



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	RAYMOND OIL COMPANY, INC.		
Well	#1 MARGARET MORRIS		
Field	RAY		
County	ROOKS		
State	KANSAS		
Location:	API # : 15-163-24100-0000		Other Services CDL/CNL MEL
SEC 6 TWP 6S RGE 20W		Elevation	
Permanent Datum	GROUND LEVEL	Elevation	2090
Log Measured From	KELLY BUSHING 8' A.G.L.		
Drilling Measured From	KELLY BUSHING		
Date	3/25/13		
Run Number	ONE		
Depth Driller	3558		
Depth Logger	3560		
Bottom Logged Interval	3558		
Top Log Interval	00		
Casing Driller	262		
Casing Logger	260		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.3/58		
pH / Fluid Loss	10.0/7.2		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	1.0 @ 65F		
Rmf @ Meas. Temp	.75 @ 65F		
Rmc @ Meas. Temp	1.2 @ 65F		
Source of Rmf / Rmc	MEASURED	CHLORIDES 1000 PPM	
Rim @ BHT	.58 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	JASON CAPPELLUCCI		
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: STOCKTON, KS. - 12 N. (1 N. OF COUNTY LINE) - 16 1/2 W. TO CURVE
1 1/2 S. - E. INTO



**COMPLETION
& PRODUCTION**

MAIN SECTION

Database File: 010842ddn.db
 Dataset Pathname: pass3.3
 Presentation Format: dil2
 Dataset Creation: Mon Mar 25 10:59:55 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150

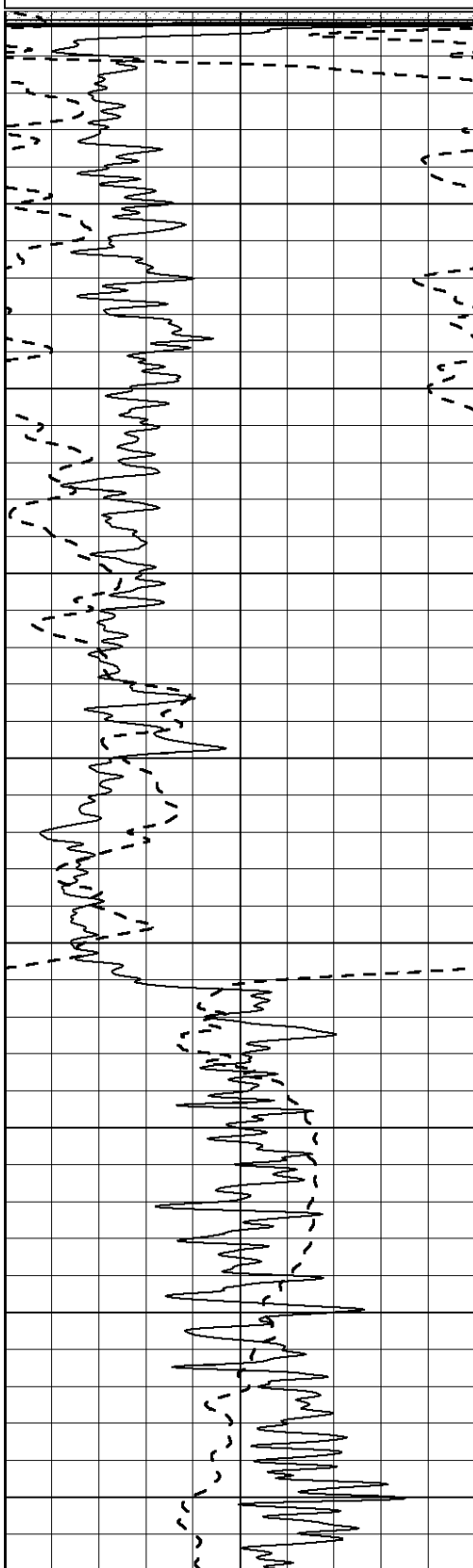
0 RLL3 (Ohm-m) 50

0 Deep Induction (Ohm-m) 50

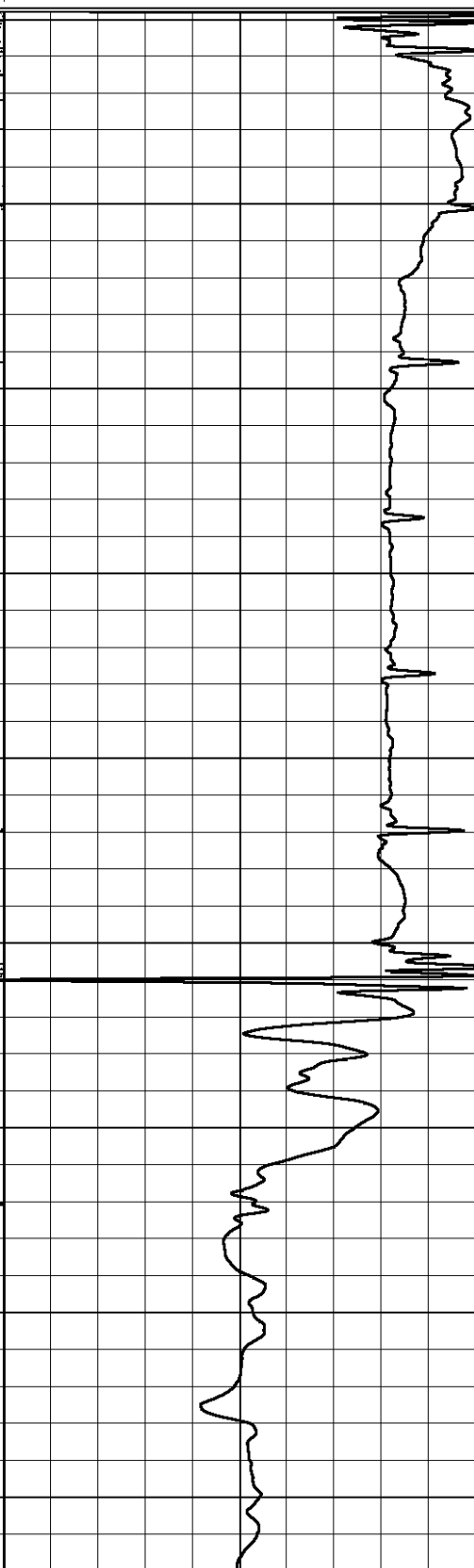
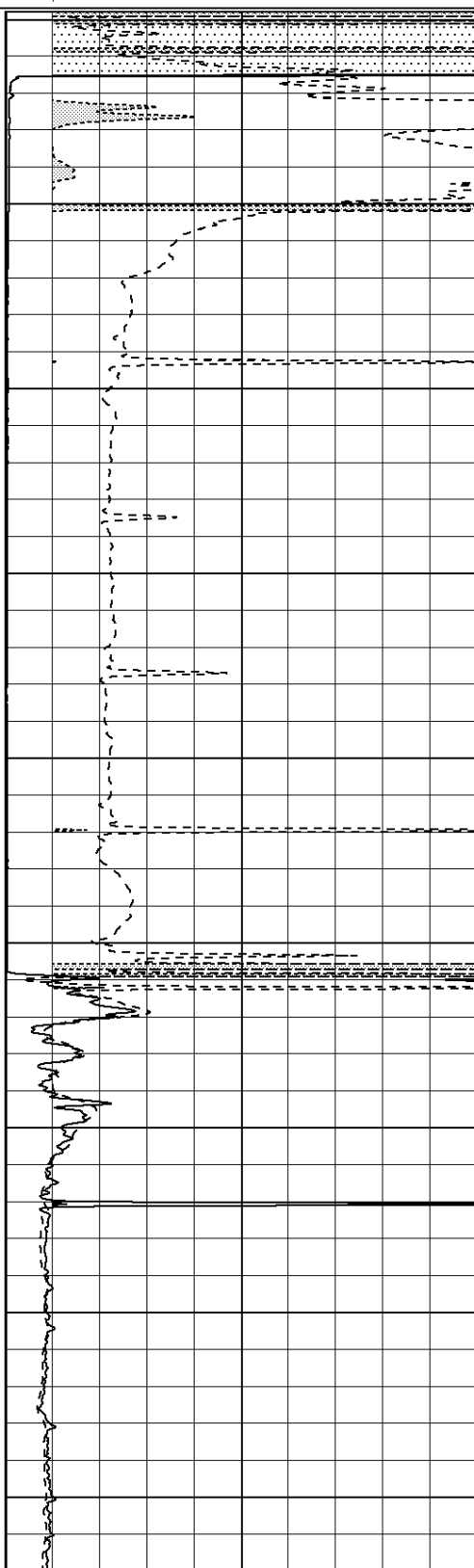
1000 CILD (mmho/m) 0

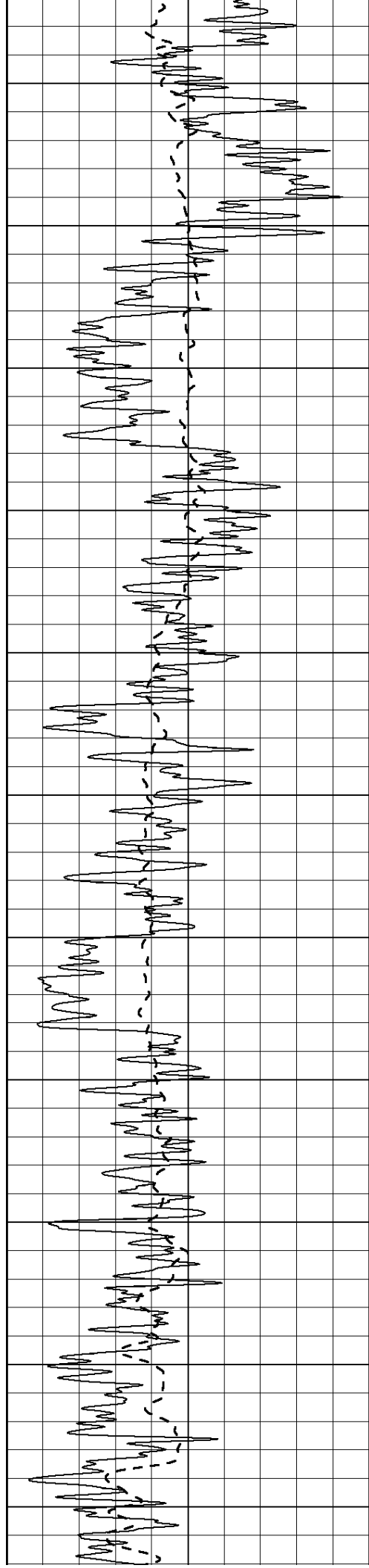
50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500



0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

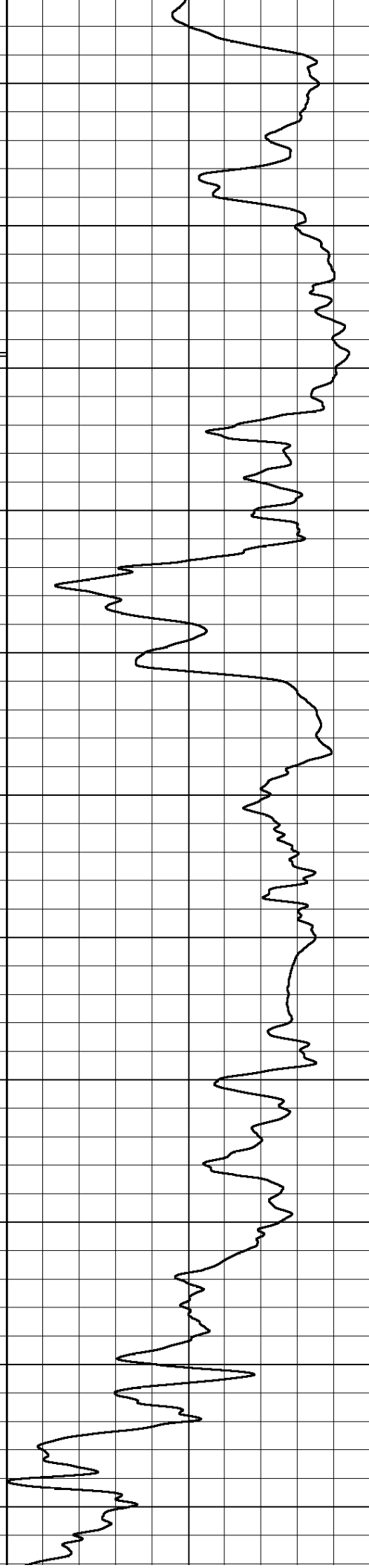
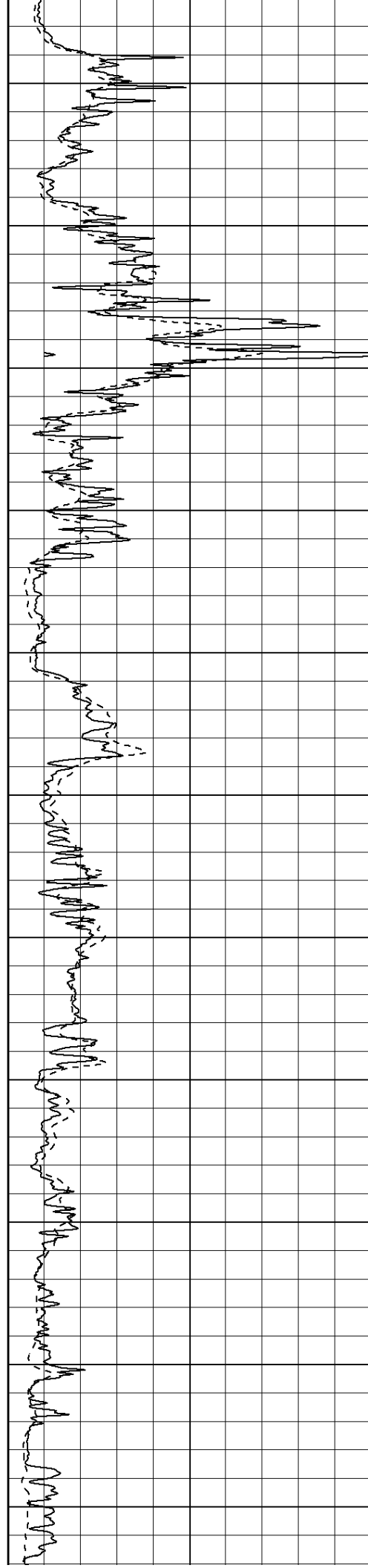
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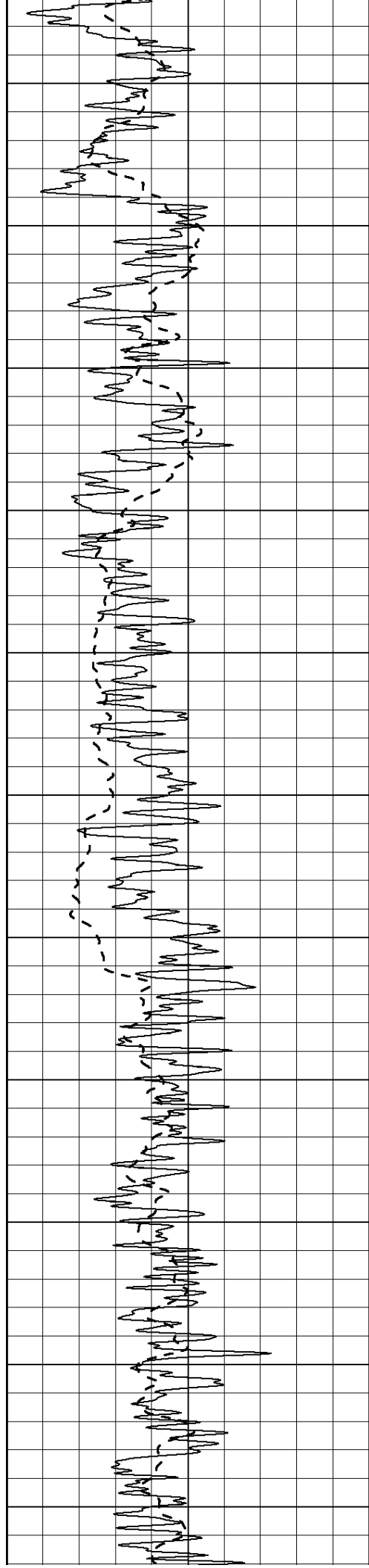
800

850

900

950





1000

1050

1100

1150

1200

1250

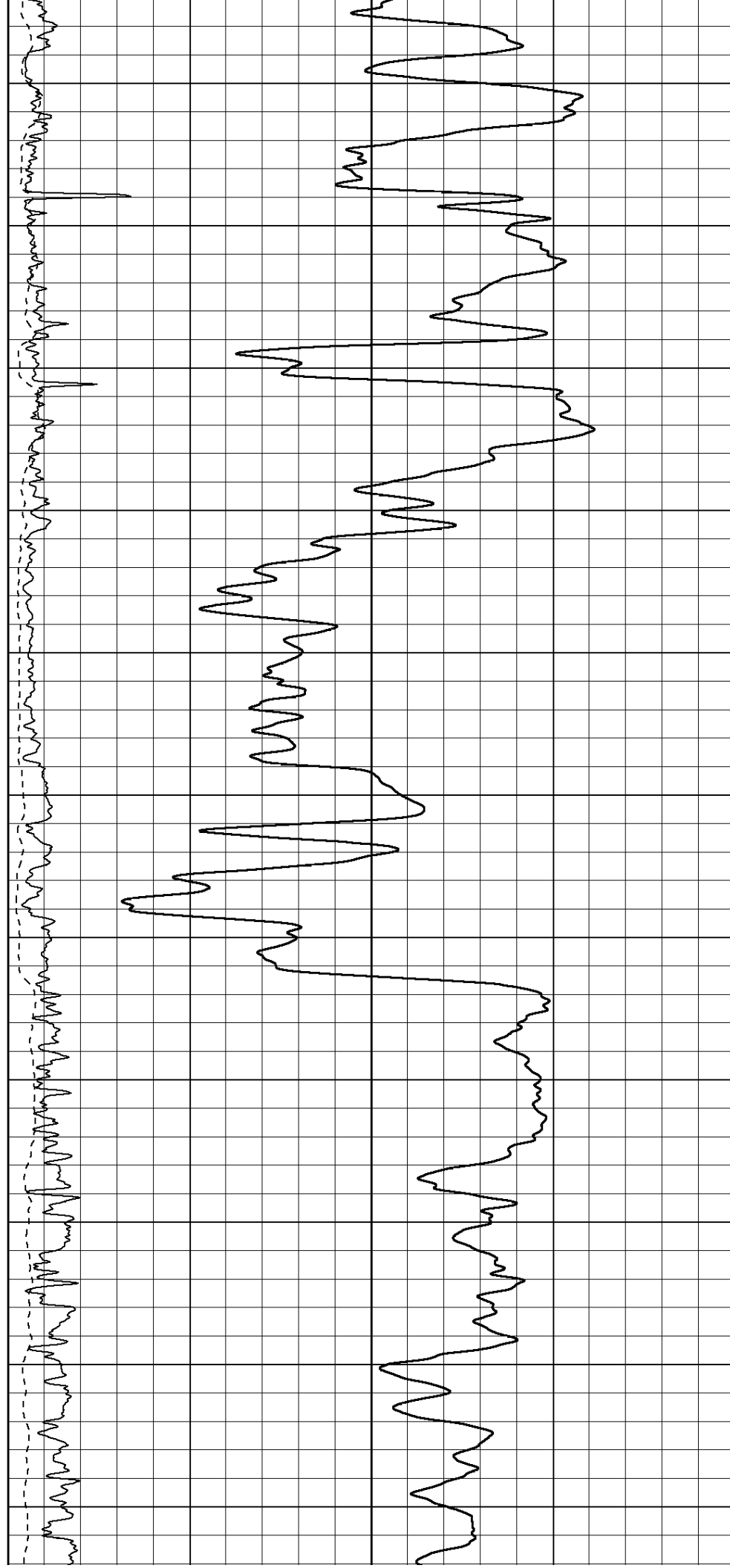
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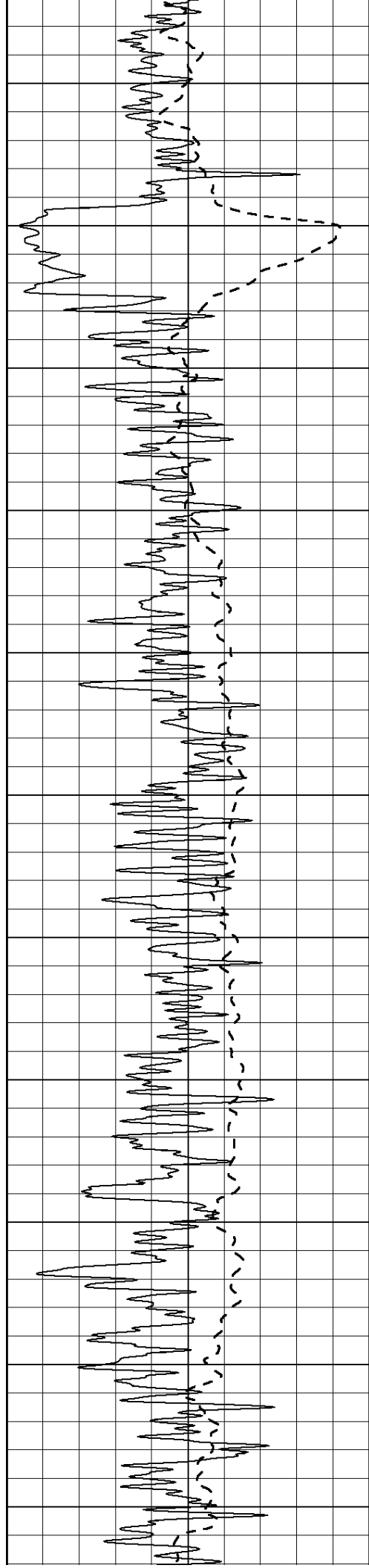
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1400

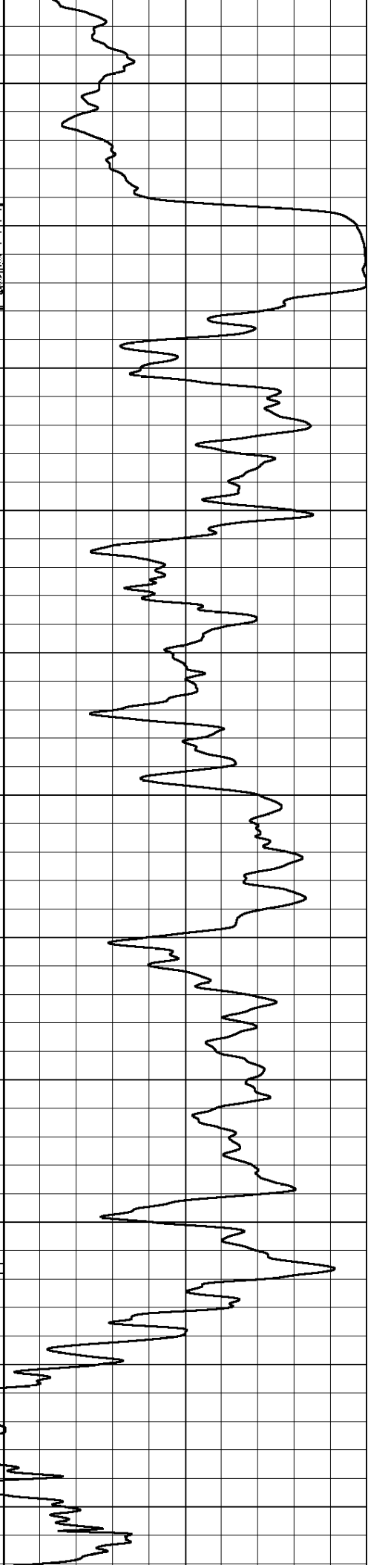
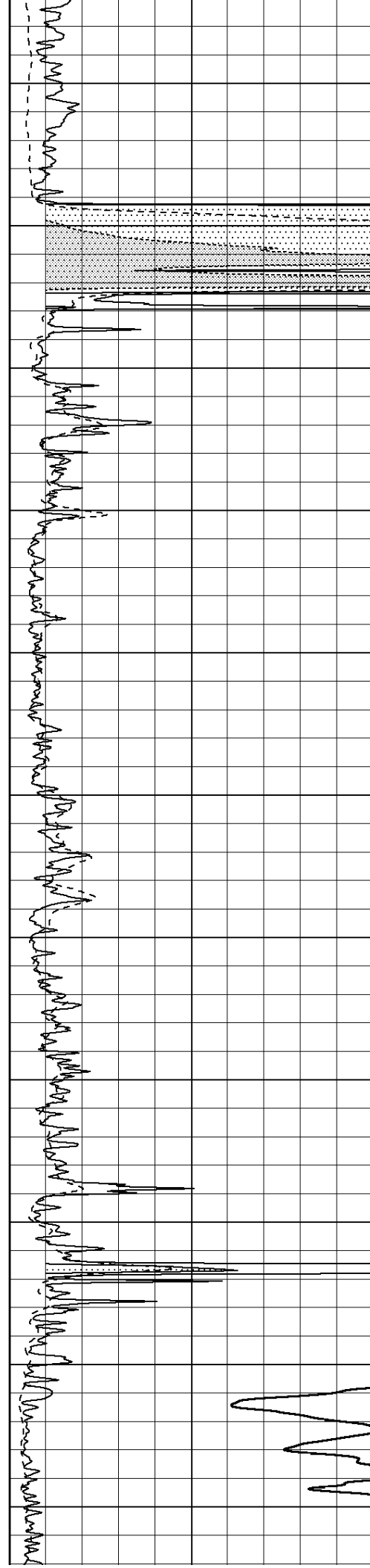
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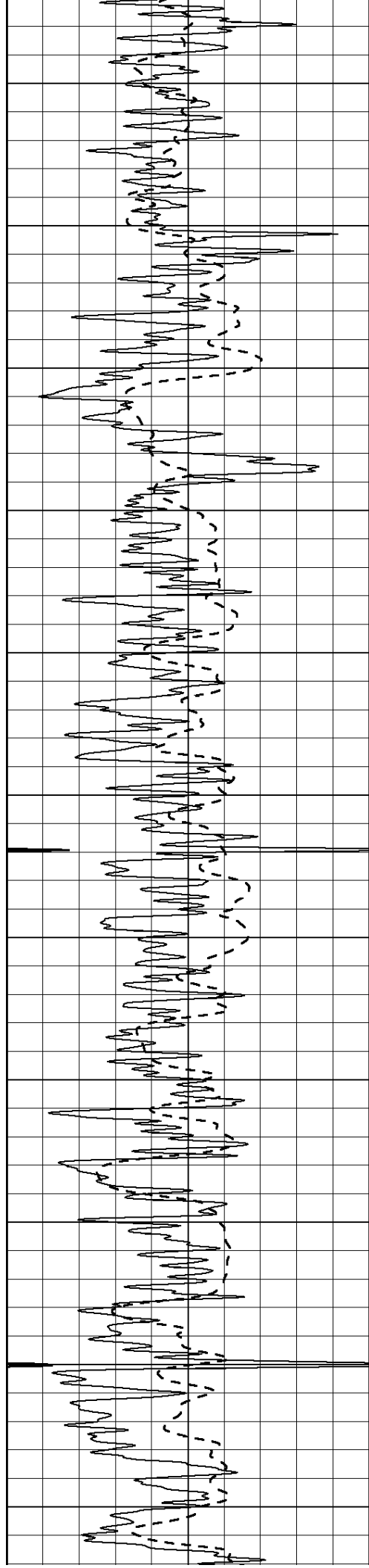
1500





1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050





2100

2150

2200

2250

2300

2350

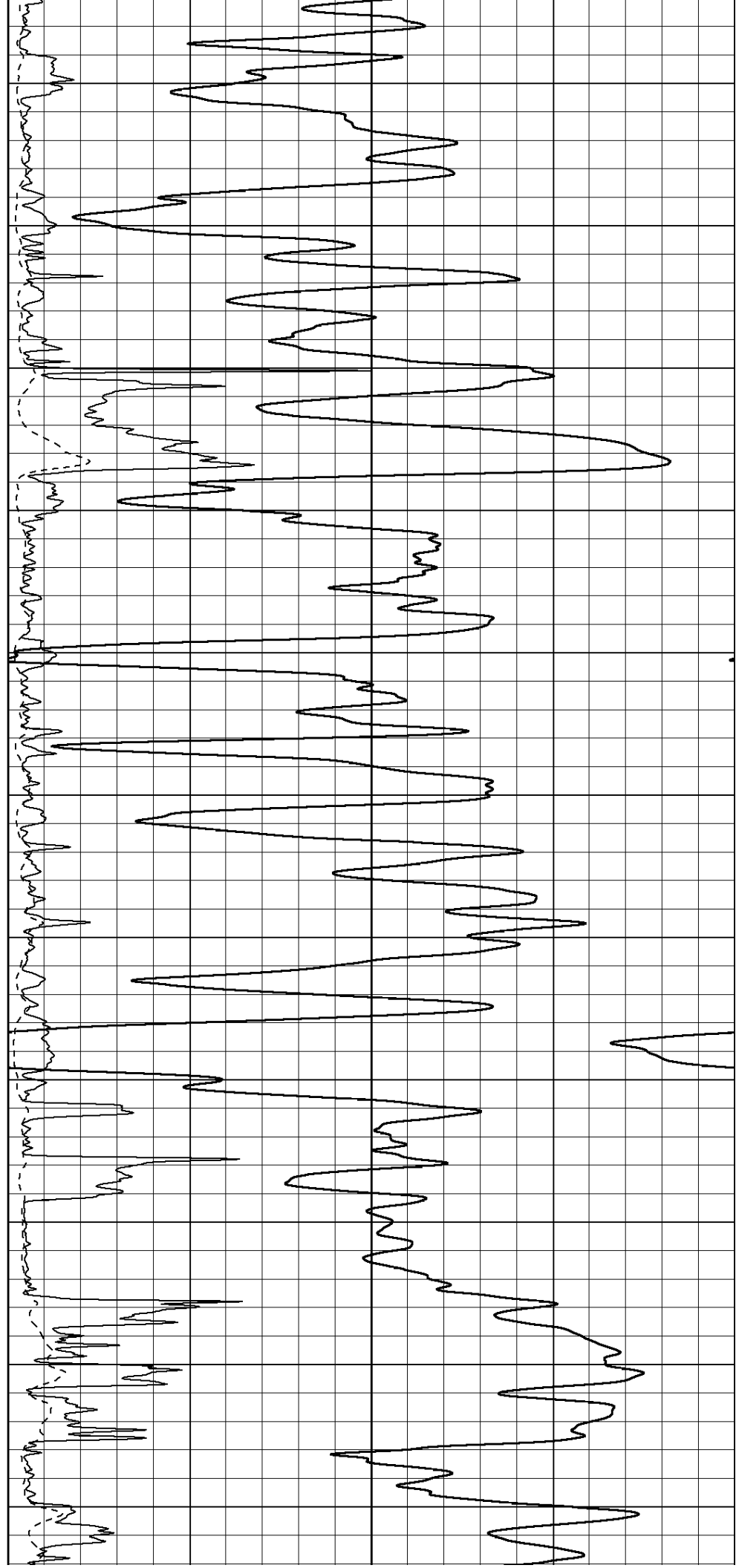
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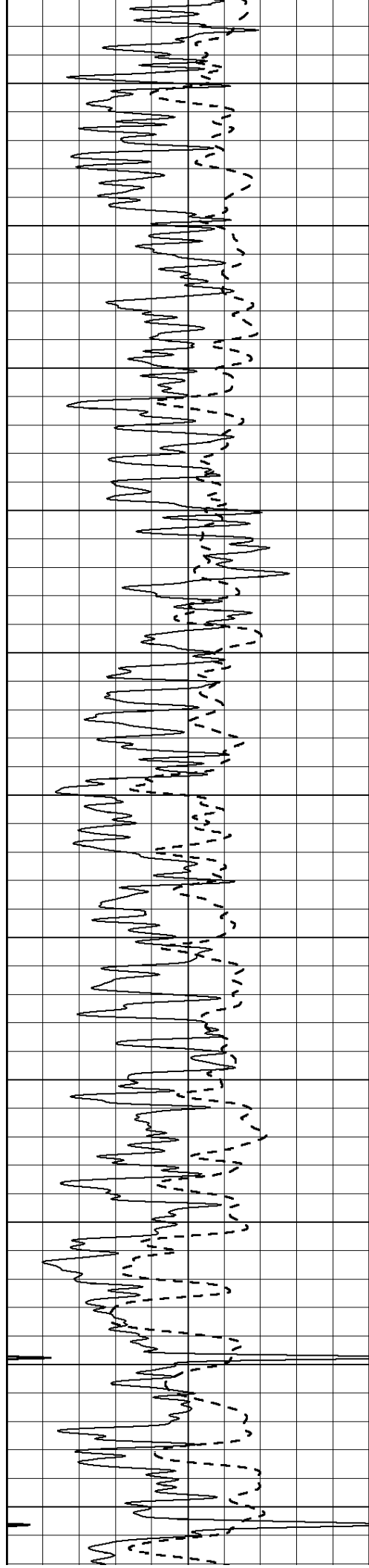
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2500

2550

2600





2650

2700

2750

2800

2850

2900

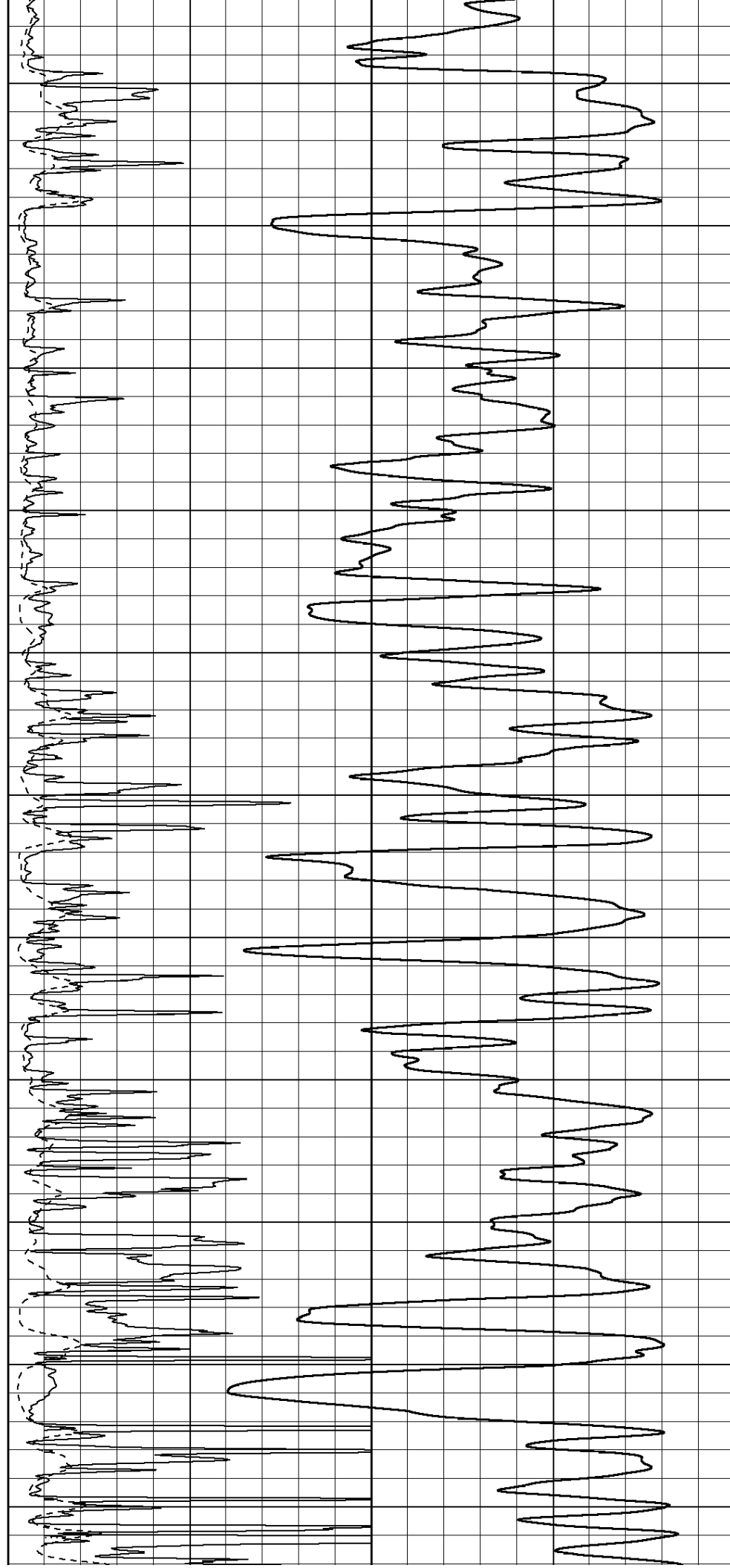
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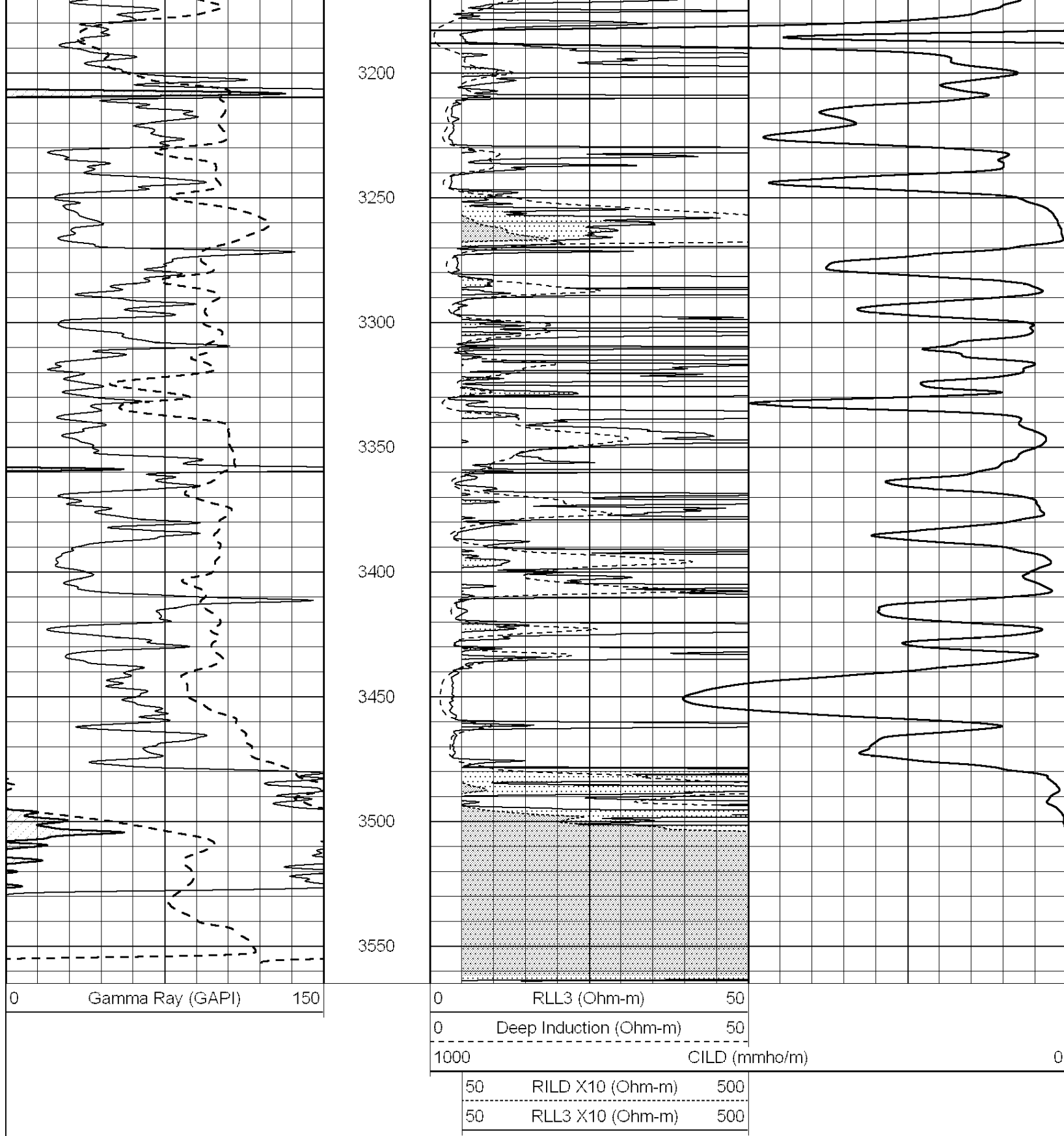
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3050

3100

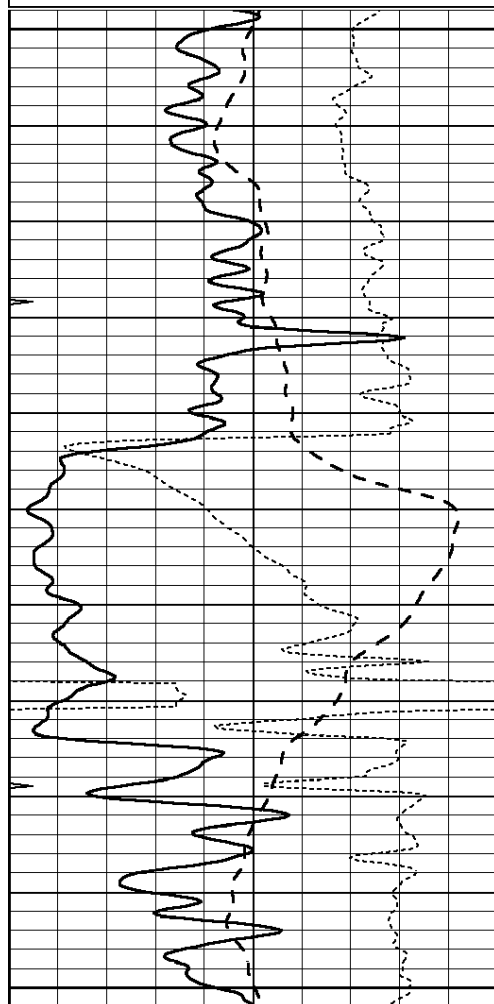
3150





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

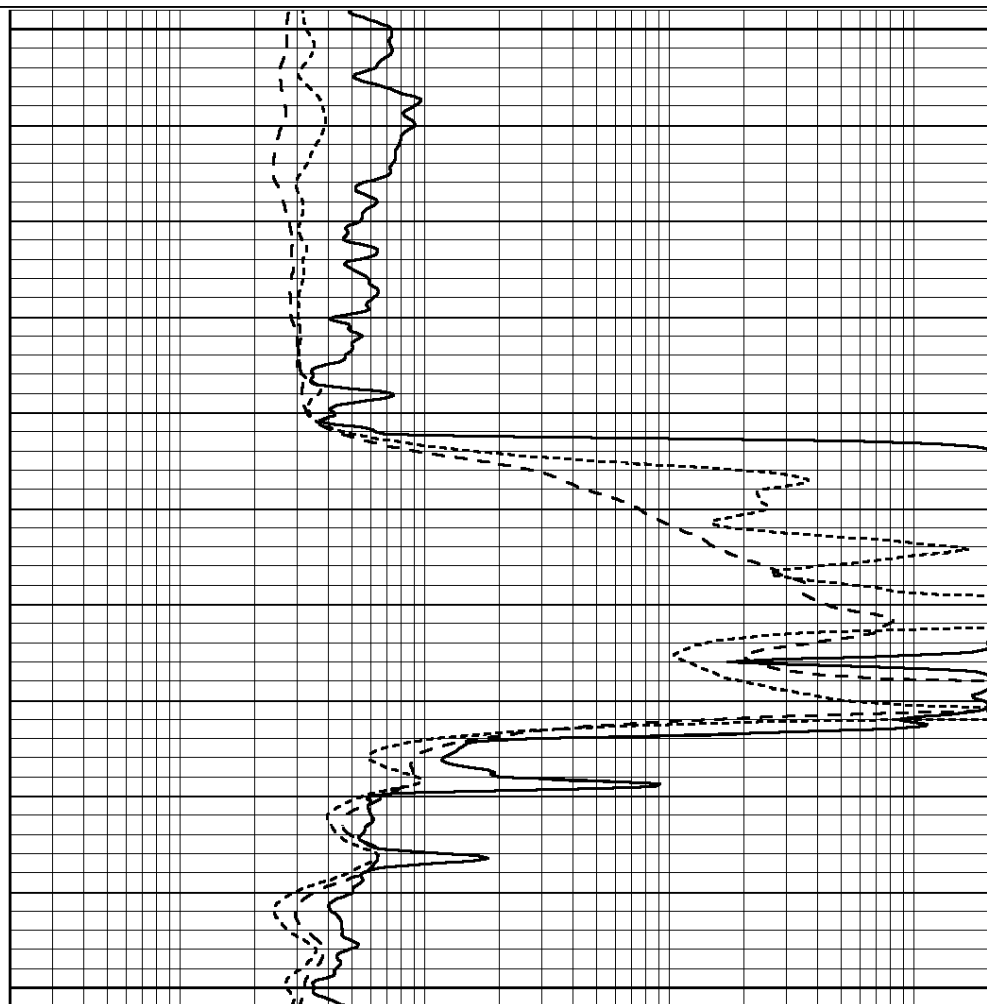
0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



1550

1600

1650



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



MAIN SECTION

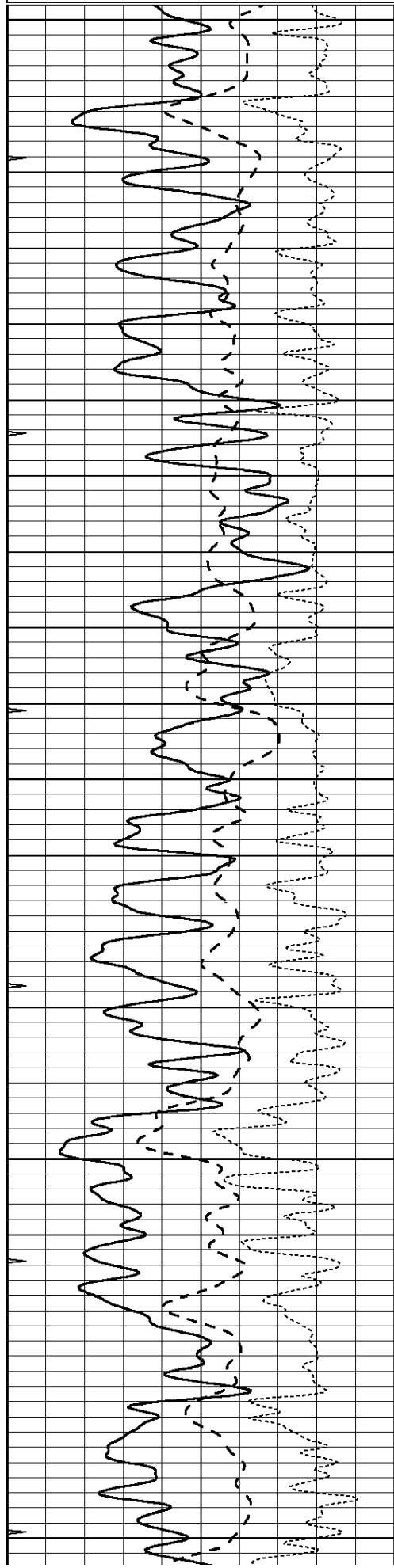
Database File: 010842ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: dil
 Dataset Creation: Mon Mar 25 10:12:27 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100

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

-250	RxoRt	50
0	MINMK	20

0.2	MEDIUM INDUCTION (Ohm-m)	2000
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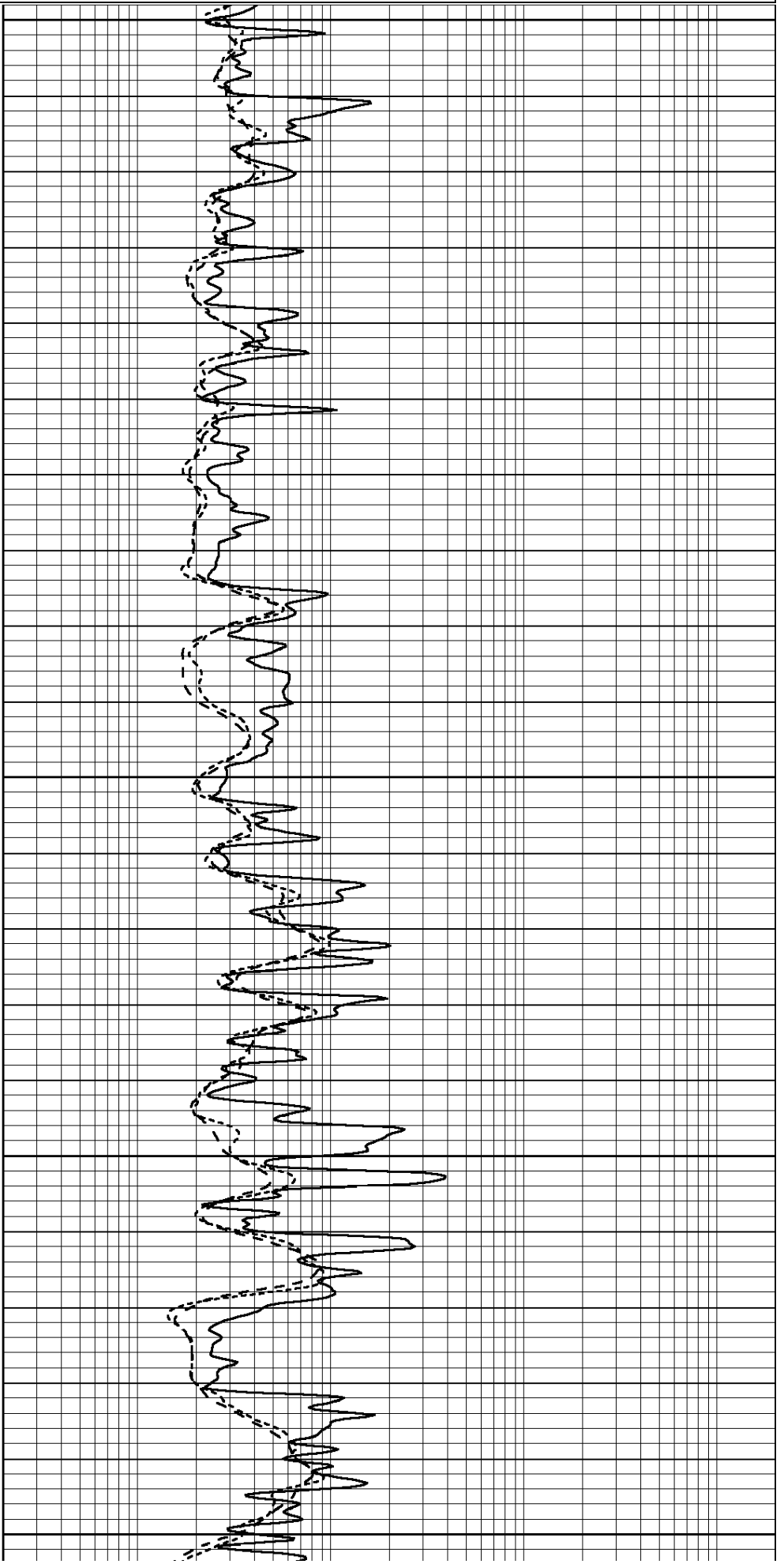
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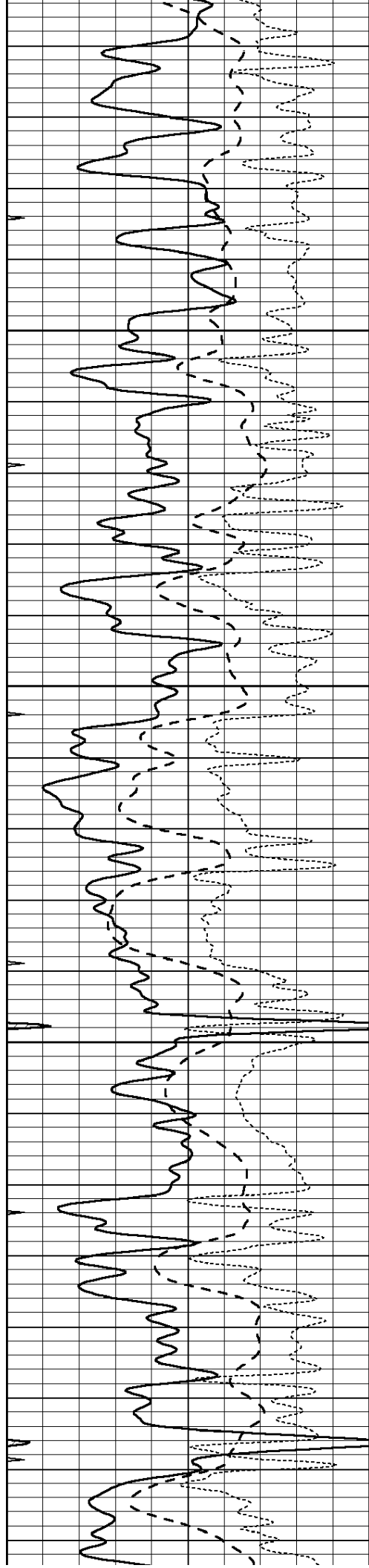
2800

2850

2900

2950



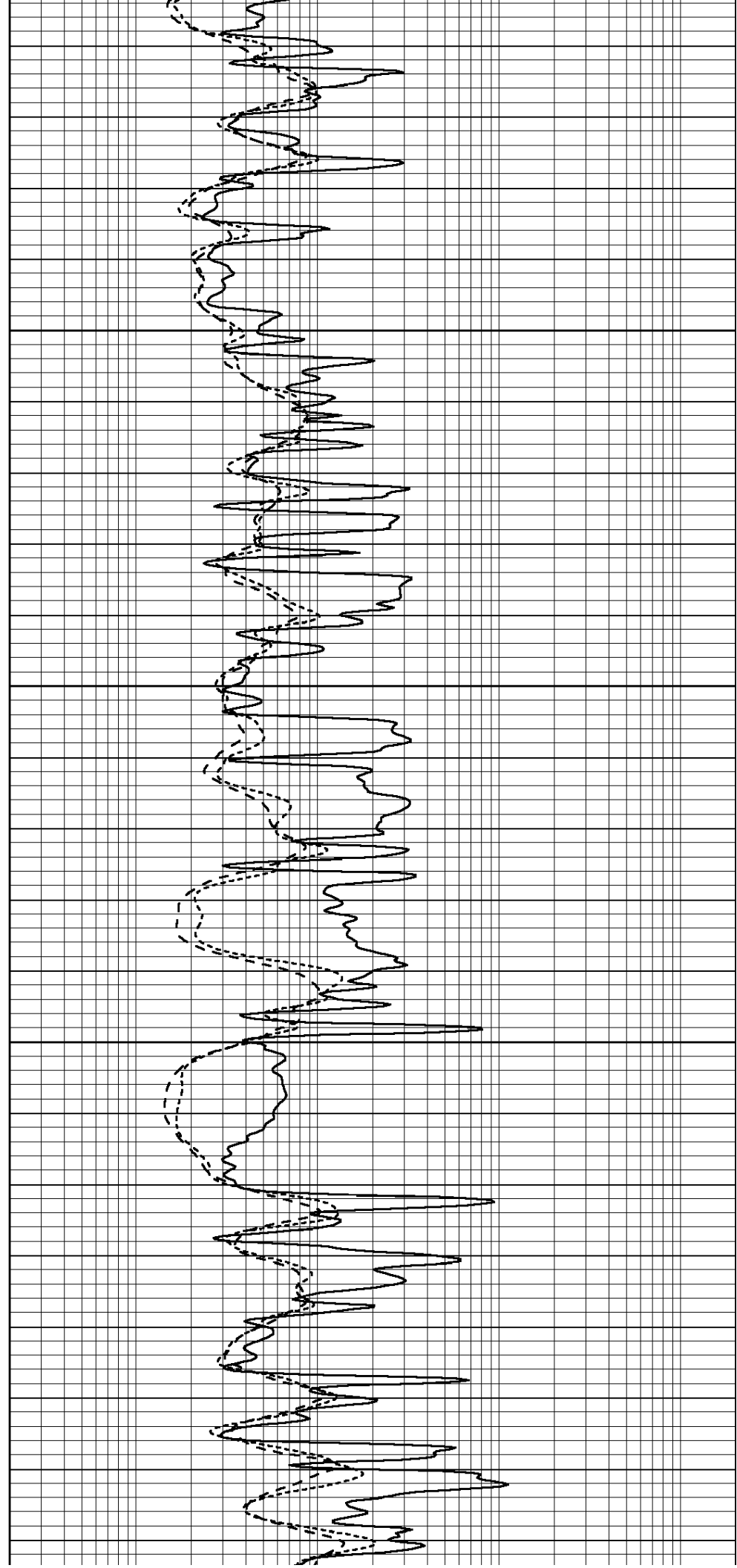


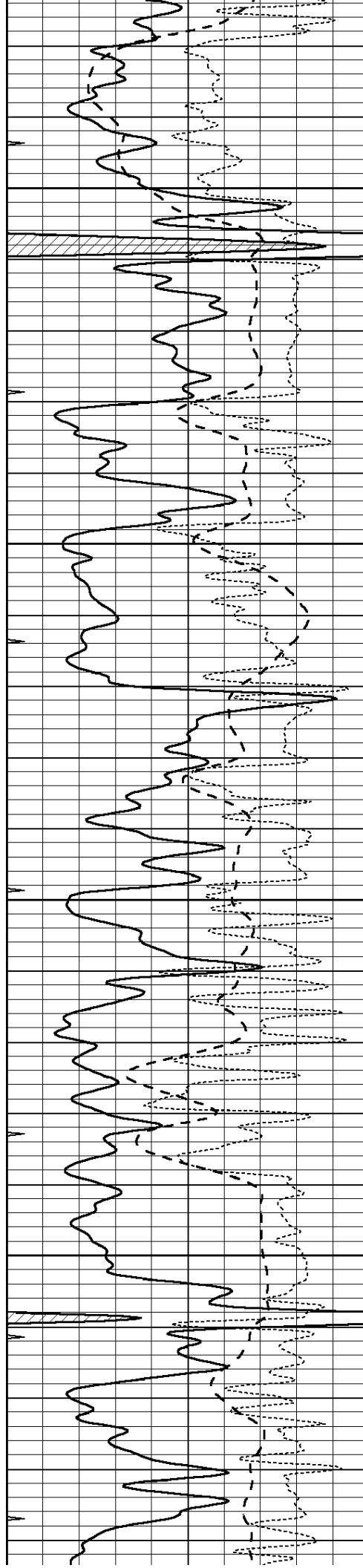
3000

3050

3100

3150



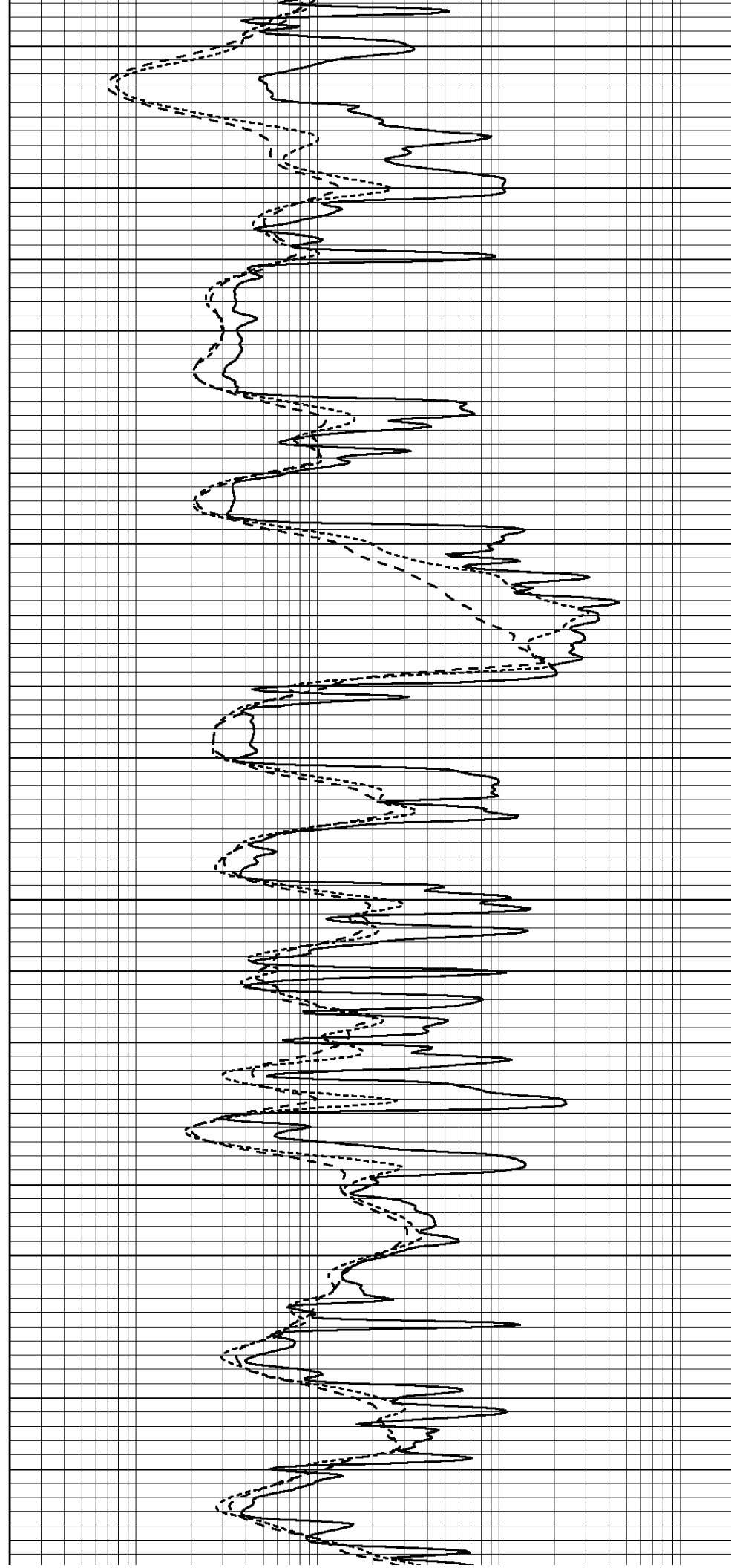


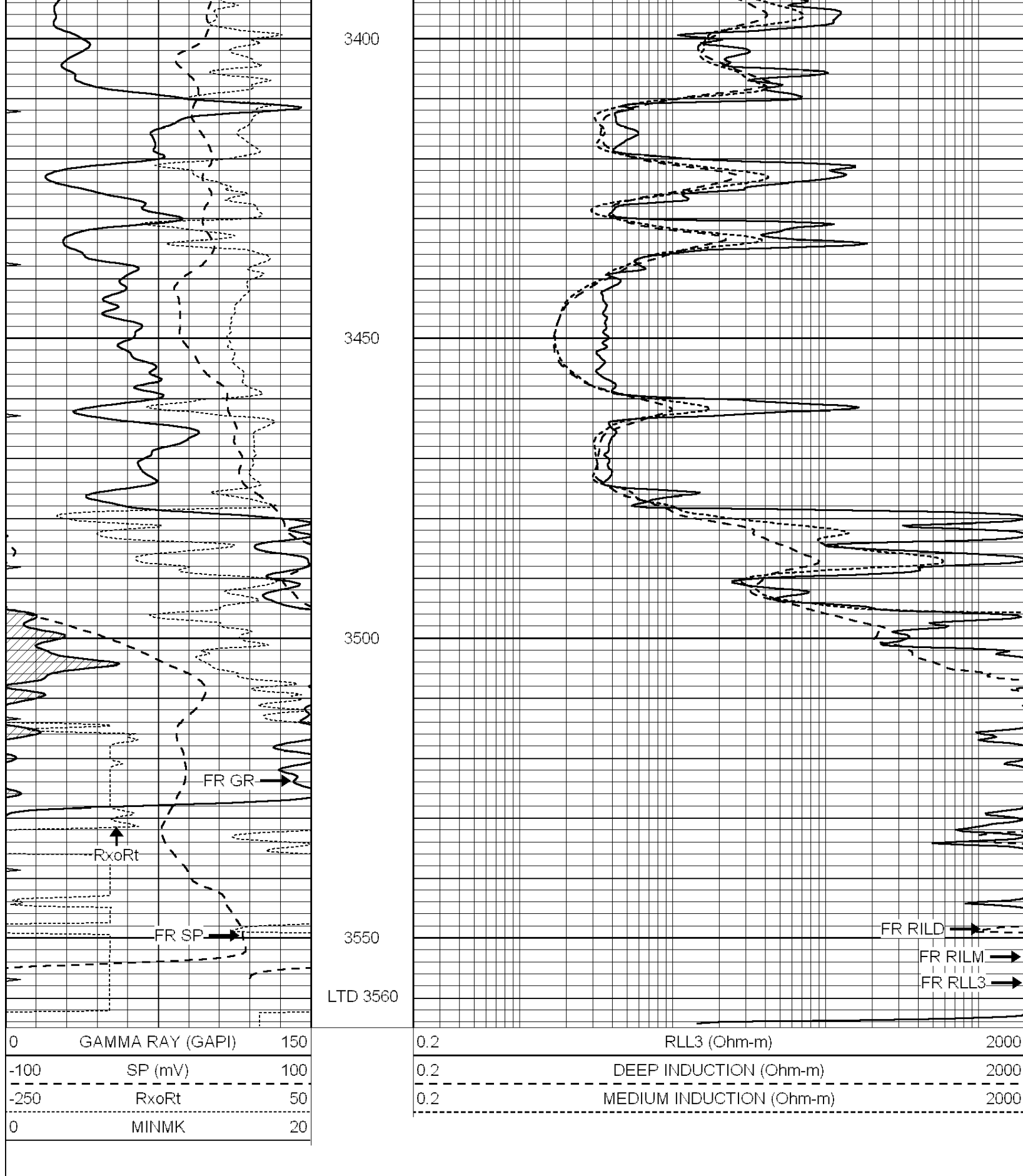
3200

3250

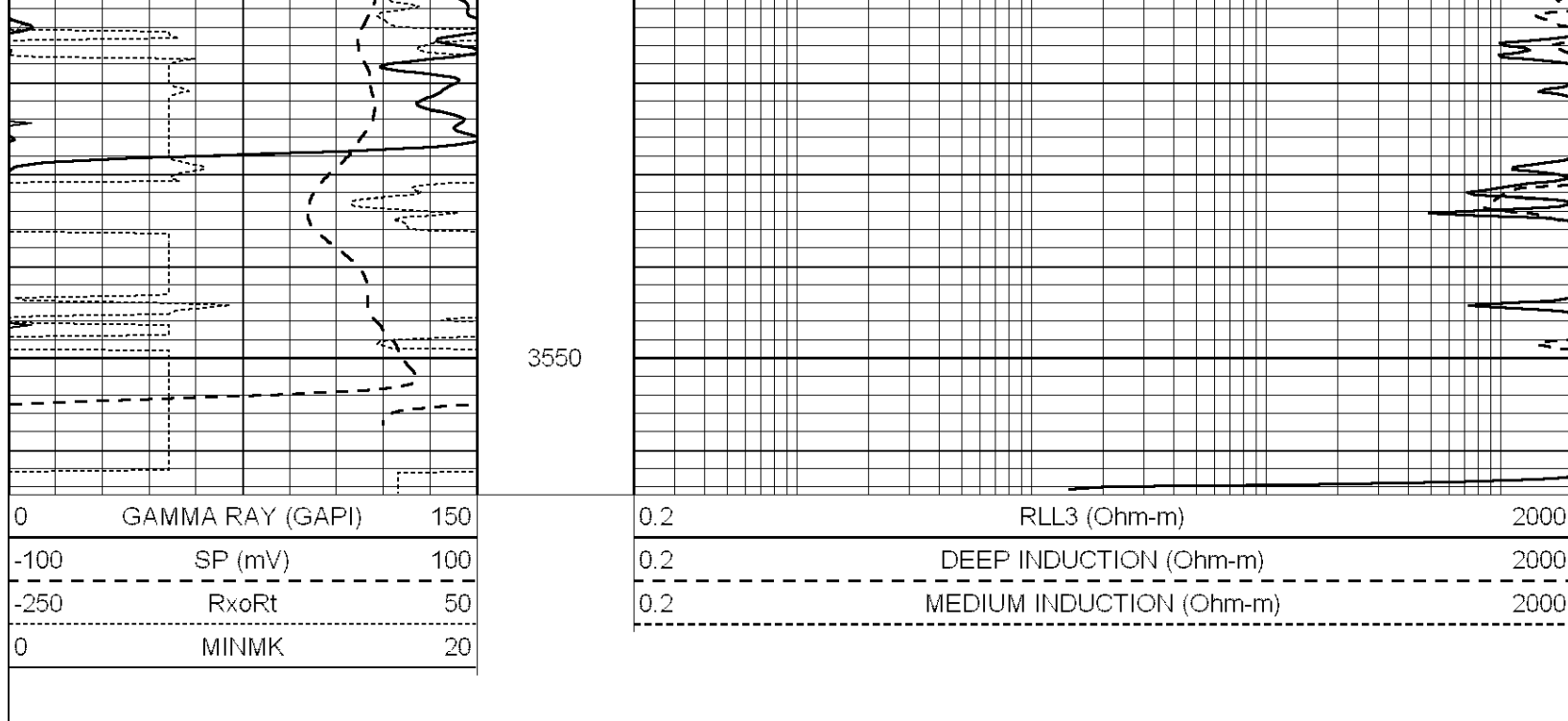
3300

3350





U.S. DEPARTMENT OF AGRICULTURE



Calibration Report

Database File: 010842ddn.db
 Dataset Pathname: pass2.2
 Dataset Creation: Mon Mar 25 10:14:37 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Mon Mar 18 14:10:33 2013
 Downhole Cal Performed: Sat Jan 19 19:51:38 2013
 After Survey Verification Performed: Sat Jan 19 19:51:38 2013

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	600.000	2.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	680.000	-50.000
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	135384.000	27094.500	mmho/m	1.000	0.000

Medium	0.000	0.000	mmho/m	-47530.100	-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:	Mon Mar 18 13:37:57 2013

Master Calibration					
	Density		Far Detector		Near Detector
Magnesium	1.710	g/cc	1205.77	610.74	cps
Aluminum	2.590	g/cc	271.21	419.72	cps
Spine Angle = 75.89			Density/Spine Ratio = 0.572		
	Size		Reading		
Small Ring	7.40	in	4.69	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:	Tue Mar 19 11:41:13 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	2.6000	GAPI/cps