



**SUPERIOR**  
Hays,  
Kansas

**DUAL  
INDUCTION  
LOG**

Company CASTLE RESOURCES, INC.  
Well LUDWICK #1  
Field CHASE-SILICA  
County RICE  
State KANSAS

Company CASTLE RESOURCES, INC.  
Well LUDWICK #1  
Field CHASE-SILICA  
County RICE State KANSAS

Location: API # : 15-159-22682-0000  
850' FNL & 2110' FWL  
NW - SE - NE - NW  
SEC 35 TWP 19S RGE 10W  
Permanent Datum GROUND LEVEL Elevation 1743  
Log Measured From KELLY BUSHING 10' A.G.L.  
Drilling Measured From KELLY BUSHING  
Elevation  
K.B. 1753  
D.F. 1751  
G.L. 1743

Date	3/5/12
Run Number	ONE
Depth Driller	3400
Depth Logger	3400
Bottom Logged Interval	3398
Top Log Interval	0
Casing Driller	8 5/8" @ 216
Casing Logger	216
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3/48
pH / Fluid Loss	10.5/9.2
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.75 @ 69F
Rmf @ Meas. Temp	.56 @ 69F
Rmc @ Meas. Temp	.90 @ 69F
Source of Rmf / Rmc	MEASURED
Rim @ BHT	.47 @ 111F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	111F
Equipment Number	680
Location	HAYS, KS.
Recorded By	JEFF GRONEMEG
Witnessed By	JERRY GREEN

<<< Fold Here >>>

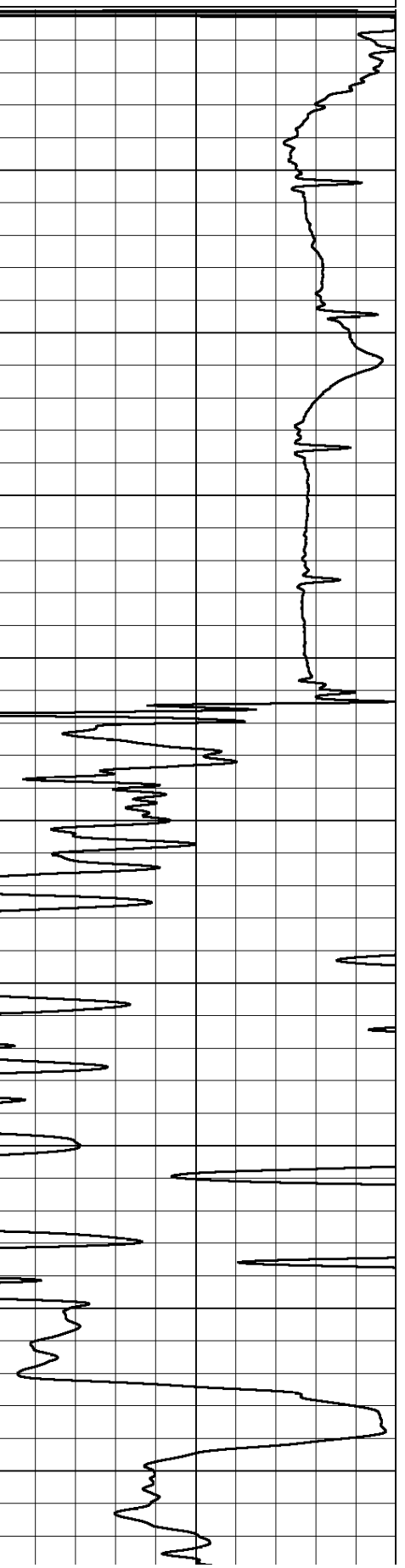
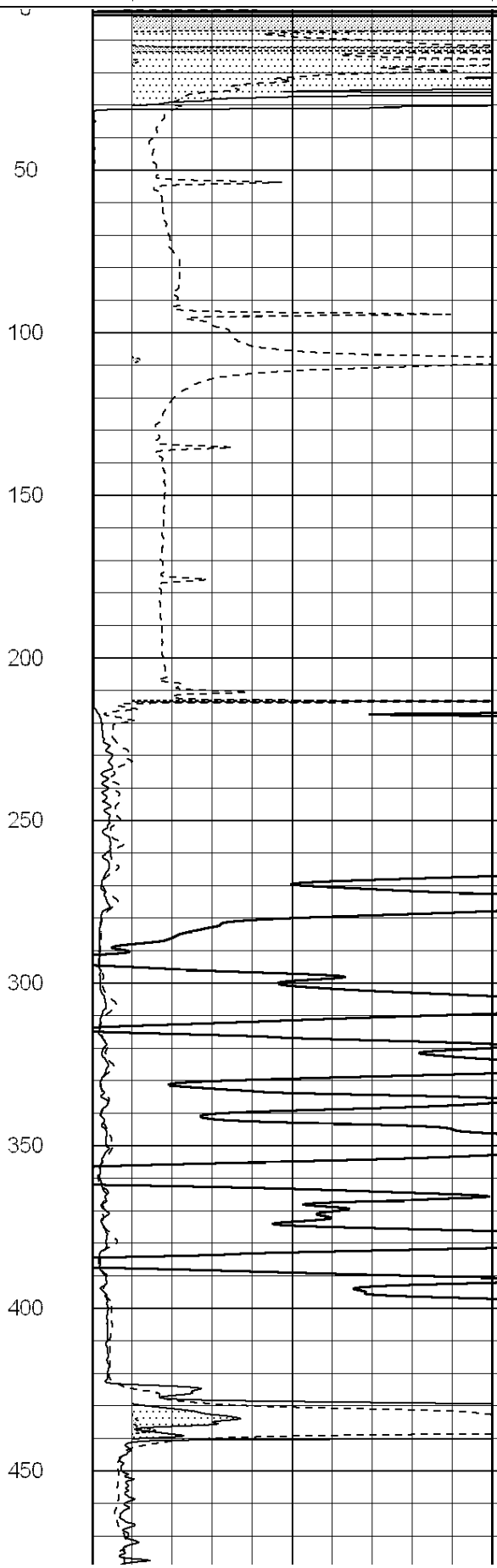
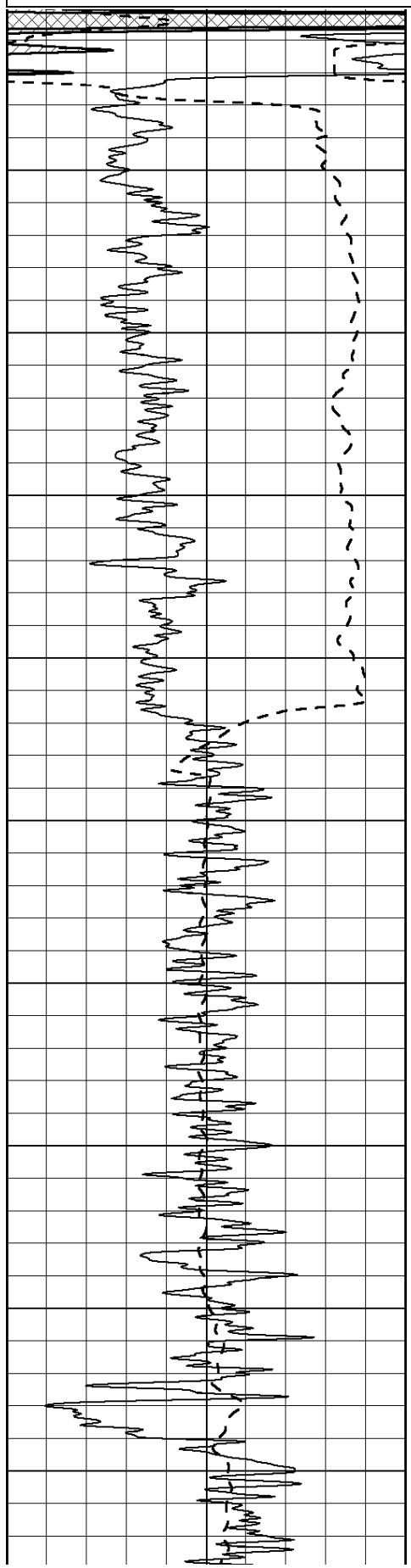
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

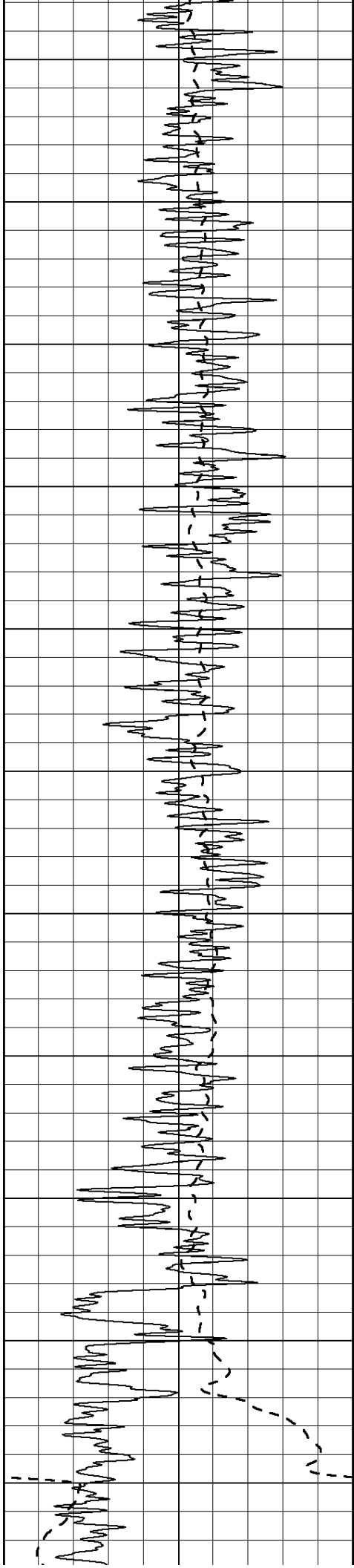
Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395  
DIRECTIONS  
ELLINWOOD, KS - EAST TO RAYMOND TURNOFF - 1 MILE EAST - 1 MILE NORTH  
1/2 MILE EAST - SOUTH INTO

0	Gamma Ray (GAPI)	150
-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





500

550

600

650

700

750

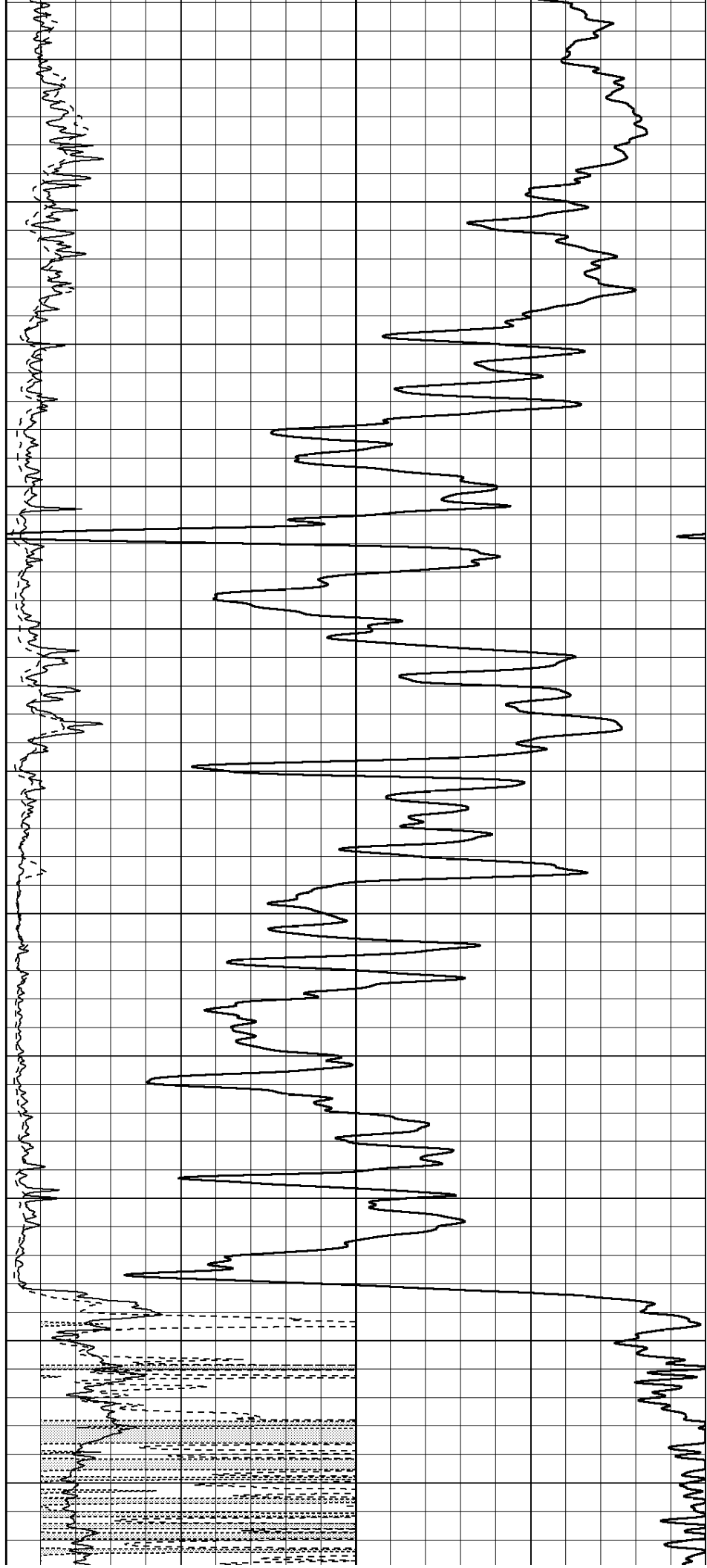
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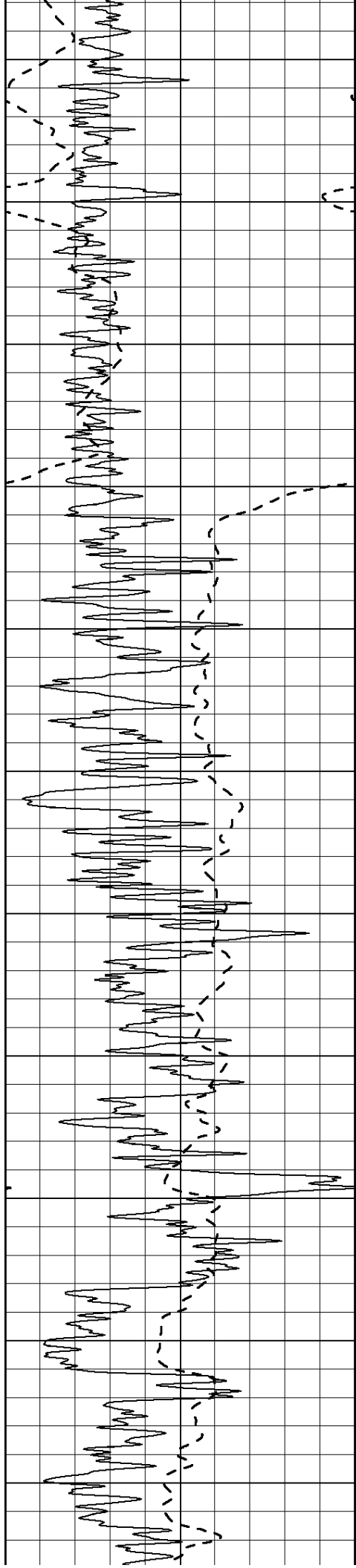
850

900

950

1000





1050

1100

1150

1200

1250

1300

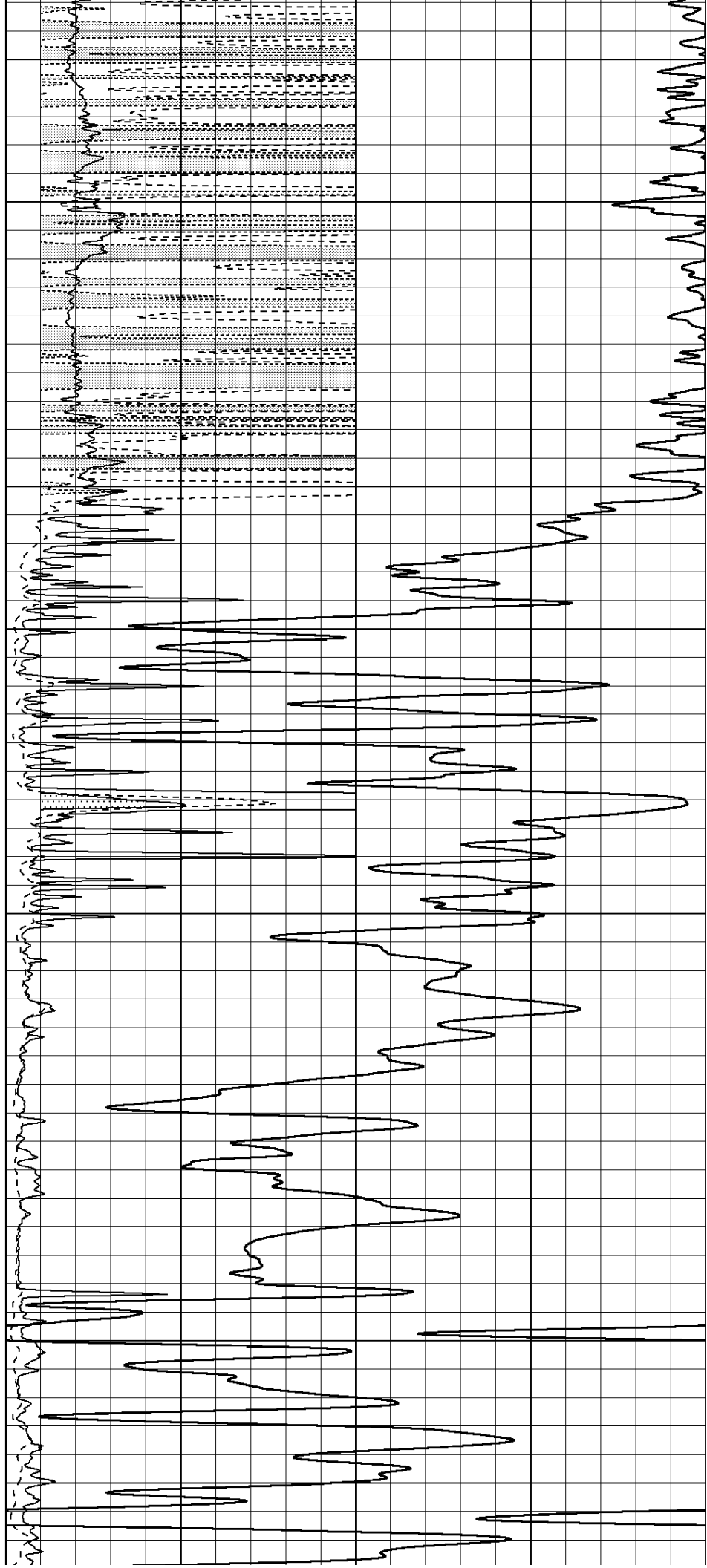
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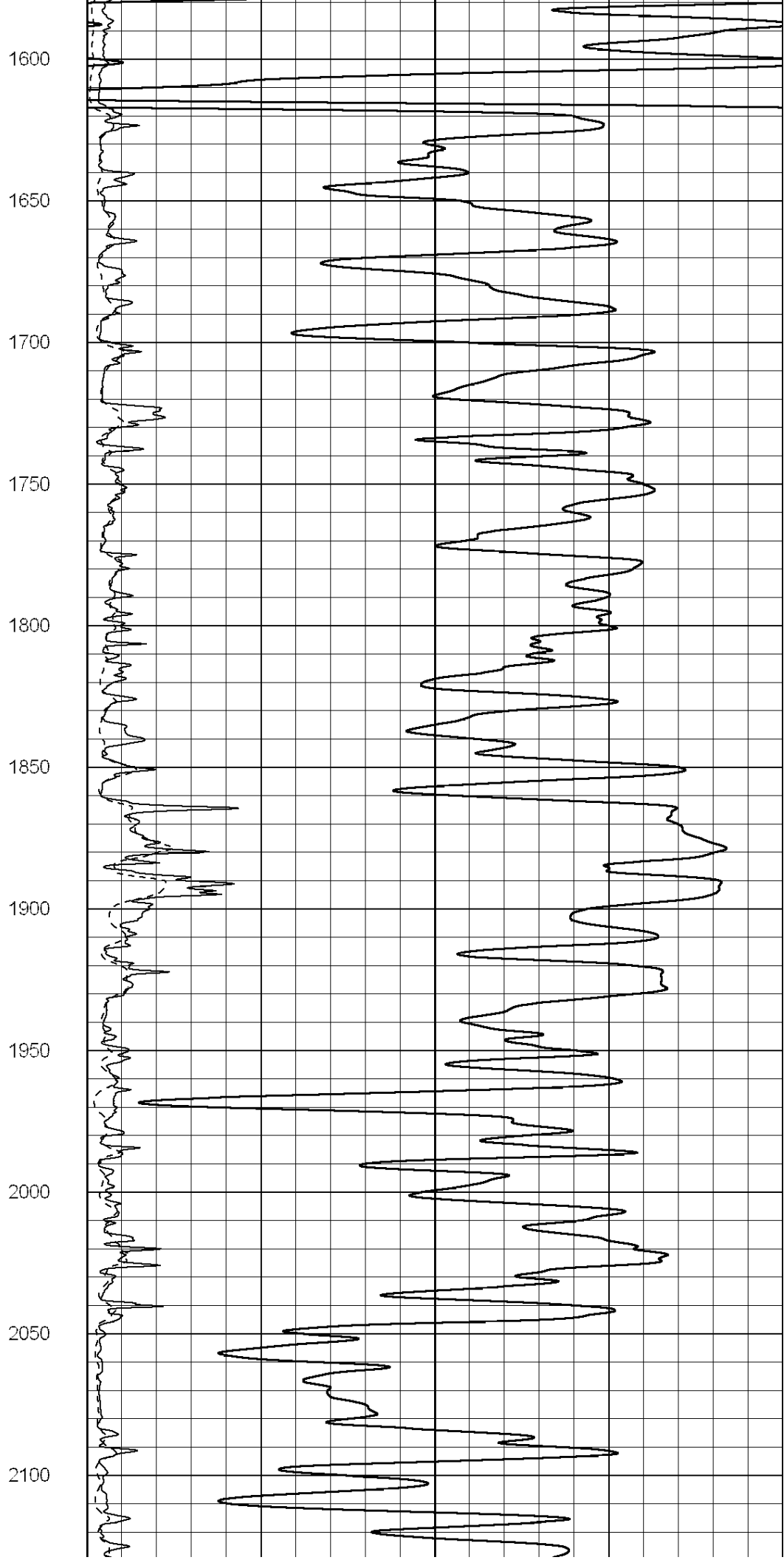
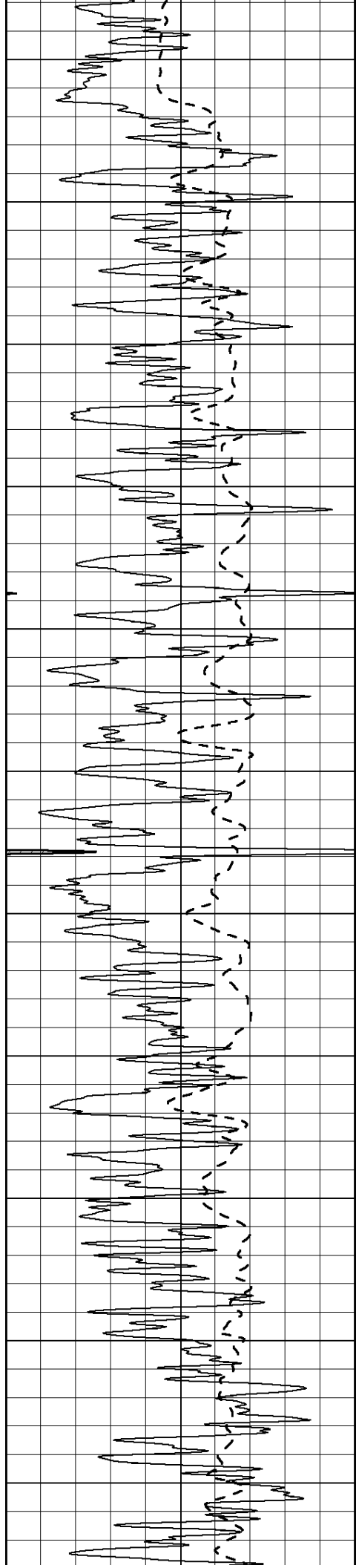
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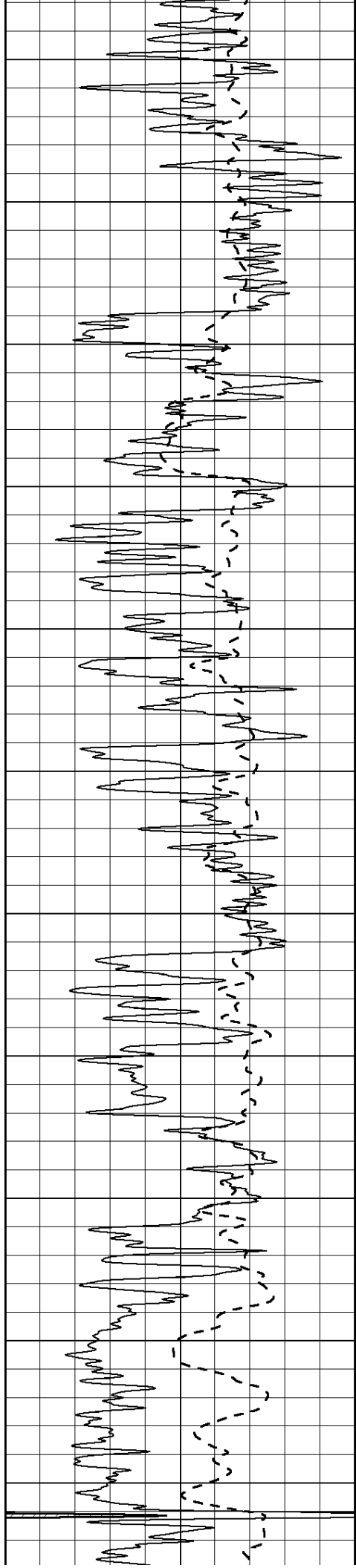
1450

1500

1550







2150

2200

2250

2300

2350

2400

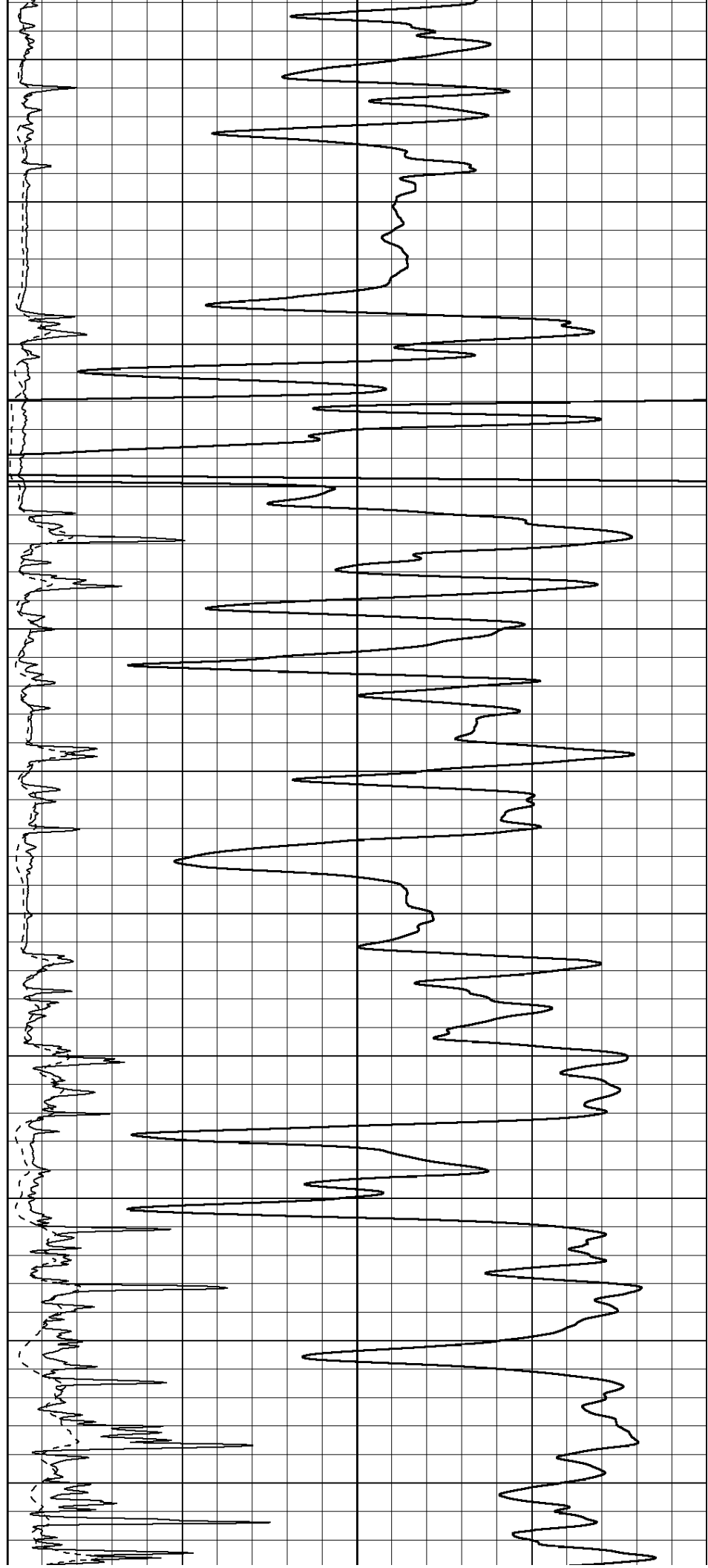
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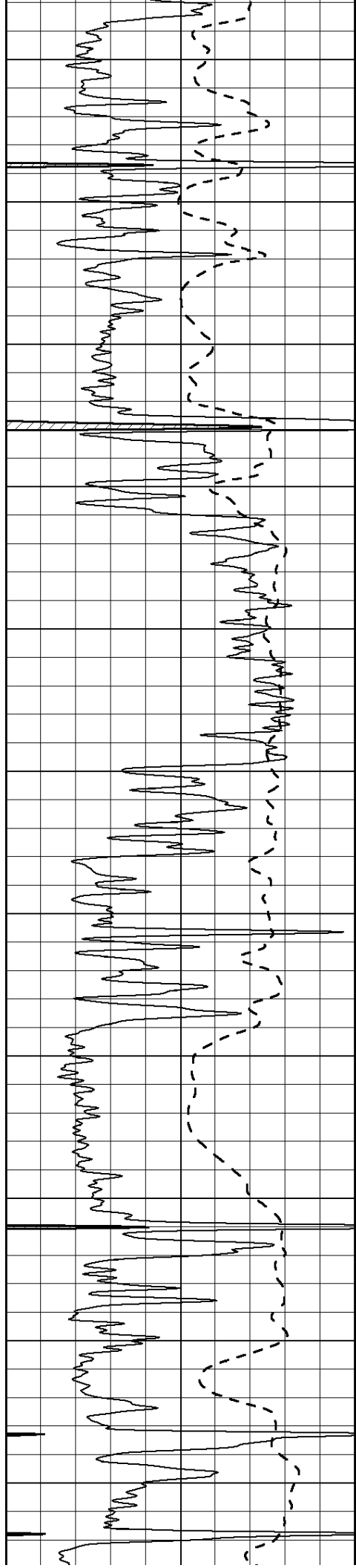
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2550

2600

2650





2700

2750

2800

2850

2900

2950

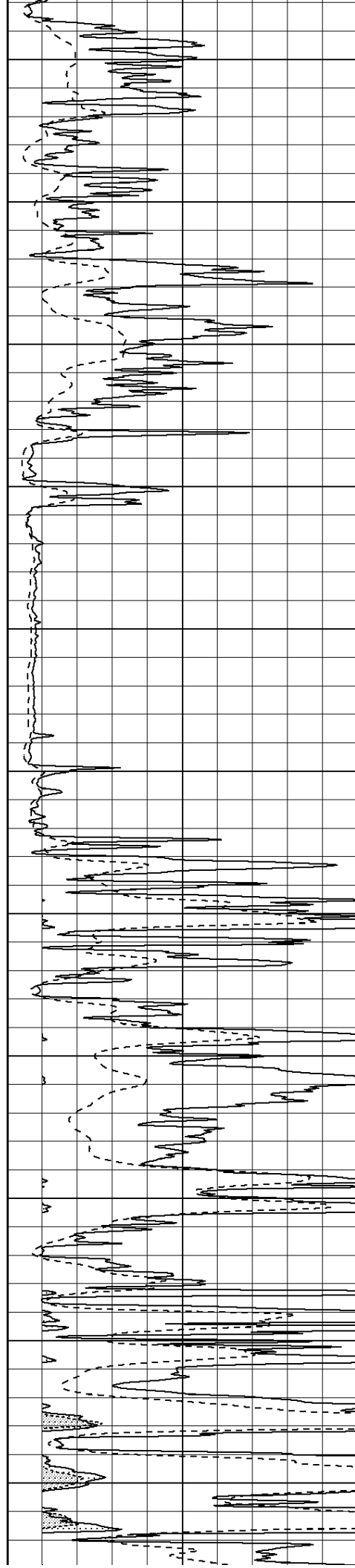
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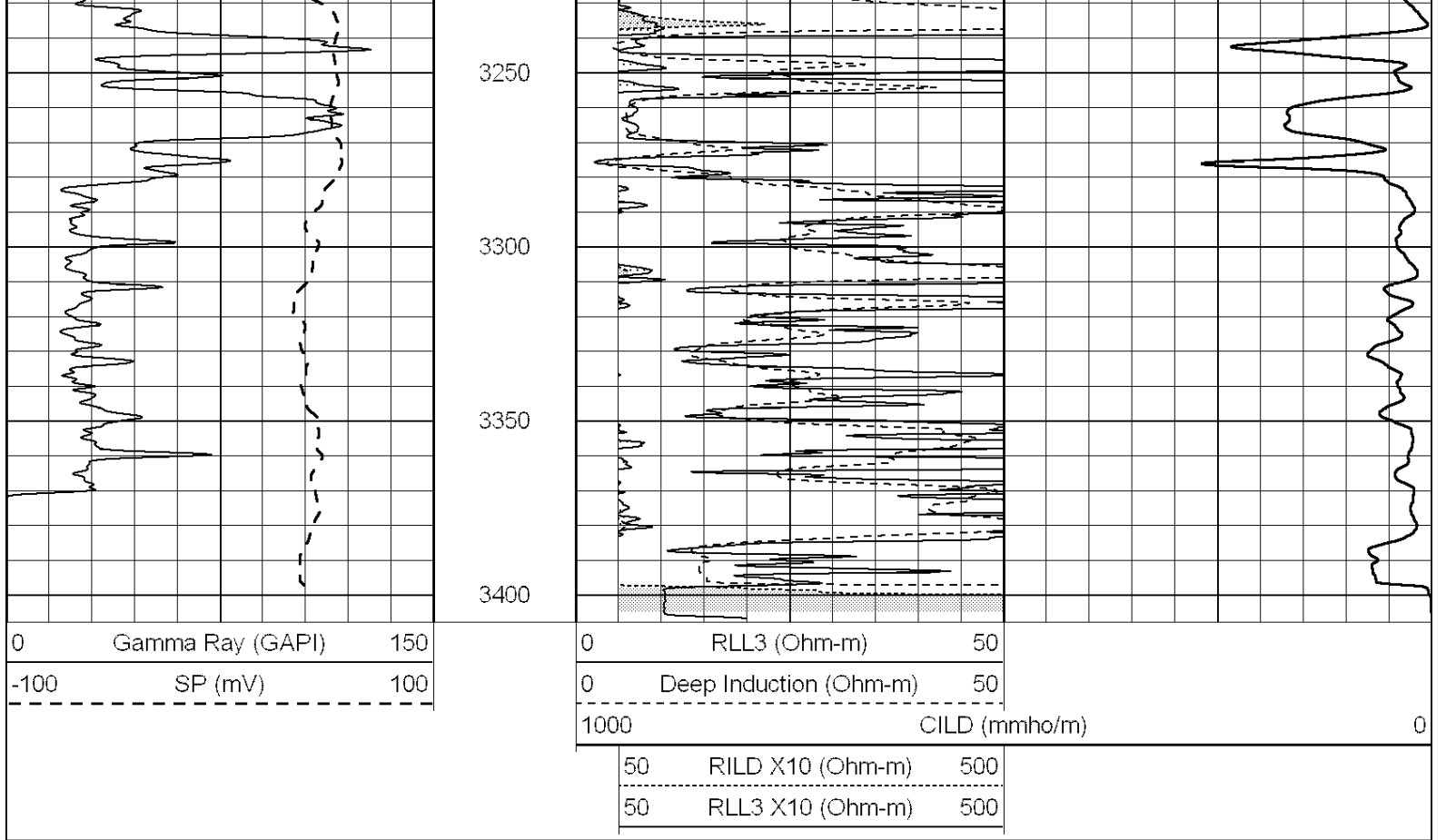
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3100

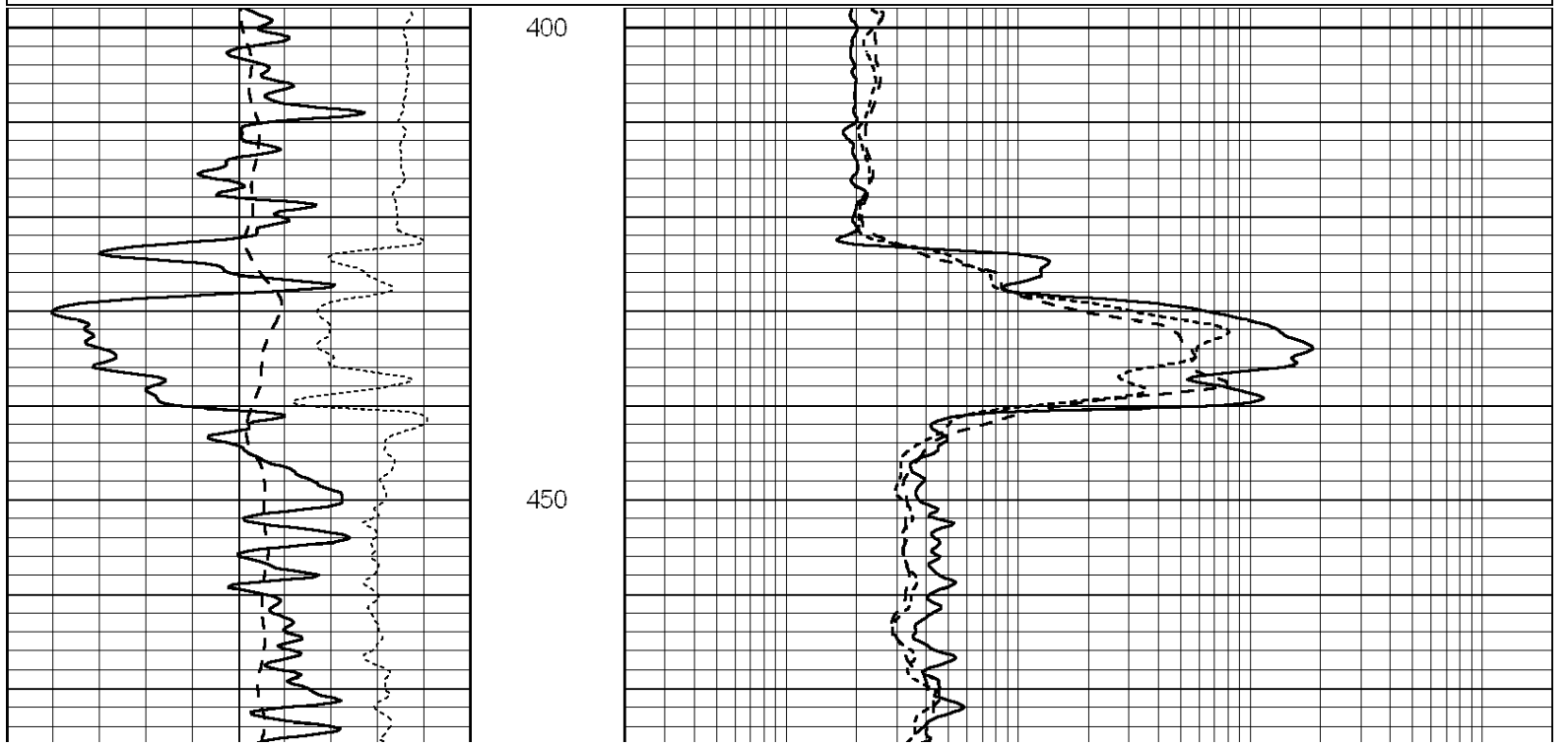
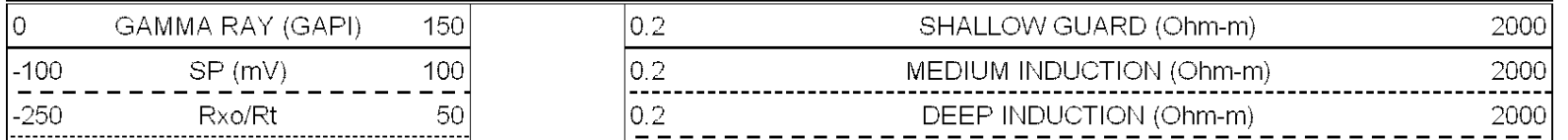
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3200

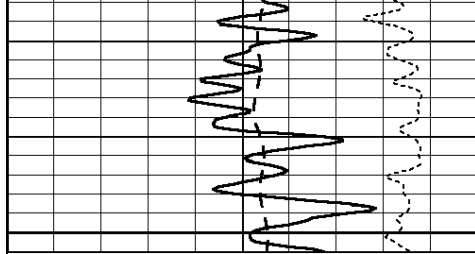




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 Charted by: Depth in Feet scaled 1:240

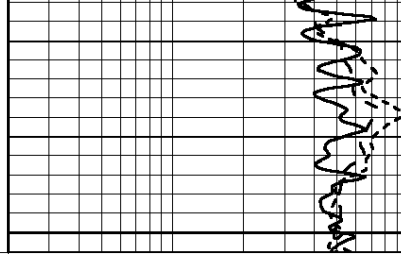






500

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

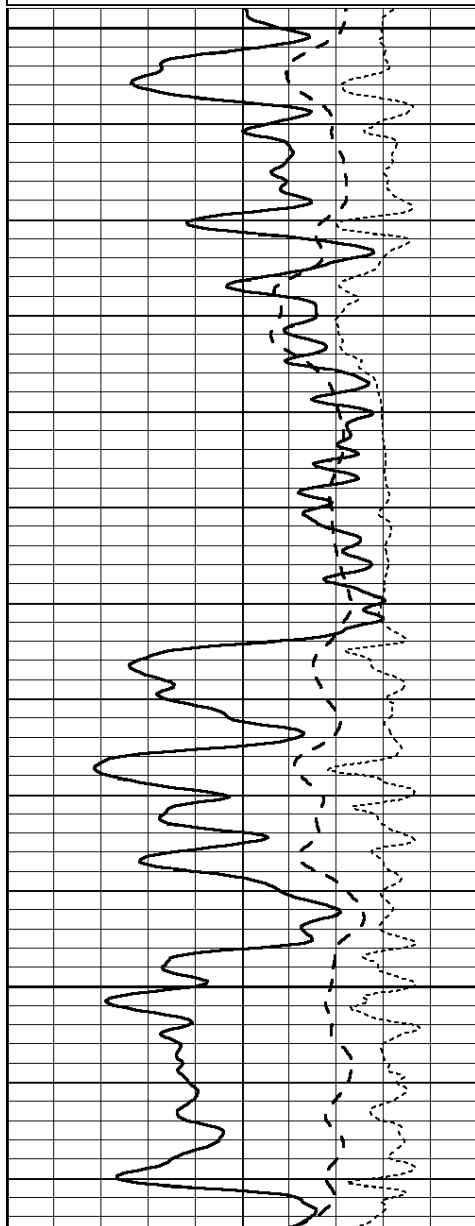


0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

Database File: 008060ddn.db  
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 Presentation Format: \_dil  
 Dataset Creation: Mon Mar 05 04:17:56 2012 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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

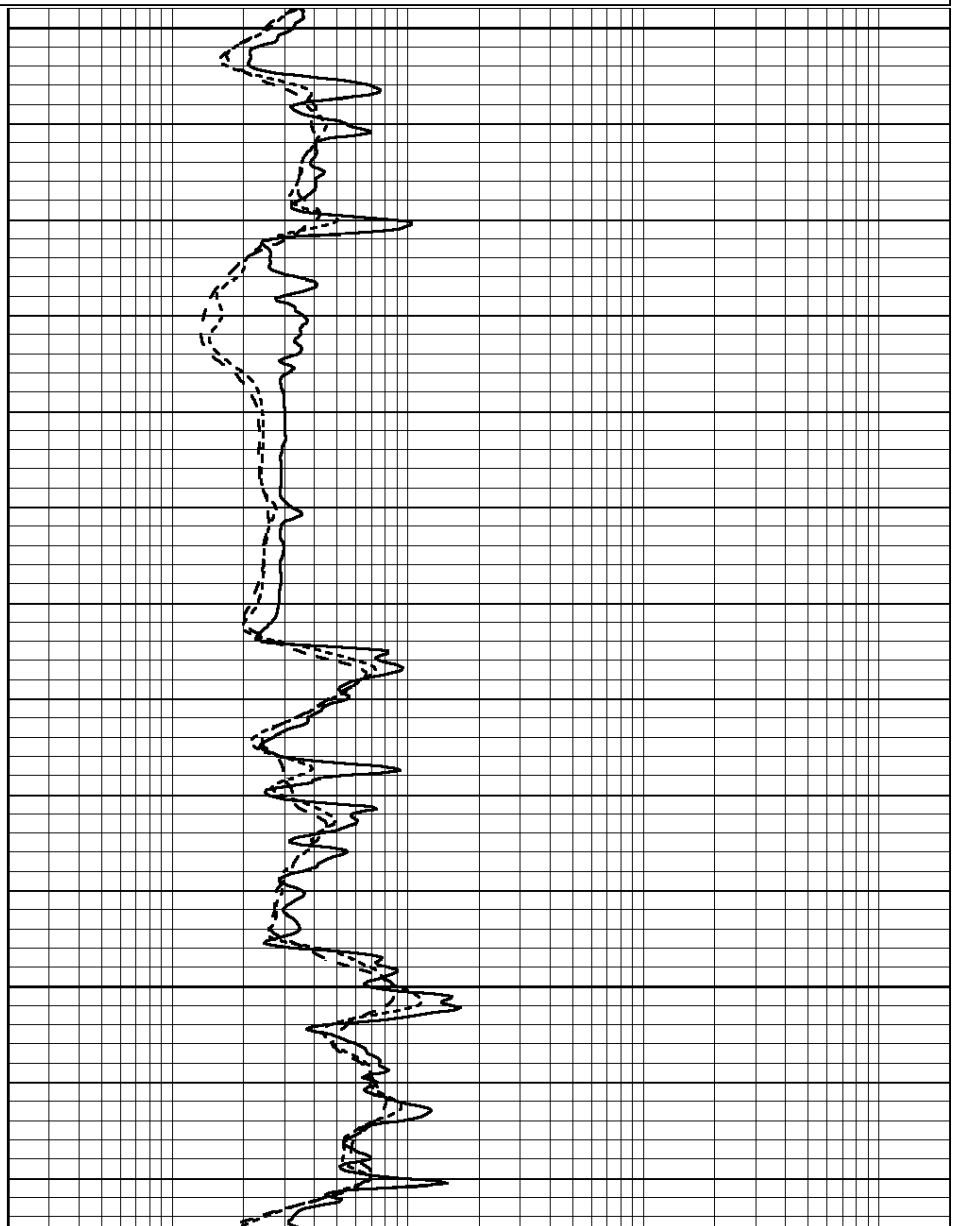
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

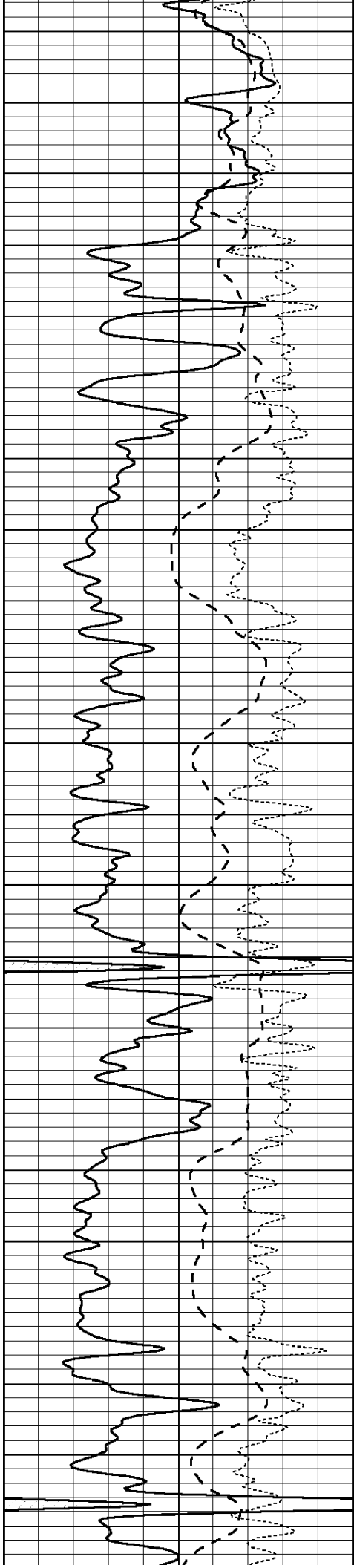


2400

2450

2500



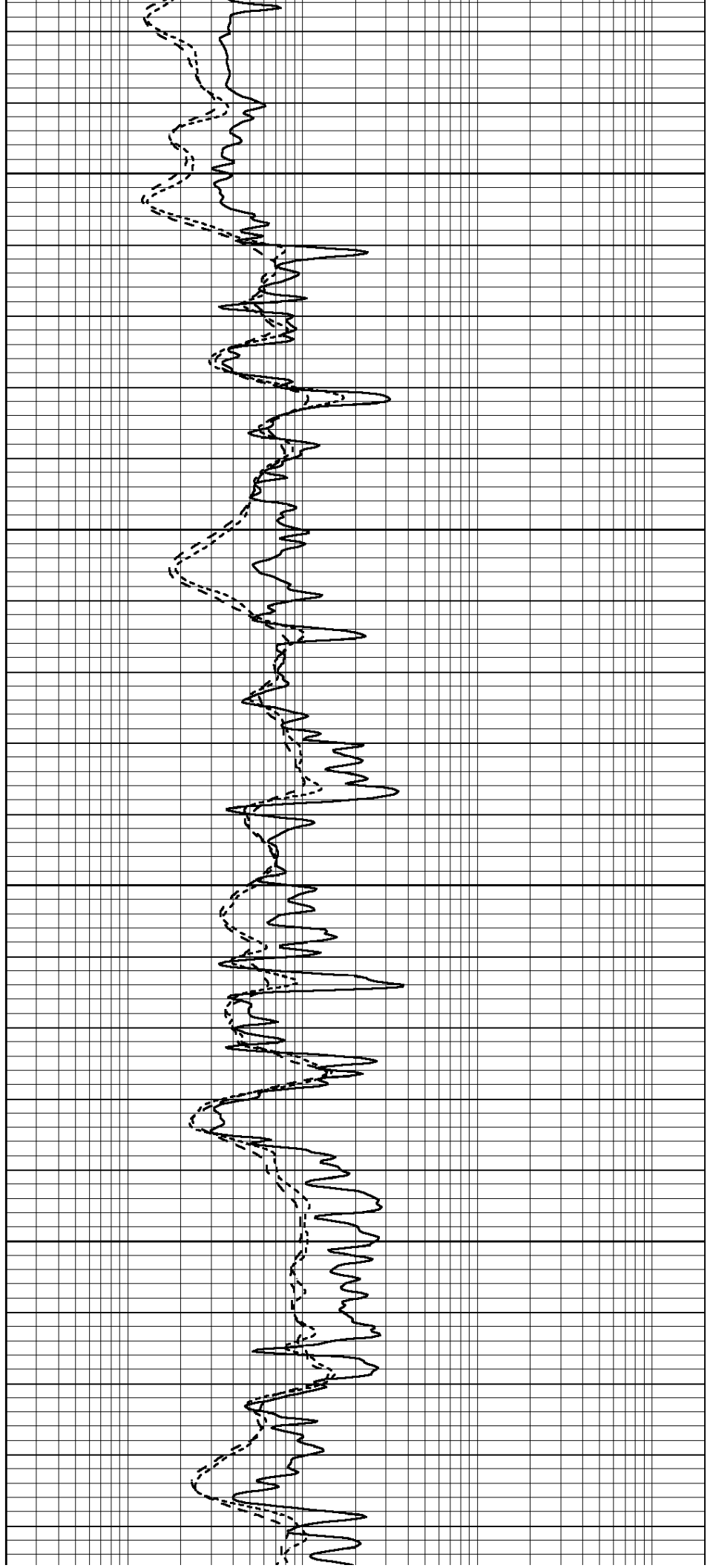


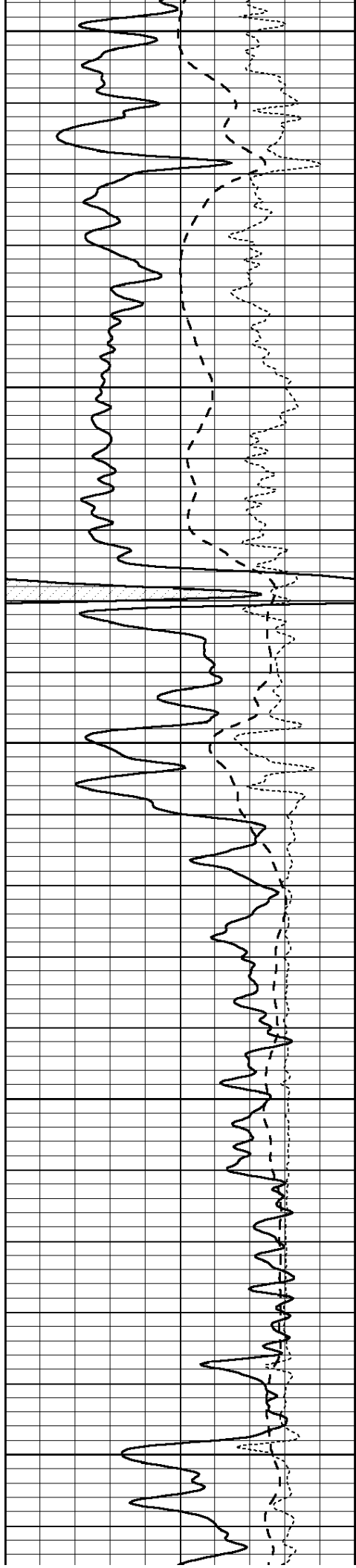
2550

2600

2650

2700





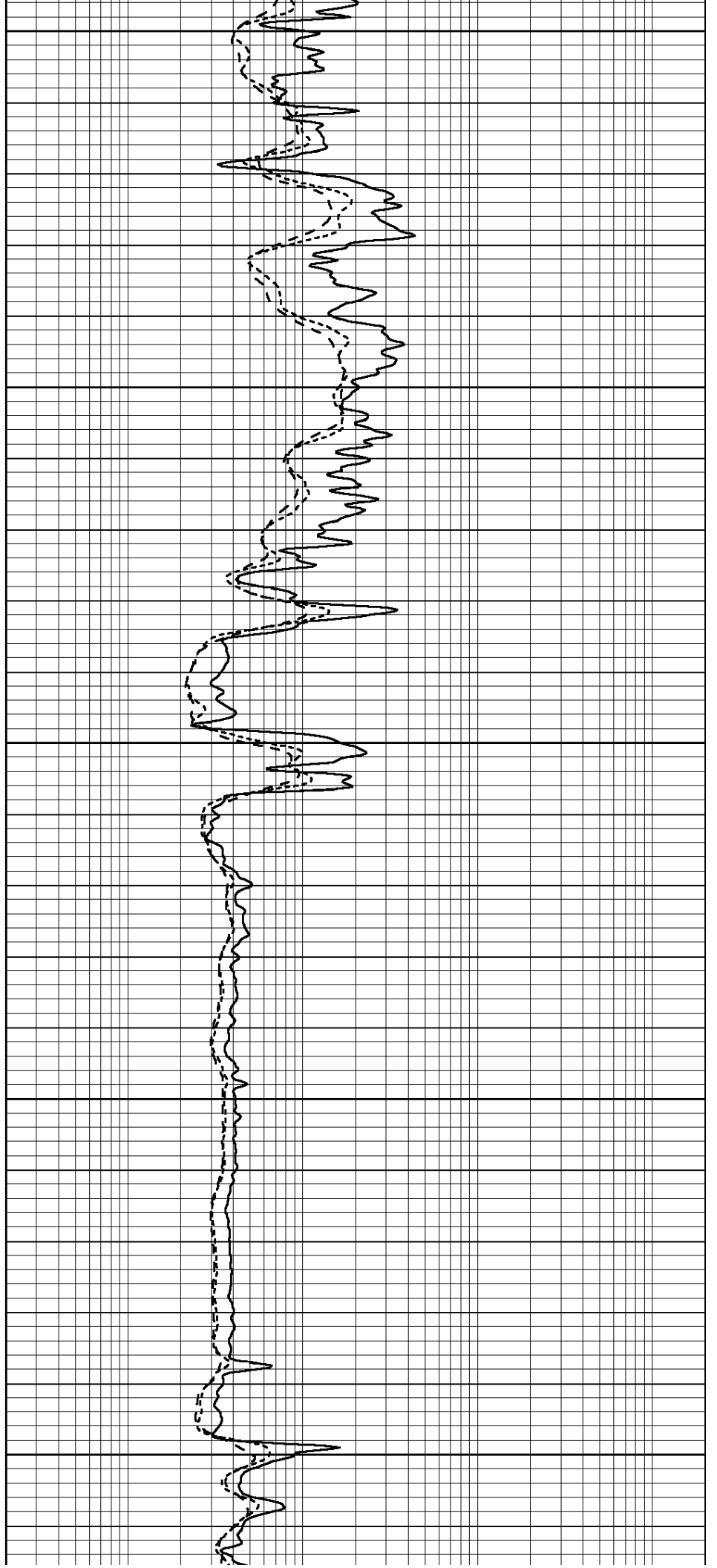
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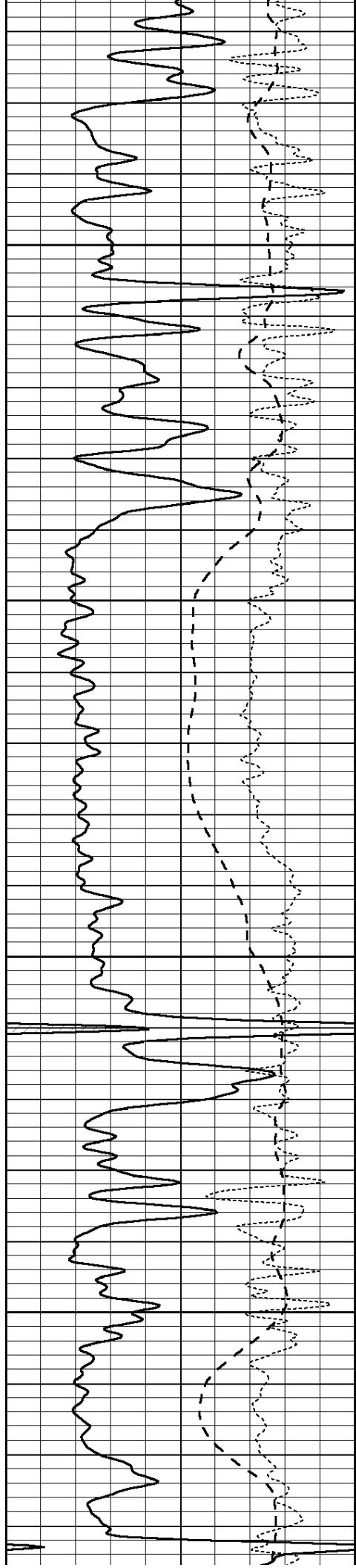
2800

2850

2900

2950



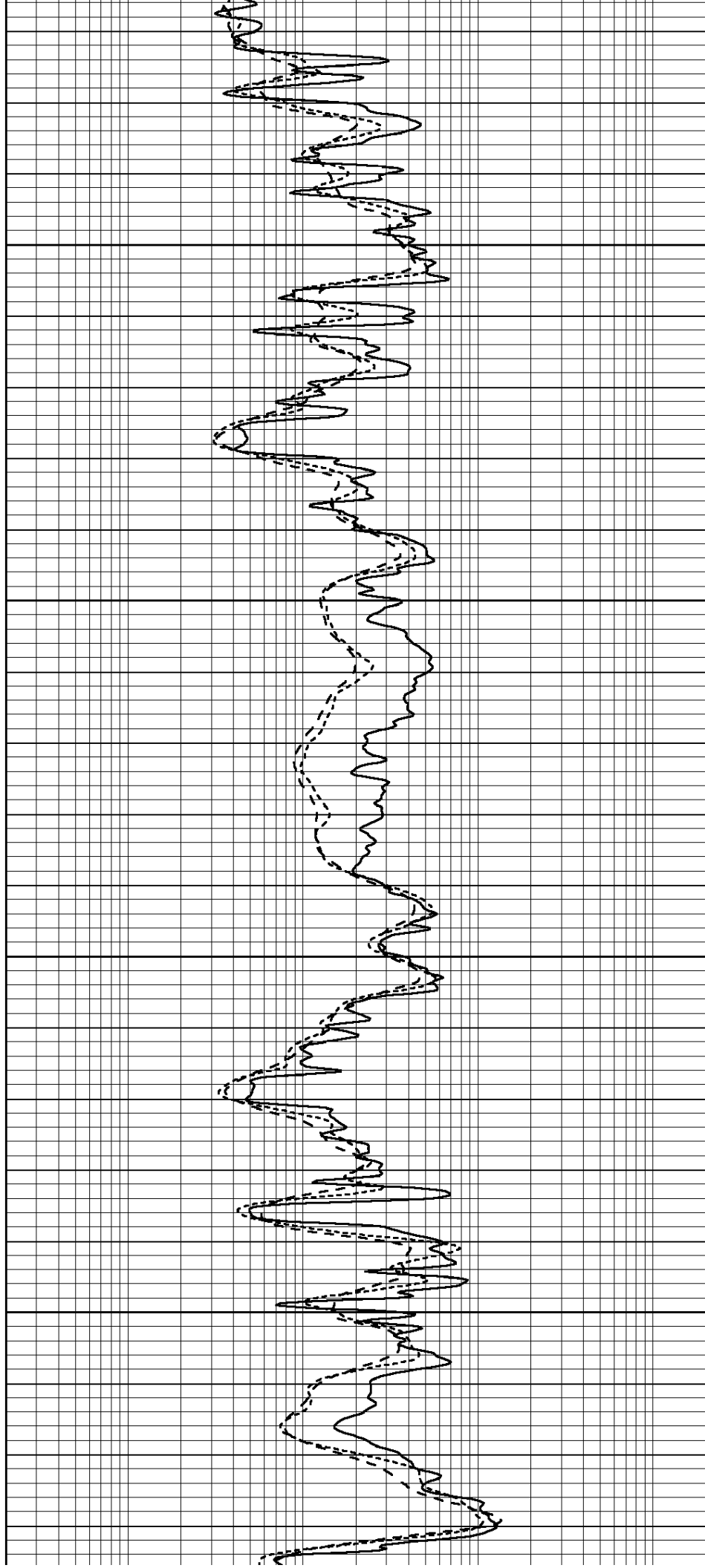


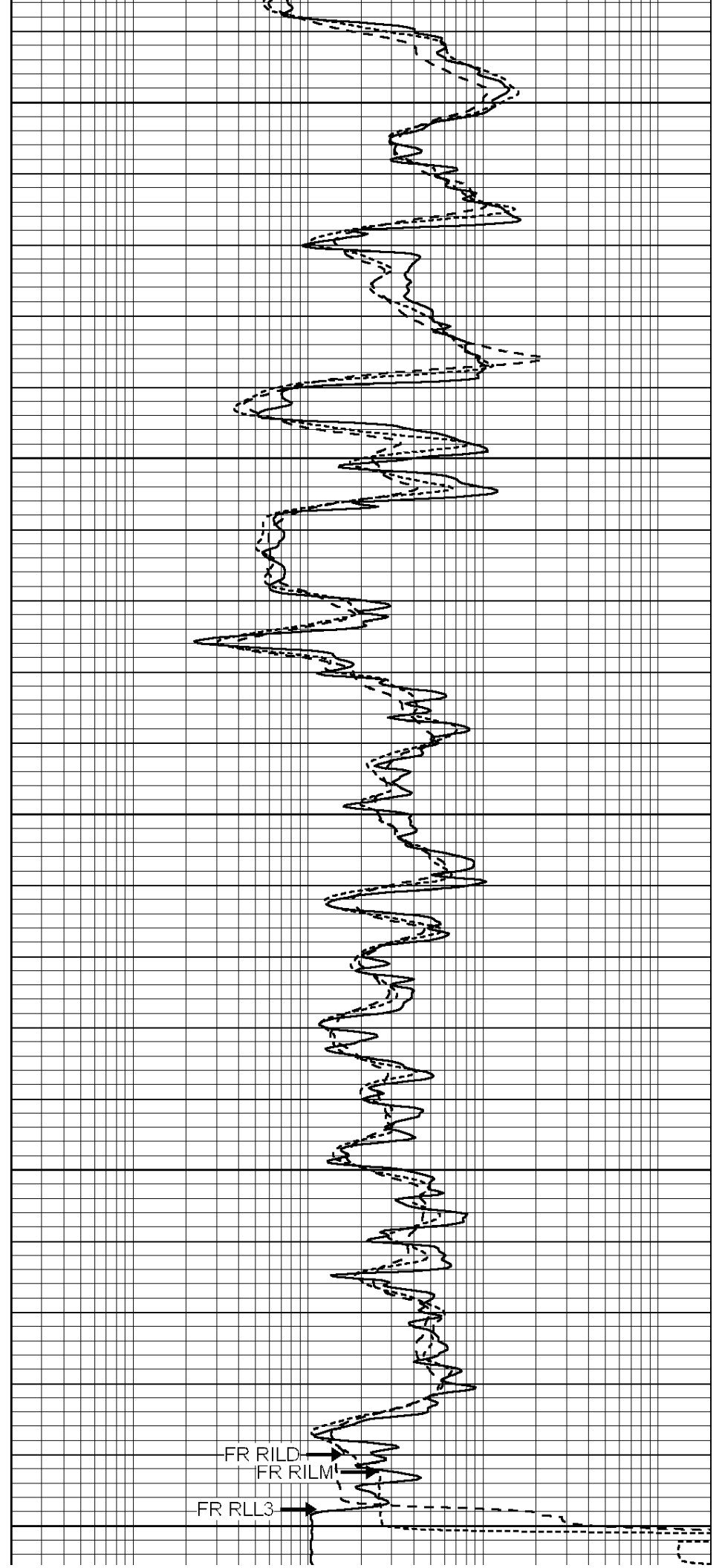
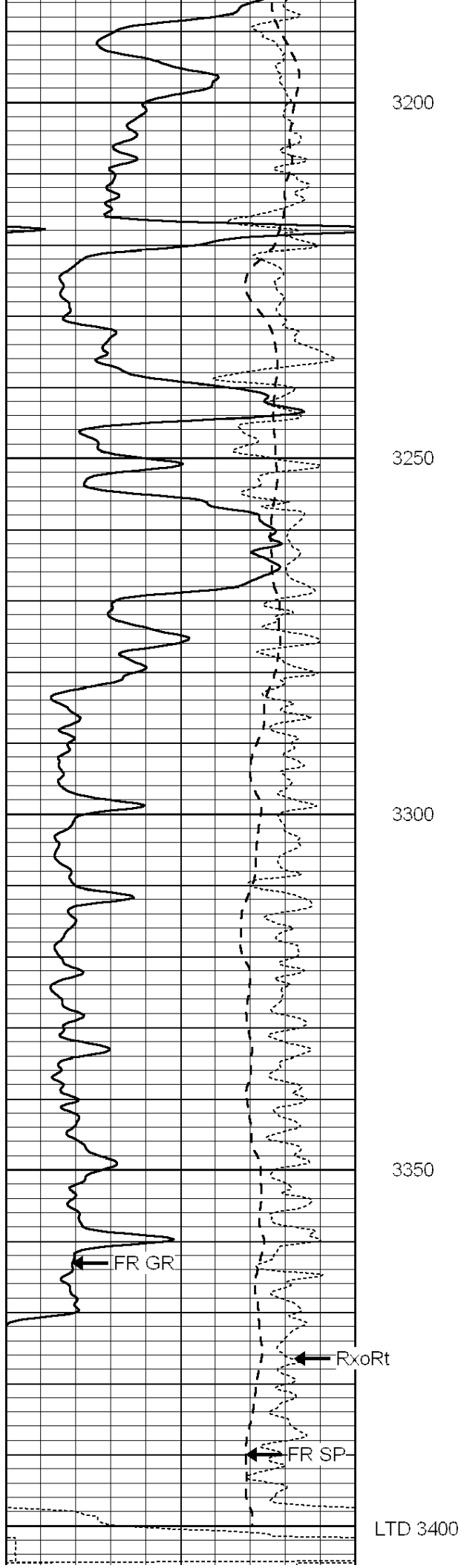
3000

3050

3100

3150





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



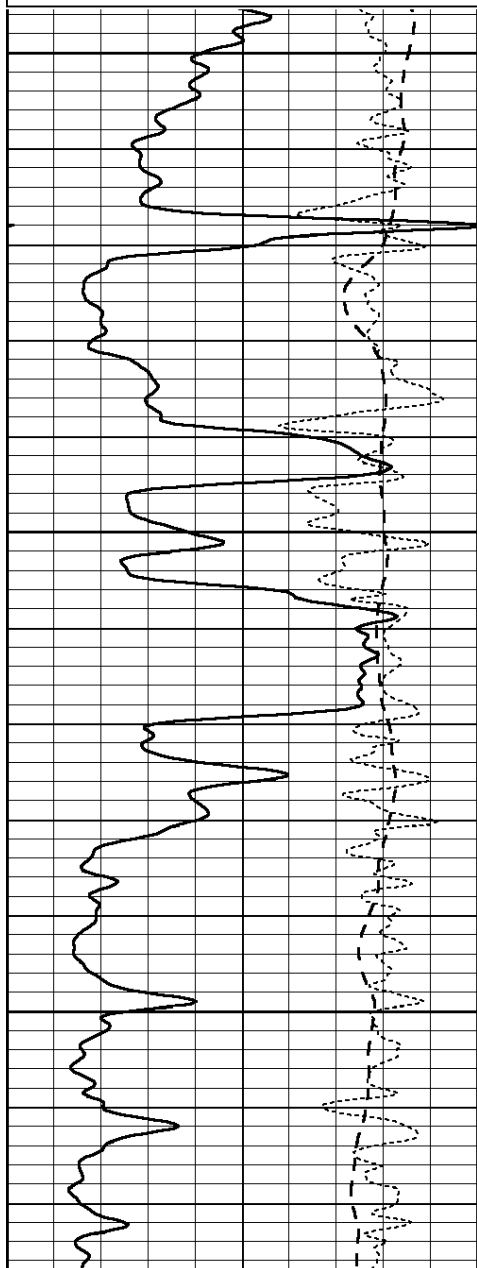
SUPERIOR  
Hays,  
Kansas

# REPEAT SECTION

Database File: 008060ddn.db  
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 Charted by: Depth in Feet scaled 1:240

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

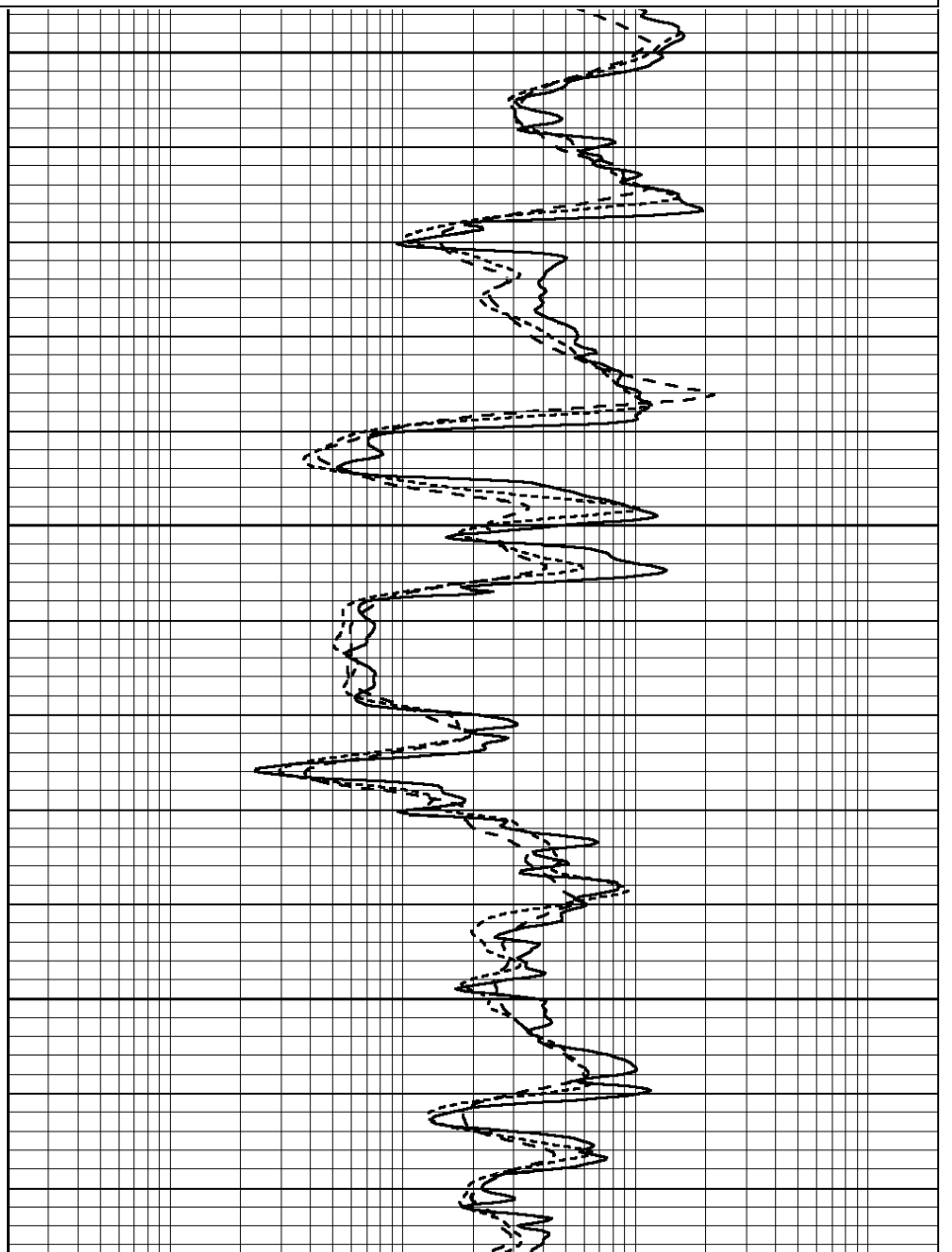
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

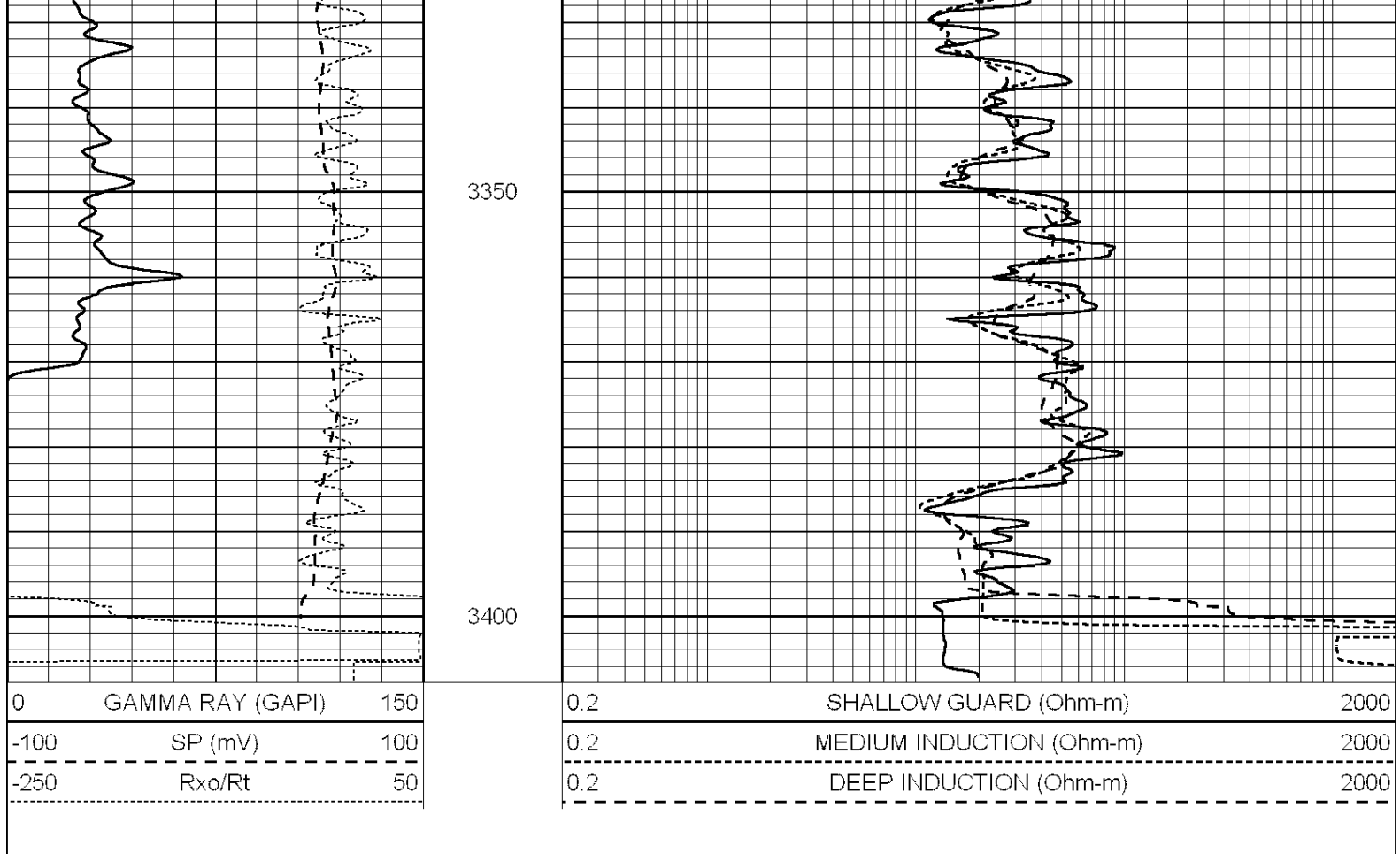


3200

3250

3300





### Calibration Report

Database File: 008060ddn.db  
 Dataset Pathname: pass3.2  
 Dataset Creation: Mon Mar 05 05:48:51 2012 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: PROBE8-DILG  
 Surface Cal Performed: Fri Aug 01 06:33:19 2008  
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008  
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

#### Surface Calibration

Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
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: GEAR4-GEARHART  
 Source / Verifier: 143 / 143  
 Master Calibration Performed: Fri Jan 06 21:06:59 2012

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1015.91	497.51	cps
Aluminum	2.580	g/cc	227.67	350.20	cps
Spine Angle = 76.79			Density/Spine Ratio = 0.566		
	Size		Reading		
Small Ring	8.00	in	2.25	V	
Large Ring	14.00	in	4.37	V	

Compensated Neutron Calibration Report

Serial Number: 6I  
 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: #8  
 Tool Model: OPEN  
 Performed: Mon Jun 13 16:56:43 2011

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 175.0 cps

Sensitivity: 0.8371 GAPI/cps