



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	RITCHIE EXPLORATION, INC.		
Well	HELL CREEK 5A #1		
Field	WILDCAT		
County	SCOTT	State	KANSAS
Location:	API # : 15-171-20952		Other Services
	1260' FNL & 1735' FEL		CDL/CNL
	SEC 5	TWP 16S	RGE 31W
Permanent Datum	GROUND LEVEL		Elevation
Log Measured From	KELLY BUSHING 5' A.G.L.		K.B. 2805
Drilling Measured From	KELLY BUSHING		D.F. 2800
Date	6-7-13		
Run Number	ONE		
Depth Driller	4622		
Depth Logger	4621		
Bottom Logged Interval	4619		
Top Log Interval	00		
Casing Driller	218		
Casing Logger	218		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.3 / 54		
pH / Fluid Loss	10.0 / 6.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.10 @ 89F		
Rmf @ Meas. Temp	0.83 @ 89F		
Rmc @ Meas. Temp	1.32 @ 89F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.810 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	121F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	MAX LOVELY		

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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

NABORS COMPLETION & PRODUCTION SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: HEALY, 7W TO TAOS RD., 7N, 1/4W, S INTO.

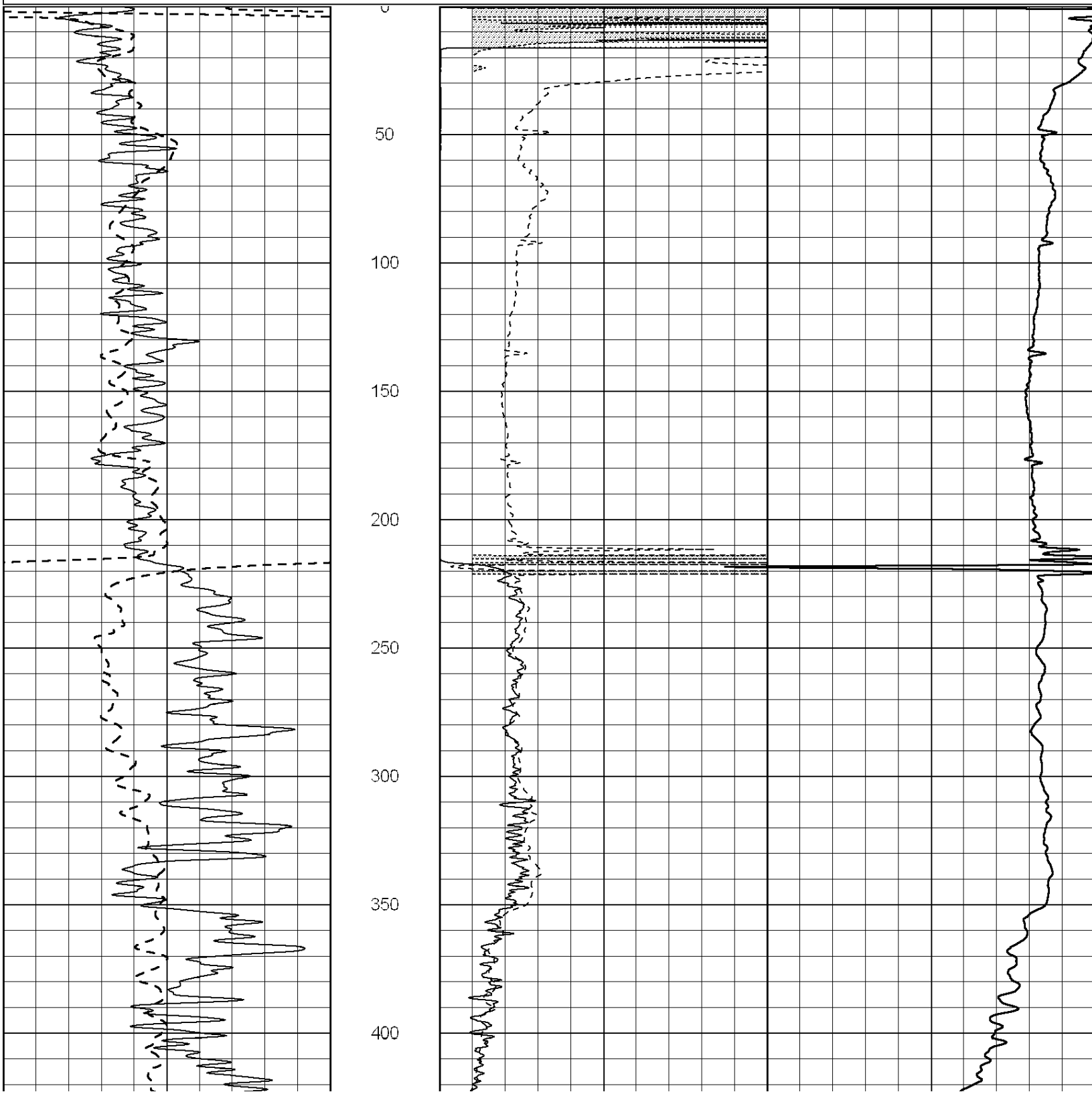


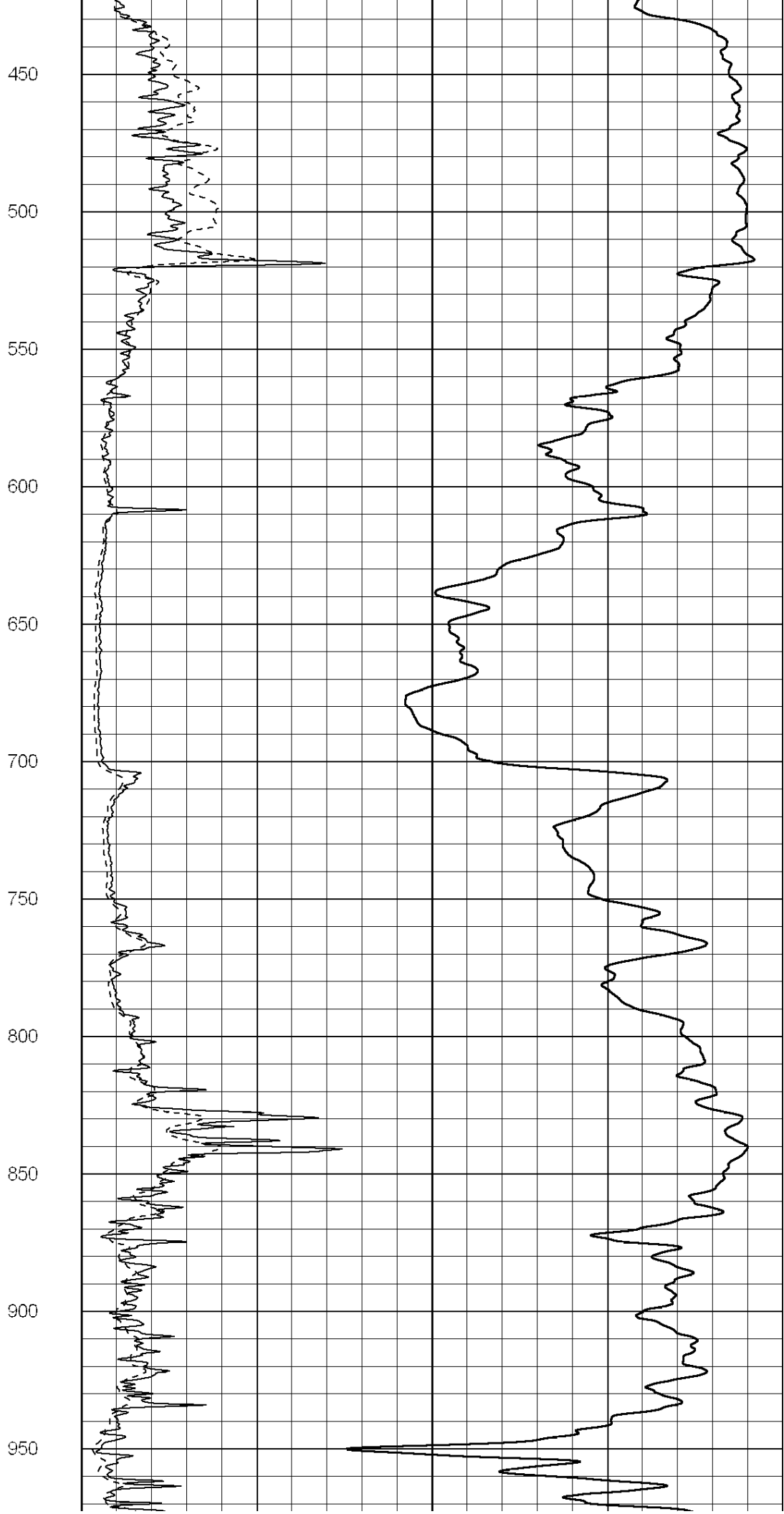
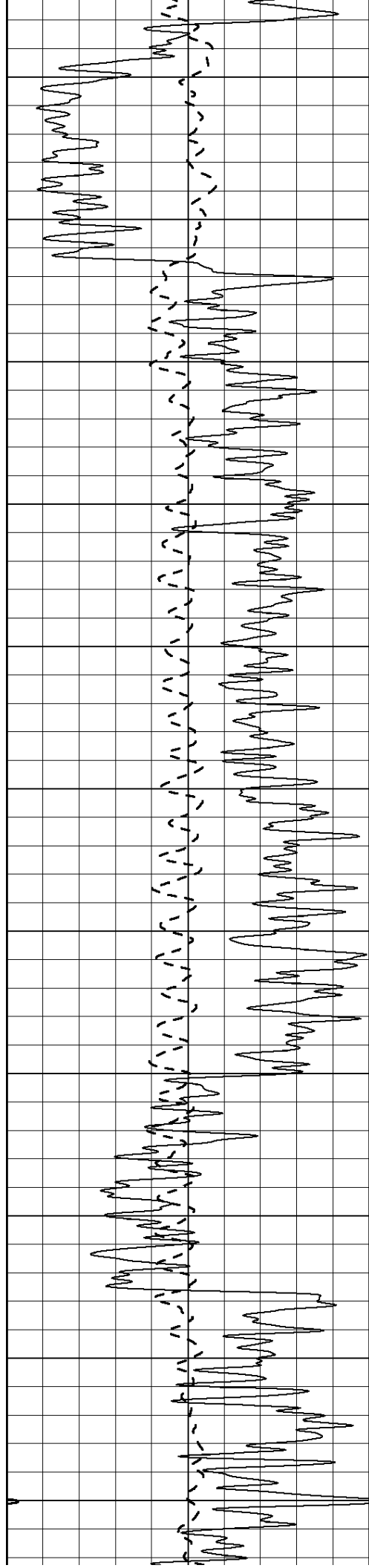
**COMPLETION
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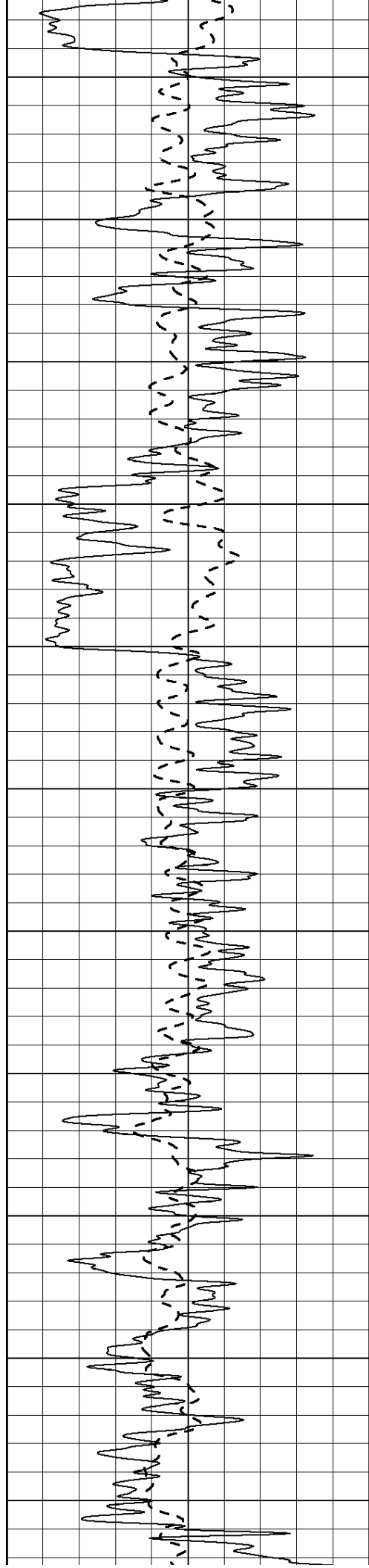
MAIN SECTION

Database File: 010188ddn.db
 Dataset Pathname: pass8.2
 Presentation Format: _dil2
 Dataset Creation: Wed May 08 02:08:59 2013
 Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	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







1000

1050

1100

1150

1200

1250

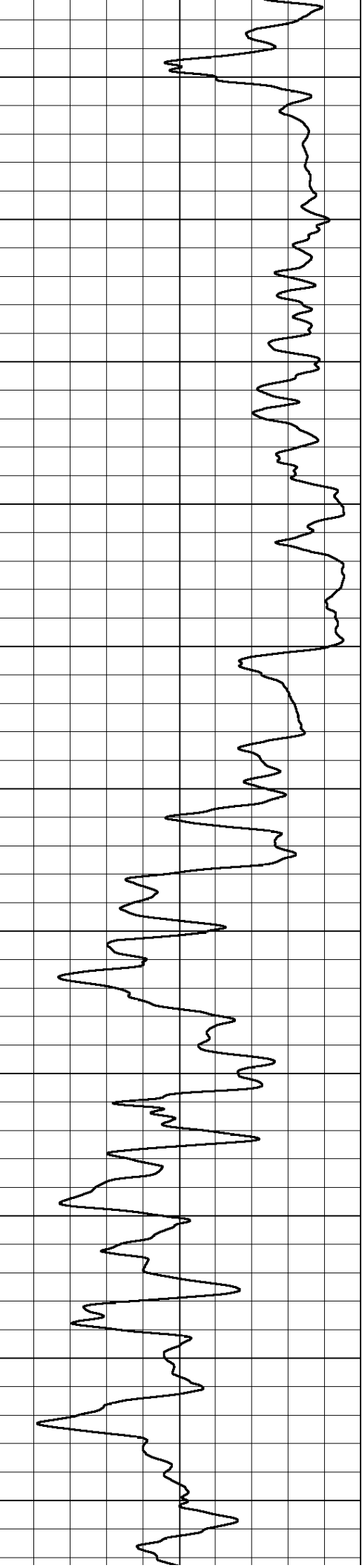
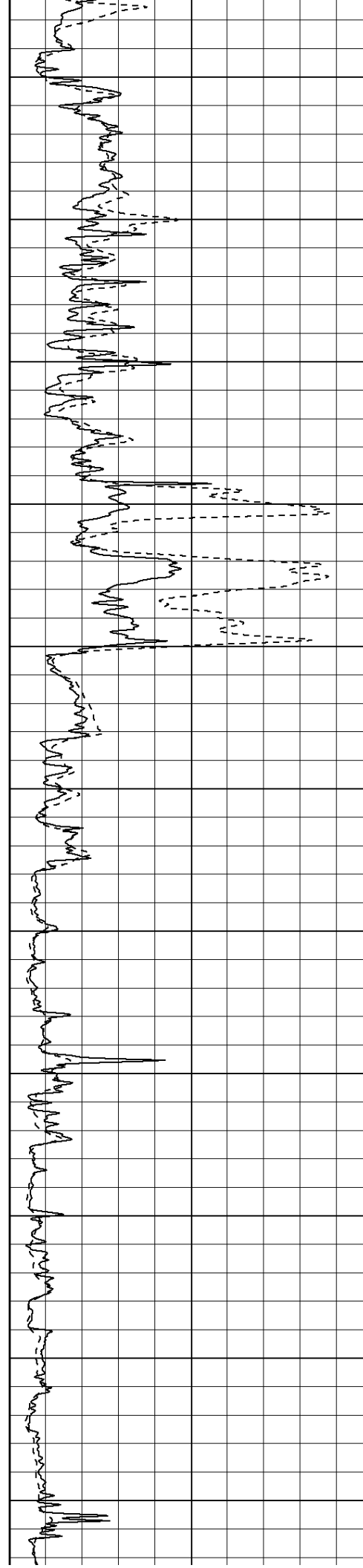
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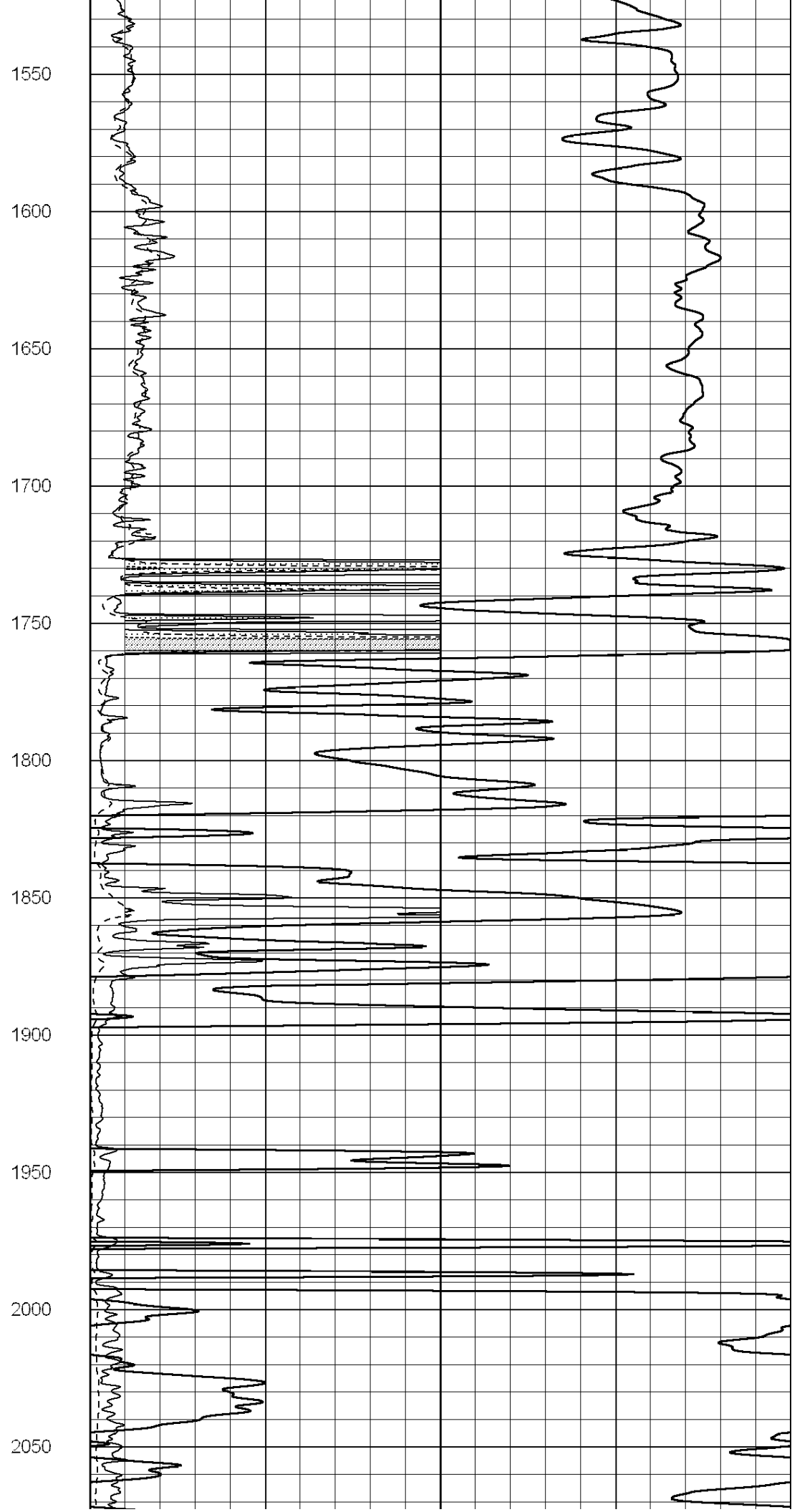
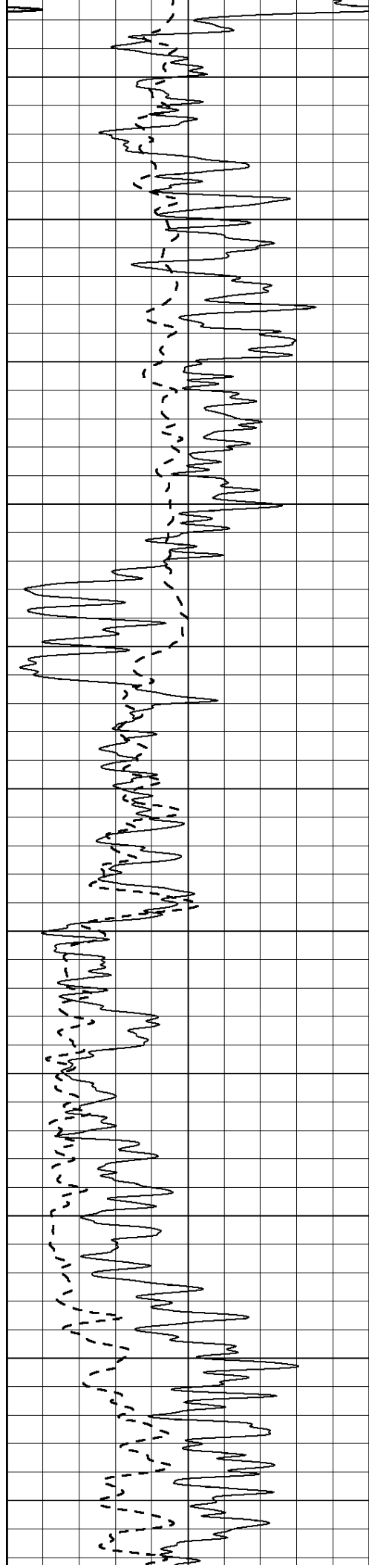
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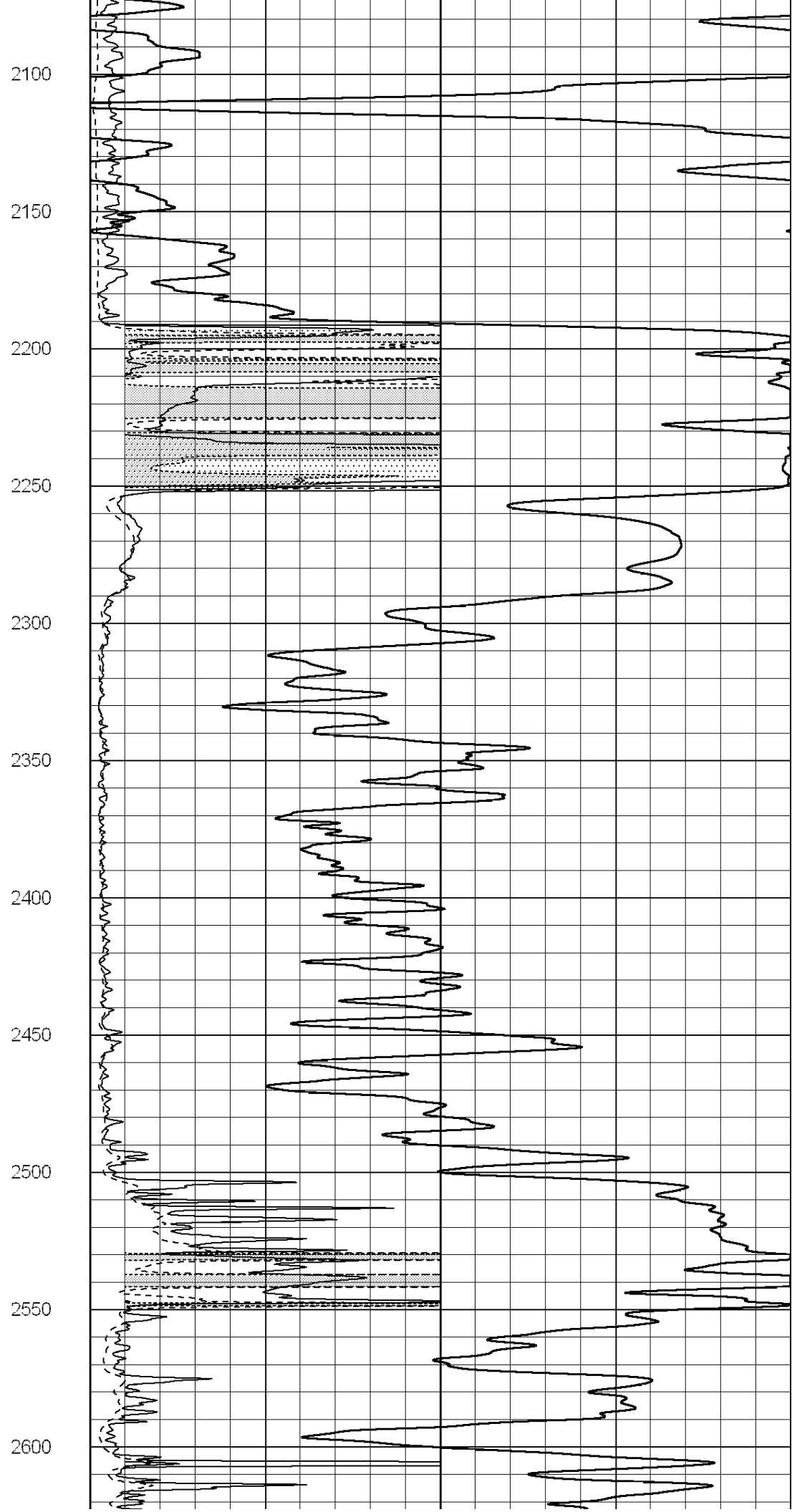
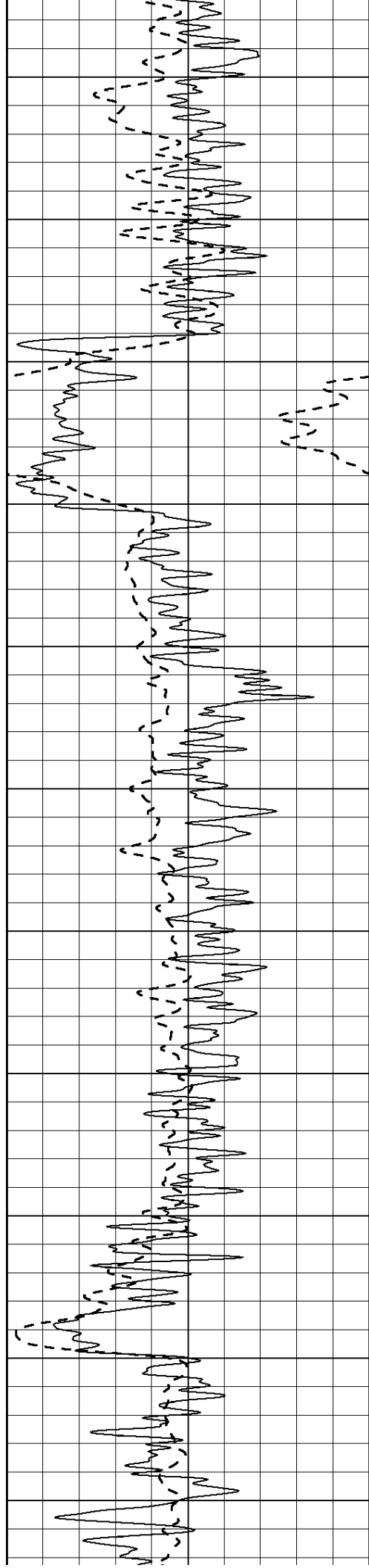
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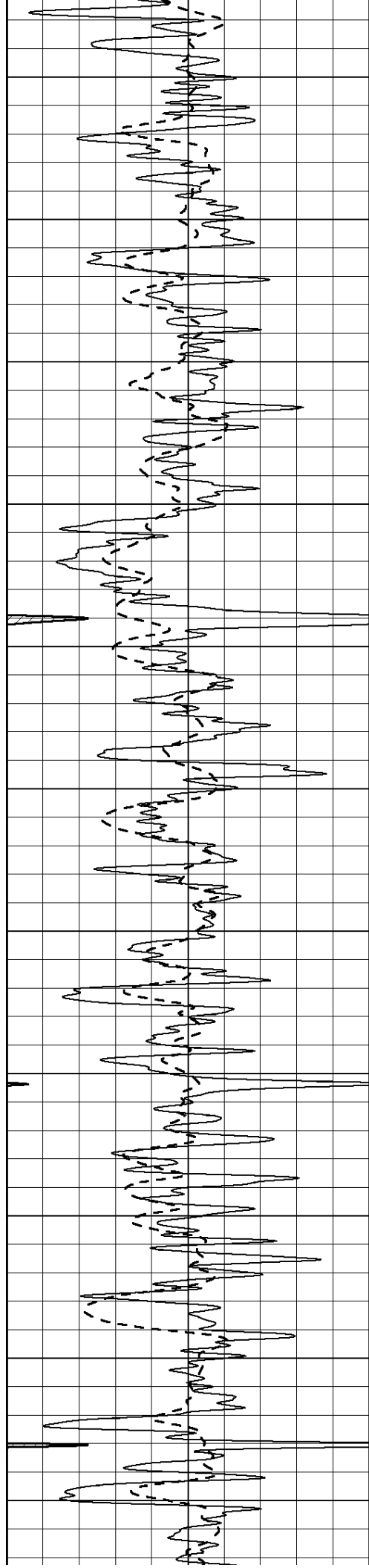
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1500









2650

2700

2750

2800

2850

2900

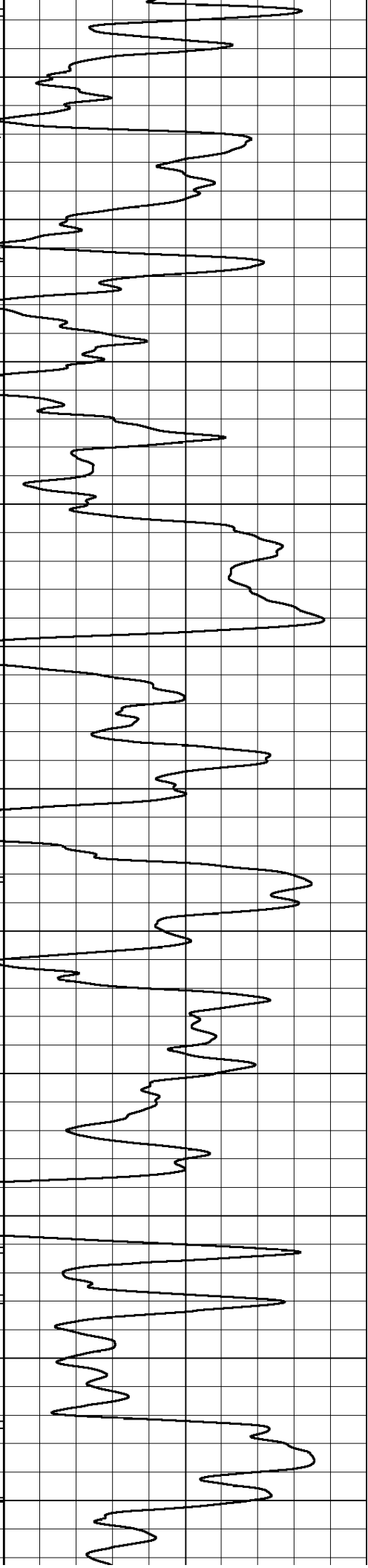
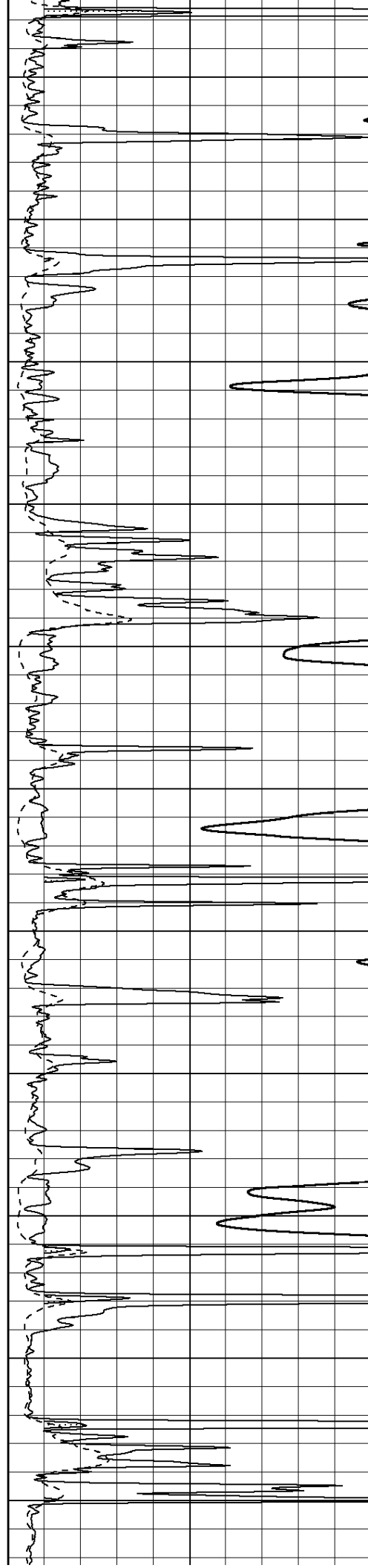
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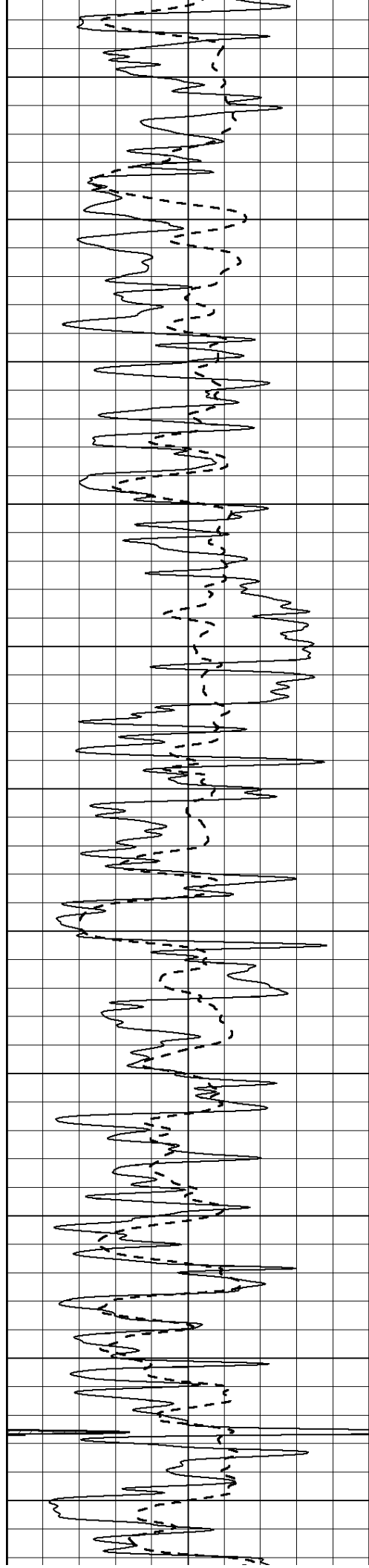
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3050

3100

3150





3200

3250

3300

3350

3400

3450

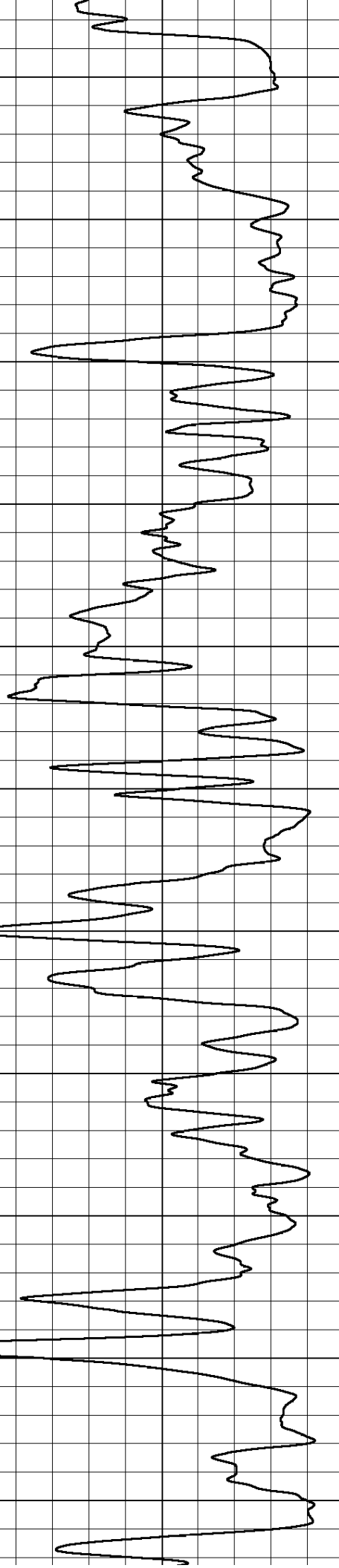
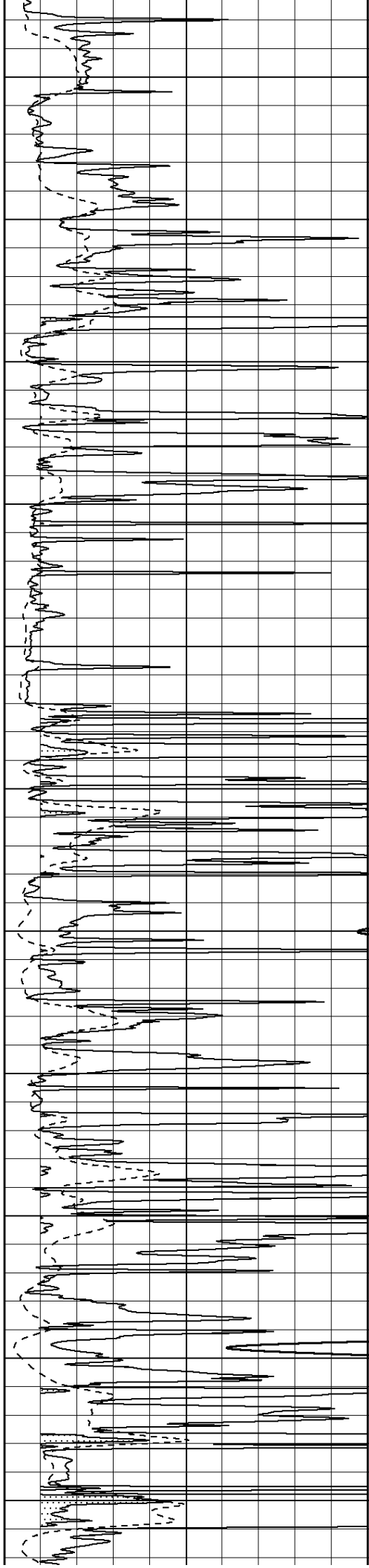
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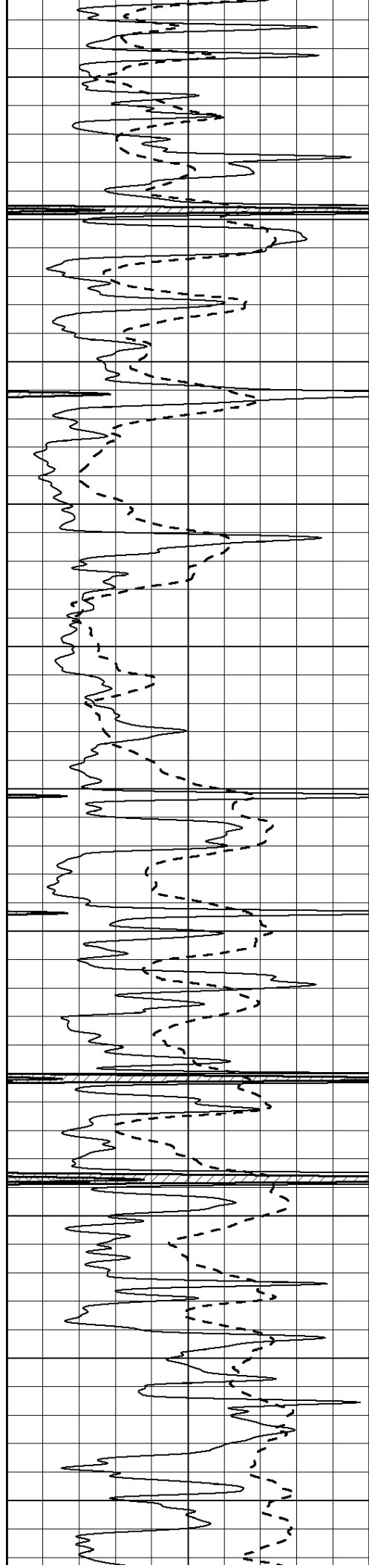
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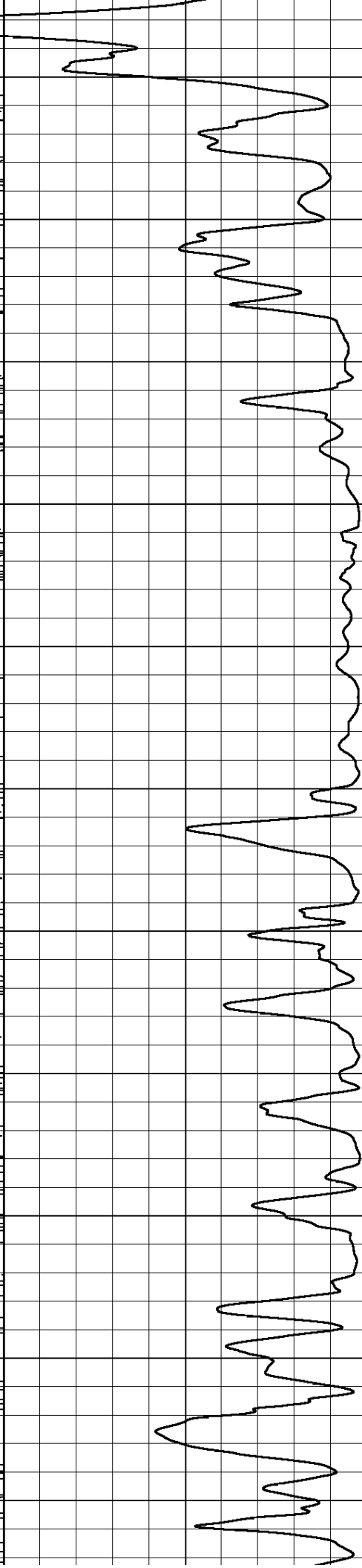
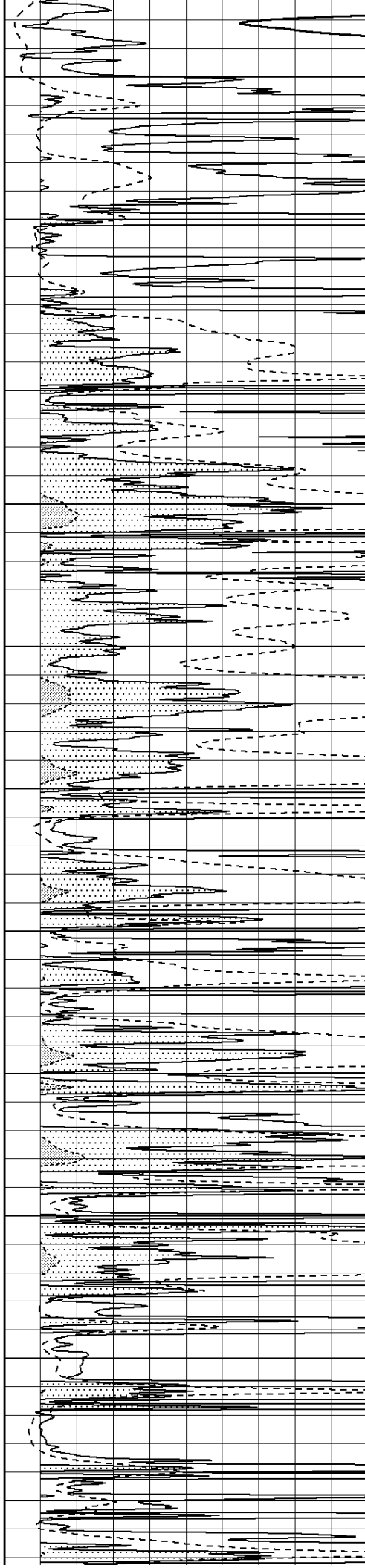
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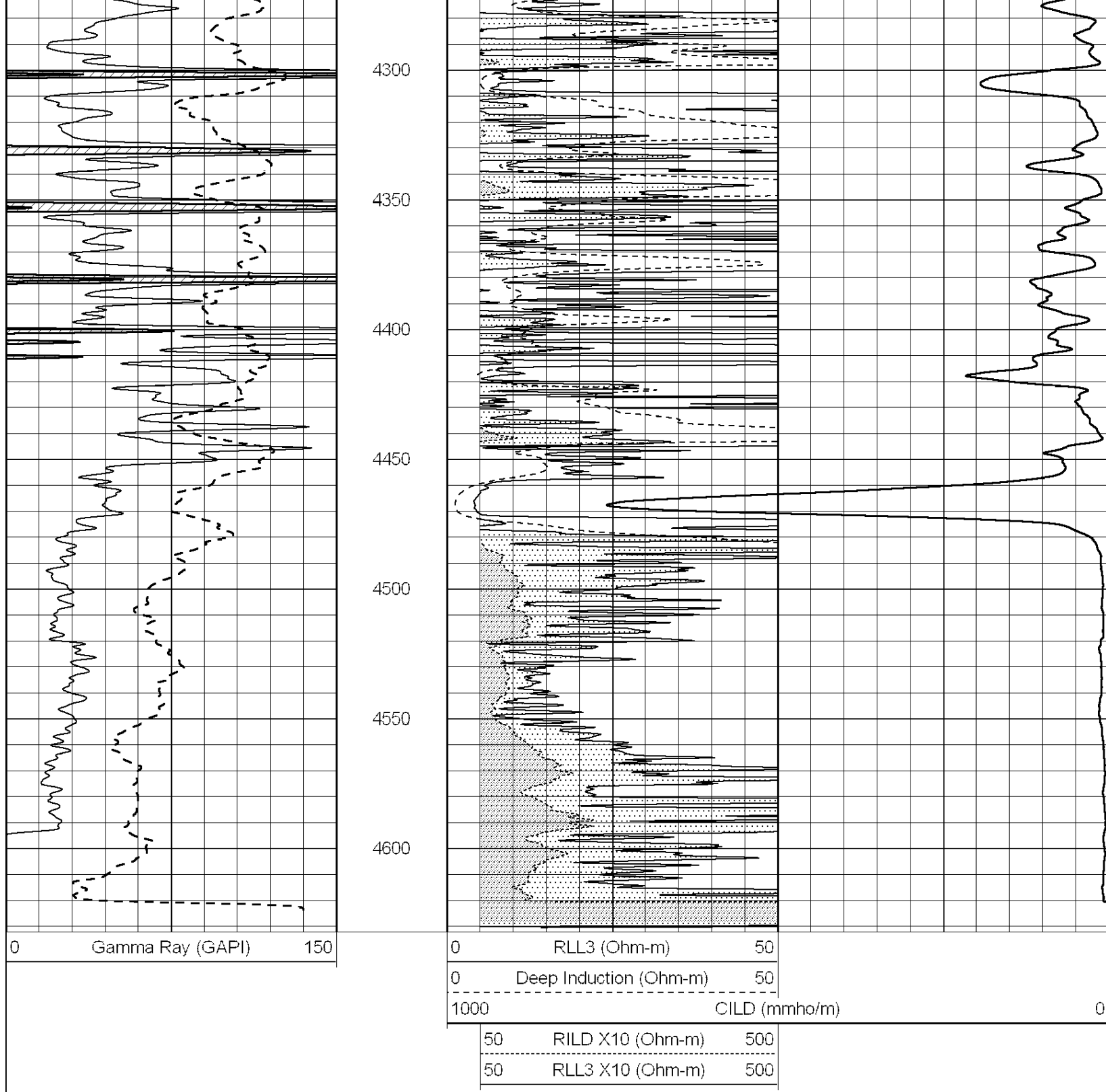
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3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250



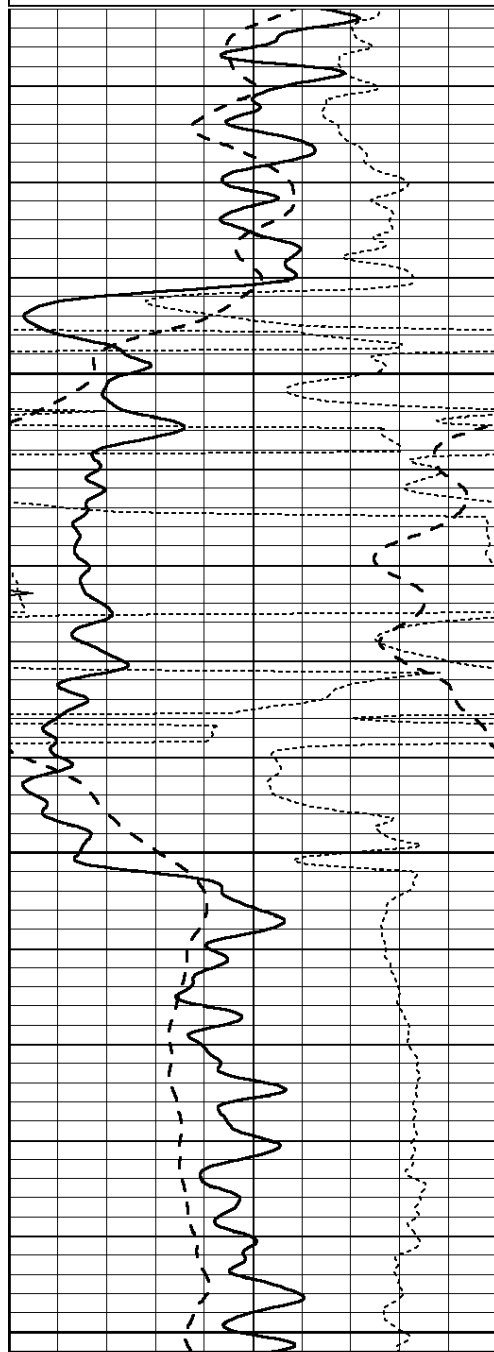


MAIN SECTION

Database File: 010188ddn.db
 Dataset Pathname: pass8.2
 Presentation Format: _dil
 Dataset Creation: Wed May 08 02:08:59 2013
 Charted by: Depth in Feet scaled 1:240

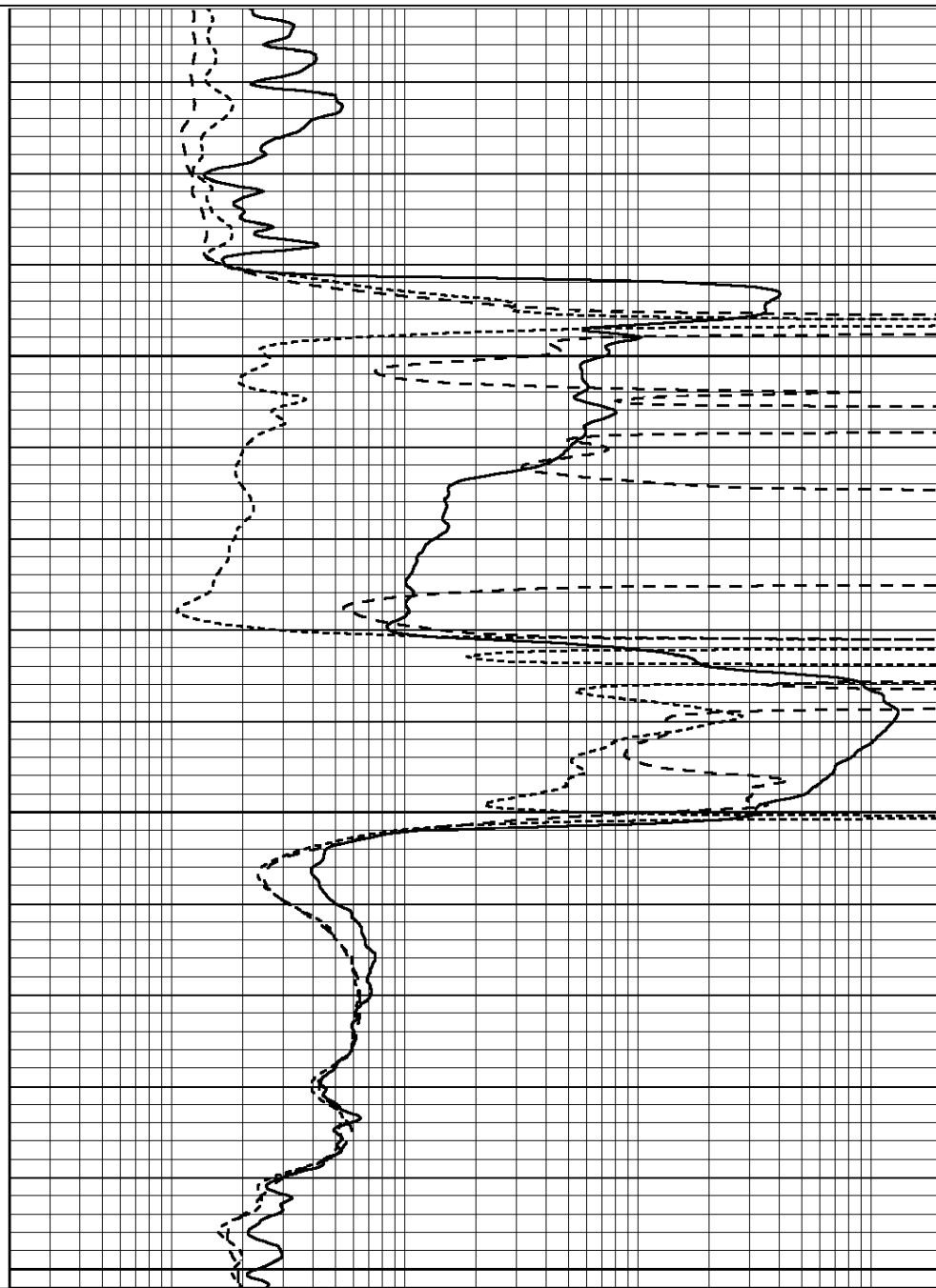


-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20



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

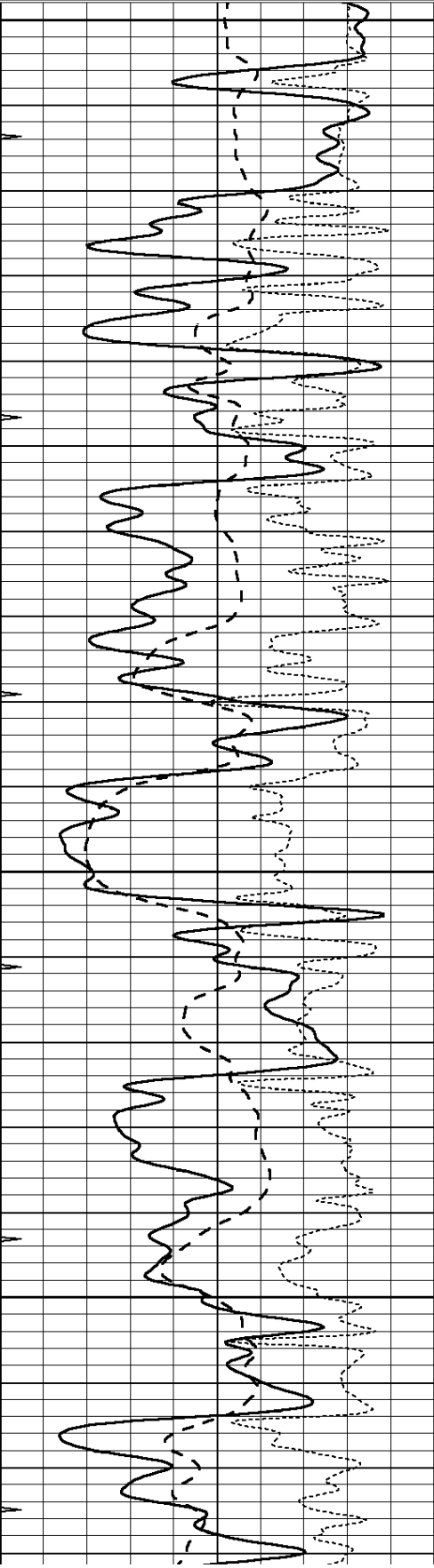
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



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

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

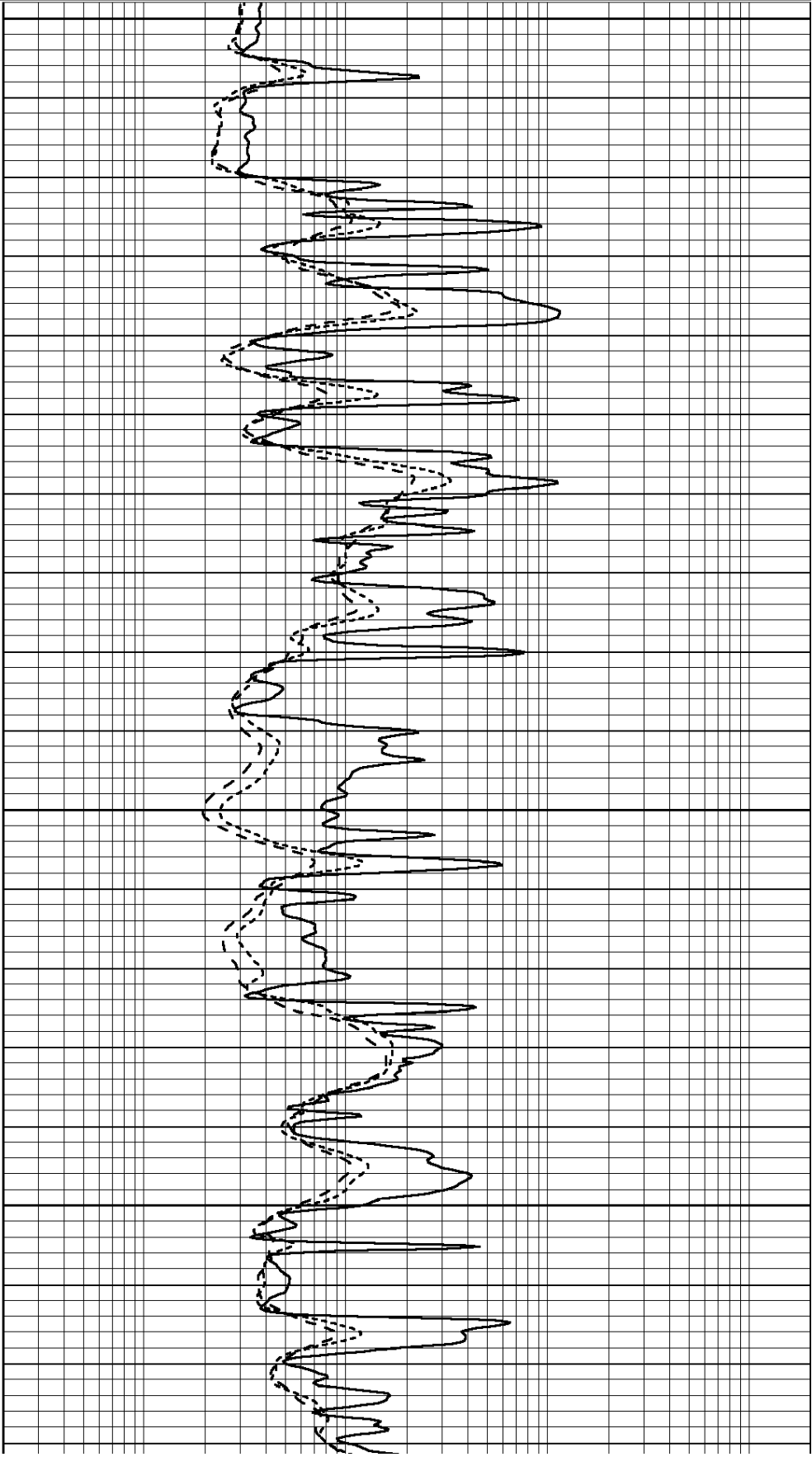


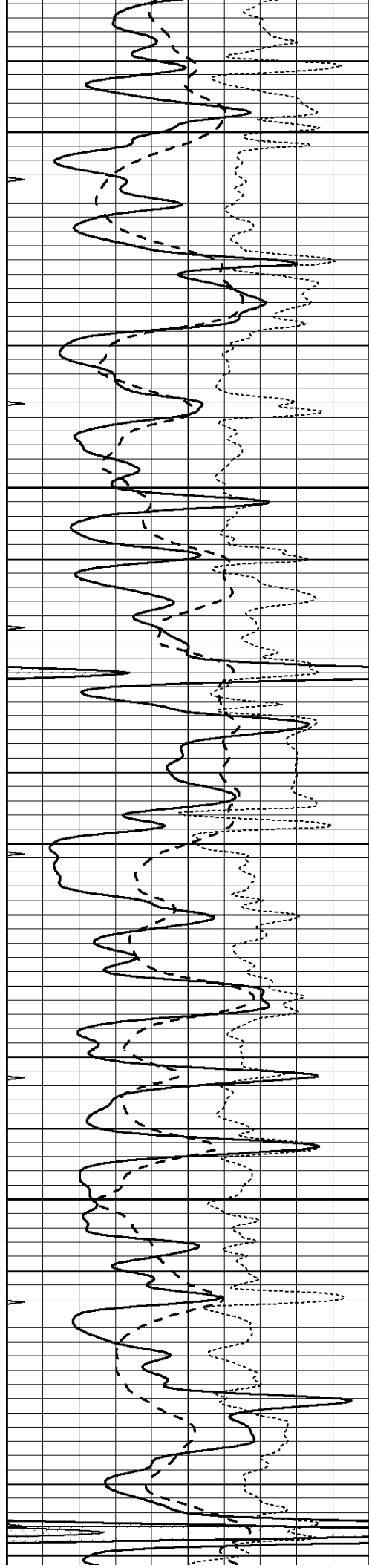
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3550





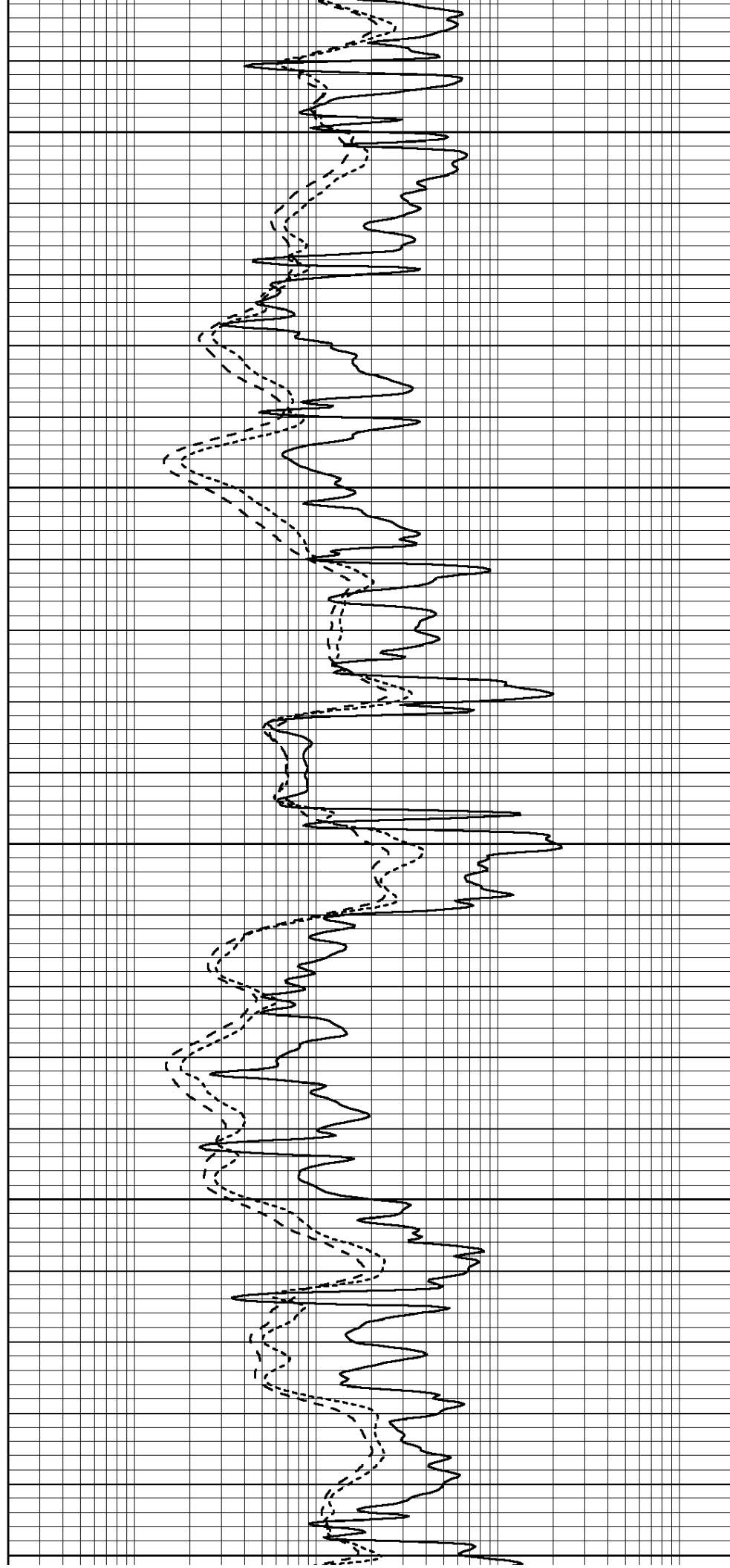
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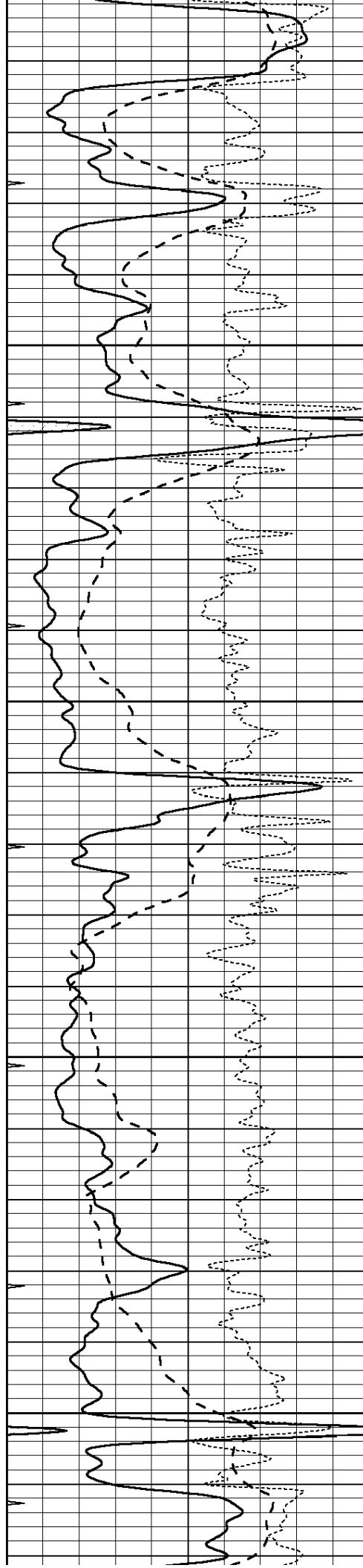
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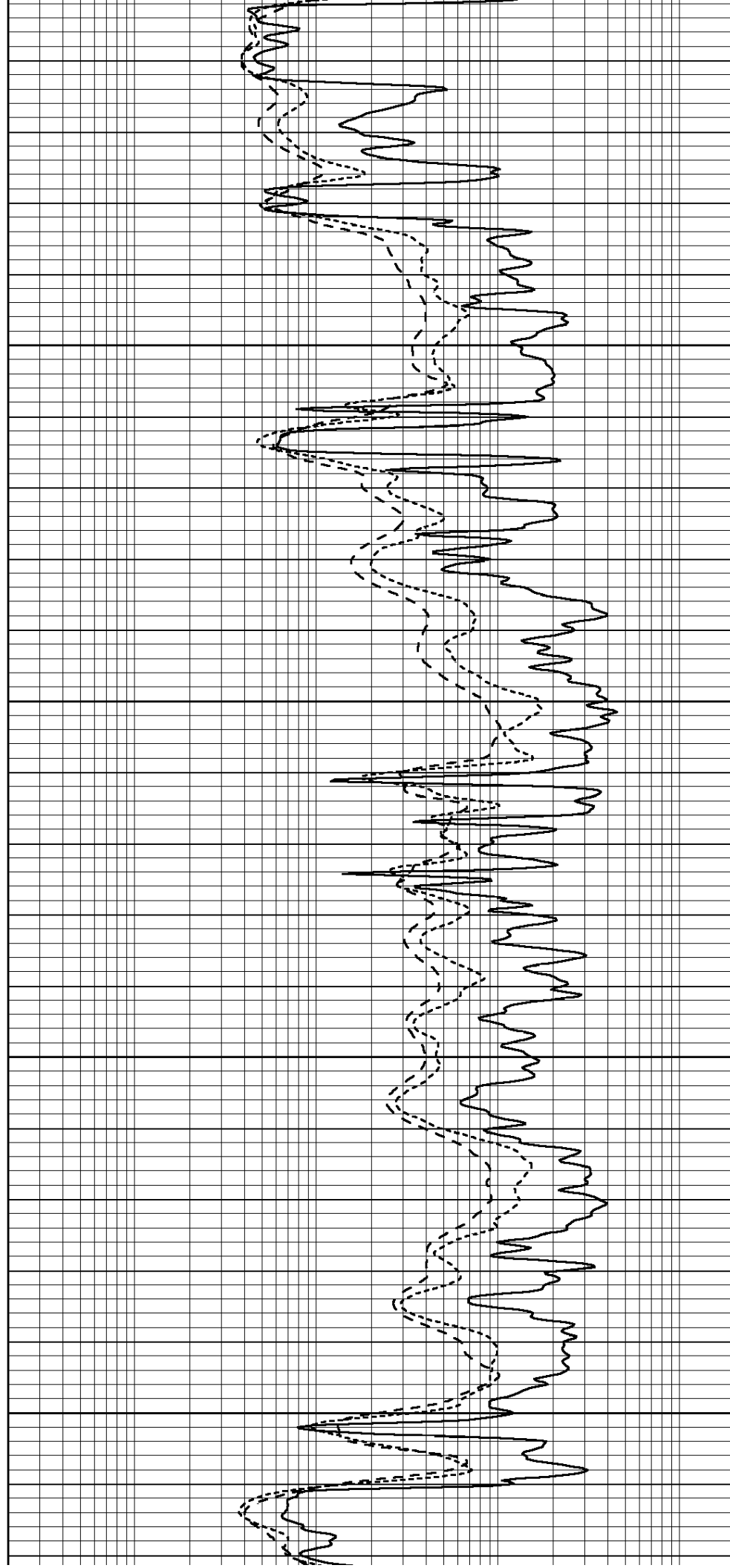


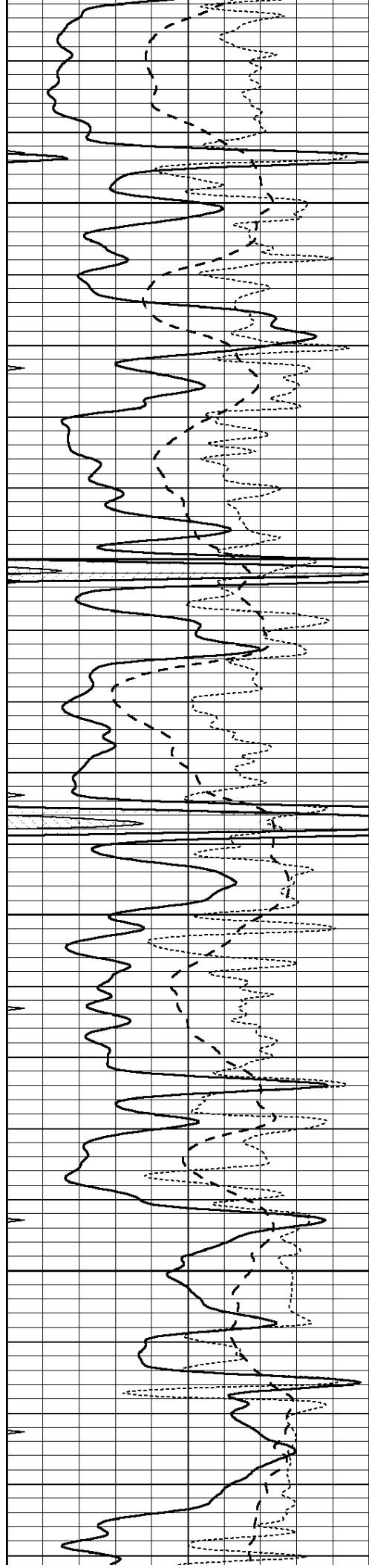
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3900

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4000



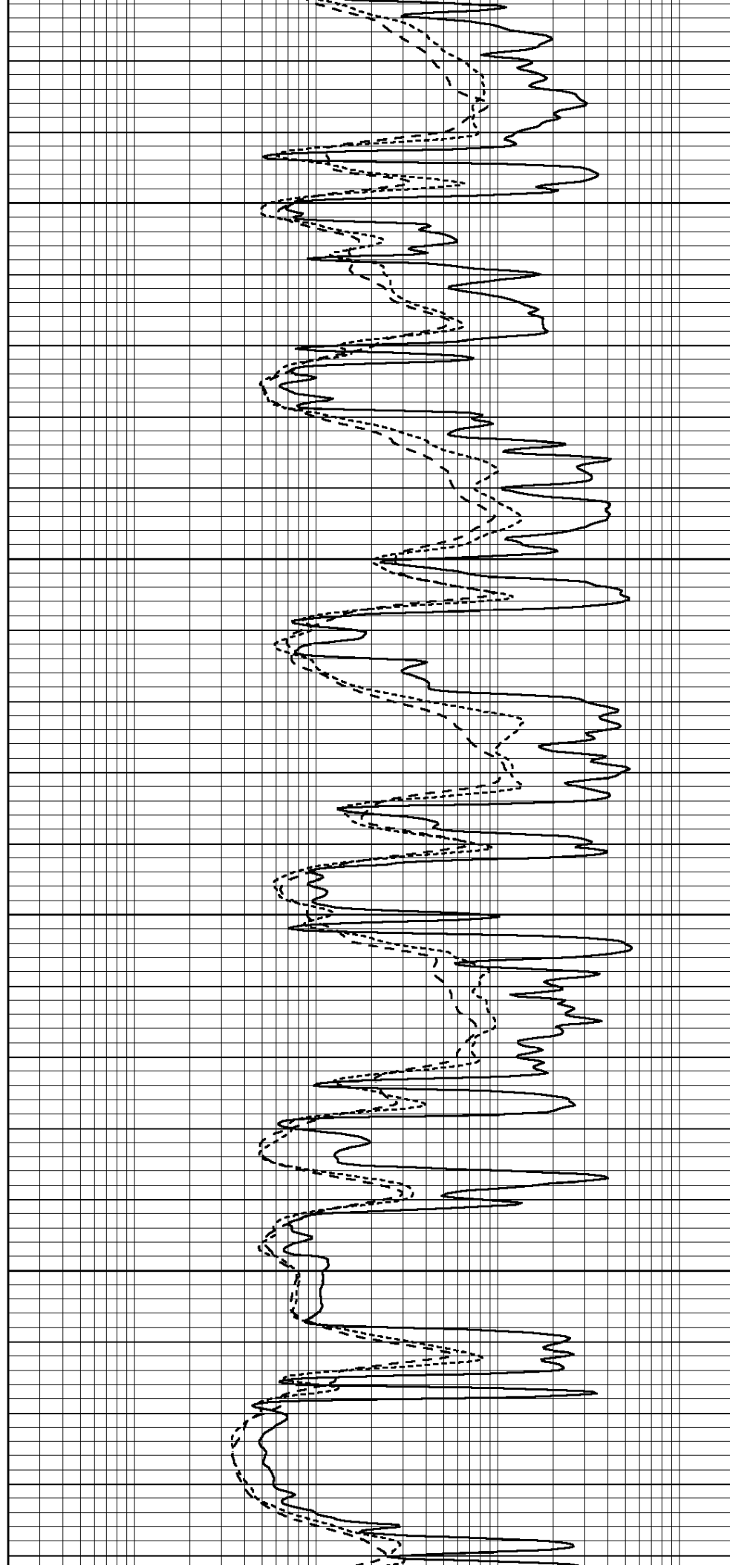


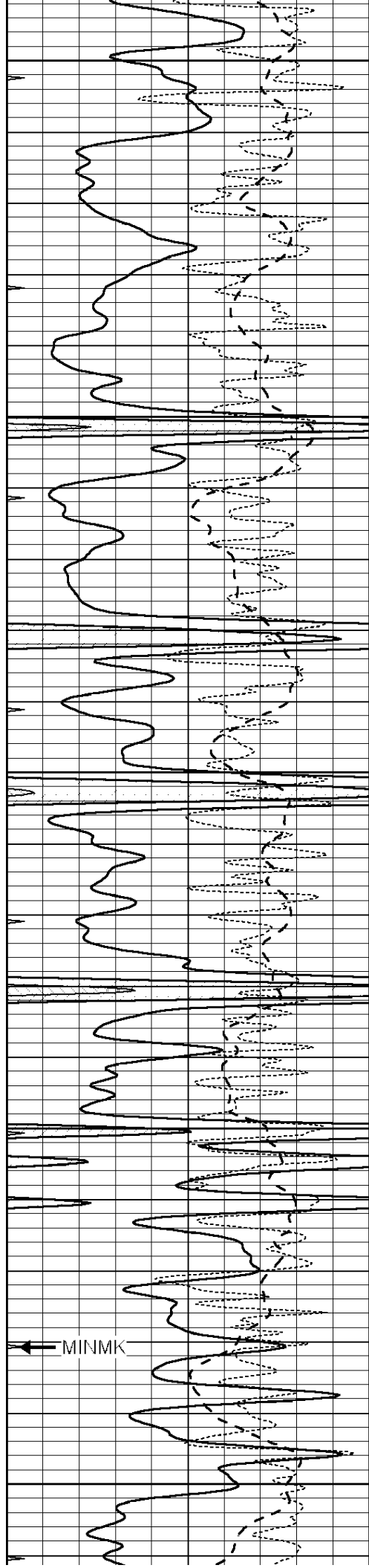
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4100

4150

4200





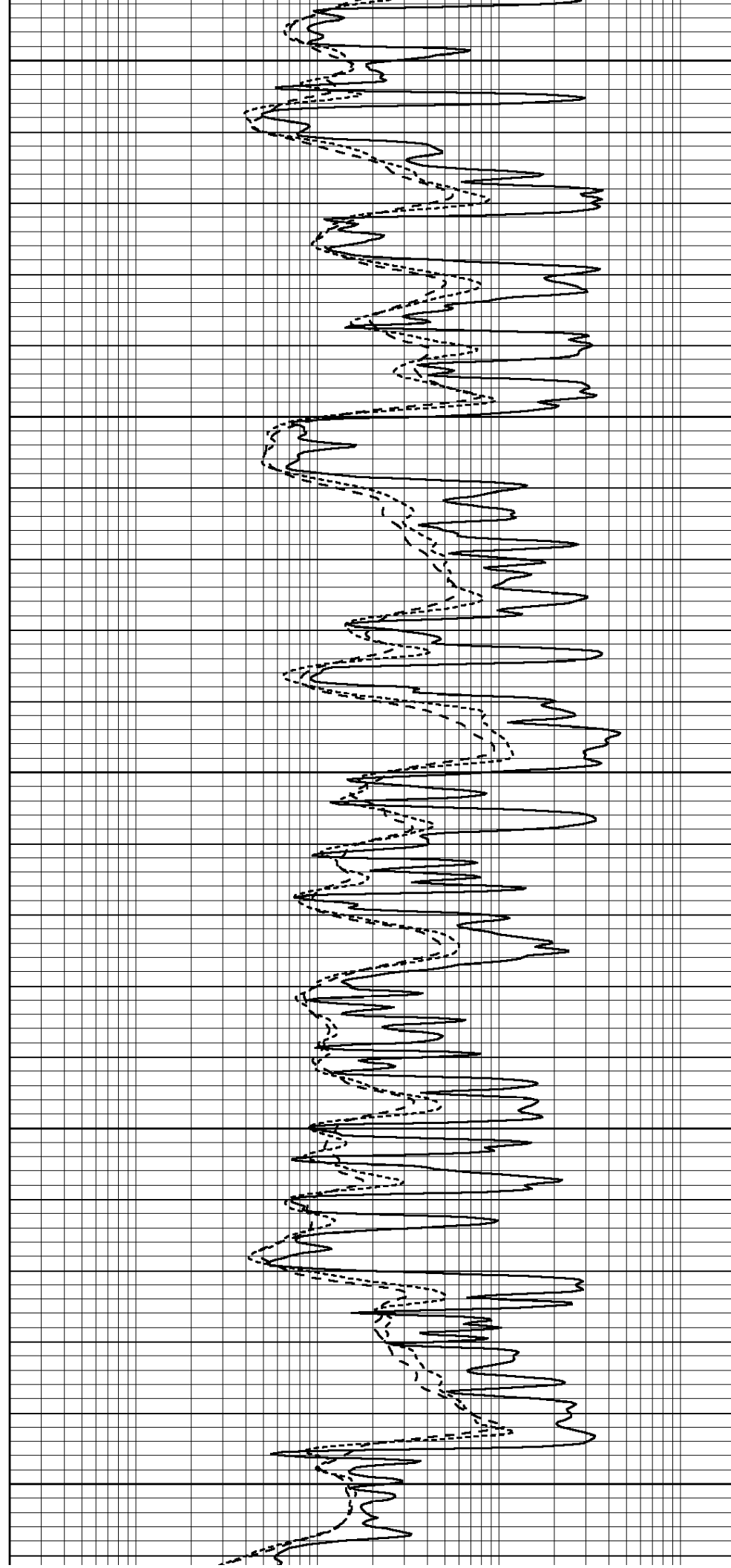
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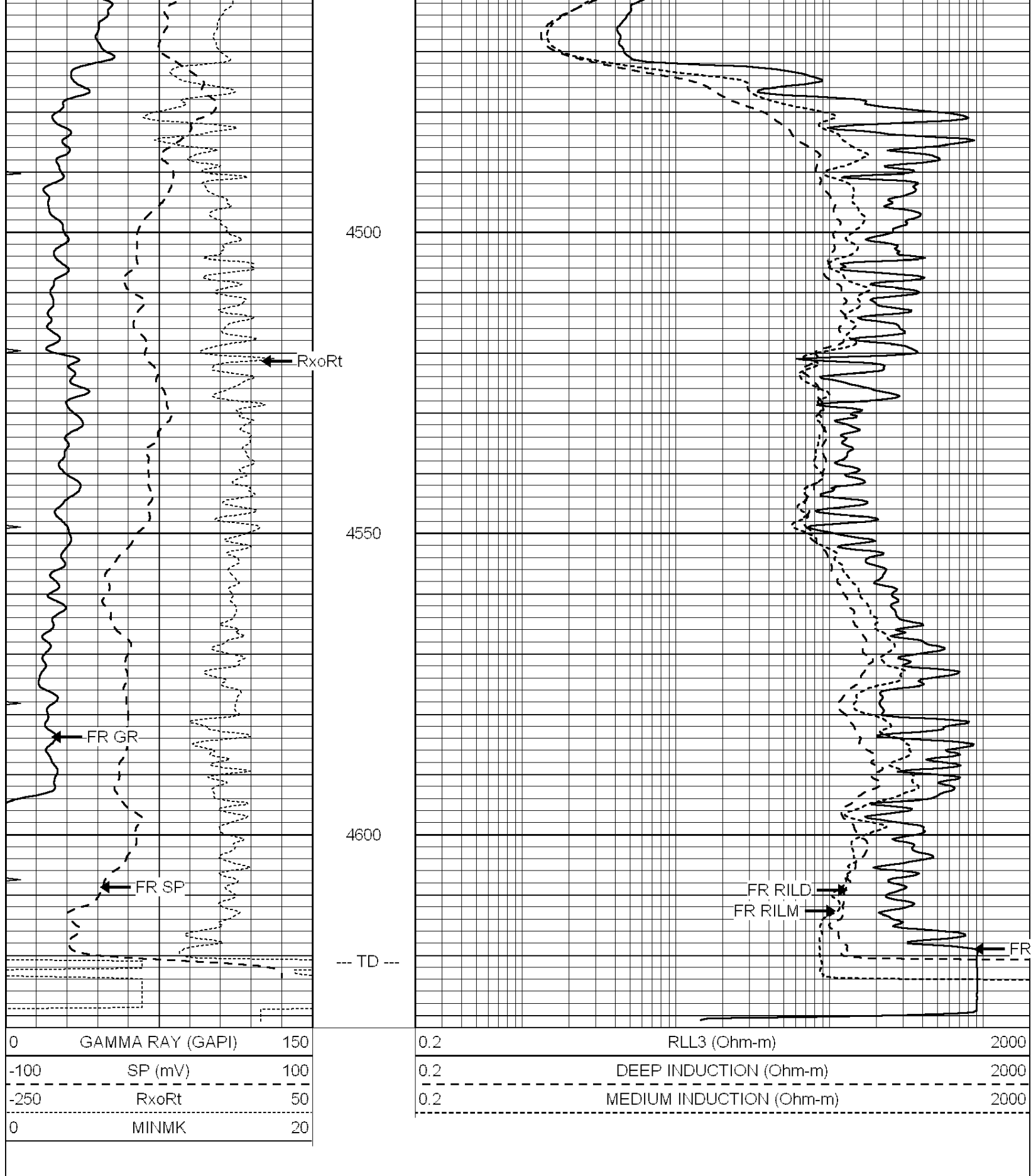
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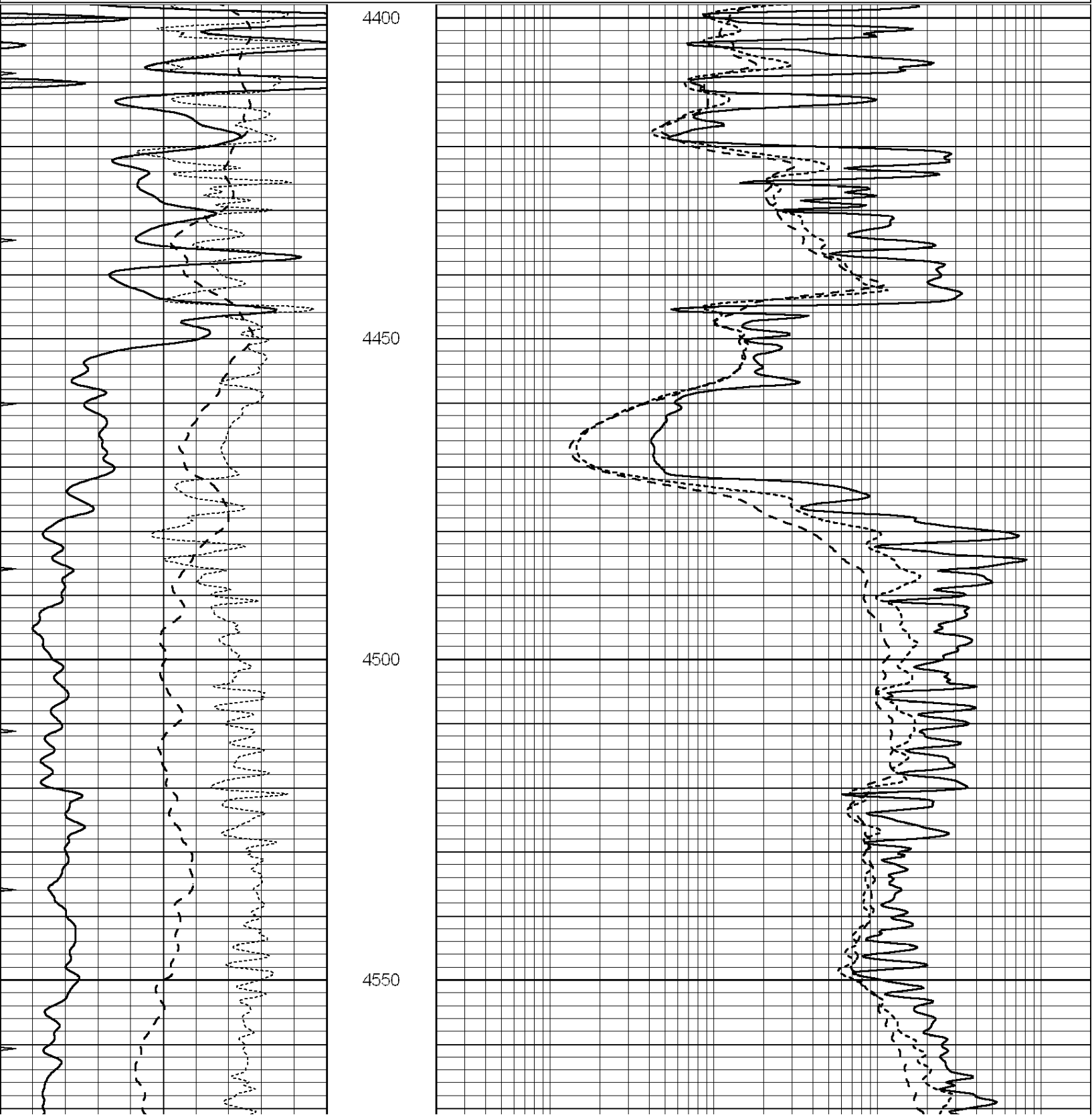


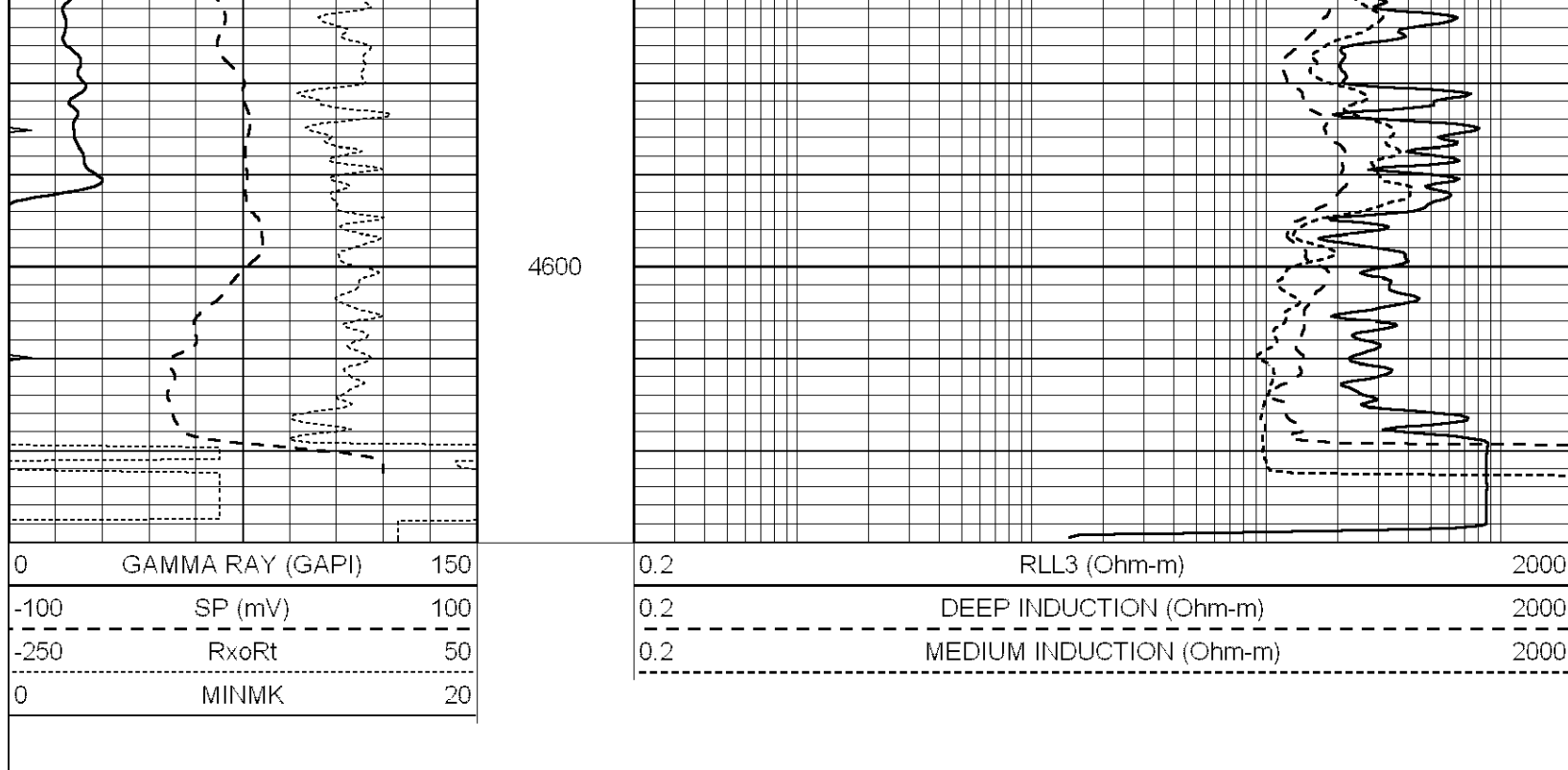


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REPEAT SECTION

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	MINMK	20			





Calibration Report

Database File: 010188ddn.db
 Dataset Pathname: pass8.2
 Dataset Creation: Wed May 08 02:08:59 2013

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Wed May 08 00:56:03 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	mmho/m	620.000	7.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	660.000	-37.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.041	0.642	V	0.000	400.000	mmho/m	664.874	-27.011
Medium	0.035	0.802	V	0.000	464.000	mmho/m	604.936	-21.367

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 Jun 07 18:32:30 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	1.00	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 May 08 00:45:03 2013					
Calibrator Value:			1.0	GAPI				
Background Reading:			0.0	cps				
Calibrator Reading:			1.0	cps				
Sensitivity:			0.9500	GAPI/cps				