



**SUPERIOR**  
**Hays,**  
**Kansas**

**DUAL**  
**INDUCTION**  
**LOG**

Company OIL PRODUCERS INC OF KANSAS  
 Well LOWRY #1-20  
 Field BRAY  
 County ROOKS State KANSAS

Company OIL PRODUCERS INC OF KANSAS  
 Well LOWRY #1-20  
 Field BRAY  
 County ROOKS  
 State KANSAS

Location: API #: 15-163-24058-0000  
 780' FSL & 3845' FWL  
 SW - NW - SE - SE  
 SEC 20 TWP 8S RGE 19W  
 Permanent Datum GROUND LEVEL Elevation 1999  
 Log Measured From KELLY BUSHING 9' A.G.L.  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 CDL/CNL  
 MEL/SON  
 Elevation  
 K.B. 2008  
 D.F. 2006  
 G.L. 1999

Date	9/8/12		
Run Number	ONE		
Depth Driller	3520		
Depth Logger	3522		
Bottom Logged Interval	3520		
Top Log Interval	0		
Casing Driller	332		
Casing Logger	332		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.0 / 54	CHLORIDES 1,600 PPM	
pH / Fluid Loss	10.5 / 7.8		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	0.80 @ 74F		
Rmf @ Meas. Temp	0.60 @ 74F		
Rmc @ Meas. Temp	0.96 @ 74F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	0.53 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	DOUG DAVIS		

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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 SUPERIOR WELL SERVICES  
 785-628-6395  
 ZURICH, KS - 7 MILES NORTH TO RD Q - 1 3/4 MILES WEST - NORTH INTO

0 Gamma Ray (GAPI) 150

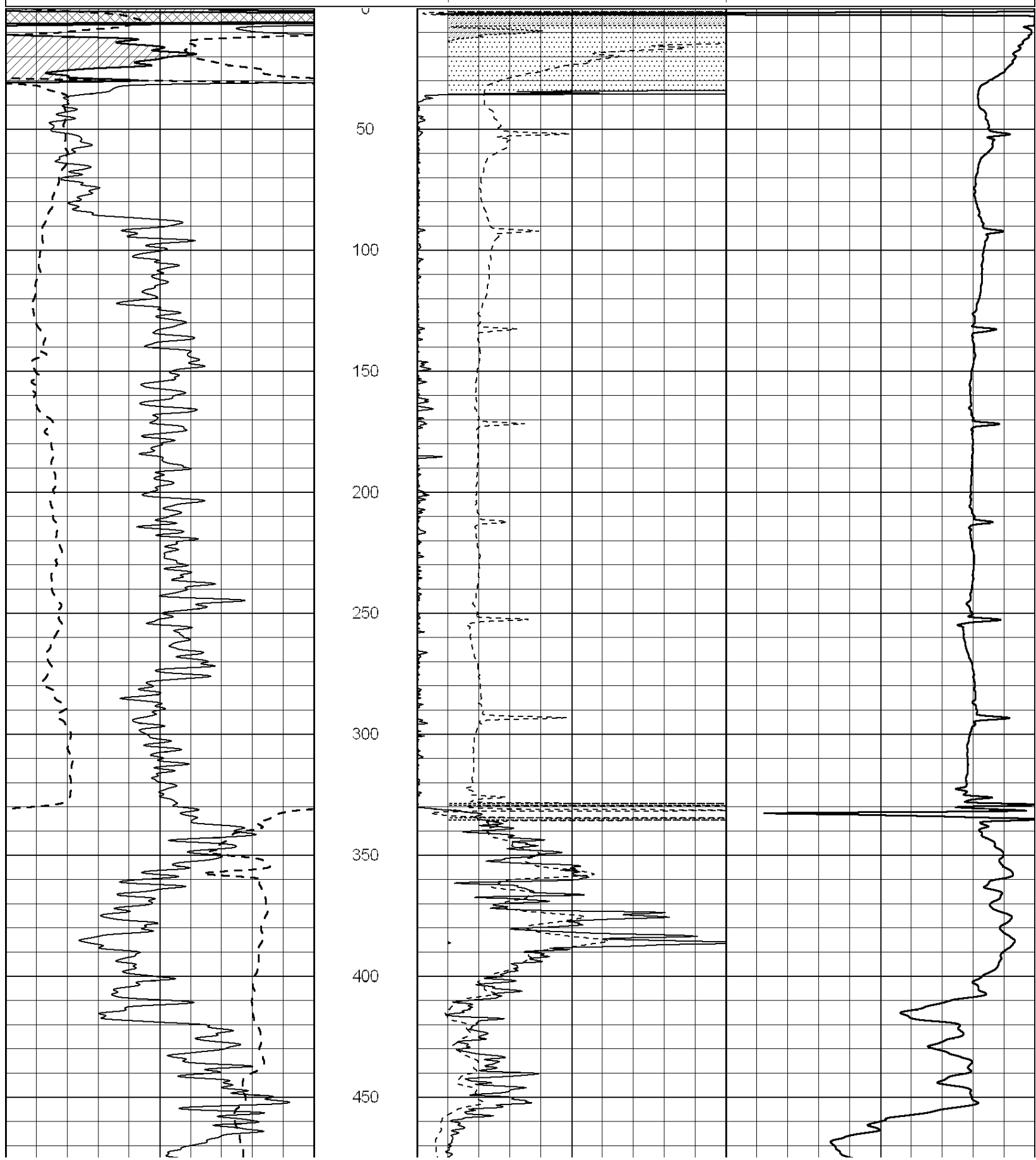
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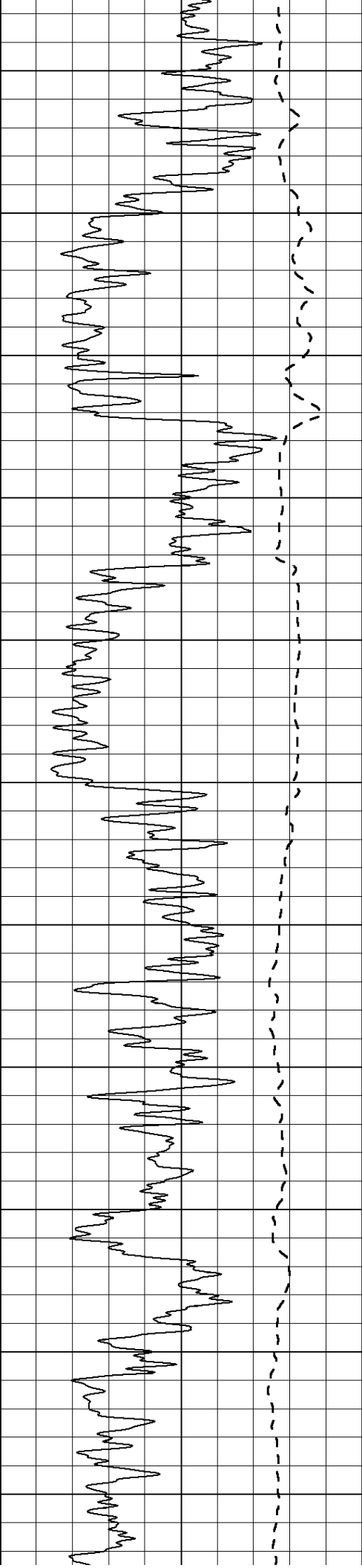
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1000 CILD (mmho/m) 0

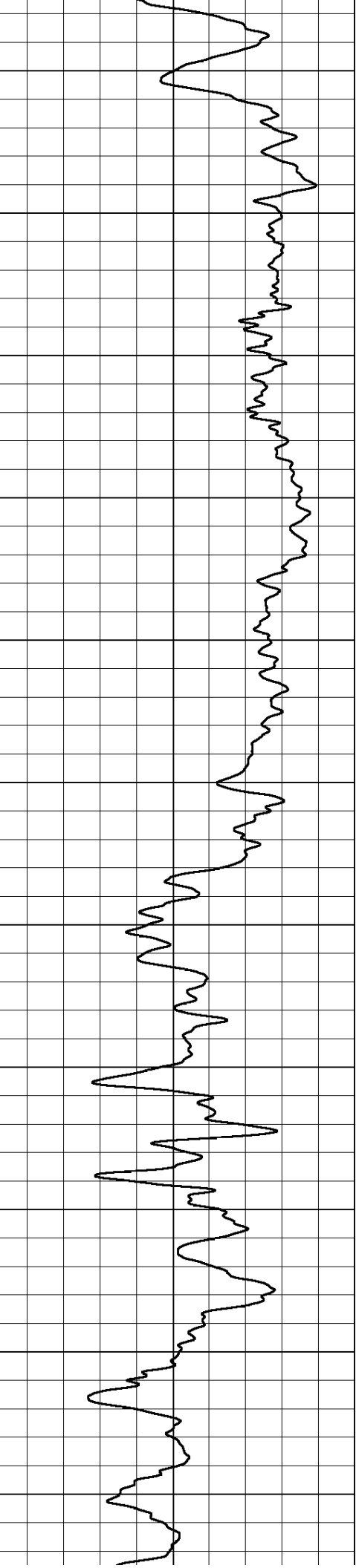
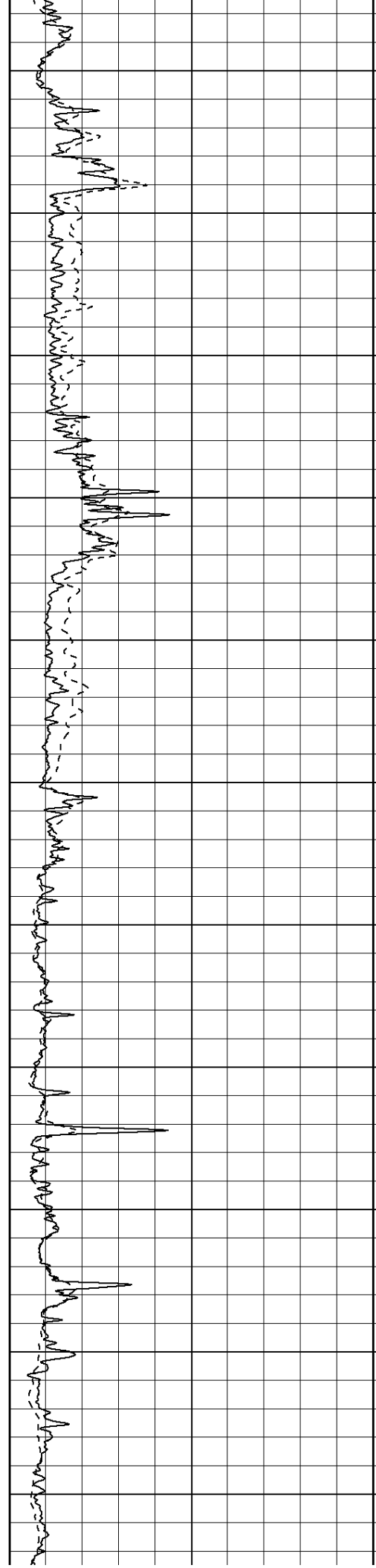
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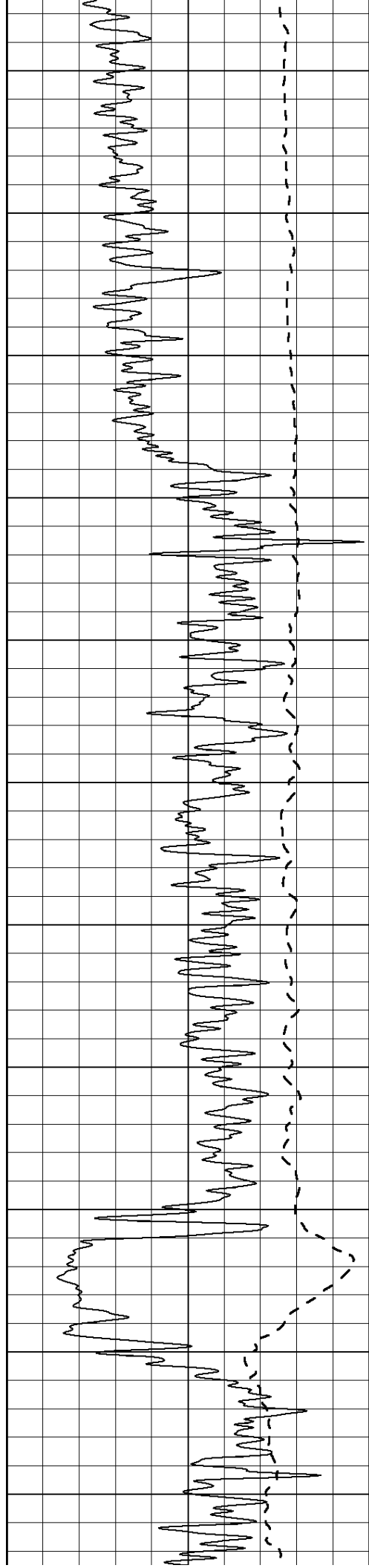
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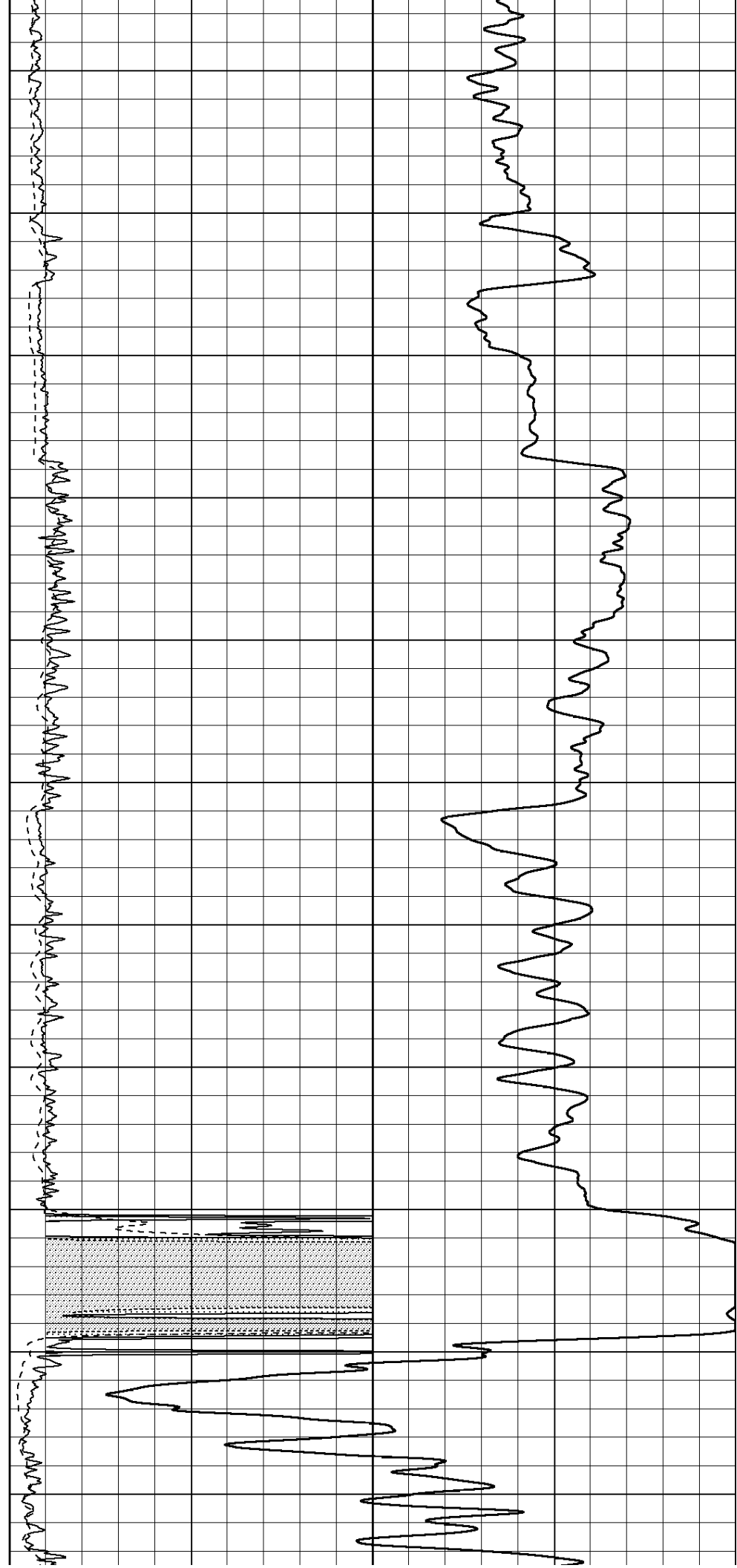


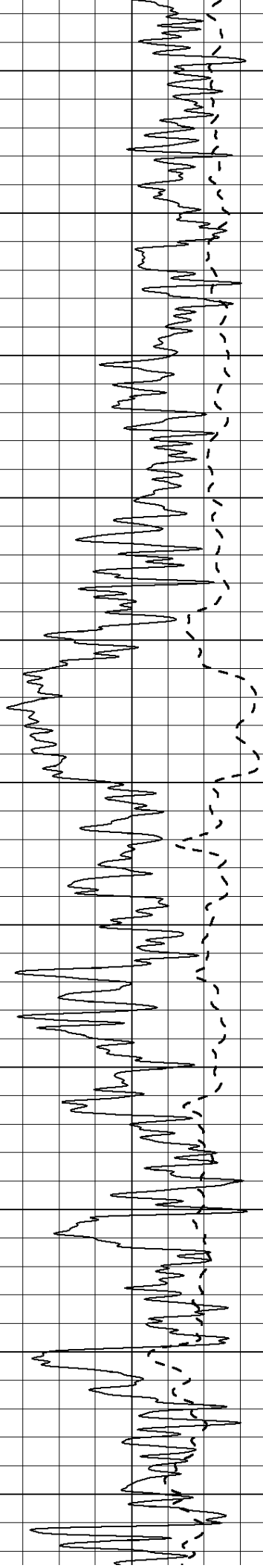
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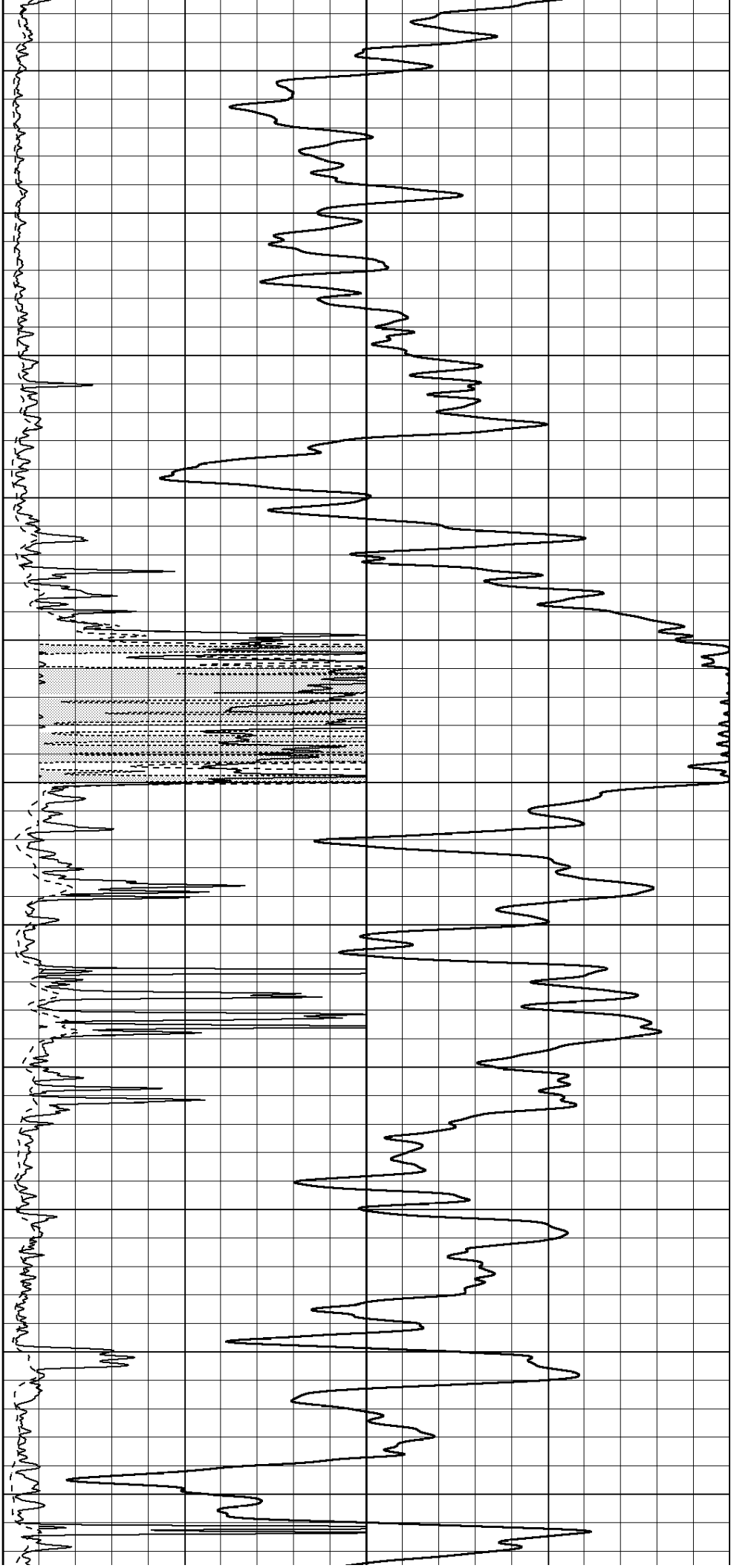


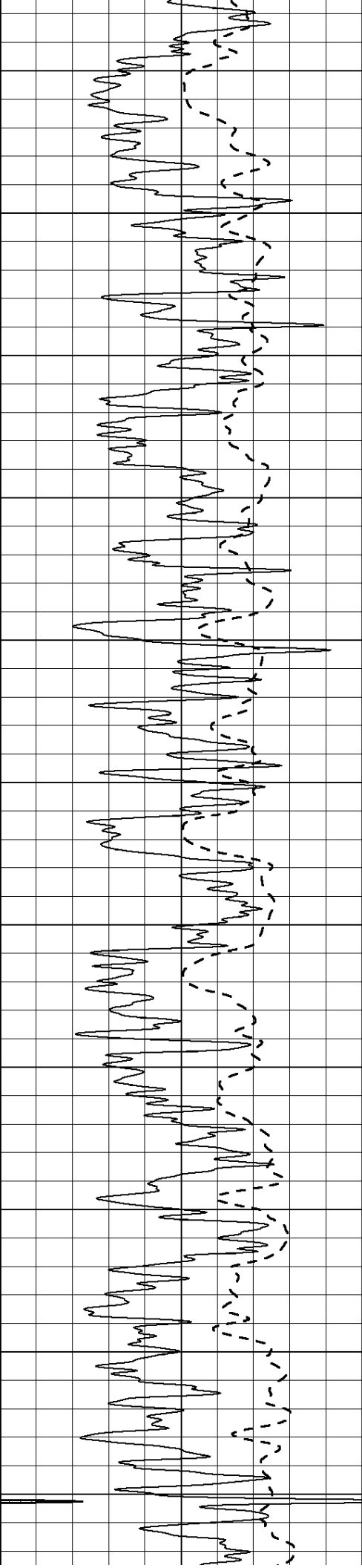
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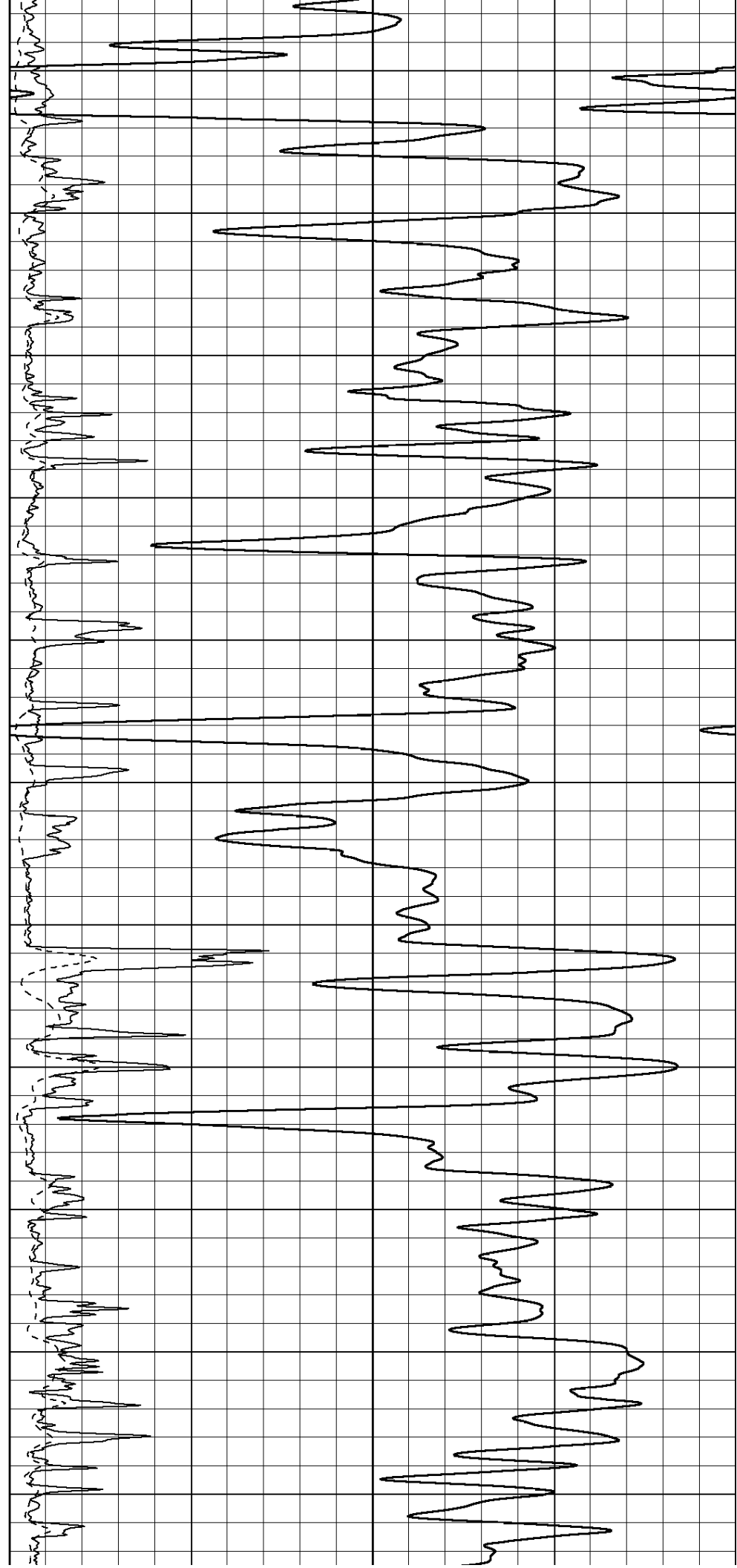


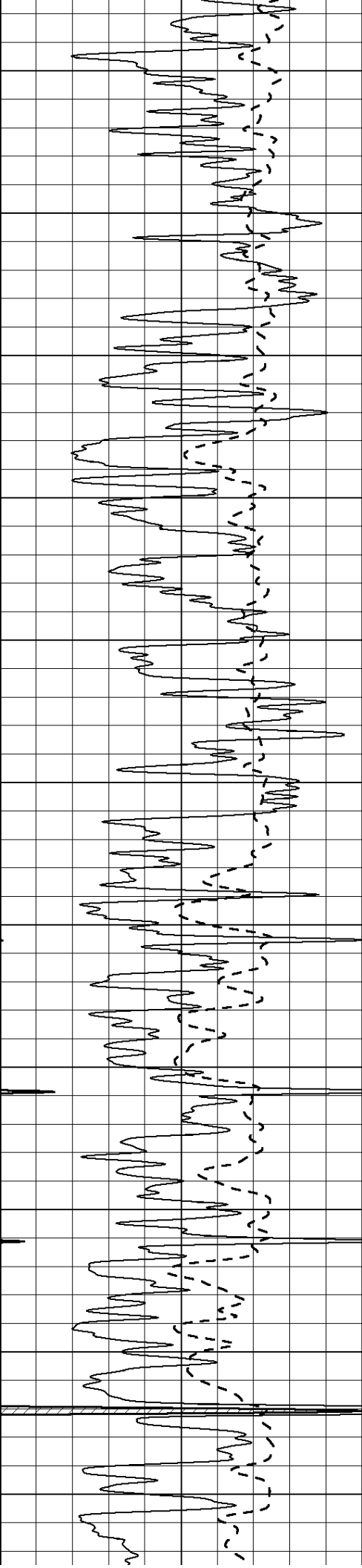
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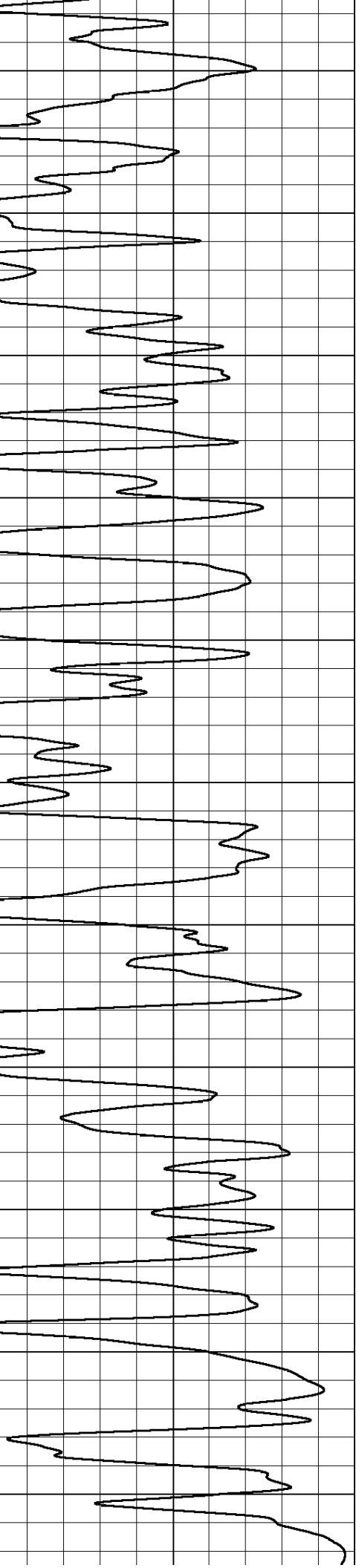
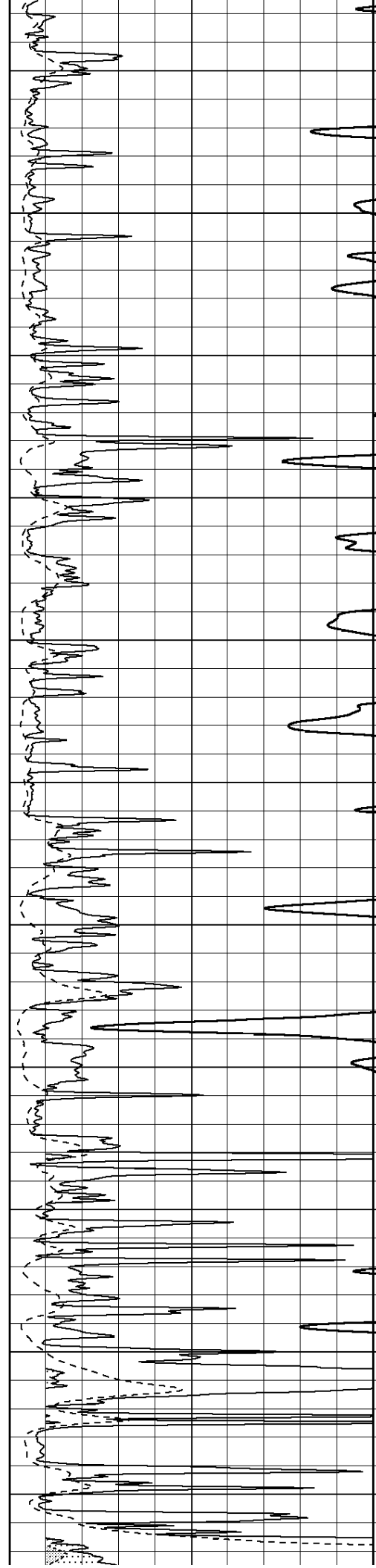


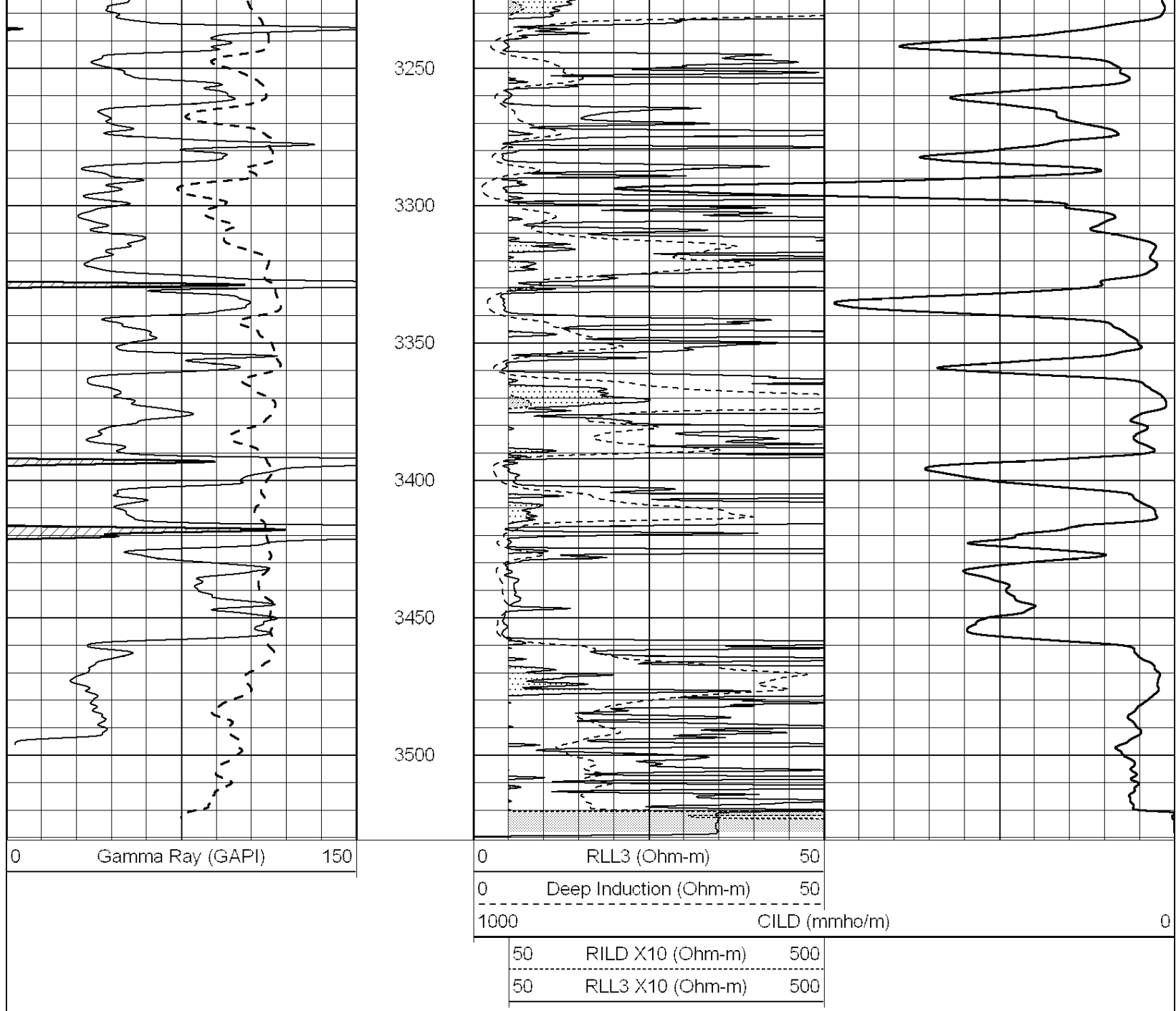
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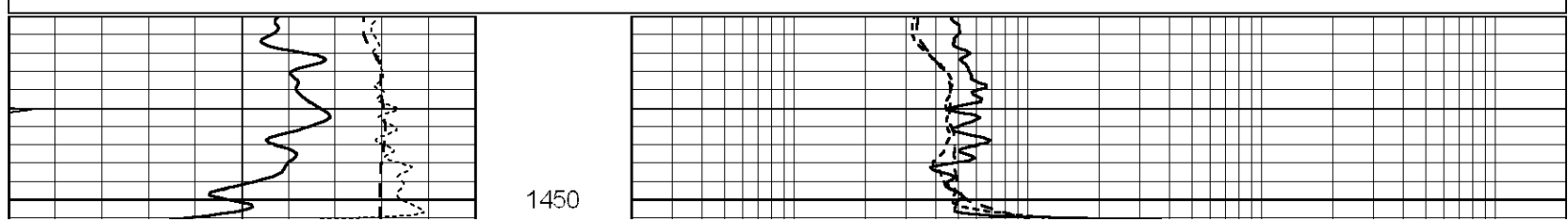
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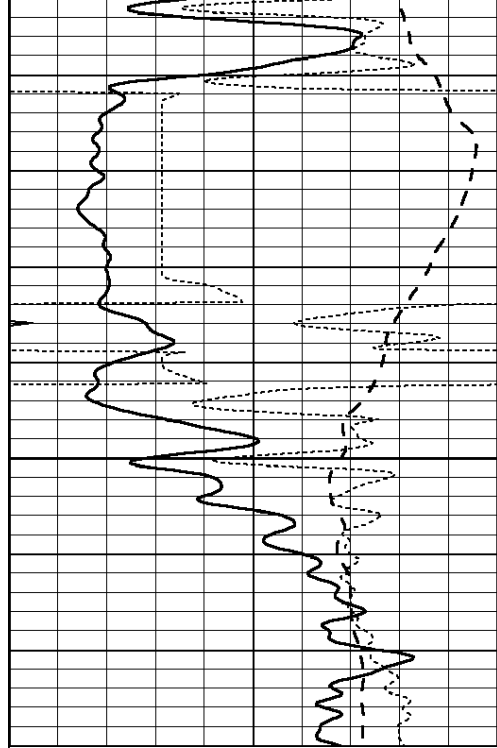




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 Charted by: Depth in Feet scaled 1:240

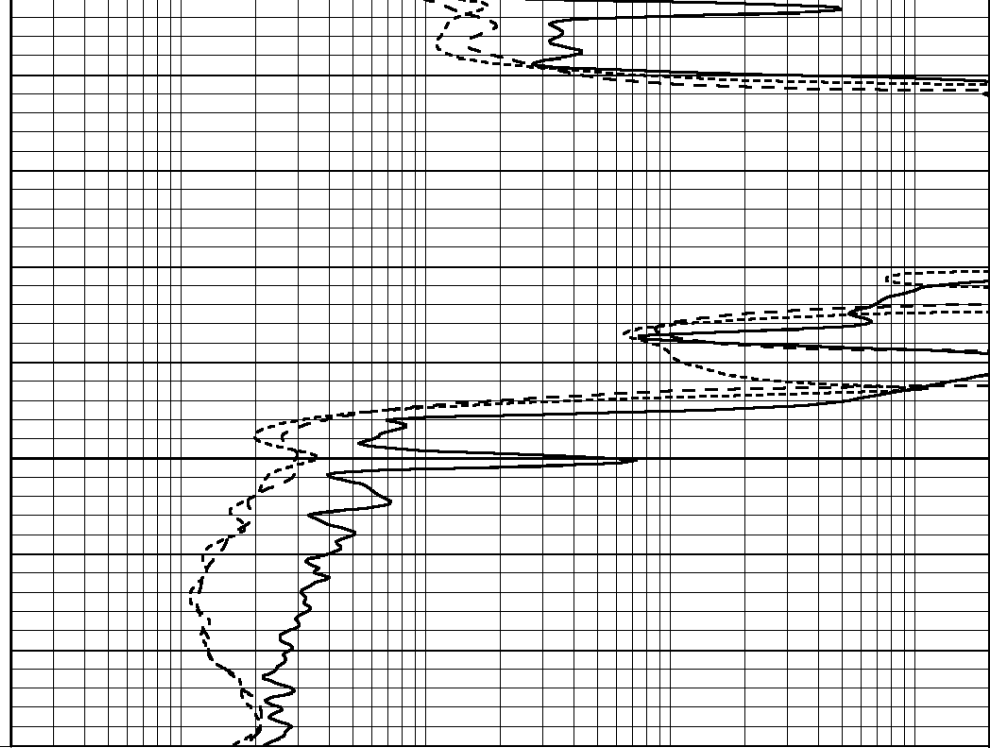
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-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	RxoRt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			





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

1500

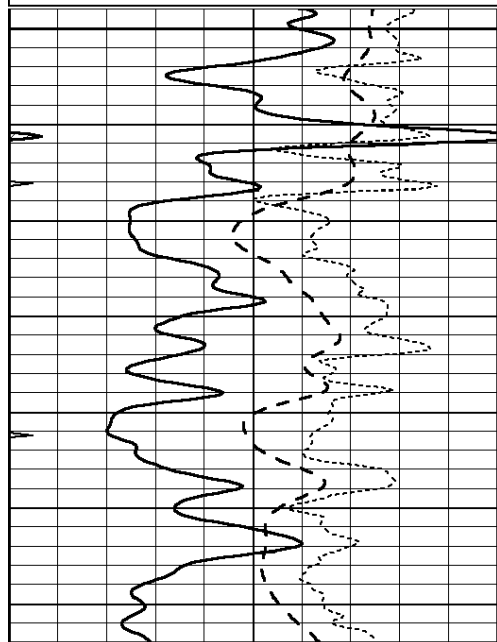


0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

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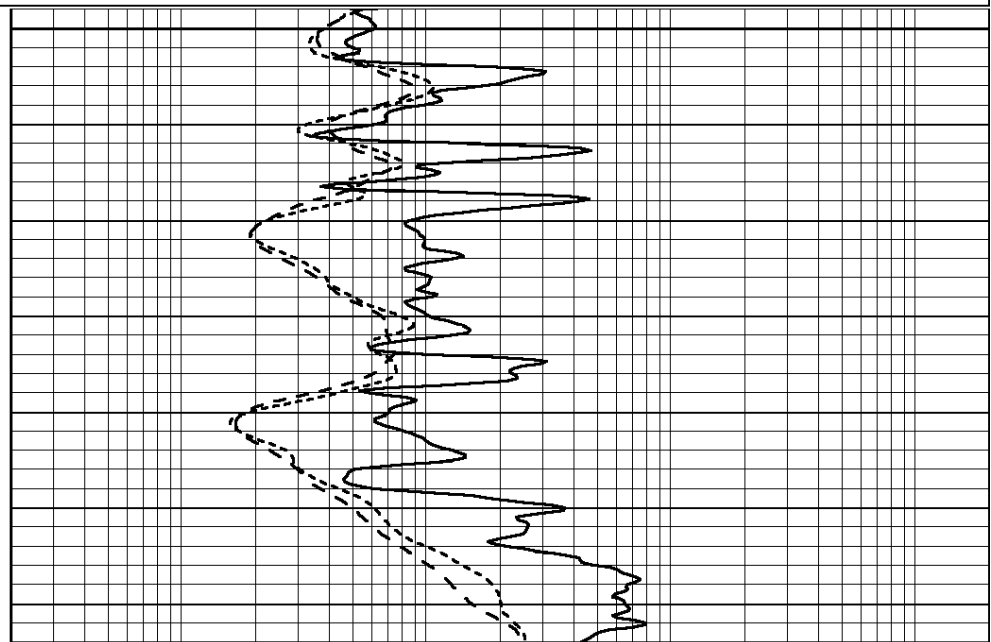
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-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

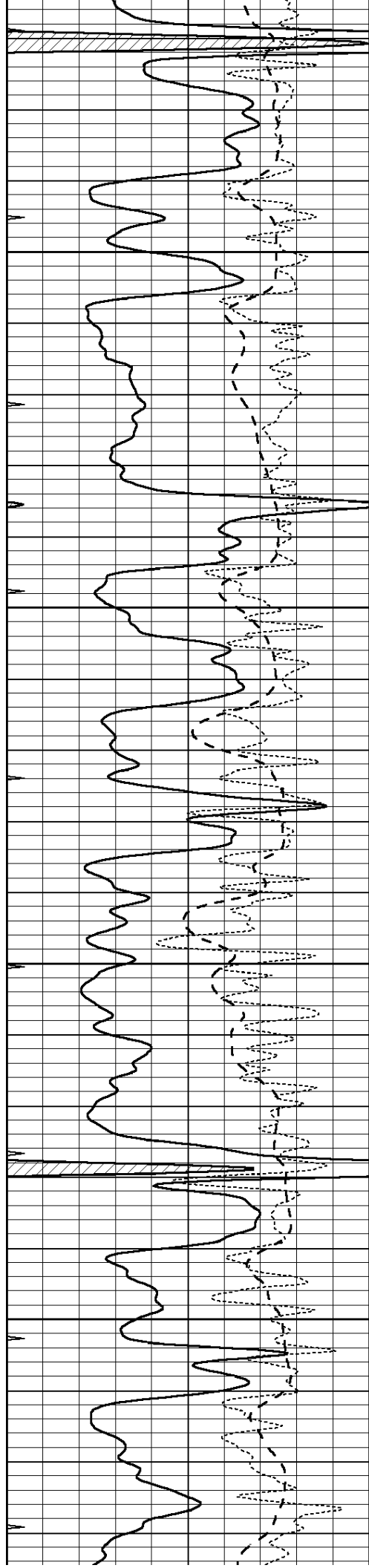
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0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3100

3150



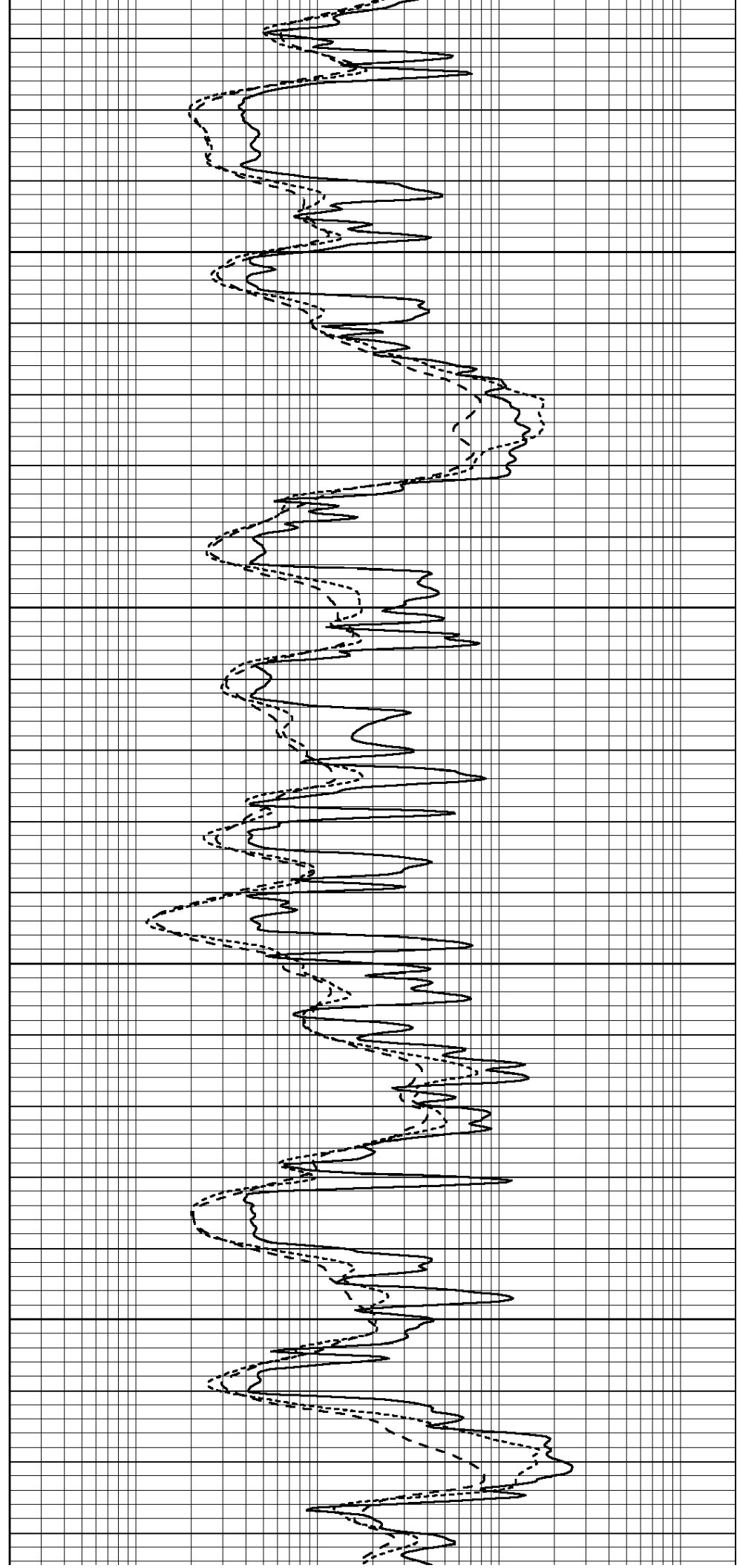


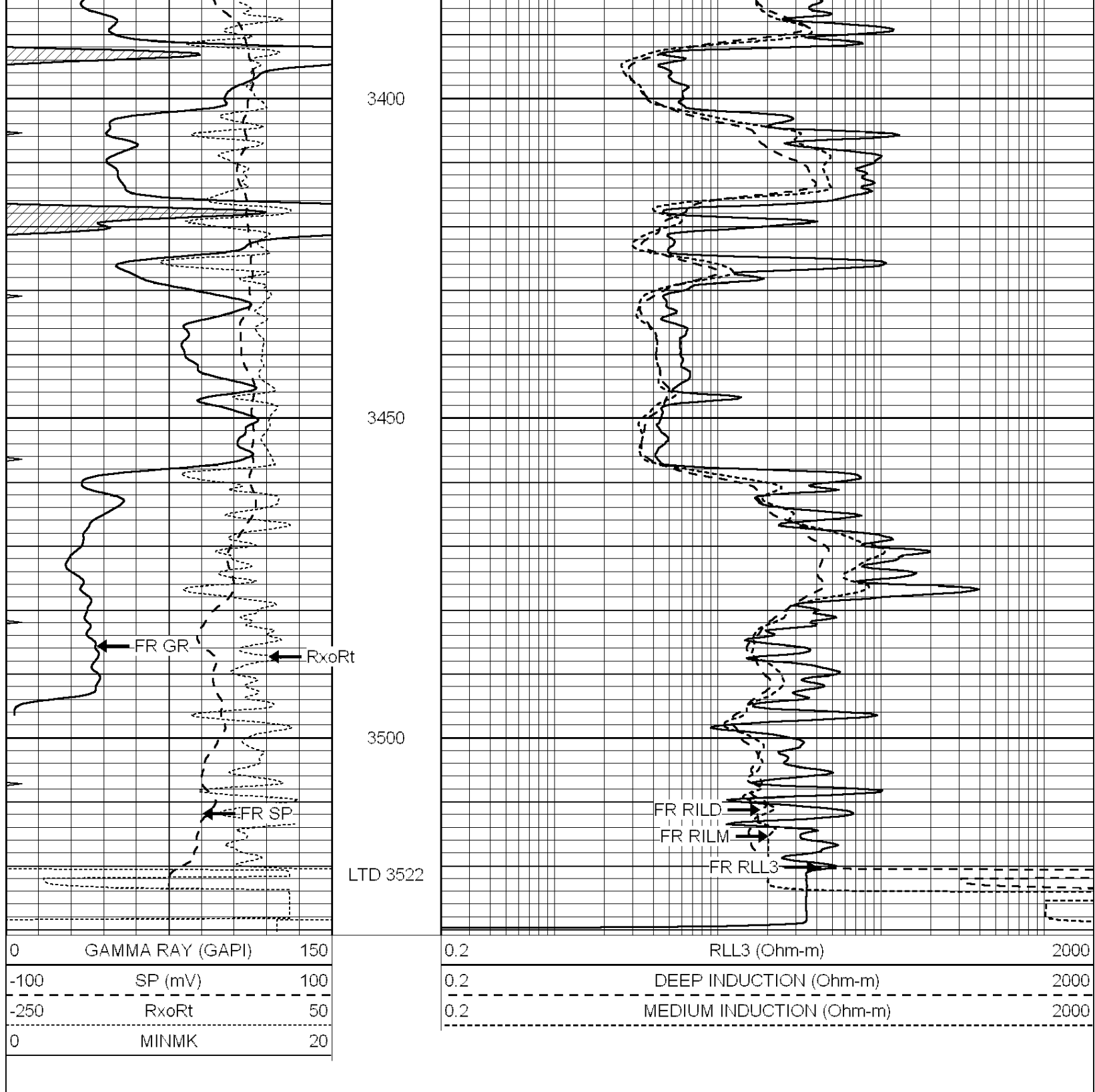
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3250

3300

3350





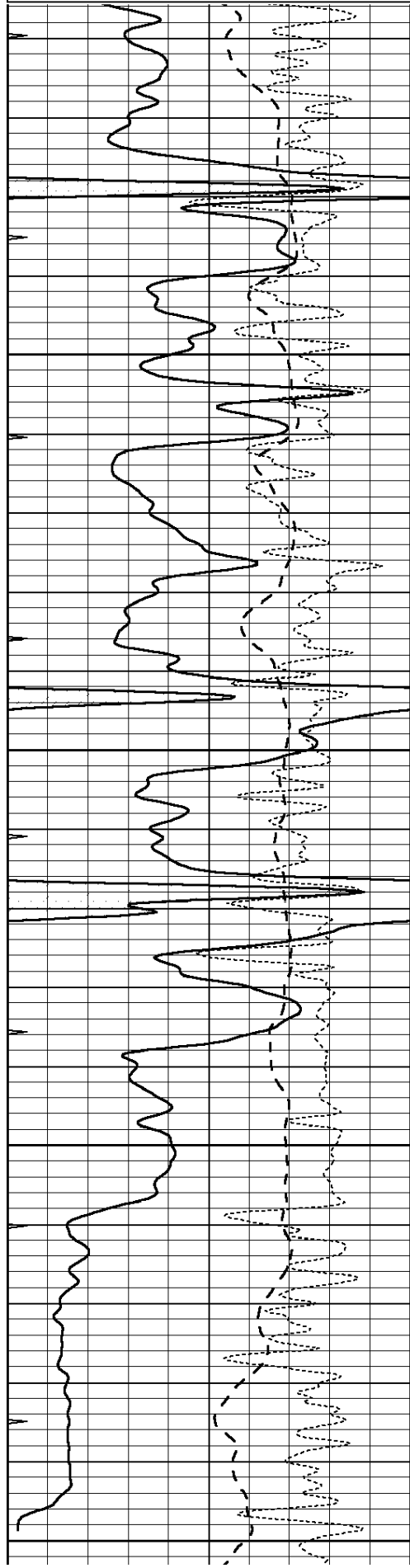
SUPERIOR  
Hays,  
Kansas

# REPEAT SECTION

Database File: 009662ddn.db  
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 Presentation Format: dil  
 Dataset Creation: Sat Sep 08 15:20:00 2012 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

0	SP (mV)	100
-100	RxoRt	50
-250	MINMK	20
0		

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

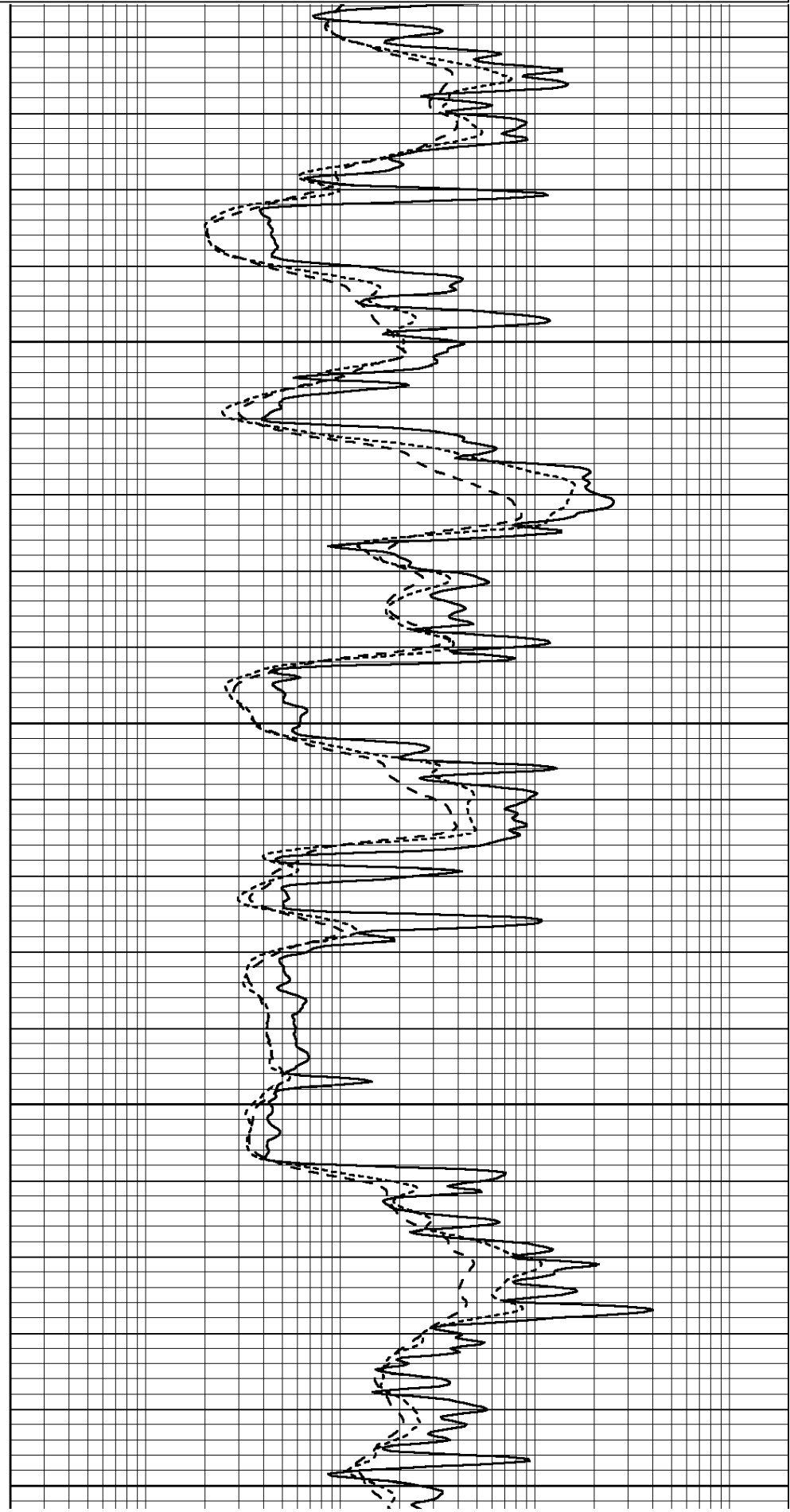


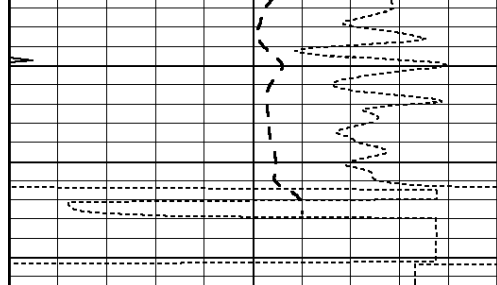
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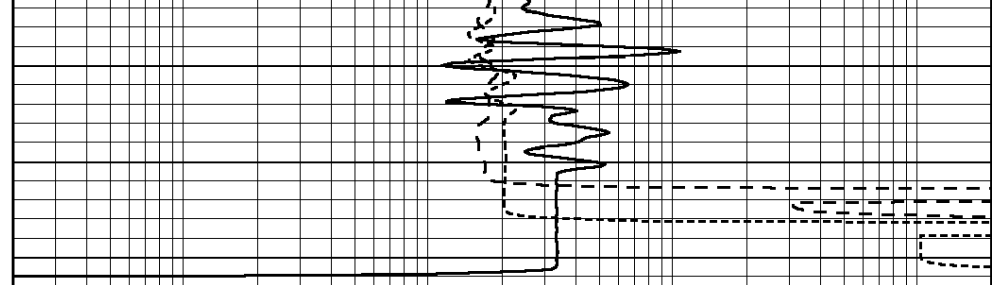
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3500





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: 009662ddn.db  
 Dataset Pathname: pass3.2  
 Dataset Creation: Sat Sep 08 16:11:52 2012 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: DIL5-GEAR  
 Performed: Wed Aug 29 20:23:16 2012

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	490.000	-15.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	530.000	-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: GEAR2-GEARHART  
 Source / Verifier: 147 / 147  
 Master Calibration Performed: Wed Aug 29 19:55:57 2012

#### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1451.87	701.81	cps
Aluminum	2.590	g/cc	324.88	493.46	cps
Spine Angle = 76.76			Density/Spine Ratio = 0.572		
	Size		Reading		
Small Ring	8.00	in	5.48	V	
Large Ring	14.00	in	7.58	V	

### Compensated Neutron Calibration Report

Serial Number: NUE\_2I  
 Tool Model: G

#### CALIBRATION

Detector	Readings	Target	Normalization
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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: Wed Aug 08 15:07:38 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.7500 GAPI/cps