



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**DUAL  
INDUCTION  
LOG**

Company NORSTAR PETROLEUM, INC.  
Well TUCKER #3-34  
Field WILDCAT  
County STANTON State KANSAS

Company NORSTAR PETROLEUM, INC.  
Well TUCKER #3-34  
Field WILDCAT  
County STANTON  
State KANSAS

Location: API #: 15-187-21317-00-00  
972' FNL & 414' FEL  
NW - SE - NE - NE  
SEC 34 TWP 30S RGE 41W  
GROUND LEVEL Elevation 3393  
Log Measured From KELLY BUSHING 12' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
CNL/CDL  
MEL  
Elevation  
K.B. 3405  
D.F. 3403  
G.L. 3393

Date	1/1/15		
Run Number	ONE		
Depth Driller	5530		
Depth Logger	5532		
Bottom Logged Interval	5530		
Top Log Interval	00		
Casing Driller	8 5/8 @ 1600'		
Casing Logger	1606'		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.145	CHLORIDES 700 PPM	
pH / Fluid Loss	9.5/7.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.50 @ 70F		
Rmf @ Meas. Temp	1.13 @ 70F		
Rmc @ Meas. Temp	1.80 @ 70F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.81 @ 130F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	130F		
Equipment Number	3802		
Location	HAYS, KS.		
Recorded By	IAN MABB		
Witnessed By	TOM WILLIAMS		

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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.

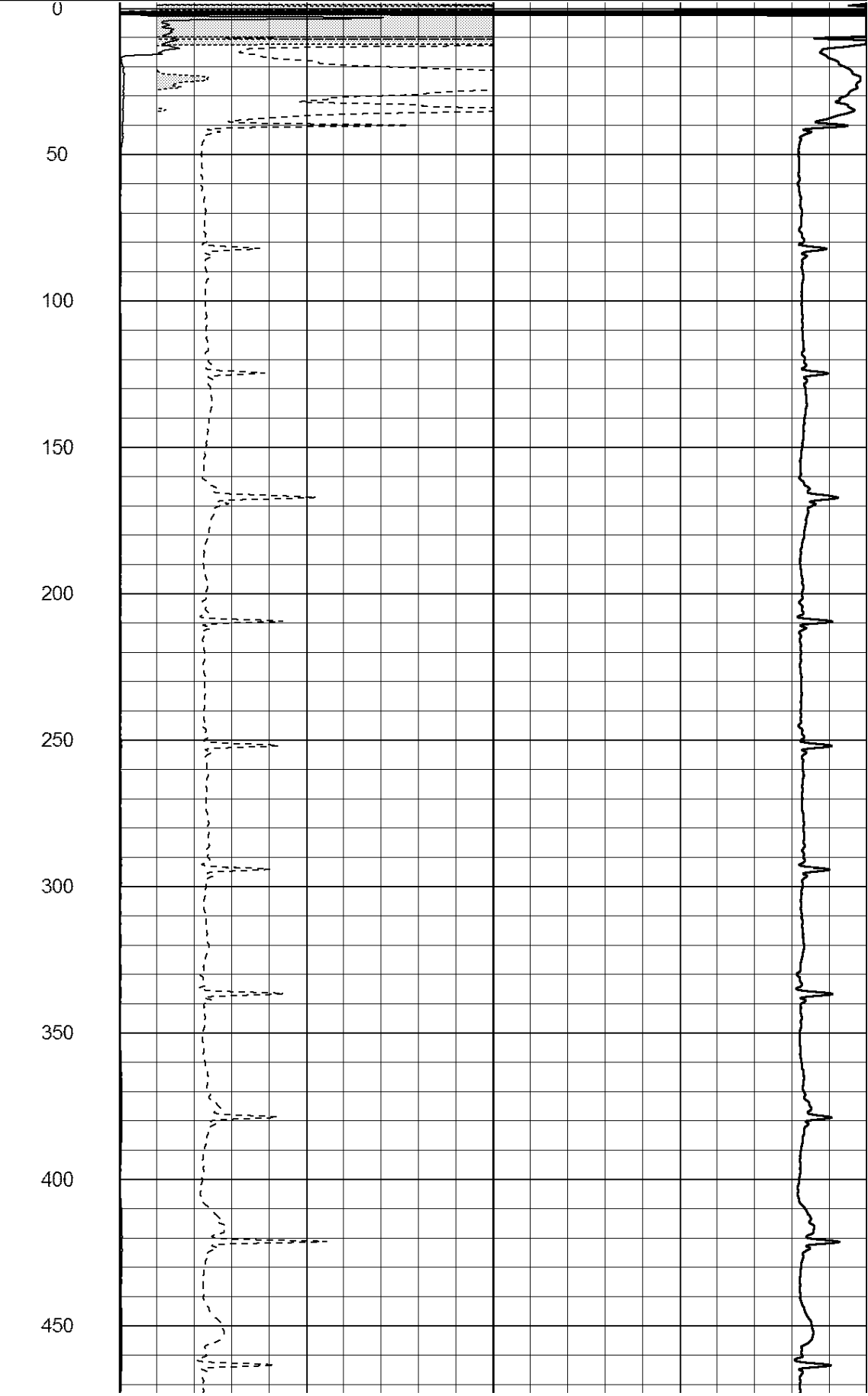
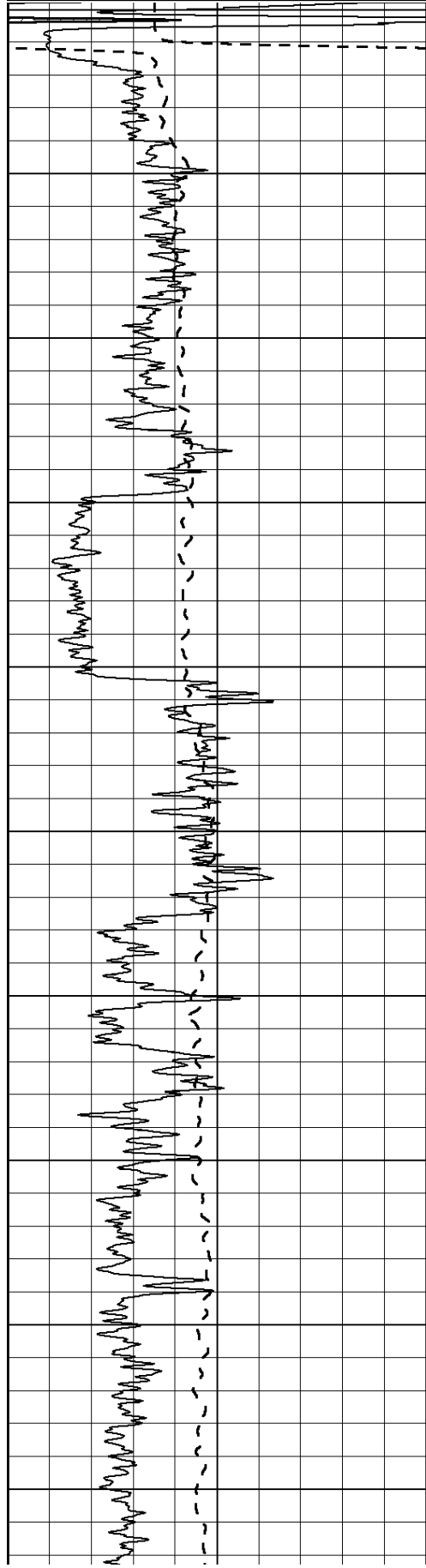
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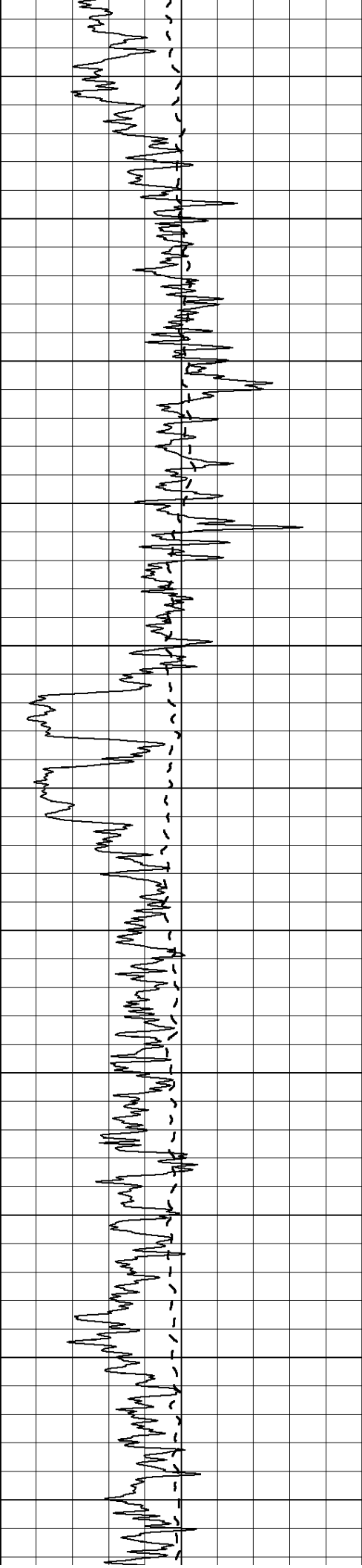
NABORS COMPLETION & PRODUCTION SERVICES CO.  
785 ( 628 - 6395 )  
THANK YOU FOR YOUR BUSINESS  
DIRECTIONS : JOHNSON CITY, KS. - HWY 27 & 160 - 13 MILES SOUTH TO COUNTY LINE - 3/4 WEST -  
NORTH INTO 3/4

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

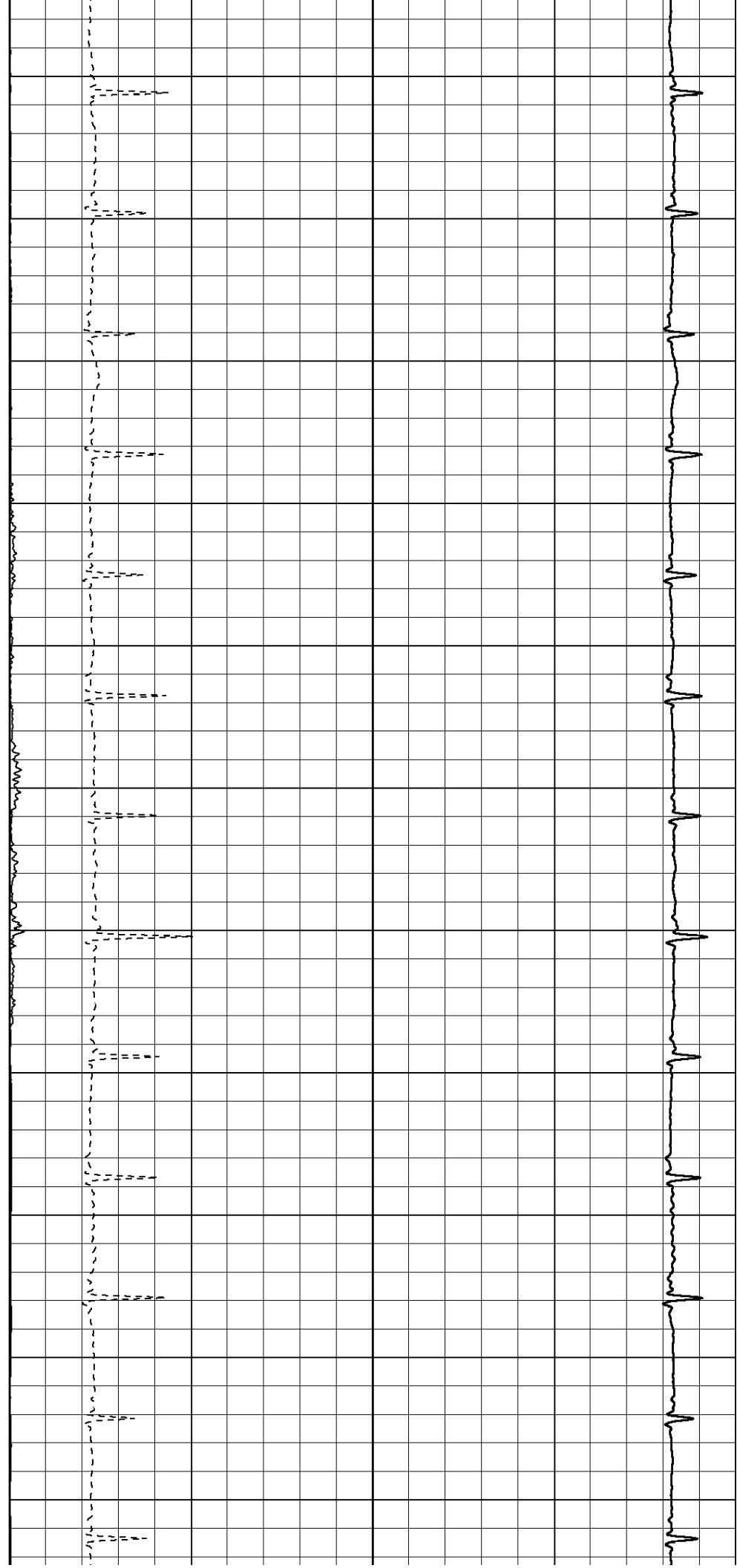
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0	Deep Induction (Ohm-m)	50

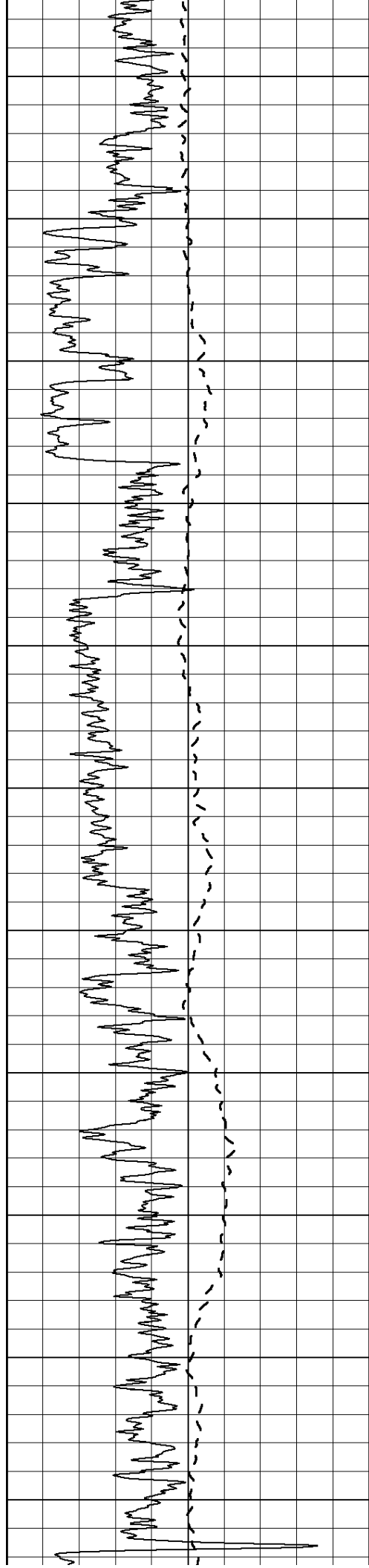
1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500





500  
550  
600  
650  
700  
750  
800  
850  
900  
950  
1000





1050

1100

1150

1200

1250

1300

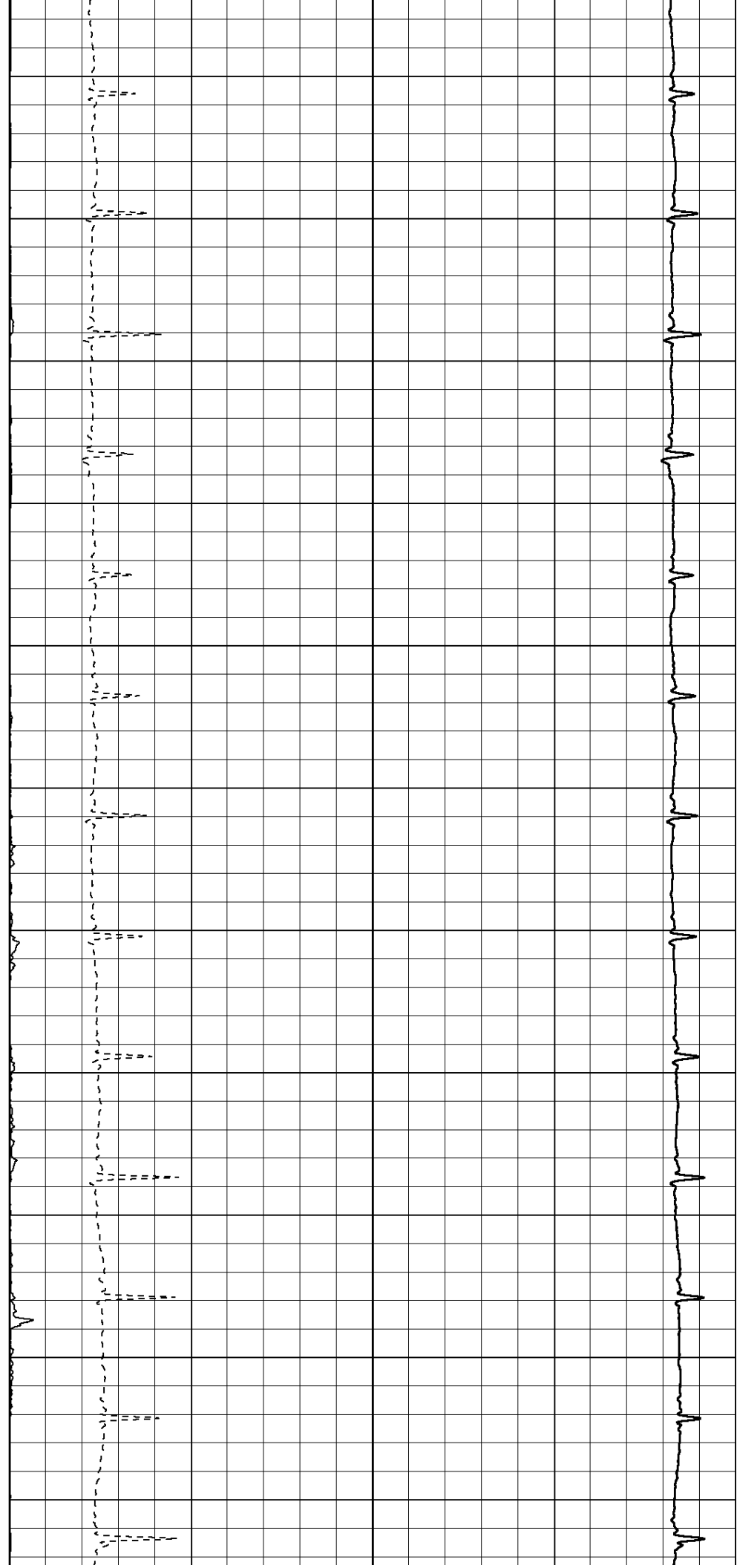
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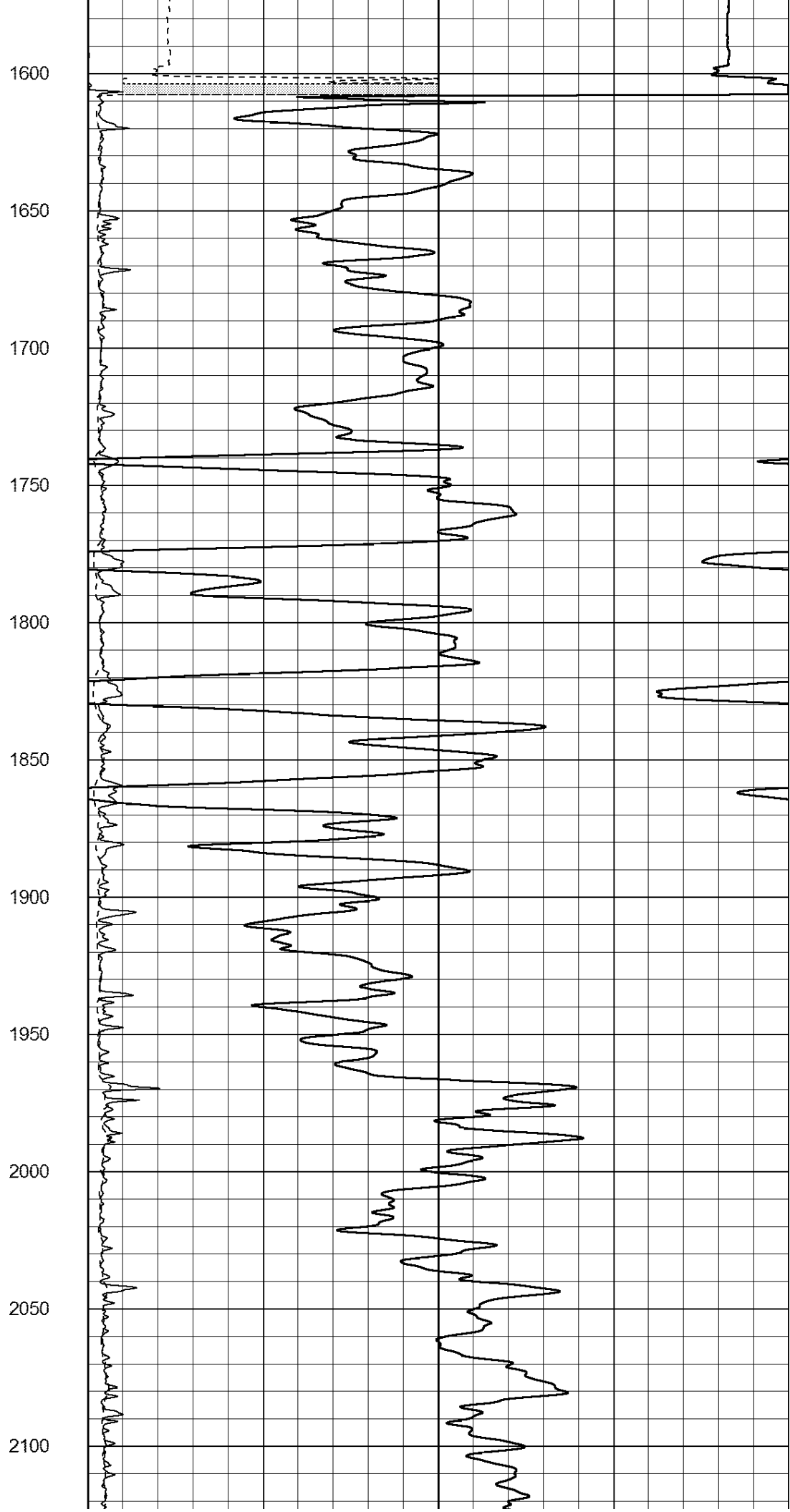
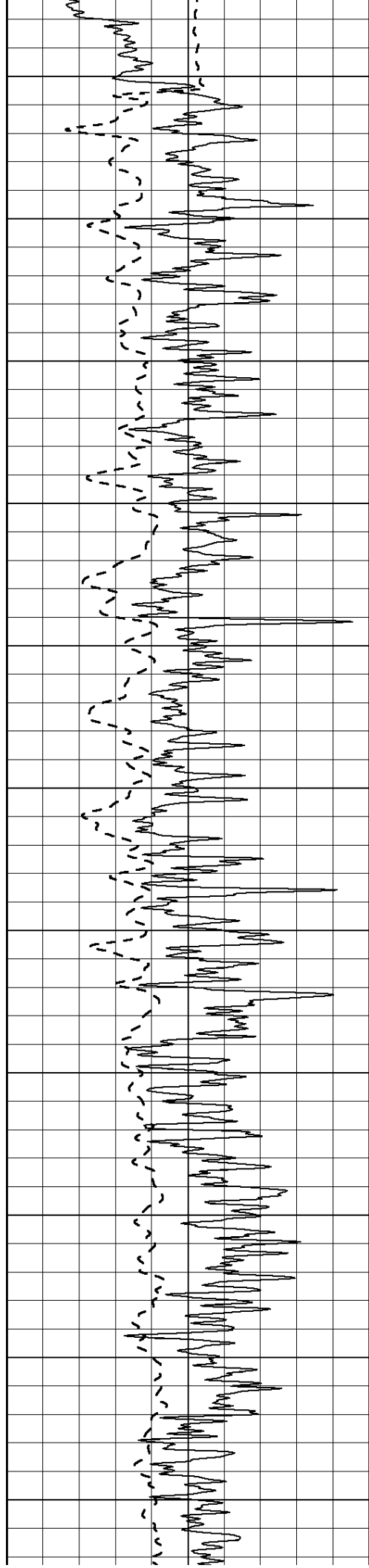
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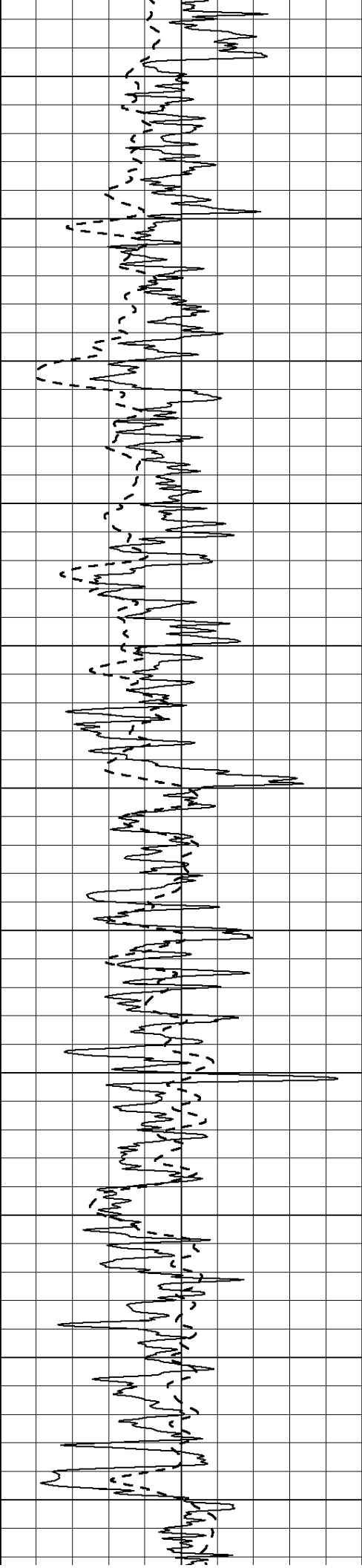
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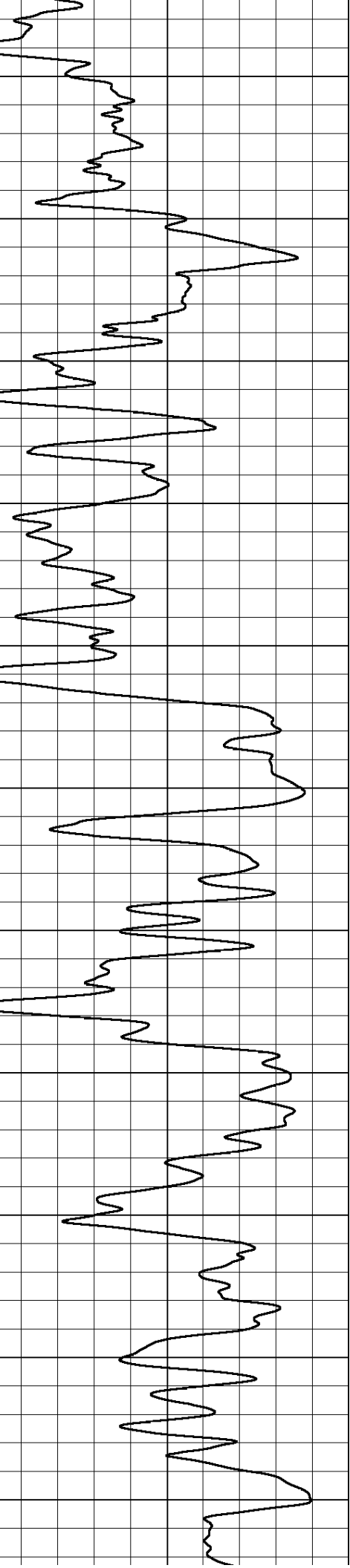
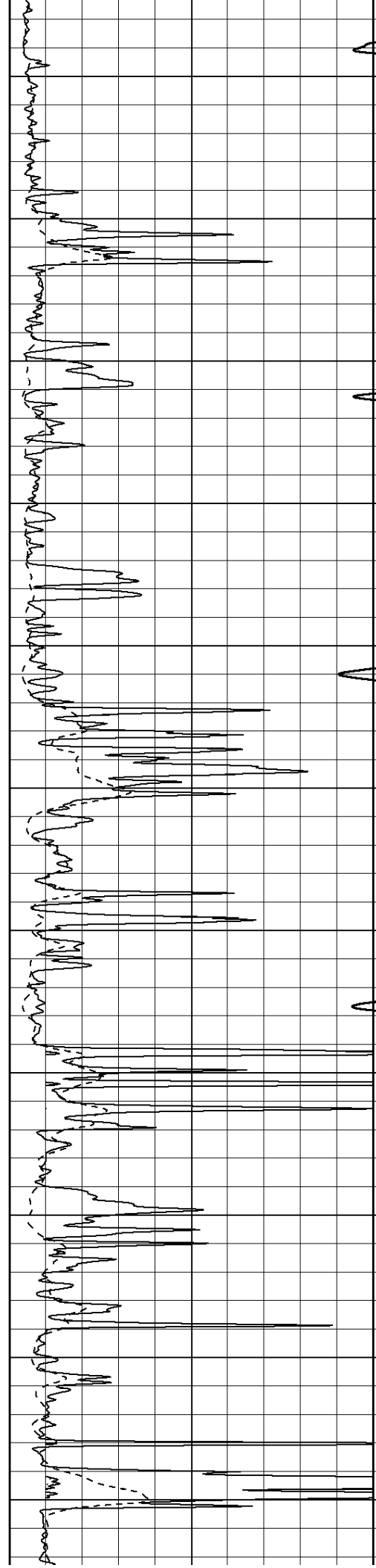
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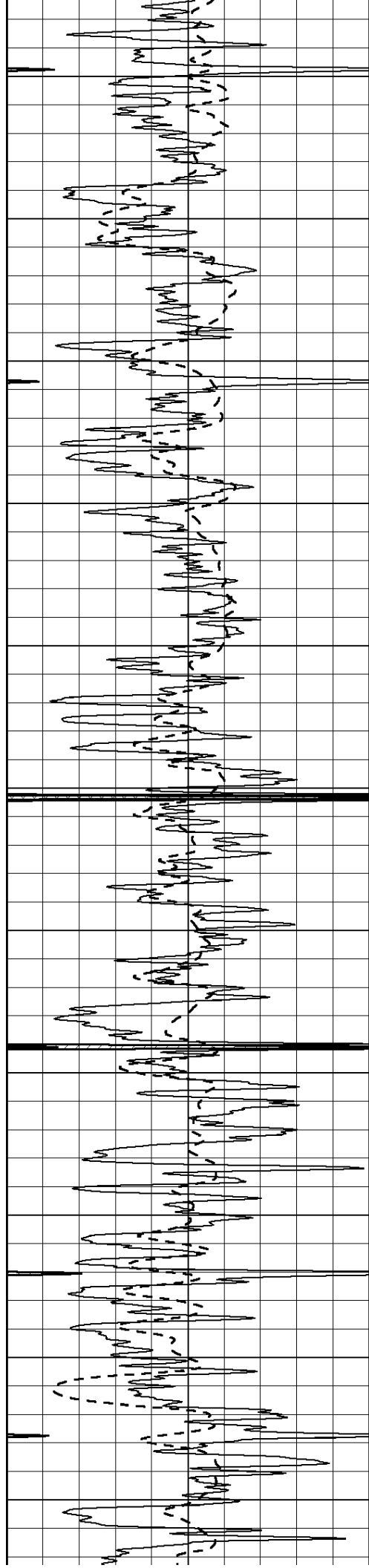




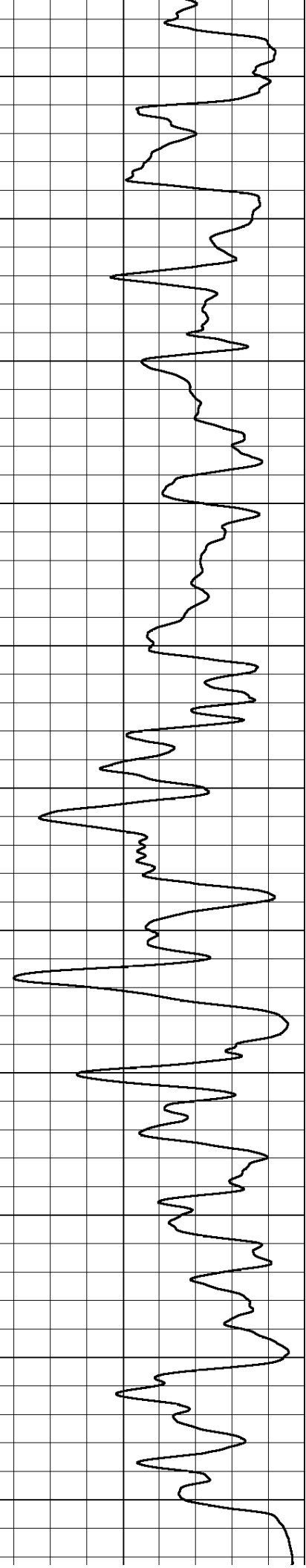
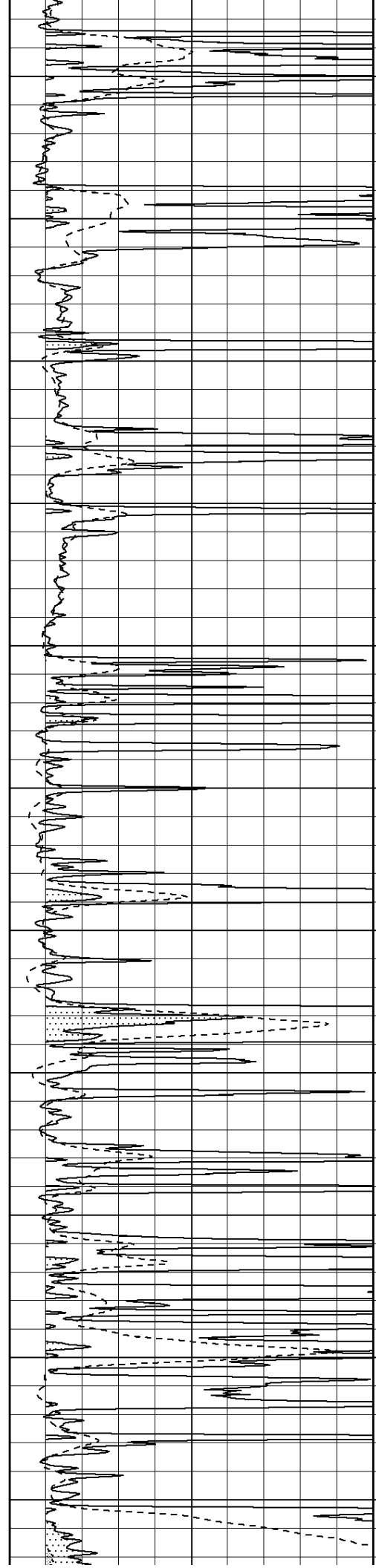


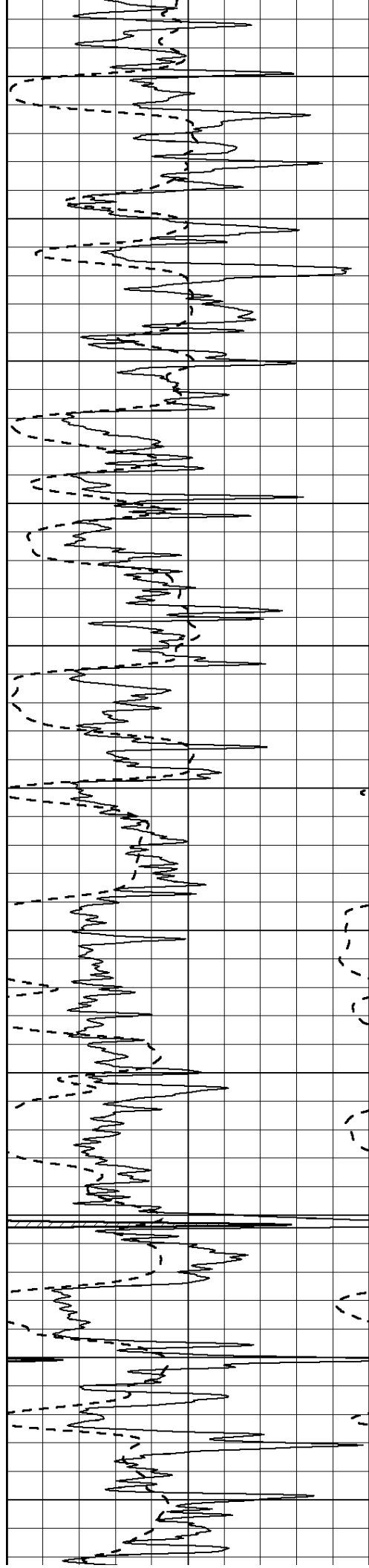
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3250

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3450

3500

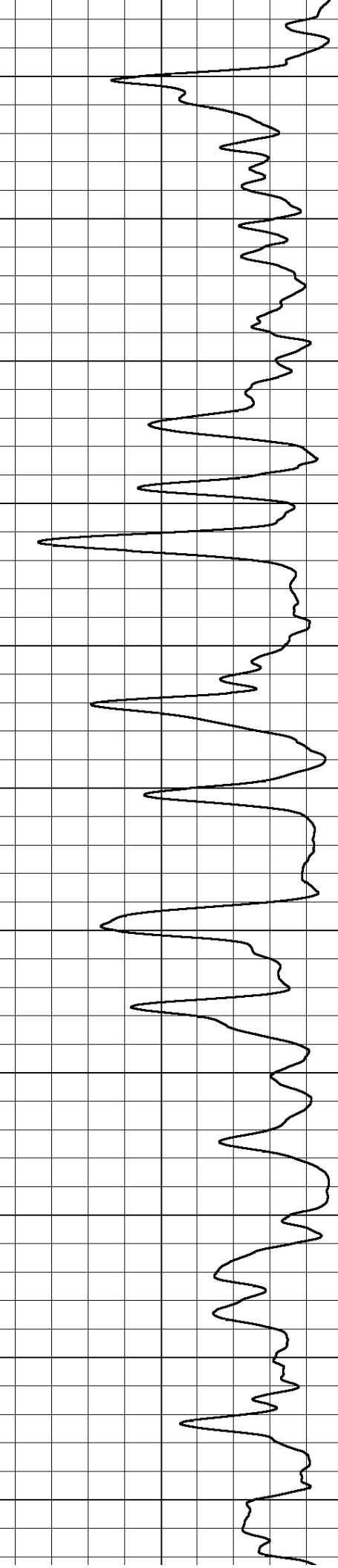
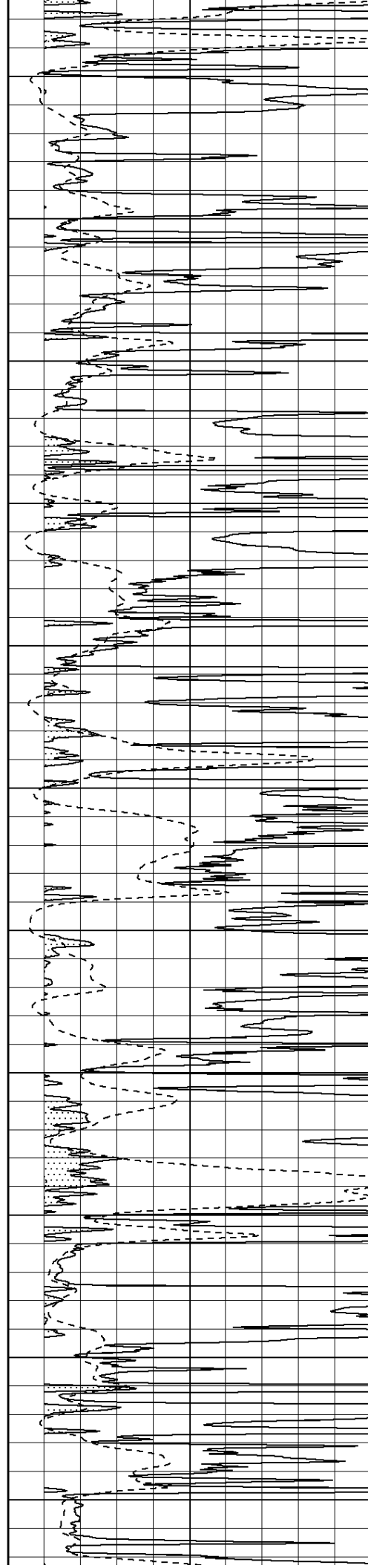
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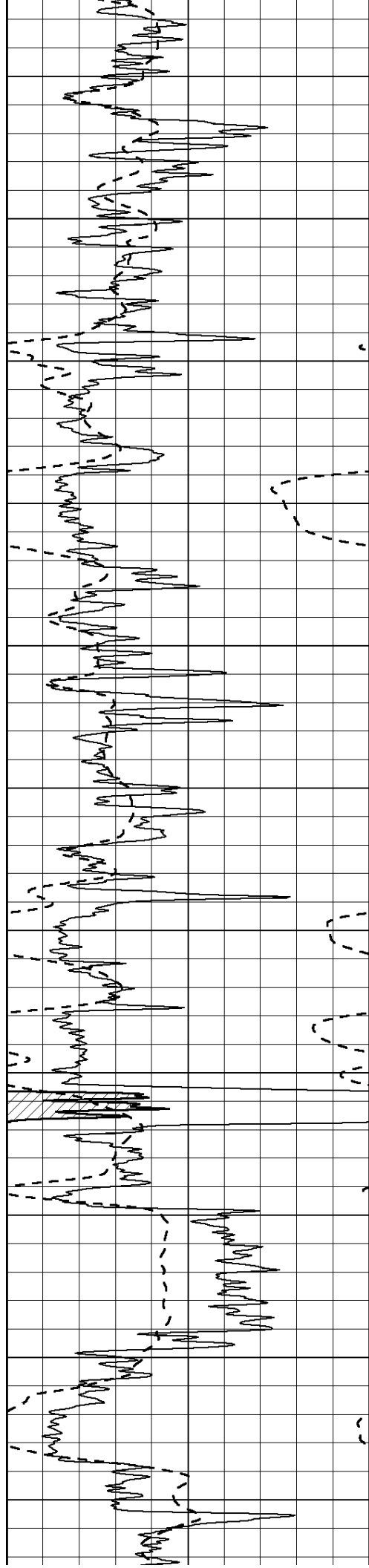
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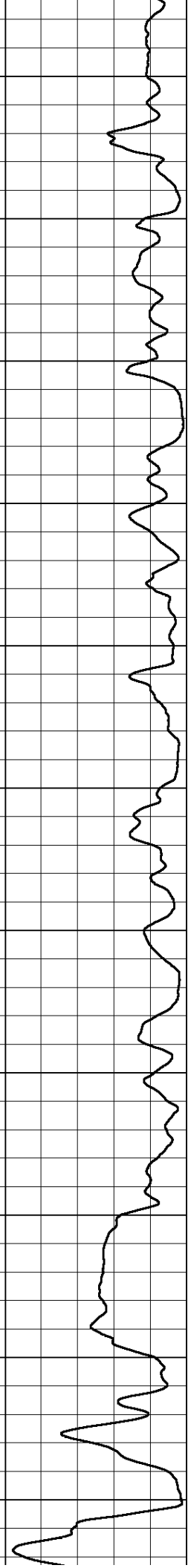
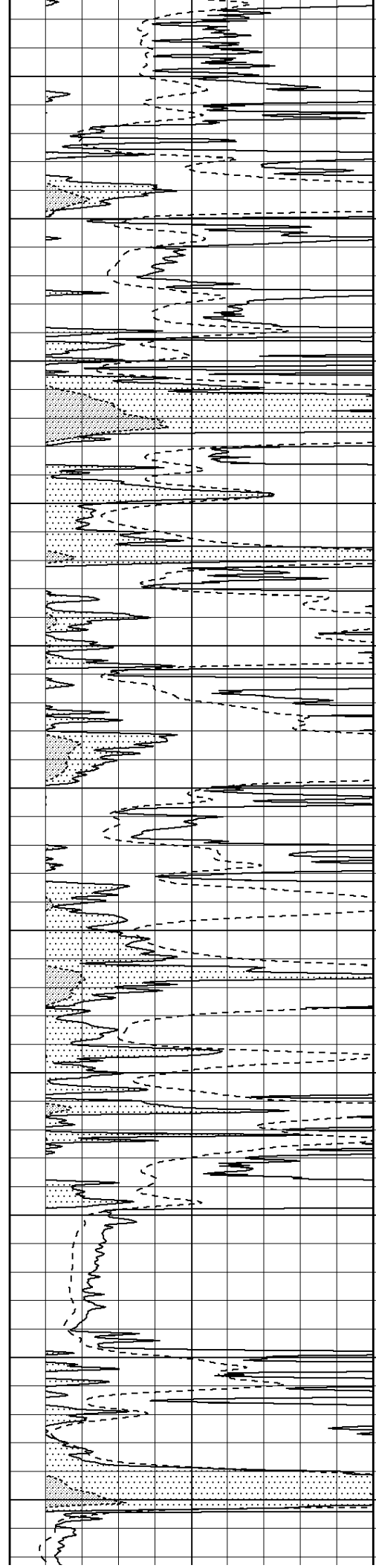
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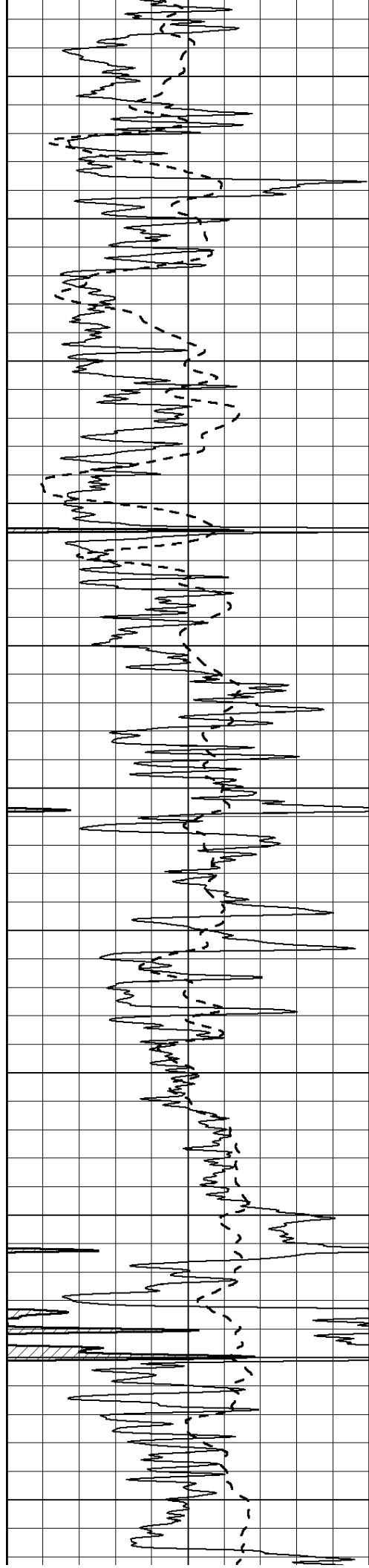
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4450

4500

4550

4600

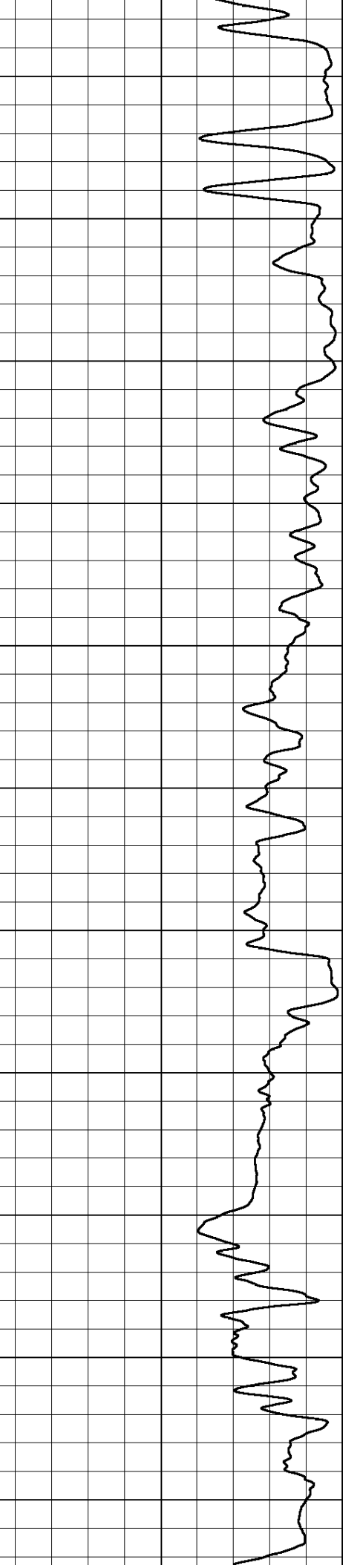
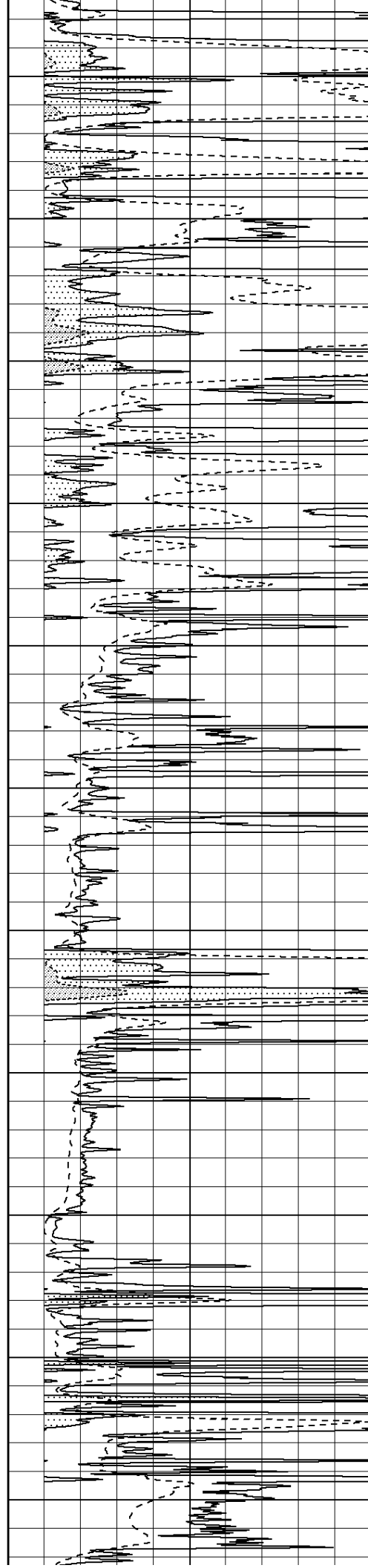
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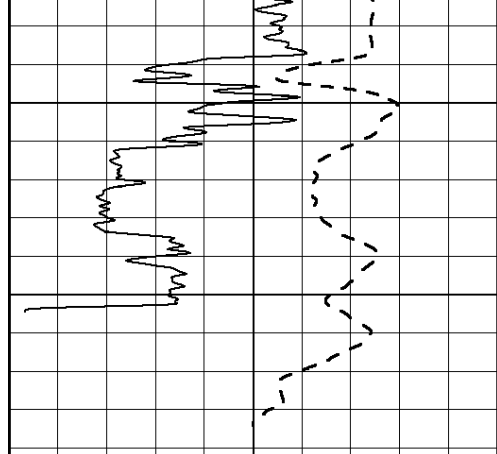
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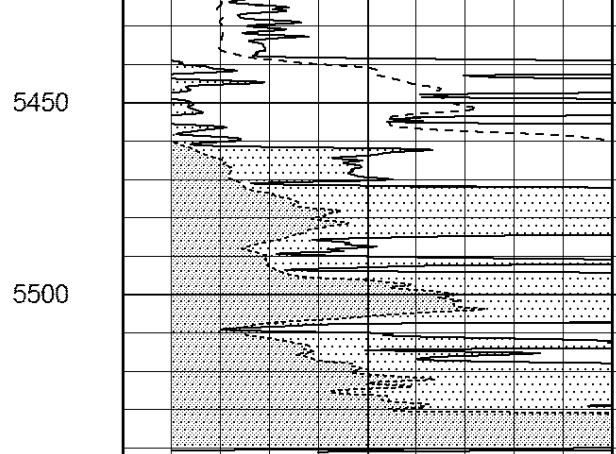
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0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

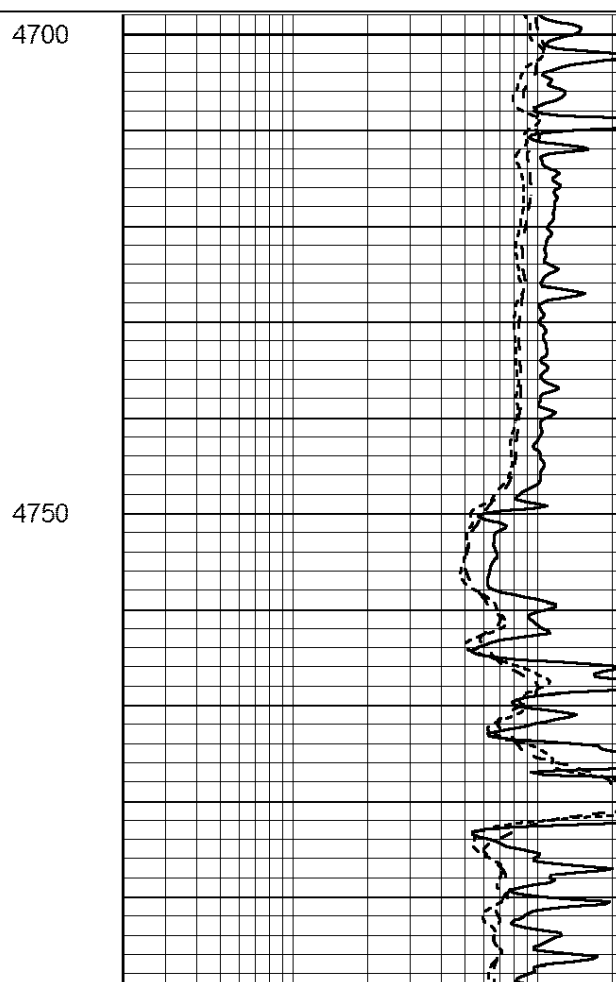
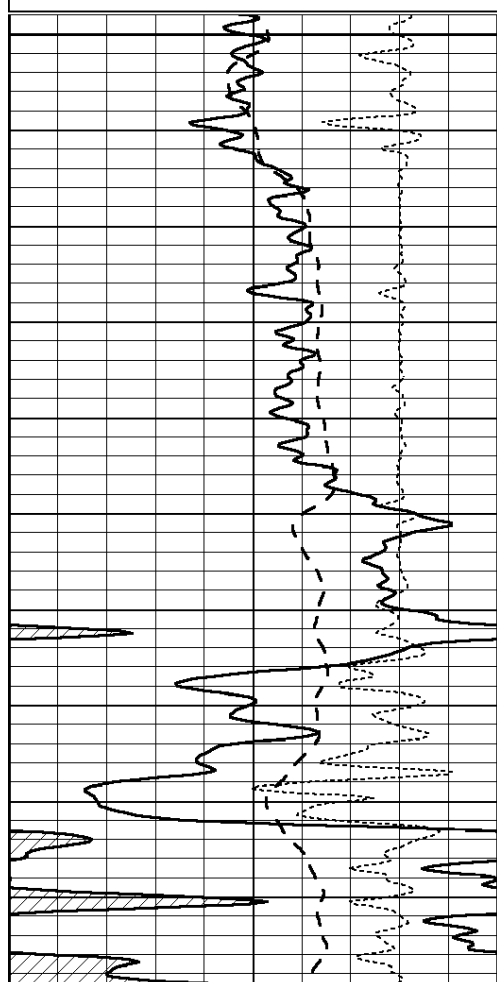


0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50
1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

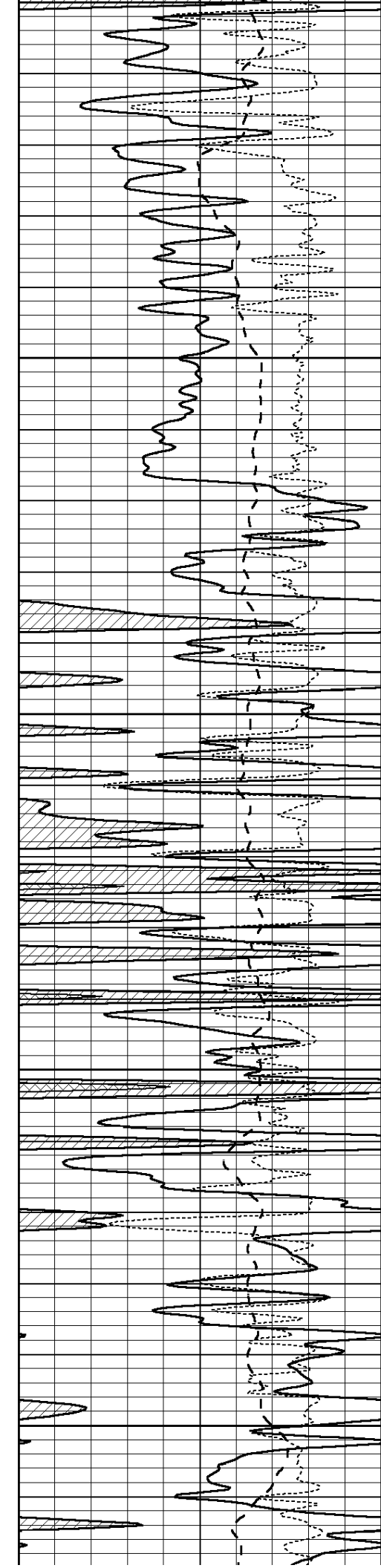
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 Charted by: Depth in Feet scaled 1:240

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

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



4700  
  
 4750  
  
 4800



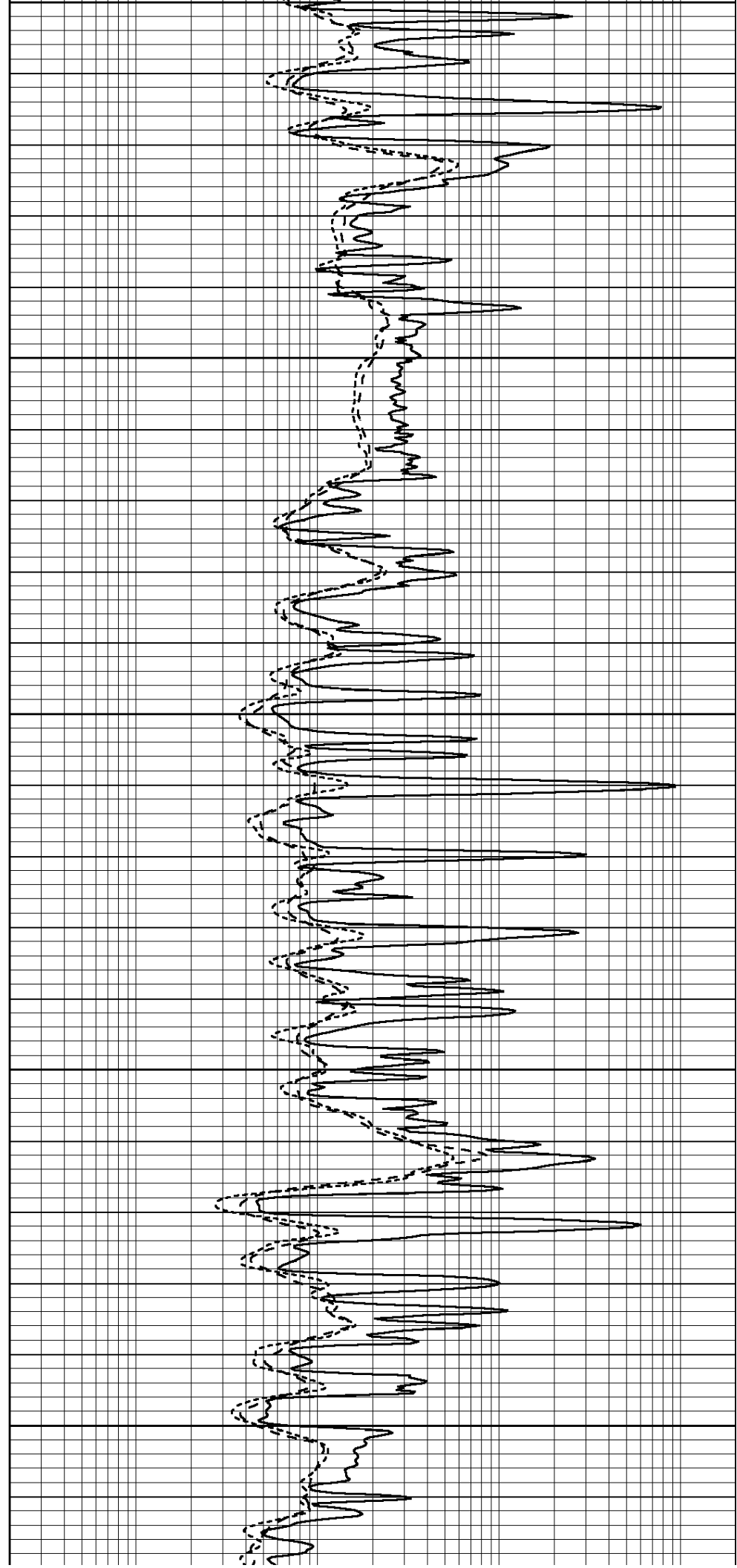
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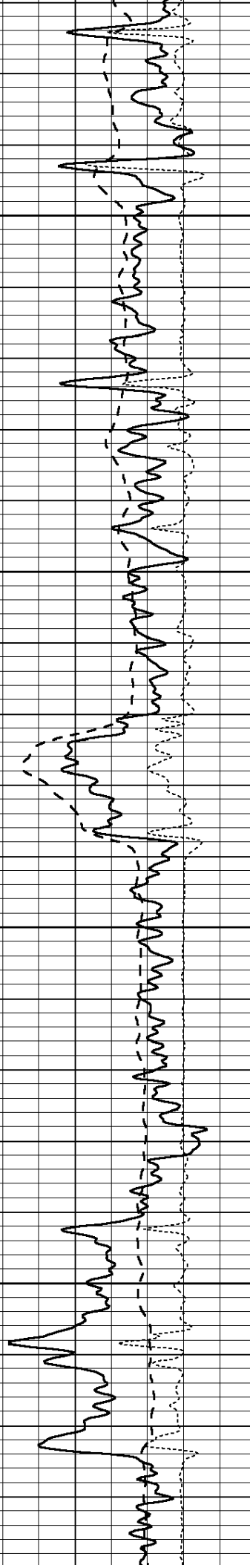
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5000



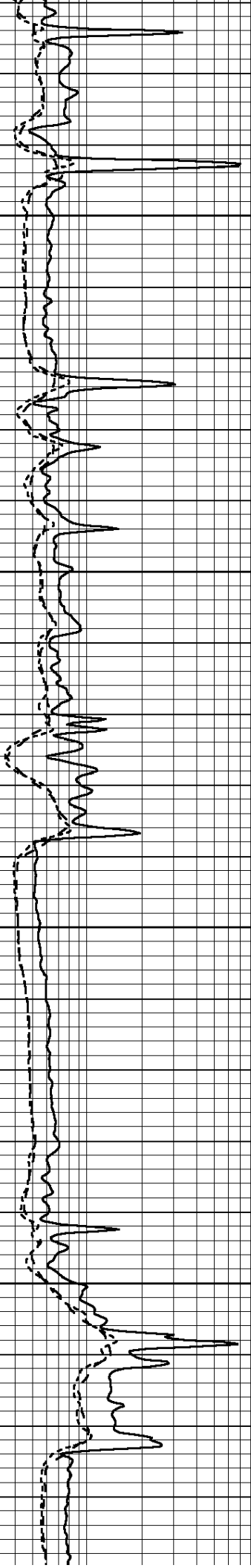


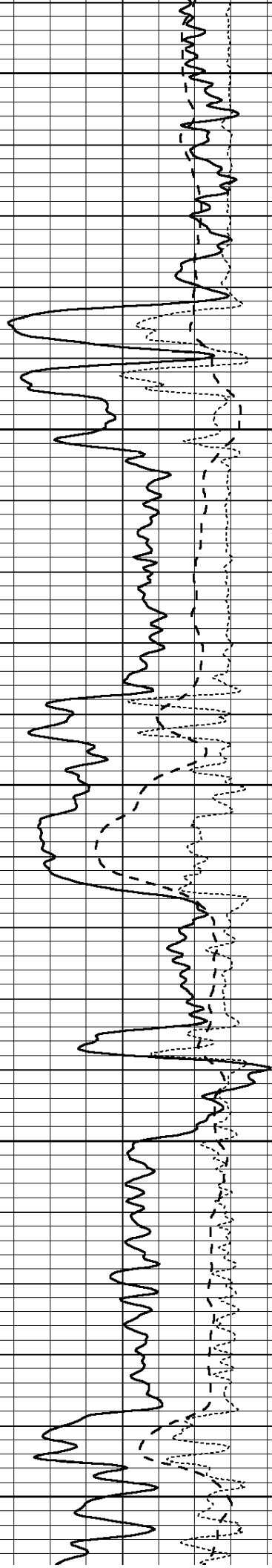
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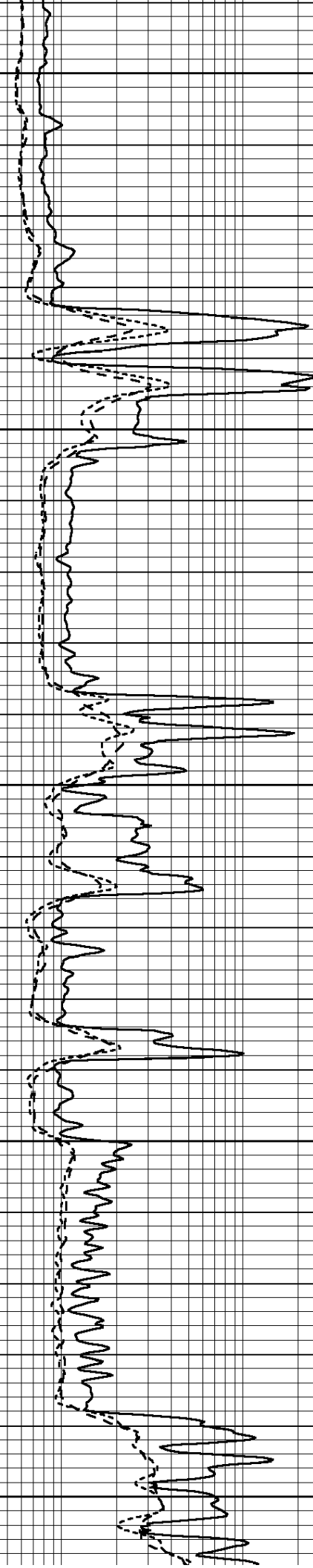
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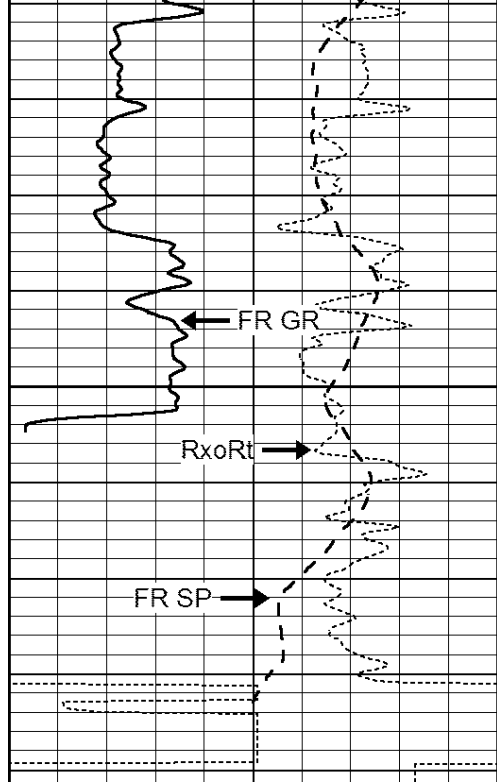
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5400

5450

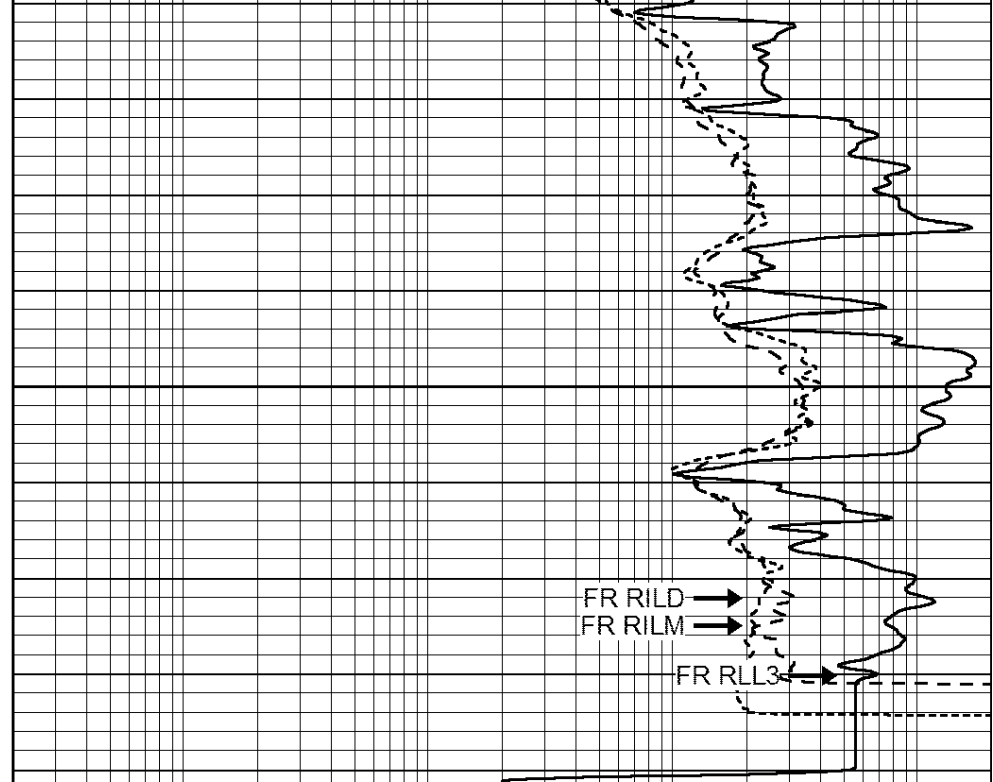




5500

LTD 5532

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



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

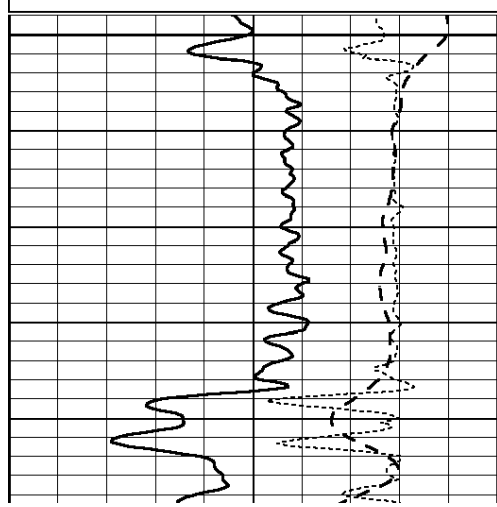


# REPEAT SECTION

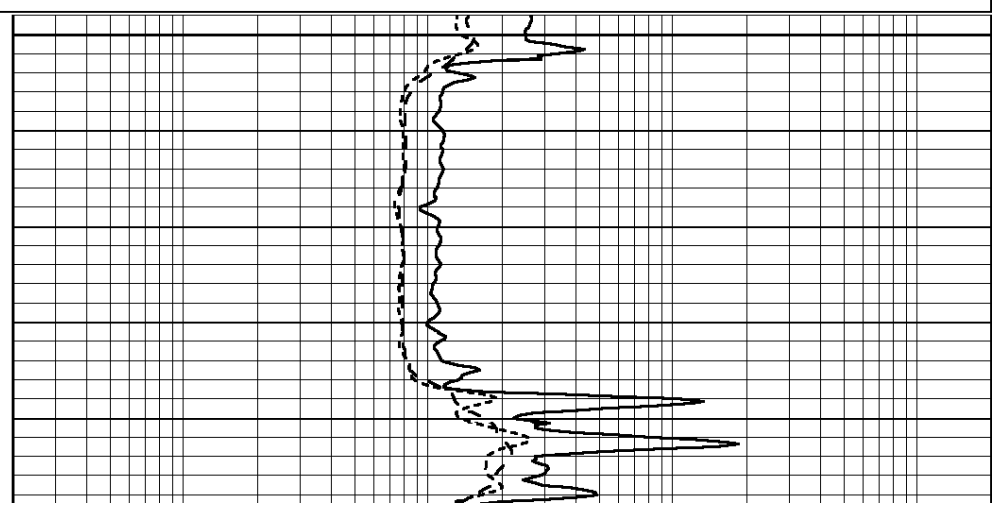
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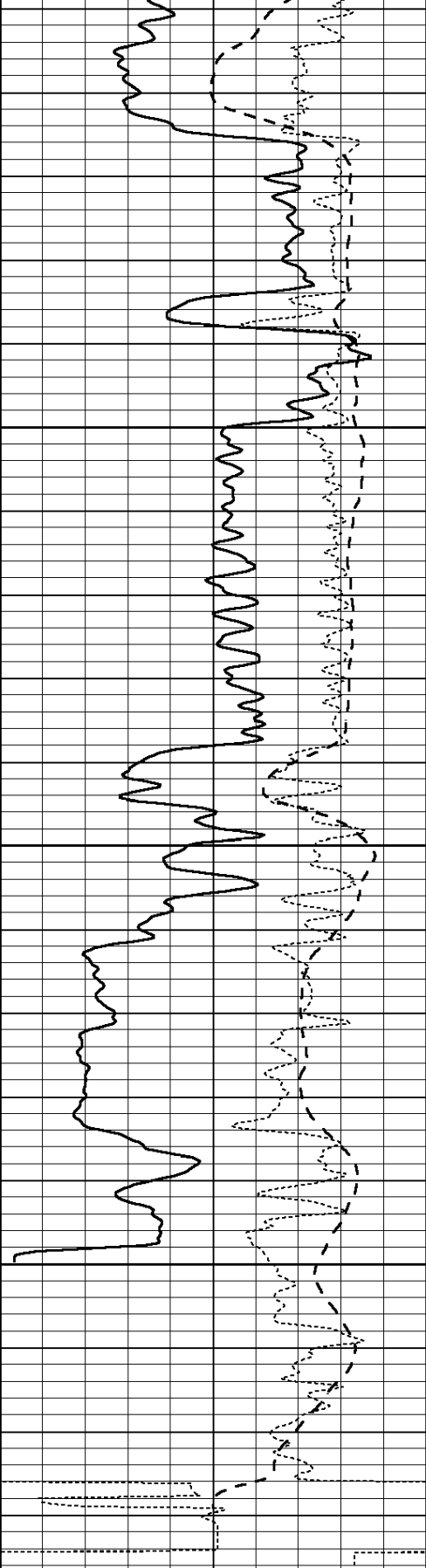
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

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

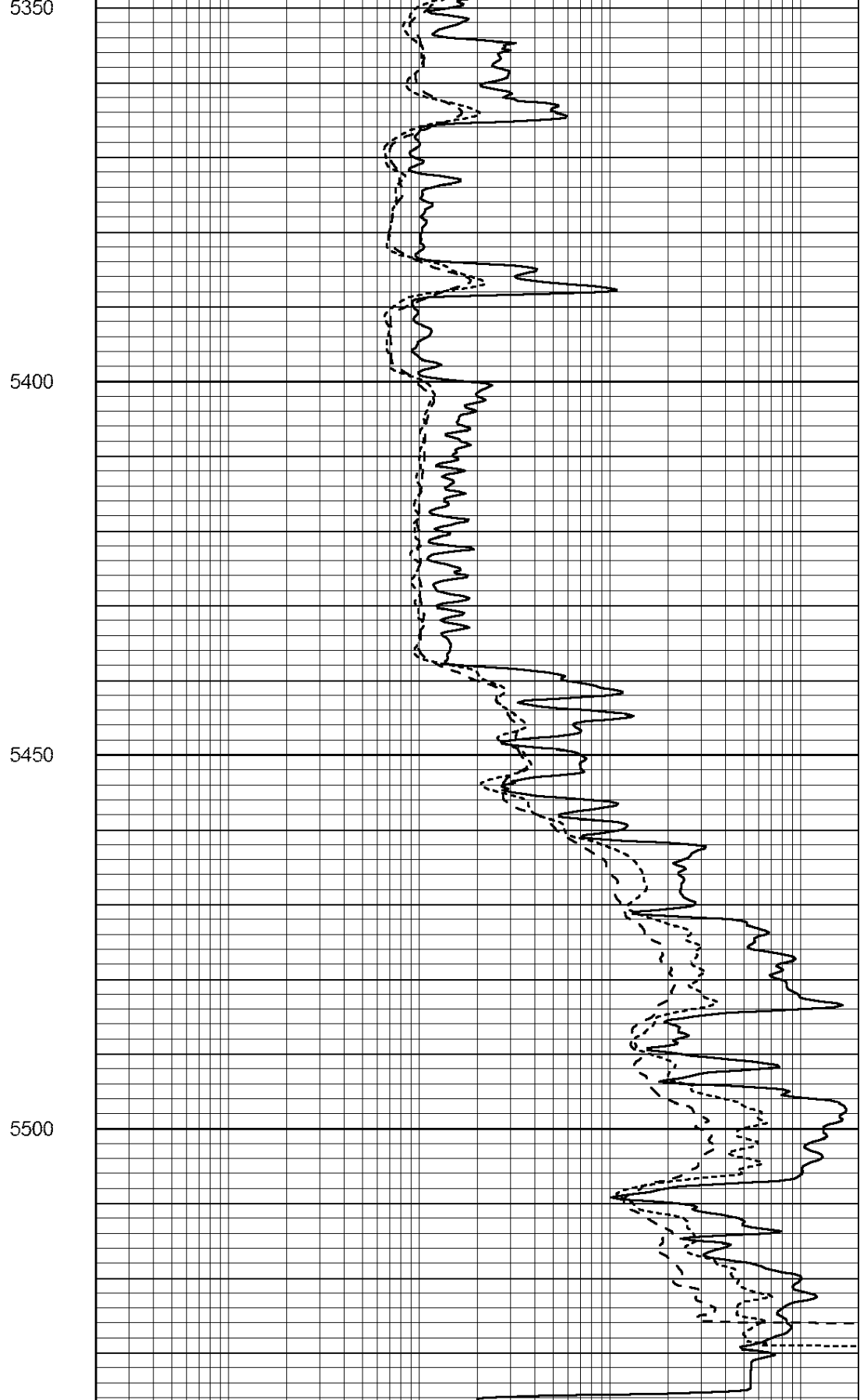


5300





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



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

### Dual Induction Calibration Report

Serial-Model: PROBE7-DILG  
 Surface Cal Performed: Fri Dec 05 11:16:41 2014  
 Downhole Cal Performed: Sat Jan 19 19:51:38 2013  
 After Survey Verification Performed: Sat Jan 19 19:51:38 2013

#### Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop		m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	520.000	12.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	570.000	-32.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.041	0.642	V	0.000	400.000	mmho/m	664.874	-27.011
Medium	0.035	0.802	V	0.000	464.000	mmho/m	604.936	-21.367

#### Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	135384.000	27094.500	mmho/m	135400.000	27082.400	mmho/m	1.000	-19.259
Medium	-47330.100	-9381.740	mmho/m	-47327.100	-9389.280	mmho/m	1.000	-10.154
LL3		7.322	V		1400.000	Ohm-m		
		0.038	V		20.000	Ohm-m		
		-7.273	V		4000.000	mmho-m		

#### After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	135384.000	27094.500	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	-47330.100	-9381.740	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1400.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		4000.000	mmho-m		

### Compensated Density Calibration Report

Serial-Model: GEAR5-GEARHART  
 Source / Verifier: 147 / 147  
 Master Calibration Performed: Wed Dec 17 11:46:19 2014  
 Before Survey Verification Performed:  
 After Survey Verification Performed:

#### Master Calibration

	Density		Far Detector		Near Detector	
		g/cc				cps
Magnesium	1.710	g/cc	894.82		531.60	cps
Aluminum	2.600	g/cc	199.46		368.39	cps
Spine Angle = 76.27			Density/Spine Ratio = 0.576			
	Size		Reading			
Small Ring	8.20	in	1.64		V	
Large Ring	14.00	in	2.93		V	

#### Before Survey Verification

Target

Measured

g/cc  
g/cc  
g/cc

g/cc  
g/cc  
g/cc

After Survey Verification

Target

Measured

g/cc  
g/cc  
g/cc

g/cc  
g/cc  
g/cc

Compensated Neutron Calibration Report

Serial Number:  
Tool Model:

080620  
Probe

PRE-SURVEY VERIFICATION

Detector

Readings

Measured

Target

Short Space  
Long Space

cps  
cps

pu

pu

POST-SURVEY VERIFICATION

Detector

Readings

Measured

Target

Short Space  
Long Space

cps  
cps

pu

pu

Gamma Ray Calibration Report

Serial Number:  
Tool Model:  
Performed:

46001  
Probe1  
Mon Nov 24 09:45:18 2014

Calibrator Value:

1.0

GAPI

Background Reading:  
Calibrator Reading:

0.0  
1.0

cps  
cps

Sensitivity:

0.2600

GAPI/cps