



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company MULL DRILLING COMPANY, INC.
Well CHAMPLIN - ALDRICH #4
Field CHEYENNE WELLS
County CHEYENNE
State COLORADO

Company MULL DRILLING COMPANY, INC.
Well CHAMPLIN - ALDRICH #4
Field CHEYENNE WELLS
County CHEYENNE State COLORADO

Location: API # : 05-017-07678-0000
1200' FNL & 1000' FEL
NE/4 - NE/4
SEC 33 TWP 13S RGE 44W
Permanent Datum GROUND LEVEL Elevation 4273
Log Measured From KELLY BUSHING 13' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
CDL/CNL
MEL/SONIC
Elevation
K.B. 4286
D.F. 4284
G.L. 4273

Date	10/3/09		
Run Number	CNE		
Depth Driller	5515		
Depth Logger	5516		
Bottom Logged Interval	5514		
Top Log Interval	00		
Casing Driller	13 3/8"@445'		
Casing Logger	440		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2,500 PPM	
Density / Viscosity	9.1/56		
pH / Fluid Loss	9.0/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.800@92F		
Rmf @ Meas. Temp	.600@92F		
Rmc @ Meas. Temp	.960@92F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.566@130F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	6:15 P.M.		
Maximum Recorded Temperature	130F		
Equipment Number	0836		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	PHIL ASKEY		

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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
CHEYENNE WELLS, CO., 4 1/4 N. ON HWY TO RD. "V"., 1 E., 1/2 S., W. INTO



SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File: 004355ddn.db
 Dataset Pathname: pass3.3
 Presentation Format: dil2
 Dataset Creation: Sat Oct 03 20:01:02 2009 by Calc Open-Cased 060407
 Charted by: Depth in Feet scaled 1:600

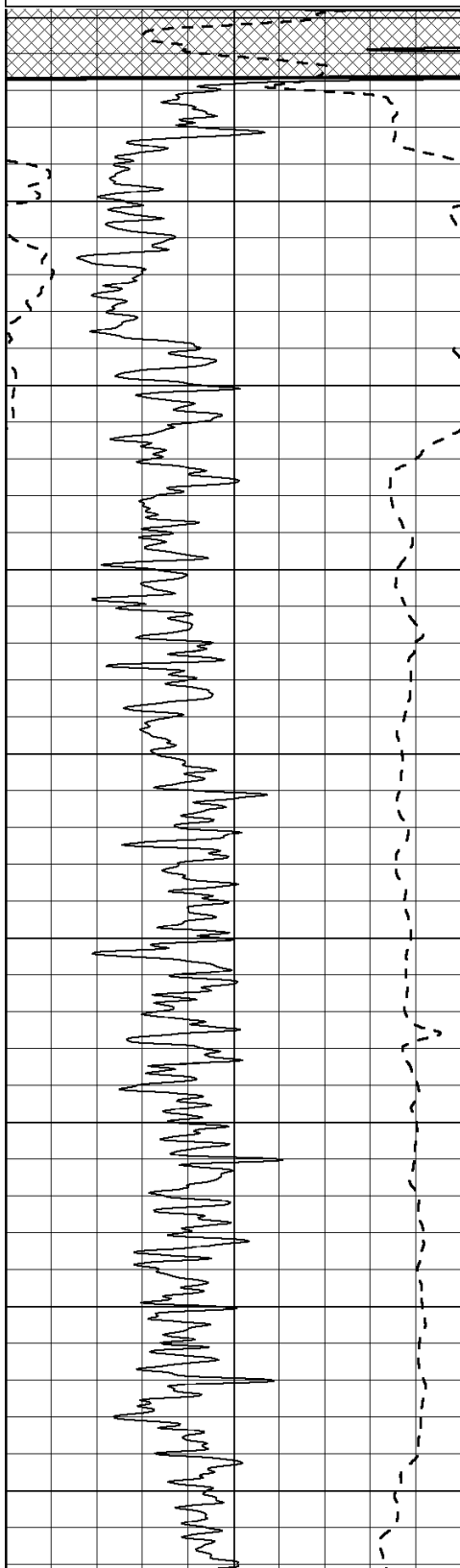
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-100	SP (mV)	100

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

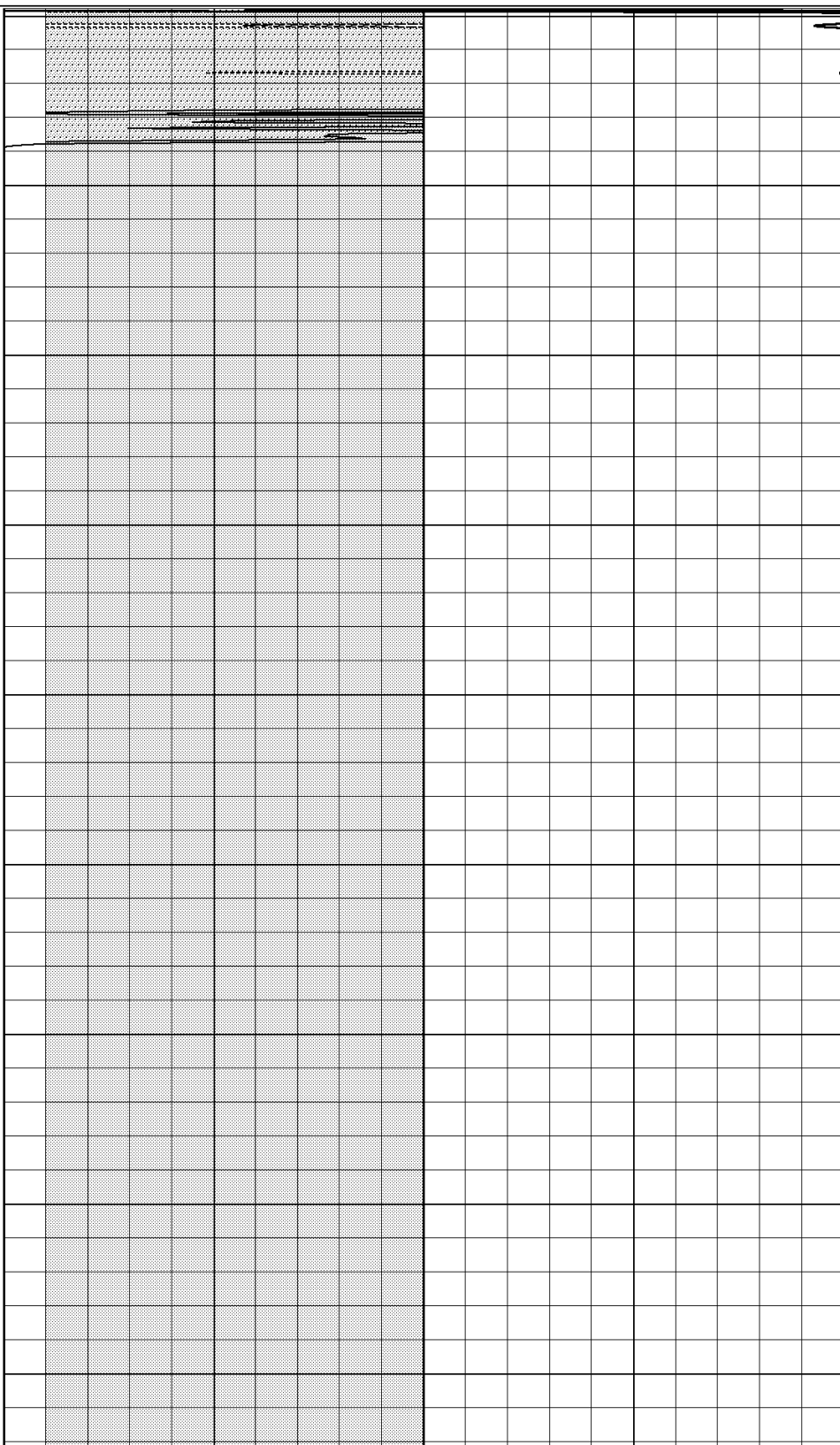
1000	CILD (mmho-m)	0
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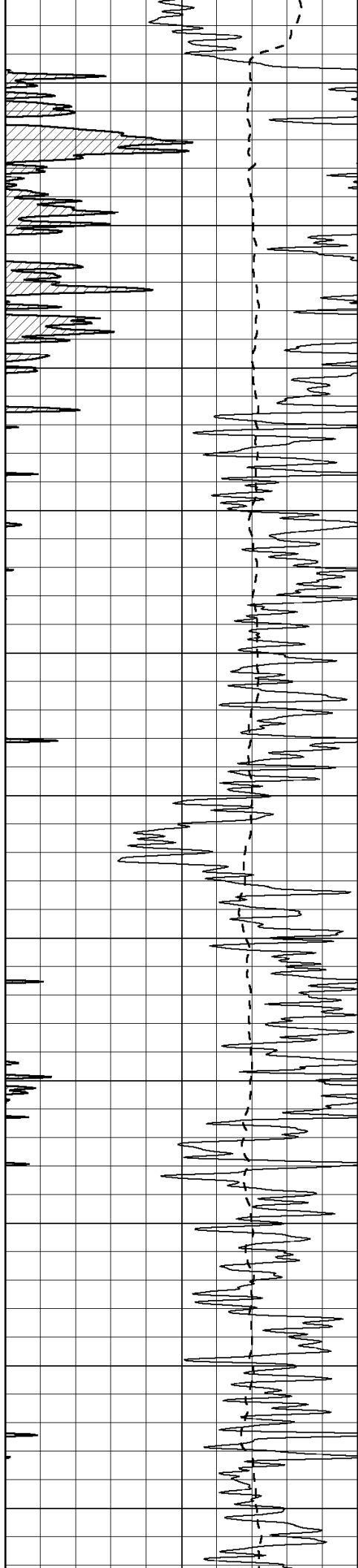
50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

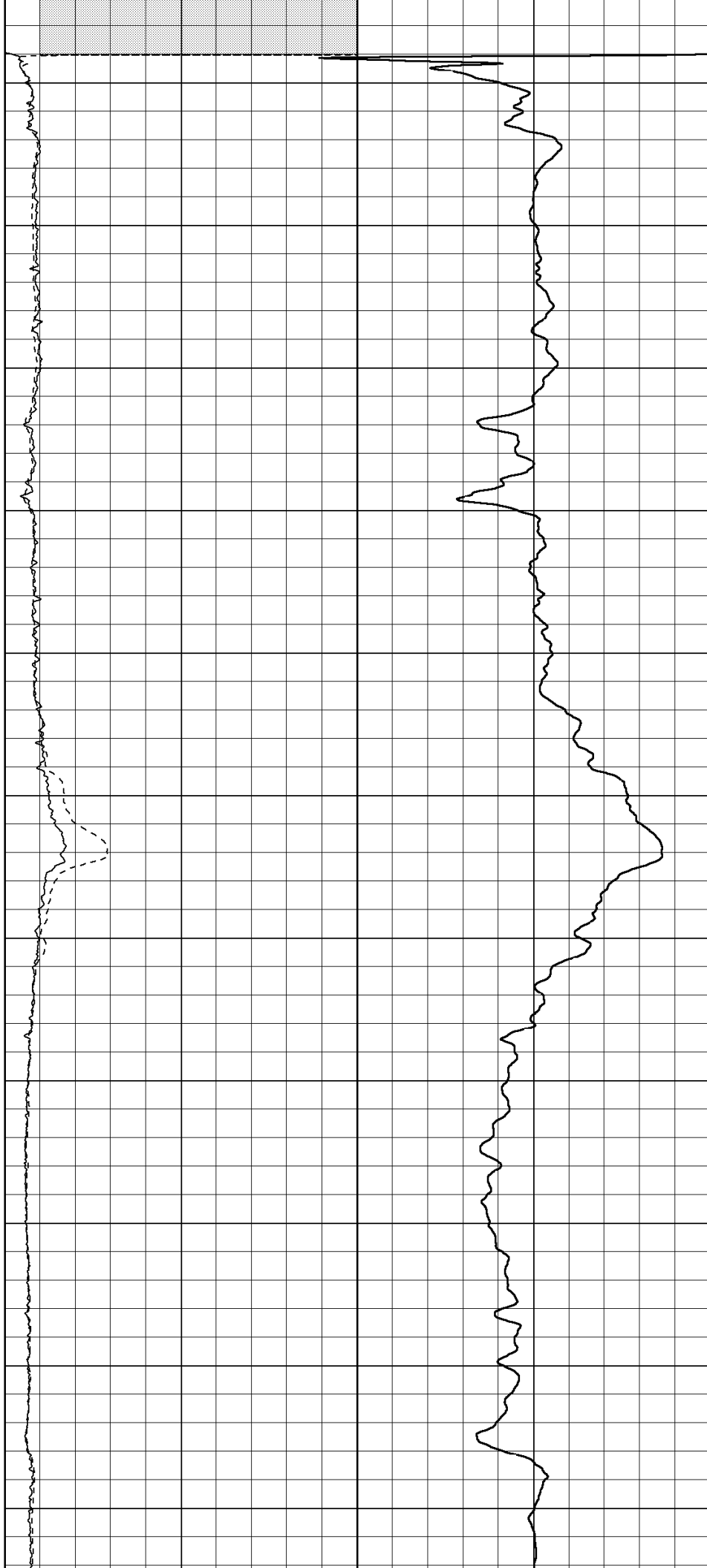
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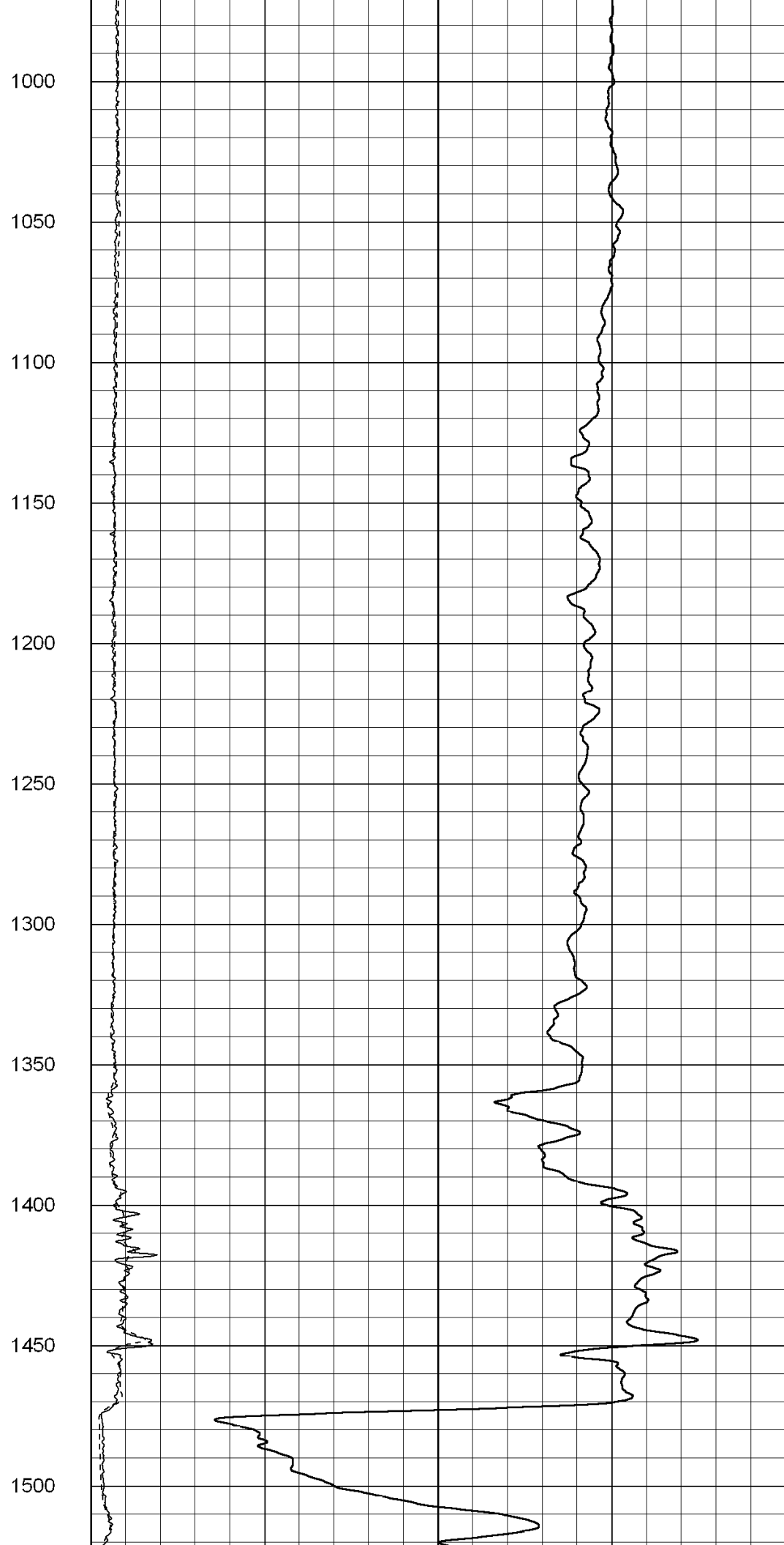
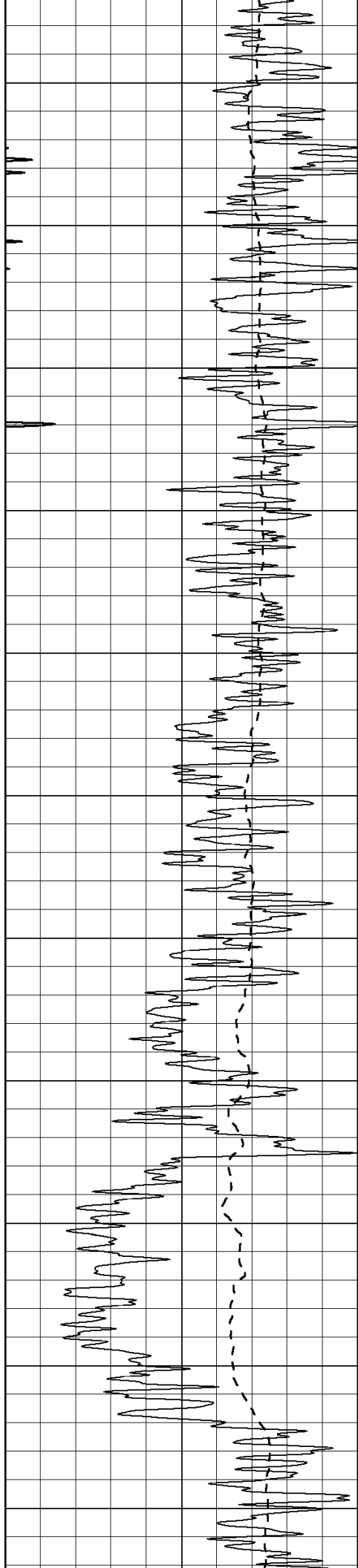
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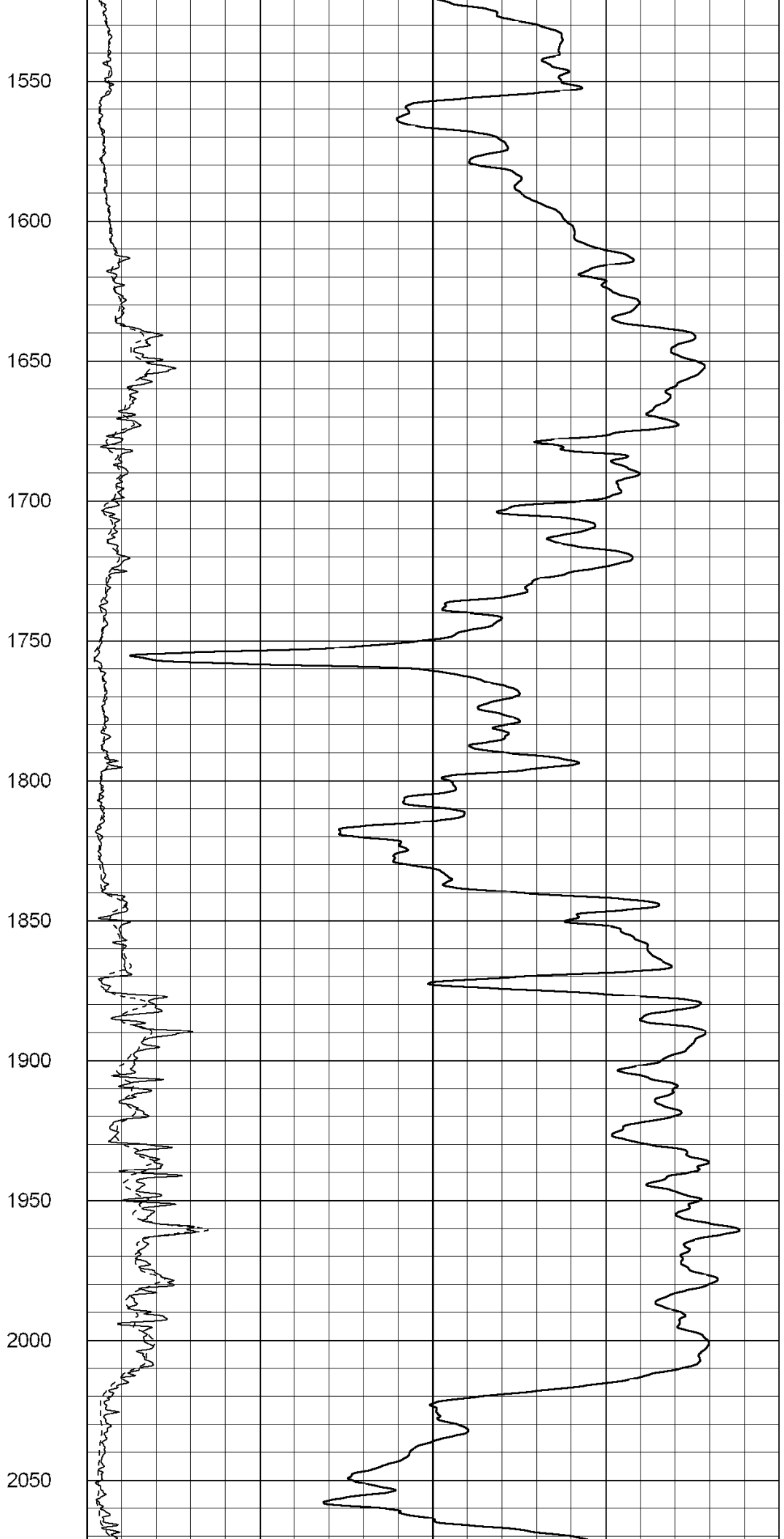
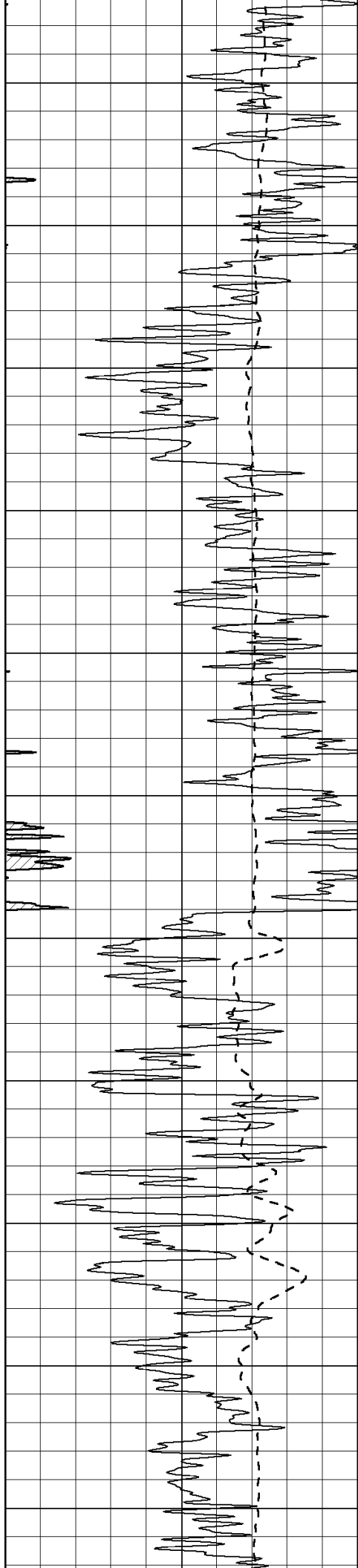
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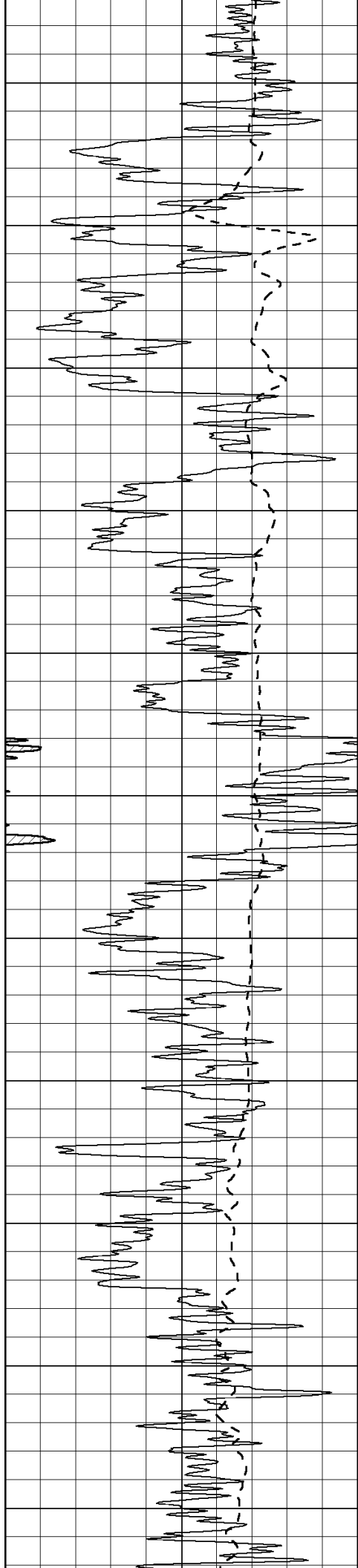
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950









2100

2150

2200

2250

2300

2350

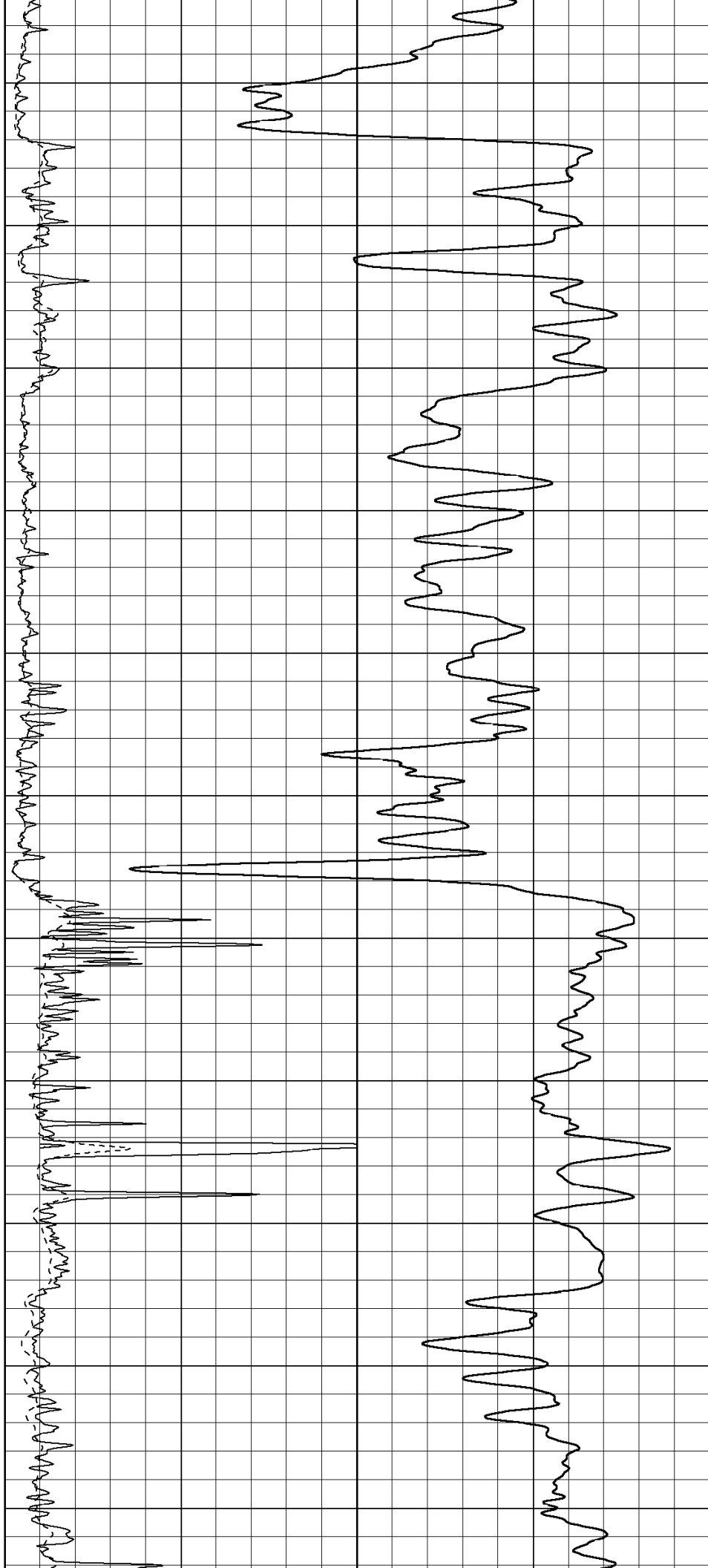
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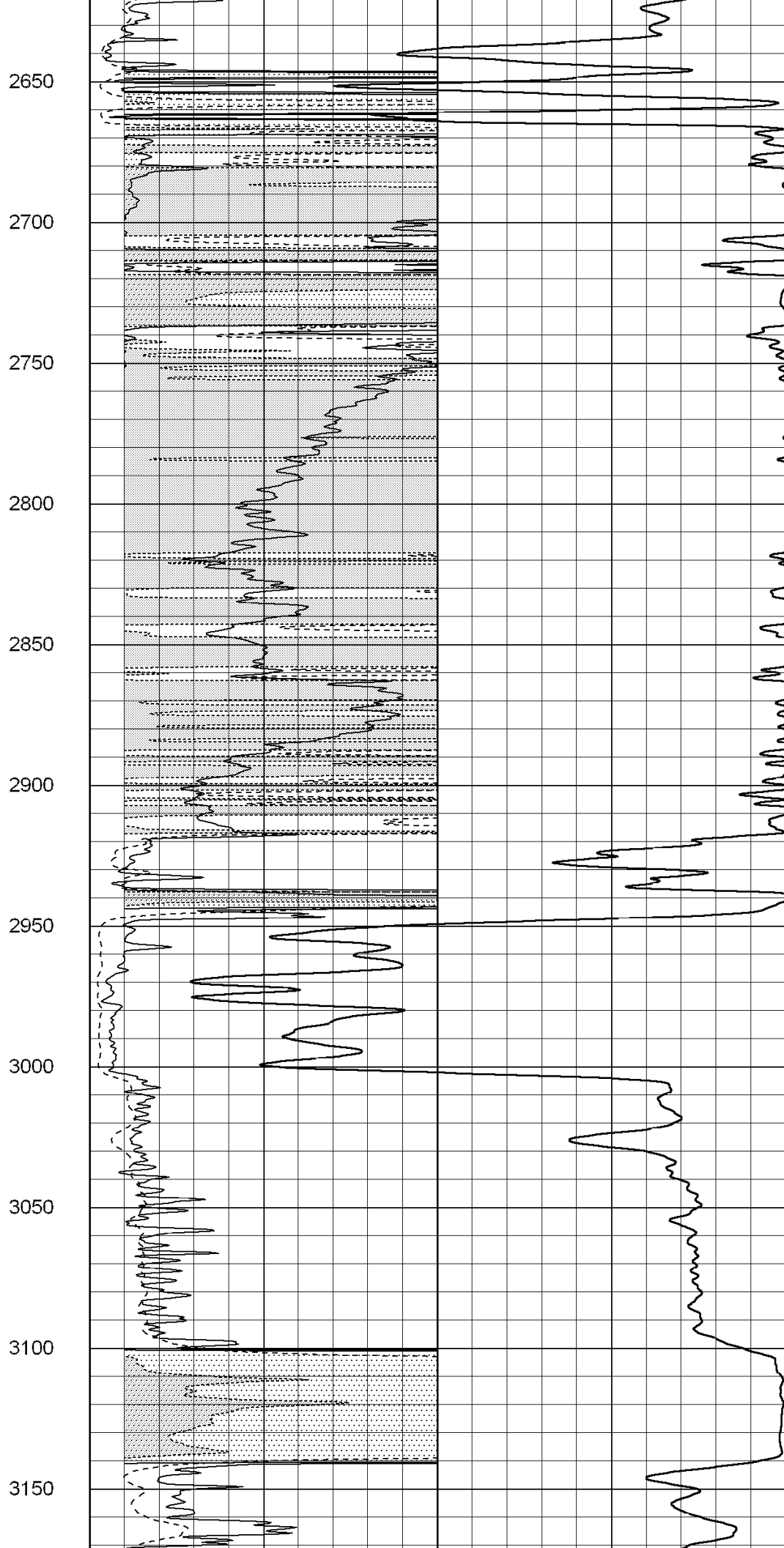
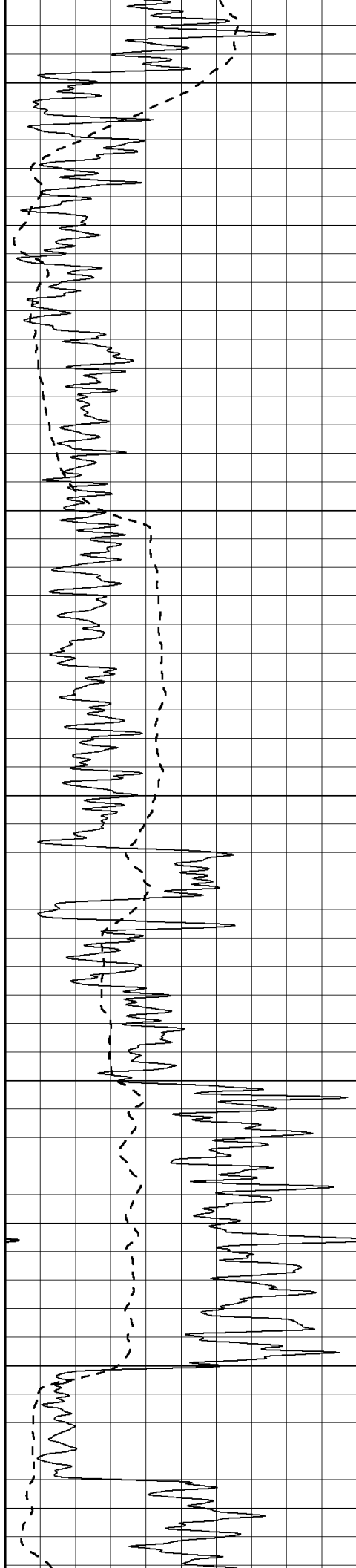
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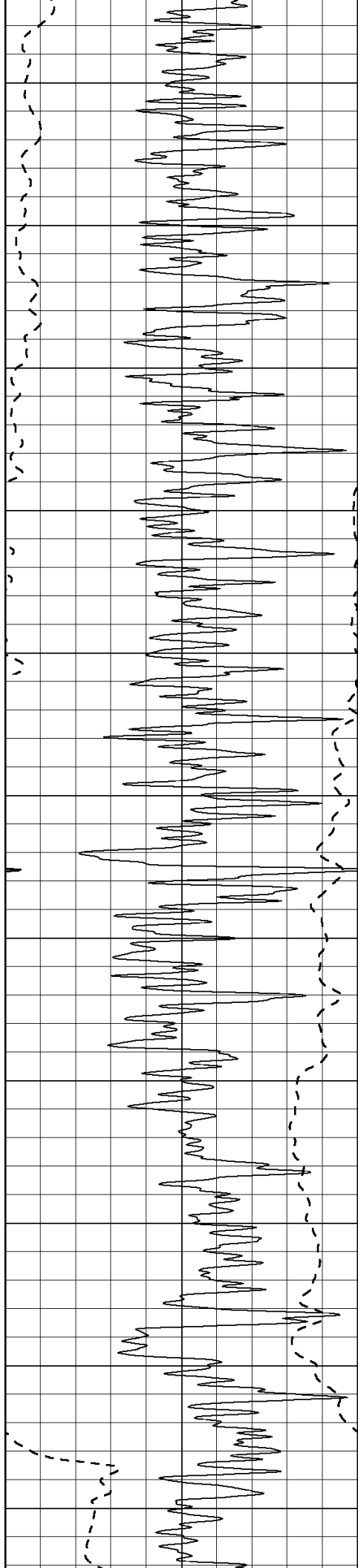
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2550

2600







3200

3250

3300

3350

3400

3450

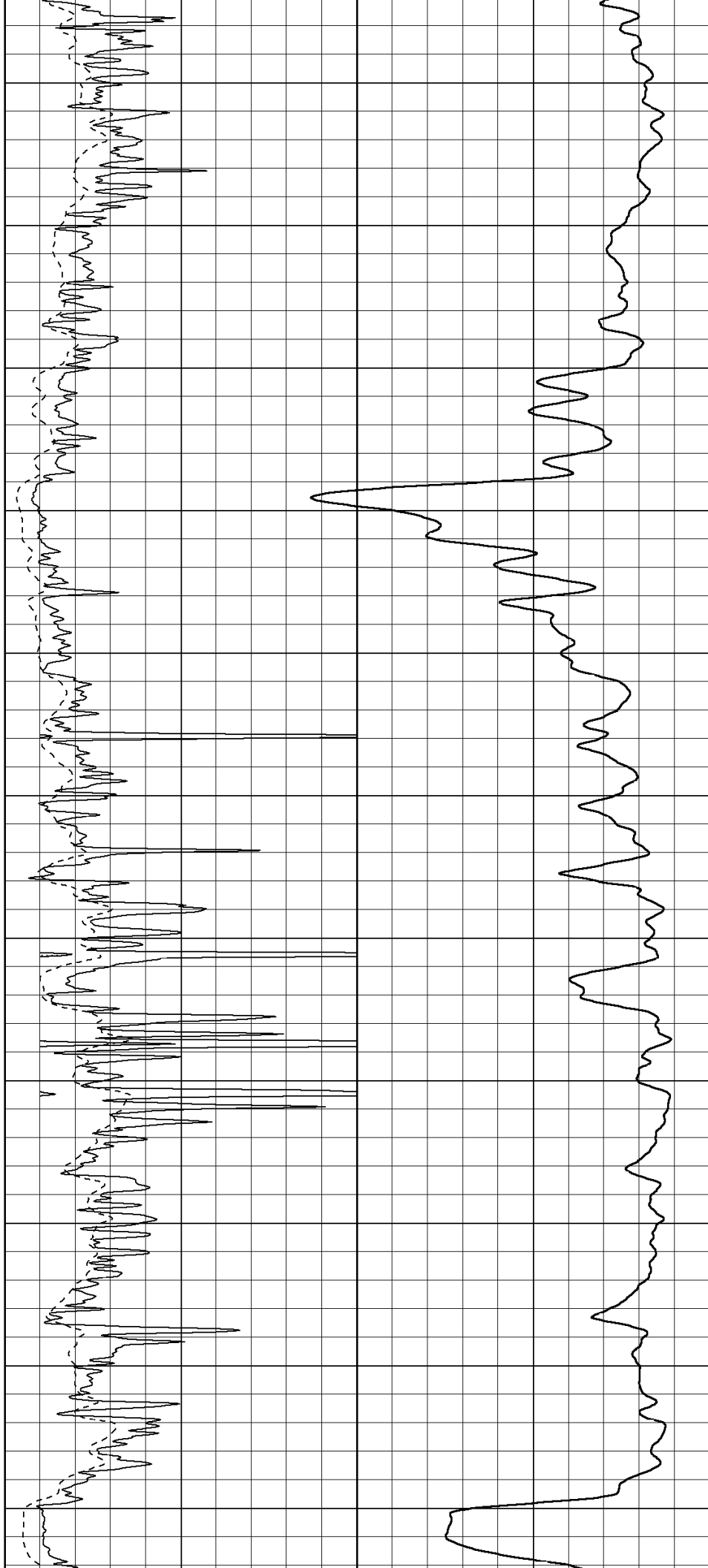
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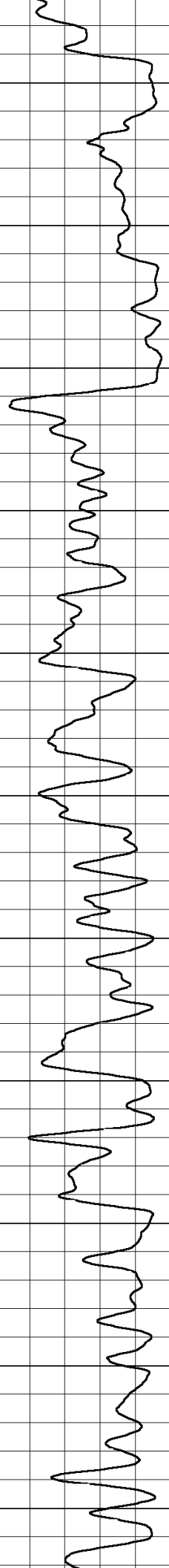
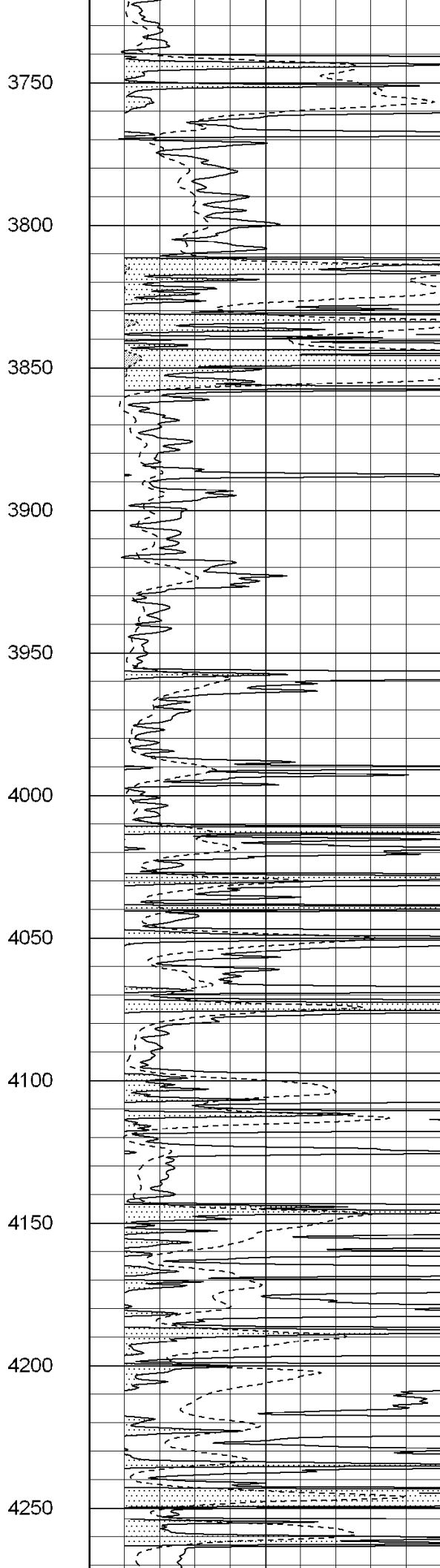
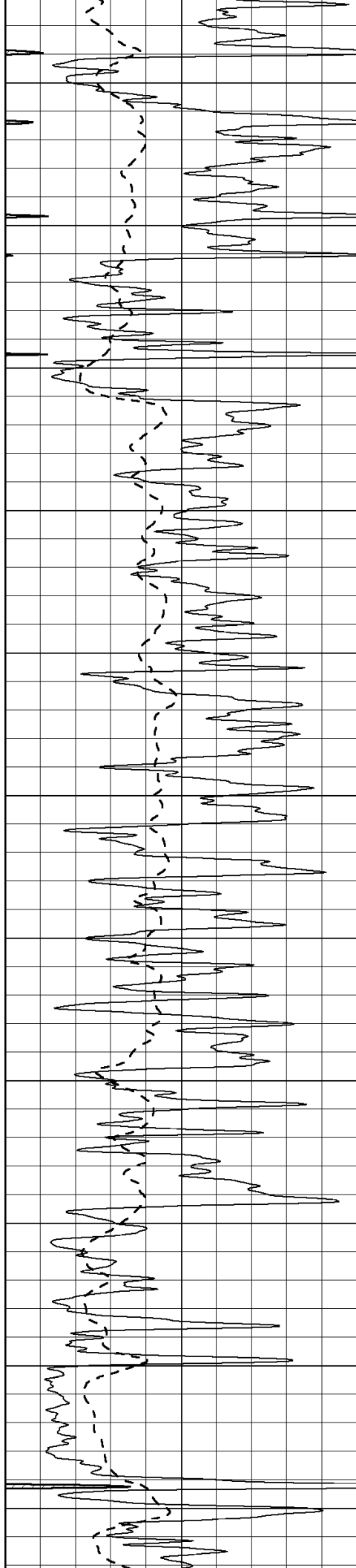
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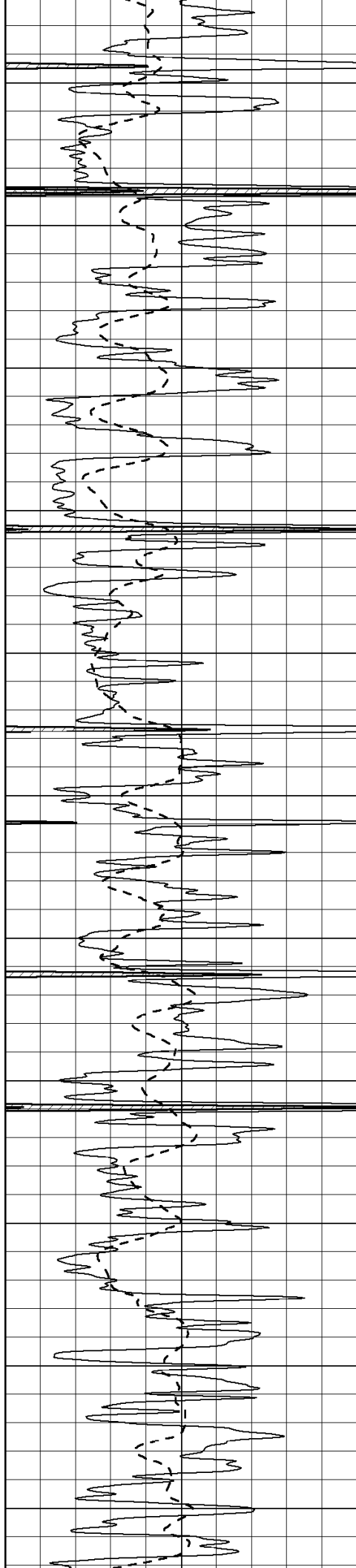
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3700







4300

4350

4400

4450

4500

4550

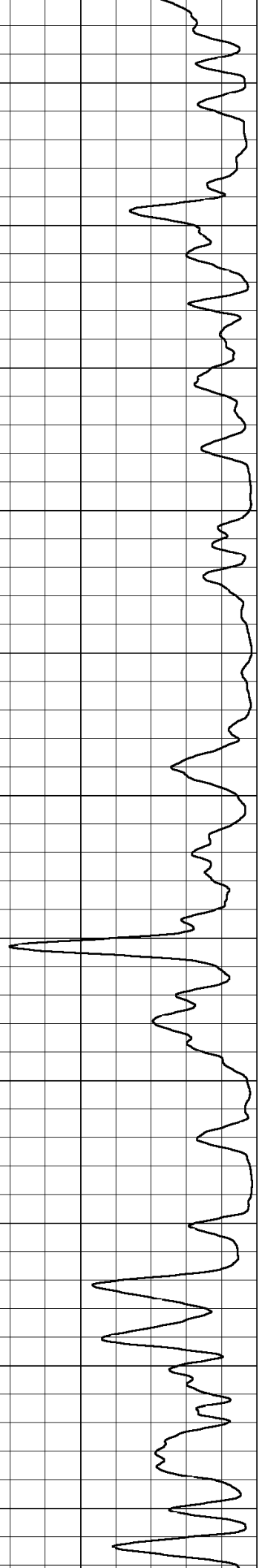
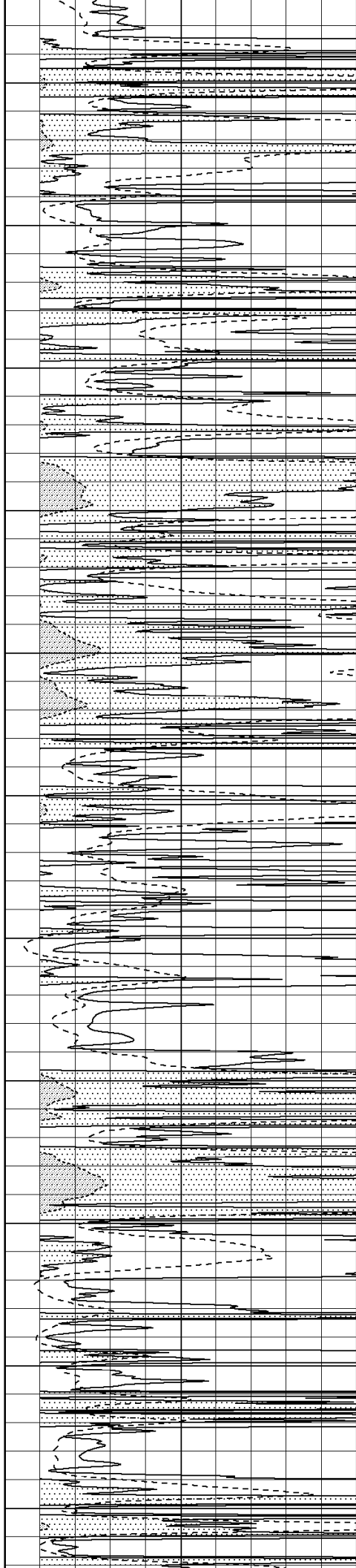
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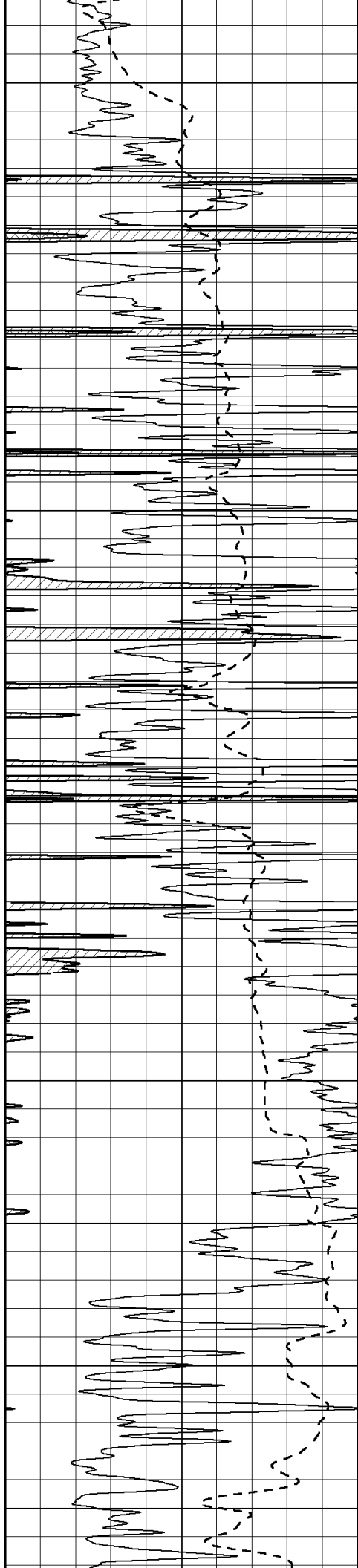
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4700

4750

4800





4850

4900

4950

5000

5050

5100

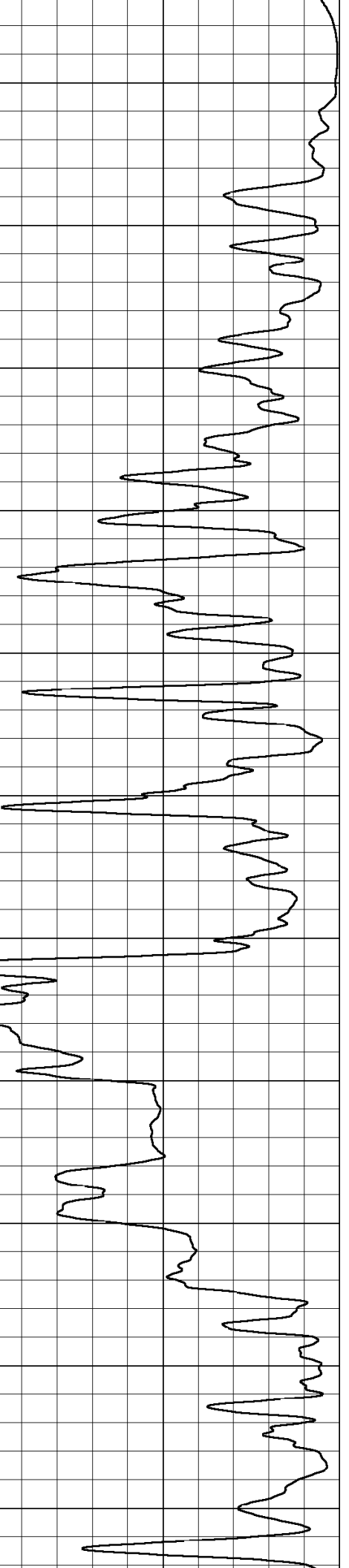
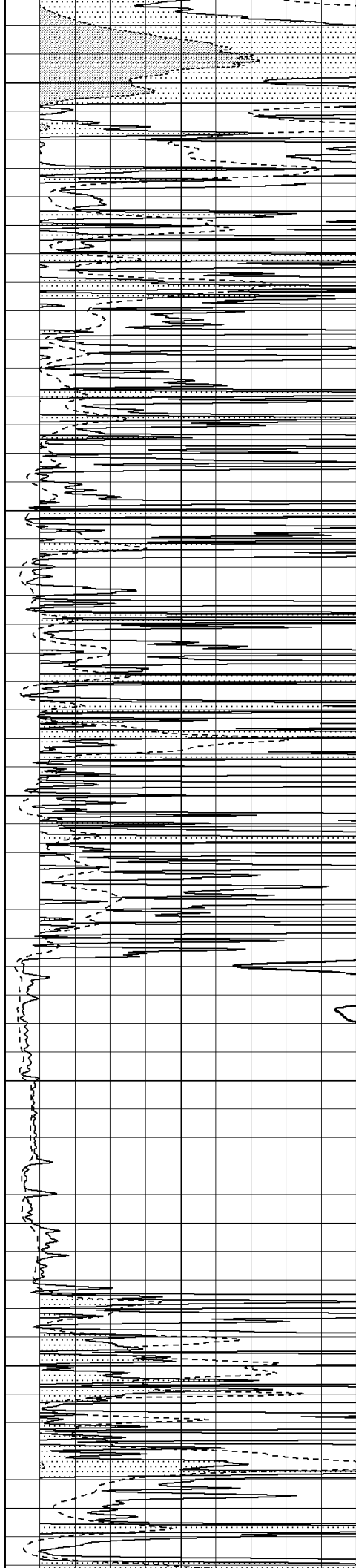
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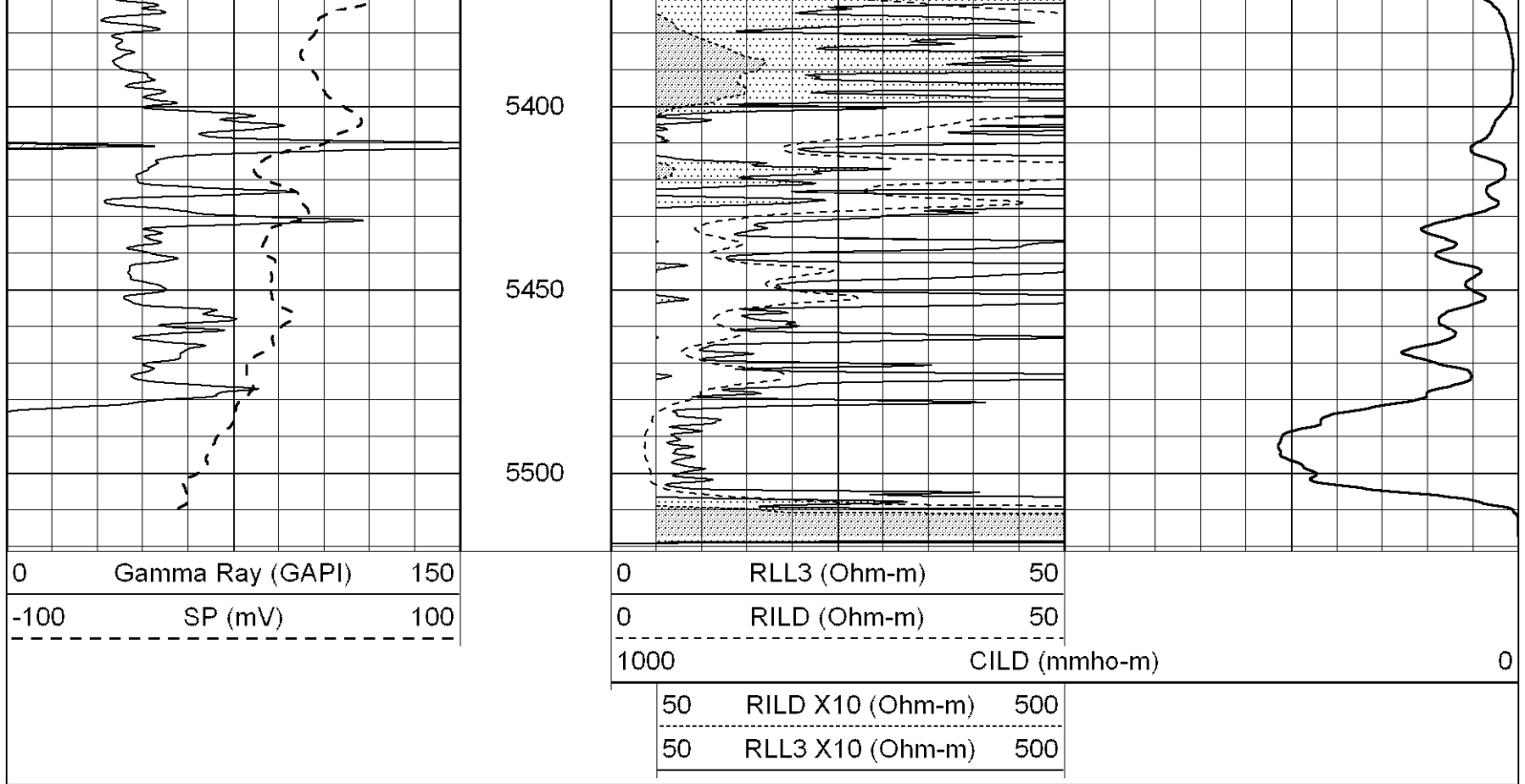
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5250

5300

5350



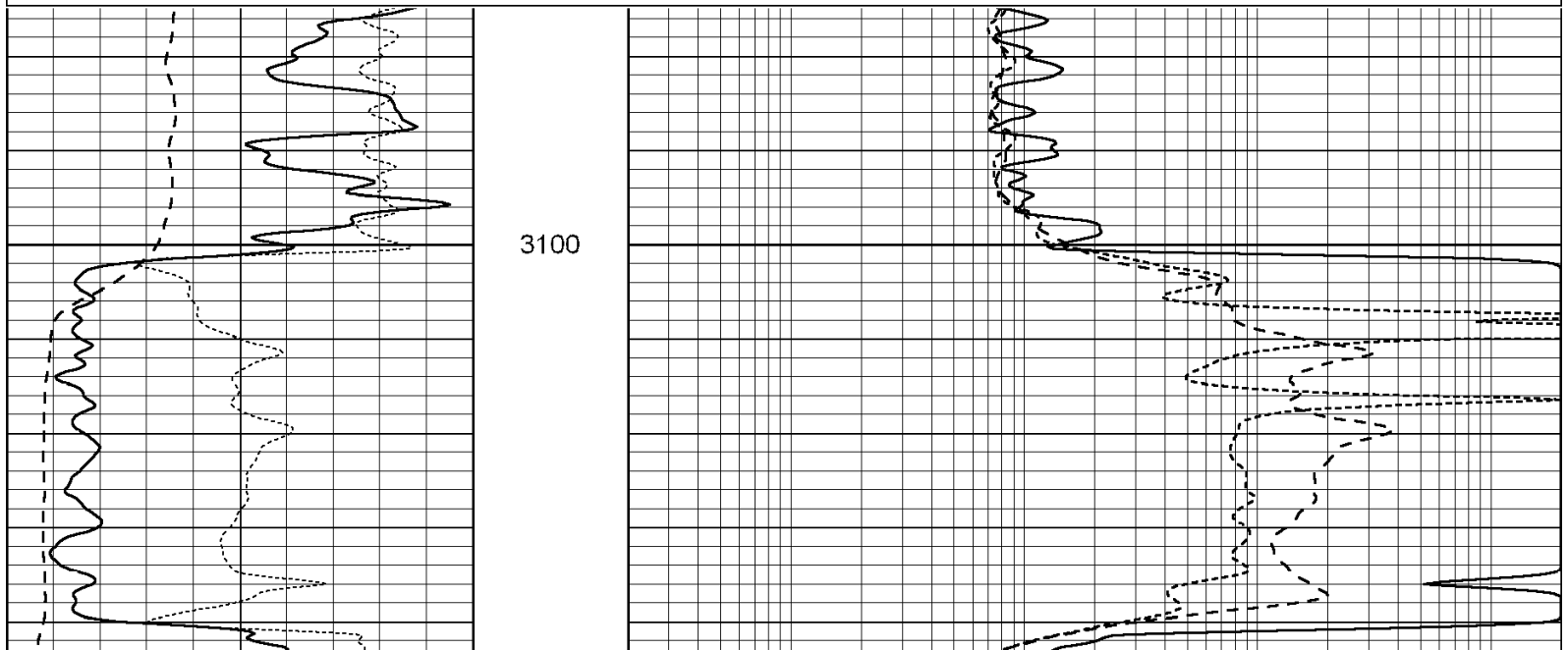


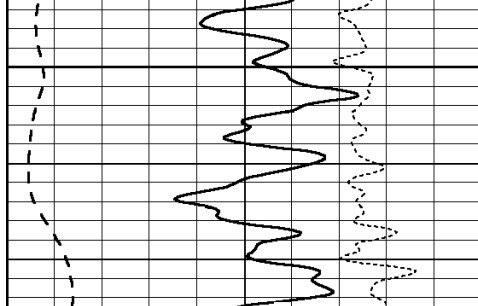
SUPERIOR
Hays,
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ANHYDRITE

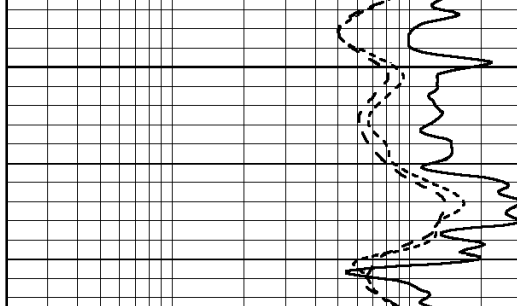
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 Dataset Pathname: pass3.4
 Presentation Format: dil
 Dataset Creation: Sat Oct 03 20:09:07 2009 by Calc Open-Cased 060407
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000





3150



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



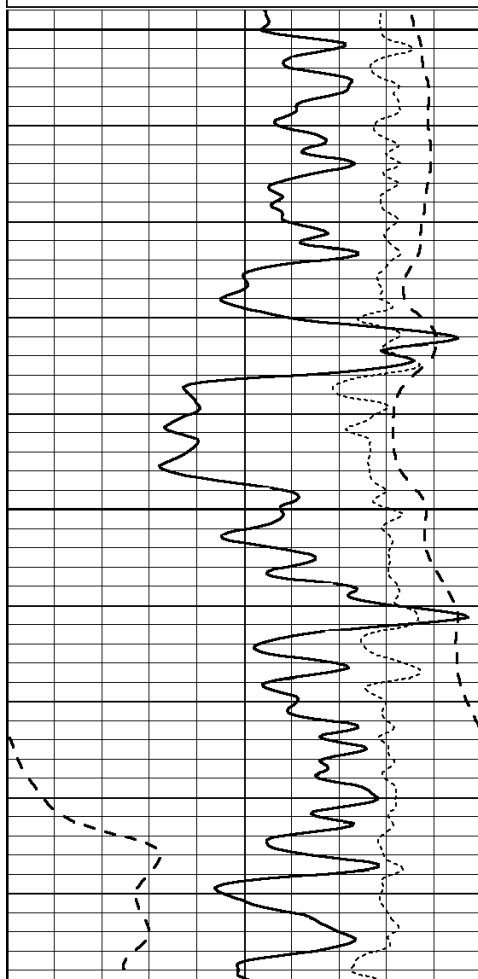
SUPERIOR
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MAIN SECTION

Database File: 004355ddn.db
 Dataset Pathname: pass3.3
 Presentation Format: dil
 Dataset Creation: Sat Oct 03 20:01:02 2009 by Calc Open-Cased 060407
 Charted by: Depth in Feet scaled 1:240

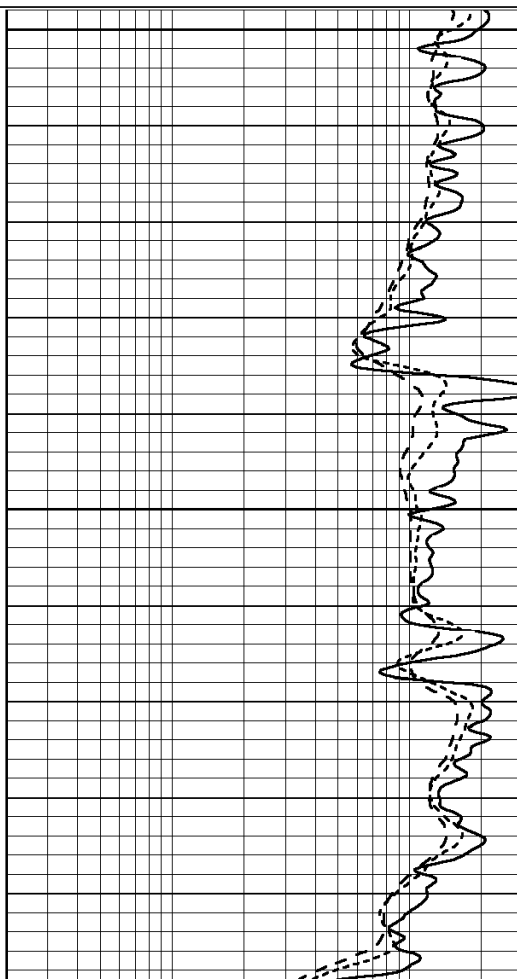
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

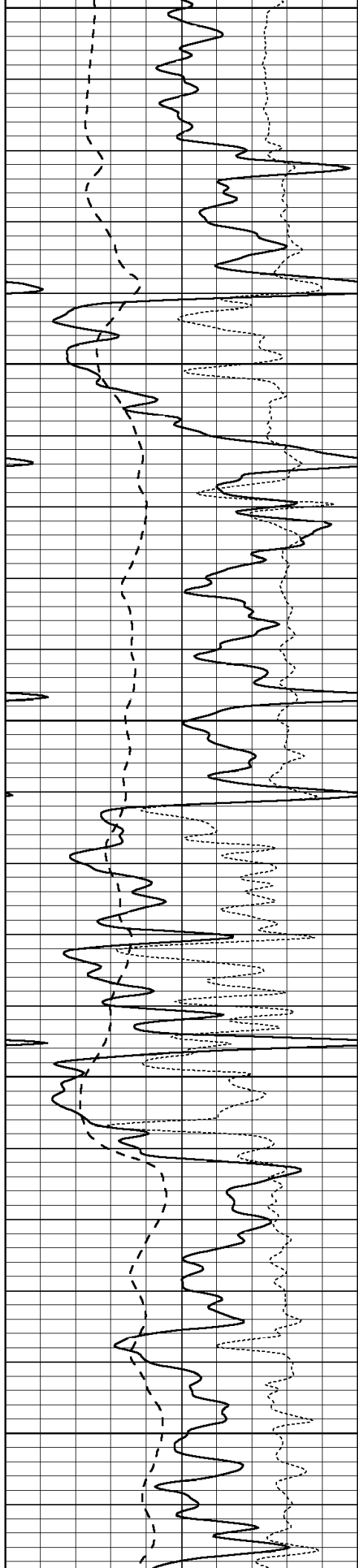
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3600

3650





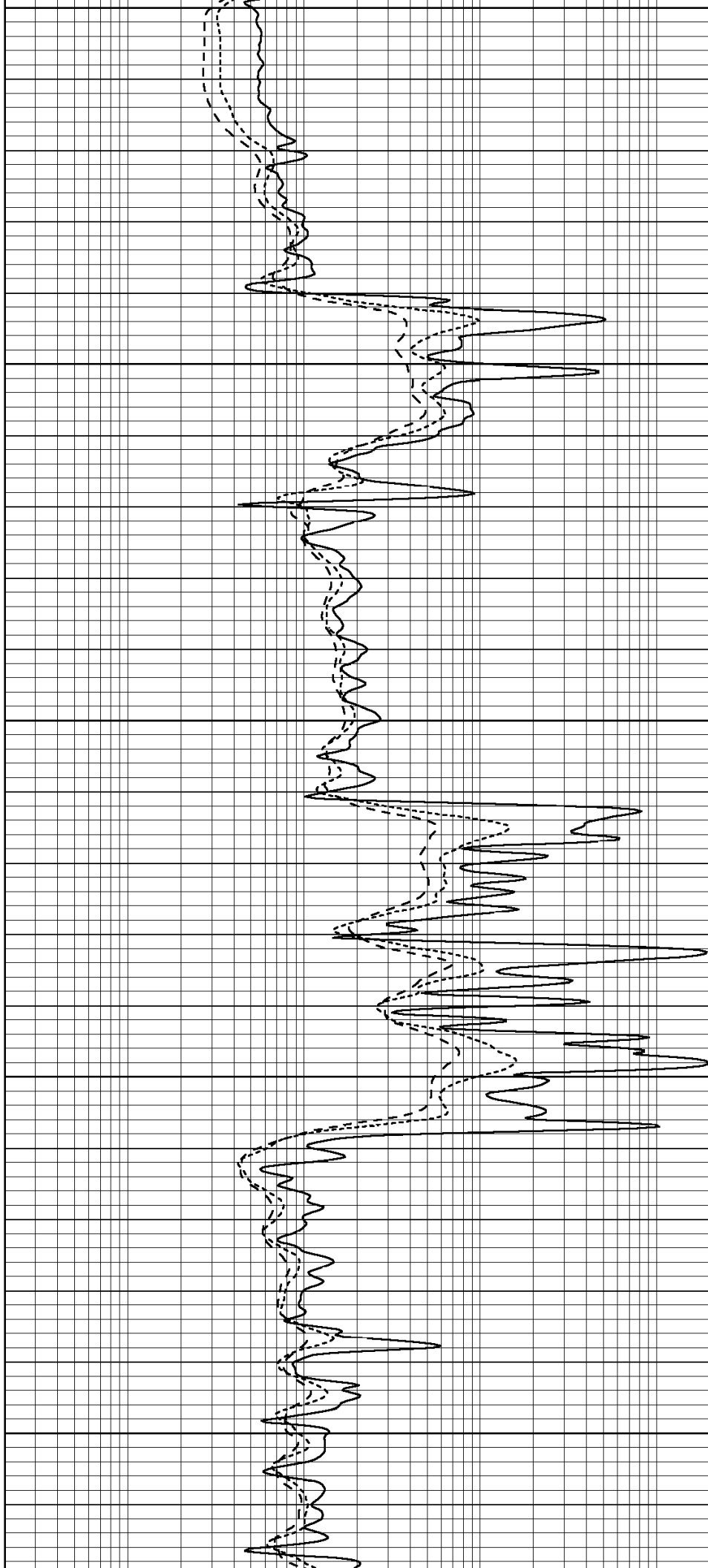
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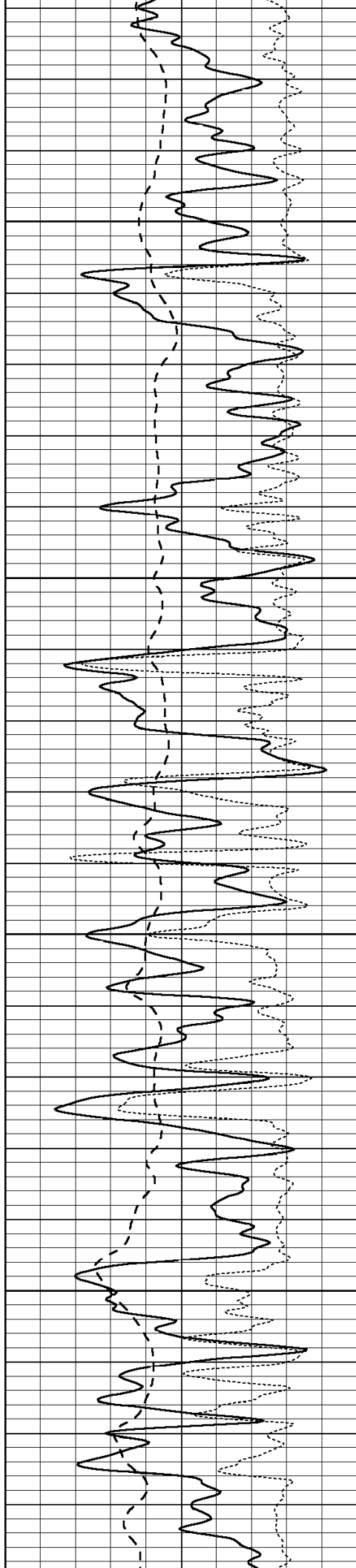
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3800

3850

3900



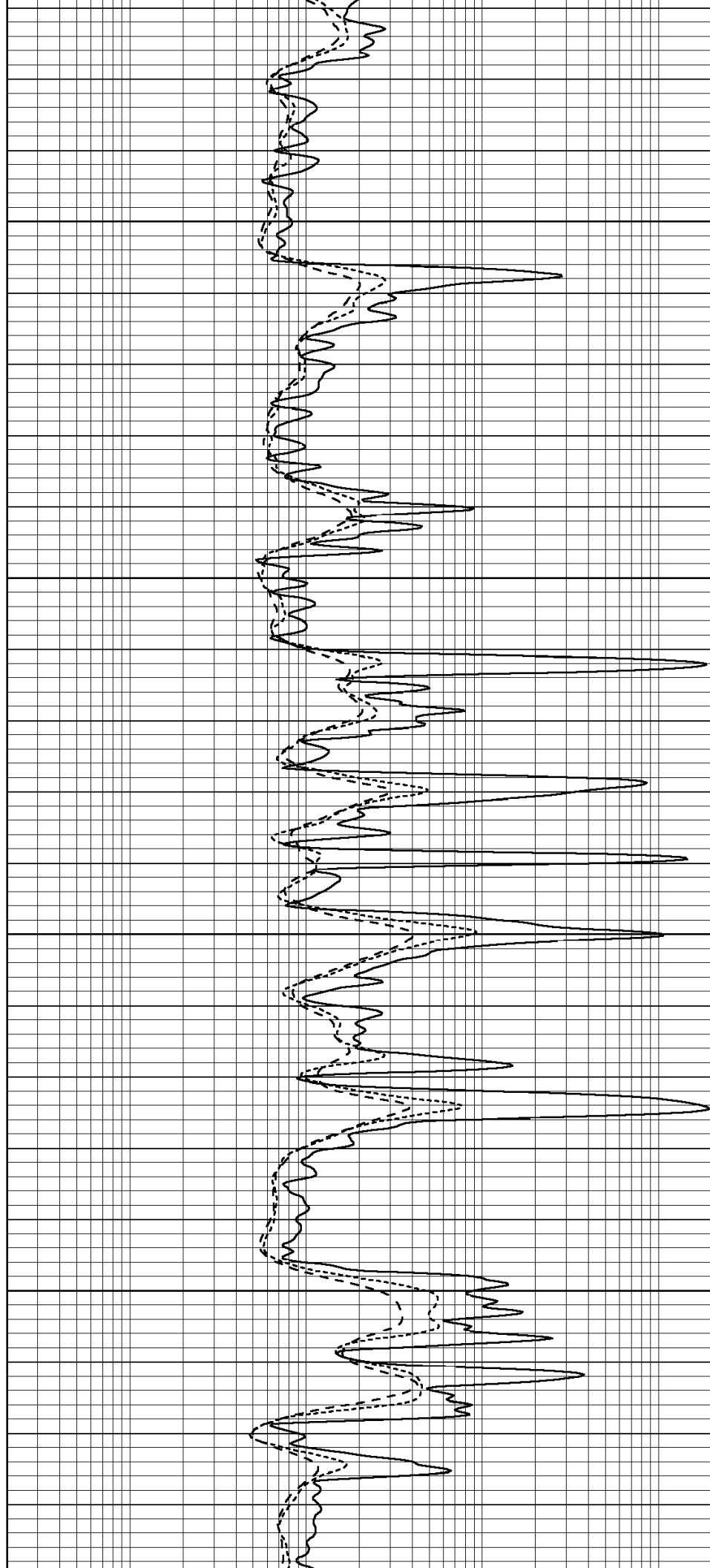


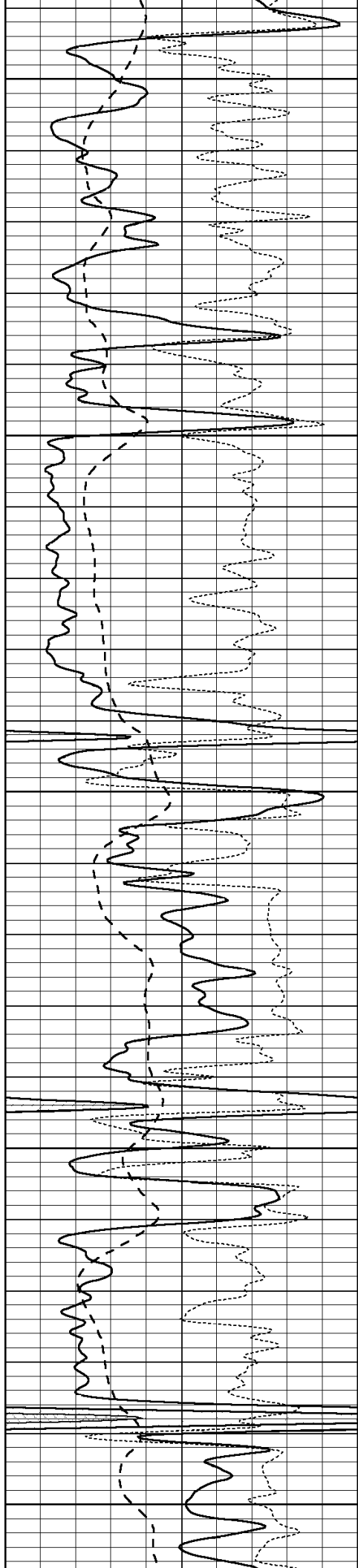
3950

4000

4050

4100





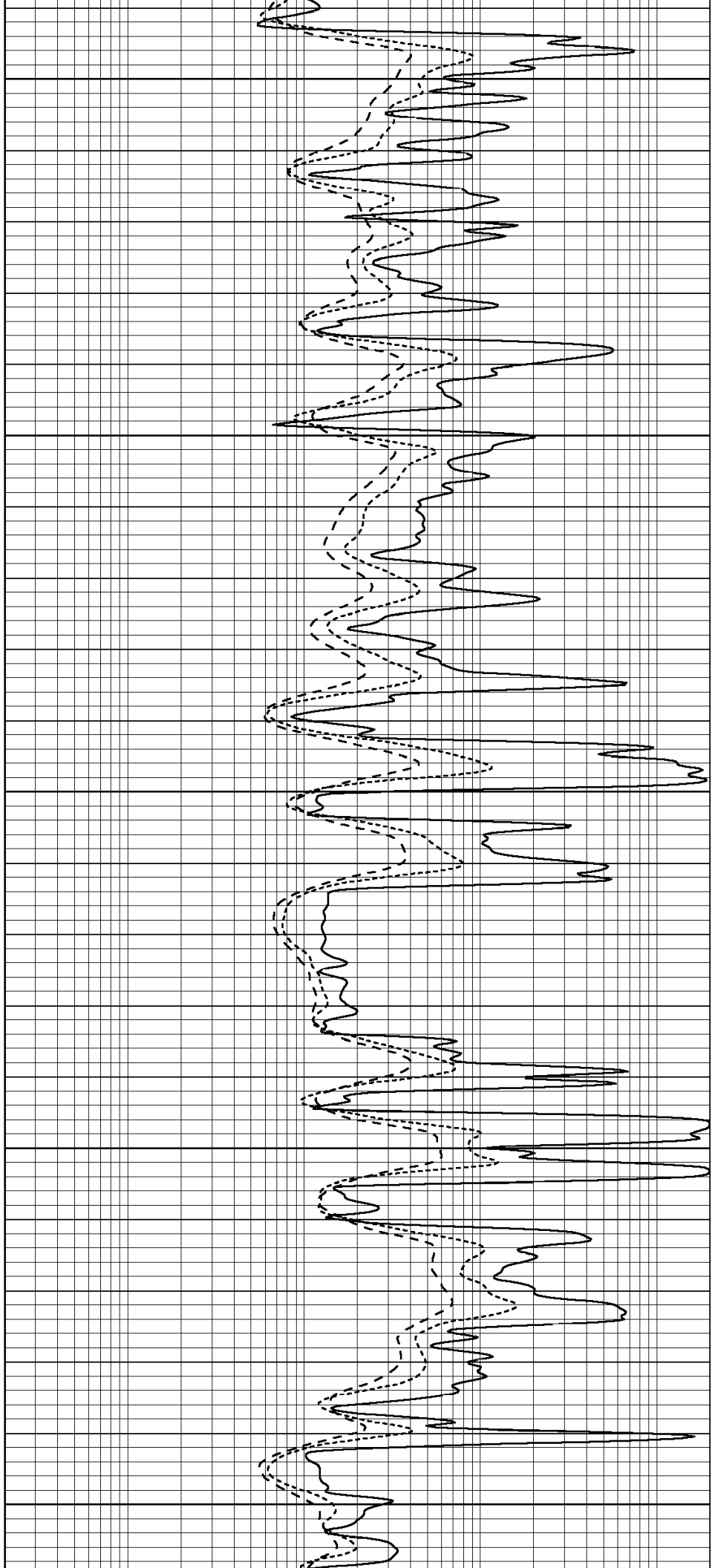
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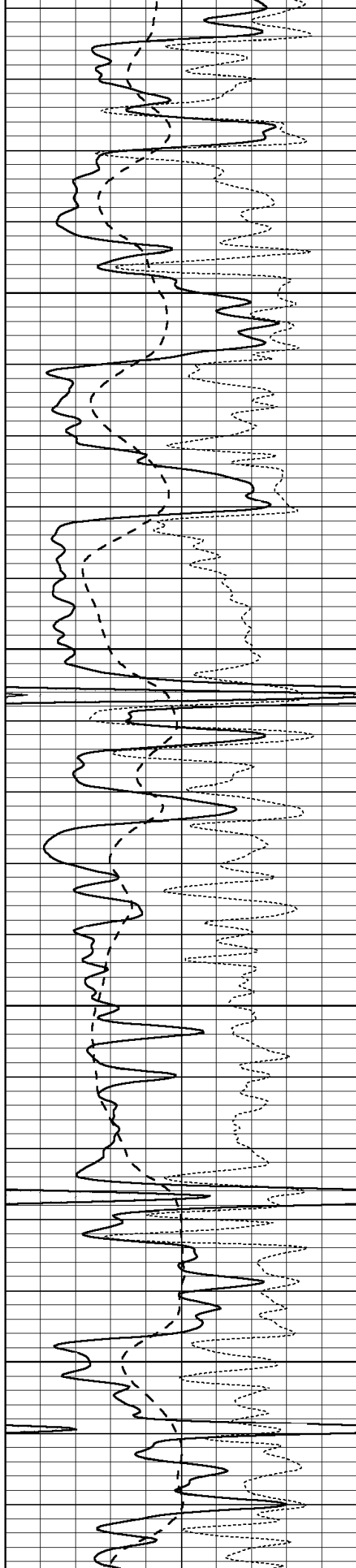
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4250

4300

4350



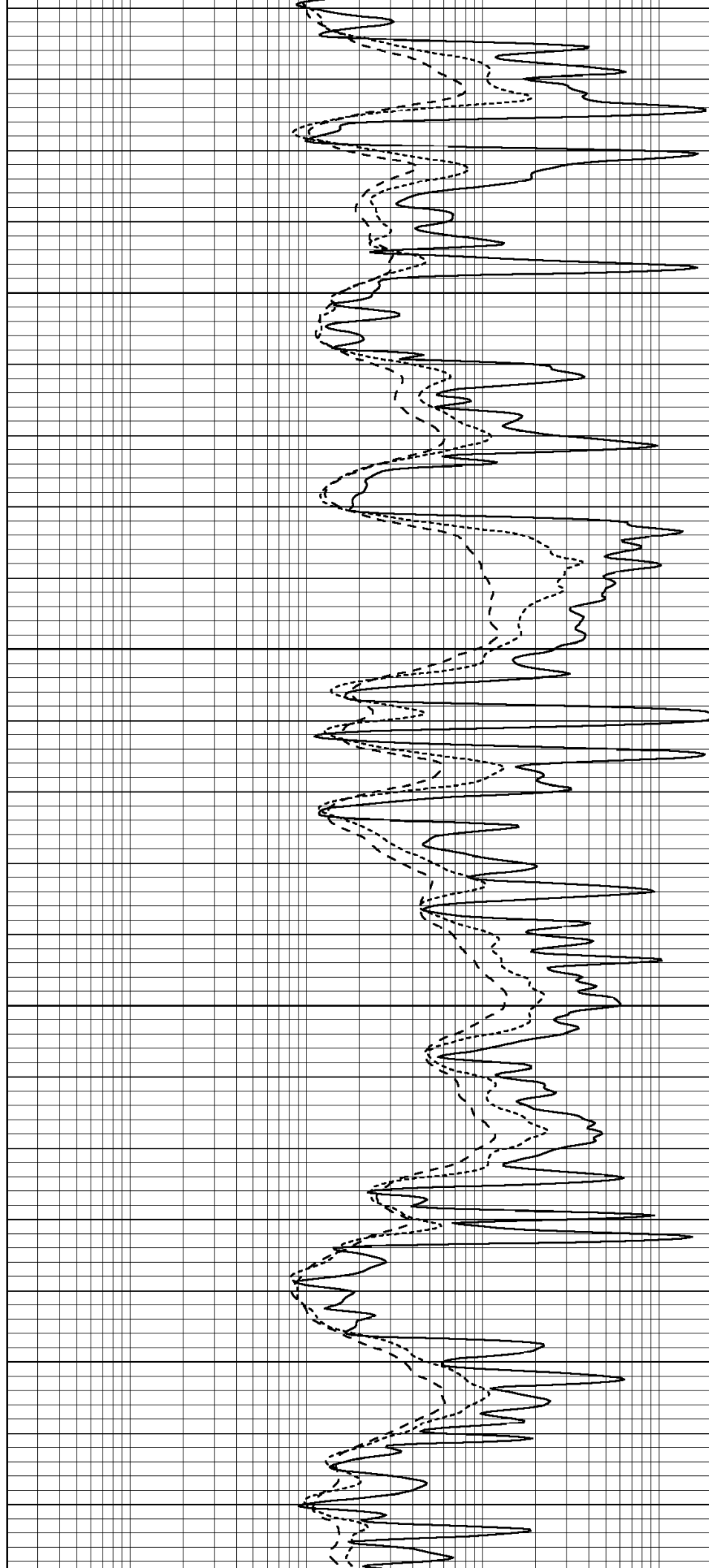


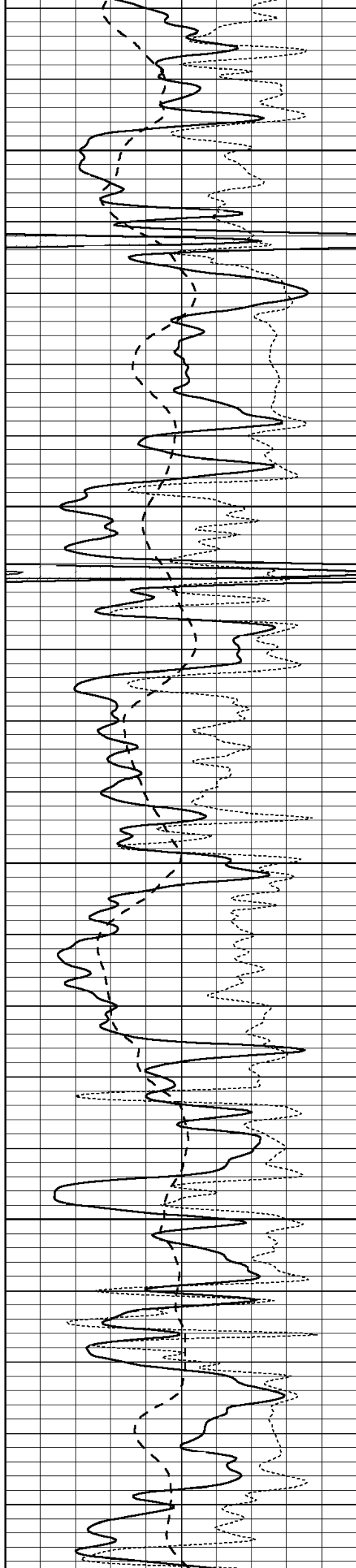
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4450

4500

4550



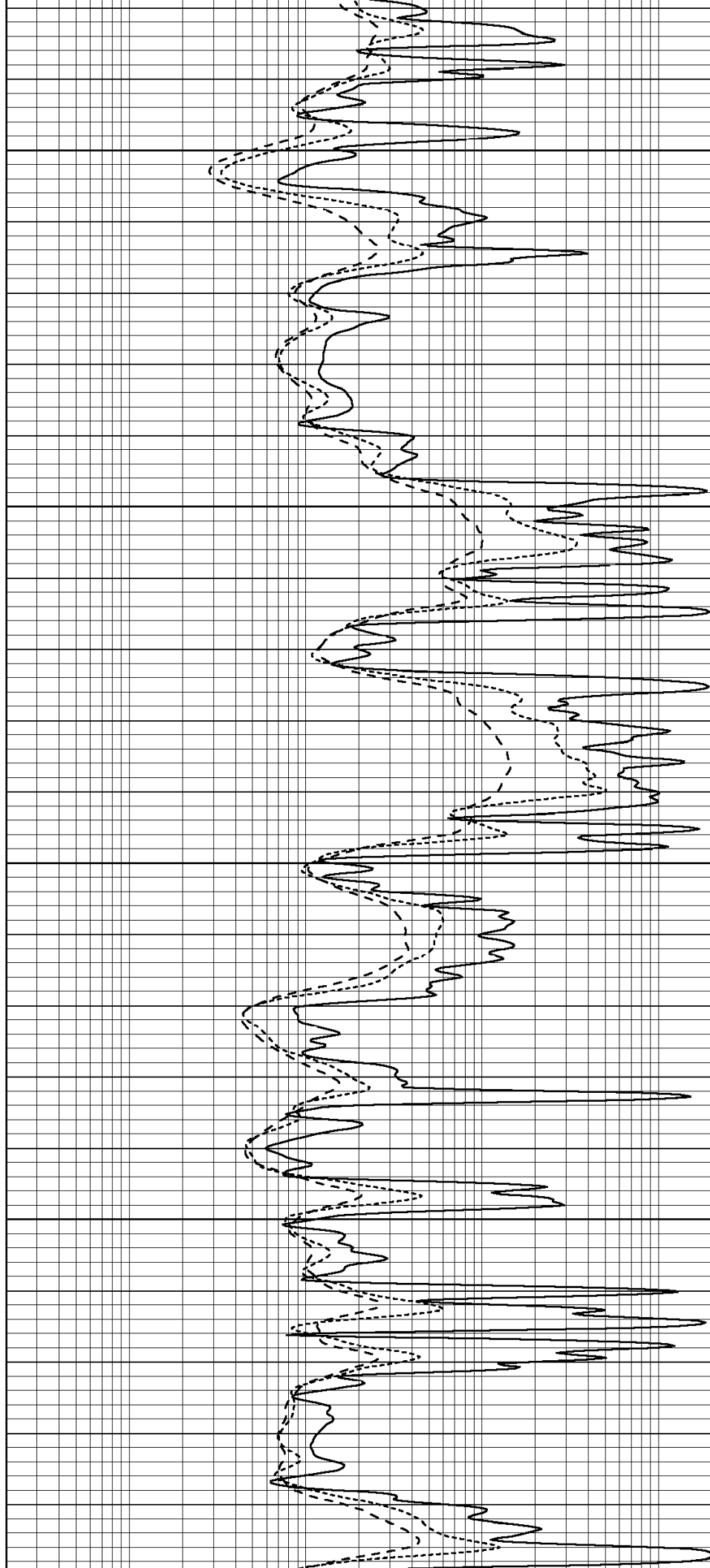


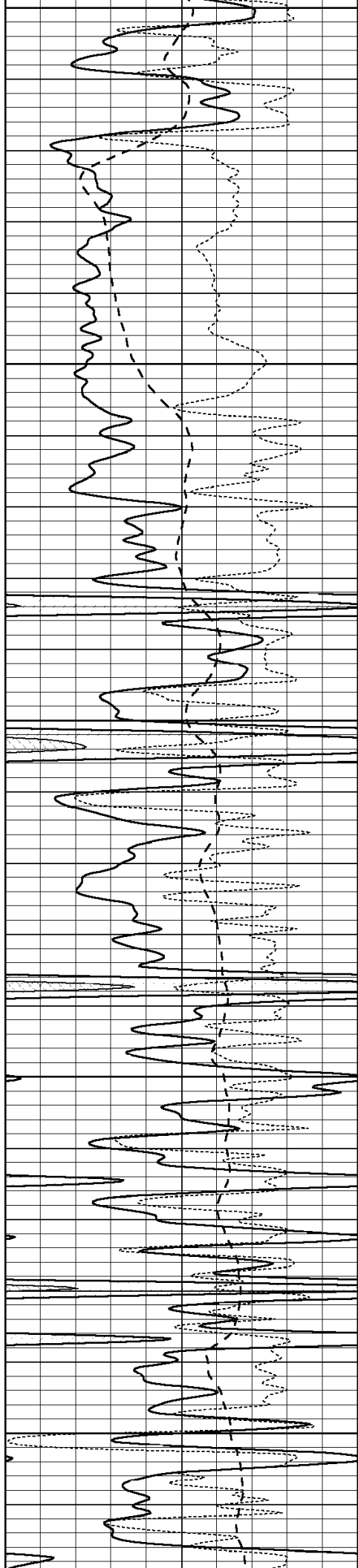
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4650

4700

4750





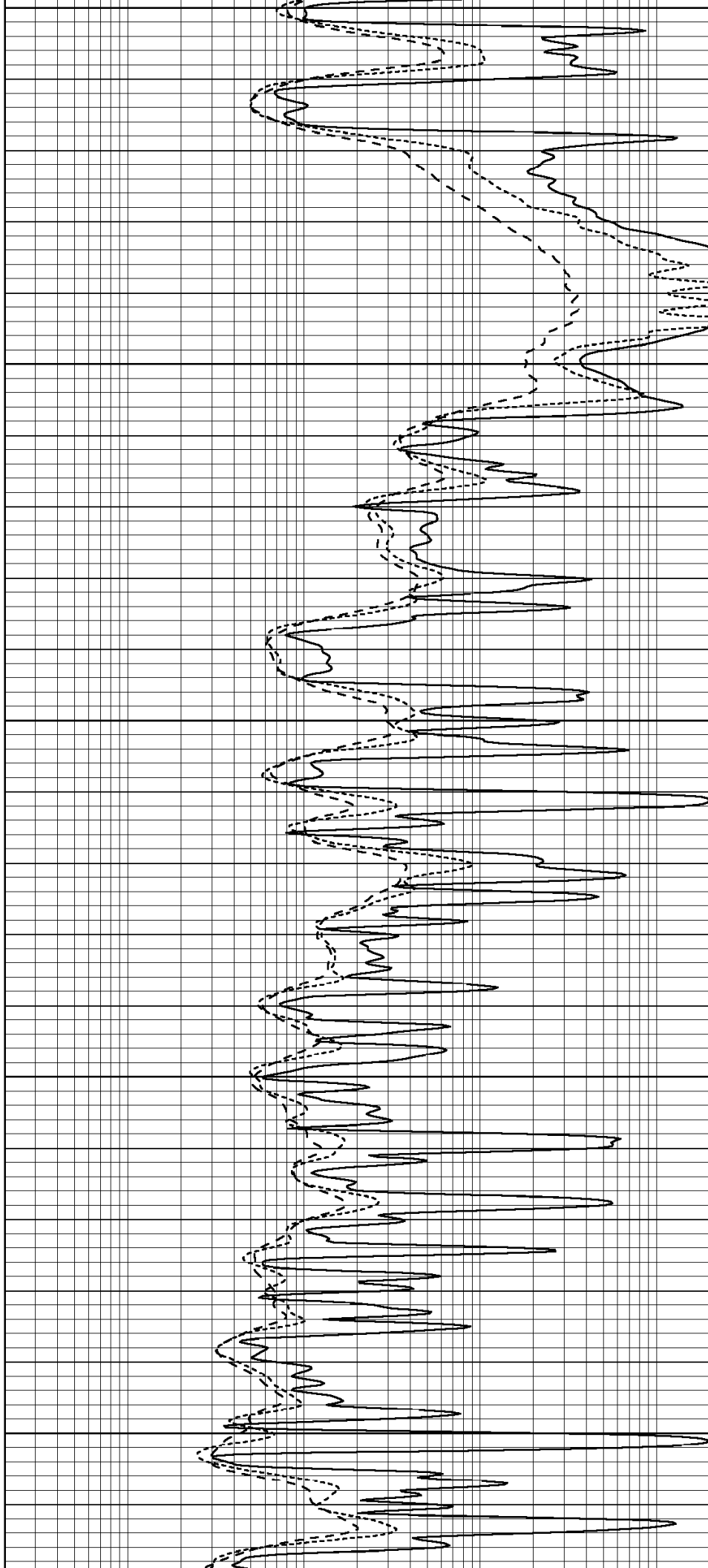
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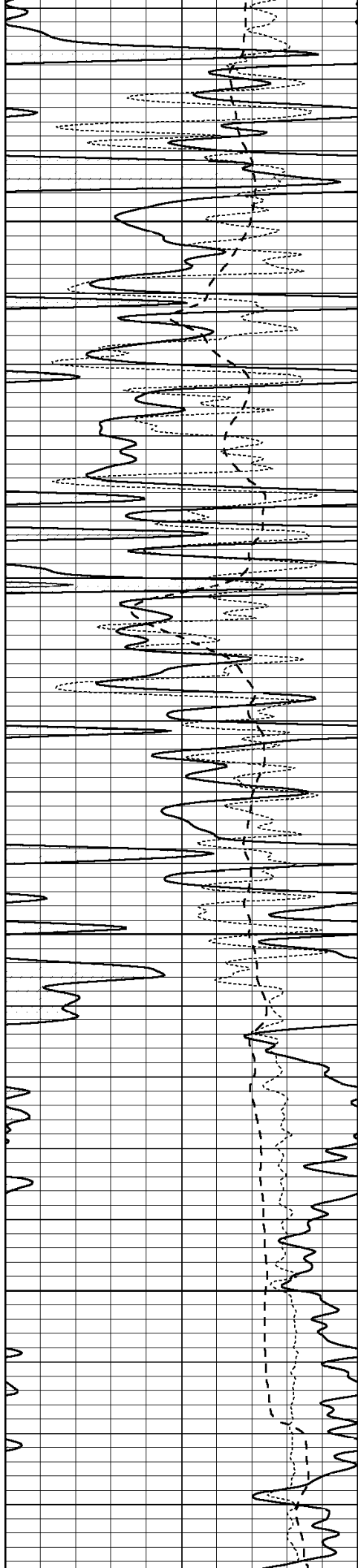
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4900

4950

5000



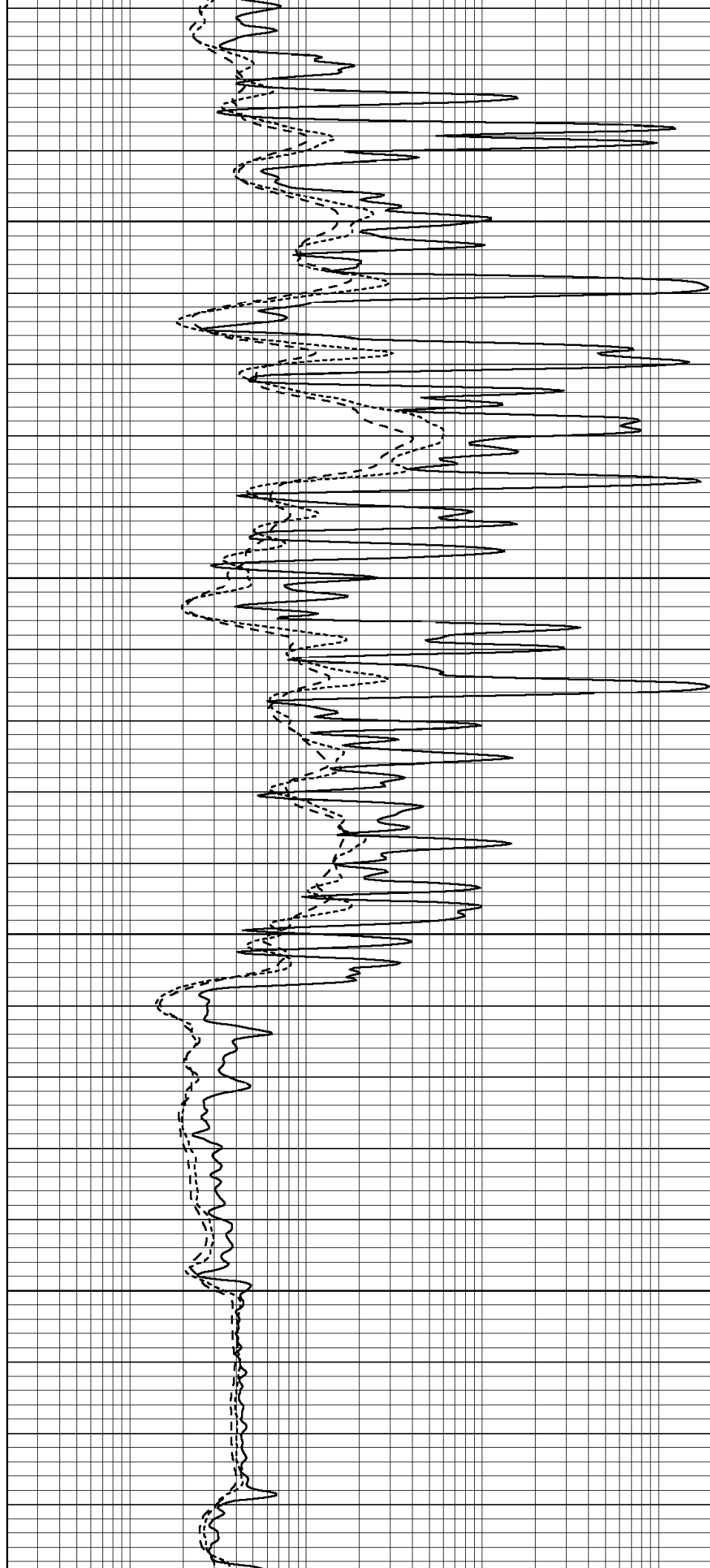


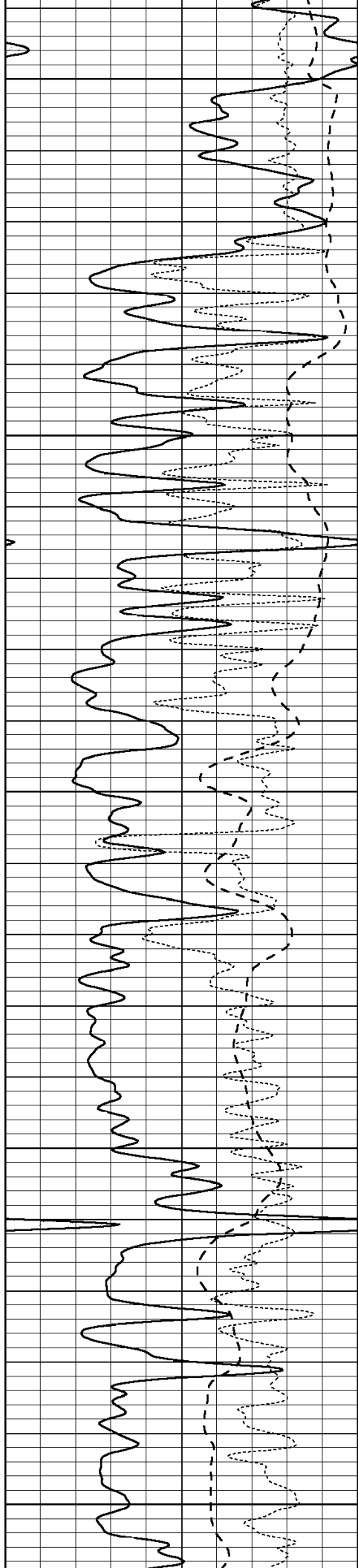
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5100

5150

5200





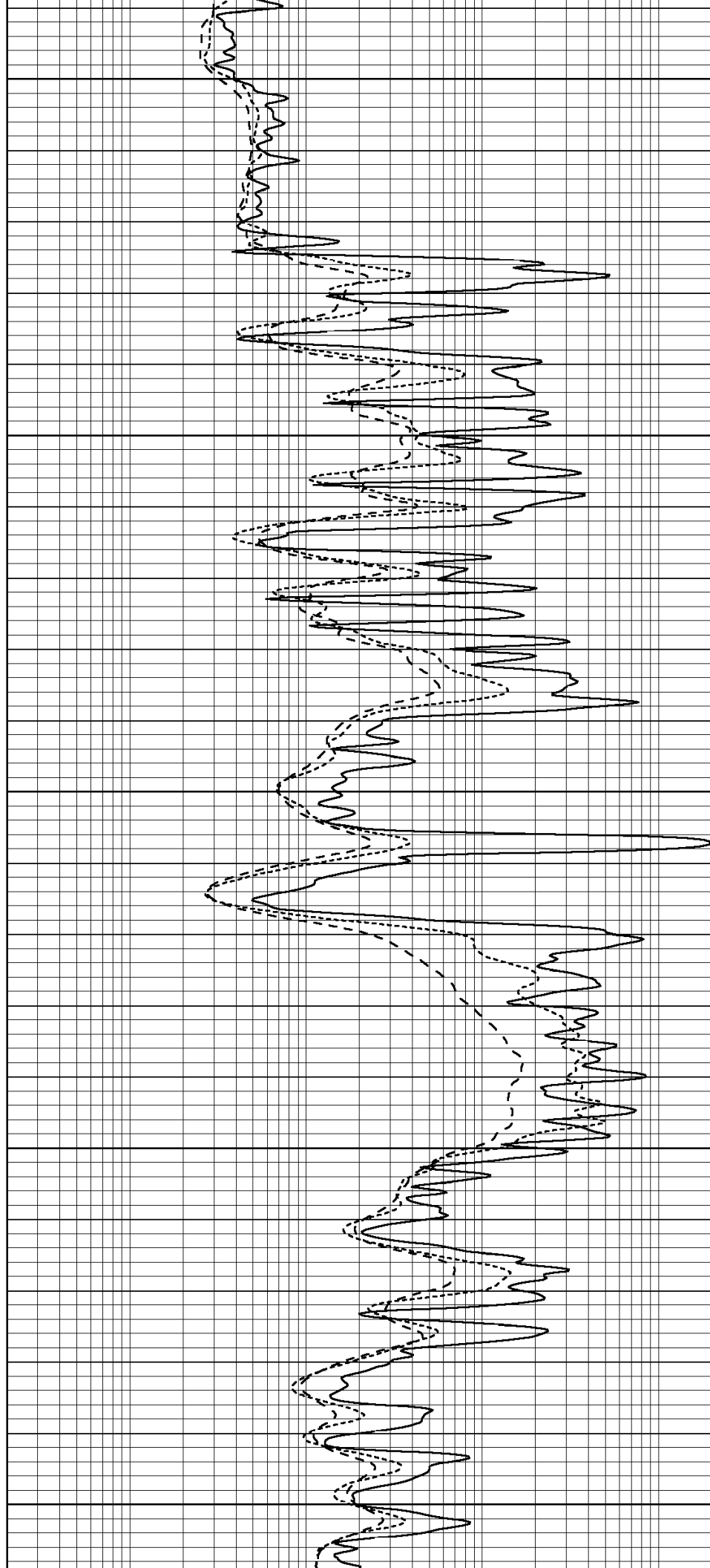
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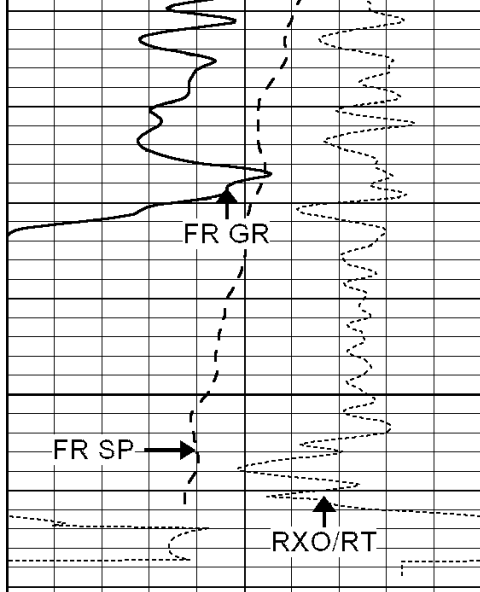
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5350

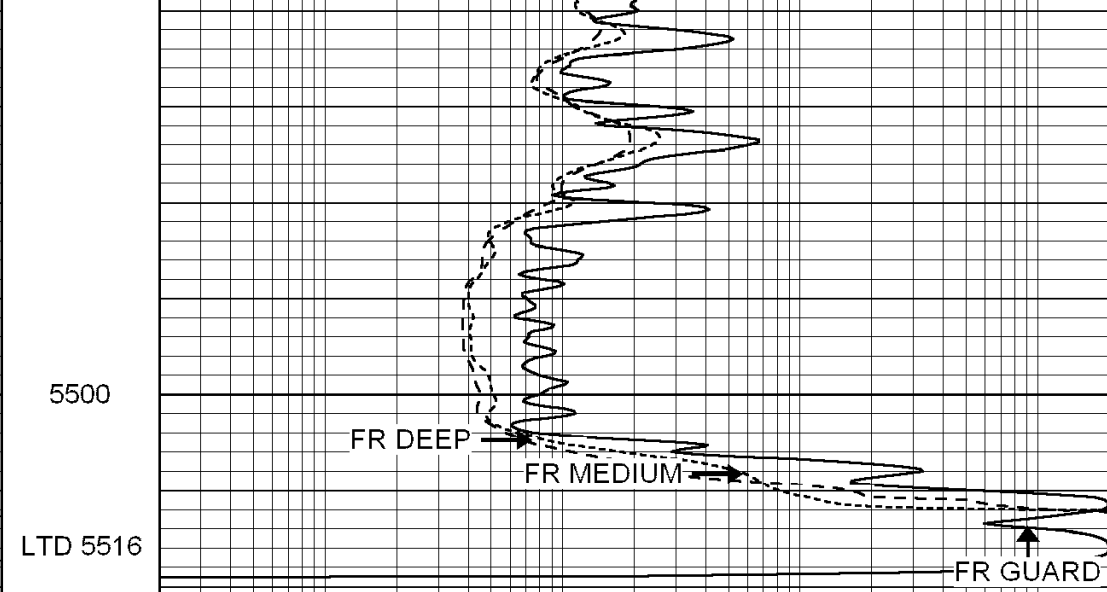
5400

5450





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



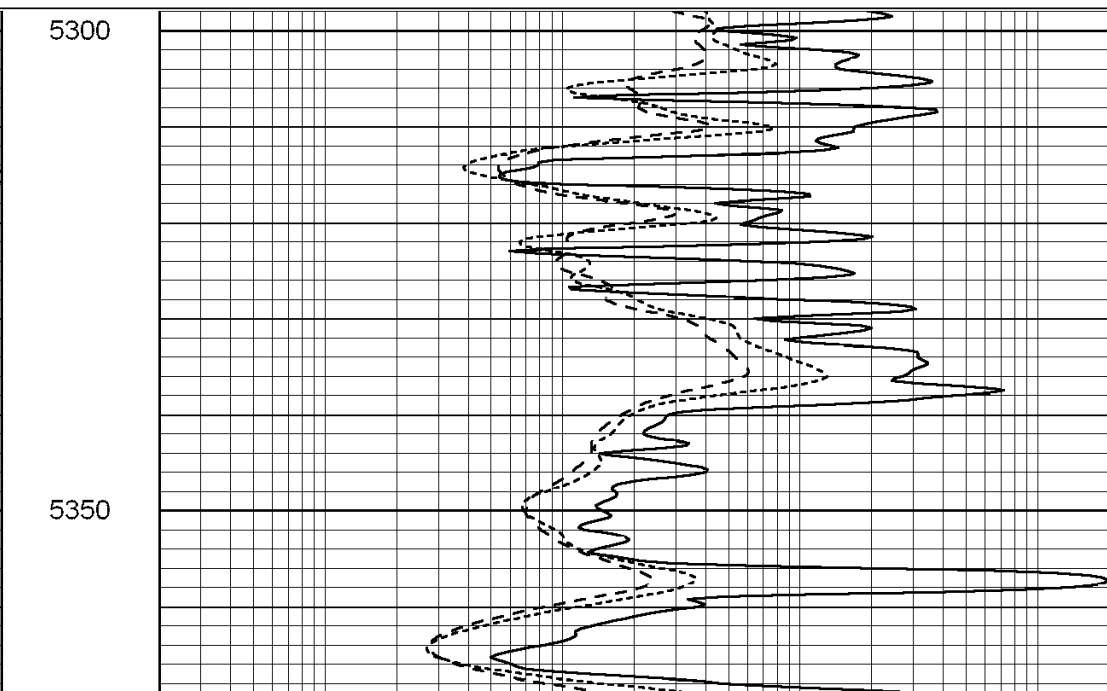
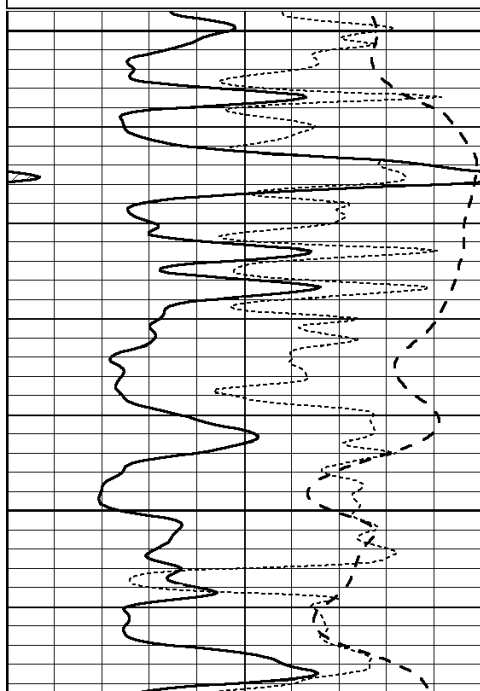
SUPERIOR
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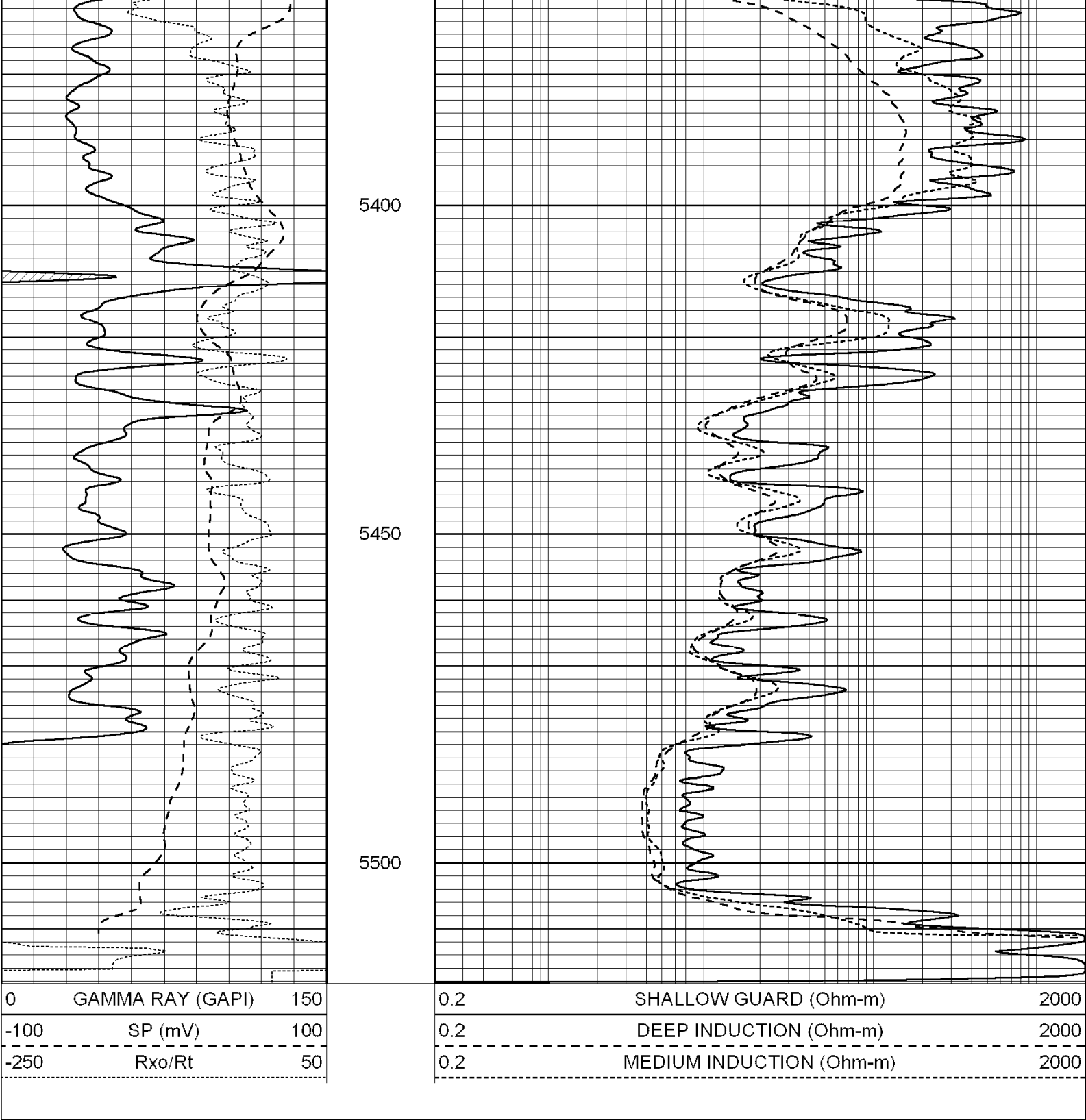
REPEAT SECTION

Database File: 004355ddn.db
 Dataset Pathname: pass2.12
 Presentation Format: dil
 Dataset Creation: Sat Oct 03 19:19:25 2009 by Calc Open-Cased 060407
 Charted by: Depth in Feet scaled 1:240

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





Calibration Report						
Database File:		004355ddn.db				
Dataset Pathname:		pass3.3				
Dataset Creation:		Sat Oct 03 20:01:02 2009 by Calc Open-Cased 060407				
Dual Induction Calibration Report						
Serial-Model:		DIL6-GEAR				
Performed:		Sat Oct 03 18:20:50 2009				
Readings			References		Results	
Loop:	Air	Loop	Air	Loop	m	b

Deep	0.001	0.644	V	0.000	400.000	mmho-m	680.000	3.000
Medium	0.020	0.738	V	0.000	462.500	mmho-m	720.000	-21.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.000	1.000	V	0.000	1.000	mmho-m	1.000	0.000
Medium	0.000	1.000	V	0.000	1.000	mmho-m	1.000	0.000

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	Readings	Reference	
	1.8	7.2	
High Ref	4.2	14.0	
	Gain: 2.9		Offset: 2.0

Compensated Neutron Calibration Report

Serial Number:	NEU_3I
Tool Model:	G

CALIBRATION						
	Detector	Readings	Target	Normalization		
	Short Space	997.00 cps	1000.00 cps	1.0000		
	Long Space	986.00 cps	1000.00 cps	1.0000		

Gamma Ray Calibration Report

Serial Number:	GR3
Tool Model:	OPEN
Performed:	Sat Oct 03 18:59:57 2009
Calibrator Value:	200.0 GAPI
Background Reading:	3.0 cps
Calibrator Reading:	186.0 cps
Sensitivity:	0.6600 GAPI/cps