



**SUPERIOR
Hays,
Kansas**

**DUAL
INDUCTION
LOG**

Company MULL DRILLING CO., INC.
Well THORNBURG "C" #1-4
Field WILDCAT
County NESS
State KANSAS

Company MULL DRILLING COMPANY, INC.
Well THORNBURG "C" #1-4
Field WILDCAT
County NESS State KANSAS

Location: API #: 15-135-25121
694' FNL & 1421' FEL
SEC 4 TWP 16S RGE 26W
Permanent Datum GROUND LEVEL Elevation 2575
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
CDL/CNL/PE
SONIC/MEL
Elevation
K.B. 2584
D.F.
G.L. 2575

Date	8-25-10
Run Number	ONE
Depth Driller	4600
Depth Logger	4600
Bottom Logged Interval	4598
Top Log Interval	00
Casing Driller	222
Casing Logger	222
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3 / 53
pH / Fluid Loss	10.5 / 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.00 @ 96F
Rmf @ Meas. Temp	0.75 @ 96F
Rmc @ Meas. Temp	1.20 @ 96F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.790 @ 121F
Time Circulation Stopped	3 HOURS
Time Logger on Bottom	1:30 P.M.
Maximum Recorded Temperature	121F
Equipment Number	860
Location	HAYS, KS.
Recorded By	RUPP
Witnessed By	KEVIN KESSLER

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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: UTICA, S EDGE AT RD."D", 4N TO THE T IN THE RD., 2W, S INTO.



SUPERIOR
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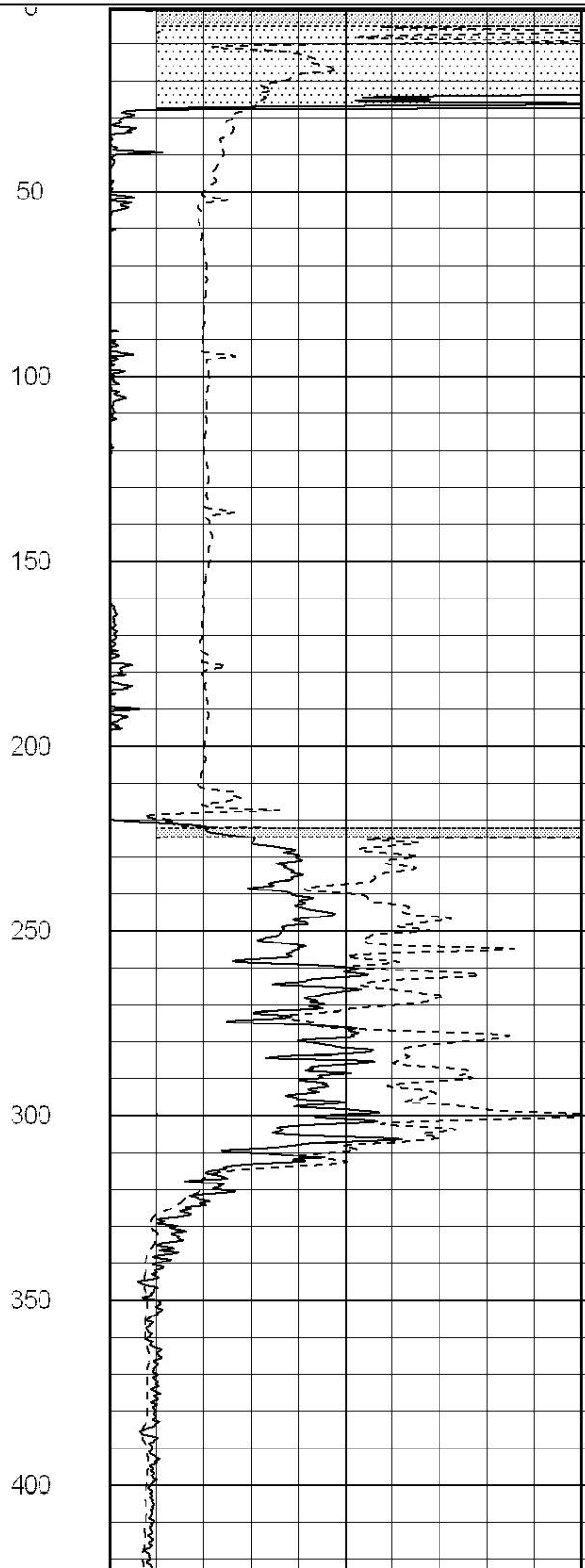
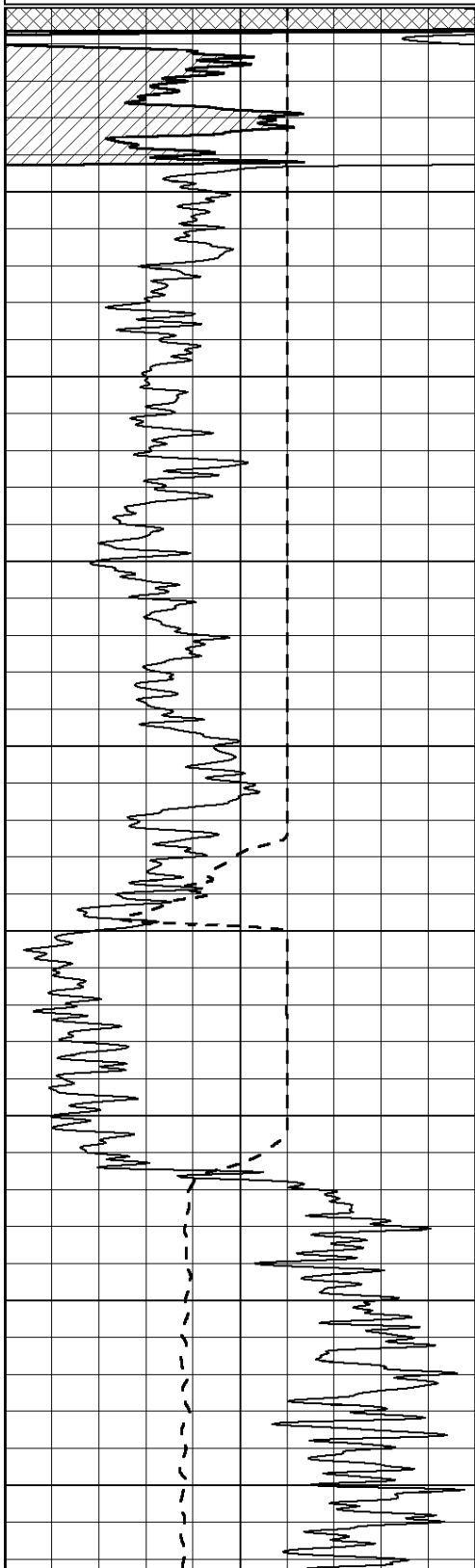
MAIN SECTION

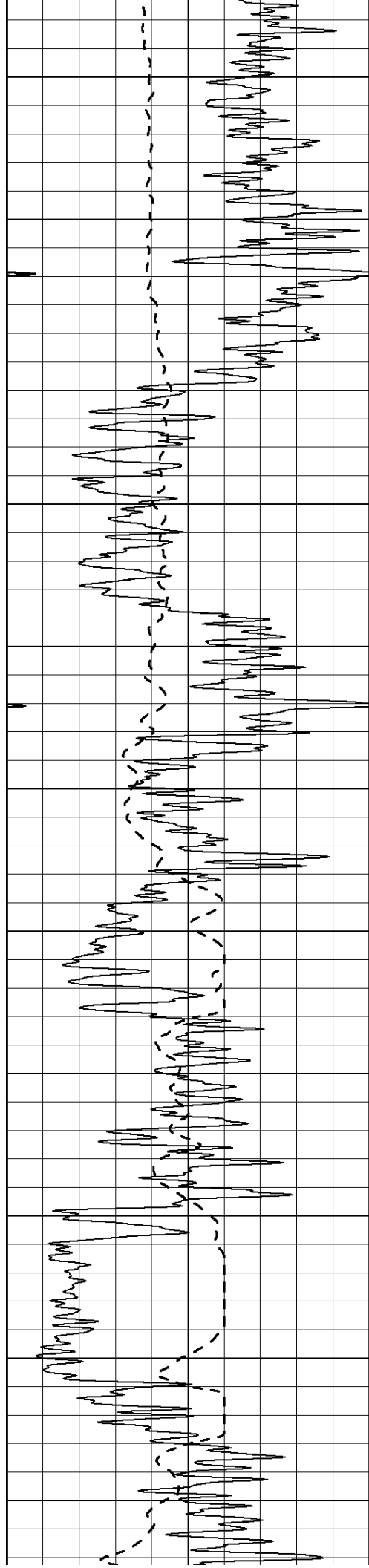
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 Dataset Pathname: pass3.A
 Presentation Format: dil2
 Dataset Creation: Wed Aug 25 15:48:36 2010
 Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

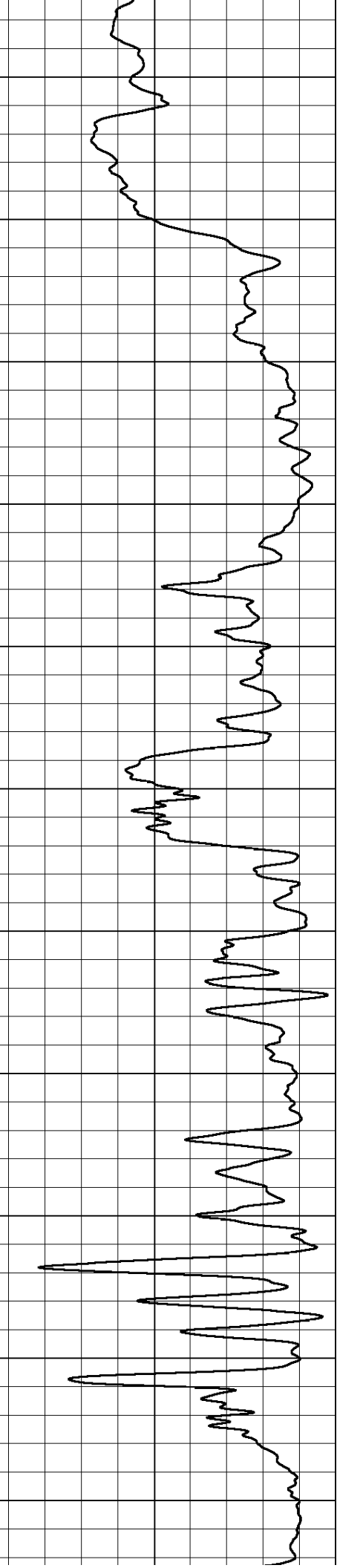
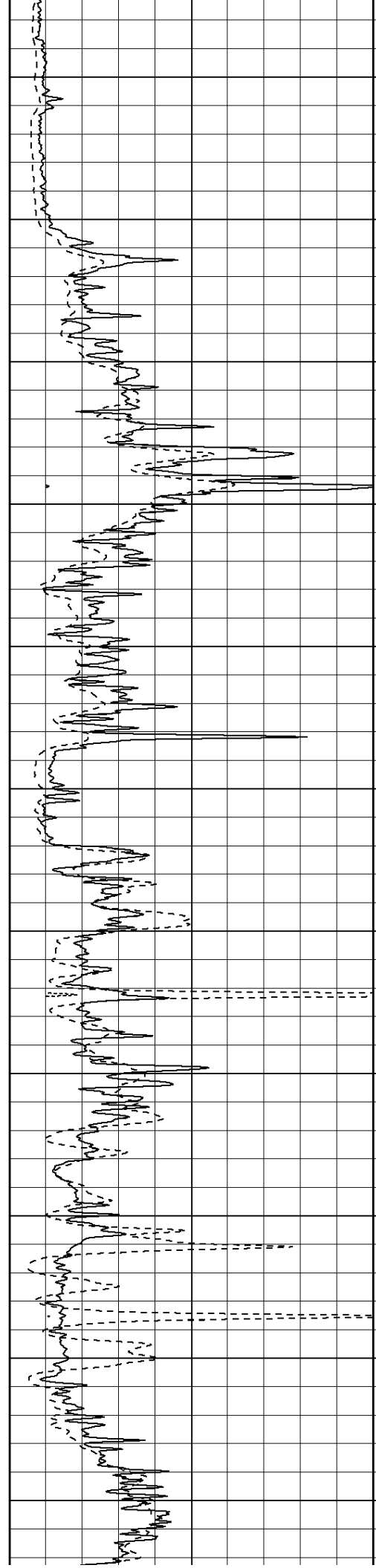
0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50

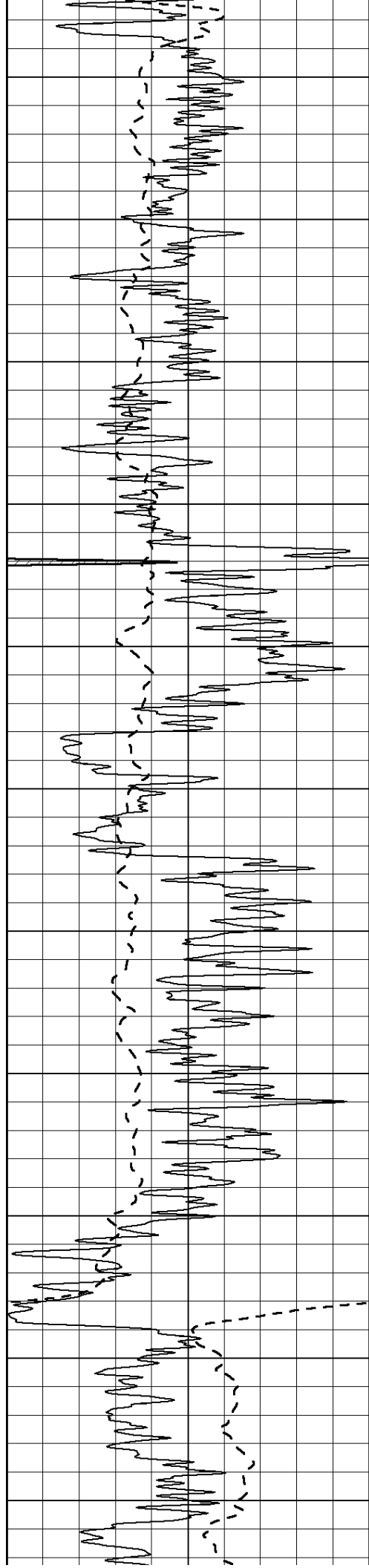
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50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500



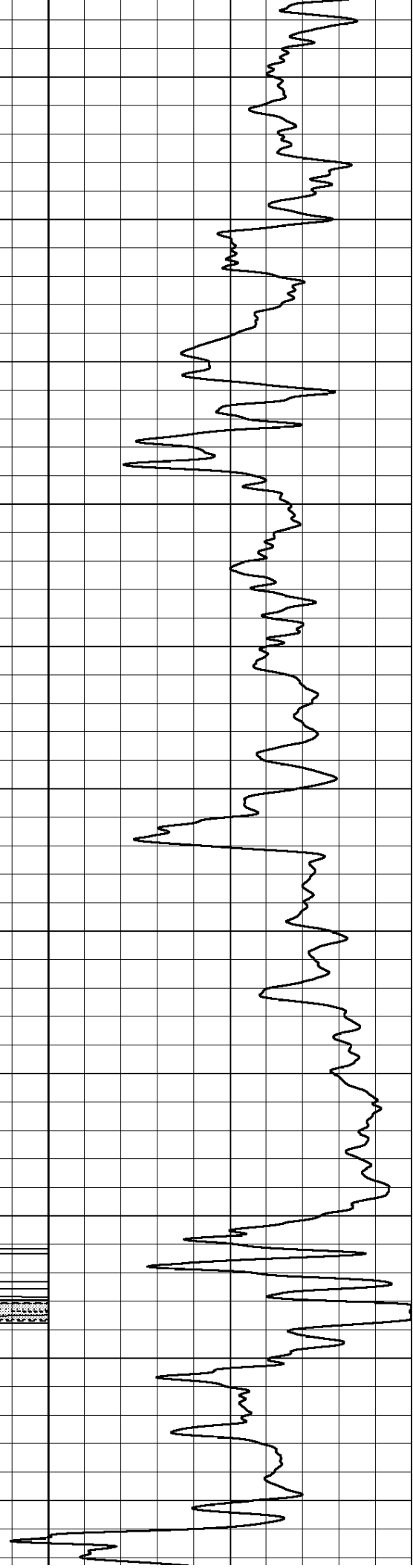
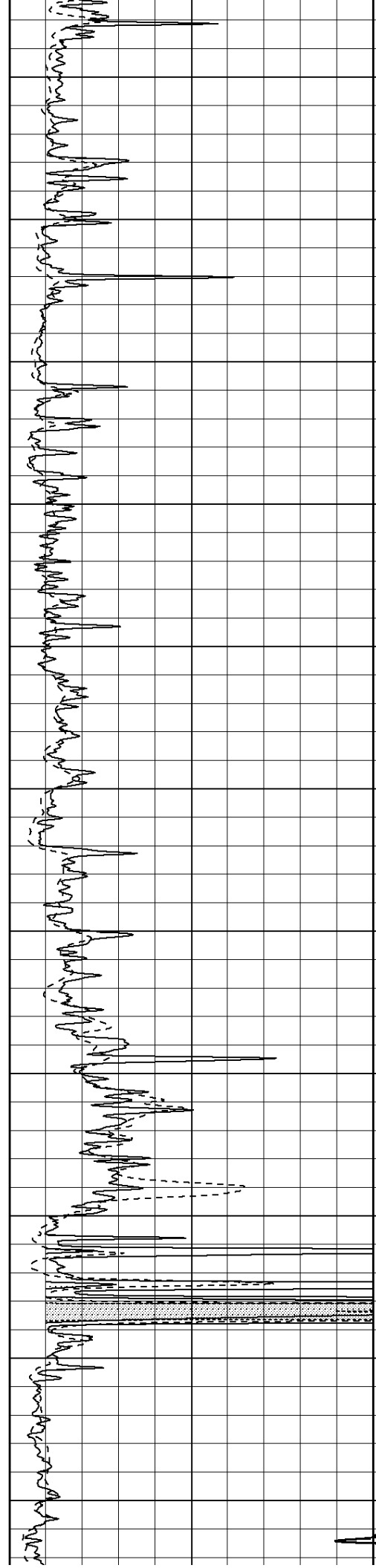


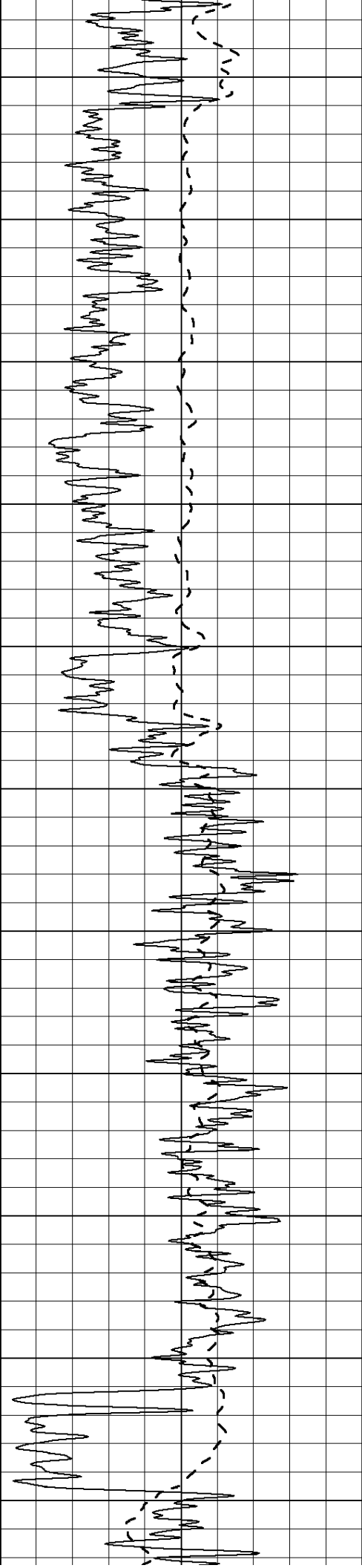
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500
550
600
650
700
750
800
850
900
950



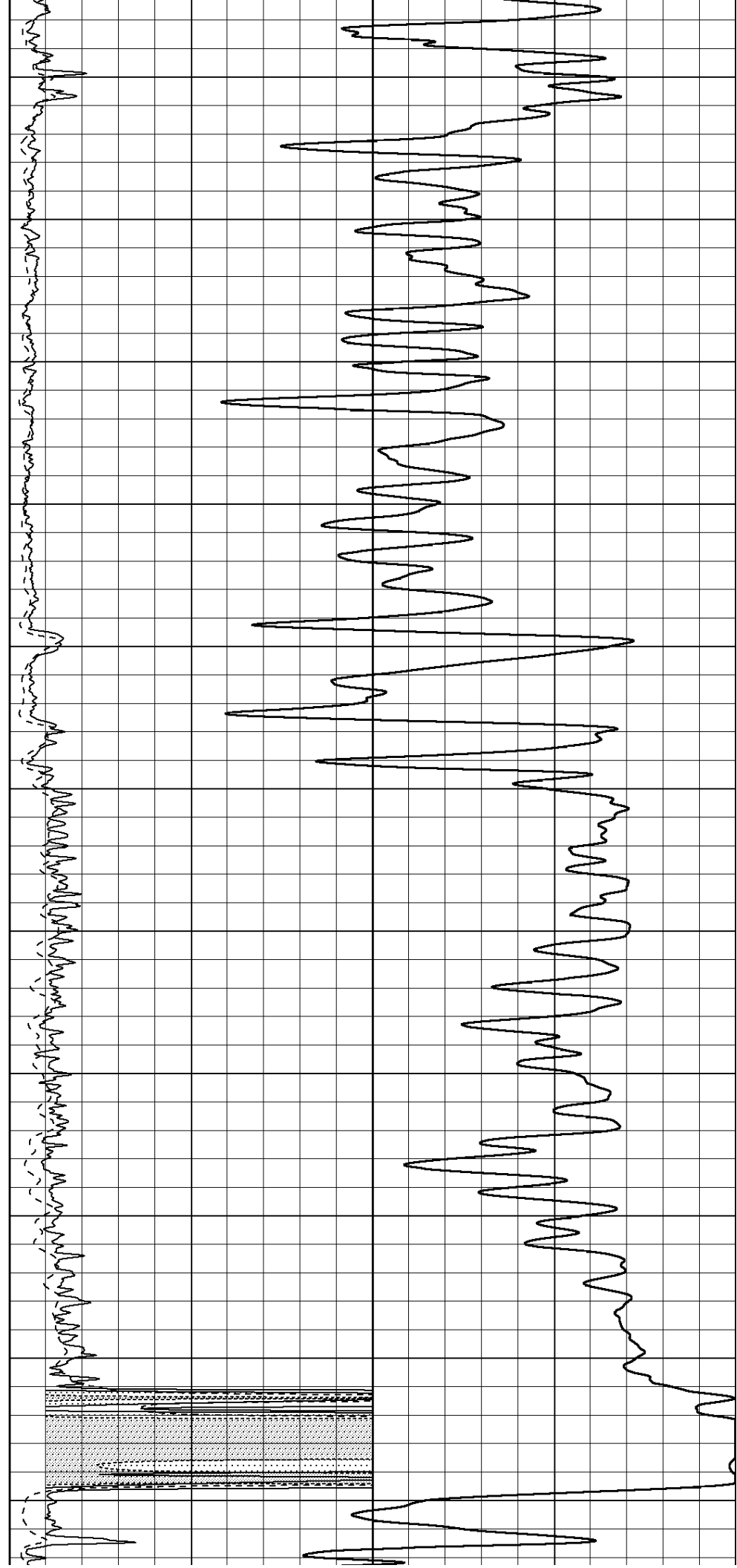


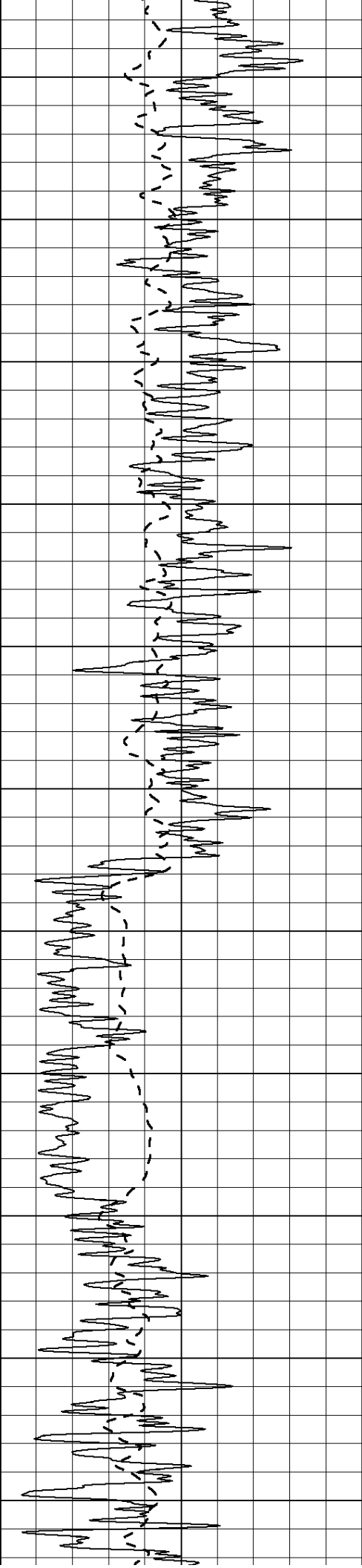
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1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050





2100

2150

2200

2250

2300

2350

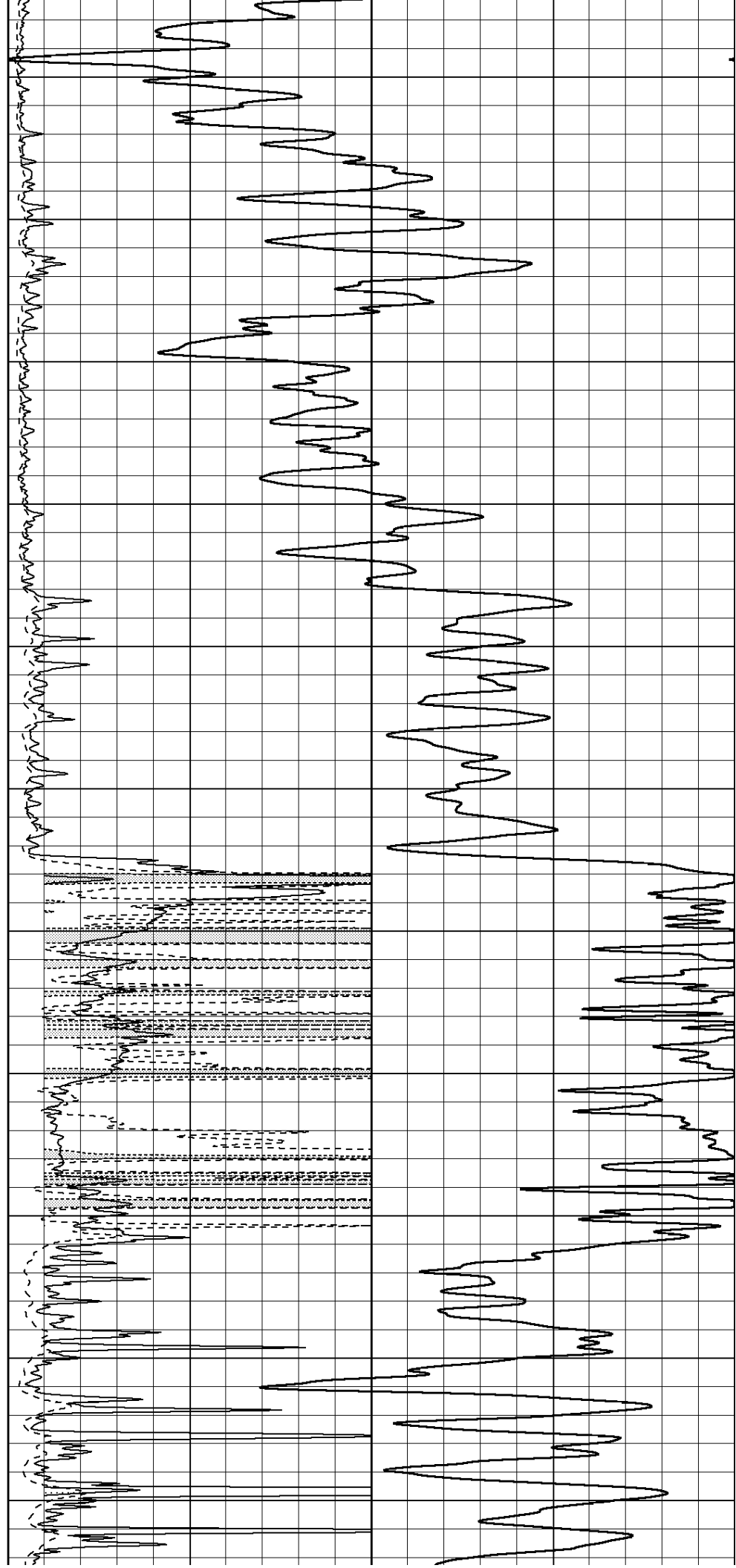
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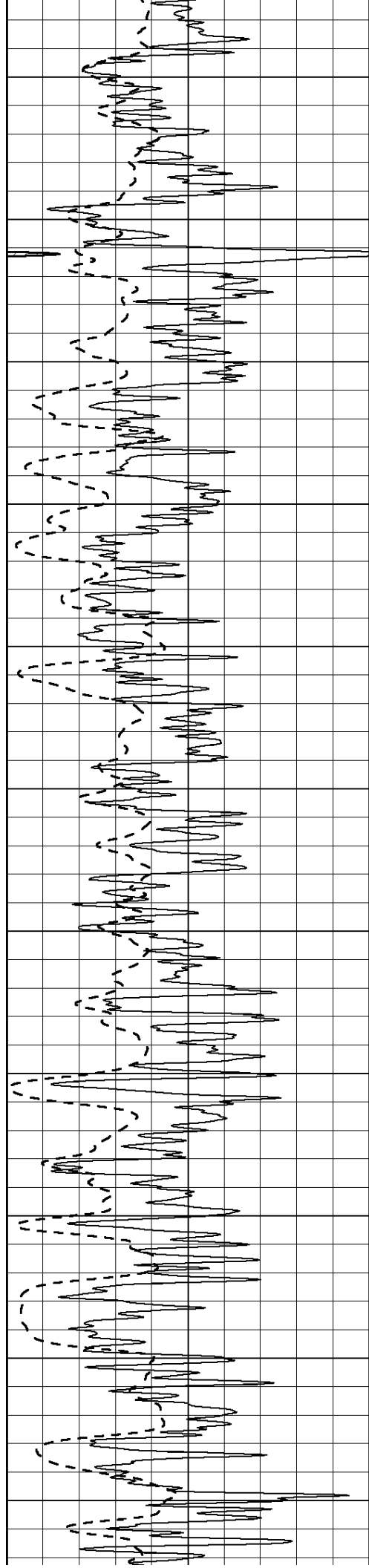
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2500

2550

2600





2650

2700

2750

2800

2850

2900

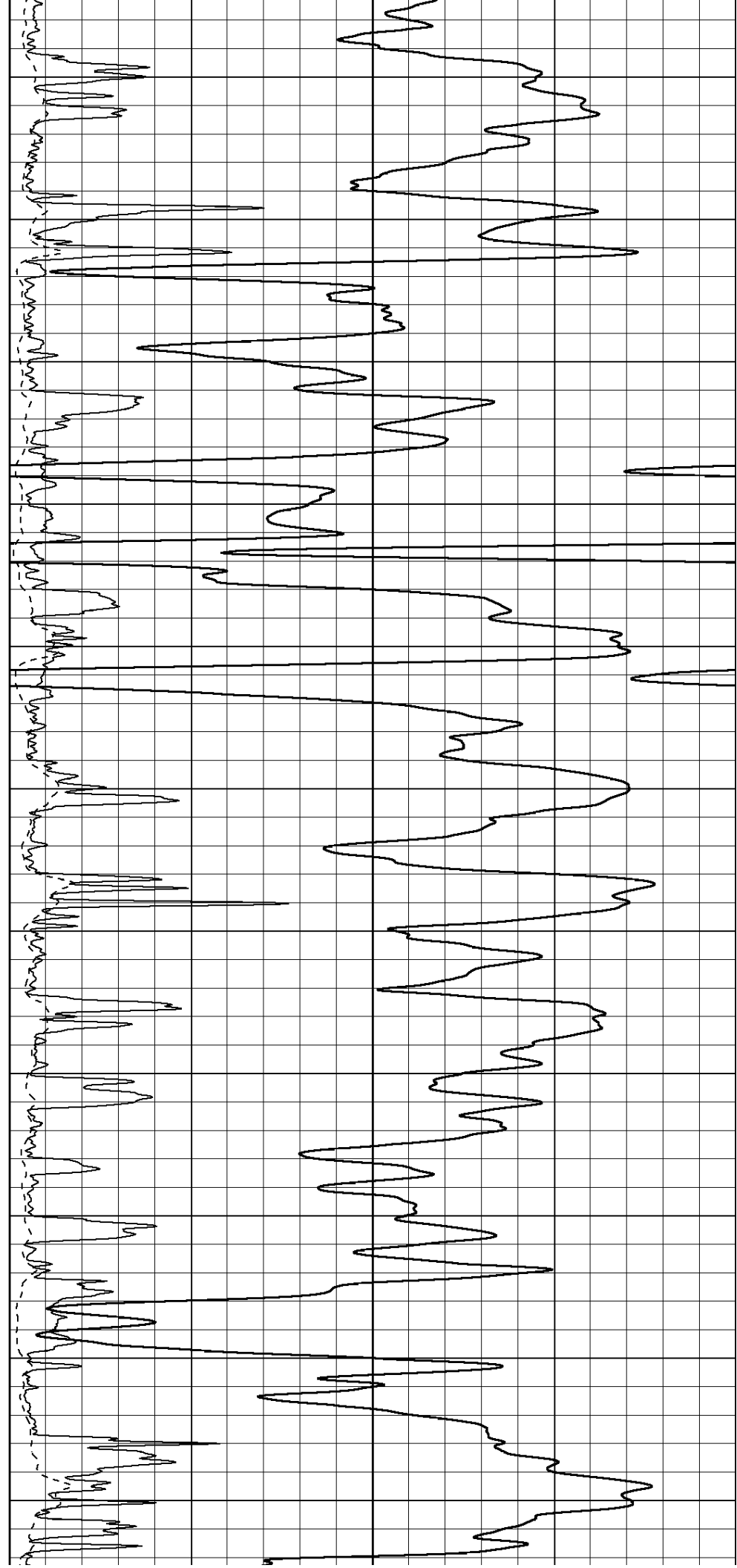
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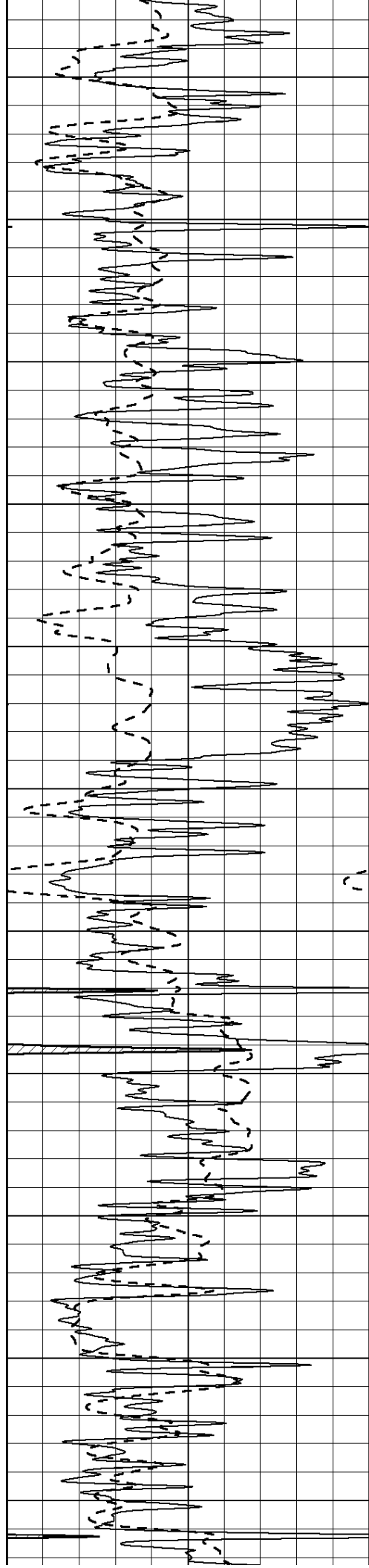
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3050

3100

3150





3200

3250

3300

3350

3400

3450

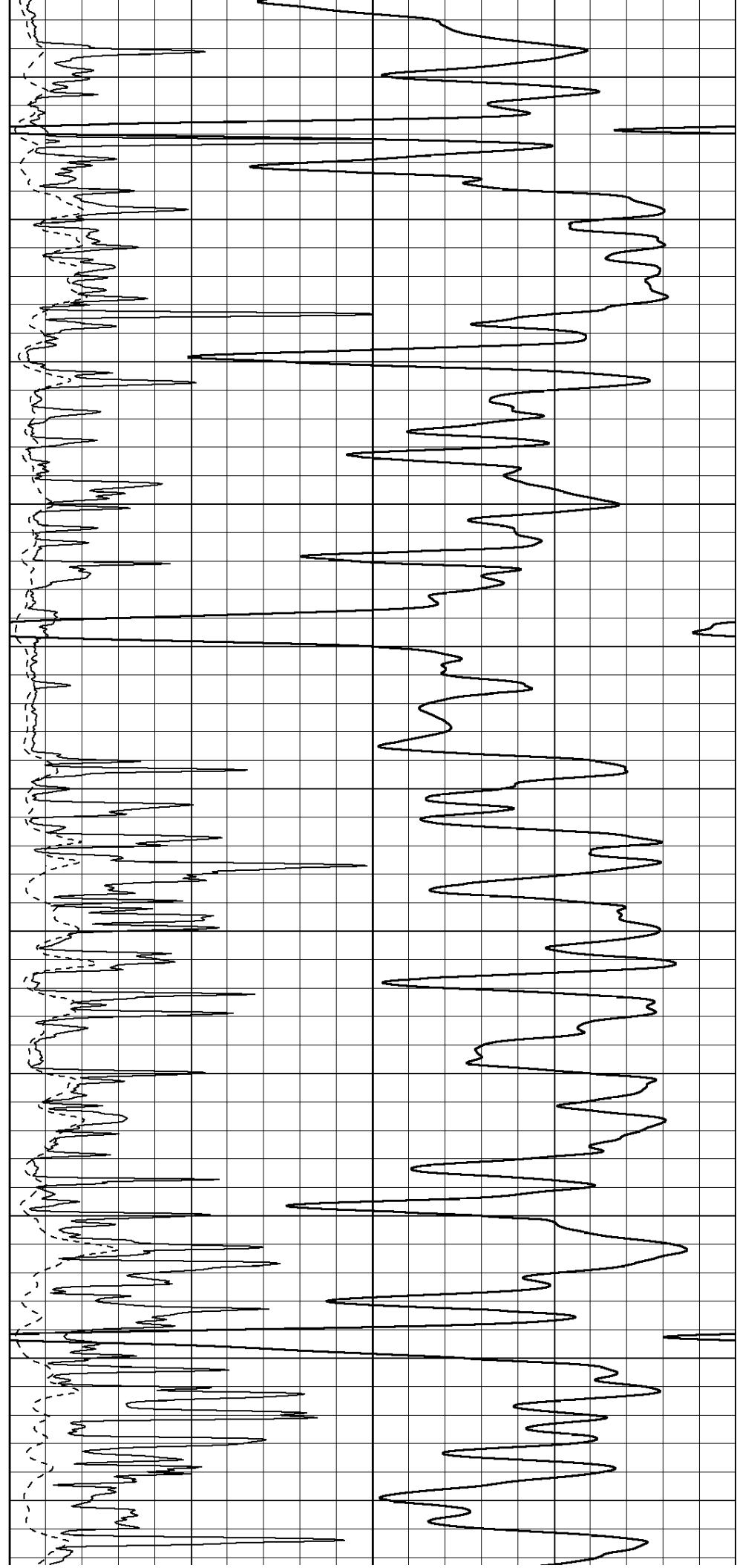
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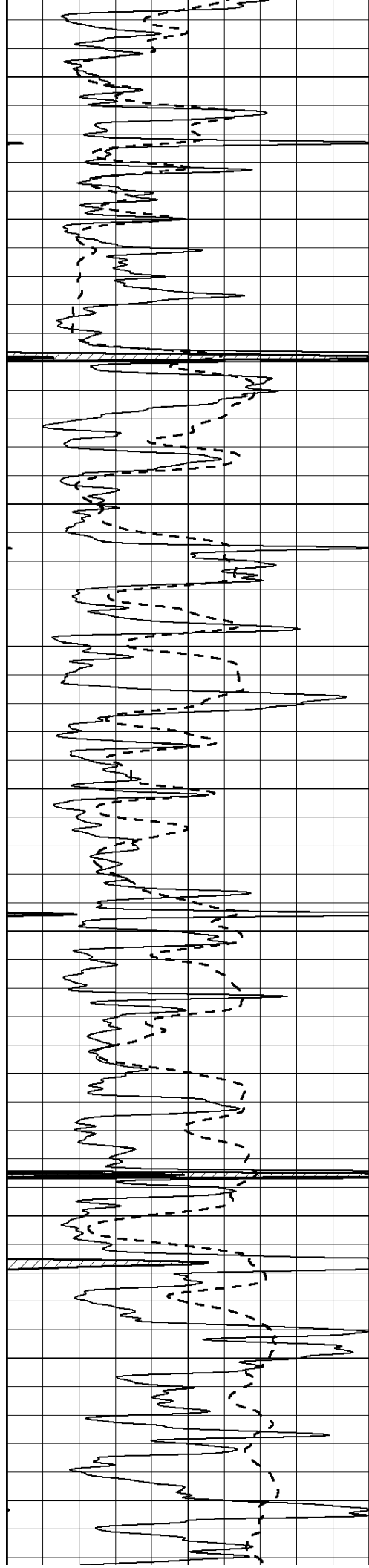
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3600

3650

3700





3750

3800

3850

3900

3950

4000

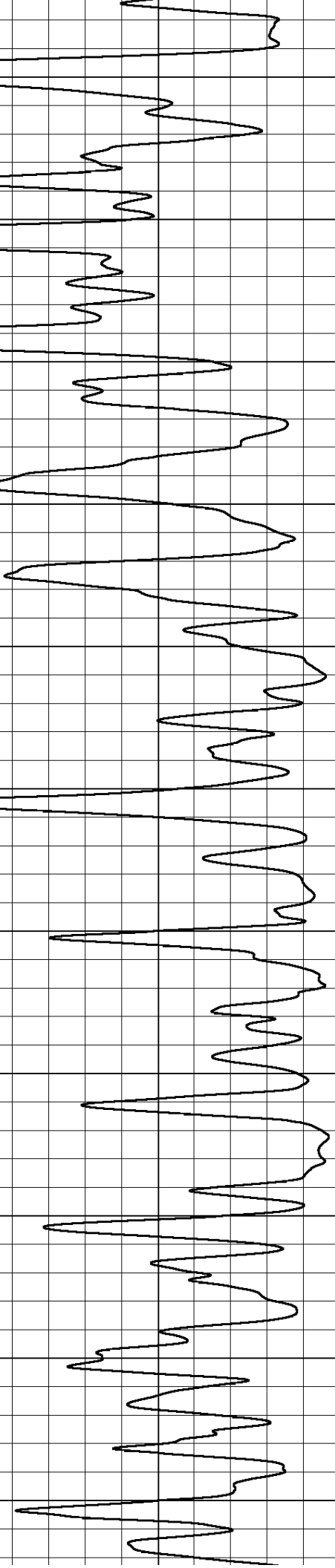
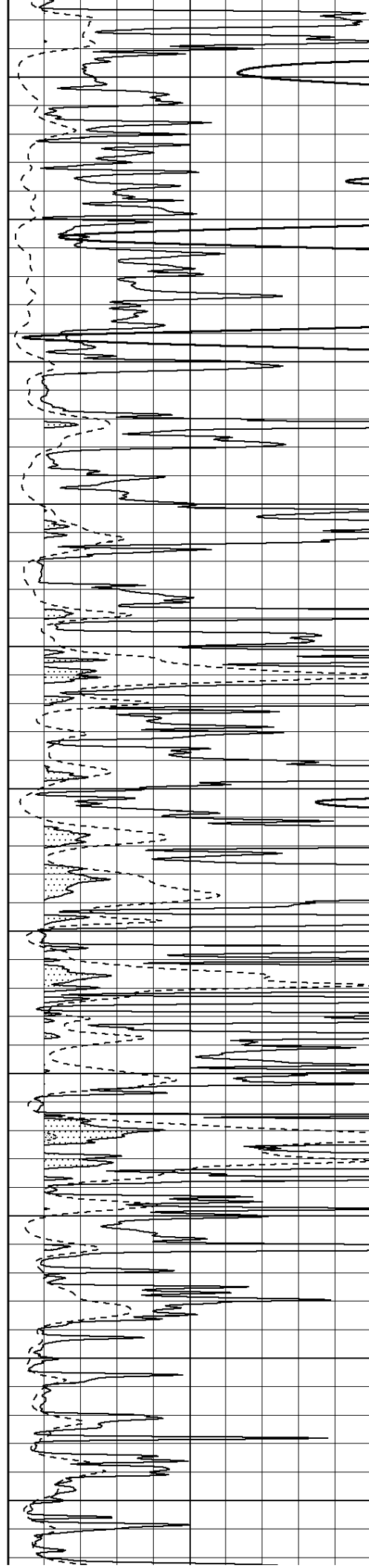
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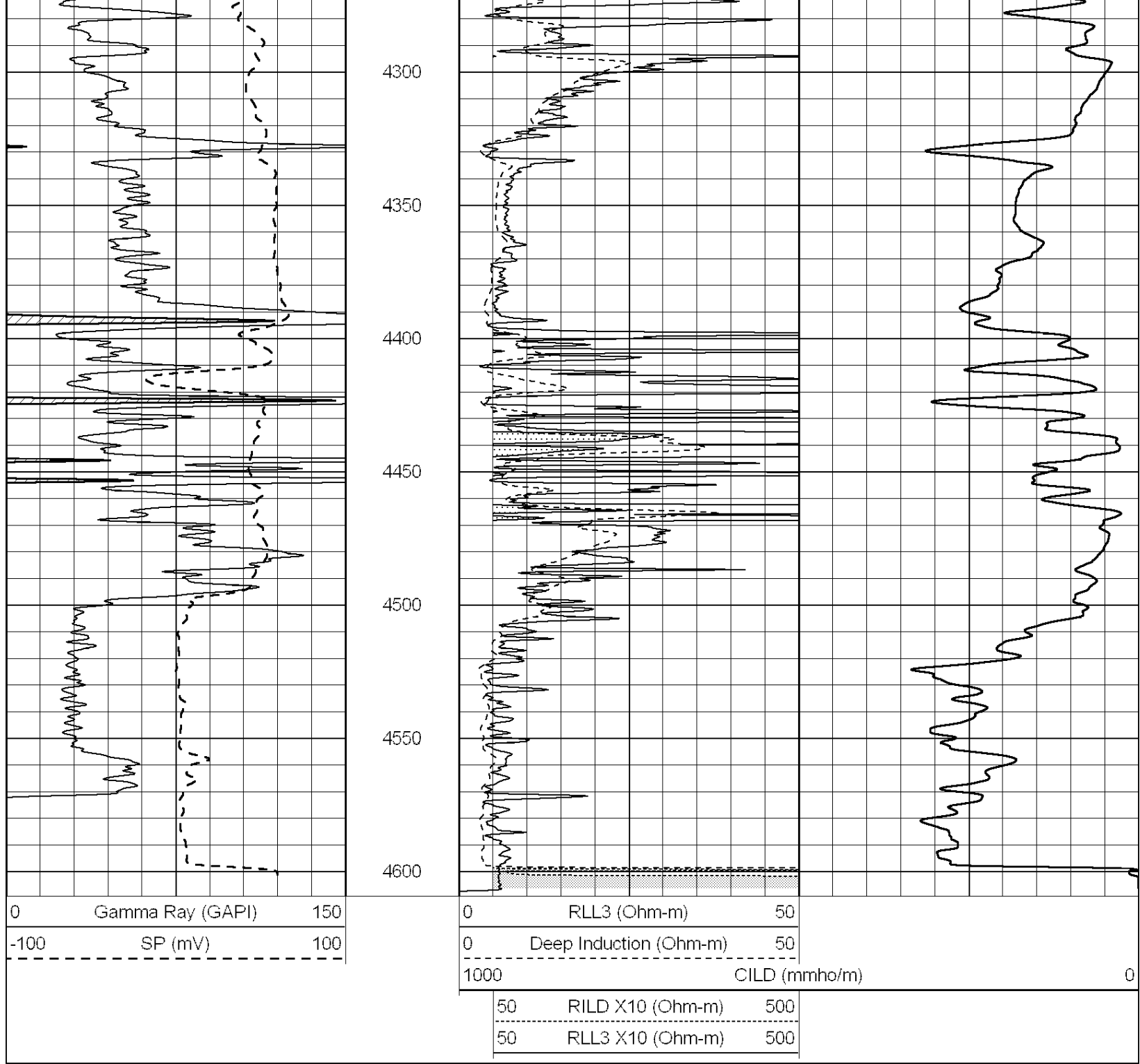
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4150

4200

4250



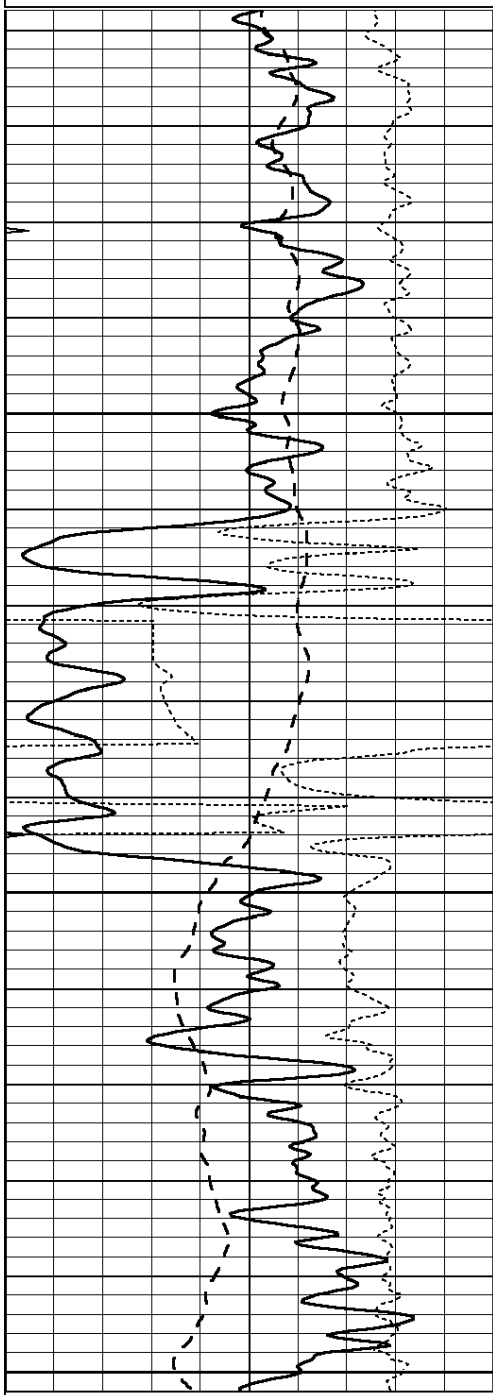


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MAIN SECTION

Database File: 005649pdn.db
 Dataset Pathname: pass3.A
 Presentation Format: dil
 Dataset Creation: Wed Aug 25 15:48:36 2010
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	RLL3 (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	RxoRt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000

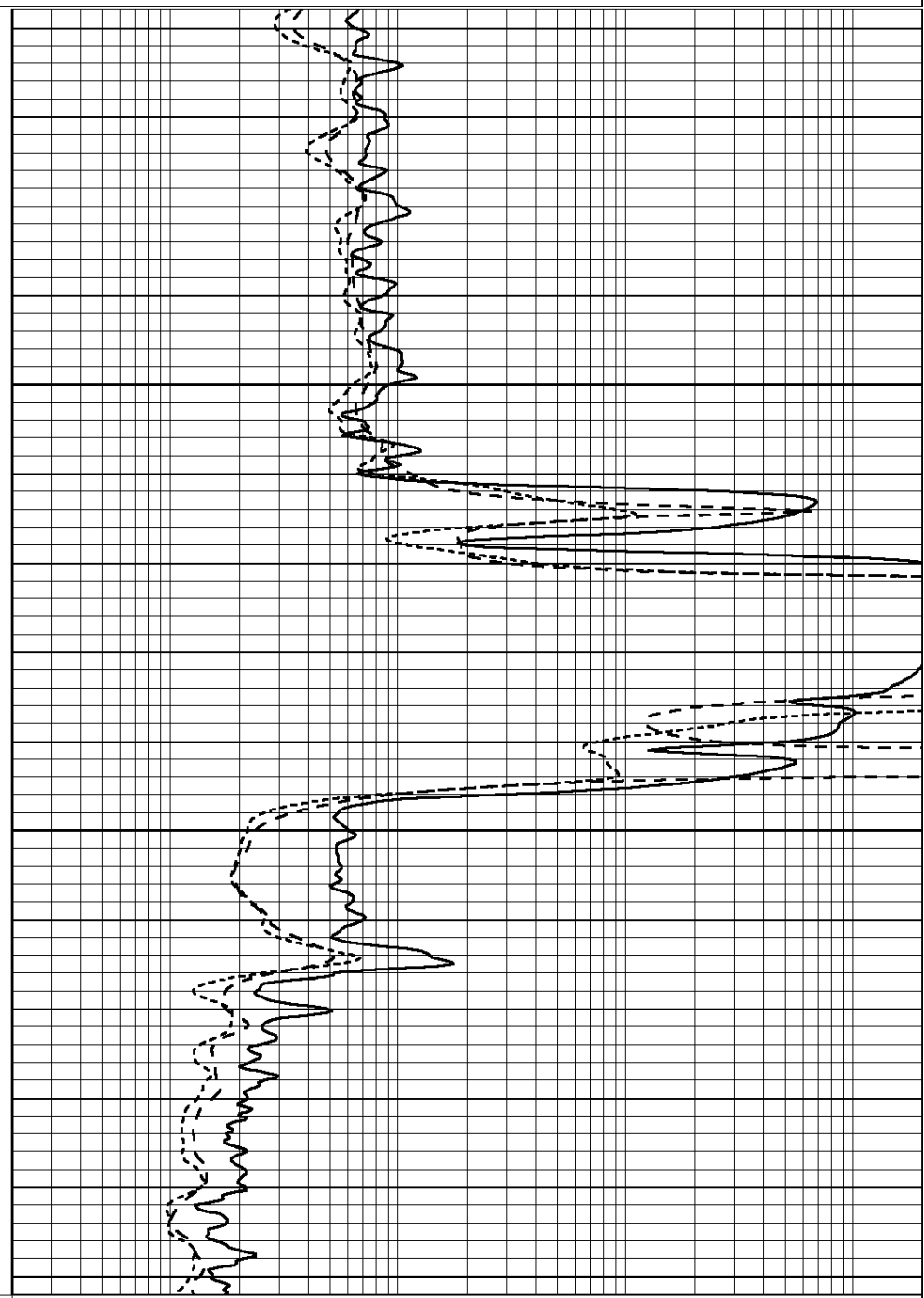


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

2000

2050

2100



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



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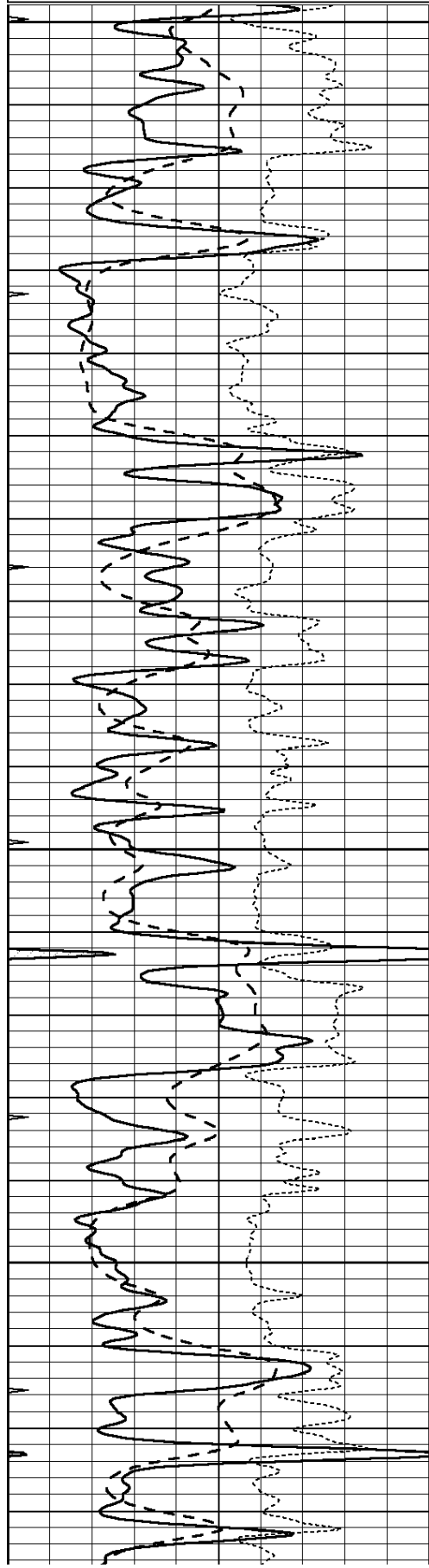
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Charted by:

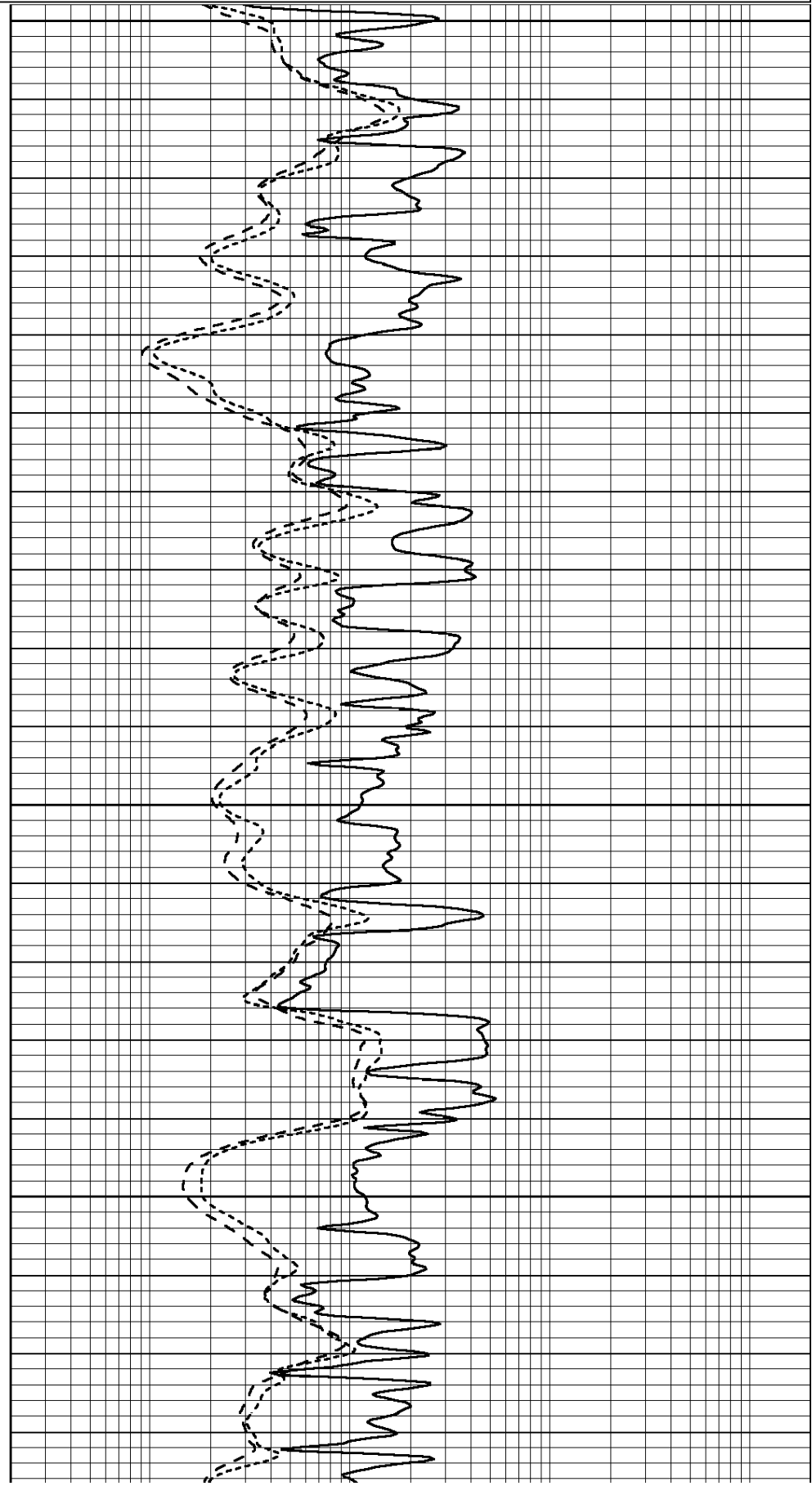
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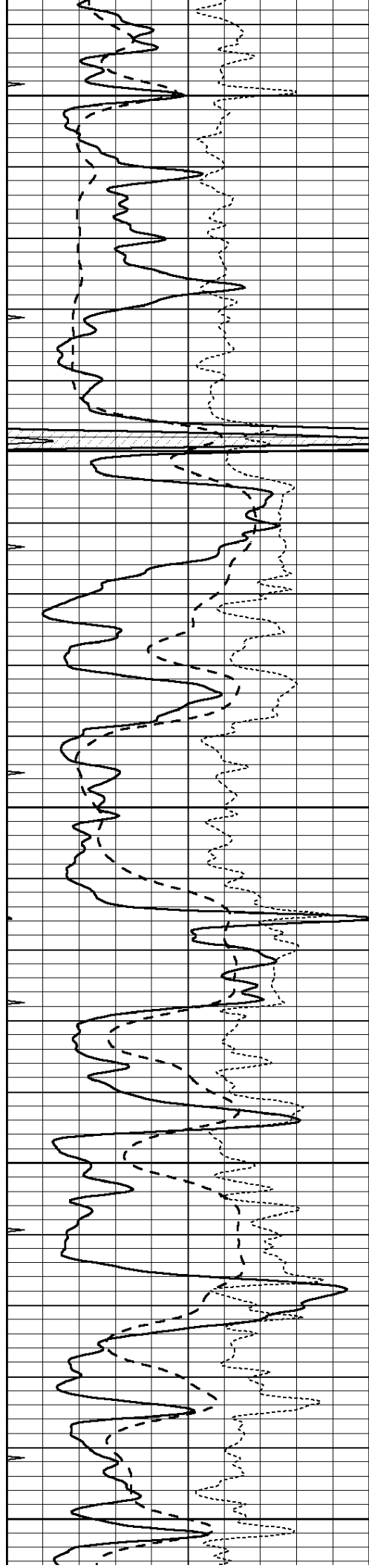
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-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

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



3600
3650
3700
3750





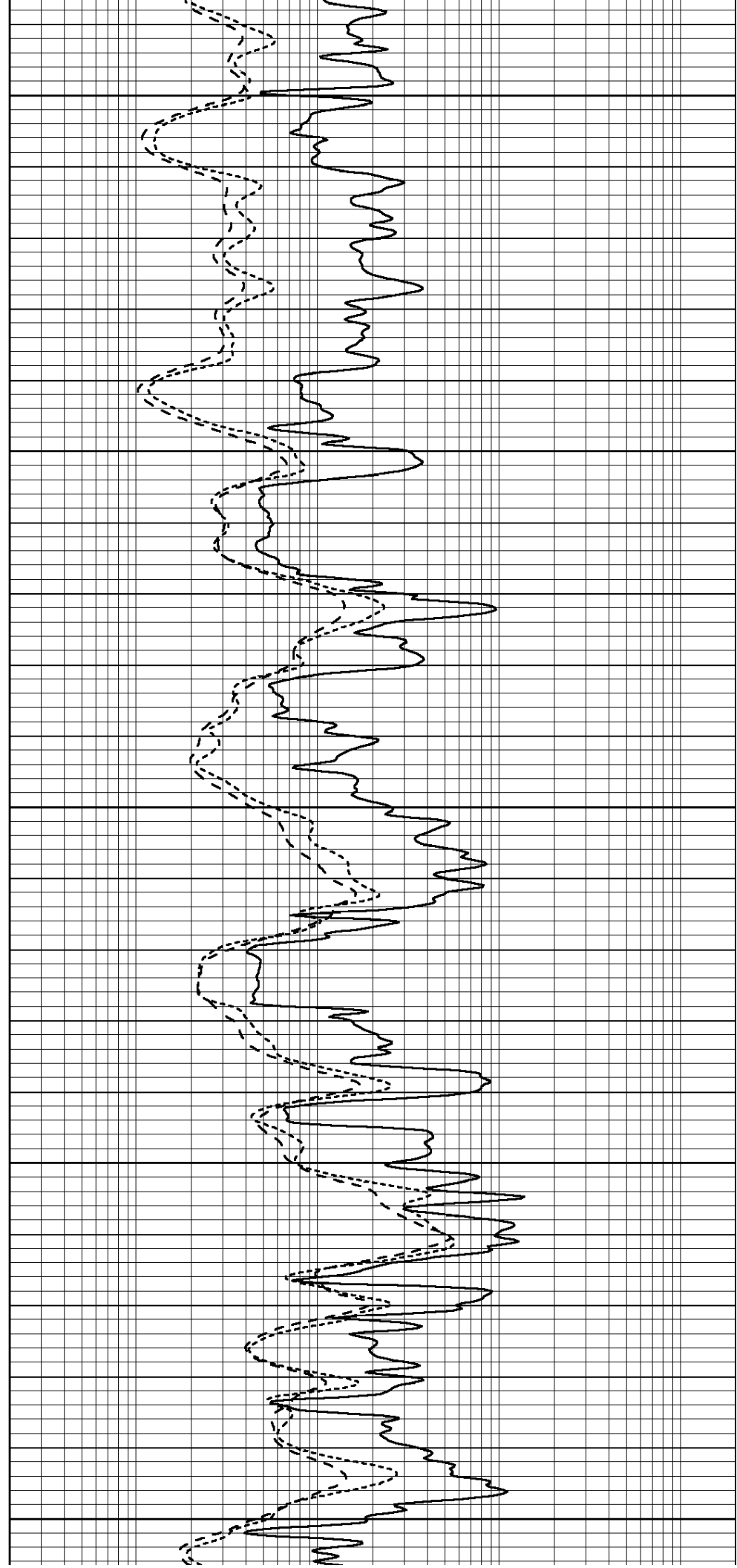
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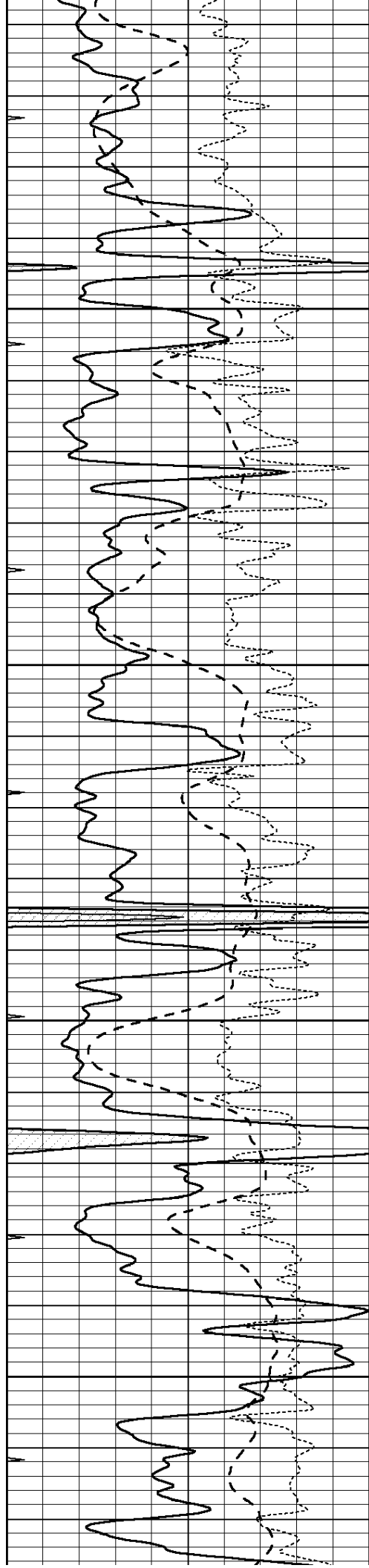
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3900

3950

4000



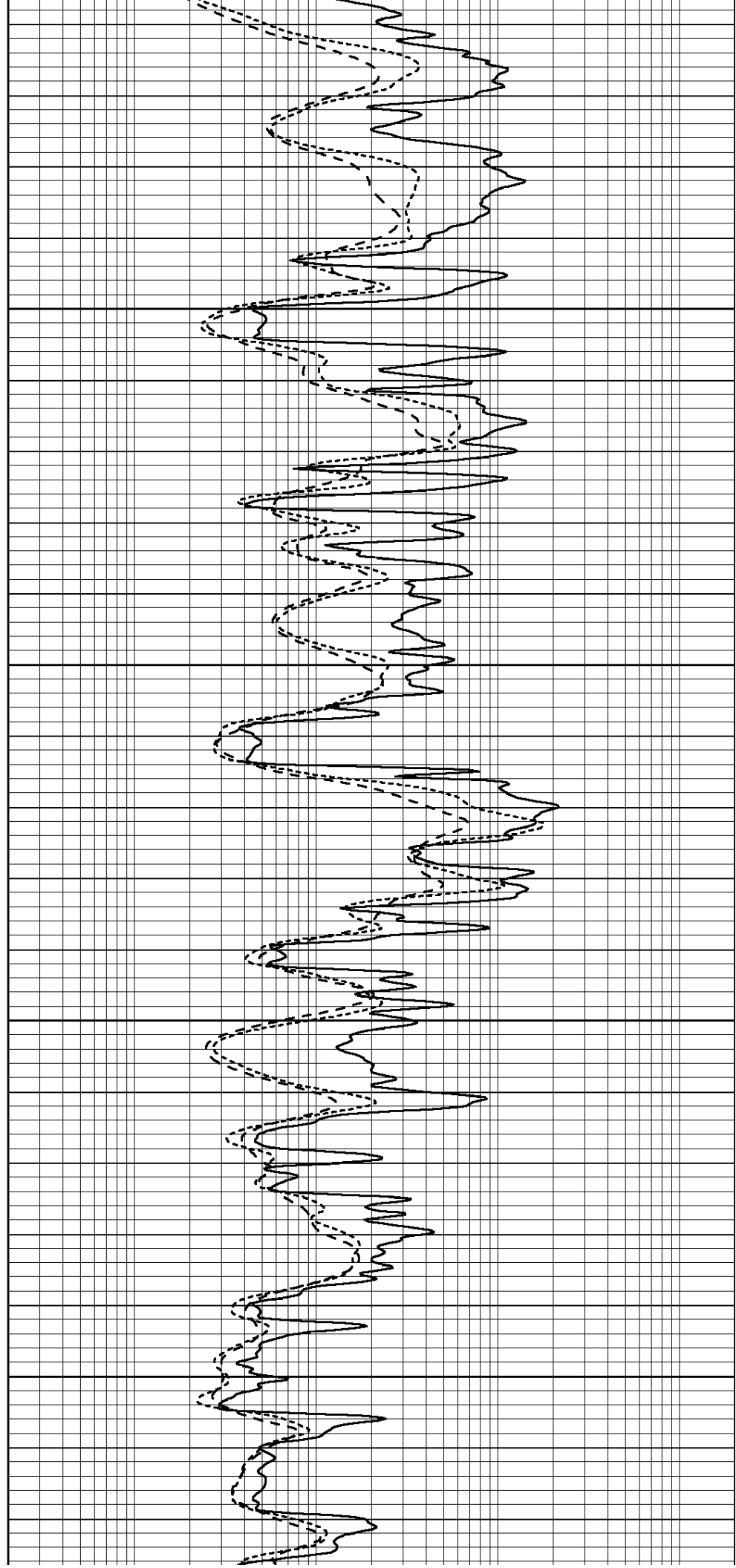


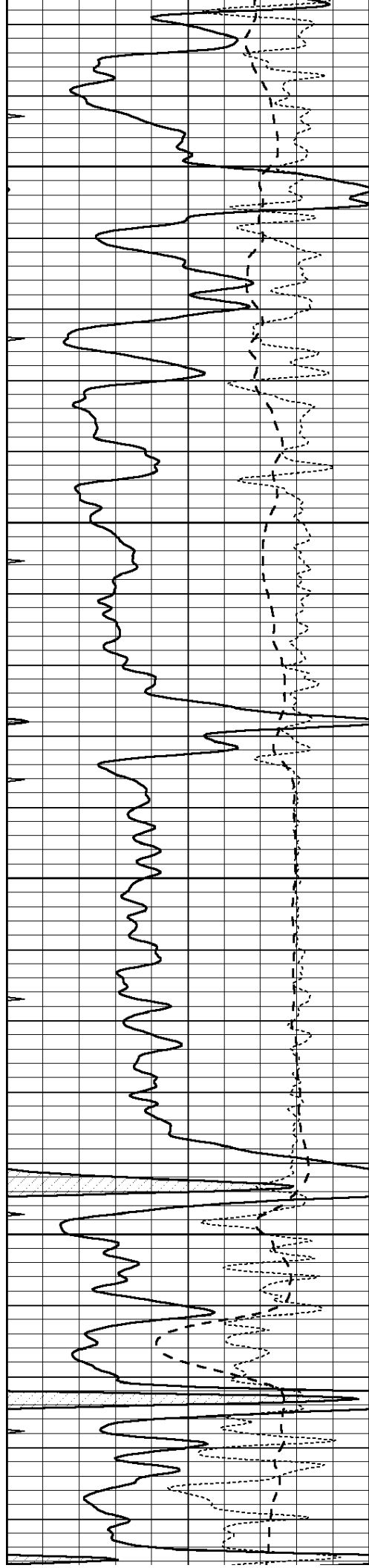
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4100

4150

4200



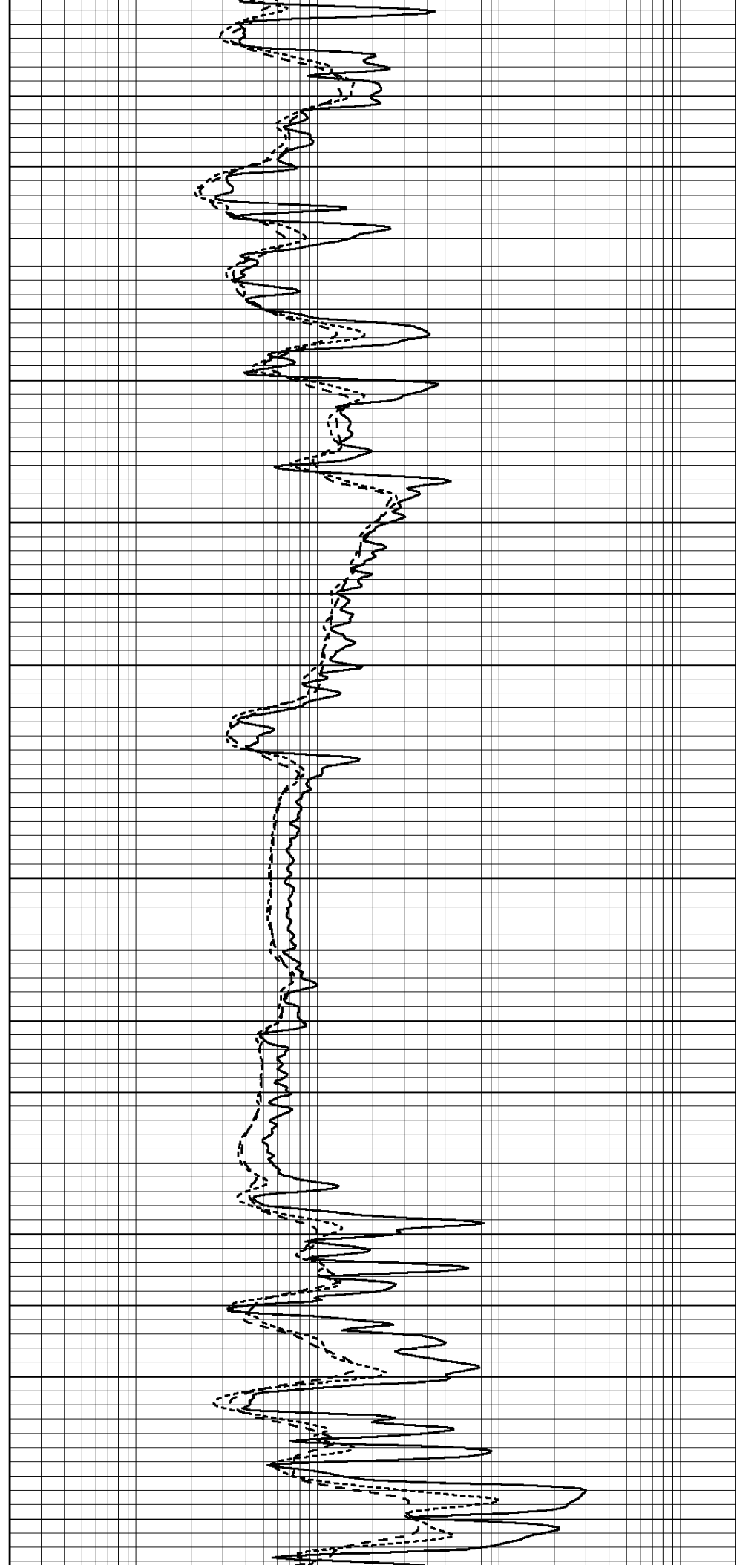


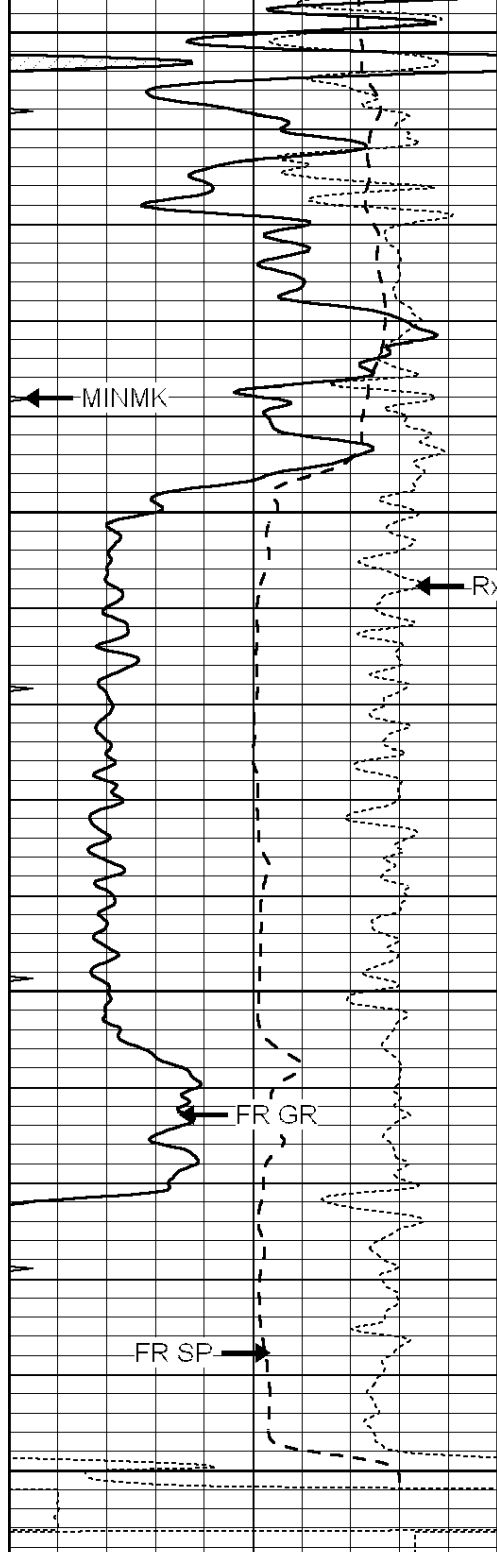
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4300

4350

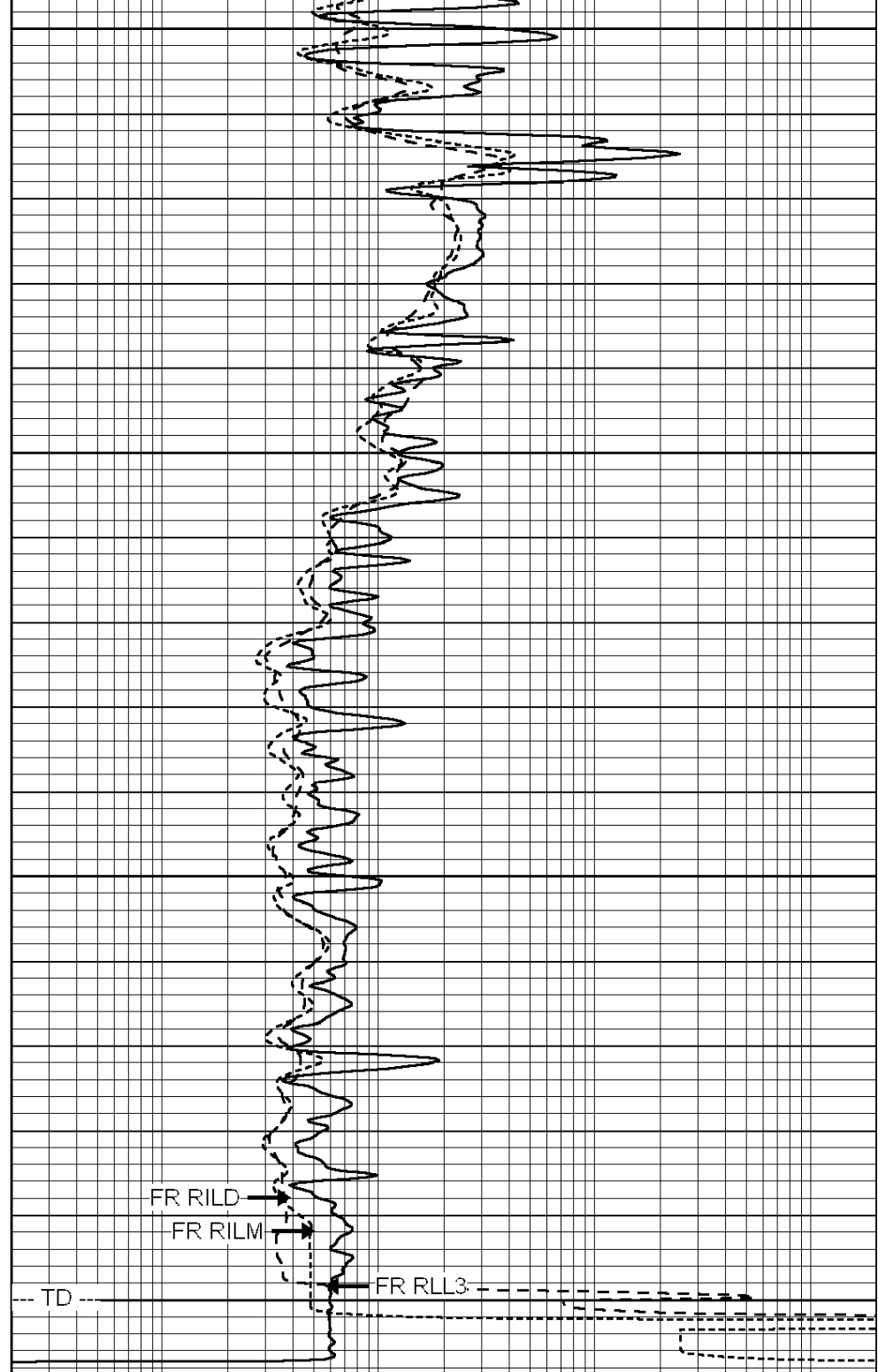
4400





4450
4500
4550
4600

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



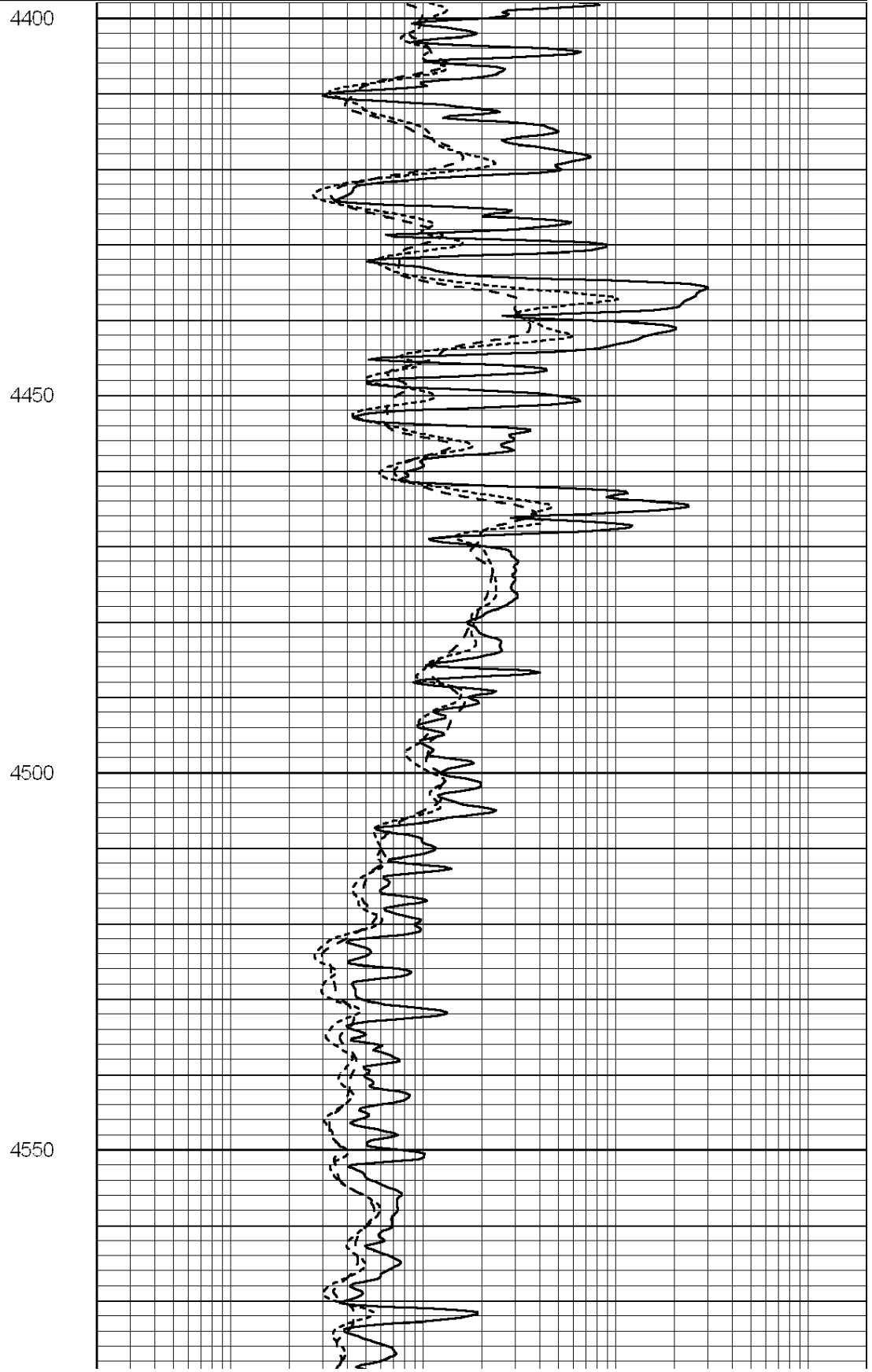
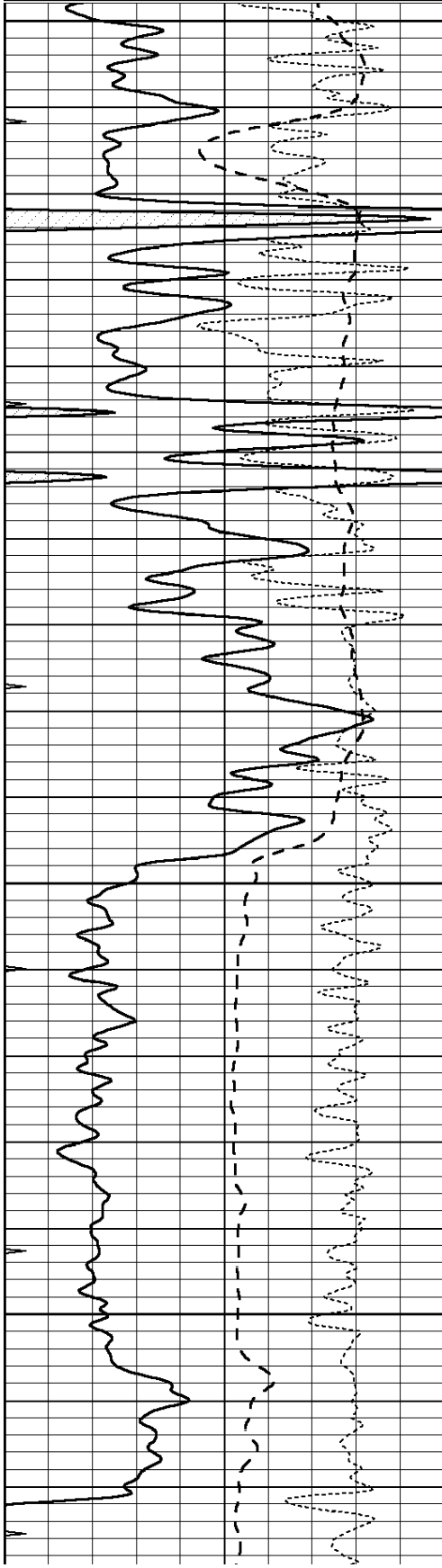
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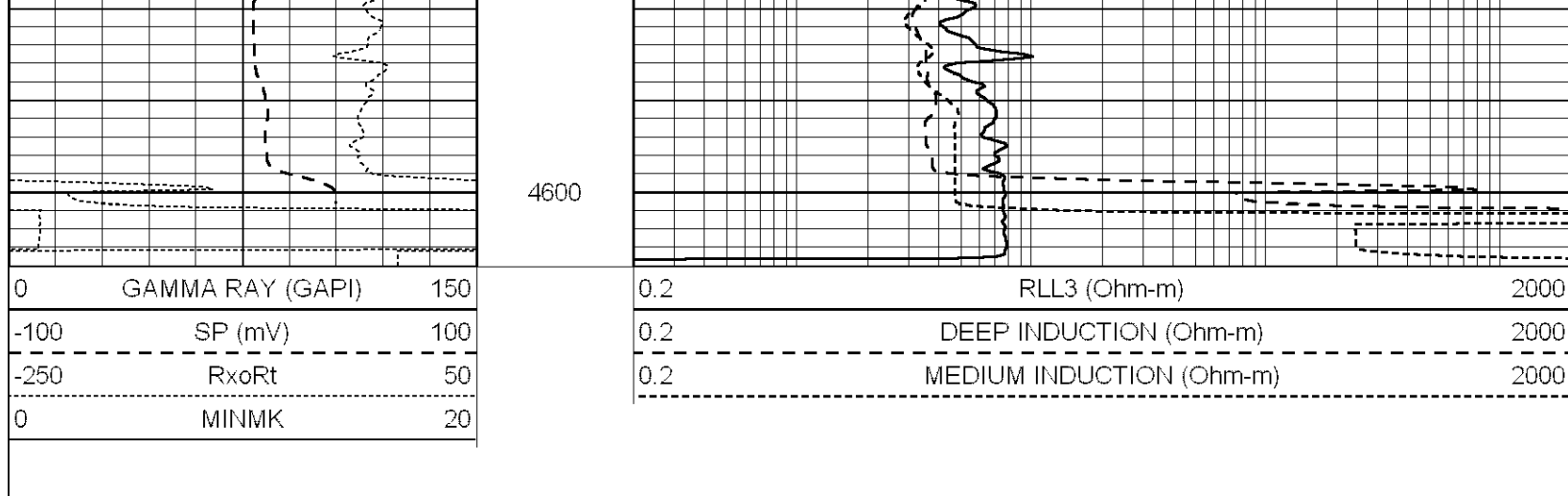
REPEAT SECTION

Dataset Pathname: pass2A
 Presentation Format: dil
 Dataset Creation: Wed Aug 25 15:02:07 2010
 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





Calibration Report

Database File: 005649pdcn.db
 Dataset Pathname: pass3.A
 Dataset Creation: Wed Aug 25 15:48:36 2010

Dual Induction Calibration Report

Serial-Model: DIL5-GEAR
 Performed: Wed Aug 25 13:53:21 2010

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	530.000	-12.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	520.000	-14.000
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

Litho Density Calibration Report
 Serial: 002 Model: PRB
 Performed Tue Jul 03 11:12:28 2007

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1059.5	9172.0	2859.6	10210.6	cps
Window 2	976.0	7793.2	2486.1	8515.6	cps
Window 3	689.8	2930.5	1159.0	3096.2	cps
Window 4	231.9	237.2	231.1	234.0	cps
Long Space	0.0	6817.1	1510.1	7539.6	cps
Short Space	1.6	1758.1	1188.6	1898.8	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 45.4	Rib Slope	: 1.015	Density/Spine Ratio	: 0.569
Spine Angle	: 75.4	Spine Slope	: 3.850	Spine Intercept	: -19.9

Caliper

	Readings	Reference
Low Ref	2.8	9.0
High Ref	4.8	14.0
	Gain: 2.5	Offset: 2.2

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: Wed Aug 25 13:52:53 2010

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6500 GAPI/cps