



DUAL INDUCTION LOG

Company		BIRD DOG OIL, LLC.	
Well		KELLER - GATES #1-17	
Field		KENILWORTH WEST	
County		STAFFORD	
State		KANSAS	
Location:		APL # : 15-185-24043-0000 835' FNL & 110' FEL NE - SE - NE - NE	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 8' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 17 TWP 22S RGE 13W		Elevation K.B. 1910 D.F. 1908 G.L. 1902	
Date	1/5/19		
Run Number	ONE		
Depth Driller	3890		
Depth Logger	3886		
Bottom Logged Interval	3884		
Top Log Interval	00		
Casing Driller	8 5/8"@305'		
Casing Logger	305		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 18,900 PPM	
Density / Viscosity	8.9/50		
pH / Fluid Loss	8.5/14.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.300@55F		
Rmf @ Meas. Temp	.225@55F		
Rmc @ Meas. Temp	.360@55F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.143@115F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	11:00 A.M.		
Maximum Recorded Temperature	115F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JUSTIN CARTER		

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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, KANSAS (785) 628-6395
DIRECTIONS
LARNED, KS., EAST ON K-19 TO "STAFFORD CR 10", 1 1/4S., W. INTO



MAIN SECTION

Database File: 3329ddn.db
Dataset Pathname: pass3.12
Presentation Format: dil2
Dataset Creation: Sat Jan 05 12:10:06 2019
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

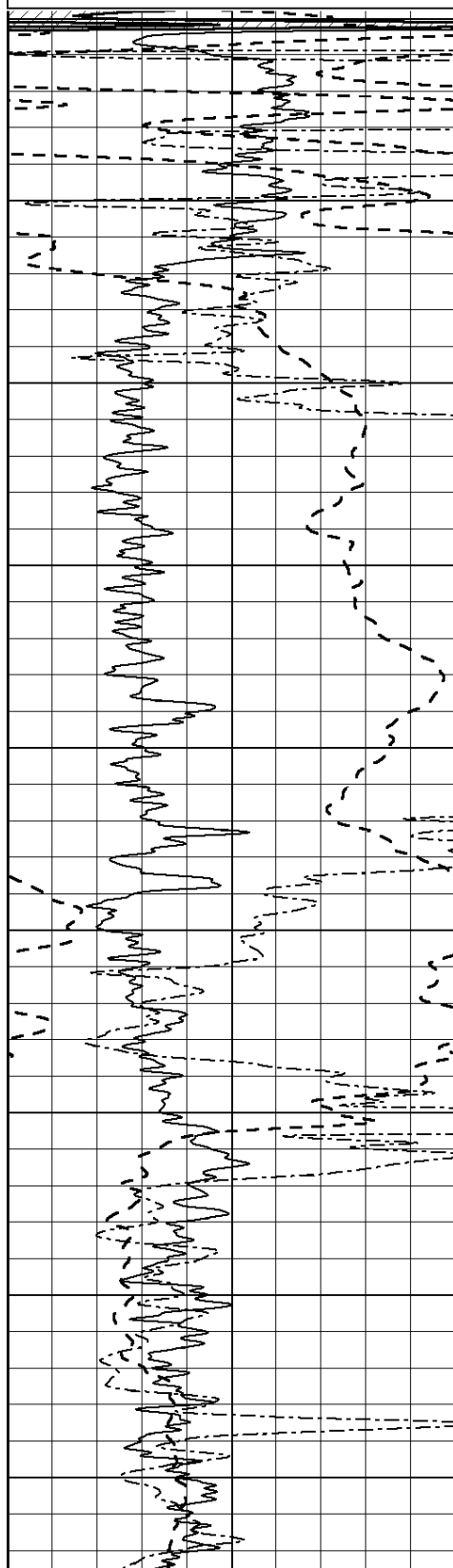
0	RLL3 (Ohm-m)	50
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0	RILD (Ohm-m)	50
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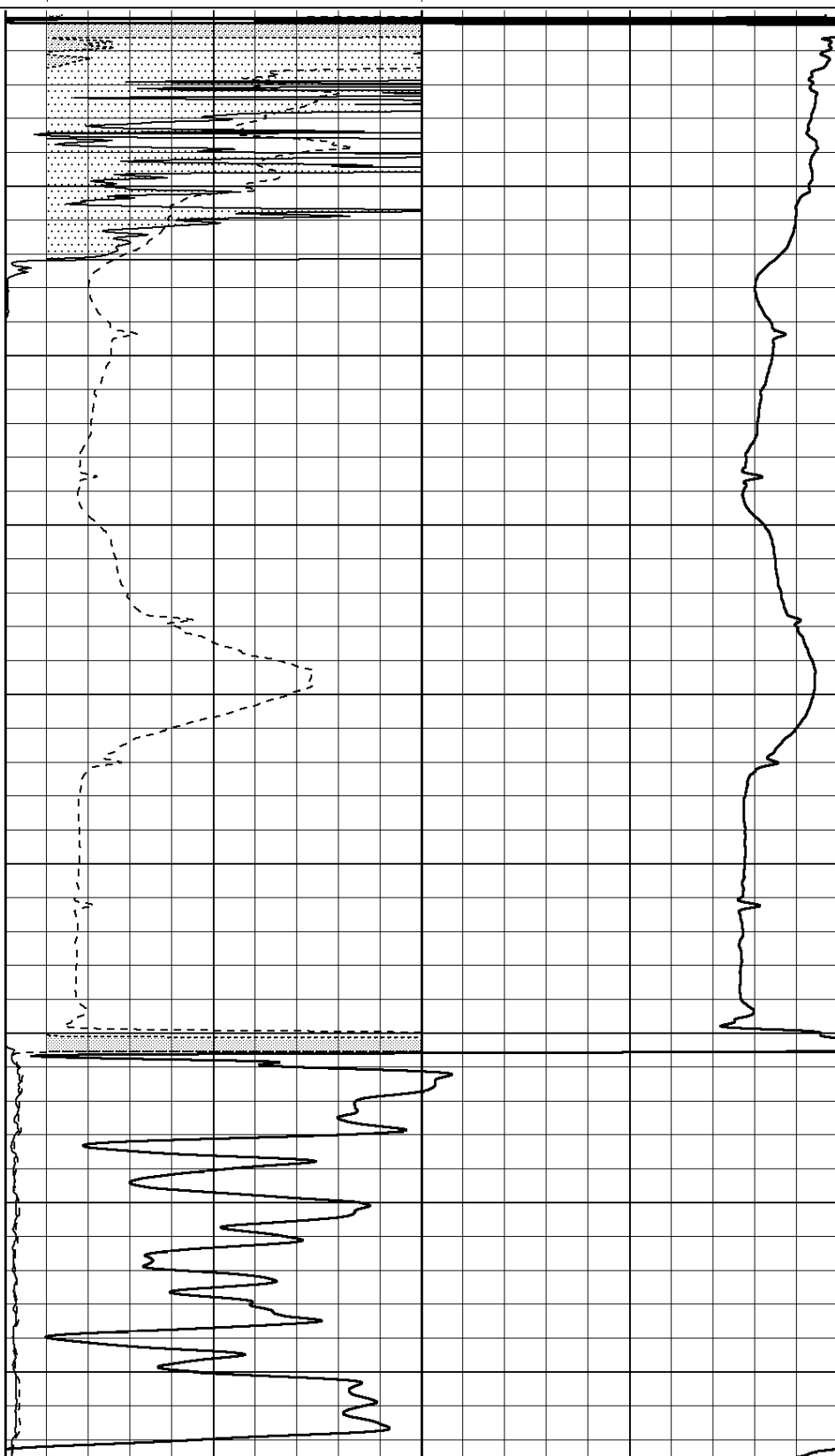
1000	CILD (mmho/m)	0
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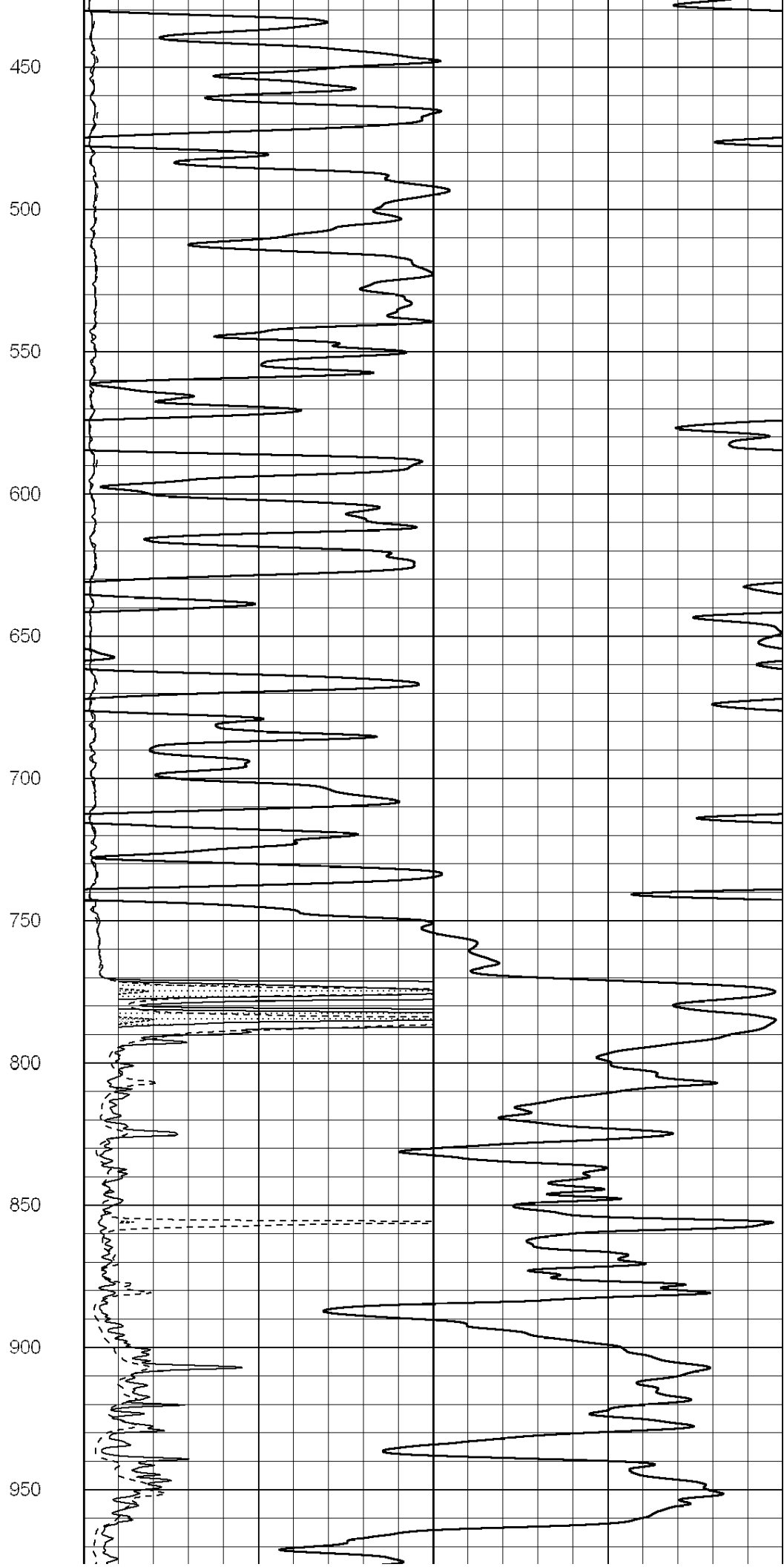
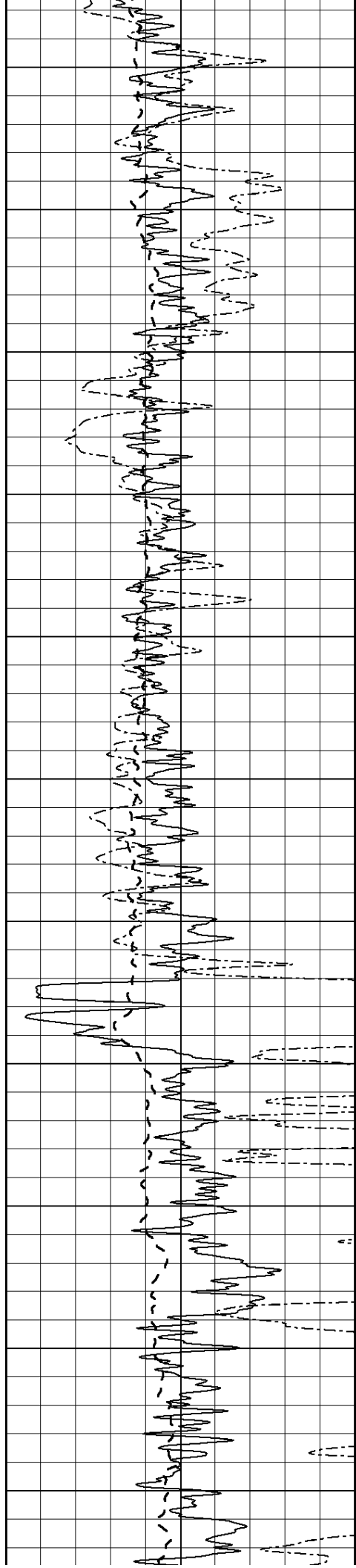
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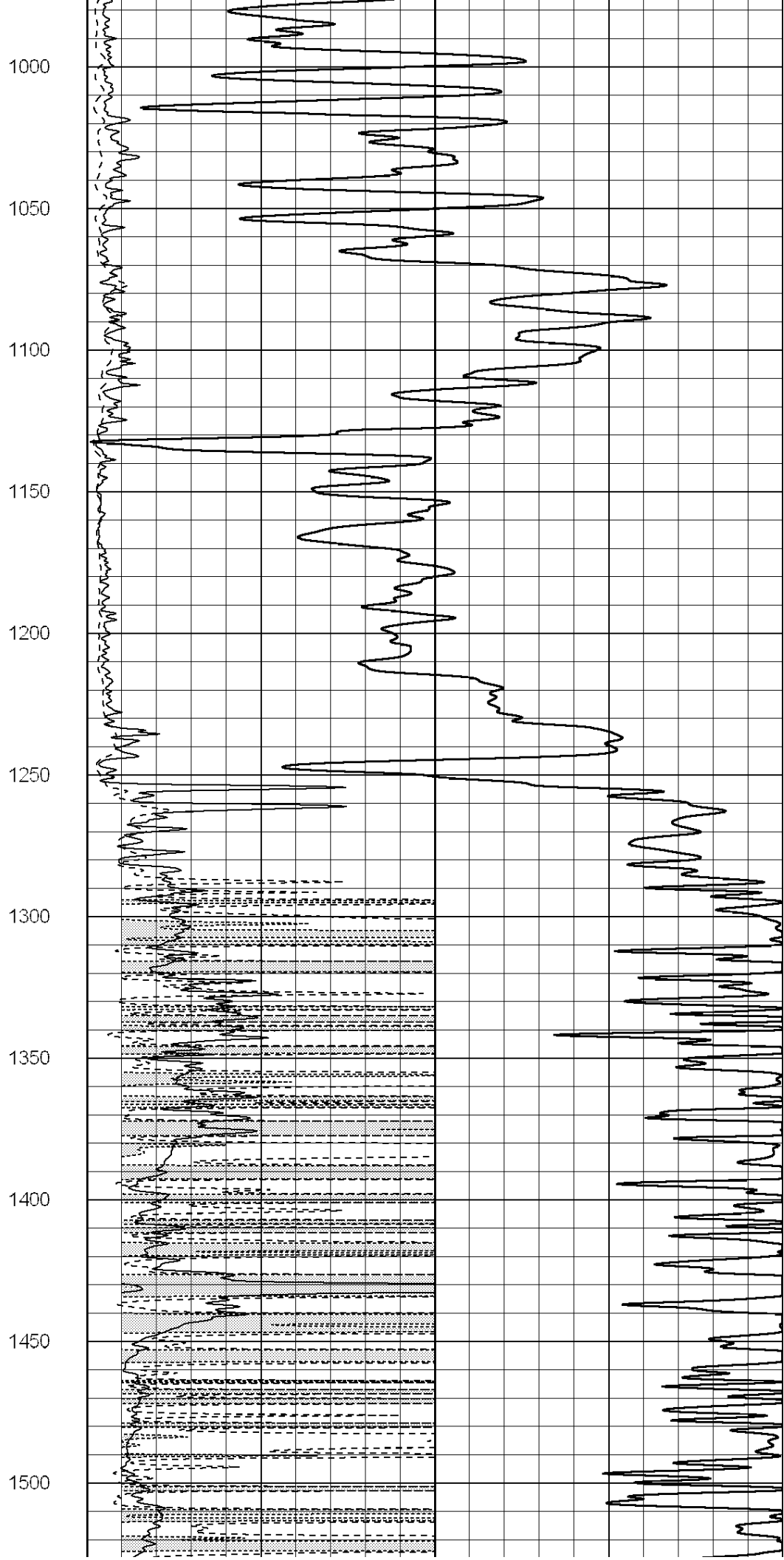
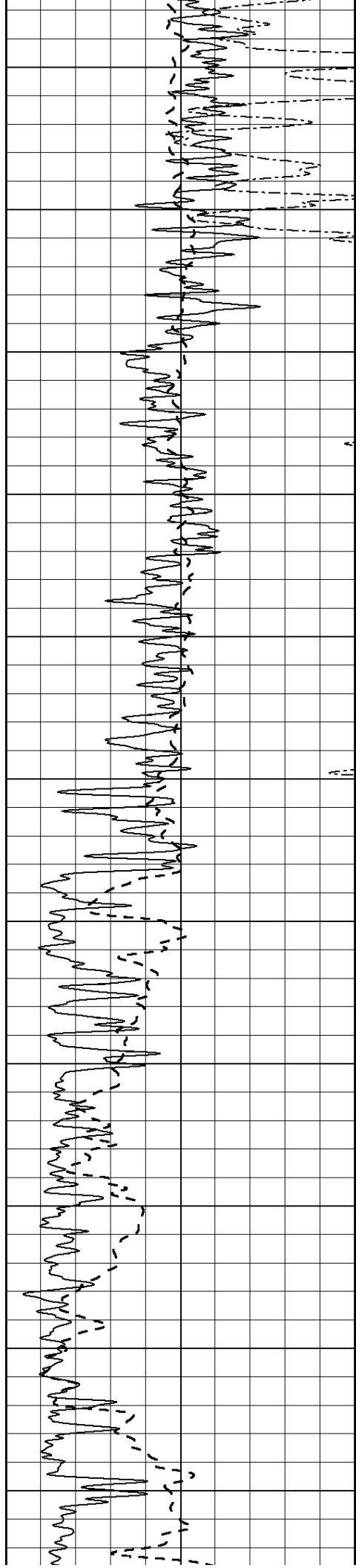
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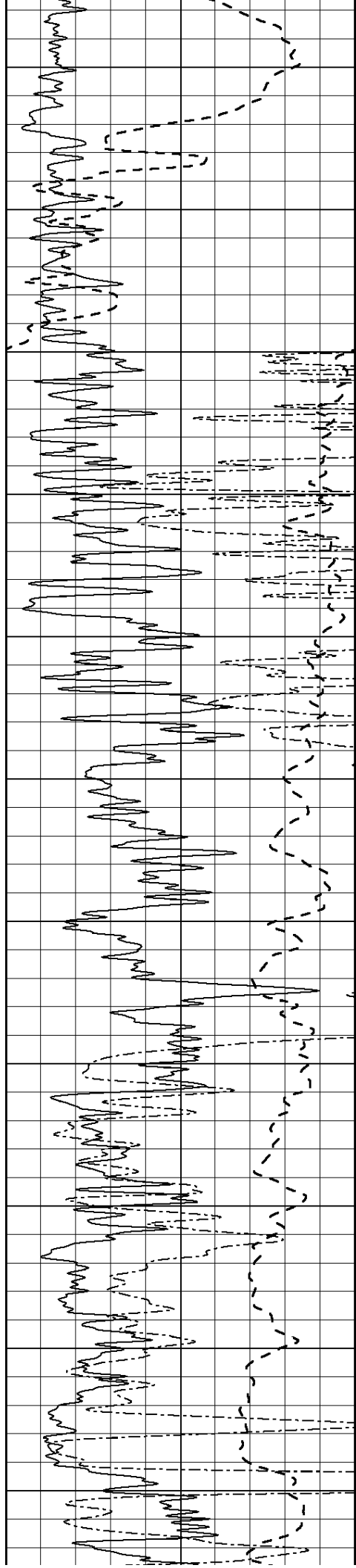


0
50
100
150
200
250
300
350
400









1550

1600

1650

1700

1750

1800

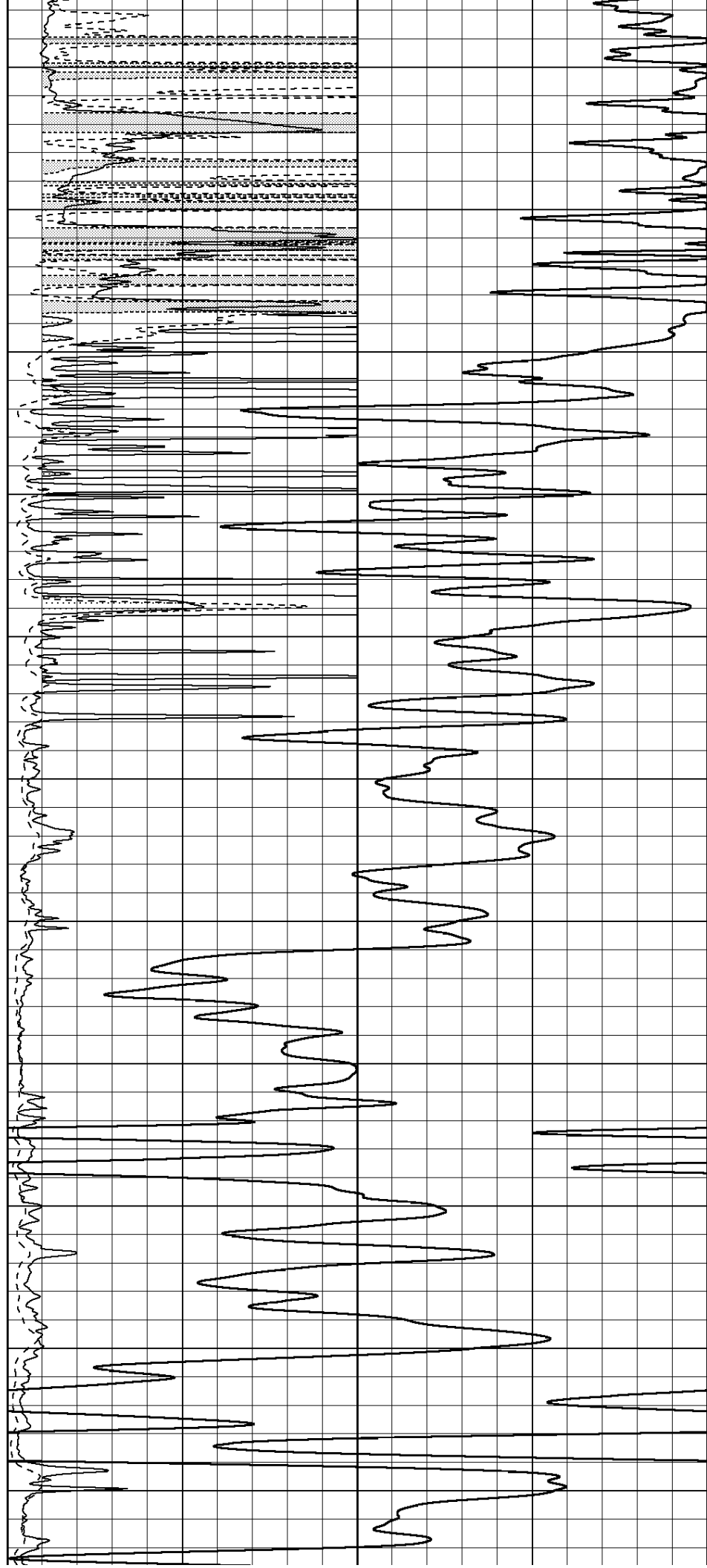
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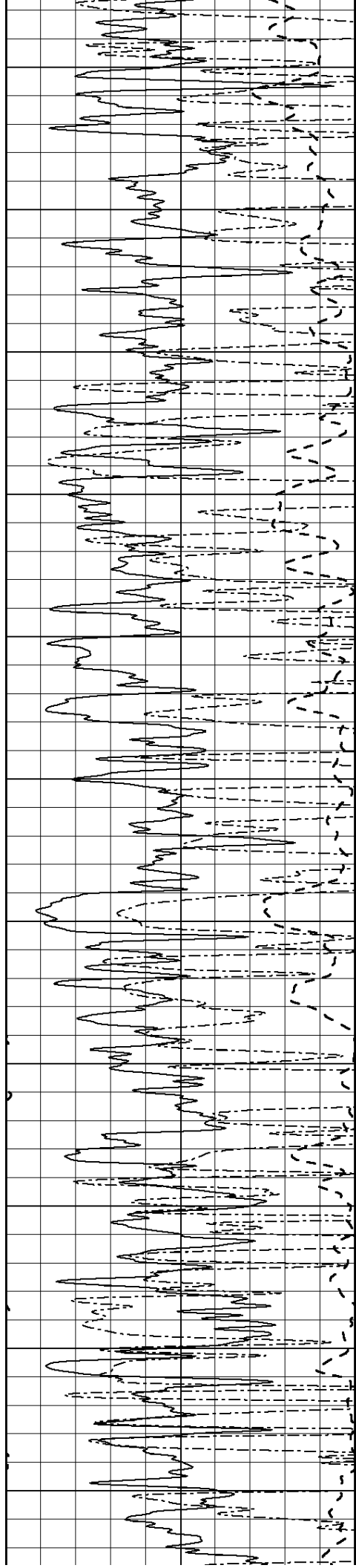
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1950

2000

2050





2100

2150

2200

2250

2300

2350

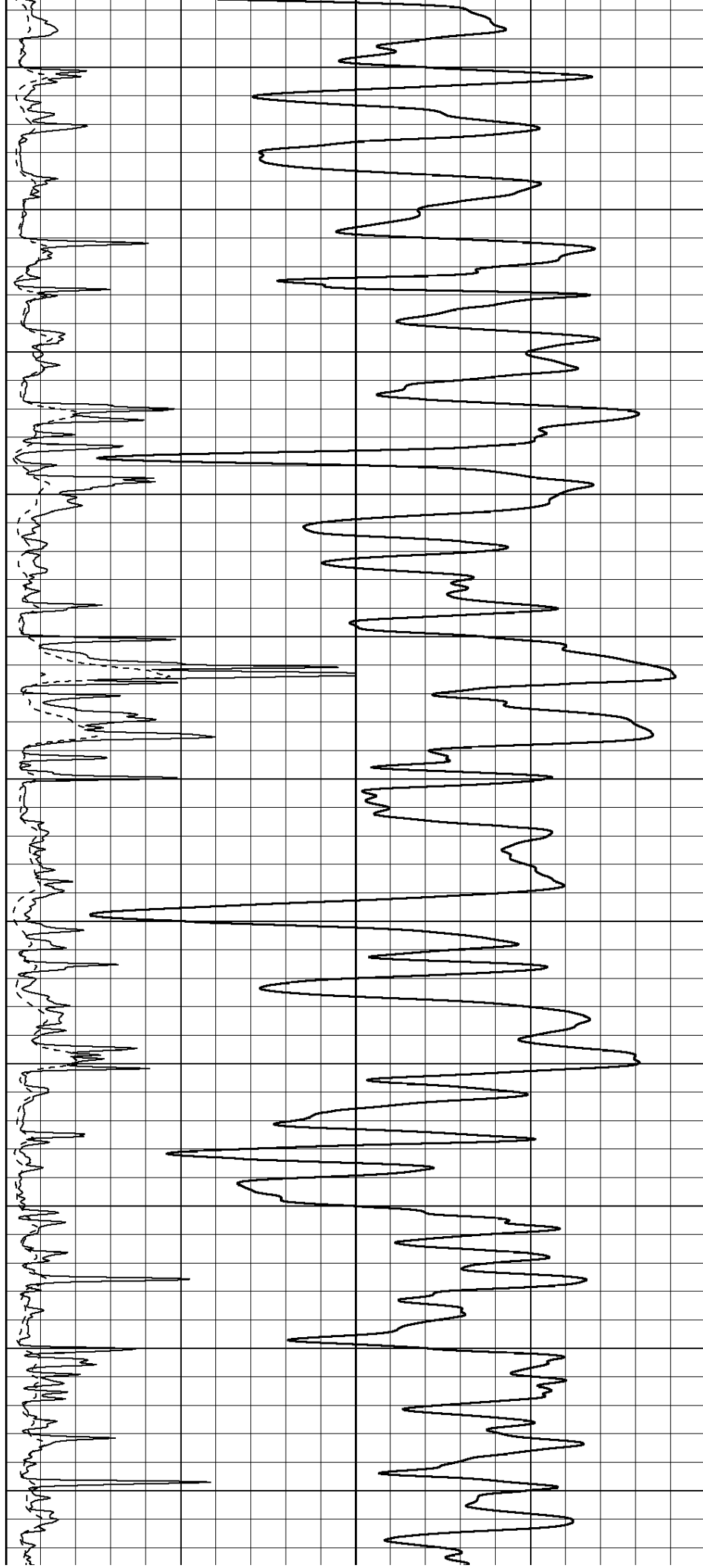
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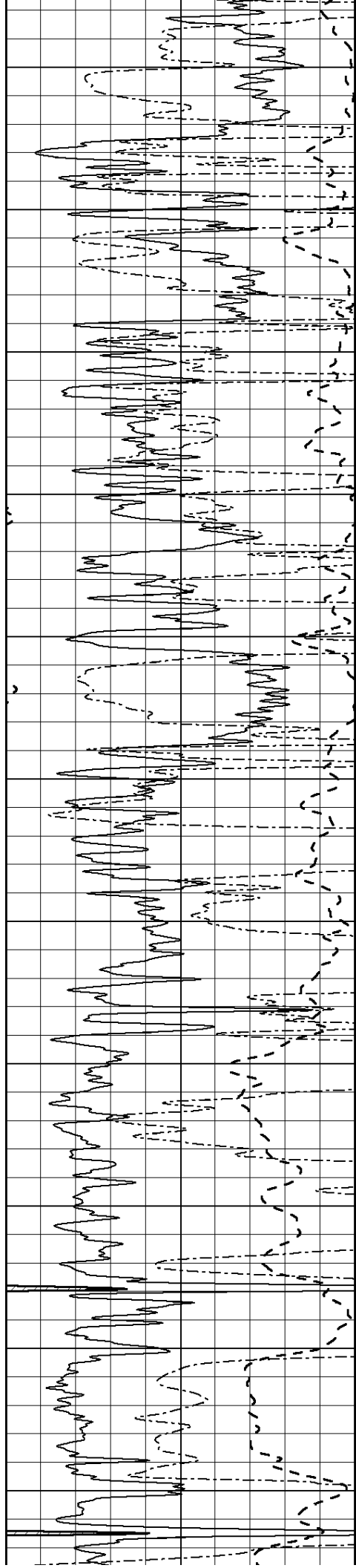
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2500

2550

2600





2650

2700

2750

2800

2850

2900

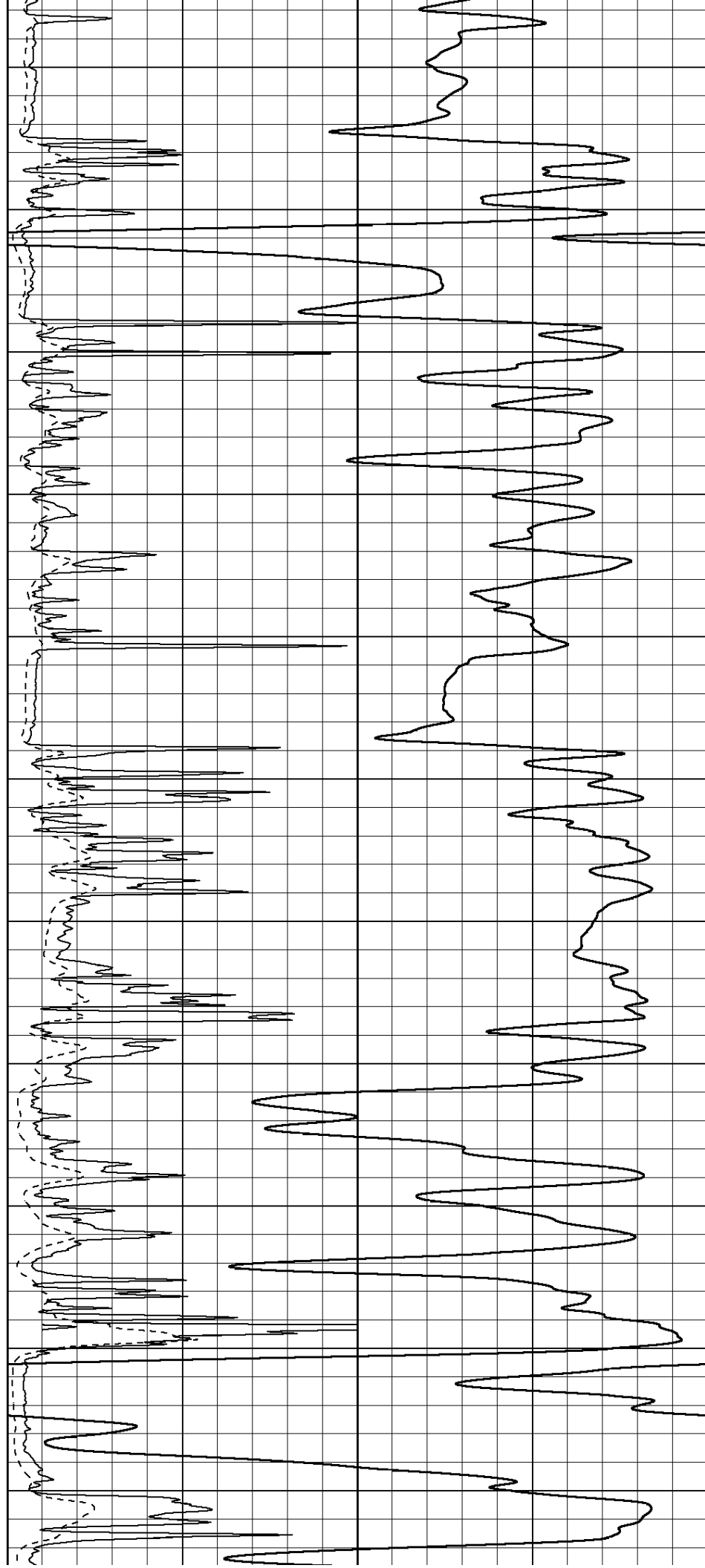
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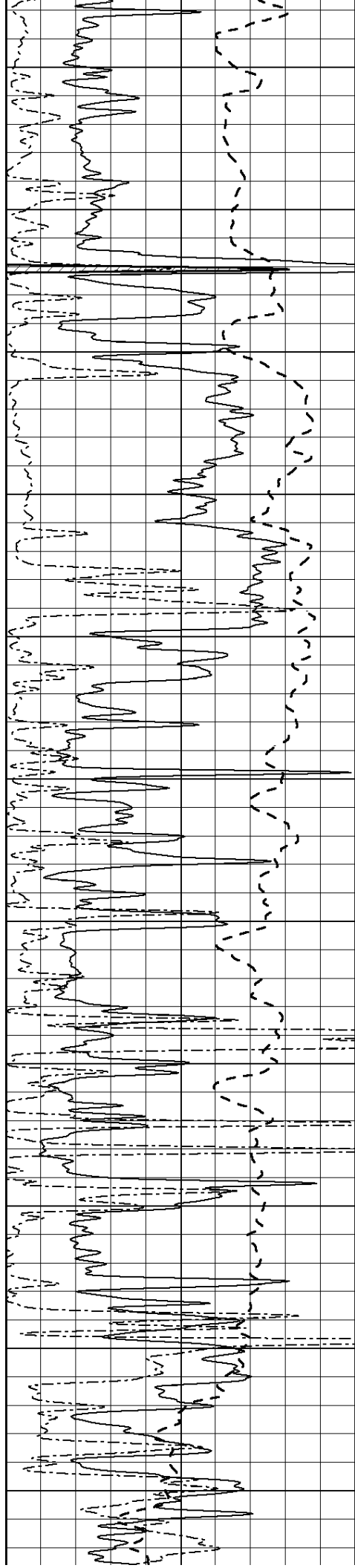
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3050

3100

3150





3200

3250

3300

3350

3400

3450

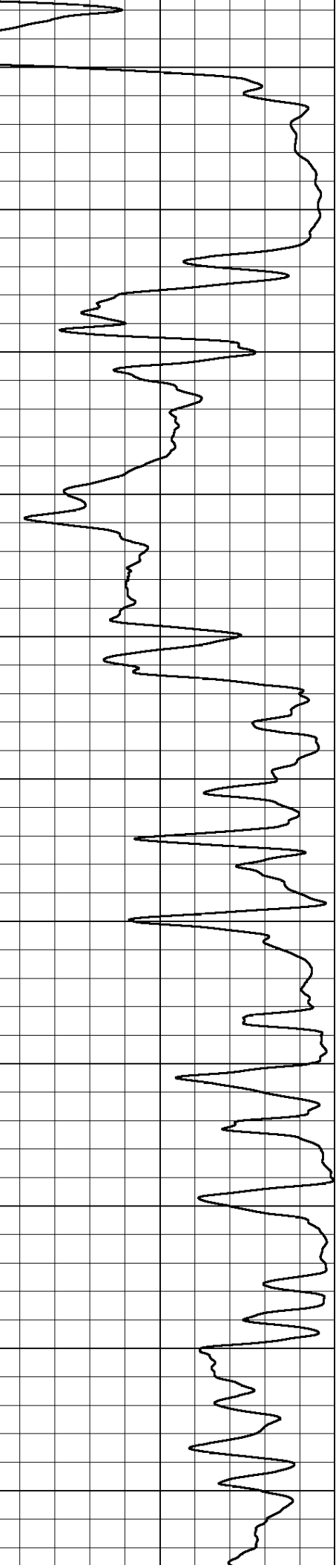
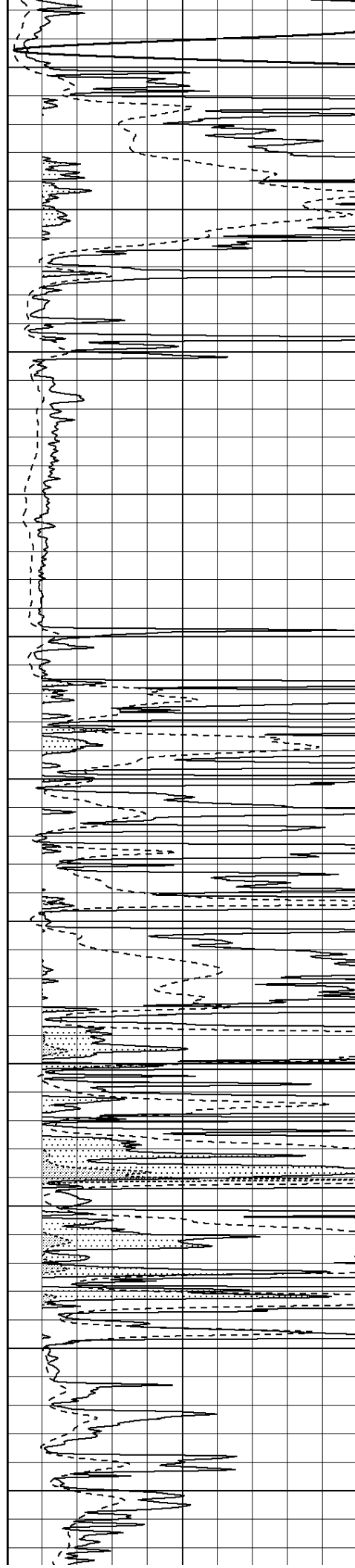
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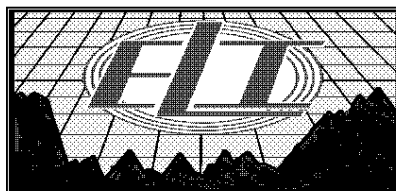
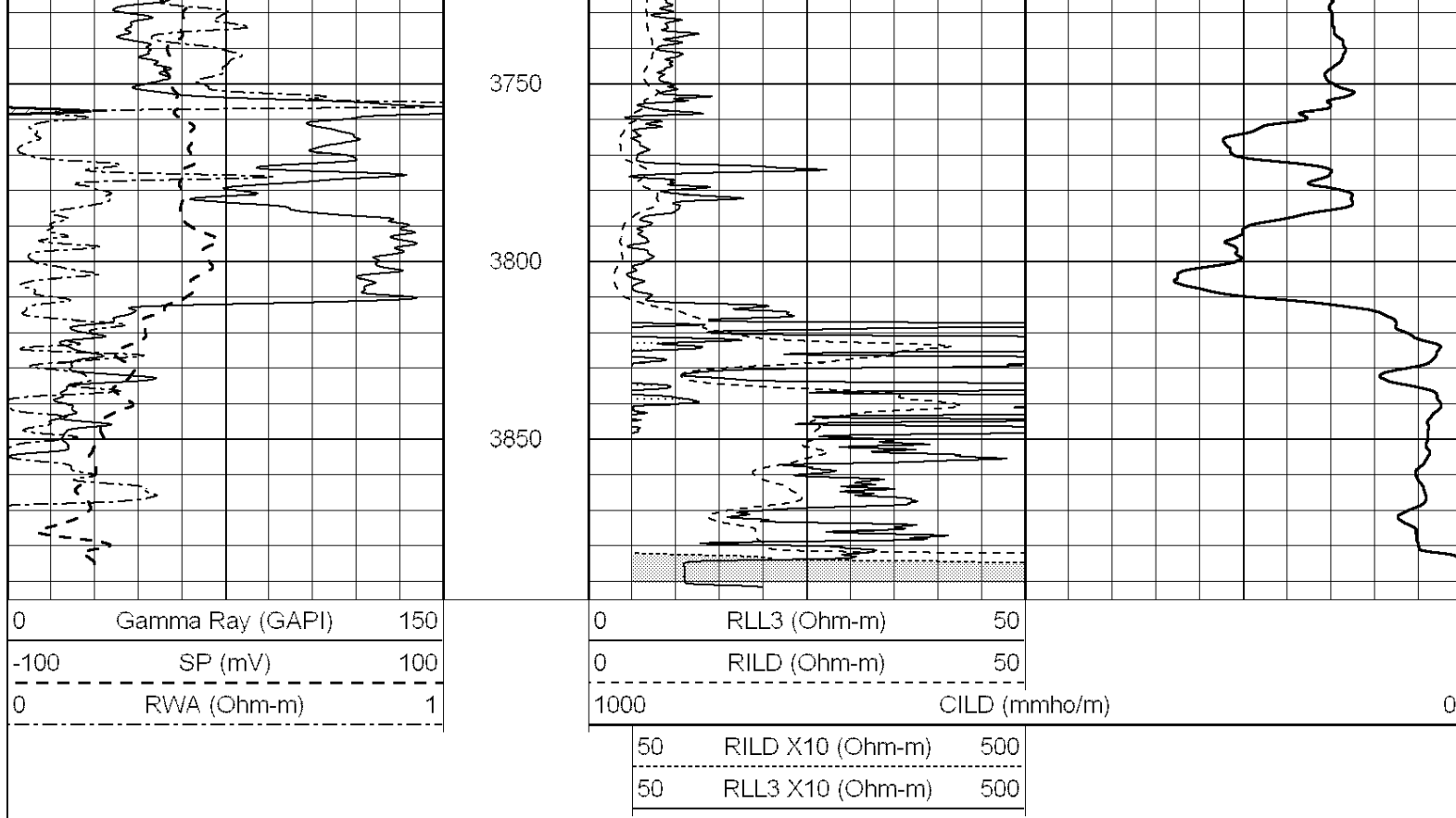
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3600

3650

3700

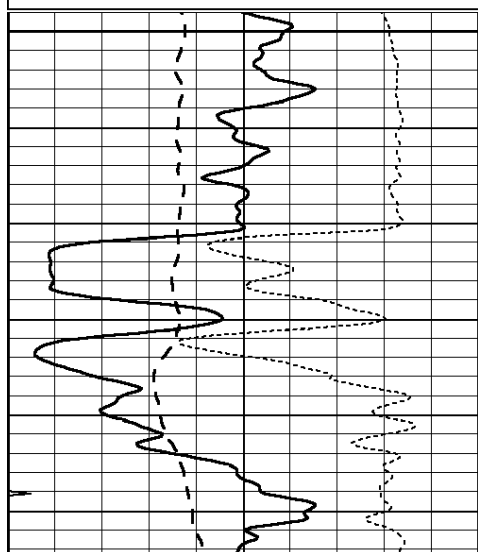




ANHYDRITE

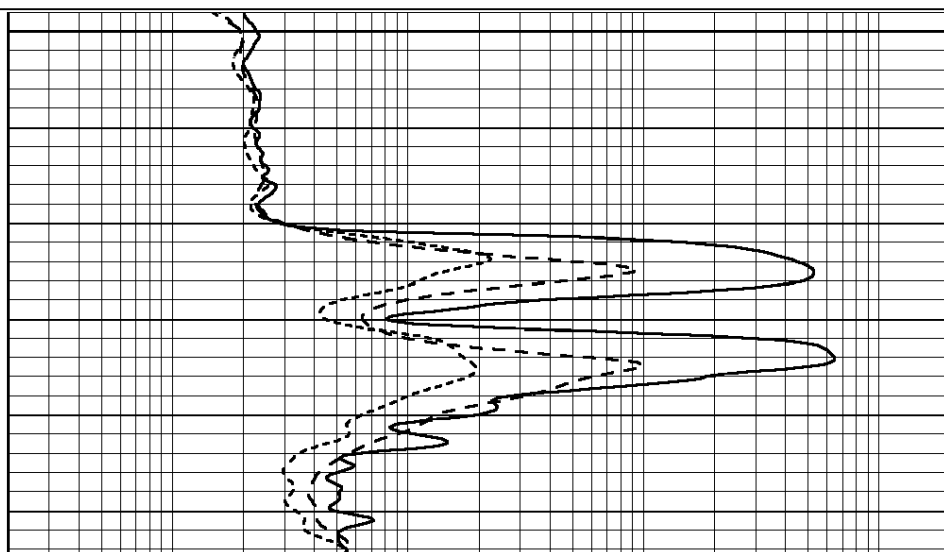
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 Presentation Format: _dil
 Dataset Creation: Sat Jan 05 12:10:21 2019
 Charted by: Depth in Feet scaled 1:240

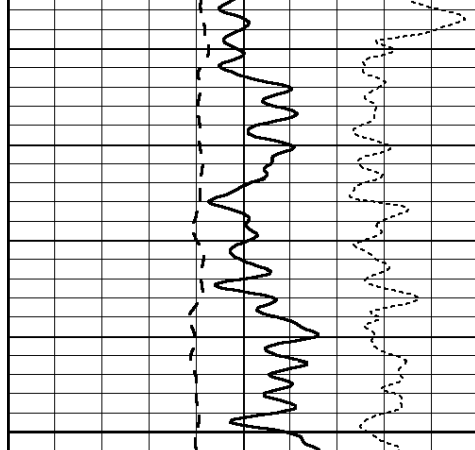
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



750

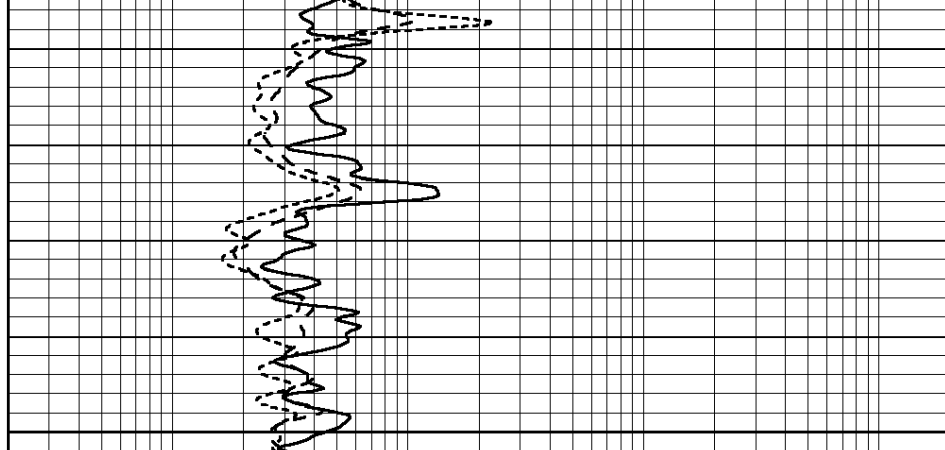
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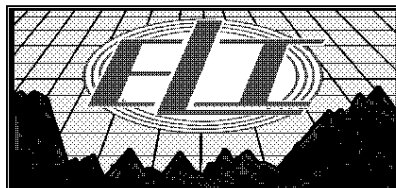


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

850



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

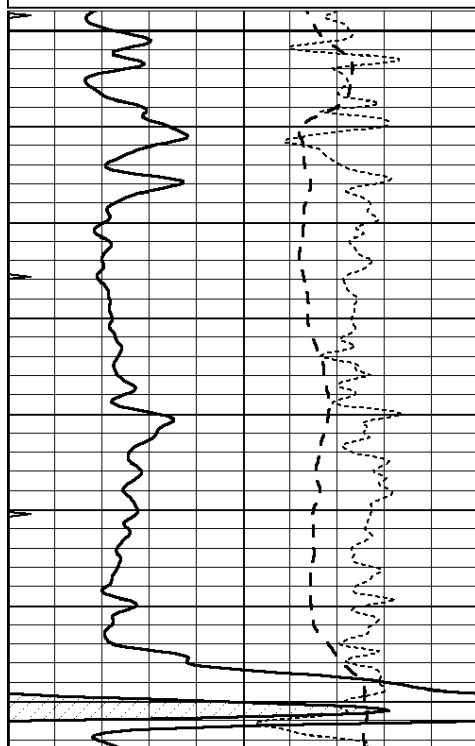


MAIN SECTION

Database File: 3329ddn.db
 Dataset Pathname: pass3.12
 Presentation Format: _dil
 Dataset Creation: Sat Jan 05 12:10:06 2019
 Charted by: Depth in Feet scaled 1:240

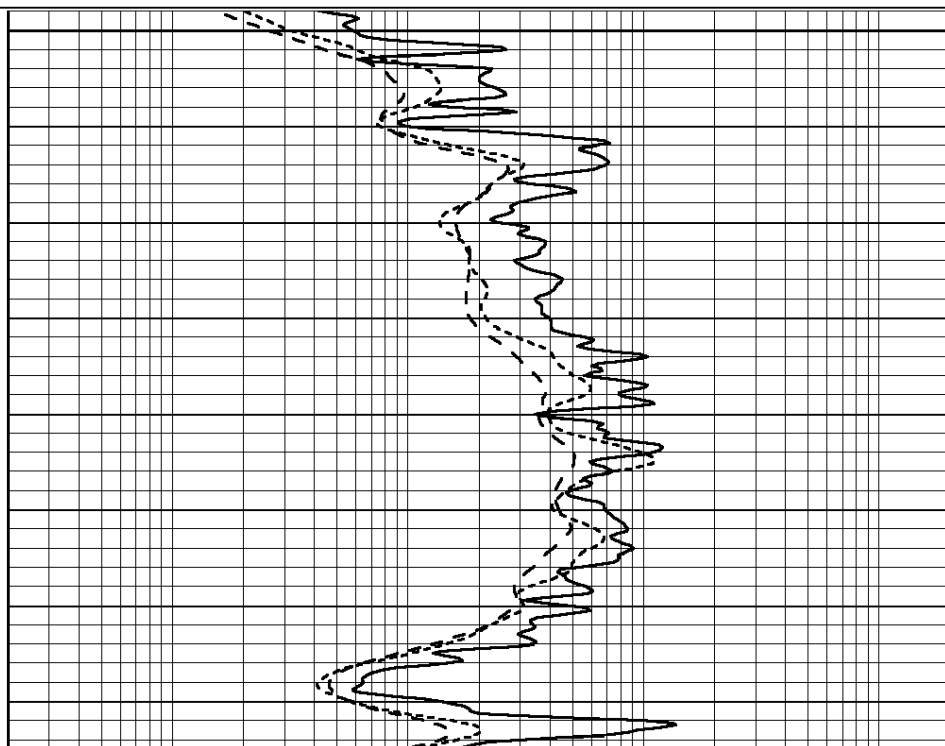
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

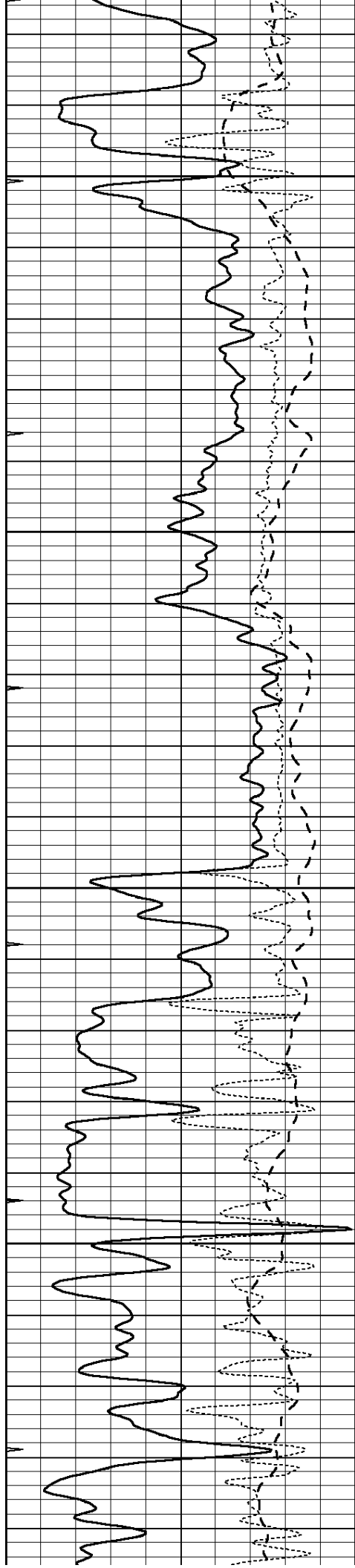
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3200

3250



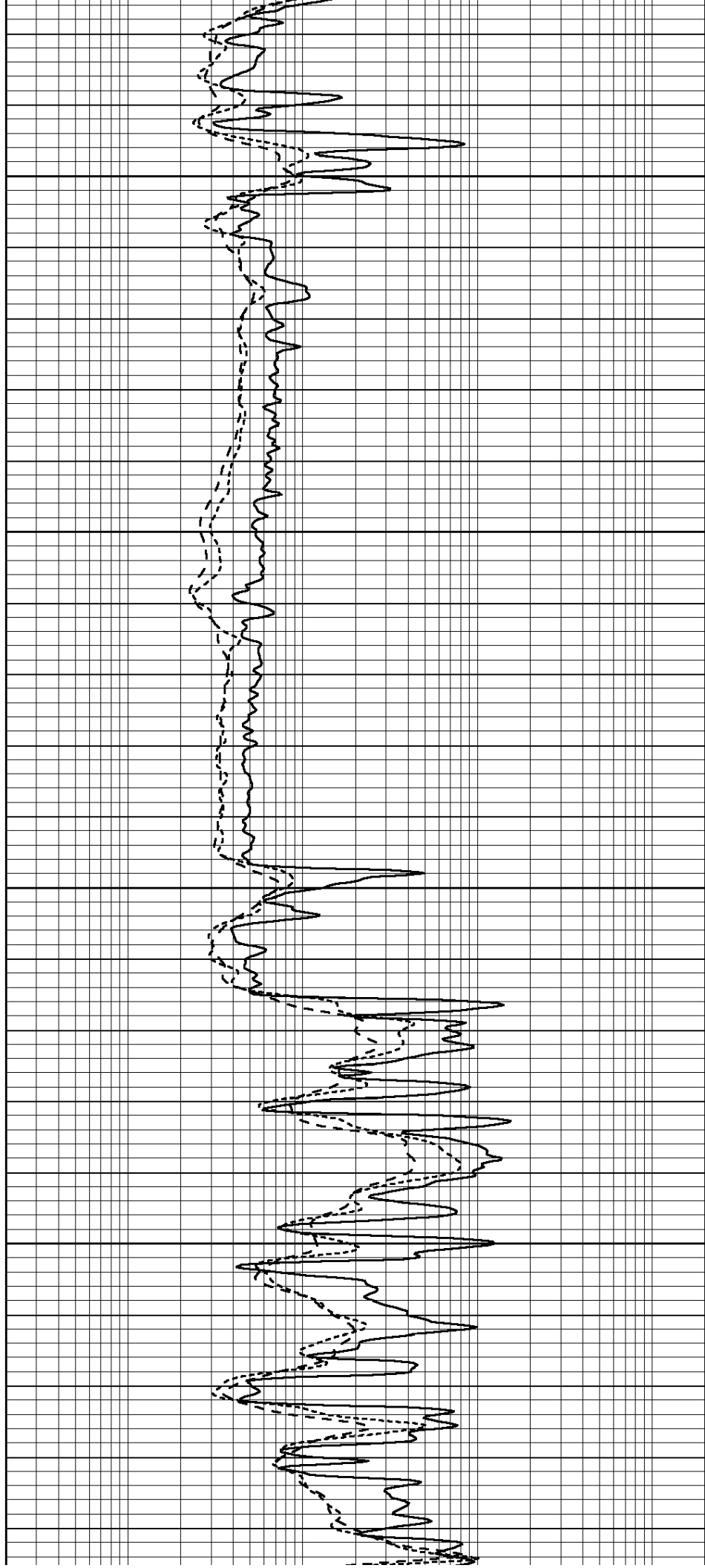


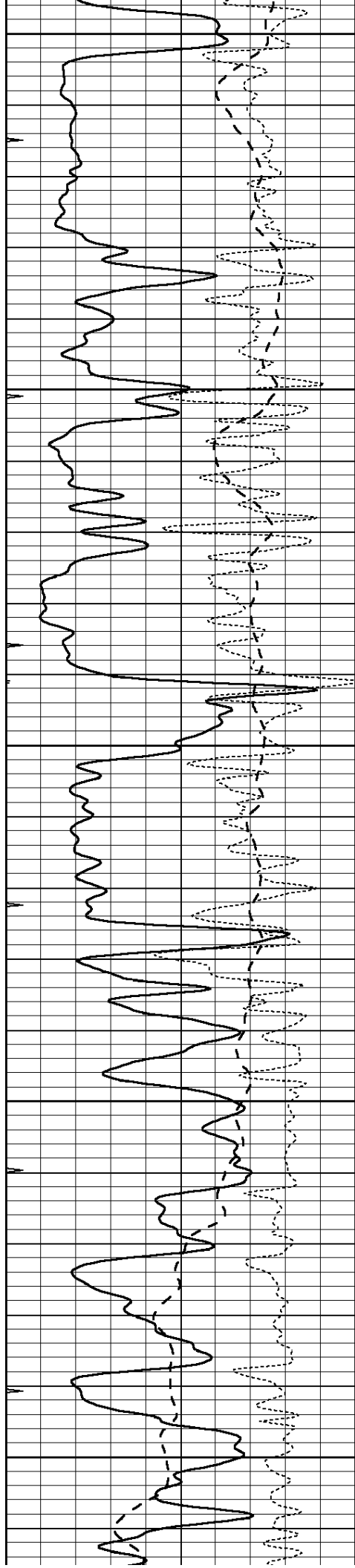
3300

3350

3400

3450





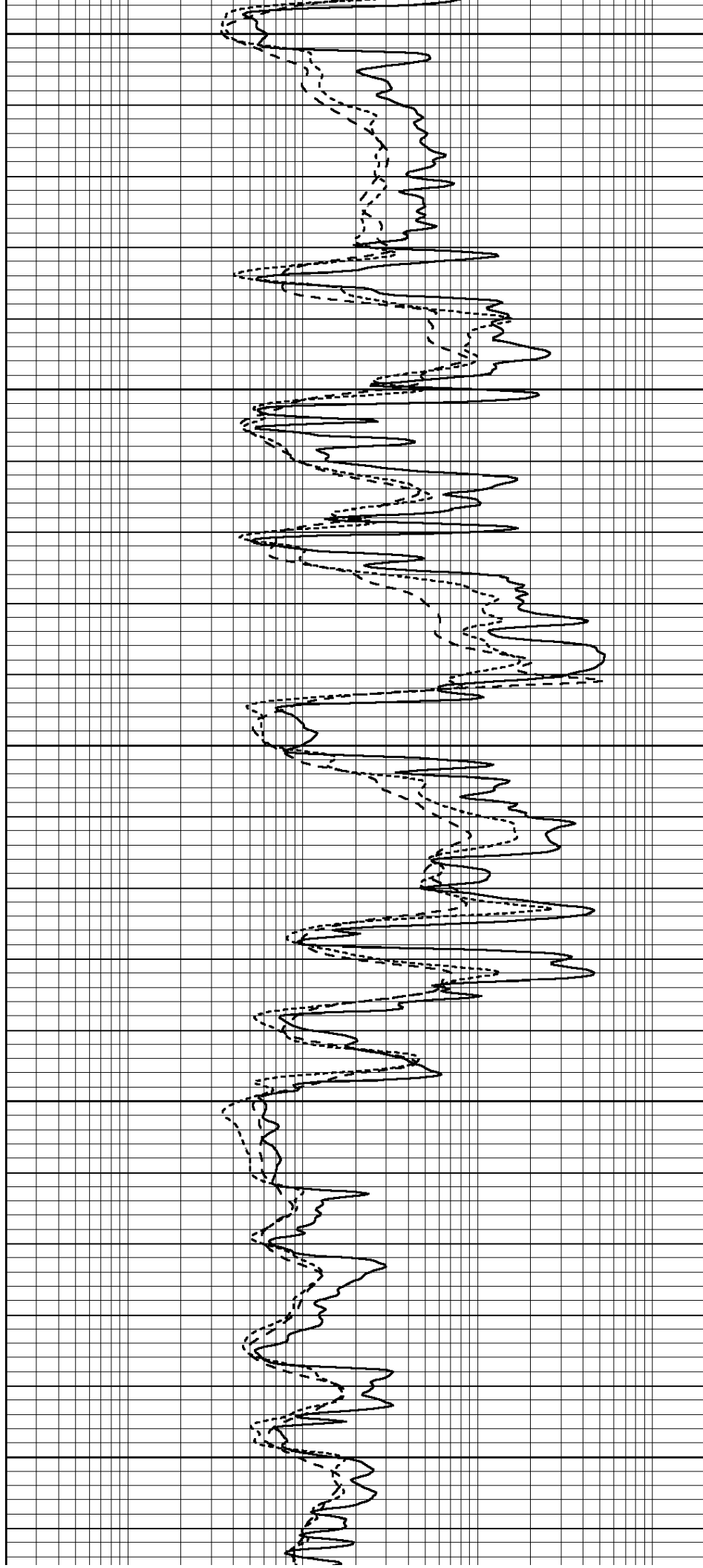
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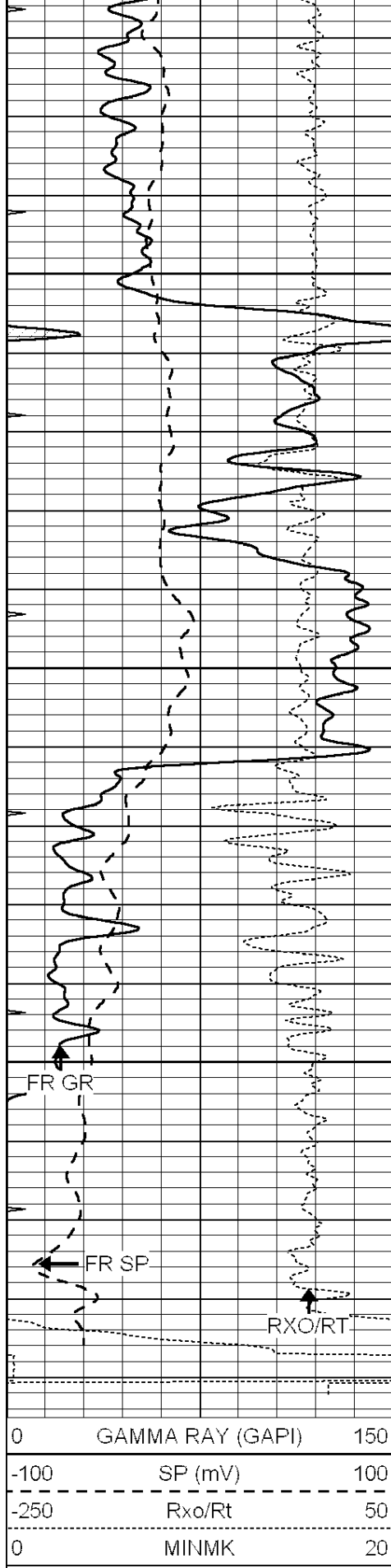
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3600

3650

3700



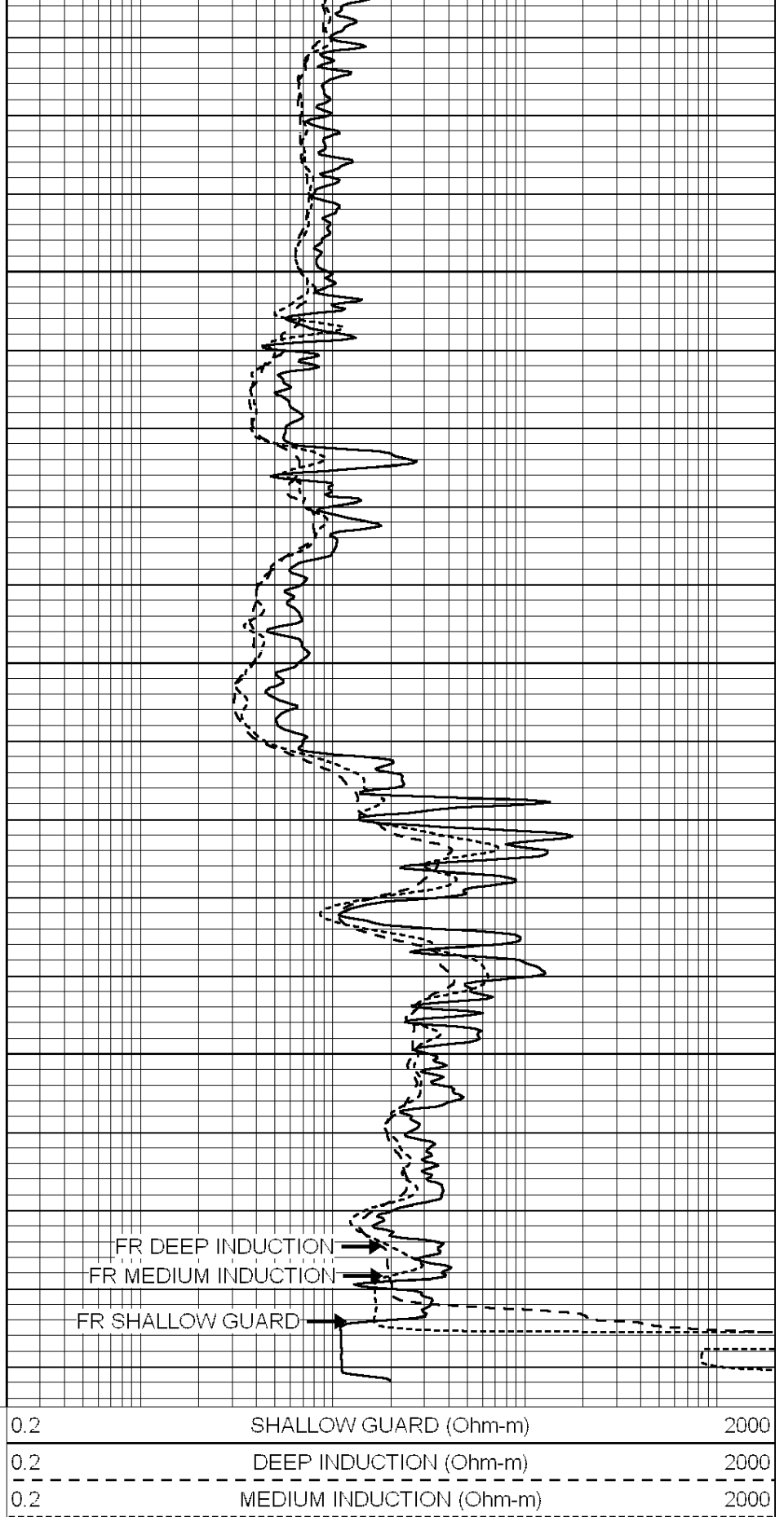


3750

3800

3850

LTD 3886



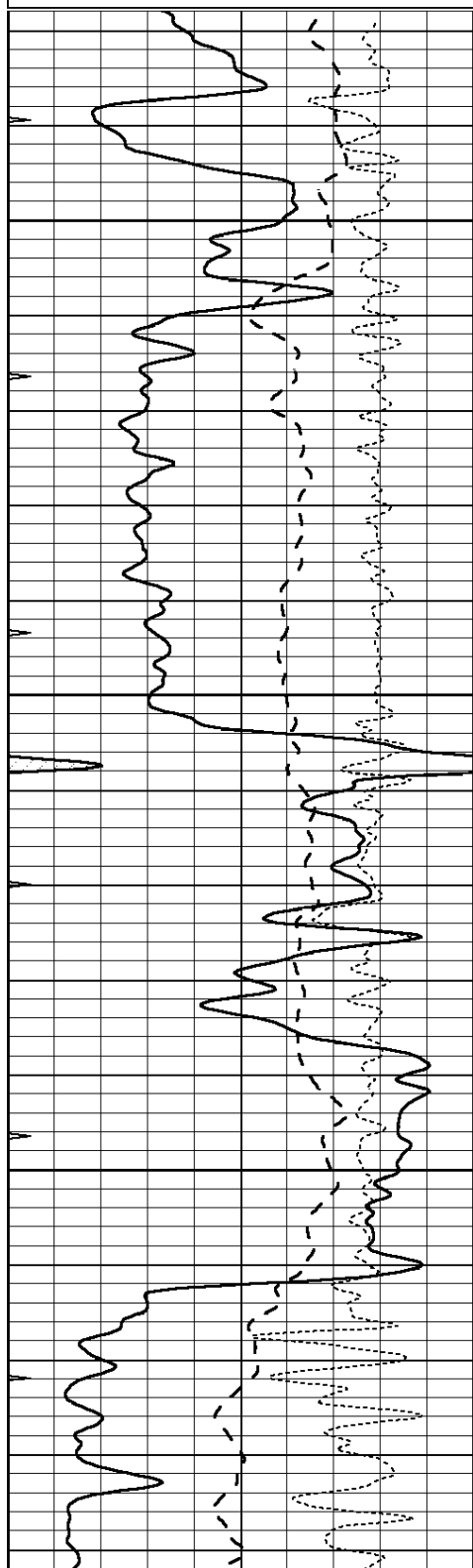
DEDEAT SECTION

REPEAT SECTION

Database File: 3329ddn.db
 Dataset Pathname: pass2.4R
 Presentation Format: _dil
 Dataset Creation: Sat Jan 05 11:24:18 2019
 Charted by: Depth in Feet scaled 1:240

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

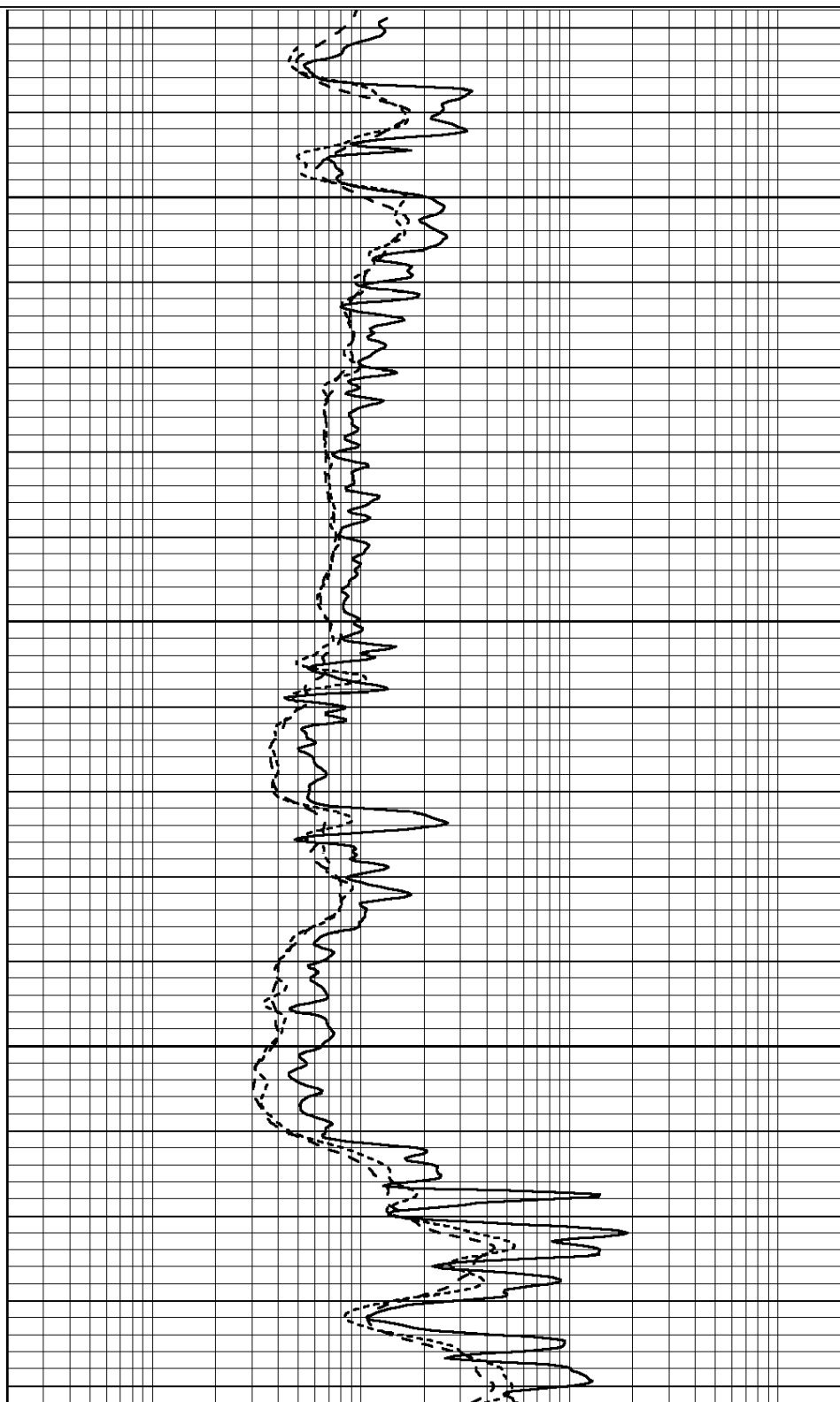
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

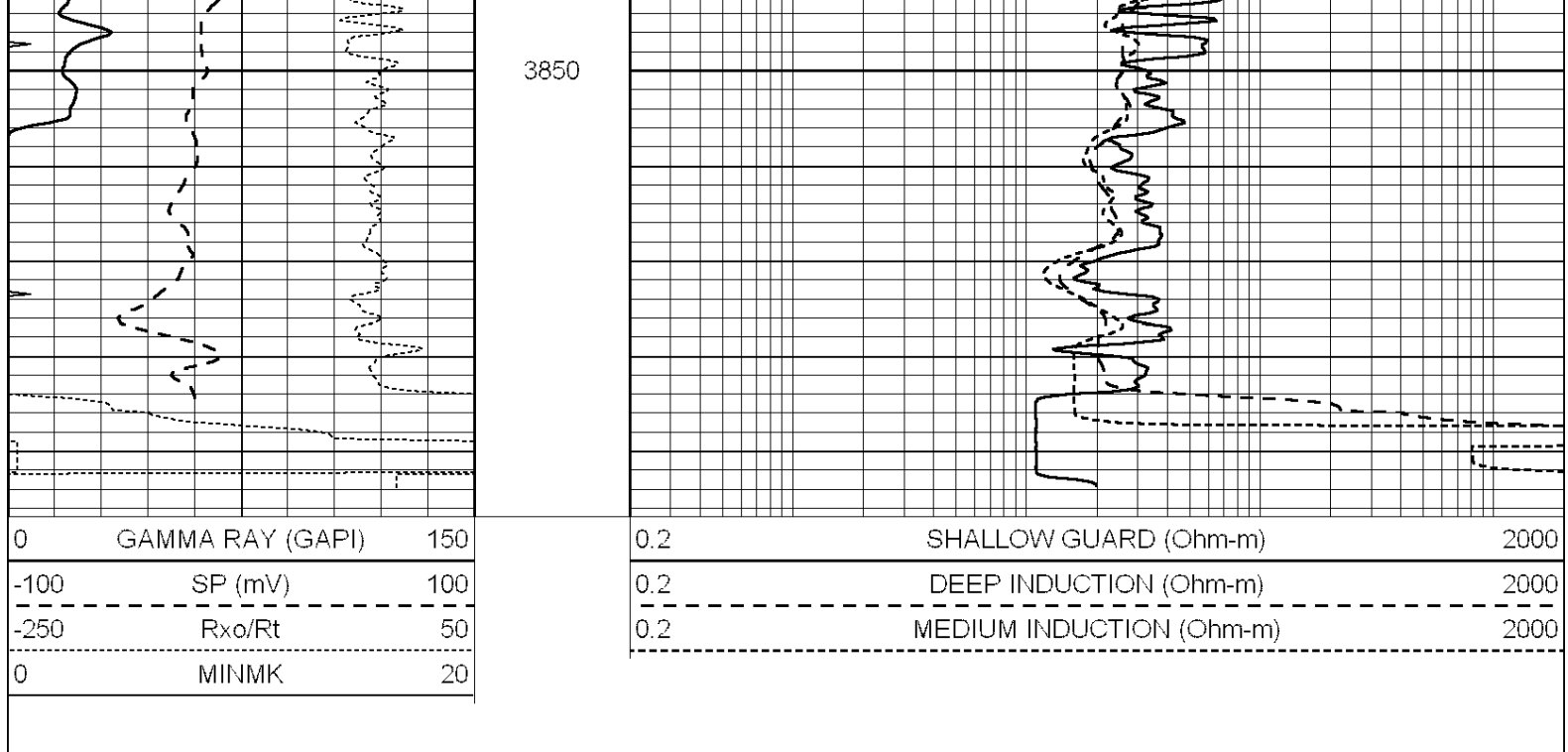


3700

3750

3800





Calibration Report								
Database File:	1598ddn.db							
Dataset Pathname:	pass4							
Dataset Creation:	Wed Aug 30 02:13:00 2017 by Log SOC 120430							
Dual Induction Calibration Report								
Serial-Model:			PROBE7-DILG					
Surface Cal Performed:			Wed Aug 30 00:06:33 2017					
Downhole Cal Performed:			Mon Jul 28 12:02:56 2008					
After Survey Verification Performed:			Mon Jul 28 12:02:56 2008					
Surface Calibration								
Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-44.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102
Downhole Calibration								
Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	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		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	mmho-m		

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: 002 Model: PRB

Master Calibration			Performed Mon Aug 21 11:27:42 2017					
	Background		Magnesium		Aluminum		Sandstone	
Window 1	837.1		10632.5		2945.1		12110.1	cps
Window 2	772.0		9117.4		2570.1		10197.3	cps
Window 3	631.7		4669.0		1481.9		5042.9	cps
Window 4	187.0		187.5		185.9		189.9	cps
Long Space	0.0		8345.4		1798.1		9425.3	cps
Short Space	1.1		1927.9		1285.9		2050.2	cps
Rho			1.7100		2.5960		1.3800	g/cc
Pe			0.0000		2.5700		1.5500	
Rib Angle	: 45.2		Rib Slope	: 1.008	Density/Spine Ratio		: 0.558	
Spine Angle	: 75.2		Spine Slope	: 3.790	Spine Intercept		: -19.6	

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:	070808
Tool Model:	Probe

PRE-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu
Gamma Ray Calibration Report			
Serial Number:	070558		
Tool Model:	OPEN_GR		
Performed:	Wed May 31 00:09:32 2017		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.2800	GAPI/cps	