



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**DUAL  
INDUCTION  
LOG**

Company CASTELLI EXPLORATION, INC.  
Well GALLUP RANCH #1-13  
Field  
County KIOWA  
State KANSAS

Company CASTELLI EXPLORATION, INC.  
Well GALLUP RANCH #1-13  
Field  
County KIOWA State KANSAS

Location: API # : 15-097-21800-0000  
1650' FSL & 1485' FWL  
W/2 - SW - NE - SW  
SEC 13 TWP 30S RGE 16W  
Permanent Datum GROUND LEVEL Elevation 1774  
Log Measured From KELLY BUSHING 13' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
CDL/CNL  
PE/MEEL  
Elevation  
K.B. 1787  
D.F. 1785  
G.L. 1774

Date	8/6/14		
Run Number	ONE		
Depth Driller	4900		
Depth Logger	4903		
Bottom Logged Interval	4901		
Top Log Interval	0		
Casing Driller	13 3/8" @ 335'		
Casing Logger	333'		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5000 PPM	
Density / Viscosity	9.3/53		
pH / Fluid Loss	11.0/9.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 95F		
Rmt @ Meas. Temp	0.48 @ 95F		
Rmc @ Meas. Temp	0.78 @ 95F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.50 @ 124F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	124F		
Equipment Number	4010		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	RICK POPP		

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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.

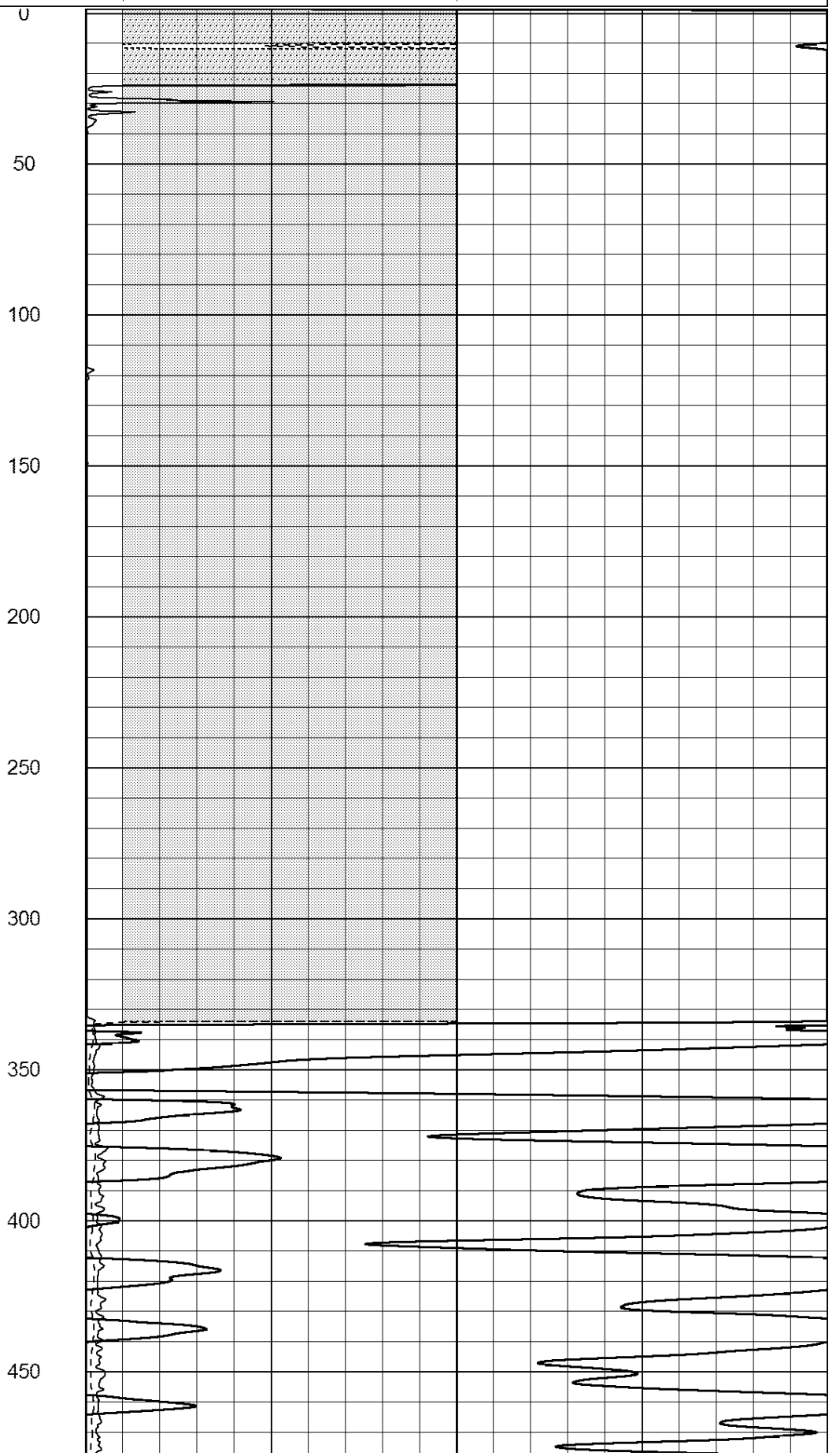
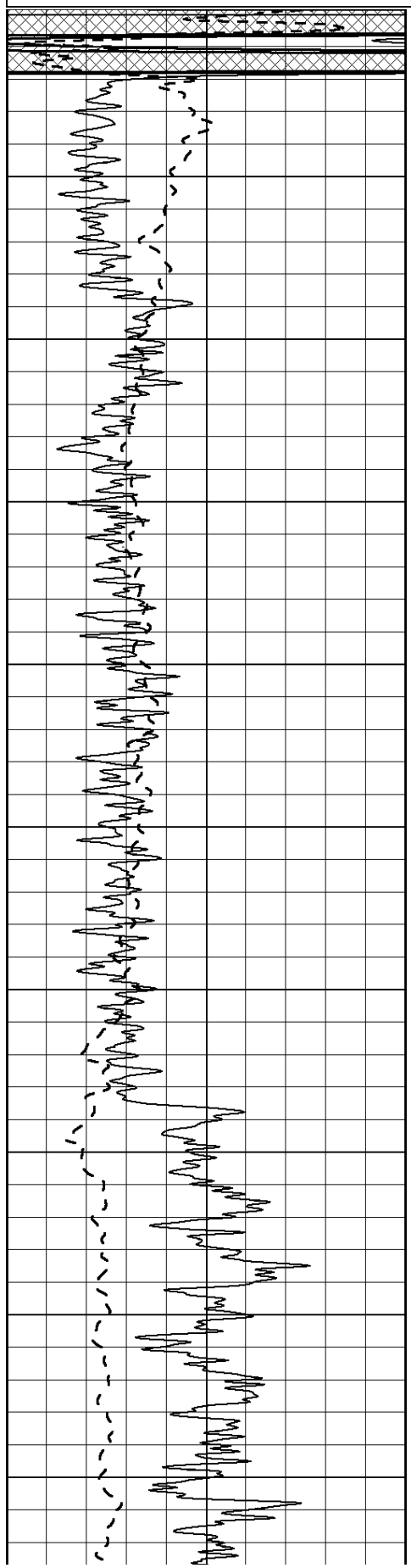
Comments

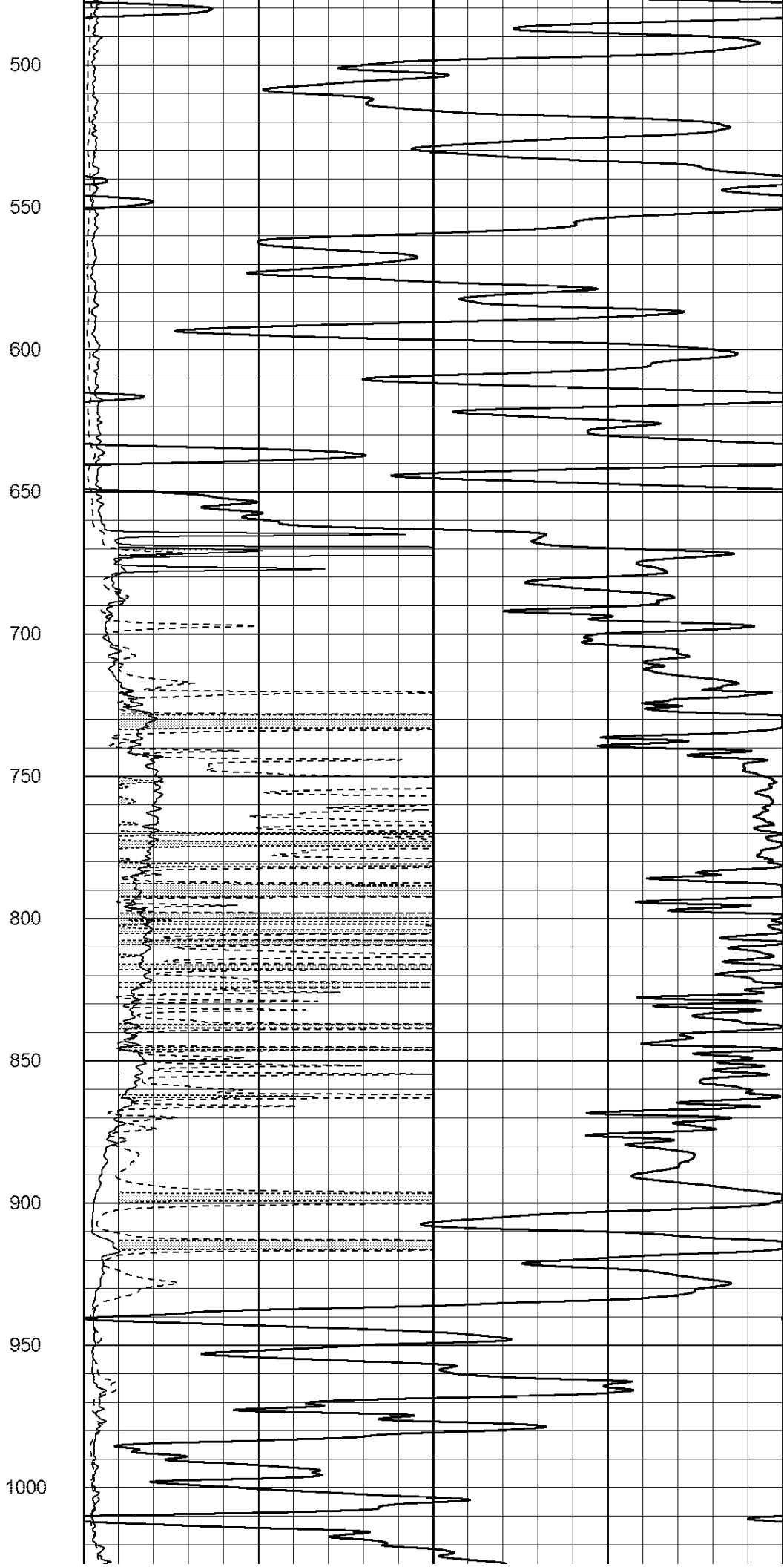
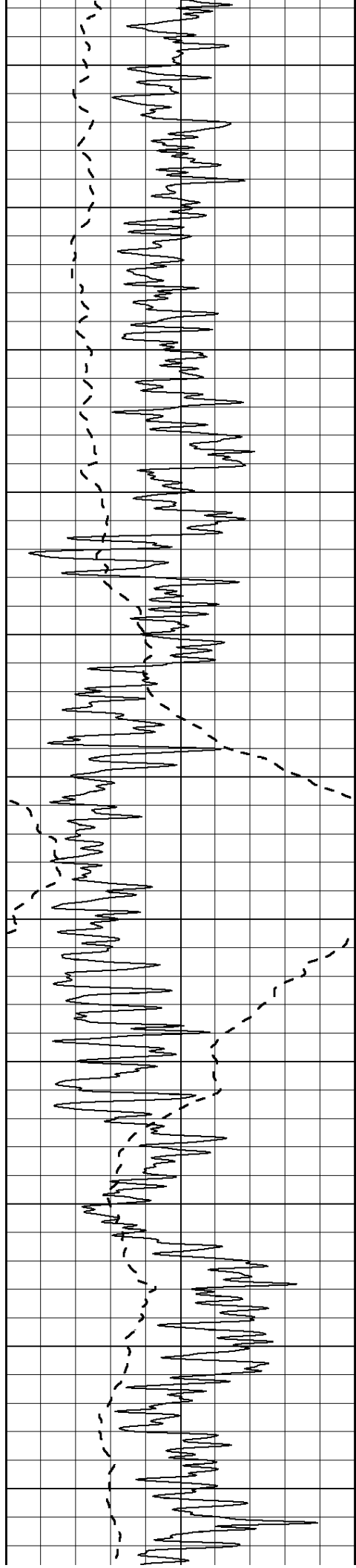
NABORS COMPLETION & PRODUCTION SERVICES  
785-628-6395  
THANK YOU FOR YOUR BUSINESS  
DIRECTIONS: BELVIDERE, KS - NORTH 2 MILES TO RD 67  
3 MILES EAST - SOUTH INTO

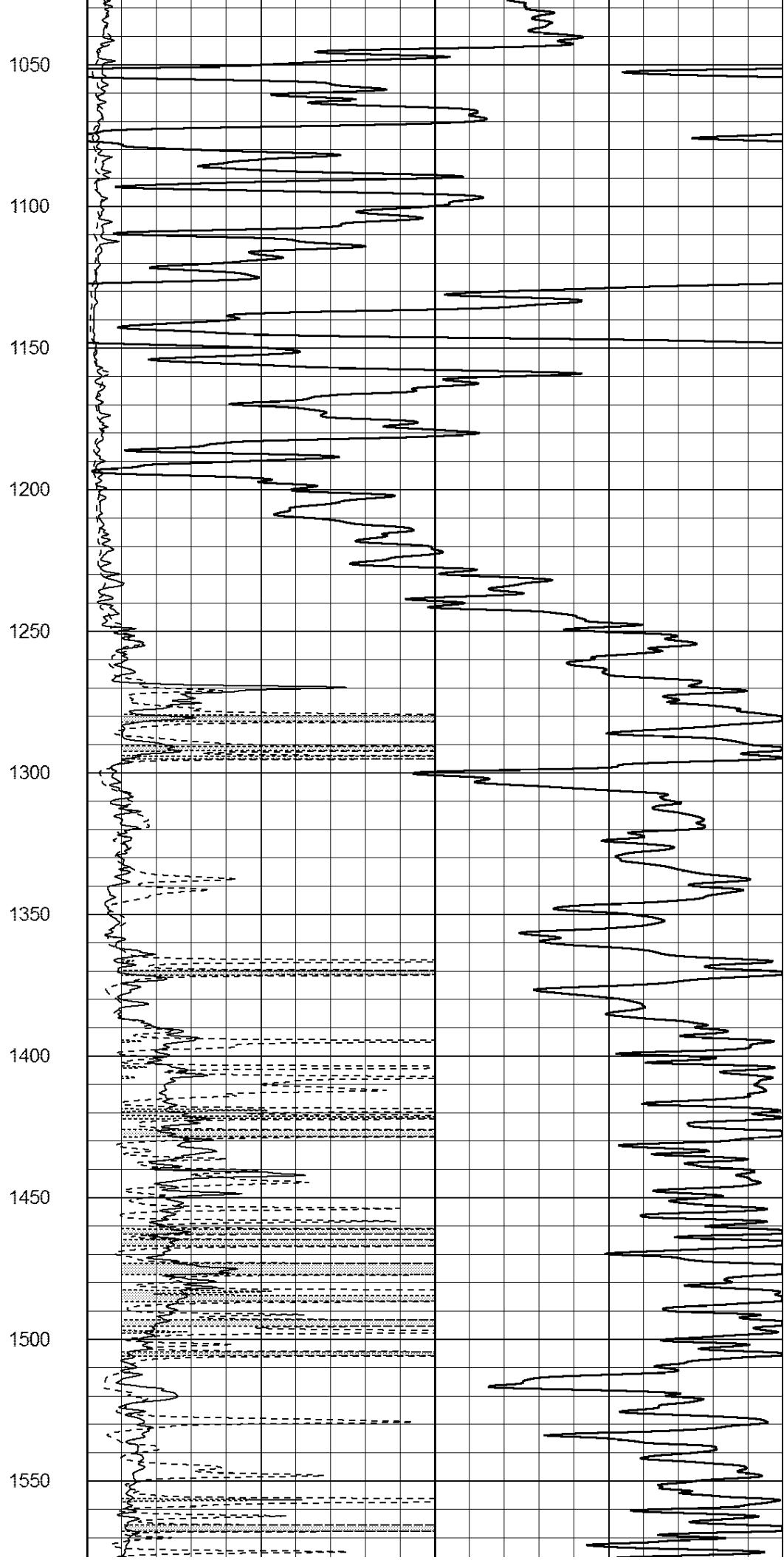
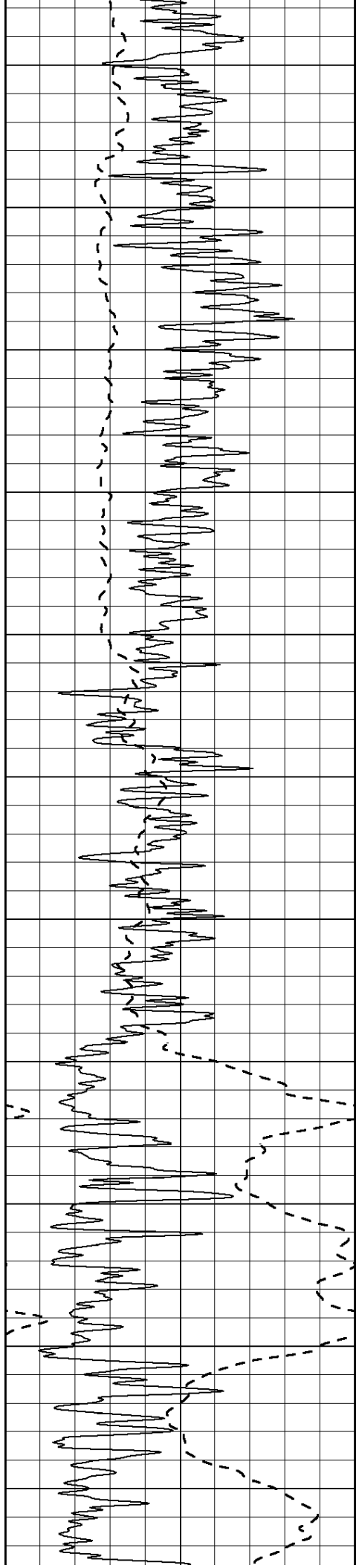
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Charted by: Depth in Feet scaled 1:600

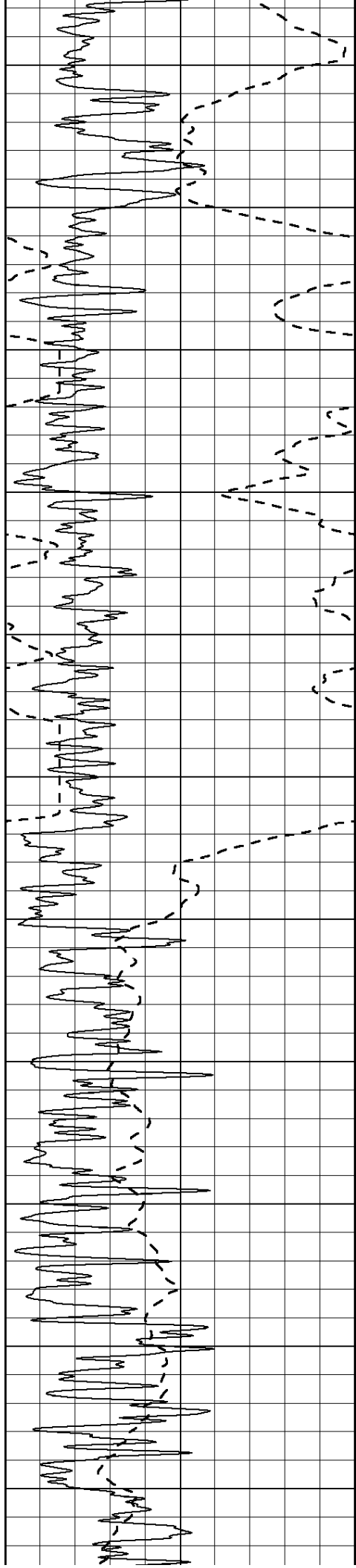
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-100	SP (mV)	100

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









1600

1650

1700

1750

1800

1850

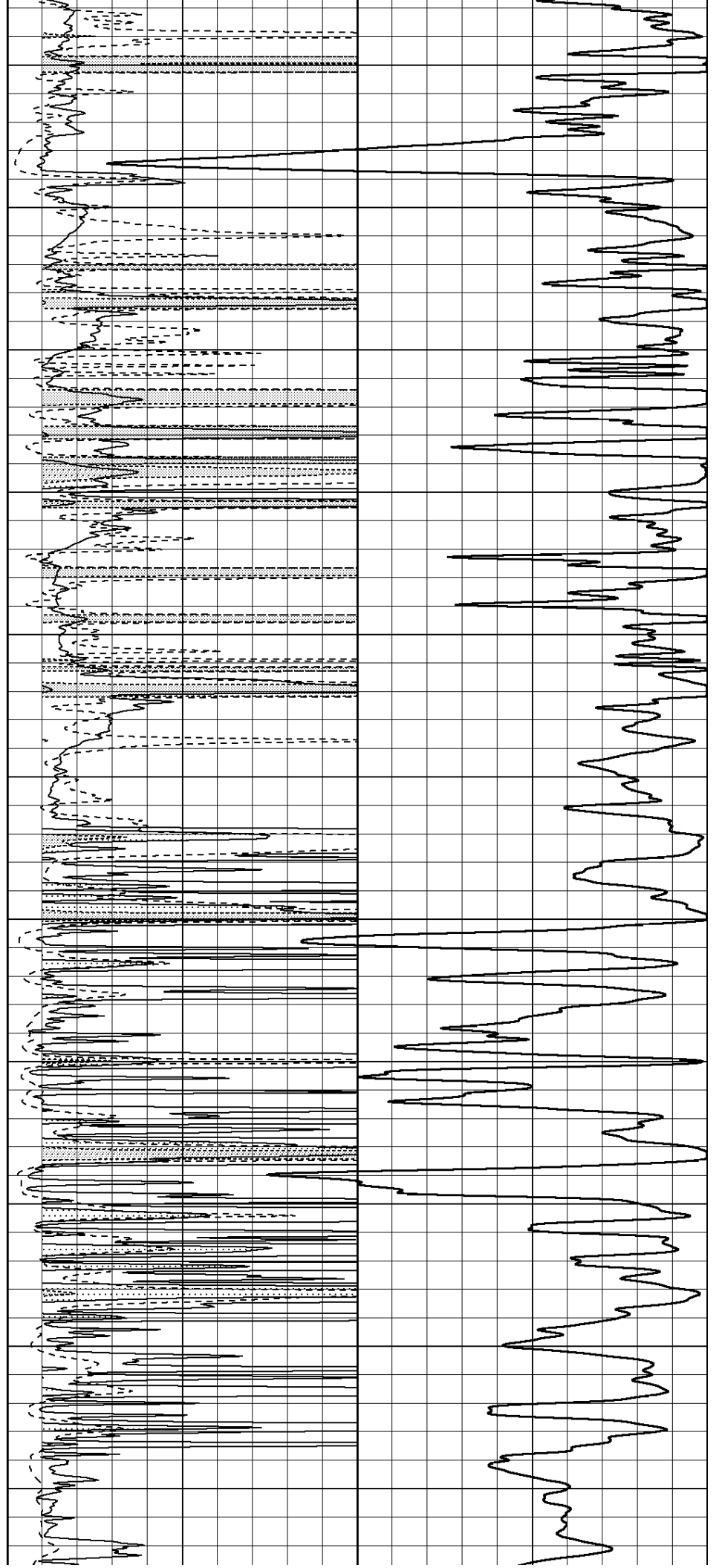
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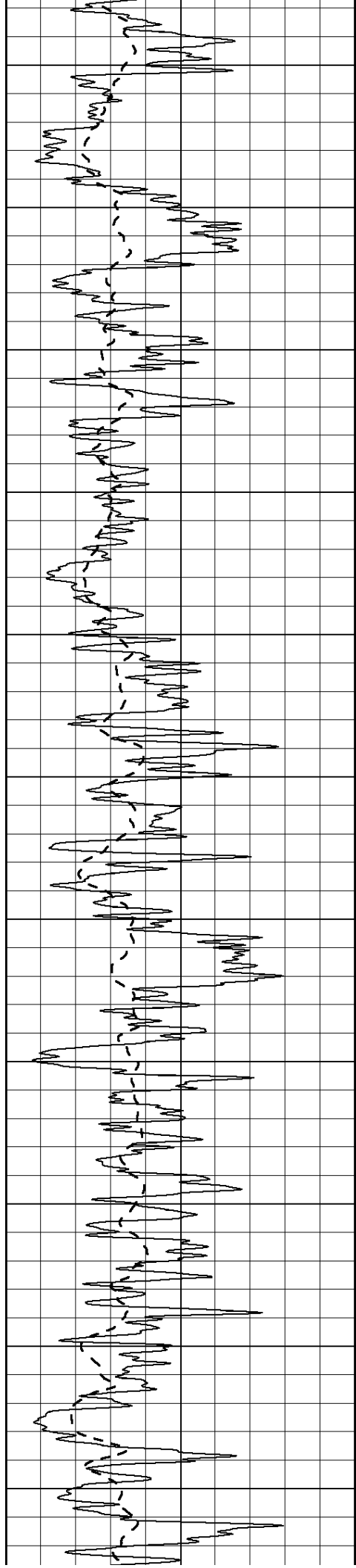
1950

2000

2050

2100





2150

2200

2250

2300

2350

2400

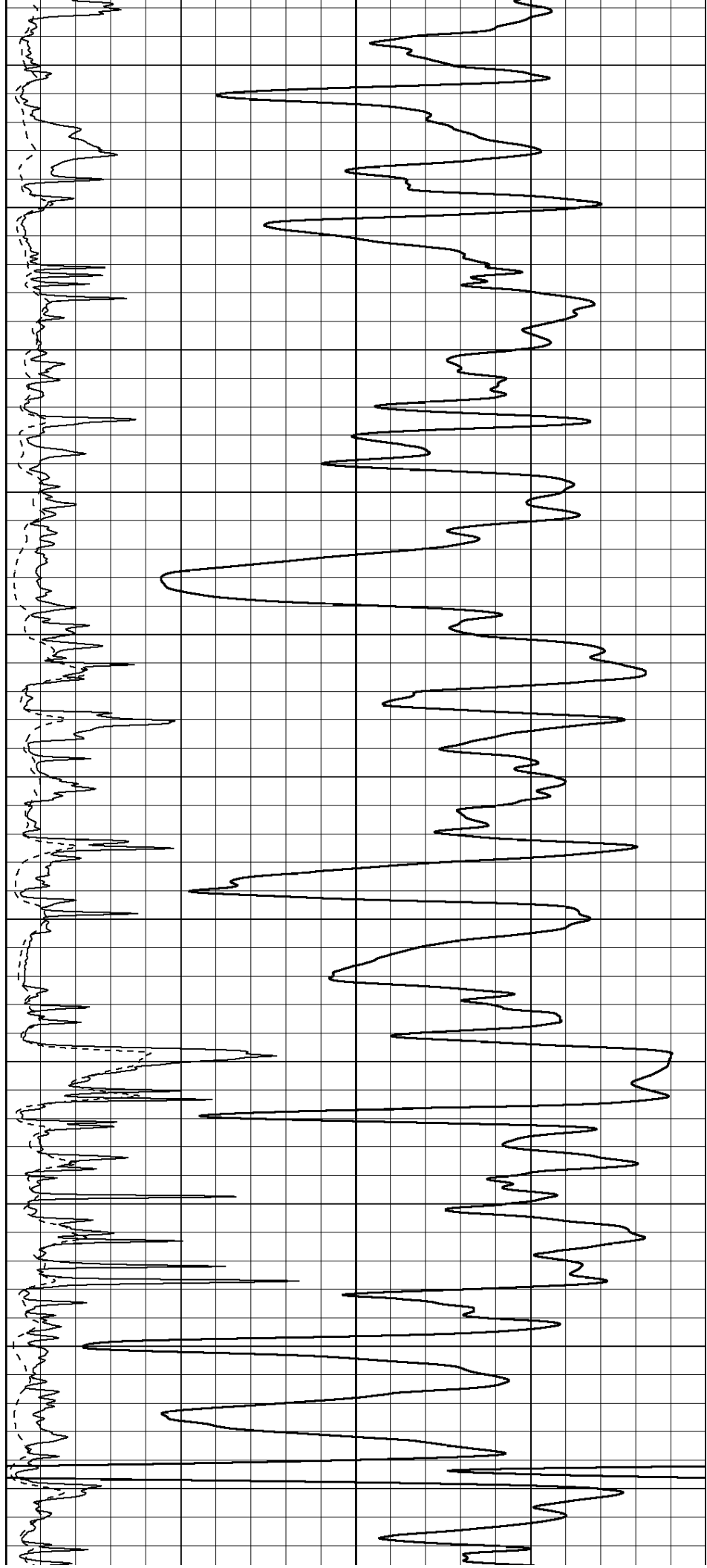
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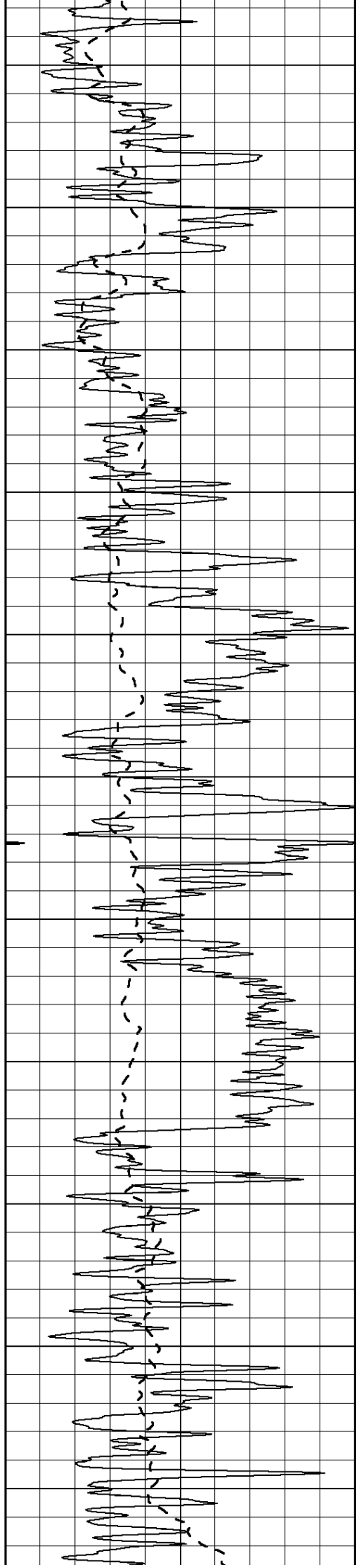
2500

2550

2600

2650





2700

2750

2800

2850

2900

2950

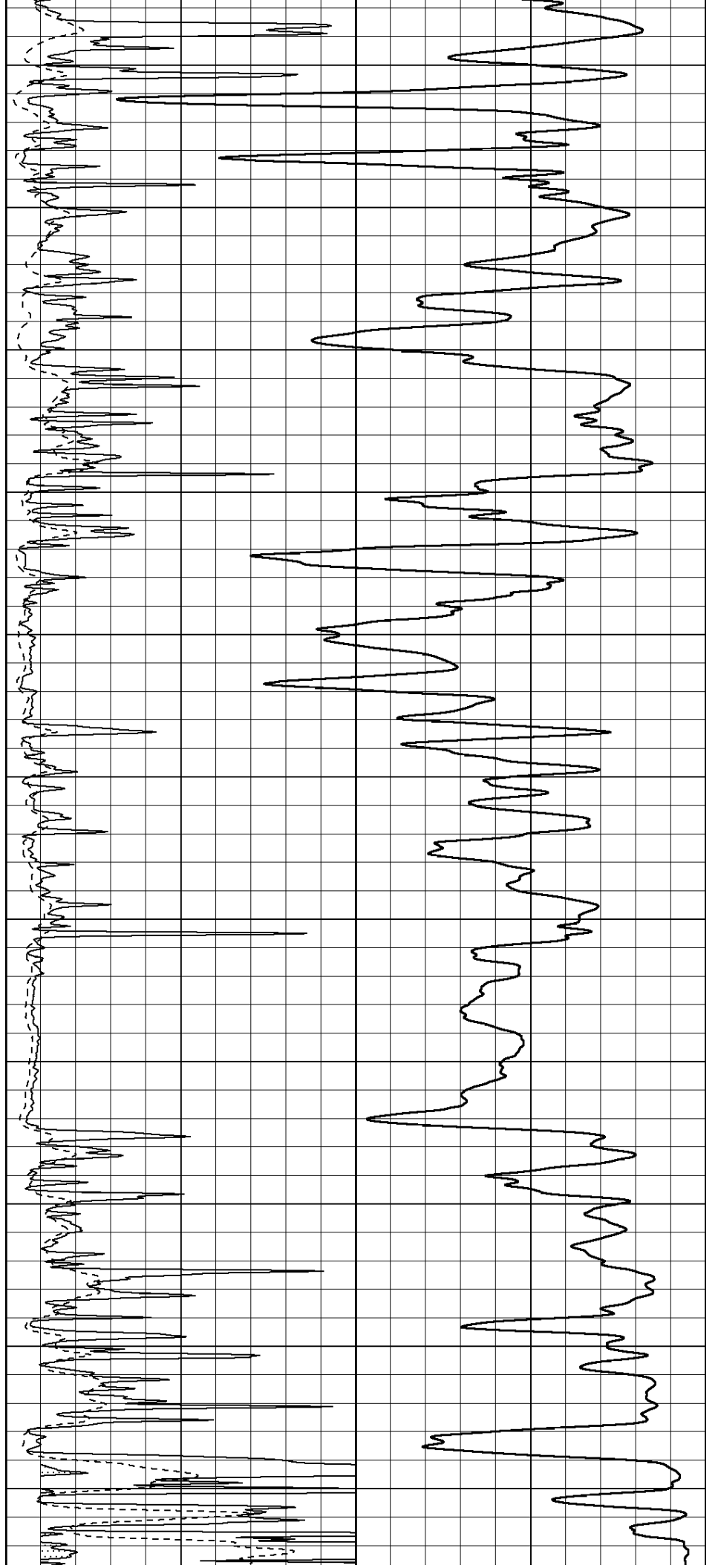
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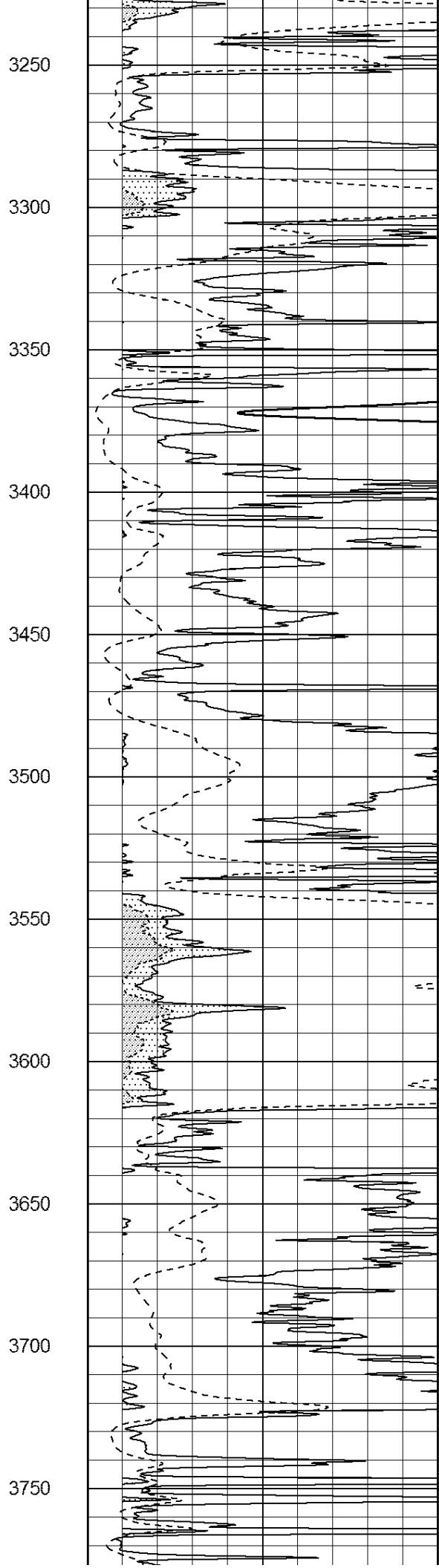
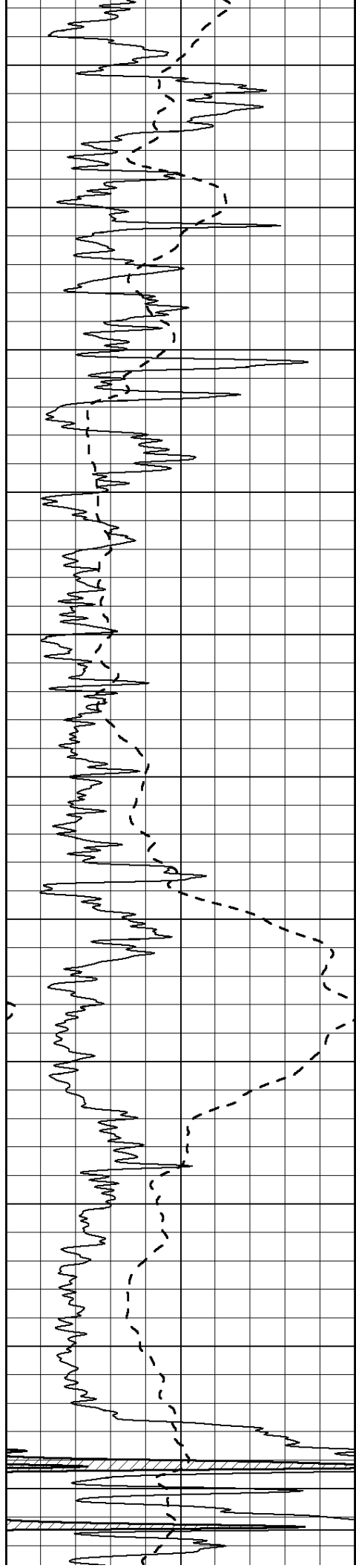
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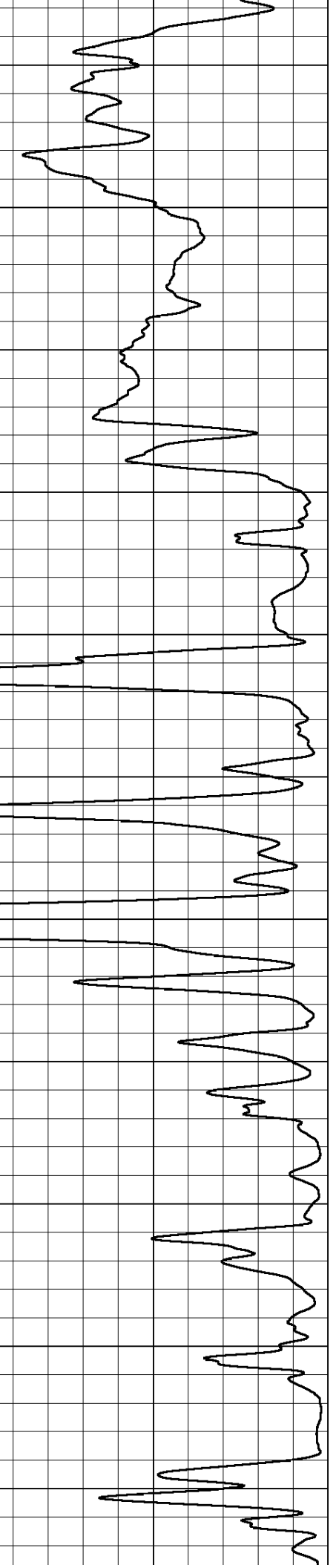
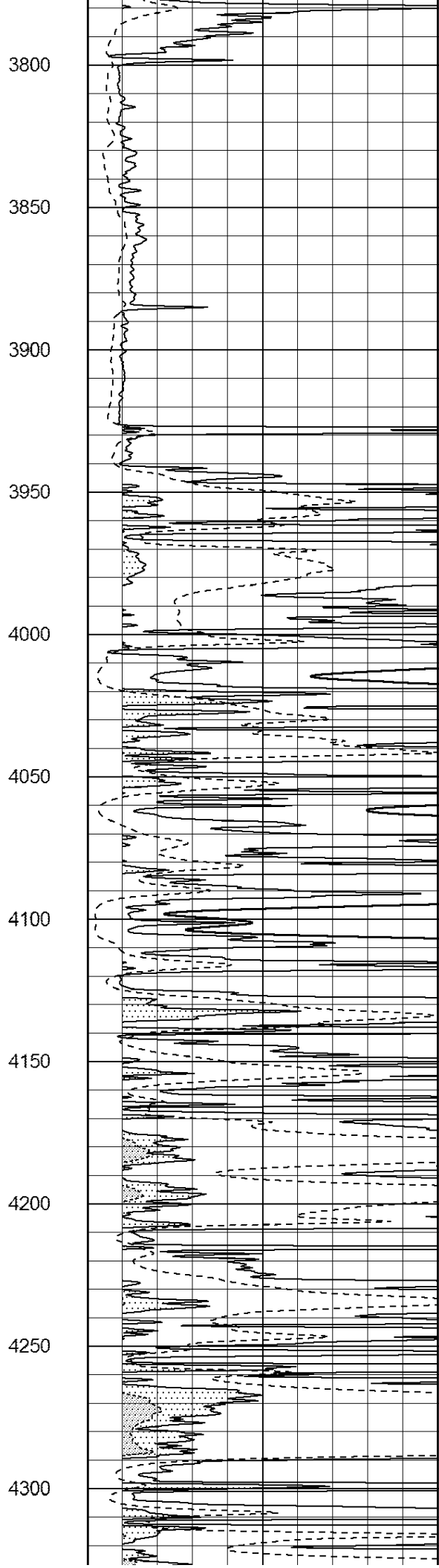
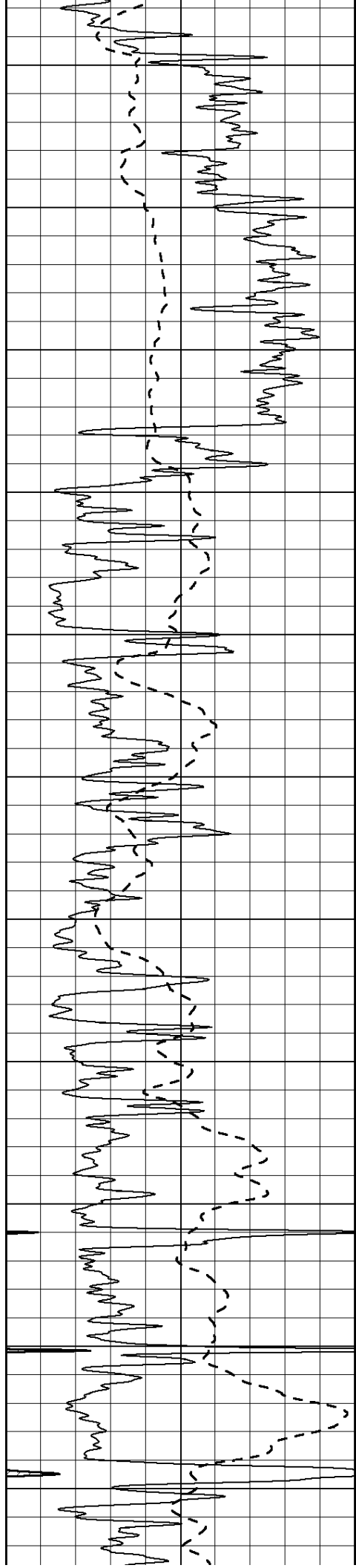
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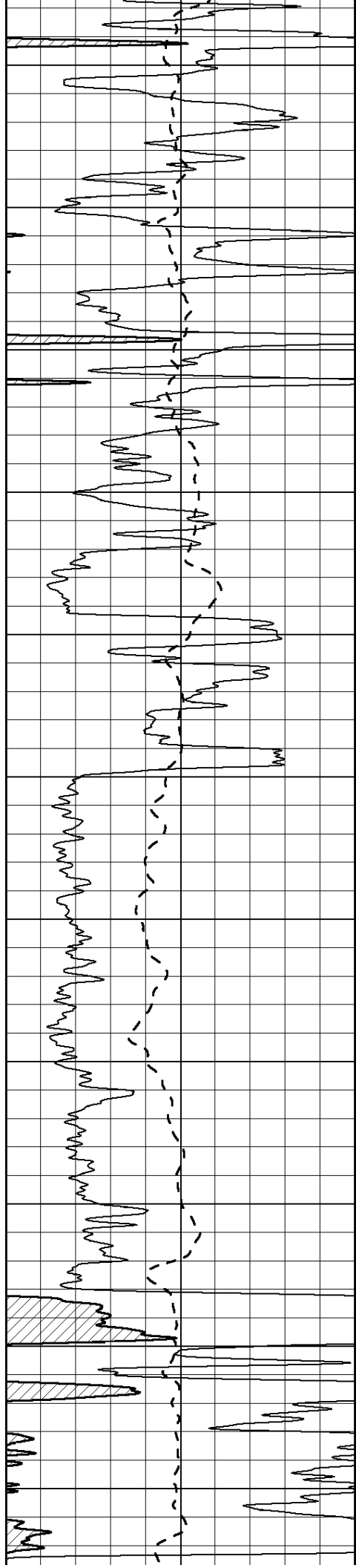
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3200









4350

4400

4450

4500

4550

4600

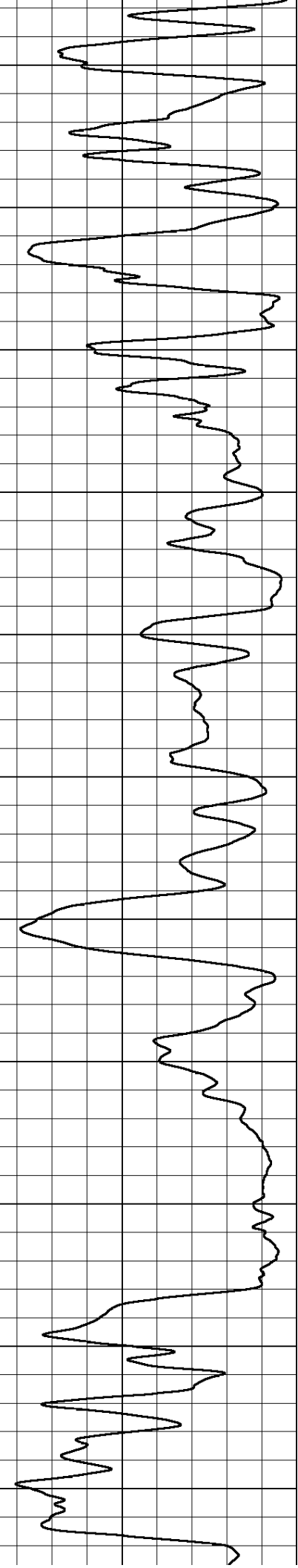
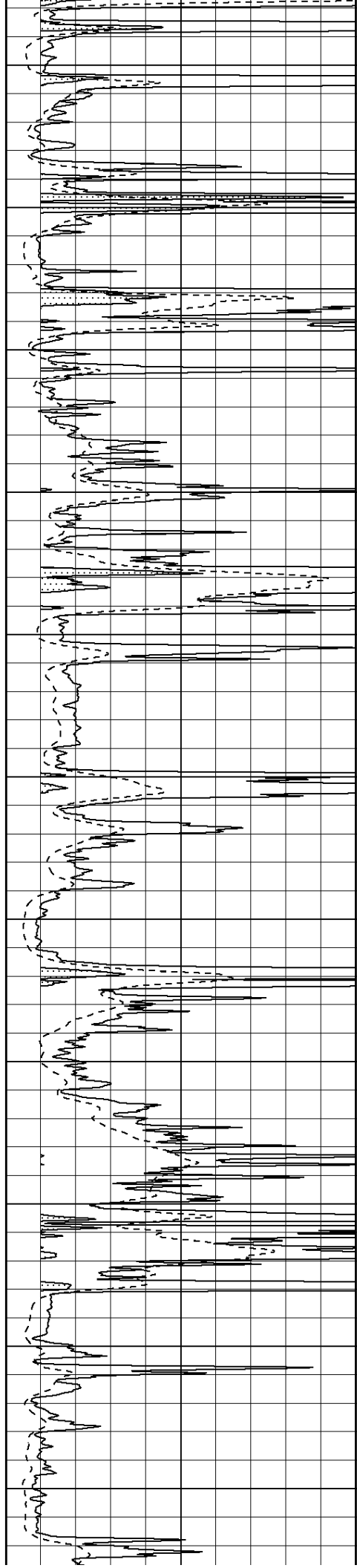
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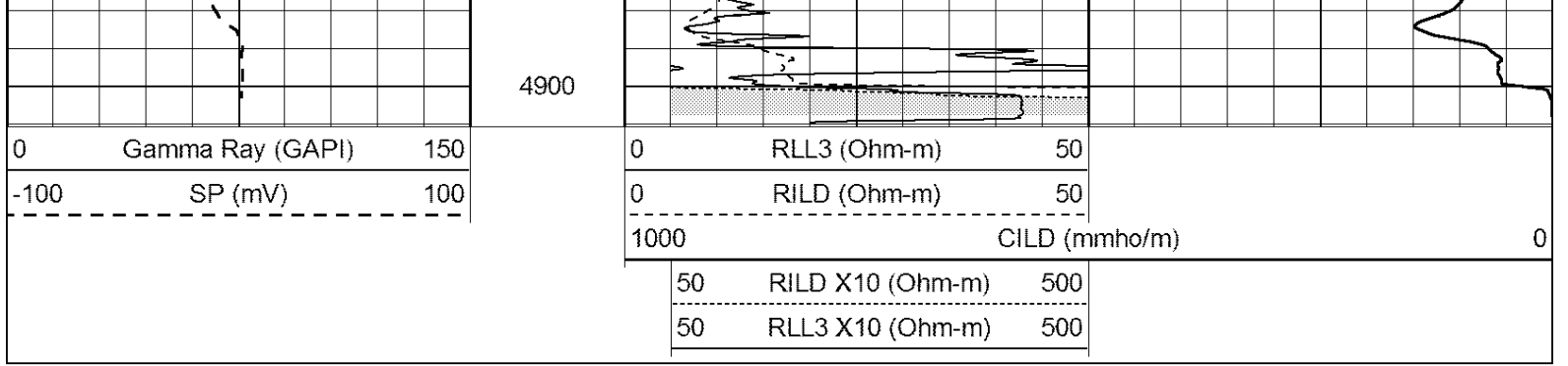
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4750

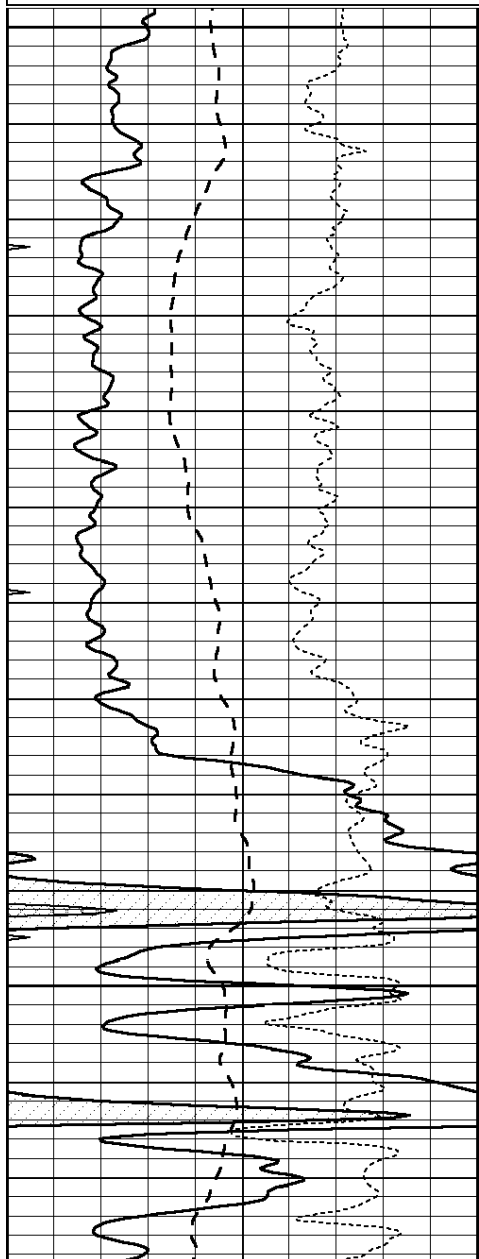
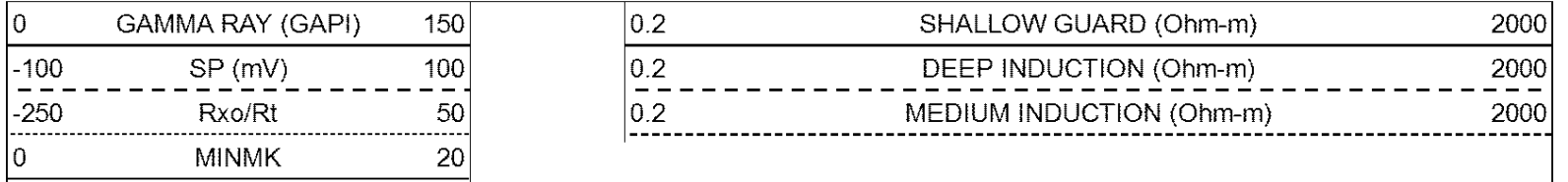
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4850





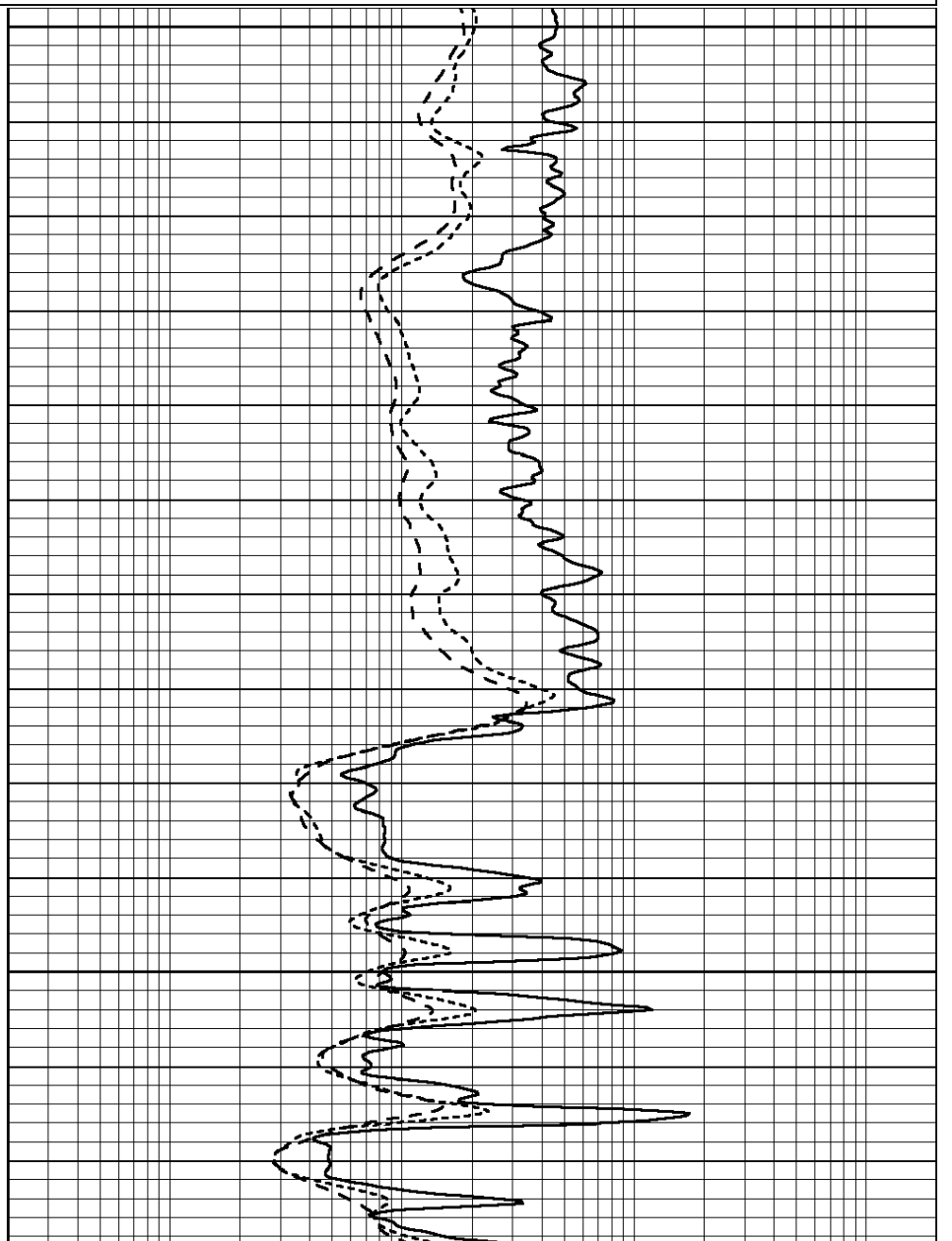
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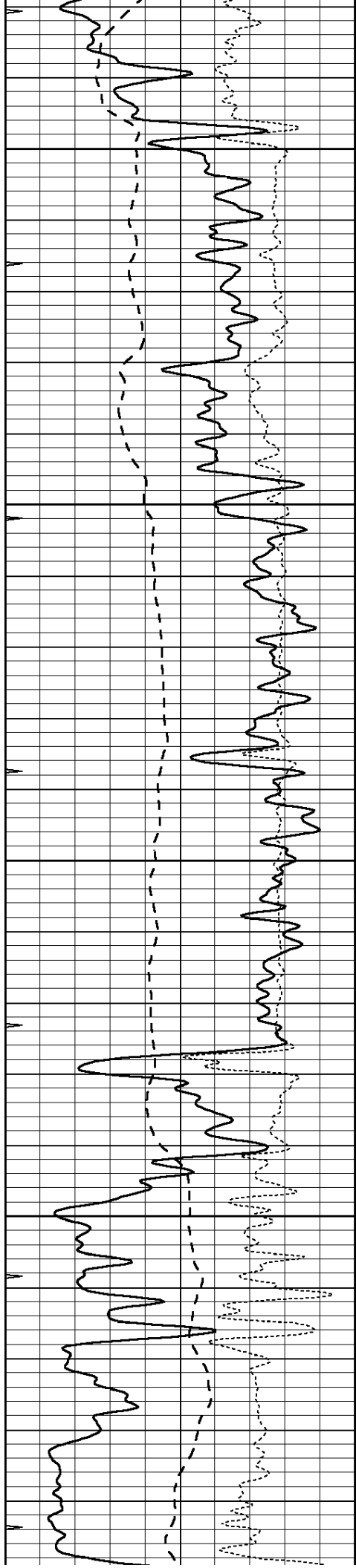


3650

3700

3750



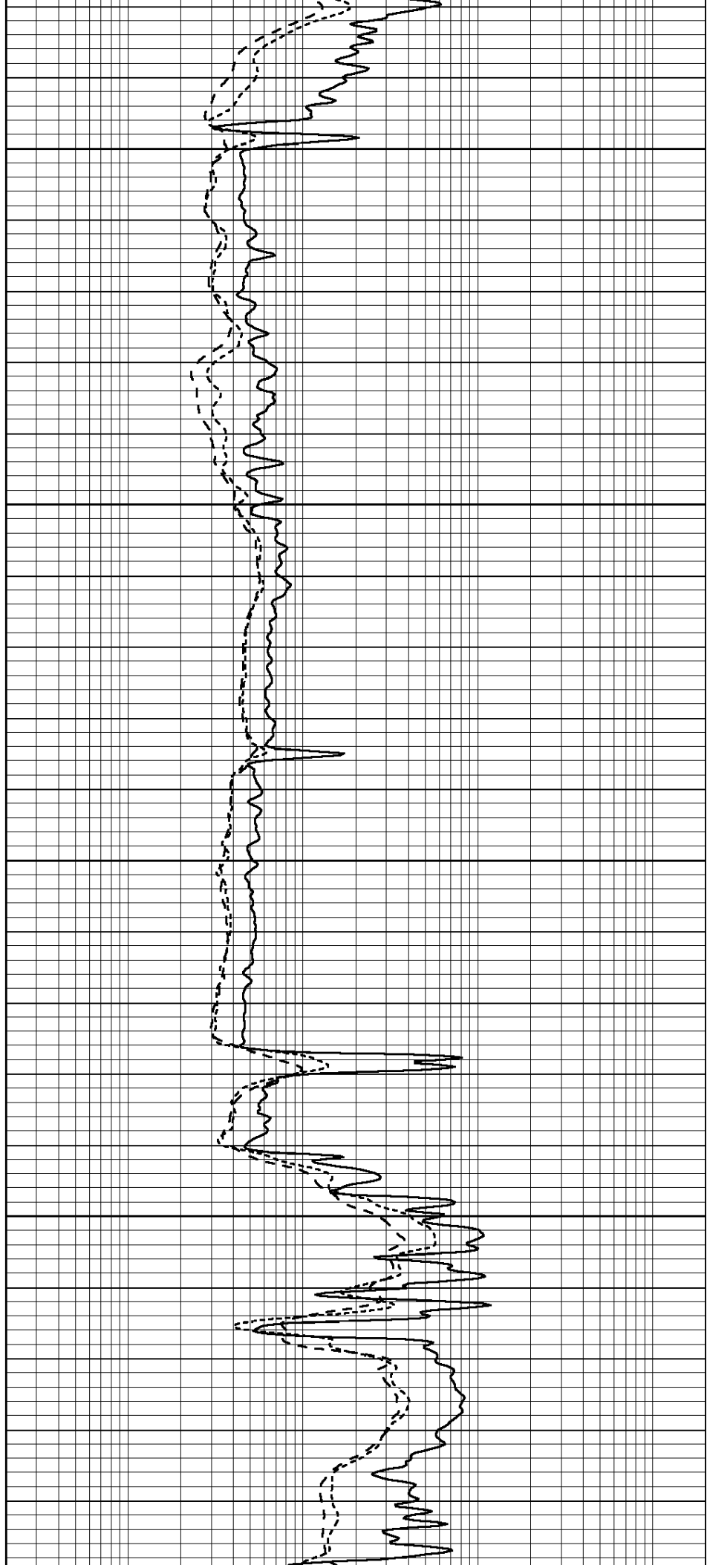


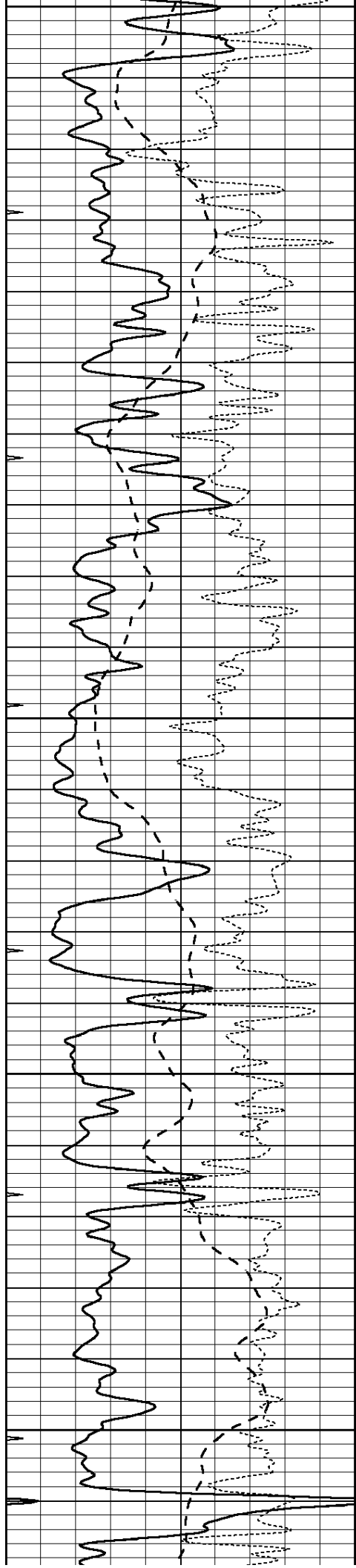
3800

3850

3900

3950





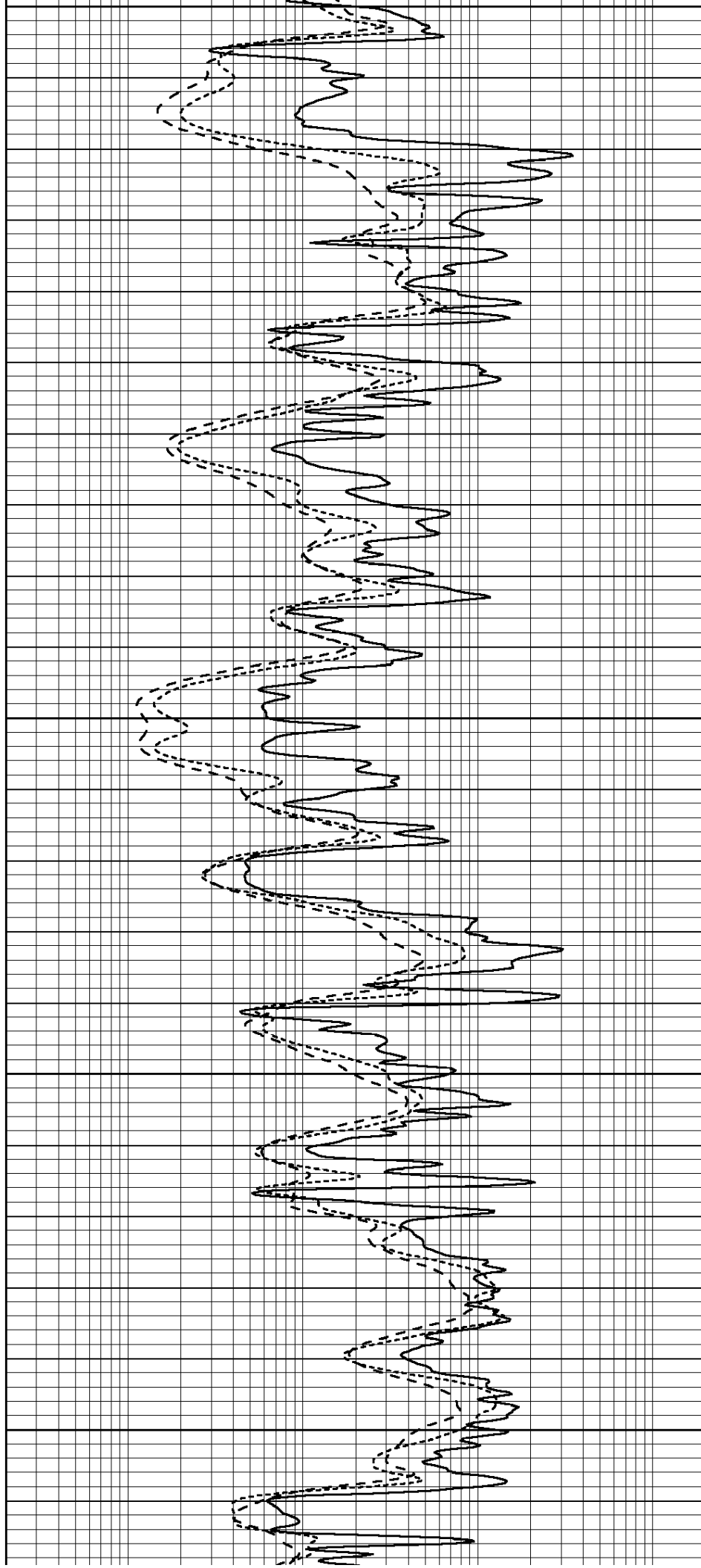
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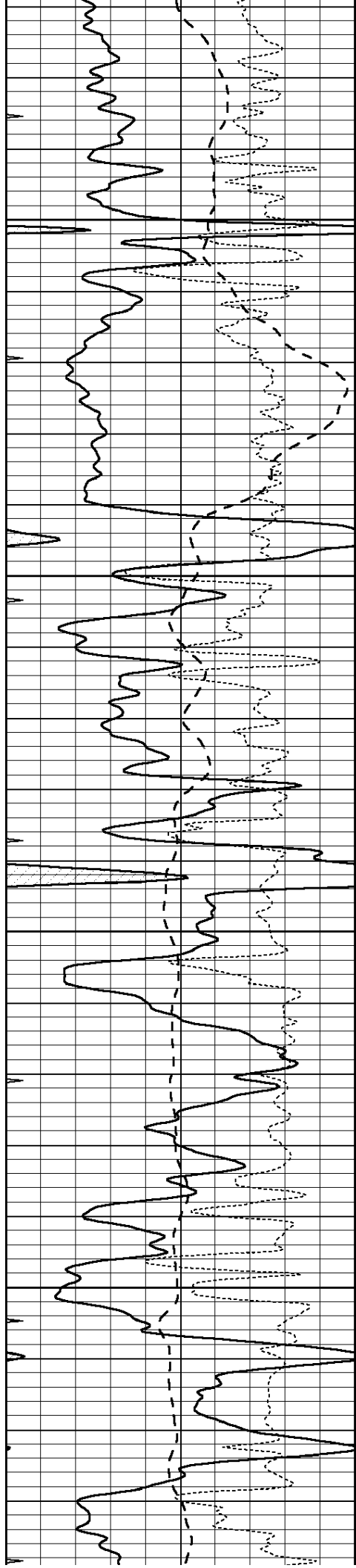
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4100

4150

4200



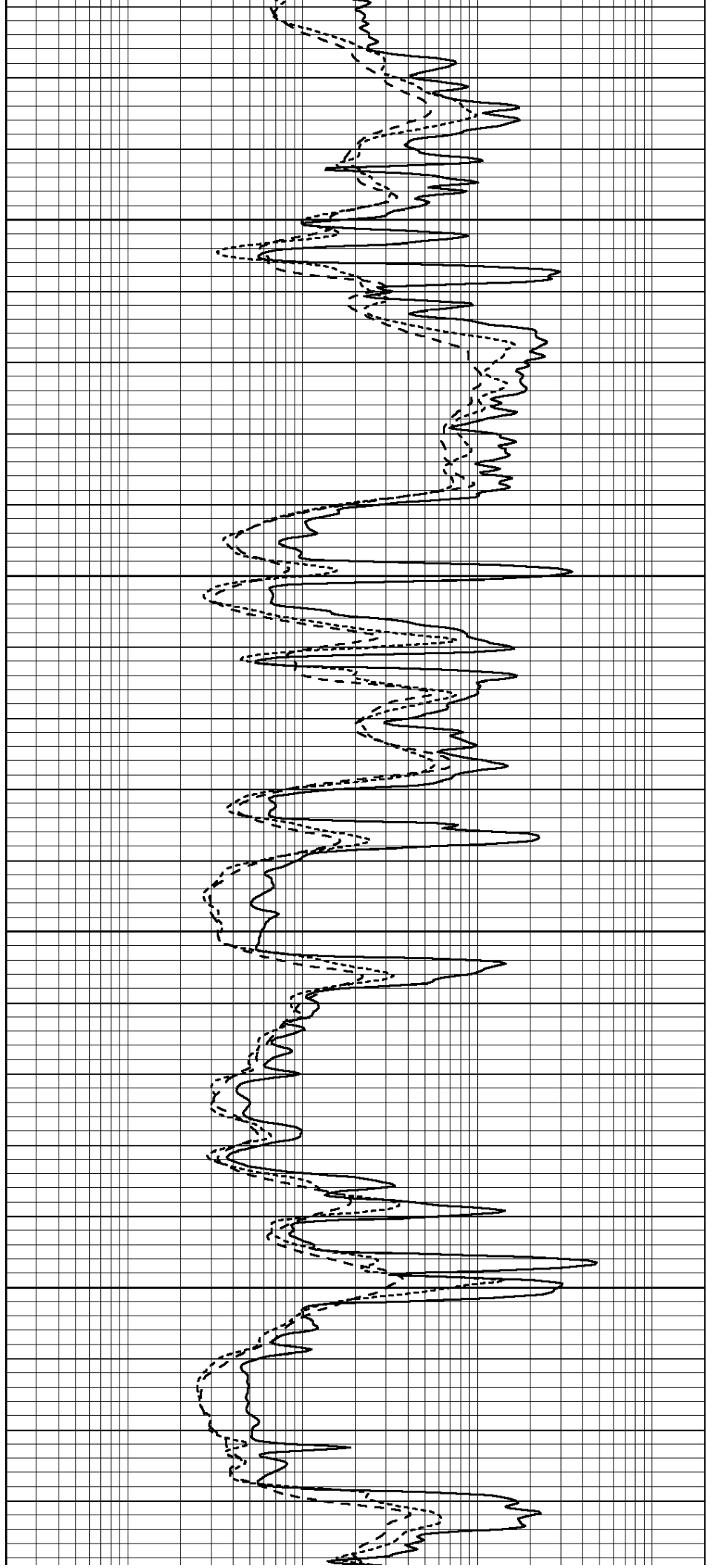


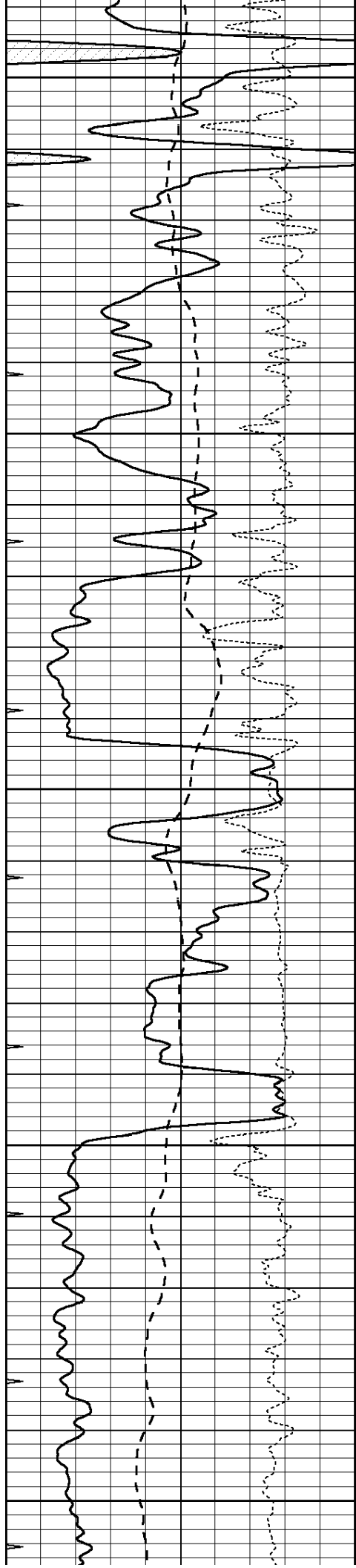
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4300

4350

4400





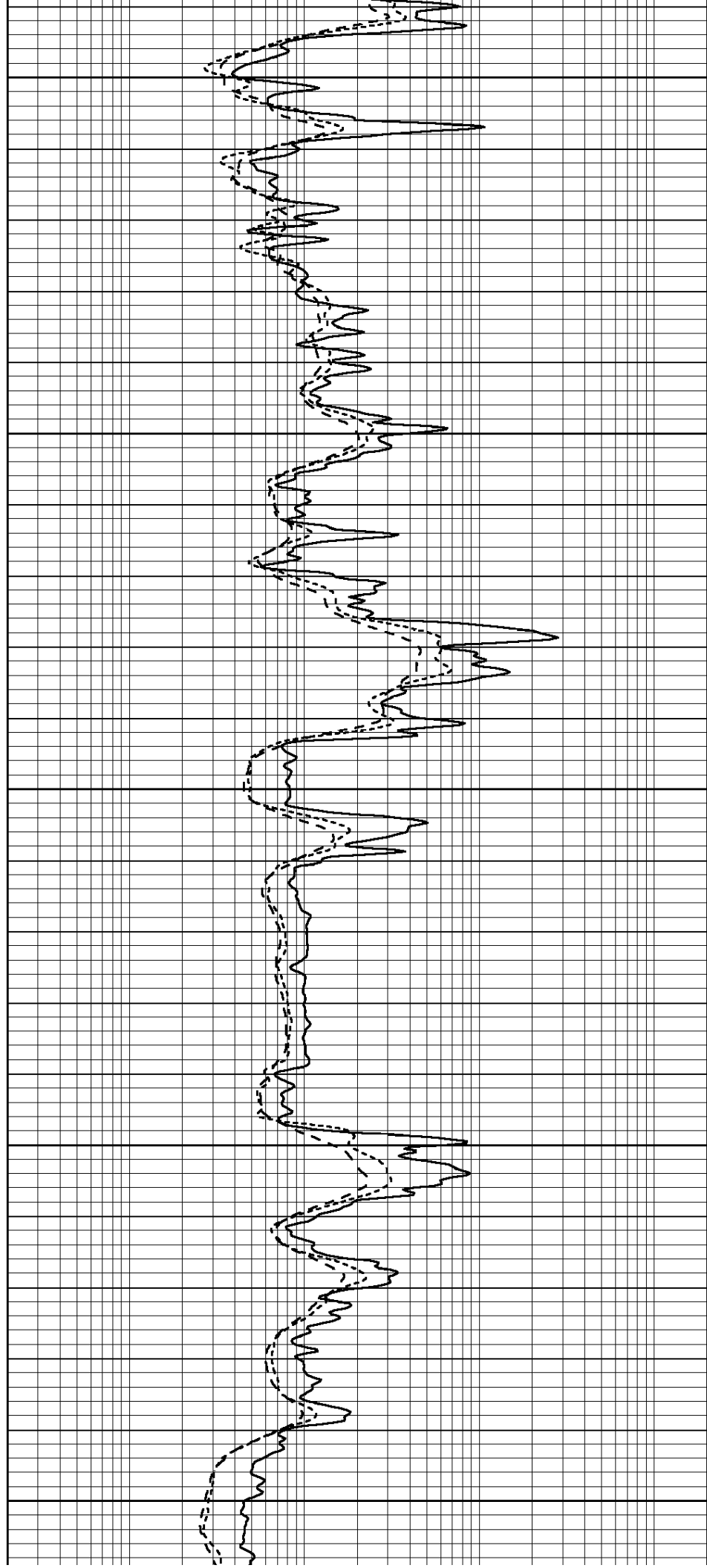
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4500

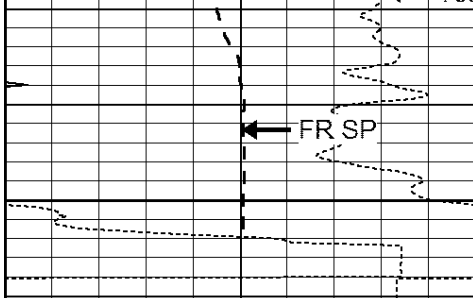
4550

4600

4650







4900  
LTD 4903



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

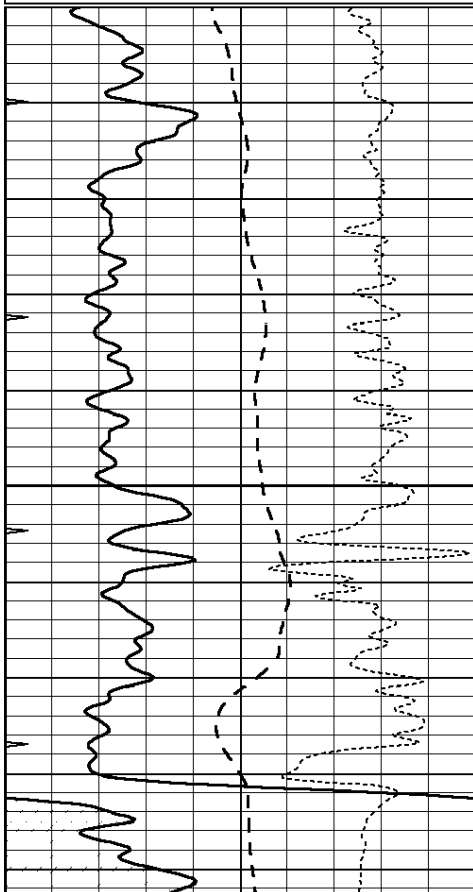


# REPEAT SECTION

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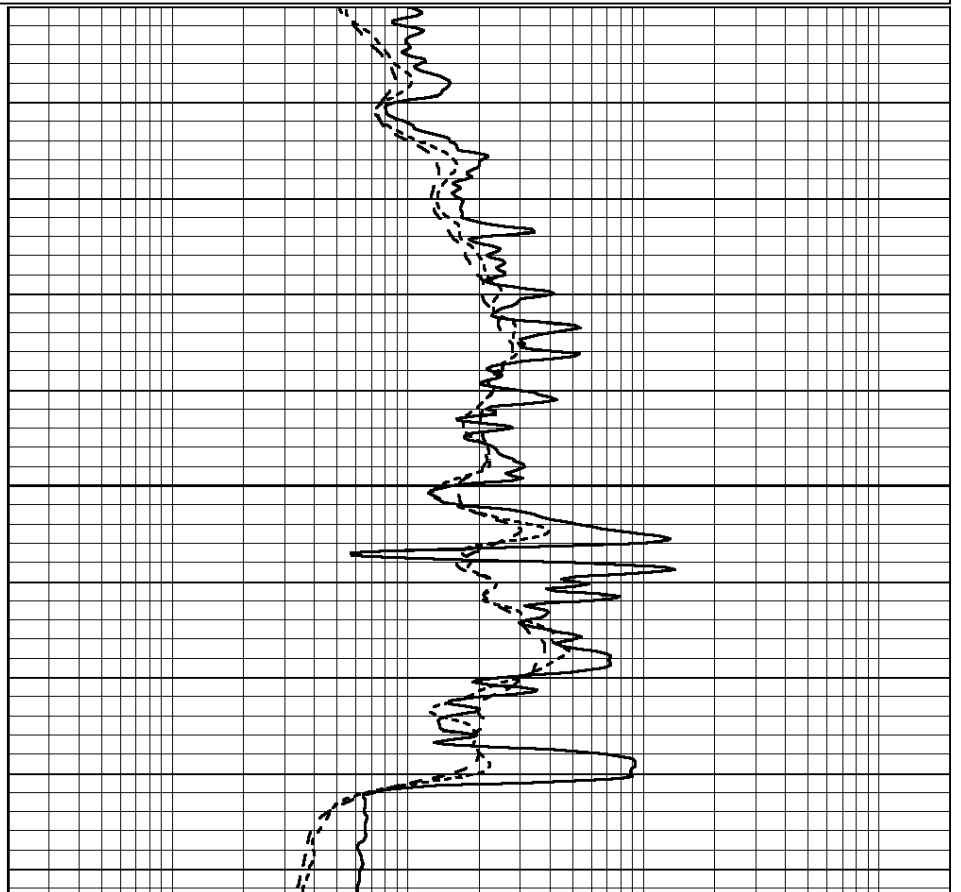
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

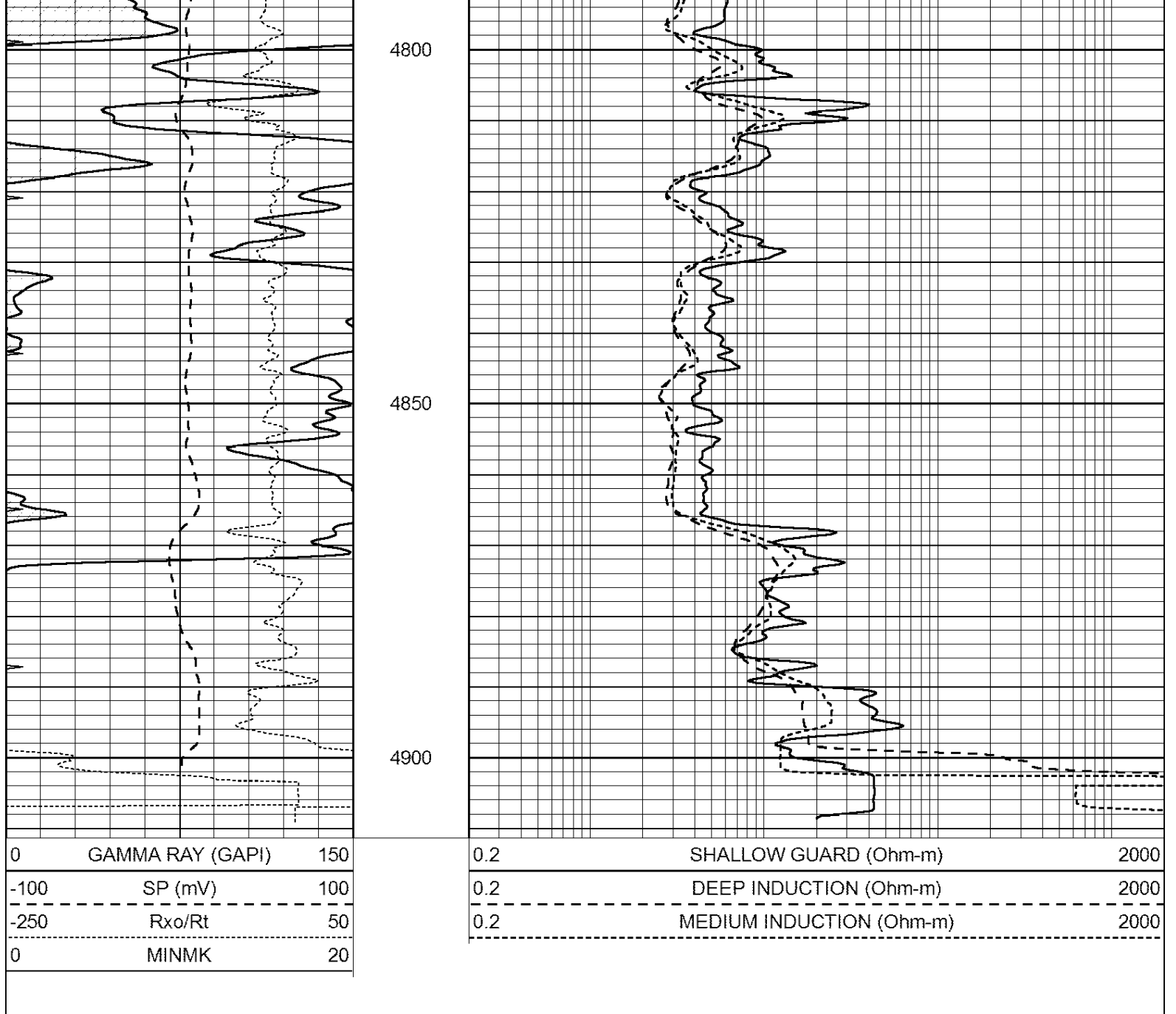
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



4700

4750





Calibration Report

Database File: 080614pe.db  
 Dataset Pathname: pass3.4  
 Dataset Creation: Wed Aug 06 16:49:39 2014 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG  
 Surface Cal Performed: Sun Jul 27 18:19:21 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		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	630.000	-6.000
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		Zero	Cal		m'	b'
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	
	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: 001      Model: PRB

Master Calibration						Performed Thu Sep 17 09:57:21 2009		
	Background	Magnesium	Aluminum	Sandstone				
Window 1	2056.0	9796.8	3673.1	10821.3				cps
Window 2	1920.0	8541.1	3303.5	9307.2				cps
Window 3	1563.1	4735.7	2212.8	5017.5				cps
Window 4	466.0	466.1	465.6	471.5				cps
Long Space	0.0	6621.1	1383.5	7387.2				cps
Short Space	2.5	2361.7	1523.2	2534.0				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.4	Rib Slope	: 0.978	Density/Spine Ratio				: 0.541
Spine Angle	: 74.4	Spine Slope	: 3.570	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

Short Space	0.0000	0.0000	0.0000	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: 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: Sun Jul 27 22:13:15 2014

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 276.0 cps

Sensitivity: 0.7500 GAPI/cps