



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	RITCHIE EXPLORATION, INC.	
Well	PHILLIPS-OTTLEY NO 1	
Field	WILDCAT	
County	GOVE	State KANSAS
Location:	API # : 15-063-22056-00-00	
	SE - NE - SE 1645' FSL & 165' FEL	Other Services CNL/CDL
	SEC 18 TWP 13S RGE 31W	Elevation
Permanent Datum	GROUND LEVEL	Elevation 2935
Log Measured From	KELLY BUSHING 8' A.G.L.	D.F. 2941
Drilling Measured From	KELLY BUSHING	G.L. 2935
Date	11/29/2012	
Run Number	ONE	
Depth Driller	4725	
Depth Logger	4724	
Bottom Logged Interval	4722	
Top Log Interval	0	
Casing Driller	8 5/8" @ 222'	
Casing Logger	220	
Bit Size	7 7/8	
Type Fluid in Hole	CHEMICAL MUD	
Density / Viscosity	9.3/65	CHLORIDES 4,000 PPM
pH / Fluid Loss	10.5/5.6	
Source of Sample	FLOWLINE	
Rim @ Meas. Temp	.85@86F	
Rinf @ Meas. Temp	.68@86F	
Rmc @ Meas. Temp	1.02@86F	
Source of Rinf / Rmc	MEASURED	
Rim @ BHT	.60@122F	
Time Circulation Stopped	2 HOURS	
Time Logger on Bottom	2:30 P.M.	
Maximum Recorded Temperature	122	
Equipment Number	680	
Location	HAYS, KS.	
Recorded By	MIKE GARRISON	
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.

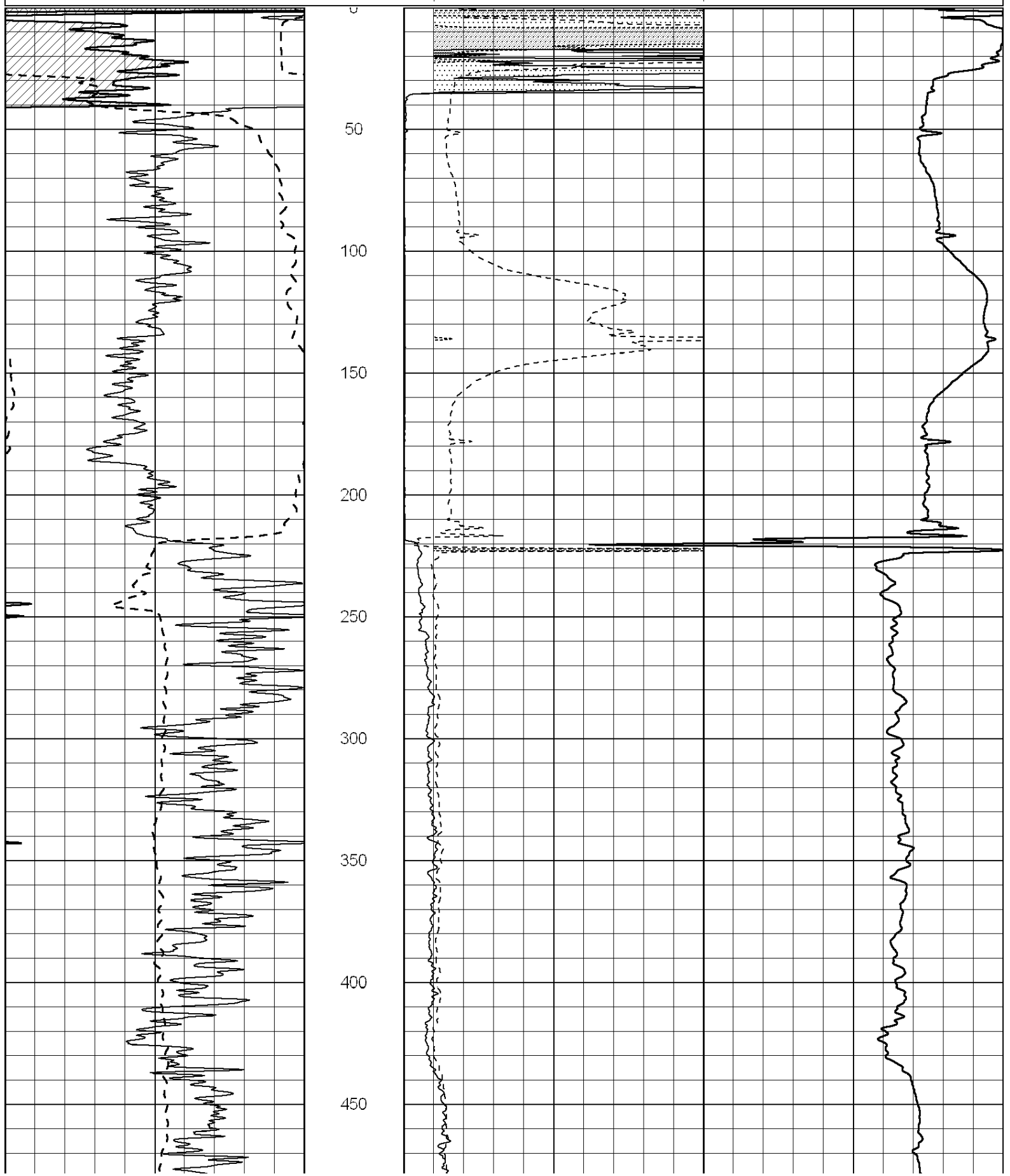
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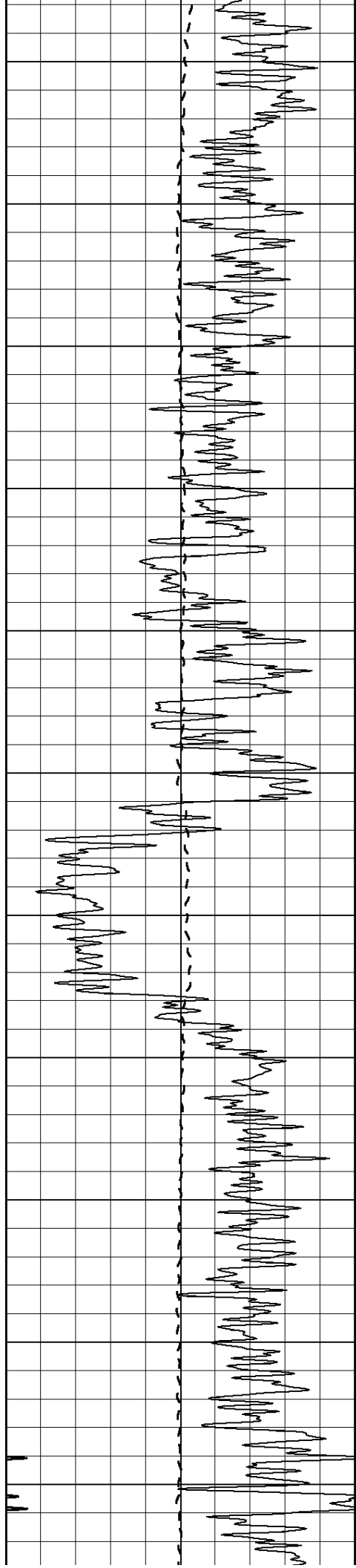
THANK YOU FOR USING NABORS COMPLETION & PRODUCTION SVCS. (785) 628-6395

DIRECTIONS:
OAKLEY, KS 13 SOUTH, 3 EAST, 1/2 SOUTH, WEST INTO

Database File: 40010142.db
Dataset Pathname: pass3.1
Presentation Format: _dil2
Dataset Creation: Thu Nov 29 16:21:10 2012 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

Charted by: _____ Depth in Feet scaled 1:600					
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





500

550

600

650

700

750

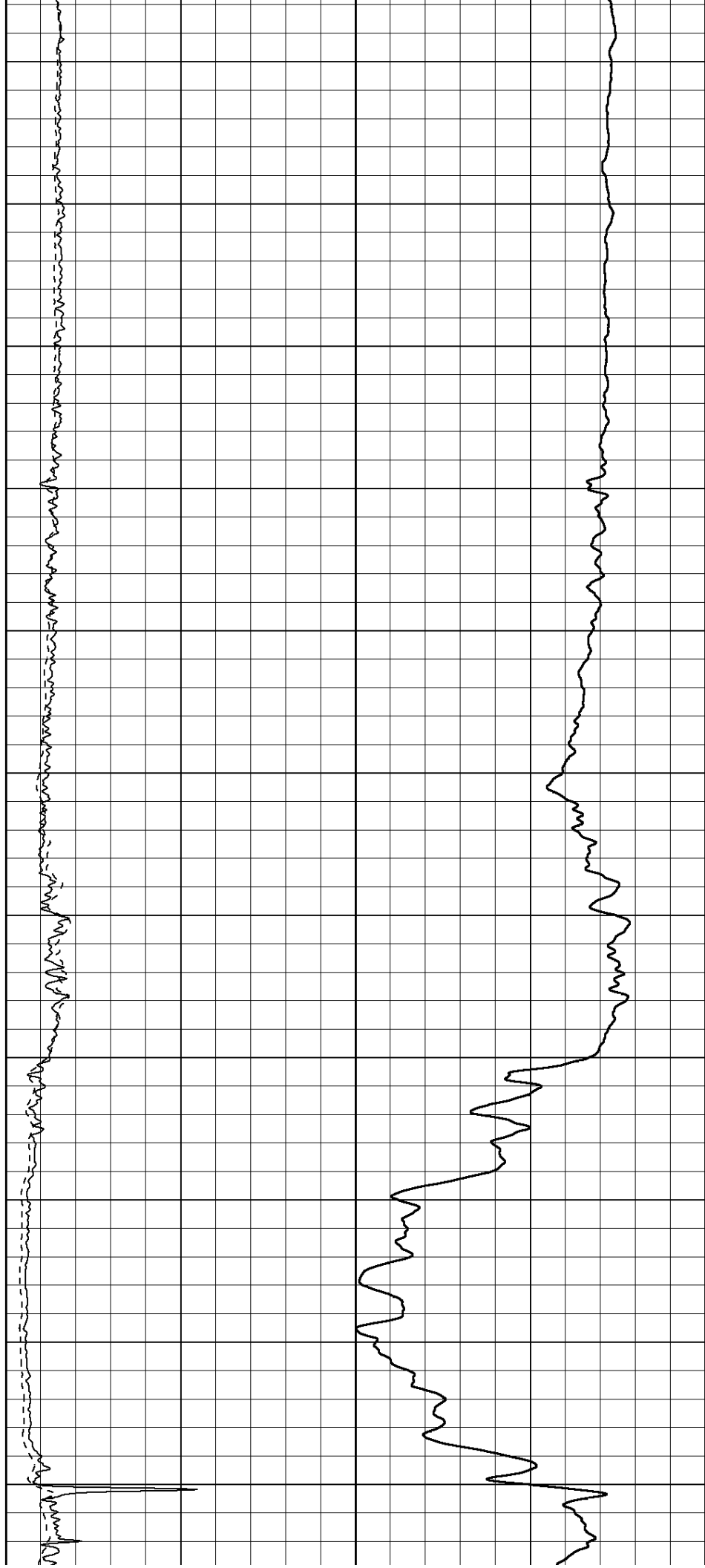
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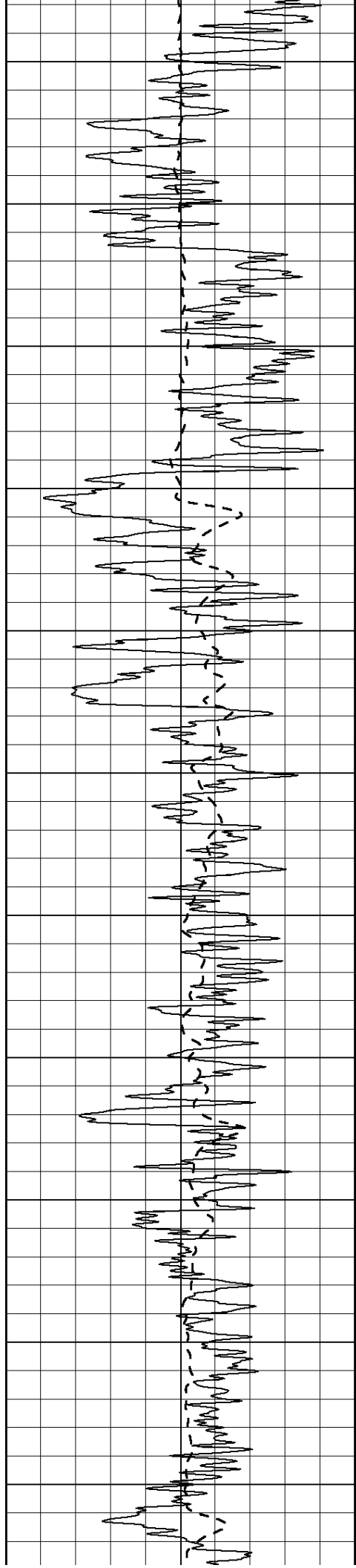
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900

950

1000





1050

1100

1150

1200

1250

1300

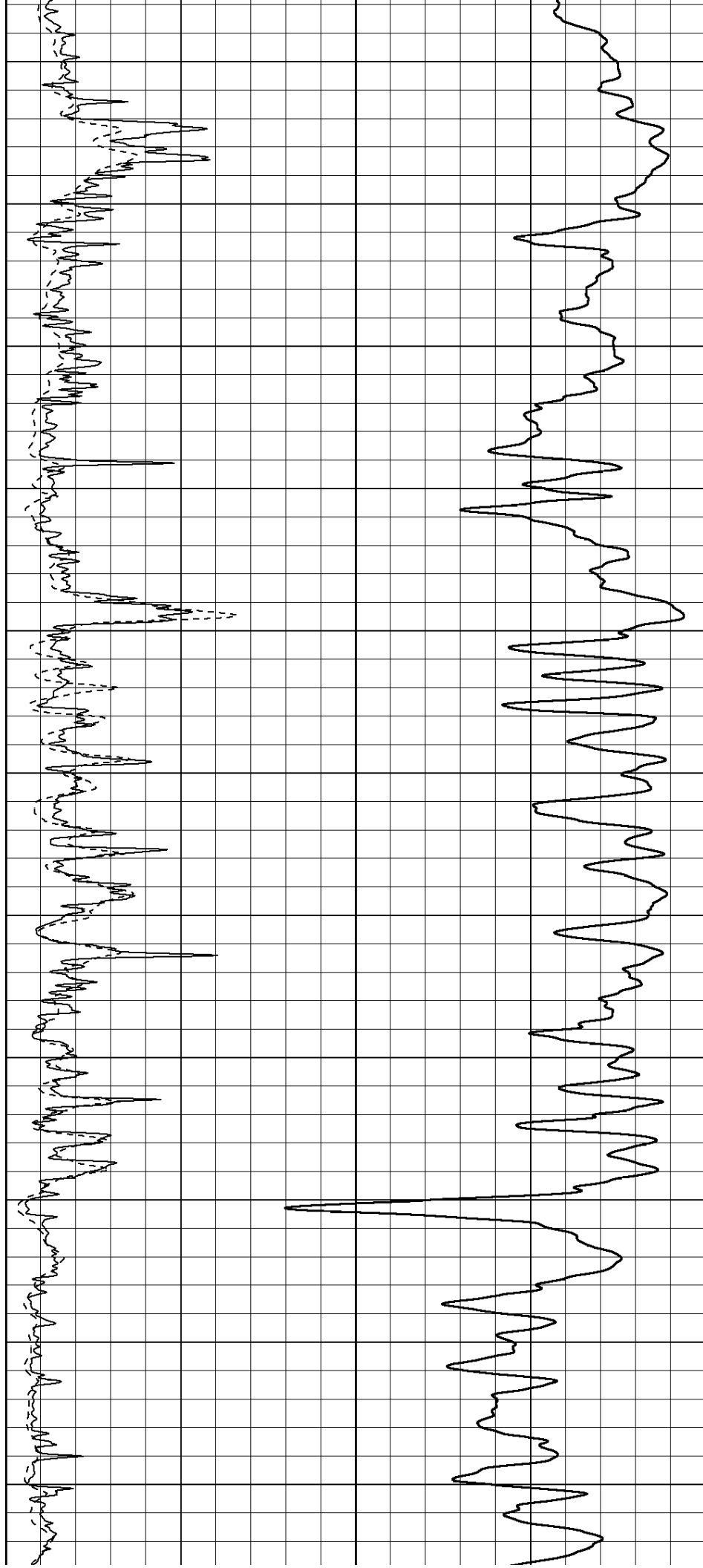
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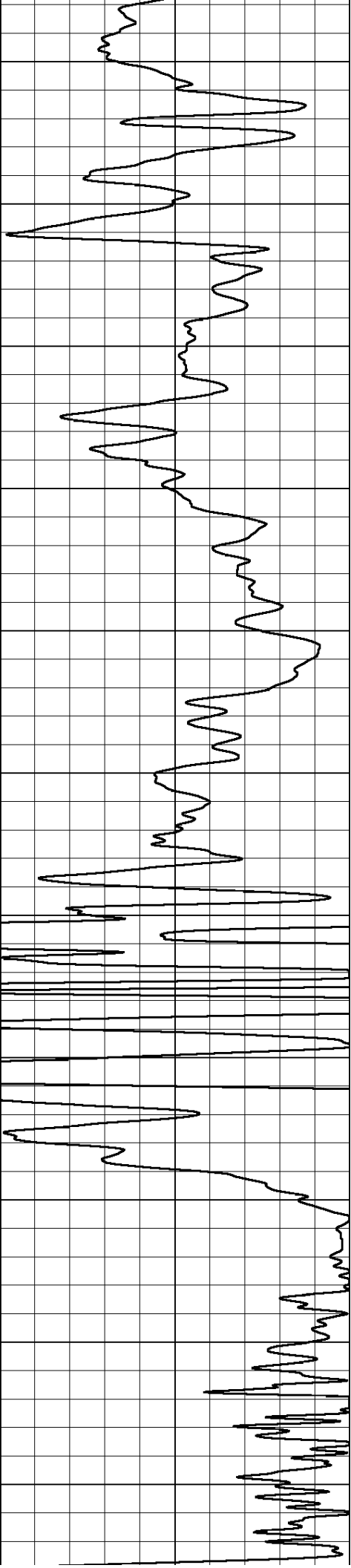
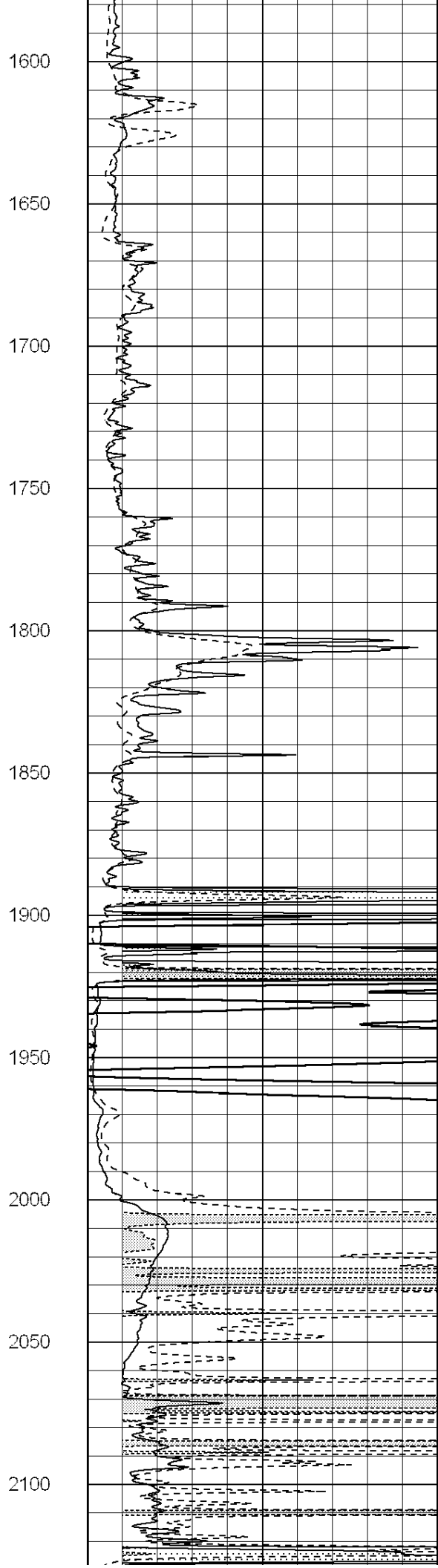
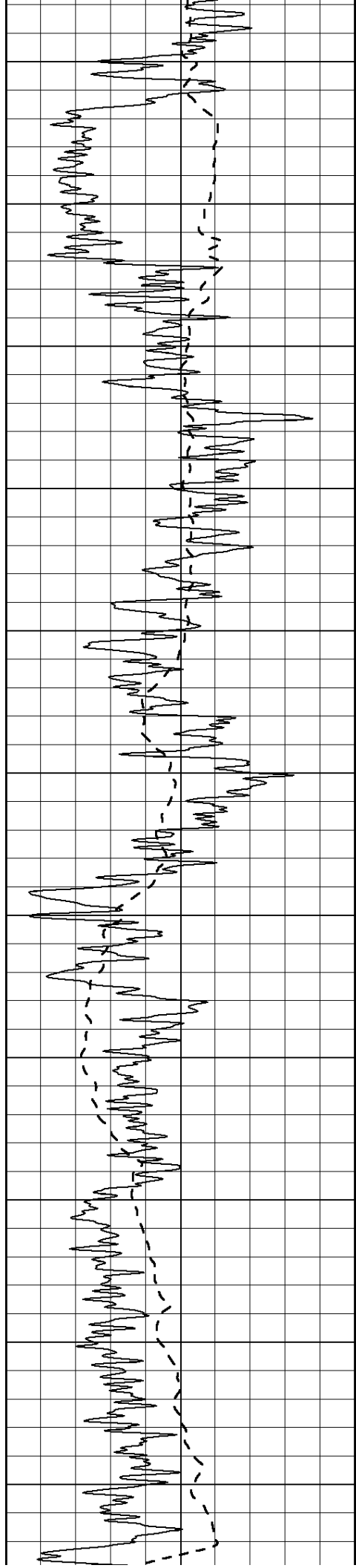
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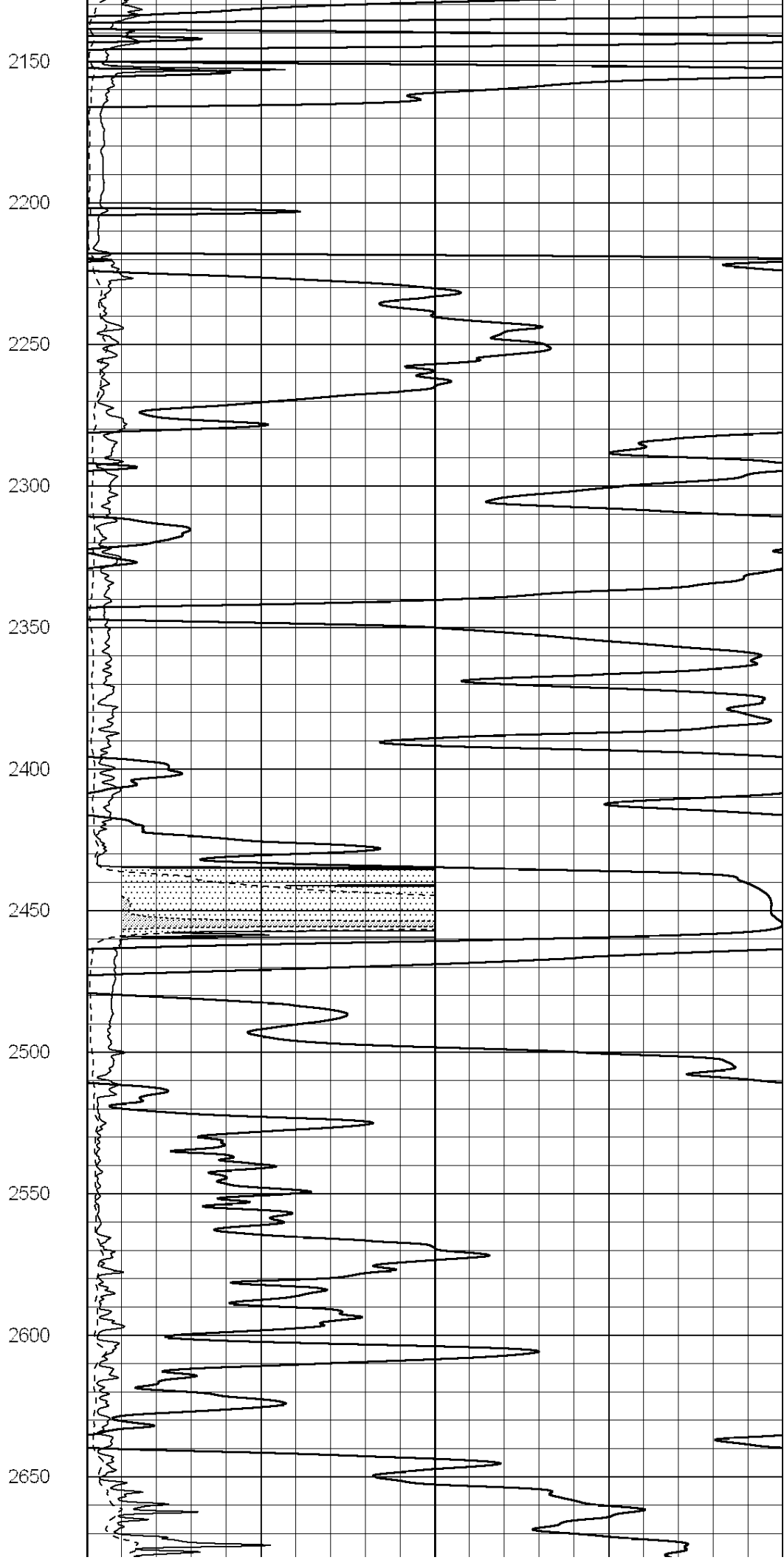
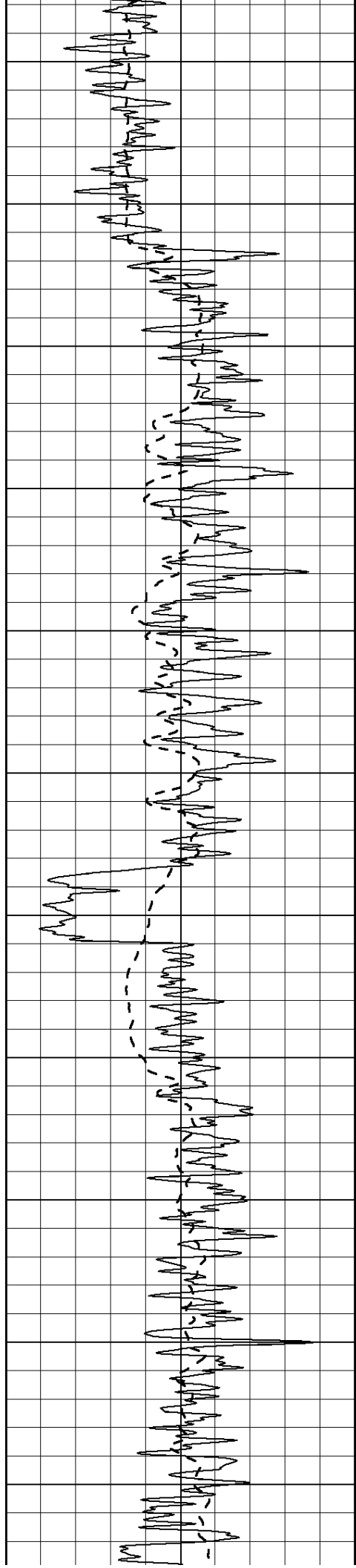
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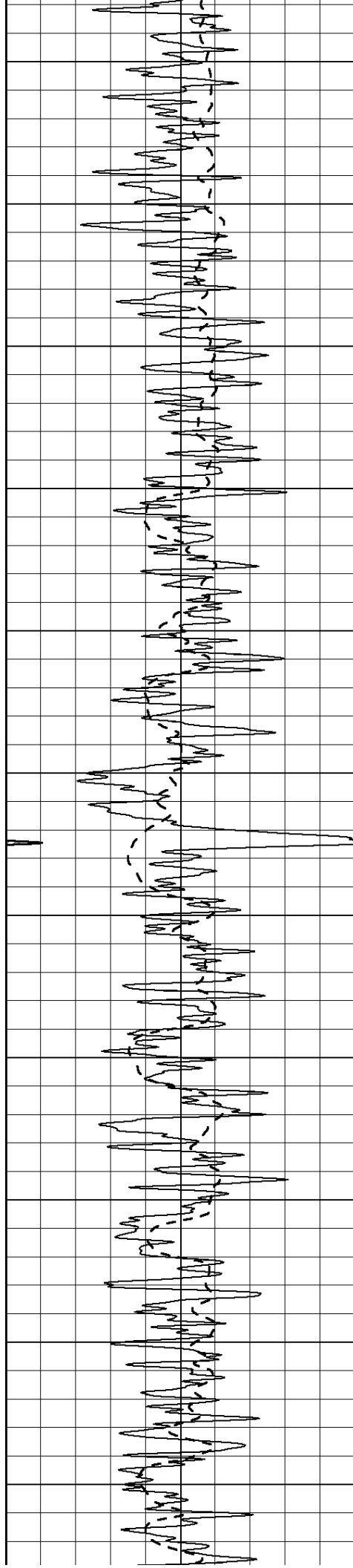
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1550









2700

2750

2800

2850

2900

2950

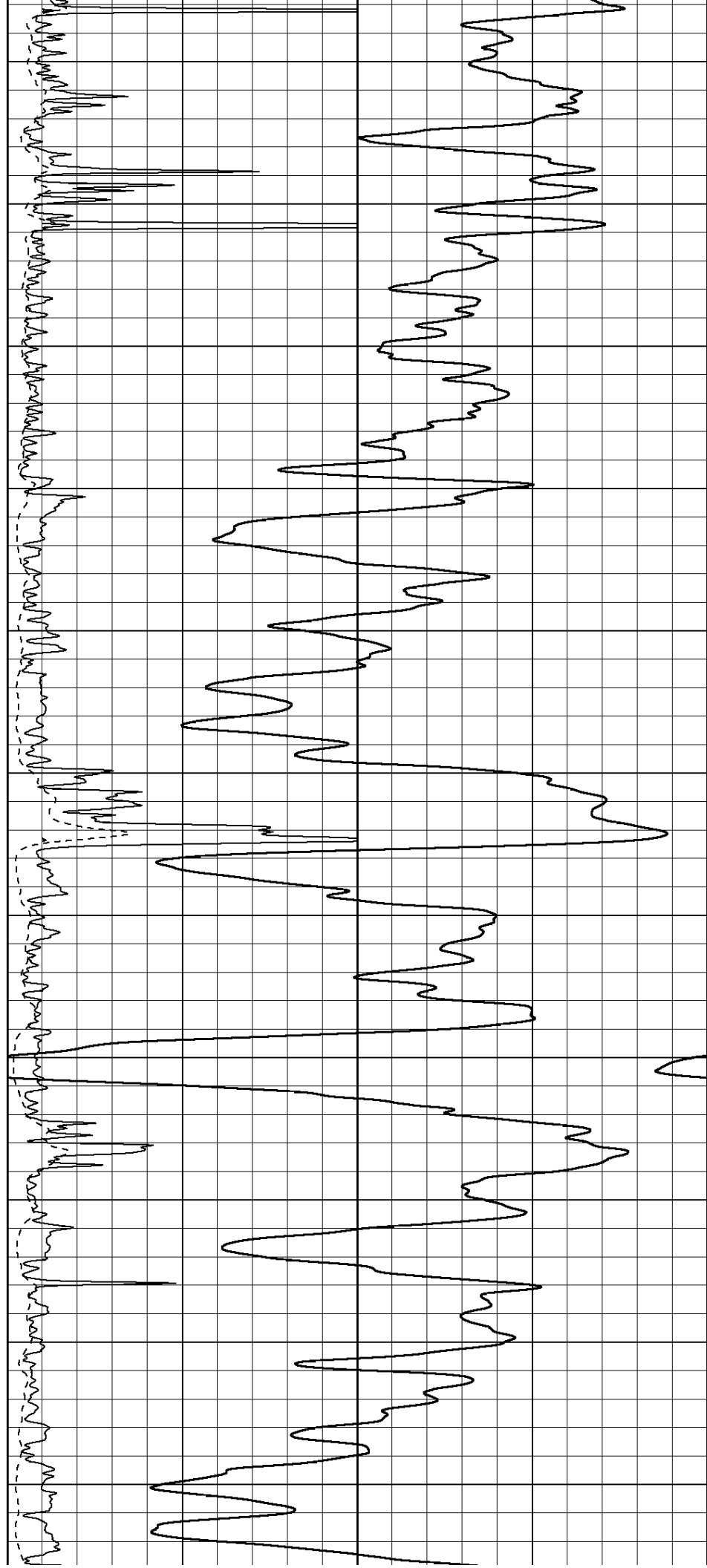
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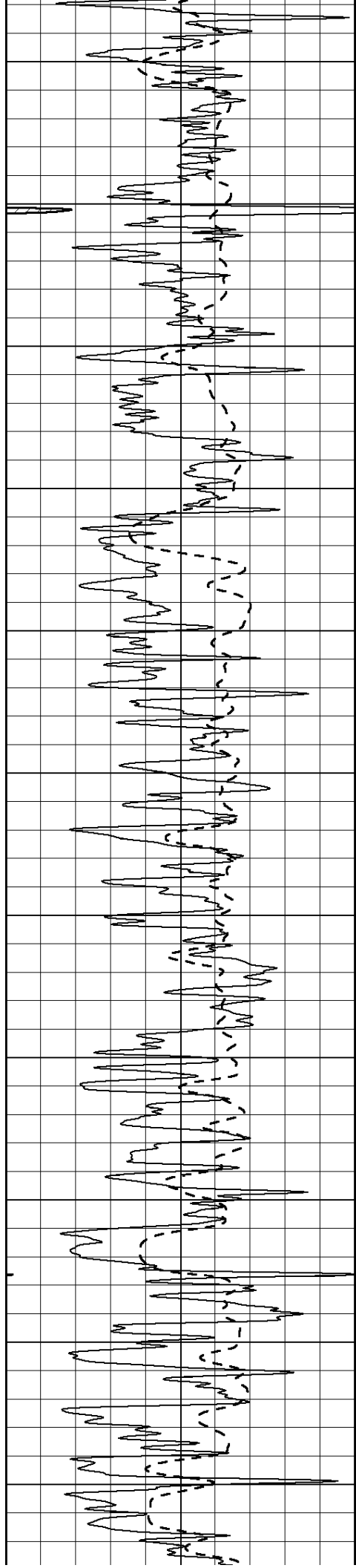
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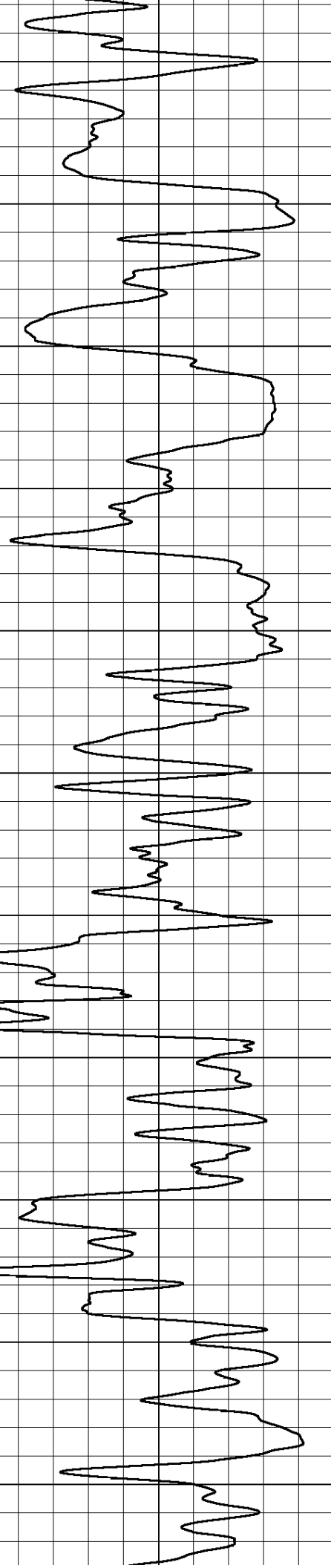
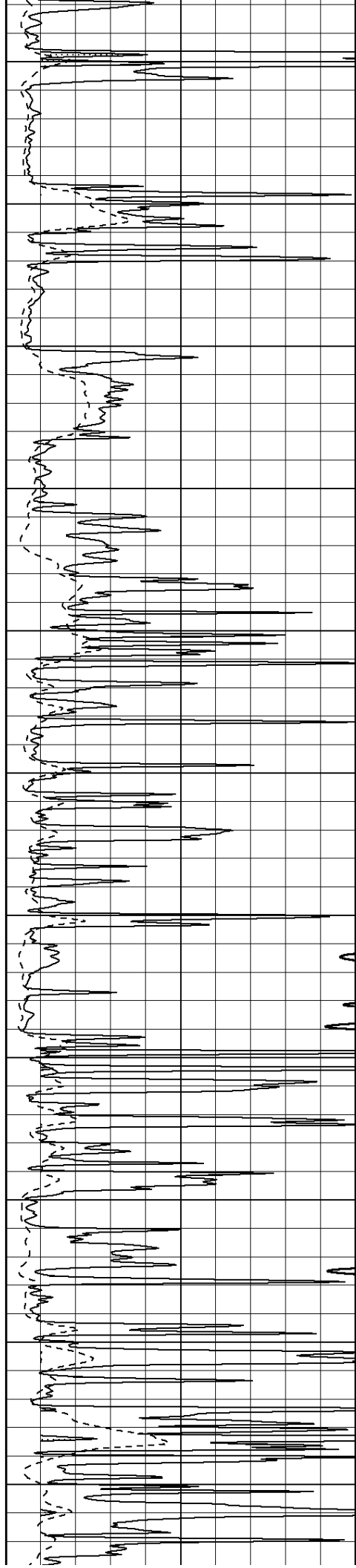
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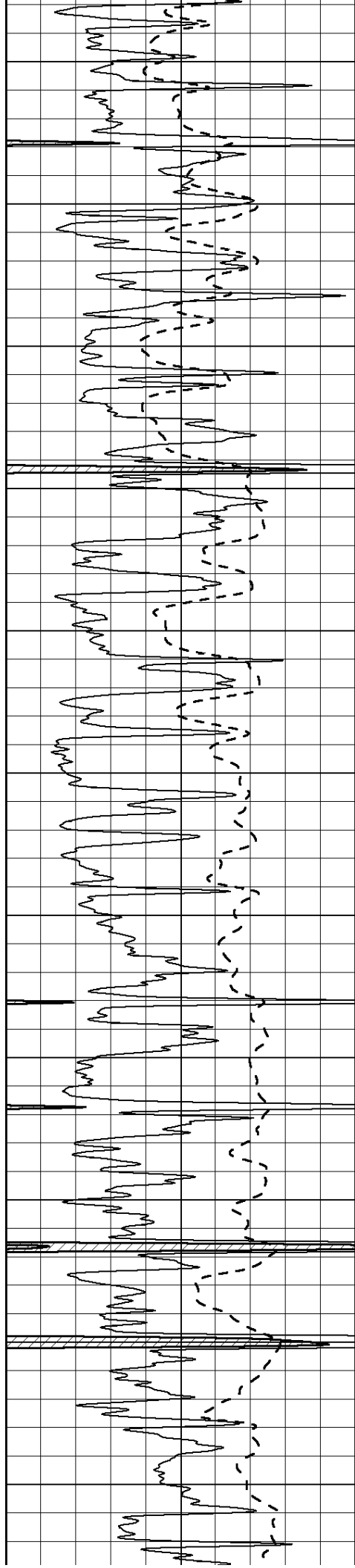
3200





3250
3300
3350
3400
3450
3500
3550
3600
3650
3700
3750





3800

3850

3900

3950

4000

4050

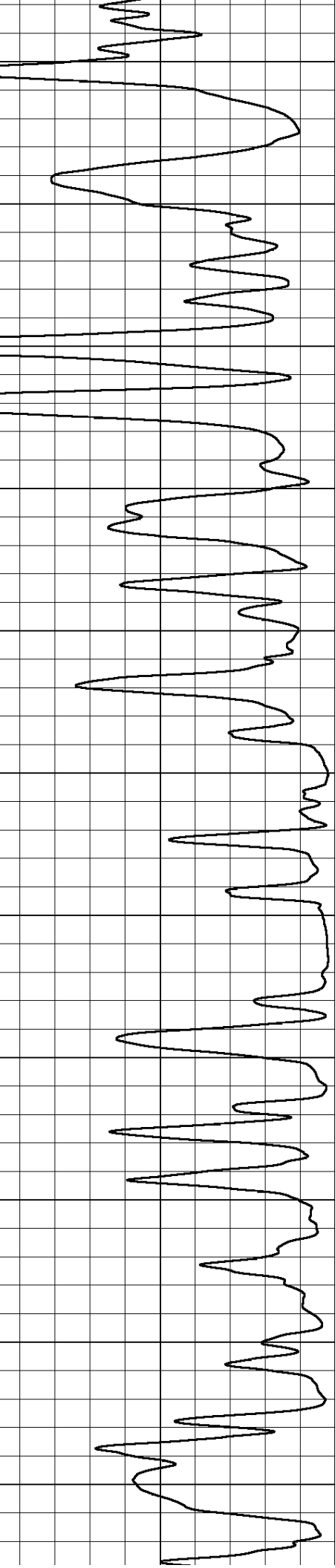
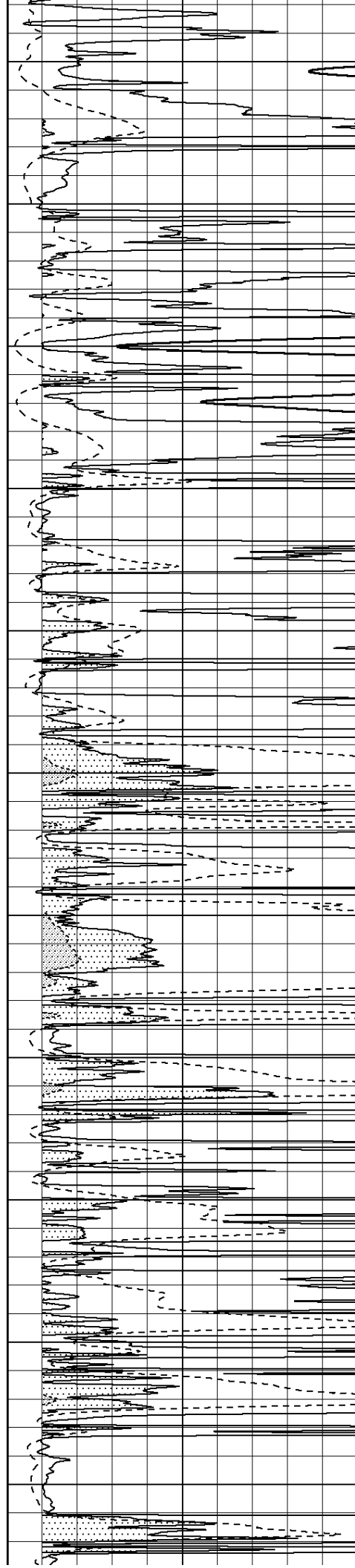
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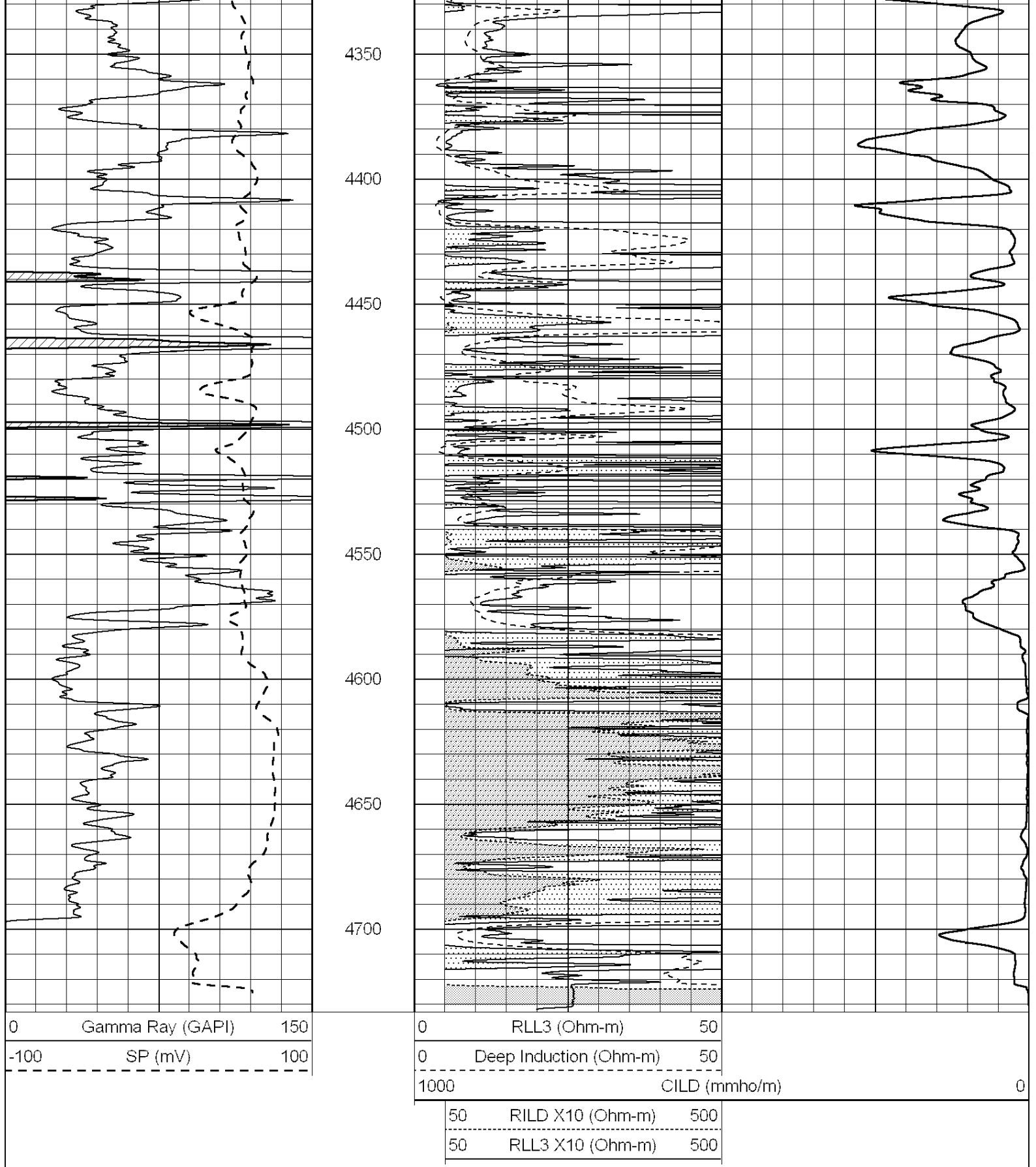
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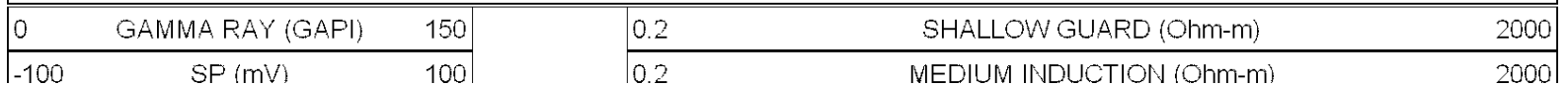
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4300



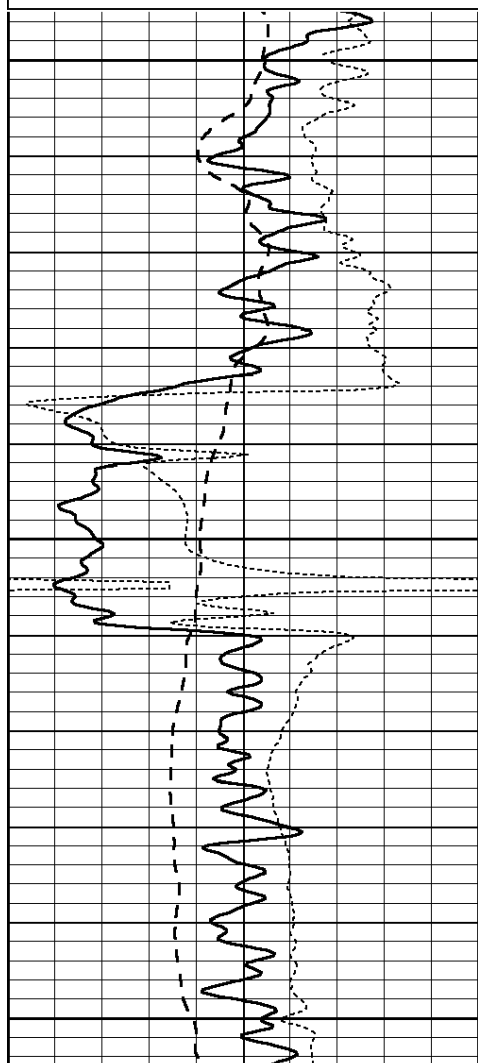


Database File: 40010142.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Thu Nov 29 16:21:10 2012 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240



-250	Rxo/Rt	50
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0.2	DEEP INDUCTION (Ohm-m)	2000
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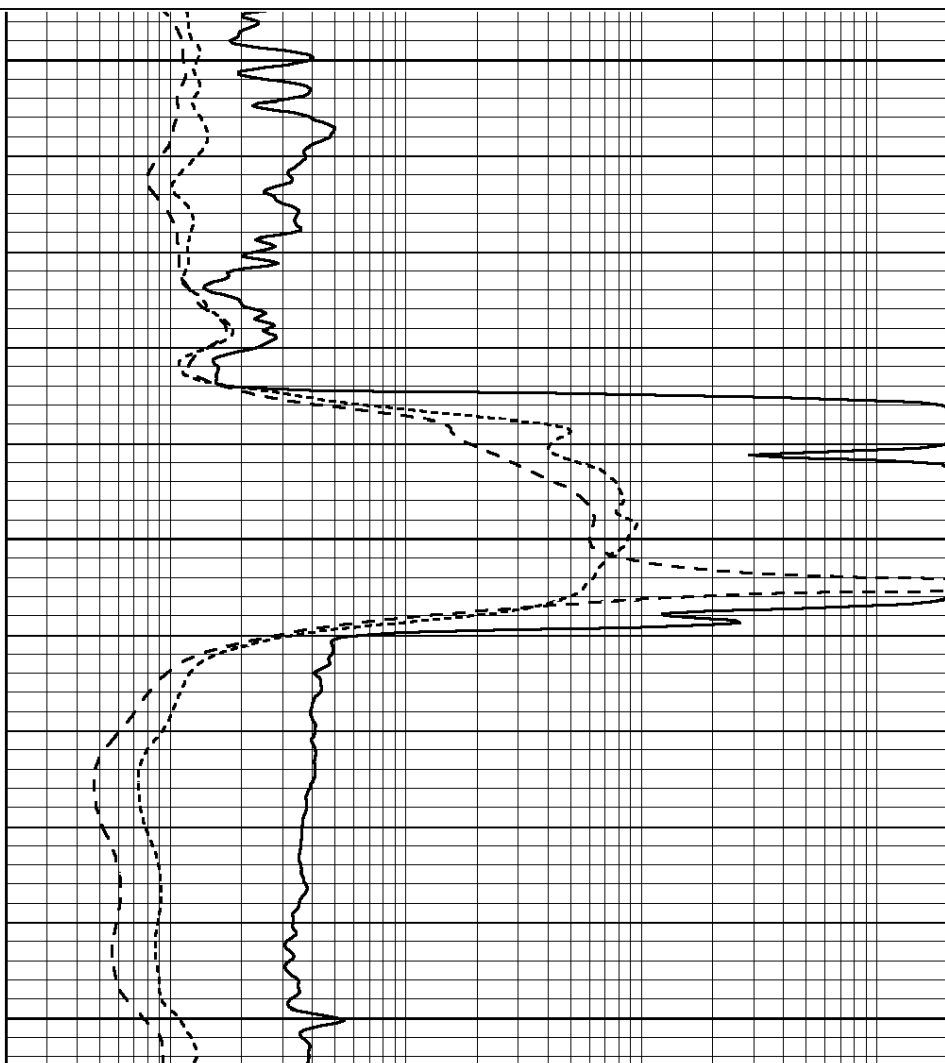


2400

2450

2500

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

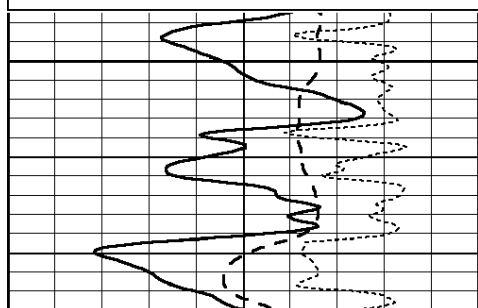


0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

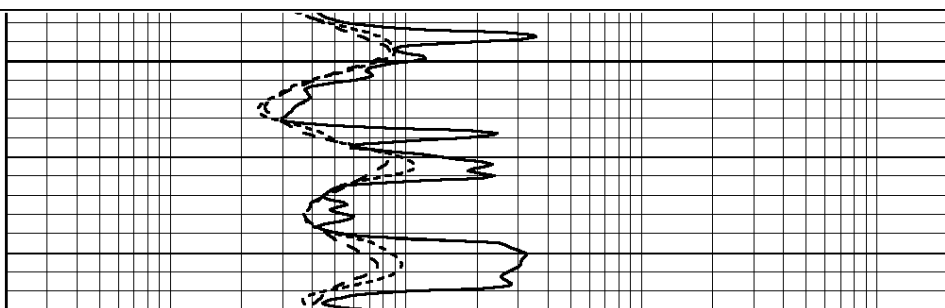
Database File: 40010142.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Thu Nov 29 16:21:10 2012 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

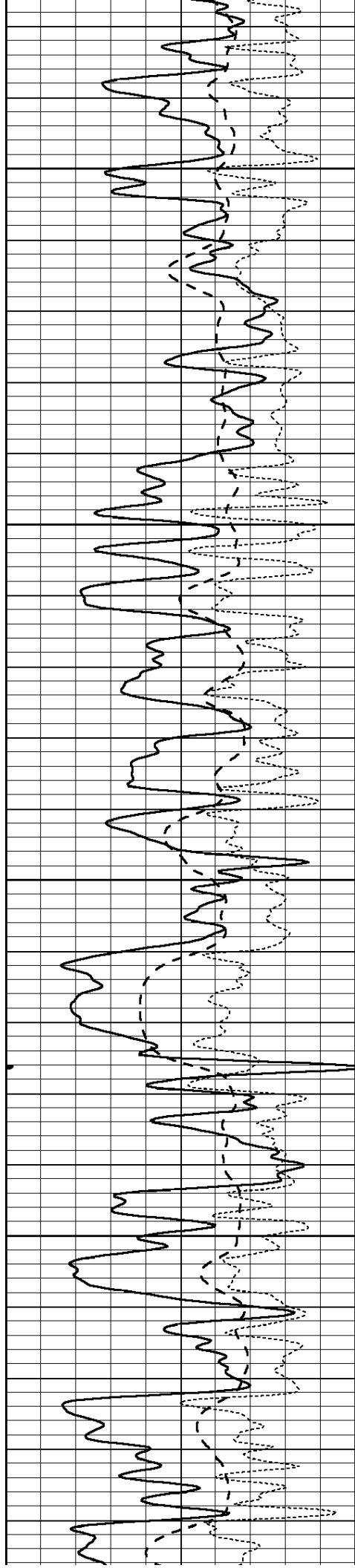
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

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



3500



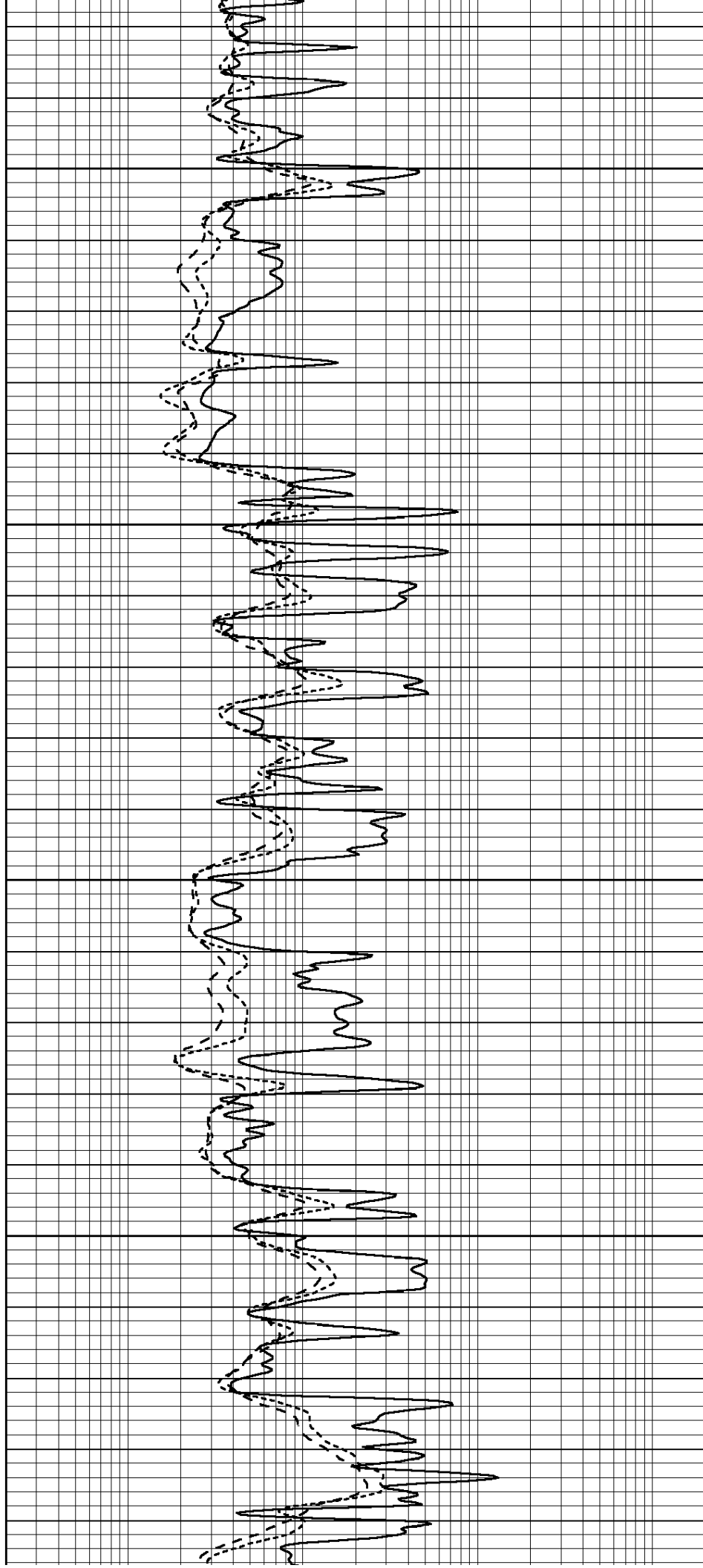


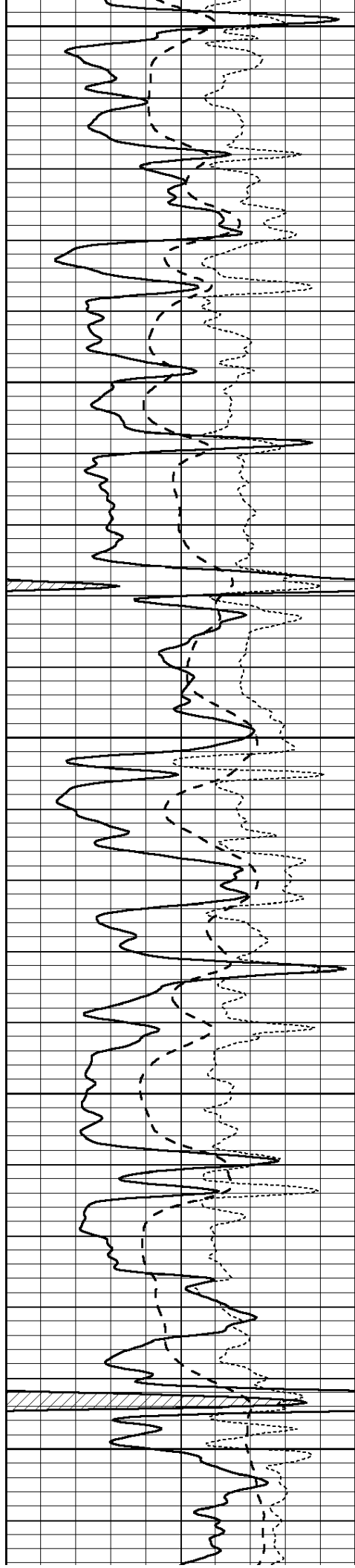
3550

3600

3650

3700





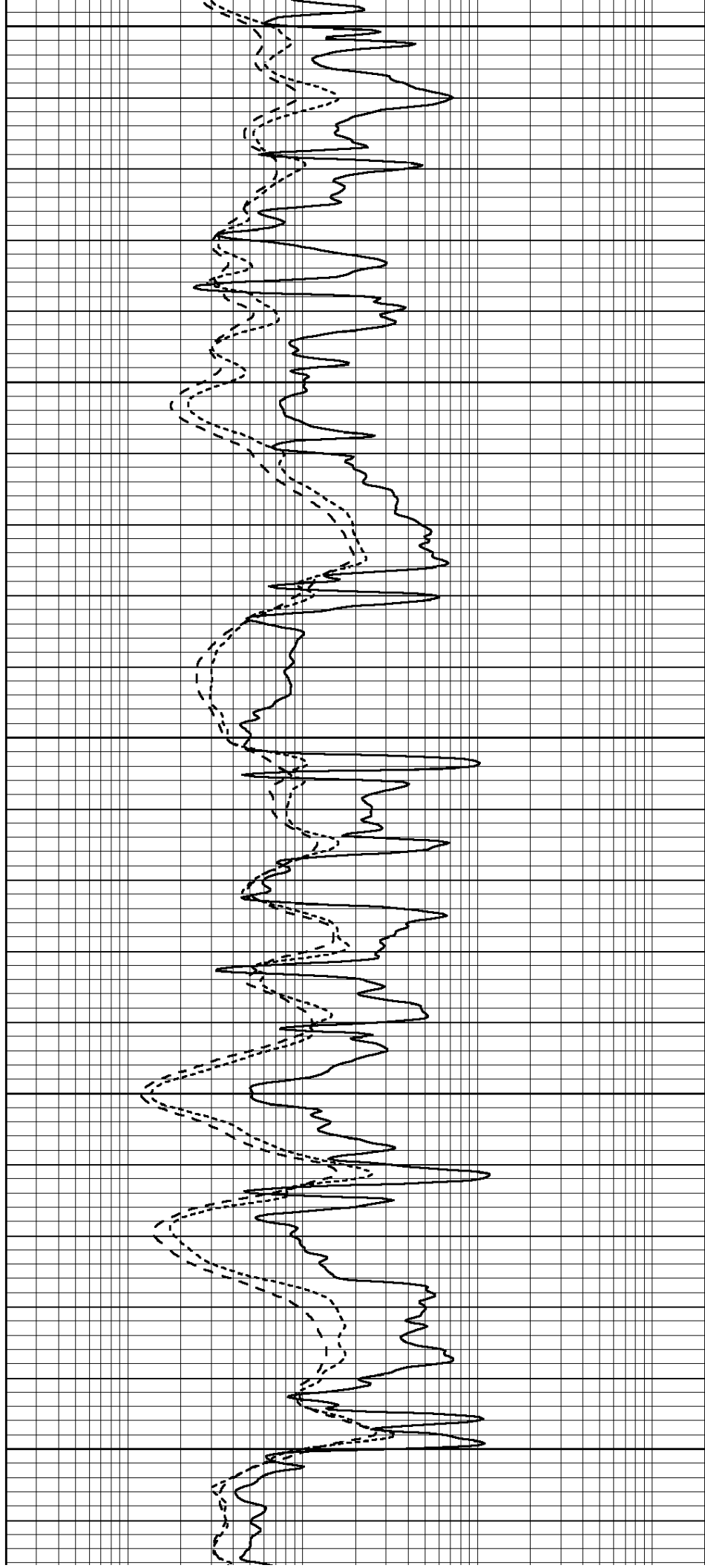
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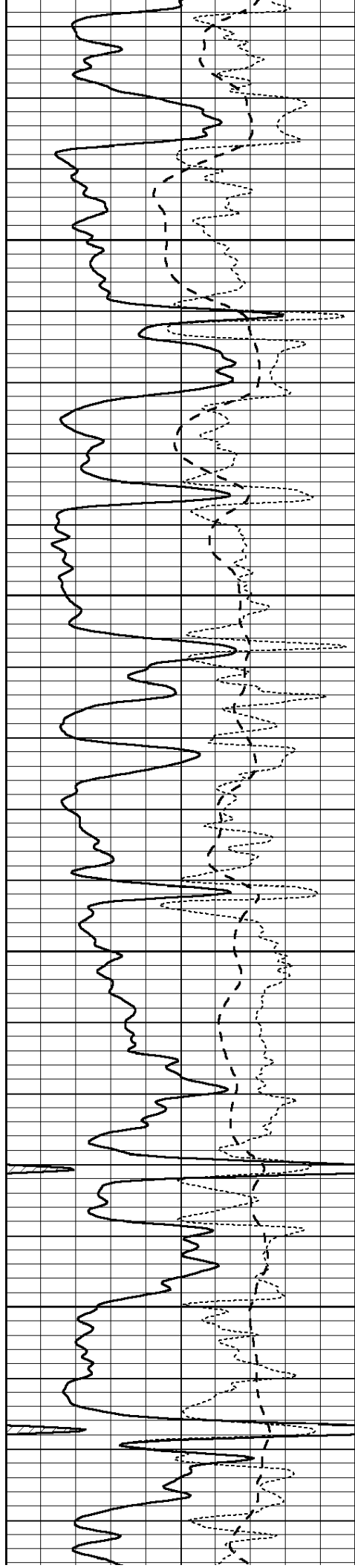
3800

3850

3900

3950



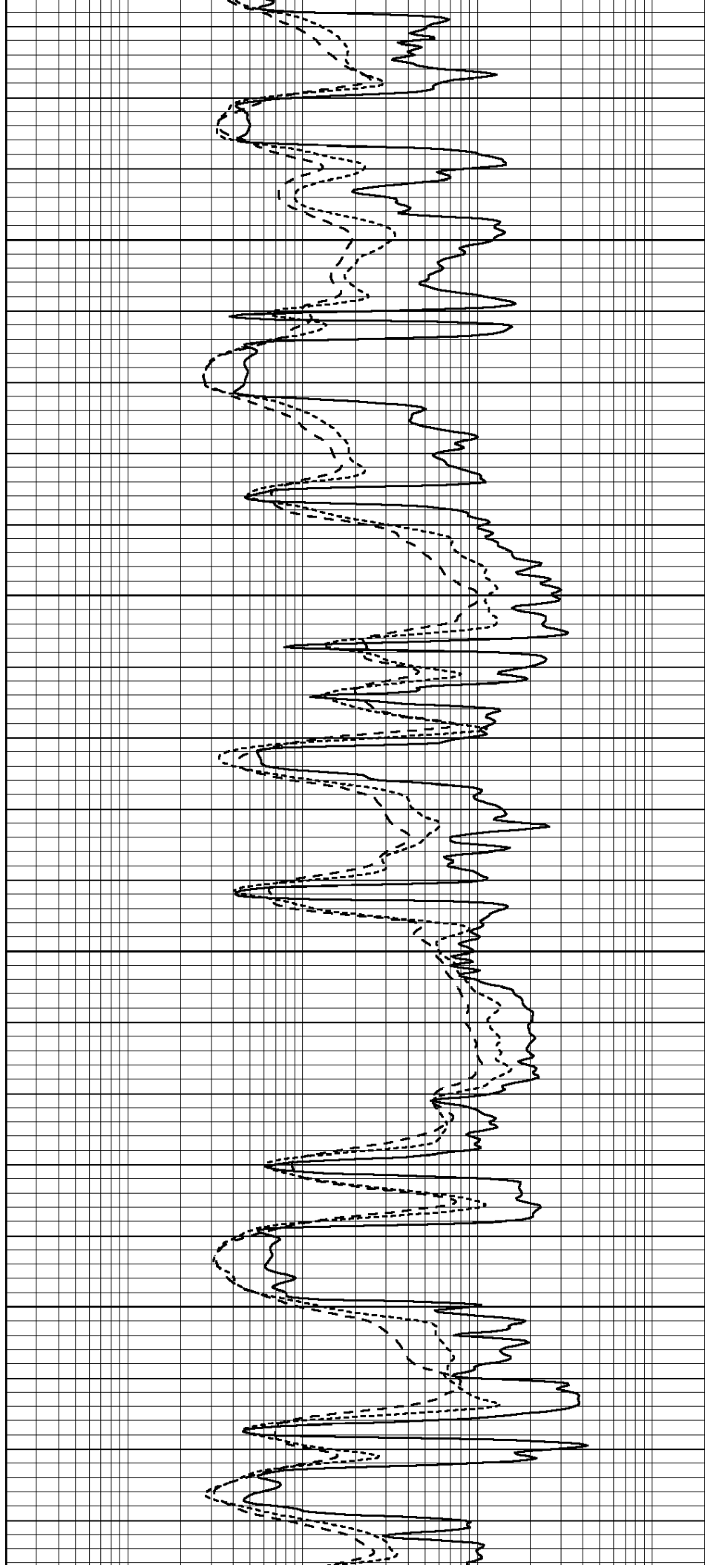


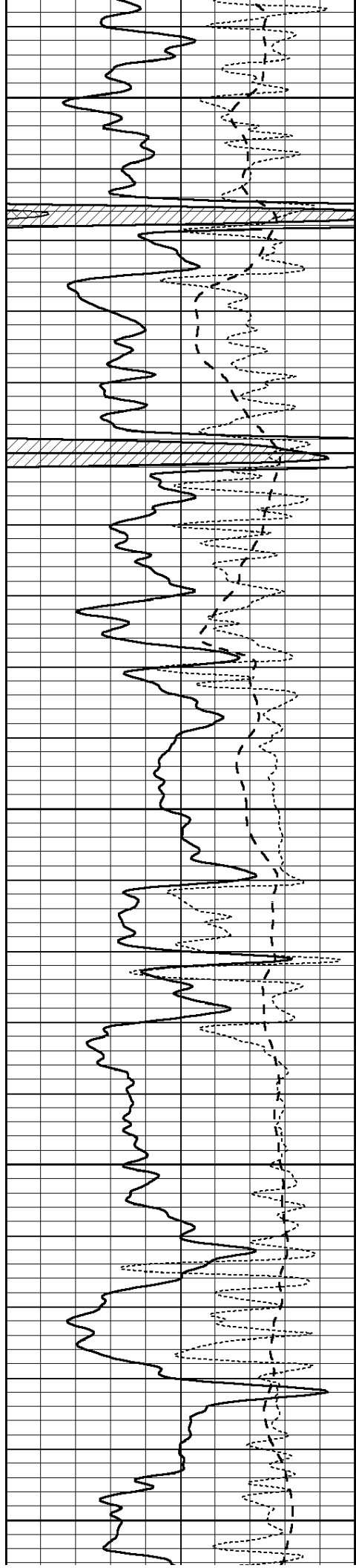
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4050

4100

4150





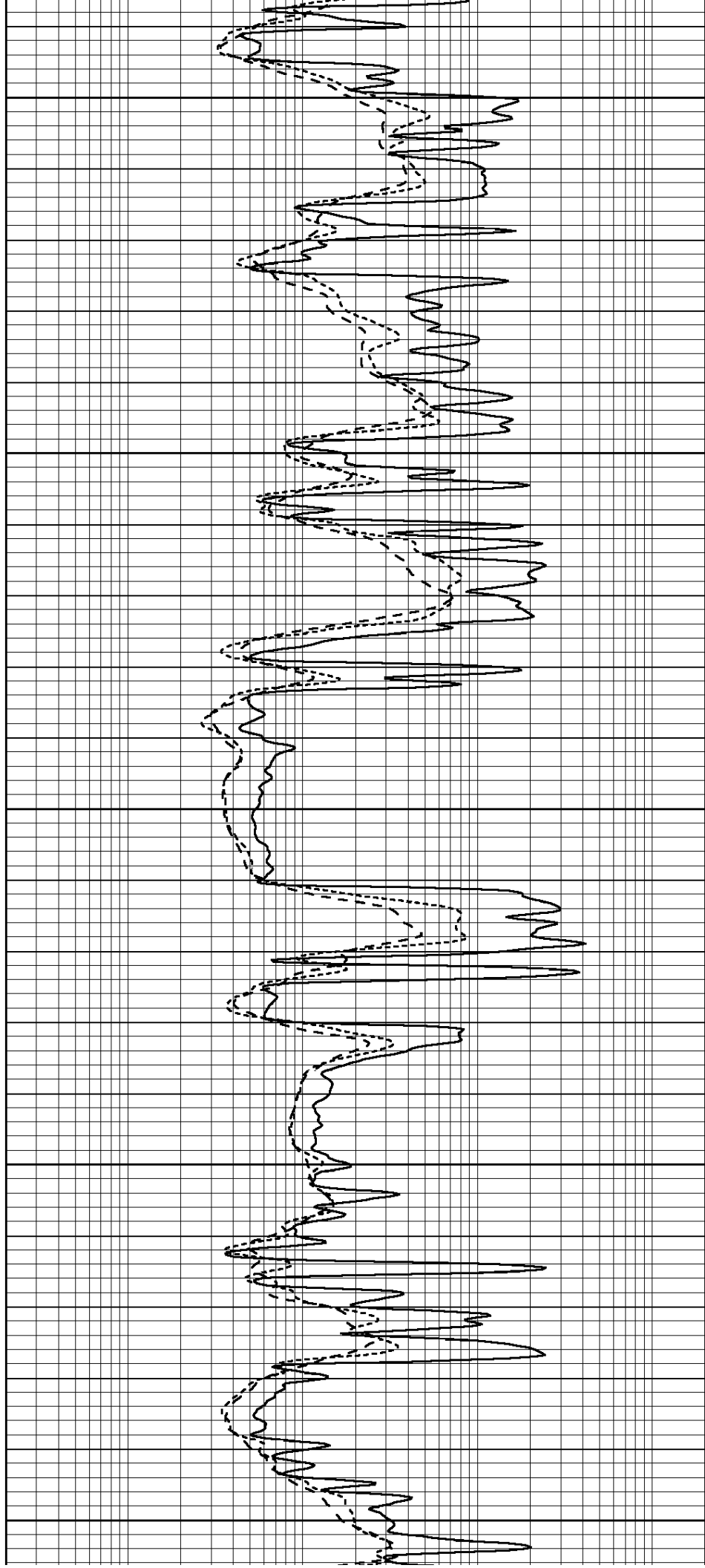
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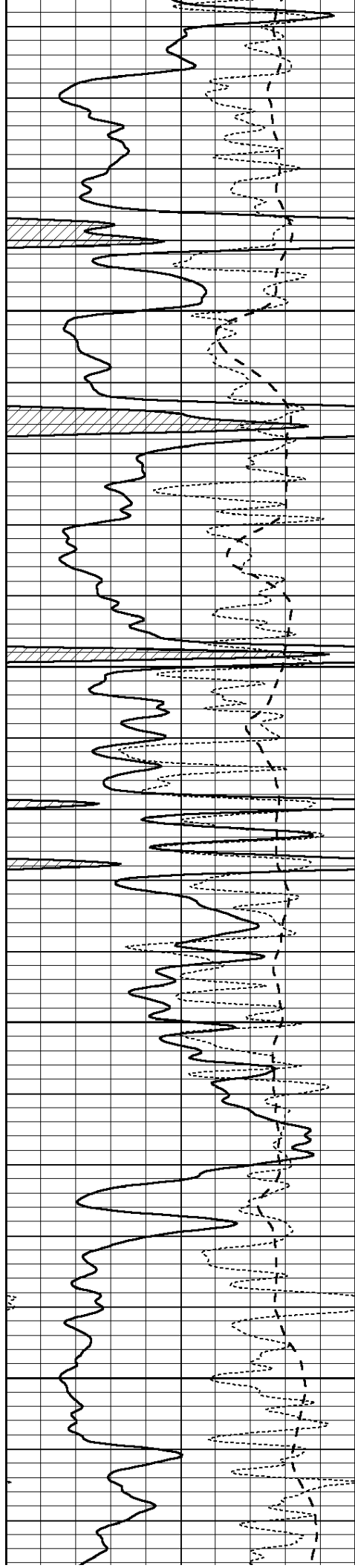
4250

4300

4350

4400



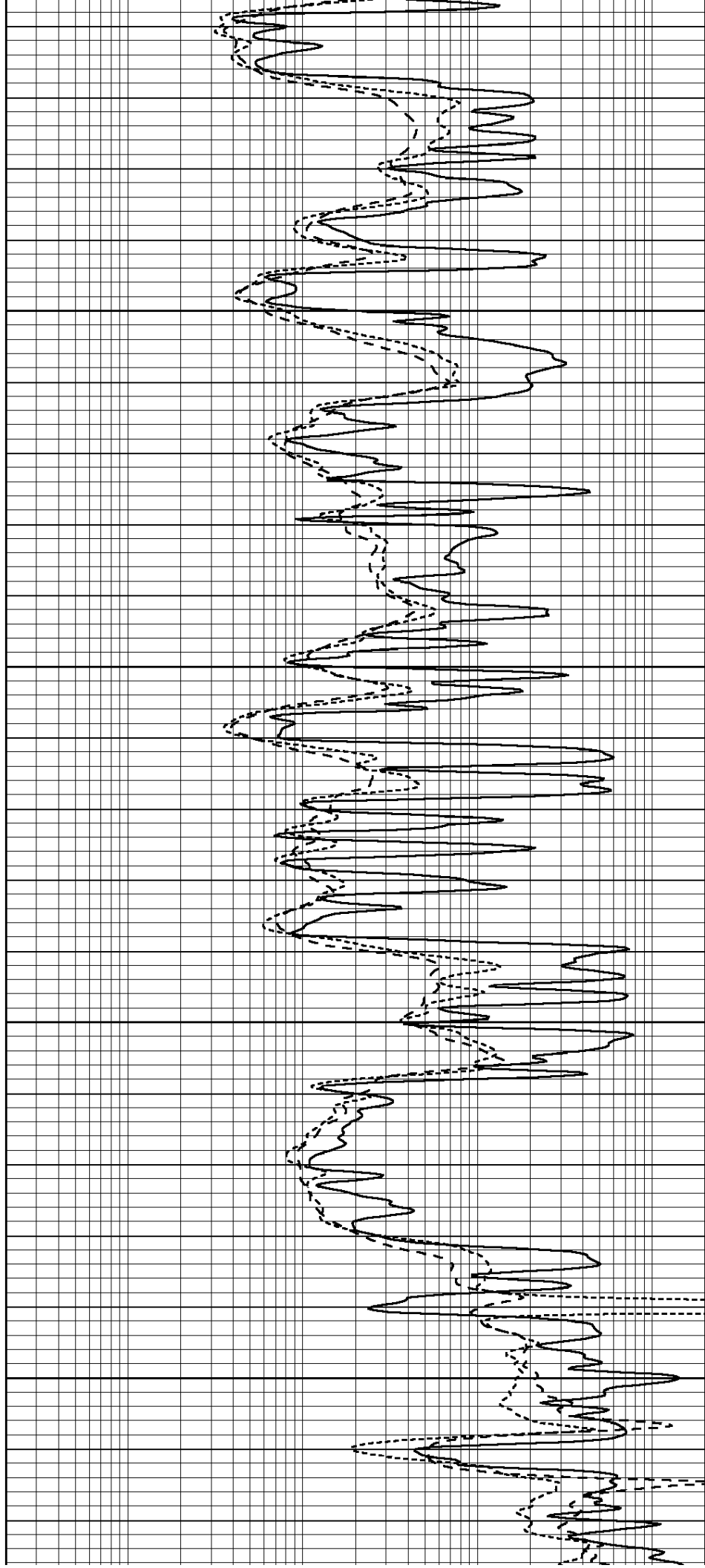


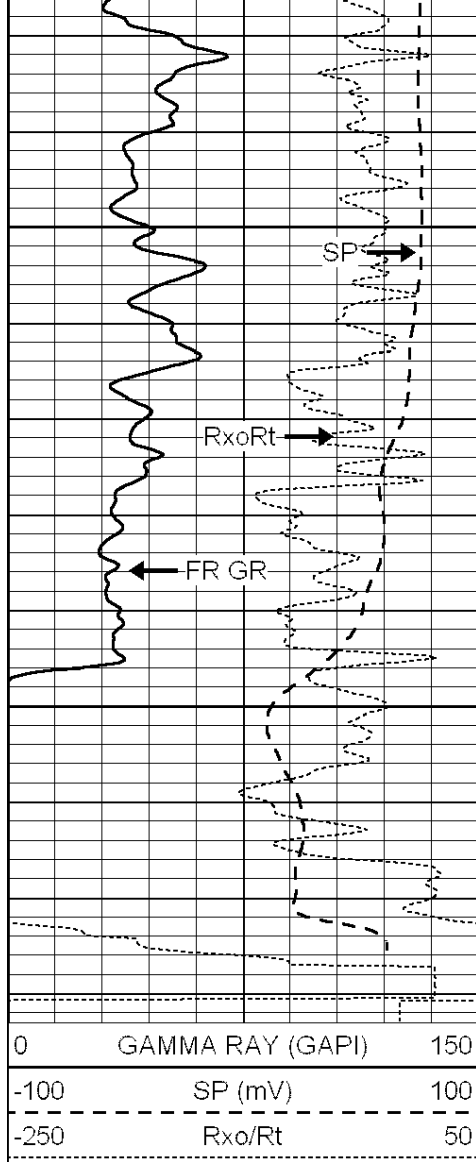
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4500

4550

4600

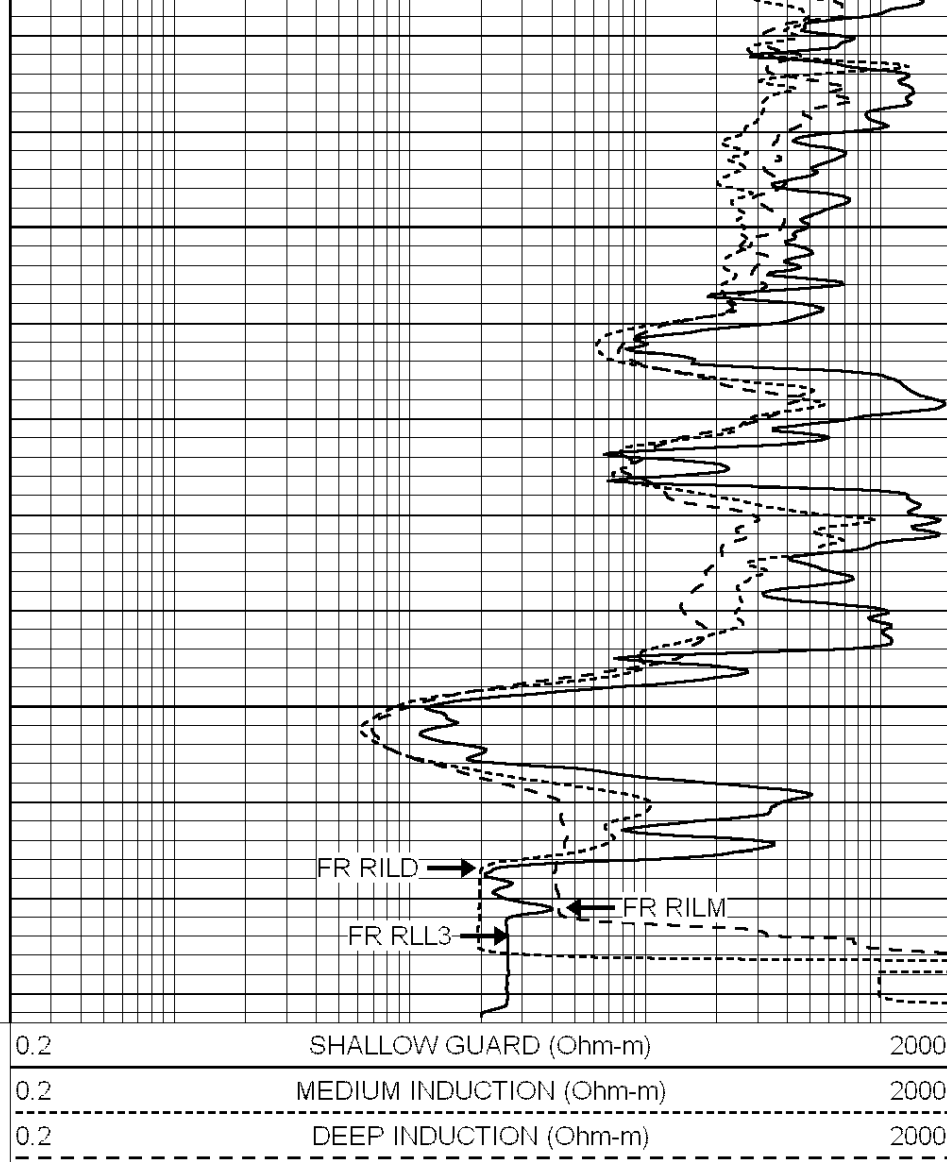




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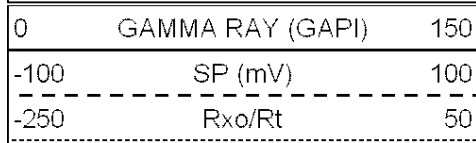
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LTD 4724

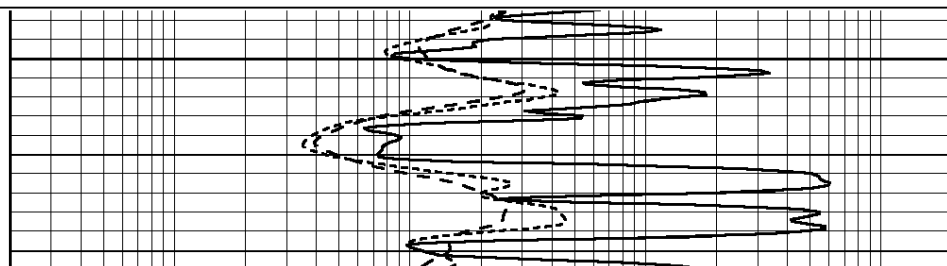
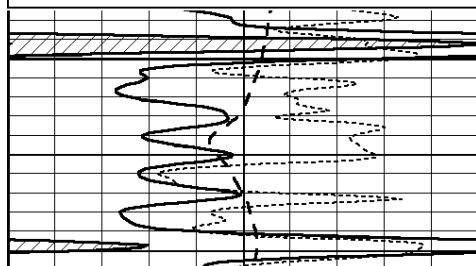
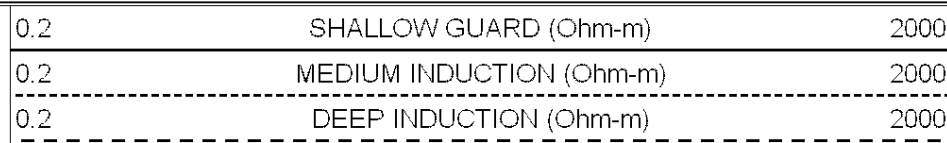


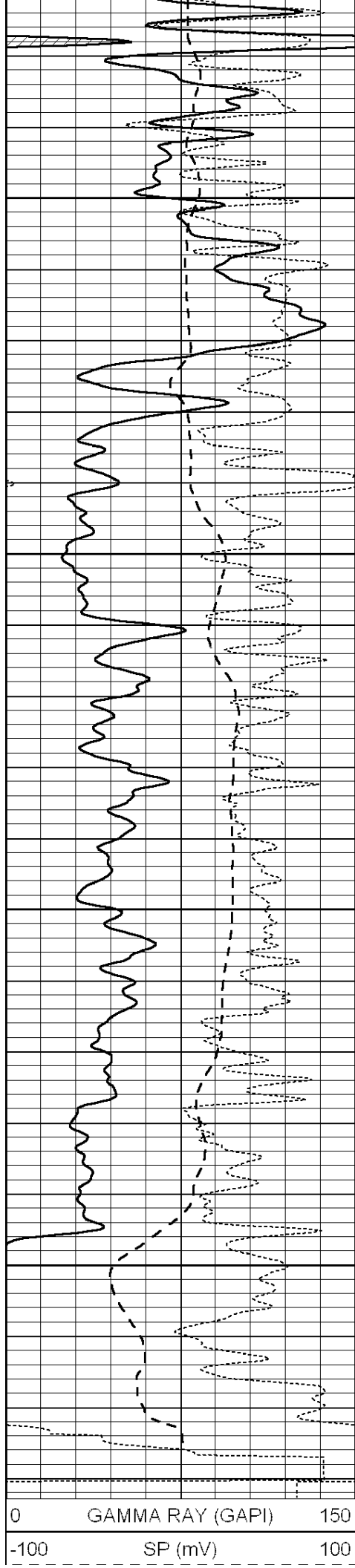
REPEAT SECTION

Database File: 40010142.db
Dataset Pathname: pass2.1
Presentation Format: _dil
Dataset Creation: Thu Nov 29 15:28:43 2012 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240



4500



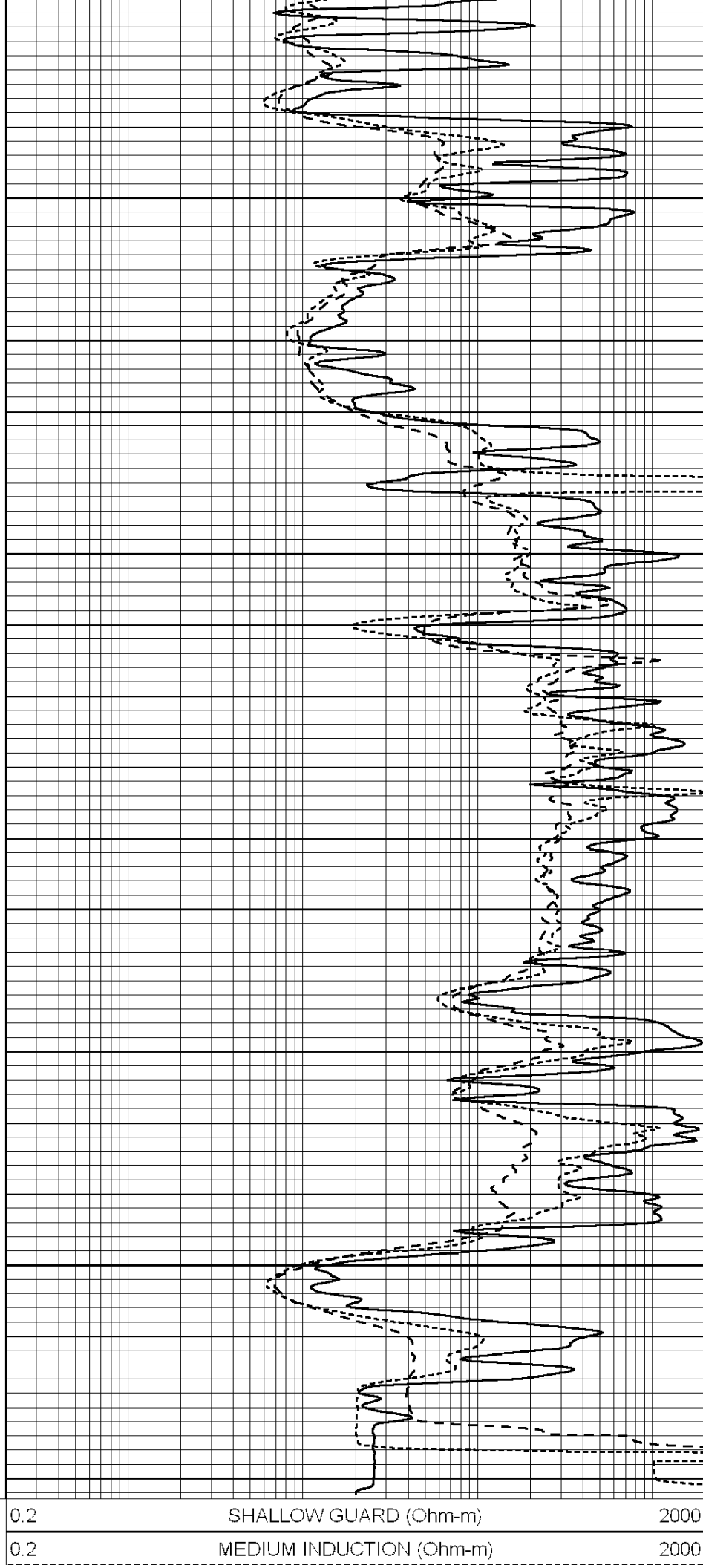


4550

4600

4650

4700



-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000
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Calibration Report					
Database File:	40010142.db				
Dataset Pathname:	pass3.1				
Dataset Creation:	Thu Nov 29 16:21:10 2012 by Calc Open-Cased 090629				

Dual Induction Calibration Report					
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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								
Readings			References				Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	612.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	595.049	-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					
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Serial-Model:	GEAR4-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Mon Mar 19 19:07:19 2012

Master Calibration					
	Density		Far Detector		Near Detector
Magnesium	1.710	g/cc	1015.91	497.51	cps
Aluminum	2.600	g/cc	227.67	350.20	cps
Spine Angle = 76.79			Density/Spine Ratio = 0.579		
	Size		Reading		

Small Ring	8.00	in	3.21	V	
Large Ring	14.00	in	5.46	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		