

DUAL INDUCTION LOG

Company I. A. OPERATING, INC.	
Well SPRING CREEK #18-1	
Field WILDCAT	
County GRAHAM	
State KANSAS	
Company I. A. OPERATING, INC.	
Well SPRING CREEK #18-1	
Field WILDCAT	
County GRAHAM	
State KANSAS	
Location: API # : 15-065-24118-0000	
1992' FNL & 330' FEL N/2 - SE - SE - NE	
CDL/CNL MEL/SON	
Permanent Datum GROUND LEVEL Elevation 2575	
Log Measured From KELLY BUSHING 8' A.G.L.	
Drilling Measured From KELLY BUSHING	
SEC 18 TWP 6S RGE 25W	
Elevation K.B. 2583 D.F. 2581 G.L. 2575	
Date 7/13/16	
Run Number ONE	
Depth Driller 3900	
Depth Logger 3903	
Bottom Logged Interval 3901	
Top Log Interval 00	
Casing Driller 8 5/8"@306'	
Casing Logger 306	
Bit Size 7 7/8"	
Type Fluid in Hole CHEMICAL MUD	CHLORIDES 900 PPM
Density / Viscosity 8.9/53	
pH / Fluid Loss 11.5/6.0	
Source of Sample FLOWLINE	
Rin @ Meas. Temp 1.50@90F	
Rinf @ Meas. Temp 1.13@90F	
Rinc @ Meas. Temp 1.80@90F	
Source of Rinf / Rinc MEASUREMENT	
Rin @ BHT 1.17@115F	
Time Circulation Stopped 2 HOURS	
Time Logger on Bottom 10:15 A.M.	
Maximum Recorded Temperature 115F	
Equipment Number 922339	
Location HAYS, KANSAS	
Recorded By JEFF LUEBBERS	
Witnessed By JEFF LAWLER	

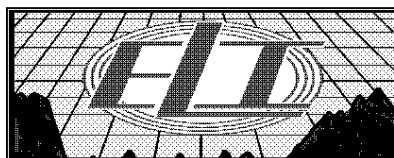
<<< Fold Here >>>

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

STUDLEY, KS., E. SIDE AT SHERIDAN COUNTY SIGN, 13N. ON "100TH AVE." TO "RD. CC & EE", 1E.,
1/2S., W. INTO



MAIN SECTION

Database File: 30752ddn.db
Dataset Pathname: pass3.4
Presentation Format: dil2
Dataset Creation: Wed Jul 13 12:07:15 2016 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:600

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

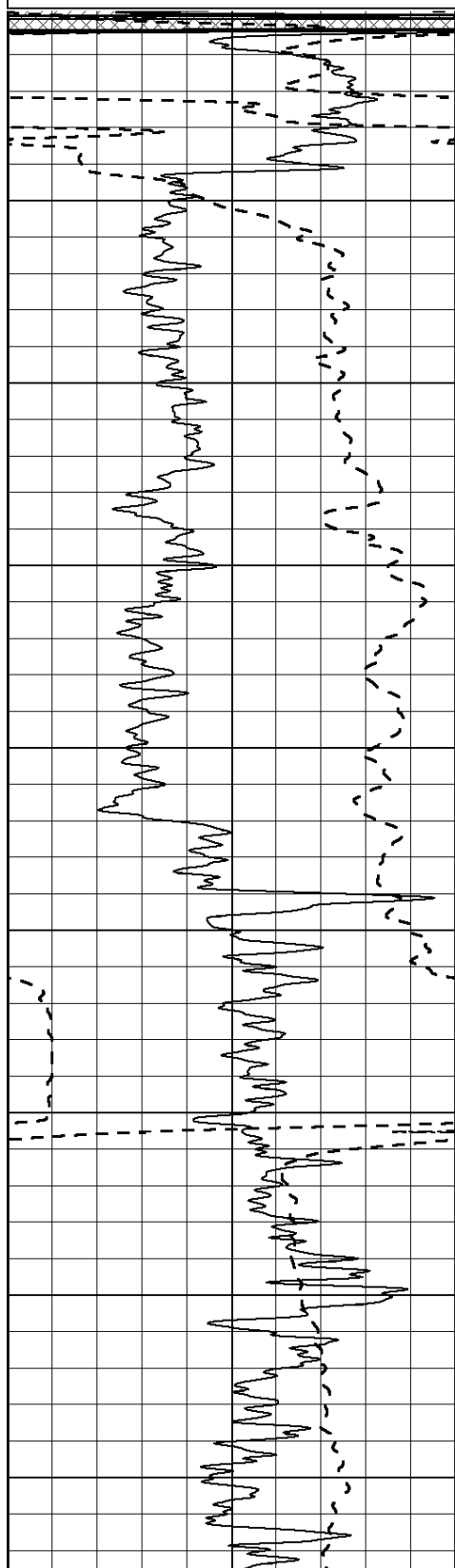
0	RLL3 (Ohm-m)	50
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0	RILD (Ohm-m)	50
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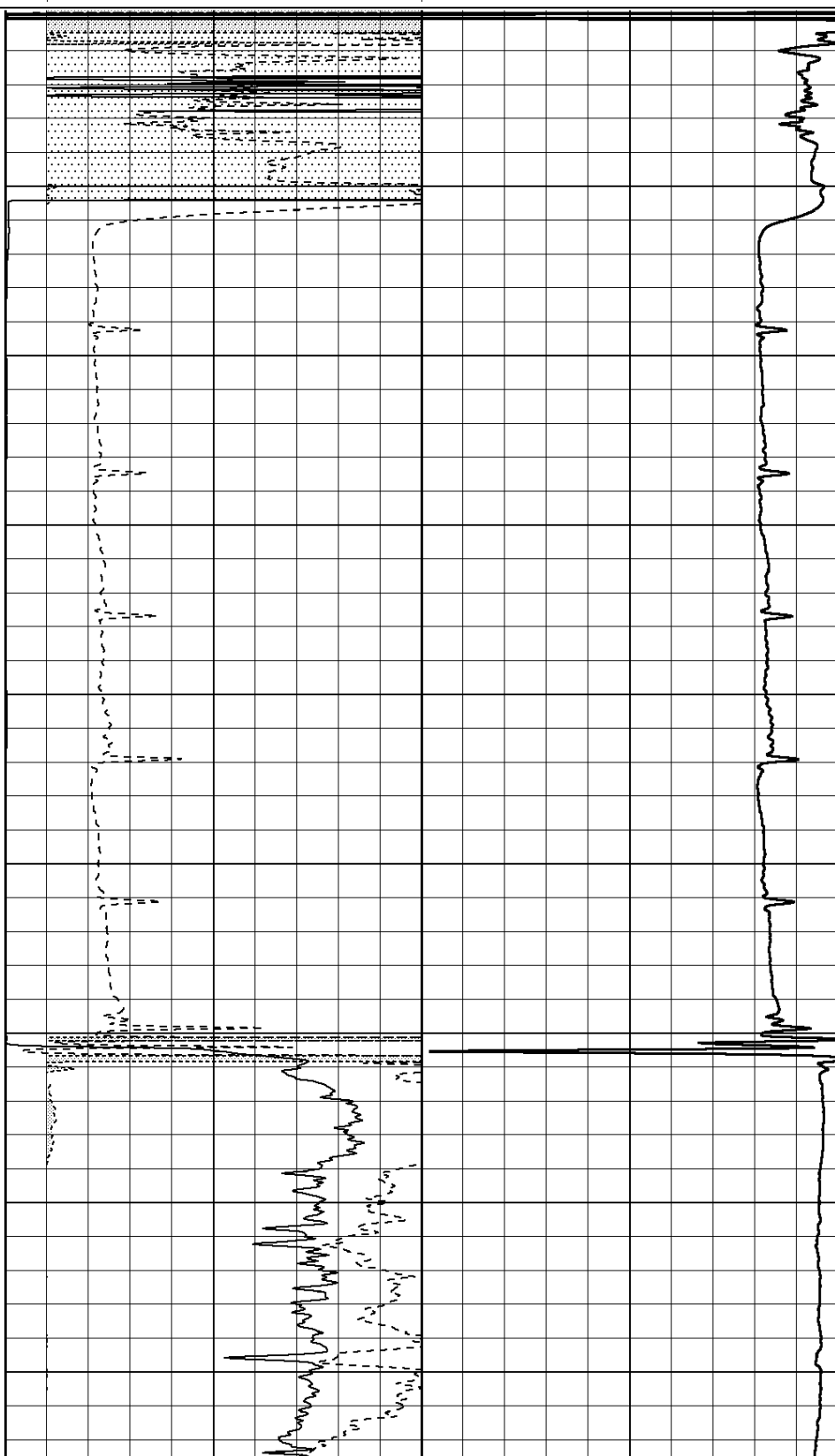
1000	CILD (mmho/m)	0
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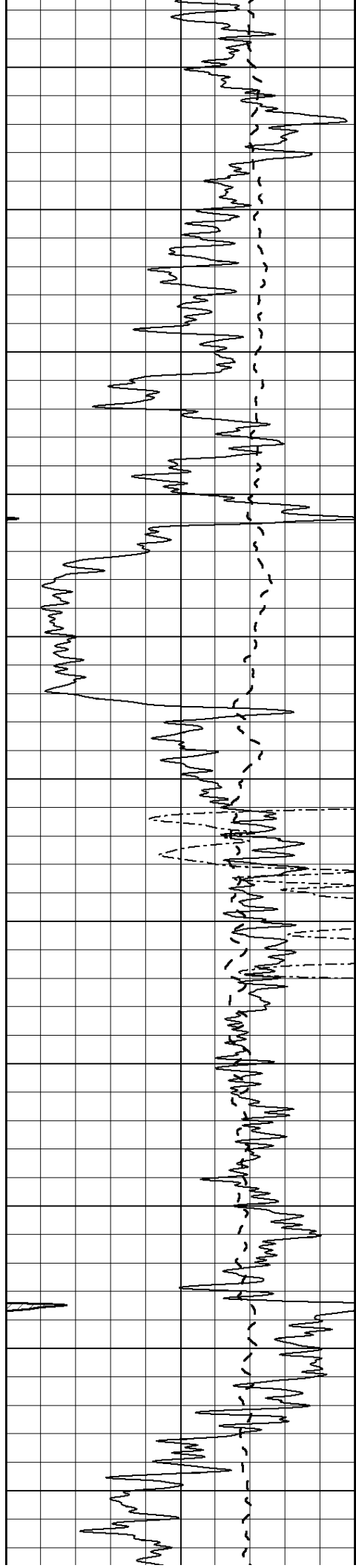
50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

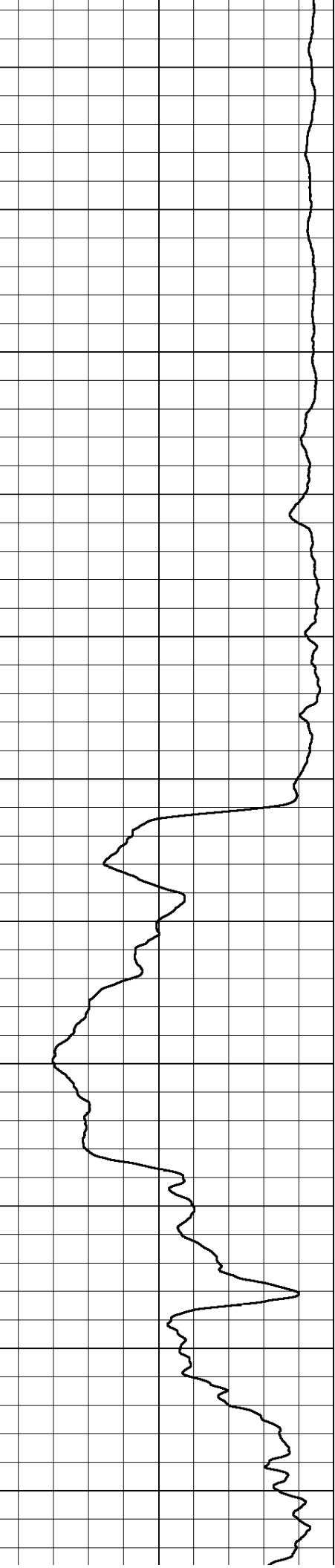
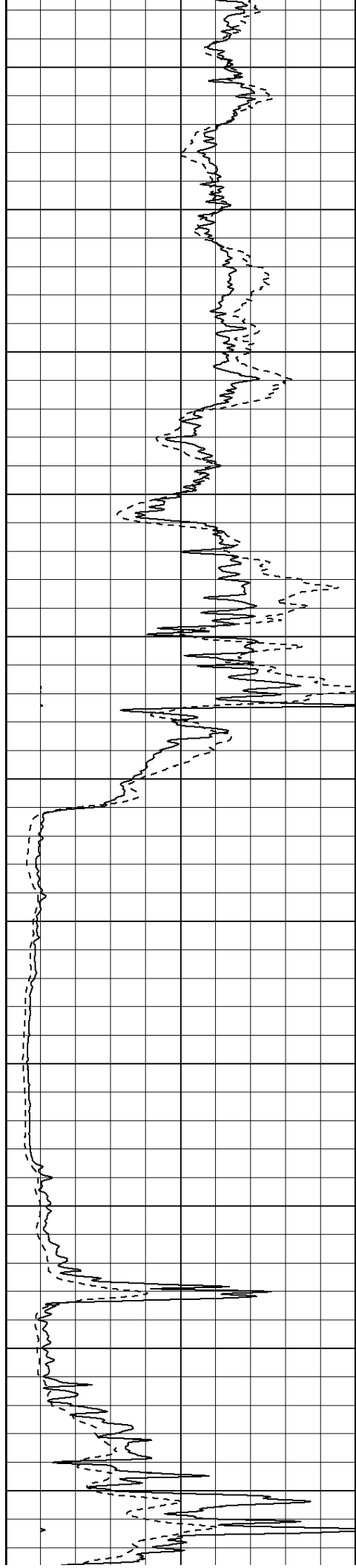
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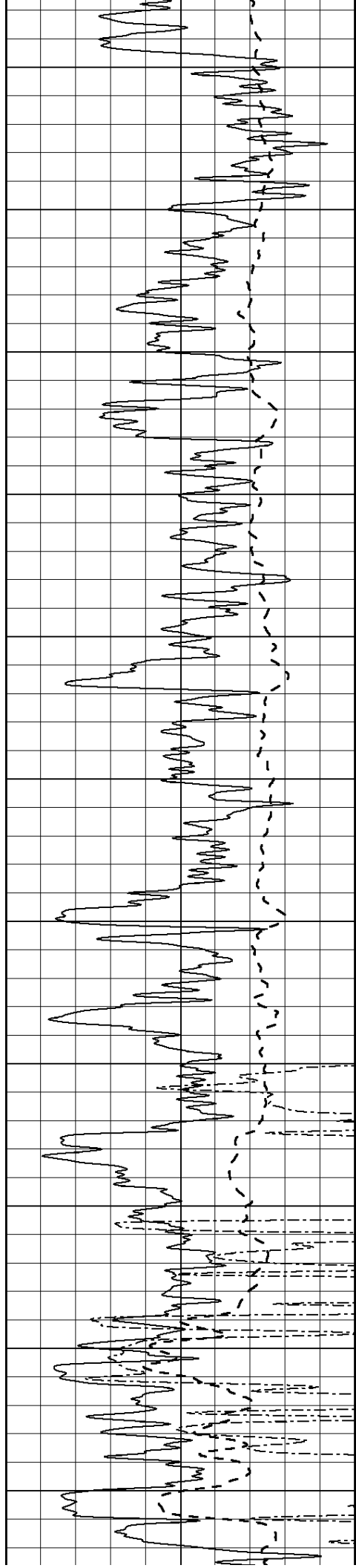
800

850

900

950





1000

1050

1100

1150

1200

1250

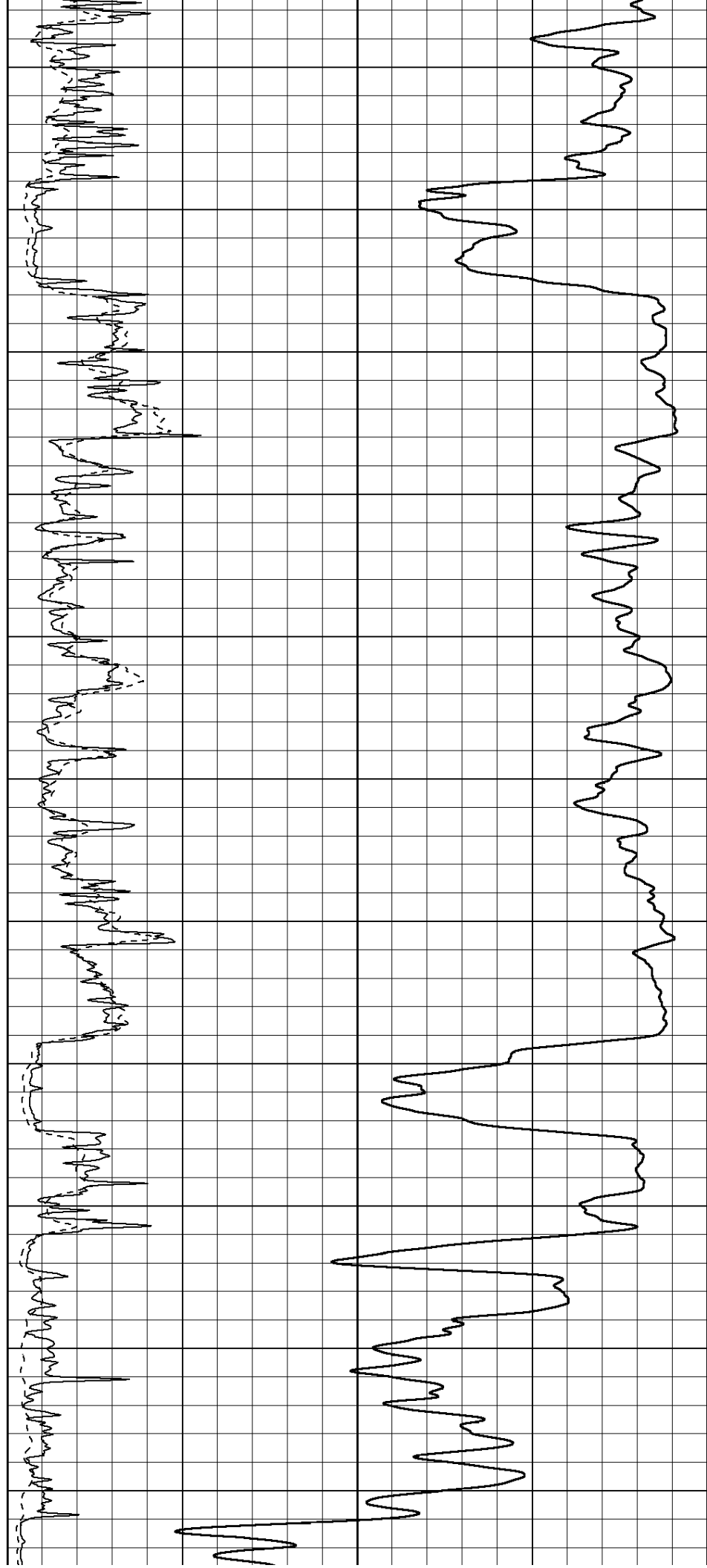
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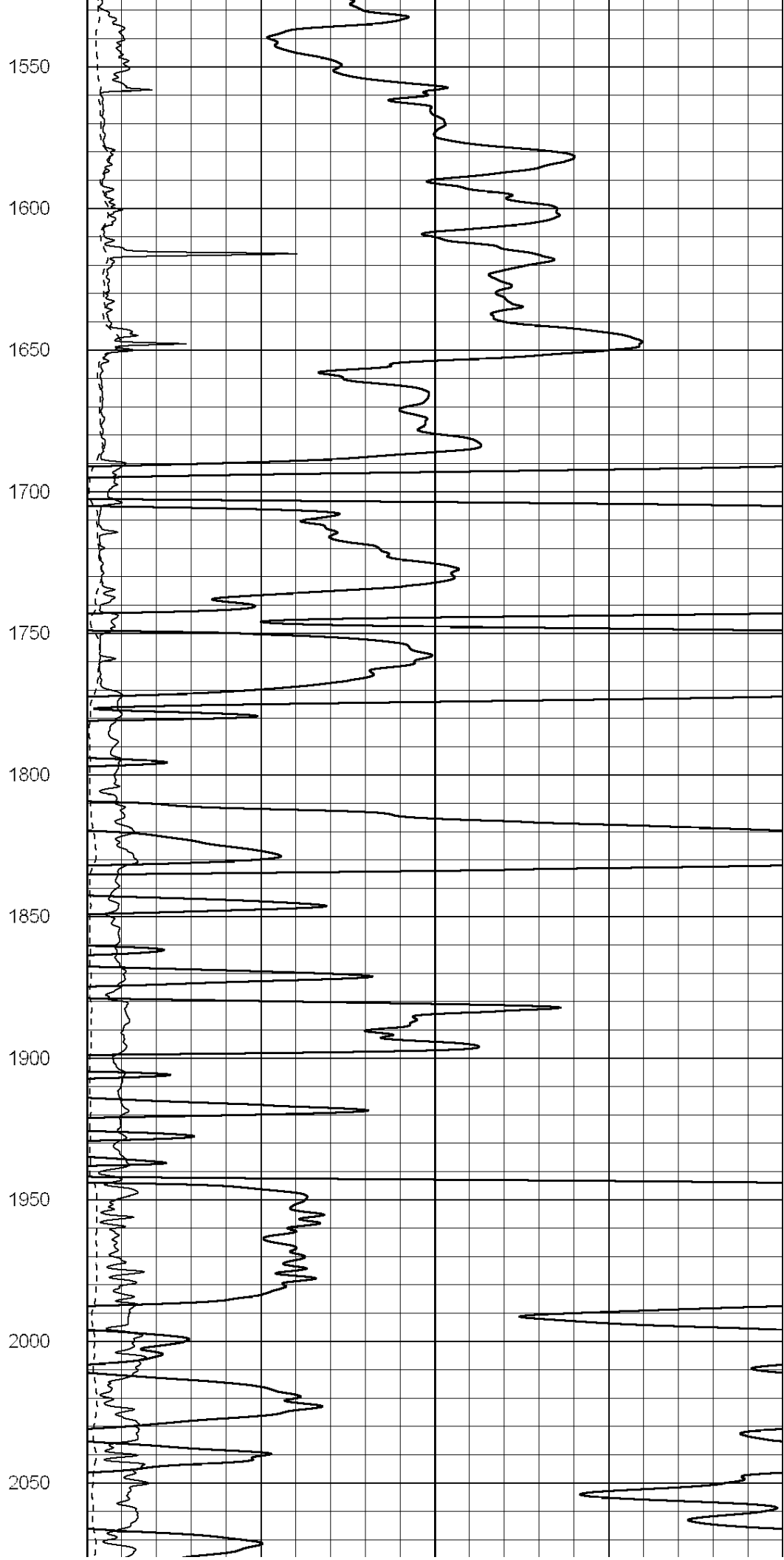
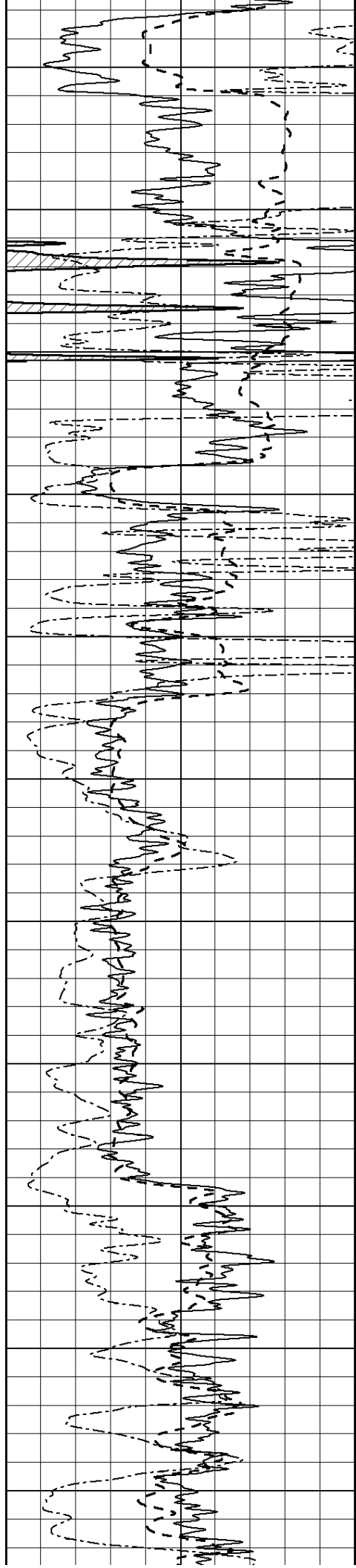
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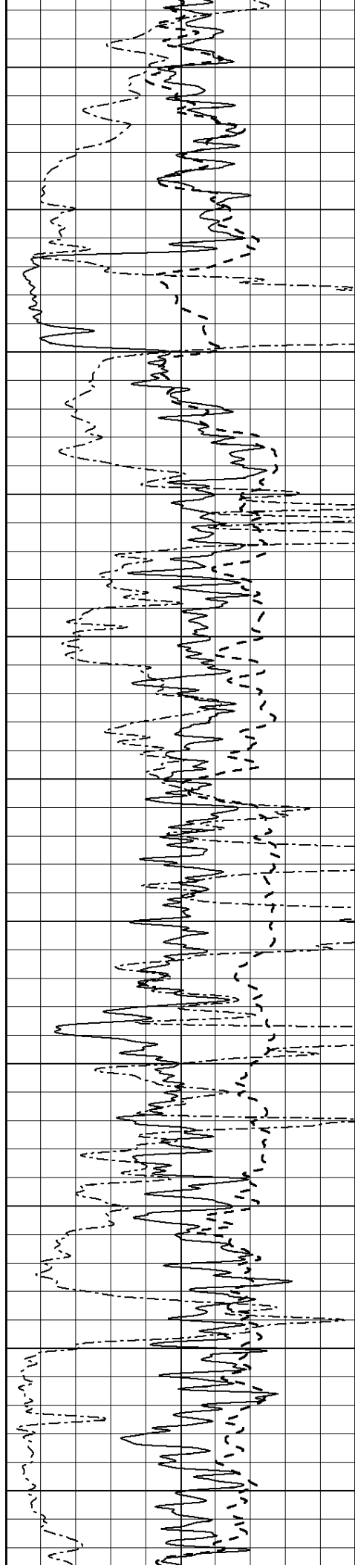
1400

1450

1500







2100

2150

2200

2250

2300

2350

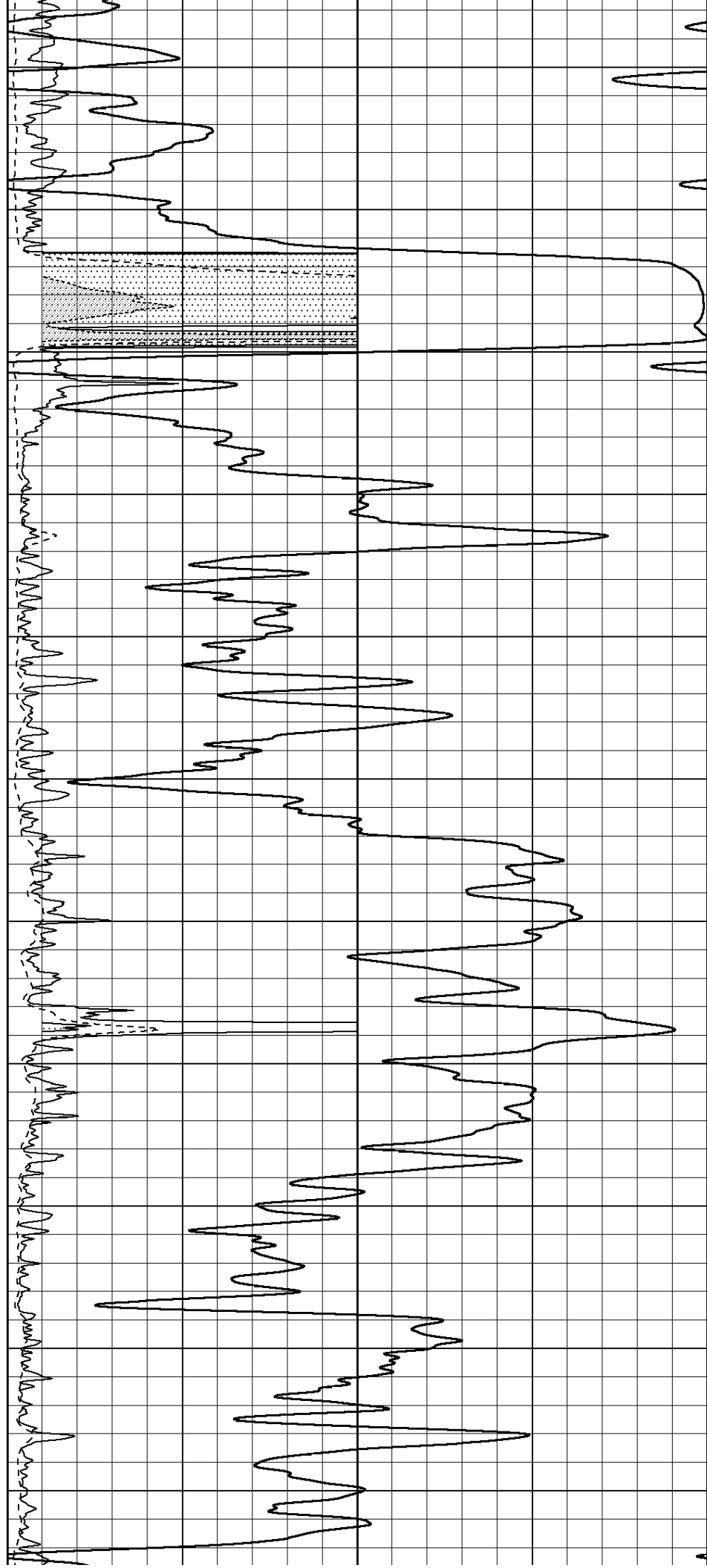
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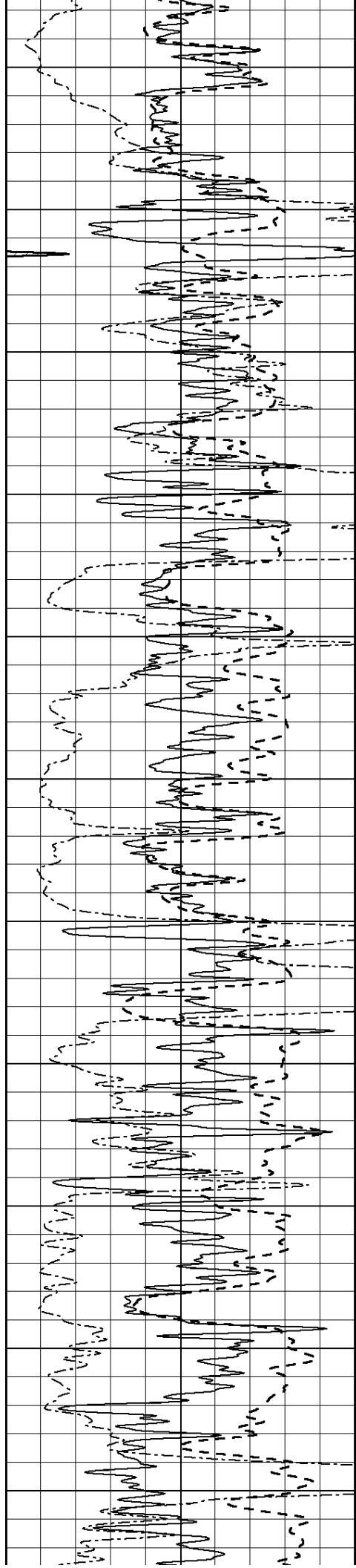
2450

2500

2550

2600





2650

2700

2750

2800

2850

2900

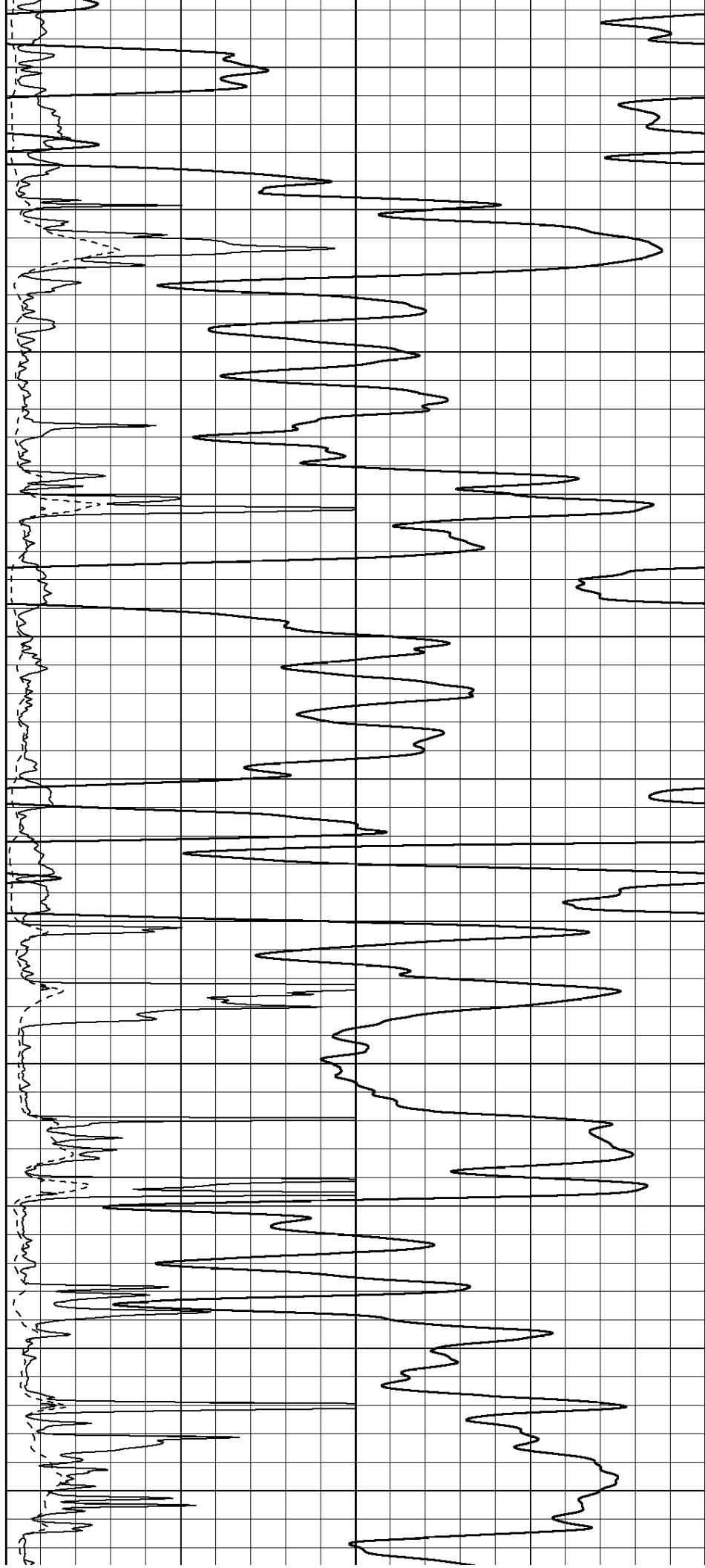
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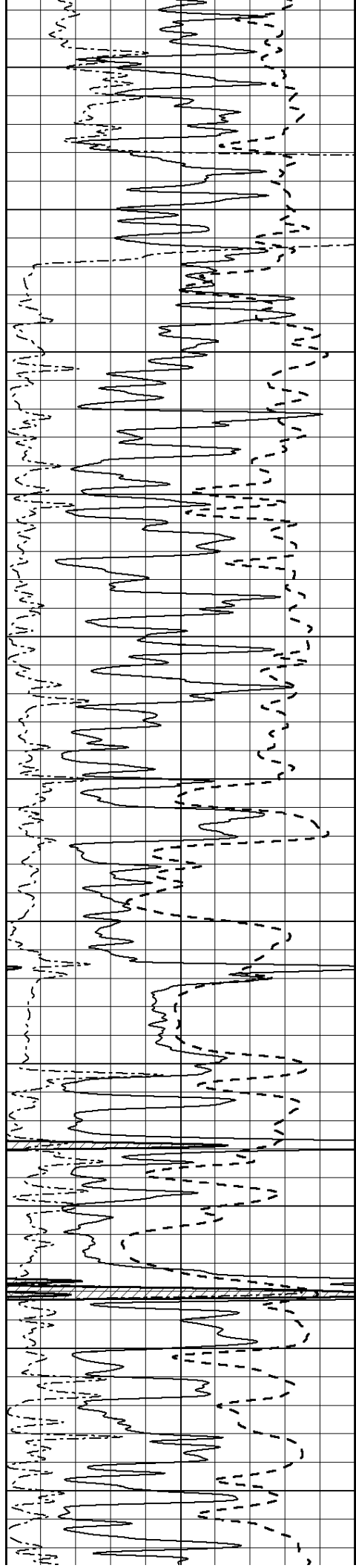
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3050

3100

3150





3200

3250

3300

3350

3400

3450

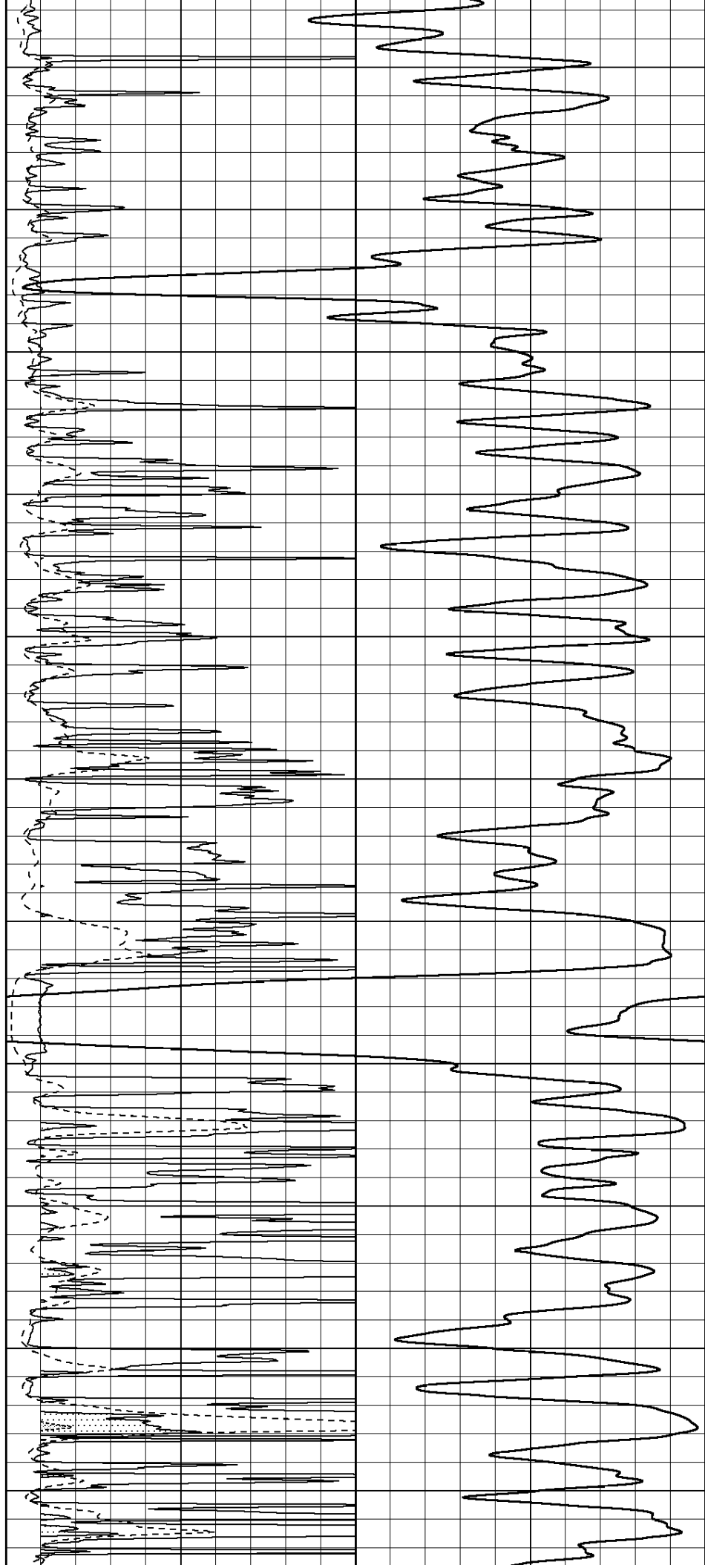
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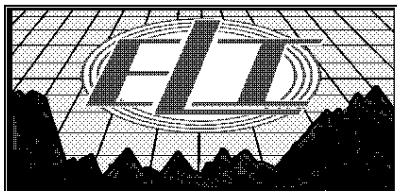
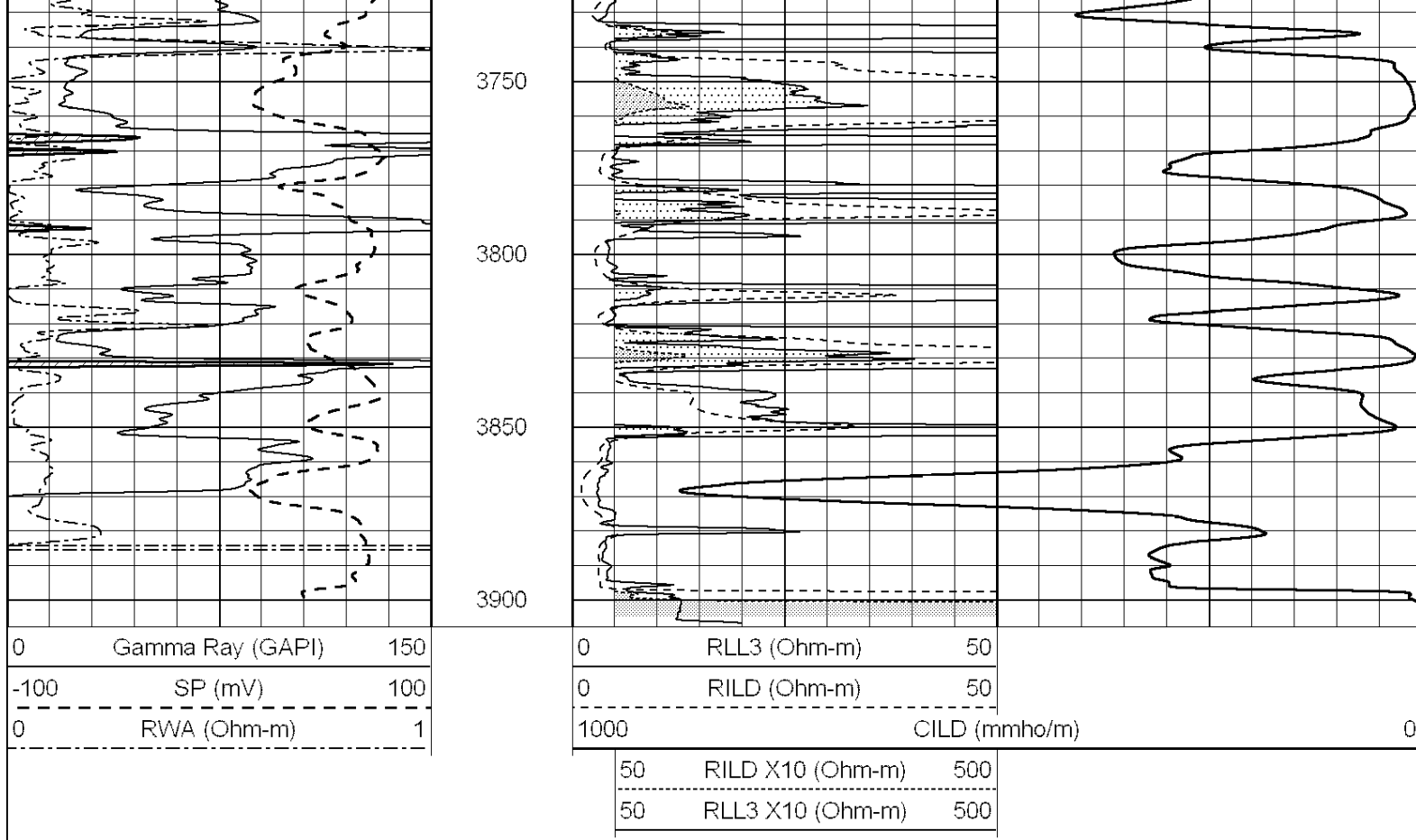
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3600

3650

3700

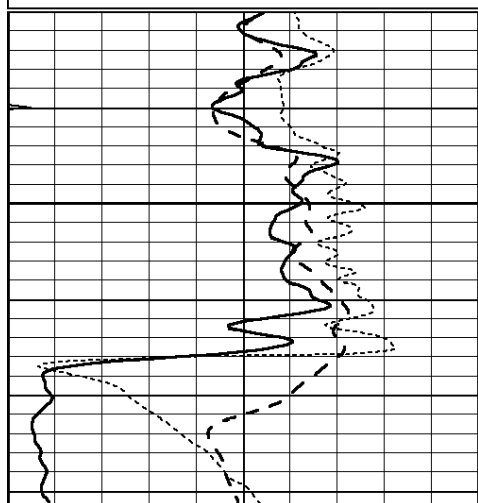




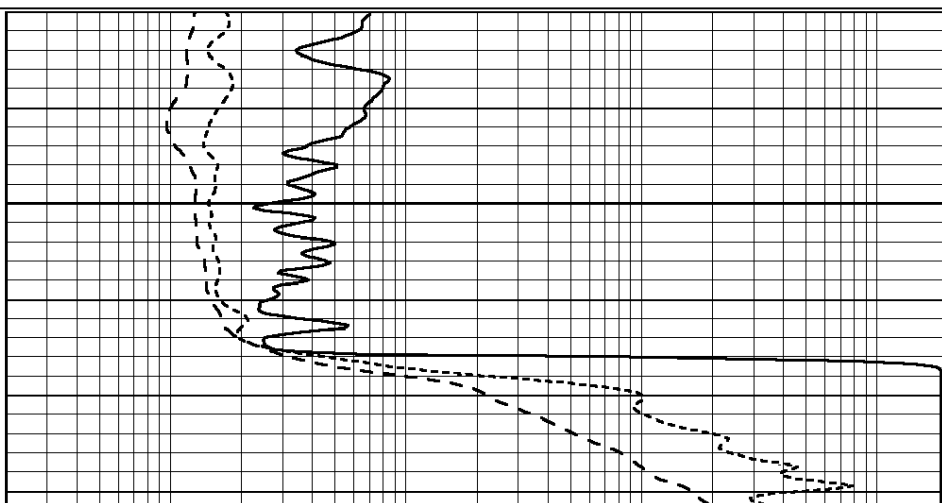
ANHYDRITE

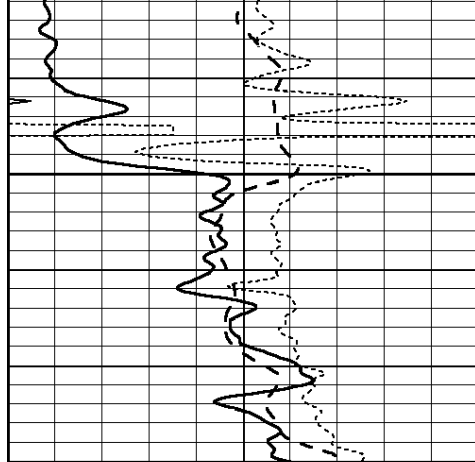
Database File: 30752ddn.db
 Dataset Pathname: pass3.5
 Presentation Format: _dil
 Dataset Creation: Wed Jul 13 12:08:25 2016 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

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			



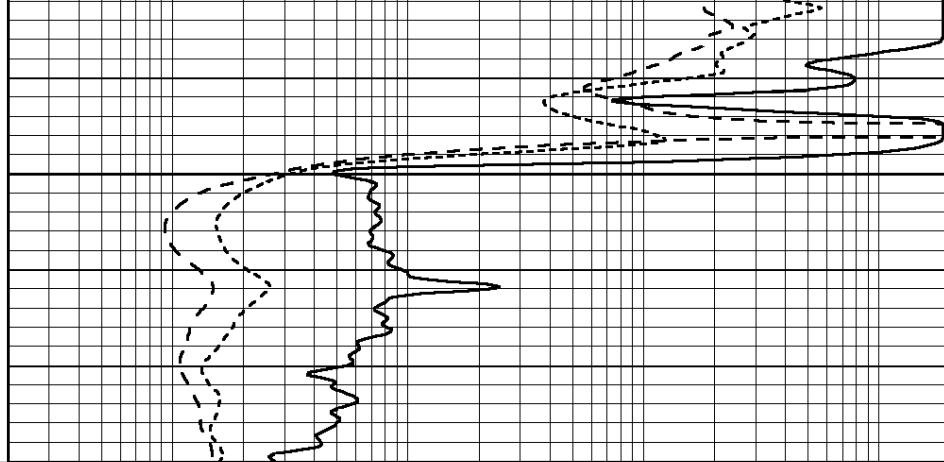
2150



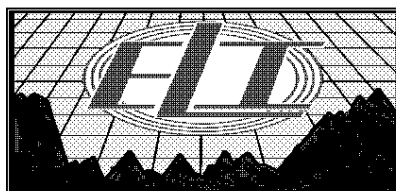


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

2200



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

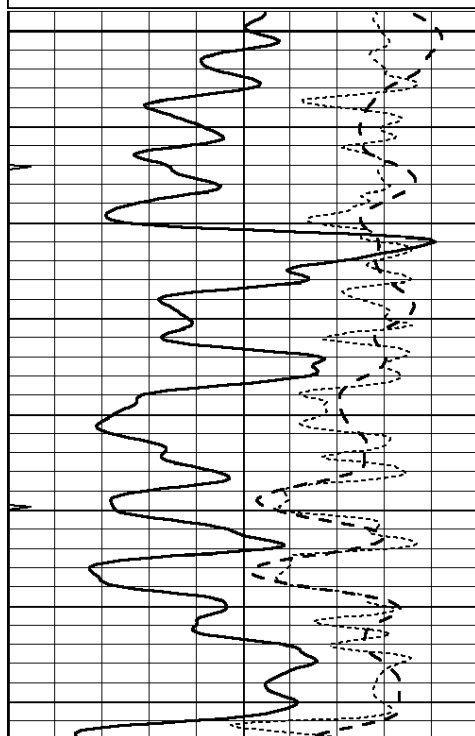


MAIN SECTION

Database File: 30752ddn.db
 Dataset Pathname: pass3.4
 Presentation Format: _dil
 Dataset Creation: Wed Jul 13 12:07:15 2016 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

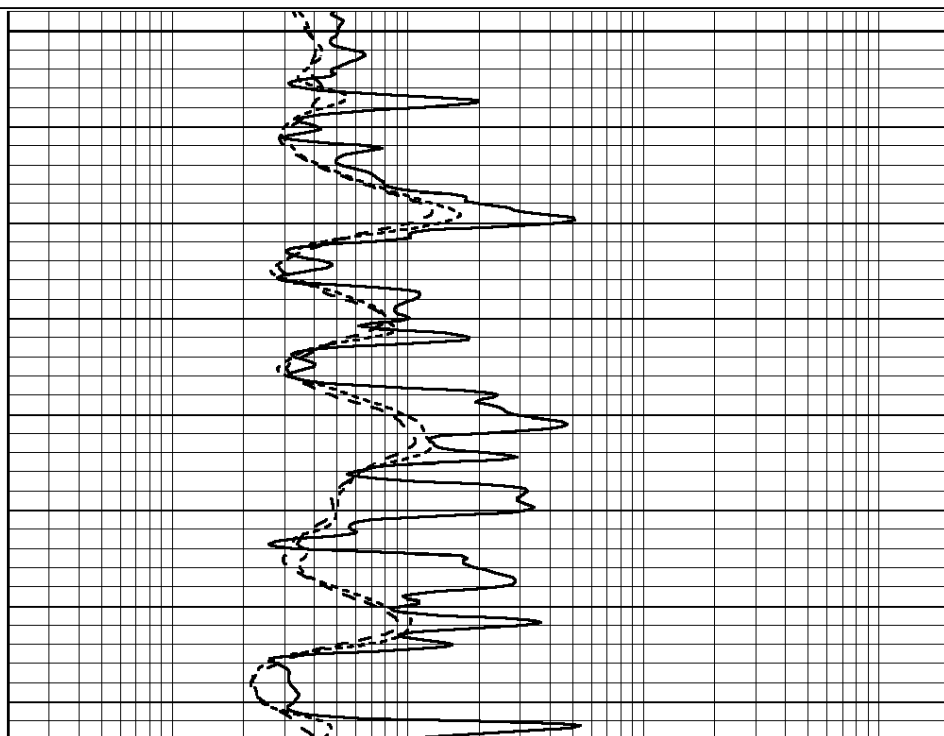
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

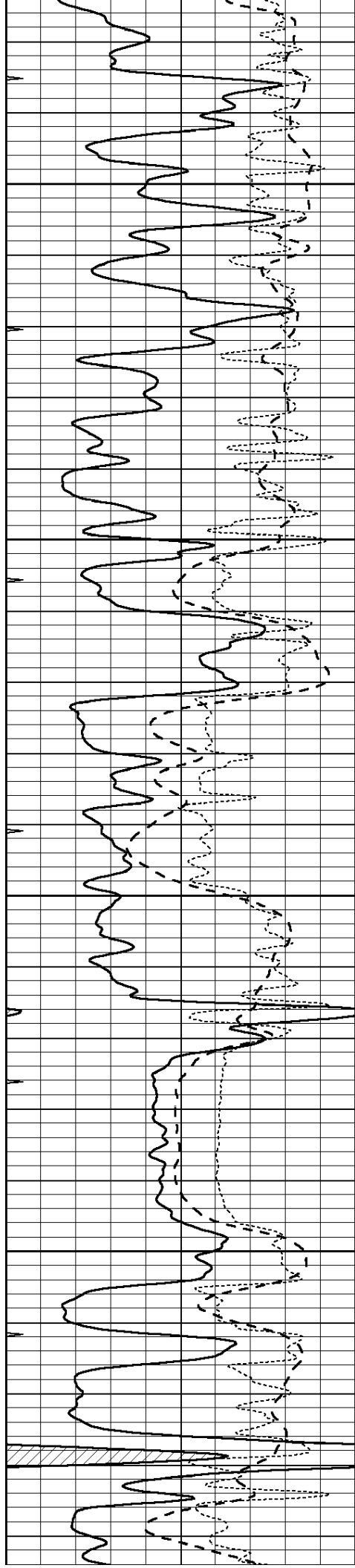
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3300

3350



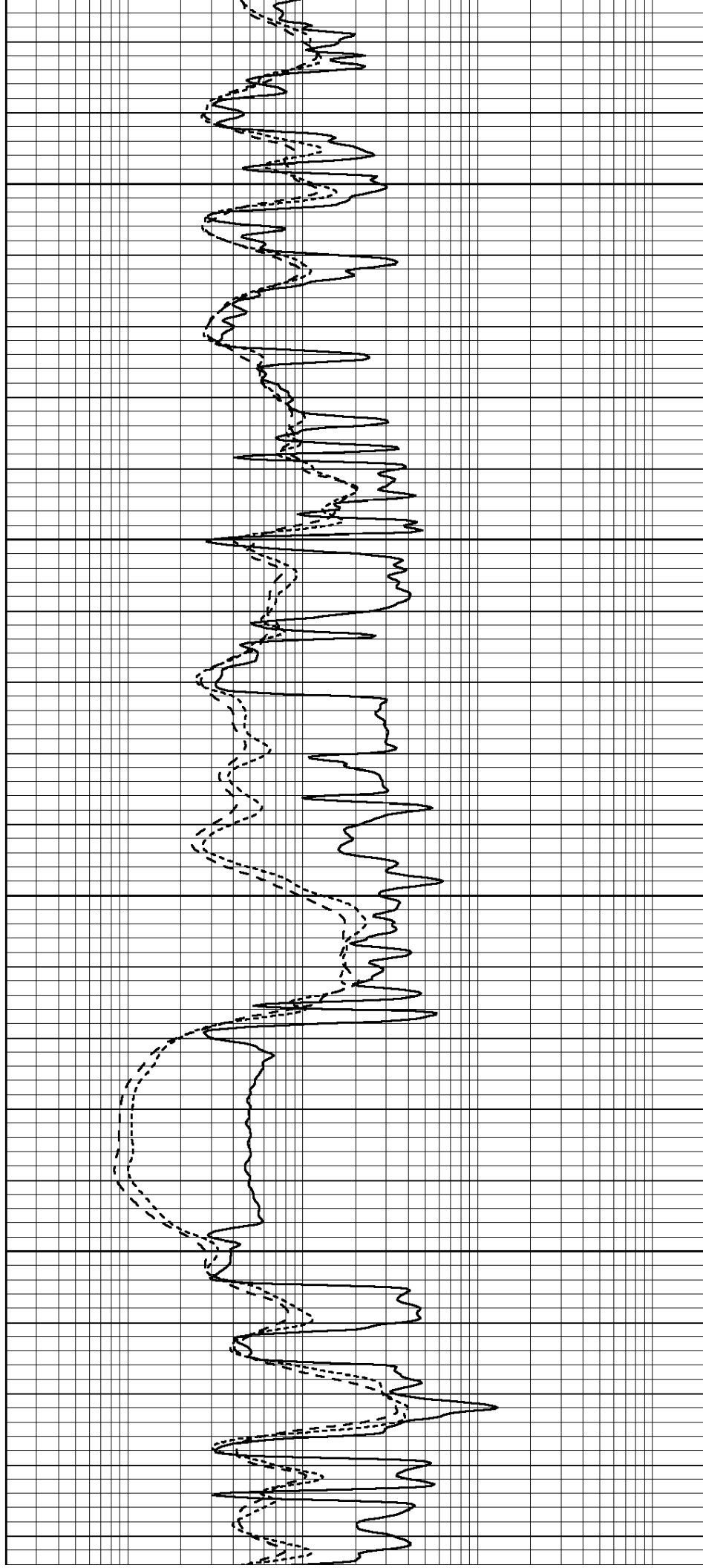


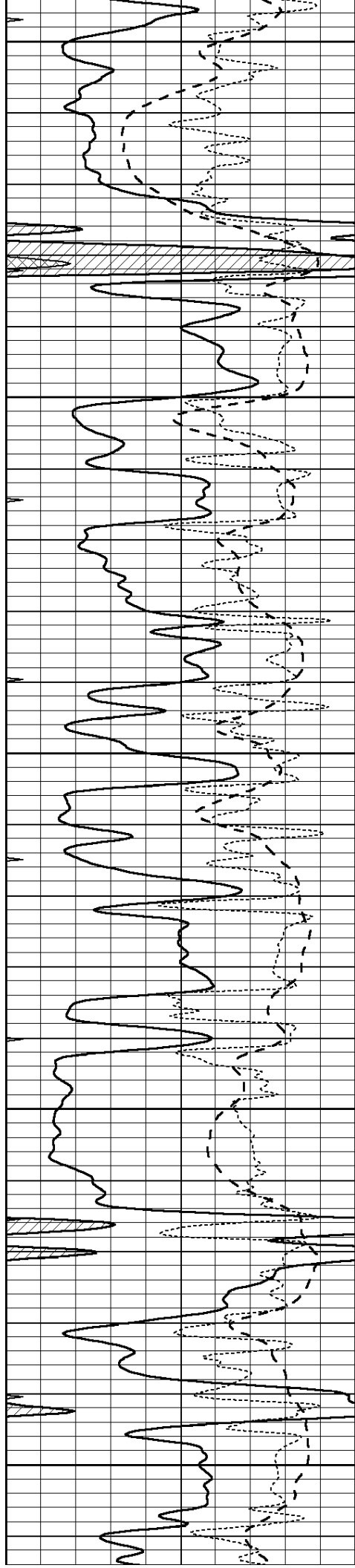
3400

3450

3500

3550





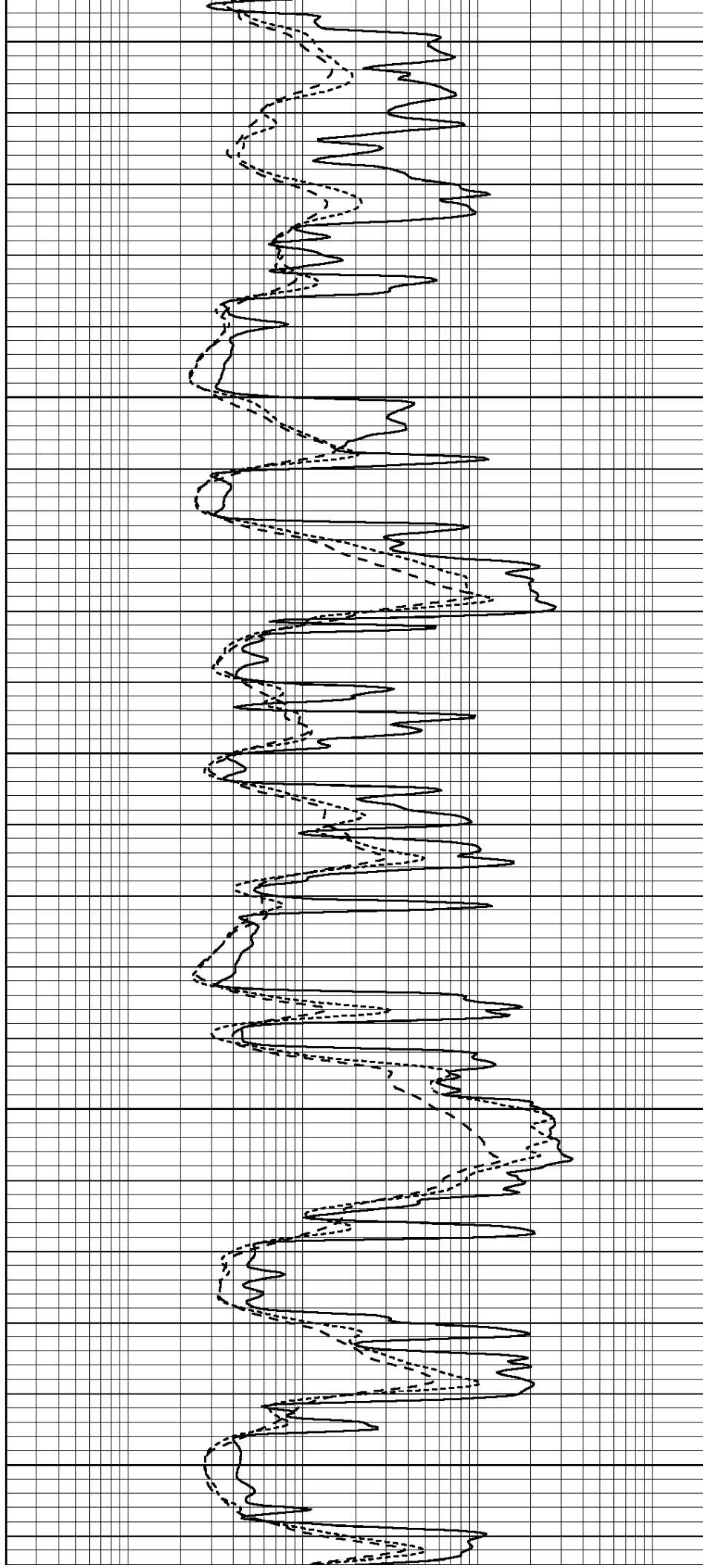
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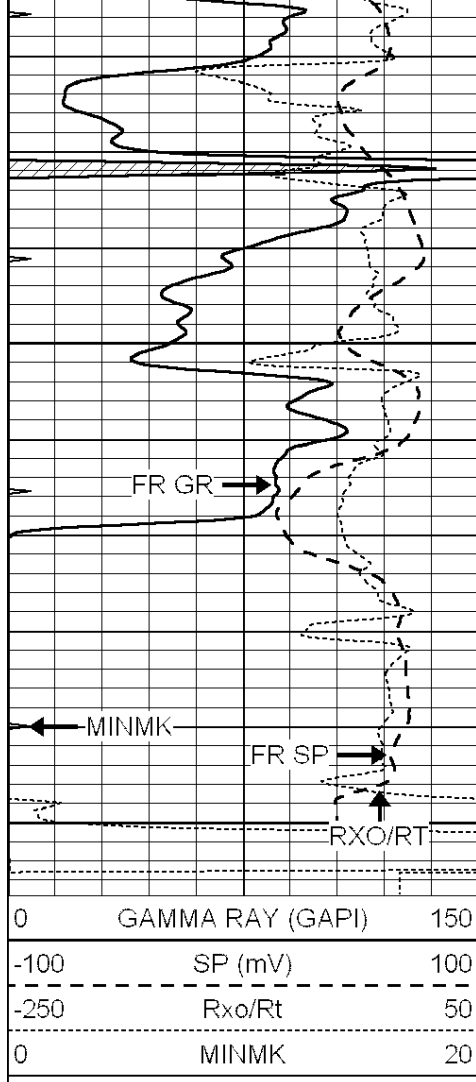
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3700

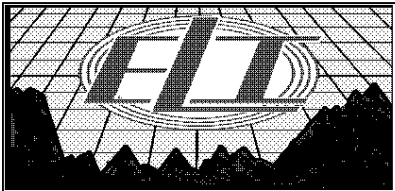
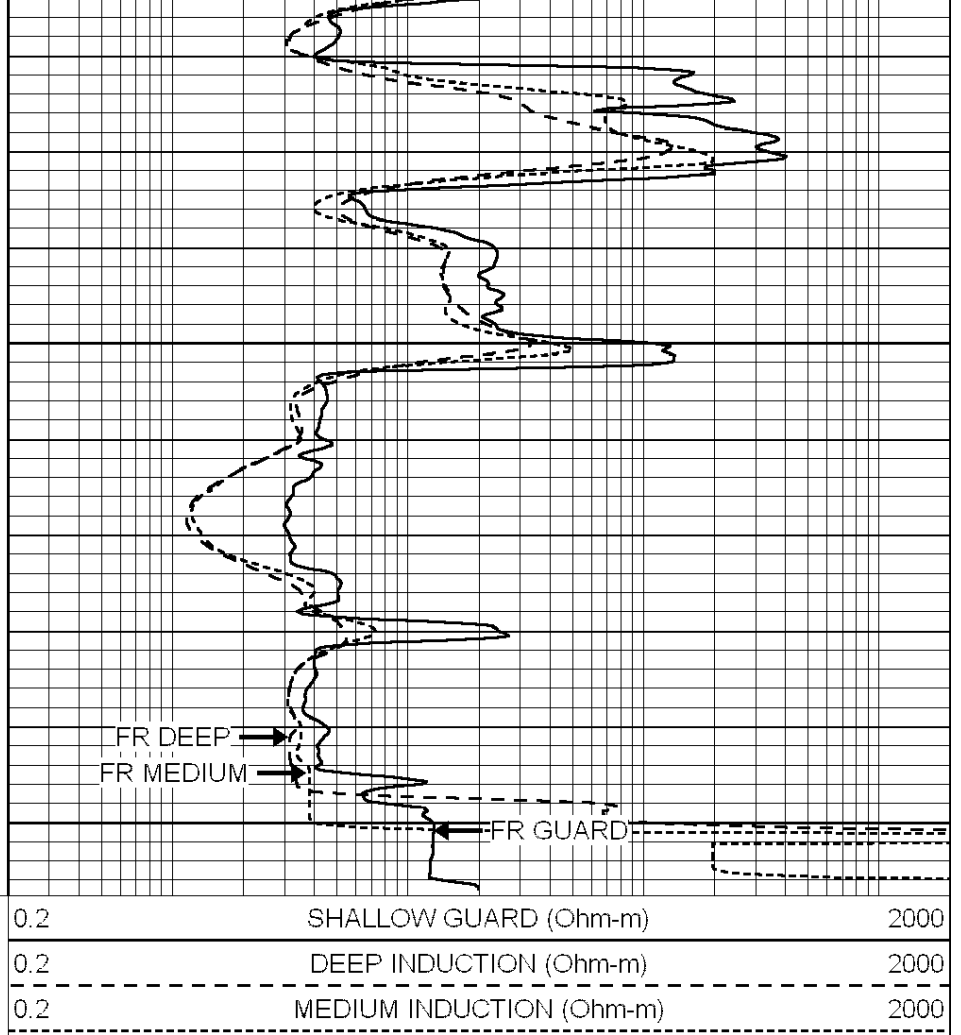
3750

3800



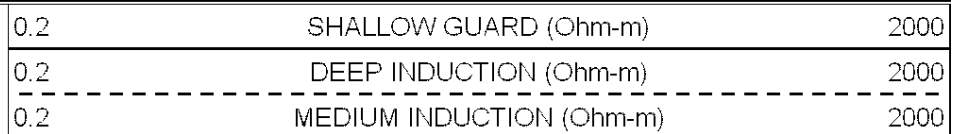
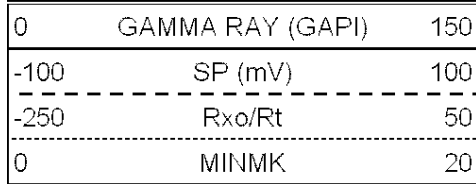


3850
3900
LTD 3903

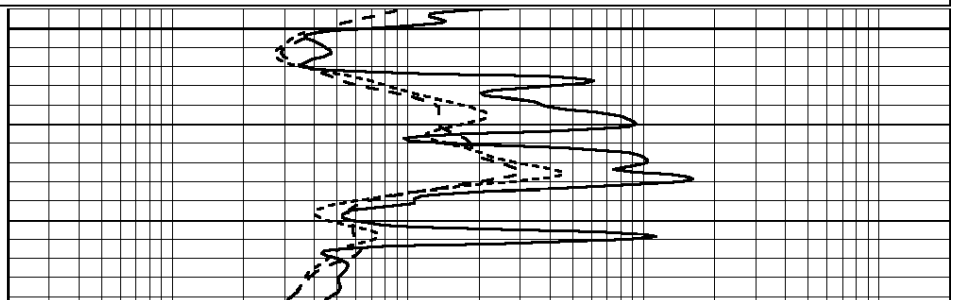
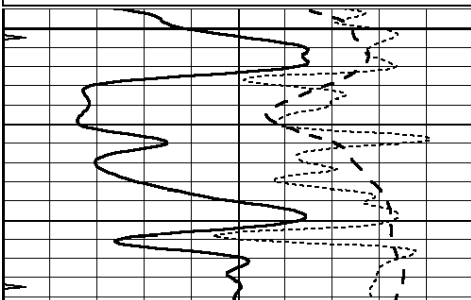


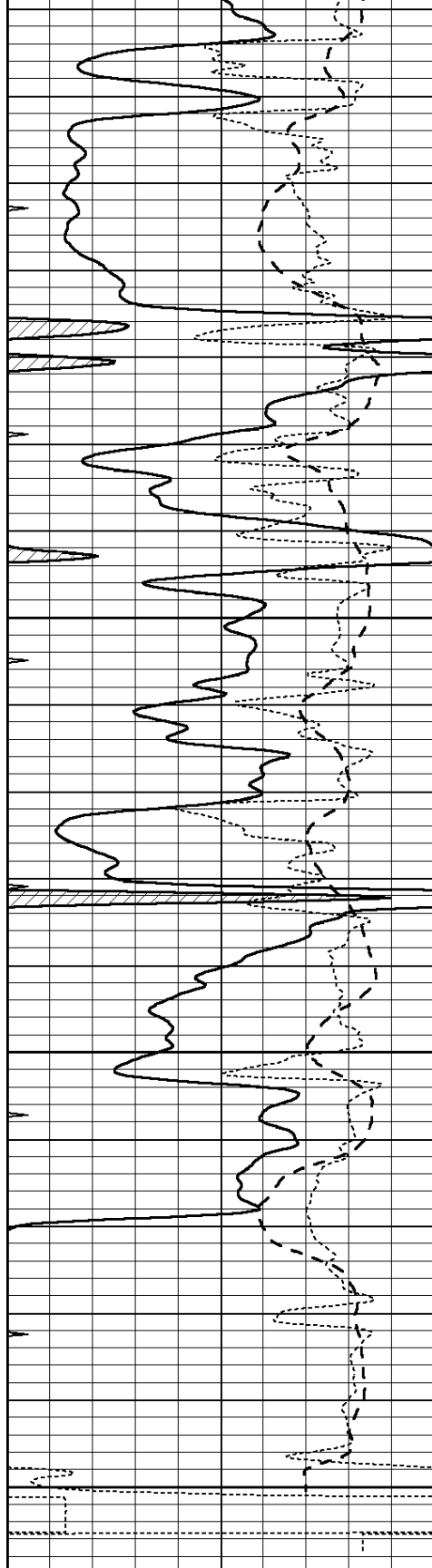
REPEAT SECTION

Database File: 30752ddn.db
Dataset Pathname: pass2.4
Presentation Format: _dil
Dataset Creation: Wed Jul 13 10:42:47 2016
Charted by: Depth in Feet scaled 1:240



3700





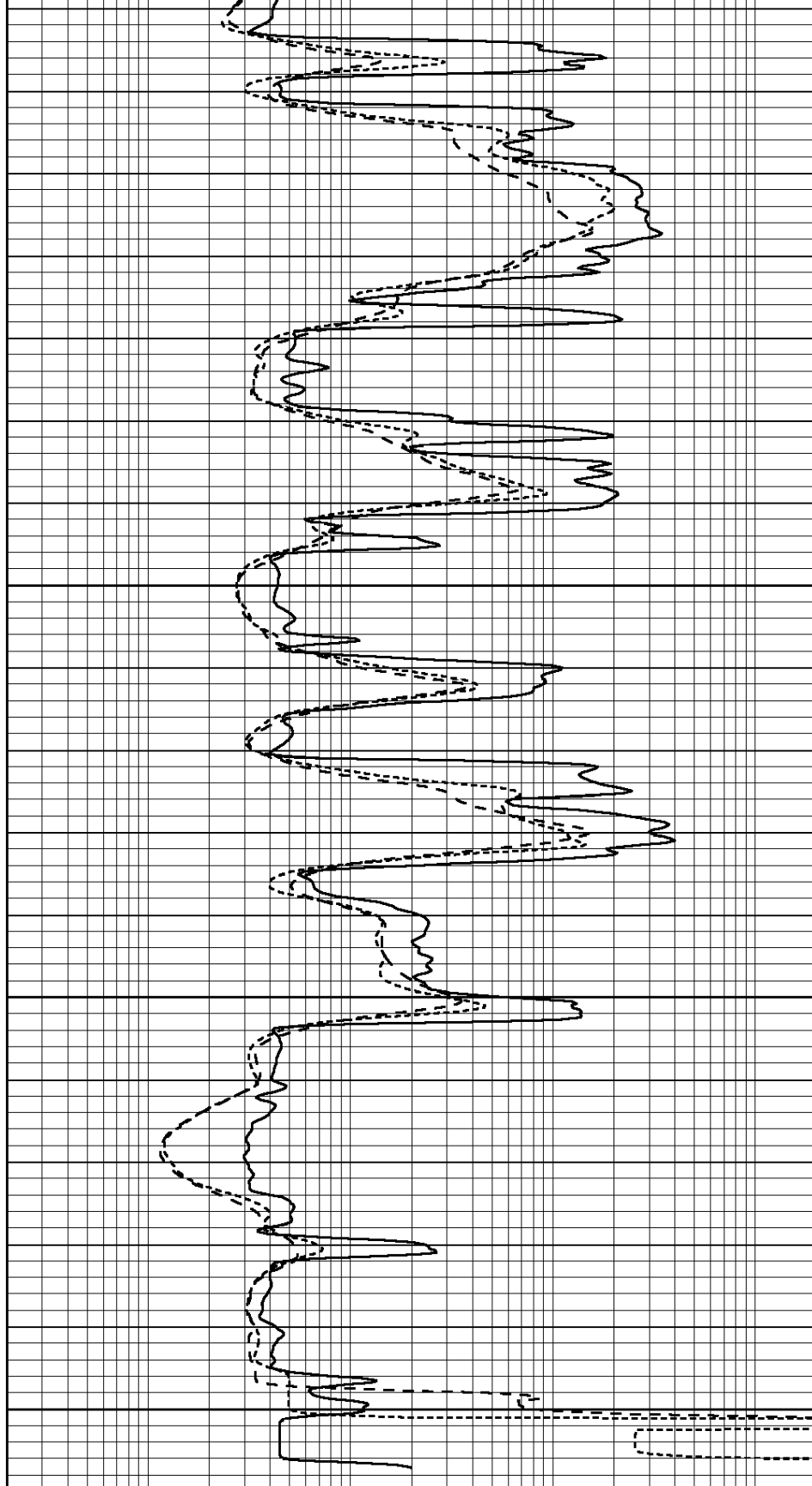
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3750

3800

3850

3900



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

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG

Surface Cal Performed: Wed Jul 13 10:13:32 2016

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	625.000	-2.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-42.000
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		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: 003N Model: PRB

Master Calibration					Performed Mon Mar 14 08:48:13 2016			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	1751.3	11741.0	3857.3	12907.8				cps
Window 2	1589.4	9536.2	3267.6	10282.0				cps
Window 3	1413.4	6466.1	2463.2	6828.7				cps
Window 4	399.5	407.1	405.1	406.5				cps
Long Space	0.0	7946.7	1678.1	8692.6				cps
Short Space	2.2	3366.2	2134.1	3410.2				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 43.7	Rib Slope	: 0.954	Density/Spine Ratio			: 0.543	
Spine Angle	: 73.7	Spine Slope	: 3.412	Spine Intercept			: -18.7	

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	

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Compensated Neutron Calibration Report
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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:	Sun Jul 03 22:02:17 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps