



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company	PHILLIPS EXPLORATION CO. L.C.	Company	PHILLIPS EXPLORATION COMPANY, L.C.
Well	LAAS #1-13	Well	LAAS #1-13
Field	WILDCAT	Field	WILDCAT
County	NESS	County	NESS
State	KANSAS	State	KANSAS
Location:	API # : 15-135-25322-0000	Other Services CDL/CNL MEL	
Permanent Datum	GROUND LEVEL	Elevation	2238
Log Measured From	KELLY BUSHING 5' A.G.L.		
Drilling Measured From	KELLY BUSHING		
SEC 13	TWP 19S	RGE 24W	
330' FSL & 590' FWL			
Date	11/20/11		
Run Number	ONE		
Depth Driller	4415		
Depth Logger	4414		
Bottom Logged Interval	4412		
Top Log Interval	00		
Casing Driller	8 5/8"@230'		
Casing Logger	230		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,400	
Density / Viscosity	9.5/48		
pH / Fluid Loss	8.5/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.30@50F		
Rmt @ Meas. Temp	.975@50F		
Rmc @ Meas. Temp	1.56@50F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.542@120F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	11:30 A.M.		
Maximum Recorded Temperature	120F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM PHILLIPS		

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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

NESS CITY, KS. (4 WAY STOP) 3S. ON HWY 283 TO "RD. 100", 1 1/2W. TO "T", 1S., 1/2 W. INTO



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MAIN SECTION

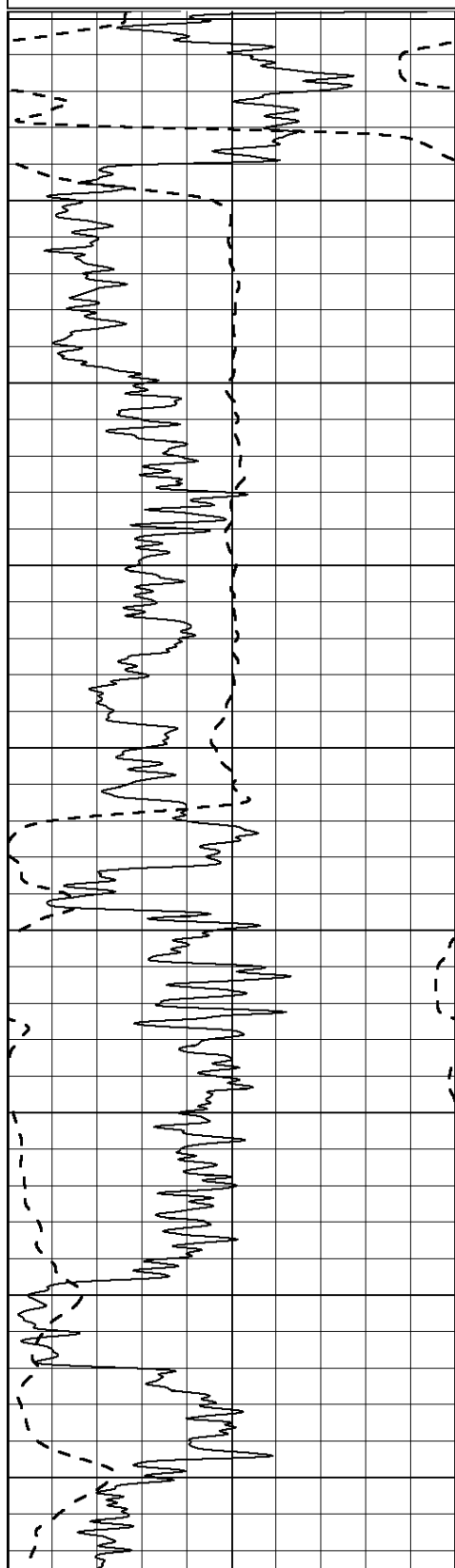
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 Dataset Pathname: pass3.7
 Presentation Format: dil2
 Dataset Creation: Mon Nov 21 13:11:08 2011 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:600

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

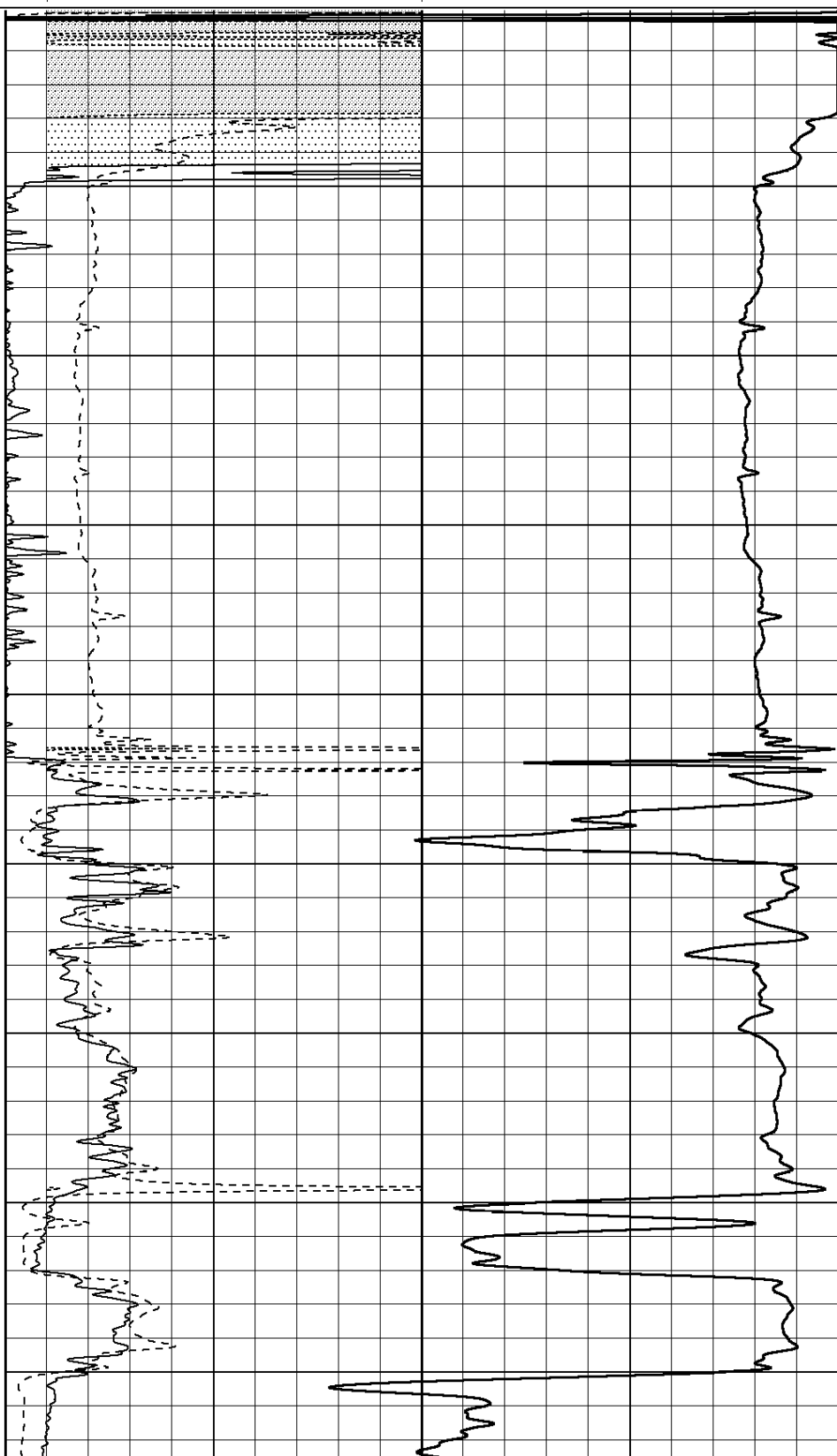
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50

1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500



0
50
100
150
200
250
300
350
400



450

500

550

600

650

700

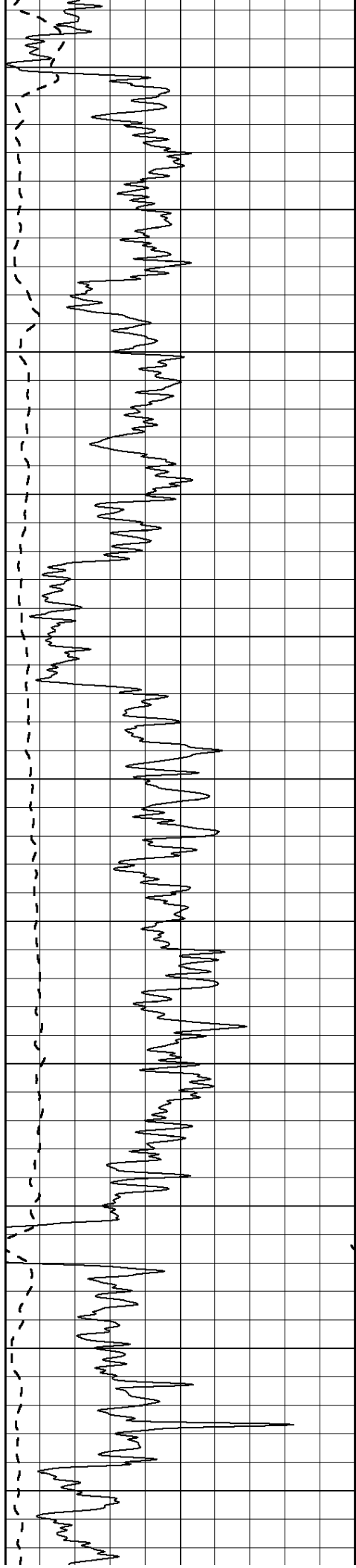
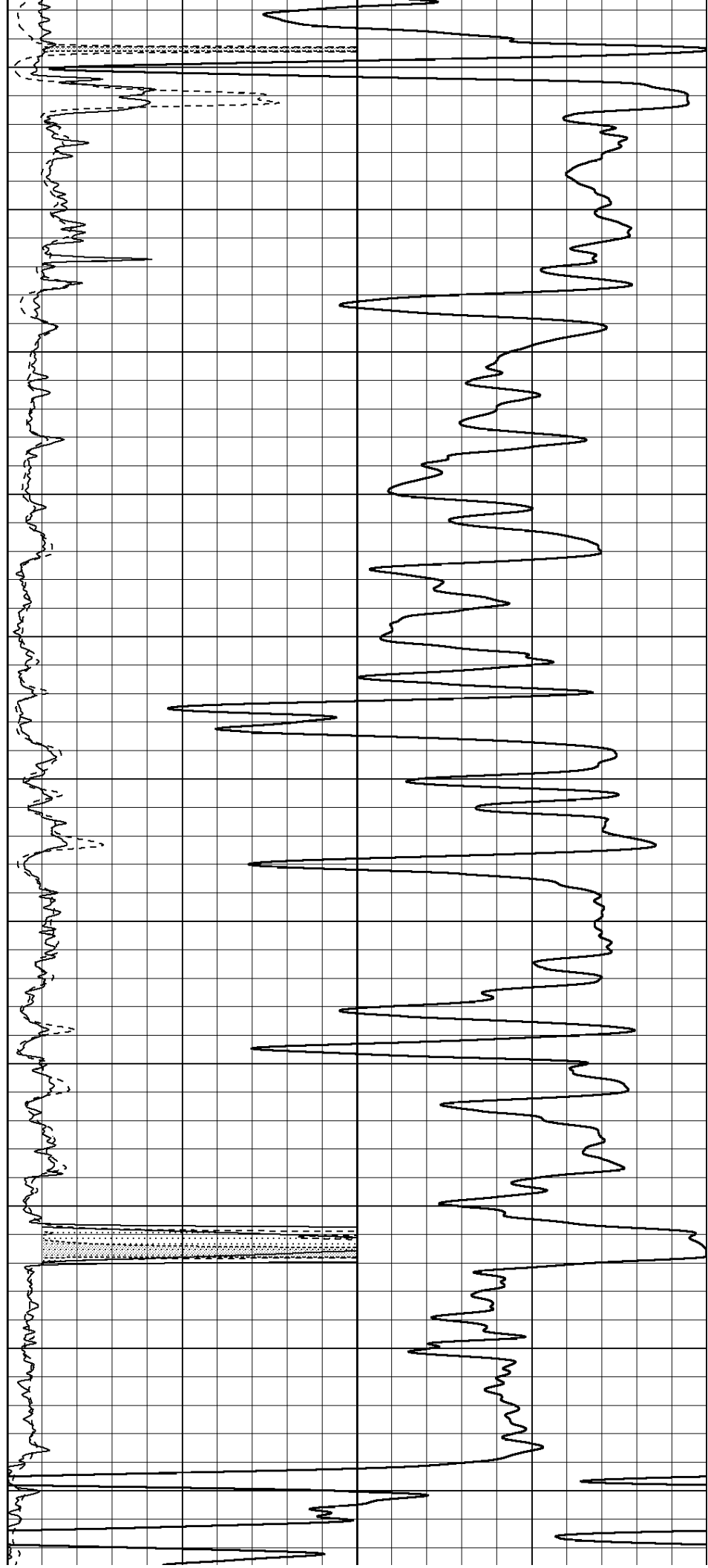
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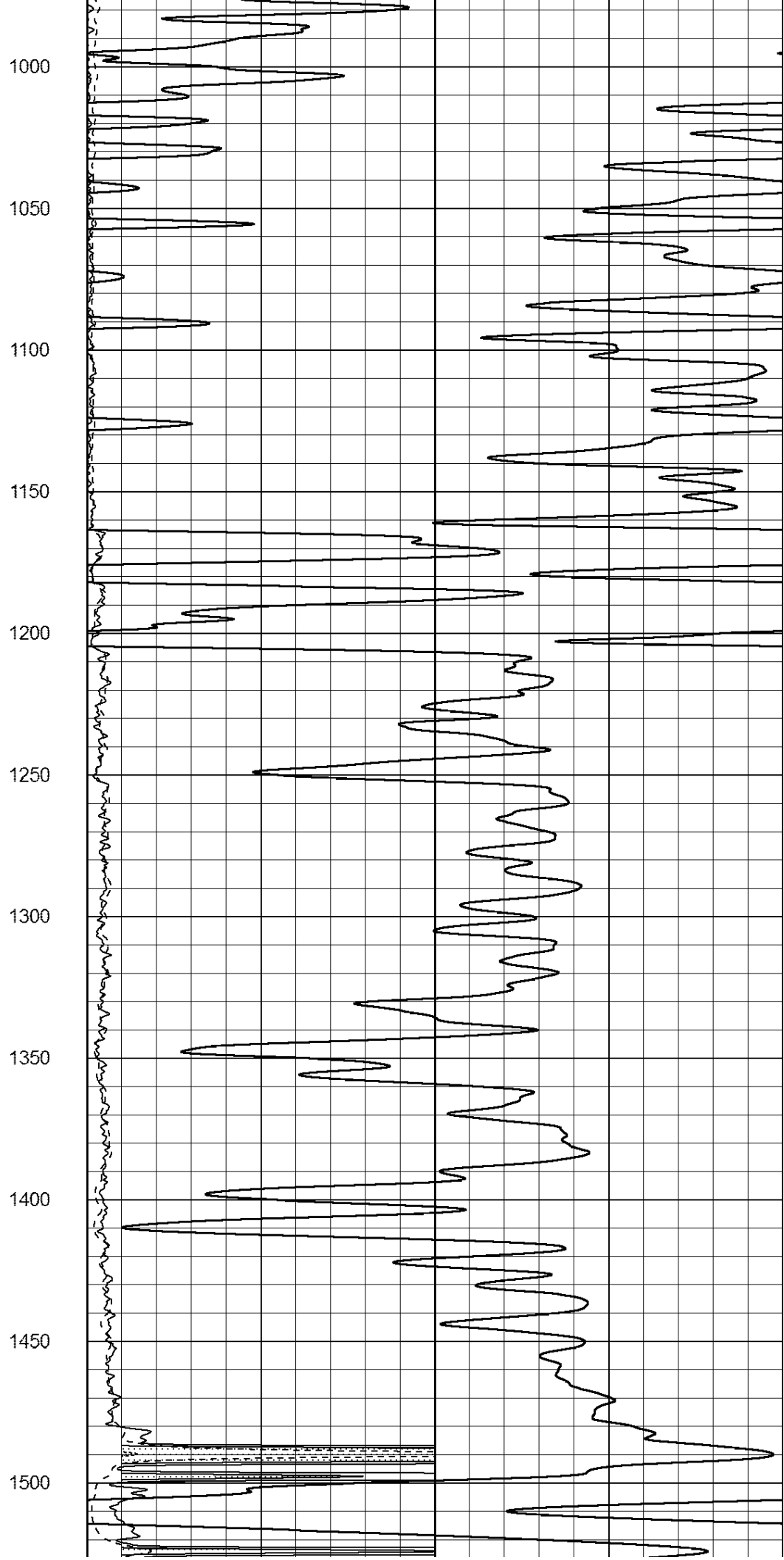
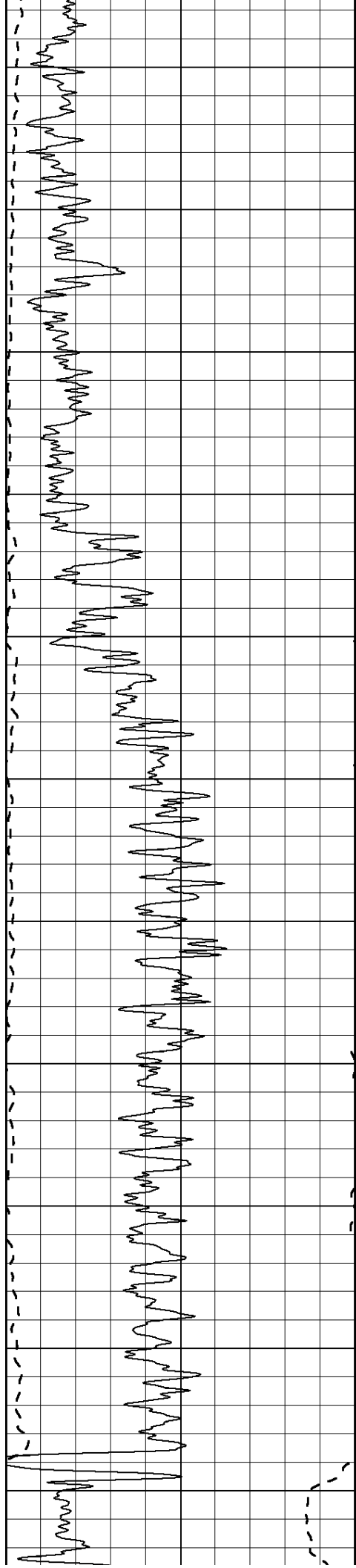
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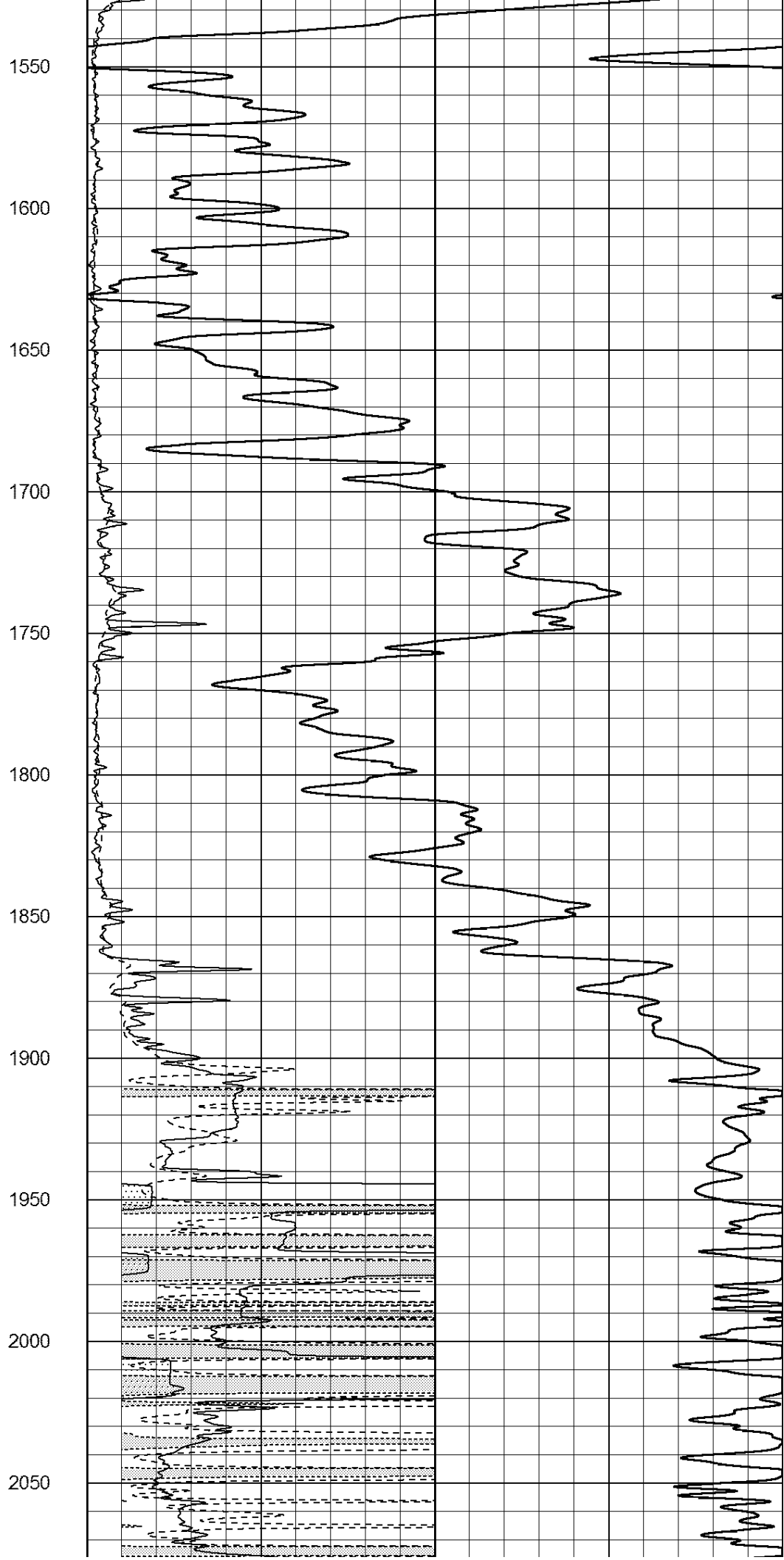
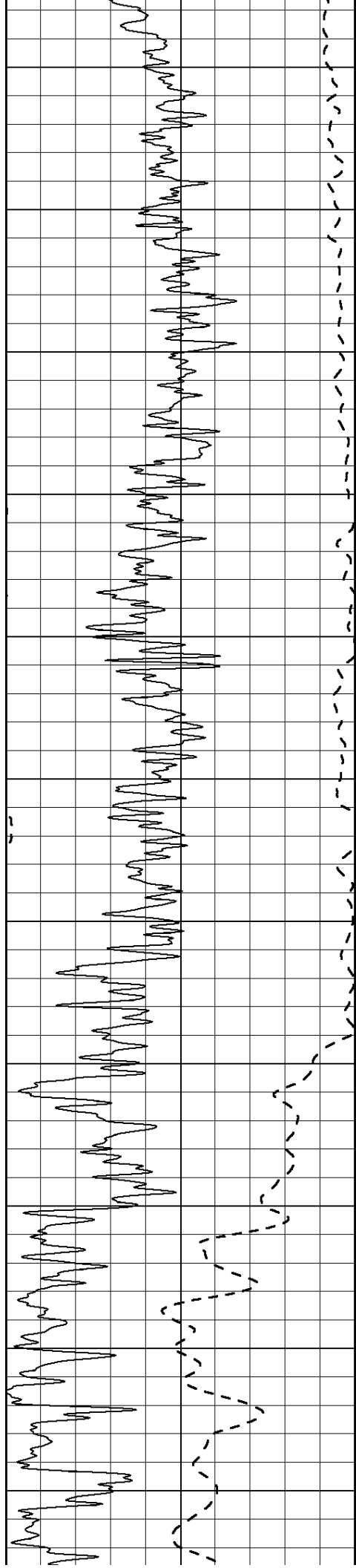
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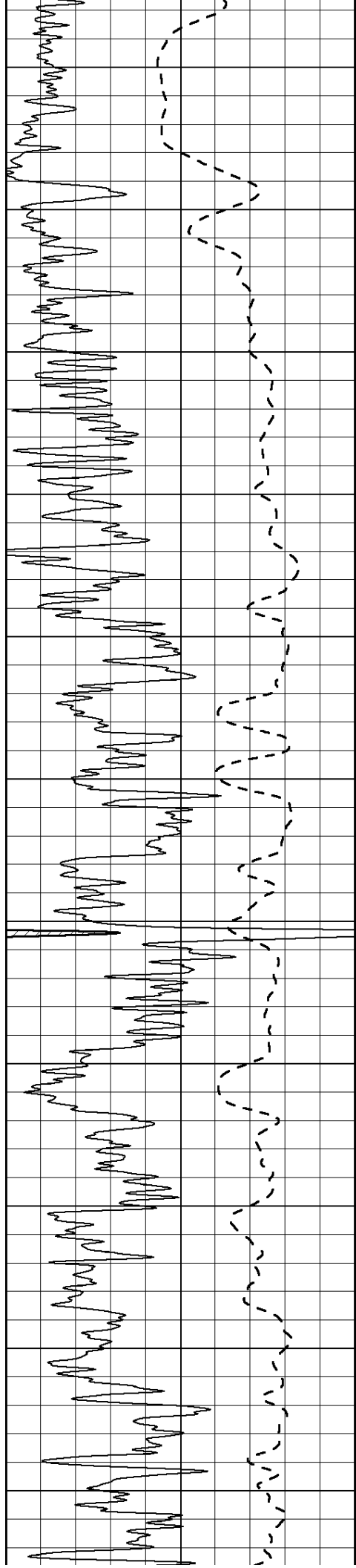
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950









2100

2150

2200

2250

2300

2350

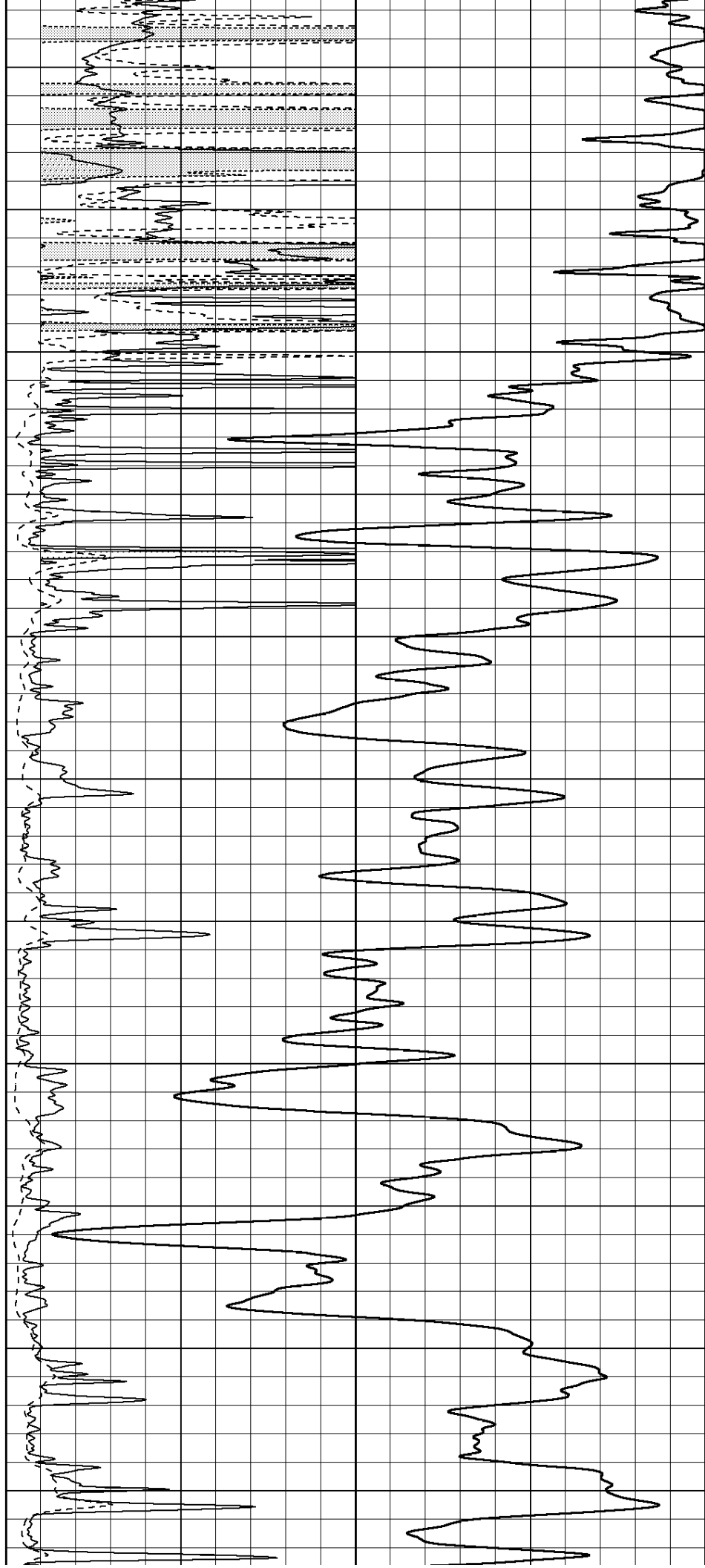
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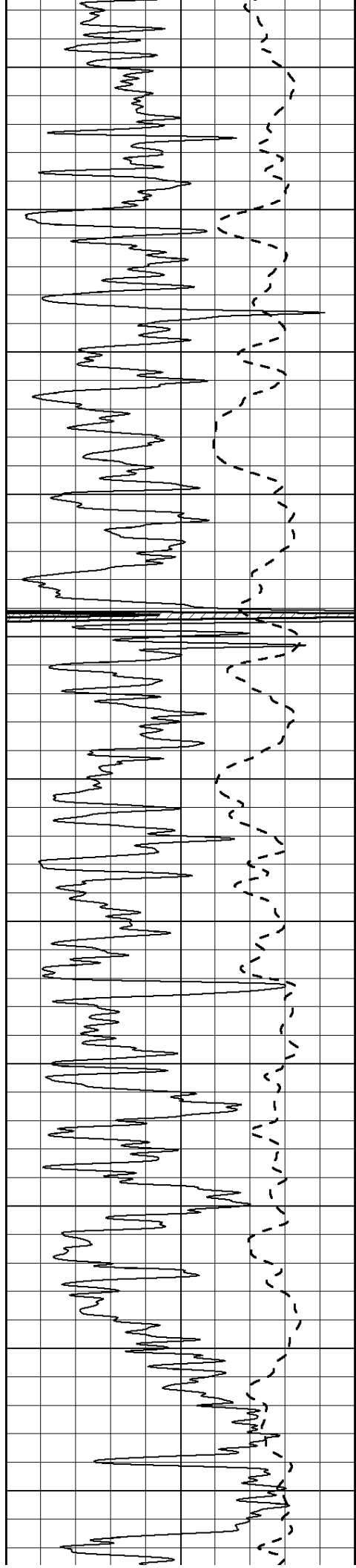
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2500

2550

2600





2650

2700

2750

2800

2850

2900

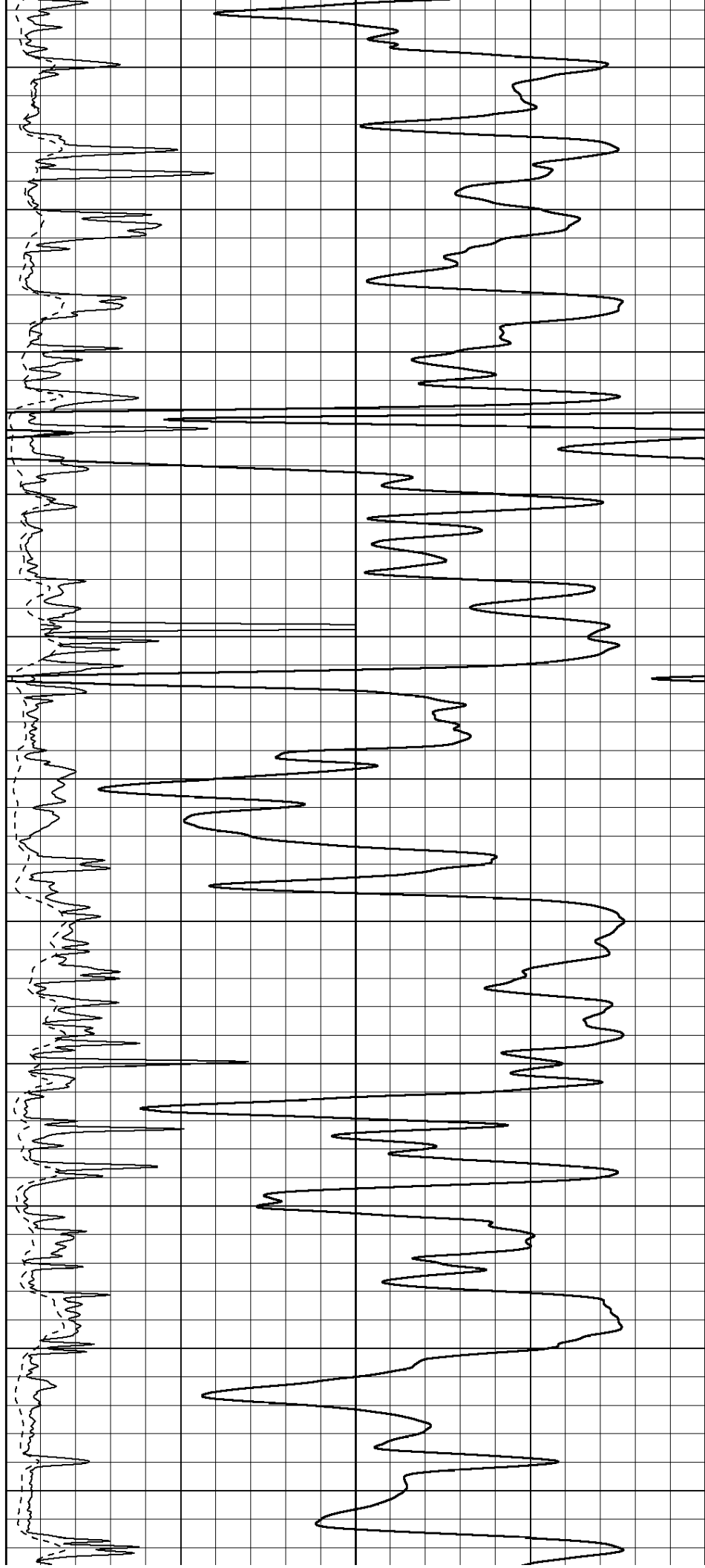
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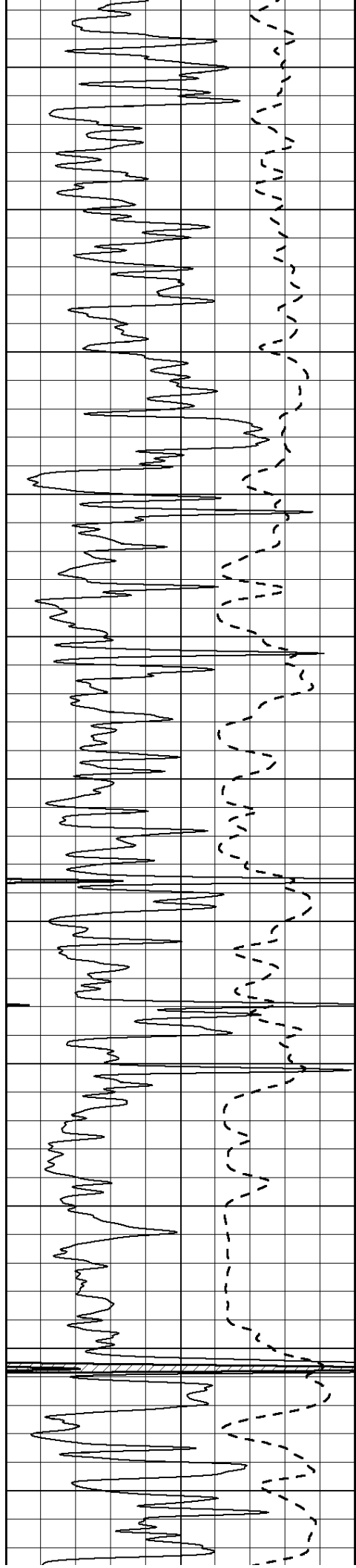
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3050

3100

3150





3200

3250

3300

3350

3400

3450

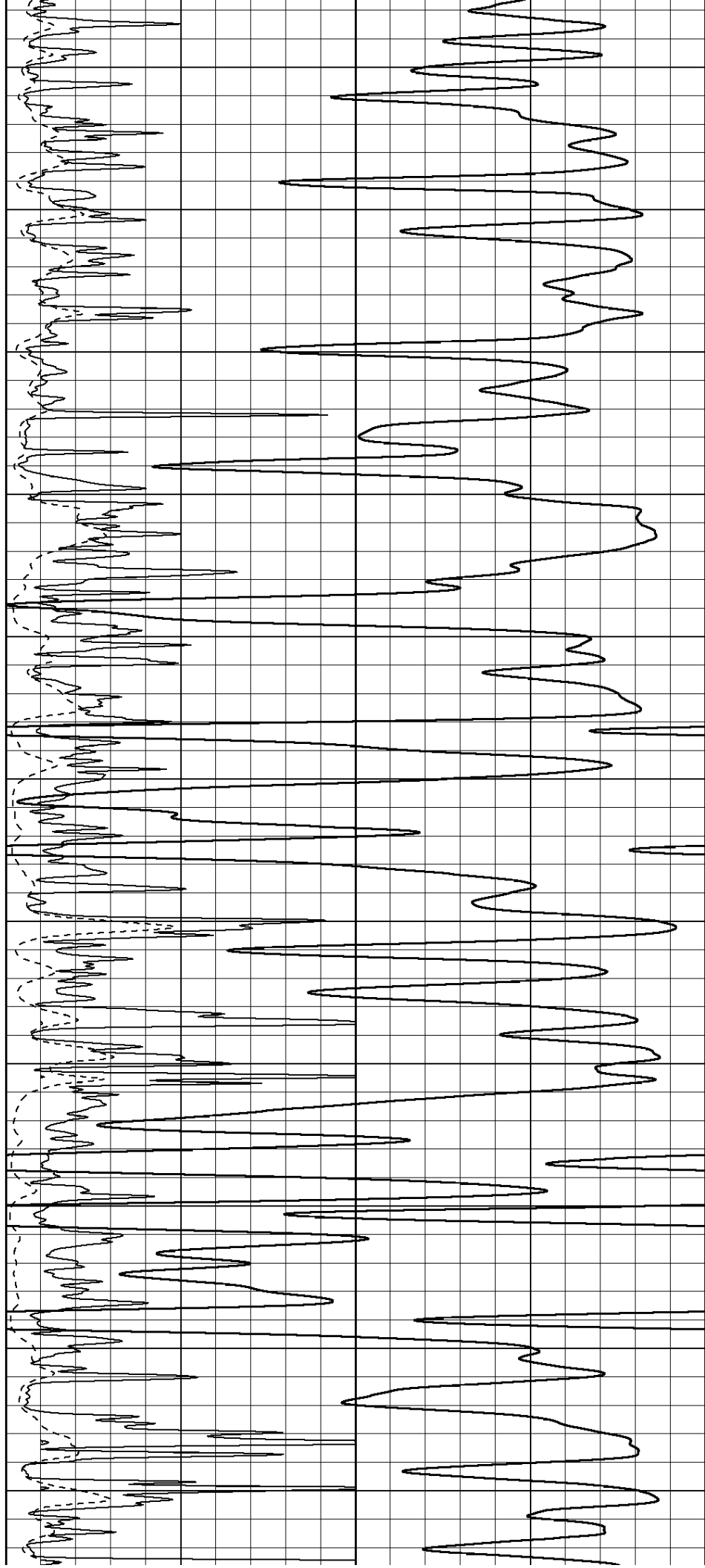
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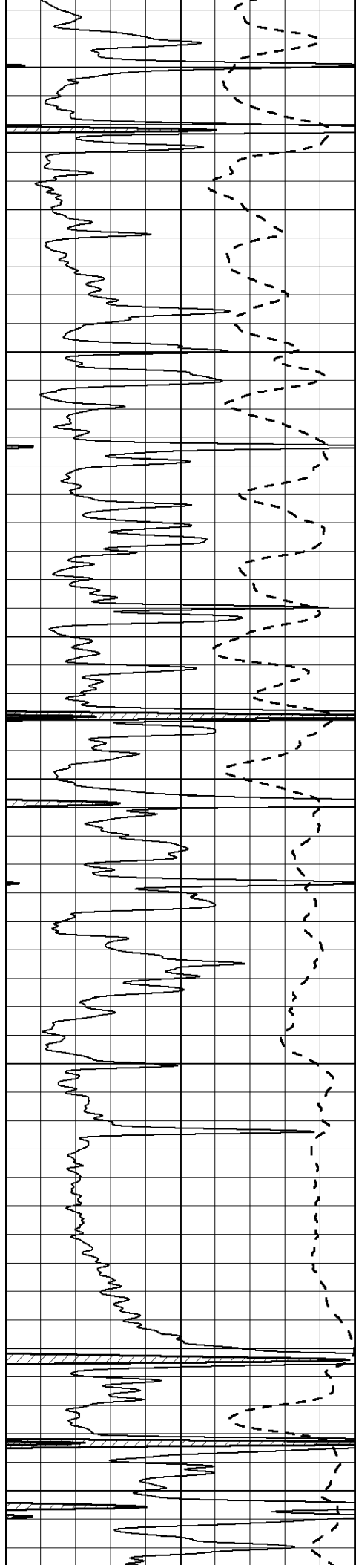
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3600

3650

3700





3750

3800

3850

3900

3950

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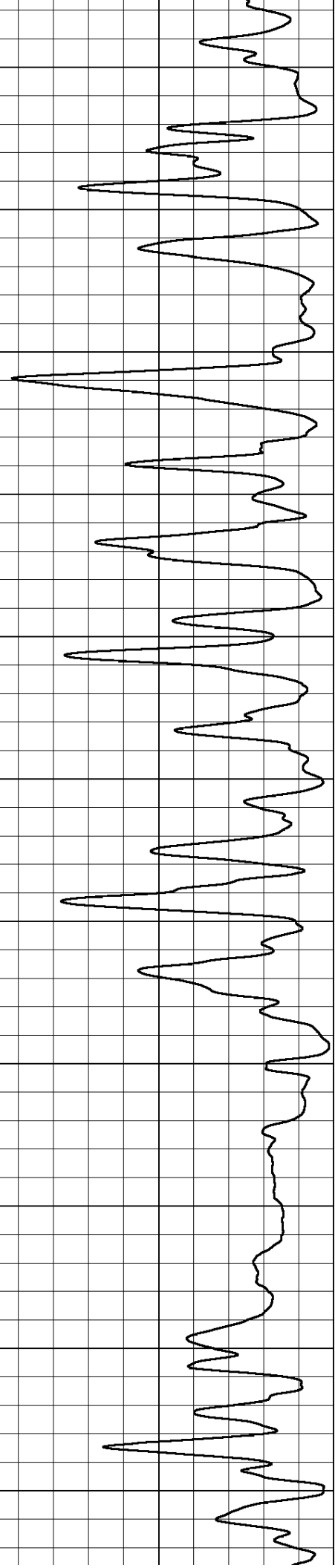
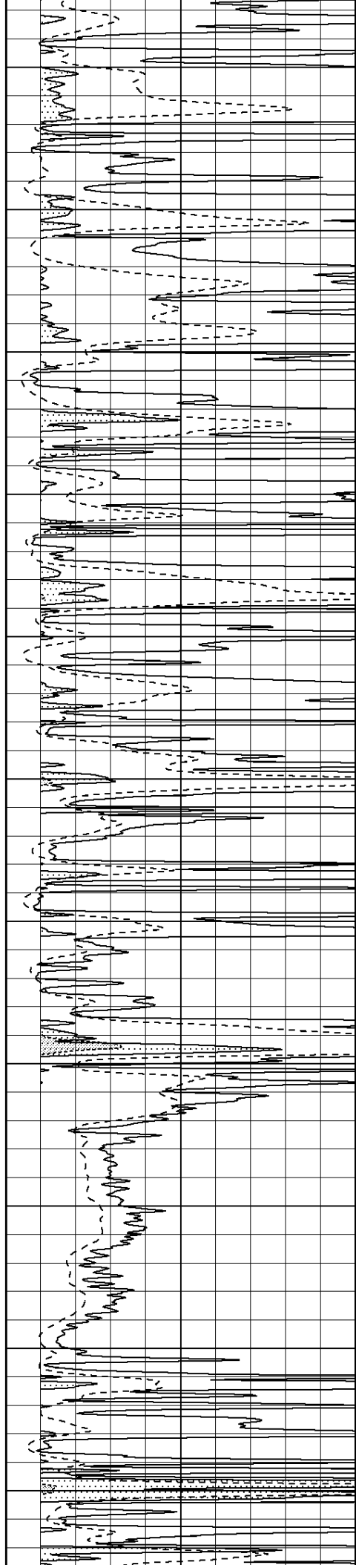
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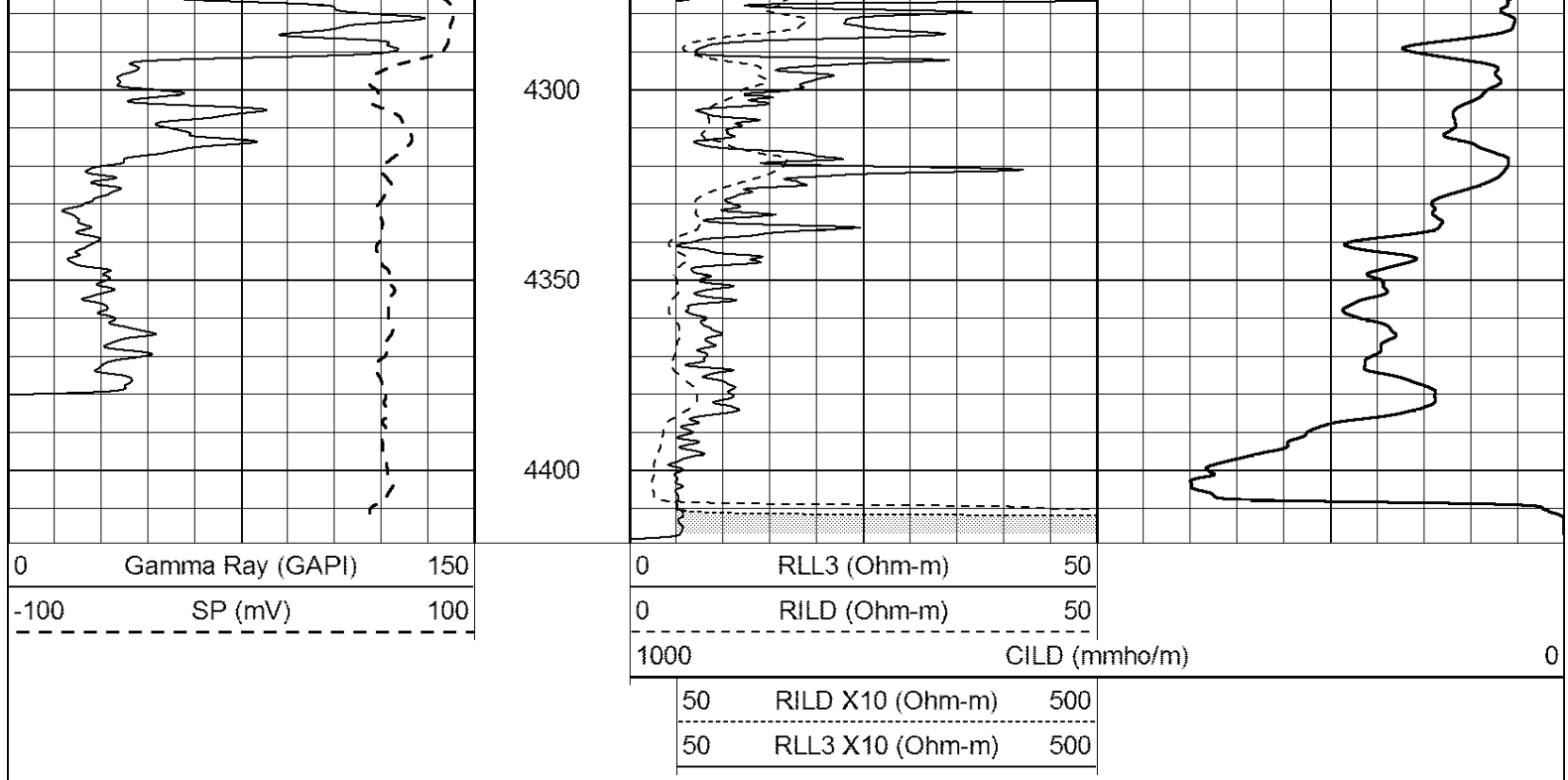
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4150

4200

4250



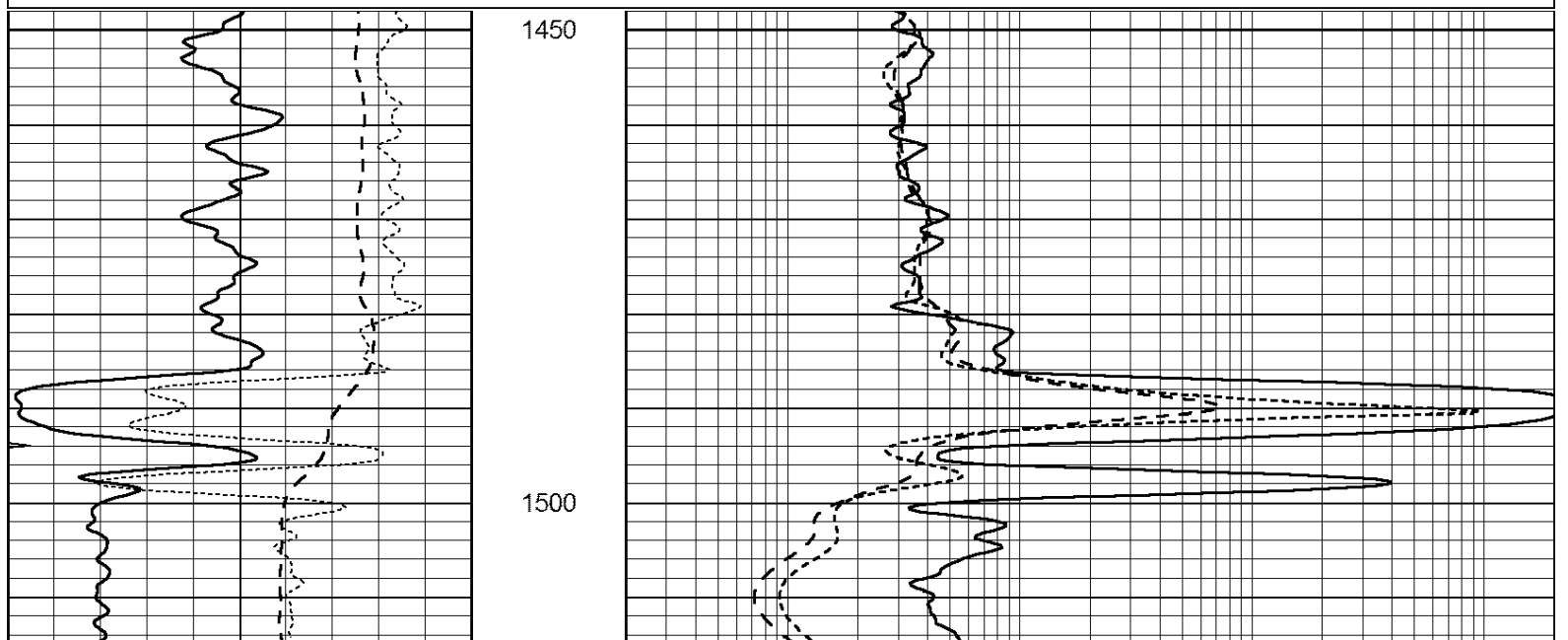


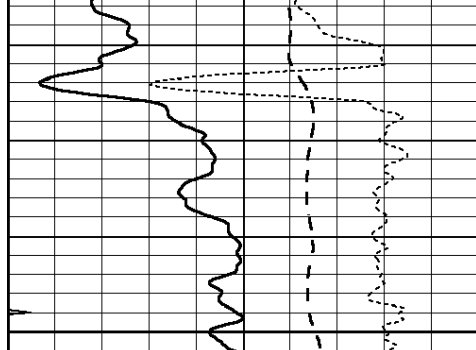
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ANHYDRITE

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 Charted by: Depth in Feet scaled 1:240

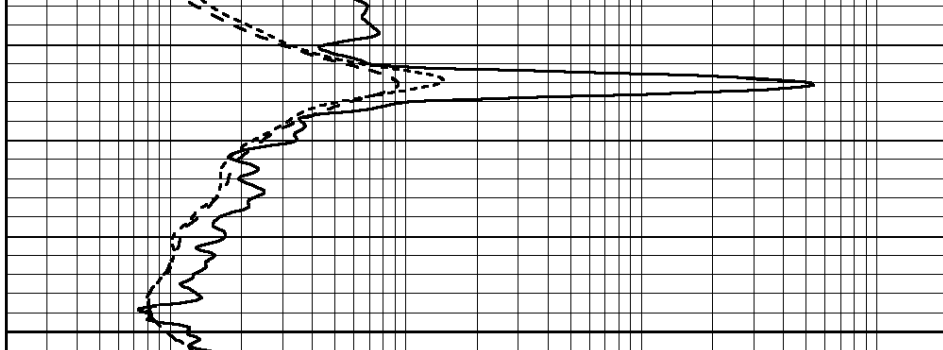
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			





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

1550



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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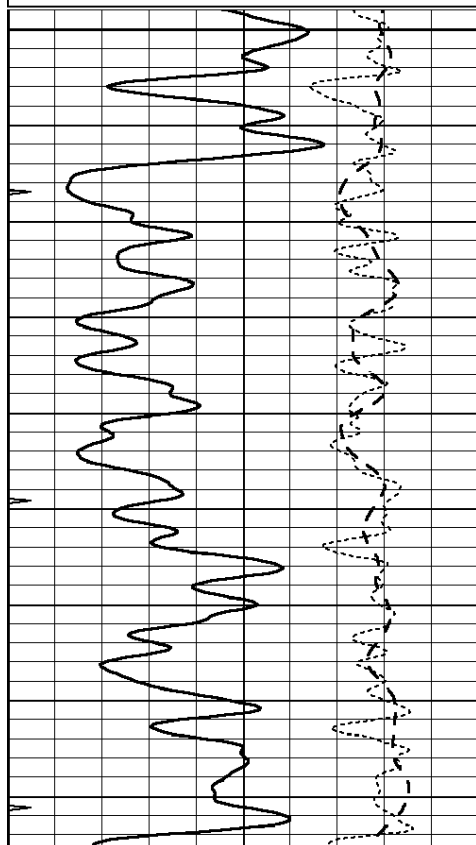
MAIN SECTION

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Dataset Pathname: pass3.7
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Dataset Creation: Mon Nov 21 13:11:08 2011 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

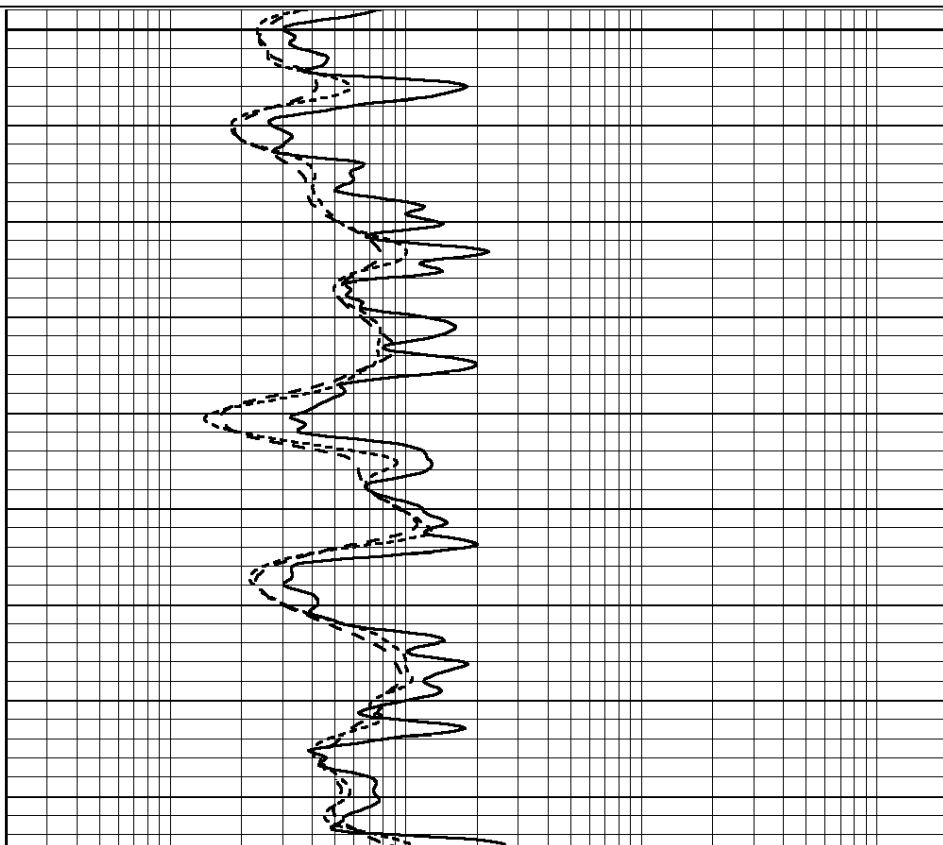
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

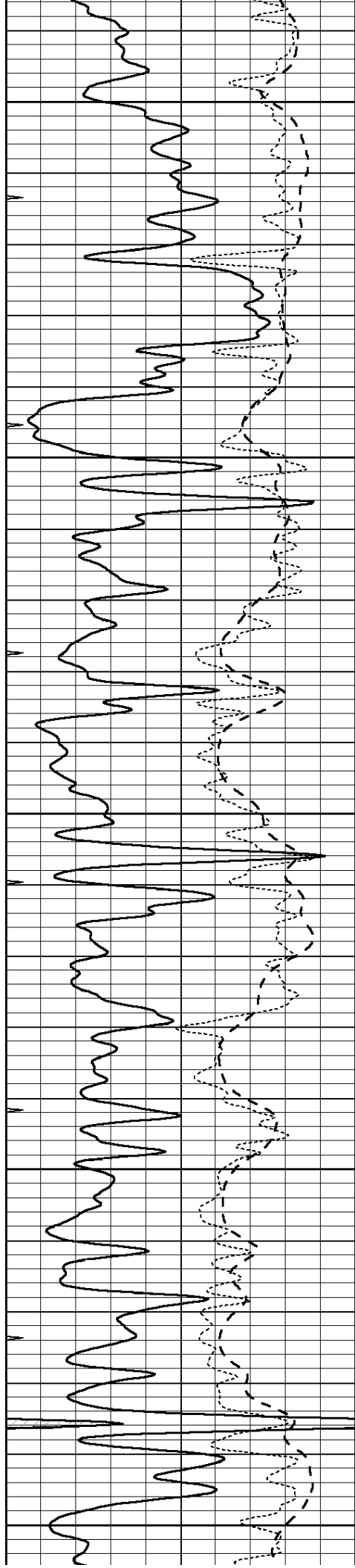
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

3200



3250





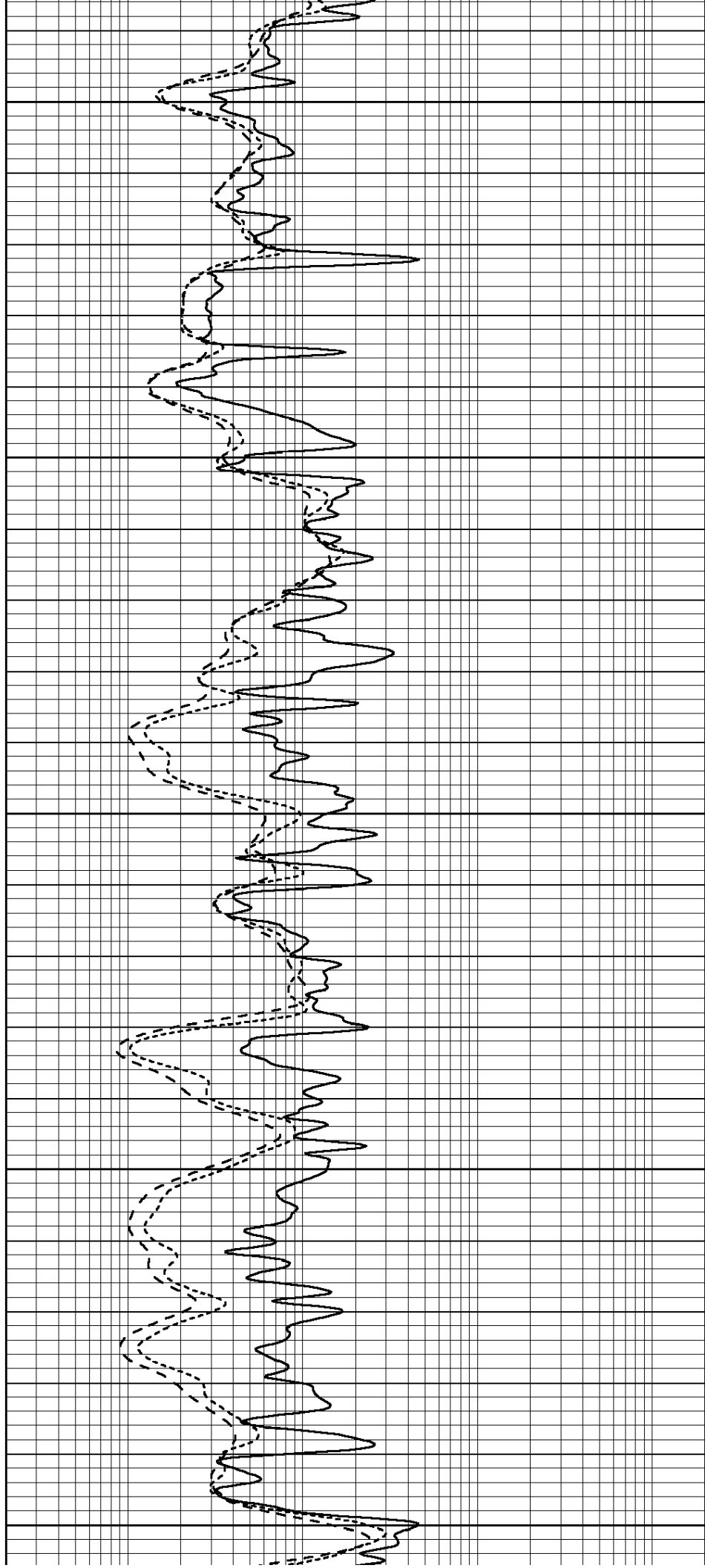
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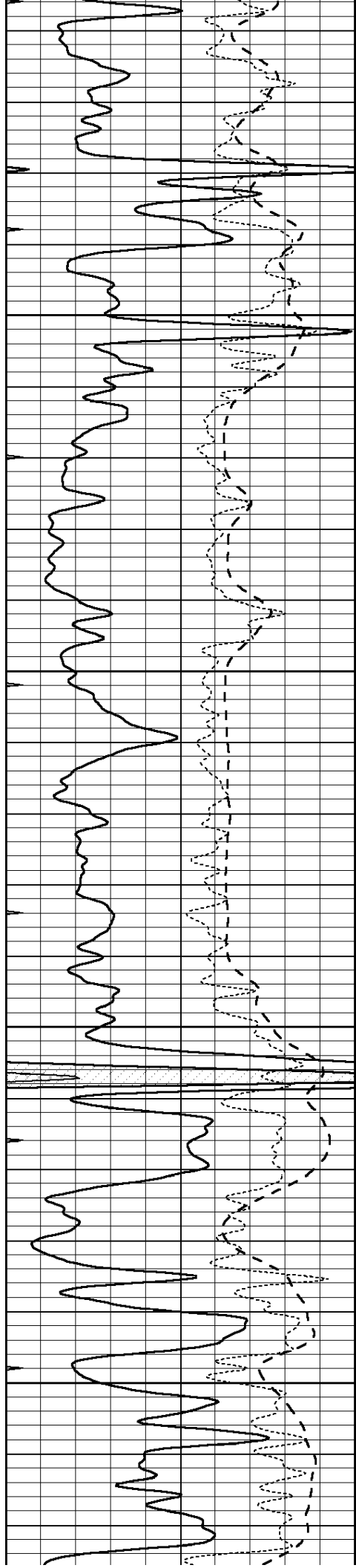
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3400

3450

3500



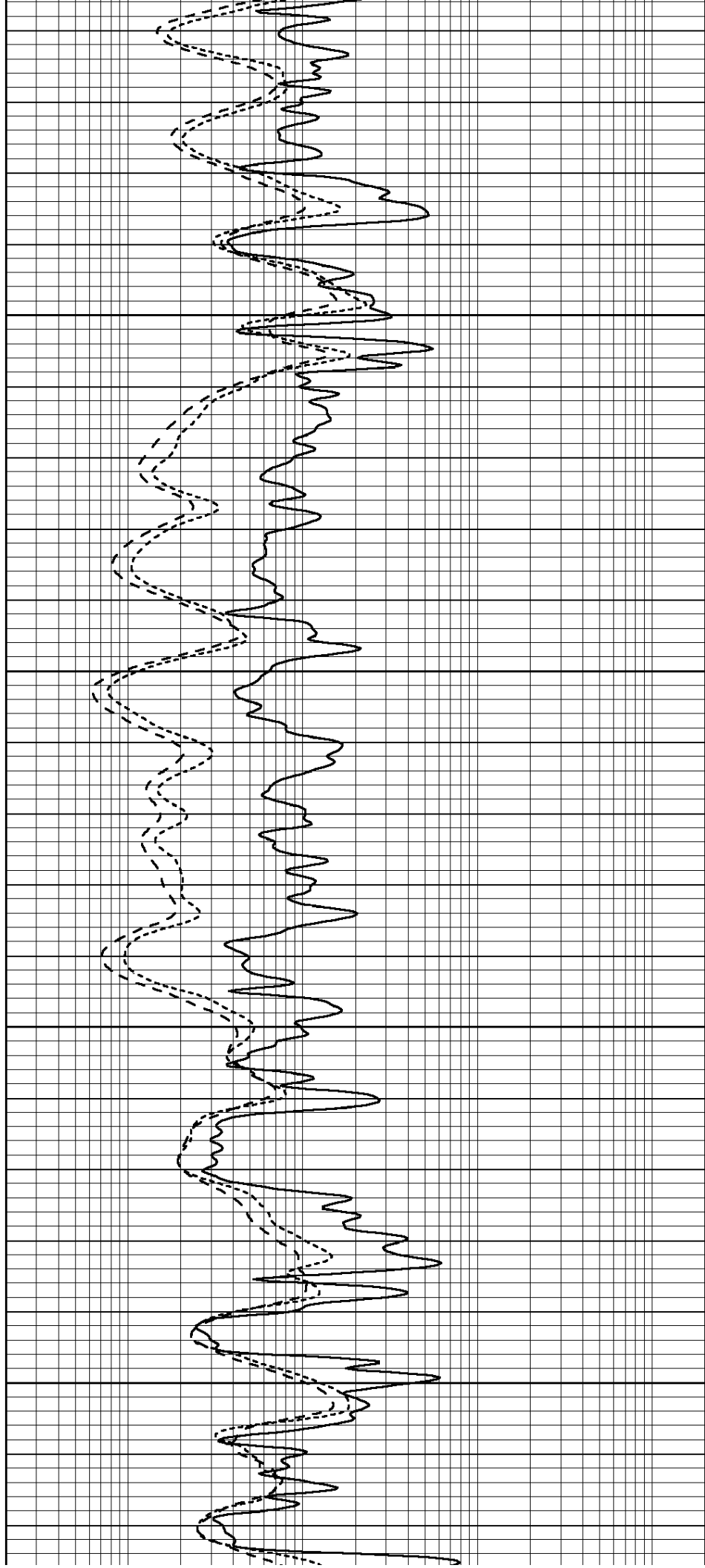


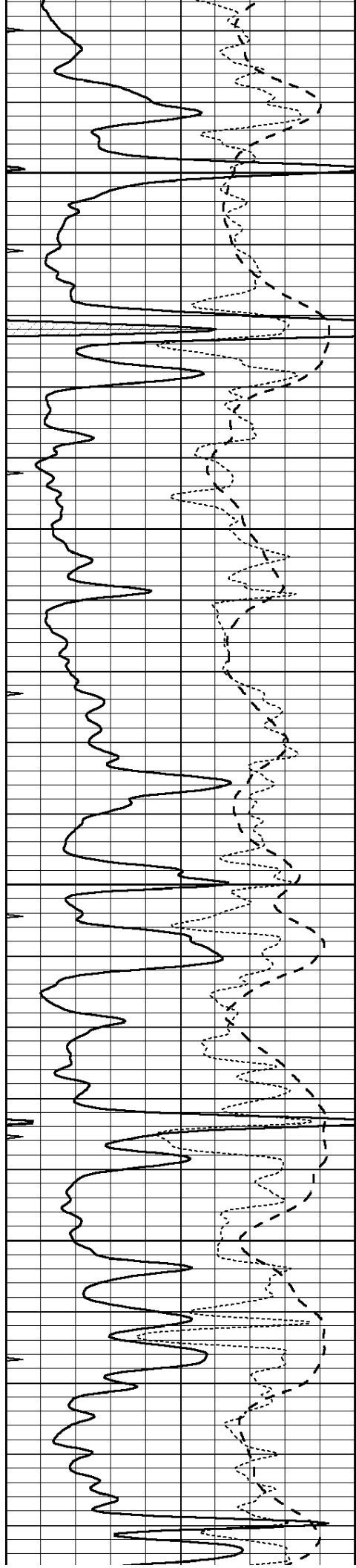
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3600

3650

3700



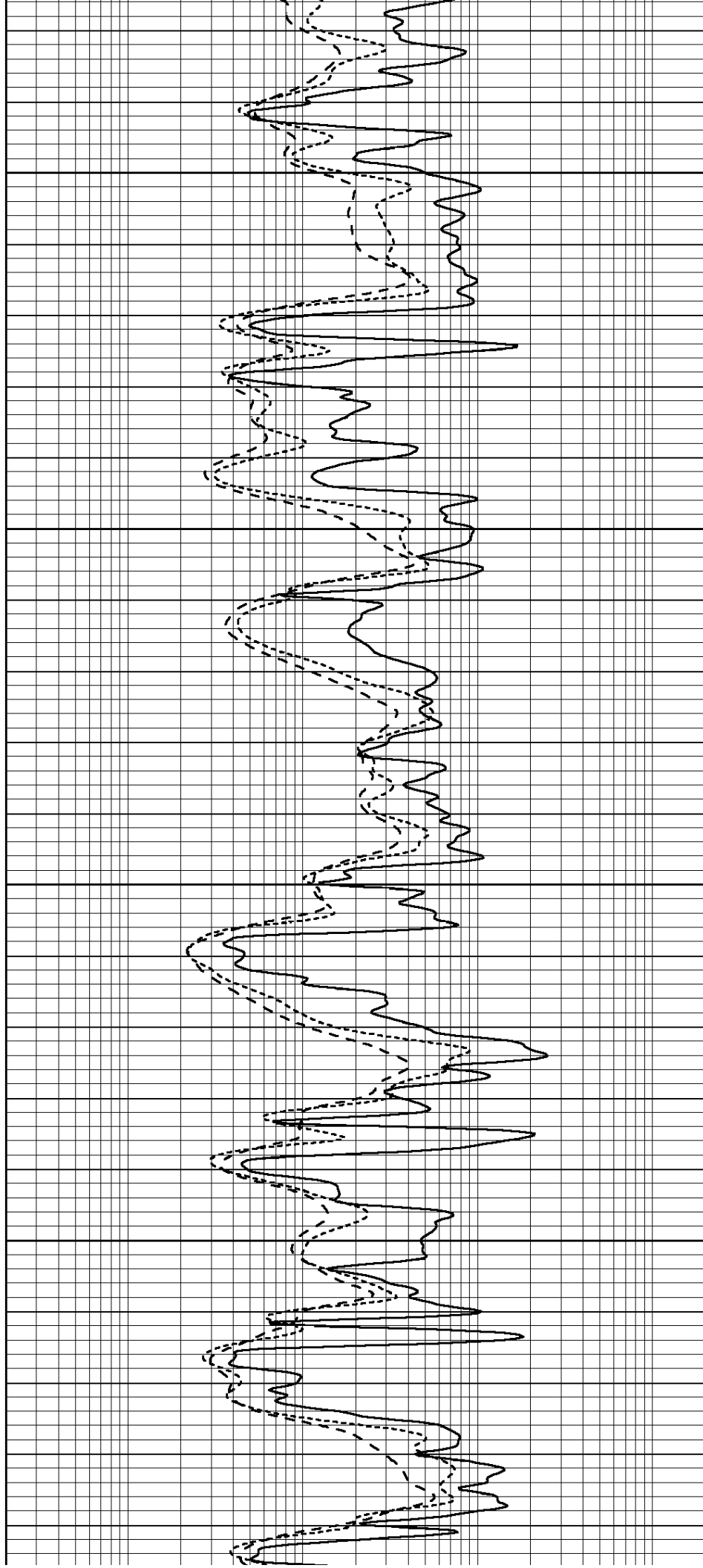


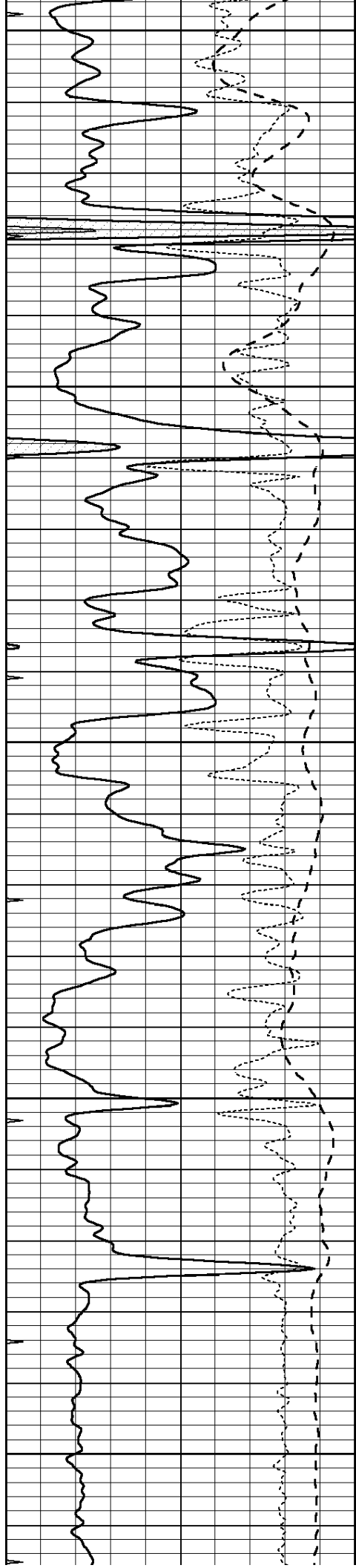
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3850

3900





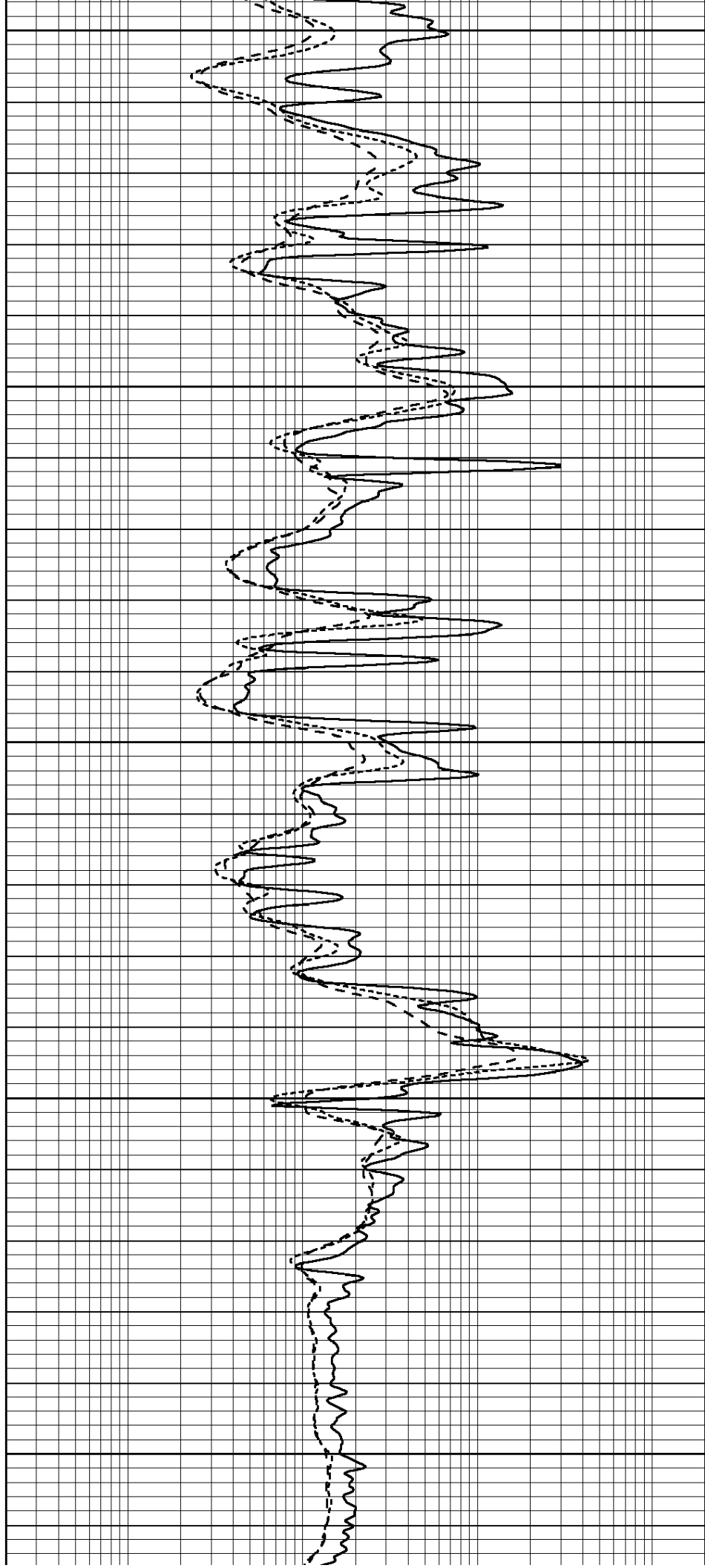
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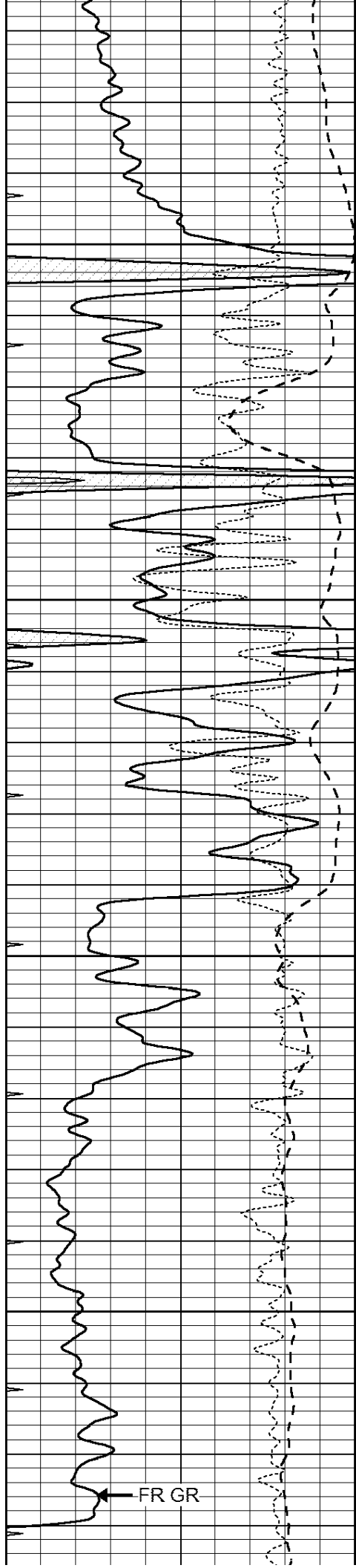
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4050

4100

4150





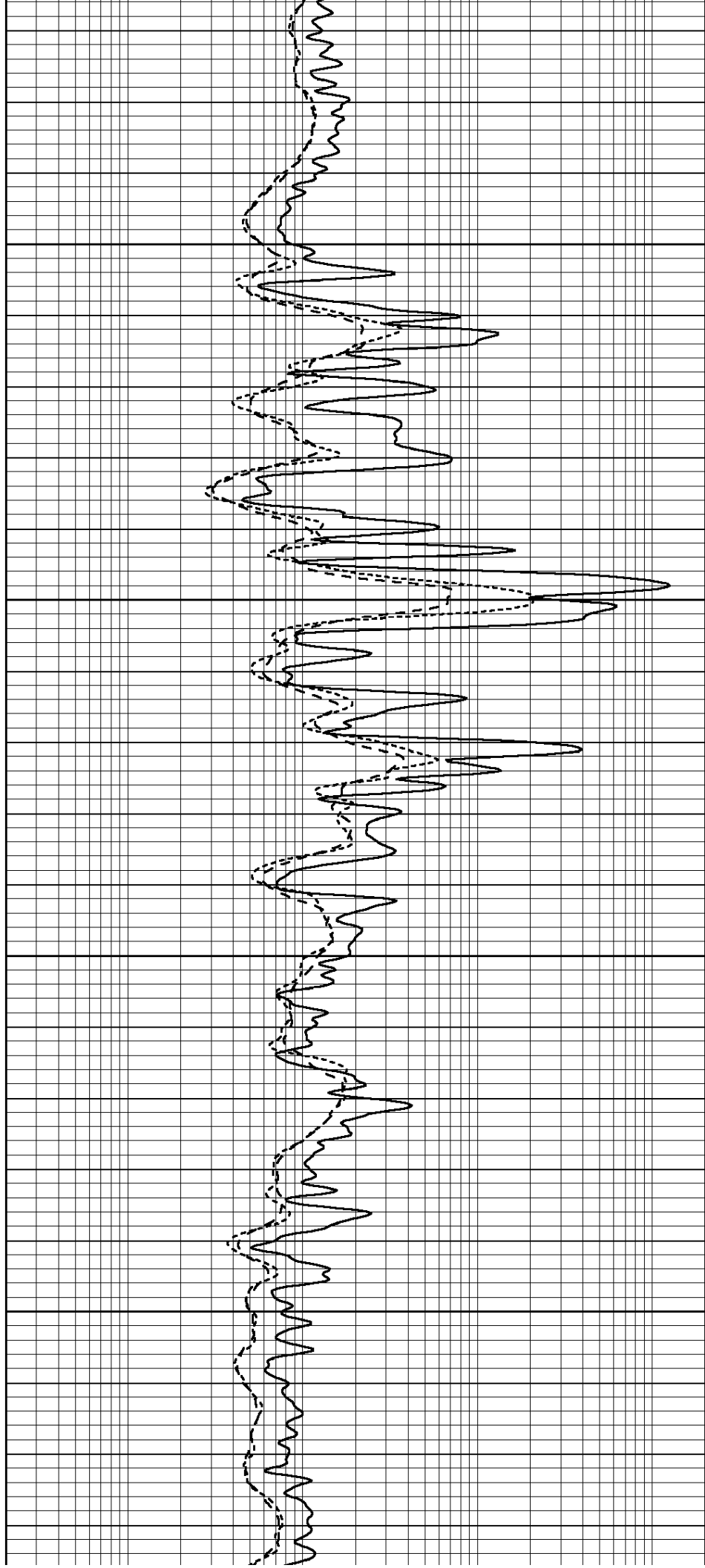
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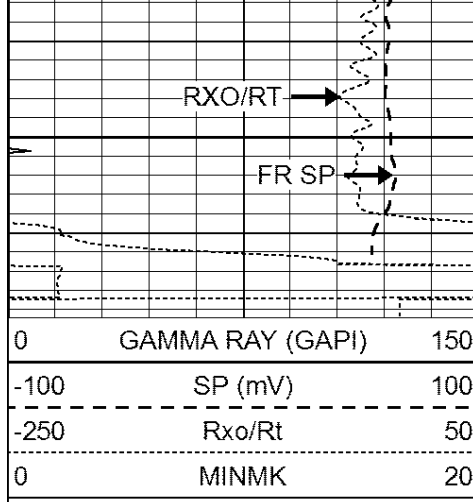
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4300

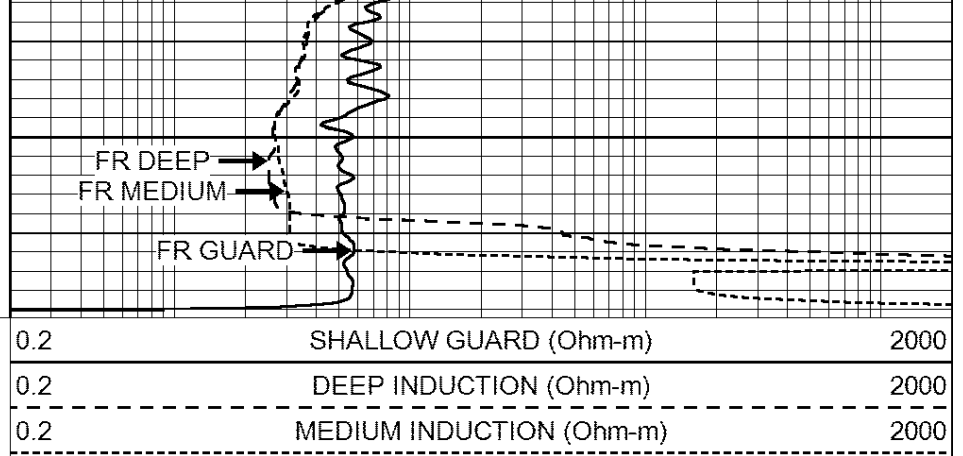
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FR GR





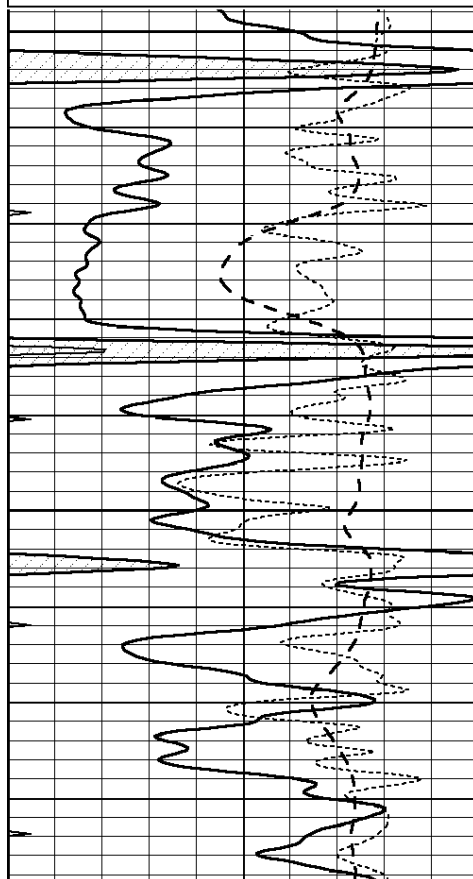
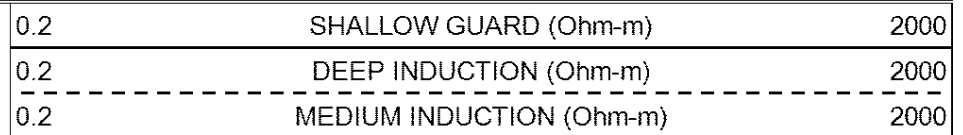
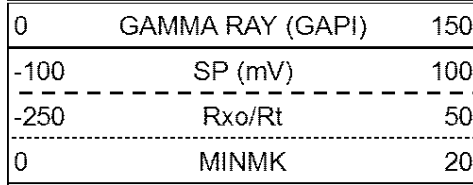
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LTD 4414



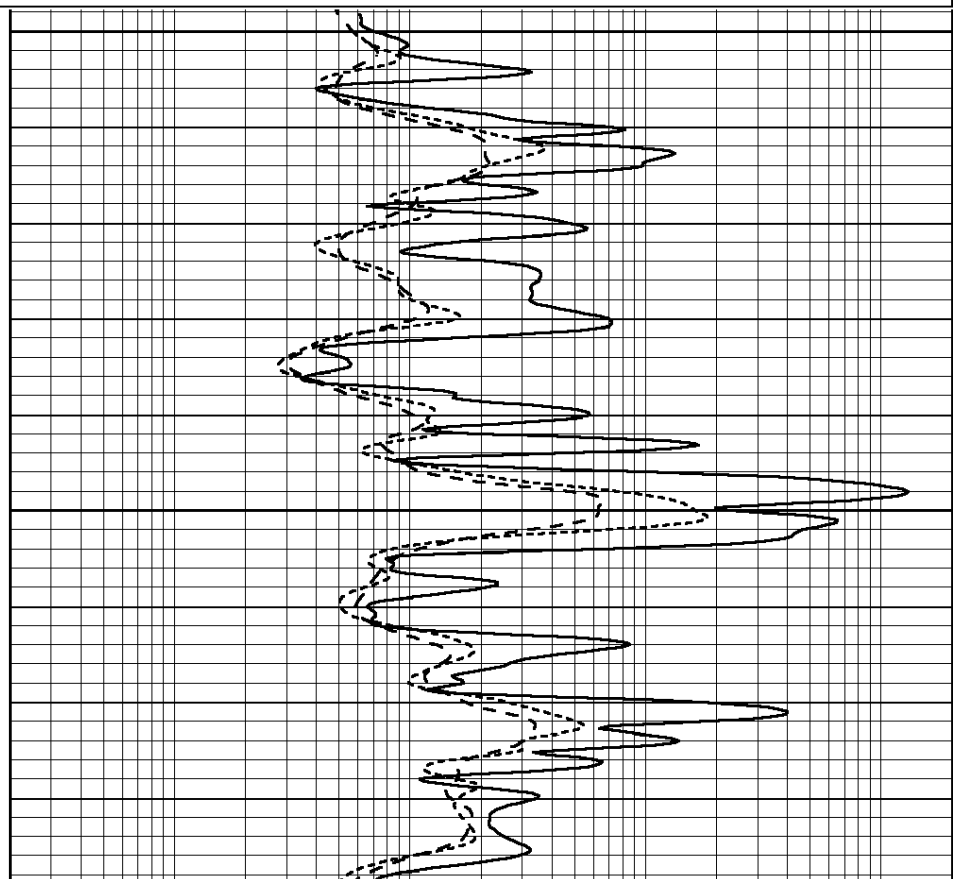
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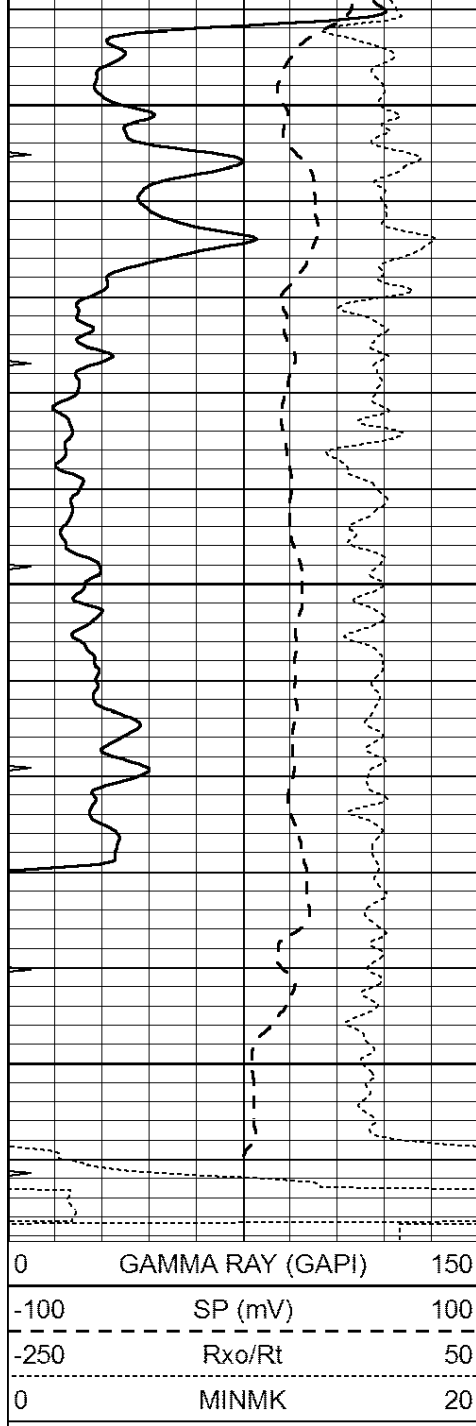
REPEAT SECTION

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Dataset Pathname: pass2.2
Presentation Format: dil
Dataset Creation: Mon Nov 21 12:05:48 2011 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240



4200
4250

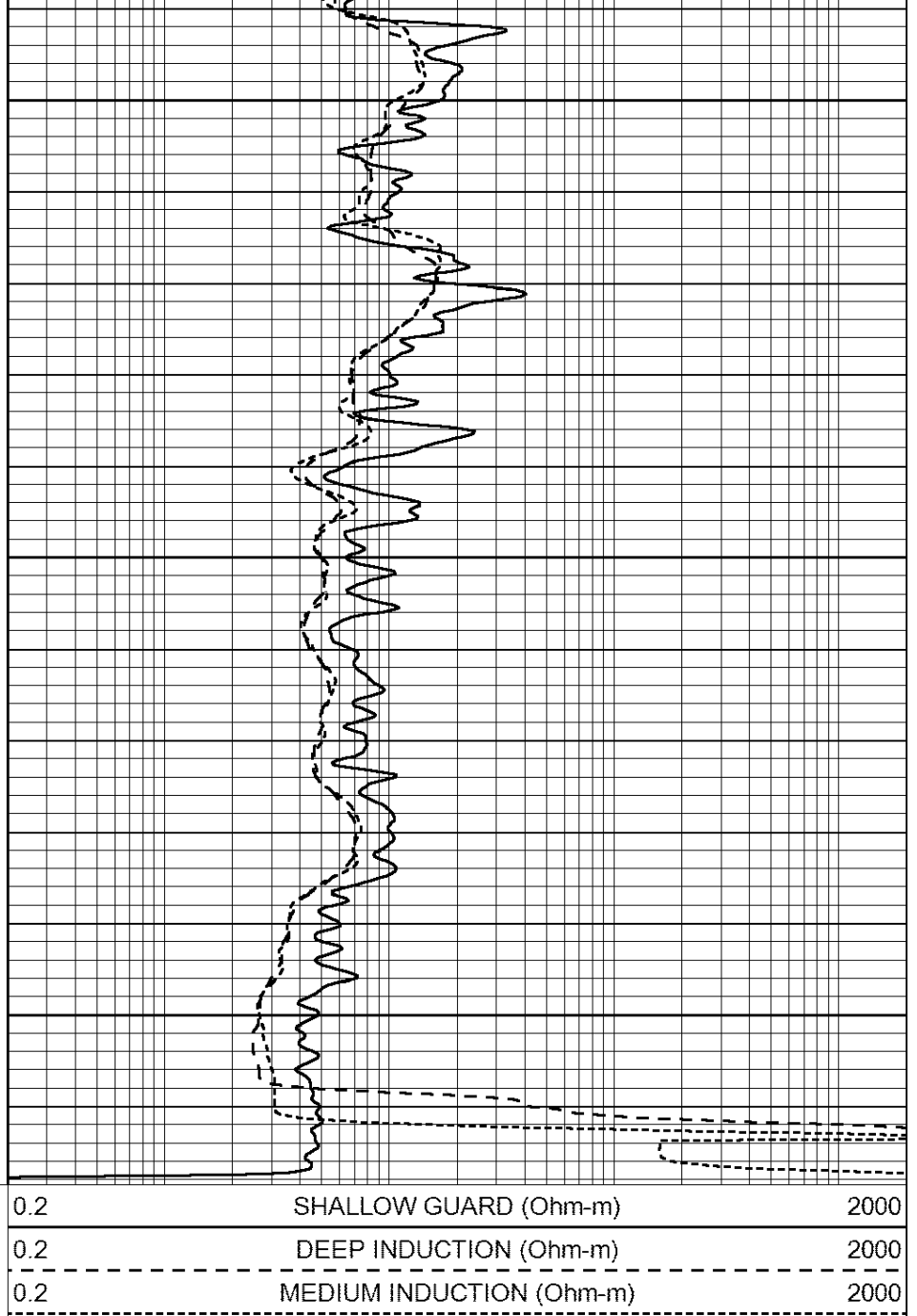




4300

4350

4400



Calibration Report

Database File: 007833ddn.db
 Dataset Pathname: pass3.7
 Dataset Creation: Mon Nov 21 13:11:08 2011 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Mon Nov 21 11:57:51 2011

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	4.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-8.000
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: 004N Model: PRB
Performed Tue Sep 08 13:49:55 2009

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1535.8	11161.3	3721.6	12498.8	cps
Window 2	1402.6	9435.7	3219.7	10417.7	cps
Window 3	1077.6	4422.0	1779.2	4753.4	cps
Window 4	337.3	342.8	337.4	343.7	cps
Long Space	0.0	8033.1	1817.0	9015.1	cps
Short Space	1.2	1671.8	1138.1	1813.0	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 45.5	Rib Slope	: 1.017	Density/Spine Ratio	: 0.573
Spine Angle	: 75.5	Spine Slope	: 3.865	Spine Intercept	: -19.7

Caliper

	Readings	Reference	
Low Ref	2.6	6.8	
High Ref	4.8	15.0	
	Gain: 3.9		Offset: -3.4

Compensated Neutron Calibration Report

Serial Number: 070807
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: 070558
Tool Model: OPEN_GR
Performed: Mon Nov 21 11:57:38 2011

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.2500 GAPI/cps