



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL INDUCTION
LOG**

Company	DREILING OIL COMPANY, INC.		
Well	ROME #3		
Field	SUGARLOAF SOUTHEAST		
County	ELLIS	State	KANSAS
Location:	API # : 15-051-26585-0000		Other Services
	335' FNL & 2310' FEL		CDL/CNL
	S/2 - NW - NW - NE/4		
	SEC 26 TWP 13S RGE 17W		
Permanent Datum	GROUND LEVEL	Elevation	1976
Log Measured From	KELLY BUSHING 8' A.G.L.		
Drilling Measured From	KELLY BUSHING	Elevation	K.B. 1984 D.F. 1982 G.L. 1976
Date	10/14/13		
Run Number	ONE		
Depth Driller	3547		
Depth Logger	3532		
Bottom Logged Interval	3530		
Top Log Interval	00		
Casing Driller	8 5/8"@219'		
Casing Logger	219		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6,000 PPM	
Density / Viscosity	8.9/51		
pH / Fluid Loss	10.5/8.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.500@70F		
Rmf @ Meas. Temp	.375@70F		
Rmc @ Meas. Temp	.600@70F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.313@112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	4:30 P.M.		
Maximum Recorded Temperature	112F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	ROGER FISHER		

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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

I-70 & VICTORIA, KS. EXIT, 1 1/2N., 1 1/2 W., S. INTO @CATTLE GUARD THEN BACK WEST IN PASTURE



NABORS

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MAIN SECTION

Database File: 011686ddn.db
 Dataset Pathname: pass3.7
 Presentation Format: dil2
 Dataset Creation: Mon Oct 14 17:54:55 2013 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:600

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

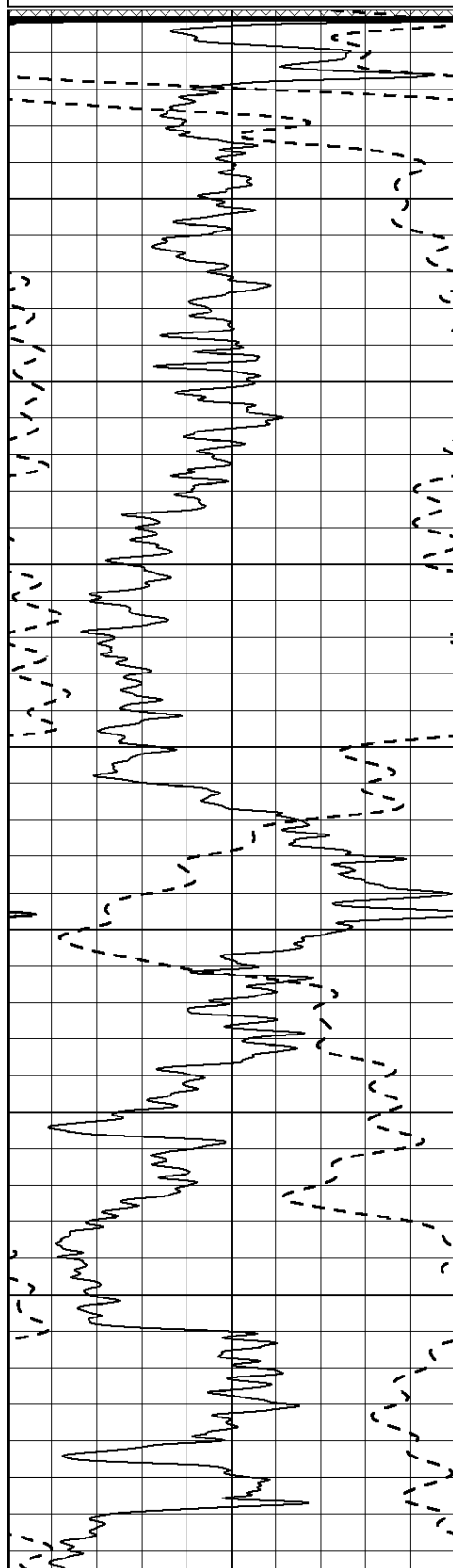
0	RLL3 (Ohm-m)	50
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0	RILD (Ohm-m)	50
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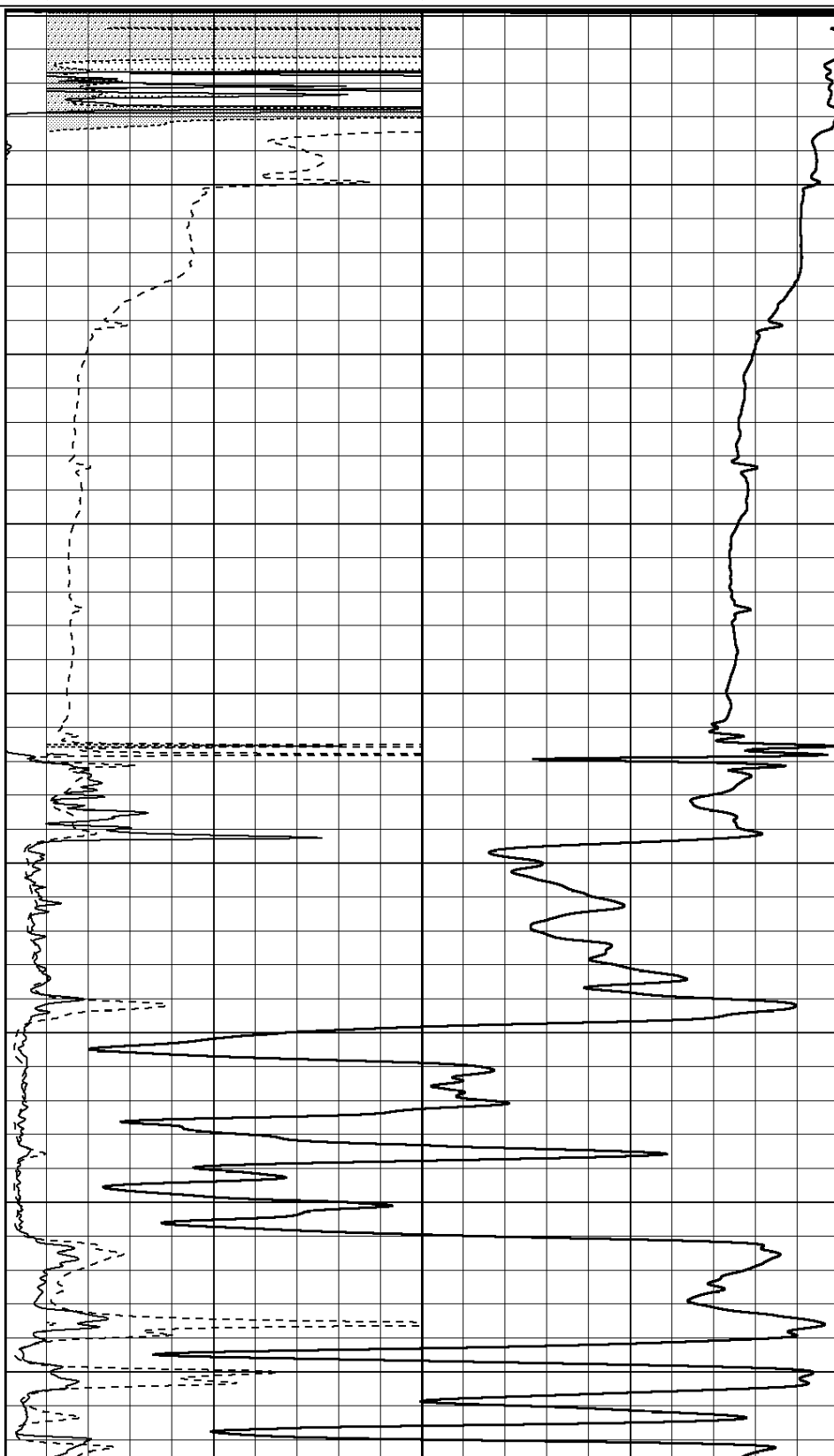
1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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0
50
100
150
200
250
300
350
400



450

500

550

600

650

700

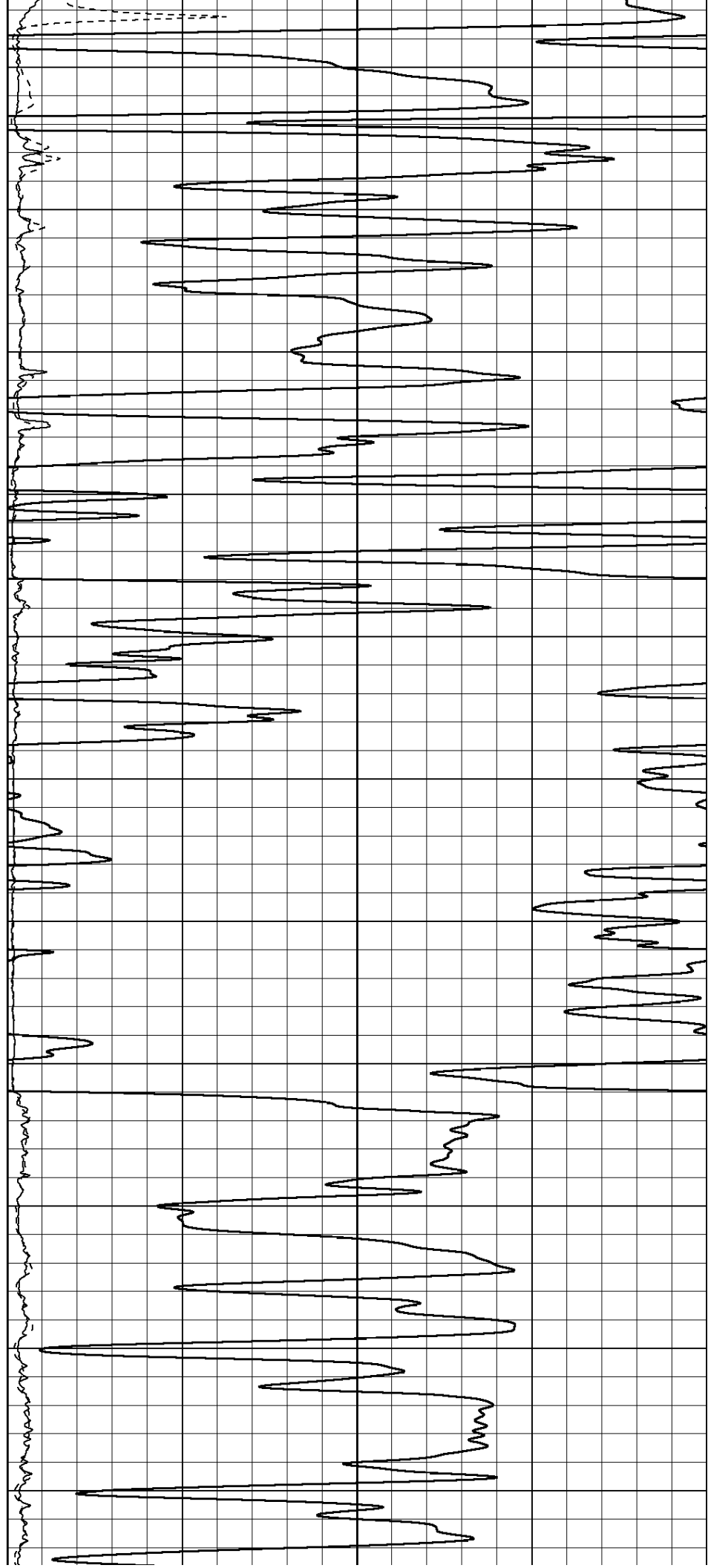
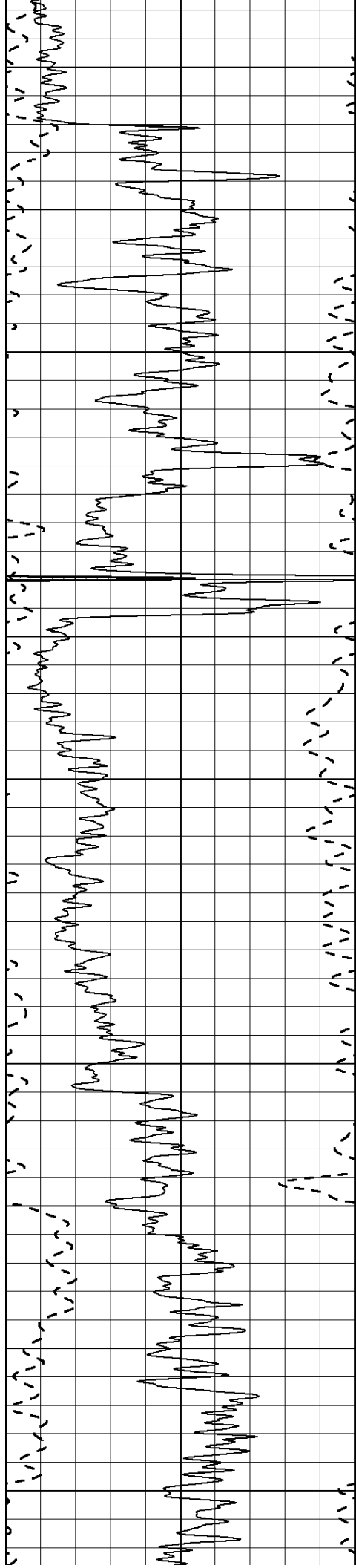
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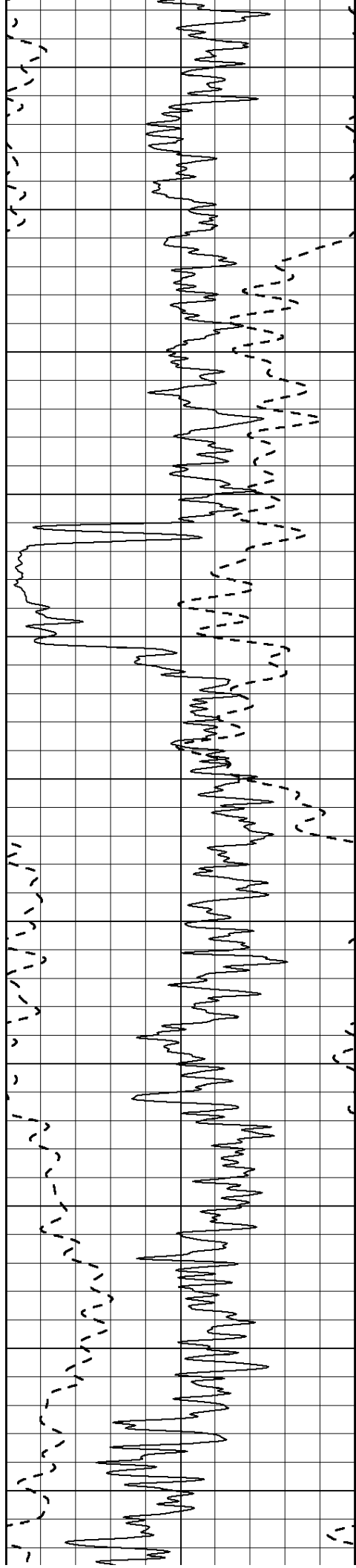
800

850

900

950





1000

1050

1100

1150

1200

1250

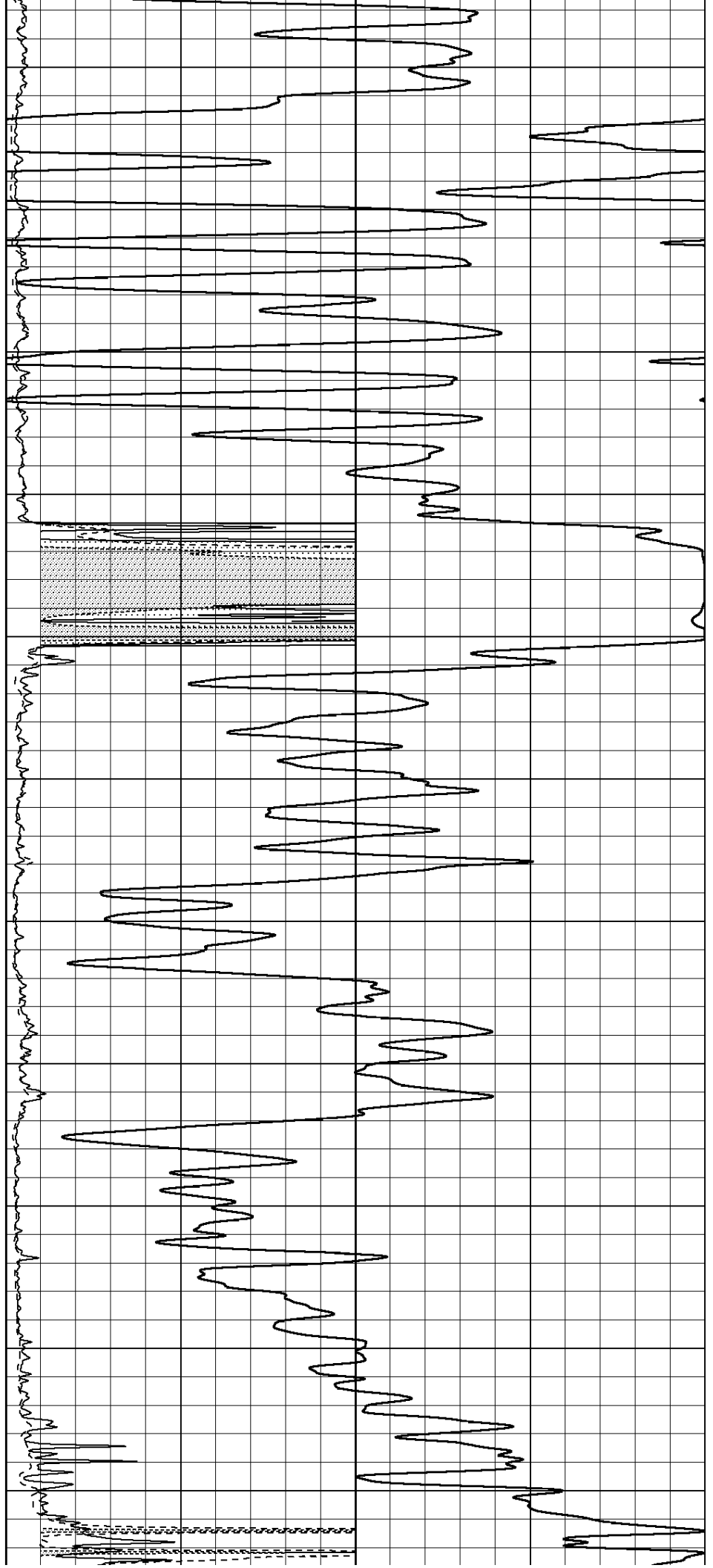
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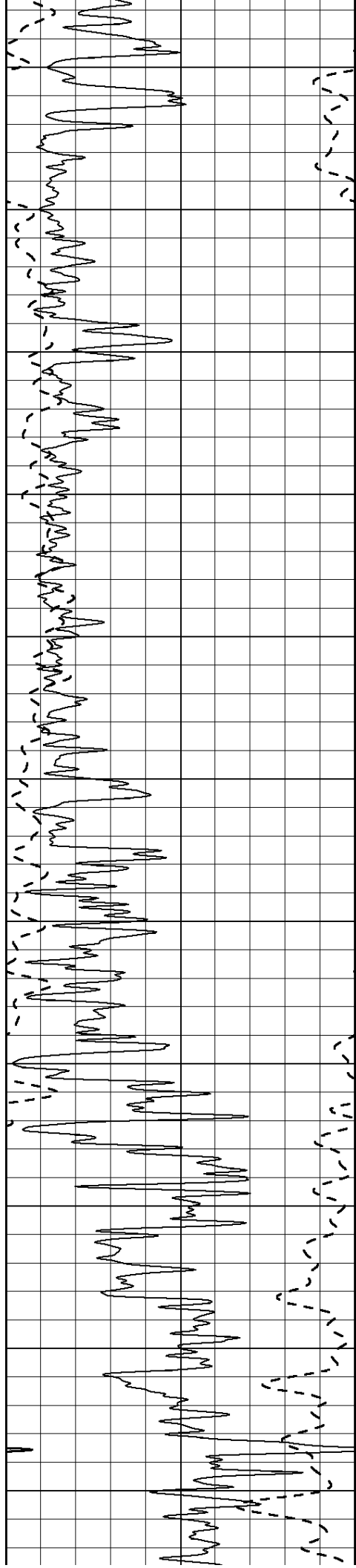
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1400

1450

1500





1550

1600

1650

1700

1750

1800

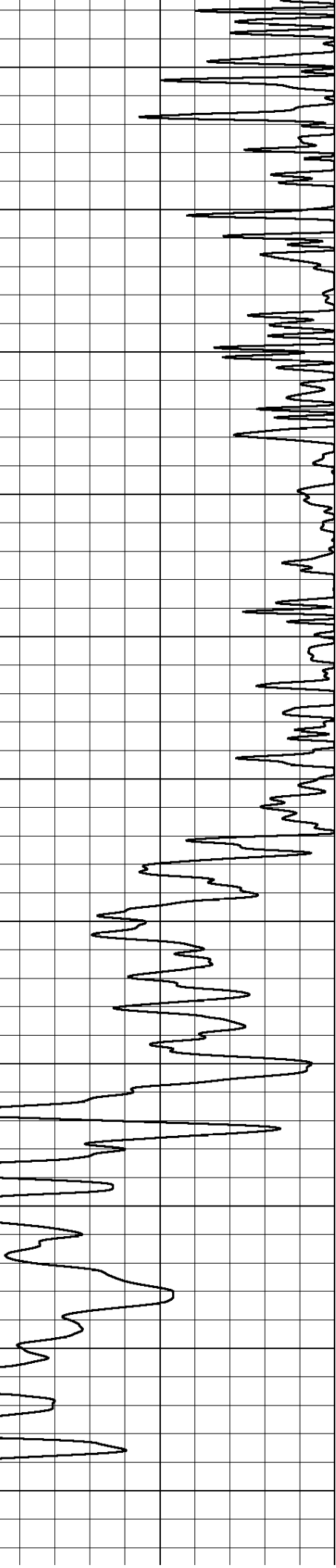
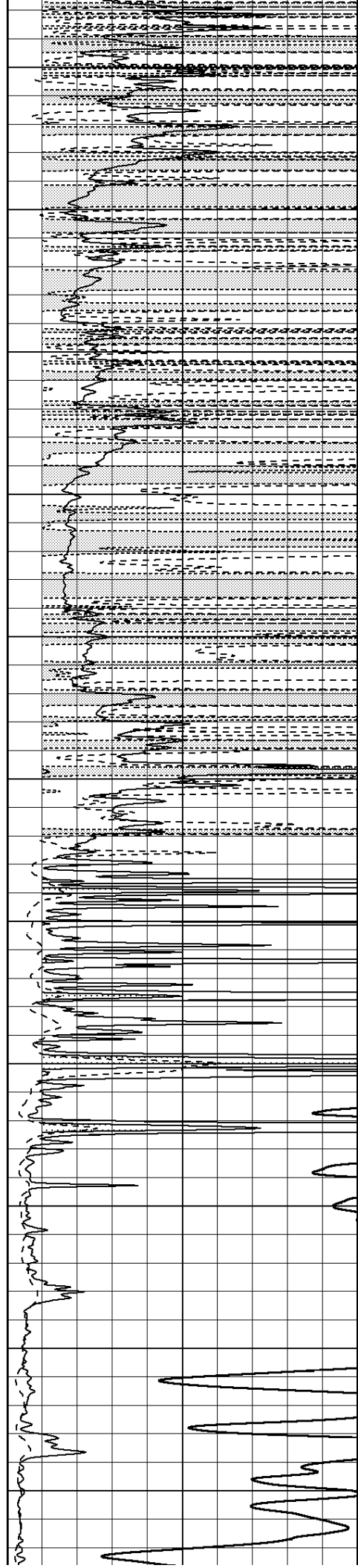
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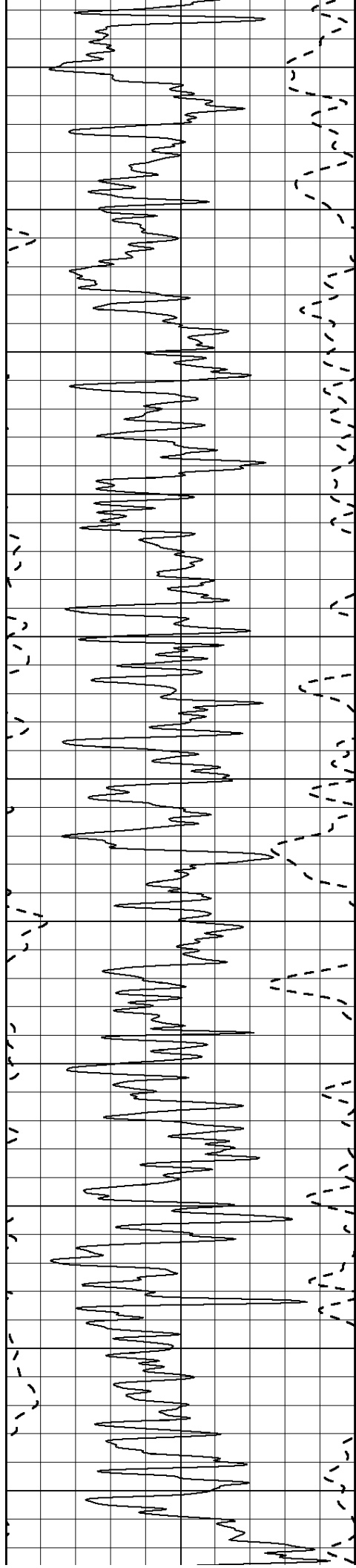
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1950

2000

2050





2100

2150

2200

2250

2300

2350

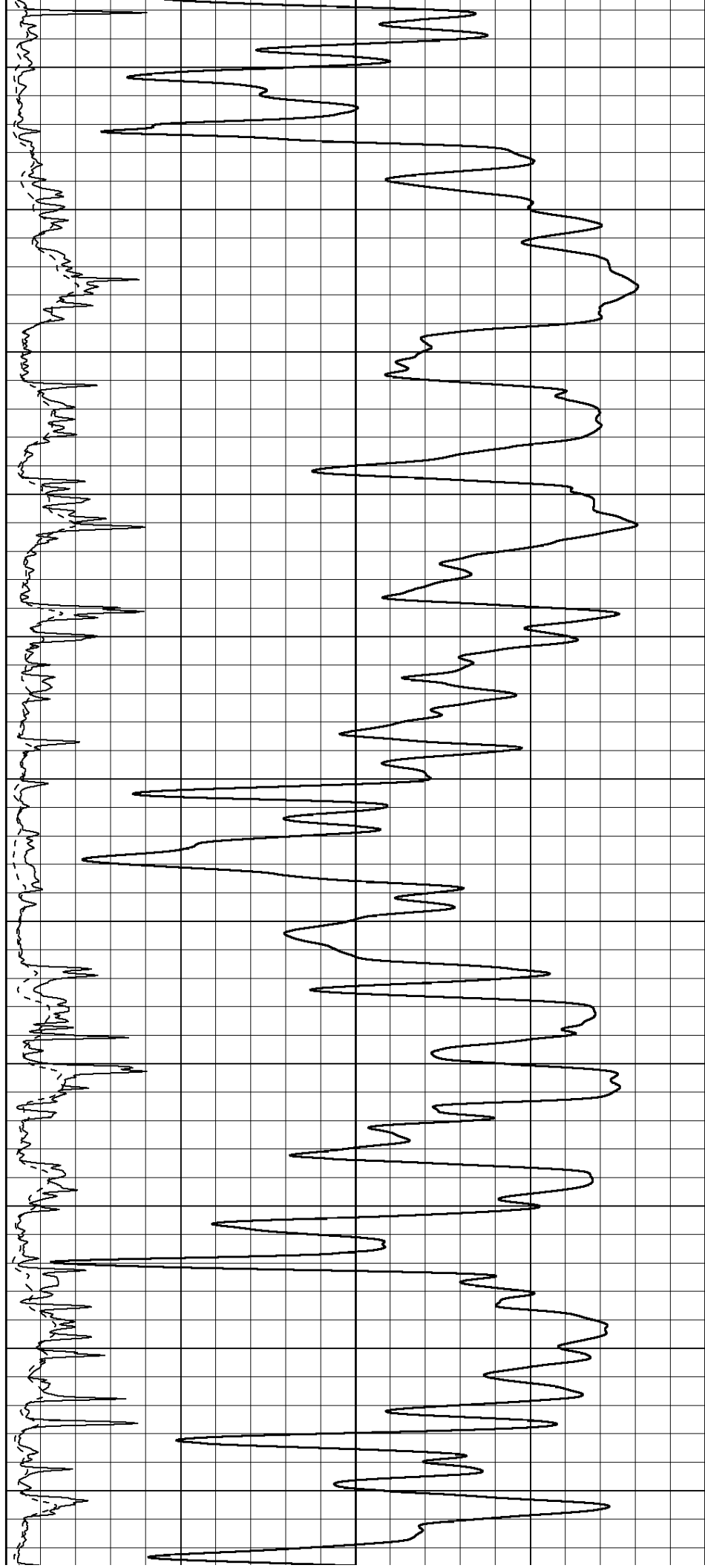
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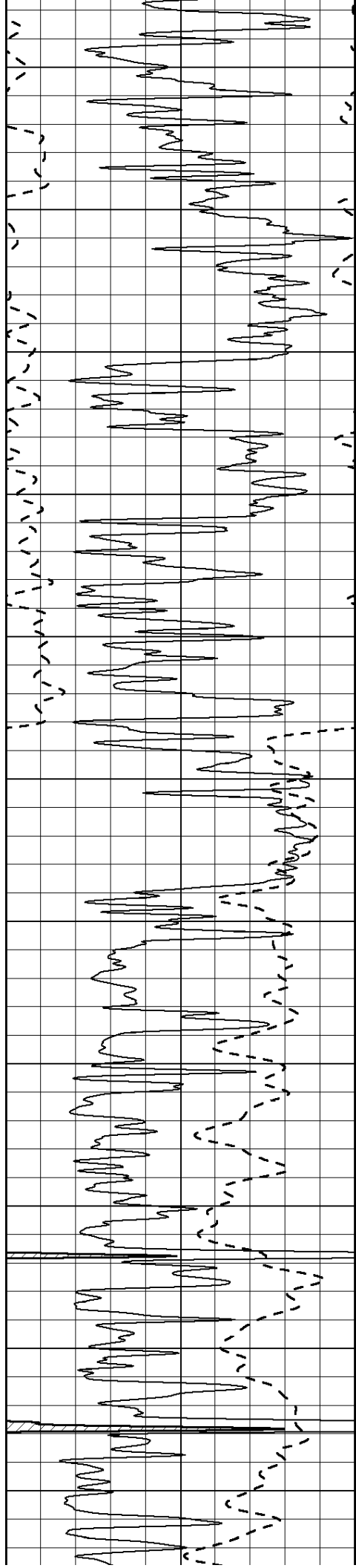
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2500

2550

2600





2650

2700

2750

2800

2850

2900

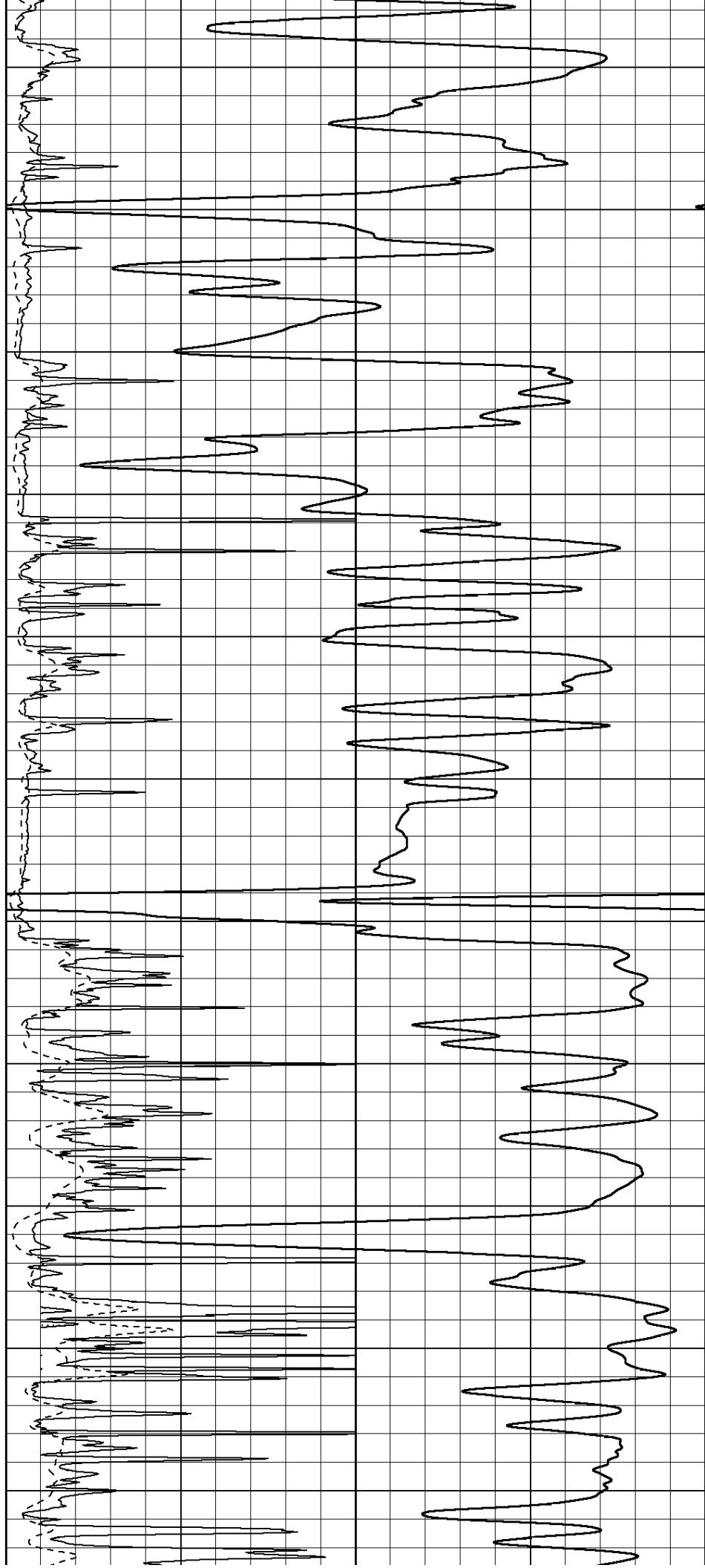
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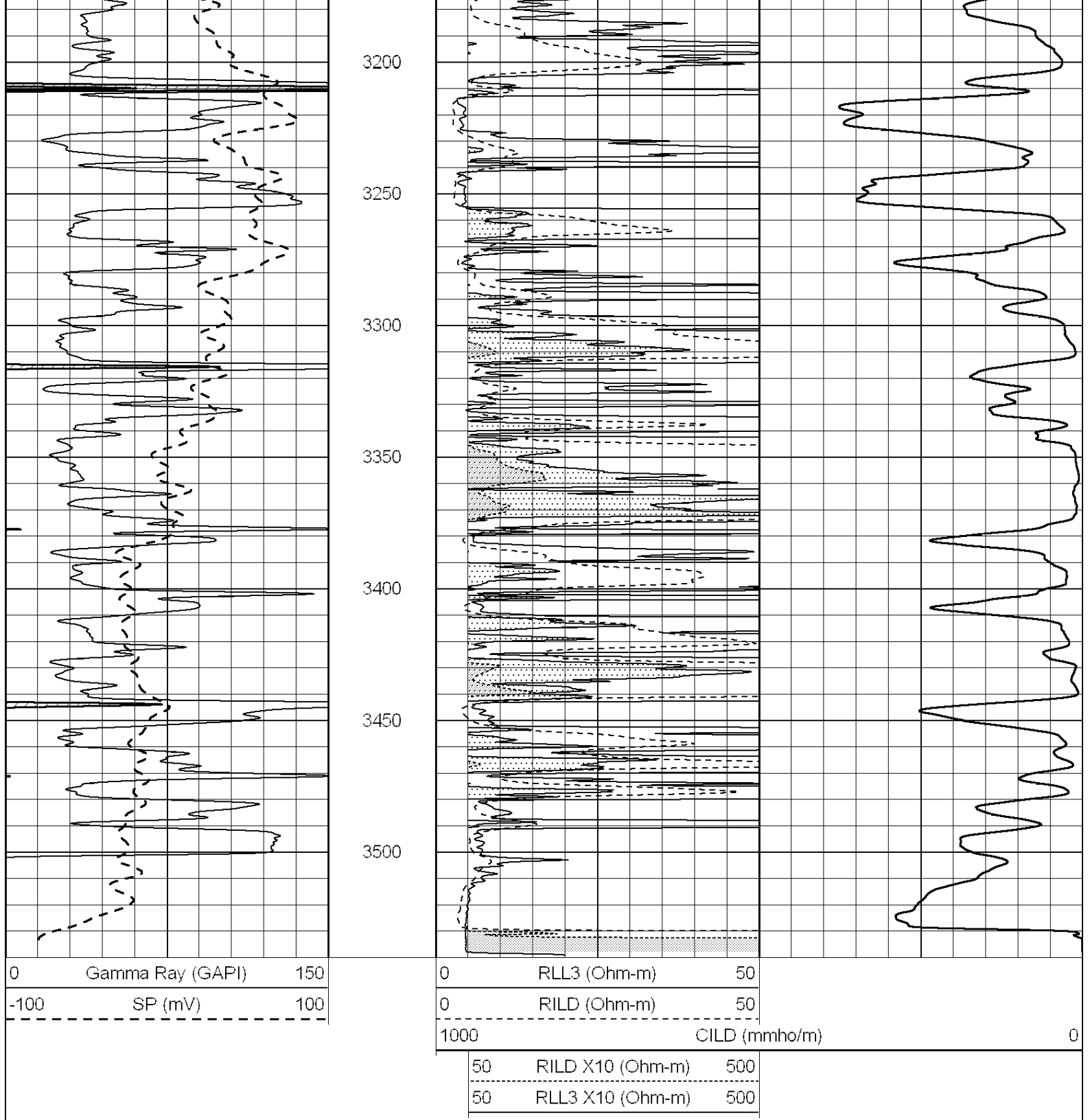
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3050

3100

3150



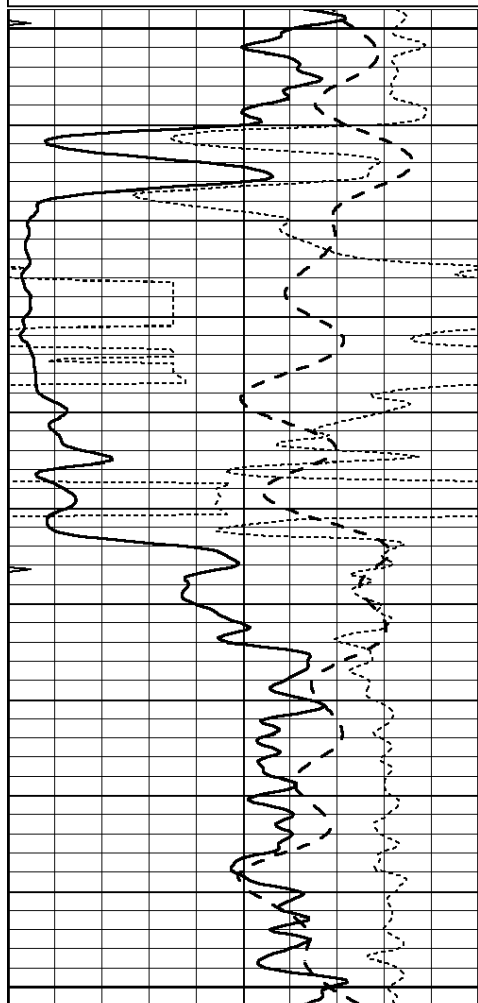


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ANHYDRITE

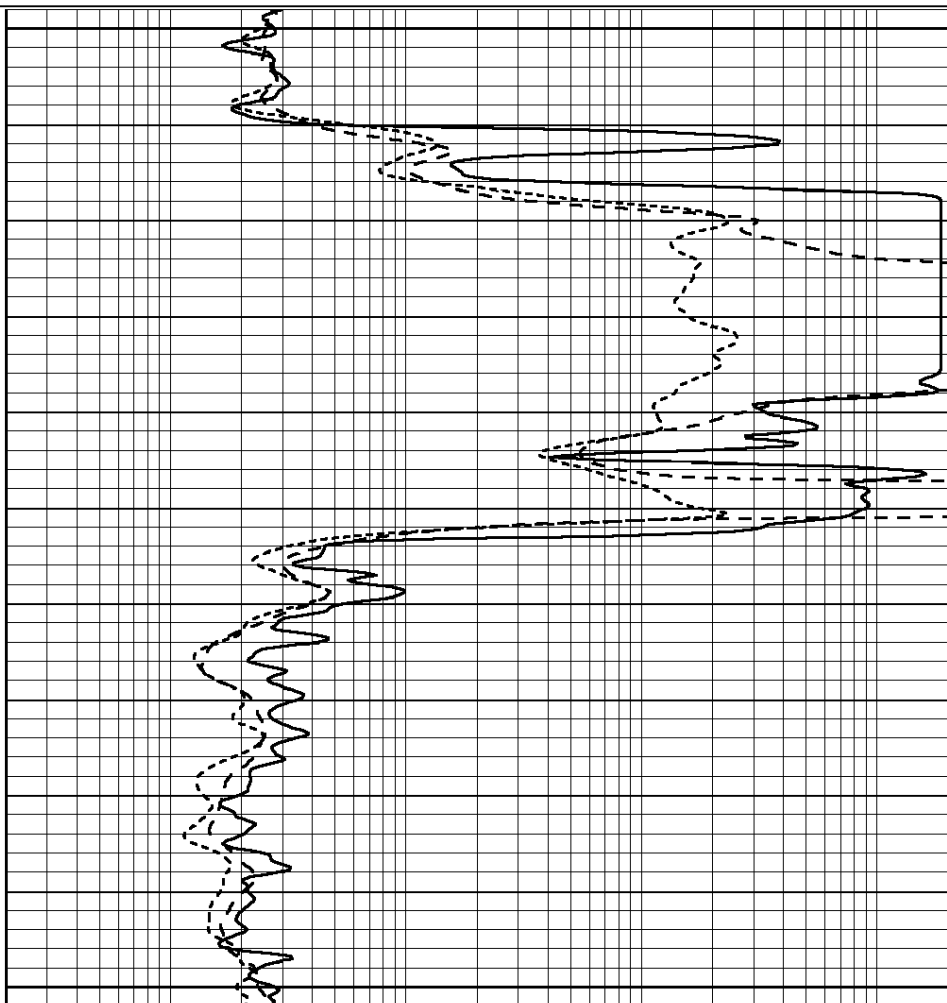
Database File: 011686ddn.db
Dataset Pathname: pass3.8
Presentation Format: dil
Dataset Creation: Mon Oct 14 17:55:41 2013 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

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



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

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



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



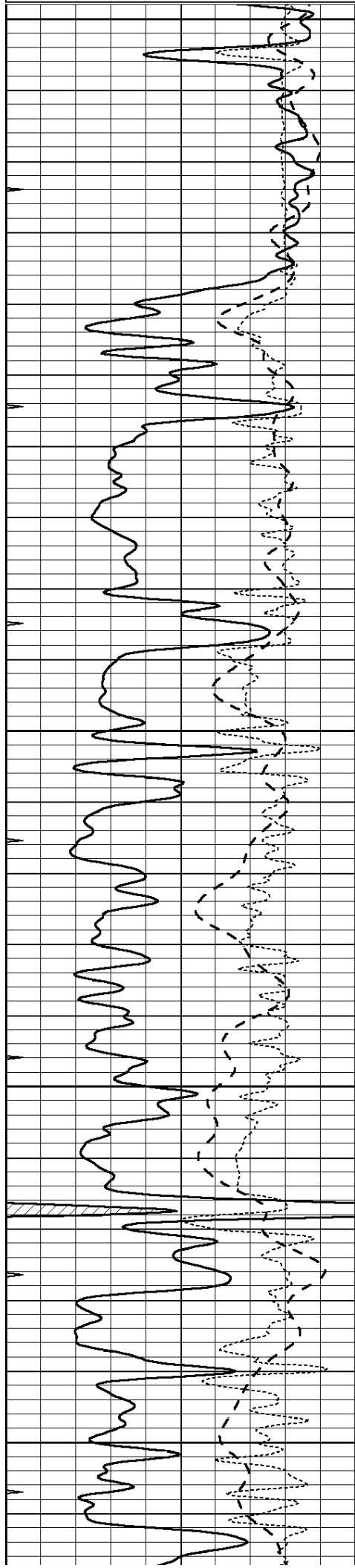
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MAIN SECTION

Database File: 011686ddn.db
Dataset Pathname: pass3.7
Presentation Format: _dil
Dataset Creation: Mon Oct 14 17:54:55 2013 by Calc SOC 120430
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



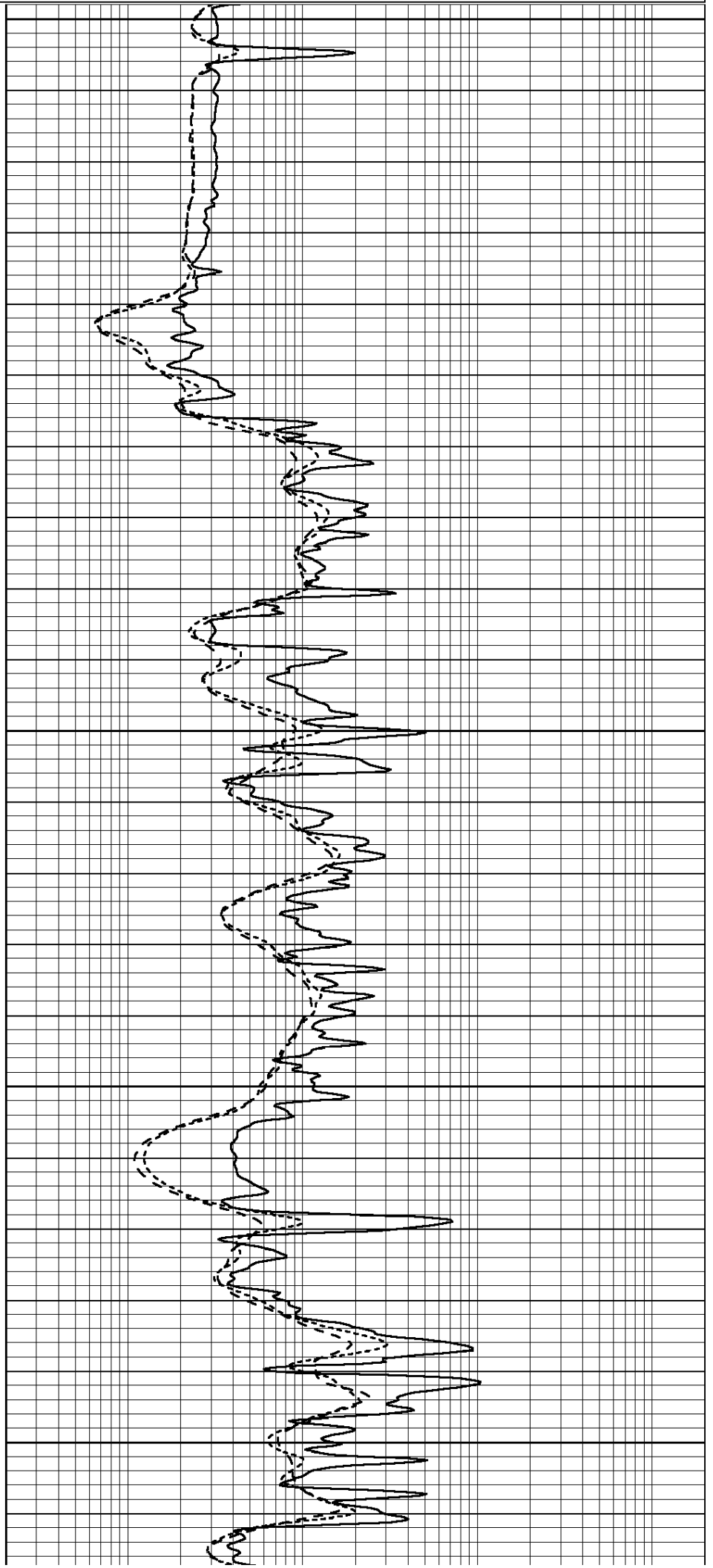
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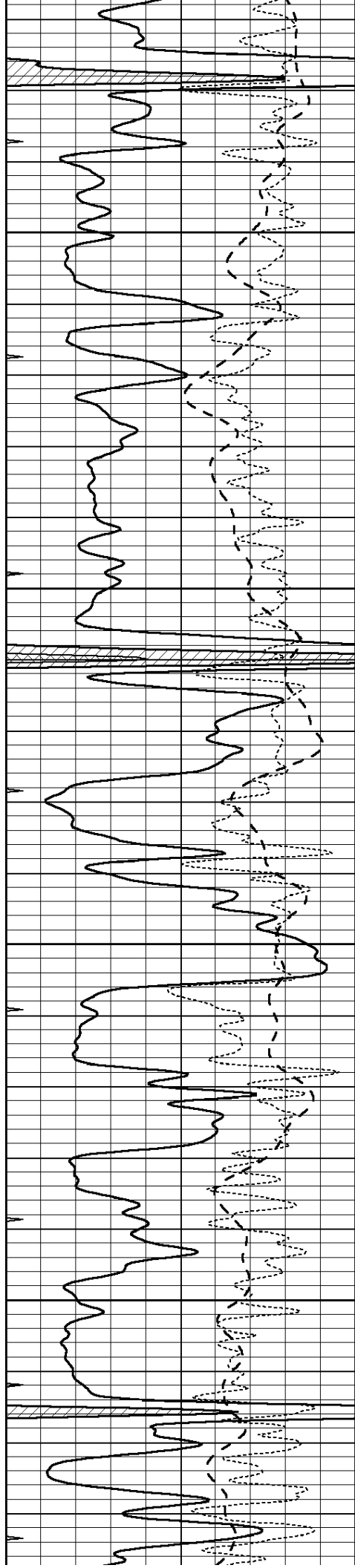
2950

3000

3050

3100



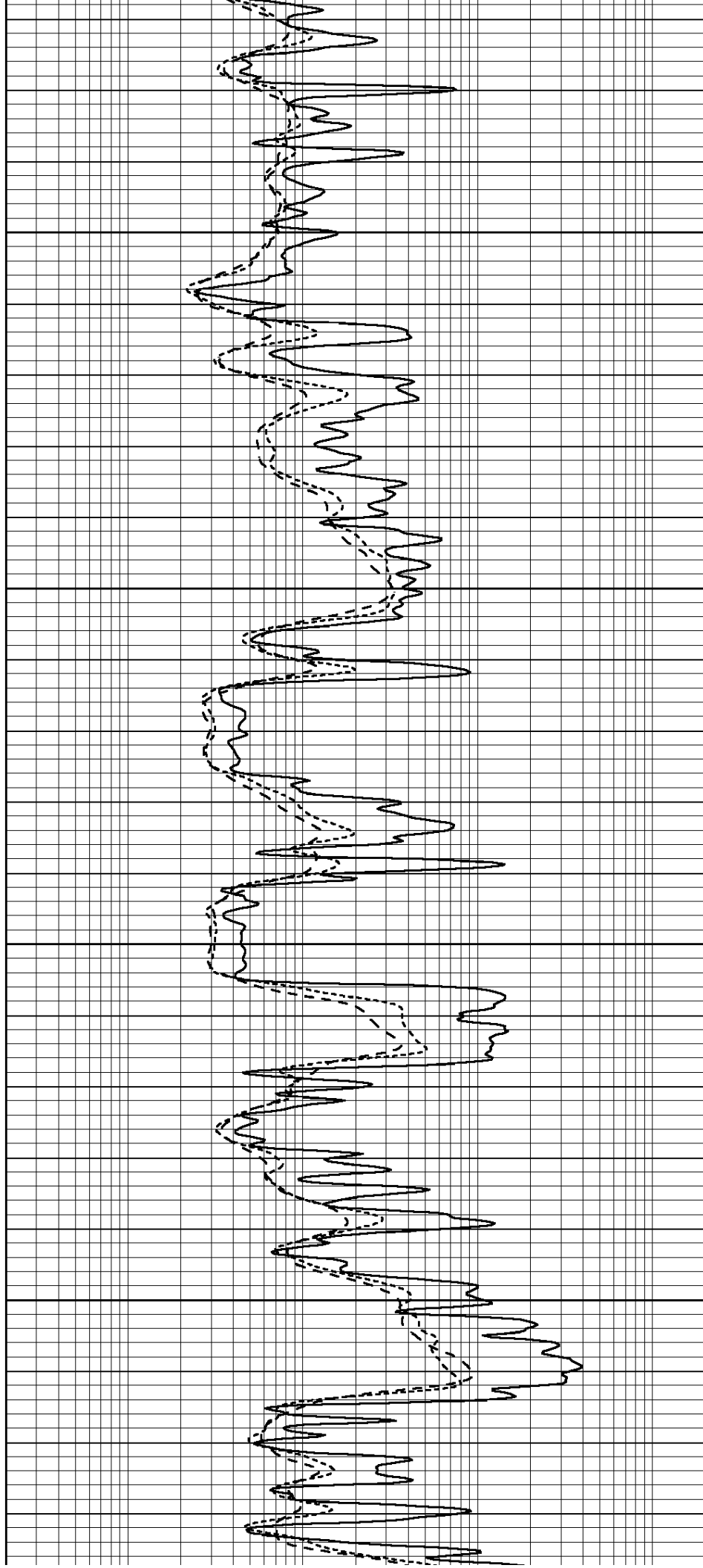


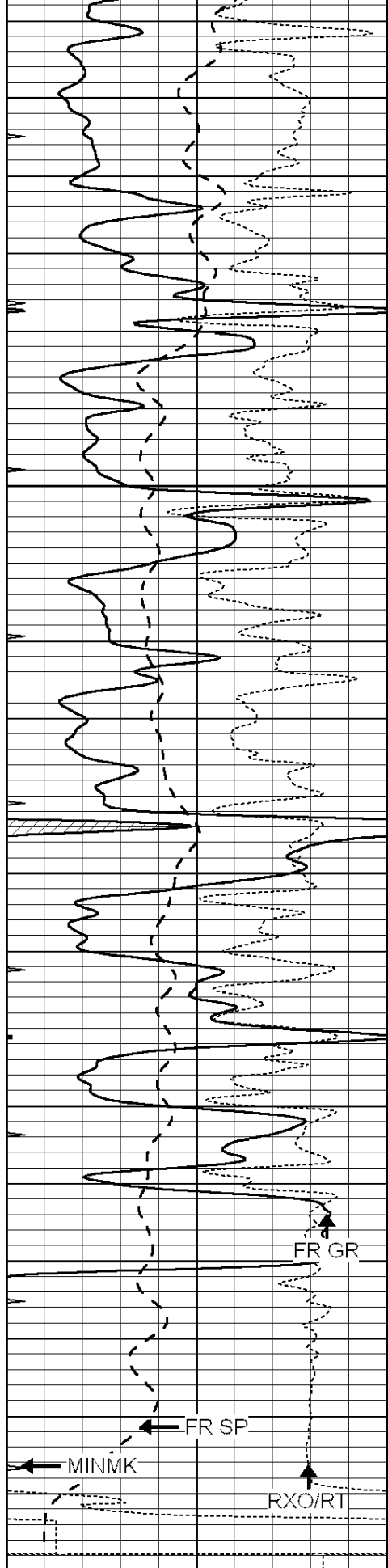
3150

3200

3250

3300





3350

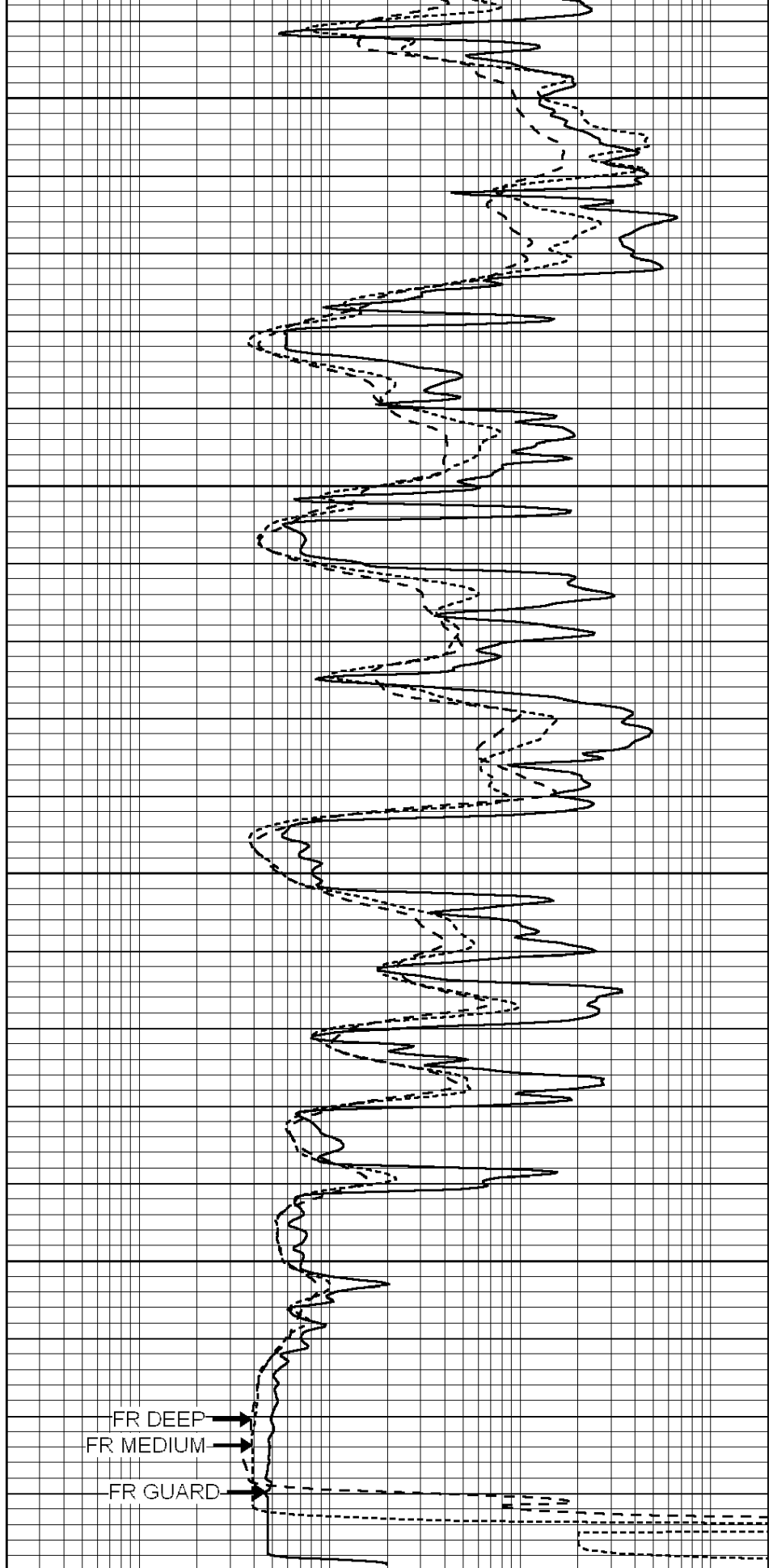
3400

3450

3500

LTD 3532

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



FR DEEP
FR MEDIUM
FR GUARD

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



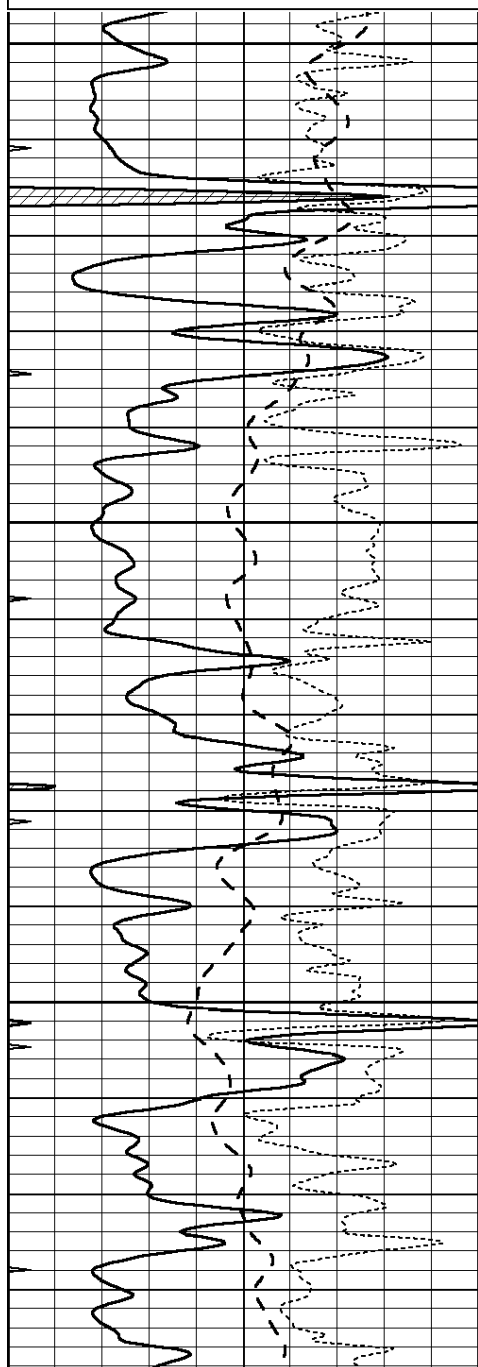
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REPEAT SECTION

Database File: 011686ddn.db
Dataset Pathname: pass2.8
Presentation Format: dil
Dataset Creation: Mon Oct 14 18:18:21 2013 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

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

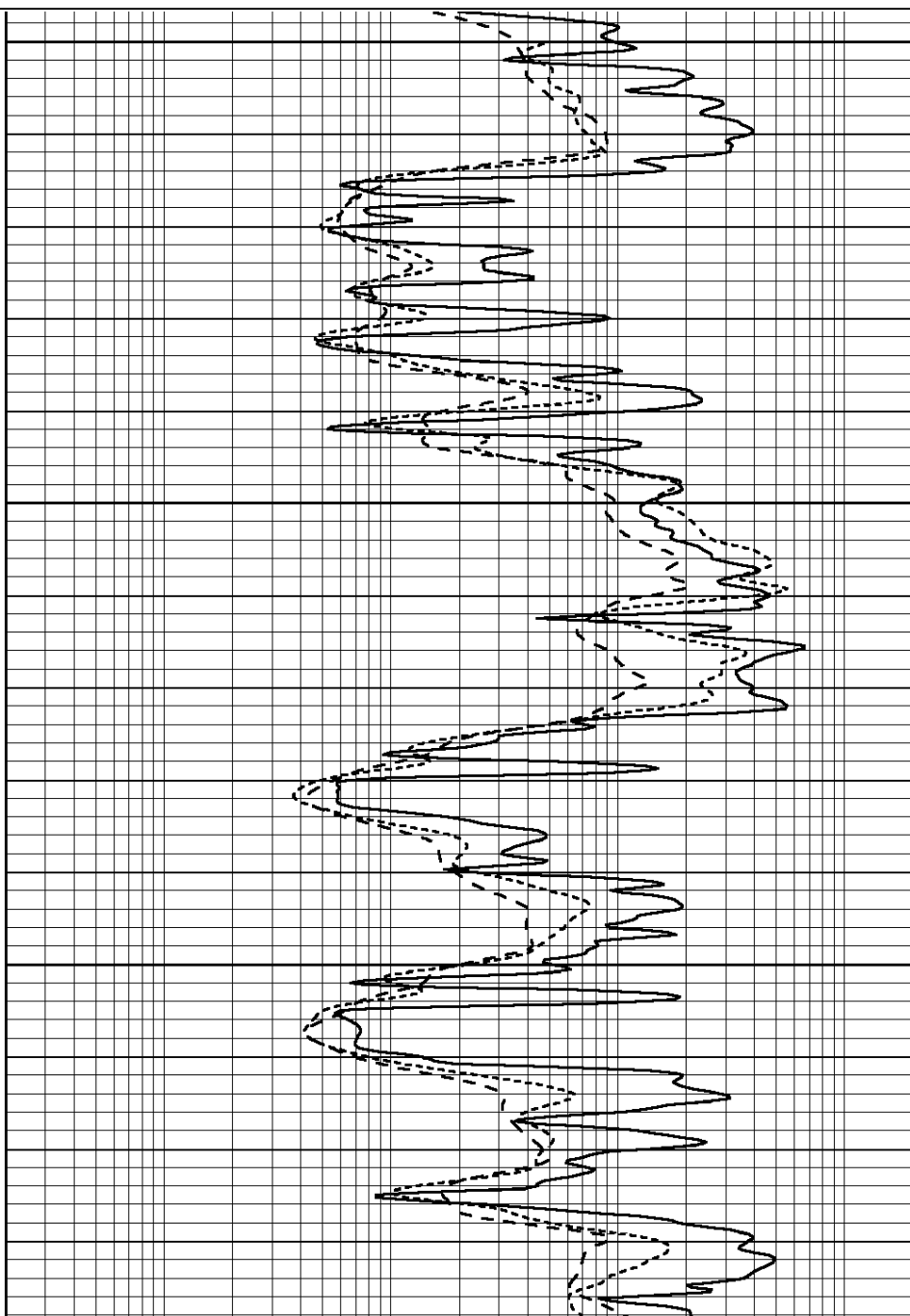
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

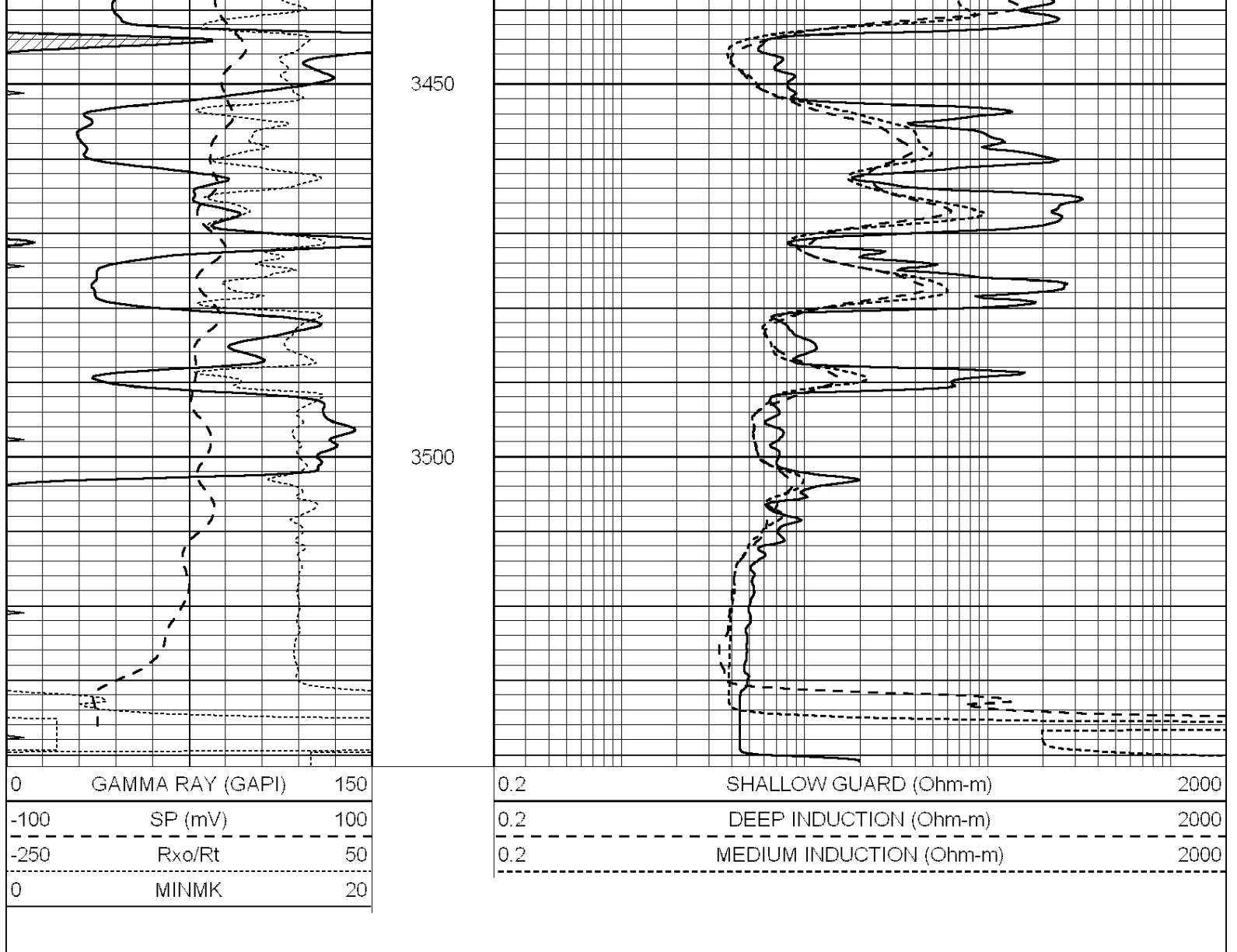


3300

3350

3400





Calibration Report									
Database File:		011686ddn.db							
Dataset Pathname:		pass3.7							
Dataset Creation:		Mon Oct 14 17:54:55 2013 by Calc SOC 120430							
Dual Induction Calibration Report									
Serial-Model:				PROBE9-DILG					
Surface Cal Performed:				Mon Oct 14 16:33:44 2013					
Downhole Cal Performed:				Mon Jul 28 12:02:56 2008					
After Survey Verification Performed:				Mon Jul 28 12:02:56 2008					
Surface Calibration									
		Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b	
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	650.000	-8.000	
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-12.000	
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: 004N Model: PRB								

Master Calibration					Performed Mon Jun 03 09:36:56 2013			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	1417.6	10391.4	3464.6	11537.5				cps
Window 2	1295.0	8959.7	3050.1	9816.4				cps
Window 3	1105.1	5464.2	2051.0	5838.8				cps
Window 4	315.0	317.7	312.9	319.8				cps
Long Space	0.0	7664.6	1755.0	8521.3				cps
Short Space	1.8	1582.4	1040.8	1699.4				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.1	Rib Slope	: 0.970	Density/Spine Ratio			: 0.574	
Spine Angle	: 74.1	Spine Slope	: 3.519	Spine Intercept			: -17.0	

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:	Thu Oct 03 09:02:10 2013		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.2800	GAPI/cps	