



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**DUAL  
INDUCTION  
LOG**

Company MAI OIL OPERATIONS, INC.  
Well MILTON #1  
Field MUELLER  
County STAFFORD  
State KANSAS

Company MAI OIL OPERATIONS, INC.  
Well MILTON #1  
Field MUELLER  
County STAFFORD State KANSAS

Location: API # : 15-185-23935-00-00  
3630' FSL & 2310' FEL  
NW - SW - NE  
SEC 29 TWP 21S RGE 12W  
Permanent Datum GROUND LEVEL Elevation 1858  
Log Measured From KELLY BUSHING 8' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
CDL/CNL  
MEL  
Elevation  
K.B. 1866  
D.F. 1864  
G.L. 1858

Date	4/30/15		
Run Number	ONE		
Depth Driller	3700		
Depth Logger	3702		
Bottom Logged Interval	3700		
Top Log Interval	0		
Casing Driller	8 5/8" @ 842		
Casing Logger	642		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 10,000 PPM	
Density / Viscosity	9.161		
pH / Fluid Loss	8.5/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.55 @ 75F		
Rmt @ Meas. Temp	.41 @ 75F		
Rmc @ Meas. Temp	.66 @ 75F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.36 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	110F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	BLAKE WAGGONER	IAN MABB	
Witnessed By	WYATT URBAN		

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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. - HWY 281 & 10 TH ST. - SOUTH 11 MILES TO RD 170 - EAST 5 MILES TO RD 50 TH -  
SOUTH 1/2 MILE - WEST INTO



**MAIN SECTION**

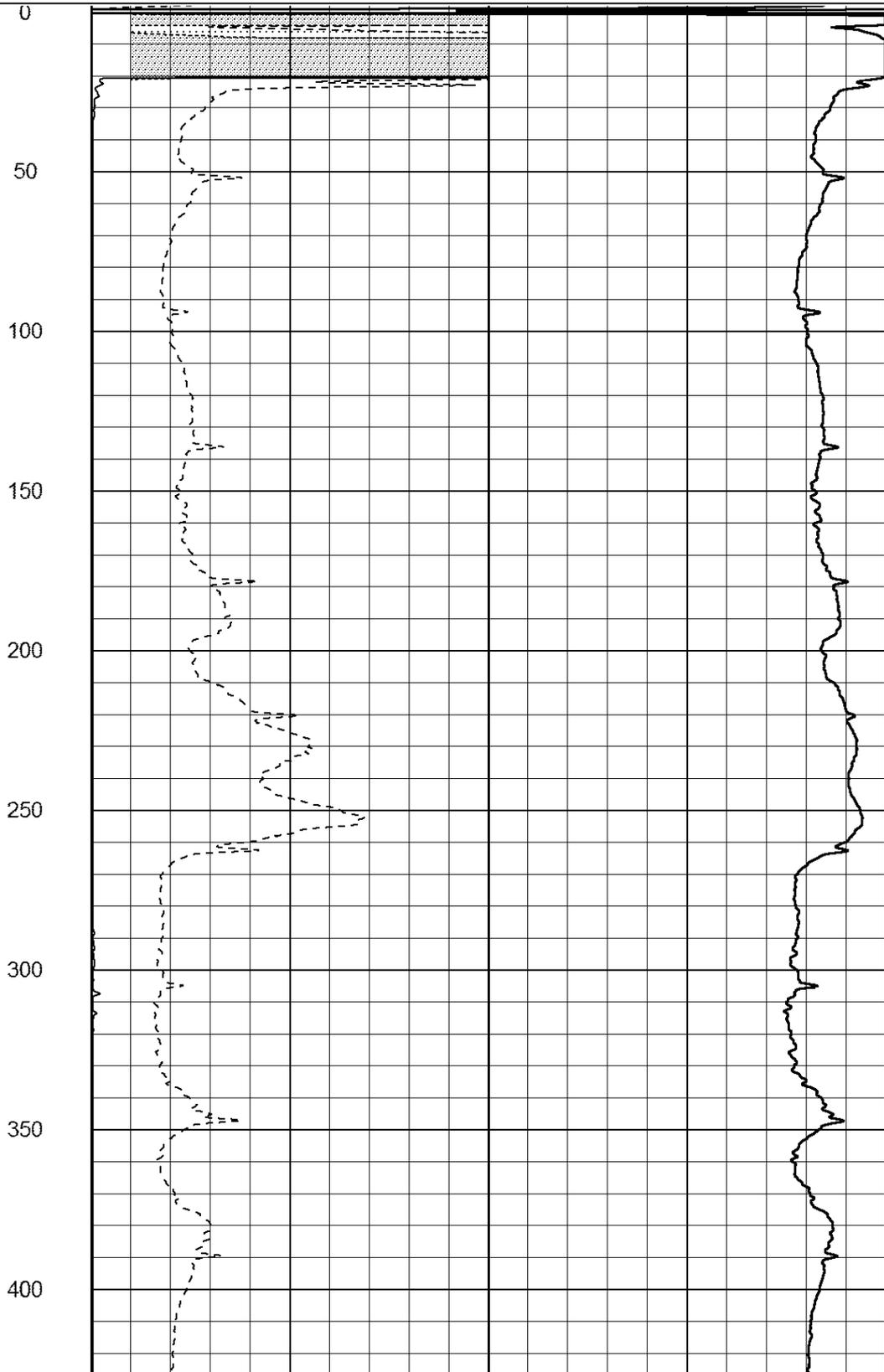
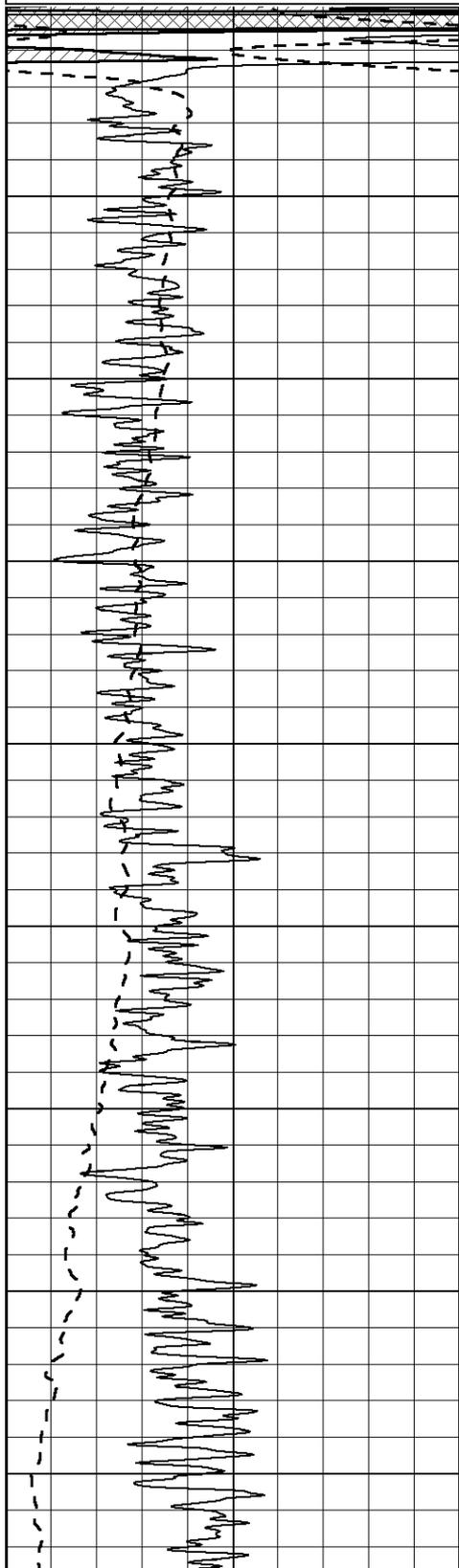
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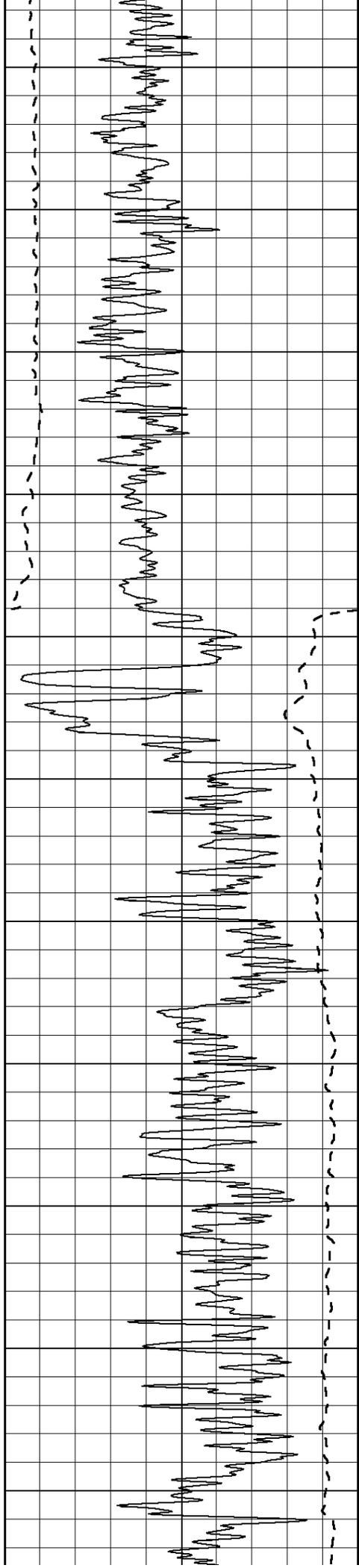
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-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50

1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500





450

500

550

600

650

700

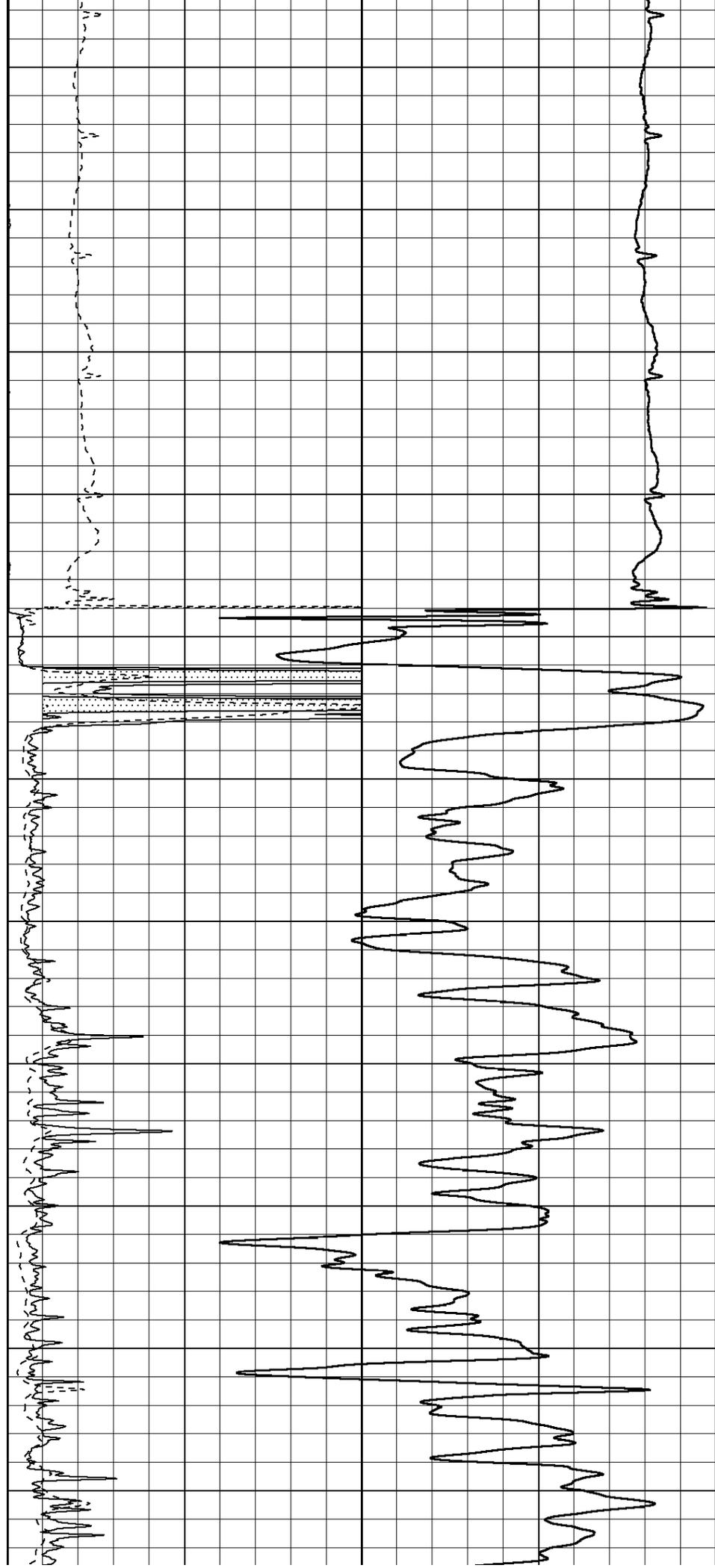
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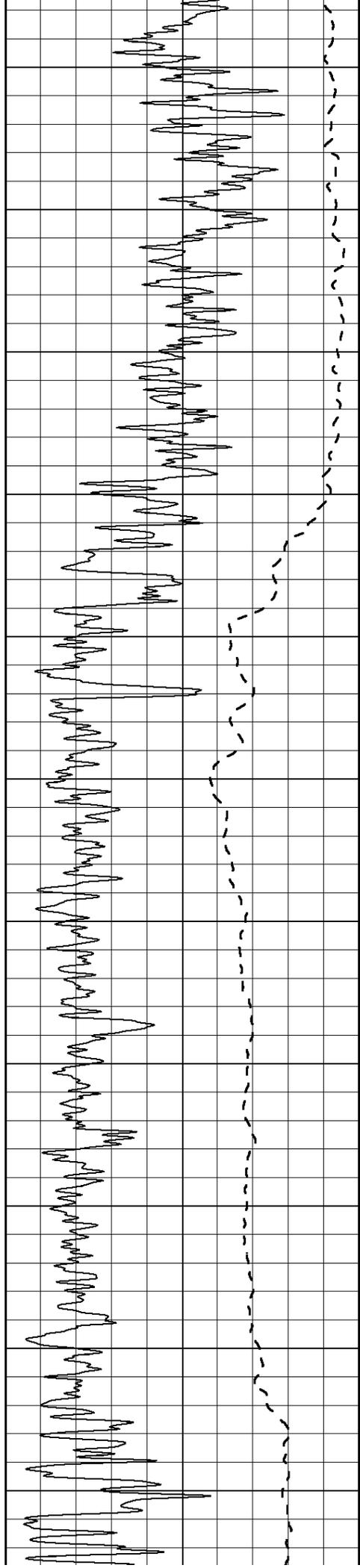
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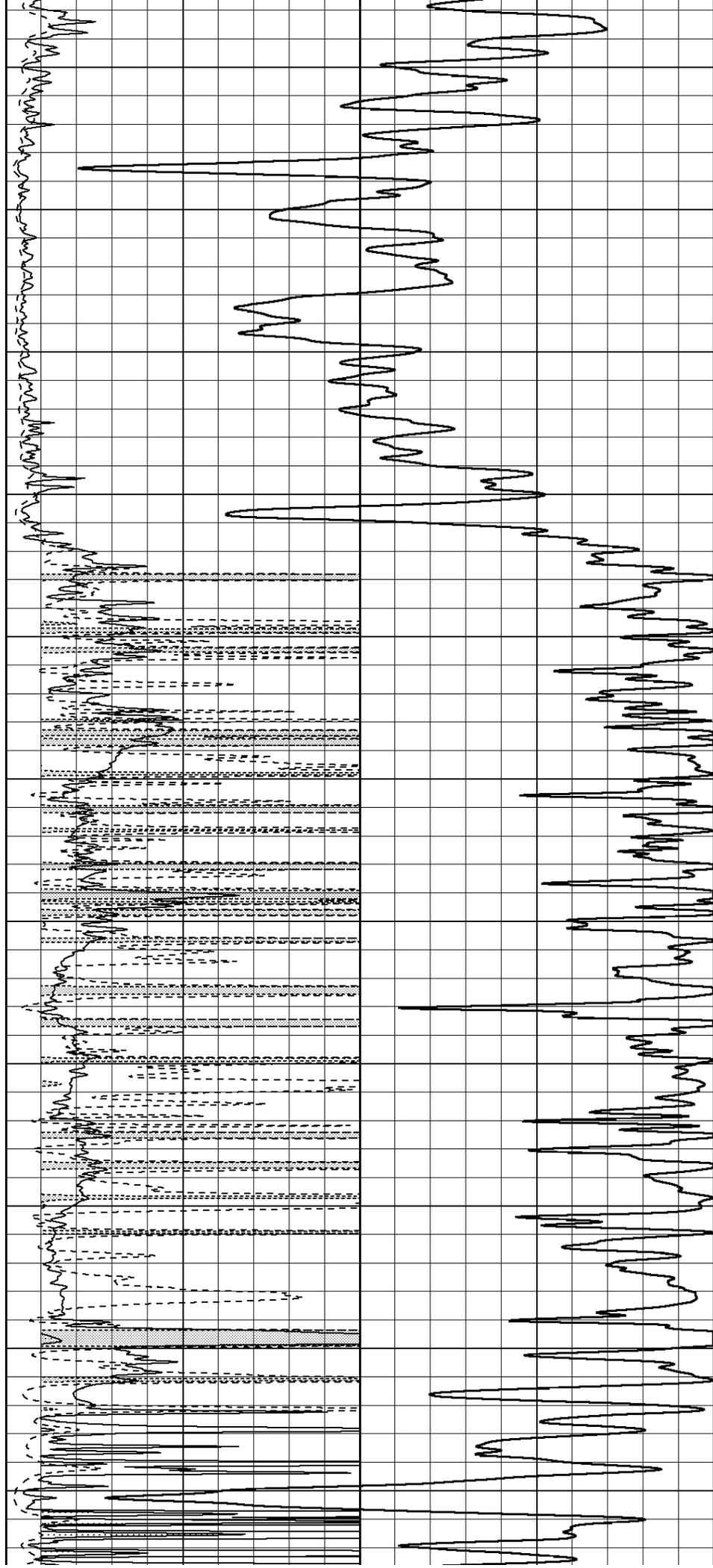
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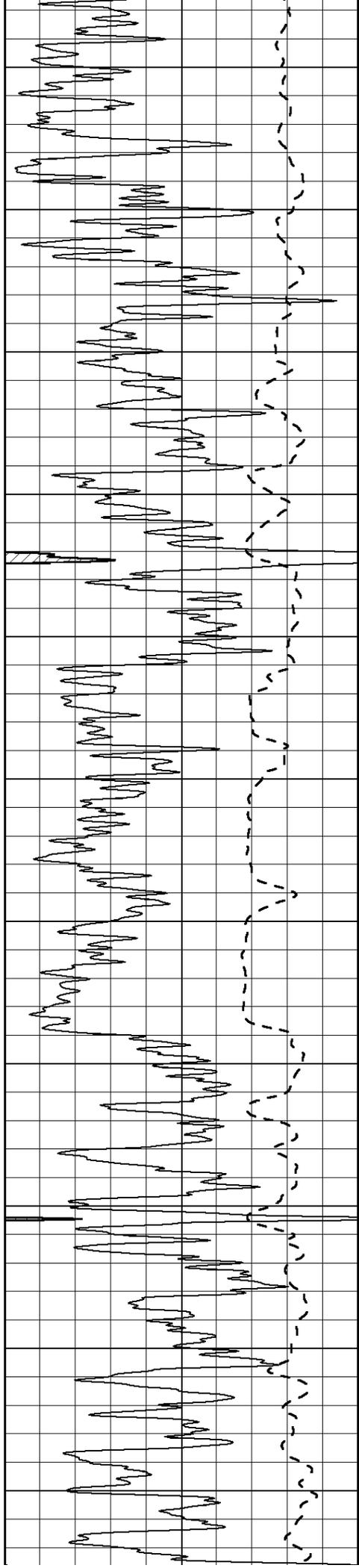
950





1000  
1050  
1100  
1150  
1200  
1250  
1300  
1350  
1400  
1450  
1500





1550

1600

1650

1700

1750

1800

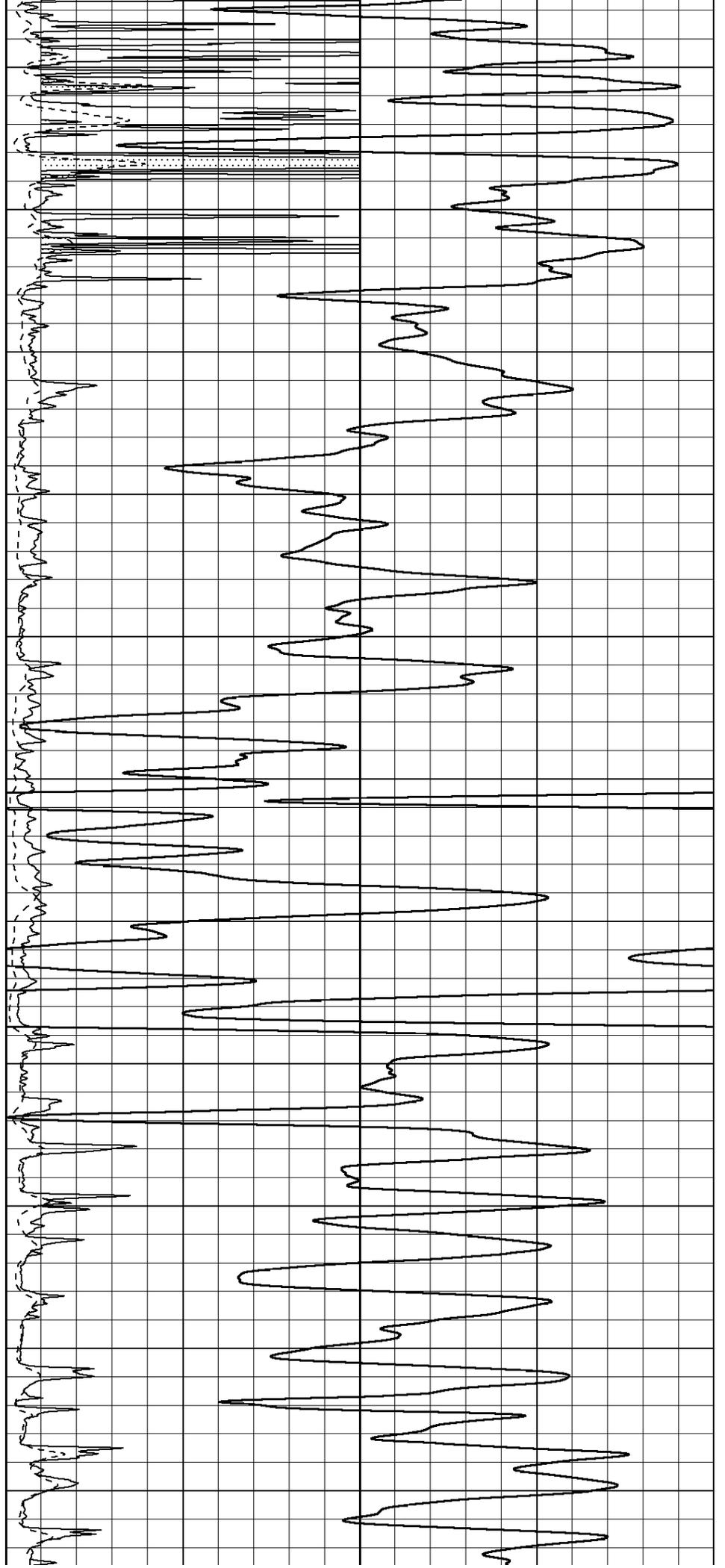
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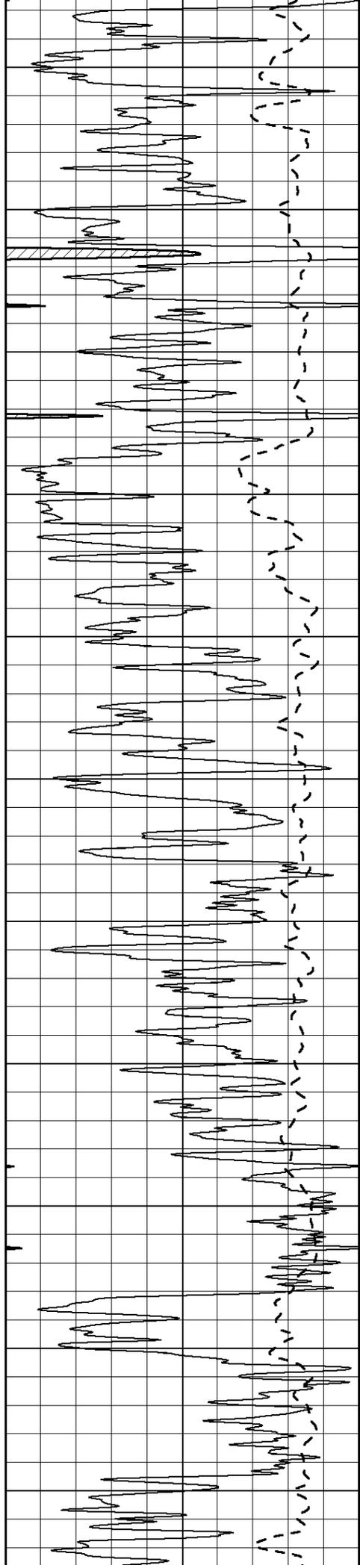
1900

1950

2000

2050





2100

2150

2200

2250

2300

2350

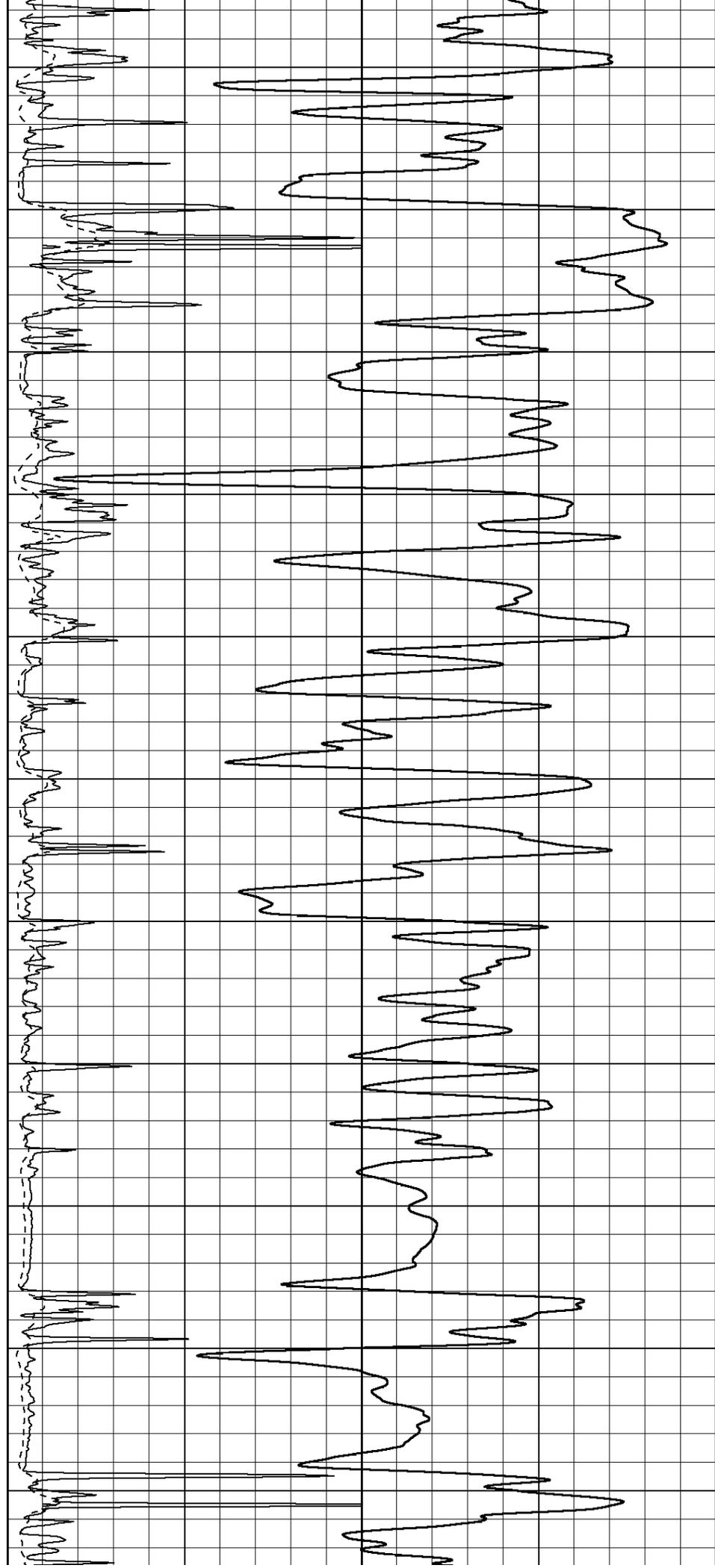
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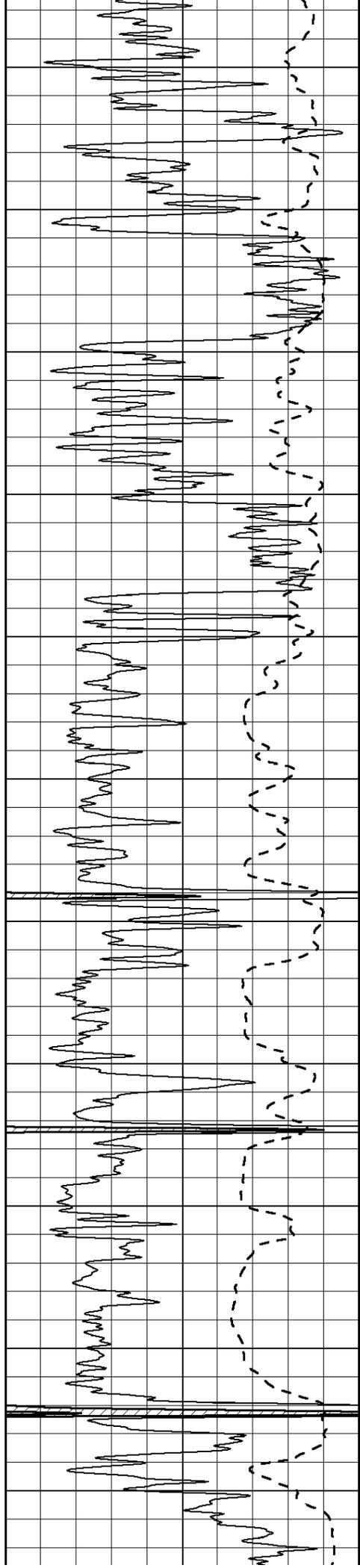
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2500

2550

2600





2650

2700

2750

2800

2850

2900

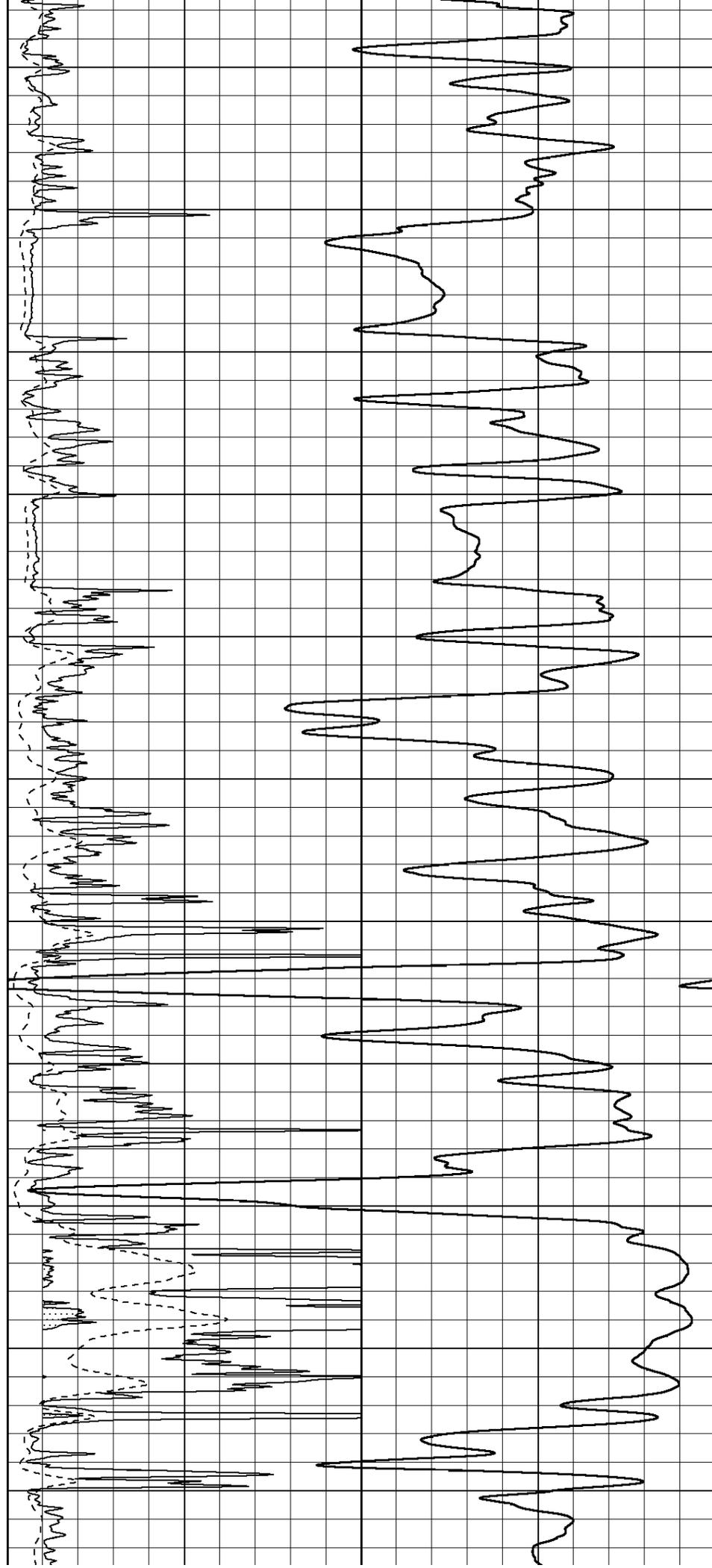
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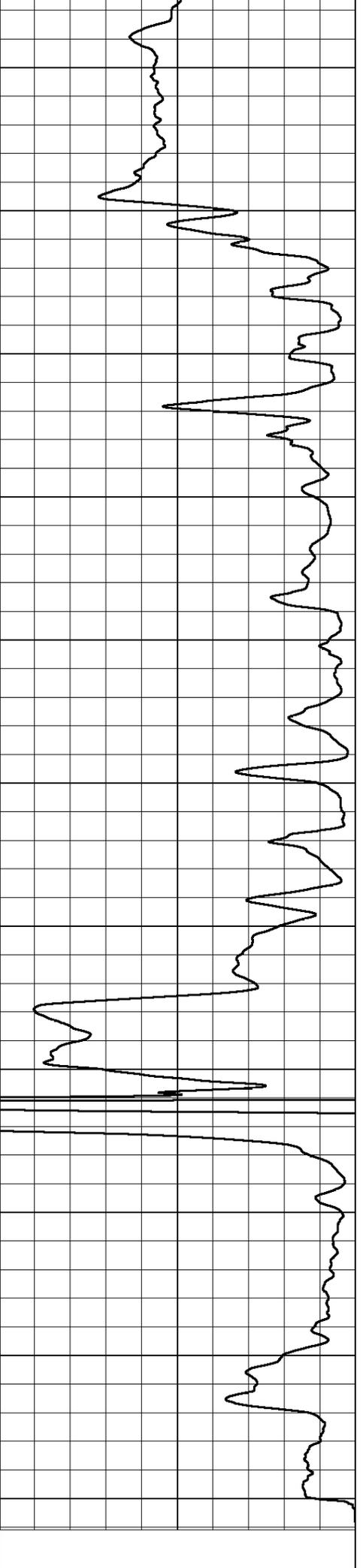
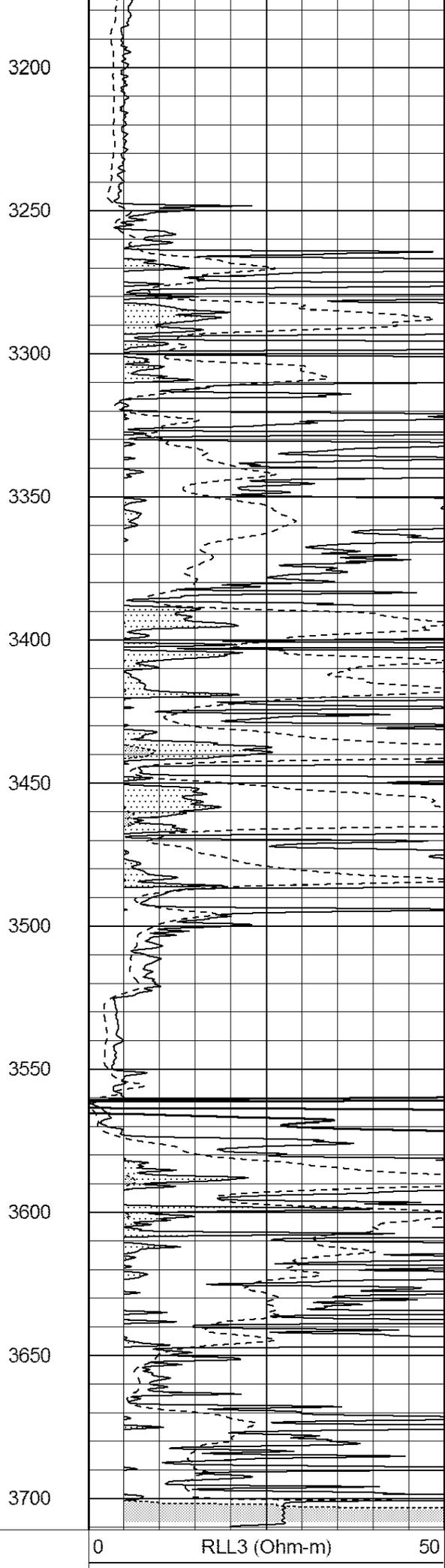
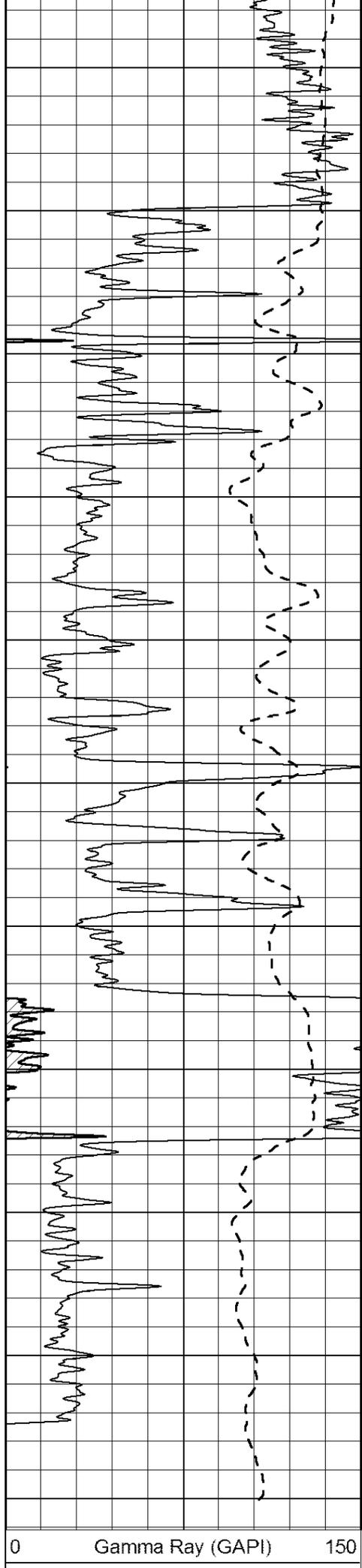
3000

3050

3100

3150





-100	SP (mV)	100
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0	RILD (Ohm-m)	50
1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

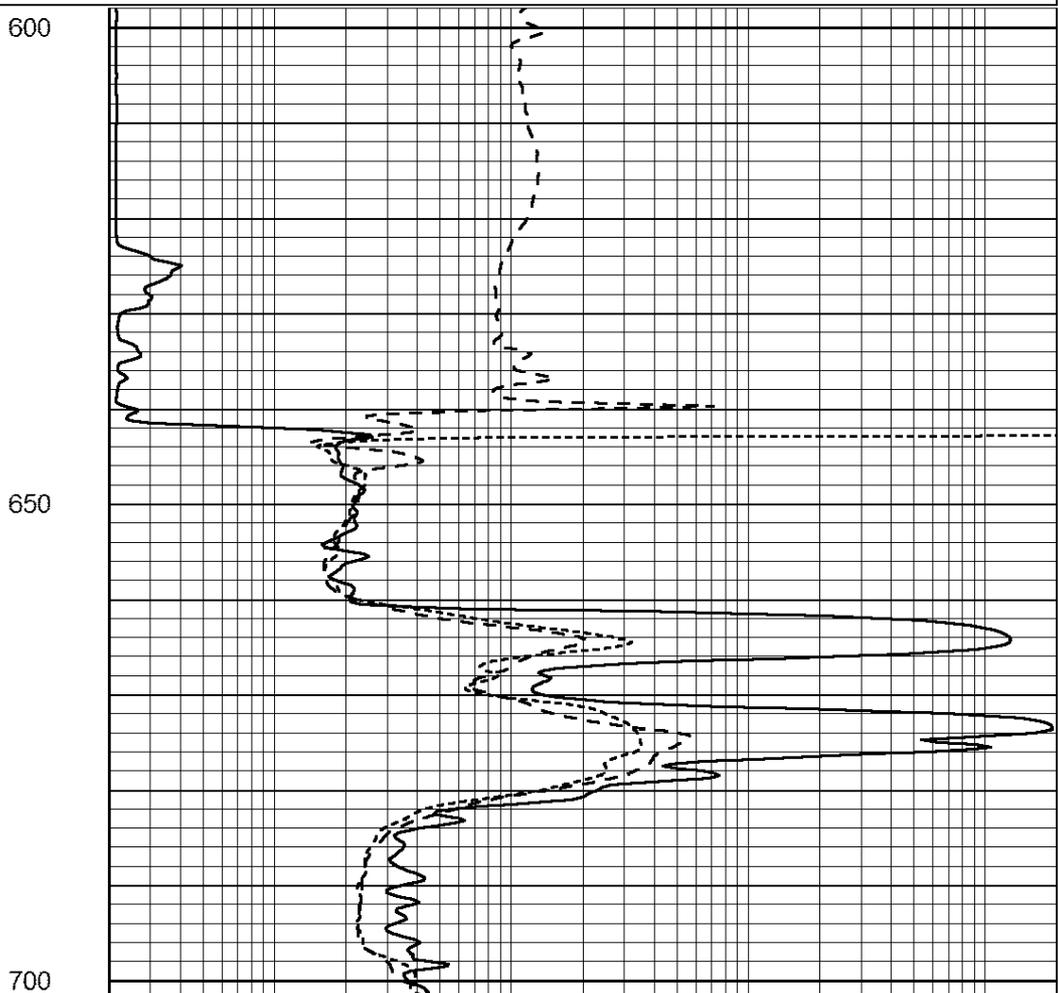
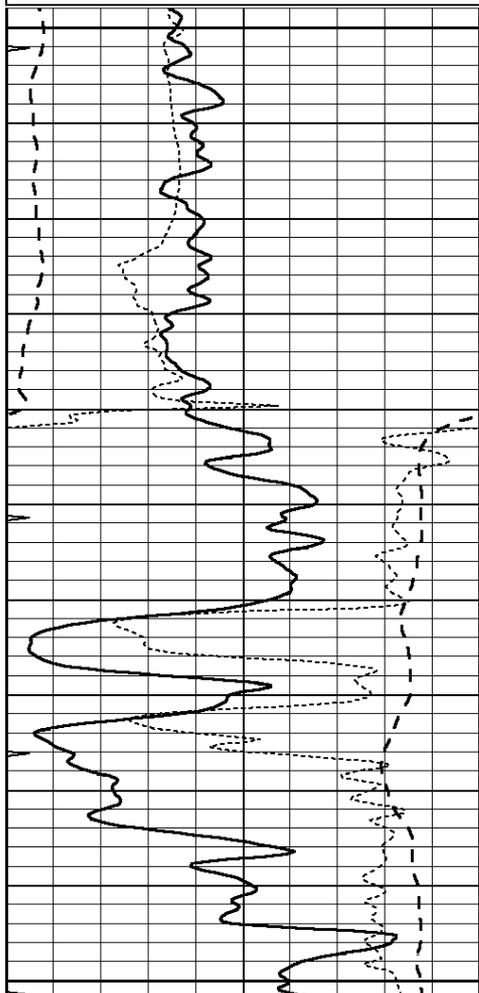


# ANHYDRITE

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 Dataset Pathname: pass4.3  
 Presentation Format: \_dil  
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 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



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



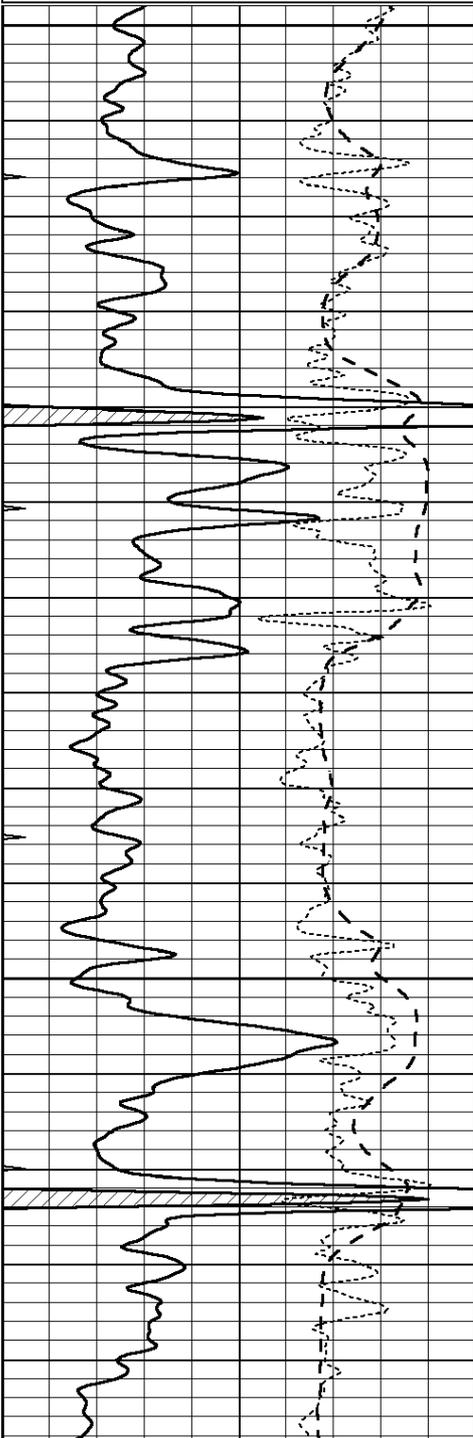
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# MAIN SECTION

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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

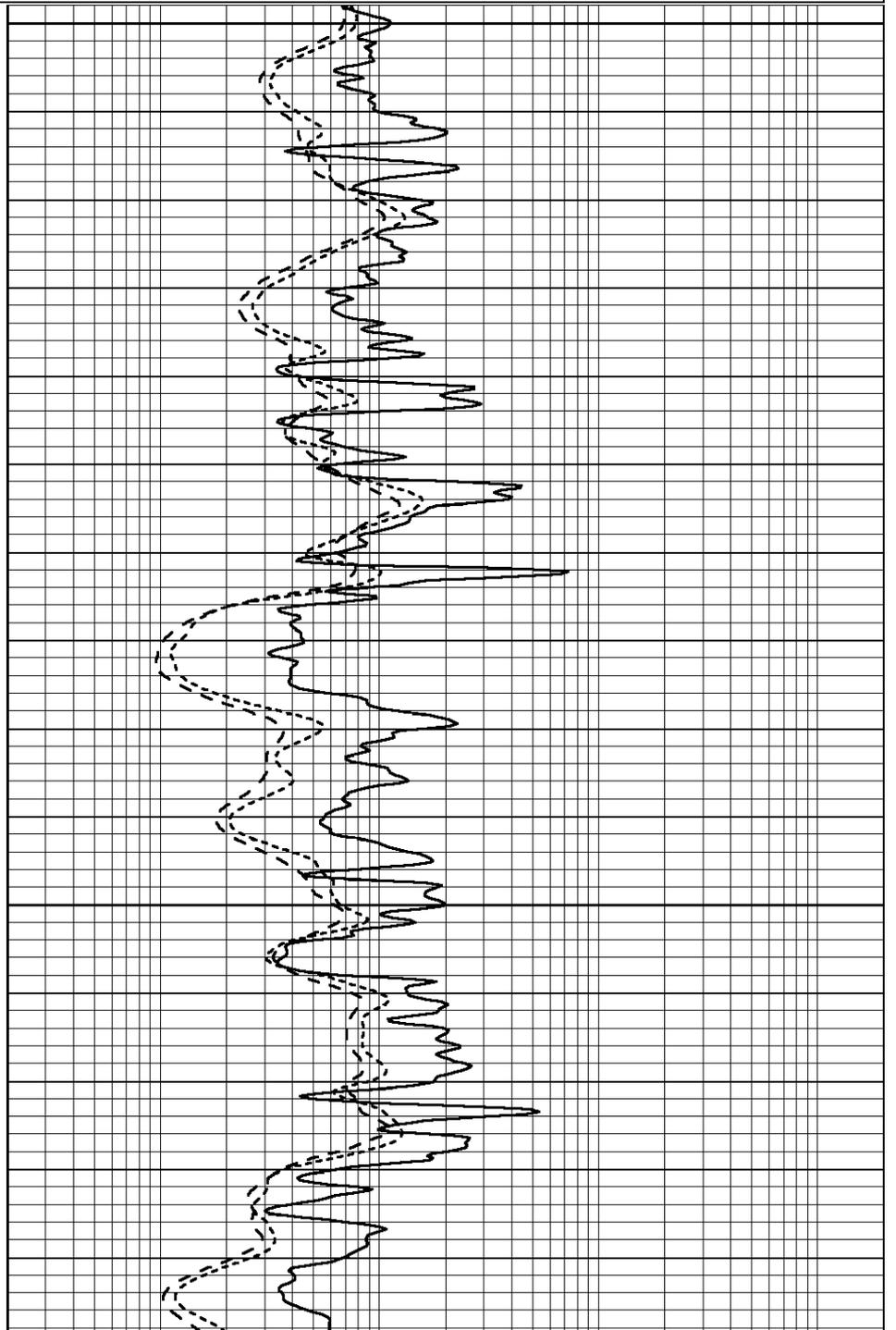
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

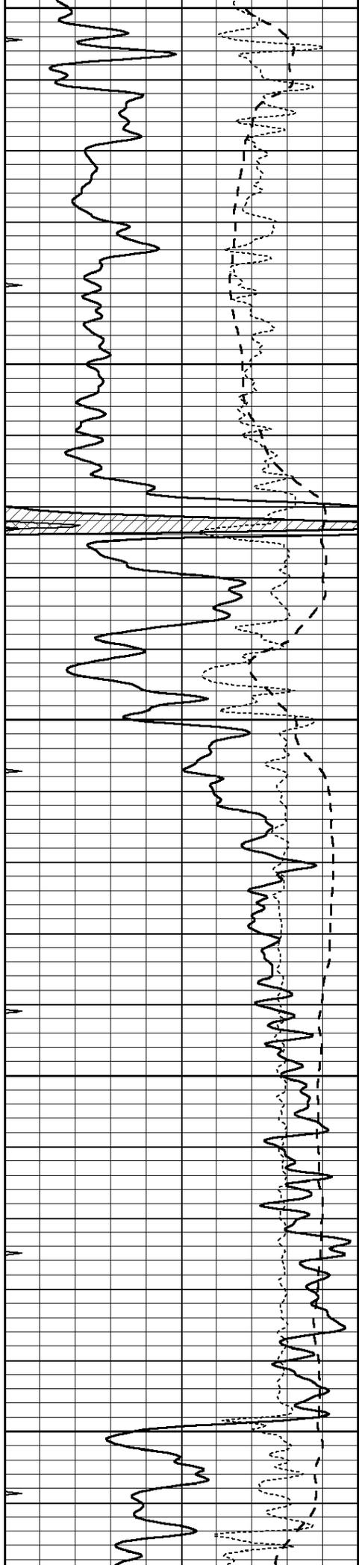


2900

2950

3000





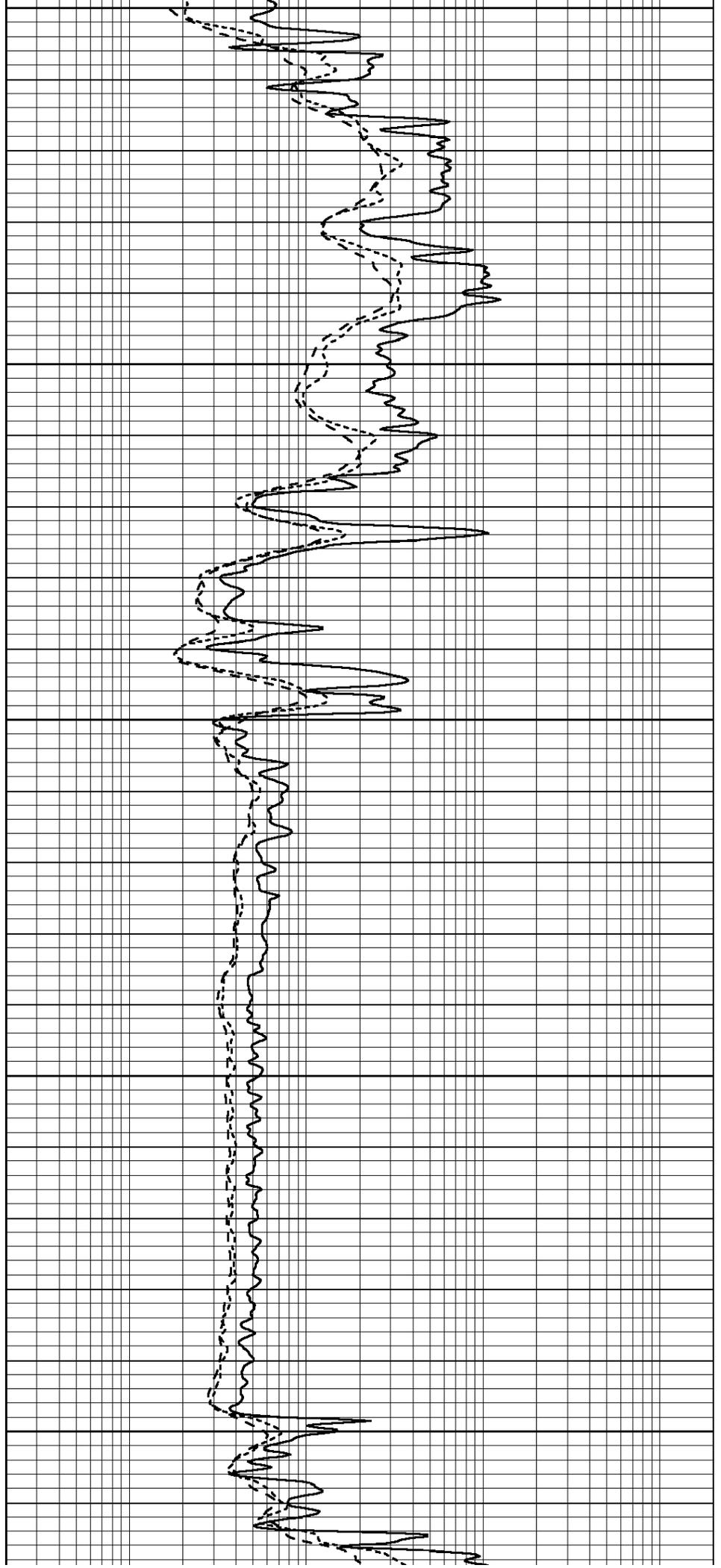
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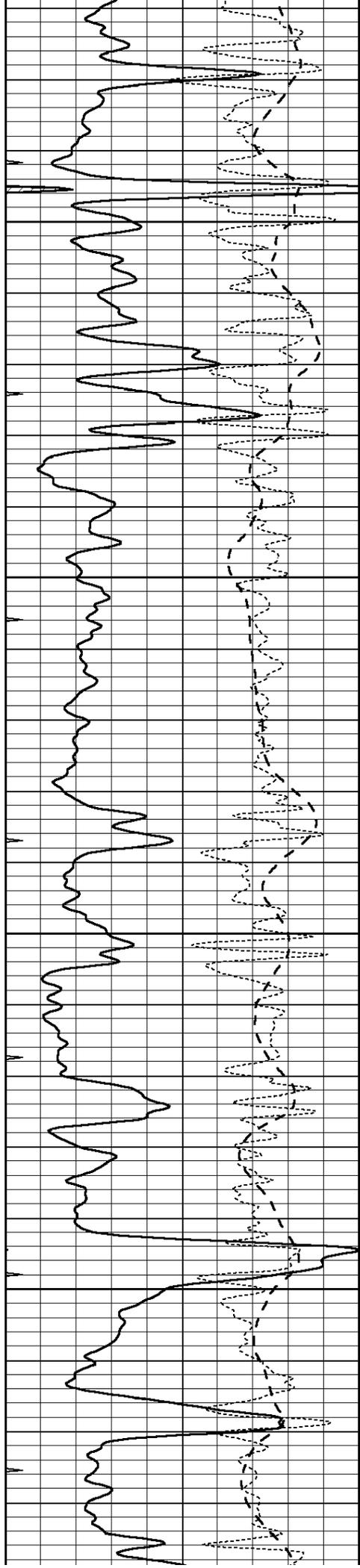
3100

3150

3200

3250



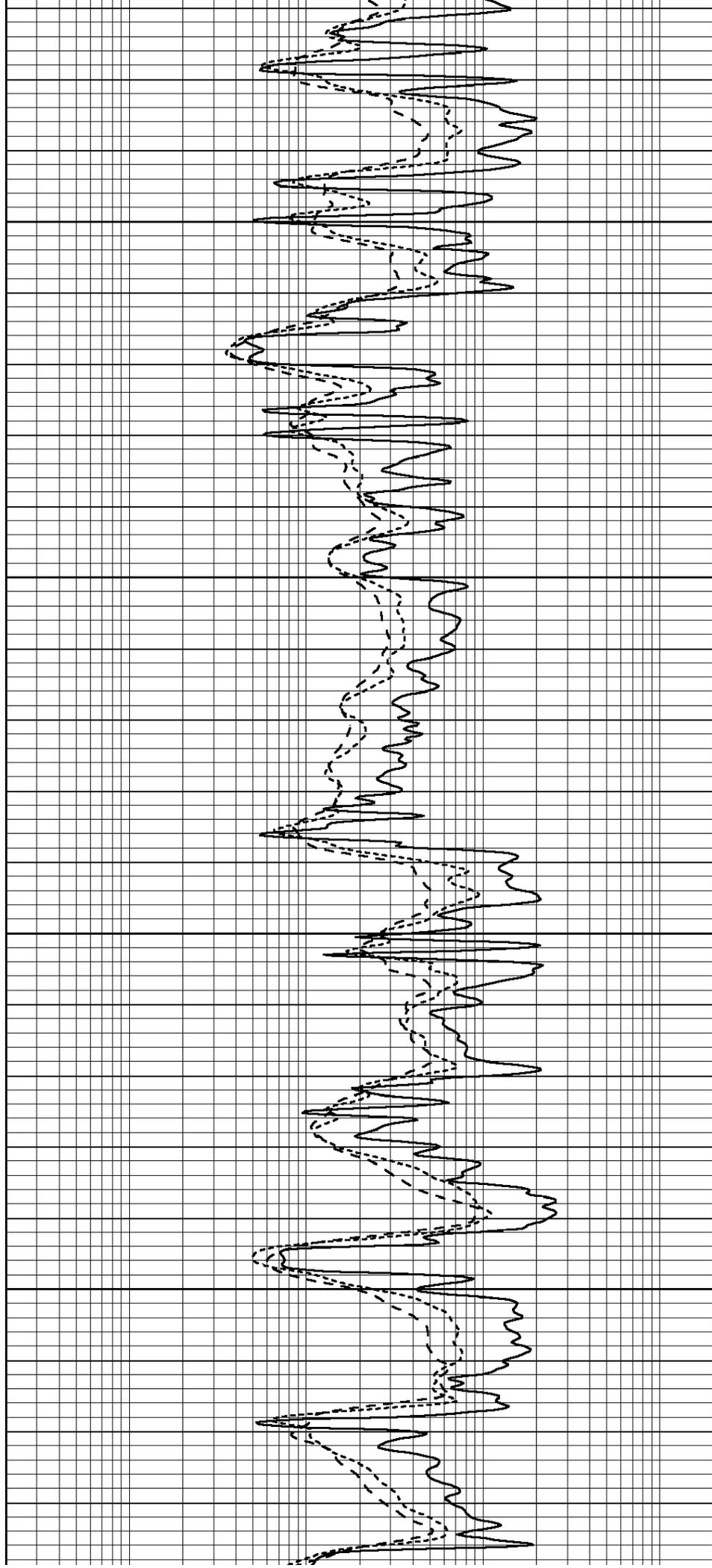


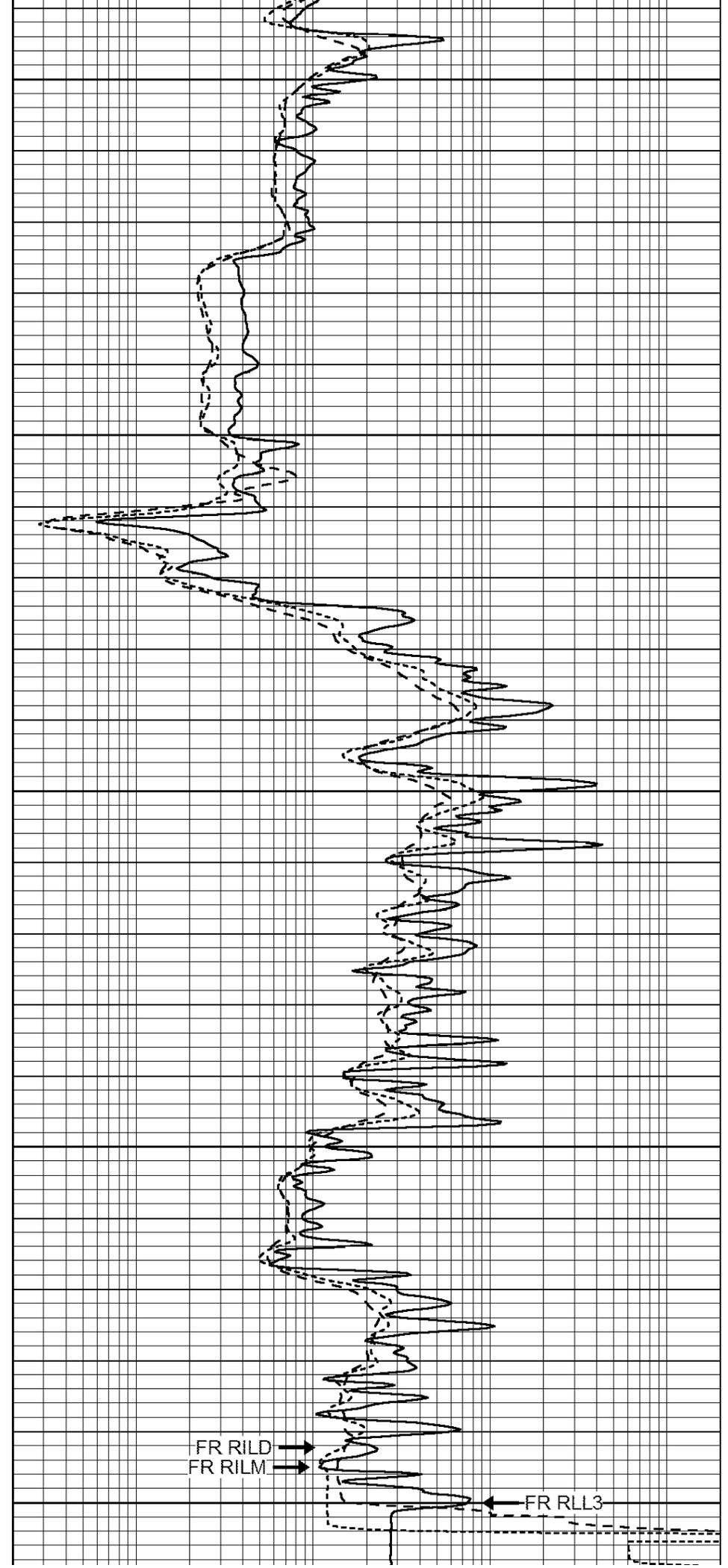
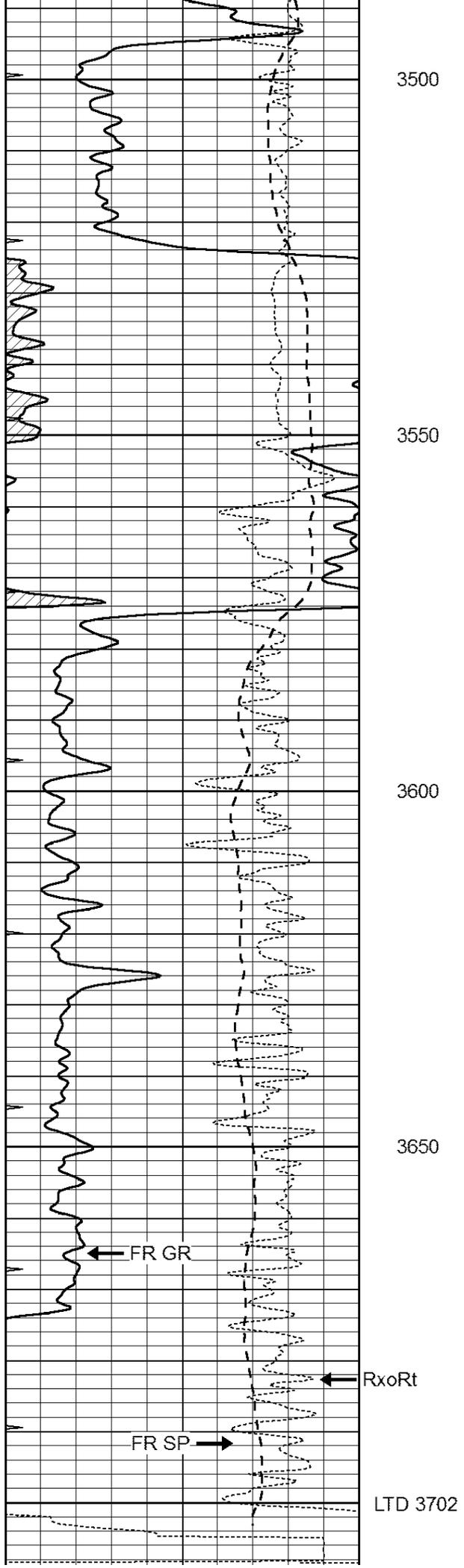
3300

3350

3400

3450





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



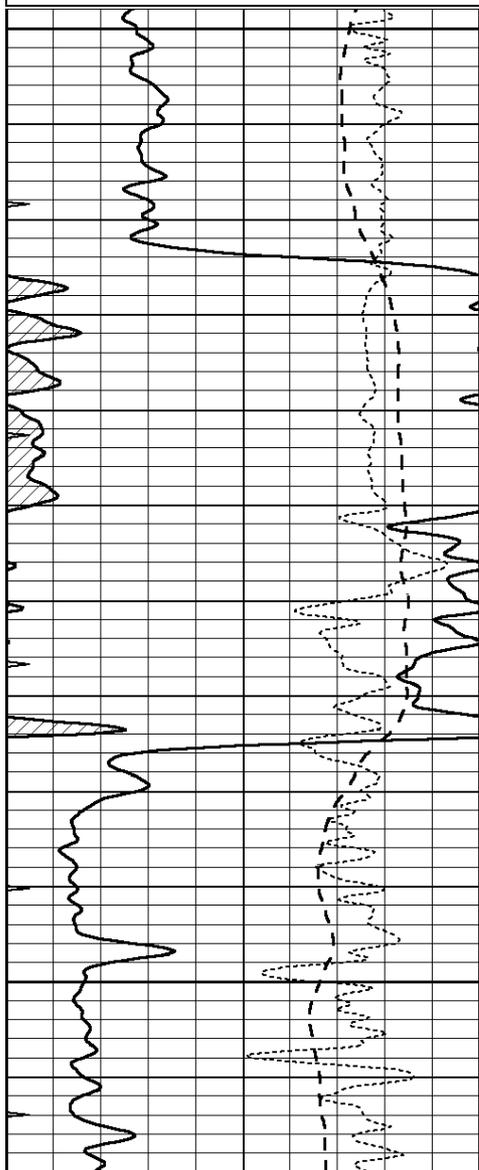
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# REPEAT SECTION

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 Presentation Format: \_dil  
 Dataset Creation: Thu Apr 30 15:00:05 2015 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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

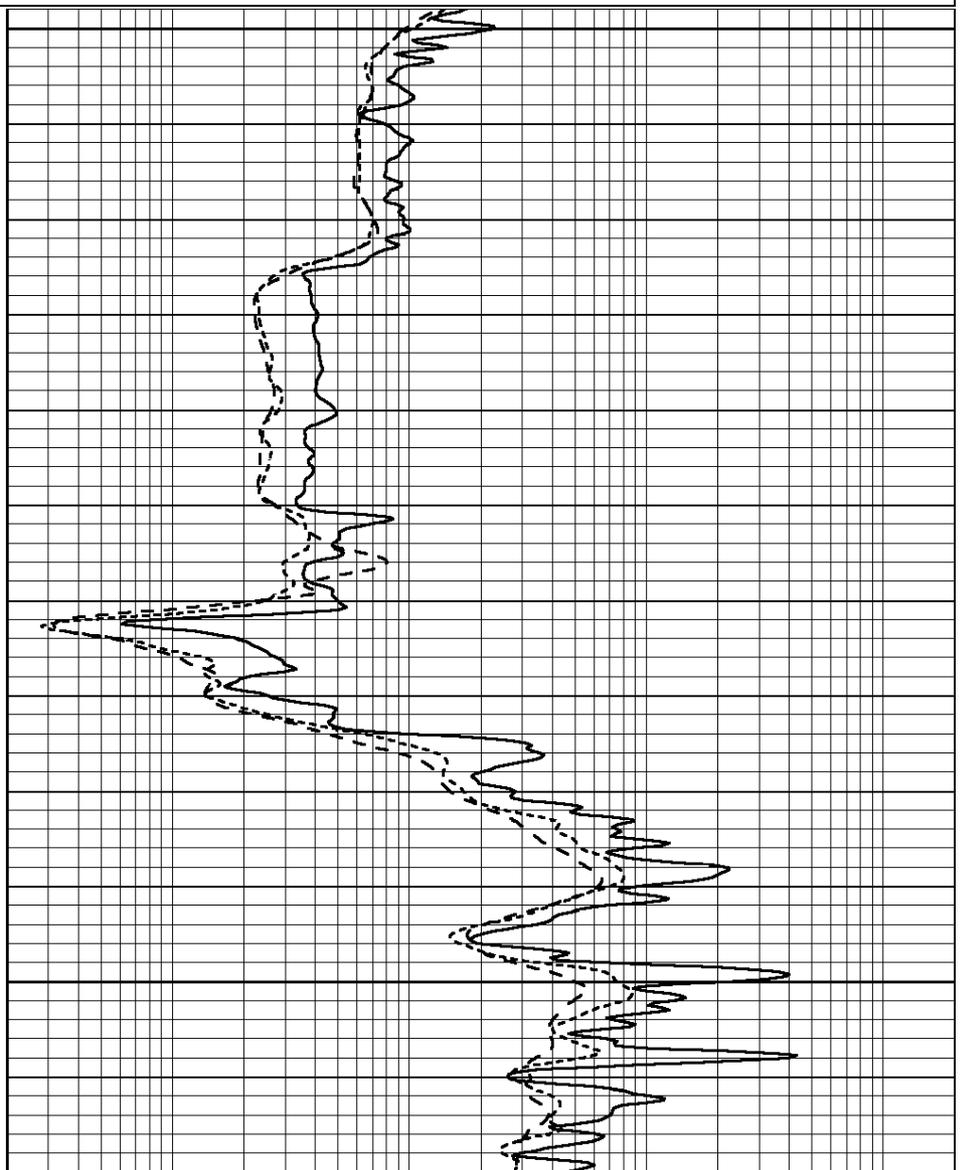
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

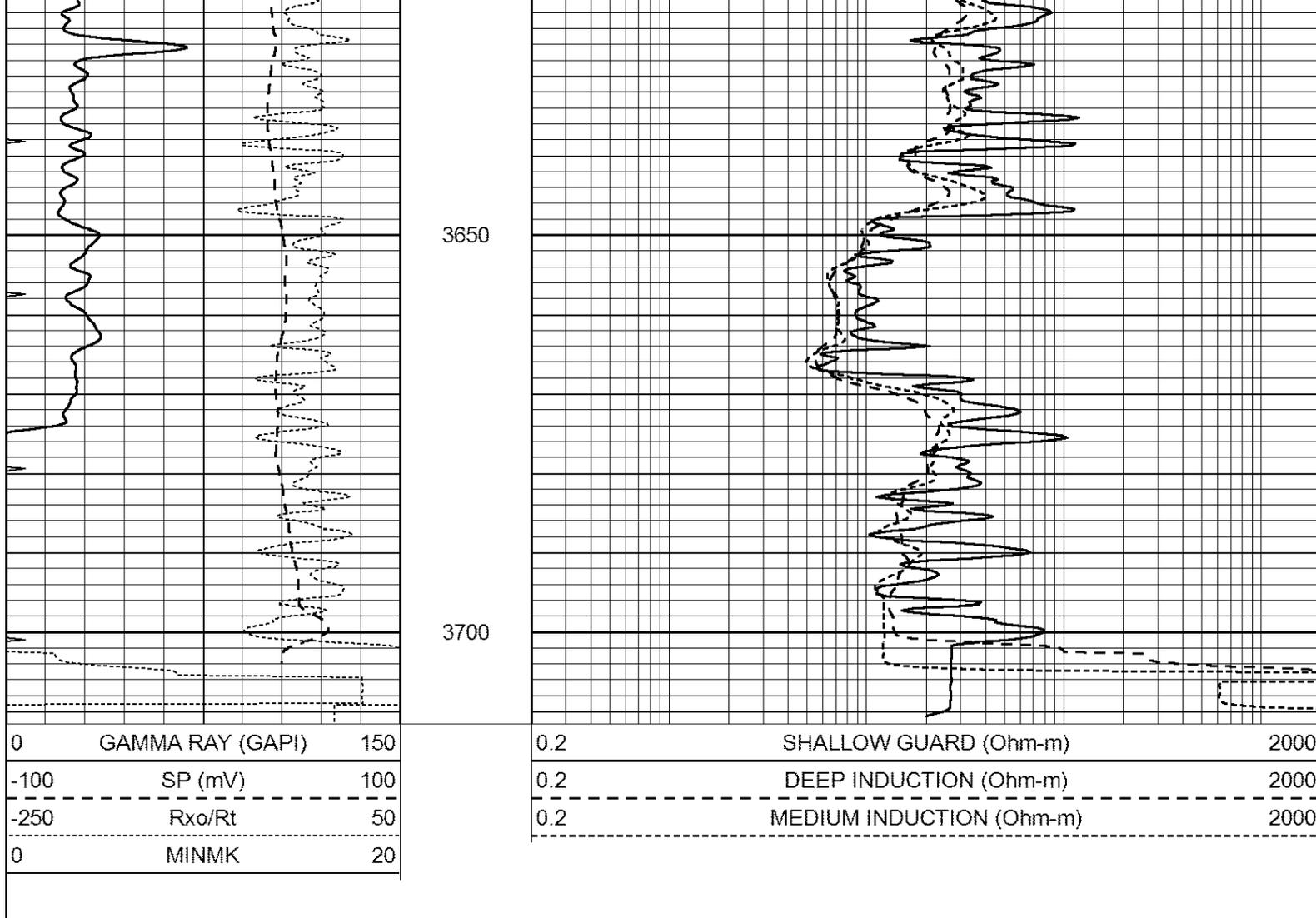


3500

3550

3600





### Calibration Report

Database File: 30502ddn.db  
 Dataset Pathname: pass4.4  
 Dataset Creation: Thu Apr 30 16:10:03 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

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	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	
	Zero	Cal	mmho/m	Zero	Cal	mmho/m	m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000

Deep	0.000	0.000	mmho/m	2.011	400.111	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: 006 Model: PRB

Master Calibration		Performed Wed Mar 12 14:26:38 2014						
	Background	Magnesium	Aluminum	Sandstone				
Window 1	1296.6	7199.0	2625.4	7833.2			cps	
Window 2	1218.8	5956.6	2257.8	6372.0			cps	
Window 3	926.7	2990.0	1318.7	3107.7			cps	
Window 4	314.3	319.6	320.3	326.2			cps	
Long Space	0.0	4737.9	1039.0	5153.3			cps	
Short Space	1.3	1655.6	1074.2	1728.4			cps	
Rho		1.7100	2.5960	1.3800			g/cc	
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.1	Rib Slope	: 0.969	Density/Spine Ratio			: 0.562	
Spine Angle	: 74.1	Spine Slope	: 3.507	Spine Intercept			: -17.5	

Before Survey Verification		Performed Wed Dec 31 18:00:00 1969						
	Background	Magnesium	Aluminum	Sandstone				
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						
	Background	Magnesium	Aluminum	Sandstone				
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: 61  
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: Sun Mar 08 22:55:40 2015

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 276.0 cps

Sensitivity: 0.8000 GAPI/cps