

DUAL INDUCTION LOG

Company	DARRAH, JOHN JAY, JR.		
Well	BACHURA-HICKEY UNIT #20-1		
Field	WILDCAT		
County	MORRIS	State	KANSAS
Location:	AP1 # : 15-127-20589-00-00		Other Services CDL/CNL/MEL SON
SEC 20 TWP 16S RGE 8E		Elevation	
Permanent Datum	GROUND LEVEL	Elevation	1385
Log Measured From	KELLY BUSHING 9' A.G.L.	D.F.	1392
Drilling Measured From	KELLY BUSHING	G.L.	1385
Date	08/10/18		
Run Number	ONE		
Depth Driller	3275		
Depth Logger	3274		
Bottom Logged Interval	3272		
Top Log Interval	50		
Casing Driller	8 5/8@212		
Casing Logger	212		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.6/46		
pH / Fluid Loss	8.0/9.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.7@74		
Rmt @ Meas. Temp	1.3@74		
Rmc @ Meas. Temp	2.04@74		
Source of Rmt / Rmc	MEASURED		
Rm @ BHT	1.15@109		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	///		
Maximum Recorded Temperature	109		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	SETH EVENSON		

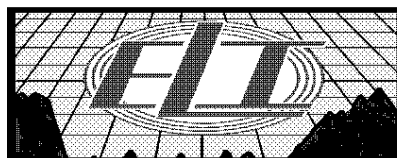
<<< Fold Here >>>

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, KS. (785) 628-6395

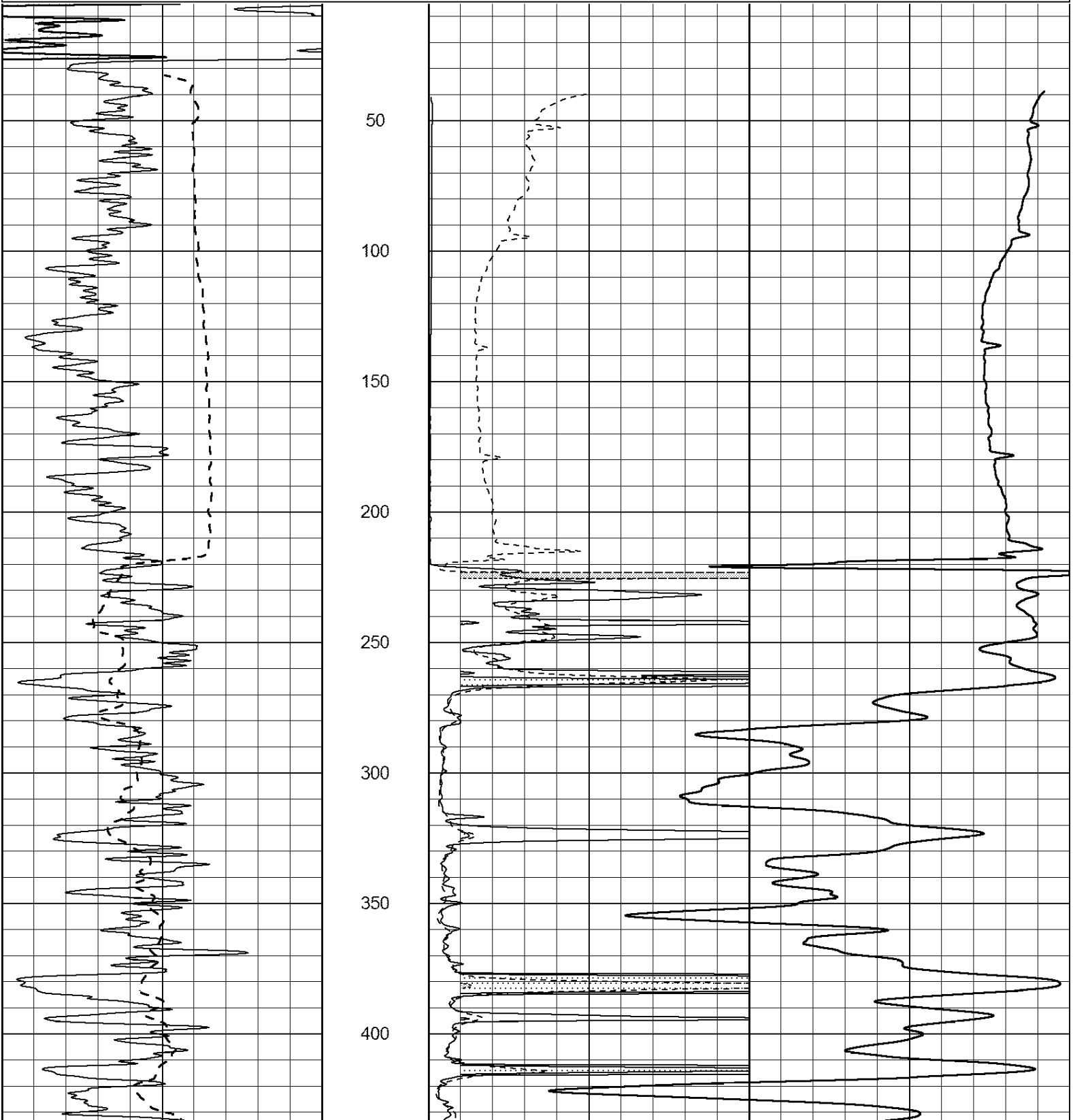
DIRECTIONS
COUNCIL GROVE WEST 2.5 MILES TO 1100 RD.
SOUTH 1/2, WEST INTO.



MAIN PASS

Database File: 2901ddn.db
Dataset Pathname: pass3.1
Presentation Format: _dil2
Dataset Creation: Fri Aug 10 04:12:11 2018
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50	
-100	SP (mV)	100	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

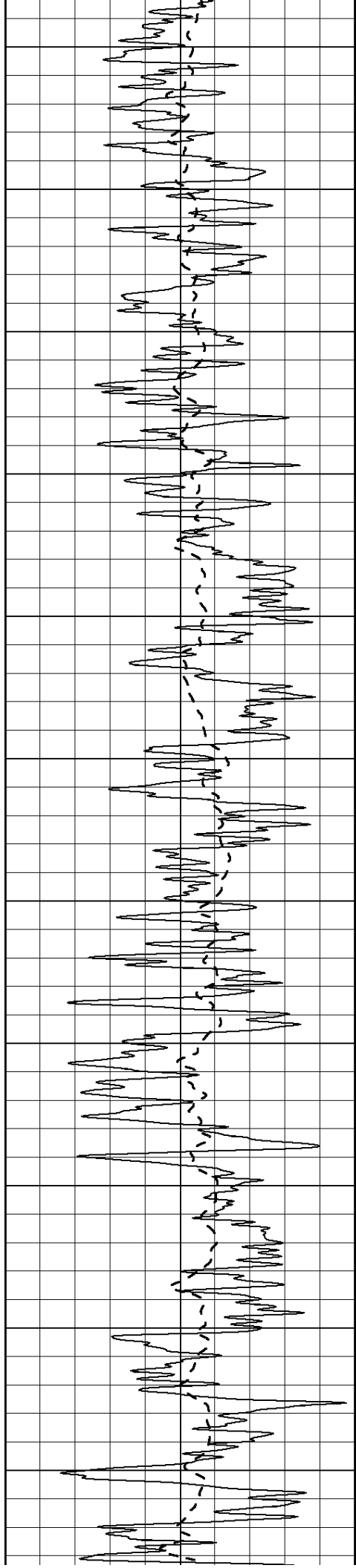
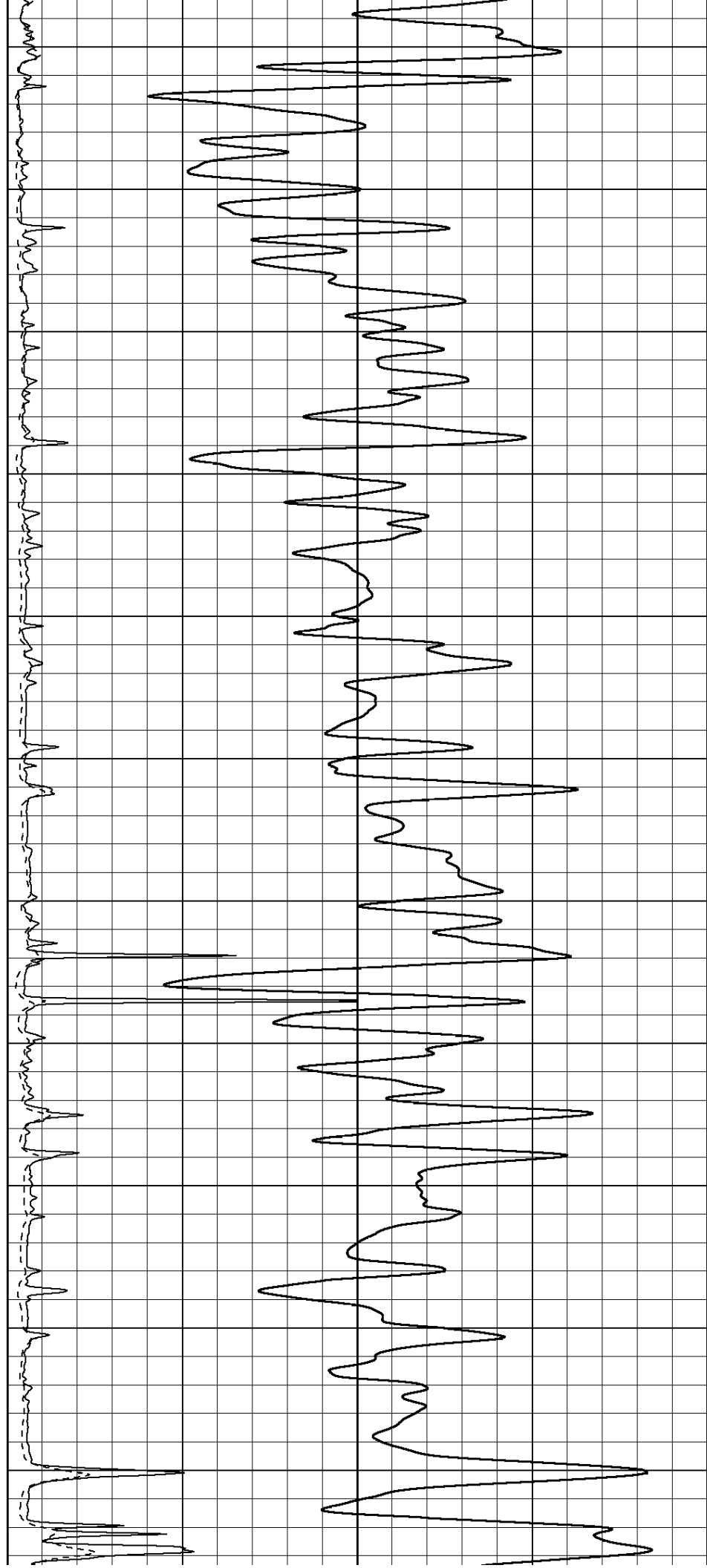
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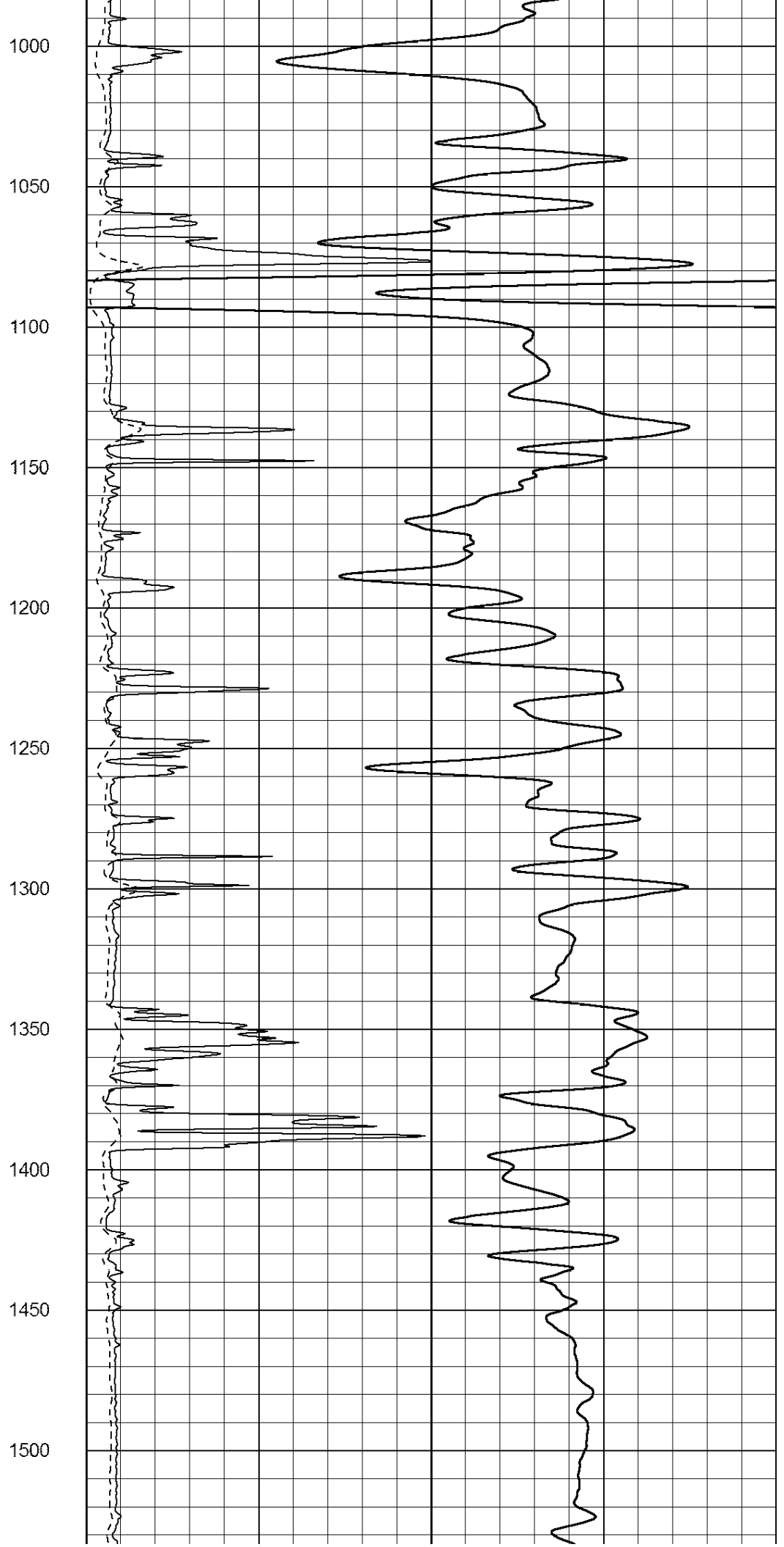
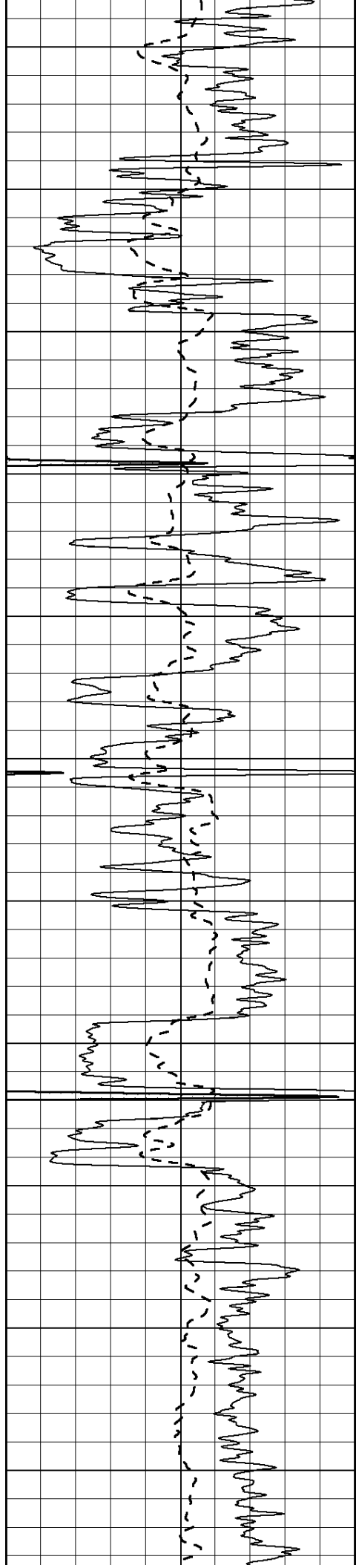
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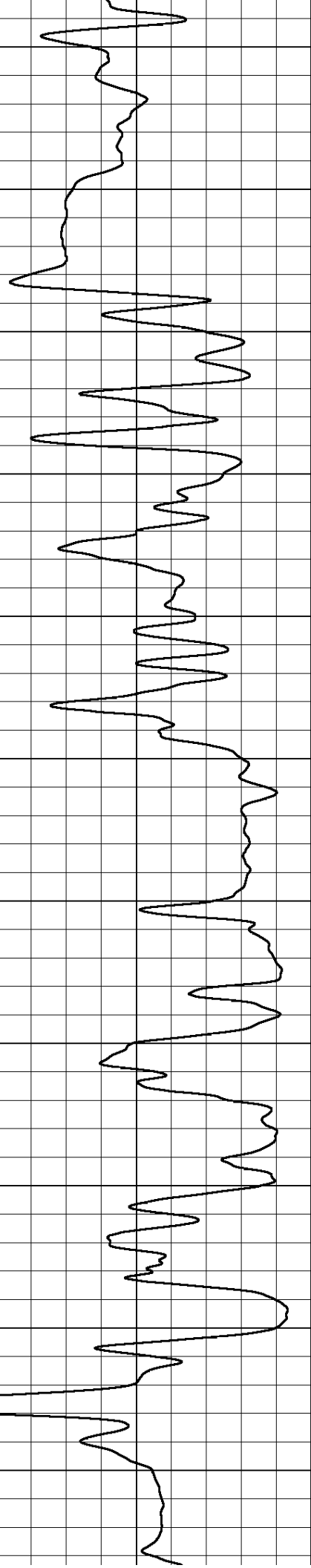
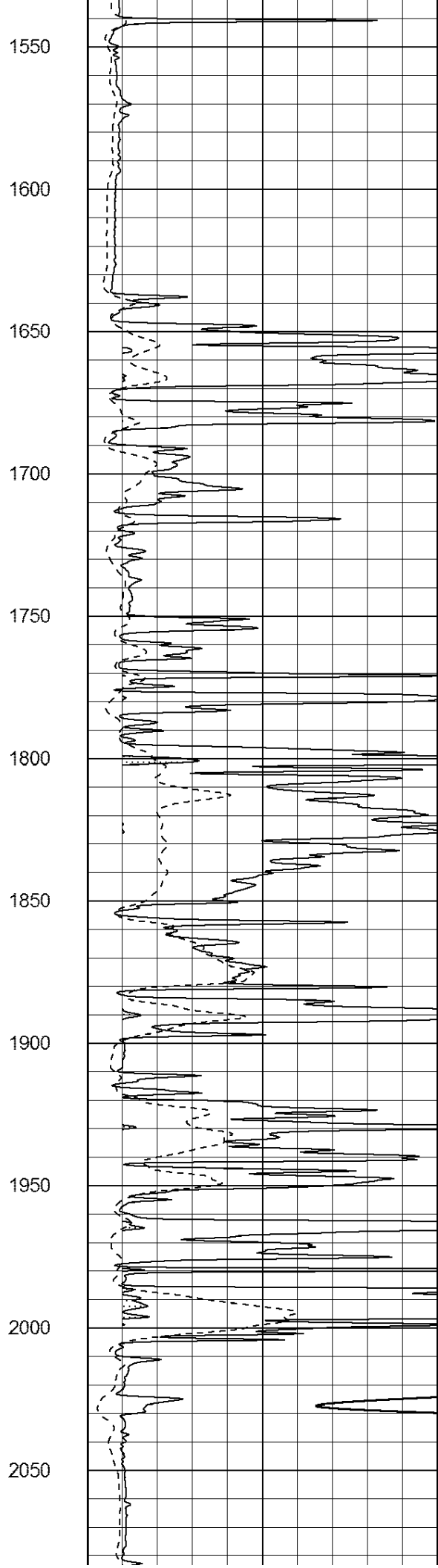
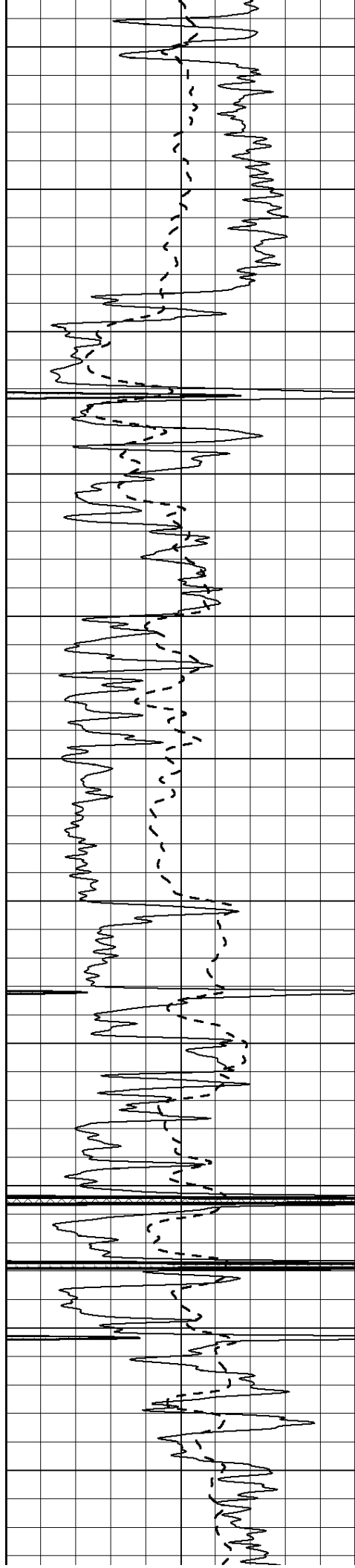
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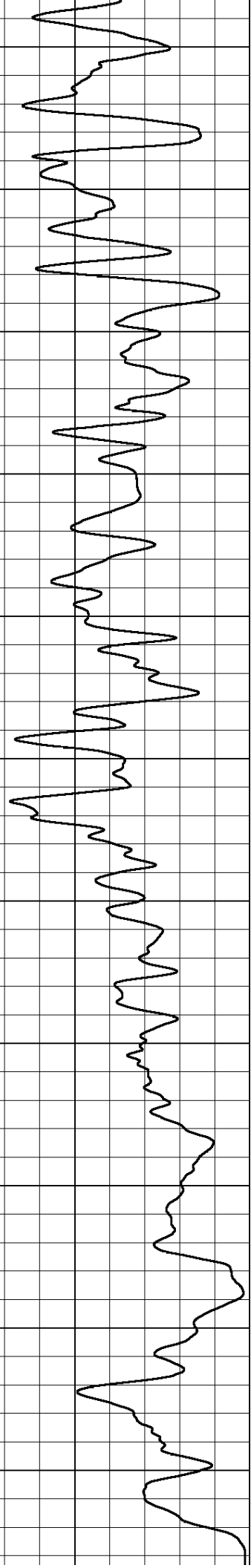
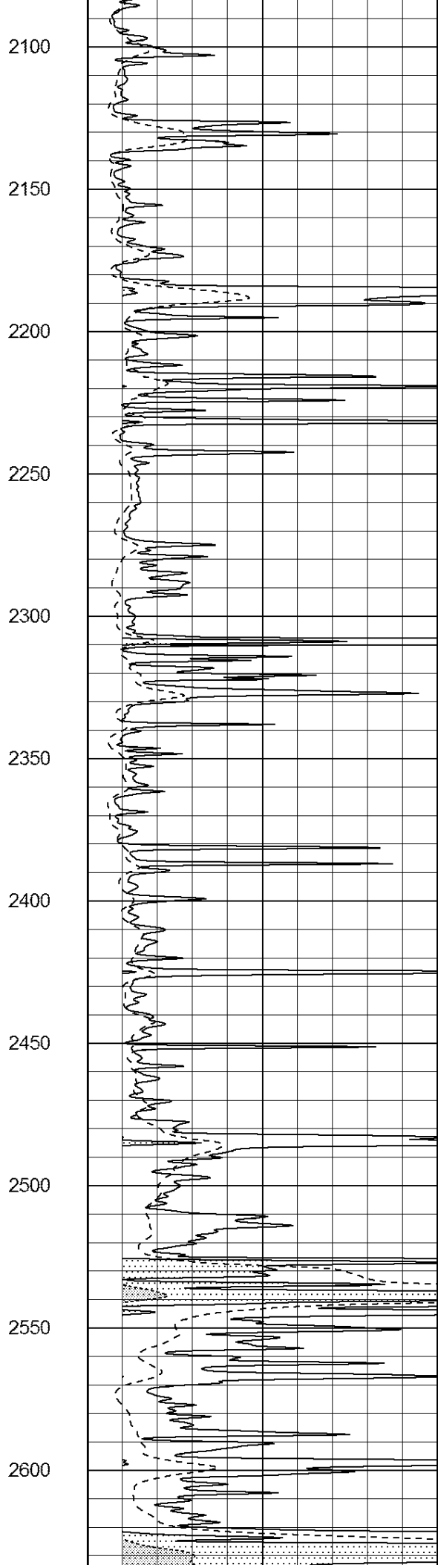
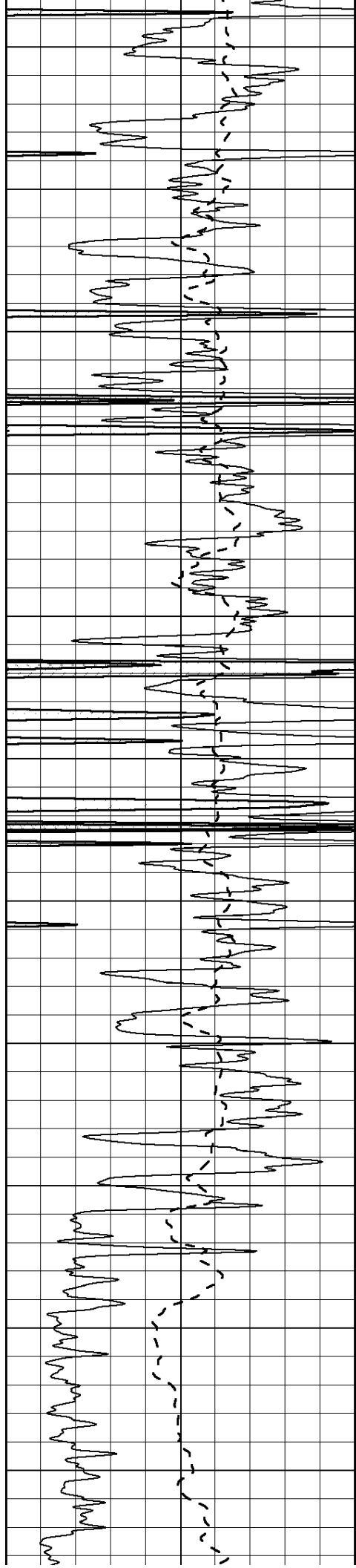
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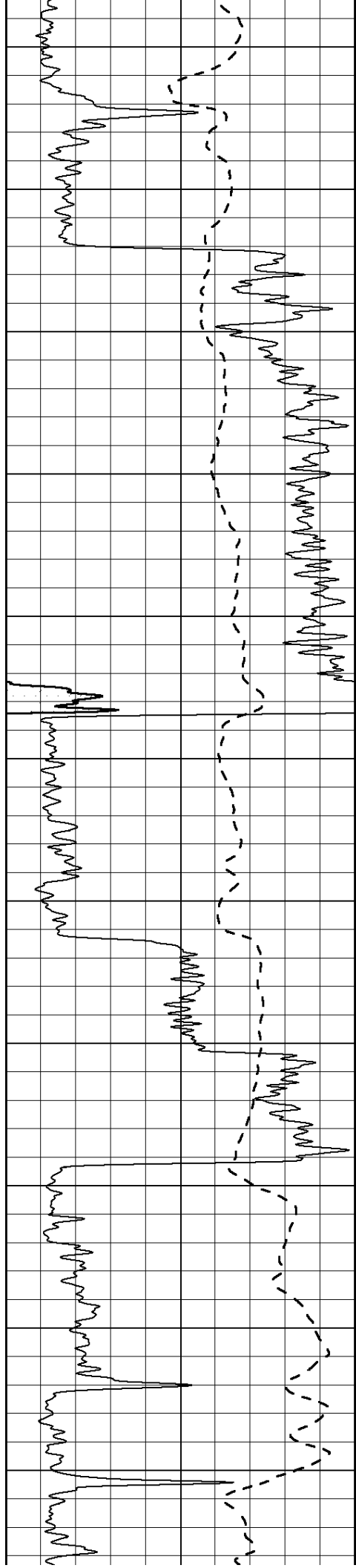
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2650

2700

2750

2800

2850

2900

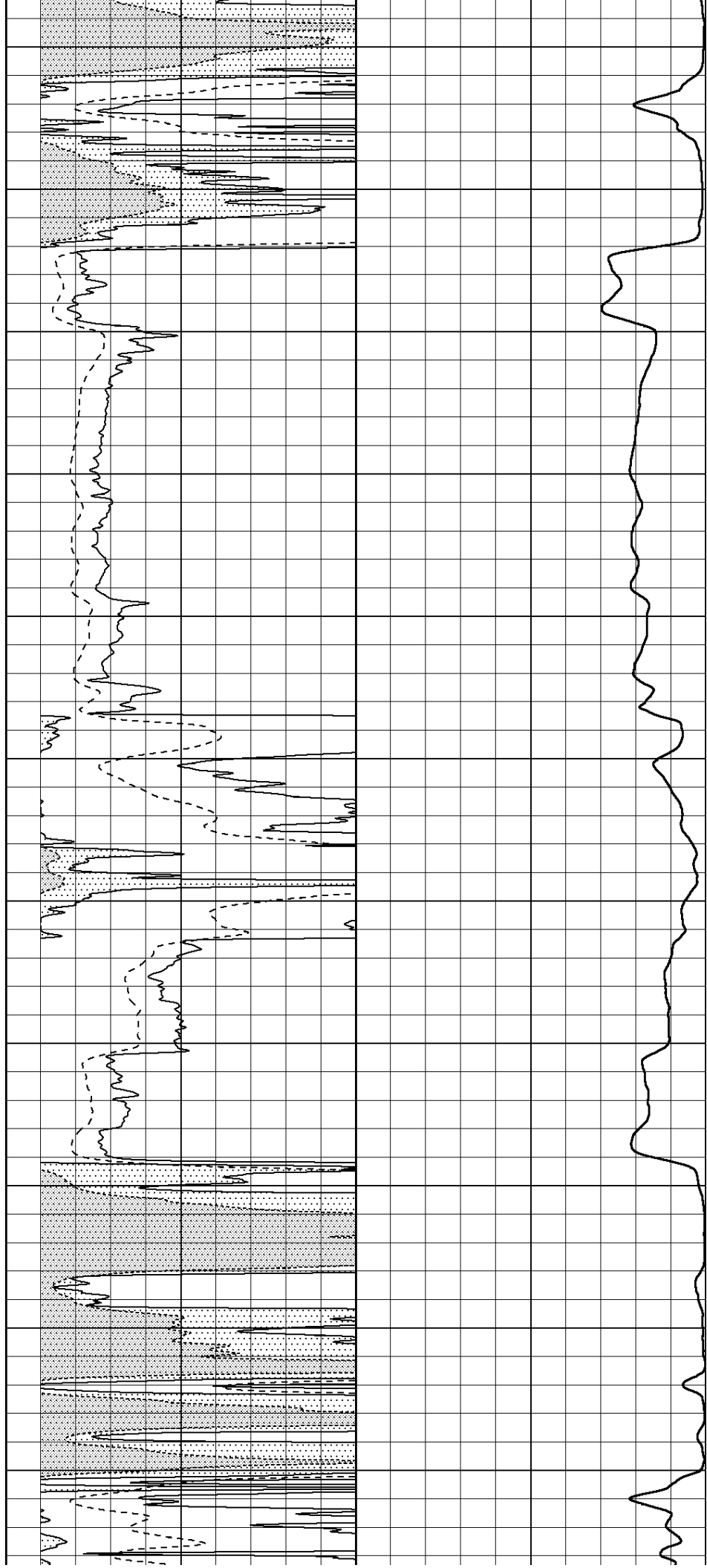
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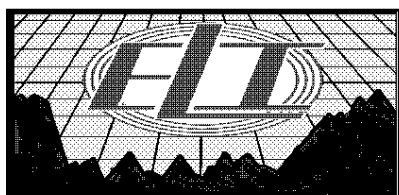
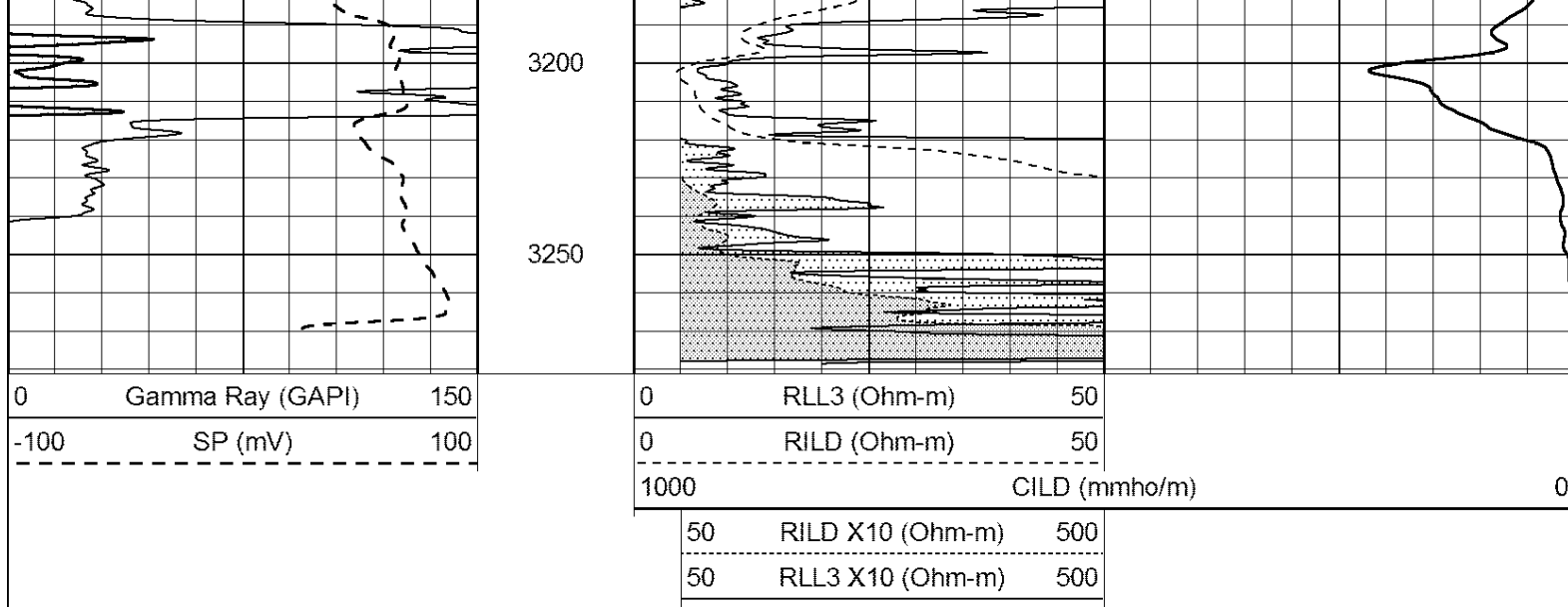
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3050

3100

3150

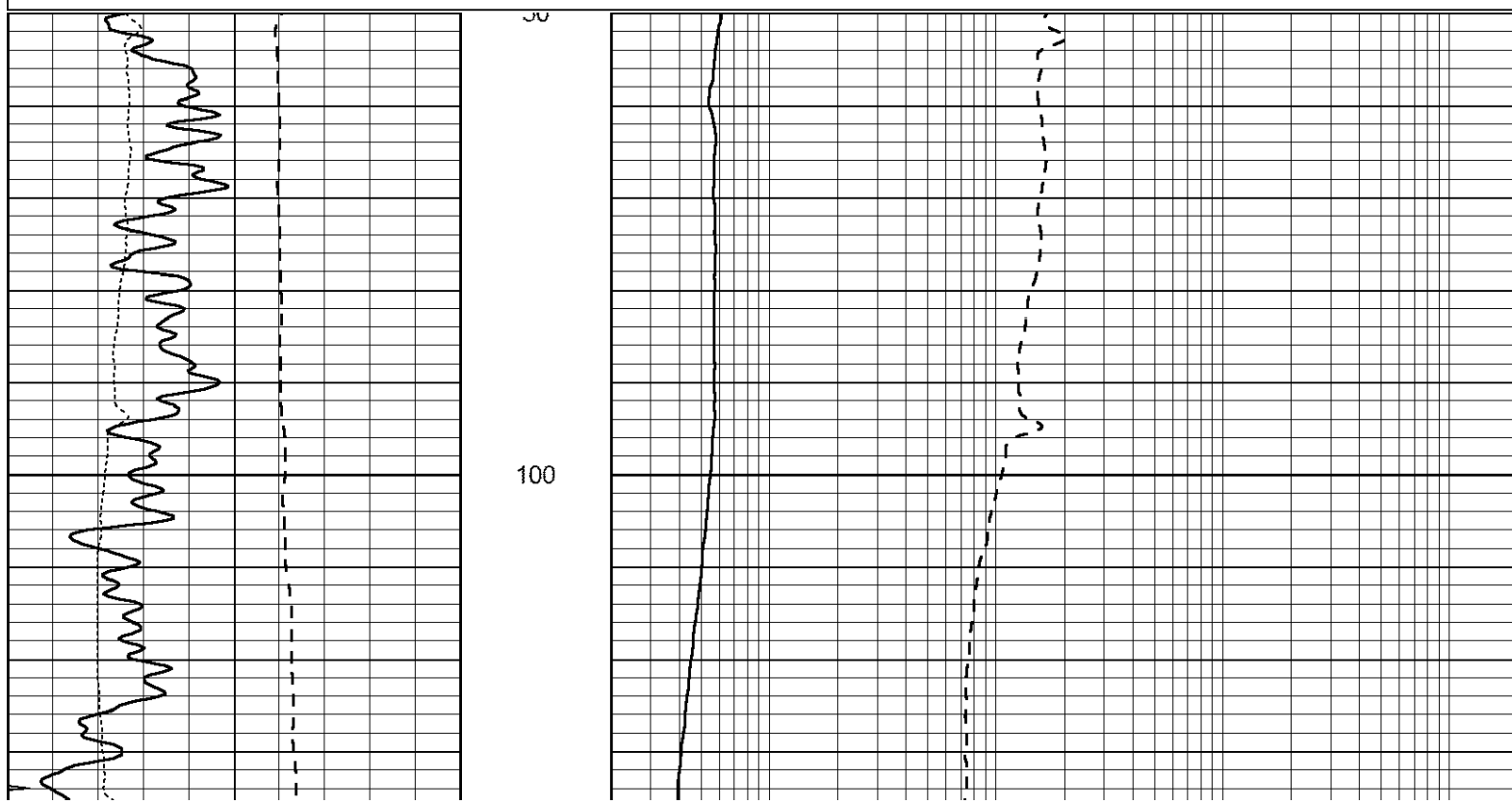


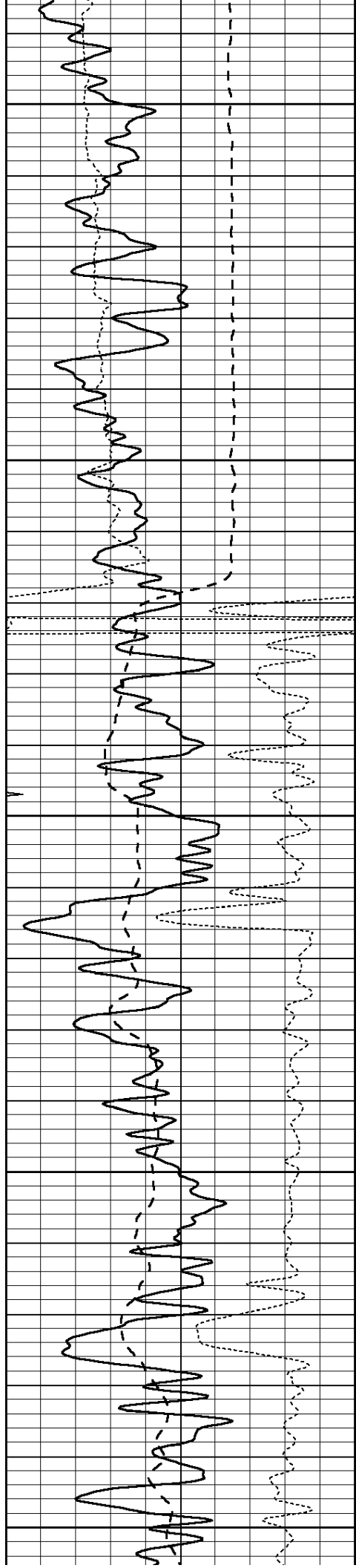


MAIN PASS

Database File: 2901ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Fri Aug 10 04:12:11 2018
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			





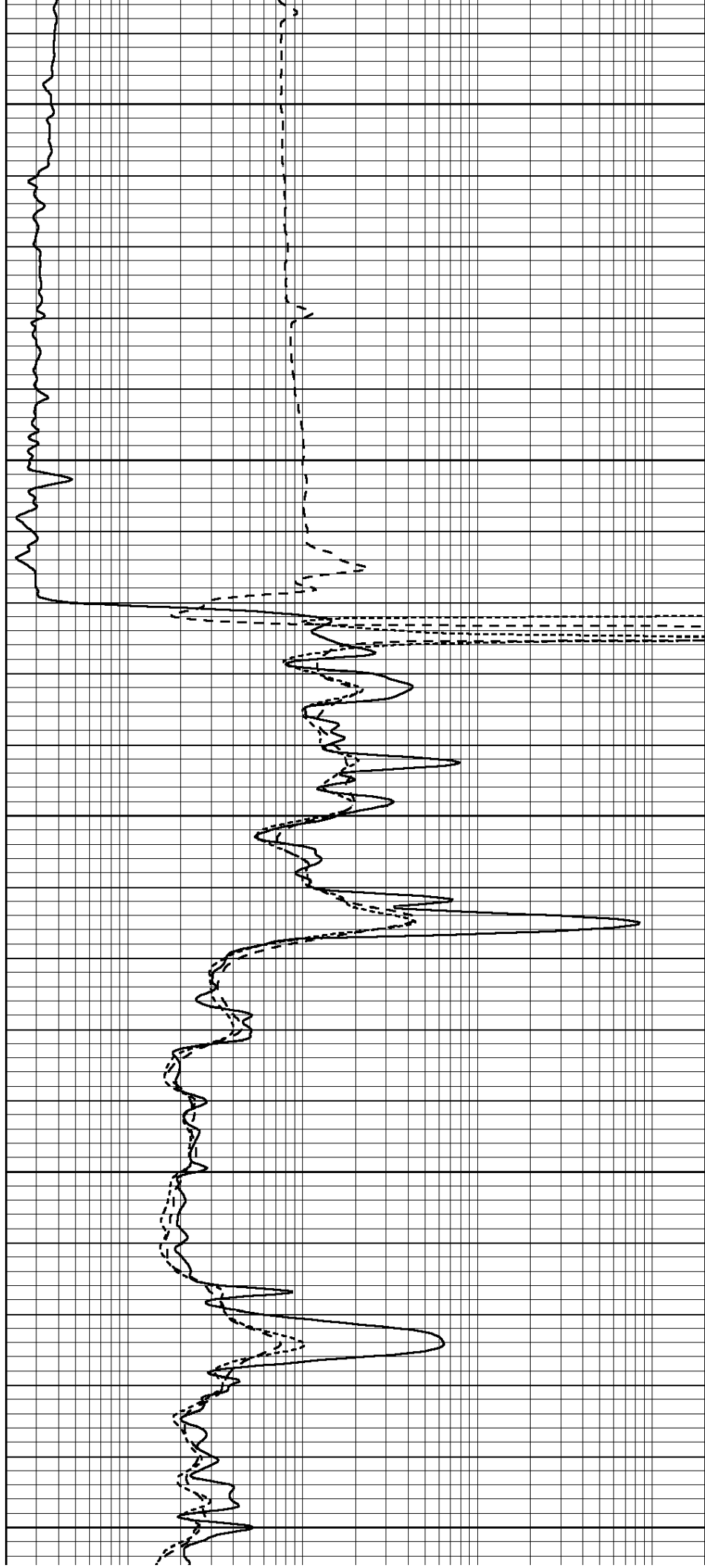
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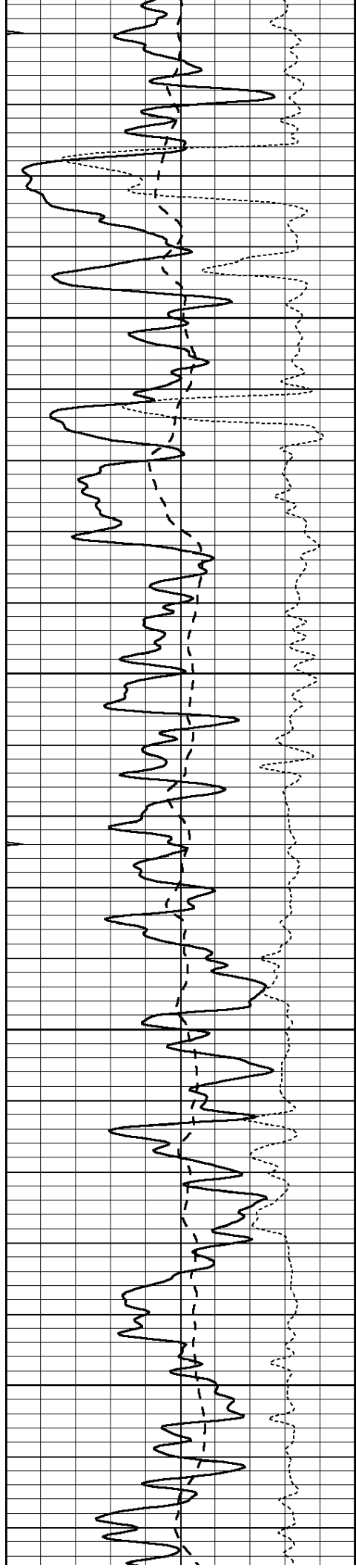
200

250

300

350



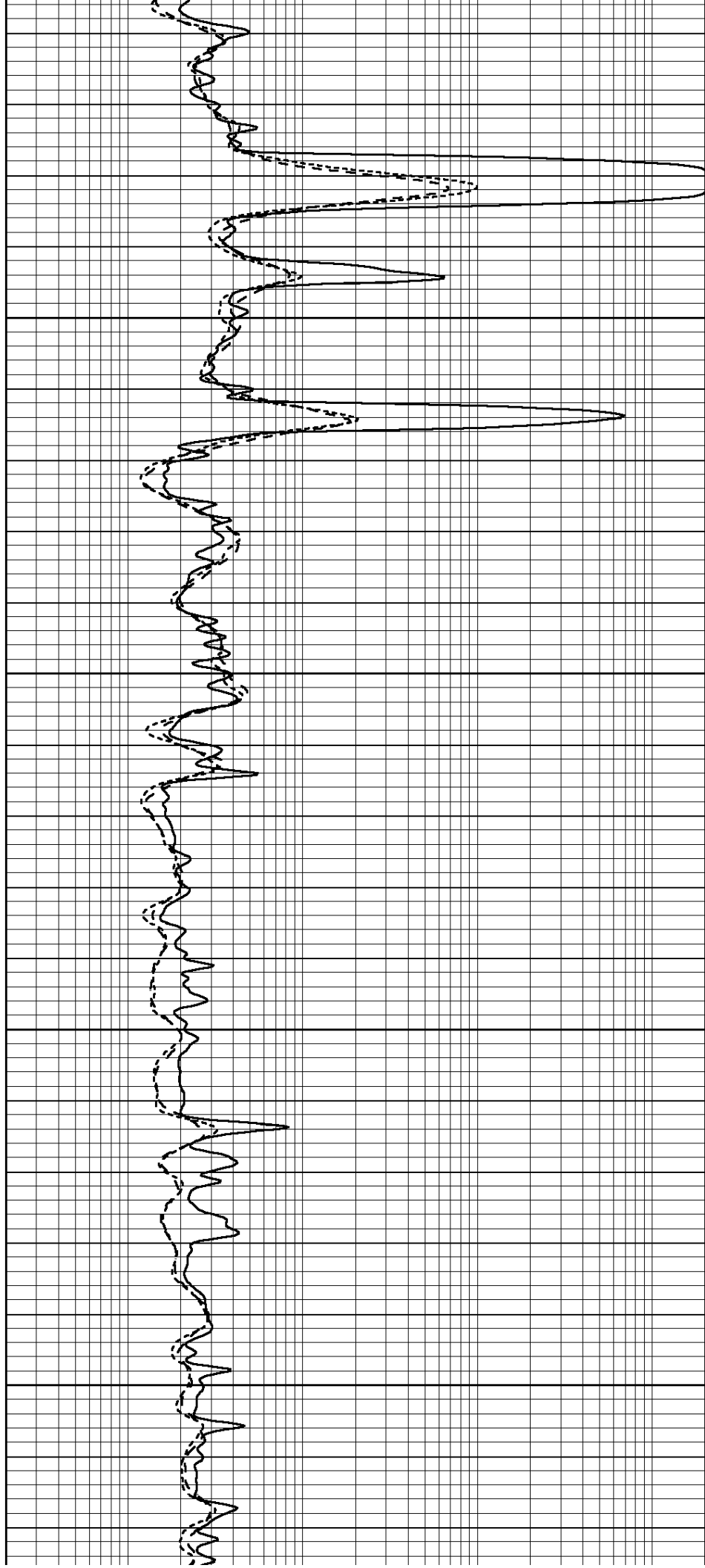


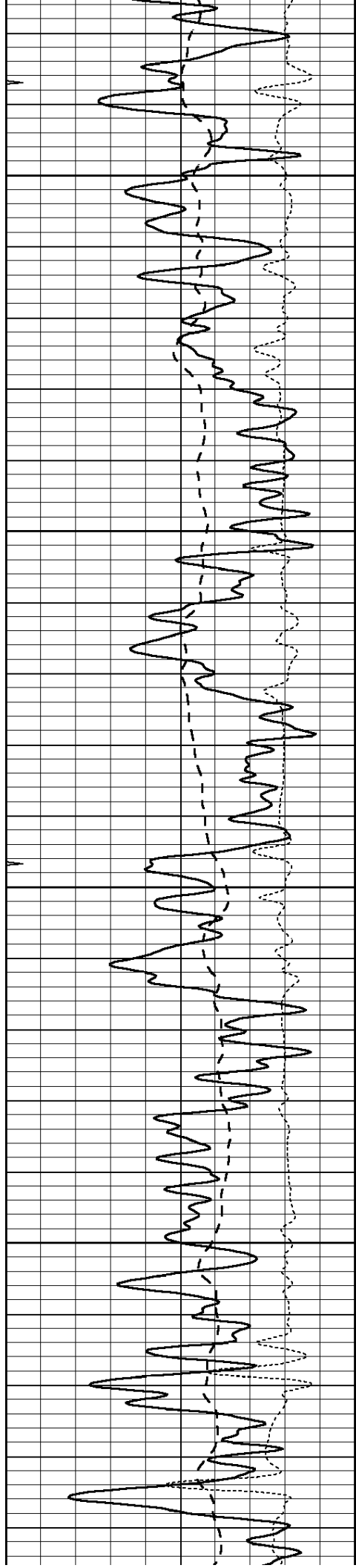
400

450

500

550



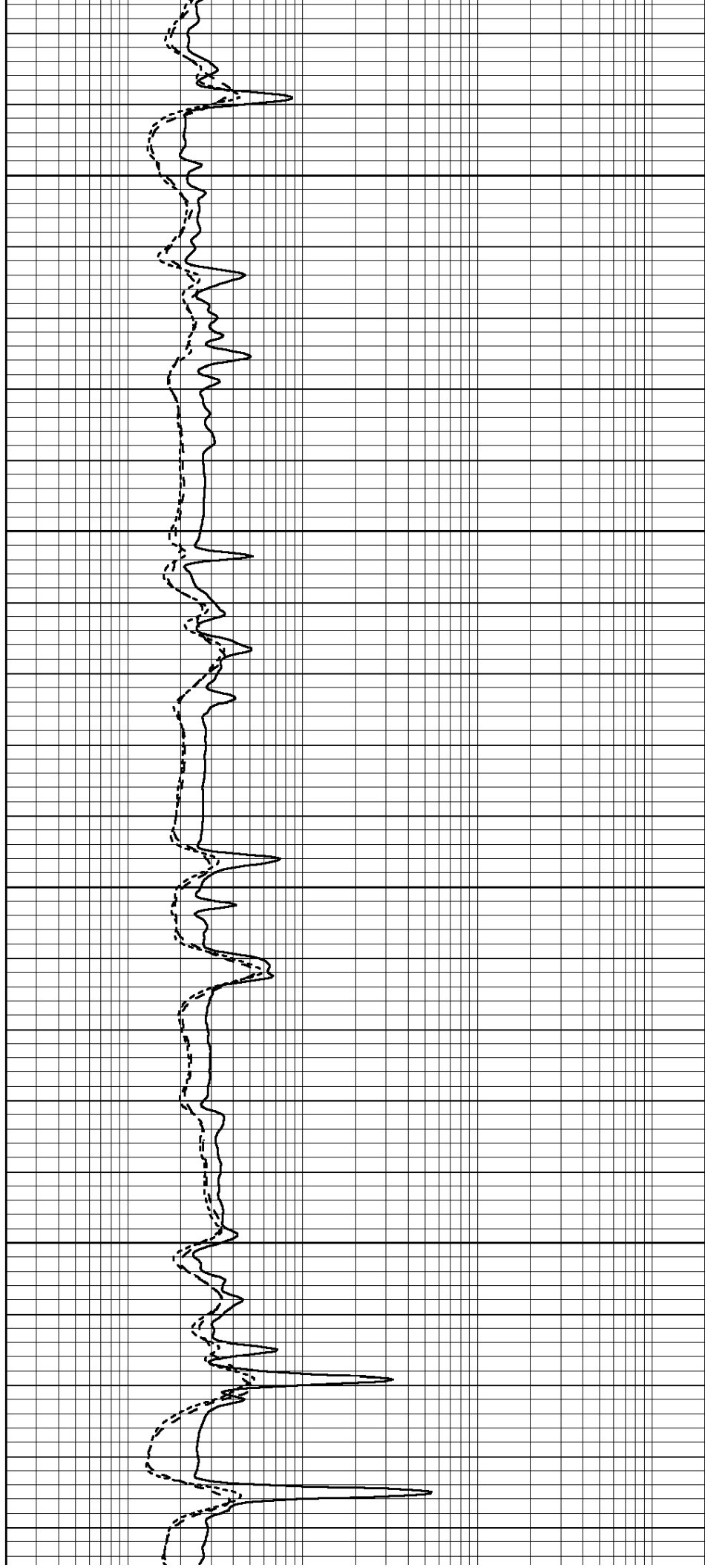


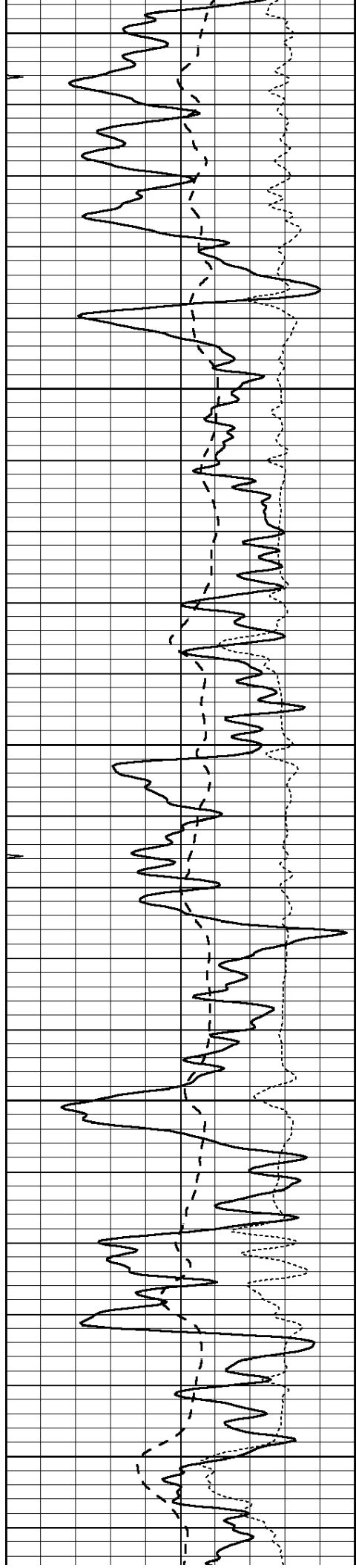
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650

700

750





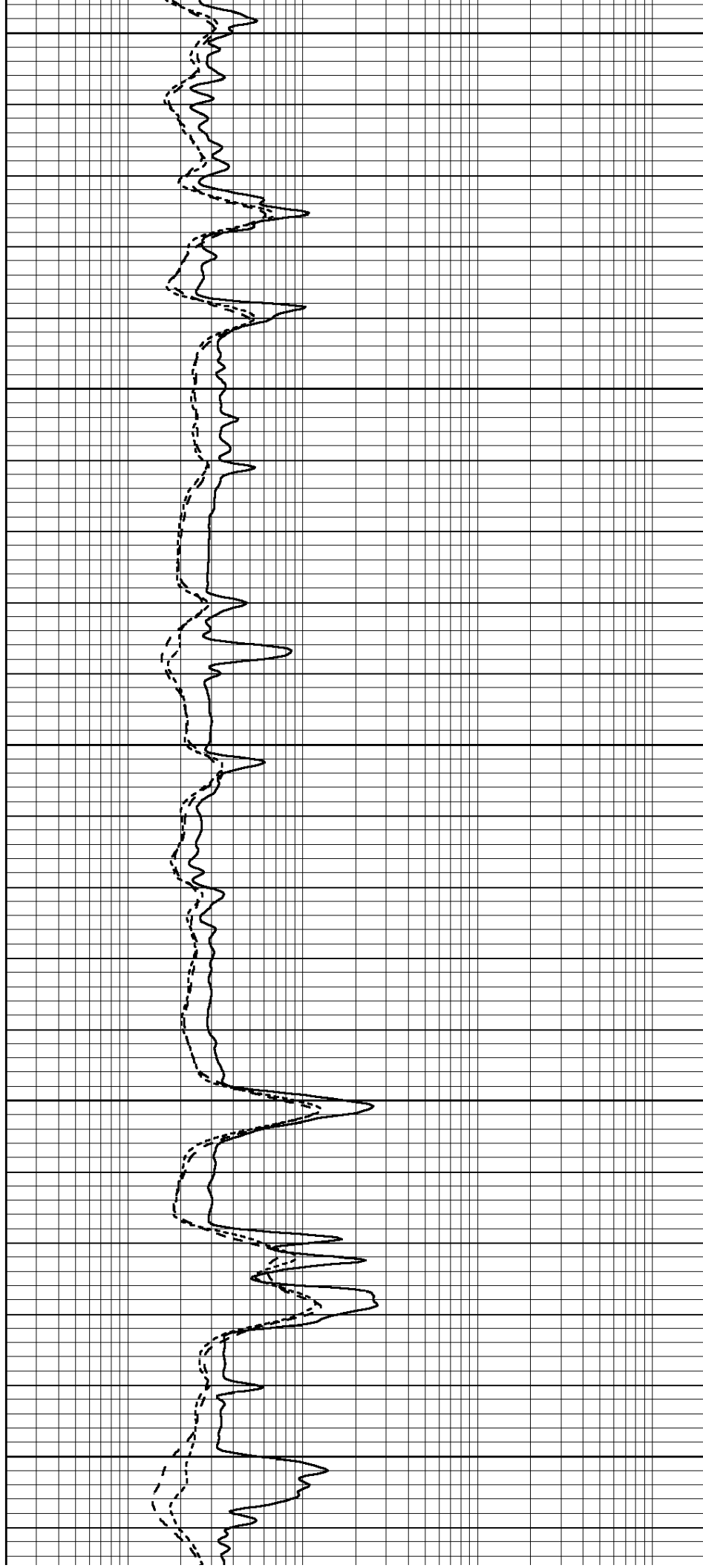
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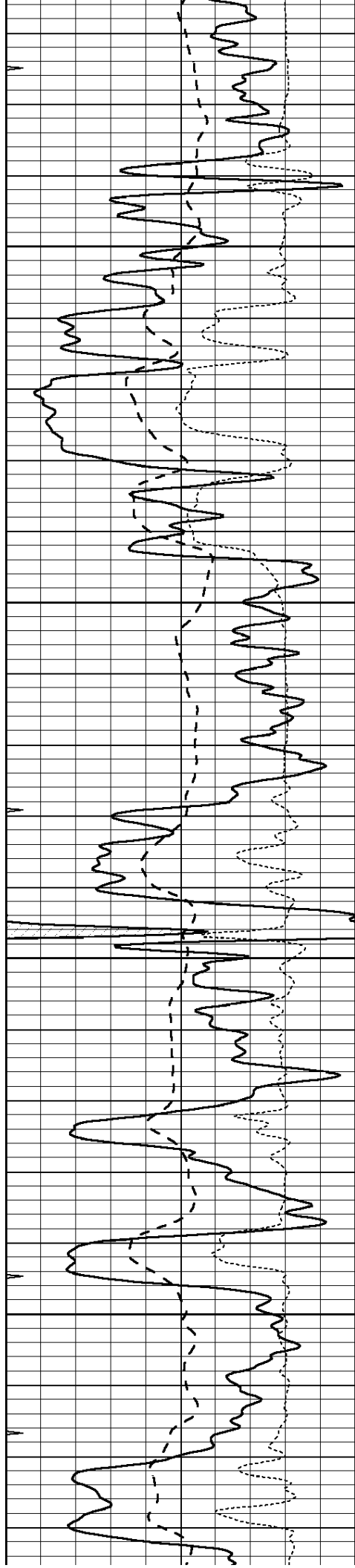
850

900

950

1000



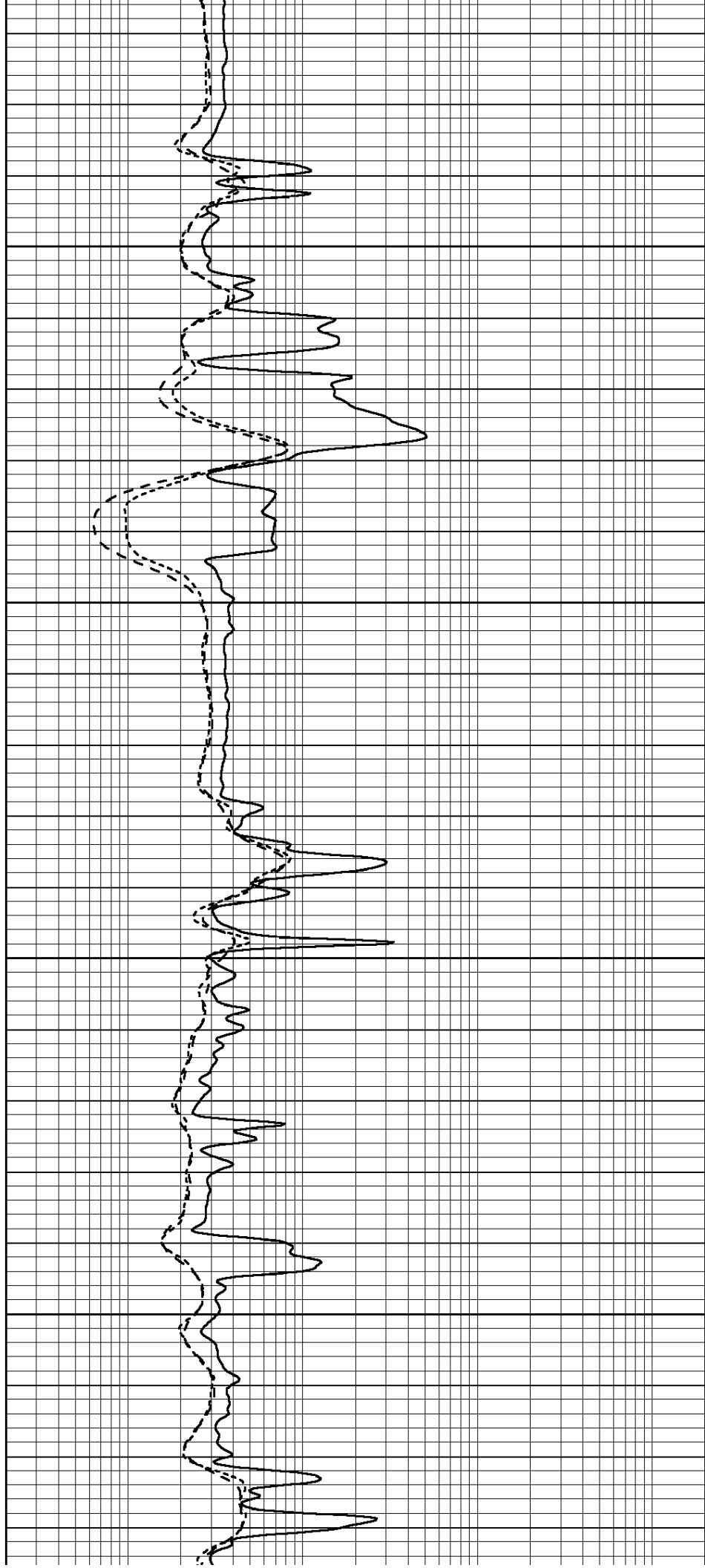


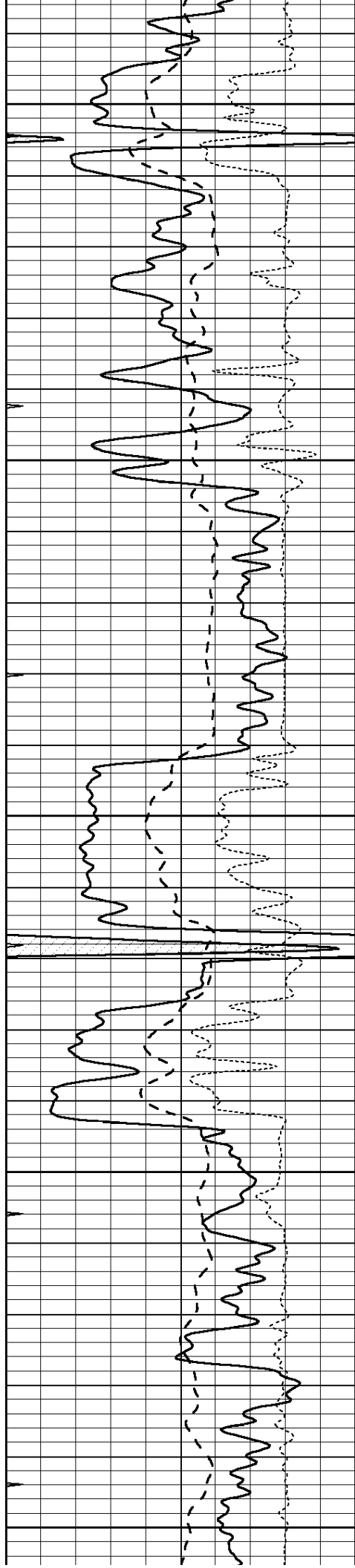
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1100

1150

1200





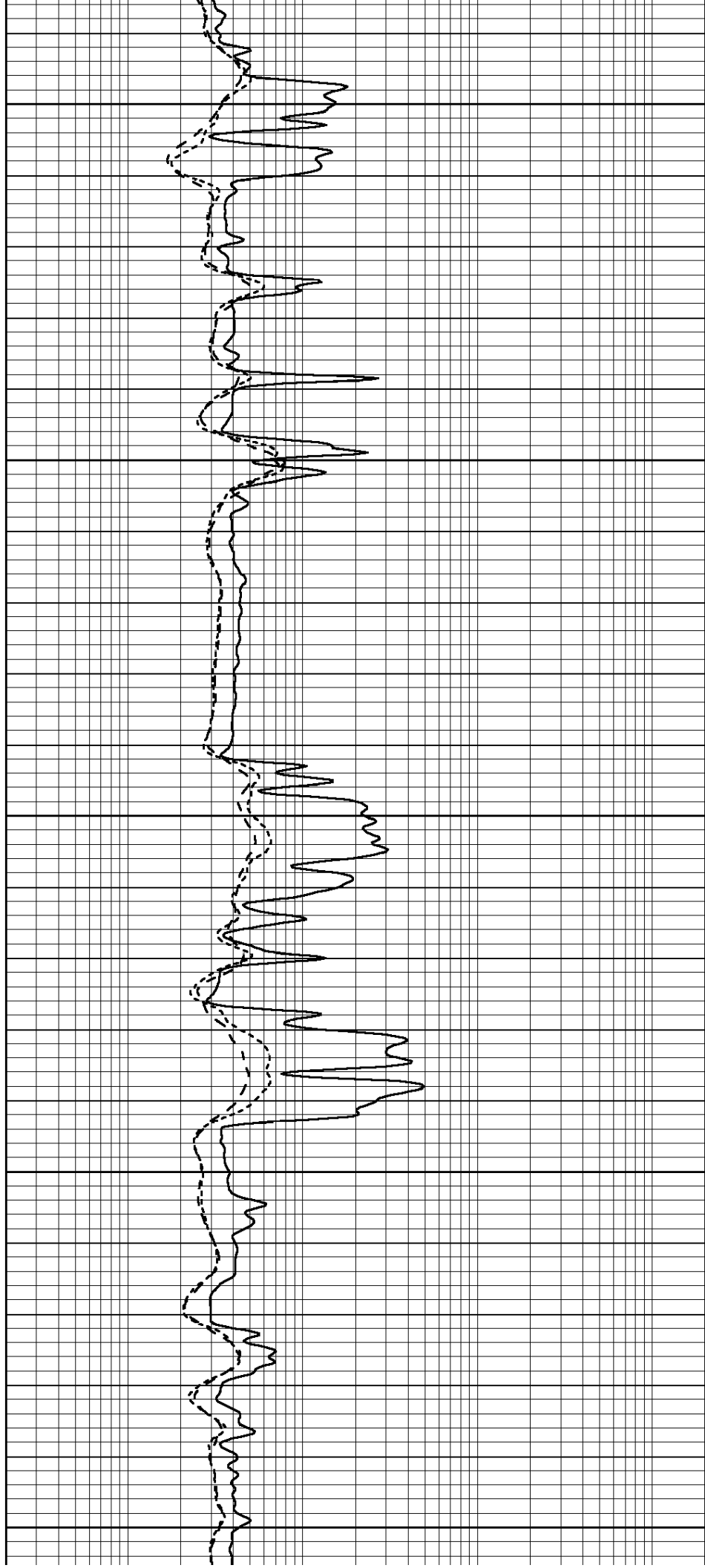
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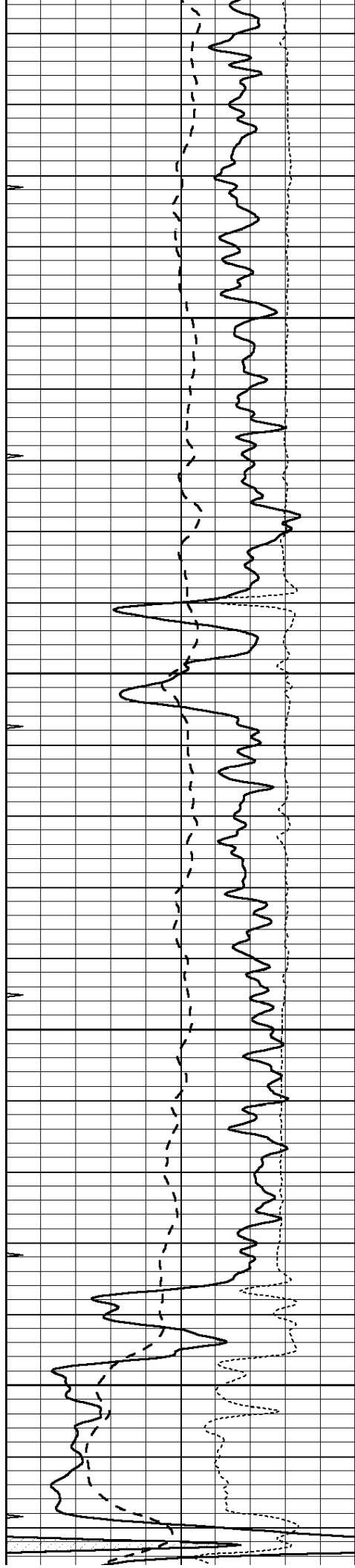
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1350

1400

1450



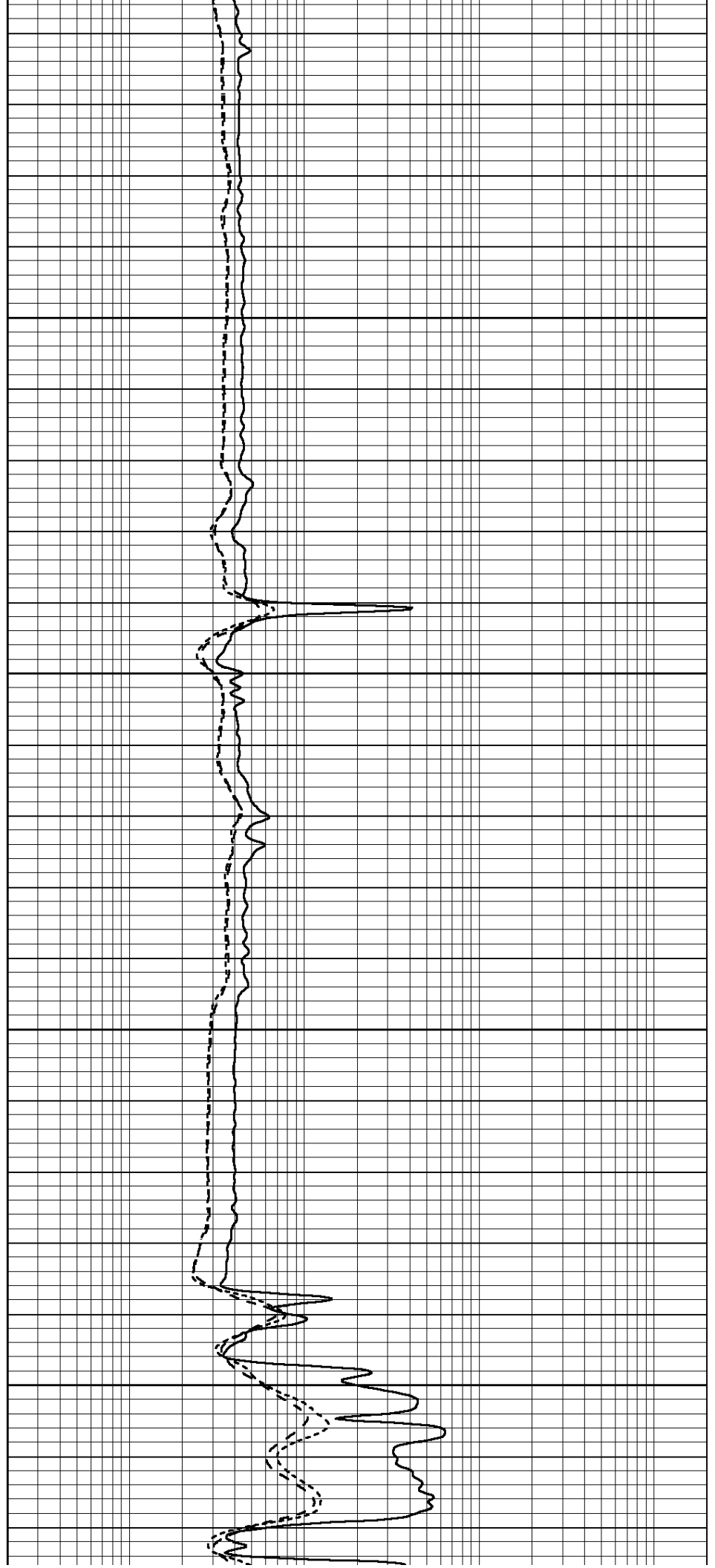


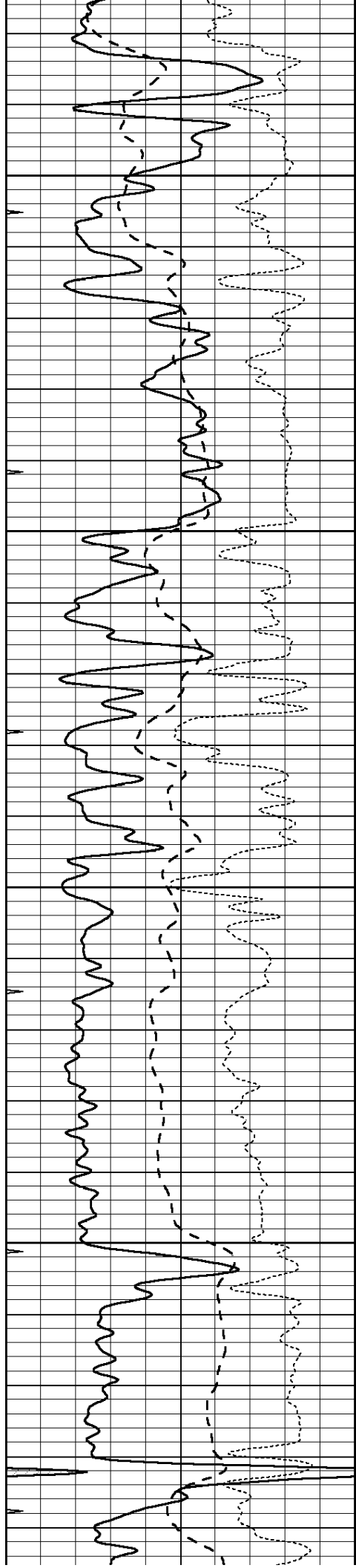
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1550

1600

1650



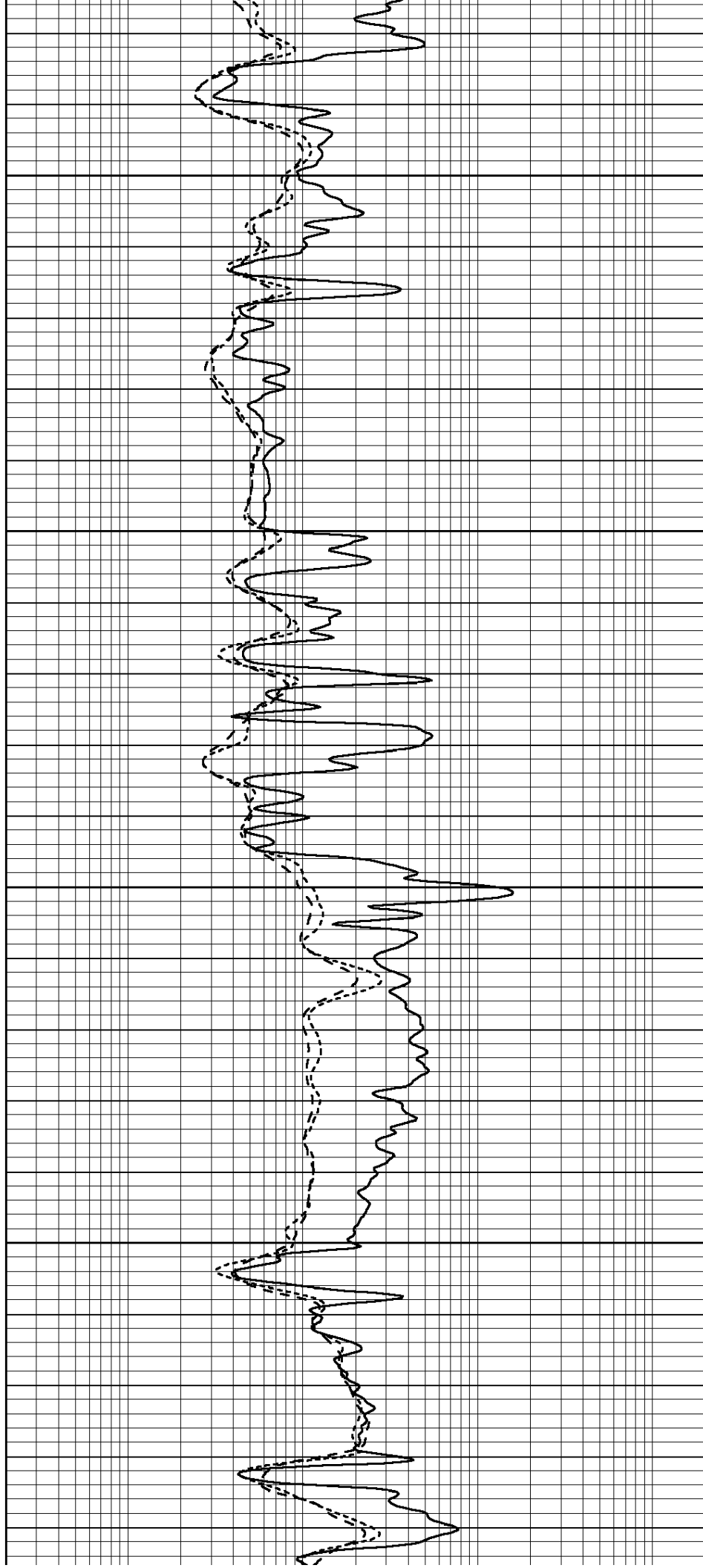


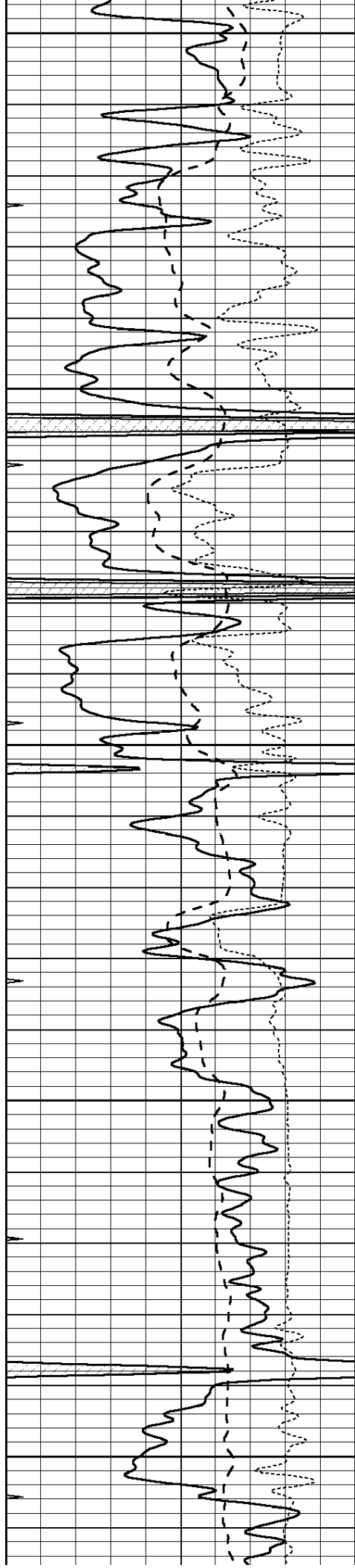
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1750

1800

1850





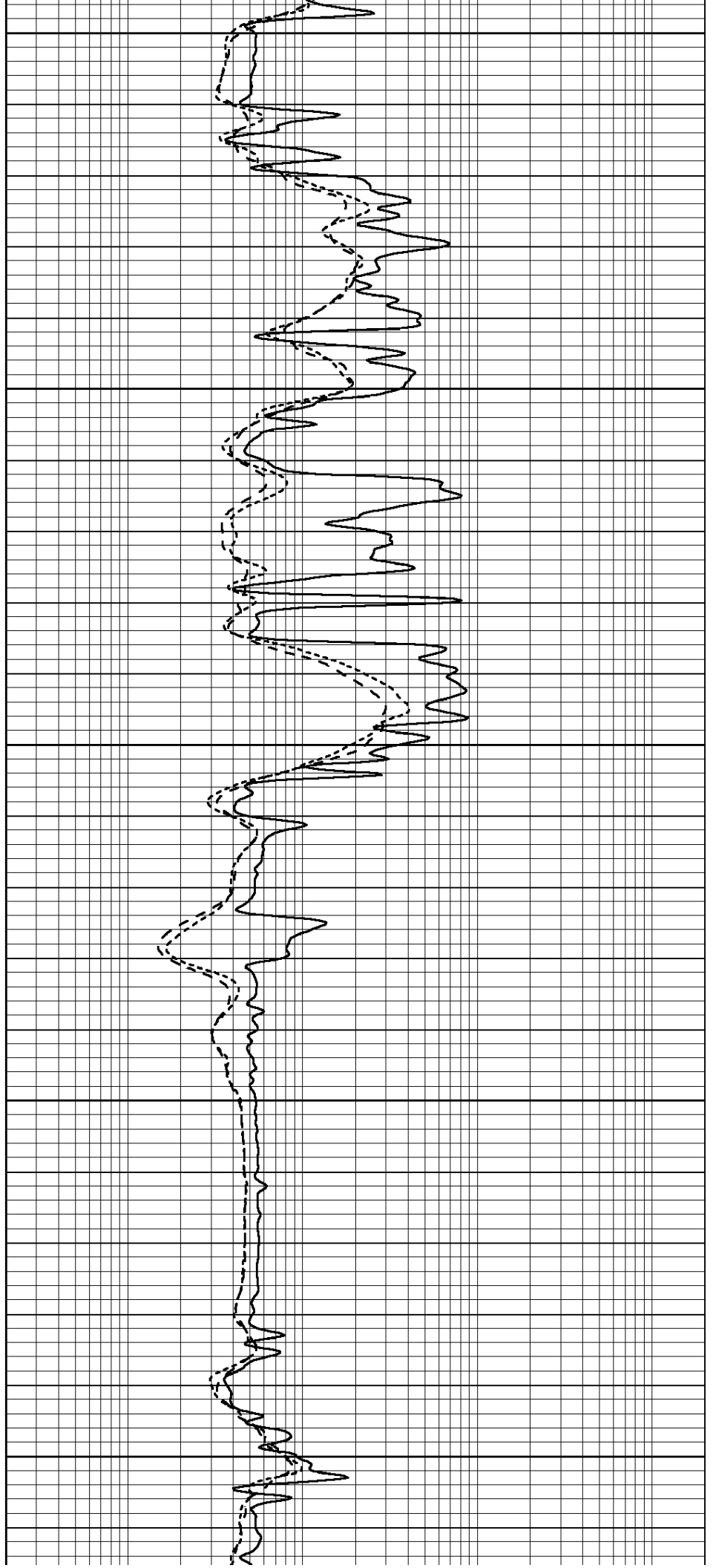
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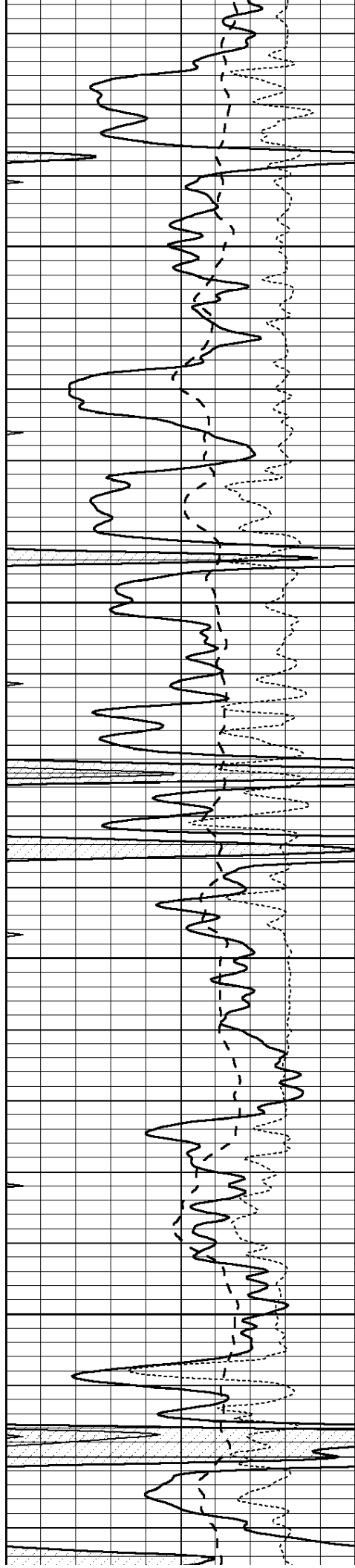
1950

2000

2050

2100



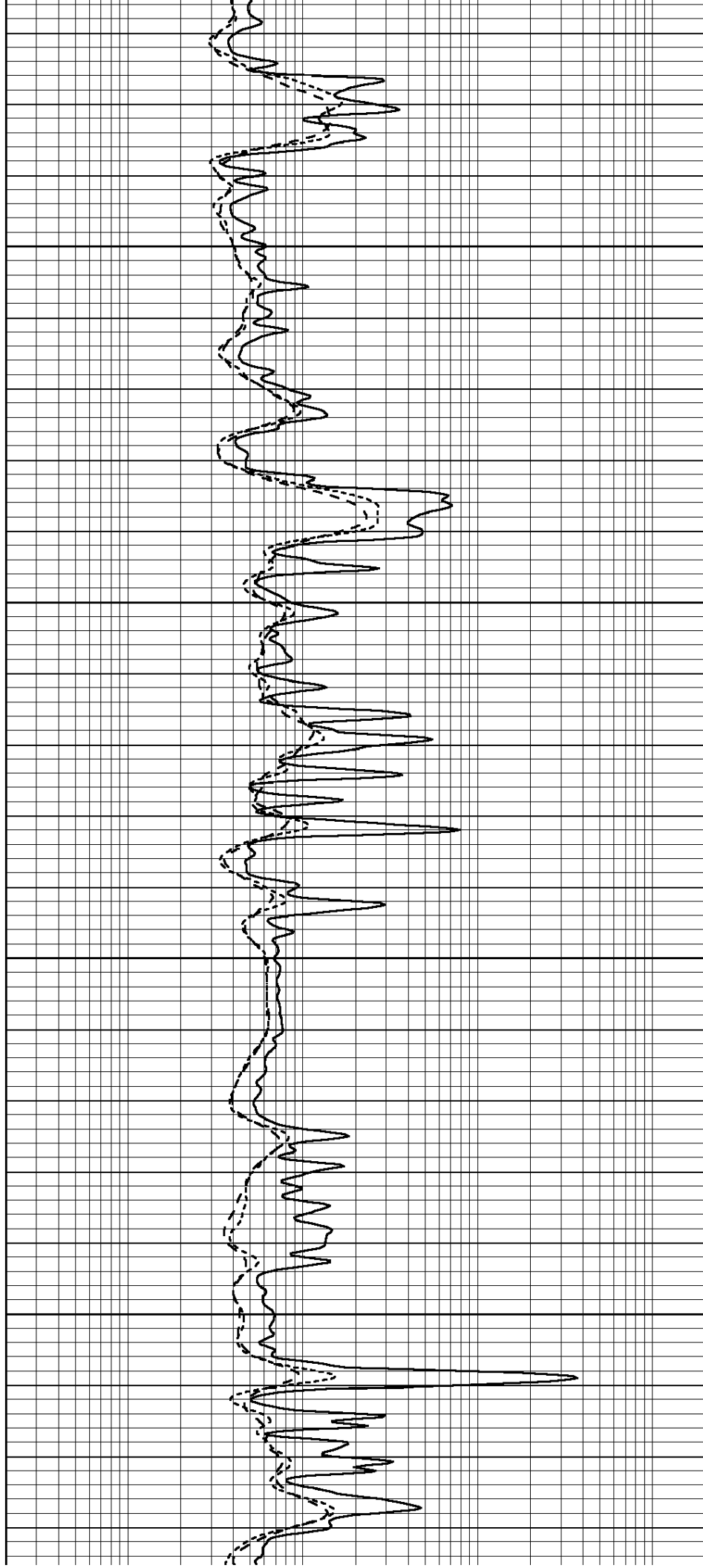


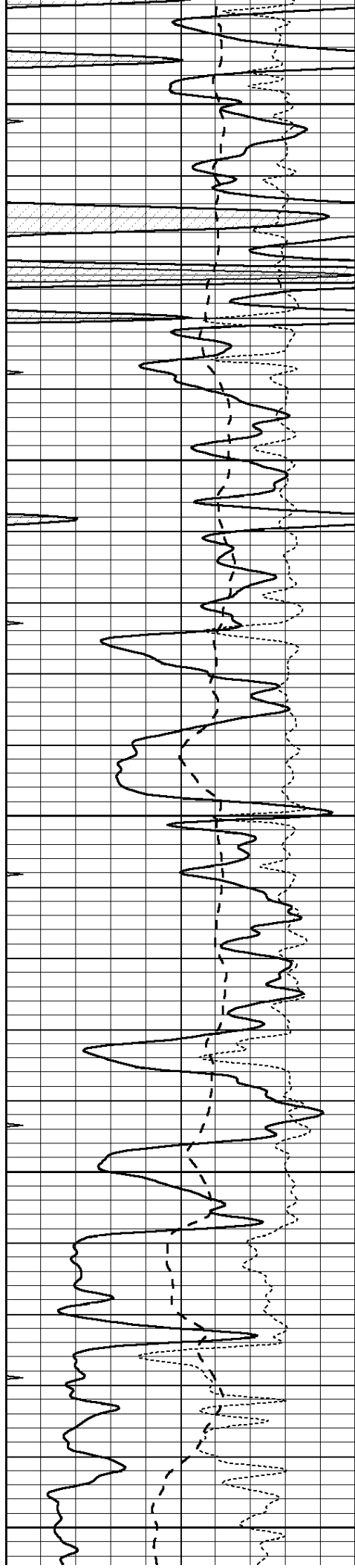
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2200

2250

2300





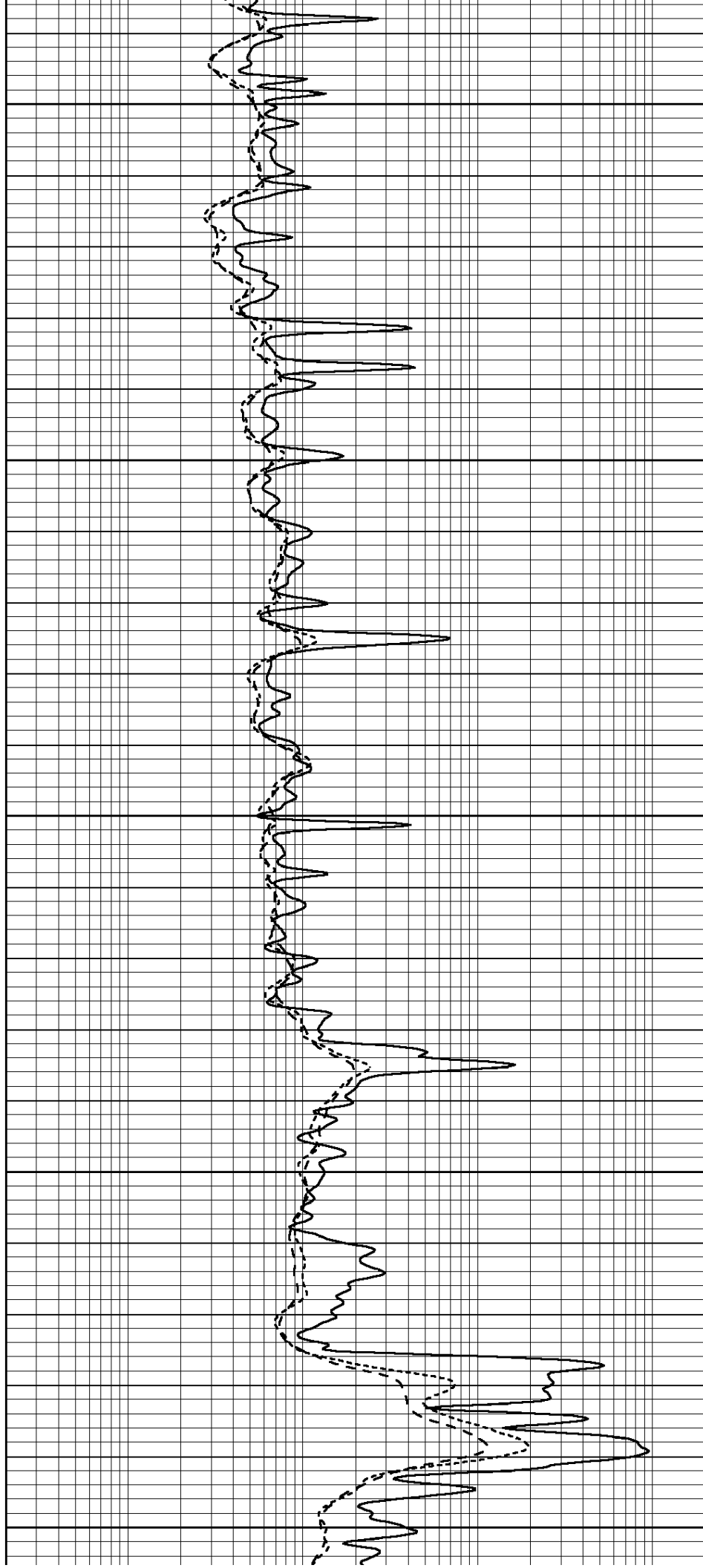
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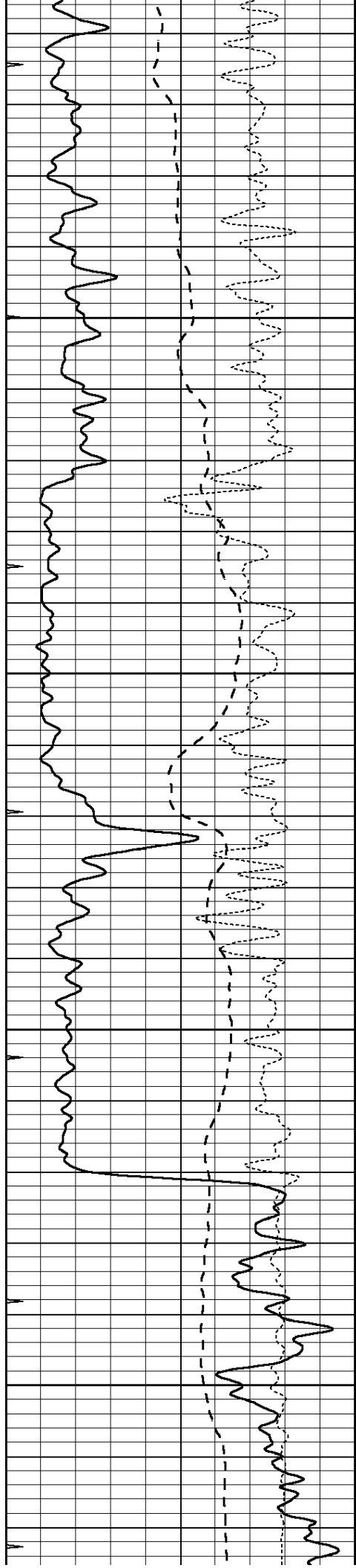
2400

2450

2500

2550



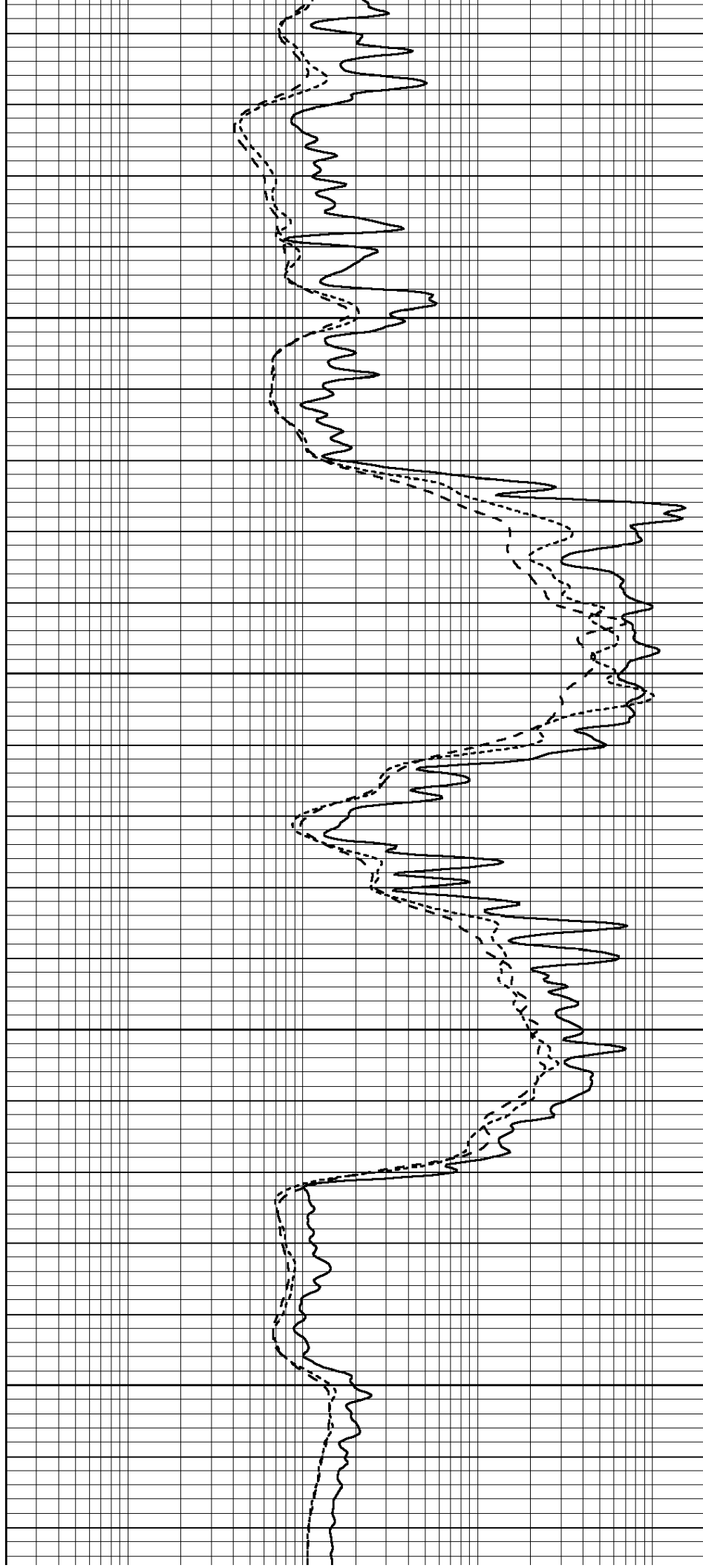


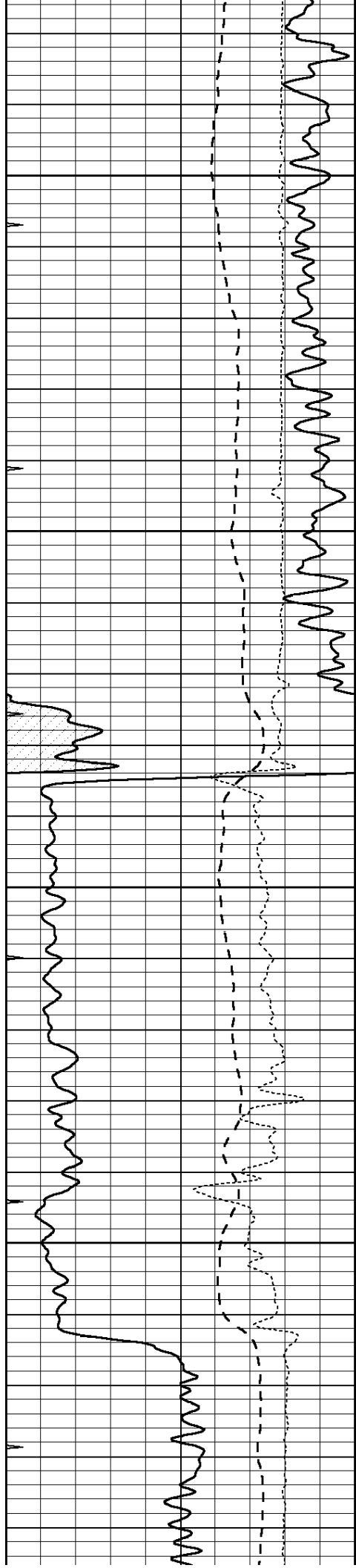
2600

2650

2700

2750



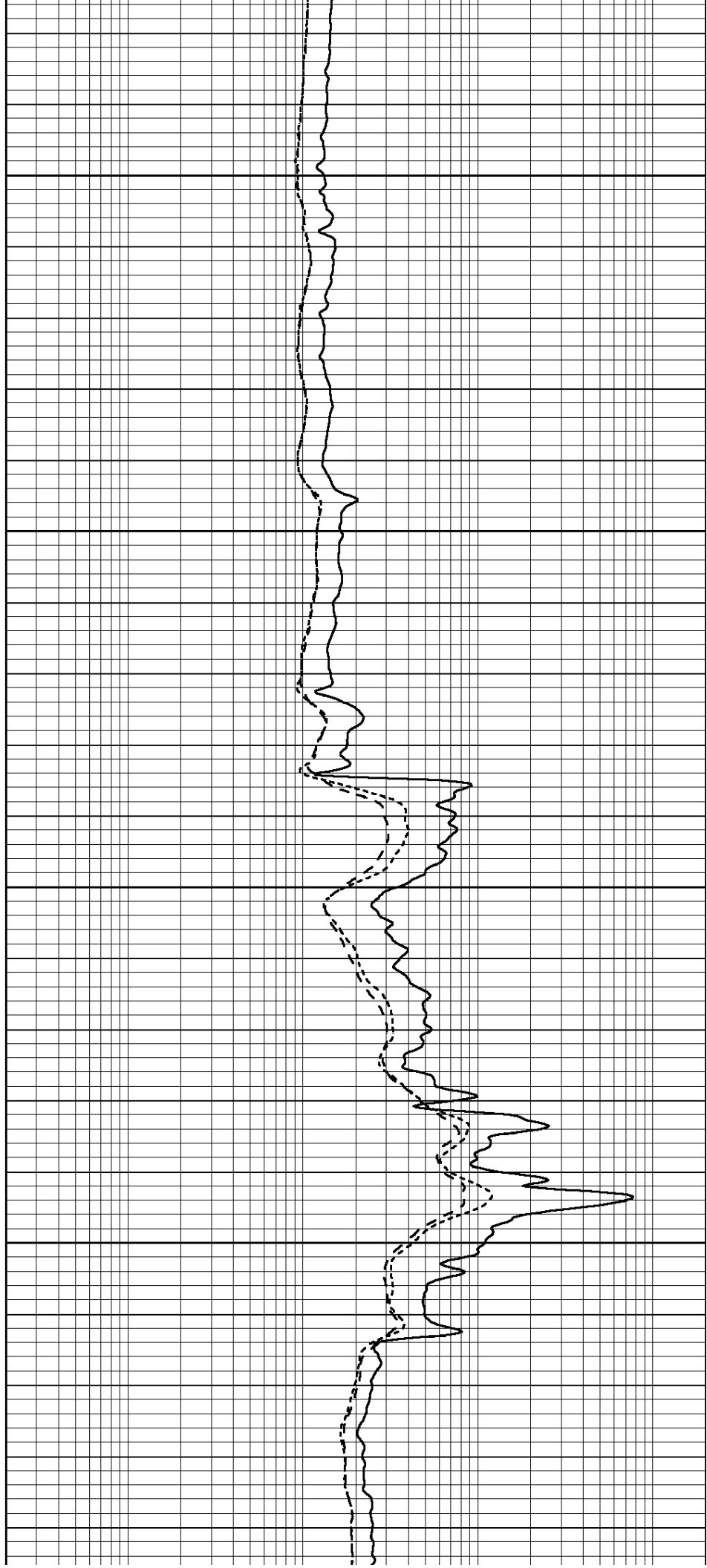


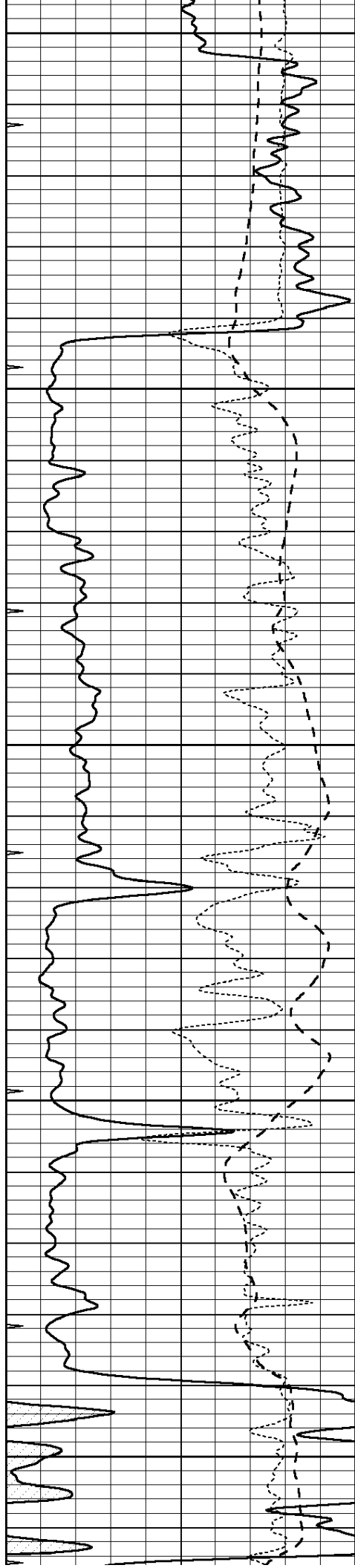
2800

2850

2900

2950





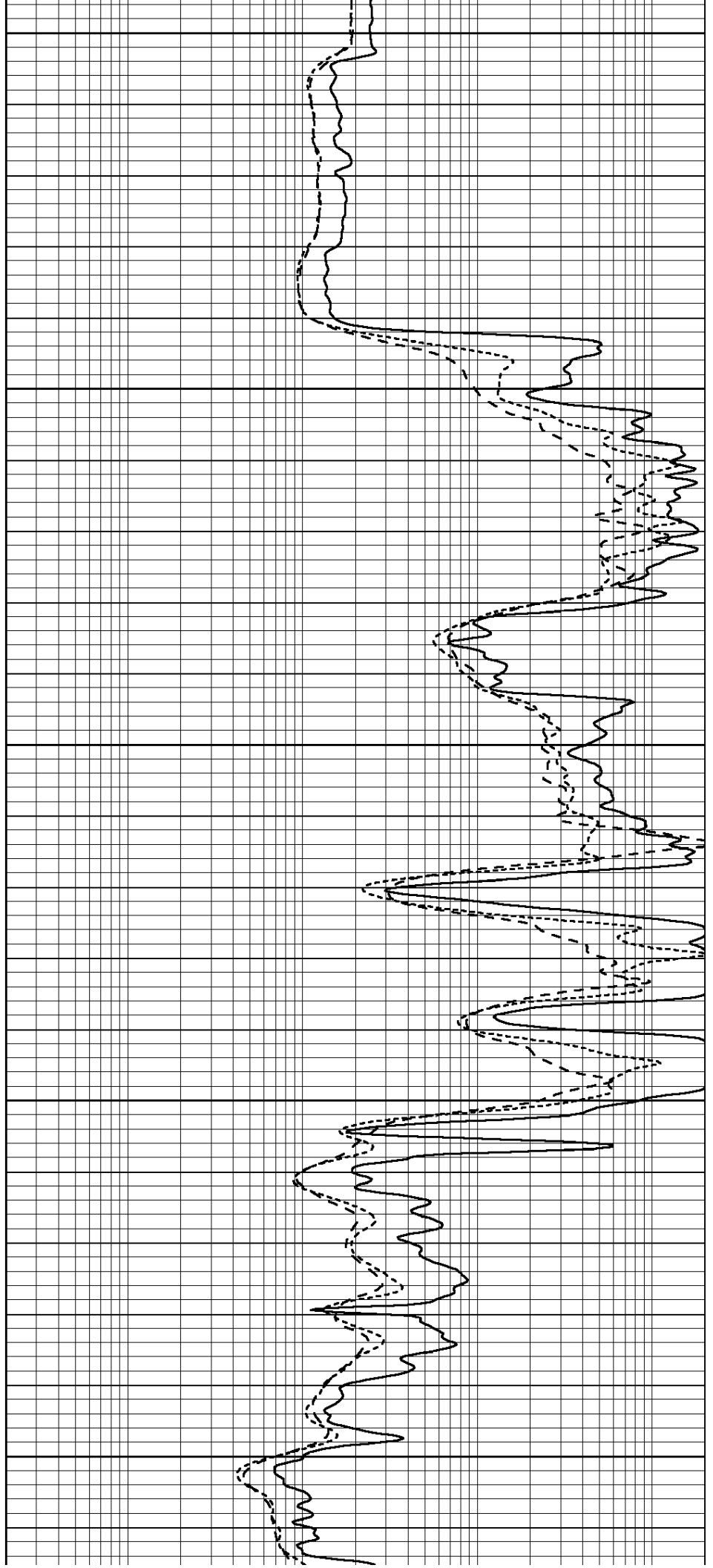
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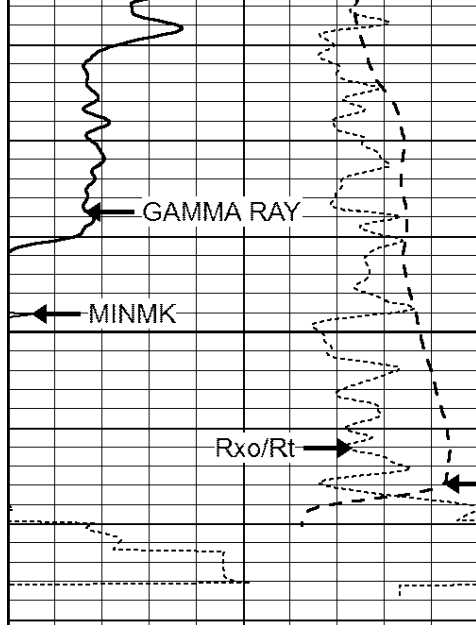
3050

3100

3150

3200



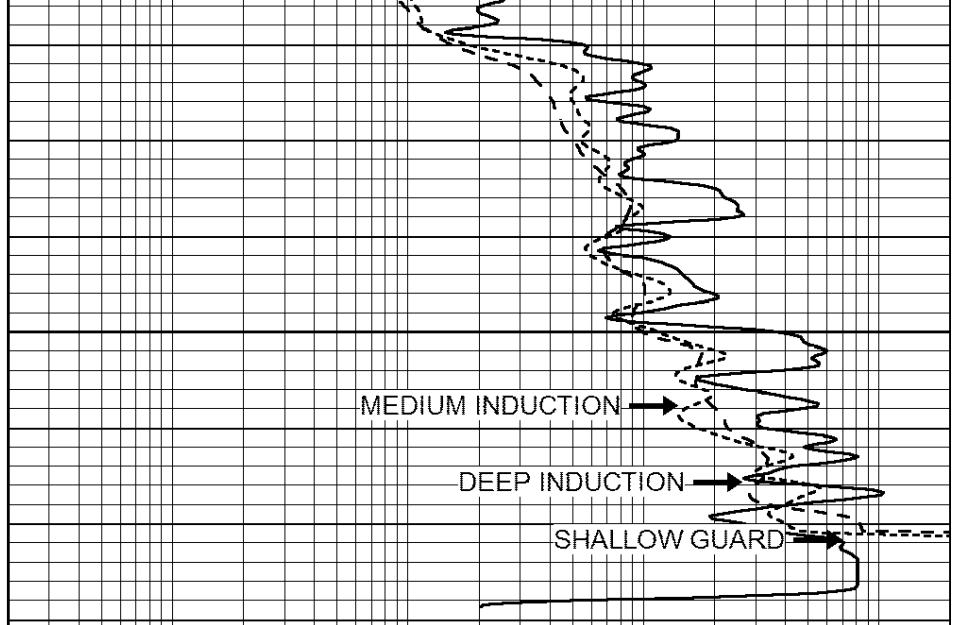


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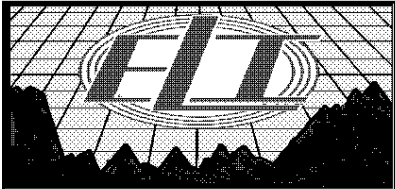
SP

LTD 3274

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

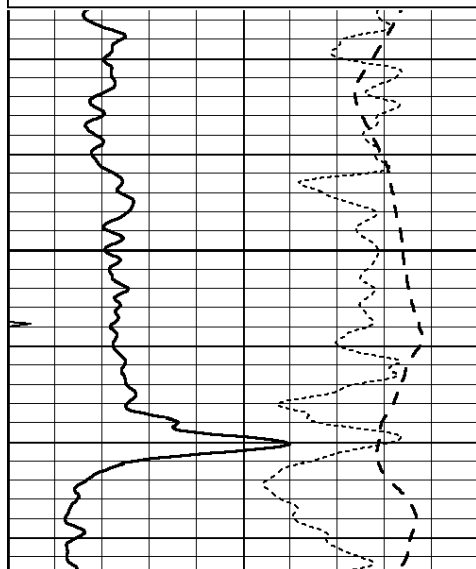


REPEAT SECTION

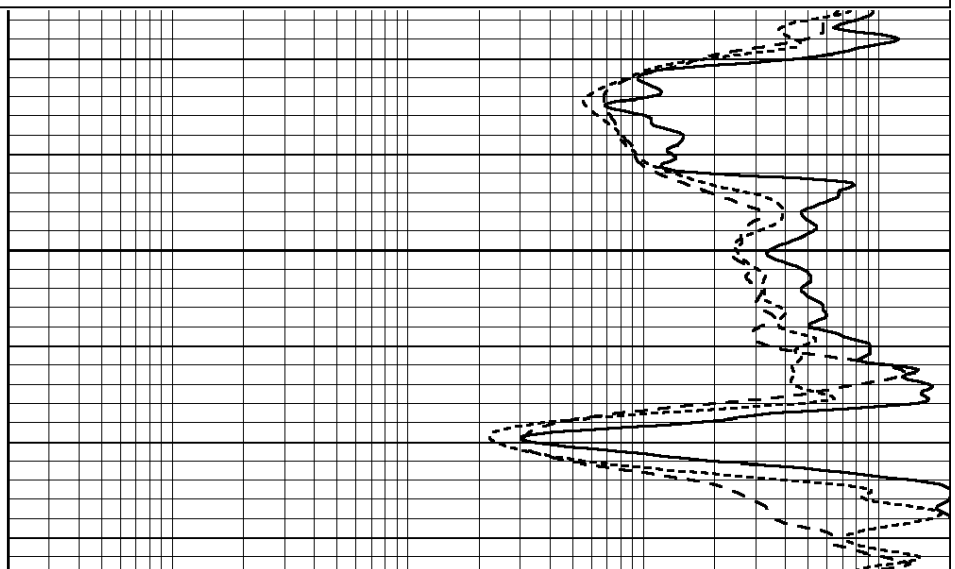
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 Presentation Format: _dil
 Dataset Creation: Fri Aug 10 04:29:27 2018
 Charted by: Depth in Feet scaled 1:240

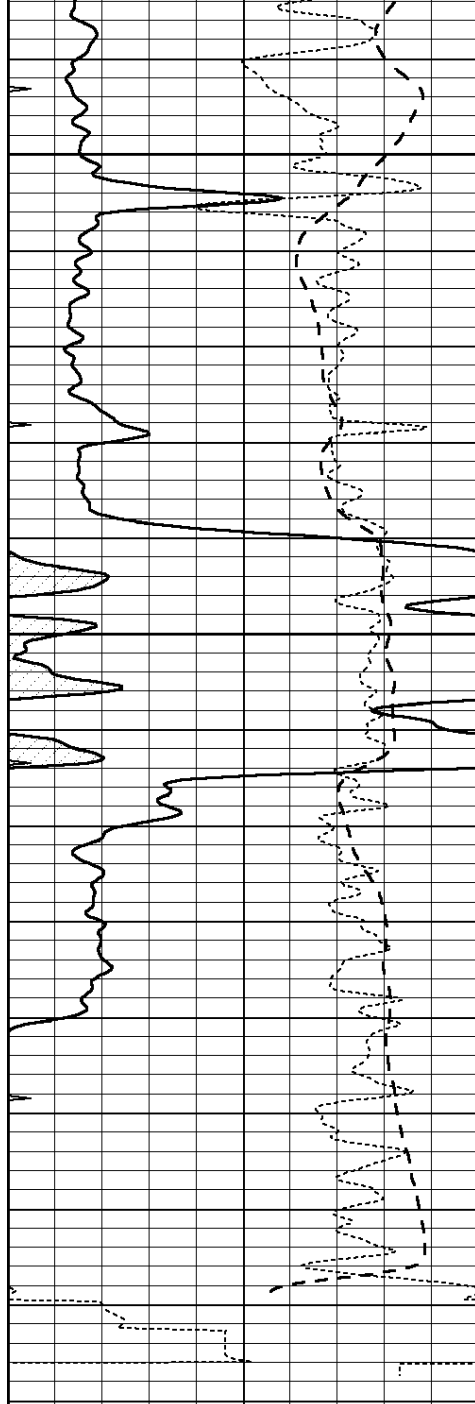
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



3100



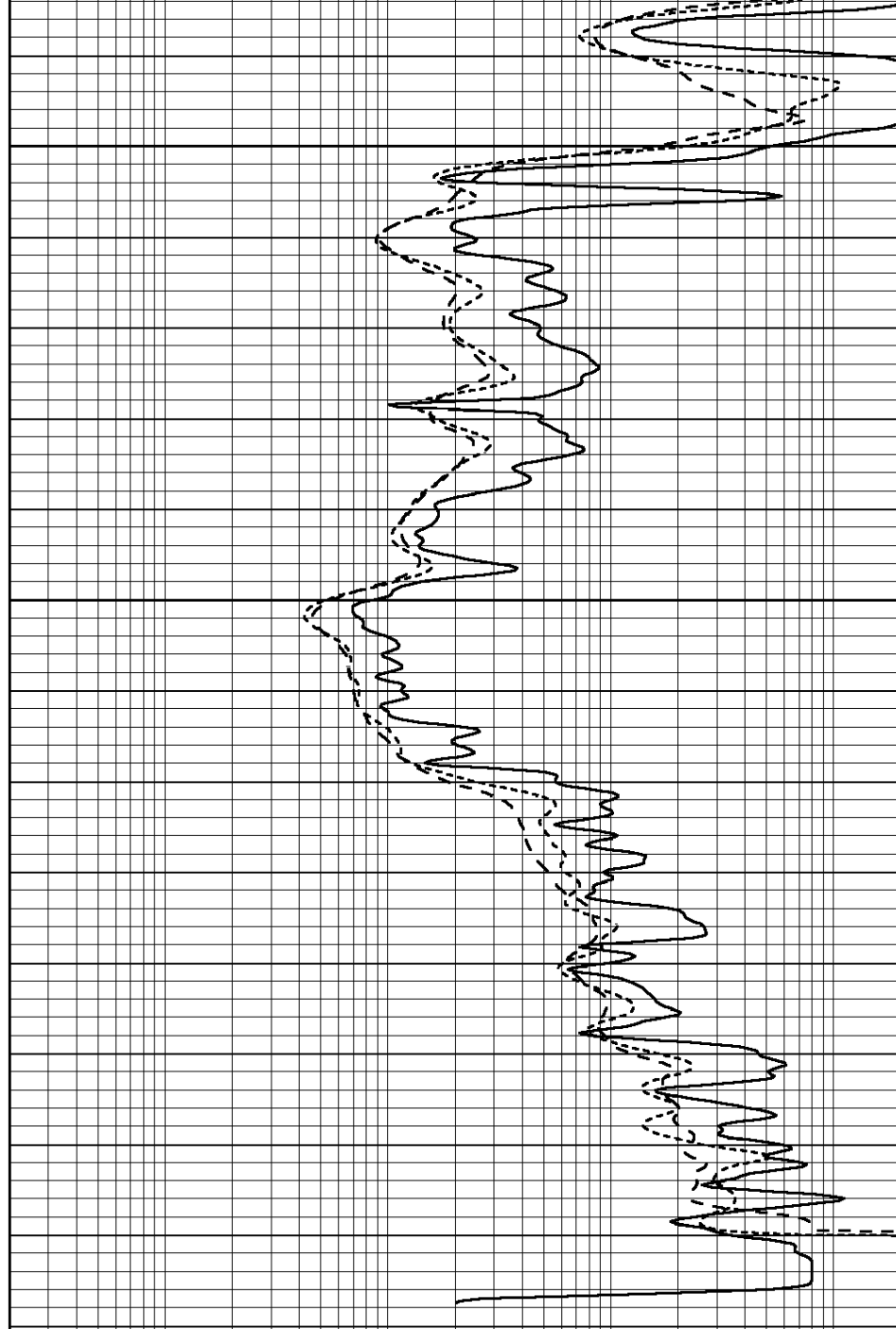


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3150

3200

3250



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

Calibration Report

Database File: pe2.db
 Dataset Pathname: pass2
 Dataset Creation: Mon Aug 21 11:58:02 2017 by Log Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Mon Aug 21 11:58:18 2017
 Downhole Cal Performed: Mon Aug 21 11:58:21 2017
 After Survey Verification Performed: Mon Aug 21 11:58:23 2017

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration								
Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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 11:56:41 2017				
	Background	Magnesium		Aluminum		Sandstone		
Window 1	833.6	7394.2		2287.3		8111.8		cps
Window 2	768.9	6322.3		1995.6		6800.0		cps
Window 3	621.5	3261.9		1186.4		3380.9		cps
Window 4	184.2	185.7		184.9		184.8		cps
Long Space	0.0	5553.4		1226.6		6031.1		cps
Short Space	1.2	1307.5		903.9		1387.7		cps
Rho		1.7100		2.5900		1.3800		g/cc
Pe		0.0000		2.5700		1.5500		
Rib Angle	: 46.3	Rib Slope	: 1.045	Density/Spine Ratio			: 0.566	
Spine Angle	: 76.3	Spine Slope	: 4.090	Spine Intercept			: -20.7	

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				
---------------------------	--	--	--	------------------------------------	--	--	--	--

Pre-Survey Verification					
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
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Serial Number:	6I
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

PRE-SURVEY VERIFICATION						
Detector		Readings		Measured	Target	
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			
	Long Space		cps	pu		

POST-SURVEY VERIFICATION						
Detector		Readings		Measured	Target	
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		pu
3)	Short Space		cps			
	Long Space		cps	pu		pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Mon Aug 21 11:59:01 2017	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.5500	GAPI/cps