



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL INDUCTION
LOG**

Company	MAI OIL OPERATIONS, INC.	Company	MAI OIL OPERATIONS, INC.
Well	MICHEL "B" #5	Well	MICHEL "B" #5
Field	HALL - GURNEY	Field	HALL - GURNEY
County	RUSSELL	County	RUSSELL
State	KANSAS	State	KANSAS
Location:	API # : 15-167-23859-0000	Other Services	CDL/CNL MEL
Permanent Datum	GROUND LEVEL	Elevation	1744
Log Measured From	KELLY BUSHING 8' A.G.L.	K.B.	1752
Drilling Measured From	KELLY BUSHING	D.F.	1750
		G.L.	1744
	SEC 36 TWP 14S RGE 14W		

Date	3/5/13
Run Number	ONE
Depth Driller	3210
Depth Logger	3211
Bottom Logged Interval	3209
Top Log Interval	00
Casing Driller	8 5/8" @ 473'
Casing Logger	473
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3/58
pH / Fluid Loss	11.5/9.6
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.400 @ 80F
Rmf @ Meas. Temp	.300 @ 80F
Rmc @ Meas. Temp	.480 @ 80F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.294 @ 109F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	11:00 A.M.
Maximum Recorded Temperature	109F
Equipment Number	4854
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	VYATT URBAN

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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 "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS
RUSSELL, KS. & I-70, 5S. ON HWY 281 TO "FAIRFIELD RD.", 1 1/4E., S. INTO



MAIN SECTION

Database File: 010425ddn.db
 Dataset Pathname: pass3.3
 Presentation Format: dil2
 Dataset Creation: Fri Mar 15 12:18:58 2013
 Charted by: Depth in Feet scaled 1:600

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

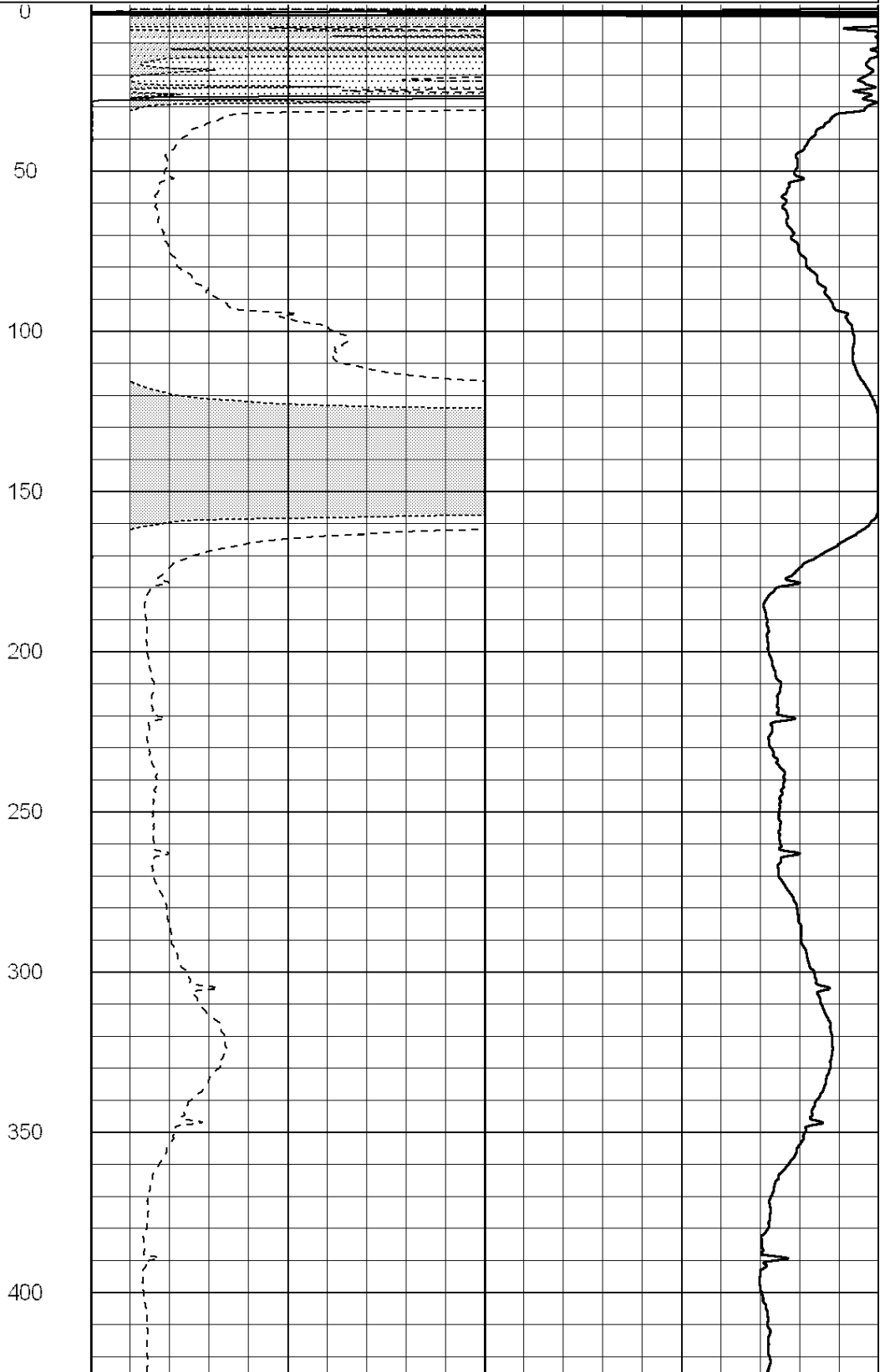
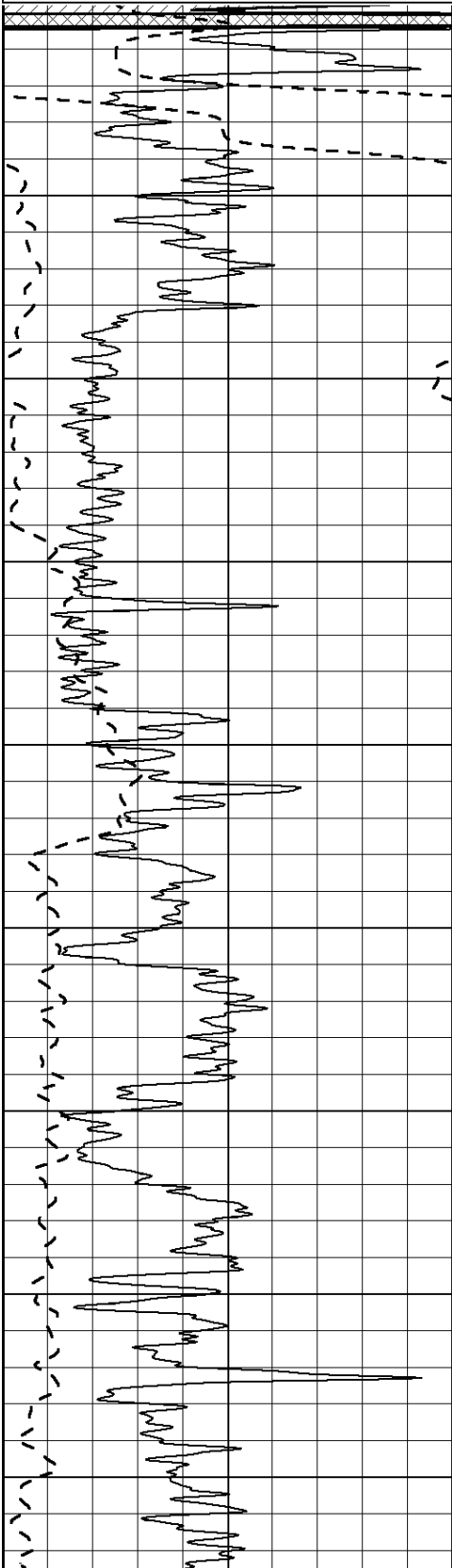
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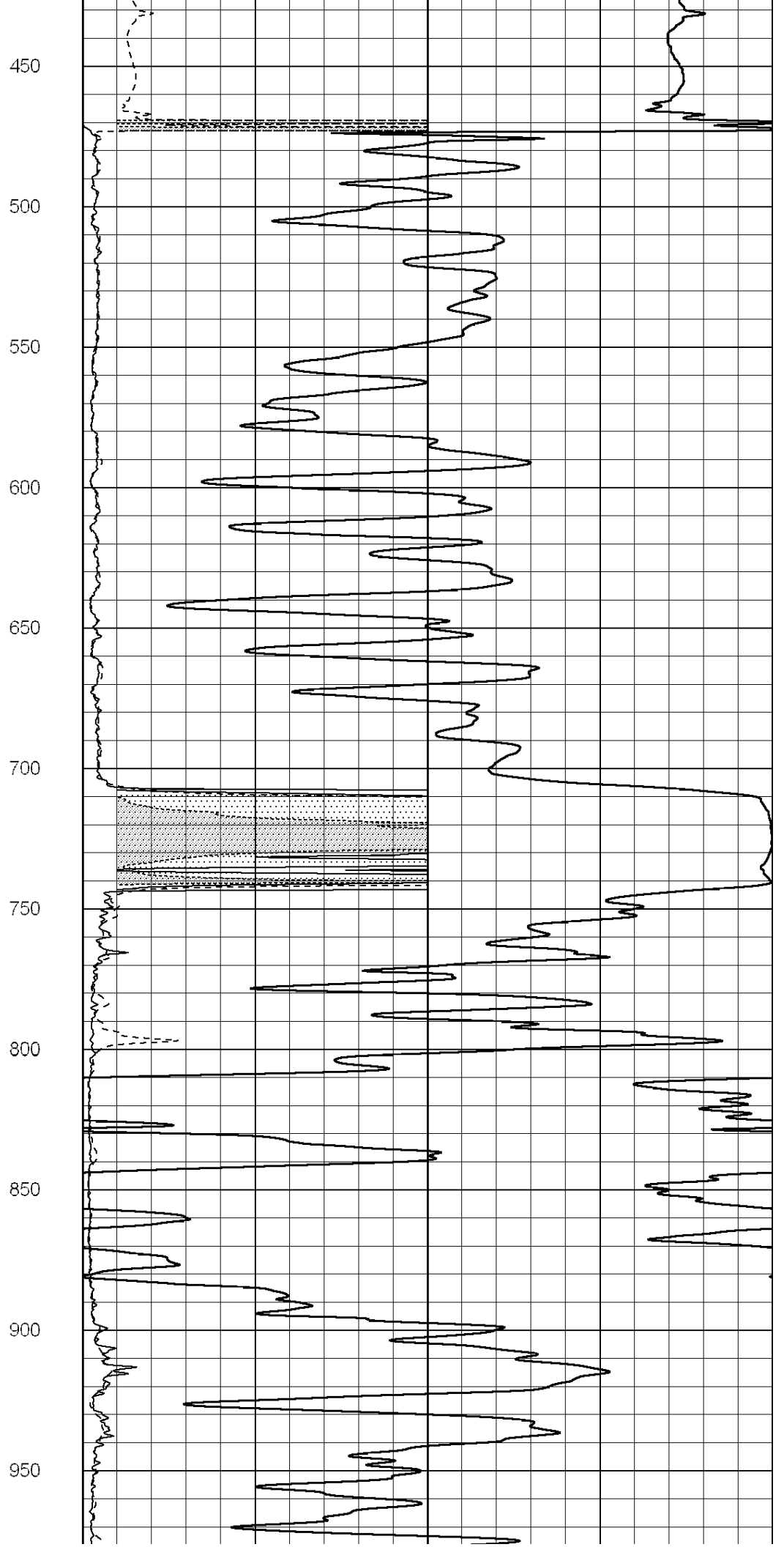
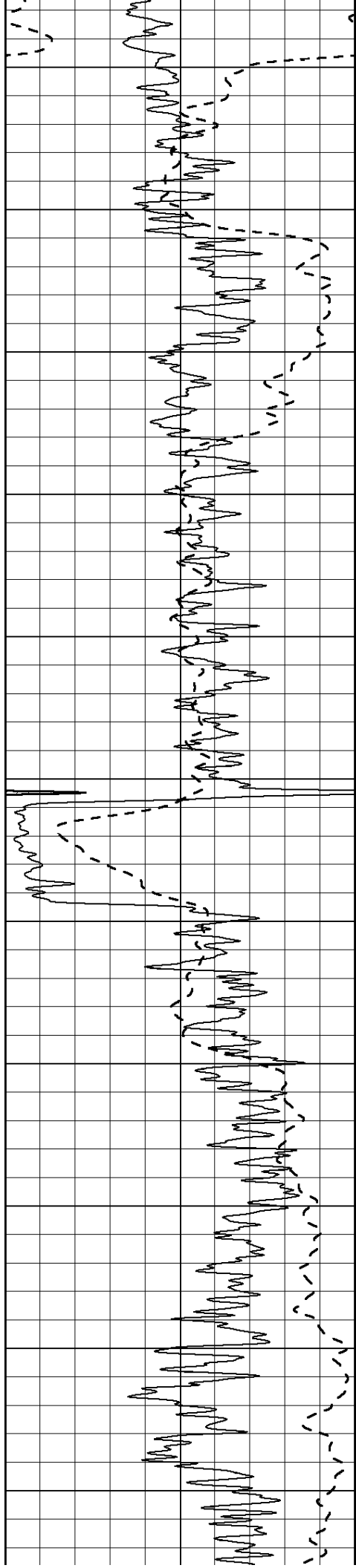
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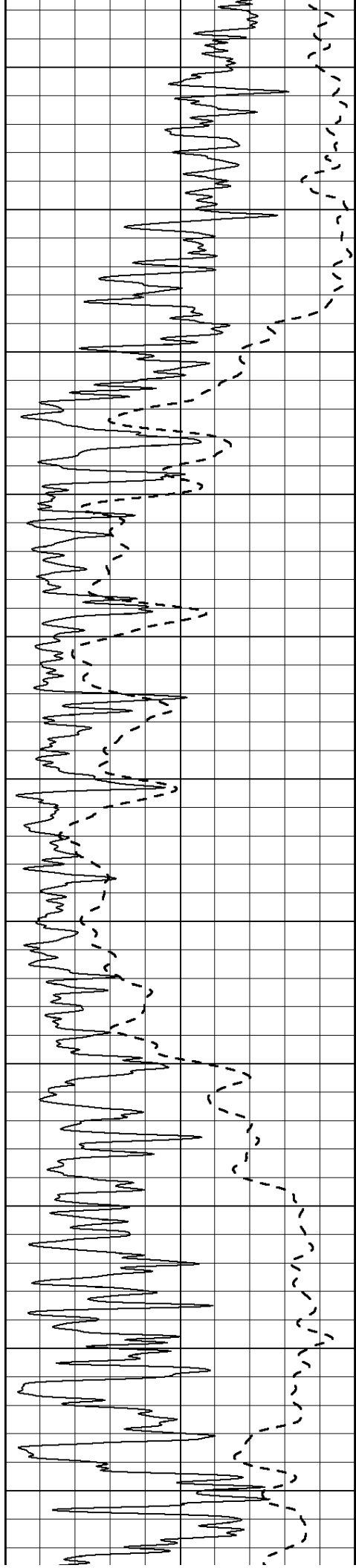
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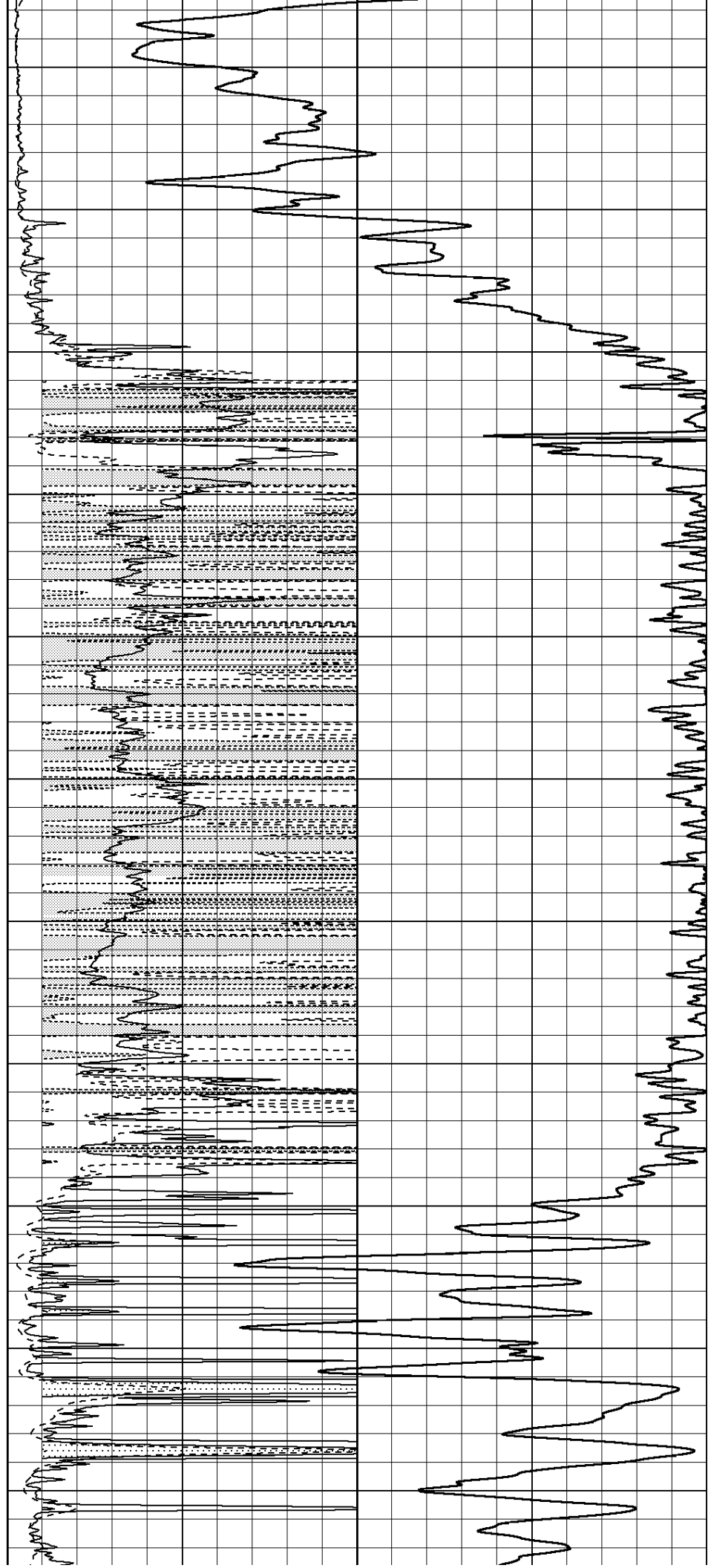
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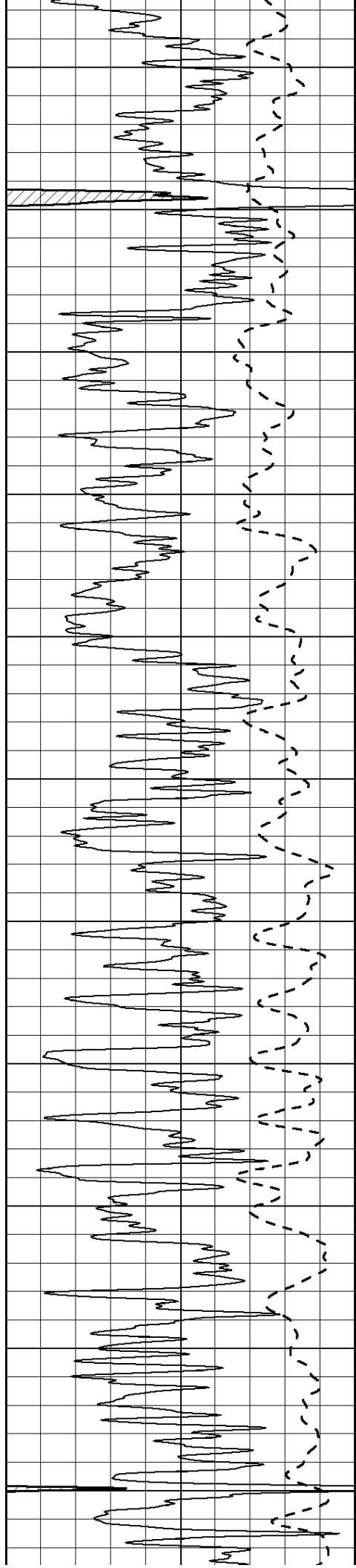






1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550

1600

1650

1700

1750

1800

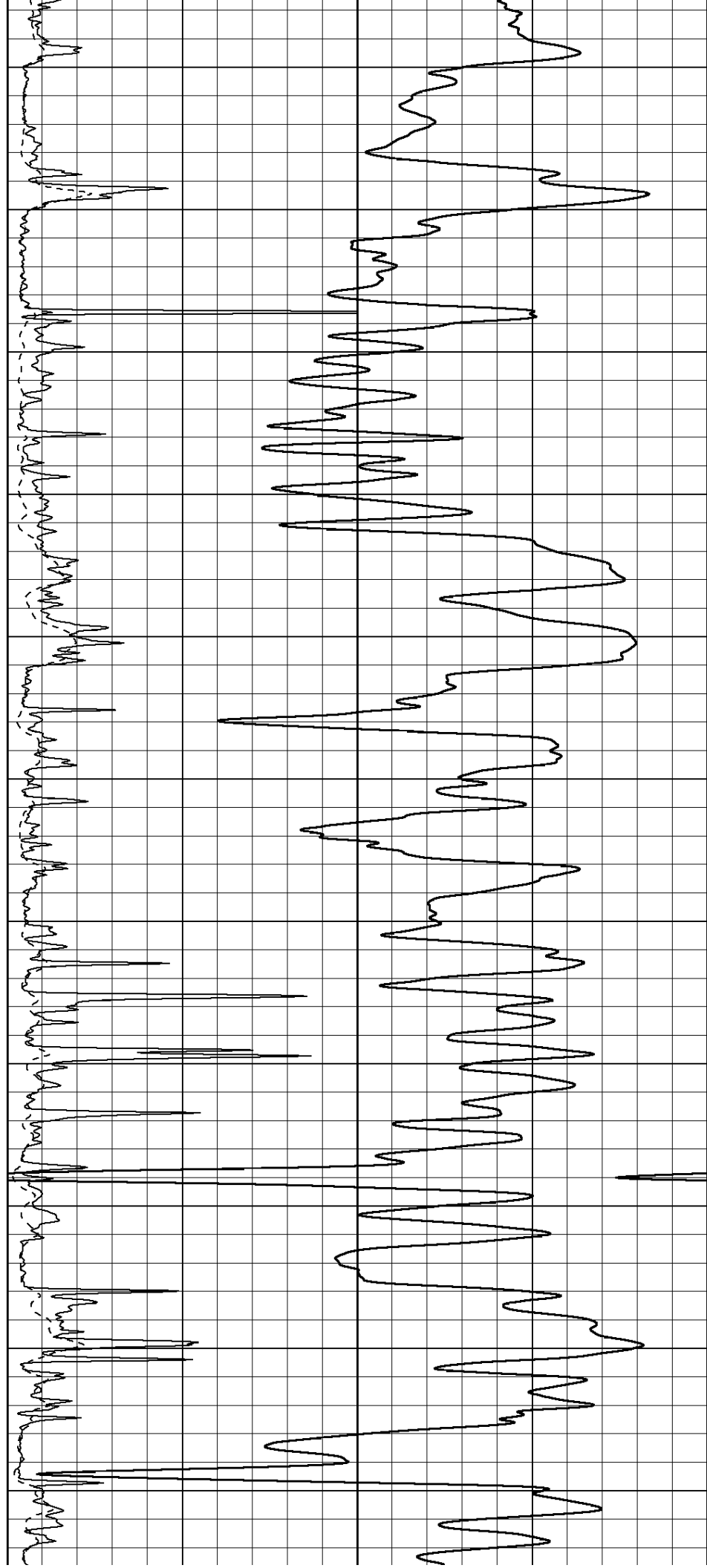
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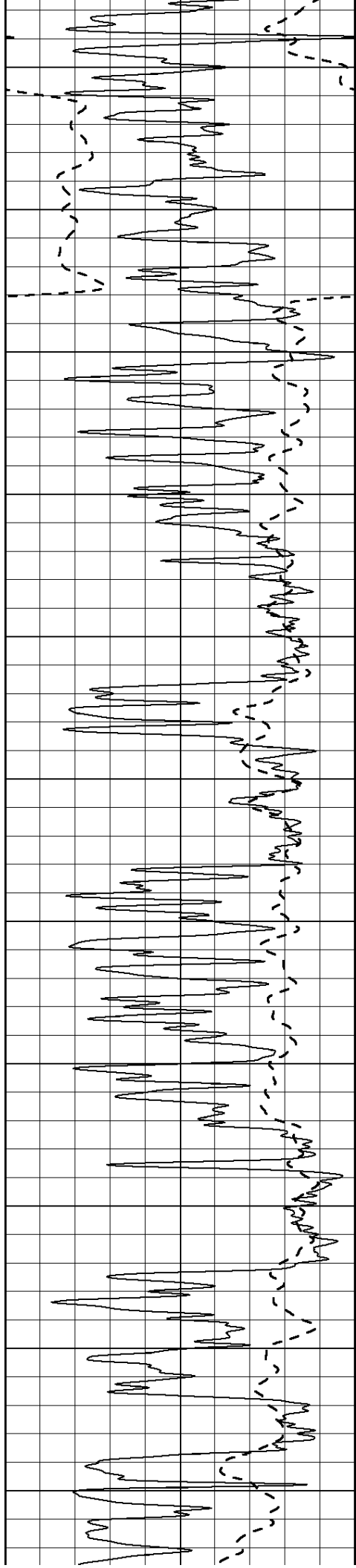
1900

1950

2000

2050





2100

2150

2200

2250

2300

2350

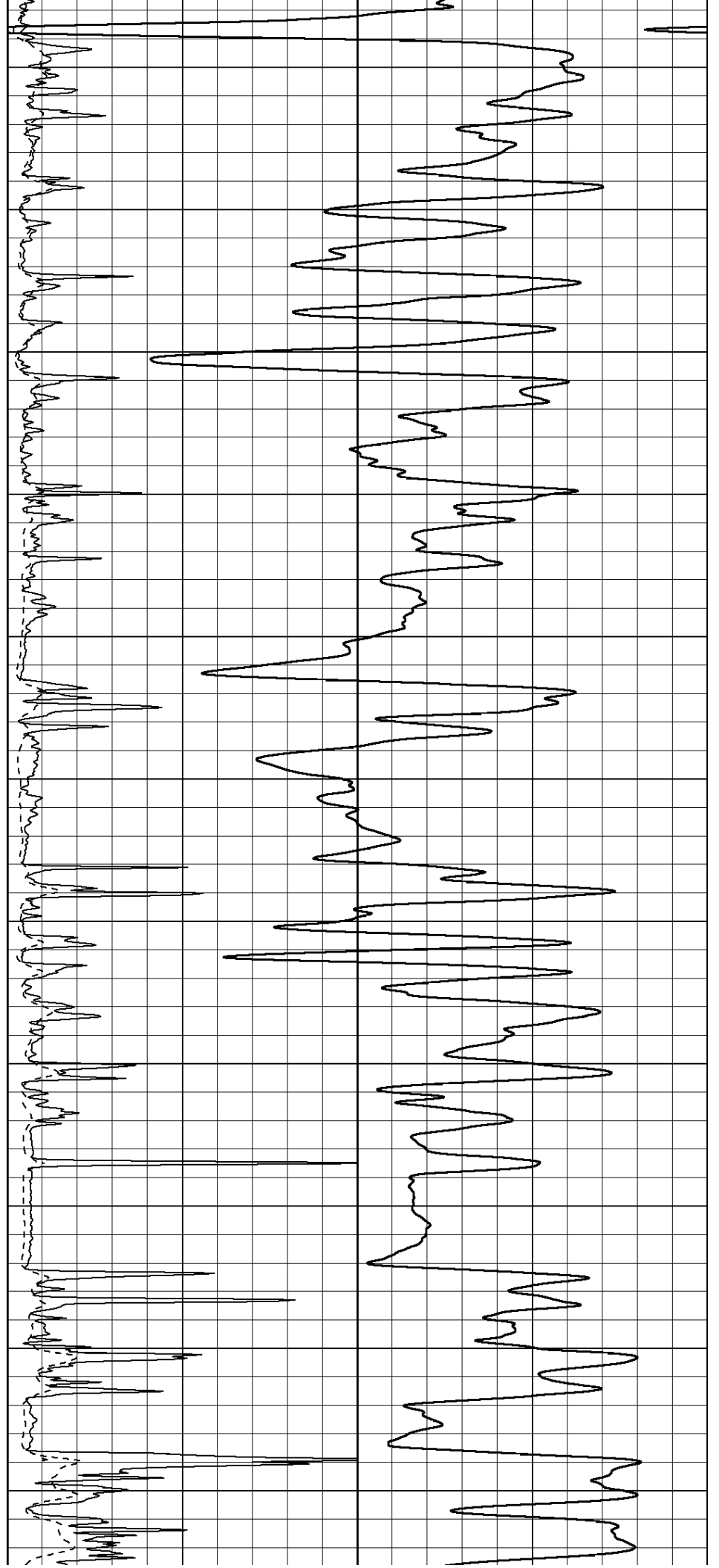
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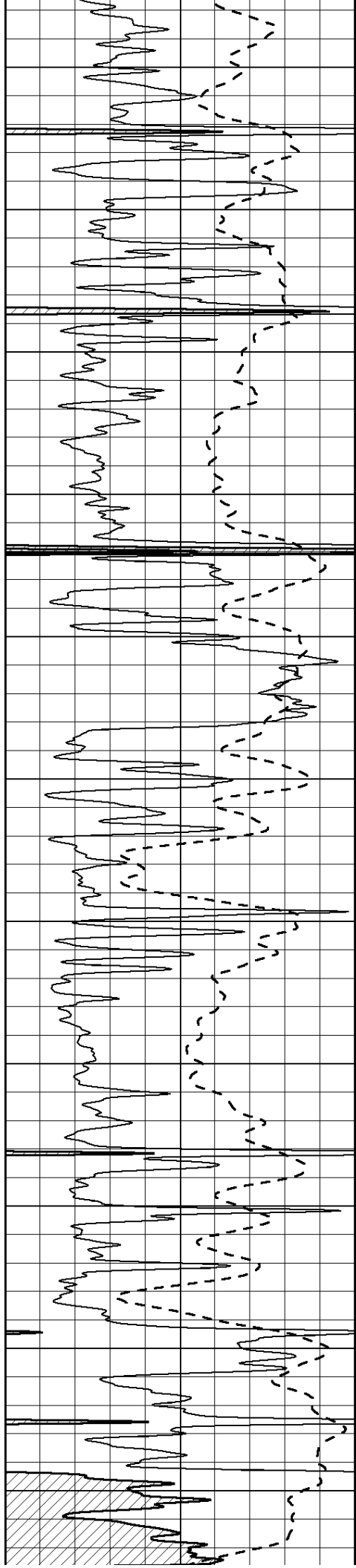
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2500

2550

2600





2650

2700

2750

2800

2850

2900

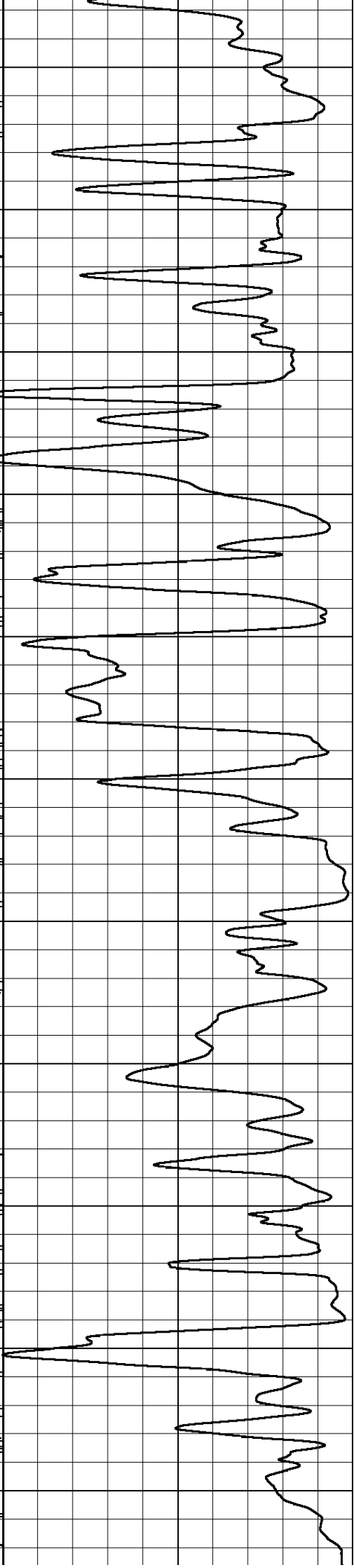
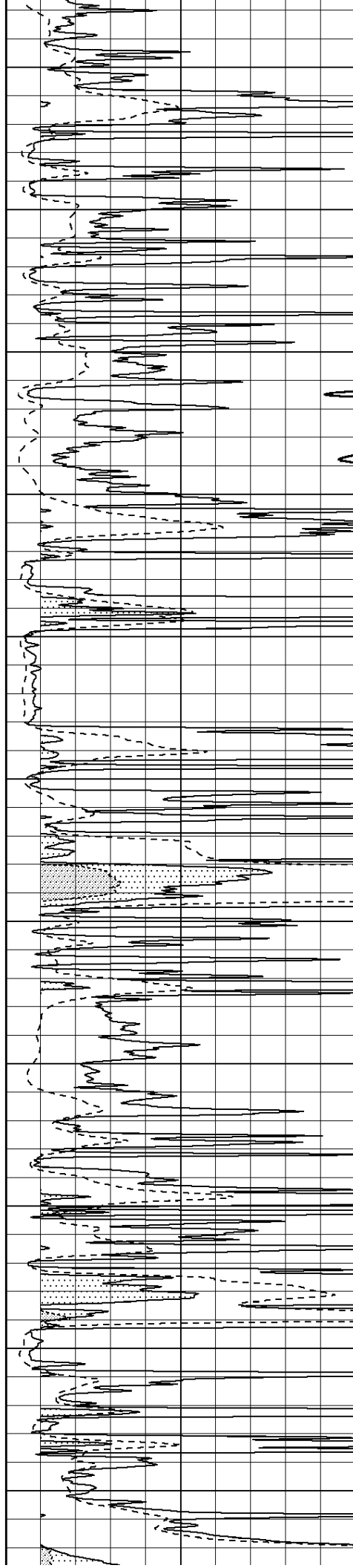
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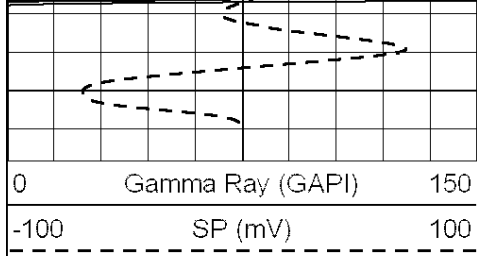
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3050

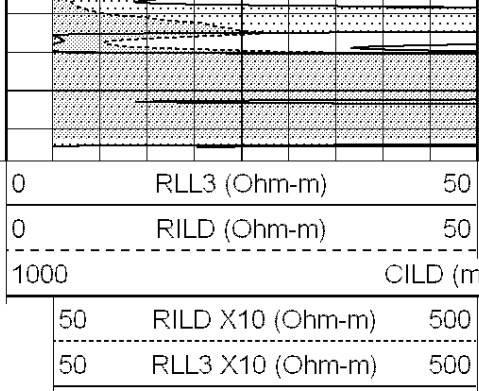
3100

3150





3200



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

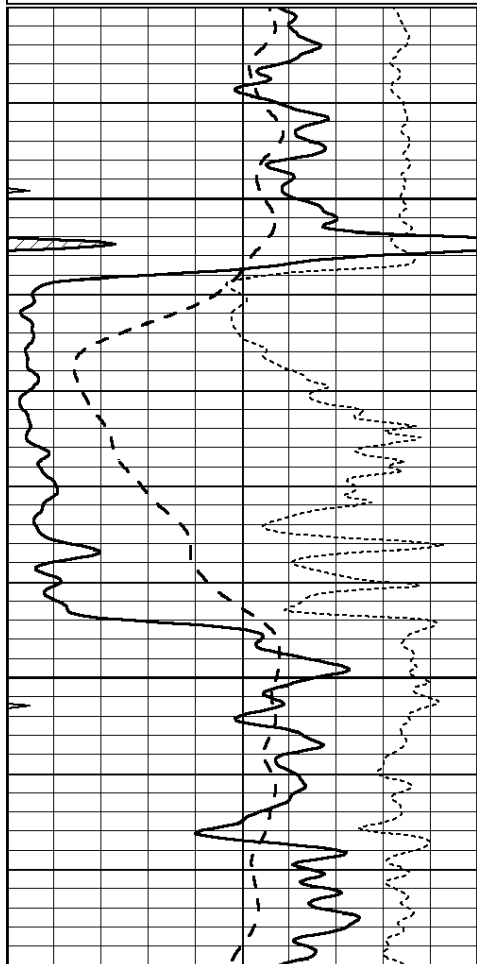
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ANHYDRITE

Database File: 010425ddn.db
Dataset Pathname: pass3.4
Presentation Format: _dil
Dataset Creation: Fri Mar 15 12:19:11 2013
Charted by: Depth in Feet scaled 1:240

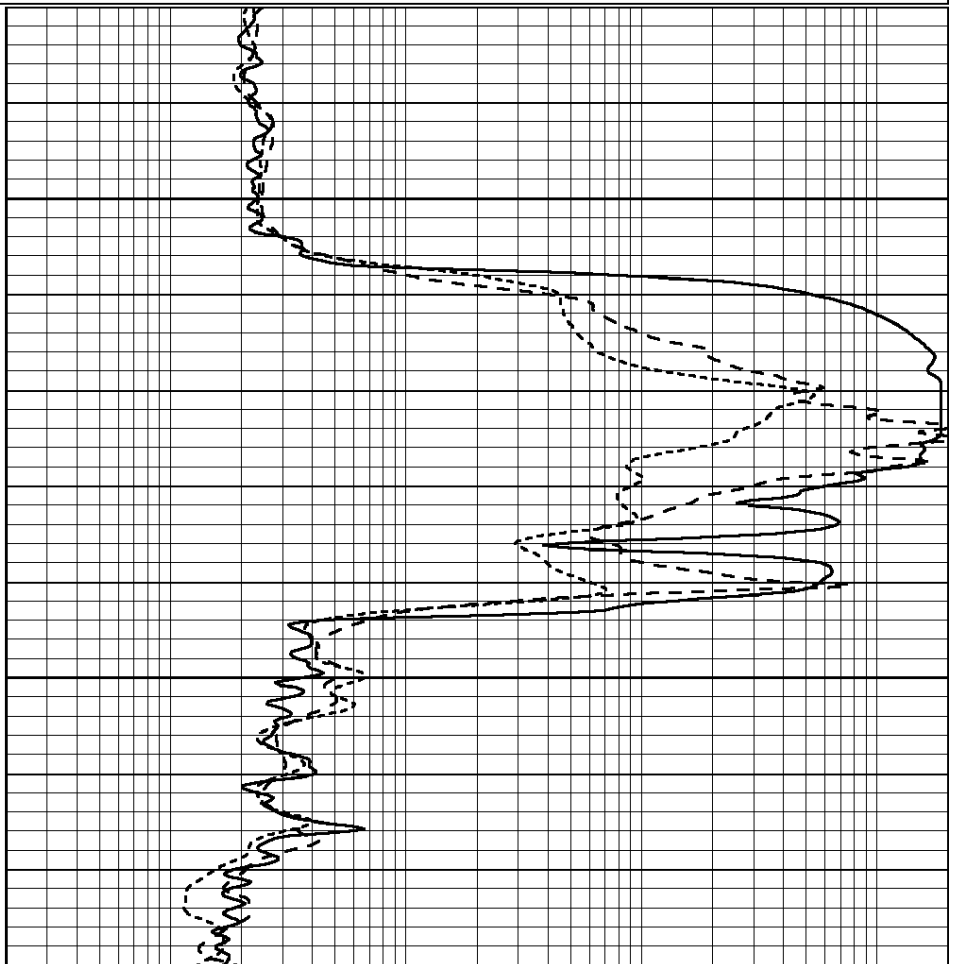
0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100
-250 Rxo/Rt 50
0 MINMK 20

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



700

750



0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100

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

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

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

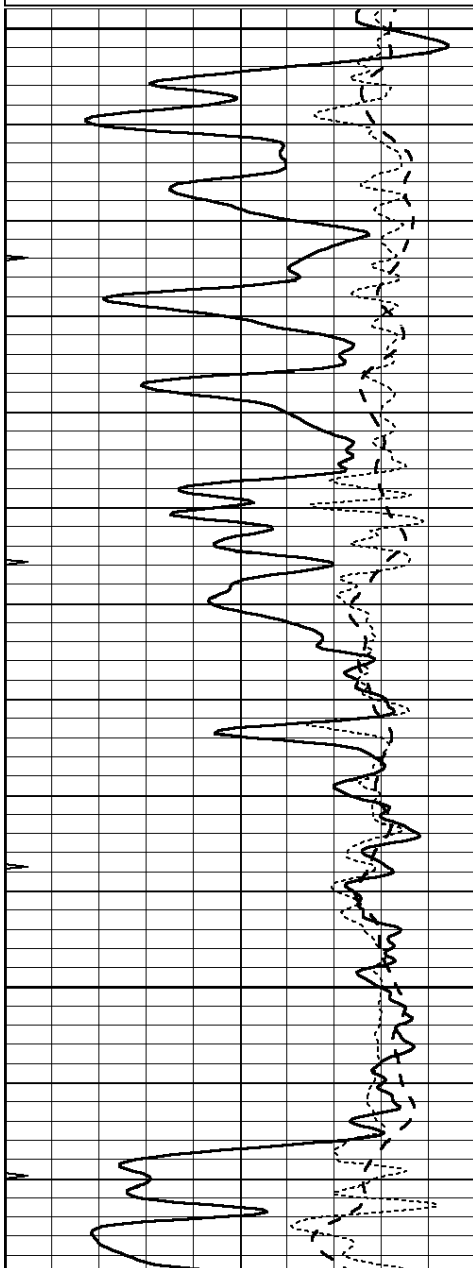


MAIN SECTION

Database File: 010425ddn.db
 Dataset Pathname: pass3.3
 Presentation Format: _dil
 Dataset Creation: Fri Mar 15 12:18:58 2013
 Charted by: Depth in Feet scaled 1:240

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

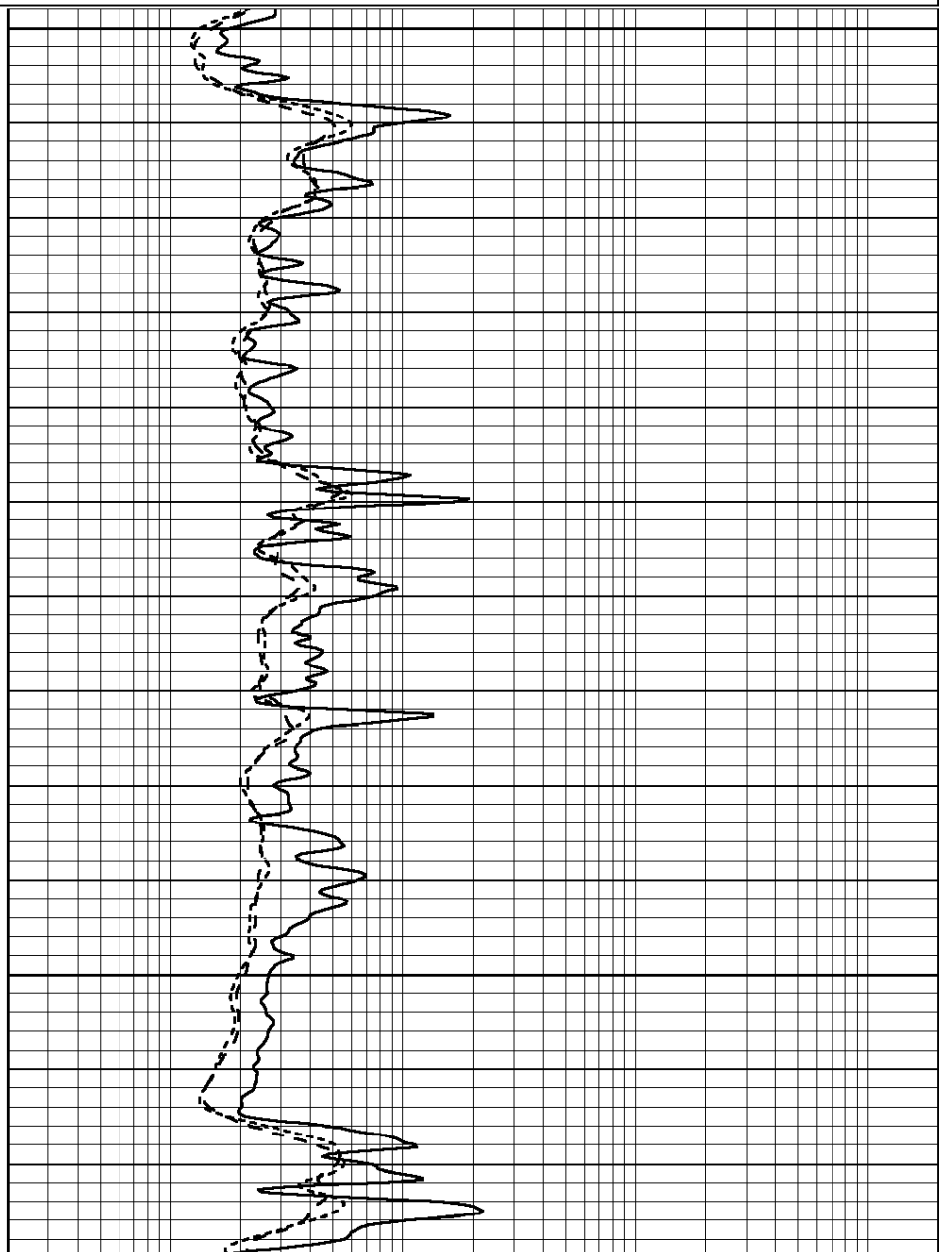
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

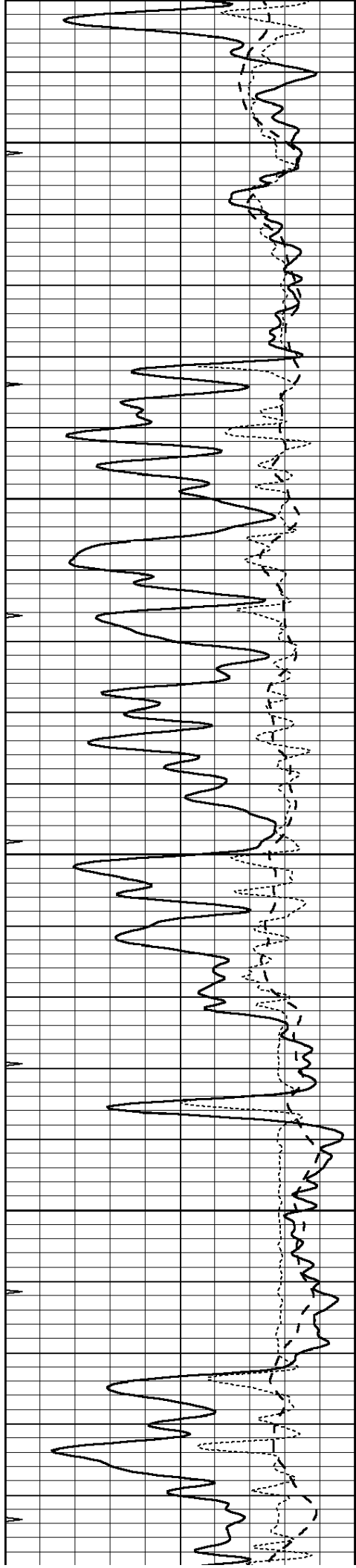


2200

2250

2300





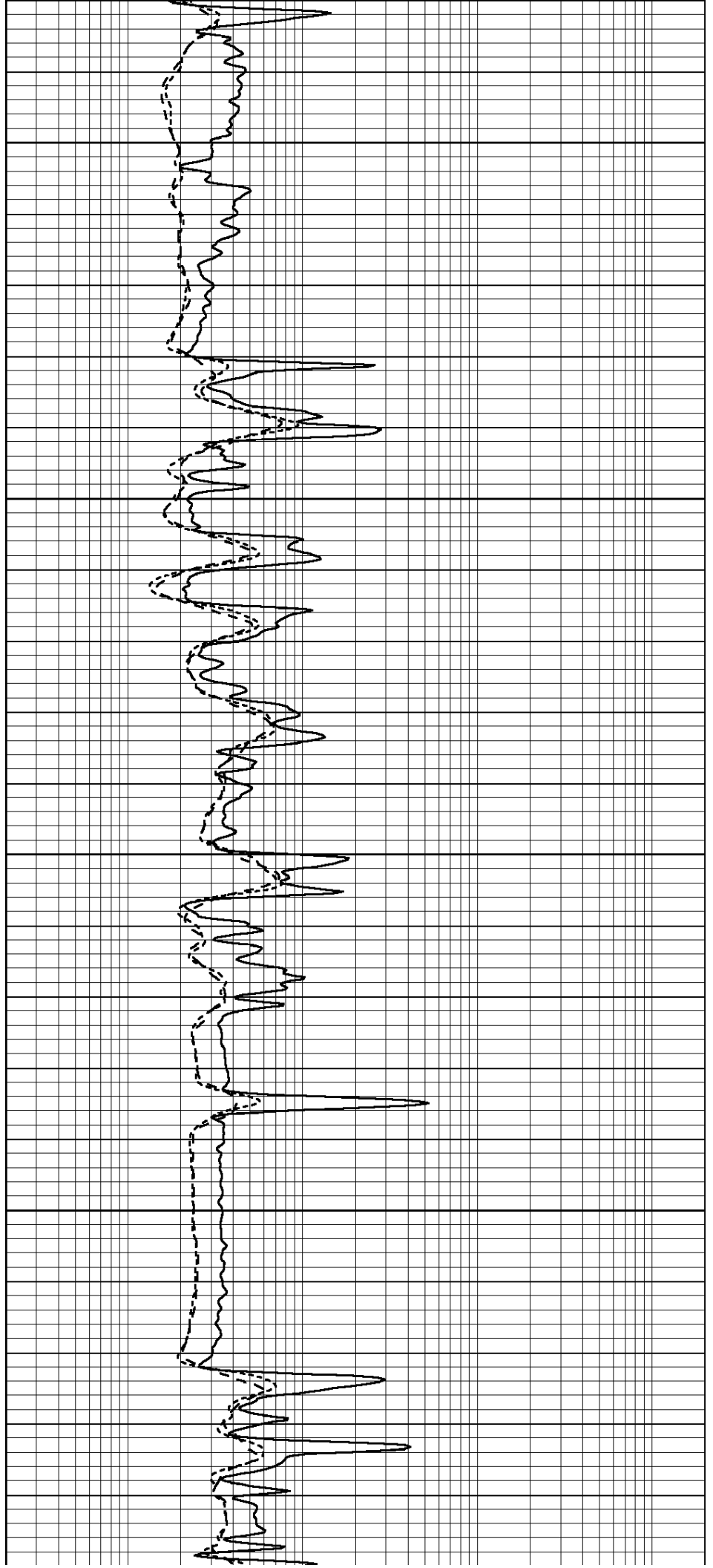
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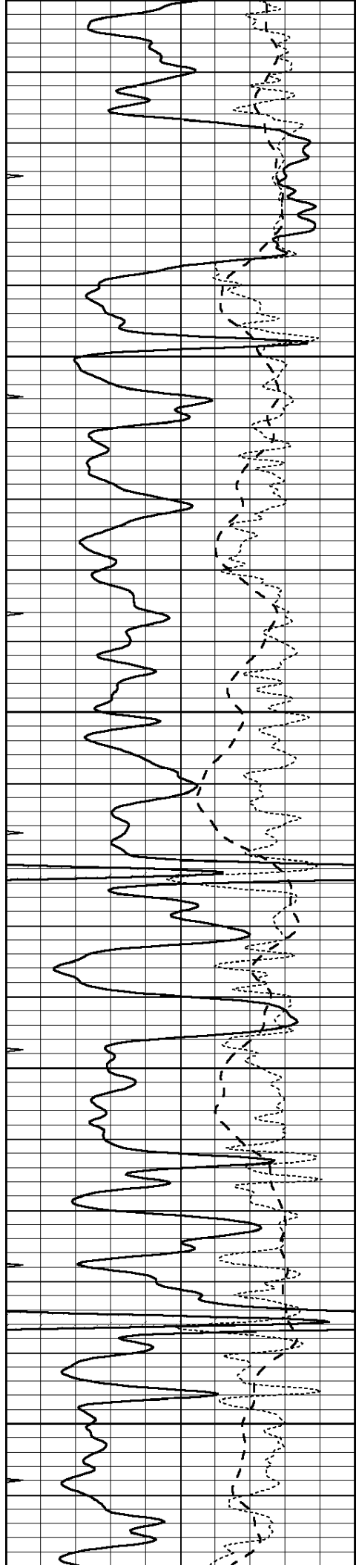
2400

2450

2500

2550





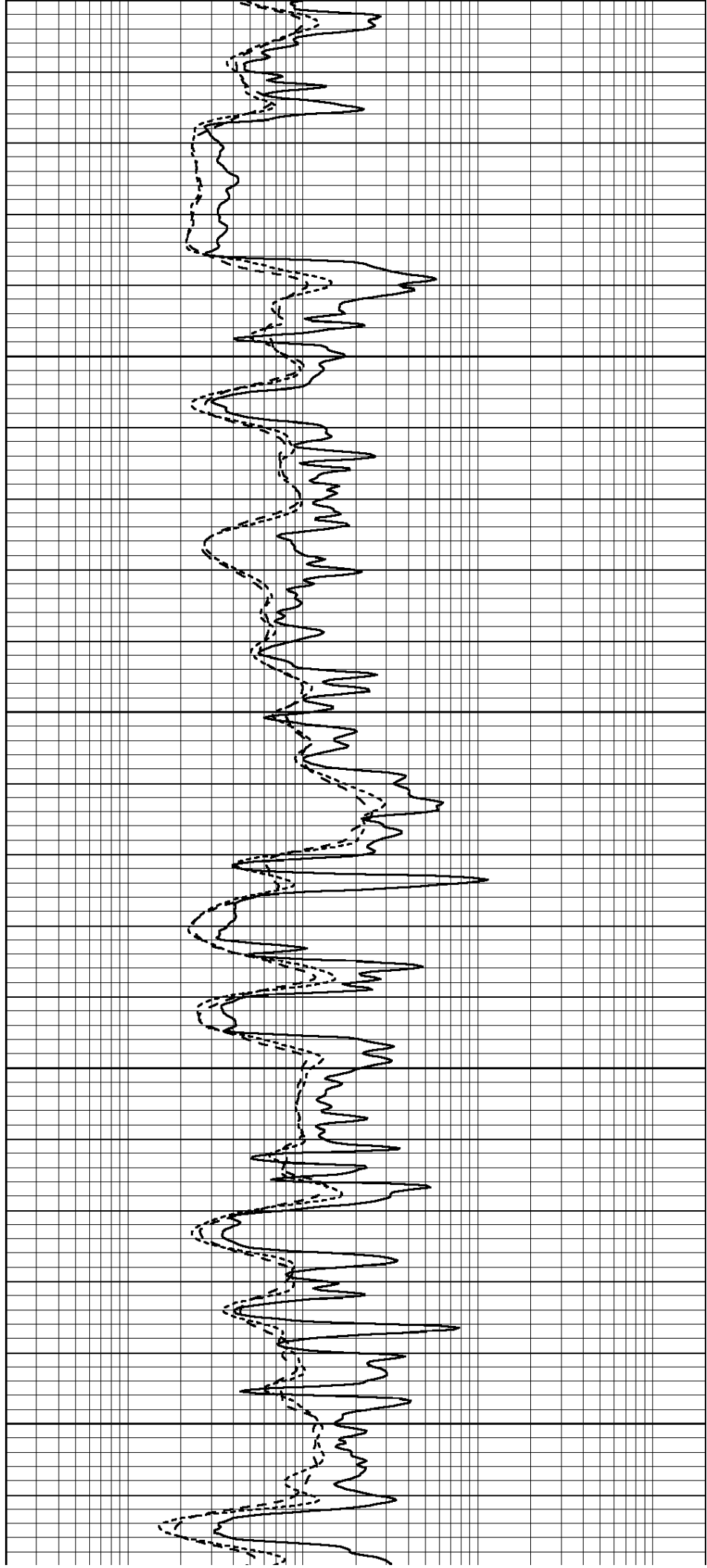
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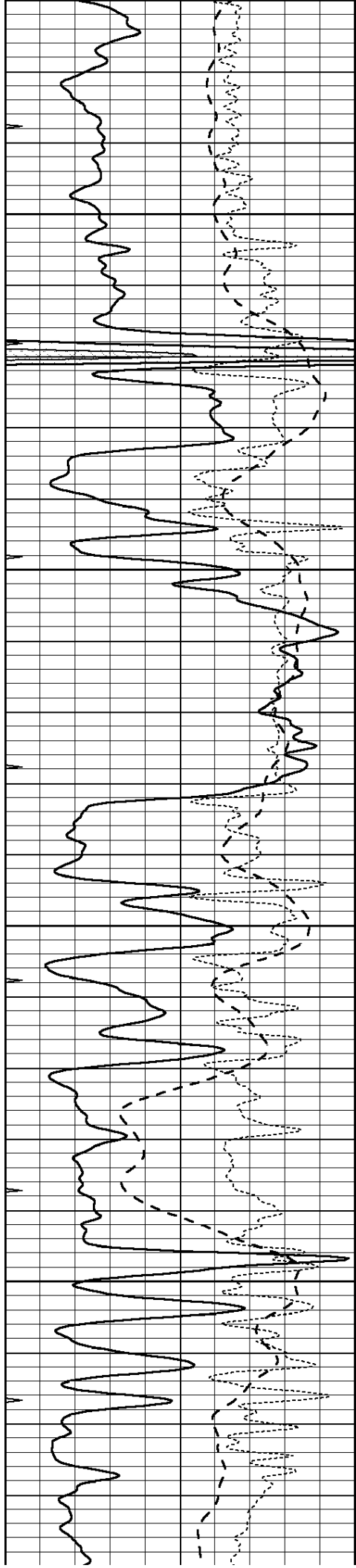
2600

2650

2700

2750



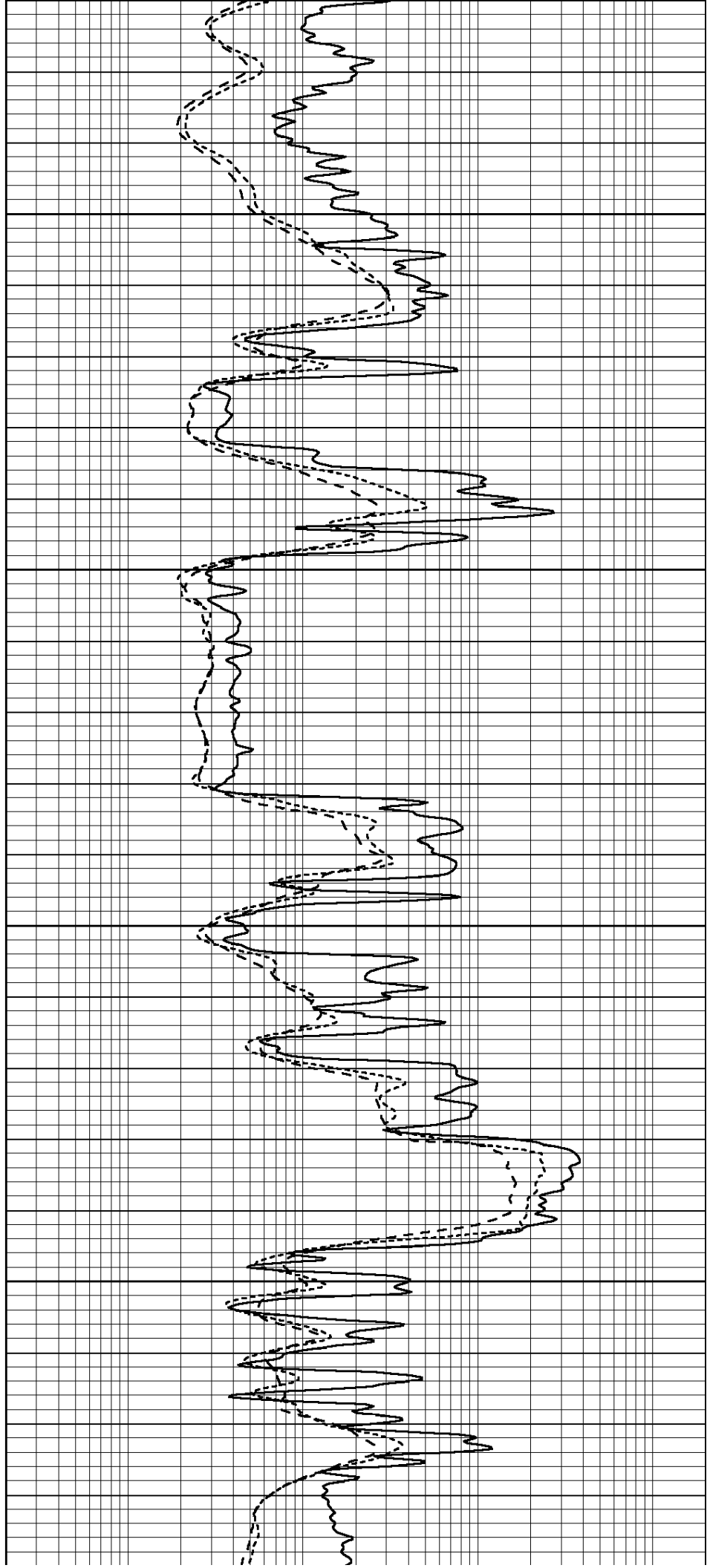


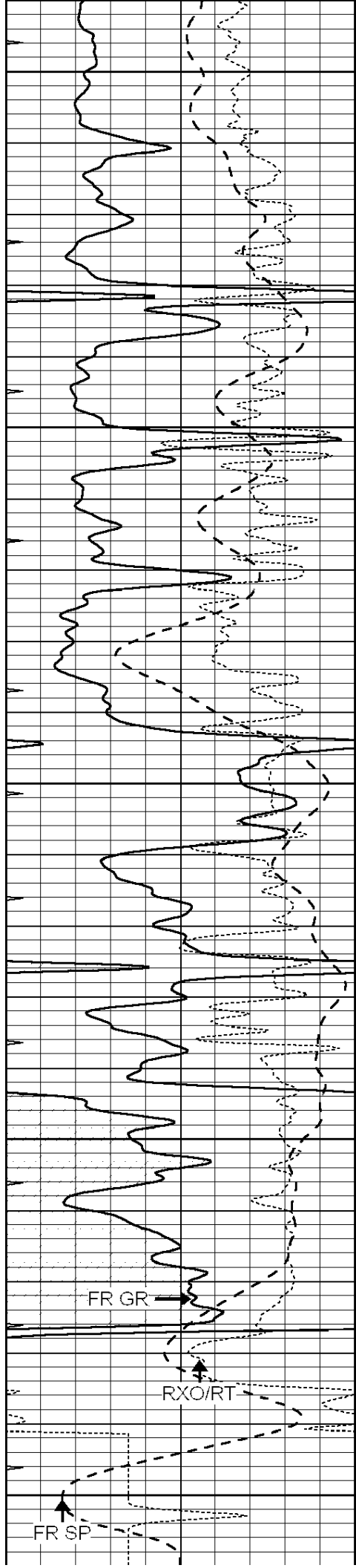
2800

2850

2900

2950





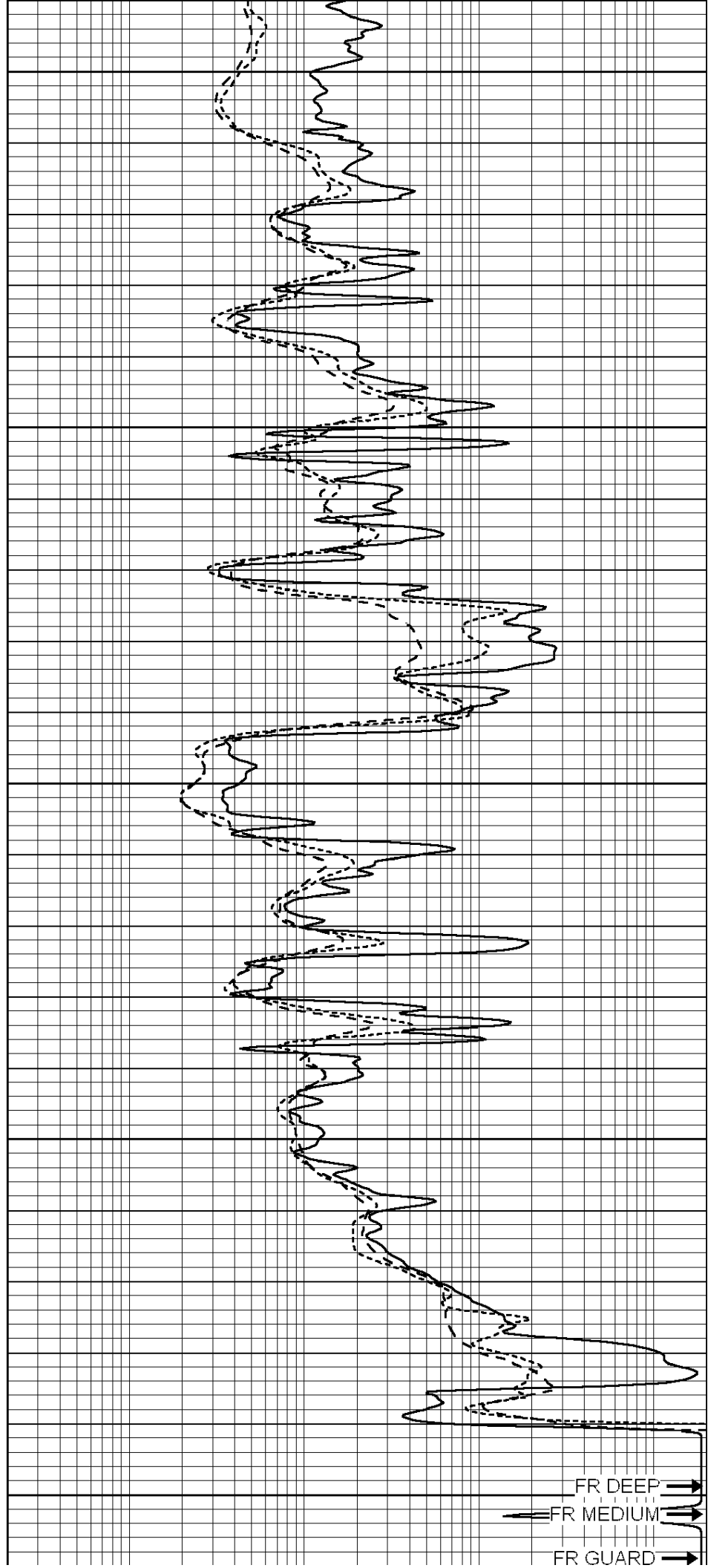
3000

3050

3100

3150

3200



FR DEEP

FR MEDIUM

FR GUARD

LTD 3211

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

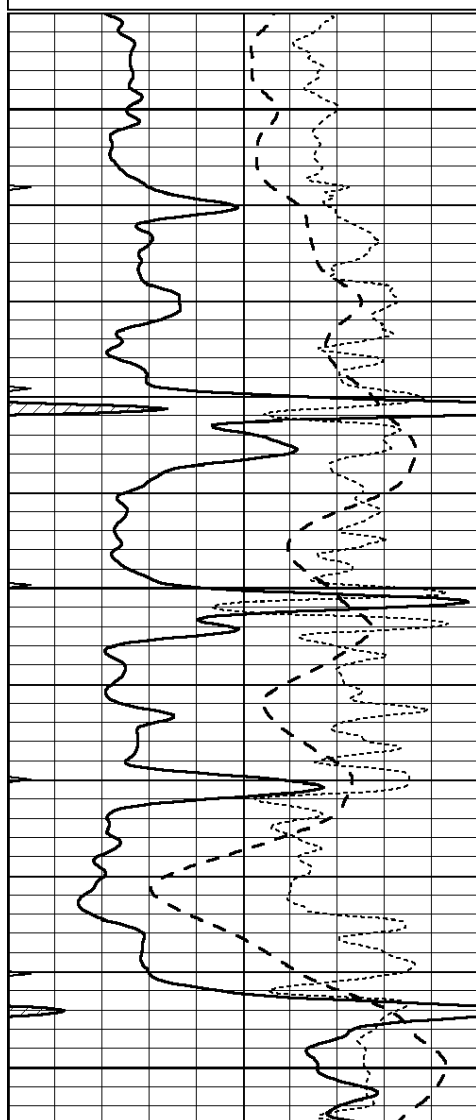


REPEAT SECTION

Database File: 010425ddn.db
 Dataset Pathname: pass2.5
 Presentation Format: _dil
 Dataset Creation: Fri Mar 15 12:31:18 2013
 Charted by: Depth in Feet scaled 1:240

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

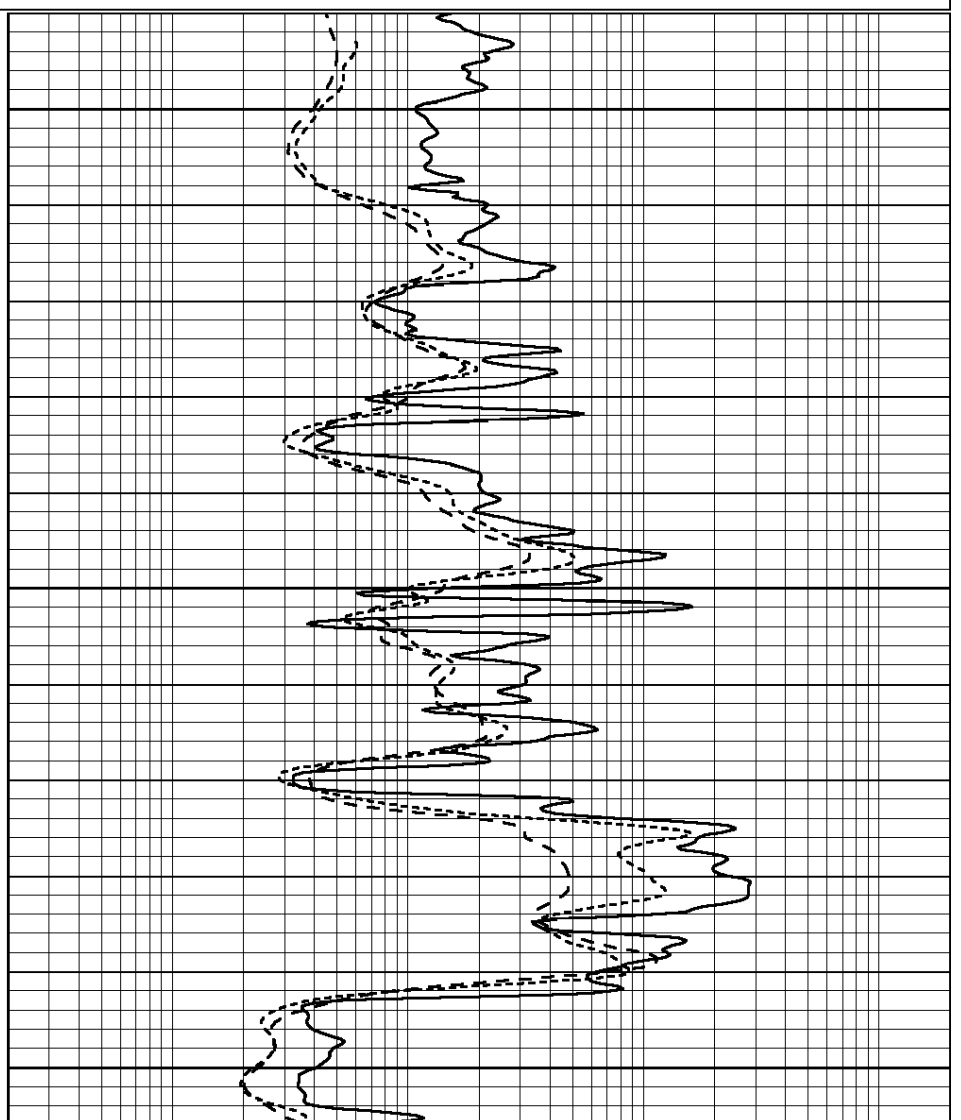
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

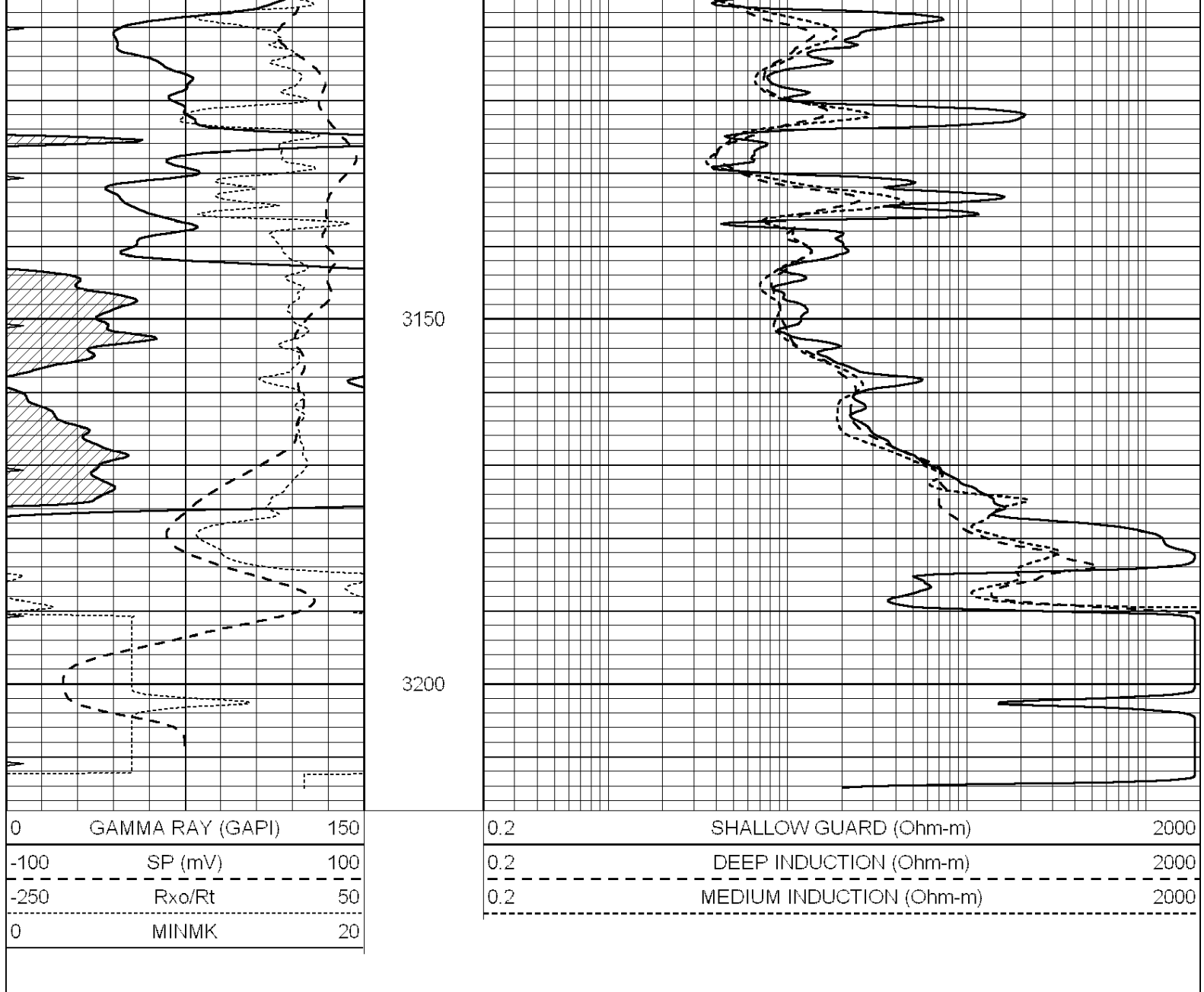


3000

3050

3100





Calibration Report

Database File: 010425ddn.db
 Dataset Pathname: pass3.3
 Dataset Creation: Fri Mar 15 12:18:58 2013

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Sun Mar 10 00:44:14 2013
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	-12.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-20.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration			Readings		References		Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	mmho-m		

After Survey Verification			Readings		Targets		Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Litho Density Calibration Report
Serial: 006 Model: PRB

Master Calibration		Performed Sun Aug 15 09:48:41 2010			
	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		0.0000	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

Before Survey Verification		Performed Wed Dec 31 18:00:00 1969			
Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification		Performed Wed Dec 31 18:00:00 1969			
Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc

Measured Pe

0.0000

0.0000

Compensated Neutron Calibration Report

Serial Number: 070808
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: 070559
Tool Model: OPEN_GR
Performed: Sun Mar 10 00:43:54 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.3500 GAPI/cps