

DUAL INDUCTION LOG

Company	DOWNING - NELSON OIL CO., INC.		
Well	DEUTSCHER - SCHOENTHALER UNIT #		
Field	ELLIS WEST		
County	TREGO	State	KANSAS
Location:	API # : 15-195-23006-0000		Other Services CDL/CNL MEL
Permanent Datum	GROUND LEVEL	Elevation	2197
Log Measured From	KELLY BUSHING 8' A.G.L.		
Drilling Measured From	KELLY BUSHING		
	SEC 3 TWP 13S RGE 21W		
Date	7/3/16		
Run Number	ONE		
Depth Driller	3930		
Depth Logger	3931		
Bottom Logged Interval	3929		
Top Log Interval	00		
Casing Driller	8 5/8"@220'		
Casing Logger	220		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 11,000 PPM	
Density / Viscosity	9.3/40		
pH / Fluid Loss	10.0/9.2		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.550@95F		
Rmf @ Meas. Temp	.413@95F		
Rmc @ Meas. Temp	.660@95F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.454@115F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	10:00 P.M.		
Maximum Recorded Temperature	115F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	MARC DOWNING		

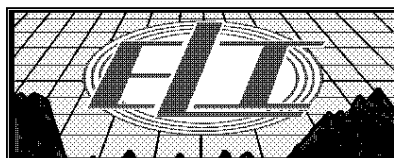
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on 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

RIGA, KS. & I-70, 1/2S., TURN BEFORE RIVER BRIDGE, 1E., 1/4S. TO TANK BATTERY, 1/2 W. INTO



MAIN SECTION

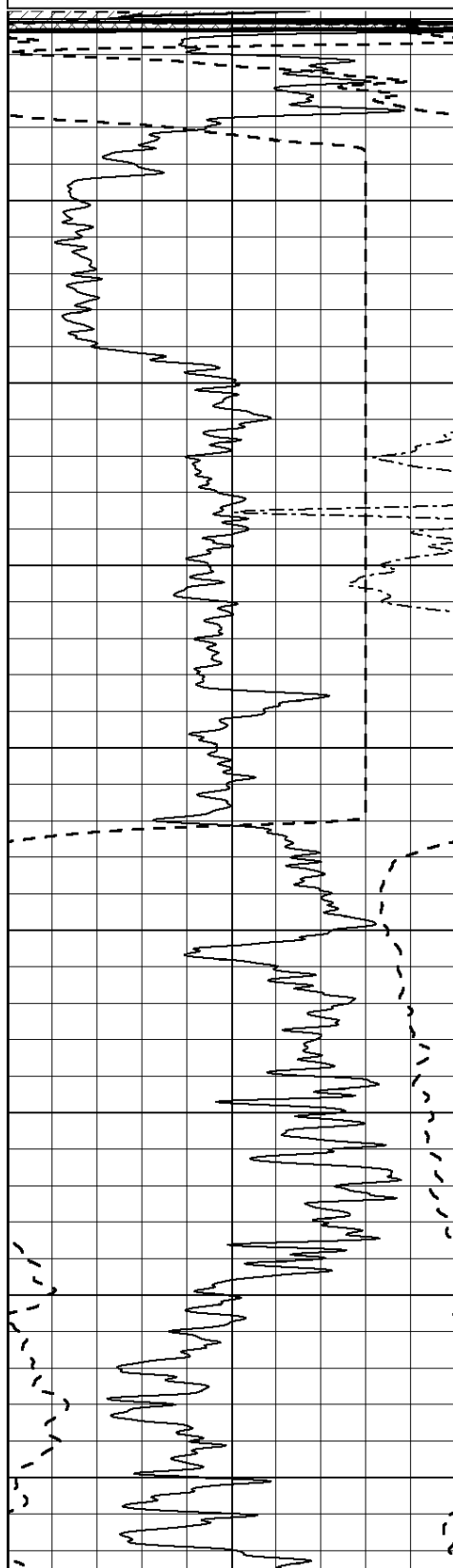
Database File: 30750ddn.db
Dataset Pathname: pass3.6
Presentation Format: _dil2
Dataset Creation: Sun Jul 03 23:13:09 2016 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

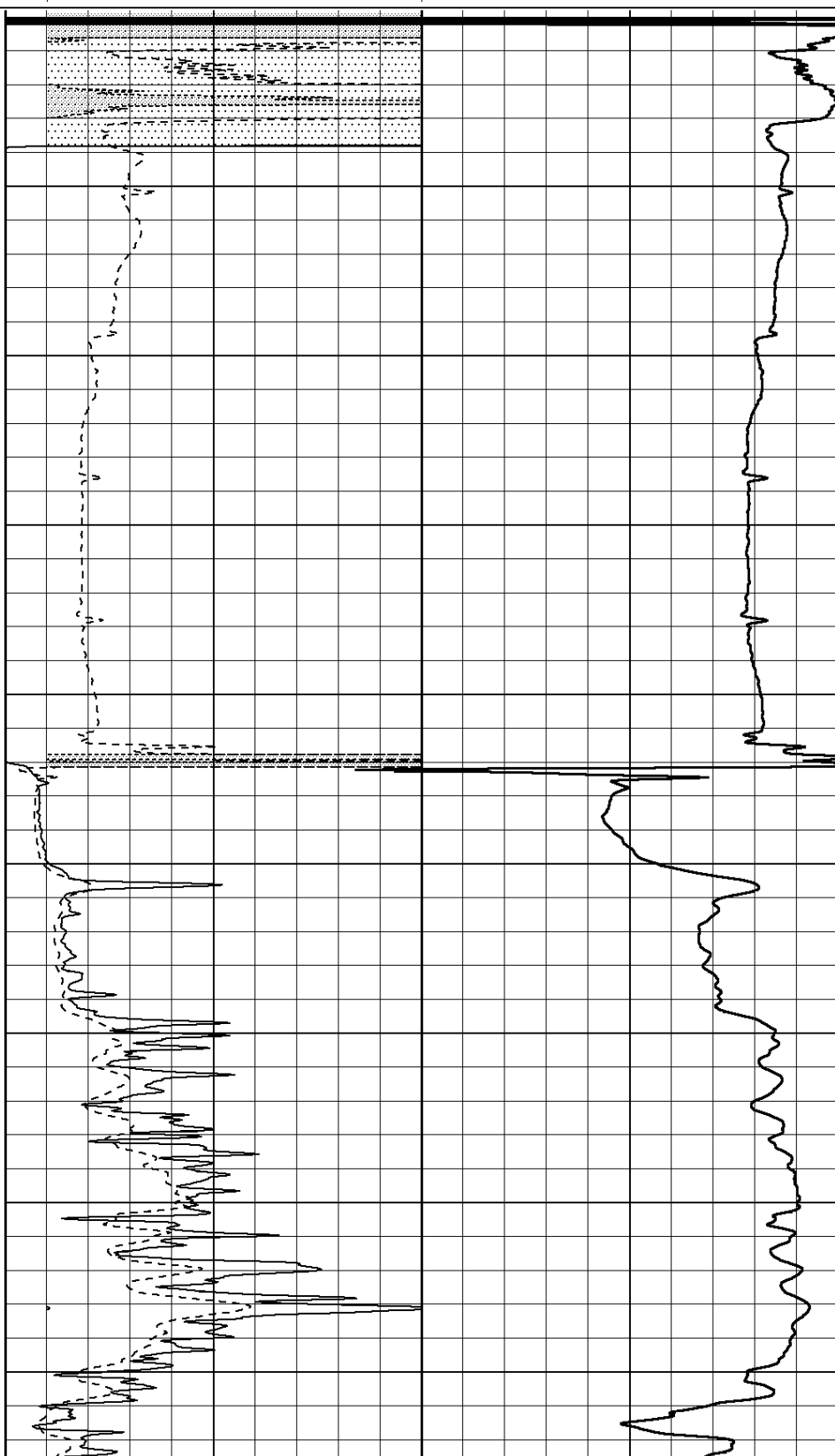
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50

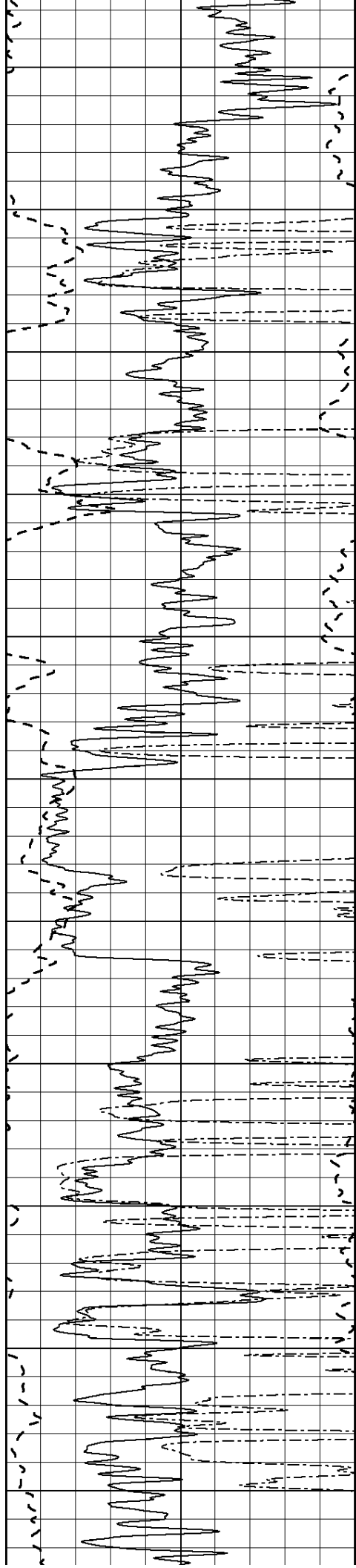
1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500



0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

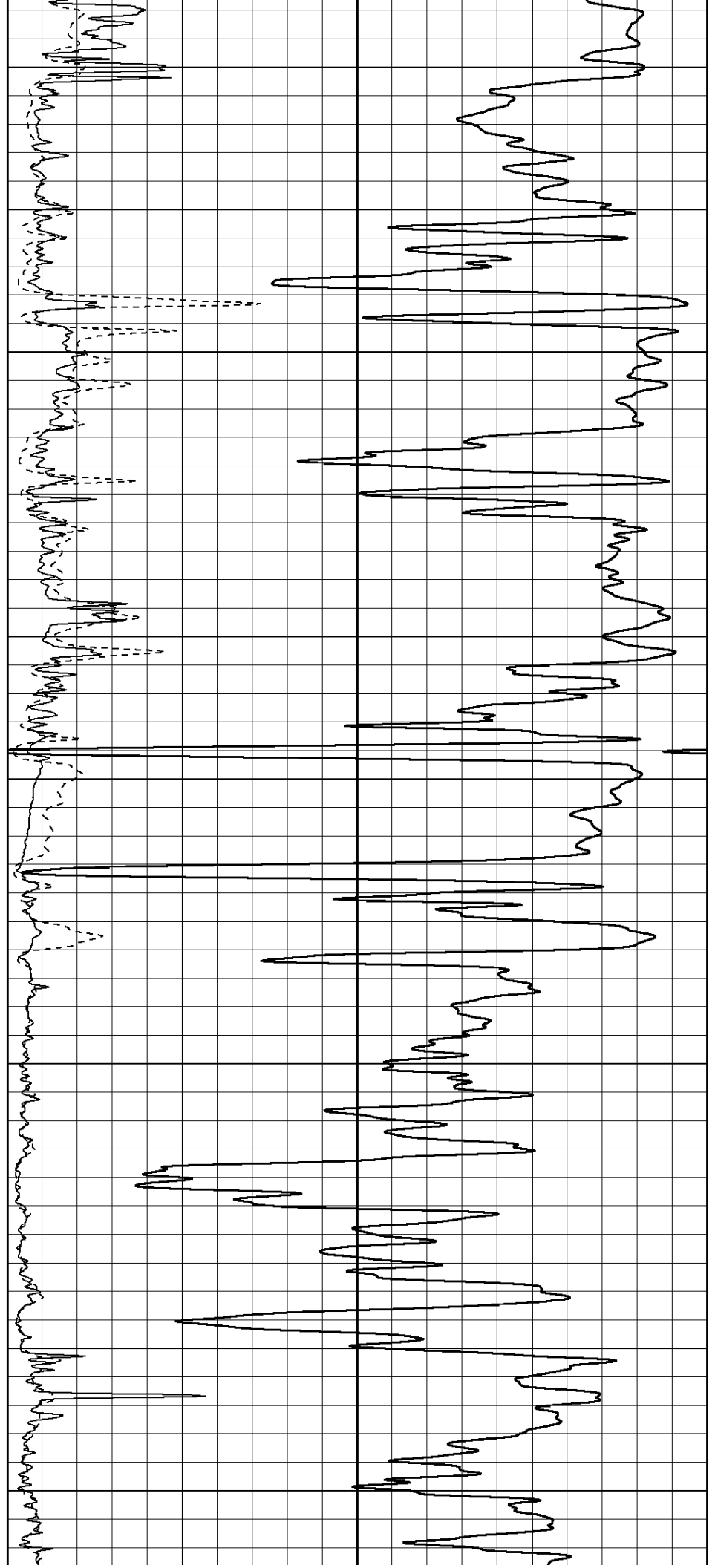
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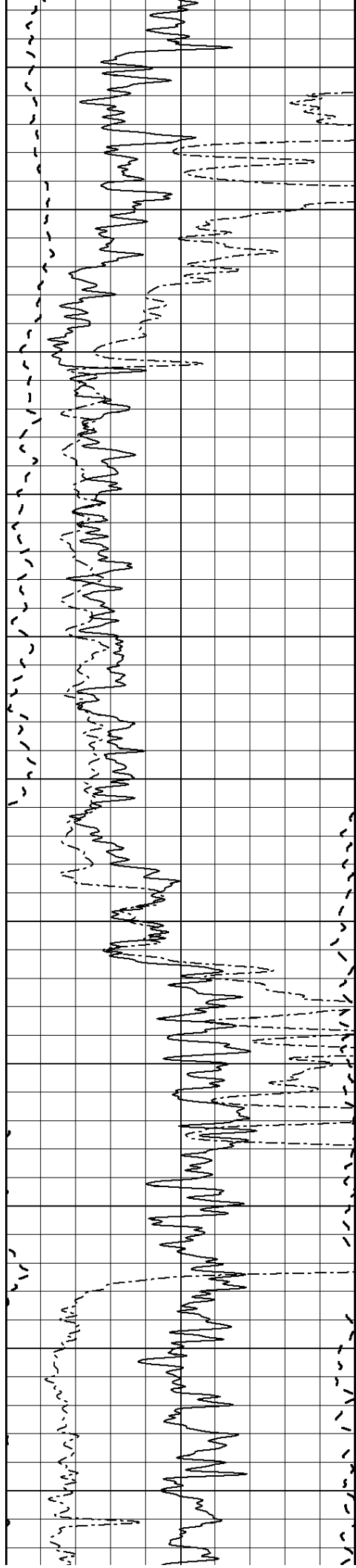
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850

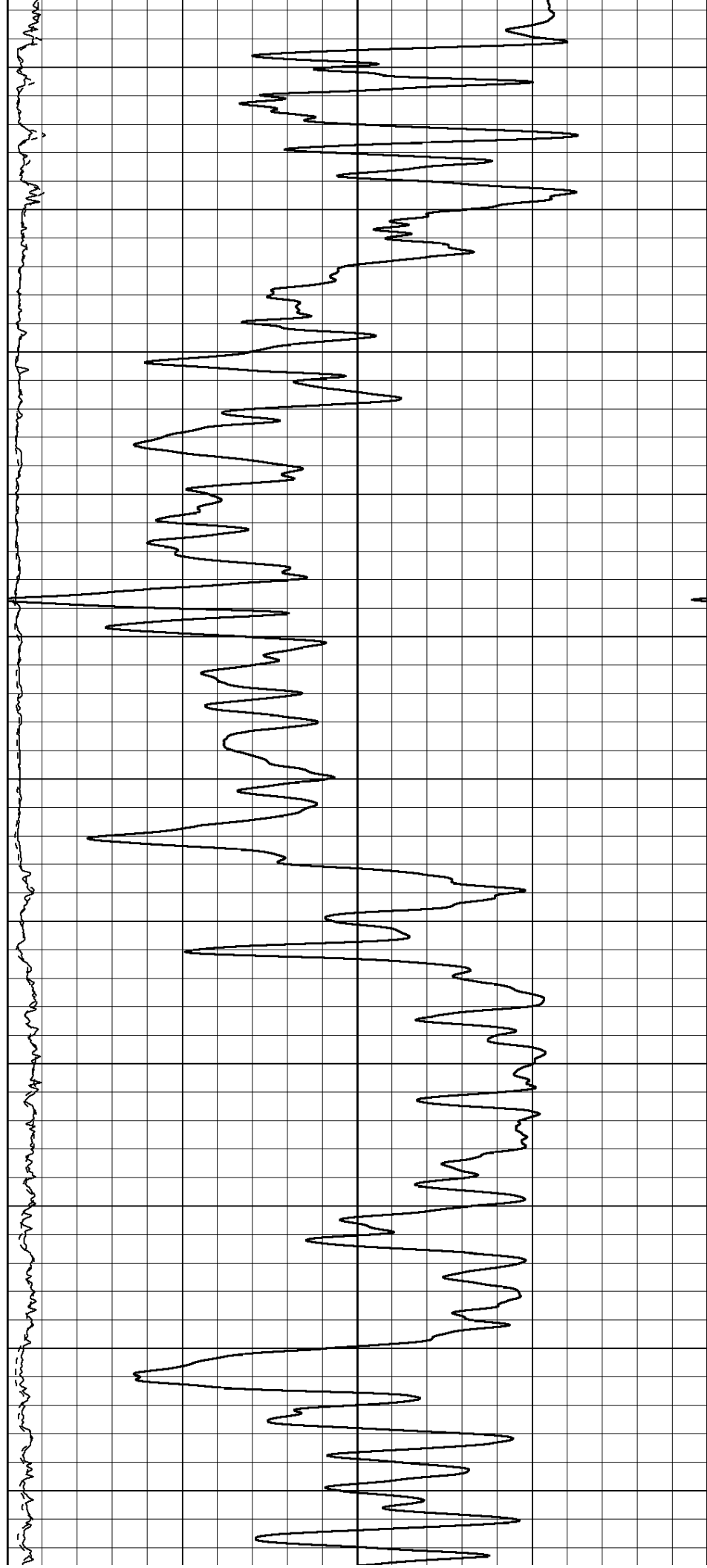
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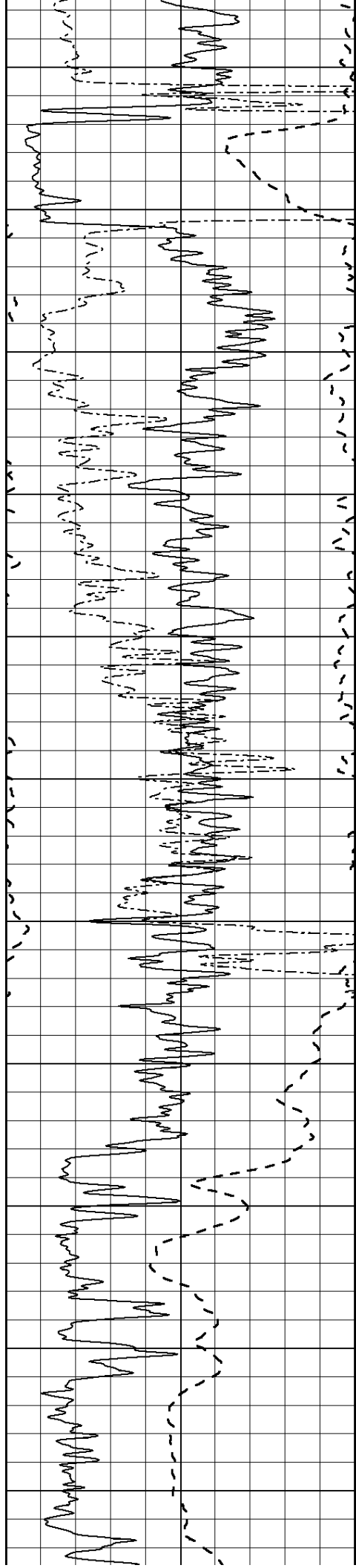
950





1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550

1600

1650

1700

1750

1800

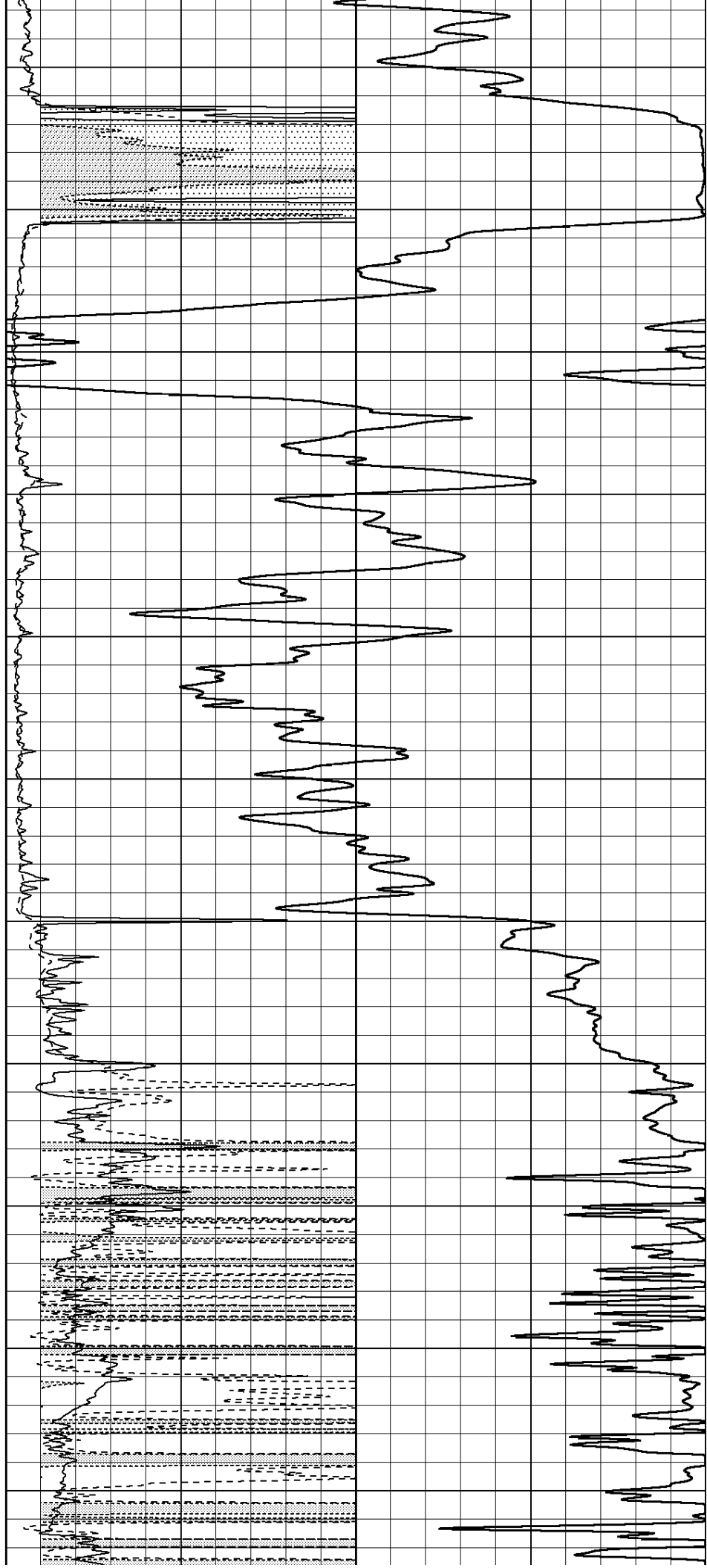
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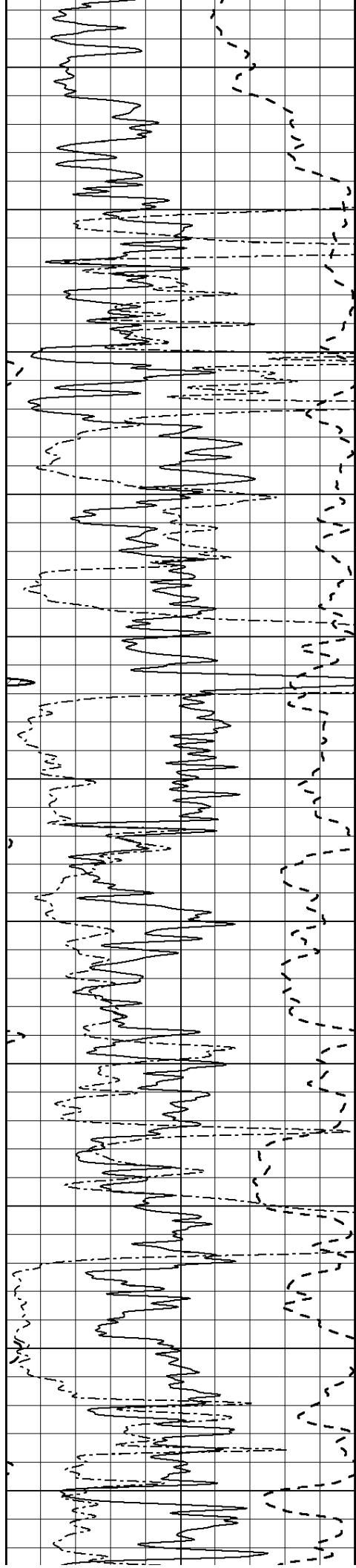
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1950

2000

2050





2100

2150

2200

2250

2300

2350

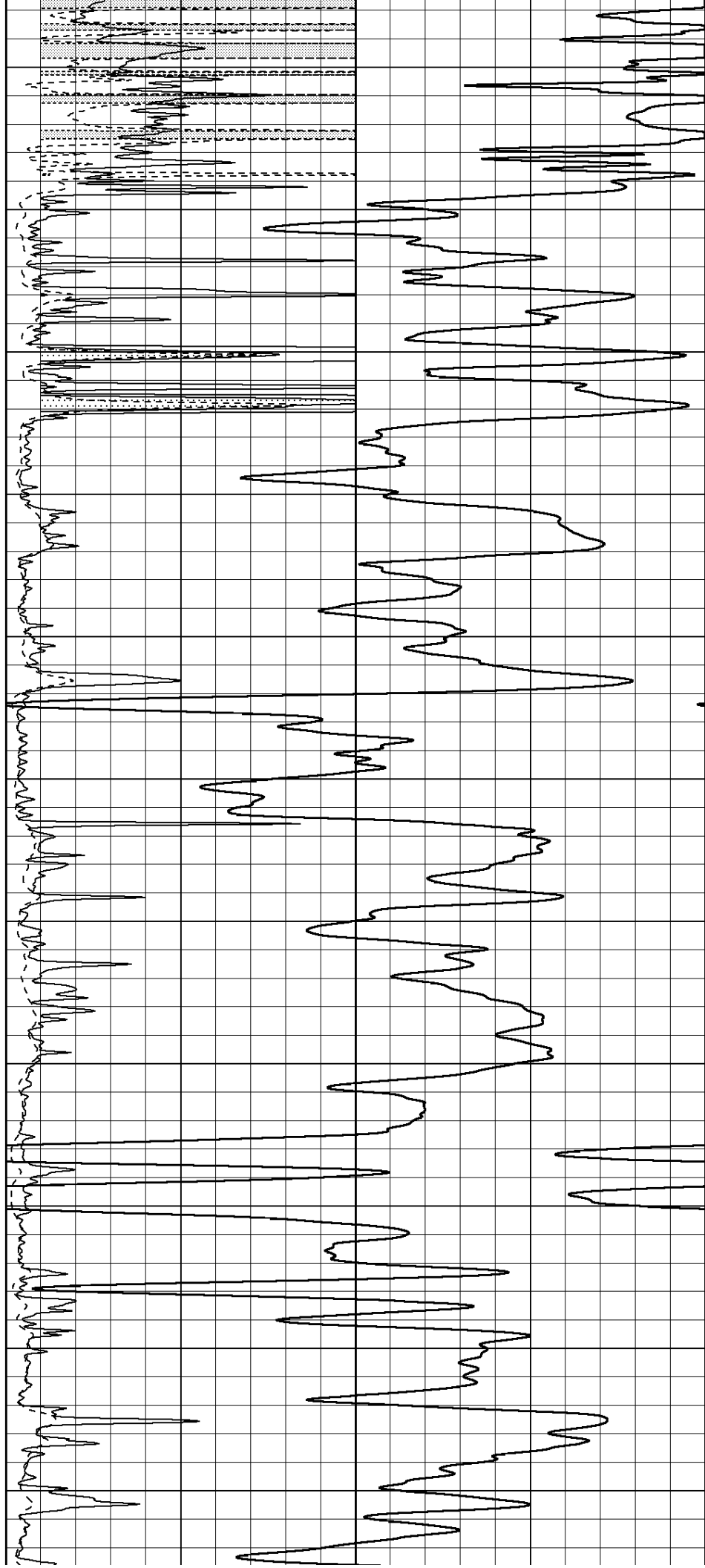
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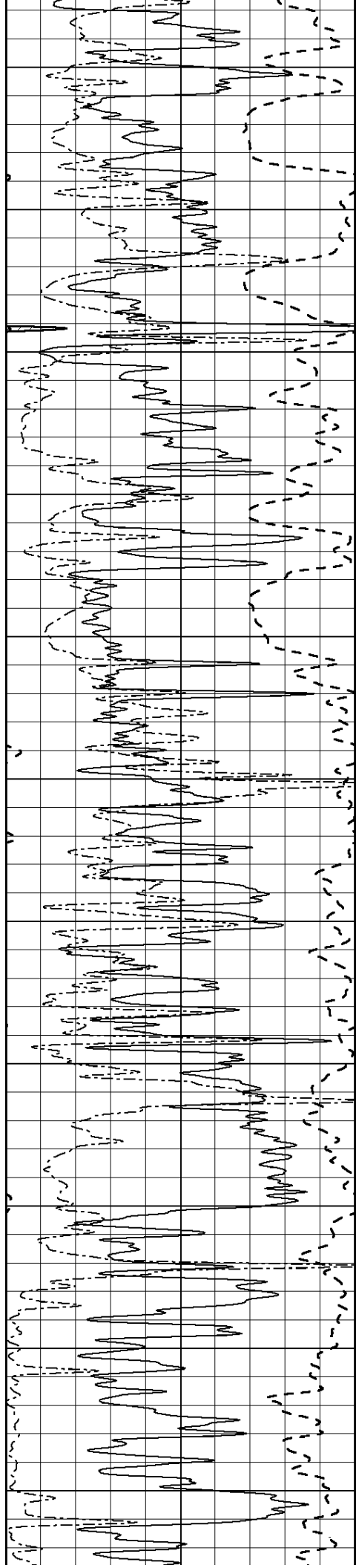
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2500

2550

2600





2650

2700

2750

2800

2850

2900

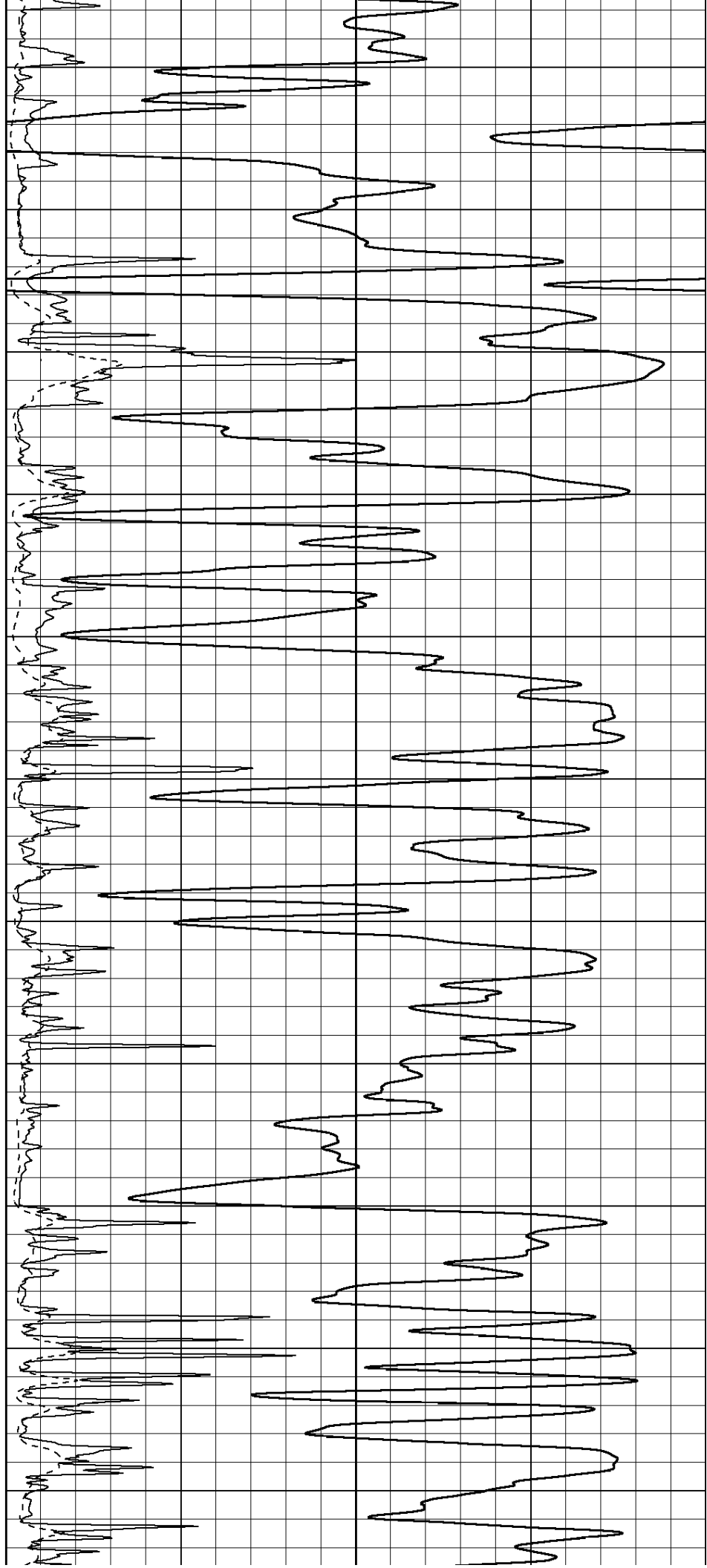
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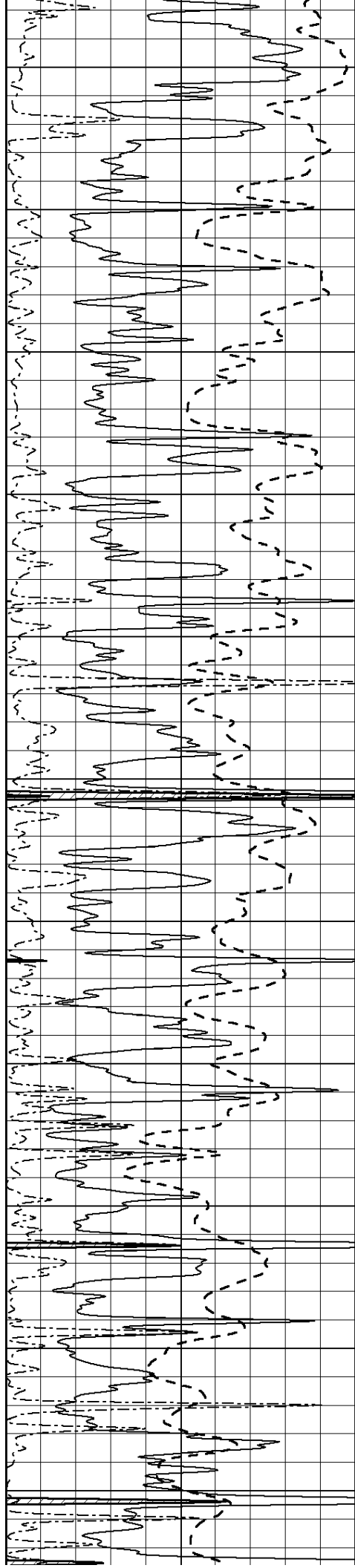
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3050

3100

3150





3200

3250

3300

3350

3400

3450

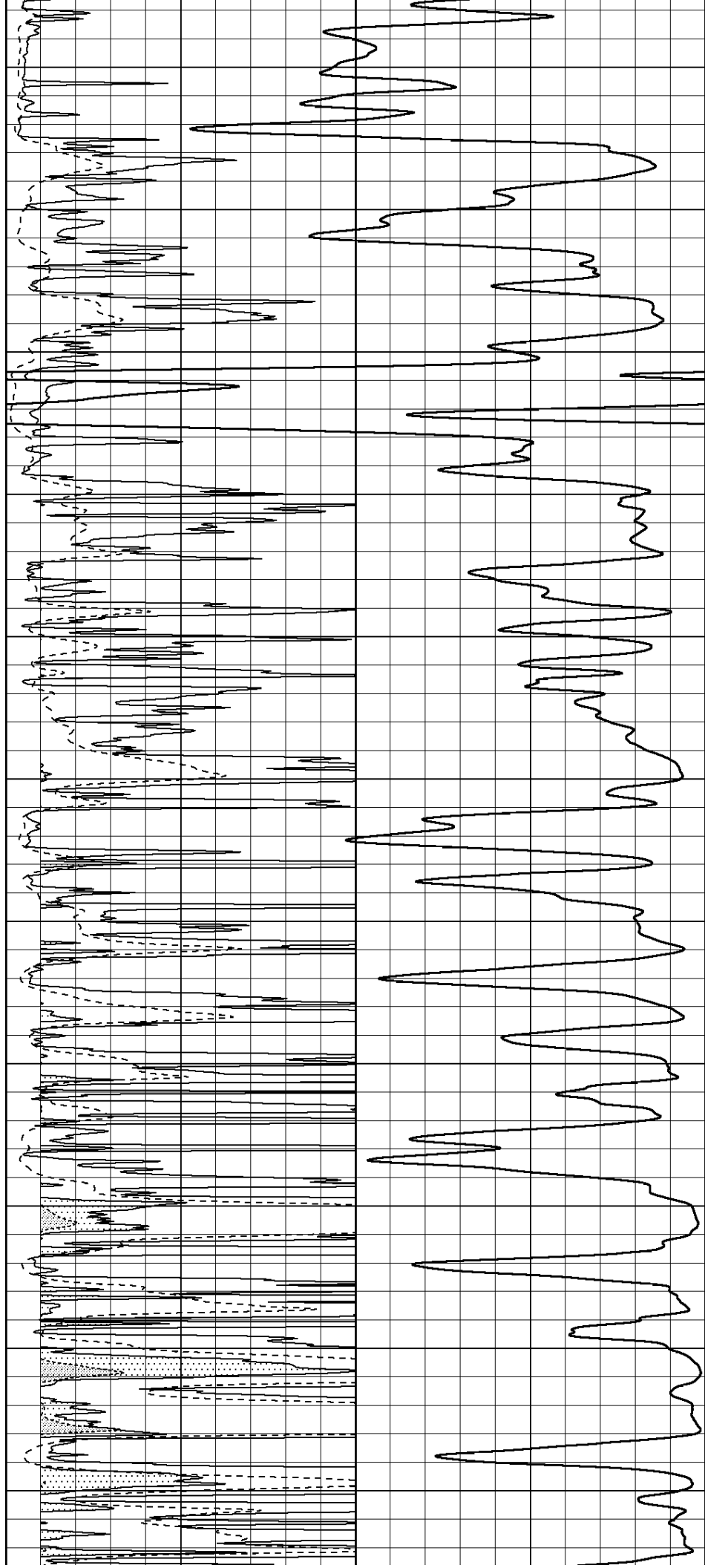
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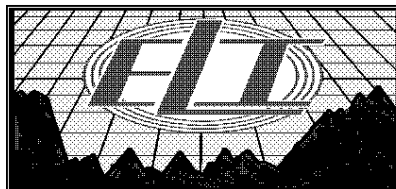
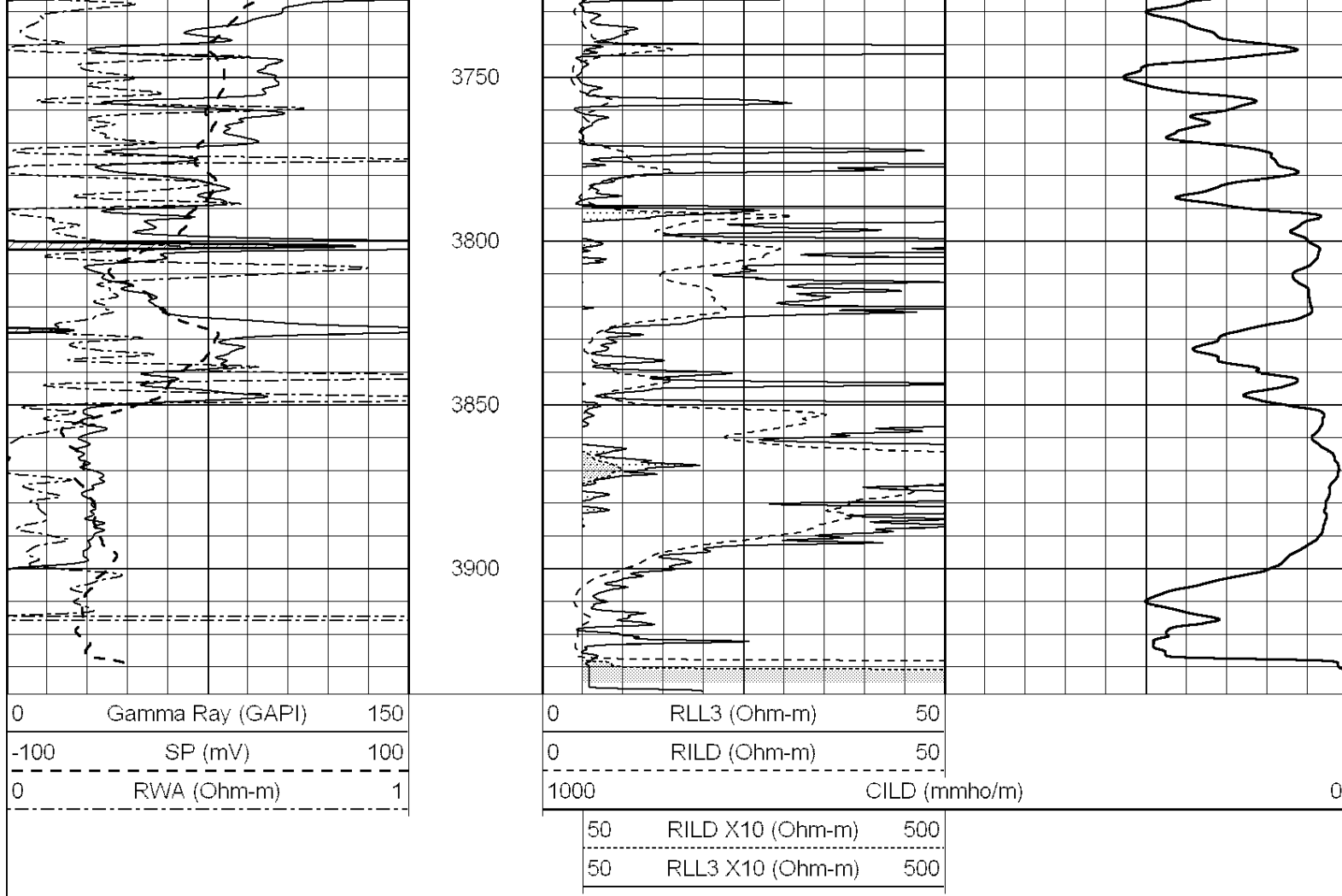
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3600

3650

3700

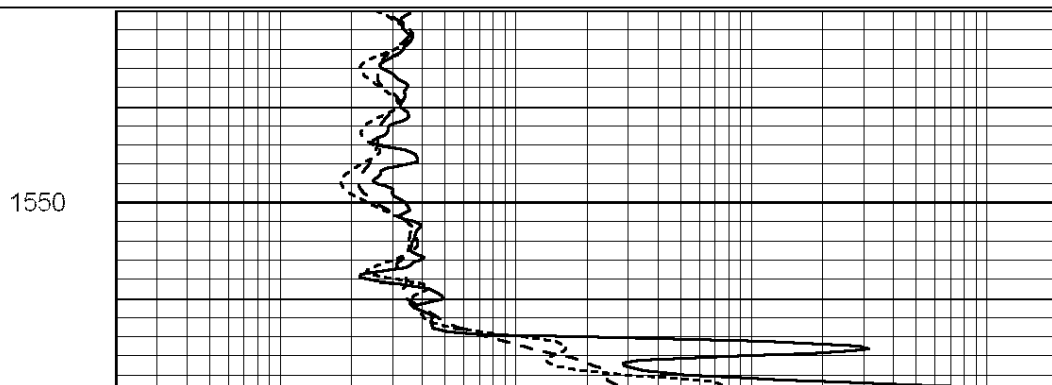
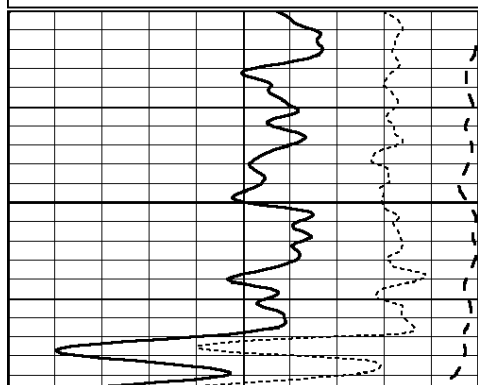


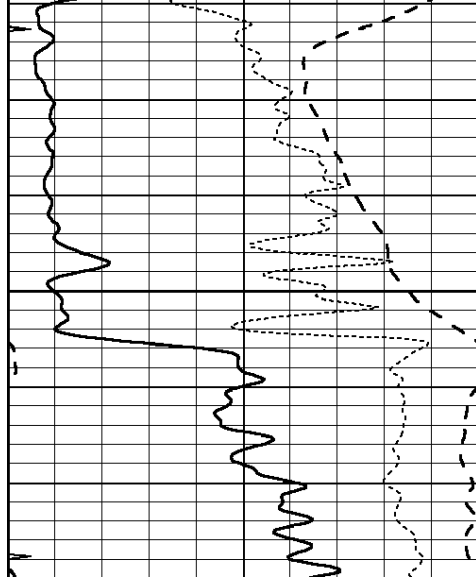


ANHYDRITE

Database File: 30750ddn.db
 Dataset Pathname: pass3.7
 Presentation Format: _dil
 Dataset Creation: Sun Jul 03 23:13:37 2016 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

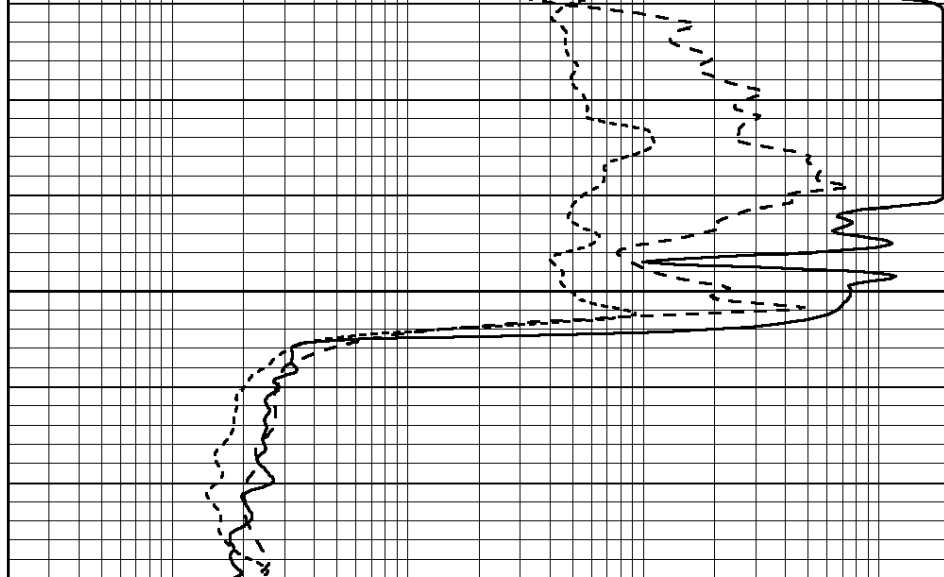
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



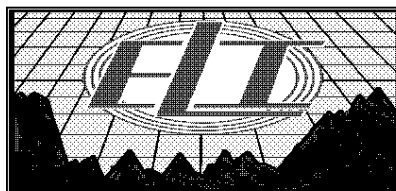


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

1600



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

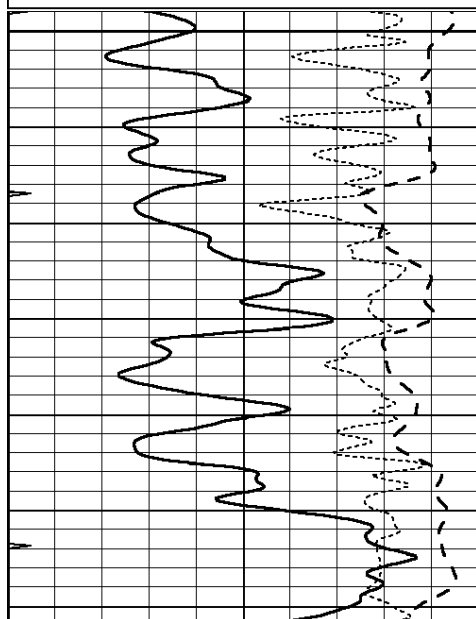


MAIN SECTION

Database File: 30750ddn.db
 Dataset Pathname: pass3.6
 Presentation Format: _dil
 Dataset Creation: Sun Jul 03 23:13:09 2016 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

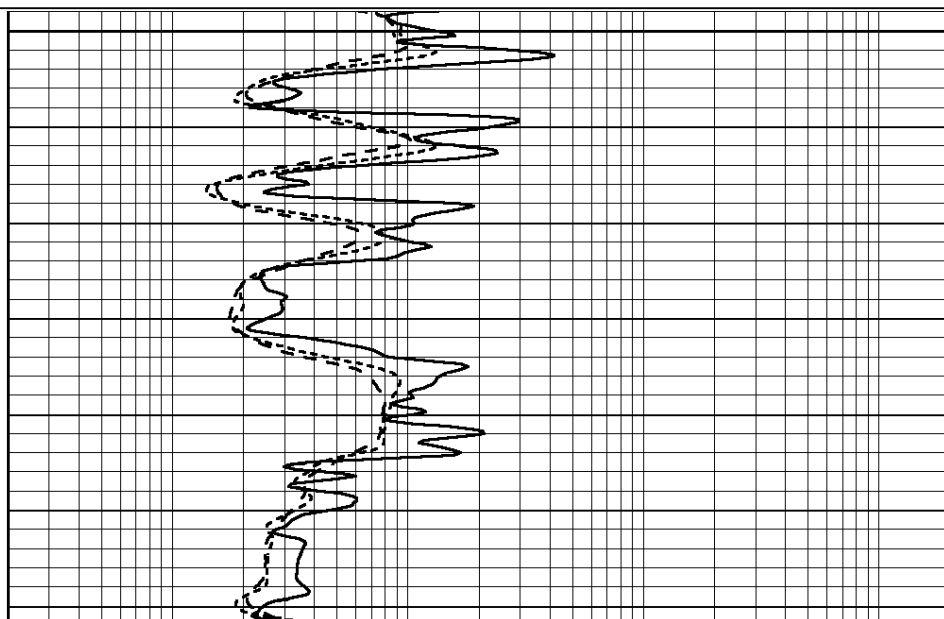
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

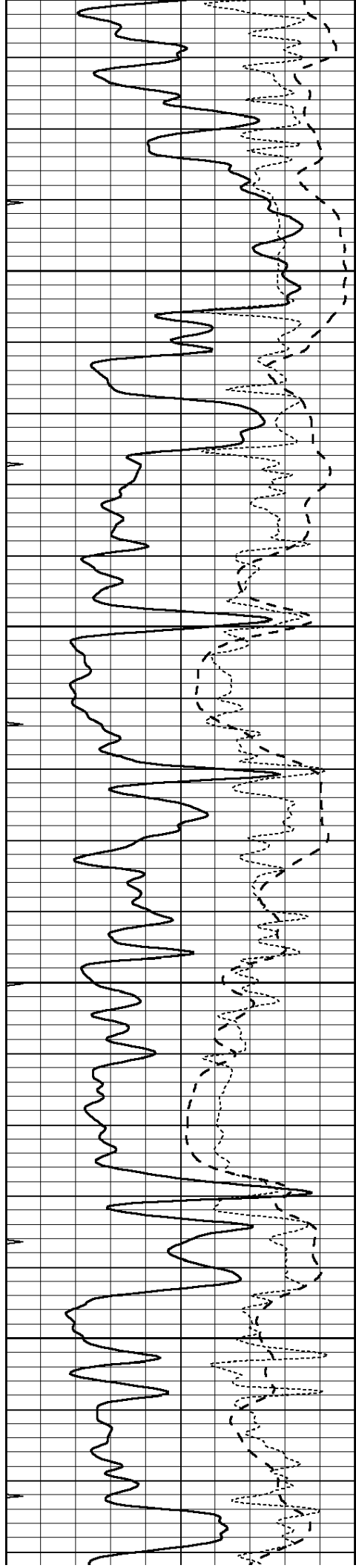
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3100

3150



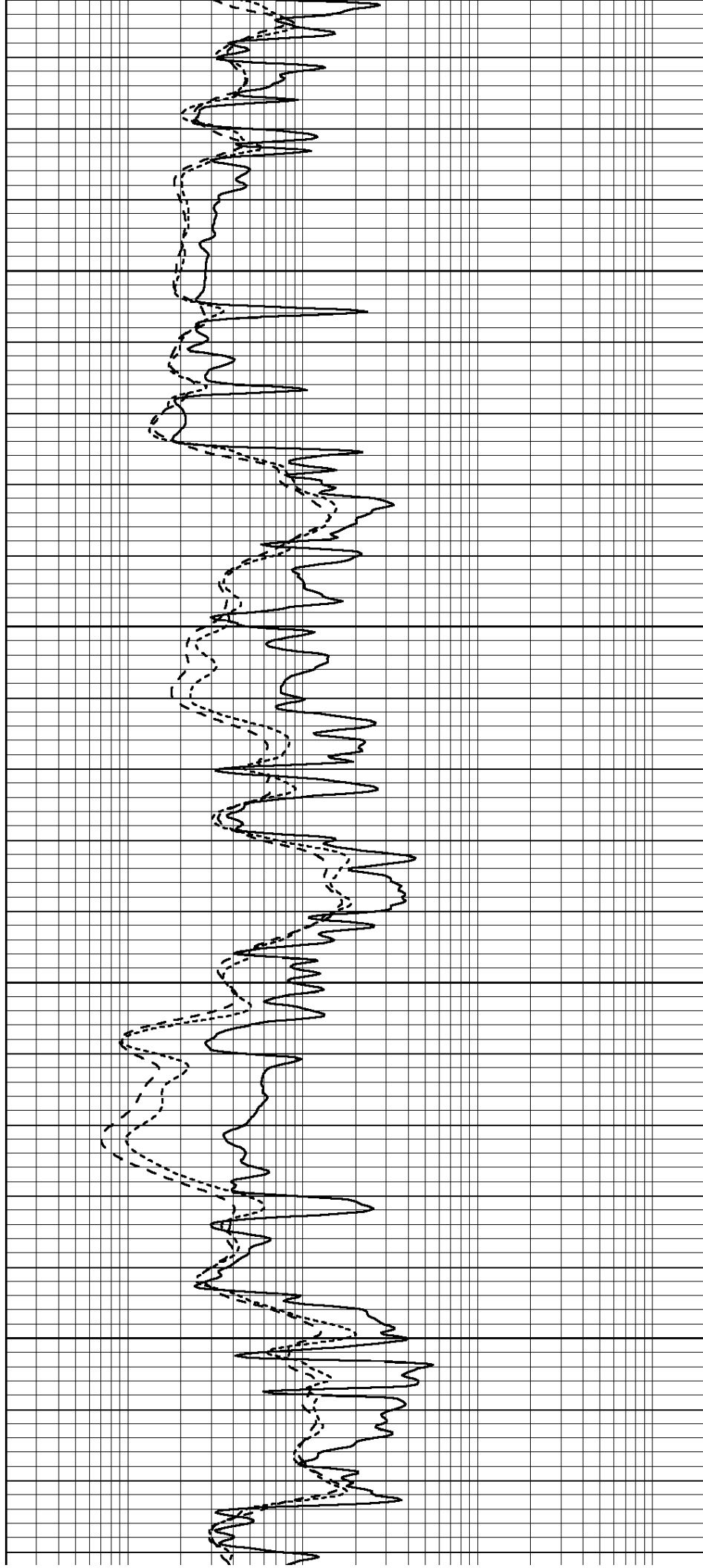


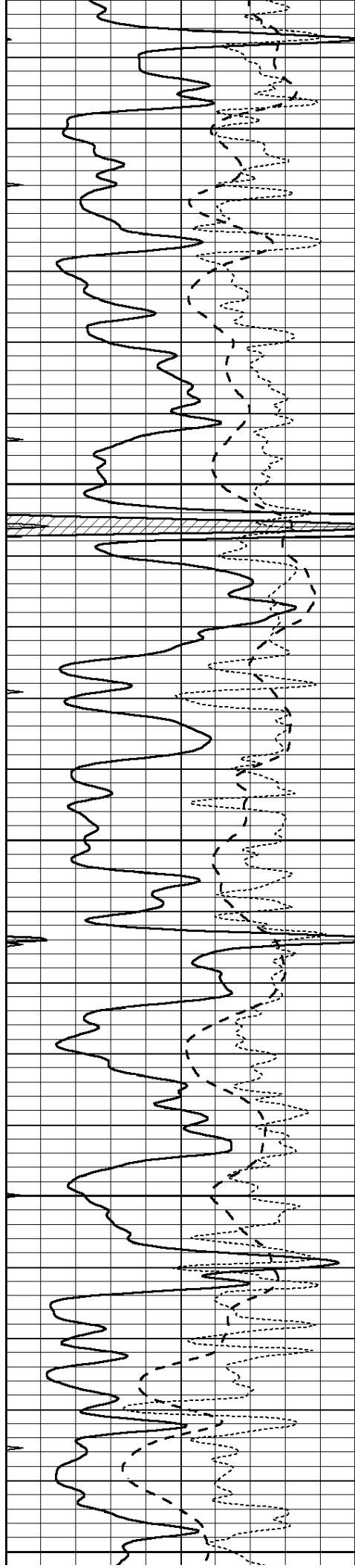
3200

3250

3300

3350





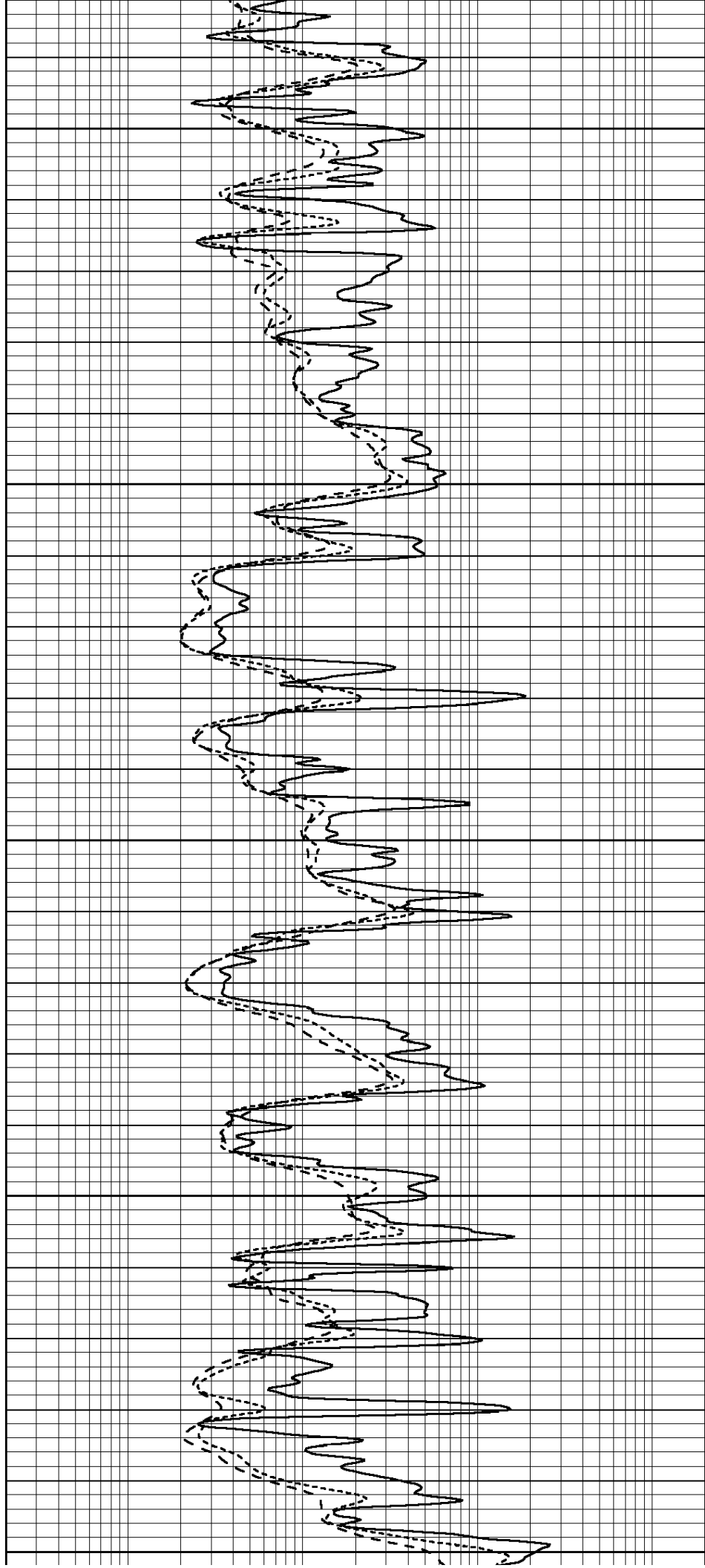
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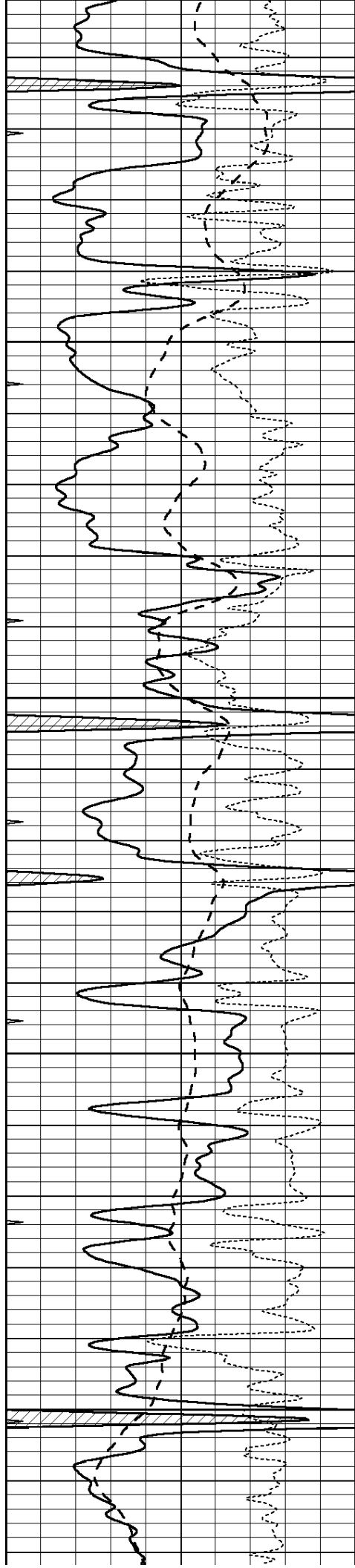
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3500

3550

3600



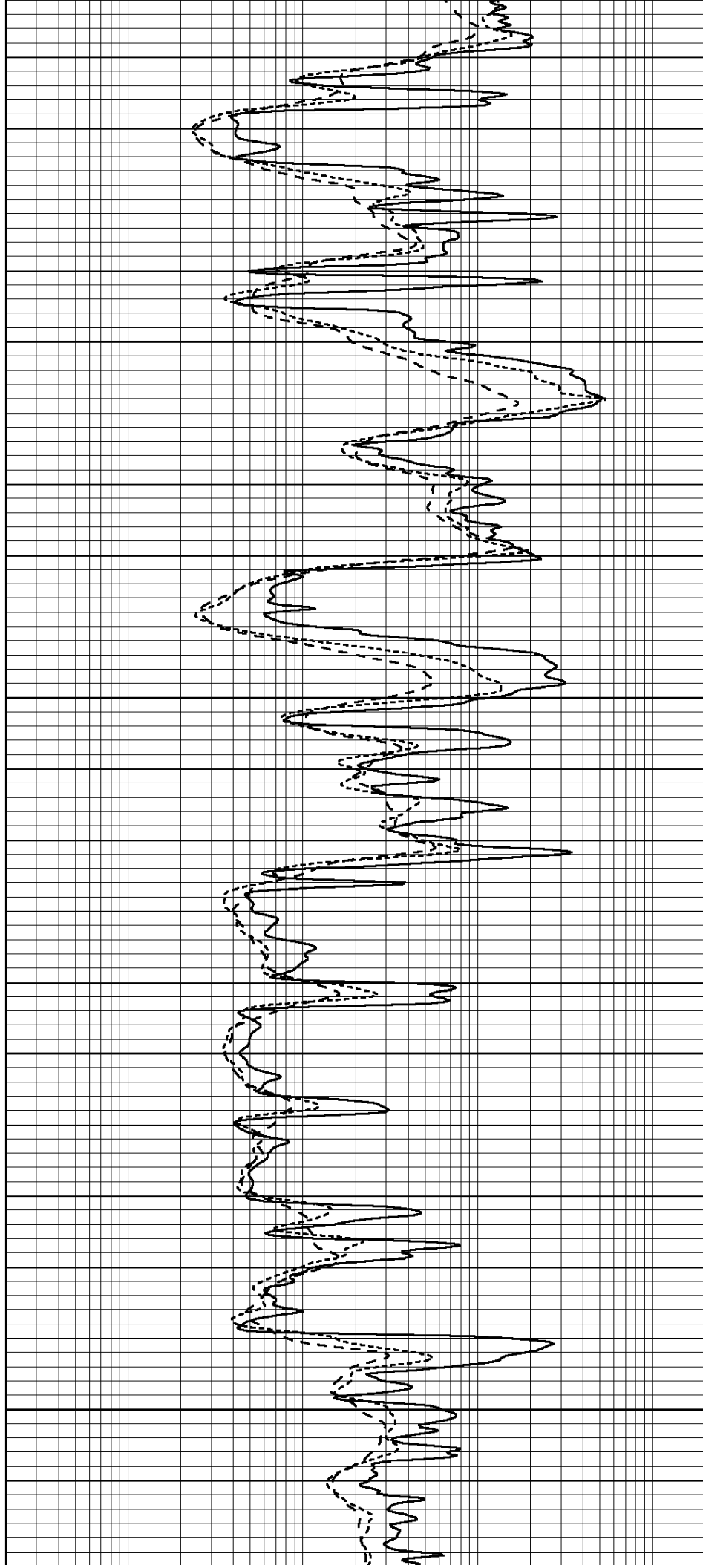


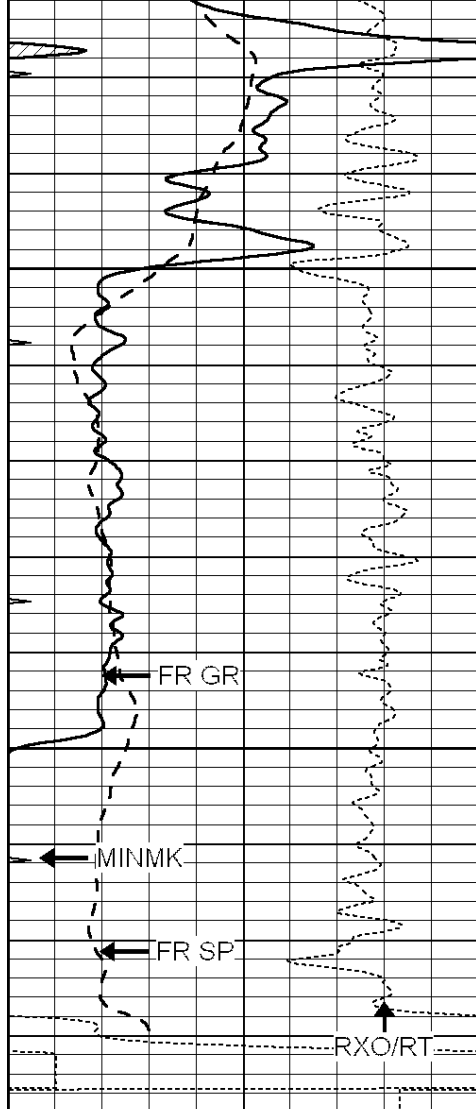
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3700

3750

3800



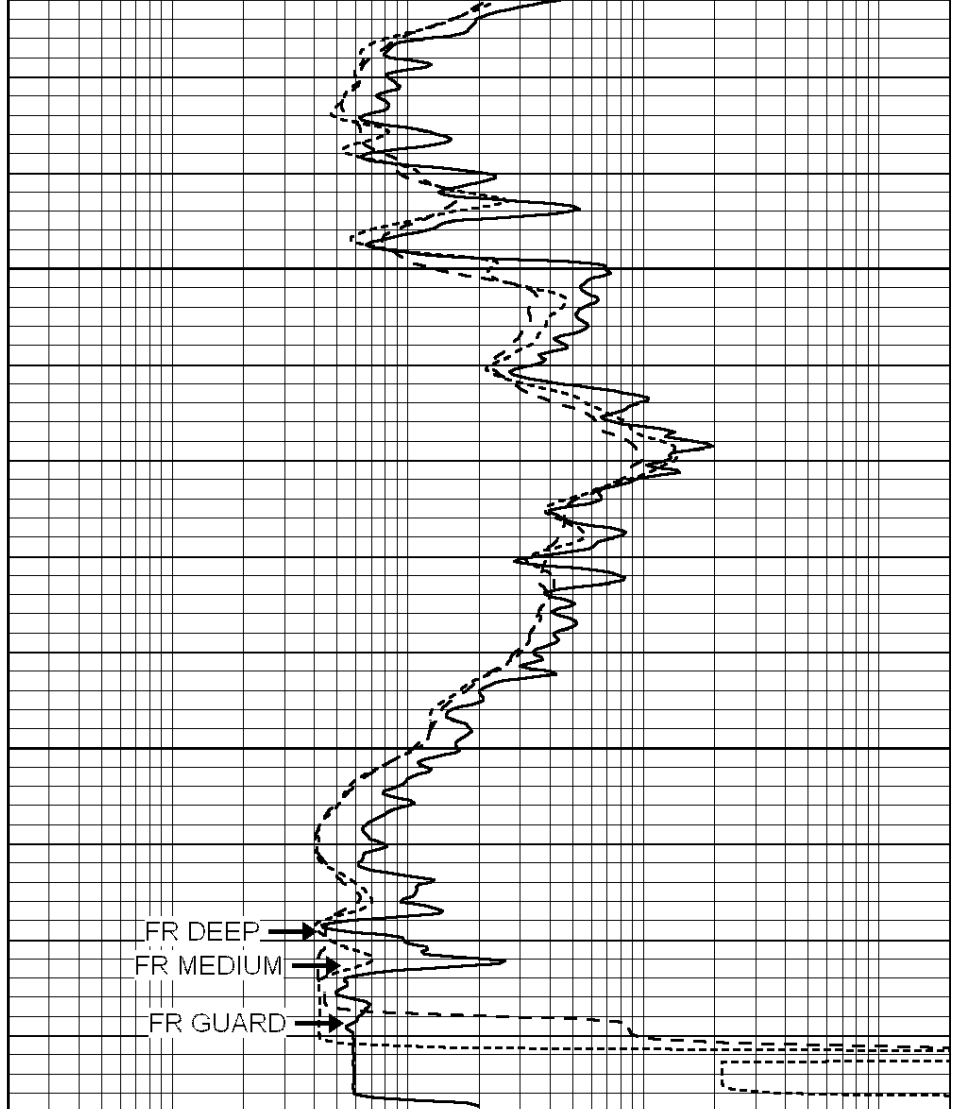


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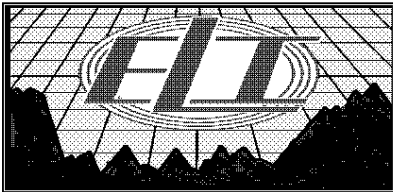
3900

LTD 3931

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: 30750ddn.db
 Dataset Pathname: pass2.9
 Presentation Format: _dil
 Dataset Creation: Sun Jul 03 22:29:27 2016 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

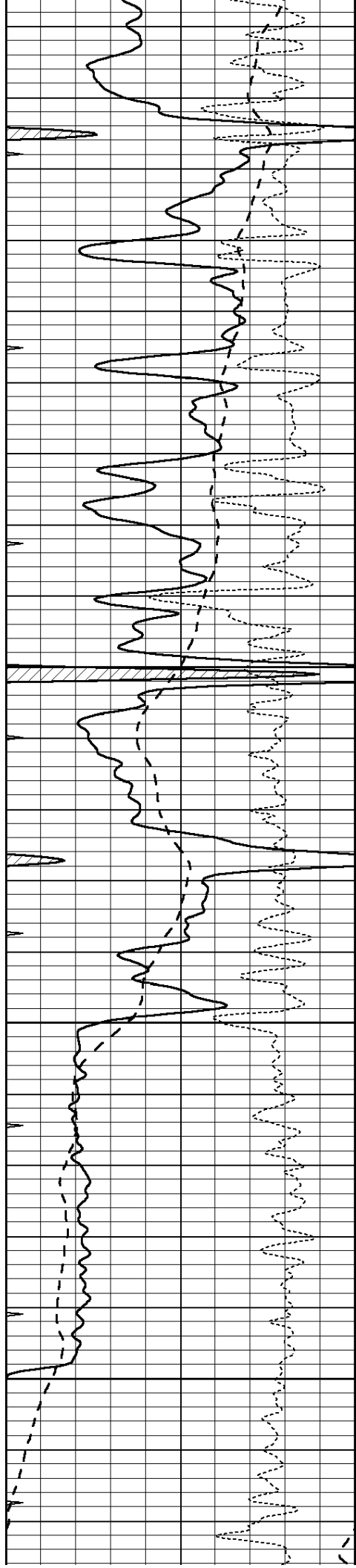
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



3700



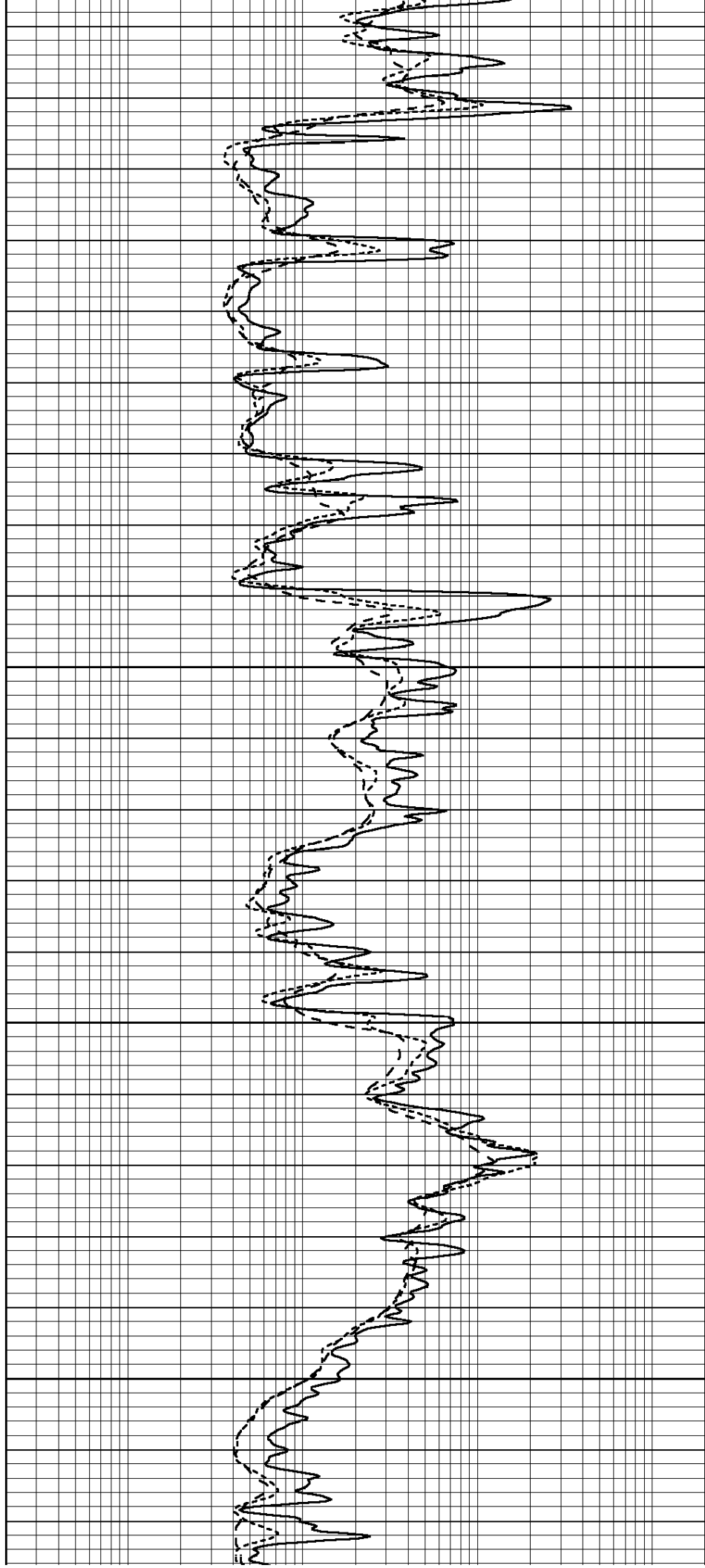


3750

3800

3850

3900



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			

Calibration Report	
Database File:	30750ddn.db
Dataset Pathname:	pass3.6
Dataset Creation:	Sun Jul 03 23:13:09 2016 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model:	PROBE7-DILG
Surface Cal Performed:	Sun Jul 03 21:57:45 2016
Downhole Cal Performed:	Mon Jul 28 12:02:56 2008
After Survey Verification Performed:	Mon Jul 28 12:02:56 2008

Surface Calibration		Readings		References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	625.000	0.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-42.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration		Readings		References			Results	
	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:	003N
Model:	PRB

Master Calibration		Performed Mon Mar 14 08:48:13 2016			
	Background	Magnesium	Aluminum	Sandstone	
Window 1	1751.3	11741.0	3857.3	12907.8	cps
Window 2	1589.4	9536.2	3267.6	10282.0	cps

Window 3	1413.4	6466.1	2463.2	6828.7	cps
Window 4	399.5	407.1	405.1	406.5	cps
Long Space	0.0	7946.7	1678.1	8692.6	cps
Short Space	2.2	3366.2	2134.1	3410.2	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 43.7	Rib Slope	: 0.954	Density/Spine Ratio	: 0.543
Spine Angle	: 73.7	Spine Slope	: 3.412	Spine Intercept	: -18.7

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:	Sun Jul 03 22:02:17 2016
Calibrator Value:	1.0
Background Reading:	0.0
	GAPI
	cps

Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps