



SUPERIOR
Hays,
Kansas

**DUAL INDUCTION
LOG**

Company CRAWFORD OIL & GAS CO. LLC.
Well BOHL TRUST #1-1
Field WILDCAT
County NORTON
State KANSAS

Company CRAWFORD OIL & GAS COMPANY, LLC.
Well BOHL TRUST #1-1
Field WILDCAT
County NORTON State KANSAS

Location: API # : 15-137-20561-0000
2209' FNL & 1322' FWL
NW - SW - SE - NW
SEC 1 TWP 3S RGE 25W
Permanent Datum GROUND LEVEL Elevation 2493
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
CDL/CNL/PE
MEL
Elevation
K.B. 2498
D.F. 2496
G.L. 2493

Date	5/2/11
Run Number	ONE
Depth Driller	3756
Depth Logger	3758
Bottom Logged Interval	3756
Top Log Interval	00
Casing Driller	8 5/8" @ 263'
Casing Logger	263
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/56
pH / Fluid Loss	9.5/8.8
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.750 @ 70F
Rmf @ Meas. Temp	.563 @ 70F
Rmc @ Meas. Temp	.900 @ 70F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.461 @ 114F
Time Circulation Stopped	8 HOURS
Time Logger on Bottom	1:30 A.M.
Maximum Recorded Temperature	114F
Equipment Number	0836
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	LARRY FRIEND

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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
NORTON, KS. 11W. ON HWY 36 TO "RD. W 11", 1/2S., E. INTO



SUPERIOR
Hays,
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MAIN SECTION

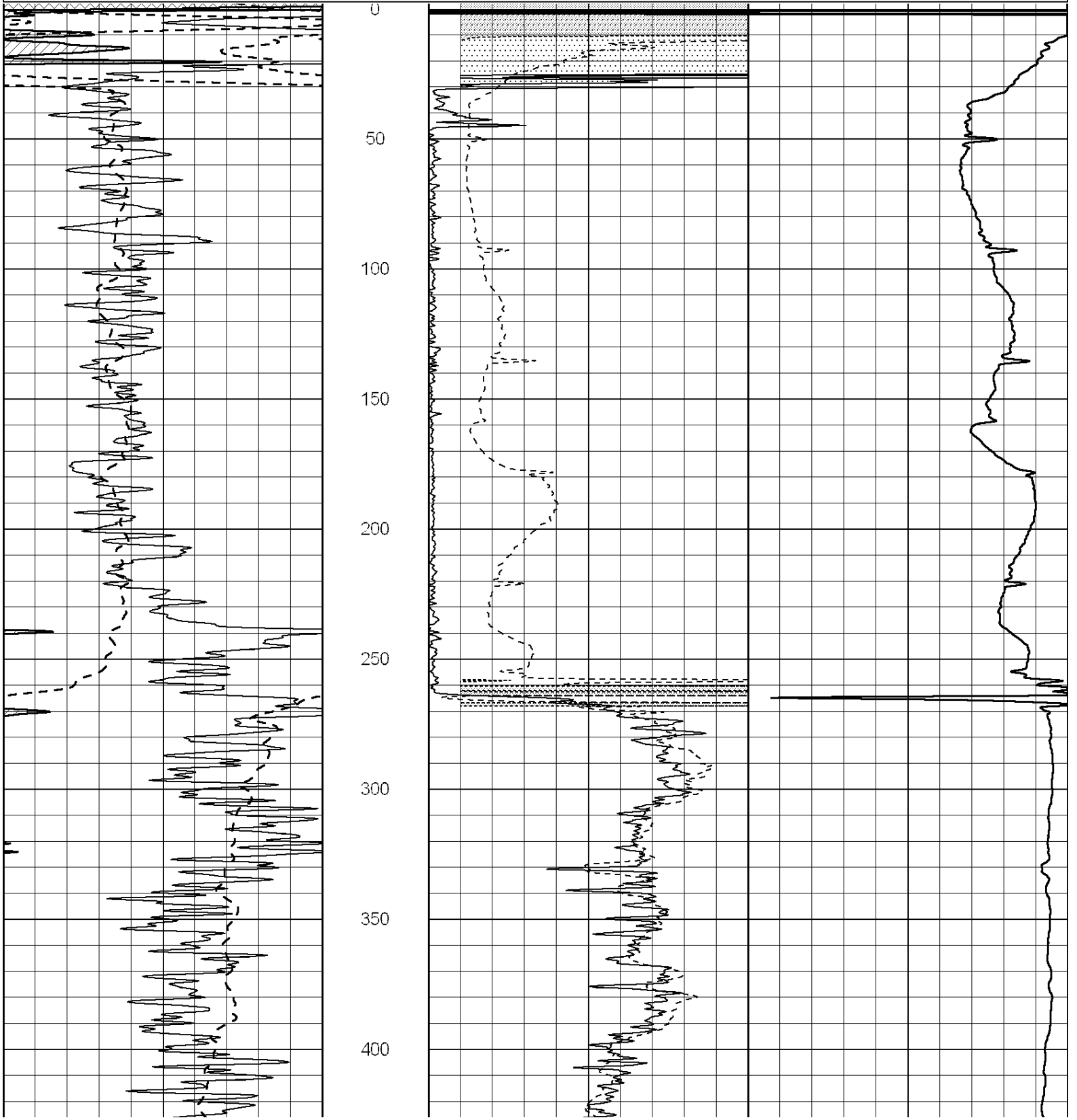
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 Dataset Pathname: pass3.1
 Presentation Format: dil2
 Dataset Creation: Tue May 03 03:13:32 2011 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

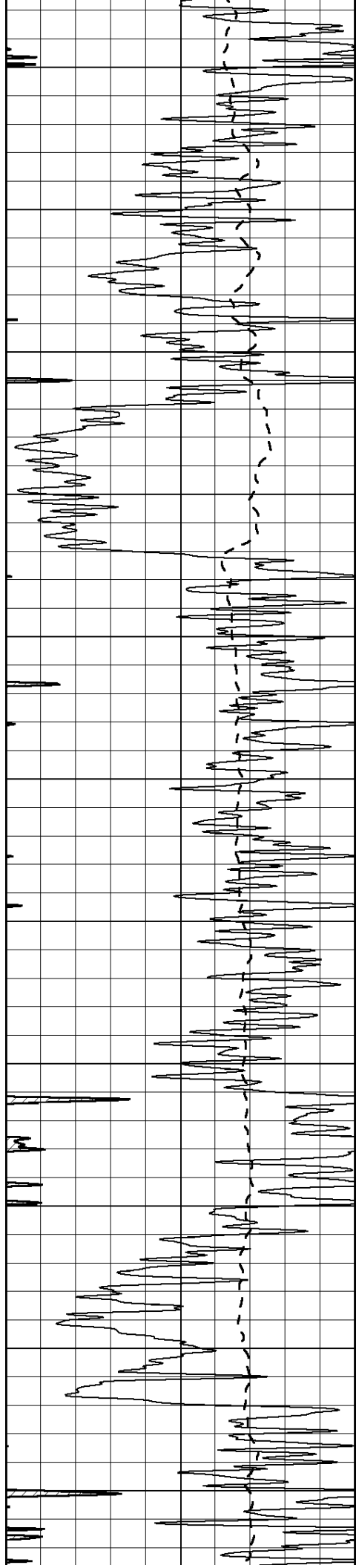
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 -100 SP (mV) 100

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

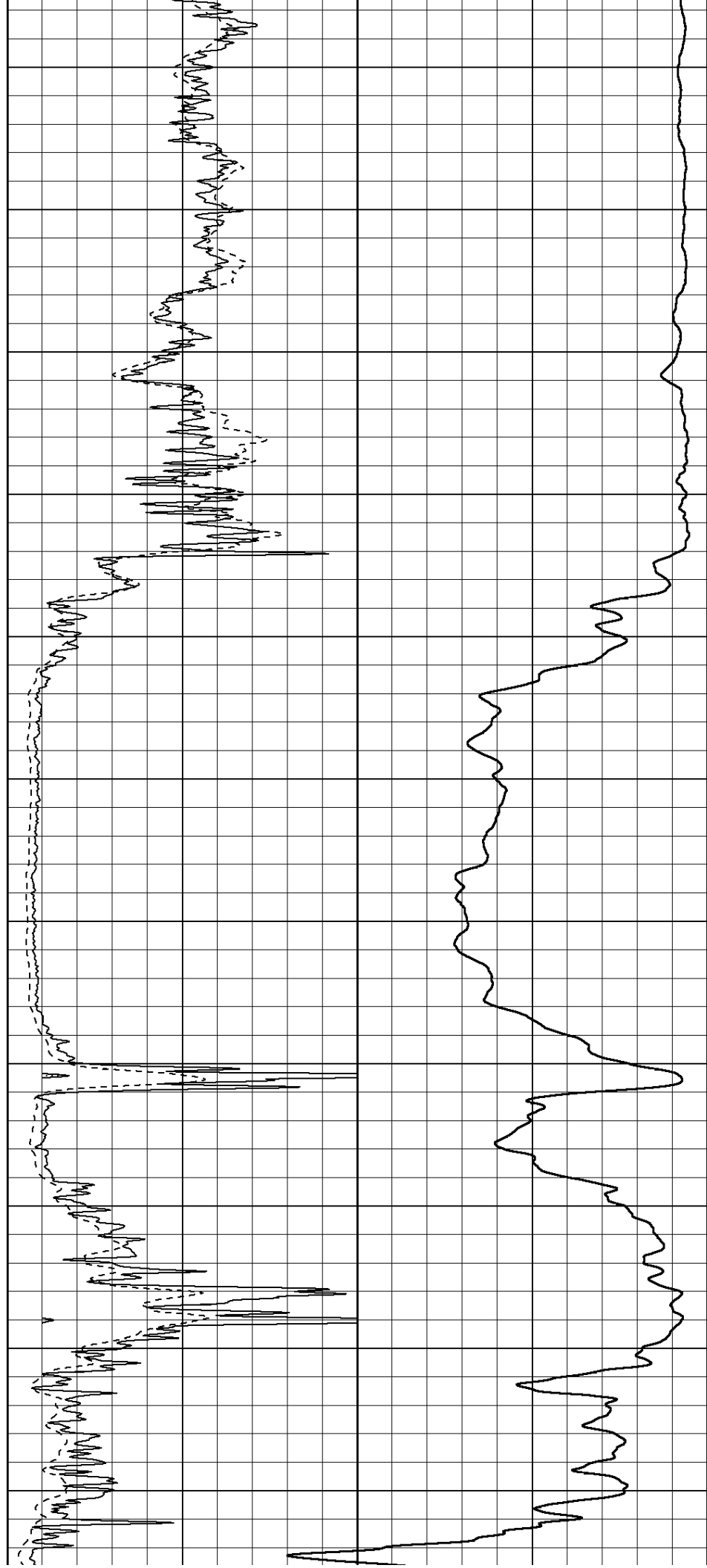
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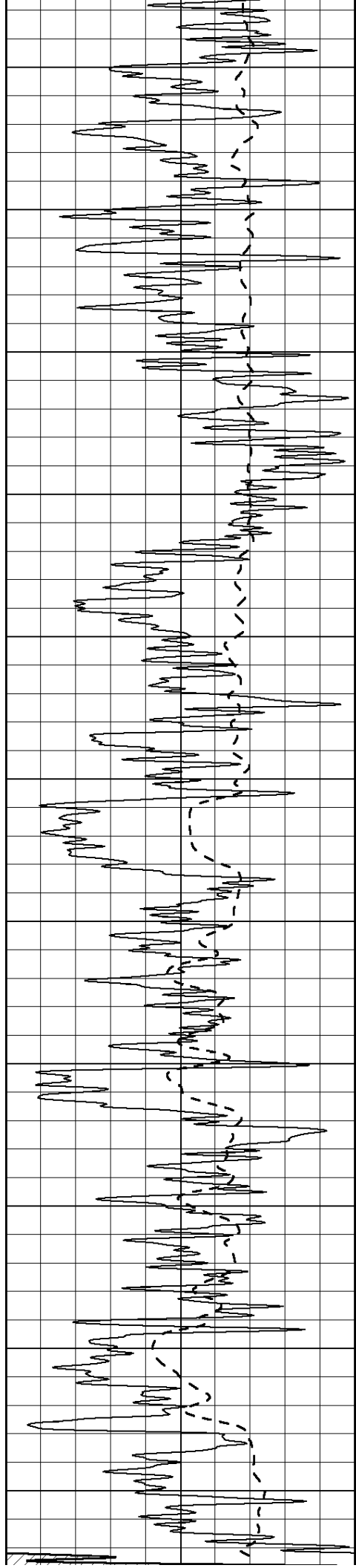
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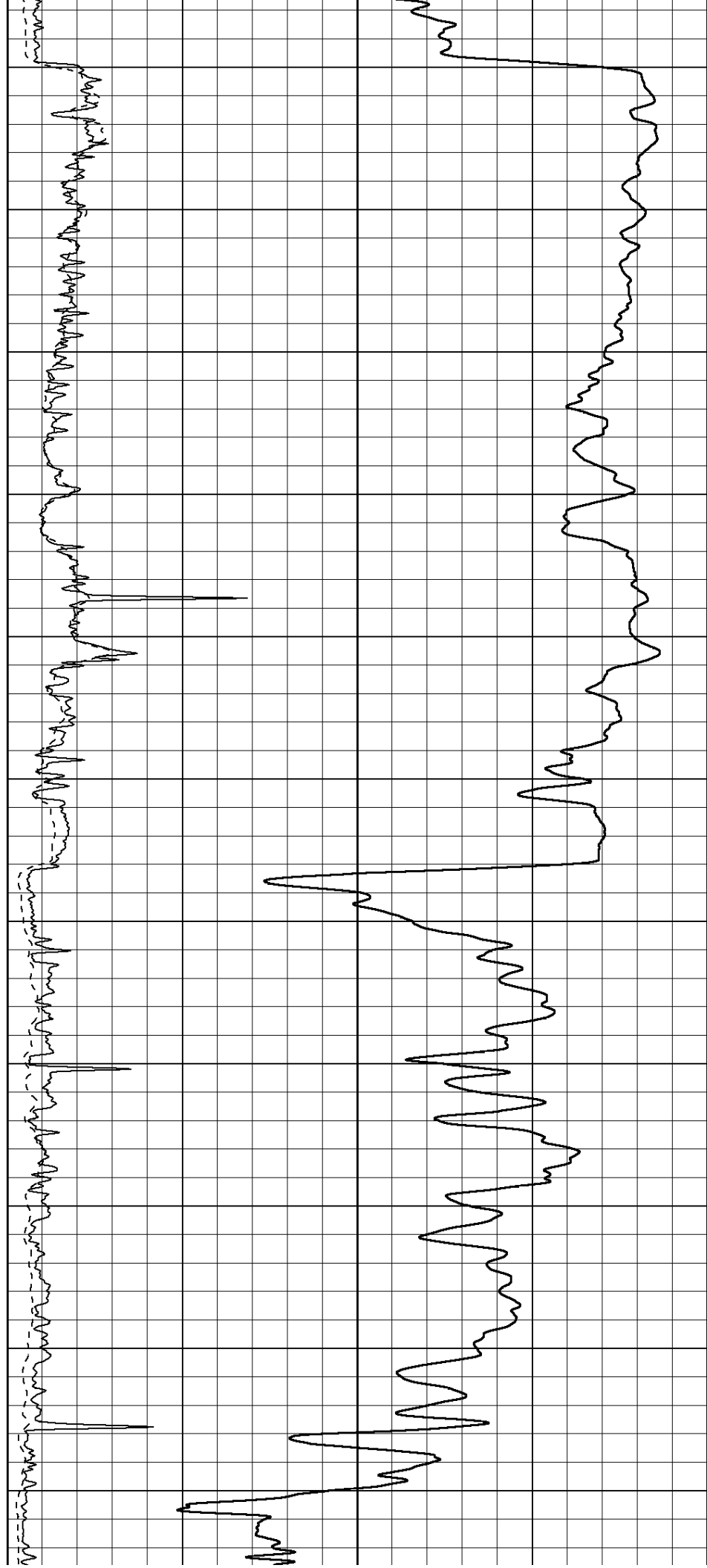
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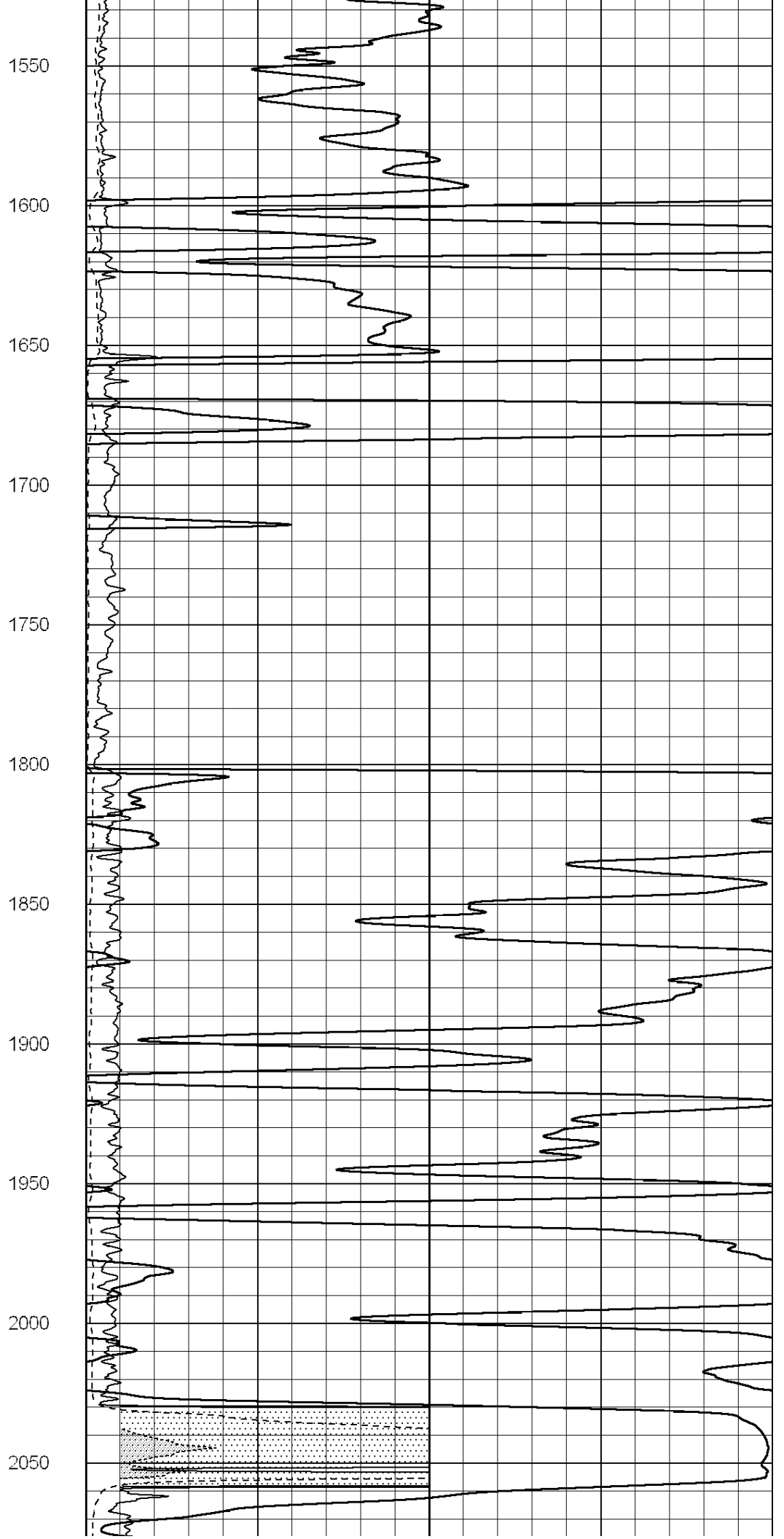
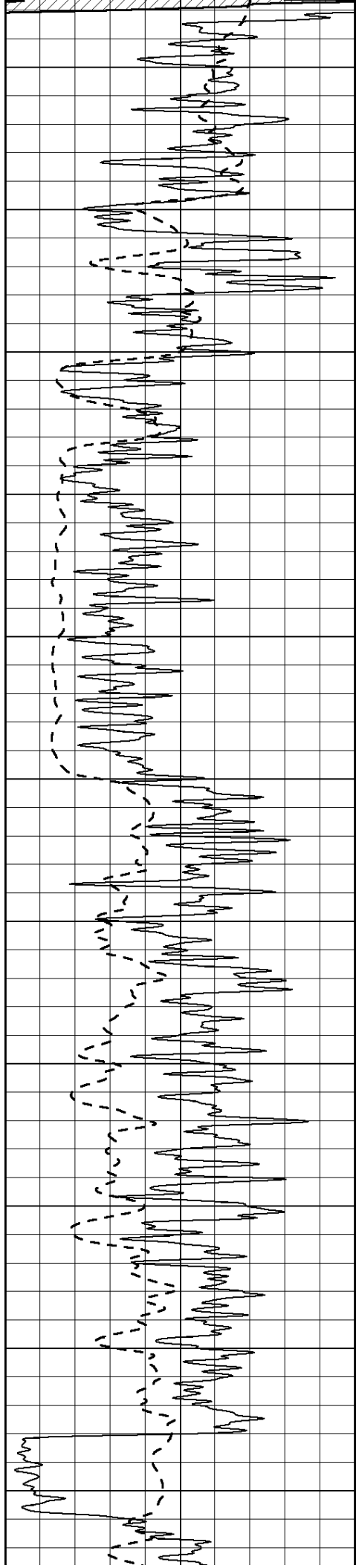
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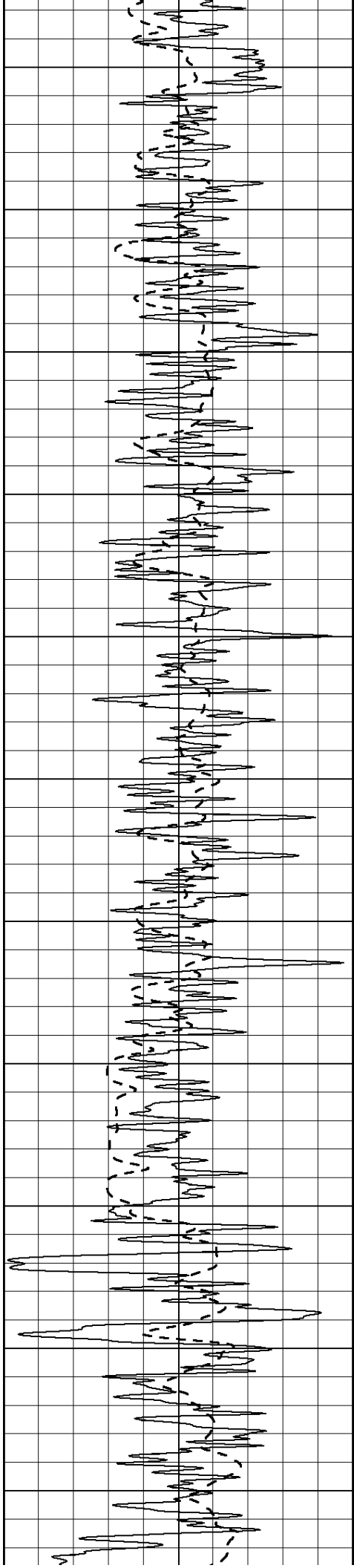




1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500







2100

2150

2200

2250

2300

2350

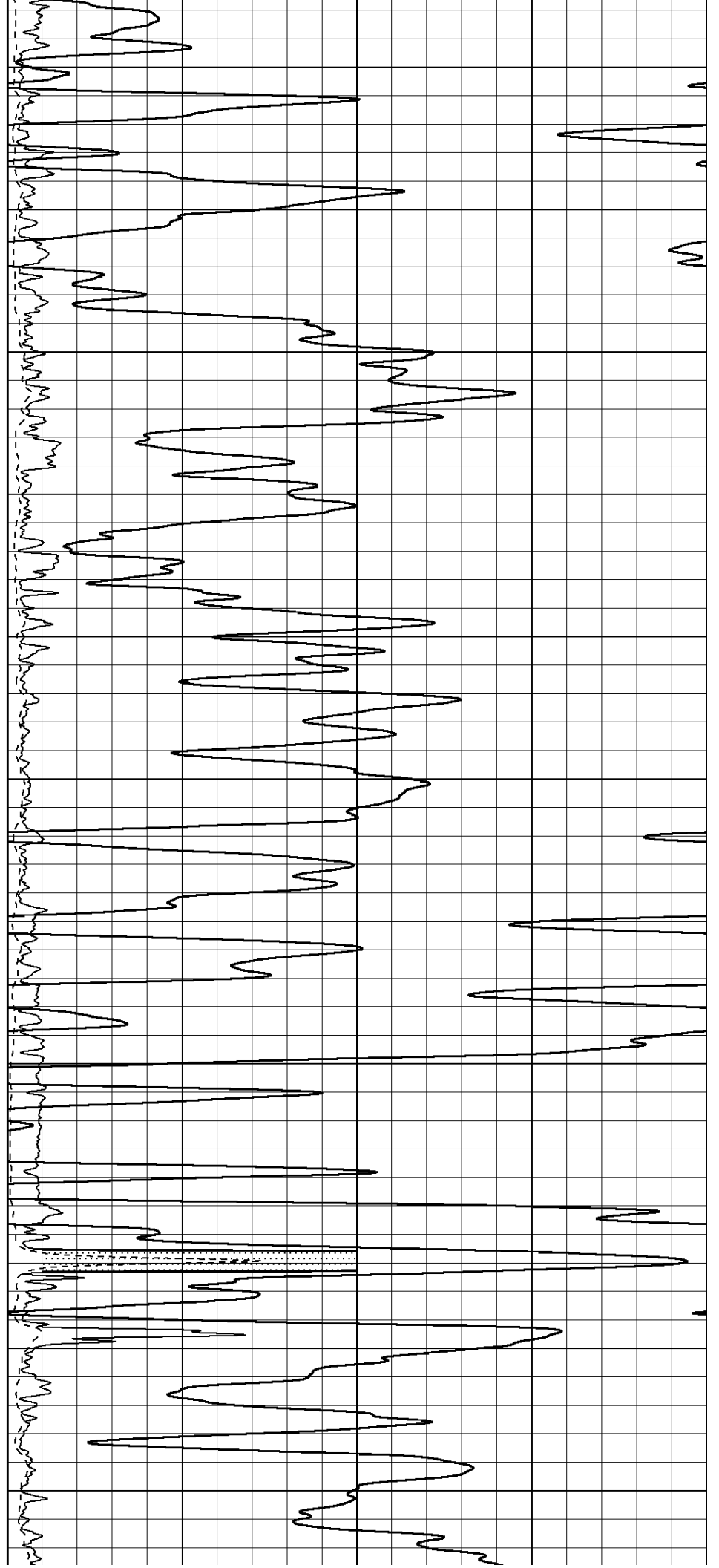
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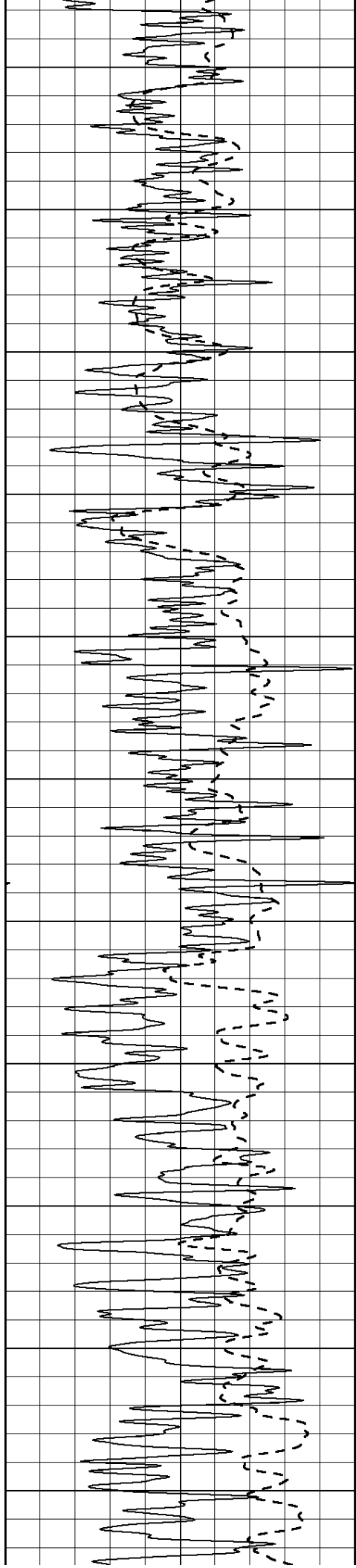
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2500

2550

2600





2650

2700

2750

2800

2850

2900

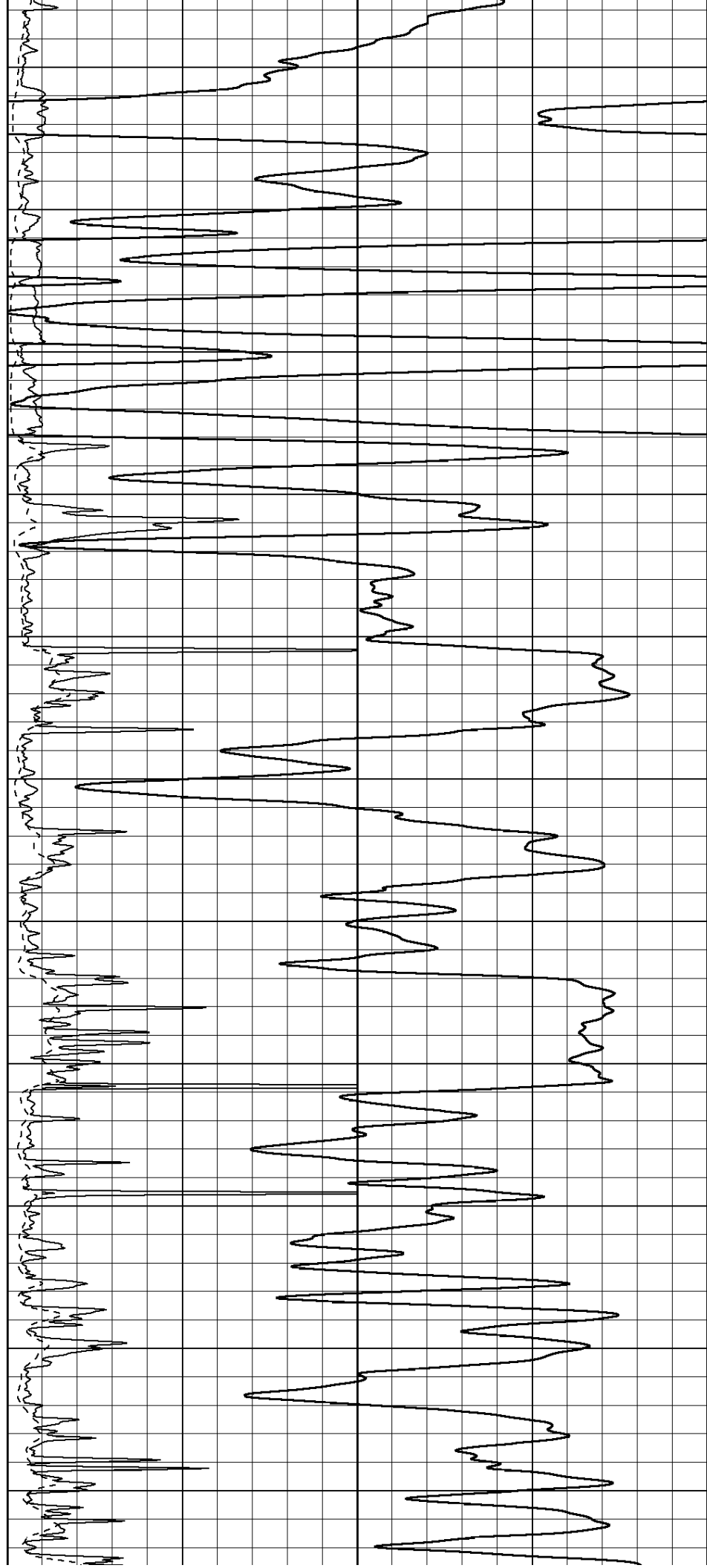
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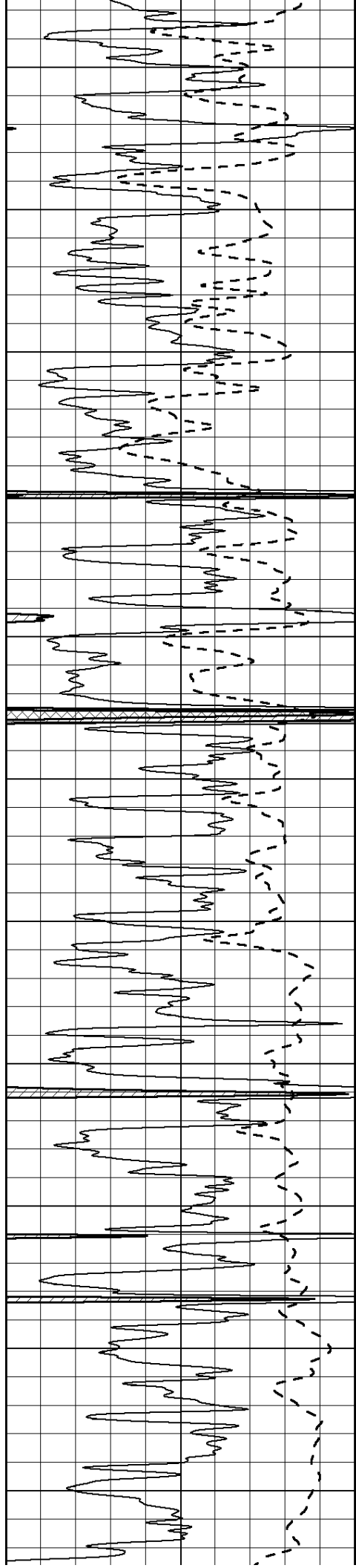
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3050

3100

3150





3200

3250

3300

3350

3400

3450

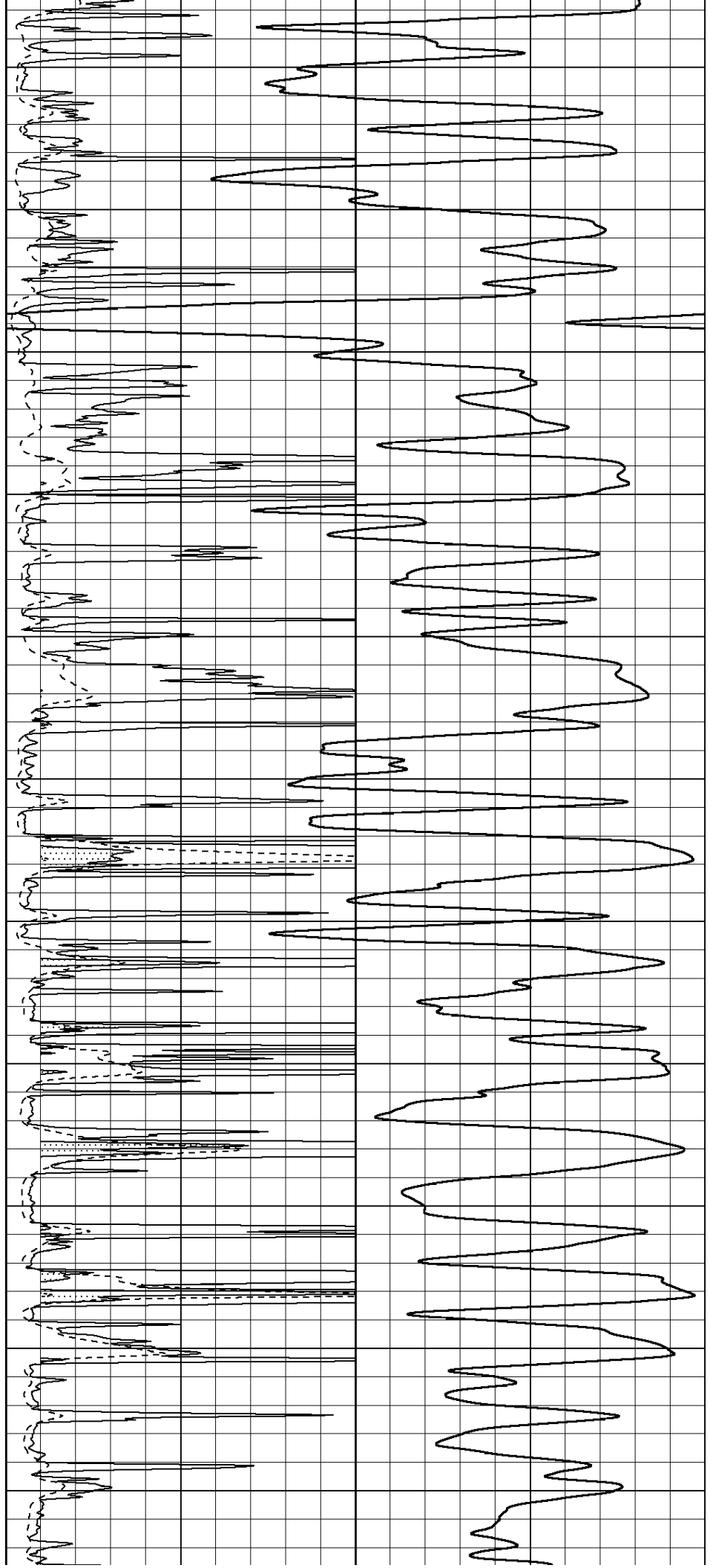
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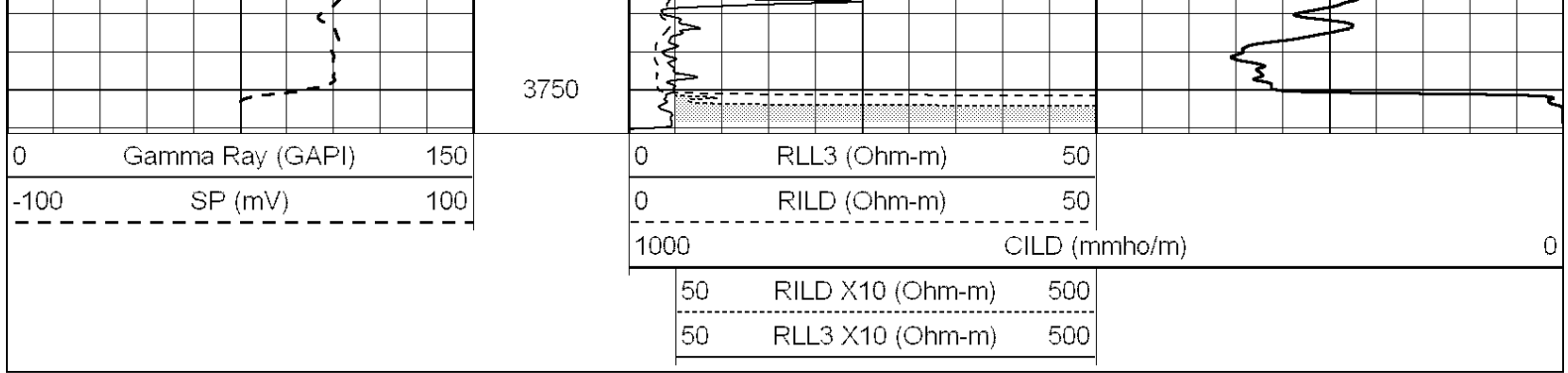
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3700



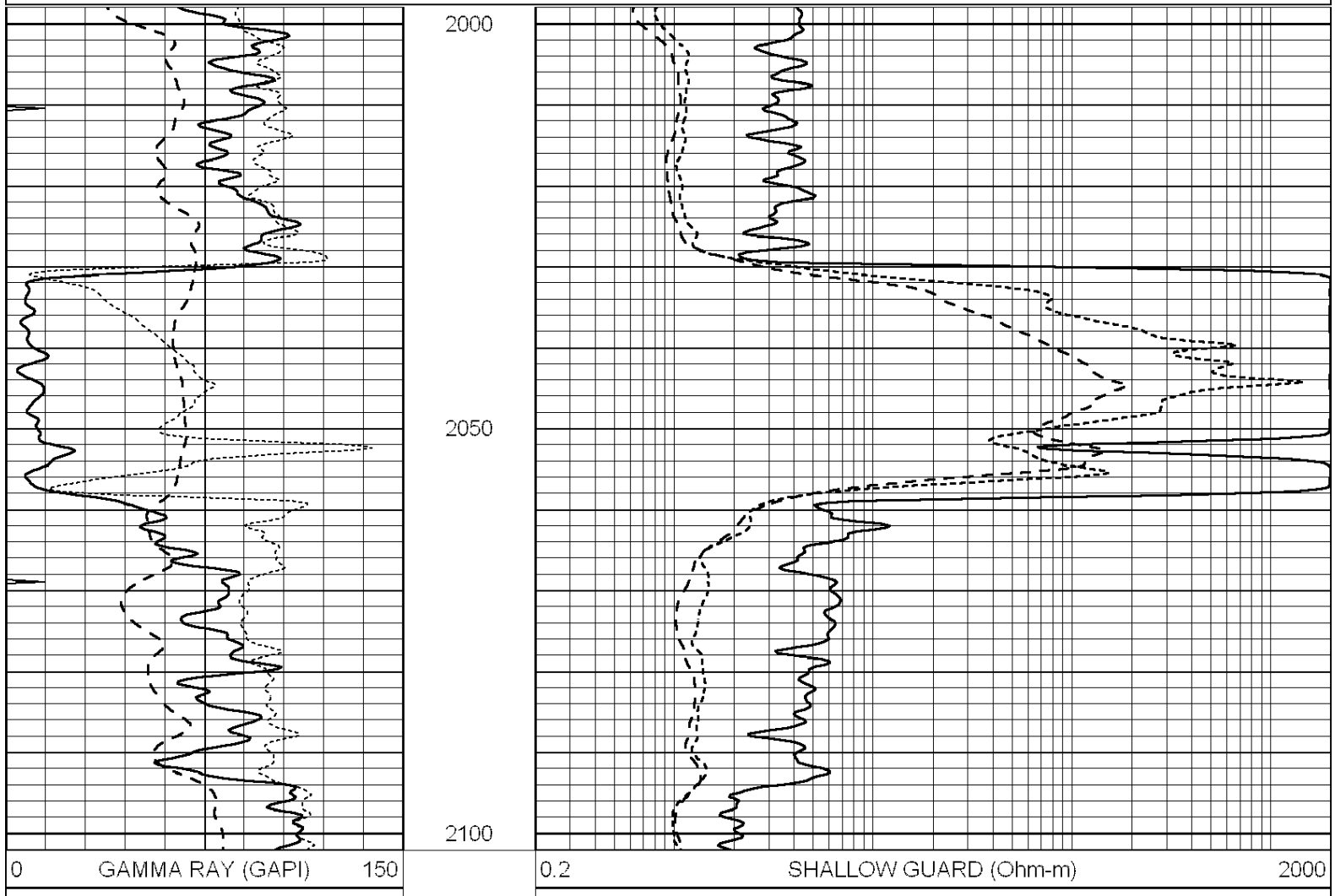


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ANHYDRITE

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 Dataset Pathname: pass3.2
 Presentation Format: dil
 Dataset Creation: Tue May 03 03:14:25 2011 by Calc Open-Cased 090629
 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			



-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	10

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



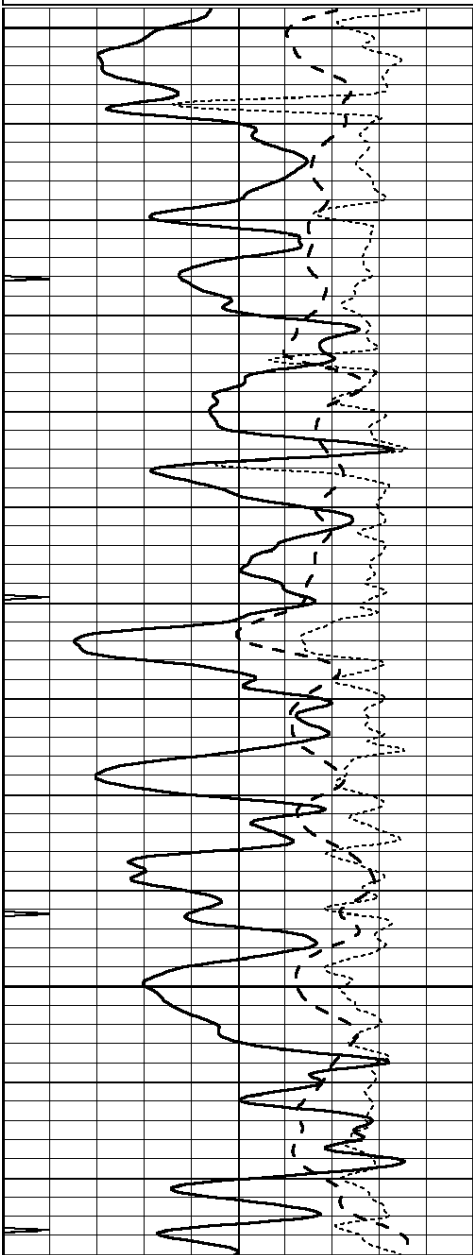
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MAIN SECTION

Database File: 006820pe.db
 Dataset Pathname: pass3.1
 Presentation Format: dil
 Dataset Creation: Tue May 03 03:13:32 2011 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	10

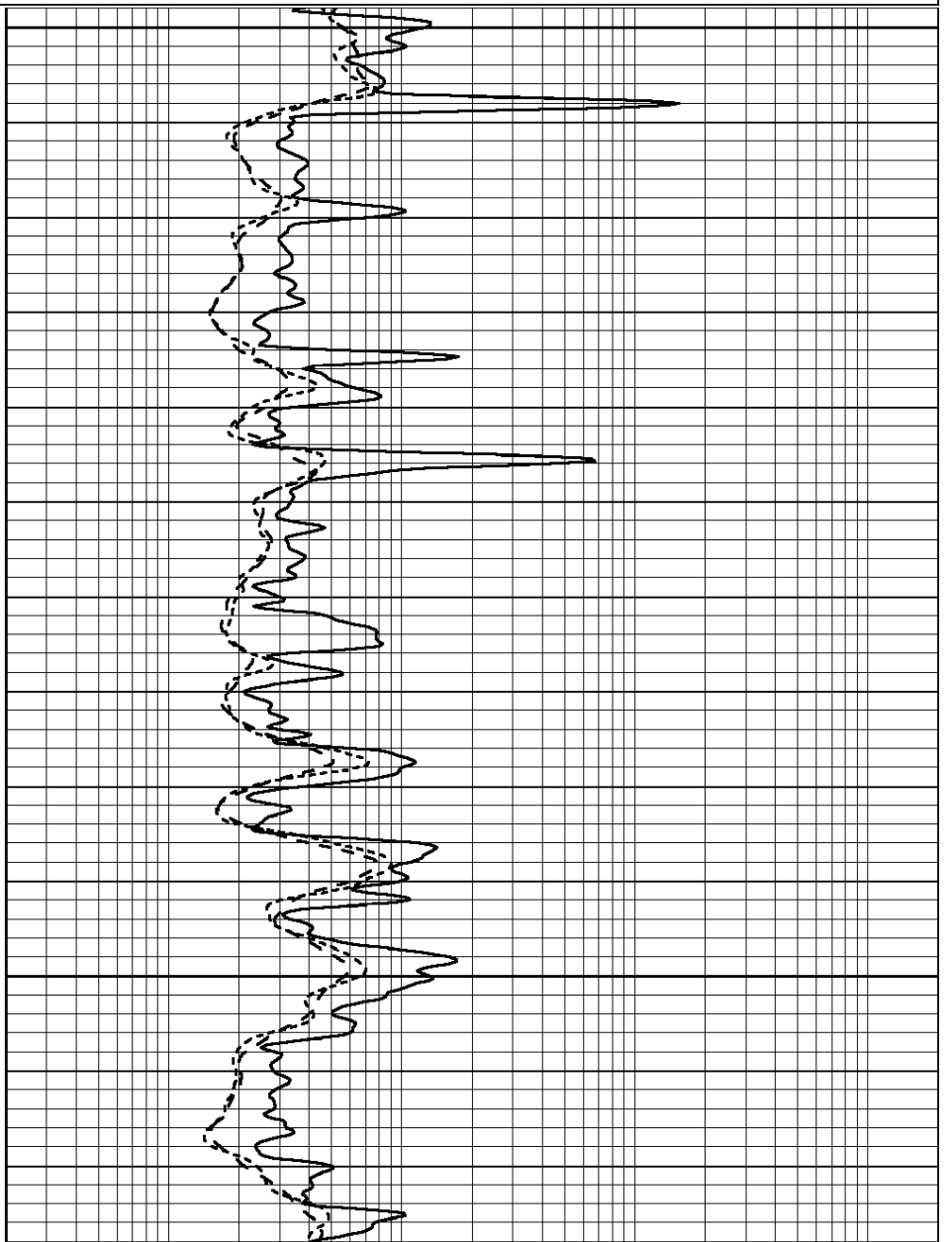
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

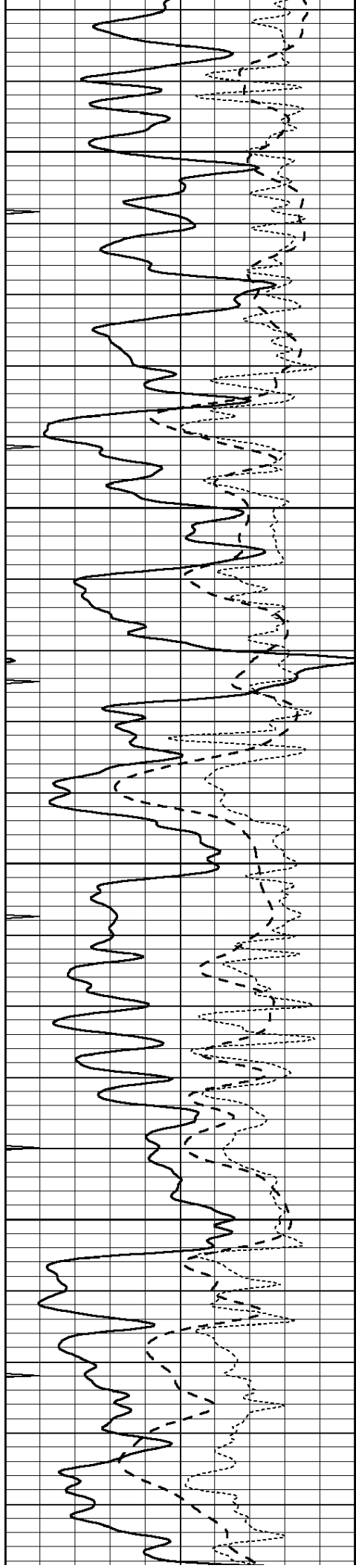


3000

3050

3100



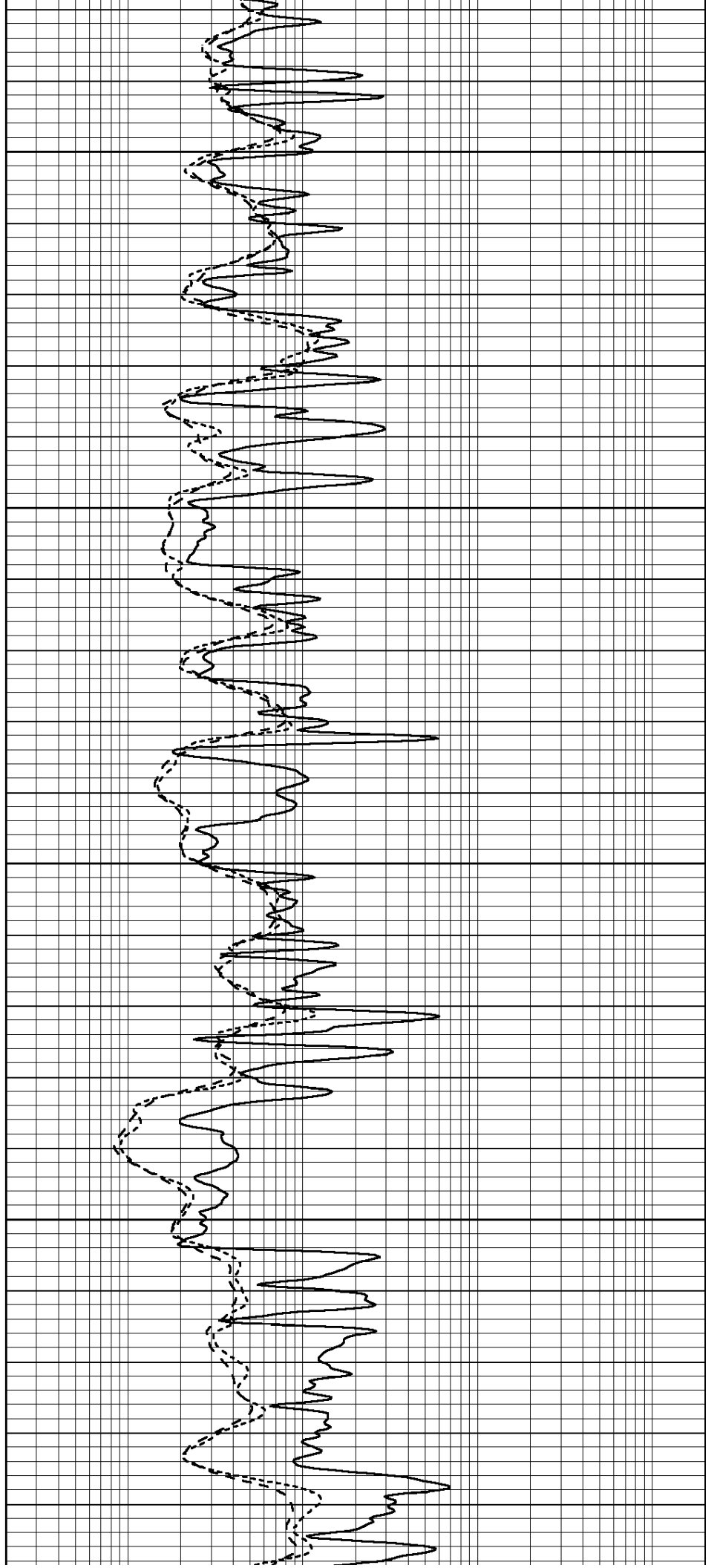


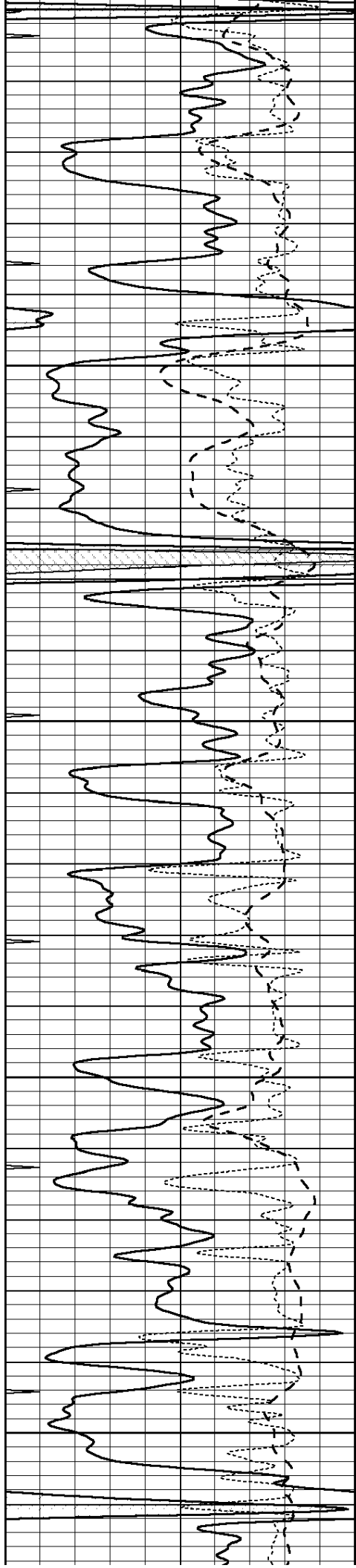
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3200

3250

3300





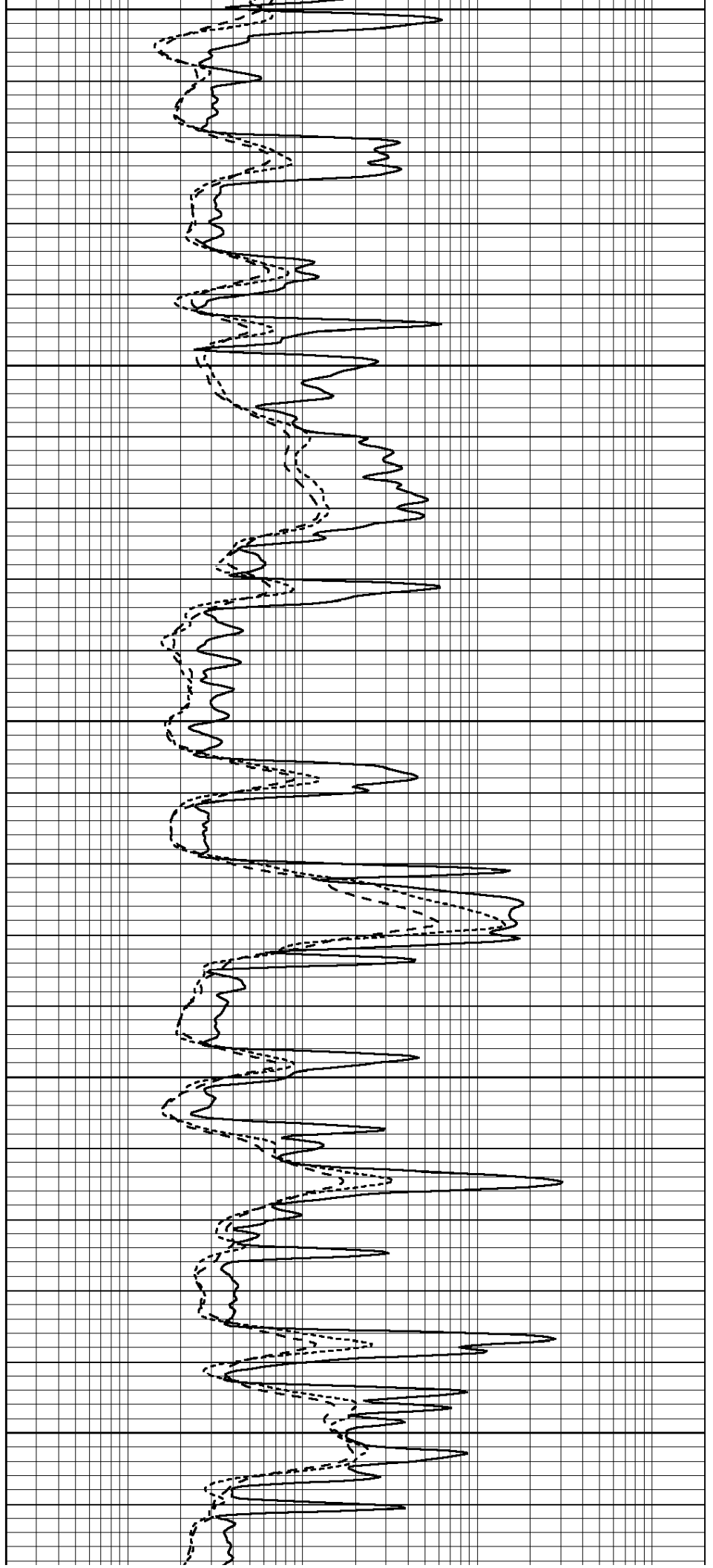
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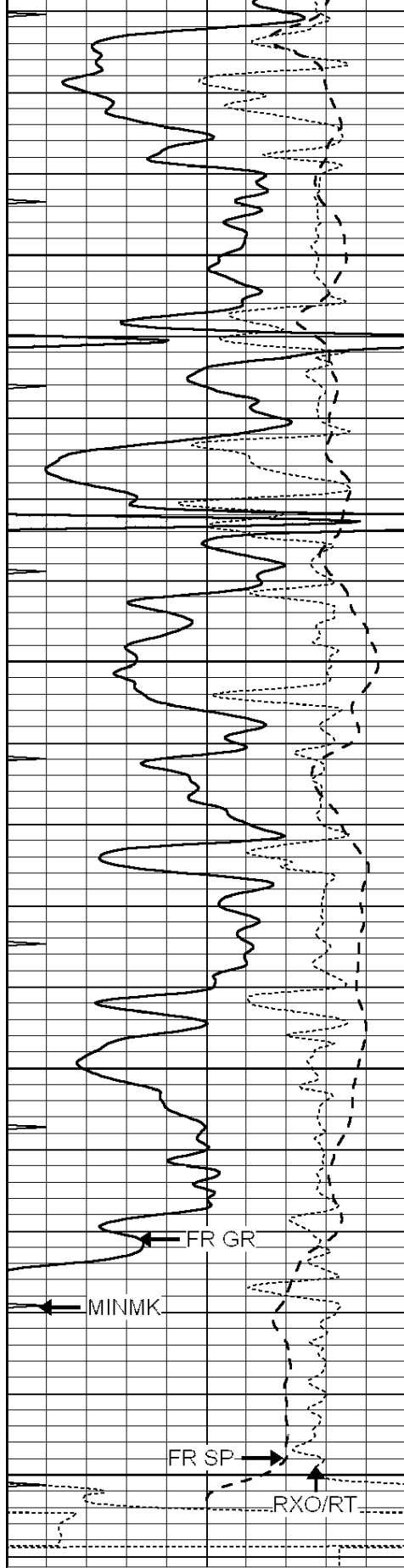
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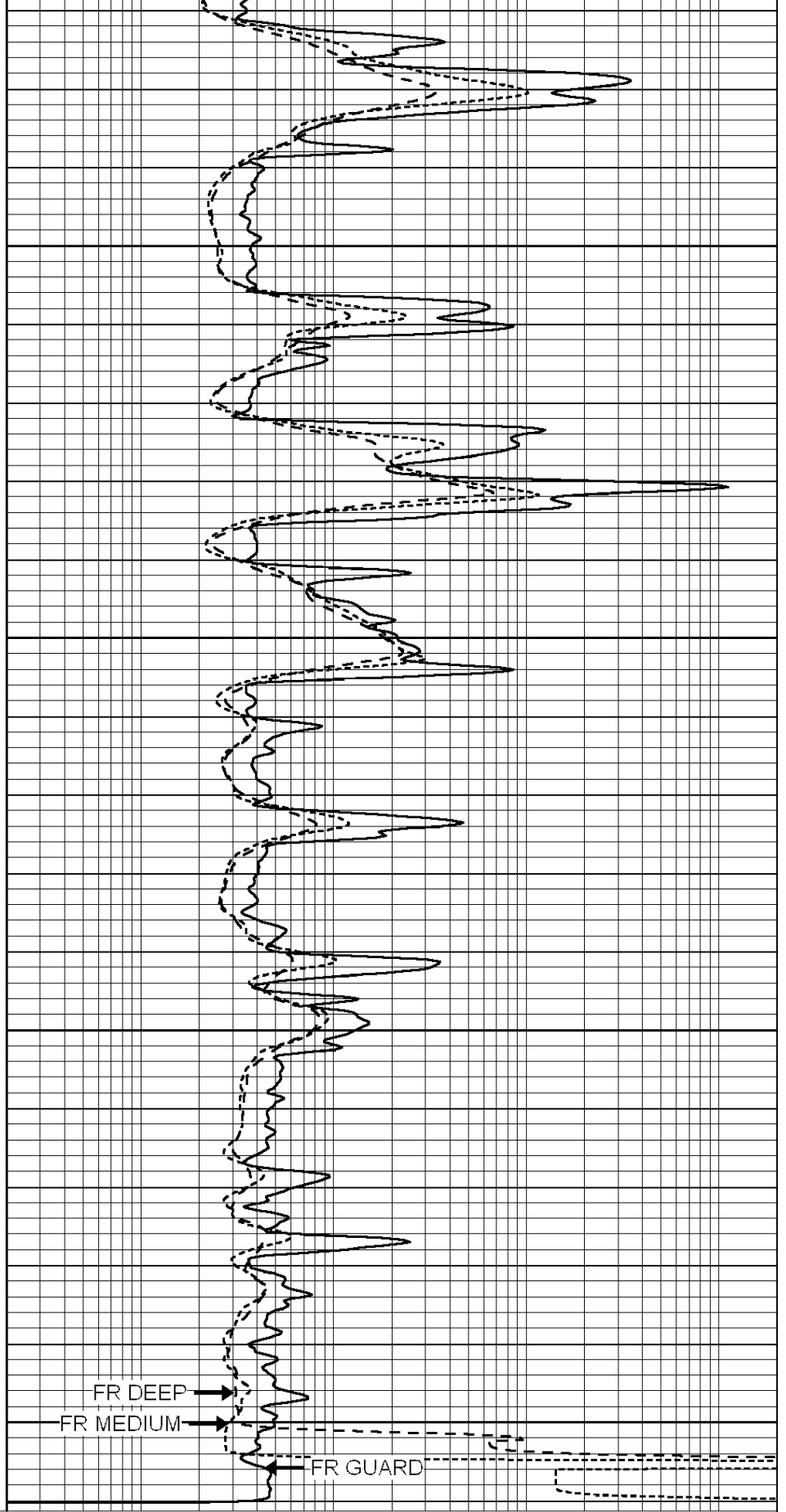
3500

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3600
 3650
 3700
 3750
 LTD 3758



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



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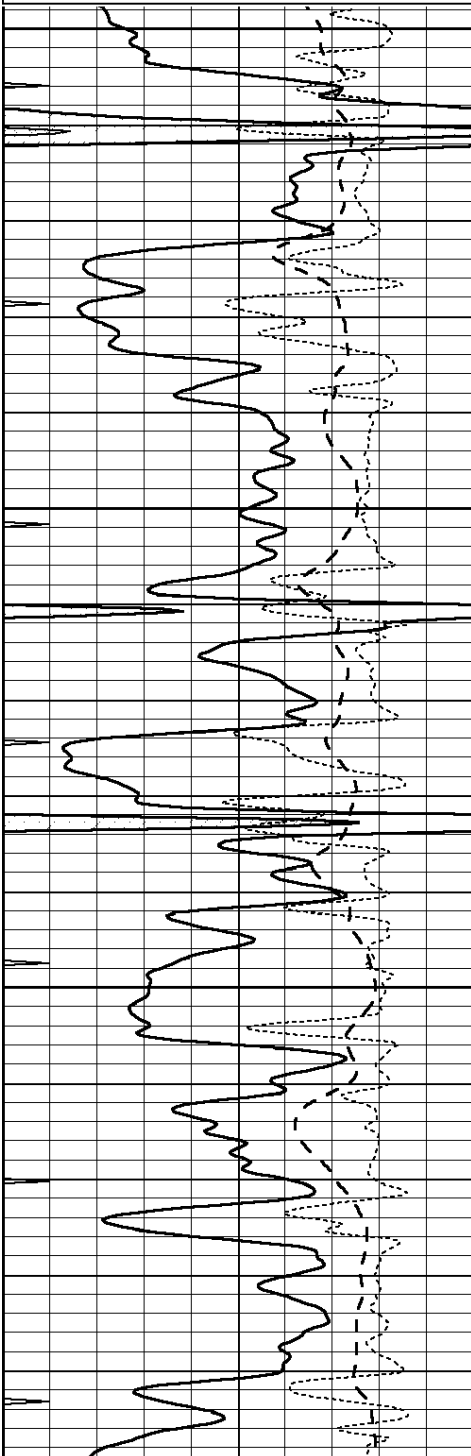
Hays,
Kansas

REPEAT SECTION

Database File: 006820pe.db
 Dataset Pathname: pass2.7
 Presentation Format: dil
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 Charted by: Depth in Feet scaled 1:240

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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	10

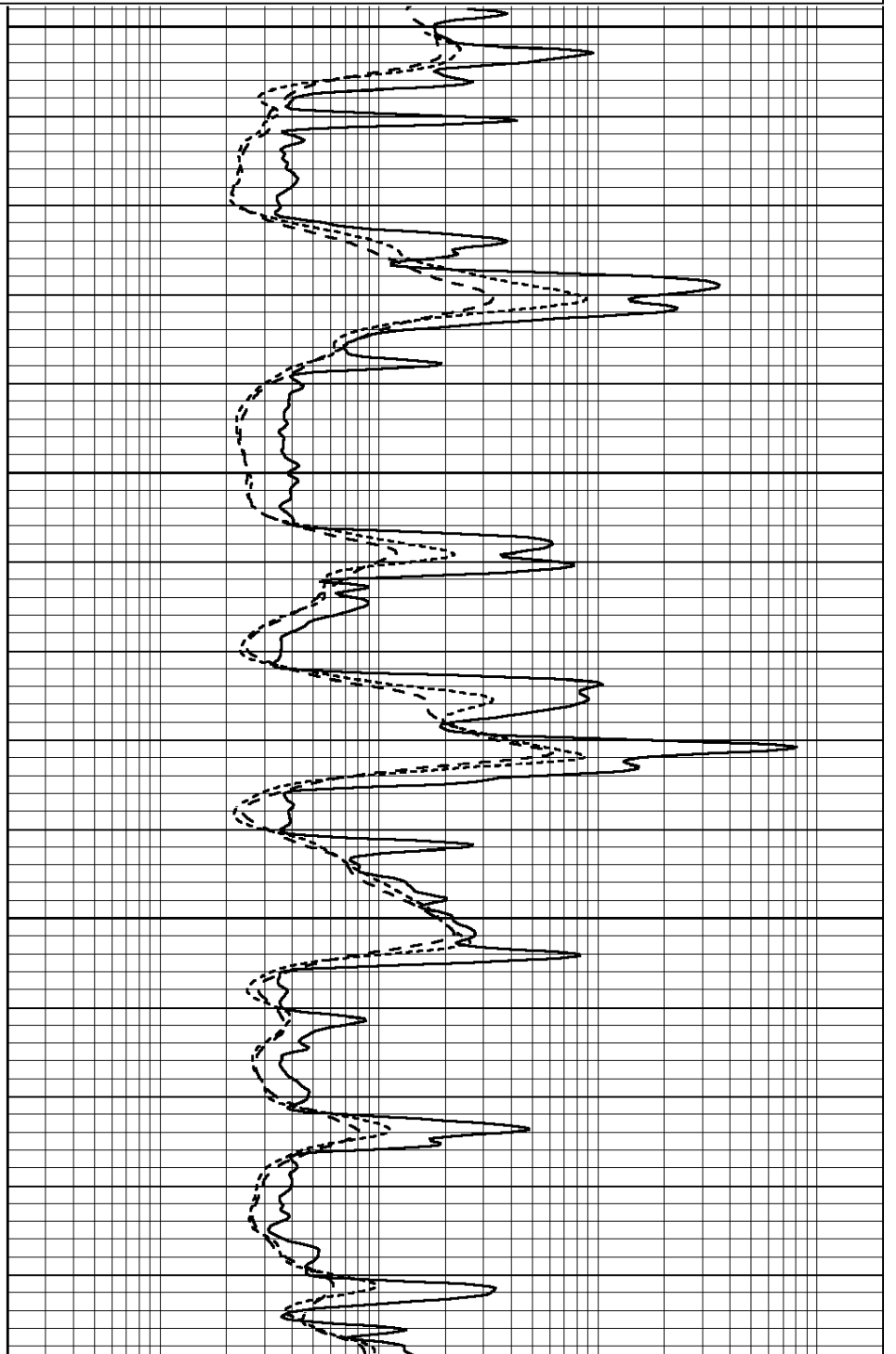
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

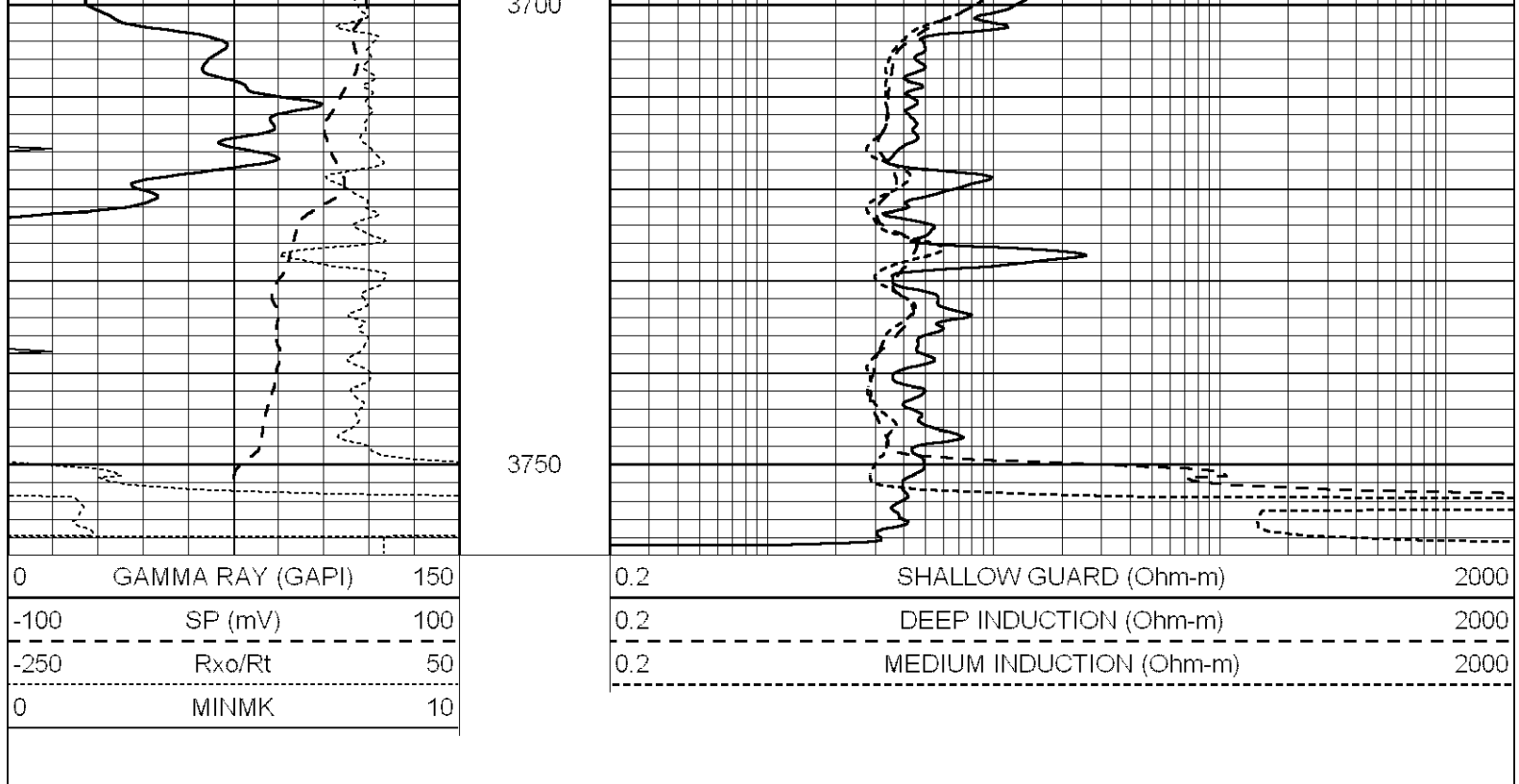


3550

3600

3650





Calibration Report

Database File: 006820pe.db
 Dataset Pathname: pass3.1
 Dataset Creation: Tue May 03 03:13:32 2011 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: DIL6-GEAR
 Performed: Tue Apr 26 10:09:18 2011

Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.001	0.644	V	0.000	400.000	mmho/m	660.000	-5.000
Medium	0.020	0.738	V	0.000	462.500	mmho/m	740.000	-23.000
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: 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	4.0	6.9	
	6.2	14.0	
	Gain: 3.2		Offset: -5.7

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: Tue May 03 00:53:24 2011

Calibrator Value: 200.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 189.0 cps

Sensitivity: 1.7000 GAPI/cps