



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company		DEUTSCH OIL COMPANY	
Well		SHUMWAY #9-33	
Field		BAUMAN	
County		STAFFORD	
State		KANSAS	
Location:		APL # : 15-185-23910-0000	
Permanent Datum		GROUND LEVEL Elevation 1834	
Log Measured From		KELLY BUSHING 7' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 33 TWP 25S RGE 11W		Other Services CDL/CNL MEL	
Date	11/2/14		
Run Number	ONE		
Depth Driller	4195		
Depth Logger	4194		
Bottom Logged Interval	4192		
Top Log Interval	00		
Casing Driller	8 5/8" @ 260		
Casing Logger	260		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 10400 PPM	
Density / Viscosity	9.5/48		
pH / Fluid Loss	7.5/14.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.40 @ 75F		
Rmt @ Meas. Temp	.30 @ 75F		
Rmc @ Meas. Temp	.48 @ 75F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.25 @ 118F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	118F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	SCOTT ALBERG		

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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:
PRESTON, KS. - MAIN STREET - 3 NORTH TO 110 RD - 1 EAST - 1 1/4 NORTH
TO THE T - 1/2 EAST - 1/4 NORTH - WEST INTO

Database File:

26221ddn.db

Dataset Pathname:

pass3.2

Presentation Format:

_dil2

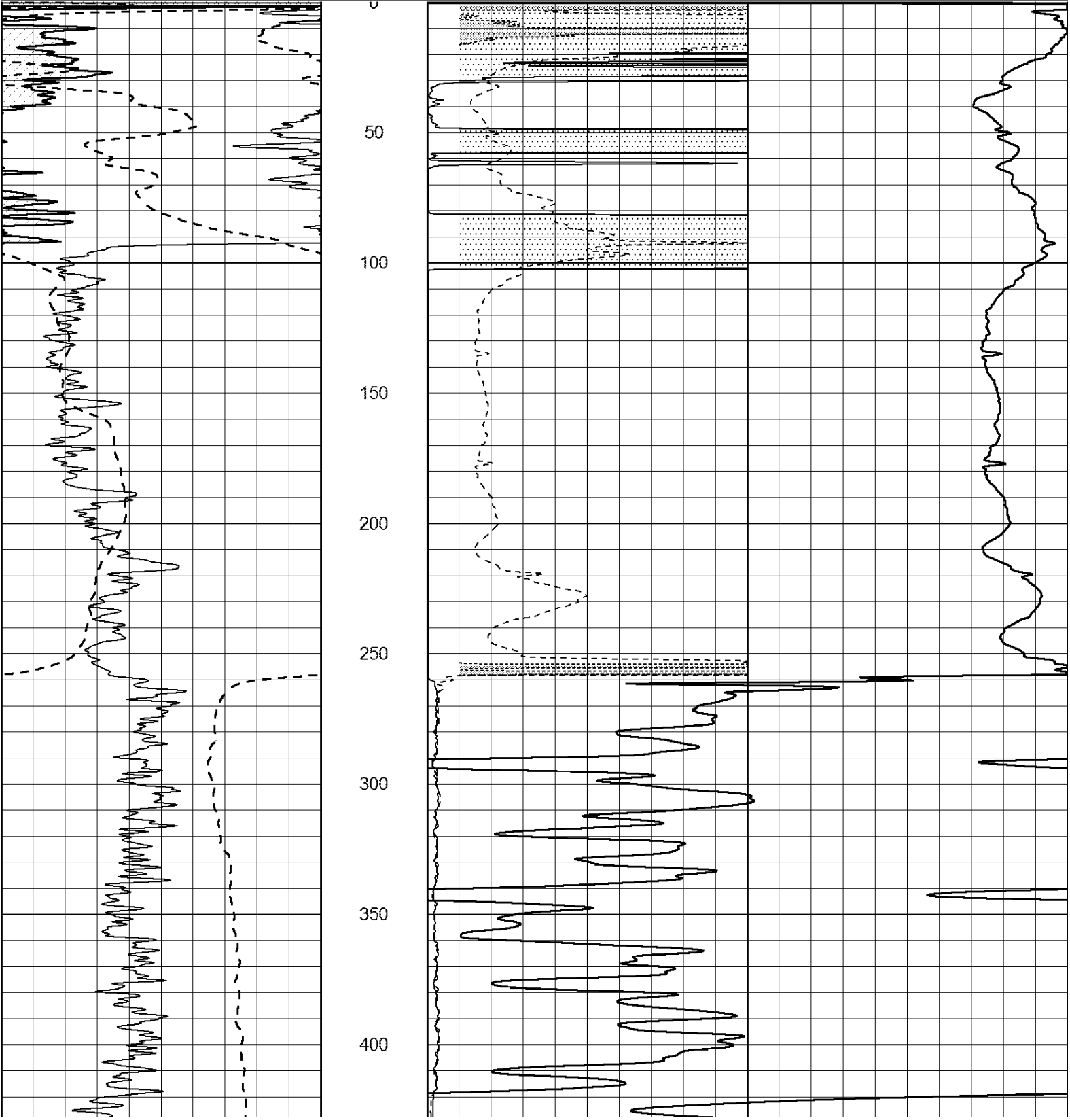
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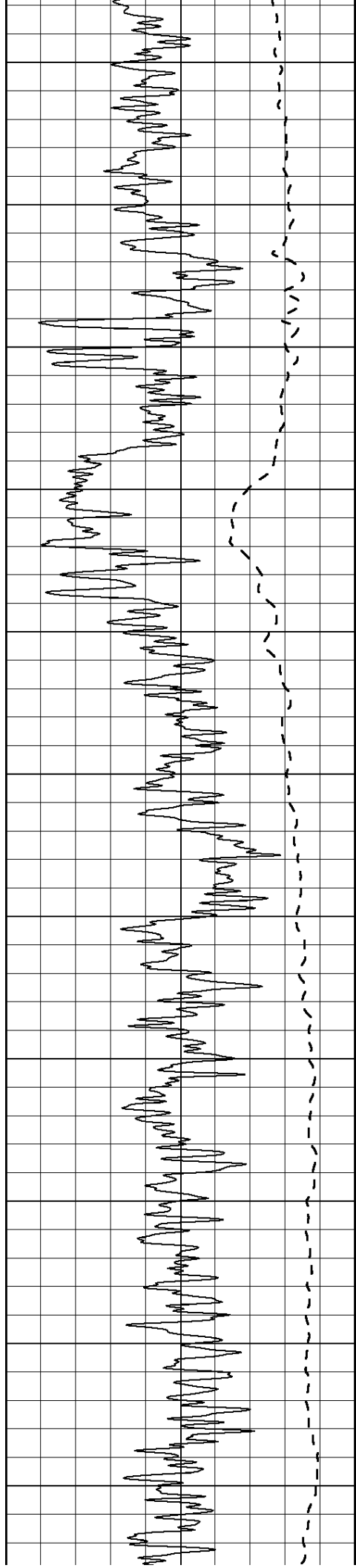
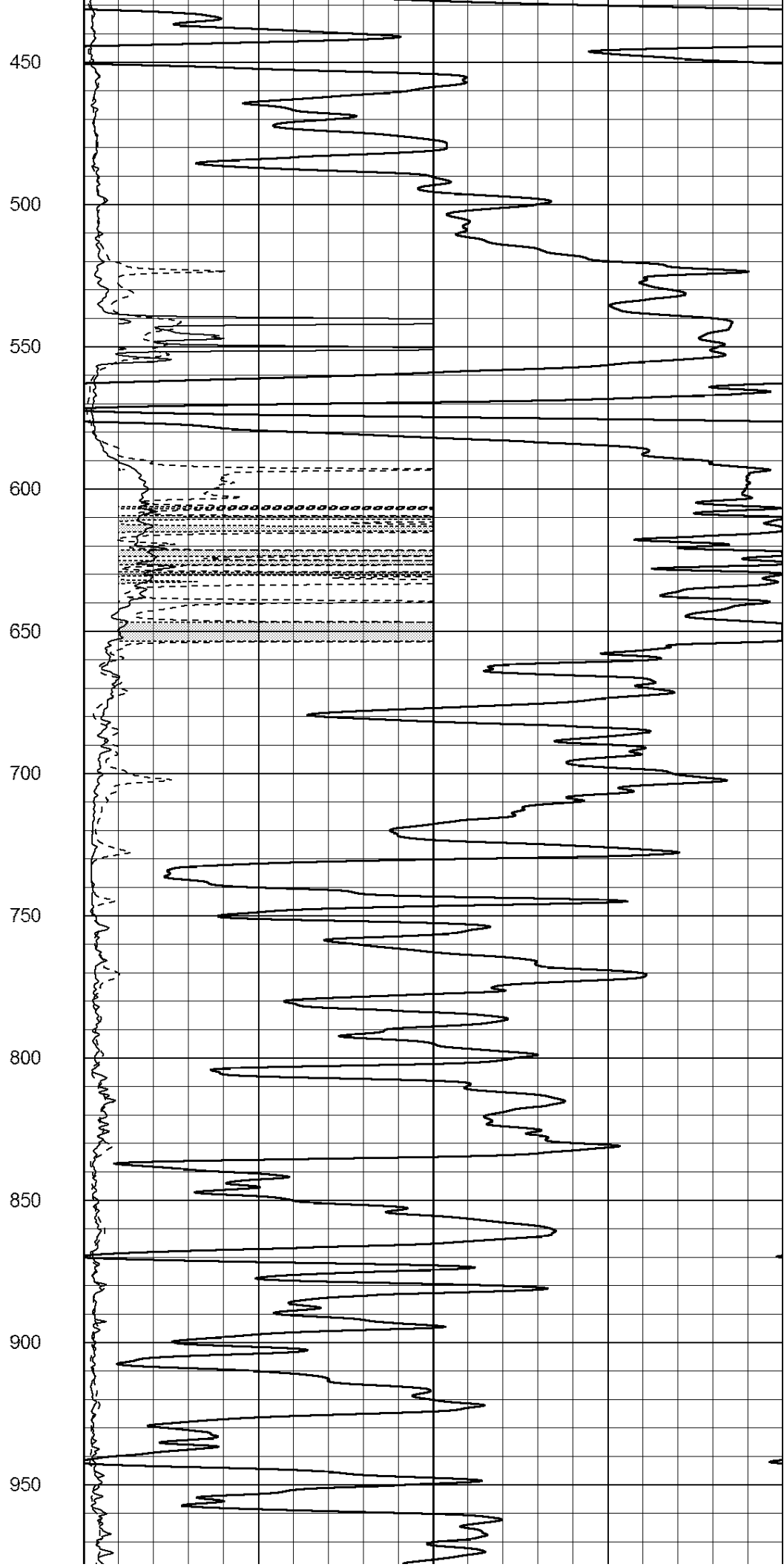
Sun Nov 02 18:40:04 2014 by Calc Open-Cased 090629

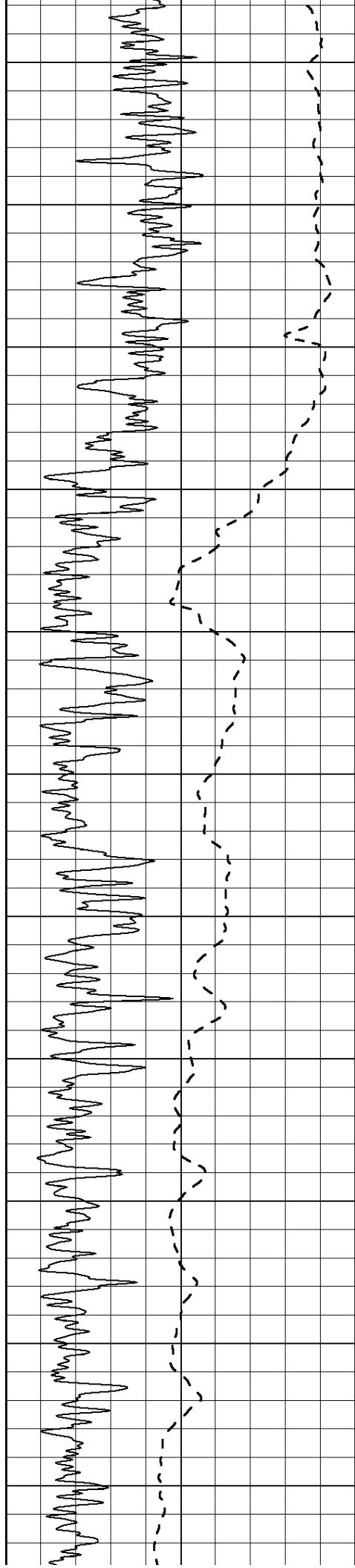
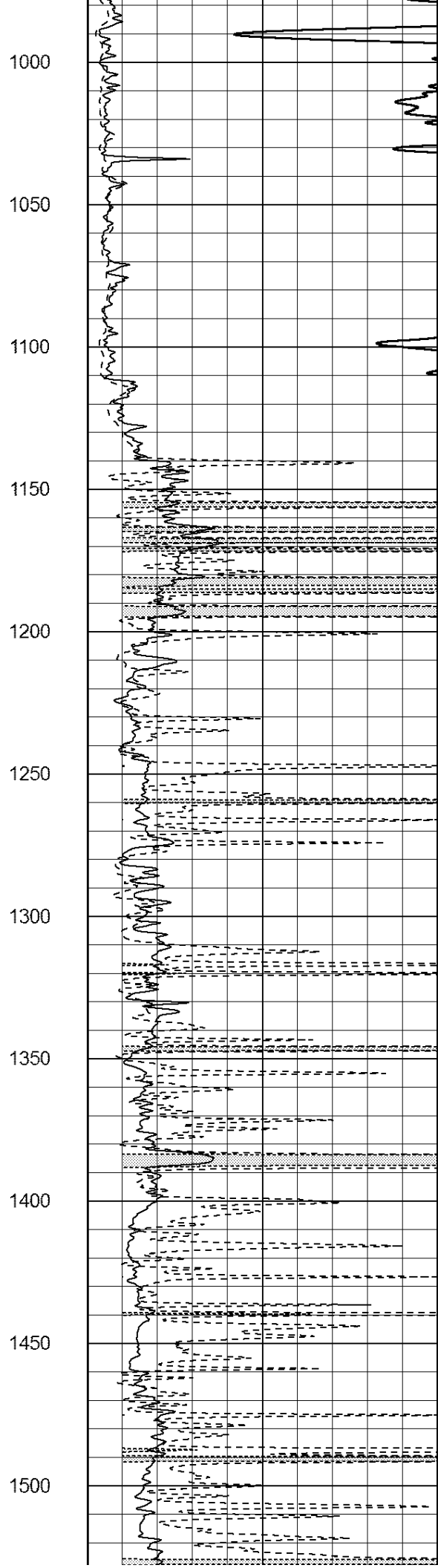
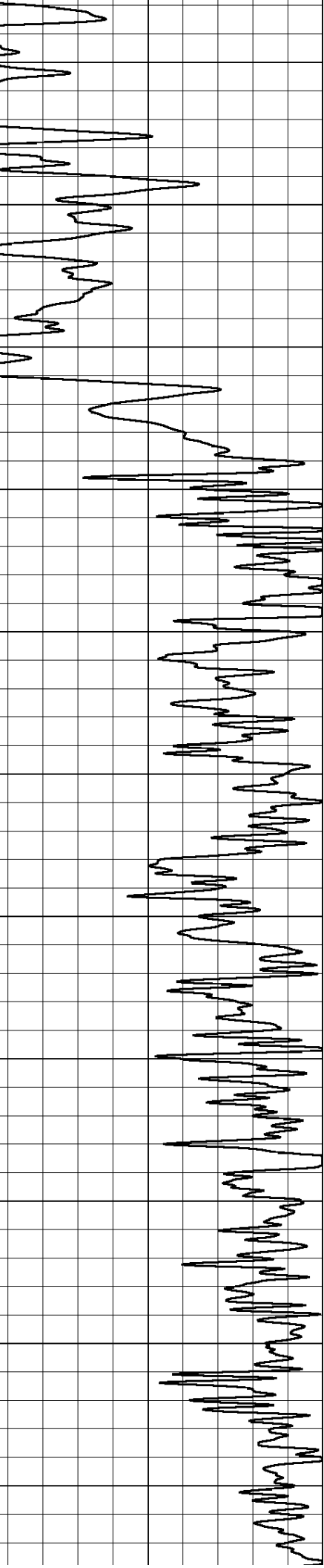
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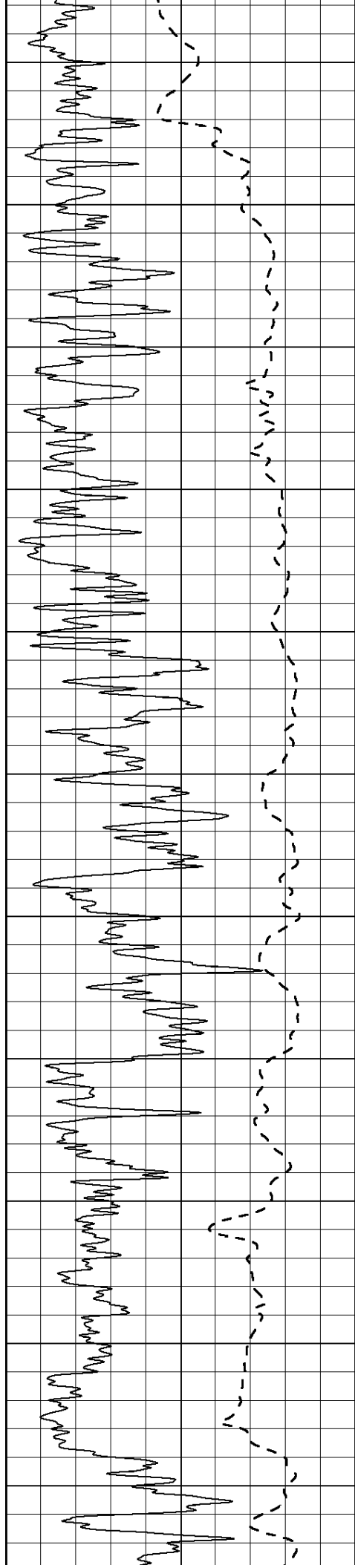
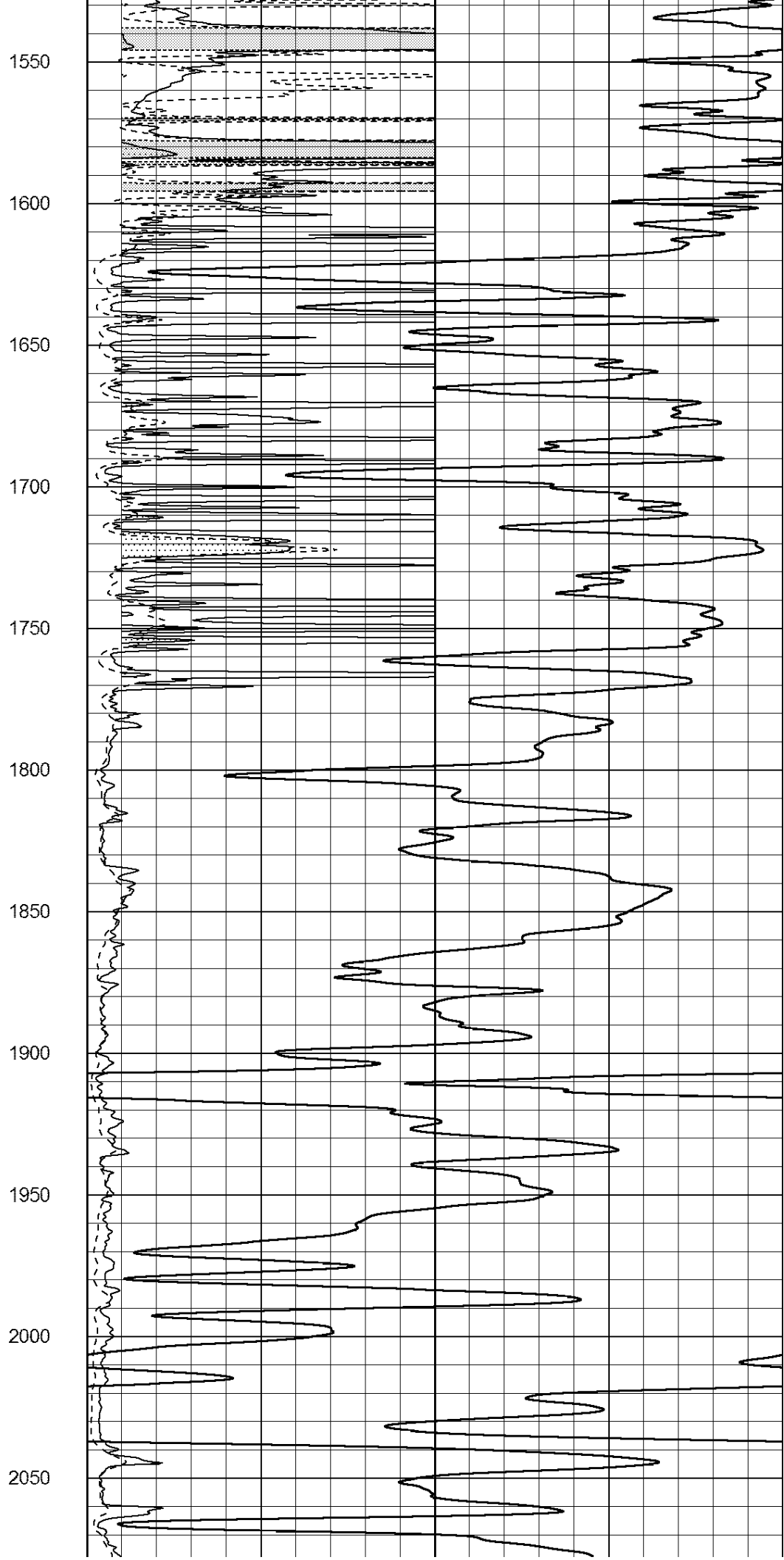
Depth in Feet scaled 1:600

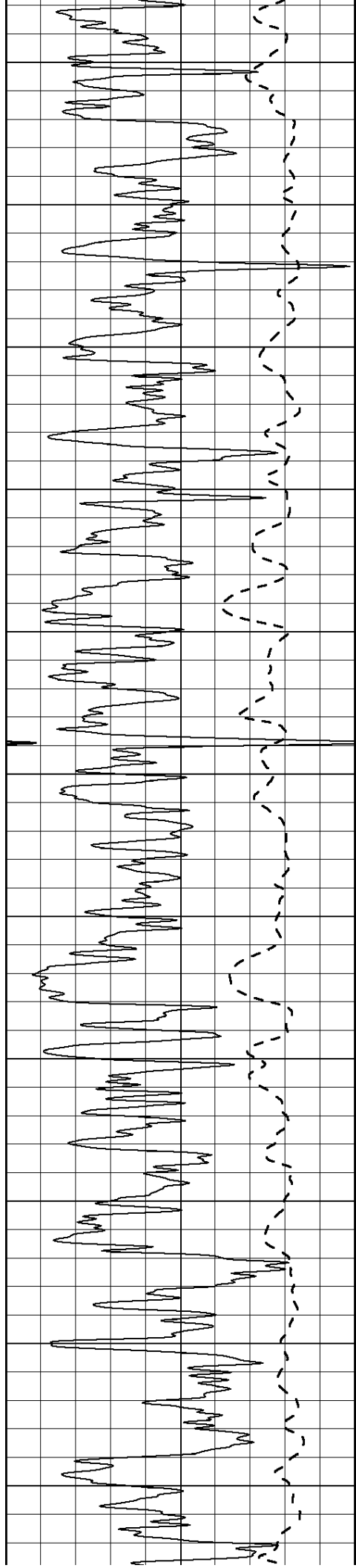
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-100	SP (mV)	100	0	RILD (Ohm-m)	50	
-----			1000			CILD (mmho/m)
			50	RILD X10 (Ohm-m)	500	
			50	RLL3 X10 (Ohm-m)	500	











2100

2150

2200

2250

2300

2350

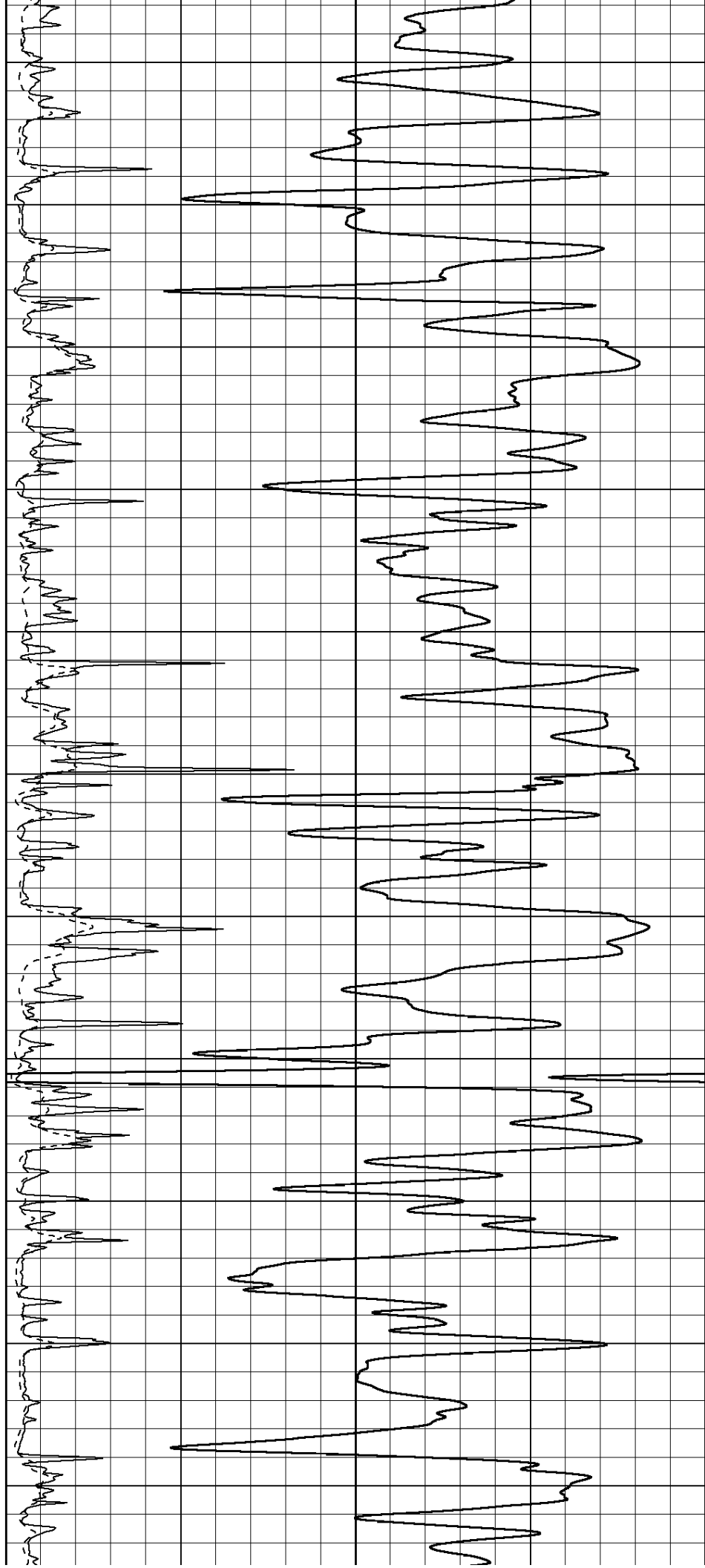
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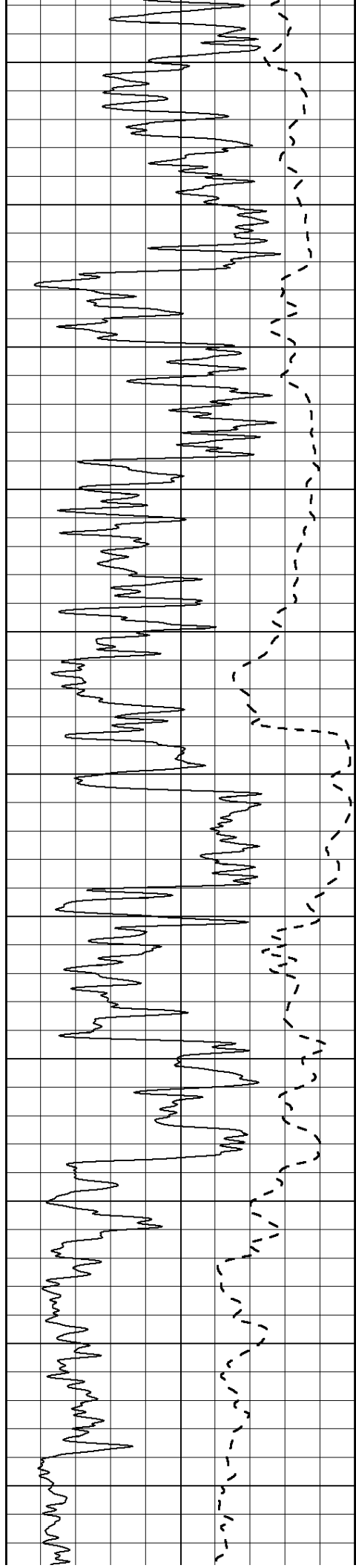
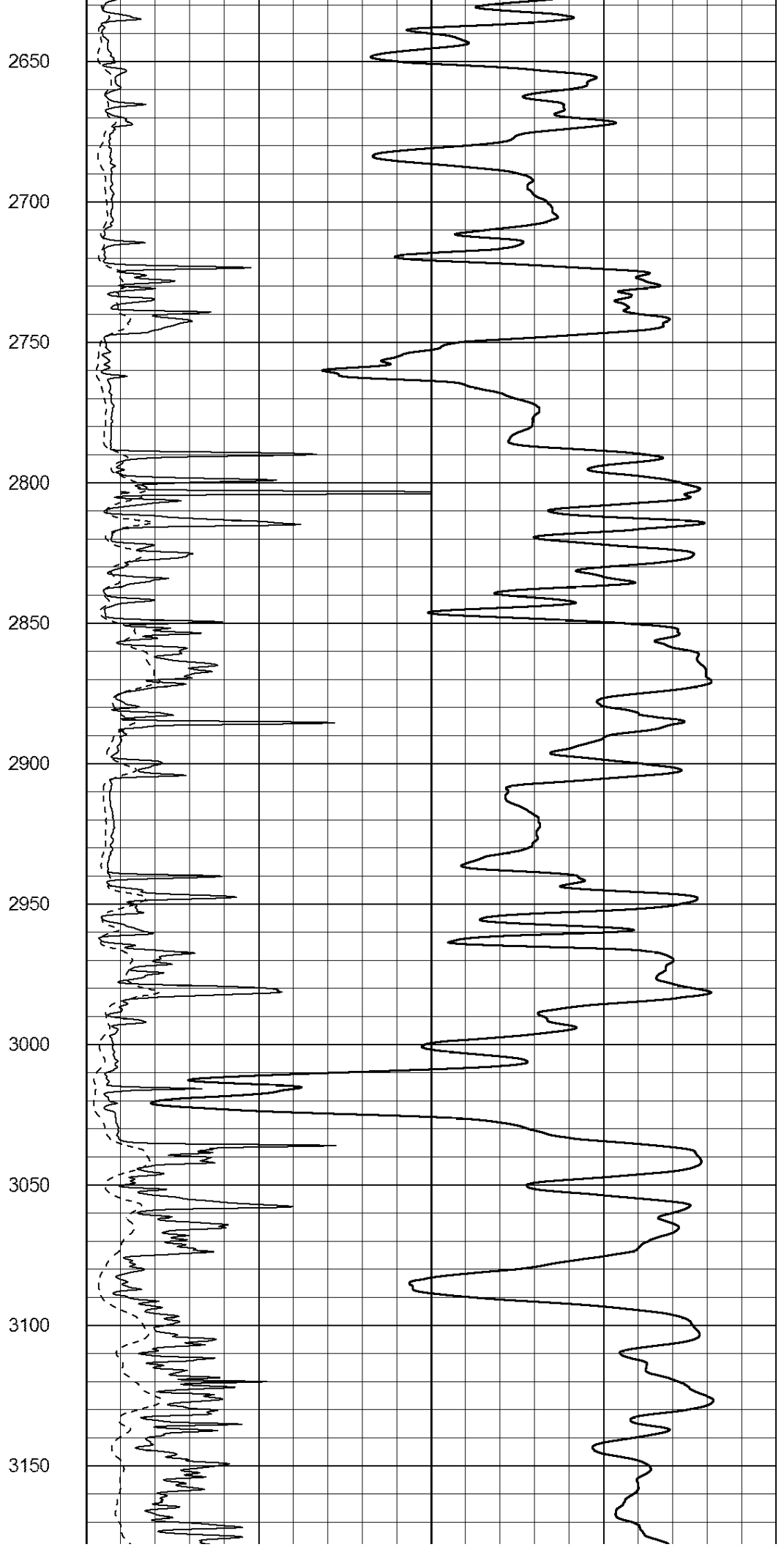
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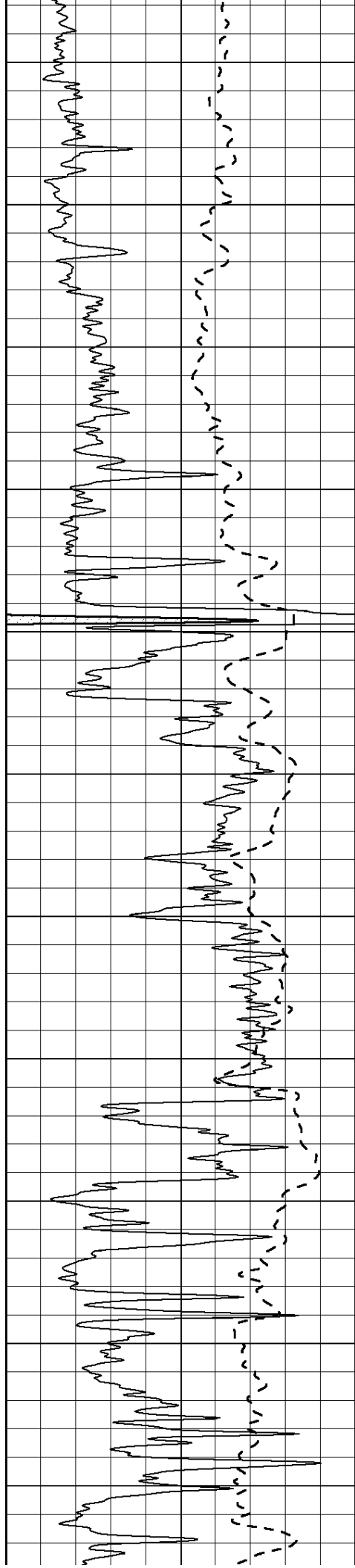
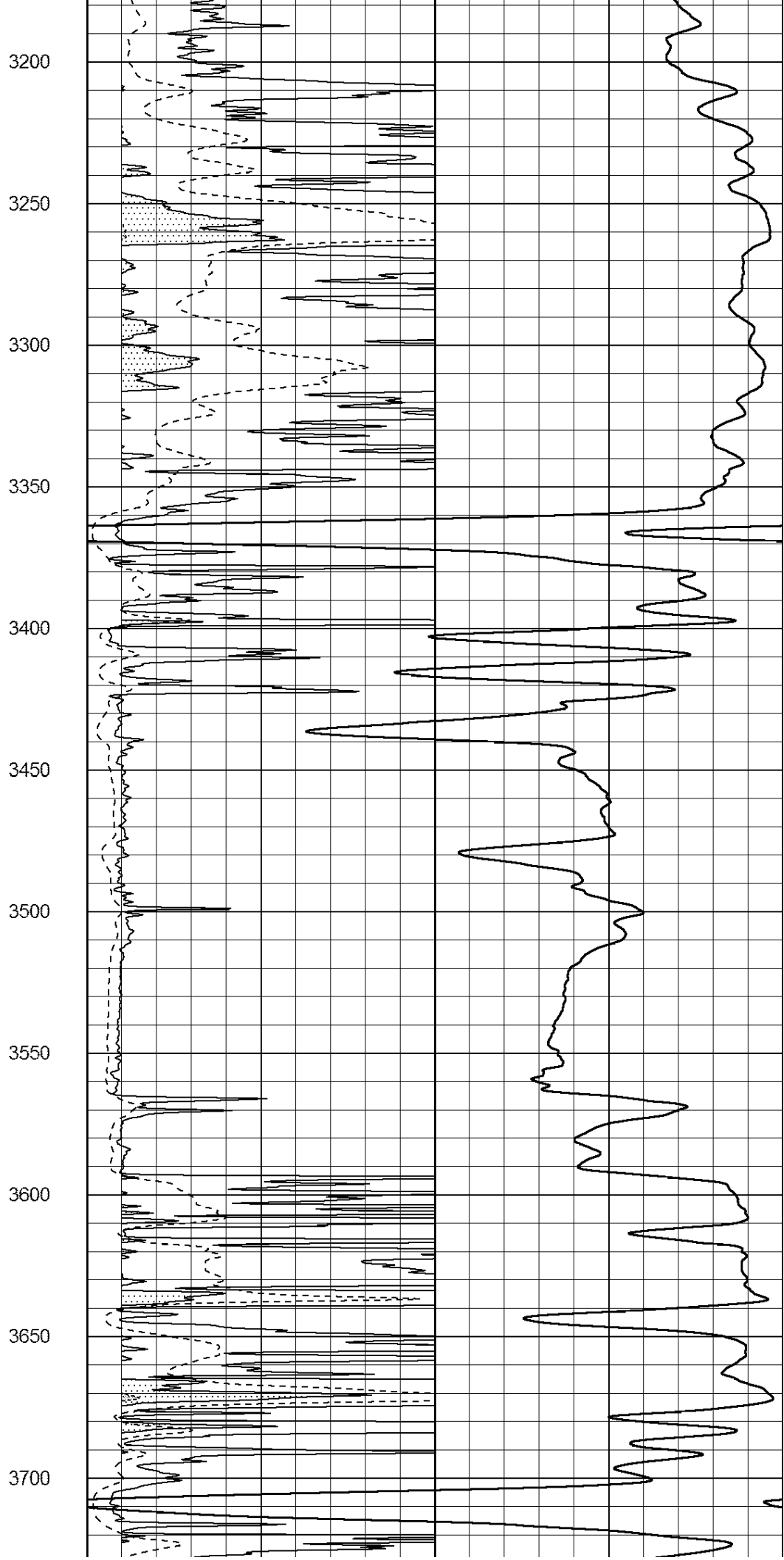
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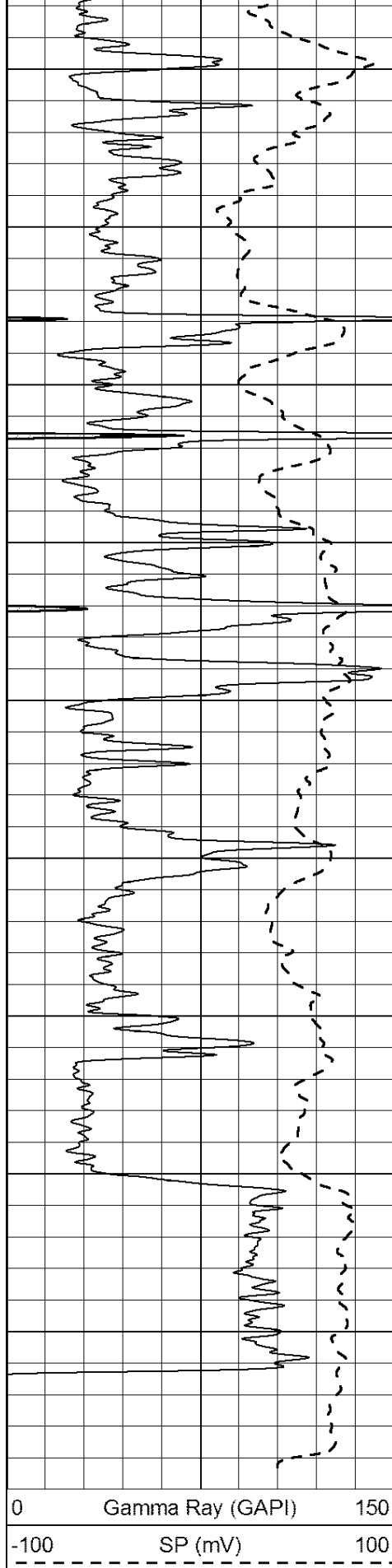
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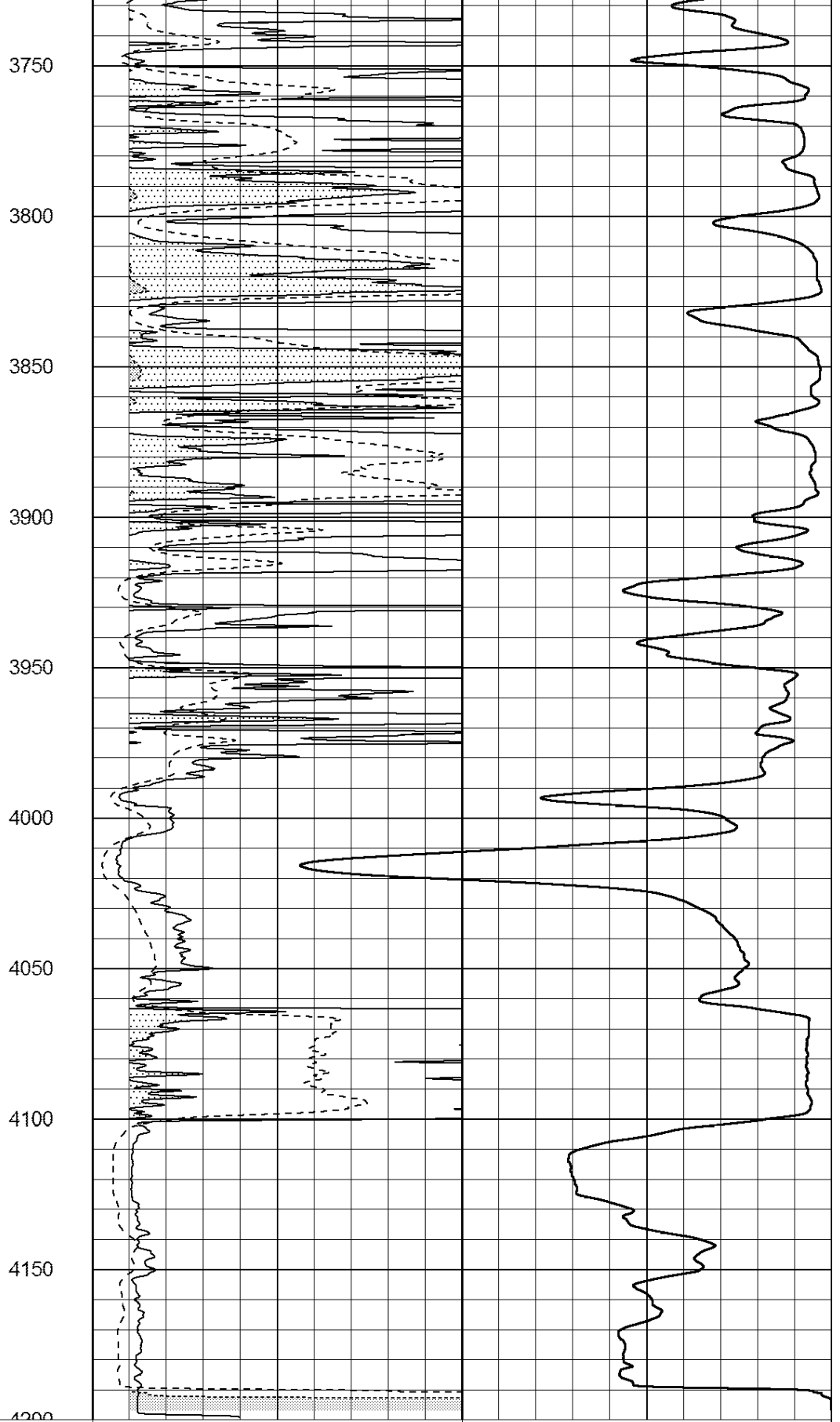








0 Gamma Ray (GAPI) 150
-100 SP (mV) 100



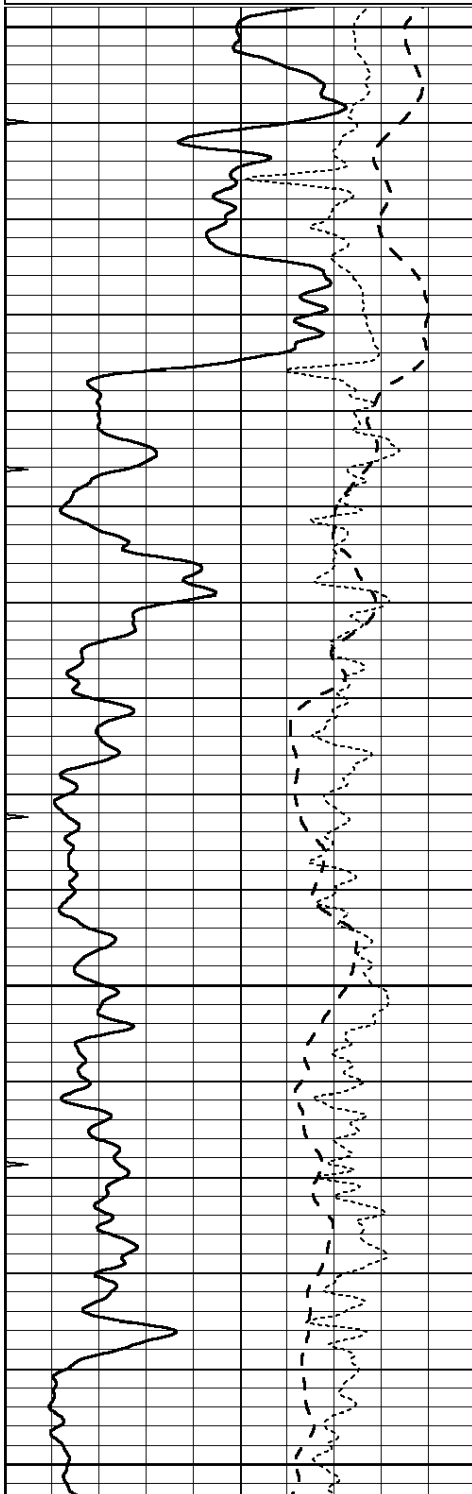
0 RLL3 (Ohm-m) 50
0 RILD (Ohm-m) 50
1000 CILD (mmho/m) 0
50 RILD X10 (Ohm-m) 500
50 RLL3 X10 (Ohm-m) 500

MAIN SECTION

Database File: 26221ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Sun Nov 02 17:50:49 2014 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

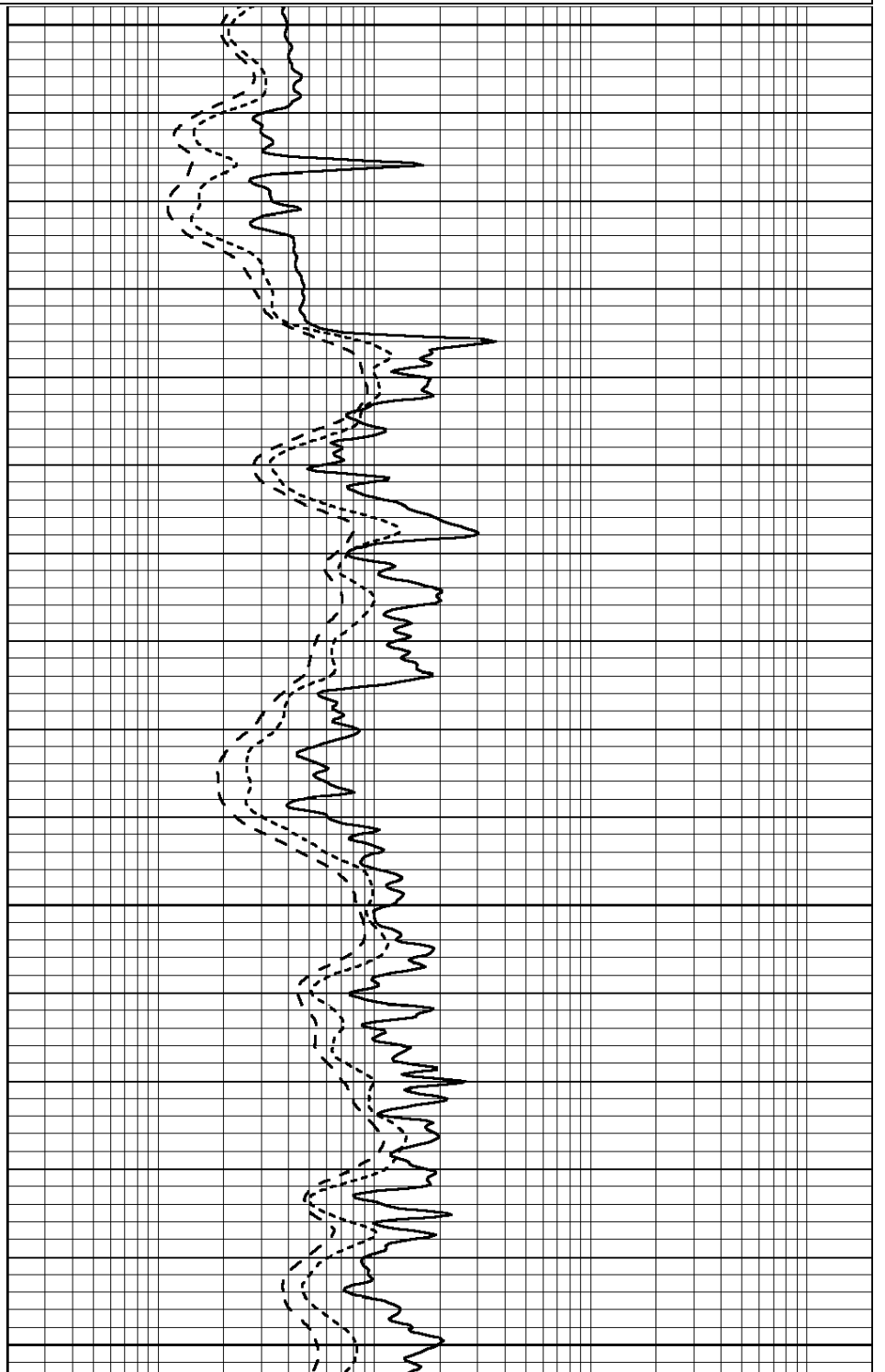


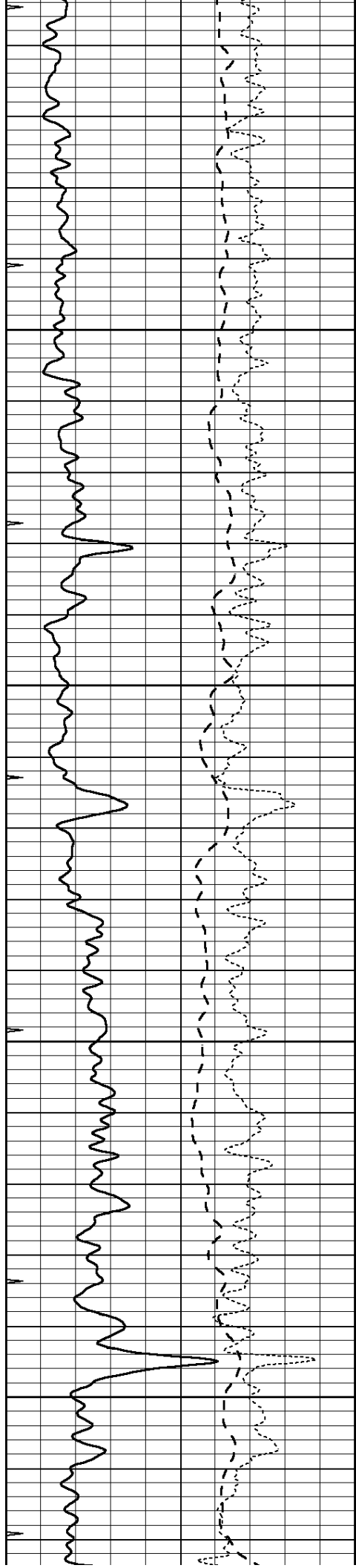
3000

3050

3100

3150



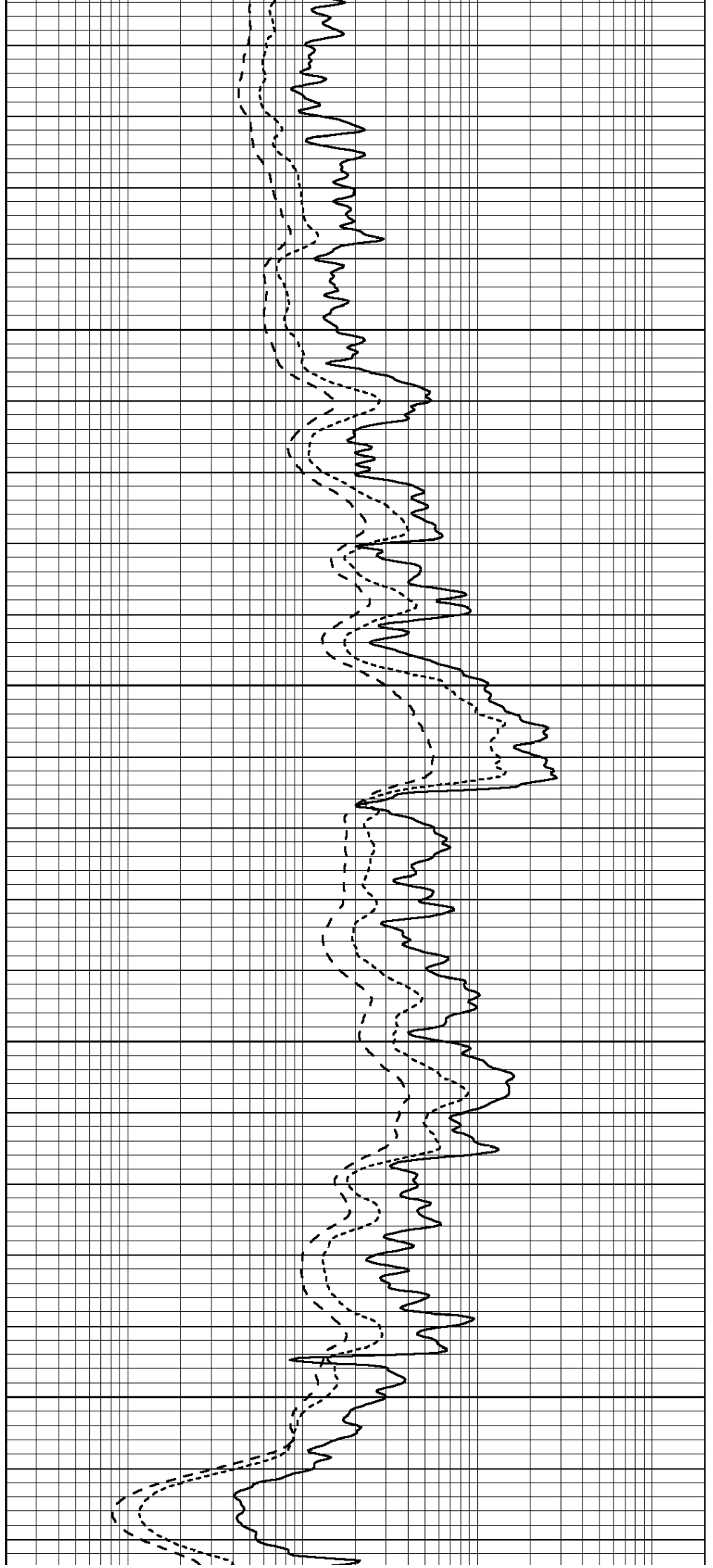


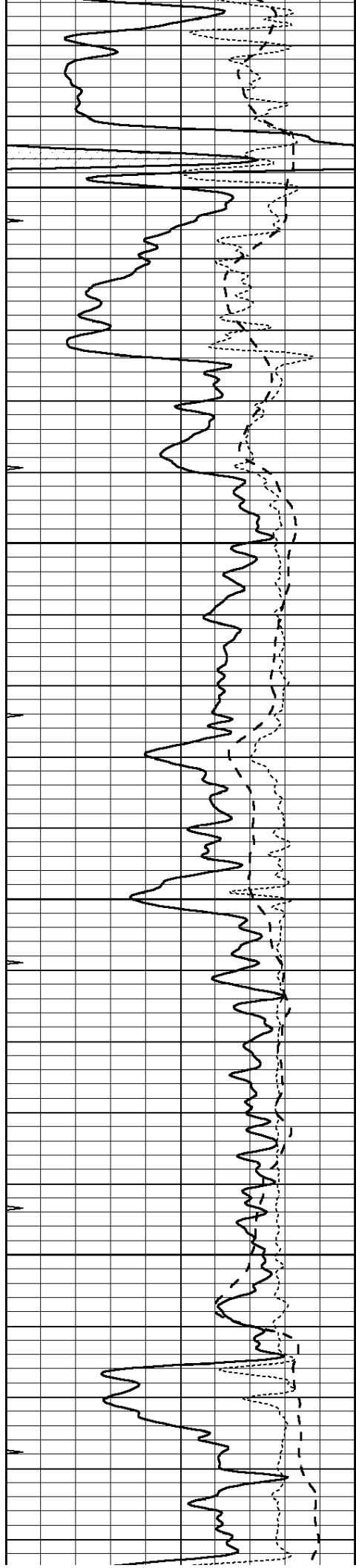
3200

3250

3300

3350



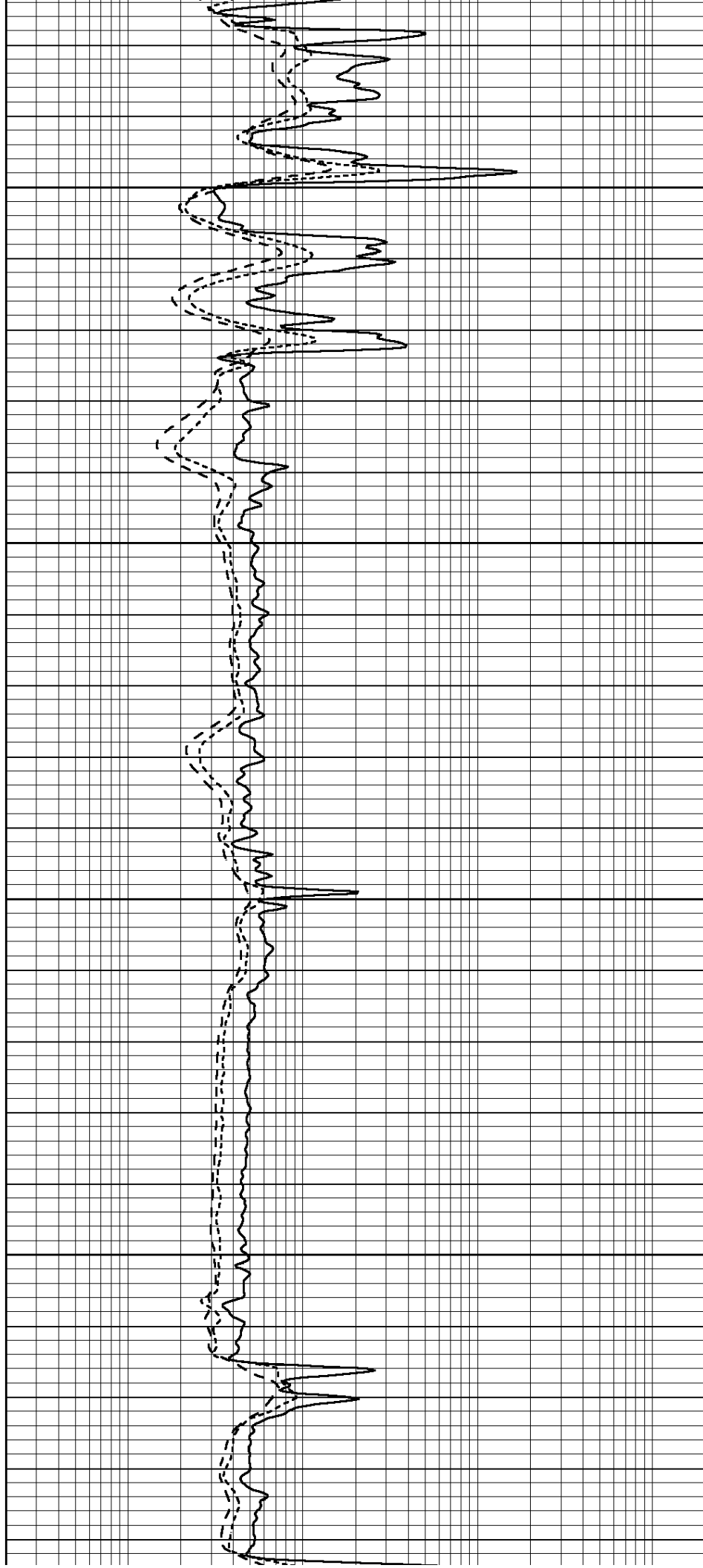


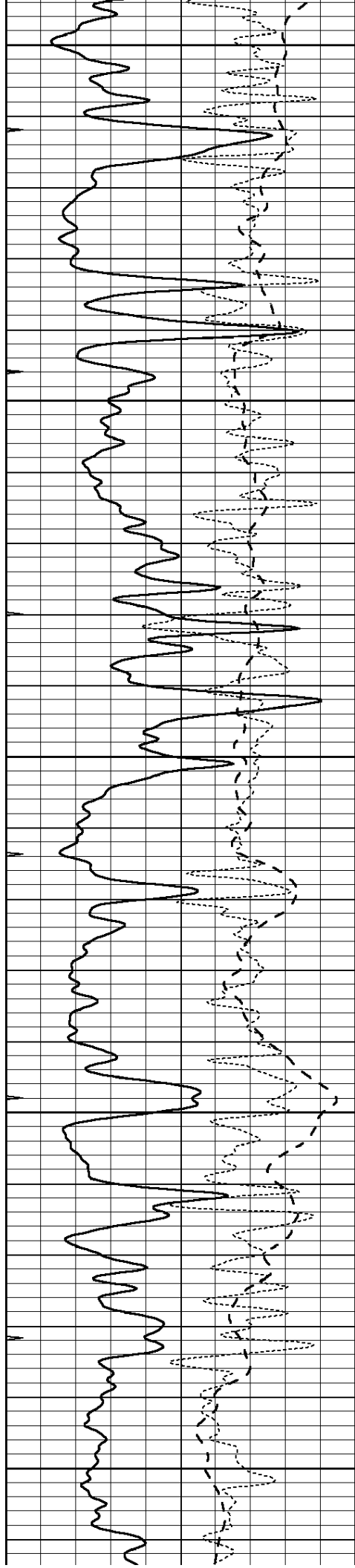
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3450

3500

3550





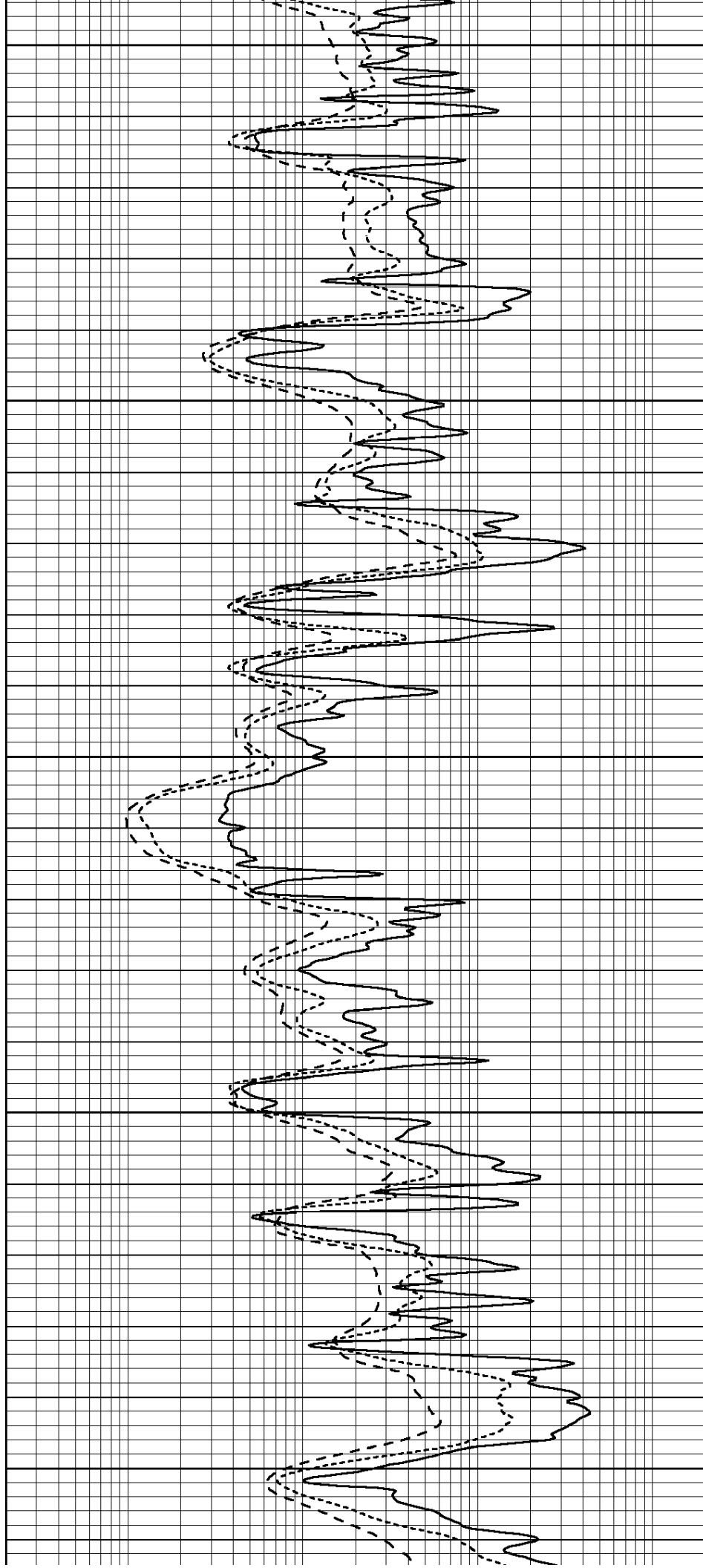
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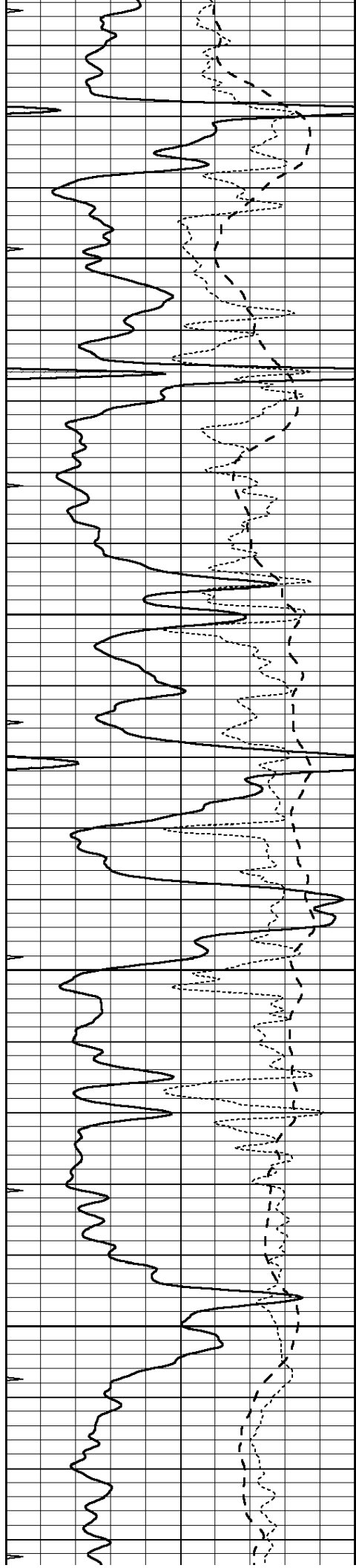
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3700

3750

3800



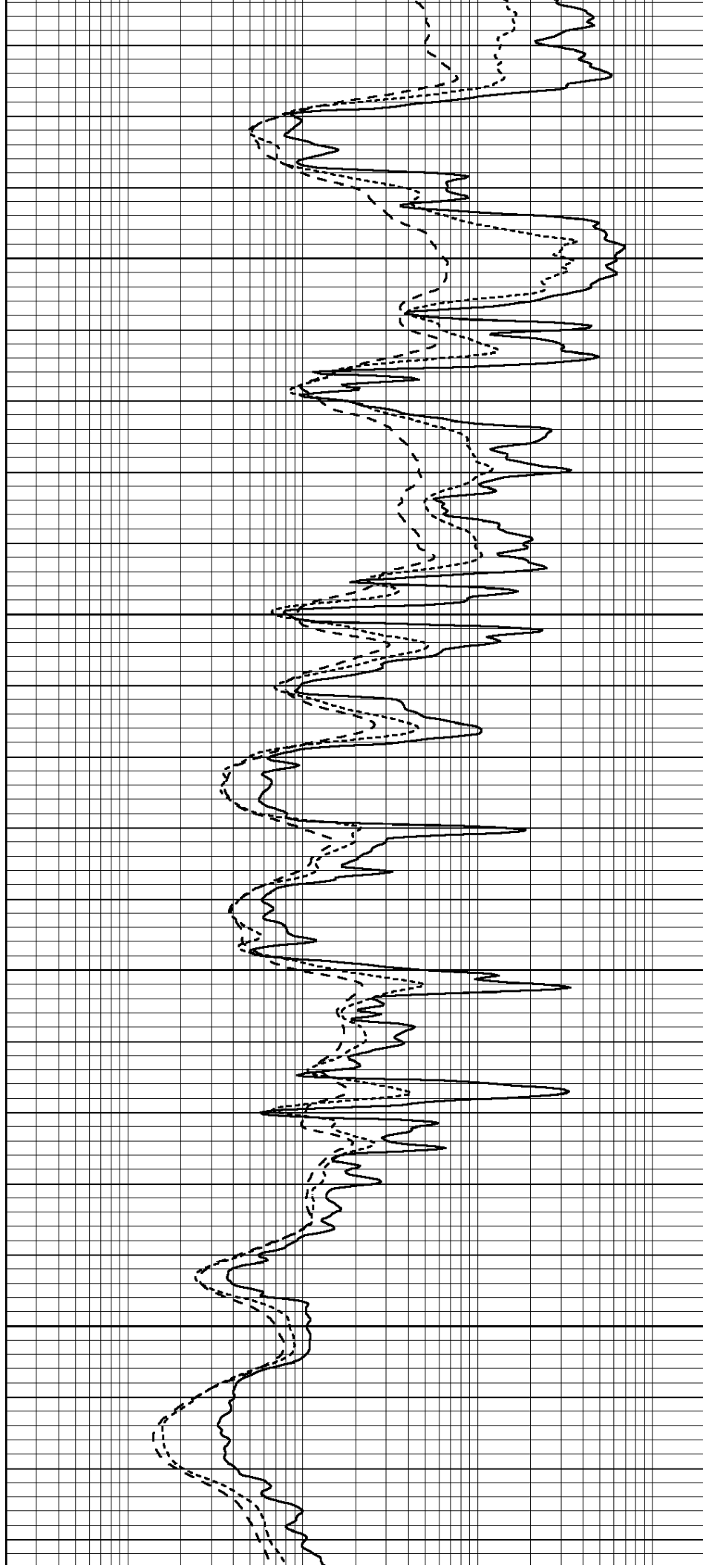


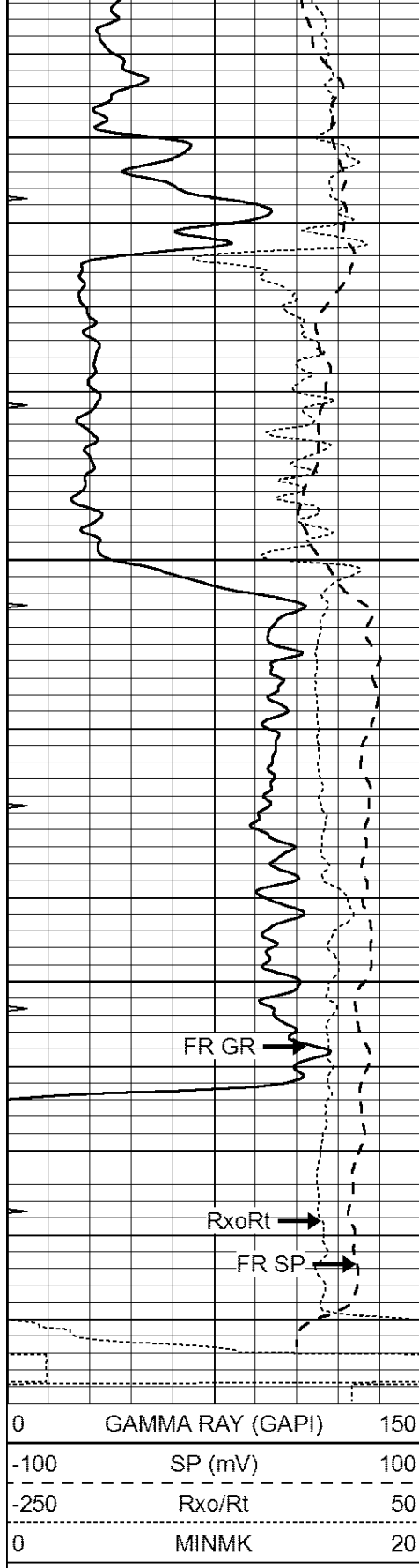
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3900

3950

4000





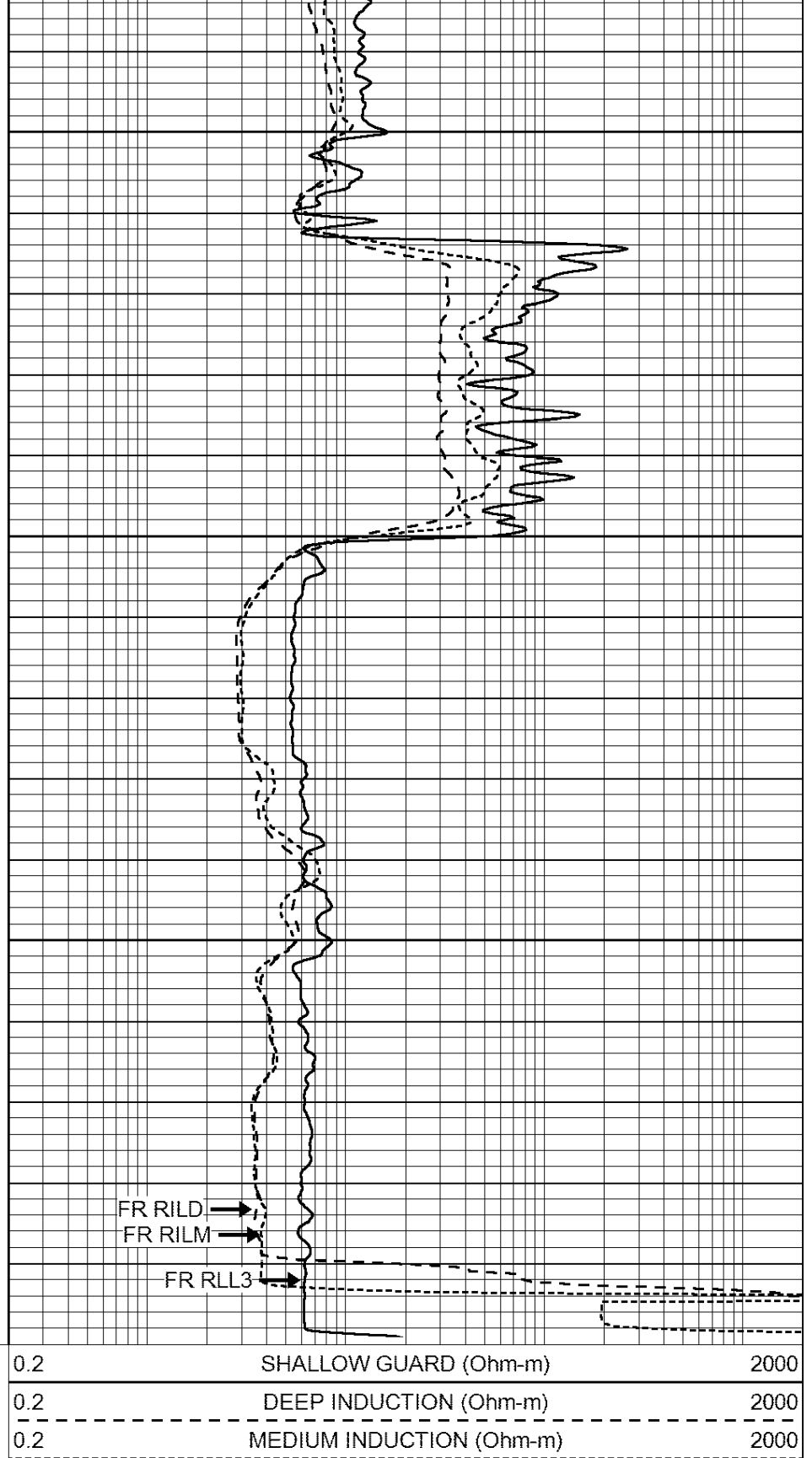
4050

4100

4150

LTD 4194

4200

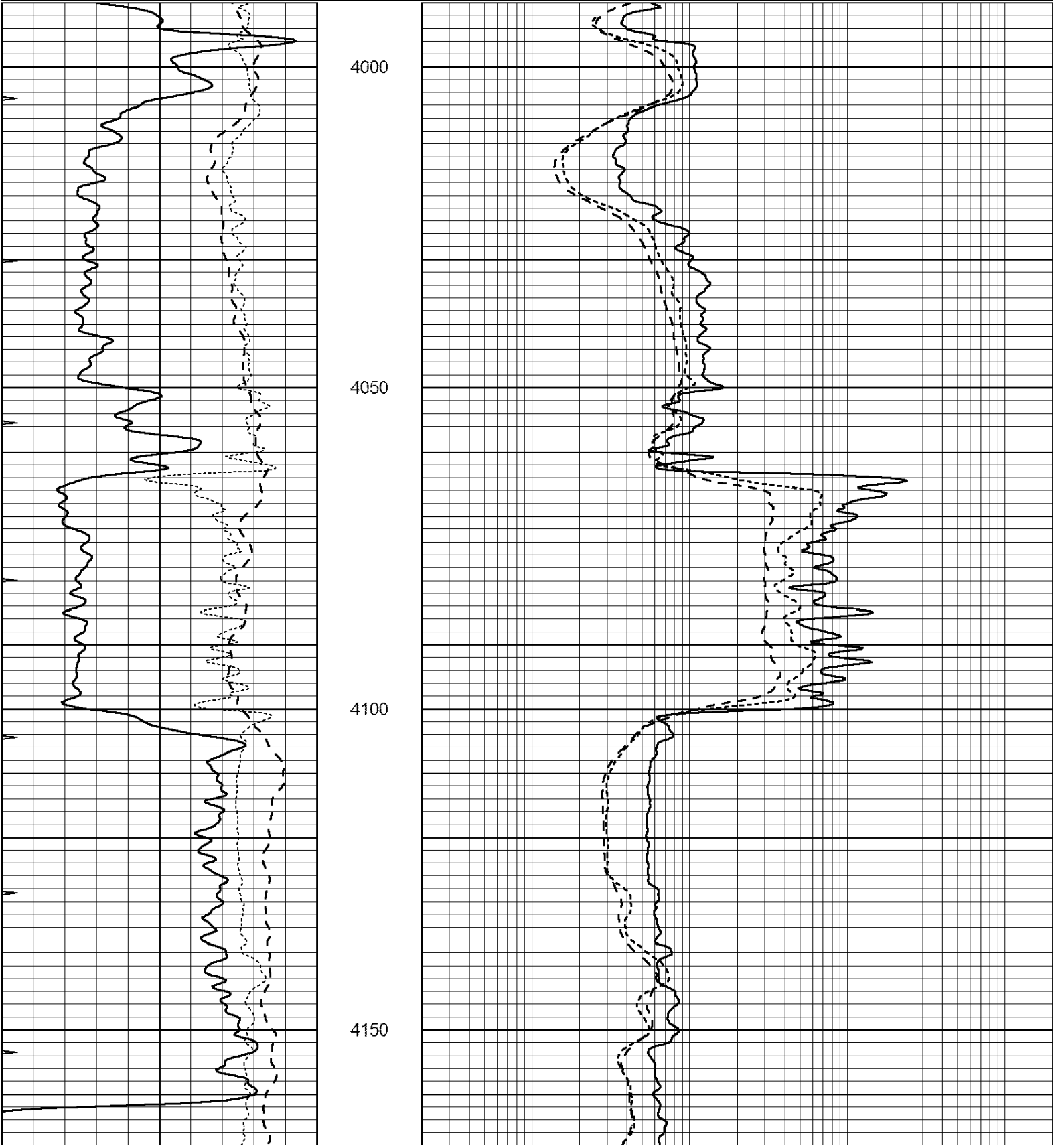


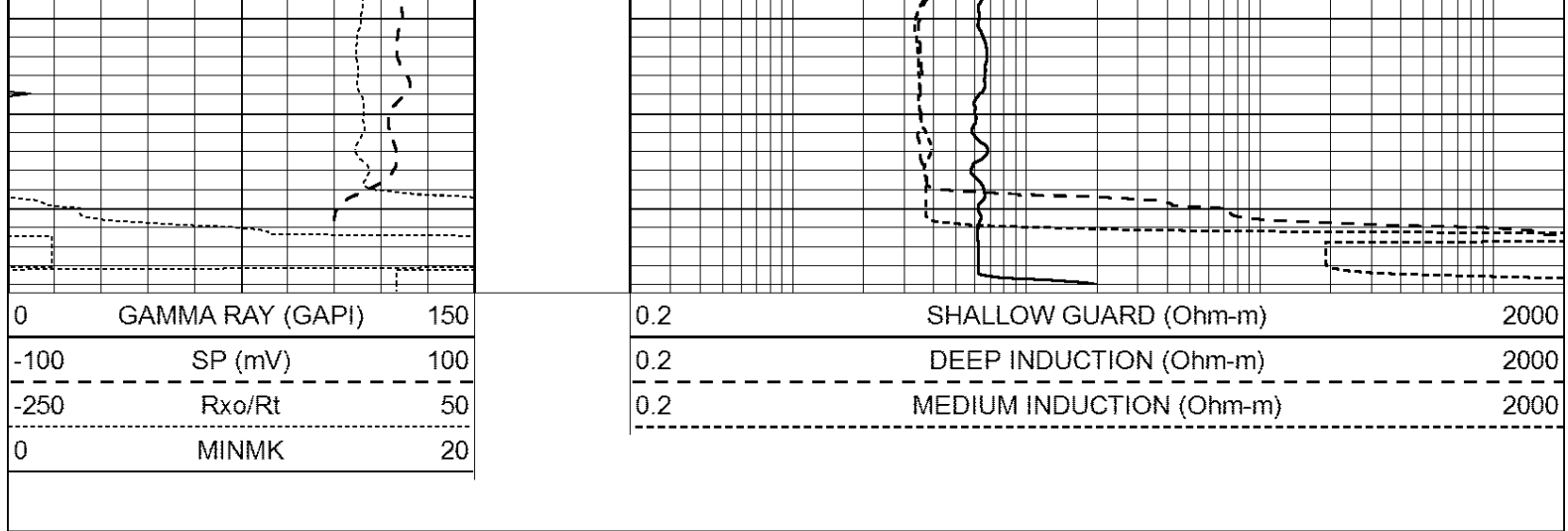
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REPEAT SECTION

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-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			





Calibration Report

Database File: 26221ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Sun Nov 02 17:41:04 2014 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
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000
Internal:	Zero	Cal	Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992

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
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000
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
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	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: GEAR4-GEARHART

Master Calibration

	Density		Far Detector		Near Detector	
Magnesium	1.710	g/cc	1075.98		532.39	cps
Aluminum	2.560	g/cc	286.51		422.88	cps
Spine Angle = 80.13			Density/Spine Ratio = 0.633			
	Size		Reading			
Small Ring	8.00	in	3.21	V		
Large Ring	14.00	in	5.46	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 Long Space	cps cps	pu	pu
Gamma Ray Calibration Report				
	Serial Number:	GR6		
	Tool Model:	OPEN		
	Performed:	Sun Aug 17 15:23:09 2014		
	Calibrator Value:	150.0	GAPI	
	Background Reading:	0.0	cps	
	Calibrator Reading:	276.0	cps	
	Sensitivity:	0.7000	GAPI/cps	