



SUPERIOR
Hays,
Kansas

DUAL
INDUCTION
LOG

Company	PHILLIPS EXPLORATION CO., LC.	Company	PHILLIPS EXPLORATION CO., LC.
Well	DAUBERT #1-20	Well	DAUBERT #1-20
Field	REICHEL	Field	REICHEL
County	RUSH	County	RUSH
State	KANSAS	State	KANSAS
Location:	API # : 15-165-21975 1980' FNL & 1320' FEL	Other Services CDL/CNL MICRO	
Permanent Datum Log Measured From Drilling Measured From	GROUND LEVEL KELLY BUSHING 5' A.G.L. KELLY BUSHING	Elevation K.B. 2077 D.F. G.L. 2072	
Date	7-3-12		
Run Number	ONE		
Depth Driller	3775		
Depth Logger	3775		
Bottom Logged Interval	3773		
Top Log Interval	00		
Casing Driller	1190		
Casing Logger	1190		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.5 / 59		
pH / Fluid Loss	10.0 / 9.2		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	0.70 @ 88F		
Rmf @ Meas. Temp	0.53 @ 88F		
Rmc @ Meas. Temp	0.84 @ 88F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	.550 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	7:00 A.M.		
Maximum Recorded Temperature	113F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	KIM SHOEMAKER		

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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

SUPERIOR WELL SERVICES
785-628-6395
THANK YOU FOR YOUR BUISNESS
DIRECTIONS: OTIS & HIGHWAY #4, 3W TO RD. #360, 1 1/2N, W INTO.

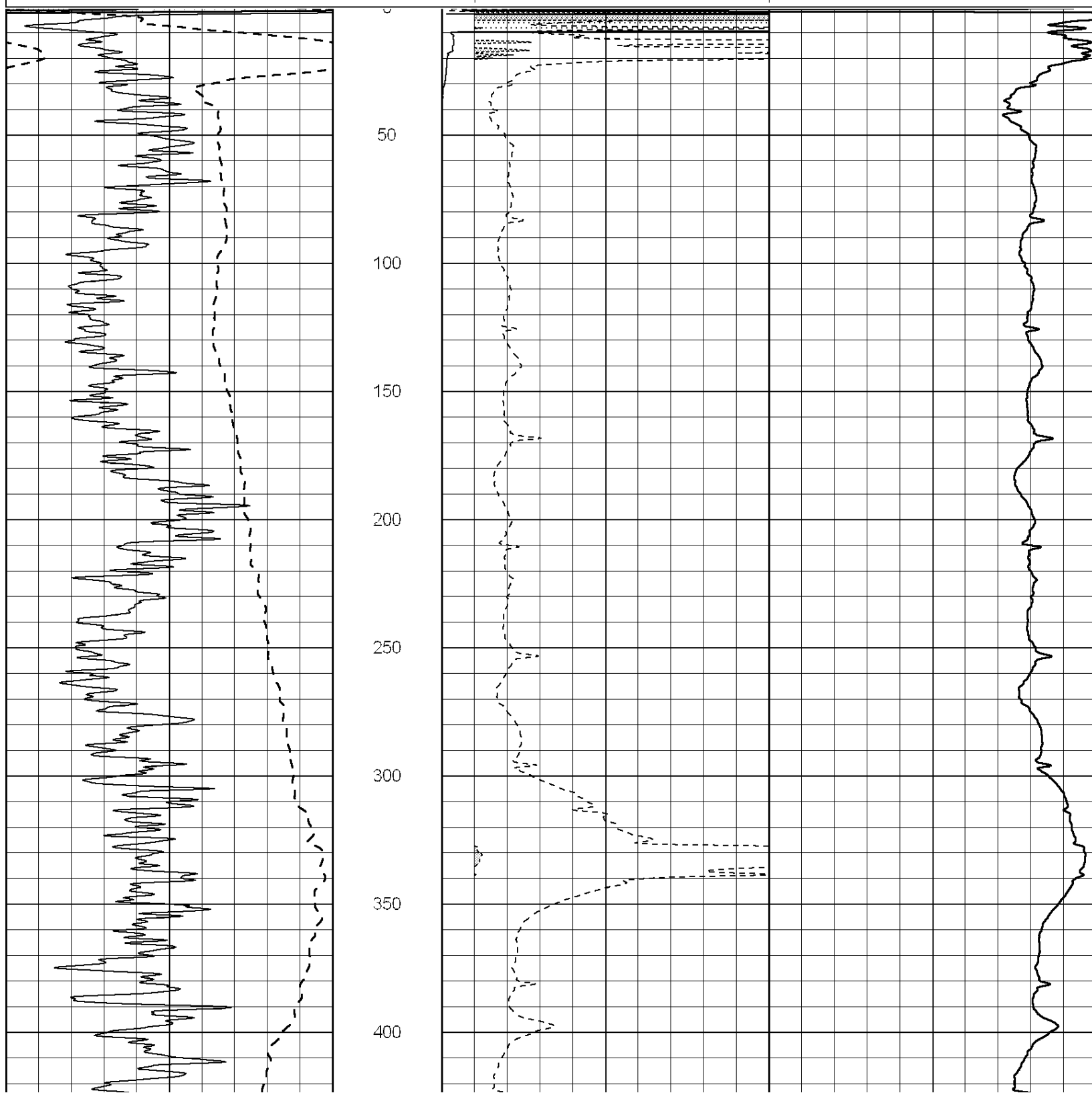


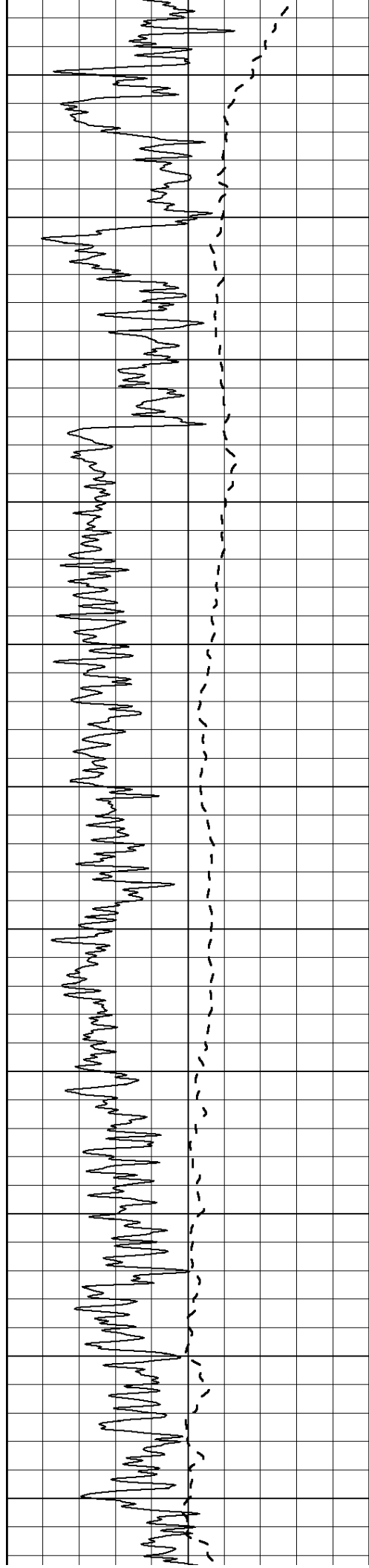
SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File: 008800ddn.db
Dataset Pathname: pass3.1
Presentation Format: dil2
Dataset Creation: Tue Jul 03 08:35:01 2012 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

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





450

500

550

600

650

700

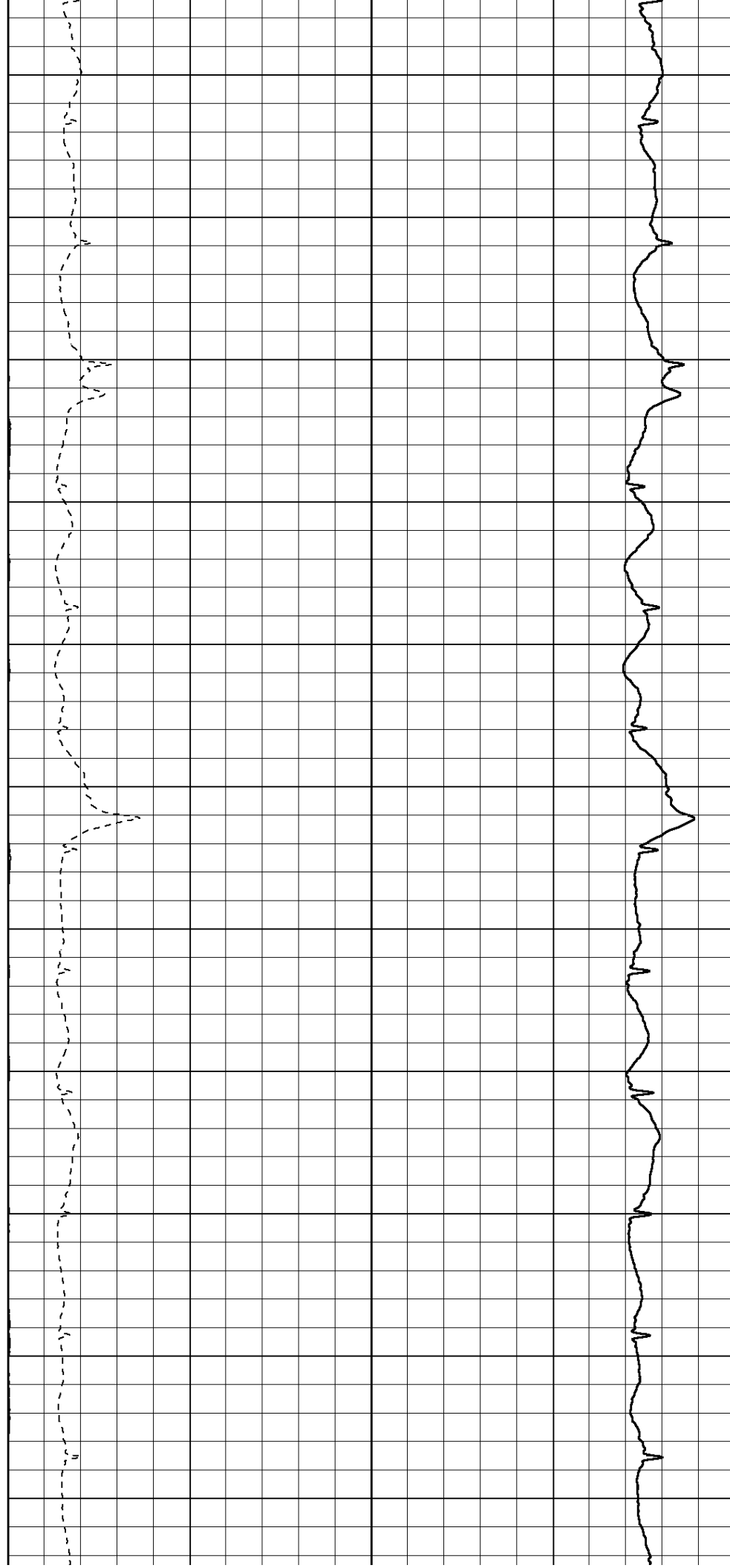
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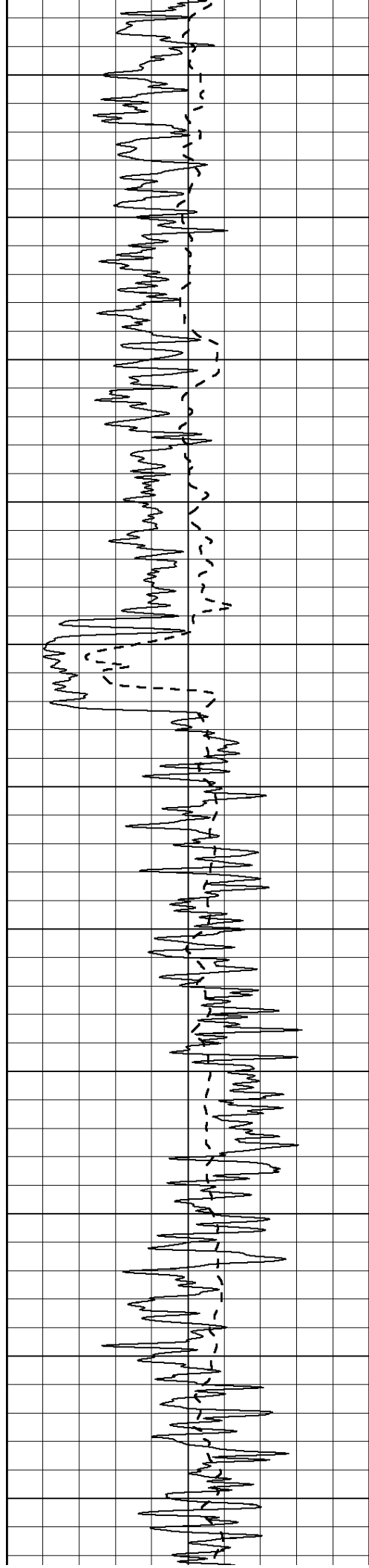
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850

900

950





1000

1050

1100

1150

1200

1250

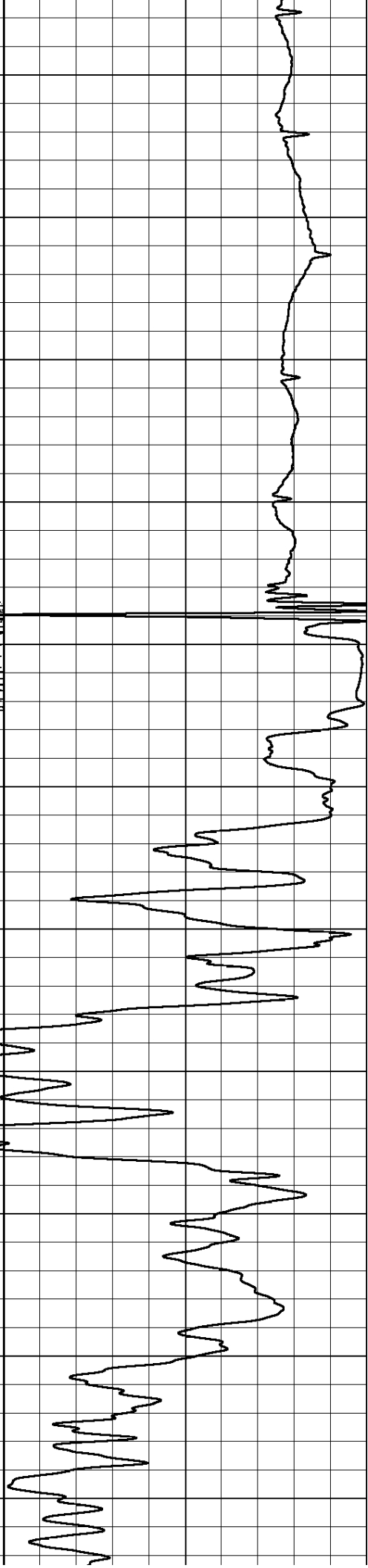
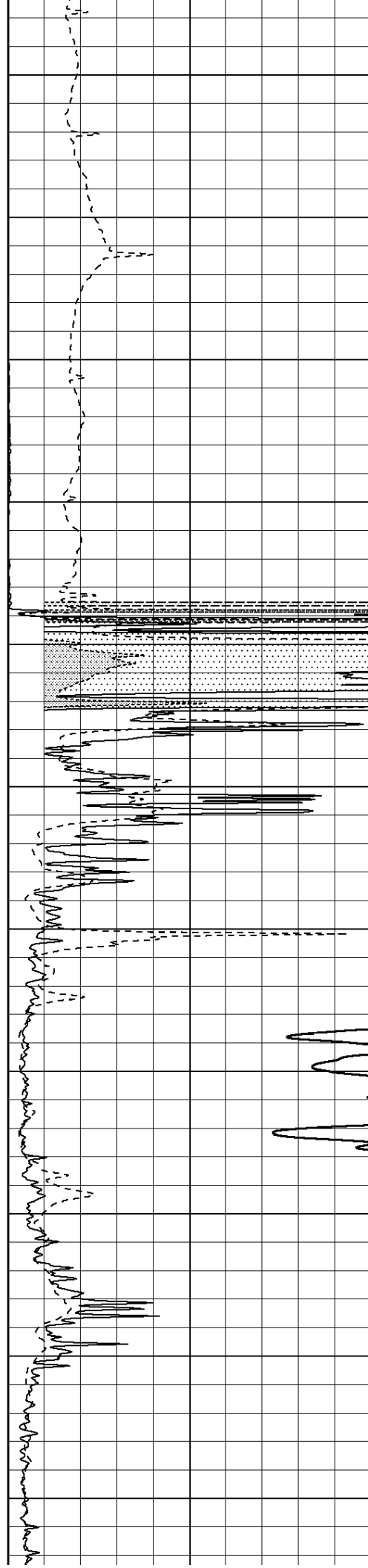
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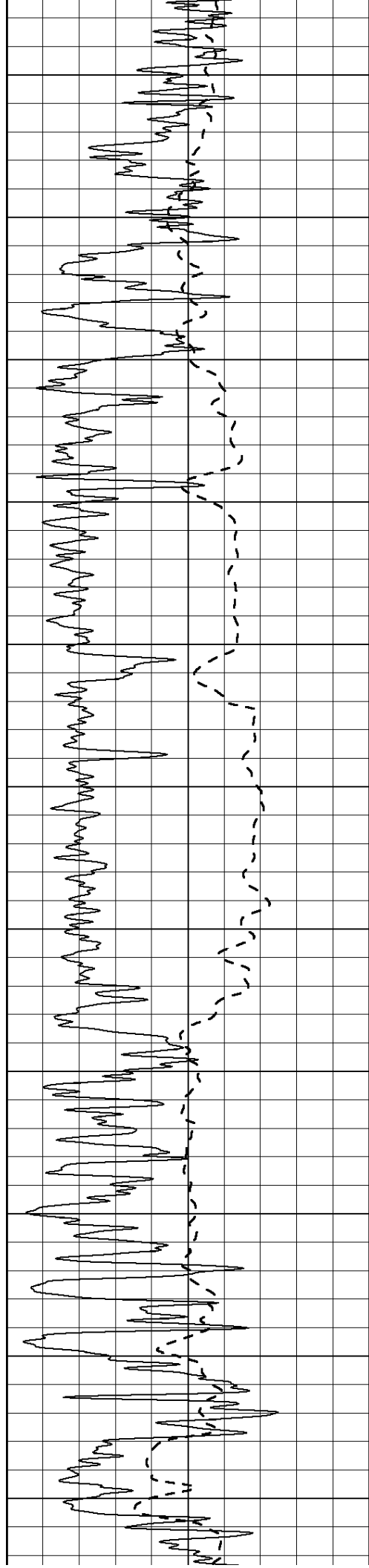
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1400

1450

1500





1550

1600

1650

1700

1750

1800

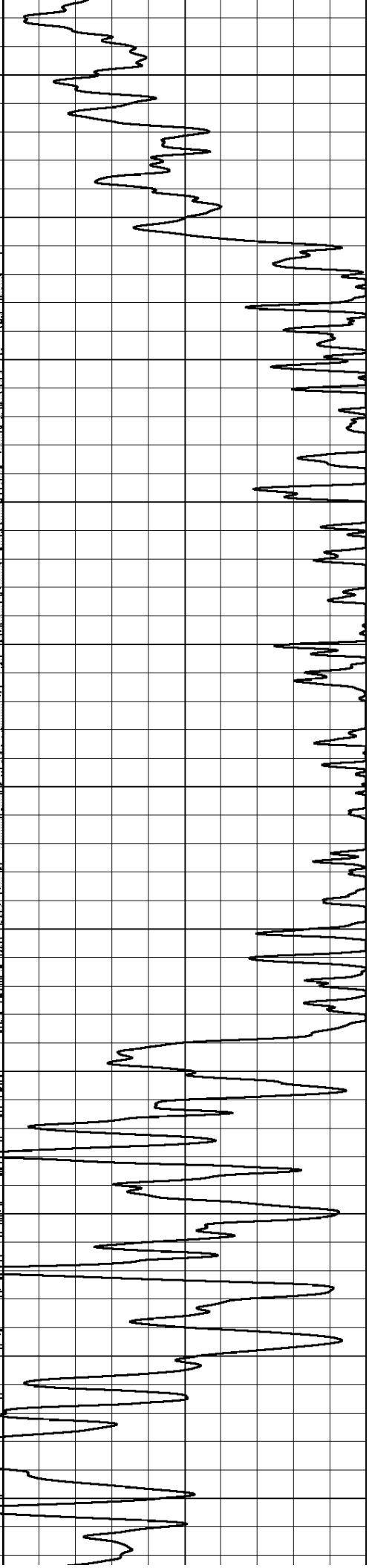
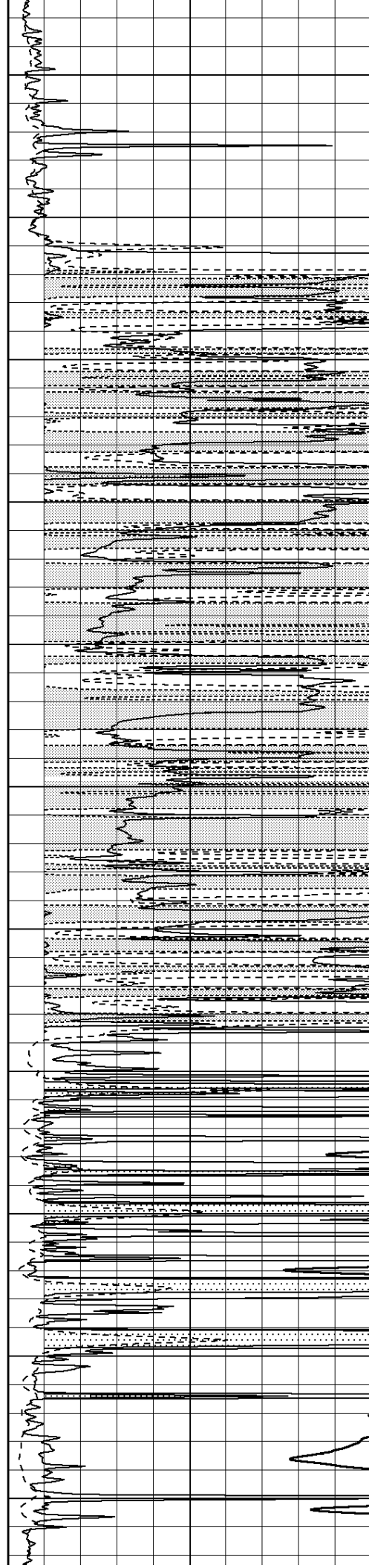
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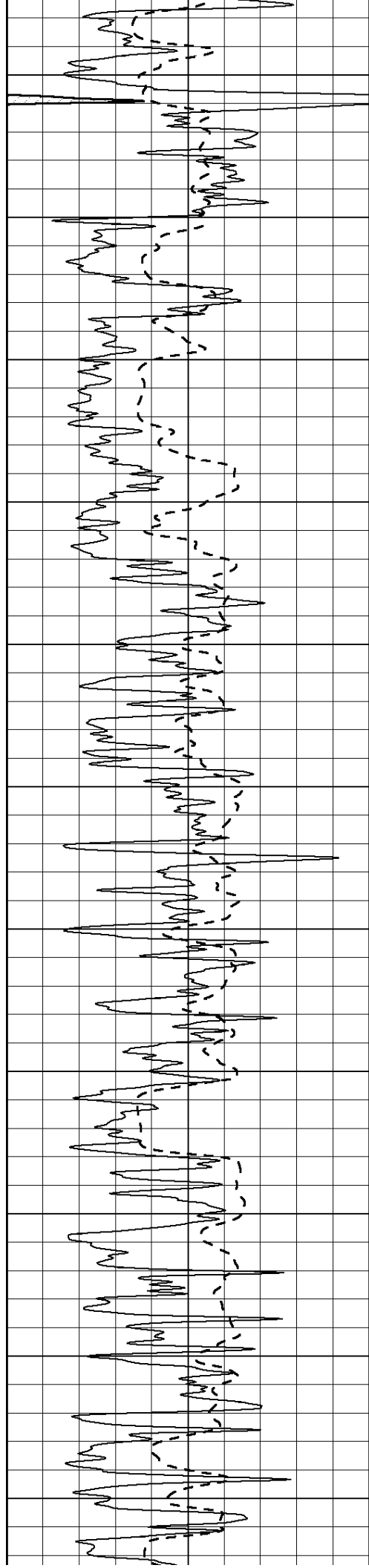
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1950

2000

2050





2100

2150

2200

2250

2300

2350

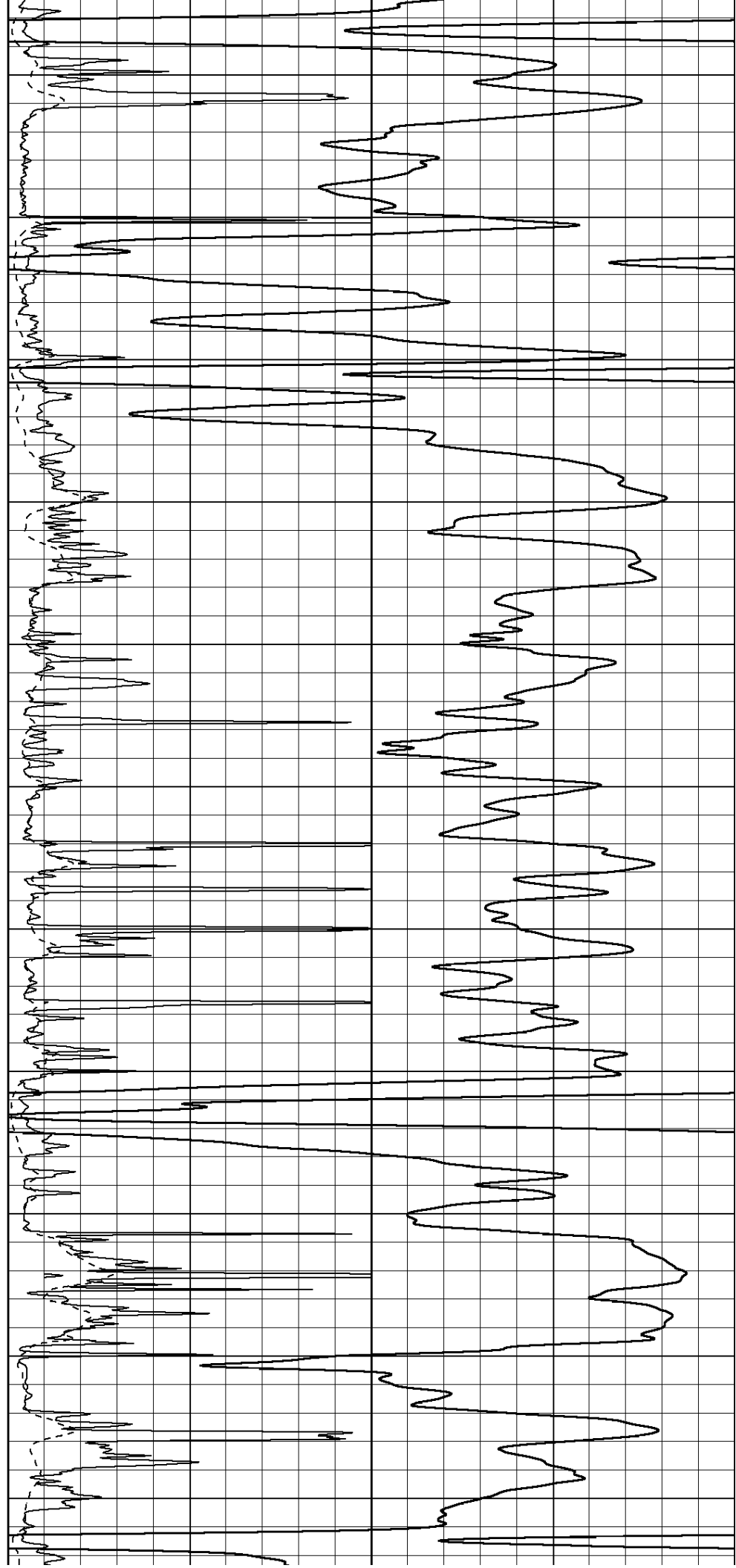
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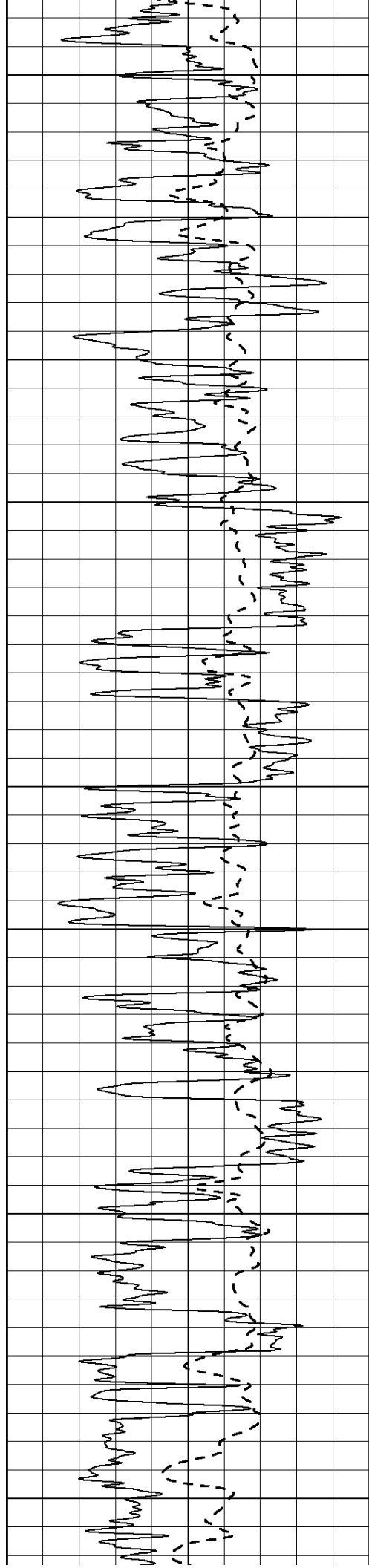
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2500

2550

2600





2650

2700

2750

2800

2850

2900

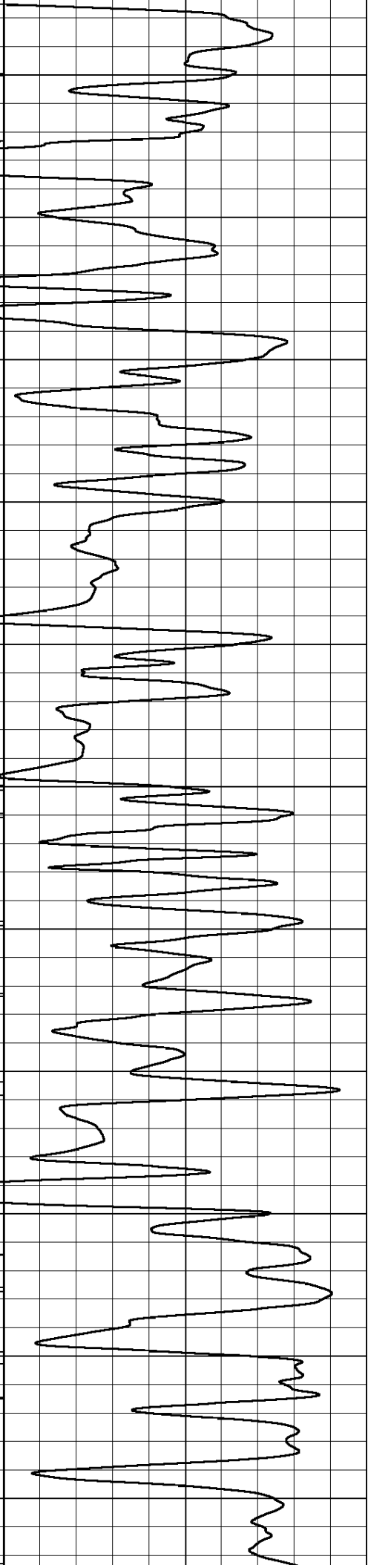
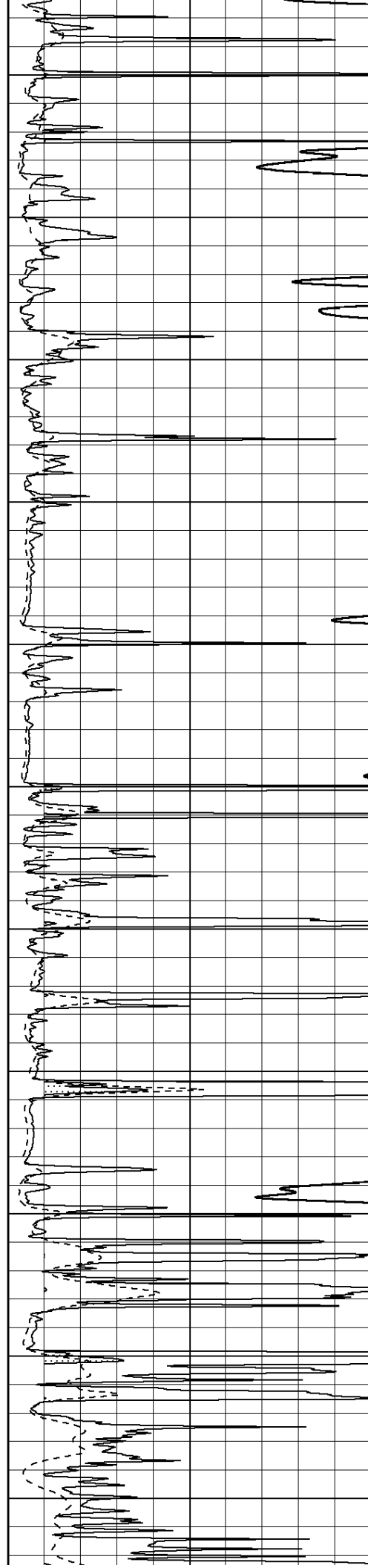
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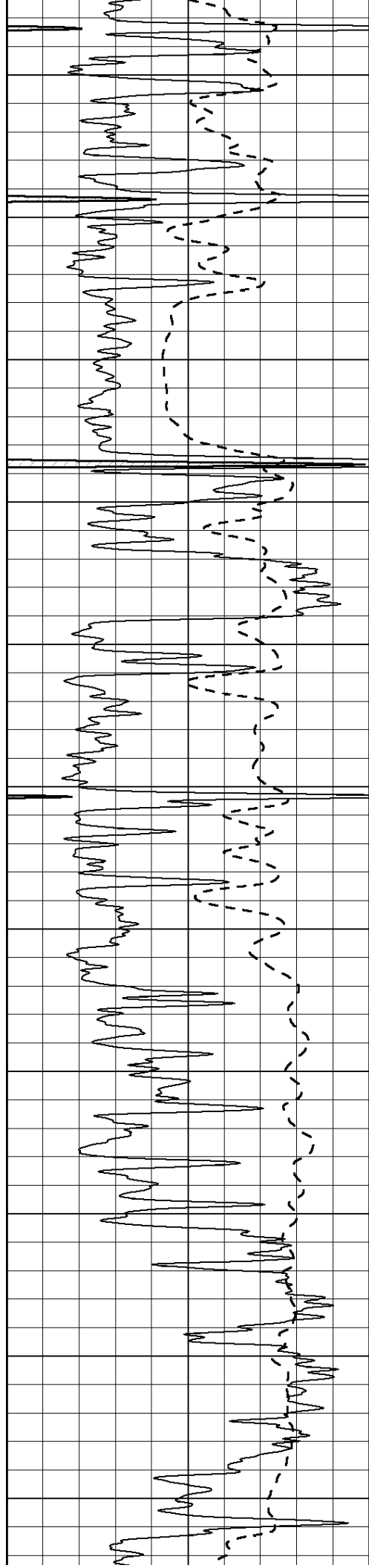
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3050

3100

3150





3200

3250

3300

3350

3400

3450

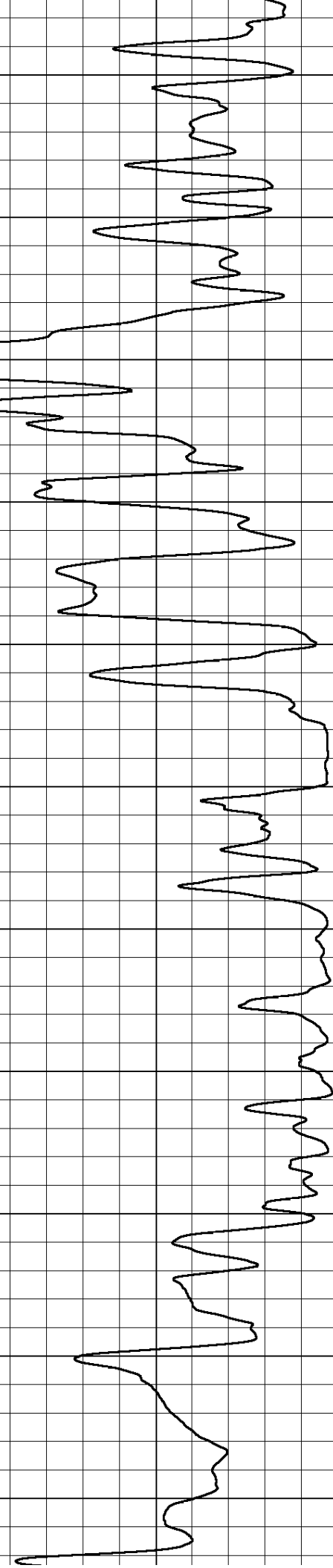
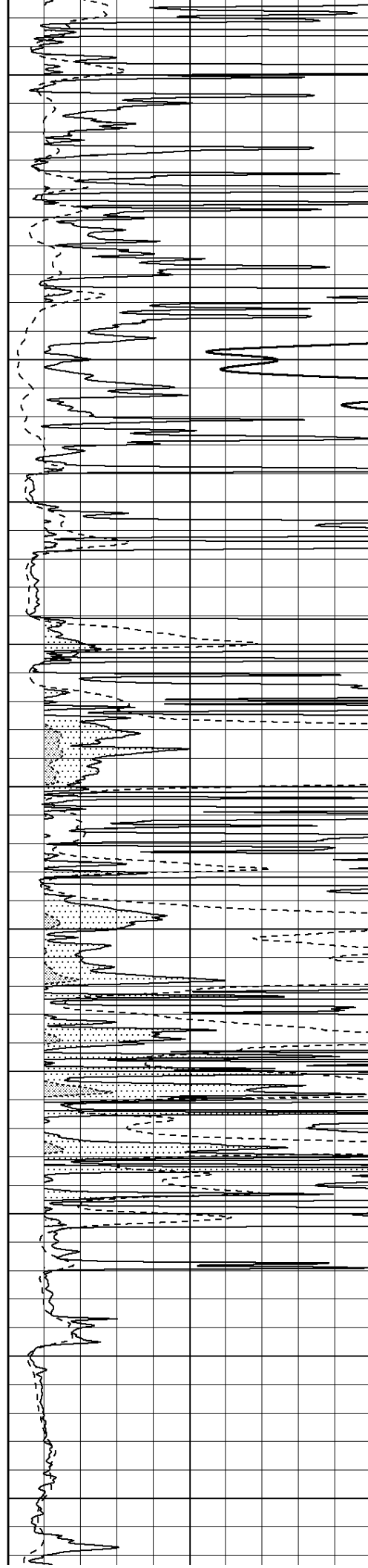
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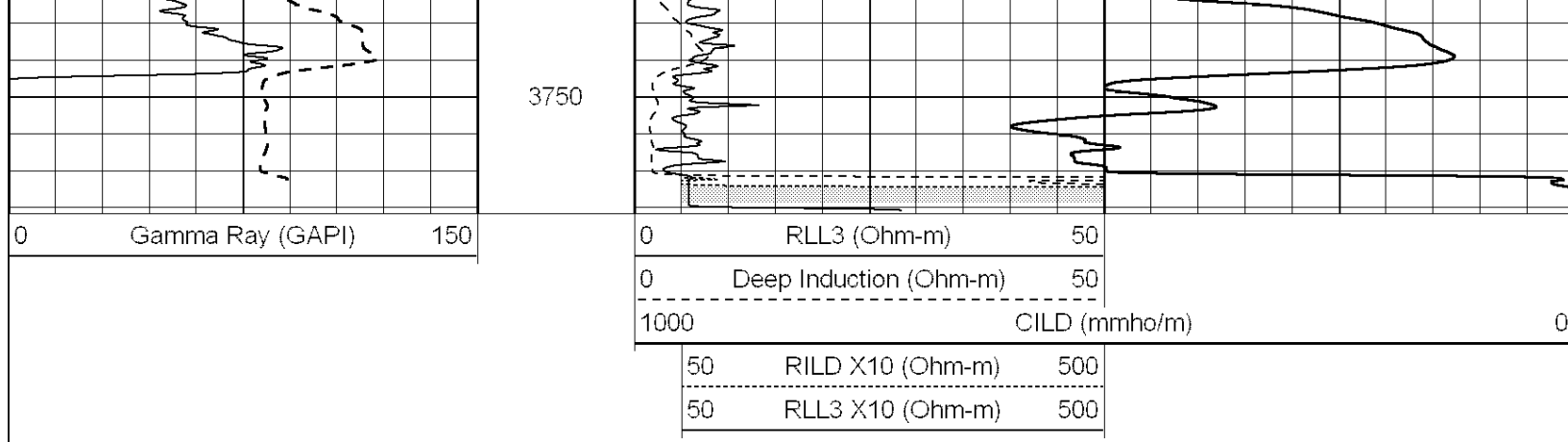
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3700



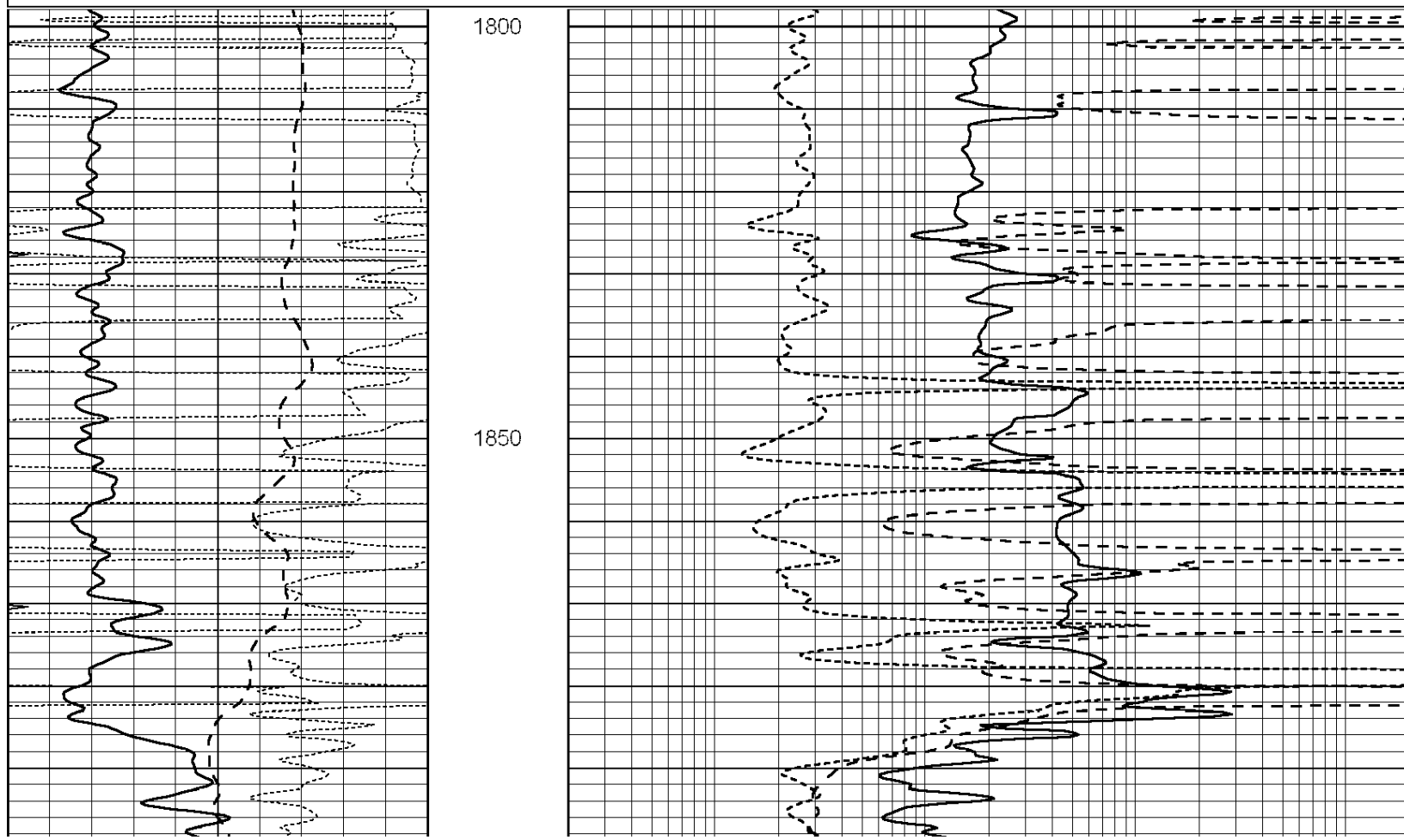


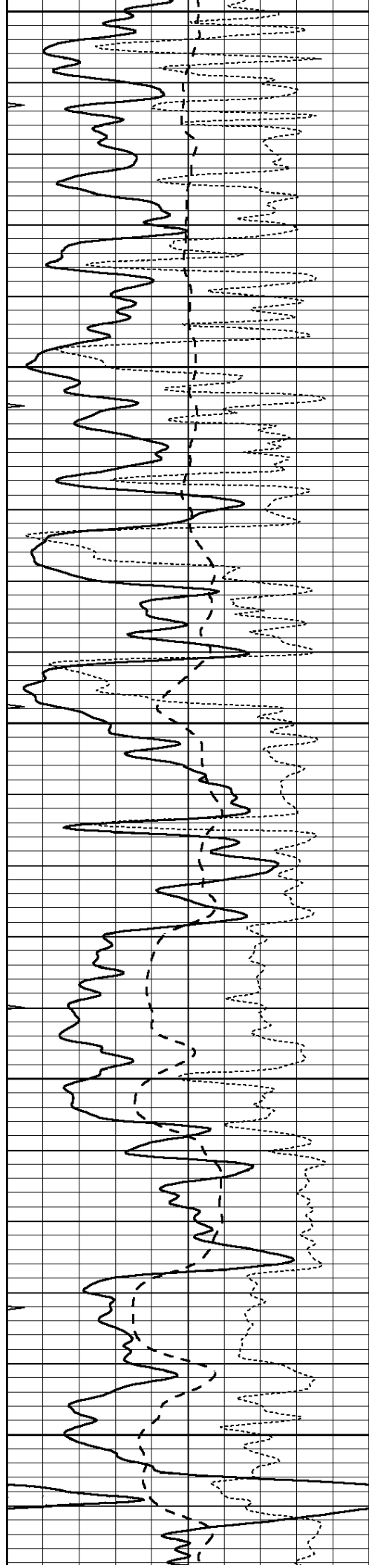
SUPERIOR
Hays,
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MAIN SECTION

Database File: 008800ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: dil
 Dataset Creation: Tue Jul 03 08:35:01 2012 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
-250	RxoRt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			





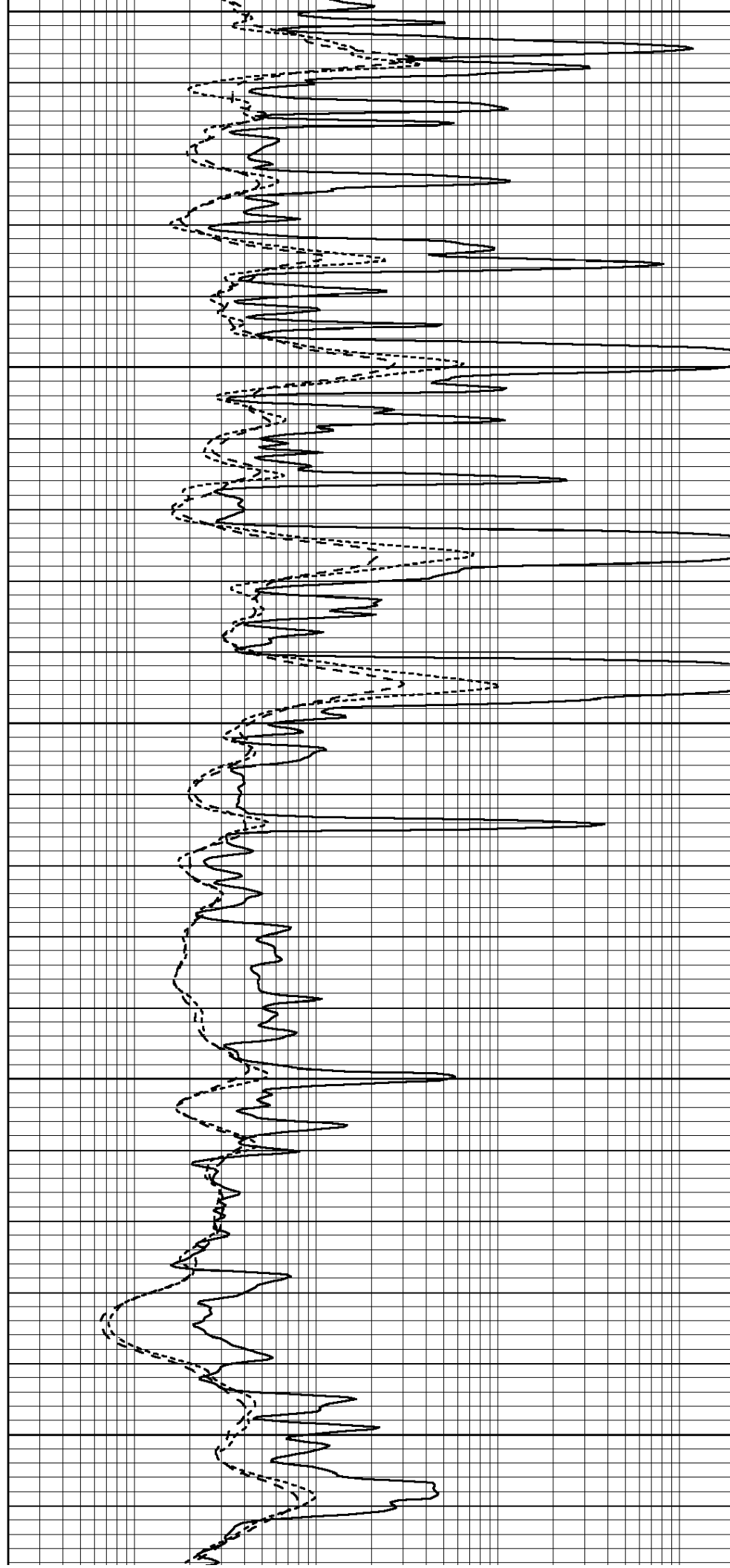
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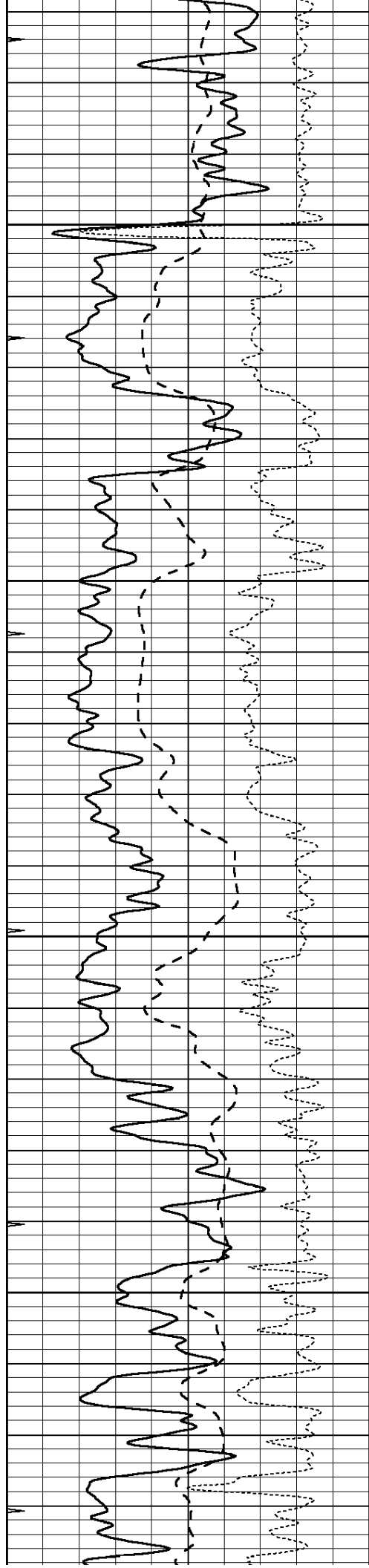
1950

2000

2050

2100



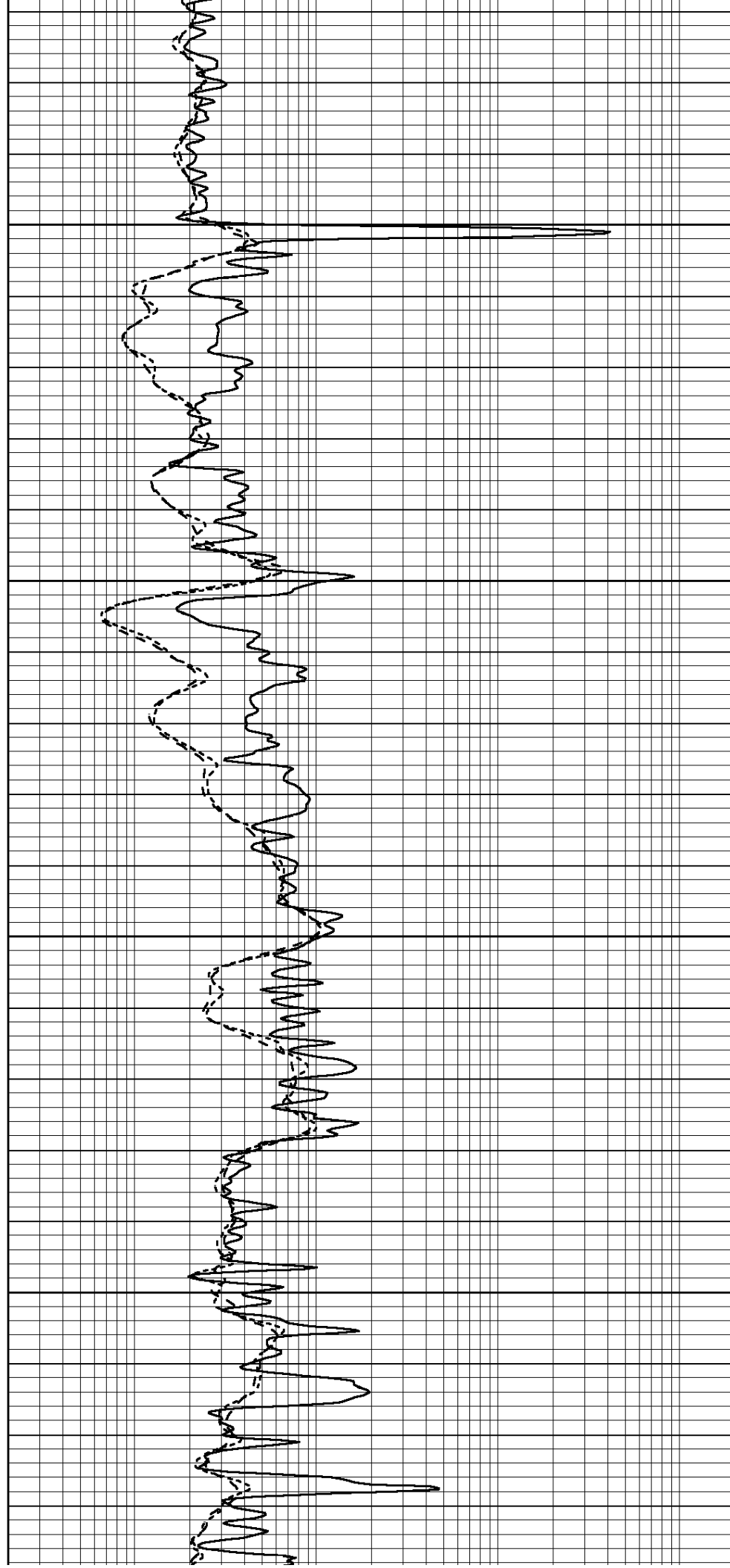


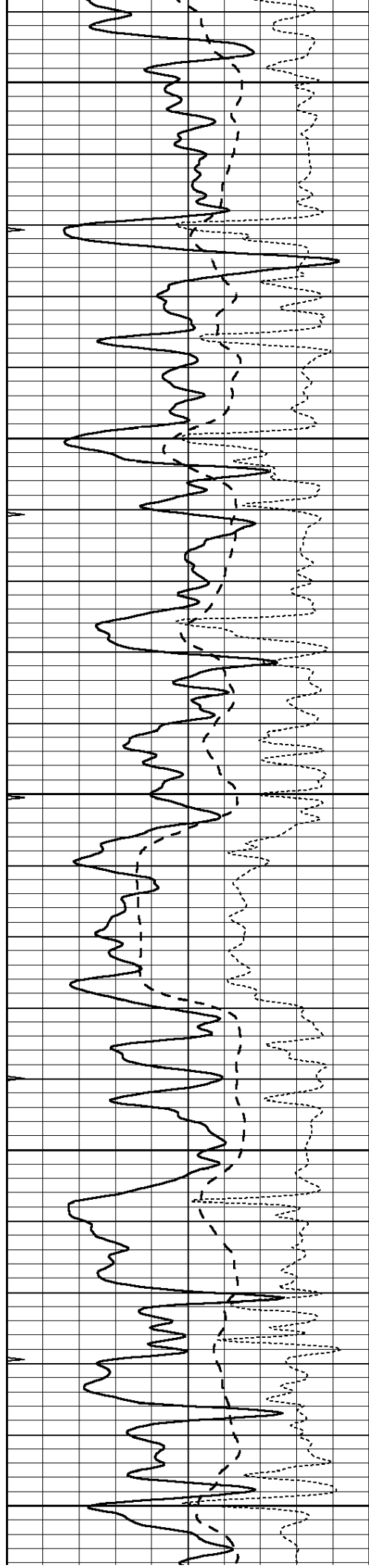
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2200

2250

2300





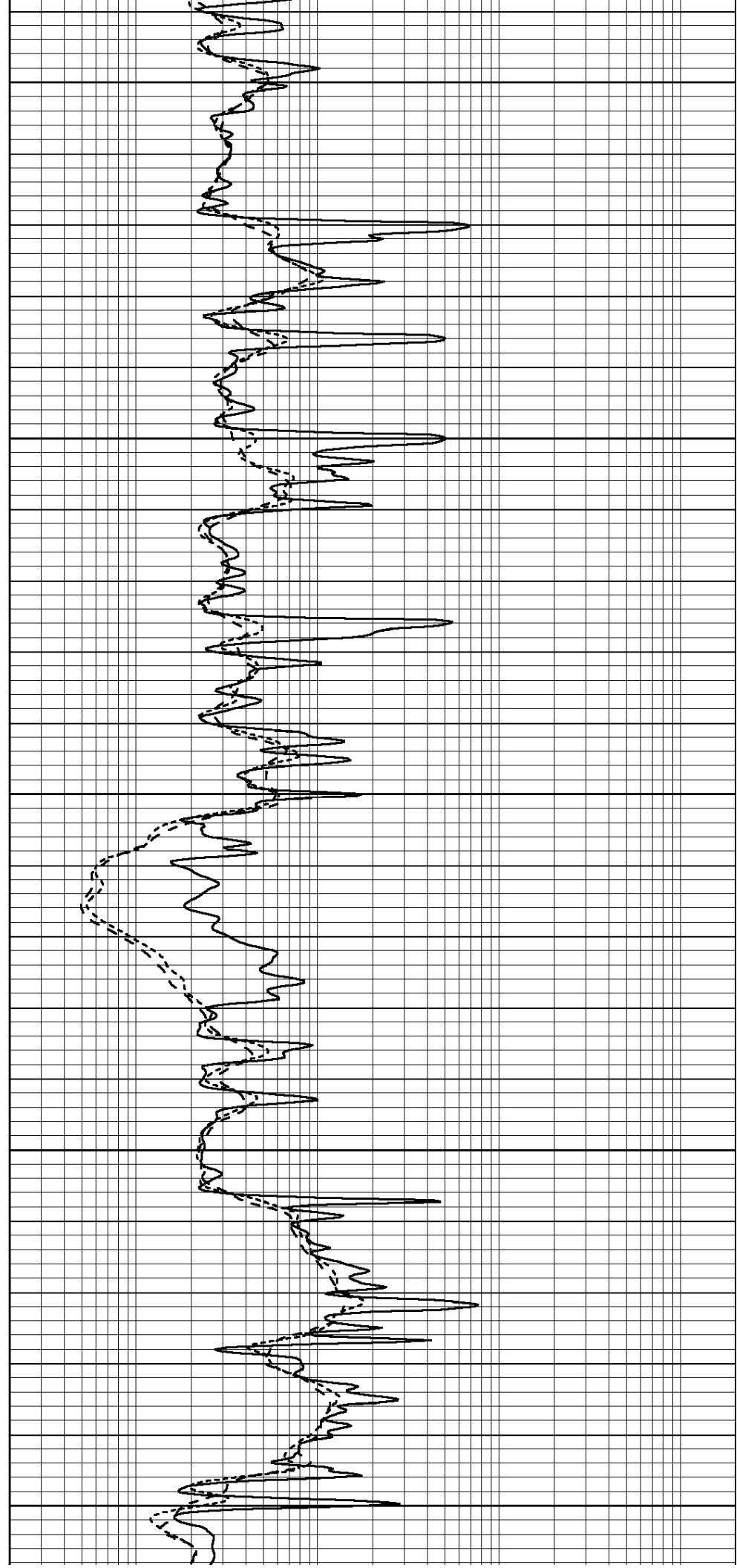
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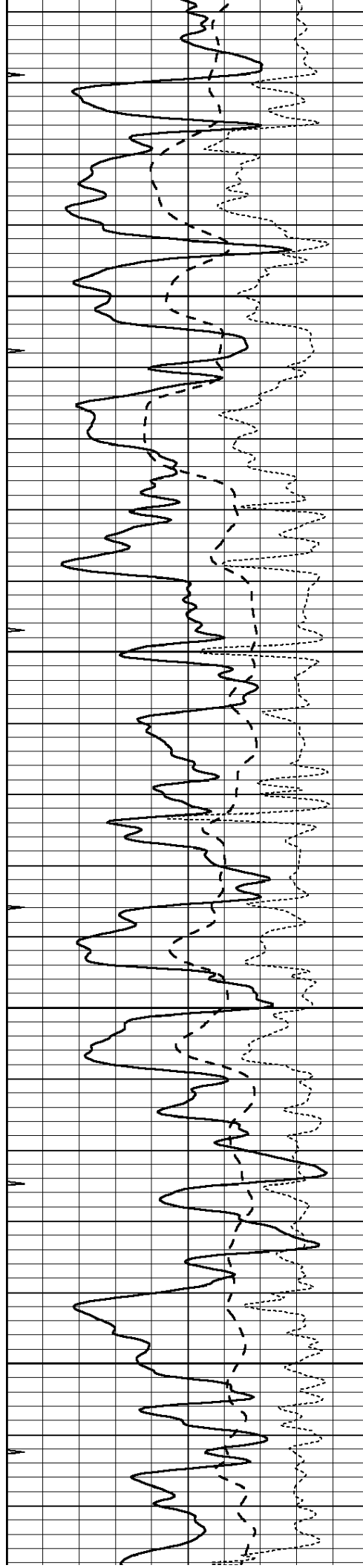
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2450

2500

2550



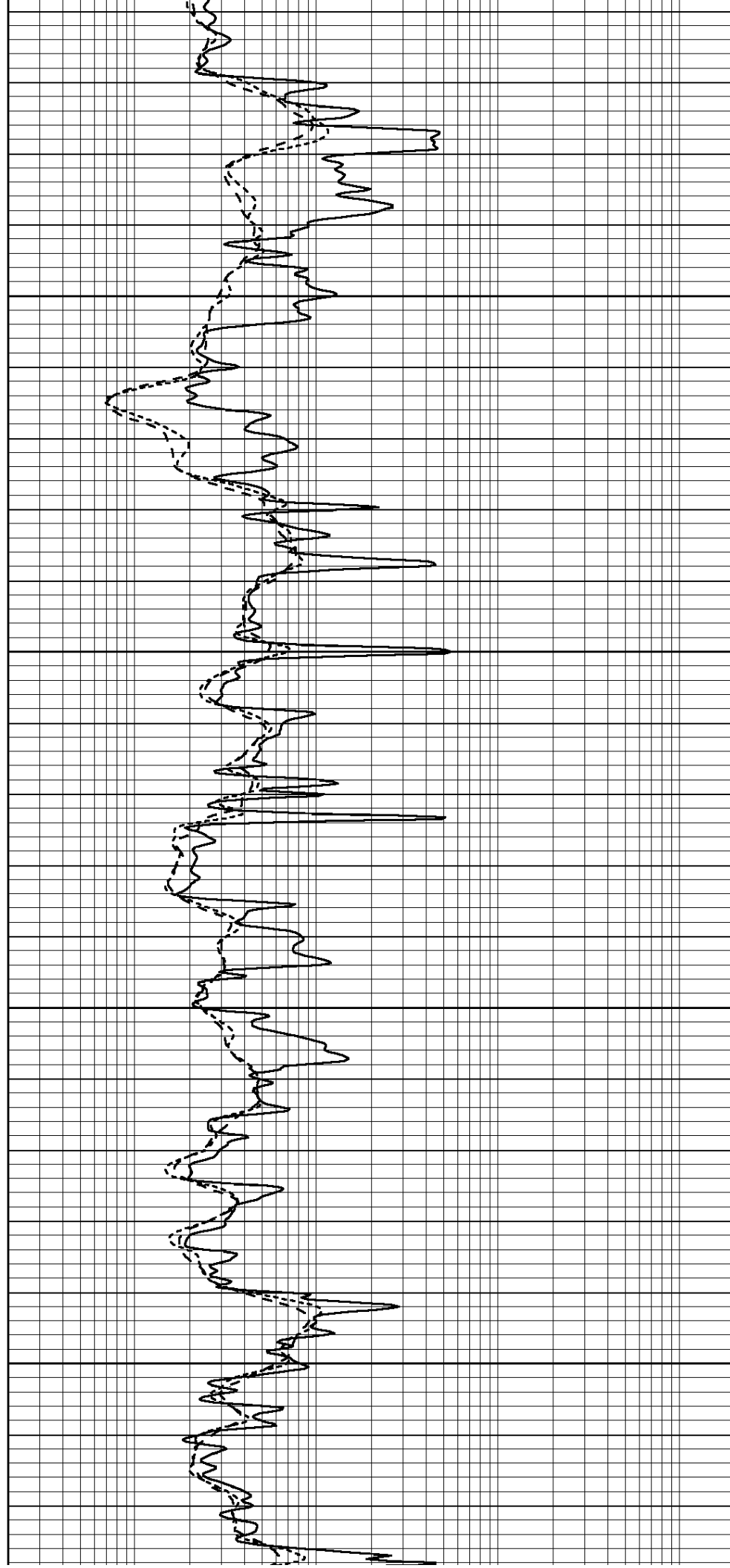


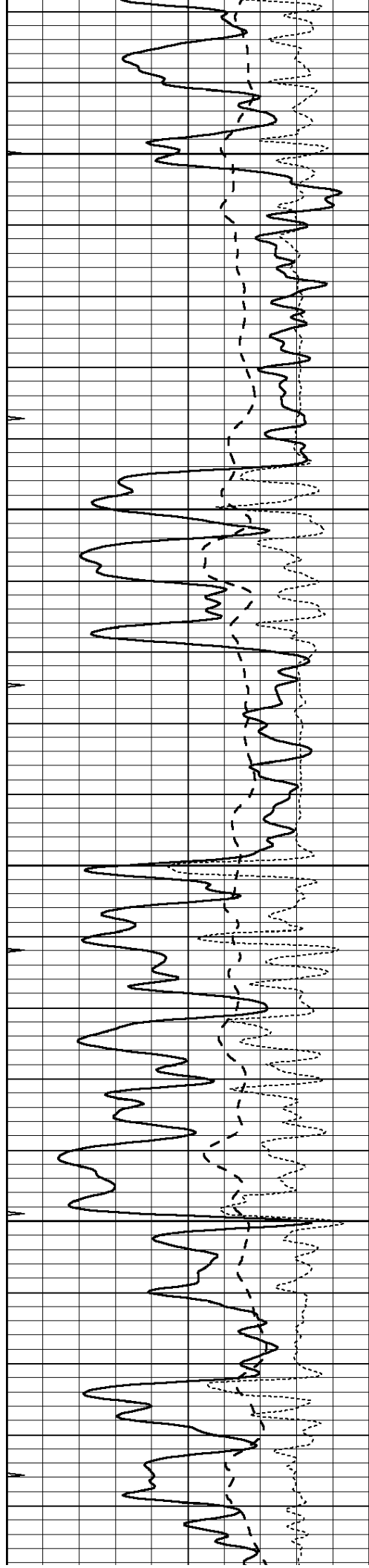
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2700

2750



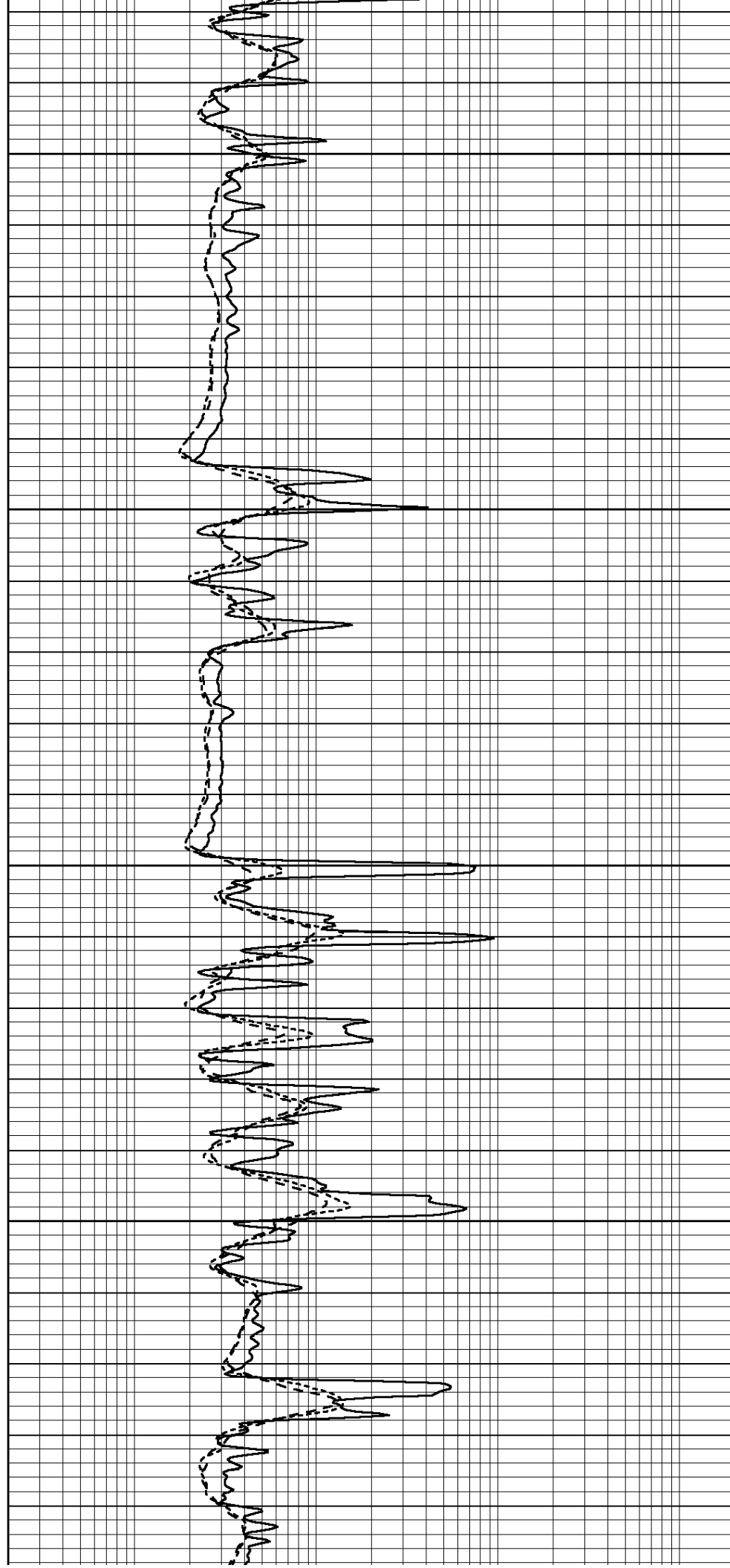


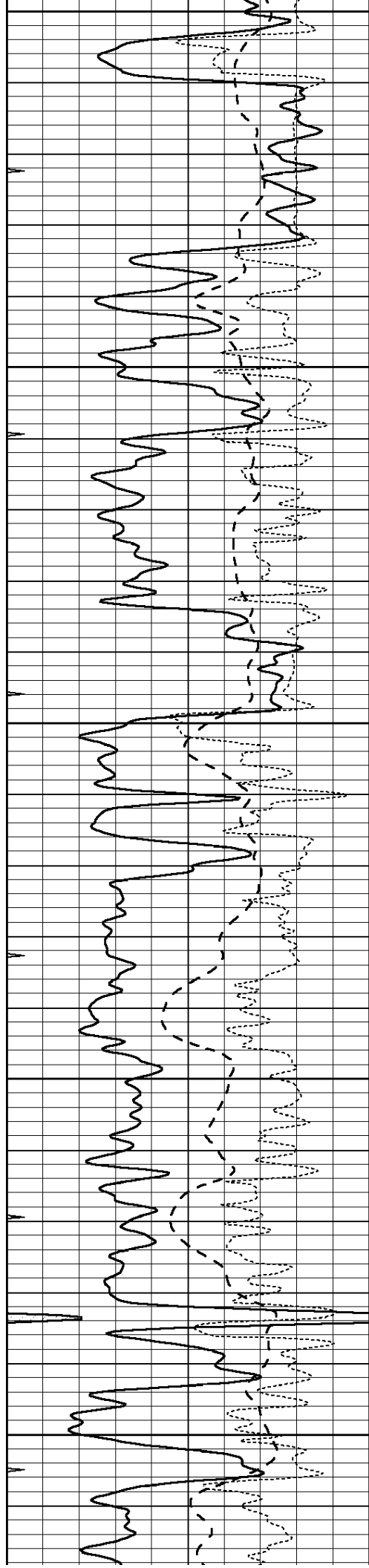
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2850

2900

2950





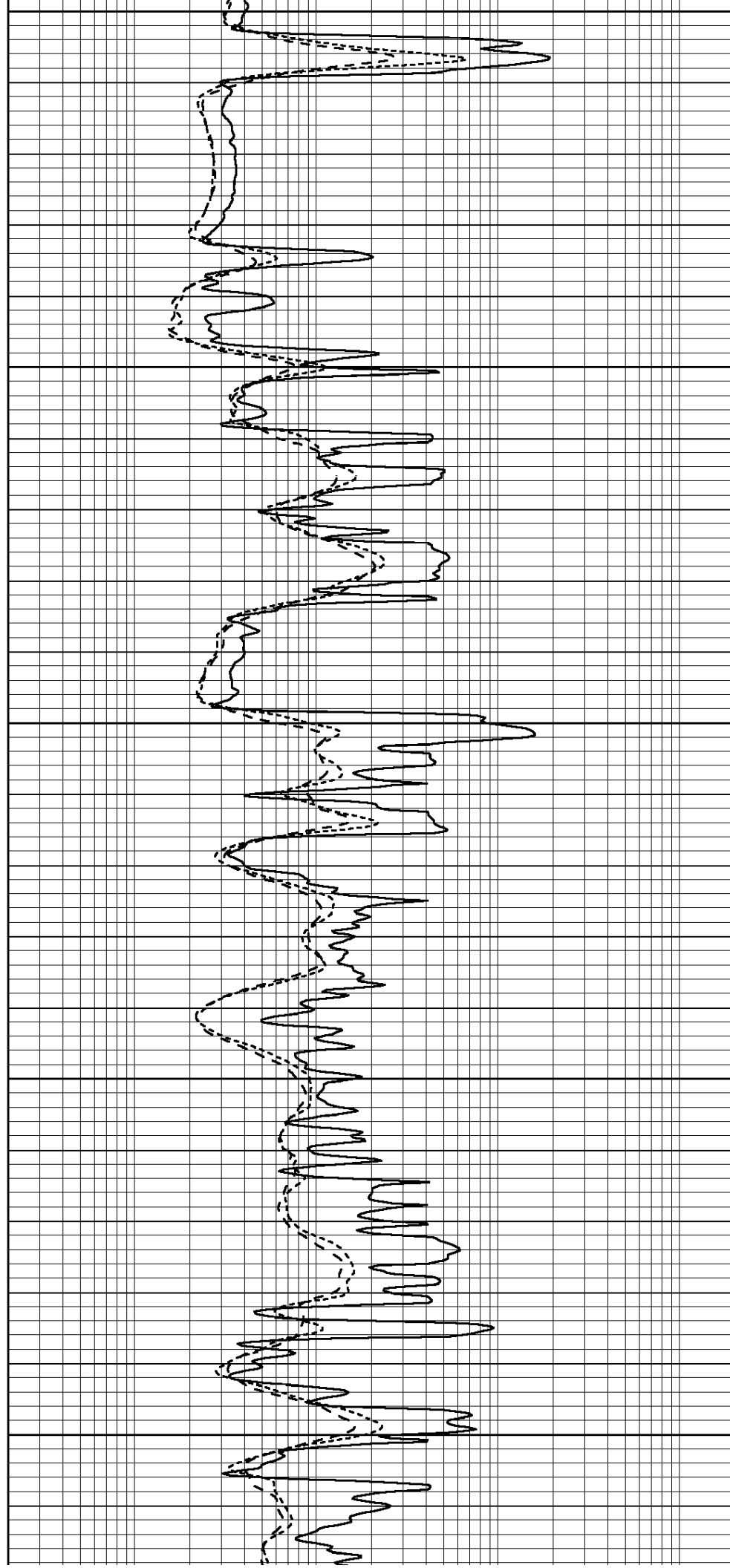
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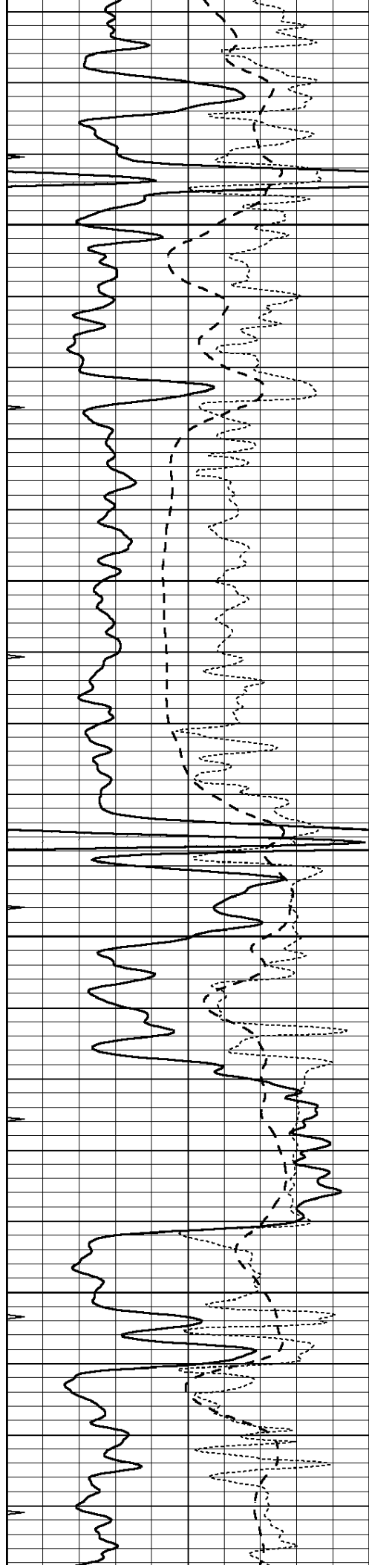
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3100

3150

3200



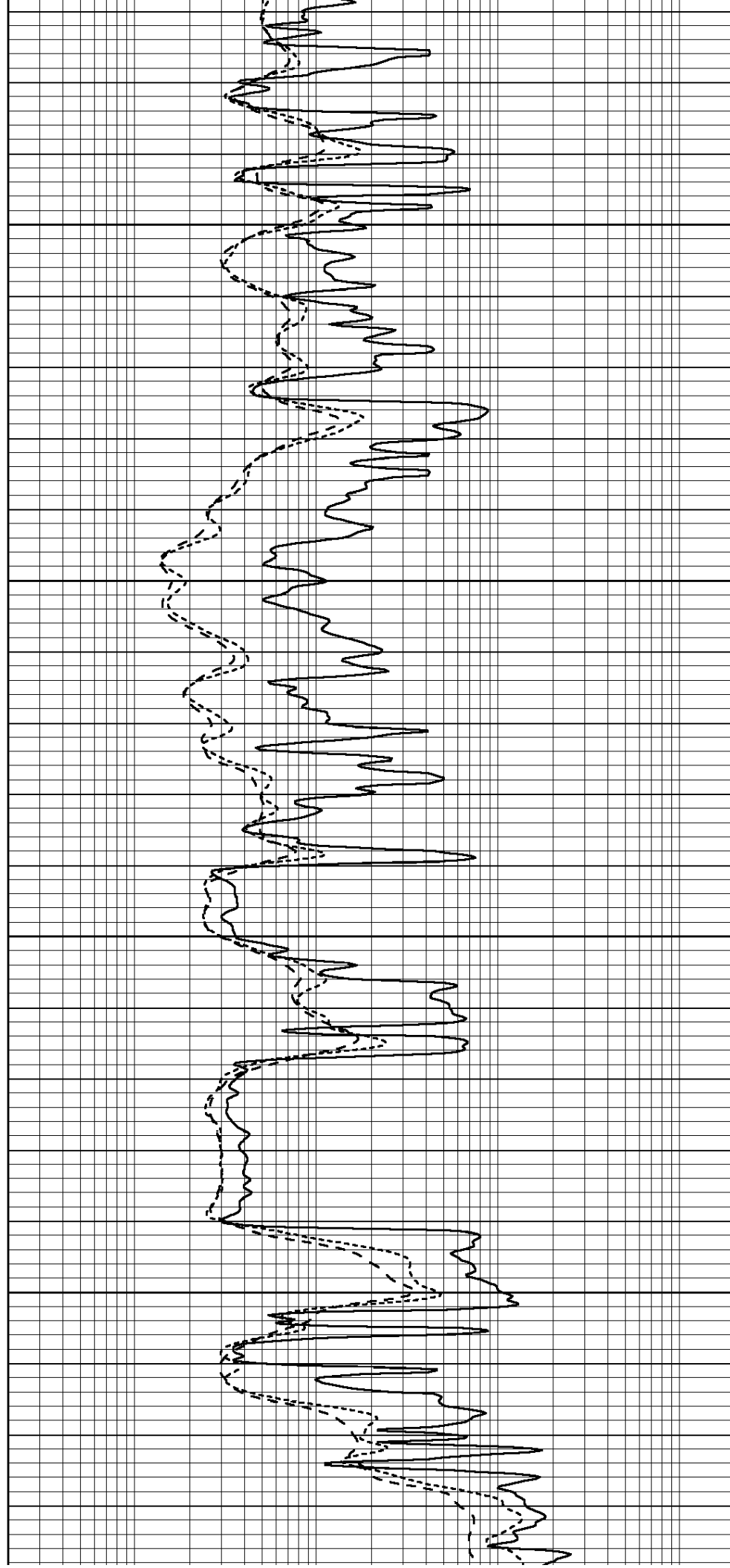


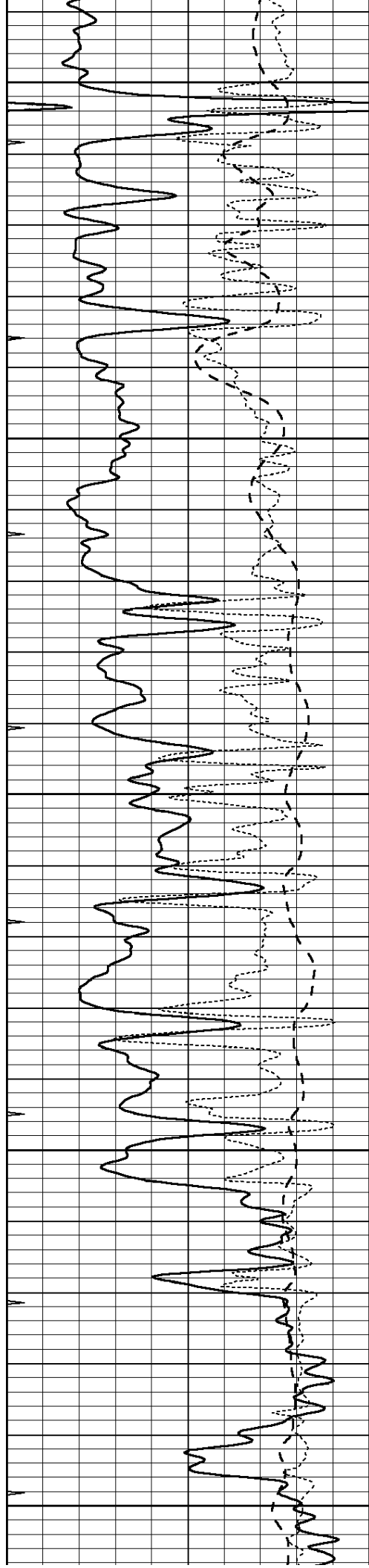
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3300

3350

3400





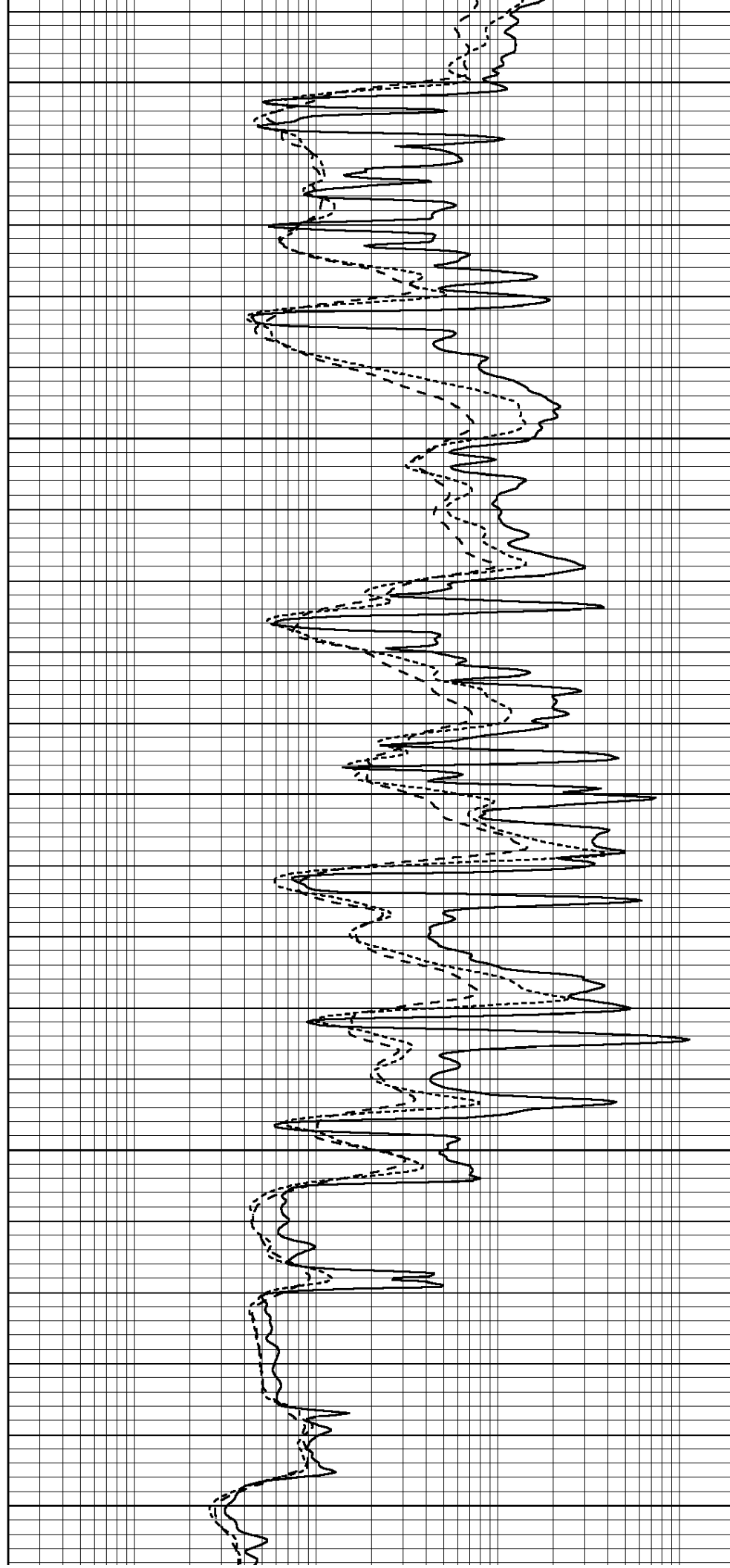
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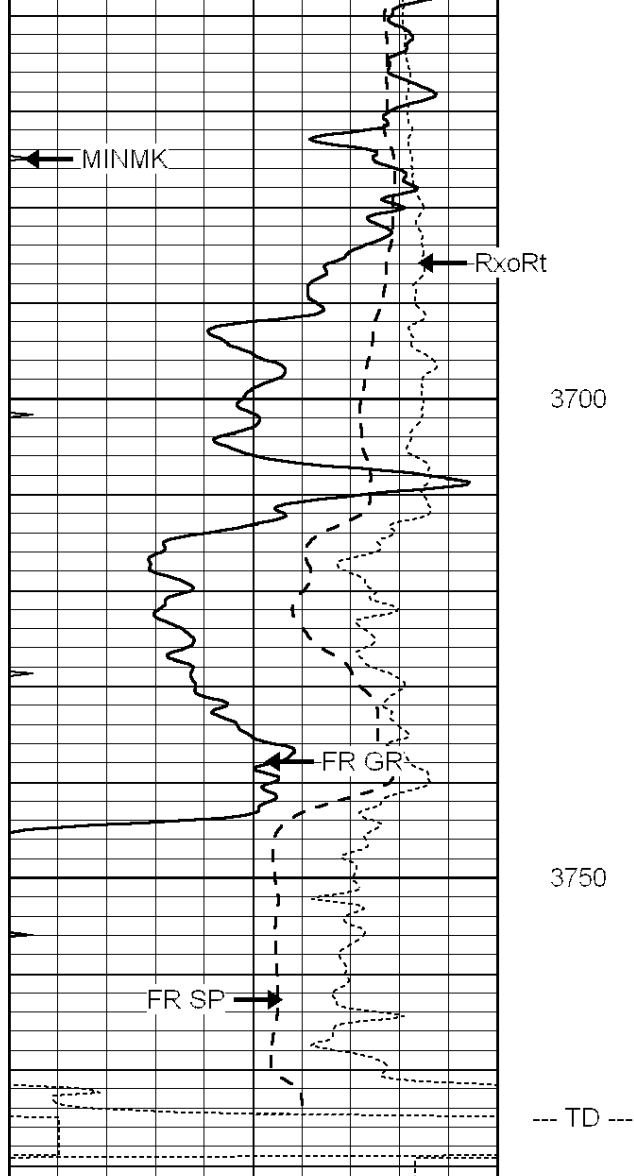
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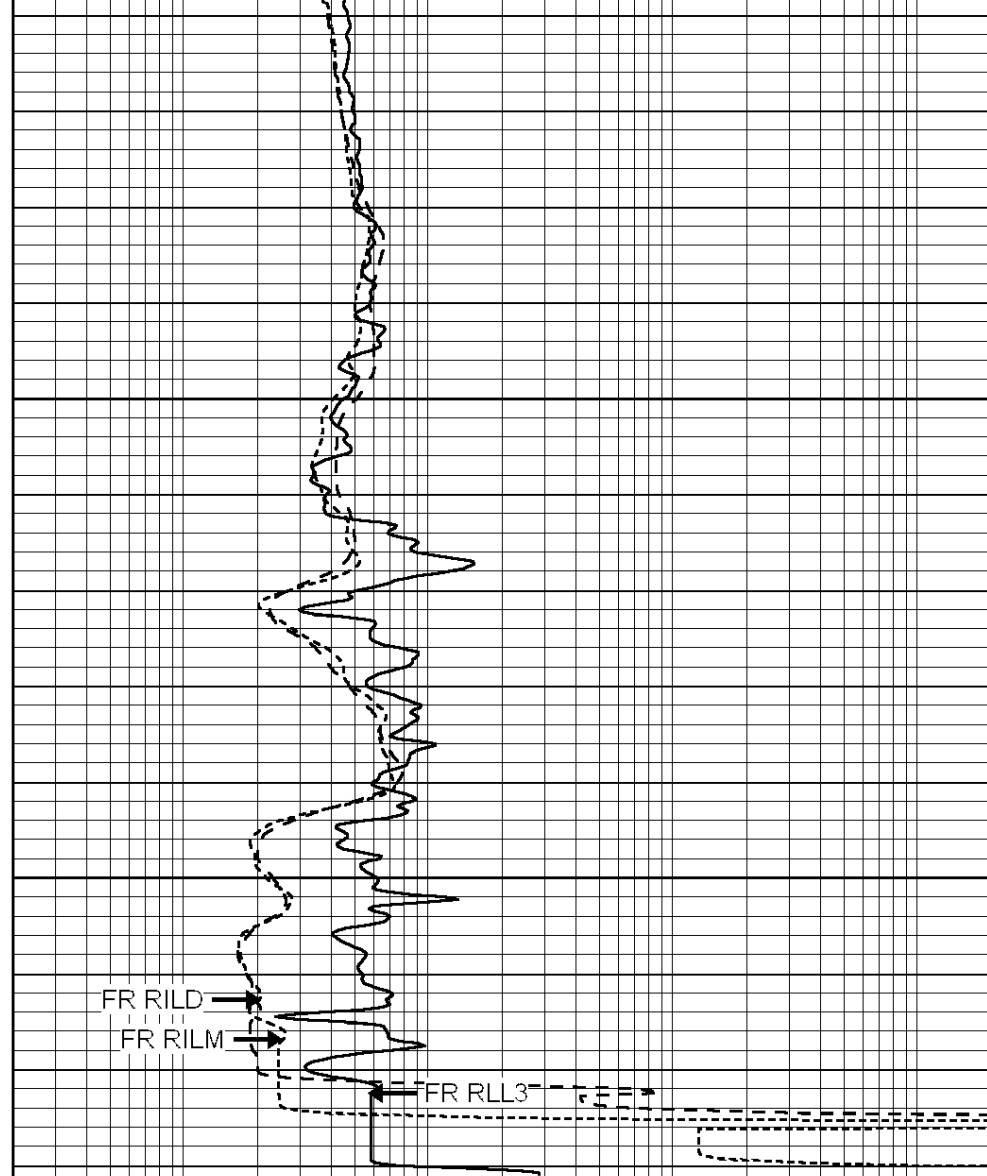
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3650





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



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



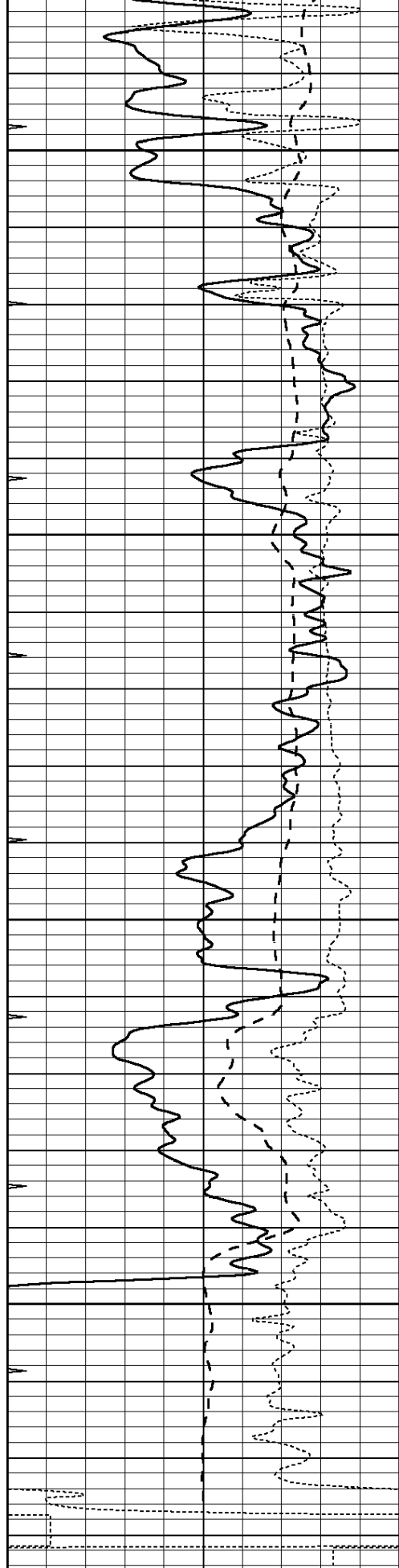
SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 008800ddn.db
Dataset Pathname: pass2.2
Presentation Format: dil
Dataset Creation: Tue Jul 03 09:08:40 2012
Charted by: Depth in Feet scaled 1:240

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

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



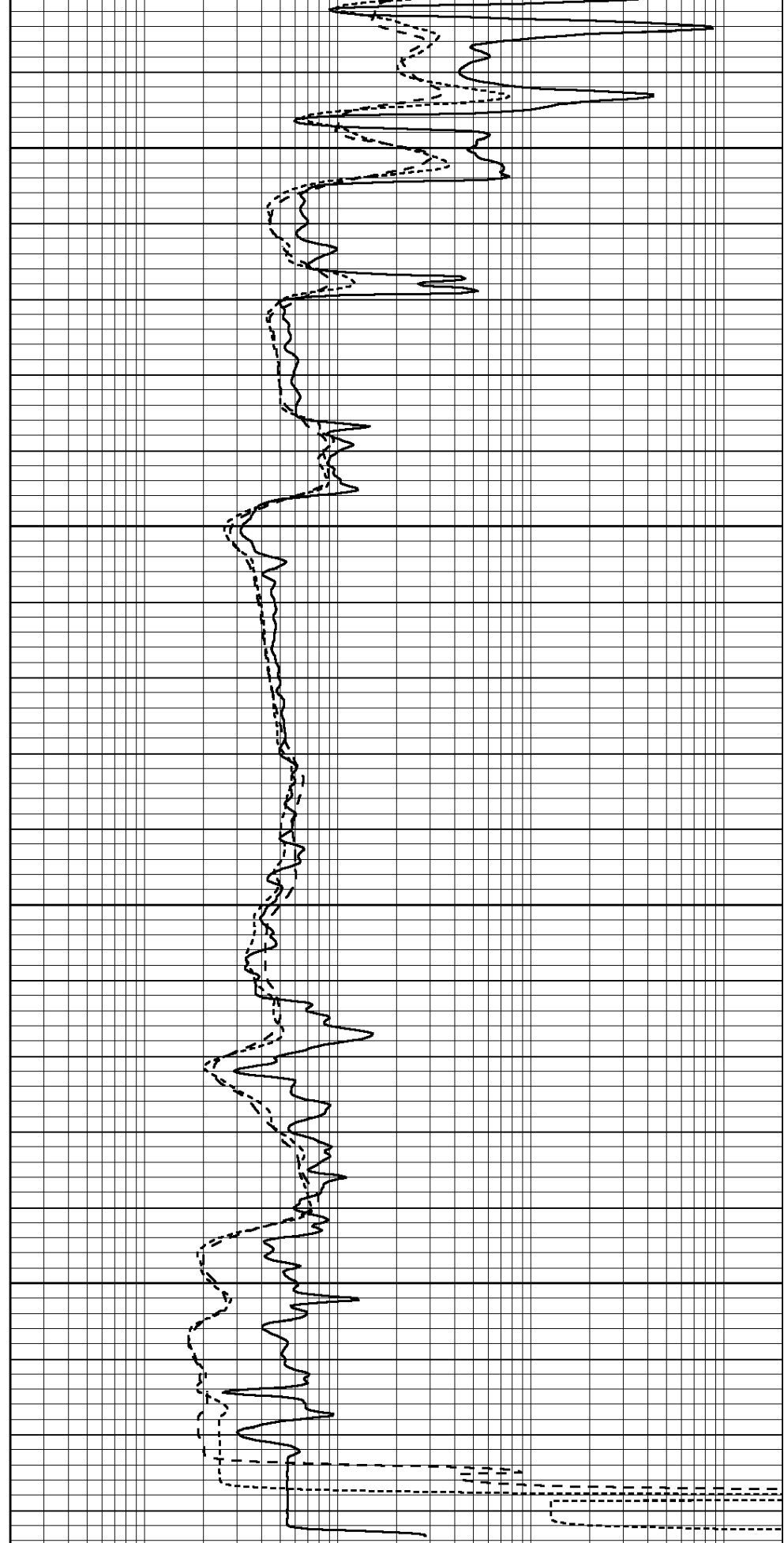
3600

3650

3700

3750

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



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

Calibration Report

Database File: 008800ddn.db
 Dataset Pathname: pass3.1
 Dataset Creation: Tue Jul 03 08:35:01 2012 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Tue Jul 03 07:02:50 2012
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Fri Jun 01 07:32:39 2012

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	540.000	-12.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	540.000	-16.000
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		3970.000	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
 Performed Mon Apr 02 17:56:53 2012

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	872.3	7266.3	2292.6	7931.5	cps
Window 2	822.9	5957.5	1958.0	6389.6	cps
Window 3	670.4	3219.9	1211.9	3388.2	cps
Window 4	201.6	201.1	202.3	204.6	cps
Long Space	0.0	5134.6	1135.0	5566.6	cps
Short Space	1.1	994.2	674.4	1059.2	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe			2.5700	1.5500	

Rib Angle	: 45.6	Rib Slope	: 1.020	Density/Spine Ratio	: 0.569
Spine Angle	: 75.6	Spine Slope	: 3.888	Spine Intercept	: -18.3

Caliper		
Low Ref	Readings	Reference
High Ref	3.0	9.0
	4.9	14.0
	Gain: 2.6	Offset: 1.2

Compensated Neutron Calibration Report					
Serial Number:			NUE_2I		
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:		Tue Jul 03 07:18:40 2012			
Calibrator Value:		1.0	GAPI		
Background Reading:		0.0	cps		
Calibrator Reading:		1.0	cps		
Sensitivity:		0.7500	GAPI/cps		