



DUAL INDUCTION LOG

Company CHIEFTAIN OIL COMPANY, INC.
 Well ROWE SWD #1
 Field SHARON NORTHEAST
 County BARBER
 State KANSAS

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 Well ROWE SWD #1
 Field SHARON NORTHEAST
 County BARBER State KANSAS

Location: API # : 15-007-01588-0001
 1980' FSL & 1905' FVL
 E/2 - W/2 - NE - SW

Permanent Datum GROUND LEVEL Elevation 1519
 Log Measured From KELLY BUSHING 8' A.G.L.
 Drilling Measured From KELLY BUSHING

SEC 3 TWP 32S RGE 10W
 Other Services
 CDL/CNL/PE
 Elevation
 K.B. 1527
 D.F. 1525
 G.L. 1519

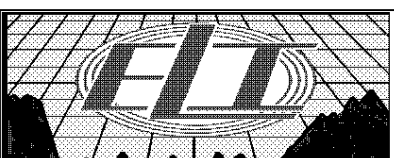
Date	9/16/79	
Run Number	ONE	
Depth Driller	5300	
Depth Logger	5283	
Bottom Logged Interval	5281	
Top Log Interval	00	
Casing Driller	10 3/4" @ 274'	
Casing Logger	280	
Bit Size	7 7/8"	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 18,000 PPM
Density / Viscosity	8.9/56	
pH / Fluid Loss	9.5/24.0	
Source of Sample	FLOWLINE	
Rim @ Meas. Temp	.280 @ 82F	
Rmf @ Meas. Temp	.210 @ 82F	
Rmc @ Meas. Temp	.336 @ 82F	
Source of Rmf / Rmc	MEASUREMENT	
Rim @ BHT	.179 @ 128F	
Time Circulation Stopped	3 HOURS	
Time Logger on Bottom	11:15 P.M.	
Maximum Recorded Temperature	128F	
Equipment Number	922339	
Location	HAYS, KANSAS	
Recorded By	JEFF LUEBBERS	
Witnessed By	STEVE VAN BUSKIRK	RYAN MOLZ

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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 ELI WIRELINE HAYS, KANSAS (785) 628-6395
 DIRECTIONS
 SHARON, KS. & HWY 160, 2N. ON "TRI CITY BLKTOP" TO "BLACKMORE RD.", 1 1/2E., N. INTO AT BLUE C



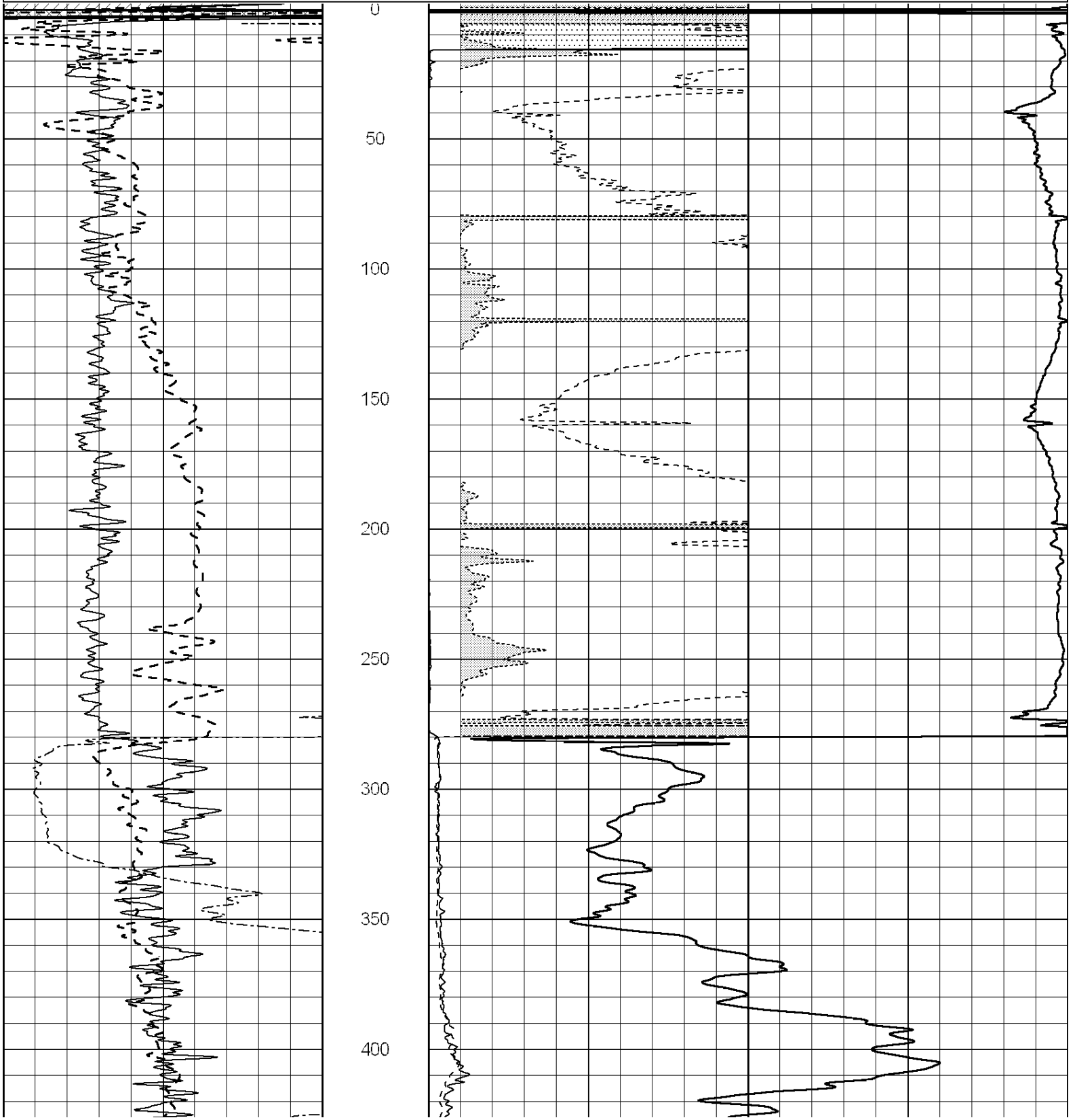
MAIN SECTION

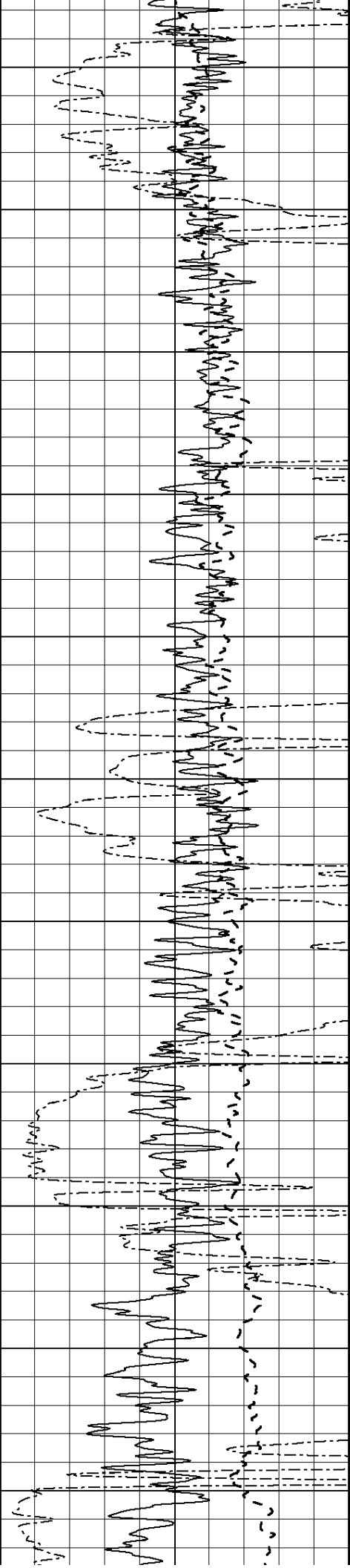
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 Dataset Pathname: pass3.2D
 Presentation Format: dil2
 Dataset Creation: Tue Sep 17 00:34:11 2019
 Charted by: Depth in Feet scaled 1:600

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





450

500

550

600

650

700

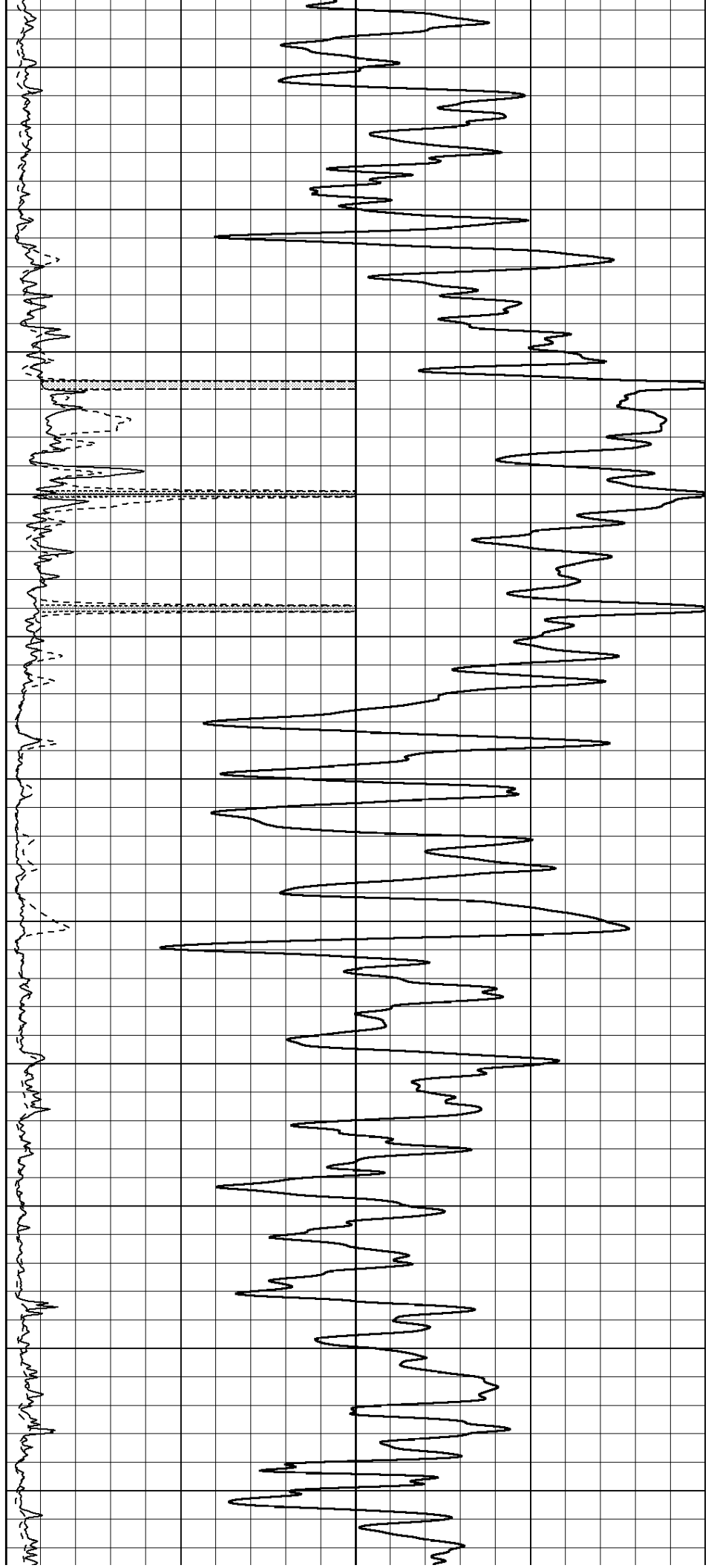
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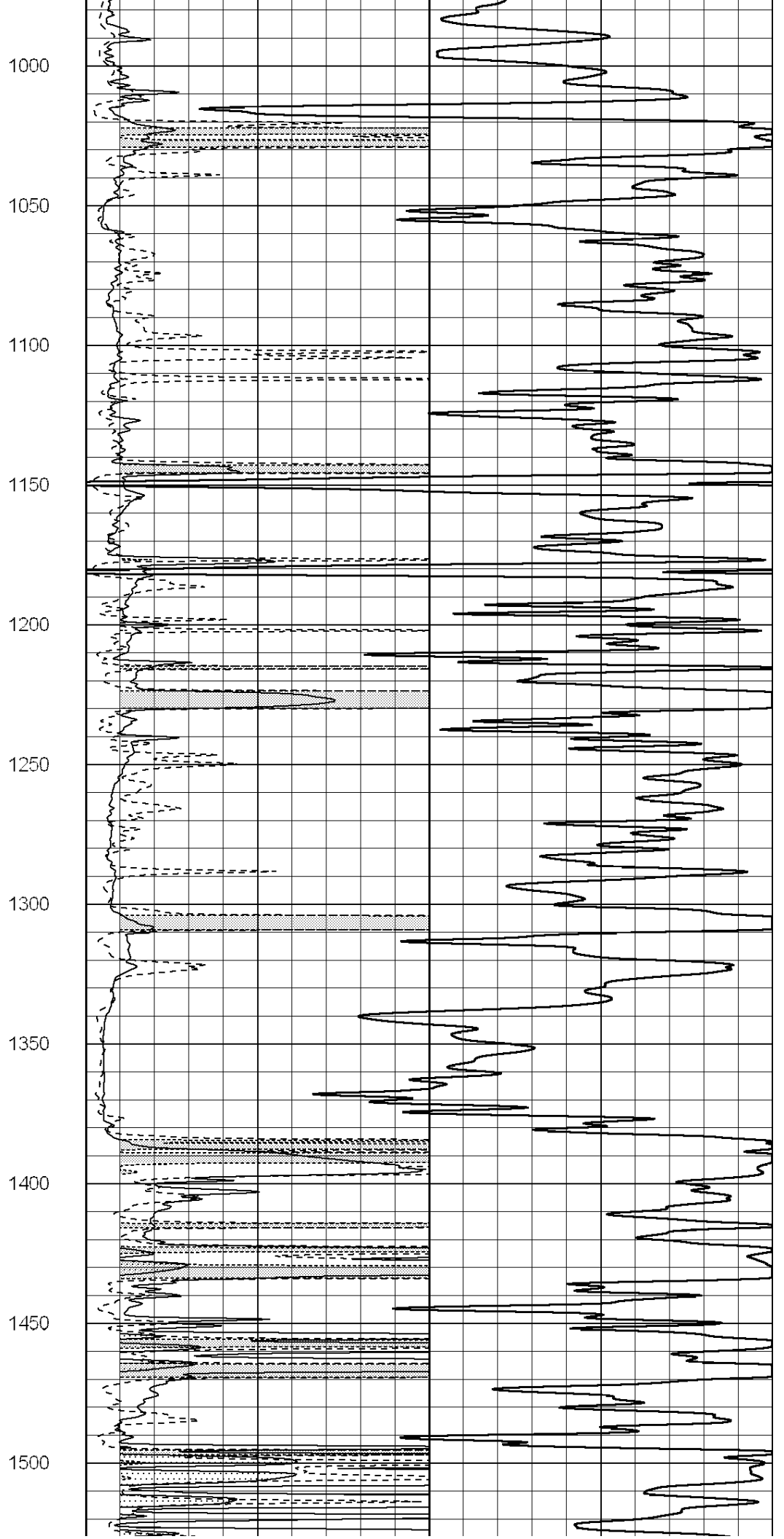
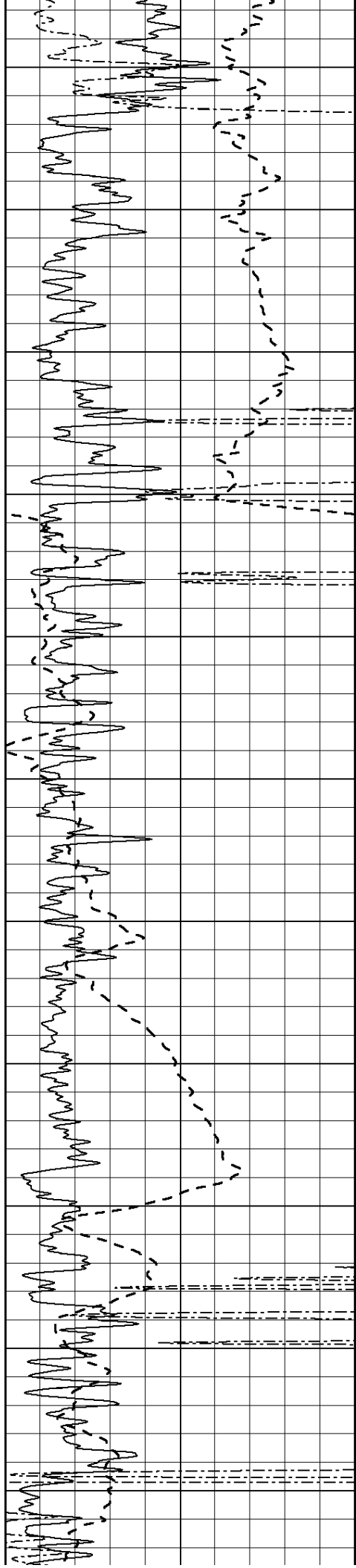
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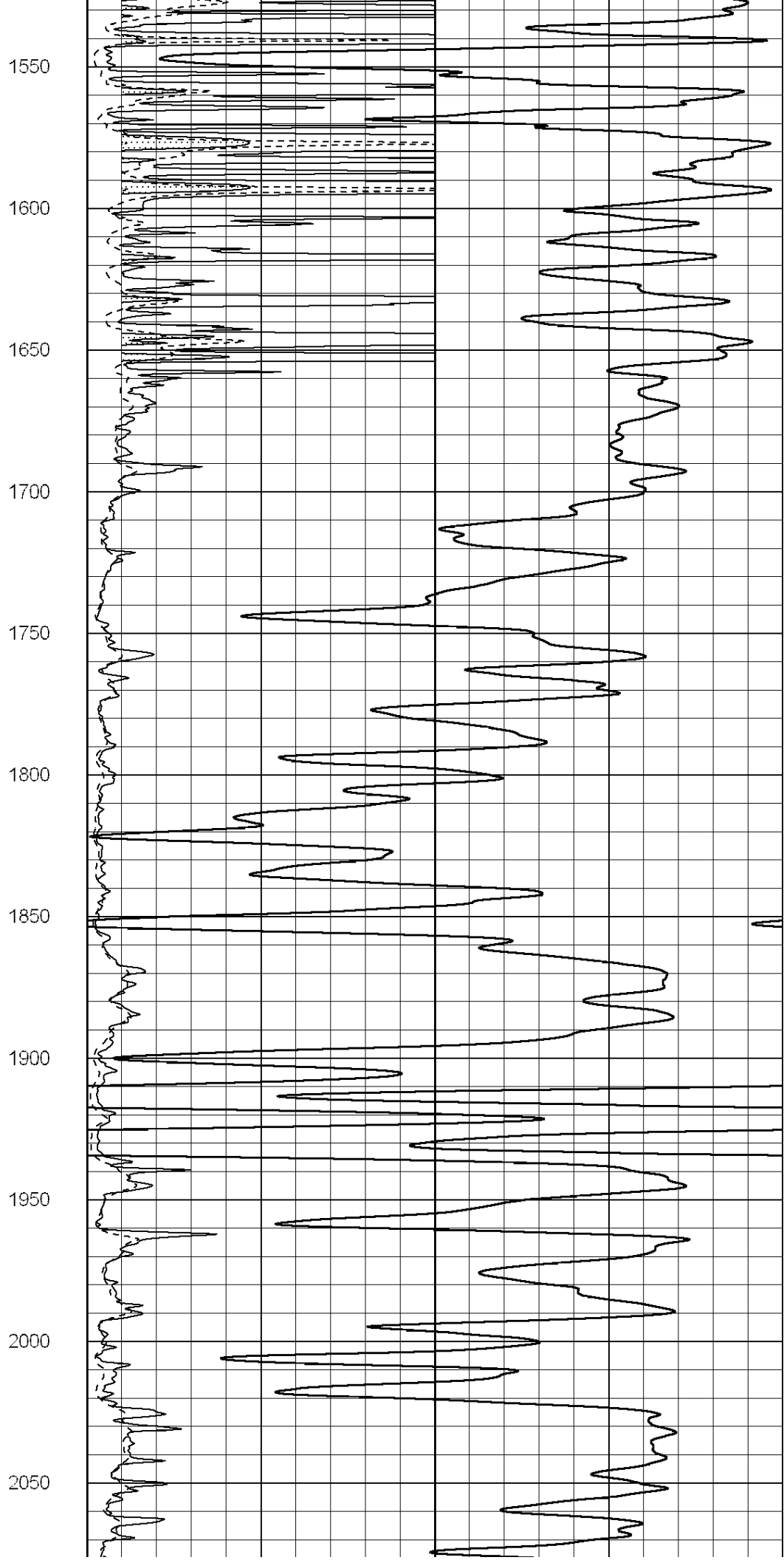
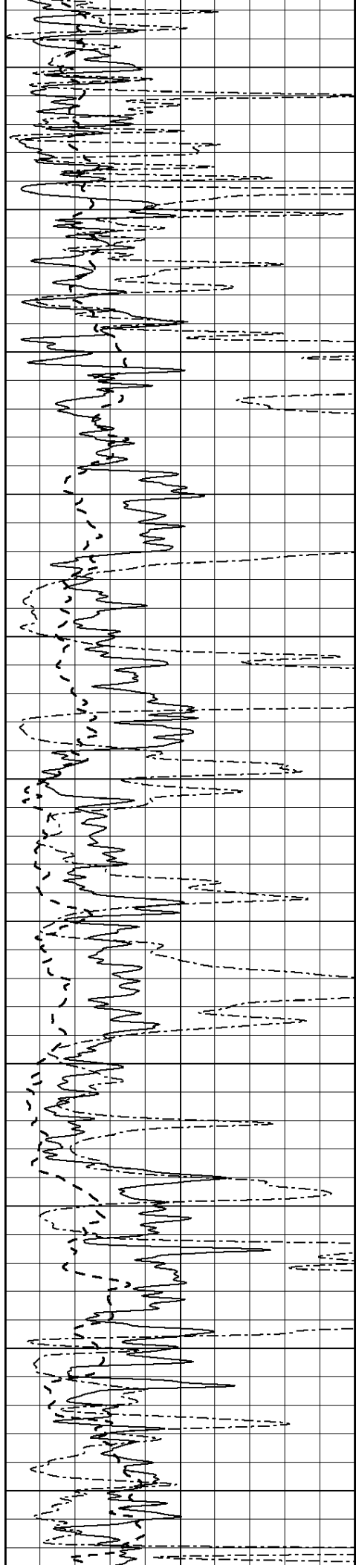
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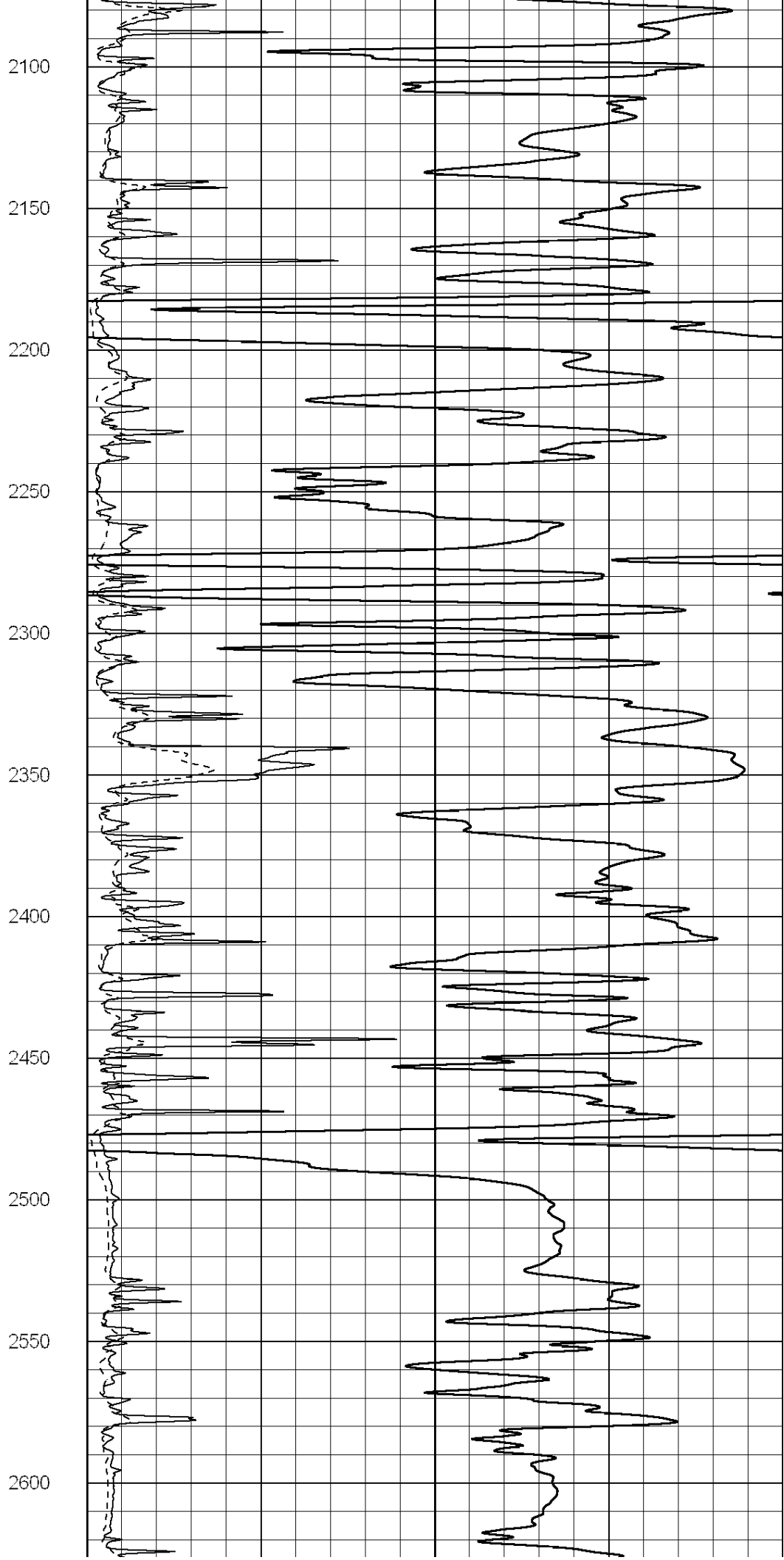
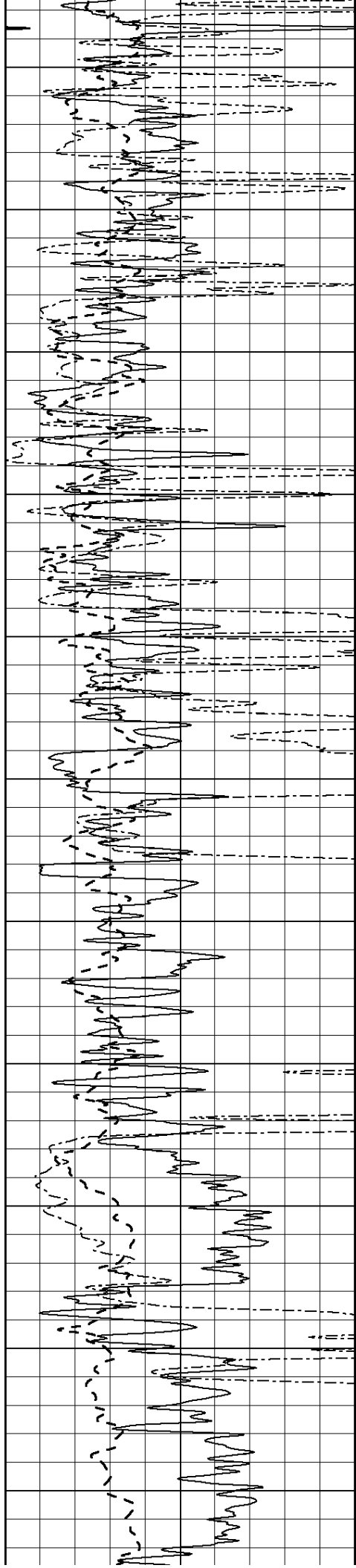
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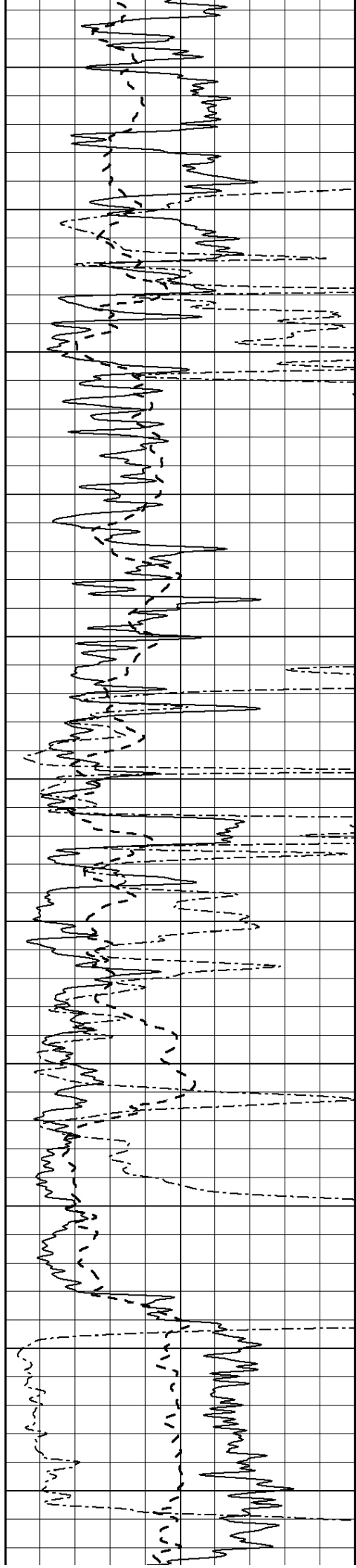
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2650

2700

2750

2800

2850

2900

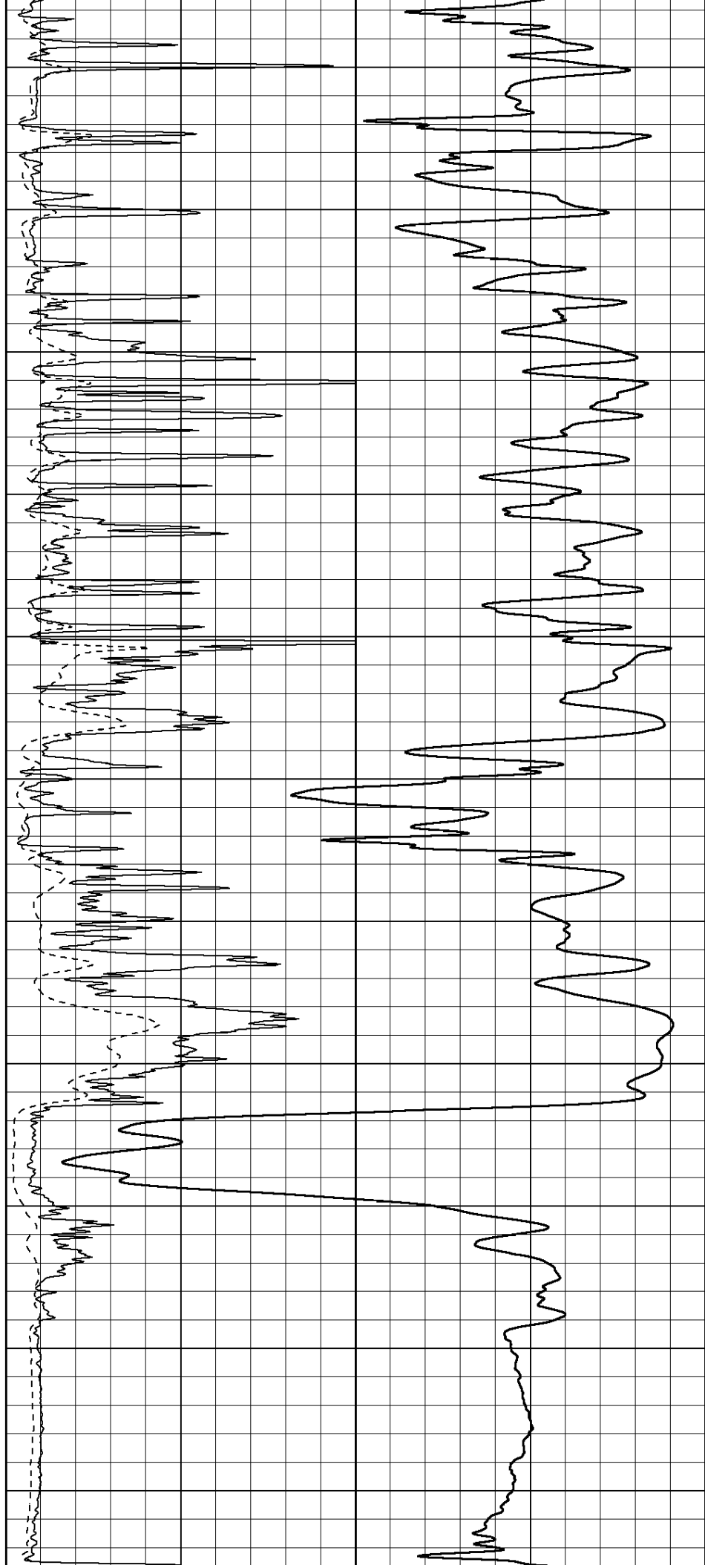
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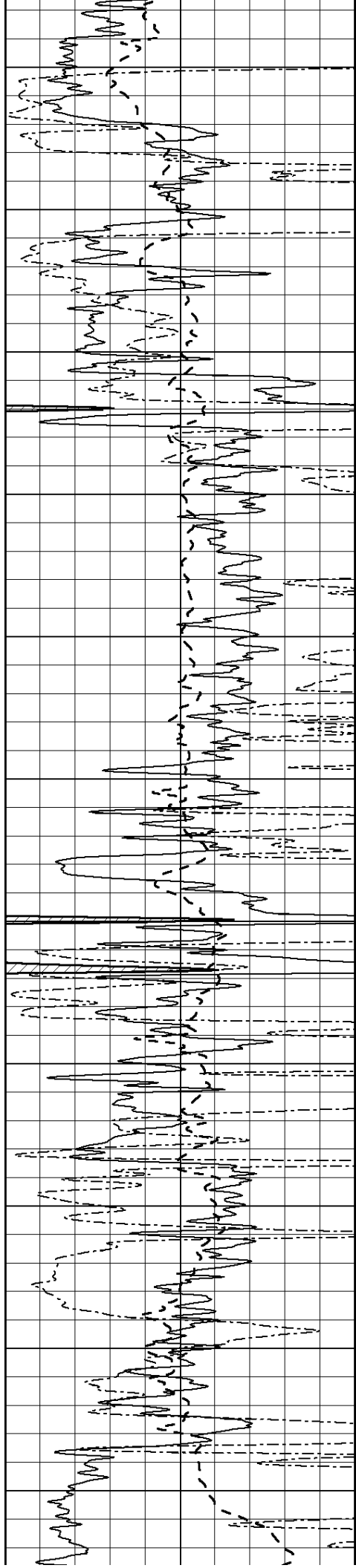
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3050

3100

3150





3200

3250

3300

3350

3400

3450

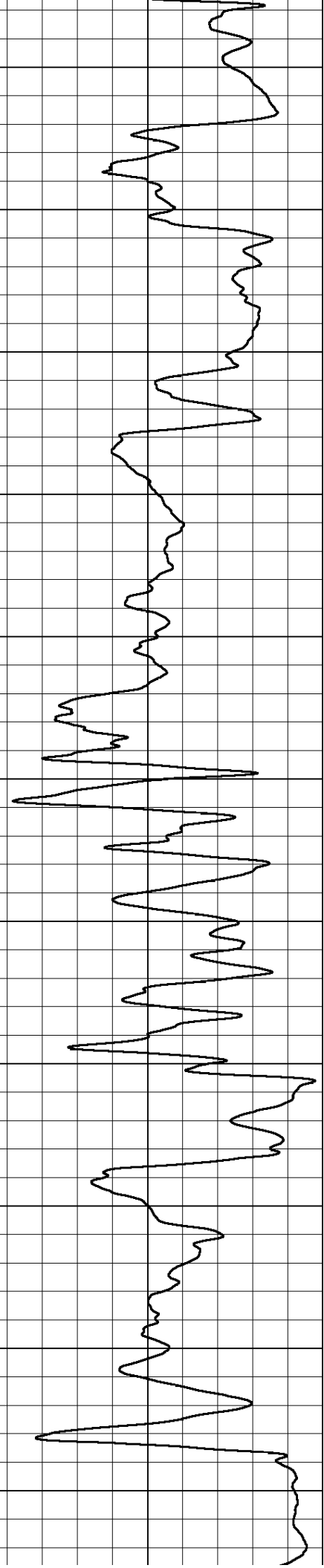
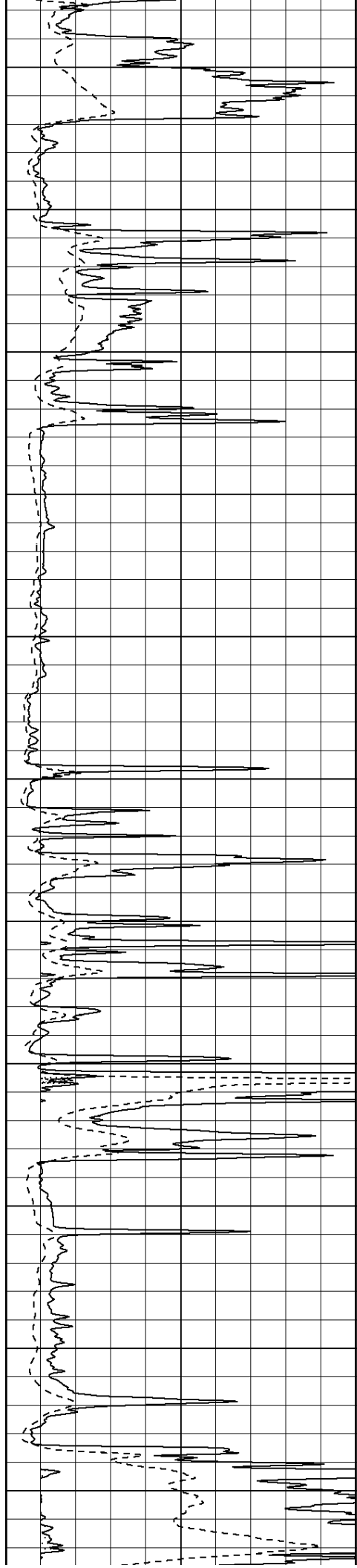
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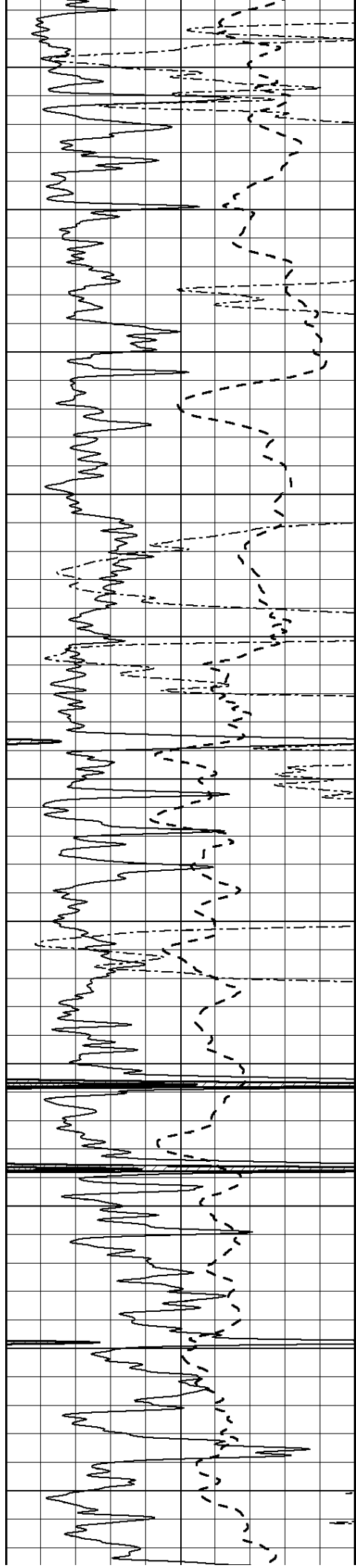
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3600

3650

3700





3750

3800

3850

3900

3950

4000

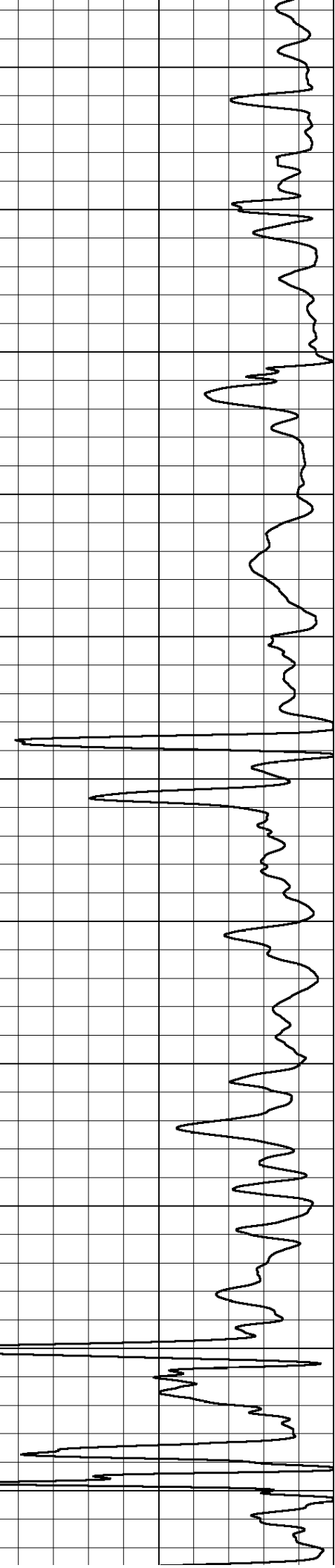
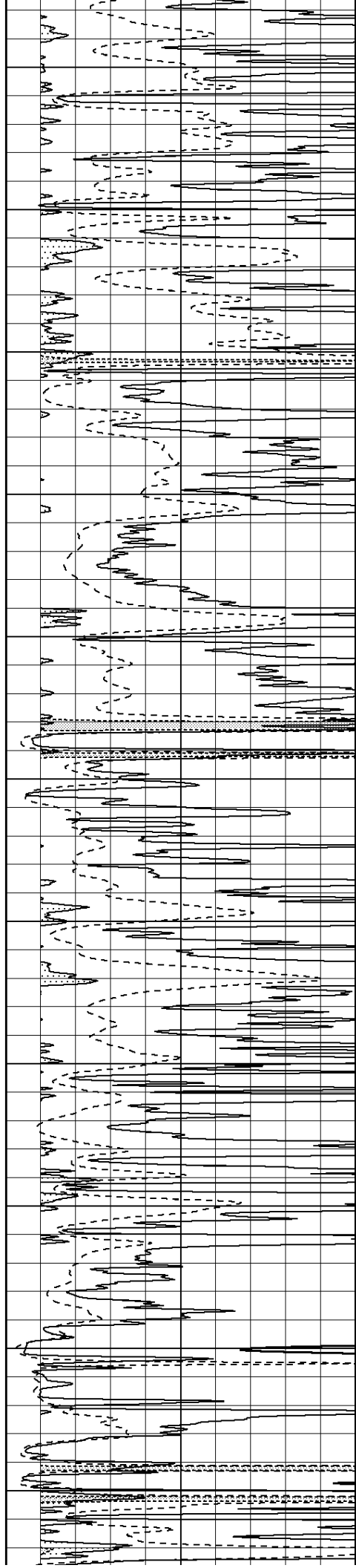
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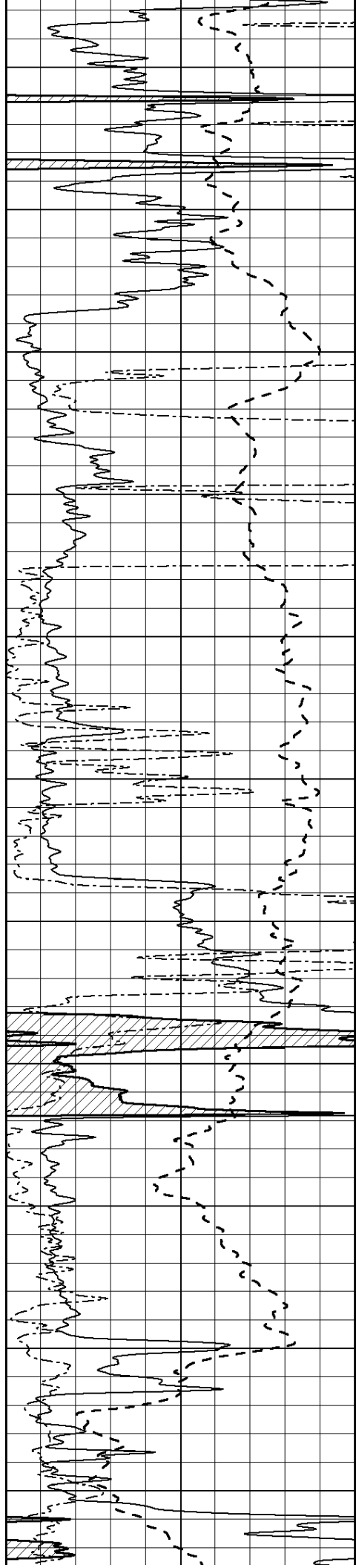
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4150

4200

4250





4300

4350

4400

4450

4500

4550

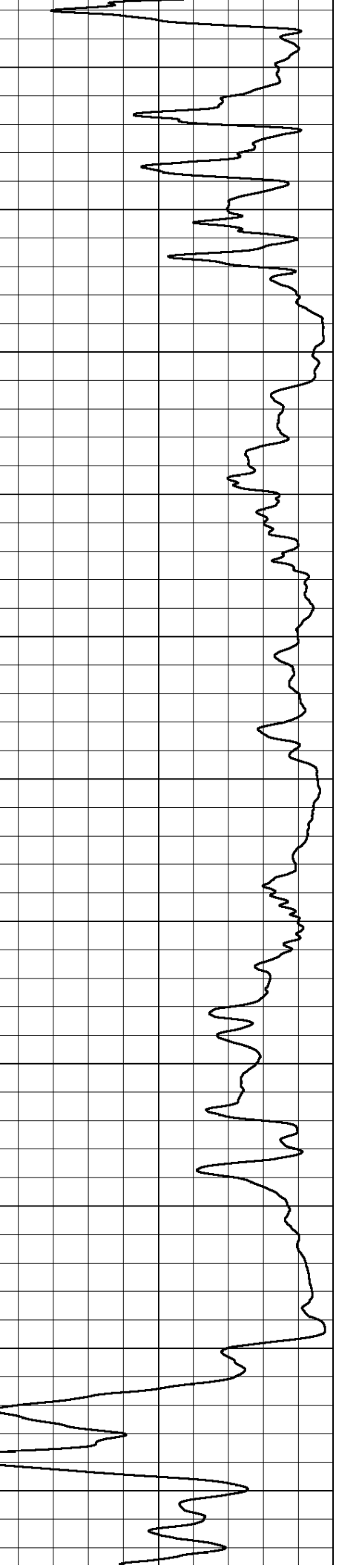
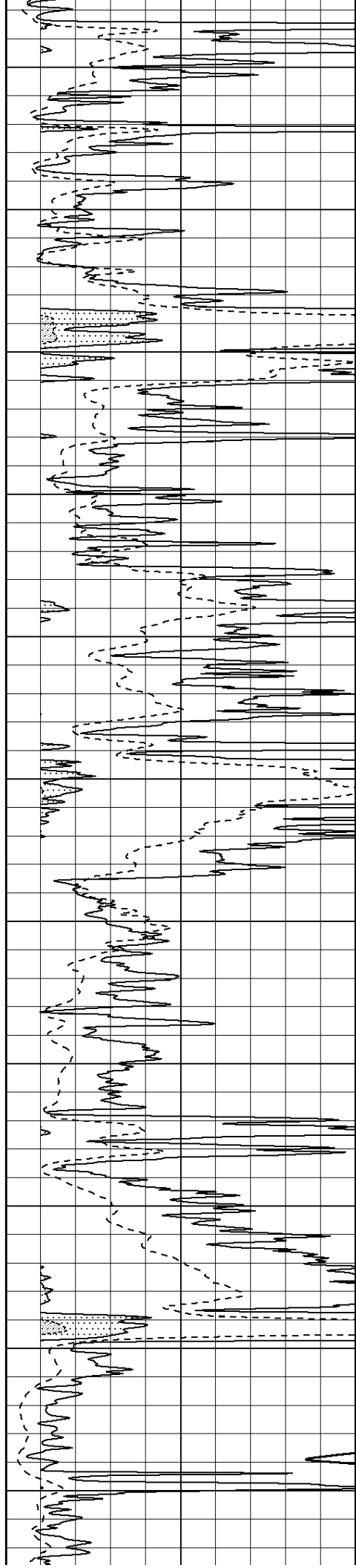
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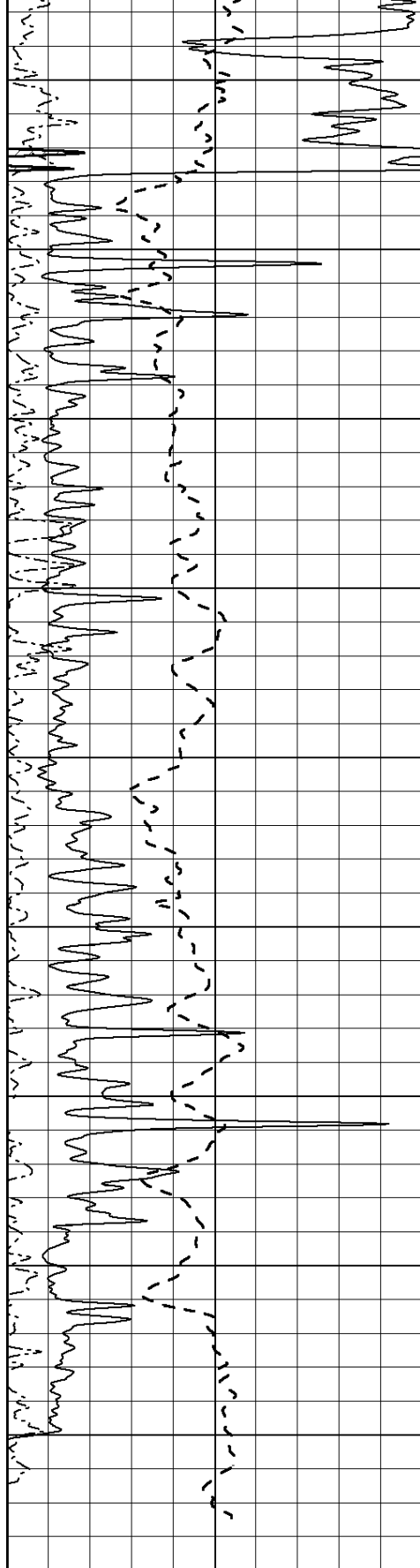
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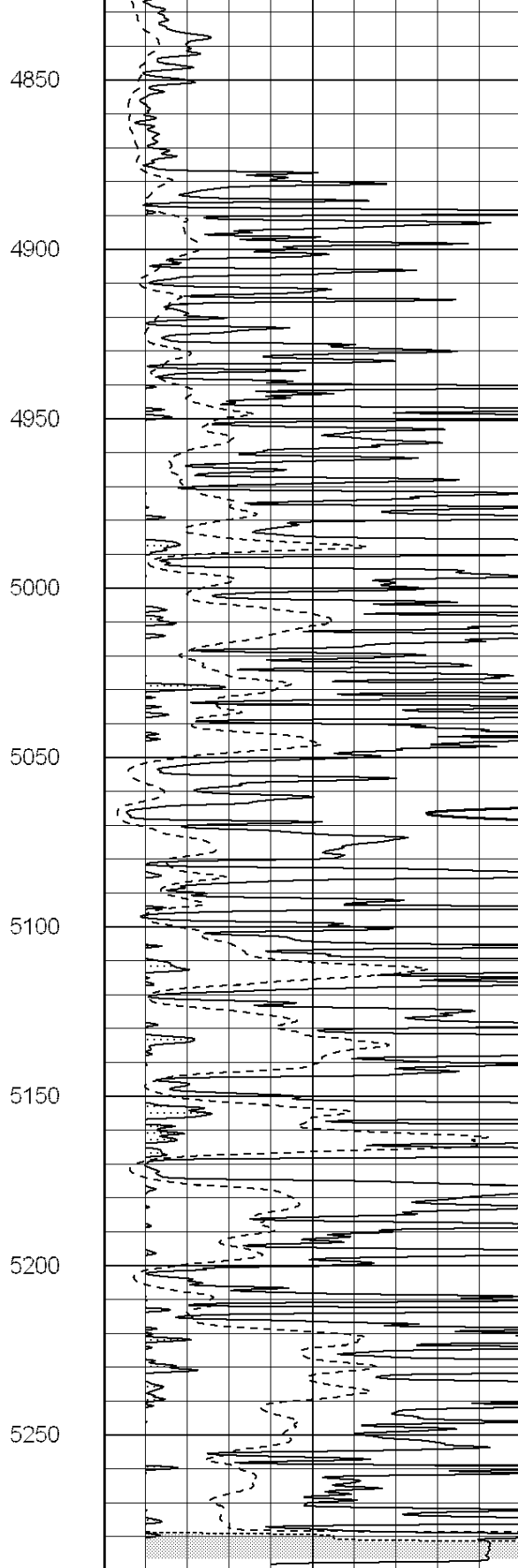
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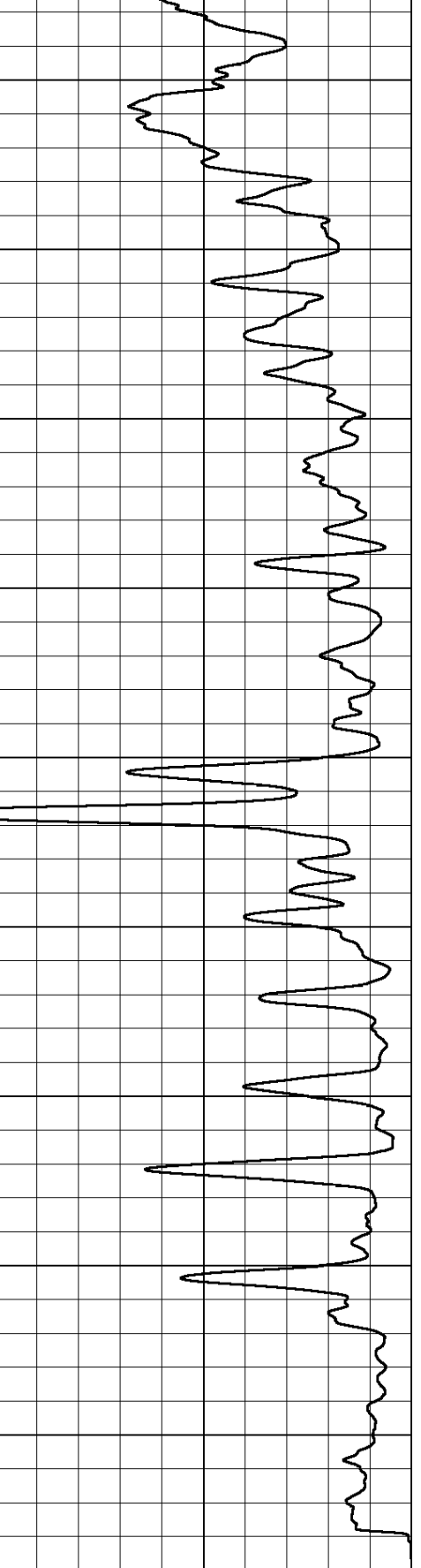




0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

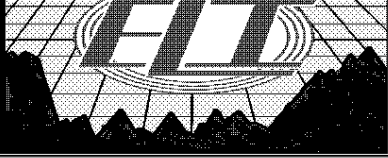


0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
1000	CILD (mmho/m)	0



50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500



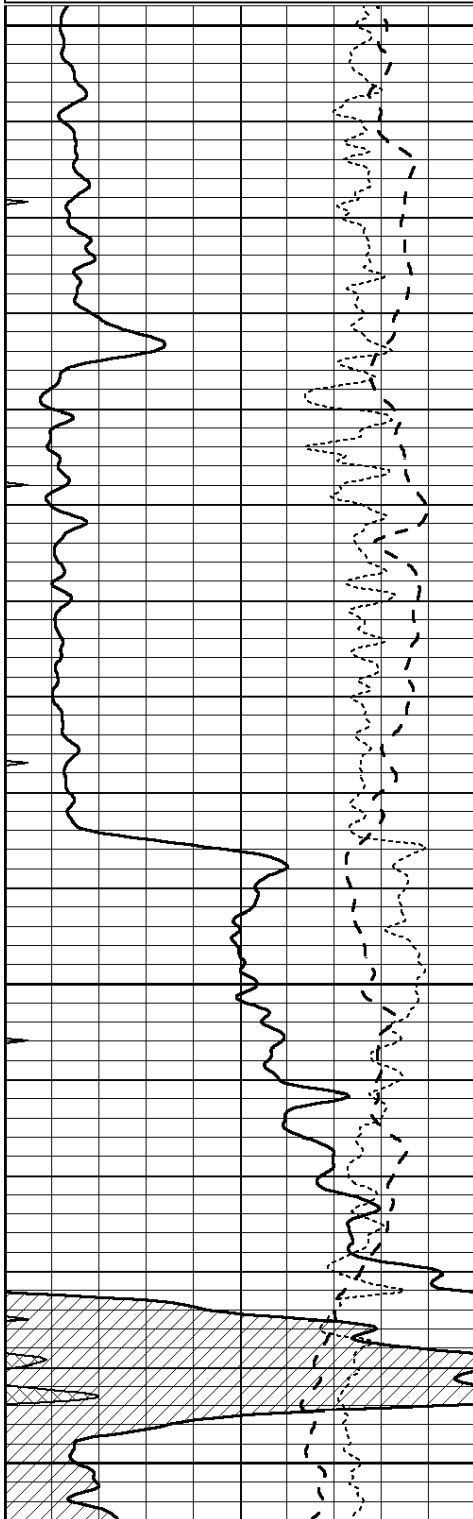


MAIN SECTION

Database File: 3966pe.db
Dataset Pathname: pass3.2
Presentation Format: _dil
Dataset Creation: Tue Sep 17 00:01:41 2019
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

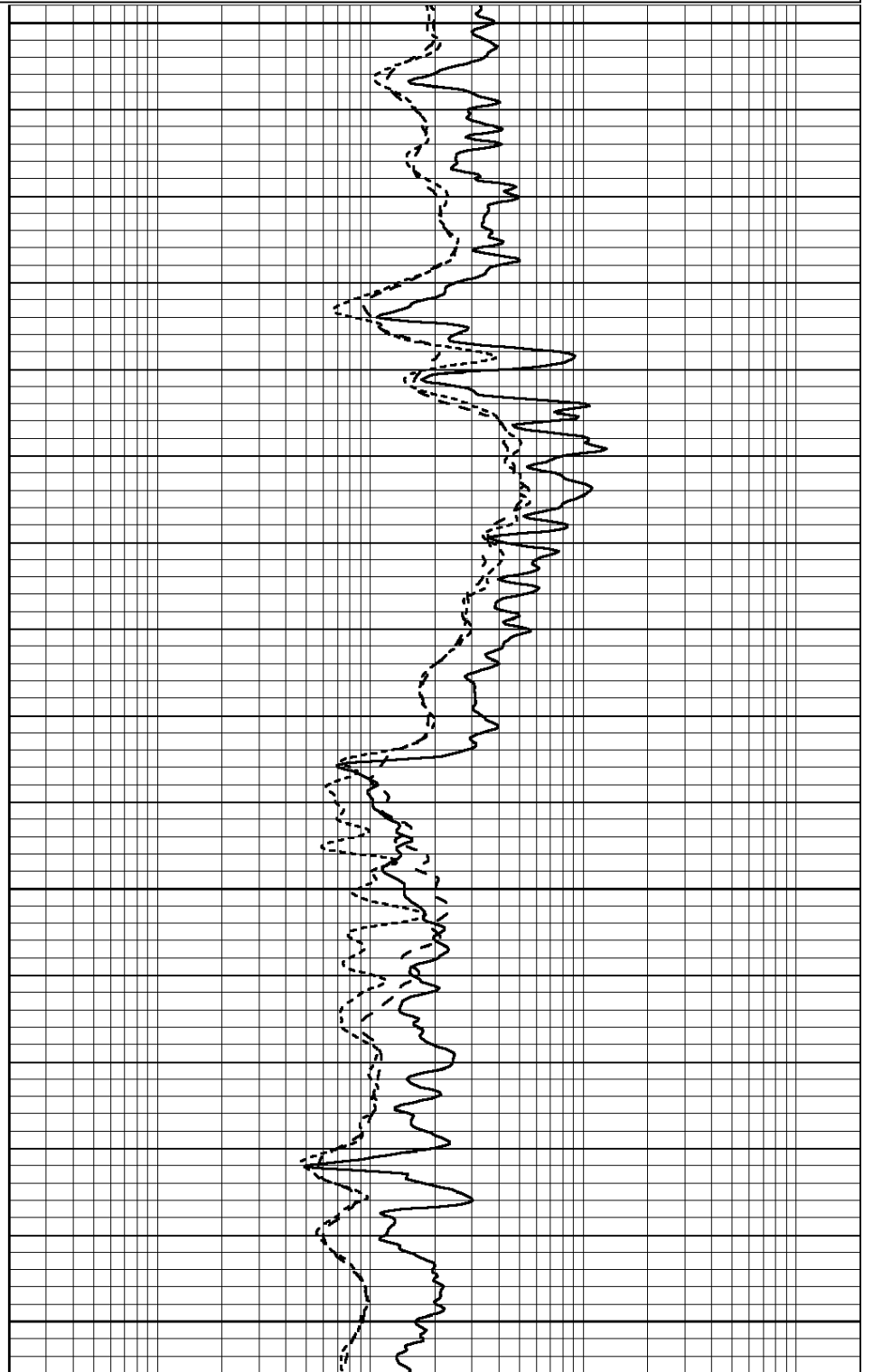


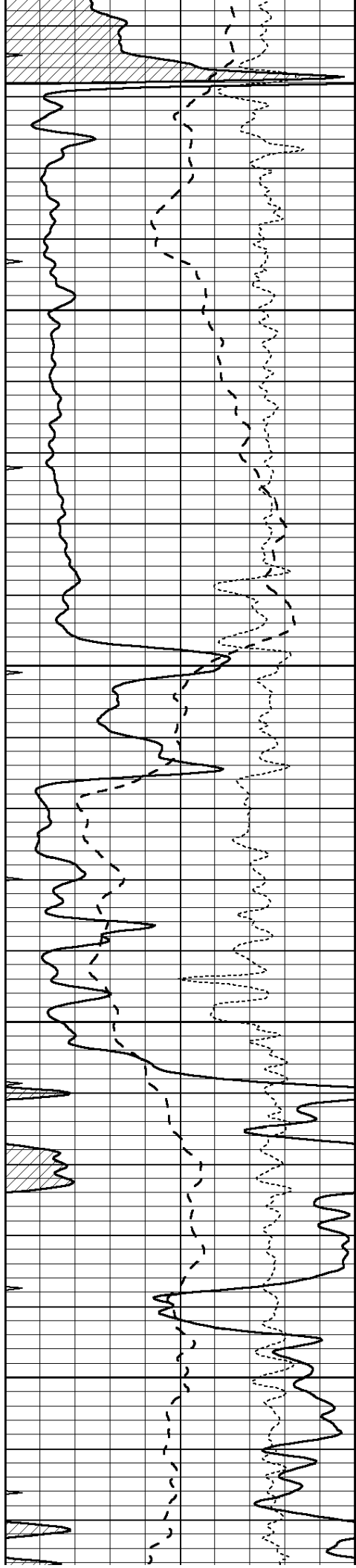
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4650



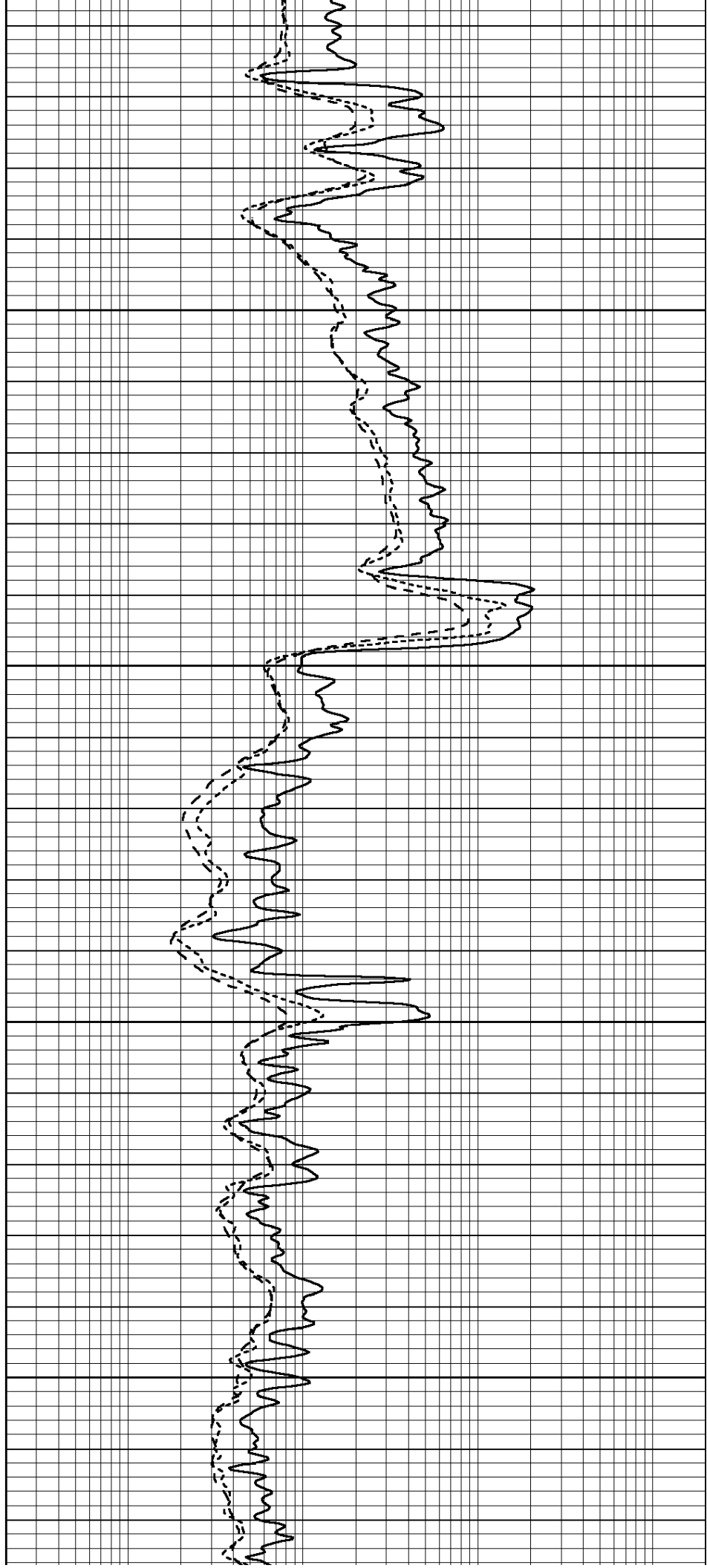


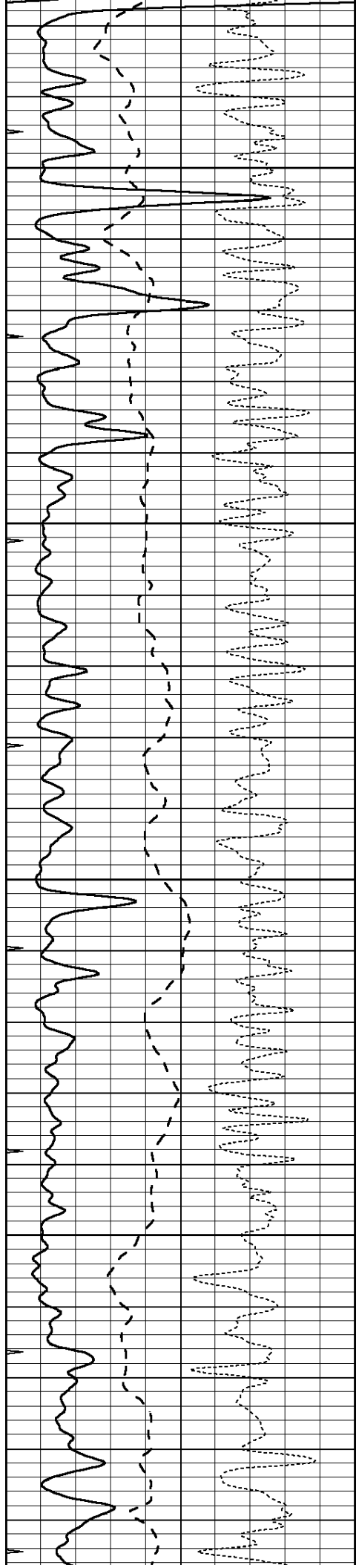
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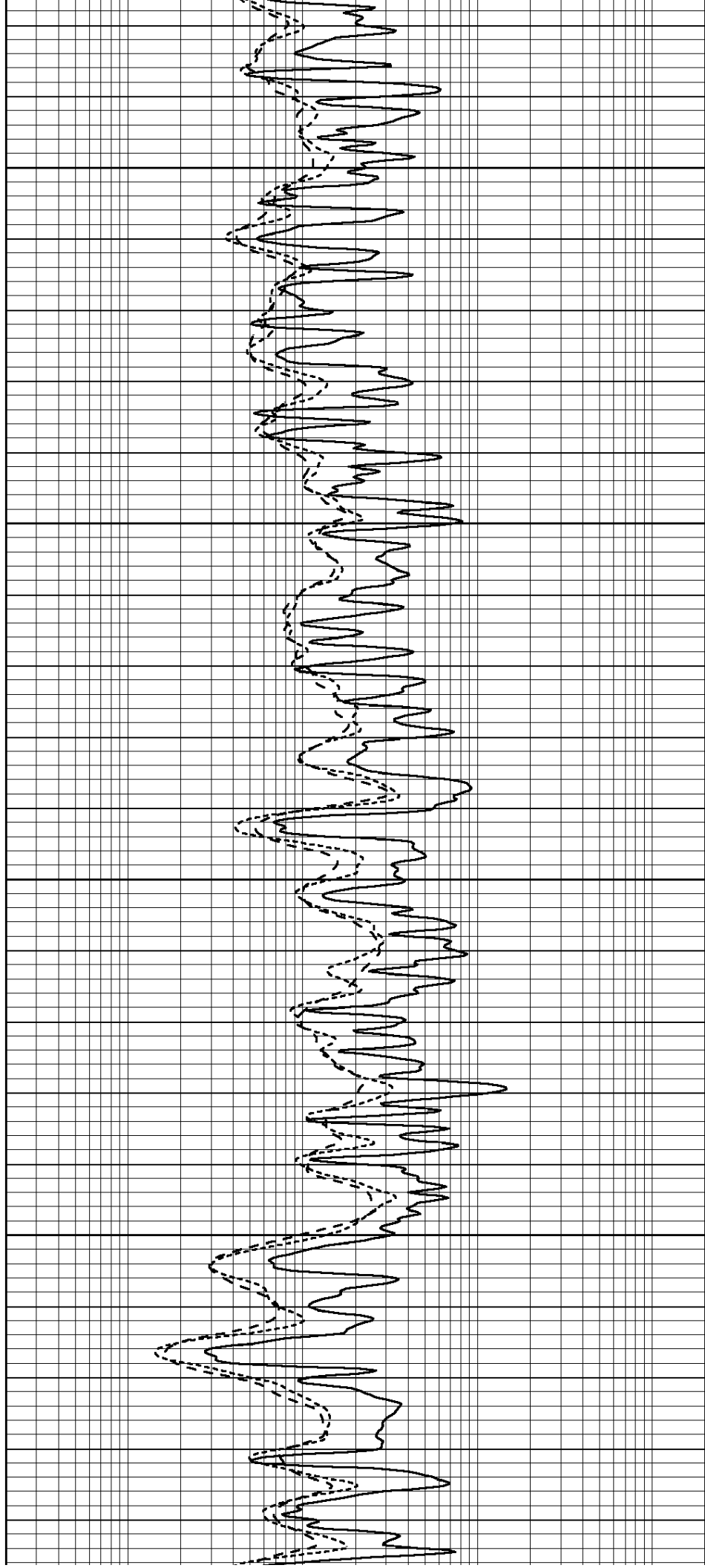


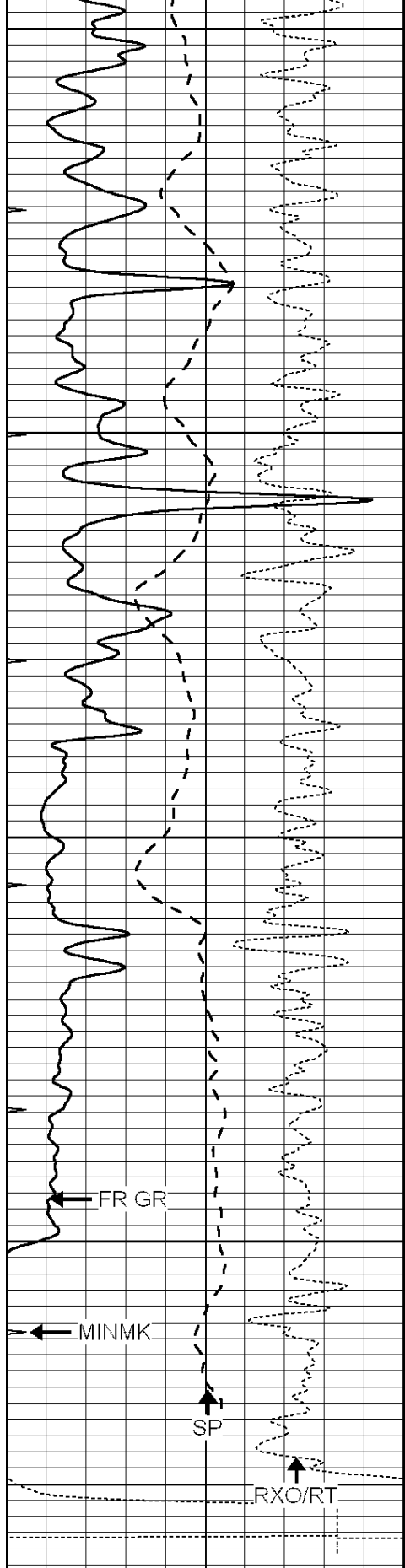
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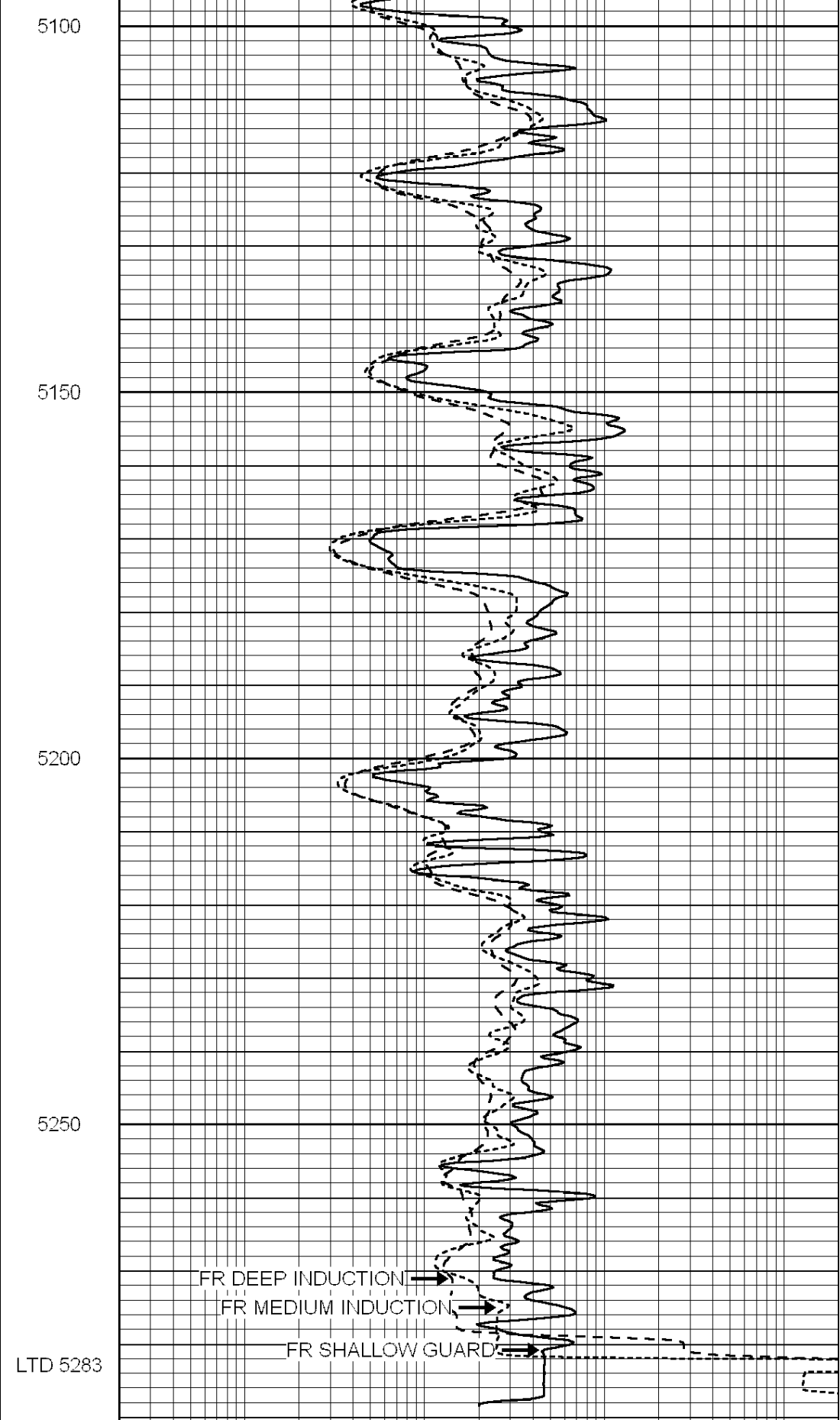
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5050

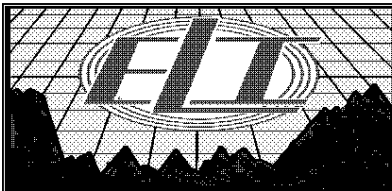




0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



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

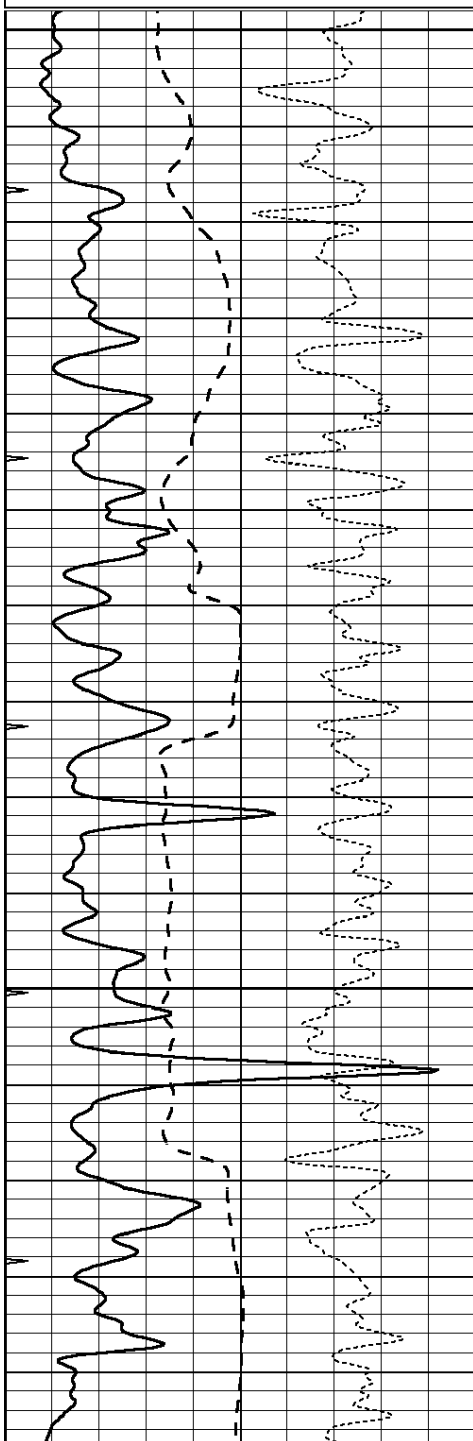


REPEAT SECTION

Database File: 3966pe.db
Dataset Pathname: pass2.5
Presentation Format: _dil
Dataset Creation: Tue Sep 17 00:15:29 2019 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

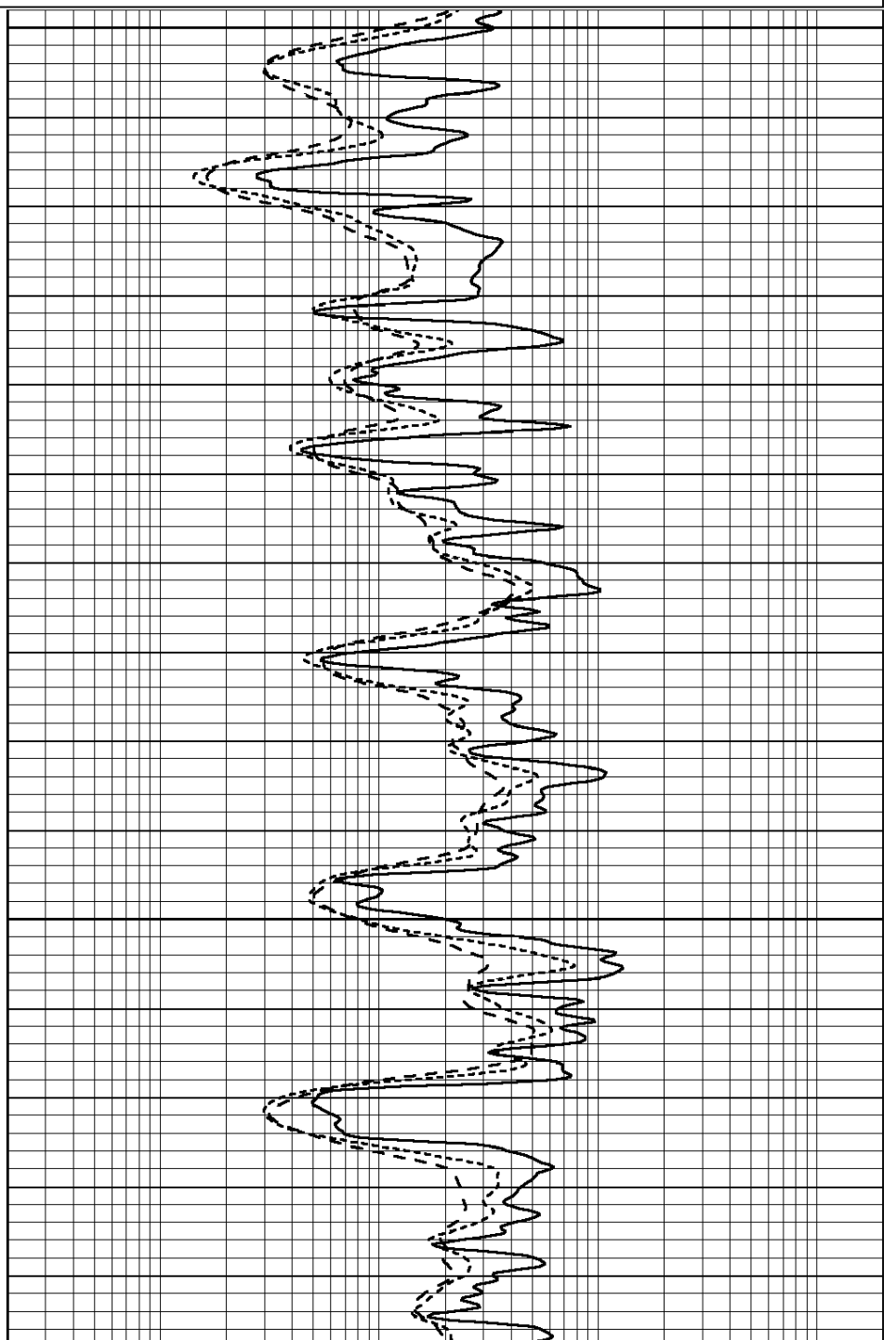
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

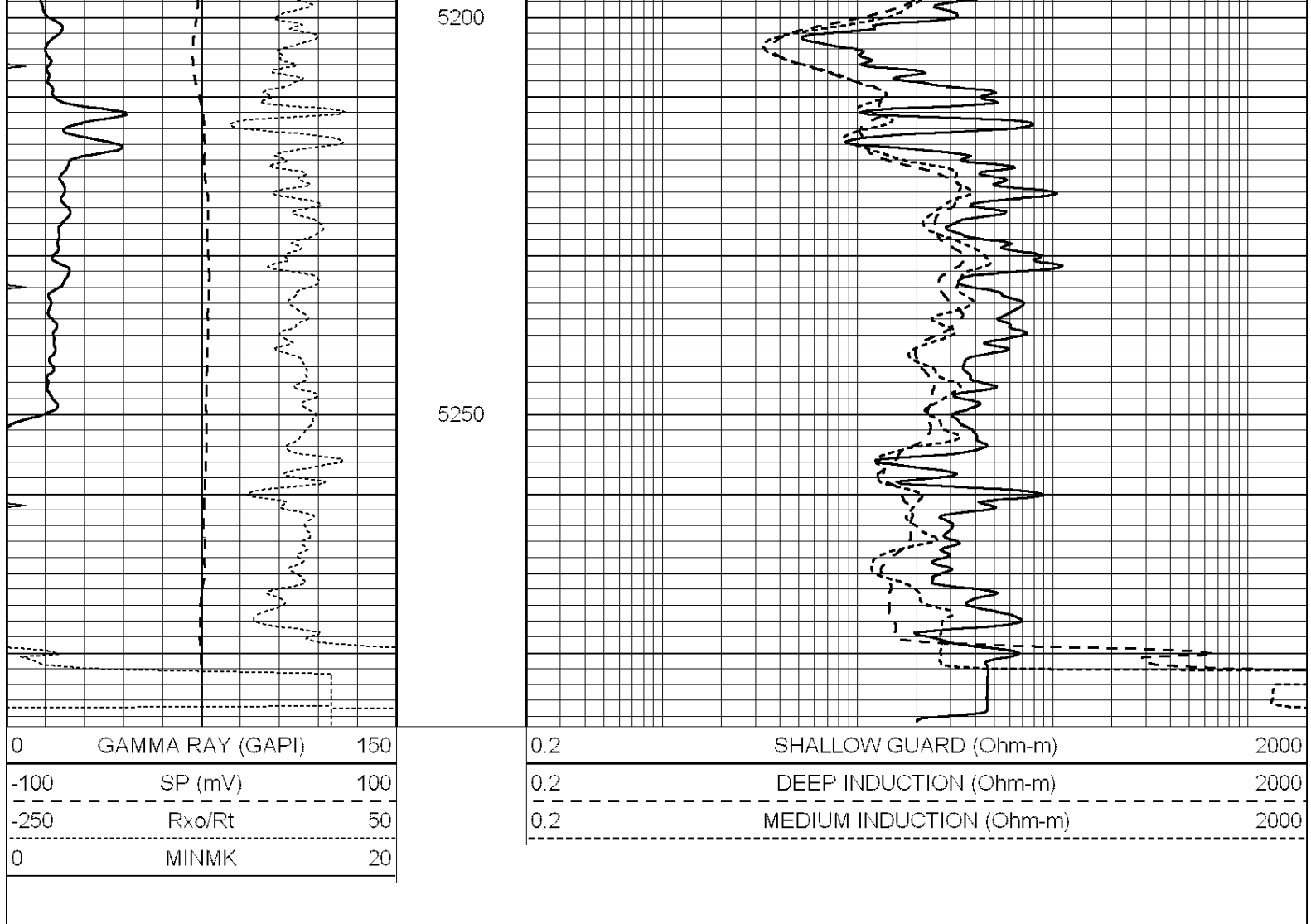


5050

5100

5150





Calibration Report

Database File: 1598ddn.db
 Dataset Pathname: pass4
 Dataset Creation: Wed Aug 30 02:13:00 2017 by Log SOC 120430

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Wed Aug 30 00:06:33 2017
 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	V	Air	Loop	mmho/m	m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-44.000
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	mmho/m	Zero	Cal	mmho/m	m'	b'
Deep	0.000	0.000	mmho/m	11.508	388.384	mmho/m	1.000	0.000

Deep	0.000	0.000	mmho/m	14.500	504.400	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: 002 Model: PRB

Master Calibration		Performed Mon Aug 21 11:27:42 2017					
	Background	Magnesium	Aluminum	Sandstone			
Window 1	837.1	10632.5	2945.1	12110.1	cps		
Window 2	772.0	9117.4	2570.1	10197.3	cps		
Window 3	631.7	4669.0	1481.9	5042.9	cps		
Window 4	187.0	187.5	185.9	189.9	cps		
Long Space	0.0	8345.4	1798.1	9425.3	cps		
Short Space	1.1	1927.9	1285.9	2050.2	cps		
Rho		1.7100	2.5960	1.3800	g/cc		
Pe		0.0000	2.5700	1.5500			
Rib Angle	: 45.2	Rib Slope	: 1.008	Density/Spine Ratio	: 0.558		
Spine Angle	: 75.2	Spine Slope	: 3.790	Spine Intercept	: -19.6		

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:	Wed May 31 00:09:32 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps