



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company DREILING OIL CO., INC.		Company DREILING OIL CO., INC.
Well KOHL D #1		Well KOHL D #1
Field KOHL		Field KOHL
County TREGO		County TREGO
State KANSAS		State KANSAS
Location: API # : 15-195-22928-00-00		Other Services CNL/CDL MEL
SEC 2 TWP 12S RGE 21W		
Permanent Datum	GROUND LEVEL	Elevation
Log Measured From	KELLY BUSHING 8' A.G.L.	K.B. 2321
Drilling Measured From	KELLY BUSHING	D.F. 2319
		G.L. 2313
Date	5/18/14	
Run Number	ONE	
Depth Driller	4065	
Depth Logger	4070	
Bottom Logged Interval	4068	
Top Log Interval	00	
Casing Driller	8 5/8" @ 221	
Casing Logger	220	
Bit Size	7 7/8"	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,000 PPM
Density / Viscosity	9.0/52	
pH / Fluid Loss	10.5/7.6	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	0.40 @ 70F	
Rmt @ Meas. Temp	0.30 @ 70F	
Rmc @ Meas. Temp	0.48 @ 70F	
Source of Rmt / Rmc	MEASUREMENT	
Rm @ BHT	0.24 @ 117F	
Time Circulation Stopped	2 HOURS	
Time Logger on Bottom		
Maximum Recorded Temperature	117F	
Equipment Number	4010	
Location	HAYS, KANSAS	
Recorded By	IAN MABB	
Witnessed By	ROGER FISHER	

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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.

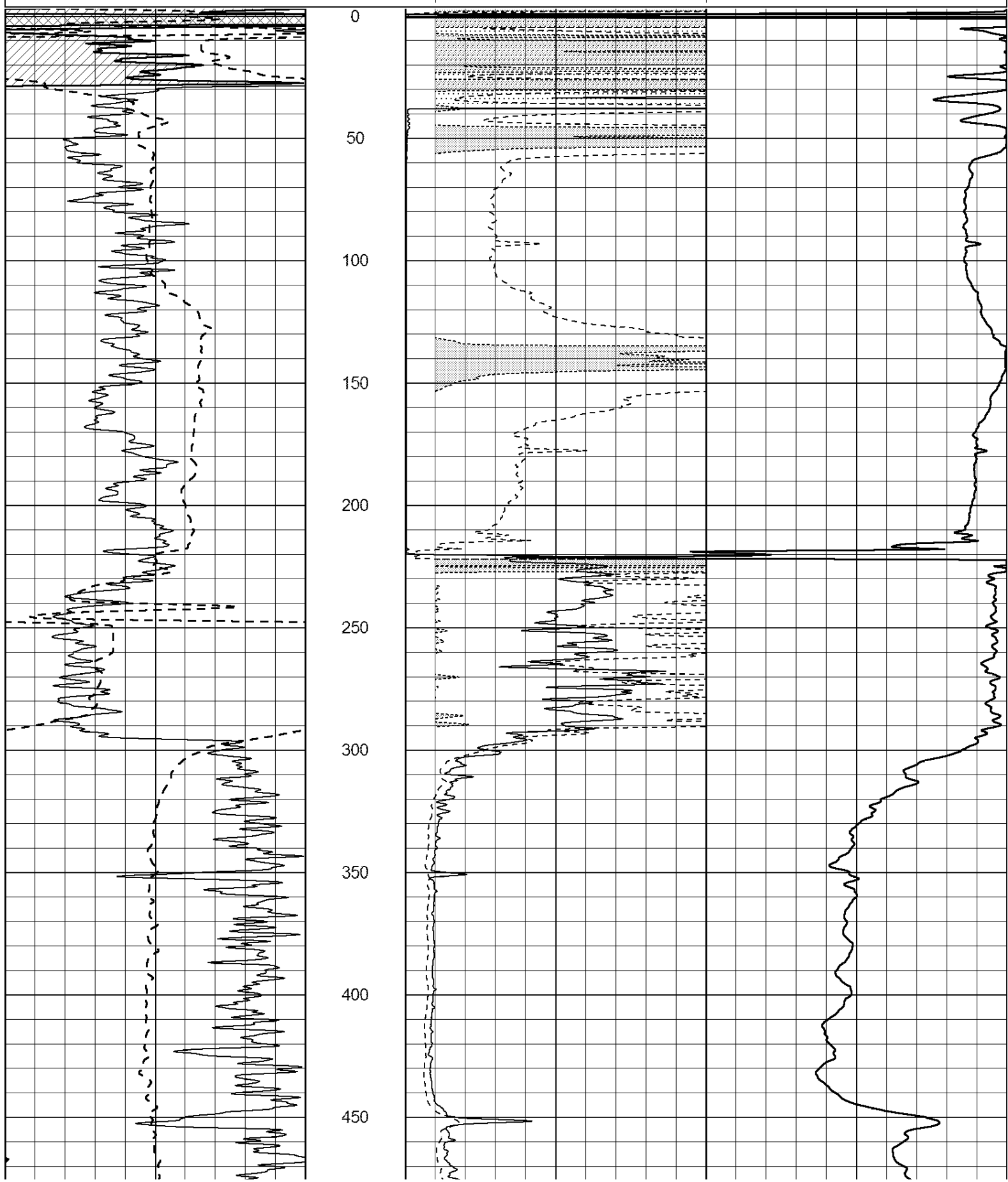
Comments

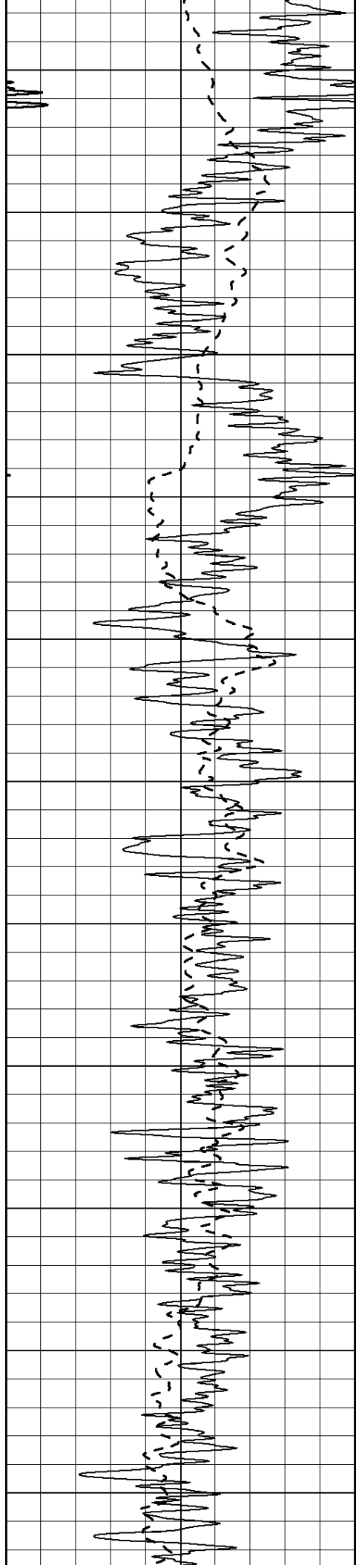
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
I-70 & RIGA RD. - 4 MILES NORTH - 1 1/2 MILES EAST - NORTH INTO

Database File: 24246ddn.db
Dataset Pathname: pass3.2
Presentation Format: _dil2
Dataset Creation: Sun May 18 17:12:50 2014 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

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

0	RLL3 (Ohm-m)	50
0	RILD (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

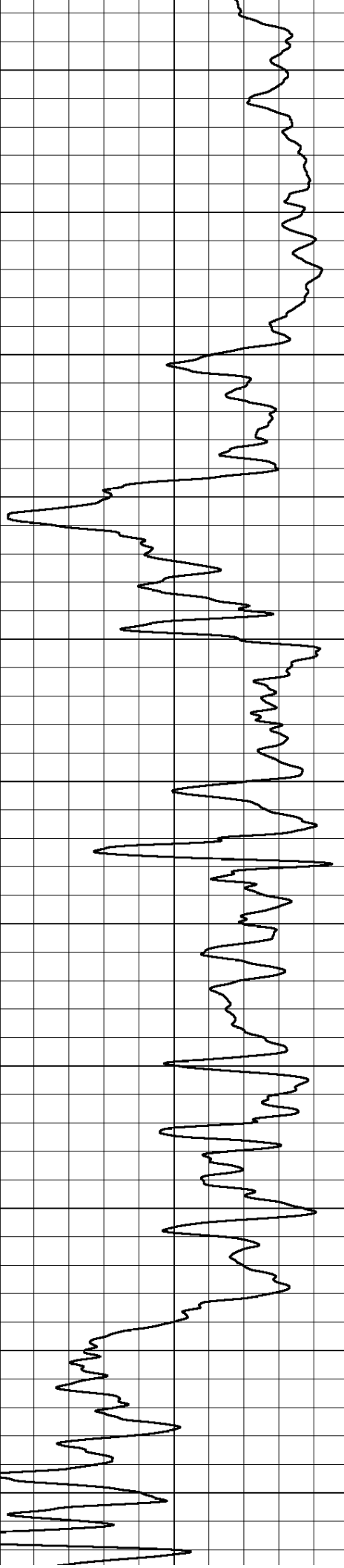
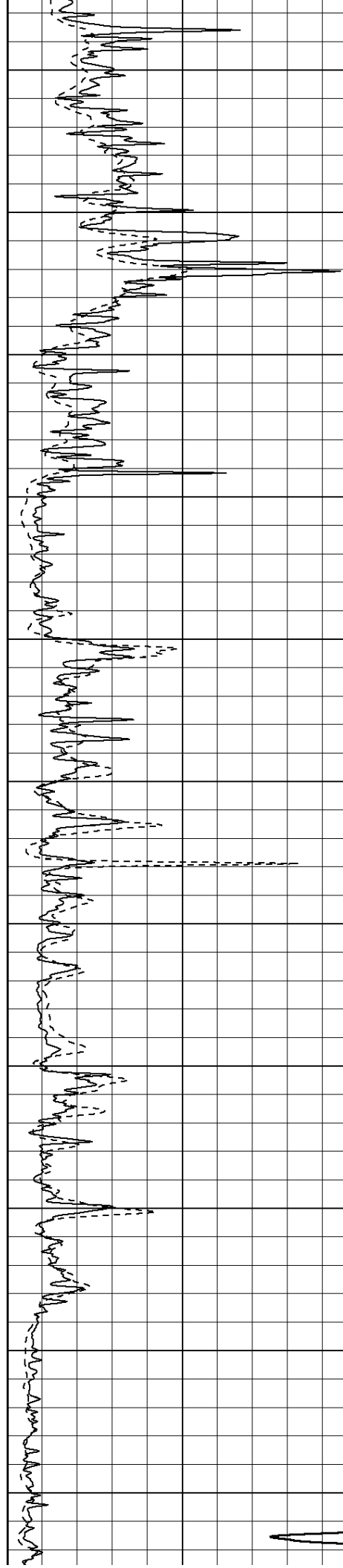
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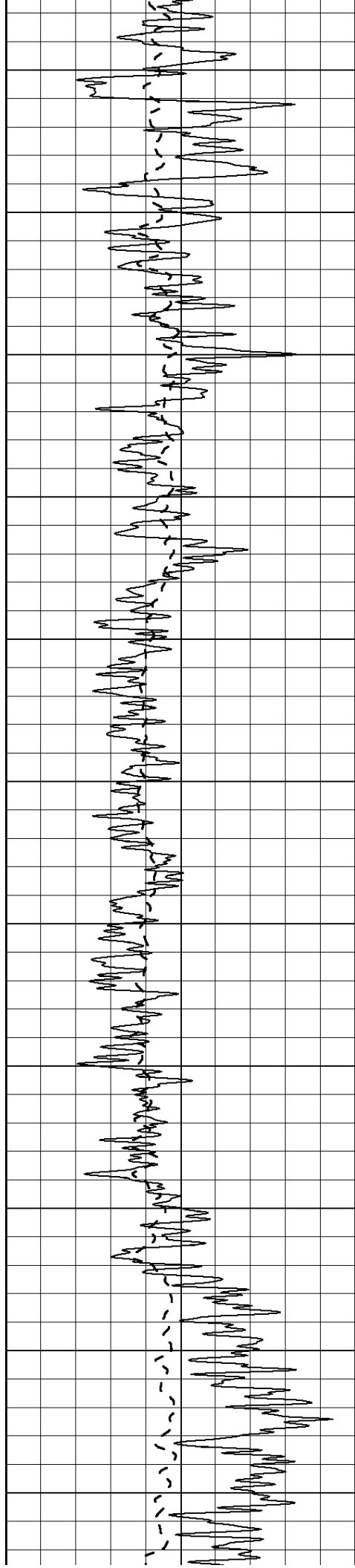
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900

950

1000





1050

1100

1150

1200

1250

1300

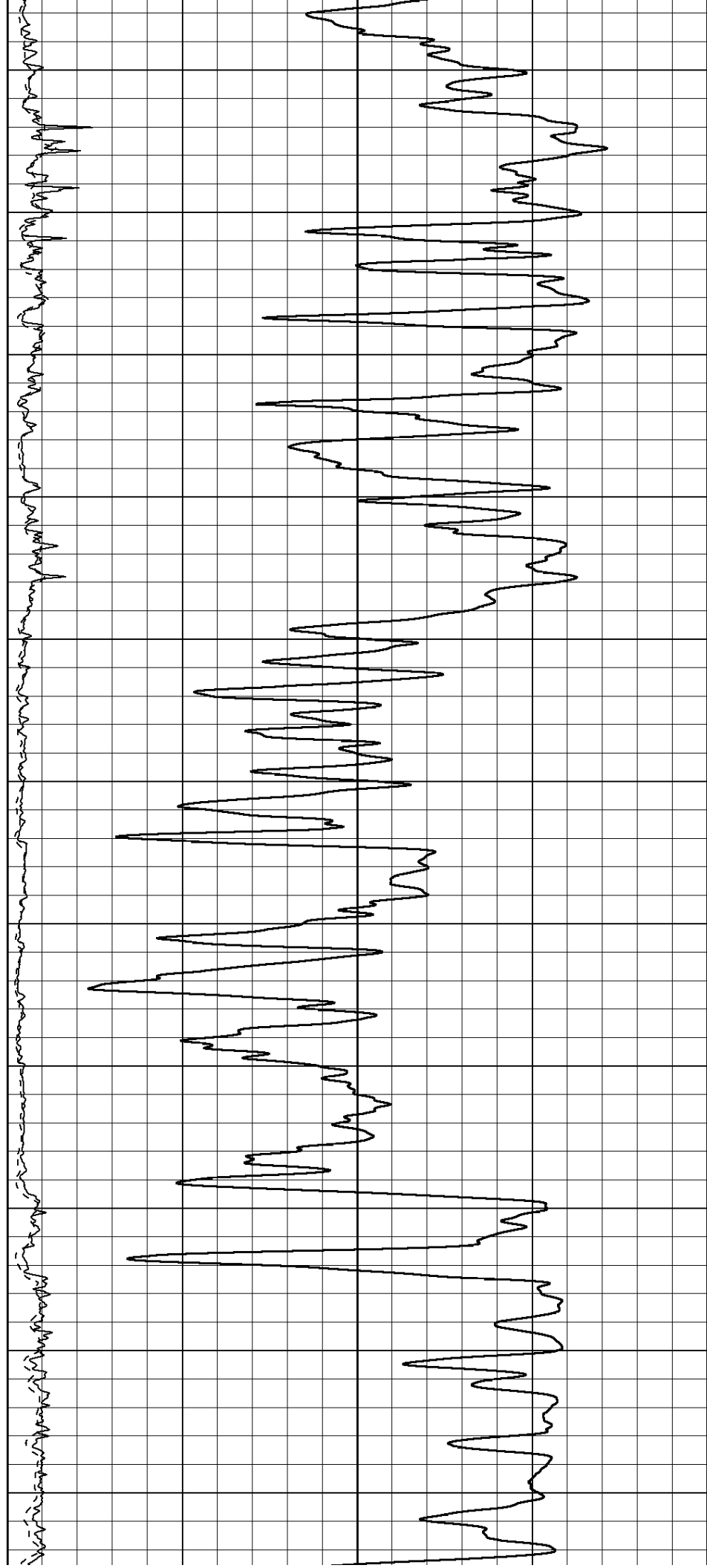
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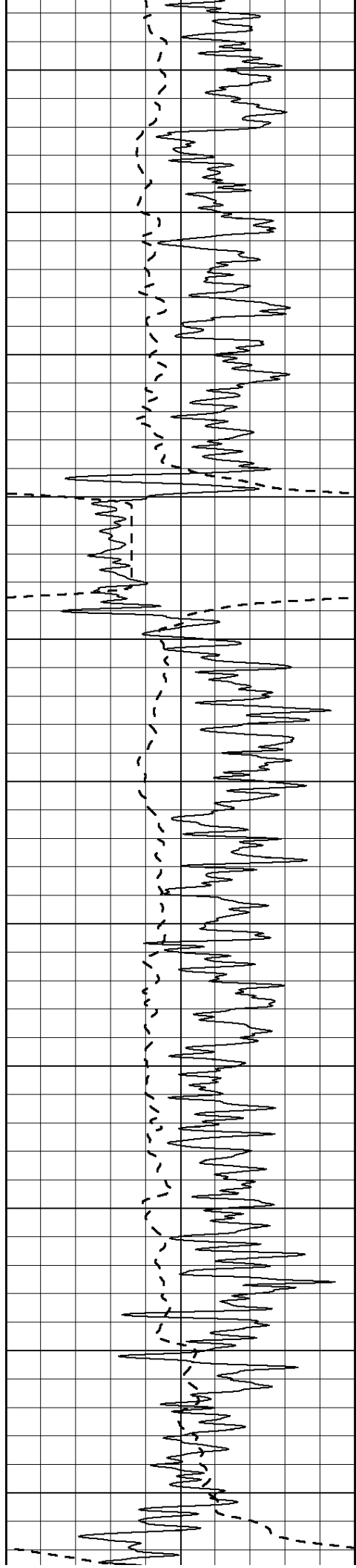
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1450

1500

1550





1600

1650

1700

1750

1800

1850

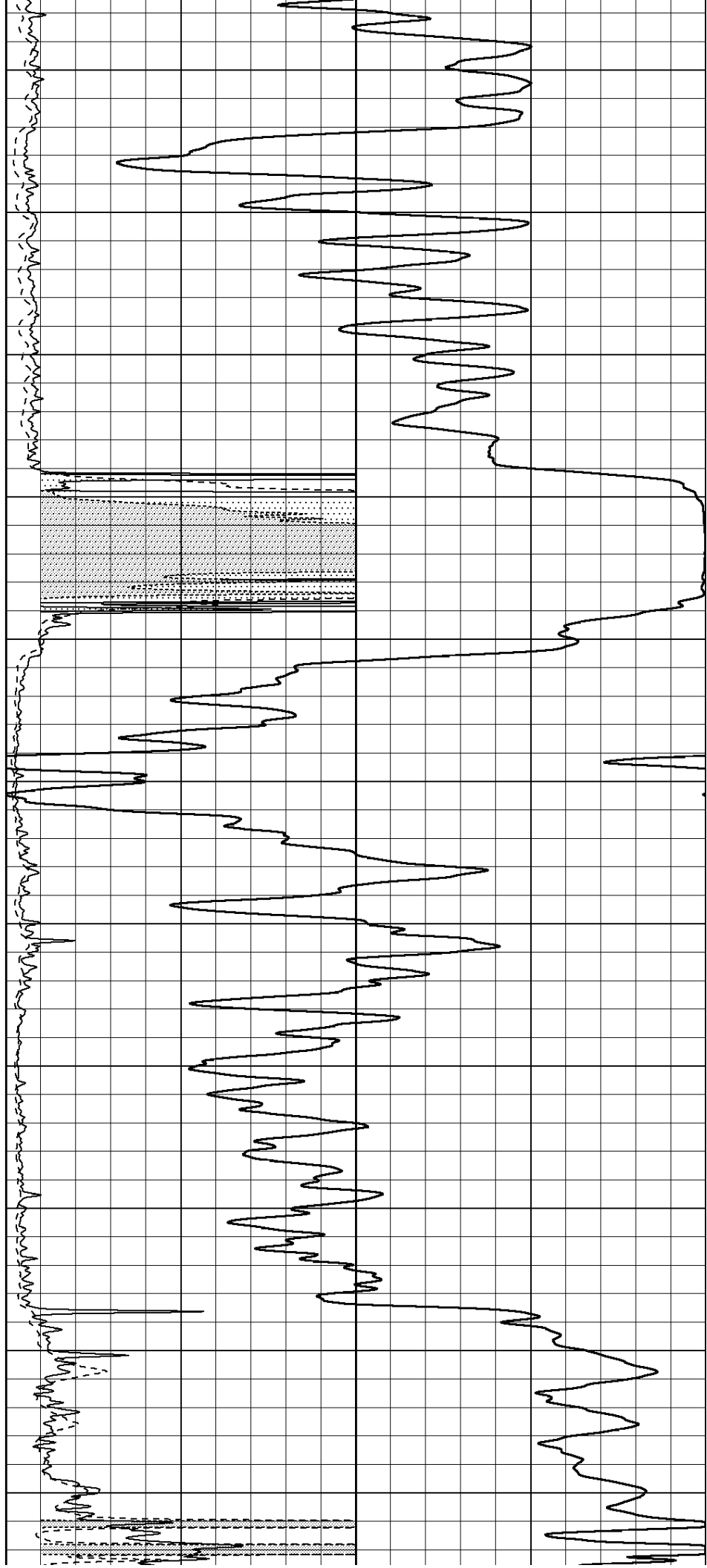
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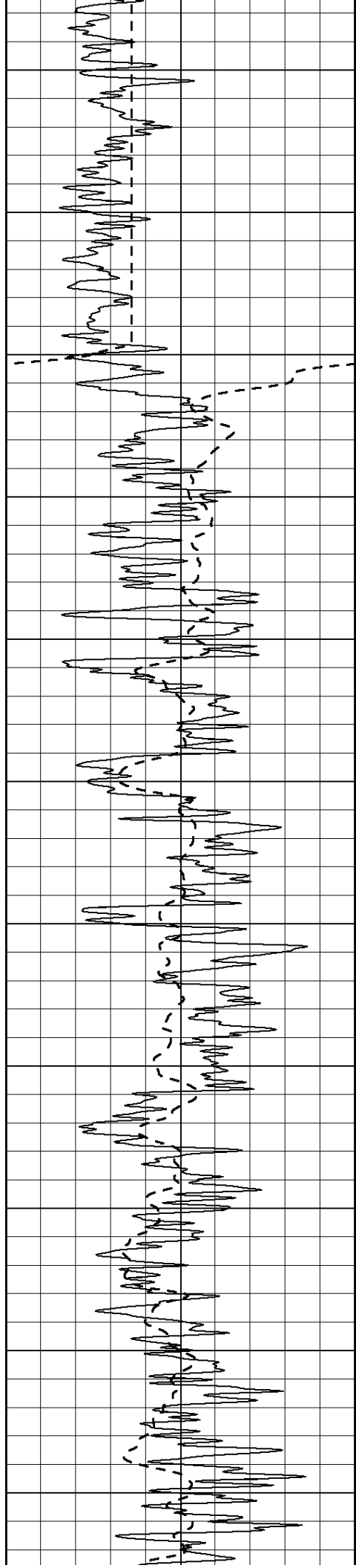
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2000

2050

2100





2150

2200

2250

2300

2350

2400

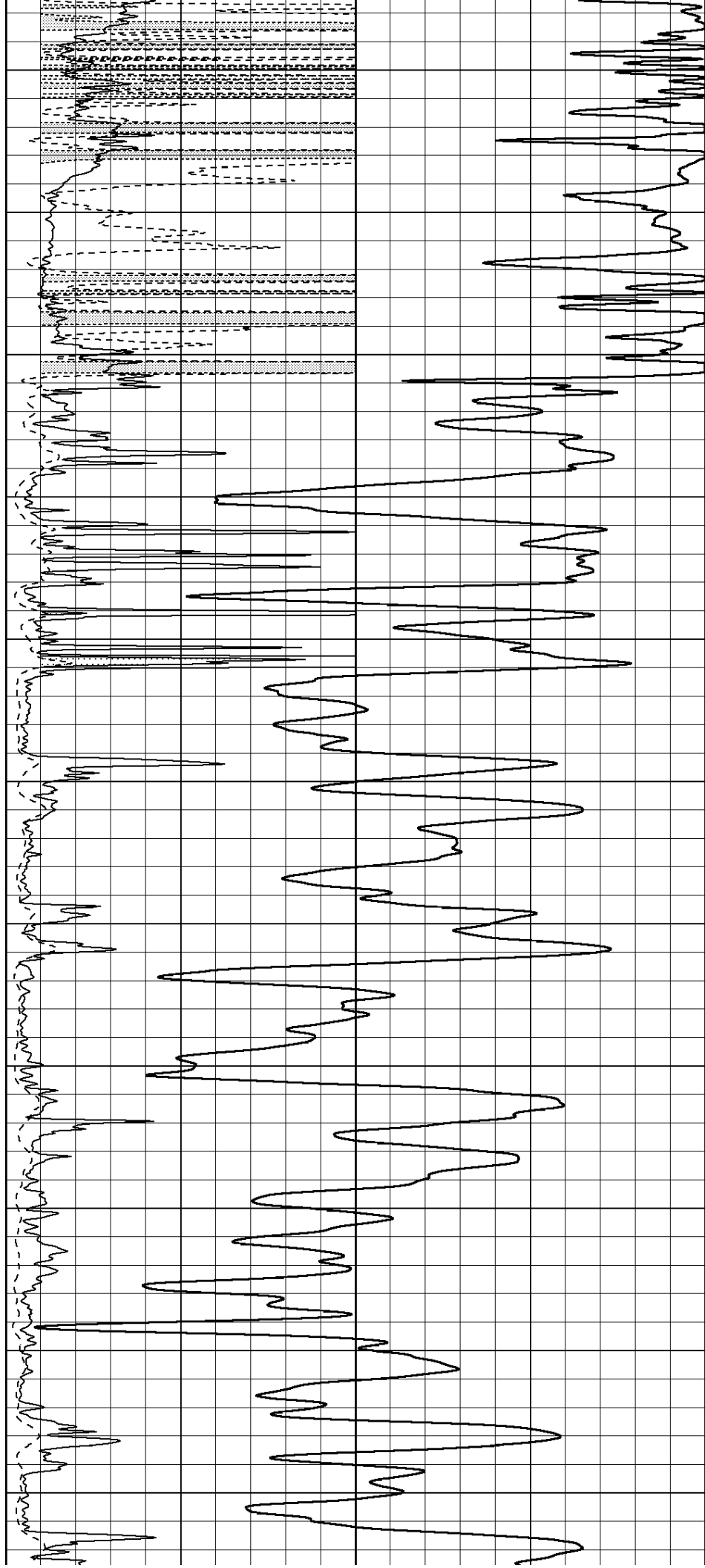
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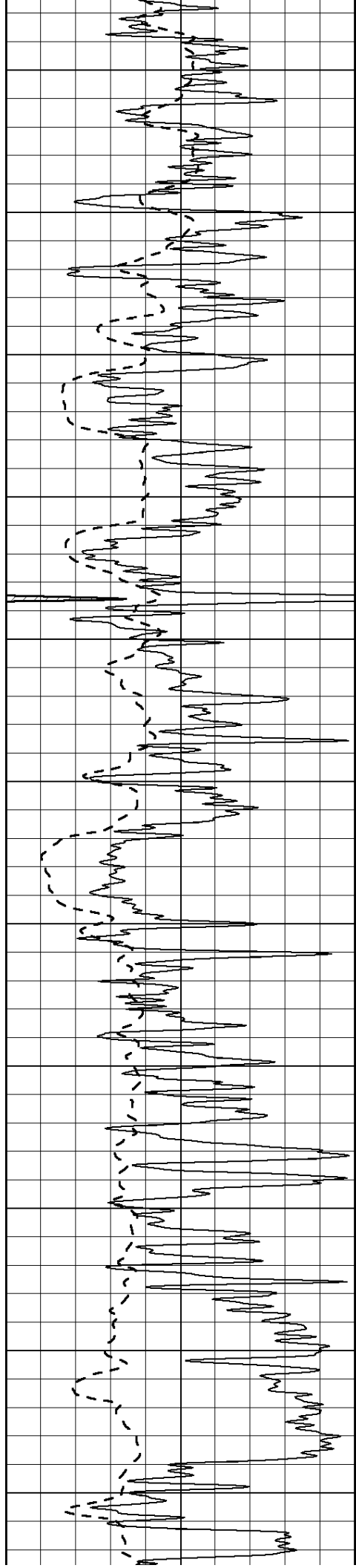
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2550

2600

2650





2700

2750

2800

2850

2900

2950

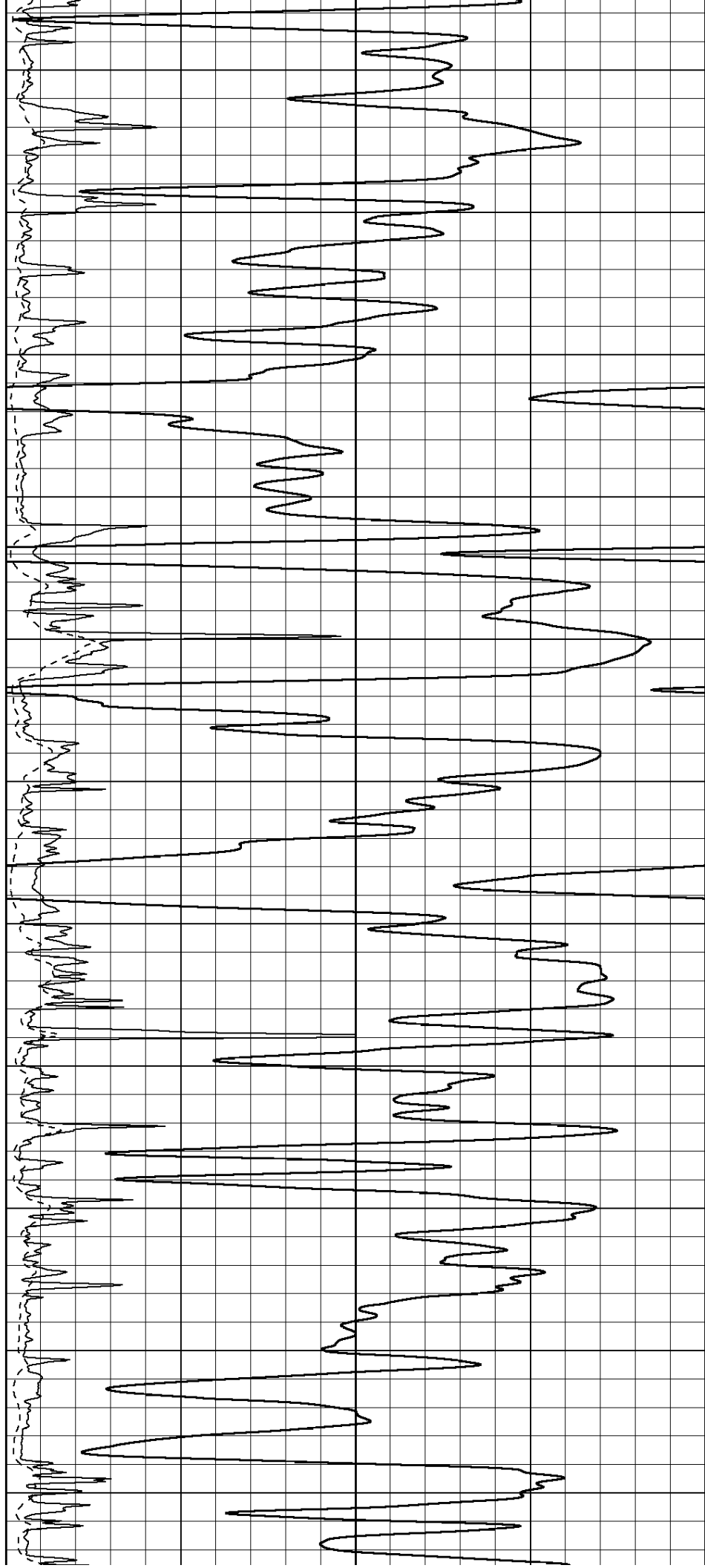
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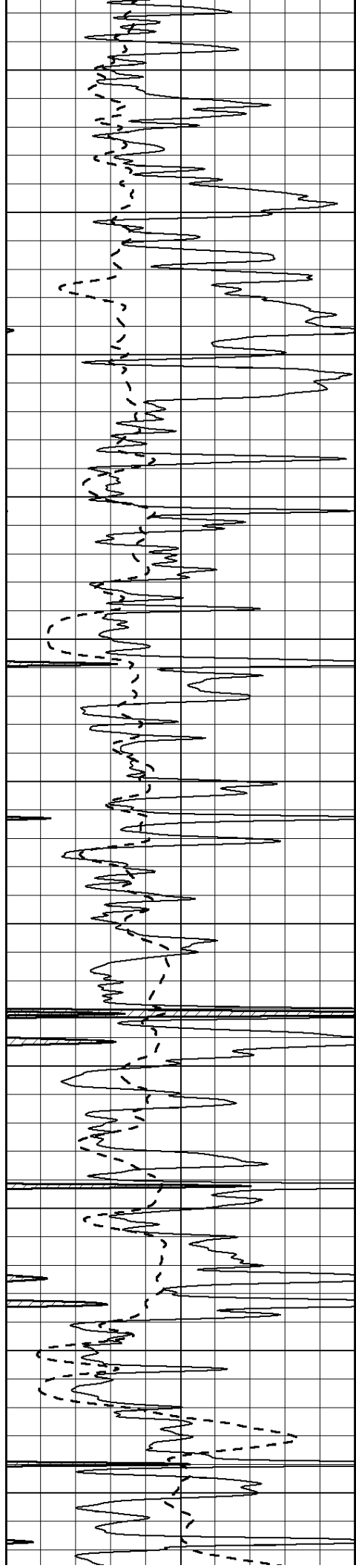
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3100

3150

3200





3250

3300

3350

3400

3450

3500

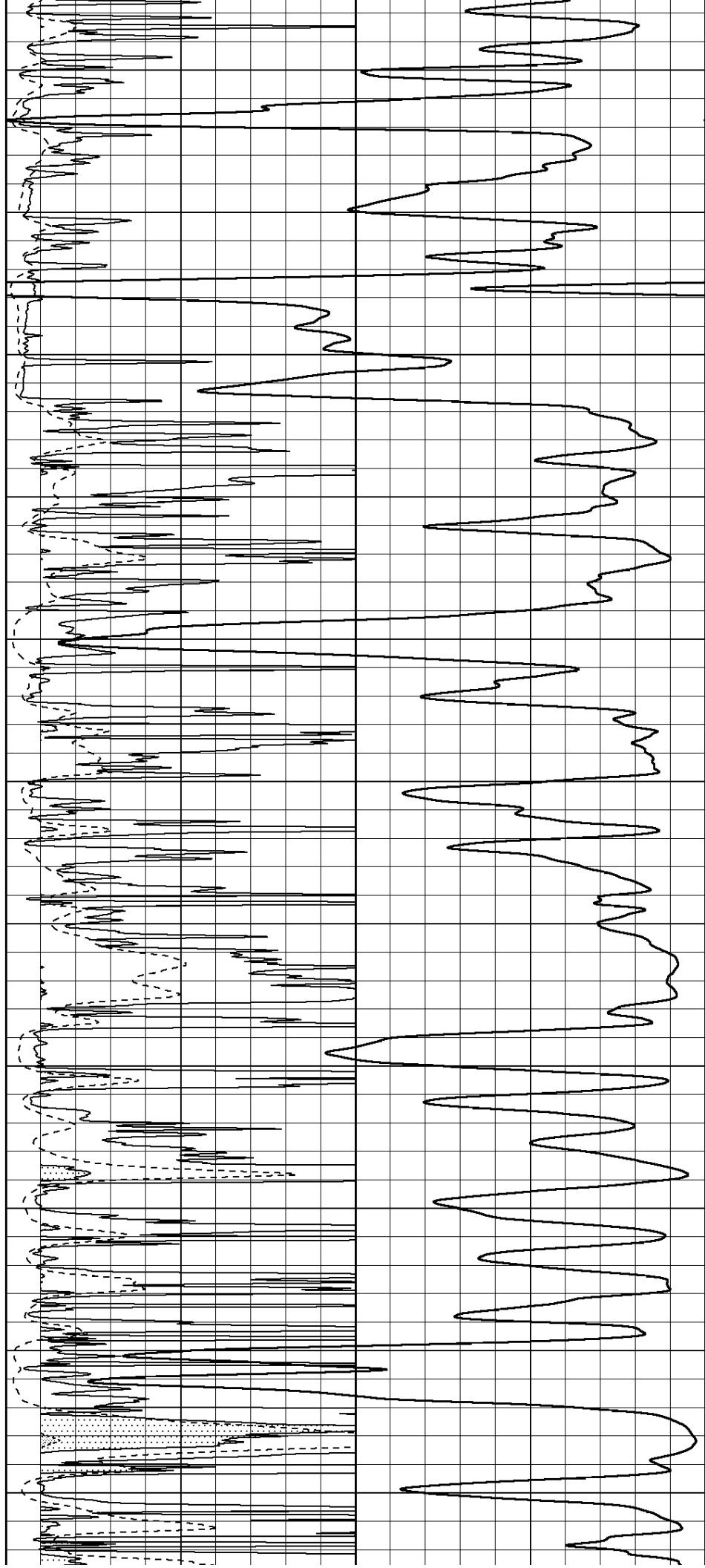
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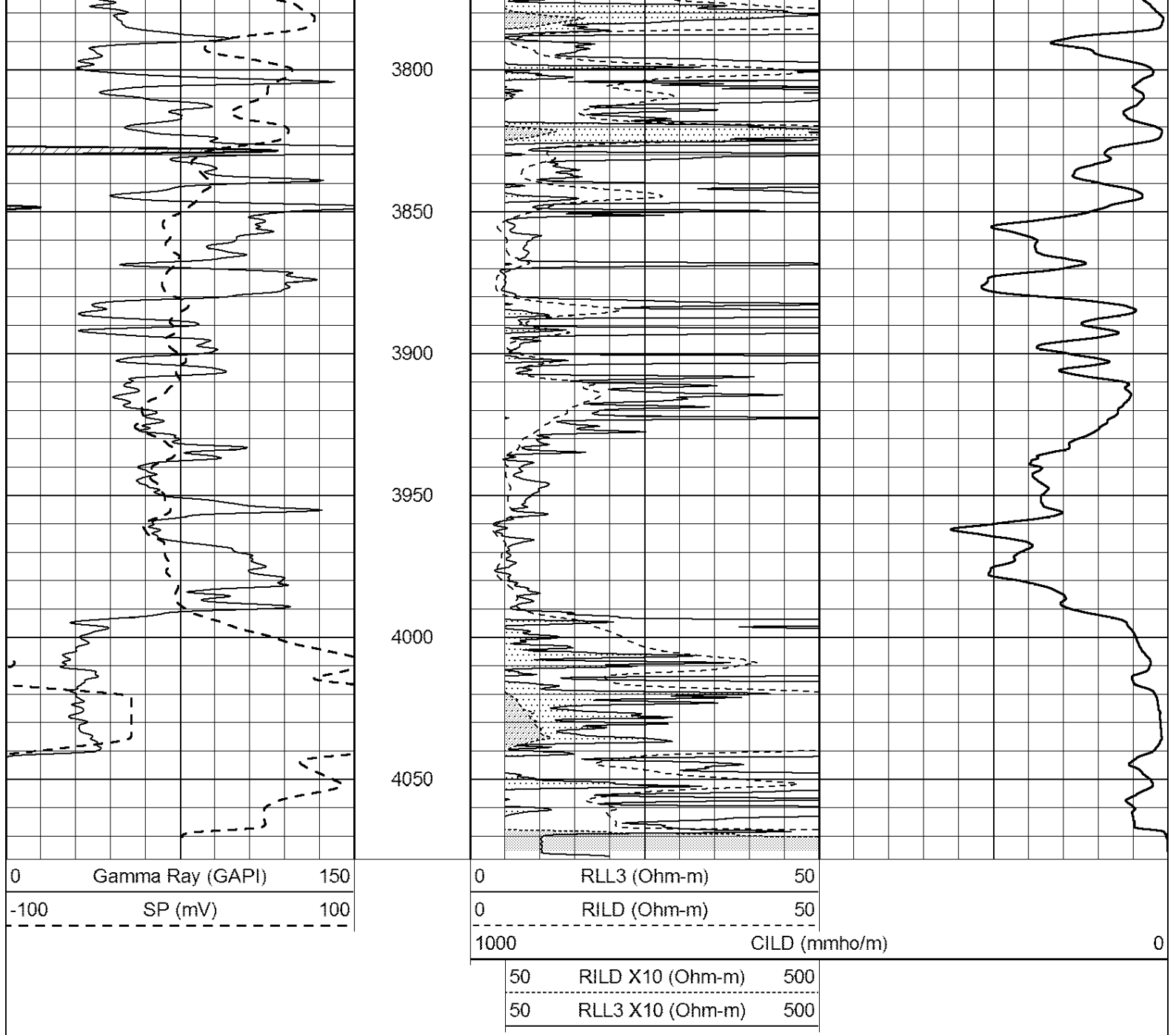
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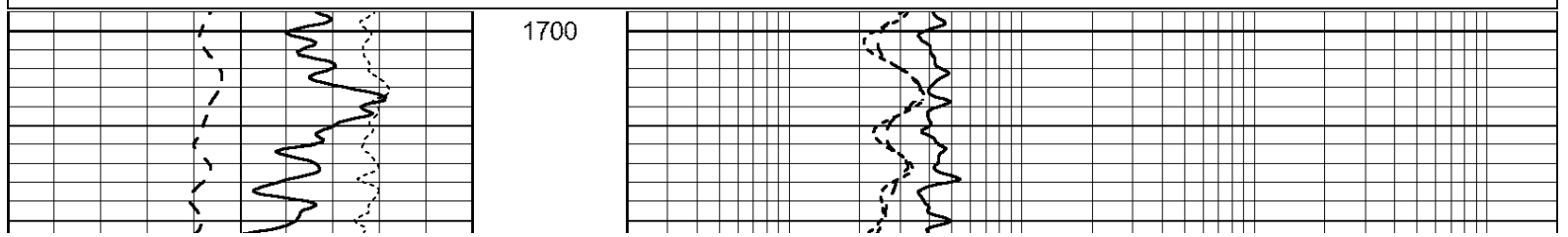
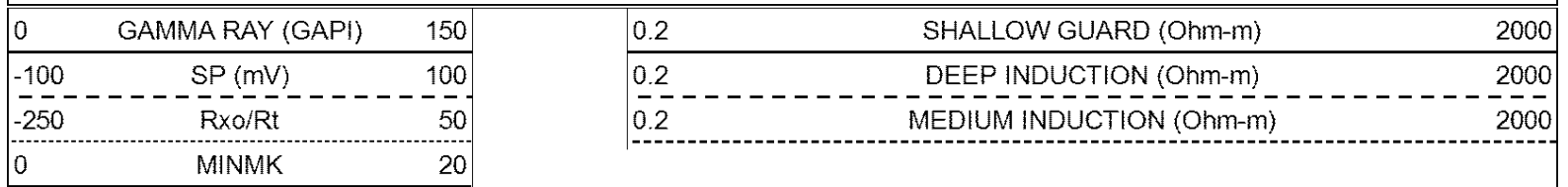
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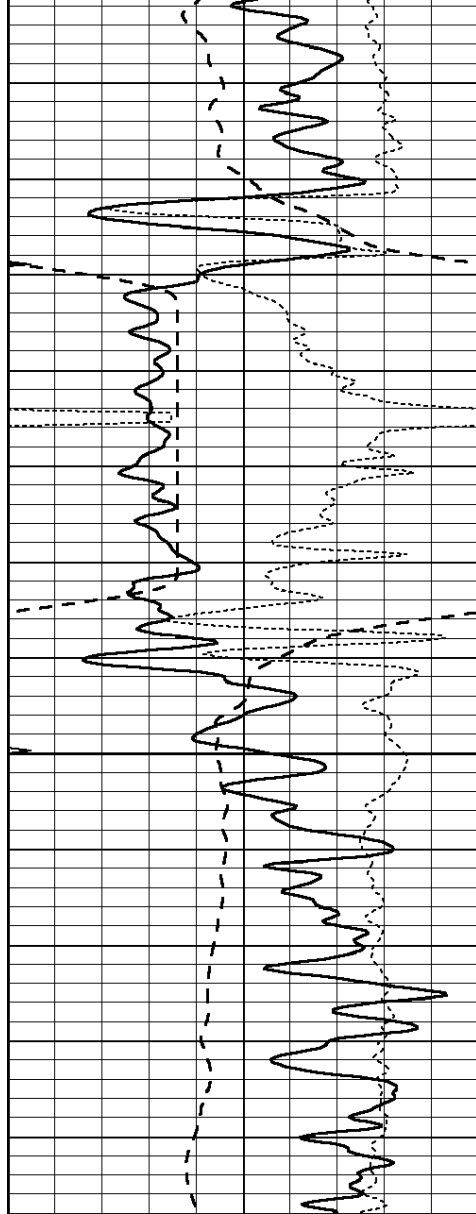
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Database File: 24246ddn.db
Dataset Pathname: pass3.2
Presentation Format: _dil
Dataset Creation: Sun May 18 17:12:50 2014 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

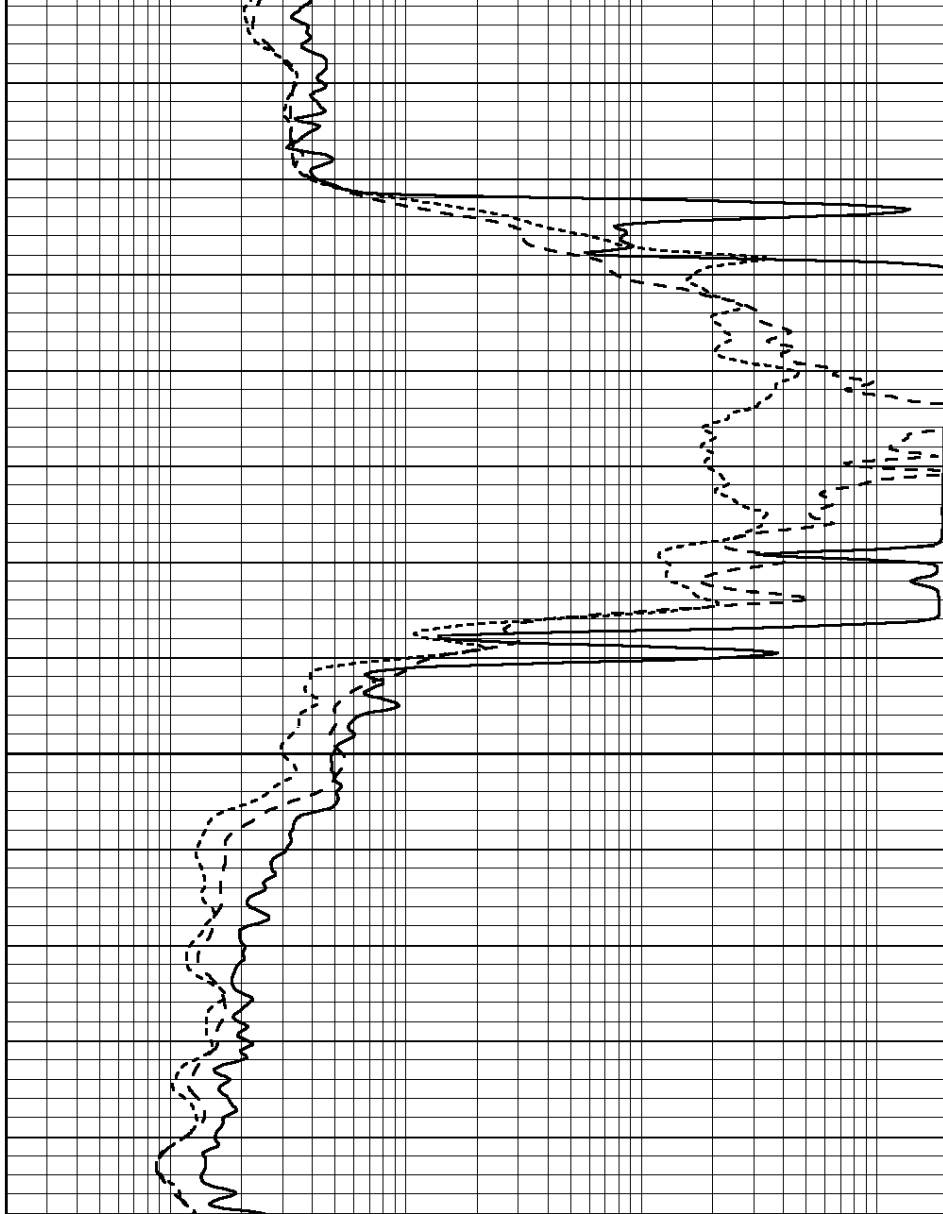




1750

1800

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



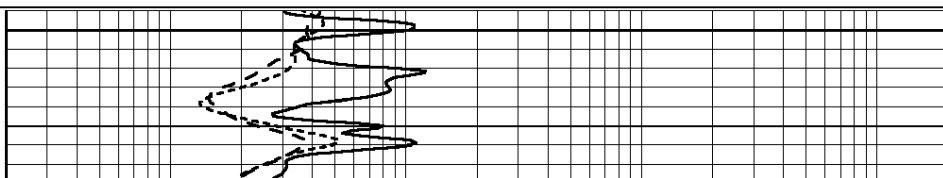
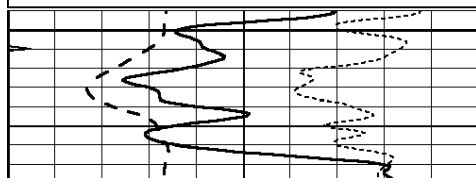
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0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

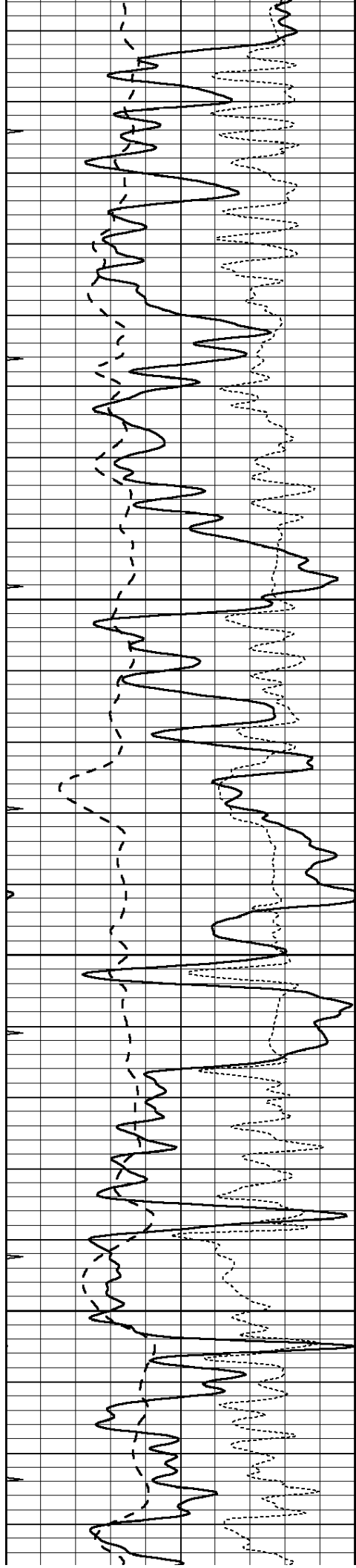
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 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Sun May 18 16:37:40 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

3200



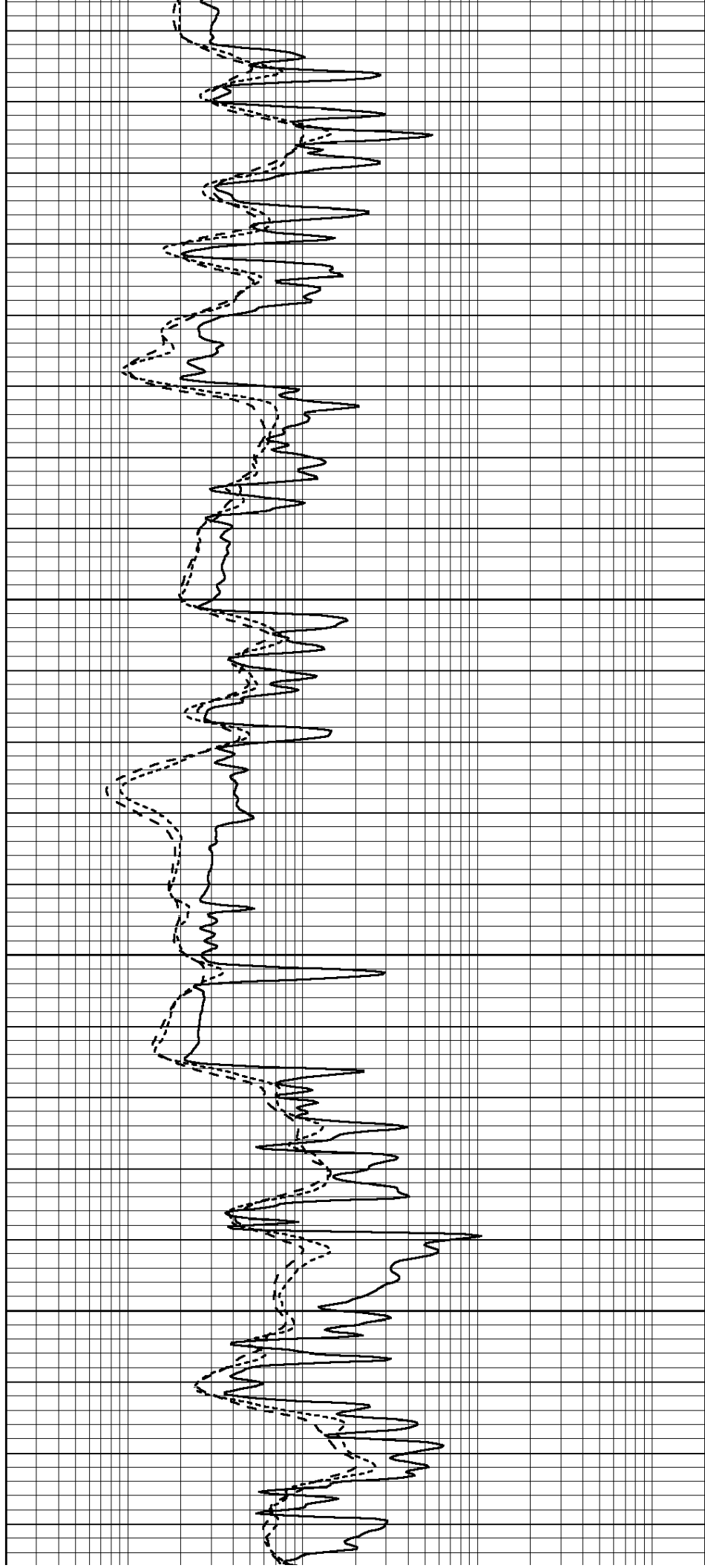


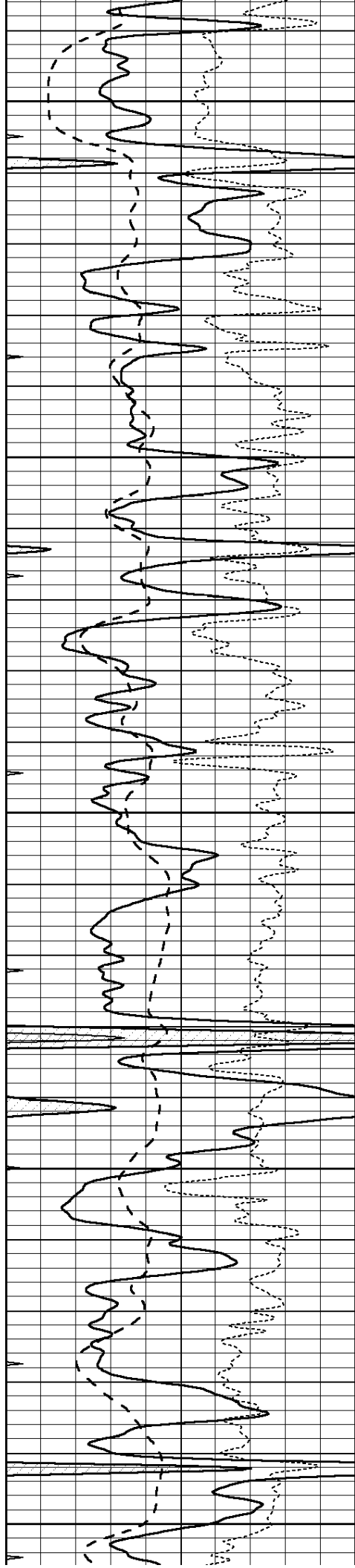
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3300

3350

3400





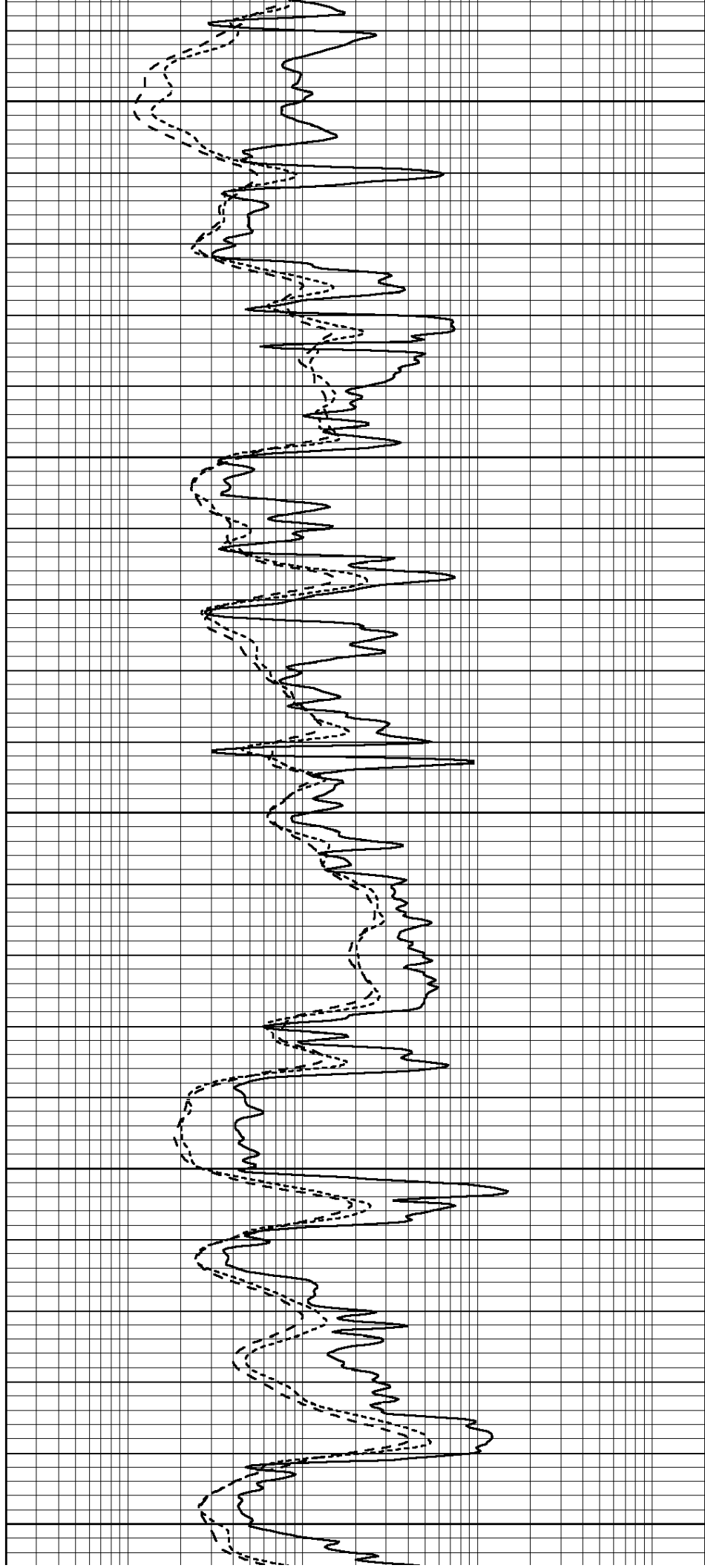
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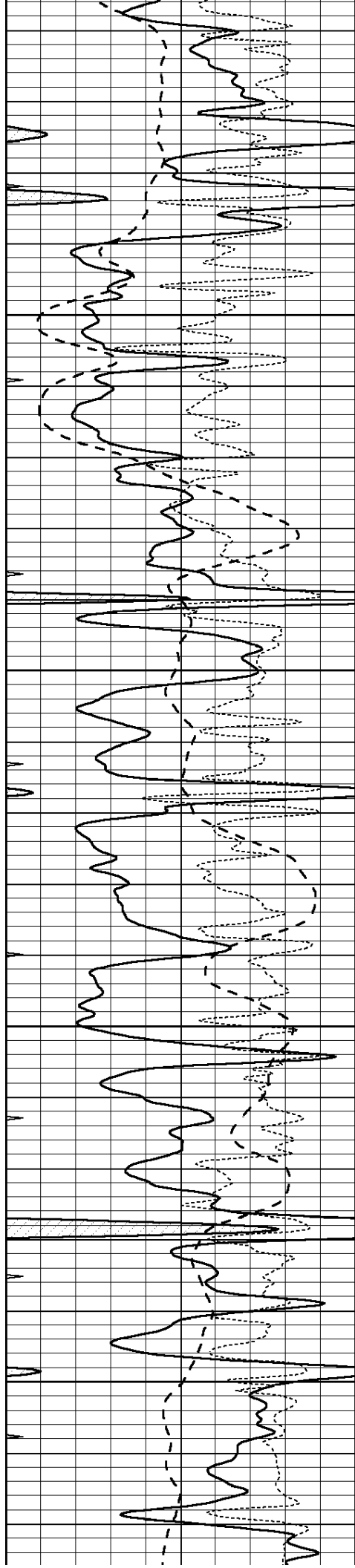
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3550

3600

3650



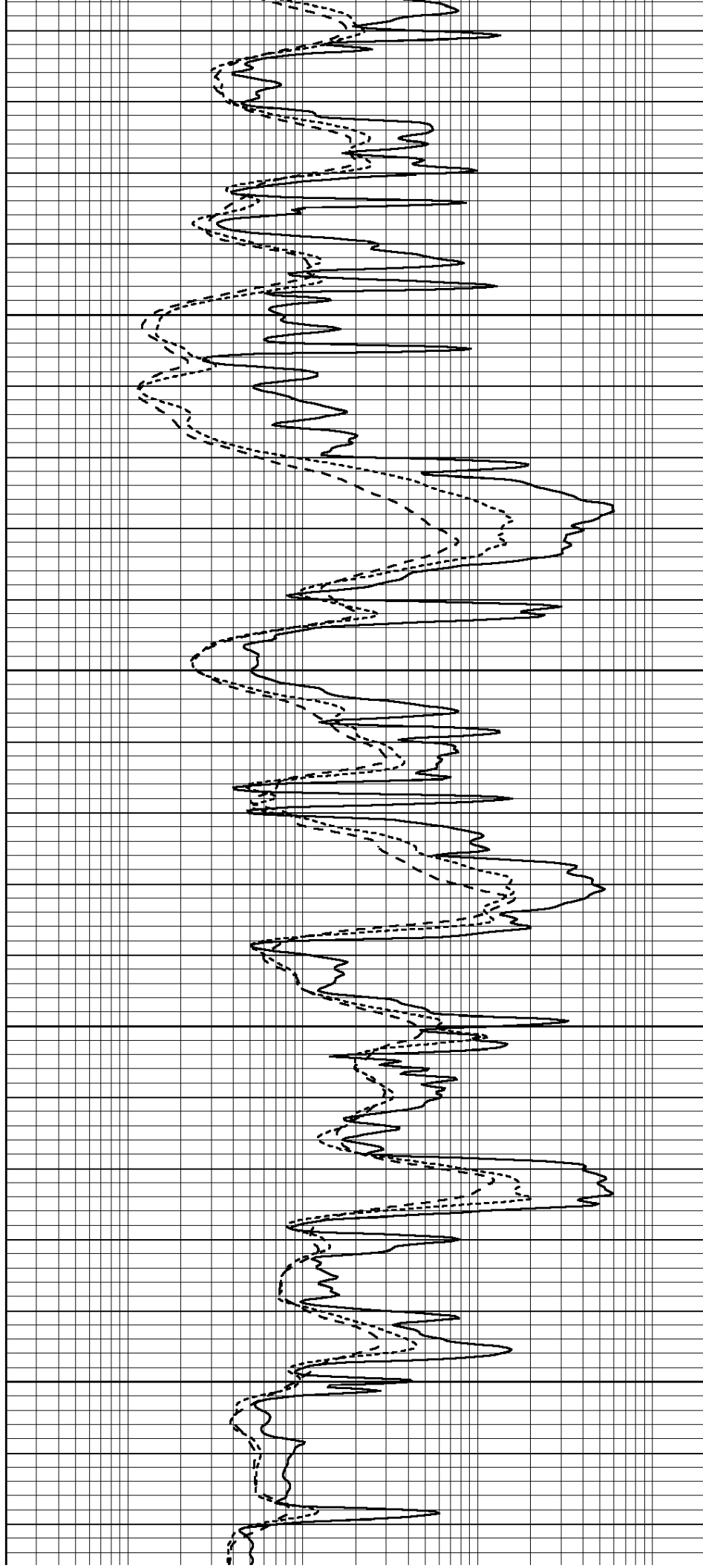


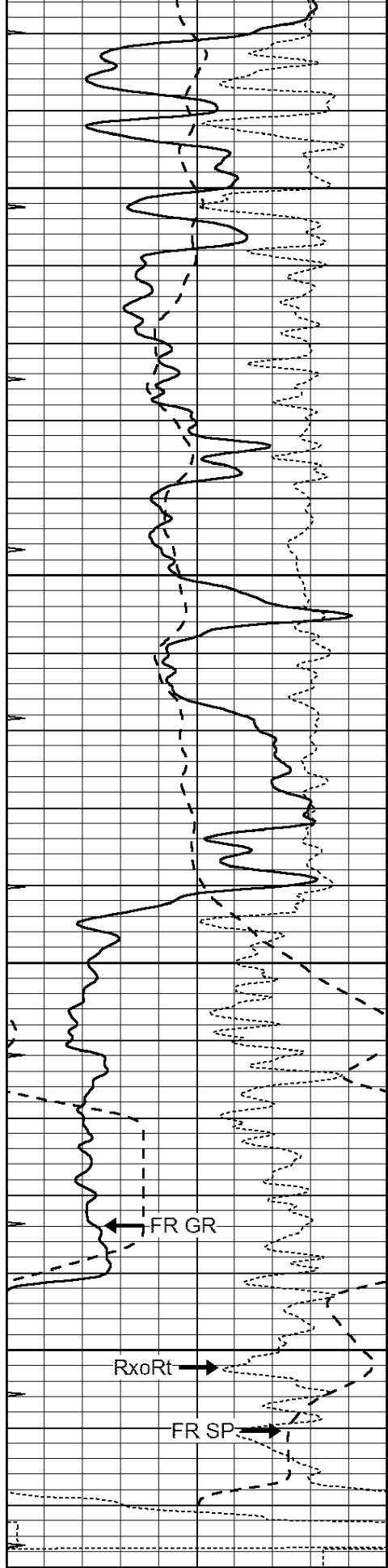
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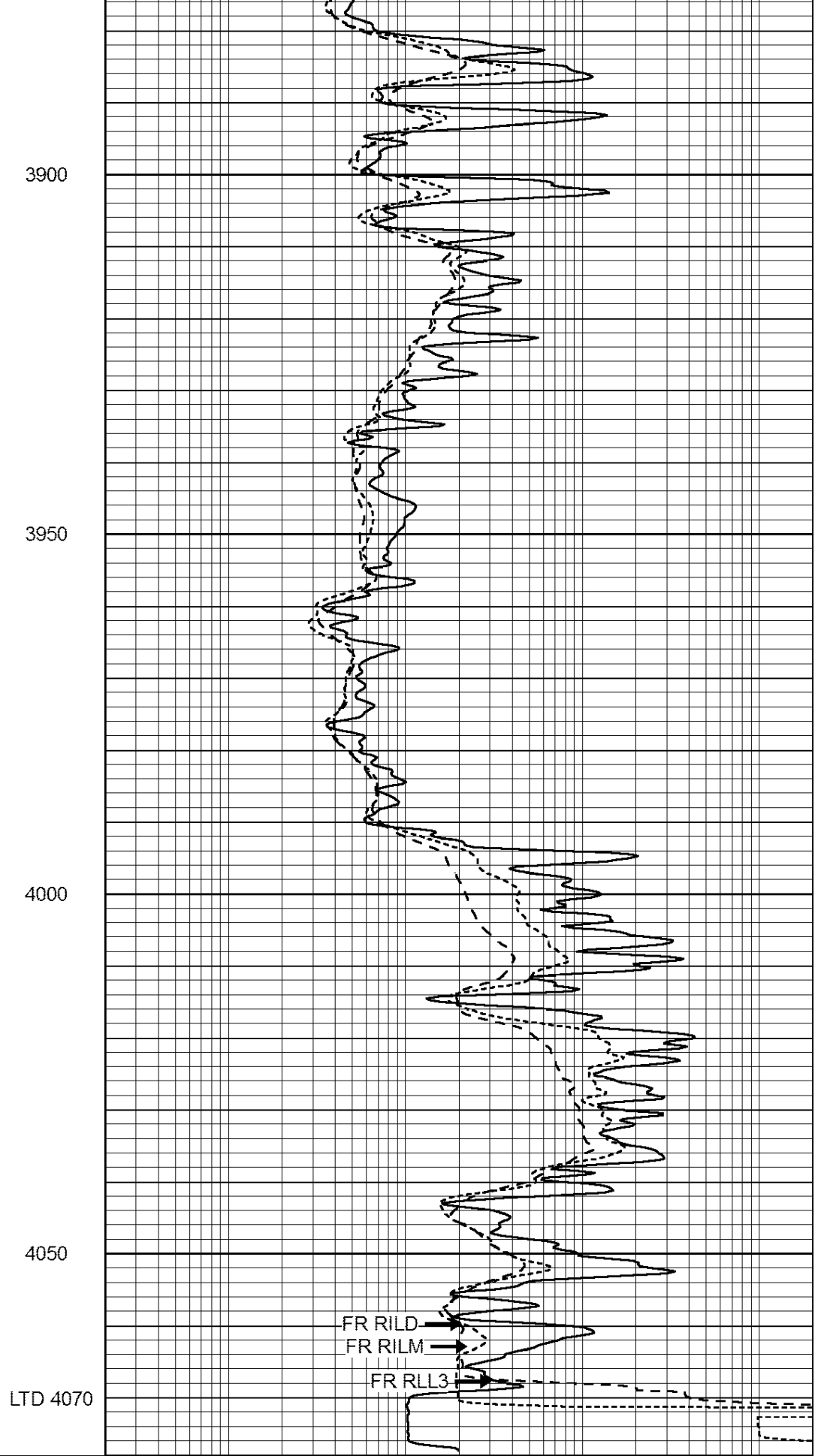
3800

3850





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

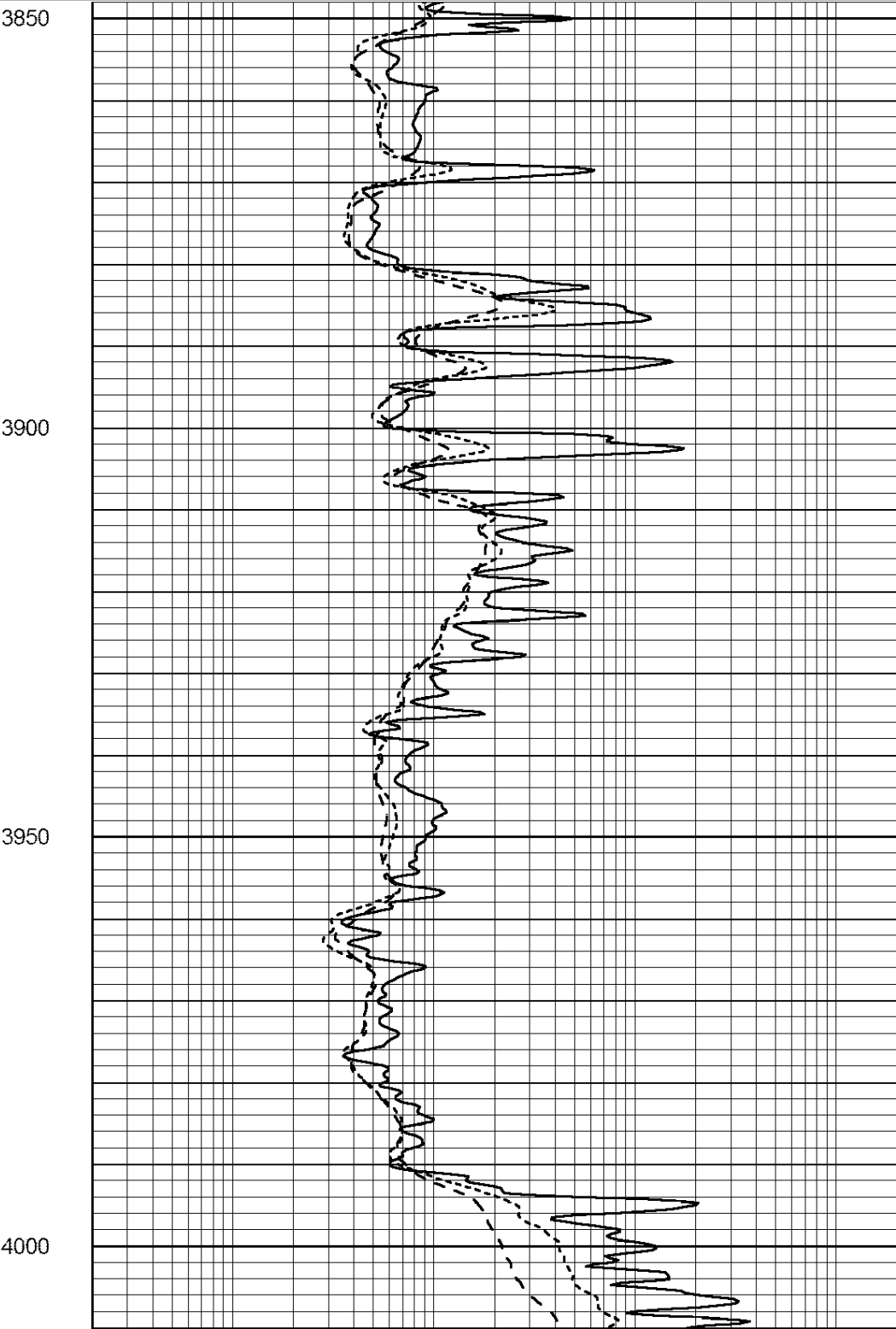
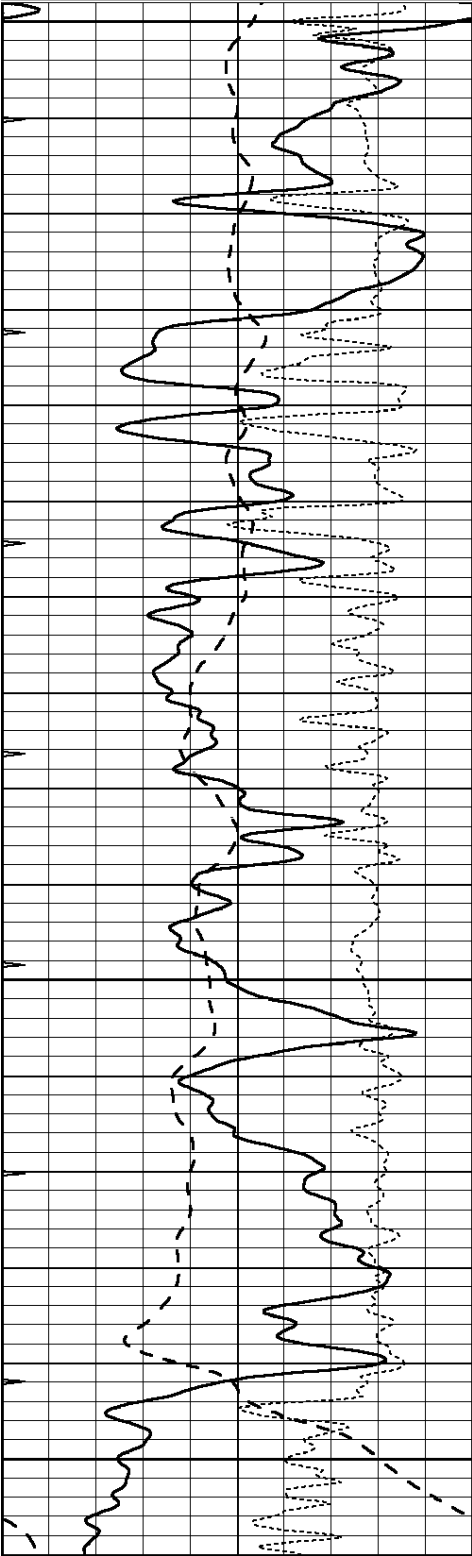


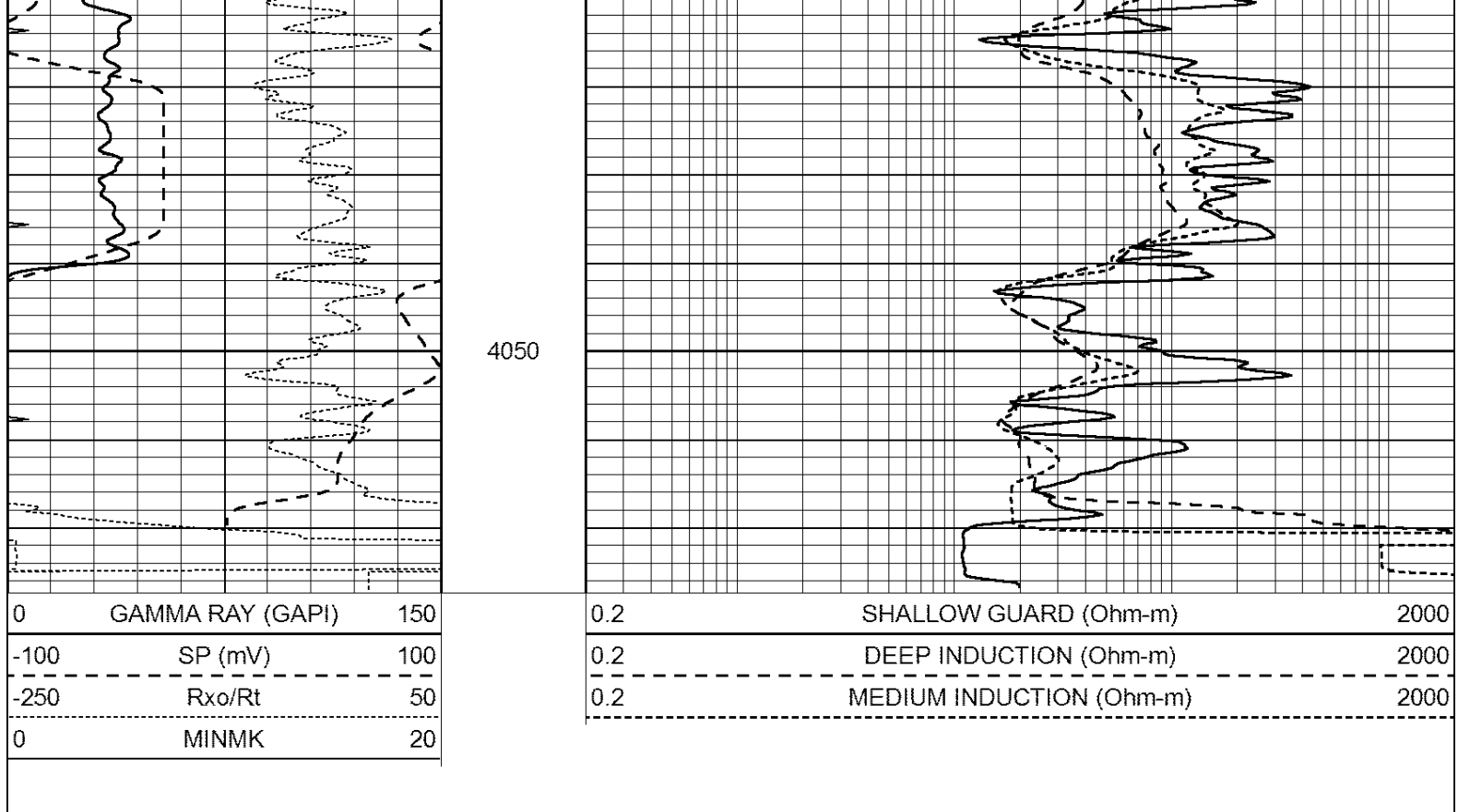
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Database File: 24246ddn.db
Dataset Pathname: pass2.3
Presentation Format: _dil
Dataset Creation: Sun May 18 16:09:47 2014 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	MINMK	20

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





Calibration Report

Database File: 24246ddn.db
Dataset Pathname: pass3.2
Dataset Creation: Sun May 18 17:12:50 2014 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		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
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	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:	GEAR3-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Fri Jan 04 15:48:16 2013
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration					
	Density			Far Detector	Near Detector
Magnesium	1.710	g/cc		935.36	501.55 cps
Aluminum	2.580	g/cc		209.32	357.01 cps
	Spine Angle = 77.21			Density/Spine Ratio = 0.567	
	Size			Reading	
Small Ring	8.00	in		4.29	V
Large Ring	14.00	in		6.24	V

Before Survey Verification					
	Target			Measured	
		g/cc			g/cc
		g/cc			g/cc
		g/cc			g/cc

After Survey Verification					
	Target			Measured	
		g/cc			g/cc
		g/cc			g/cc
		g/cc			g/cc

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

PRE-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			

	Long Space	cps	pu
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POST-SURVEY VERIFICATION			
	Detector	Readings	Measured Target
1)	Short Space	cps	
	Long Space	cps	pu
2)	Short Space	cps	
	Long Space	cps	pu
3)	Short Space	cps	
	Long Space	cps	pu

Gamma Ray Calibration Report			
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Serial Number:	GR6		
Tool Model:	OPEN		
Performed:	Tue May 06 06:07:07 2014		
Calibrator Value:	150.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	276.0	cps	
Sensitivity:	0.8035	GAPI/cps	