



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**DUAL  
INDUCTION  
LOG**

Company CASTELLI EXPLORATION, INC.  
Well GREGG #2-13  
Field SHIMER  
County COMANCHE State KANSAS

Company CASTELLI EXPLORATION, INC.  
Well GREGG #2-13  
Field SHIMER  
County COMANCHE  
State KANSAS

Location: API #: 15-033-21692-0000  
1980 FSL & 660 FEL  
NE - SE  
SEC 13 TWP 33S RGE 17W  
Permanent Datum GROUND LEVEL Elevation 1862  
Log Measured From KELLY BUSHING 18' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
CDL/CNL/PE  
MEL  
Elevation  
K.B. 1880  
D.F. 1880  
G.L. 1862

Date	01/25/2013
Run Number	ONE
Depth Driller	5250
Depth Logger	5262
Bottom Logged Interval	5260
Top Log Interval	0
Casing Driller	316
Casing Logger	316
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3 / 46
pH / Fluid Loss	10.0 / 9.0
Source of Sample	FLOWLINE
Rim @ Meas. Temp	0.95 @ 72F
Rmf @ Meas. Temp	0.71 @ 72F
Rmc @ Meas. Temp	1.14 @ 72F
Source of Rmf / Rmc	MEASURED
Rim @ BHT	0.85 @ 127F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	127
Equipment Number	860
Location	HAYS, KS.
Recorded By	JEFF GRONEWEG
Witnessed By	RICK POPP

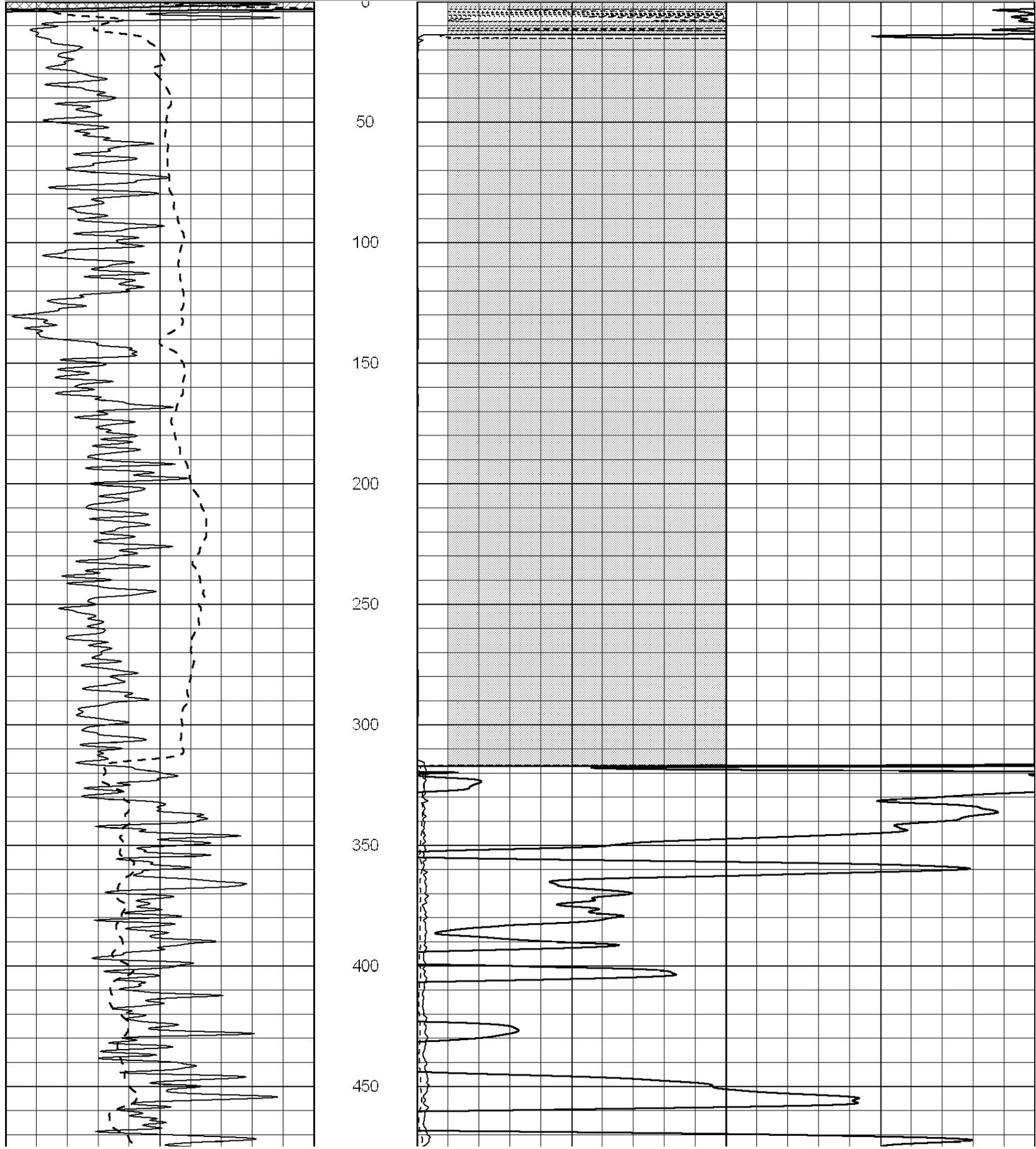
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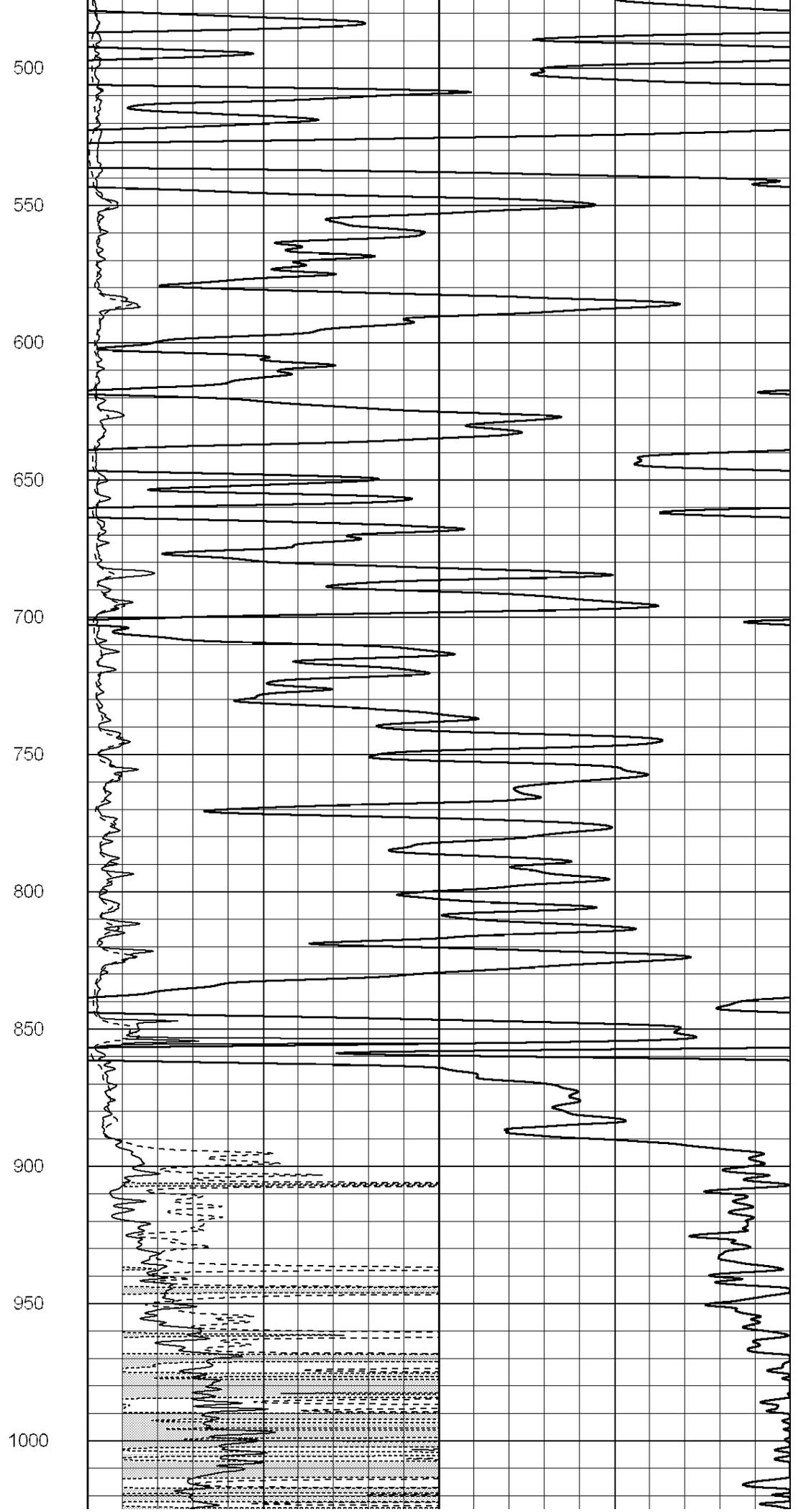
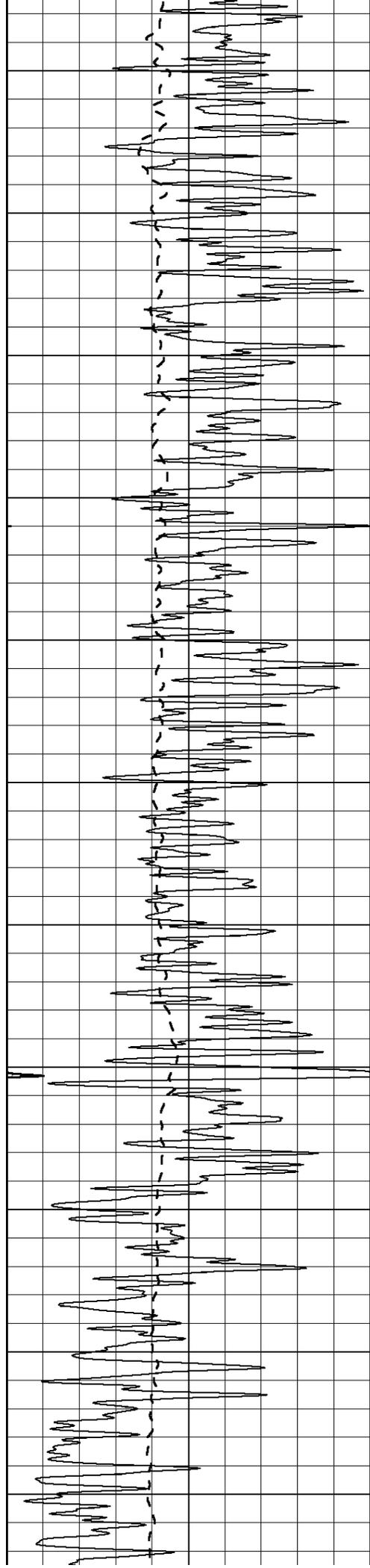
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

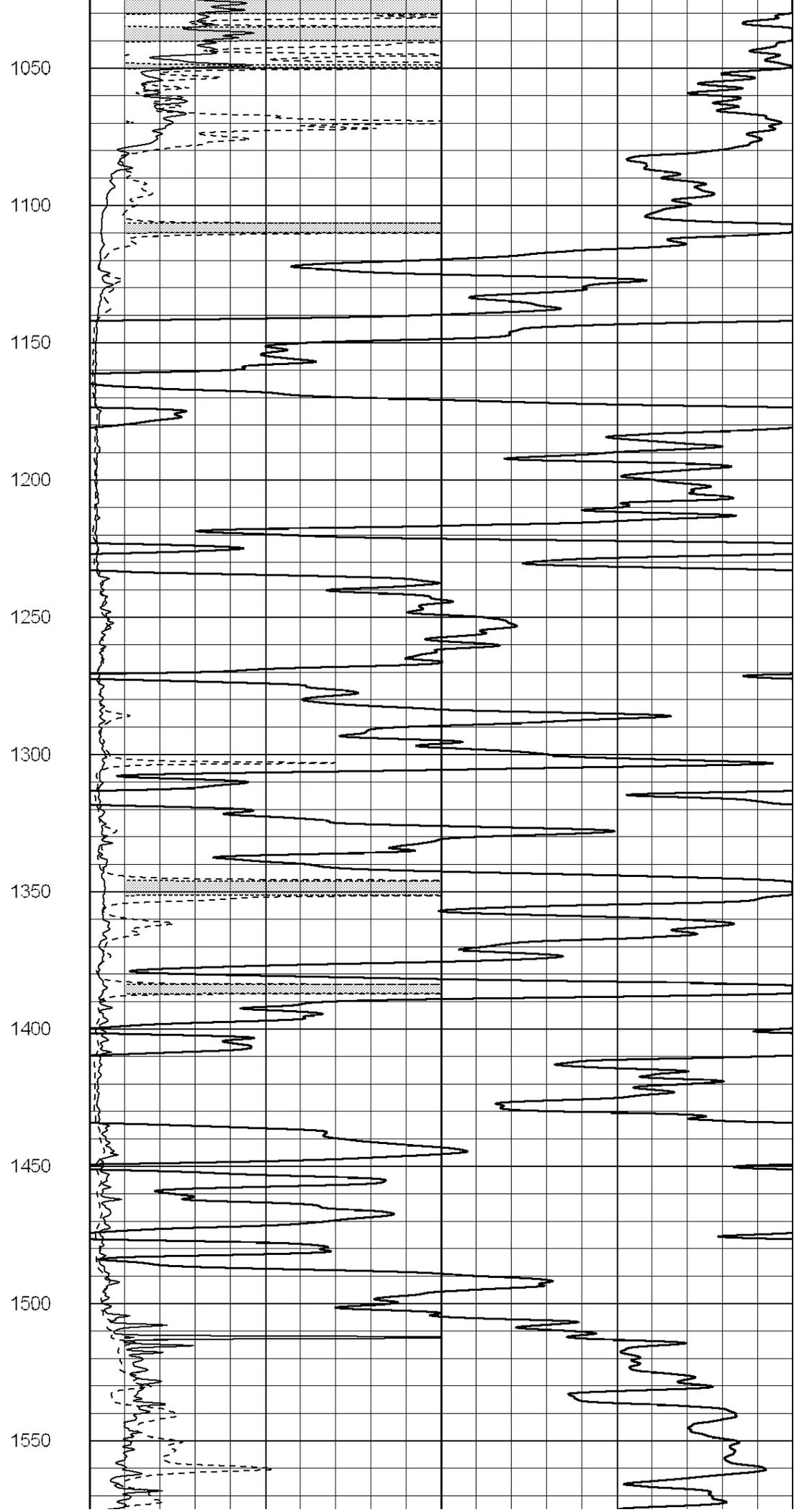
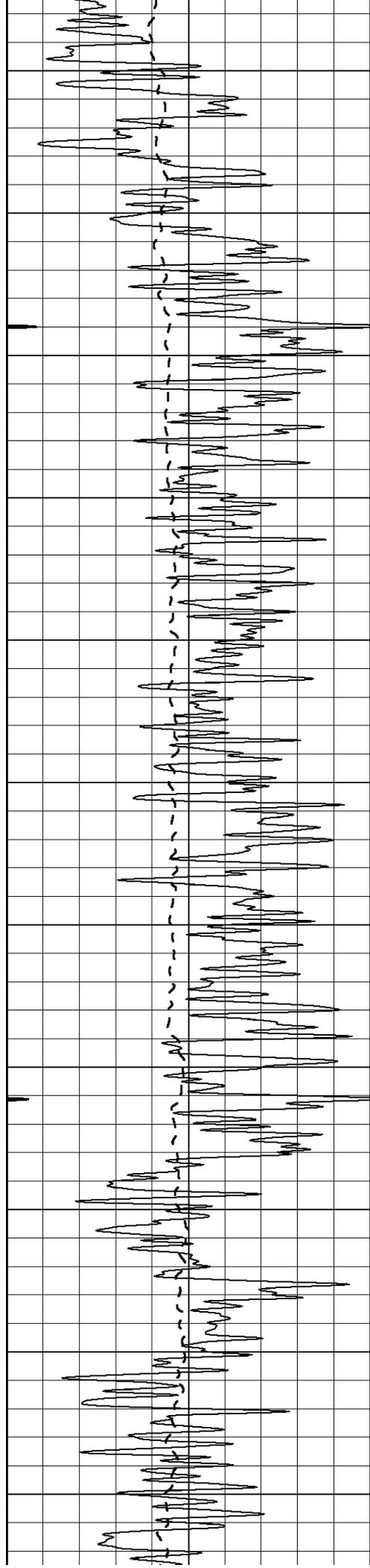
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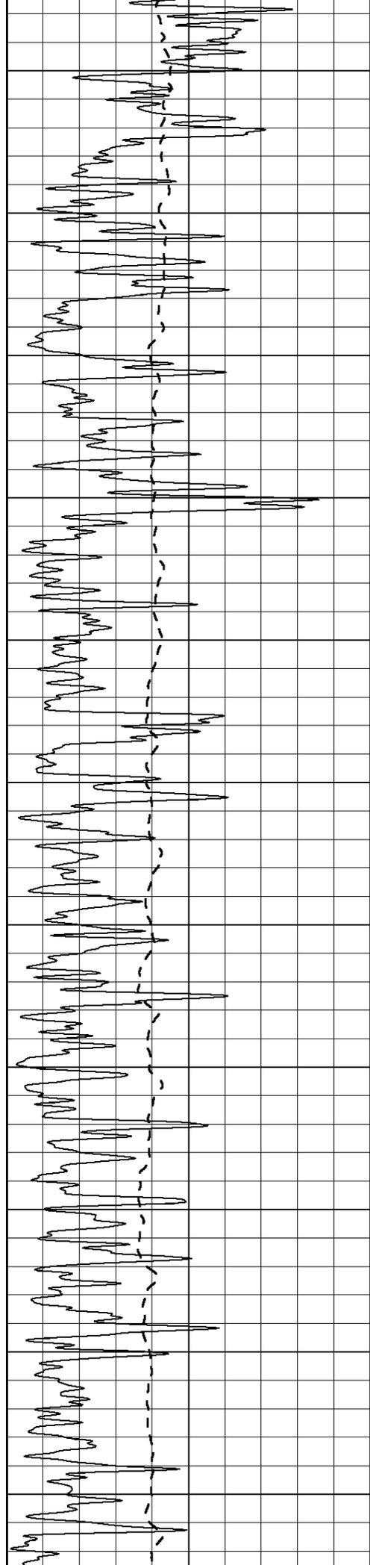
NABORS COMPLETION & PRODUCTION CO.  
785-628-6395  
THANK YOU FOR YOUR BUSINESS  
DIRECTIONS: COLDWATER, KS - 9 MILES EAST ON HWY 160 TO RD 22 - 4 MILES SOUTH TO STOP SIGN - 2 MILES EAST TO CURVE - 3 MILES SOUTH TO WHITE SHED - GO WEST AND SOUTH INTO @ CURVE WEST OF WHITE SHED

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		

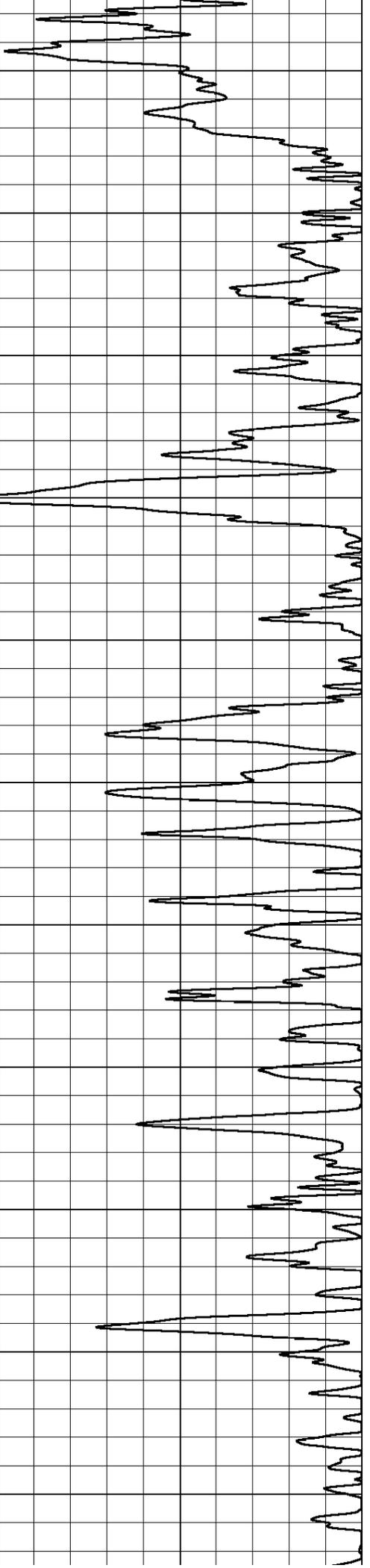
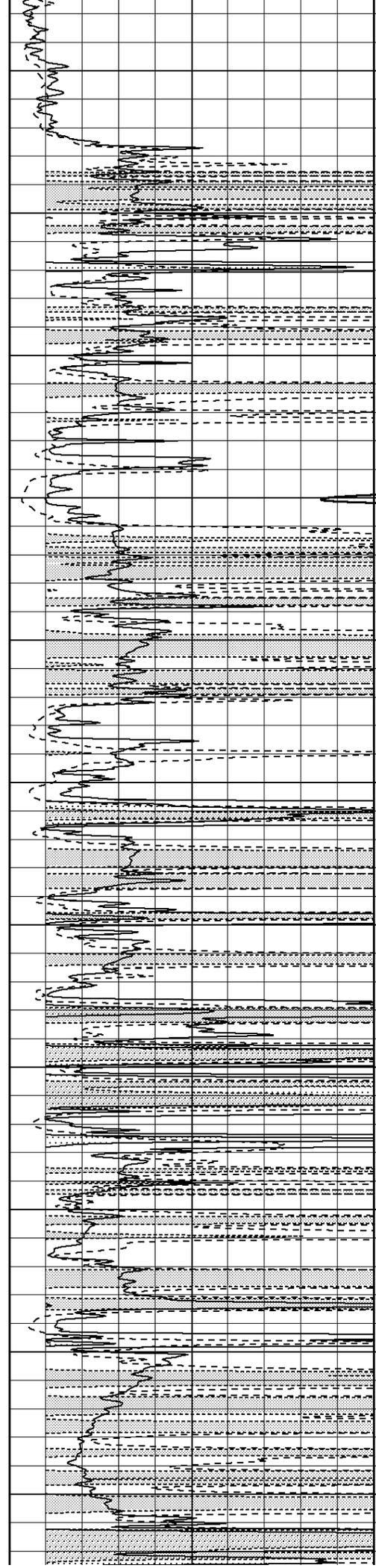


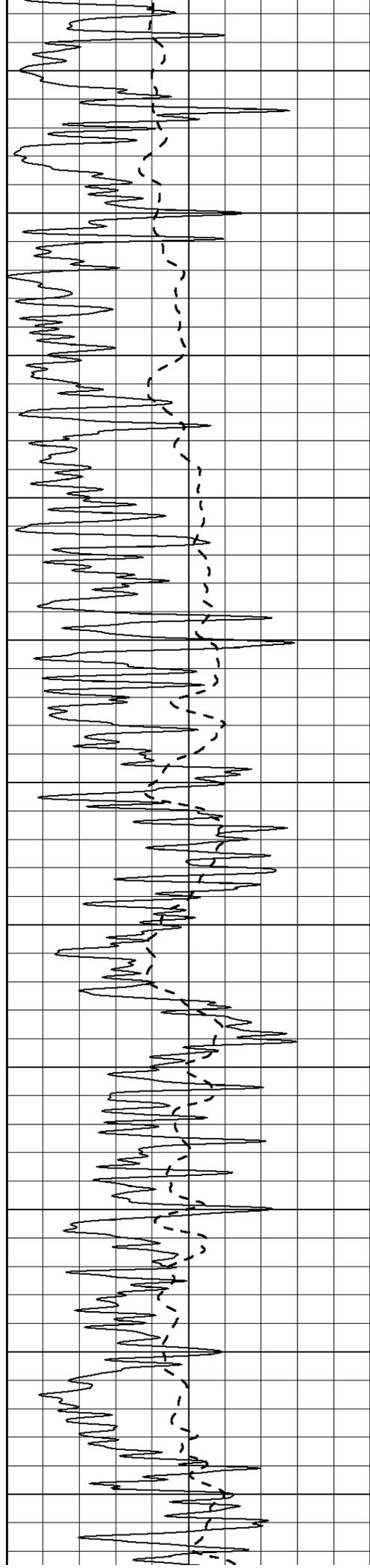






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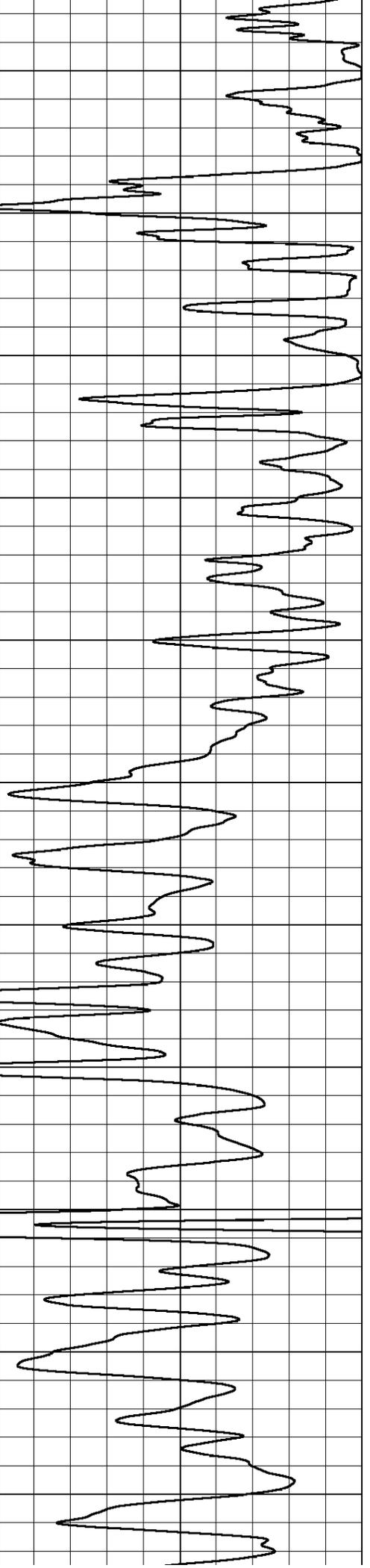
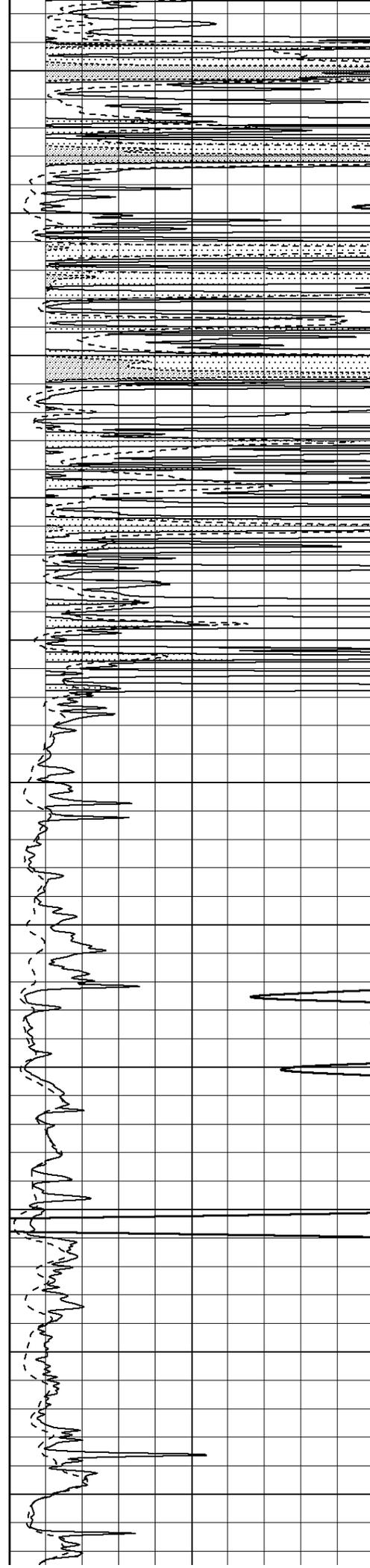
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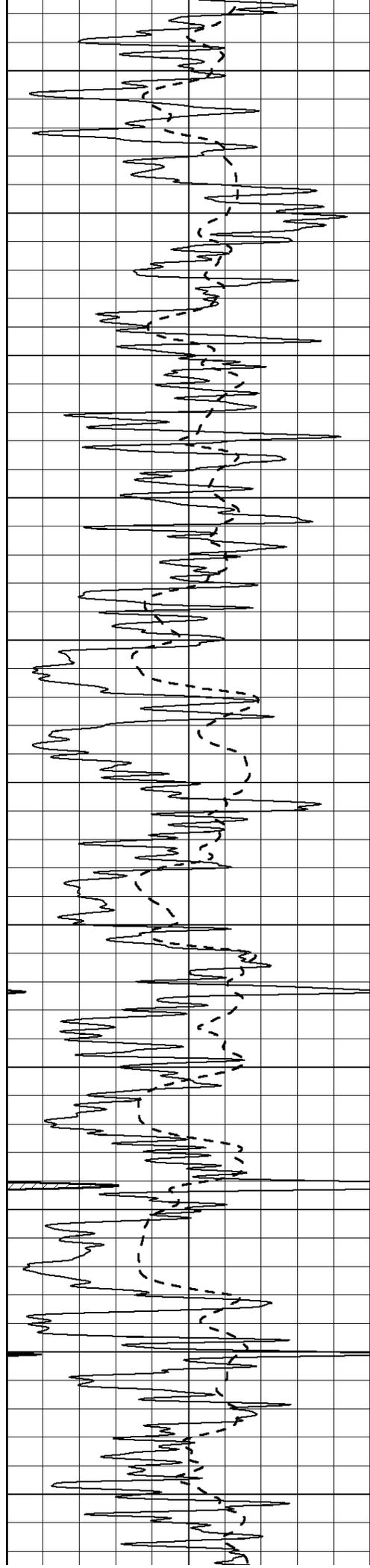
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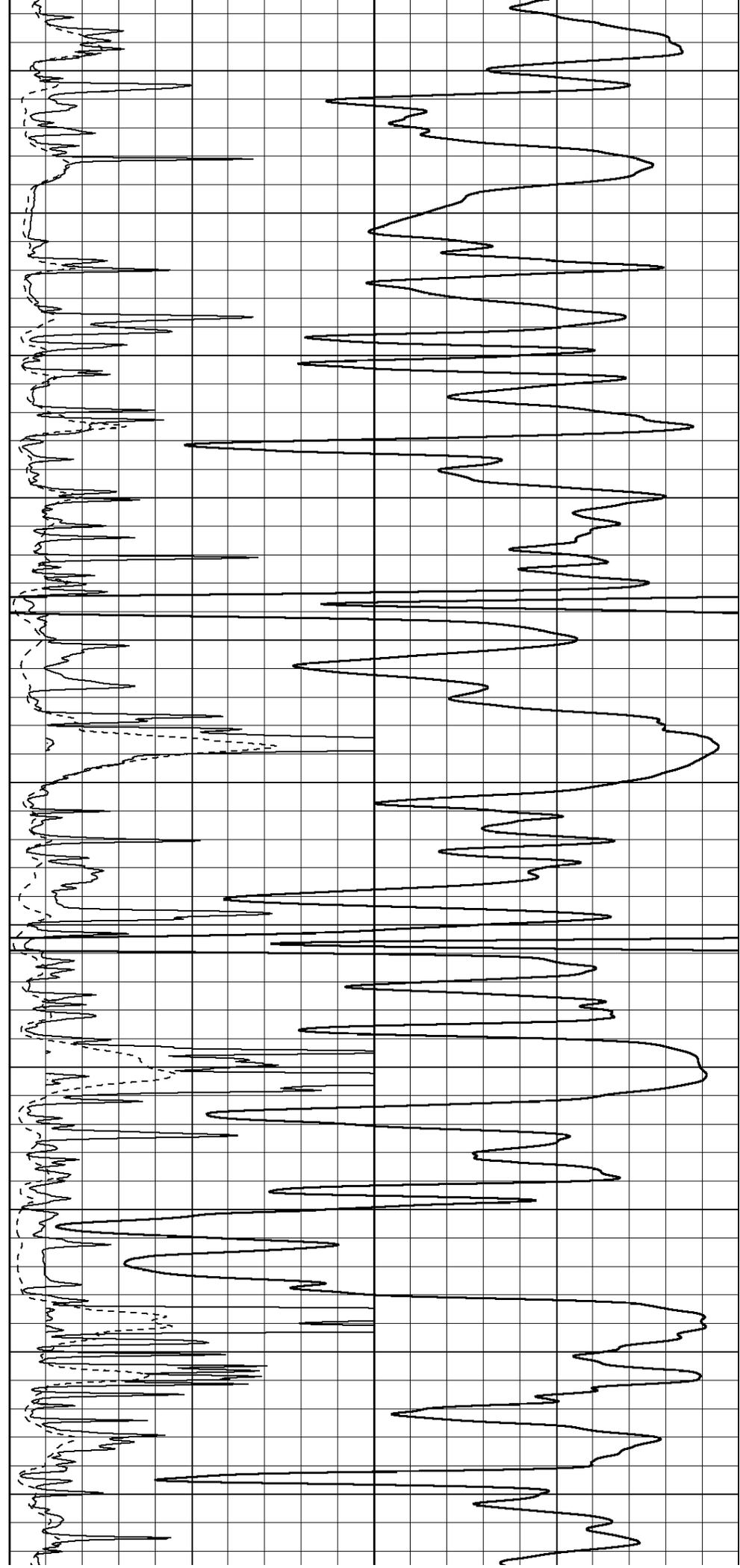
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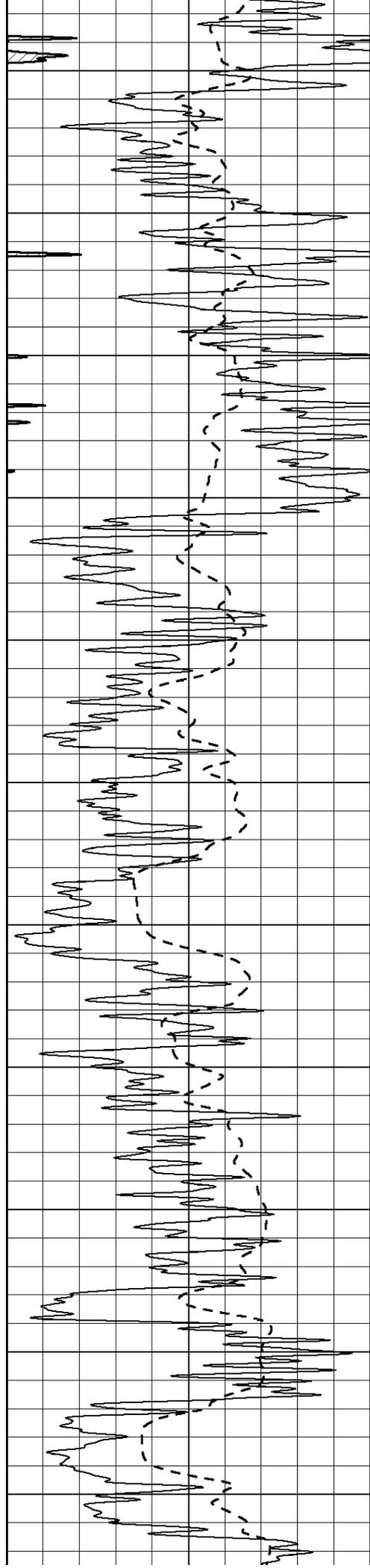
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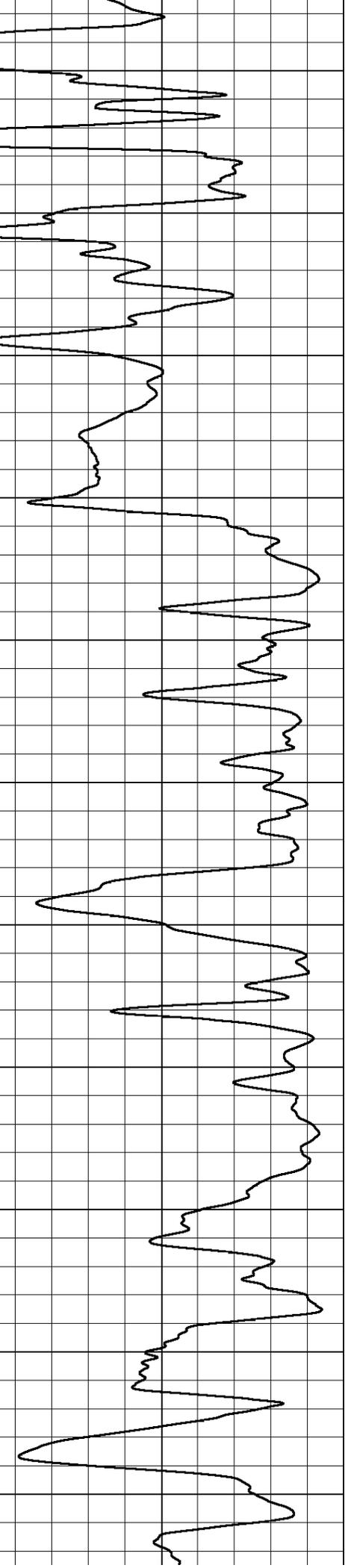
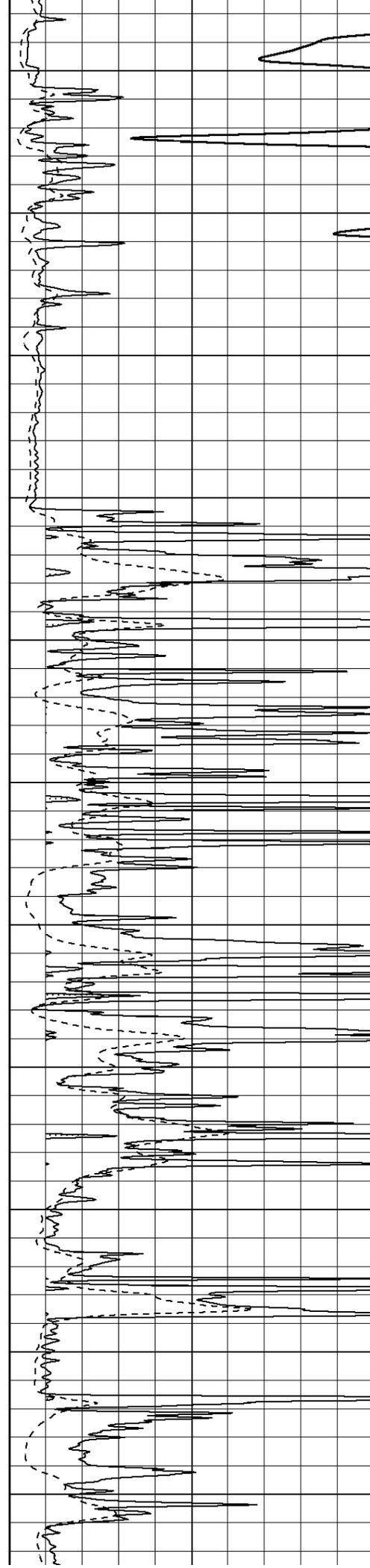
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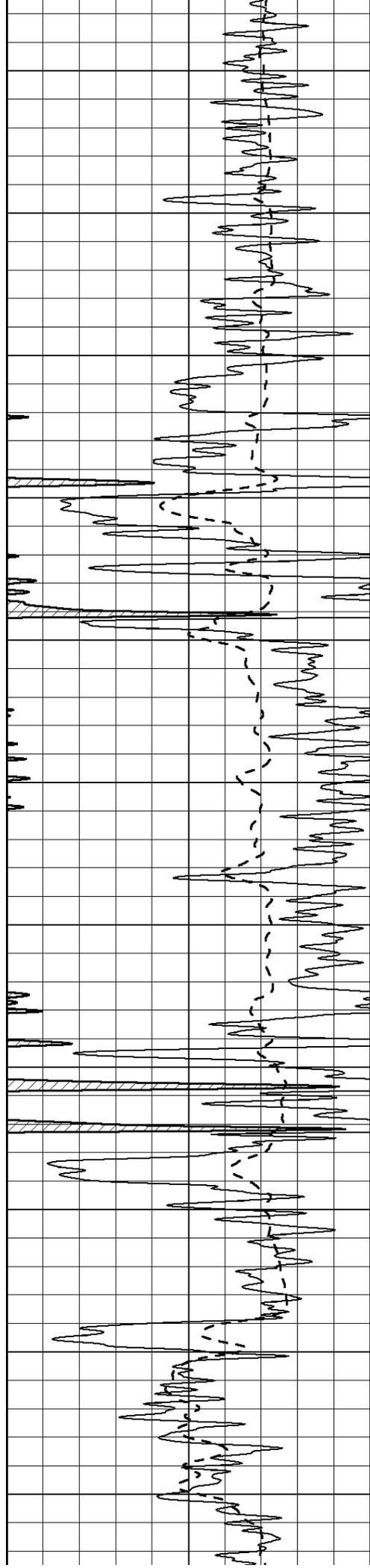
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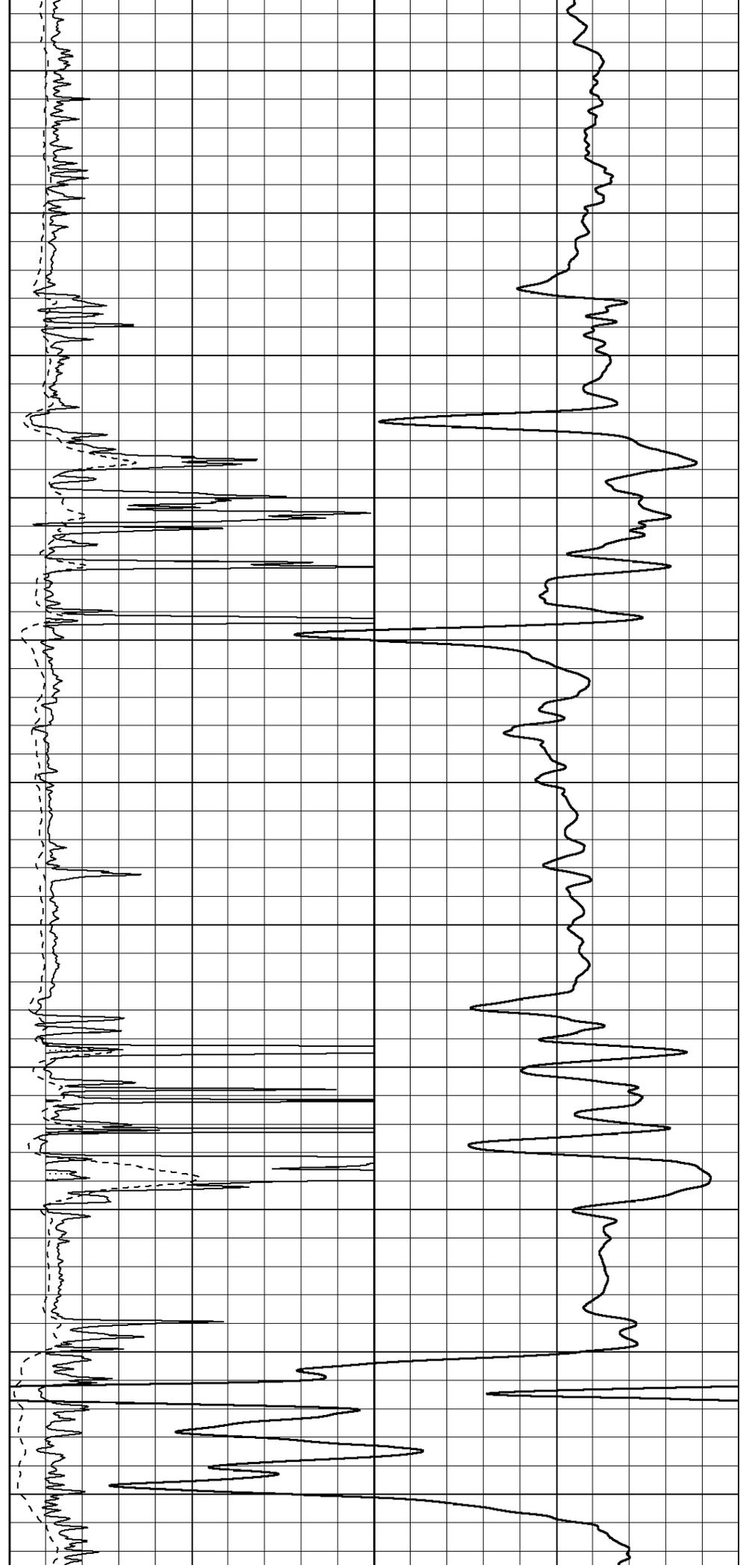
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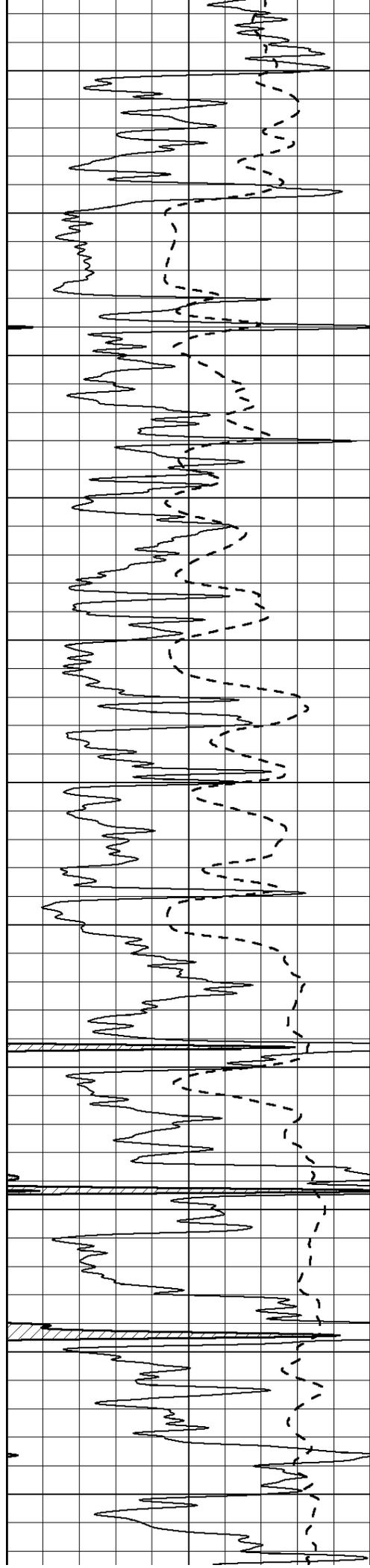
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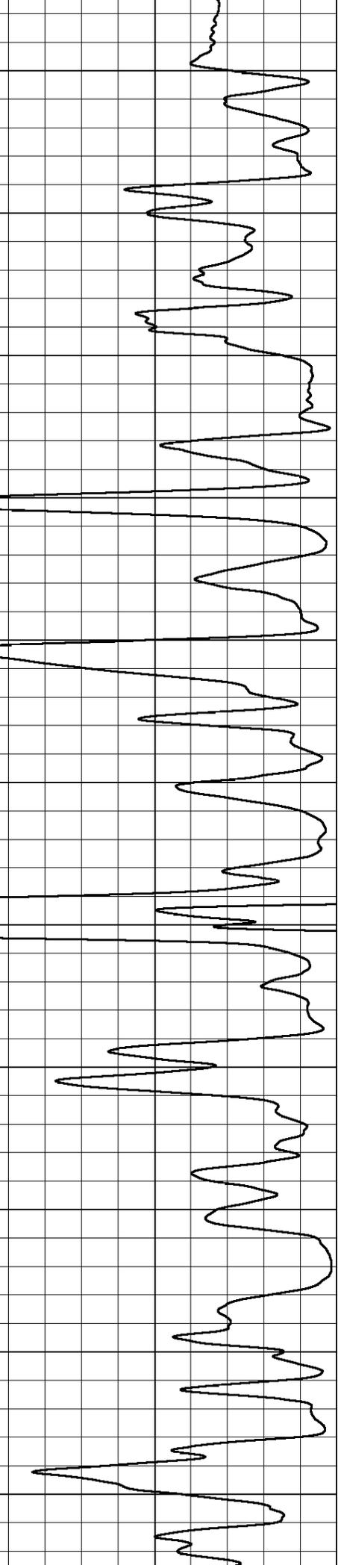
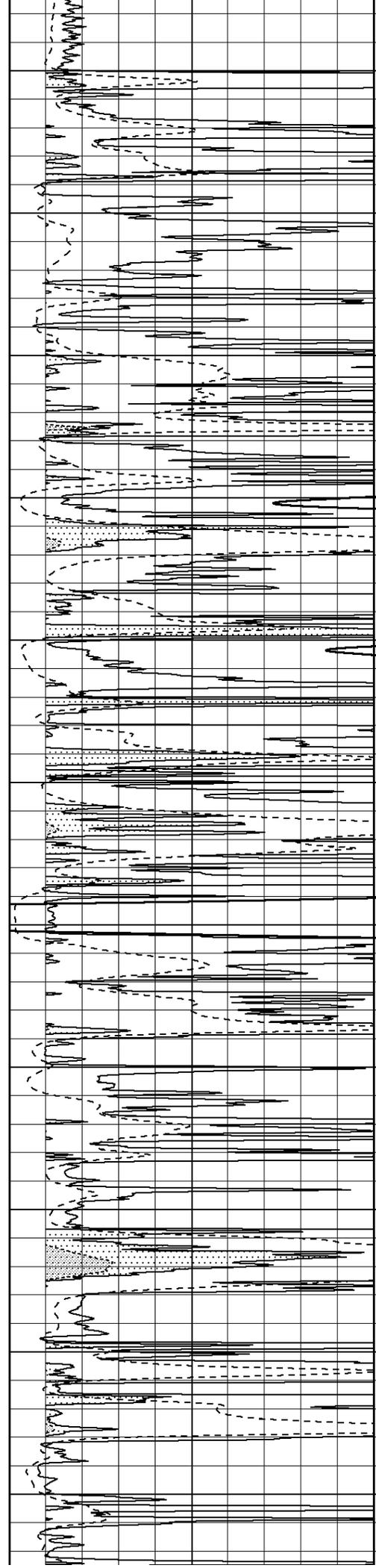


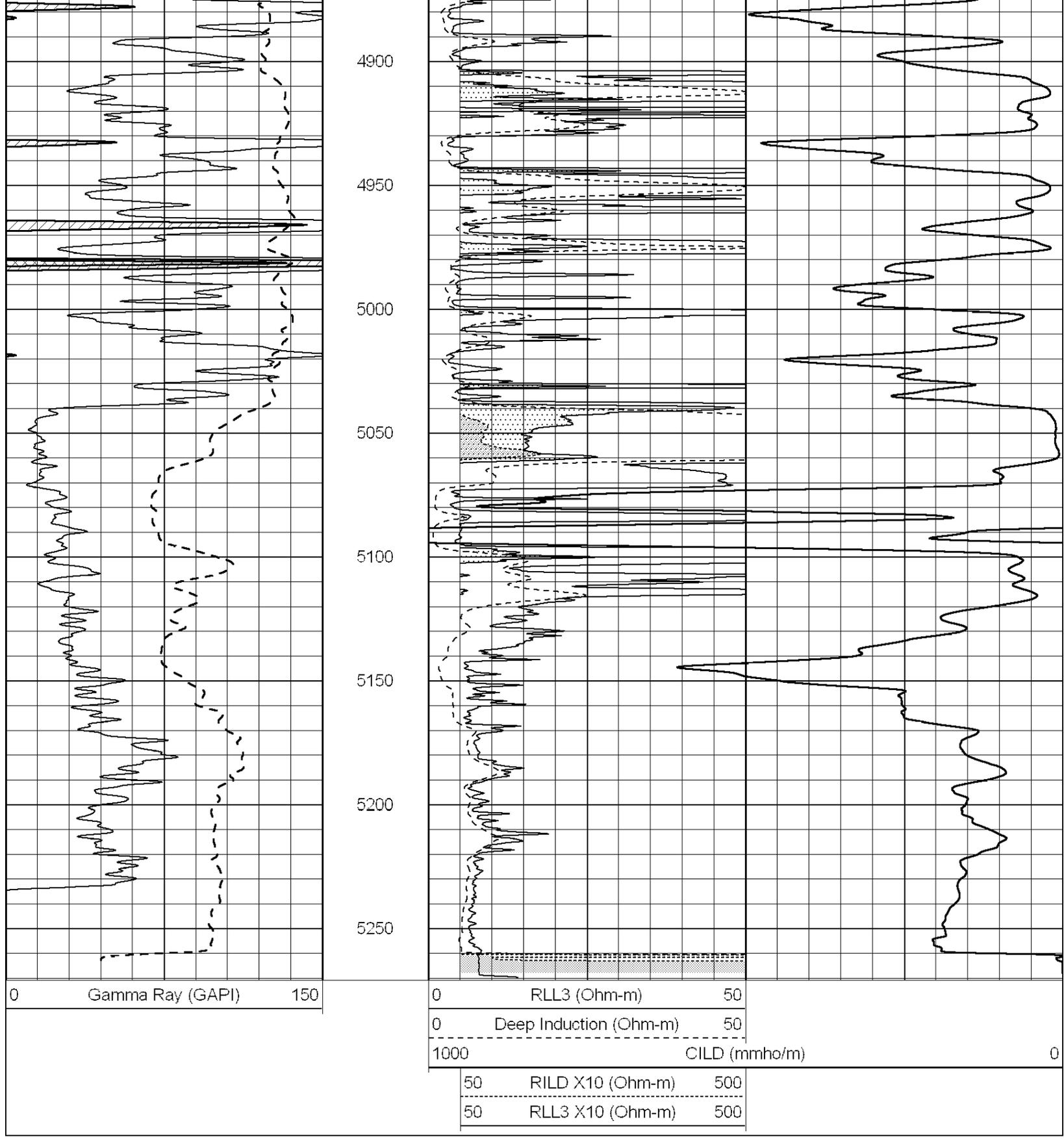
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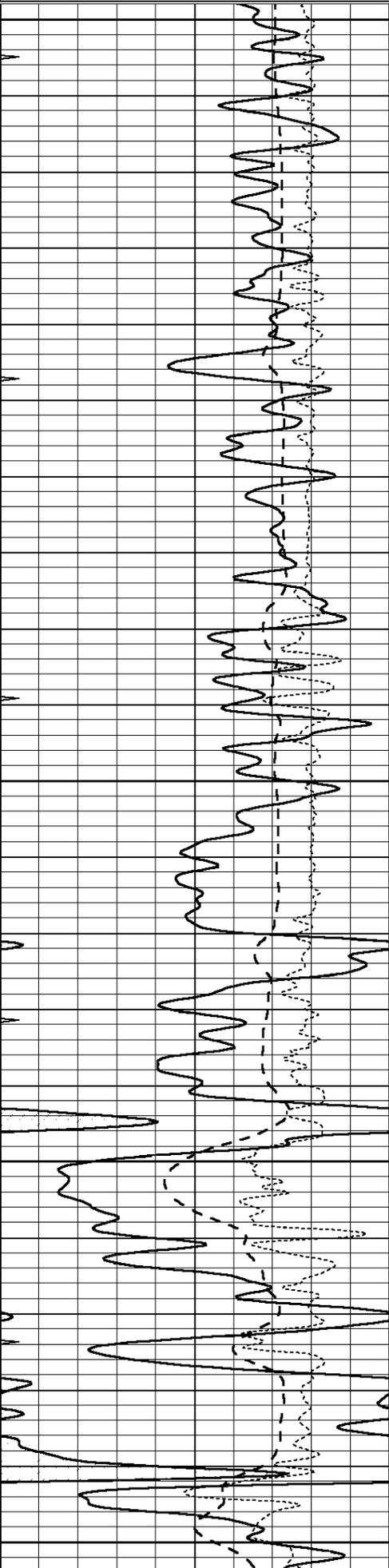
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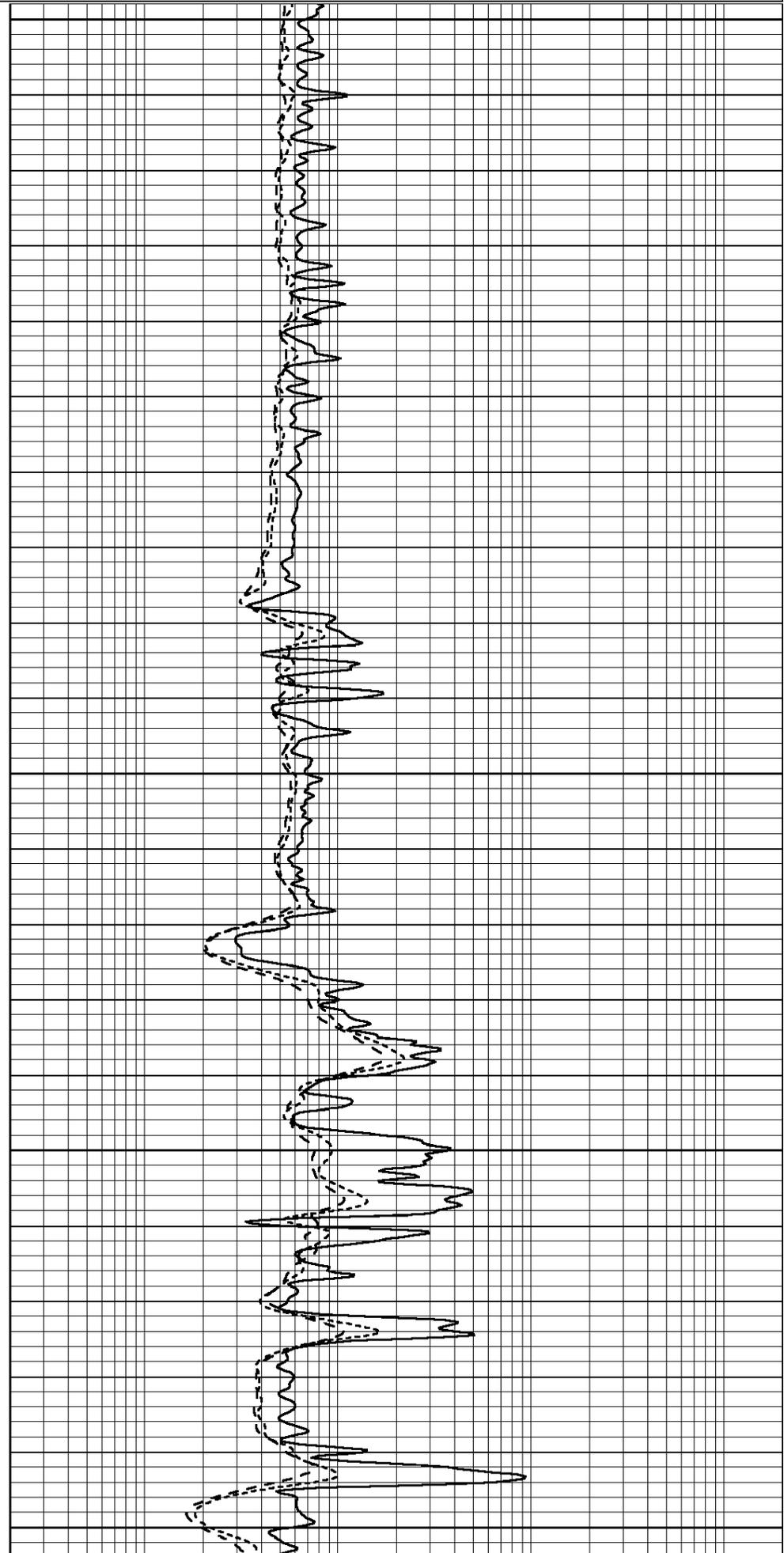


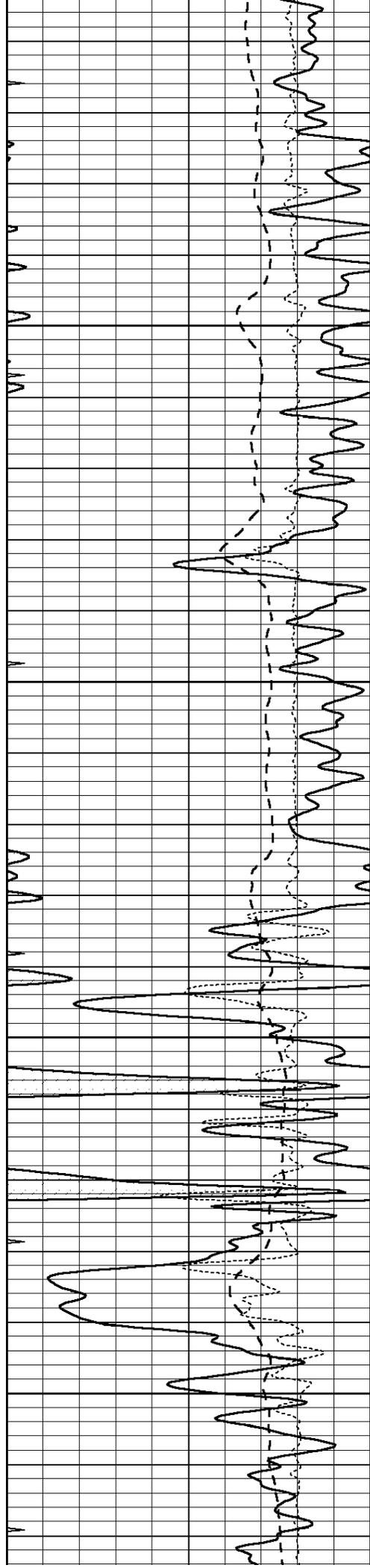
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 Presentation Format: dil  
 Dataset Creation: Fri Jan 25 07:38:57 2013 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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



3800  
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3900  
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4000



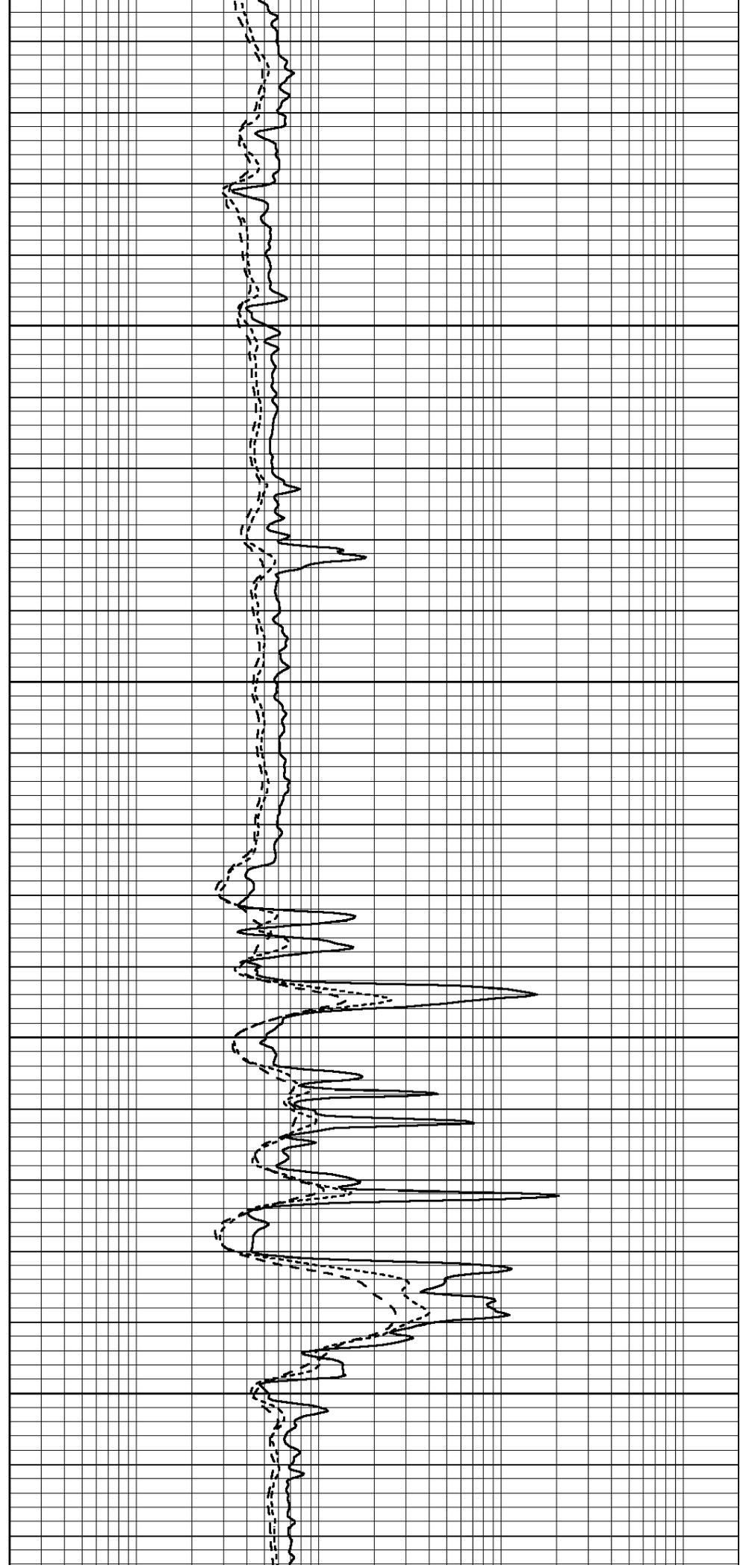


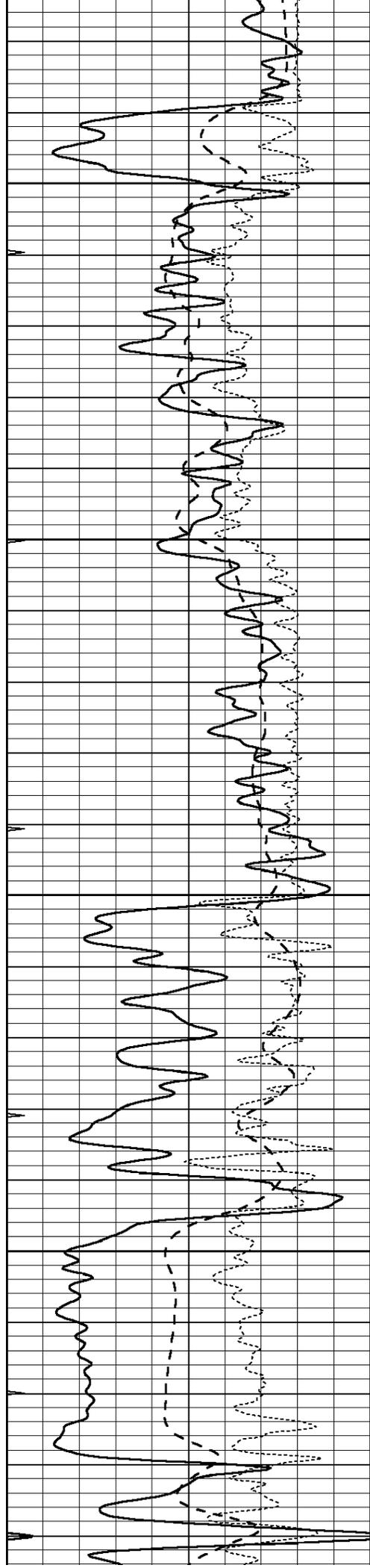
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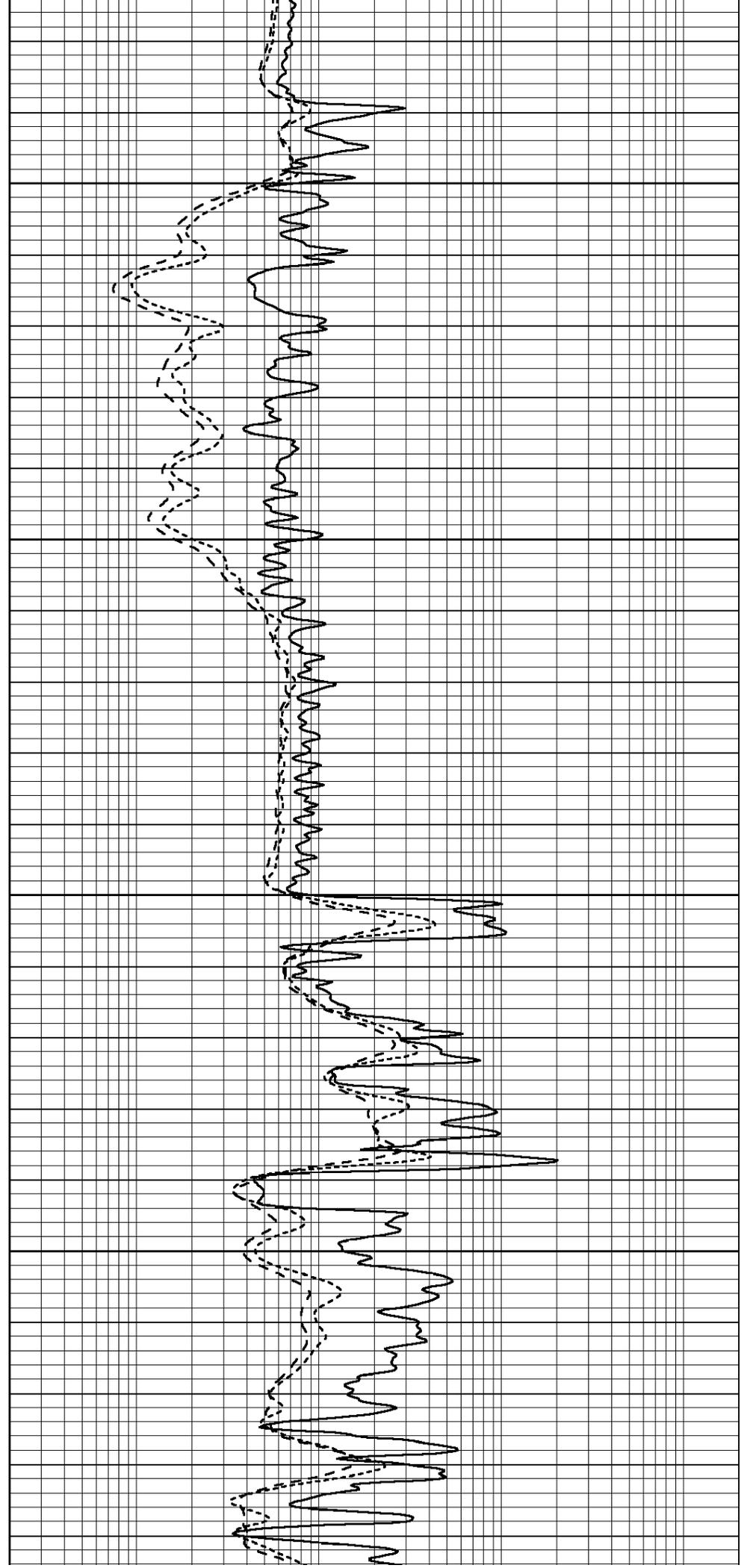


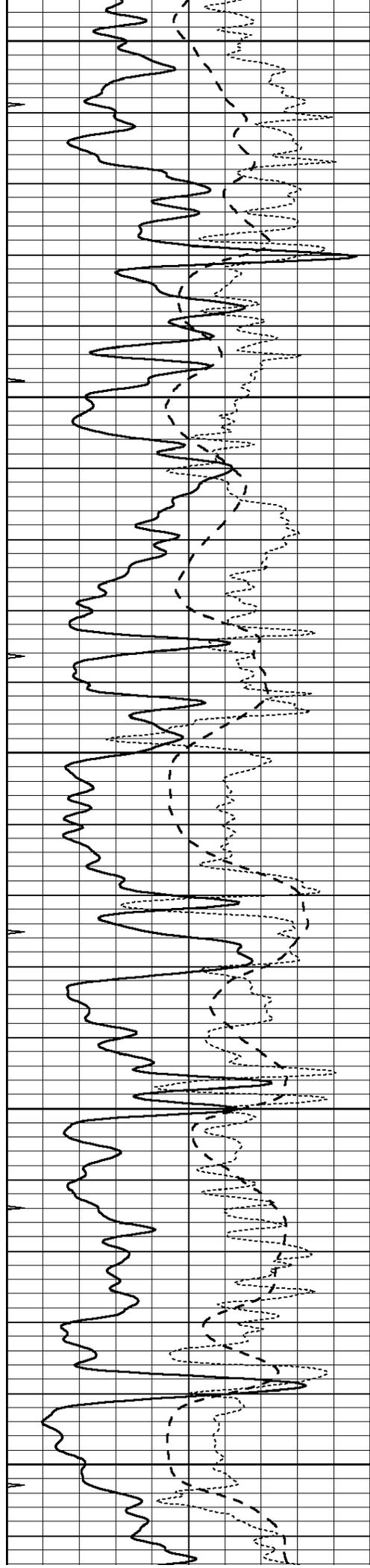
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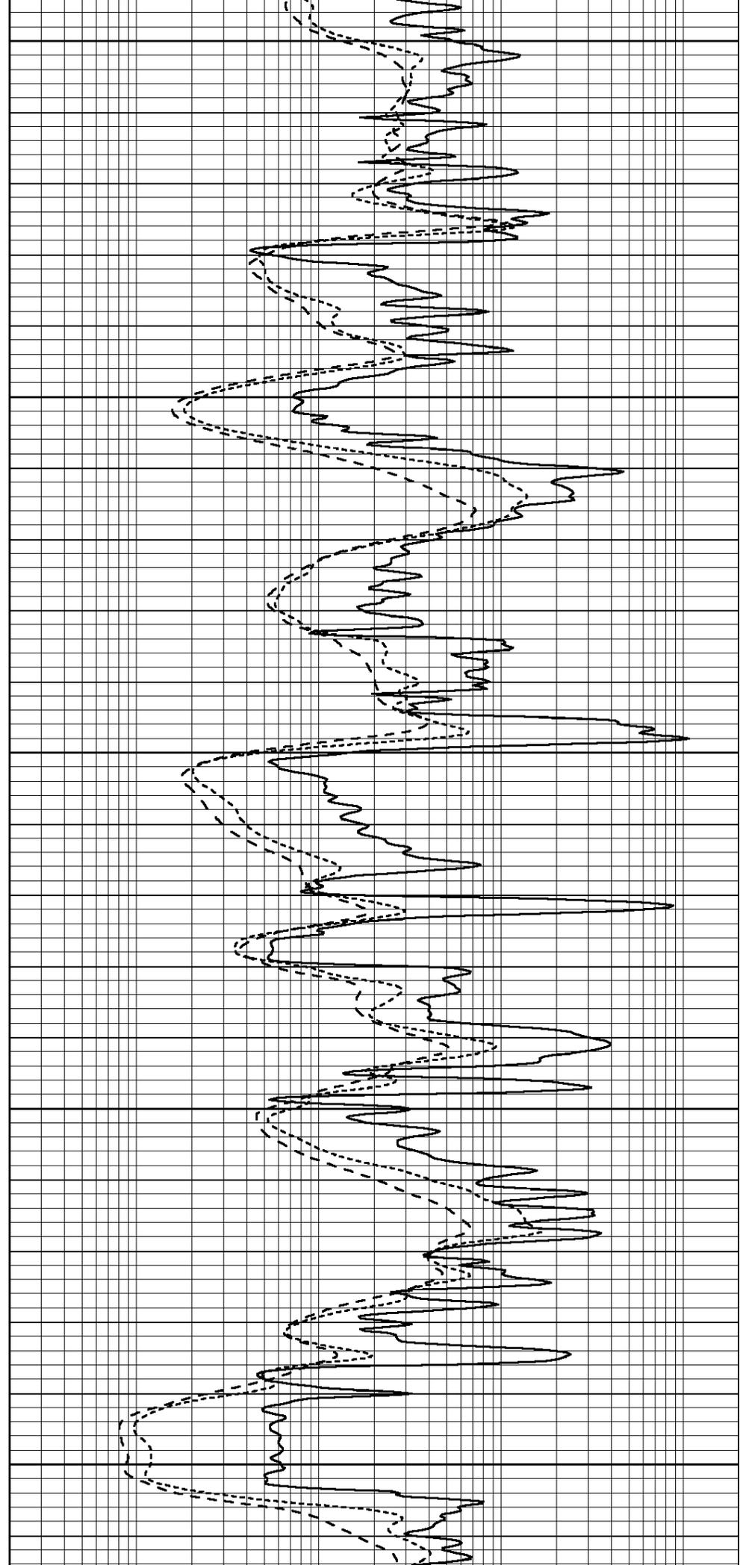
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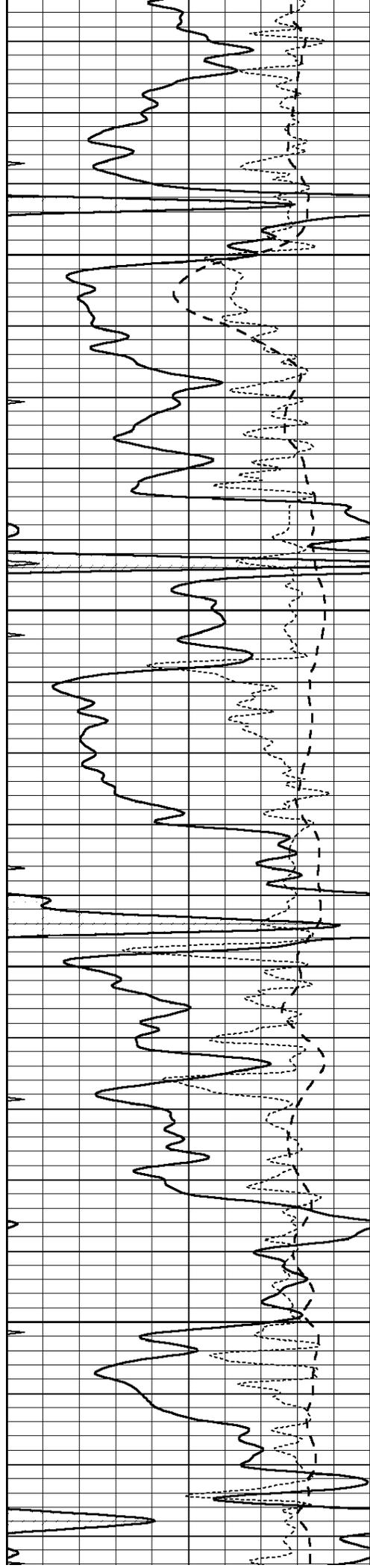
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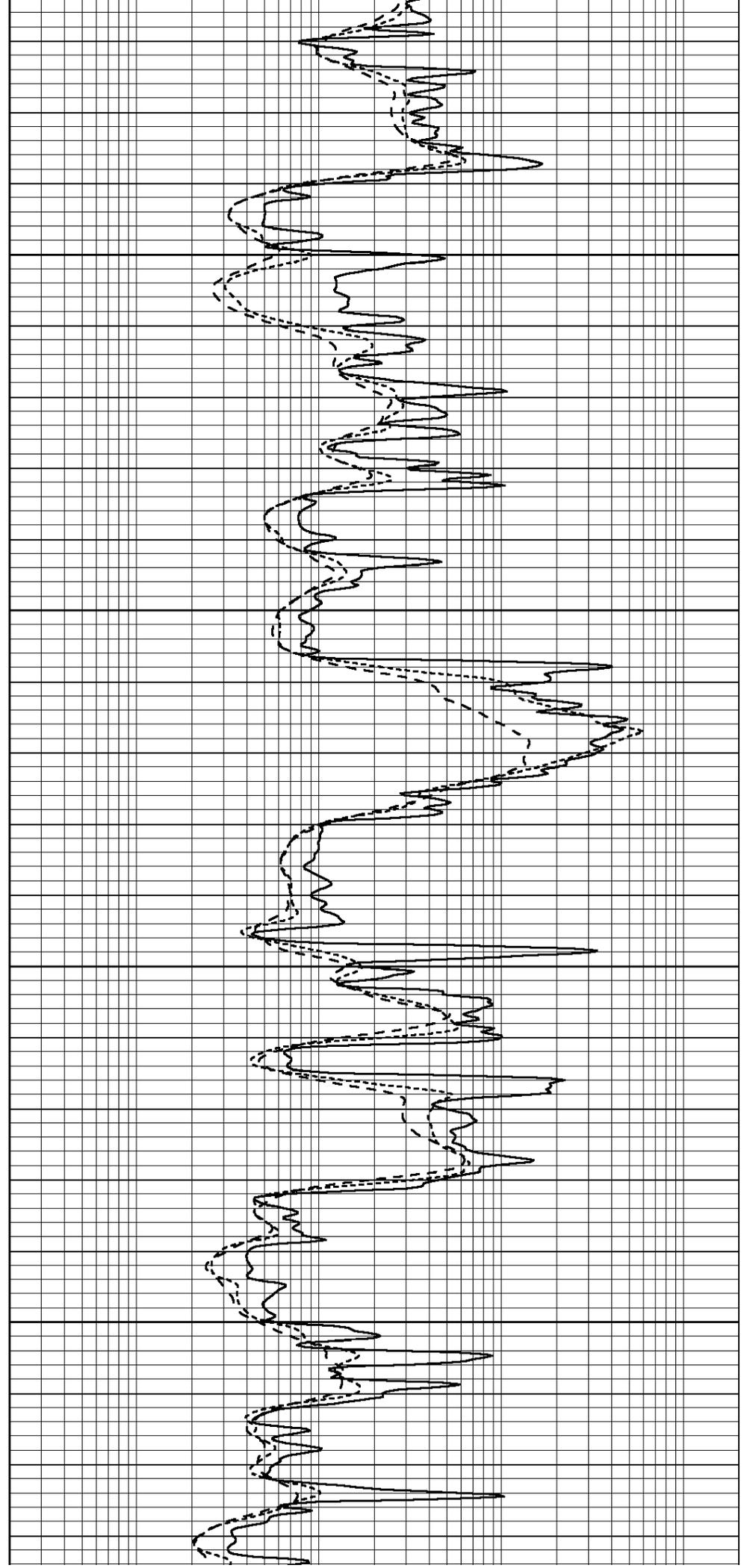


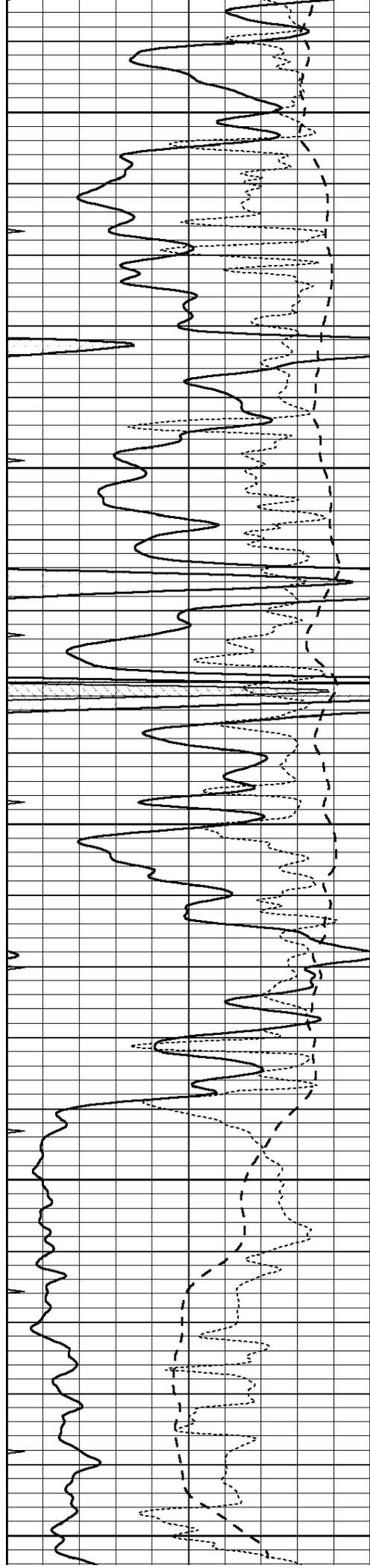
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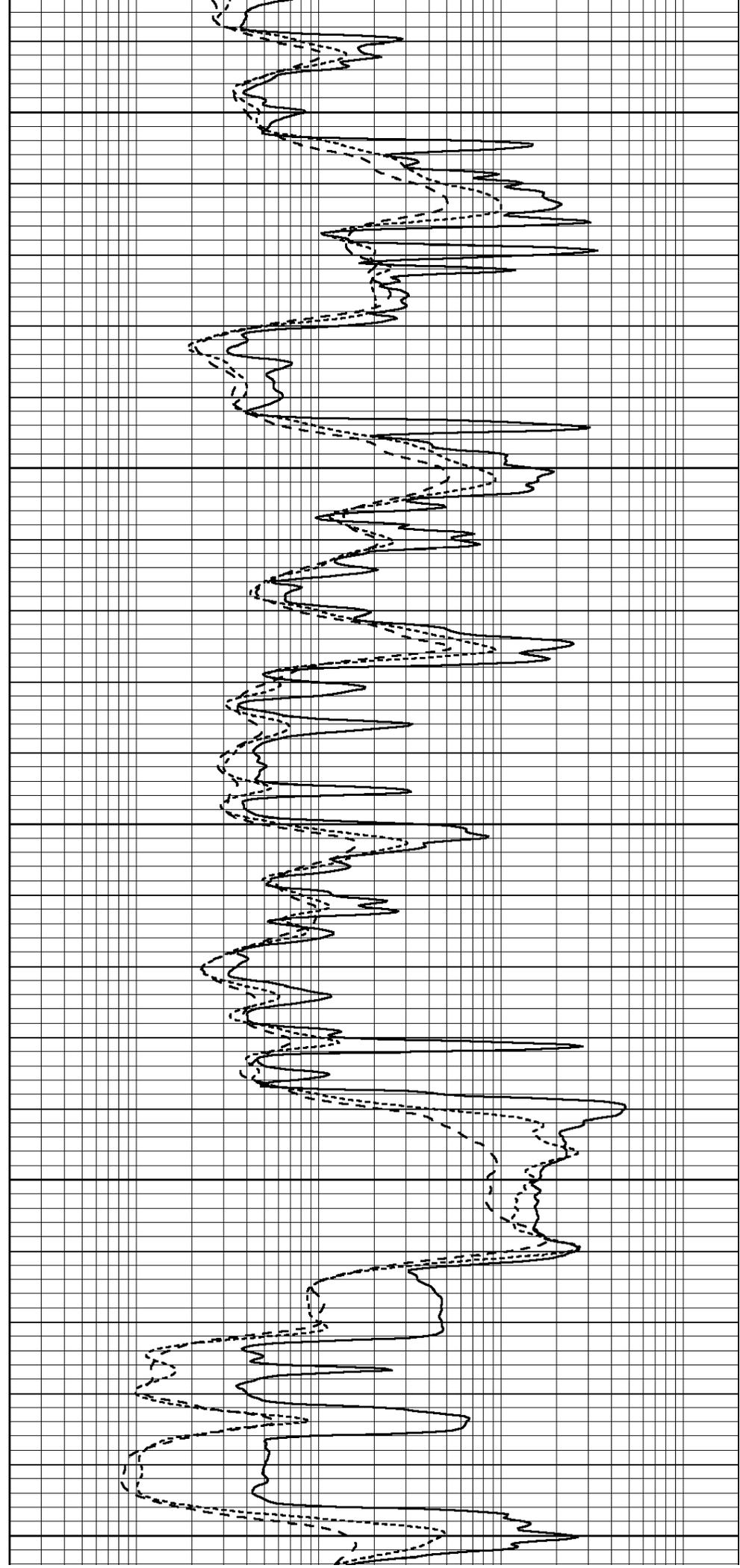
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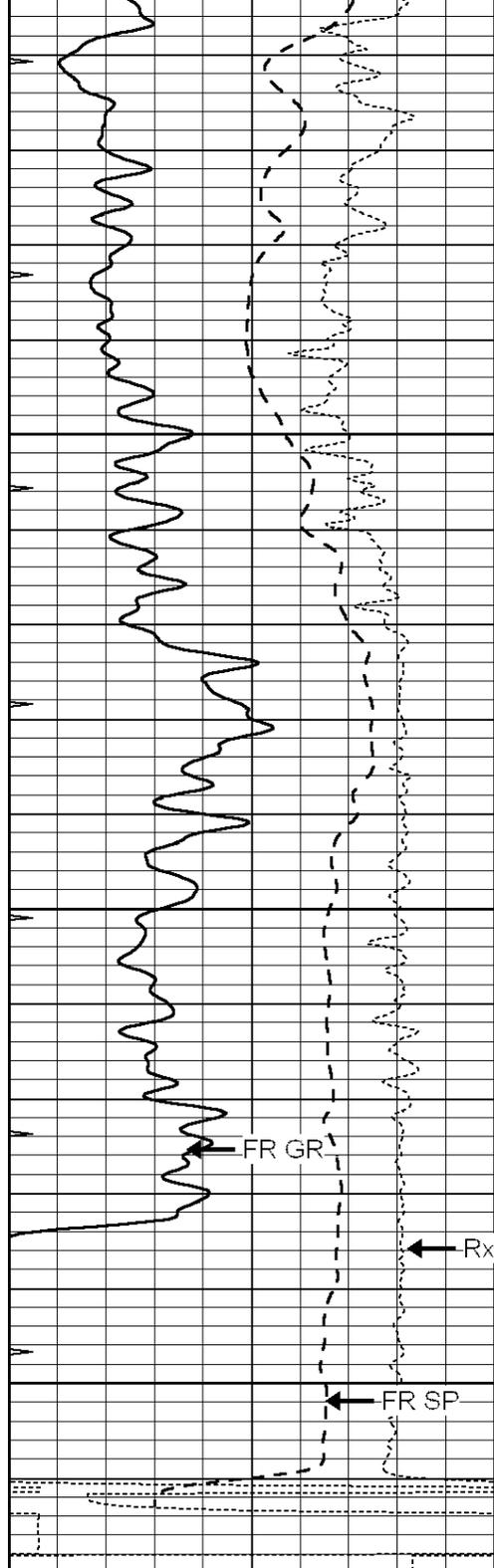
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5100





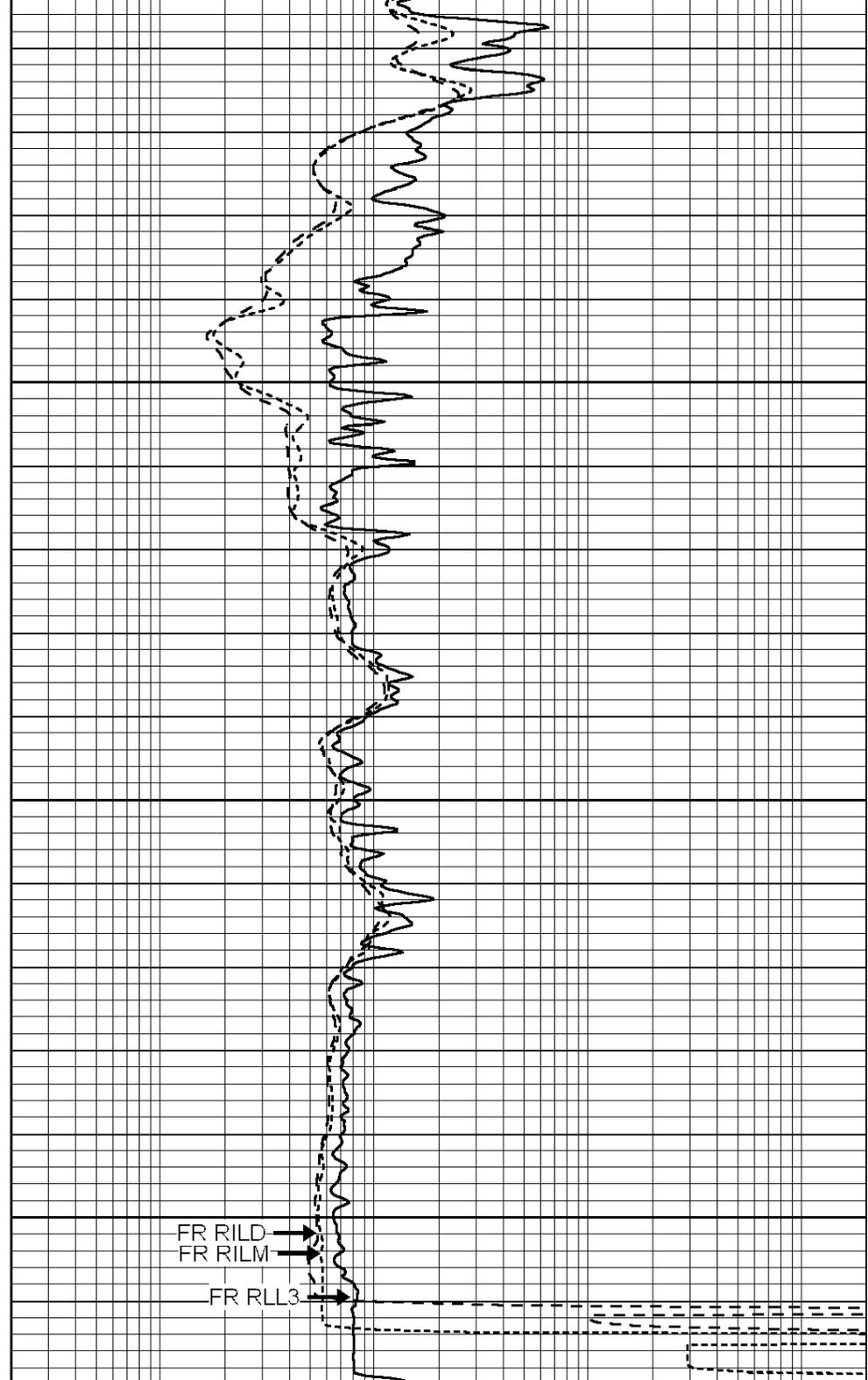
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5200

5250

LTD 5262

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20



FR RILD  
FR RILM  
FR RLL3

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

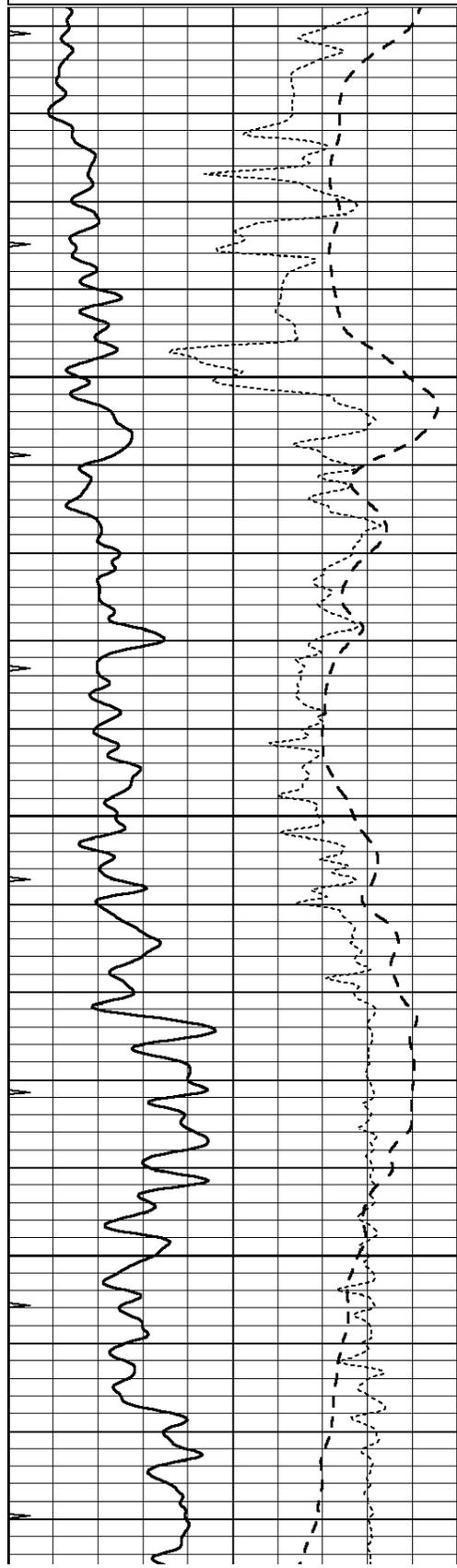


# REPEAT SECTION

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 Charted by: Depth in Feet scaled 1:240

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-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

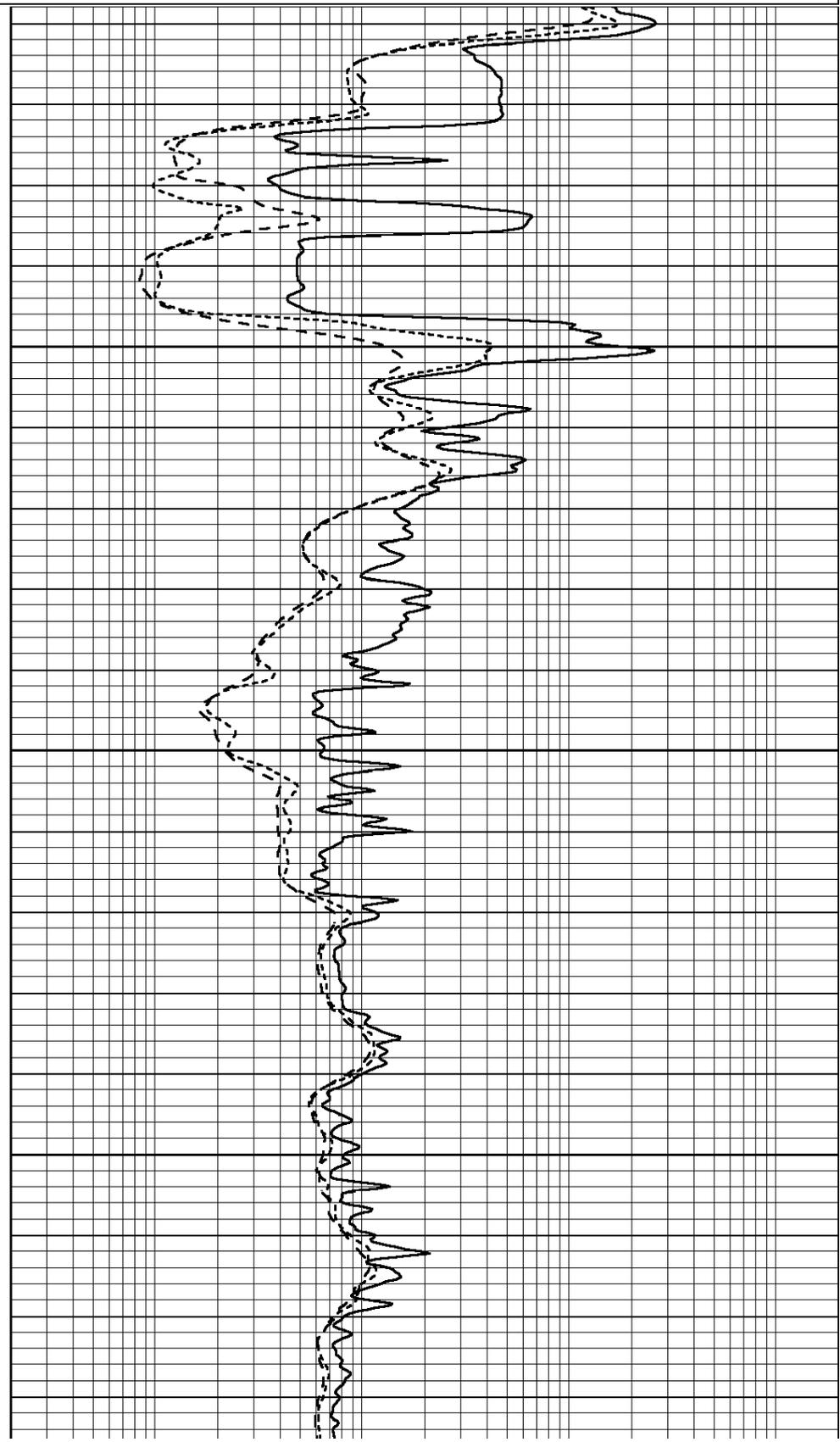
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0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

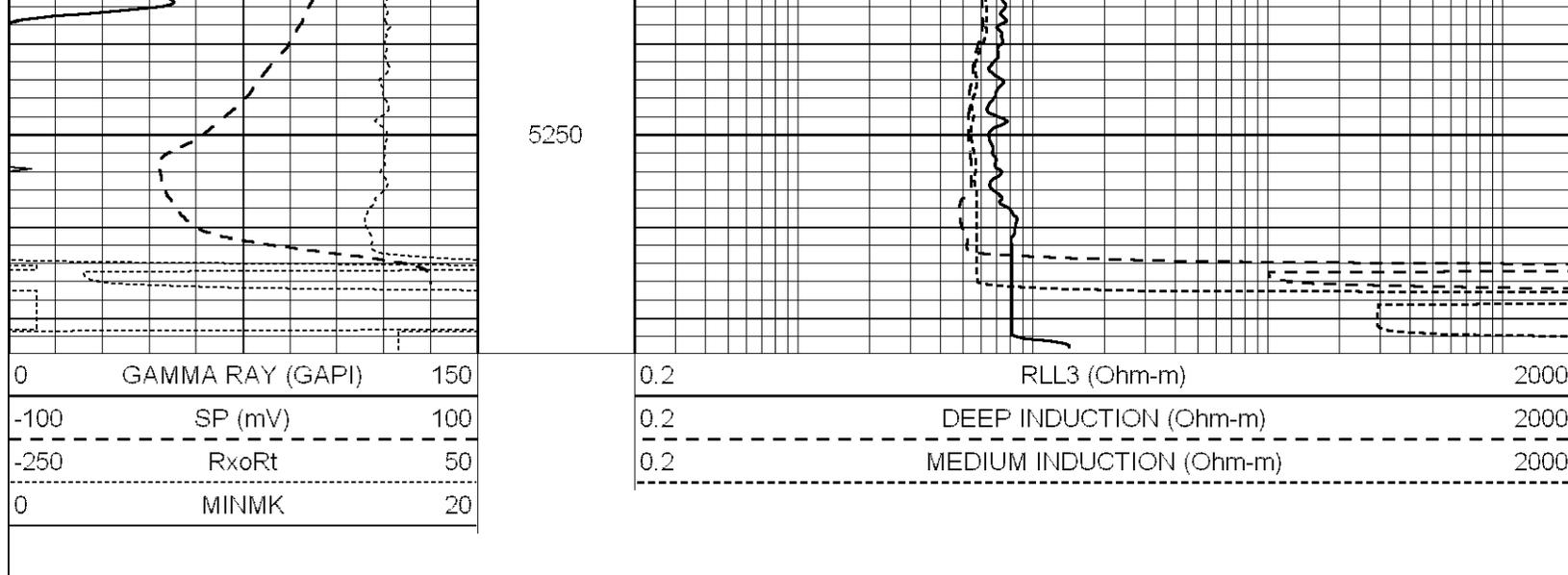


5100

5150

5200





### Calibration Report

Database File: 010659pe.db  
 Dataset Pathname: pass4.4  
 Dataset Creation: Fri Jan 25 08:37:37 2013 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: PROBE7-DILG  
 Surface Cal Performed: Sat Jan 19 20:58:30 2013  
 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	mmho/m	m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	670.000	-6.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	700.000	-55.000
Internal:	Zero	Cal	V	Zero	Cal	mmho/m	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	V	Zero	Cal	mmho/m	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	mmho/m	Zero	Cal	mmho/m	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		

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2170.6	9915.1	3855.3	11241.6	cps
Window 2	2029.2	8716.5	3483.5	9750.8	cps
Window 3	1665.0	4929.7	2356.8	5332.0	cps
Window 4	493.3	492.1	490.0	486.8	cps
Long Space	0.0	6687.3	1454.3	7721.6	cps
Short Space	1.9	2149.3	1403.9	2354.5	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.556
Spine Angle	: 74.4	Spine Slope	: 3.583	Spine Intercept	: -18.7

Caliper	Readings	Reference	
Low Ref	3.5	8.1	
High Ref	5.4	14.0	
	Gain: 3.1		Offset: -2.5

Compensated Neutron Calibration Report

Serial Number: NEU\_4I  
 Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	1.00 cps	1.00 cps	1.0000
Long Space	1.00 cps	1.00 cps	1.0000

Gamma Ray Calibration Report

Serial Number: GR5  
 Tool Model: OPEN  
 Performed: Thu Jan 24 12:43:45 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 2.3000 GAPI/cps