



**SUPERIOR  
Hays,  
Kansas**

**DUAL  
INDUCTION  
LOG**

Company **SHELBY, LLC.**  
Well **MILLER #1-16**  
Field **JAMES**  
County **BARTON** State **KANSAS**

Location: **API # : 15-009-25487**  
**1265' FSL & 1894' FEL**  
SEC 16 TWP 19S RGE 12W  
Permanent Datum **GROUND LEVEL** Elevation **1861**  
Log Measured From **KELLY BUSHING 12' A.G.L.**  
Drilling Measured From **KELLY BUSHING**  
Other Services  
CDL/CNL  
SONIC/MEL  
Elevation  
K.B. 1883  
D.F.  
G.L. 1861

Date	11-8-10
Run Number	ONE
Depth Driller	3550
Depth Logger	3548
Bottom Logged Interval	3546
Top Log Interval	00
Casing Driller	738
Casing Logger	738
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.1 / 48
pH / Fluid Loss	10.0 / 8.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.55 @ 2 73F
Rmf @ Meas. Temp	0.41 @ 73F
Rmc @ Meas. Temp	0.66 @ 73F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.370 @ 108F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	11:50 A.M.
Maximum Recorded Temperature	108F
Equipment Number	860
Location	HAYS, KS.
Recorded By	RUPP
Witnessed By	KEITH REAVIS

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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

**SUPERIOR WELL SERVICES**  
 785-628-6395  
**THANK YOU FOR YOUR BUSINESS**  
 DIRECTIONS: GREAT BEND, E TO #156, N.E. TO RD. #20, 1/2E, S INTO.



**SUPERIOR  
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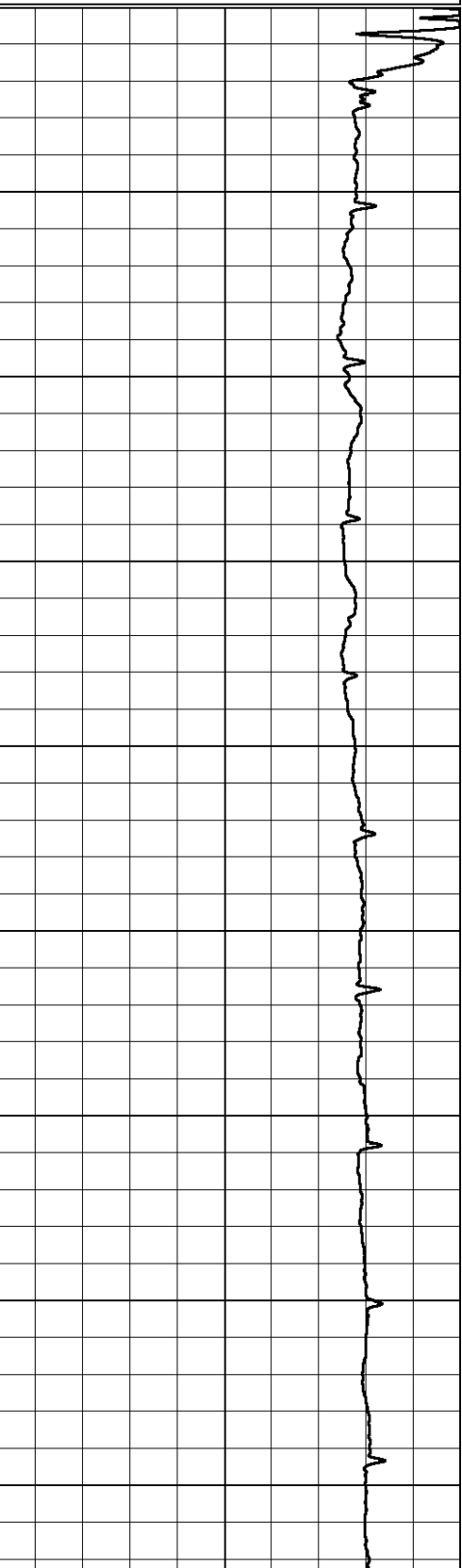
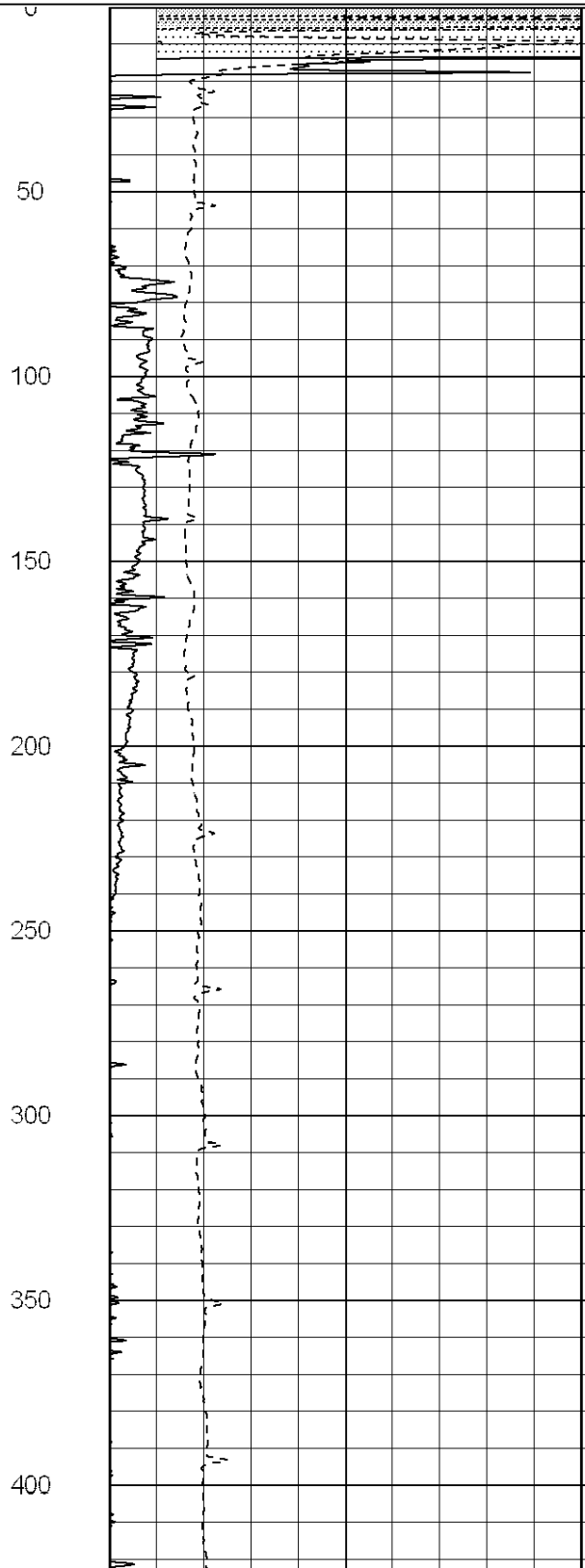
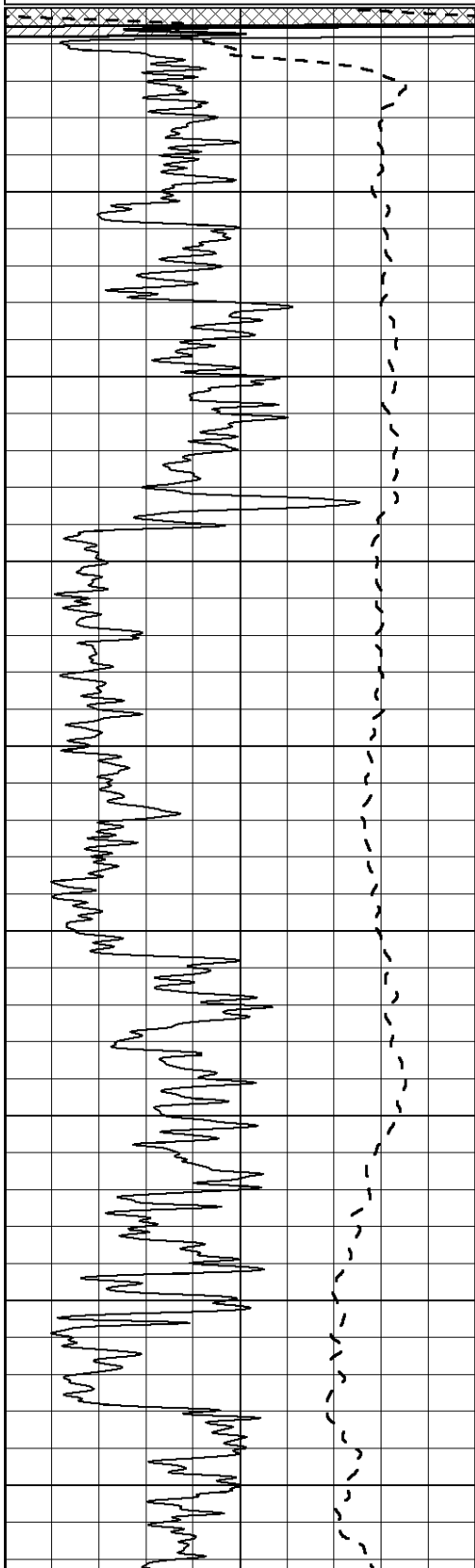
**MAIN SECTION**

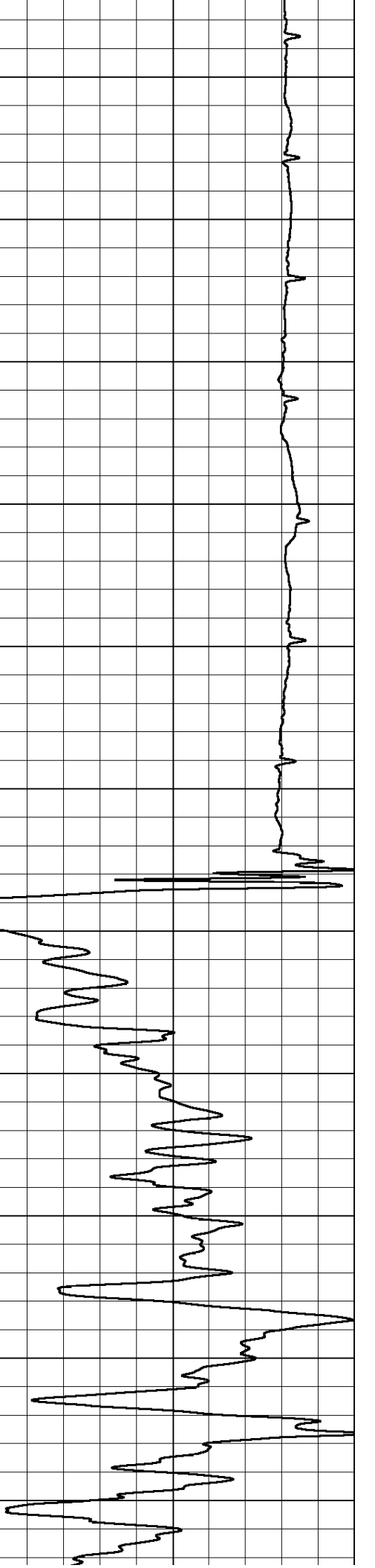
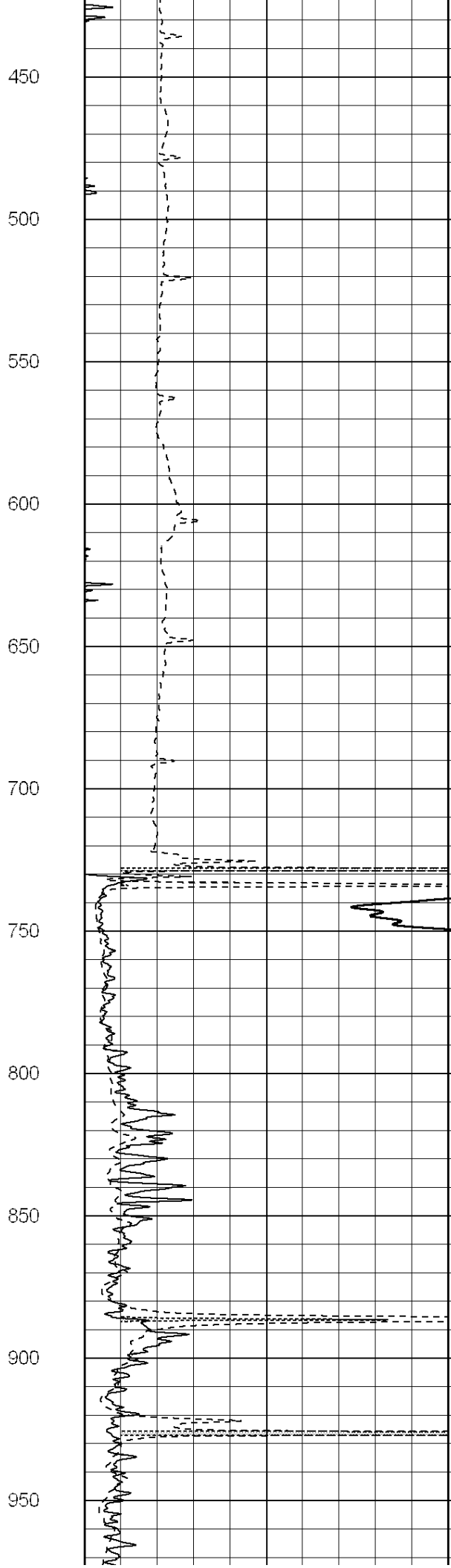
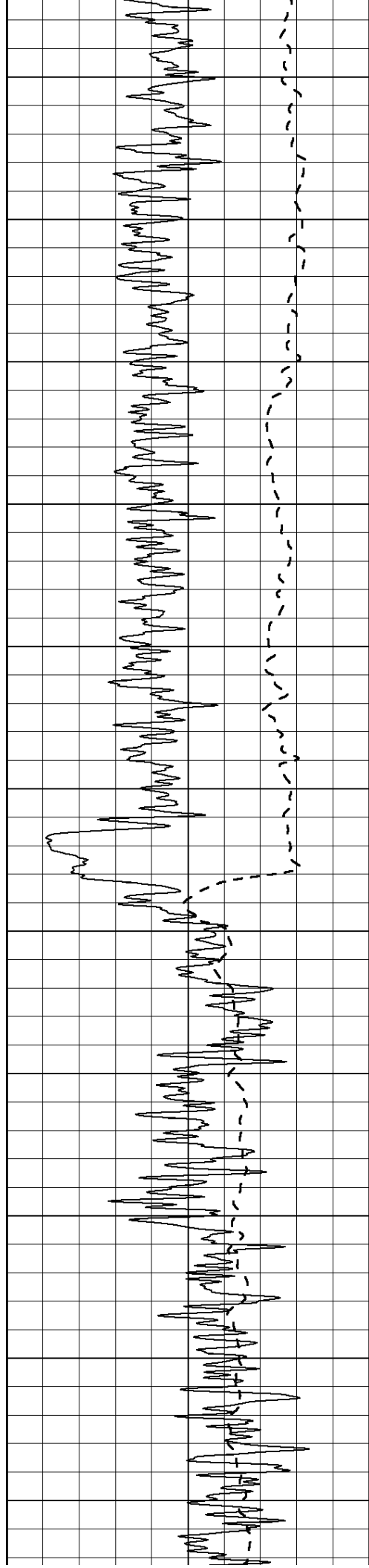
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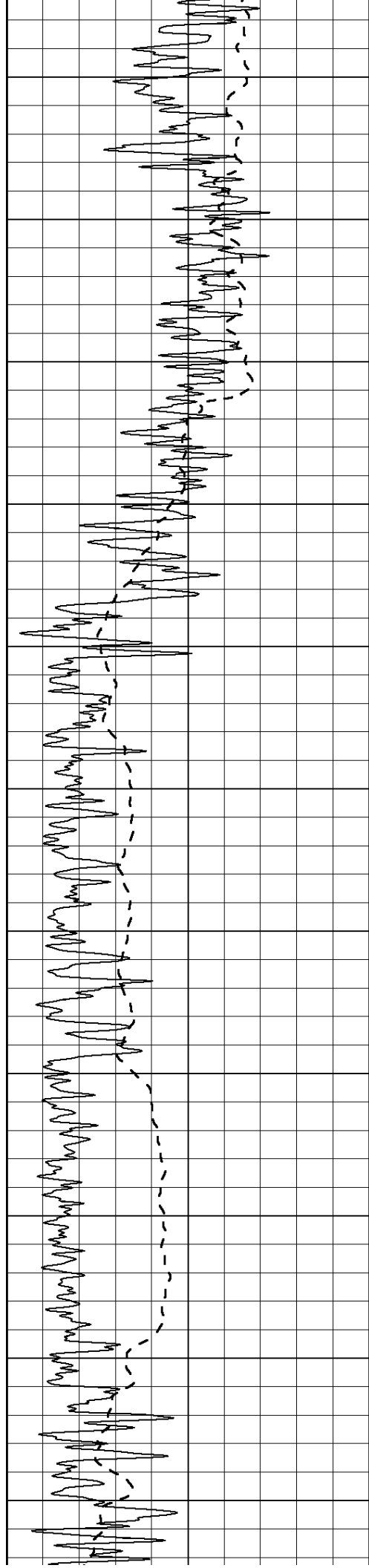
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-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50

1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500







1000

1050

1100

1150

1200

1250

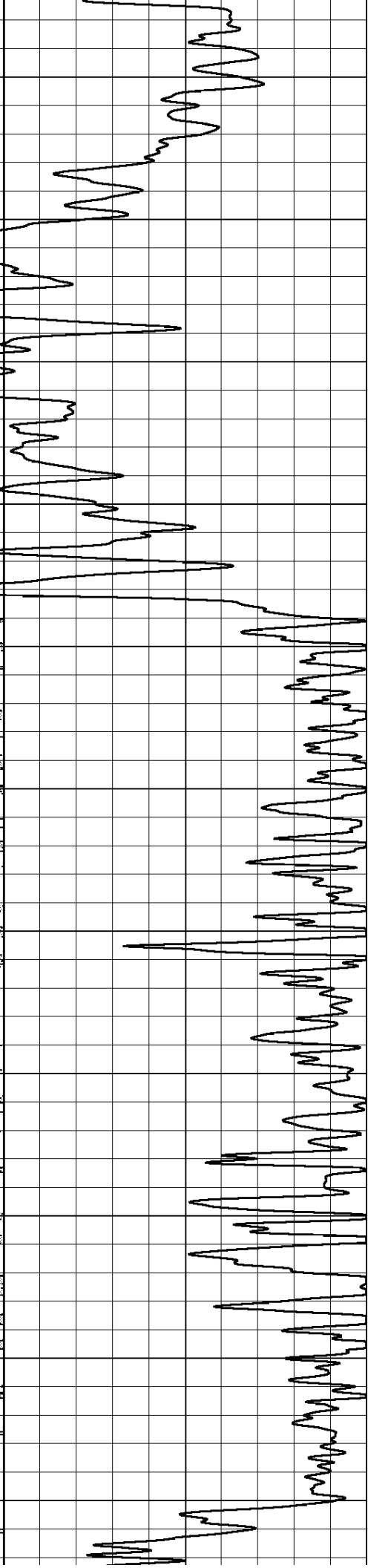
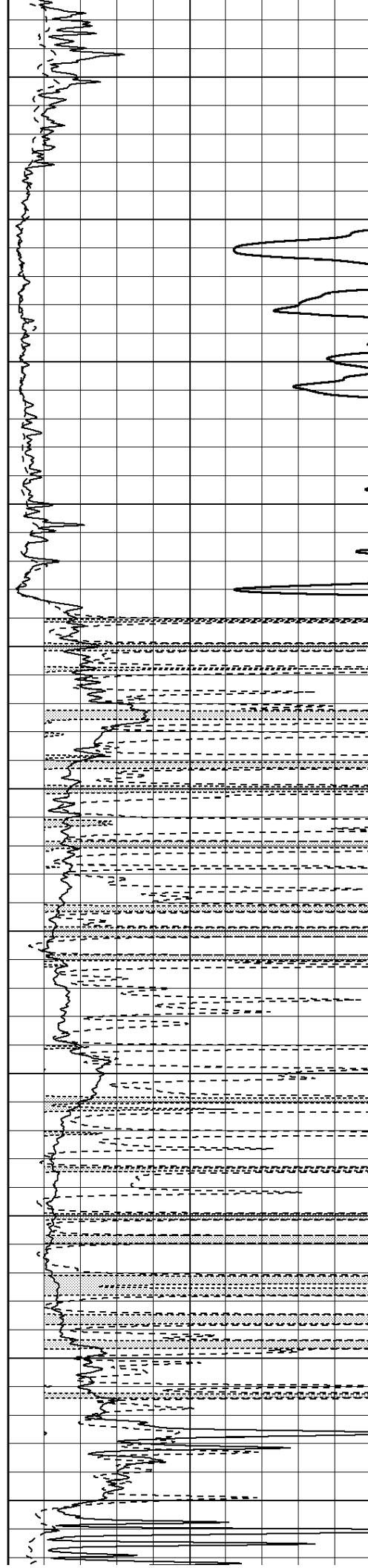
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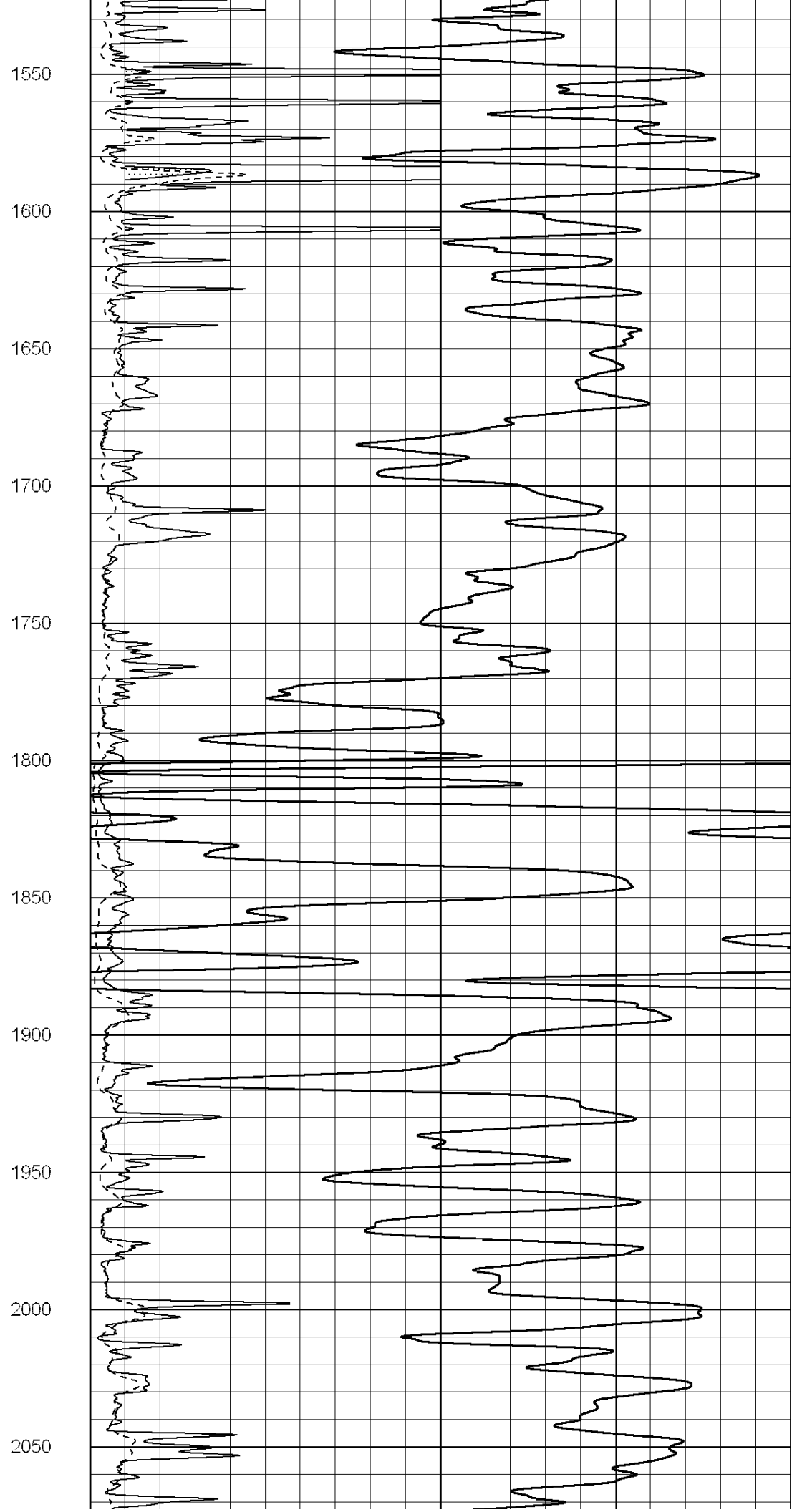
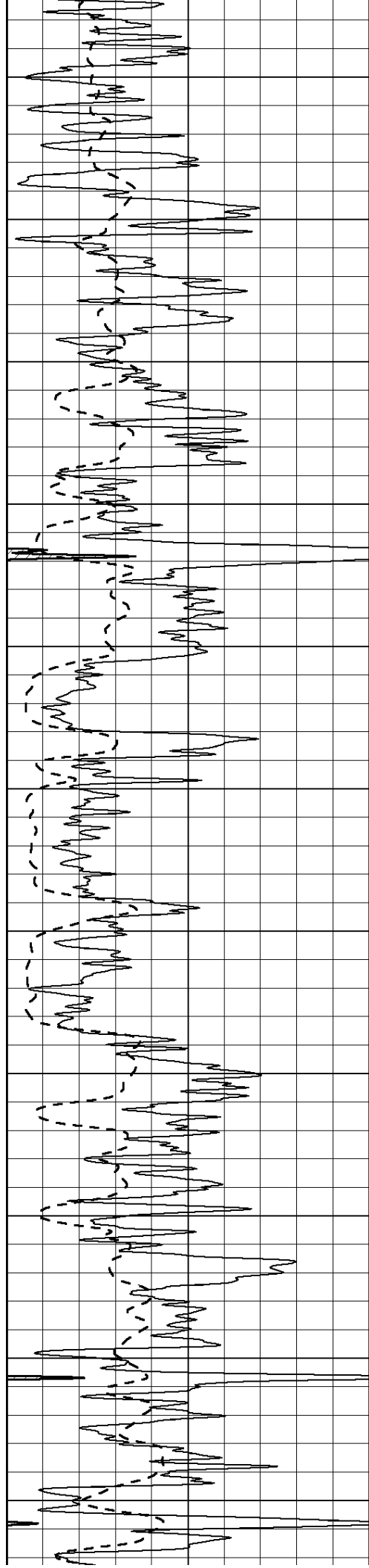
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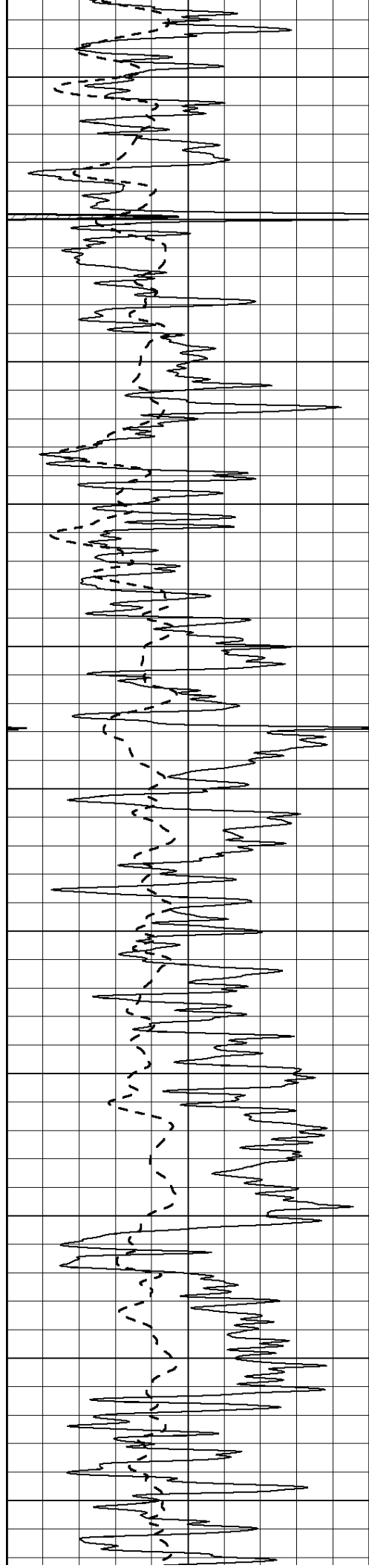
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1450

1500







2100

2150

2200

2250

2300

2350

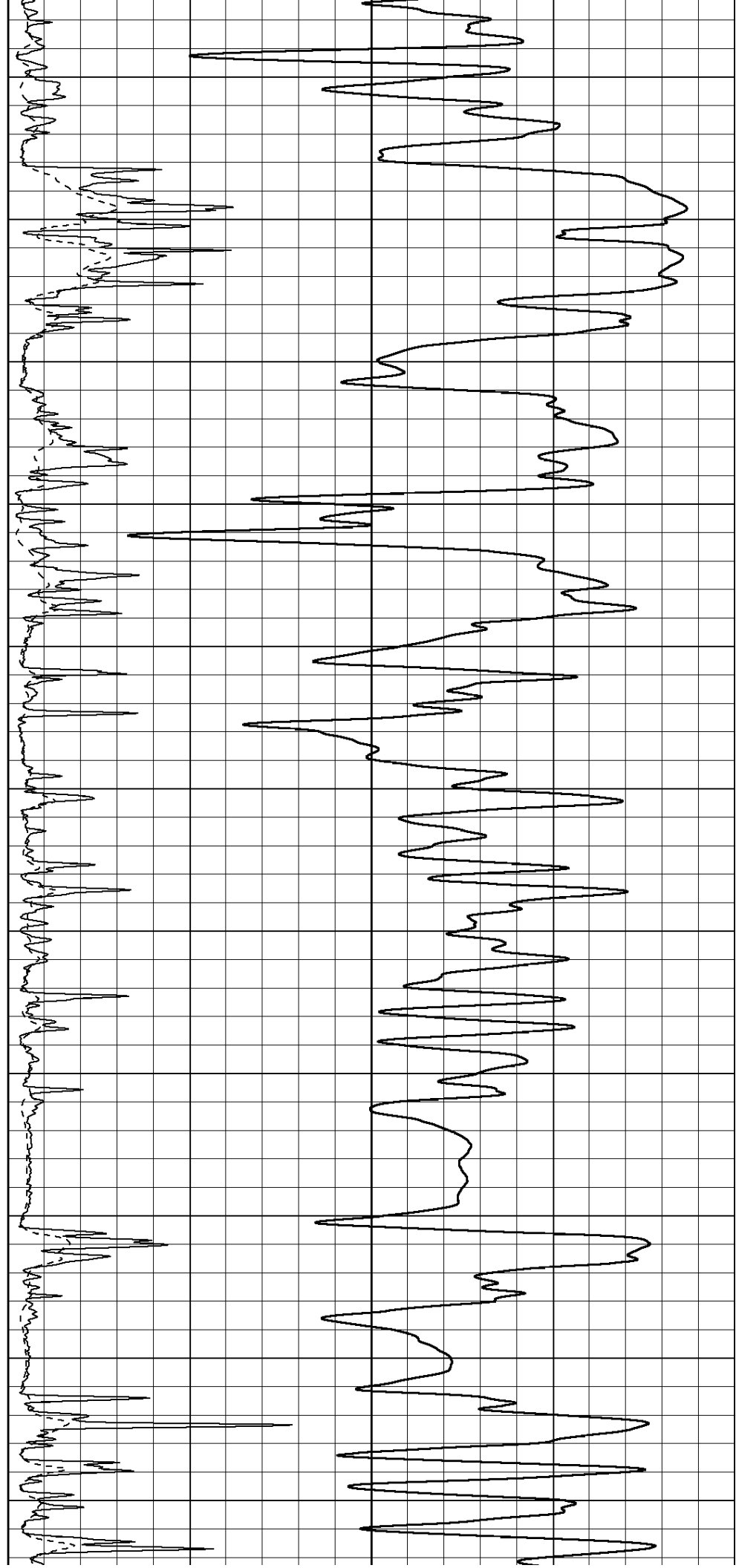
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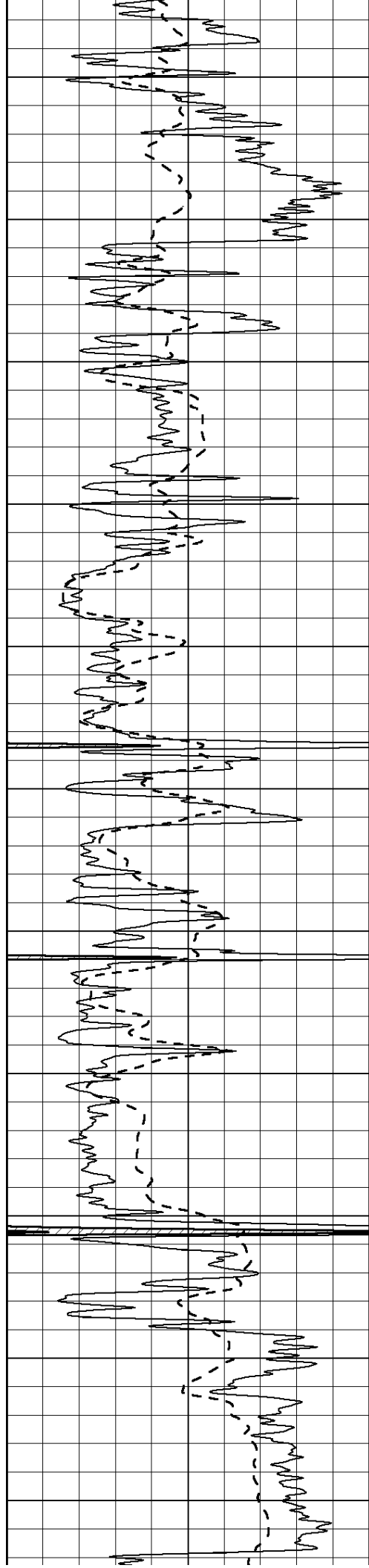
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2500

2550

2600





2650

2700

2750

2800

2850

2900

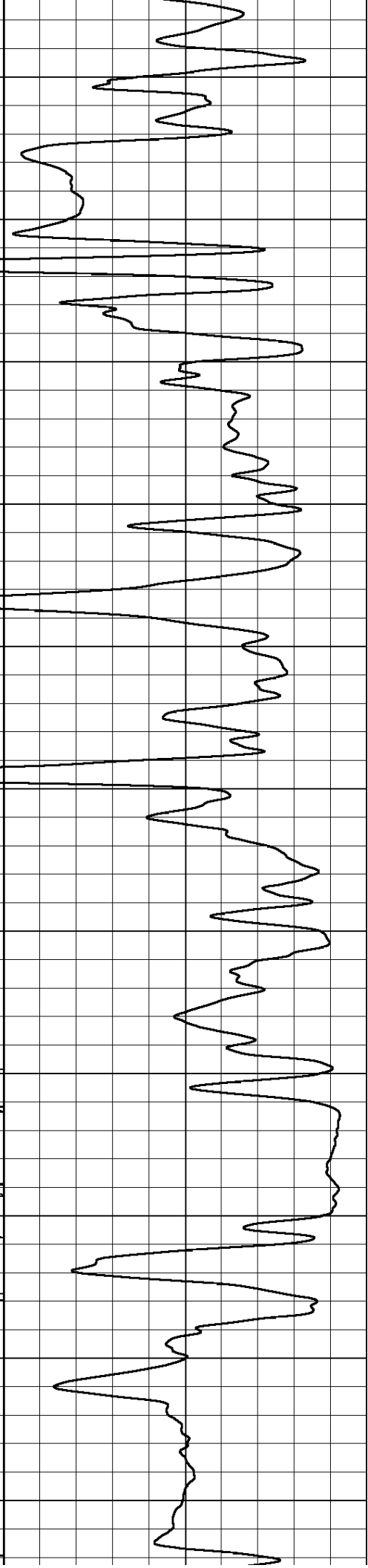
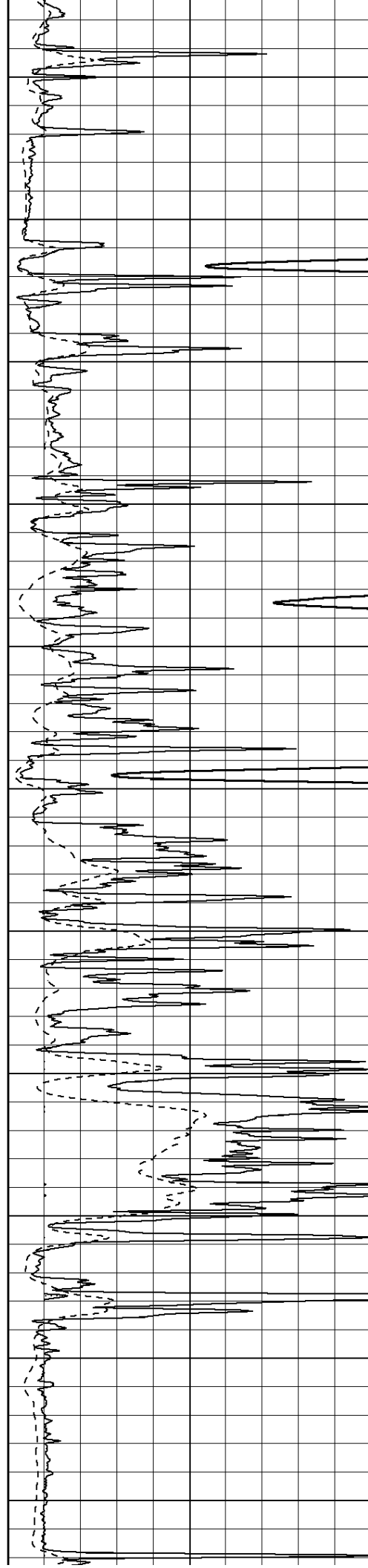
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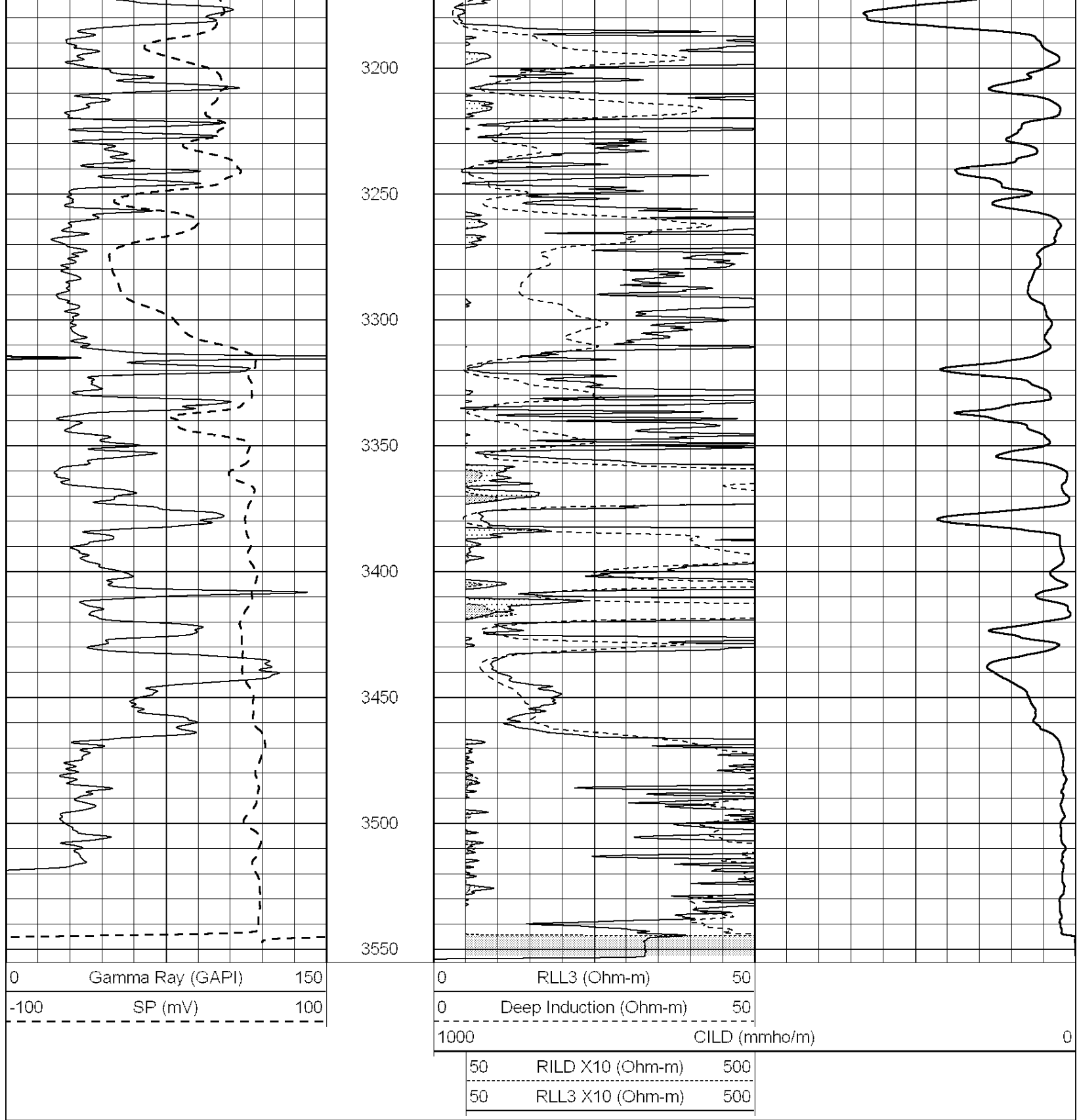
3000

3050

3100

3150





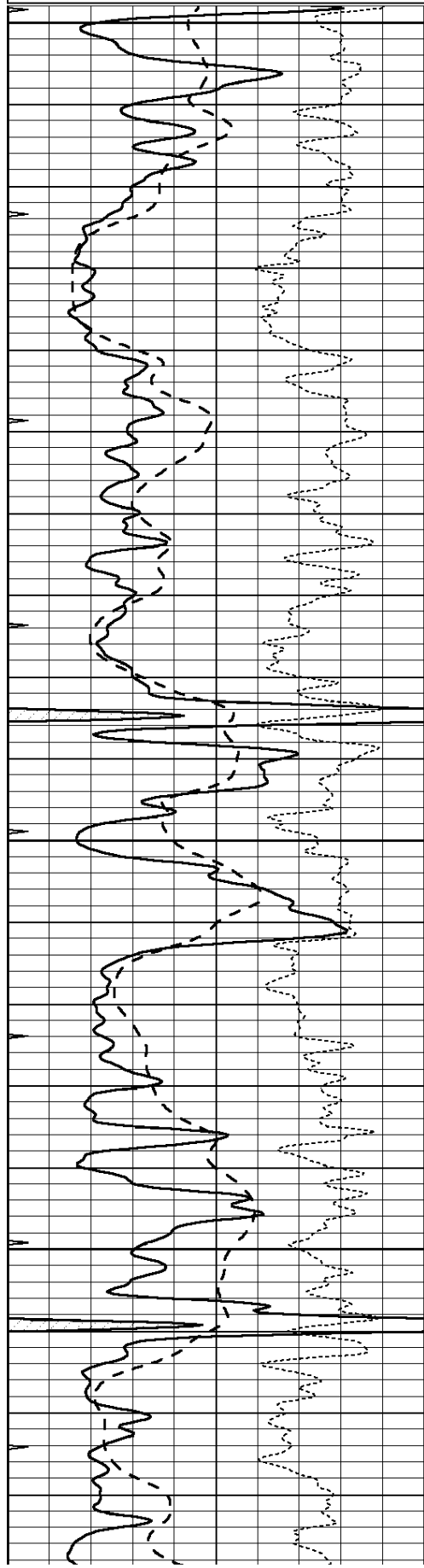
**SUPERIOR**  
 WELL SERVICES  
**Hays,**  
**Kansas**

# MAIN SECTION

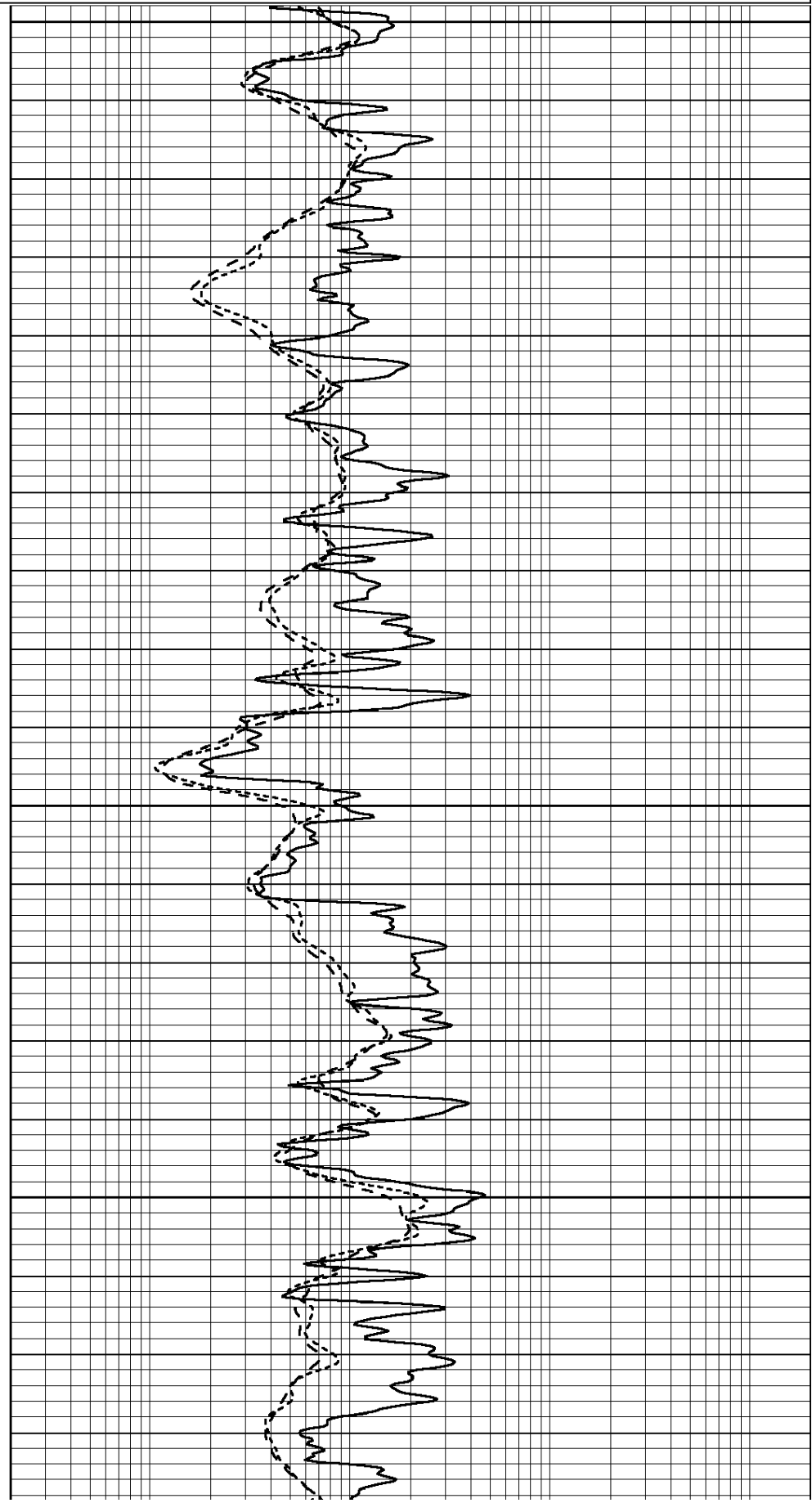
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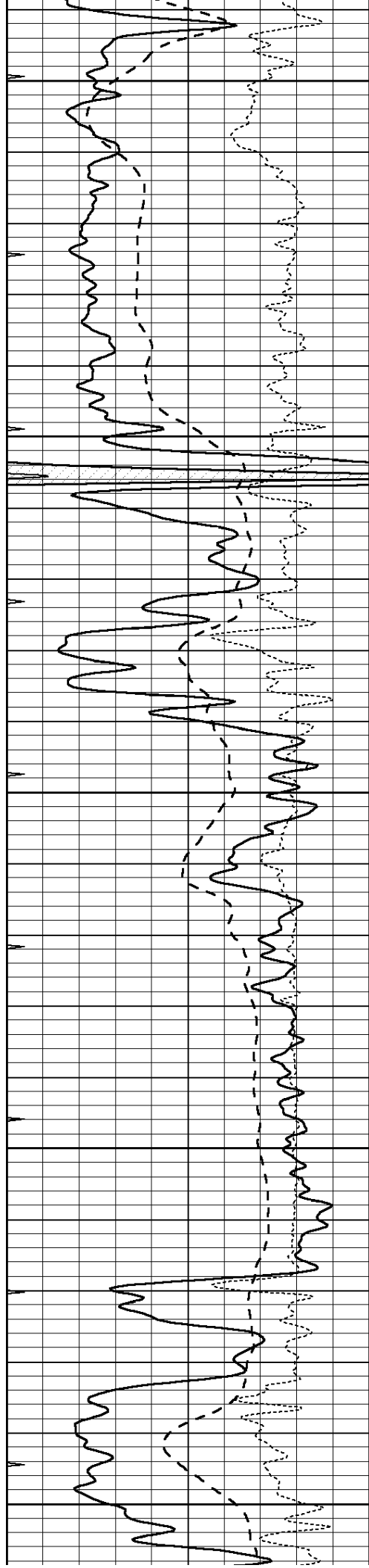
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



2800  
2850  
2900  
2950





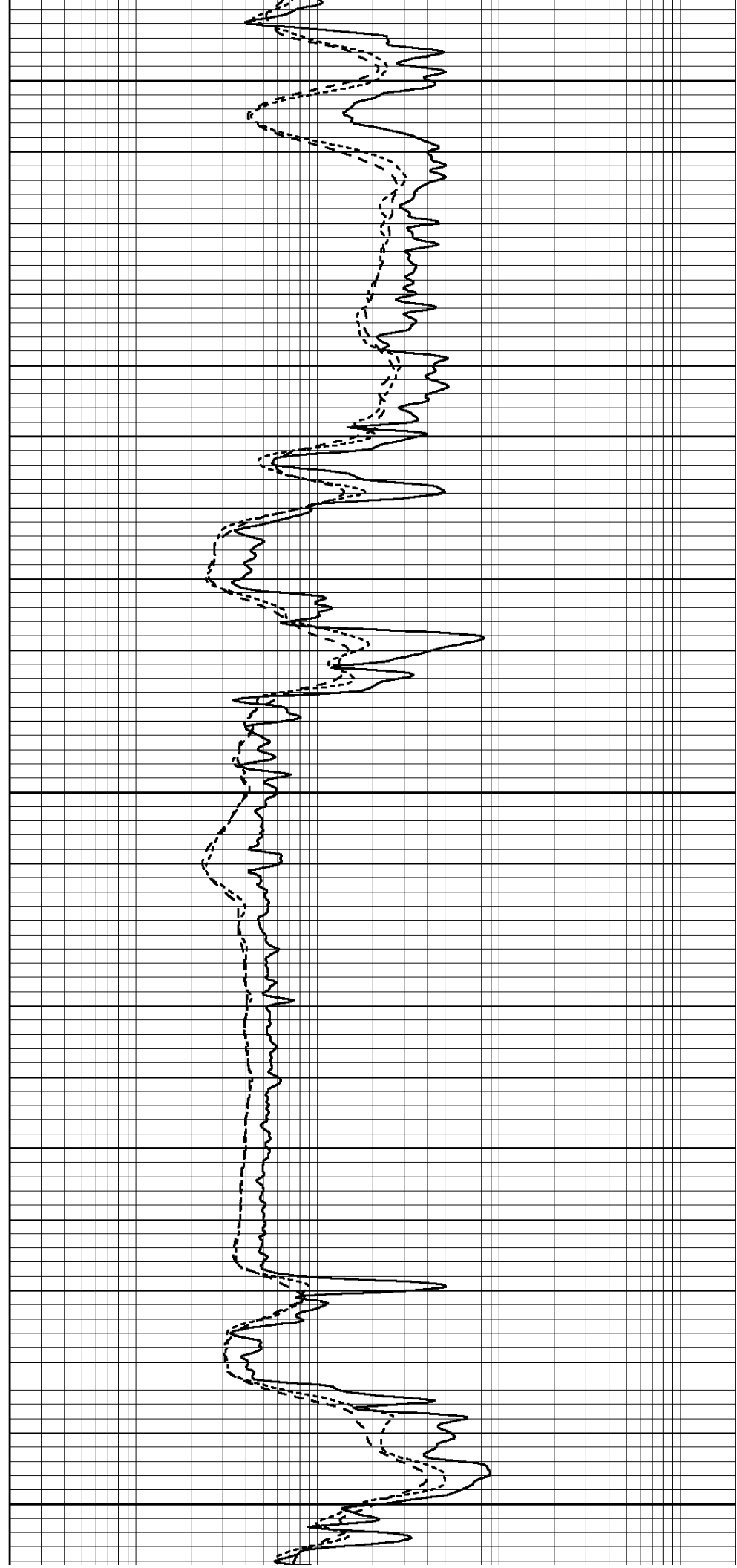
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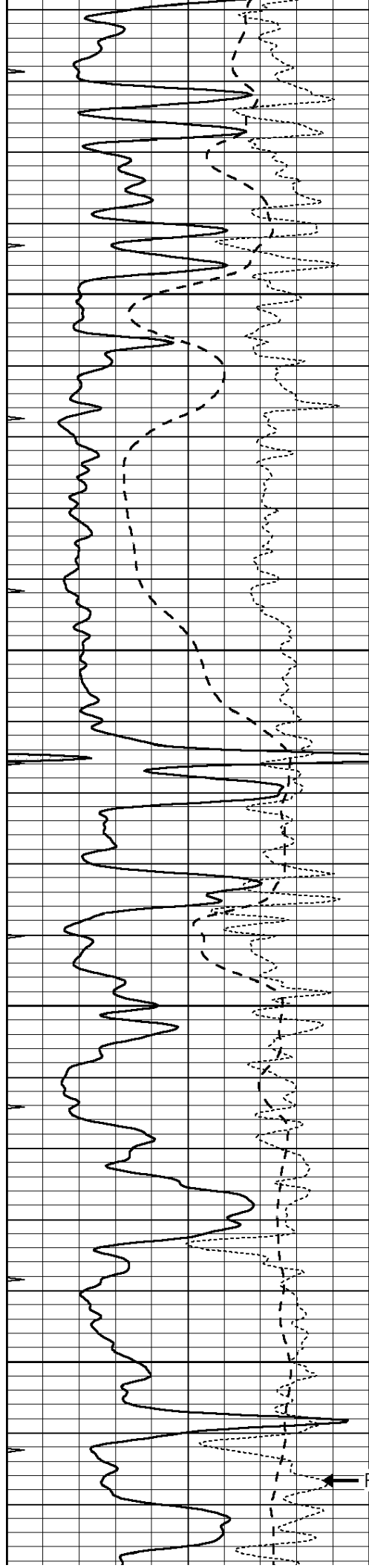
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3100

3150

3200





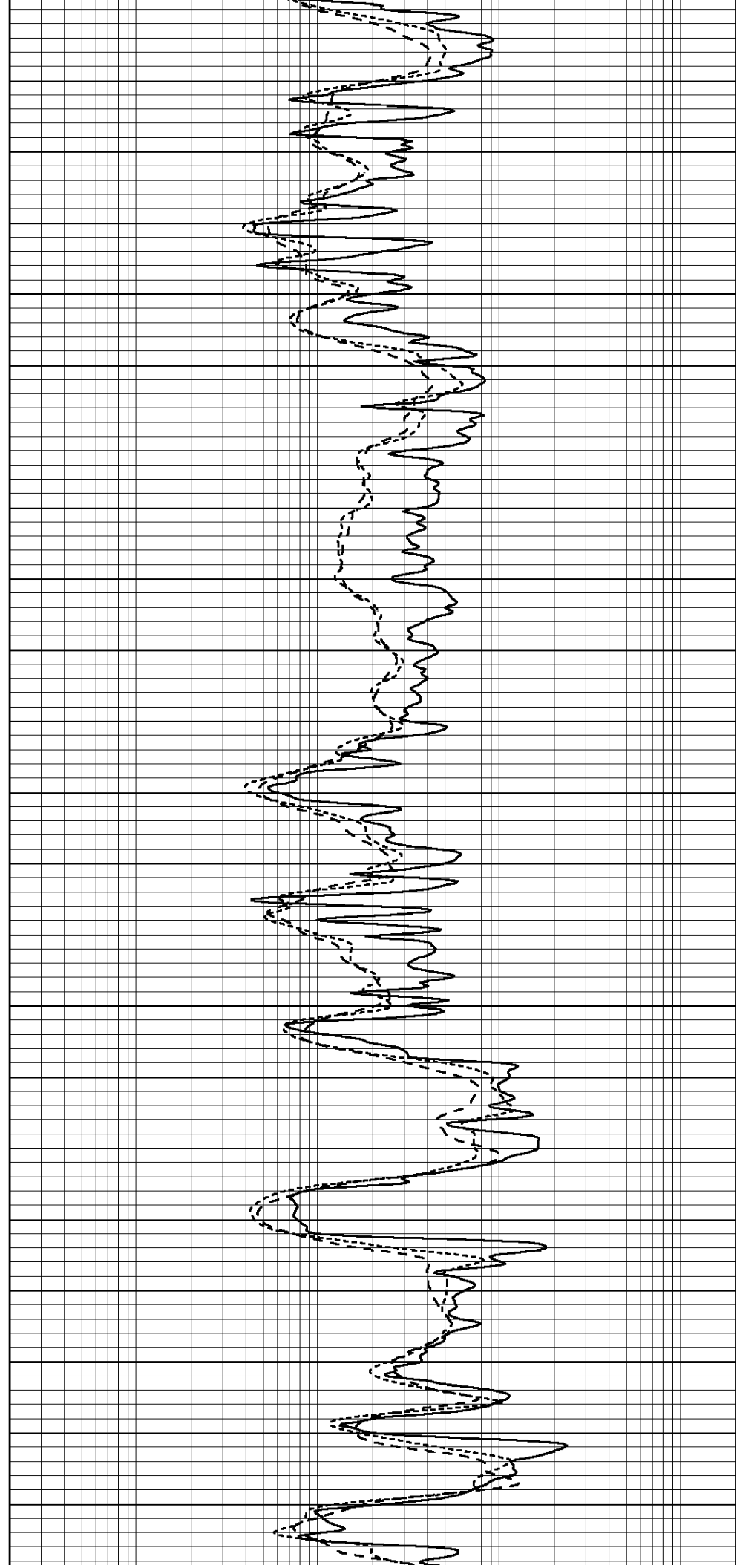
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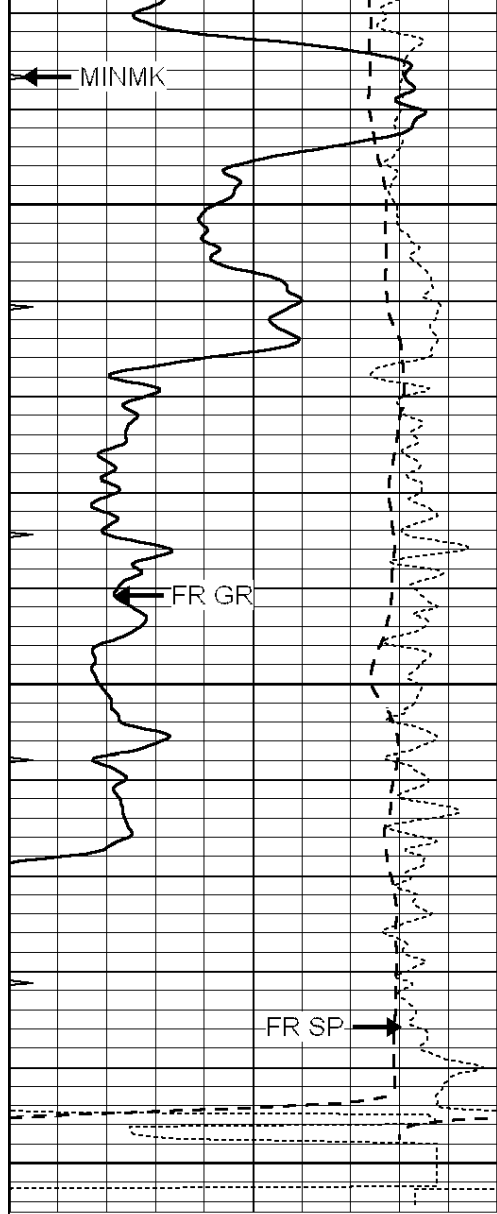
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3350

3400

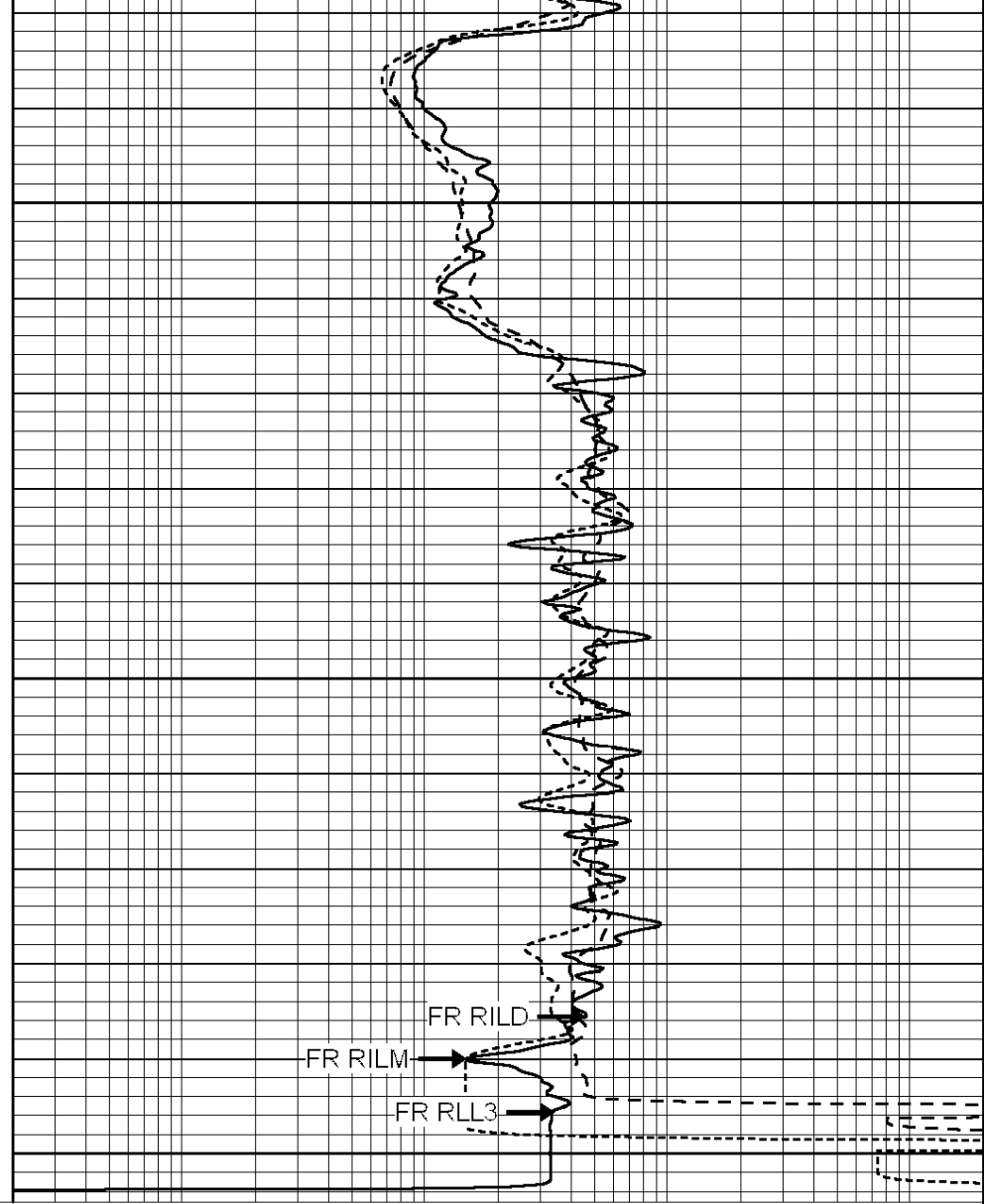
← RxoRt





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

3450  
3500  
3550



0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



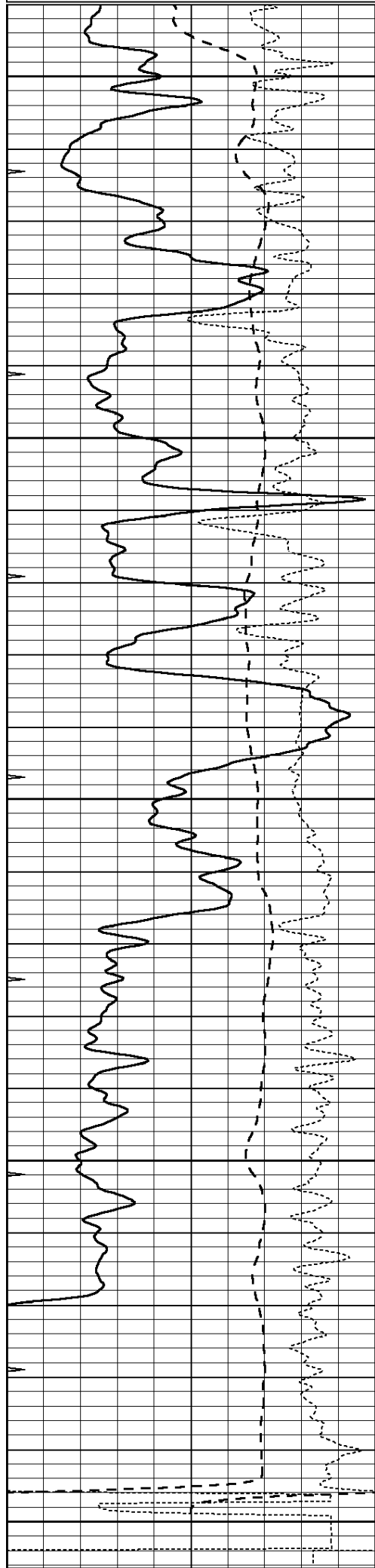
SUPERIOR  
Hays,  
Kansas

# REPEAT SECTION

Database File: 005914ddn.db  
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 Presentation Format: dil  
 Dataset Creation: Mon Nov 08 12:39:03 2010 by Log Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



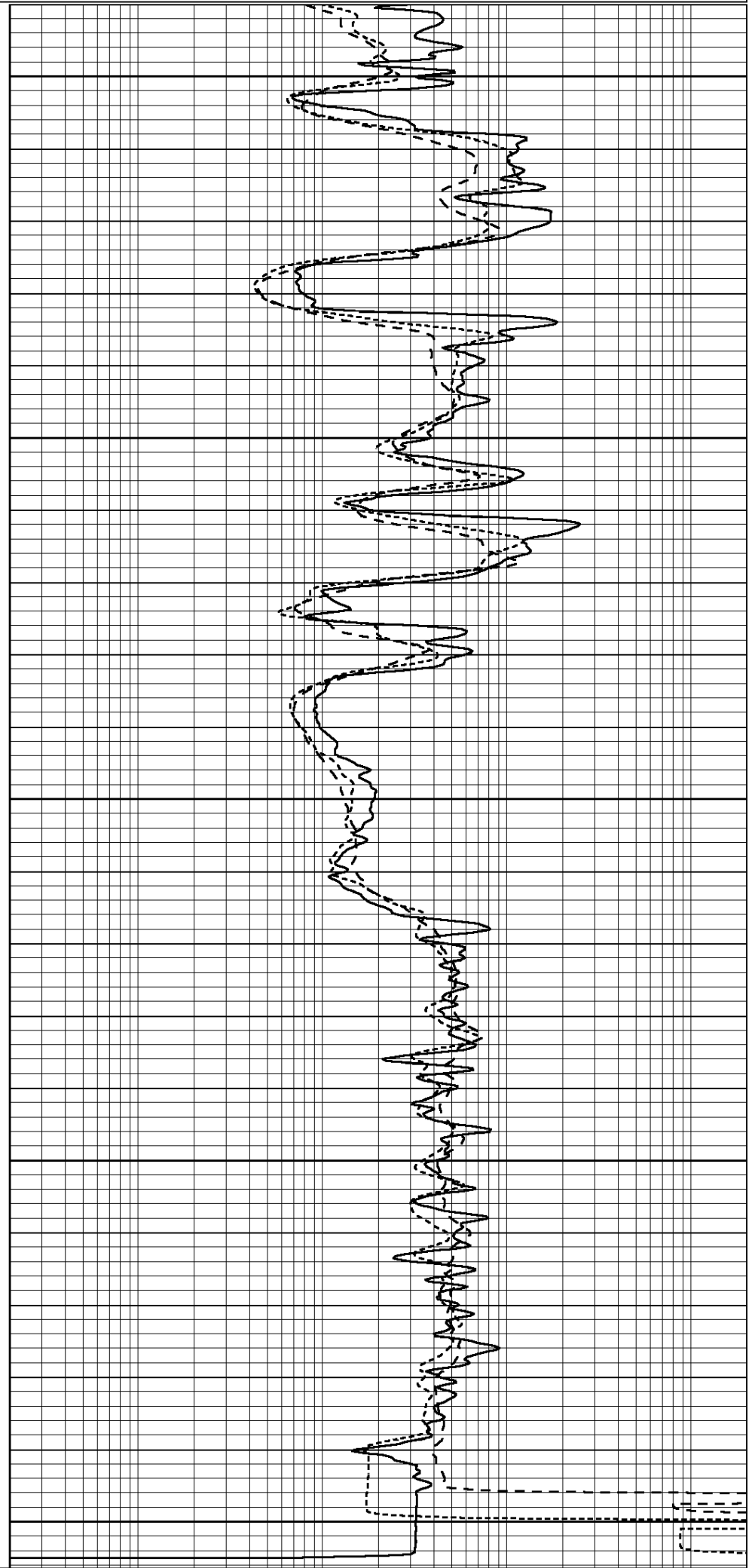
3350

3400

3450

3500

3550



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Calibration Report

Database File: 005914ddn.db  
 Dataset Pathname: pass3.1  
 Dataset Creation: Mon Nov 08 13:52:10 2010 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: DIL5-GEAR  
 Performed: Mon Nov 08 13:10:48 2010

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	540.000	-10.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	520.000	-10.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.006	0.655	V	0.000	400.000	mmho/m	615.668	-3.483
Medium	0.010	0.747	V	0.000	462.500	mmho/m	627.607	-6.064

Compensated Density Calibration Report

Serial-Model: GEAR1-GEARHART  
 Source / Verifier: 147 / 147  
 Master Calibration Performed: Mon Nov 08 06:40:55 2010

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1243.76	629.14	cps
Aluminum	2.590	g/cc	282.16	435.01	cps
Spine Angle = 76.03			Density/Spine Ratio = 0.576		
	Size		Reading		
Small Ring	7.70	in	3.82	V	
Large Ring	14.00	in	6.37	V	

Compensated Neutron Calibration Report

Serial Number: NEU\_11  
 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

Gamma Ray Calibration Report

Serial Number: GR5  
 Tool Model: OPEN  
 Performed: Mon Nov 08 12:08:10 2010

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6500	GAPI/cps