



**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company	MULL DRILLING COMPANY, INC.	Company	MULL DRILLING COMPANY, INC.
Well	CHAMPLIN - ALDRICH 'A' #7	Well	CHAMPLIN - ALDRICH 'A' #7
Field	CHEYENNE WELLS	Field	CHEYENNE WELLS
County	CHEYENNE	County	CHEYENNE
State	COLORADO	State	COLORADO
Location:	API # : 05-017-07795-00 1982' FSL & 900' FEL	Other Services CDL/CNL/PE MEL/SONIC	
Permanent Datum Log Measured From Drilling Measured From	GROUND LEVEL KELLY BUSHING 11' A.G.L. KELLY BUSHING	Elevation K.B. 4276 D.F. 4274 G.L. 4265	
SEC 33 TWP 13S RGE 44W			
Date	9/16/14		
Run Number	ONE		
Depth Driller	5510		
Depth Logger	5510		
Bottom Logged Interval	5508		
Top Log Interval	00		
Casing Driller	8 5/8"@1745'		
Casing Logger	1738		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3,300 PPM	
Density / Viscosity	9.1/56		
pH / Fluid Loss	9.0/8.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.950@70F		
Rmf @ Meas. Temp	.713@70F		
Rmc @ Meas. Temp	1.14@70F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.512@130F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	12:30 A.M.		
Maximum Recorded Temperature	130F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	PHIL ASKEY		

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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
CHEYENNE WELLS, CO., 3N. ON HWY 385 TO "RD. U", 1E. TO "RD. 45", 1/2N., W. INTO

Database File:

25880pe.db

Dataset Pathname:

pass5.7

Presentation Format:

dil2

Dataset Creation:

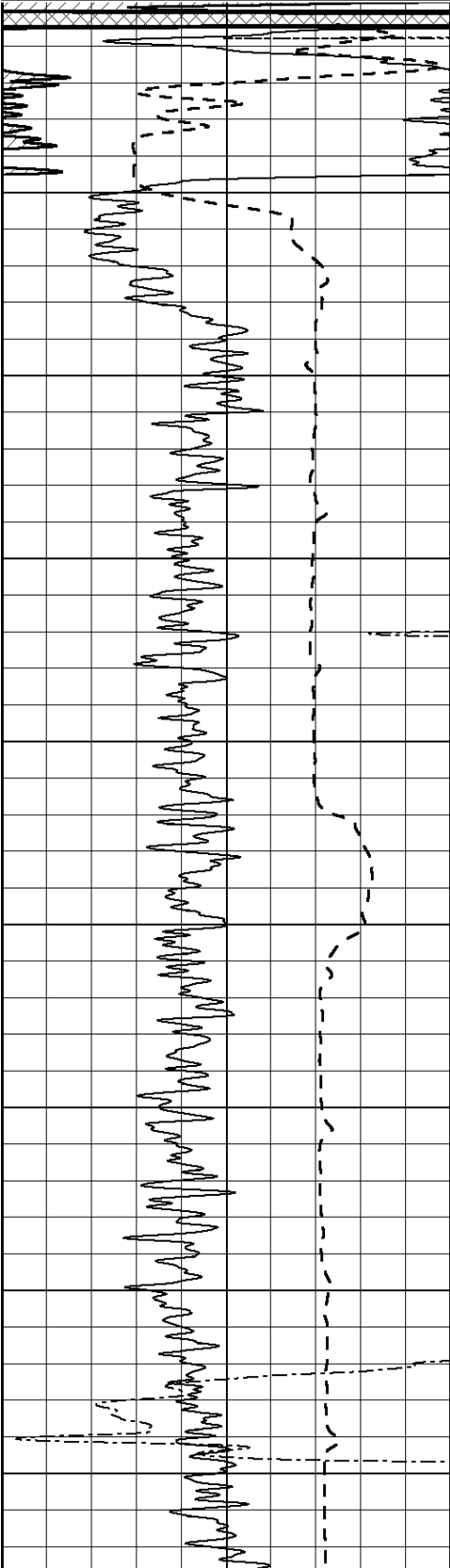
Tue Sep 16 02:26:21 2014

Charted by:

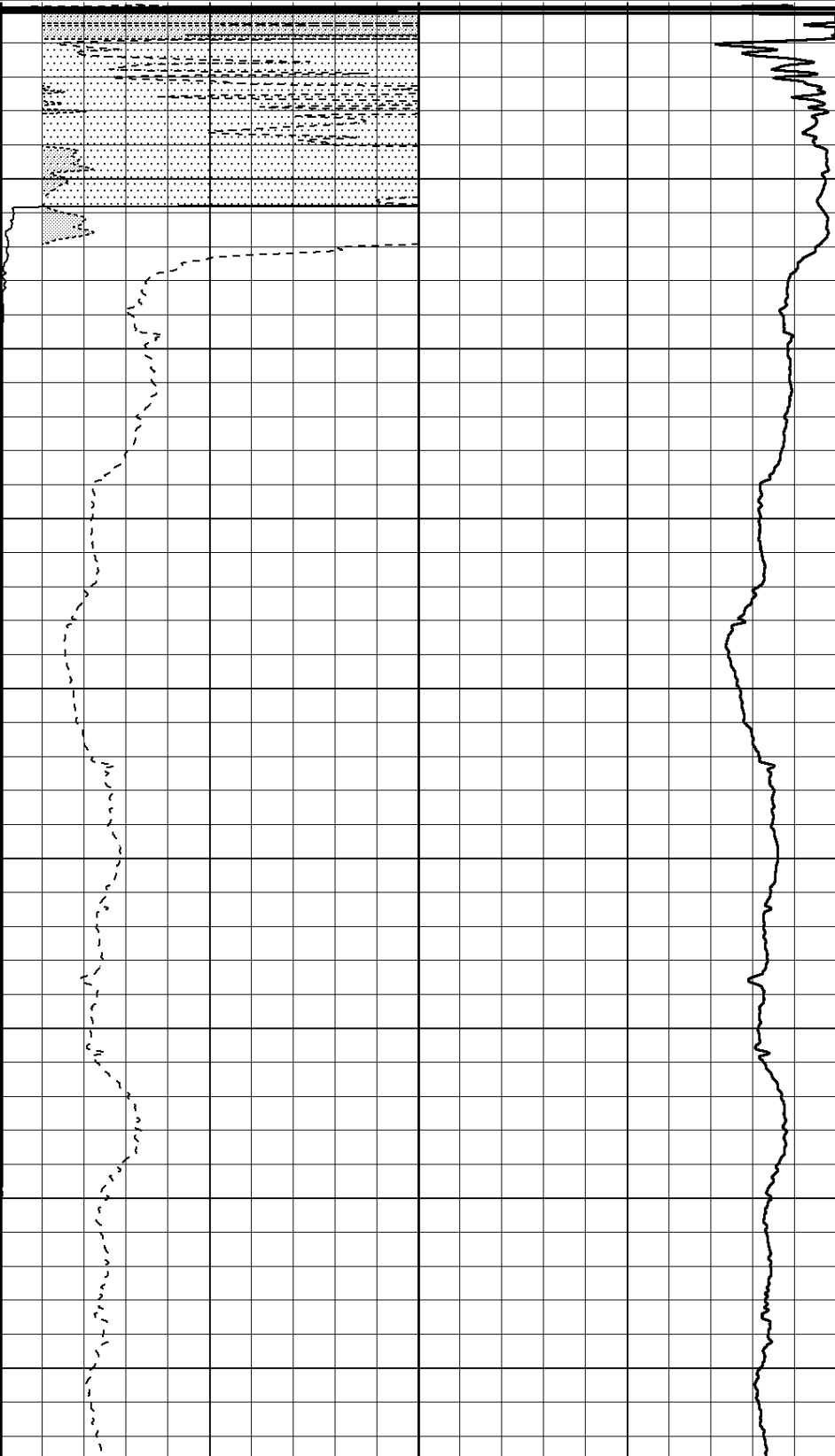
Depth in Feet scaled 1:600

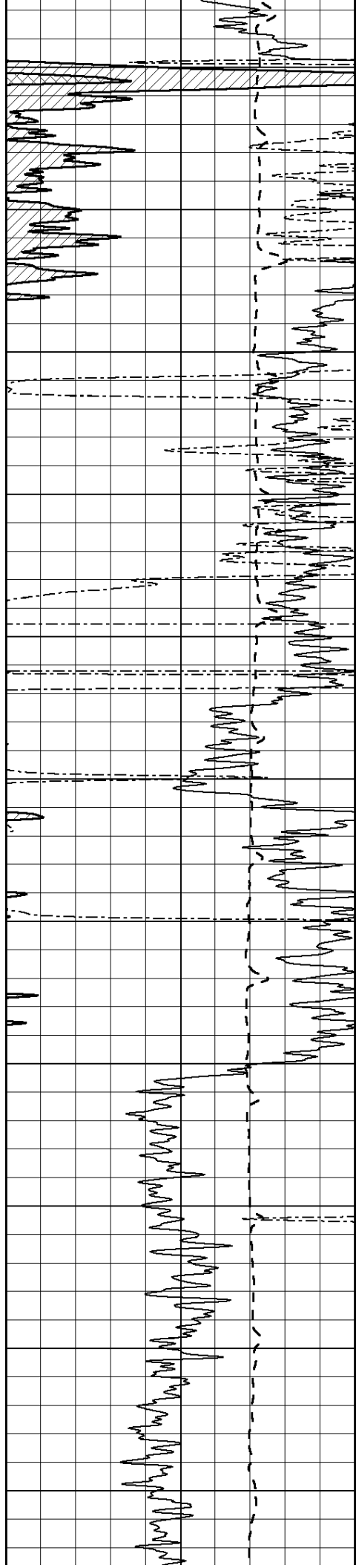
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0	RWA (Ohm-m)	1

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



0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

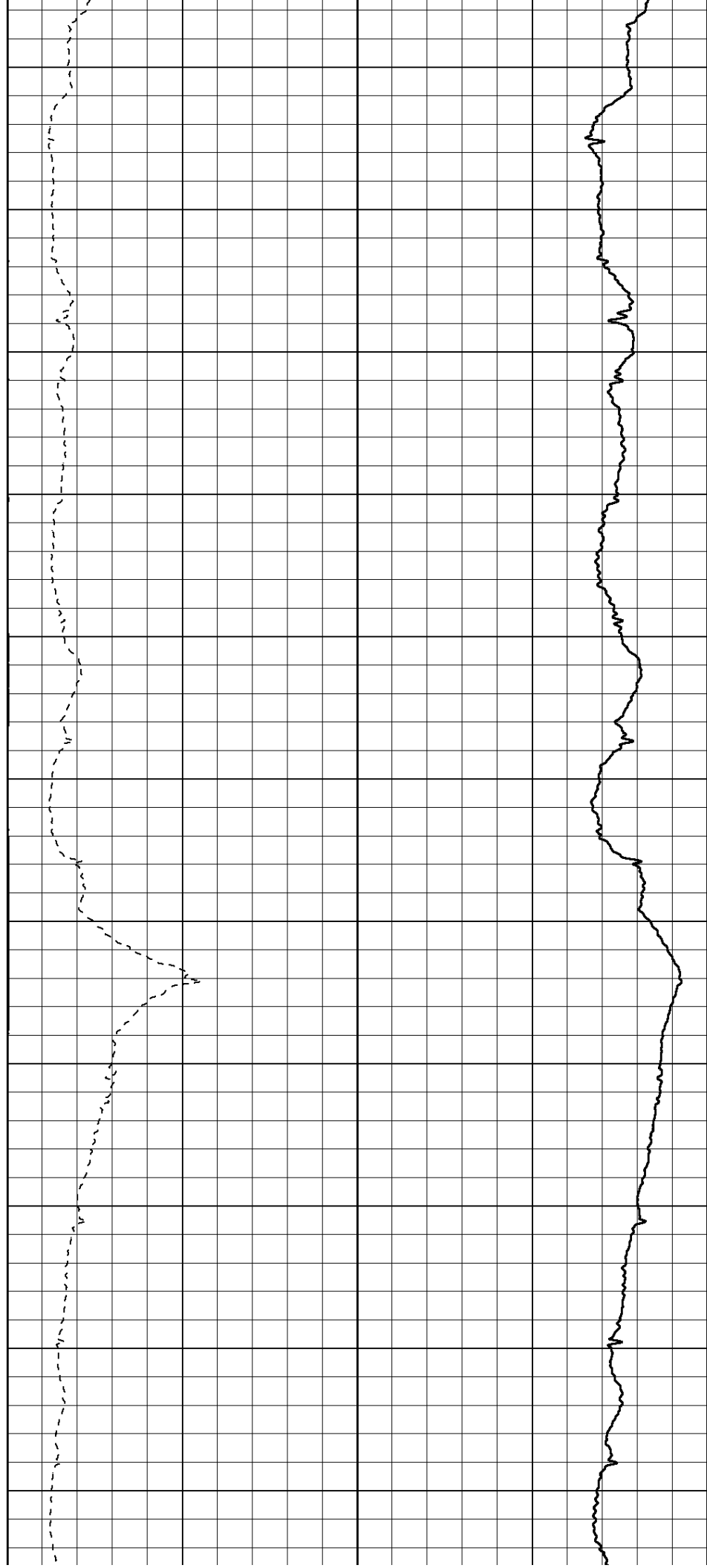
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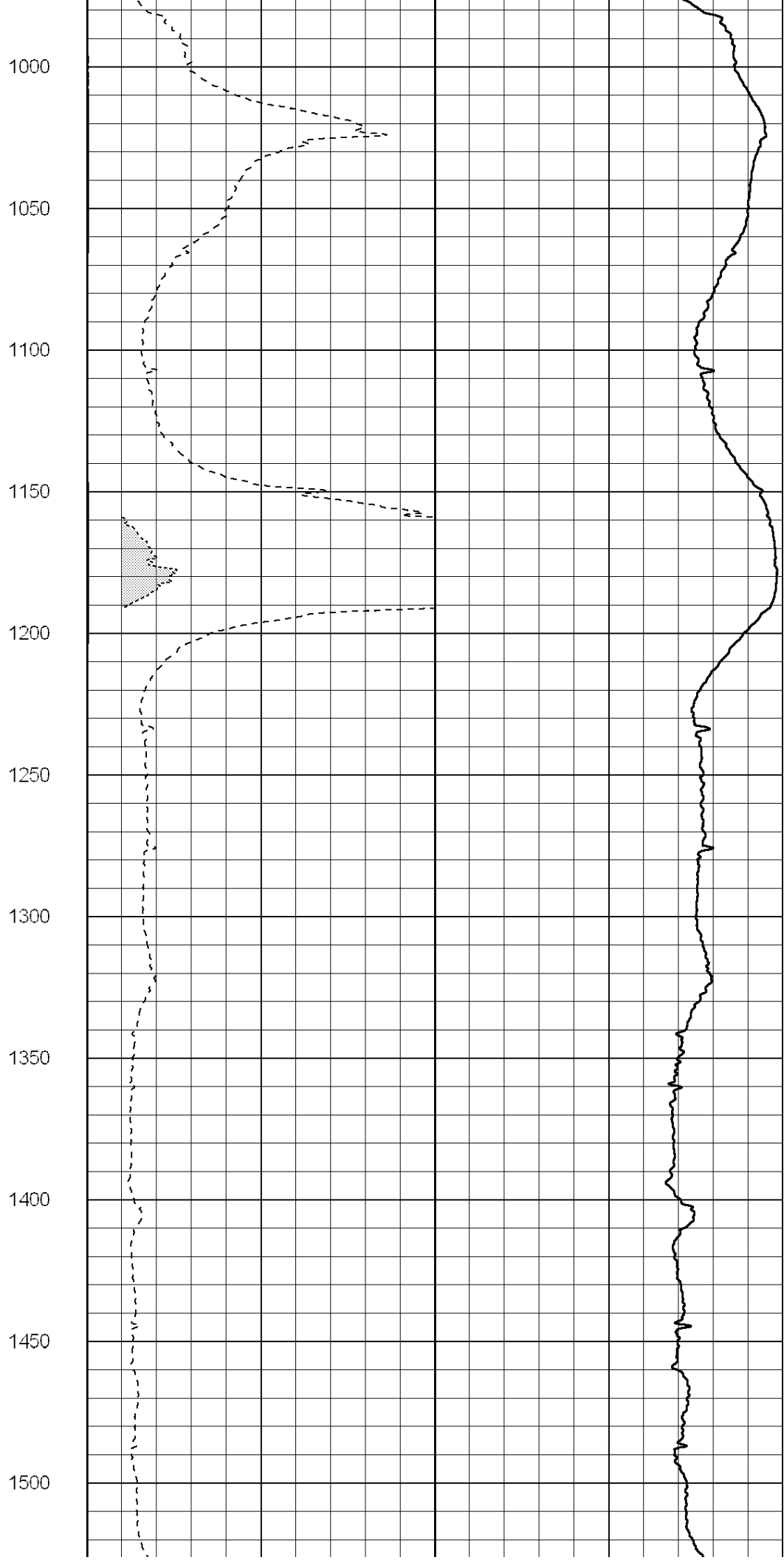
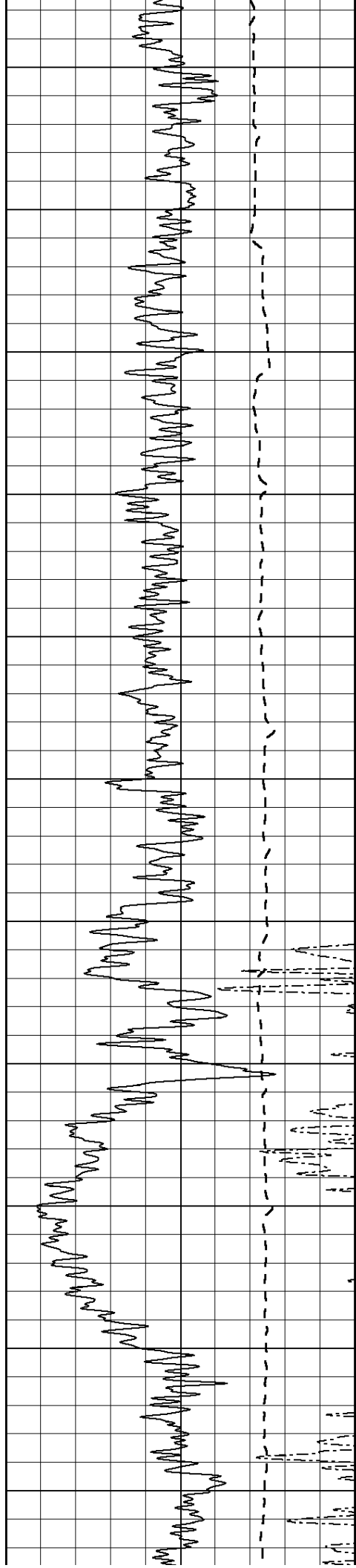
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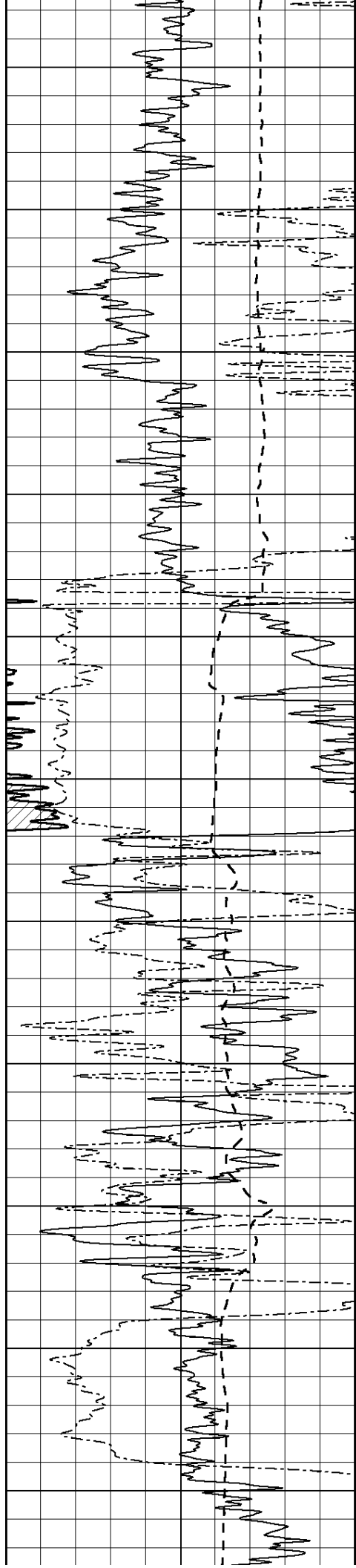
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900

950







1550

1600

1650

1700

1750

1800

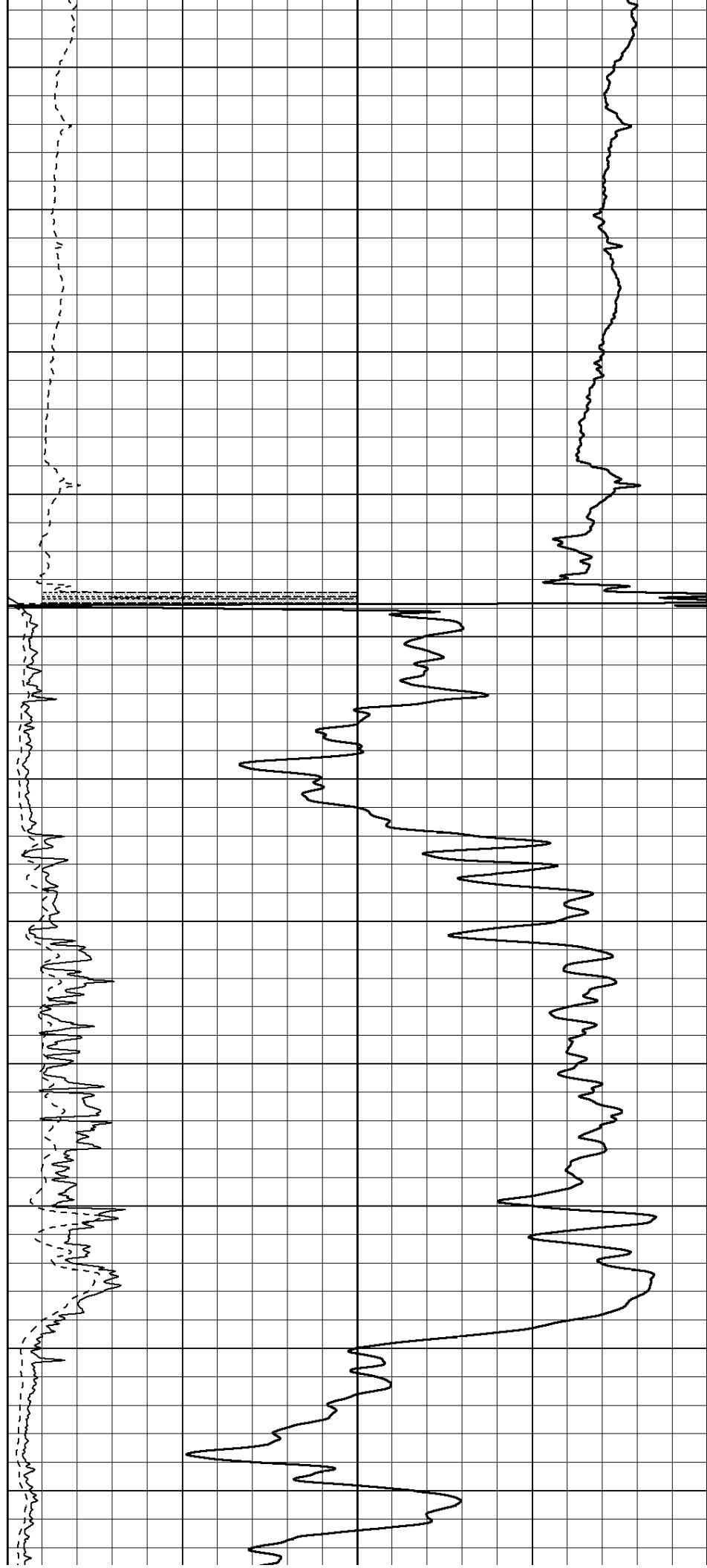
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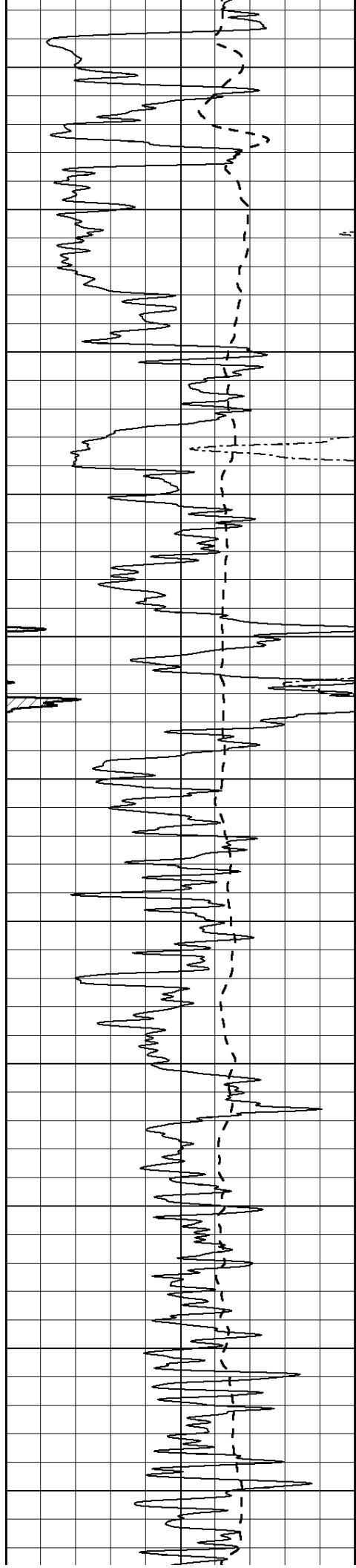
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2000

2050





2100

2150

2200

2250

2300

2350

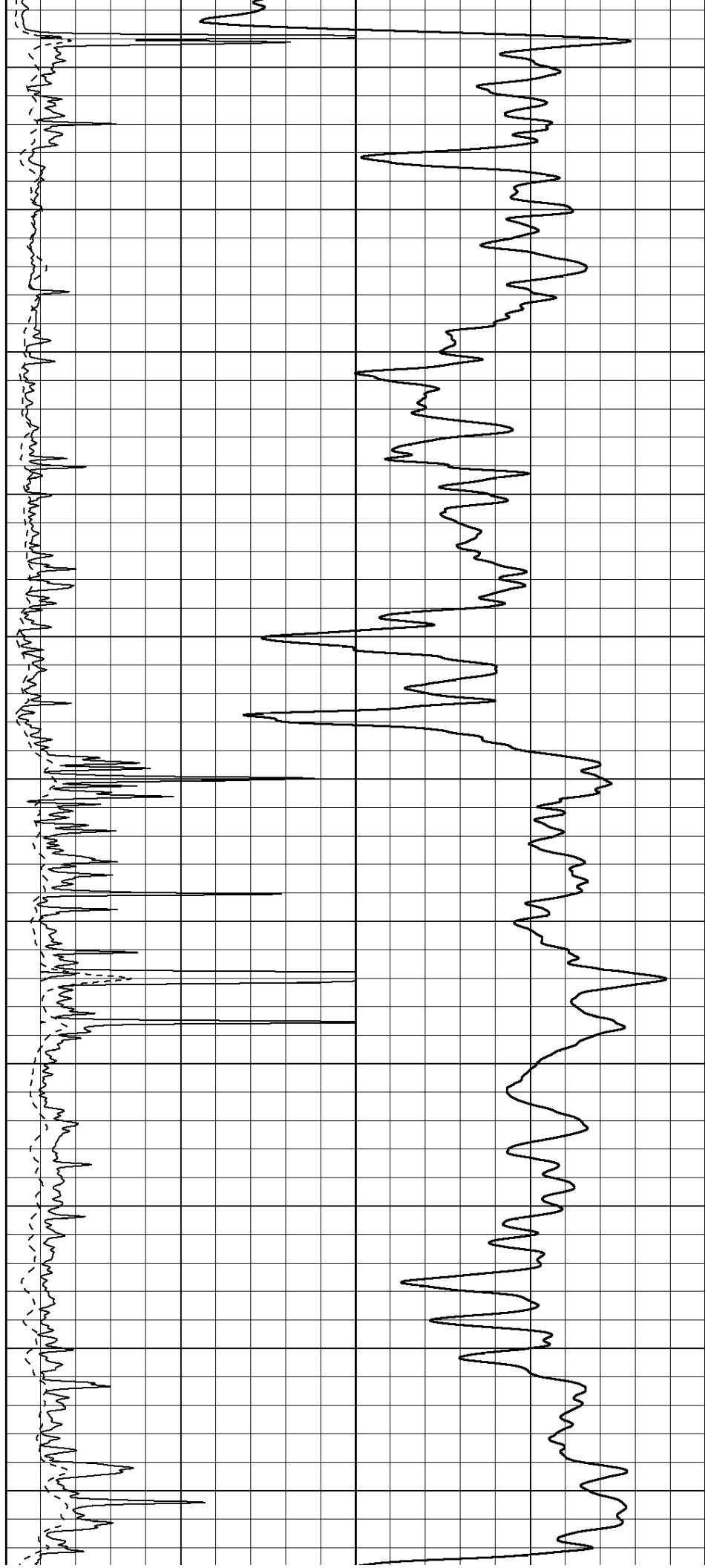
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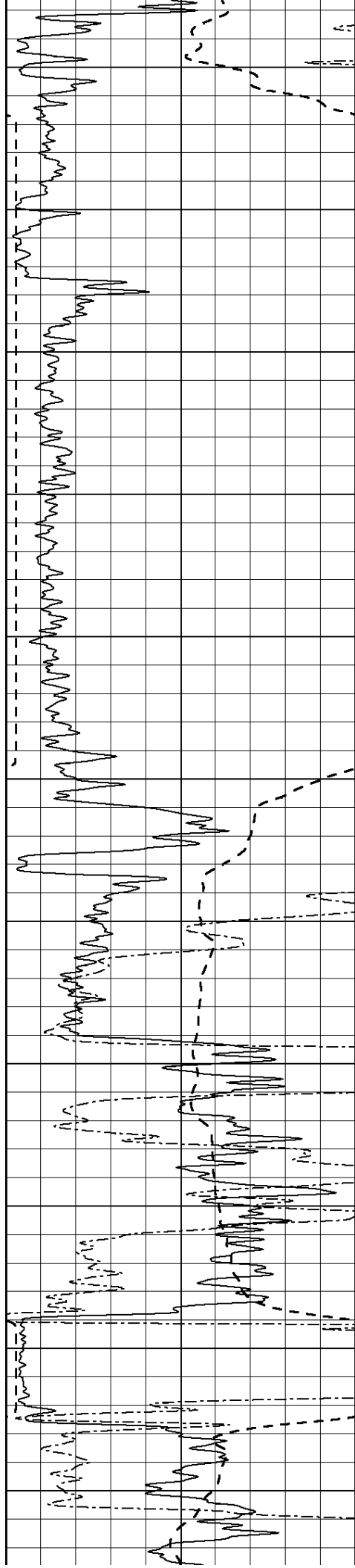
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2600





2650

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2800

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2900

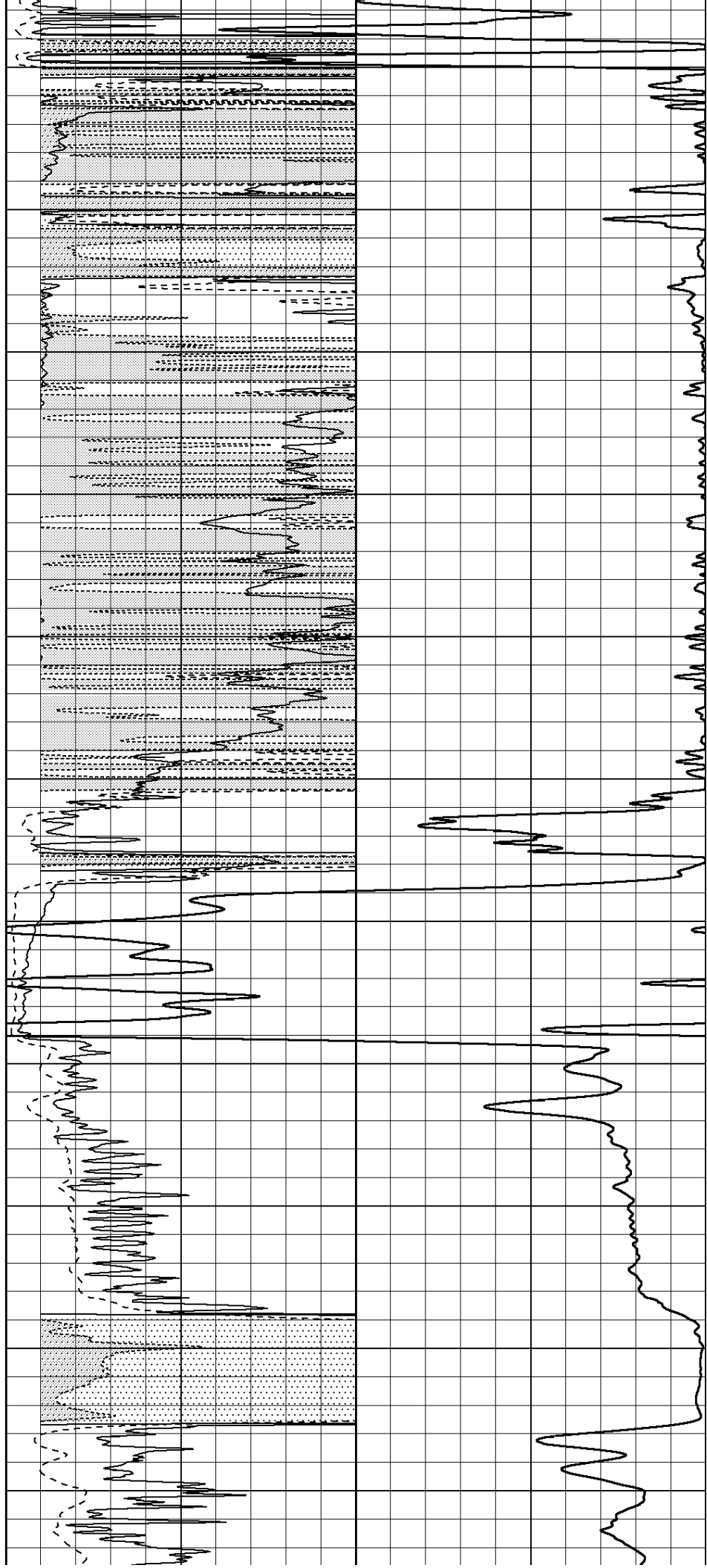
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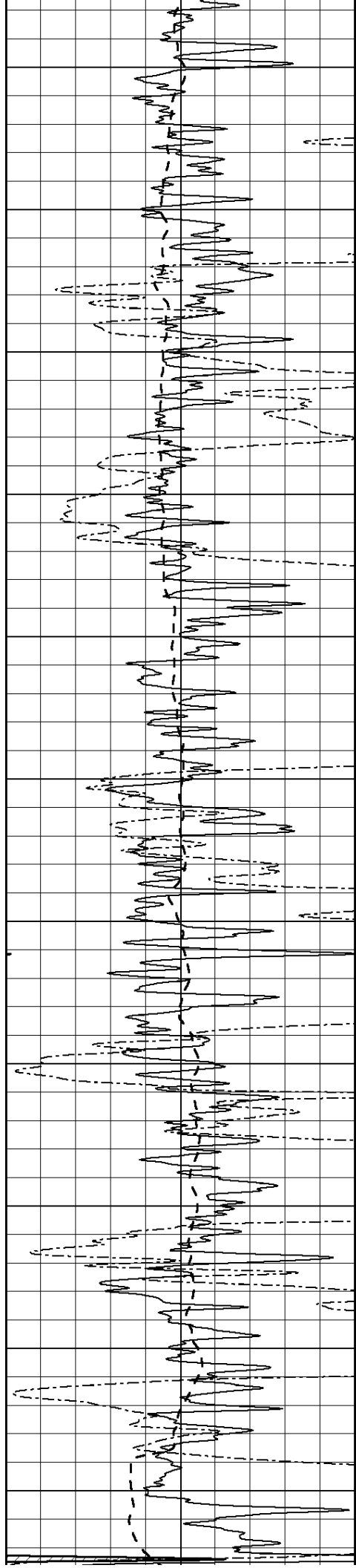
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3150





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3300

3350

3400

3450

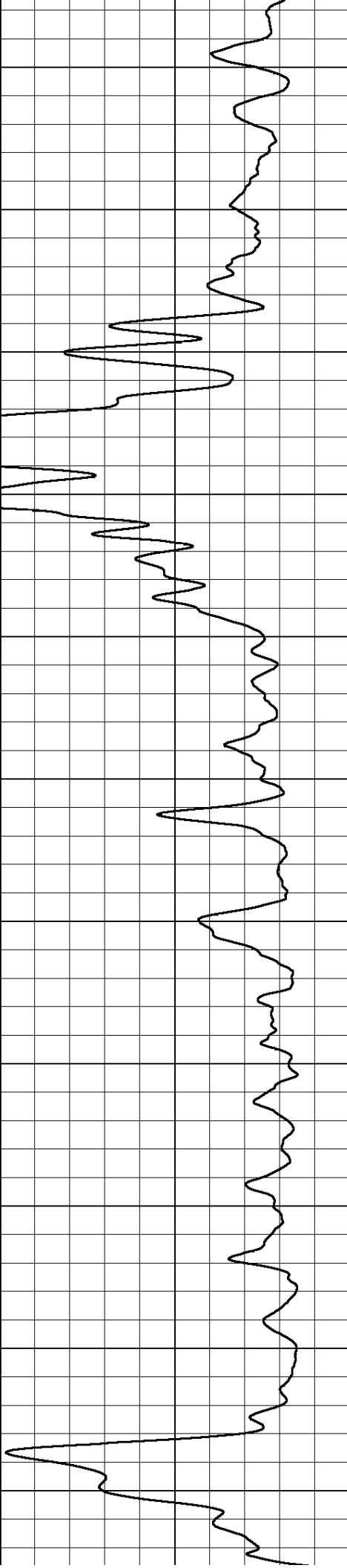
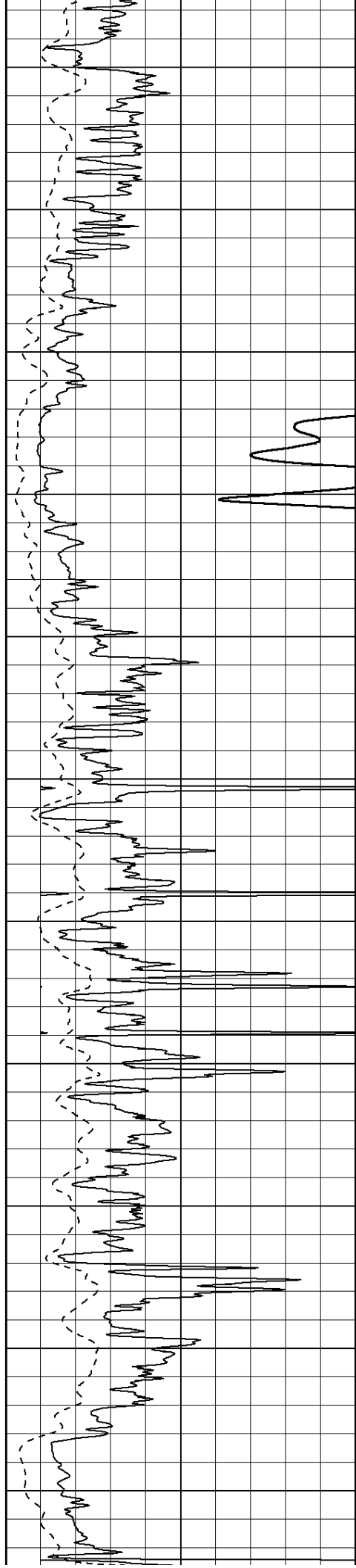
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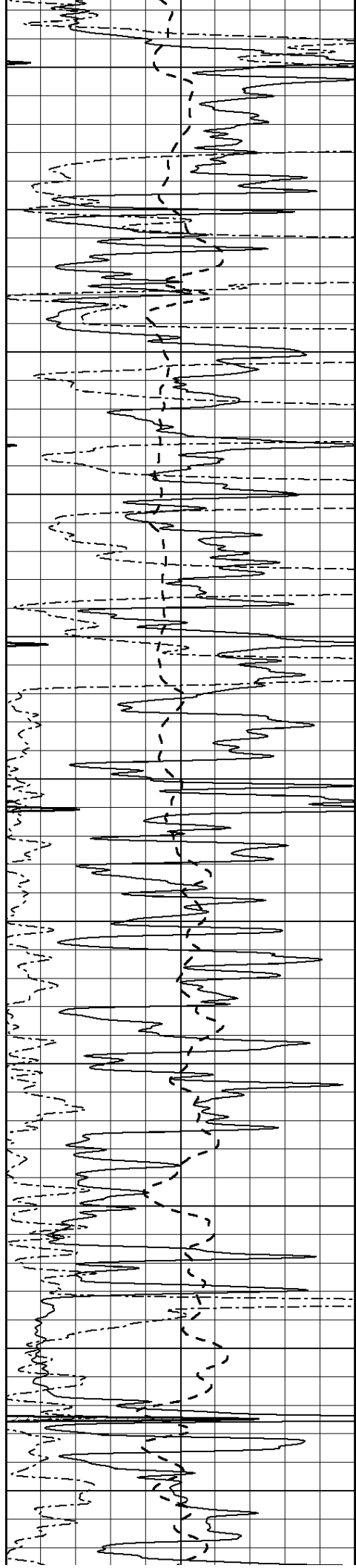
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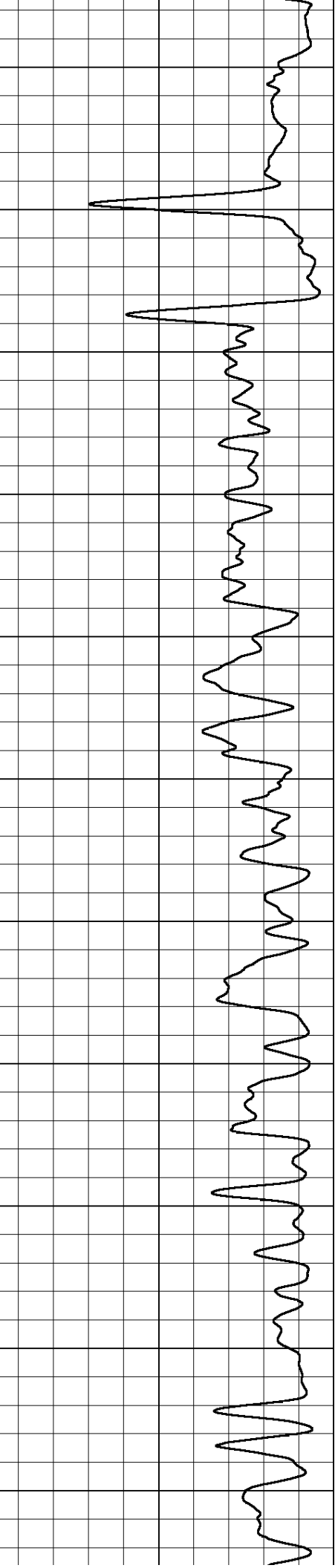
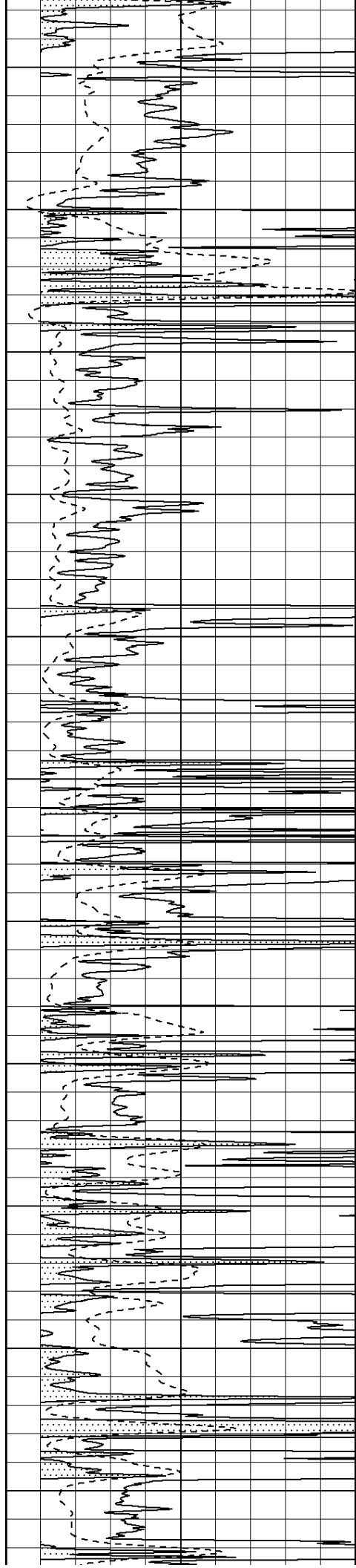
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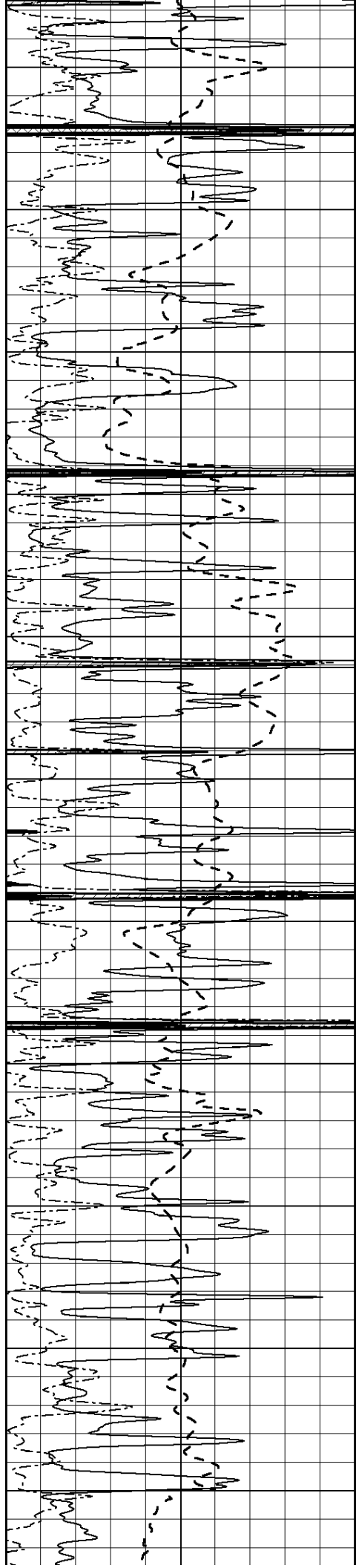
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4250





4300

4350

4400

4450

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4550

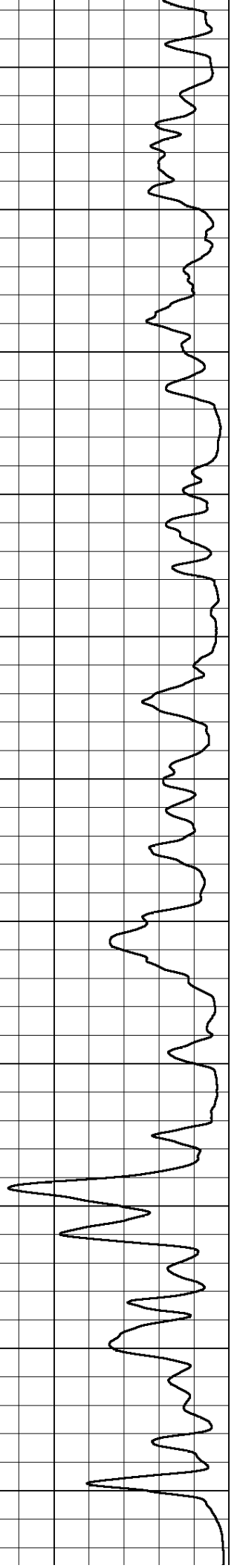
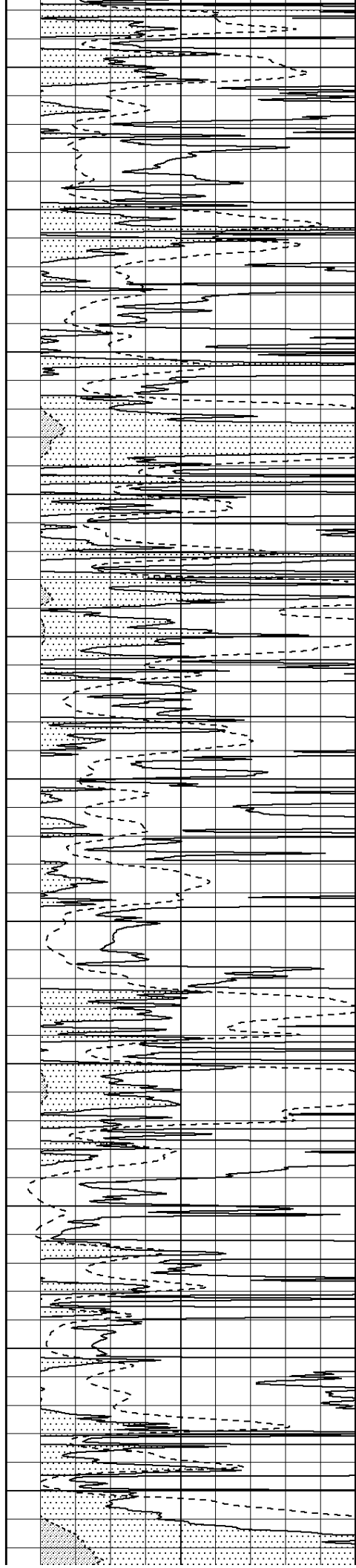
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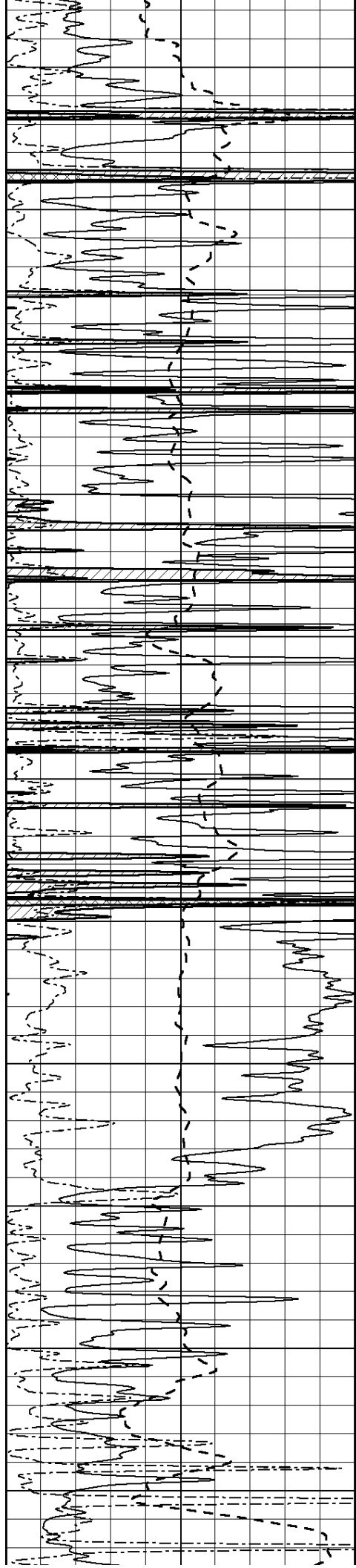
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4750

4800





4850

4900

4950

5000

5050

5100

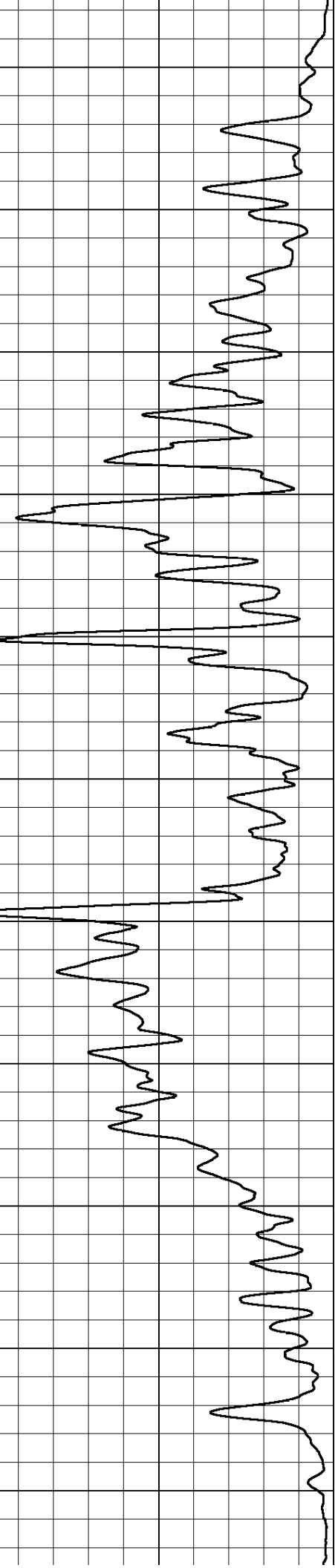
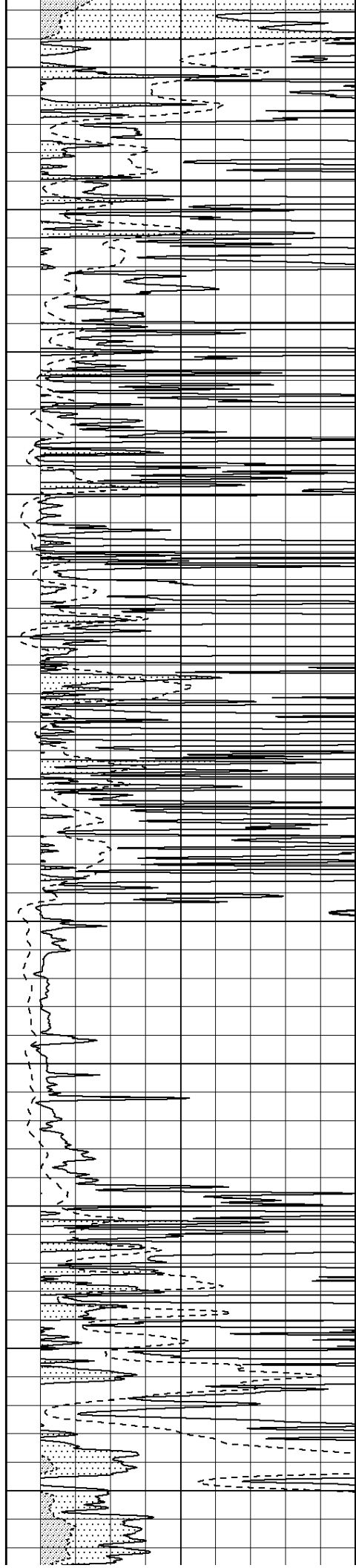
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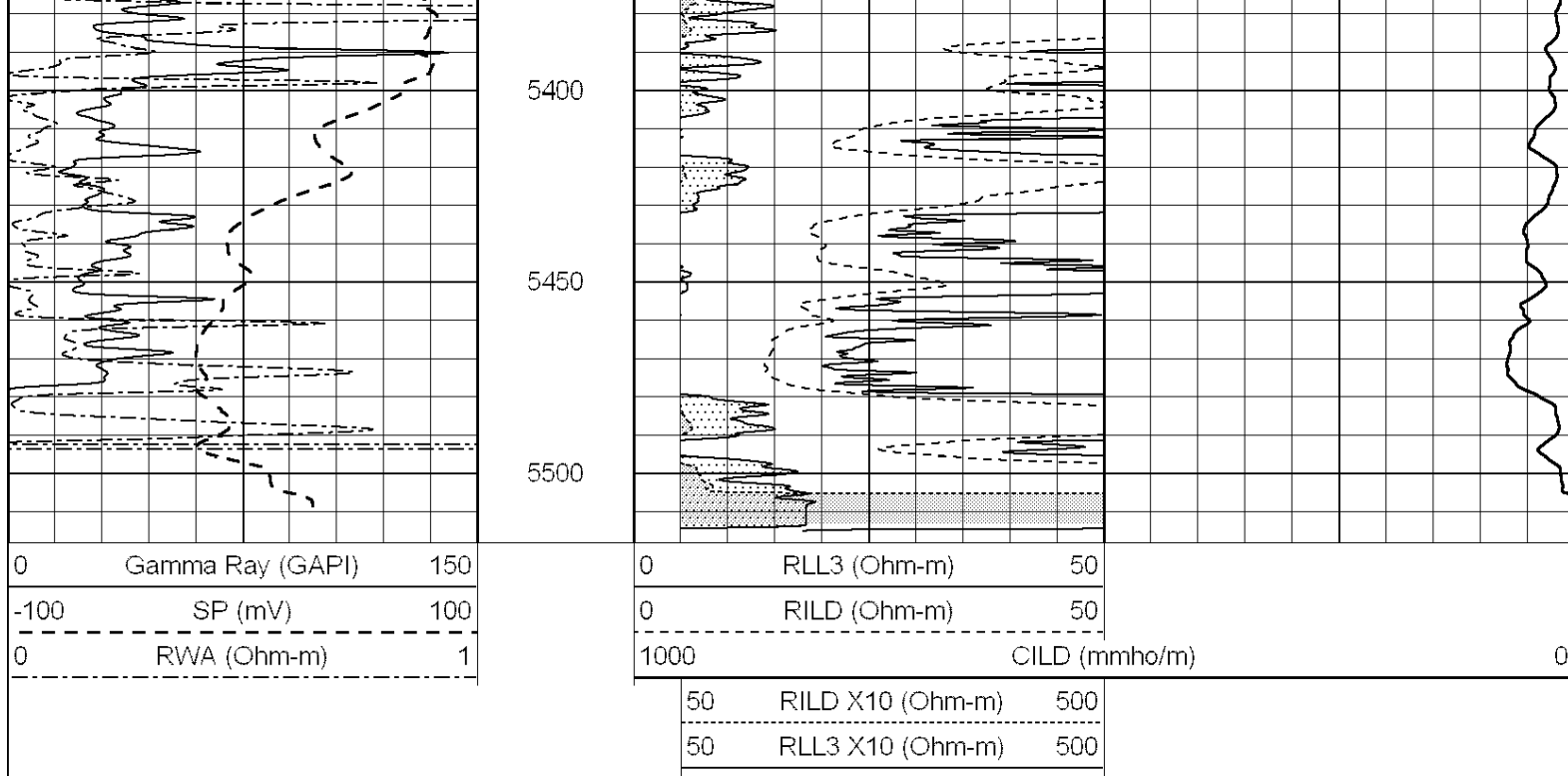
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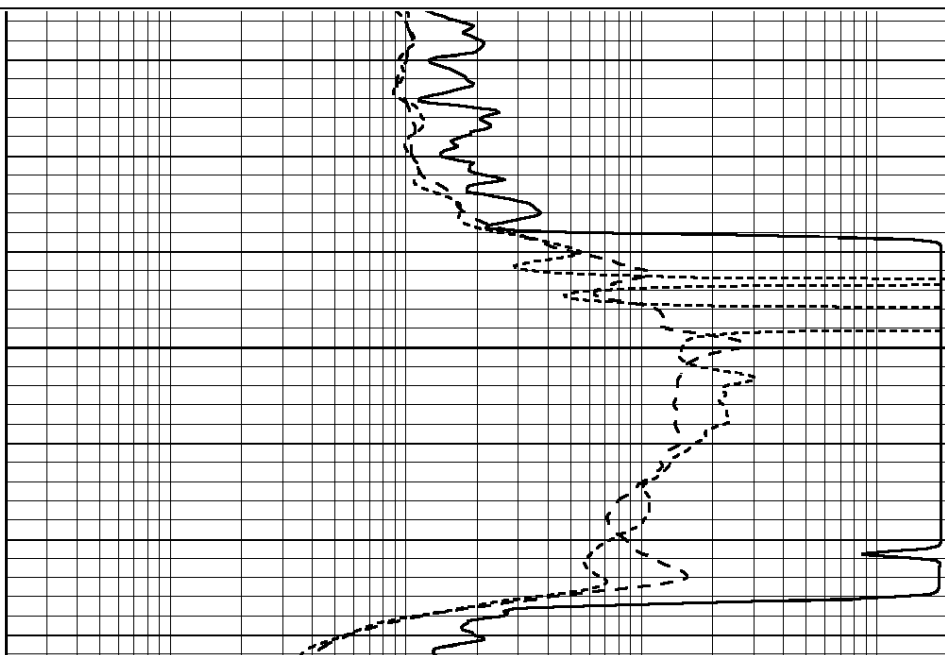
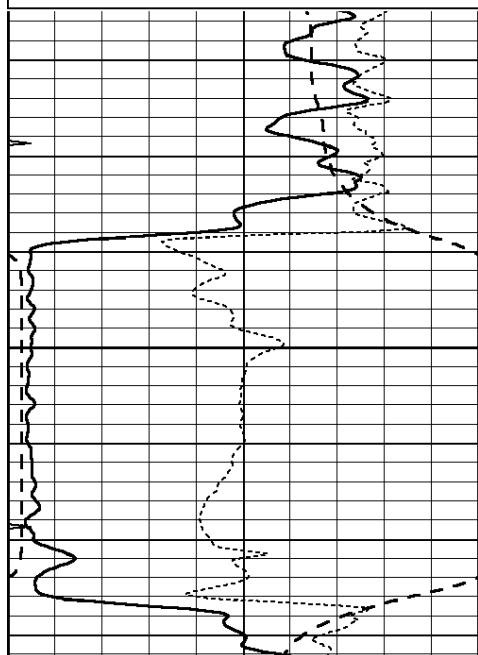
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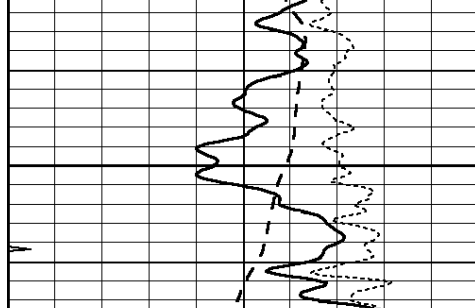
ANHYDRITE

Database File: 25880pe.db
 Dataset Pathname: pass5.8
 Presentation Format: _dil
 Dataset Creation: Tue Sep 16 02:33:50 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

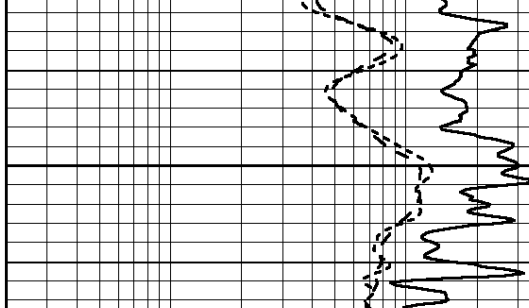
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





3150

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



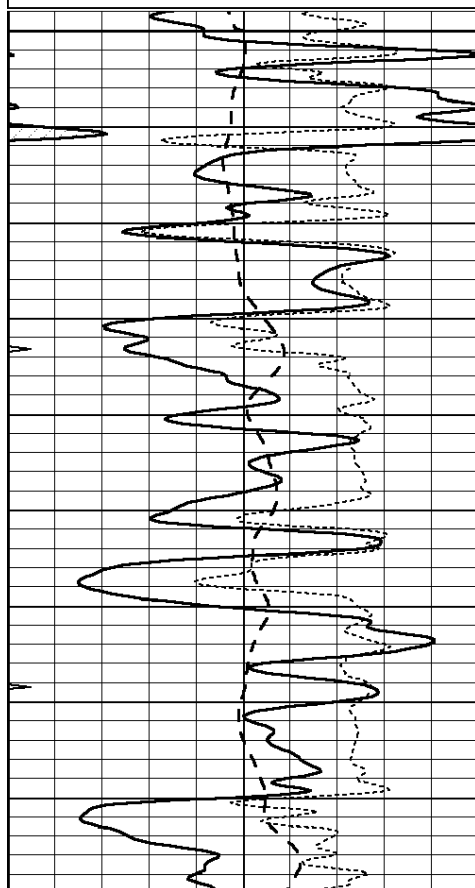
**COMPLETION
& PRODUCTION
SERVICES CO.**

MAIN SECTION

Database File: 25880pe.db
 Dataset Pathname: pass5.7
 Presentation Format: _dil
 Dataset Creation: Tue Sep 16 02:26:21 2014
 Charted by: Depth in Feet scaled 1:240

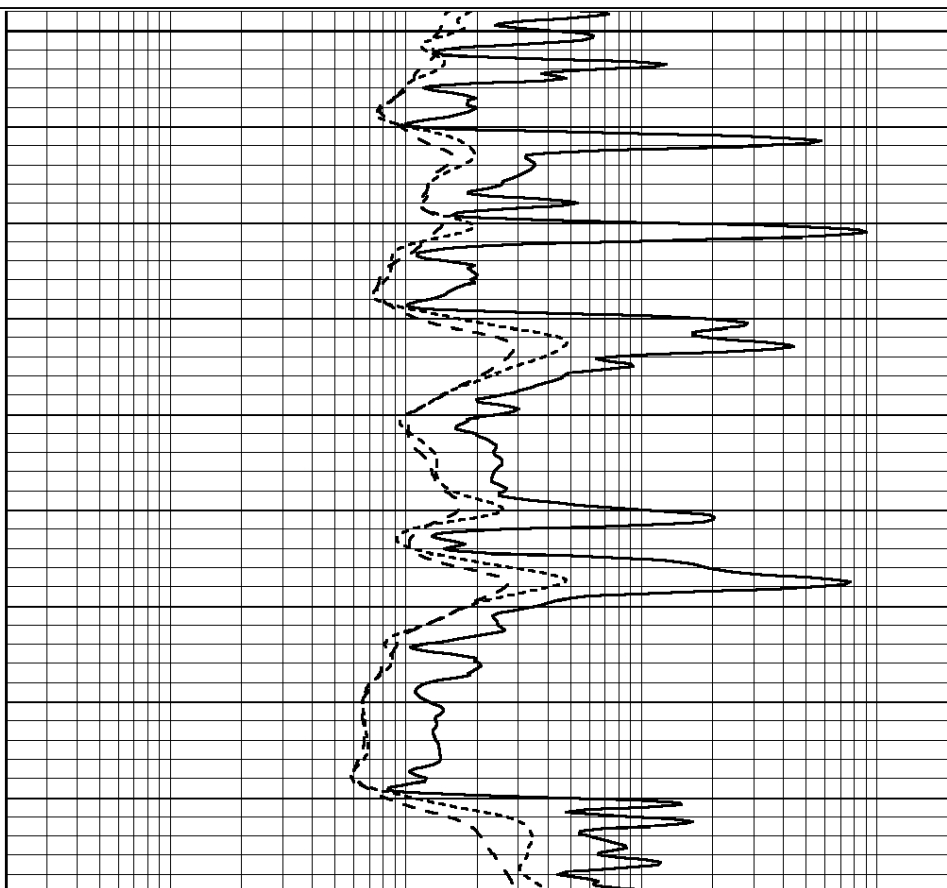
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

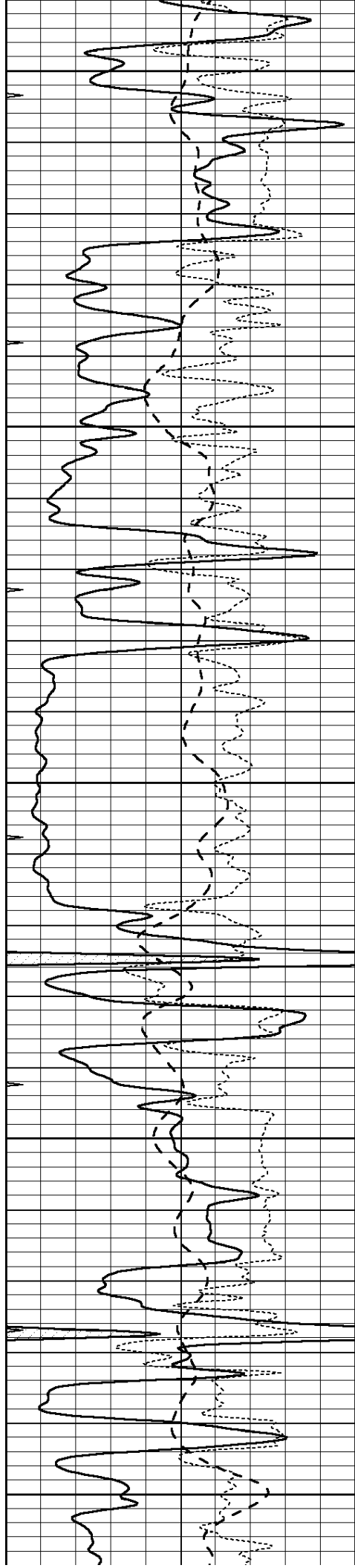
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



4000

4050





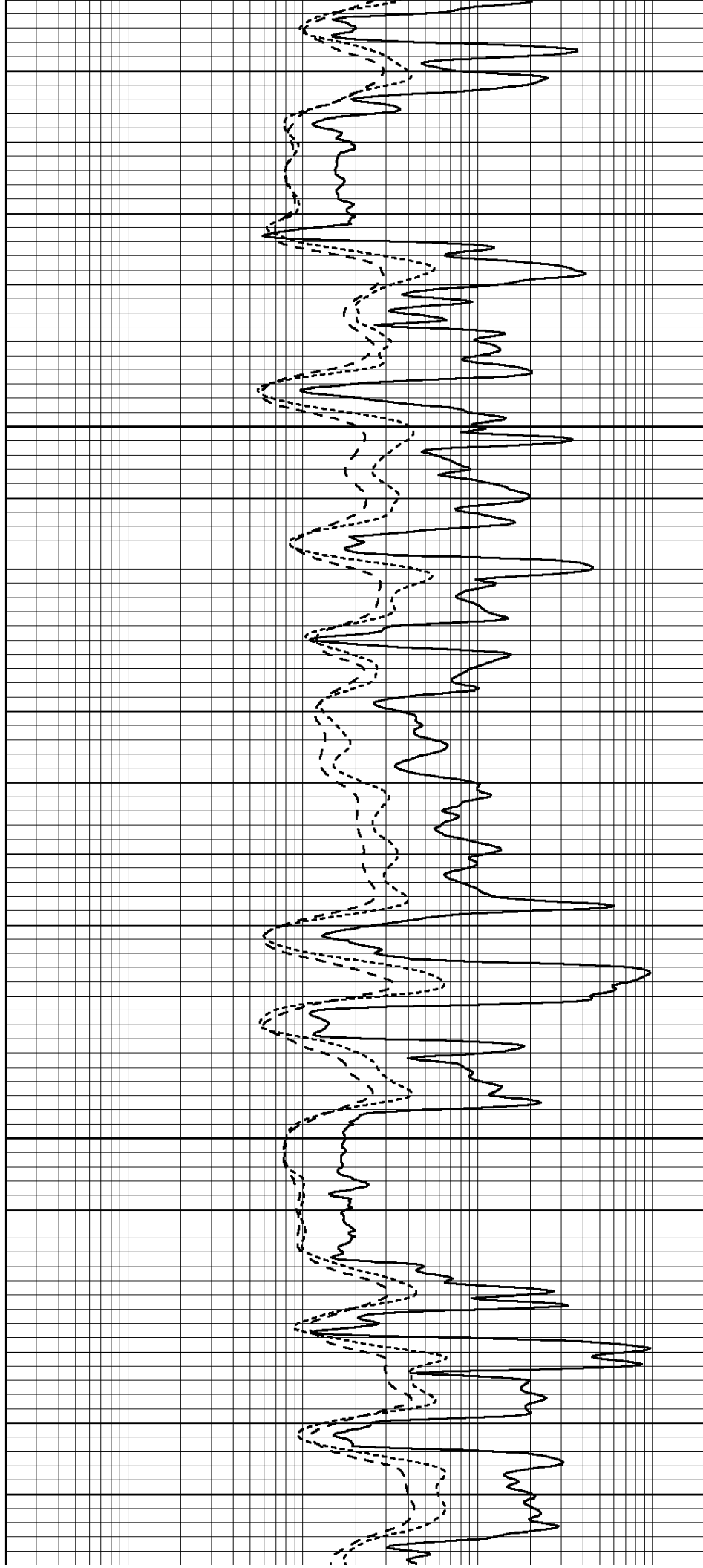
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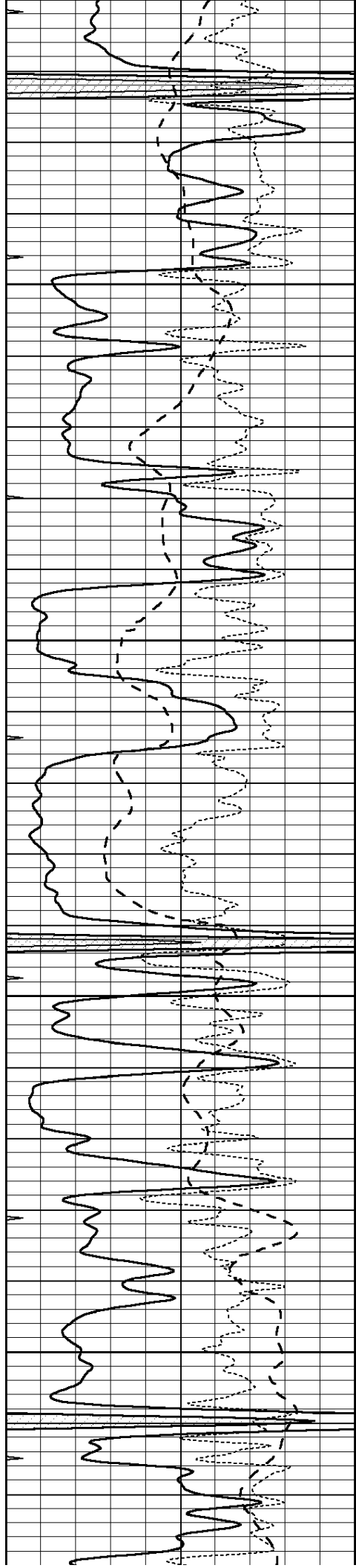
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4200

4250

4300



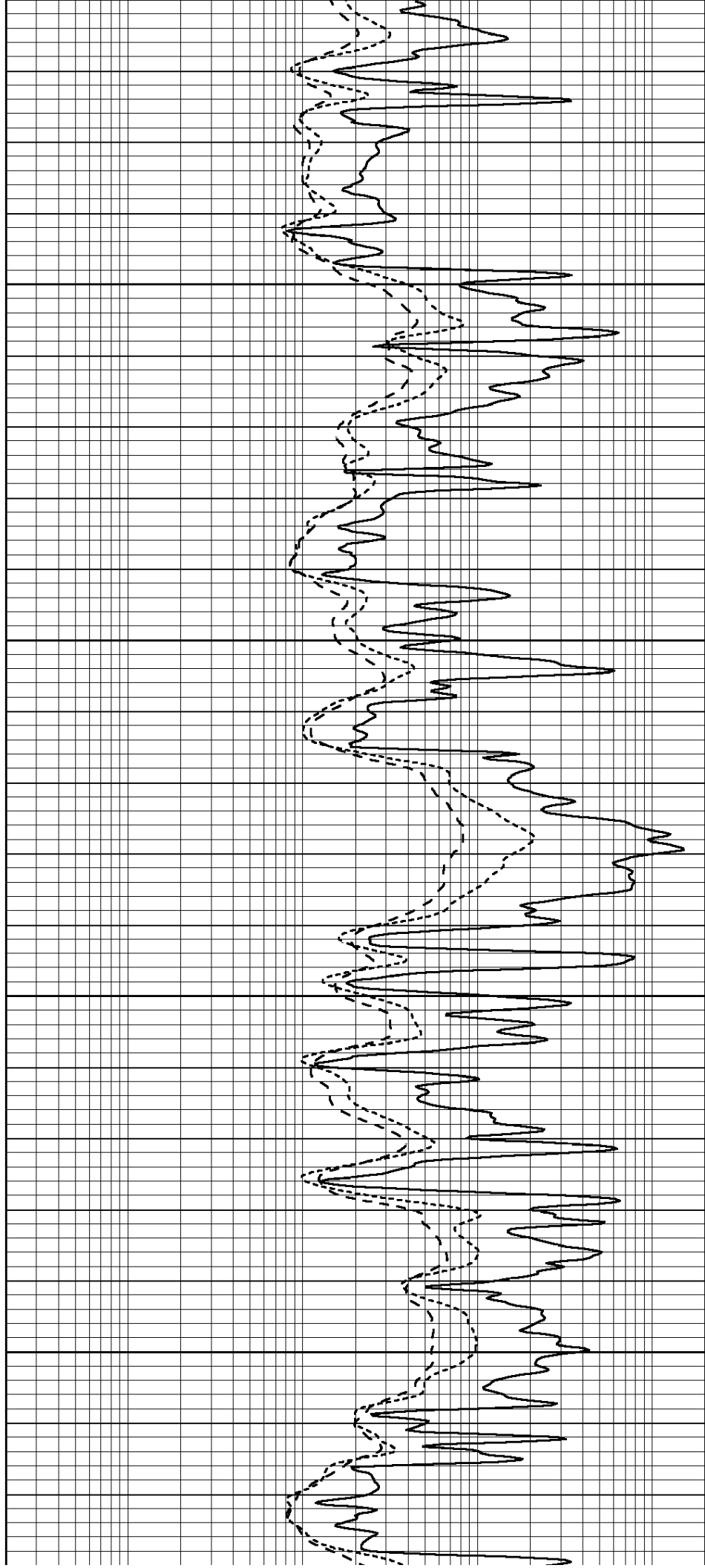


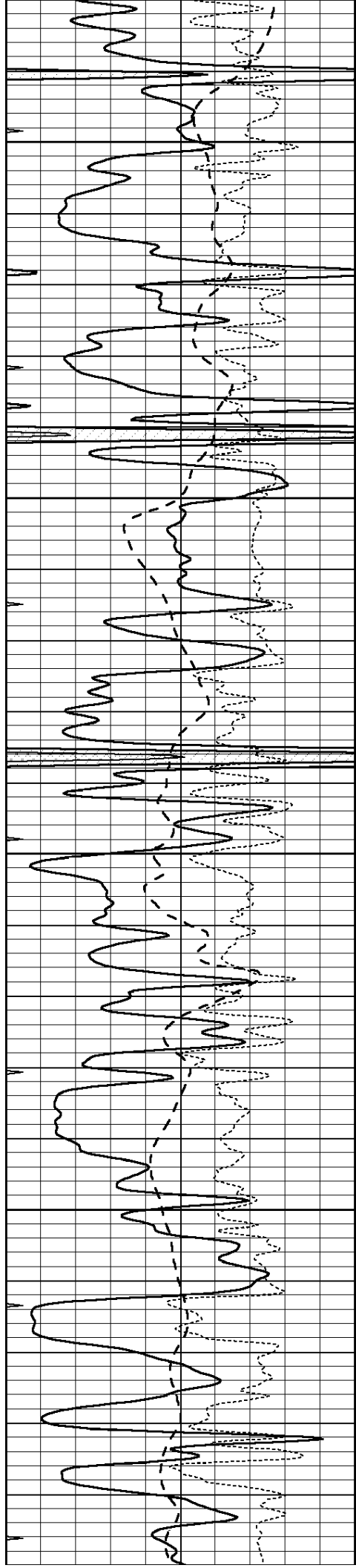
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4400

4450

4500





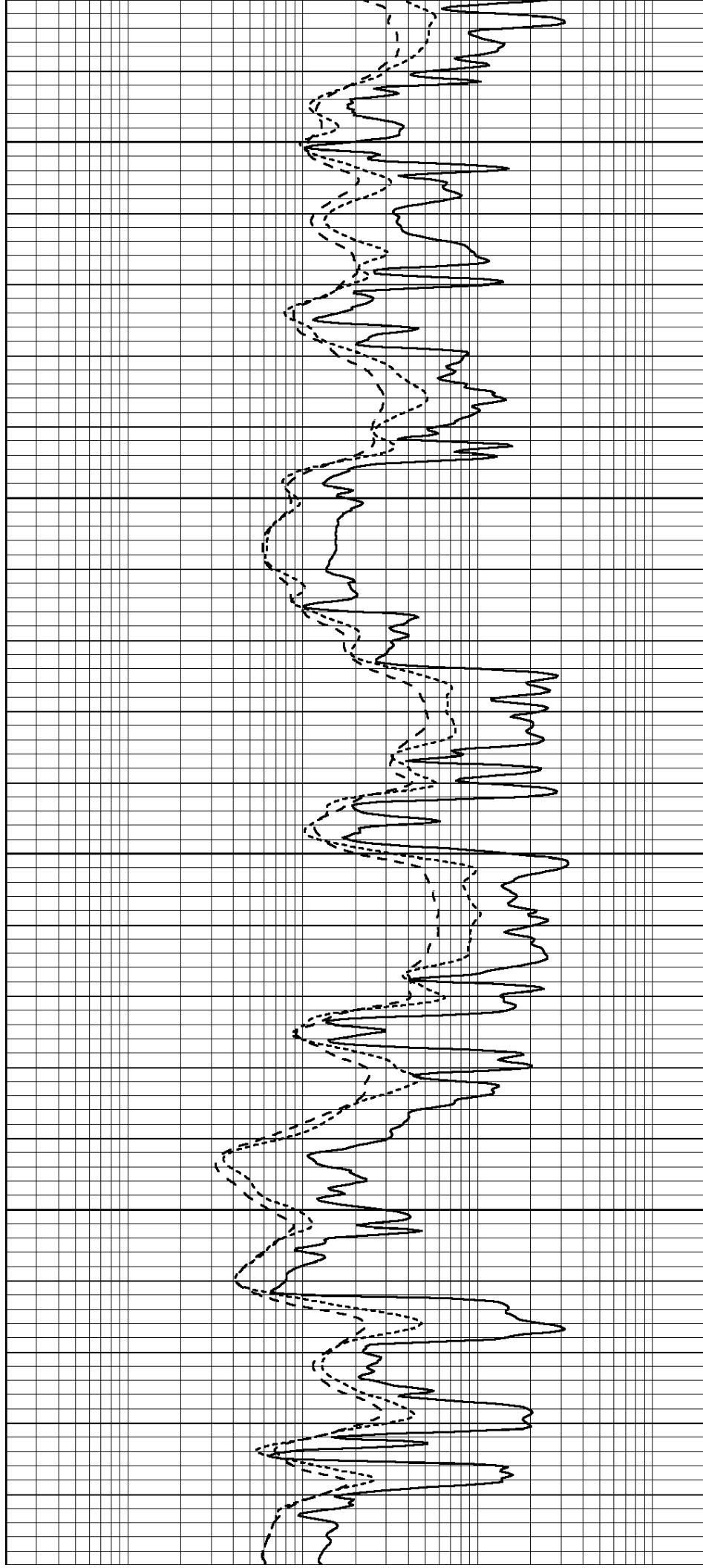
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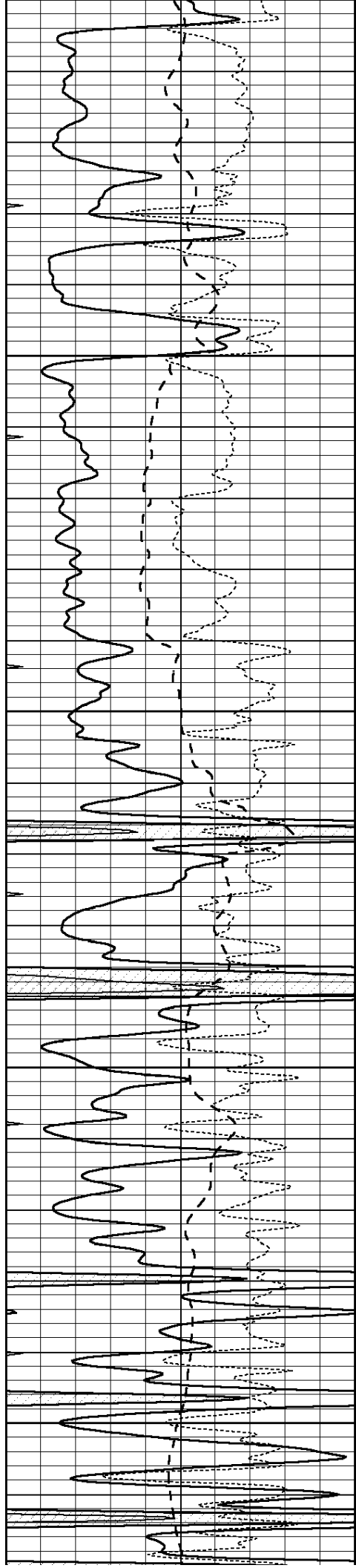
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4700

4750





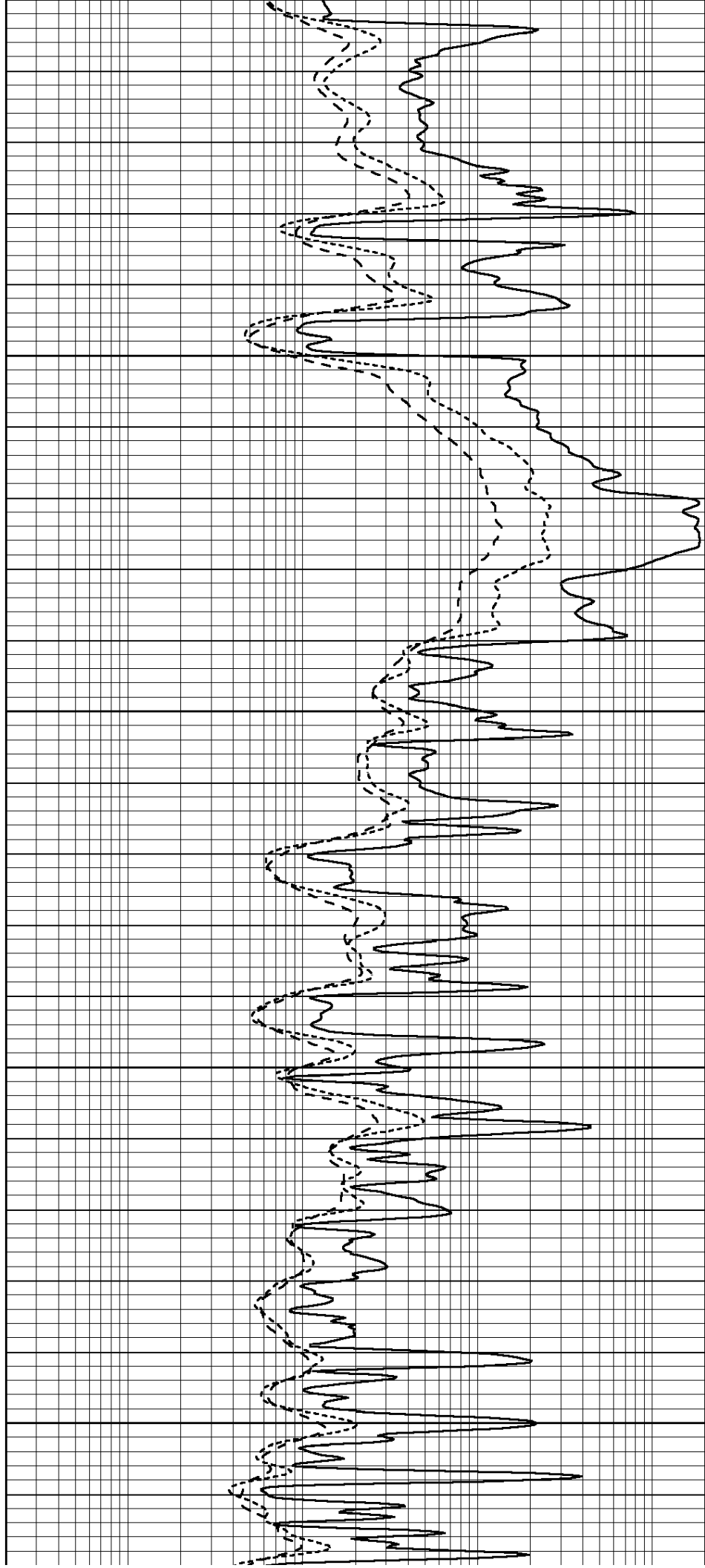
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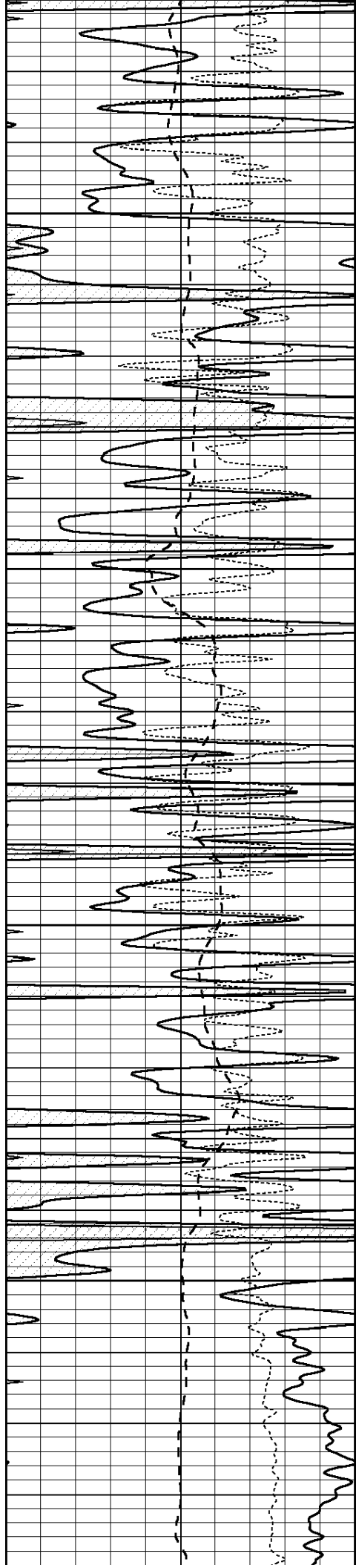
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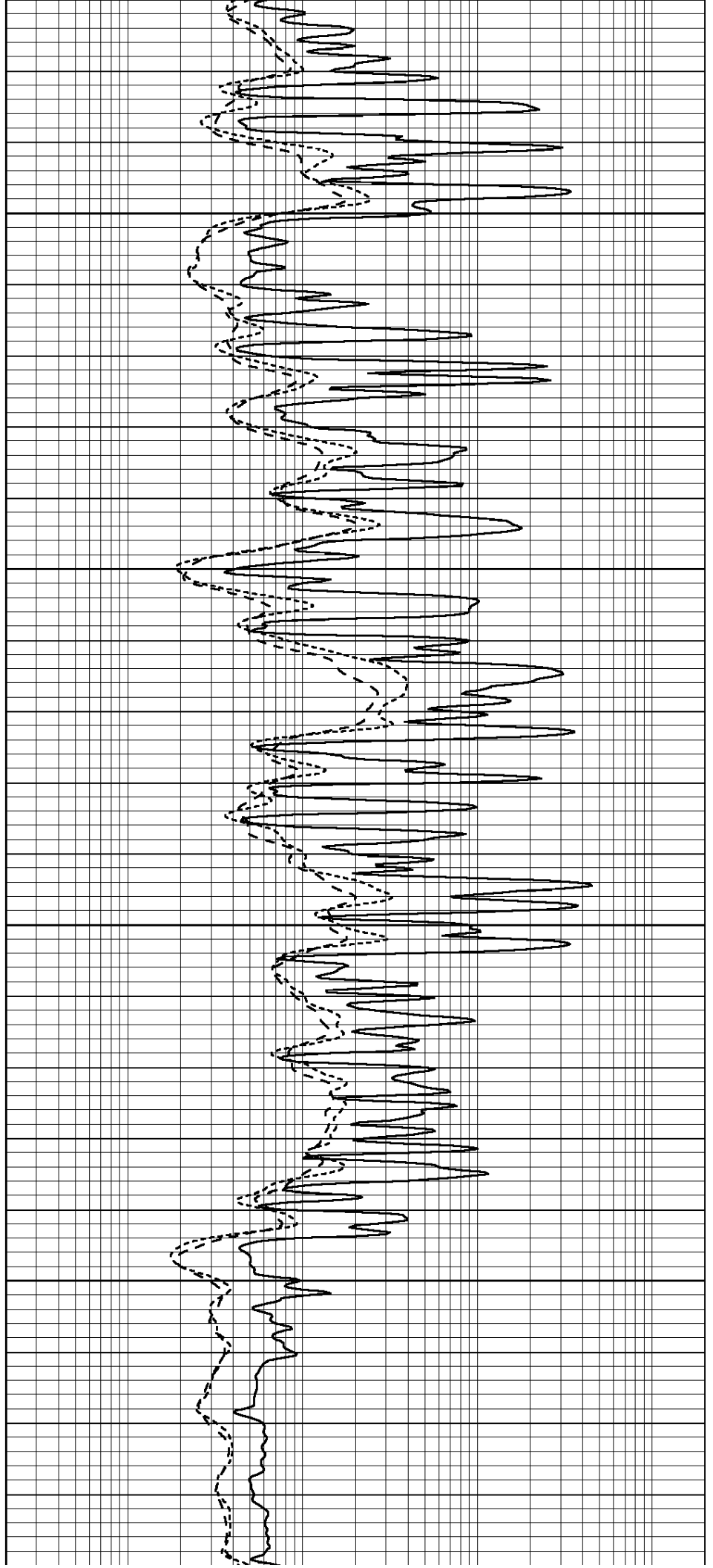


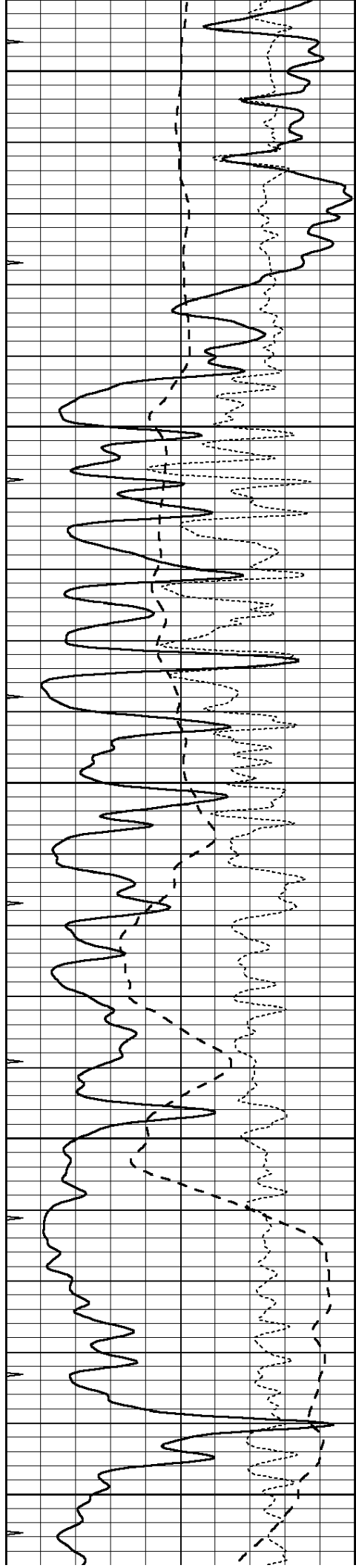
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5050

5100

5150





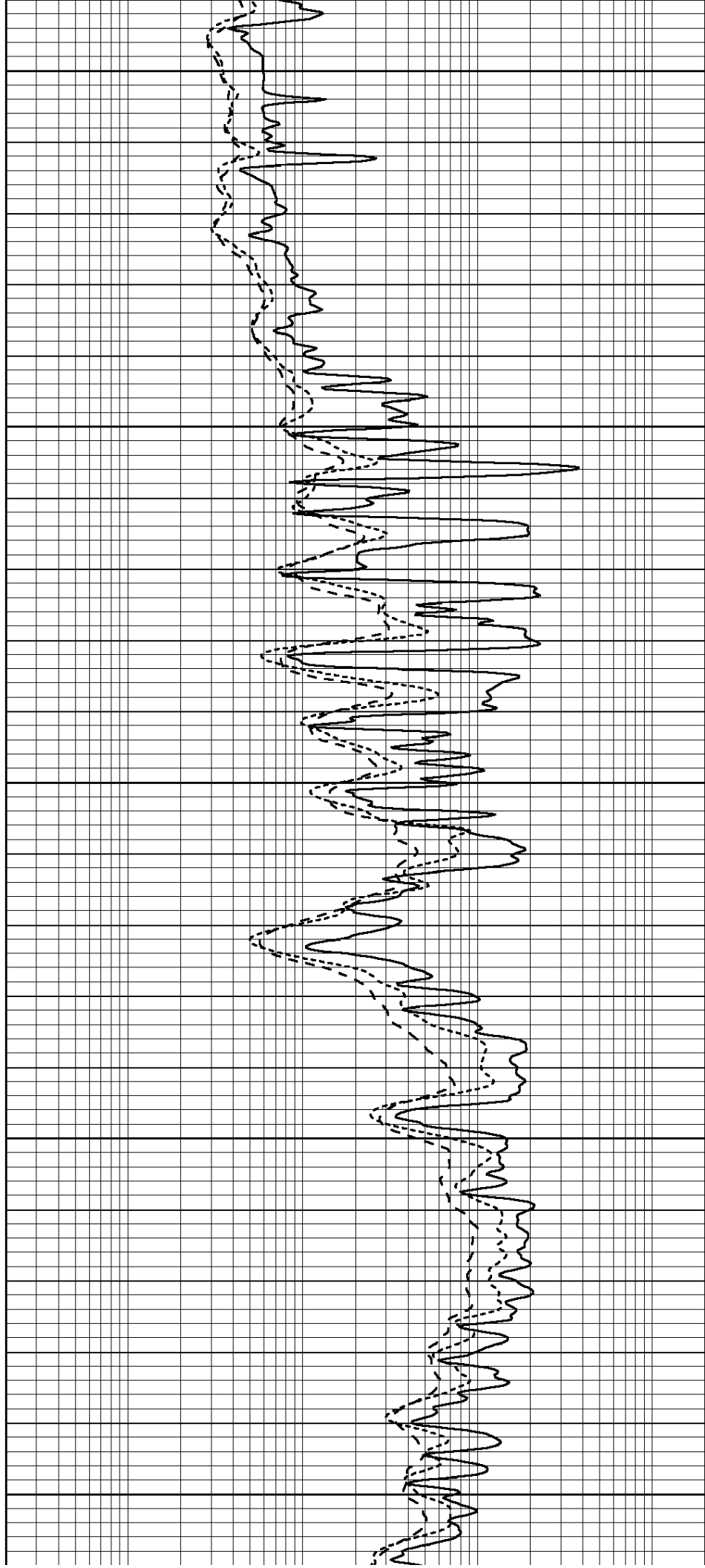
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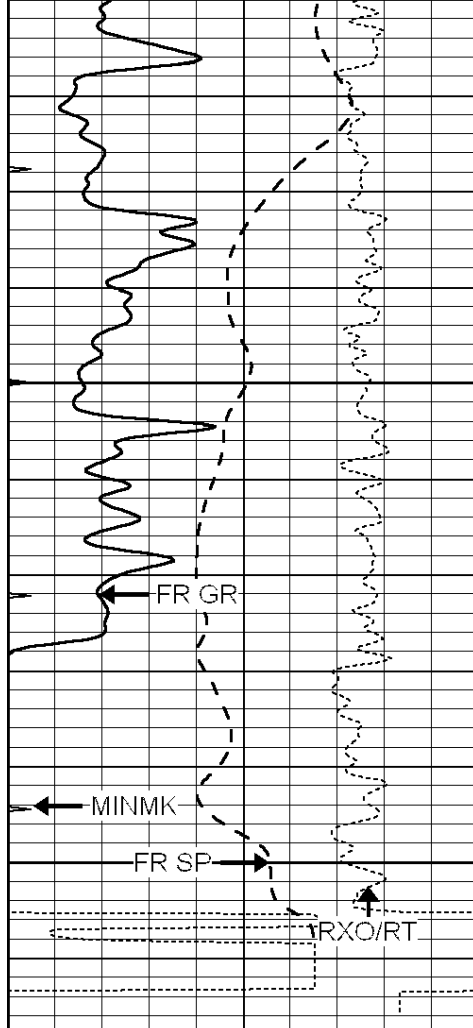
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5300

5350

5400



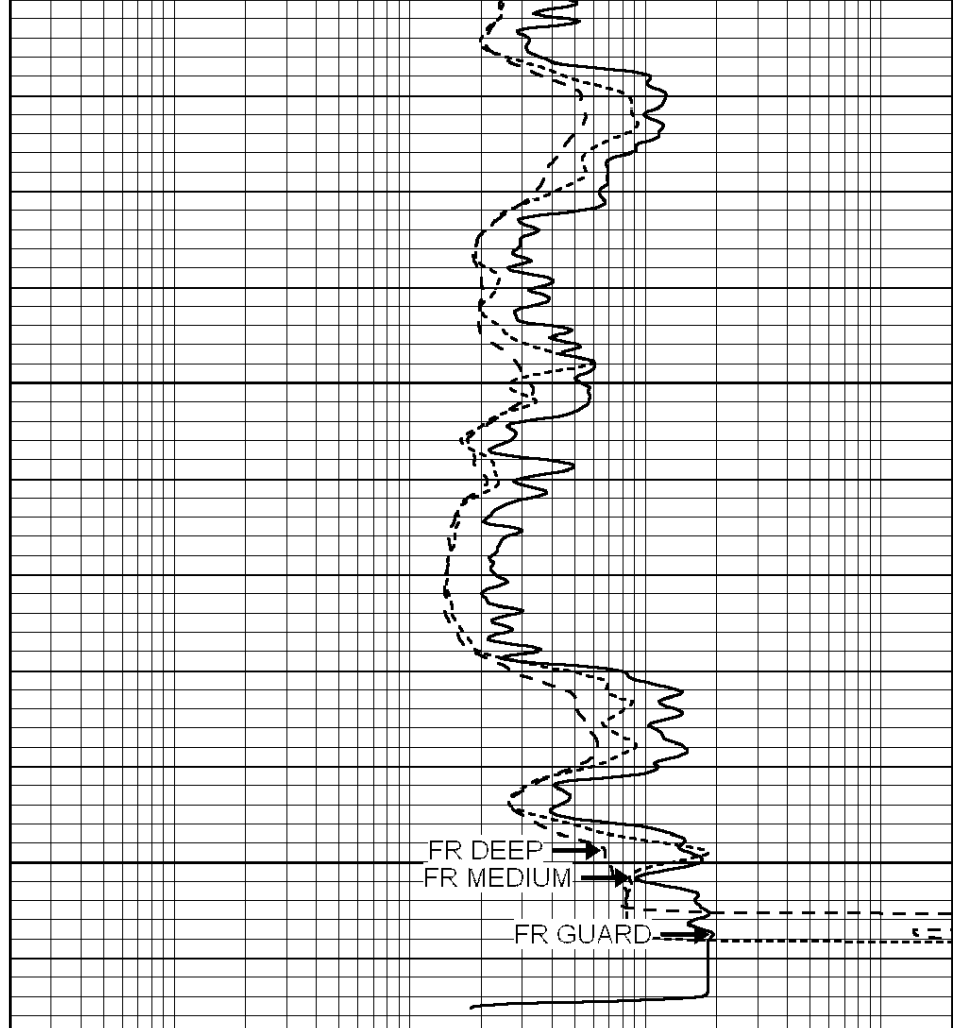


5450

5500

LTD 5510

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

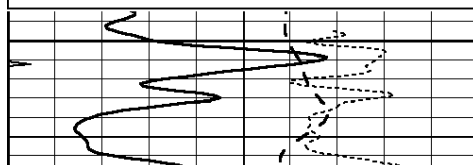


REPEAT SECTION

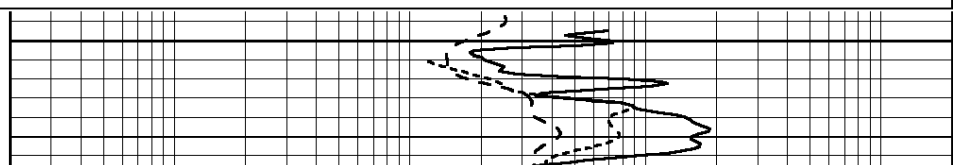
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 Presentation Format: _dil
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 Charted by: Depth in Feet scaled 1:240

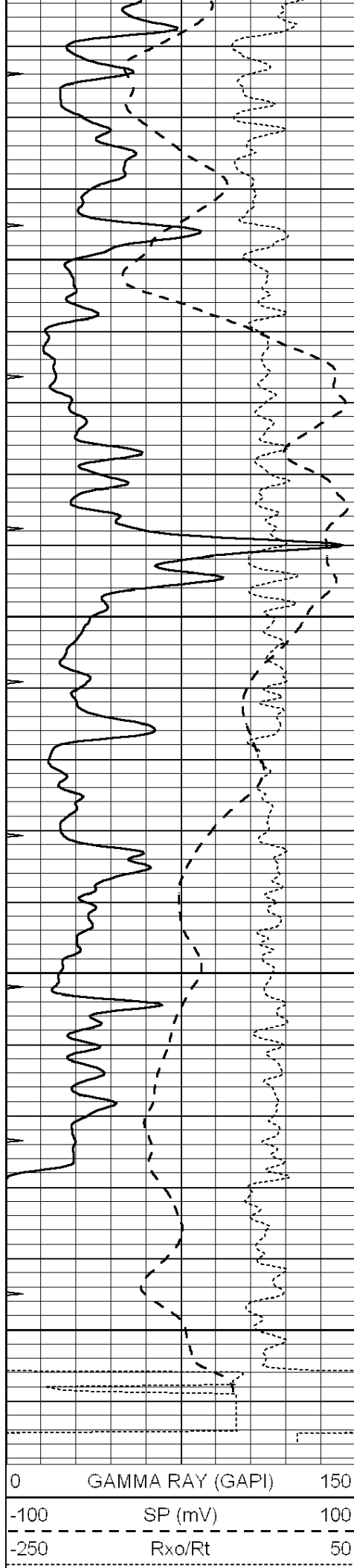
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



5300



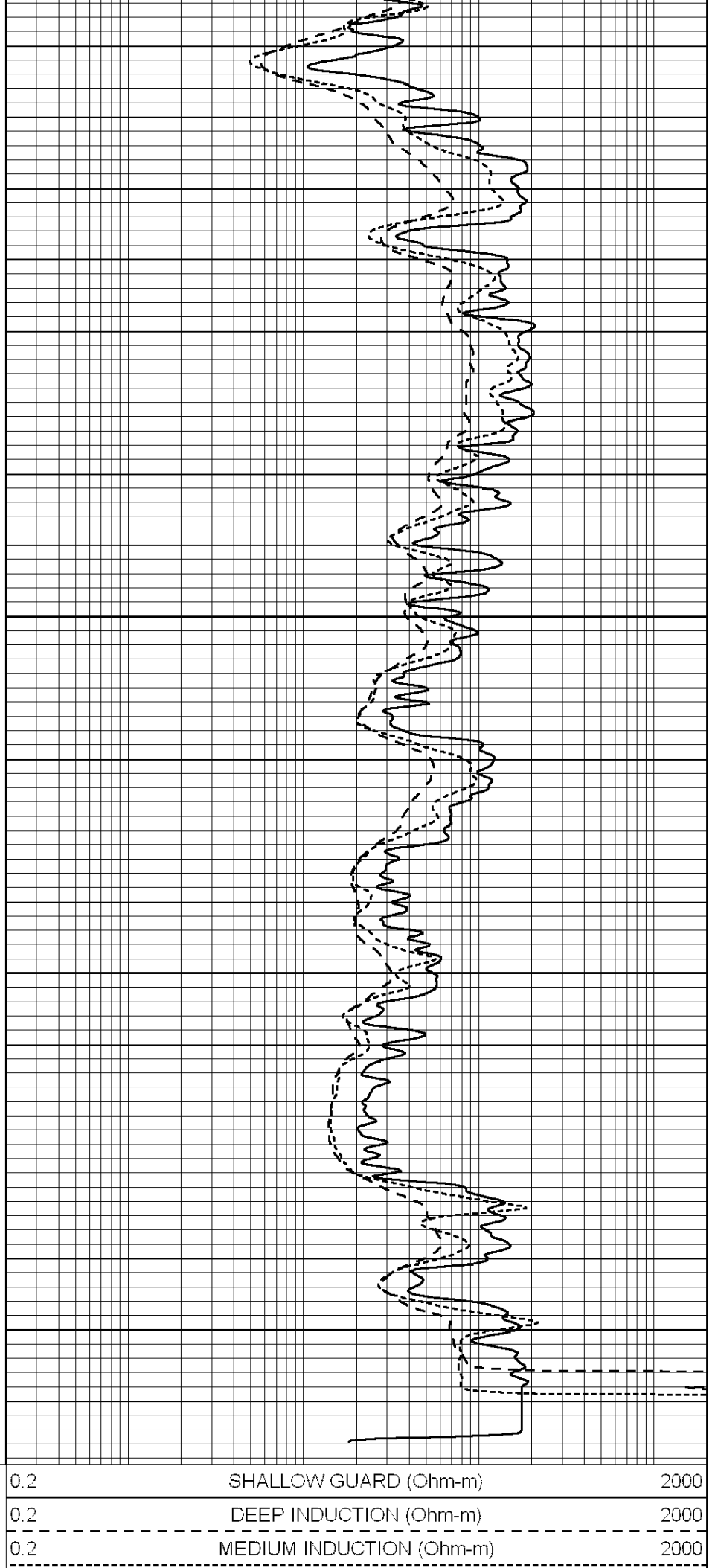


5350

5400

5450

5500



0	MINMK	20

Calibration Report		
Database File:	25880pe.db	
Dataset Pathname:	pass5.7	
Dataset Creation:	Tue Sep 16 02:26:21 2014	

Dual Induction Calibration Report		
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Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Tue Sep 16 00:06:09 2014
Downhole Cal Performed:	Mon Jul 28 12:02:56 2008
After Survey Verification Performed:	Mon Jul 28 12:02:56 2008

Surface Calibration								
	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	670.000	-10.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	670.000	-24.000
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		

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: 004N	Model: PRB	

Master Calibration					Performed Fri May 30 11:01:00 2014		
	Background	Magnesium	Aluminum	Sandstone			
Window 1	1378.8	10804.6	3492.0	12453.4			cps
Window 2	1262.4	9313.5	3076.7	10594.7			cps
Window 3	1077.6	5668.7	2076.0	6314.8			cps
Window 4	306.4	313.0	306.4	315.6			cps
Long Space	0.0	8051.0	1814.3	9332.3			cps
Short Space	1.9	1706.1	1146.0	1707.6			cps
Rho		1.7100	2.5900	1.3800			g/cc
Pe		0.0000	2.5700	1.5500			
Rib Angle	: 45.0	Rib Slope	: 1.002	Density/Spine Ratio		: 0.571	

Spine Angle		: 75.0	Spine Slope		: 3.745	Spine Intercept		: -18.9
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				