



**Casedhole
Solutions**

**DUAL
INDUCTION
LOG**

Company	L.D. DRILLING, INC.	Company	L.D. DRILLING, INC.
Well	#1-26 CRAIG MYERS	Well	#1-26 CRAIG MYERS
Field	MINER	Field	MINER
County	NESS	County	NESS
State	KANSAS	State	KANSAS
Location:	AP1 # : 15-195-25907-0000 330' FSL & 2210' FWL	Other Services CDL/CNL MEL	
Permanent Datum	GROUND LEVEL	Elevation	2457
Log Measured From	KELLY BUSHING 5' A.G.L.		
Drilling Measured From	KELLY BUSHING		
SEC 26	TWP 17S	RGE 24W	
Date	5/9/16		
Run Number	ONE		
Depth Driller	4585		
Depth Logger	4584		
Bottom Logged Interval	4582		
Top Log Interval	00		
Casing Driller	8 5/8" @ 313		
Casing Logger	310		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5300 PPM	
Density / Viscosity	9.148		
pH / Fluid Loss	9.0/7.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.85 @ 80F		
Rmt @ Meas. Temp	.63 @ 80F		
Rmc @ Meas. Temp	.76 @ 80F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.56 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	121F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
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 CASEDHOLE SOLUTIONS, HAYS, KS. (785) 628-6395
DIRECTIONS:
RANSOM, KS. - WEST EDGE OF TOWN TO Q RD. - 6 1/2 MILES SOUTH - WEST INTO



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MAIN SECTION

Database File: 30899ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil2
Dataset Creation: Mon May 09 18:14:32 2016 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

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

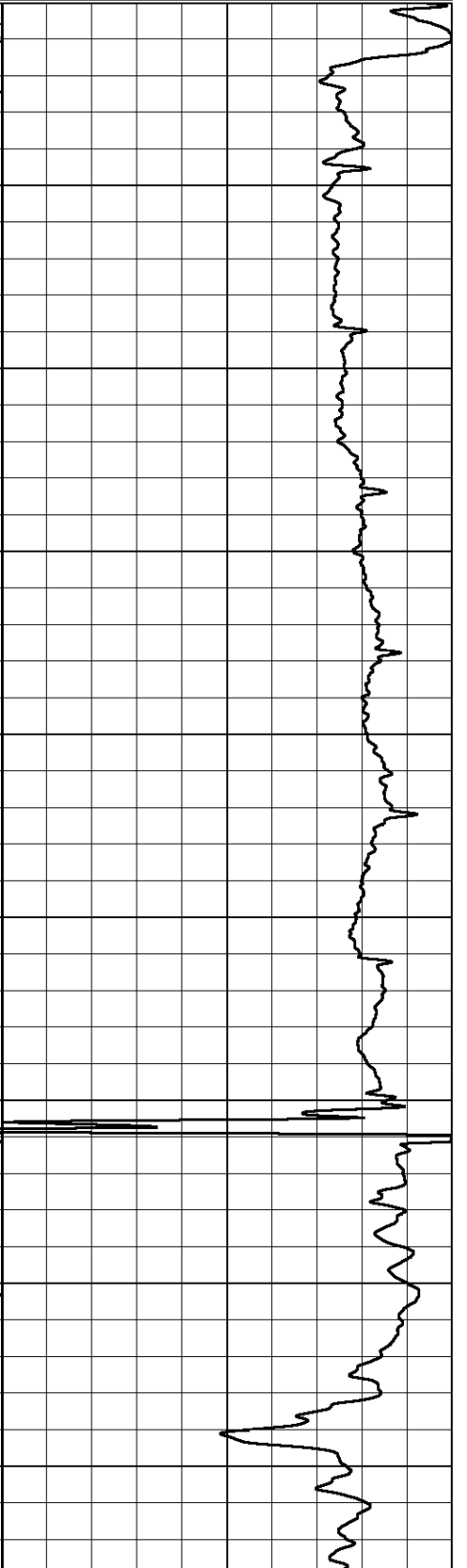
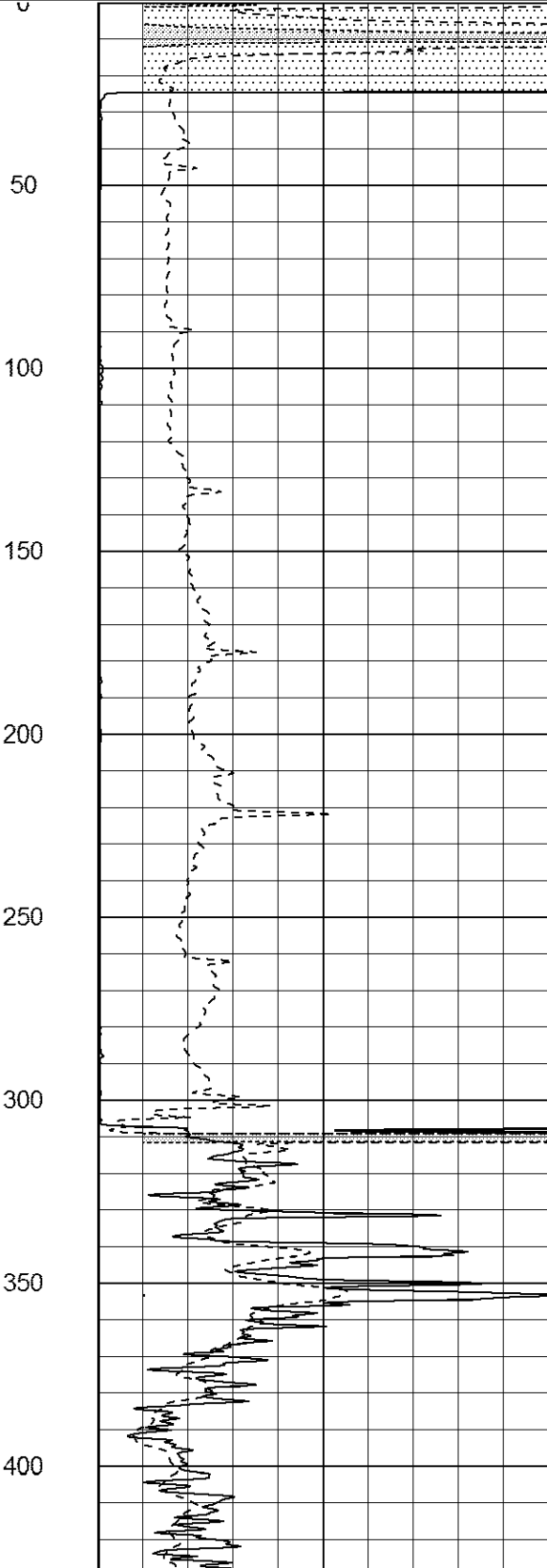
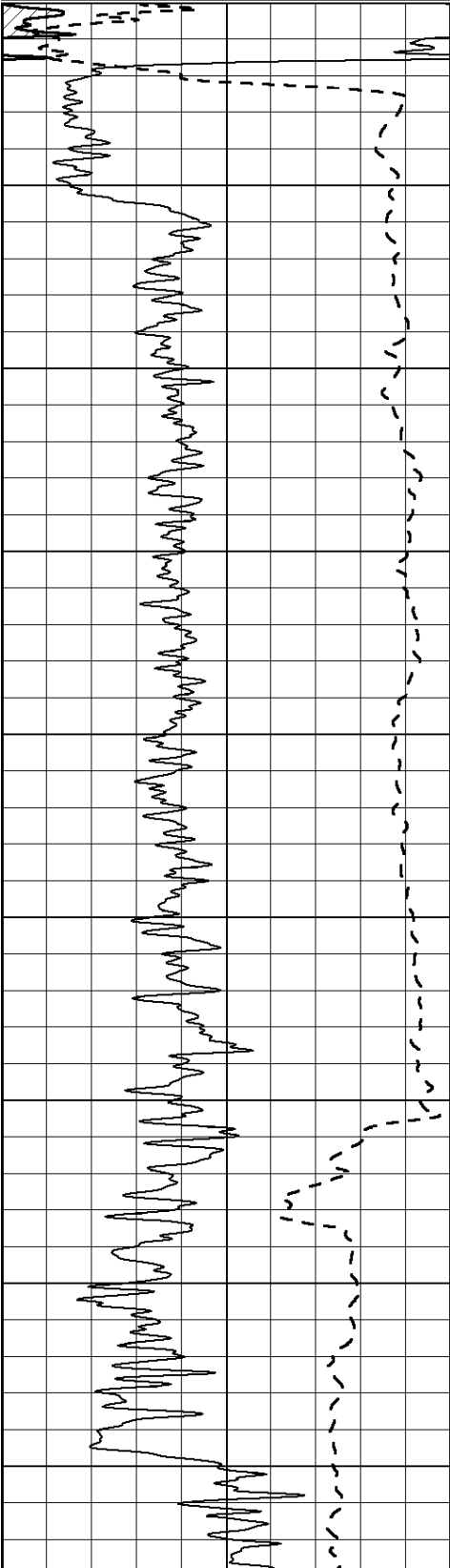
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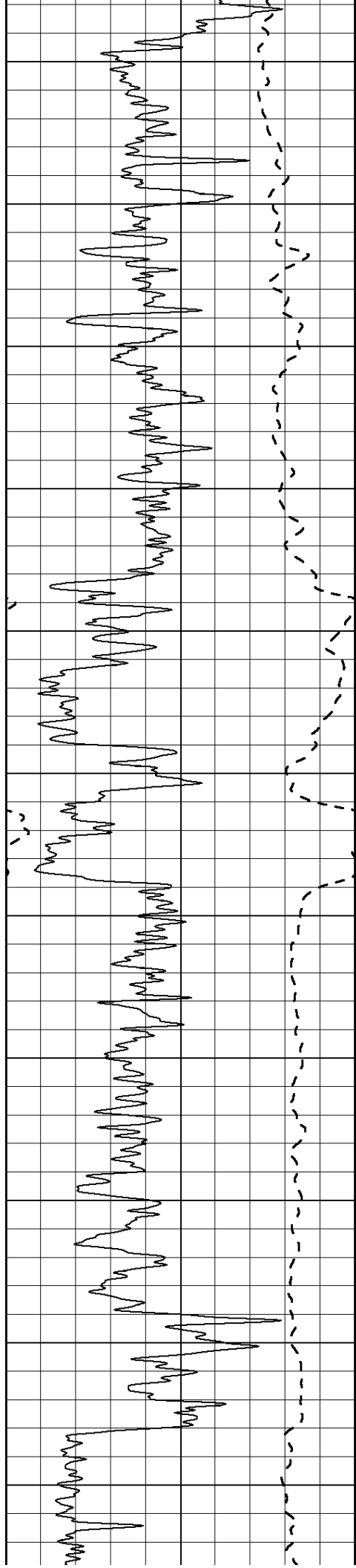
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1000 CILD (mmho/m) 0

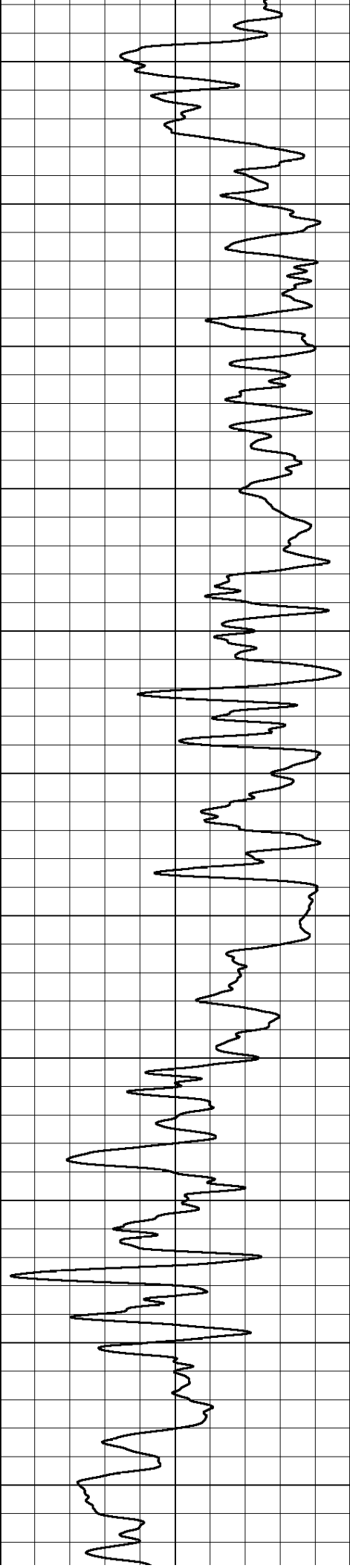
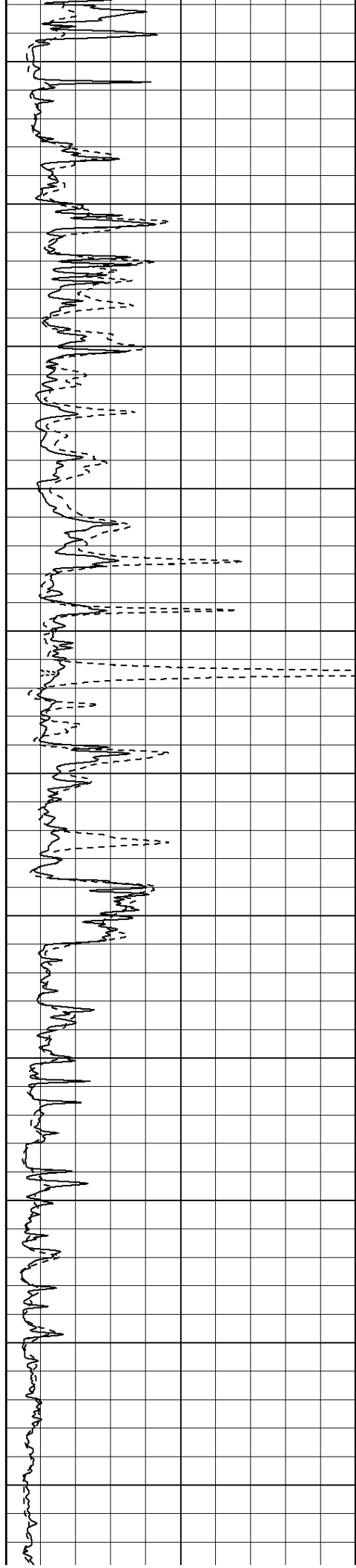
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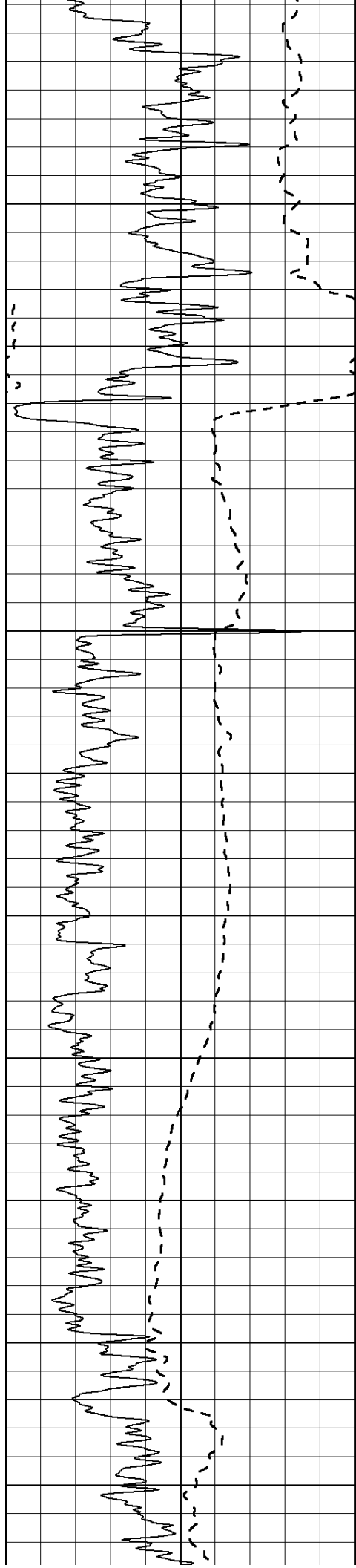
50 RLL3 X10 (Ohm-m) 500





450 500 550 600 650 700 750 800 850 900 950





1000

1050

1100

1150

1200

1250

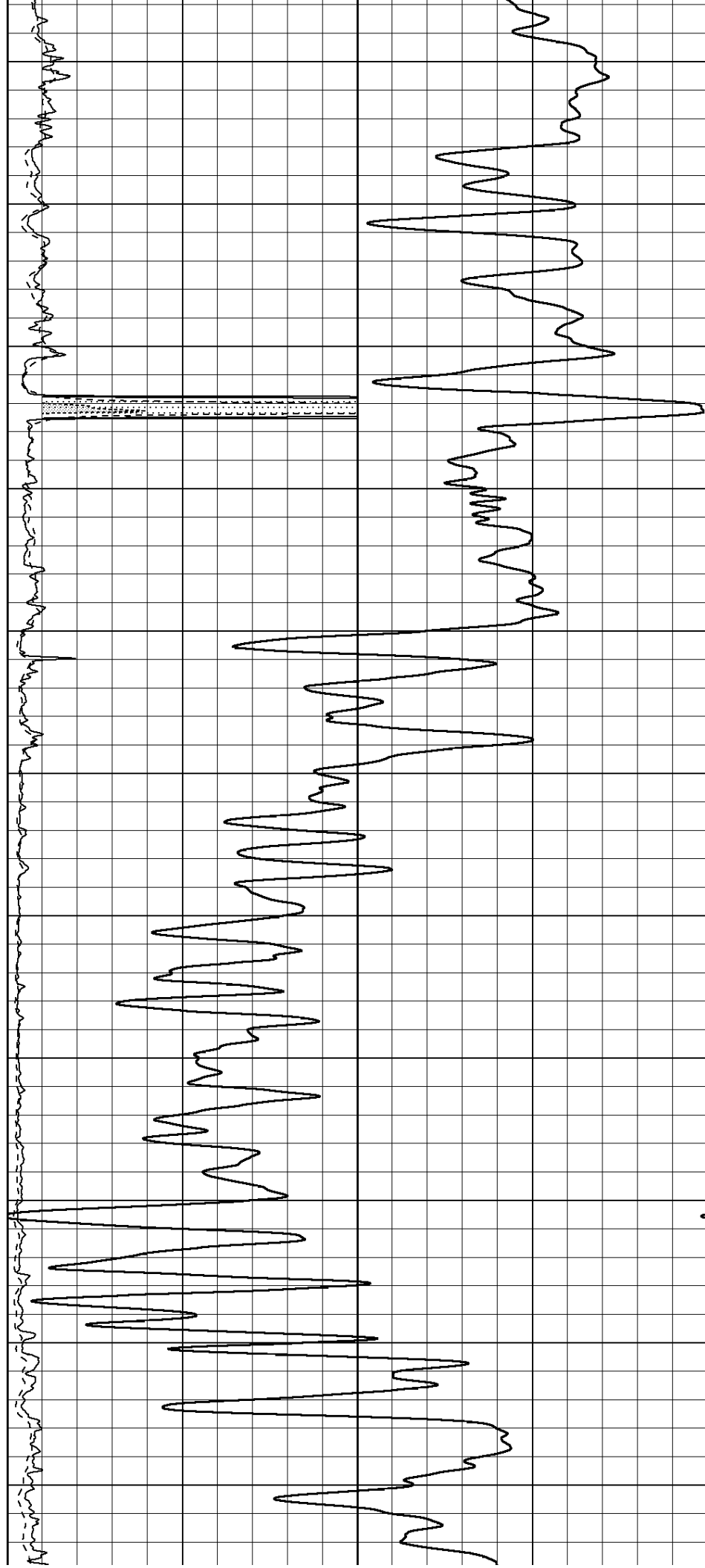
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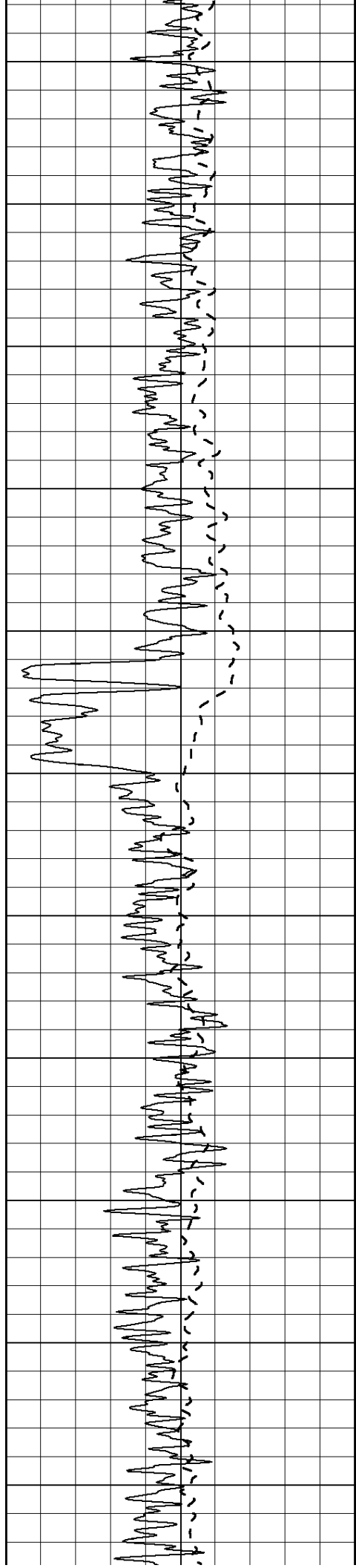
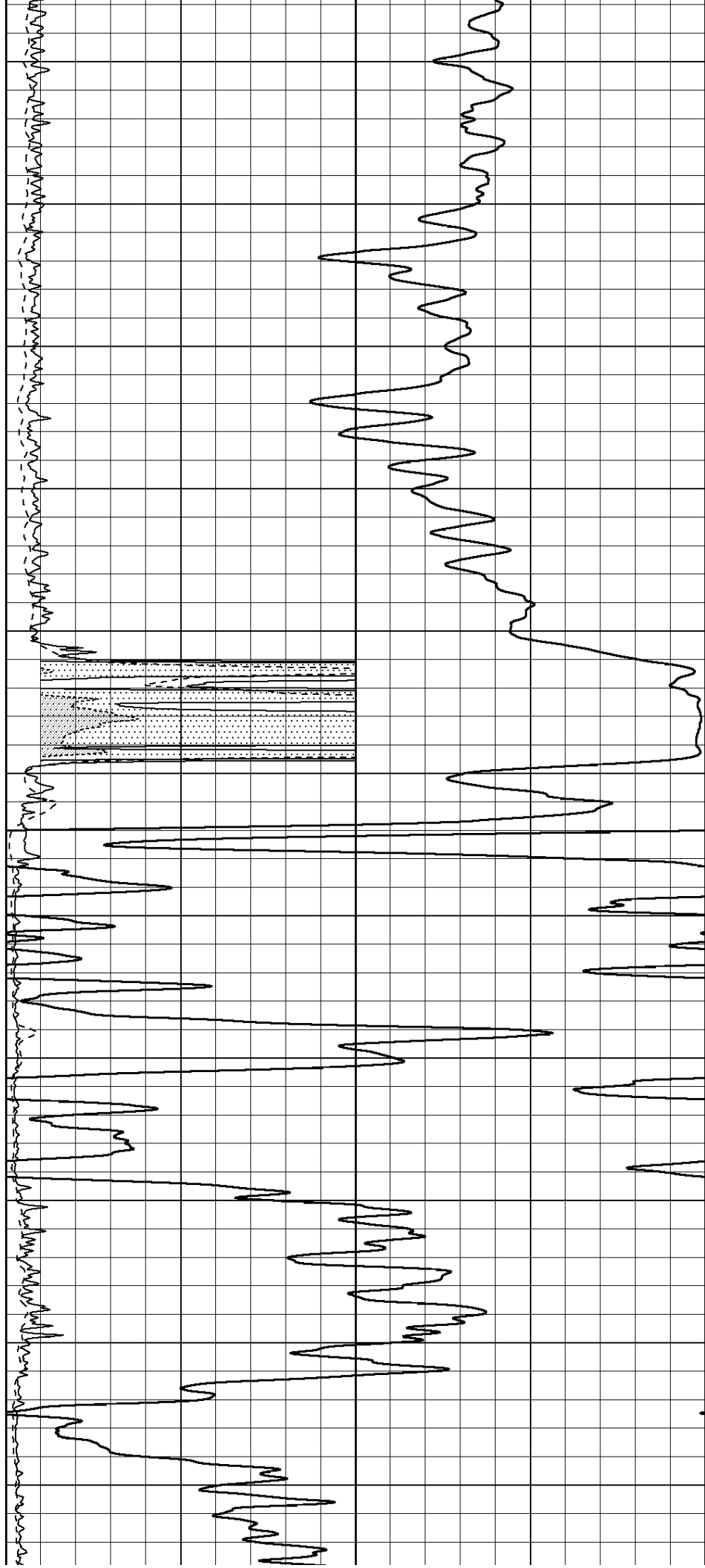
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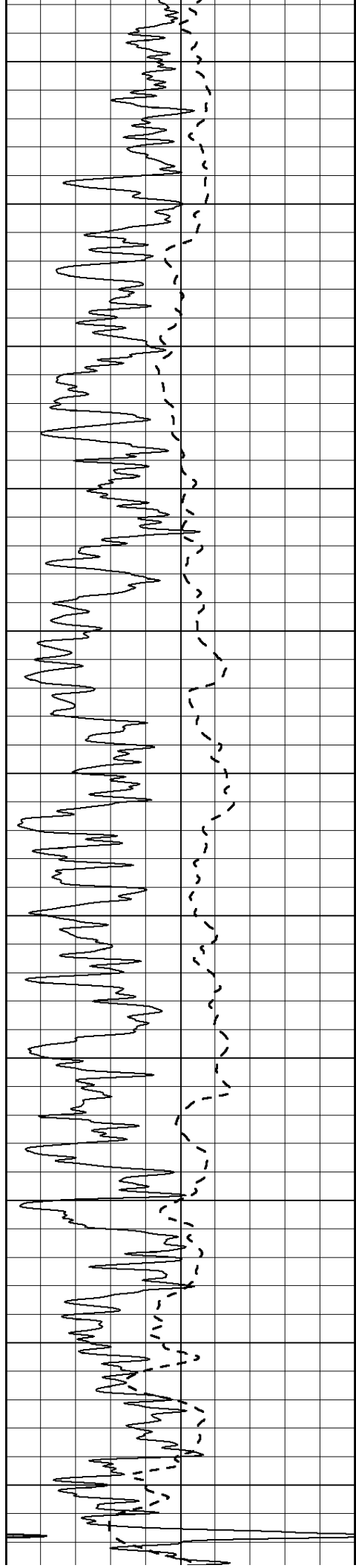
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1500



1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050





2100

2150

2200

2250

2300

2350

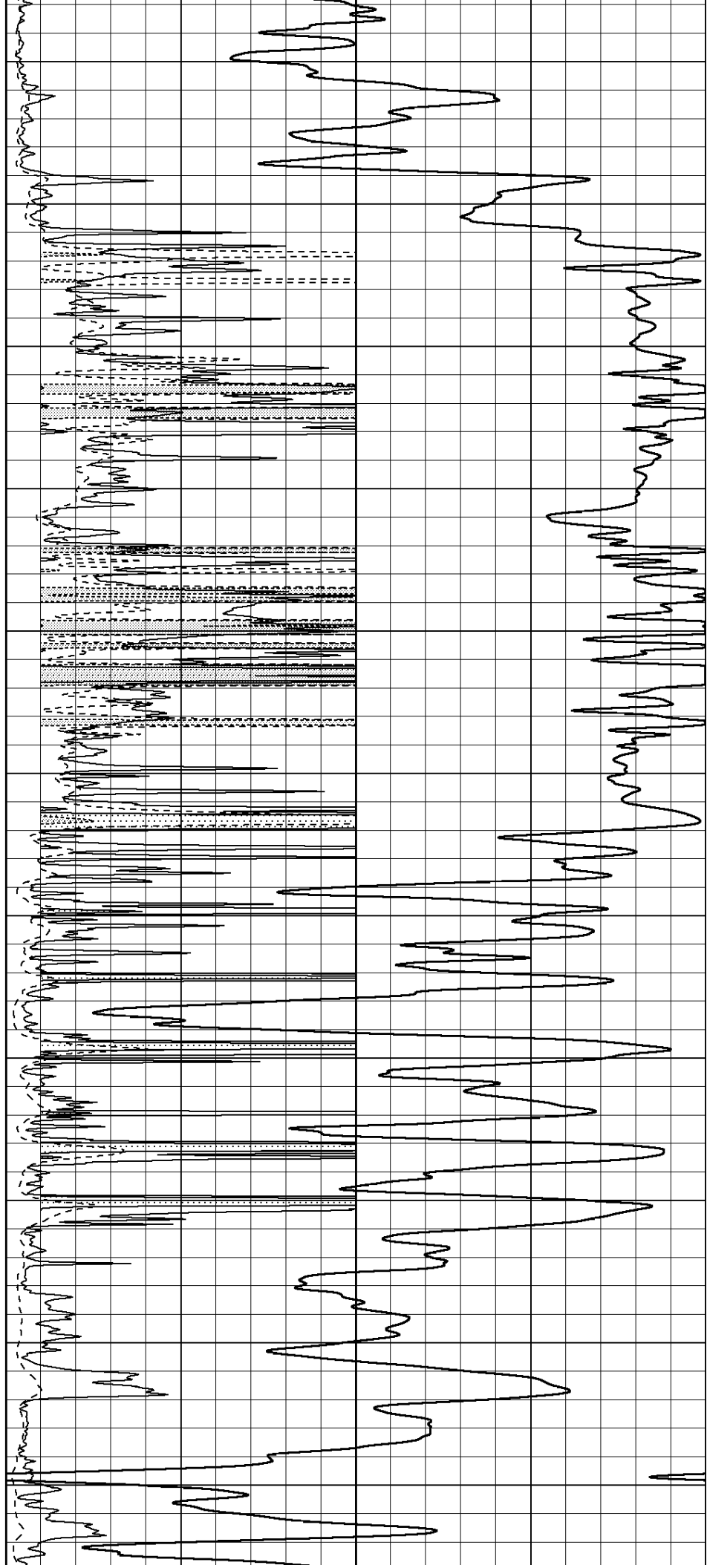
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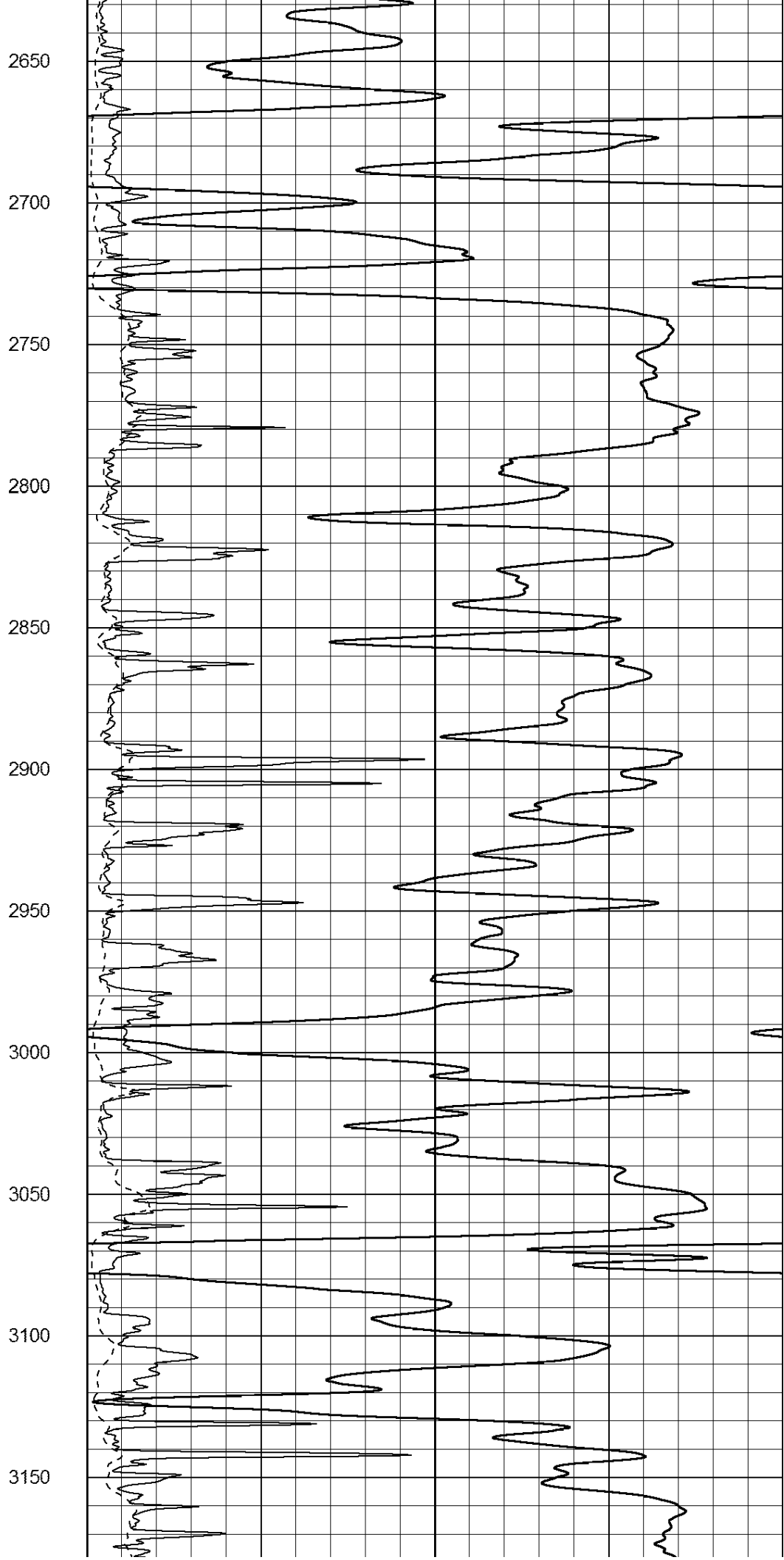
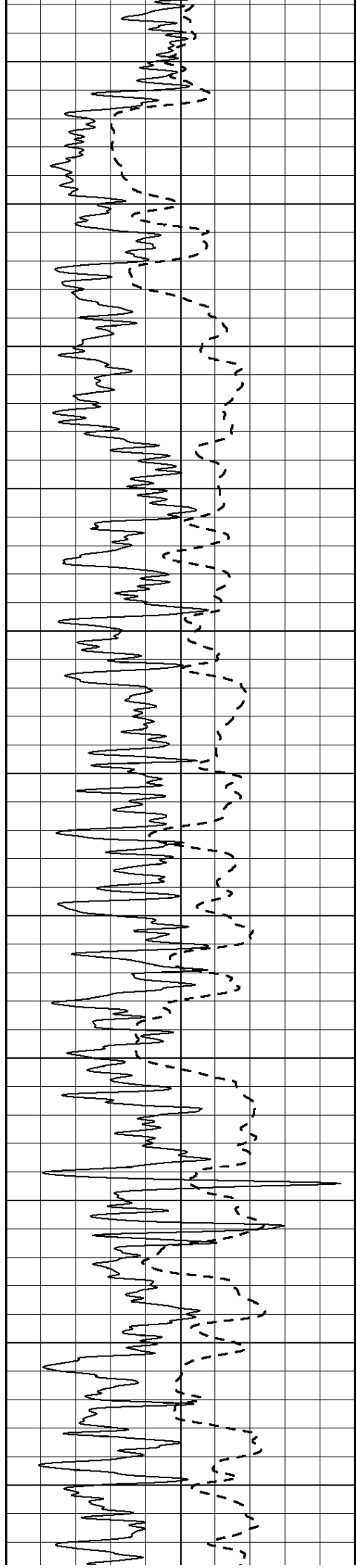
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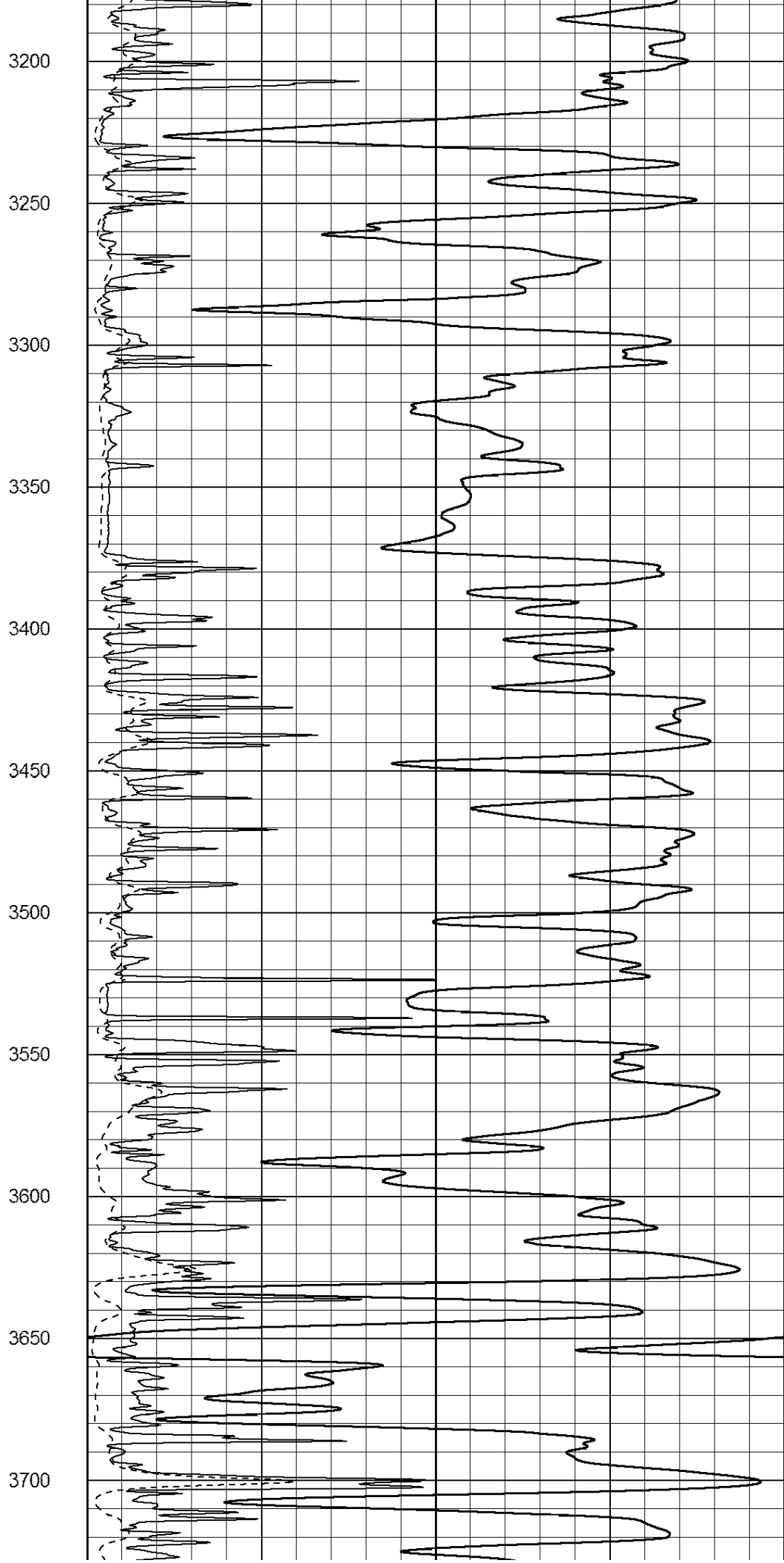
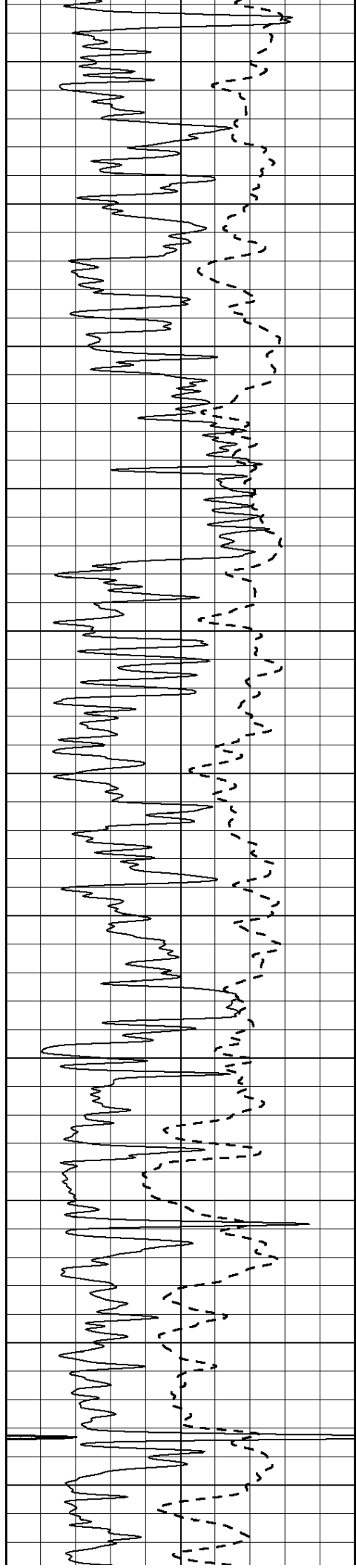
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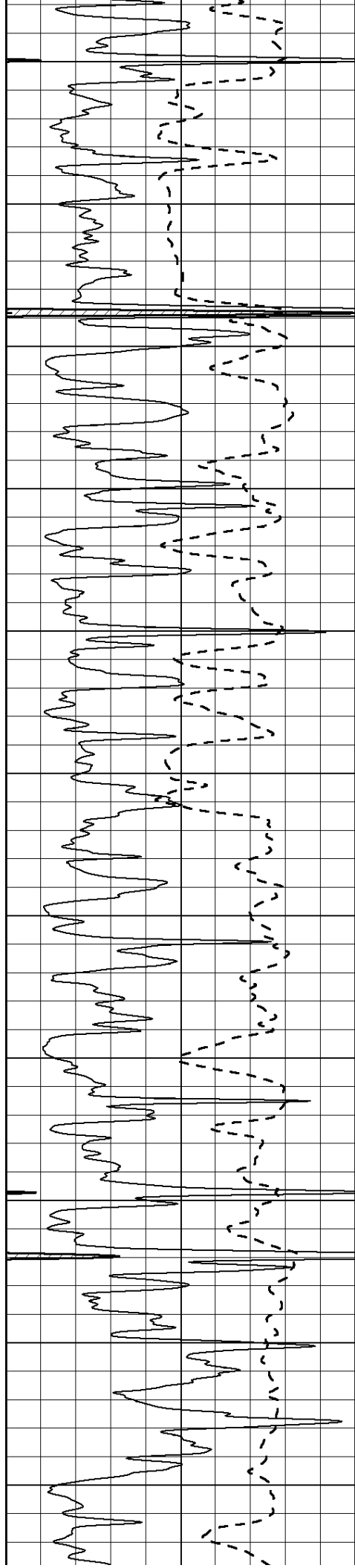
2550

2600









3750

3800

3850

3900

3950

4000

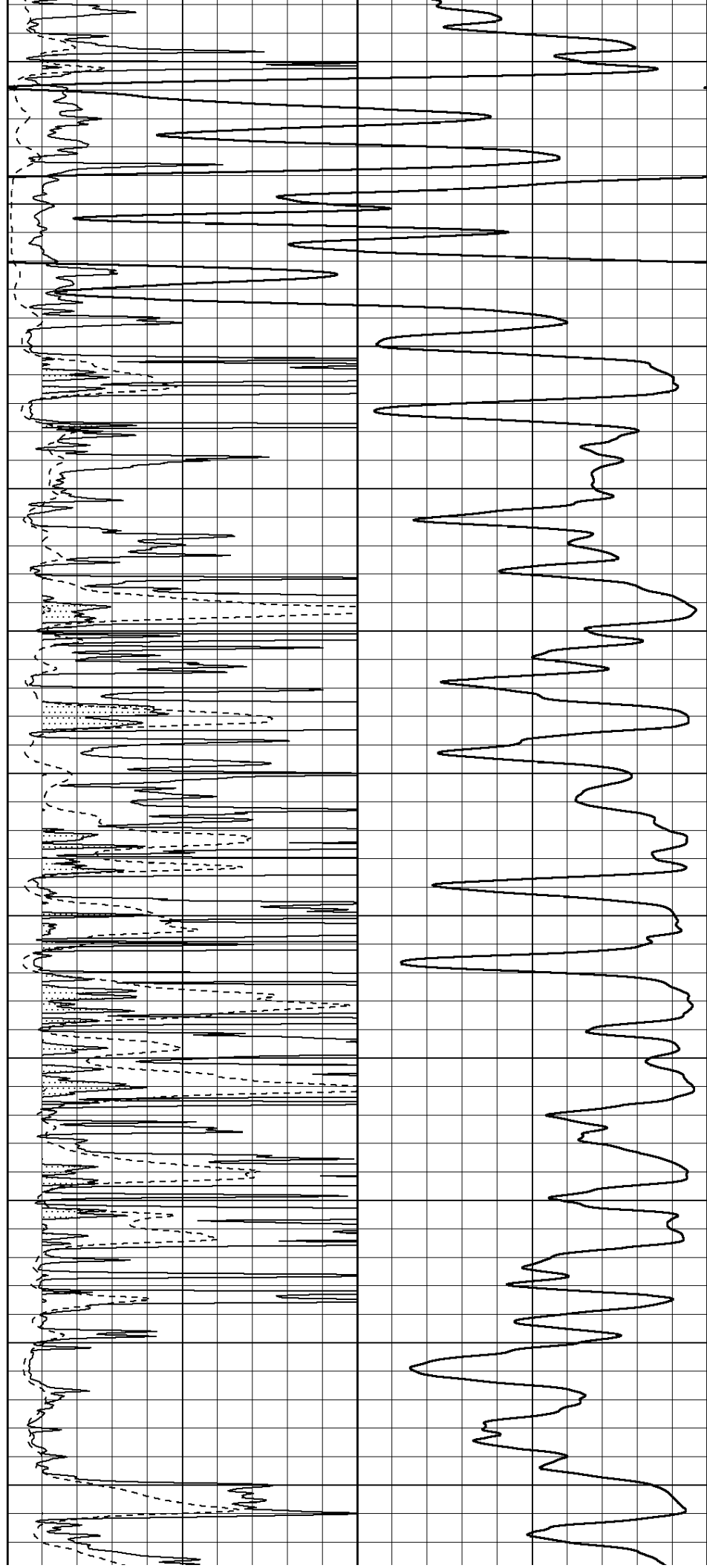
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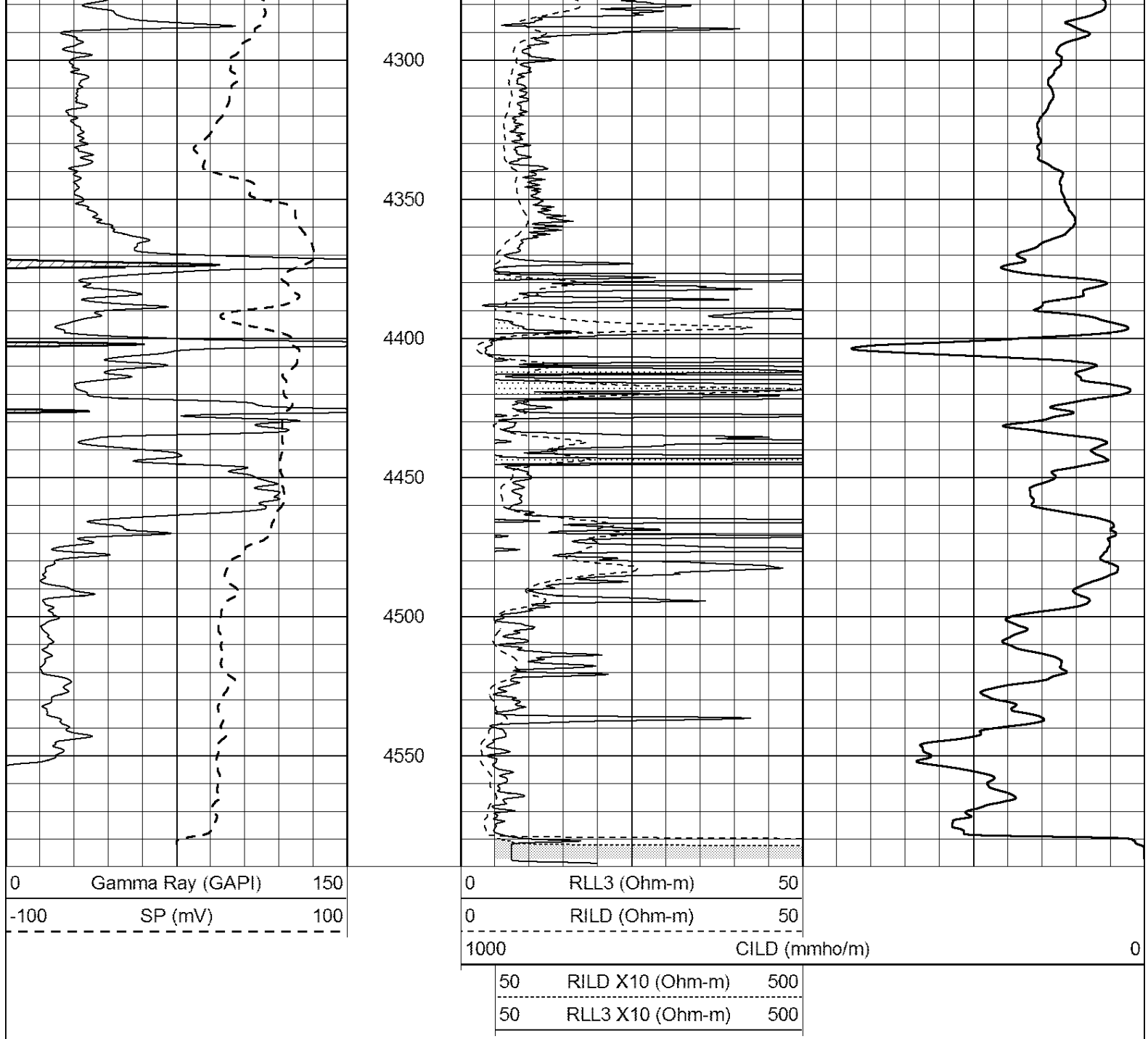
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4150

4200

4250





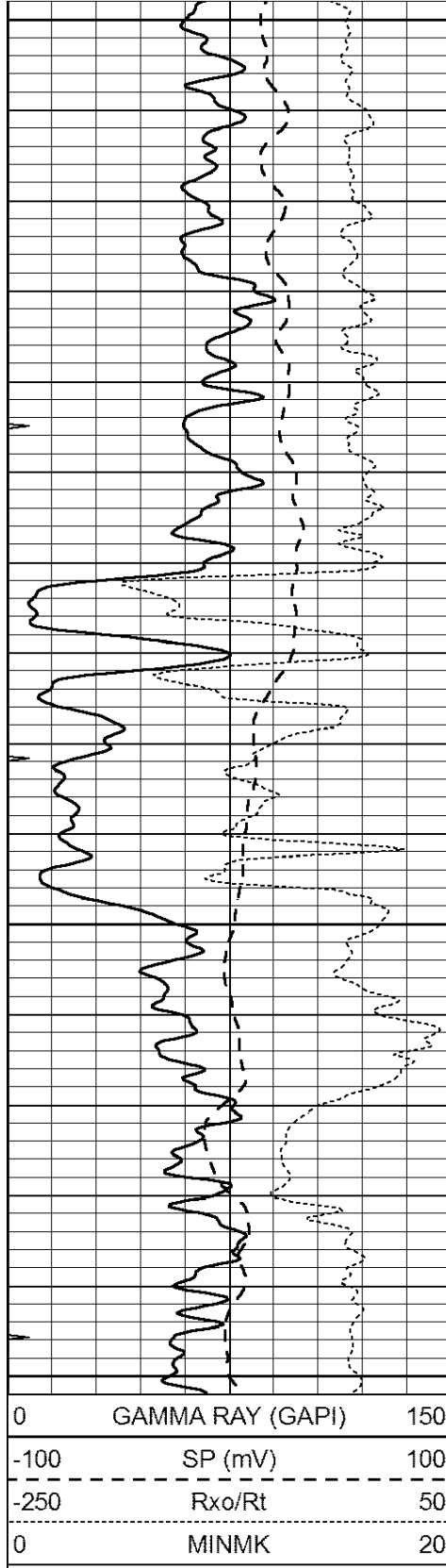
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ANHYDRITE

Database File: 30899ddn.db
 Dataset Pathname: pass3.2
 Presentation Format: _dil
 Dataset Creation: Mon May 09 17:36:31 2016 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

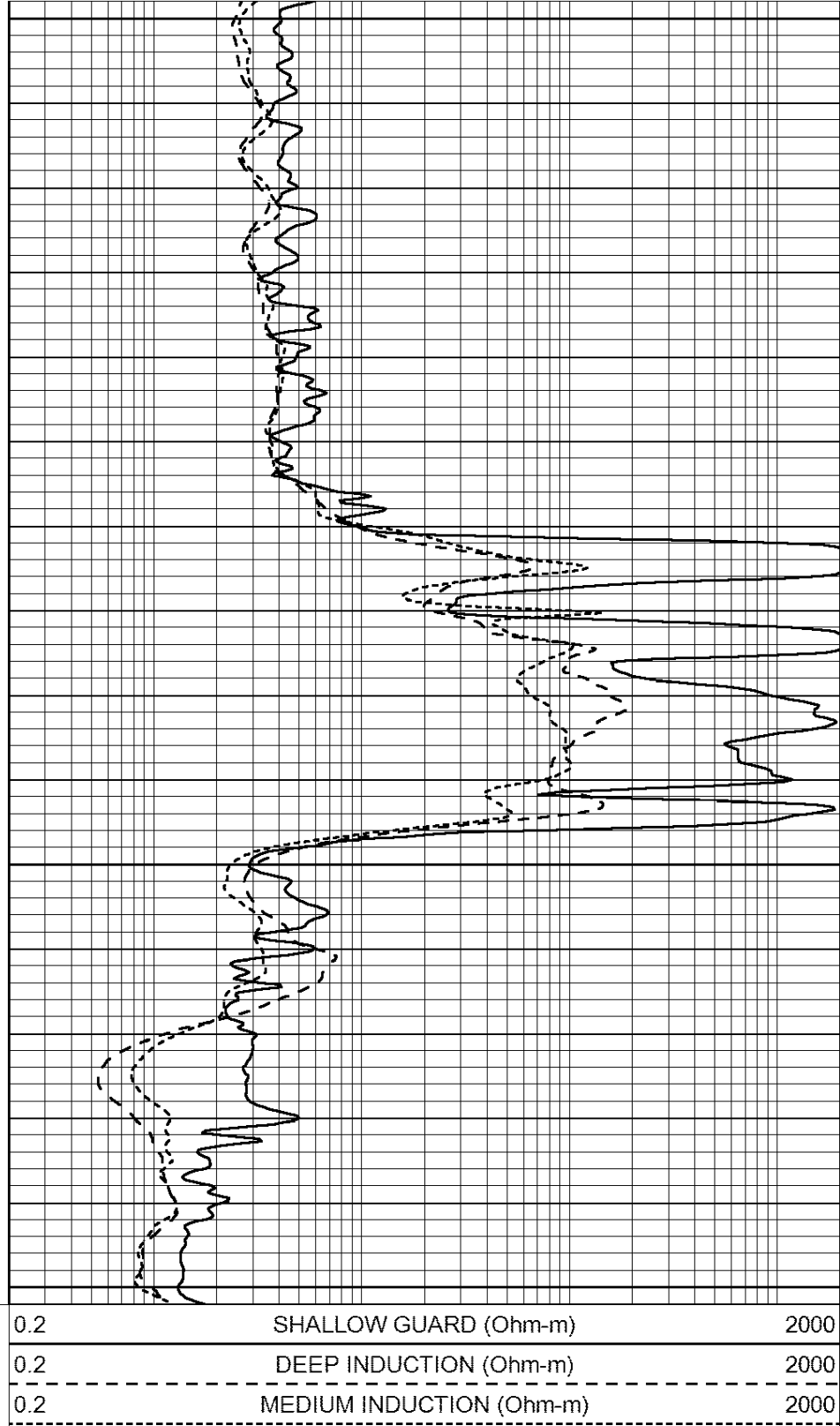


1700

1750

1800

1850



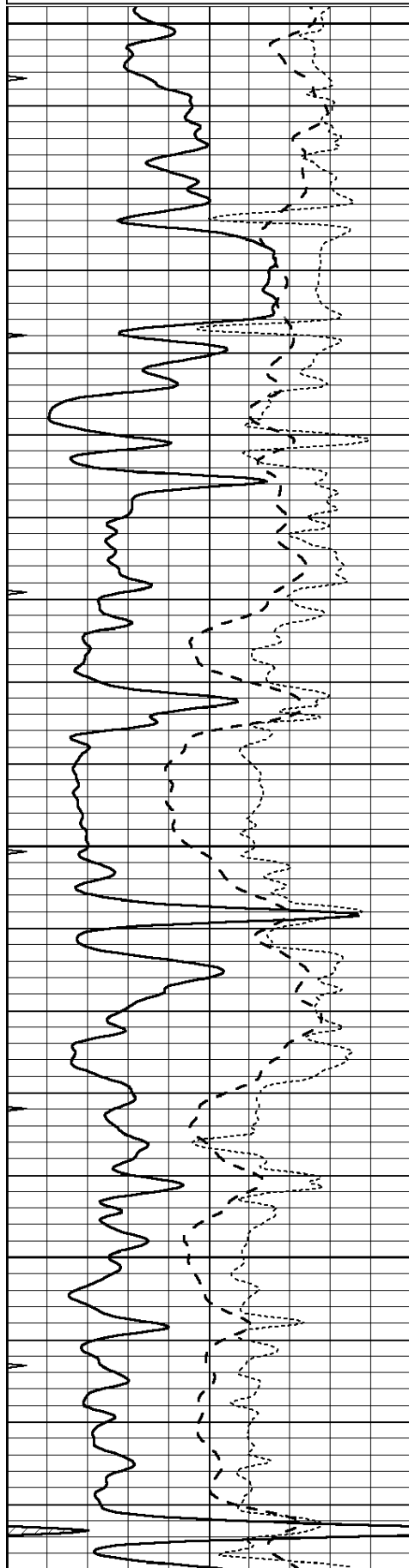
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MAIN SECTION

Database File: 30899ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Mon May 09 17:16:06 2016 by Calc Open-Cased 090629

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

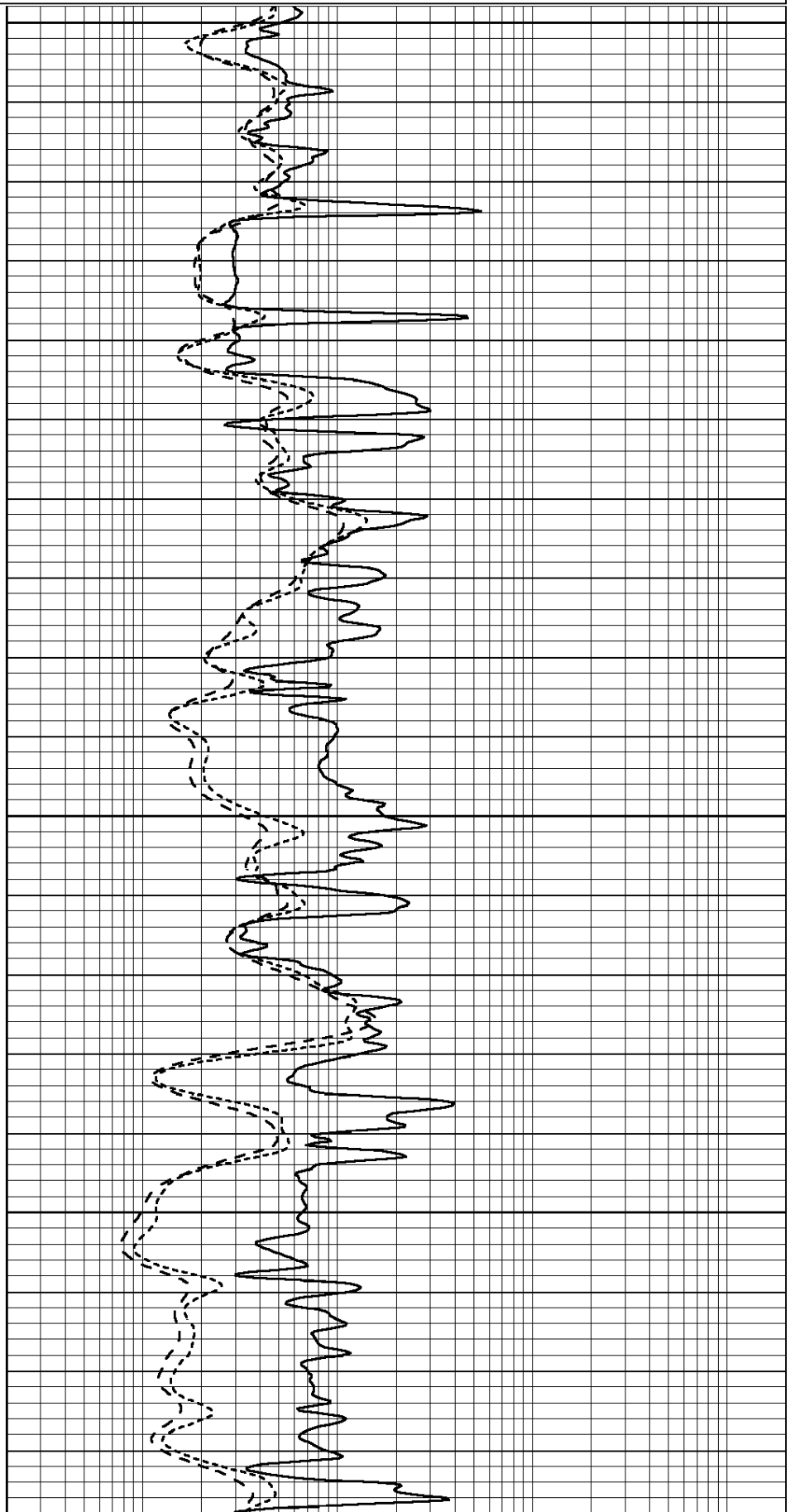


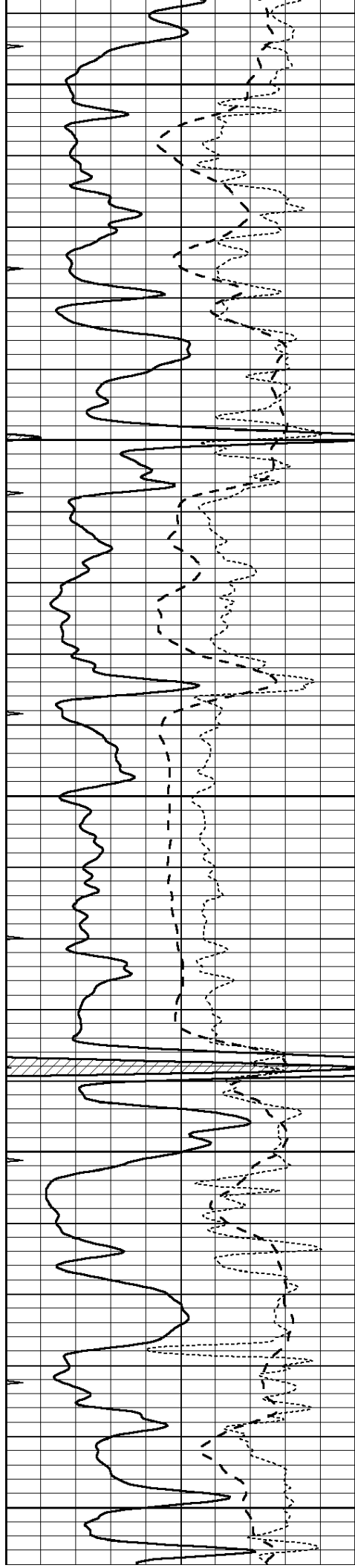
3500

3550

3600

3650





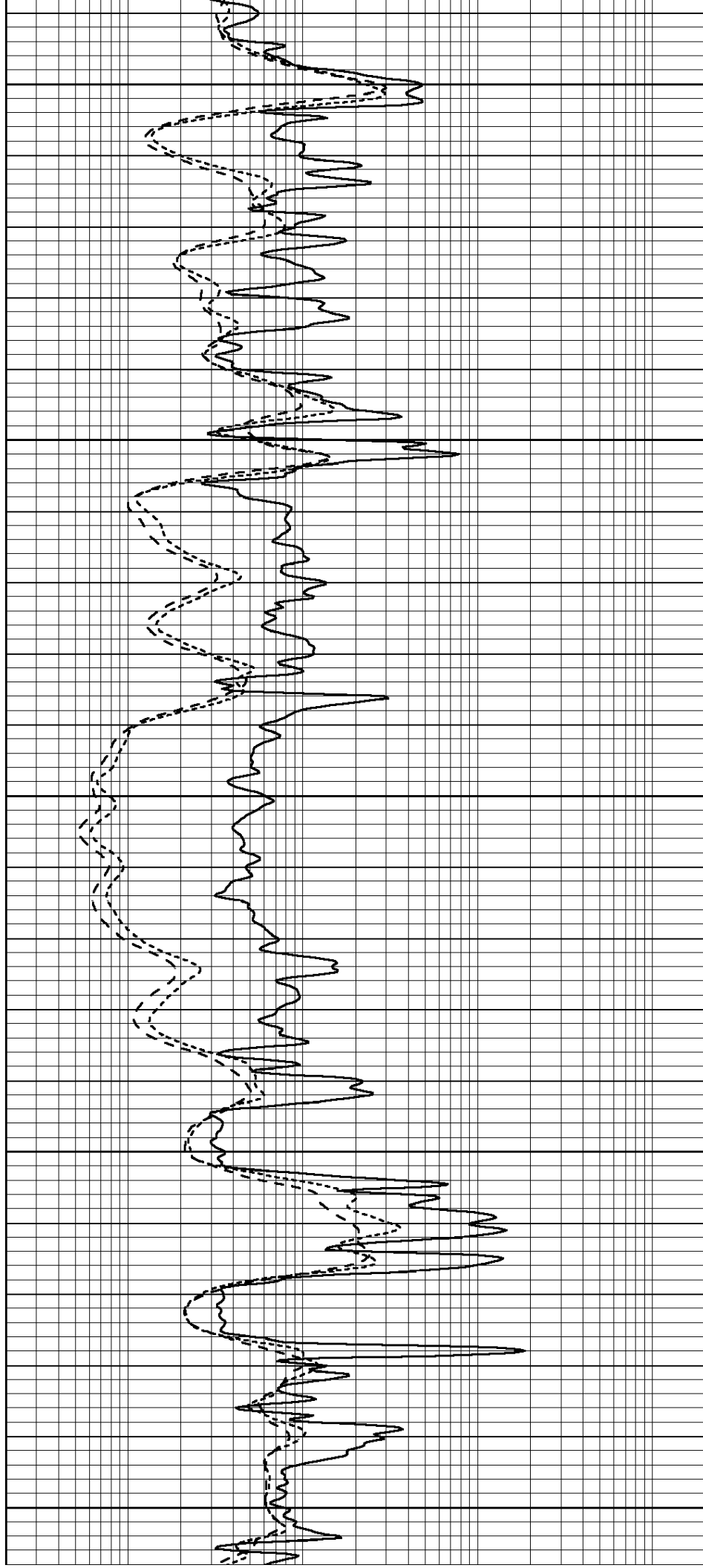
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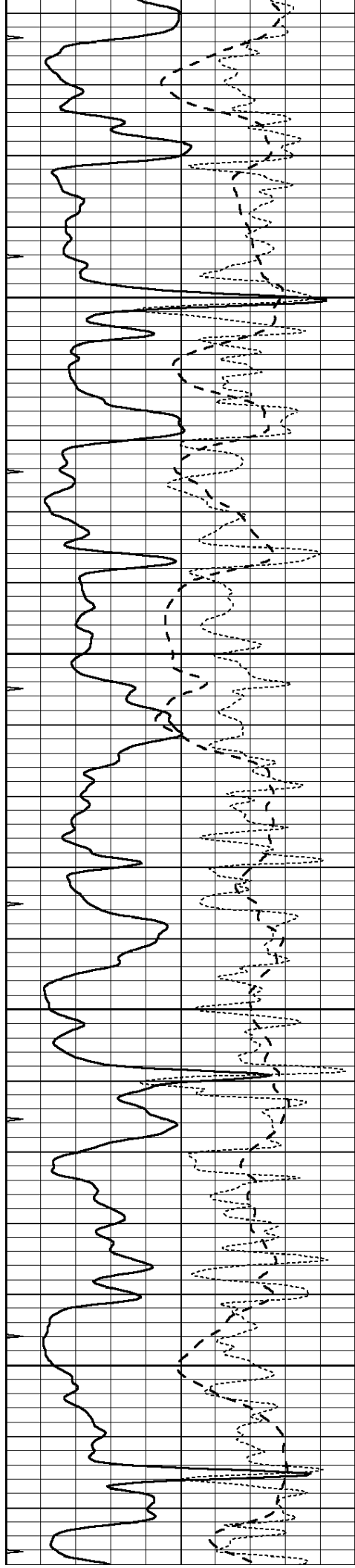
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3800

3850

3900



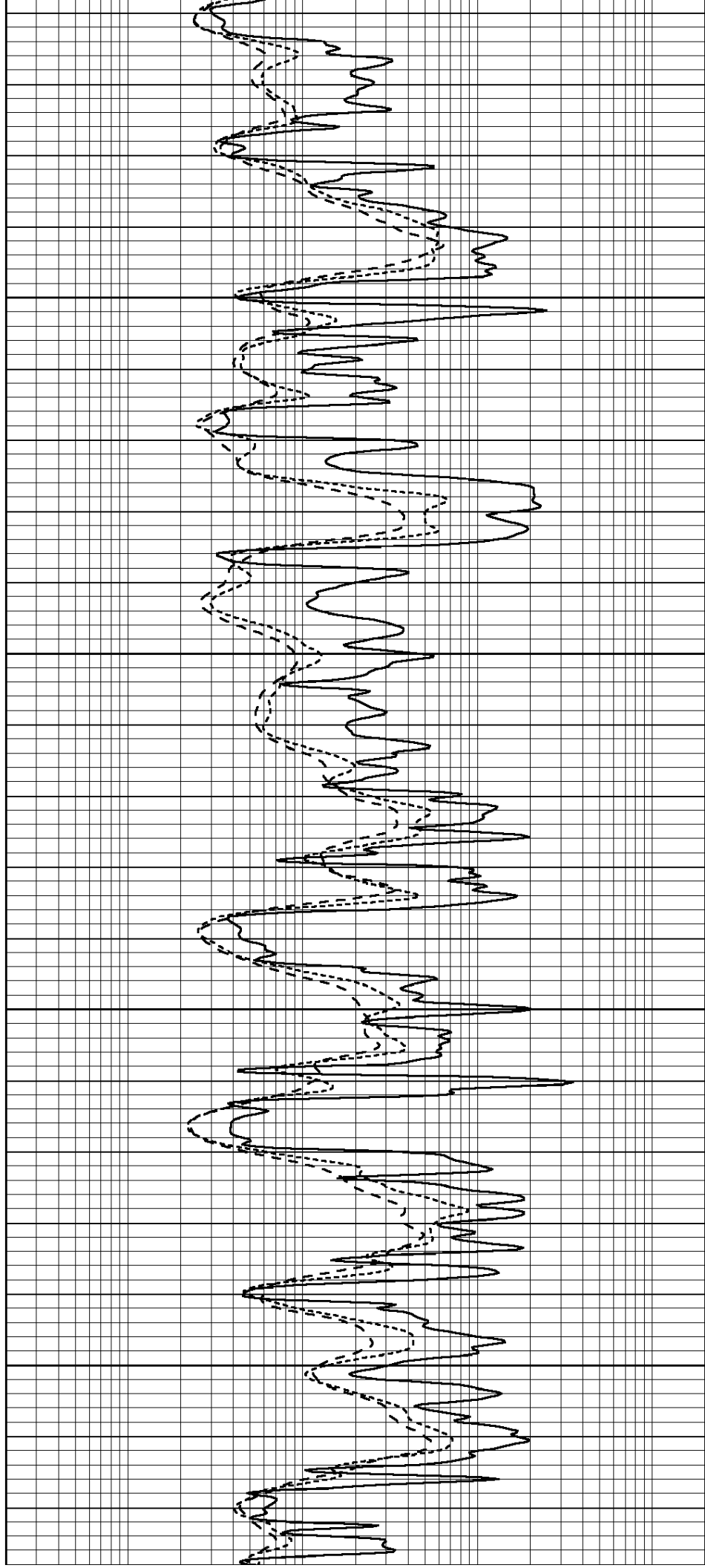


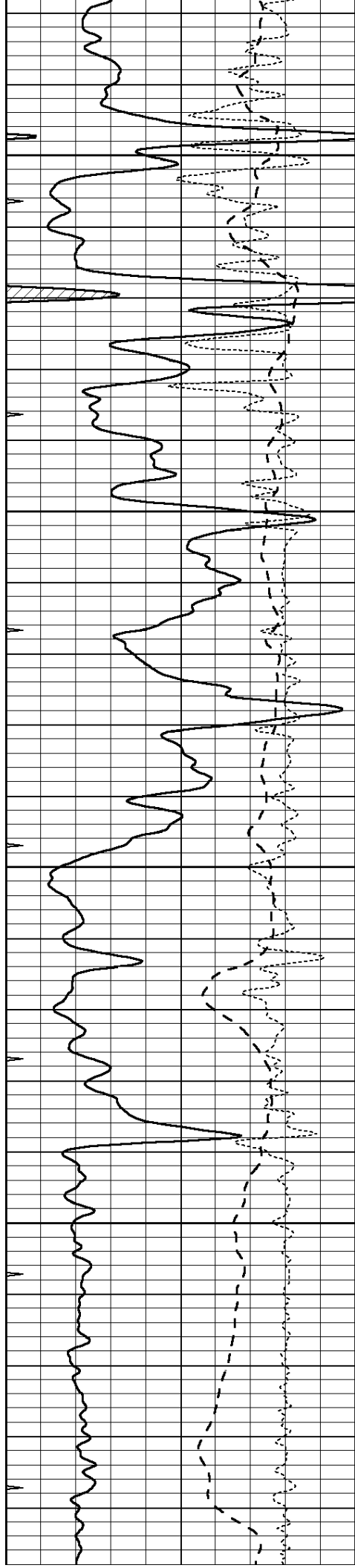
3950

4000

4050

4100



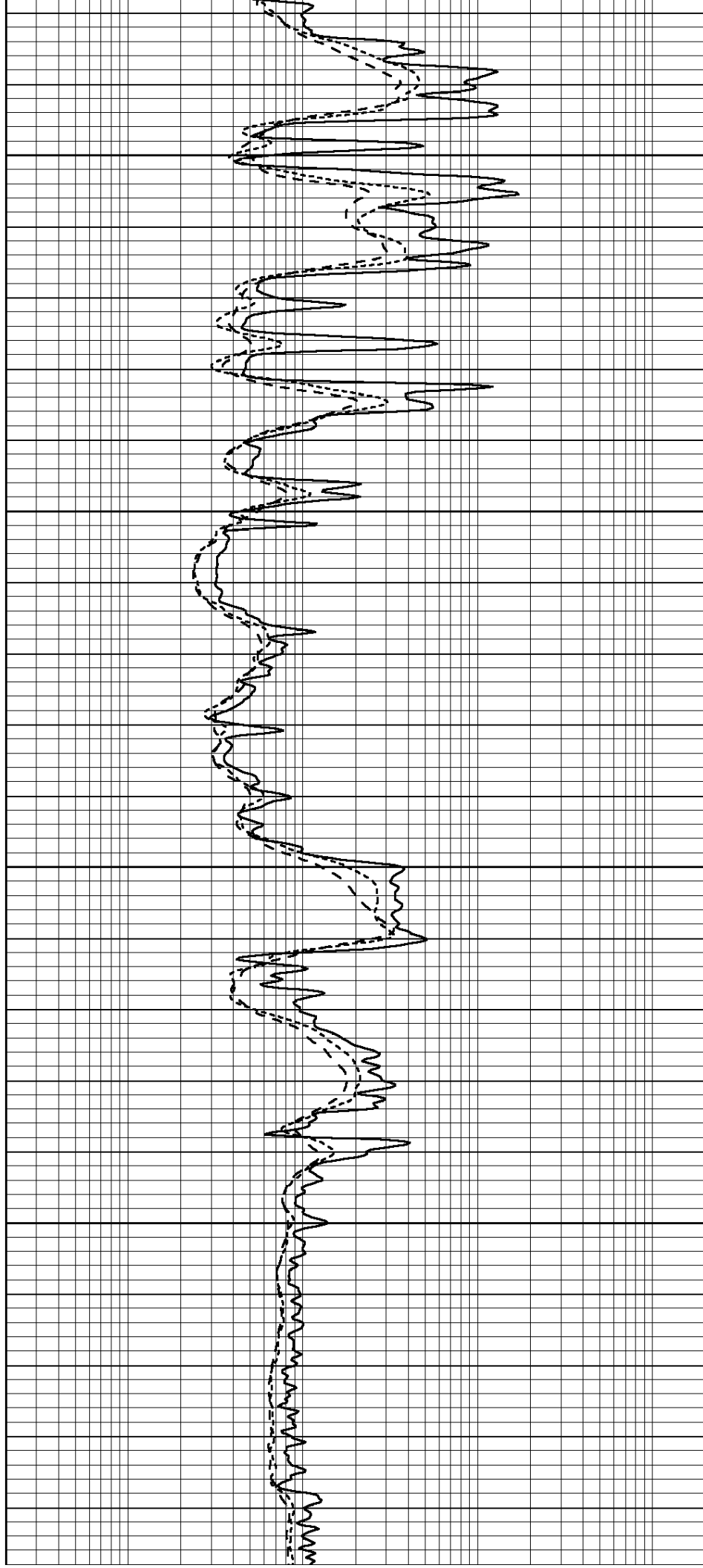


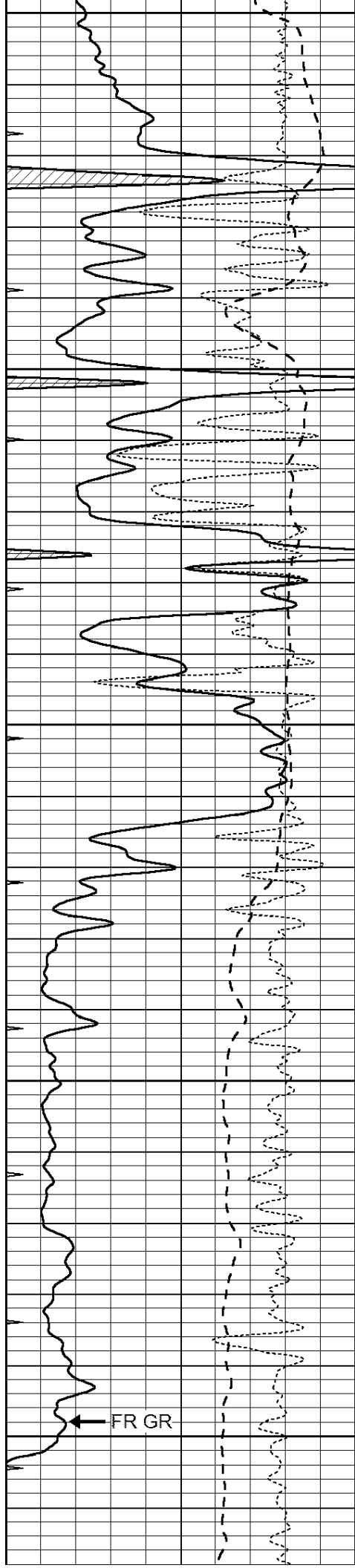
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4200

4250

4300





4350

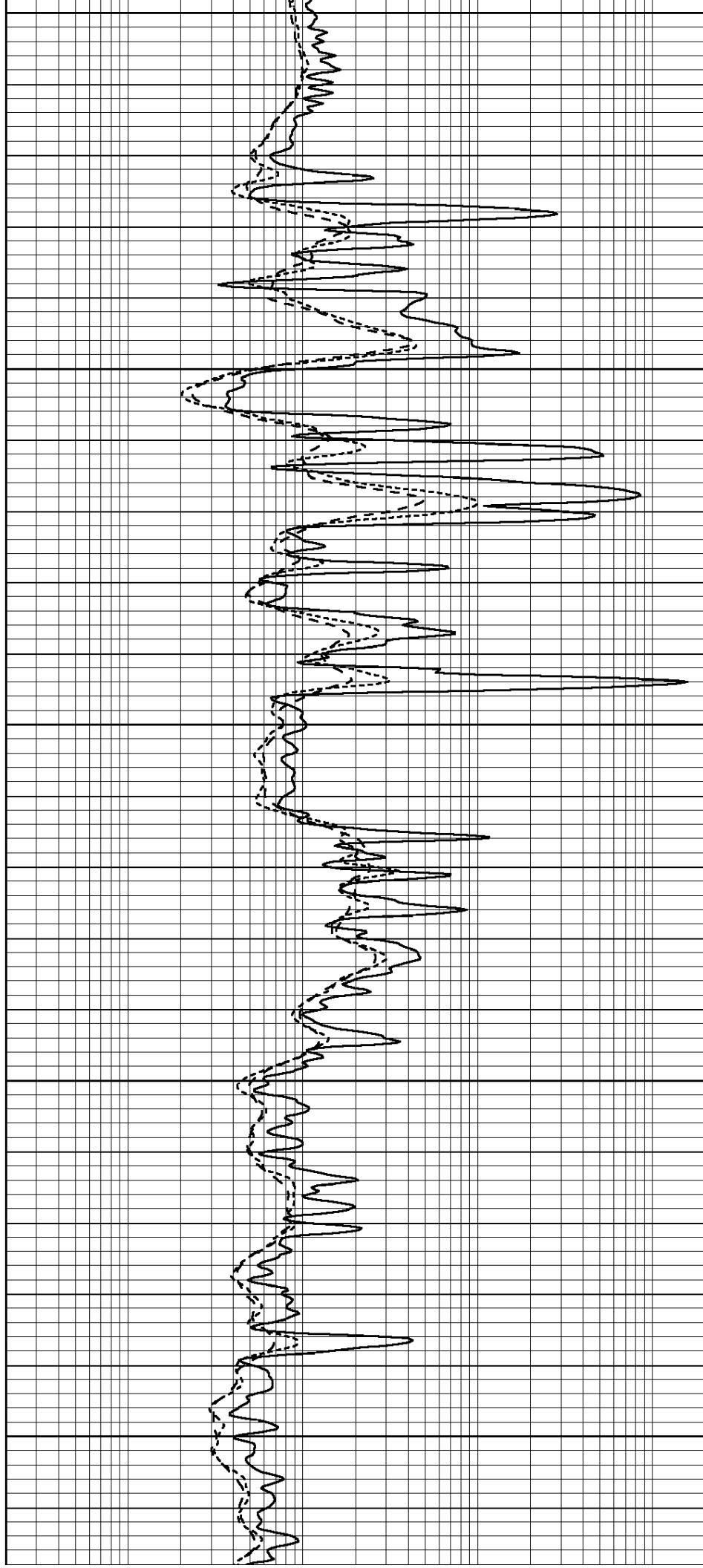
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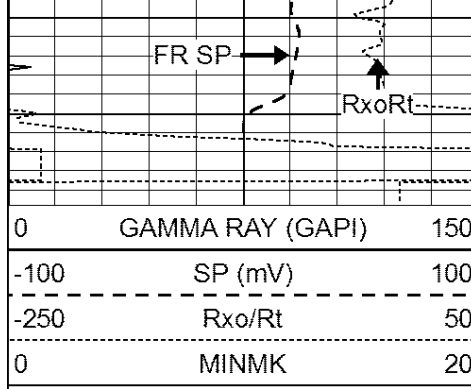
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4500

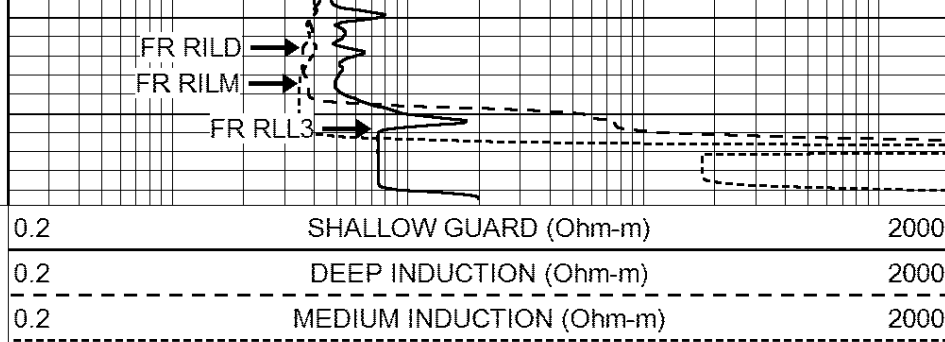
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FR GR





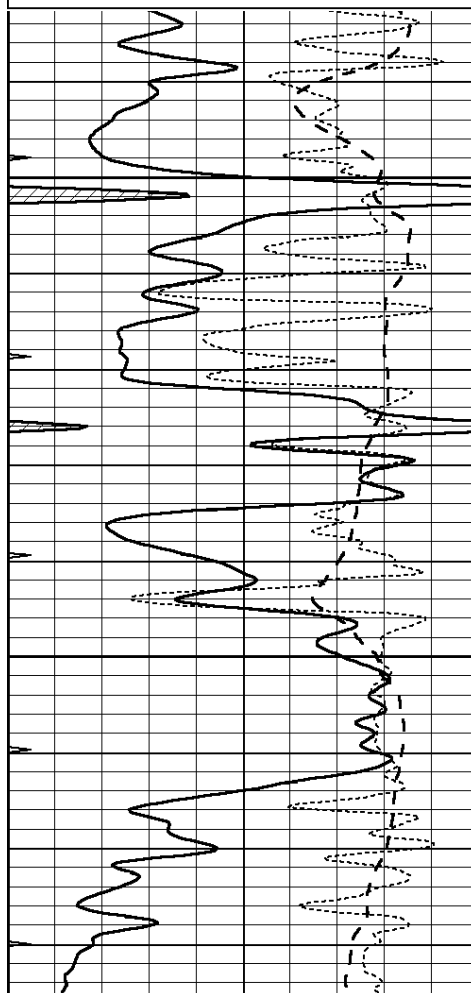
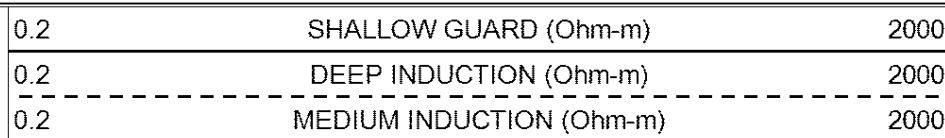
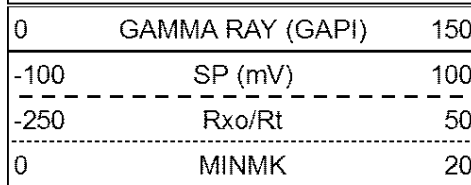
LTD 4584



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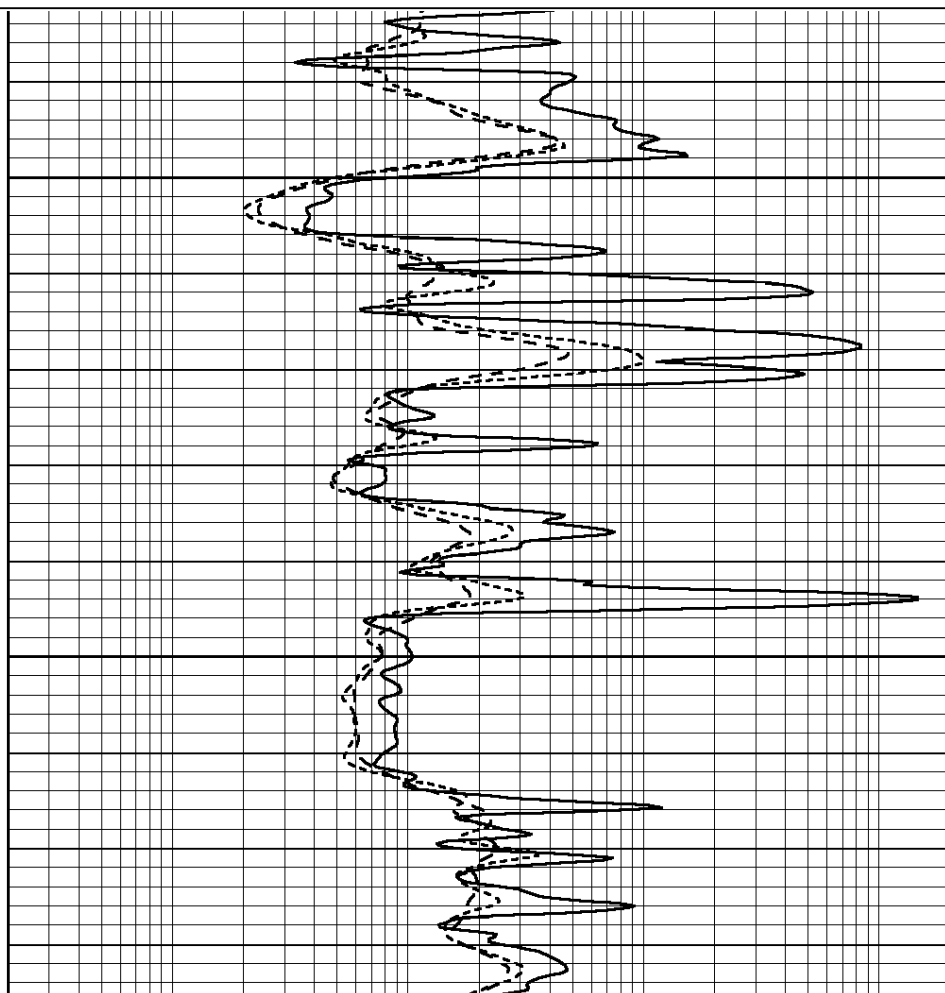
REPEAT SECTION

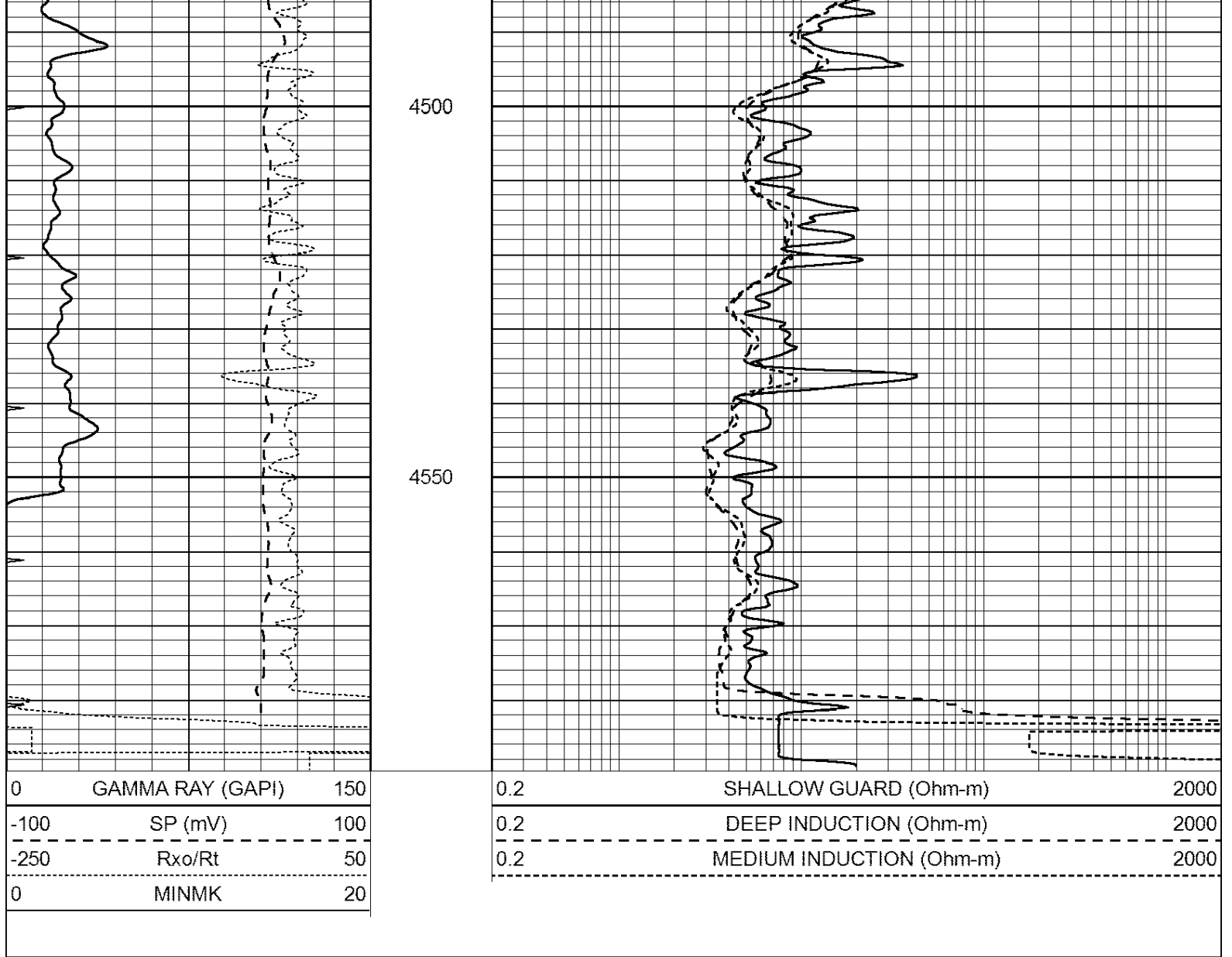
Database File: 30899ddn.db
 Dataset Pathname: pass2.2
 Presentation Format: _dil
 Dataset Creation: Mon May 09 17:15:10 2016 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240



4400

4450





Calibration Report									
Database File:		30899ddn.db							
Dataset Pathname:		pass2.2							
Dataset Creation:		Mon May 09 17:15:10 2016 by Calc Open-Cased 090629							
Dual Induction Calibration Report									
Serial-Model:		PROBE8-DILG							
Surface Cal Performed:		Sun May 10 19:54:09 2015							
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	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	

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:	GEAR5-GEARHART
Source / Verifier:	/
Master Calibration Performed:	Sun Dec 06 13:45:22 2015
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration					
	Density			Far Detector	Near Detector
Magnesium	1.710	g/cc		798.83	465.02 cps
Aluminum	2.570	g/cc		178.16	323.19 cps
Spine Angle = 76.37			Density/Spine Ratio = 0.557		
	Size			Reading	
Small Ring	7.00	in		1.47	V
Large Ring	14.00	in		3.01	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:		Thu Nov 12 05:47:01 2015		
Calibrator Value:		150.0	GAPI	
Background Reading:		0.0	cps	
Calibrator Reading:		276.0	cps	
Sensitivity:		0.4500	GAPI/cps	