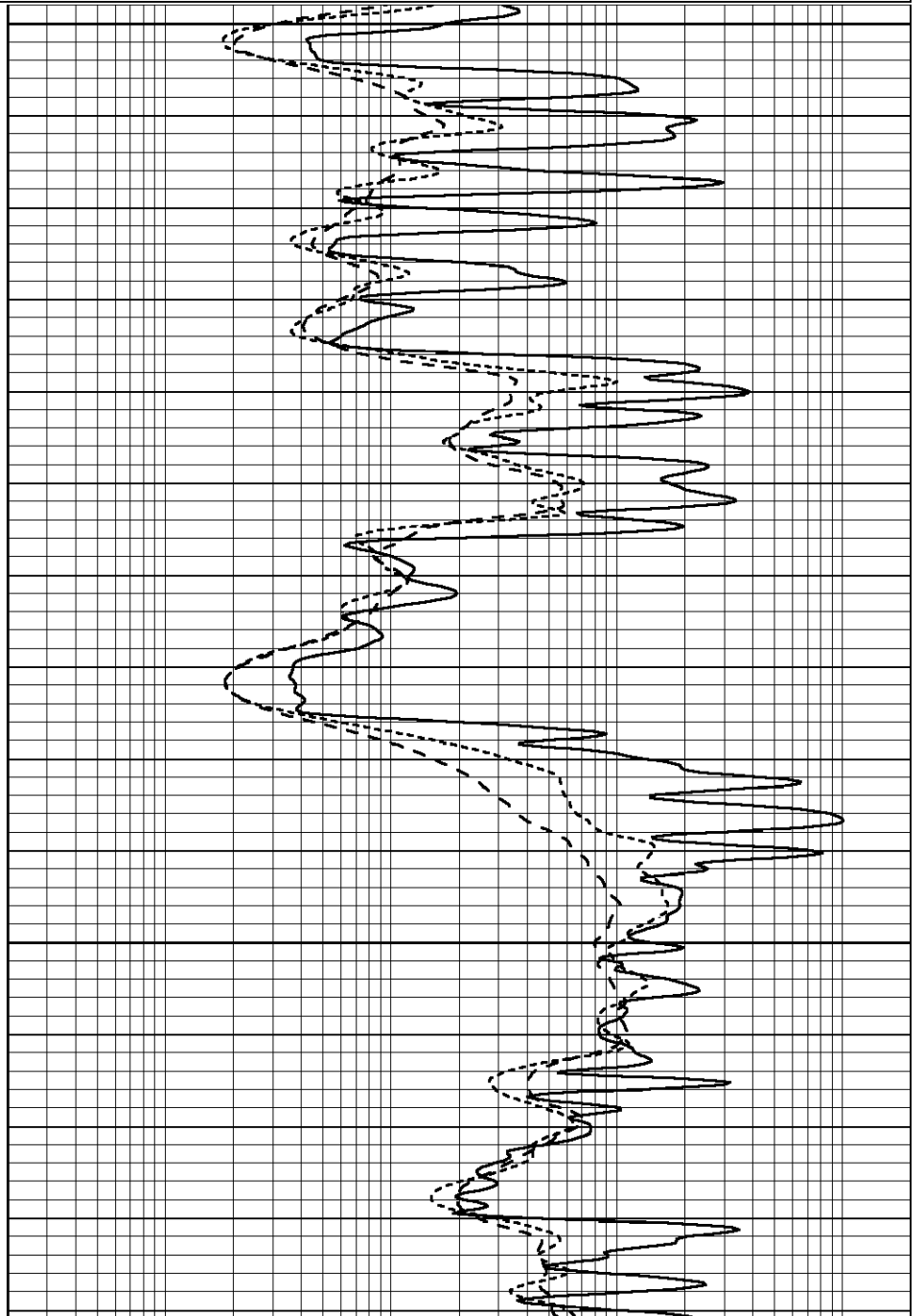
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

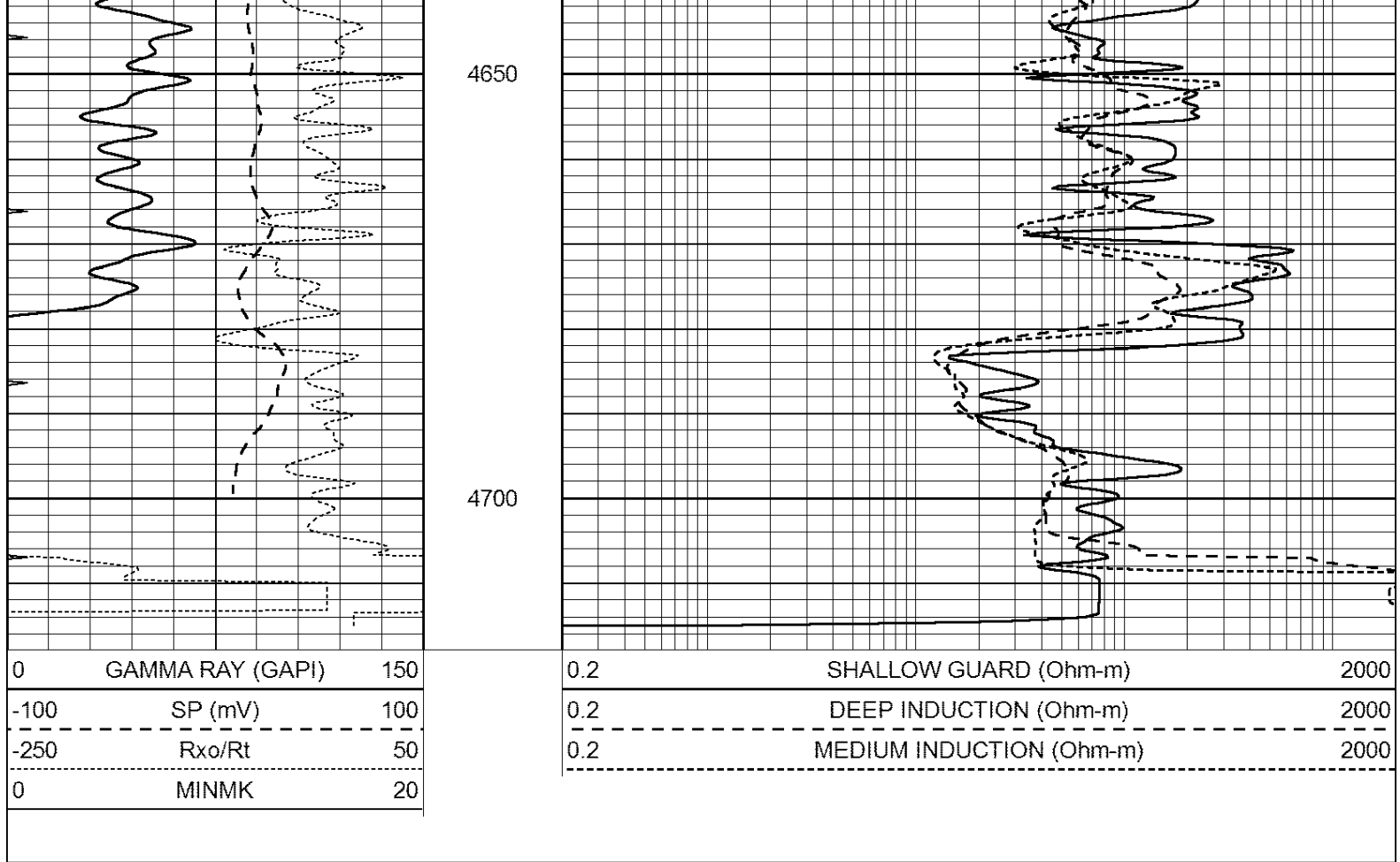


4500

4550

4600





Calibration Report

Database File: 007094ddn.db
 Dataset Pathname: pass3.5
 Dataset Creation: Wed Jul 20 13:19:20 2011

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Wed Jul 20 11:43:45 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	9.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-6.000
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	4.4	8.6		
	6.5	15.0		
	Gain: 3.0		Offset: -4.3	

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:	Wed Jul 20 11:59:38 2011
Calibrator Value:	200.0 GAPI
Background Reading:	3.0 cps
Calibrator Reading:	186.0 cps
Sensitivity:	3.5000 GAPI/cps