



SUPERIOR
Hays,
Kansas

**DUAL
INDUCTION
LOG**

Company MAI OIL OPERATIONS
Well HABERER A #3
Field
County RUSSELL
State KANSAS

Company MAI OIL OPERATIONS
Well HABERER A #3
Field
County RUSSELL State KANSAS

Location: API # : 15-167-23716-0000
1500' FSL & 2310' FEL
S/2 - SW - NW - SE
SEC 14 TWP 12S RGE 15W
Permanent Datum GROUND LEVEL Elevation 1630
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
CDL/CNL
MEL
Elevation
K.B. 1638
D.F. 1636
G.L. 1630

Date	7/24/11
Run Number	ONE
Depth Driller	3150
Depth Logger	3150
Bottom Logged Interval	3148
Top Log Interval	0
Casing Driller	8 5/8"@700'
Casing Logger	700
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.1/58
pH / Fluid Loss	10.0/7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.55@88F
Rmt @ Meas. Temp	0.41@88F
Rmc @ Meas. Temp	0.66@88F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	0.45@108F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	108F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JEFF GRONWEG
Witnessed By	STEVE MURPHY

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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.

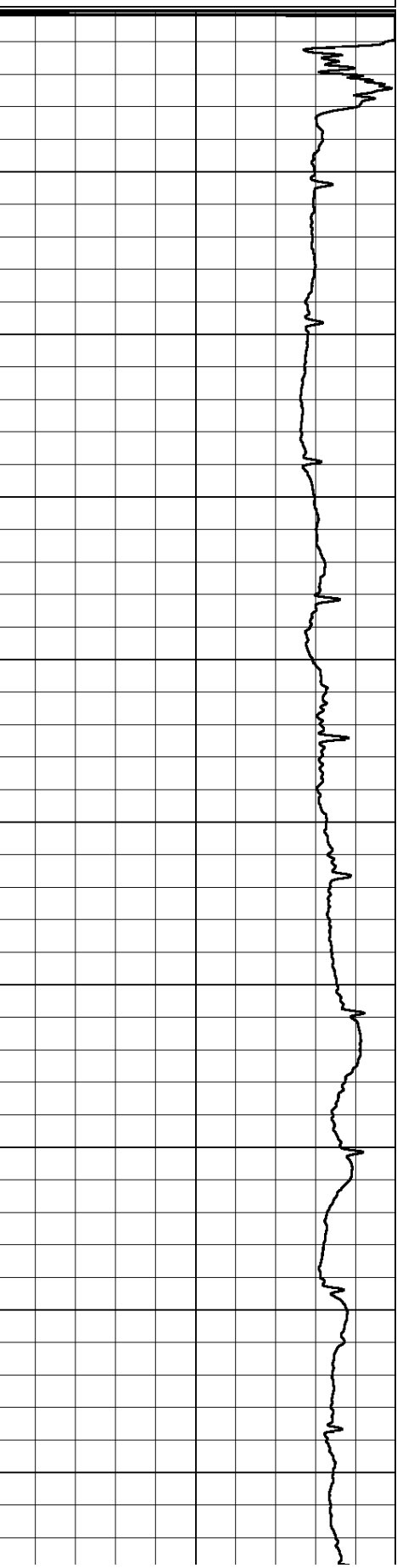
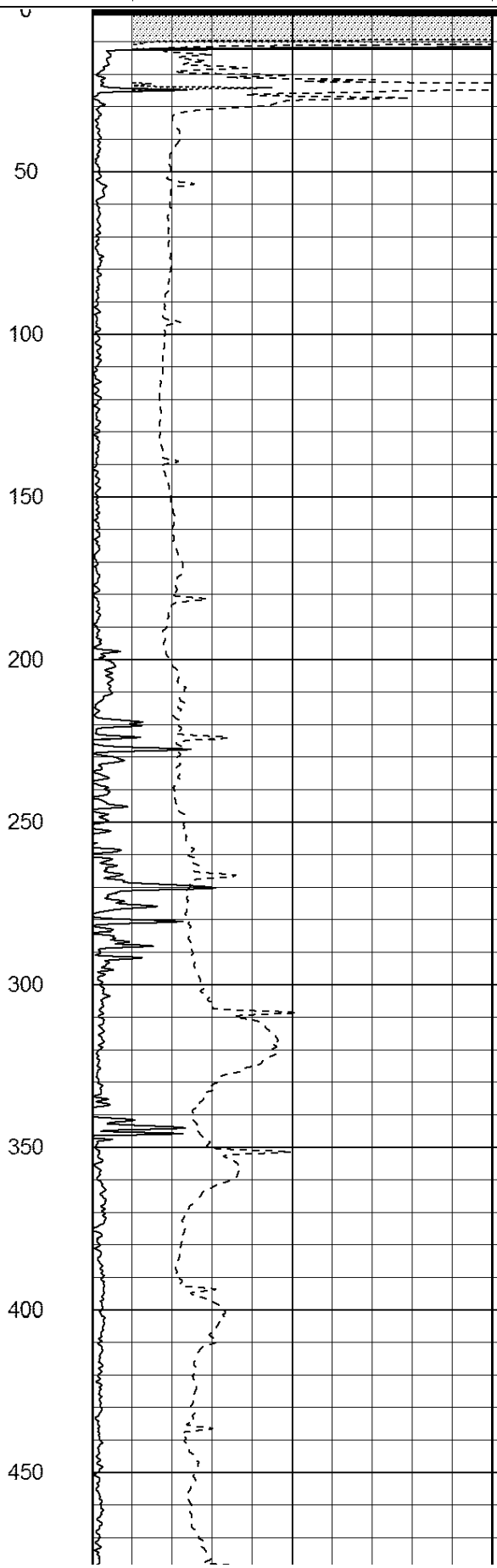
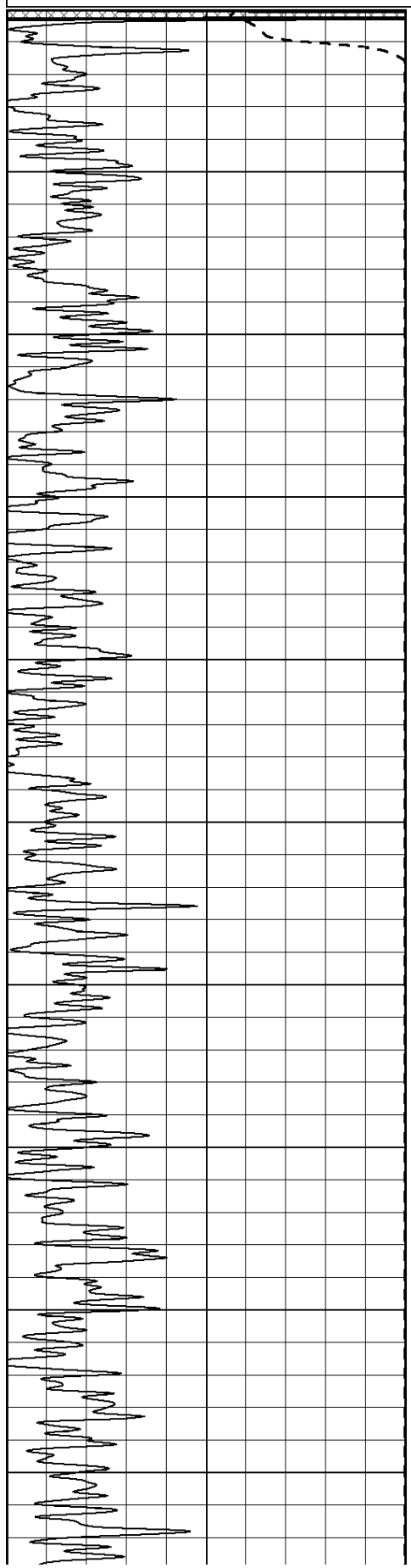
Comments

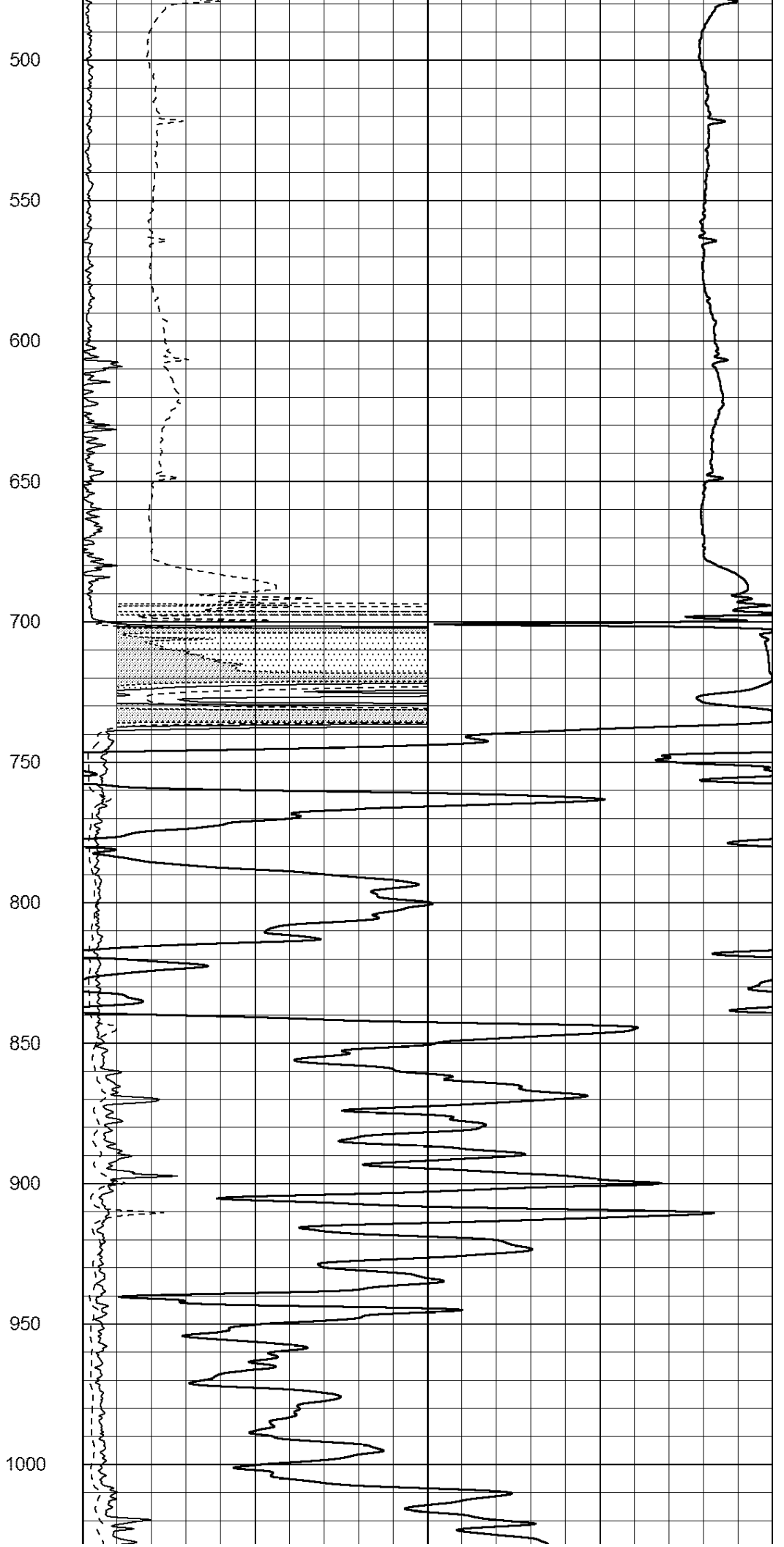
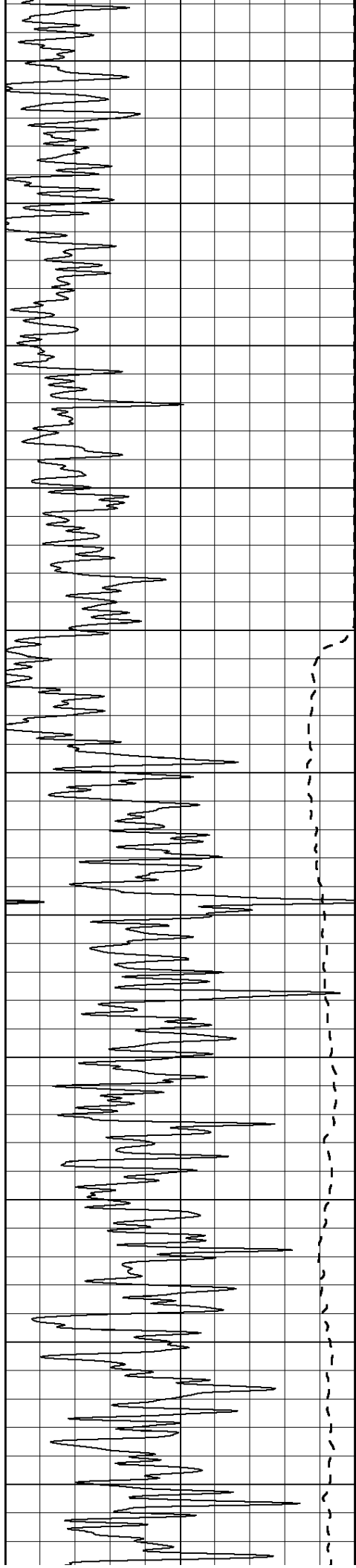
THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
GORHAM, KS - 1 MILE EAST - 10 MILES NORTH TO CANYON RD - 3 MILES EAST
1/4 MILE NORTH - WEST INTO

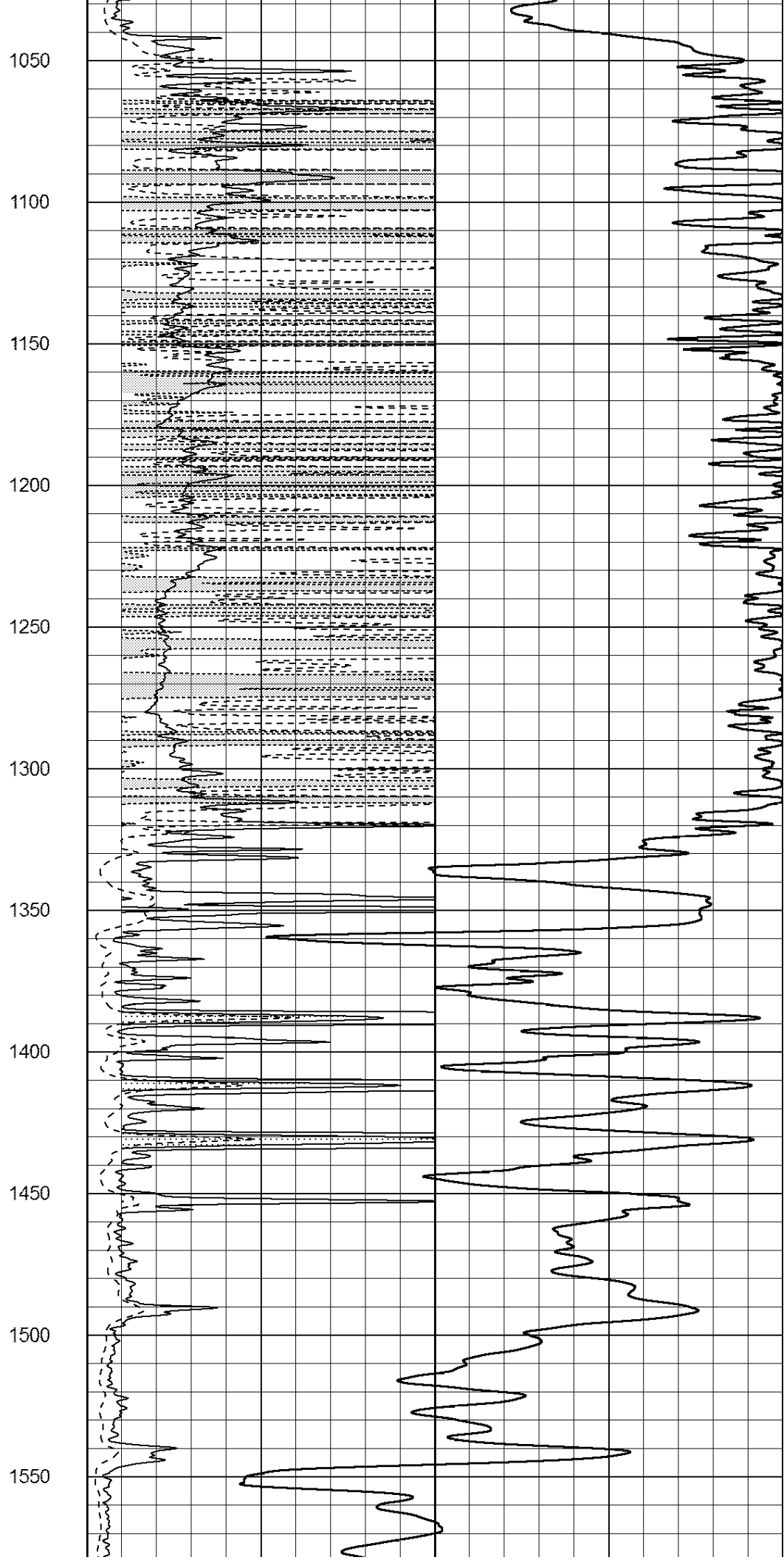
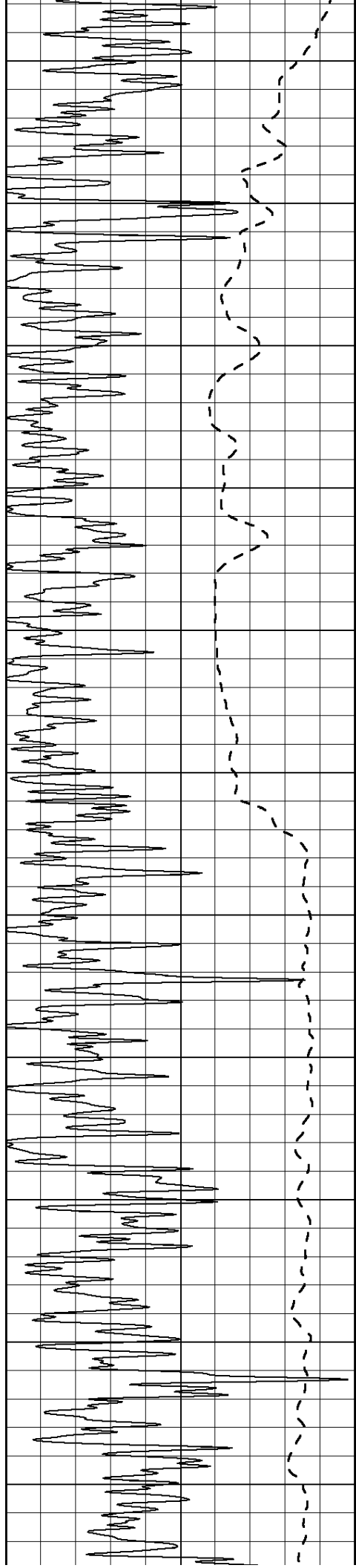
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-100	SP (mV)	100

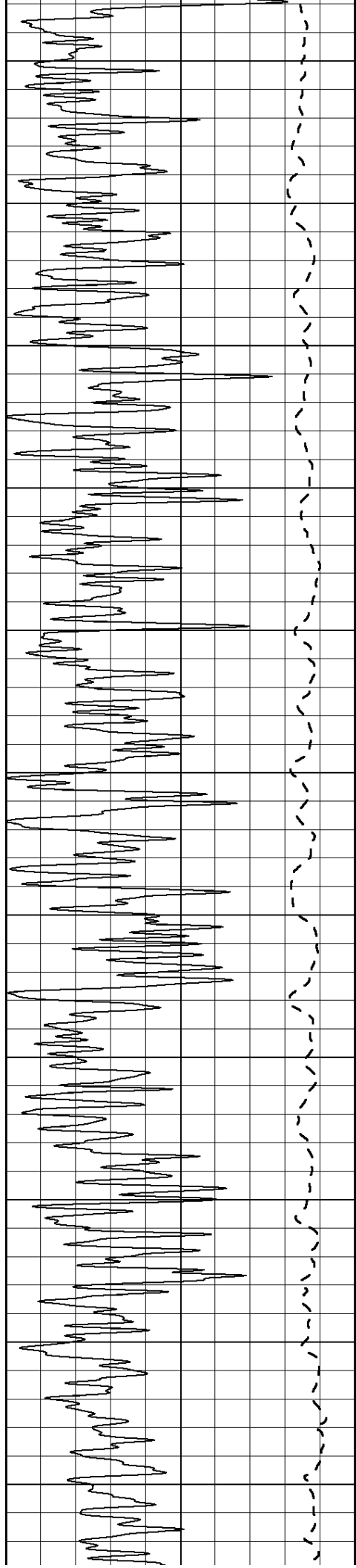
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
1000	CILD (mmho/m)	
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

0









1600

1650

1700

1750

1800

1850

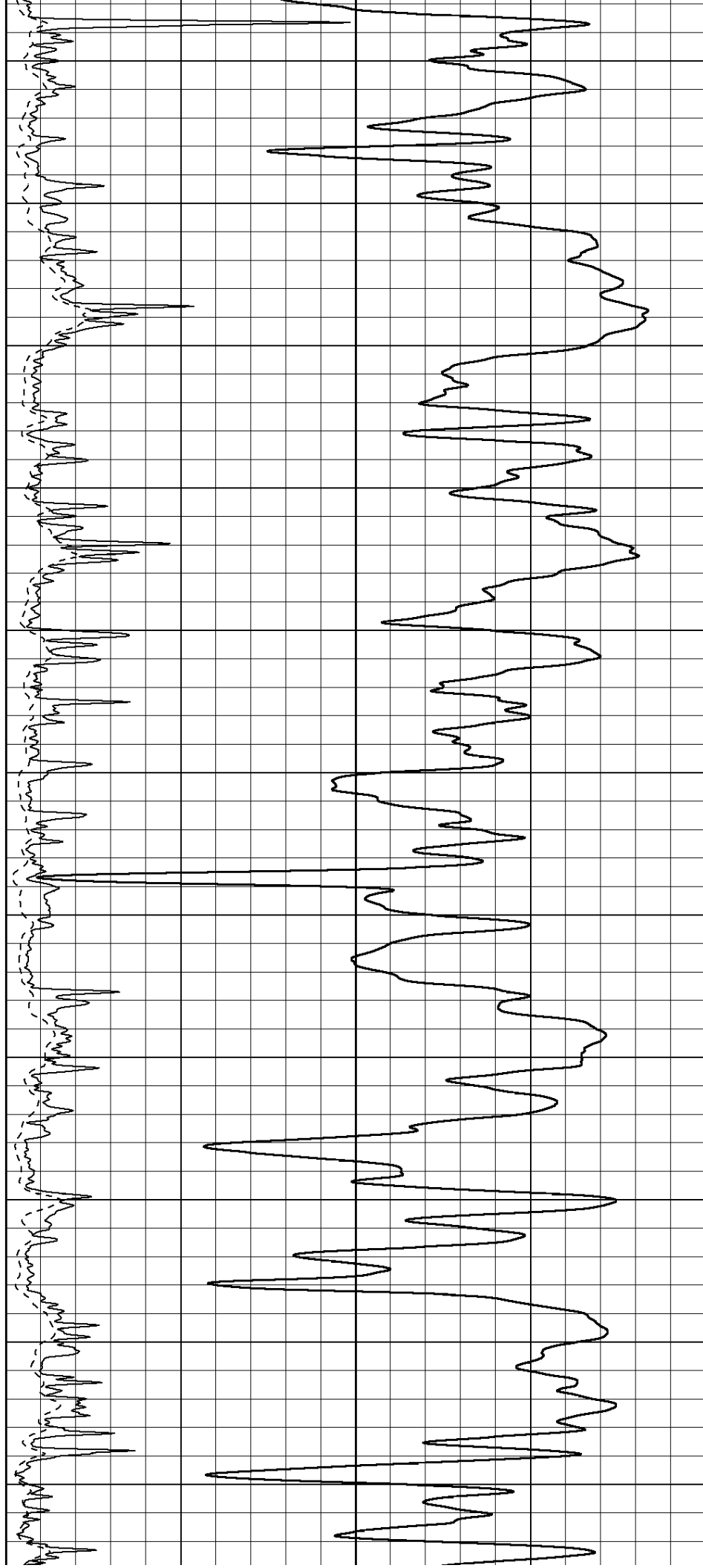
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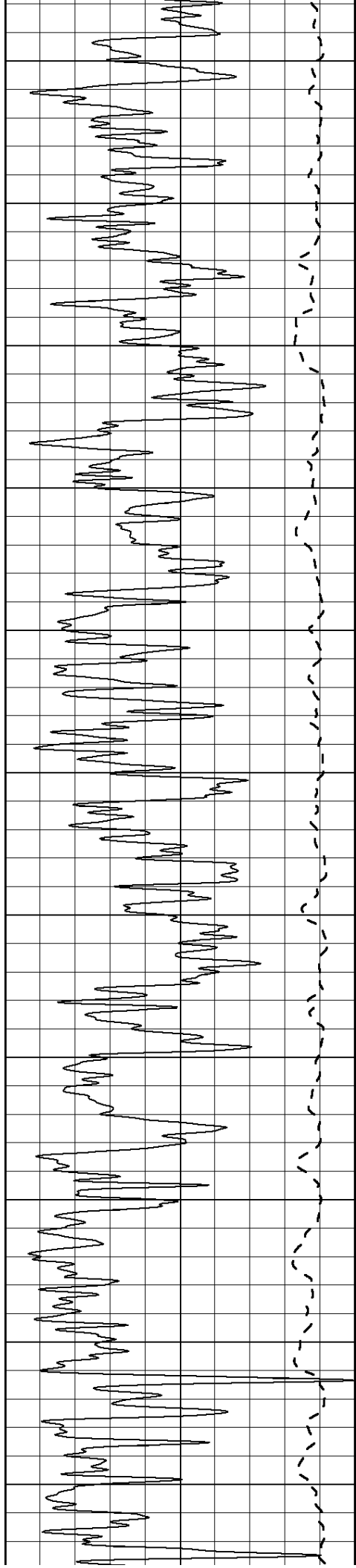
1950

2000

2050

2100





2150

2200

2250

2300

2350

2400

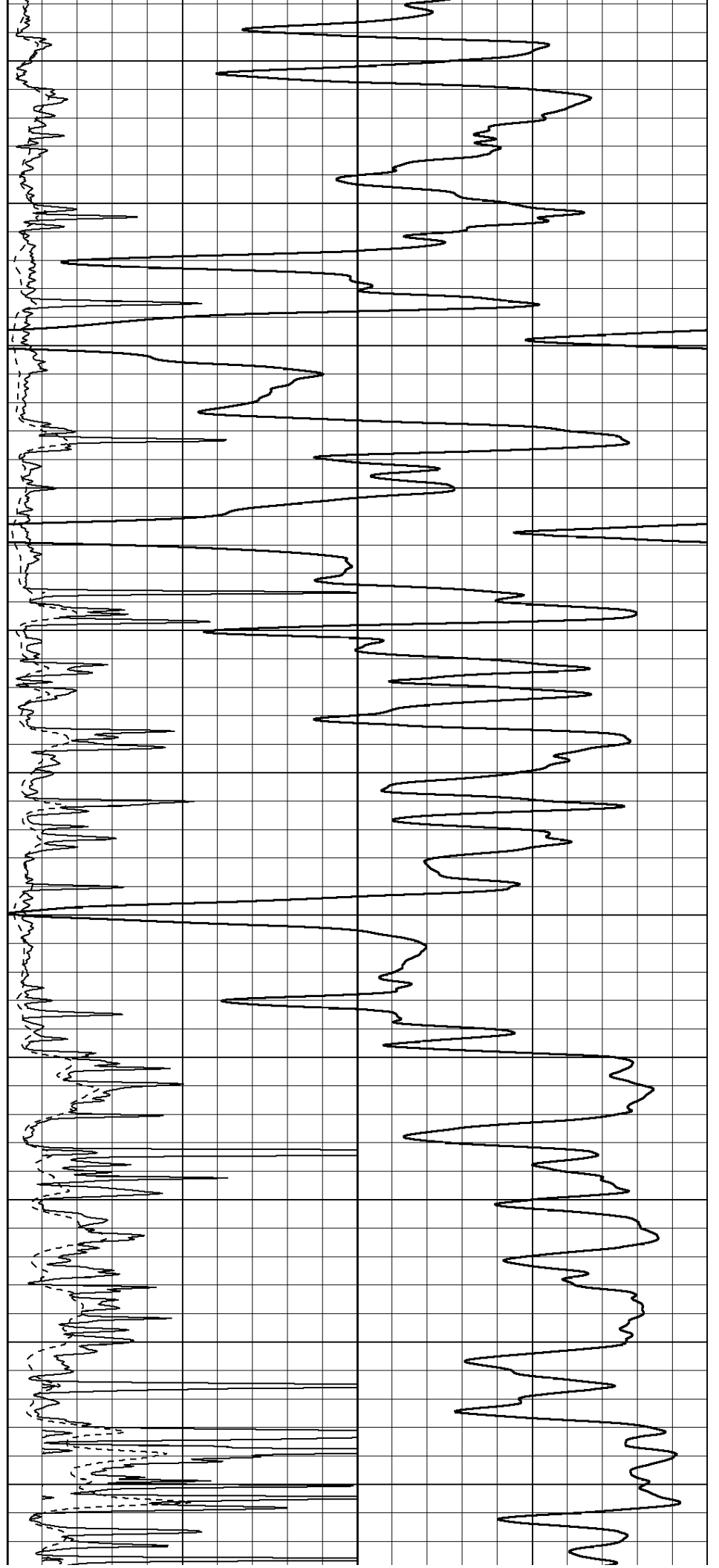
2450

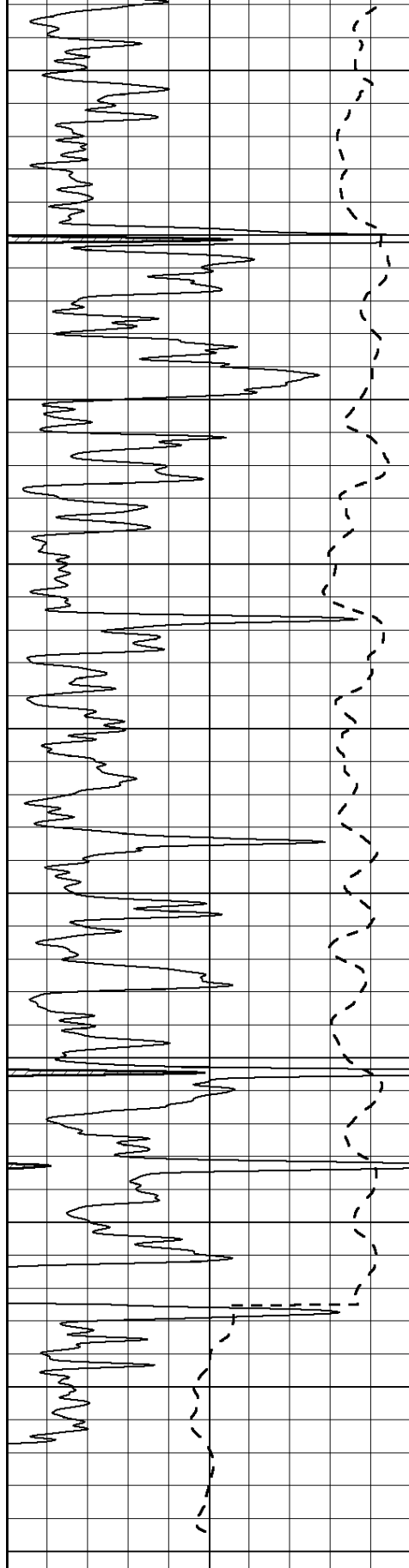
2500

2550

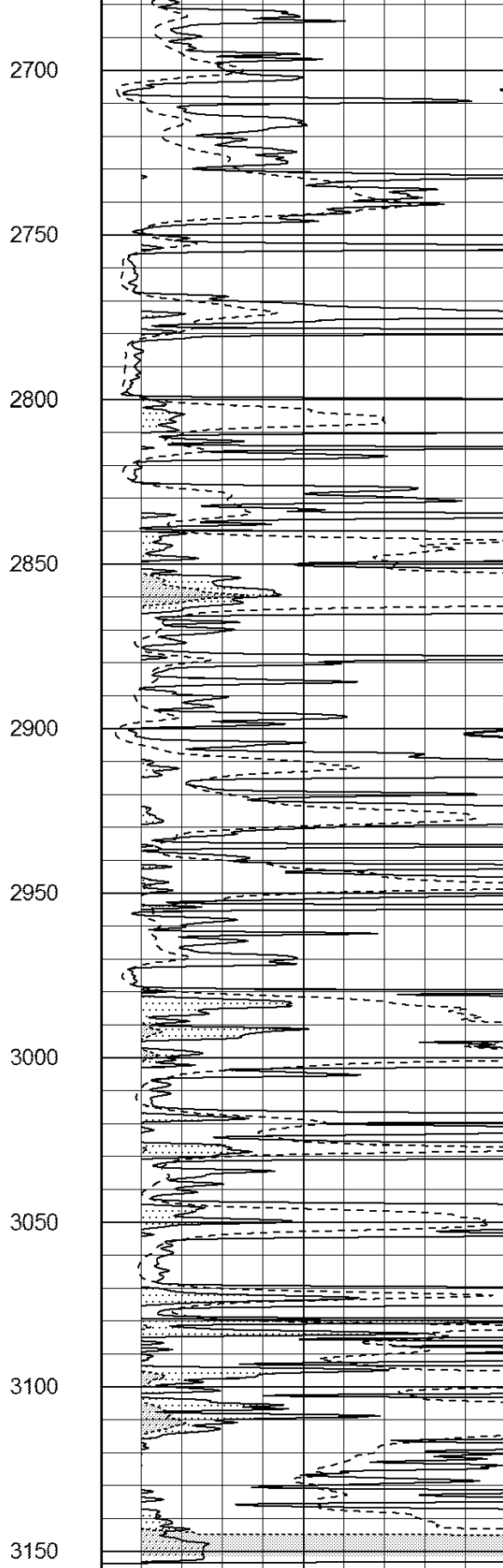
2600

2650

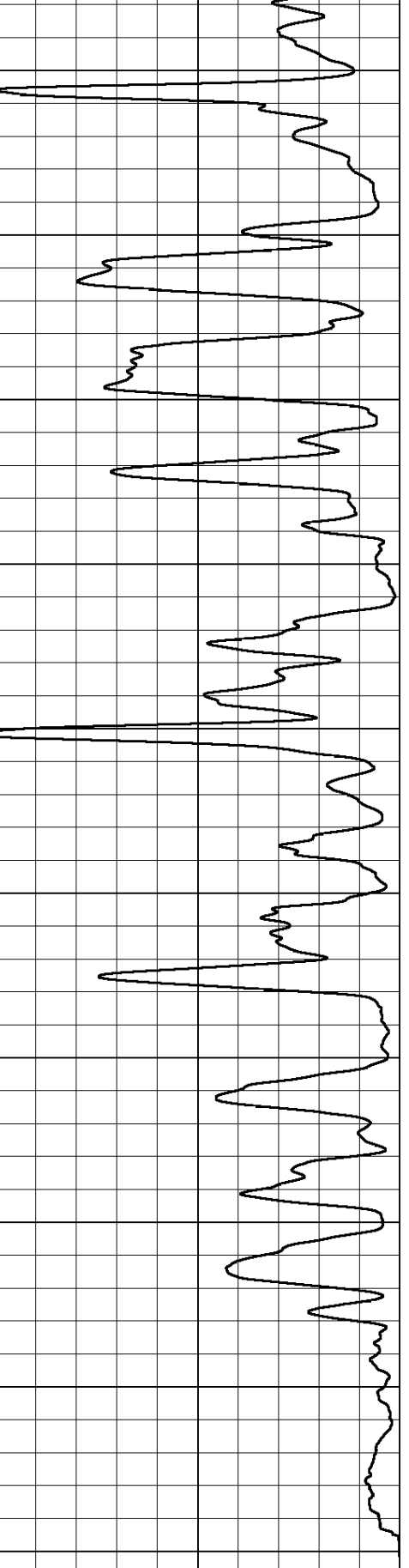




0 Gamma Ray (GAPI) 150
 -100 SP (mV) 100



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

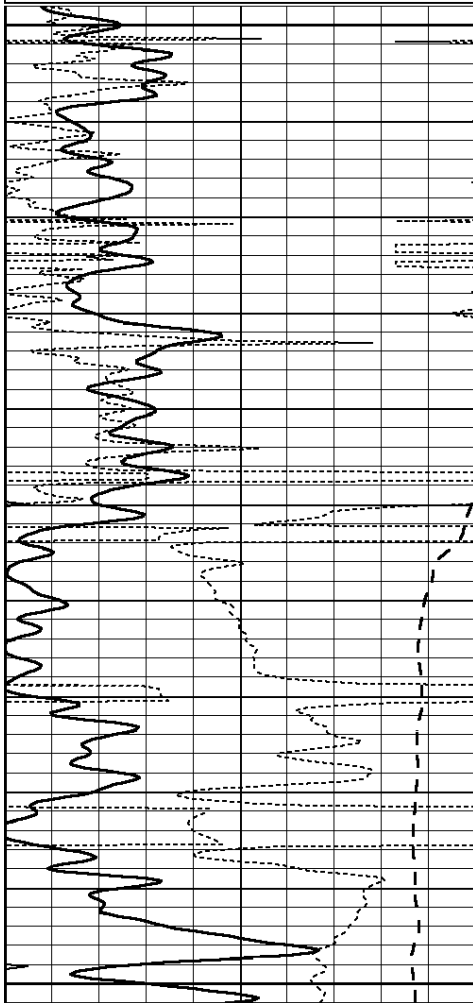


0

Database File: 007096ddn.db
 Dataset Pathname: pass6.6.1
 Presentation Format: dil
 Dataset Creation: Tue Jul 26 02:49:16 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

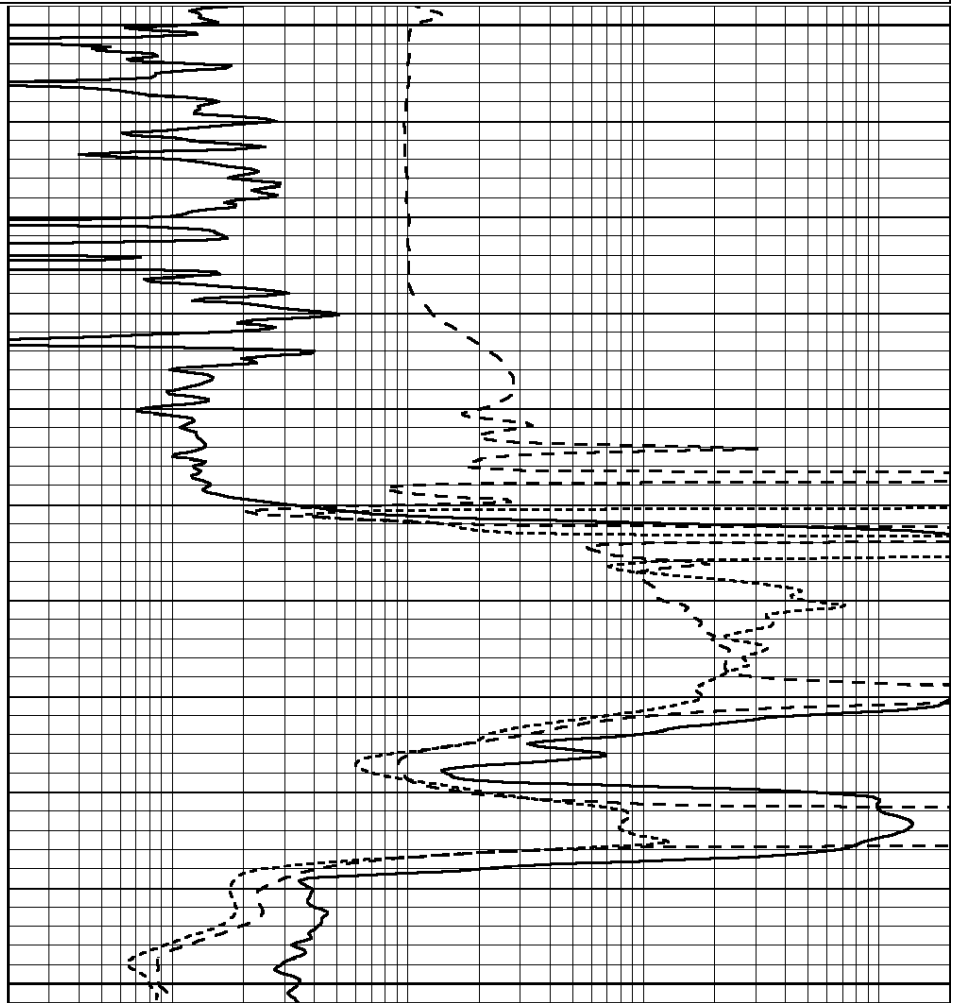
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



650

700

750



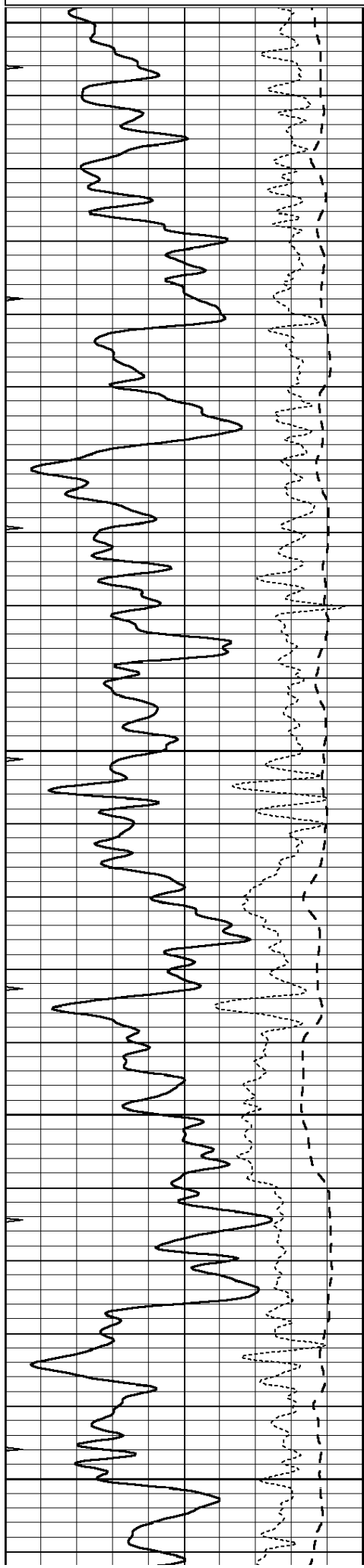
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

Database File: 007096ddn.db
 Dataset Pathname: pass6.6.1
 Presentation Format: dil
 Dataset Creation: Tue Jul 26 02:49:16 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



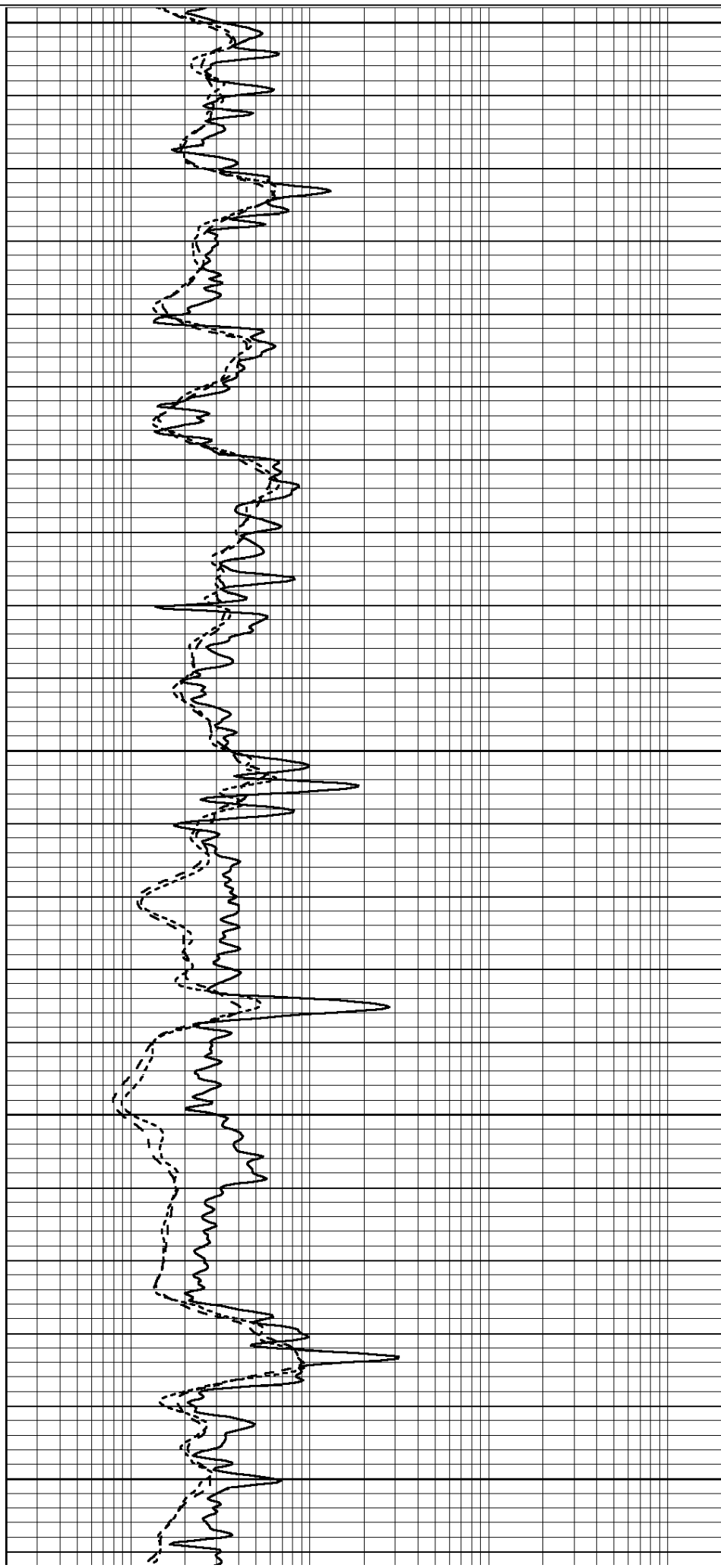
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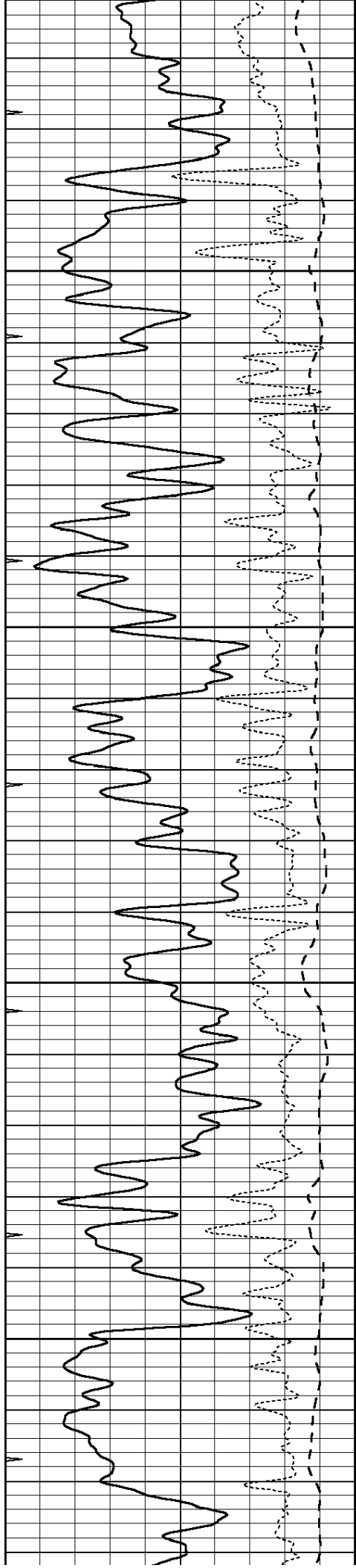
2150

2200

2250

2300



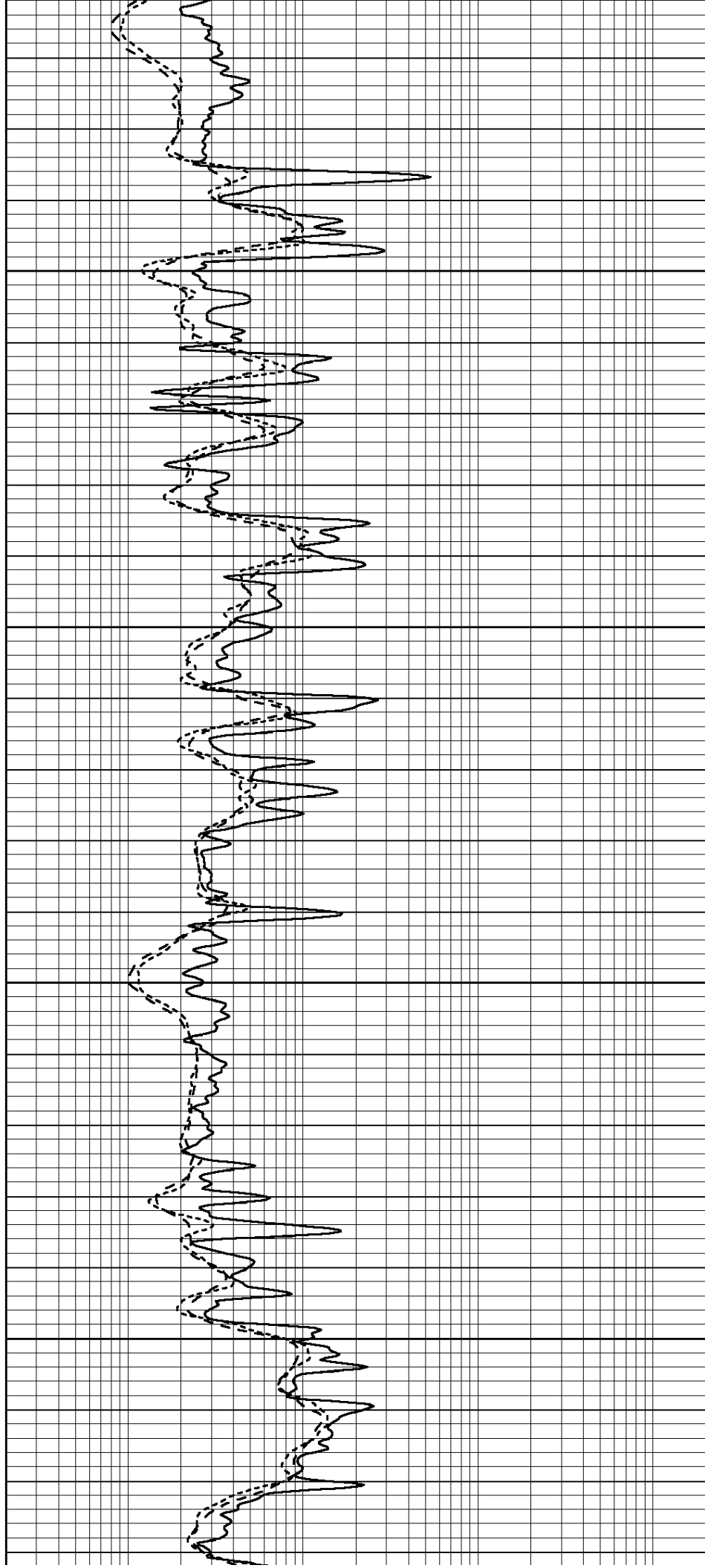


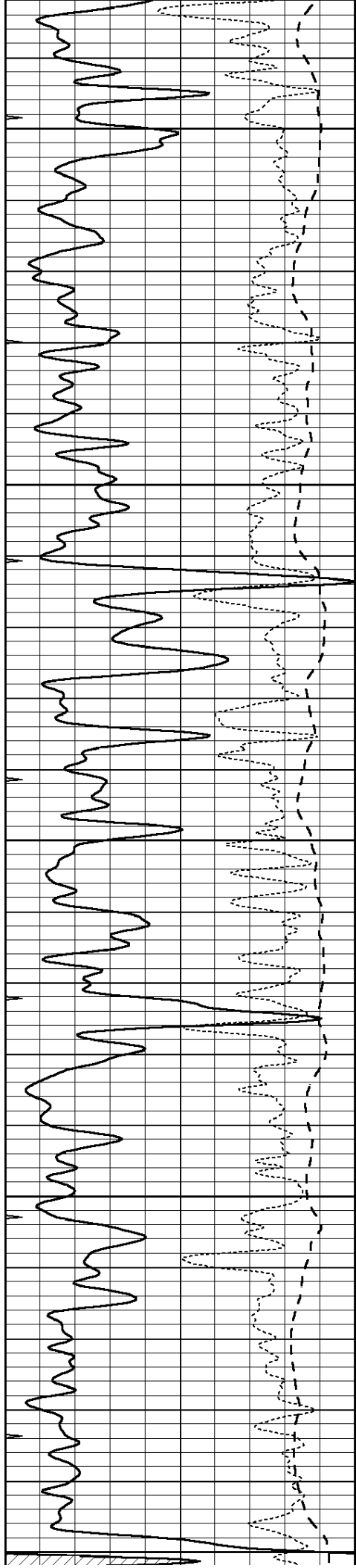
2350

2400

2450

2500





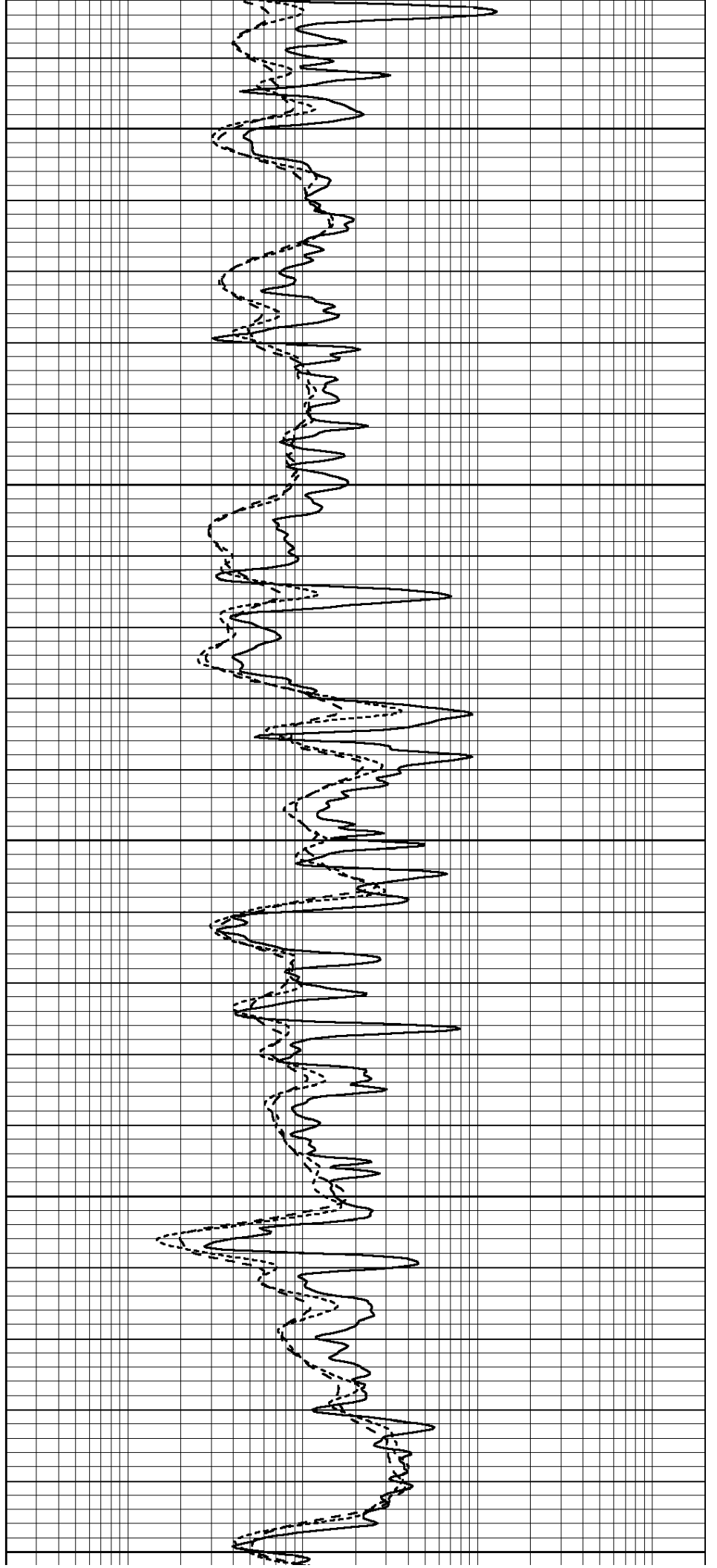
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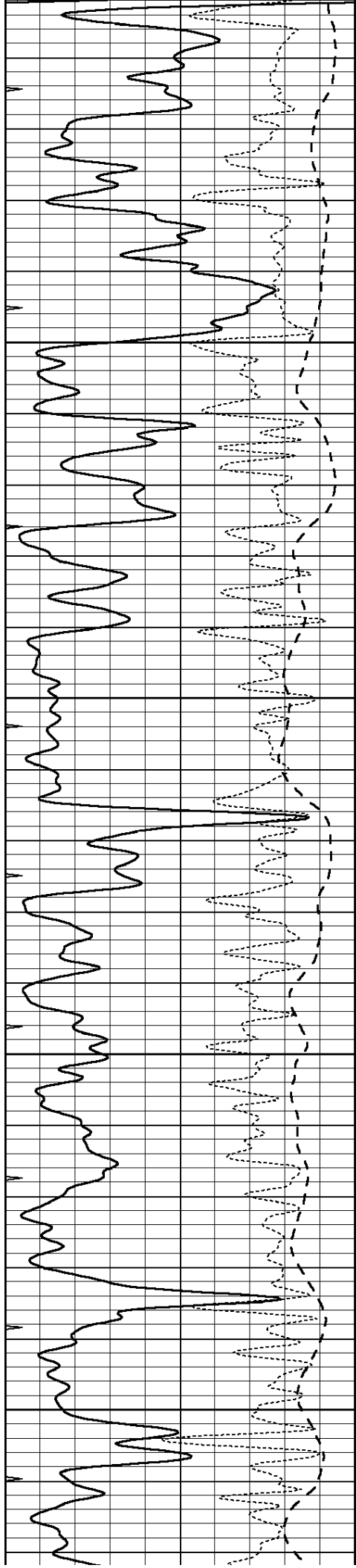
2600

2650

2700

2750



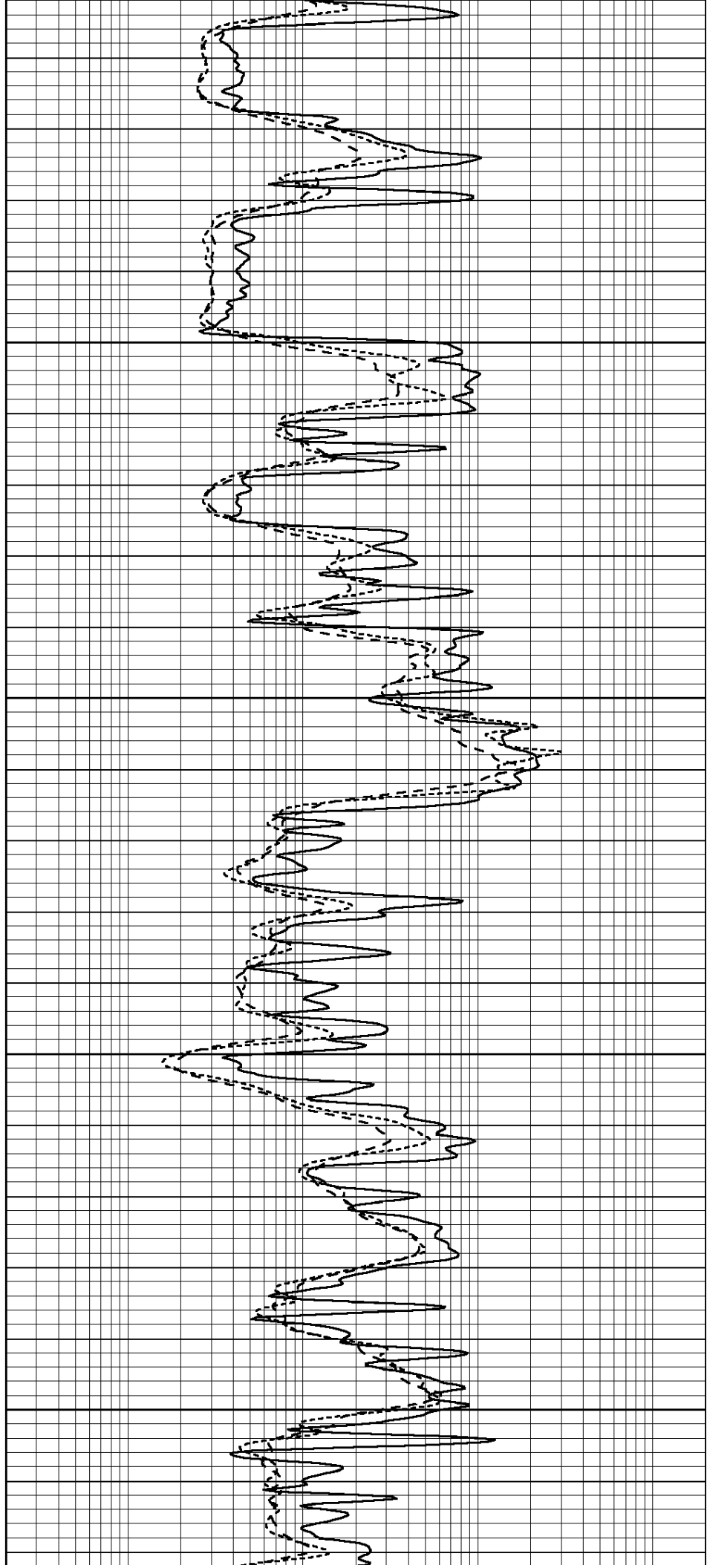


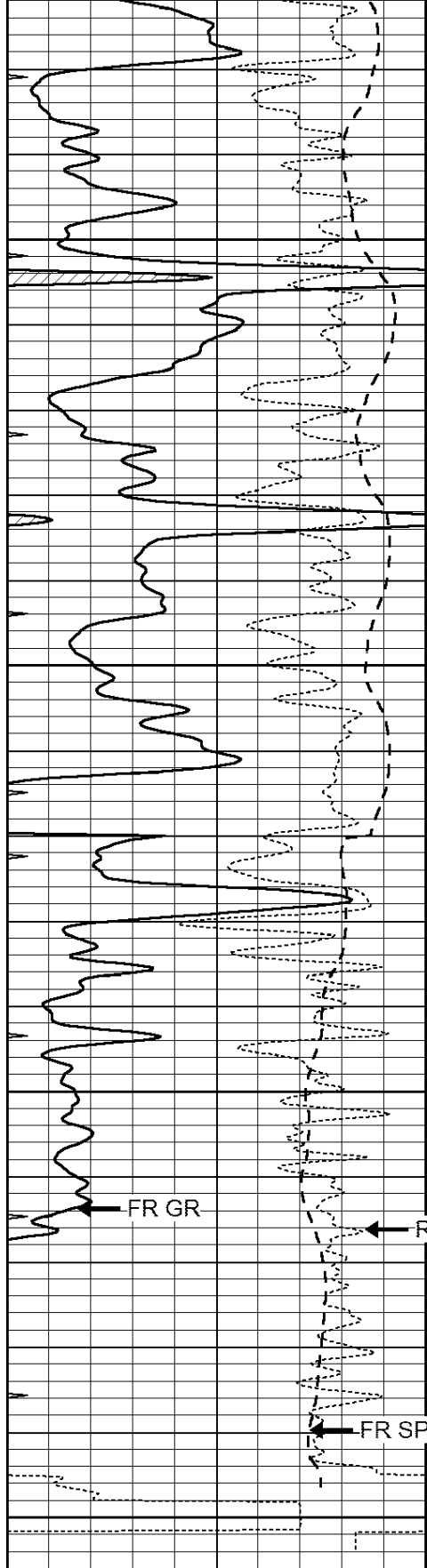
2800

2850

2900

2950





3000

3050

3100

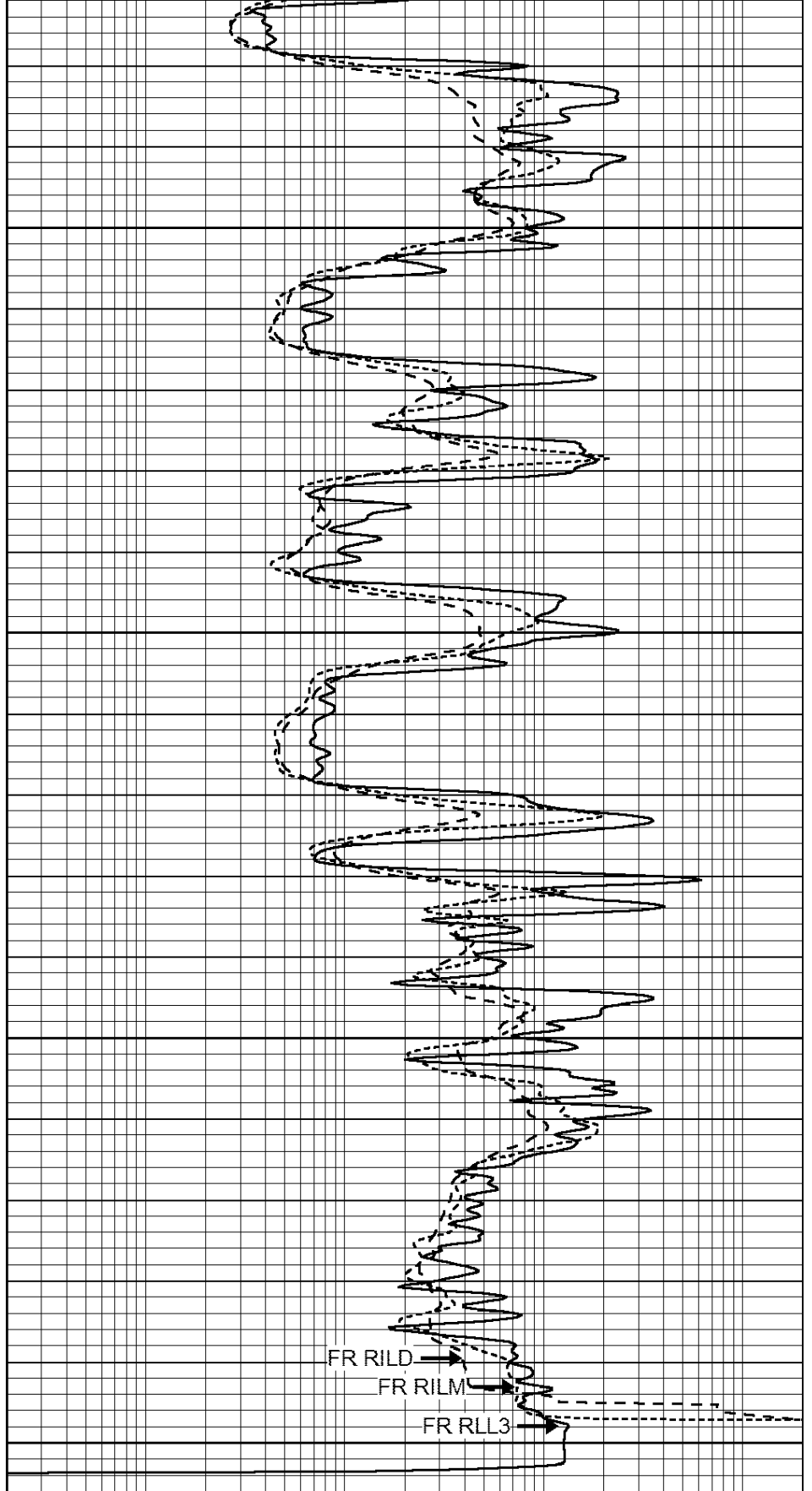
FR GR

Rxo/Rt

FR SP

LTD 3150

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



FR RILD

FR RILM

FR RLL3

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





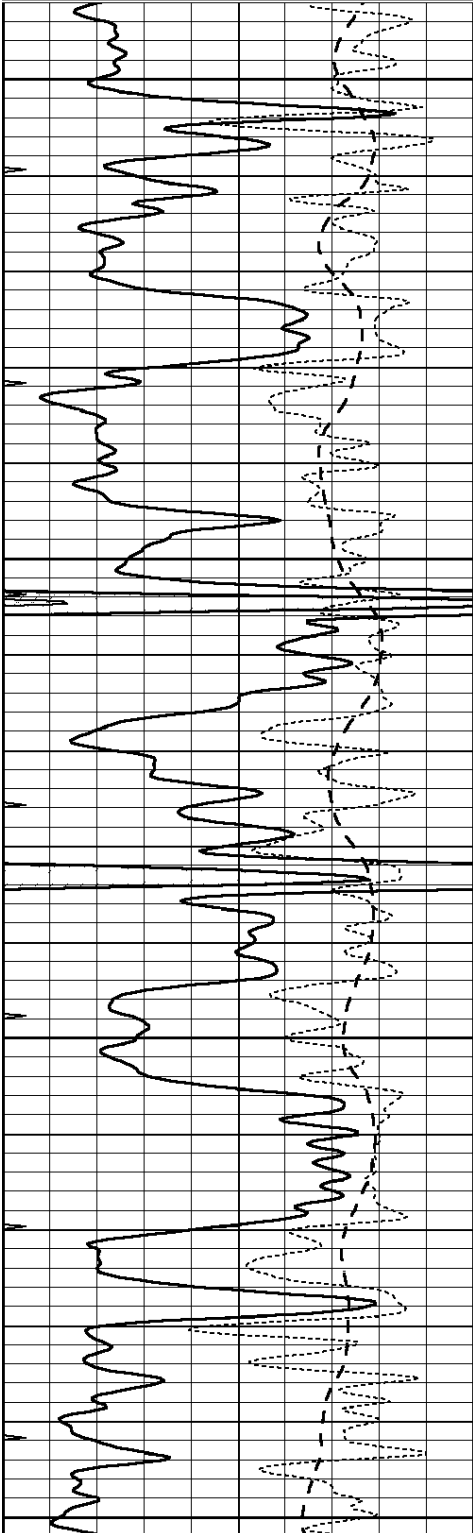
SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 007096ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: dil
 Dataset Creation: Tue Jul 26 00:20:16 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

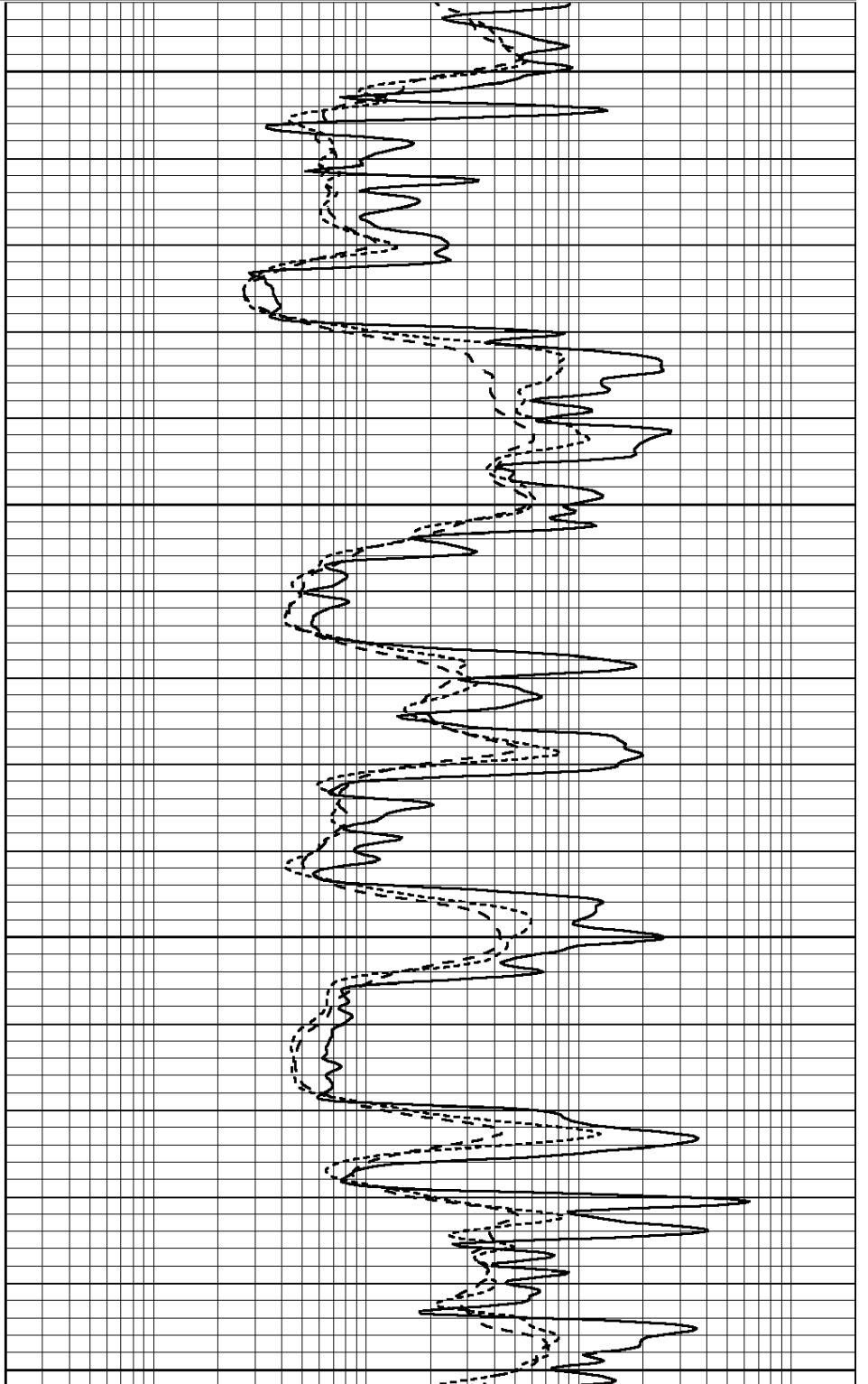


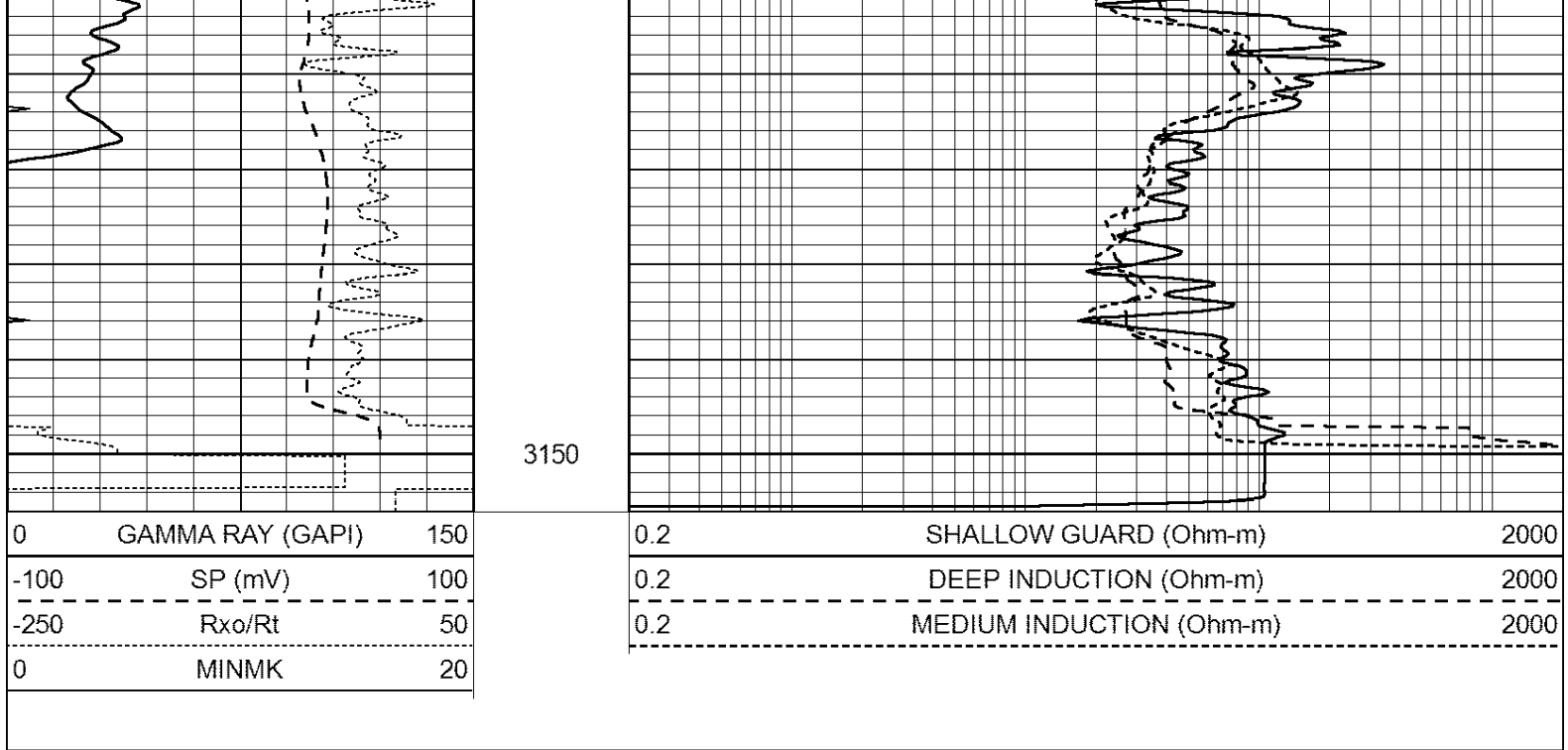
2950

3000

3050

3100





Calibration Report

Database File: 007096ddn.db
 Dataset Pathname: pass6.6.1
 Dataset Creation: Tue Jul 26 02:49:16 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	7.000	
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-7.000	
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

Low Ref Readings
High Ref 2.8
 4.6
 Gain: 3.9

Reference
7.8
15.0

Offset: -1.5

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: 5.0000 GAPI/cps