



**Casedhole Solutions**

**DUAL INDUCTION LOG**

Company SHELBY RESOURCES, LLC.

Well MP #1-23

Field

County BARTON State KANSAS

Location: 980' FNL & 1754' FWL API #: 15-009-26139-00-00

Other Services  
CDL/CNL  
MEL/SON

SEC 23 TWP 18S RGE 14W

Permanent Datum GROUND LEVEL Elevation 1906  
Log Measured From KELLY BUSHING 11' A.G.L.  
Drilling Measured From KELLY BUSHING

Elevation  
K.B. 1917  
D.F. 1915  
G.L. 1906

Date	2/27/16
Run Number	ONE
Depth Driller	3520
Depth Logger	3520
Bottom Logged Interval	3518
Top Log Interval	00
Casing Driller	8 5/8" @ 857
Casing Logger	857
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3/59
pH / Fluid Loss	10.0/7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.80 @ 55F
Rmt @ Meas. Temp	.60 @ 55F
Rmc @ Meas. Temp	.96 @ 55F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.39 @ 112F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	112F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	JEREMY SCHWARTZ

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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 CASED HOLE SOLUTIONS, HAYS, KS. (785) 628-6395  
DIRECTIONS:  
RUSSELL, KS. - SOUTH TO HWY 4 INTERSECTION - SOUTH TO THE CURVE EAST  
1/4 EAST - SOUTH INTO



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**MAIN SECTION**

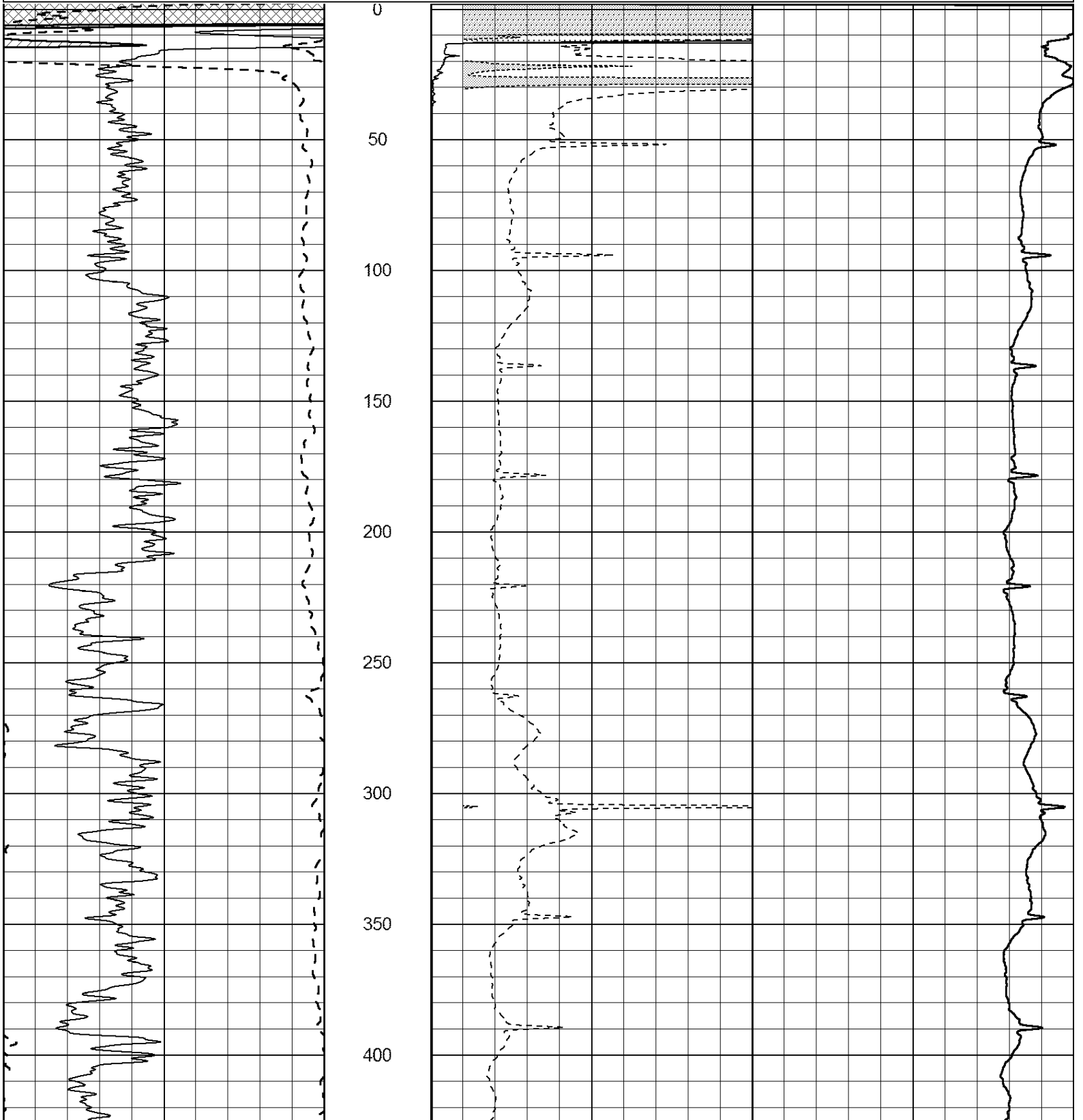
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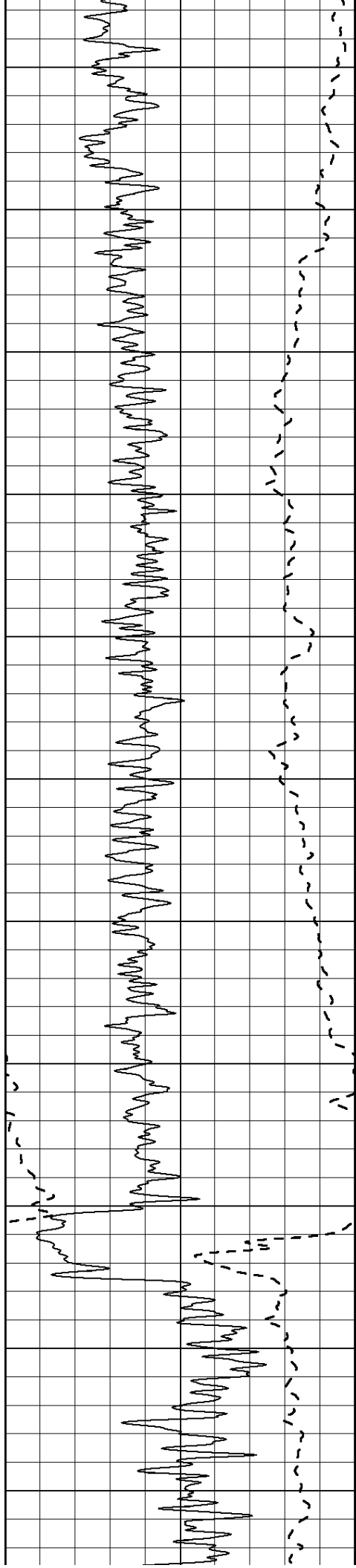
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 -100 SP (mV) 100

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

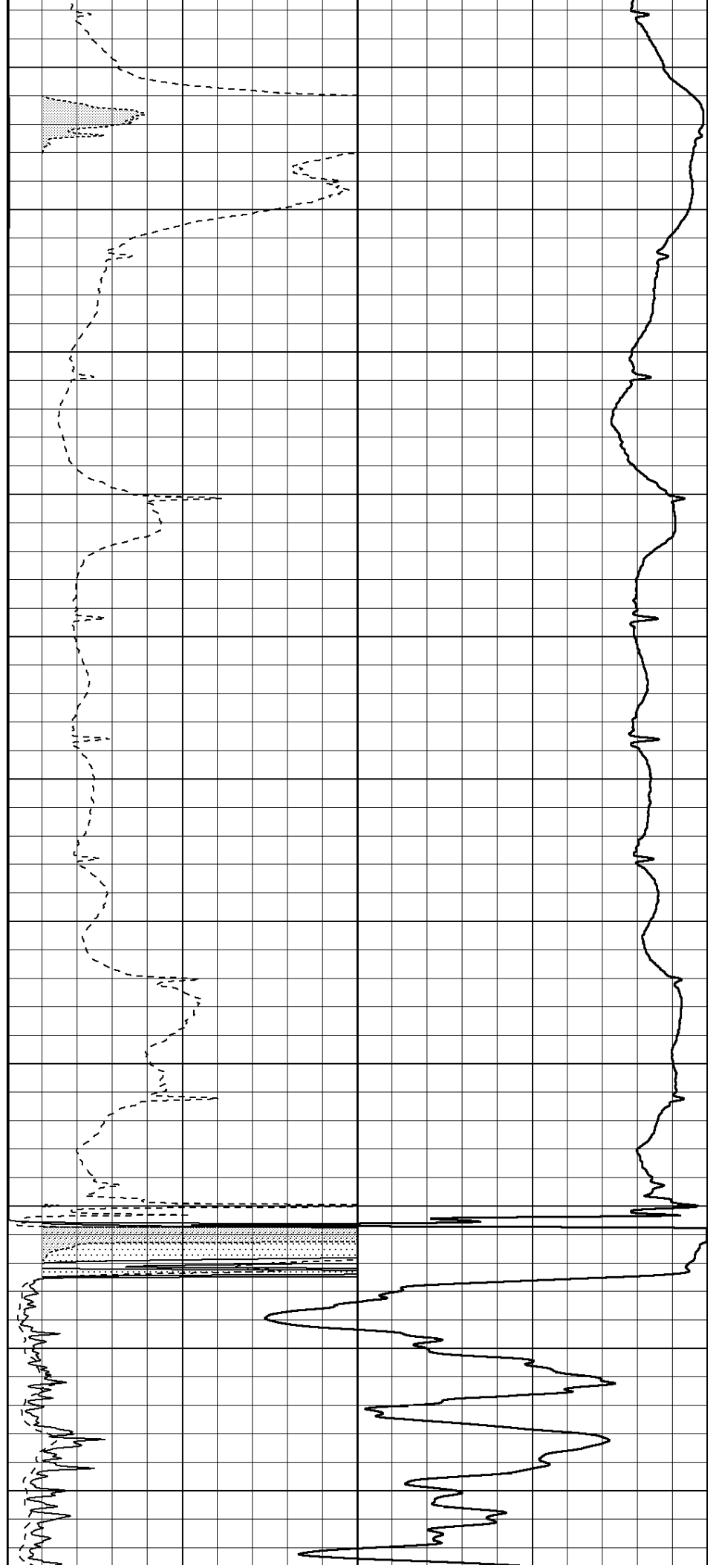
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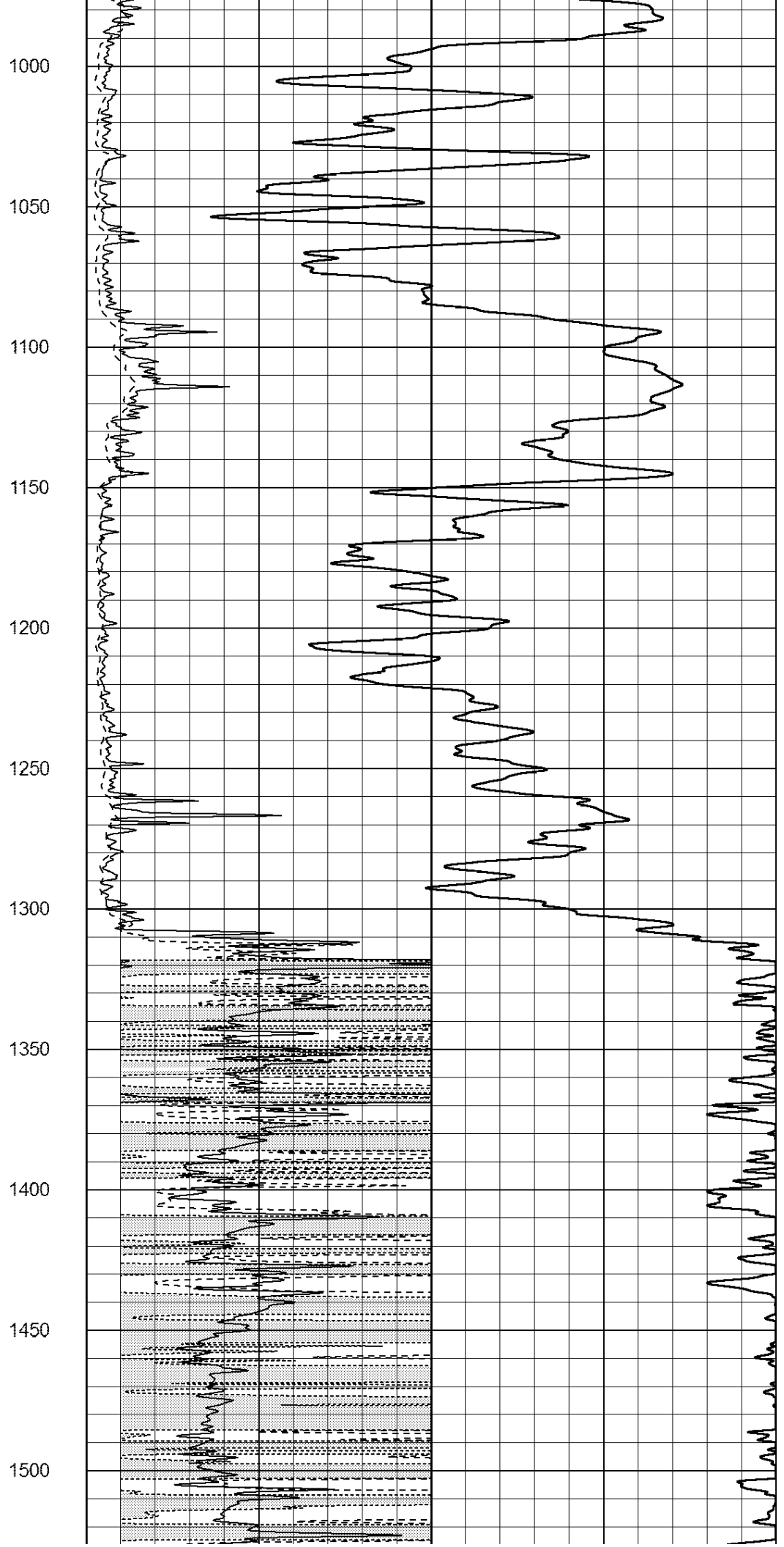
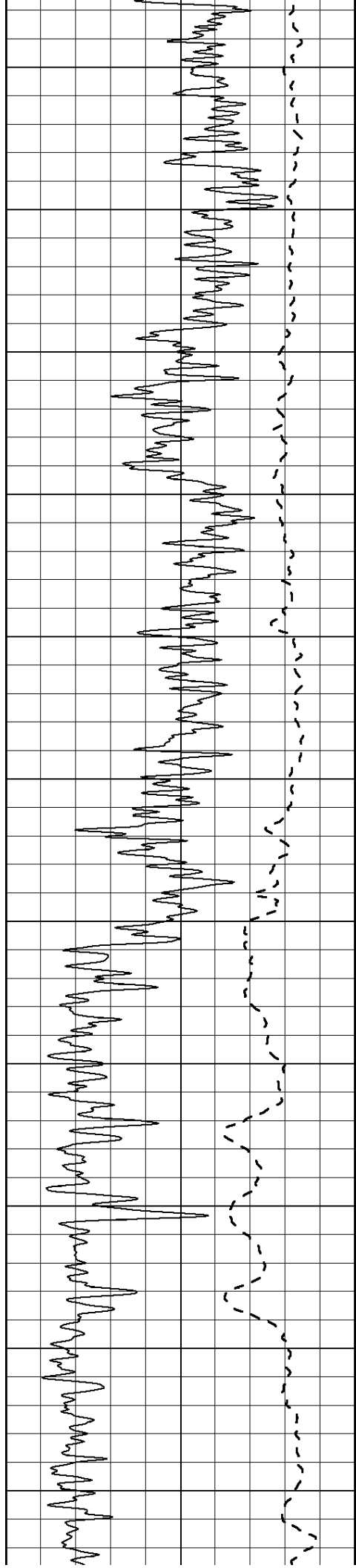
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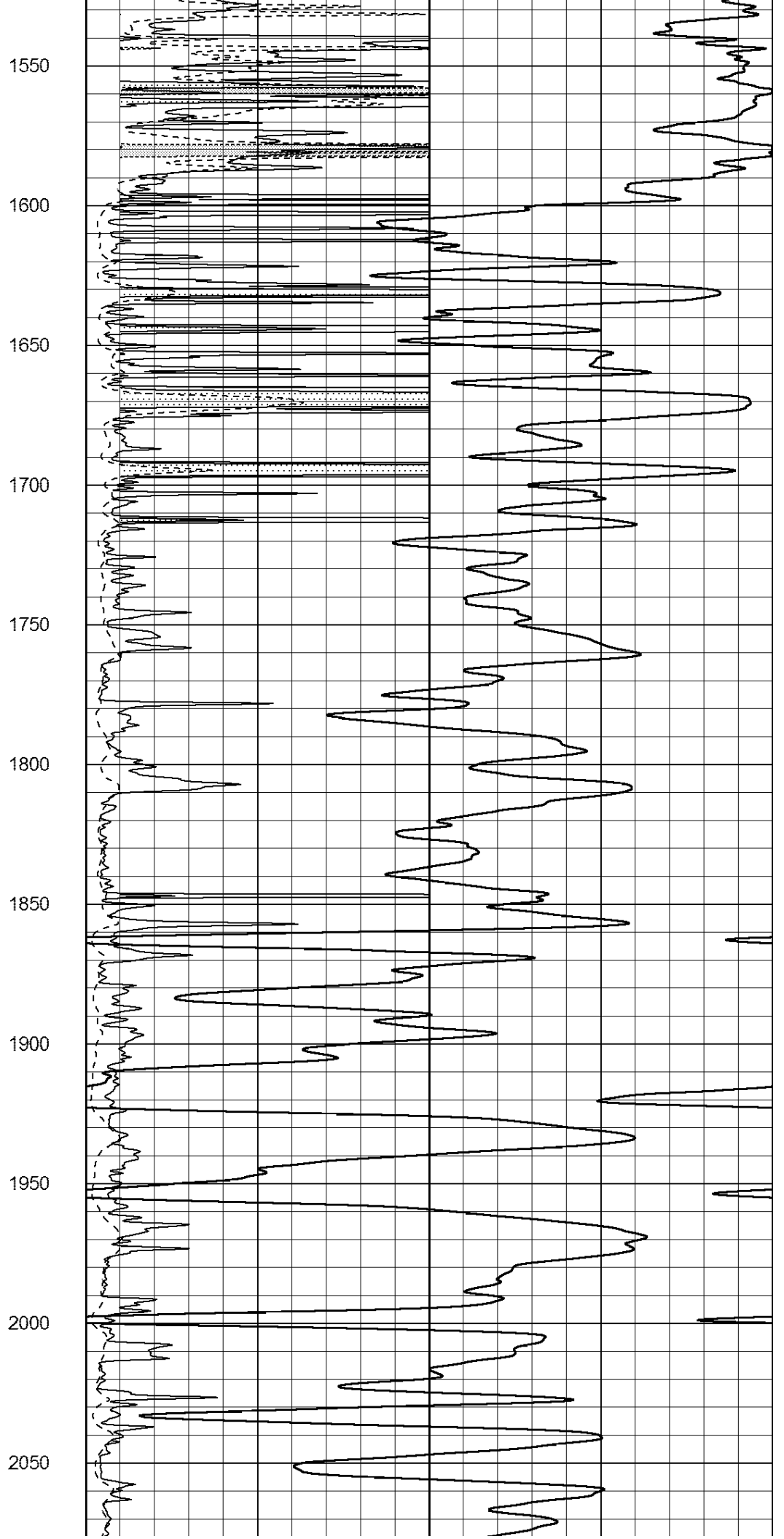
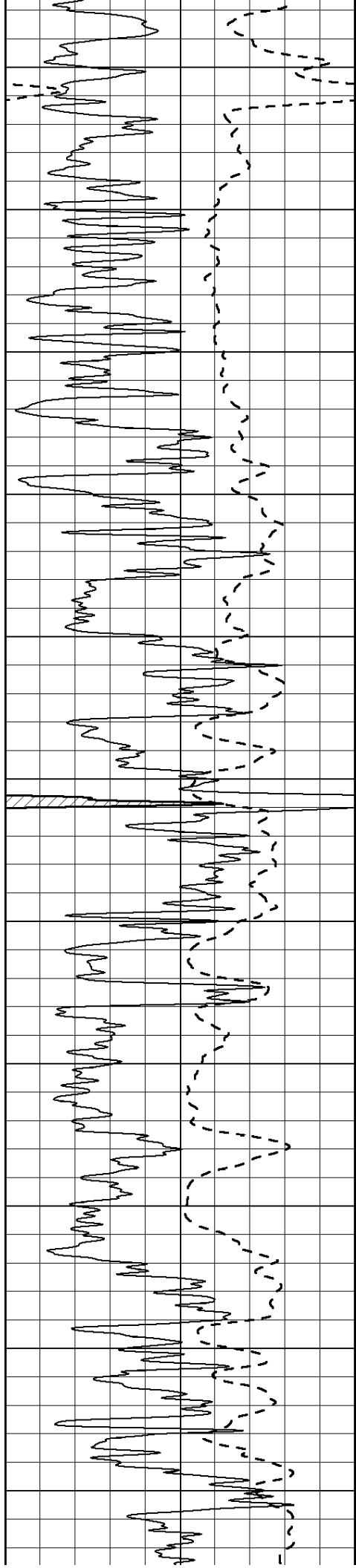
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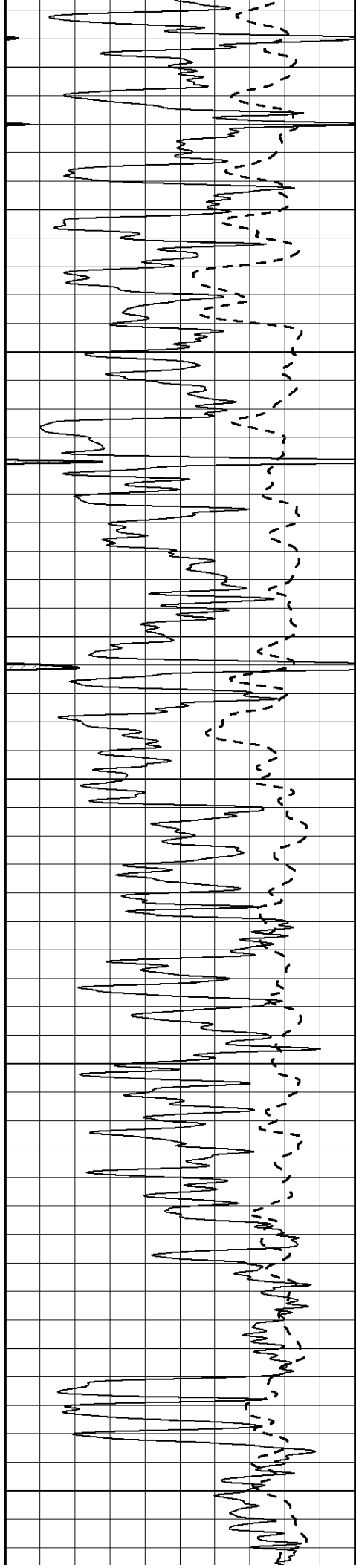
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950









2100

2150

2200

2250

2300

2350

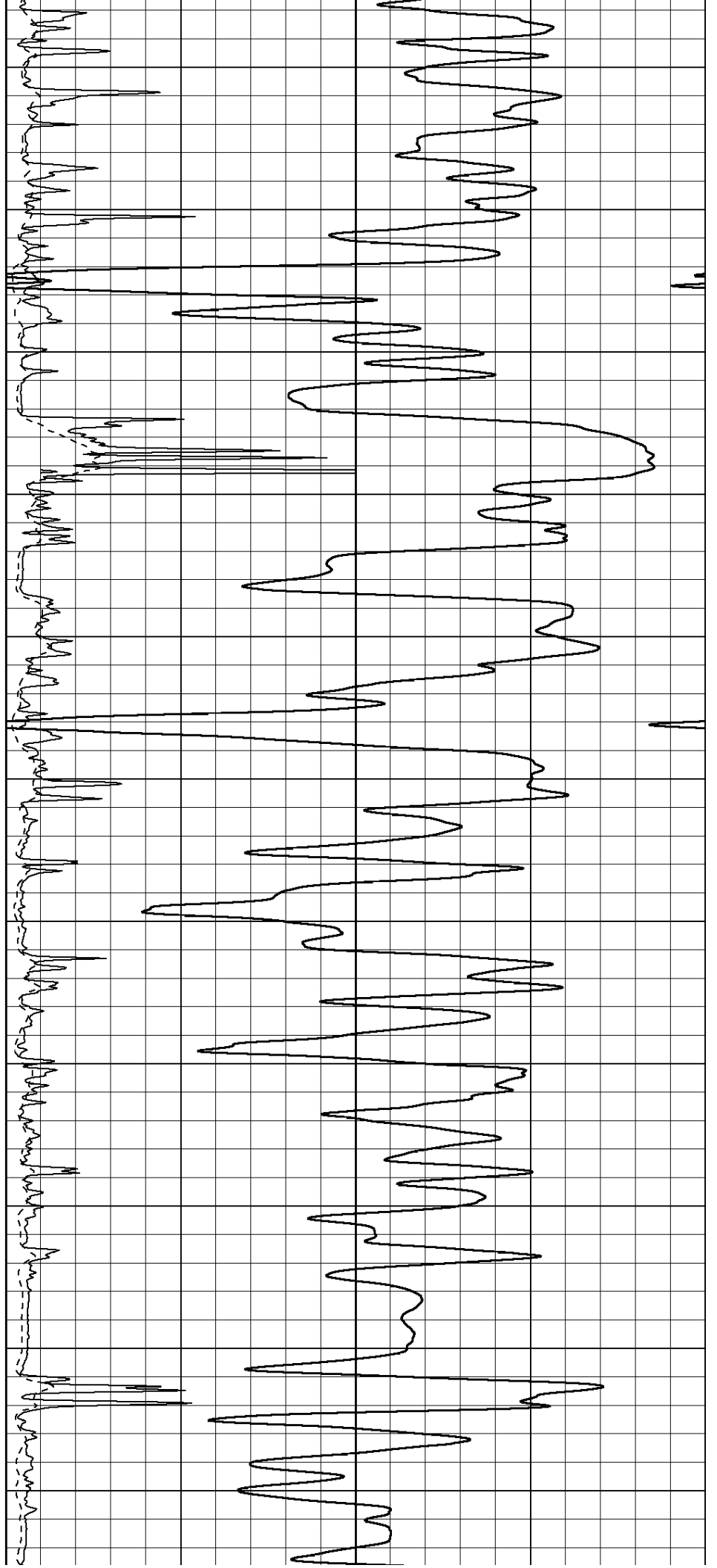
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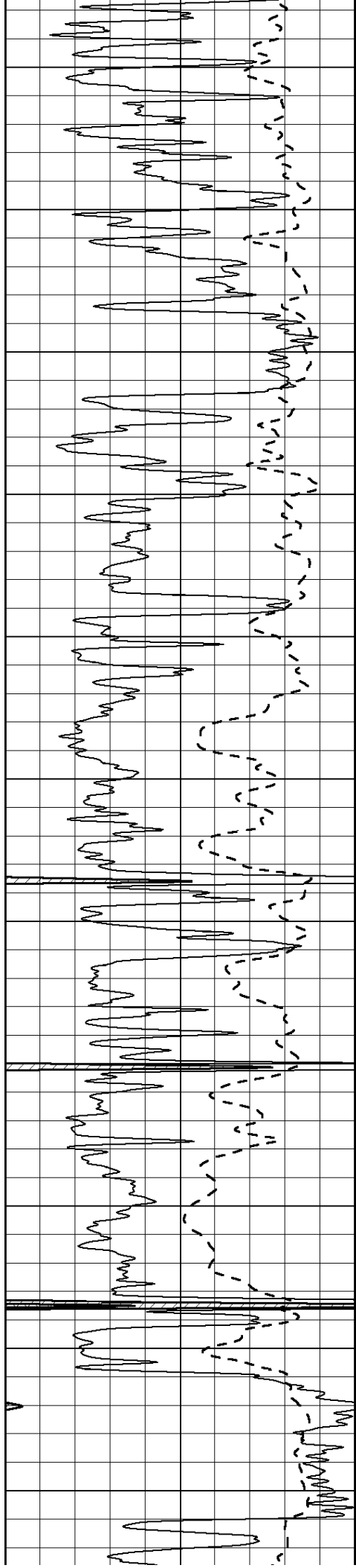
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2500

2550

2600





2650

2700

2750

2800

2850

2900

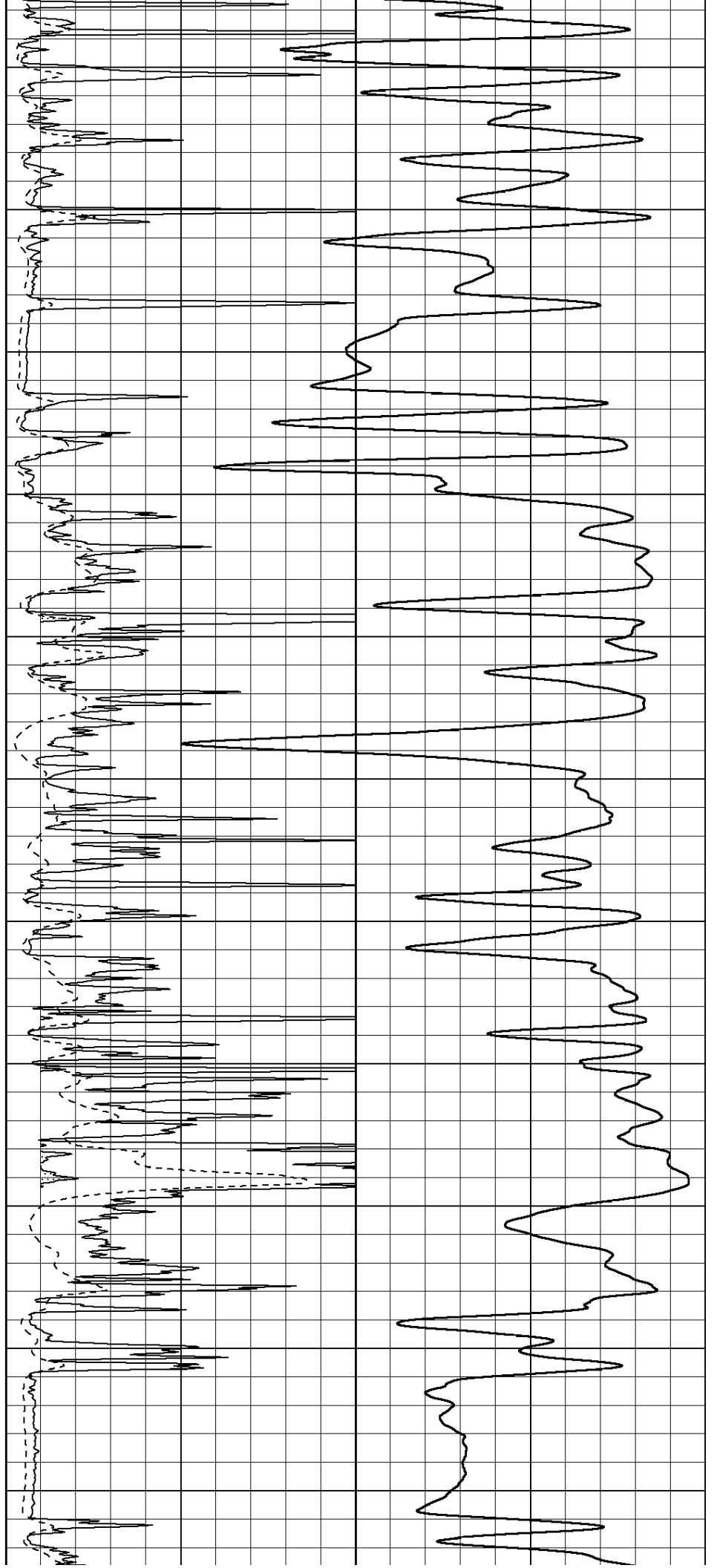
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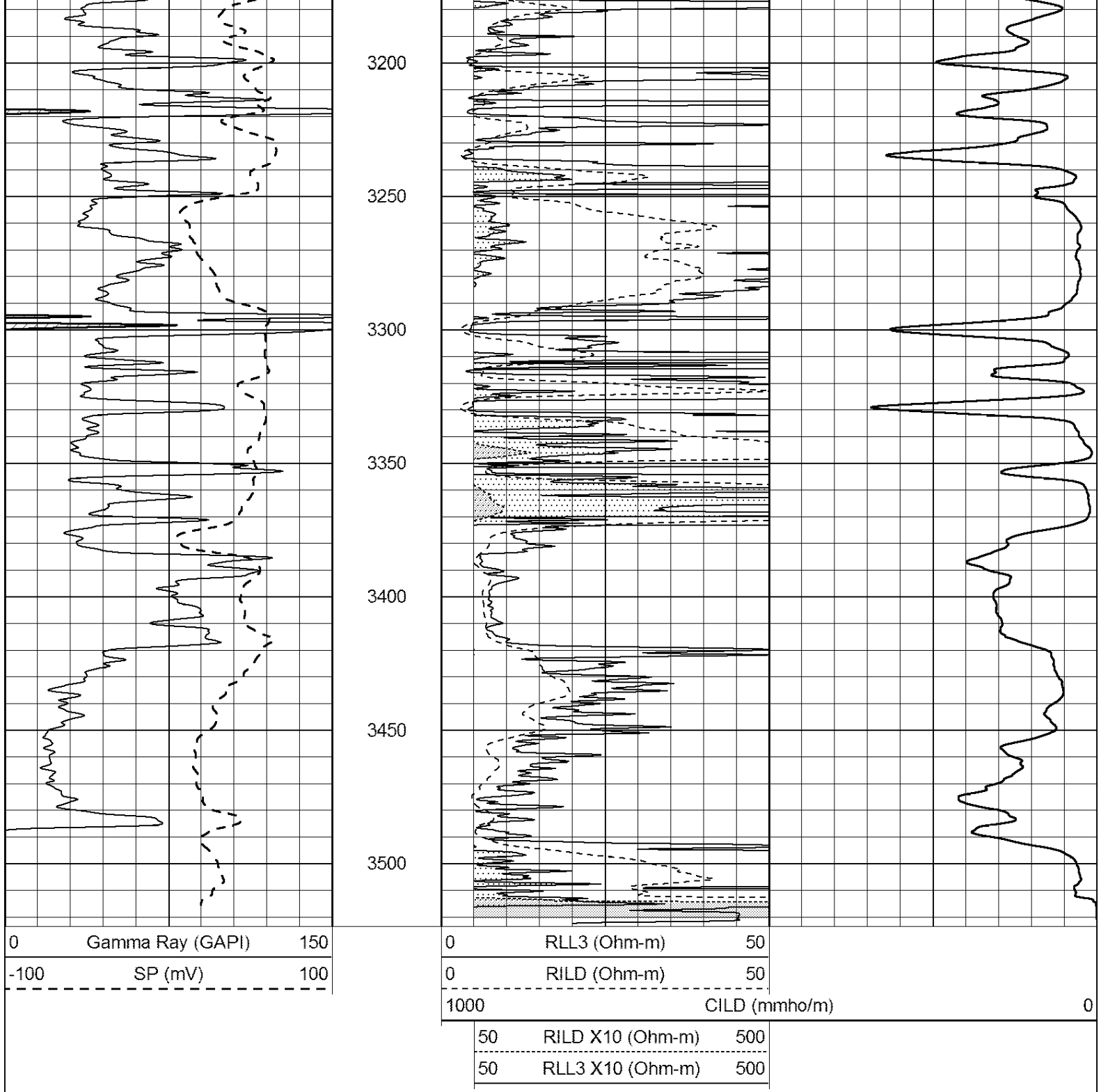
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3050

3100

3150

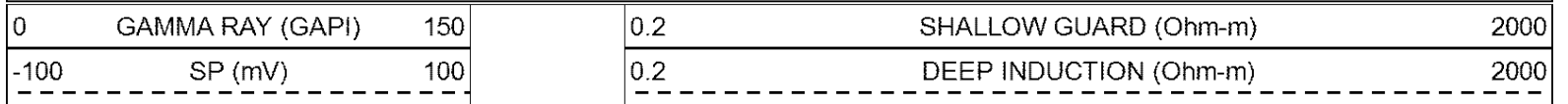




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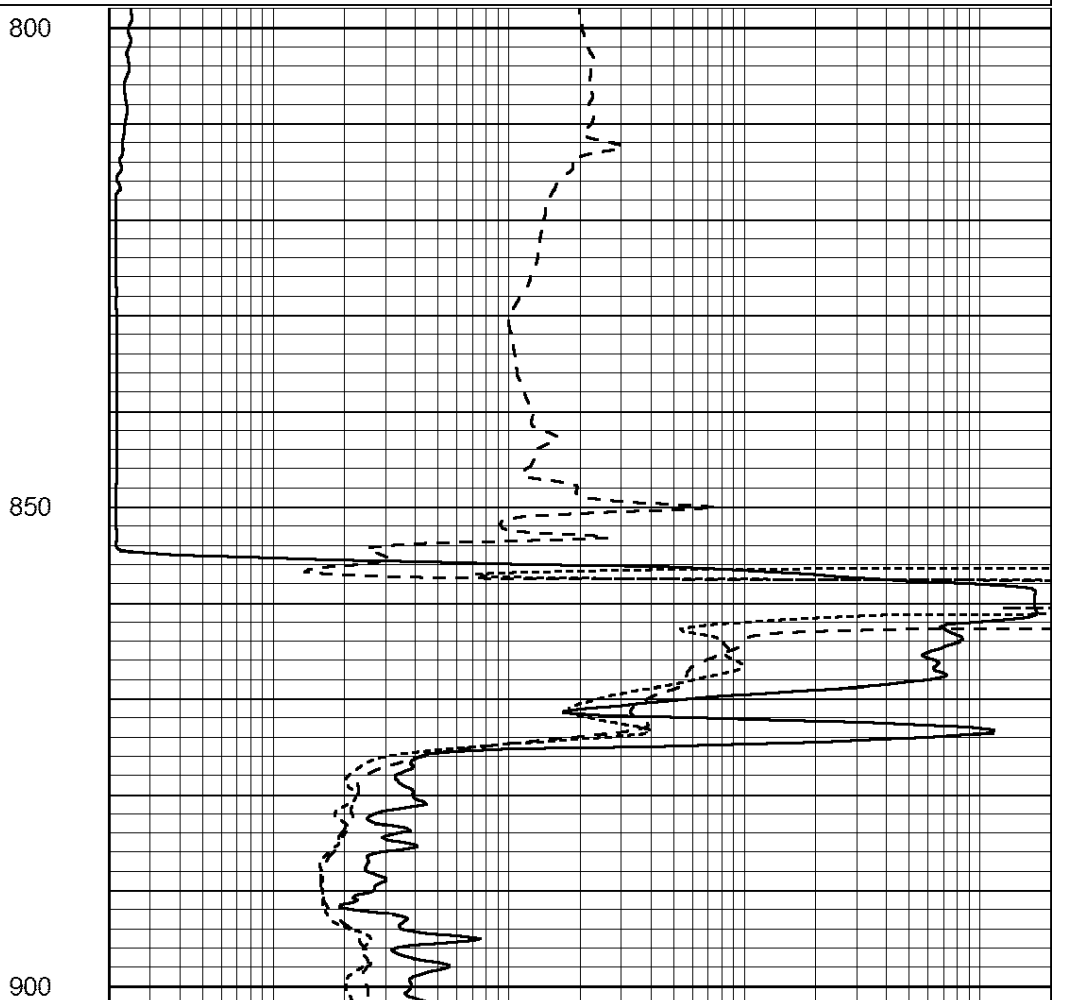
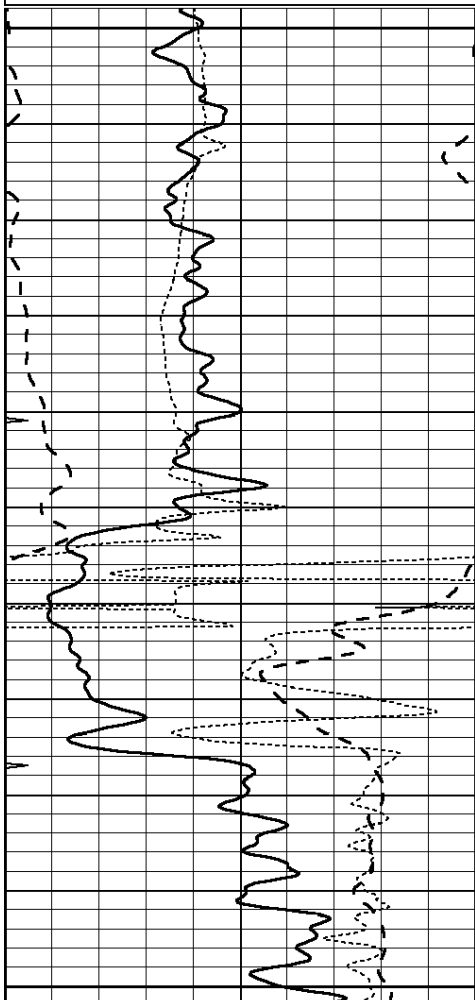
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 Charted by: Depth in Feet scaled 1:240



-250	Rxo/Rt	50
0	MINMK	20

0.2 MEDIUM INDUCTION (Ohm-m) 2000



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



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# MAIN SECTION

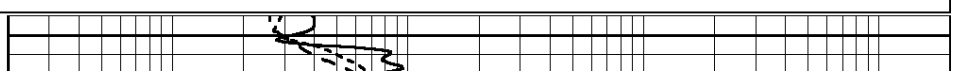
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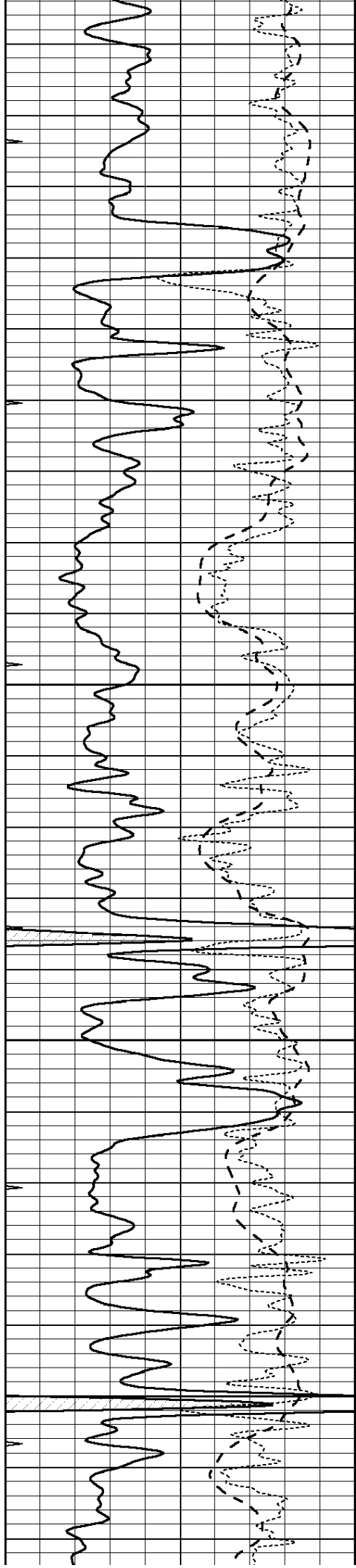
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



2800



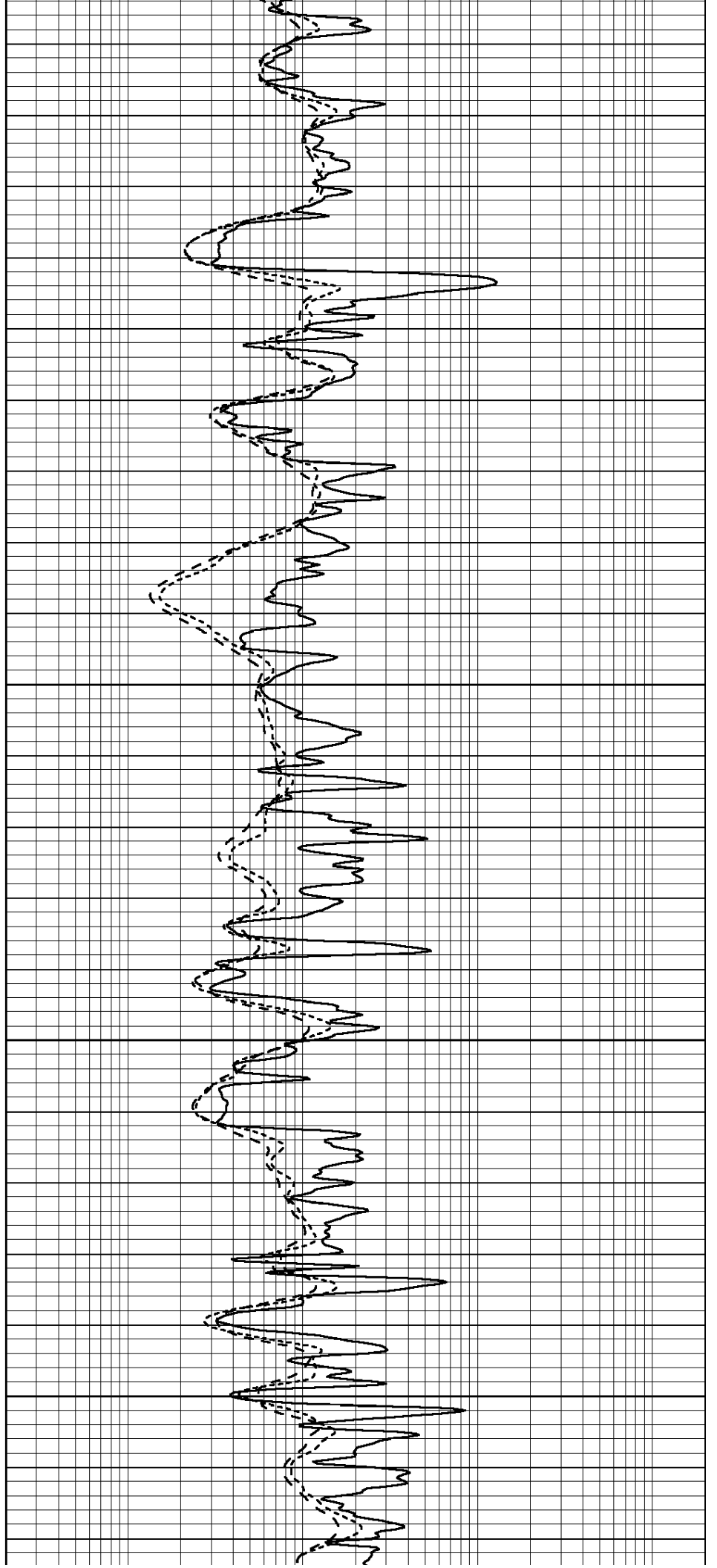


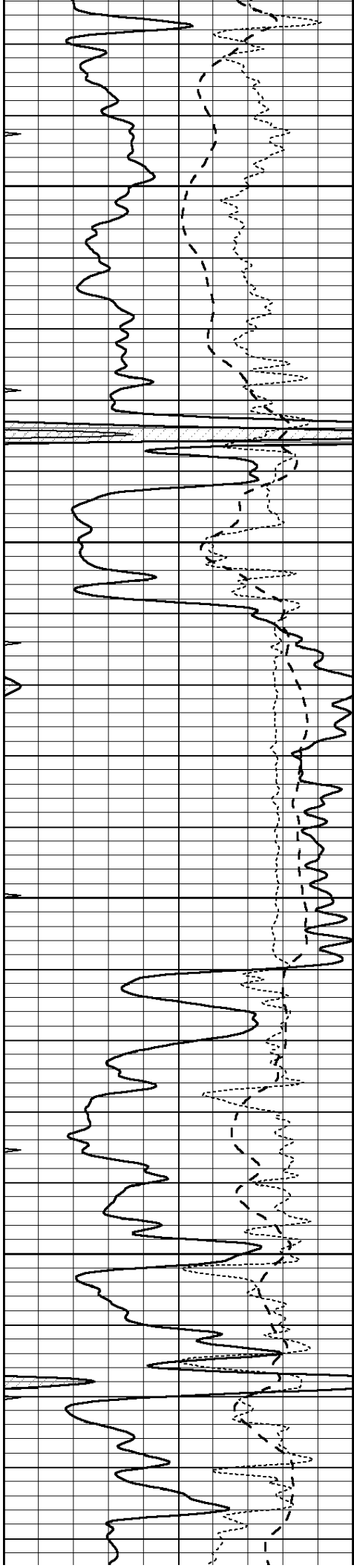
2850

2900

2950

3000



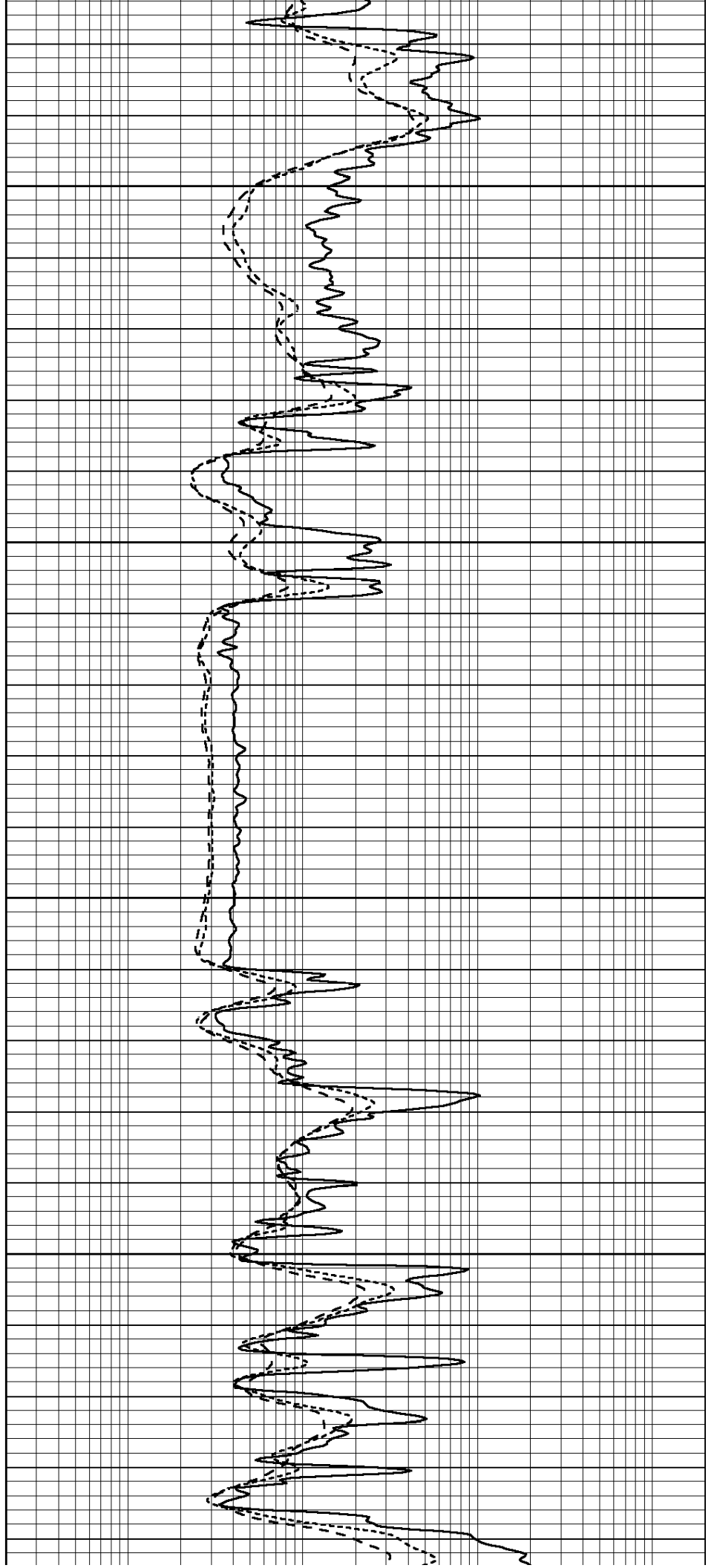


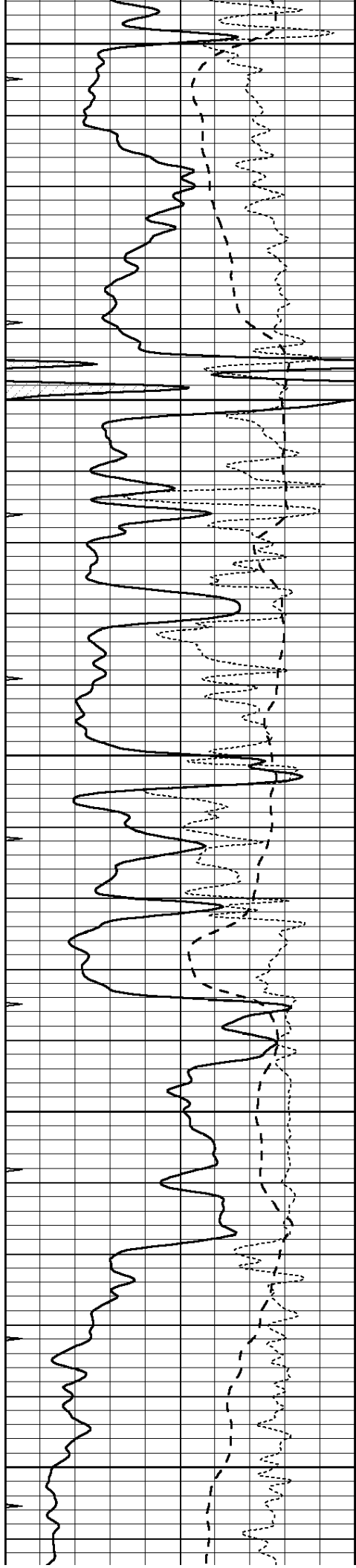
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3100

3150

3200





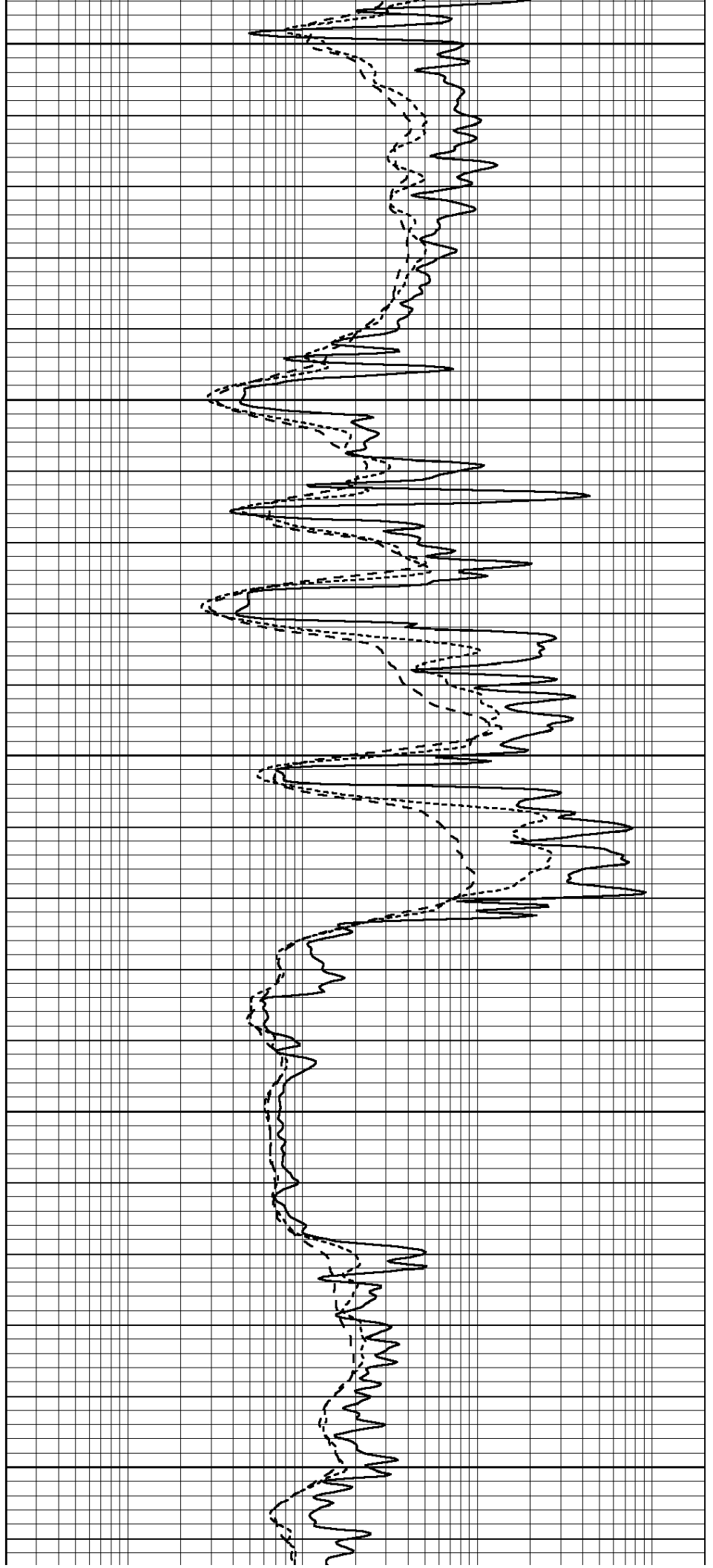
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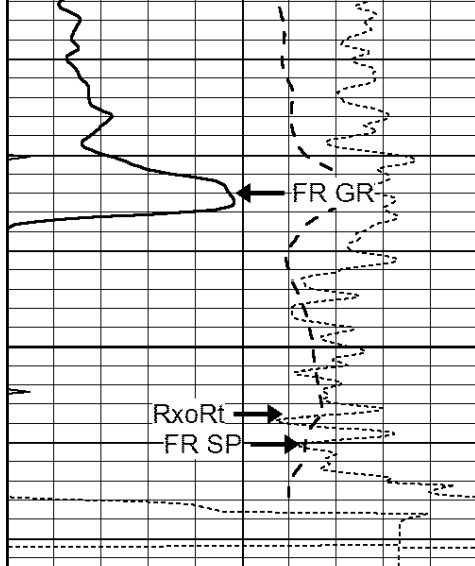
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3350

3400

3450

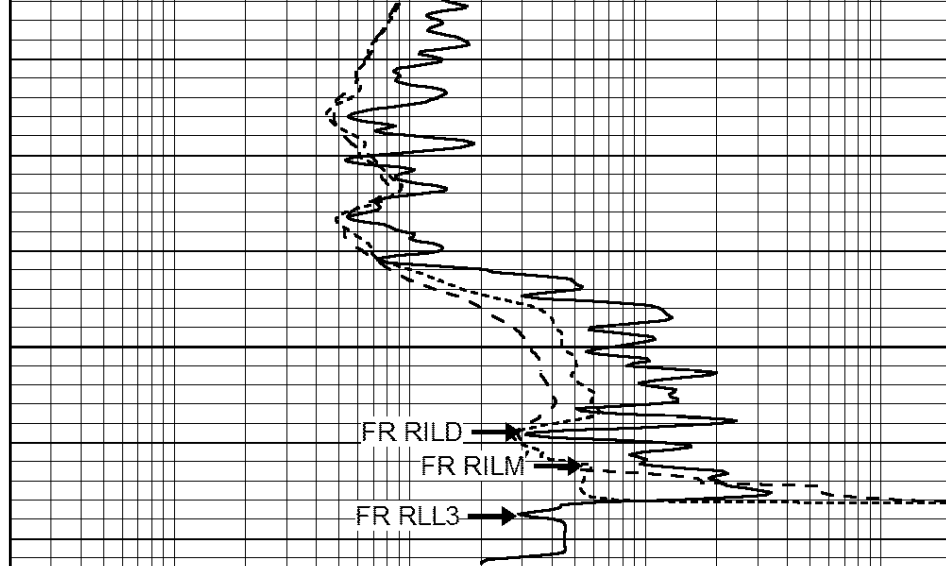




3500

LTD 3520

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



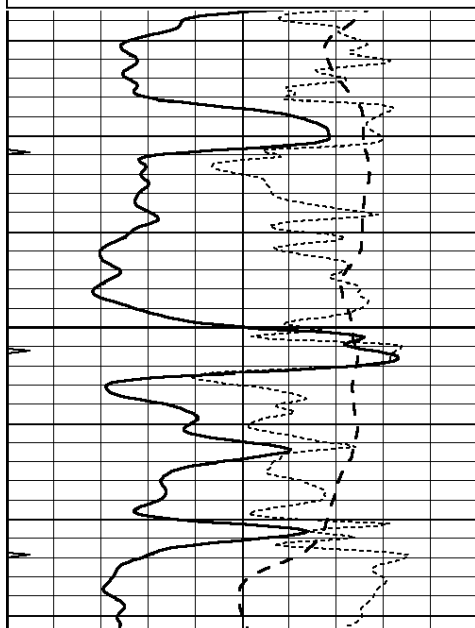
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# REPEAT SECTION

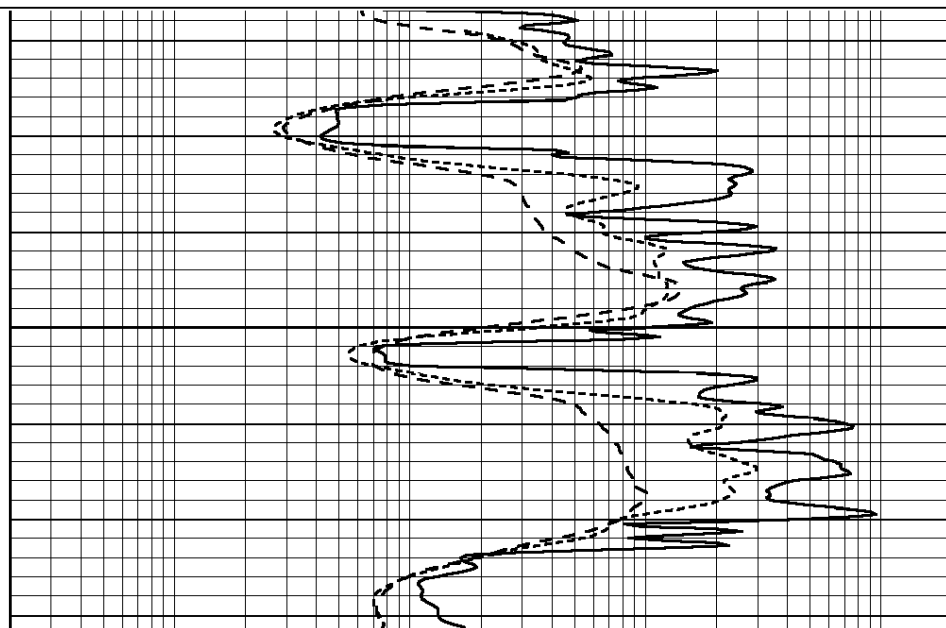
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 Charted by: Depth in Feet scaled 1:240

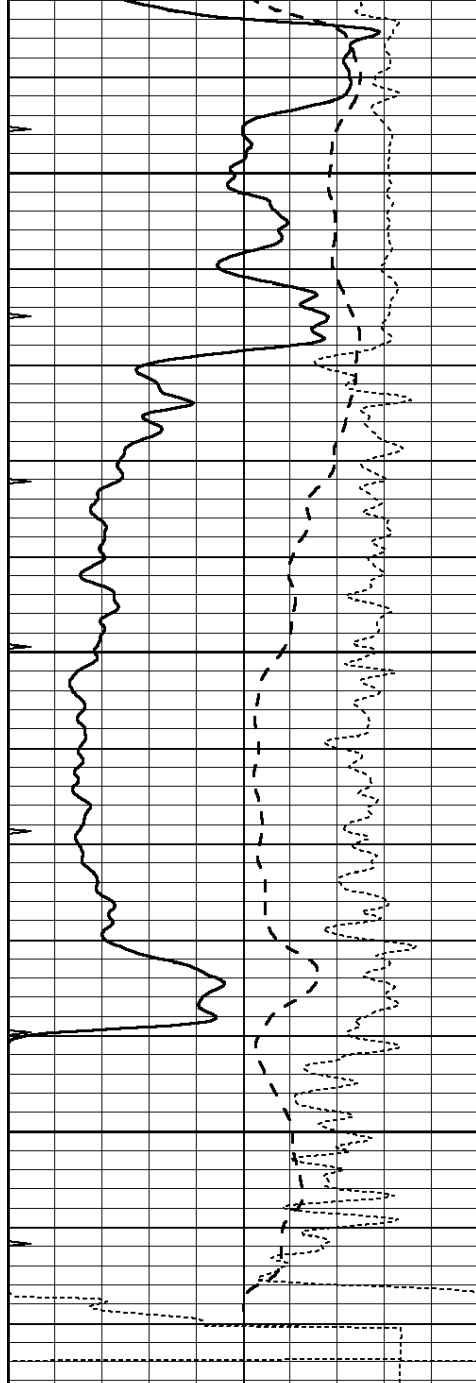
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



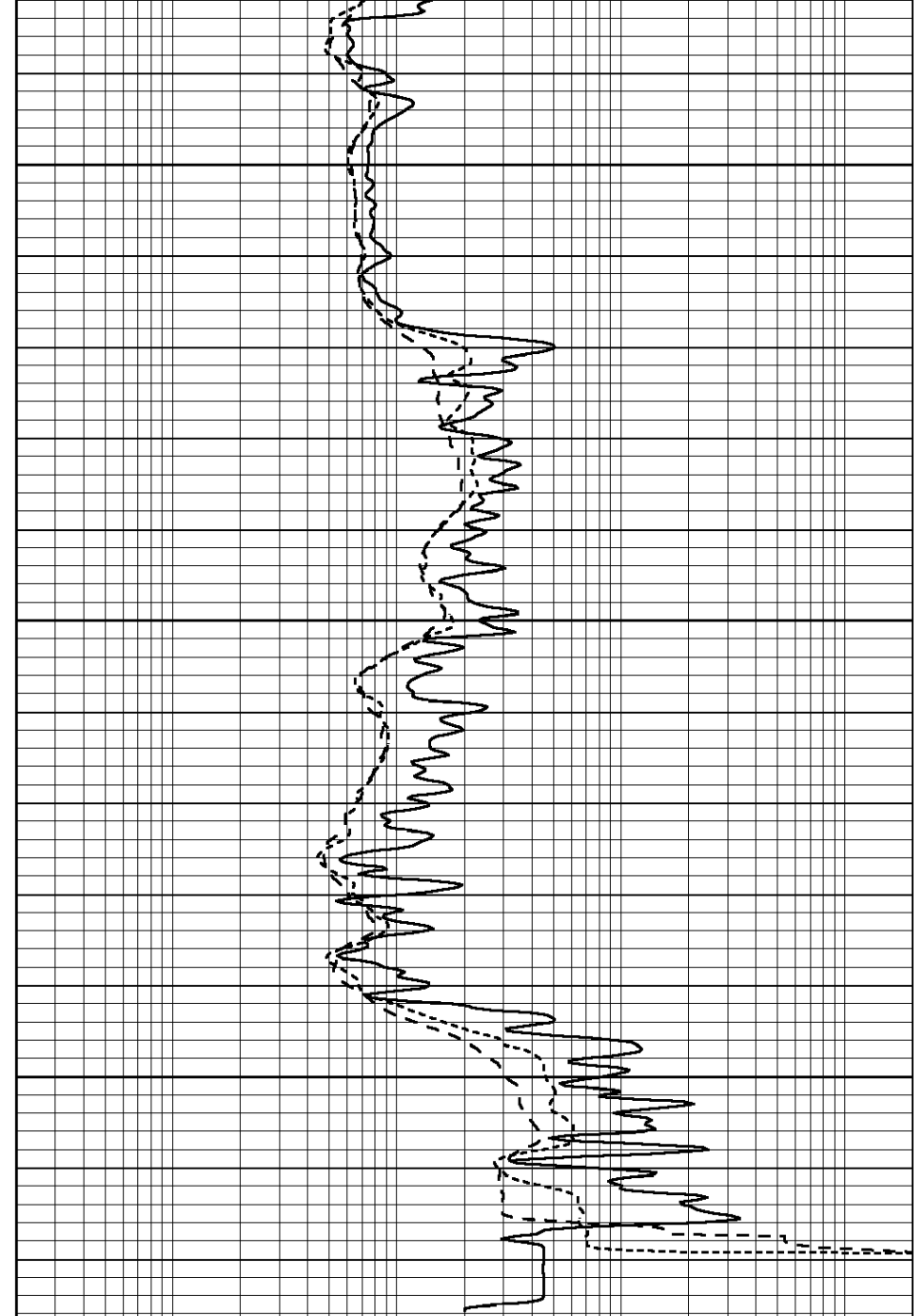
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0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3400  
3450  
3500



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

### Calibration Report

Database File: 30893ddn.db  
 Dataset Pathname: pass2.1  
 Dataset Creation: Sat Feb 27 02:11:49 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	
	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

