



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	L.D. DRILLING, INC.	
Well	McCRARY #9	
Field	MUELLER	
County	STAFFORD	State KANSAS
Location:	AP1 # : 15-185-23918-0000 950' FSL & 1641' FEL SE NE SW SE	
Permanent Datum	GROUND LEVEL	Elevation 1861
Log Measured From	KELLY BUSHING 5' A.G.L.	
Drilling Measured From	KELLY BUSHING	
SEC 19	TWP 21S	RGE 12W
Other Services	CDL/CNL	MEL
Elevation	K.B. 1866 D.F. 1864 G.L. 1861	
Date	1/5/15	
Run Number	ONE	
Depth Driller	3575	
Depth Logger	3572	
Bottom Logged Interval	3570	
Top Log Interval	00	
Casing Driller	8 5/8" @ 377'	
Casing Logger	376	
Bit Size	7 7/8"	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6000 PPM
Density / Viscosity	9.3/50	
pH / Fluid Loss	9.0/8.8	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	.75 @ 50F	
Rmt @ Meas. Temp	.56 @ 50F	
Rmc @ Meas. Temp	.90 @ 50F	
Source of Rmt / Rmc	MEASUREMENT	
Rm @ BHT	.33 @ 113F	
Time Circulation Stopped	2 HOURS	
Time Logger on Bottom		
Maximum Recorded Temperature	113F	
Equipment Number	4010	
Location	HAYS, KANSAS	
Recorded By	JASON CAPPELLUCCI	
Witnessed By	KURT TALBOTT	

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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, KS. (785) 628-6395
DIRECTIONS:
GREAT BEND, KS. - 11 SOUTH TO 170TH RD. - 3 1/2 EAST - NORTH INTO



MAIN SECTION

Database File:

ldmccraryddn.db

Dataset Pathname:

pass3.3

Presentation Format:

_dil2

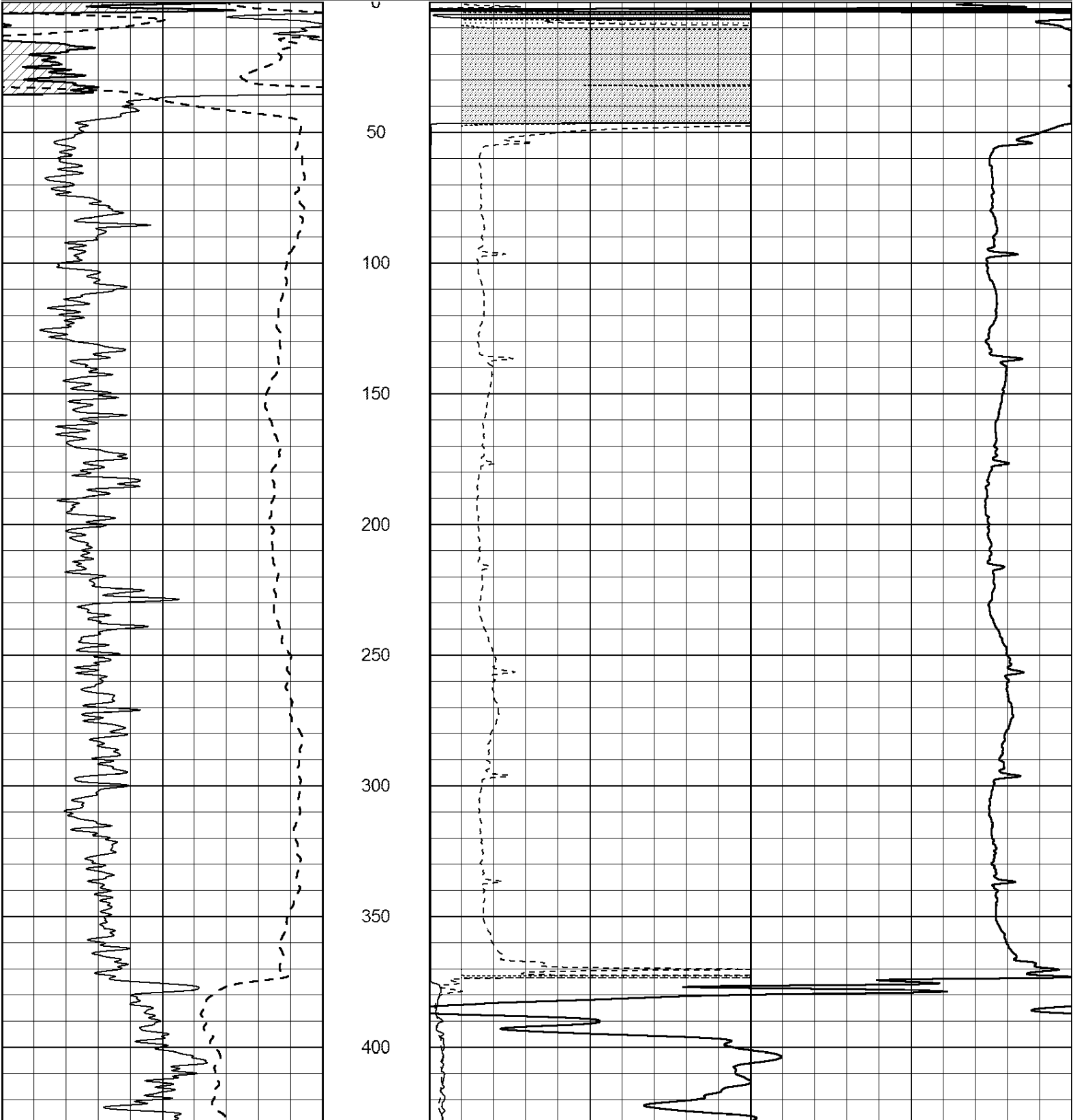
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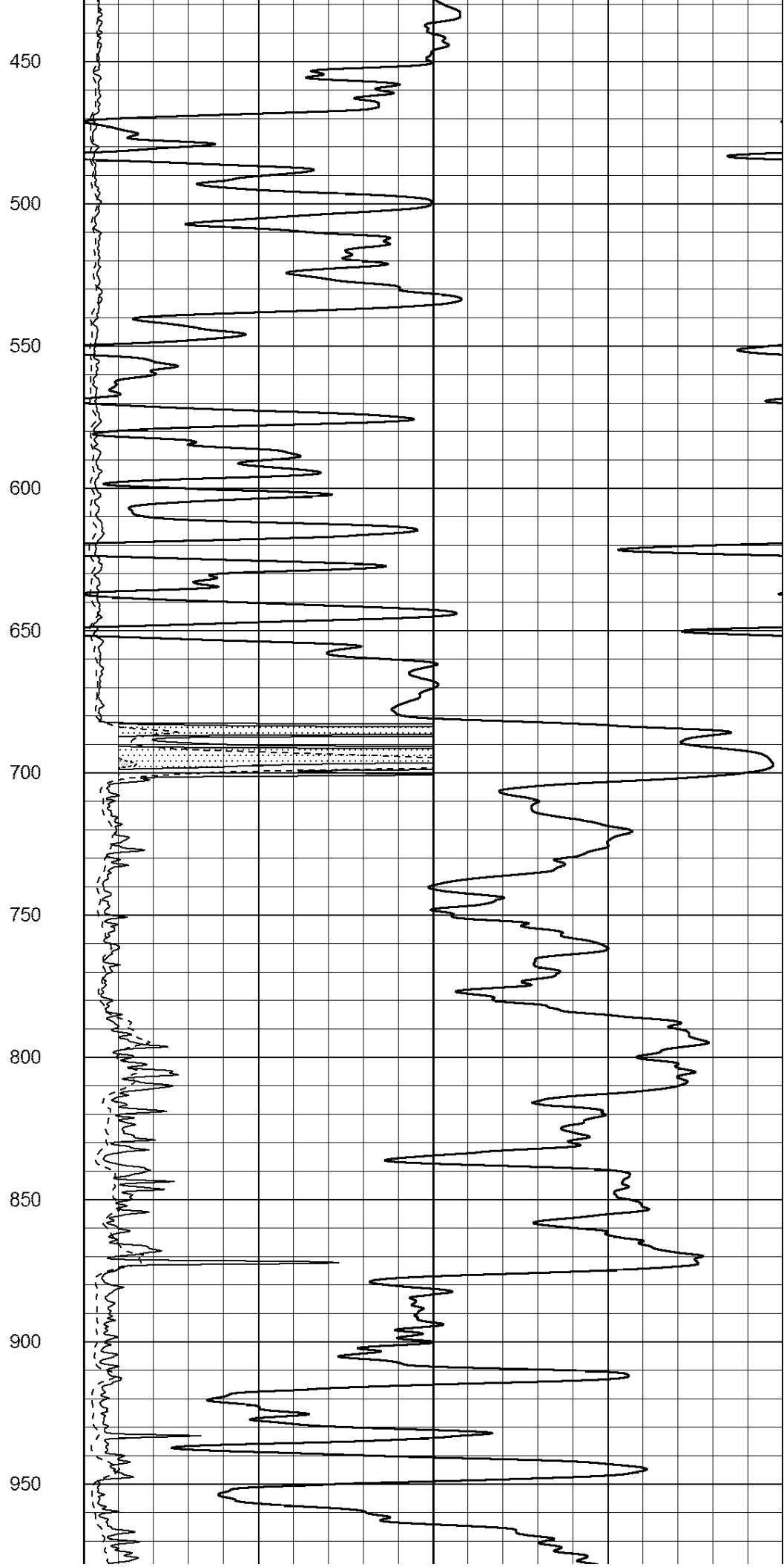
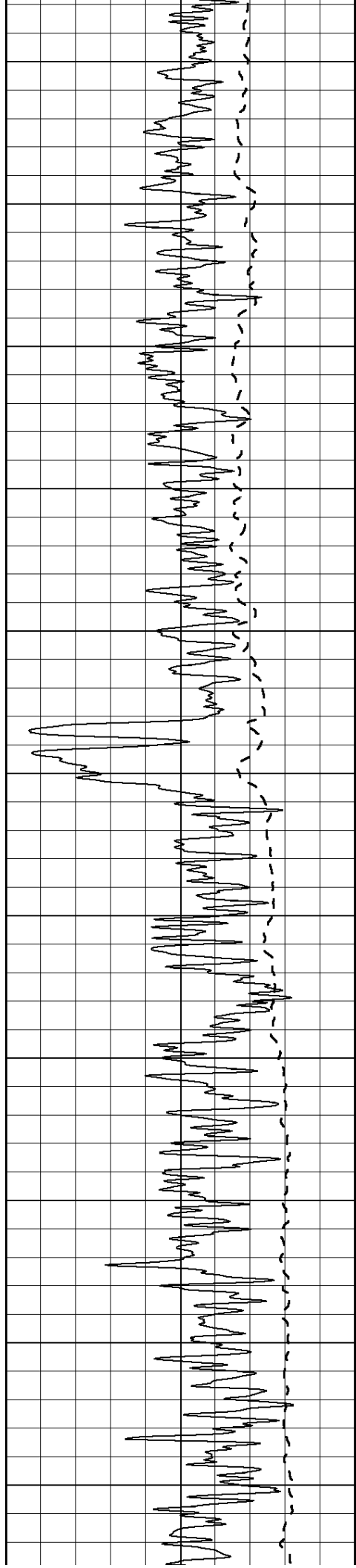
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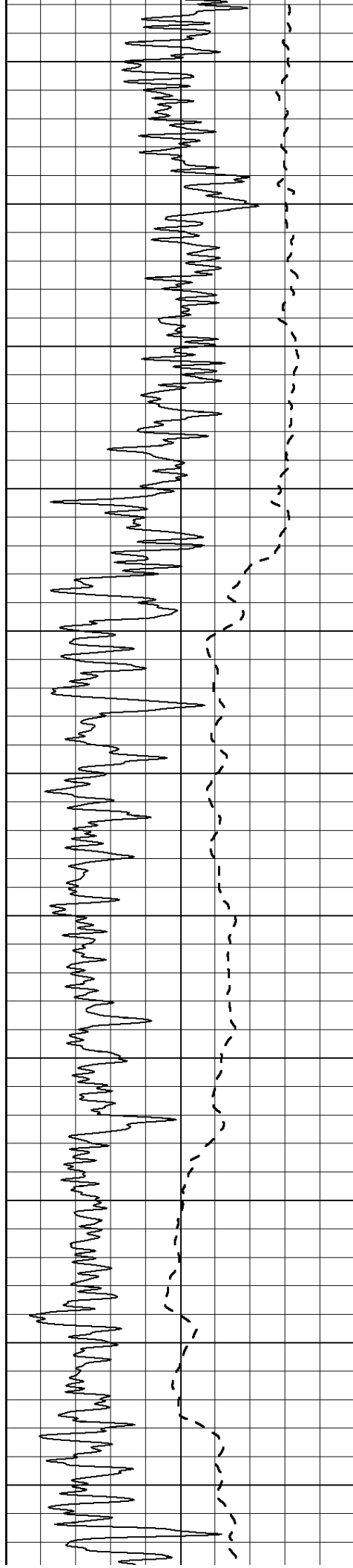
Charted by:

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







1000

1050

1100

1150

1200

1250

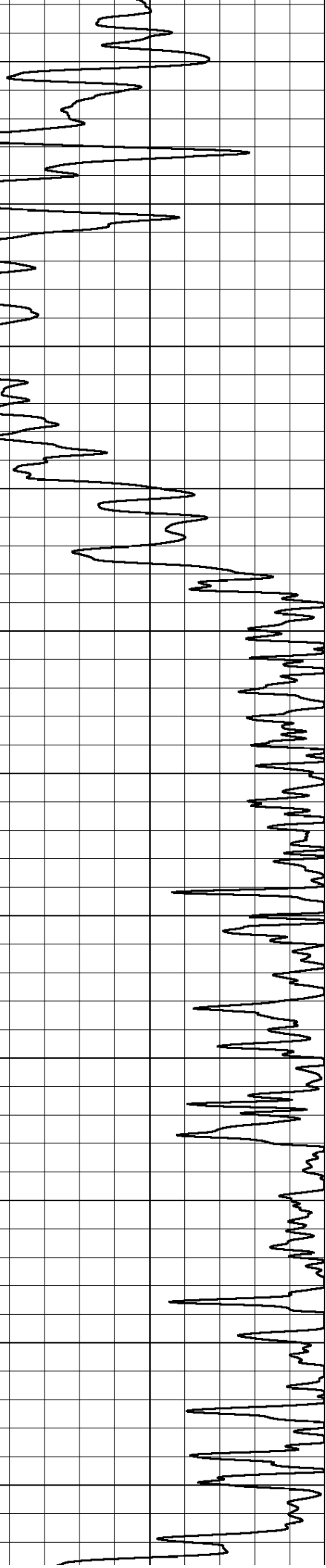
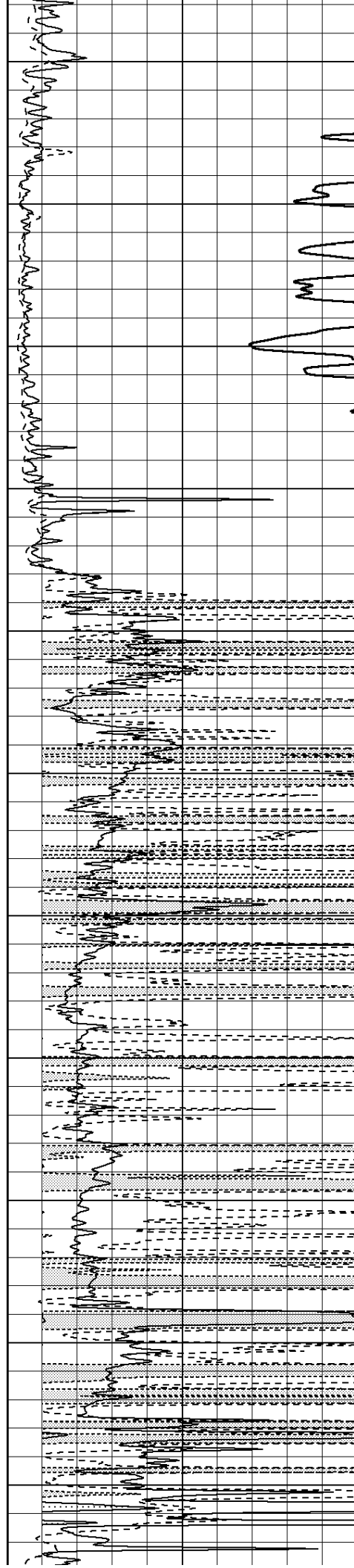
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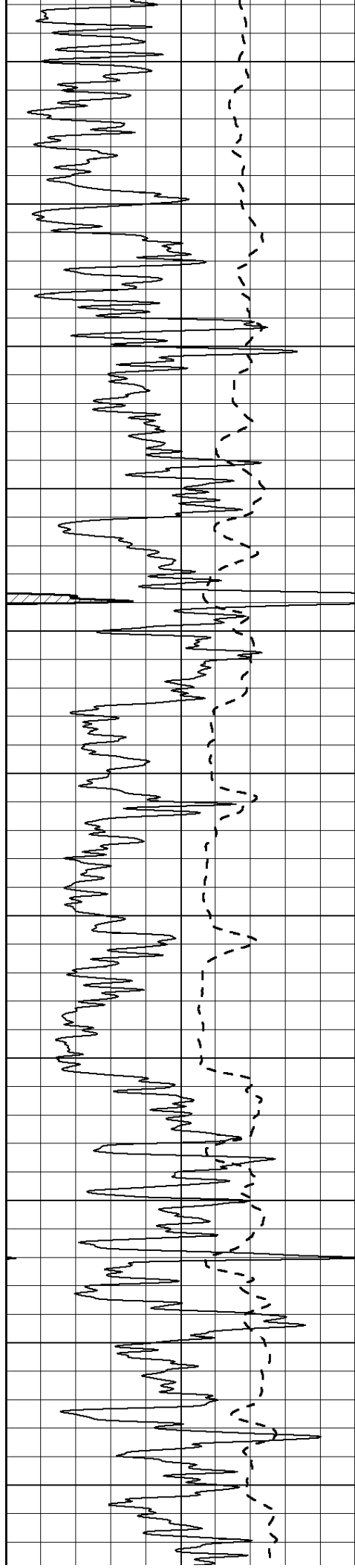
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1400

1450

1500





1550

1600

1650

1700

1750

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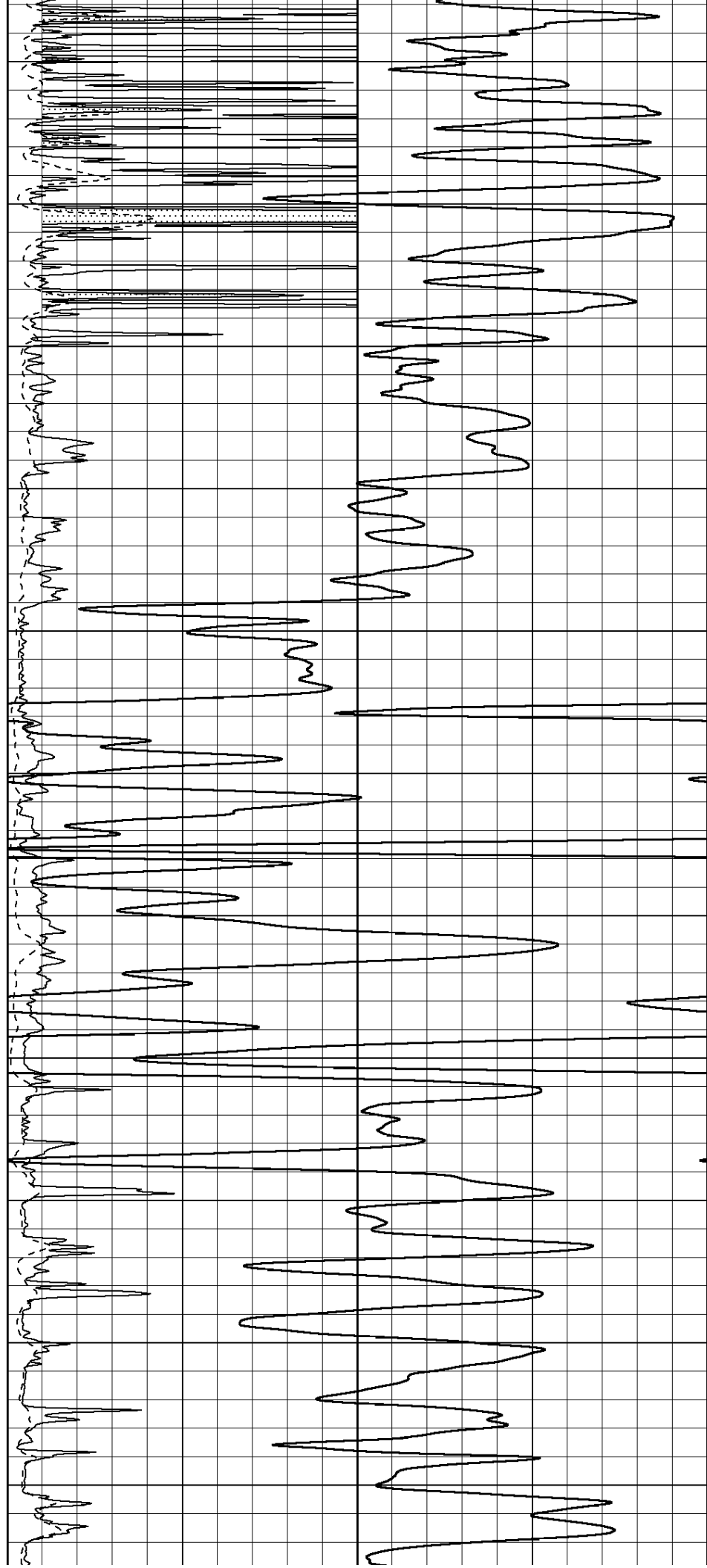
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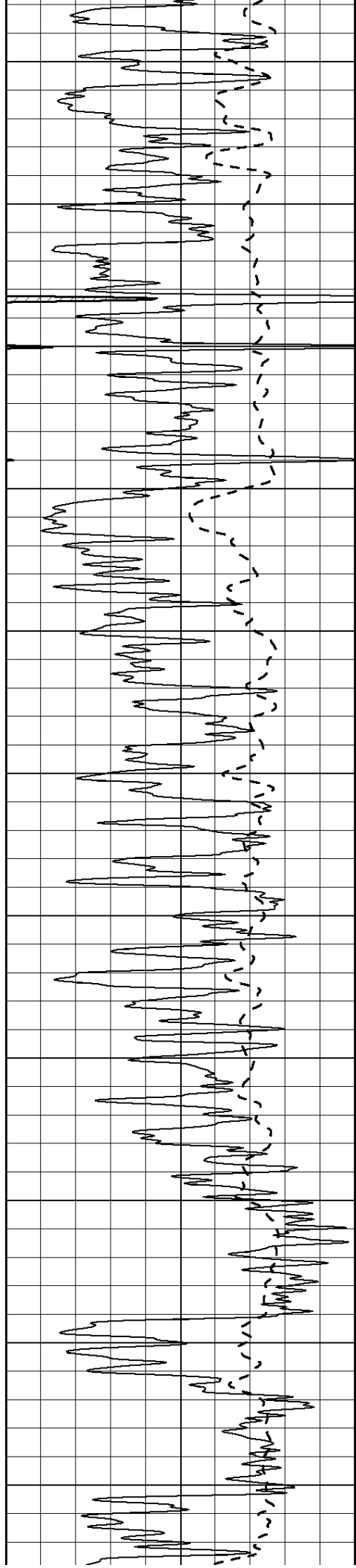
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1950

2000

2050





2100

2150

2200

2250

2300

2350

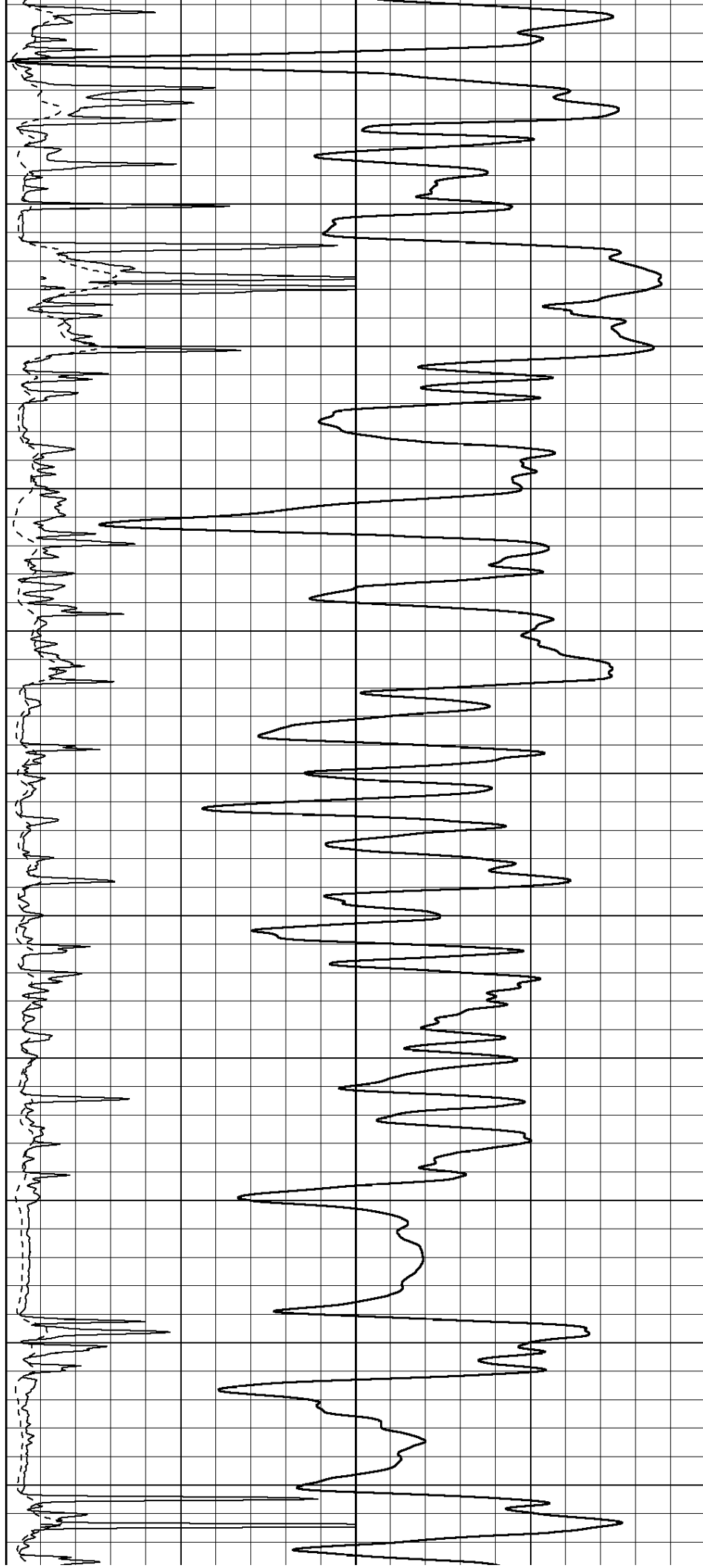
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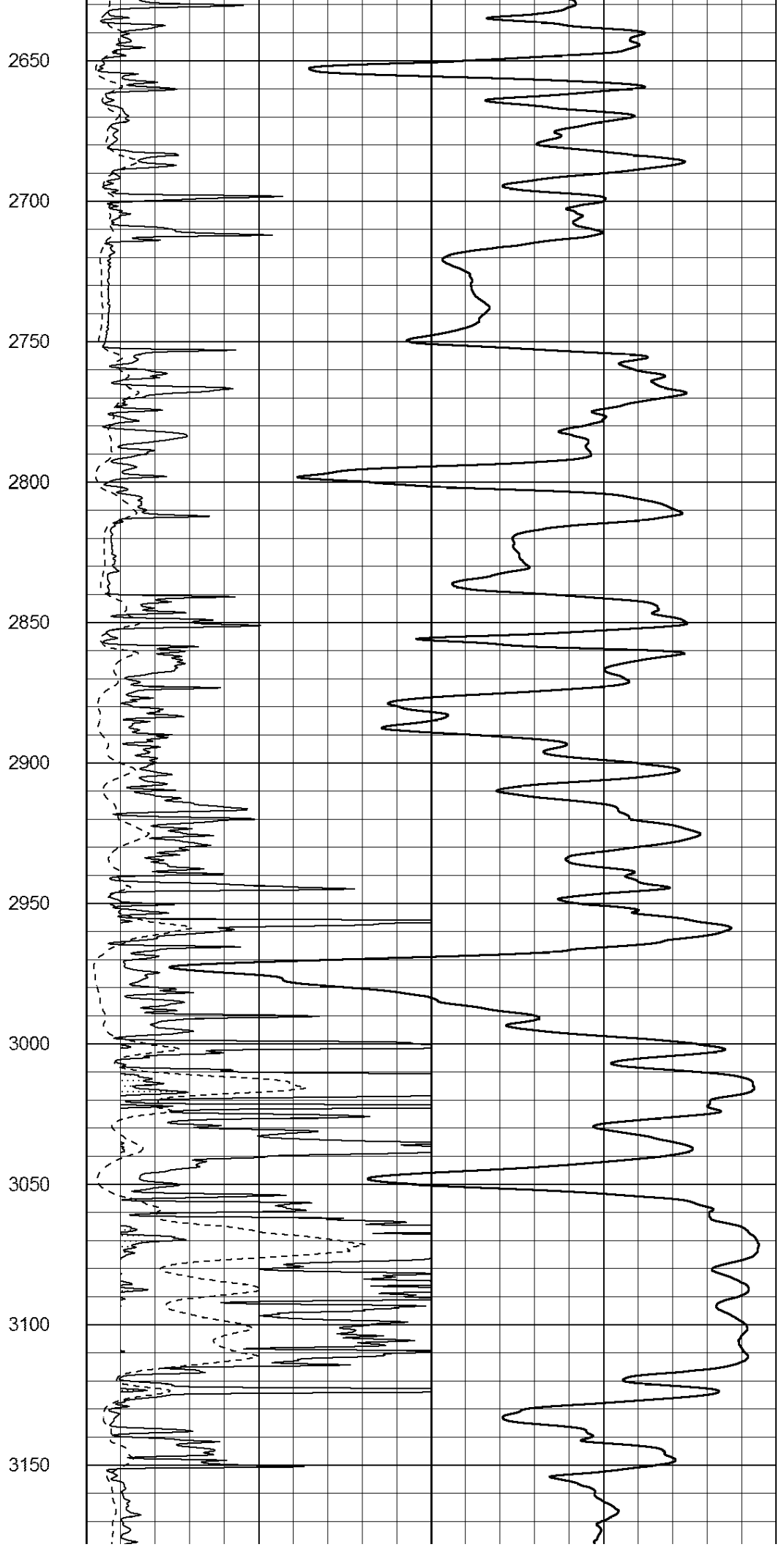
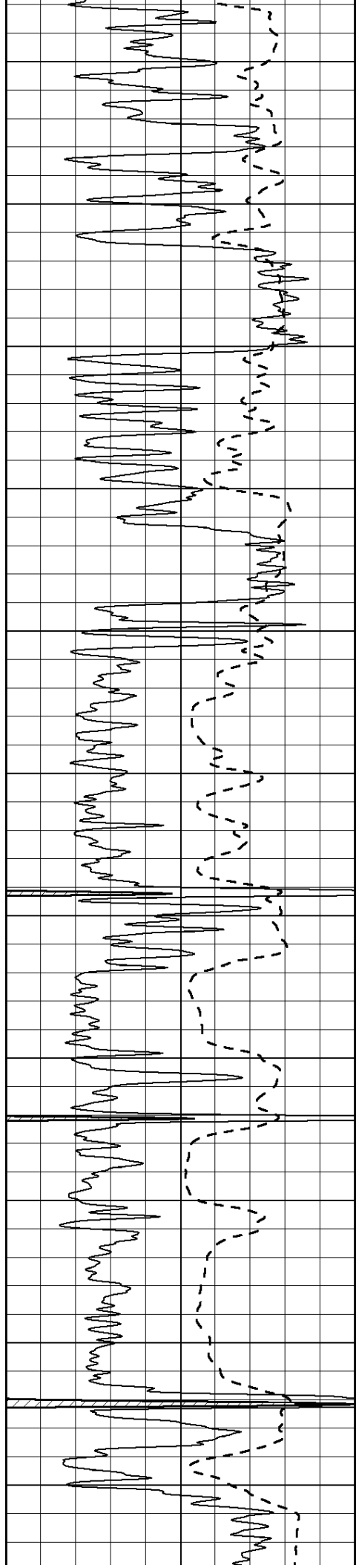
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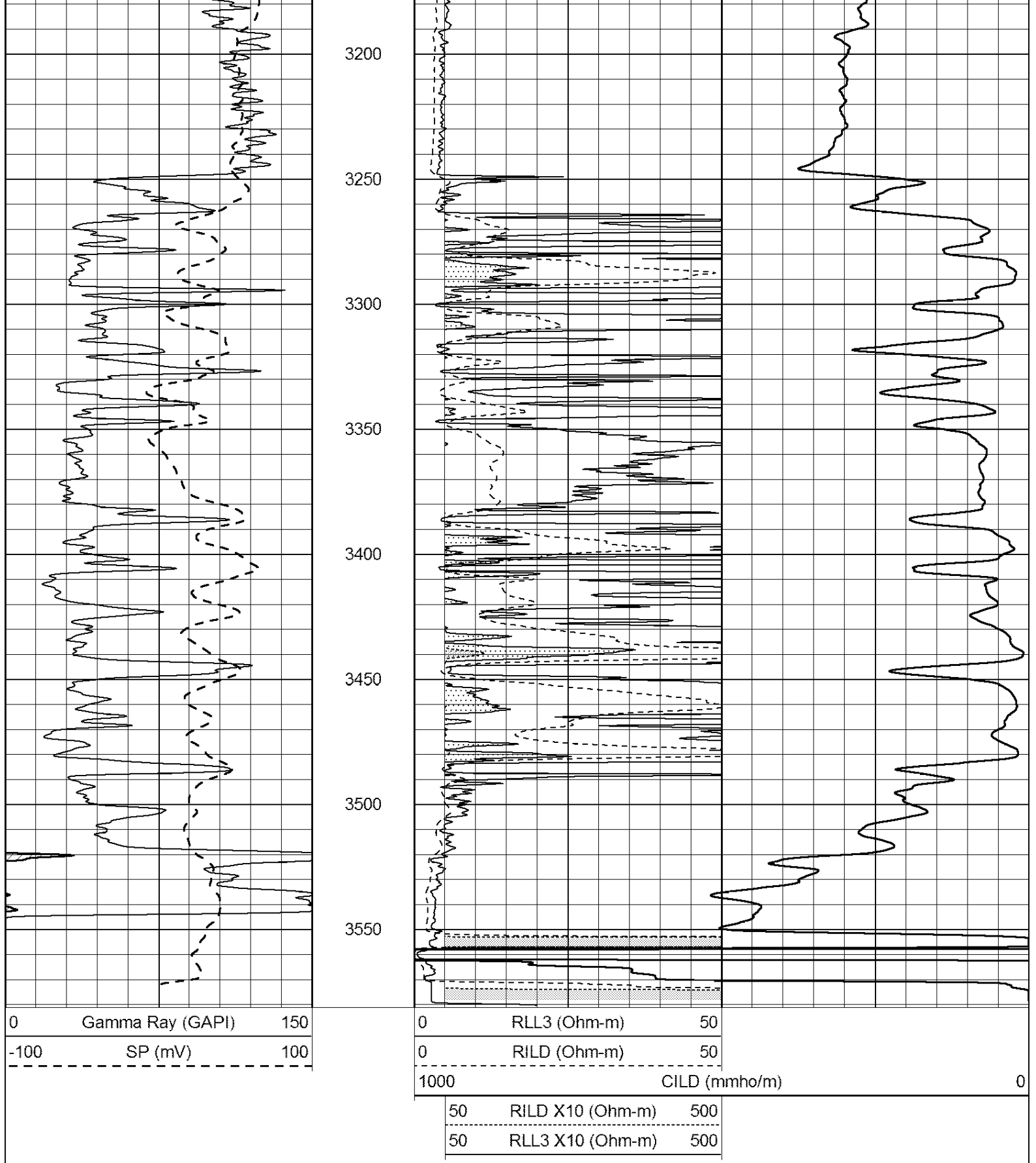
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2550

2600

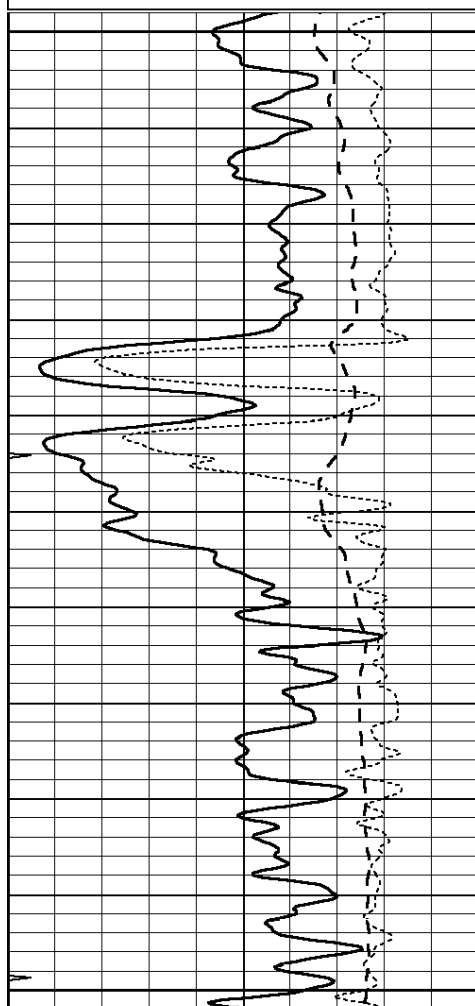






0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

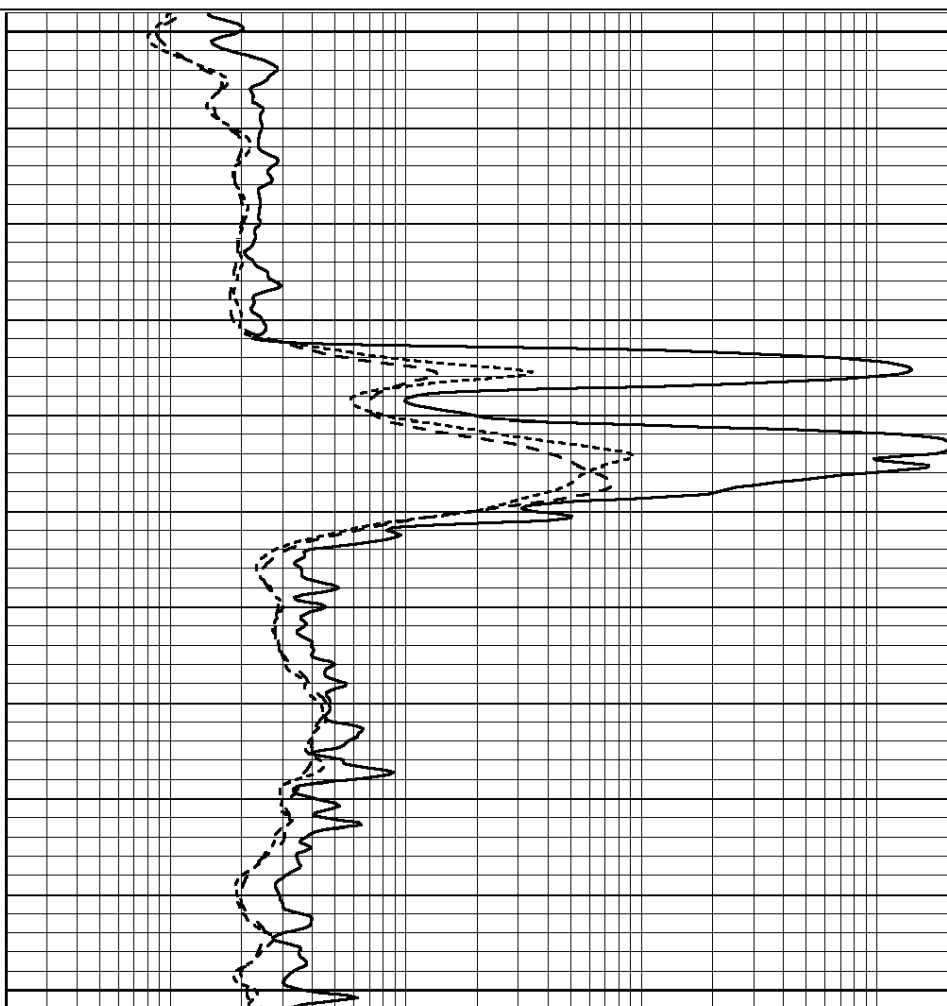
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



650

700

750



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



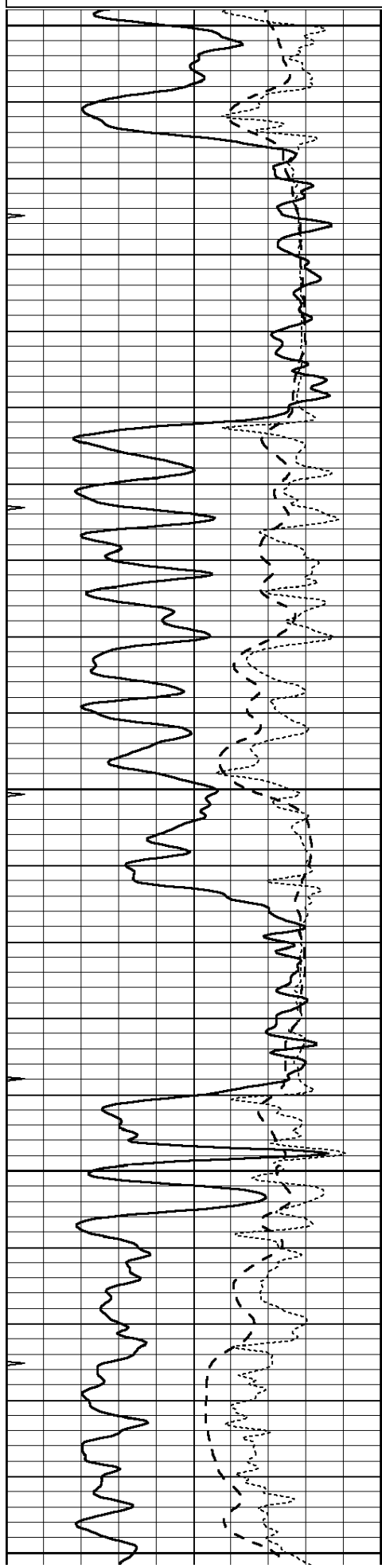
MAIN SECTION

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100

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

-250	Rxo/Rt	50
0	MINMK	20

0.2	MEDIUM INDUCTION (Ohm-m)	2000
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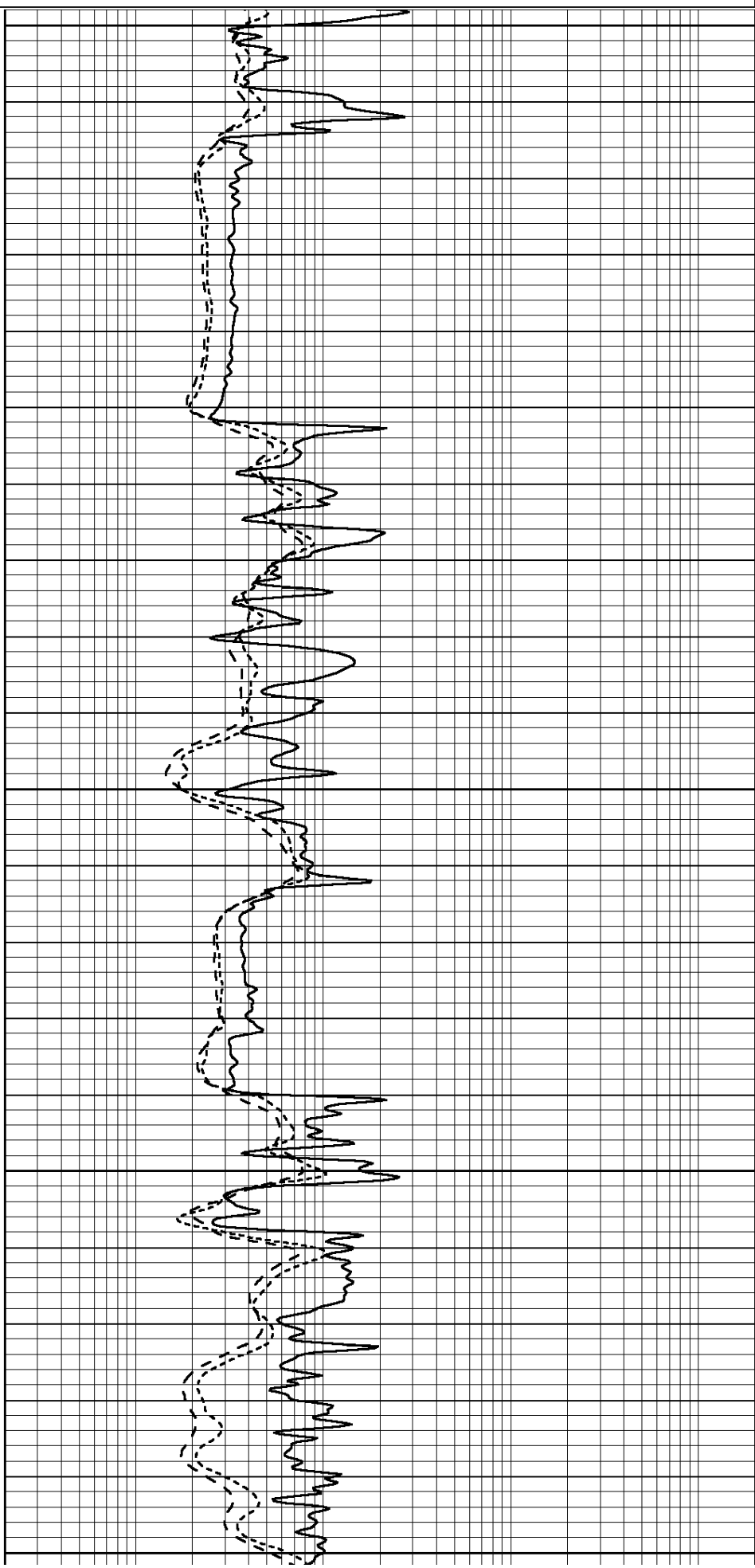
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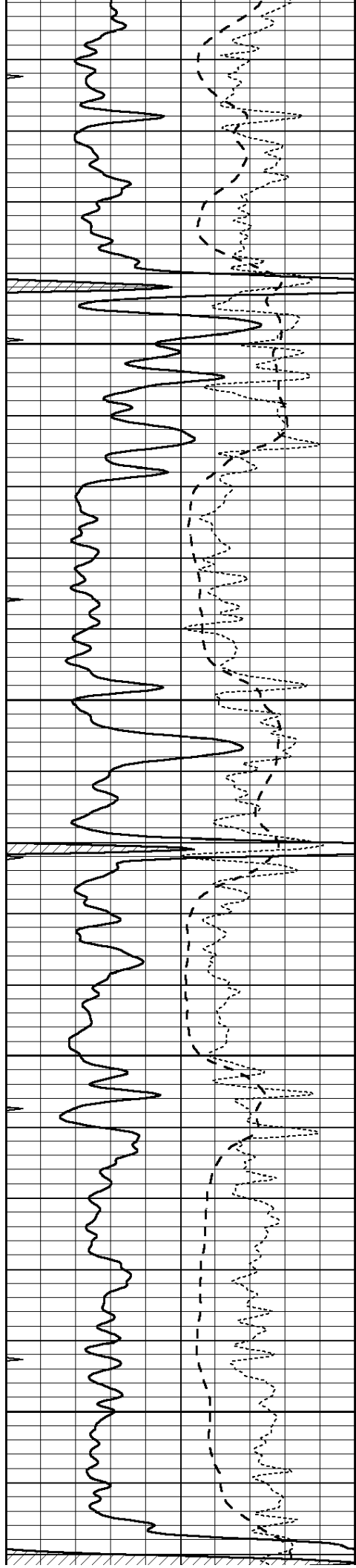
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2800

2850

2900



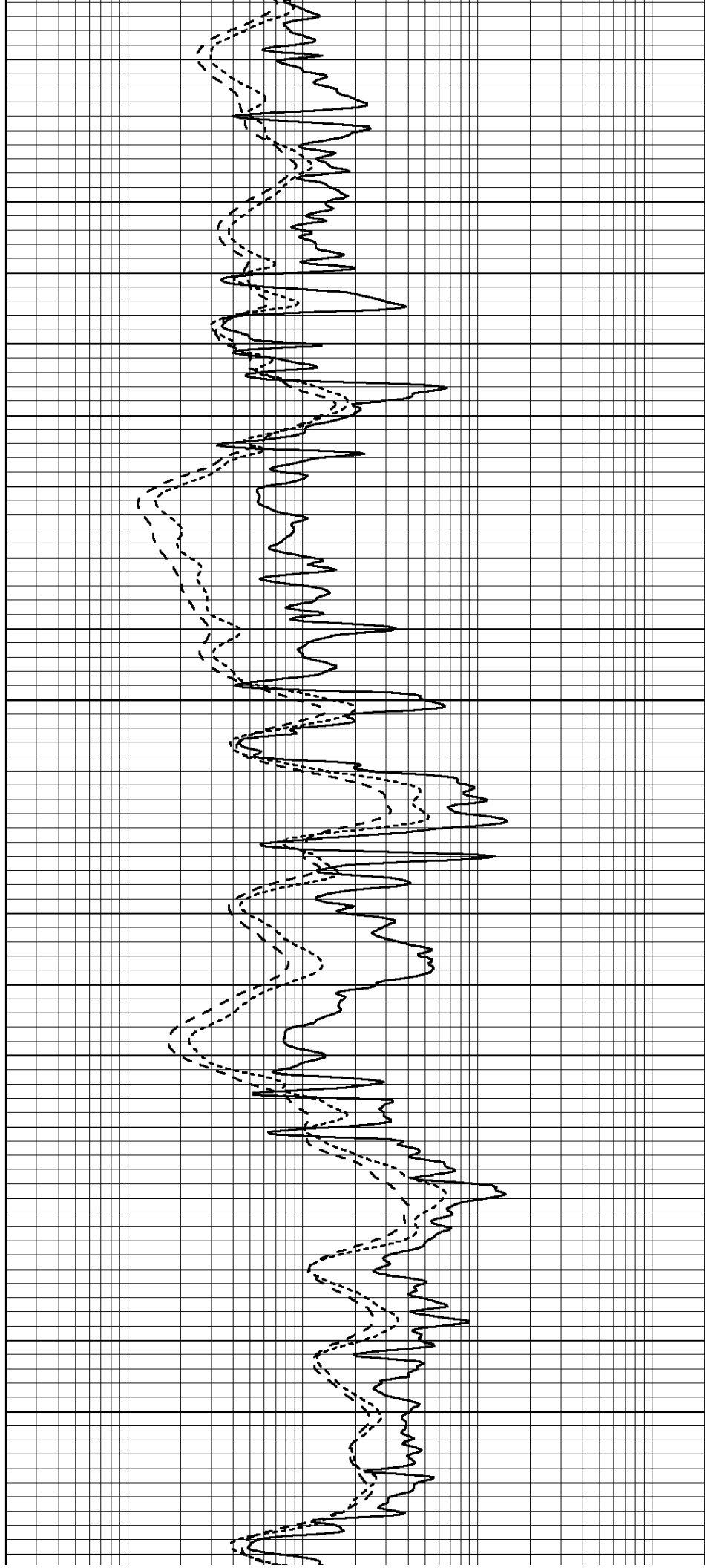


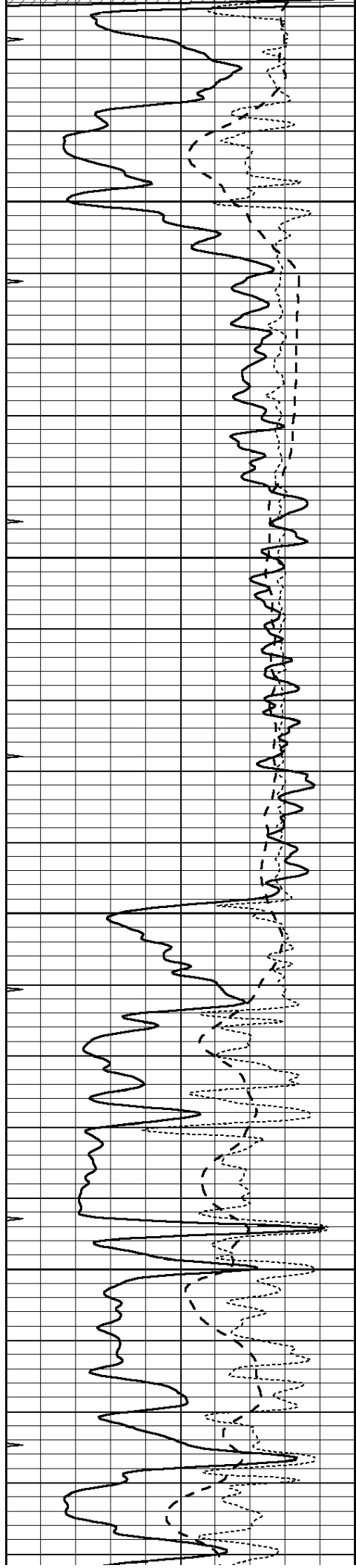
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3000

3050

3100



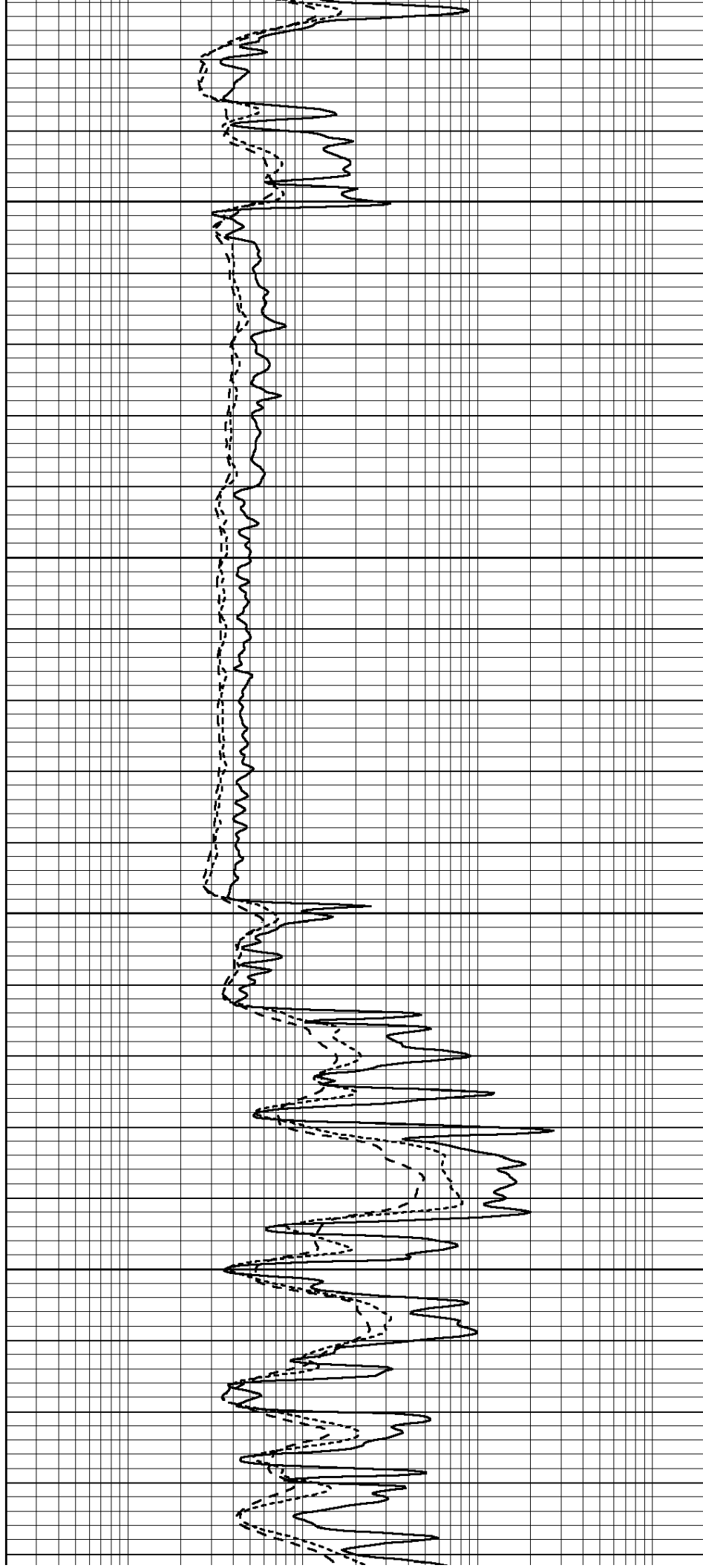


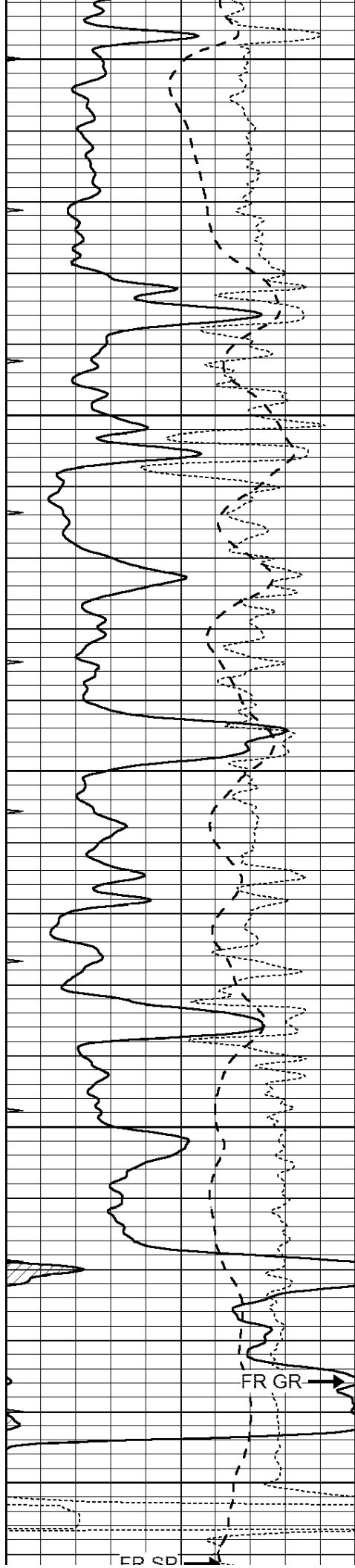
3150

3200

3250

3300





3350

3400

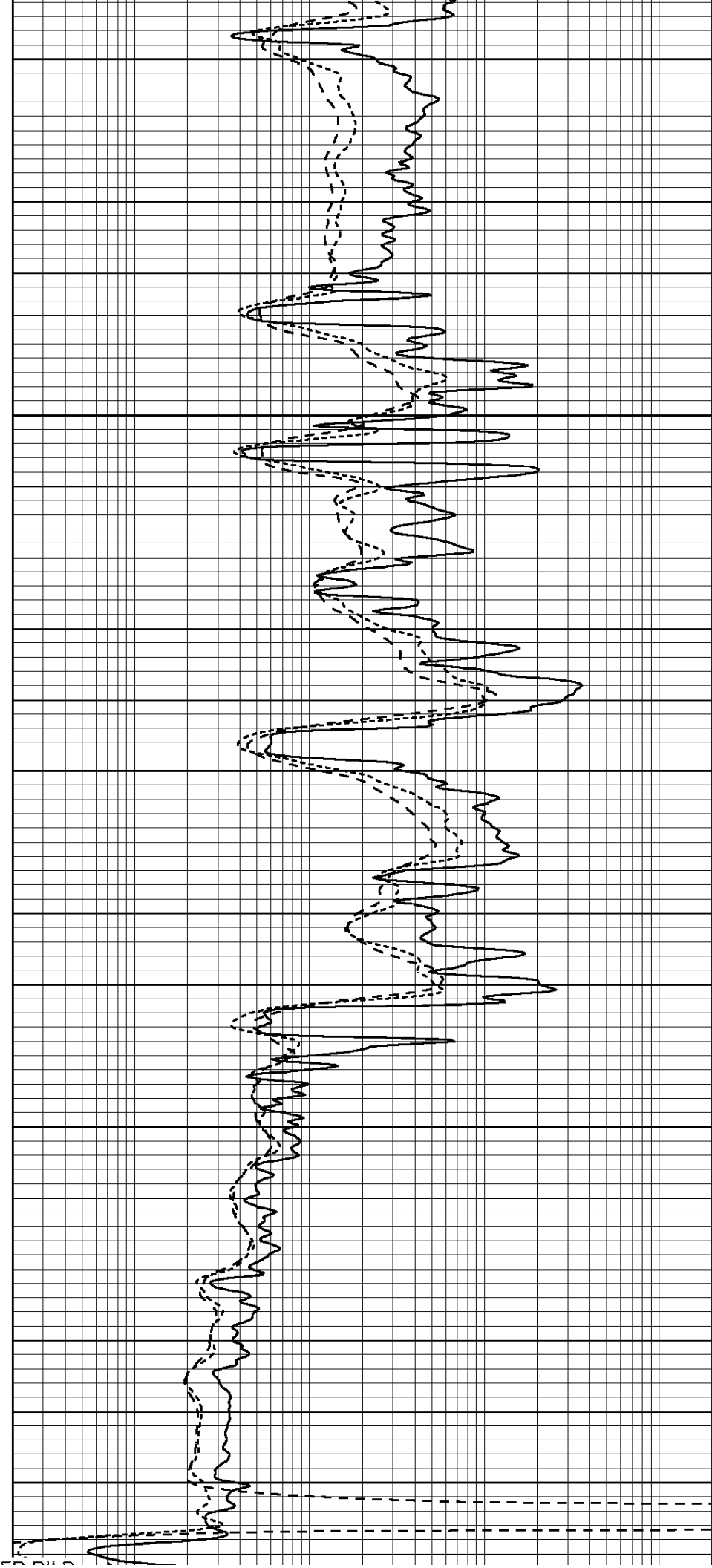
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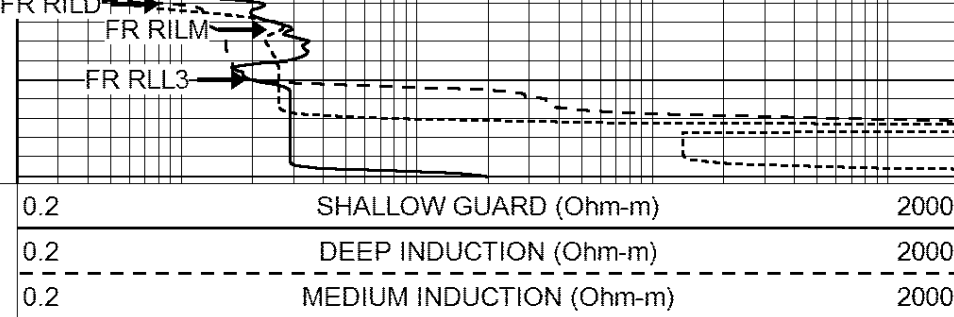
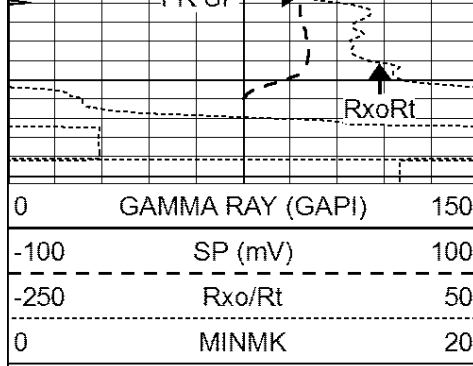
3500

3550

FR GR →

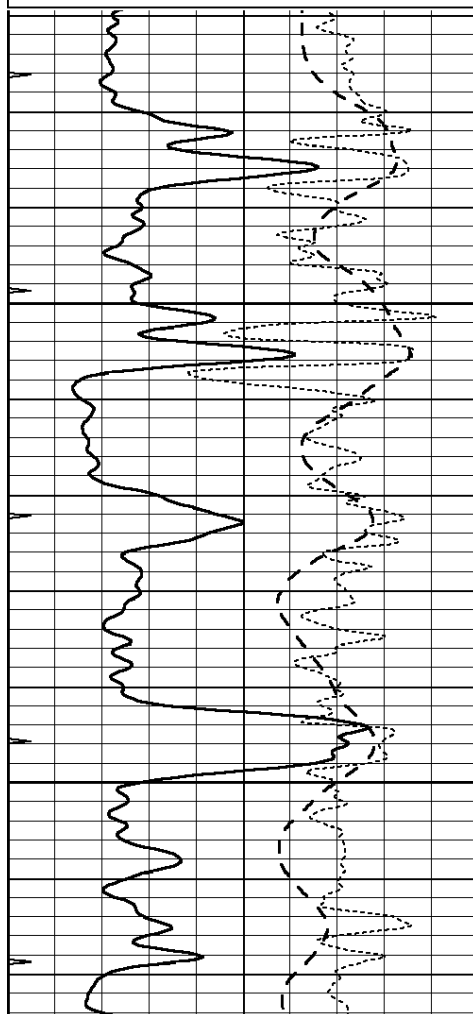
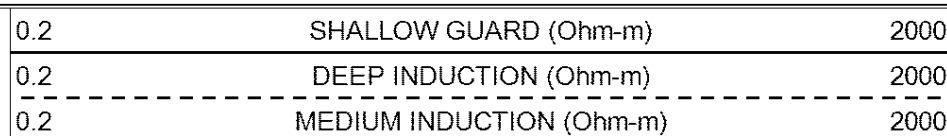
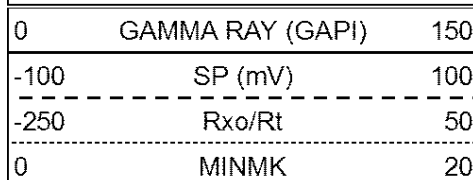
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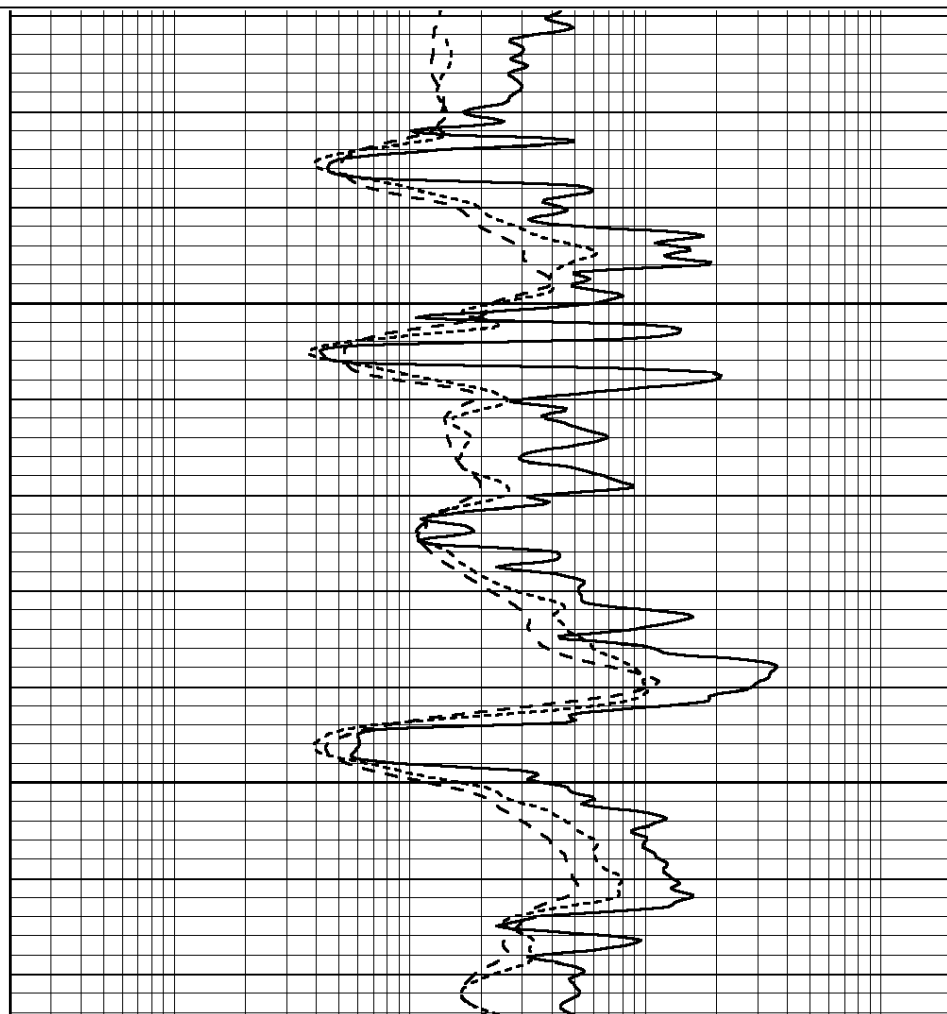
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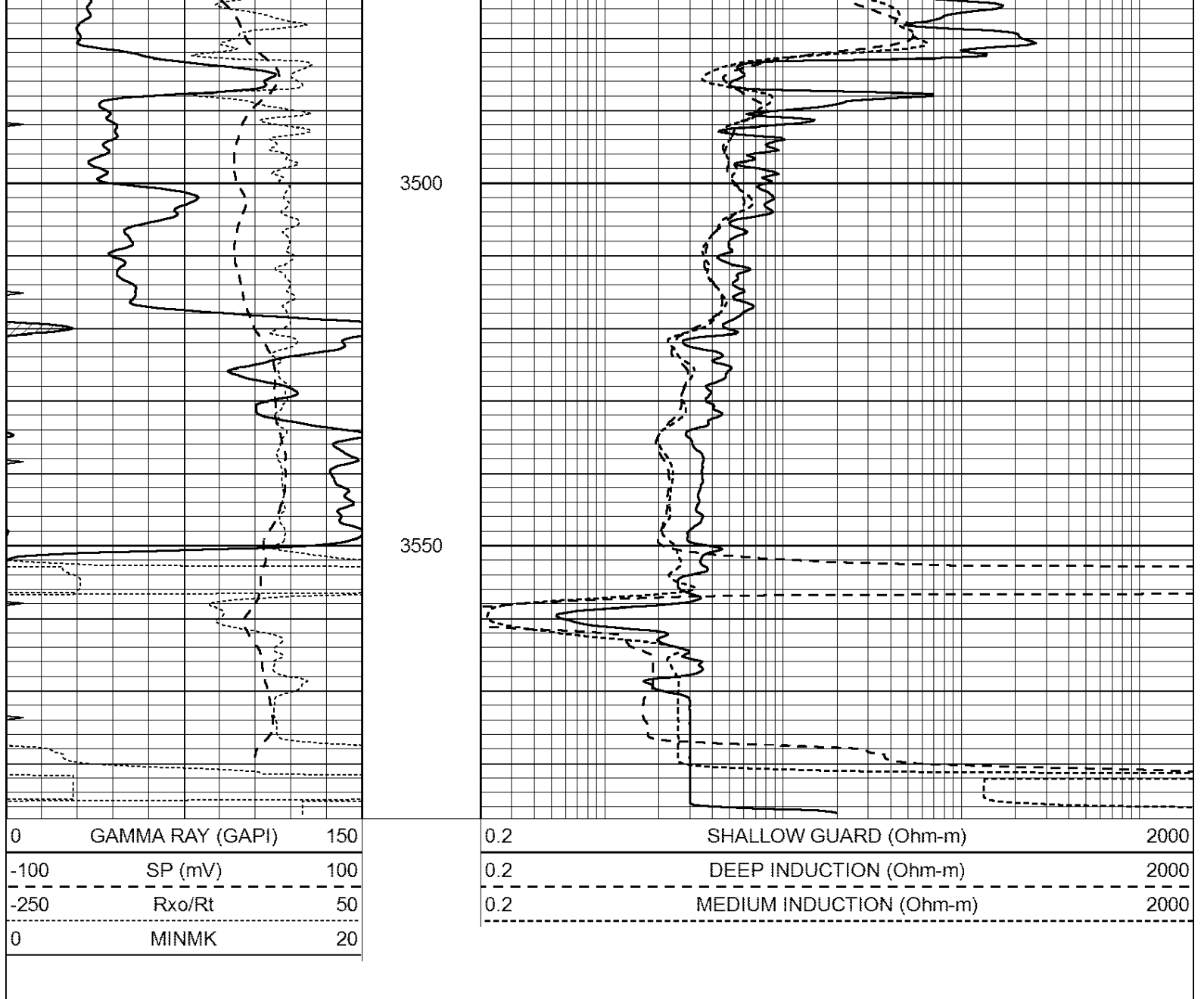
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 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Mon Jan 05 21:37:04 2015 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240



3400

3450





Calibration Report									
Database File:		ldmccraryddn.db							
Dataset Pathname:		pass2.1							
Dataset Creation:		Mon Jan 05 21:37:04 2015 by Calc Open-Cased 090629							
Dual Induction Calibration Report									
Serial-Model:		PROBE8-DILG							
Surface Cal Performed:		Sun Aug 17 08:09:53 2014							
Downhole Cal Performed:		Mon Jul 28 11:08:27 2008							
After Survey Verification Performed:		Mon Jul 28 11:08:27 2008							
Surface Calibration									
Readings				References			Results		
Loop:	Air	Loop		Air	Loop		m	b	
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	-2.000	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-16.000	
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	
							m'	b'
			Zero	Cal	Zero	Cal		
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	
							m'	b'
			Zero	Cal	Zero	Cal		
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		

Compensated Density Calibration Report								
Serial-Model:					GEAR3-GEARHART			
Source / Verifier:					143 / 143			
Master Calibration Performed:					Tue Oct 28 11:14:59 2014			
Before Survey Verification Performed:								
After Survey Verification Performed:								

Master Calibration								
			Density		Far Detector		Near Detector	
Magnesium	1.710	g/cc			881.29		468.35	cps
Aluminum	2.580	g/cc			210.51		354.56	cps
			Spine Angle = 79.00		Density/Spine Ratio = 0.596			
			Size		Reading			
Small Ring	8.00	in			4.29	V		
Large Ring	14.00	in			6.24	V		

Before Survey Verification								
			Target		Measured			
				g/cc			g/cc	
				g/cc			g/cc	
				g/cc			g/cc	

After Survey Verification								
			Target		Measured			
				g/cc			g/cc	
				g/cc			g/cc	
				g/cc			g/cc	

Compensated Neutron Calibration Report								
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:		Wed Dec 10 11:09:24 2014				
Calibrator Value:		150.0		GAPI		
Background Reading:		0.0		cps		
Calibrator Reading:		276.0		cps		
Sensitivity:		0.8000		GAPI/cps		