



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company		MULL DRILLING COMPANY, INC.	
Well		BECKER #1-27	
Field		WHITNEY WEST	
County		GOVE	
State		KANSAS	
Location:		AP1 # : 15-063-21901-0000	
Permanent Datum		GROUND LEVEL	
Log Measured From		990' FNL & 579' FEL	
Drilling Measured From		W/2 - SE - NE - NE	
SEC 27 TWP 15S RGE 27		Elevation	
		K.B. 2496	
		D.F. 2494	
		G.L. 2488	
Date		6/30/11	
Run Number		ONE	
Depth Driller		4450	
Depth Logger		4451	
Bottom Logged Interval		4449	
Top Log Interval		00	
Casing Driller		8 5/8"@226'	
Casing Logger		226	
Bit Size		7 7/8"	
Type Fluid in Hole		CHEMICAL MUD	
Density / Viscosity		9.3/45	
pH / Fluid Loss		8.5/12.4	
Source of Sample		FLOWLINE	
Rm @ Meas. Temp		1.00@100F	
Rmt @ Meas. Temp		.750@100F	
Rmc @ Meas. Temp		1.20@100F	
Source of Rmt / Rmc		MEASUREMENT	
Rm @ BHT		.833@120F	
Time Circulation Stopped		2.5 HOURS	
Time Logger on Bottom		7:45 P.M.	
Maximum Recorded Temperature		120F	
Equipment Number		4010	
Location		HAYS, KANSAS	
Recorded By		JEFF LUEBBERS	
Witnessed By		BOB STOLZLE	

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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

PENDENNIS, KS. (E. SIDE ON HWY 4) 6 1/2N. ON "RED CHIEF RD.", TO " RD. C", 1 1/2E., TAKE CURVE S. THEN W. INTO



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MAIN SECTION

Database File: 007080pe.db
Dataset Pathname: pass3.6
Presentation Format: dil2
Dataset Creation: Thu Jun 30 21:09:11 2011 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:600

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

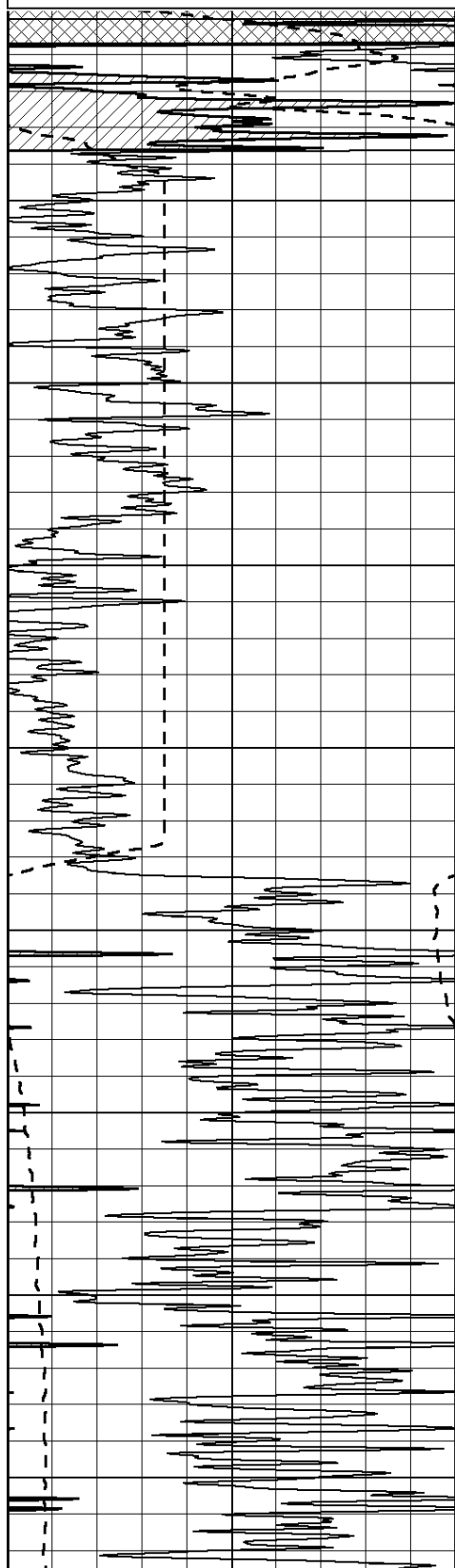
0 RLL3 (Ohm-m) 50

0 RILD (Ohm-m) 50

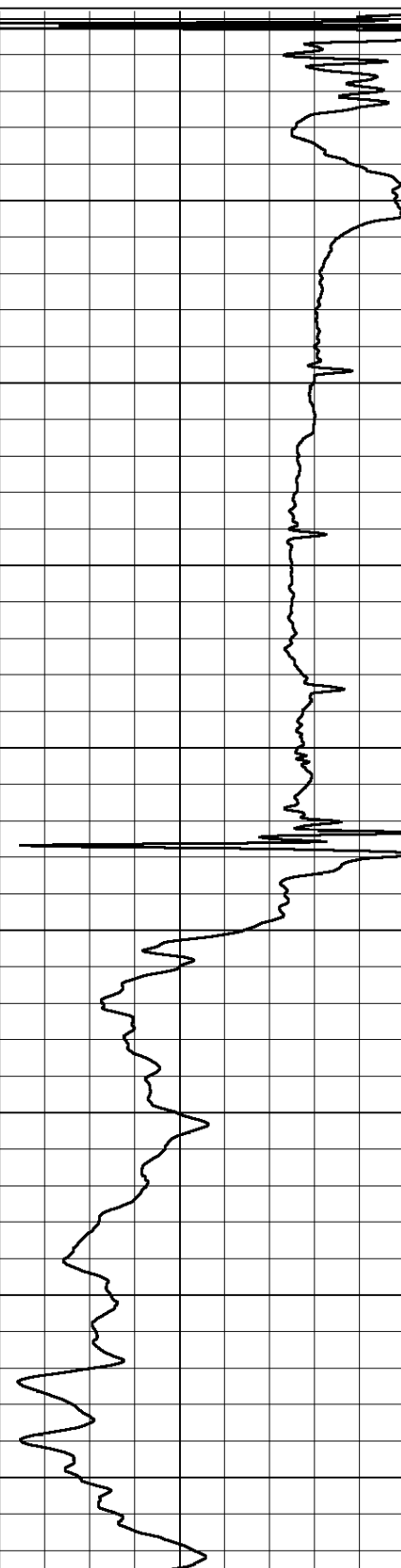
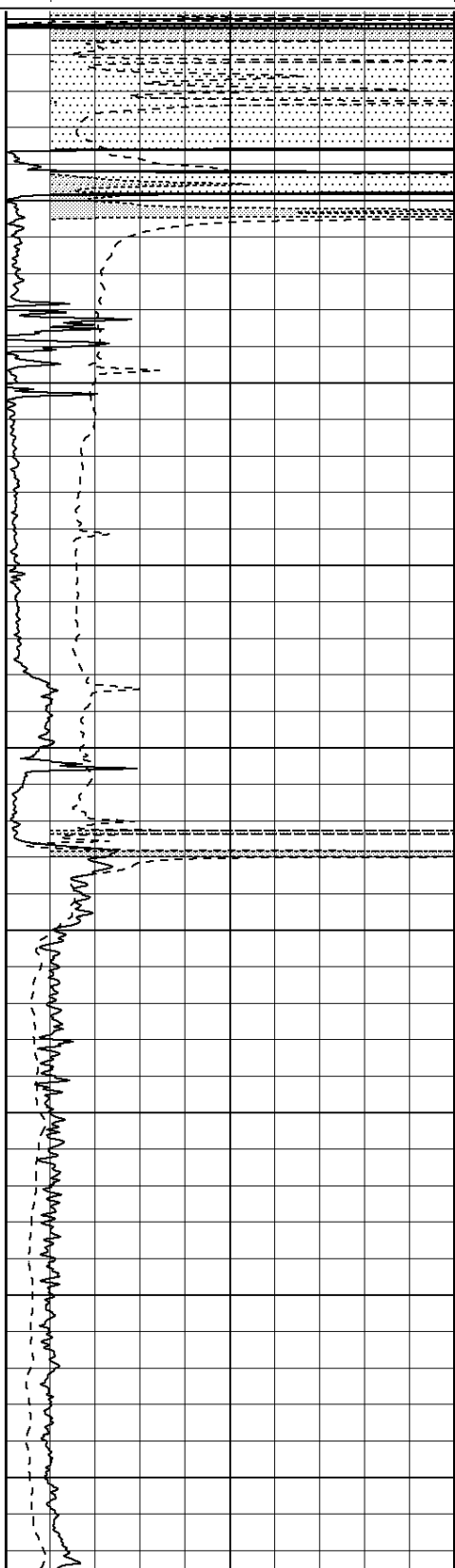
1000 CILD (mmho/m) 0

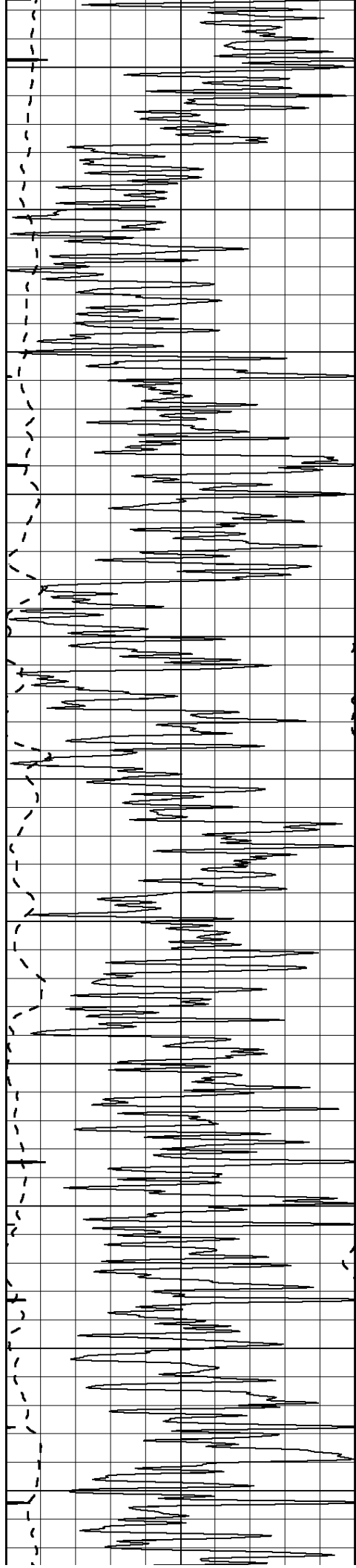
50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500



0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

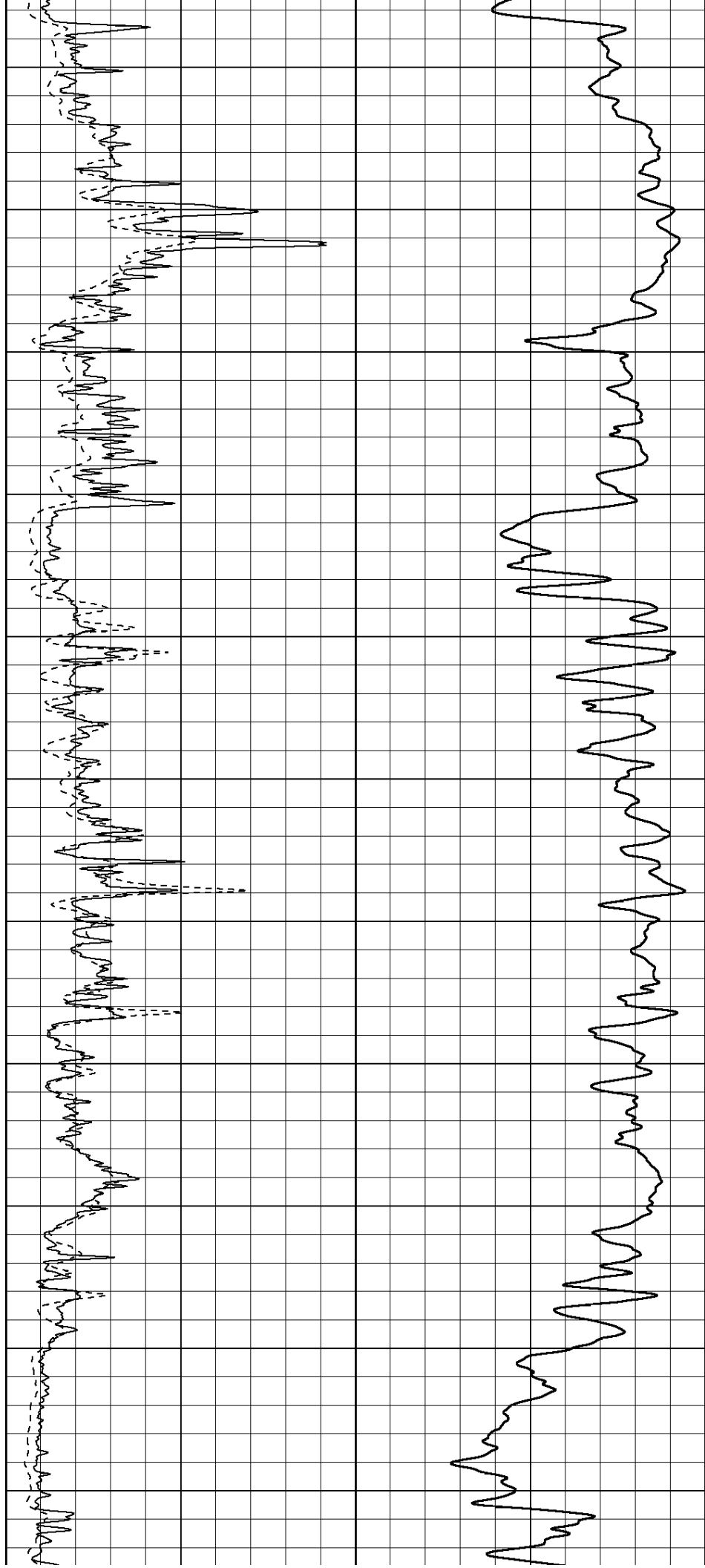
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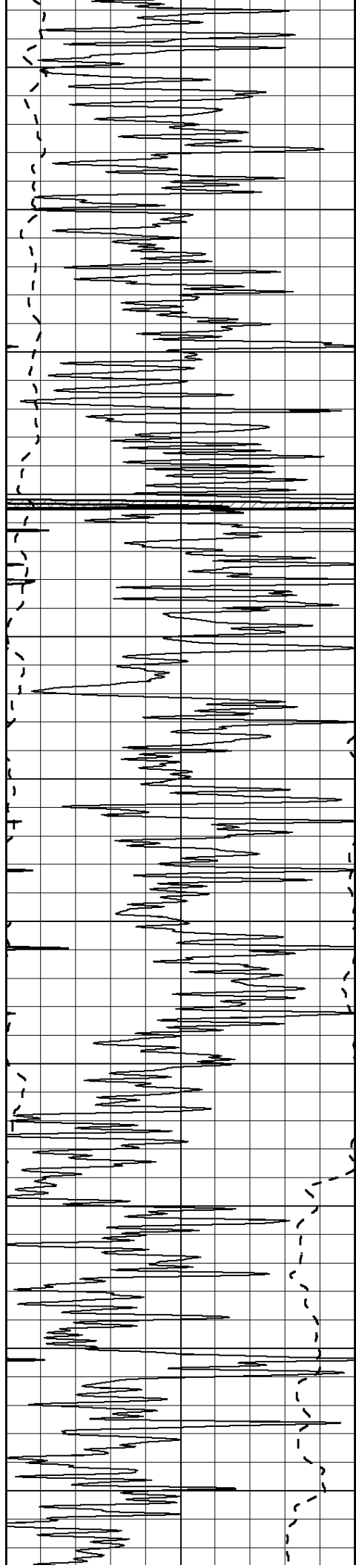
800

850

900

950





1000

1050

1100

1150

1200

1250

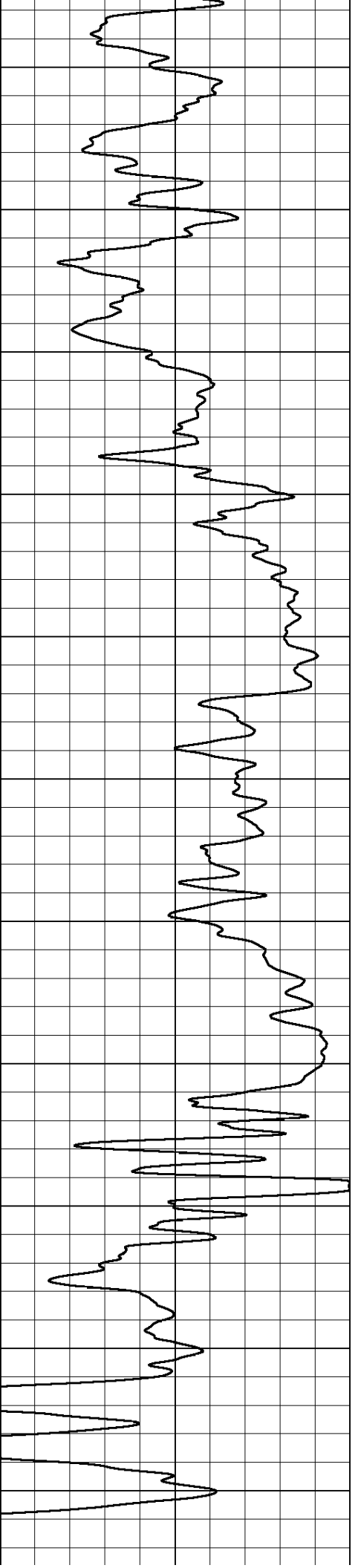
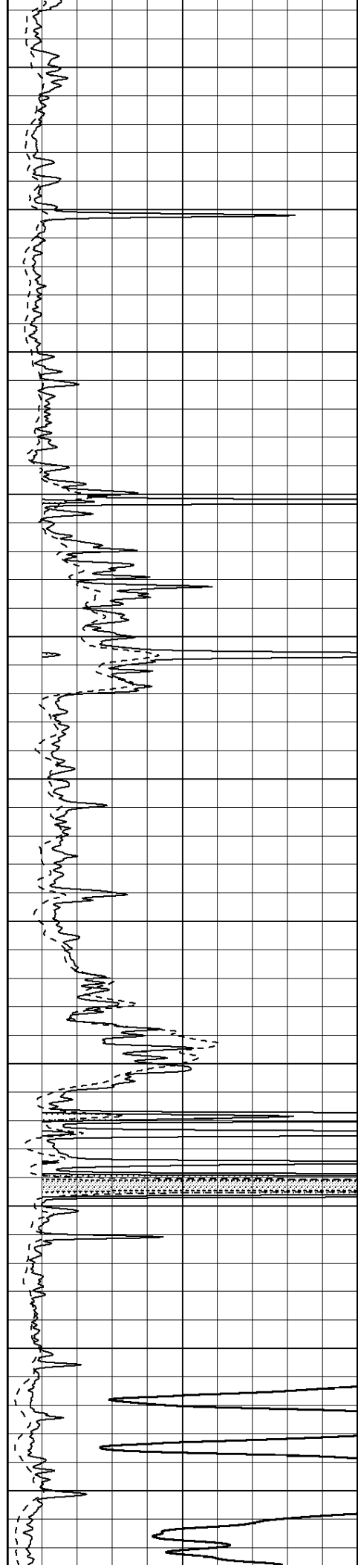
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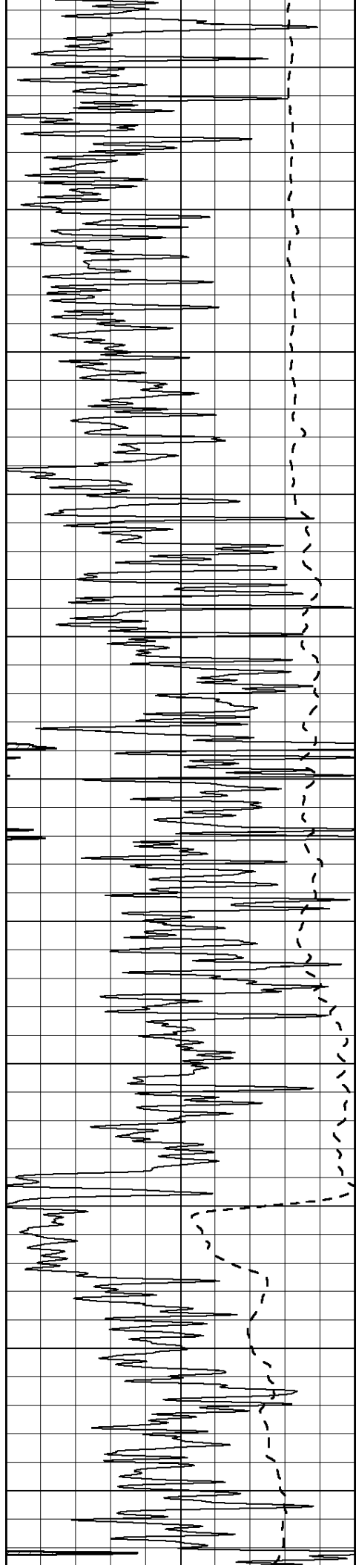
1350

1400

1450

1500





1550

1600

1650

1700

1750

1800

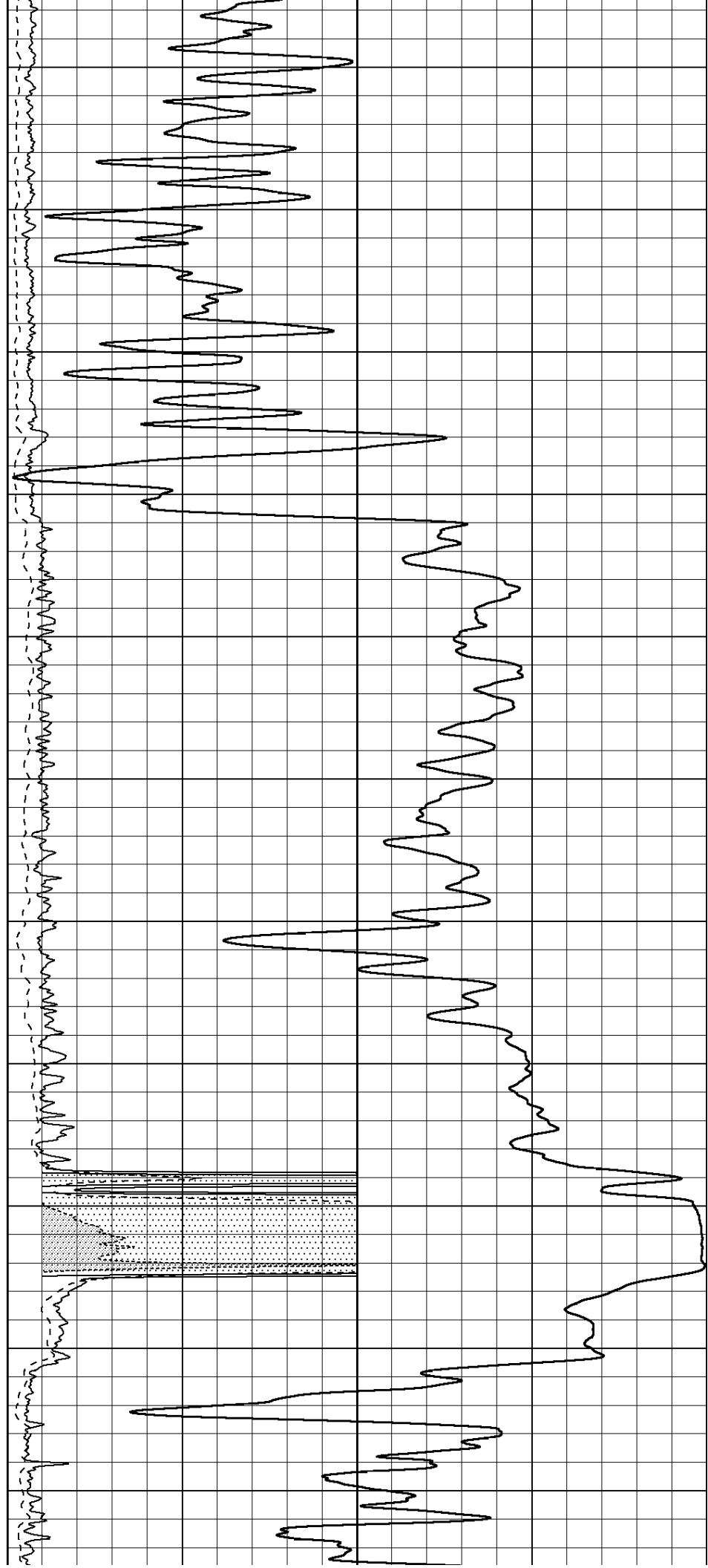
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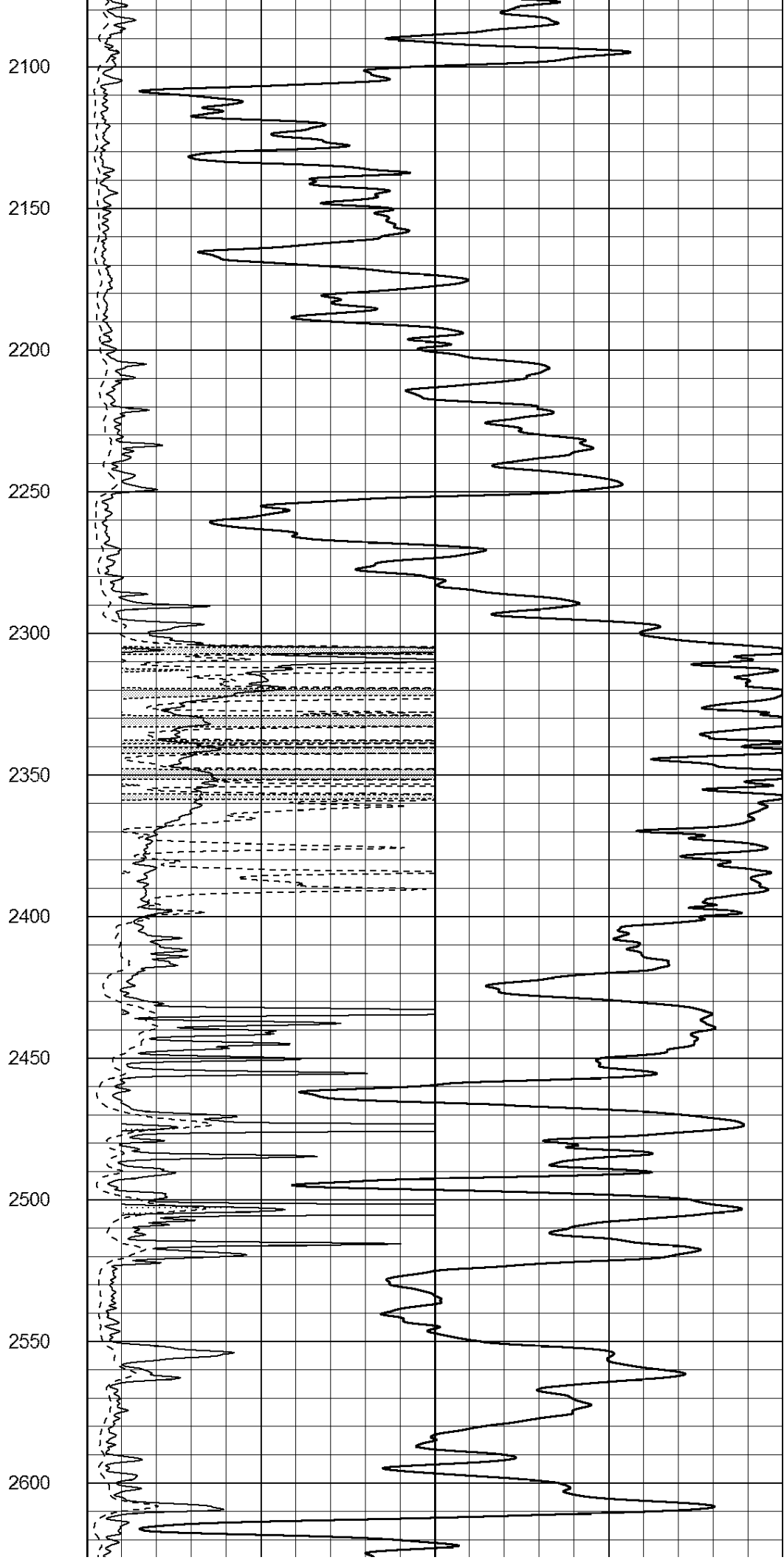
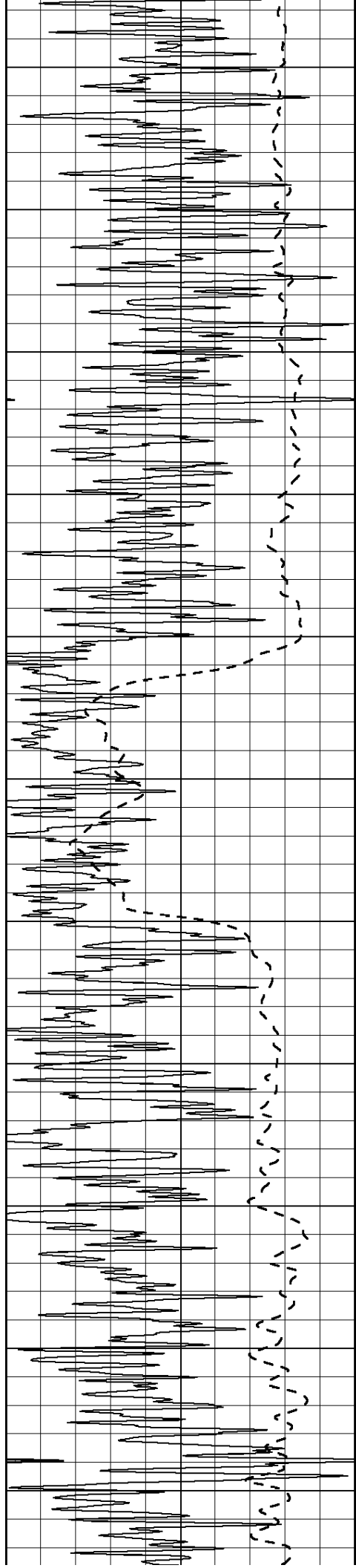
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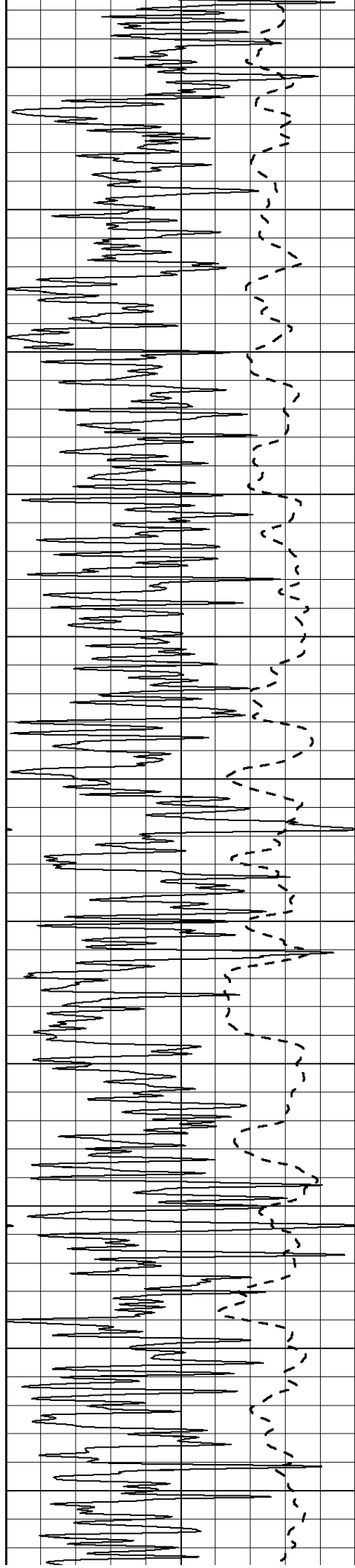
1950

2000

2050







2650

2700

2750

2800

2850

2900

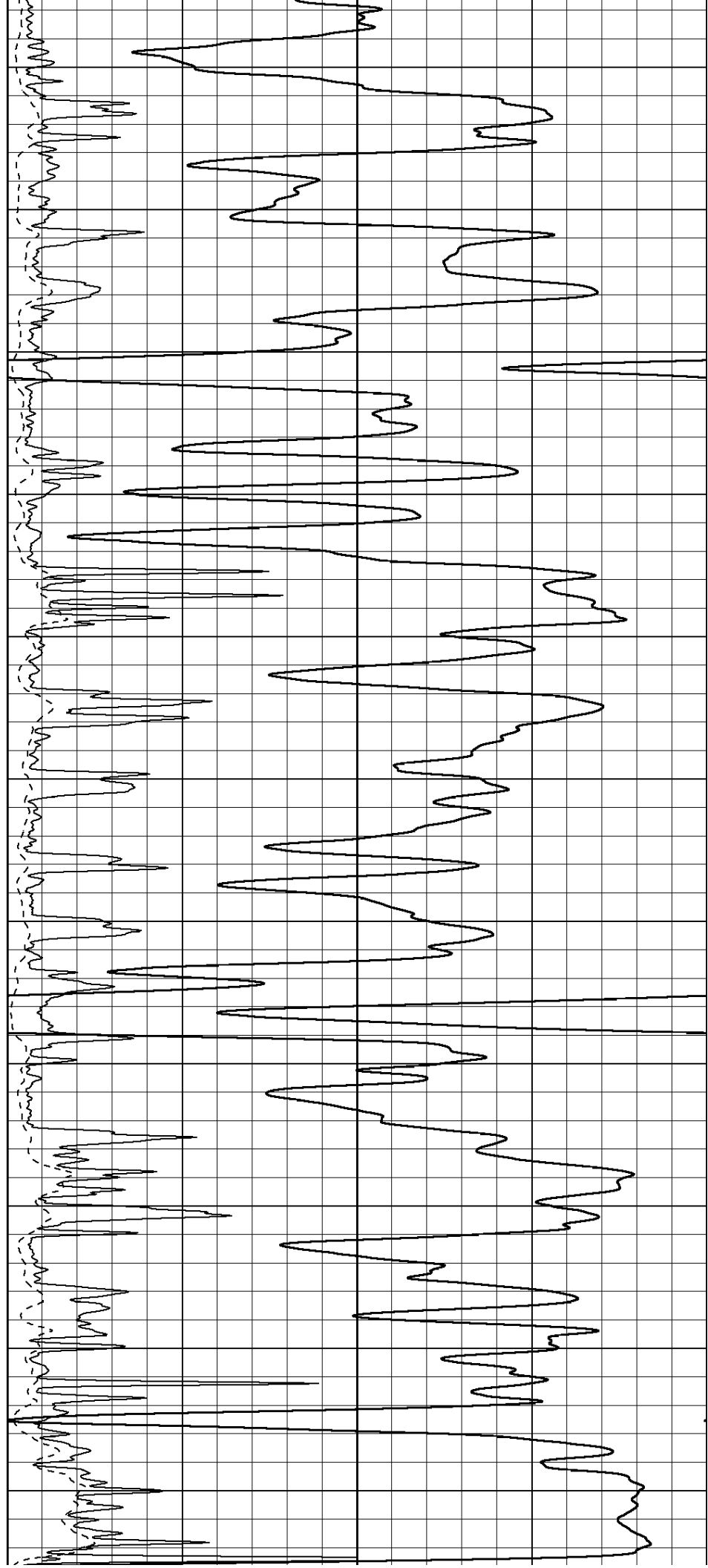
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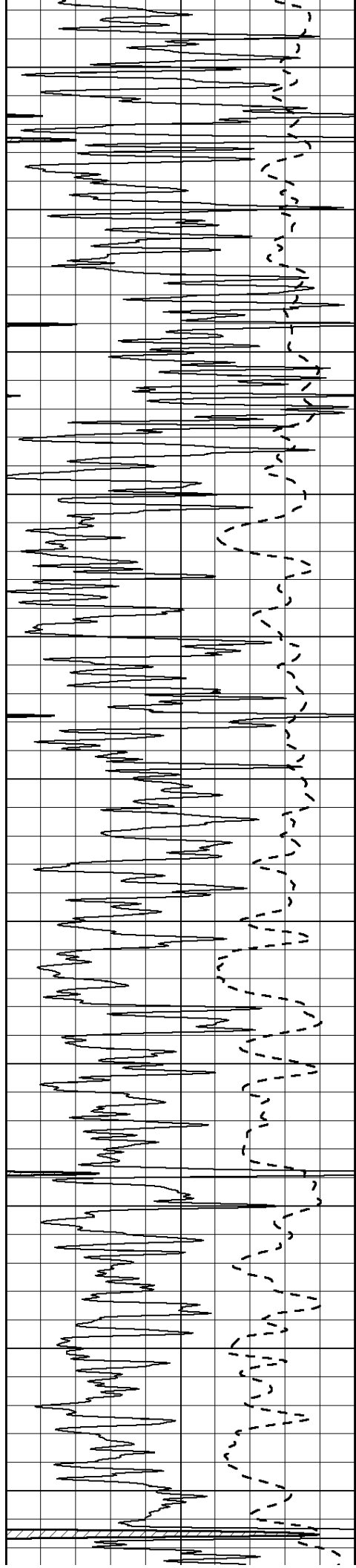
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3050

3100

3150





3200

3250

3300

3350

3400

3450

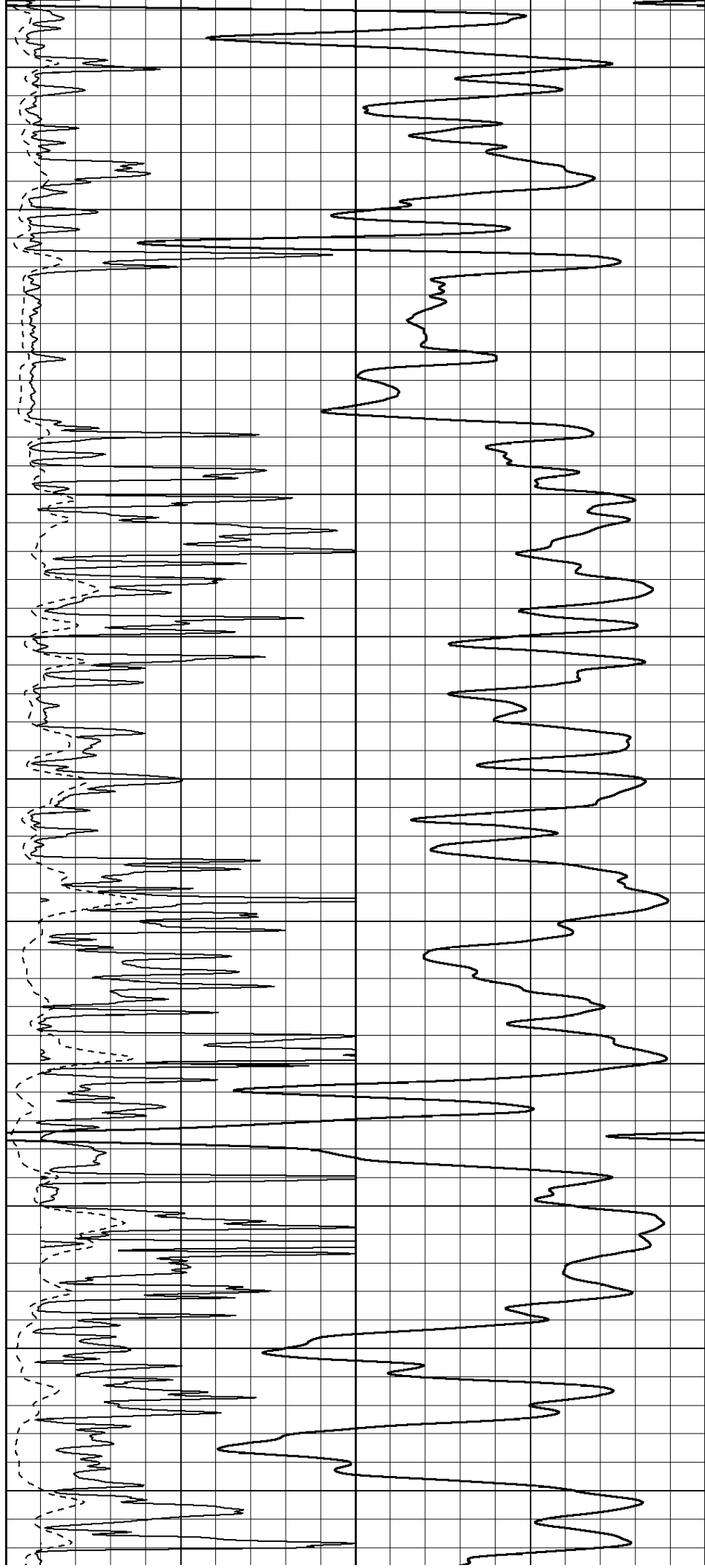
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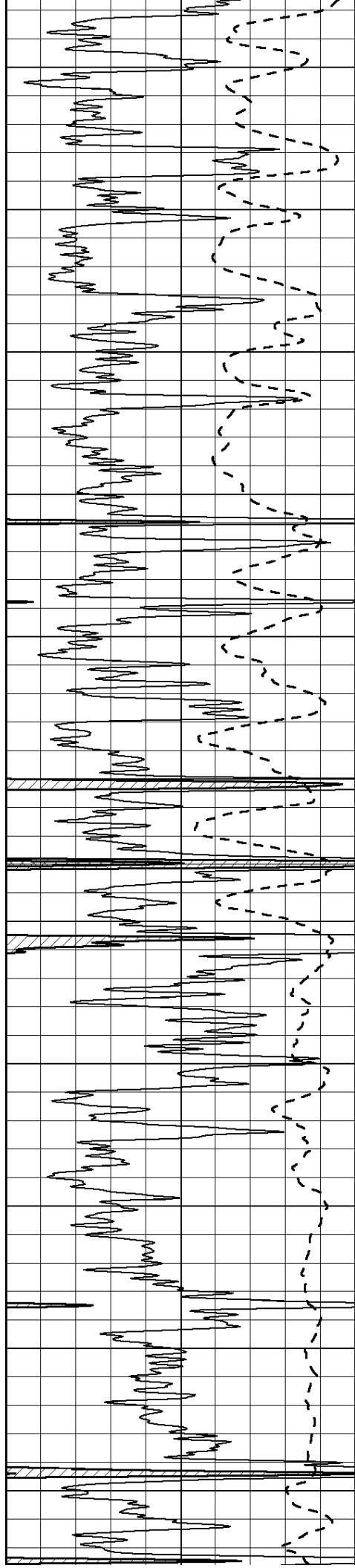
3550

3600

3650

3700





3750

3800

3850

3900

3950

4000

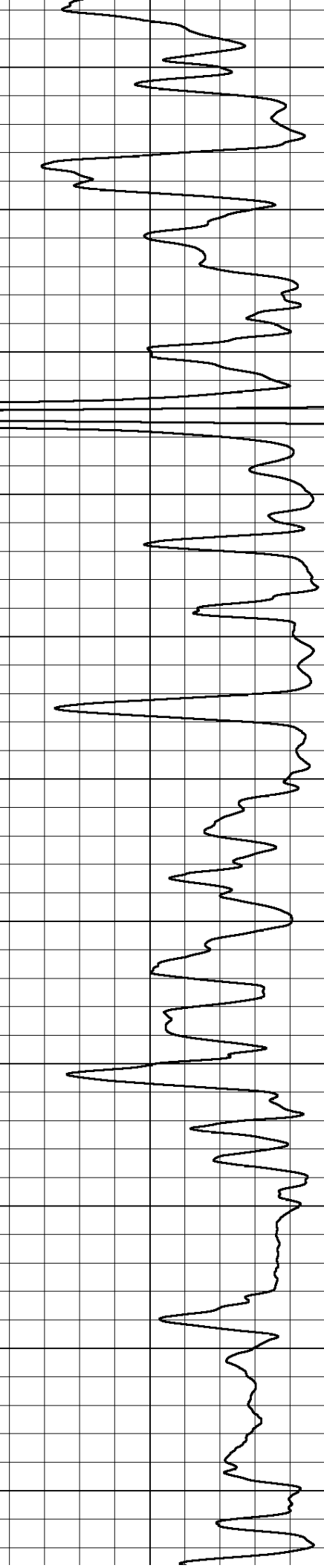
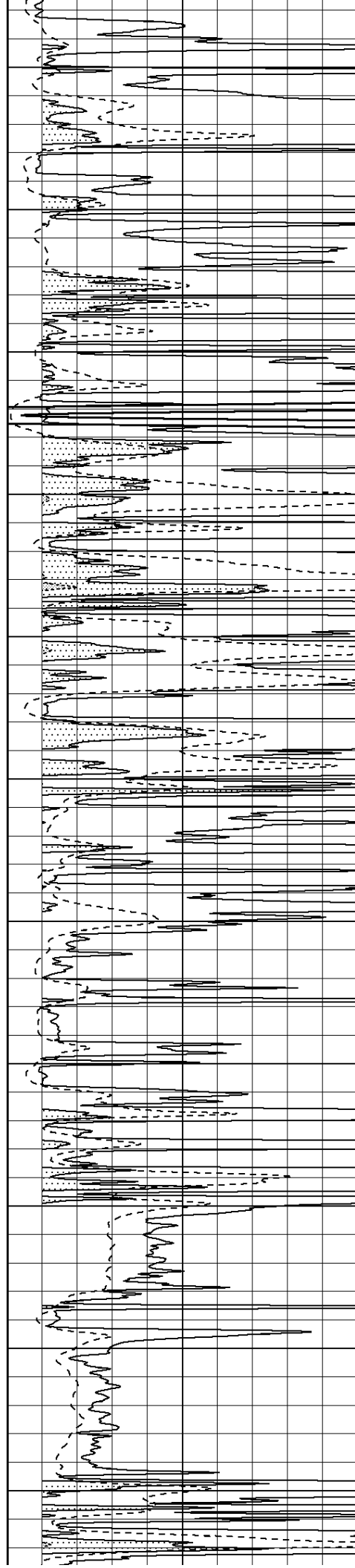
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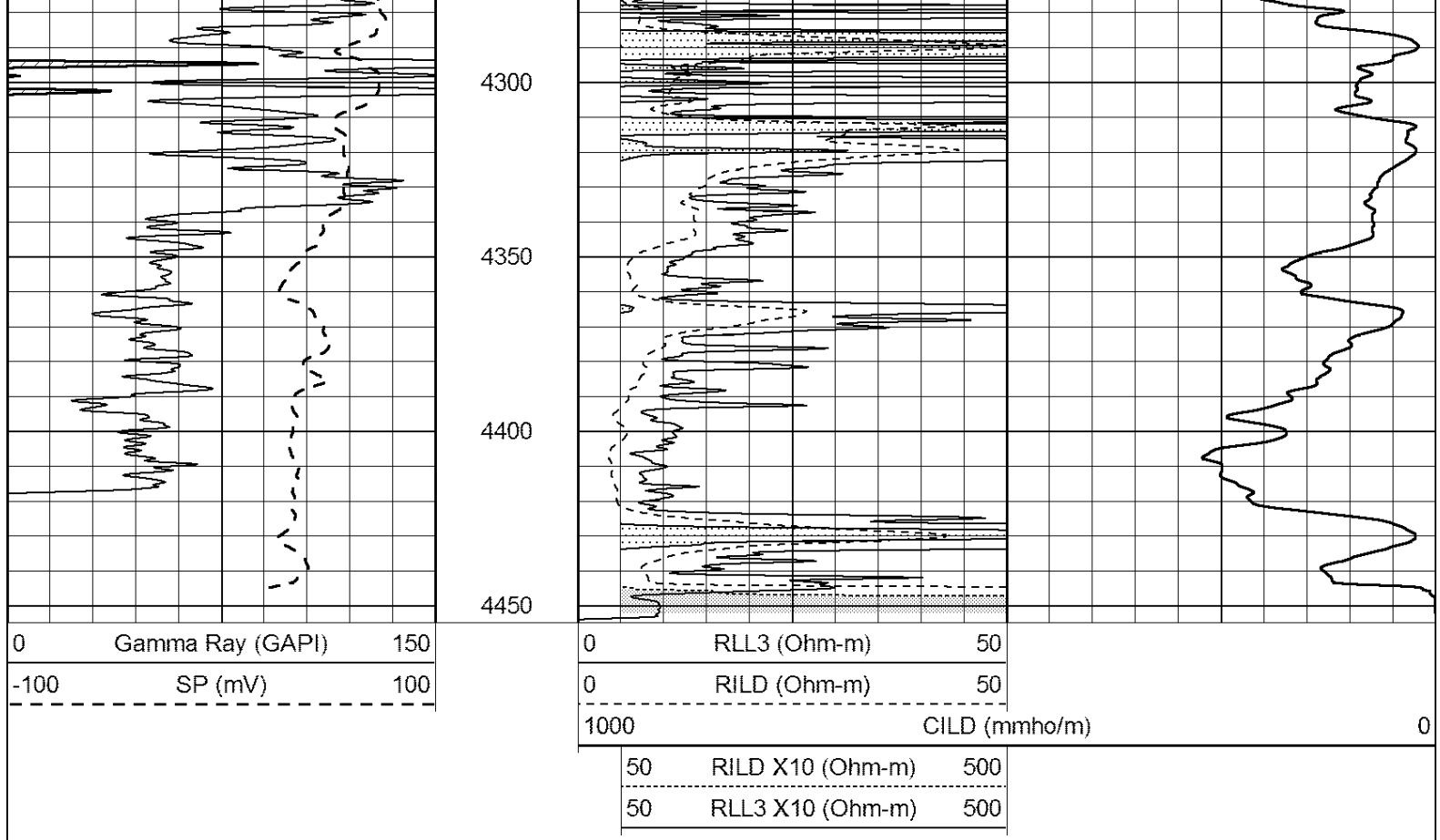
4100

4150

4200

4250



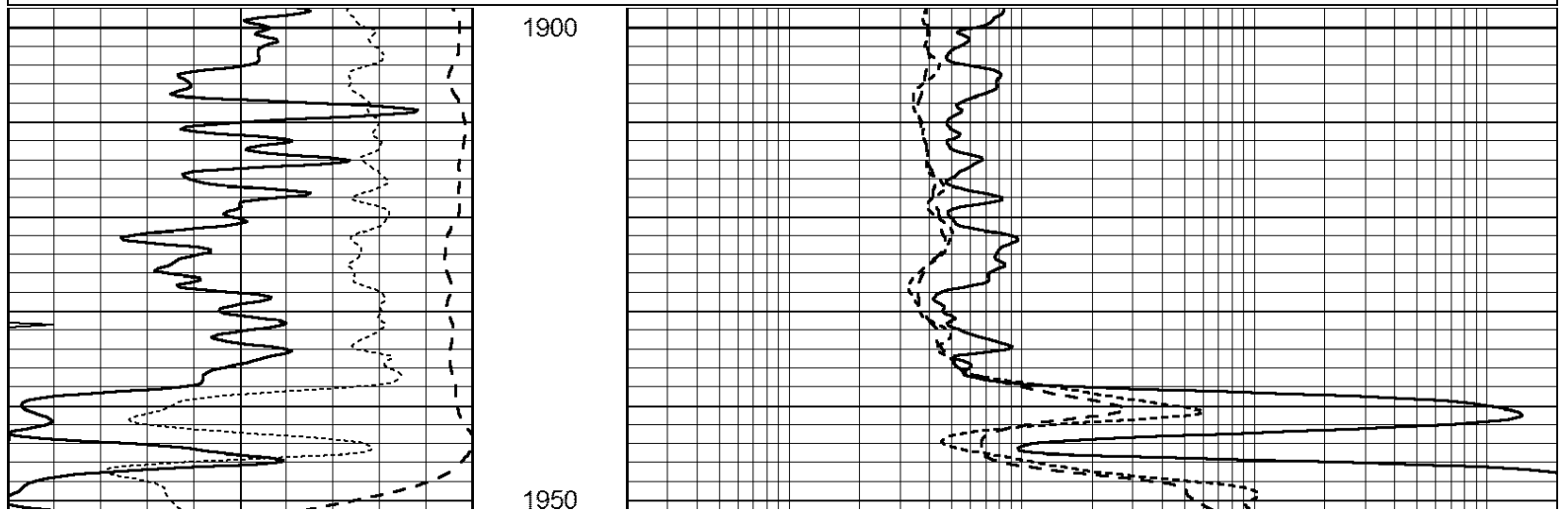


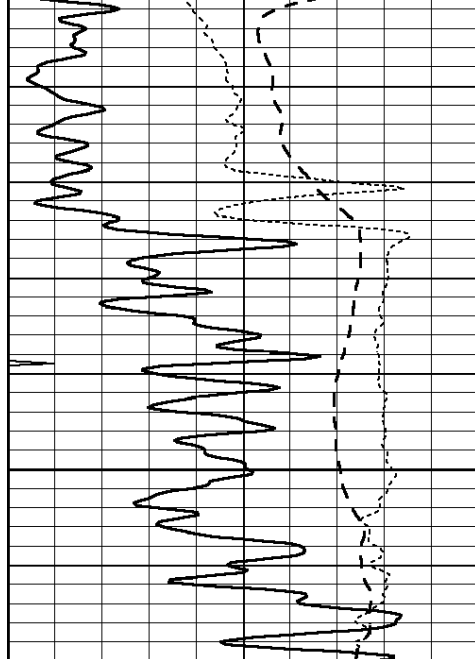
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ANHYDRITE

Database File: 007080pe.db
Dataset Pathname: pass3.7
Presentation Format: dil
Dataset Creation: Thu Jun 30 21:09:48 2011 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

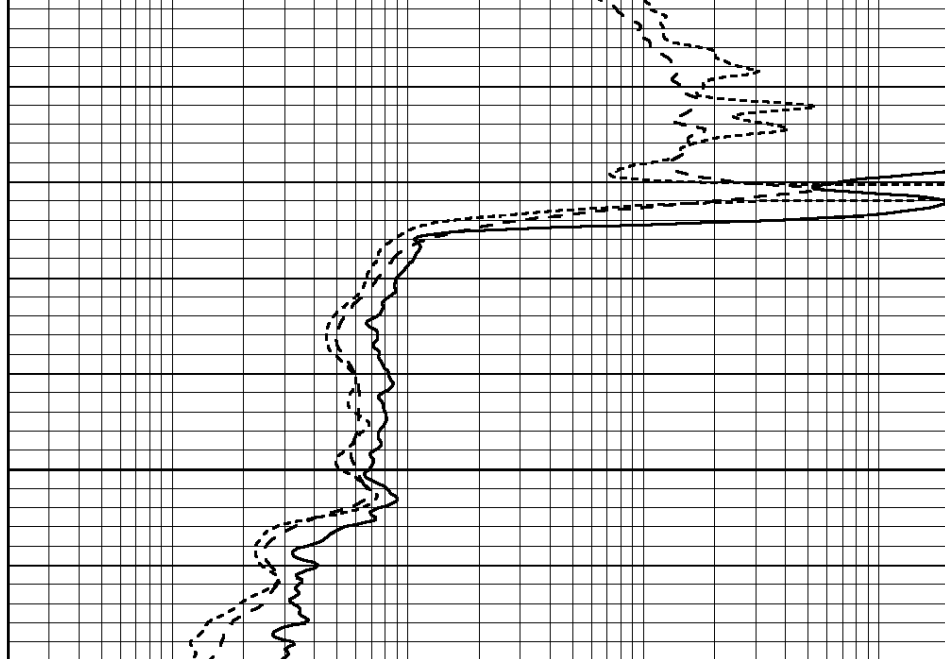
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	10			





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	10

2000



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



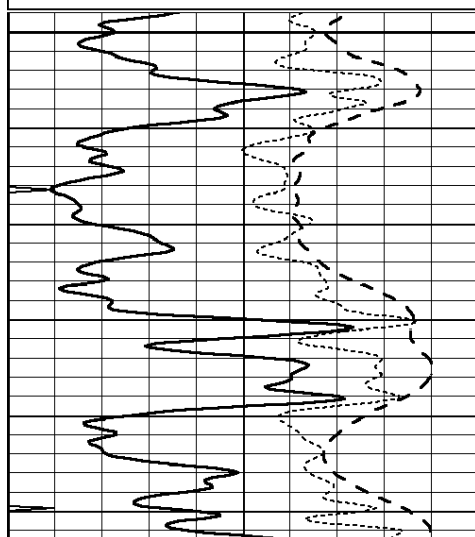
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MAIN SECTION

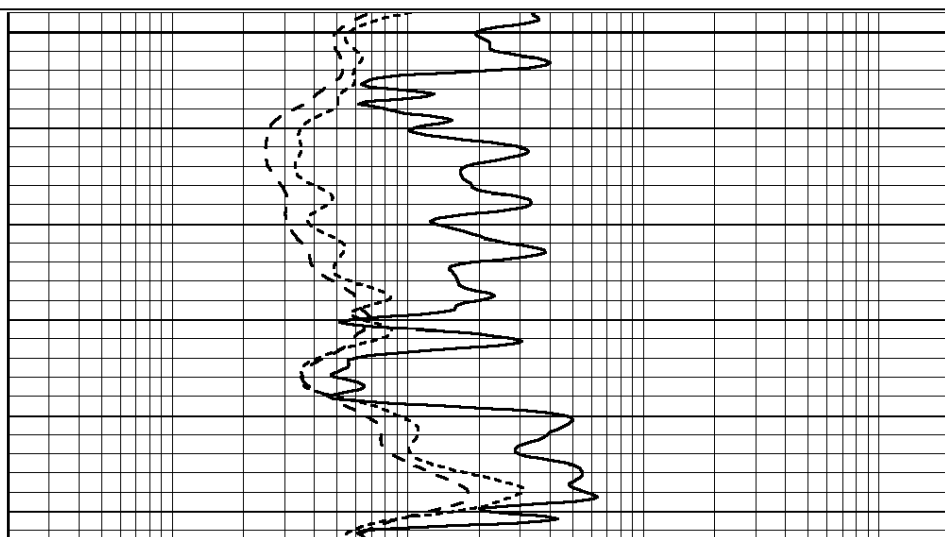
Database File: 007080pe.db
Dataset Pathname: pass3.6
Presentation Format: dil
Dataset Creation: Thu Jun 30 21:09:11 2011 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	10

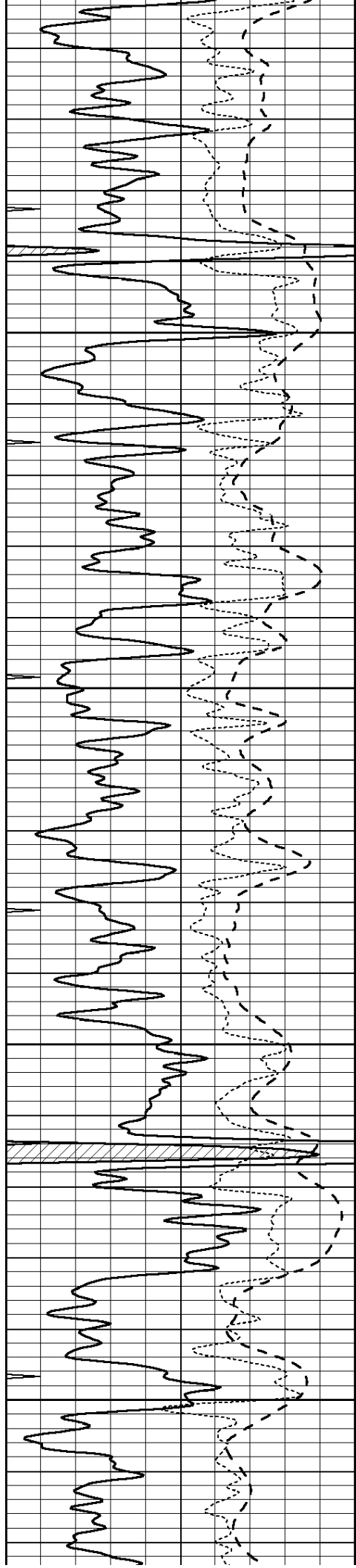
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3500



3550

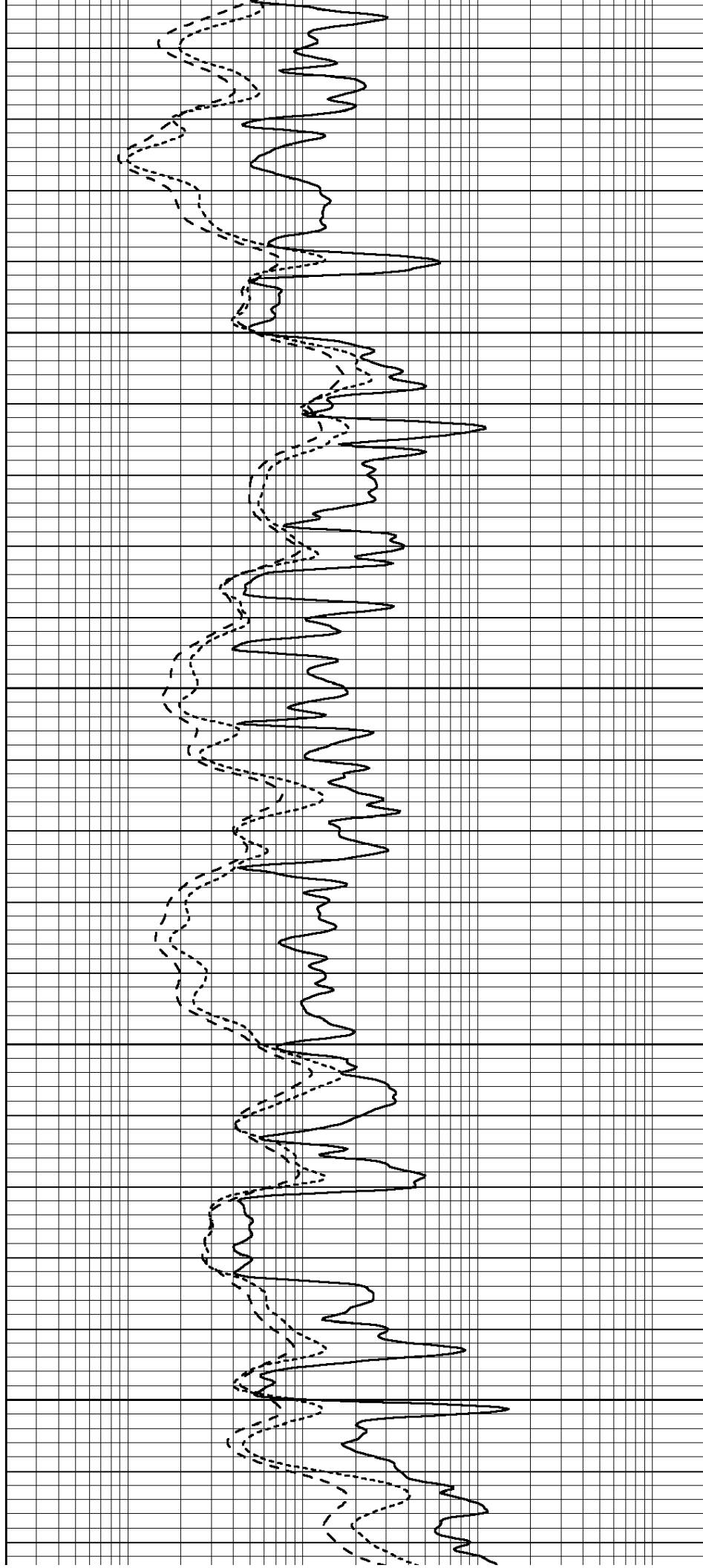


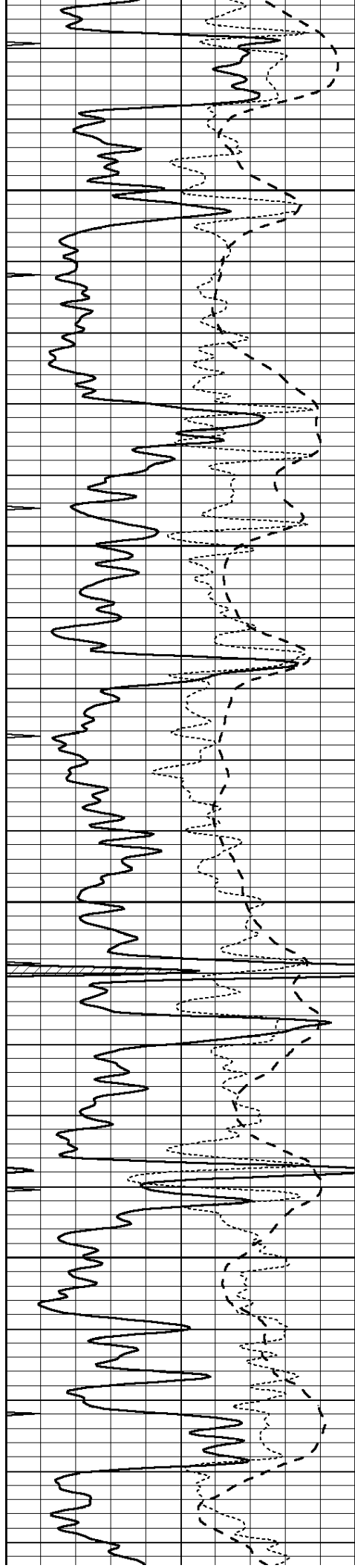
3600

3650

3700

3750



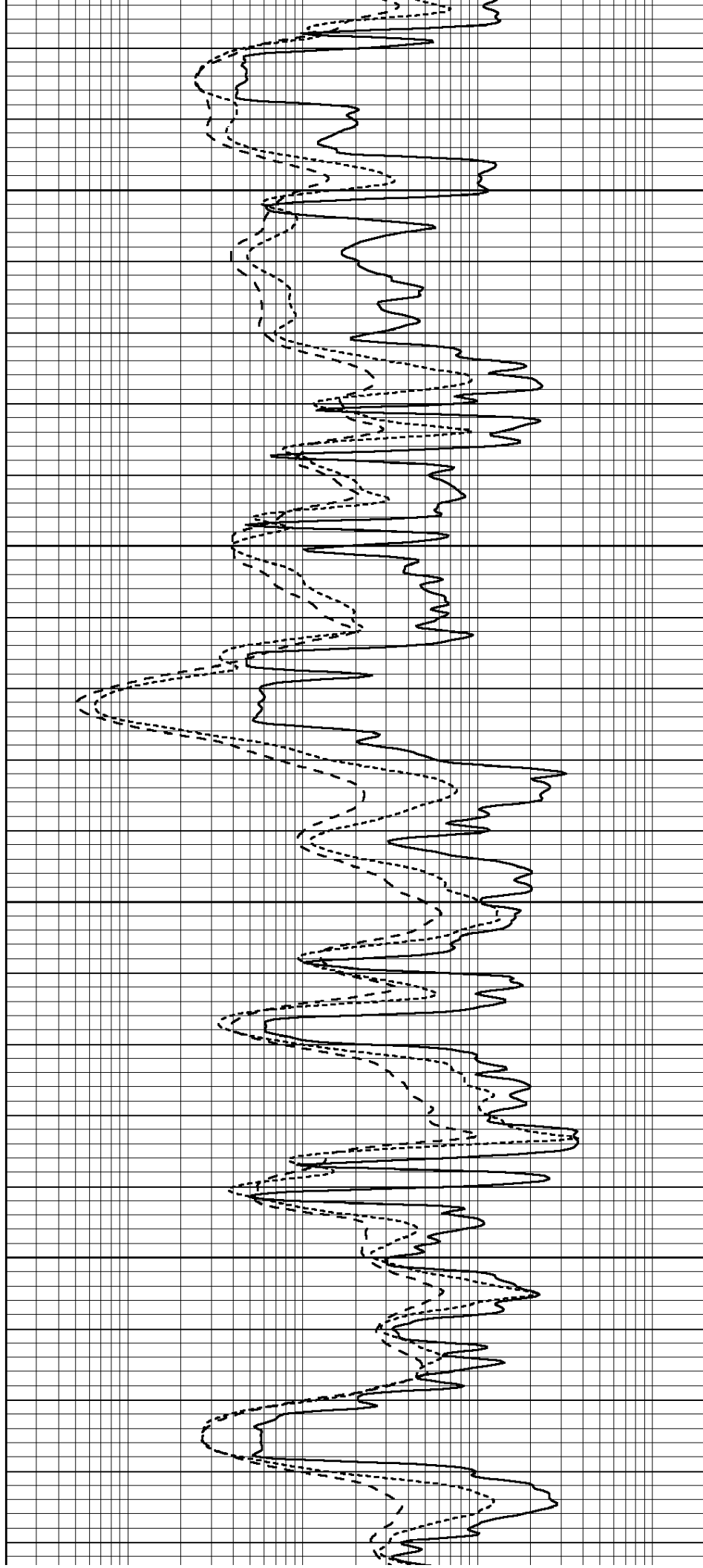


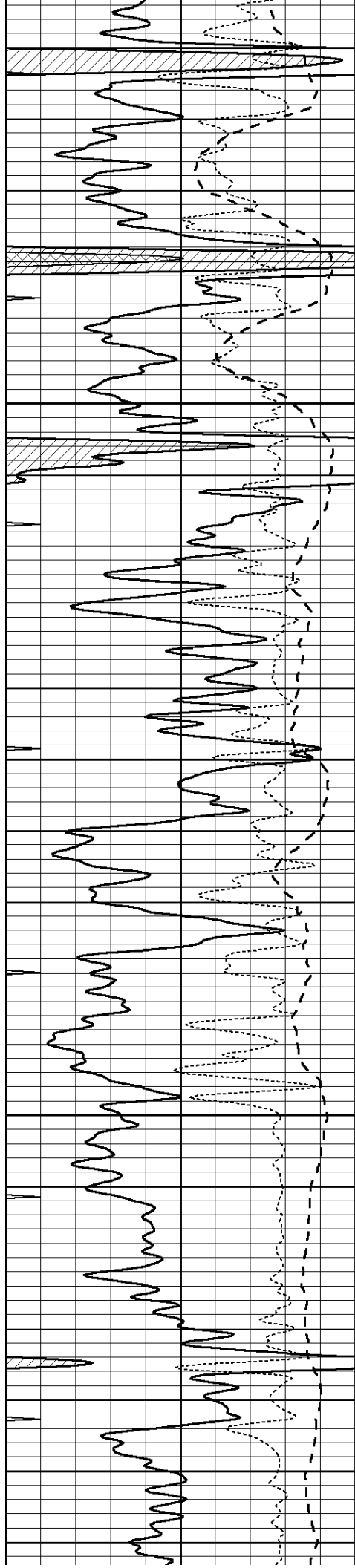
3800

3850

3900

3950





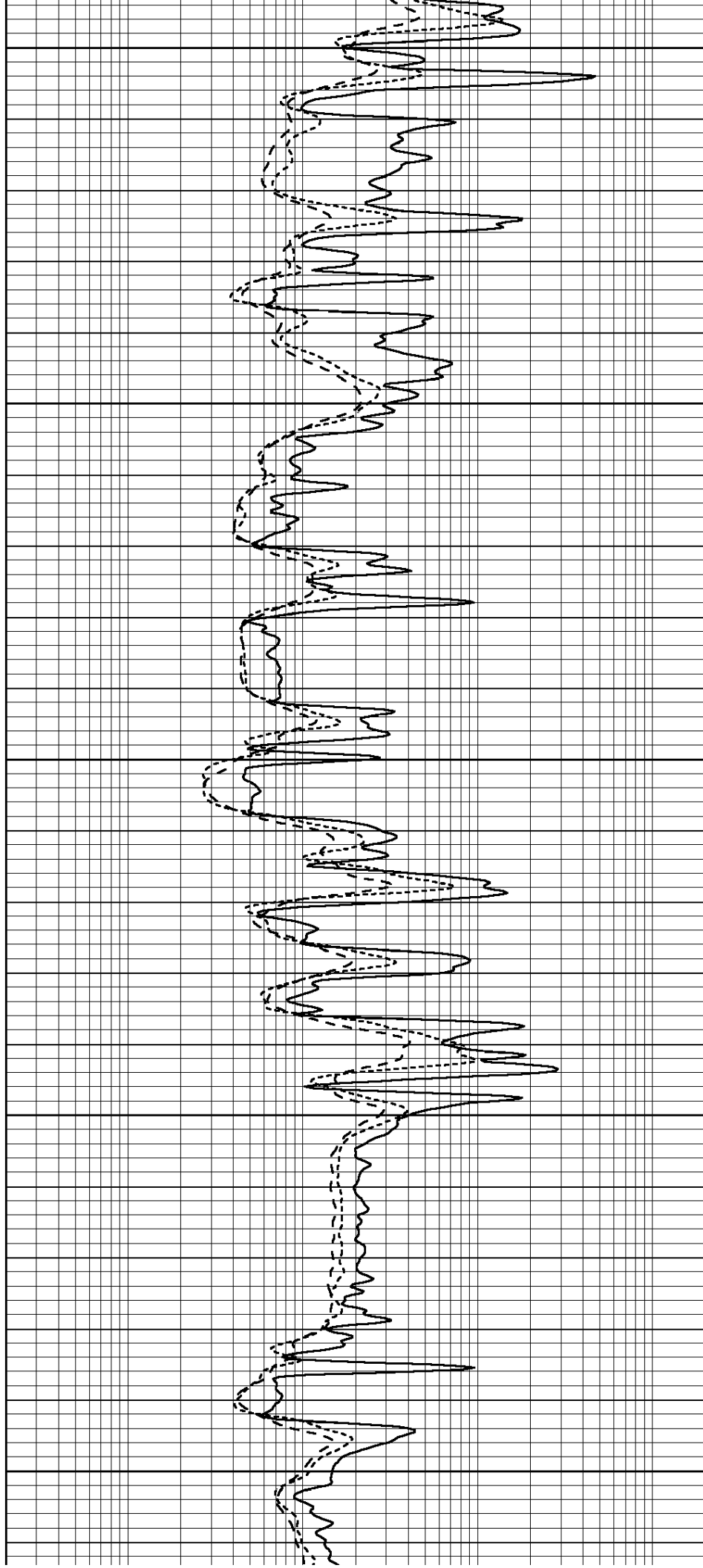
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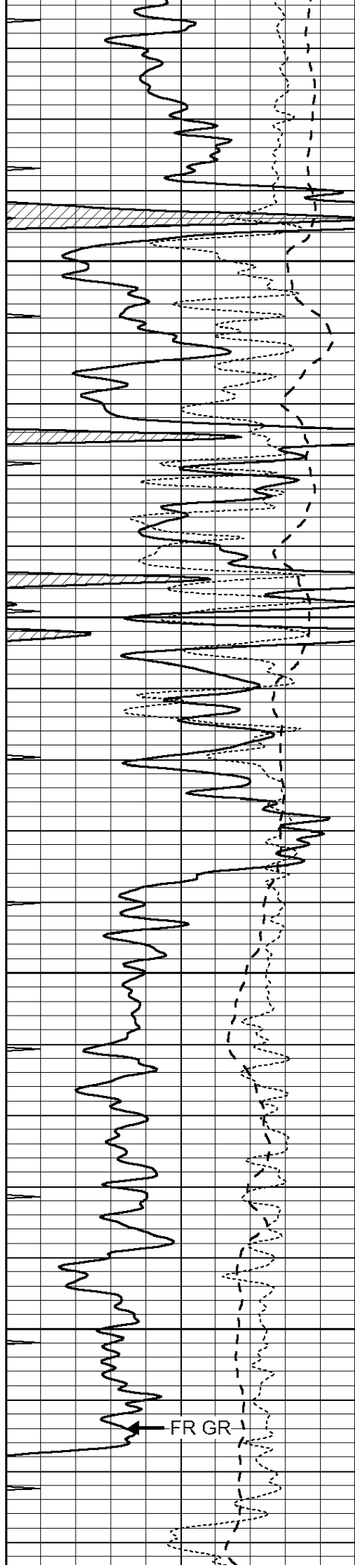
4050

4100

4150

4200





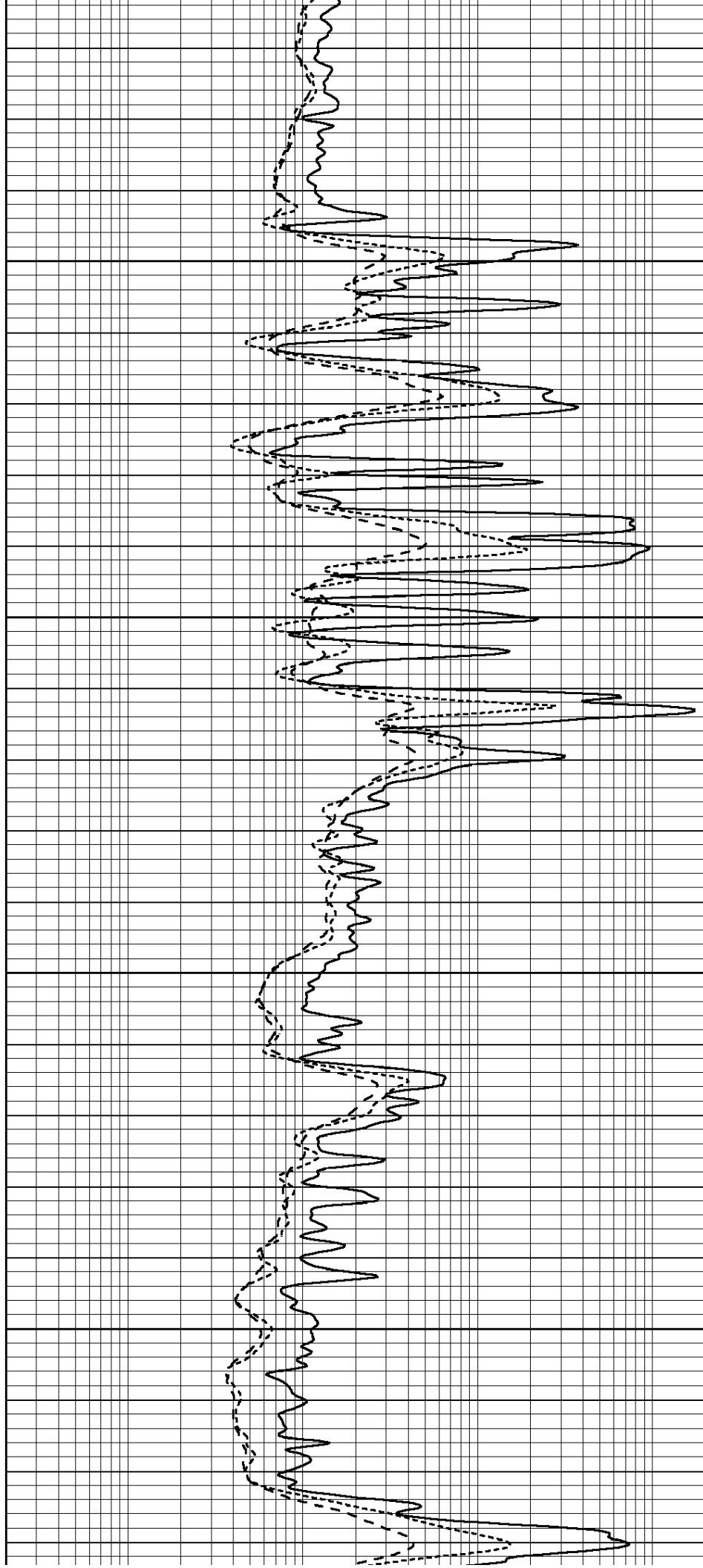
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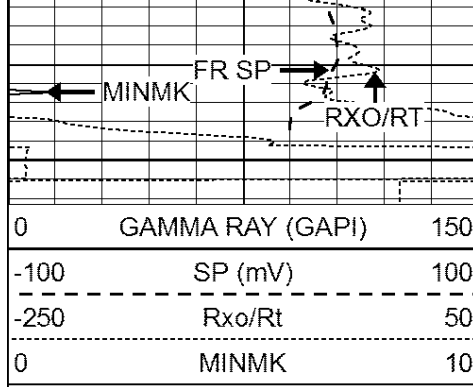
4300

4350

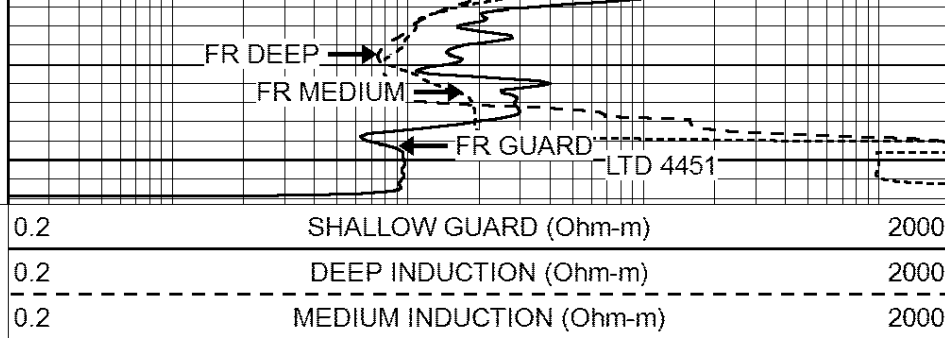
4400

FR GR





4450

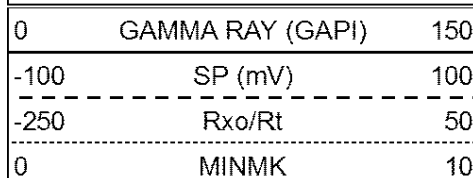


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REPEAT SECTION

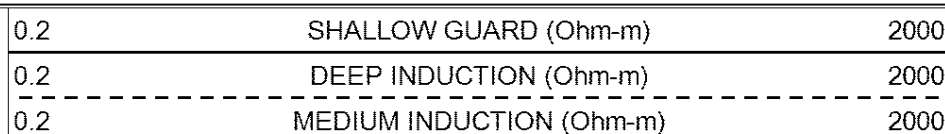
Database File: 007080pe.db
 Dataset Pathname: pass2.10
 Presentation Format: dil
 Dataset Creation: Thu Jun 30 20:54:23 2011 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:240

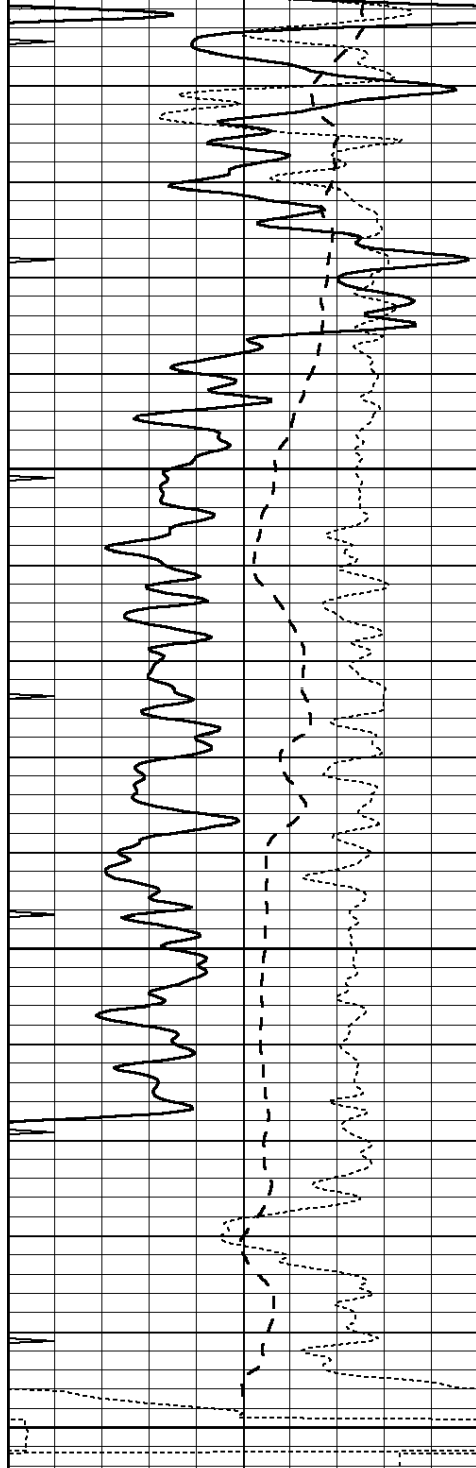


4200

4250

4300



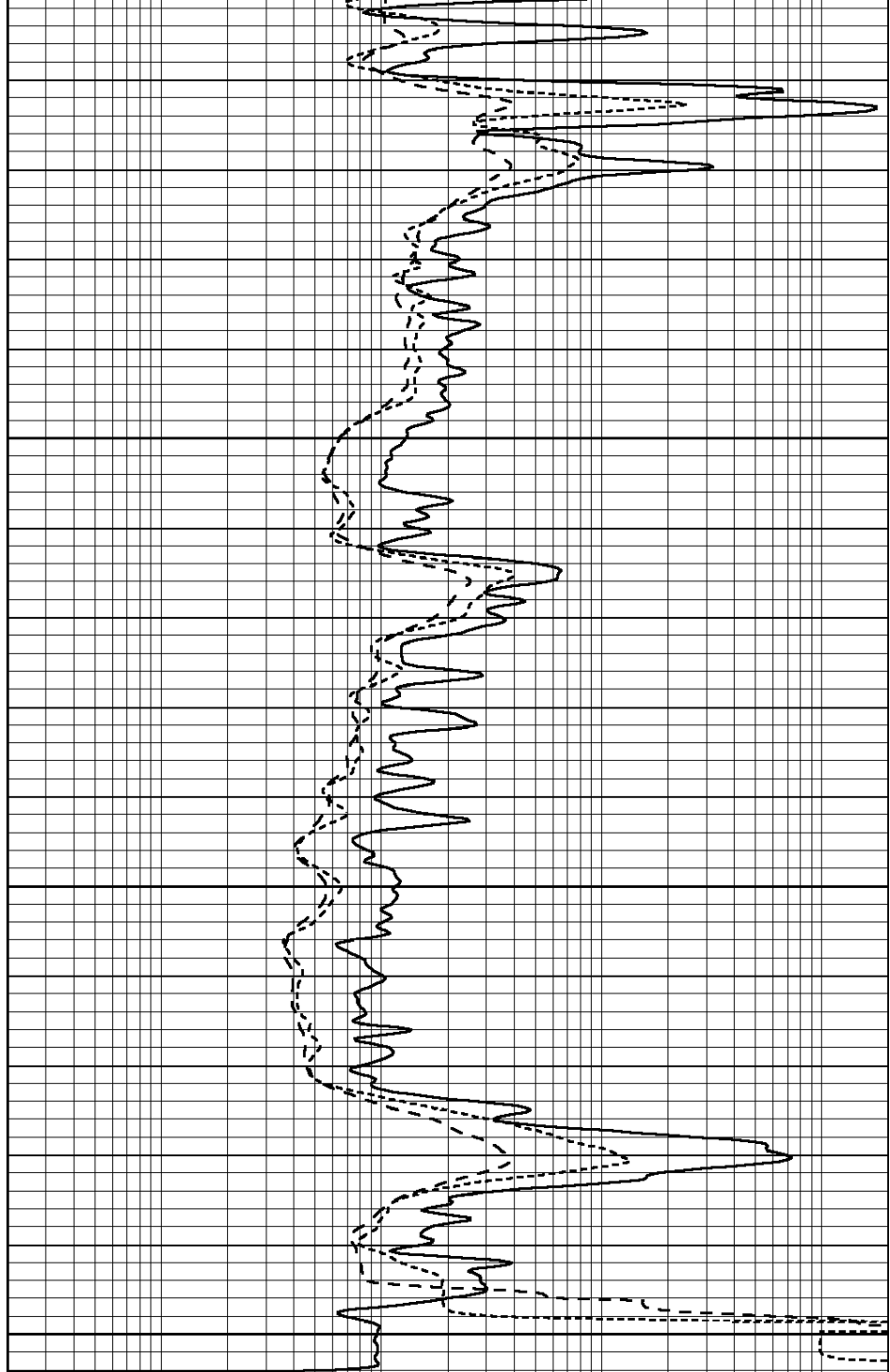


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	10

4350

4400

4450



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: 007080pe.db
 Dataset Pathname: pass3.6
 Dataset Creation: Thu Jun 30 21:09:11 2011 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Thu Jun 30 20:30:16 2011

Readings

References

Results

Readings			Reference			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	-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: 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	4.4	8.0	
High Ref	6.5	15.0	
Gain: 3.2			Offset: -6.1

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: GR4
Tool Model: OPEN
Performed: Thu Jun 30 19:59:14 2011

Calibrator Value: 200.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 189.0 cps

Sensitivity: 5.0000 GAPI/cps