



DUAL INDUCTION LOG

Company I.A. OPERATING, INC.
 Well STRATHMAN - McKEE #10-1
 Field HEINEN
 County NEMAHA
 State KANSAS

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 Well STRATHMAN - McKEE #10-1
 Field HEINEN
 County NEMAHA State KANSAS

Location: API # : 15-131-20247-0000
 140' FNL & 1070' FVL
 NE - NE - NW - NW
 Permanent Datum GROUND LEVEL Elevation 1351
 Log Measured From KELLY BUSHING 9' A.G.L.
 Drilling Measured From KELLY BUSHING
 SEC 10 TWP 5S RGE 13E
 Other Services
 CDL/CNL/PE
 MEL/SONIC
 Elevation
 K.B. 1360
 D.F. 1358
 G.L. 1351

Date	2/18/79
Run Number	ONE
Depth Driller	3900
Depth Logger	3901
Bottom Logged Interval	3899
Top Log Interval	00
Casing Driller	8 5/8" @ 265'
Casing Logger	265
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/62
pH / Fluid Loss	9.07/2
Source of Sample	FLOWLINE
Rim @ Meas. Temp	1.90 @ 60F
Rmf @ Meas. Temp	1.43 @ 60F
Rmc @ Meas. Temp	2.28 @ 60F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.991 @ 115F
Time Circulation Stopped	3 HOURS
Time Logger on Bottom	9:00 P.M.
Maximum Recorded Temperature	115F
Equipment Number	922339
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	JEFF LAWLER

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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

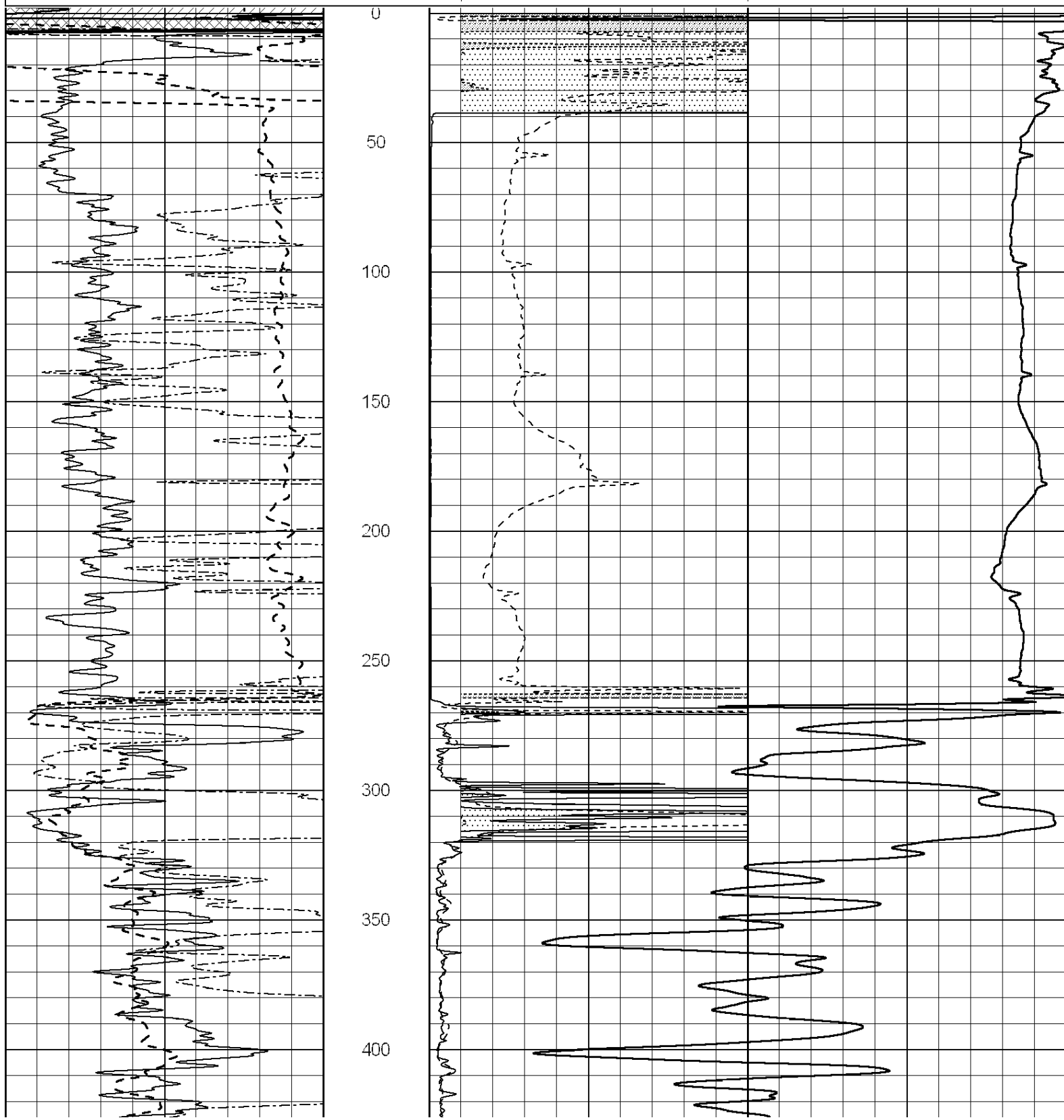
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
 DIRECTIONS
 CORNING, KS., 4E. ON HWY 9 TO HWY 62, 1S., 1/4E., S. NTO

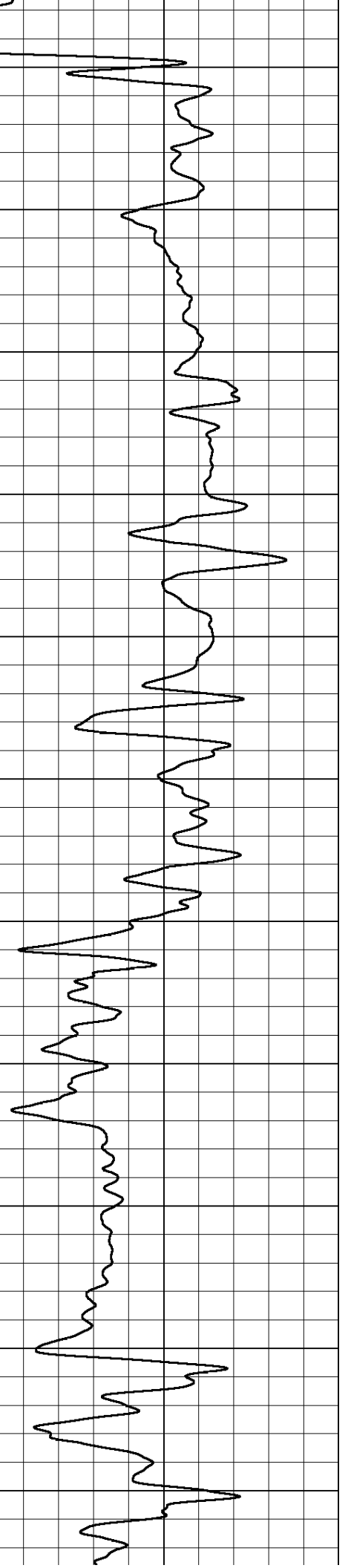
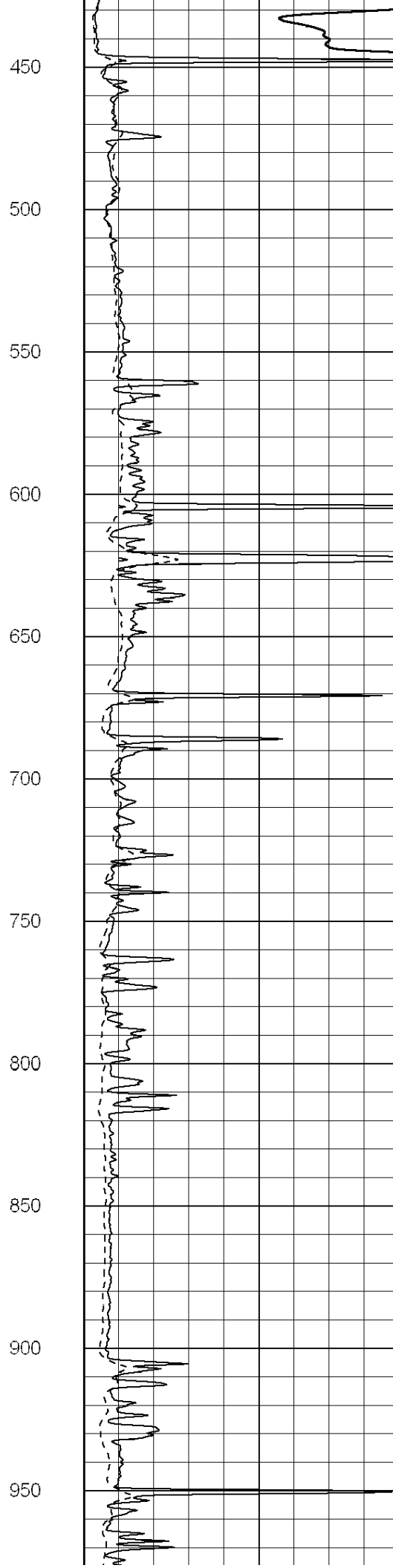
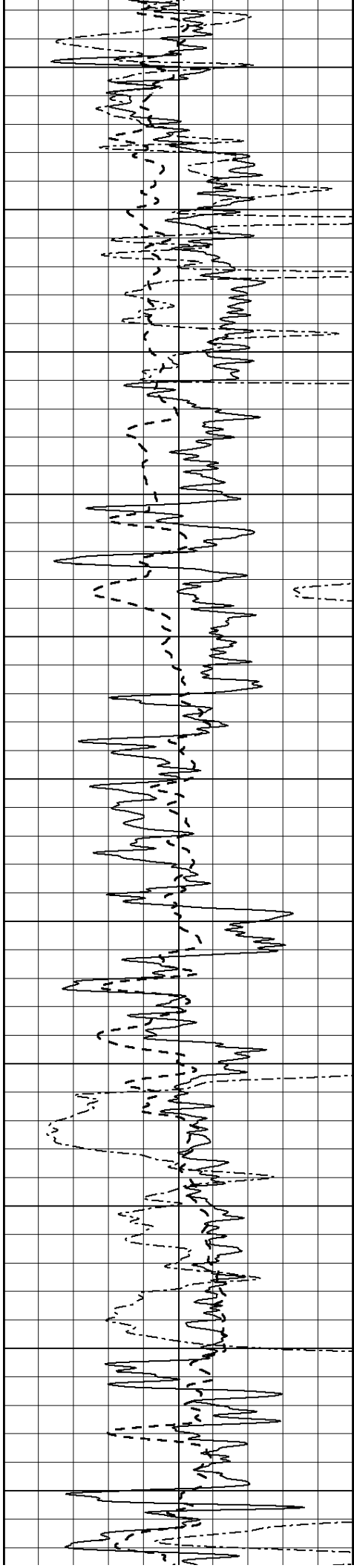


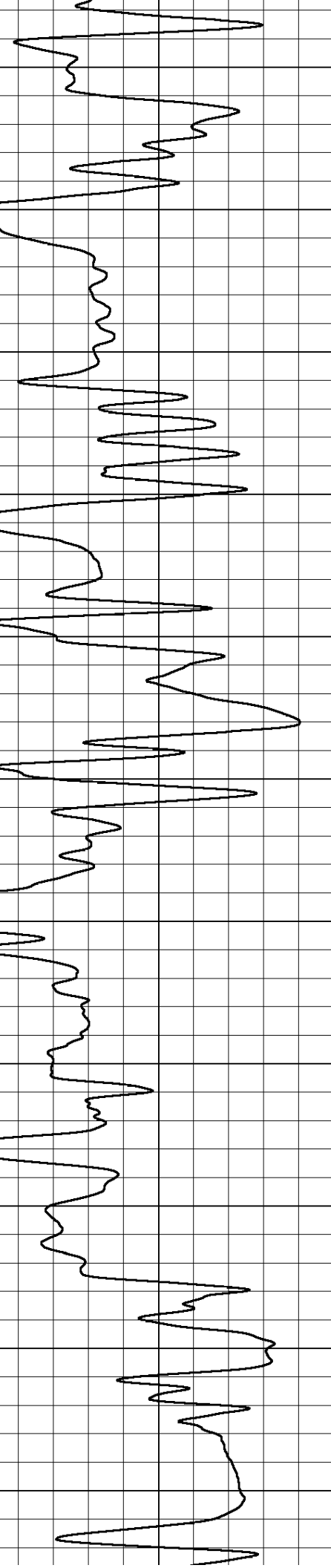
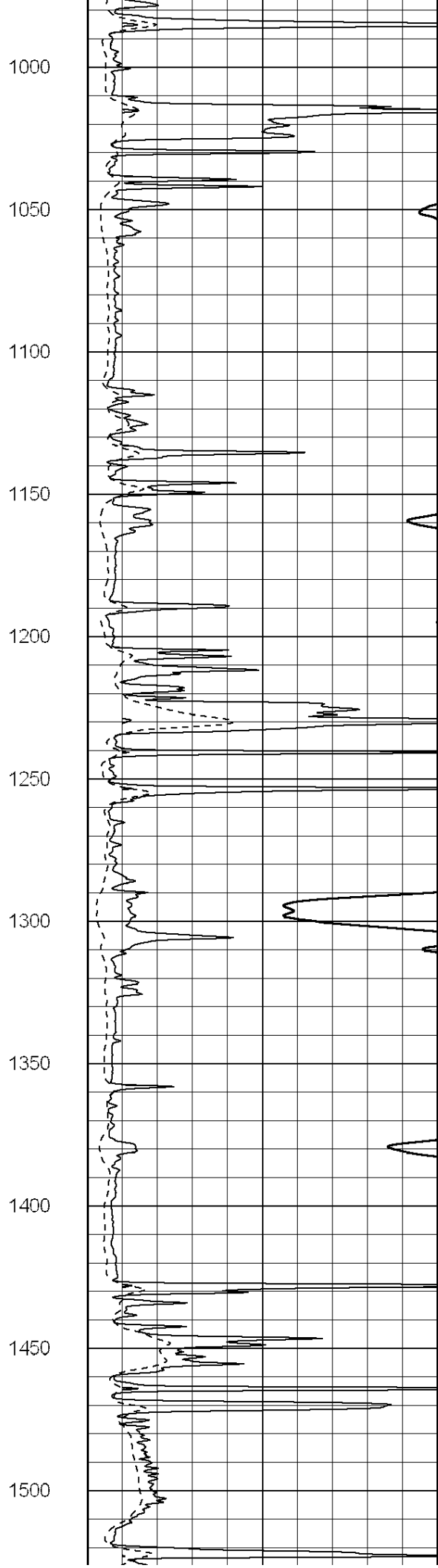
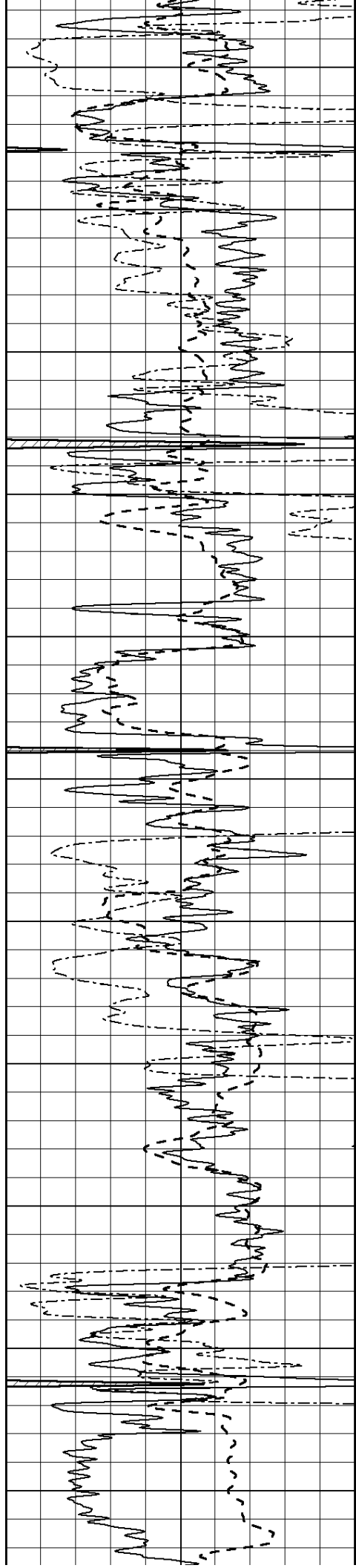
MAIN SECTION

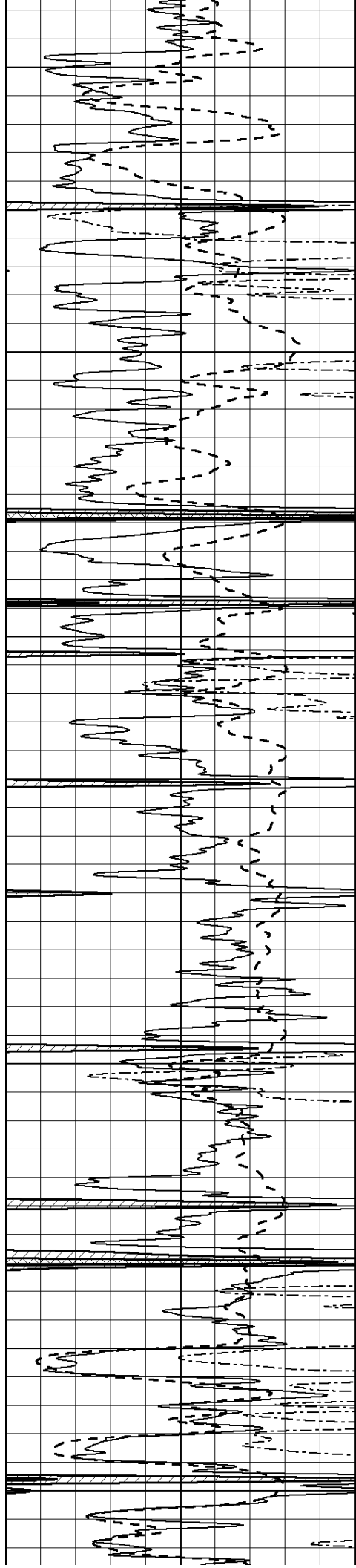
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 Dataset Pathname: pass3.9
 Presentation Format: dil2
 Dataset Creation: Mon Feb 18 23:47:22 2019 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50
-100	SP (mV)	100	0	RILD (Ohm-m)	50
0	RWA (Ohm-m)	1	1000	CILD (mmho/m)	0
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500









1550

1600

1650

1700

1750

1800

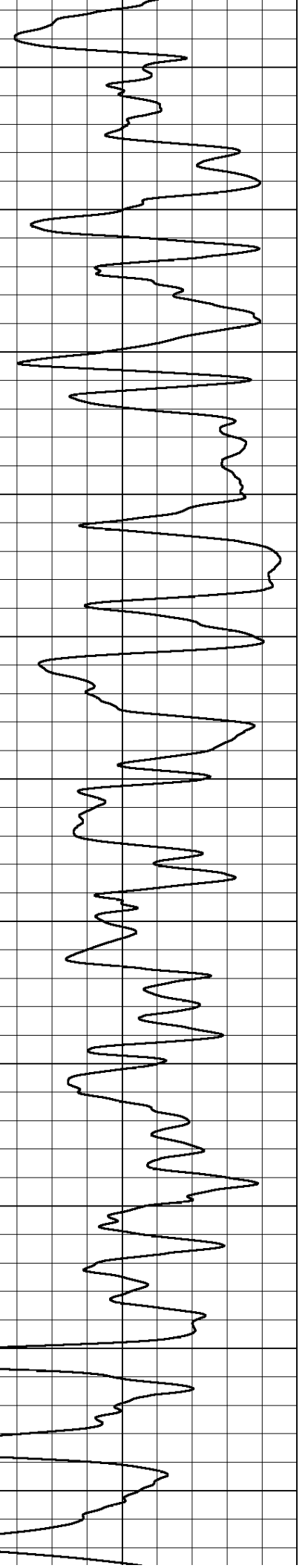
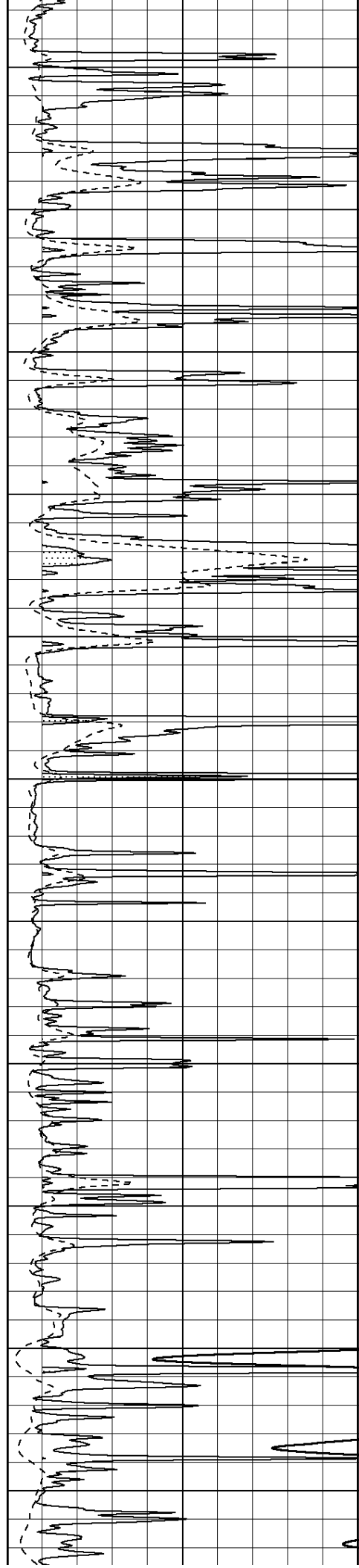
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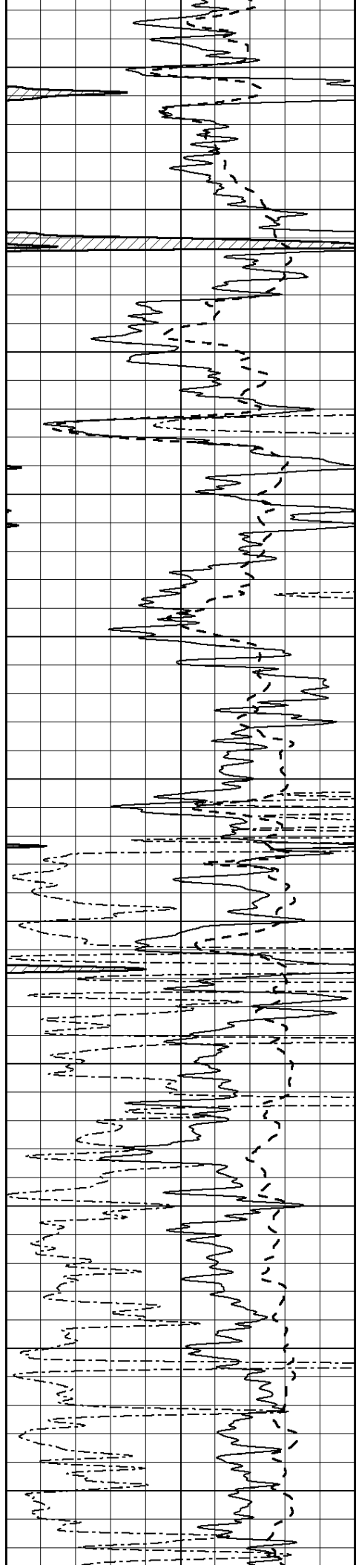
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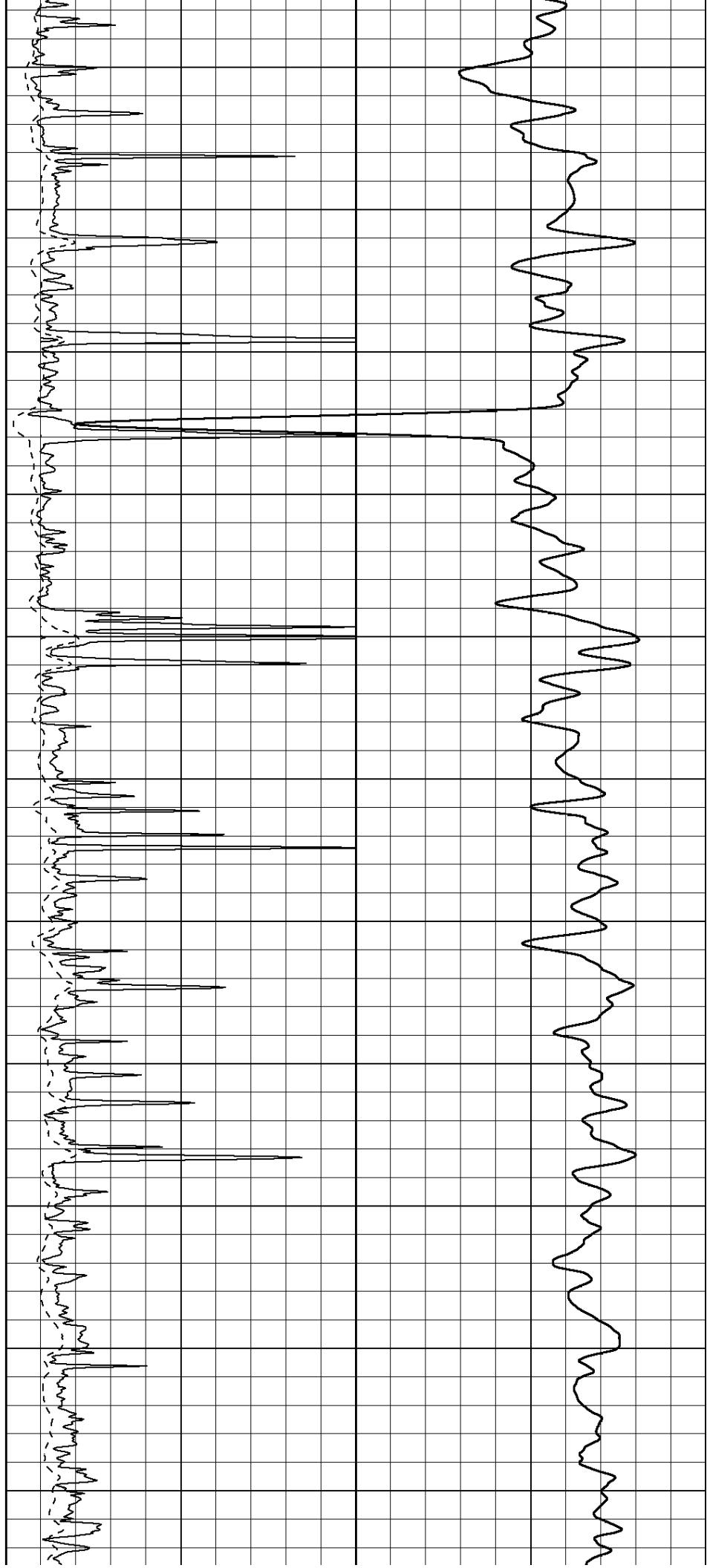
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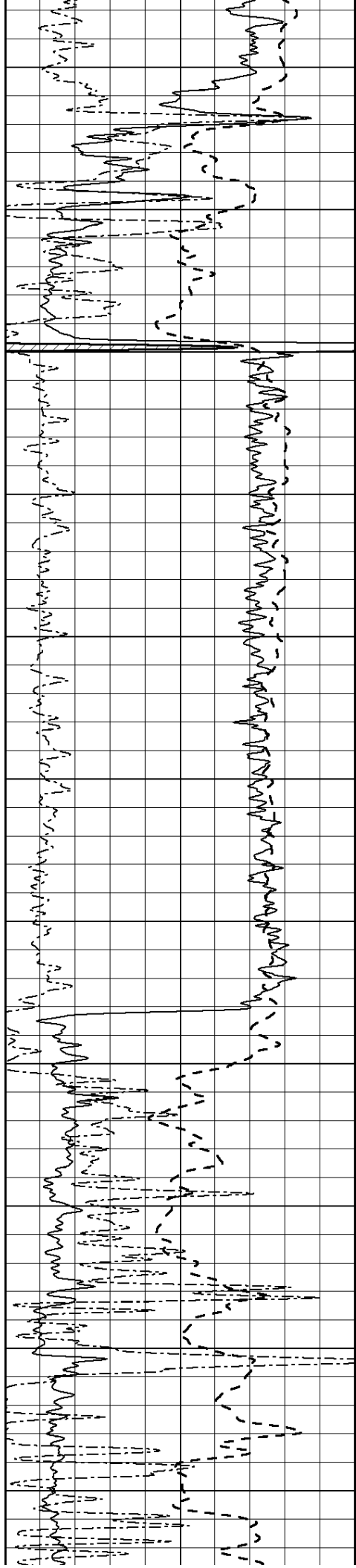
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2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600





2650

2700

2750

2800

2850

2900

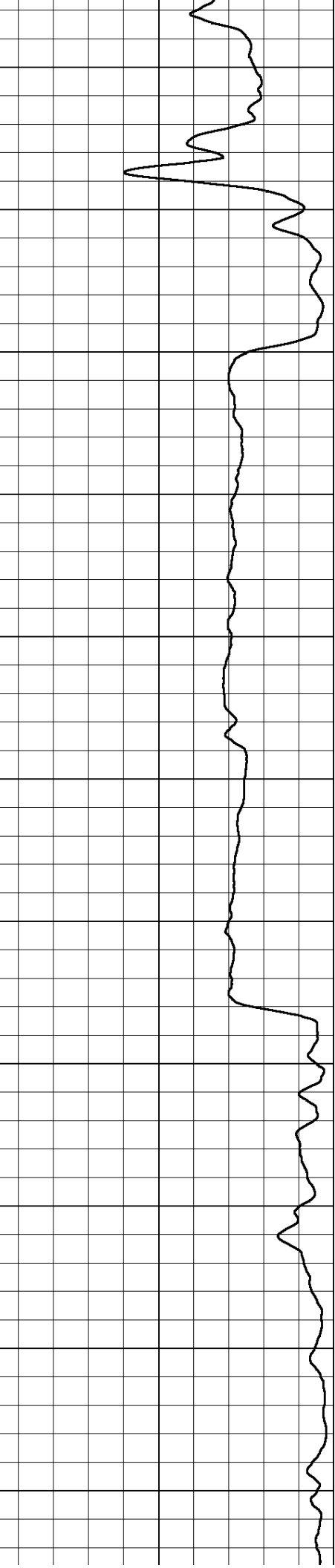
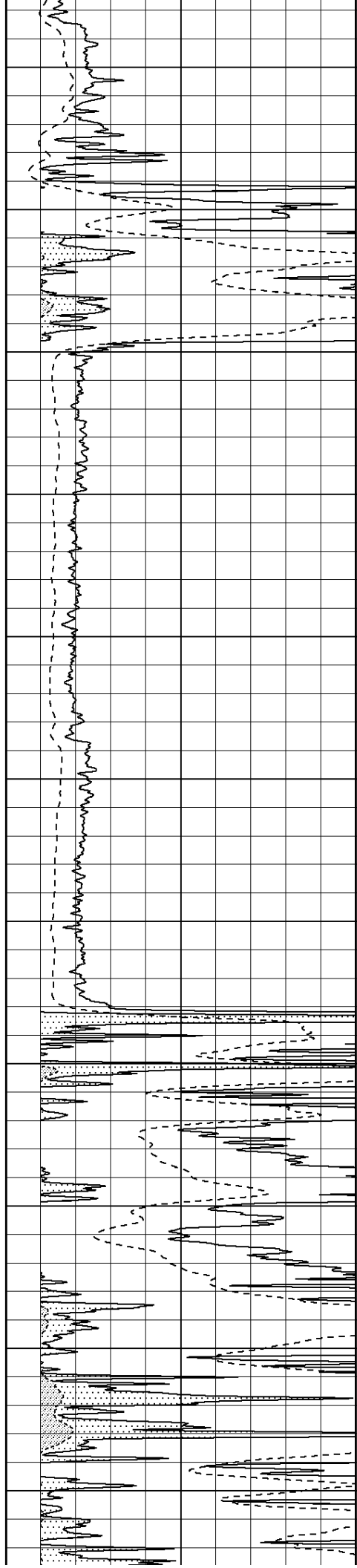
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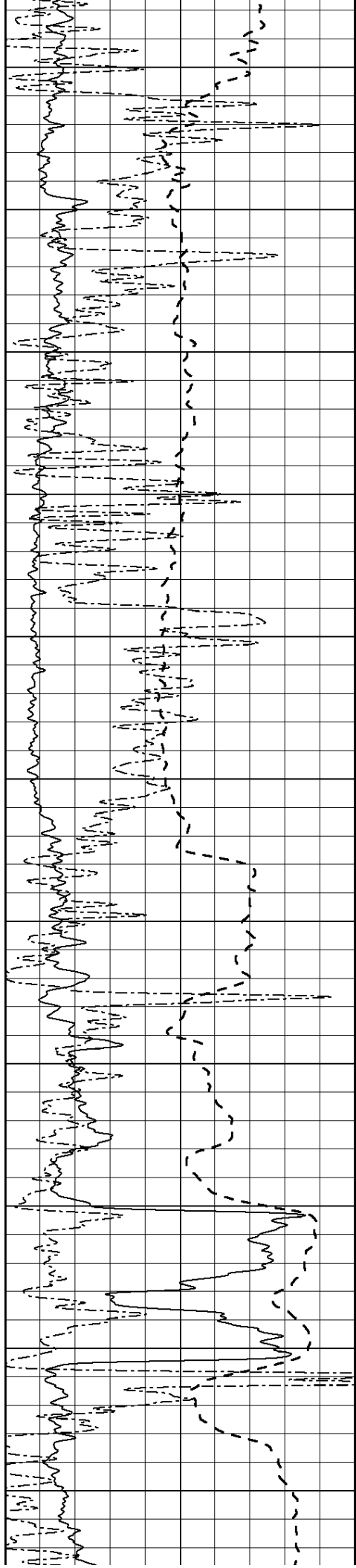
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3050

3100

3150





3200

3250

3300

3350

3400

3450

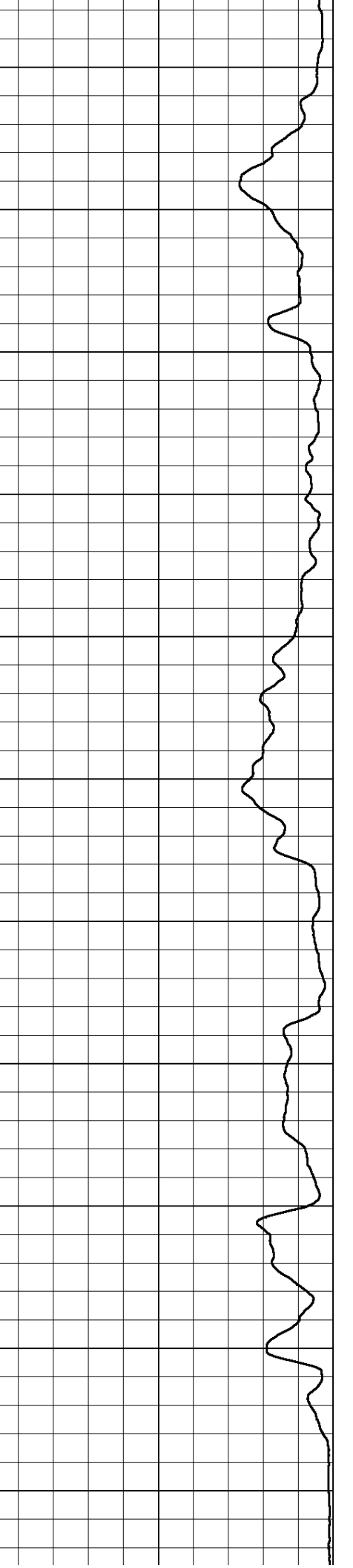
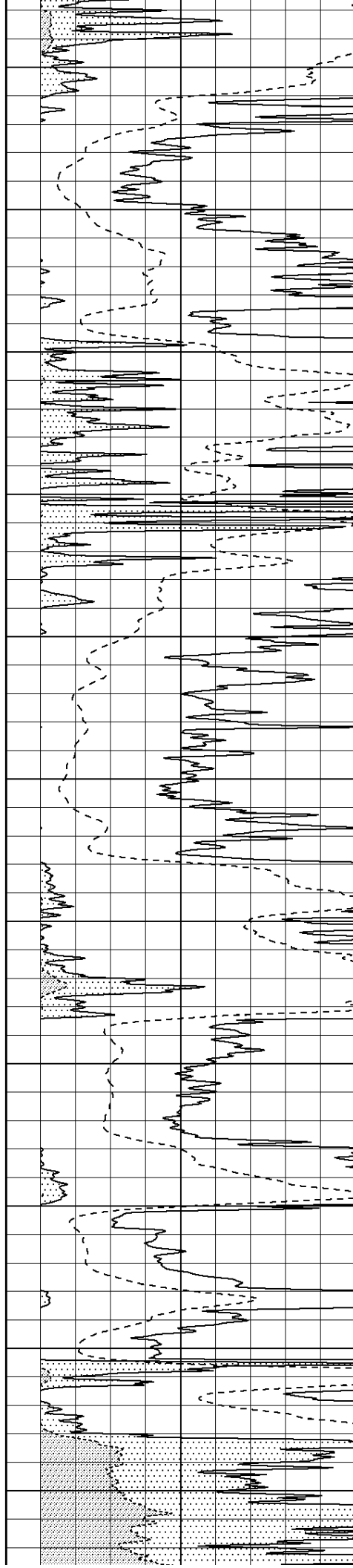
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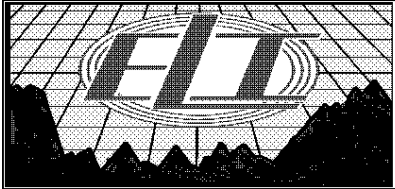
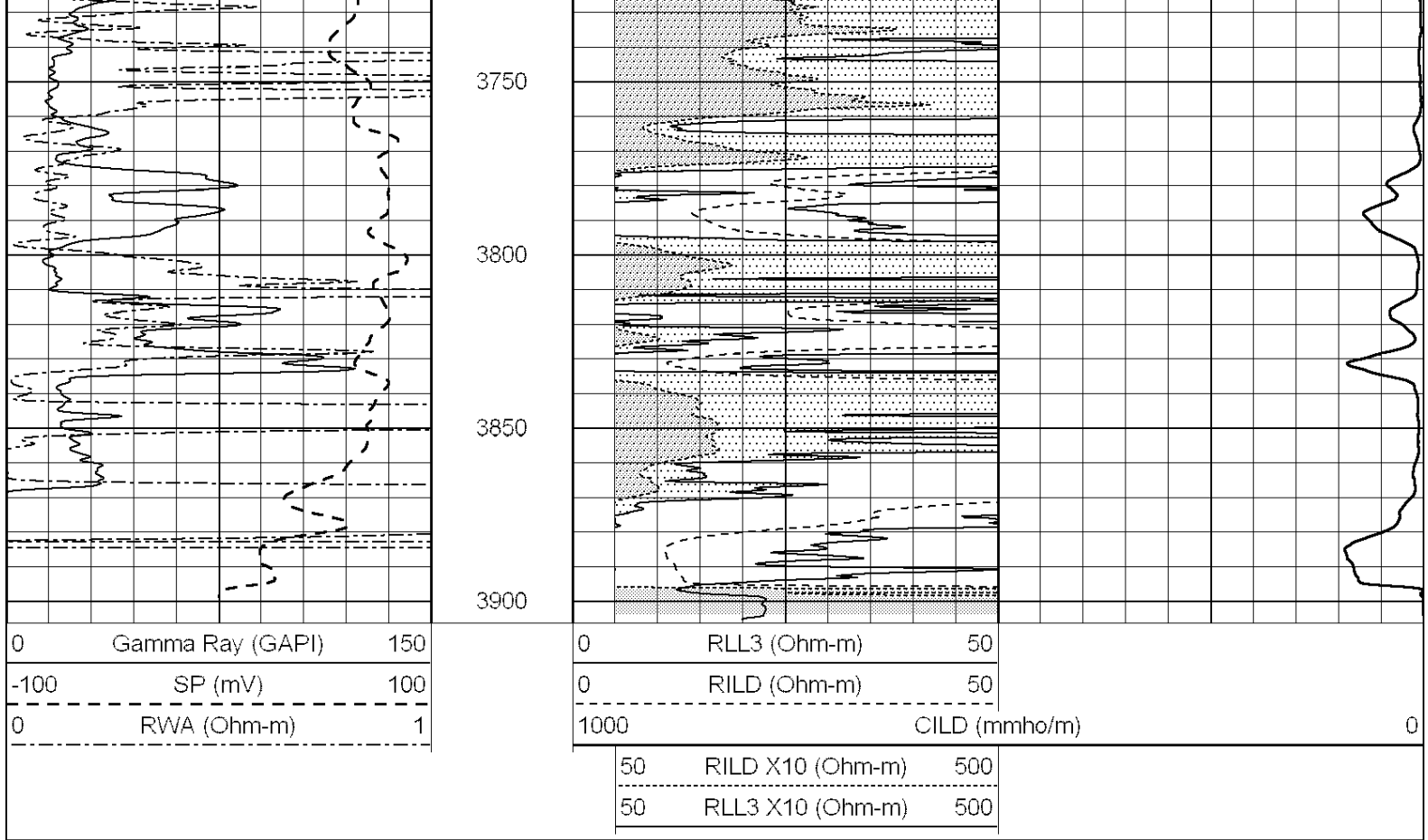
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3650

3700

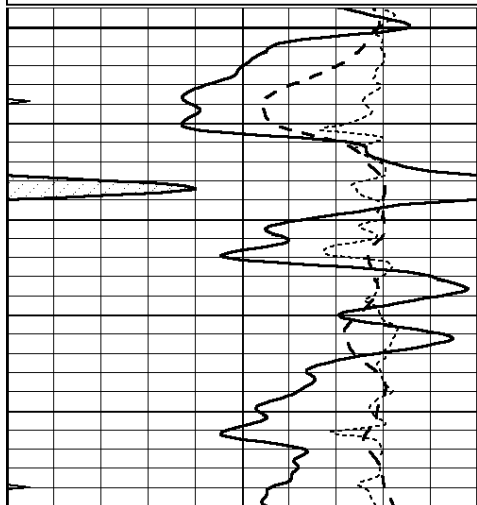




MAIN SECTION

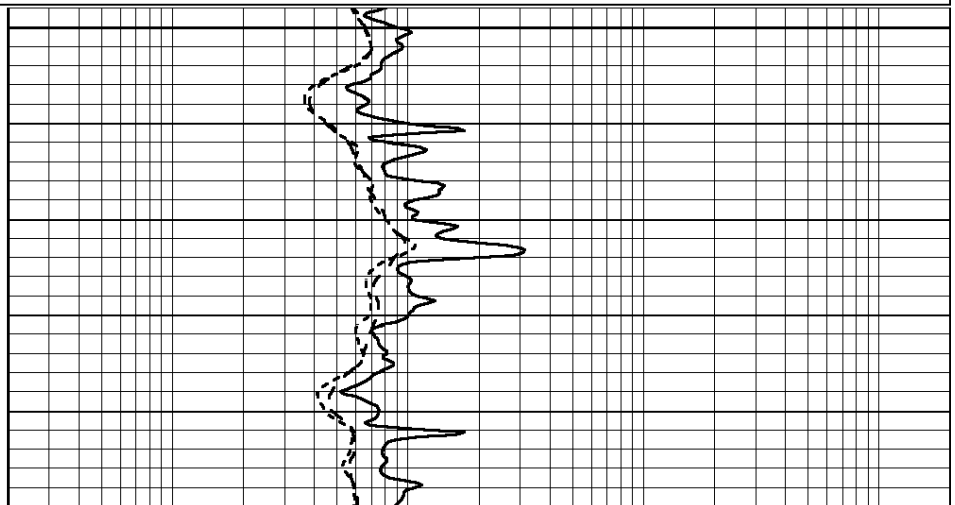
Database File: 3342pe.db
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 Presentation Format: _dil
 Dataset Creation: Mon Feb 18 23:47:22 2019 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

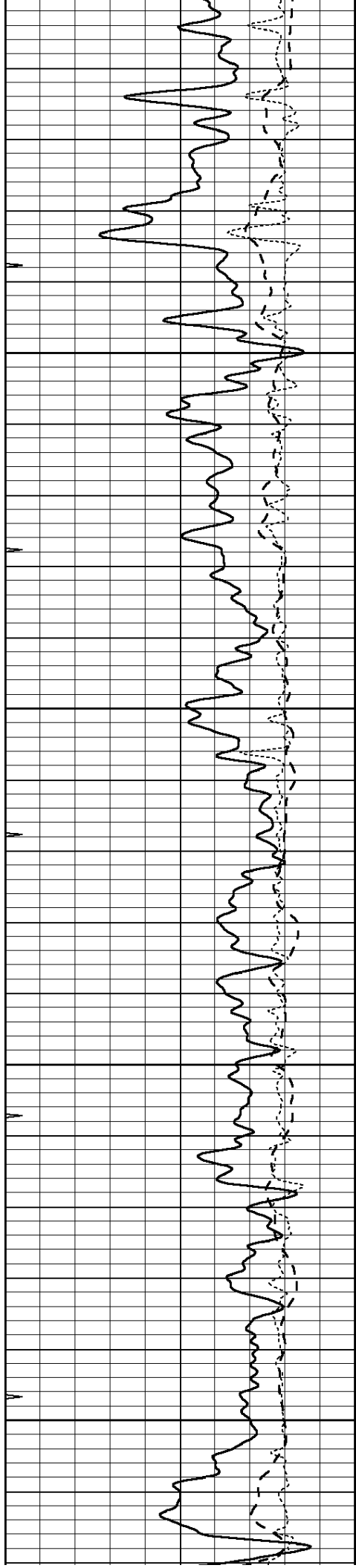
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



2400

2450



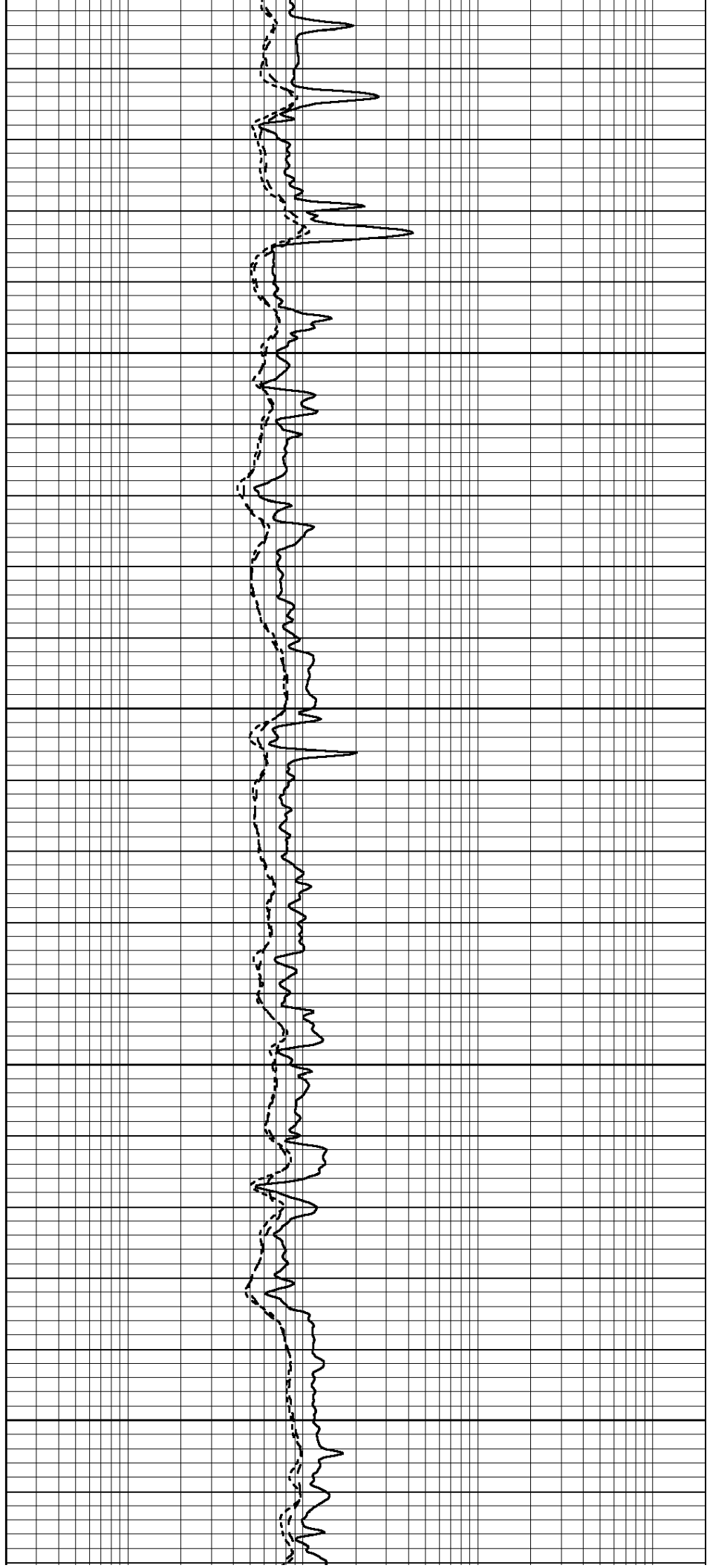


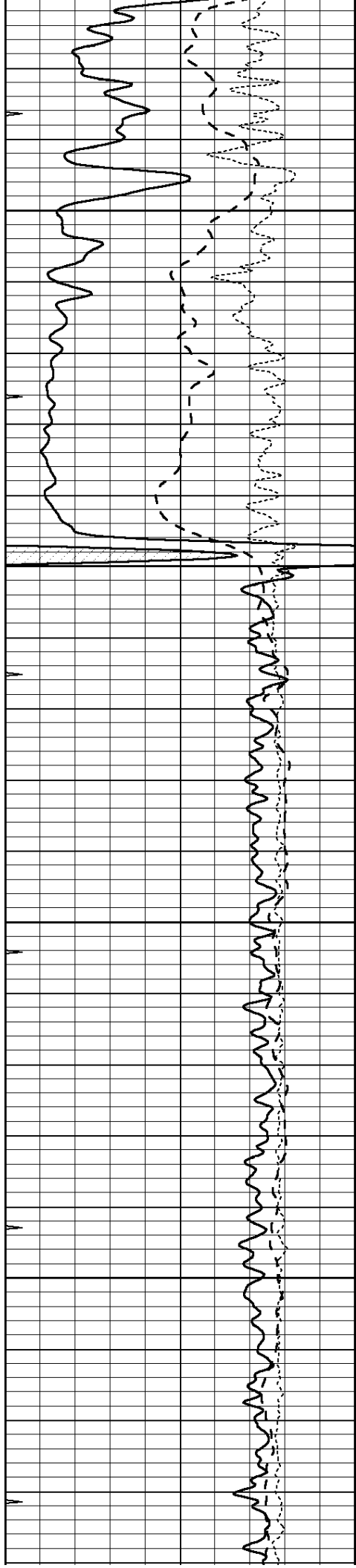
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2550

2600

2650



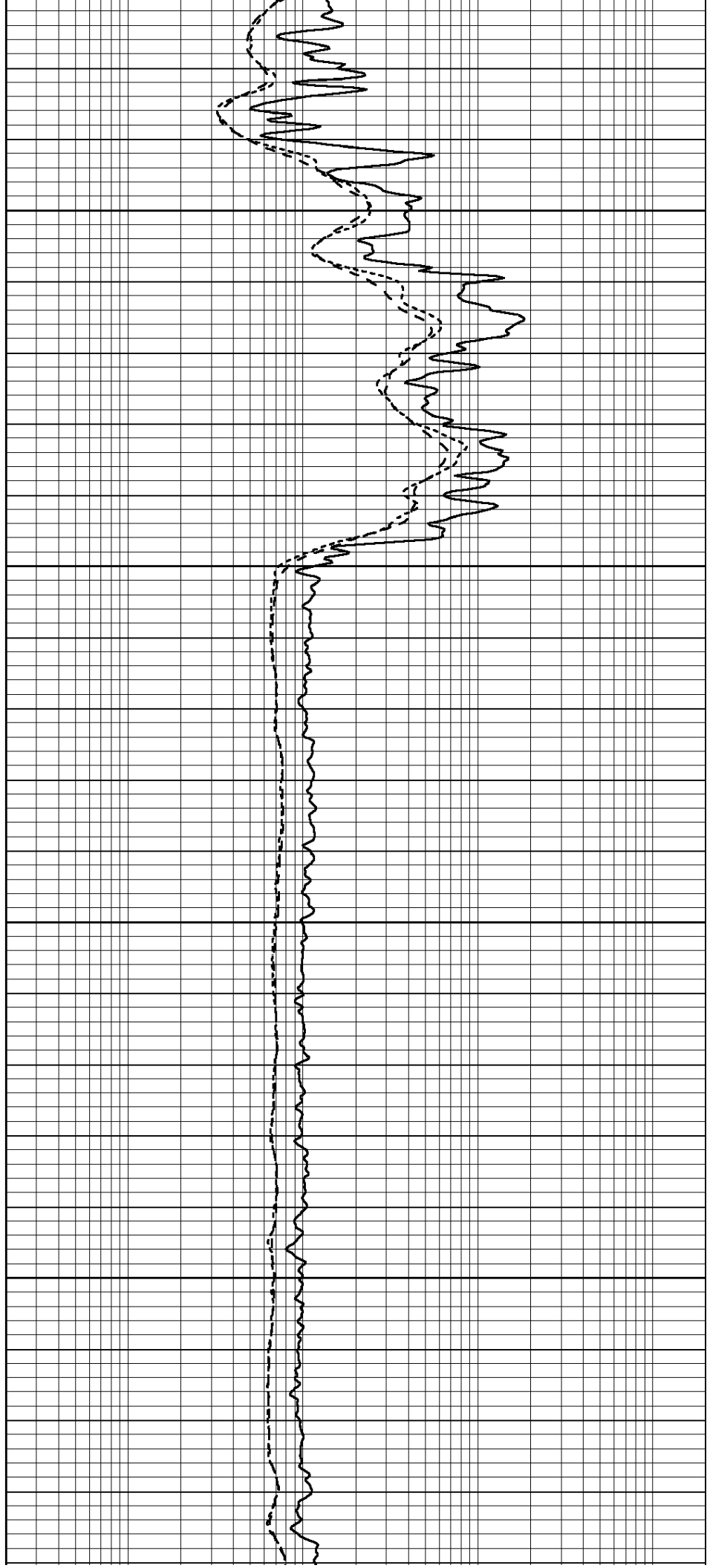


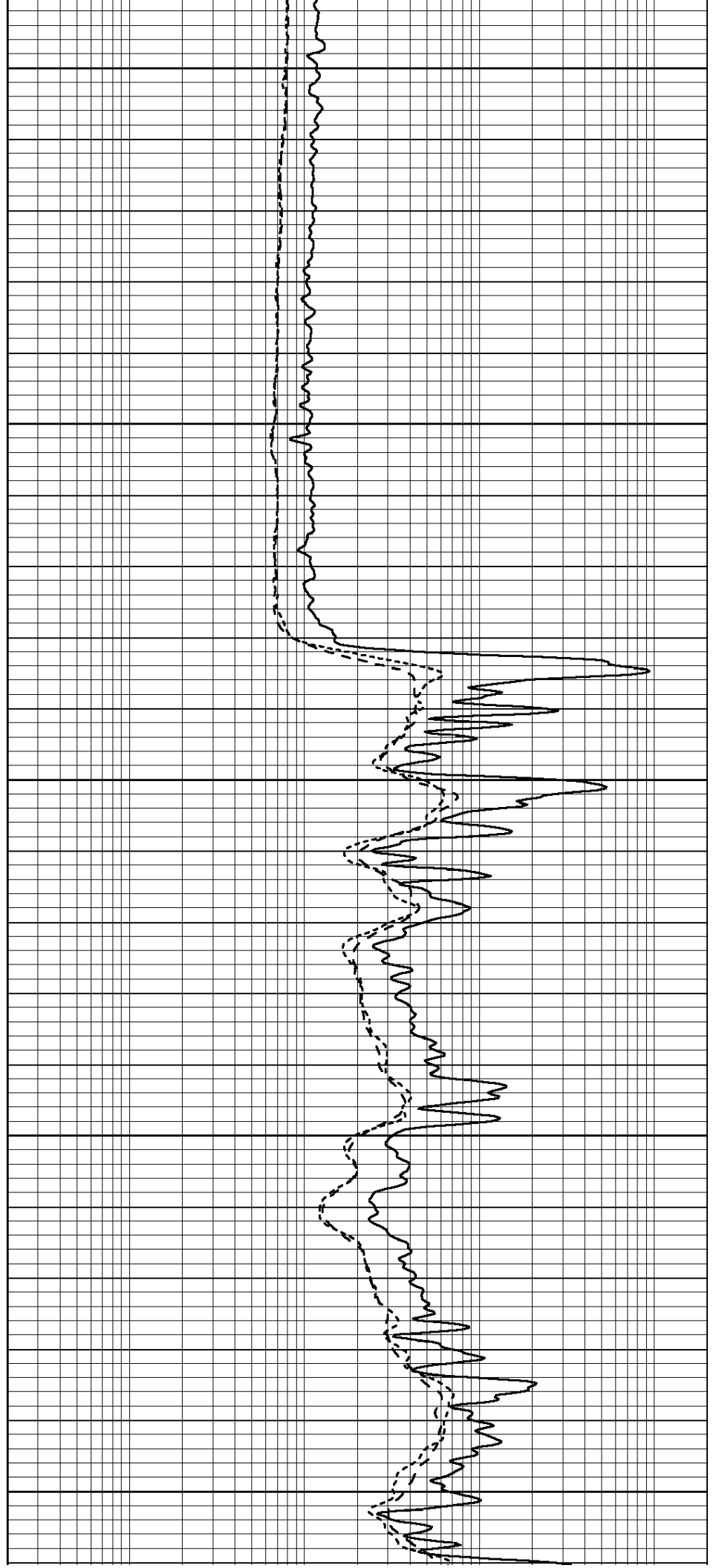
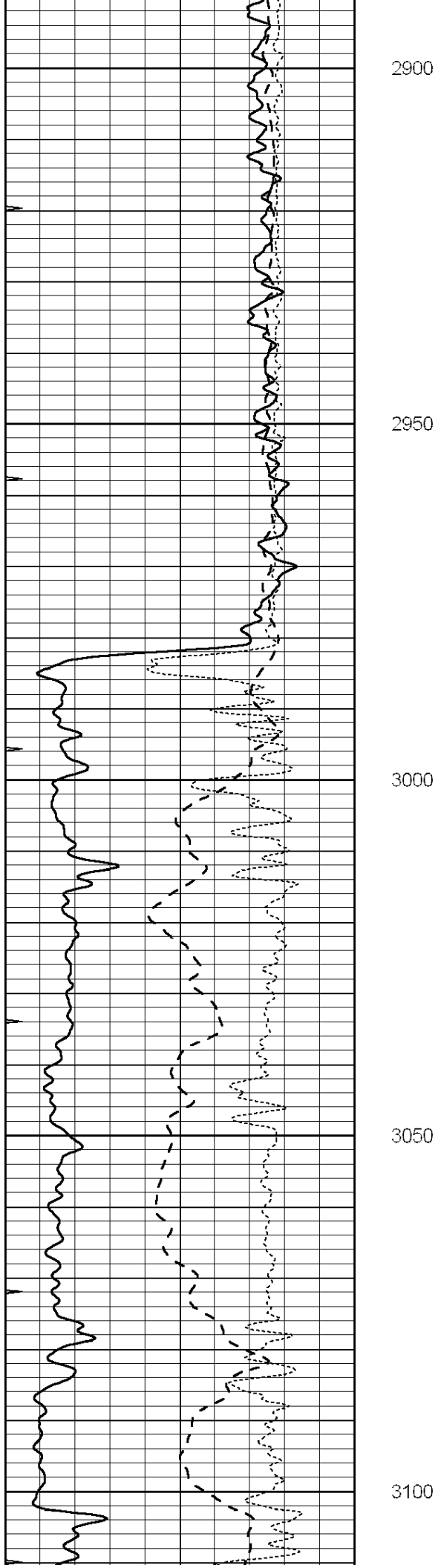
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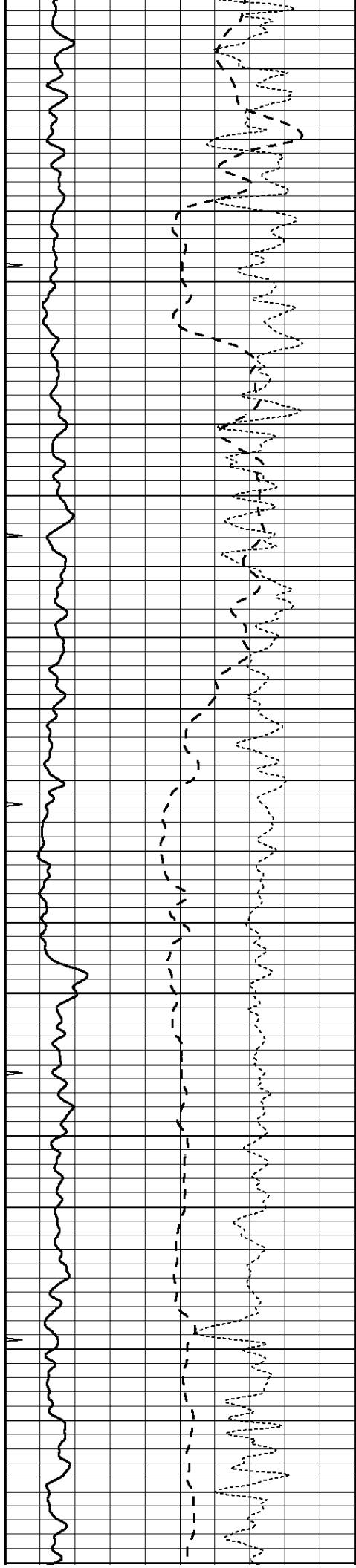
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2800

2850





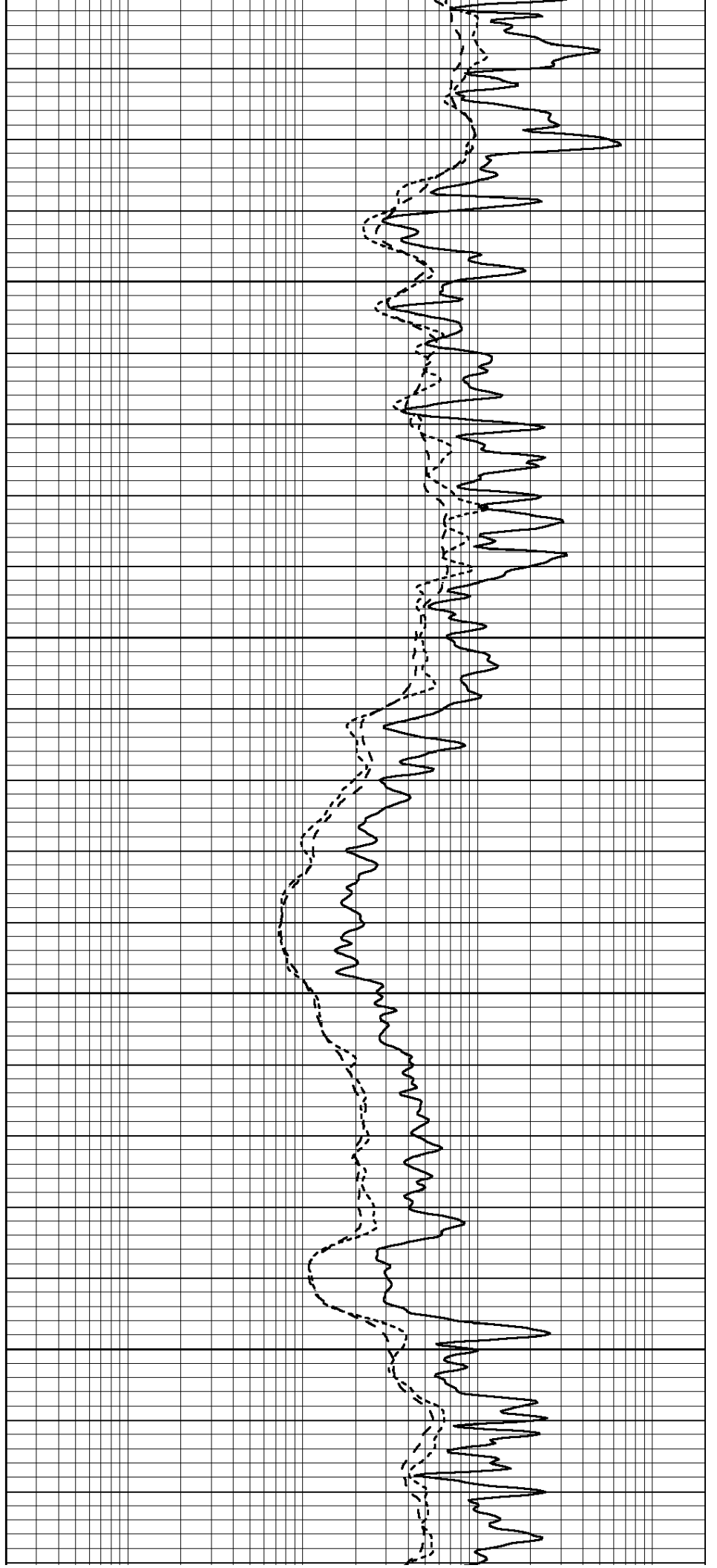


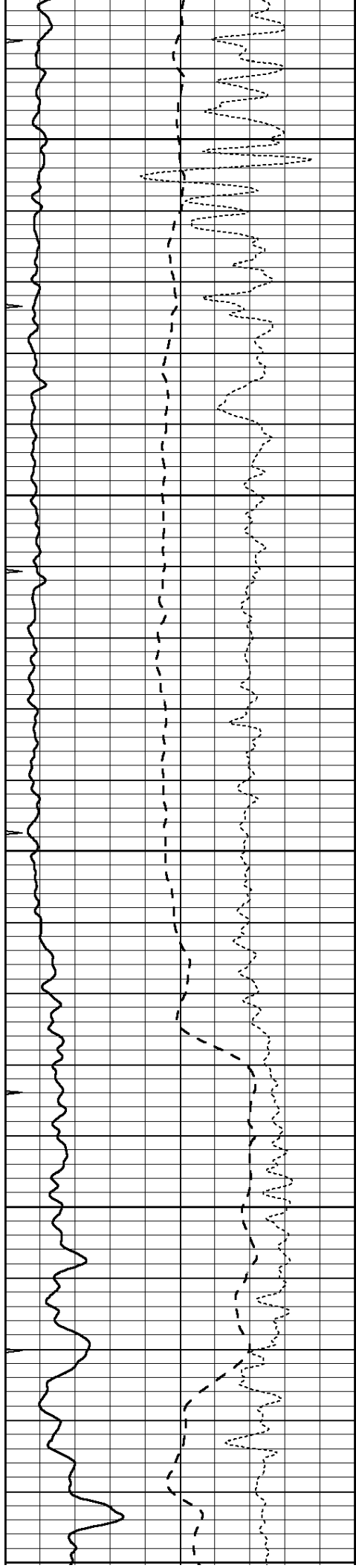
3150

3200

3250

3300





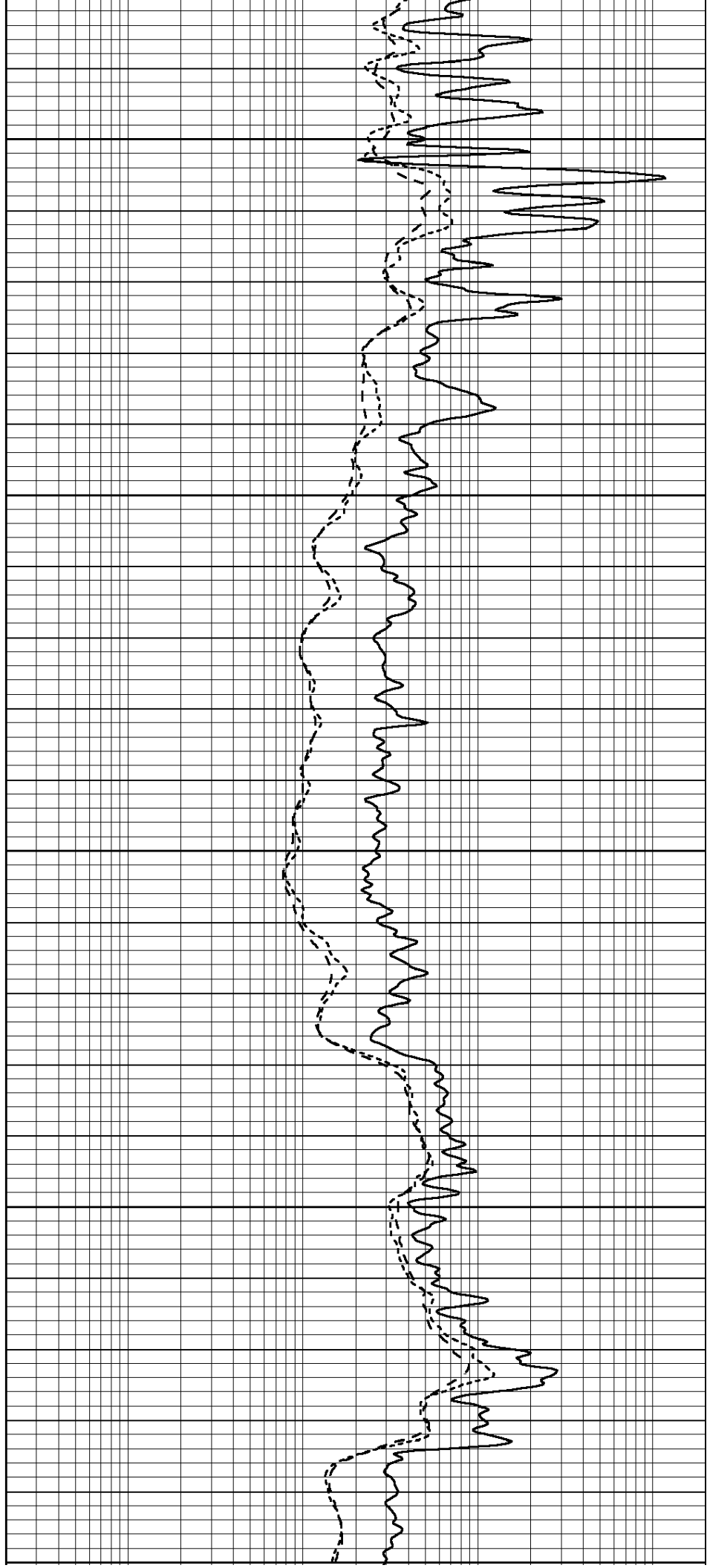
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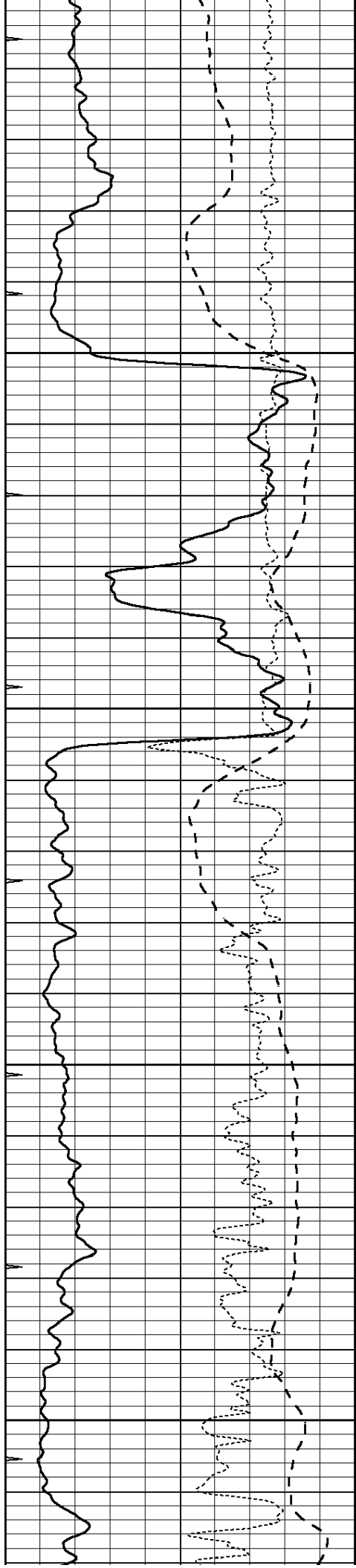
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3450

3500

3550





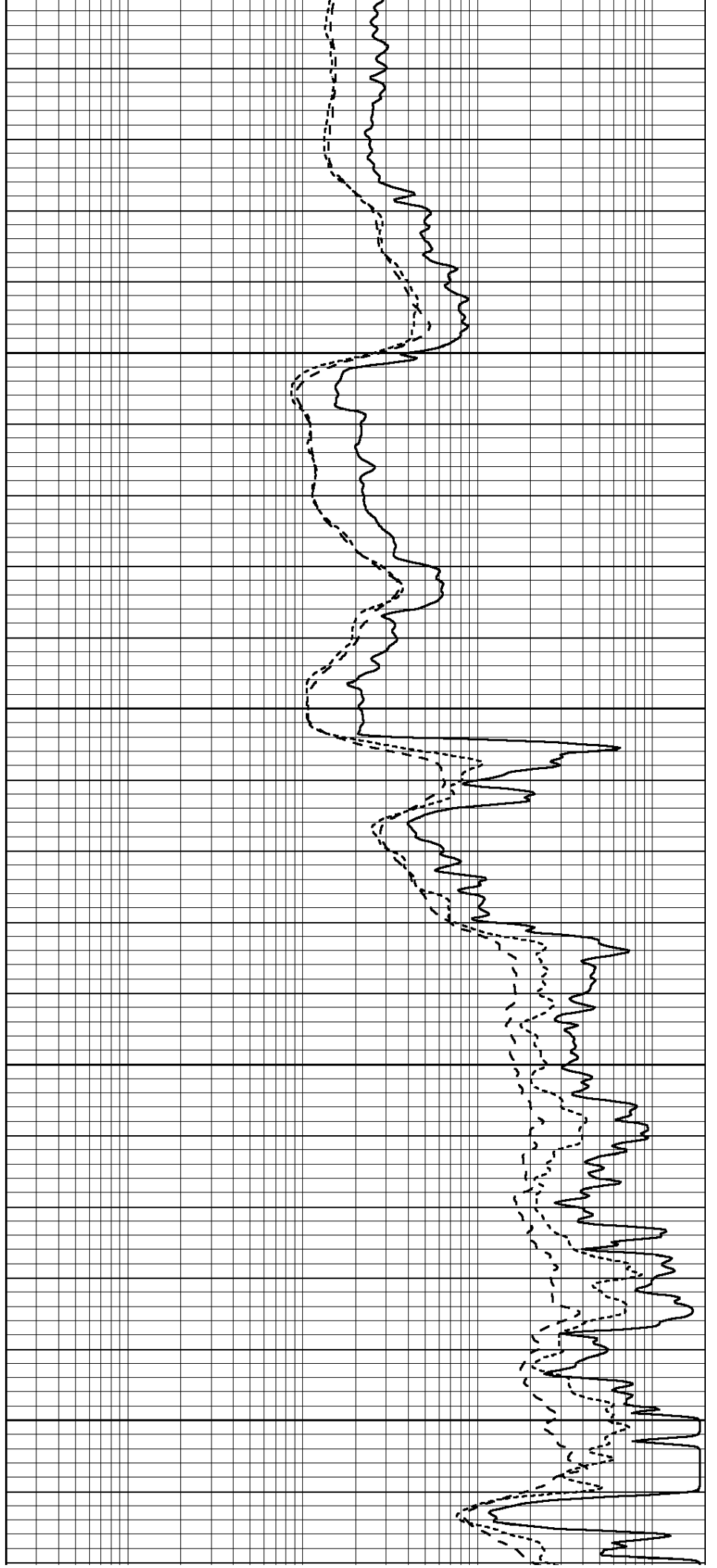
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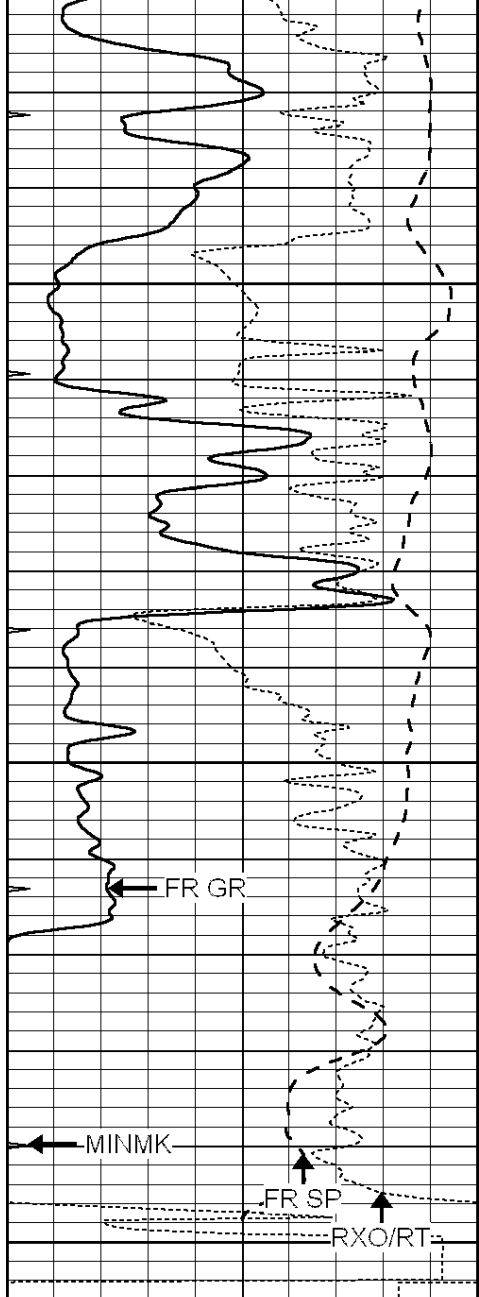
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3750



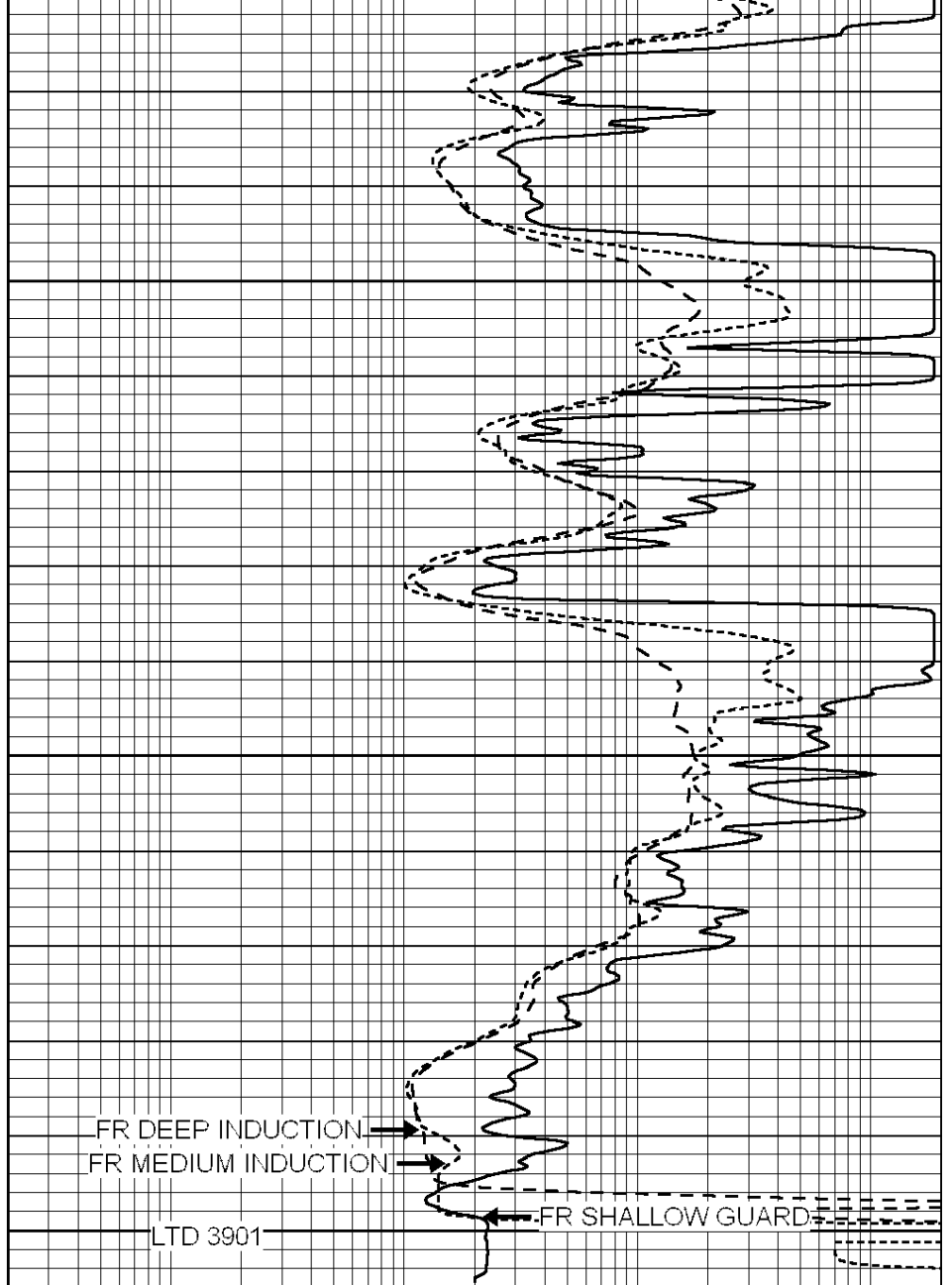


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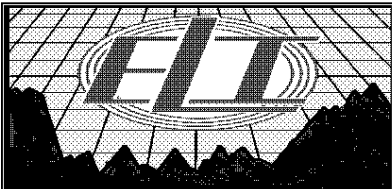
3850

3900

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

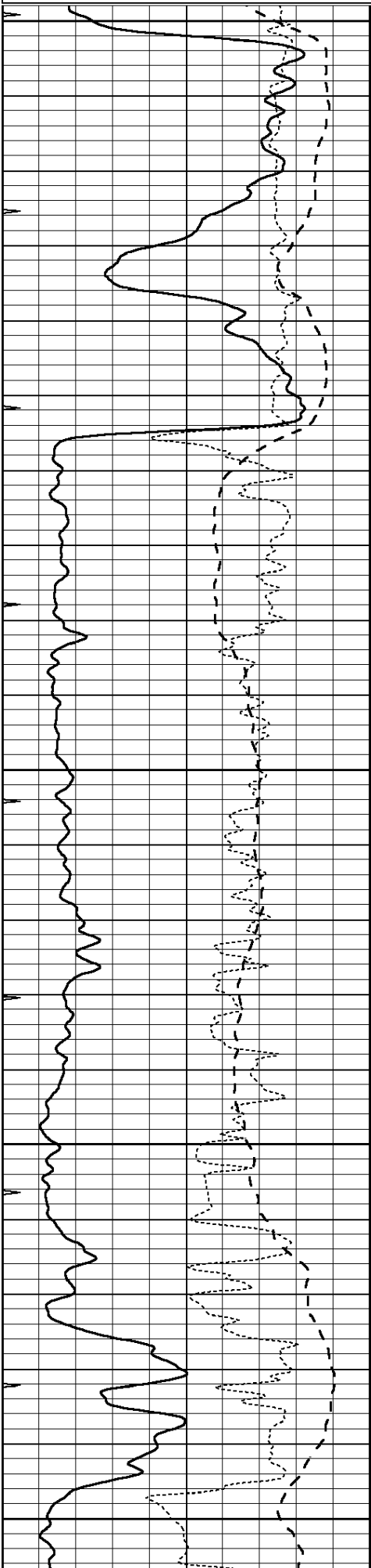


REPEAT SECTION

Database File: 3342pe.db
 Dataset Pathname: pass2.9
 Presentation Format: _dil
 Dataset Creation: Mon Feb 18 21:42:47 2019
 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	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



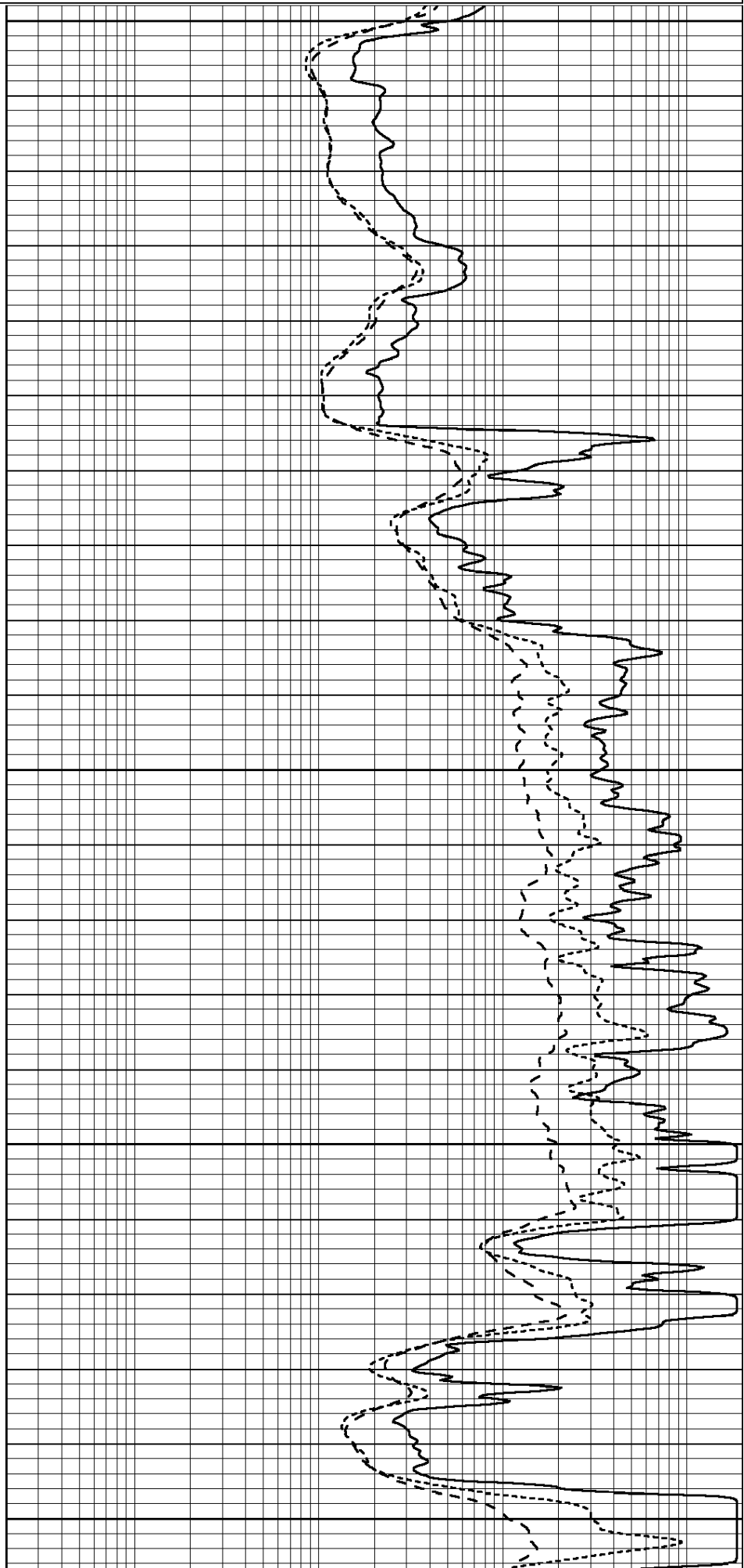
3600

3650

3700

3750

3800



	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	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		

Litho Density Calibration Report
Serial: 002 Model: PRB

Master Calibration		Performed Mon Aug 21 11:27:42 2017					
	Background	Magnesium	Aluminum	Sandstone			
Window 1	837.1	10632.5	2945.1	12110.1	cps		
Window 2	772.0	9117.4	2570.1	10197.3	cps		
Window 3	631.7	4669.0	1481.9	5042.9	cps		
Window 4	187.0	187.5	185.9	189.9	cps		
Long Space	0.0	8345.4	1798.1	9425.3	cps		
Short Space	1.1	1927.9	1285.9	2050.2	cps		
Rho		1.7100	2.5960	1.3800	g/cc		
Pe		0.0000	2.5700	1.5500			
Rib Angle	: 45.2	Rib Slope	: 1.008	Density/Spine Ratio	: 0.558		
Spine Angle	: 75.2	Spine Slope	: 3.790	Spine Intercept	: -19.6		

Before Survey Verification		Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0	0.0	0.0	0.0	cps		
Window 2	0.0	0.0	0.0	0.0	cps		
Window 3	0.0	0.0	0.0	0.0	cps		
Window 4	0.0	0.0	0.0	0.0	cps		
Long Space	0.0	0.0	0.0	0.0	cps		
Short Space	0.0	0.0	0.0	0.0	cps		
Measured Rho		0.0000	0.0000	0.0000	g/cc		
Measured Correction		0.0000	0.0000	0.0000	g/cc		
Measured Pe			0.0000	0.0000			

After Survey Verification		Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0	0.0	0.0	0.0	cps		
Window 2	0.0	0.0	0.0	0.0	cps		
Window 3	0.0	0.0	0.0	0.0	cps		
Window 4	0.0	0.0	0.0	0.0	cps		
Long Space	0.0	0.0	0.0	0.0	cps		
Short Space	0.0	0.0	0.0	0.0	cps		
Measured Rho		0.0000	0.0000	0.0000	g/cc		
Measured Correction		0.0000	0.0000	0.0000	g/cc		
Measured Pe			0.0000	0.0000			

Compensated Neutron Calibration Report

Serial Number: 070808
 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:	070558	
Tool Model:	OPEN_GR	
Performed:	Wed May 31 00:09:32 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps