



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company RITCHIE EXPLORATION, INC. Well FORD FEEDYARD #1 Field WILDCAT County FORD State KANSAS		Company RITCHIE EXPLORATION, INC. Well FORD FEEDYARD #1 Field WILDCAT County FORD State KANSAS	
Location: 395' FSL & 1970' FWL SEC 29 TWP 27S RGE 22W Permanent Datum GROUND LEVEL Elevation 2370 Log Measured From KELLY BUSHING 12' A.G.L. Drilling Measured From KELLY BUSHING		Other Services CDL/CNL Elevation K.B. 2382 D.F. 2368 G.L. 2370	
Date	1/3/13		
Run Number	ONE		
Depth Driller	5147		
Depth Logger	5148		
Bottom Logged Interval	5146		
Top Log Interval	0		
Casing Driller	8 5/8" @ 367'		
Casing Logger	366'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 13,200 PPM	
Density / Viscosity	9.2/54		
pH / Fluid Loss	10.5/13.2		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	0.52 @ 82F		
Rmf @ Meas. Temp	0.39 @ 82F		
Rmc @ Meas. Temp	0.62 @ 82F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	0.34 @ 126F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	126F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEMEG		
Witnessed By	MACKLIN ARMSTRONG		

<<< Fold Here >>>

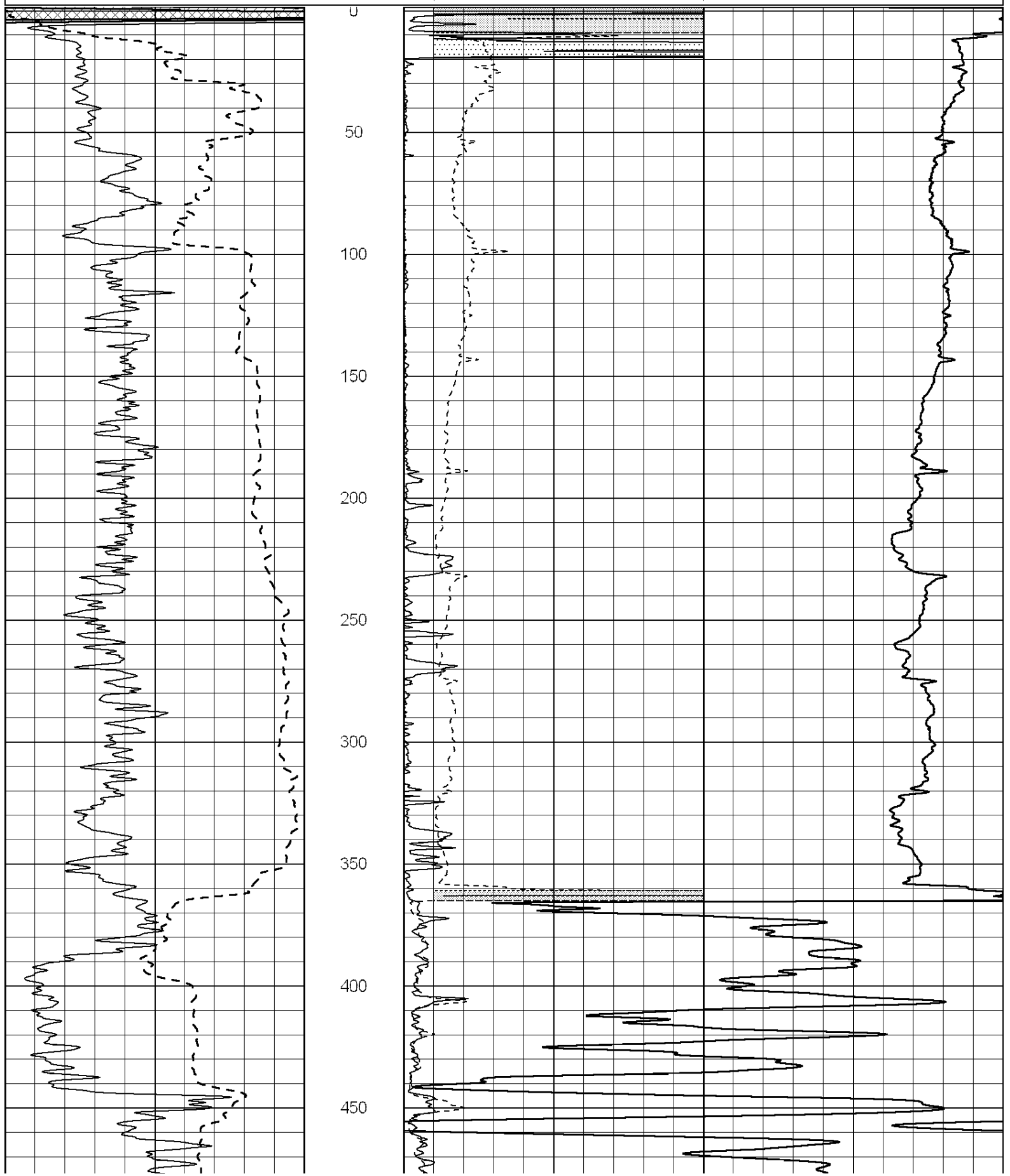
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

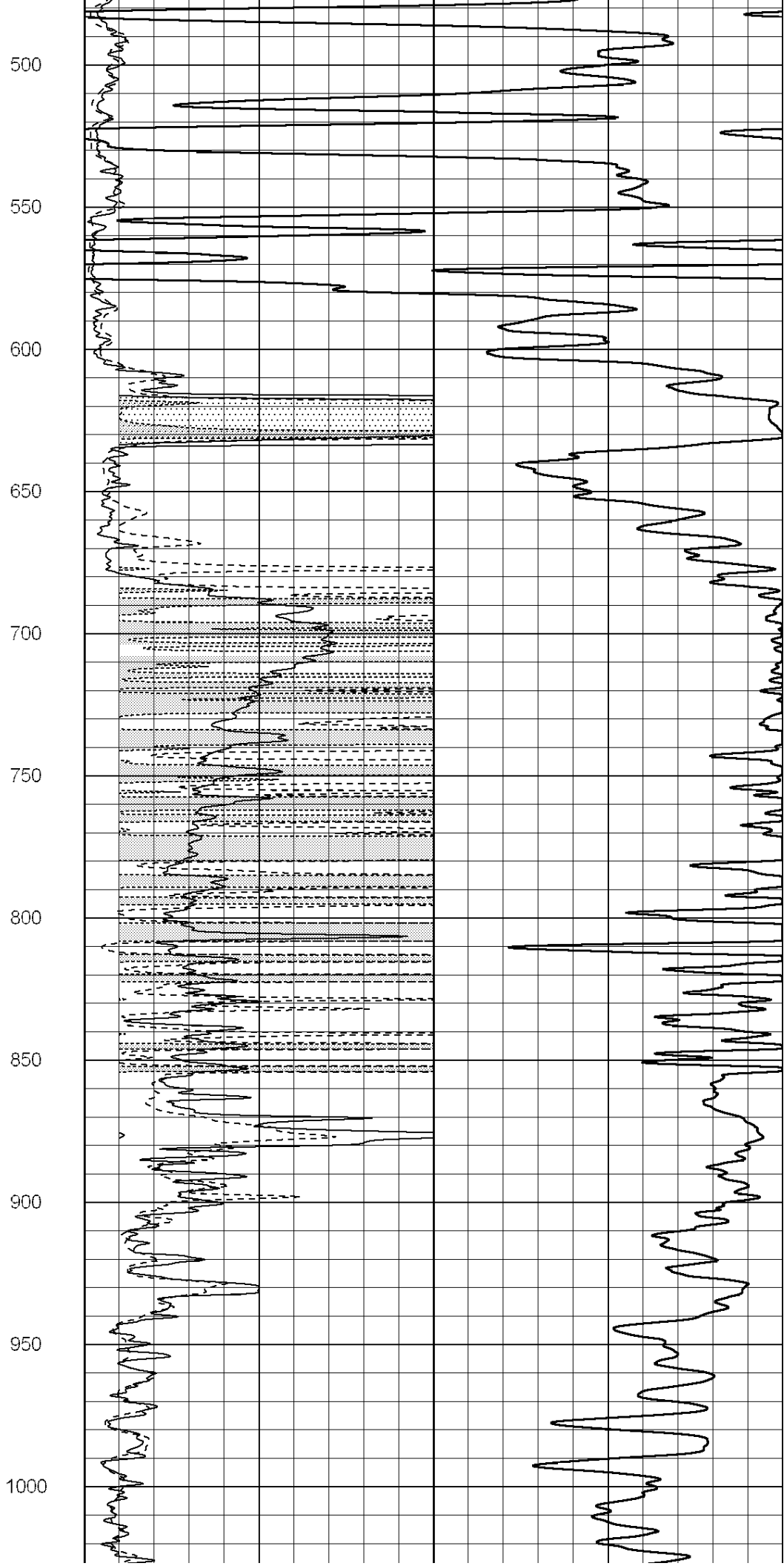
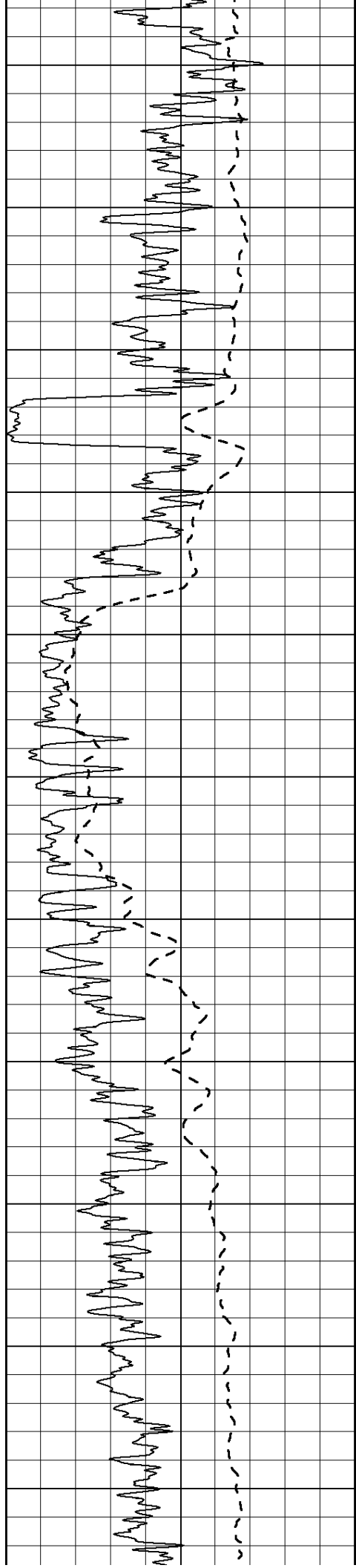
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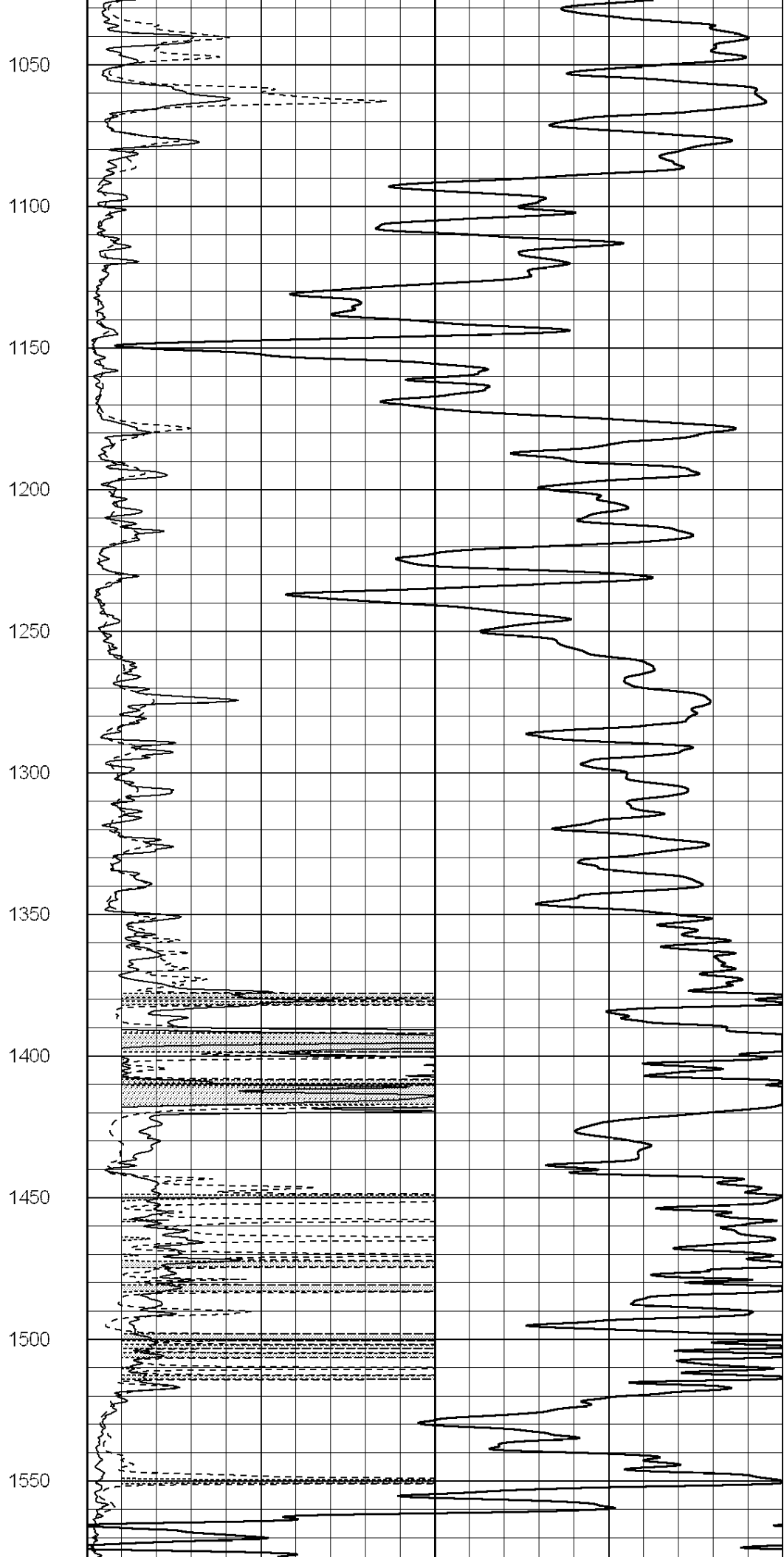
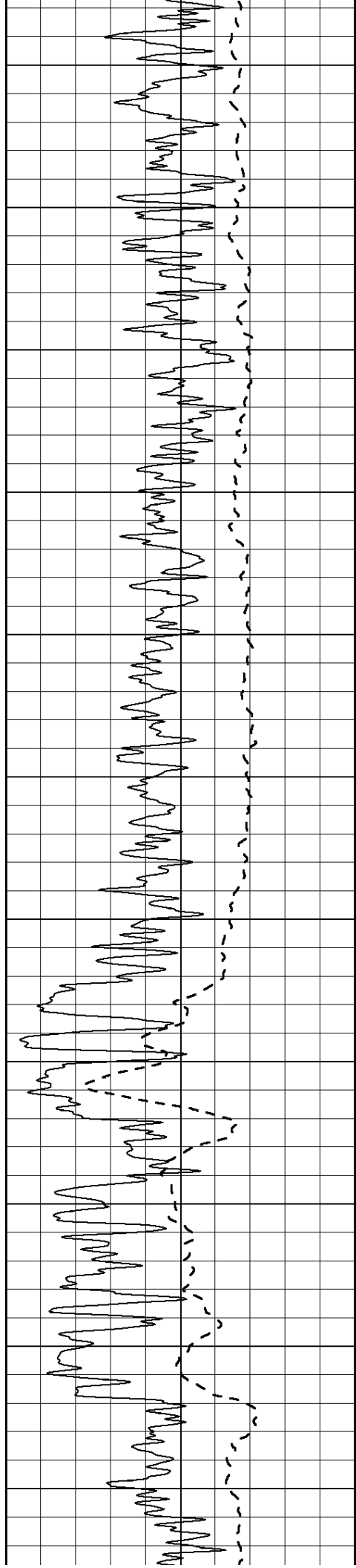
THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
 DIRECTIONS
 FORD, KS - 1 MILE NORTHWEST ON HWY 400 - SOUTH & EAST INTO

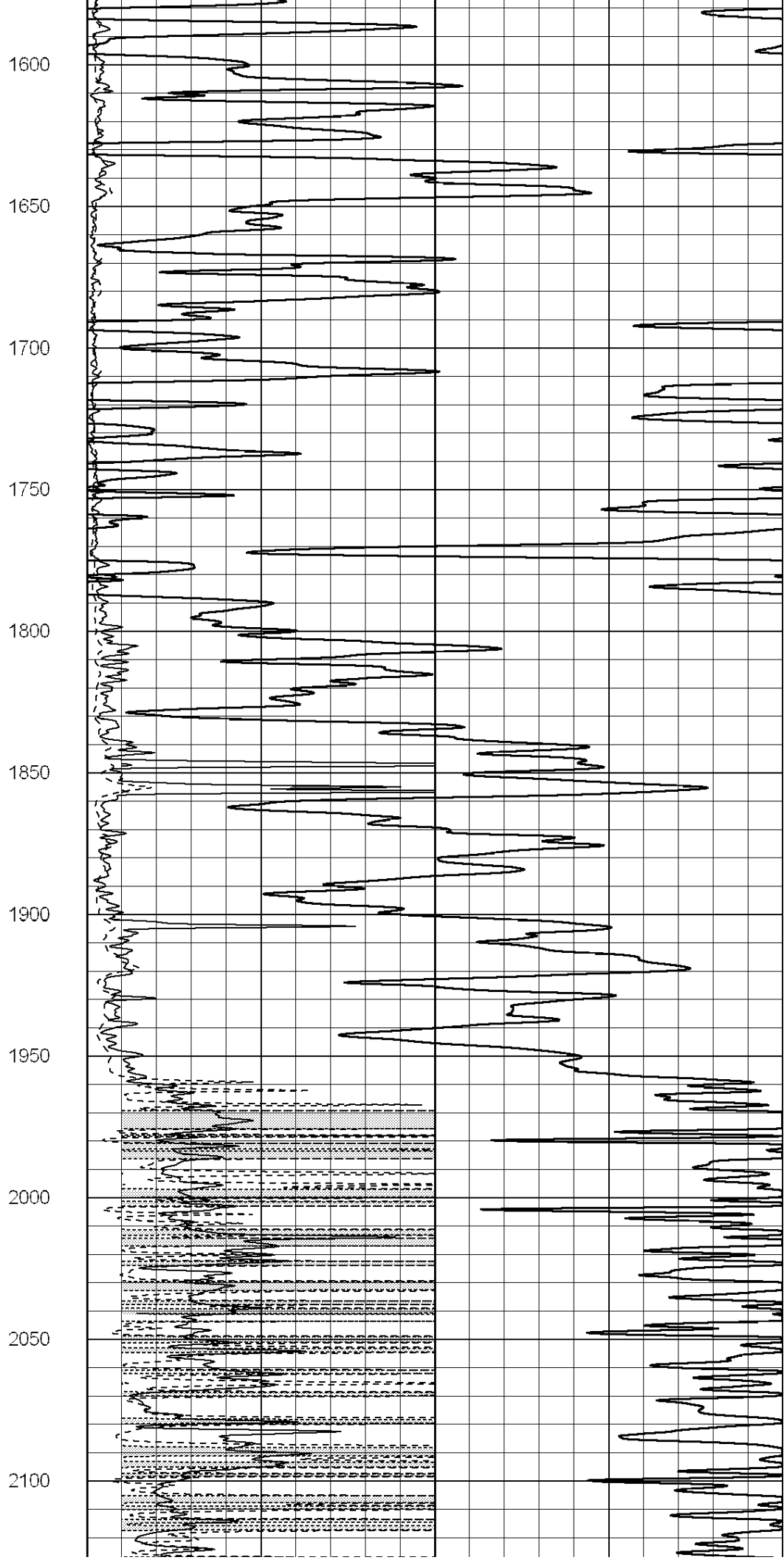
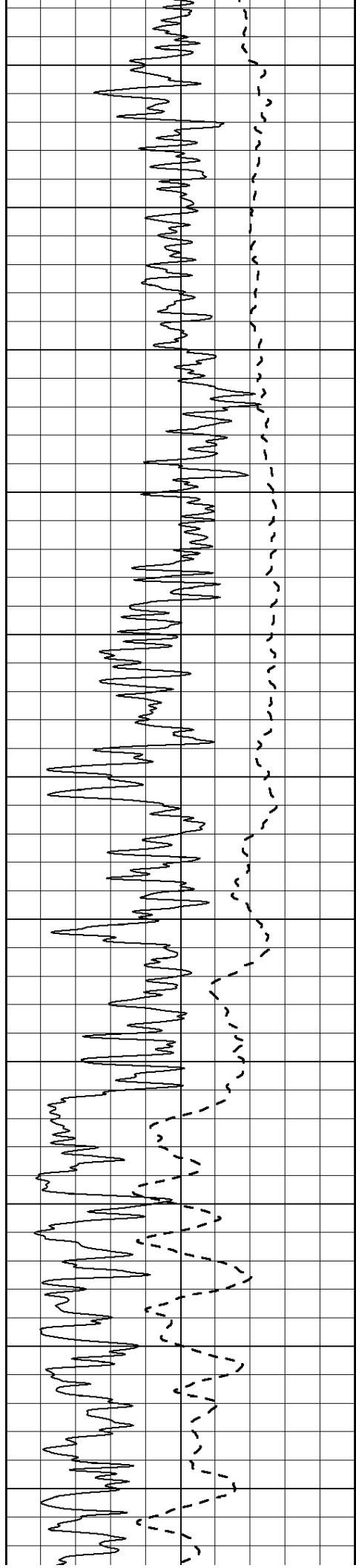
Database File: 0010038pe.db
 Dataset Pathname: pass3.4
 Presentation Format: _dil2
 Dataset Creation: Thu Jan 03 06:54:02 2013 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:600

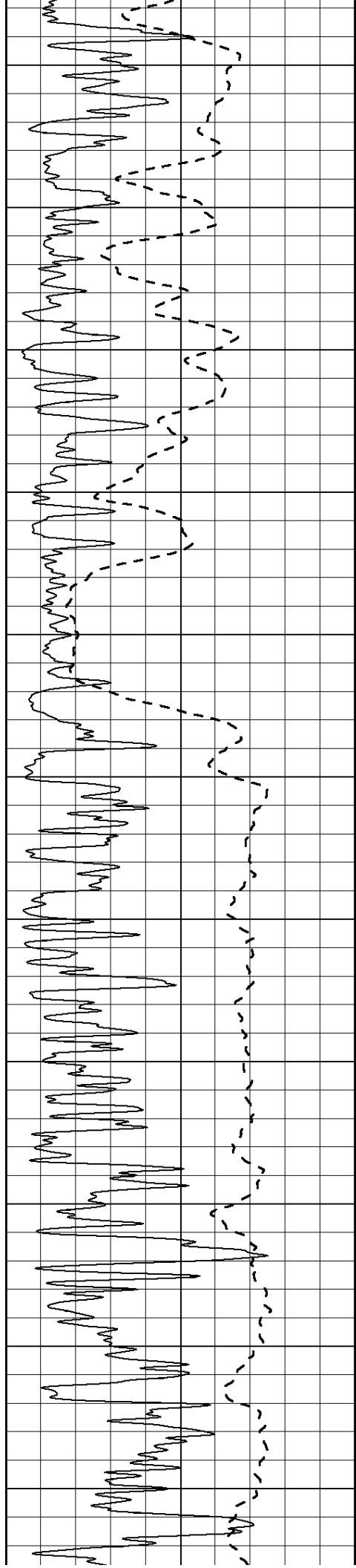
Charted by: Depth in feet scaled 1:600					
0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50
-100	SP (mV)	100	0	RILD (Ohm-m)	50
-----			CILD (mmho/m)		
			1000		0
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500











2150

2200

2250

2300

2350

2400

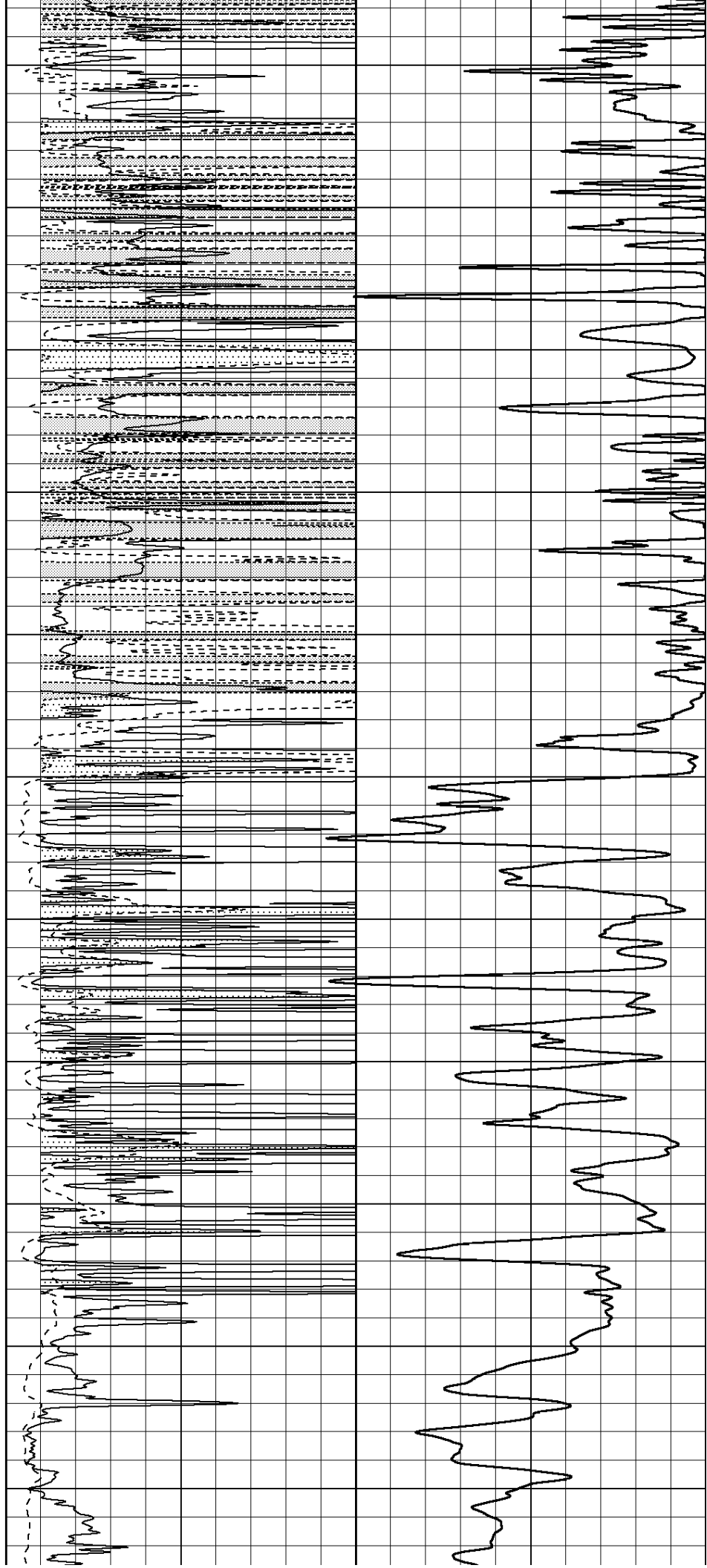
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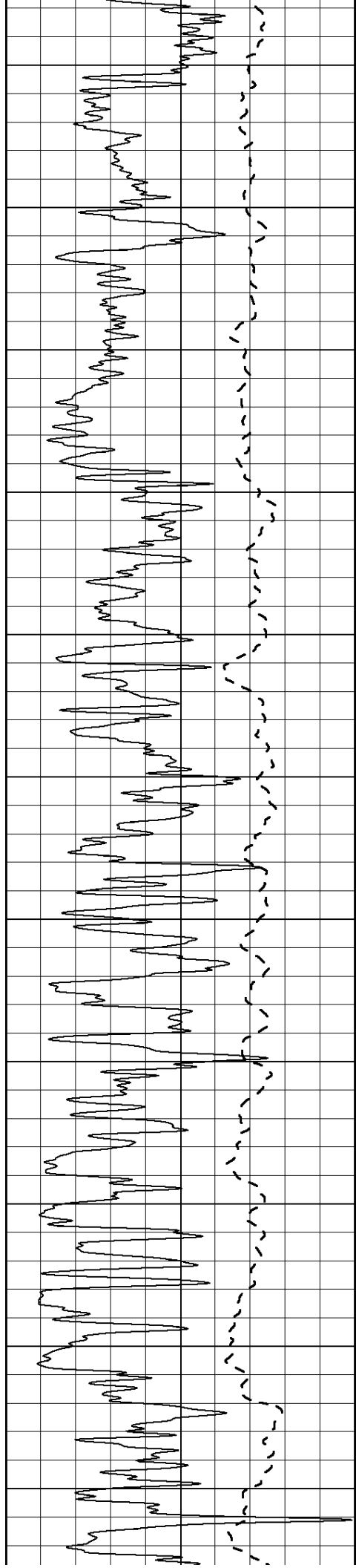
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2550

2600

2650





2700

2750

2800

2850

2900

2950

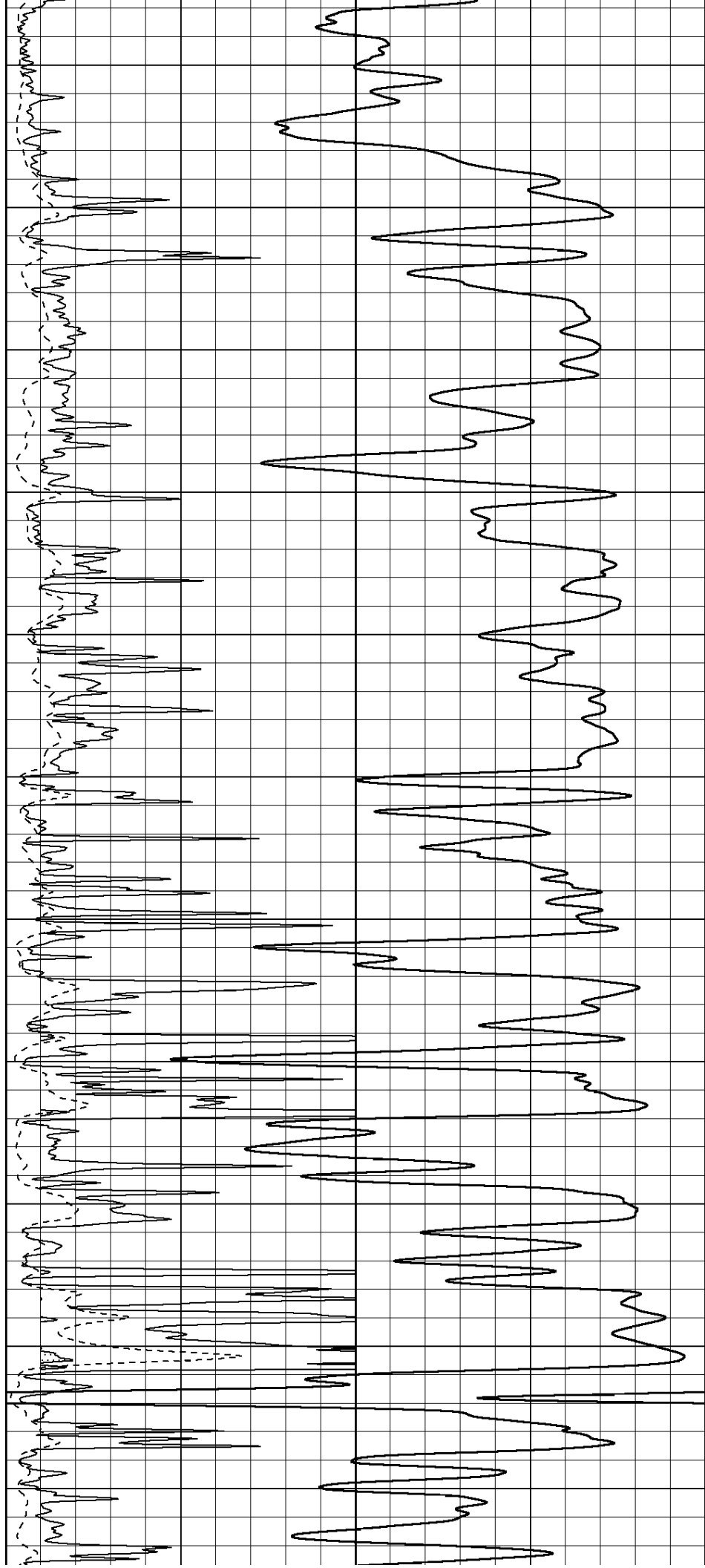
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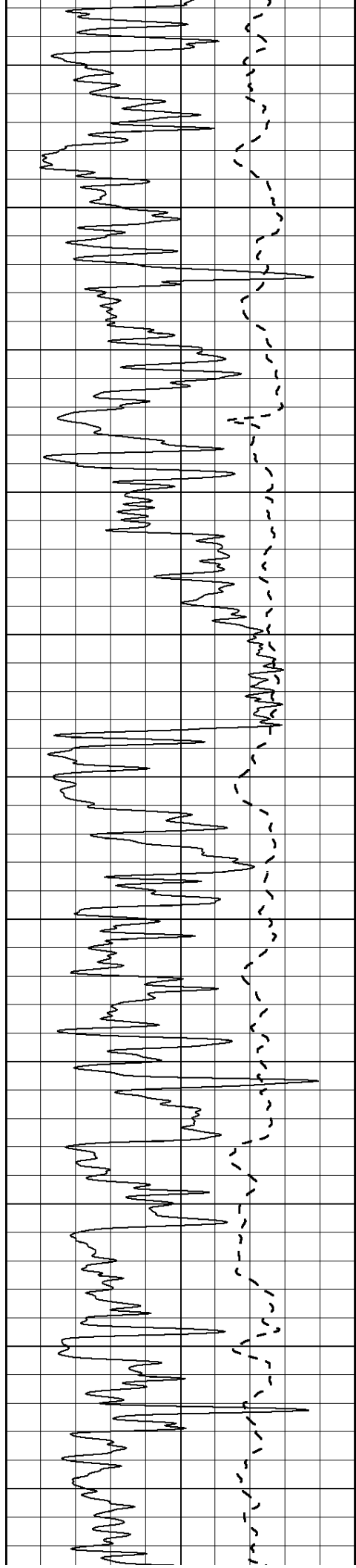
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3200





3250

3300

3350

3400

3450

3500

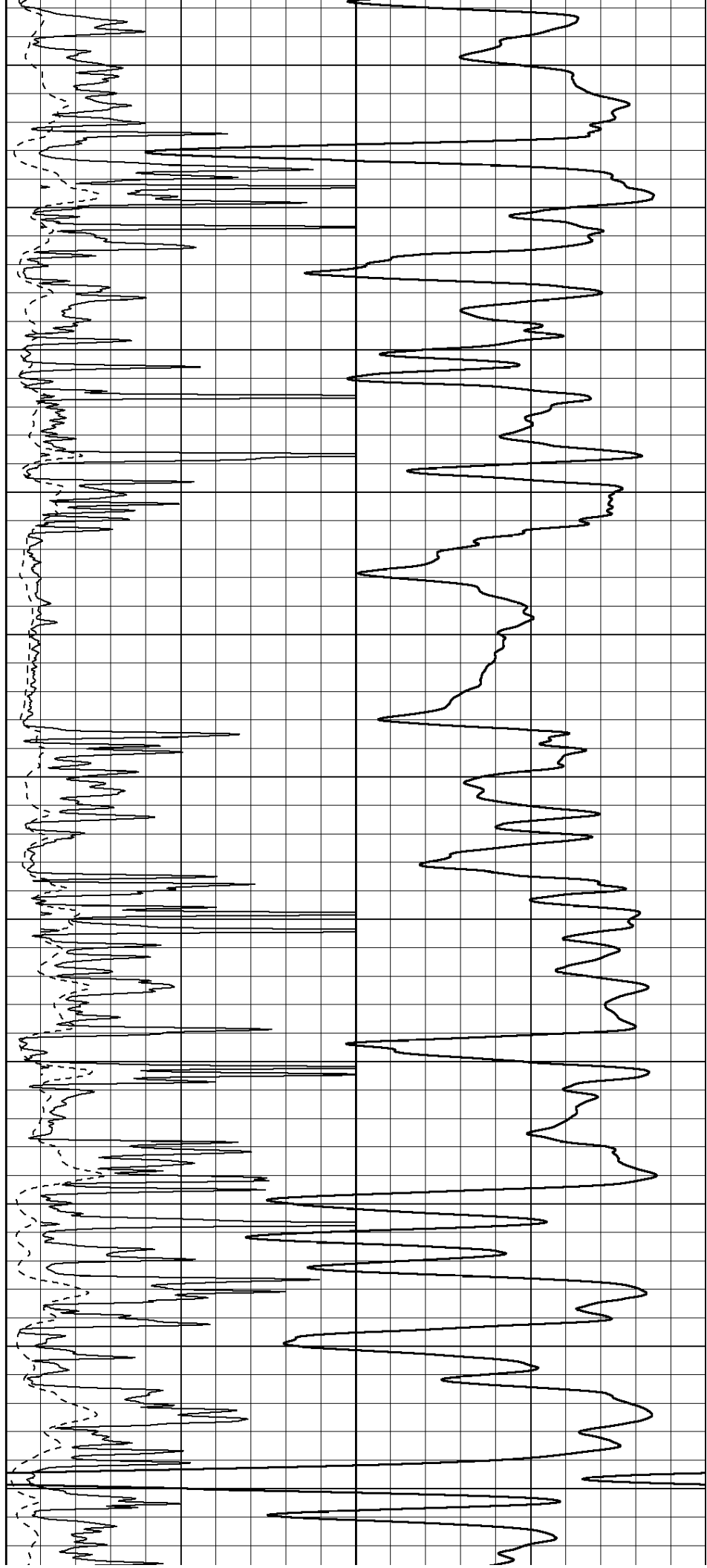
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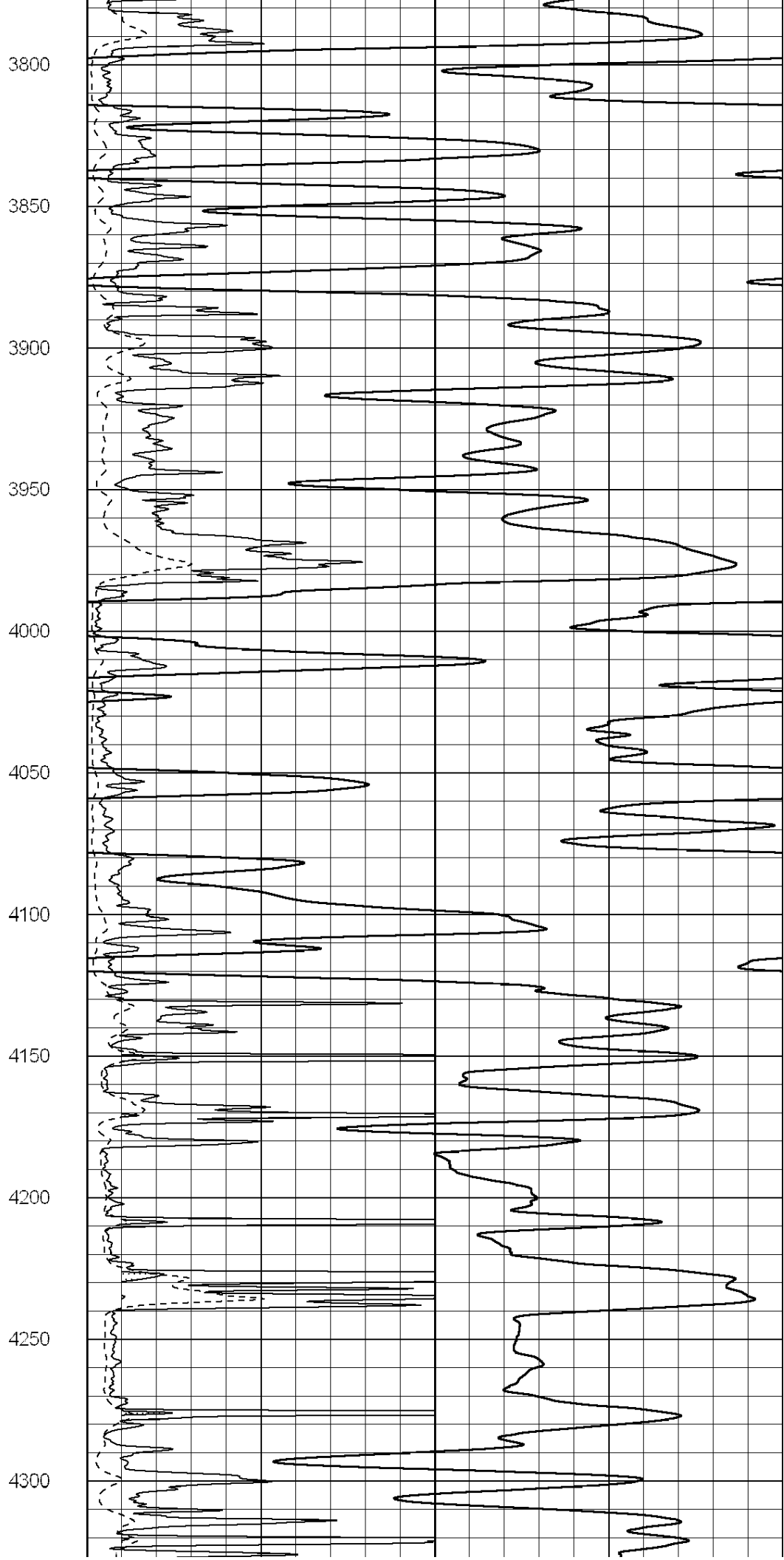
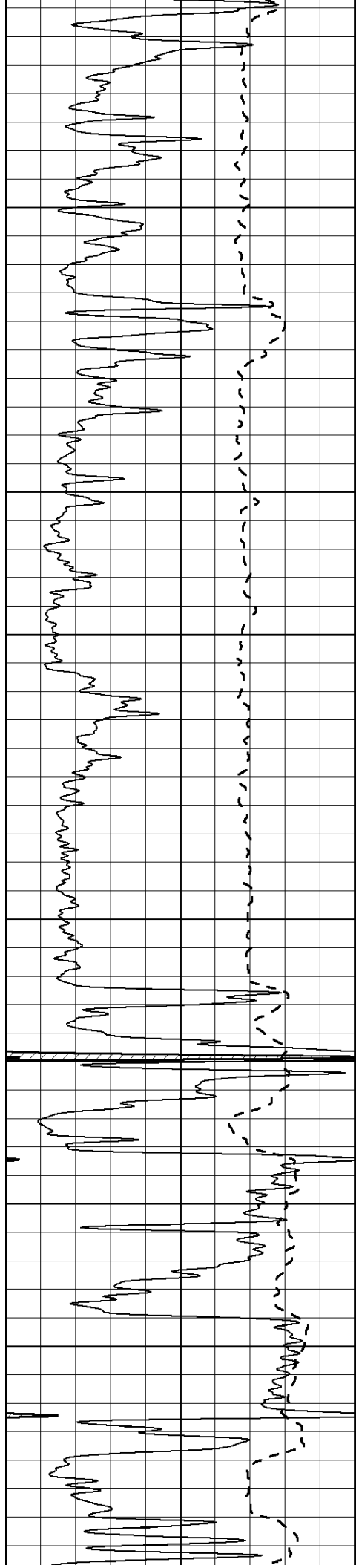
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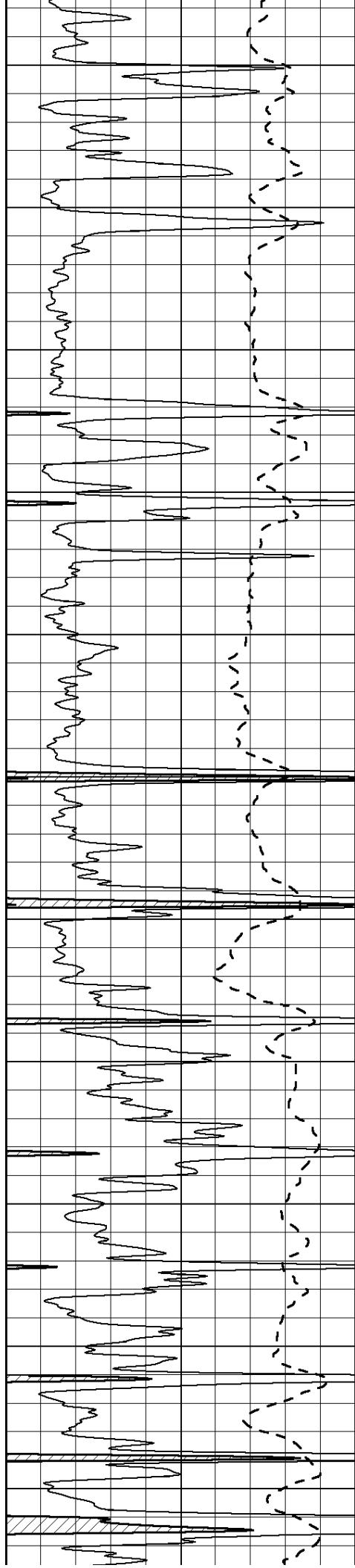
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4350

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4500

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4600

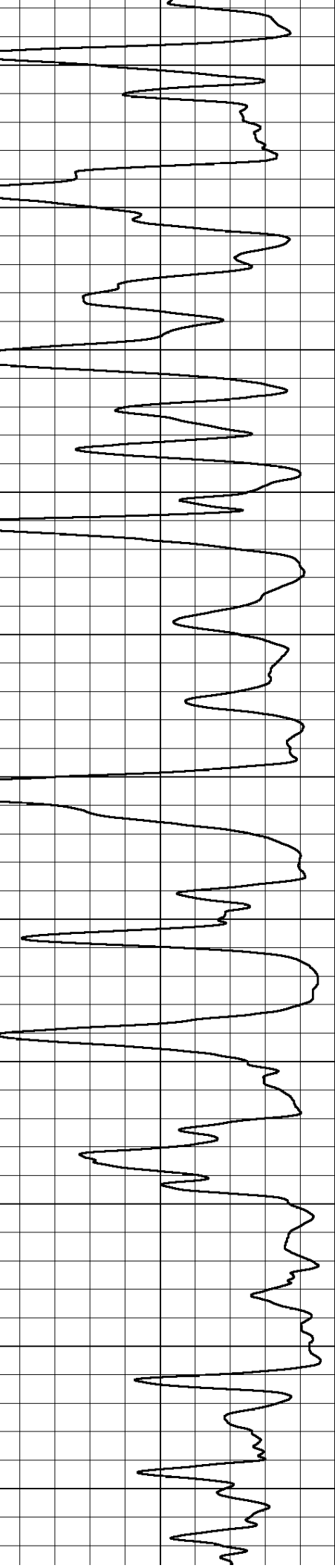
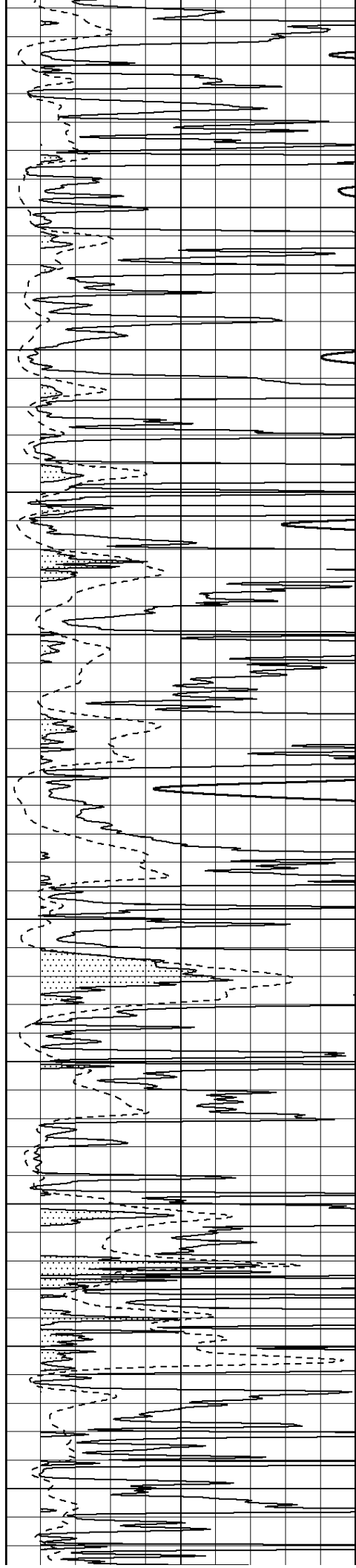
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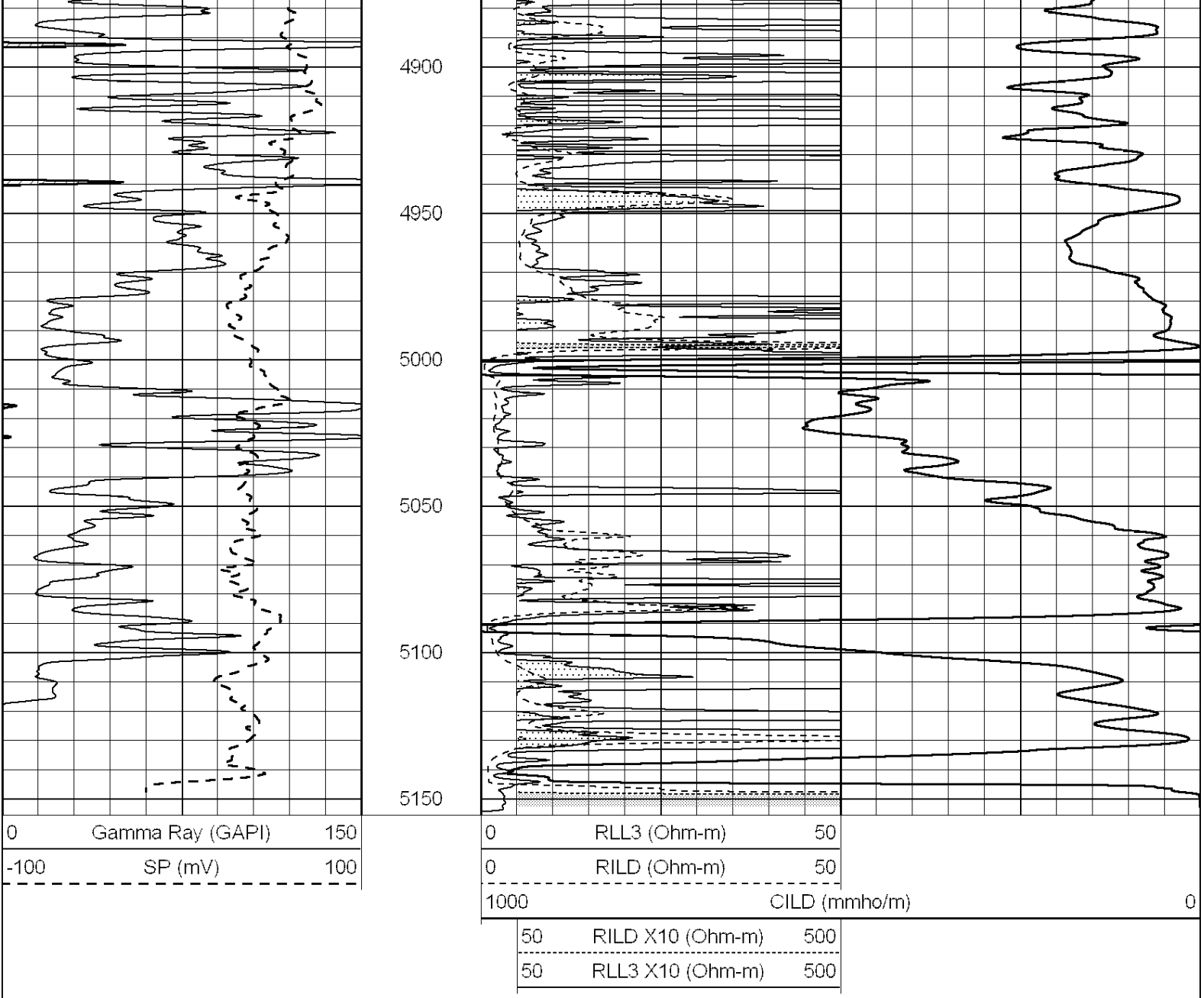
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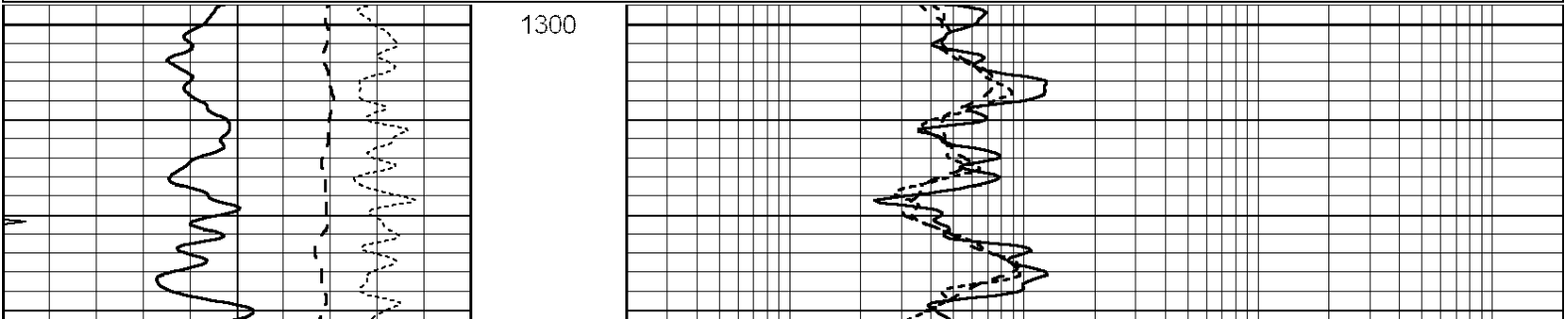
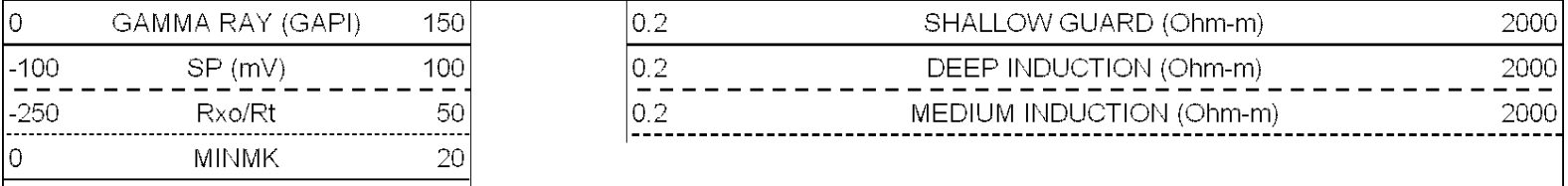
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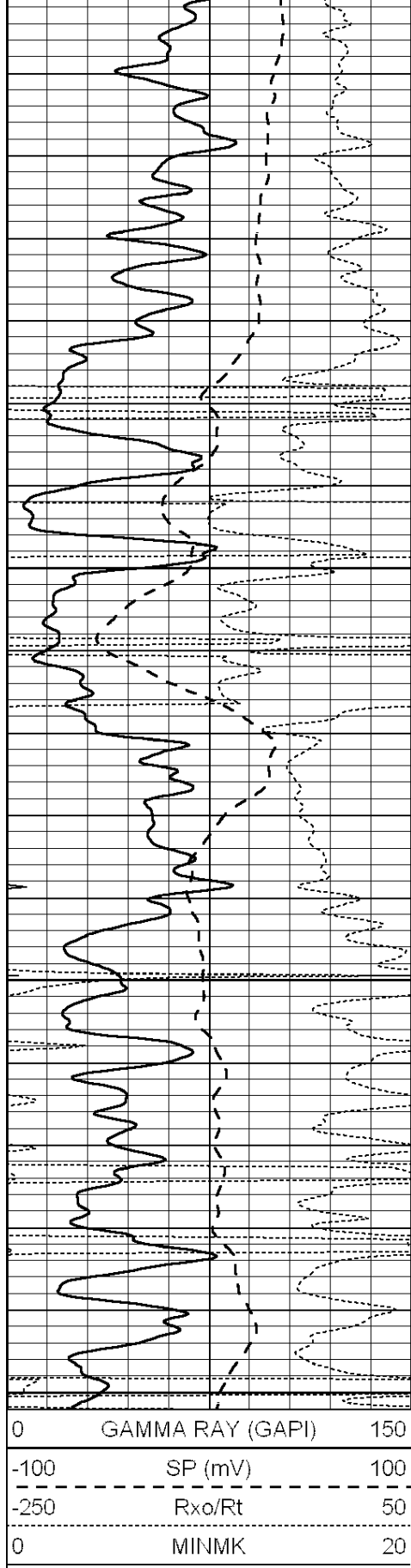
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Dataset Pathname: pass3.4
Presentation Format: _dil
Dataset Creation: Thu Jan 03 06:54:02 2013 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240



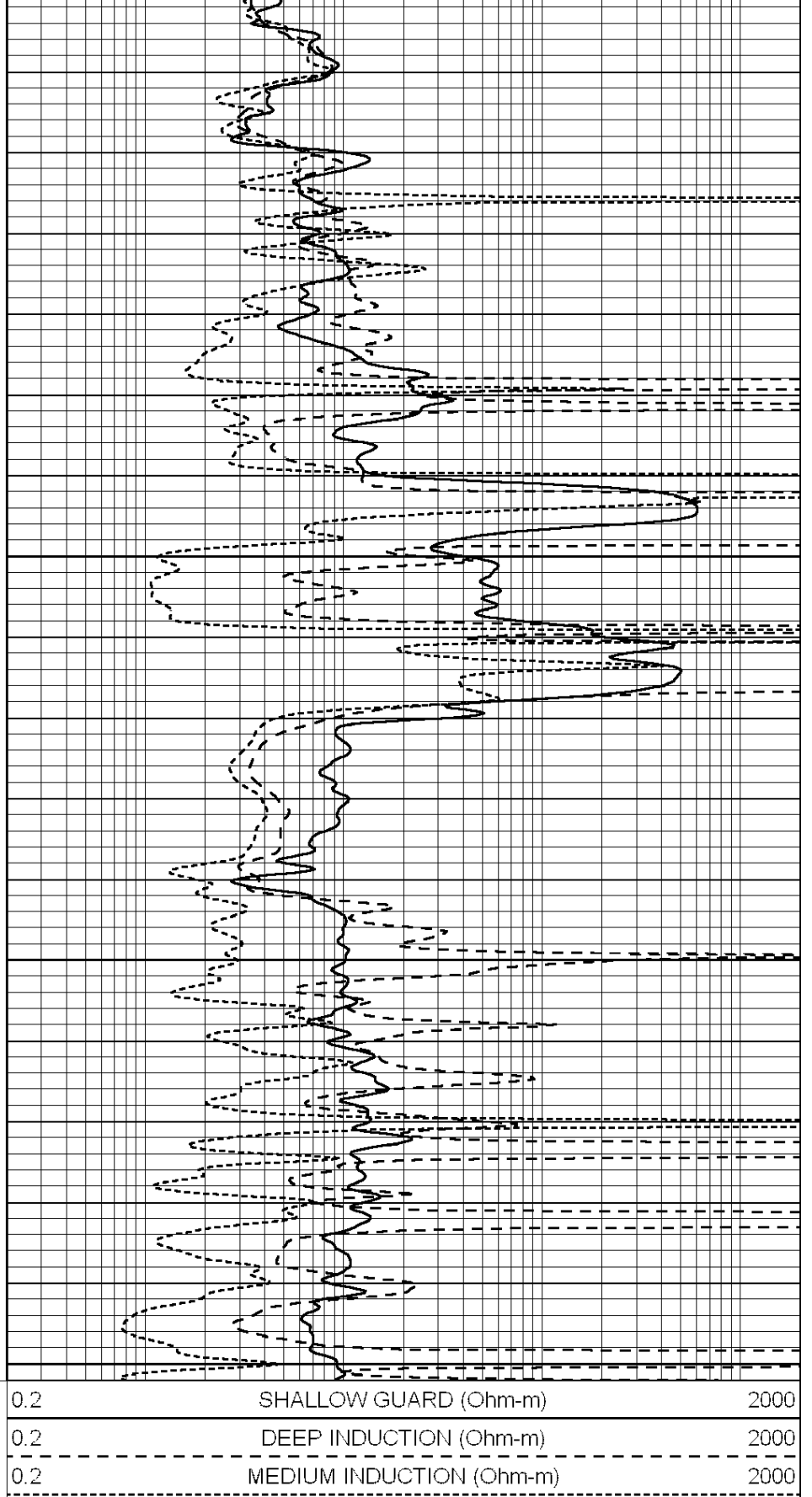


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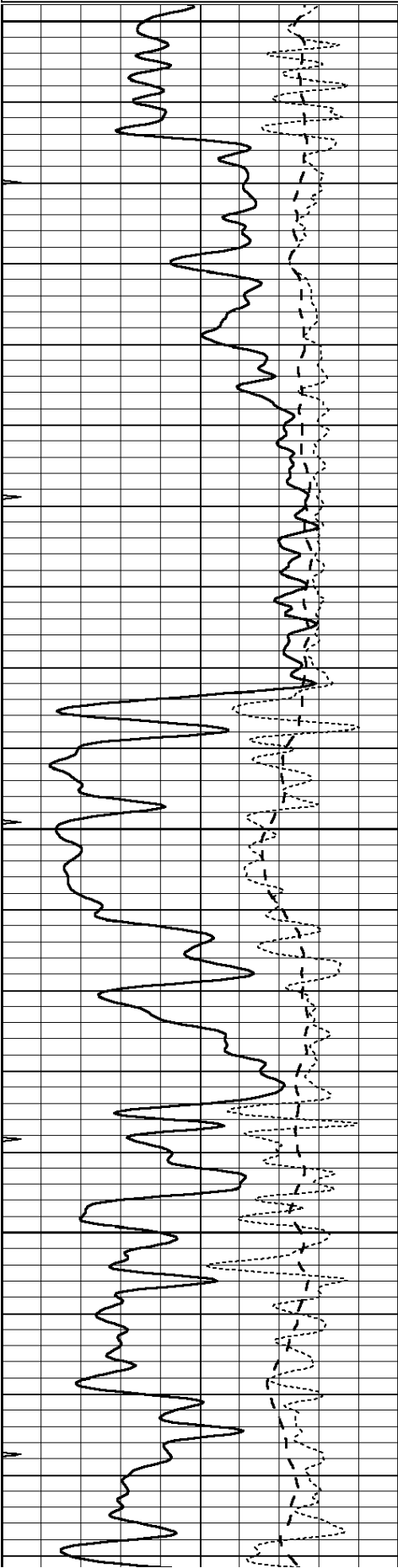
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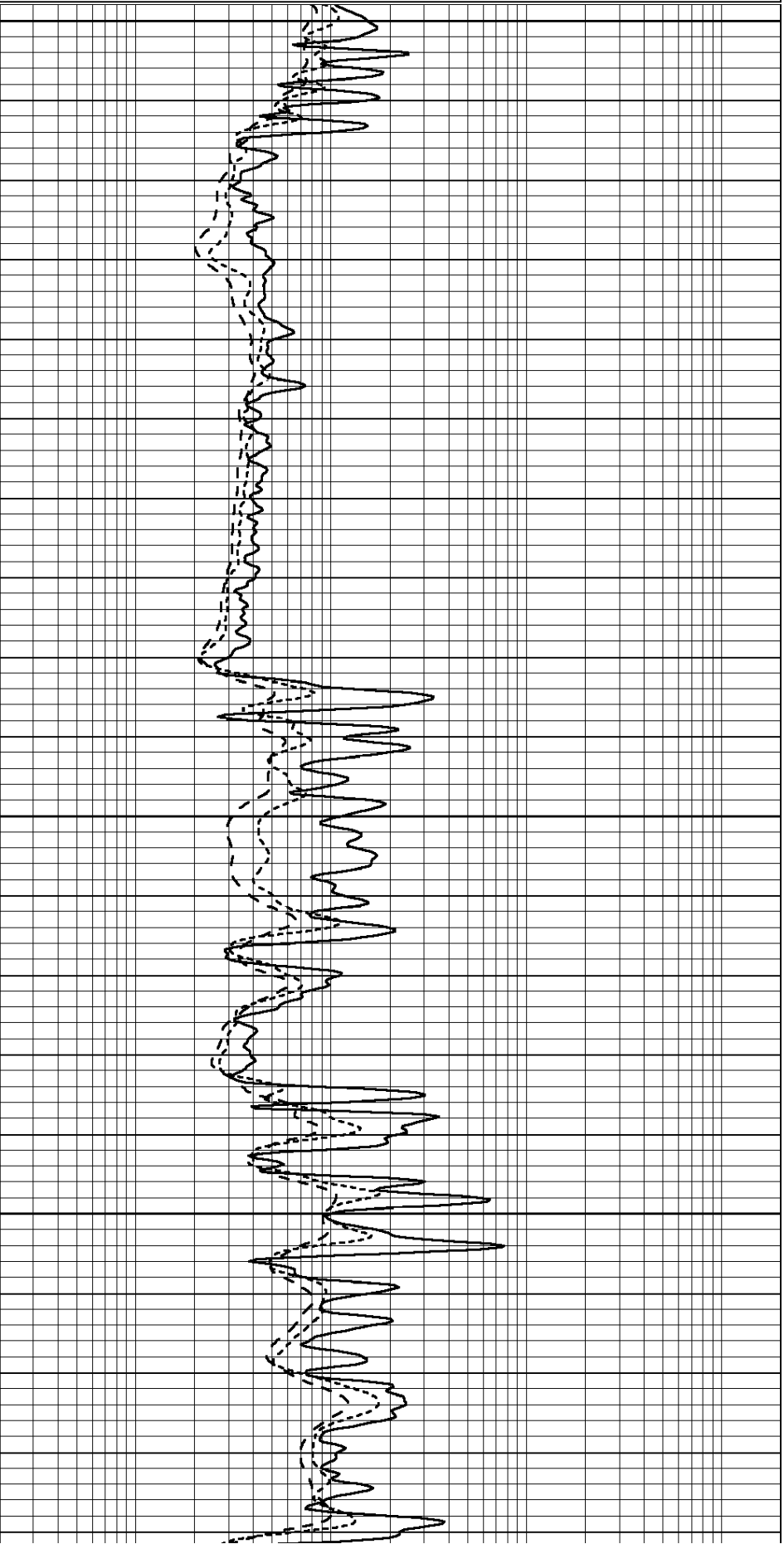
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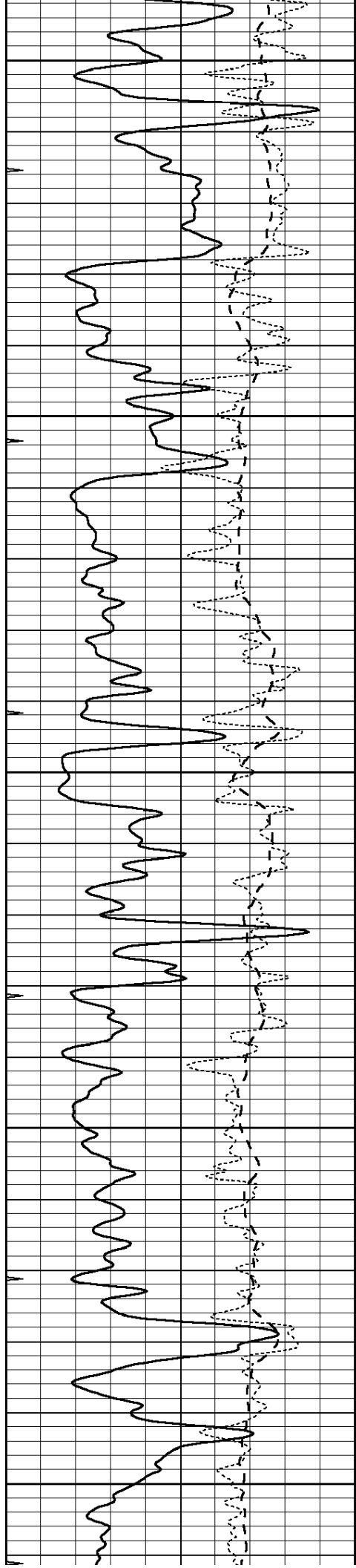


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



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





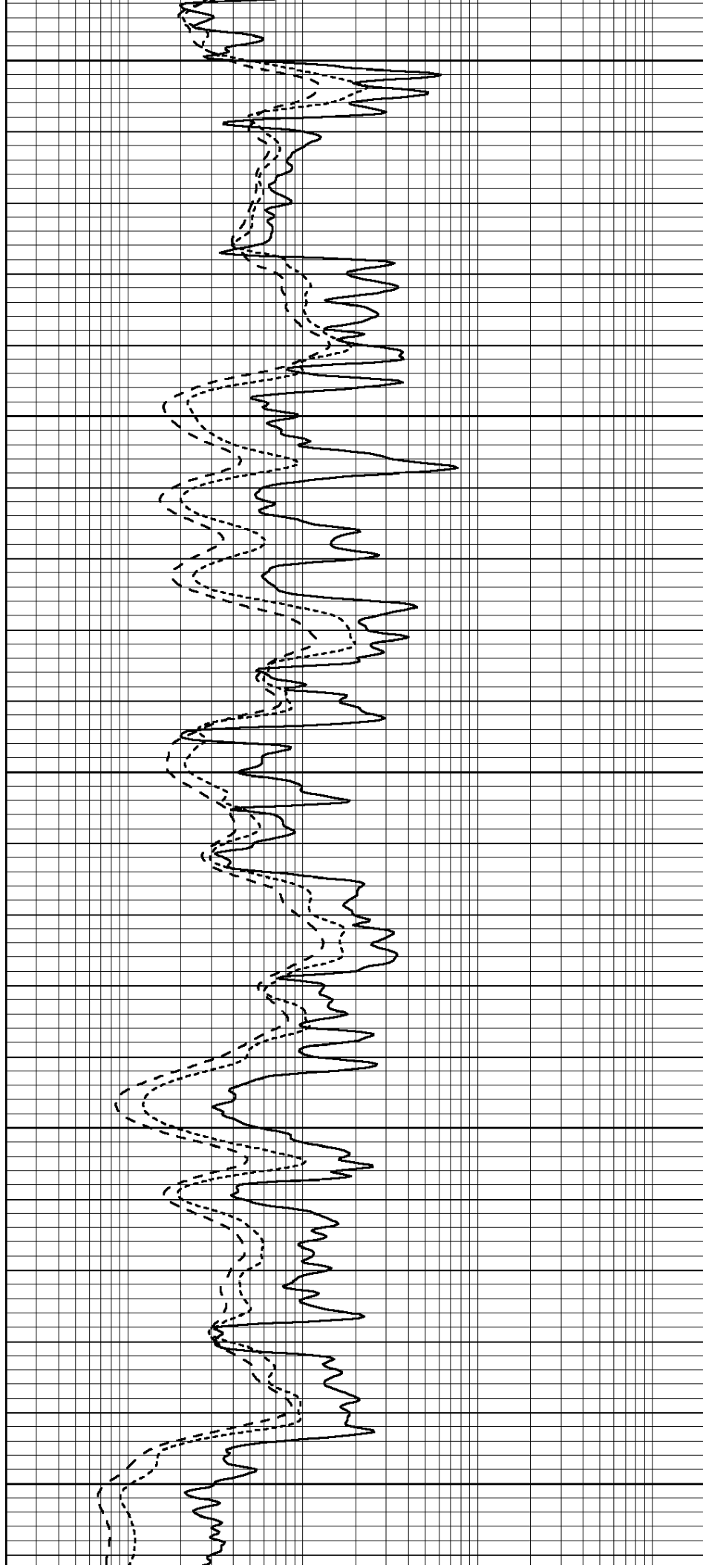
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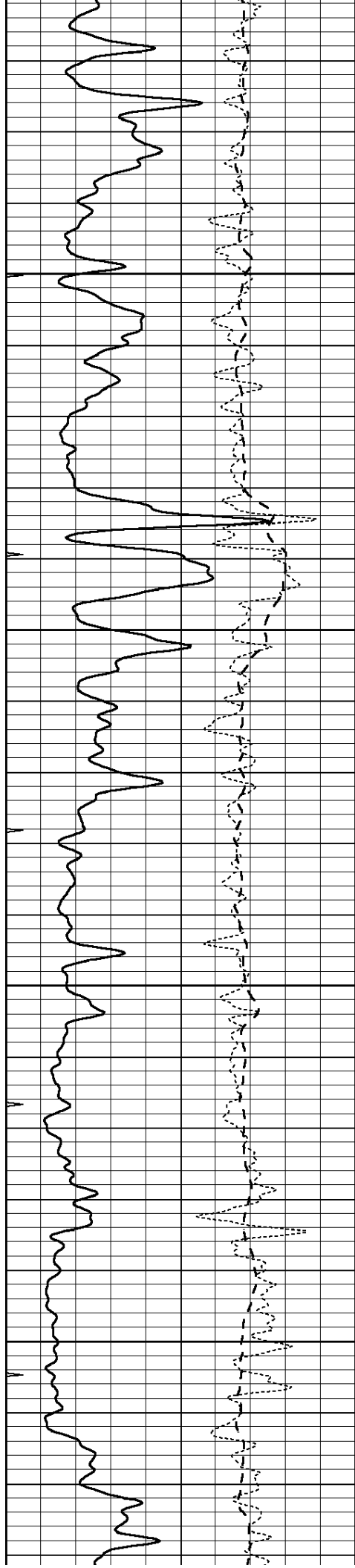
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3800



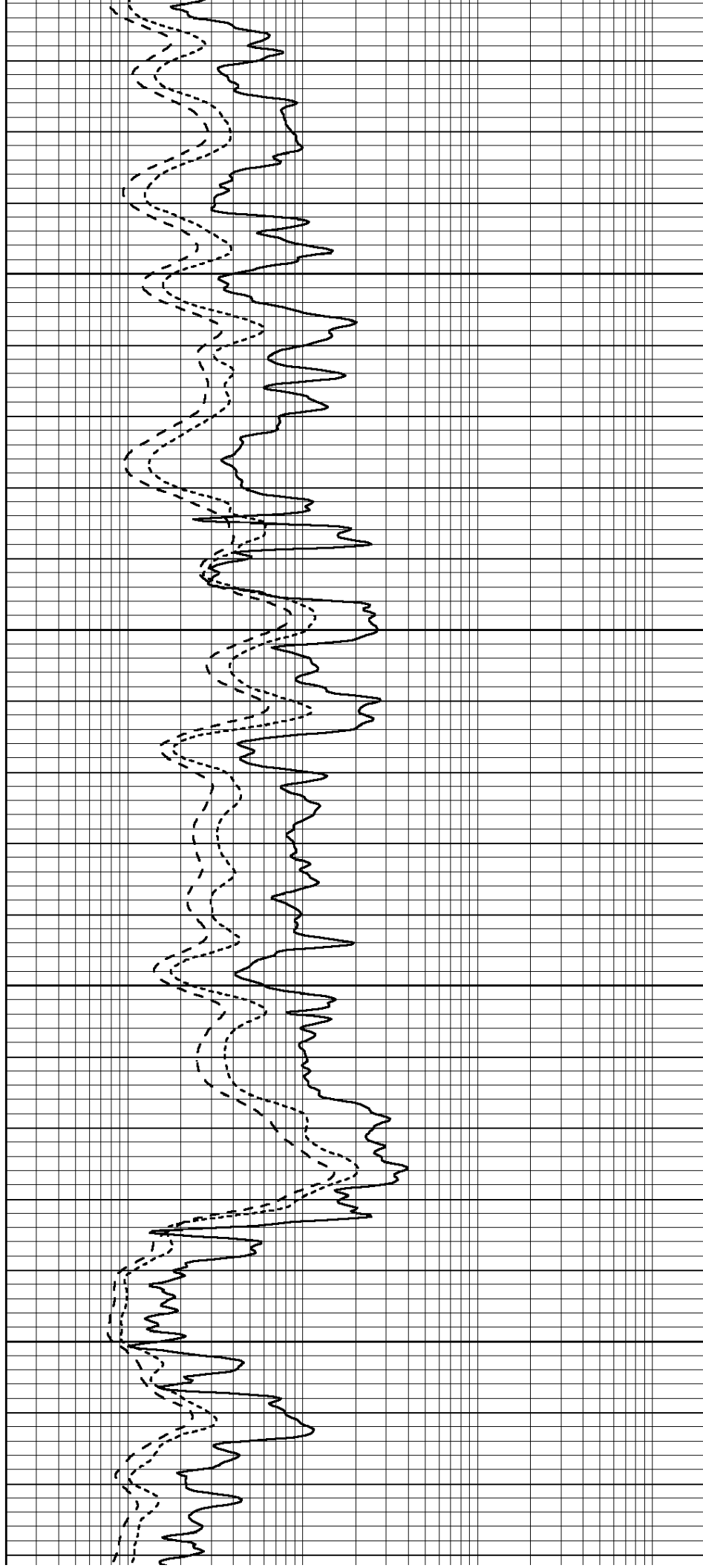


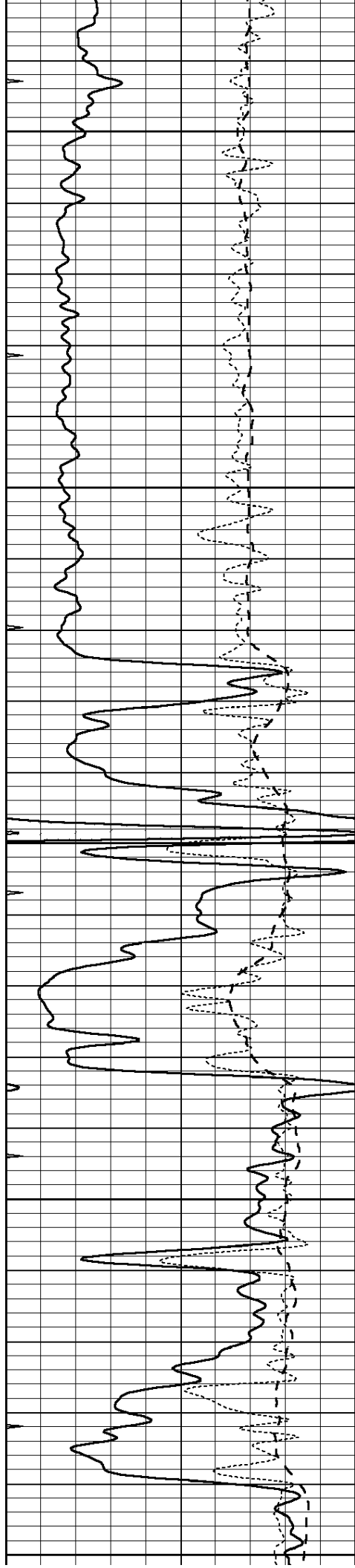
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3950

4000





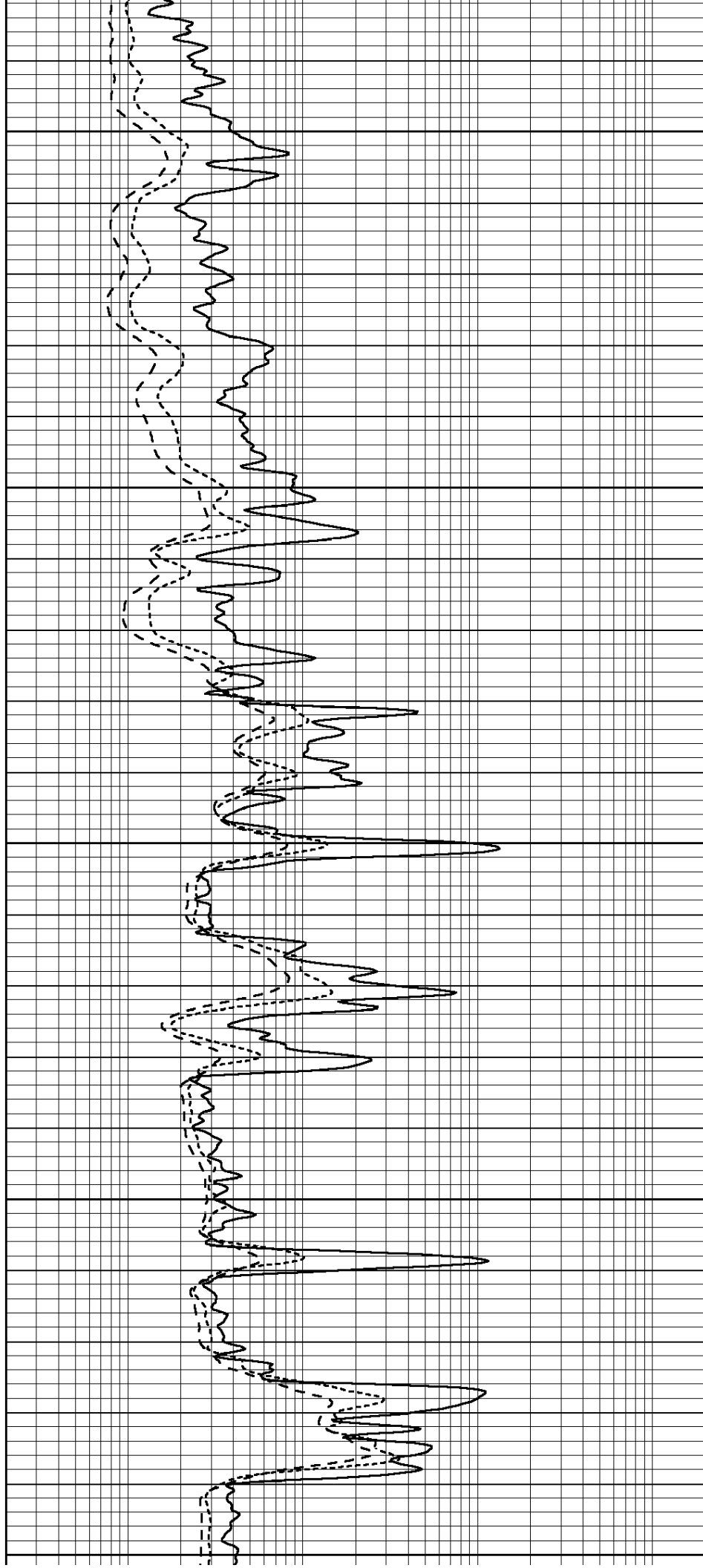
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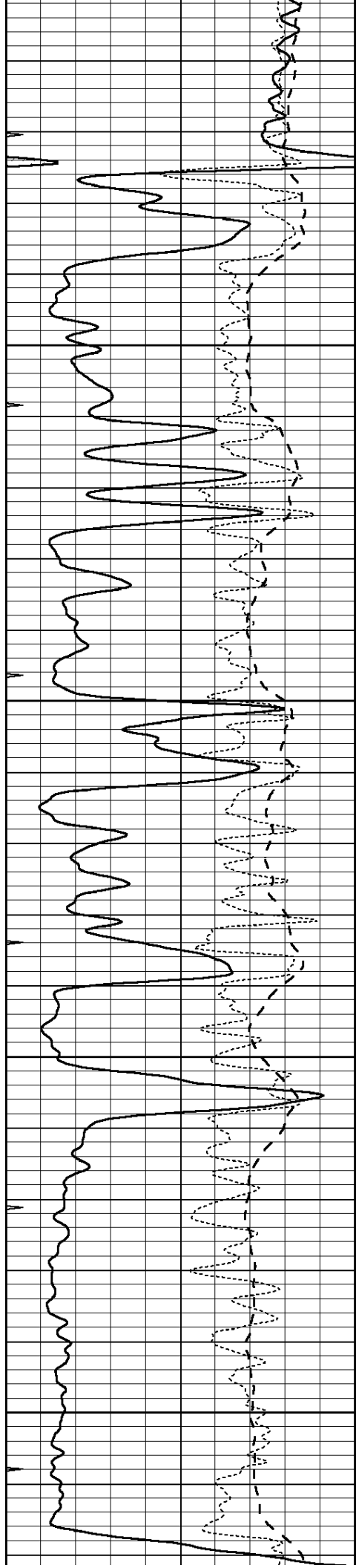
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4150

4200

4250



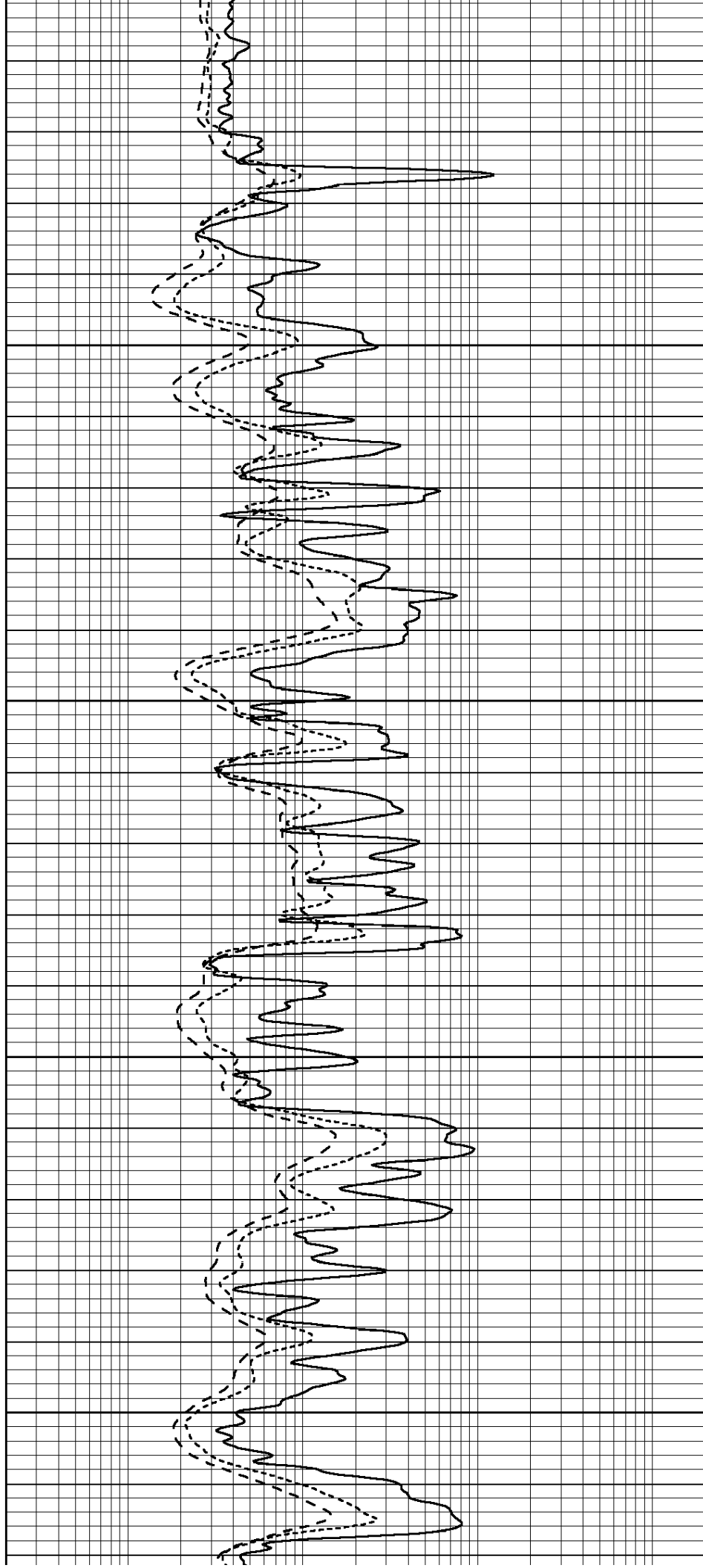


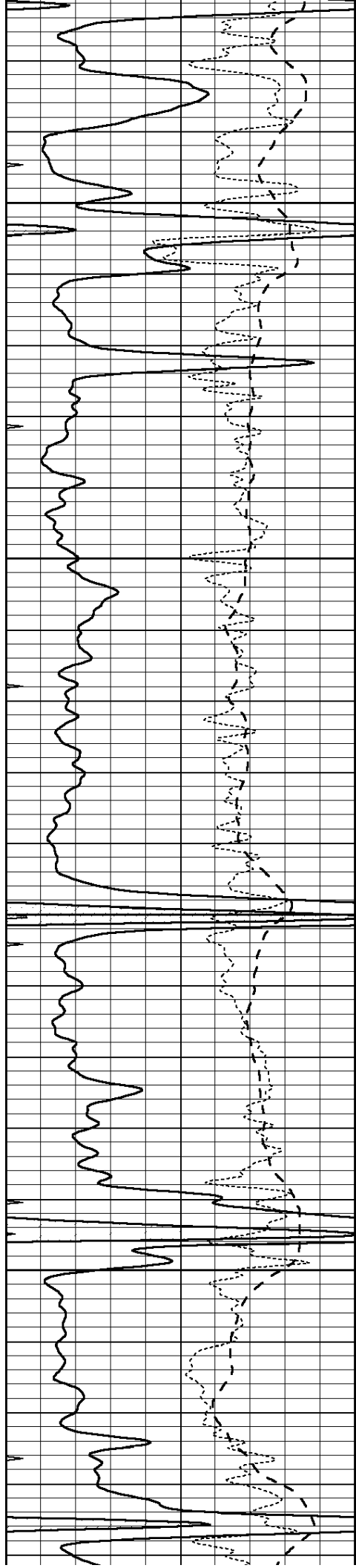
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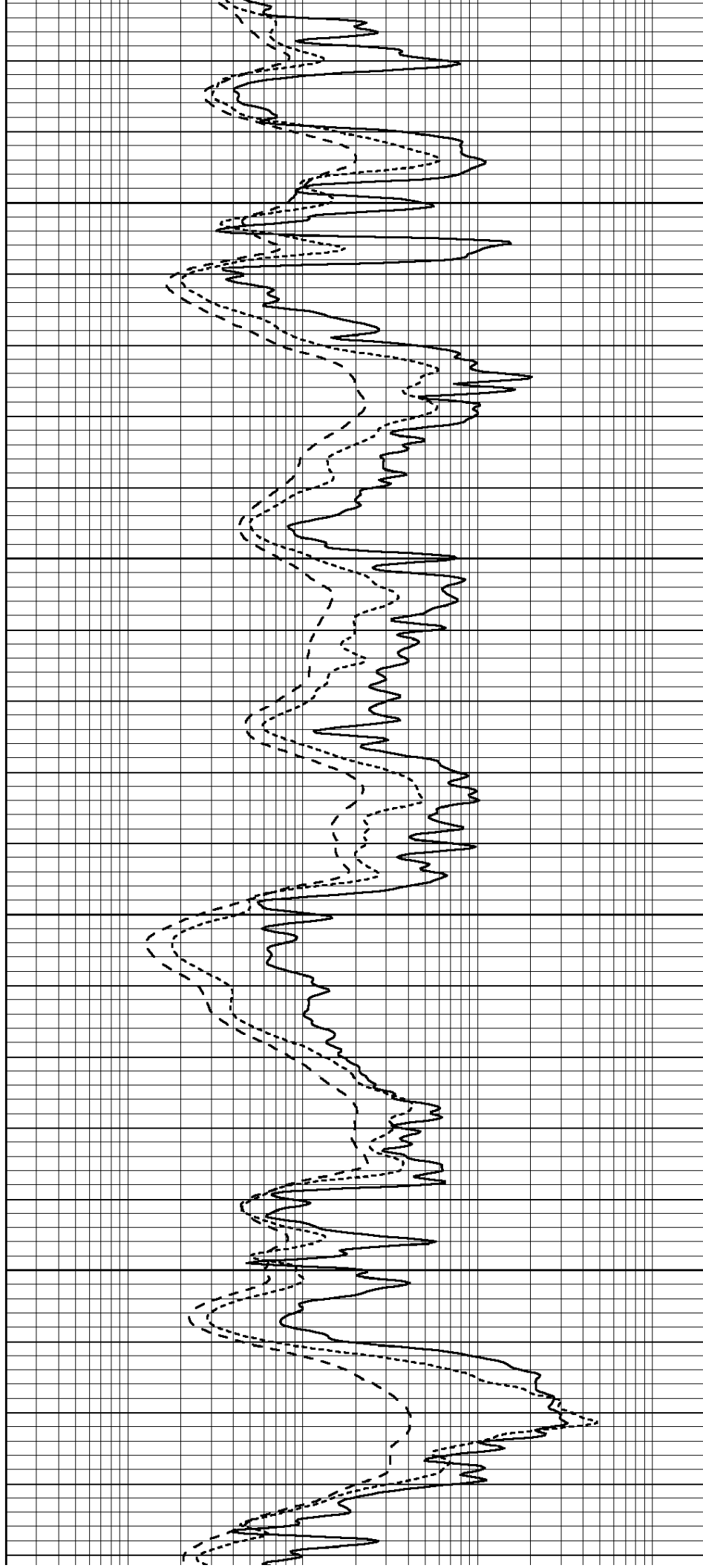


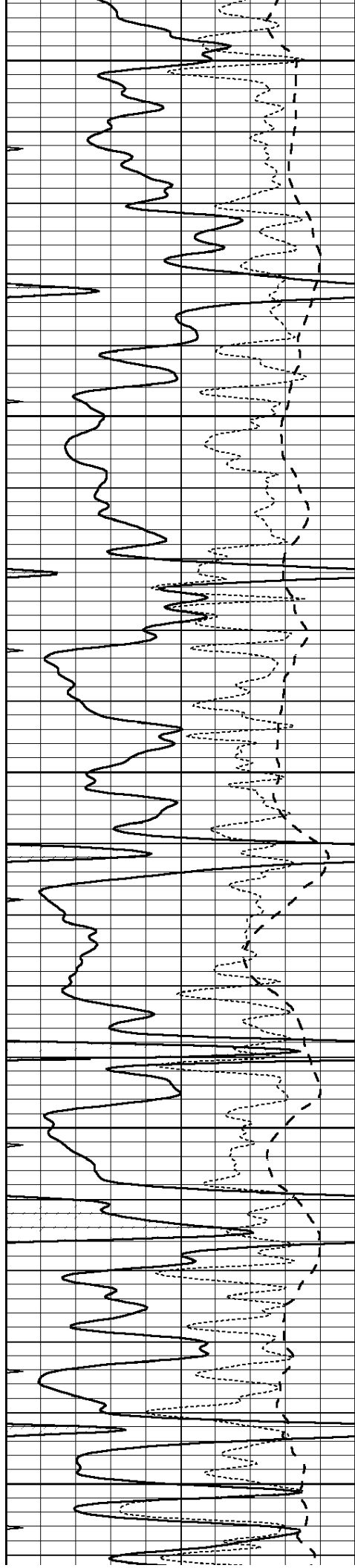
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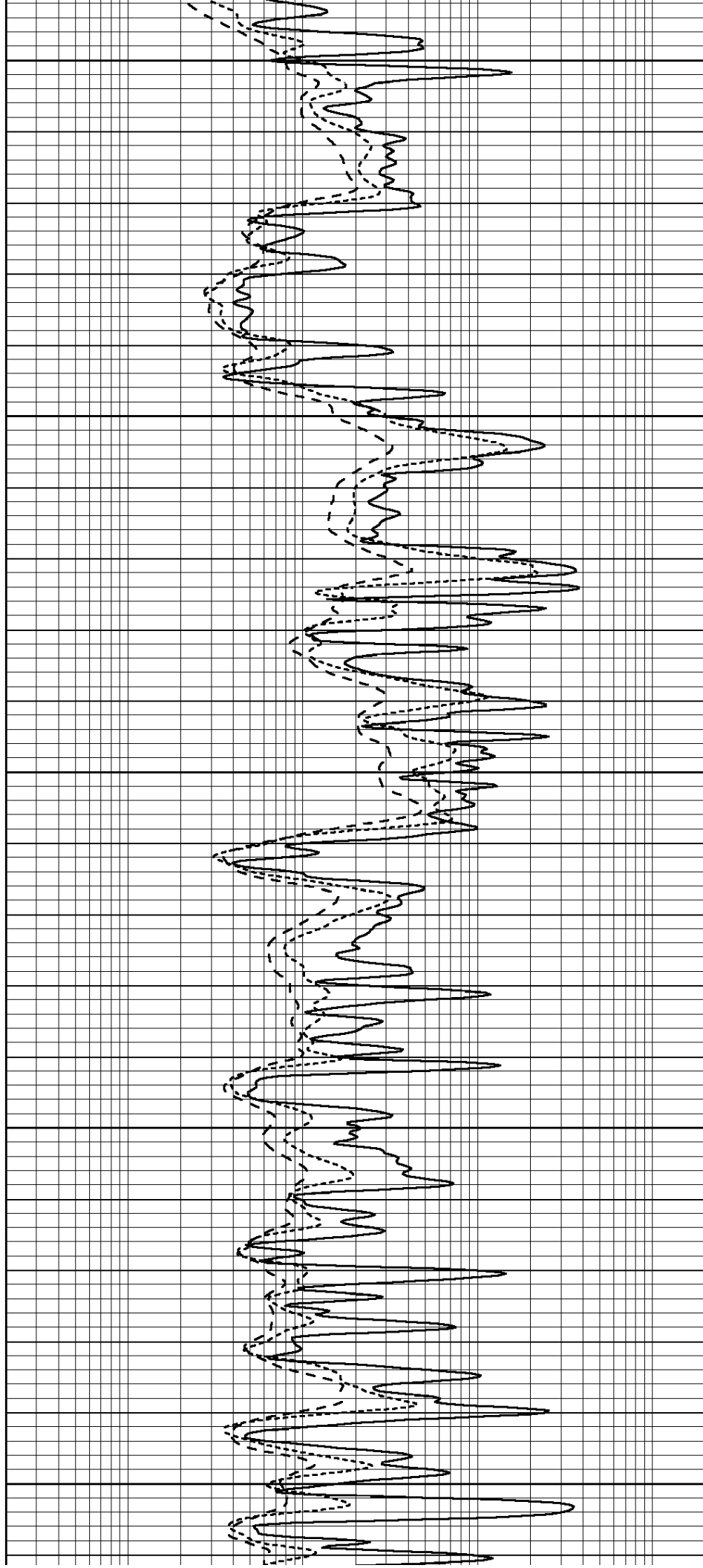
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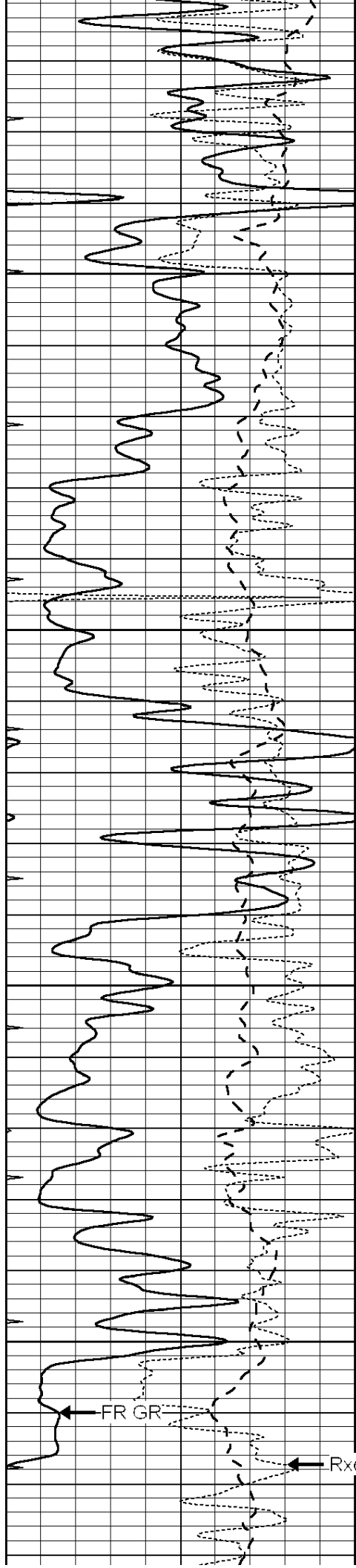
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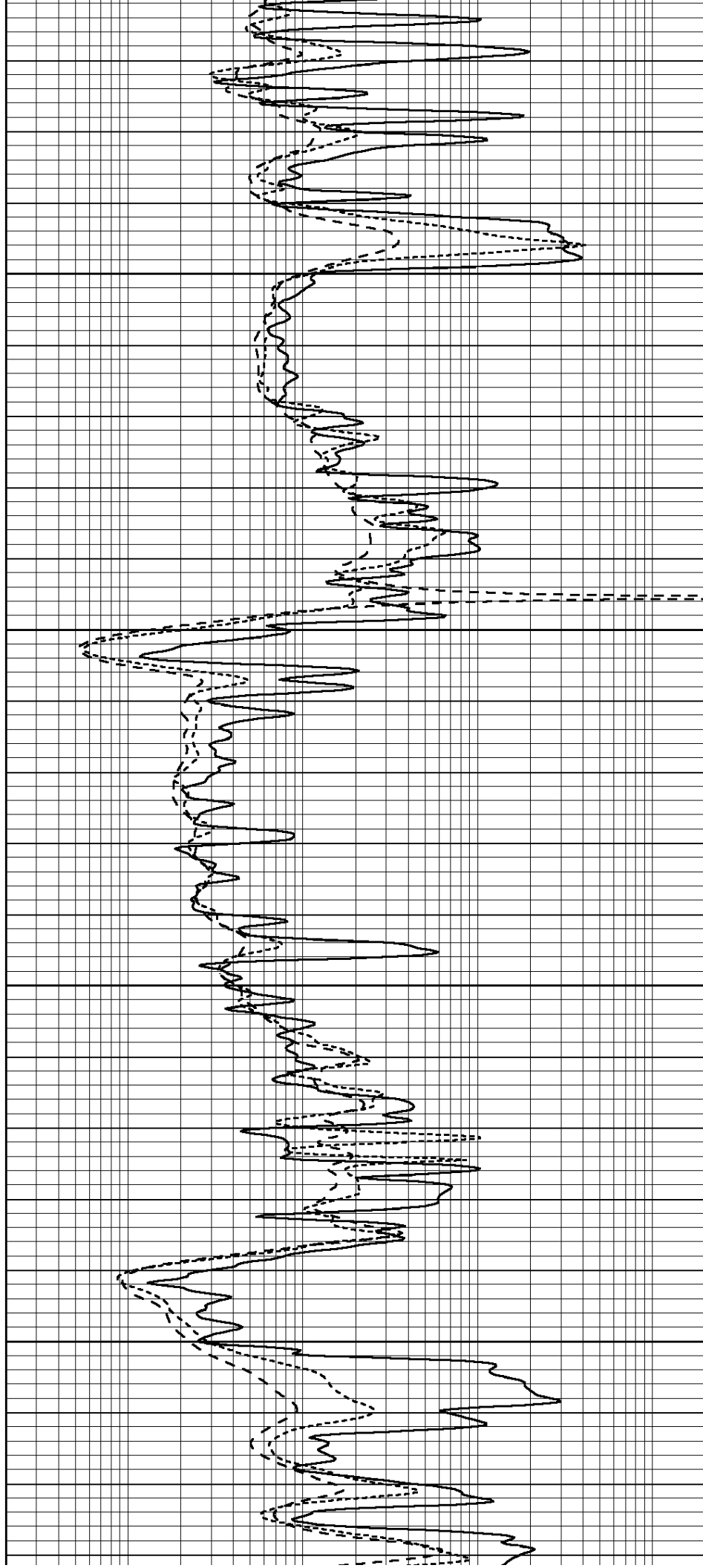


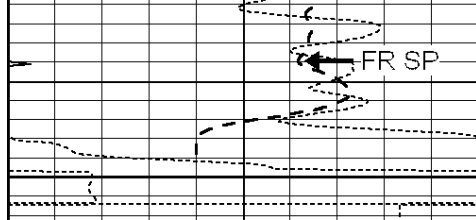
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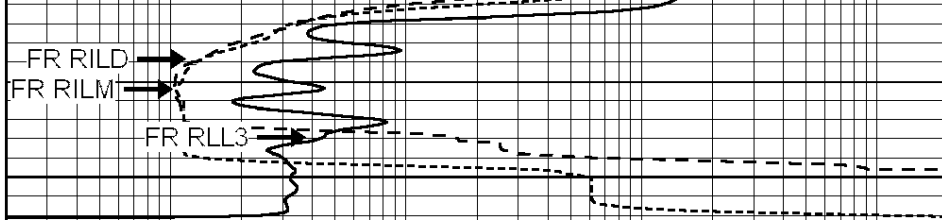
5050

5100





LTD 5148
5150



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

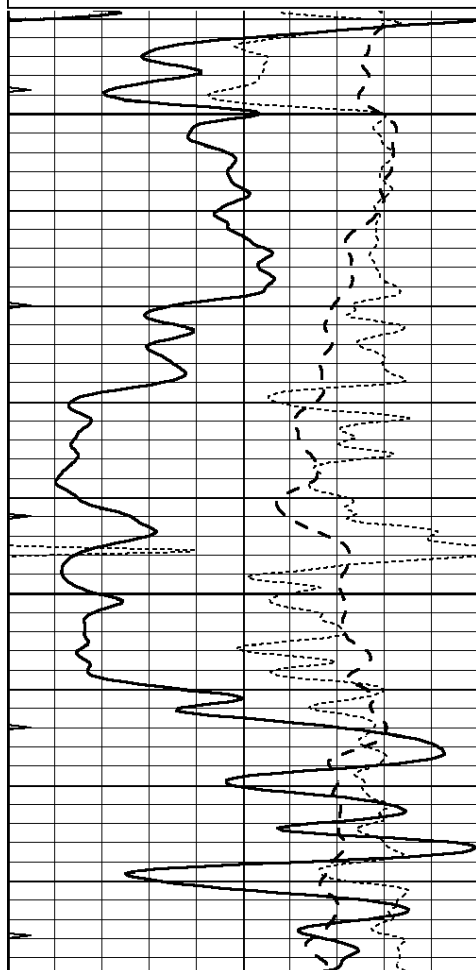


REPEAT SECTION

Database File: 0010038pe.db
Dataset Pathname: pass2.4
Presentation Format: _dil
Dataset Creation: Thu Jan 03 06:06:33 2013 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

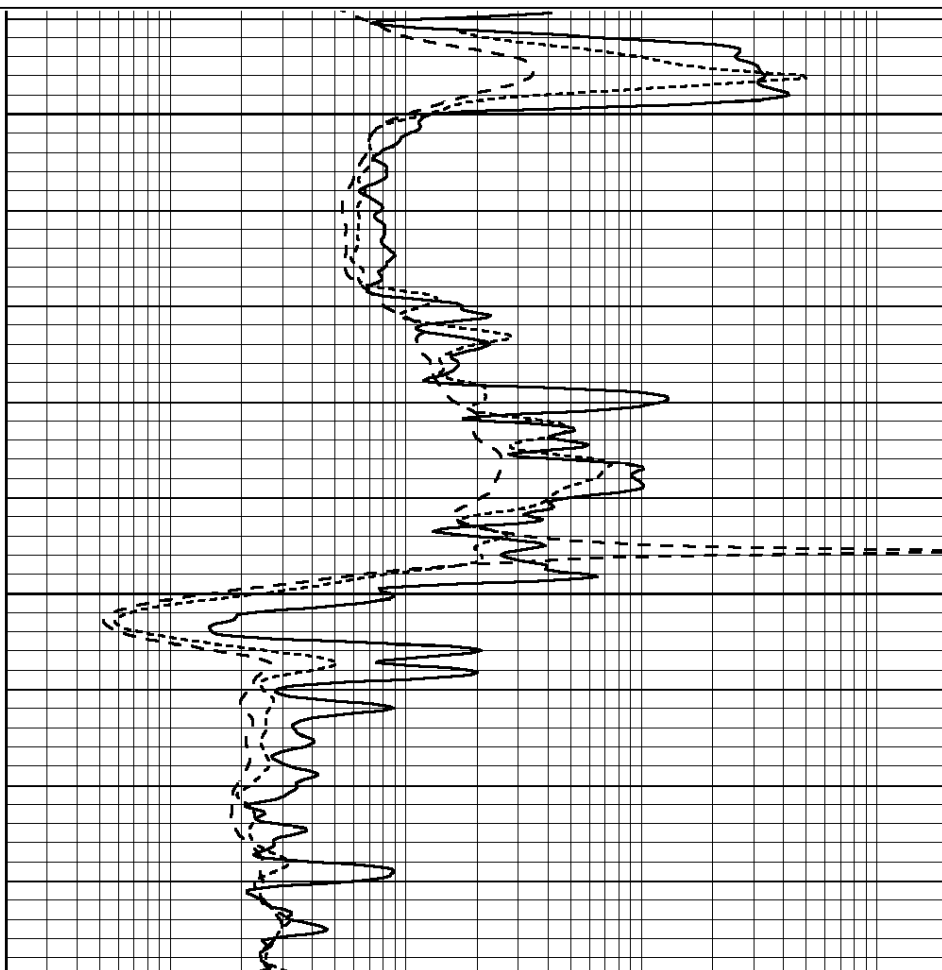
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

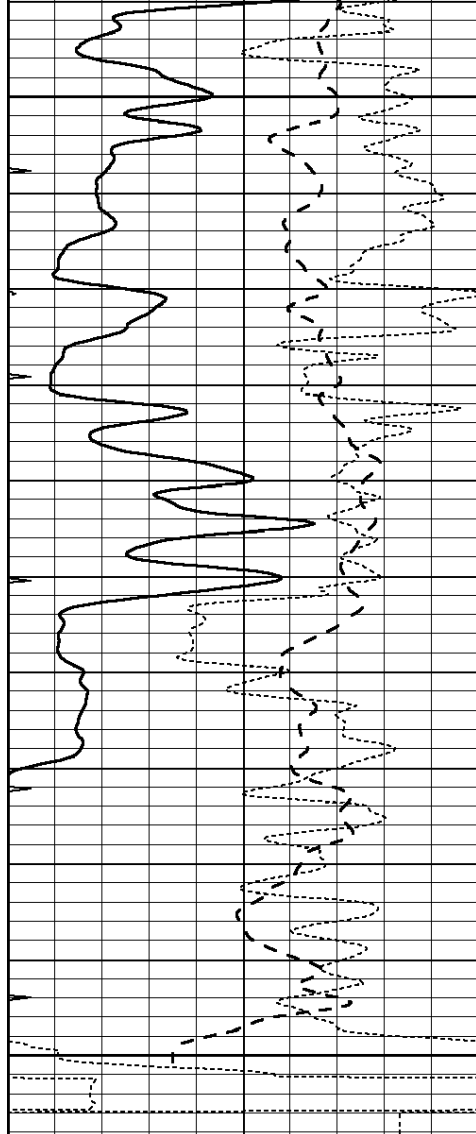
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



4950

5000



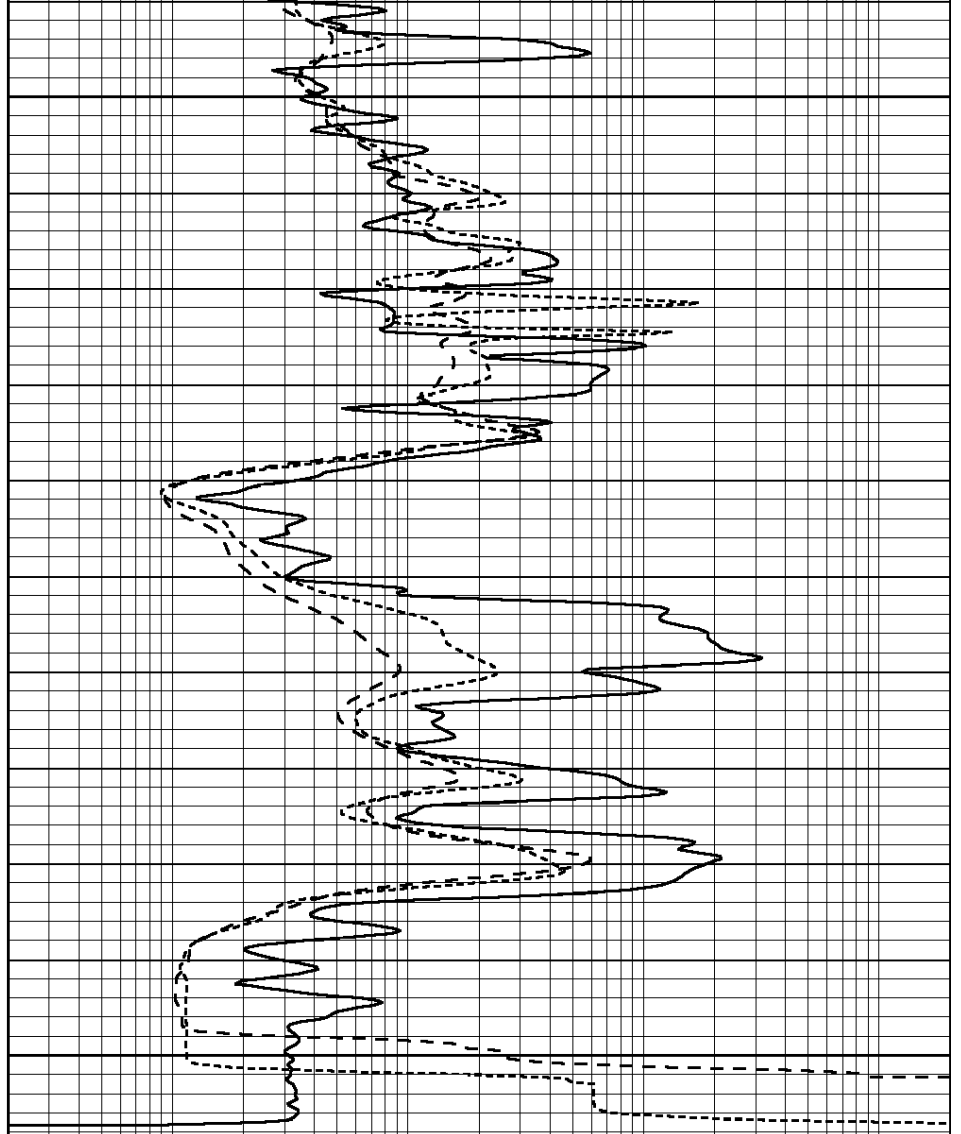


5050

5100

5150

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

Calibration Report

Database File: 0010038pe.db
 Dataset Pathname: pass3.4
 Dataset Creation: Thu Jan 03 06:54:02 2013 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Surface Cal Performed: Fri Dec 14 17:06:35 2012
 Downhole Cal Performed: Fri Mar 21 02:34:00 2003
 After Survey Verification Performed: Tue Apr 13 17:49:23 2010

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	10.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	720.000	-7.000
Internal:	Zero	Cal		Zero	Cal		m	b

Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555
Downhole Calibration								
Readings			References			Results		
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.000	1.000	mmho/m	0.000	1.000	mmho/m	1.000	0.000
Medium	0.000	1.000	mmho/m	0.000	1.000	mmho/m	1.000	0.000
Shallow	2.503	0.050	V	500.000	2.000	Ohm-m	250.000	-3.500
After Survey Verification								
Readings			Targets			Results		
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	1.000	mmho/m	0.000	1.000	mmho/m	1.000	0.000
Medium	0.000	1.000	mmho/m	0.000	1.000	mmho/m	1.000	0.000
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000
Litho Density Calibration Report Serial: 006 Model: PRB								
Master Calibration			Performed Sun Aug 15 09:48:41 2010					
	Background	Magnesium		Aluminum		Sandstone		
Window 1	1686.6	11612.8		3932.0		12718.8		cps
Window 2	1531.4	9204.7		3267.8		9851.9		cps
Window 3	1198.3	4733.6		1952.5		4920.6		cps
Window 4	317.3	321.2		325.9		303.6		cps
Long Space	0.0	7673.3		1736.4		8320.4		cps
Short Space	1.7	2548.5		1657.2		2628.8		cps
Rho		1.7100		2.5900		1.3800		g/cc
Pe		0.0000		2.5700		1.5500		
Rib Angle	: 43.8	Rib Slope	: 0.961	Density/Spine Ratio			: 0.569	
Spine Angle	: 73.8	Spine Slope	: 3.453	Spine Intercept			: -18.1	
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 K _{inf}	0.0000	0.0000	0.0000	g/cc
Measured Correction	0.0000	0.0000	0.0000	
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:	070559			
Tool Model:	OPEN_GR			
Performed:	Wed Nov 28 18:32:17 2012			
Calibrator Value:	1.0	GAPI		
Background Reading:	0.0	cps		
Calibrator Reading:	1.0	cps		
Sensitivity:	0.3000	GAPI/cps		