



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	MAI OIL OPERATIONS, INC.		
Well	WAYNE KRUG #1		
Field	TRAPP		
County	RUSSELL	State	KANSAS
Location:	API # : 15-167-23986-00-00 330' FNL & 1750' FWL E/2 - NW - NE - NW		Other Services CDL/CNL MEL/SON
Permanent Datum	SEC 15 TWP 15S RGE 14W	Elevation	
Log Measured From	GROUND LEVEL	Elevation	1773
Drilling Measured From	KELLY BUSHING 8' A.G.L.	K.B. 1781 D.F. 1779 G.L. 1773	
Date	7/10/14		
Run Number	ONE		
Depth Driller	3300		
Depth Logger	3298		
Bottom Logged Interval	3296		
Top Log Interval	0		
Casing Driller	8 5/8 @ 332'		
Casing Logger	332'		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	8.7/57	CHLORIDES 10000 PPM	
pH / Fluid Loss	9.0/11.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.40 @ 88F		
Rmf @ Meas. Temp	0.30 @ 88F		
Rmc @ Meas. Temp	0.48 @ 88F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.32 @ 110F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	110F		
Equipment Number	3802		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	KURT TALBOTT		

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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.

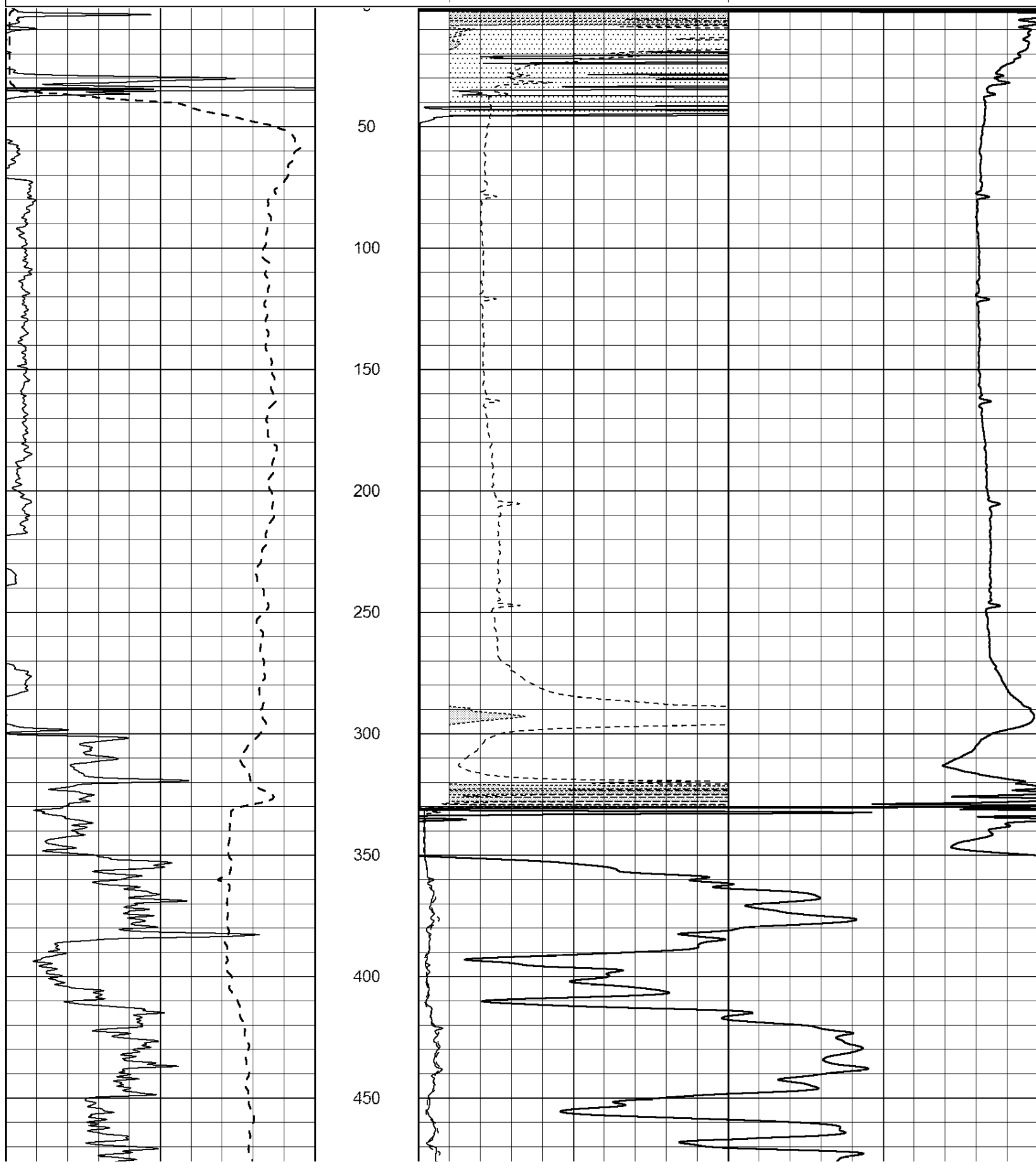
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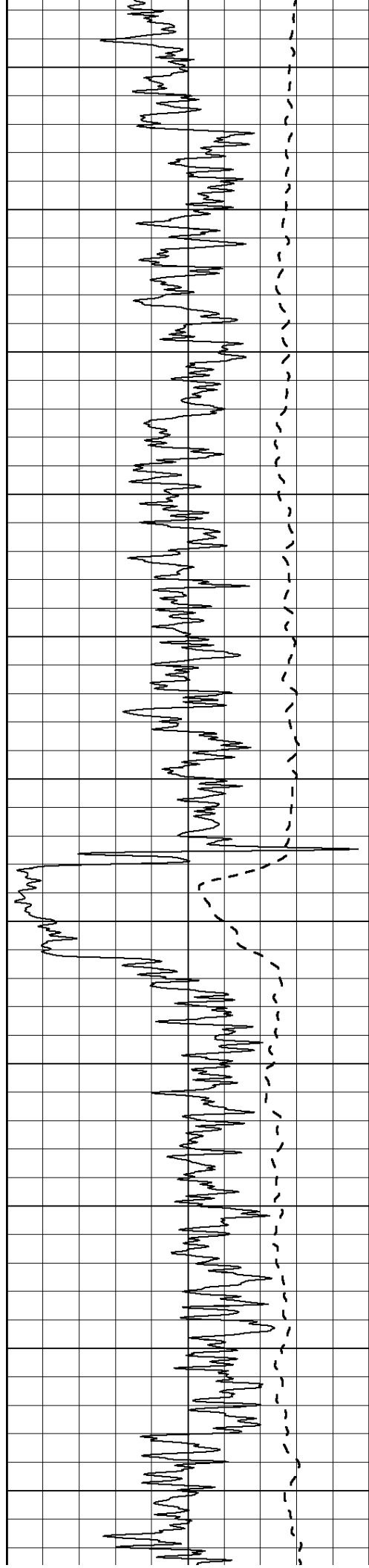
NABORS COMPLETION & PRODUCTION SERVICES CO.
785 (628 - 6395)
THANK YOU FOR YOUR BUSINESS
DIRECTIONS : RUSSELL, KS - 7 MILES SOUTH TO MITCHELL RD - 1 1/2 MILES WEST
SOUTH INTO

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	





500

550

600

650

700

750

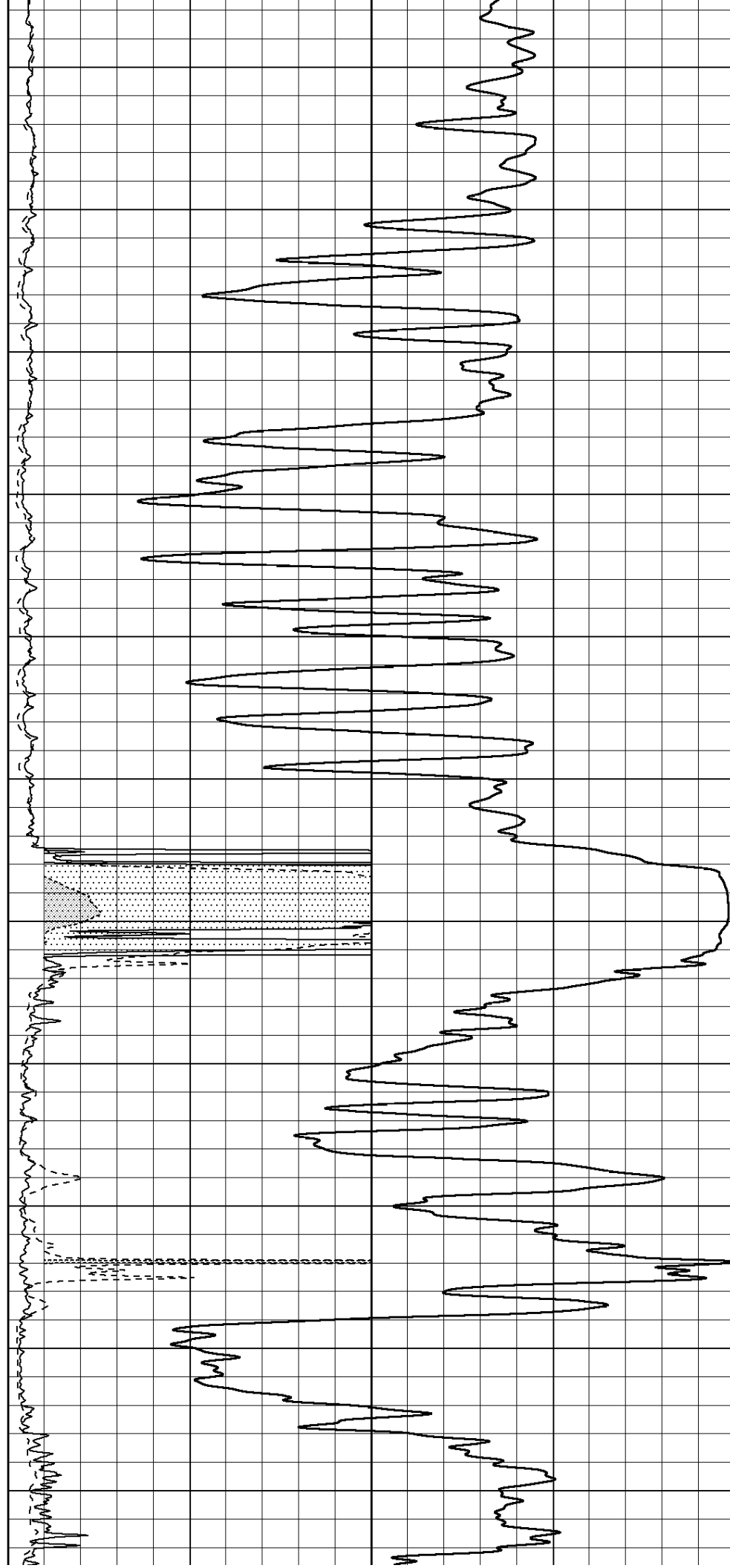
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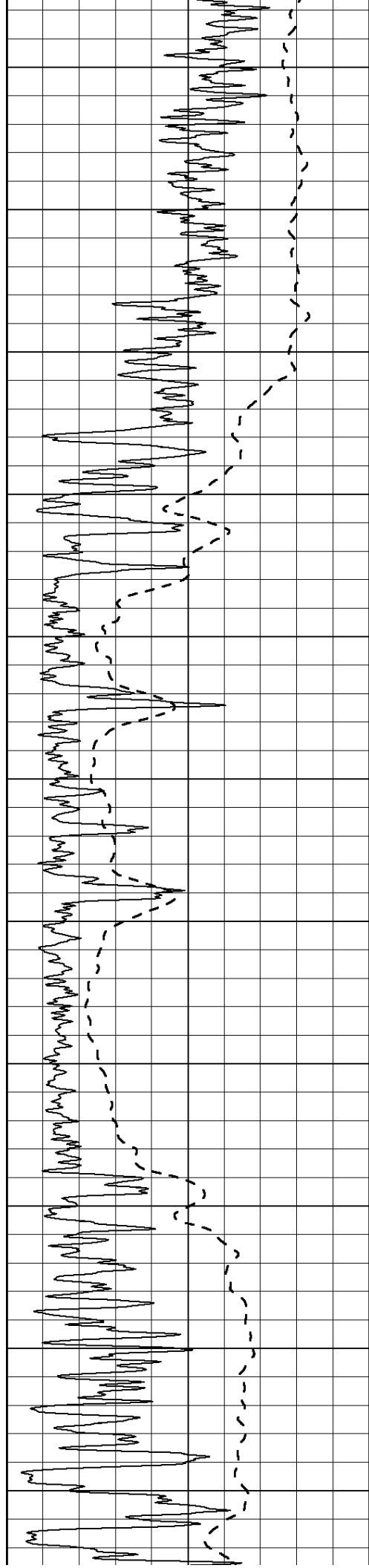
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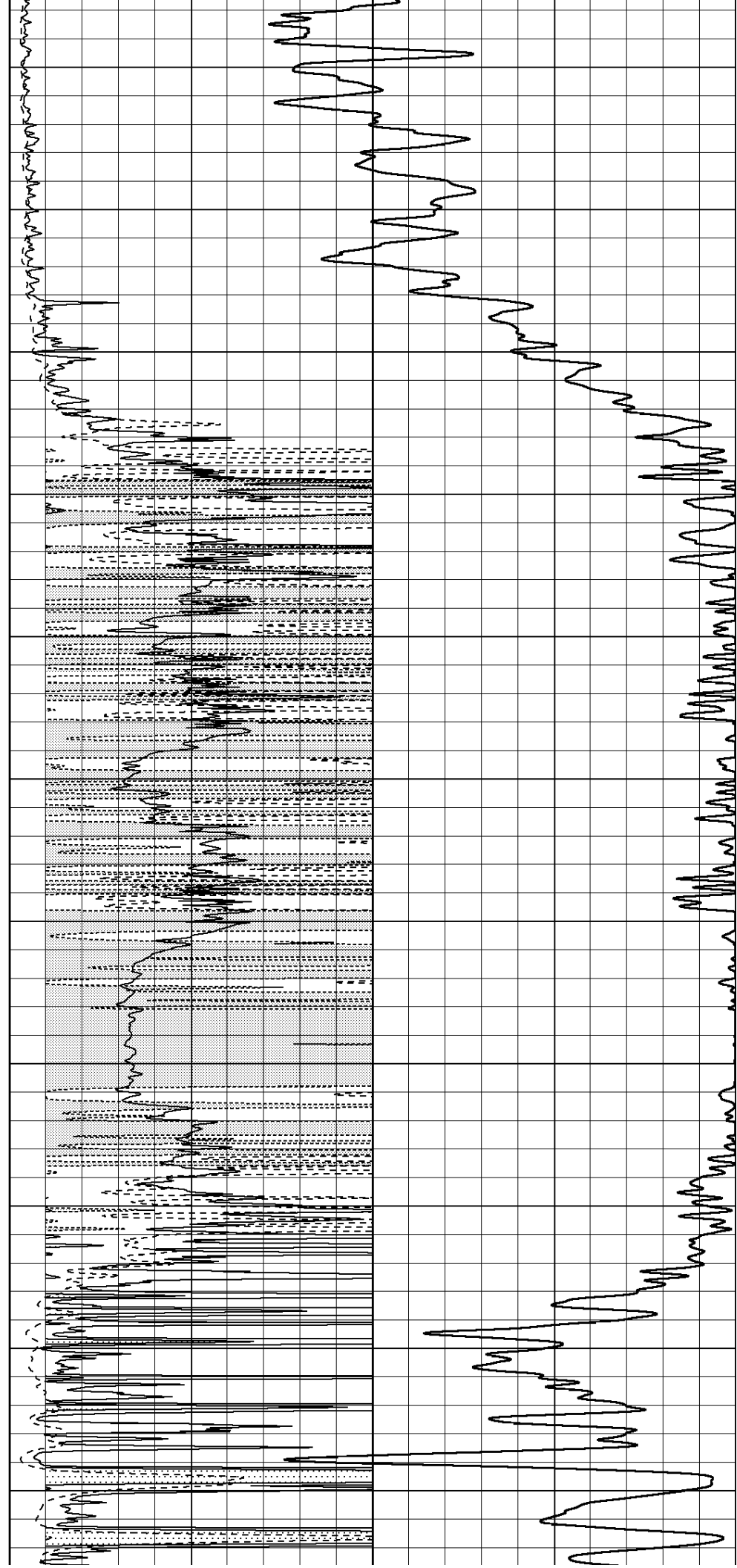
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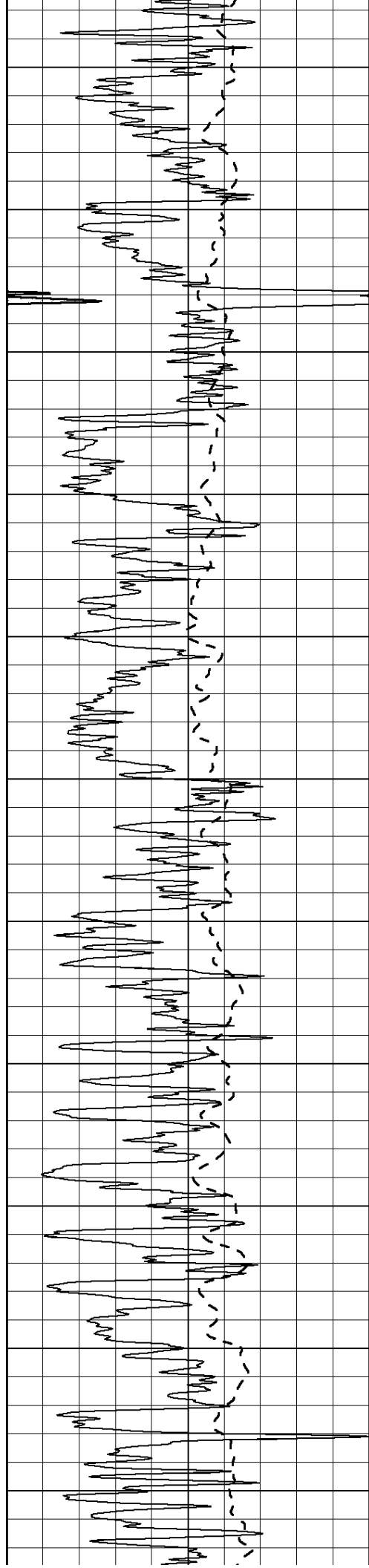
1000





1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550





1600

1650

1700

1750

1800

1850

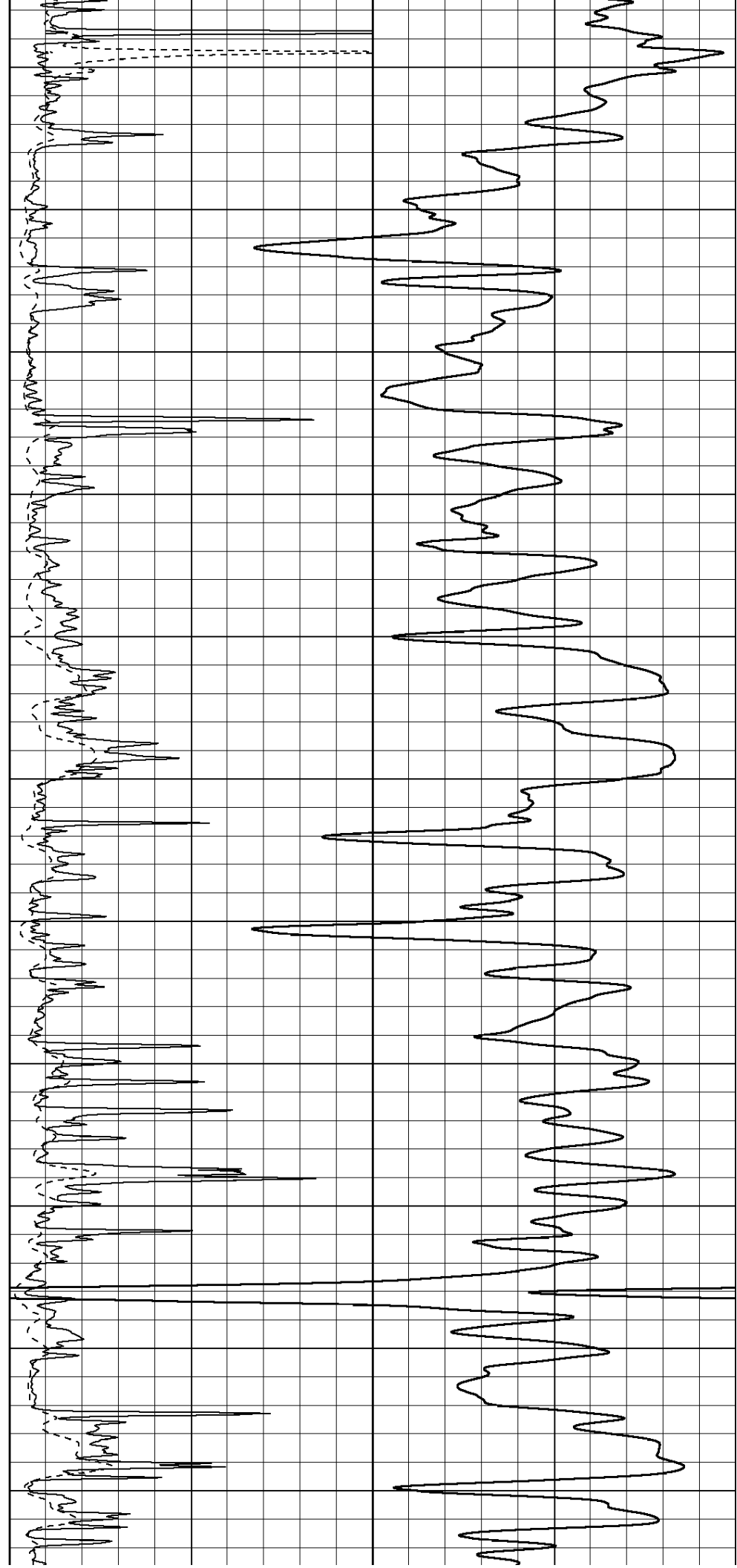
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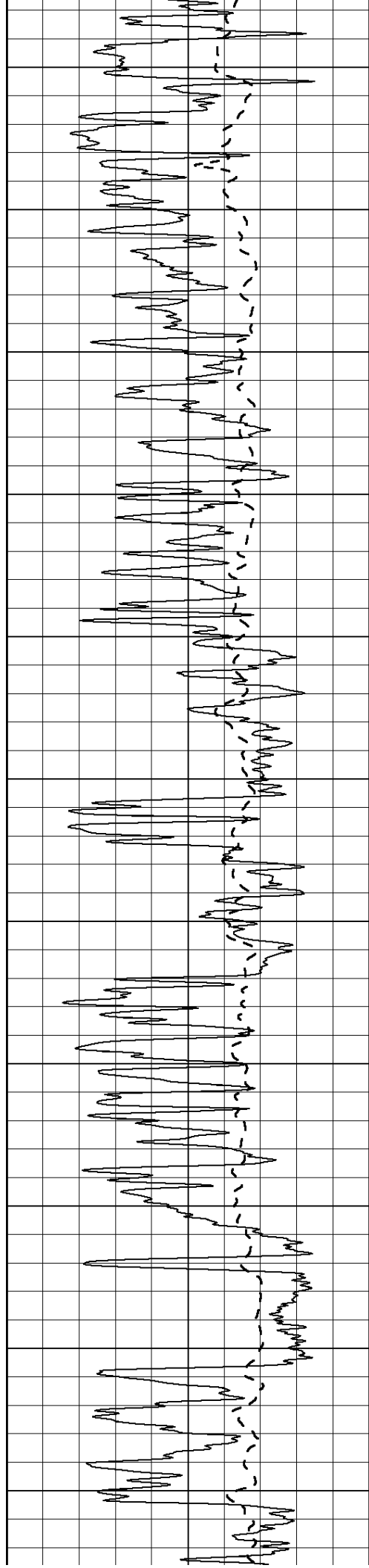
1950

2000

2050

2100





2150

2200

2250

2300

2350

2400

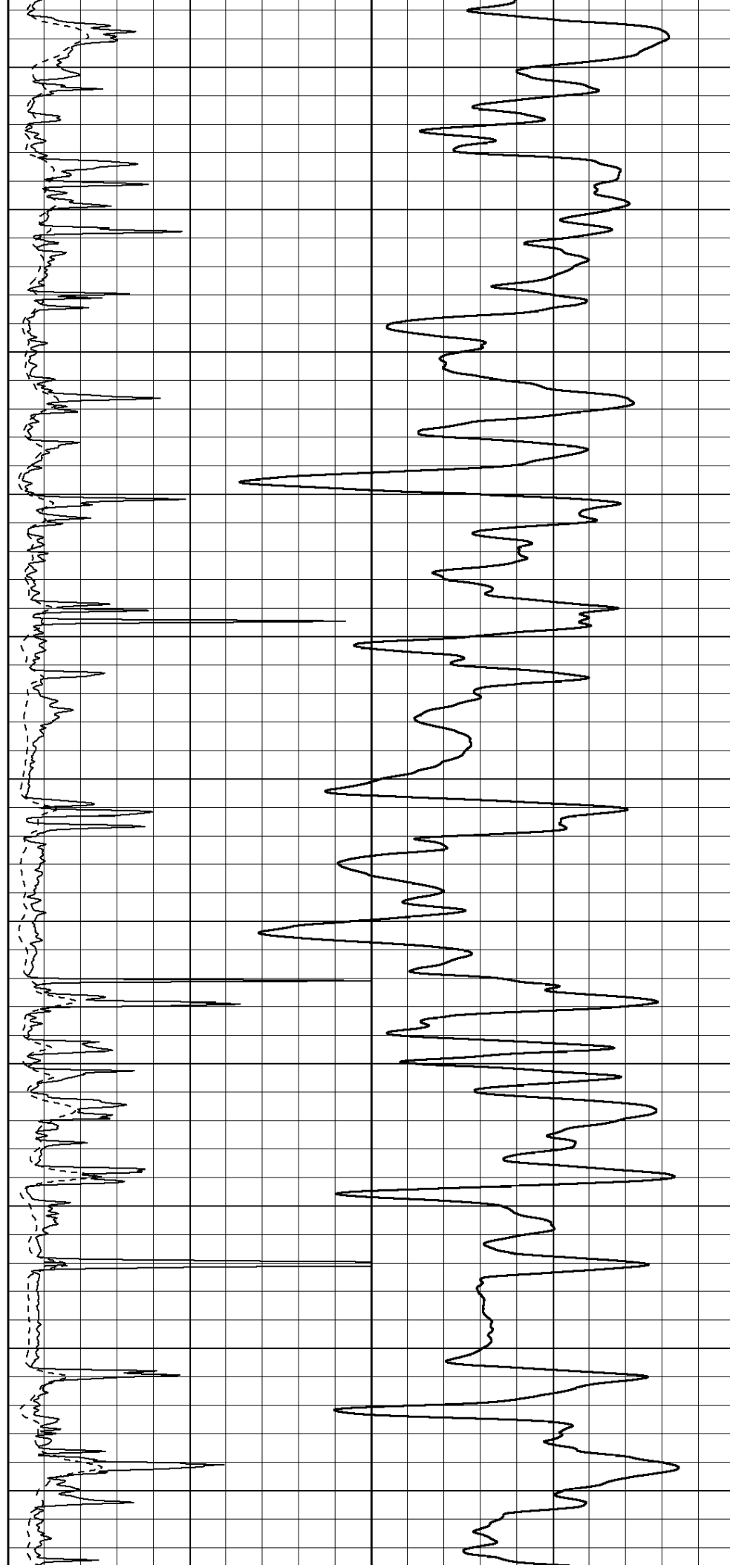
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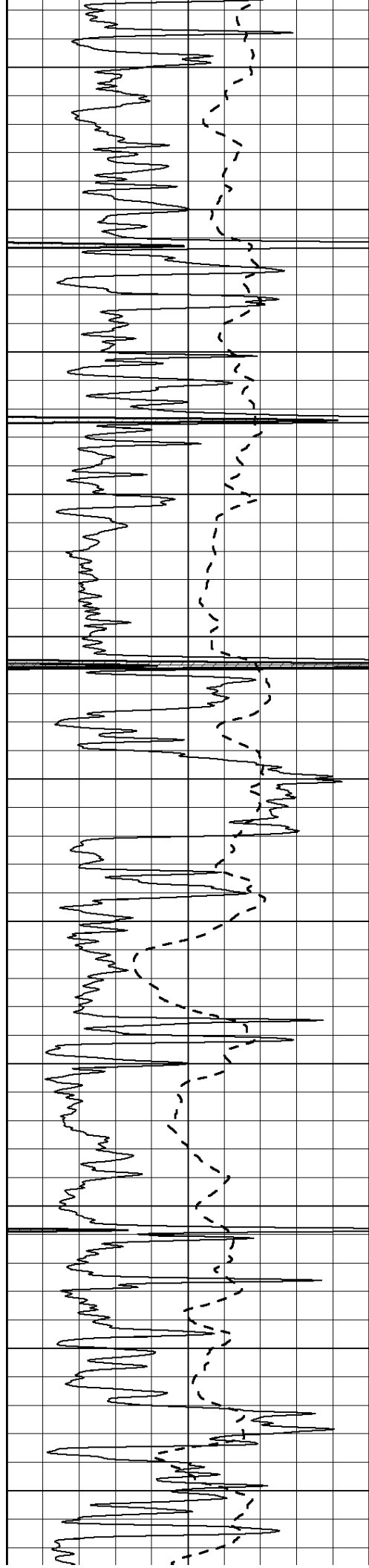
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2550

2600

2650





2700

2750

2800

2850

2900

2950

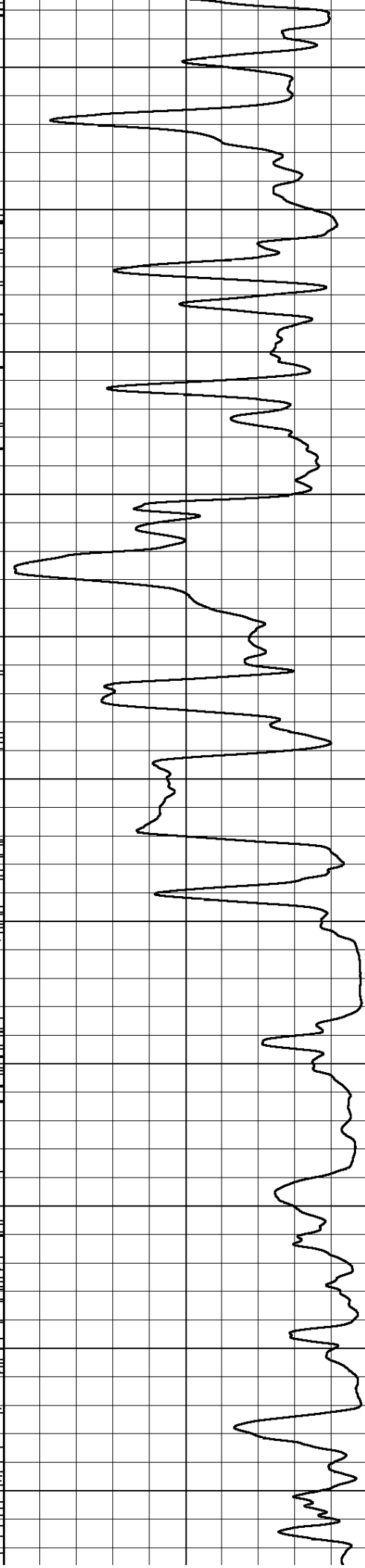
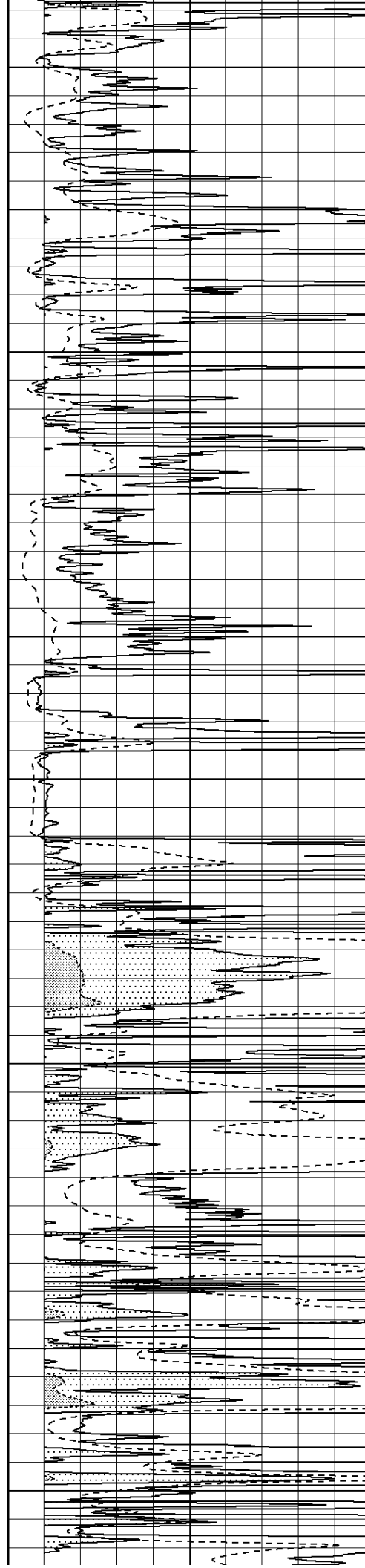
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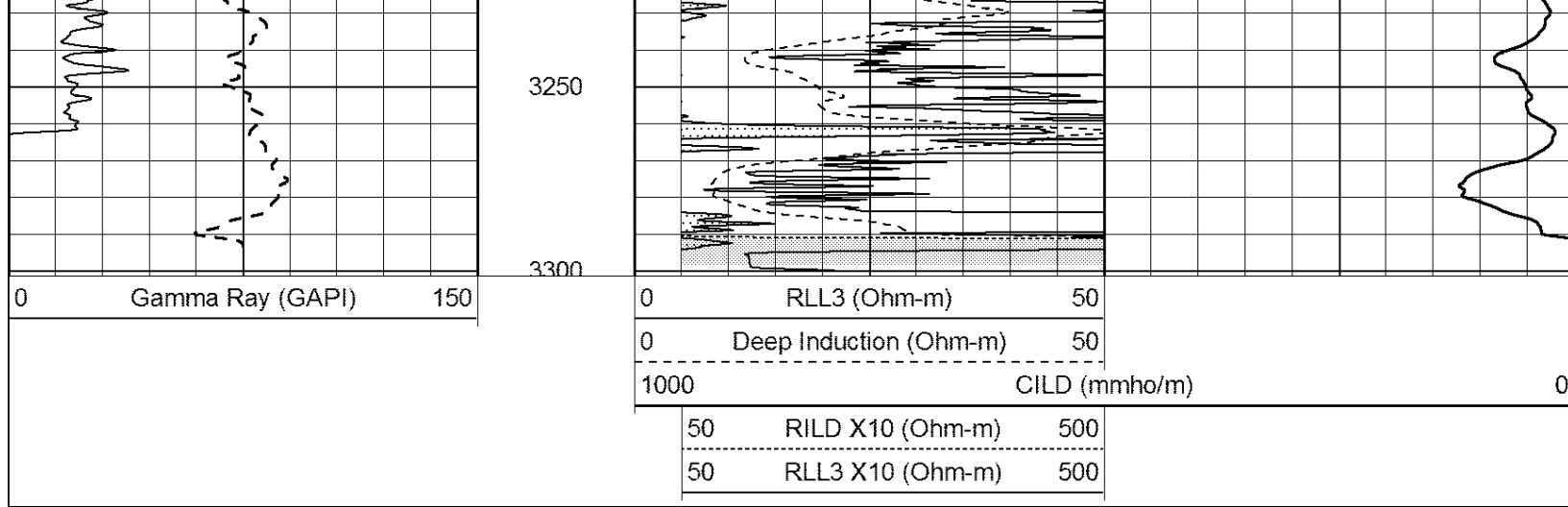
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3100

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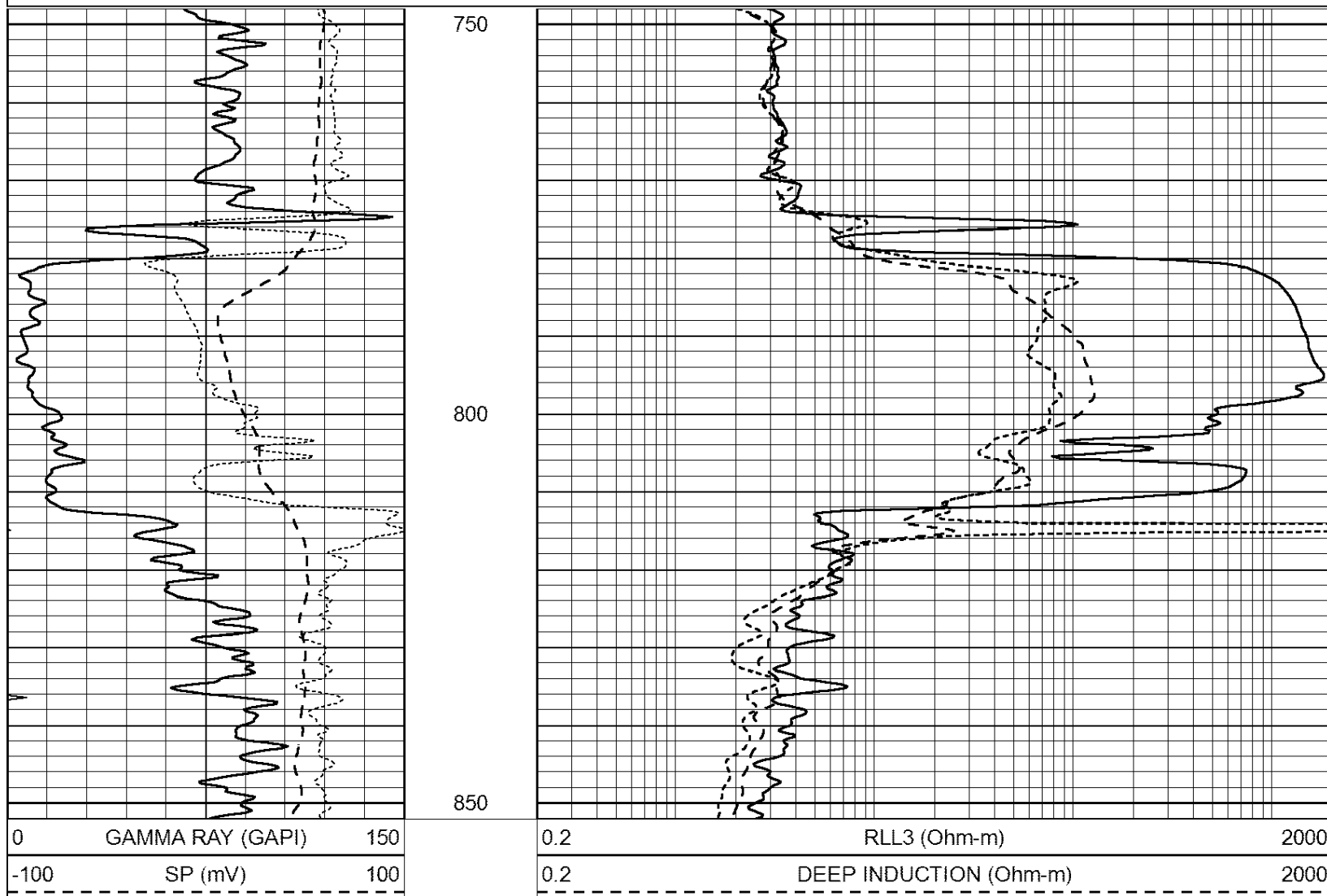
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Database File: 24704.db
 Dataset Pathname: pass3.3.3
 Presentation Format: _dil
 Dataset Creation: Fri Jul 11 01:05:25 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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	MINMK	20			



-250	RxoRt	50
0	MINMK	20

0.2	MEDIUM INDUCTION (Ohm-m)	2000

Database File:

24704.db

Dataset Pathname:

pass3.3.2

Presentation Format:

_dil

Dataset Creation:

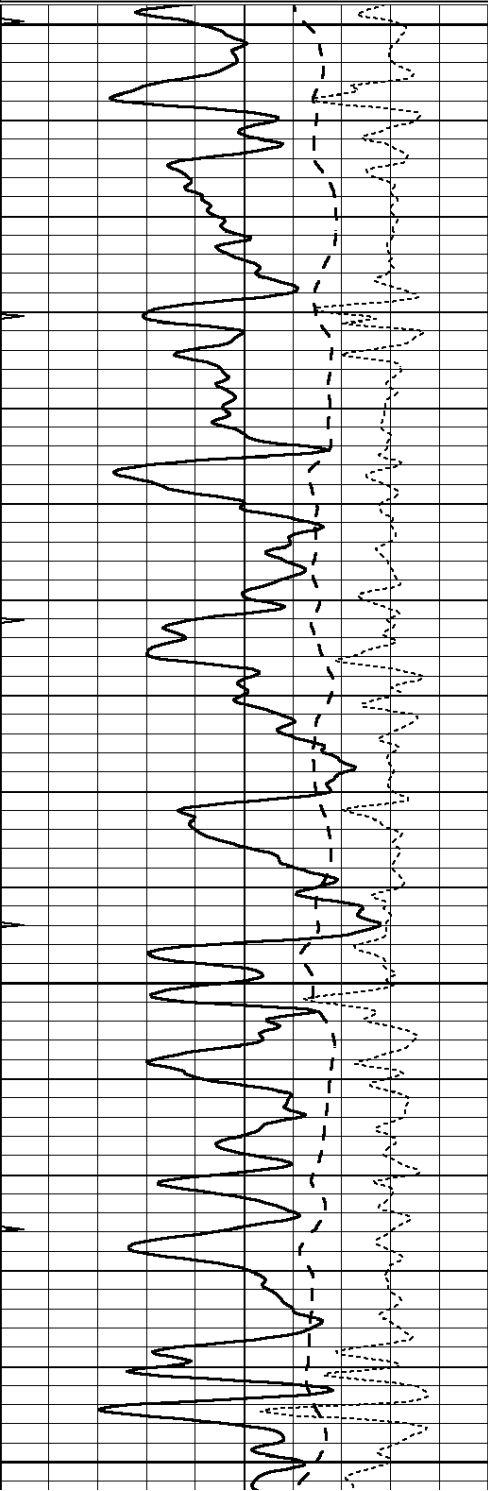
Thu Jul 10 23:41:54 2014 by Calc Open-Cased 090629

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

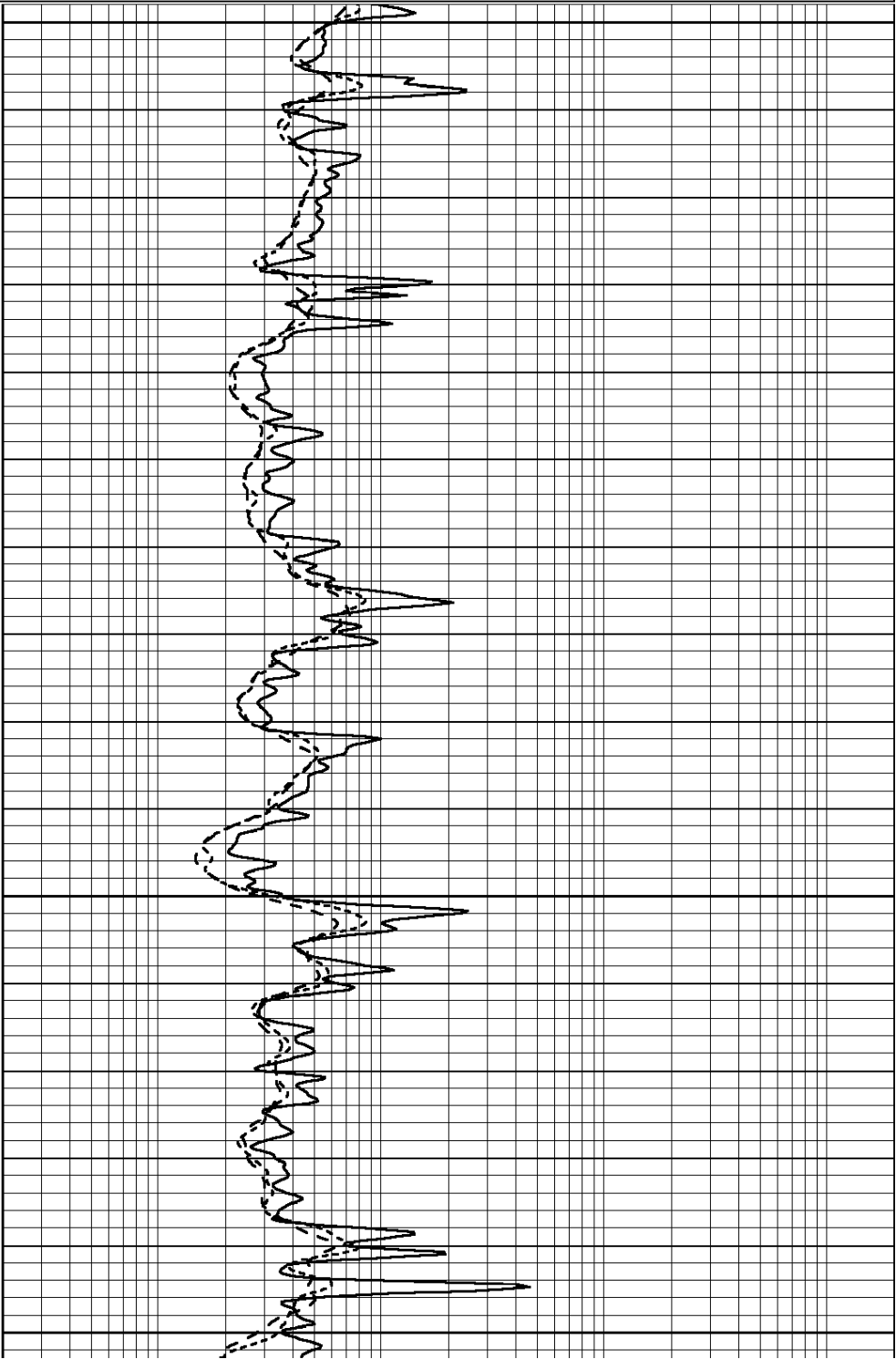


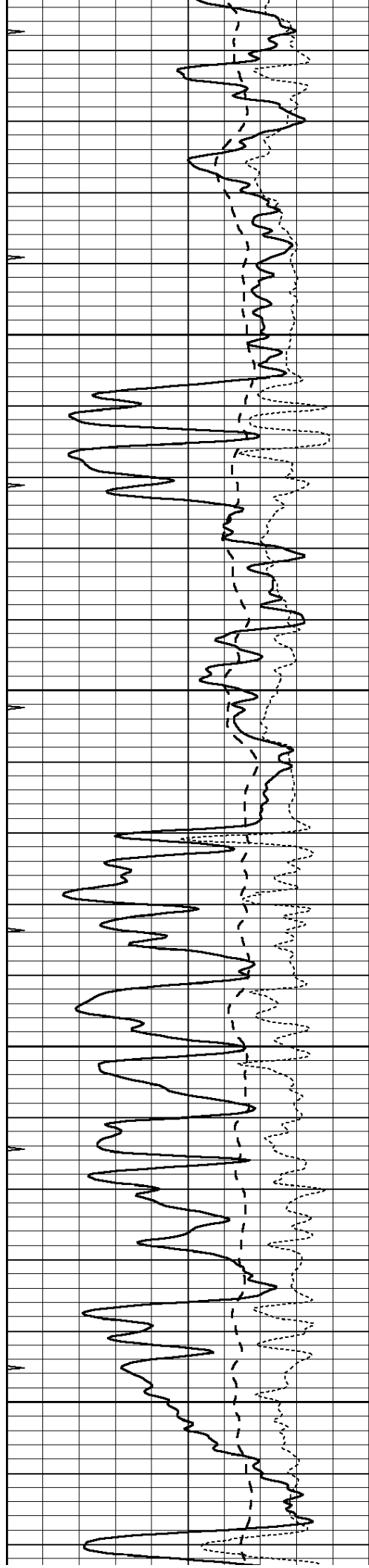
2200

2250

2300

2350



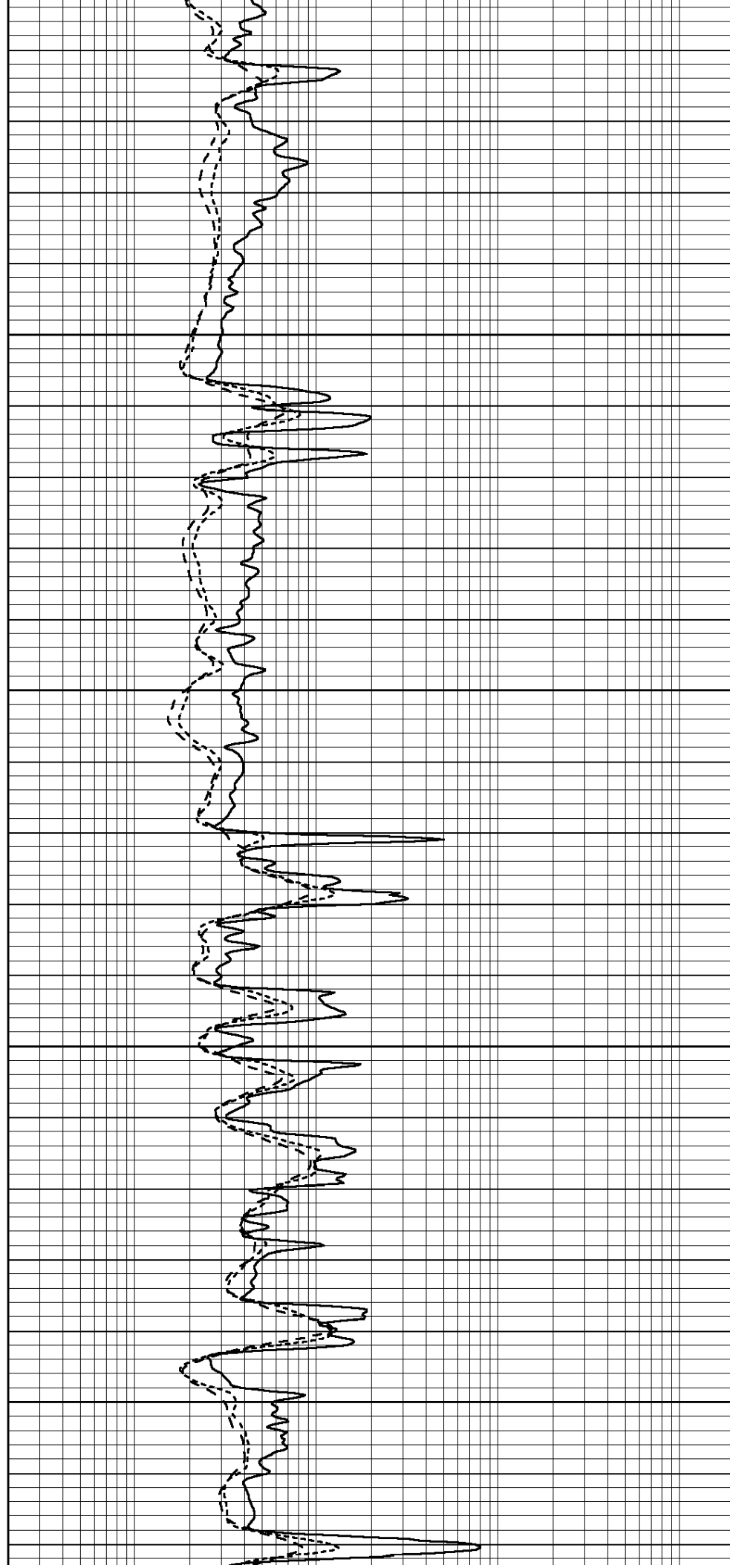


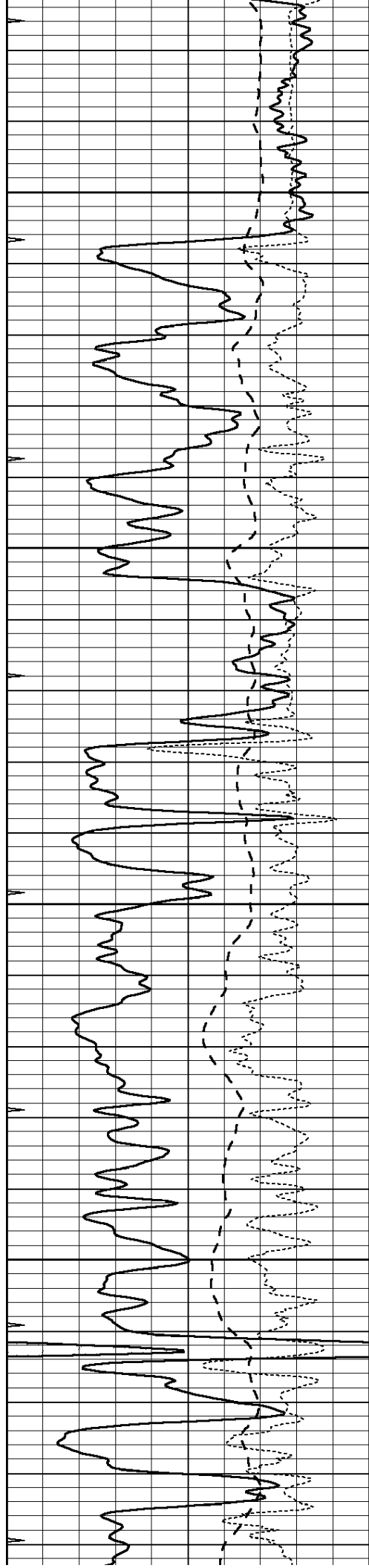
2400

2450

2500

2550



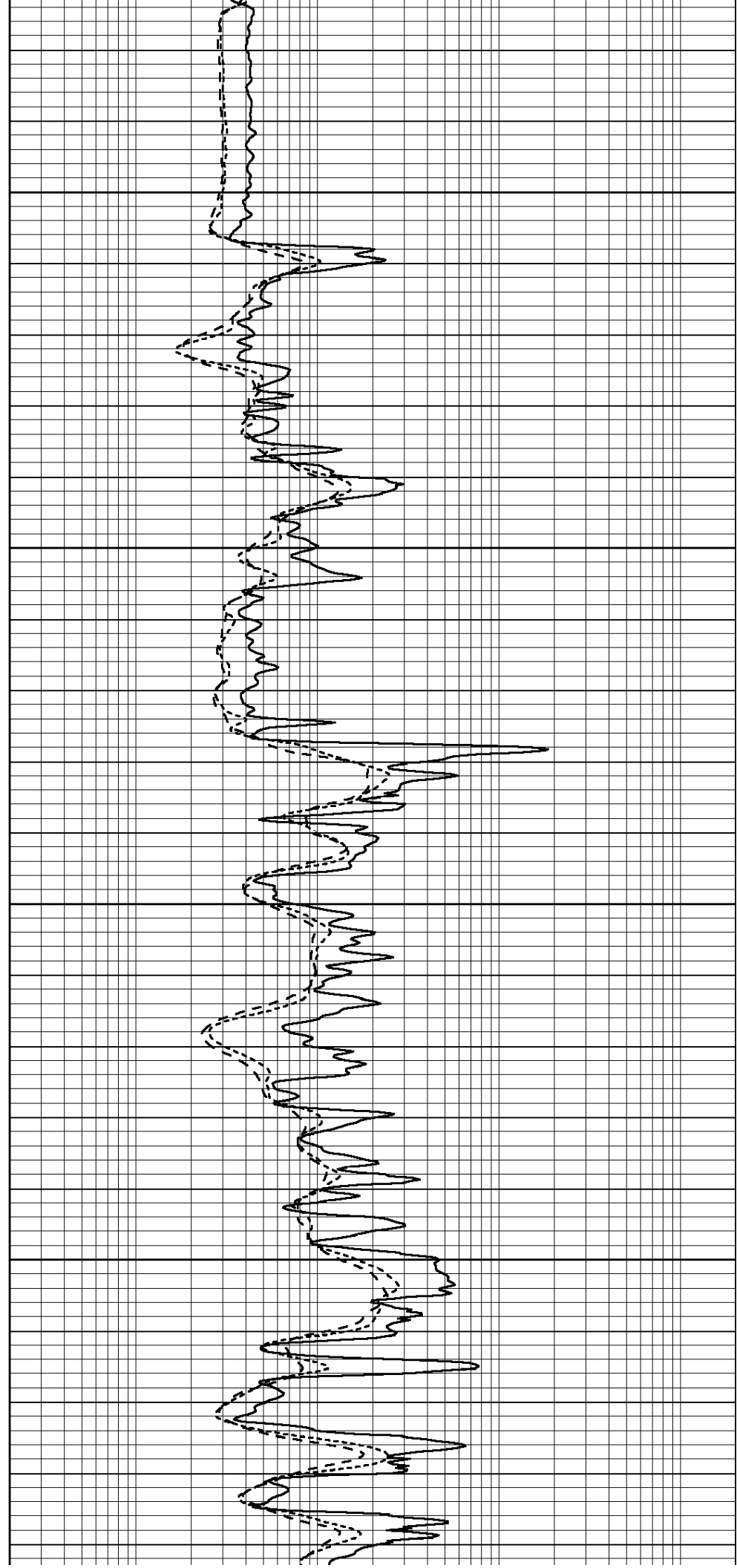


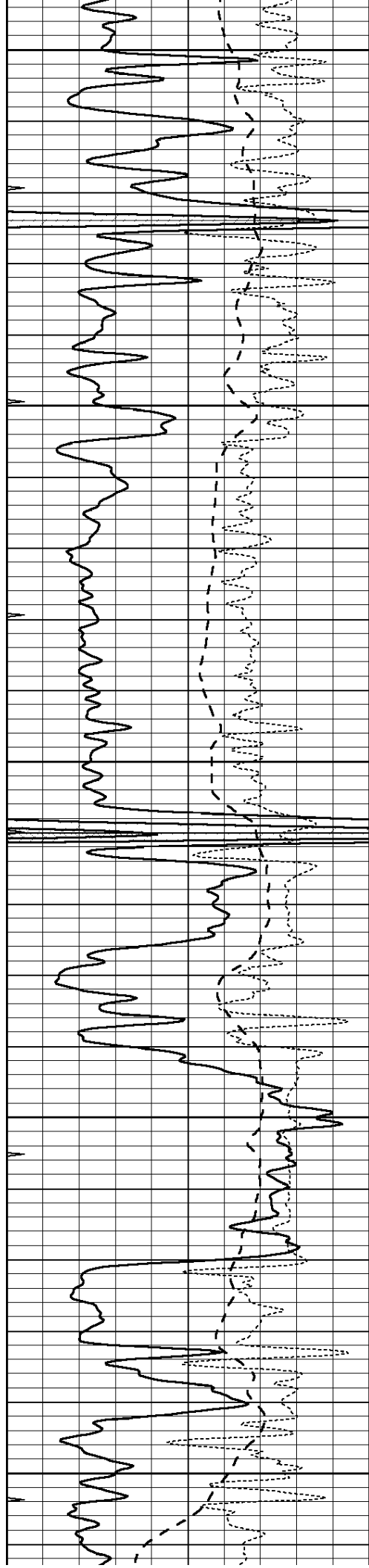
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2650

2700

2750





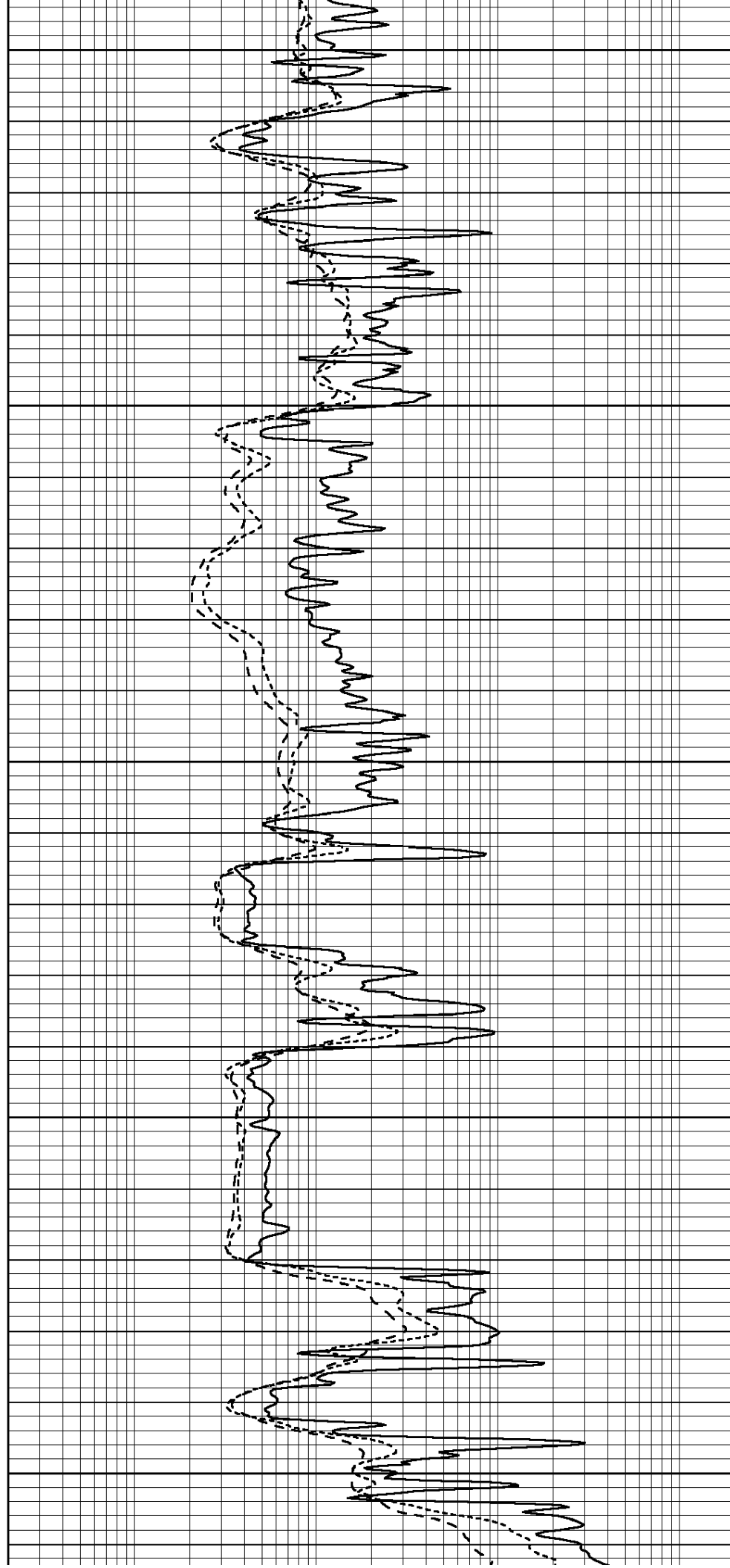
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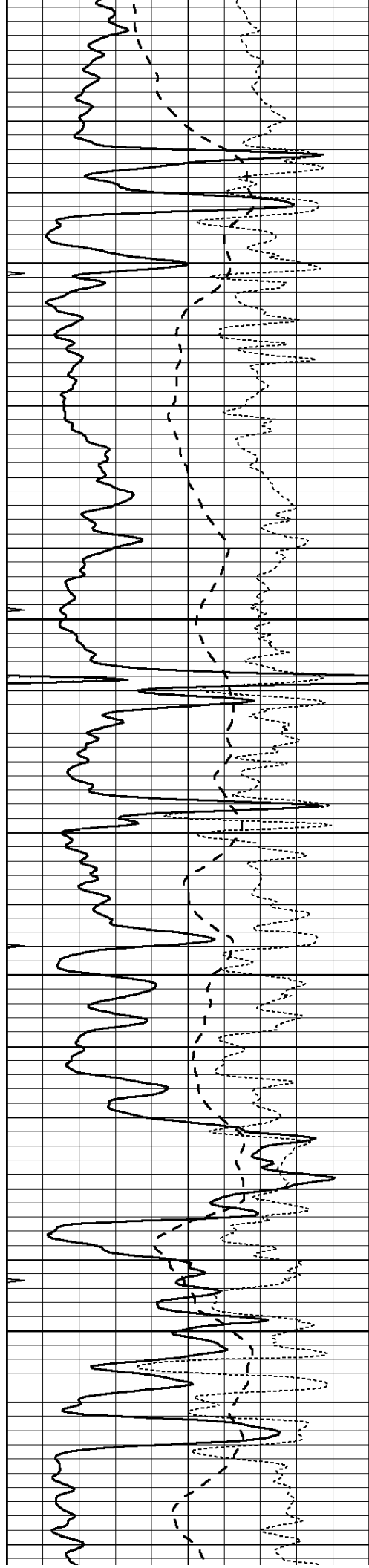
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2900

2950

3000



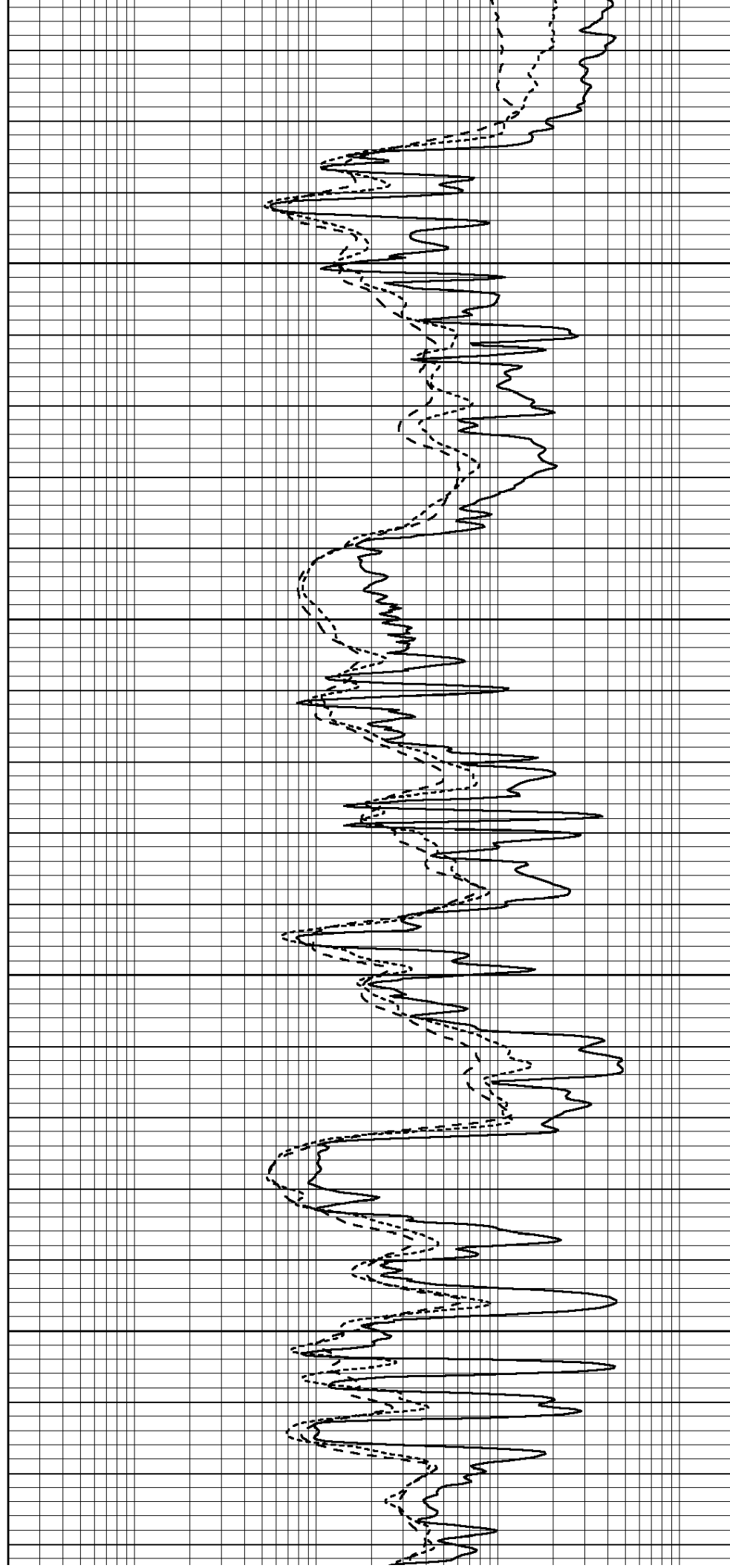


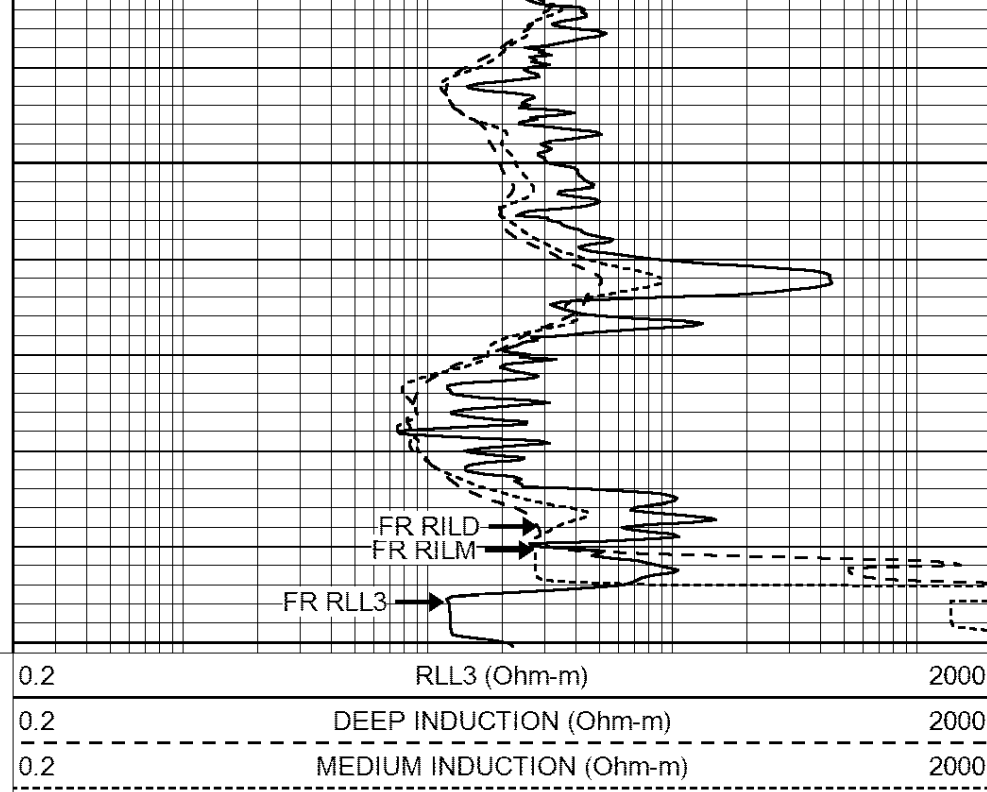
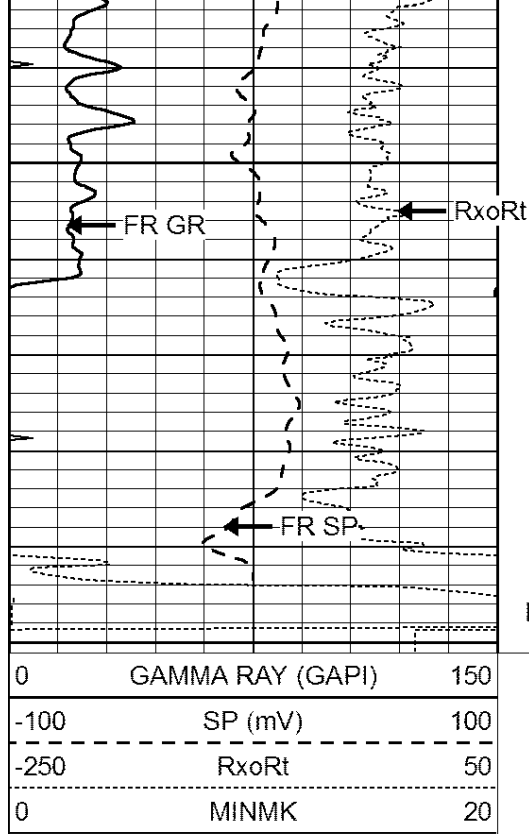
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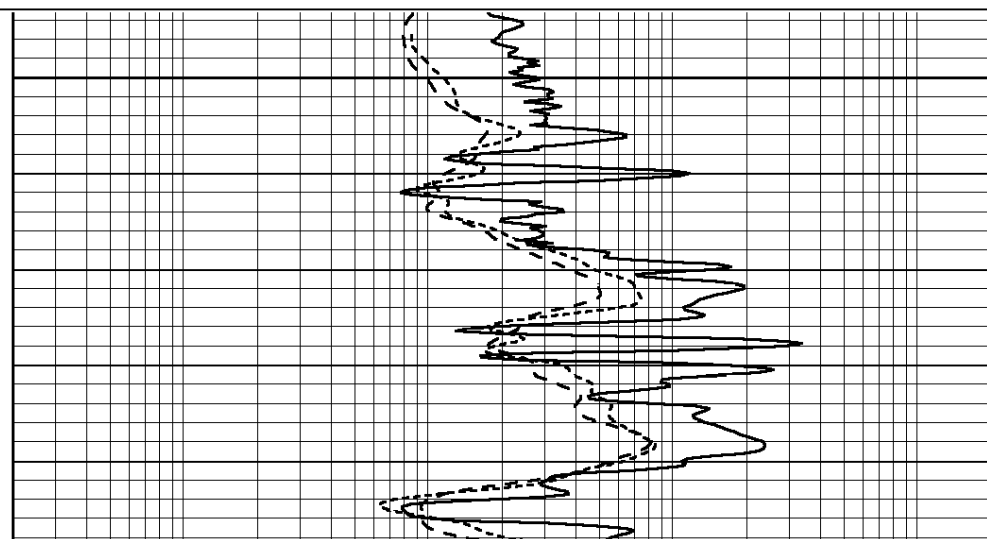
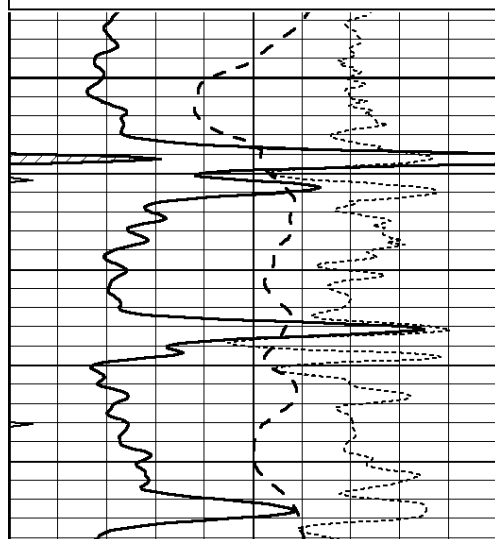
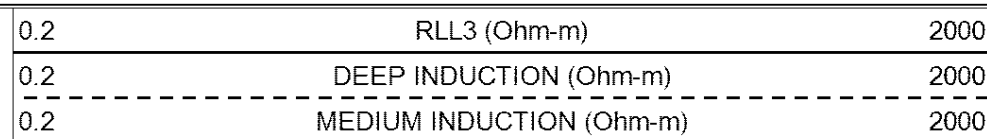
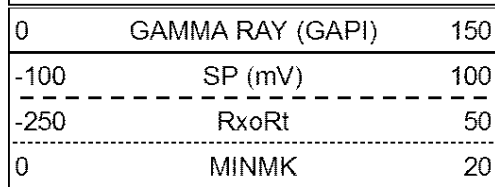
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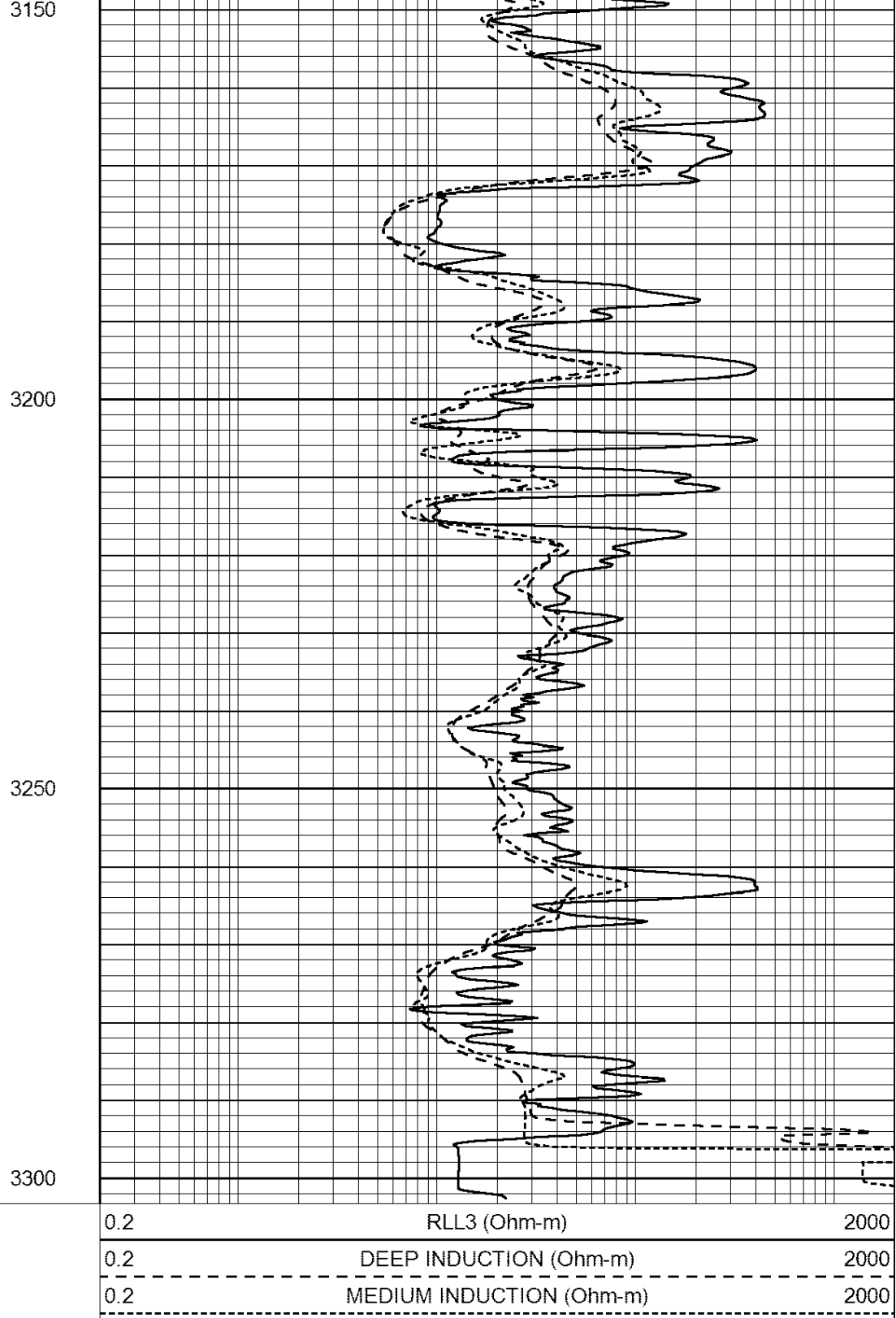
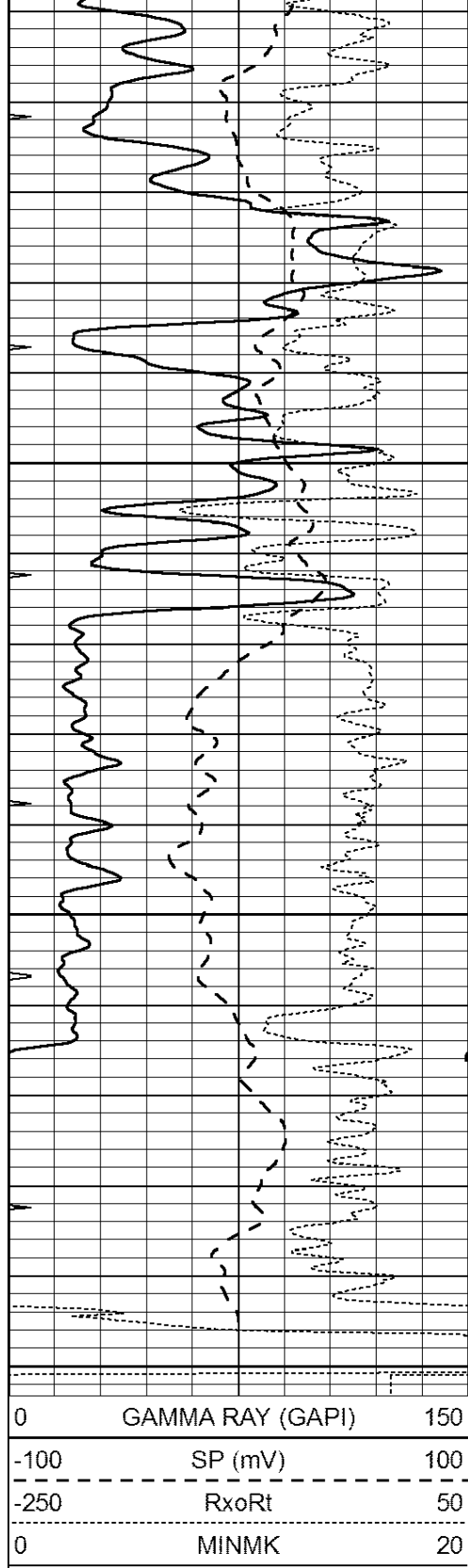




REPEAT SECTION

Database File: 24704.db
 Dataset Pathname: pass2.4
 Presentation Format: _dil
 Dataset Creation: Thu Jul 10 23:44:08 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240





Calibration Report

Database File: 24704.db
Dataset Pathname: pass3.3.3
Dataset Creation: Fri Jul 11 01:05:25 2014 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE7-DILG
Surface Cal Performed:	Thu Aug 29 12:01:20 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	500.000	20.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	520.000	-24.000
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		3000.000	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		1300.000	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:			Tue May 27 14:31:24 2014					
Before Survey Verification Performed:								
After Survey Verification Performed:								

Master Calibration					
	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1171.69	597.72	cps
Aluminum	2.590	g/cc	271.46	422.74	cps
Spine Angle = 76.68			Density/Spine Ratio = 0.586		
	Size		Reading		
Small Ring	8.20	in	5.55	V	
Large Ring	16.00	in	9.63	V	

Before Survey Verification								
Target			Measured					

After Survey Verification								
Target			Measured					

	g/cc g/cc g/cc		g/cc g/cc g/cc
Compensated Neutron Calibration Report			
Serial Number:		080620	
Tool Model:		Probe	
PRE-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu
POST-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu
Gamma Ray Calibration Report			
Serial Number:	7		
Tool Model:	Probe1		
Performed:	Sat May 17 15:09:13 2014		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.5000	GAPI/cps	