

DUAL INDUCTION LOG

Company	DOWNING-NELSON OIL CO., INC.
Well	RUPP #2-15
Field	WILDCAT
County	TREGO
State	KANSAS
Location:	API # : 15-195-23038-00-00
Permanent Datum	SEC 15 TWP 13S RGE 21W
Log Measured From	1070 FNL & 1865 FWL
Drilling Measured From	KELLY BUSHING KELLY BUSHING
Other Services	SONIC CDL/CNL/MEL
Elevation	K.B. 2194 D.F. 2192 G.L. 2186
Date	02/01/18
Run Number	ONE
Depth Driller	3982
Depth Logger	3984
Bottom Logged Interval	3982
Top Log Interval	00
Casing Driller	8 5/8 @ 222
Casing Logger	222
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.1/56
pH / Fluid Loss	10.0/7.6
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.90 @ 56
Rmt @ Meas. Temp	.66 @ 56
Rmc @ Meas. Temp	1.08 @ 56
Source of Rmt / Rmc	MEASURED
Rm @ BHT	.43 @ 115
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	///
Maximum Recorded Temperature	115F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	GUS PFANENSTIEL
Witnessed By	MARC DOWNING

<<< Fold Here >>>

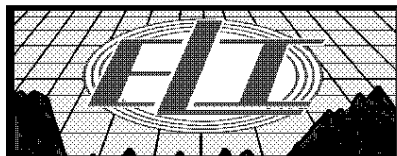
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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, KS. (785) 628-6395

DIRECTIONS

I 70 RIGGA EXIT TO OLD 40, 1 MILE EAST, 1 MILE SOUTH,
3/4 WEST, SOUTH INTO.



MAIN PASS

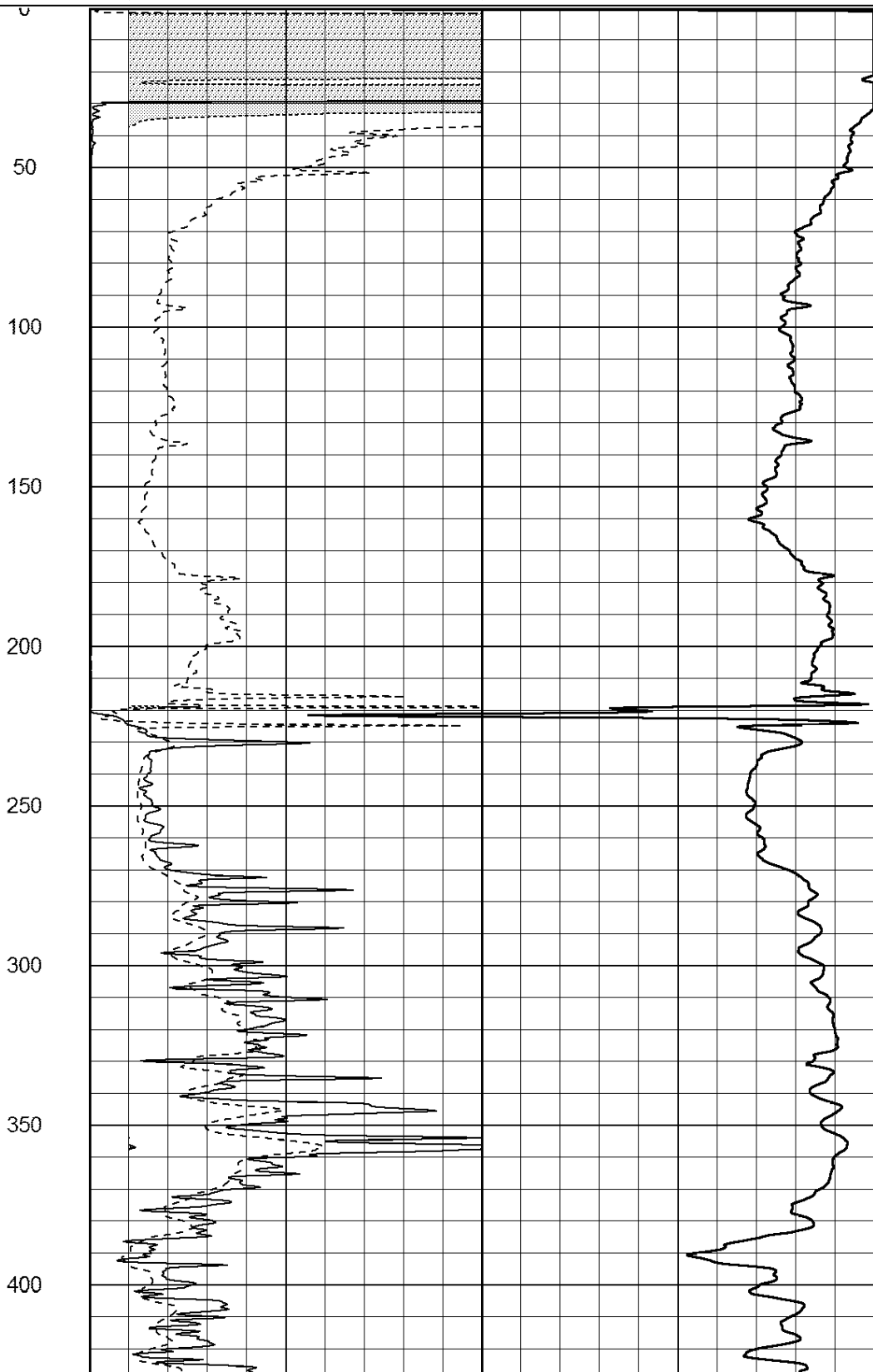
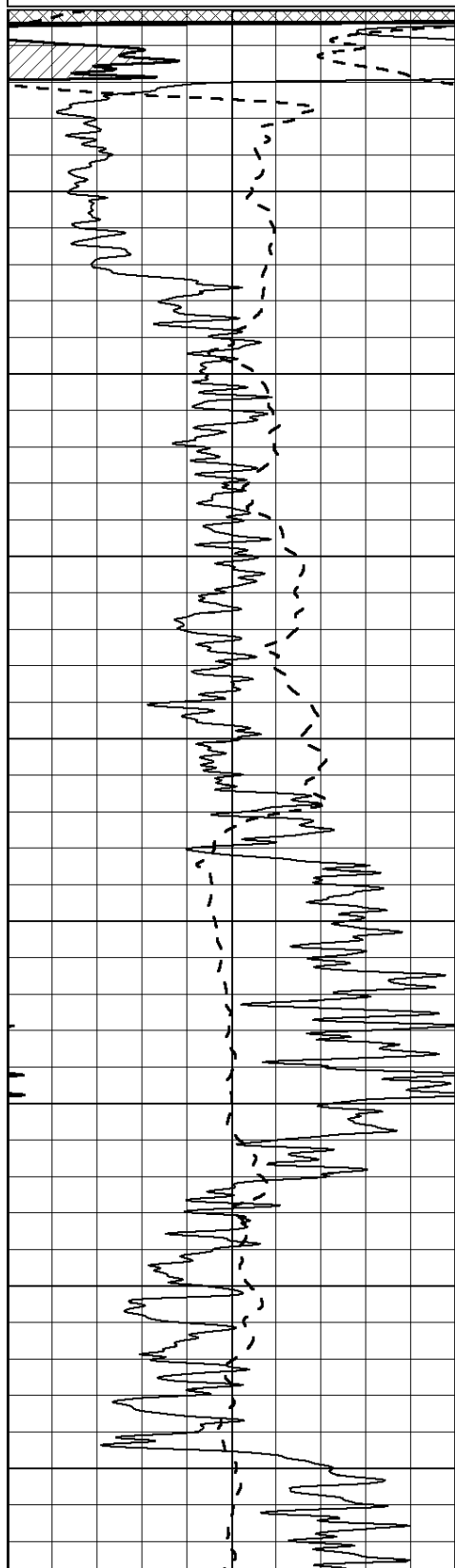
Database File: 2404ddn.db
 Dataset Pathname: pass3
 Presentation Format: _dil2
 Dataset Creation: Thu Feb 01 06:22:20 2018 by Log Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

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

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

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



450

500

550

600

650

700

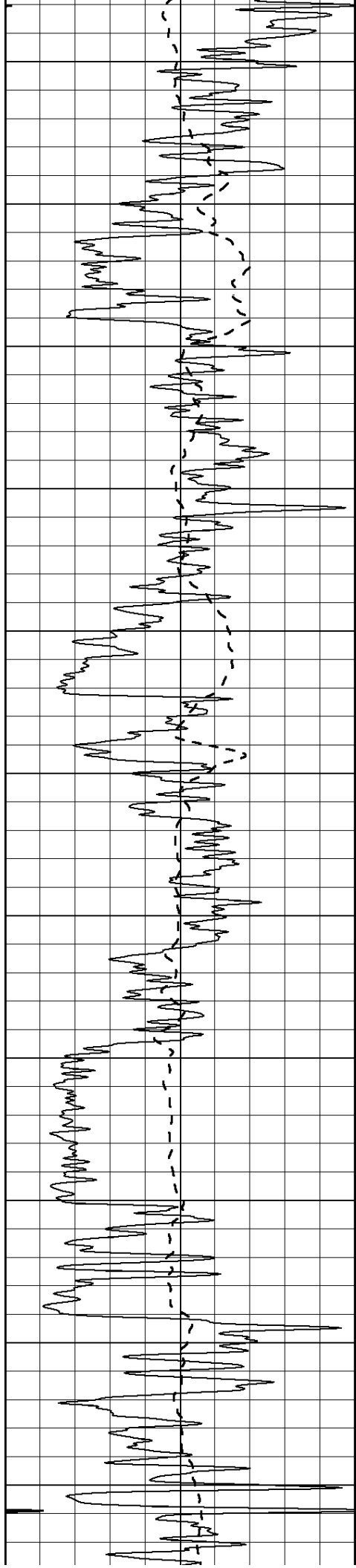
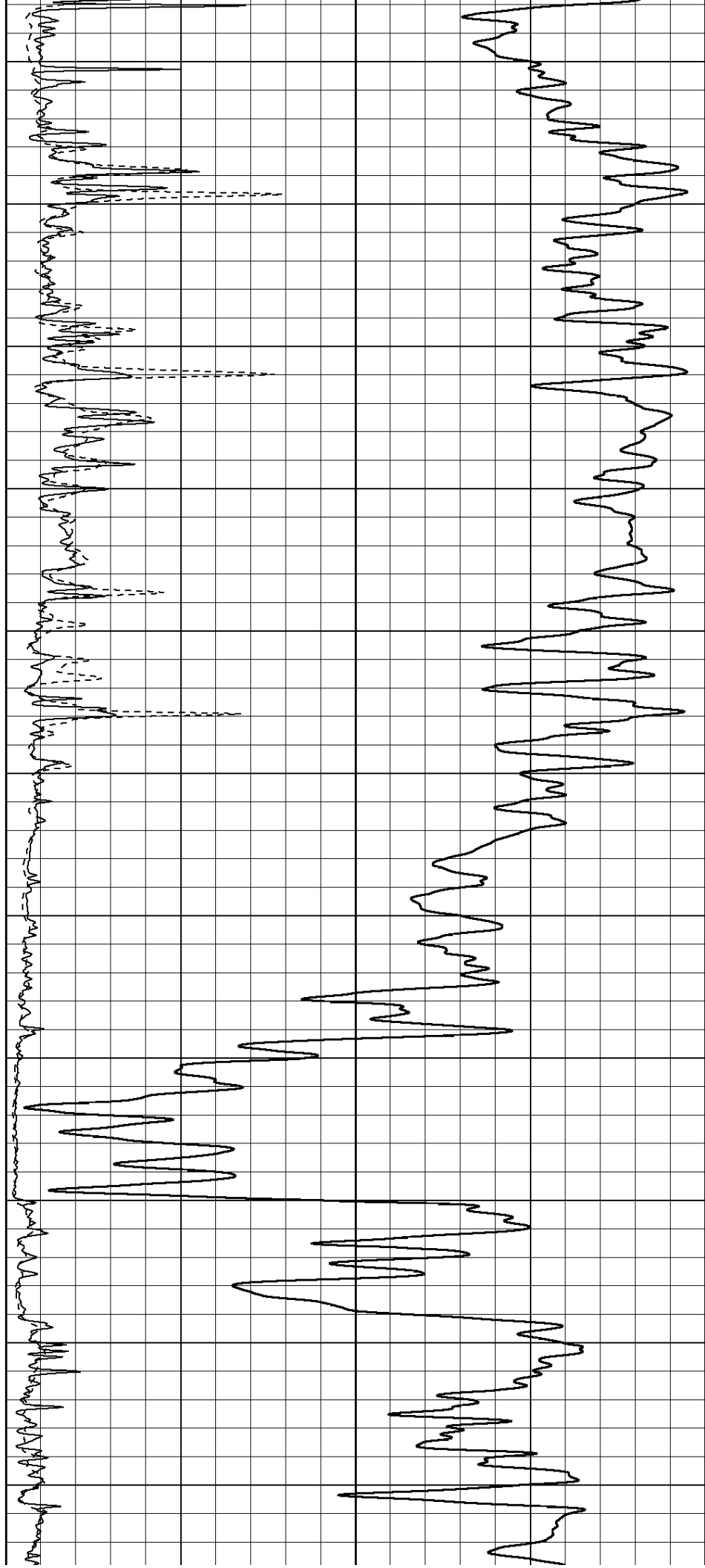
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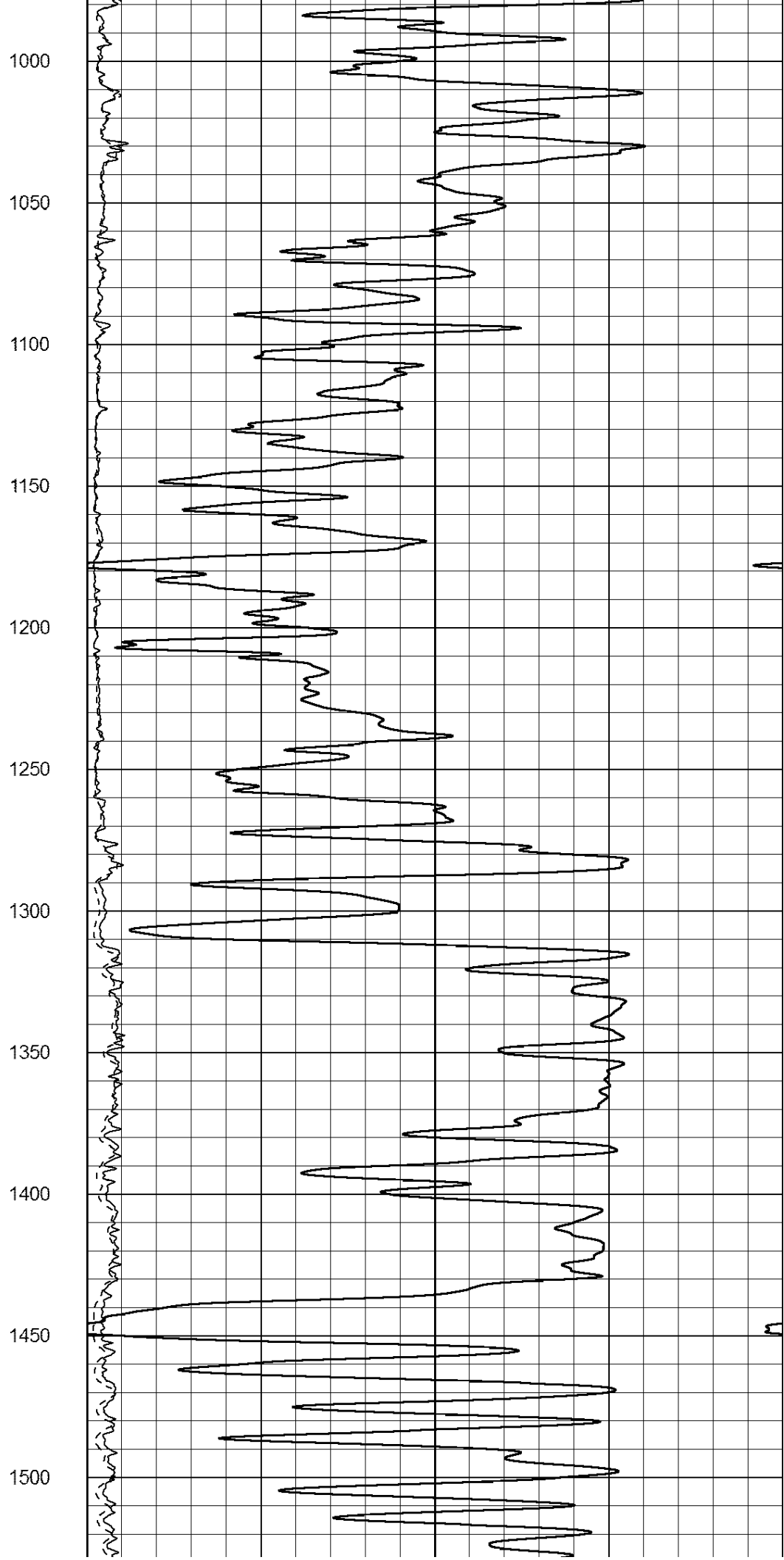
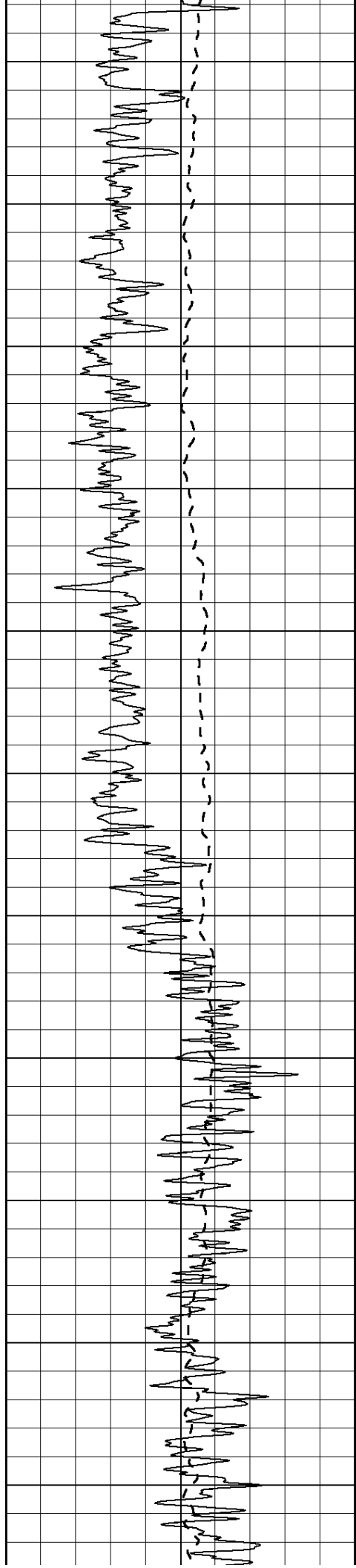
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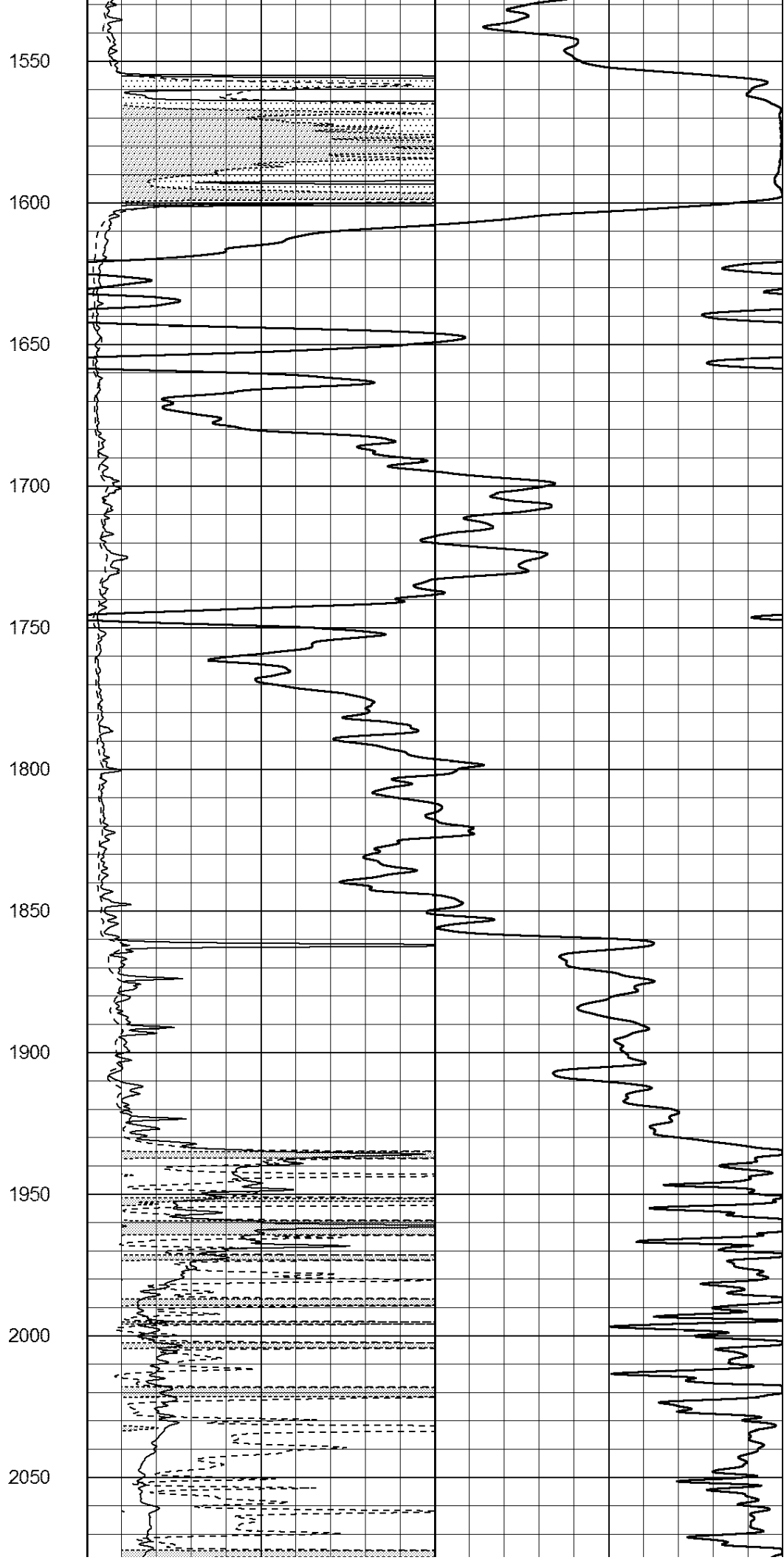
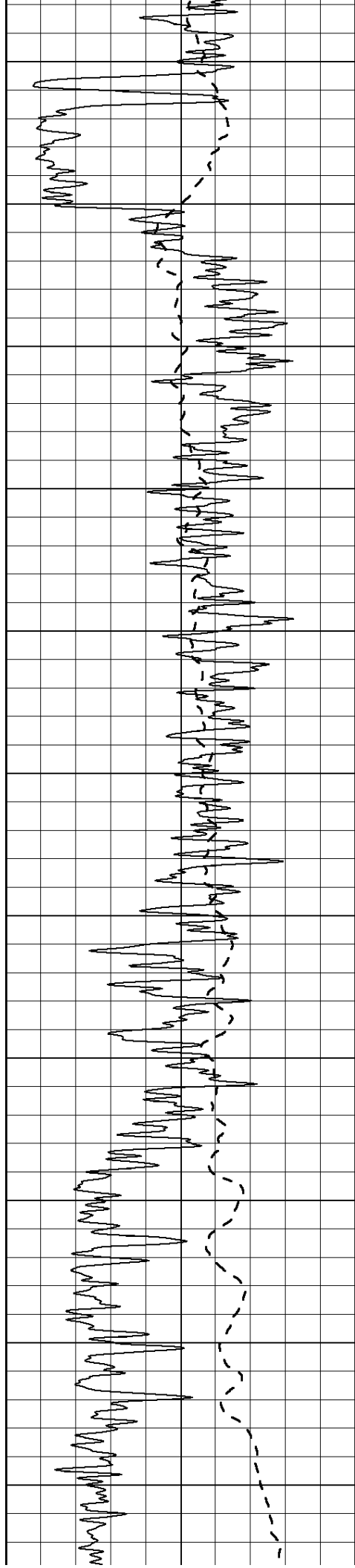
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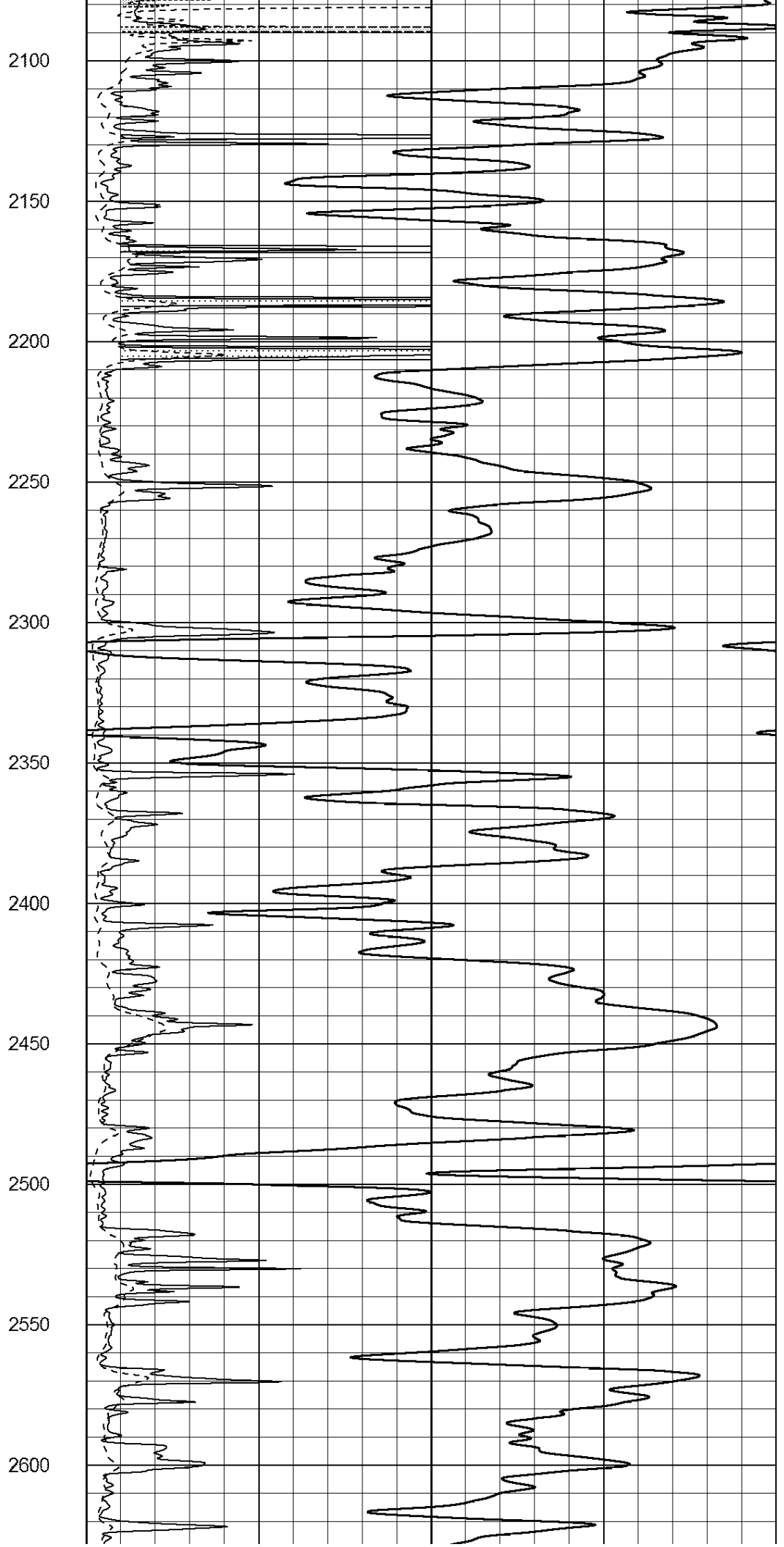
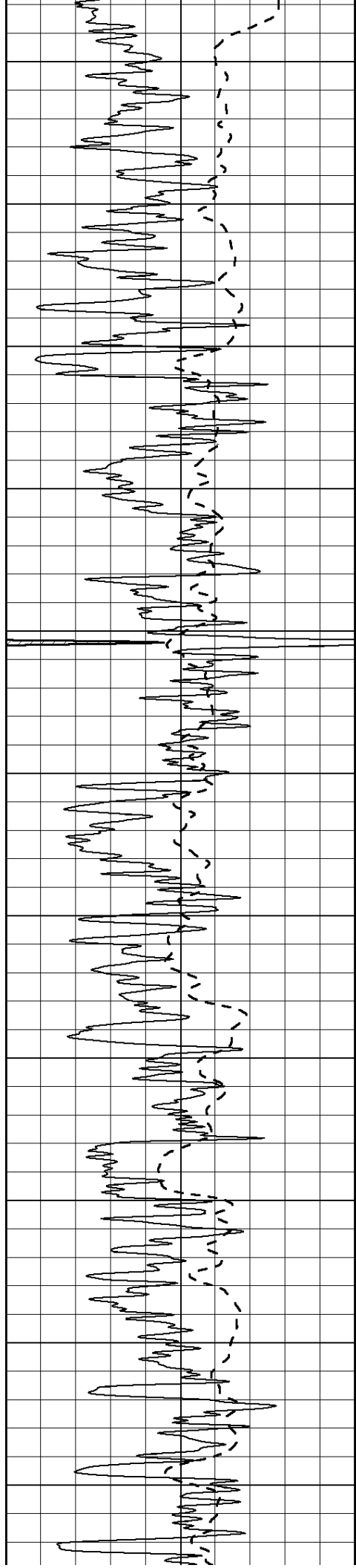
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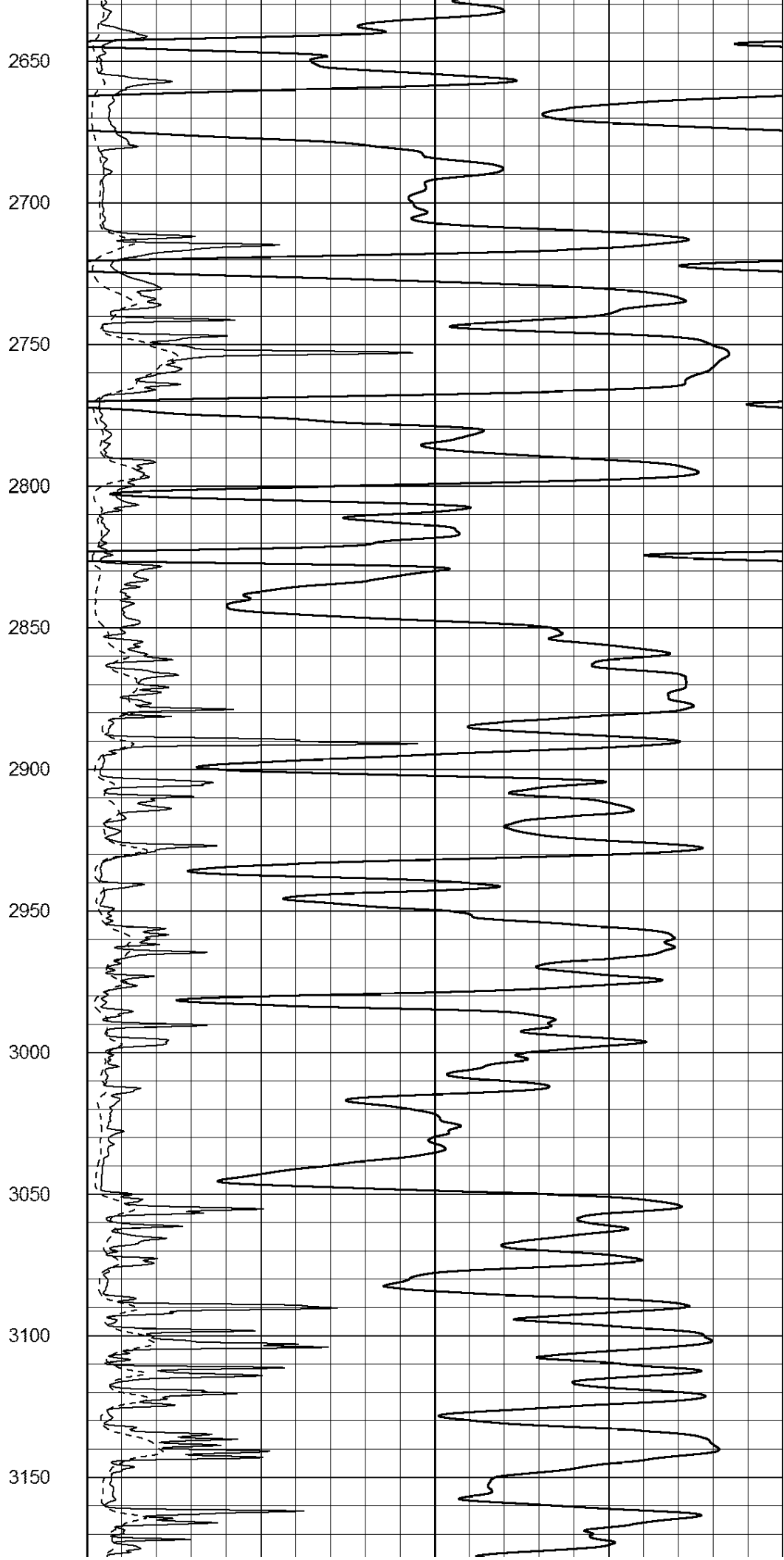
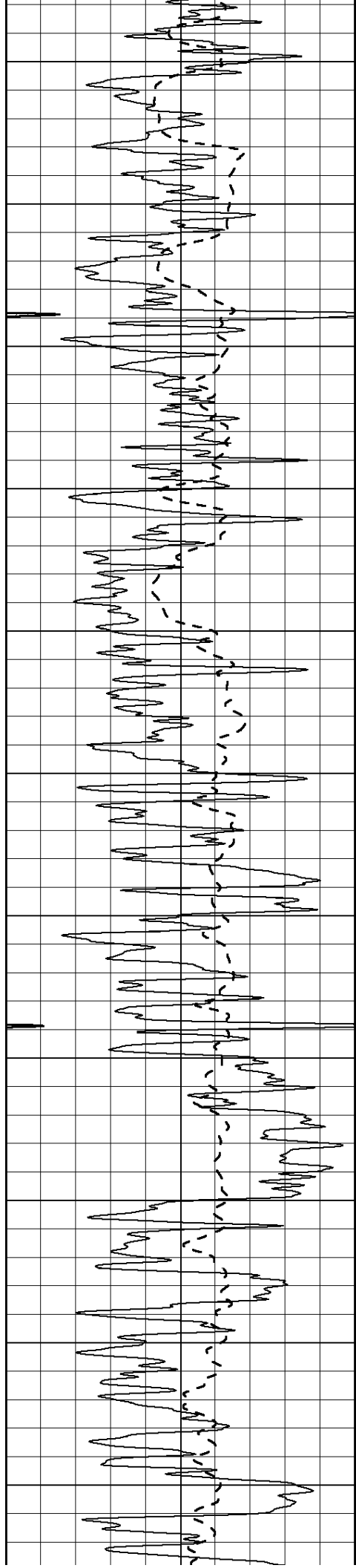
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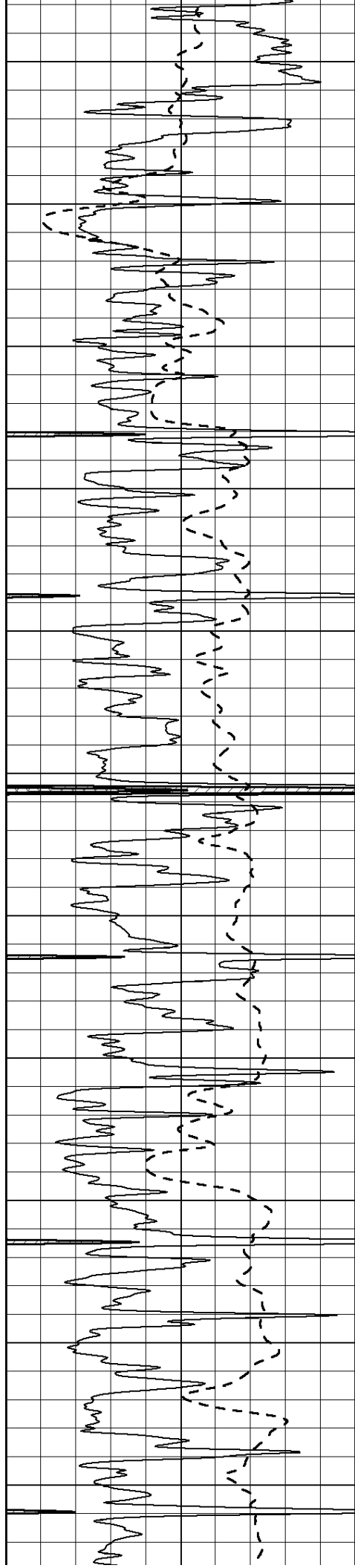












3200

3250

3300

3350

3400

3450

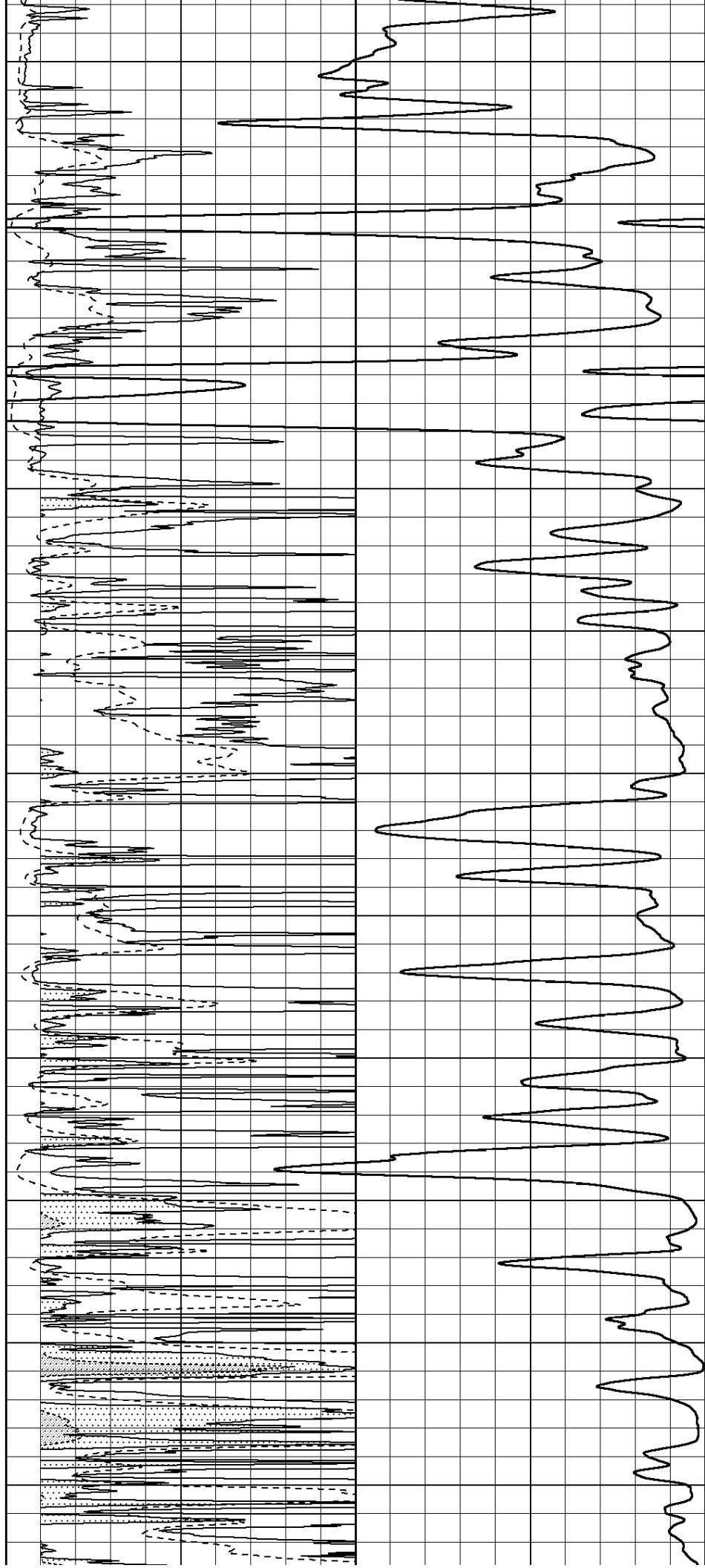
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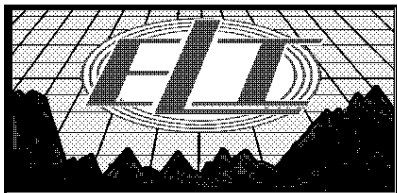
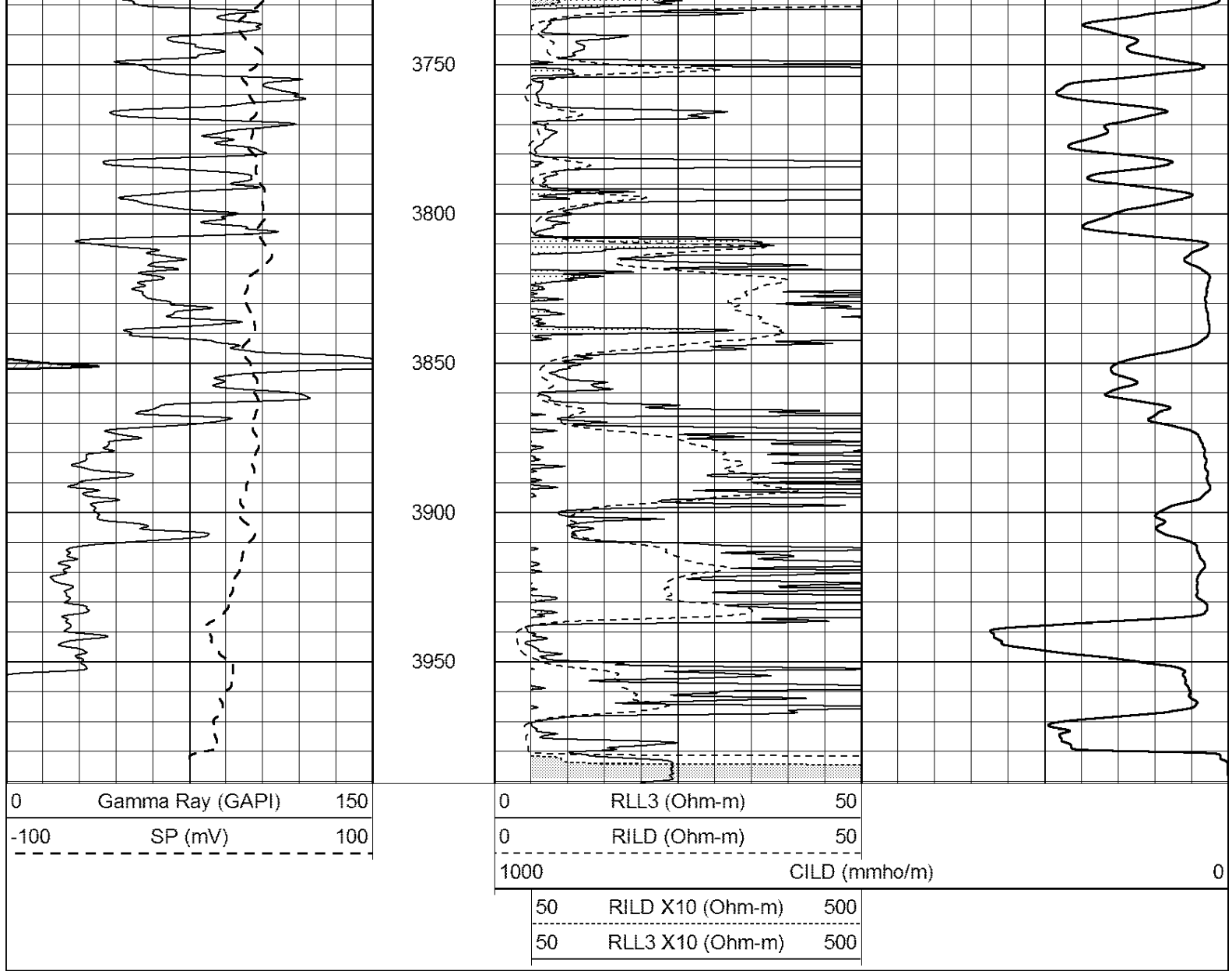
3550

3600

3650

3700



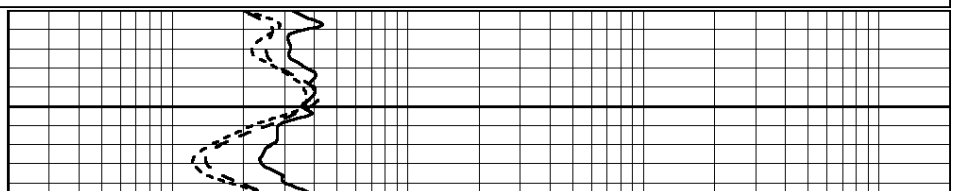
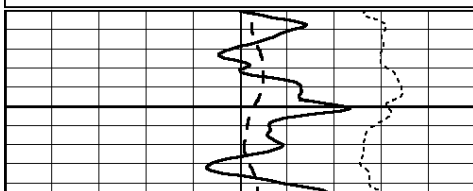


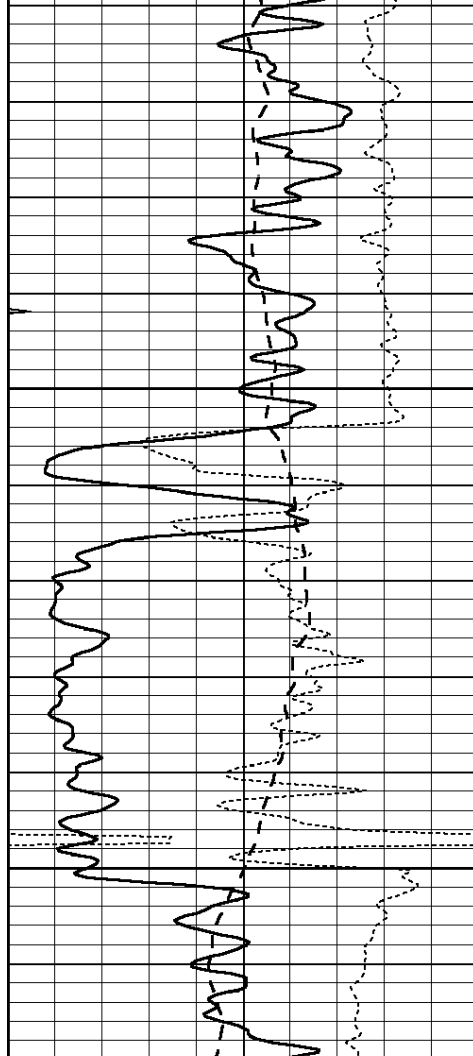
MAIN PASS

Database File: 2404ddn.db
 Dataset Pathname: pass3
 Presentation Format: _dil
 Dataset Creation: Thu Feb 01 06:22:20 2018 by Log 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

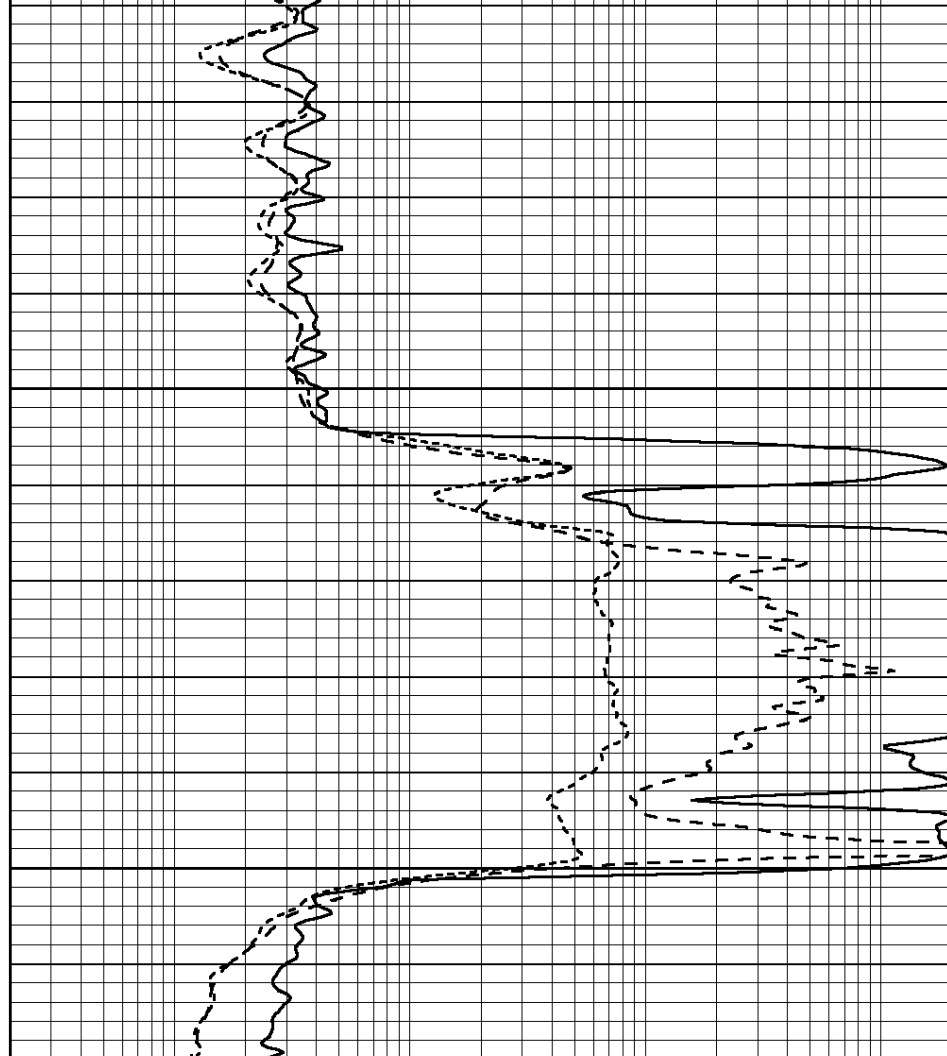




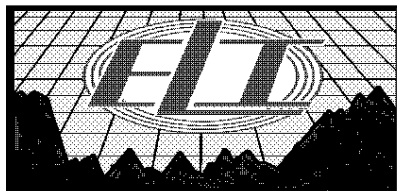
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

1550

1600



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

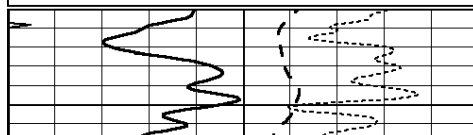


MAIN PASS

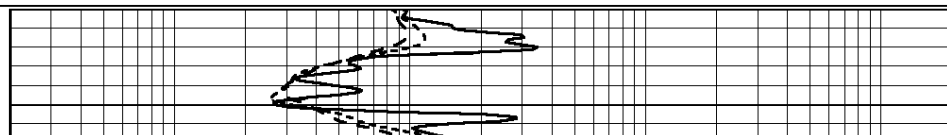
Database File: 2404ddn.db
 Dataset Pathname: pass3
 Presentation Format: _dil
 Dataset Creation: Thu Feb 01 06:22:20 2018 by Log Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

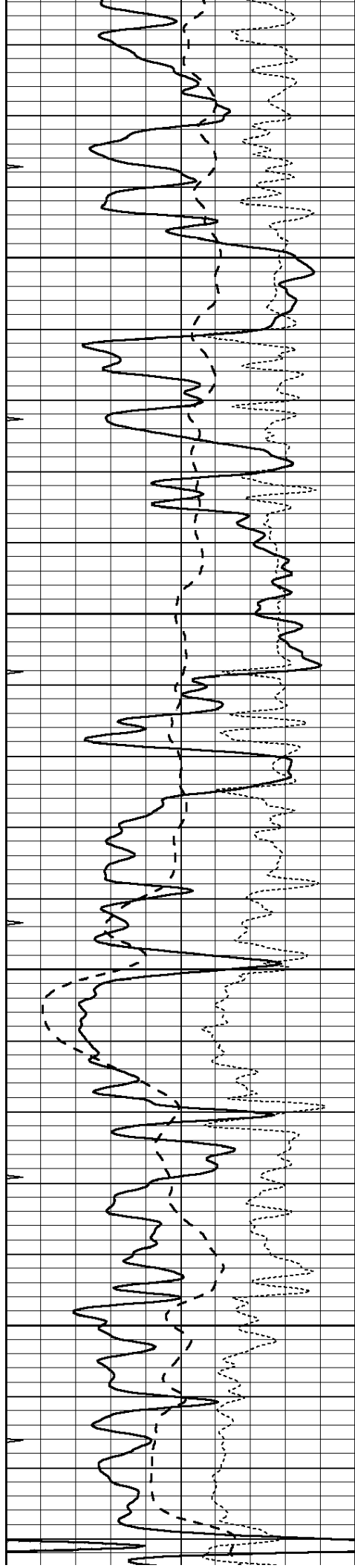
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



1550



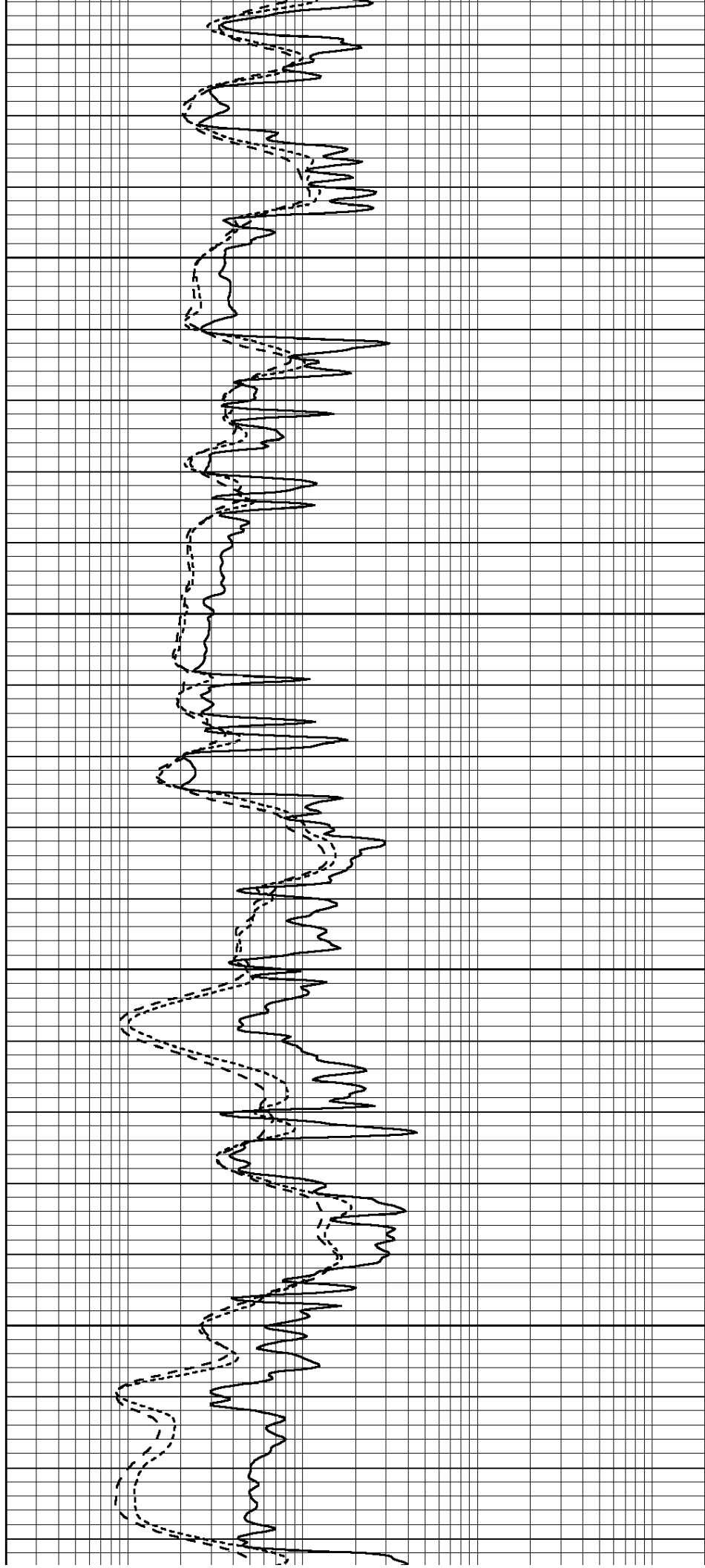


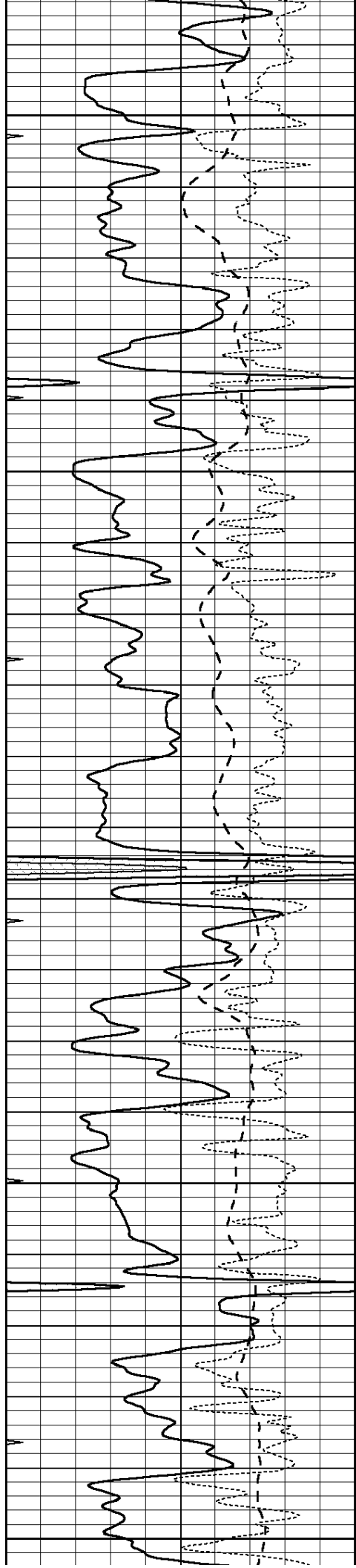
3150

3200

3250

3300





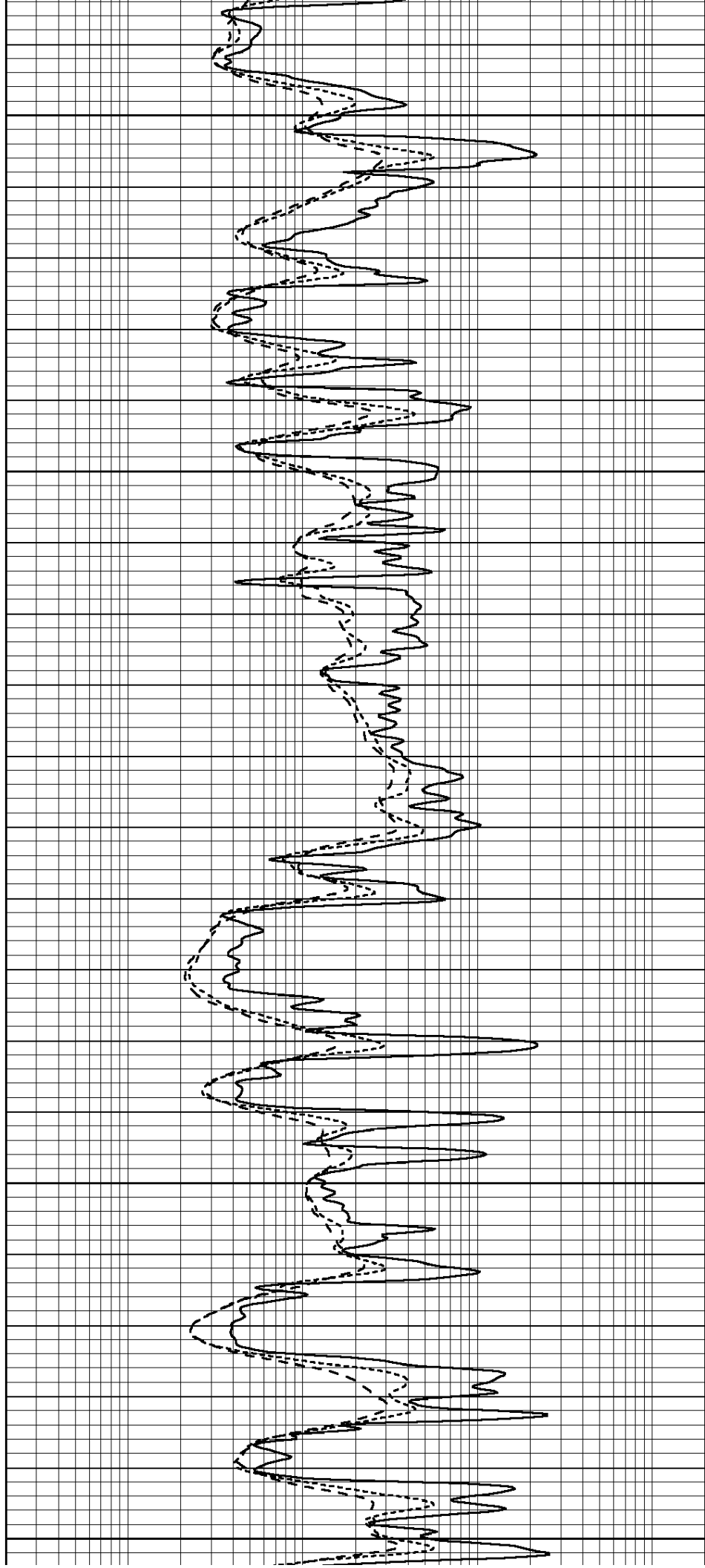
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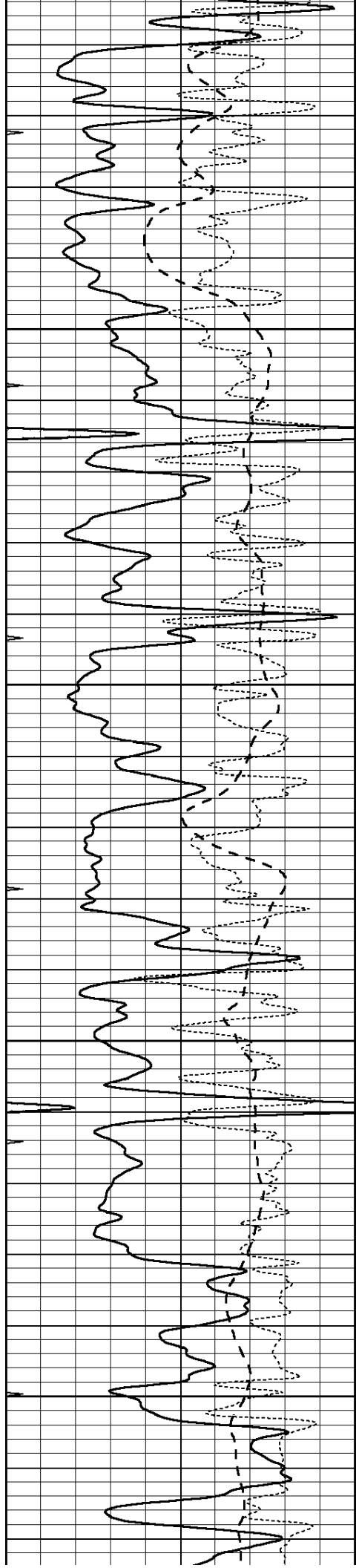
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3450

3500

3550



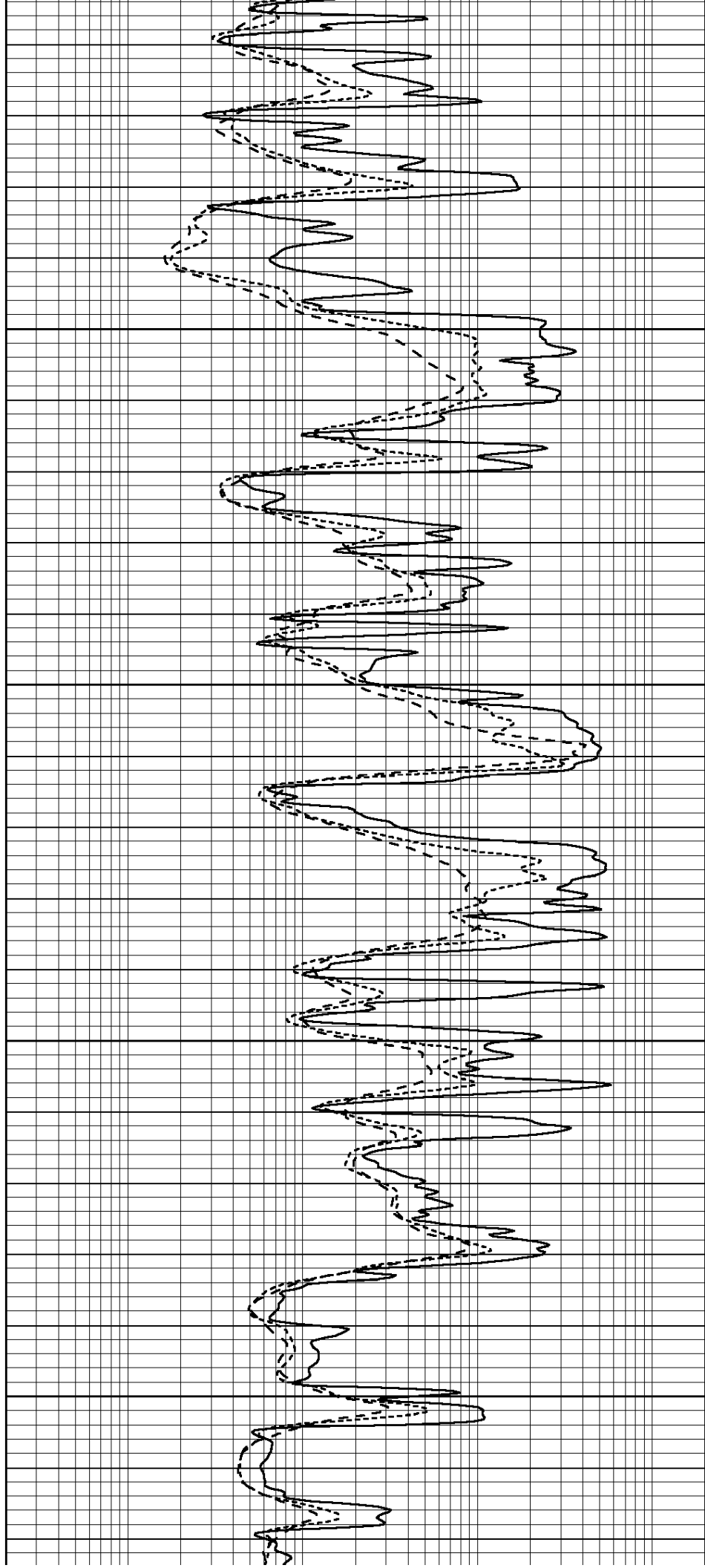


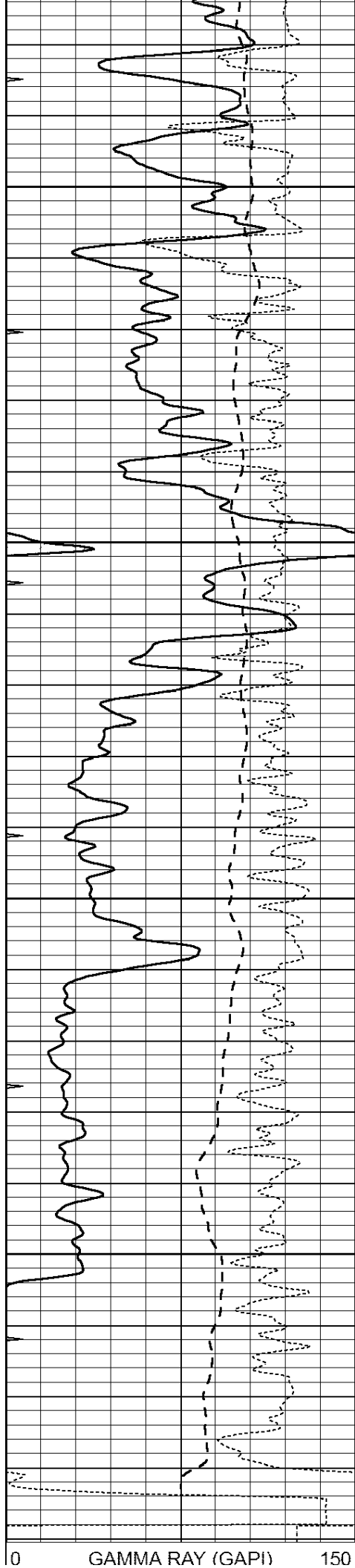
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3650

3700

3750





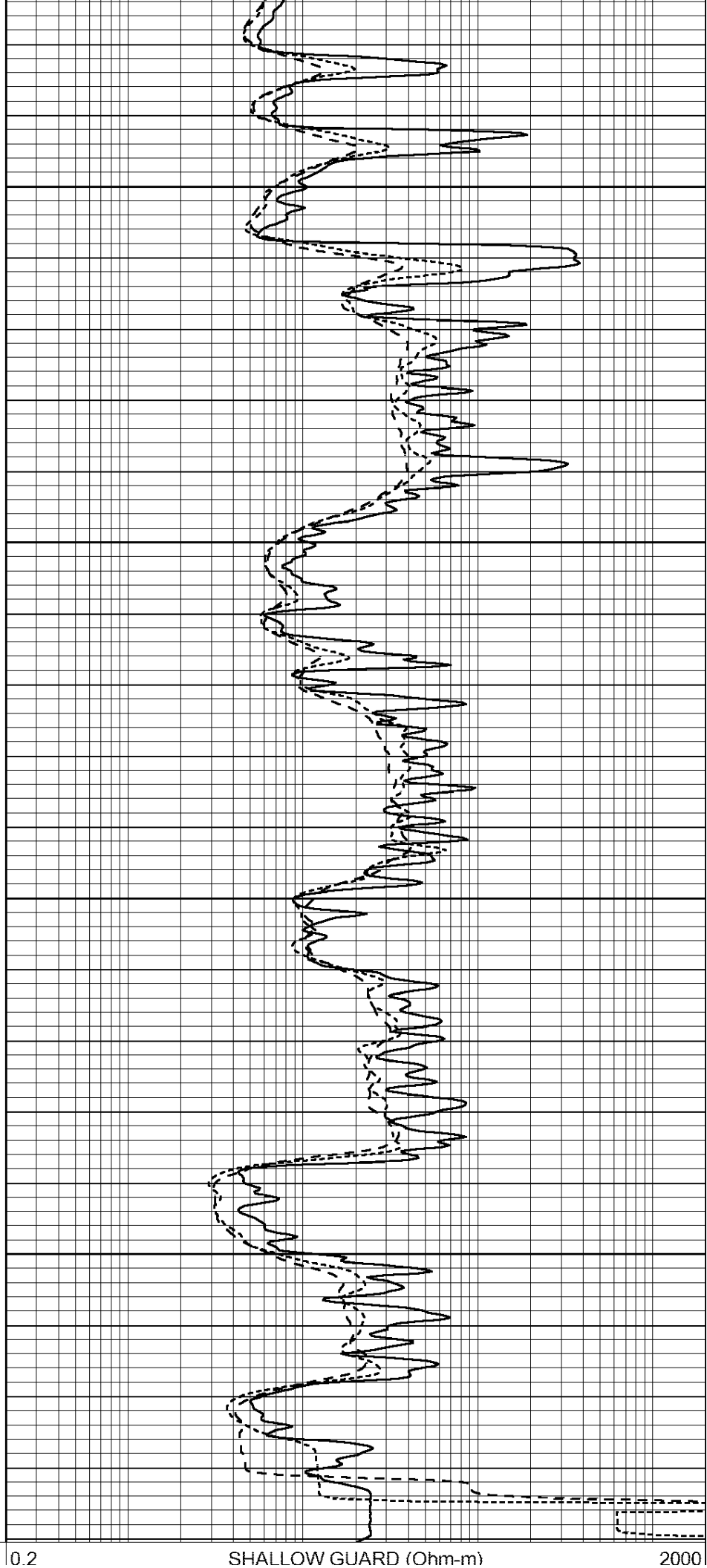
3800

3850

3900

3950

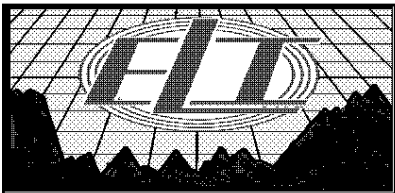
0 GAMMA RAY (GAPI) 150



0.2 SHALLOW GUARD (Ohm-m) 2000

-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

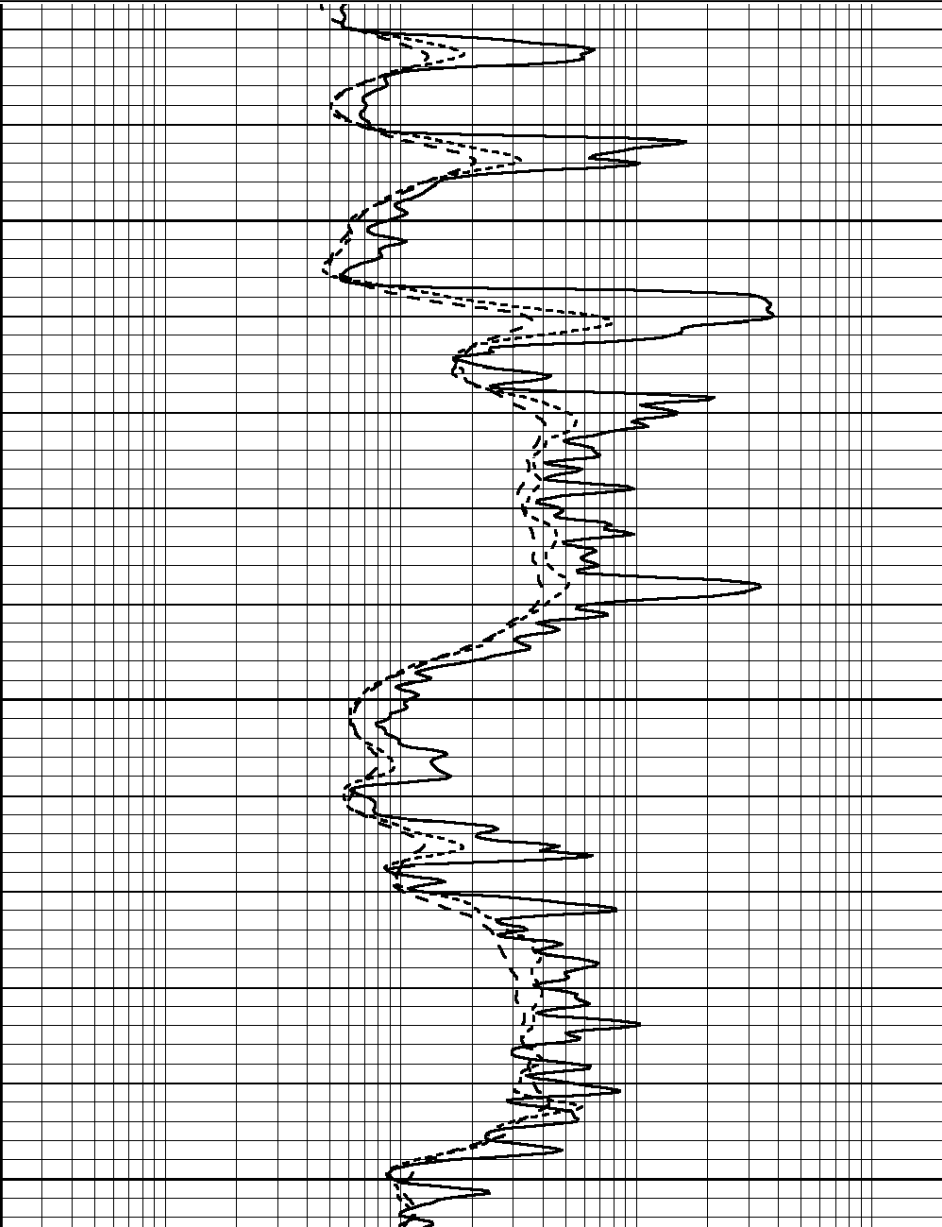
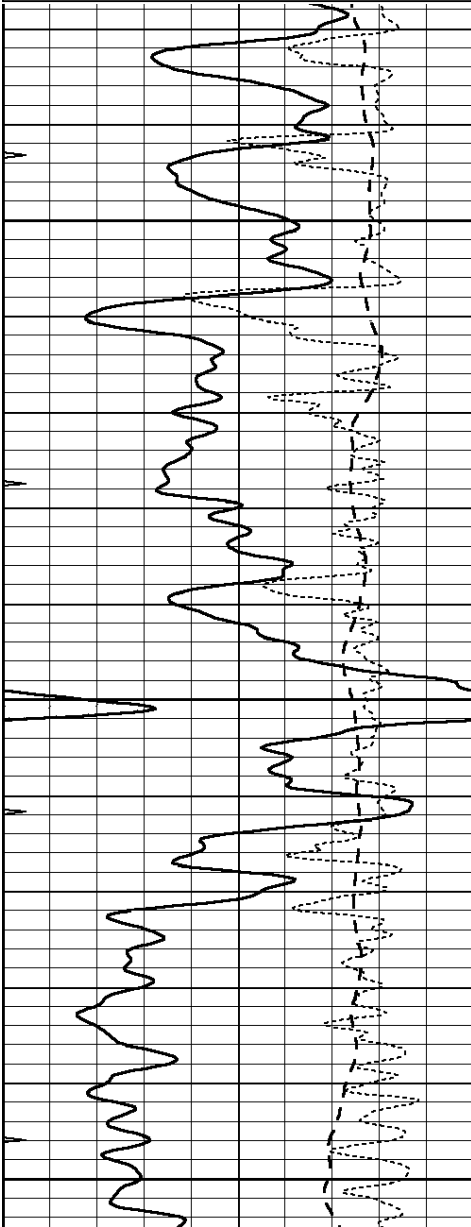


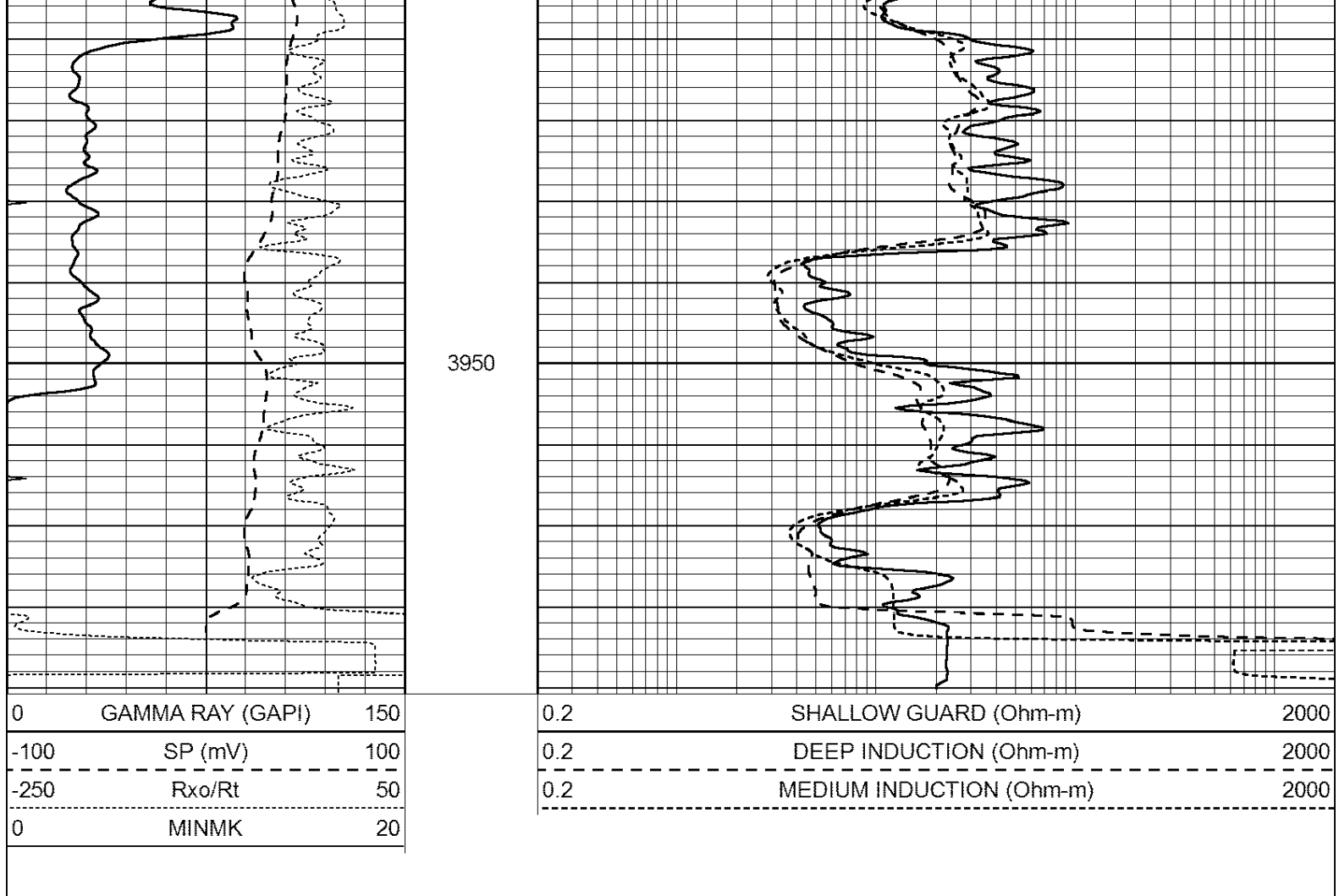
REPEAT SECTION

Database File: 2404ddn.db
 Dataset Pathname: pass2
 Presentation Format: _dil
 Dataset Creation: Thu Feb 01 06:13:10 2018 by Log 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:	pe2.db							
Dataset Pathname:	pass2							
Dataset Creation:	Mon Aug 21 11:58:02 2017 by Log Open-Cased 090629							
Dual Induction Calibration Report								
Serial-Model:			PROBE8-DILG					
Surface Cal Performed:			Mon Aug 21 11:58:18 2017					
Downhole Cal Performed:			Mon Aug 21 11:58:21 2017					
After Survey Verification Performed:			Mon Aug 21 11:58:23 2017					
Surface Calibration								
		Readings		References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
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
U.C.			V		4500.000	Ohm-m		

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	
	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 11:56:41 2017			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	833.6	7394.2	2287.3	8111.8				cps
Window 2	768.9	6322.3	1995.6	6800.0				cps
Window 3	621.5	3261.9	1186.4	3380.9				cps
Window 4	184.2	185.7	184.9	184.8				cps
Long Space	0.0	5553.4	1226.6	6031.1				cps
Short Space	1.2	1307.5	903.9	1387.7				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 46.3	Rib Slope	: 1.045	Density/Spine Ratio			: 0.566	
Spine Angle	: 76.3	Spine Slope	: 4.090	Spine Intercept			: -20.7	

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								
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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		
POST-SURVEY VERIFICATION						
	Detector	Readings		Measured	Target	
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		pu
3)	Short Space		cps			
	Long Space		cps	pu		pu
Gamma Ray Calibration Report						
Serial Number:		GR6				
Tool Model:		OPEN				
Performed:		Mon Aug 21 11:59:01 2017				
Calibrator Value:		150.0	GAPI			
Background Reading:		0.0	cps			
Calibrator Reading:		276.0	cps			
Sensitivity:		0.5500	GAPI/cps			