



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	RAYMOND OIL COMPANY, INC.		
Well	BROBST - MORRIS #1		
Field	WILDCAT		
County	GRAHAM	State	KANSAS
Location:	API # : 15-065-23975 1110' FSL & 1560' FEL 45' S & 75' W OF NE-NE-SW-SE SEC 12 TWP 6S RGE 21W		Other Services CDL/CNL MICRO
Permanent Datum	GROUND LEVEL	Elevation	2188
Log Measured From	KELLY BUSHING 12' A.G.L.	K.B. 2200 D.F. G.L. 2188	
Drilling Measured From	KELLY BUSHING		
Date	10-14-13		
Run Number	ONE		
Depth Driller	3731		
Depth Logger	3732		
Bottom Logged Interval	3730		
Top Log Interval	00		
Casing Driller	268		
Casing Logger	268		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.2 / 74		
pH / Fluid Loss	9.5 / 8.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	1.50 @ 70F		
Rmf @ Meas. Temp	1.13 @ 70F		
Rmc @ Meas. Temp	1.80 @ 70F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	.940 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	12:30 A.M.		
Maximum Recorded Temperature	112F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	PAT BALTHAZAR	ROBERT TURNER	

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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: JCT. OF K-18 & K-24 1/4E TO RD. 360, 9N TO RD. AA, 4E TO RD. 400, 1 1/2N, W INTO.



**COMPLETION
& PRODUCTION**

MAIN SECTION

Database File: 010217ddn.db
Dataset Pathname: pass3.A
Presentation Format: _dil2
Dataset Creation: Mon Oct 14 02:09:08 2013
Charted by: Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150

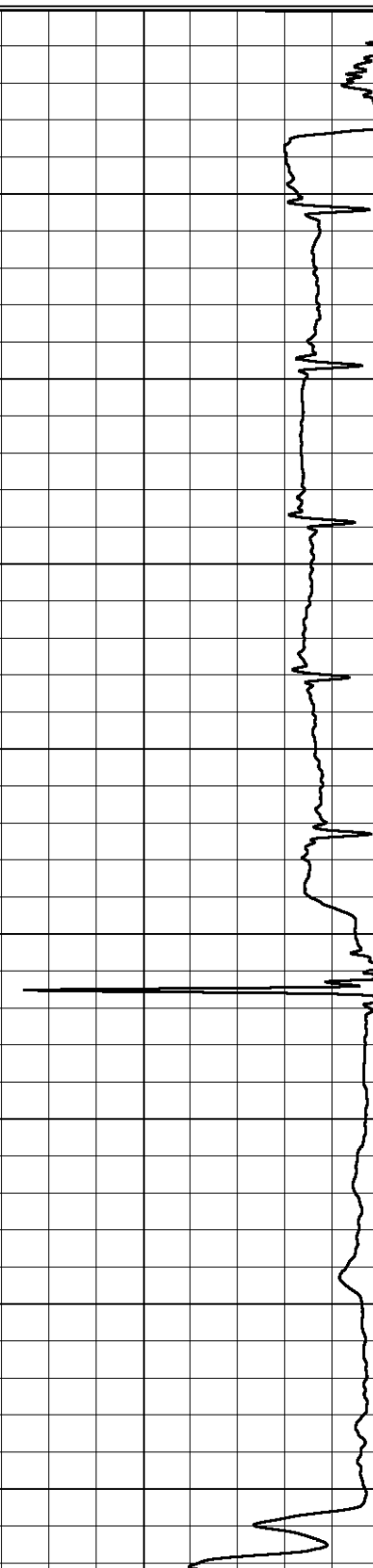
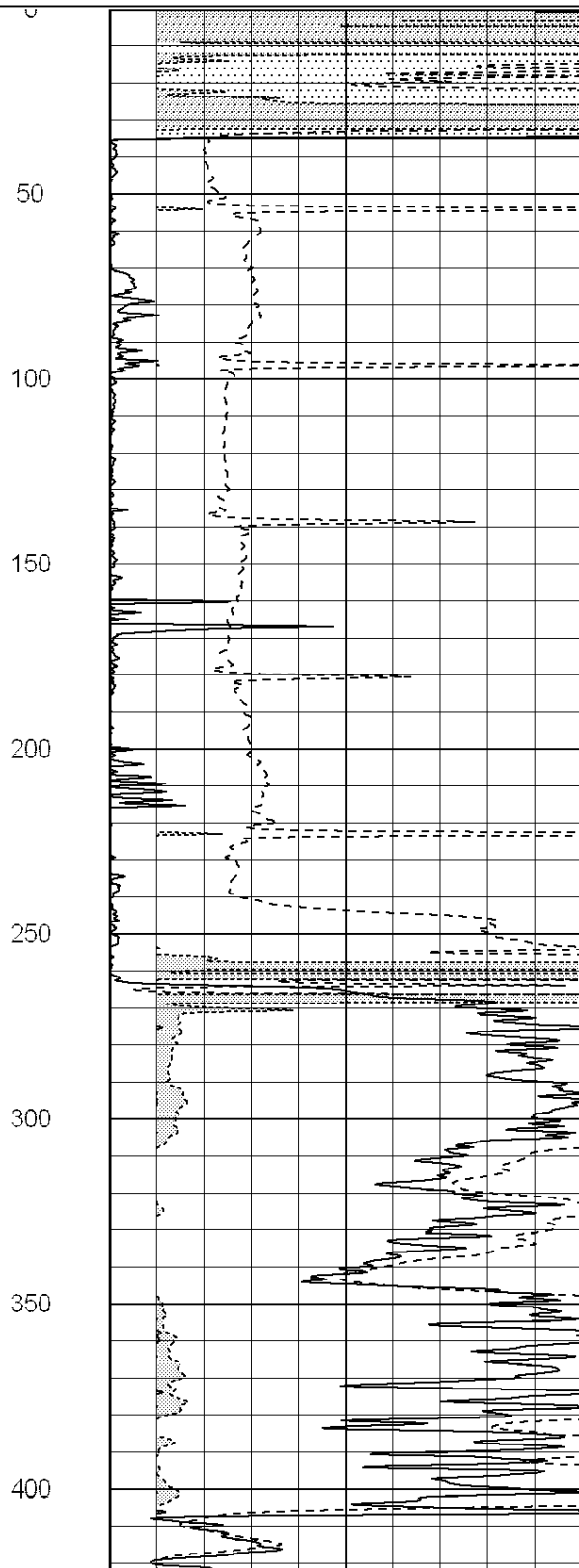
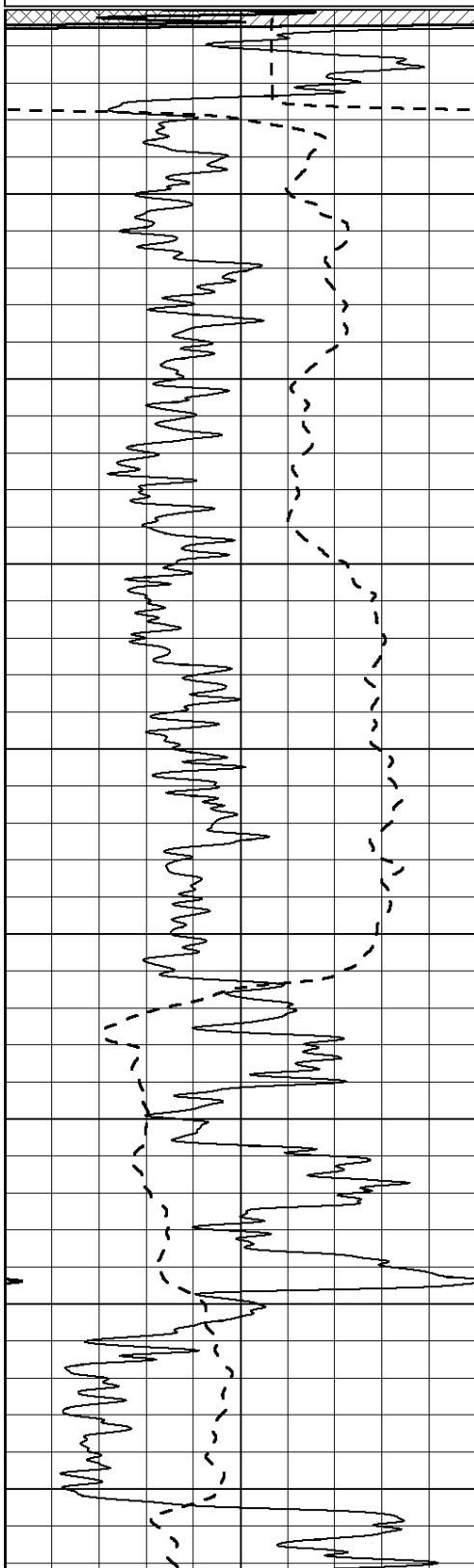
0 RLL3 (Ohm-m) 50

0 Deep Induction (Ohm-m) 50

1000 CILD (mmho/m) 0

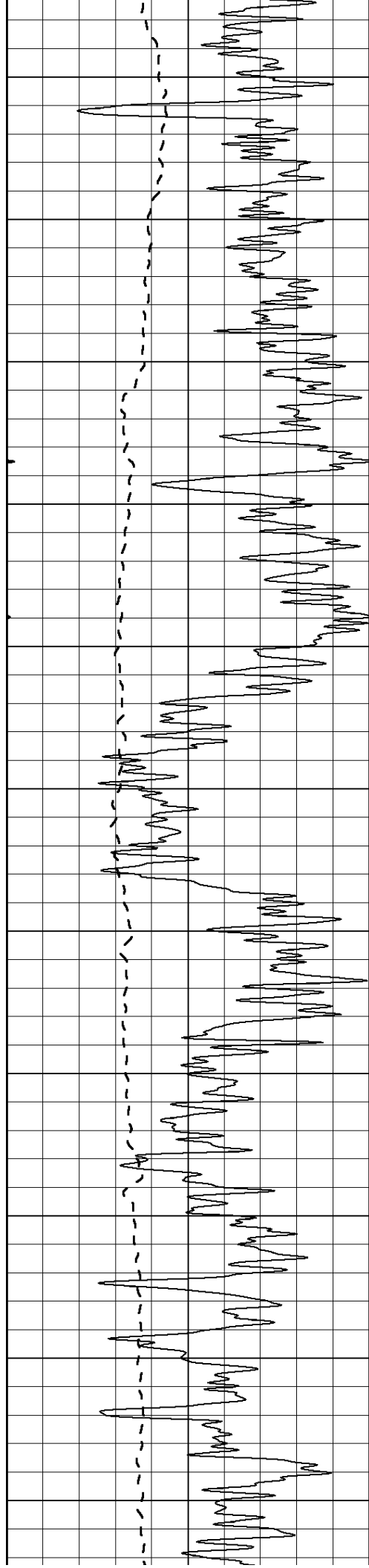
50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500



50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500



450

500

550

600

650

700

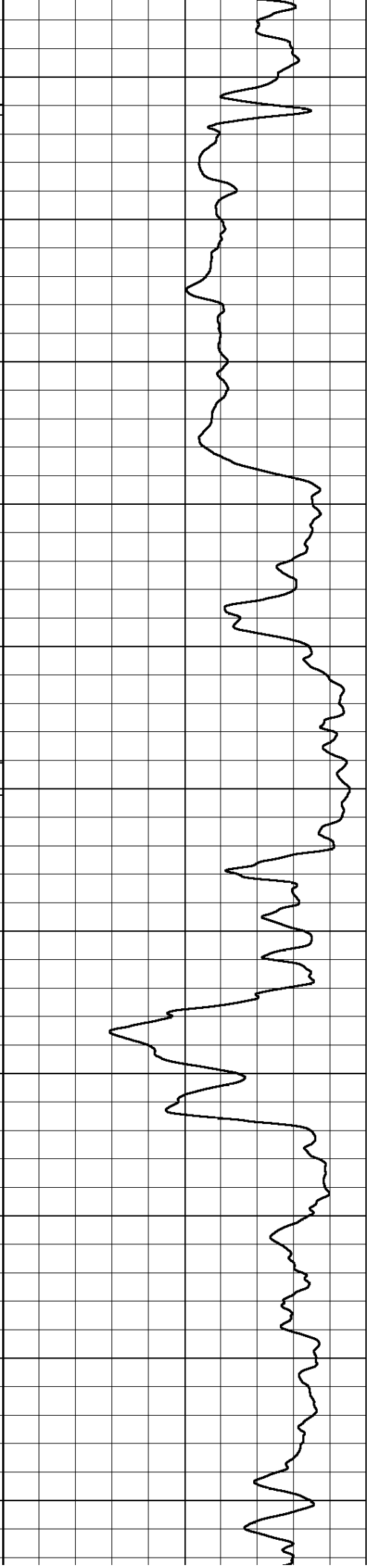
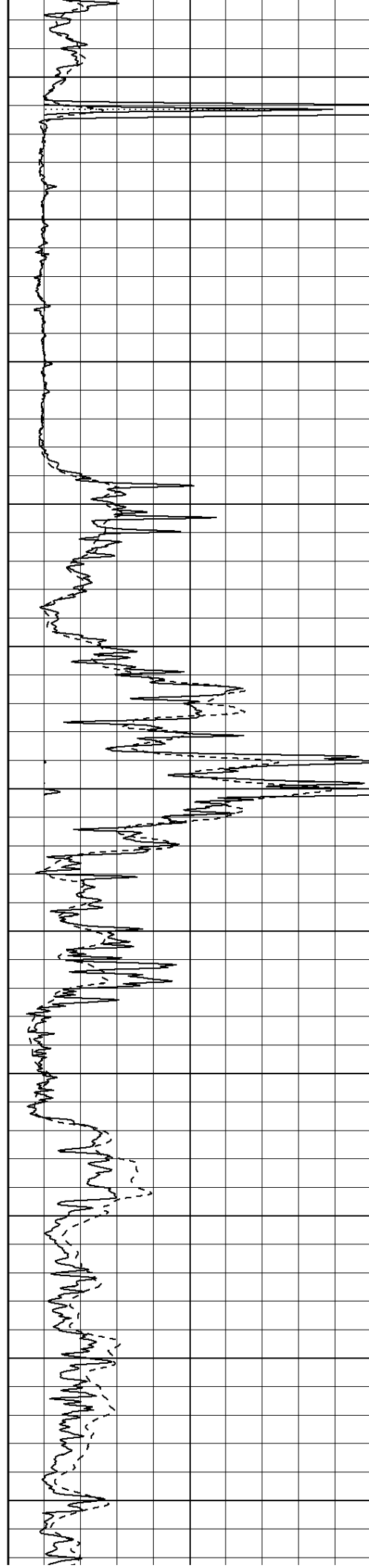
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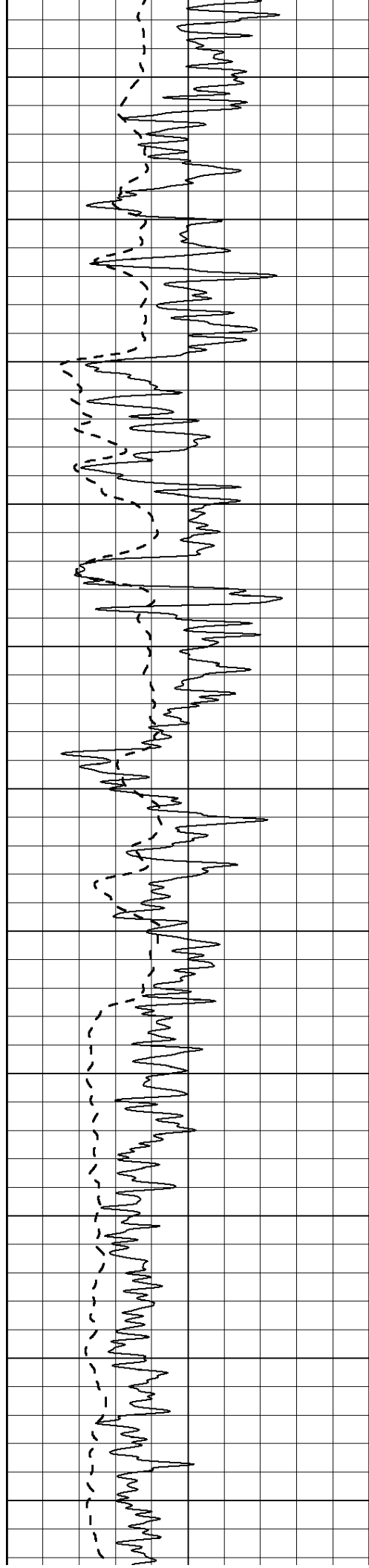
800

850

900

950





1000

1050

1100

1150

1200

1250

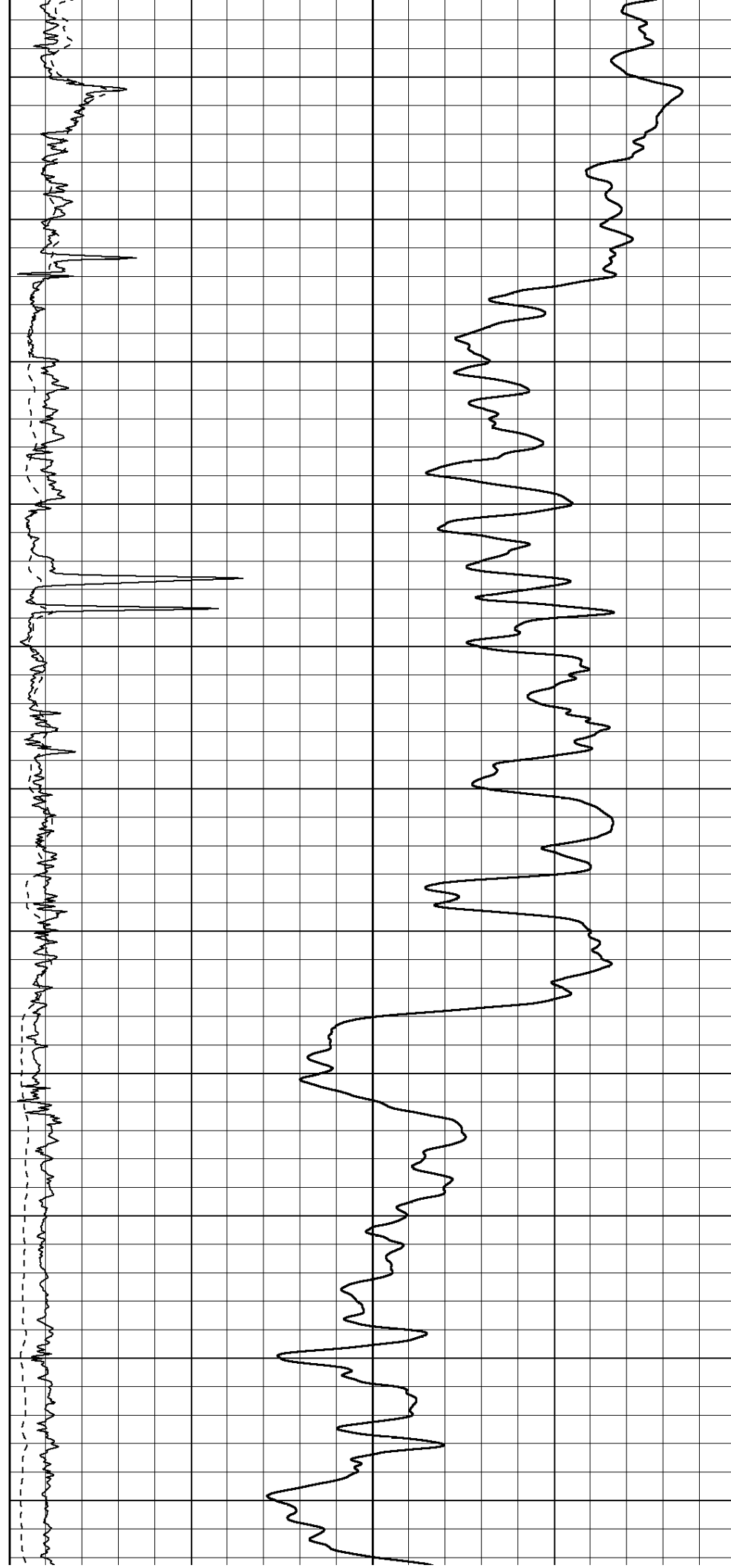
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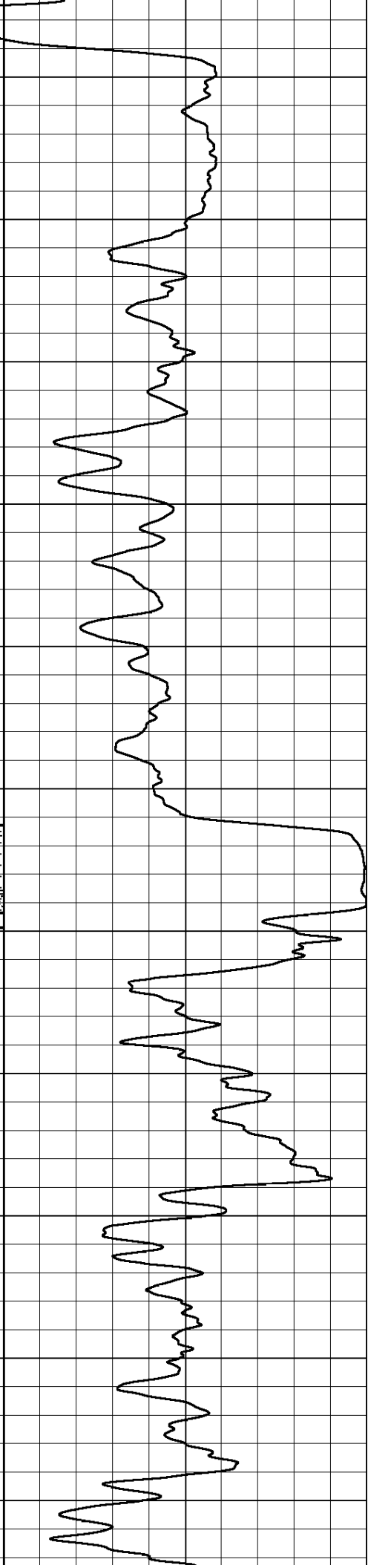
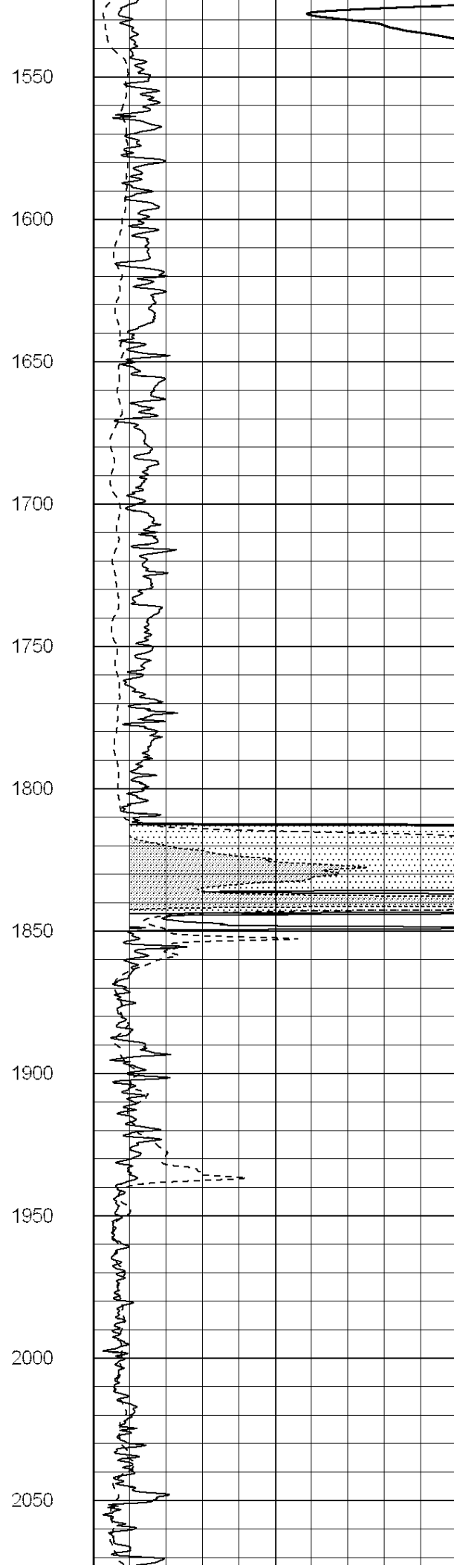
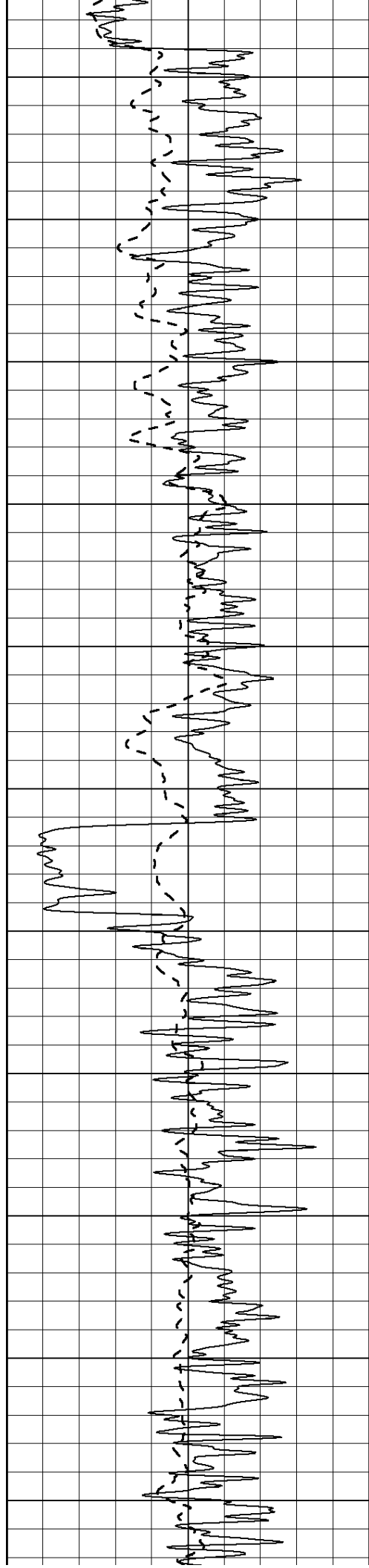
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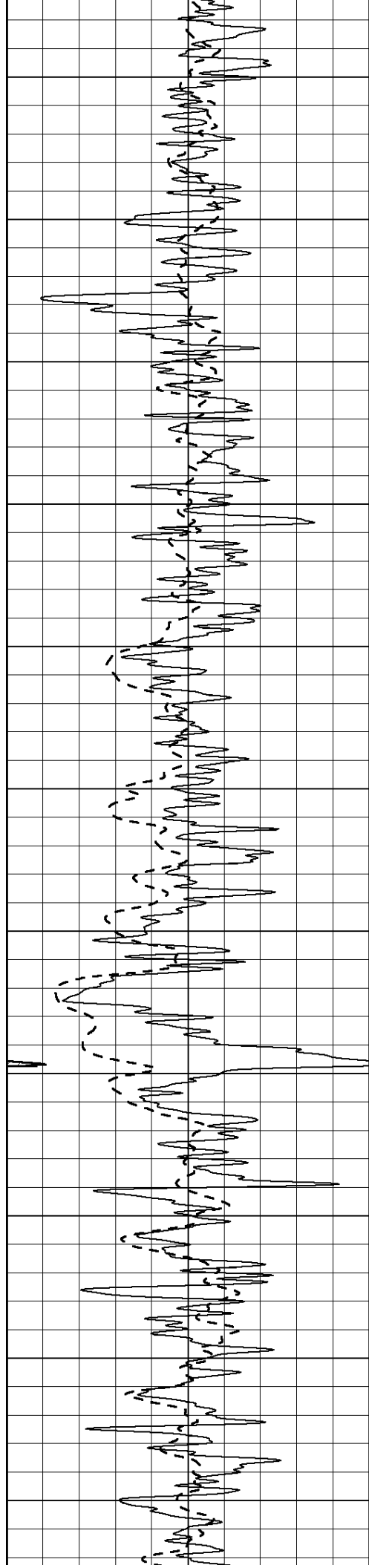
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1450

1500







2100

2150

2200

2250

2300

2350

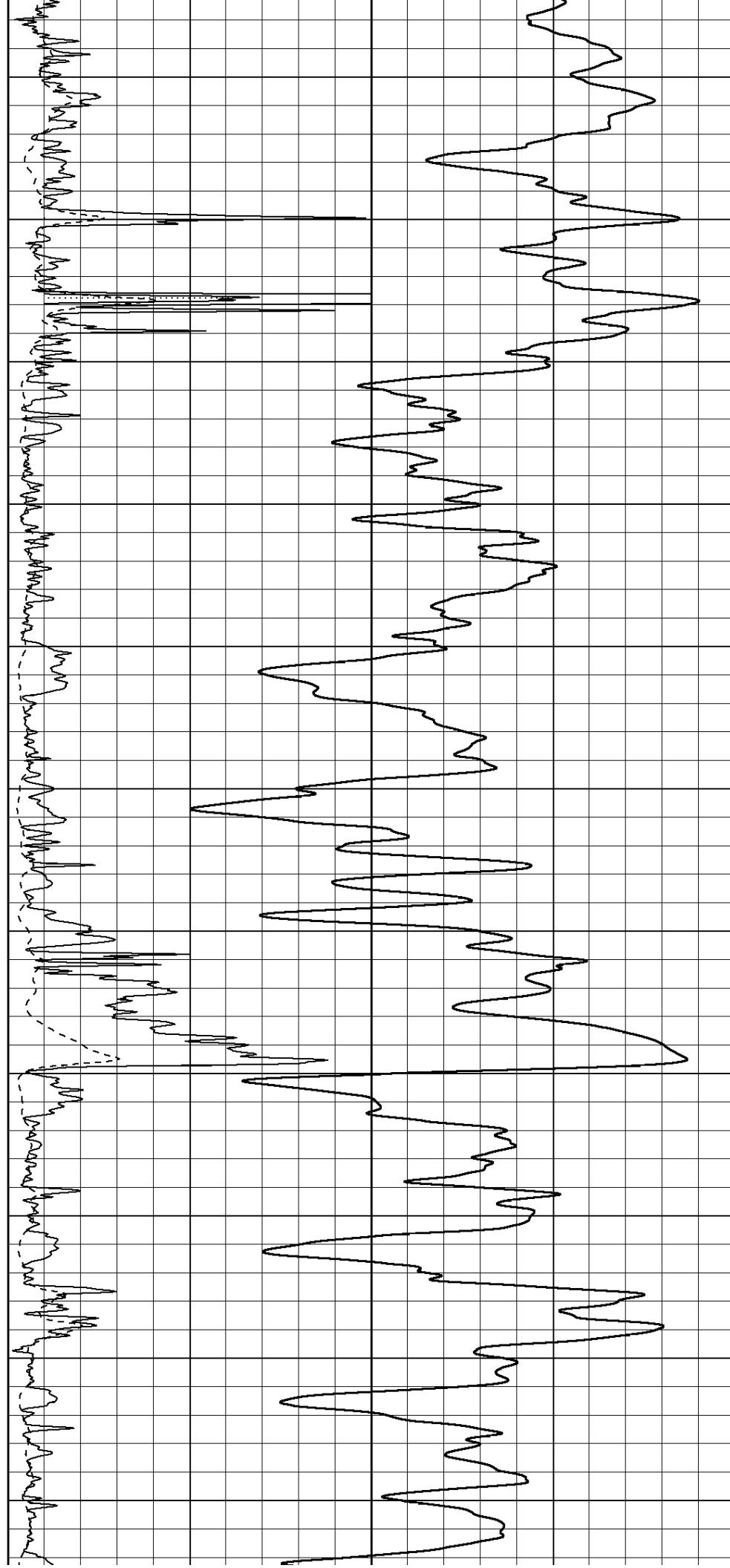
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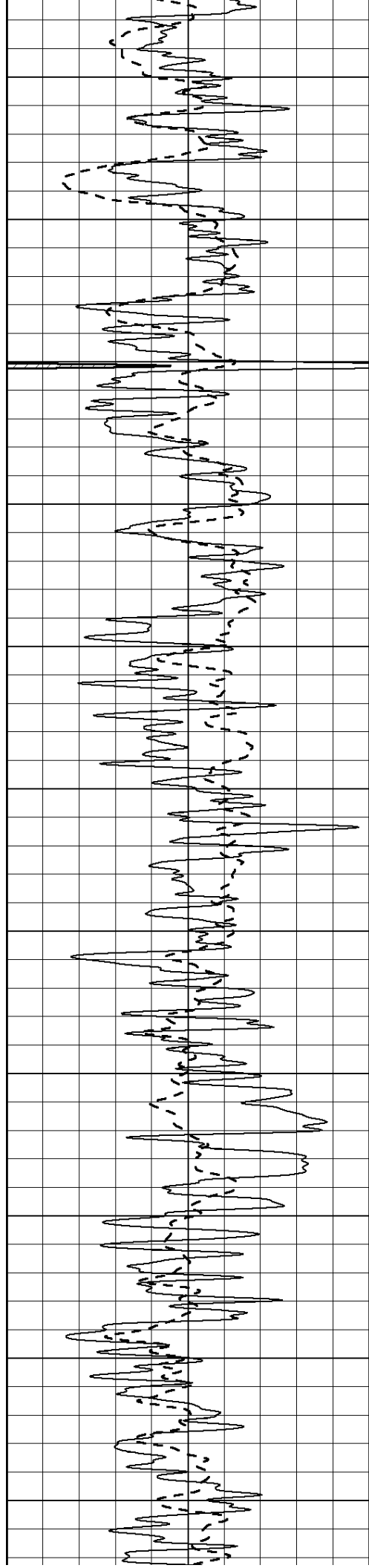
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2500

2550

2600





2650

2700

2750

2800

2850

2900

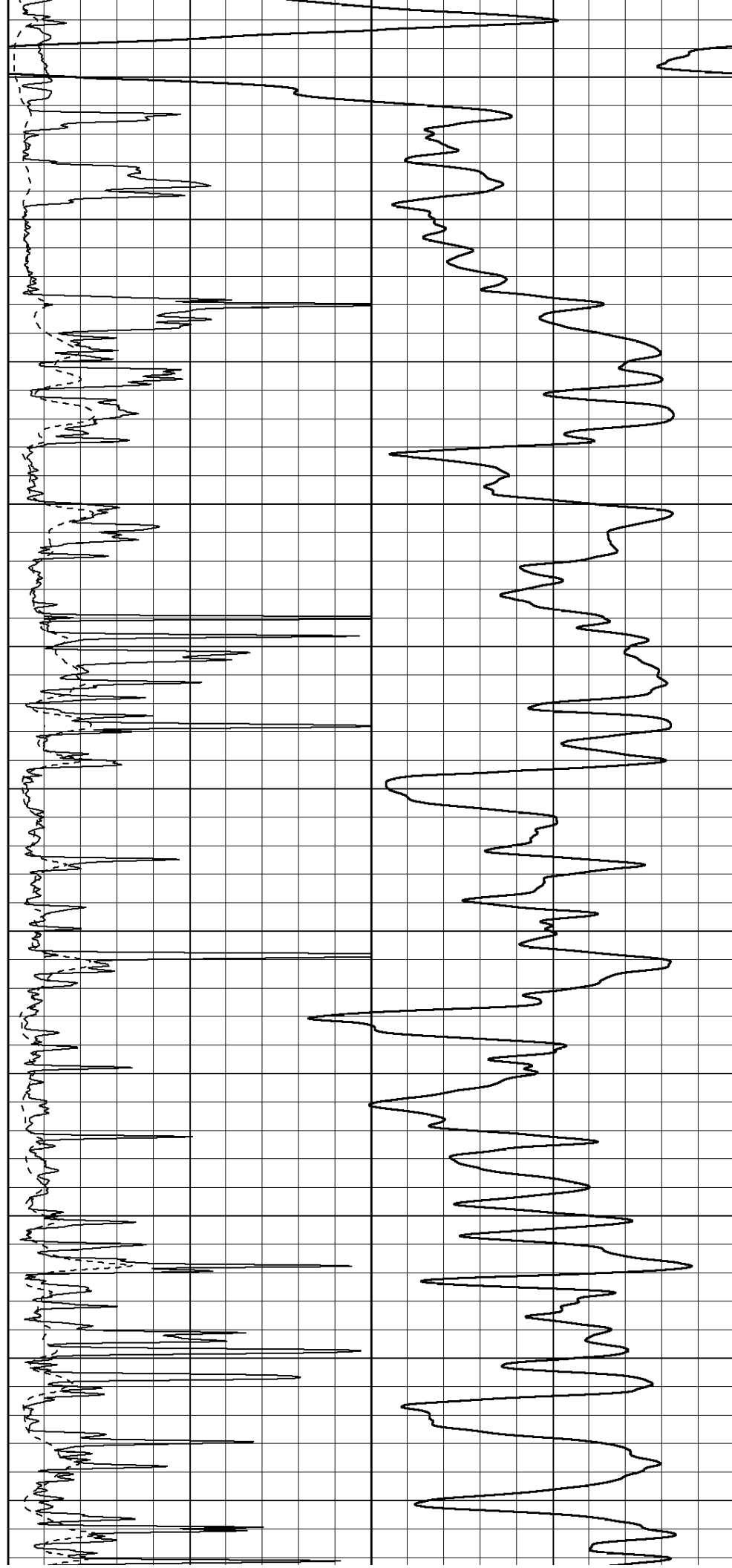
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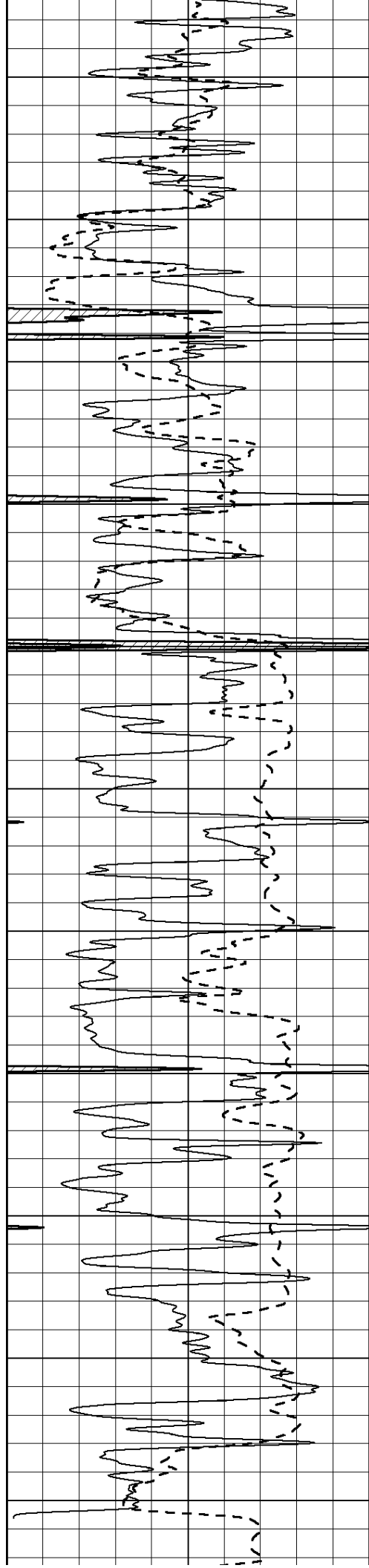
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3050

3100

3150





3200

3250

3300

3350

3400

3450

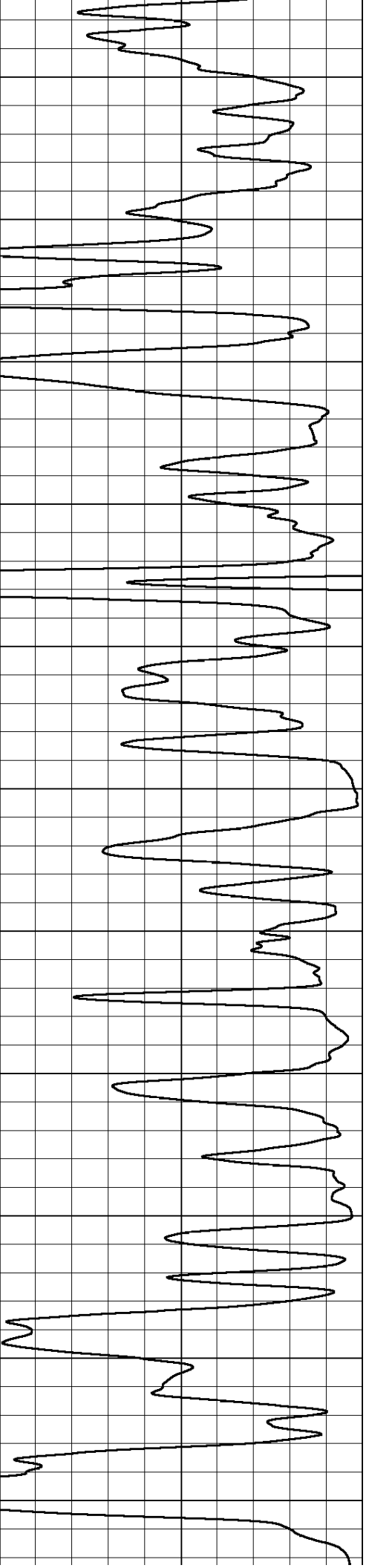
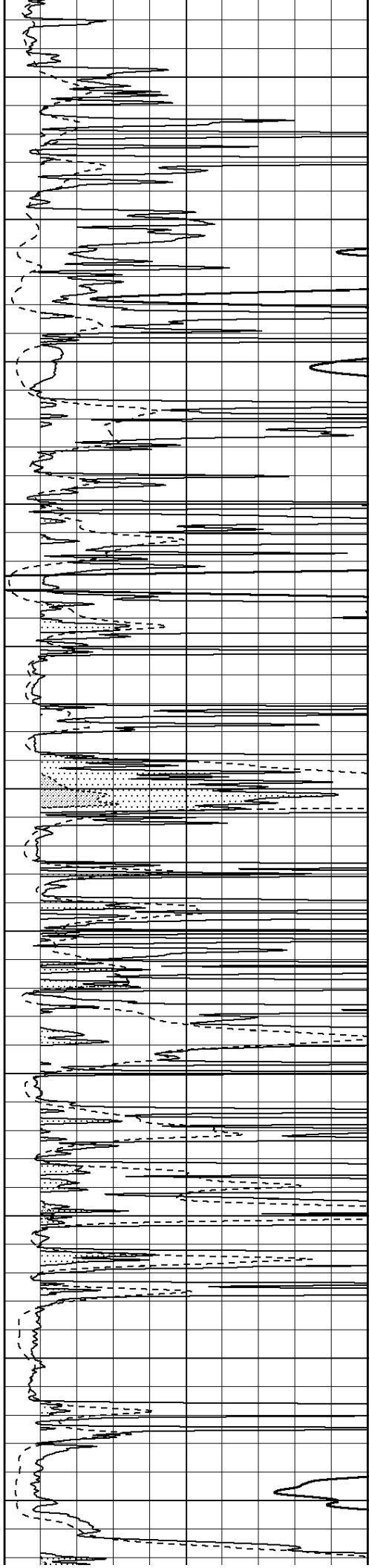
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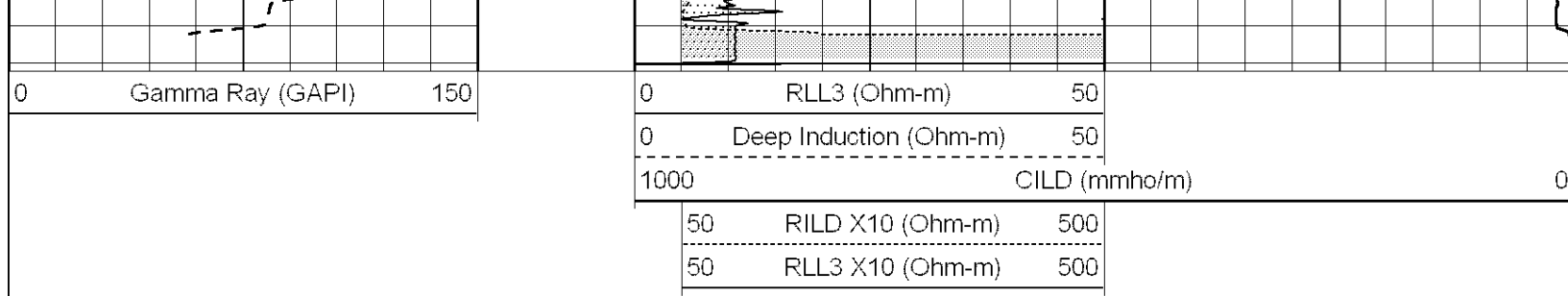
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3600

3650

3700

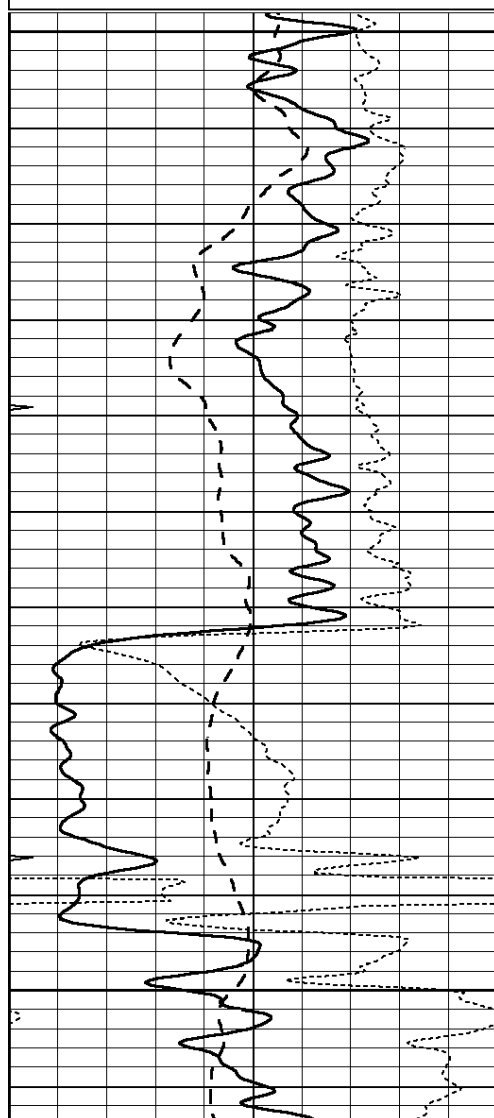




MAIN SECTION

Database File: 010217ddn.db
 Dataset Pathname: pass3.A
 Presentation Format: _dil
 Dataset Creation: Mon Oct 14 02:09:08 2013
 Charted by: Depth in Feet scaled 1:240

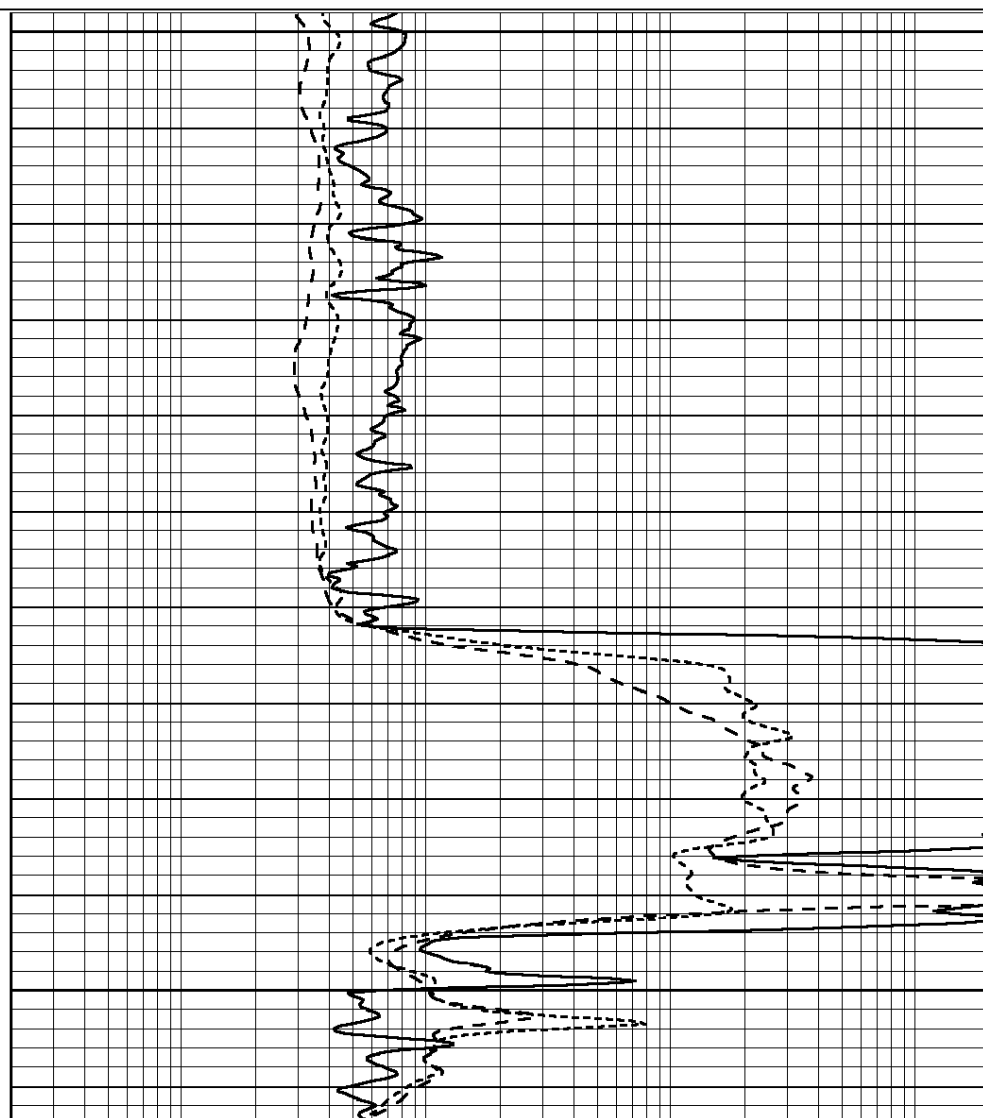
0	GAMMA RAY (GAPI)	150	0.2	RLL3 (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	RxoRt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			

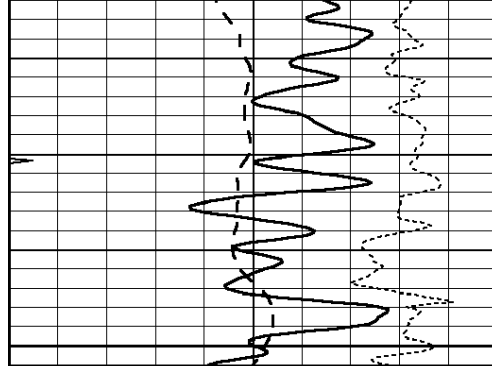


1750

1800

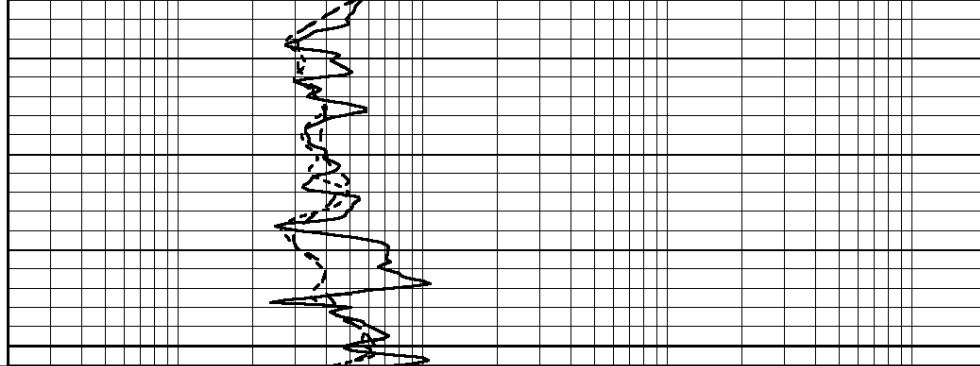
1850





1900

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



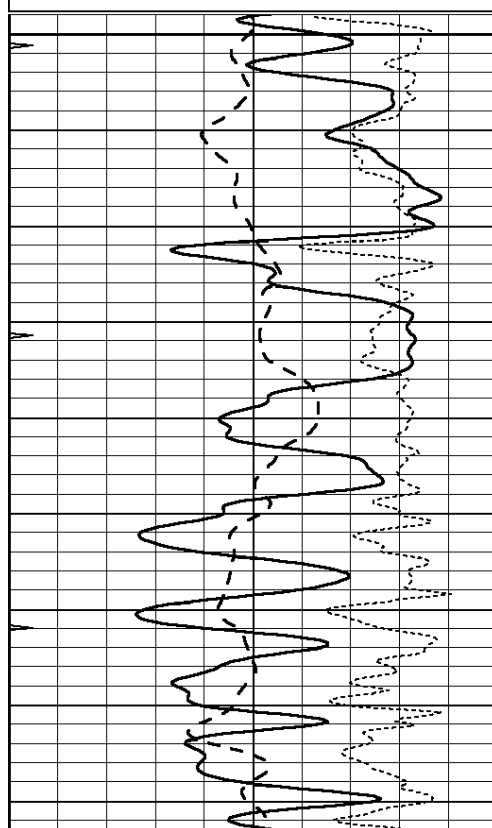
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MAIN SECTION

Database File: 010217ddn.db
 Dataset Pathname: pass3.A
 Presentation Format: _dil
 Dataset Creation: Mon Oct 14 02:09:08 2013
 Charted by: Depth in Feet scaled 1:240

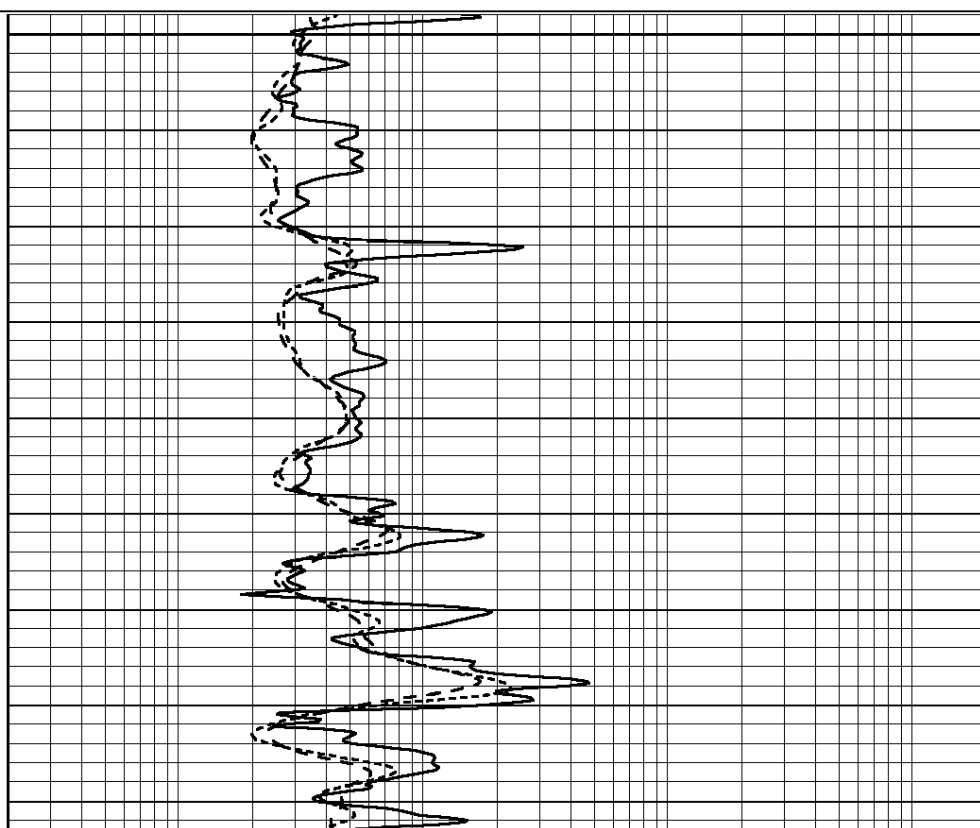
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-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

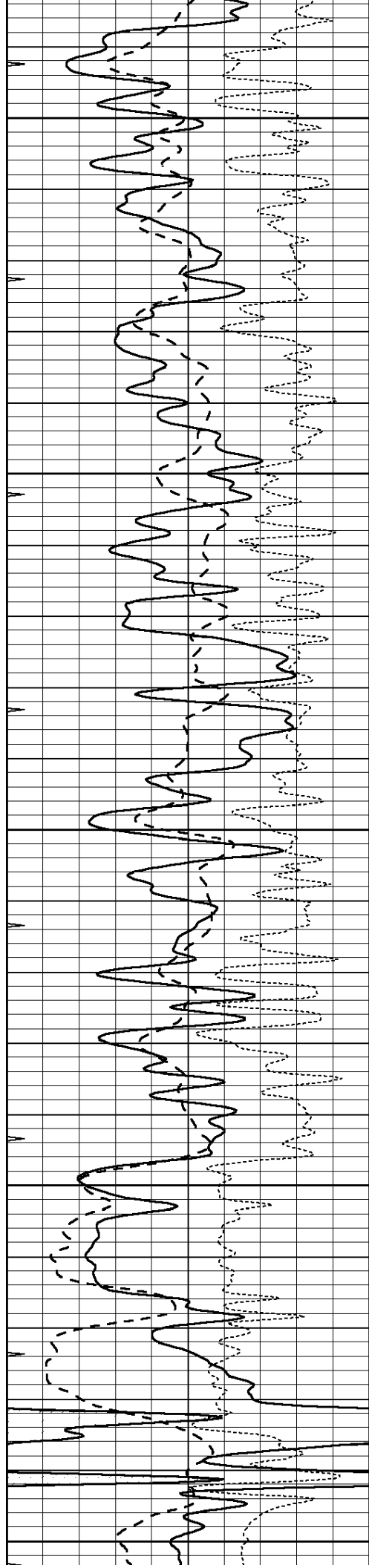
0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3000

3050





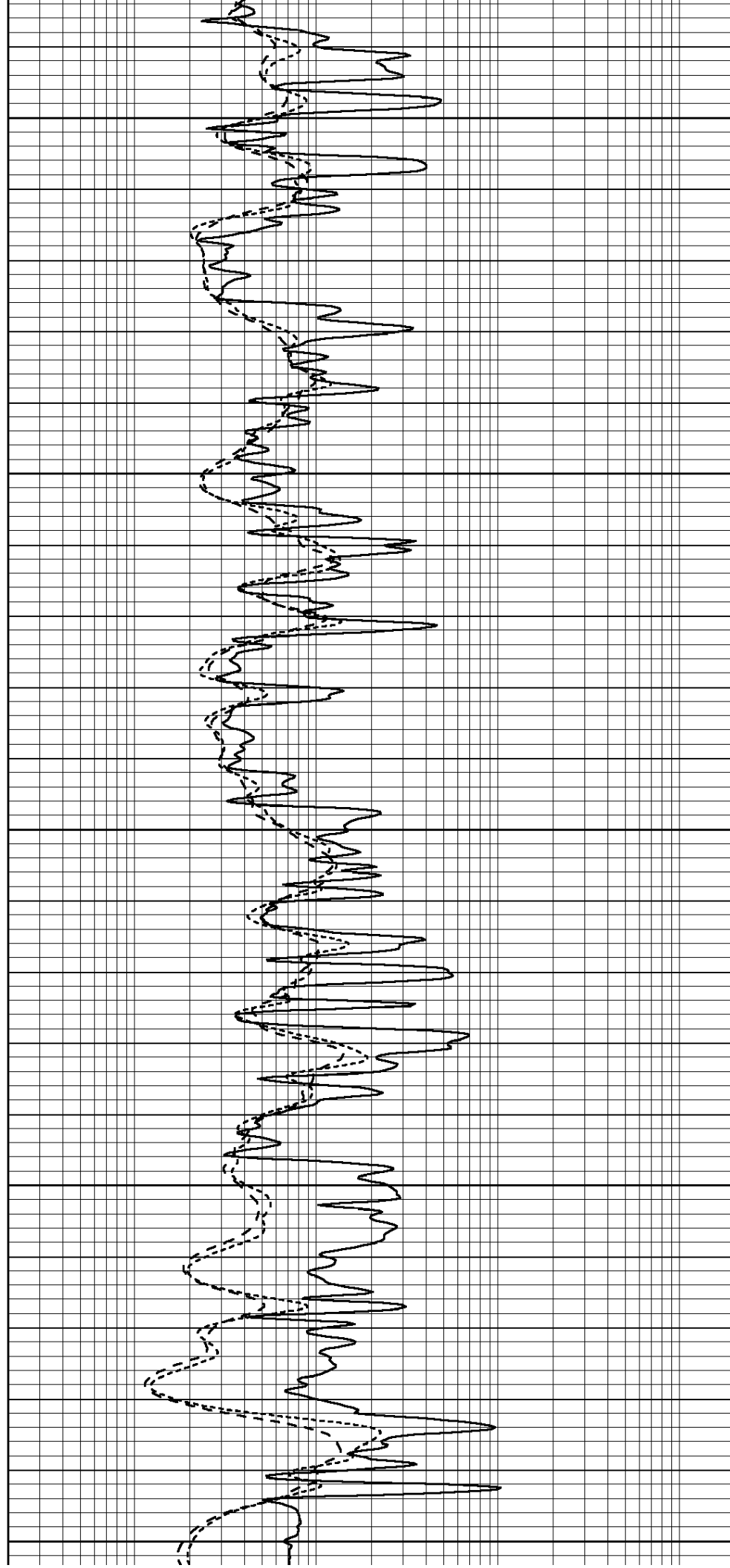
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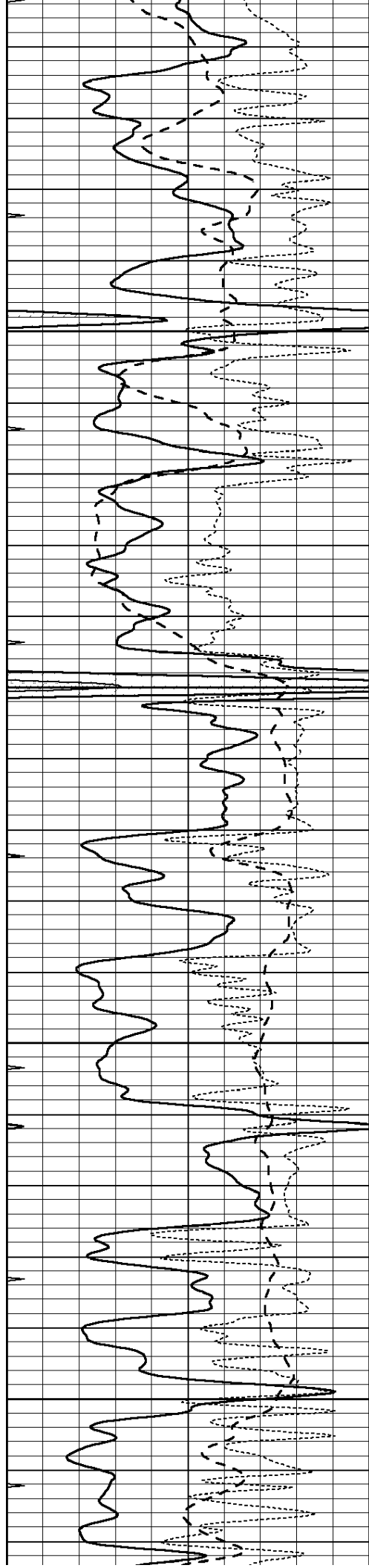
3150

3200

3250

3300



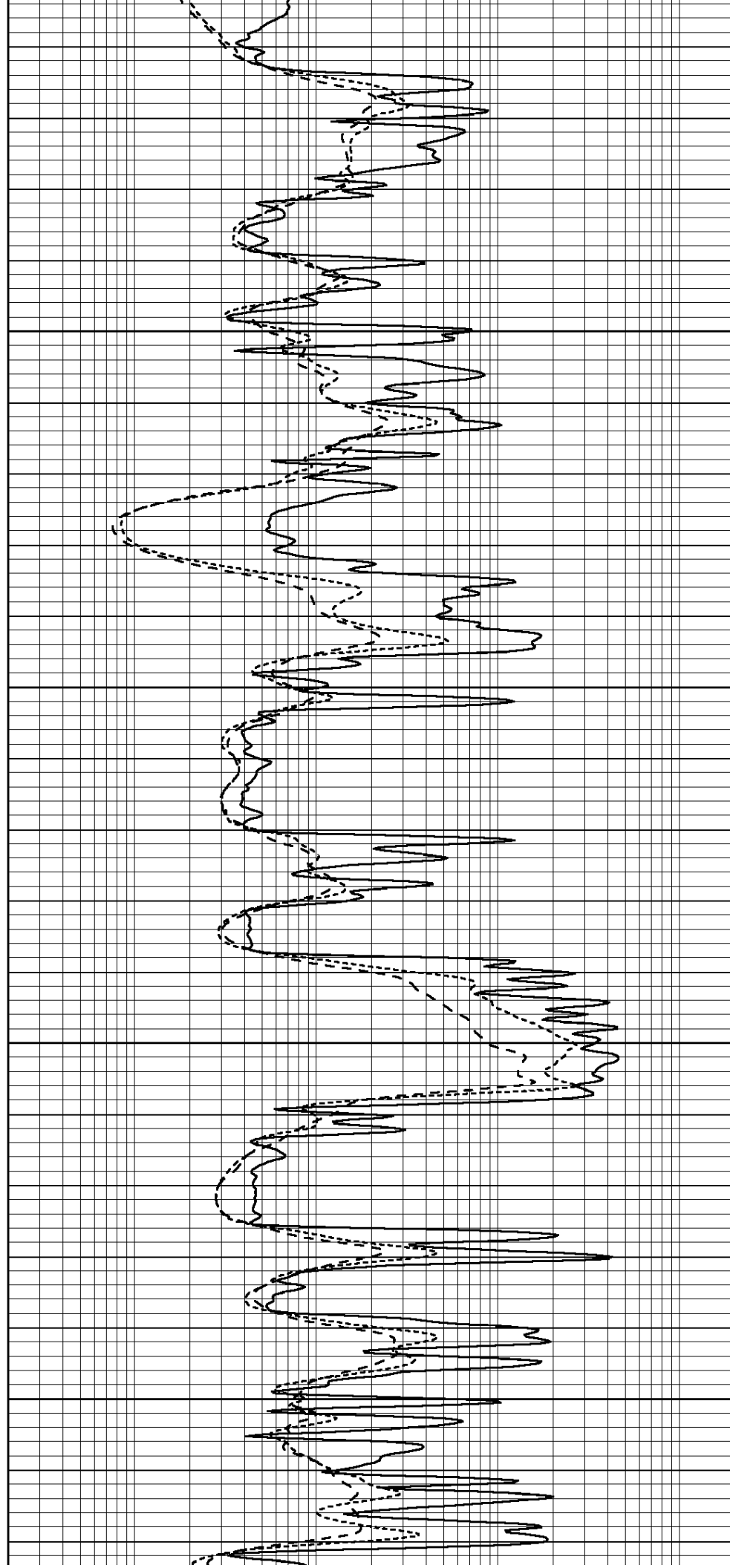


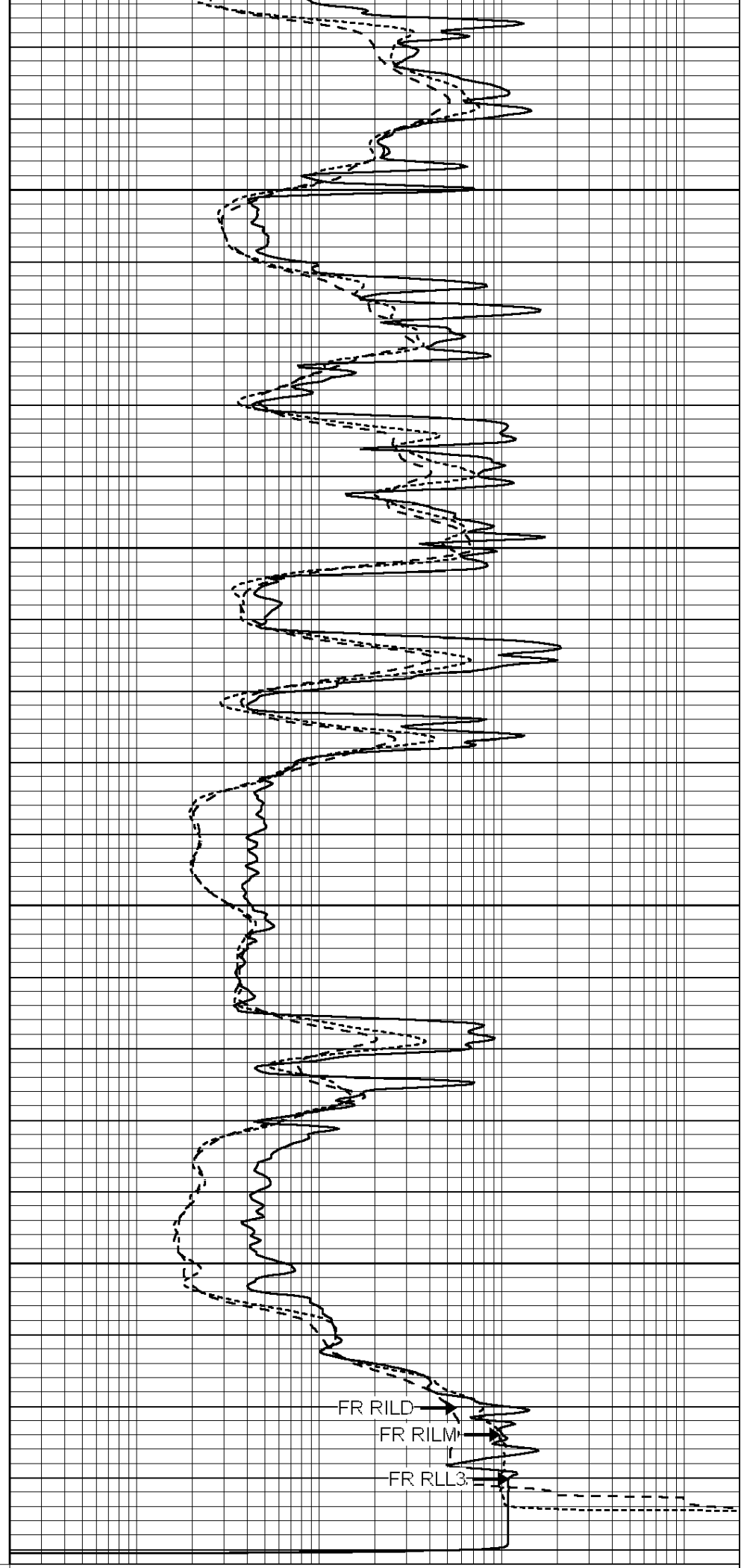
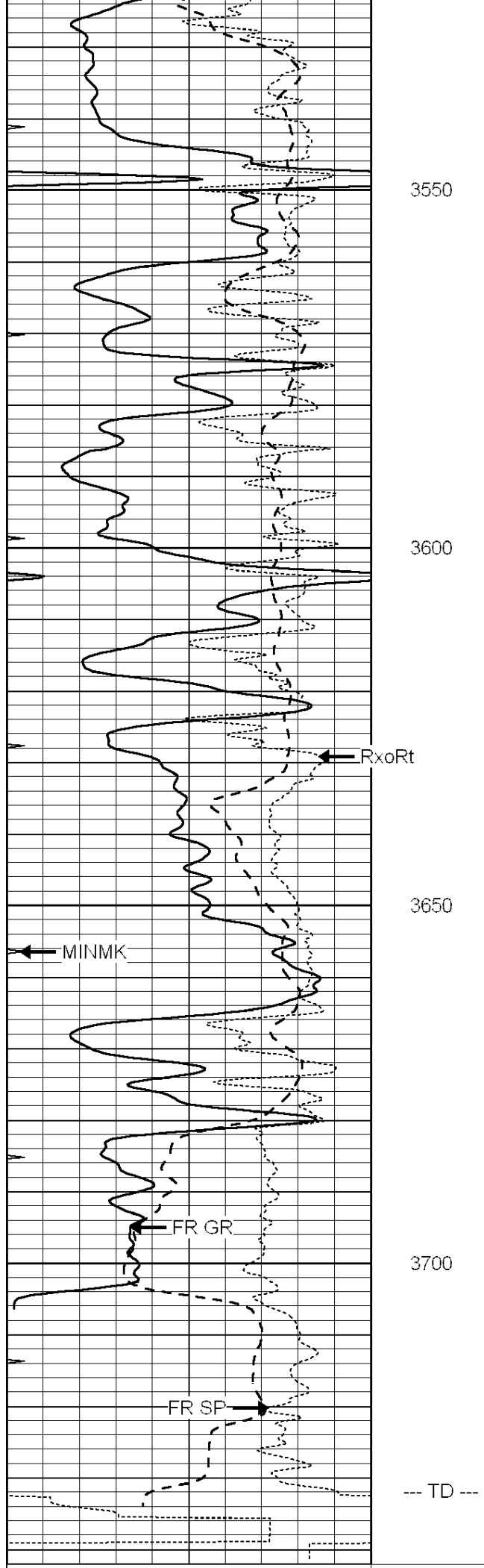
3350

3400

3450

3500





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



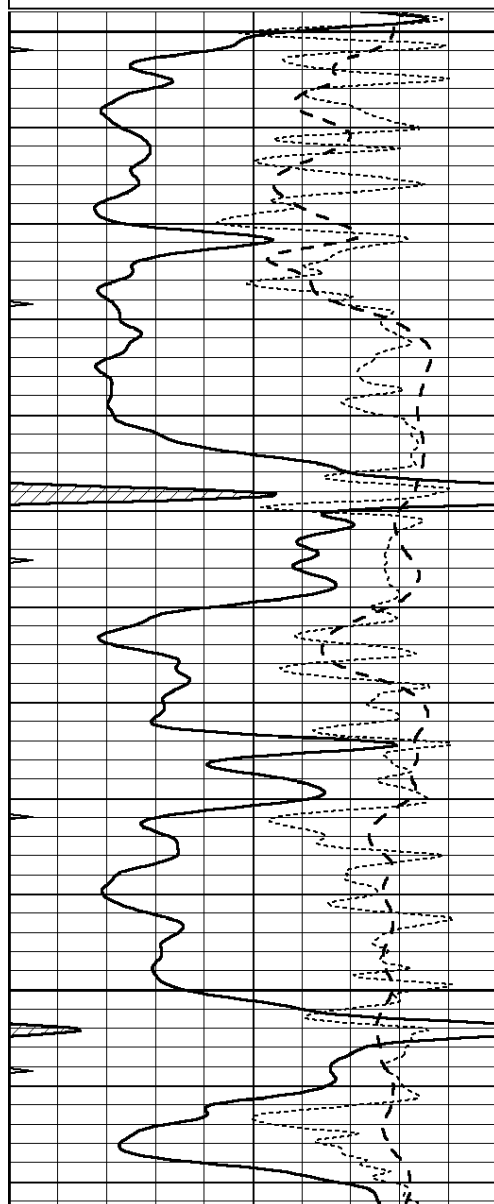
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REPEAT SECTION

Database File: 010217ddn.db
Dataset Pathname: pass2.1
Presentation Format: _dil
Dataset Creation: Mon Oct 14 01:01:00 2013 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

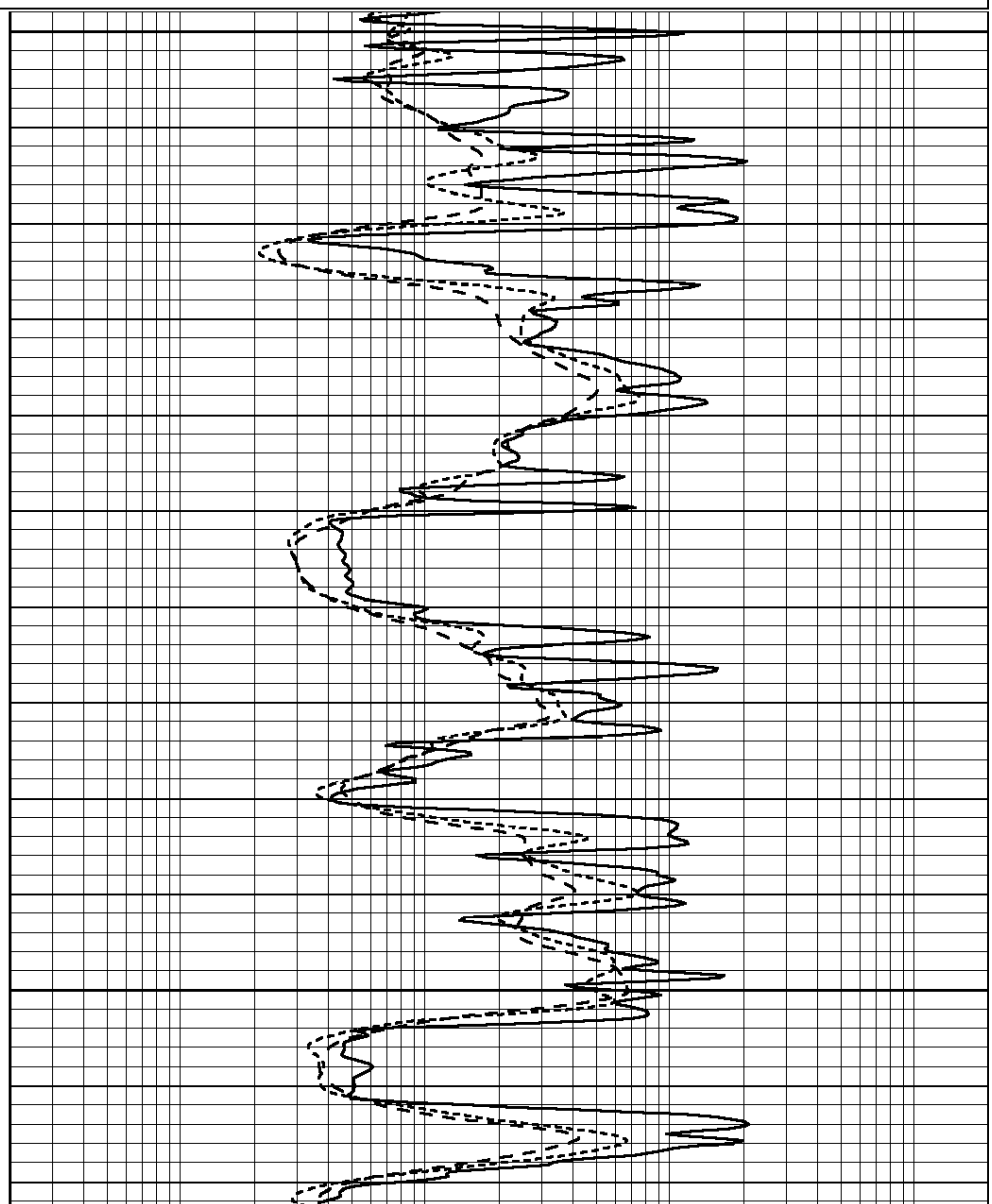
0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

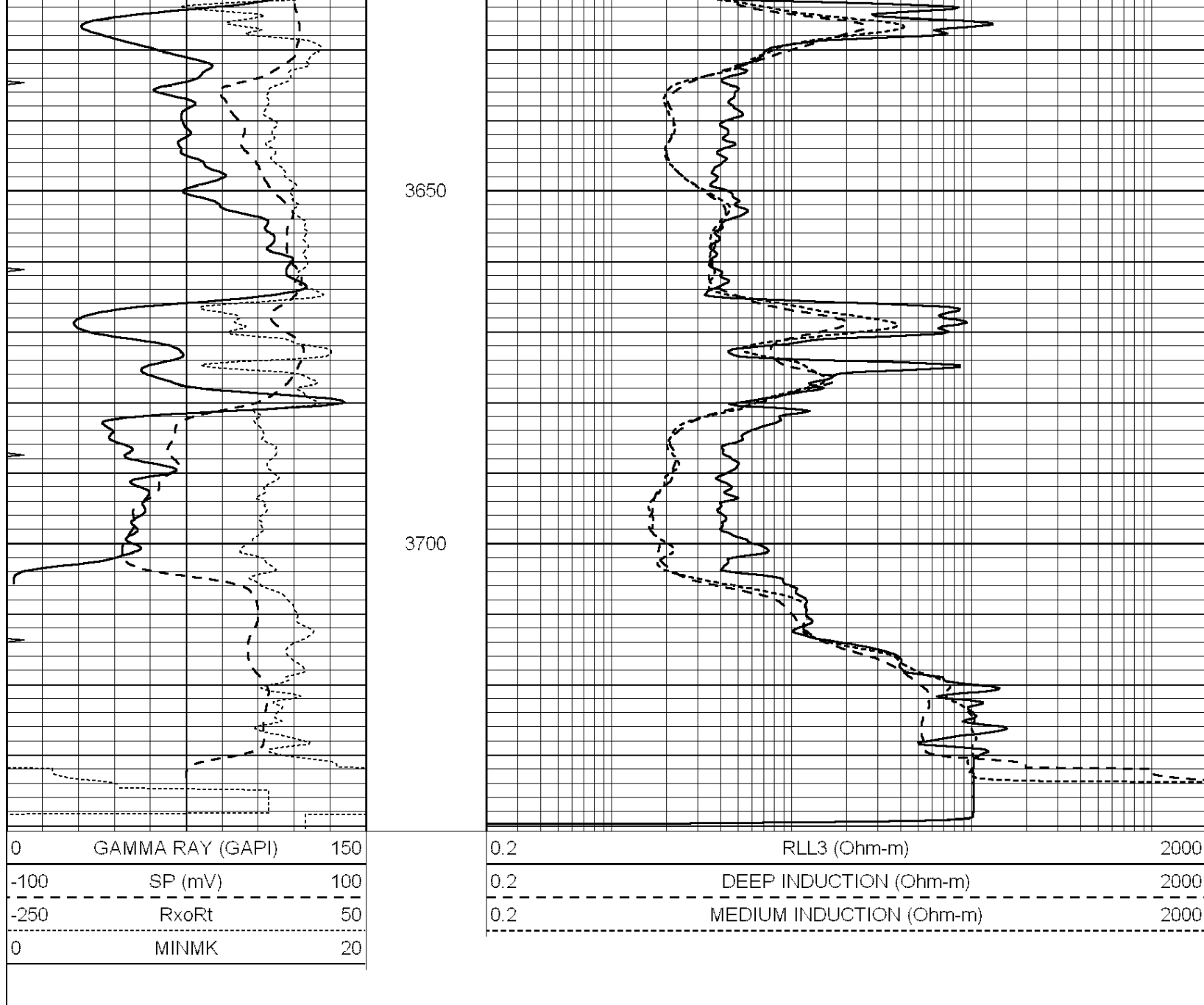


3500

3550

3600





Calibration Report

Database File: 010217ddn.db
 Dataset Pathname: pass3.A
 Dataset Creation: Mon Oct 14 02:09:08 2013

Dual Induction Calibration Report

Serial-Model:
 Performed:

DIL3-GEAR
 Mon Oct 14 01:32:33 2013

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	480.000	4.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	530.000	-8.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	560.000	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	540.000	-4.000

Compensated Density Calibration Report

Serial-Model:	GEAR1-GEARHART
Source / Verifier:	147 / 147
Master Calibration Performed:	Mon Oct 14 01:31:54 2013

Master Calibration

	<u>Density</u>		<u>Far Detector</u>	<u>Near Detector</u>	
Magnesium	1.710	g/cc	1205.77	610.74	cps
Aluminum	2.580	g/cc	271.21	419.72	cps
	Spine Angle = 75.89		Density/Spine Ratio = 0.566		
	<u>Size</u>		<u>Reading</u>		
Small Ring	8.20	in	4.83	V	
Large Ring	14.00	in	7.01	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:	Mon Oct 14 01:30:48 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps