



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL INDUCTION
LOG**

Company LOTUS OPERATING COMPANY, LLC.
Well #1 ACHENBACH "B"
Field STRANATHAN / HARDTNER
County BARBER
State KANSAS

Company LOTUS OPERATING COMPANY, LLC.
Well #1 ACHENBACH "B"
Field STRANATHAN / HARDTNER
County BARBER State KANSAS

Location: API # : 15-007-24230-0000
NE - NE - NW
SEC 11 TWP 35S RGE 13W
Permanent Datum GROUND LEVEL Elevation 1477
Log Measured From KELLY BUSHING 13' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
CDL/CNL/PE
MEL/SON/FF
Elevation
K.B. 1490
D.F. 1488
G.L. 1477

Date	9/30/14
Run Number	ONE
Depth Driller	5547
Depth Logger	5547
Bottom Logged Interval	5545
Top Log Interval	00
Casing Driller	10 3/4"@300'
Casing Logger	300
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/42
pH / Fluid Loss	11.0/9.0
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.650@80F
Rmf @ Meas. Temp	.488@80F
Rmc @ Meas. Temp	.780@80F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.400@130F
Time Circulation Stopped	6 HOURS
Time Logger on Bottom	11:00 P.M.
Maximum Recorded Temperature	130F
Equipment Number	4854
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	TIM HELLMAN

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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
HARDTNER, KS., 3W. ON BLKTOP JUST PAST "GYF HILL RD.", N. INTO PAST FARM HOUSE, FOLLOW TRAIL 1/2 MILE, W. & N.



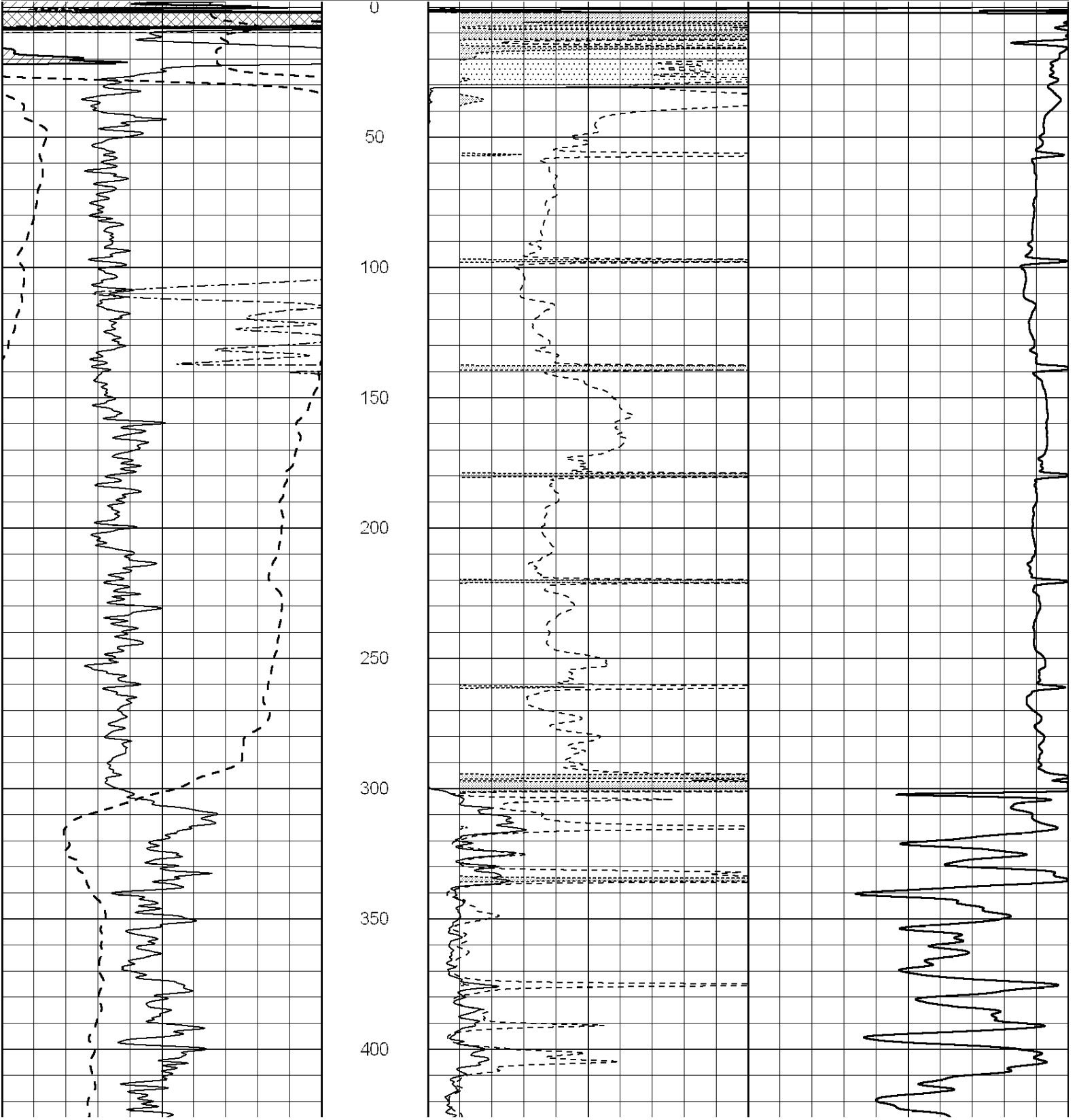
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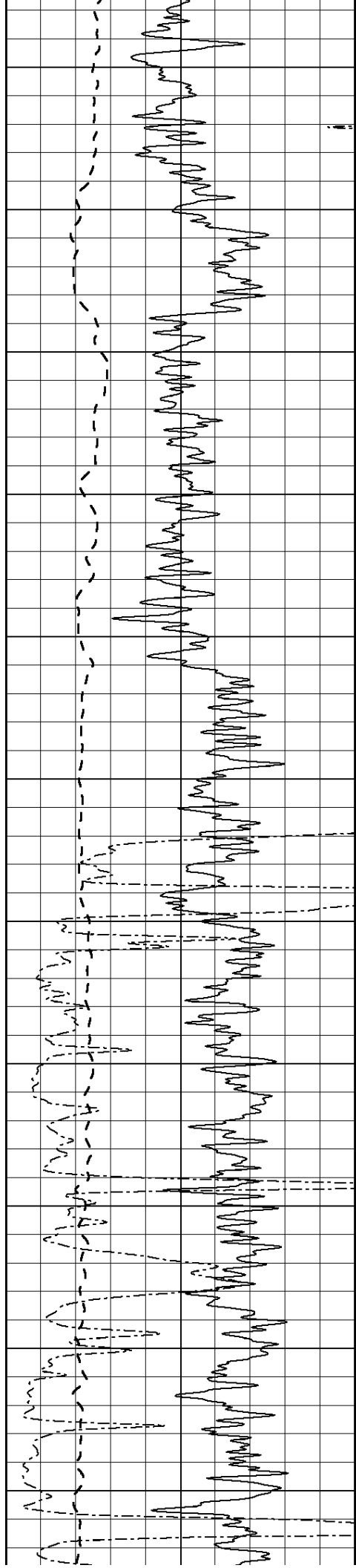
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 Dataset Pathname: pass4.10
 Presentation Format: dil2
 Dataset Creation: Wed Oct 01 01:19:26 2014
 Charted by: Depth in Feet scaled 1:600

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-100	SP (mV)	100
0	RWA (Ohm-m)	1

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





450

500

550

600

650

700

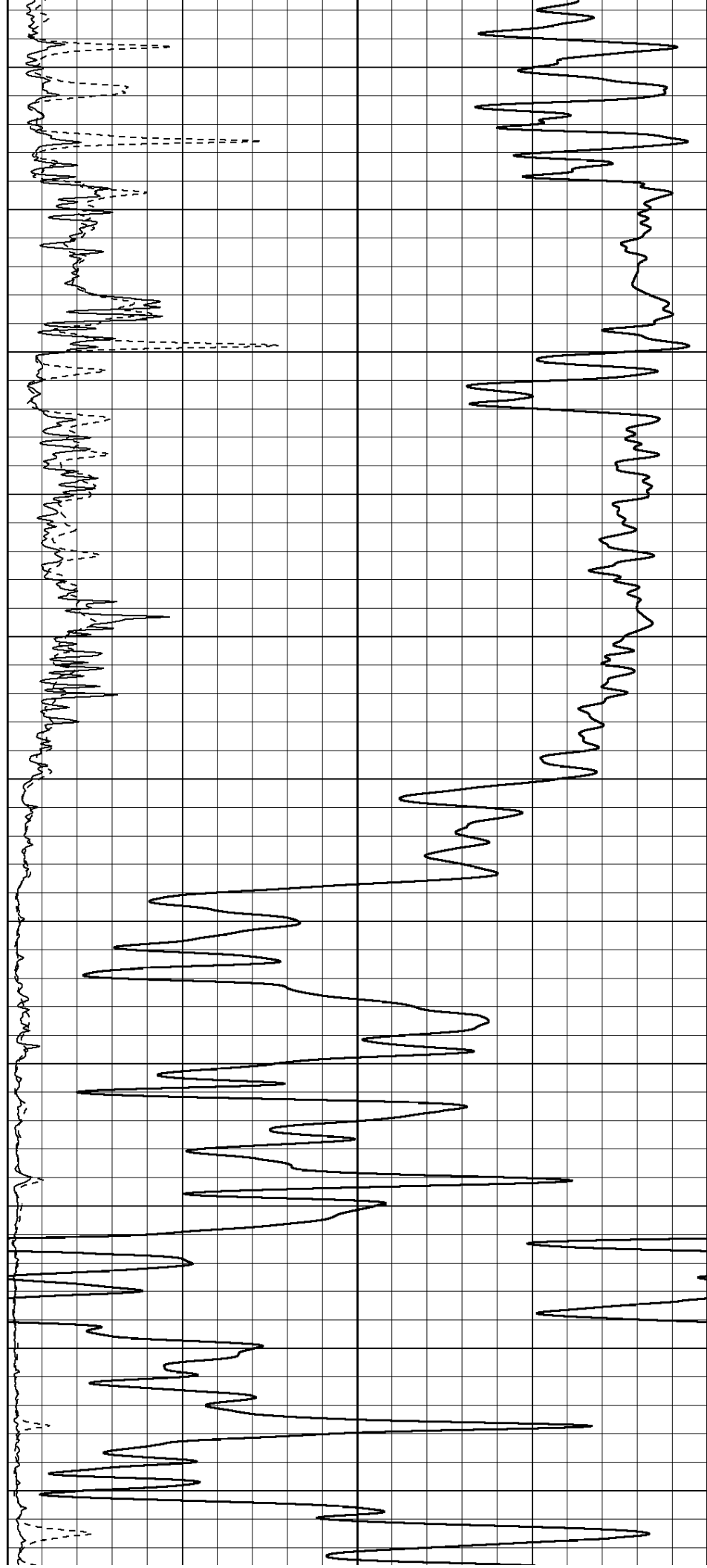
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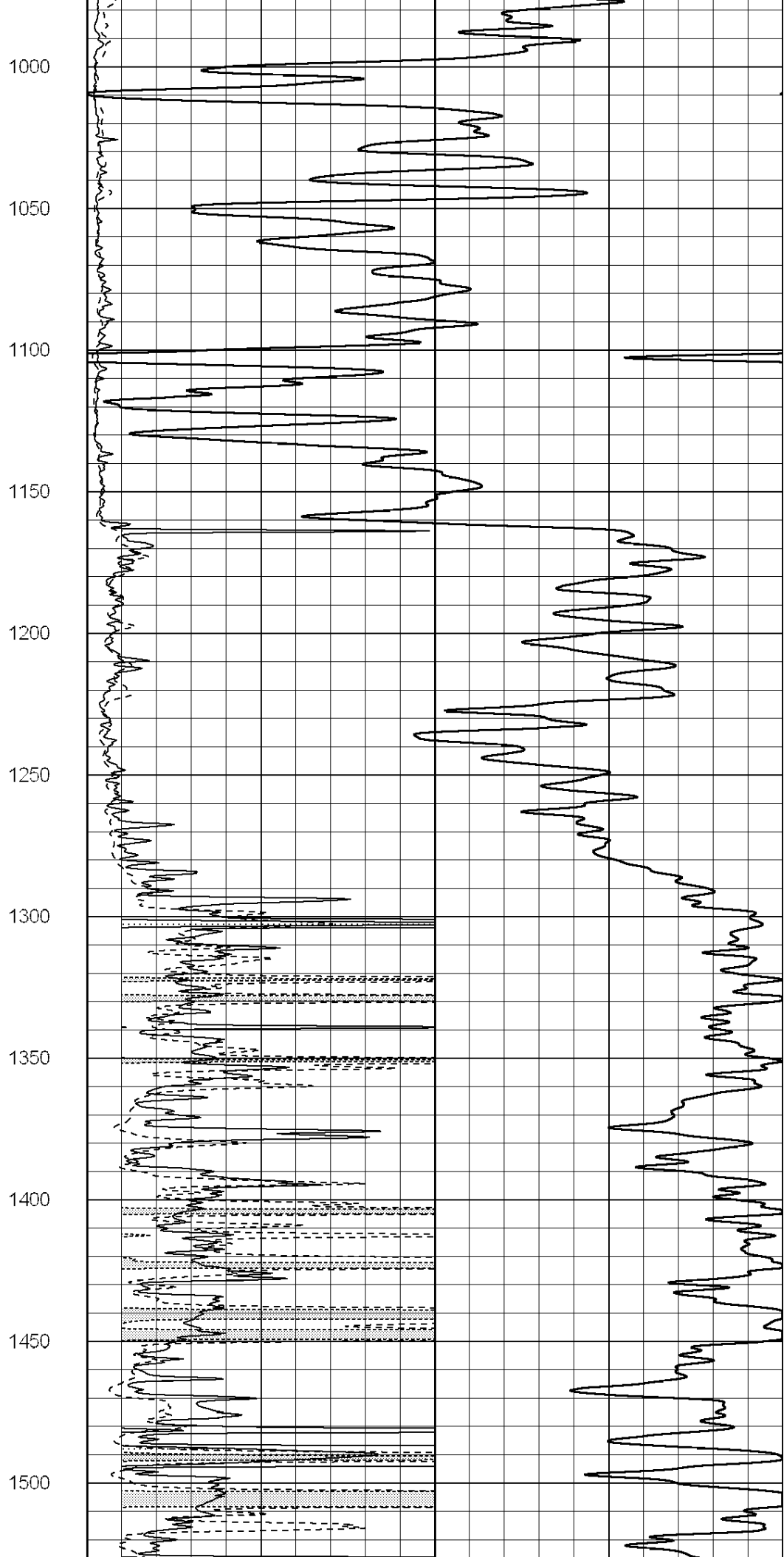
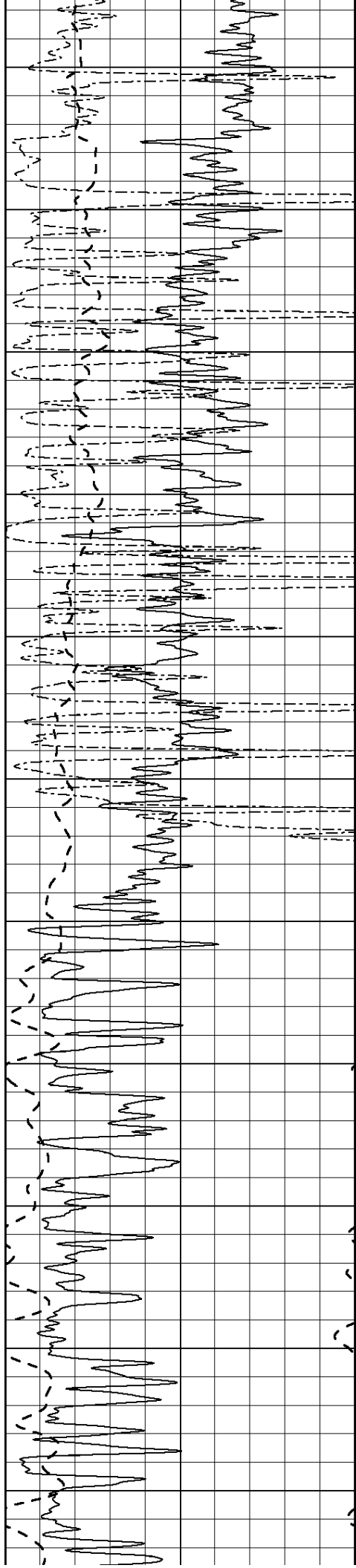
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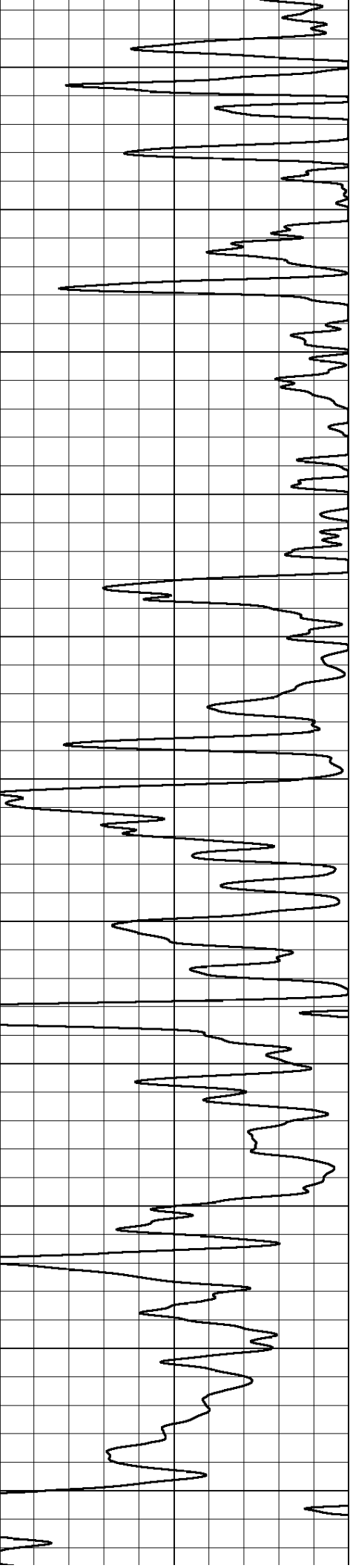
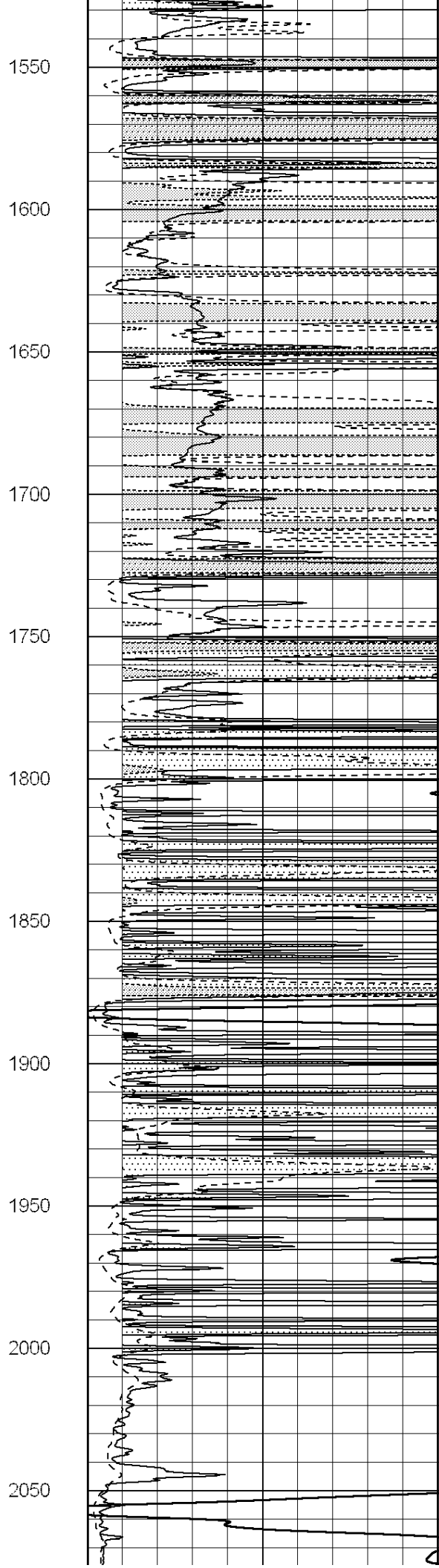
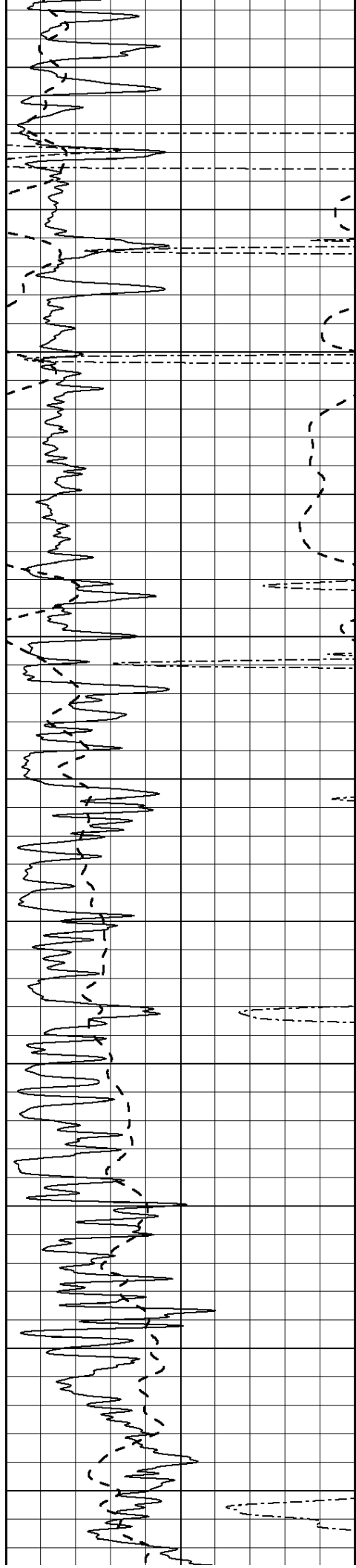
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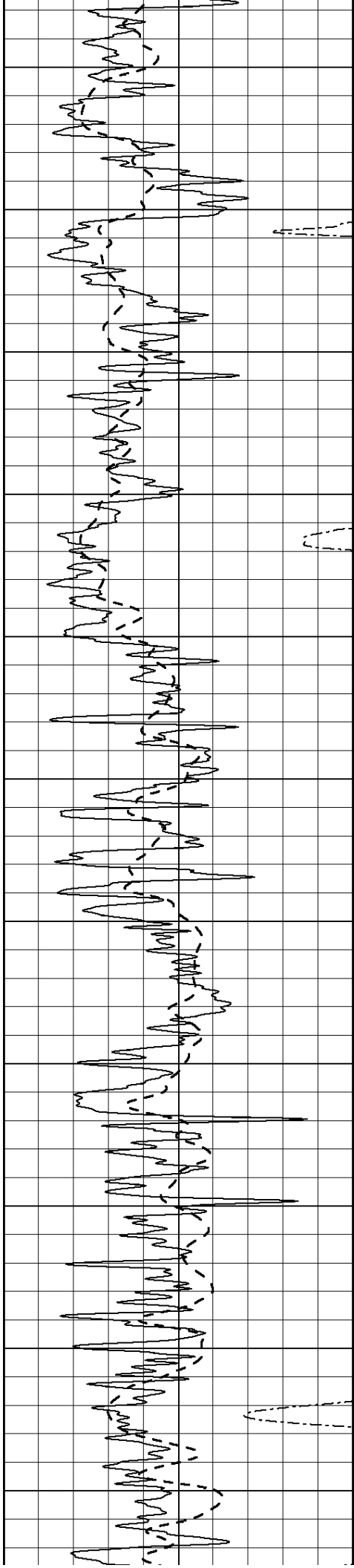
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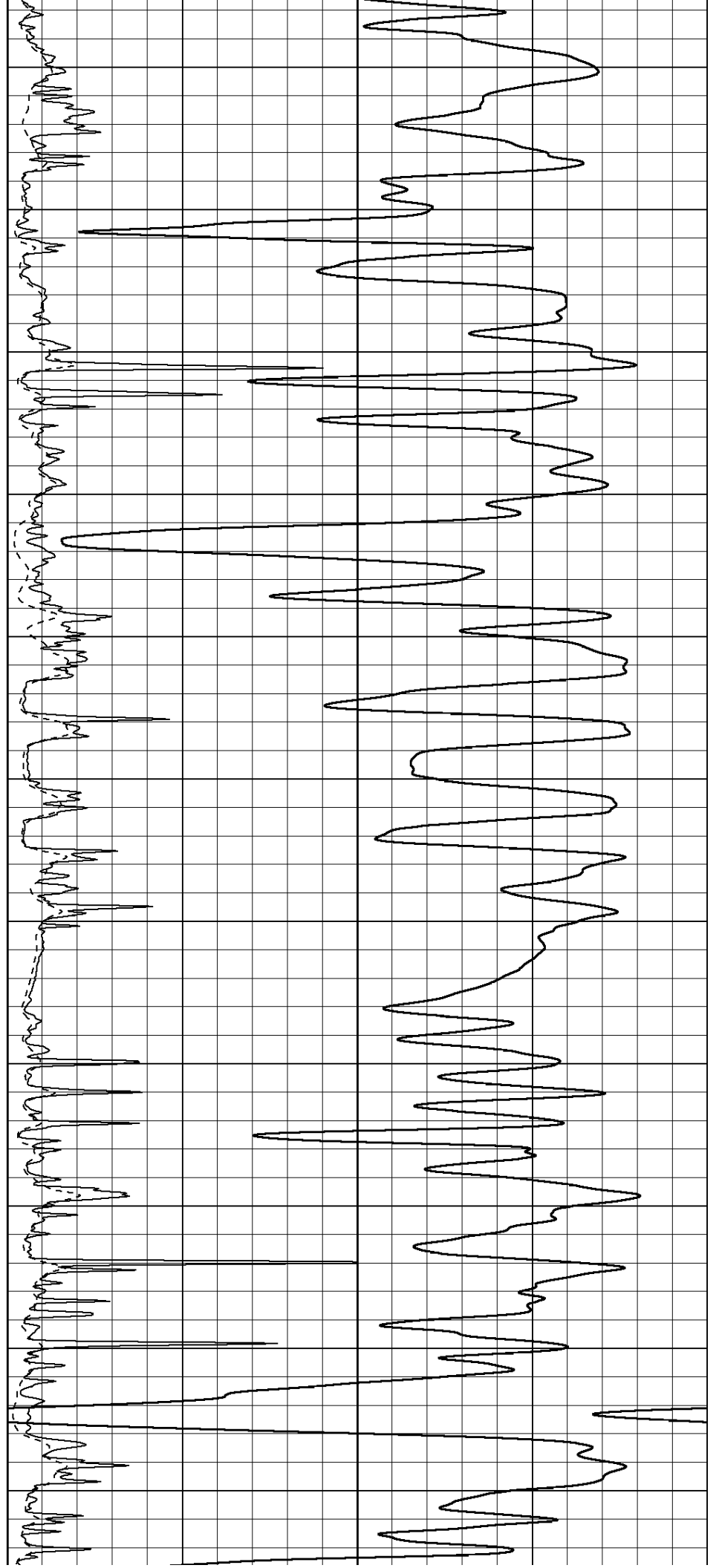
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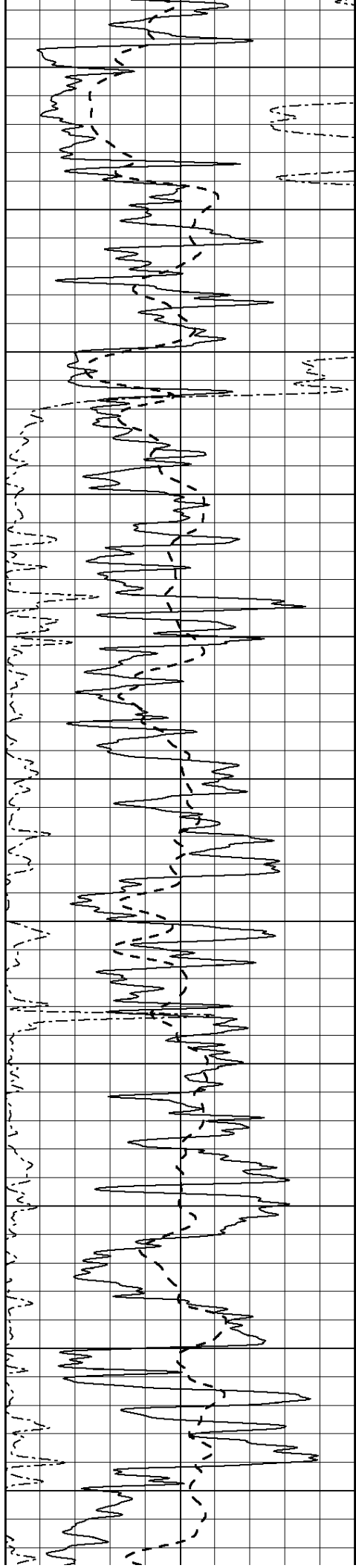
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2600





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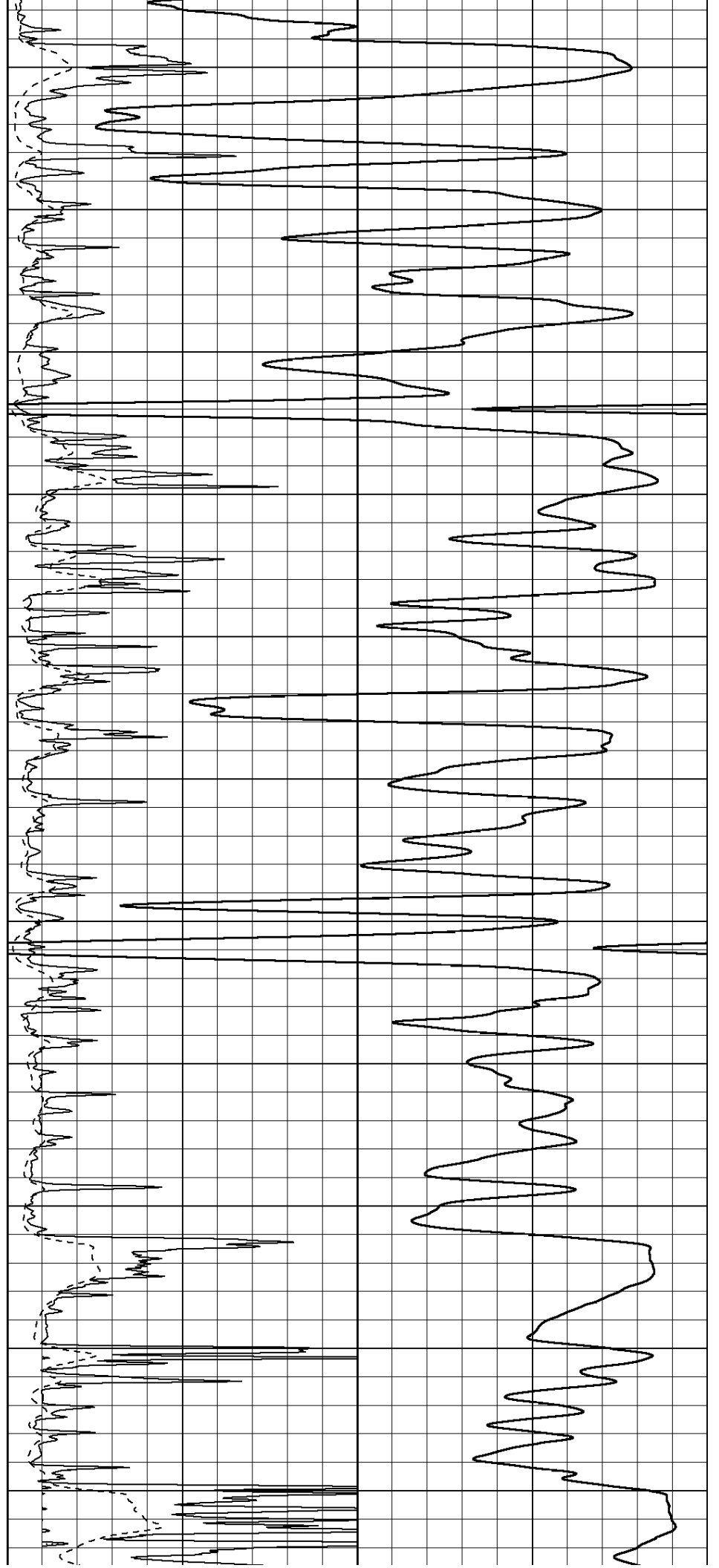
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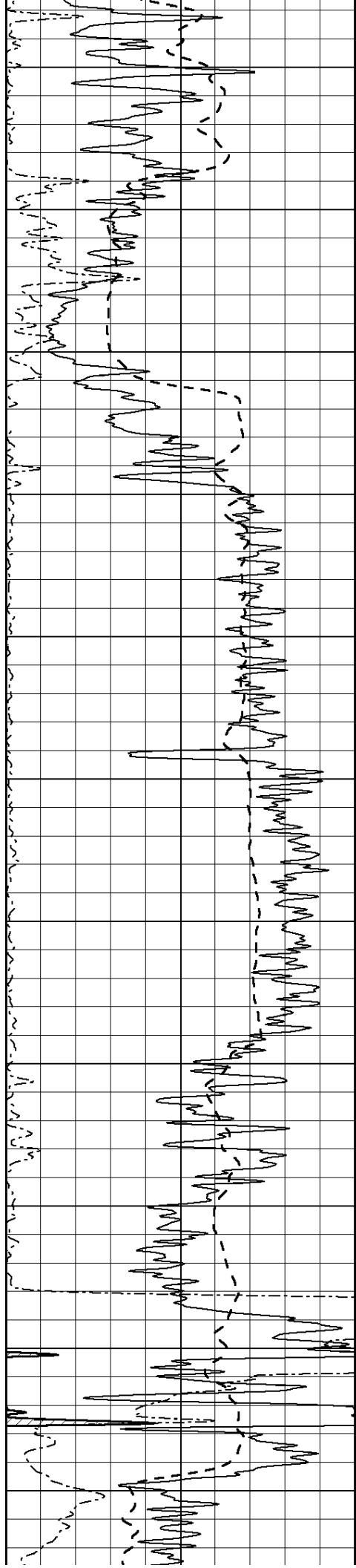
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3150





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3450

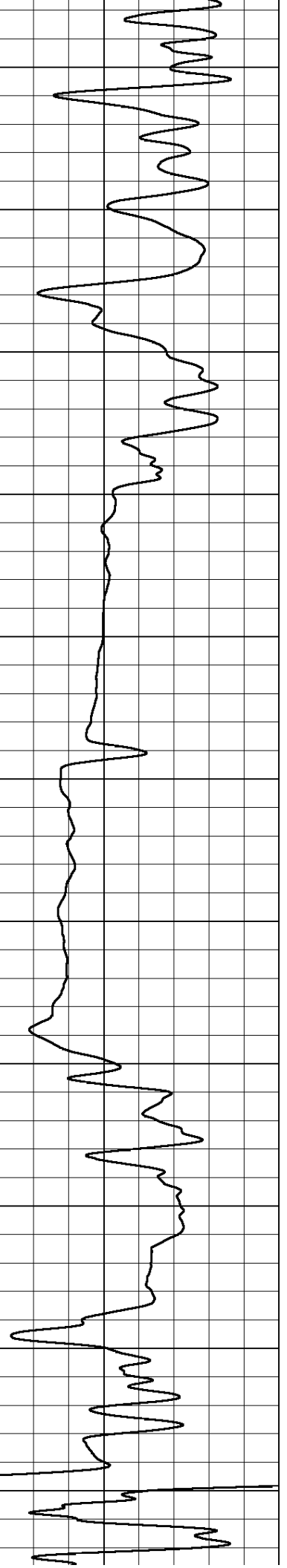
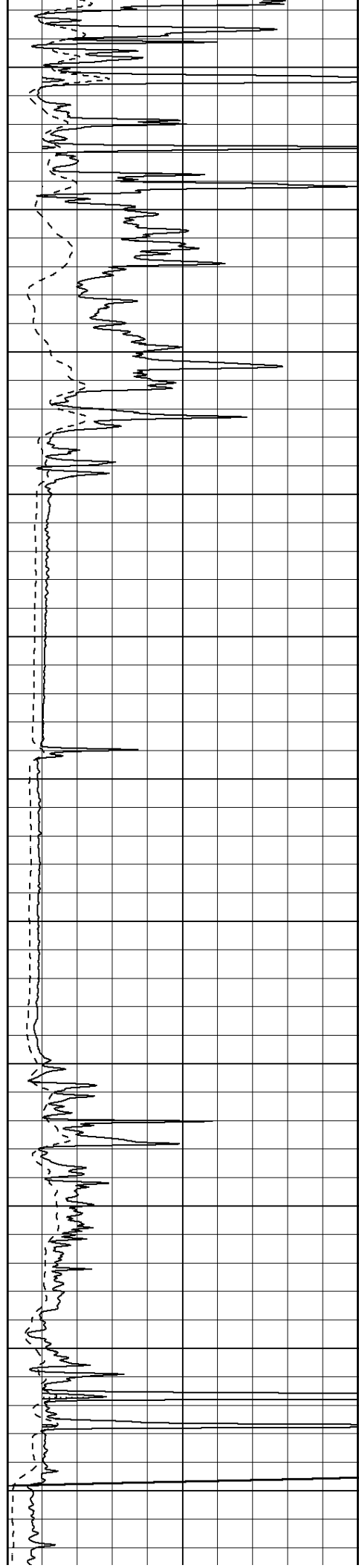
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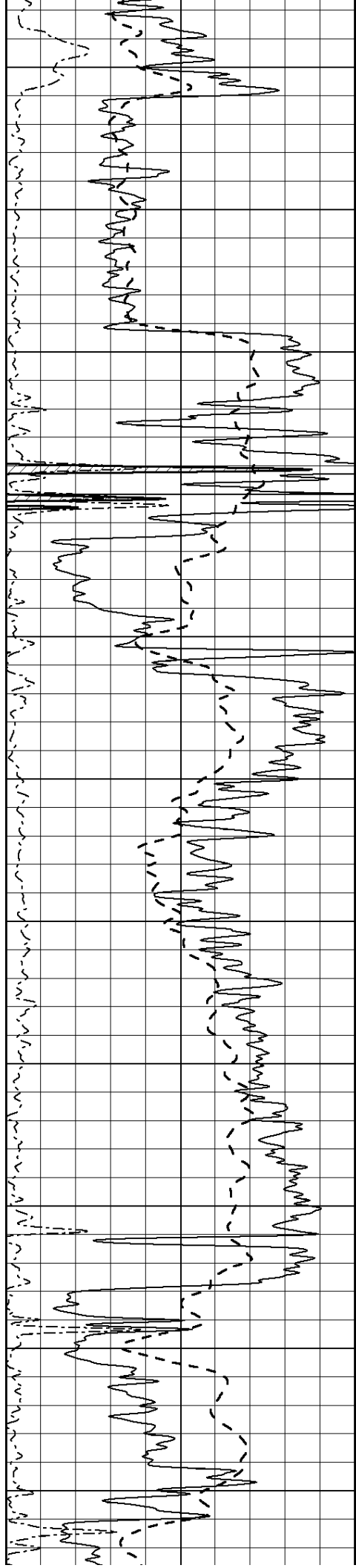
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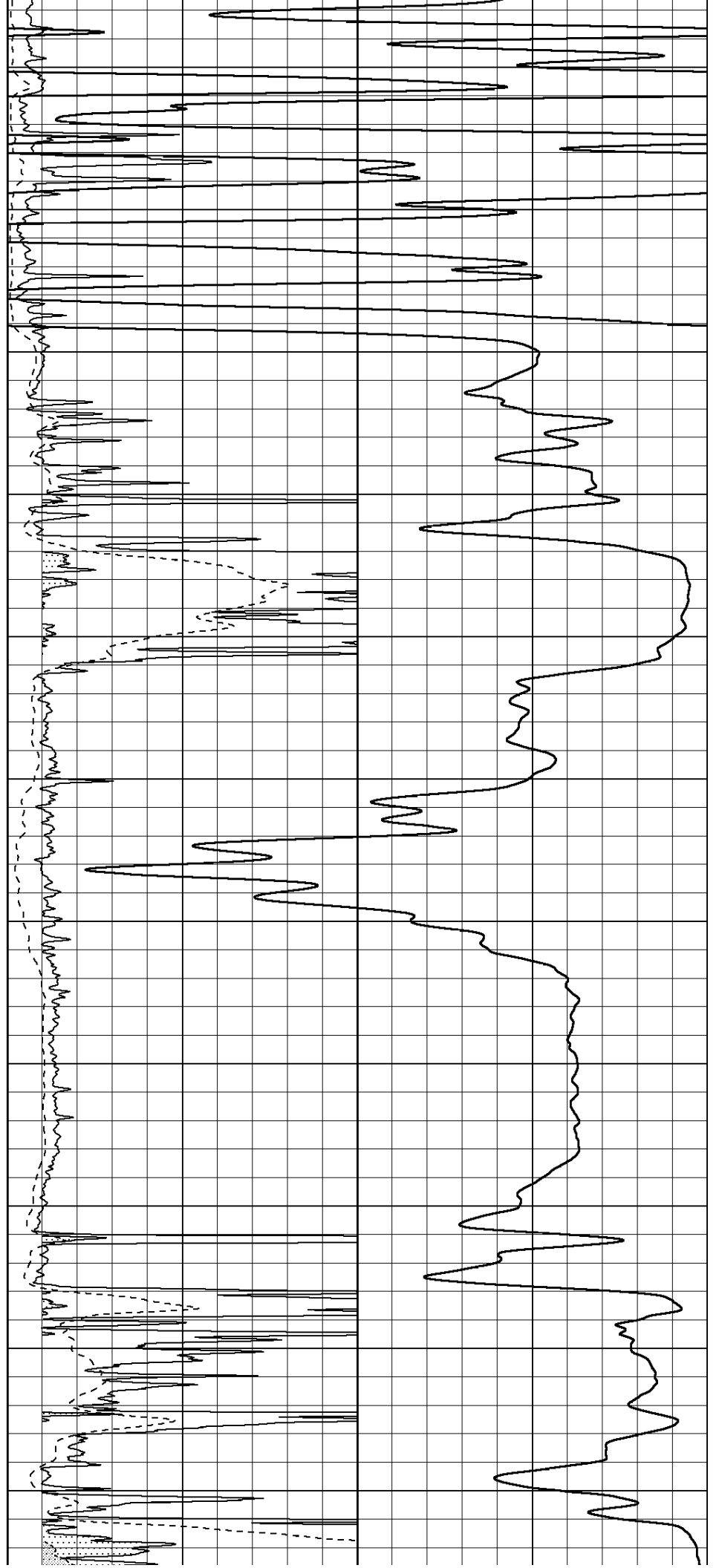
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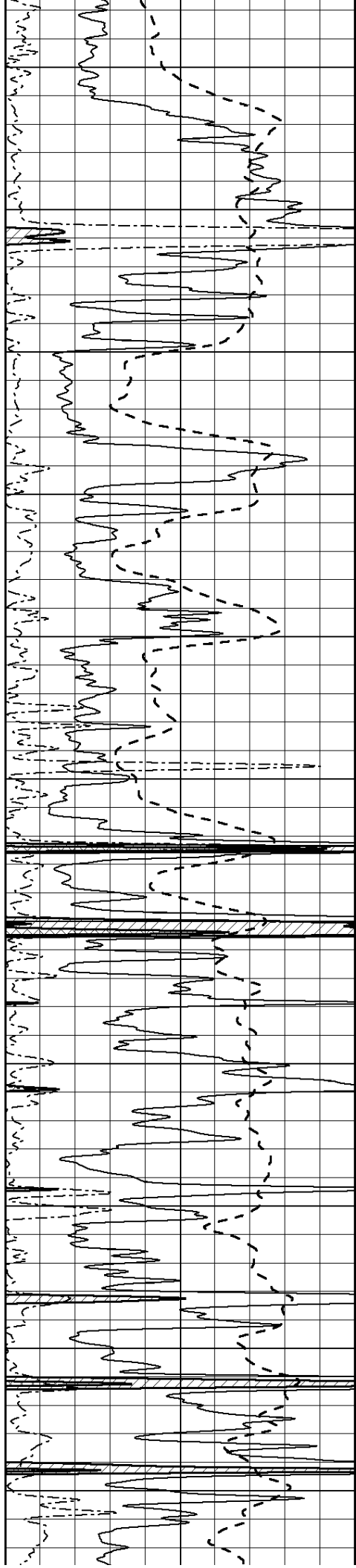
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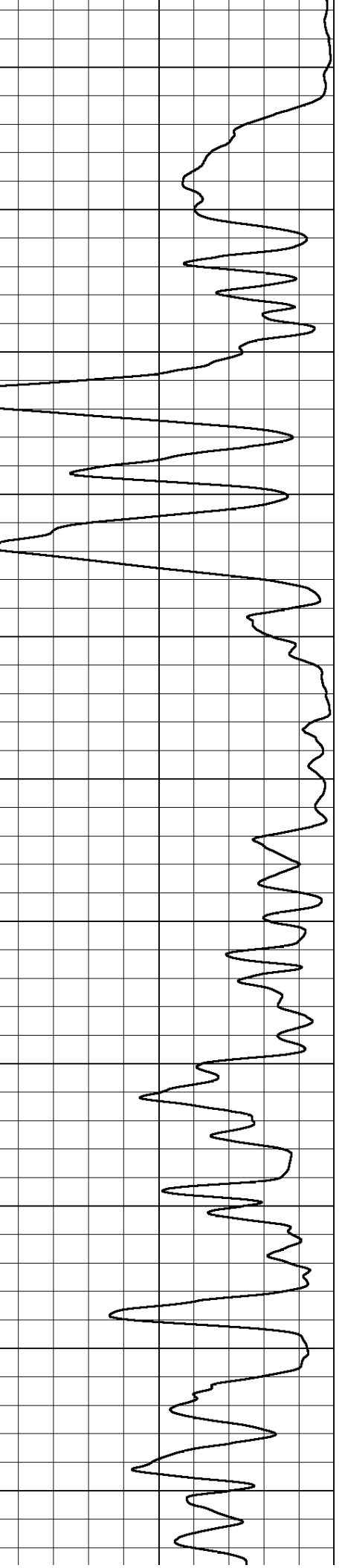
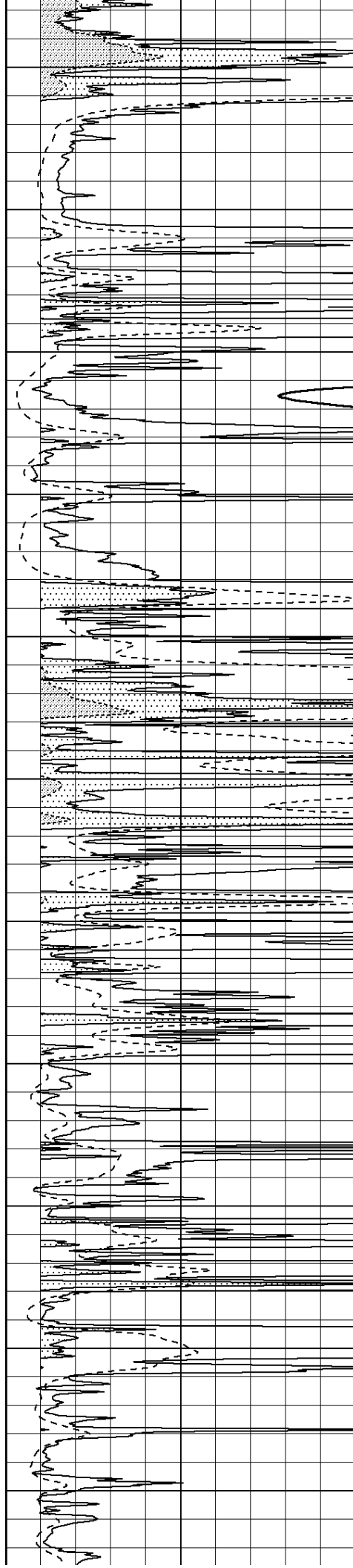
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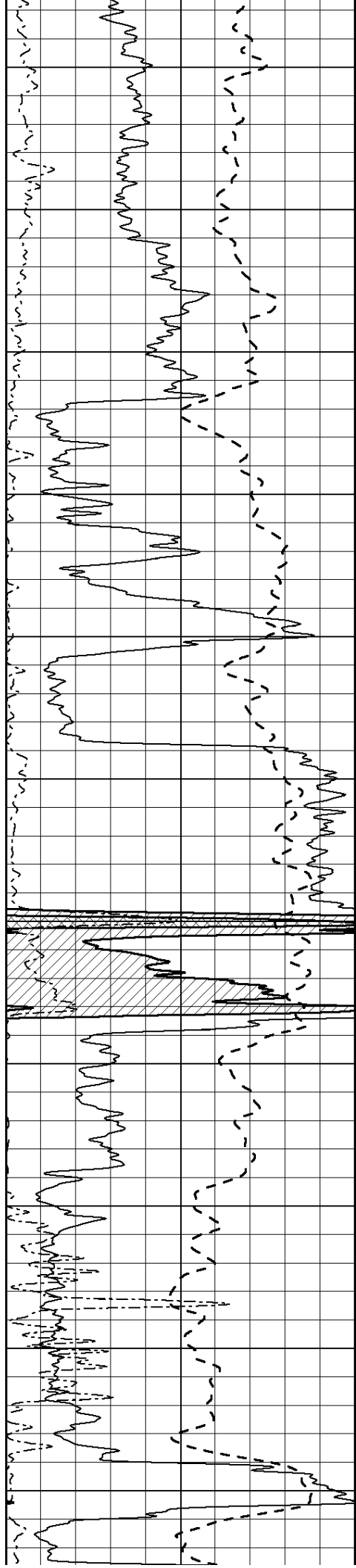
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5050

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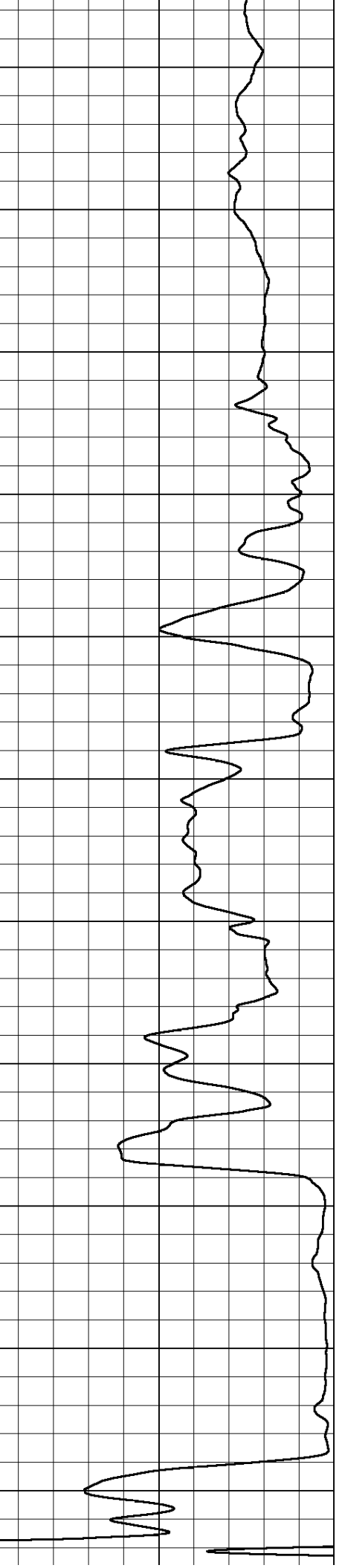
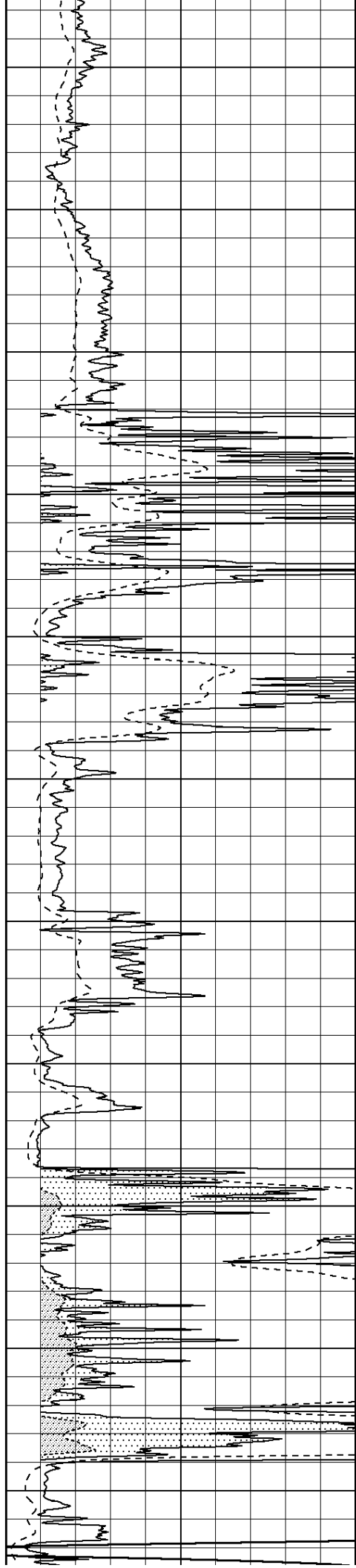
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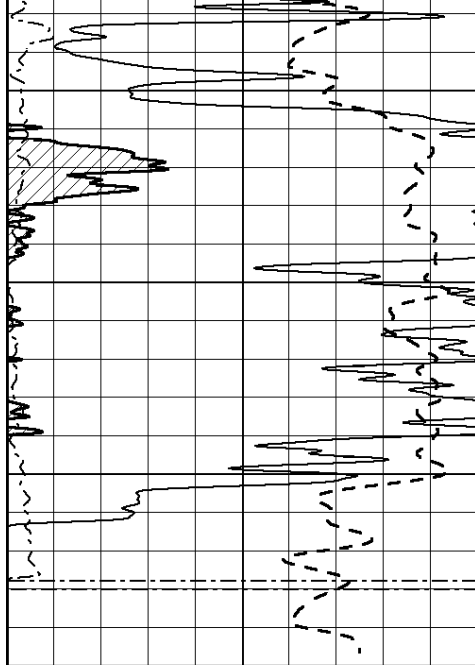
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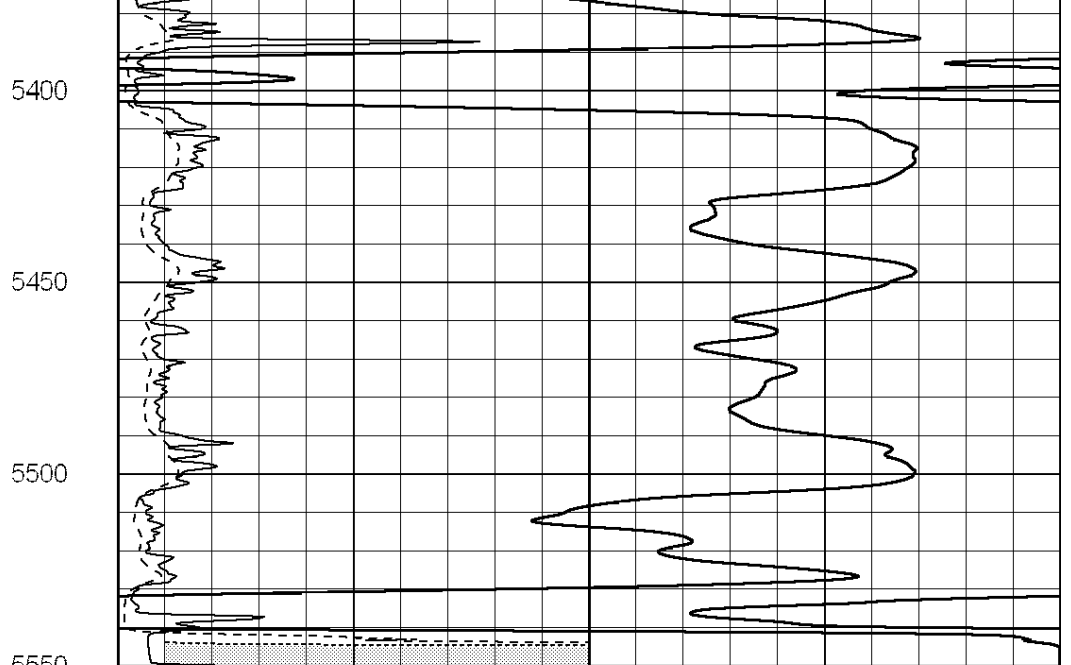
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0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1



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

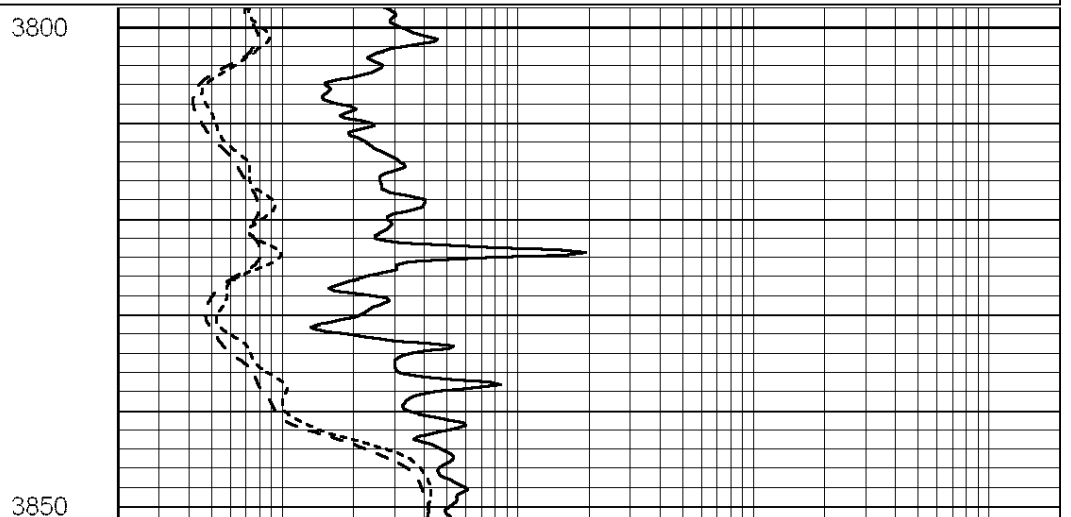
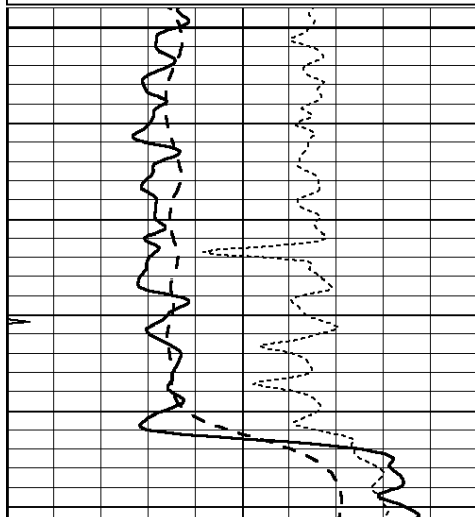


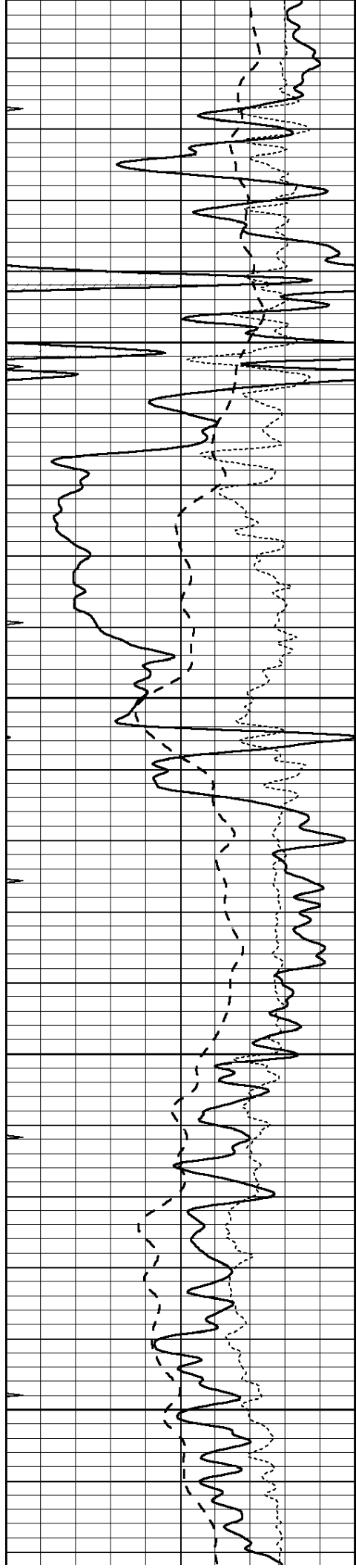
MAIN SECTION

Database File: 25888pe.db
 Dataset Pathname: pass4.10
 Presentation Format: _dil
 Dataset Creation: Wed Oct 01 01:19:26 2014
 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



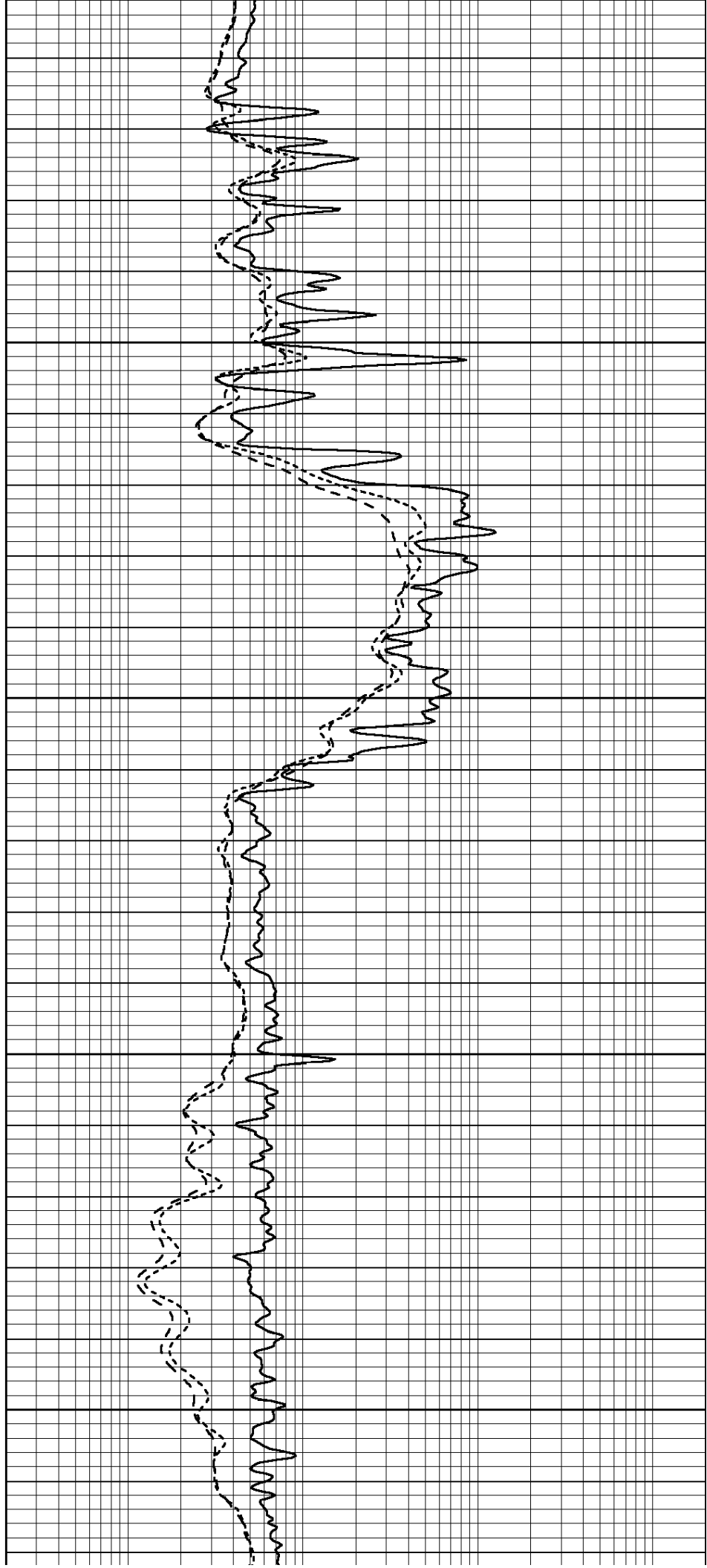


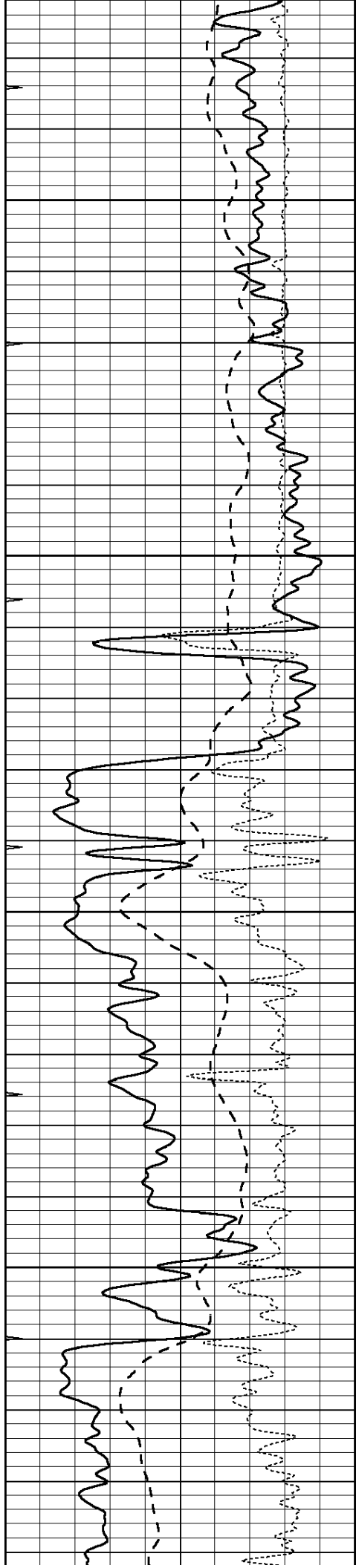
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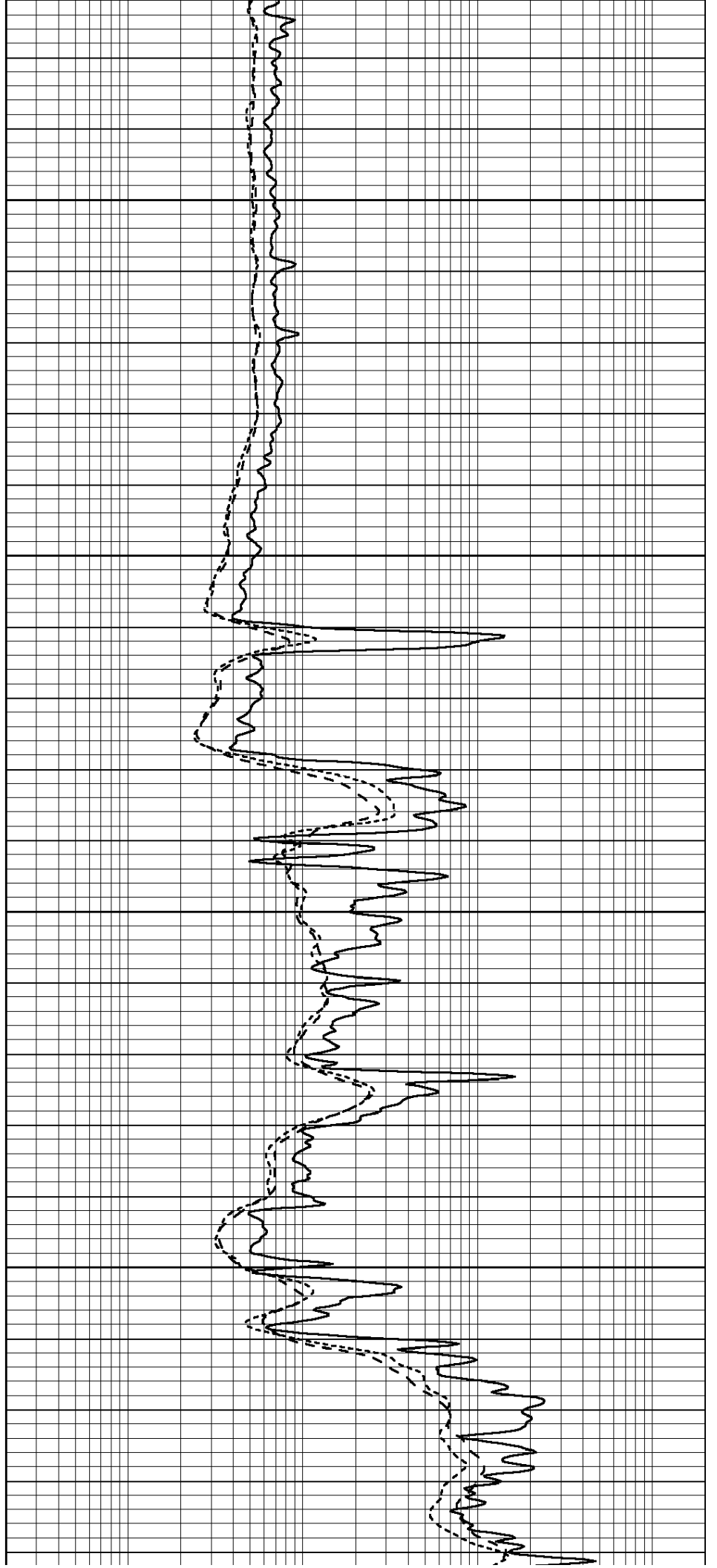


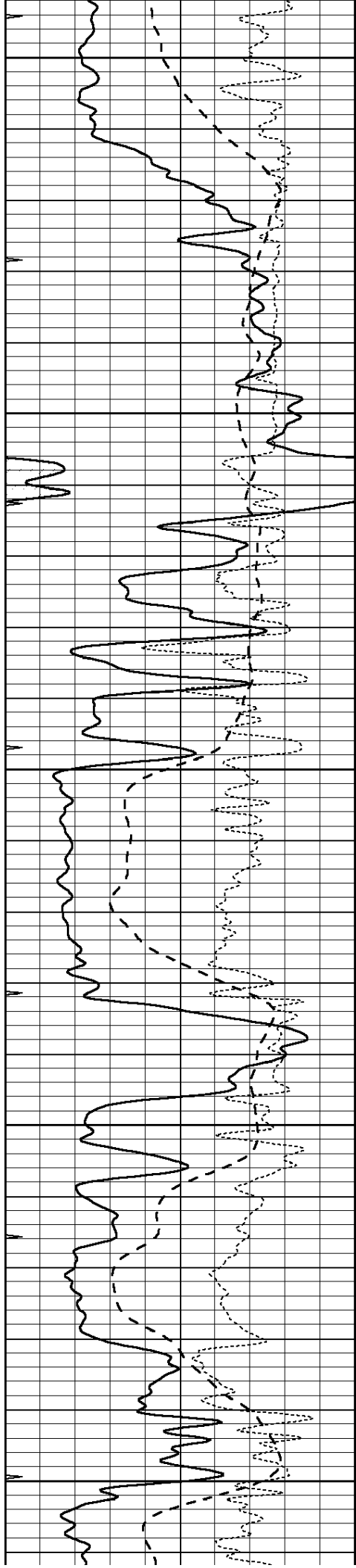
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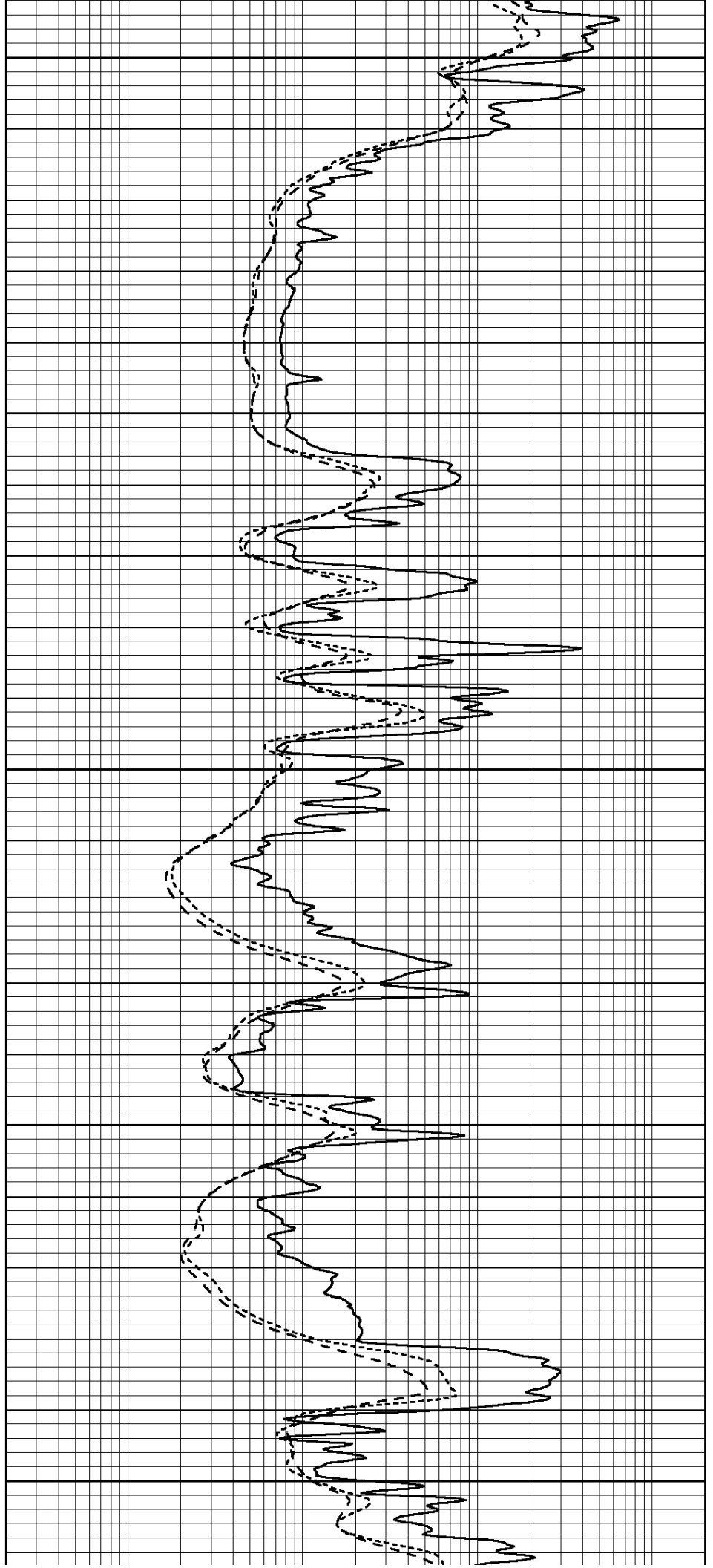
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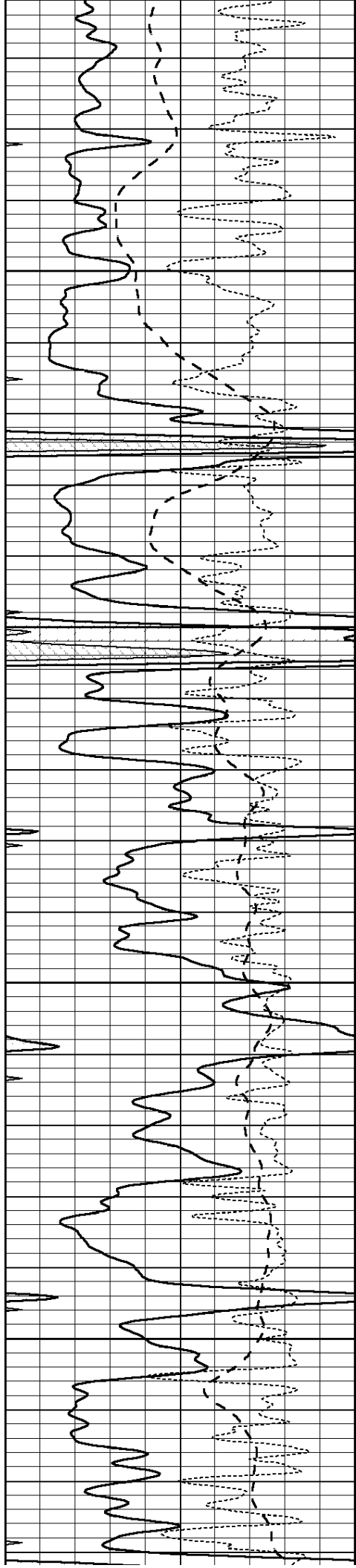
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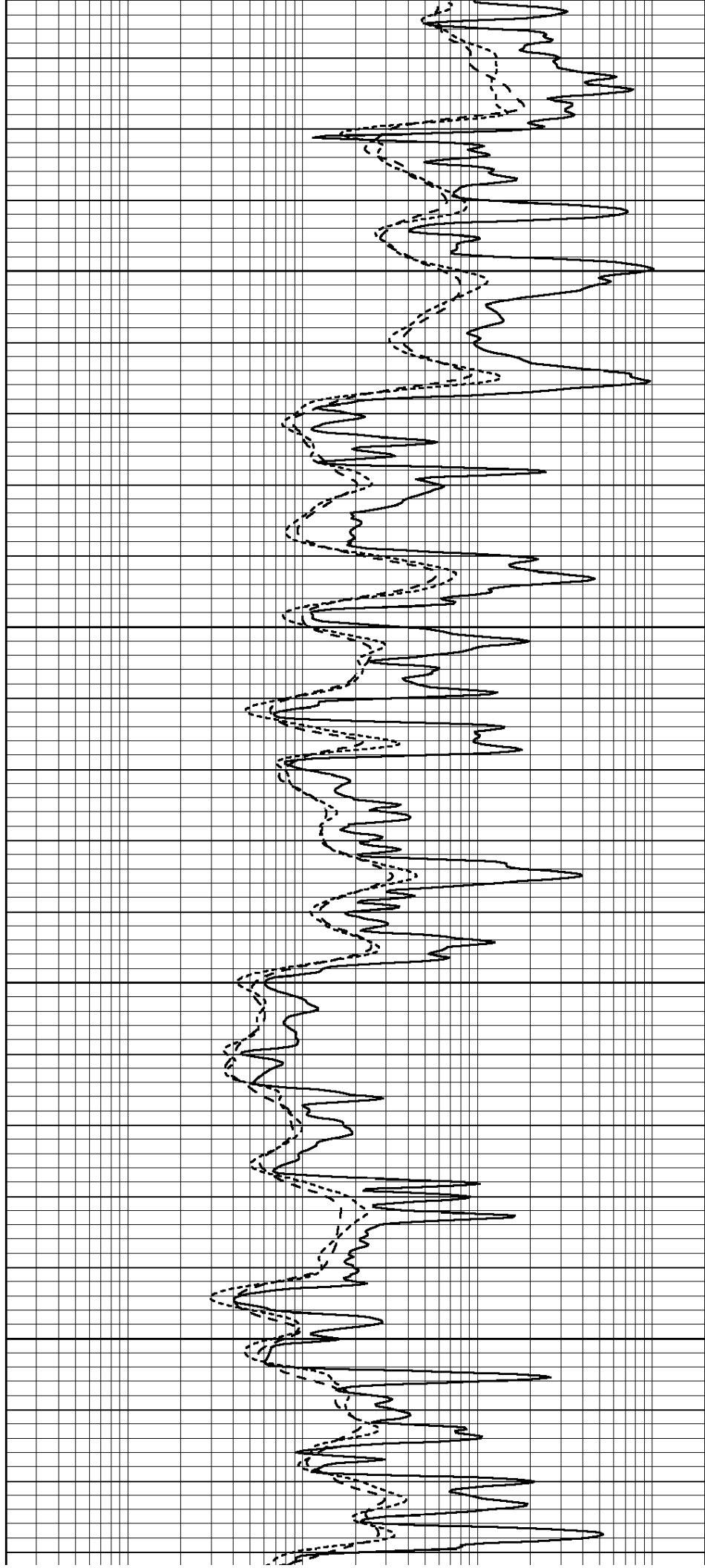


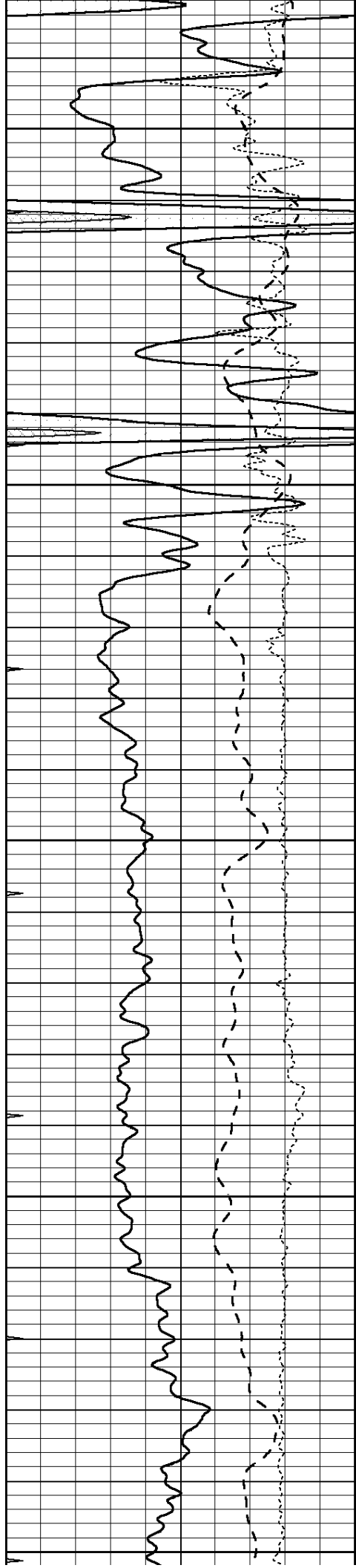
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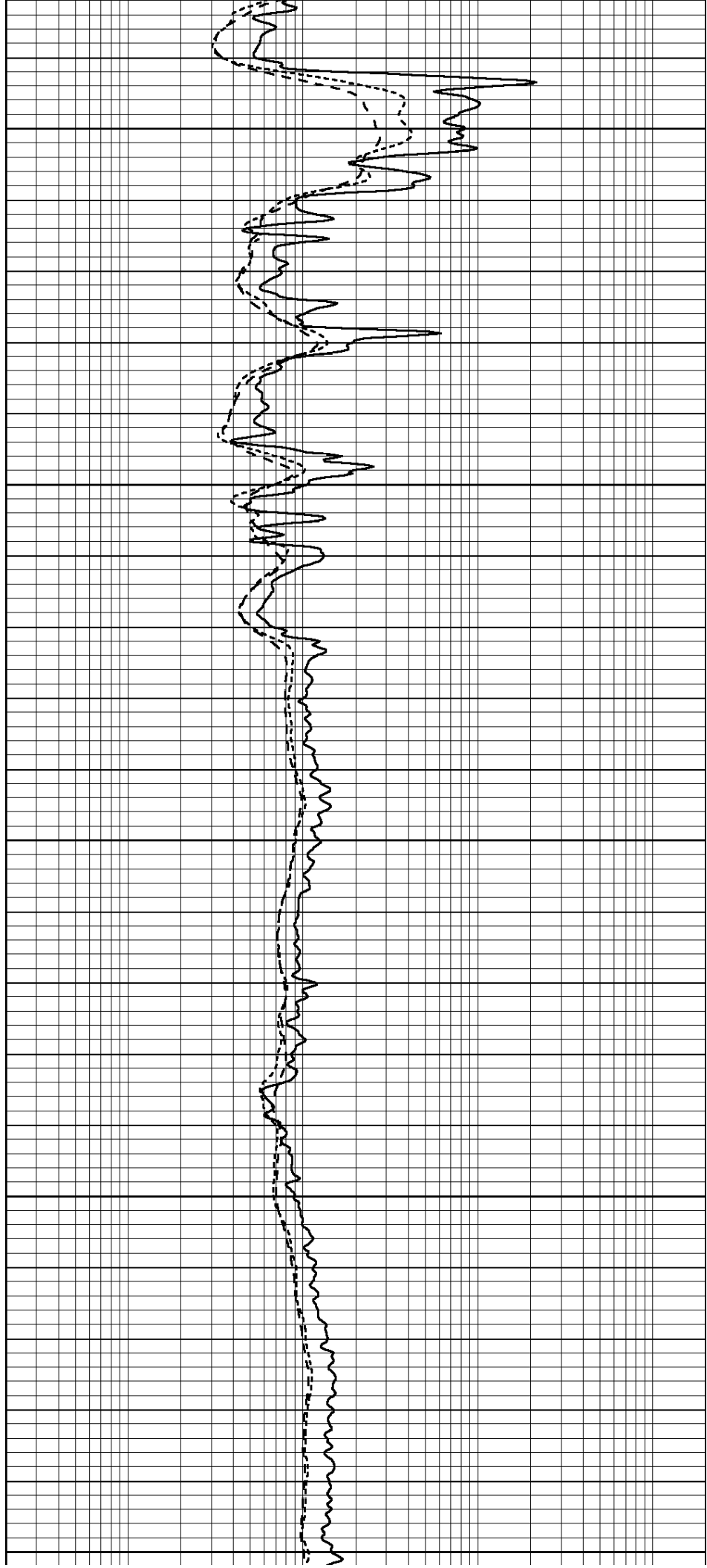
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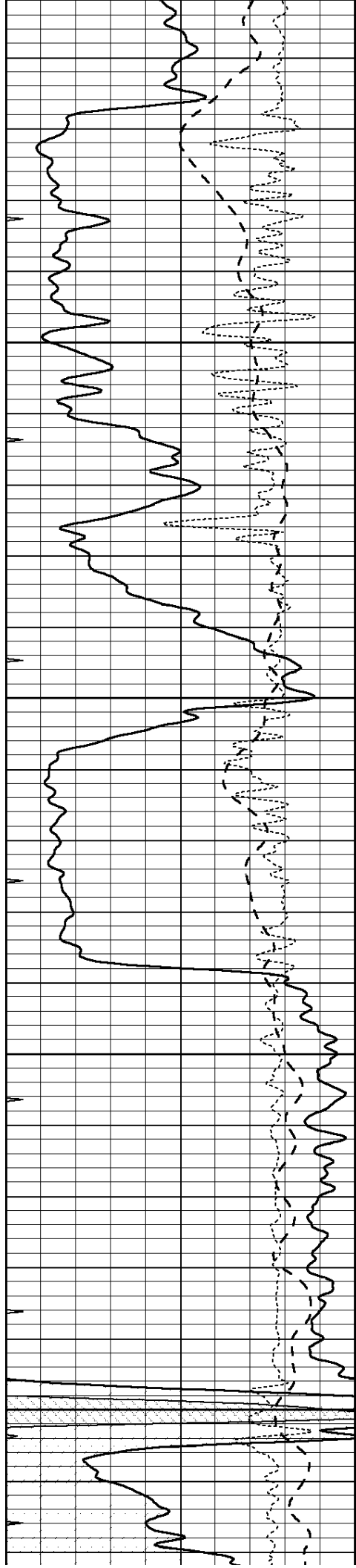
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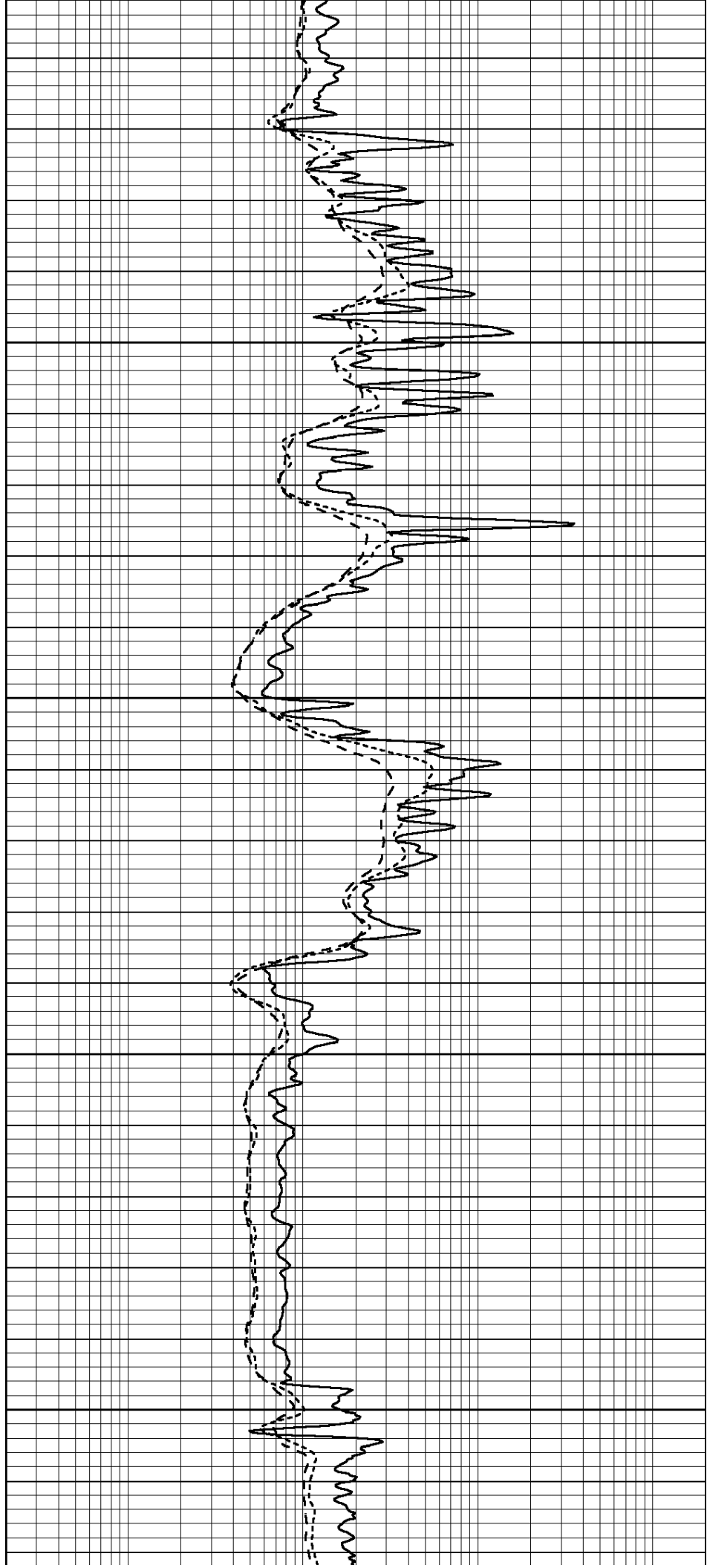


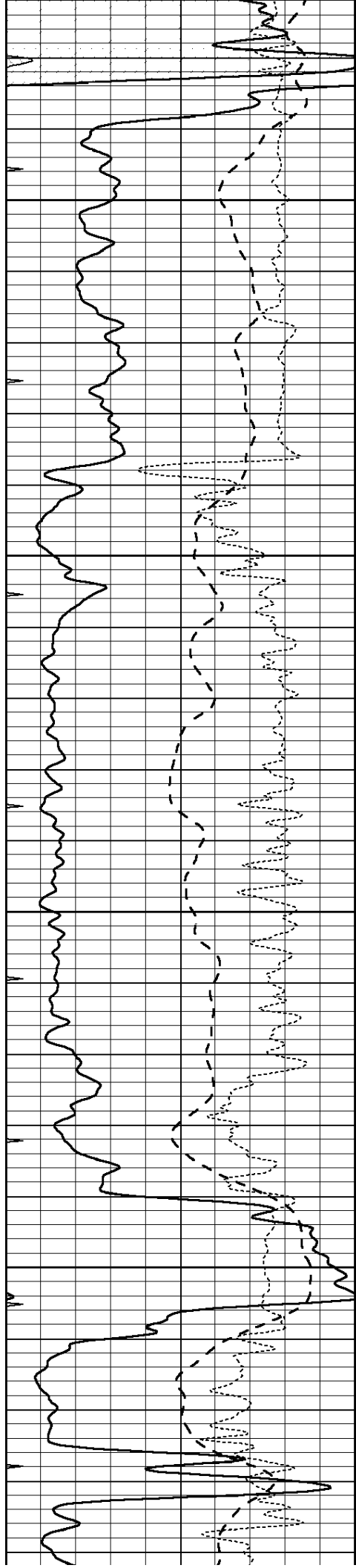
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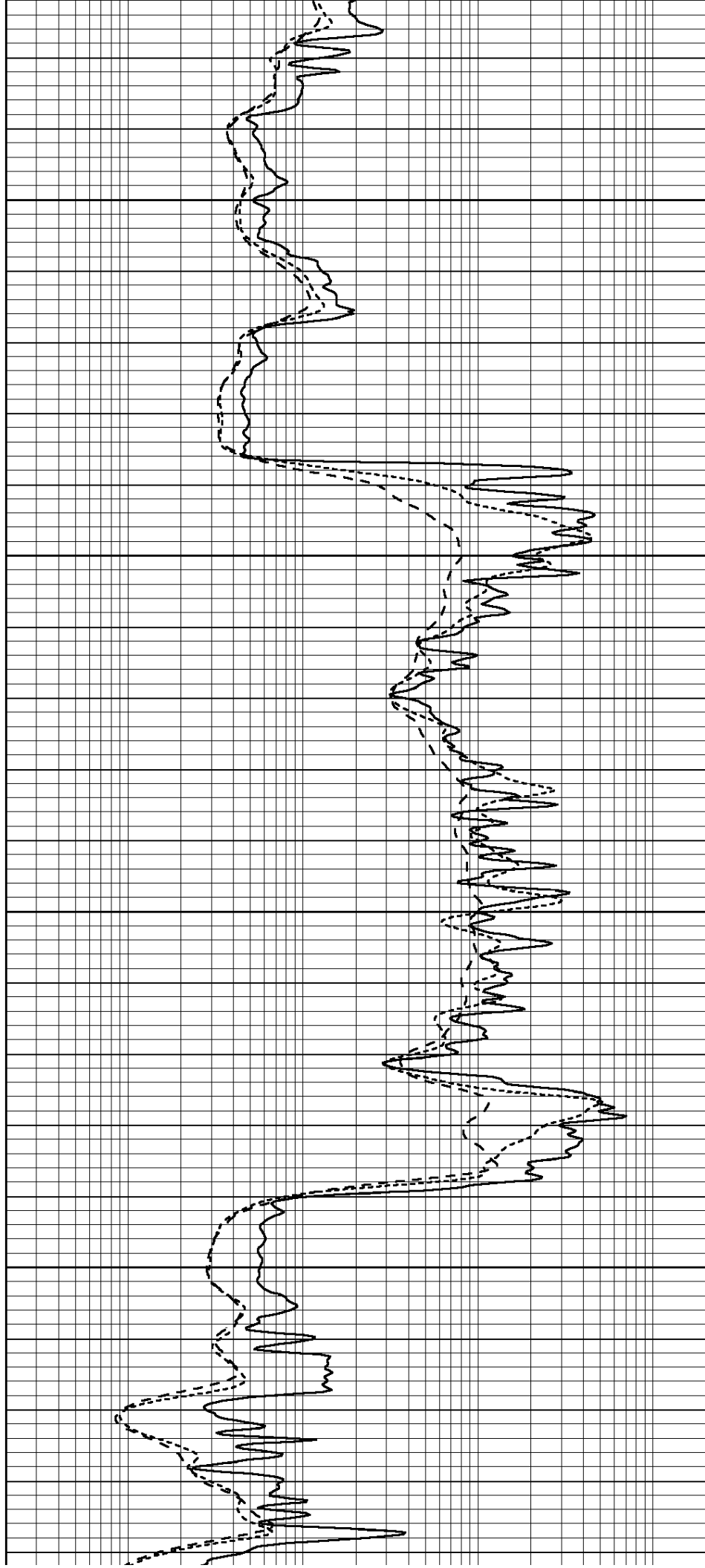


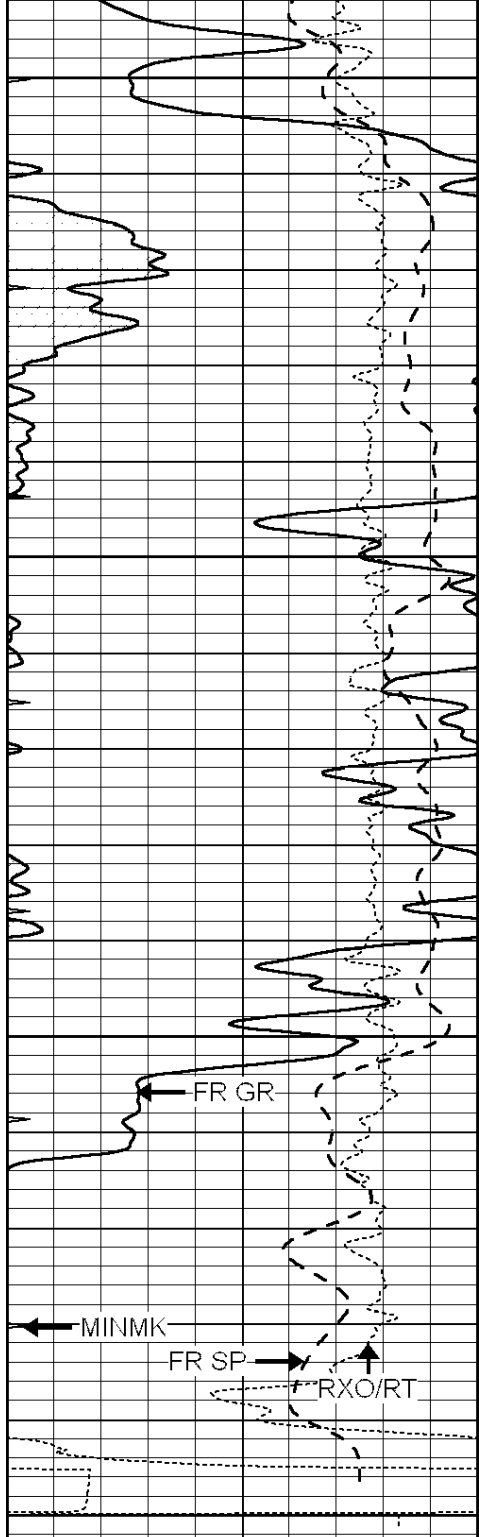
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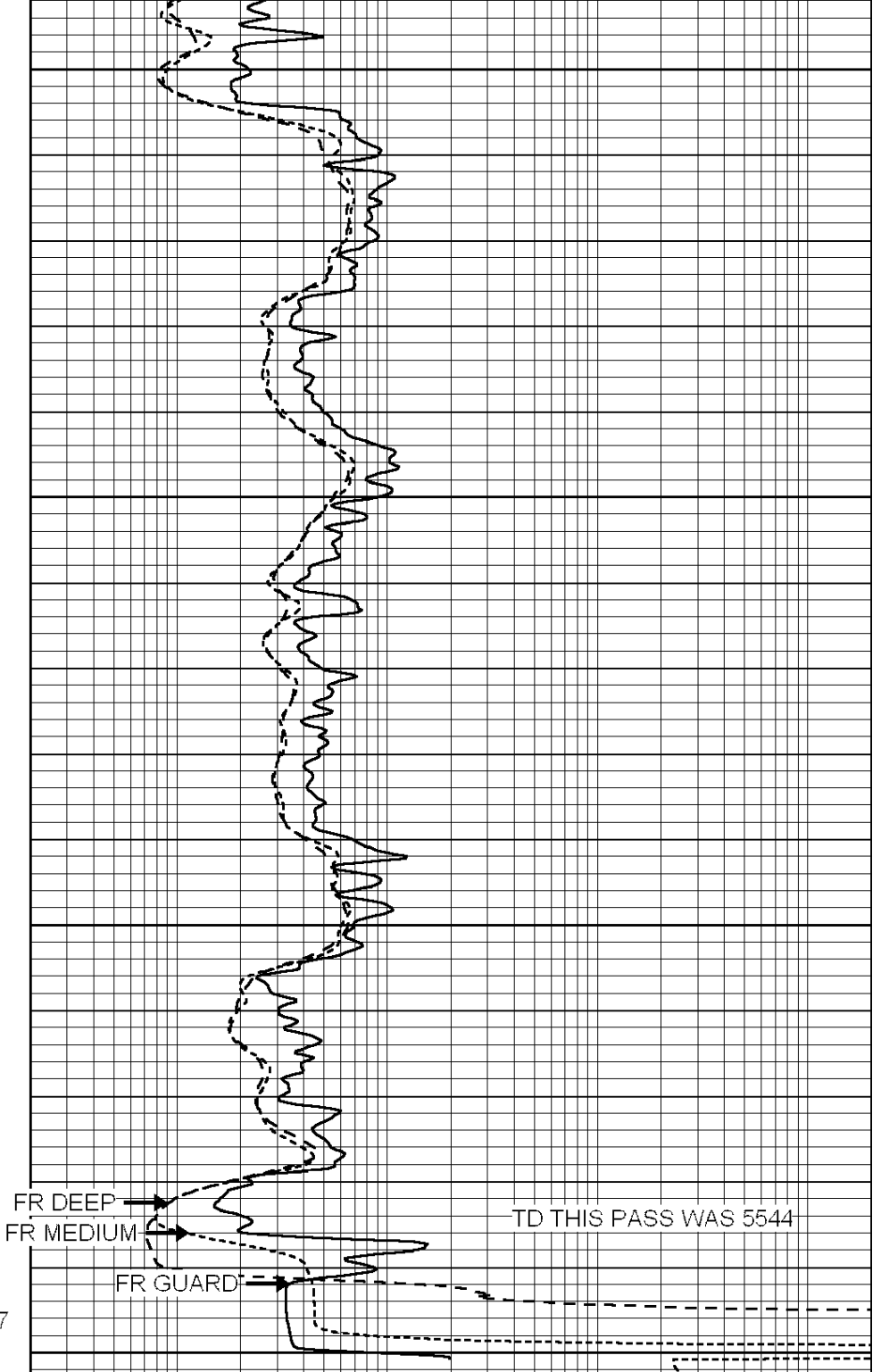
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LTD 5547
5550



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

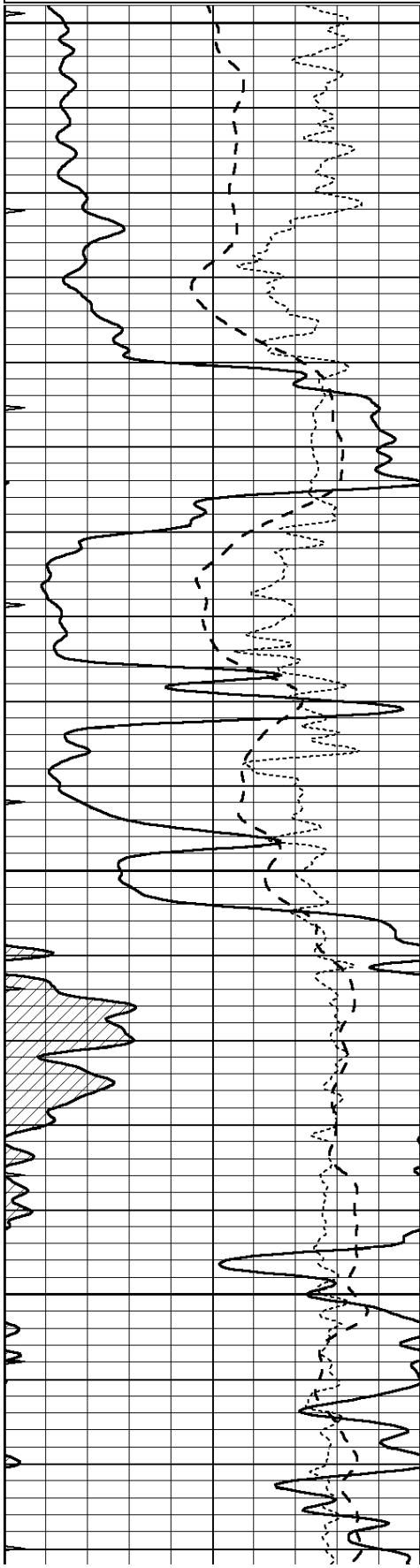
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



REPEAT SECTION

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

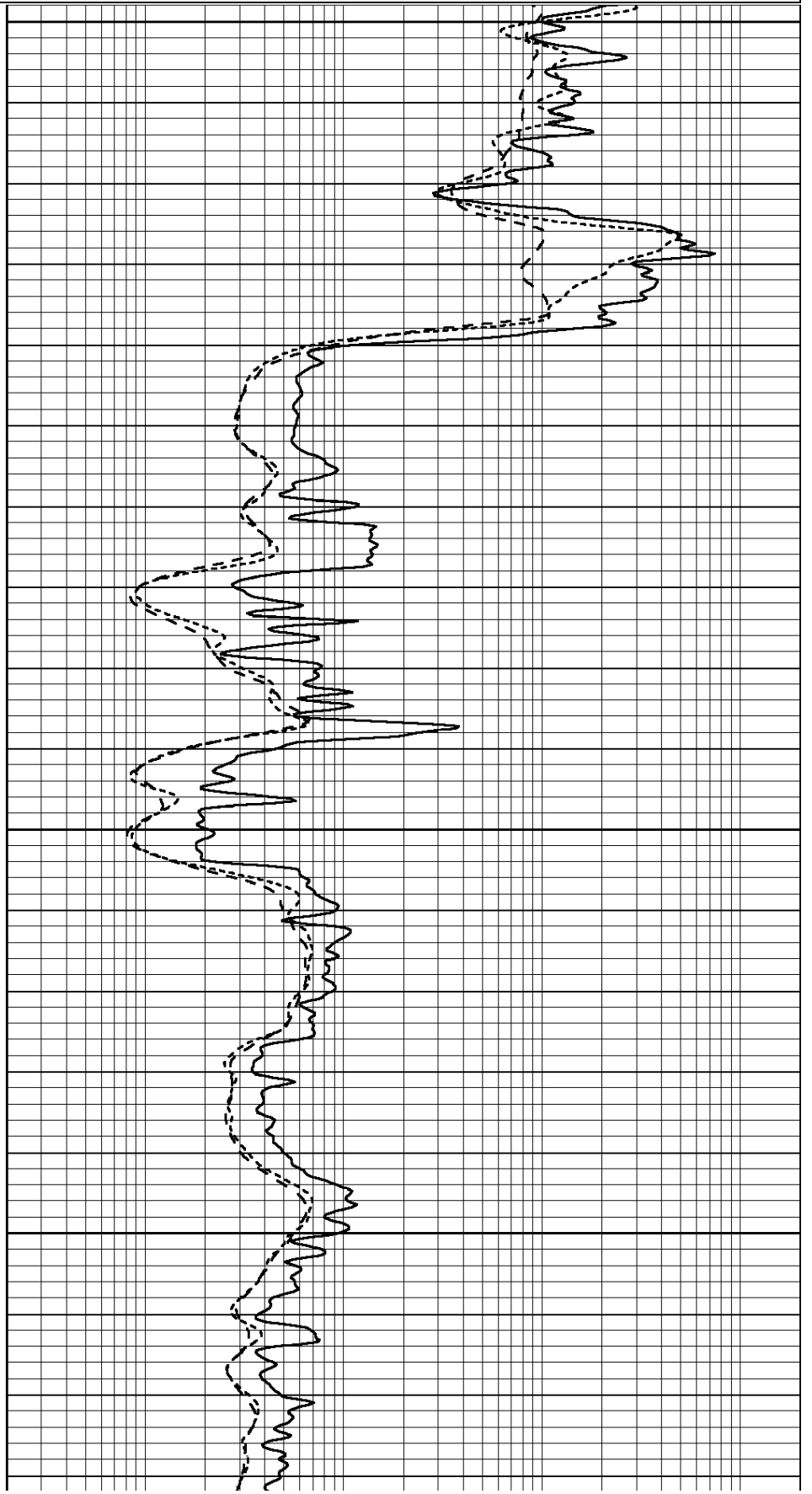


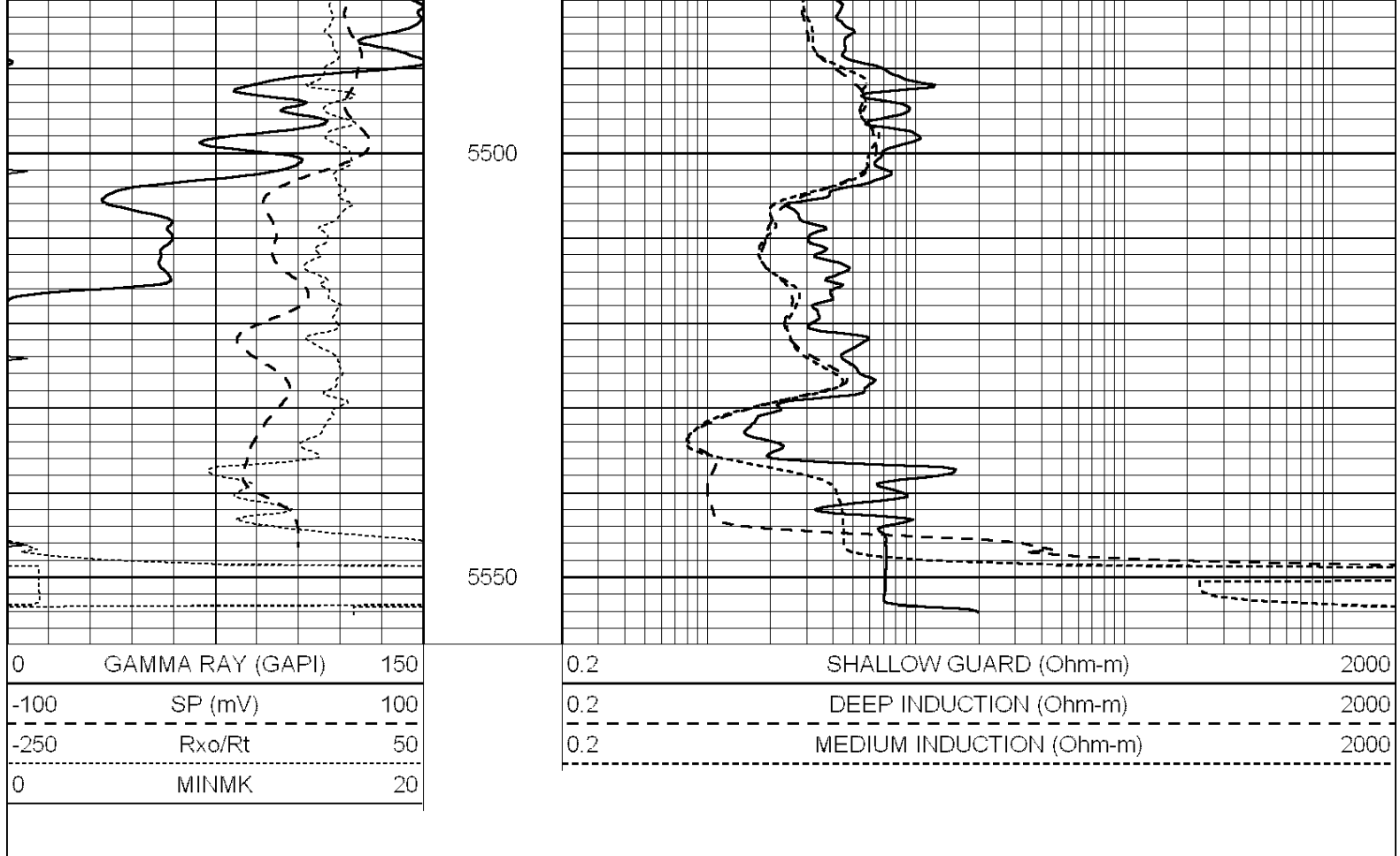
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Calibration Report

Database File: 25888pe.db
 Dataset Pathname: pass4.10
 Dataset Creation: Wed Oct 01 01:19:26 2014

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Fri Sep 26 22:43:29 2014
 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	670.000	-12.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	670.000	-22.000
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		

	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 Fri May 30 11:50:45 2014			
	Background	Magnesium	Aluminum	Sandstone	
Window 1	1256.6	9989.4	3203.9	10919.3	cps
Window 2	1137.0	8207.0	2724.6	8764.6	cps
Window 3	749.9	3977.2	1516.7	4097.1	cps
Window 4	144.0	317.0	303.6	310.9	cps
Long Space	0.0	7070.0	1587.6	7627.6	cps
Short Space	1.9	2571.4	1707.5	2736.8	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 44.7	Rib Slope	: 0.989	Density/Spine Ratio	: 0.568
Spine Angle	: 74.7	Spine Slope	: 3.648	Spine Intercept	: -19.8

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:	070558		
Tool Model:	OPEN_GR		
Performed:	Mon Jun 30 21:53:39 2014		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.2800	GAPI/cps	