



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	BRINKER ENTERPRISES	
Well	KNIPP SW #2	
Field		
County	ROOKS	State KANSAS
Location:	API # : 15-163-24179-0000 2310' FSL & 620' FWL	
Other Services CDL/CNL MEL		
SEC 36	TWP 7S	RGE 20W
Permanent Datum	GROUND LEVEL	Elevation 1929
Log Measured From	KELLY BUSHING 5' A.G.L.	
Drilling Measured From	KELLY BUSHING	
Elevation K.B. 1934 D.F. 1932 G.L. 1929		
Date	3-16-14	
Run Number	ONE	
Depth Driller	3455	
Depth Logger	3454	
Bottom Logged Interval	3452	
Top Log Interval	0	
Casing Driller	13 3/8" @ 50'	
Casing Logger	51'	
Bit Size	7.875	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2100
Density / Viscosity	9.1 / 54	
pH / Fluid Loss	10.0 / 5.6	
Source of Sample	FLOWLINE	
Rim @ Meas. Temp	1.25 @ 72F	
Rmf @ Meas. Temp	0.94 @ 72F	
Rmc @ Meas. Temp	1.50 @ 72F	
Source of Rmf / Rmc	MEASURED	
Rim @ BHT	0.81 @ 111F	
Time Circulation Stopped	2 HOURS	
Time Logger on Bottom		
Maximum Recorded Temperature	111F	
Equipment Number	860	
Location	HAYS, KS.	
Recorded By	JEFF GRONEWEG	
Witnessed By	RICHARD BELL	

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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

NABORS COMPLETION & PRODUCTION SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: INTERSECTION OF WEBSTER LAKE & HWY 24 - 5 MILES WEST TO RD 6
3/4 MILES SOUTH - EAST INTO

0 Gamma Ray (GAPI) 150

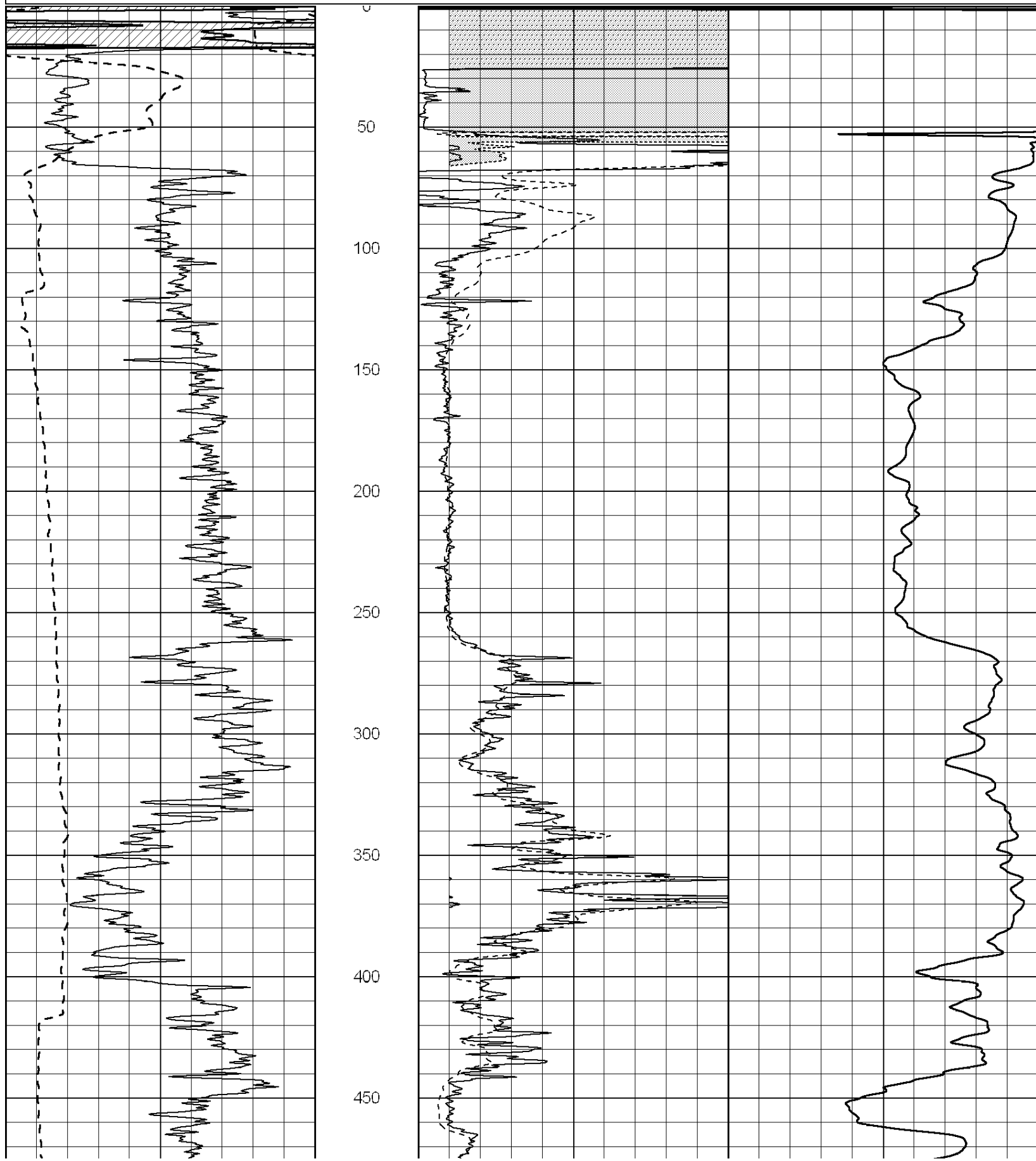
0 RLL3 (Ohm-m) 50

0 Deep Induction (Ohm-m) 50

1000 CILD (mmho/m) 0

50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500



500

550

600

650

700

750

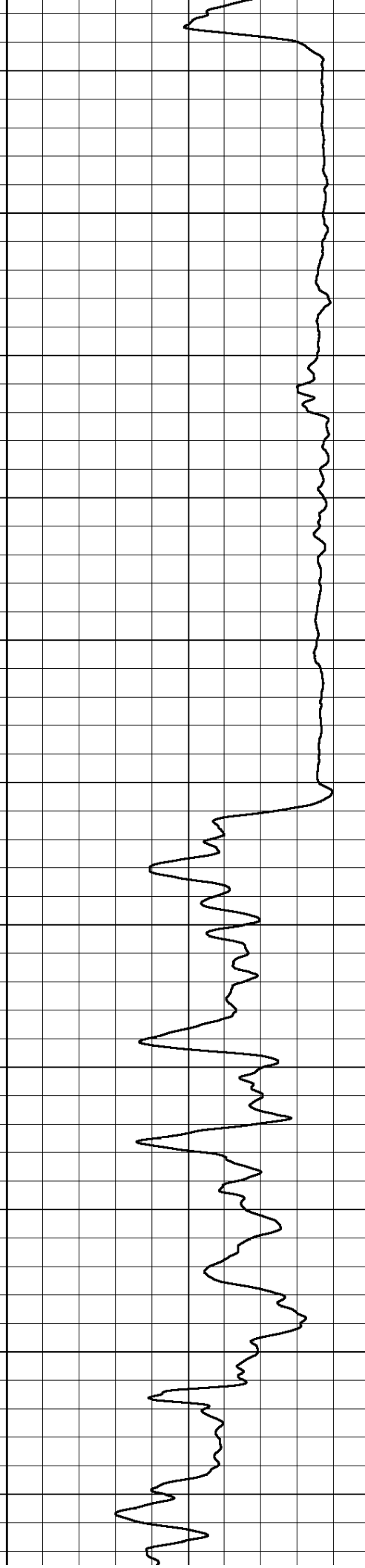
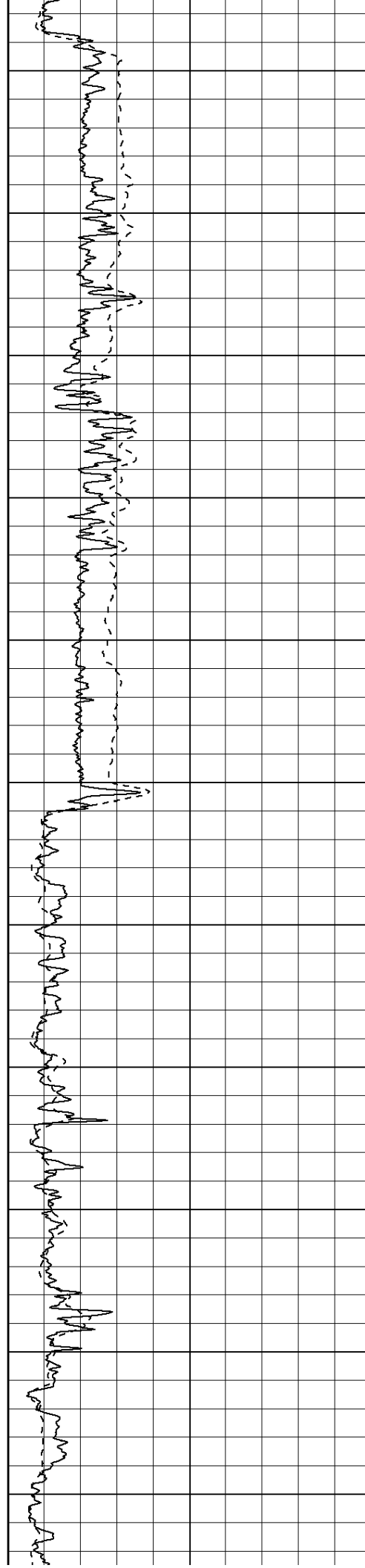
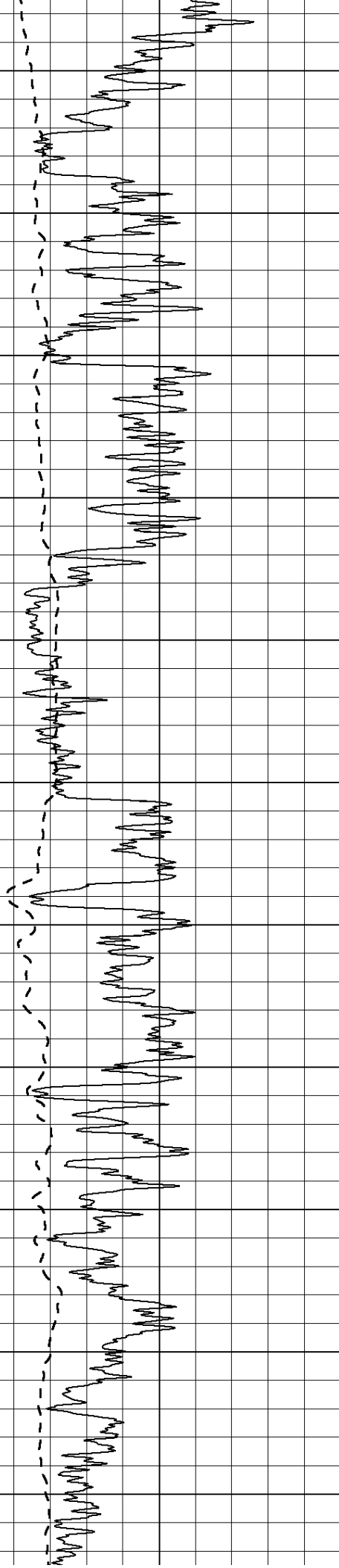
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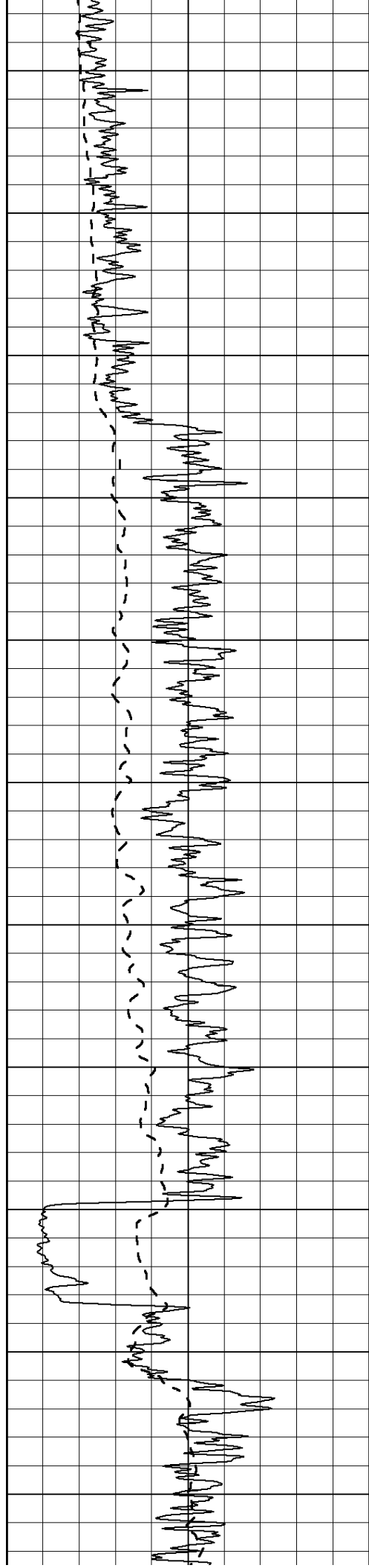
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900

950

1000





1050

1100

1150

1200

1250

1300

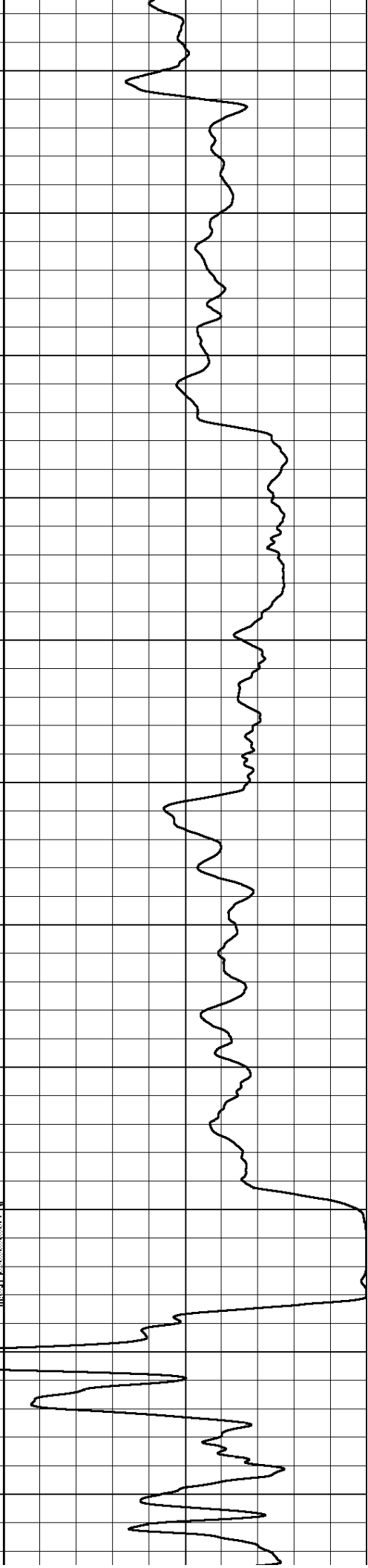
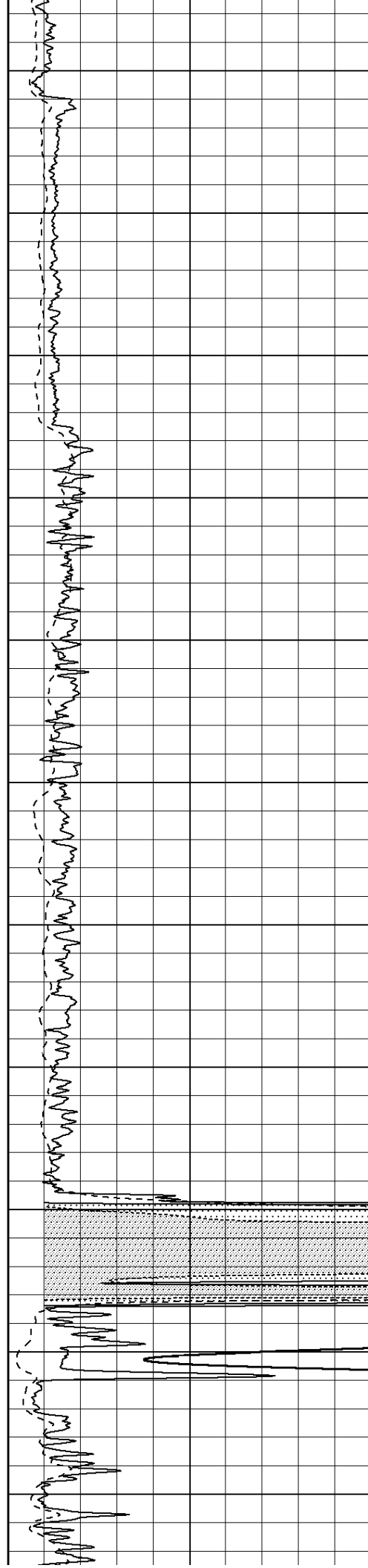
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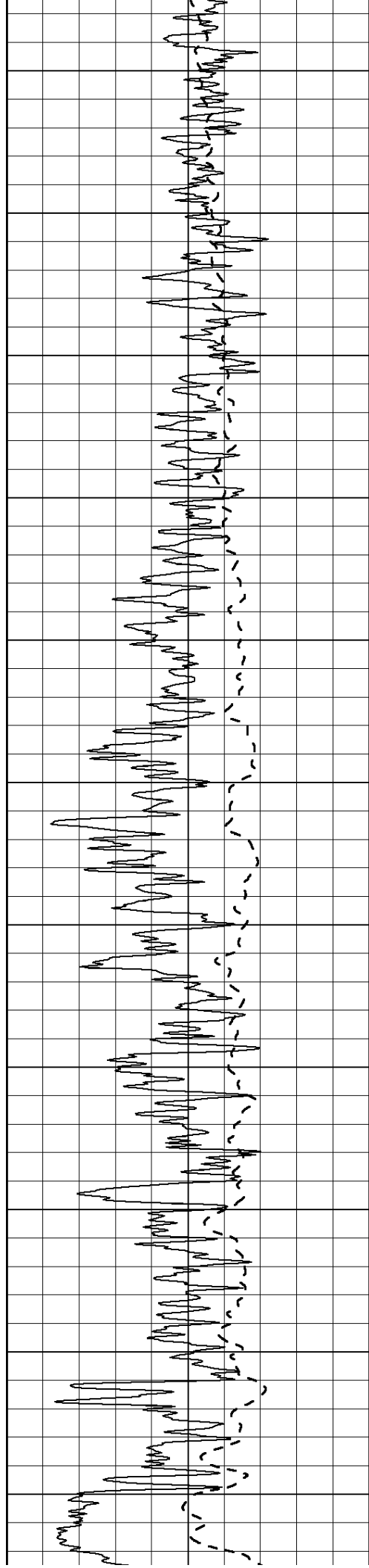
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1450

1500

1550





1600

1650

1700

1750

1800

1850

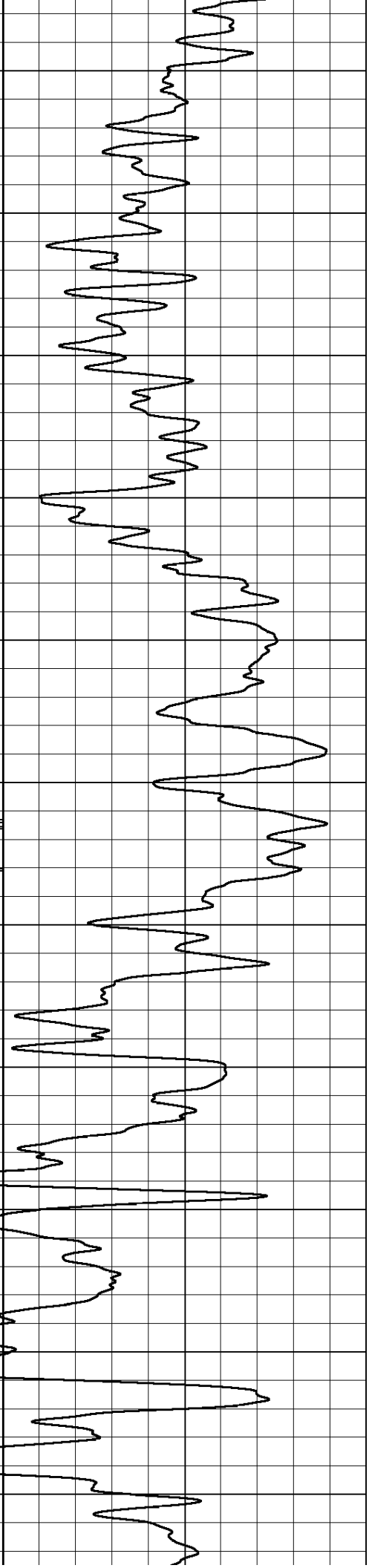
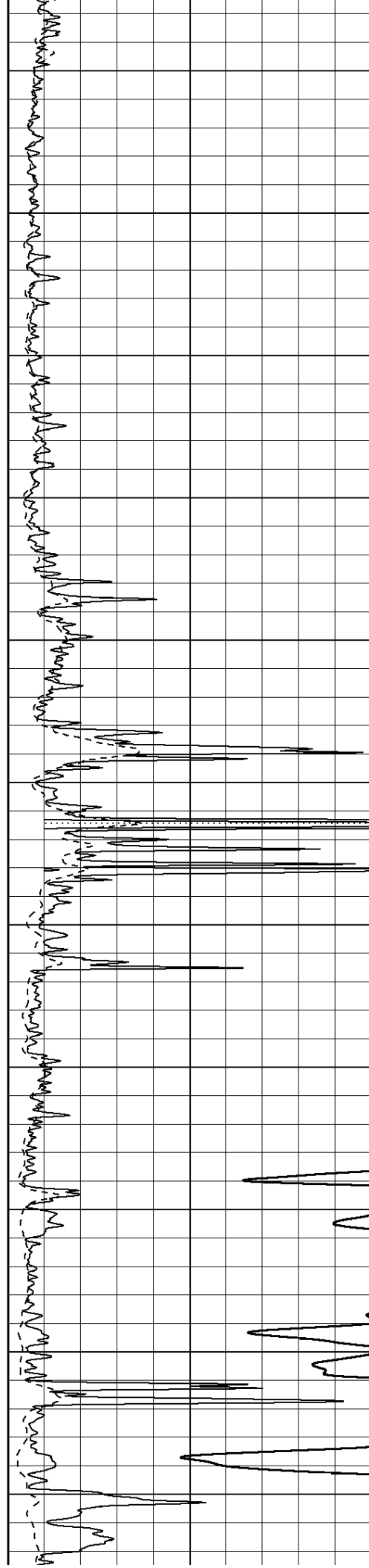
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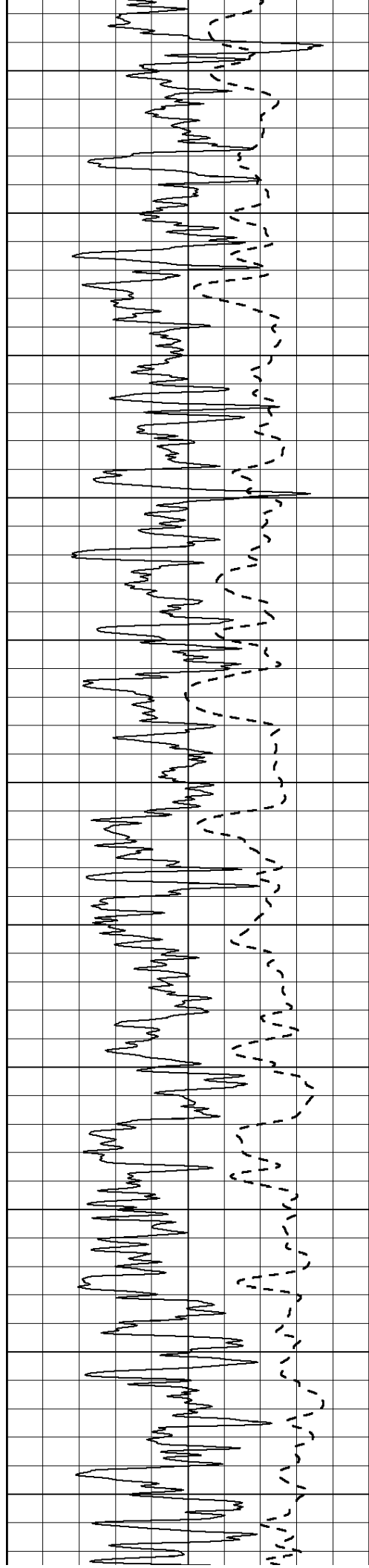
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2000

2050

2100





2150

2200

2250

2300

2350

2400

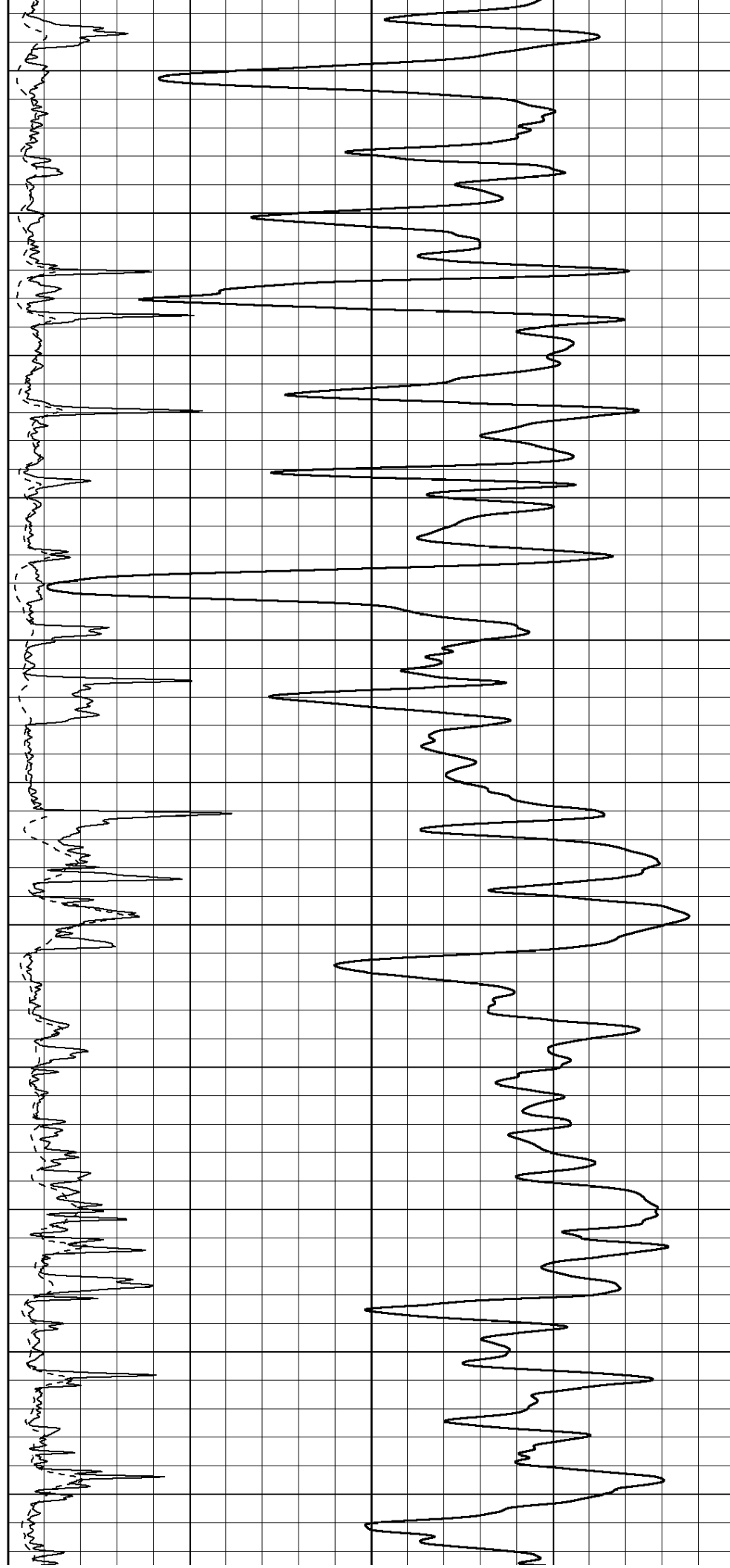
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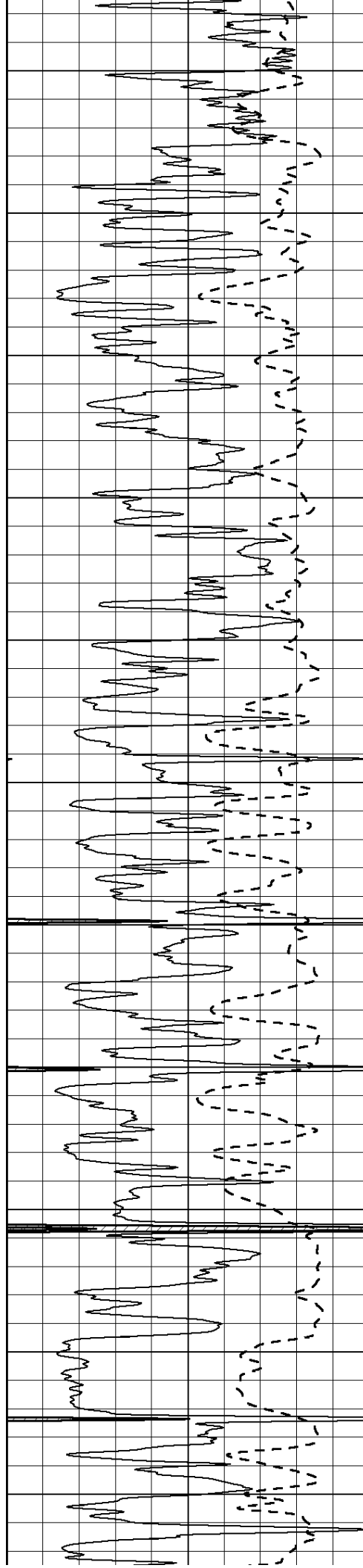
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2550

2600

2650





2700

2750

2800

2850

2900

2950

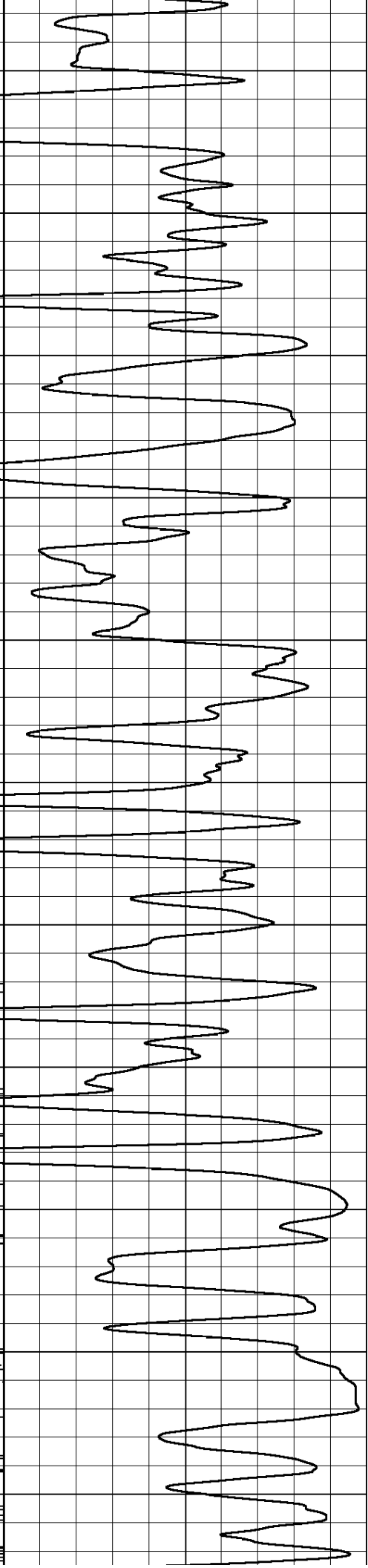
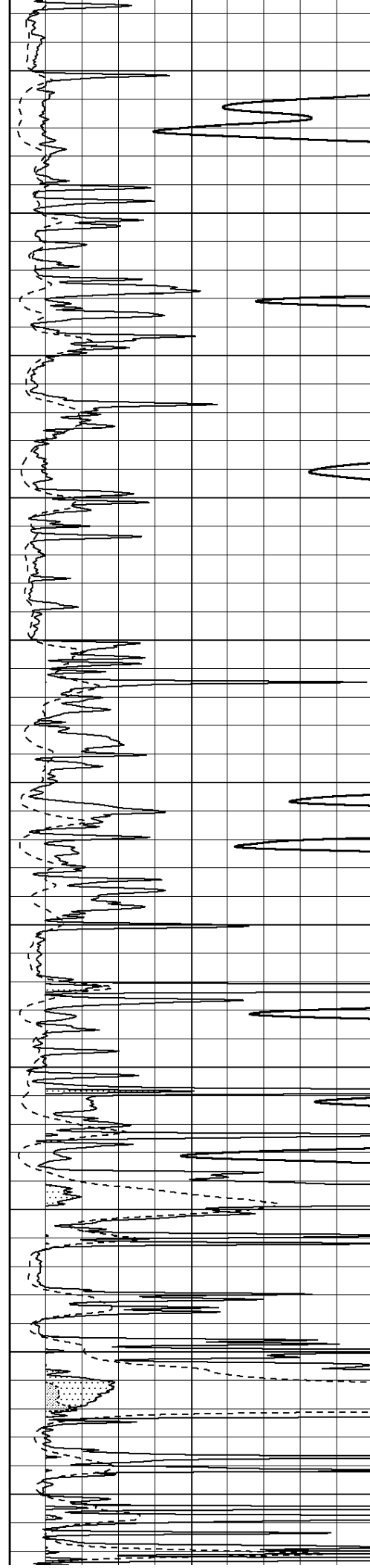
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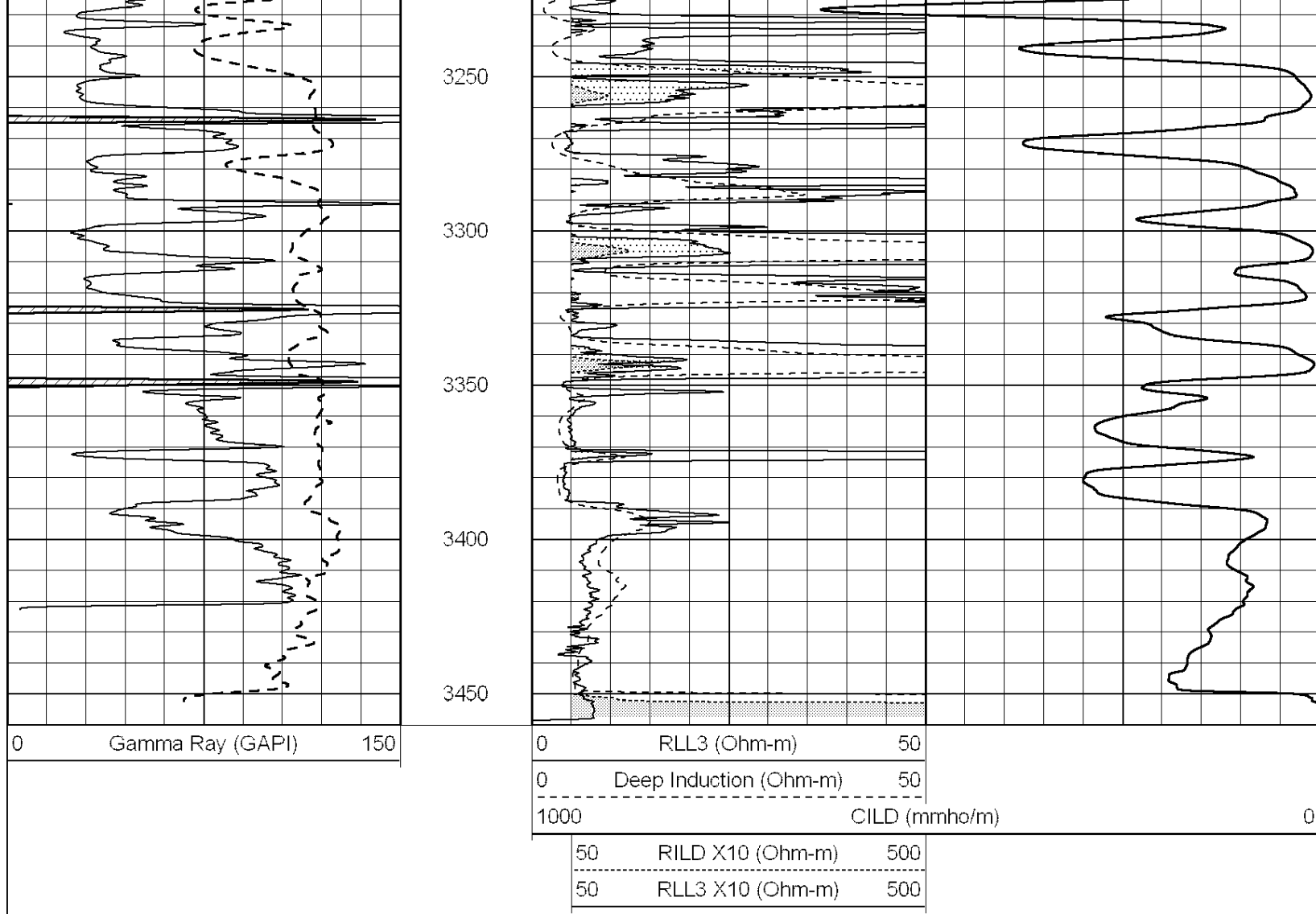
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3100

3150

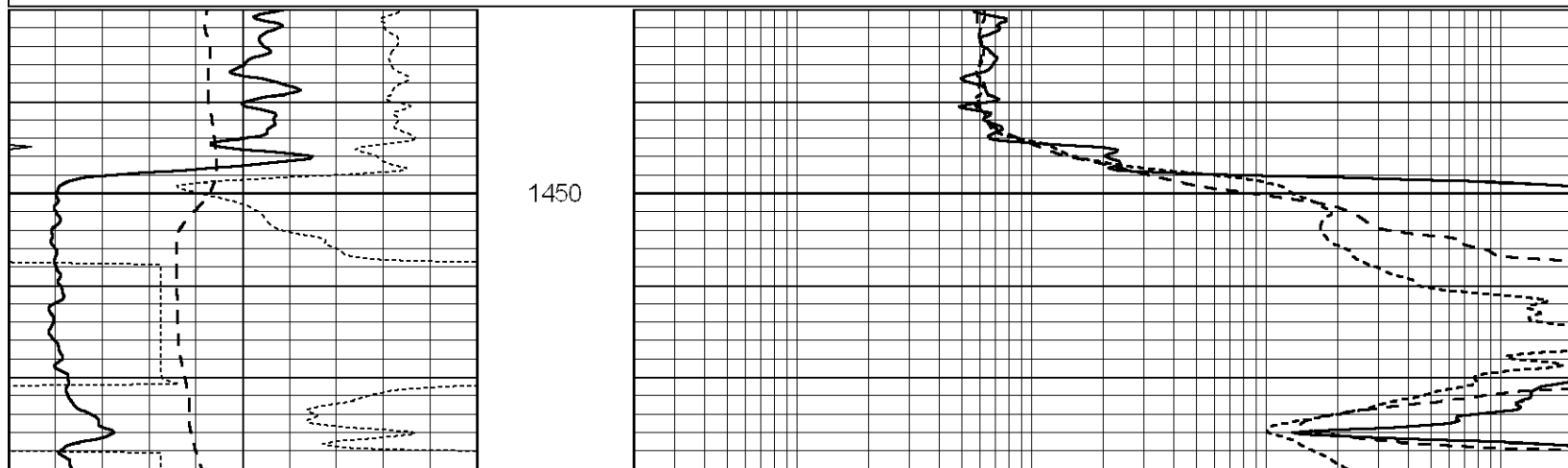
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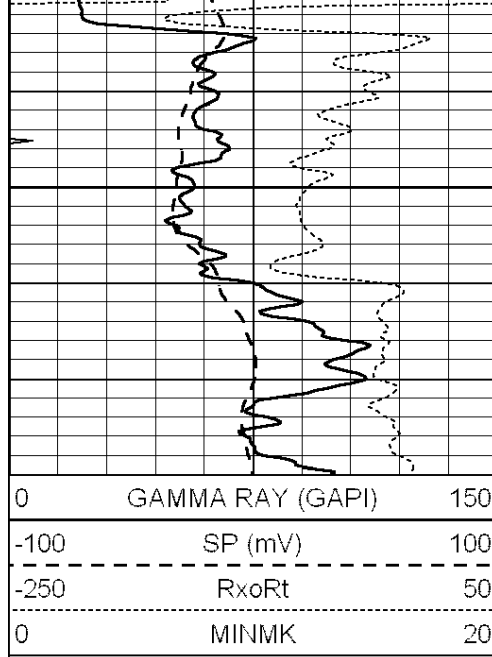




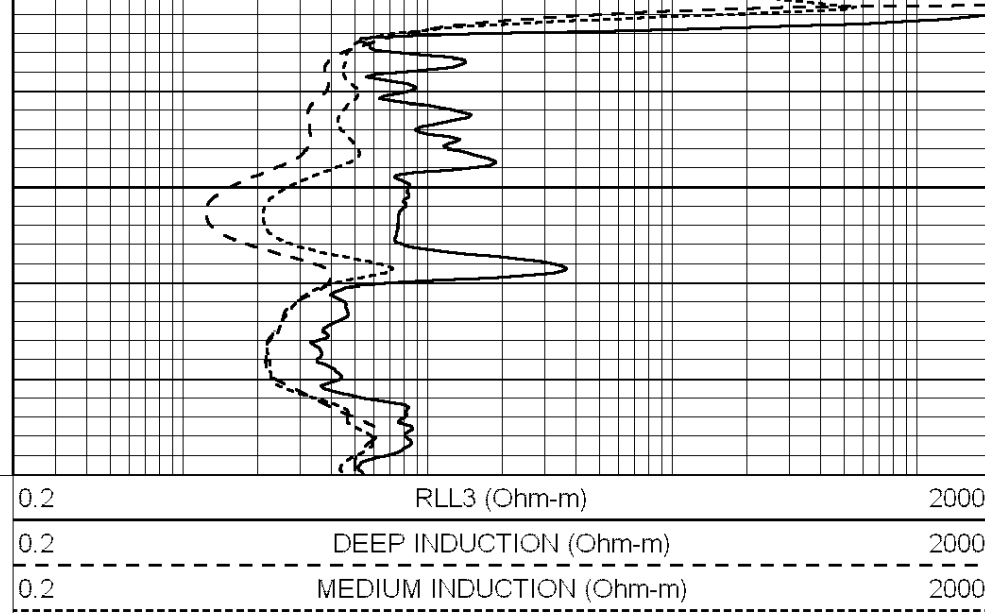
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 Dataset Creation: Sun Mar 16 16:54:43 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	RLL3 (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	RxoRt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			

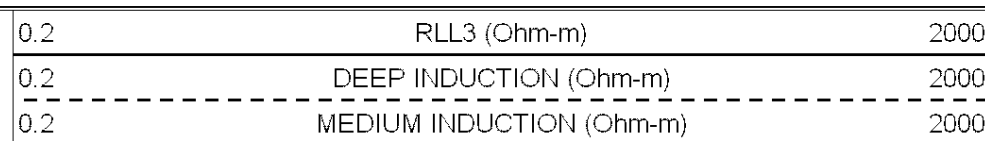
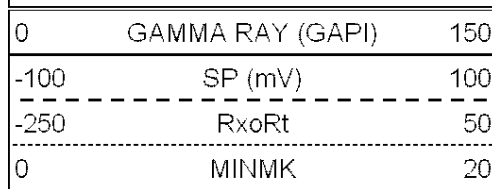




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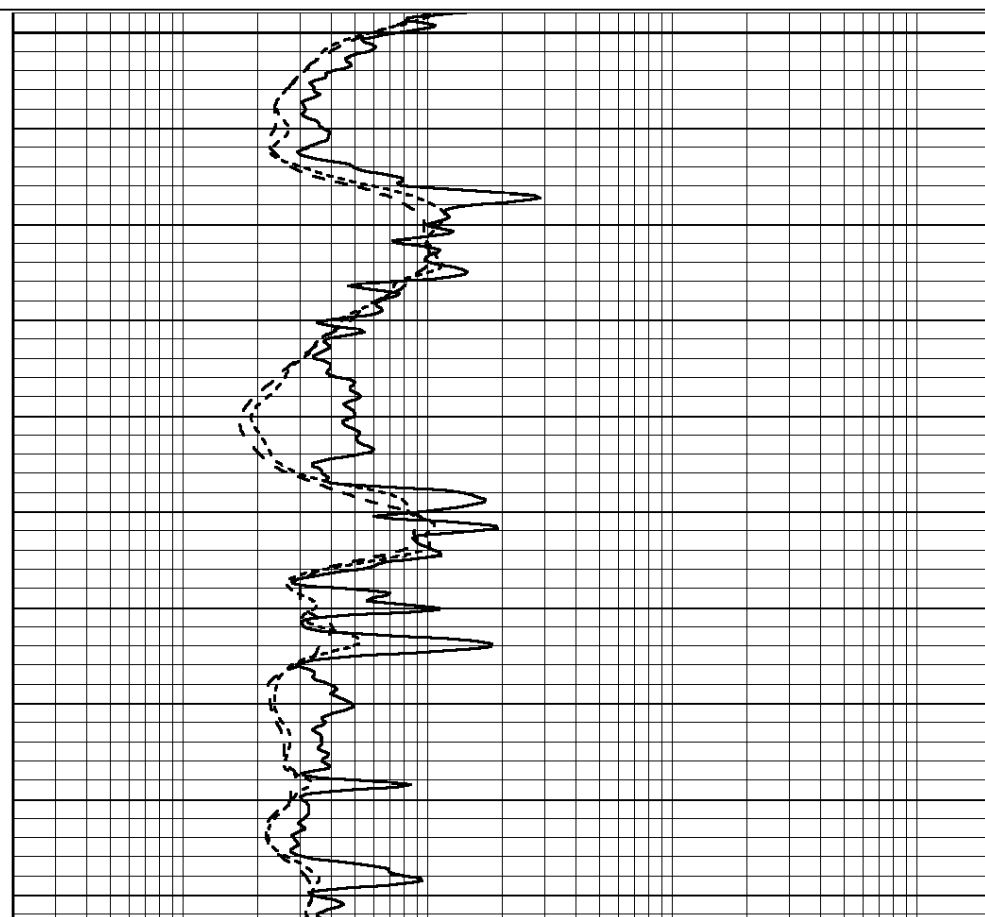
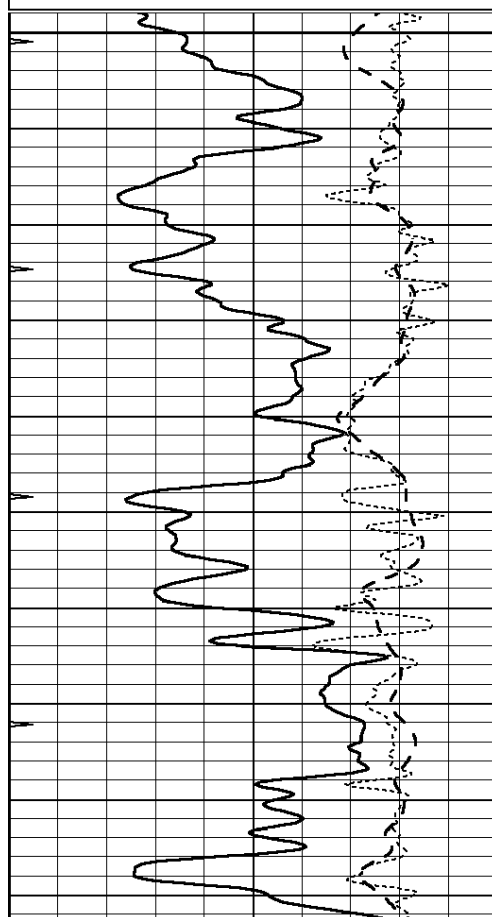


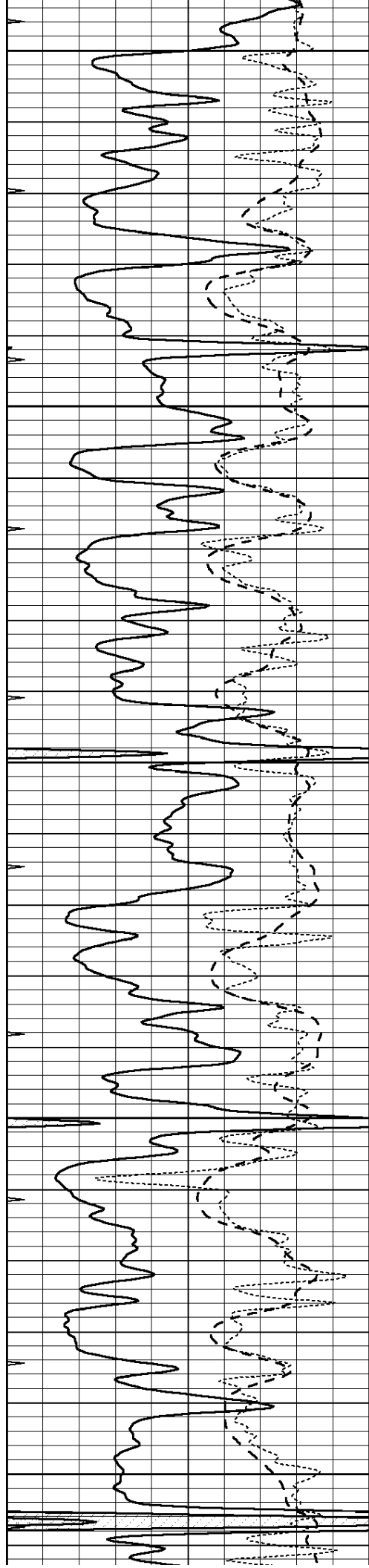
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2800

2850





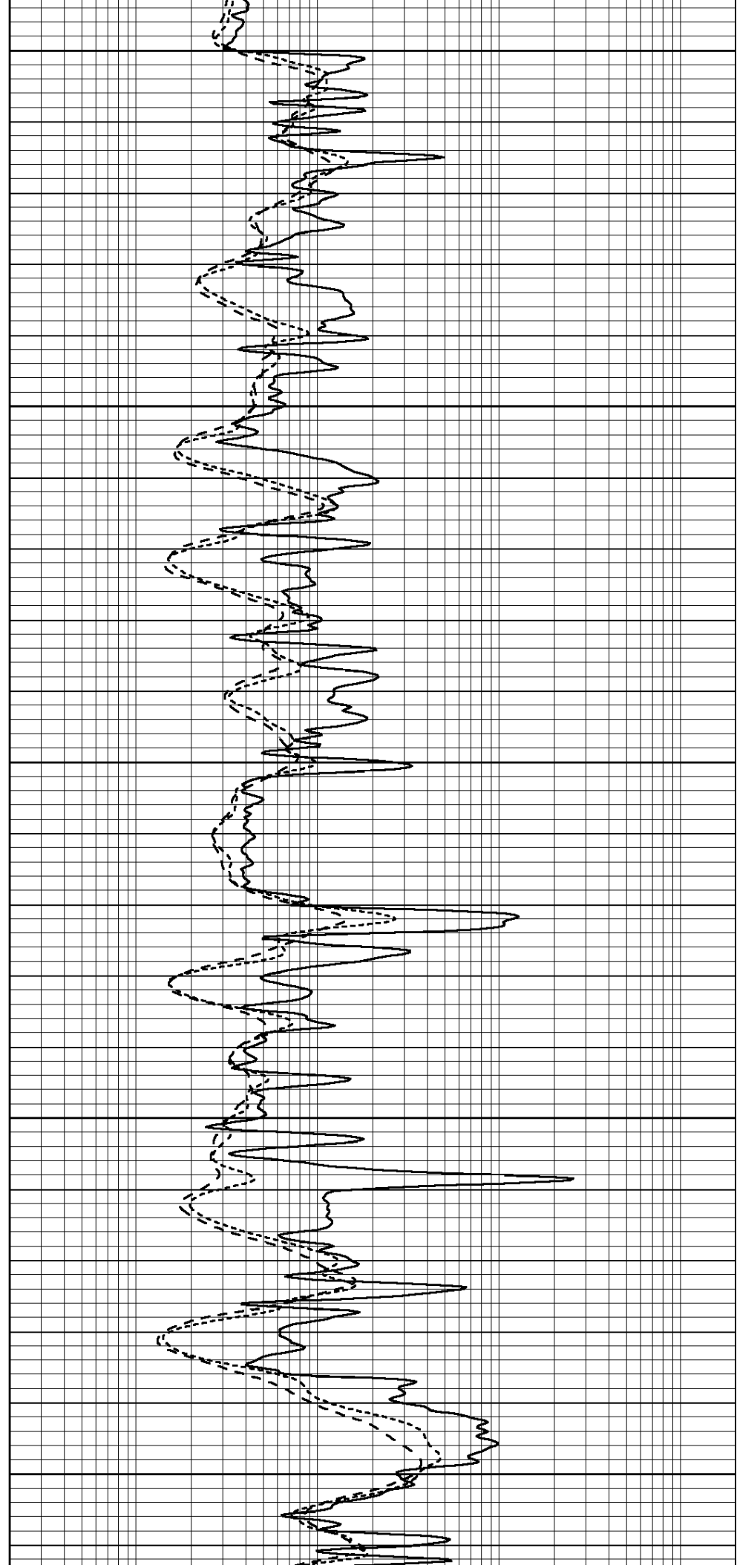
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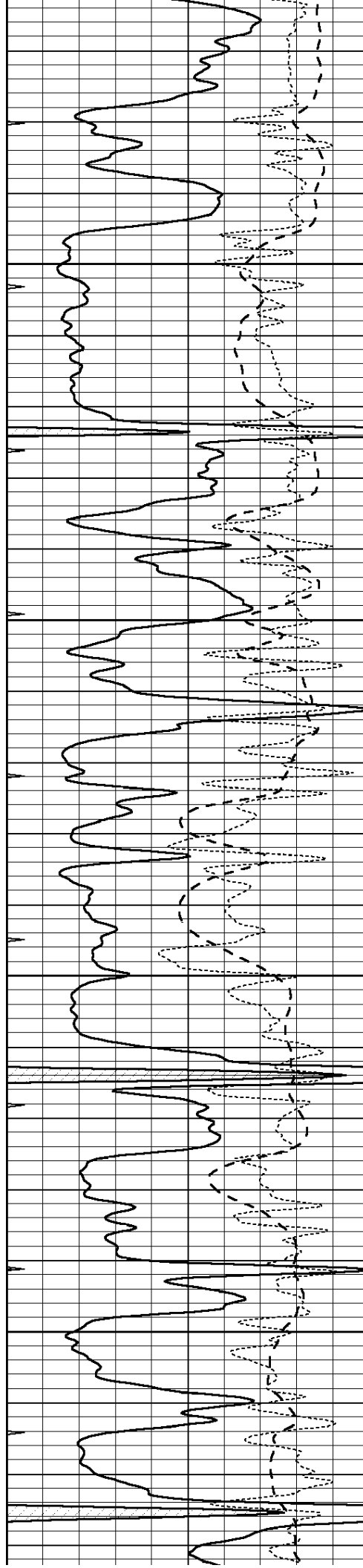
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3000

3050

3100



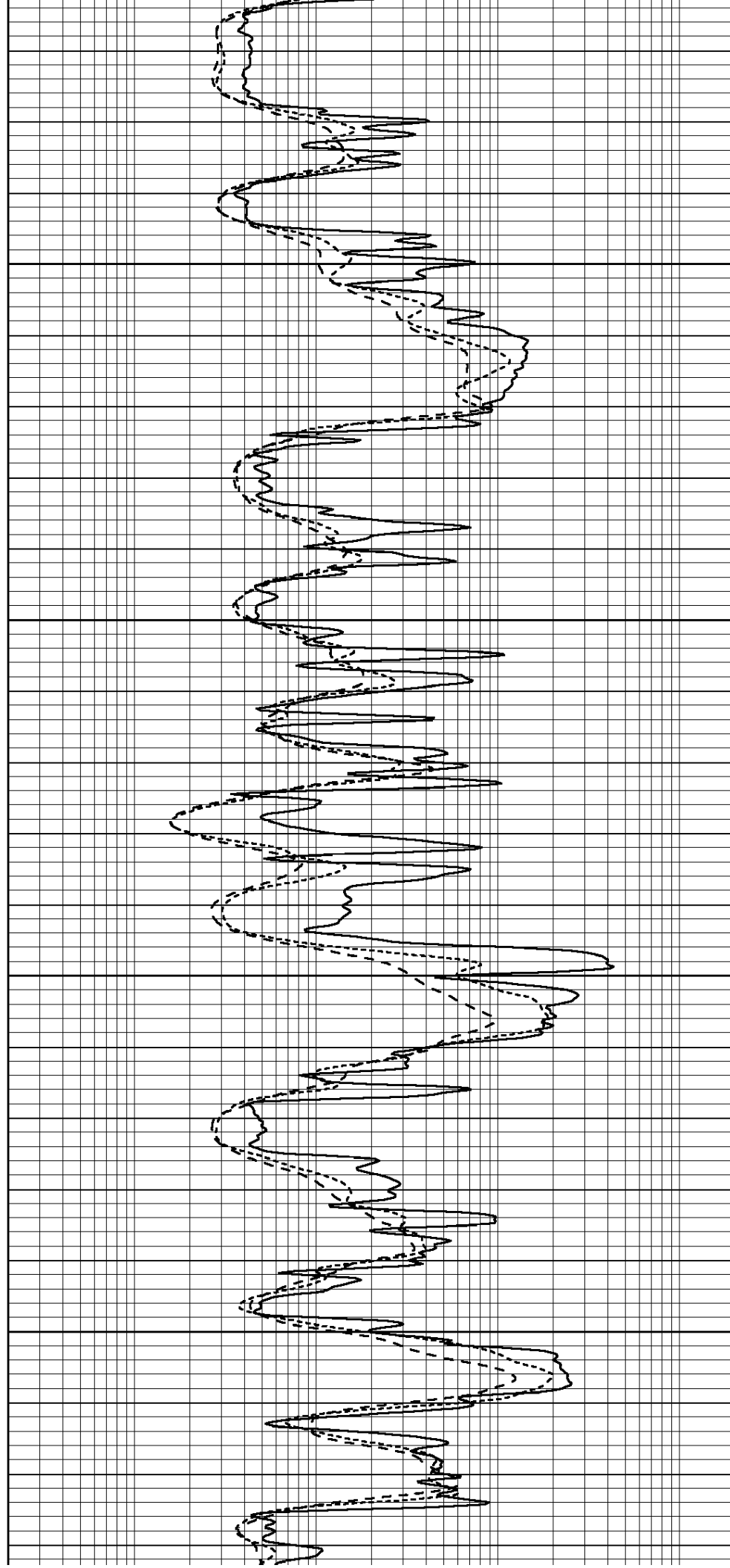


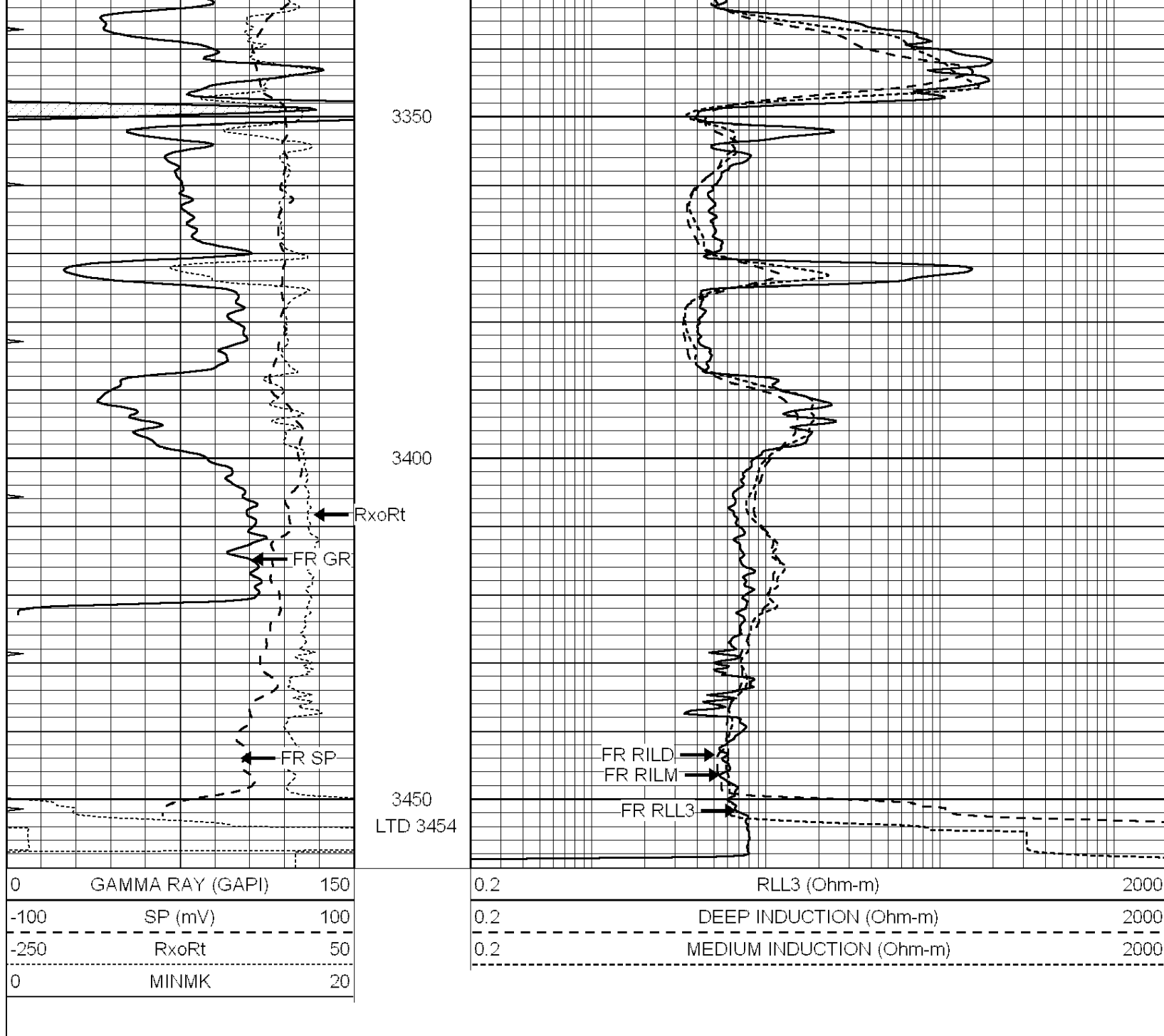
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3200

3250

3300

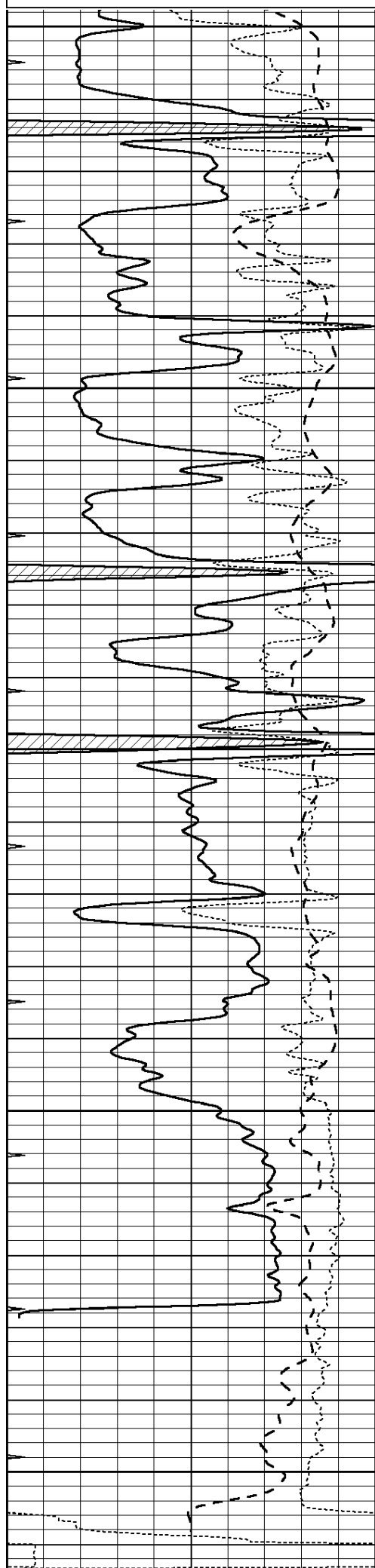




REPEAT SECTION

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-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	RxoRt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



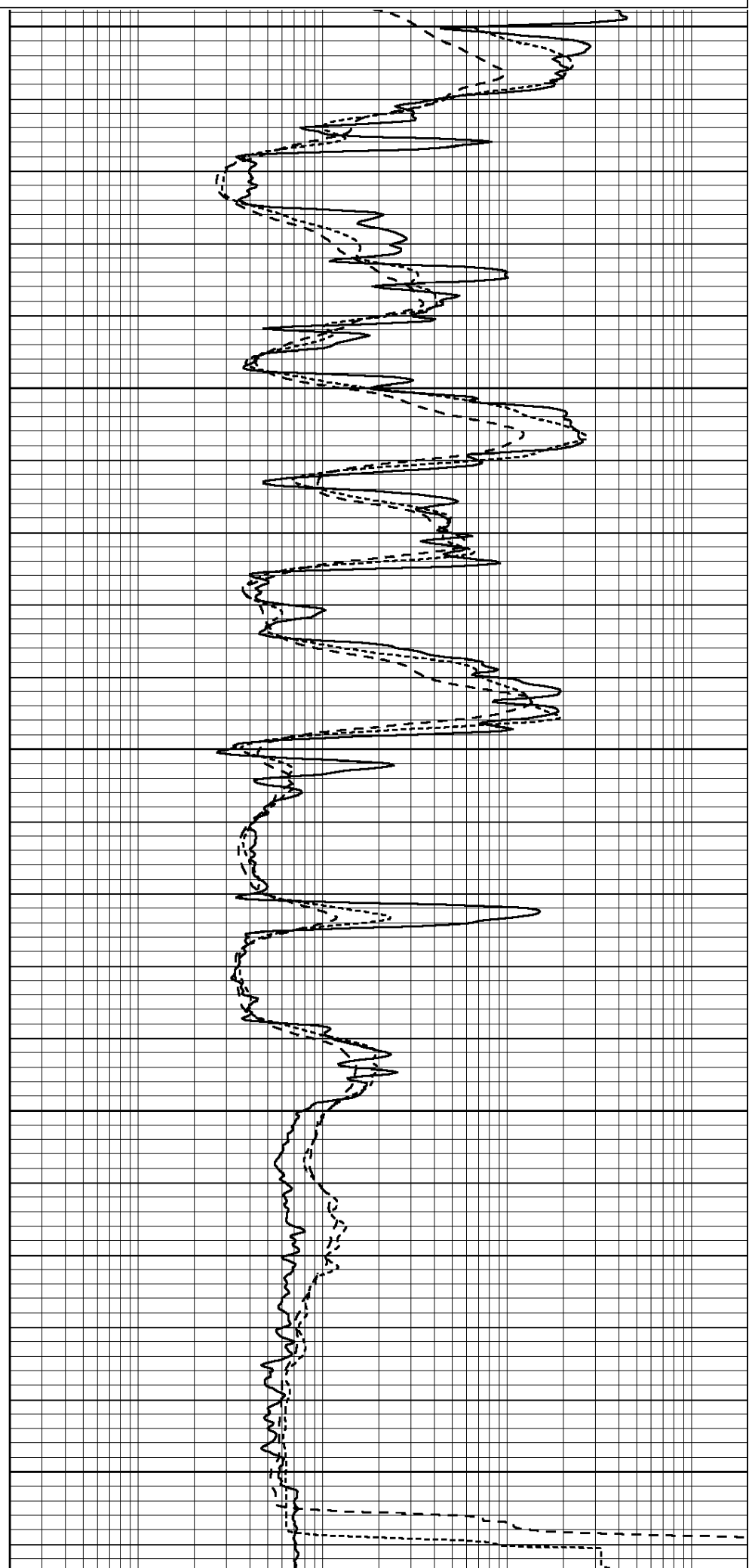
3250

3300

3350

3400

3450



0	GAMMA RAY (GAPI)	150	0.2	RLL3 (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	RxoRt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			

Calibration Report					
Database File:	23921ddn.db				
Dataset Pathname:	pass3.3				
Dataset Creation:	Sun Mar 16 16:54:43 2014 by Calc Open-Cased 090629				

Dual Induction Calibration Report								
Serial-Model:			DIL3-GEAR					
Performed:			Wed Mar 05 17:42:55 2014					
Readings			References			Results		
Loop:	Air	Loop	Air	Loop		m	b	
Deep	0.011	0.656	V	0.000	400.000	mmho/m	500.000	4.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	570.000	3.000
Internal:	Zero	Cal	Zero	Cal		m	b	
Deep	0.002	0.645	V	0.000	400.000	mmho/m	560.000	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	540.000	-4.000

Compensated Density Calibration Report						
Serial-Model:		GEAR2-GEARHART				
Source / Verifier:		147 / 147				
Master Calibration Performed:		Sat Feb 15 00:21:33 2014				
Master Calibration						
	<u>Density</u>		<u>Far Detector</u>		<u>Near Detector</u>	
Magnesium	1.710	g/cc	923.76		475.45	cps
Aluminum	2.580	g/cc	205.31		331.69	cps
Spine Angle = 76.54			Density/Spine Ratio = 0.563			
	<u>Size</u>		<u>Reading</u>			
Small Ring	8.40	in	3.59		V	
Large Ring	14.00	in	5.47		V	

Compensated Neutron Calibration Report								
Serial Number:			080620					
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: 7
Tool Model: Probe1
Performed: Tue Mar 04 10:47:15 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 1.0 cps

Sensitivity: 0.4500 GAPI/cps