



**SUPERIOR**  
Hays,  
Kansas

**DUAL  
INDUCTION  
LOG**

Company DEUTSCH OIL COMPANY  
Well STALLINGS #1-31  
Field  
County HODGEMAN  
State KANSAS

Company DEUTSCH OIL COMPANY  
Well STALLINGS #1-31  
Field  
County HODGEMAN State KANSAS

Location: API # : 15-083-21744-0000  
1600' FSL & 1530' FWL  
SW-SW-NE-SW  
SEC 31 TWP 23S RGE 23W  
Permanent Datum GROUND LEVEL Elevation 2456  
Log Measured From KELLY BUSHING & A.G.L.  
Drilling Measured From KELLY BUSHING  
Elevation  
K.B. 2464  
D.F. 2462  
G.L. 2456

Date	1/16/12
Run Number	ONE
Depth Driller	4870
Depth Logger	4874
Bottom Logged Interval	4872
Top Log Interval	00
Casing Driller	8 5/8" @ 268
Casing Logger	268
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/44
pH / Fluid Loss	9.5/8.8
Source of Sample	FLOWLINE
Rim @ Meas. Temp	1.0 @ 70F
Rmf @ Meas. Temp	.75 @ 70F
Rmc @ Meas. Temp	1.2 @ 70F
Source of Rmf / Rmc	MEASURED
Rim @ BHT	.56 @ 124F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	124F
Equipment Number	680
Location	HAYS, KS.
Recorded By	JASON CAPPELLUCCI
Witnessed By	KENT DEUTSCH

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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 SERVICE (785) 628-6395  
DIRECTIONS  
JETMORE, KS. - 5 S. TO G. RD. - 1/2 E. - N. INTO



**SUPERIOR**  
Hays,  
Kansas

**MAIN SECTION**

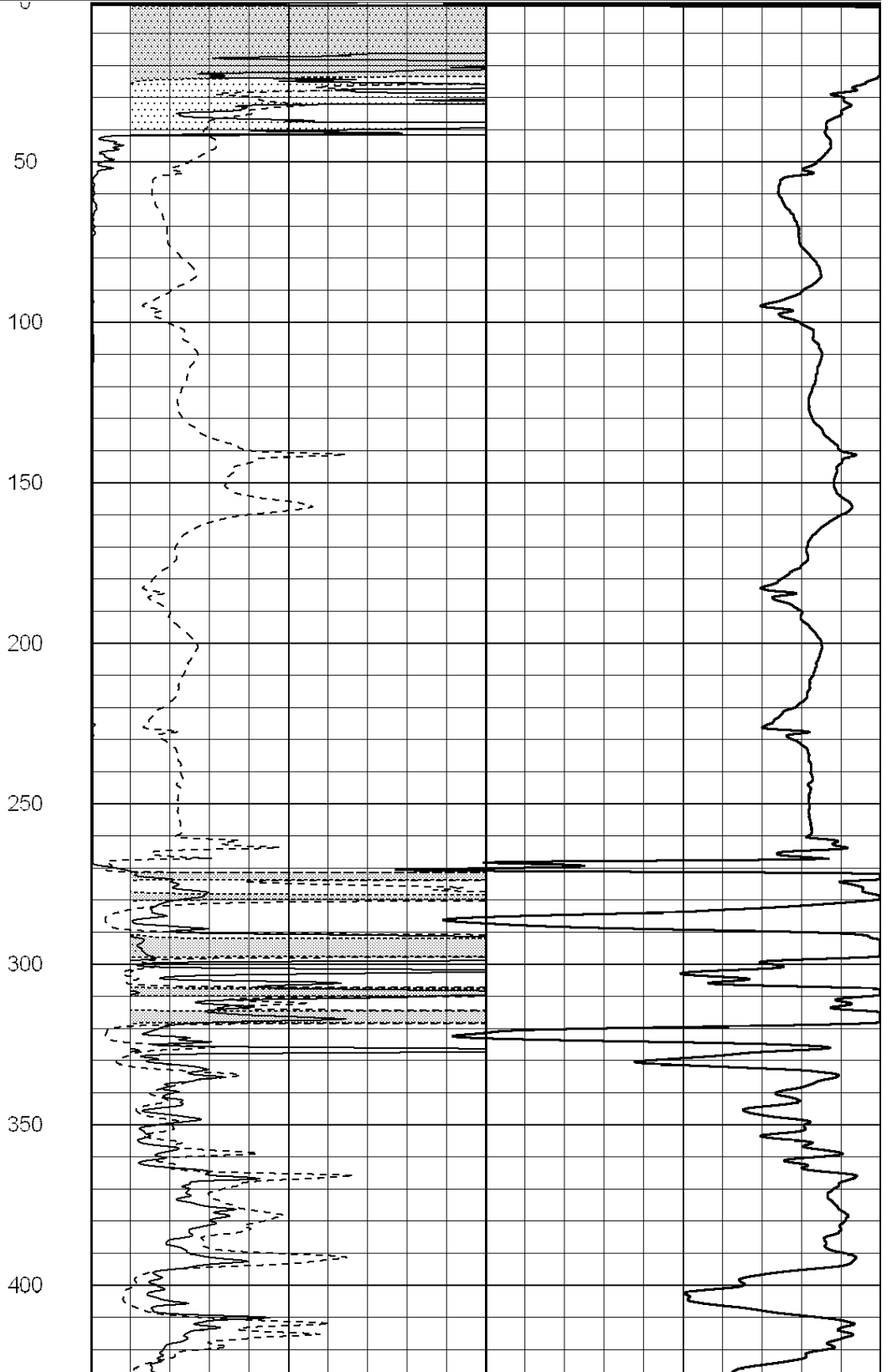
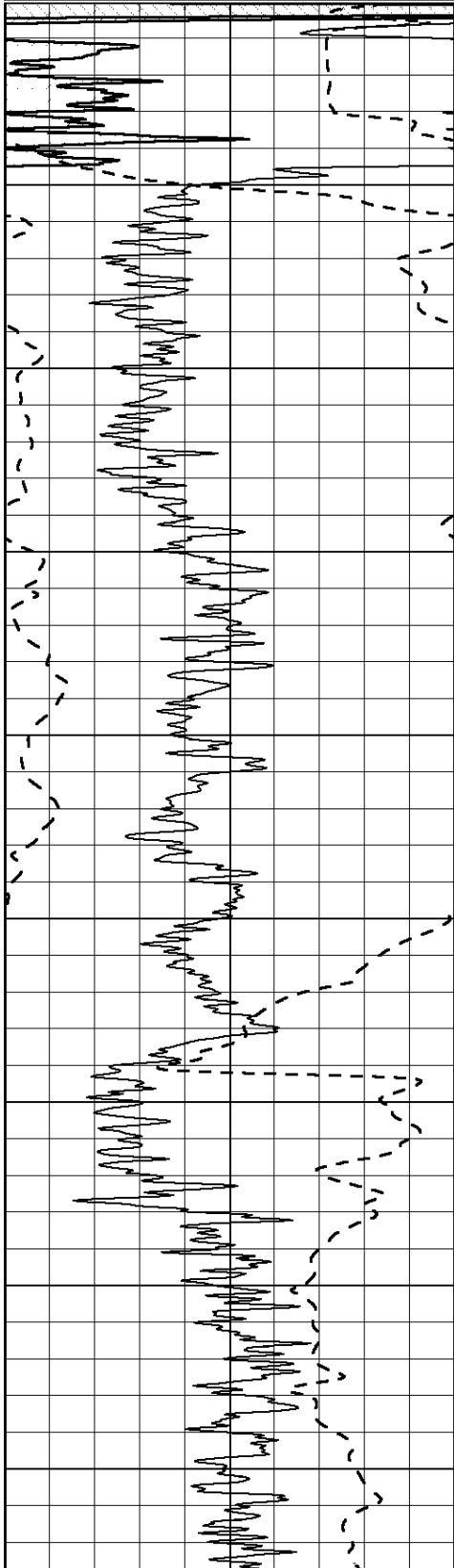
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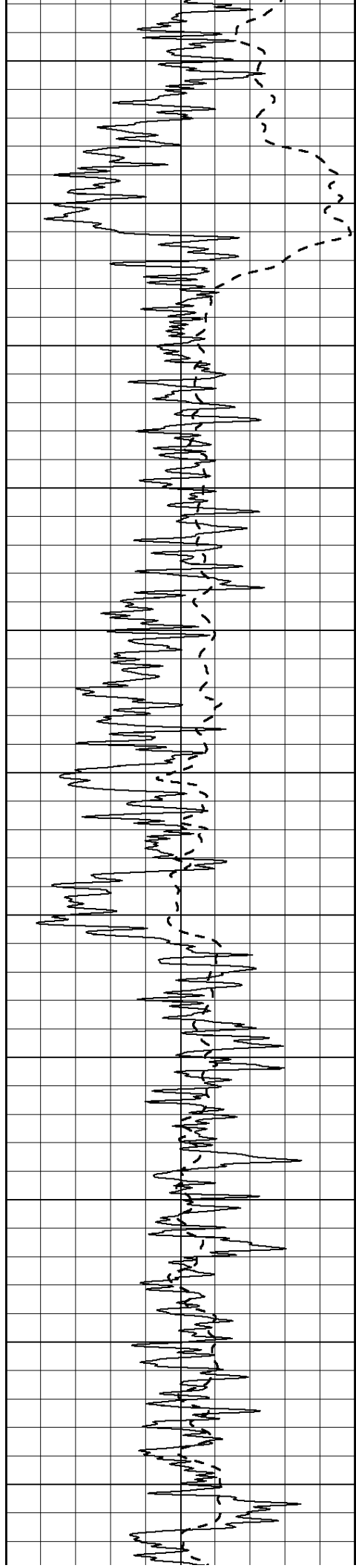
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-100	SP (mV)	100

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

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





450

500

550

600

650

700

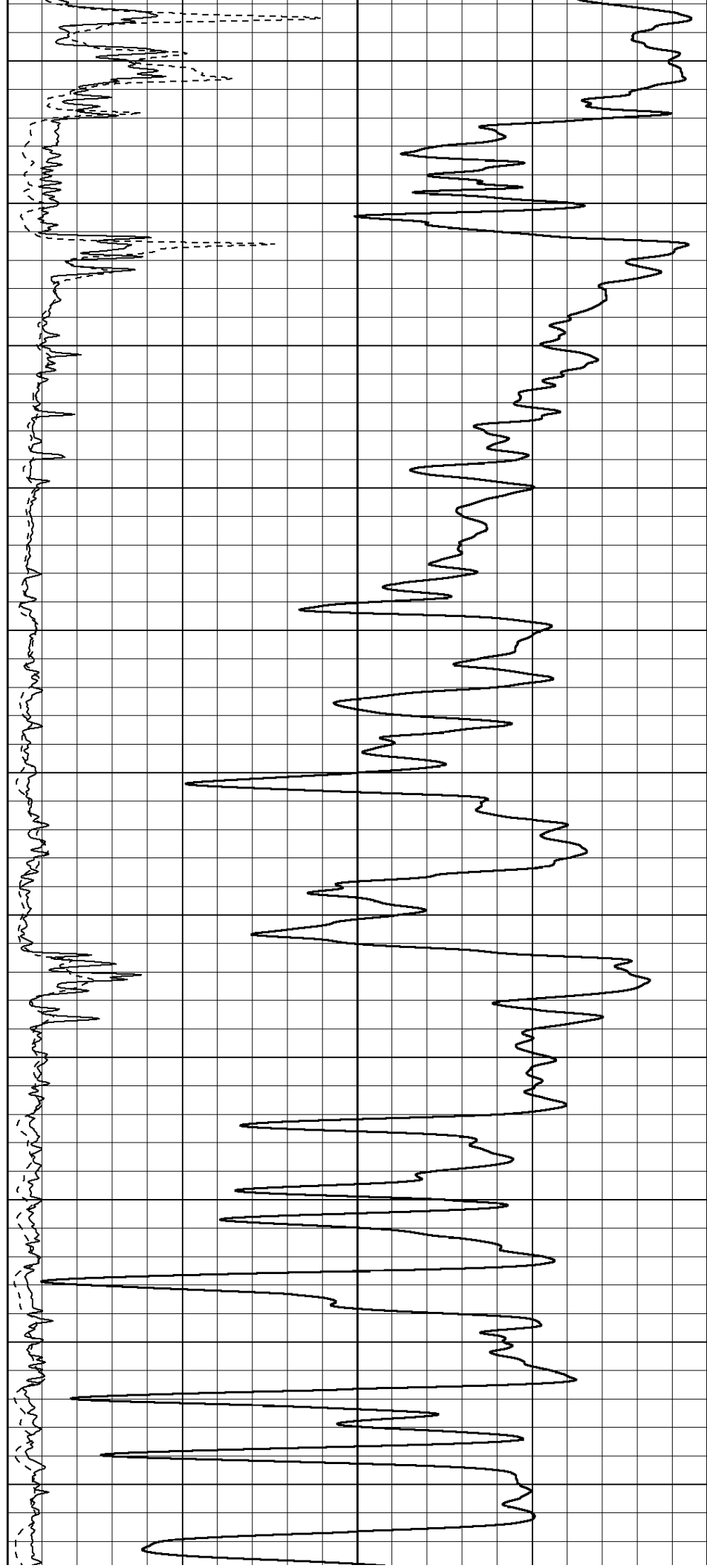
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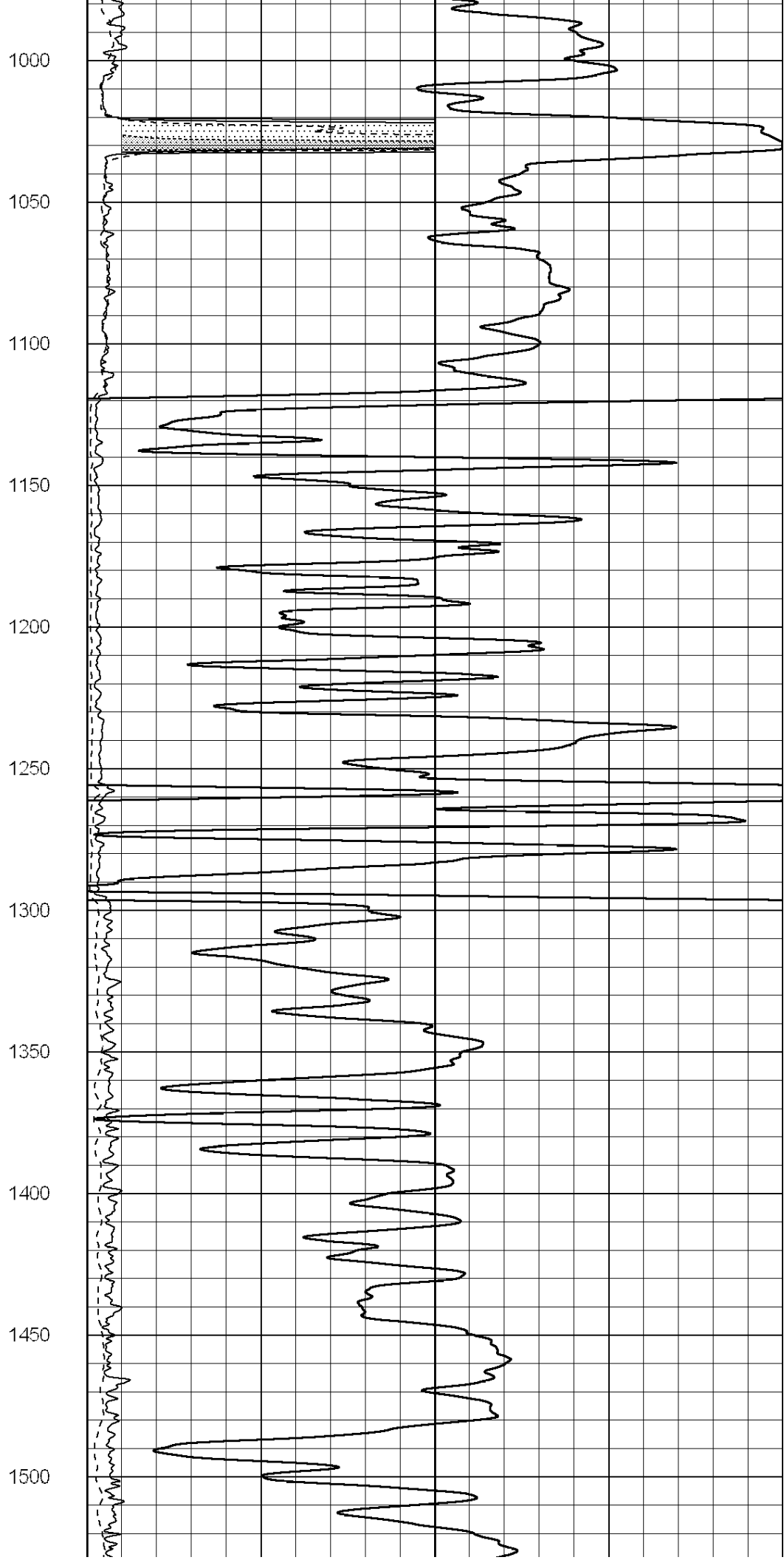
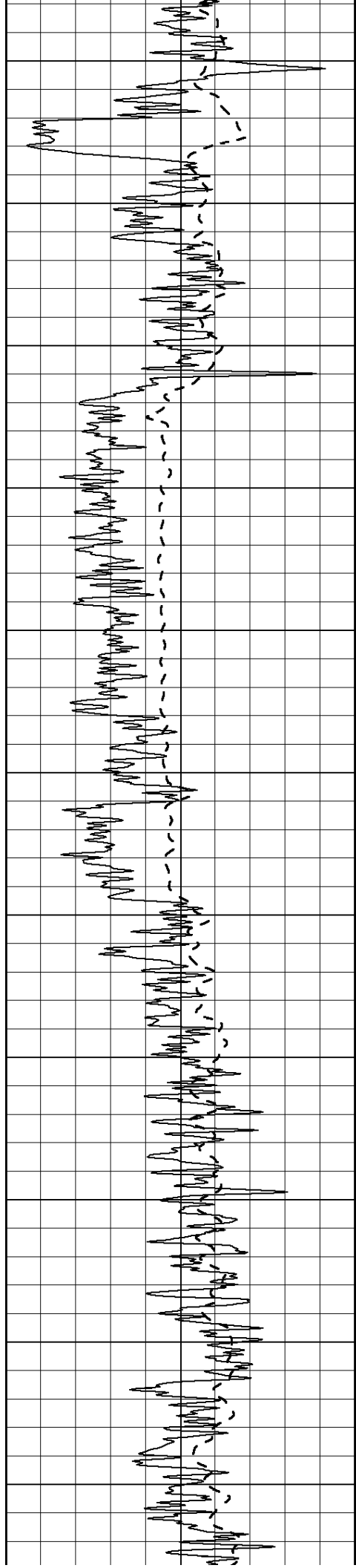
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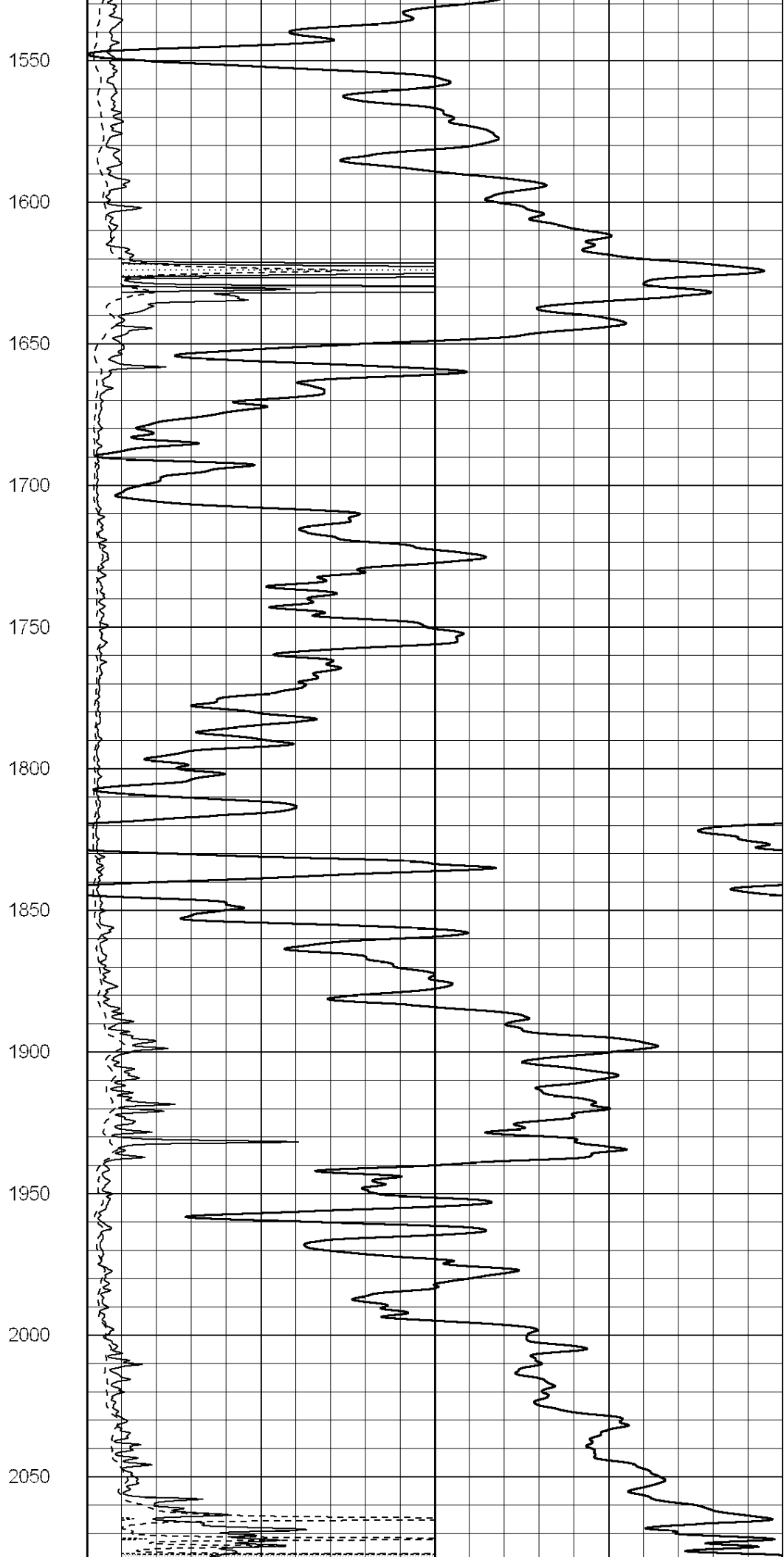
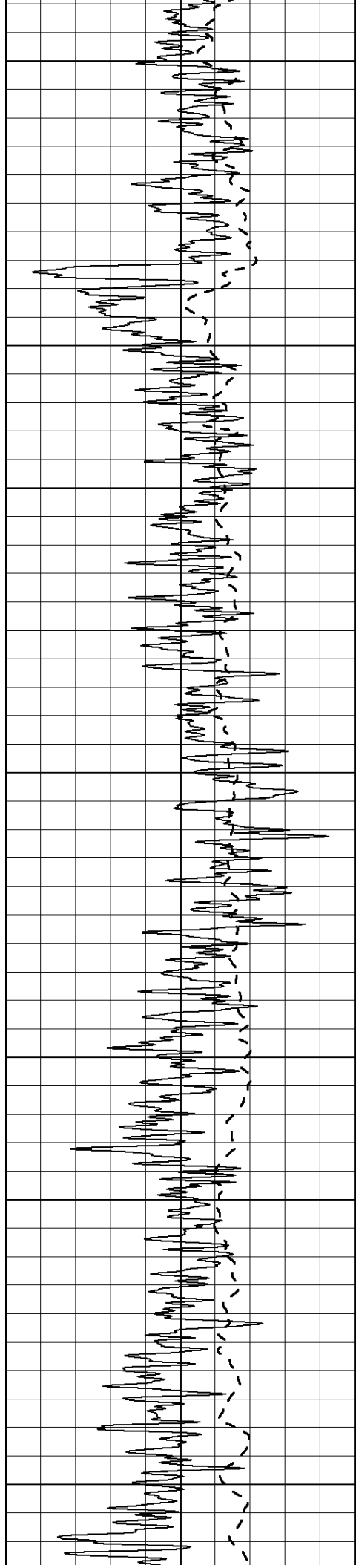
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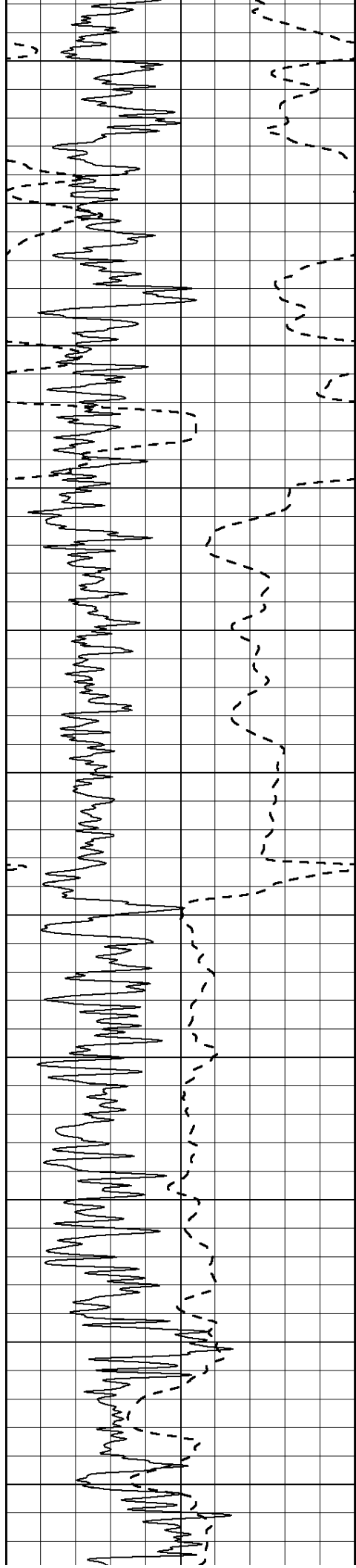
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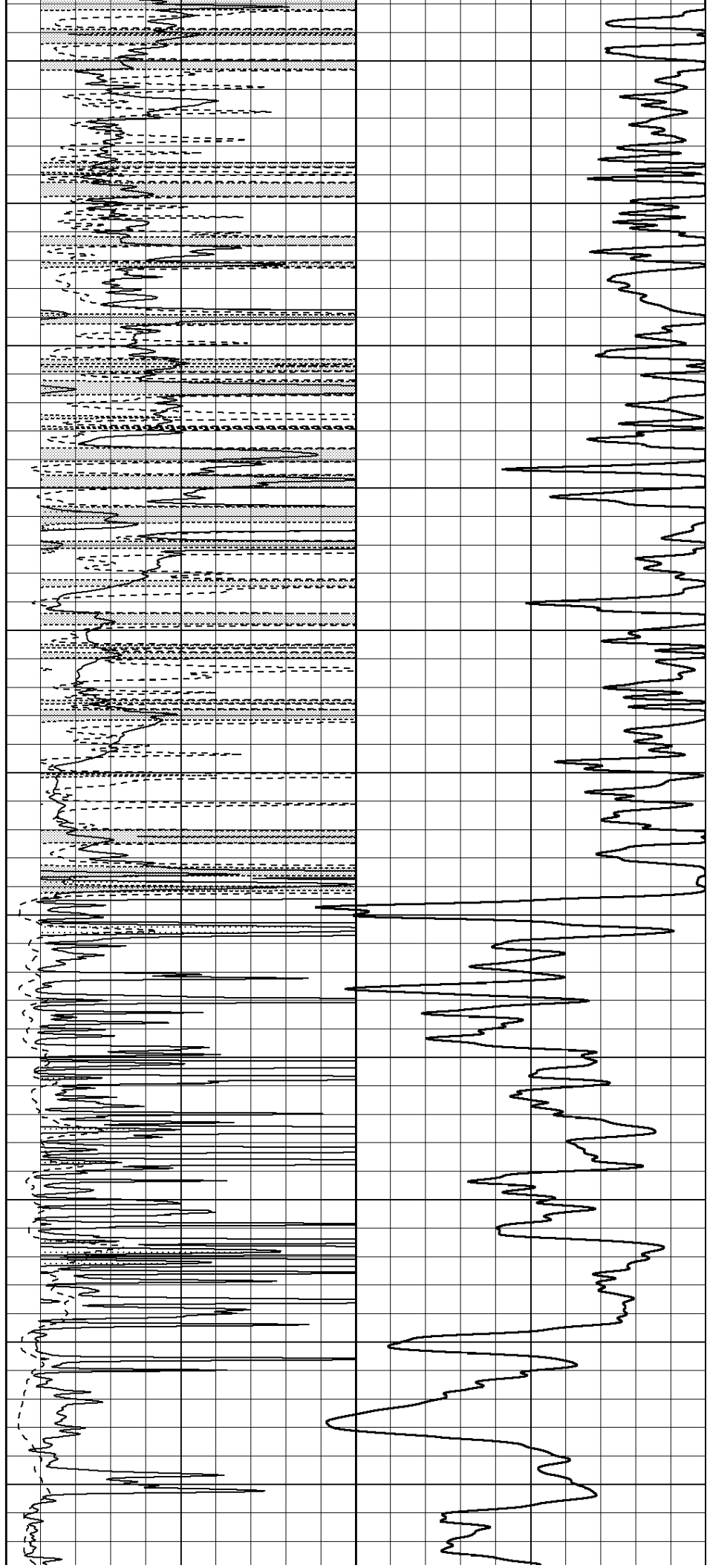


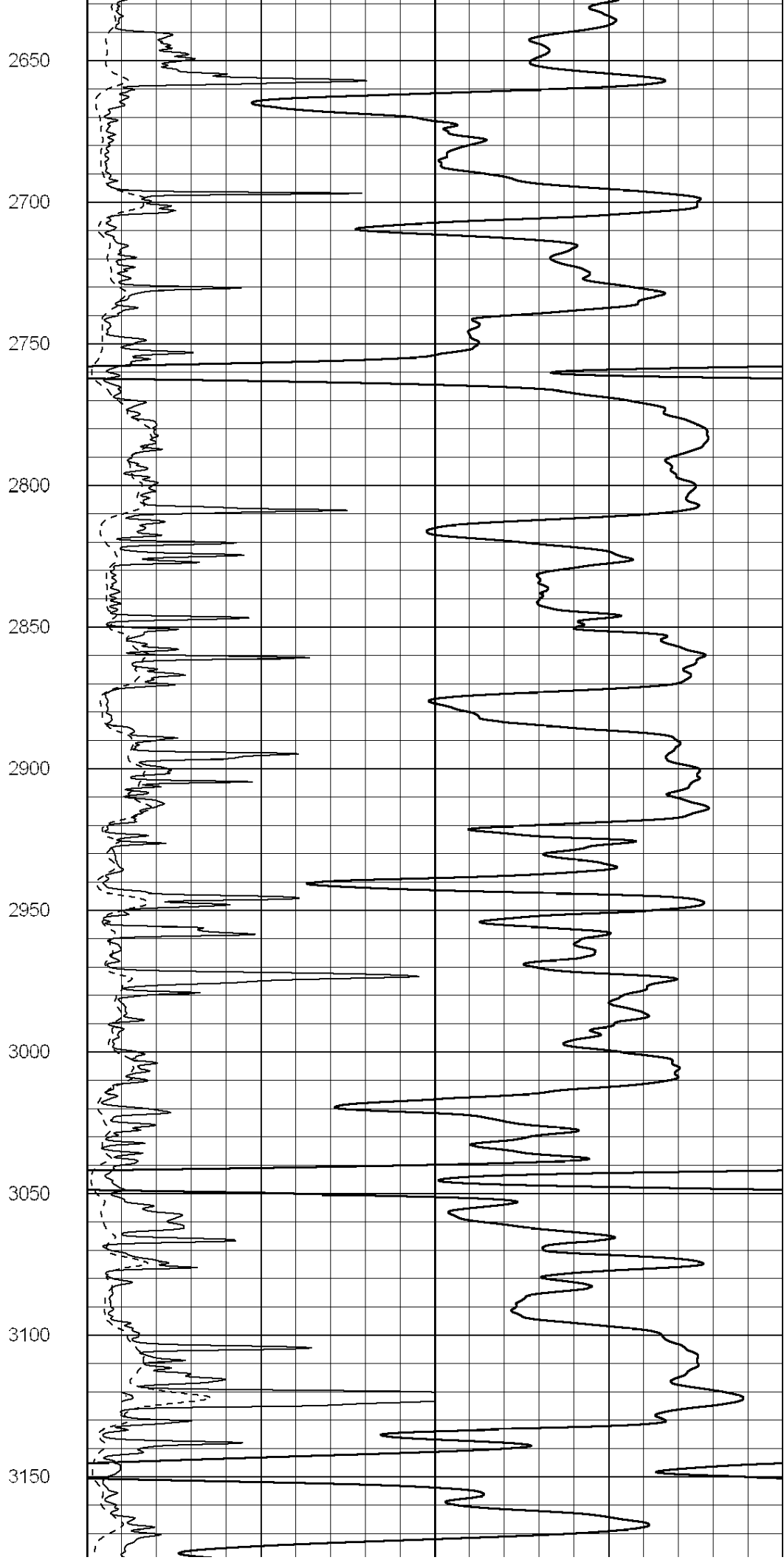
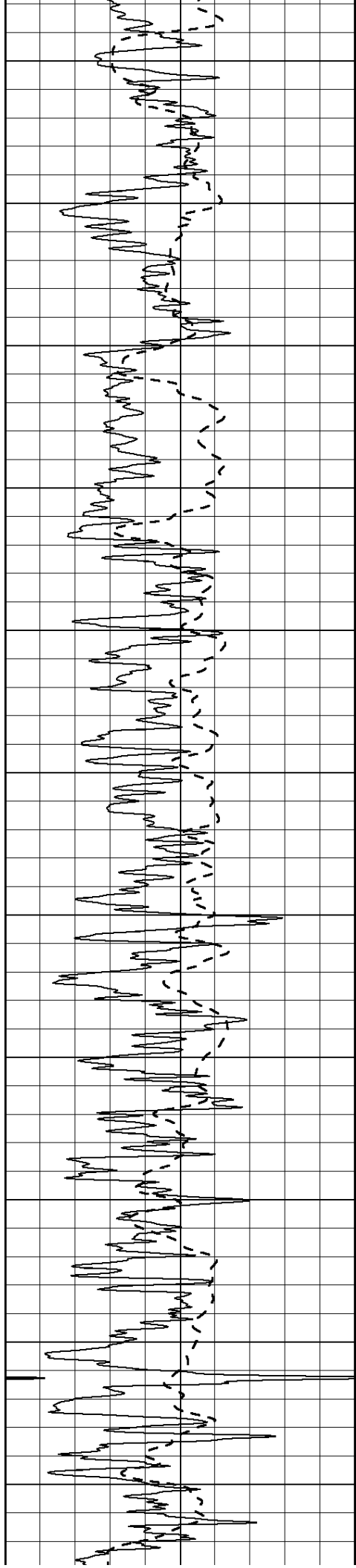


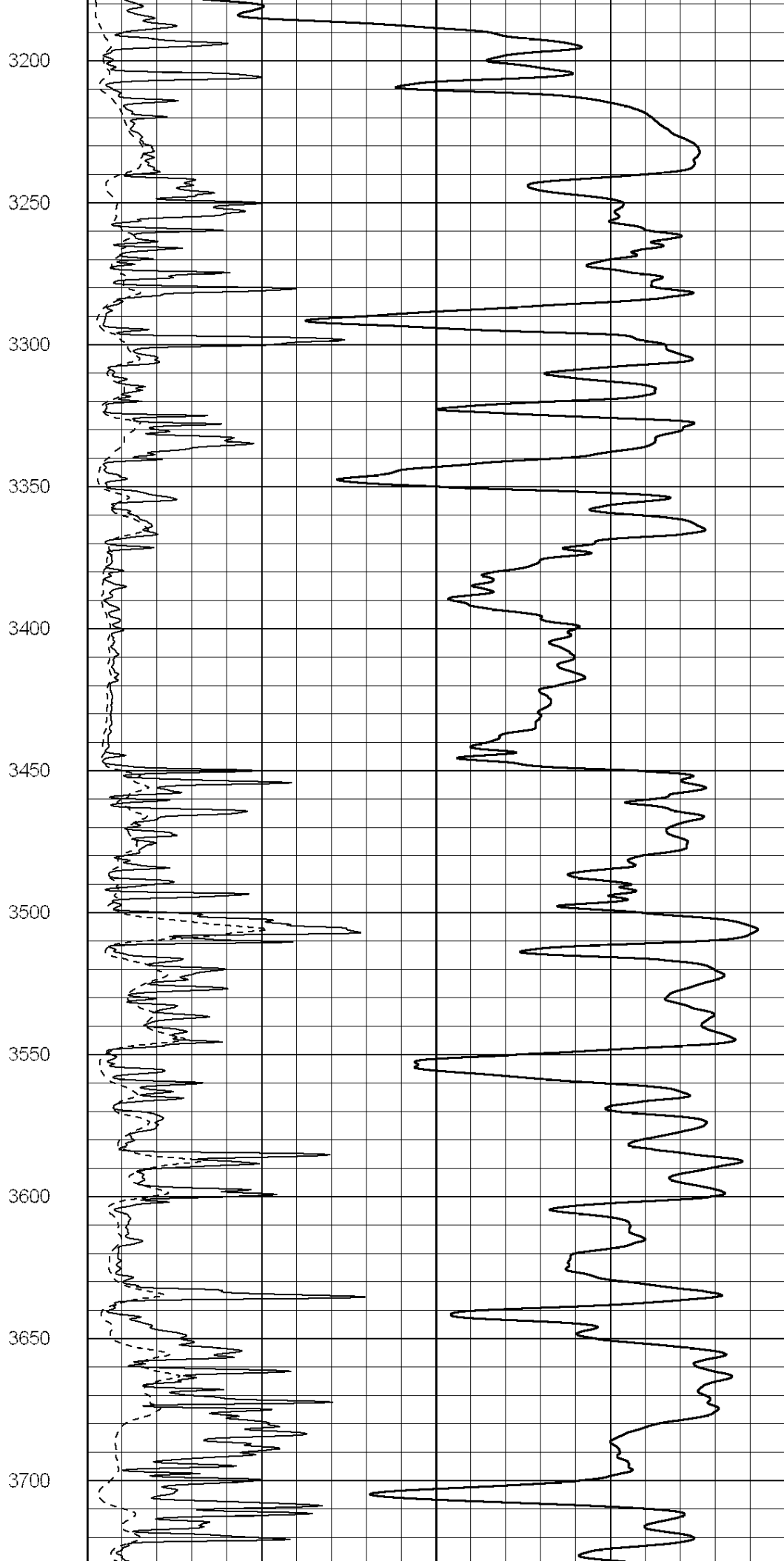
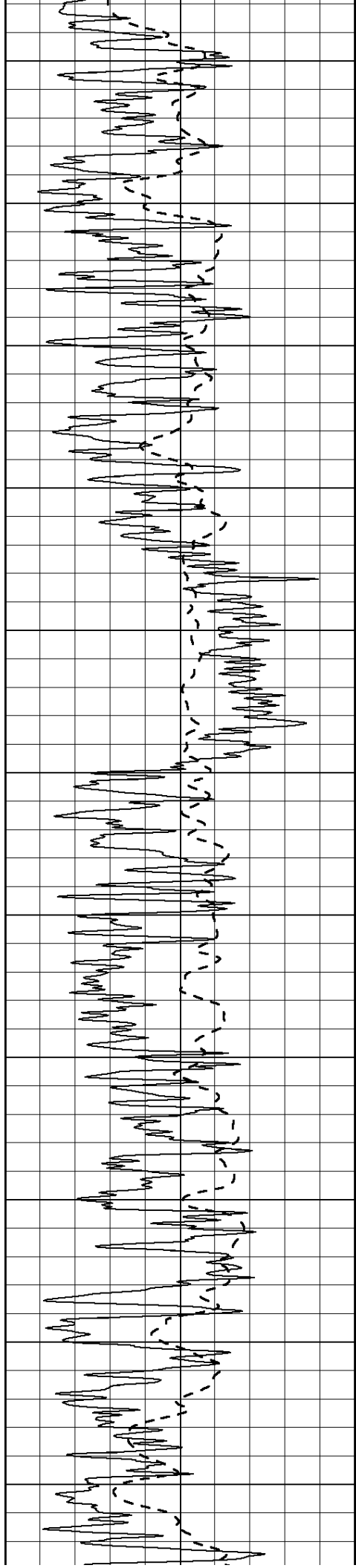




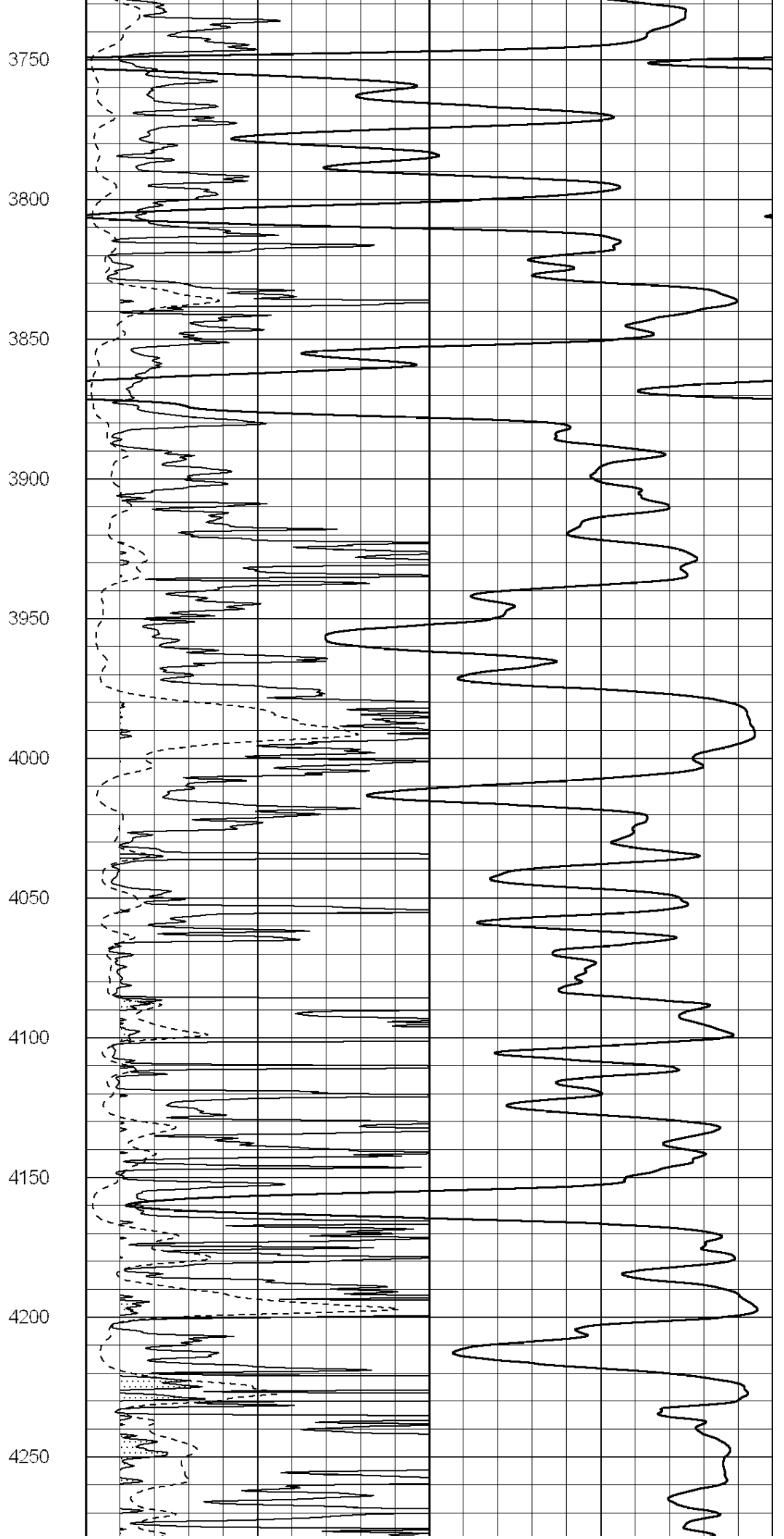
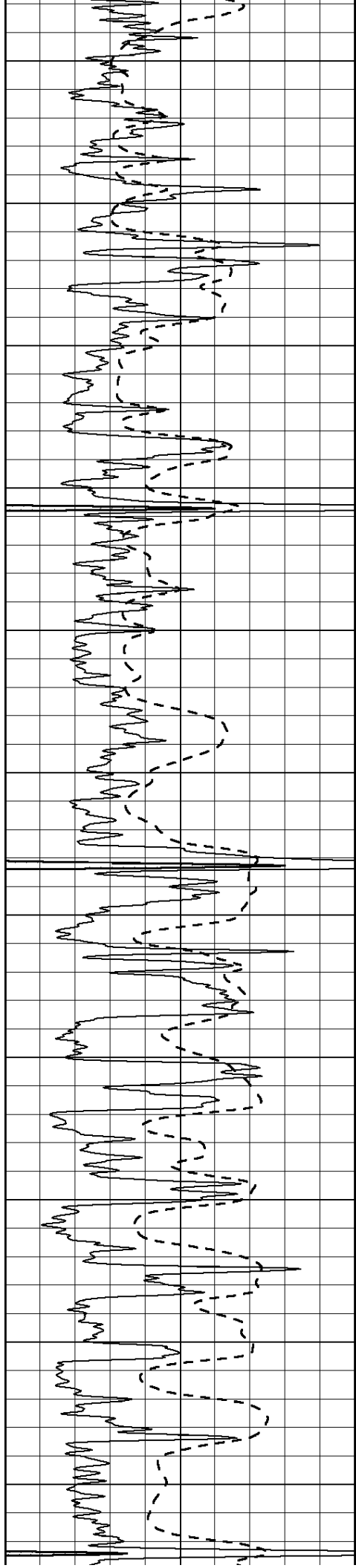
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2300  
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2500  
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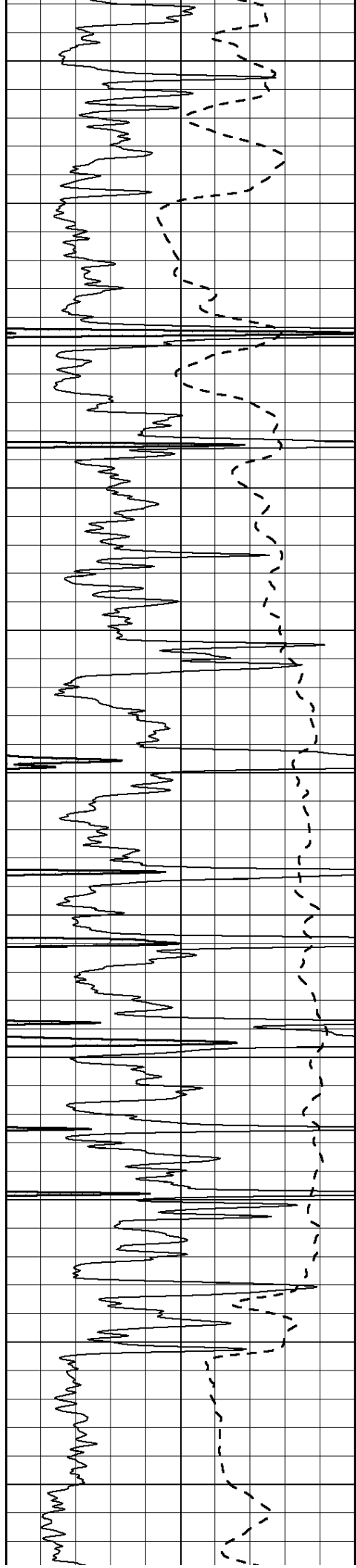




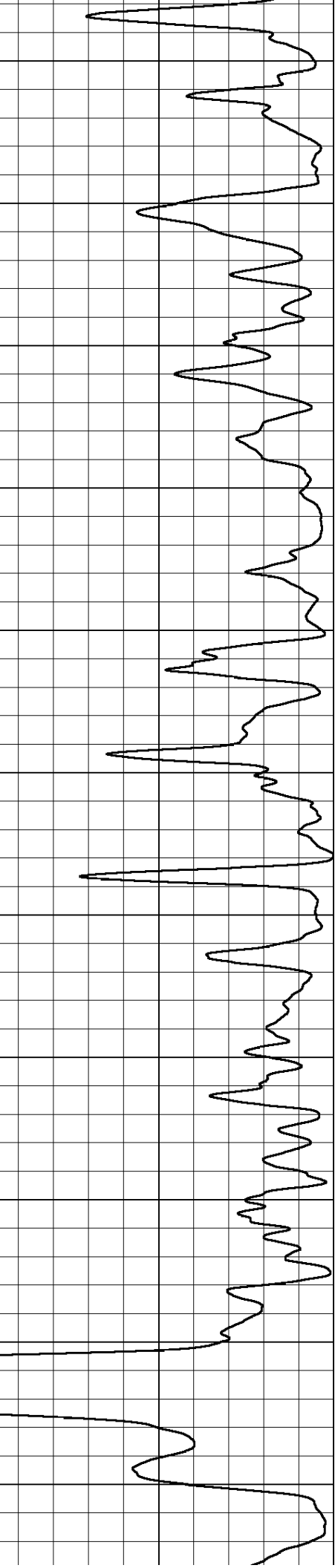
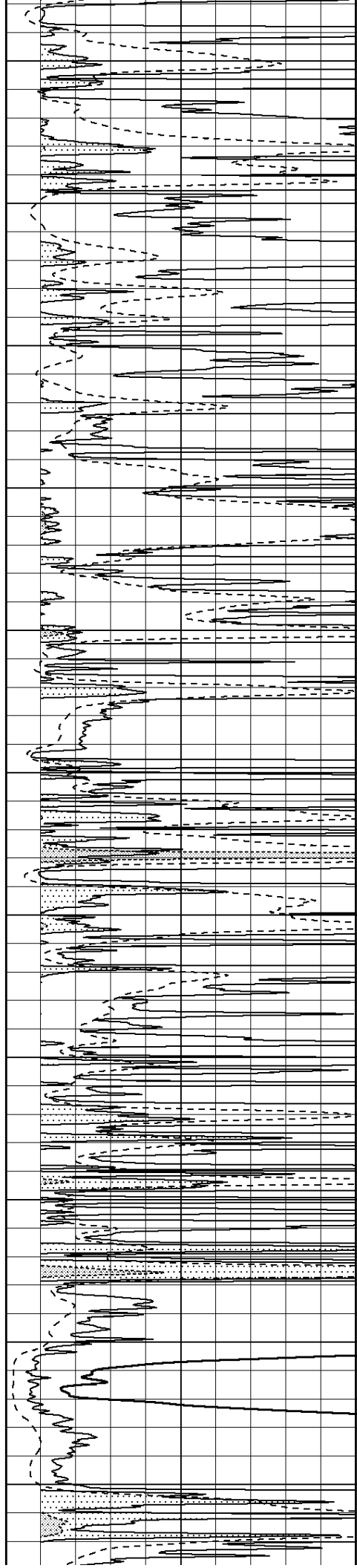


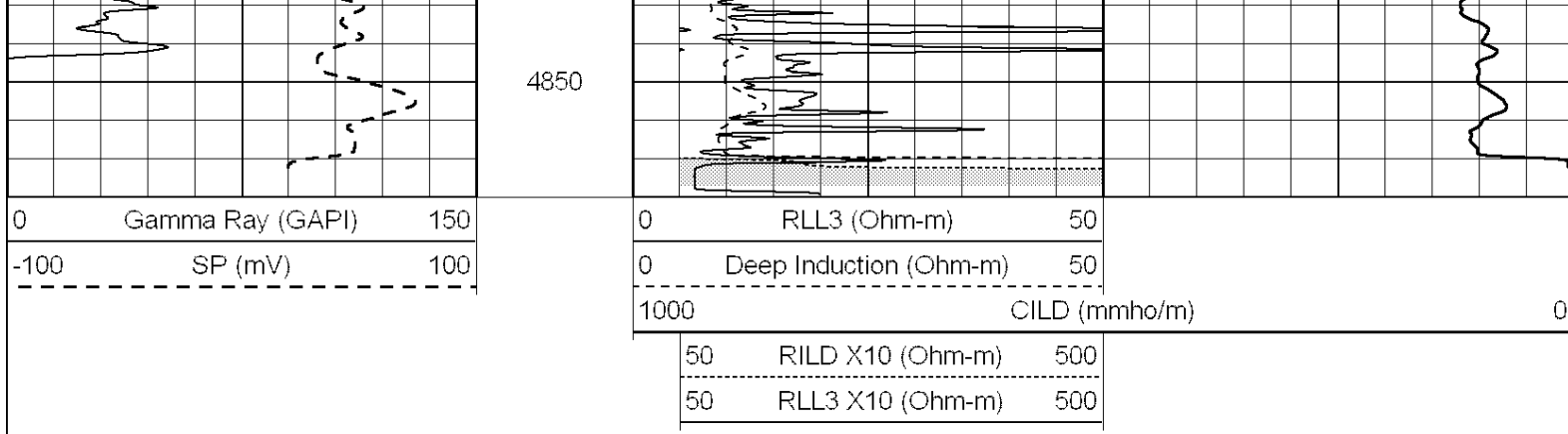






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4350  
4400  
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4500  
4550  
4600  
4650  
4700  
4750  
4800

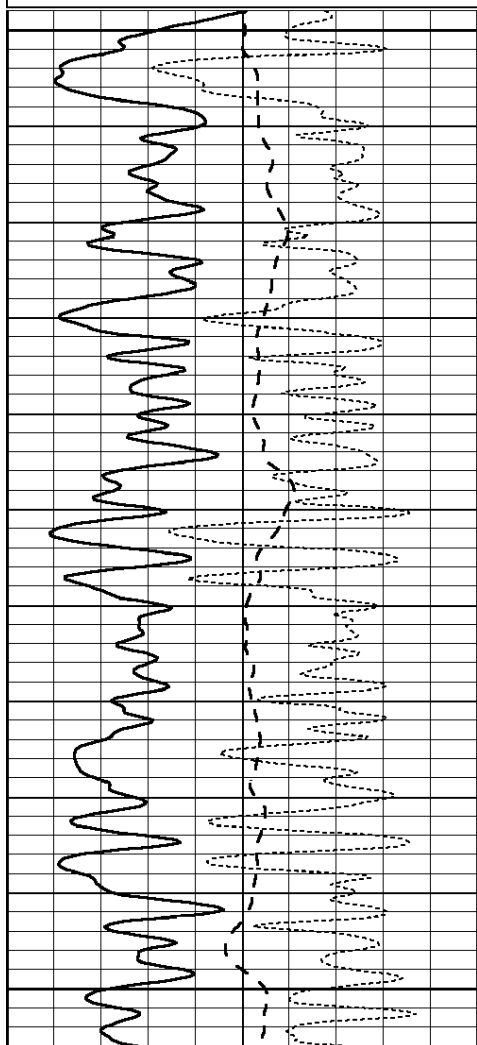
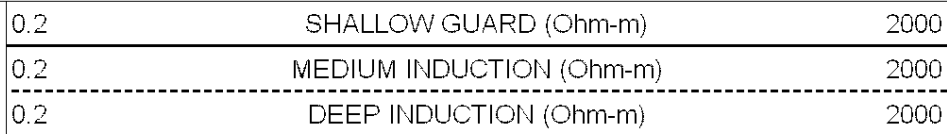
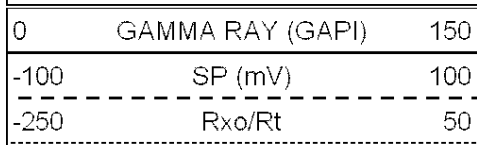




SUPERIOR  
Hays,  
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# MAIN SECTION

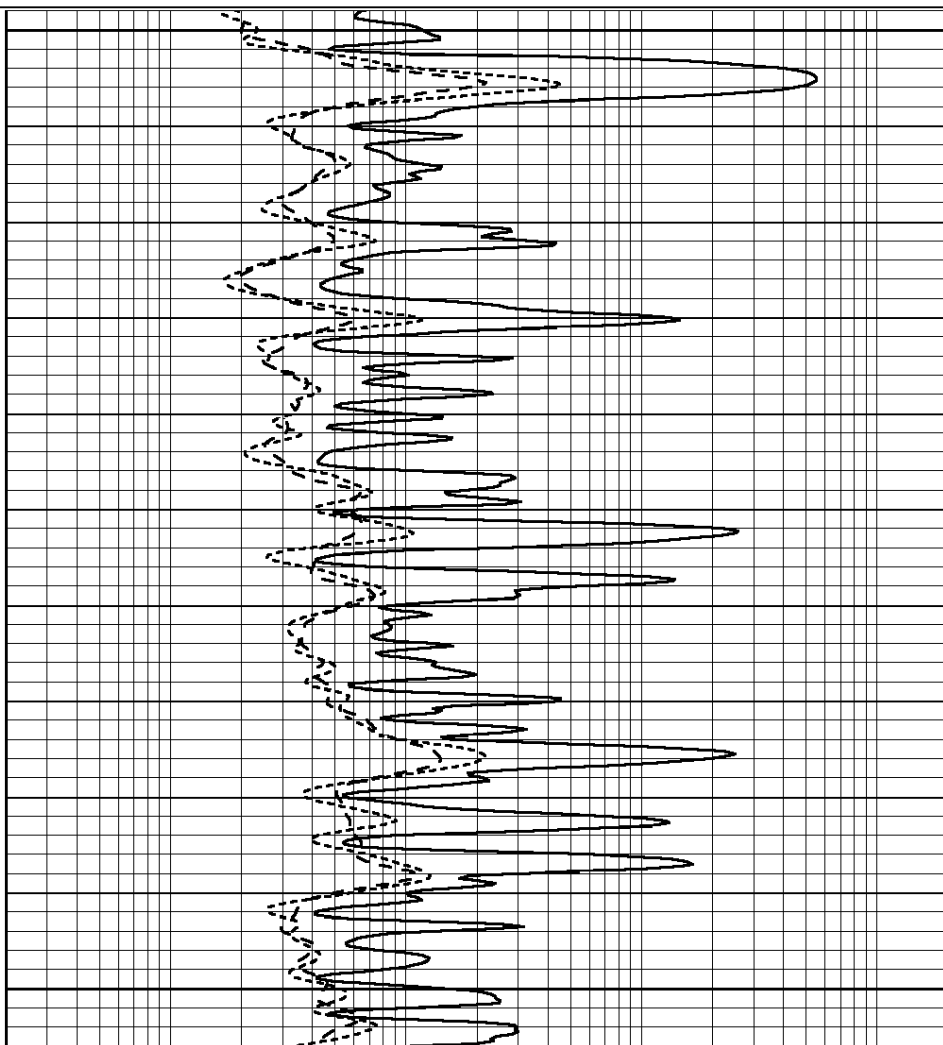
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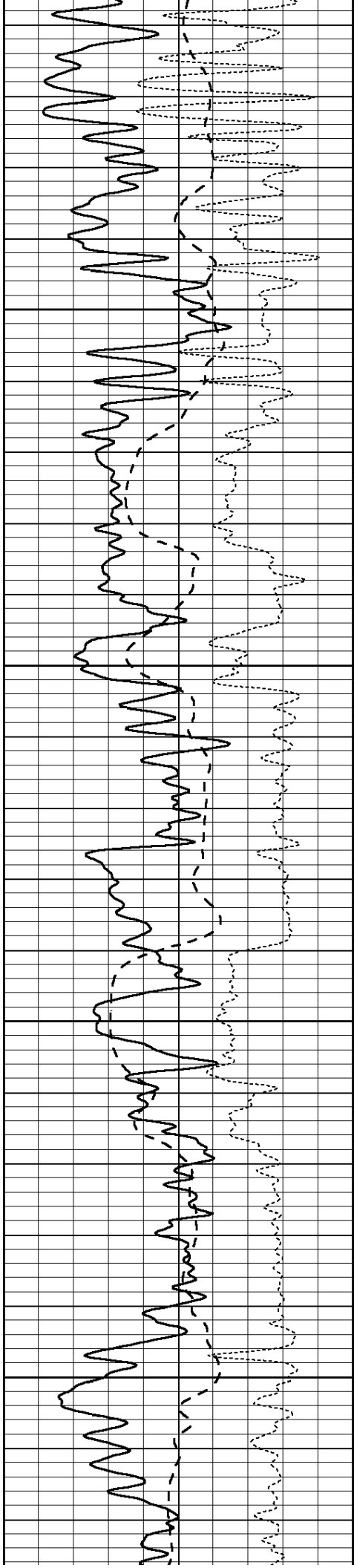


2400

2450

2500



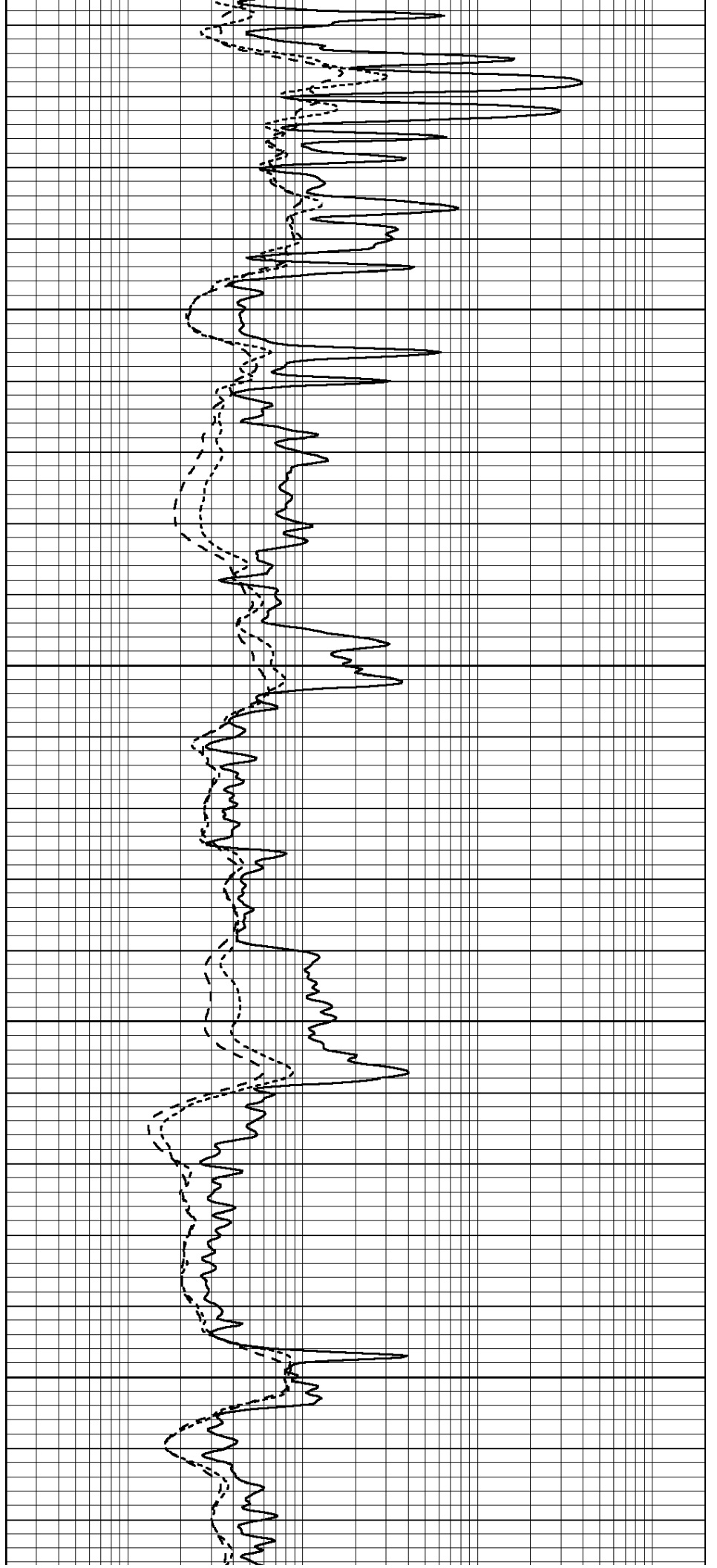


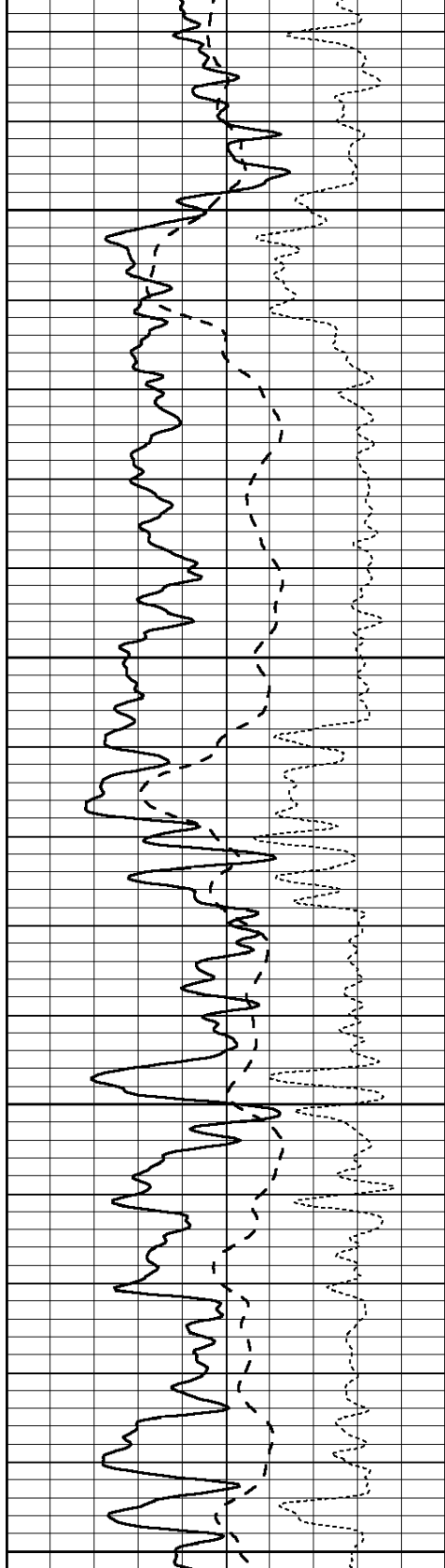
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2600

2650

2700





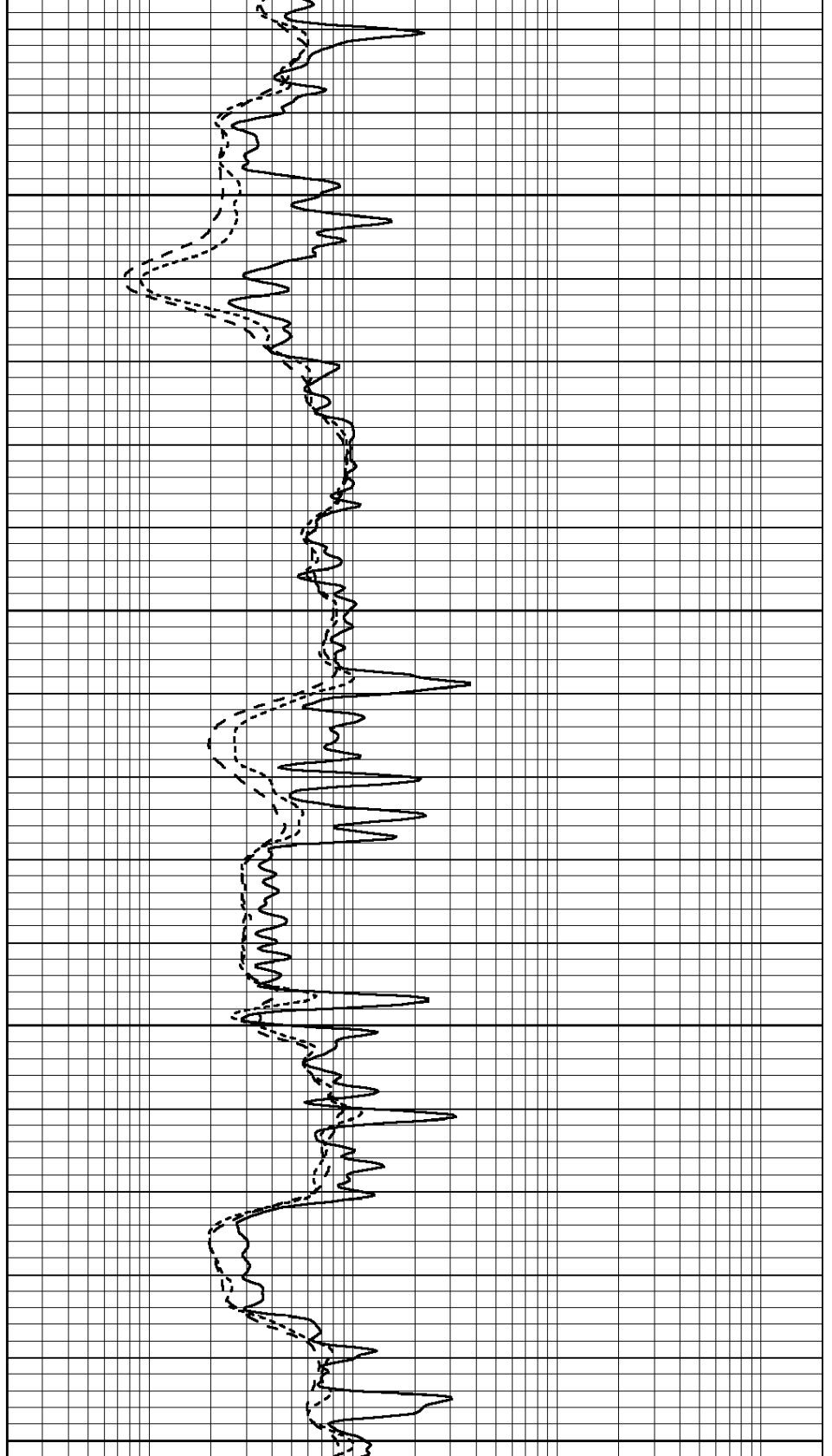
2750

2800

2850

2900

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



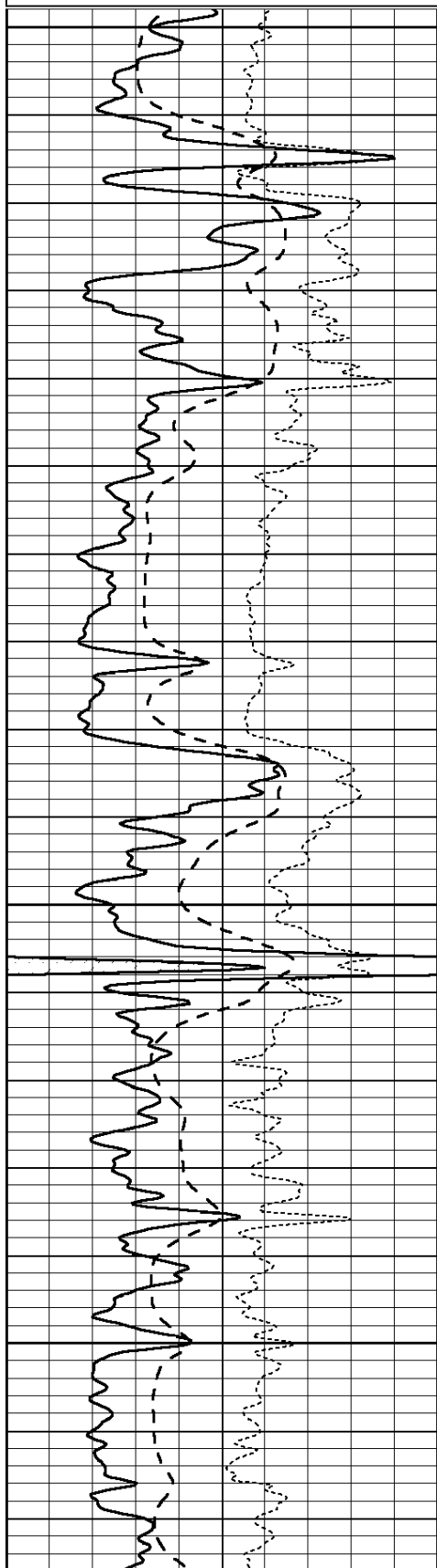
SUPERIOR  
WELL SERVICES  
Hays,  
Kansas

# MAIN SECTION

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 Dataset Pathname: pass3.1  
 Presentation Format: \_dil  
 Dataset Creation: Mon Jan 16 01:57:38 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

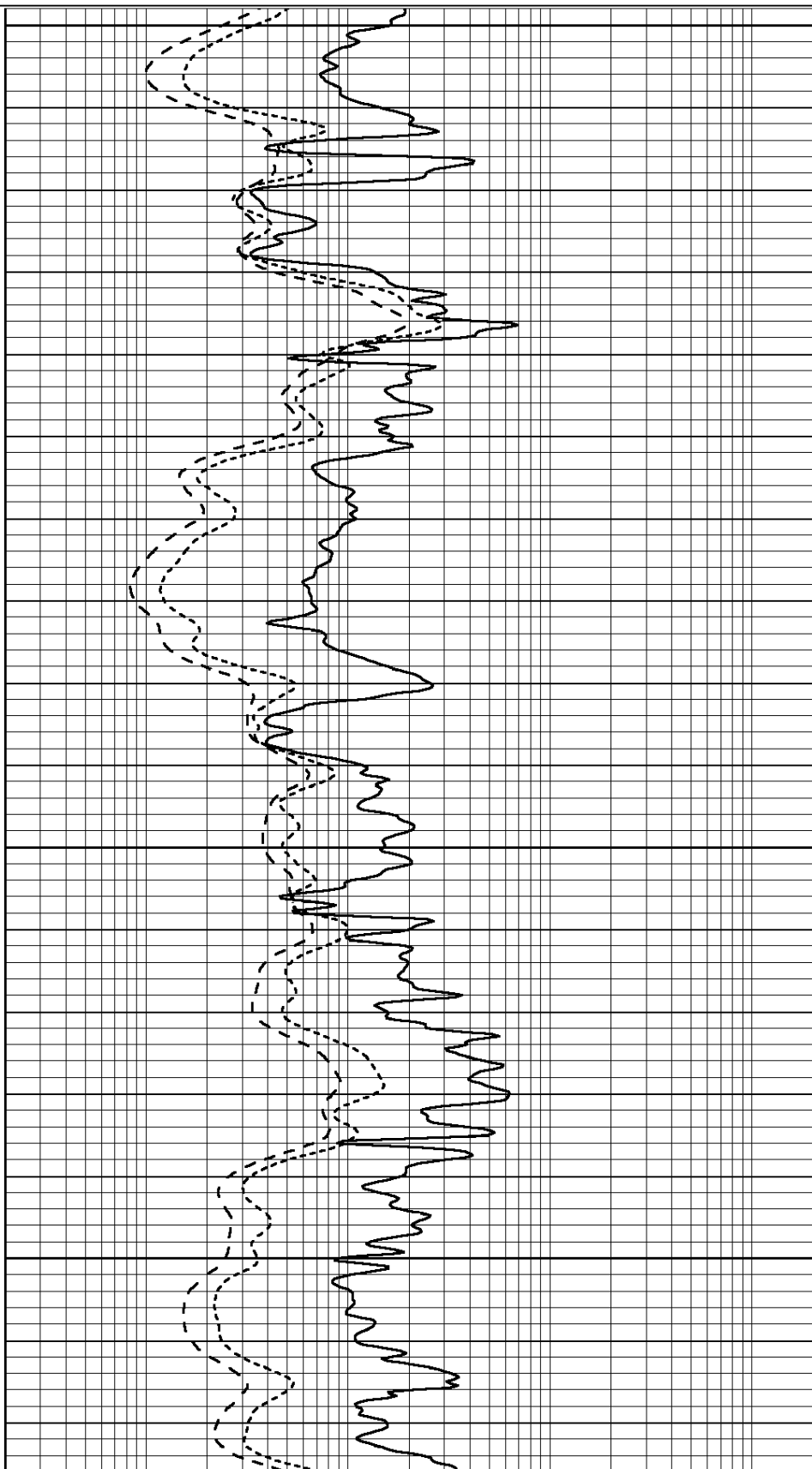


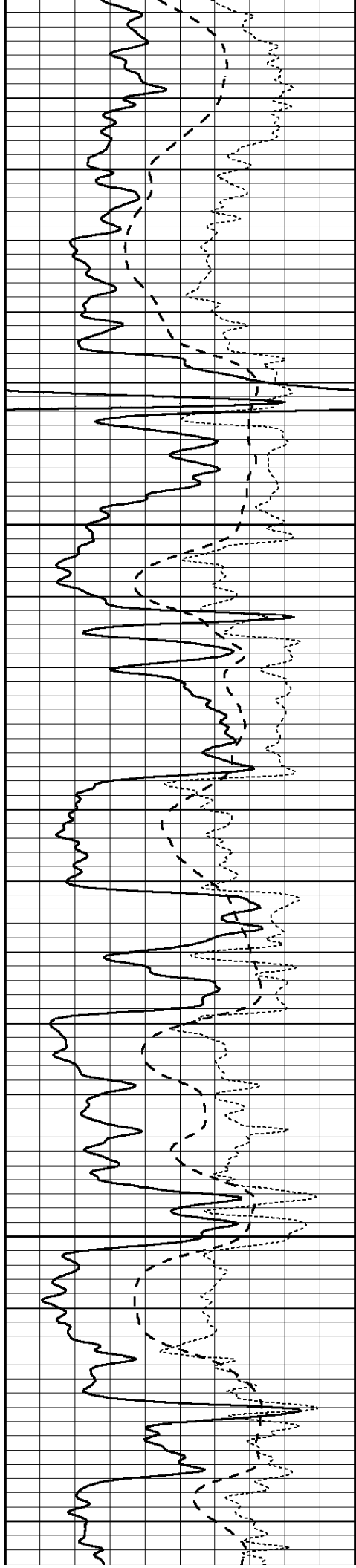
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3850

3900

3950



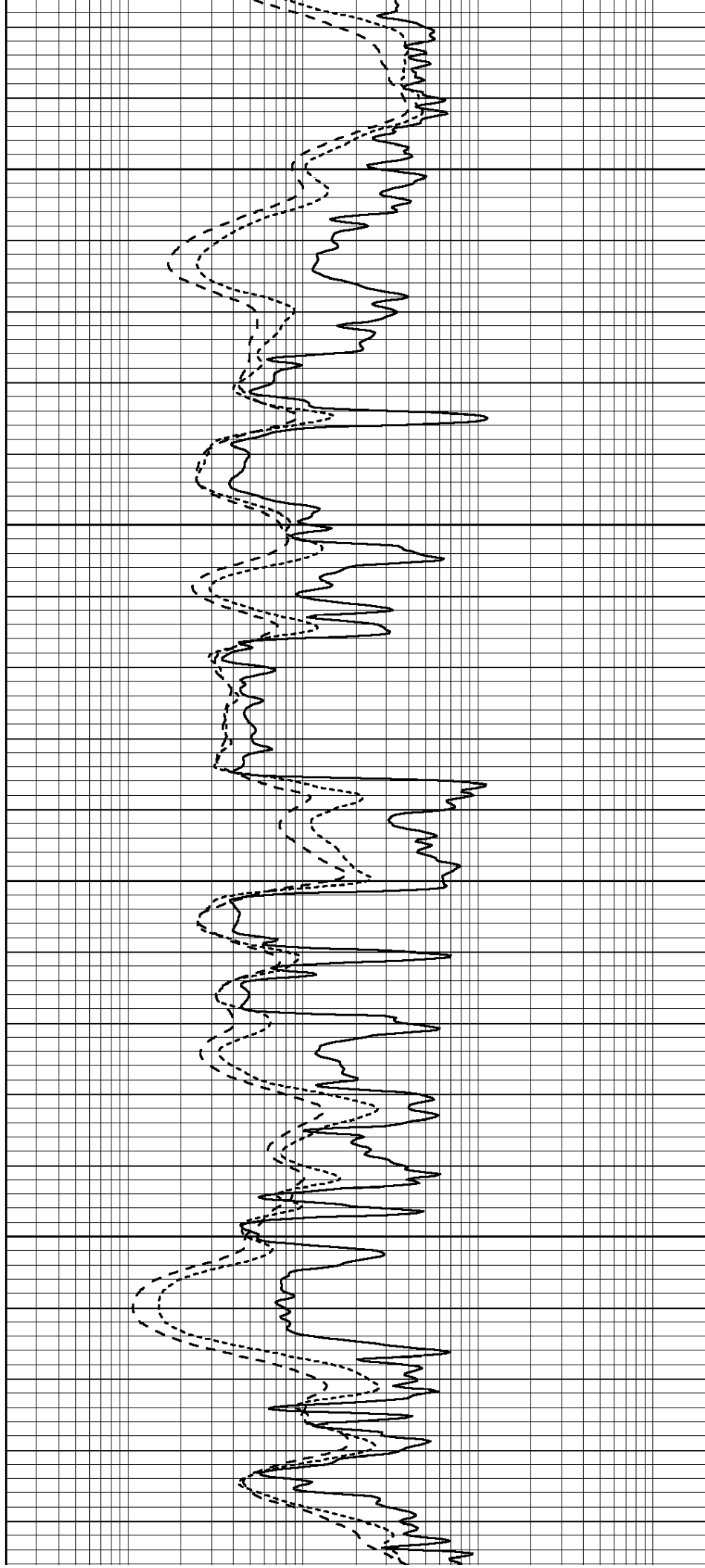


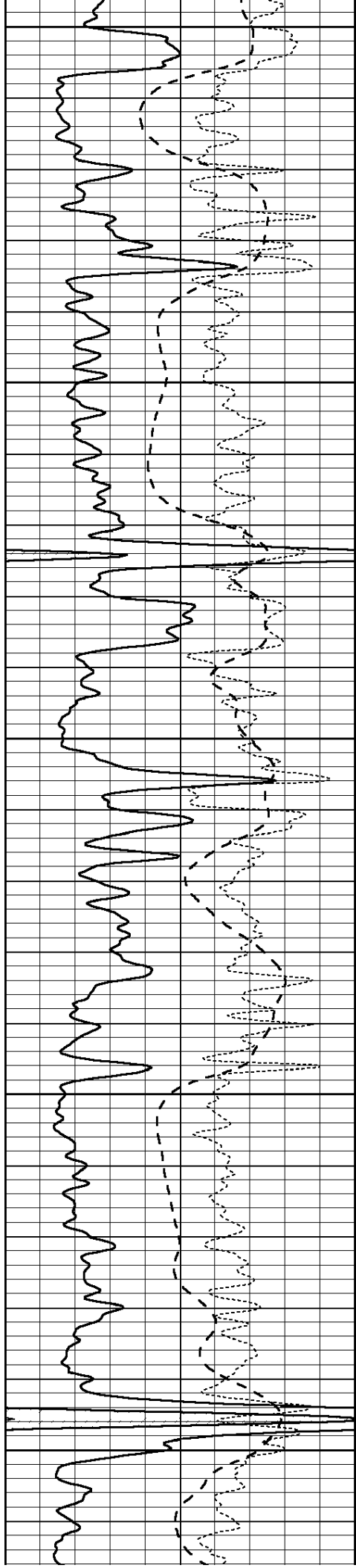
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4050

4100

4150





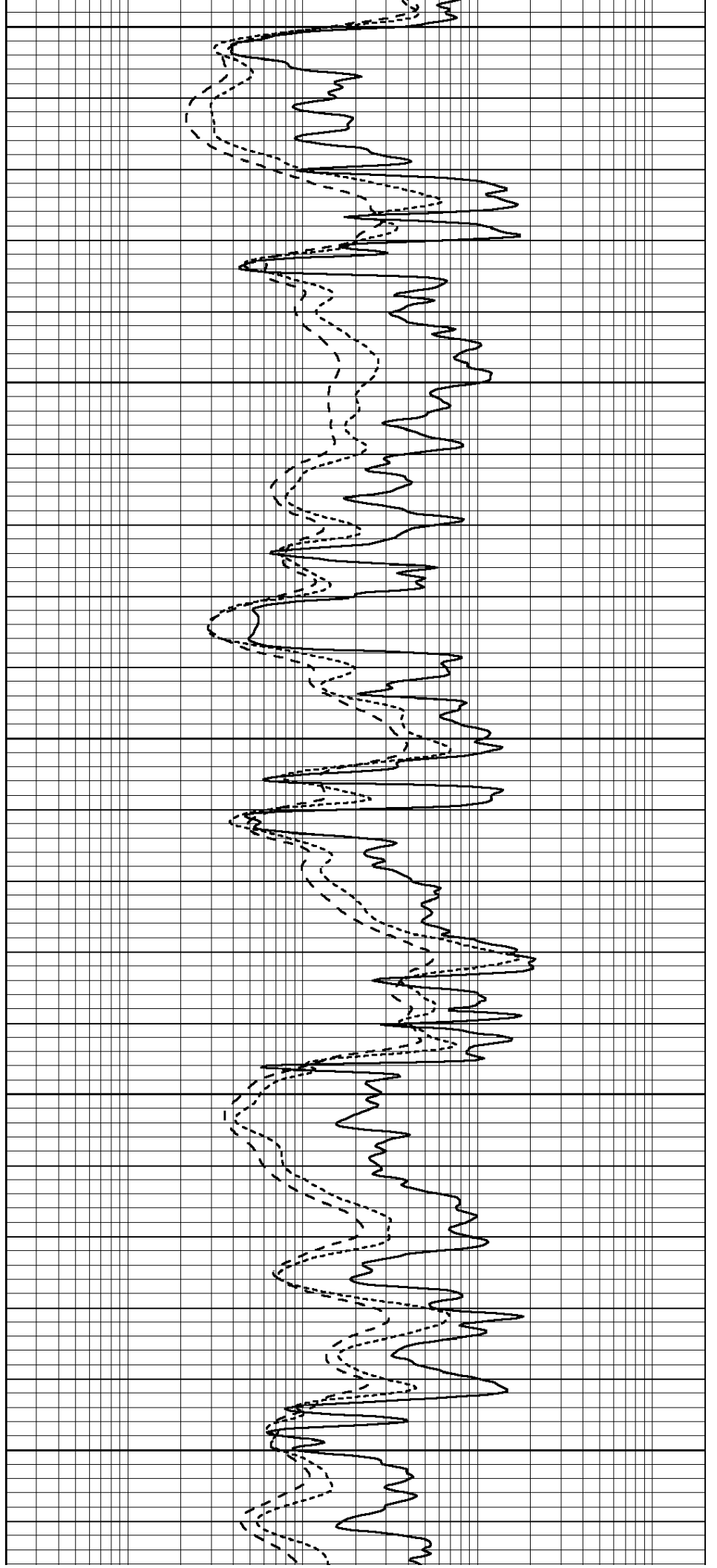
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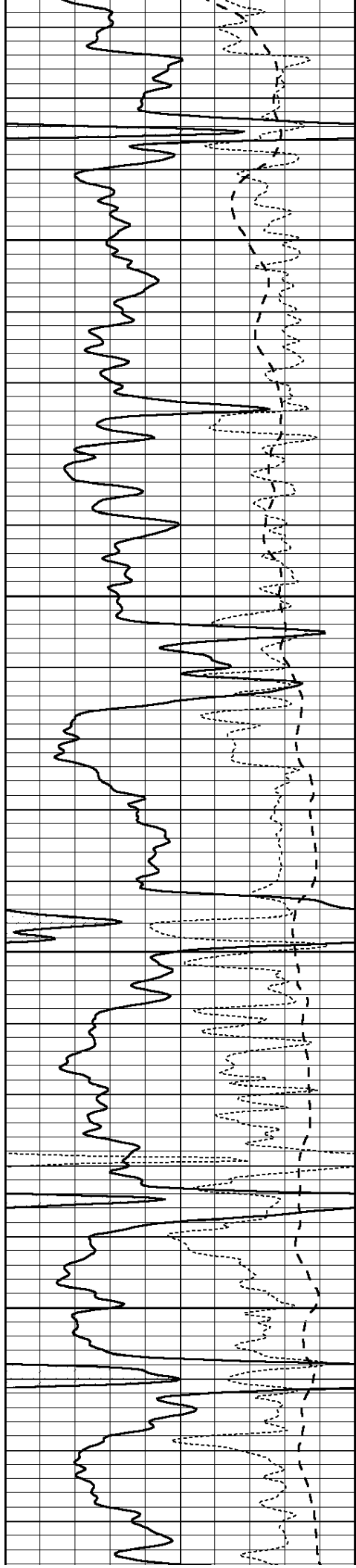
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4400





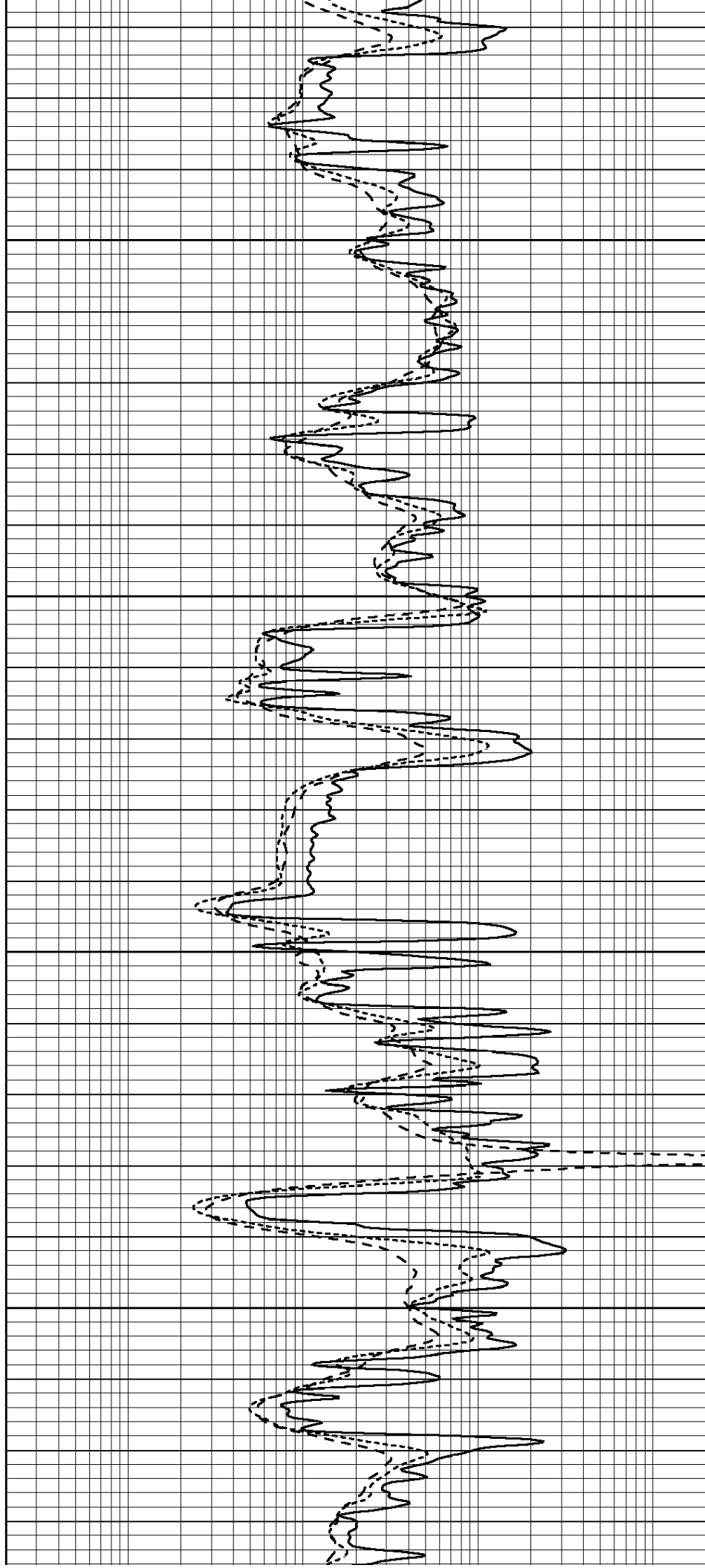


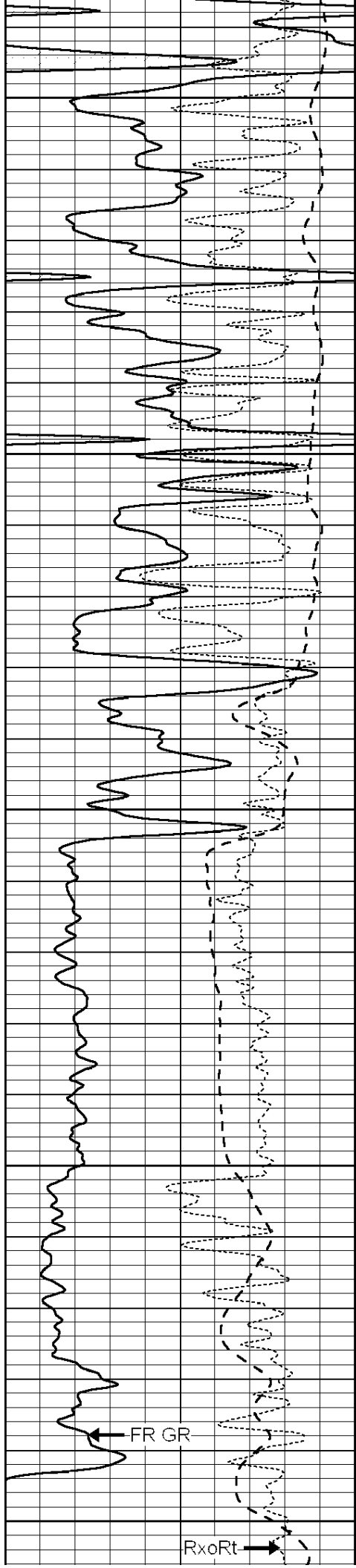
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4600





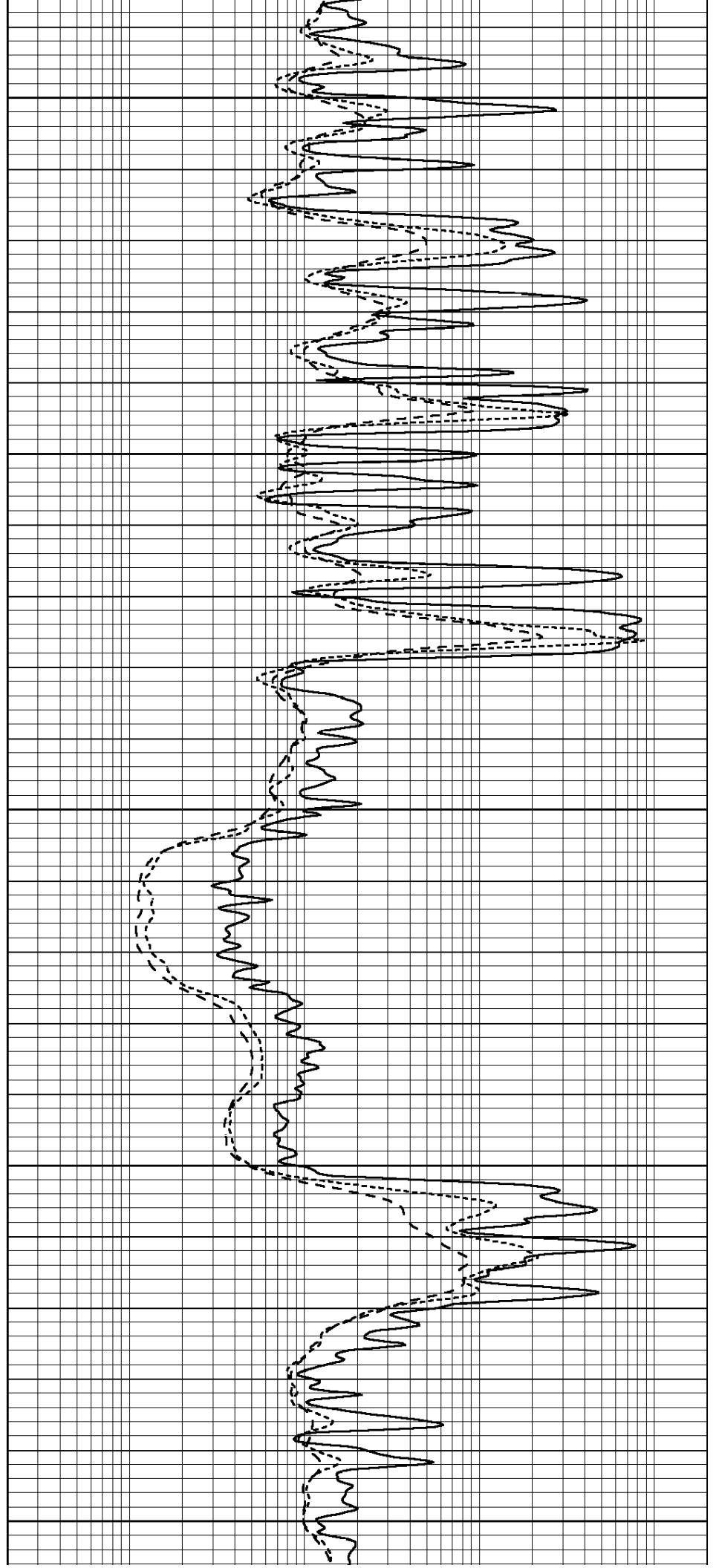
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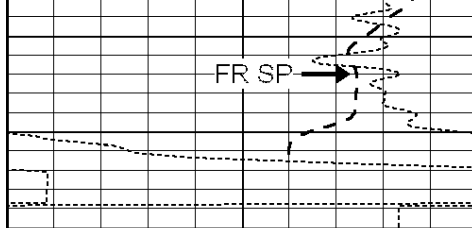
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4750

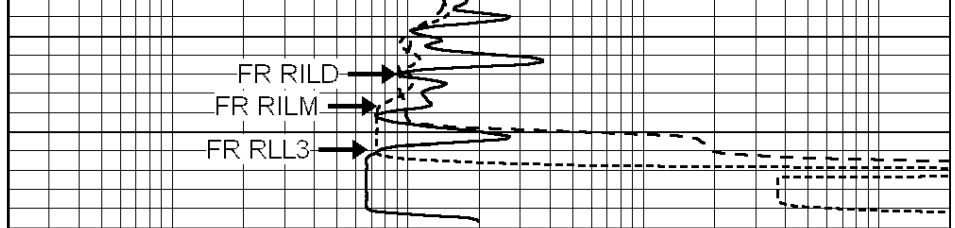
4800

4850





LTD 4874



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



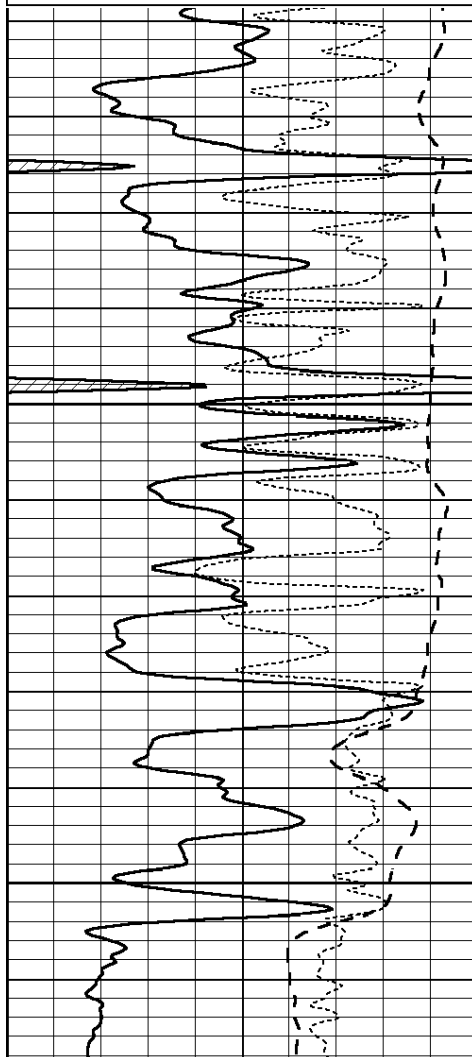
SUPERIOR  
Hays,  
Kansas

# REPEAT SECTION

Database File: 008673ddn.db  
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 Presentation Format: \_dil  
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 Charted by: Depth in Feet scaled 1:240

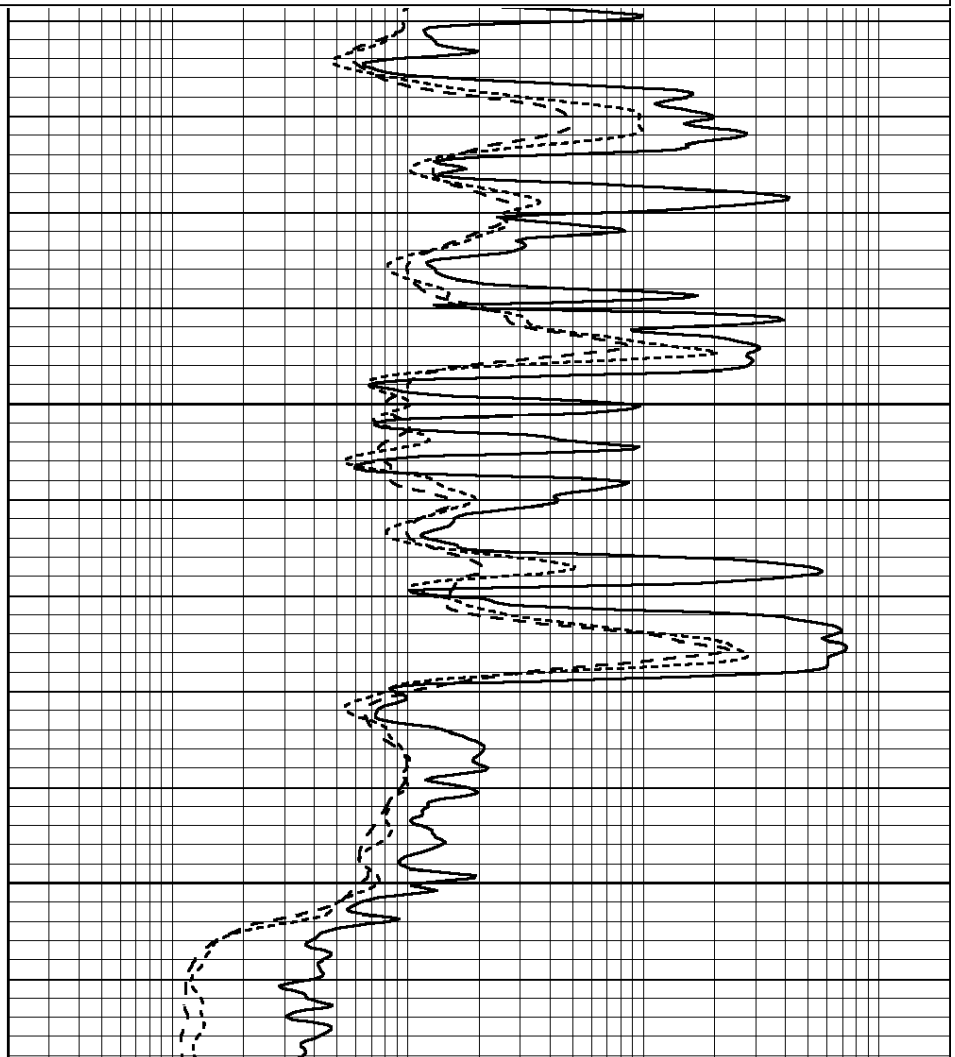
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

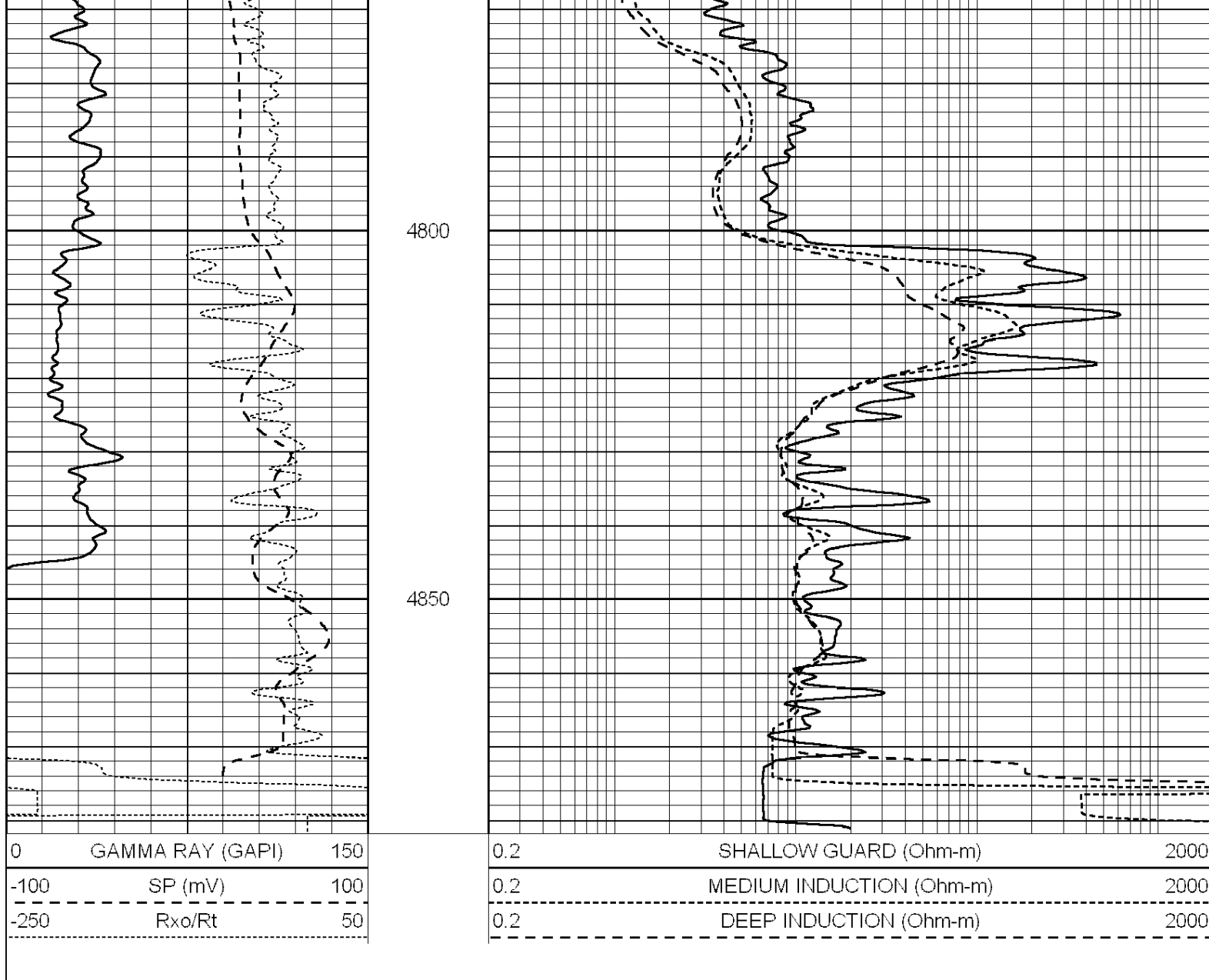
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



4700

4750





### Calibration Report

Database File: 008673ddn.db  
 Dataset Pathname: pass3.1  
 Dataset Creation: Mon Jan 16 01:57:38 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	V		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