



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	LD DRILLING, INC.	Company	LD DRILLING, INC.
Well	RINGERING #3-15	Well	RINGERING #3-15
Field	CHASE-SILICA	Field	CHASE-SILICA
County	BARTON	County	BARTON
State	KANSAS	State	KANSAS
Location:	API # : 15-009-25877-00-00 4575' FSL & 330' FEL	Other Services CNL/CDL MEL	
Permanent Datum Log Measured From Drilling Measured From	N2 - SE - NE - NE SEC 15 TWP 20S RGE 11W GROUND LEVEL Elevation 1759 KELLY BUSHING 5' A.G.L. KELLY BUSHING	Elevation K.B. 1764 D.F. 1762 G.L. 1759	
Date	9/14/13		
Run Number	ONE		
Depth Driller	3420		
Depth Logger	3421		
Bottom Logged Interval	3419		
Top Log Interval	00		
Casing Driller	8 5/8" @ 343		
Casing Logger	344		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 10,000 PPM	
Density / Viscosity	9.0/49		
pH / Fluid Loss	11.0/10.8		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.30 @ 77F		
Rmf @ Meas. Temp	.23 @ 77F		
Rmc @ Meas. Temp	.36 @ 77F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	0.20 @ 111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	111F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	IAN MABB		
Witnessed By	KIM SHOEMAKER		

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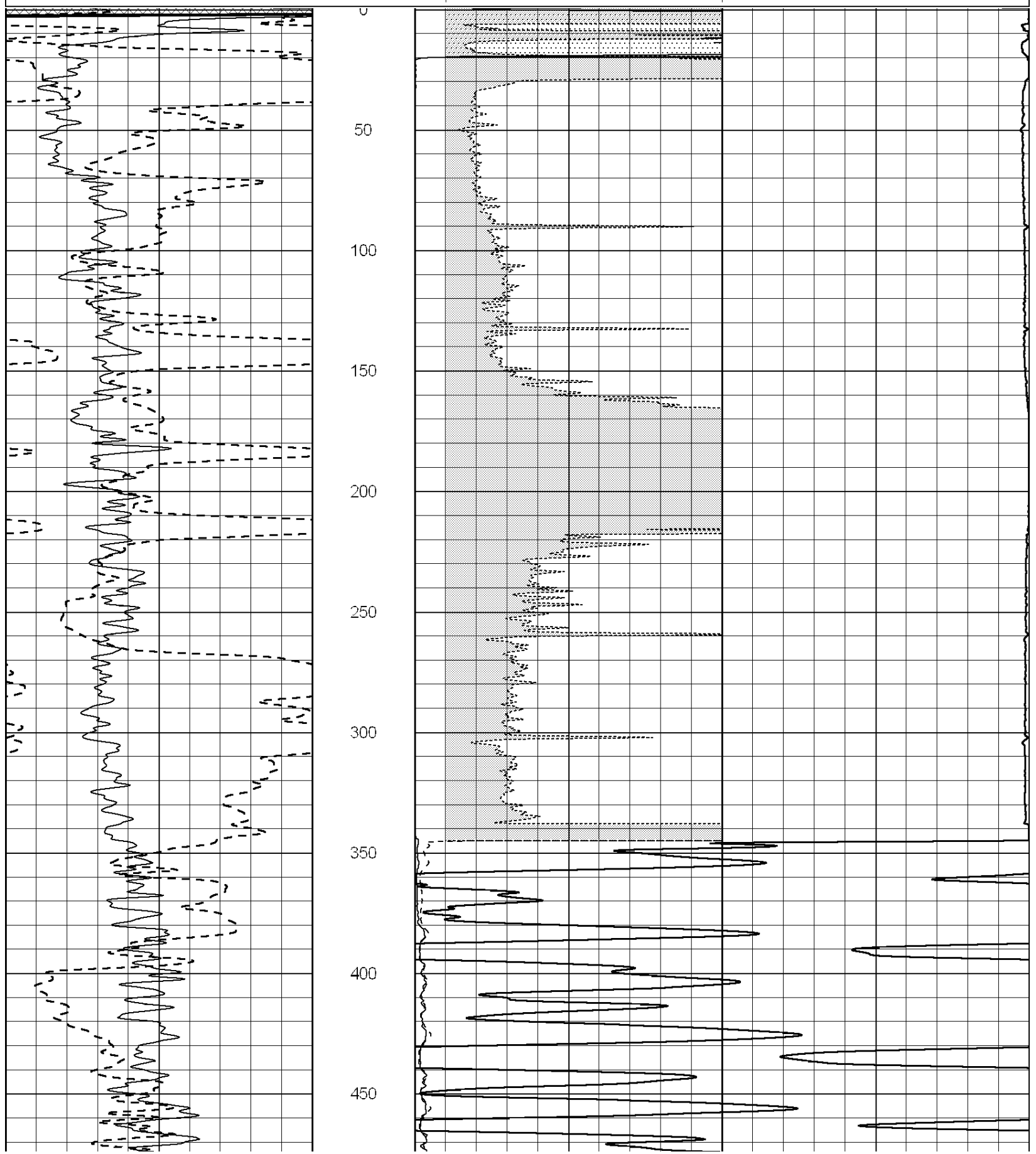
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

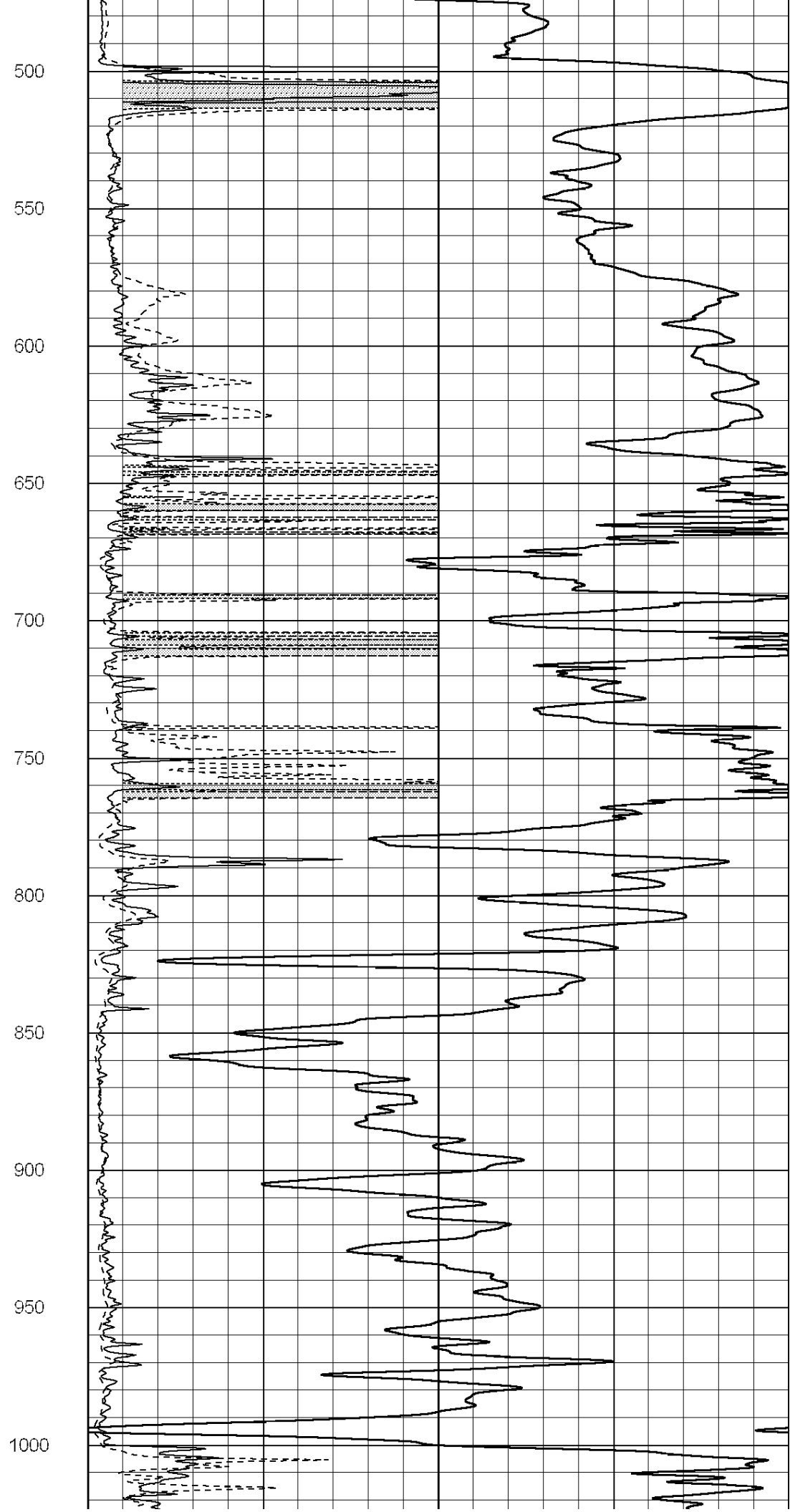
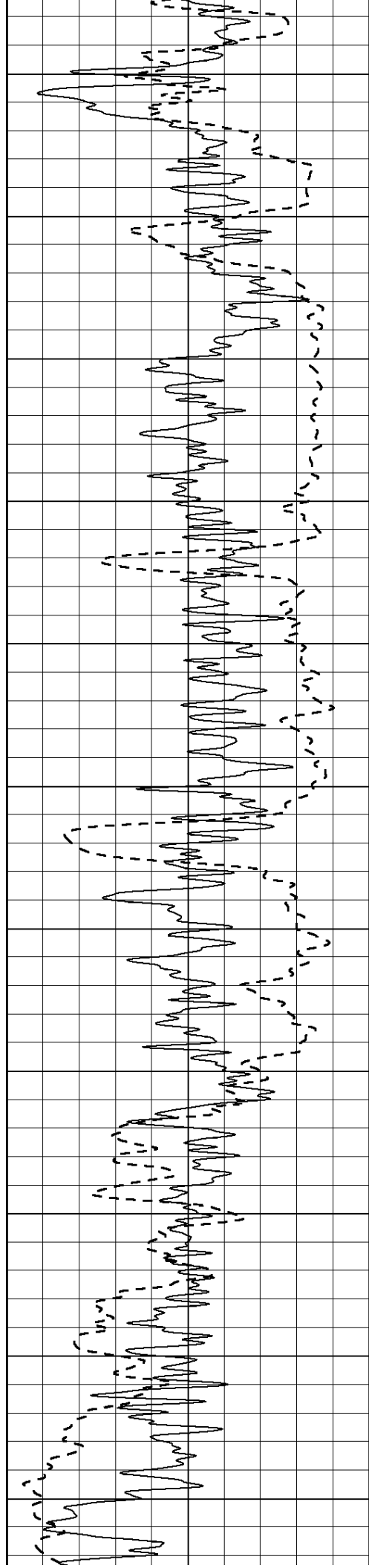
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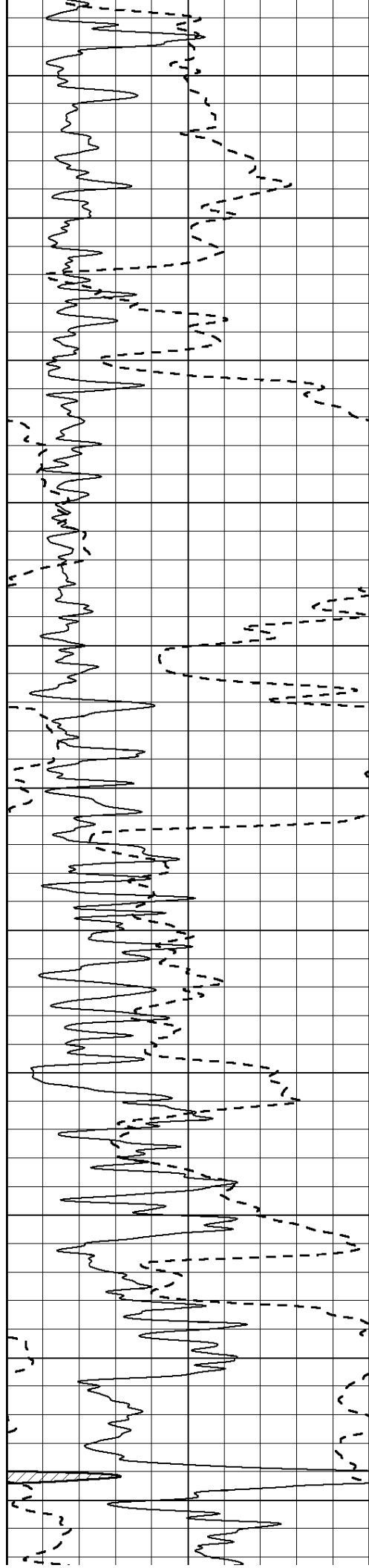
THANK YOU FOR USING NABORS COMPLETION & PRODUCTION SVCS. (785) 628-6395

DIRECTIONS:
ELLINWOOD, KS. - SOUTH ON SE 105 AVE AROUND THE THE CURVE - SOUTH ON 100 SE AVE 1 MILE - 3
MILES EAST ON SE 30 RD. - SOUTH 1/2 MILE - EAST 1 MILE ON SE 35 RD. - NORTH 1/2 MILE ON SE 140
AVE - WEST INTO

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50	
-100	SP (mV)	100	0	Deep Induction (Ohm-m)	50	
			1000	CILD (mmho/m)		0
			50	RILD X10 (Ohm-m)	500	
			50	RLL3 X10 (Ohm-m)	500	







1050

1100

1150

1200

1250

1300

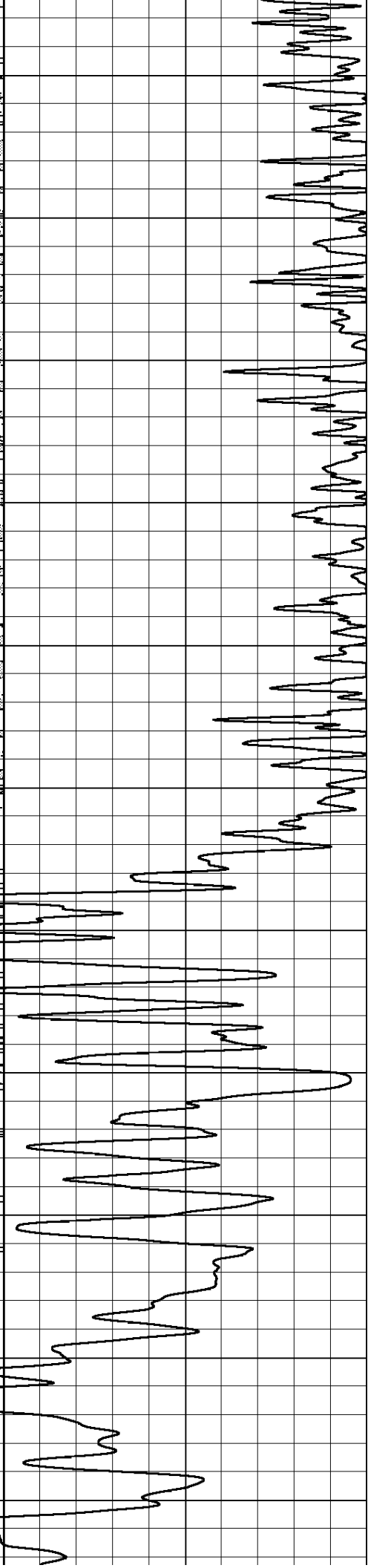
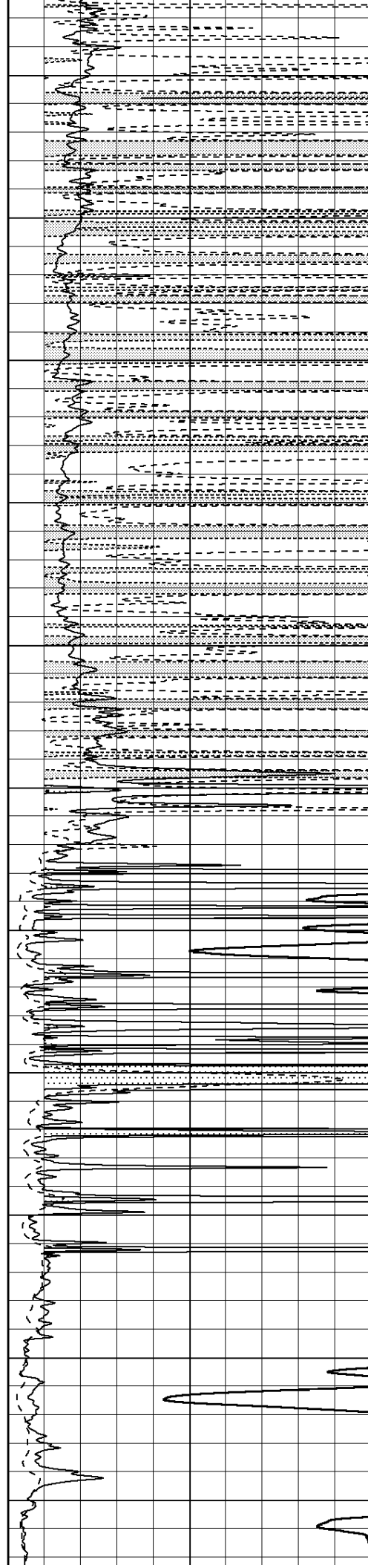
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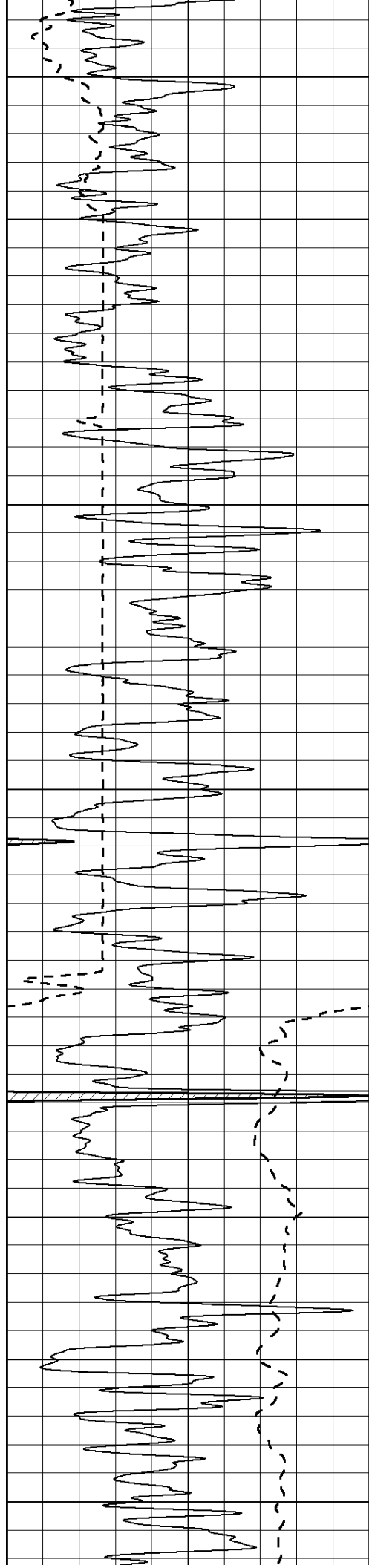
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1450

1500

1550





1600

1650

1700

1750

1800

1850

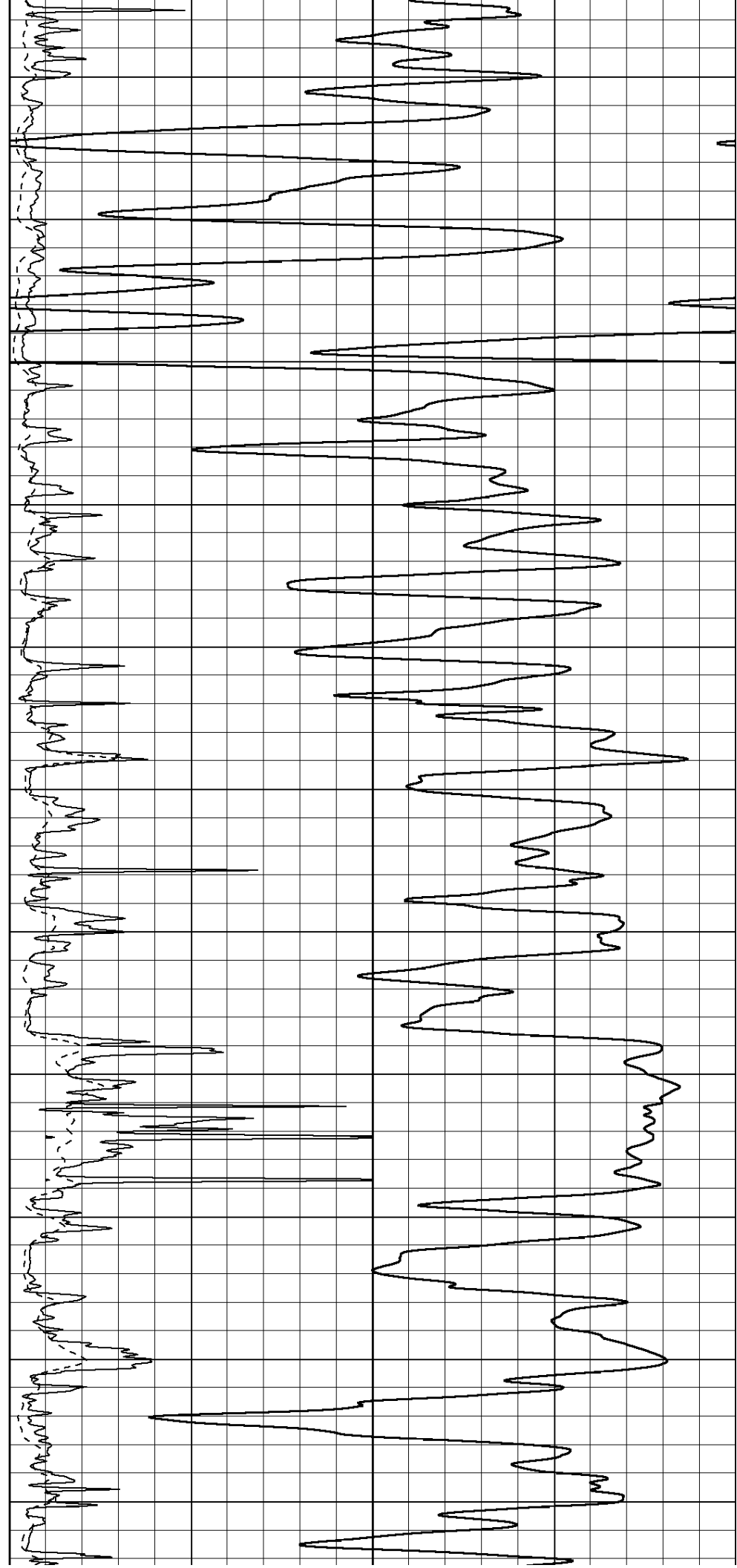
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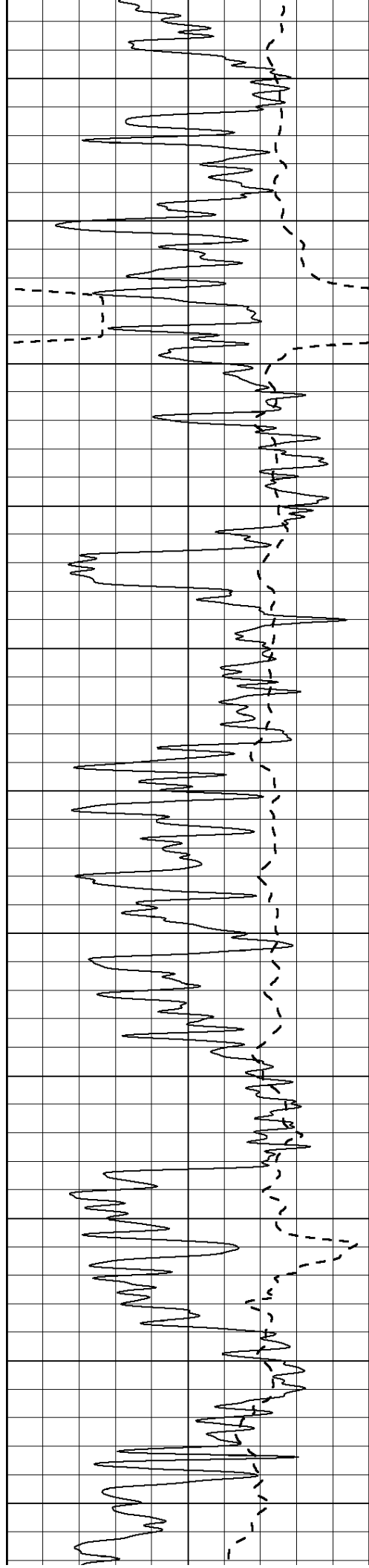
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2000

2050

2100





2150

2200

2250

2300

2350

2400

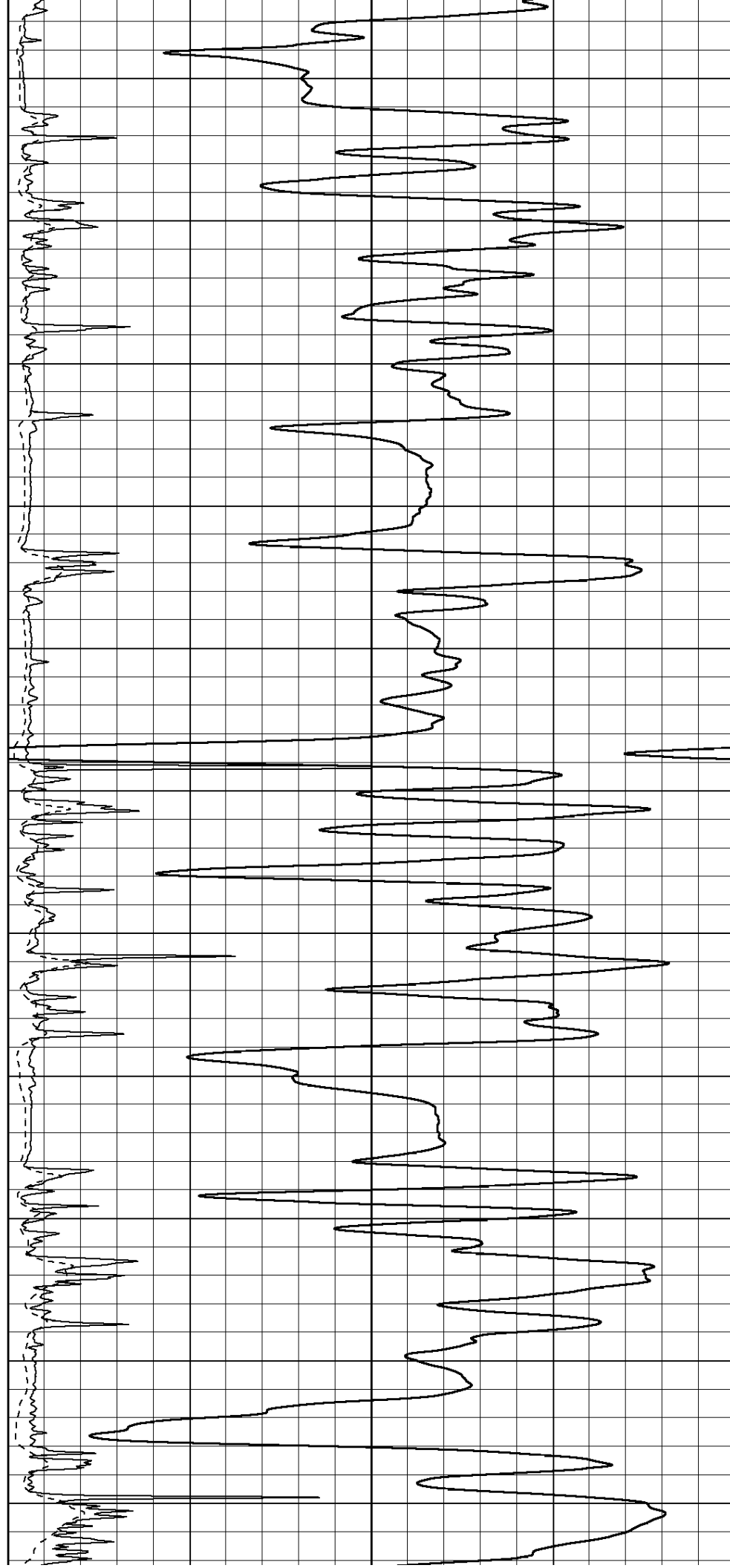
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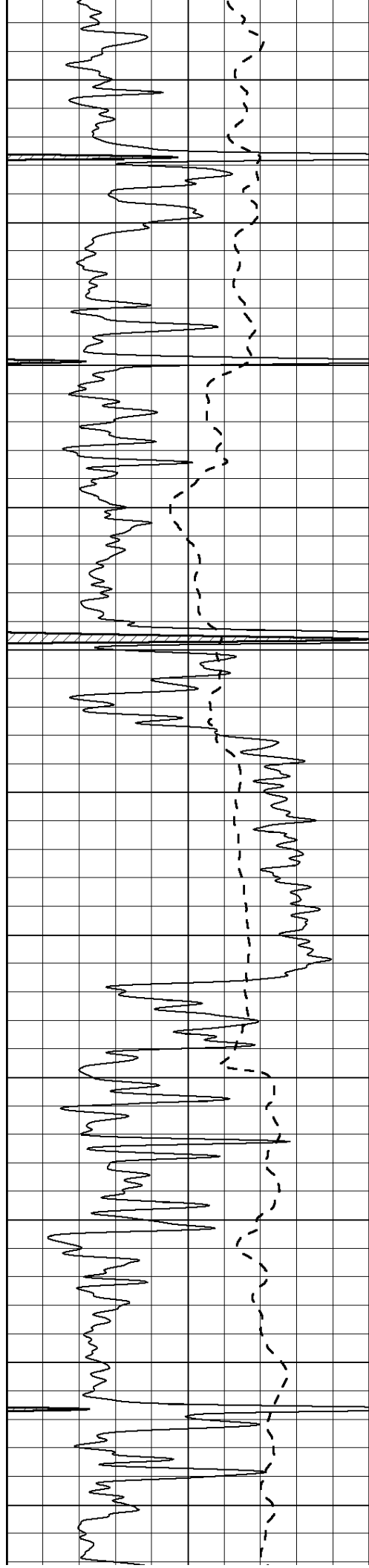
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2550

2600

2650





2700

2750

2800

2850

2900

2950

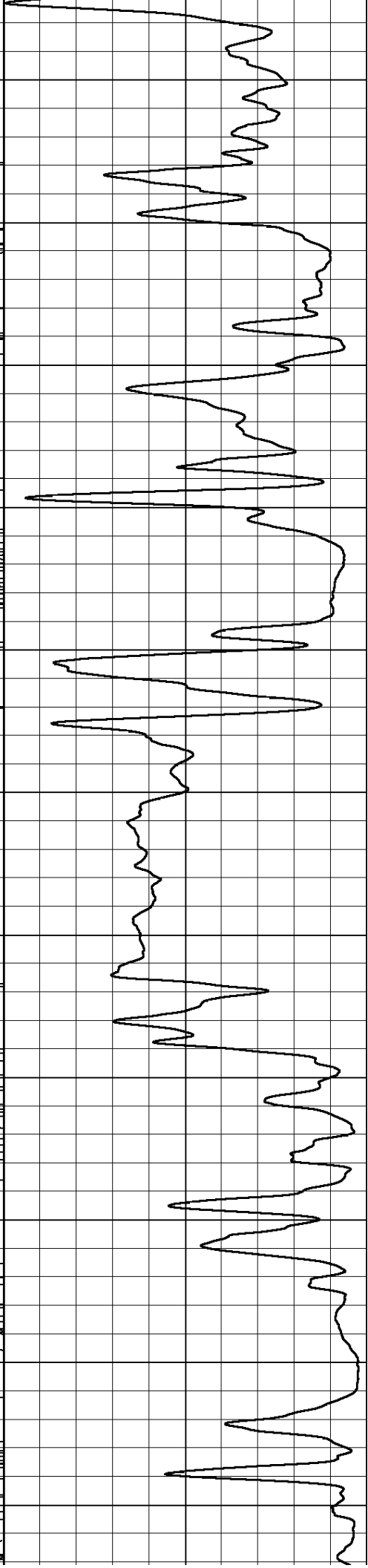
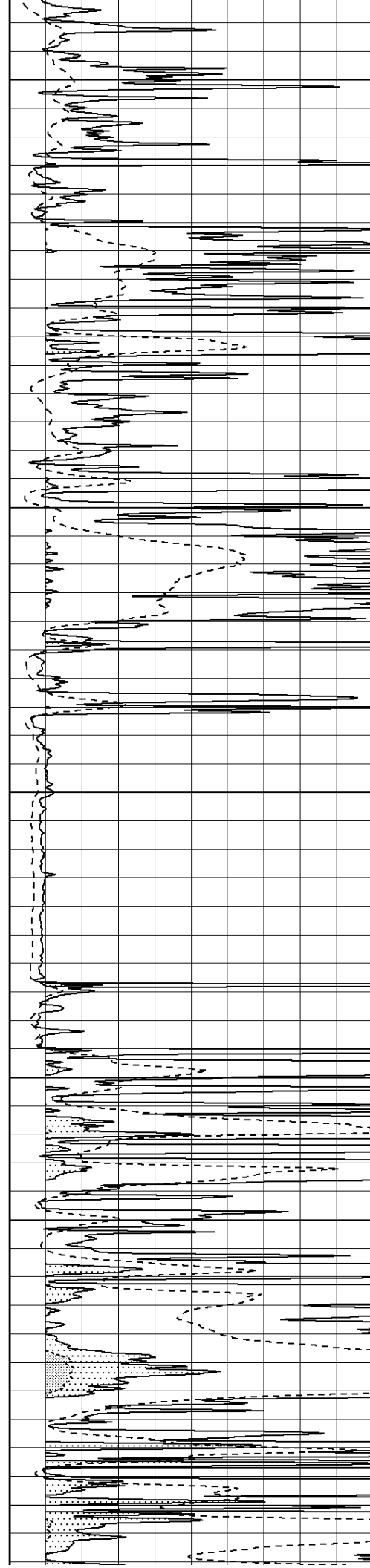
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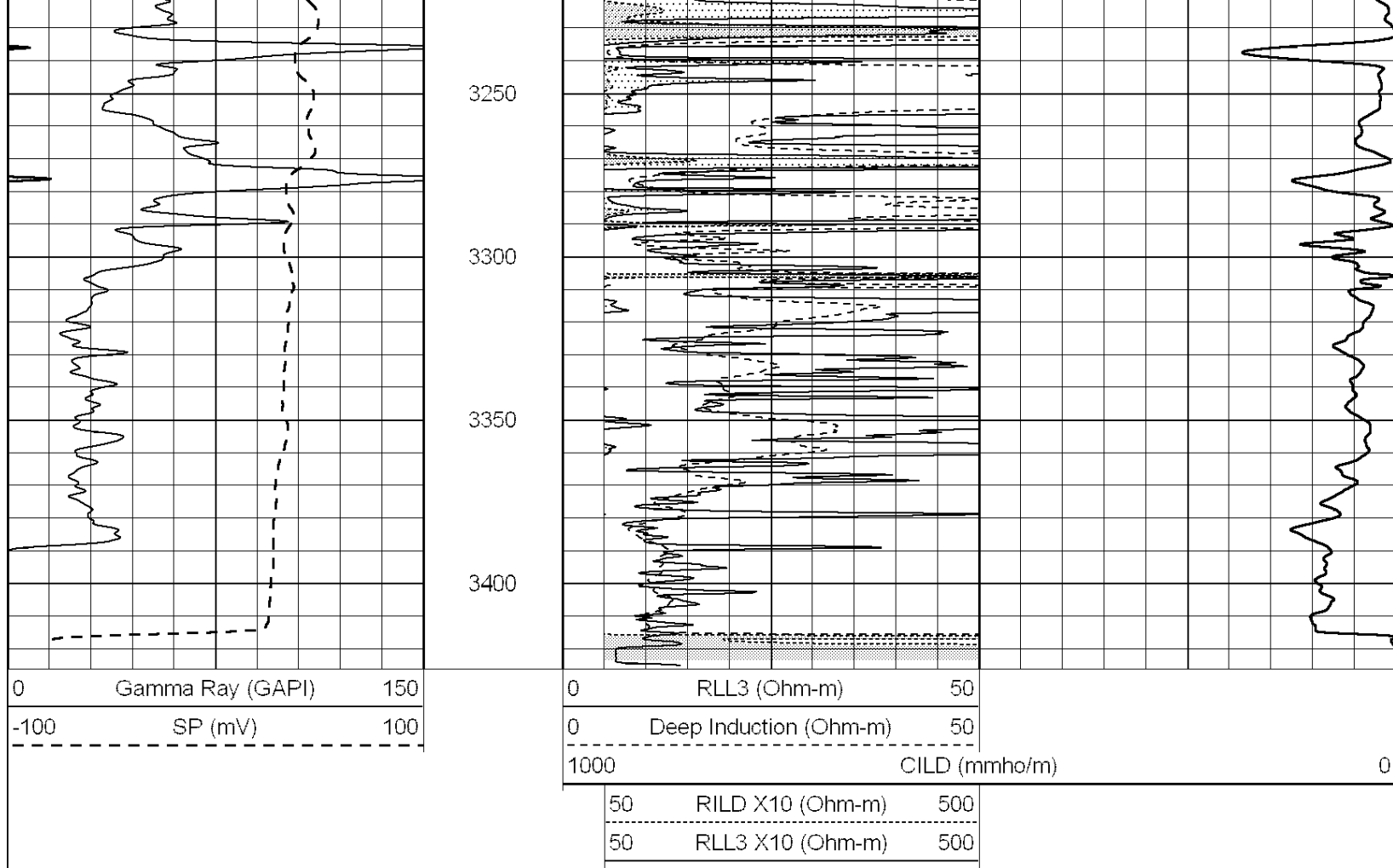
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3100

3150

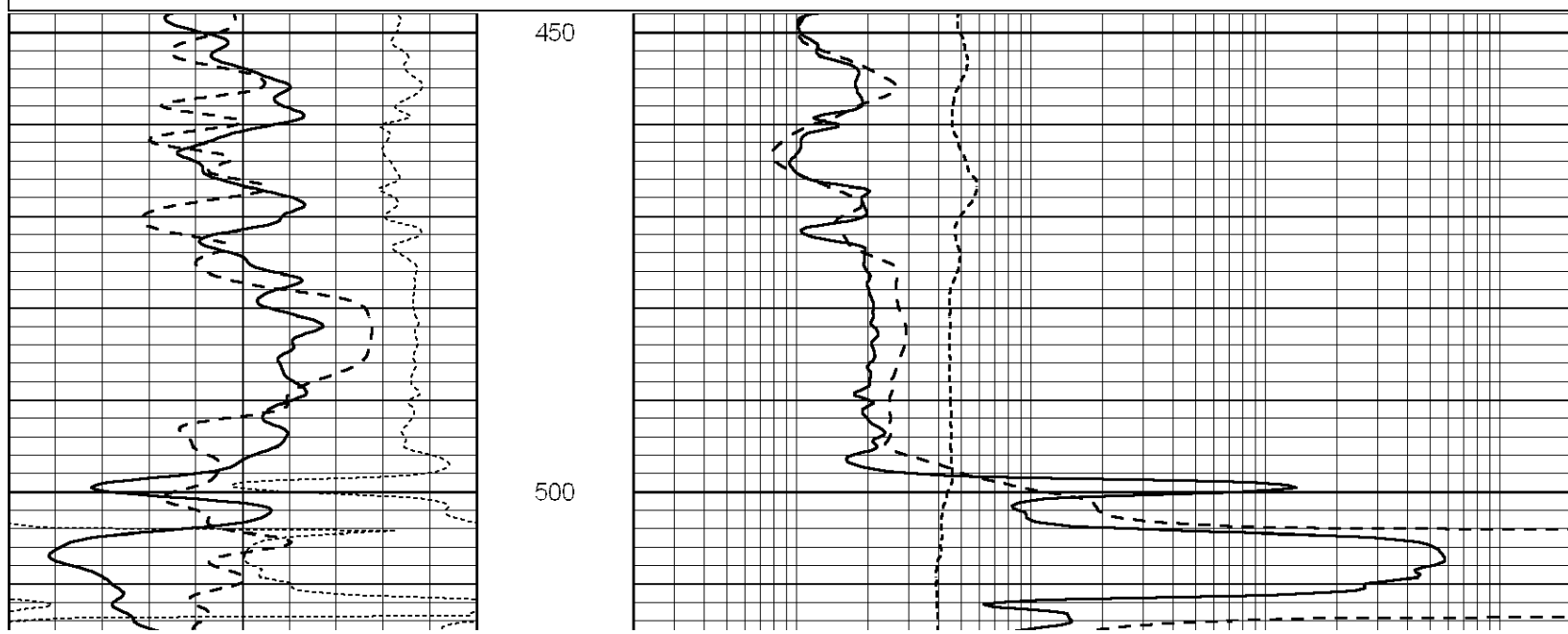
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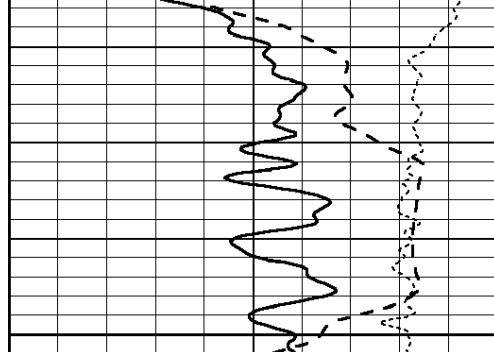




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Dataset Creation: Sat Sep 14 10:32:39 2013 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

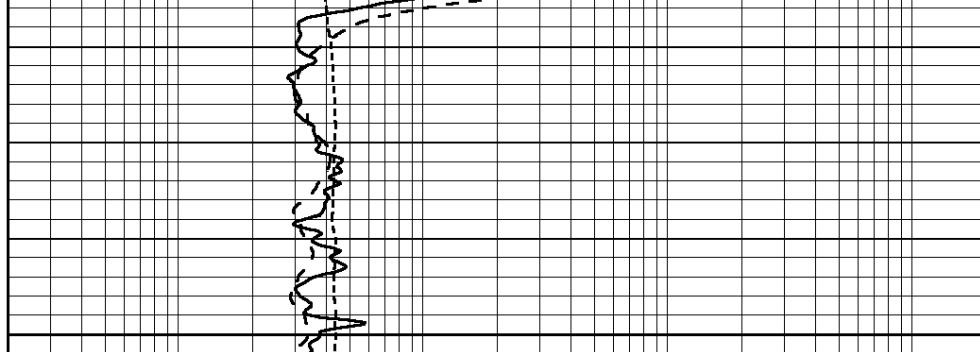
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-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000





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

550

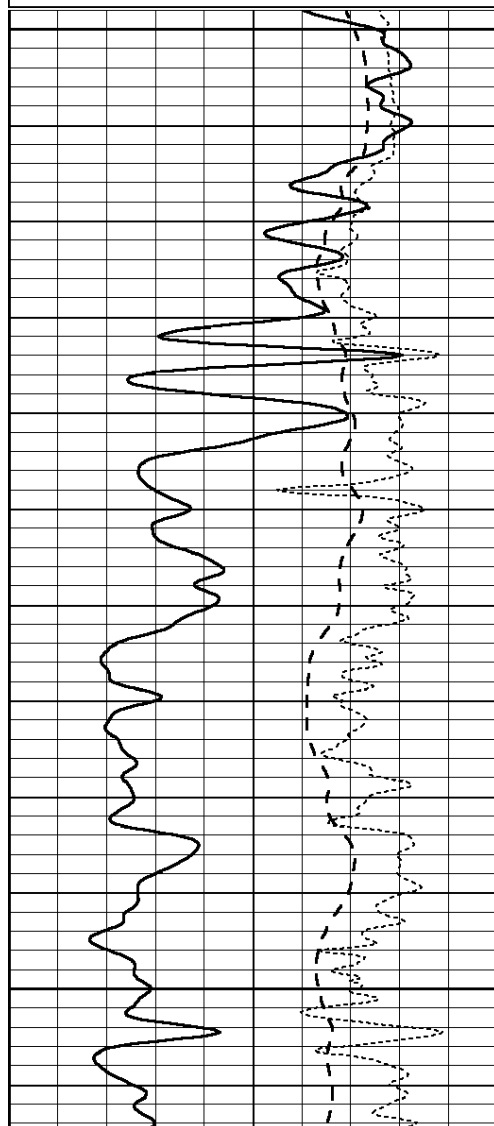


0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

Database File: 011719ddn.db
 Dataset Pathname: pass3.5
 Presentation Format: _dil
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-100	SP (mV)	100
-250	Rxo/Rt	50

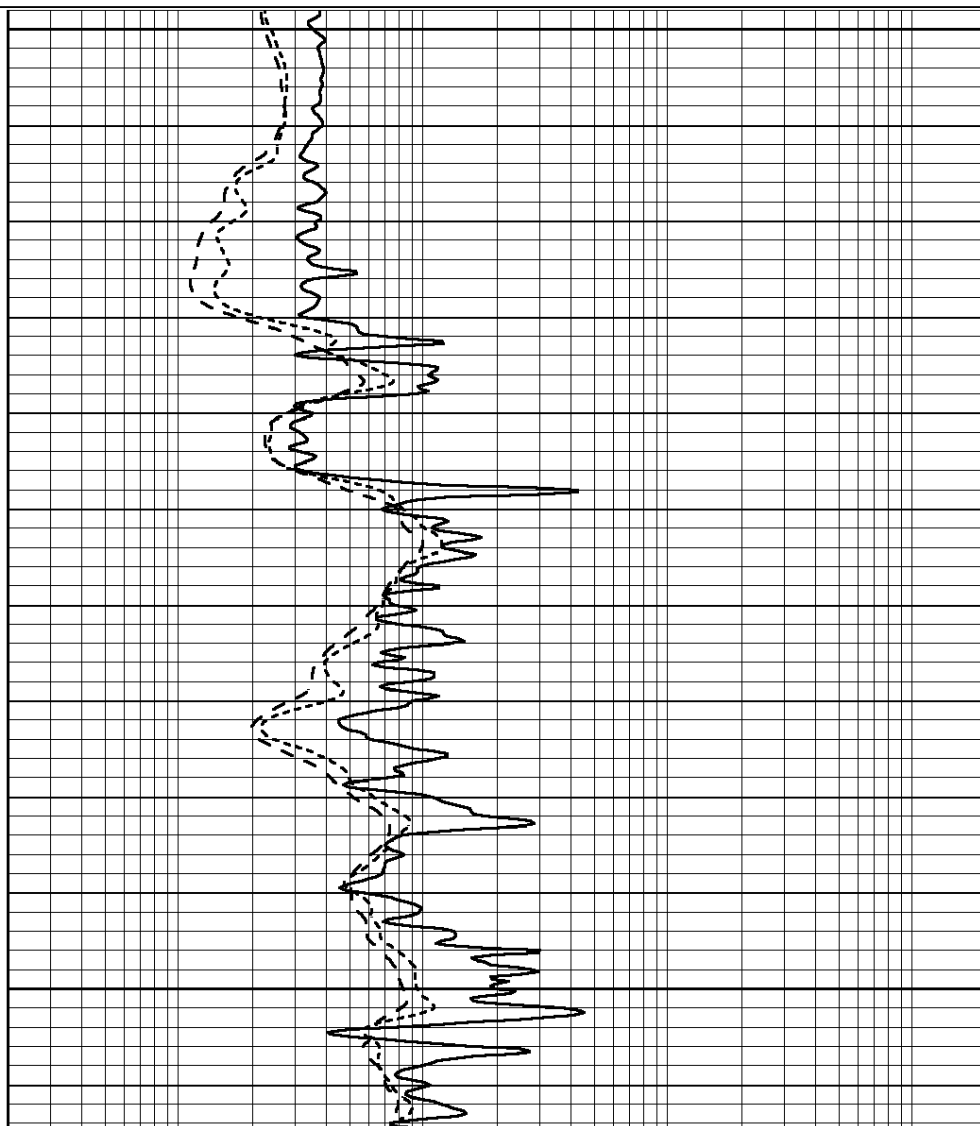
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

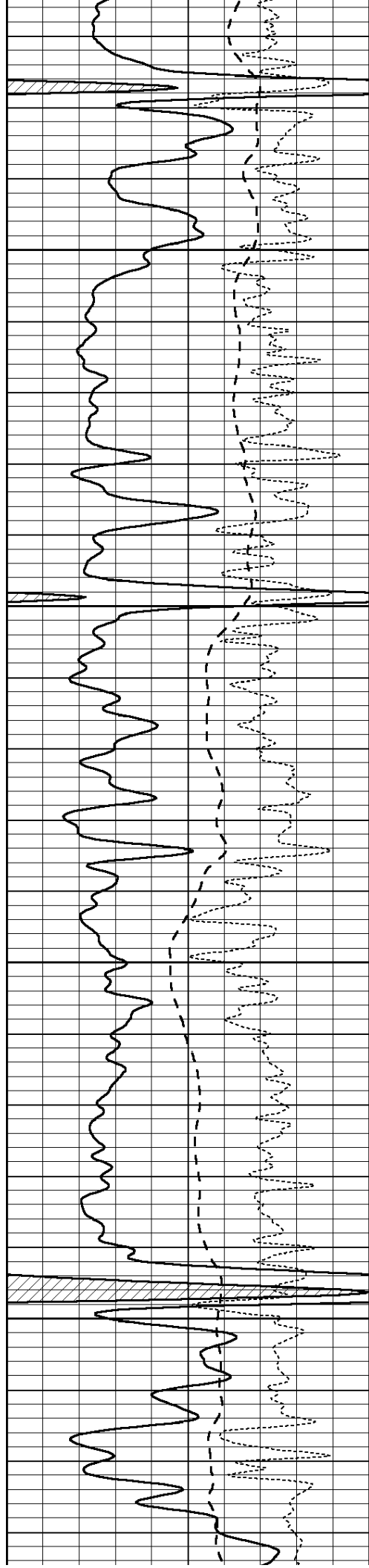


2600

2650

2700



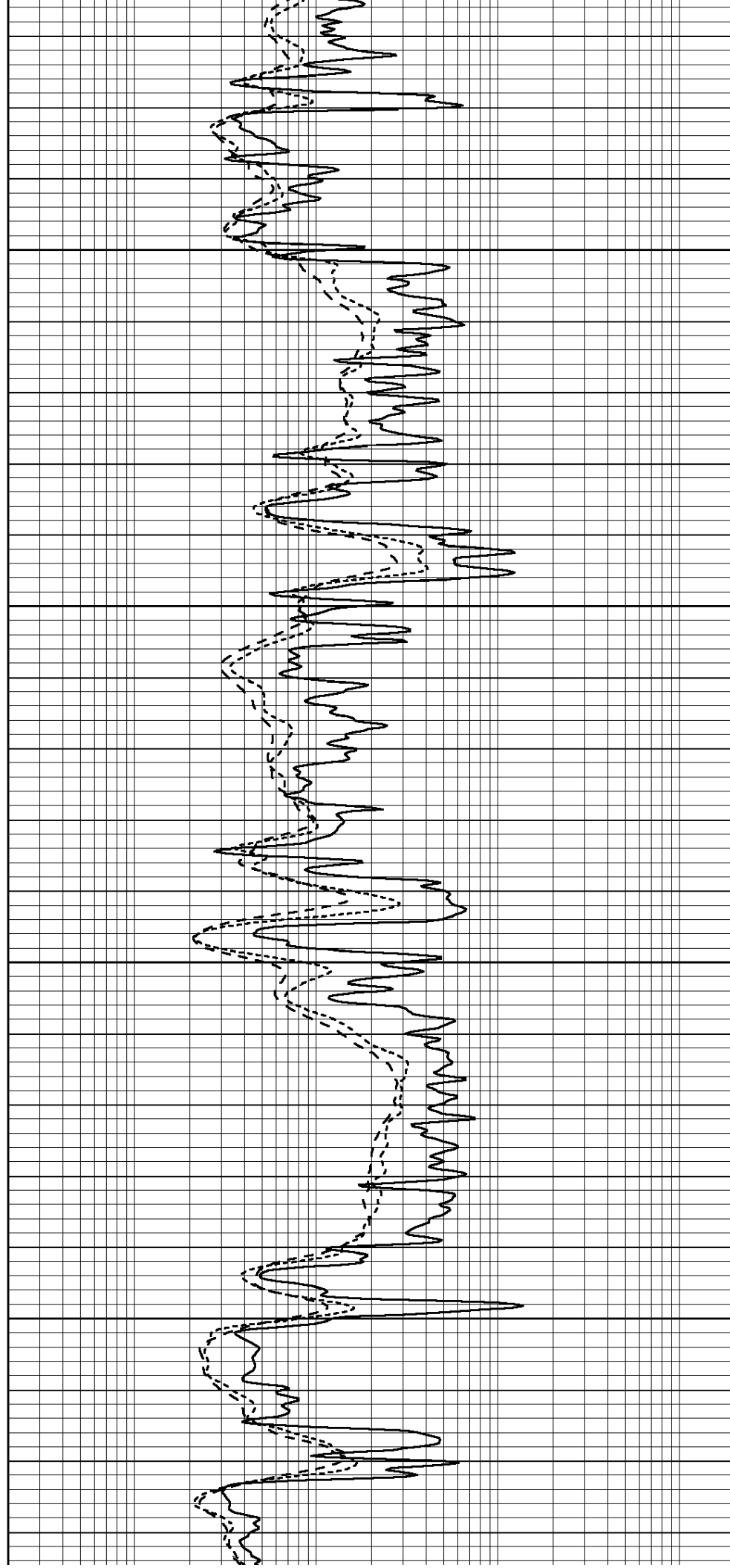


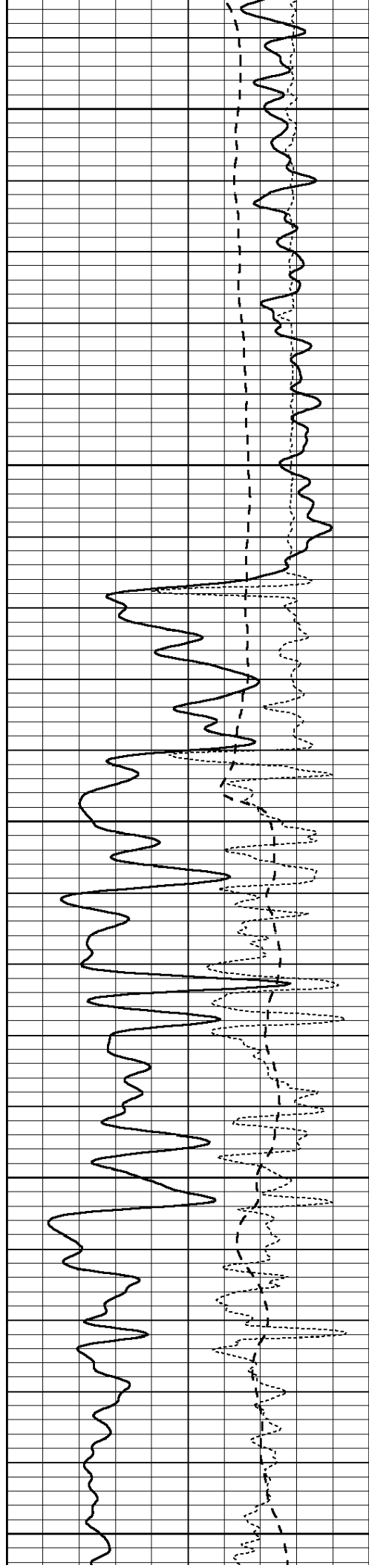
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2800

2850

2900





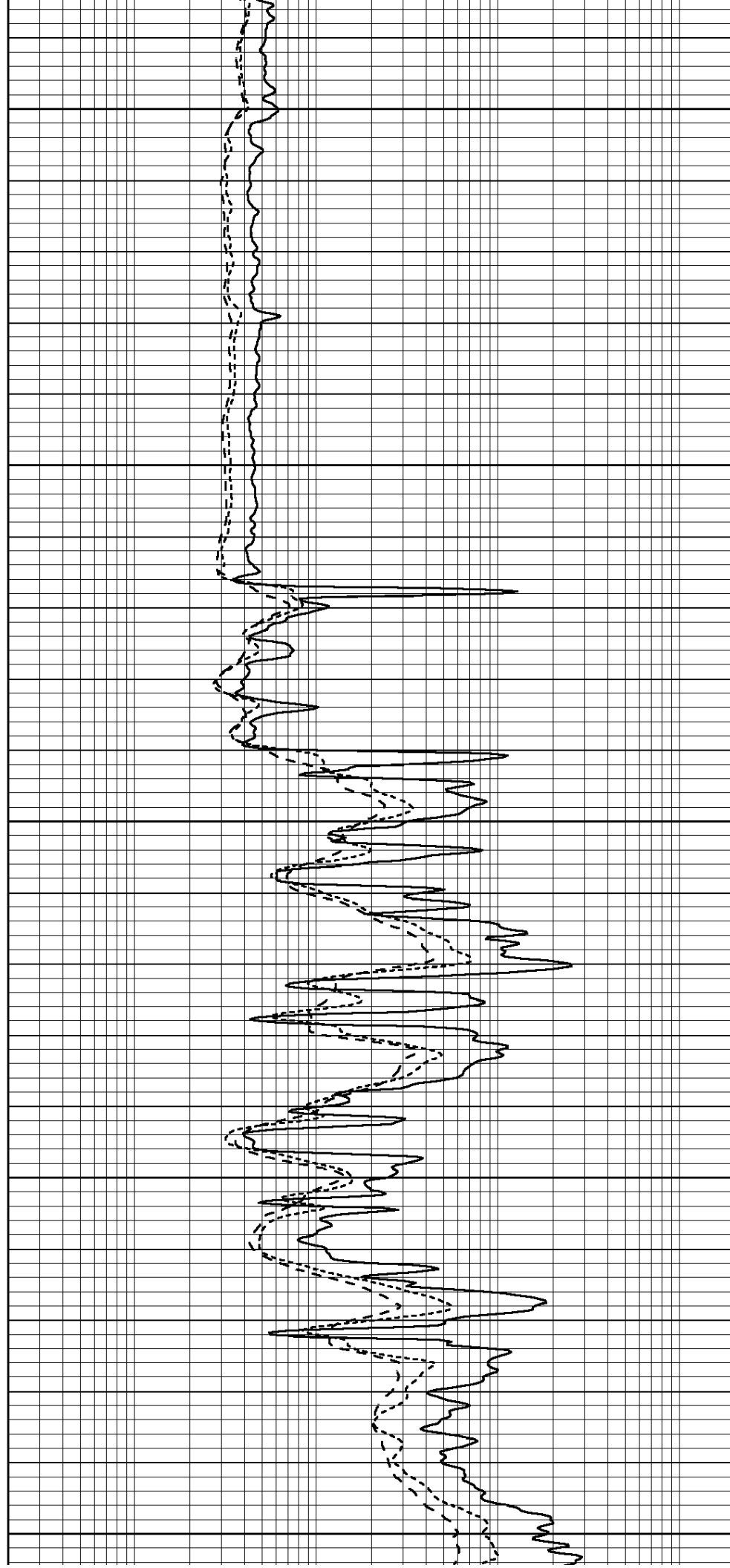
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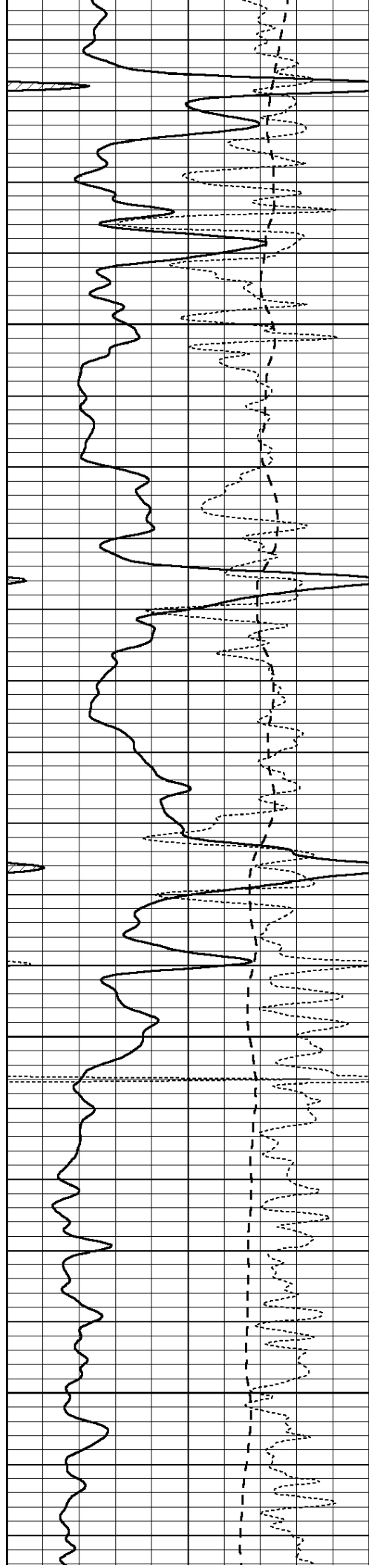
3000

3050

3100

3150



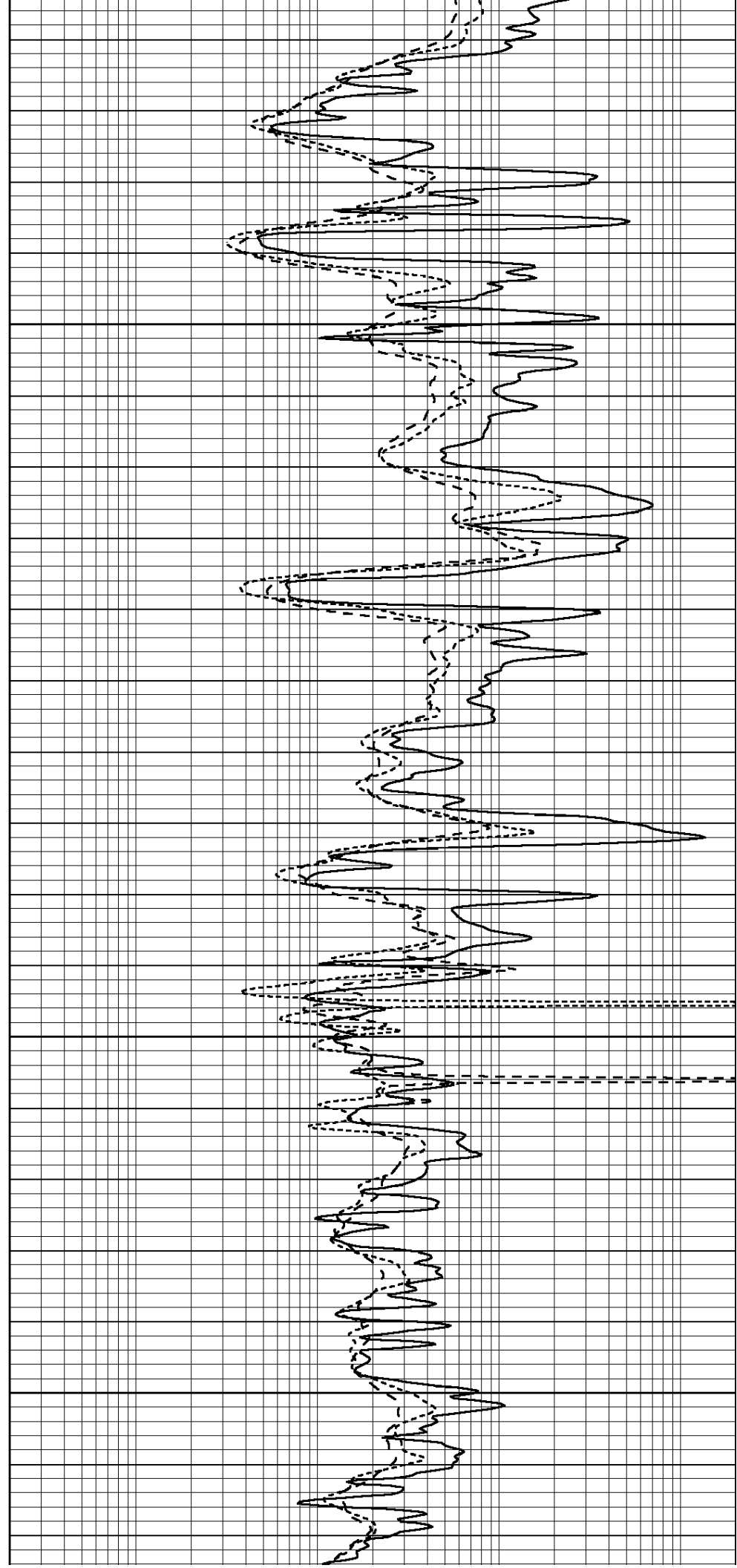


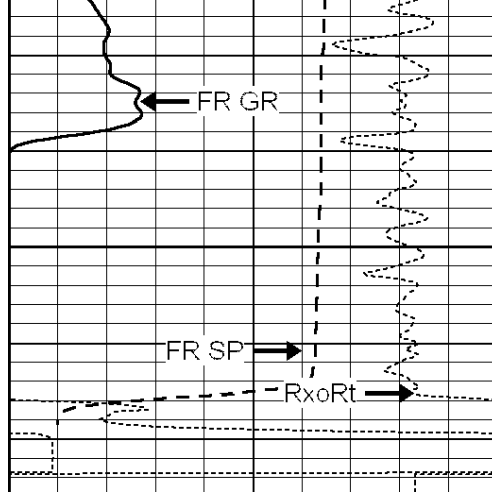
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3250

3300

3350

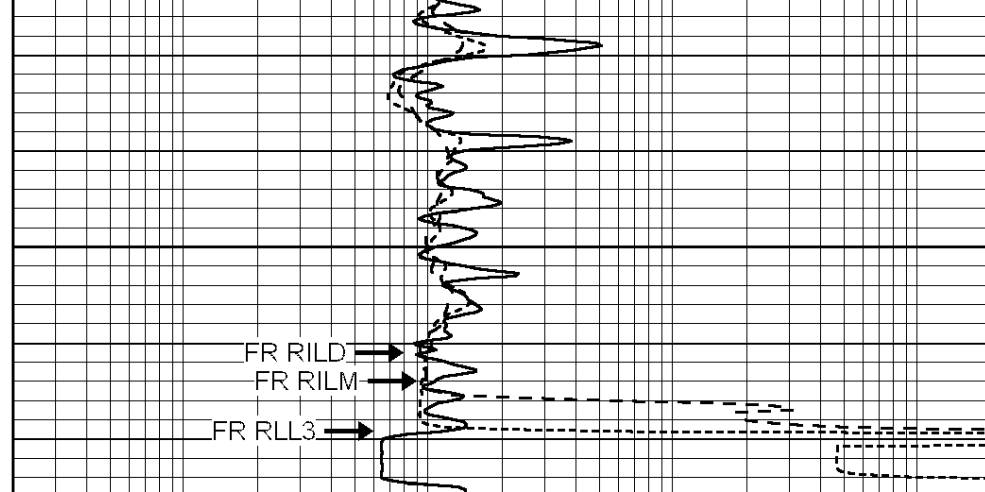




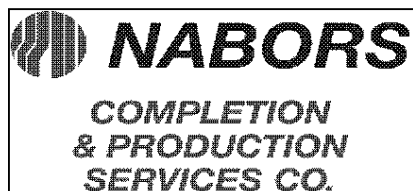
3400

LTD 3421

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



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

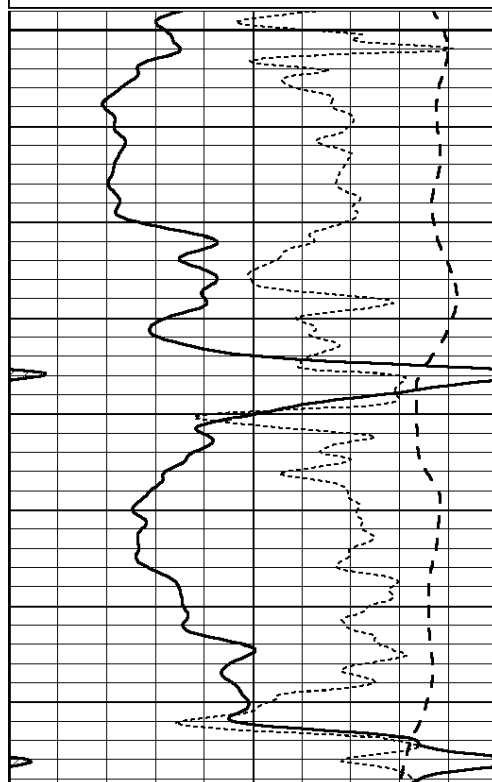


REPEAT SECTION

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 Charted by: Depth in Feet scaled 1:240

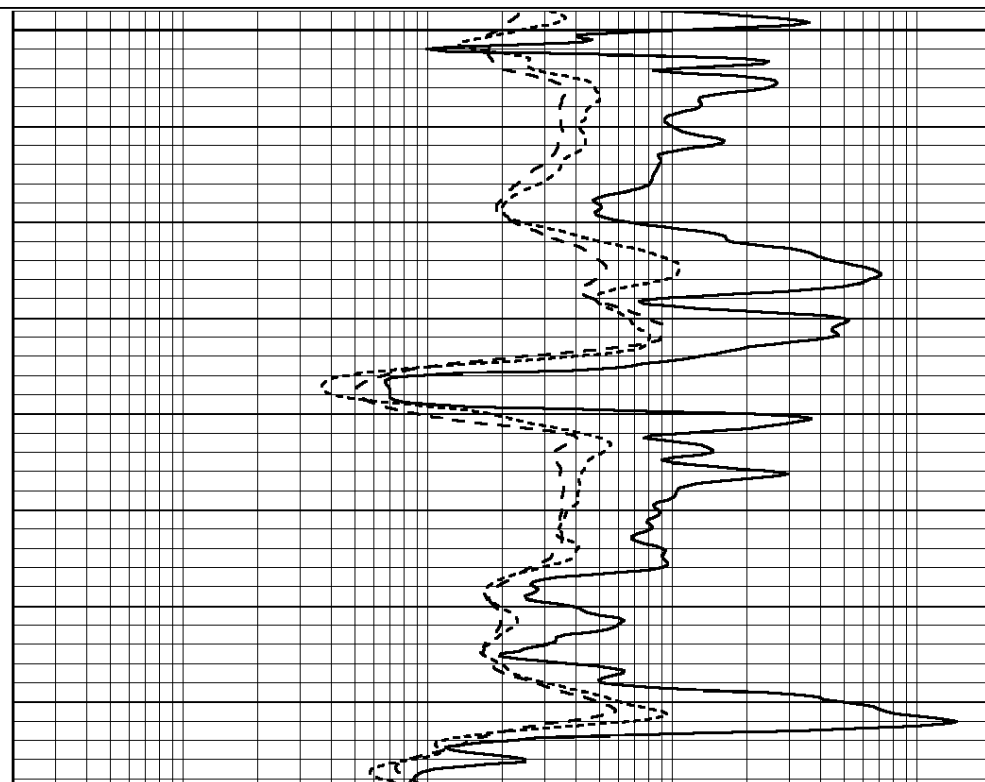
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-100	SP (mV)	100
-250	Rxo/Rt	50

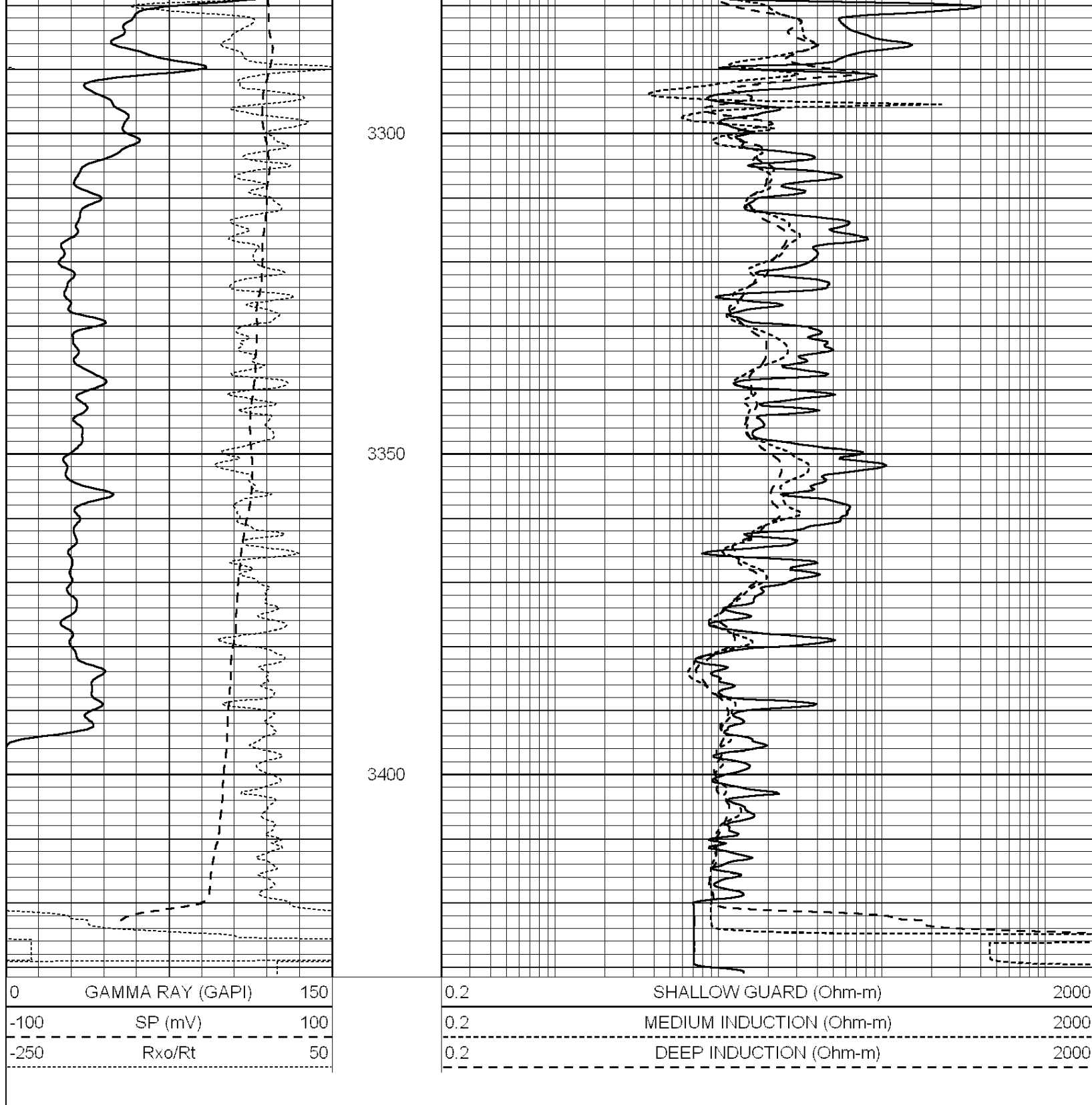
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



3200

3250





Calibration Report

Database File: 011719ddn.db
Dataset Pathname: pass3.4
Dataset Creation: Sat Sep 14 10:32:39 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE7-DILG
Surface Cal Performed:	Mon Jul 01 07:10:41 2013
Downhole Cal Performed:	Sat Jan 19 19:51:38 2013
After Survey Verification Performed:	Sat Jan 19 19:51:38 2013

Surface Calibration				Readings			References		Results	
Loop:		Air		Loop			Air		Loop	
		m		b						
Deep		0.793		0.790		V	0.000		400.000	
Medium		0.992		1.002		V	0.000		464.000	
Internal:		Zero		Cal			Zero		Cal	
Deep		0.041		0.642		V	0.000		400.000	
Medium		0.035		0.802		V	0.000		464.000	

Downhole Calibration									
				Readings		References		Results	
				Zero	Cal			Zero	Cal
								m'	b'
Deep	135384.000	27094.500	mmho/m	135400.000	27082.400	mmho/m		1.000	-19.259
Medium	-47330.100	-9381.740	mmho/m	-47327.100	-9389.280	mmho/m		1.000	-10.154
LL3		7.322	V		1400.000	Ohm-m			
		0.038	V		20.000	Ohm-m			
		-7.273	V		4000.000	mmho-m			

After Survey Verification													
				Readings		Targets		Results					
				Zero	Cal			Zero	Cal			m'	b'
Deep				0.000	0.000	mmho/m	135384.000	27094.500	mmho/m	1.000	0.000		
Medium				0.000	0.000	mmho/m	-47330.100	-9381.740	mmho/m	1.000	0.000		
LL3					0.000	Ohm-m		1400.000	Ohm-m				
					0.000	Ohm-m		20.000	Ohm-m				
					0.000	mmho-m		4000.000	mmho-m				

Compensated Density Calibration Report									
Serial-Model:					GEAR1-GEARHART				
Source / Verifier:					147 / 147				
Master Calibration Performed:					Fri May 10 06:08:48 2013				

Master Calibration					
	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1205.77	610.74	cps
Aluminum	2.600	g/cc	271.21	419.72	cps
Spine Angle = 75.89			Density/Spine Ratio = 0.579		
	Size		Reading		
Small Ring	7.60	in	3.69	V	
Large Ring	14.00	in	6.52	V	

Compensated Neutron Calibration Report									
Serial Number:					NEU_4I				
Tool Model:					G				

CALIBRATION									
Detector			Readings			Target		Normalization	
Short Space			1.00			cps		1.0000	
Long Space			1.00			cps		1.0000	

Gamma Ray Calibration Report									
Serial Number:					GR5				

Tool Model: OPEN
Performed: Mon Jul 01 05:22:08 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 1.0 cps

Sensitivity: 0.9000 GAPI/cps