



DUAL INDUCTION LOG

Company	L.D. DRILLING, INC.	Company	L.D. DRILLING, INC.
Well	POTTER #1-6	Well	POTTER #1-6
Field	N/A	Field	N/A
County	NESS	County	NESS
State	KANSAS	State	KANSAS
Location:	AP1 # : 15-135-26075-00-00	Other Services	CDL/CNL/MEL
	1495' FSL & 1215' FEL		
	SEC 6 TWP 18S RGE 24W		
Permanent Datum	GROUND LEVEL	Elevation	2346
Log Measured From	KELLY BUSHING 5' A.G.L.		
Drilling Measured From	KELLY BUSHING		
Date	08/30/19		
Run Number	ONE		
Depth Driller	4450		
Depth Logger	4452		
Bottom Logged Interval	4450		
Top Log Interval	00		
Casing Driller	8 5/8" @ 330		
Casing Logger	330		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.3/50		
pH / Fluid Loss	9.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.2@83		
Rmt @ Meas. Temp	.90@83		
Rmc @ Meas. Temp	1.44@83		
Source of Rmt / Rmc	MEASURED		
Rm @ BHT	.83@120		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	///		
Maximum Recorded Temperature	120F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	KIM SHOEMAKER		

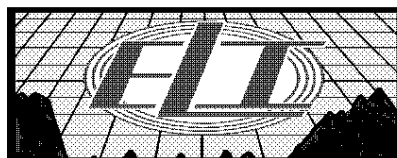
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on 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 ELI WIRELINE, HAYS, KS. (785) 628-6395

DIRECTIONS
NESS CITY WEST TO N RD., NORTH 4 MILES
1 WEST, NORTH INTO.



MAIN PASS

Database File: 4088ddn.db
Dataset Pathname: pass3DIL
Presentation Format: _dil2
Dataset Creation: Fri Aug 30 12:32:02 2019 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

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

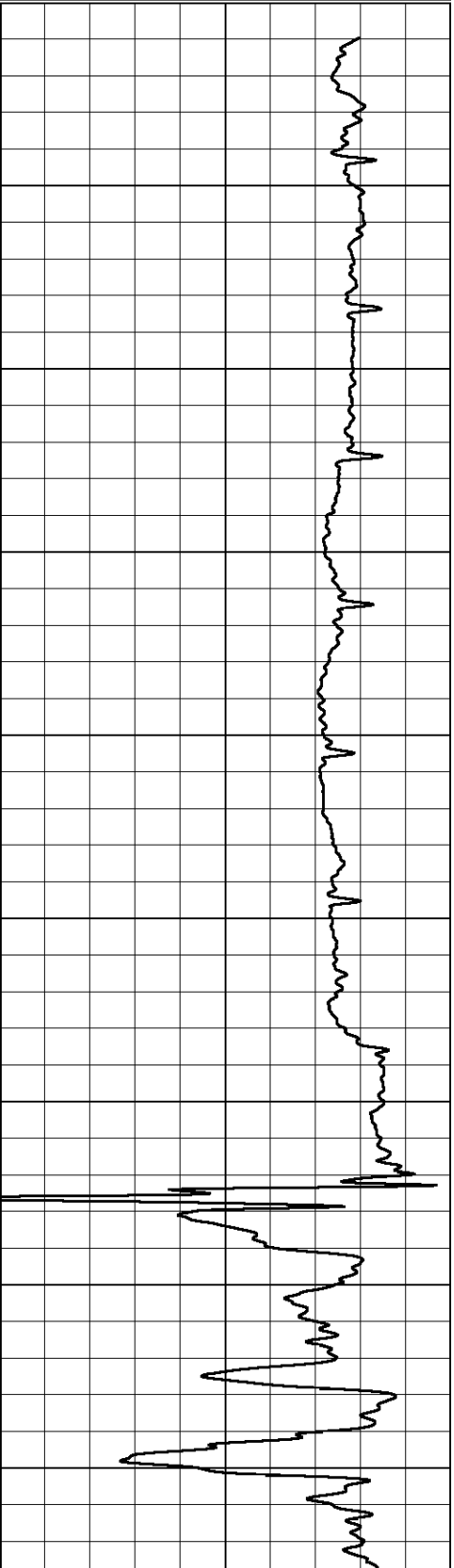
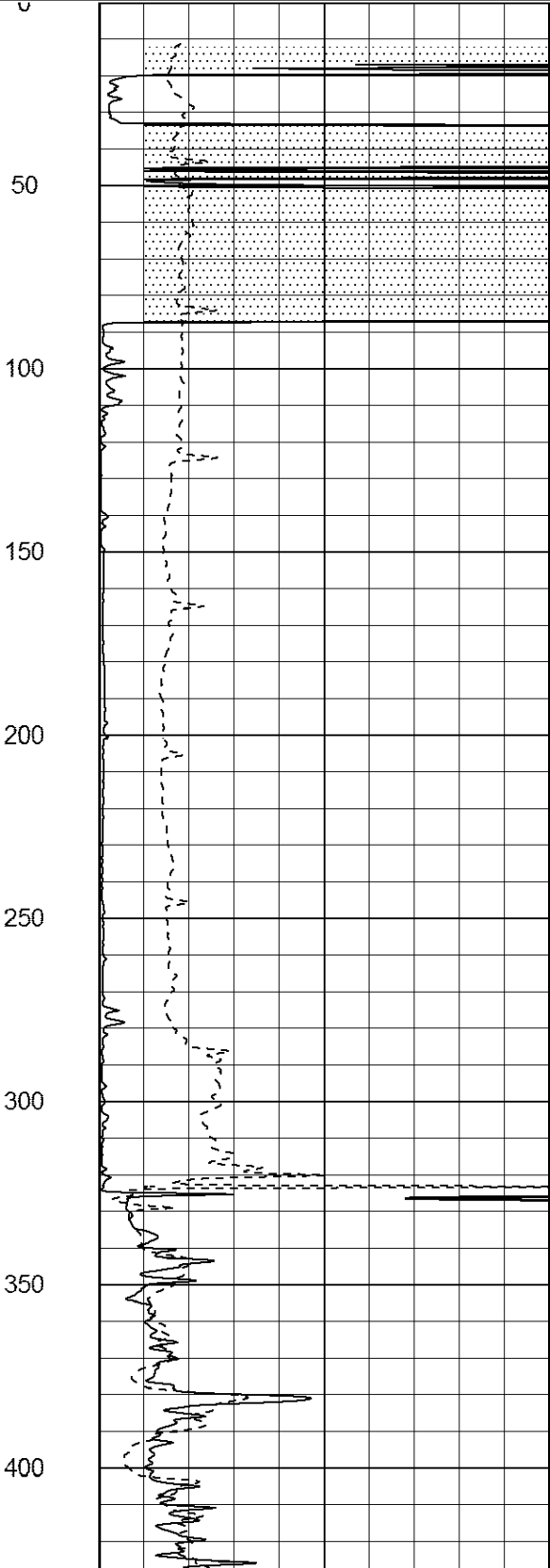
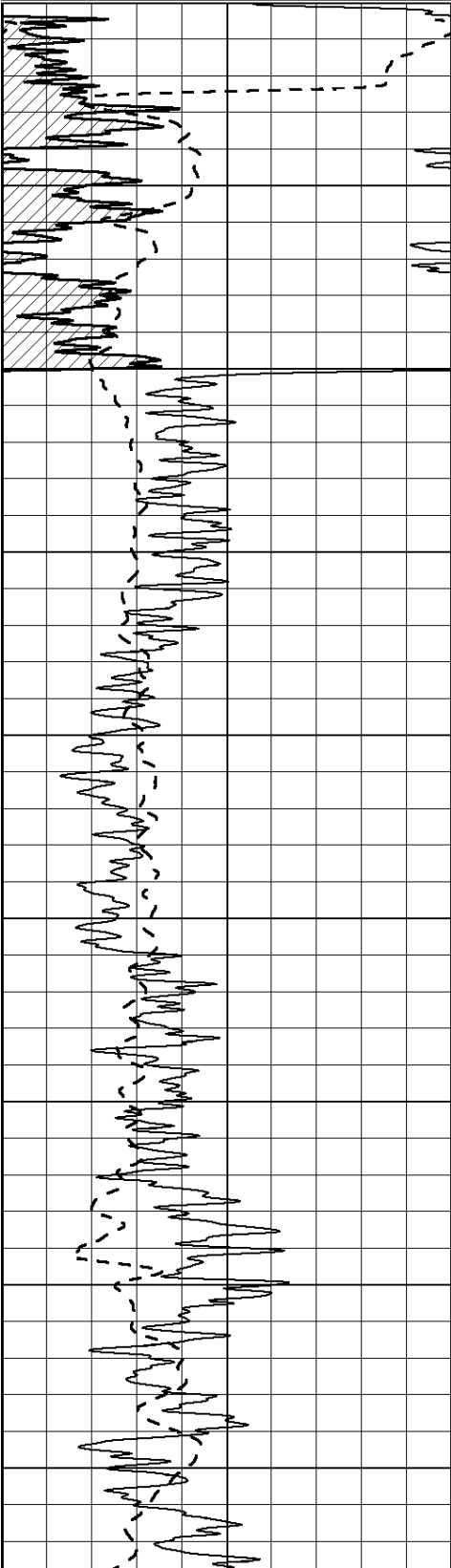
0 RLL3 (Ohm-m) 50

0 RILD (Ohm-m) 50

1000 CILD (mmho/m) 0

50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500



450

500

550

600

650

700

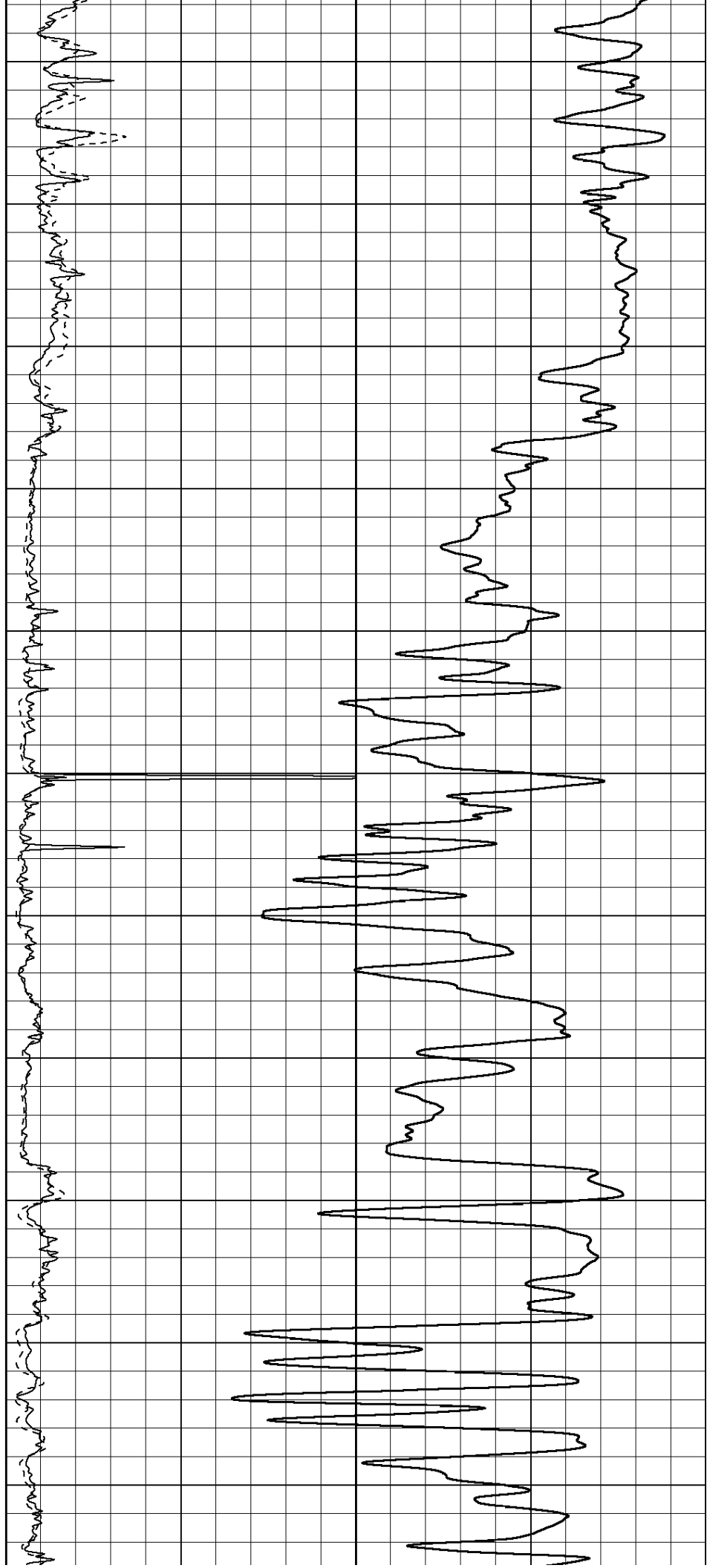
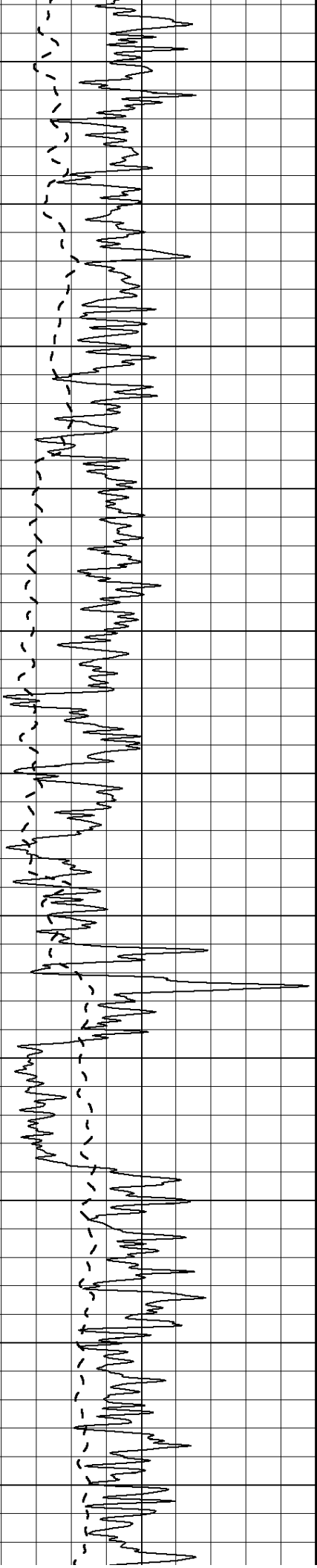
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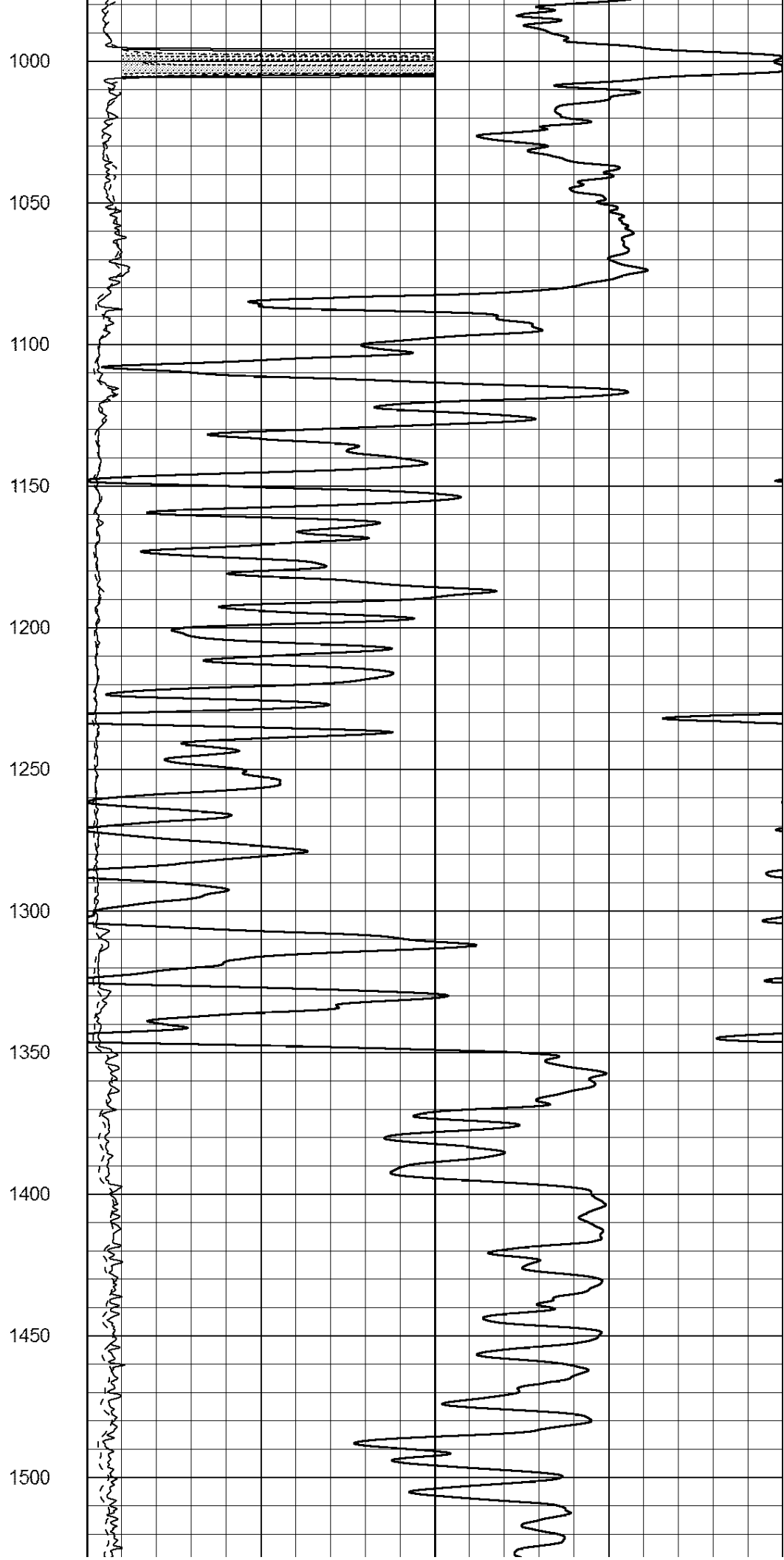
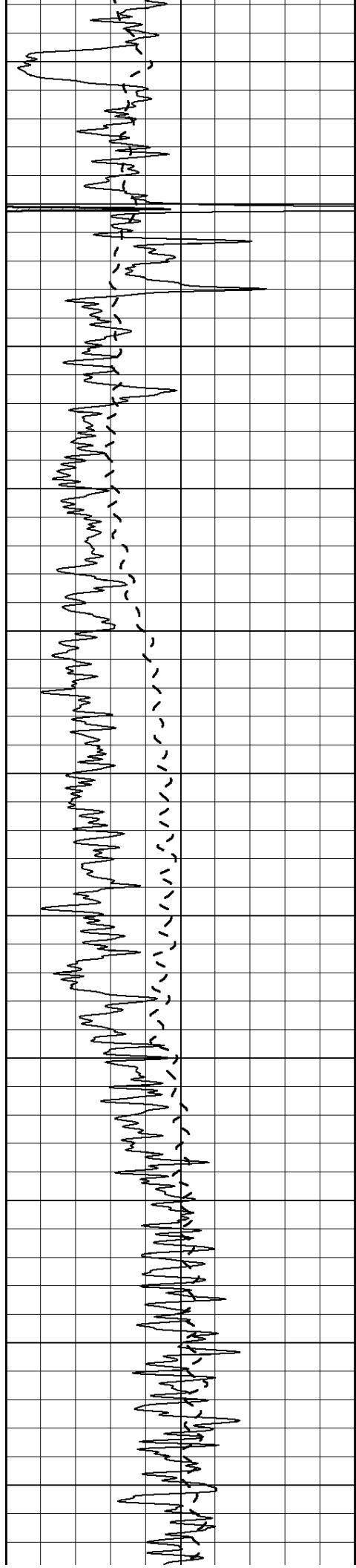
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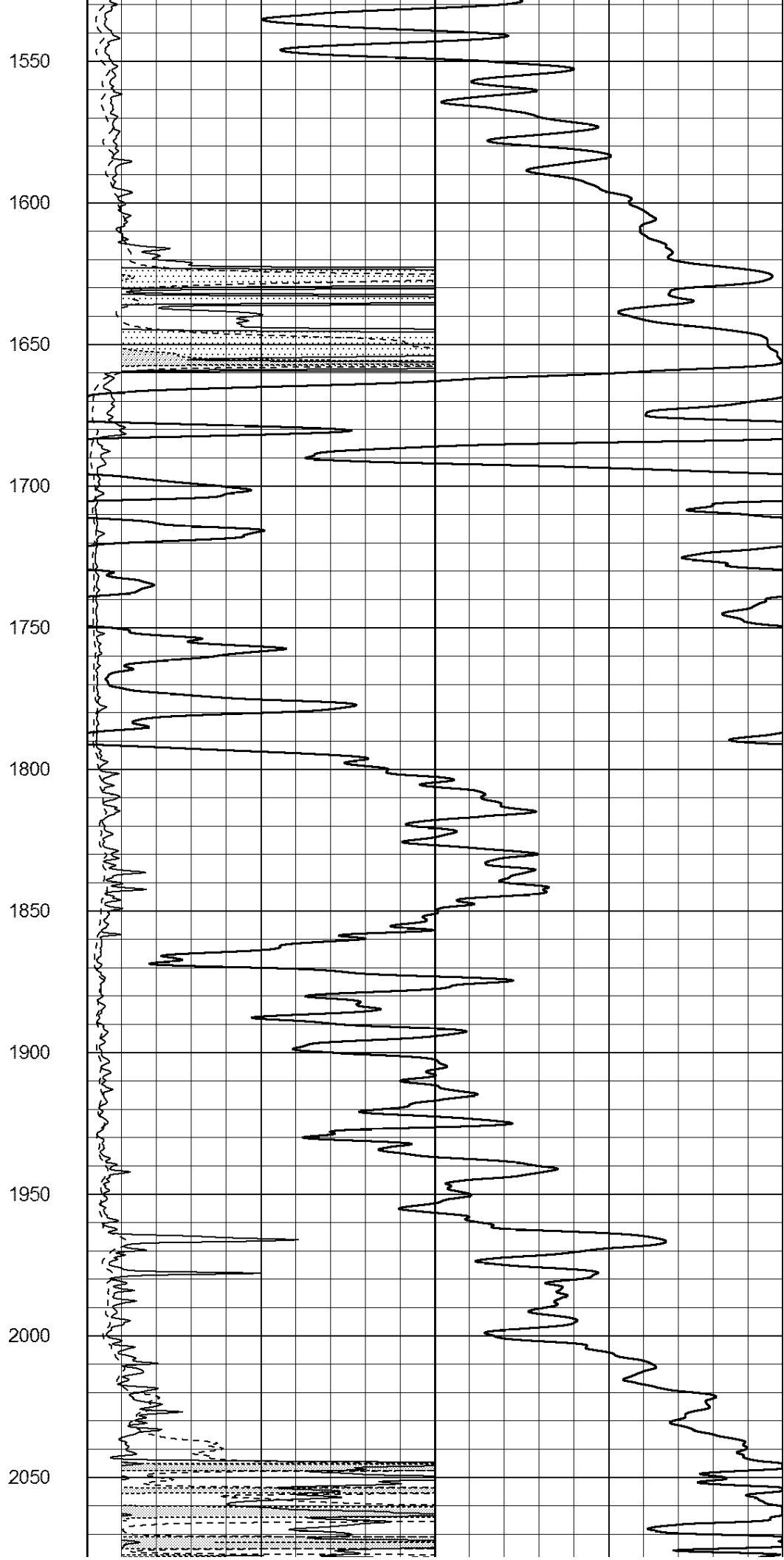
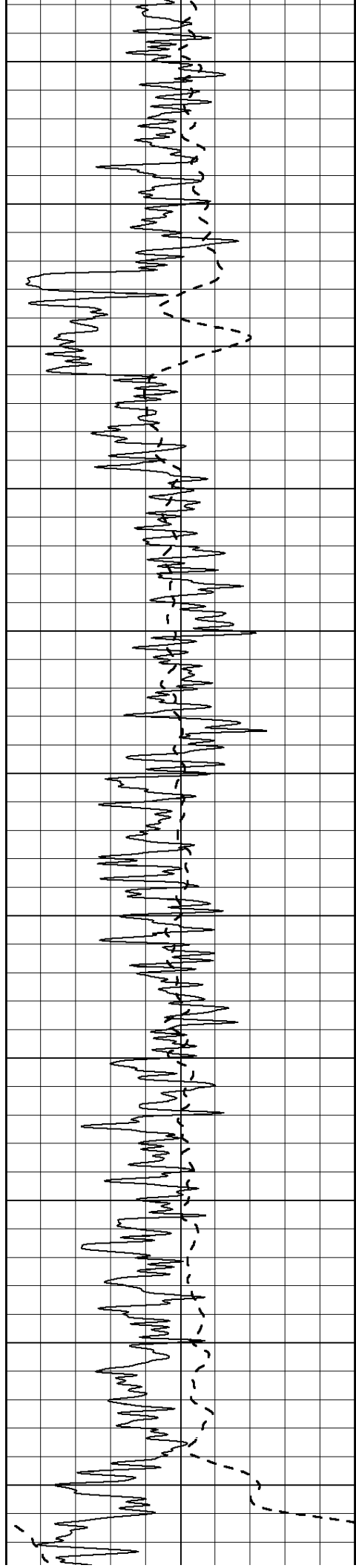
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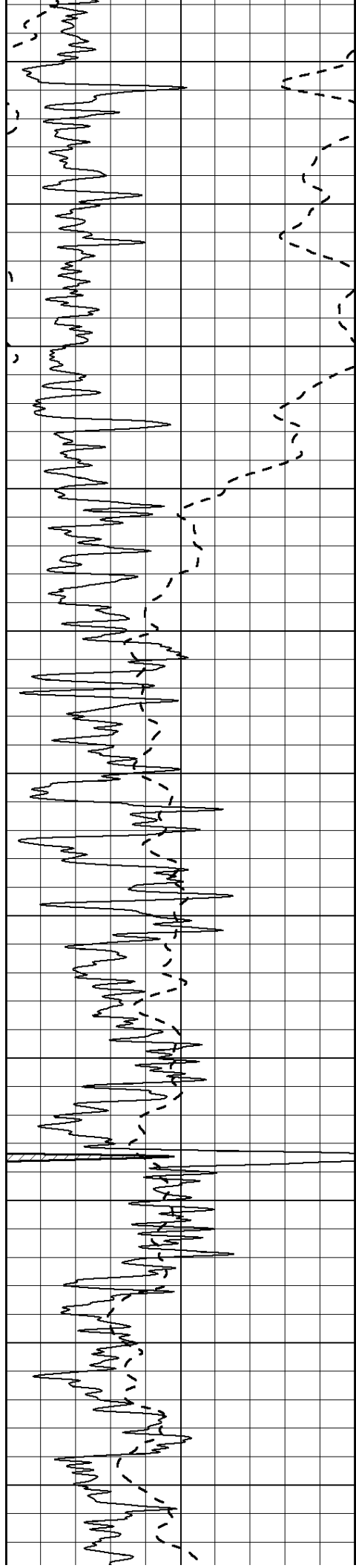
900

950









2100

2150

2200

2250

2300

2350

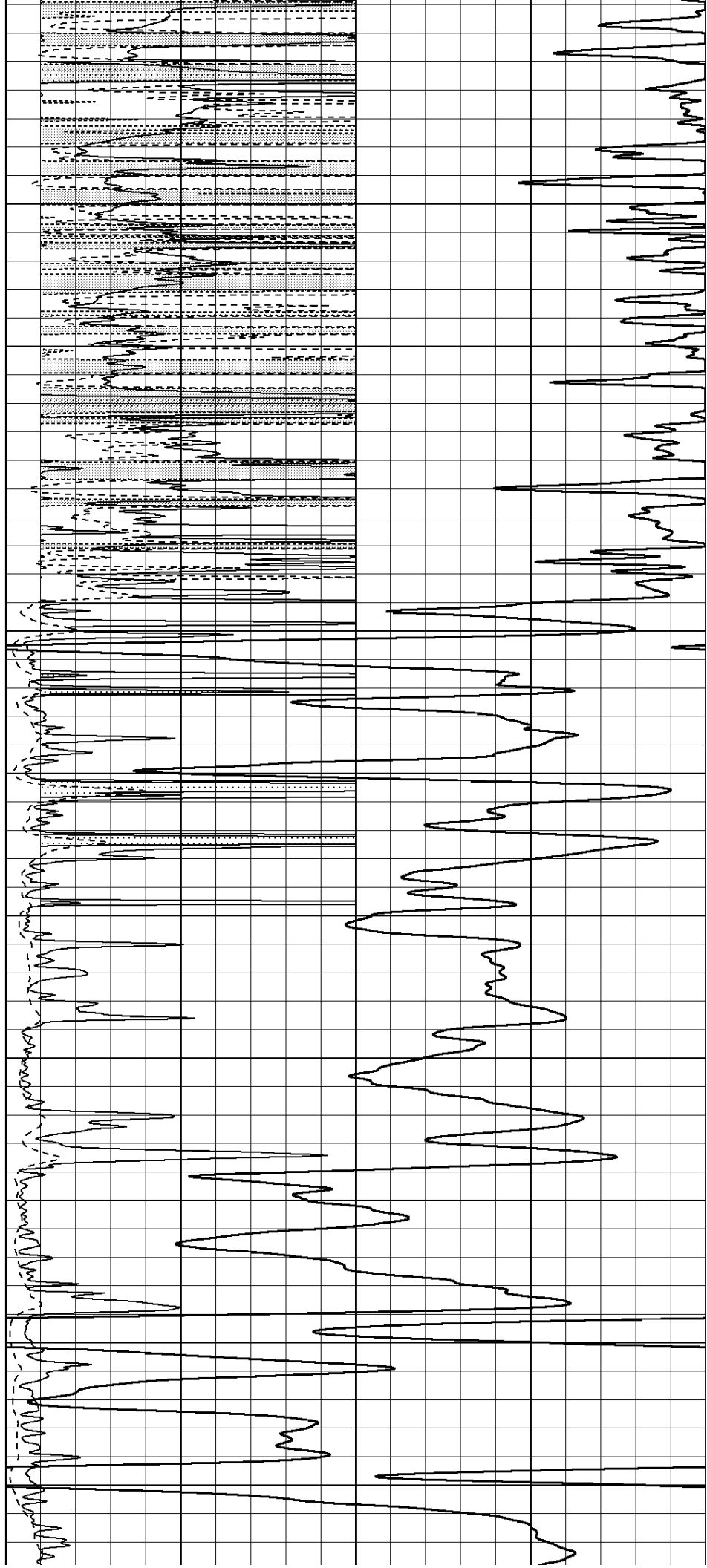
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2450

2500

2550

2600



2650

2700

2750

2800

2850

2900

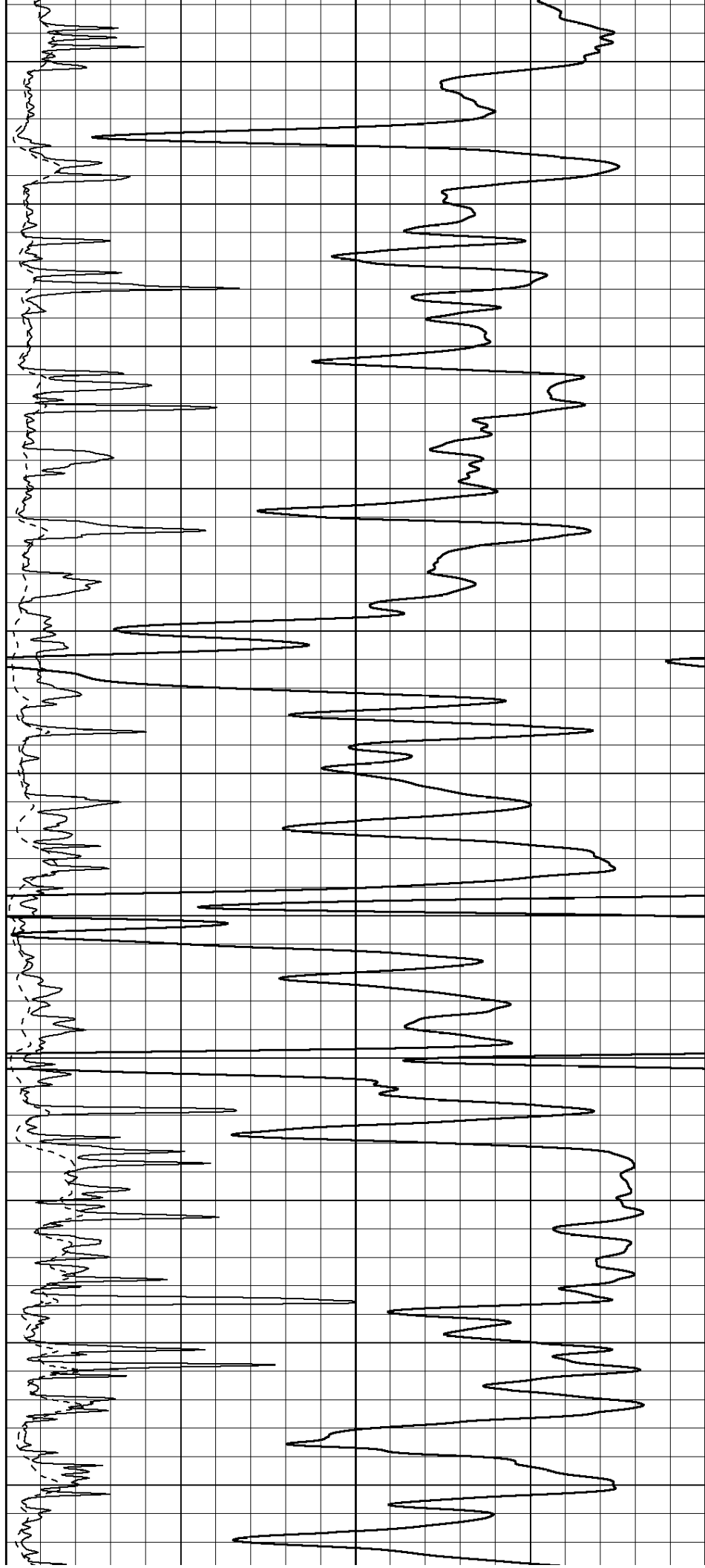
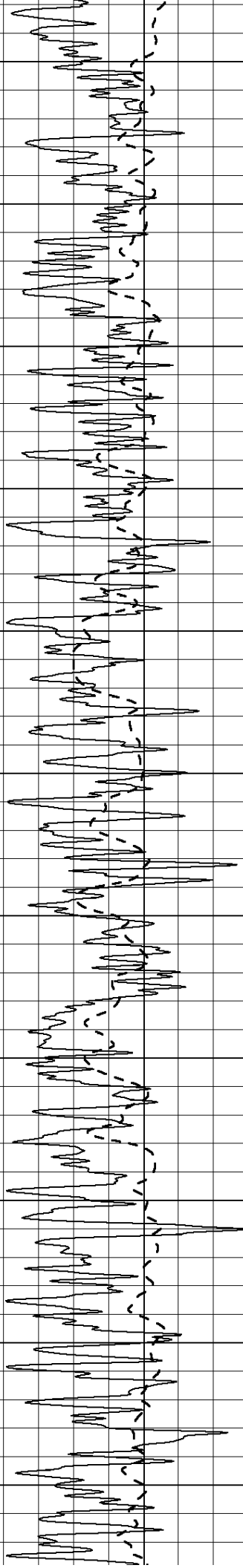
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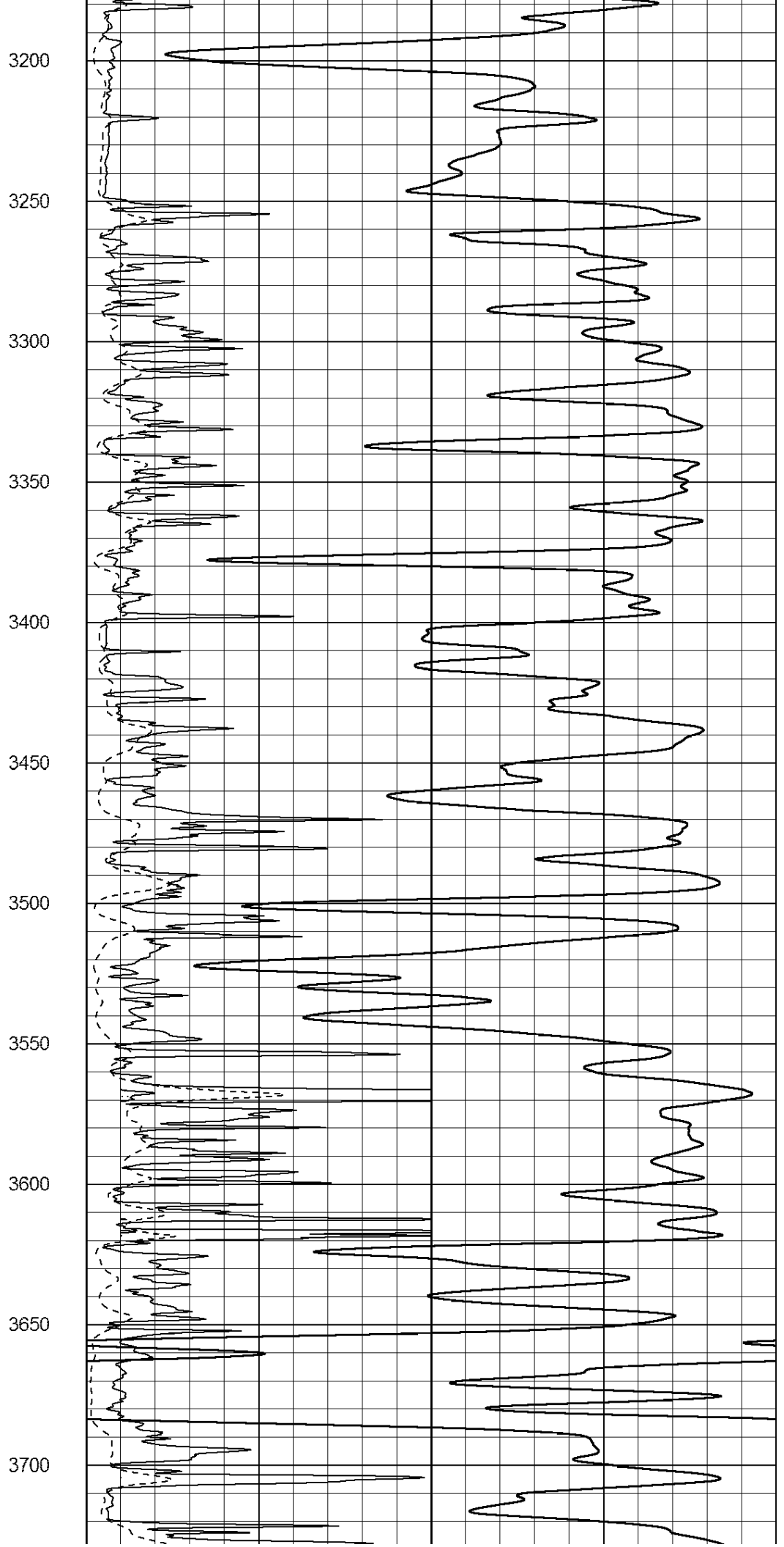
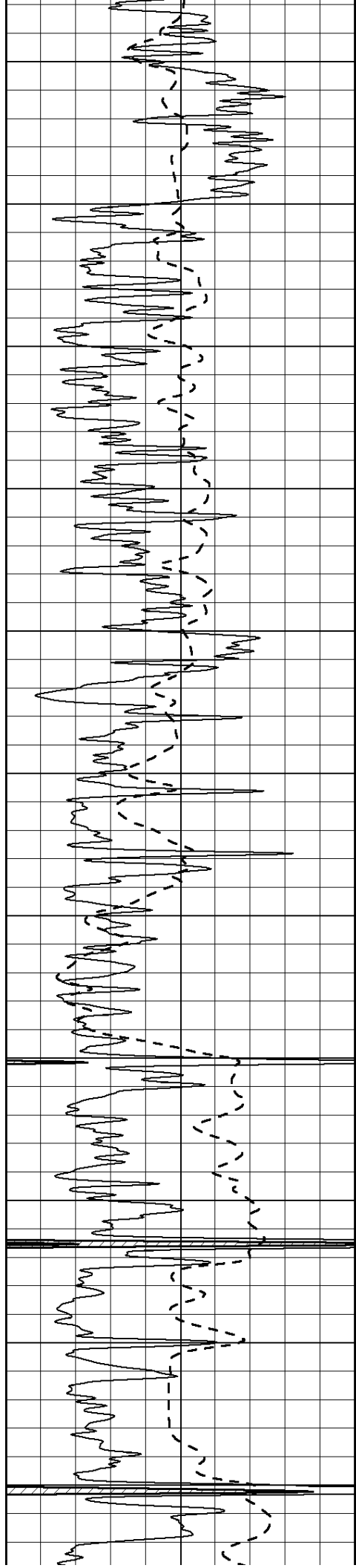
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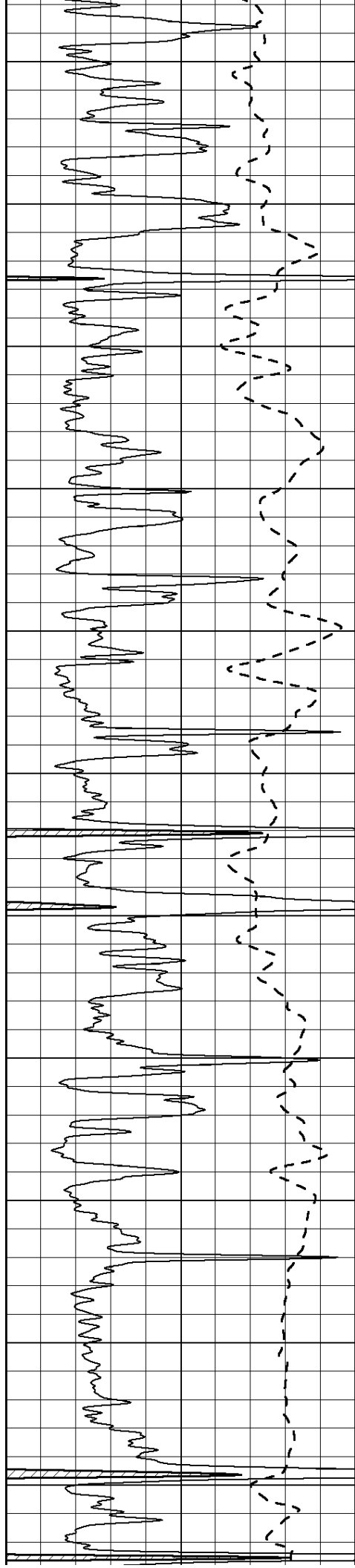
3050

3100

3150







3750

3800

3850

3900

3950

4000

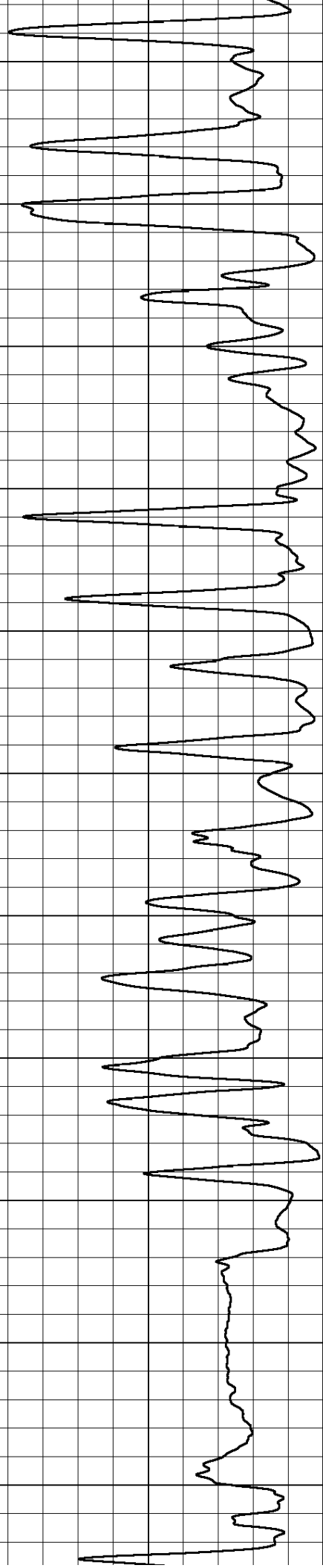
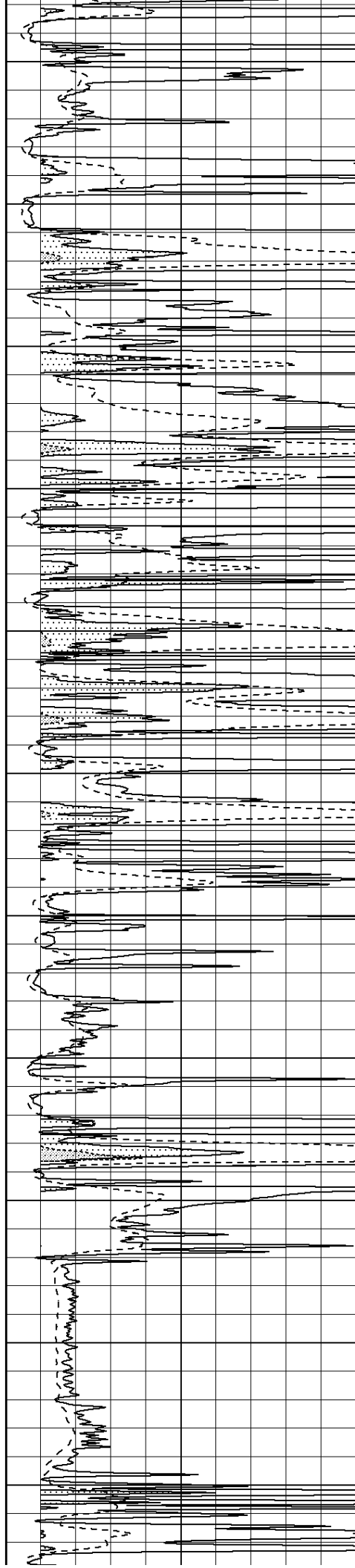
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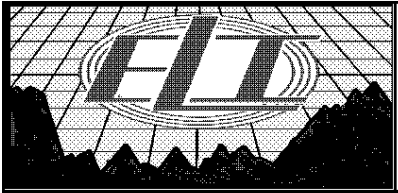
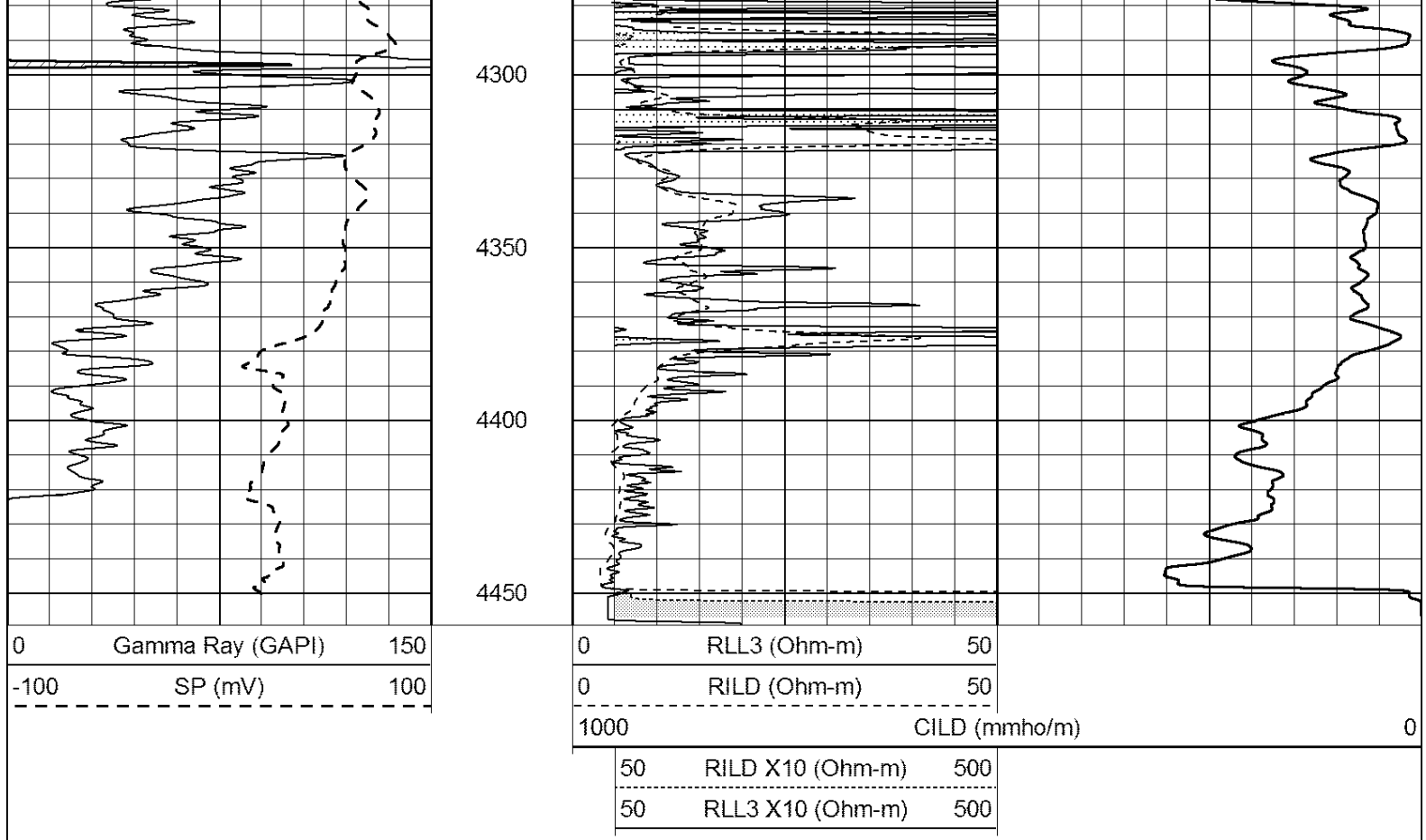
4100

4150

4200

4250

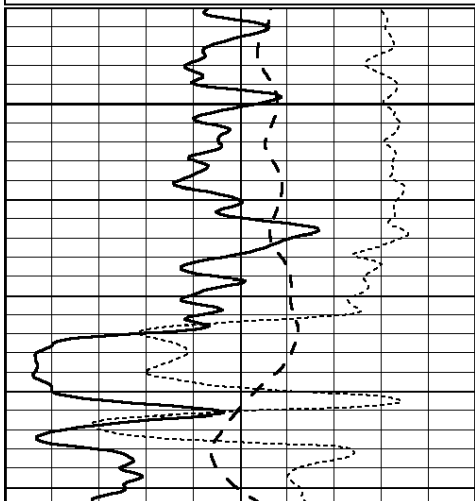




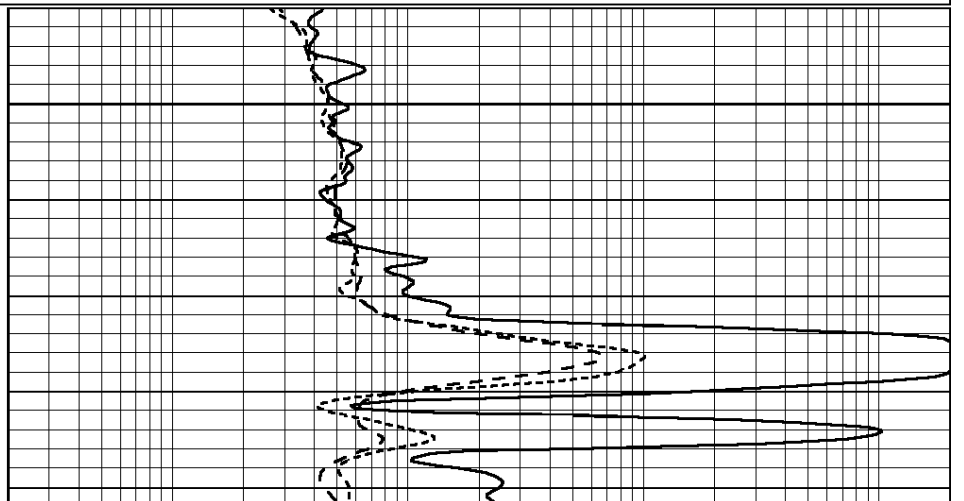
MAIN PASS

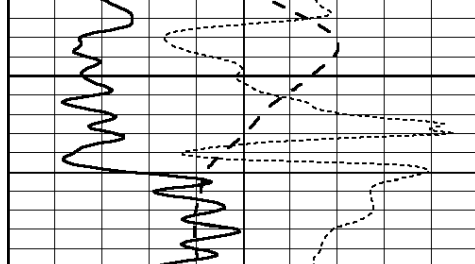
Database File: 4088ddn.db
 Dataset Pathname: pass3DIL
 Presentation Format: _dil
 Dataset Creation: Fri Aug 30 12:32:02 2019 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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			



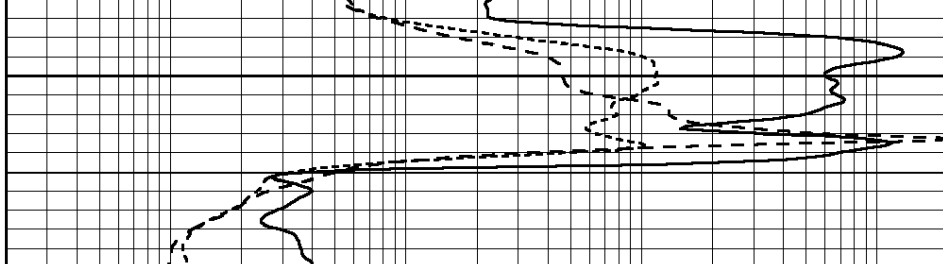
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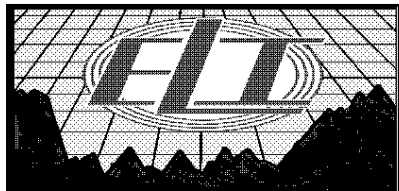


1650

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

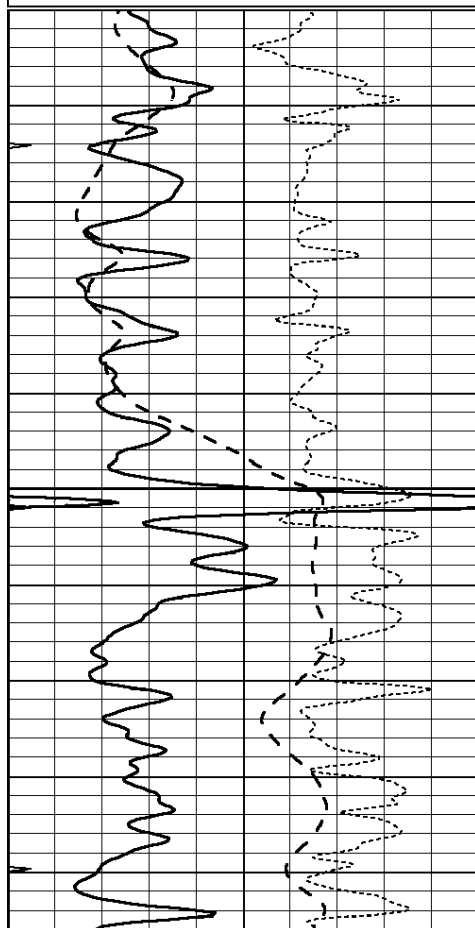


MAIN PASS

Database File: 4088ddn.db
 Dataset Pathname: pass3DIL
 Presentation Format: _dil
 Dataset Creation: Fri Aug 30 12:32:02 2019 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

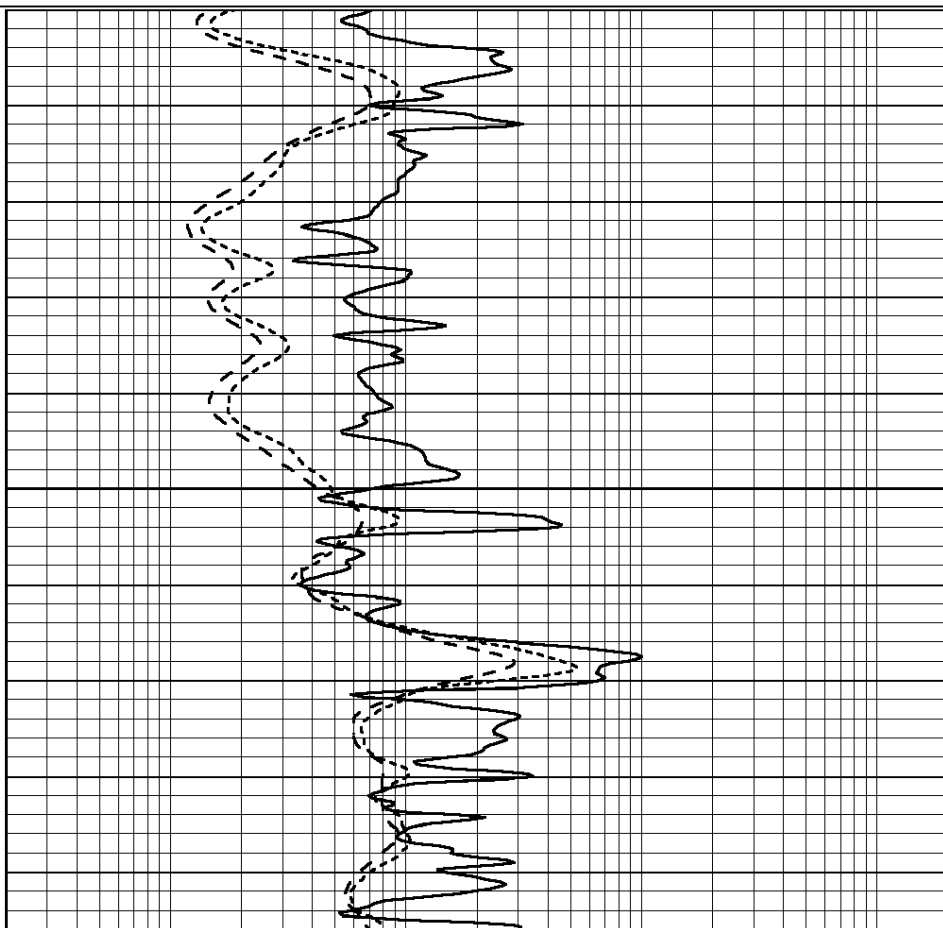
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

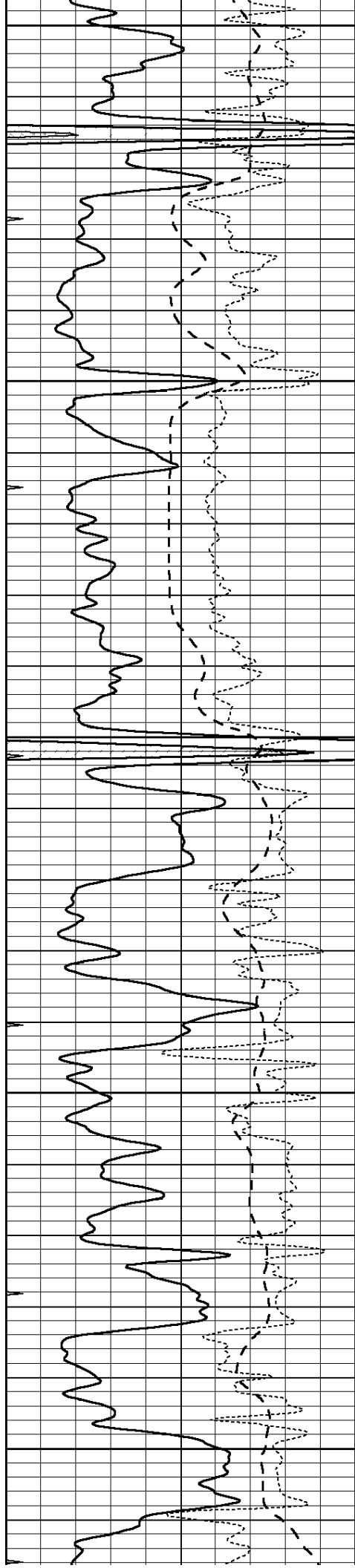
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3550

3550





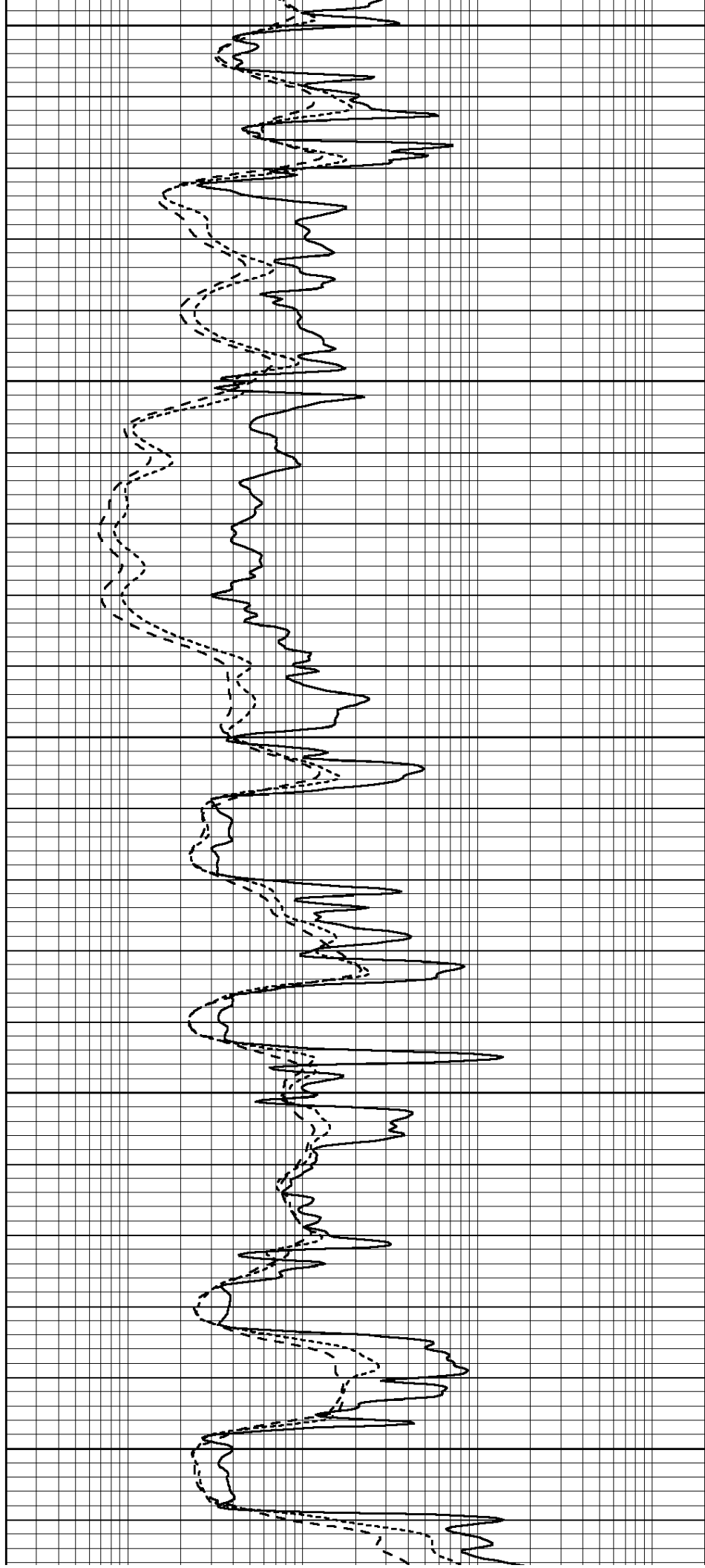
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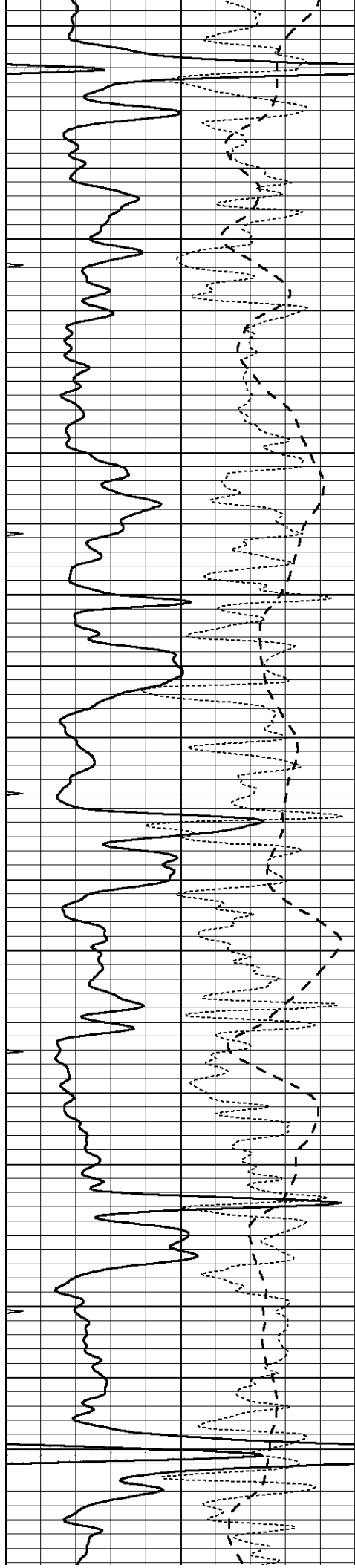
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3700

3750

3800



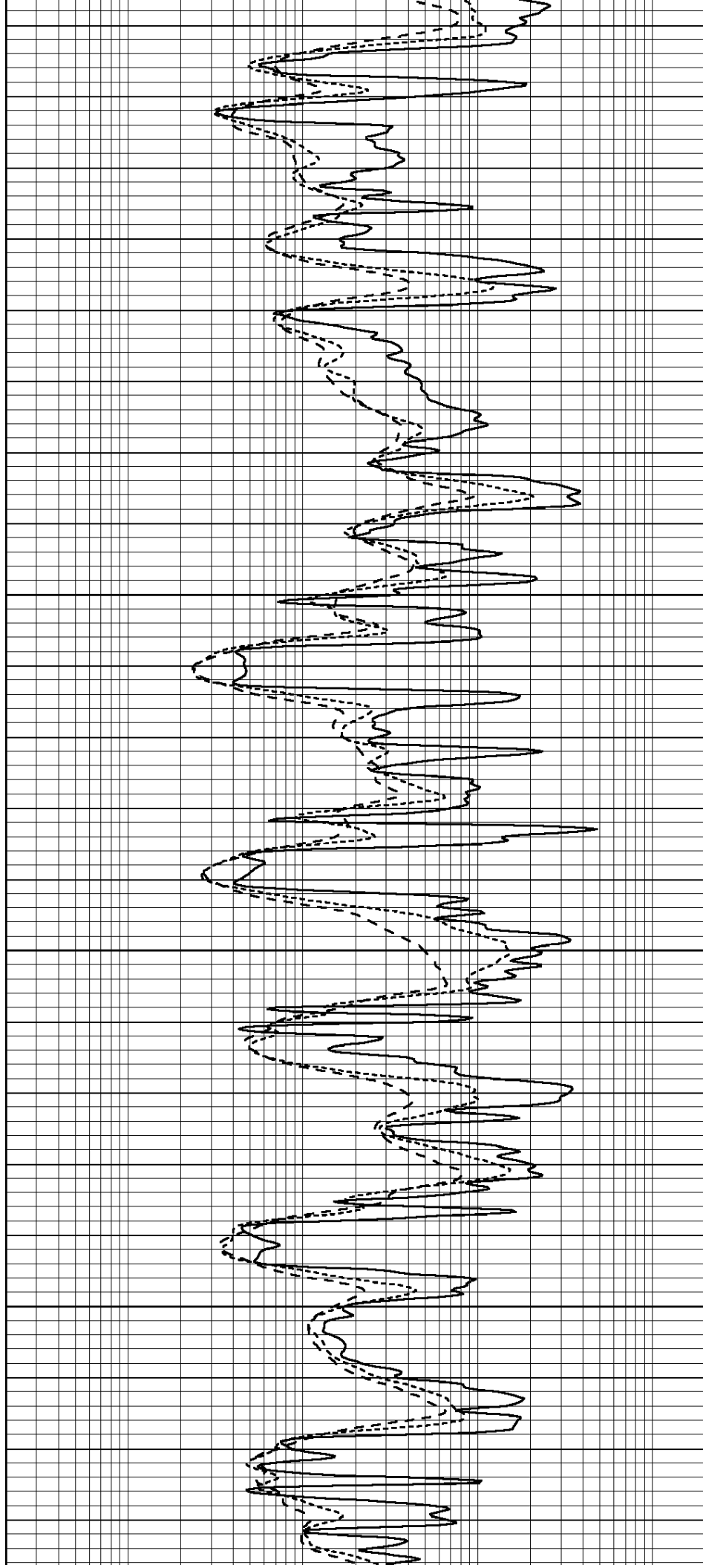


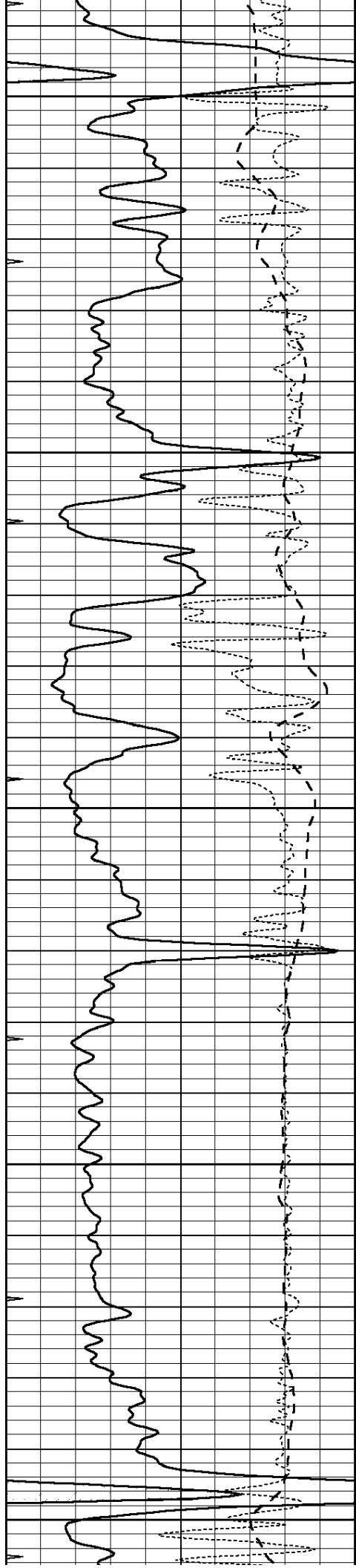
3850

3900

3950

4000





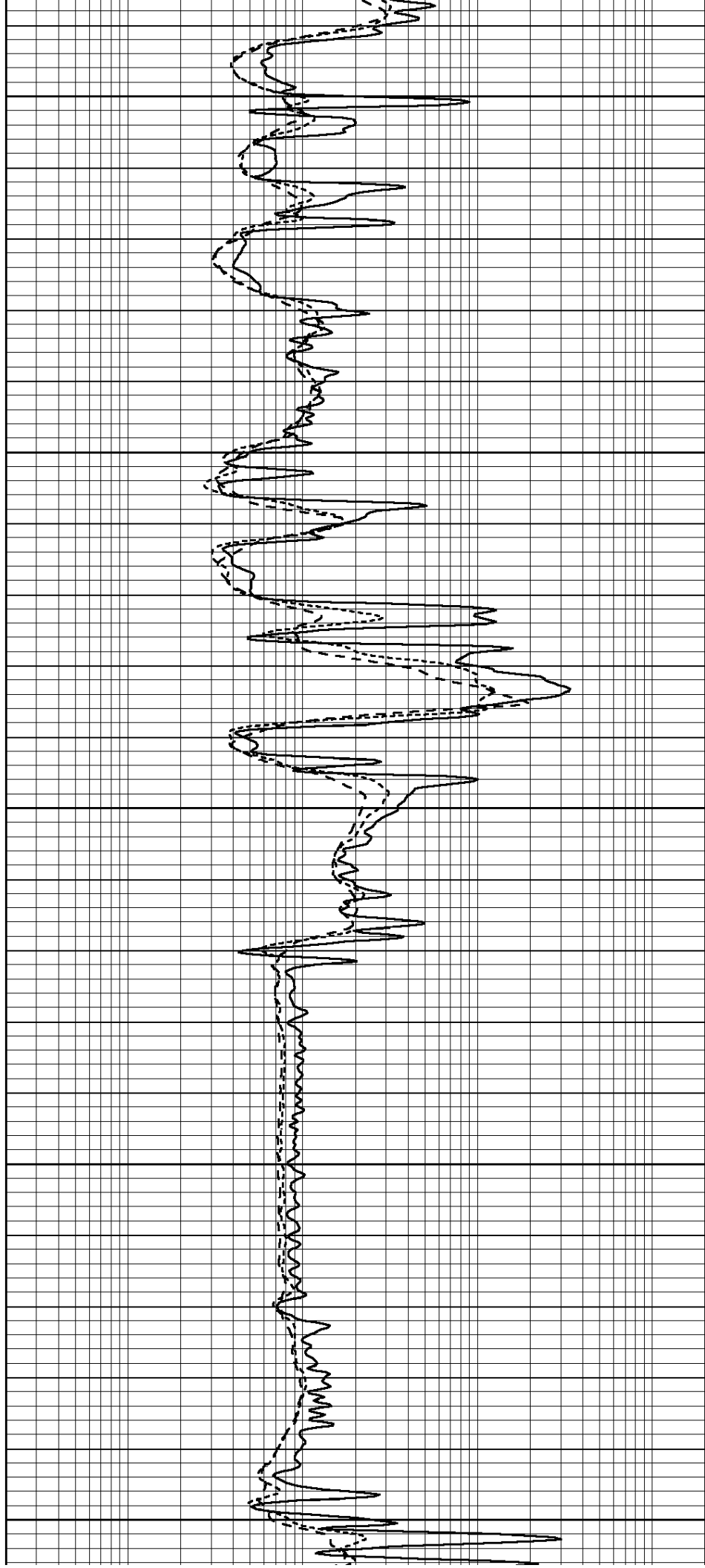
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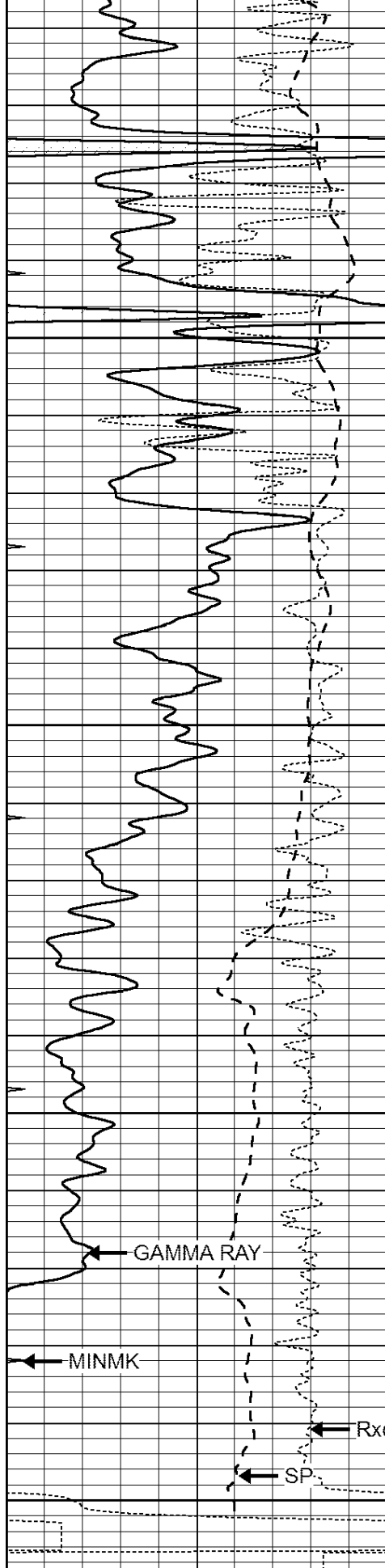
4100

4150

4200

4250





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

4300

4350

4400

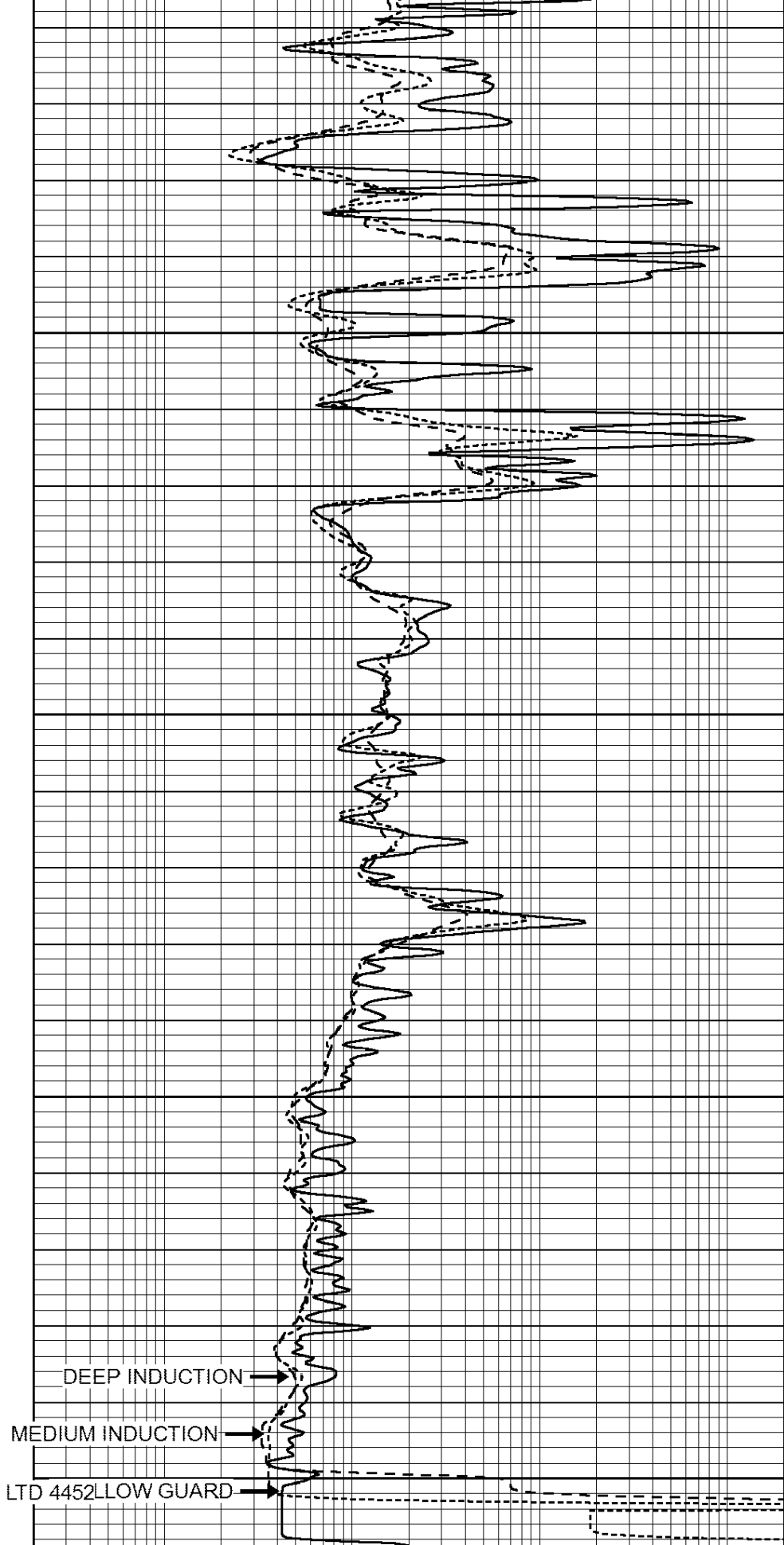
4450

GAMMA RAY

MINMK

Rxo/Rt

SP

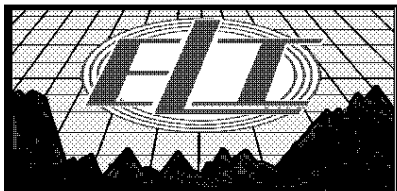


DEEP INDUCTION

MEDIUM INDUCTION

LTD 4452

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

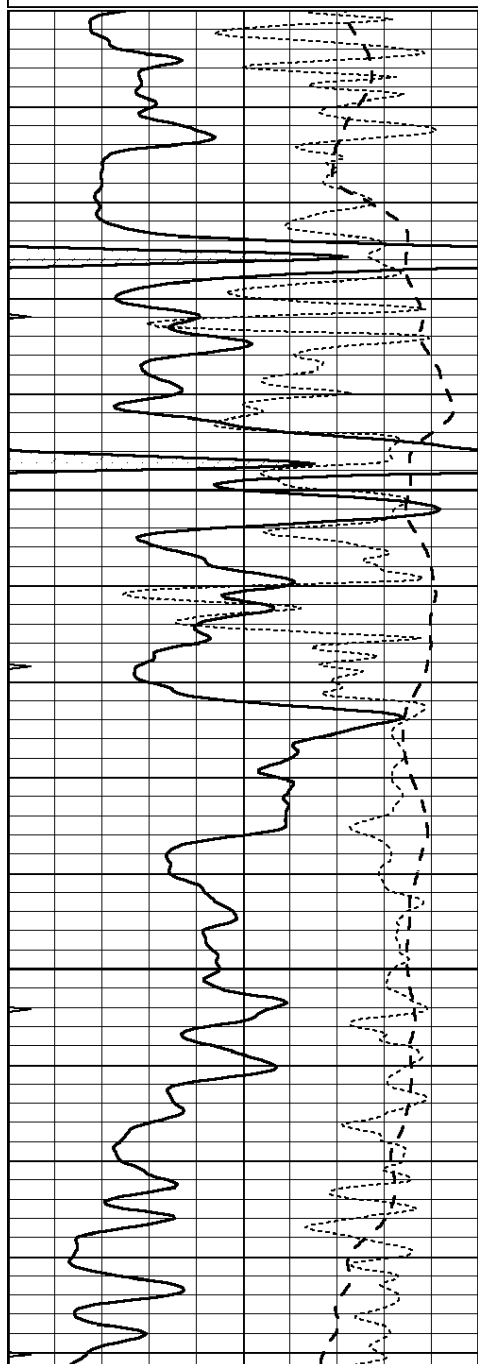


REPEAT SECTION

Database File: 4088ddn.db
Dataset Pathname: pass2.1
Presentation Format: _dil
Dataset Creation: Fri Aug 30 11:51:12 2019 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

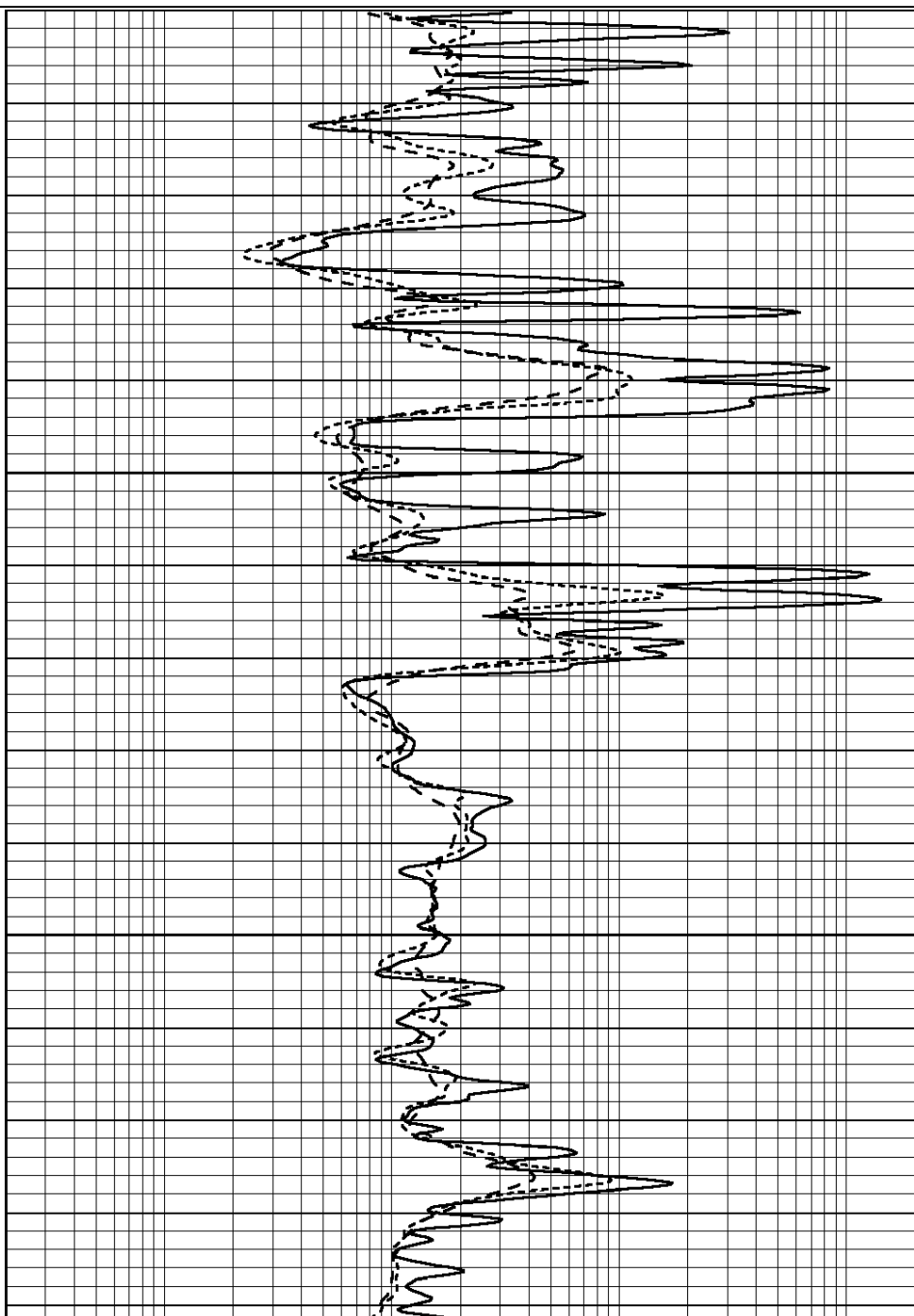
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

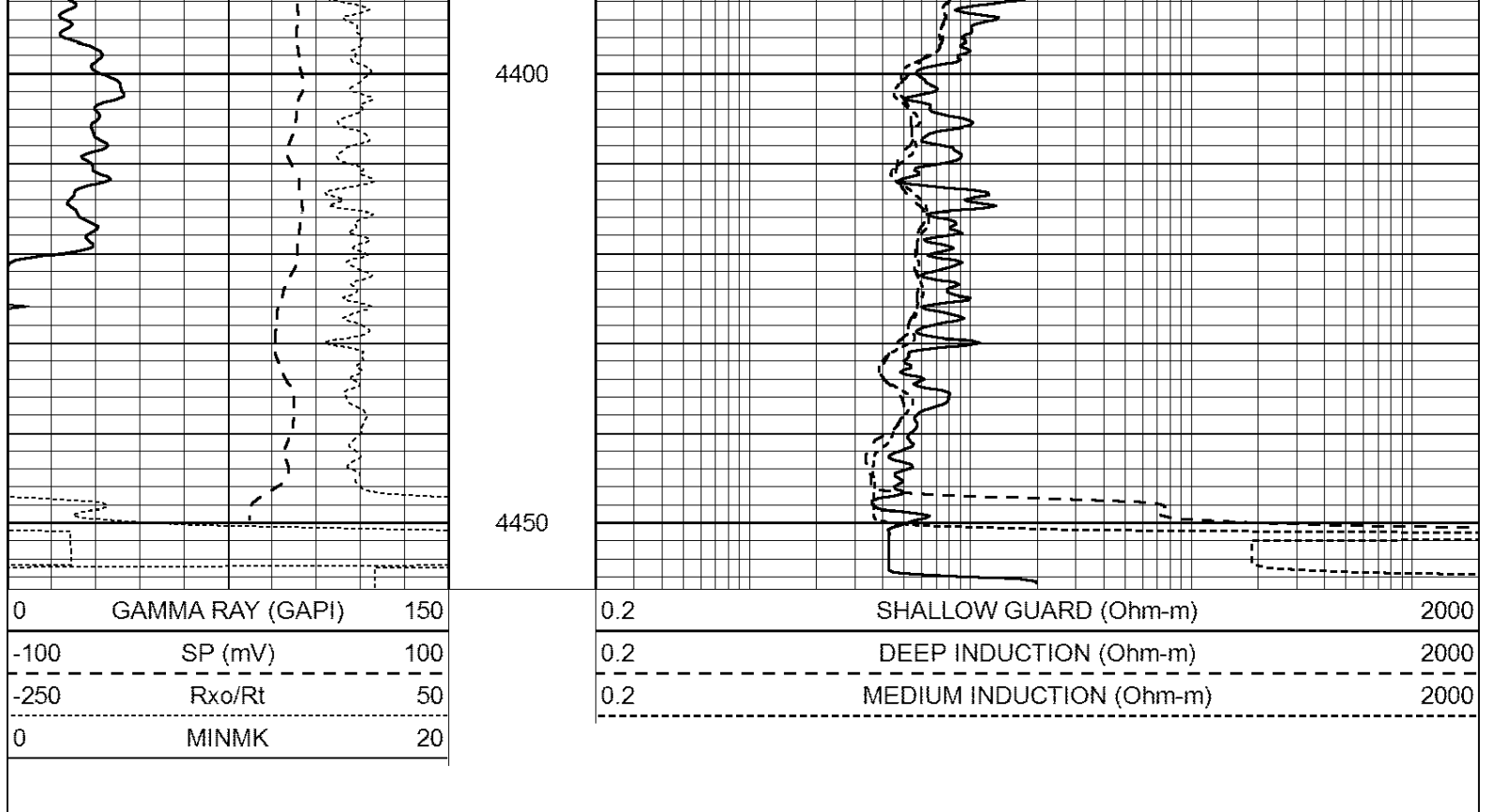


4250

4300

4350





Calibration Report									
Database File:		4088ddn.db							
Dataset Pathname:		pass2.1							
Dataset Creation:		Fri Aug 30 11:51:12 2019 by Calc Open-Cased 090629							
Dual Induction Calibration Report									
Serial-Model:		PROBE8-DILG							
Surface Cal Performed:		Mon Sep 10 14:28:35 2018							
Downhole Cal Performed:		Mon Sep 10 14:28:38 2018							
After Survey Verification Performed:		Mon Sep 10 14:28:40 2018							
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	0.000	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000	
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: 001N Model: PRB

Master Calibration			Performed Fri Feb 22 10:21:38 2019					
	Background		Magnesium		Aluminum		Sandstone	
Window 1	1650.2		7609.7		2906.5		8386.5	cps
Window 2	1538.2		6635.9		2614.4		7212.4	cps
Window 3	1257.0		3718.7		1765.8		3927.1	cps
Window 4	376.8		375.6		373.4		374.5	cps
Long Space	0.0		5097.7		1076.2		5674.2	cps
Short Space	2.8		1704.3		1106.3		1723.6	cps
Rho			1.7100		2.5900		1.3800	g/cc
Pe			0.0000		2.5700		1.5500	
Rib Angle	: 44.5		Rib Slope	: 0.982	Density/Spine Ratio		: 0.545	
Spine Angle	: 74.5		Spine Slope	: 3.599	Spine Intercept		: -18.2	

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
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 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 Jul 03 12:57:34 2019		
Calibrator Value:		150.0	GAPI	
Background Reading:		0.0	cps	
Calibrator Reading:		276.0	cps	
Sensitivity:		0.5700	GAPI/cps	