



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	RITCHIE EXPLORATION, INC.	Company	RITCHIE EXPLORATION, INC.
Well	#1 FREDRICKSON-ASHLEY FARMS	Well	#1 FREDRICKSON-ASHLEY FARMS
Field	WILDCAT	Field	WILDCAT
County	DECATUR	County	DECATUR
State	KANSAS	State	KANSAS
Location:	API # : 15-039-21217-0000	Other Services	CDL/CNL MEL
	1840' FSL & 127' FWL	Elevation	
	SEC 32 TWP 5S RGE 29W		
Permanent Datum	GROUND LEVEL	Elevation	2749
Log Measured From	KELLY BUSHING 5' A.G.L.		
Drilling Measured From	KELLY BUSHING		

Date	2/10/15
Run Number	ONE
Depth Driller	4420
Depth Logger	4418
Bottom Logged Interval	4416
Top Log Interval	00
Casing Driller	8 5/8" @ 220
Casing Logger	217
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.2/59
pH / Fluid Loss	10.5/8.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.0 @ 65F
Rmt @ Meas. Temp	.75 @ 65F
Rmc @ Meas. Temp	1.20 @ 65F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.54 @ 120F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	5:00 P.M.
Maximum Recorded Temperature	120
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	MAX LOVELLY

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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:
SELDEN, KS. - 2 MILES SOUTHWEST TO 90 RD. - NORTH TO JOG IN THE ROAD
1/2 NORTH - EAST INTO



MAIN SECTION

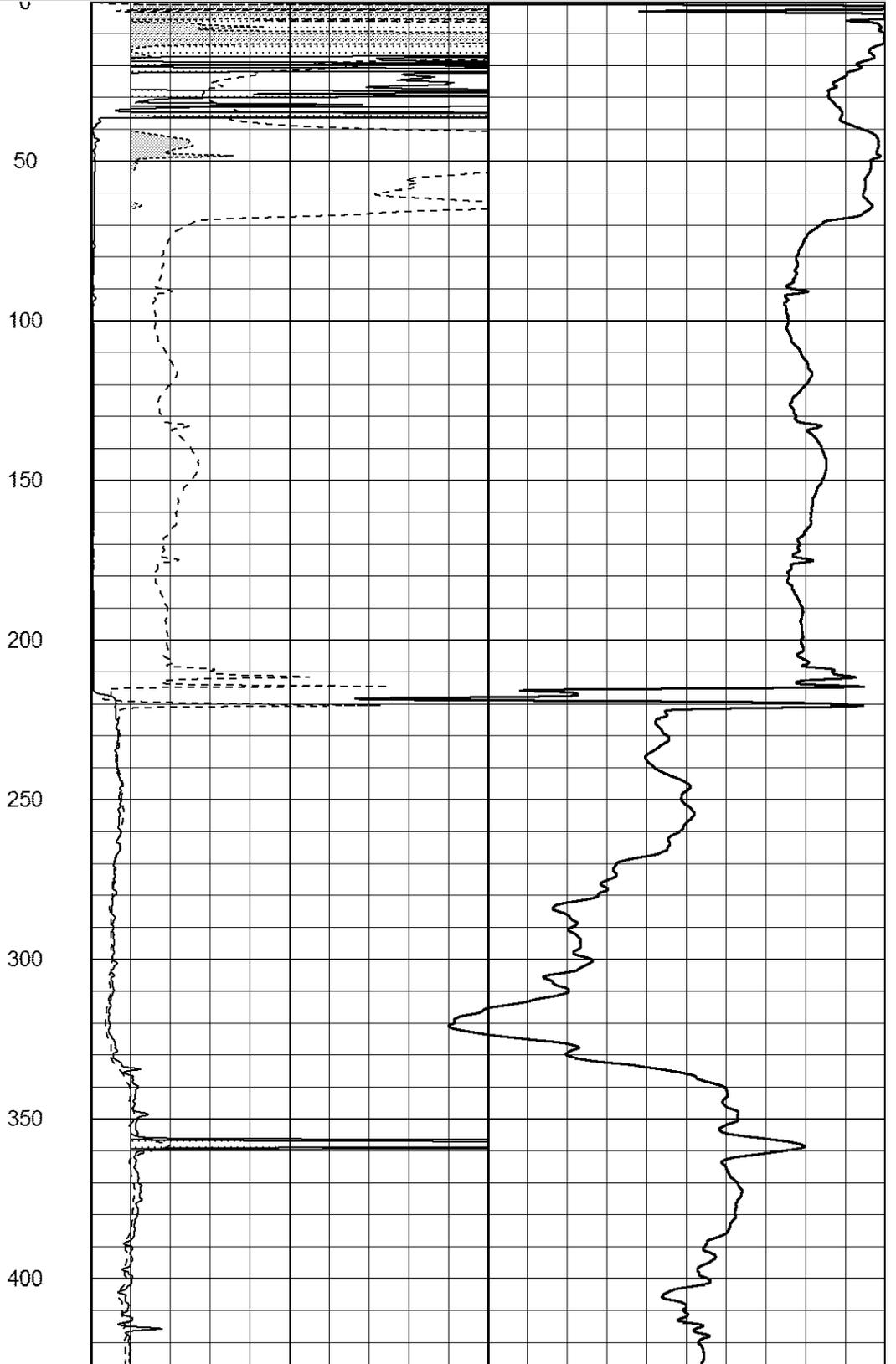
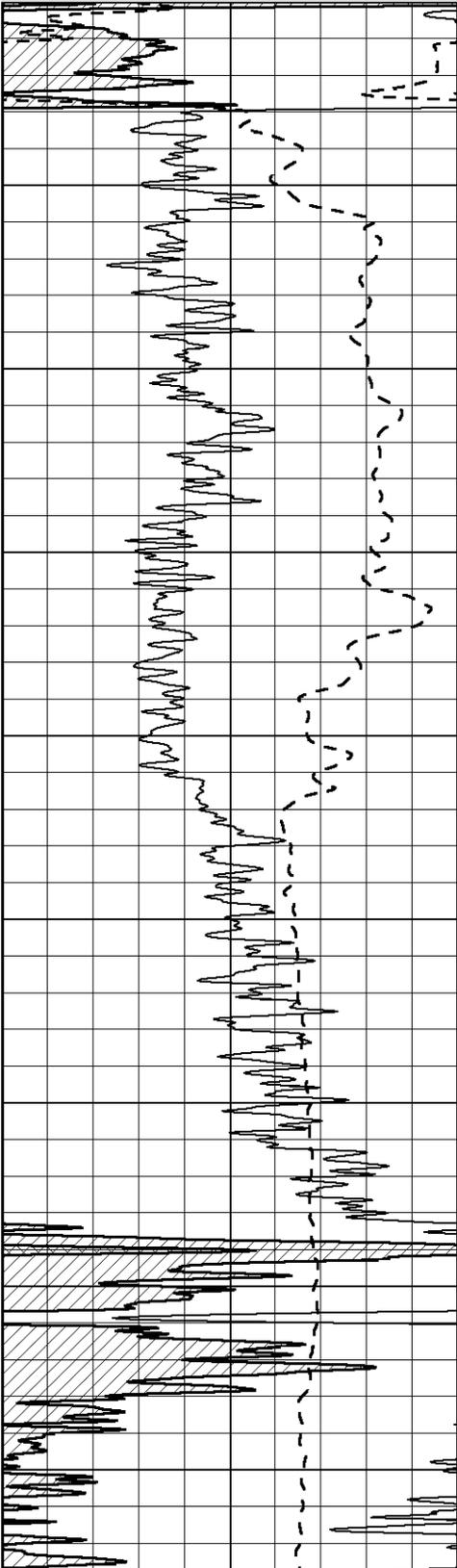
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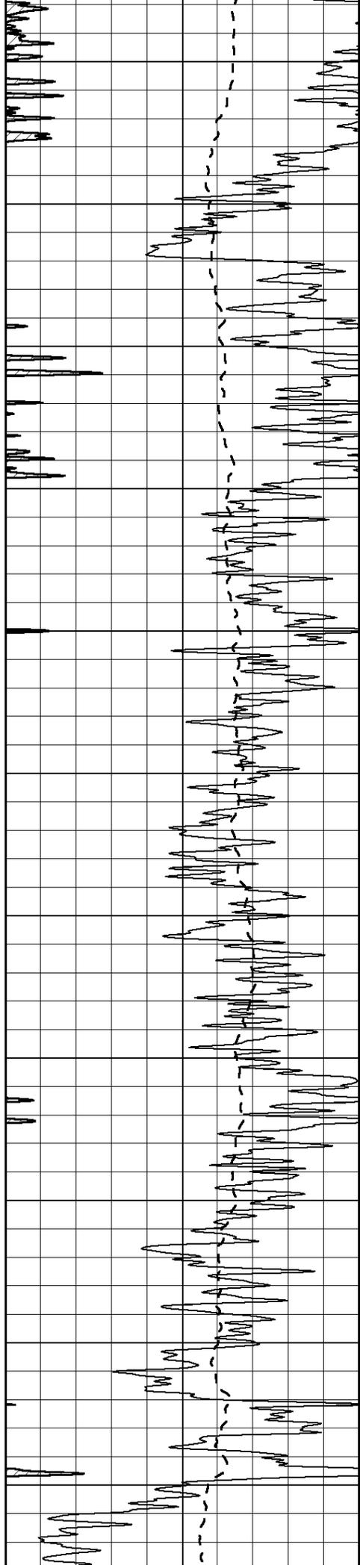
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 -100 SP (mV) 100

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

1000 CILD (mmho/m) 0

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





450

500

550

600

650

700

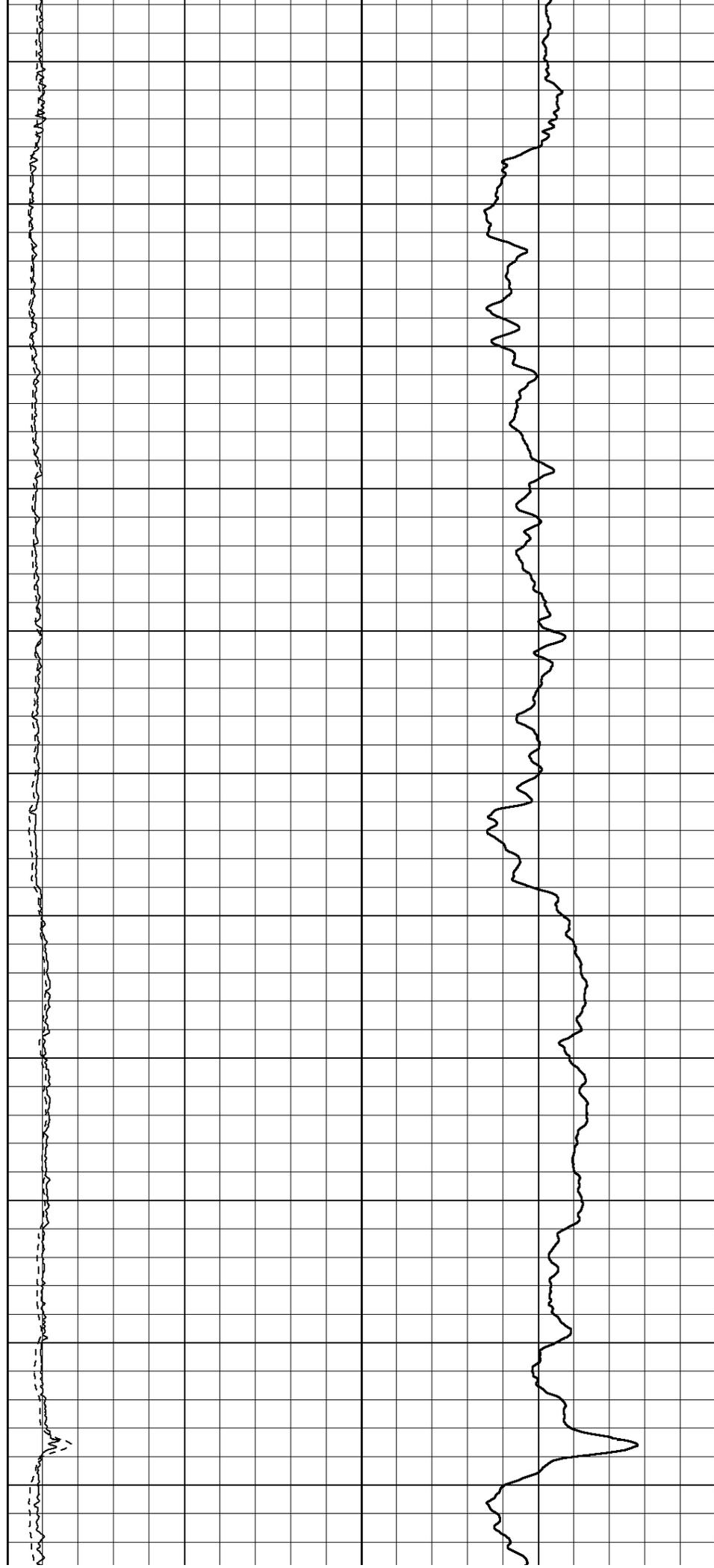
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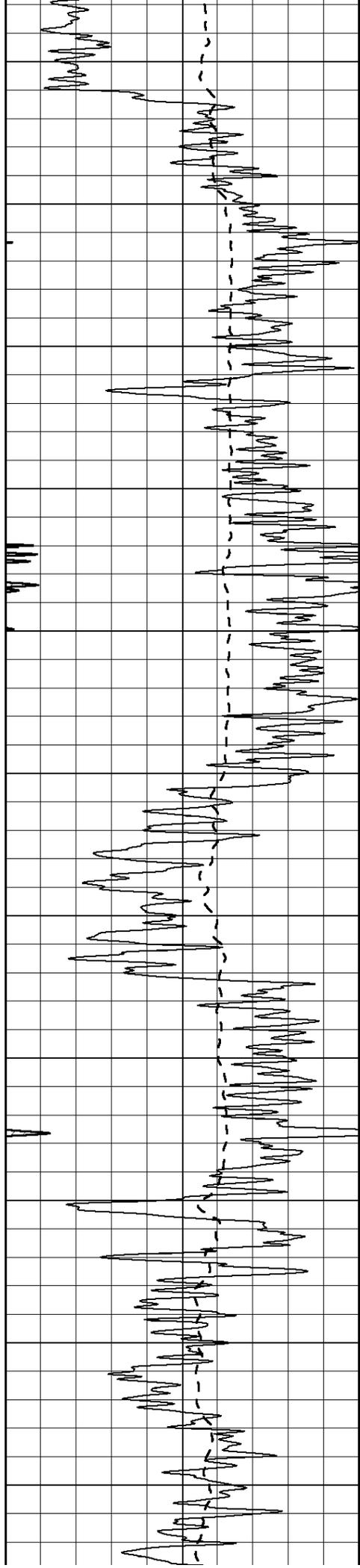
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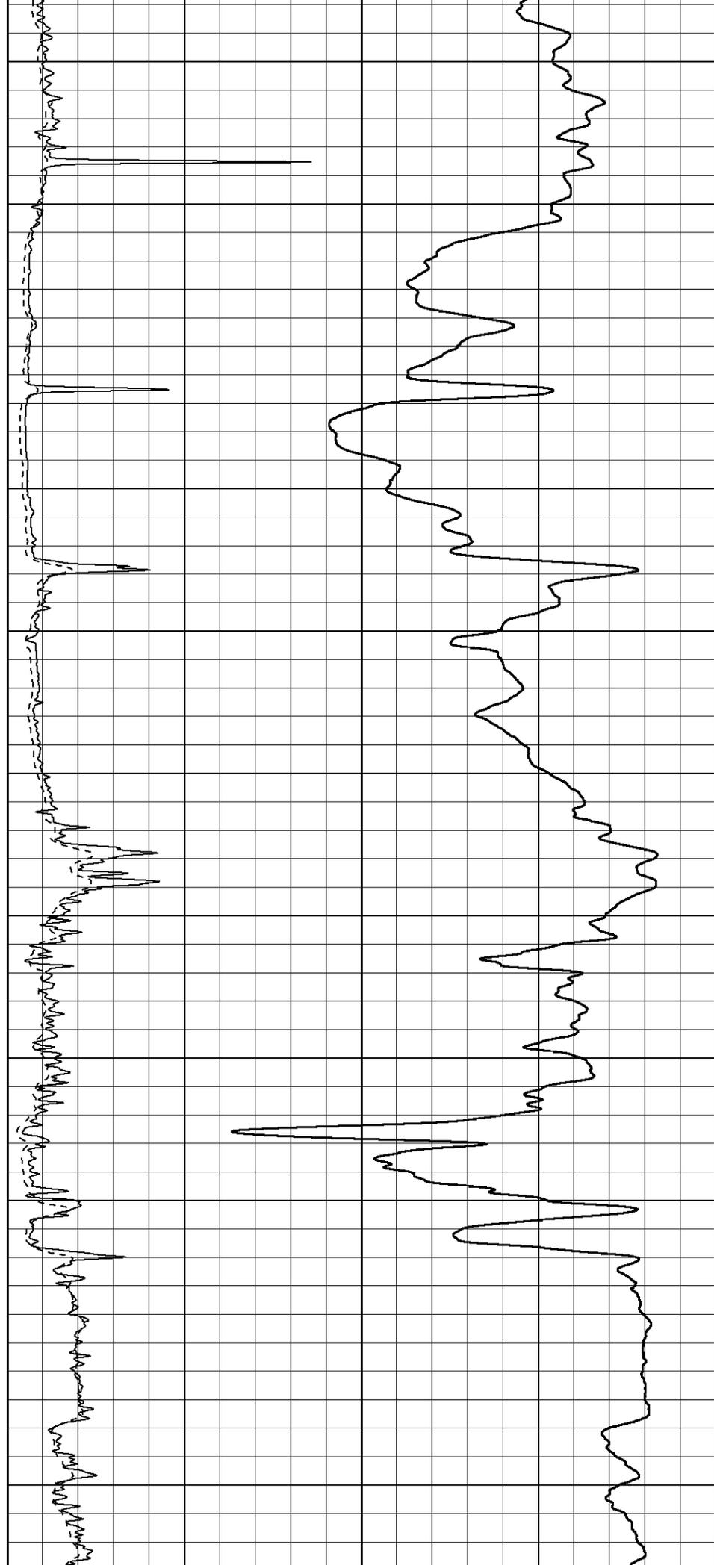
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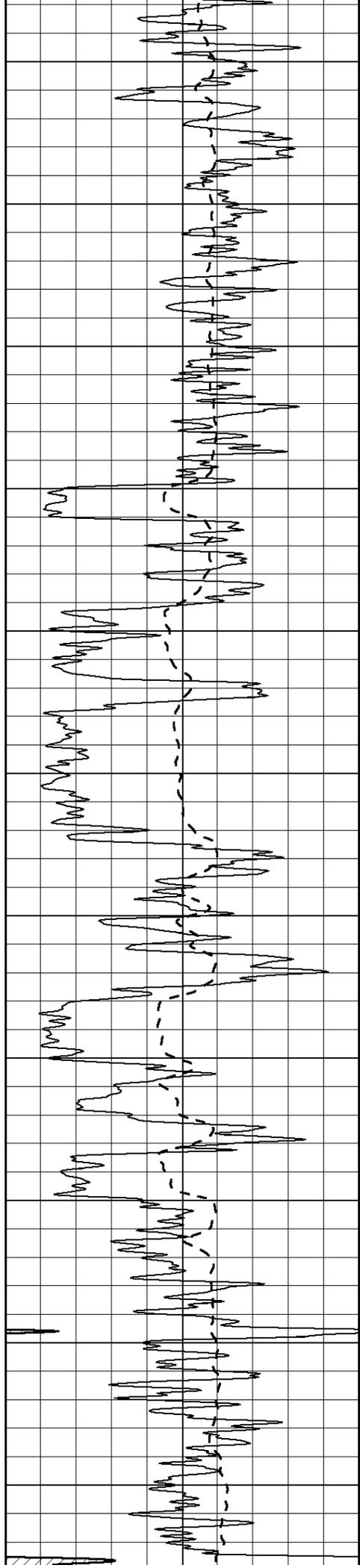
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1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550

1600

1650

1700

1750

1800

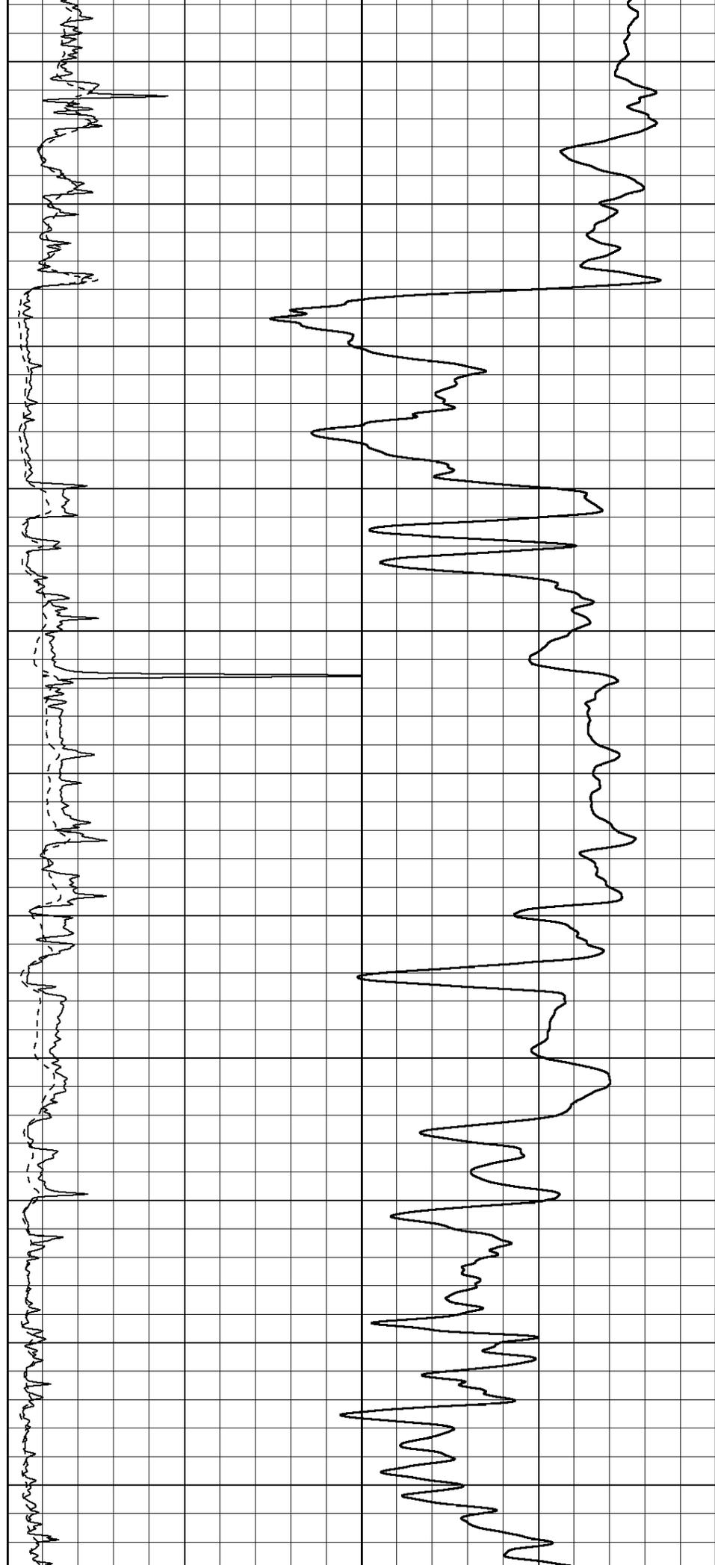
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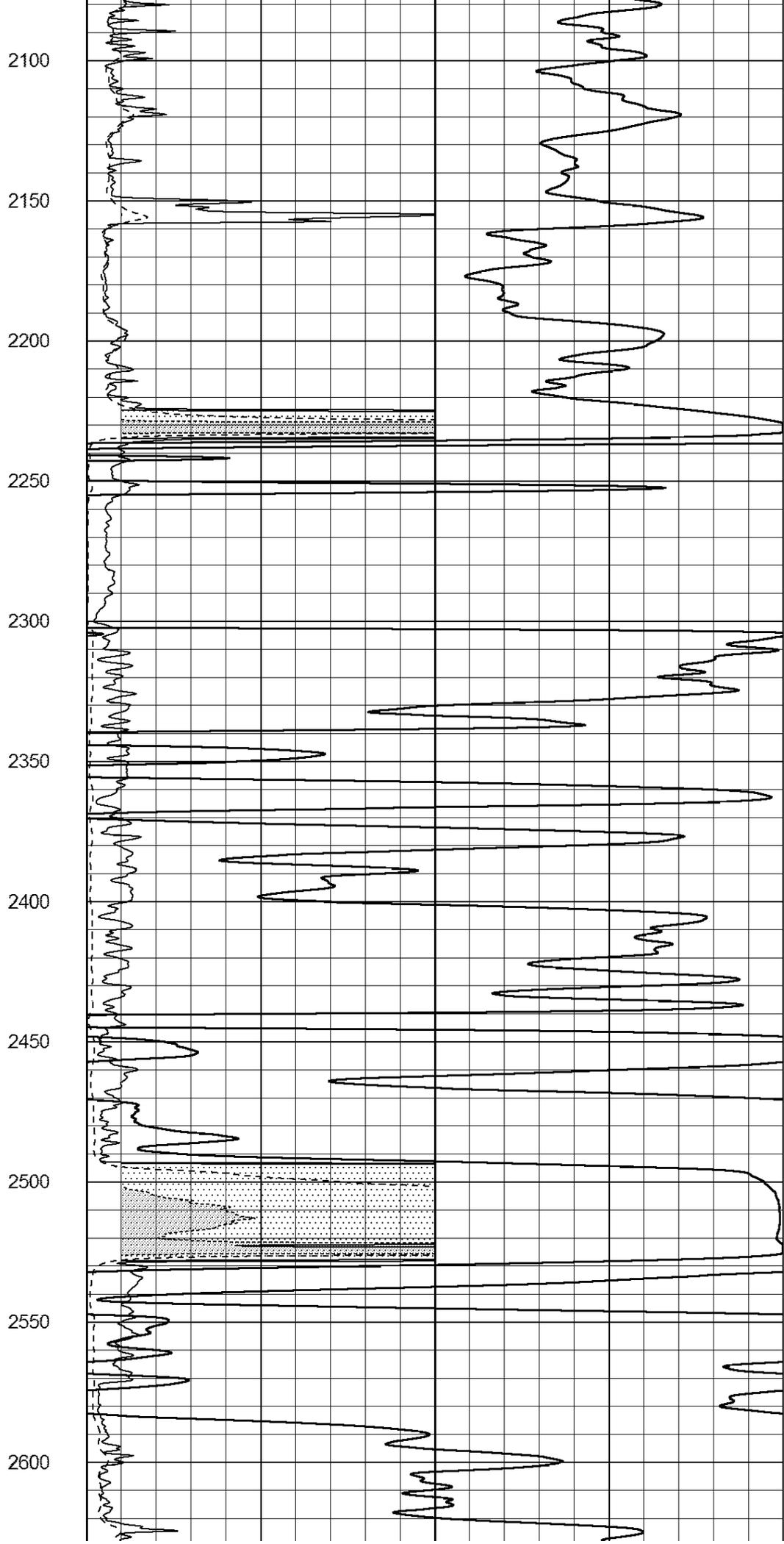
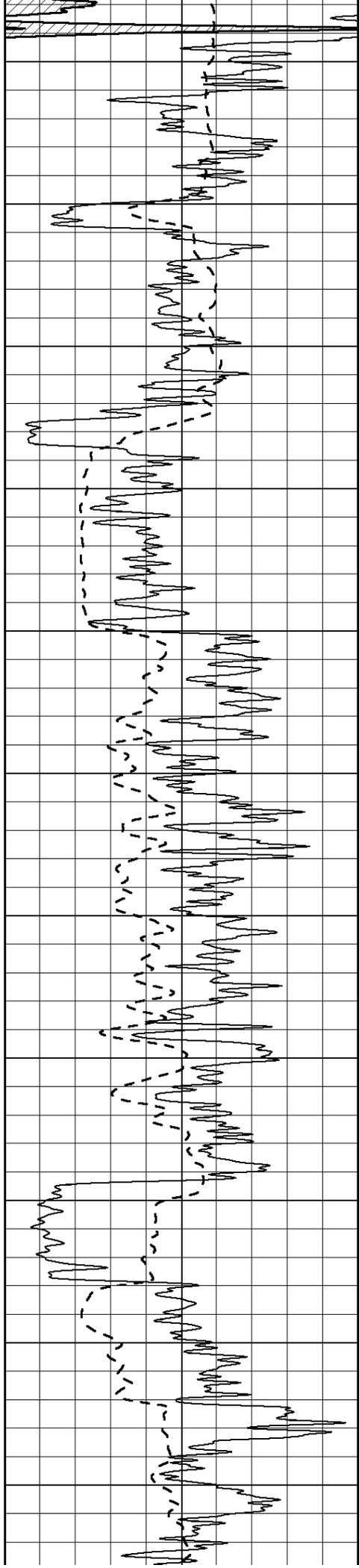
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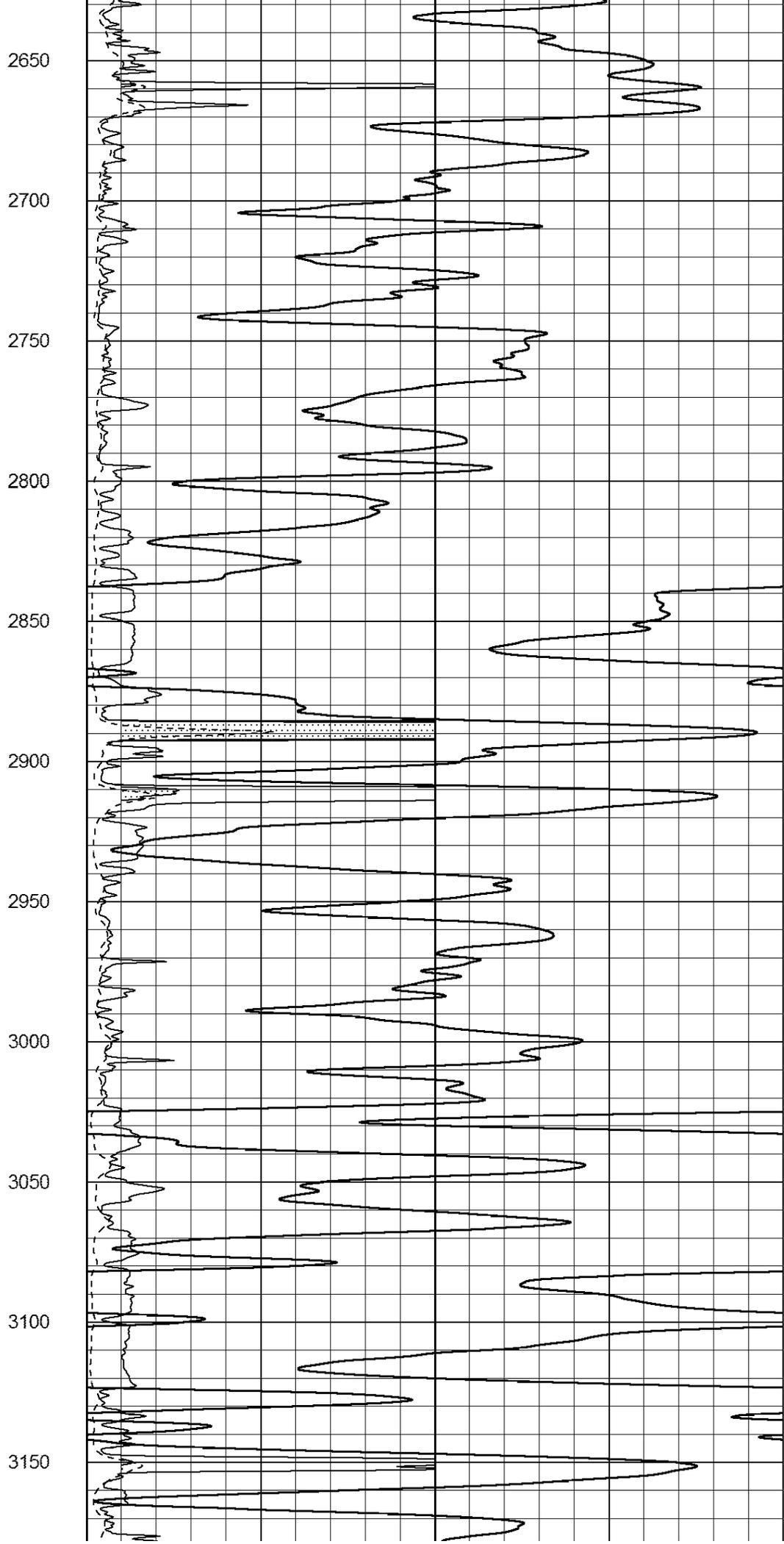
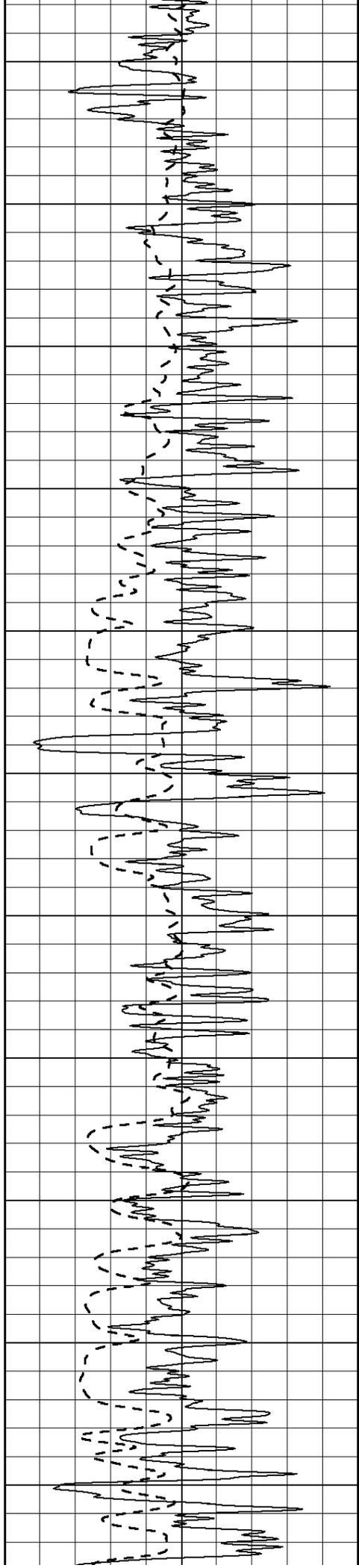
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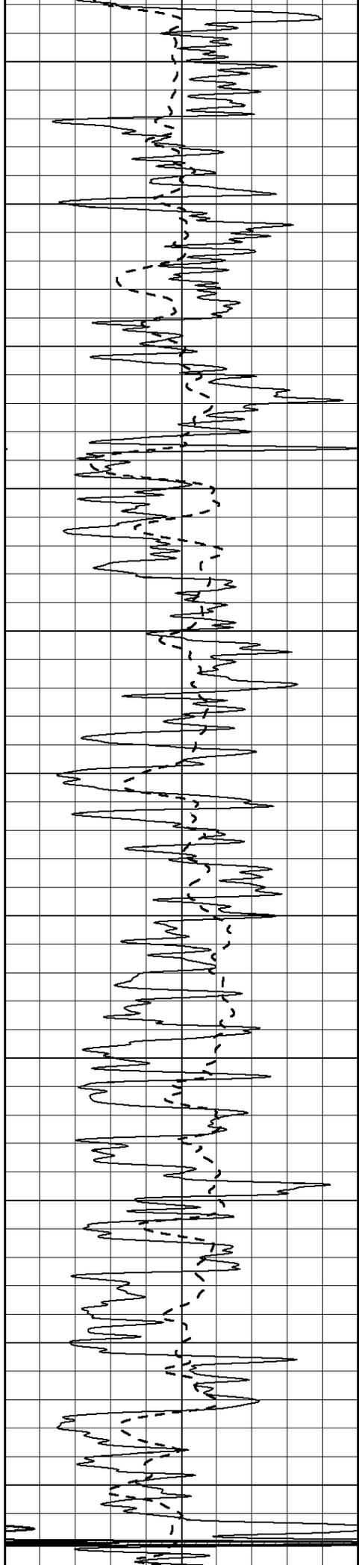
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2050









3200

3250

3300

3350

3400

3450

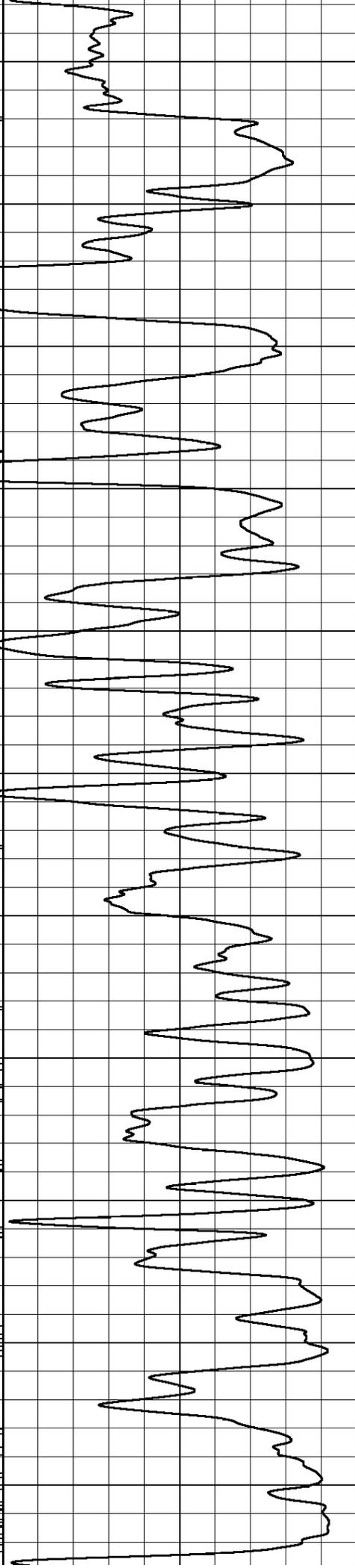
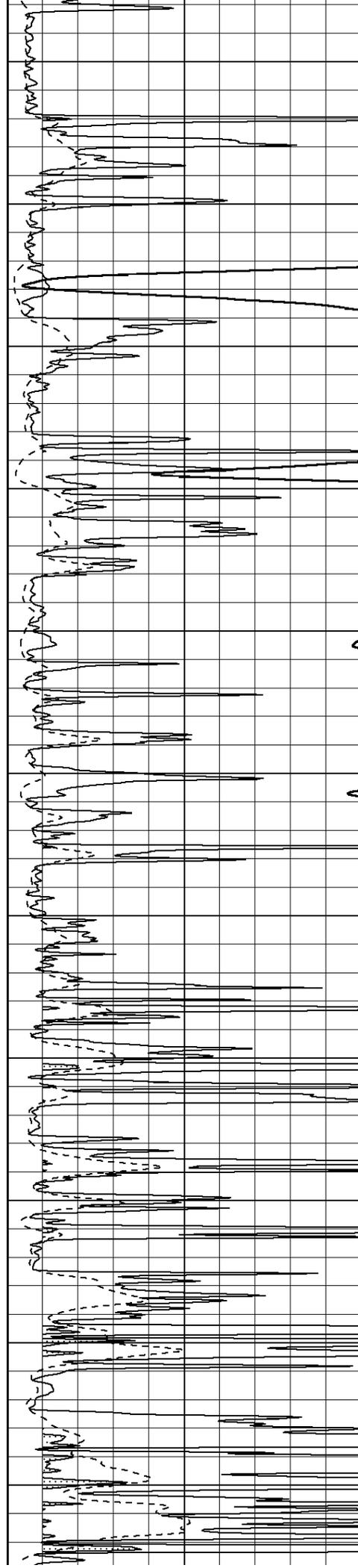
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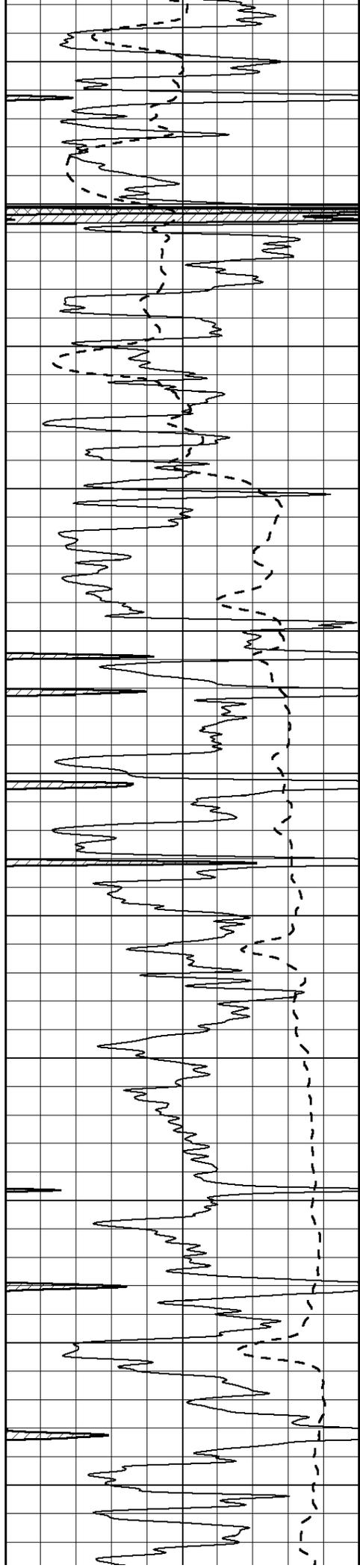
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3650

3700





3750

3800

3850

3900

3950

4000

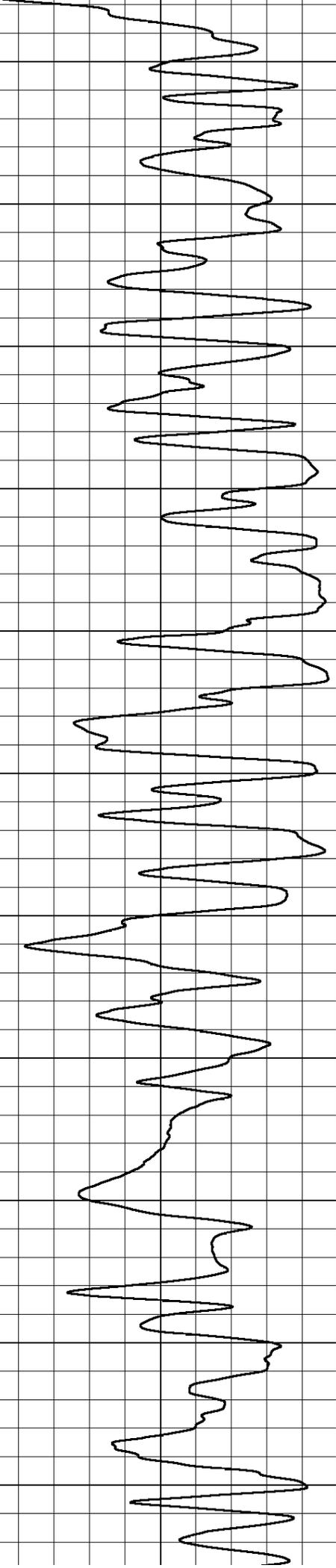
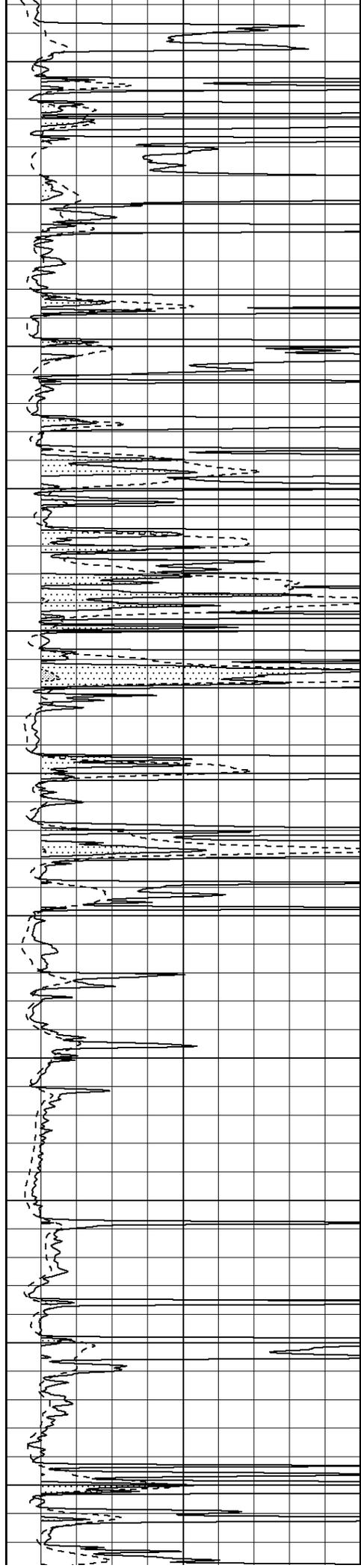
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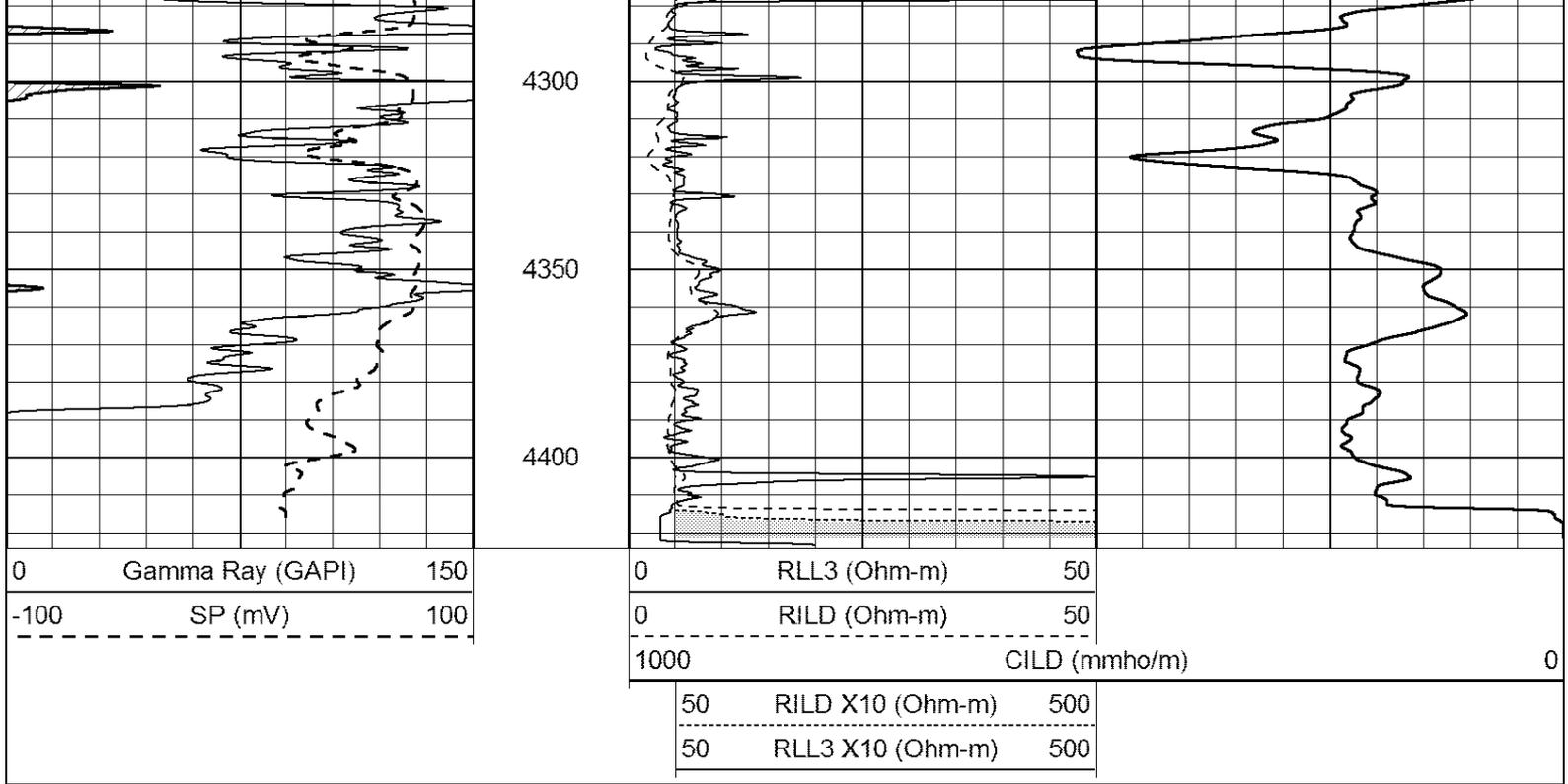
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4150

4200

4250

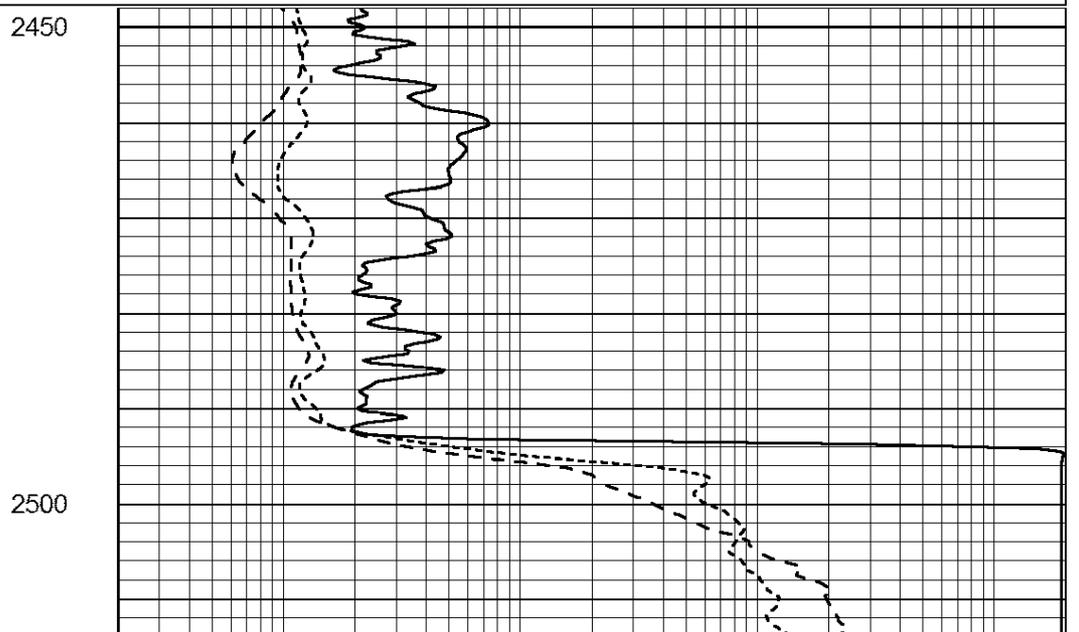
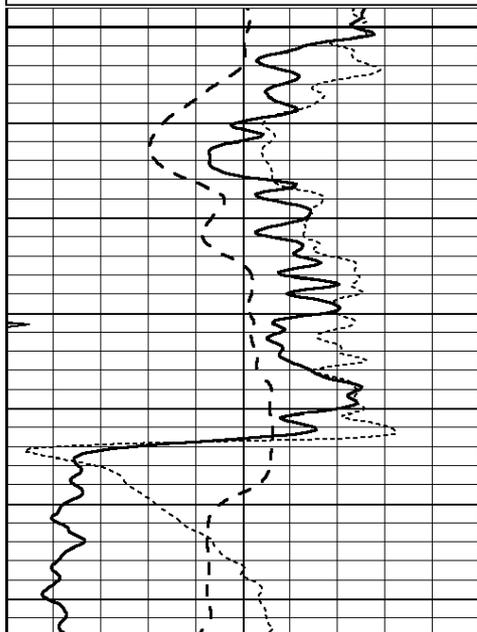


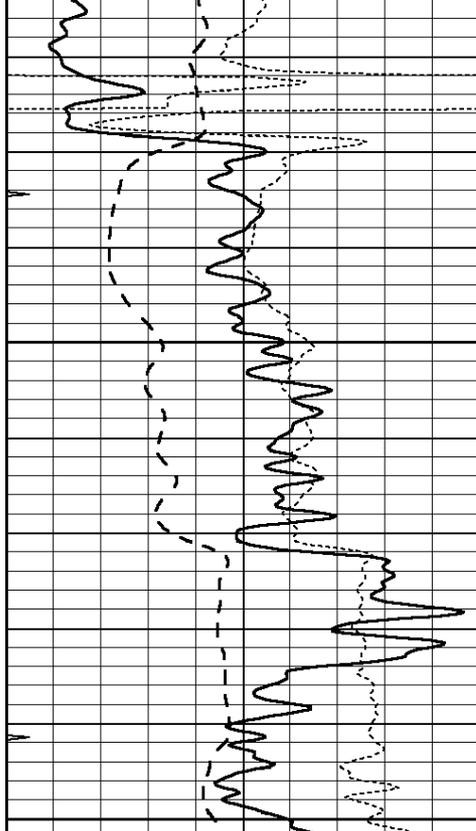


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 Charted by: Depth in Feet scaled 1:240

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-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			

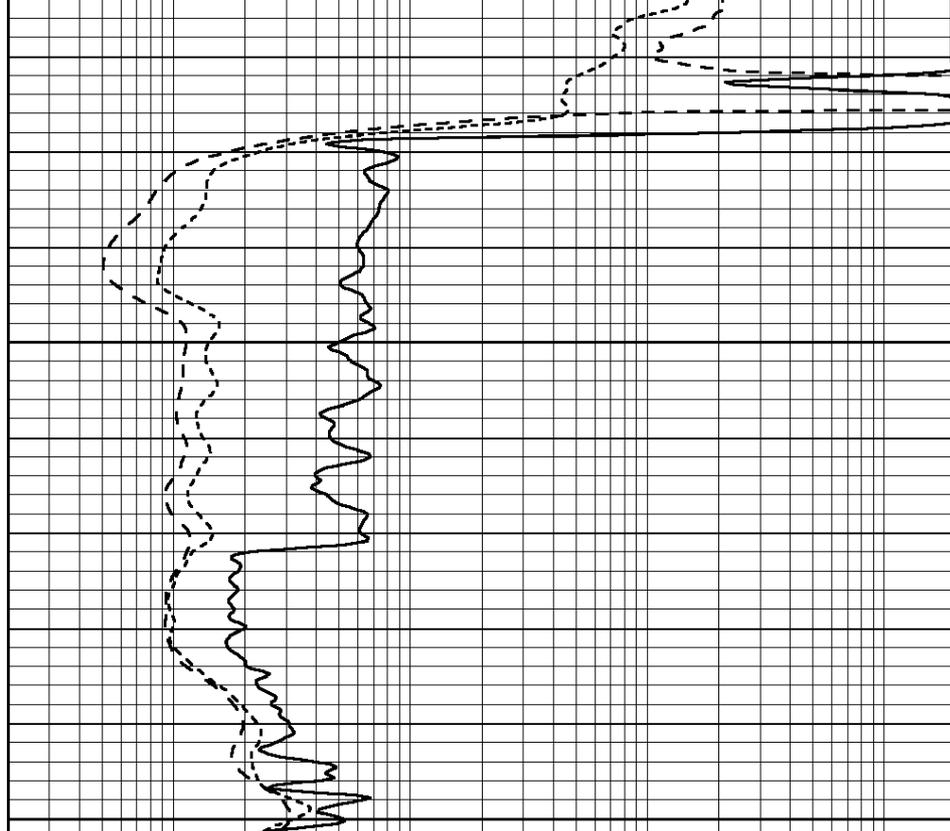




2550

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

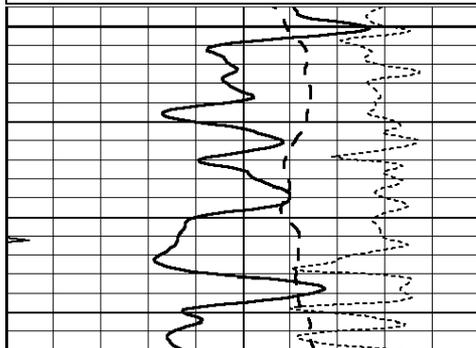


MAIN SECTION

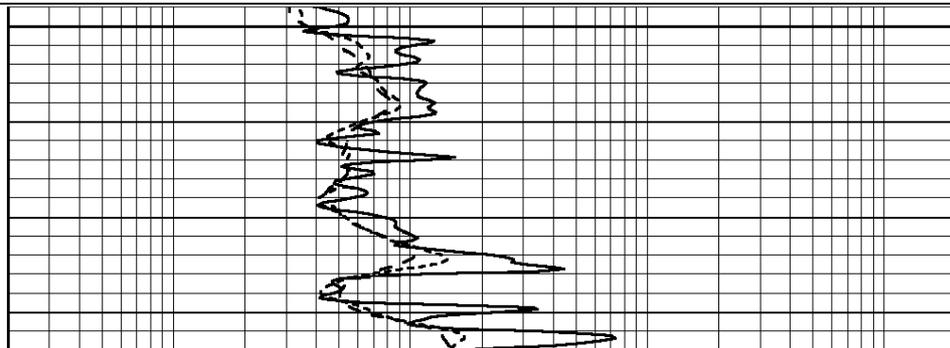
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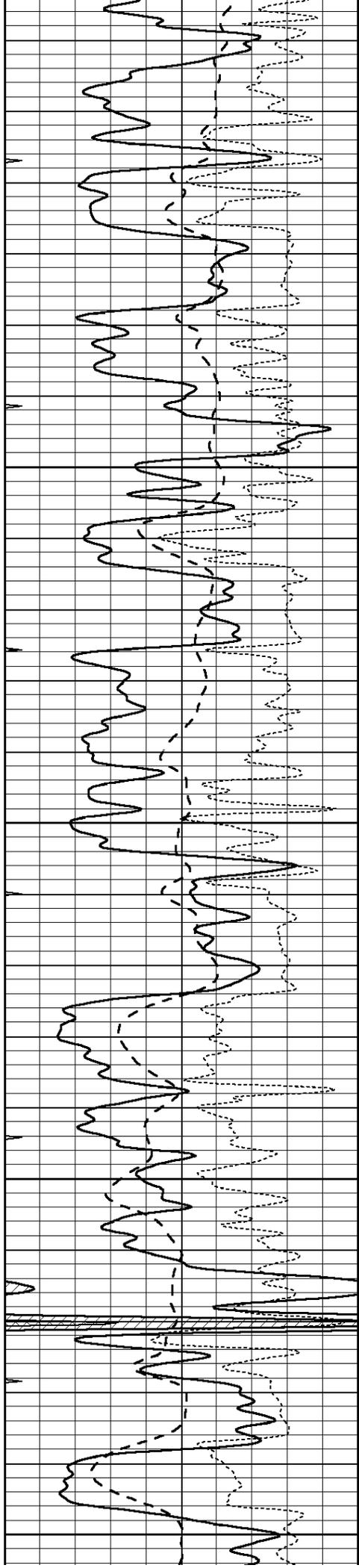
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



3500





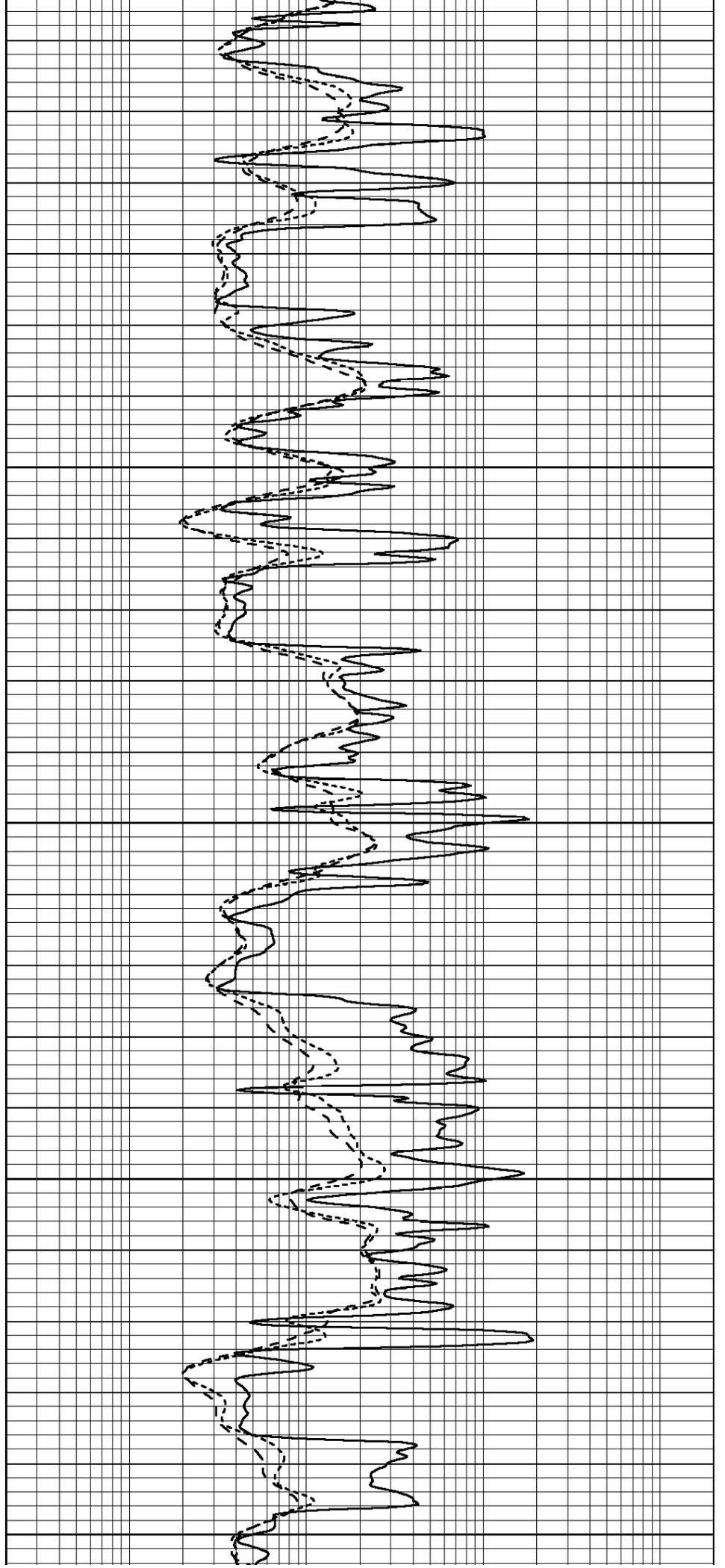
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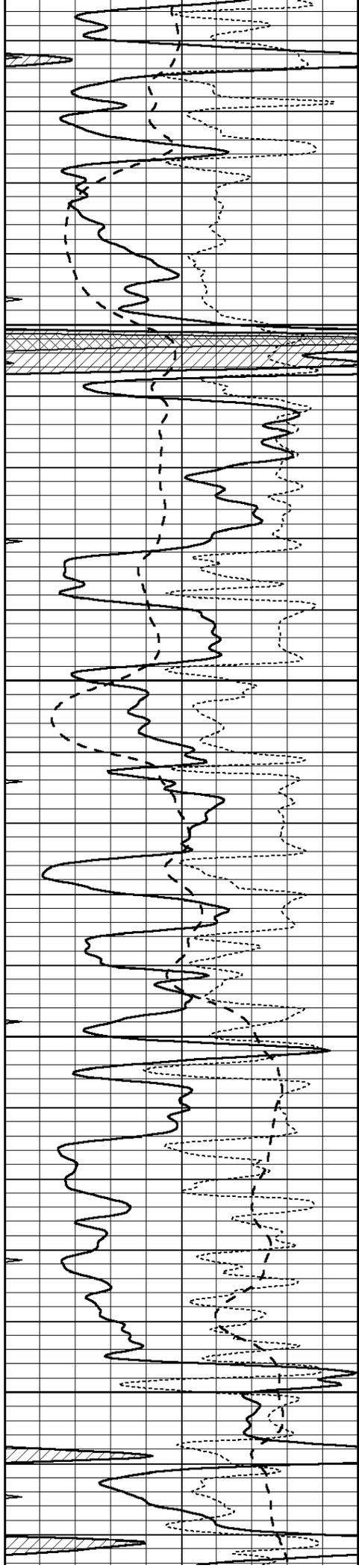
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3650

3700

3750



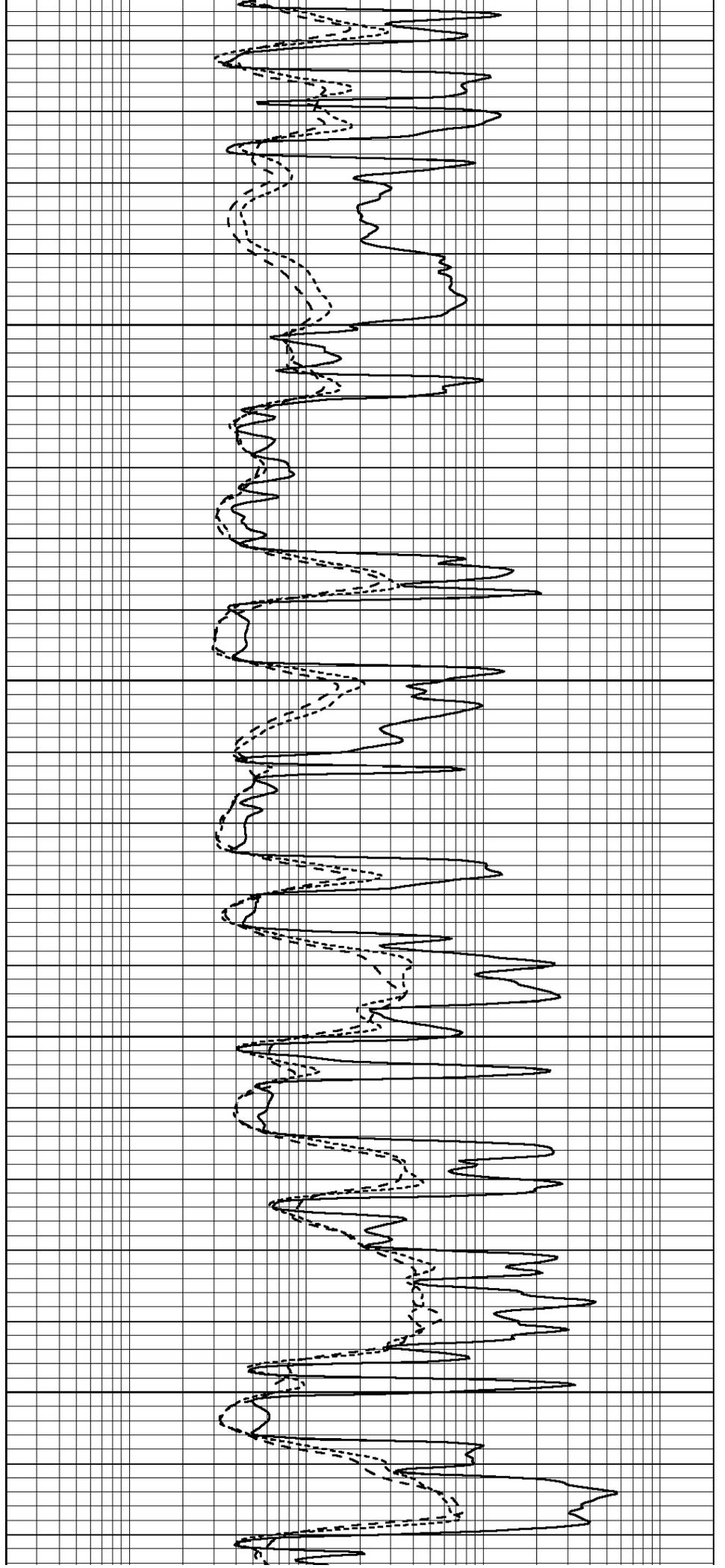


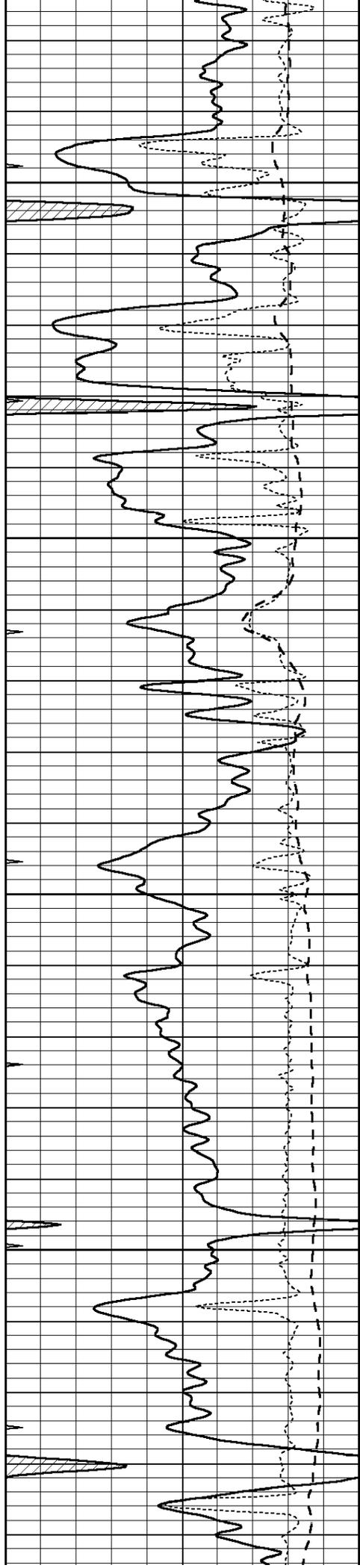
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3850

3900

3950



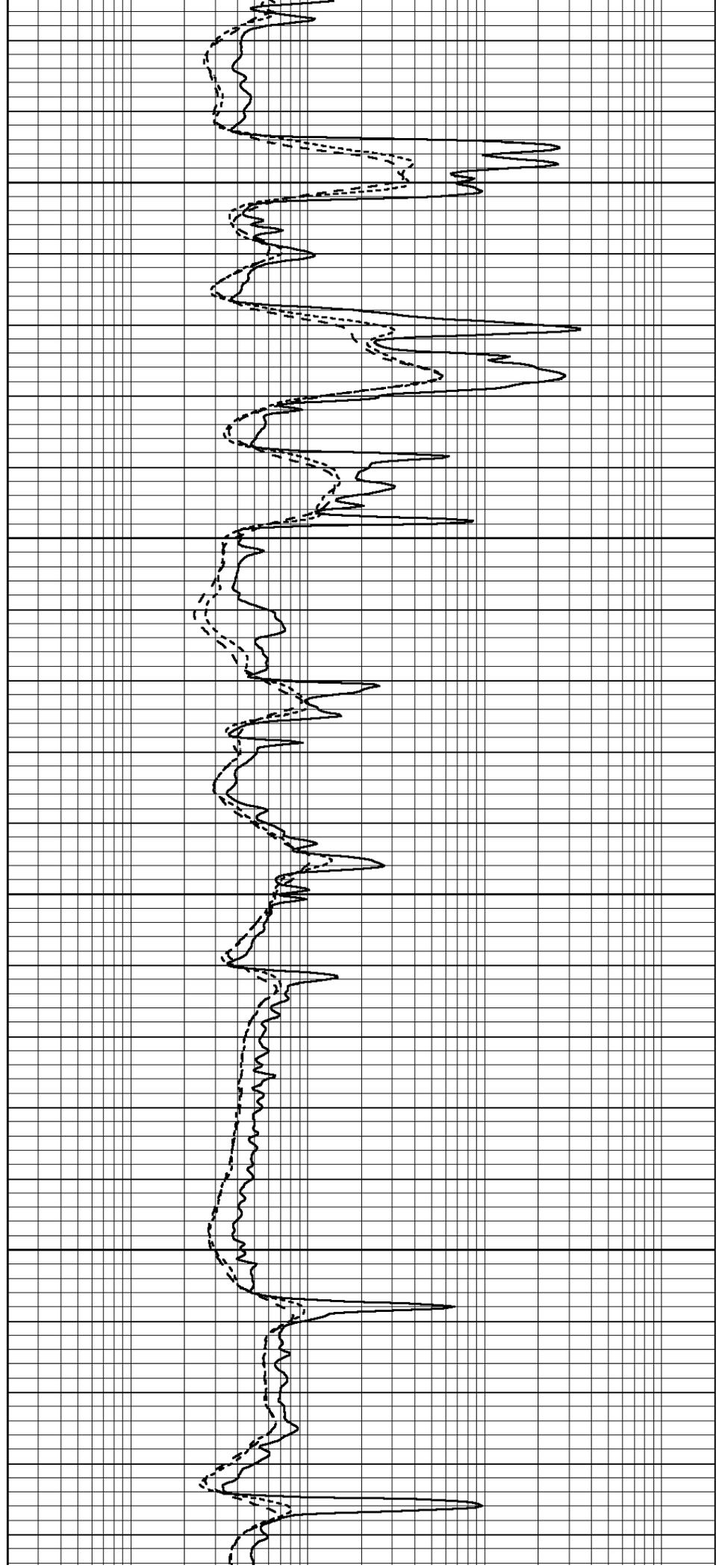


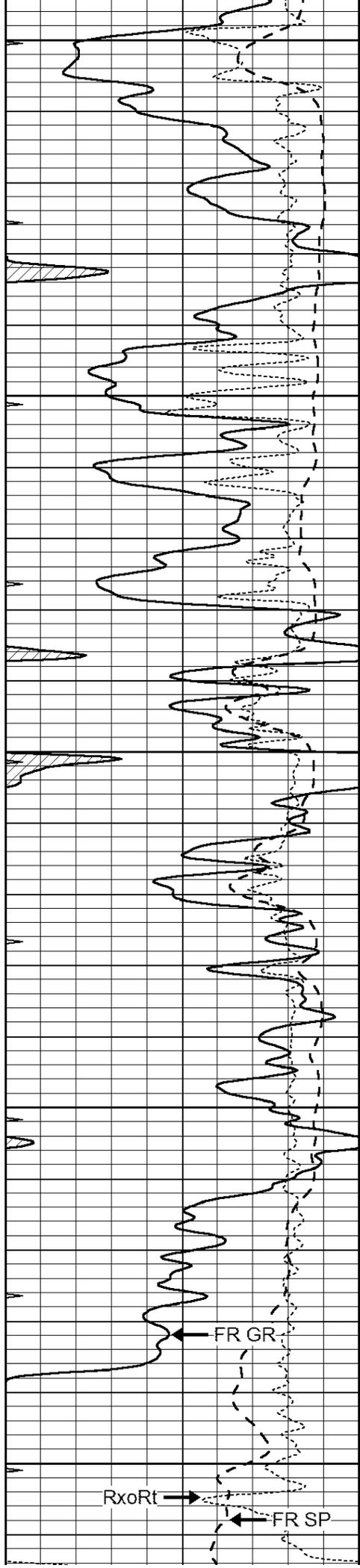
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4050

4100

4150





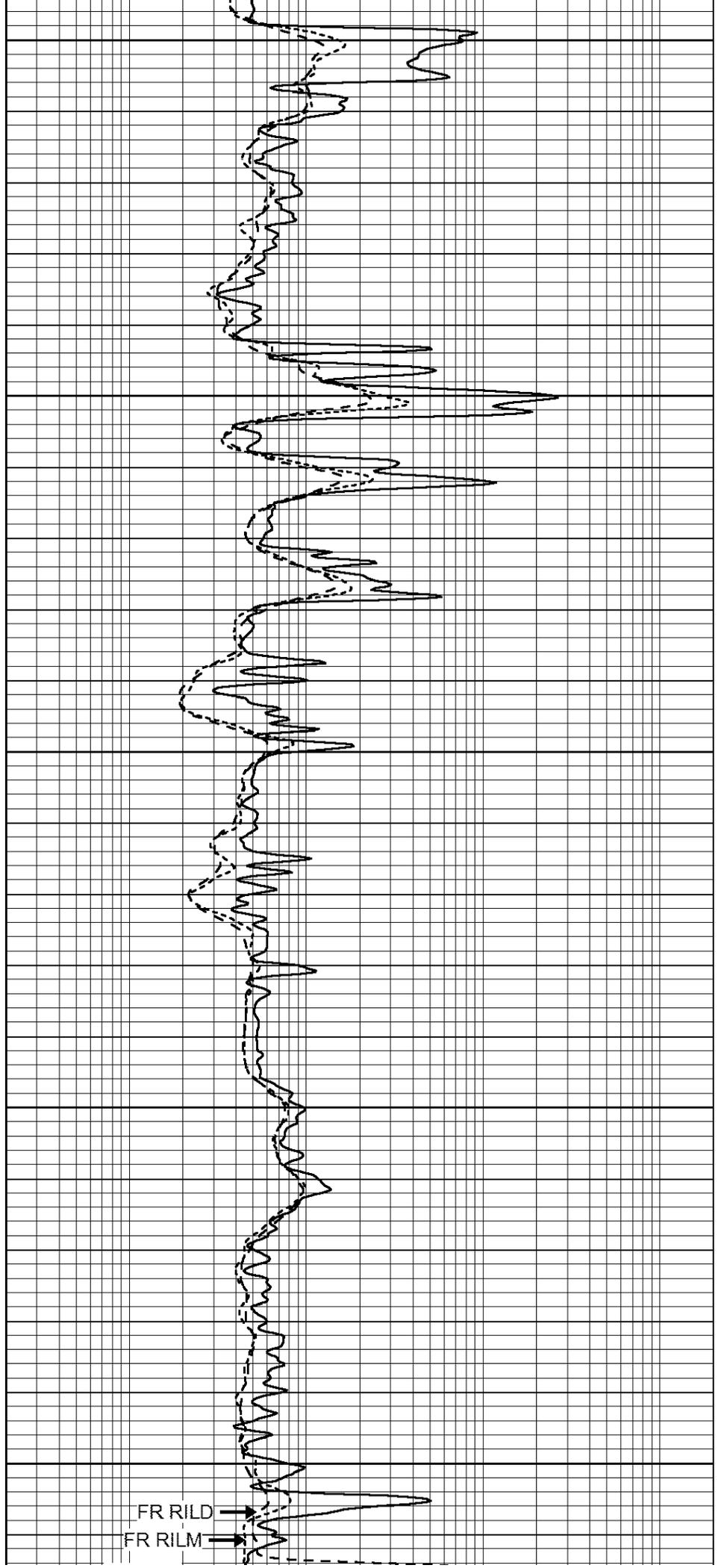
4200

4250

4300

4350

4400



LTD 4418

FR RLL3

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

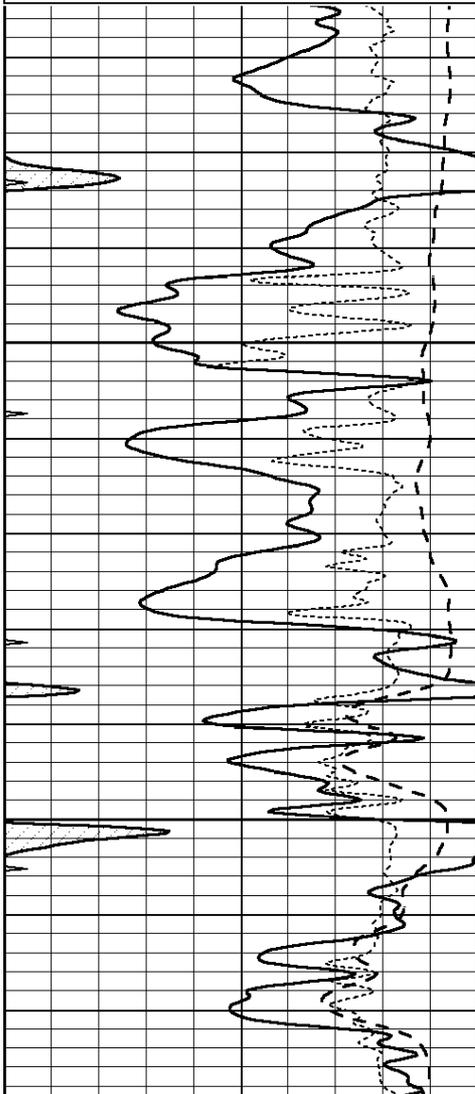


REPEAT SECTION

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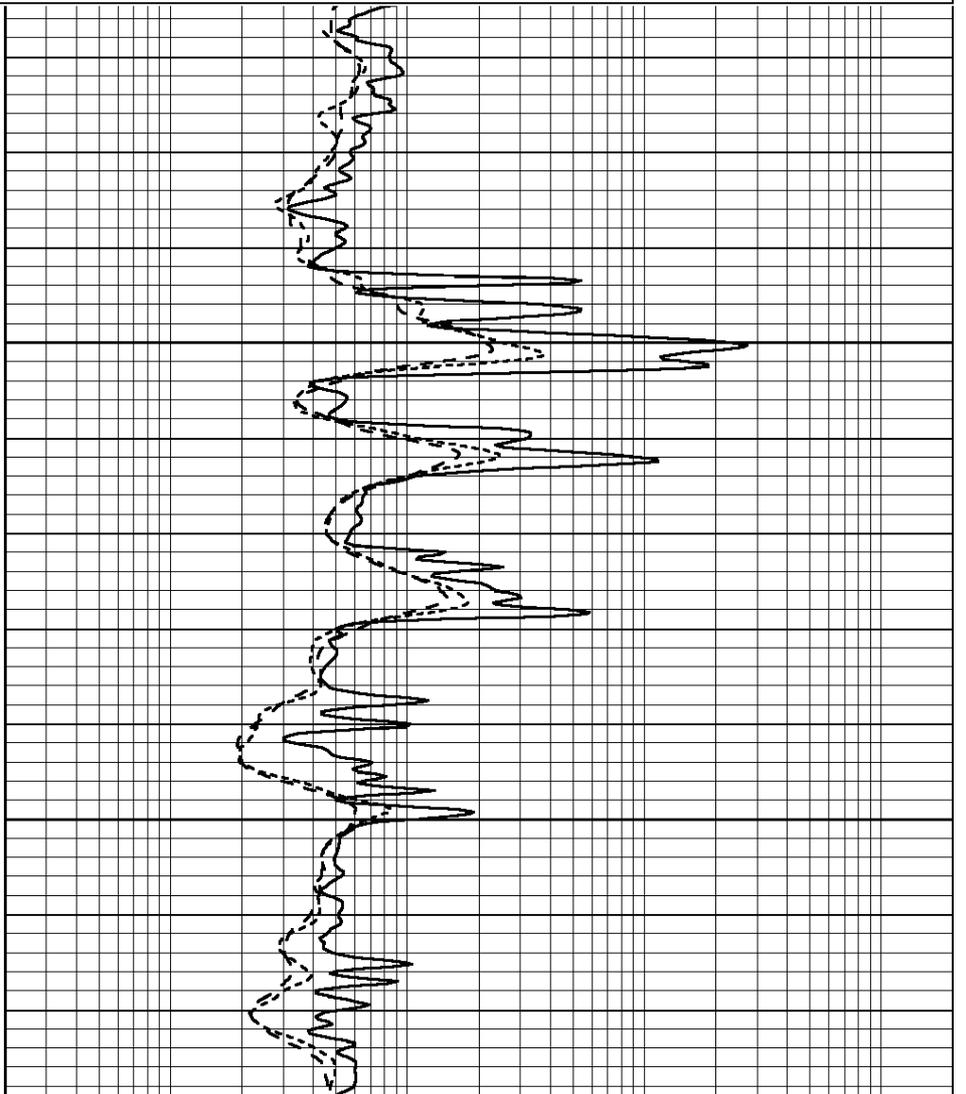
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

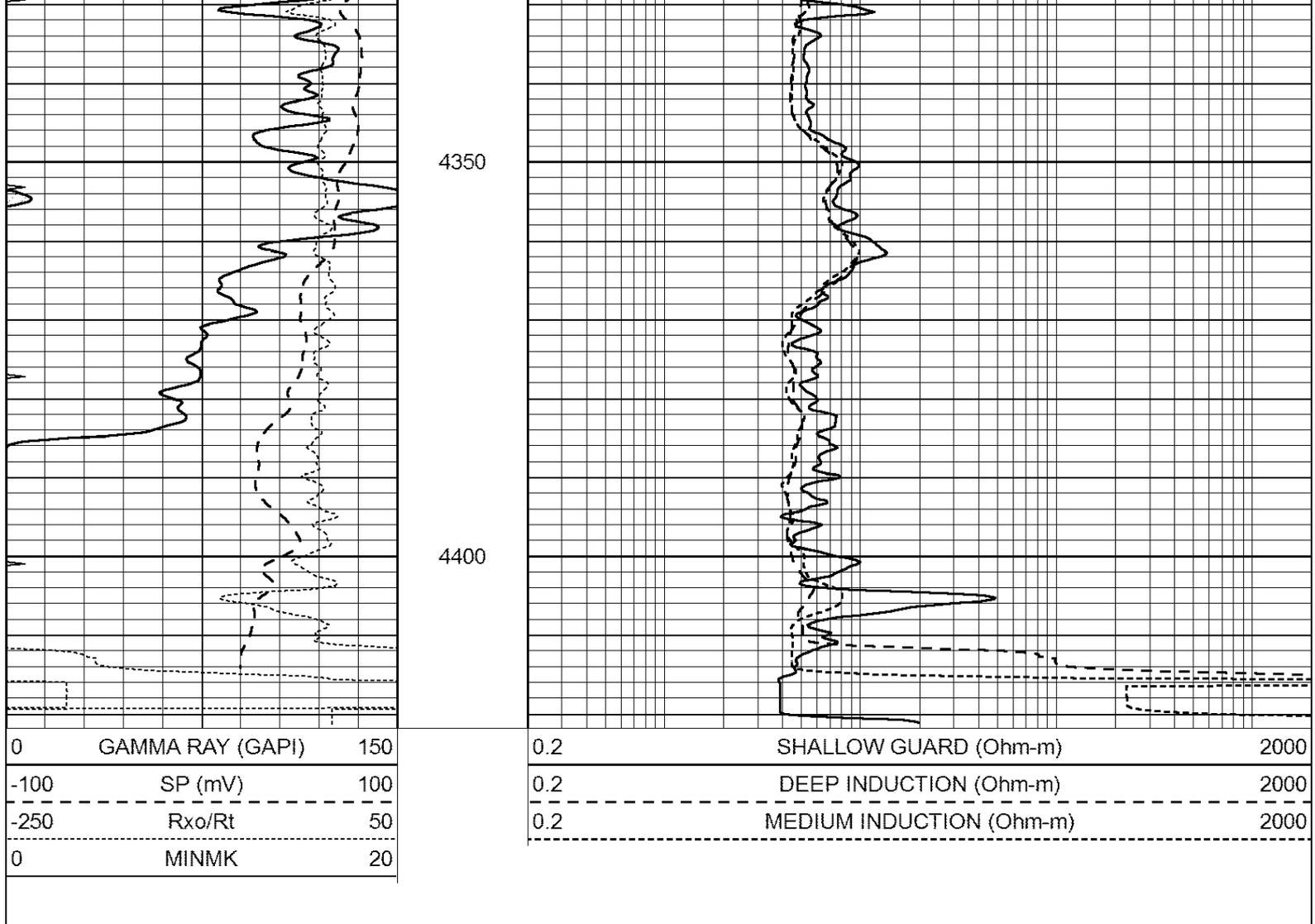
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



4250

4300





Calibration Report

Database File: 26534ddn.db
 Dataset Pathname: pass2.1
 Dataset Creation: Tue Feb 10 17:59:15 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			V	References			Results	
	Air	Loop			Air	Loop	mmho/m	m	b
Deep	0.015	0.648		0.000	400.000	mmho/m	620.000	-2.000	
Medium	0.029	0.796		0.000	464.000	mmho/m	590.000	-16.000	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.017	0.657		0.000	400.000	mmho/m	625.153	-10.619	
Medium	0.016	0.757		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		

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 Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	
3)	Short Space Long Space	cps cps	pu	

POST-SURVEY VERIFICATION				
	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps 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