

DUAL INDUCTION LOG

Company	RJM COMPANY	Company	RJM COMPANY
Well	K & C MILLER #1	Well	K & C MILLER #1
Field	UNKNOWN	Field	UNKNOWN
County	BARTON	County	BARTON
State	KANSAS	State	KANSAS
Location:	AP1 # : 15-009-26225-00-00 NE/SE/NW/NE 980 FNL & 1560 FEL		Other Services CDL/CNL/MEL SONIC
Permanent Datum	SEC 10 TWP 19S RGE 12W	Elevation	
Log Measured From	GROUND LEVEL	Elevation	1823
Drilling Measured From	KELLY BUSHING 8' A.G.L. KELLY BUSHING	K.B. 1831 D.F. 1829 G.L. 1823	
Date	08/08/18		
Run Number	ONE		
Depth Driller	3488		
Depth Logger	3488		
Bottom Logged Interval	3486		
Top Log Interval	50		
Casing Driller	8 5/8@ 292		
Casing Logger	292		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6000 PPM	
Density / Viscosity	9.1/48		
pH / Fluid Loss	9.5/10.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.80@70		
Rmt @ Meas. Temp	.60@70		
Rmc @ Meas. Temp	.96@70		
Source of Rmt / Rmc	MEASURED		
Rm @ BHT	.50@111		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	///		
Maximum Recorded Temperature	111F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	WYATT URBAN		

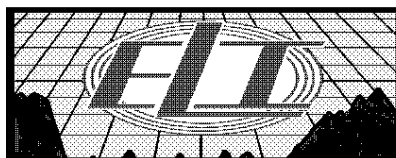
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on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

DIRECTIONS
BARTON COLLEGE BLACKTOP AND 156 NORTH TO 40 RD.
1.5 EAST, SOUTH INTO.



MAIN PASS

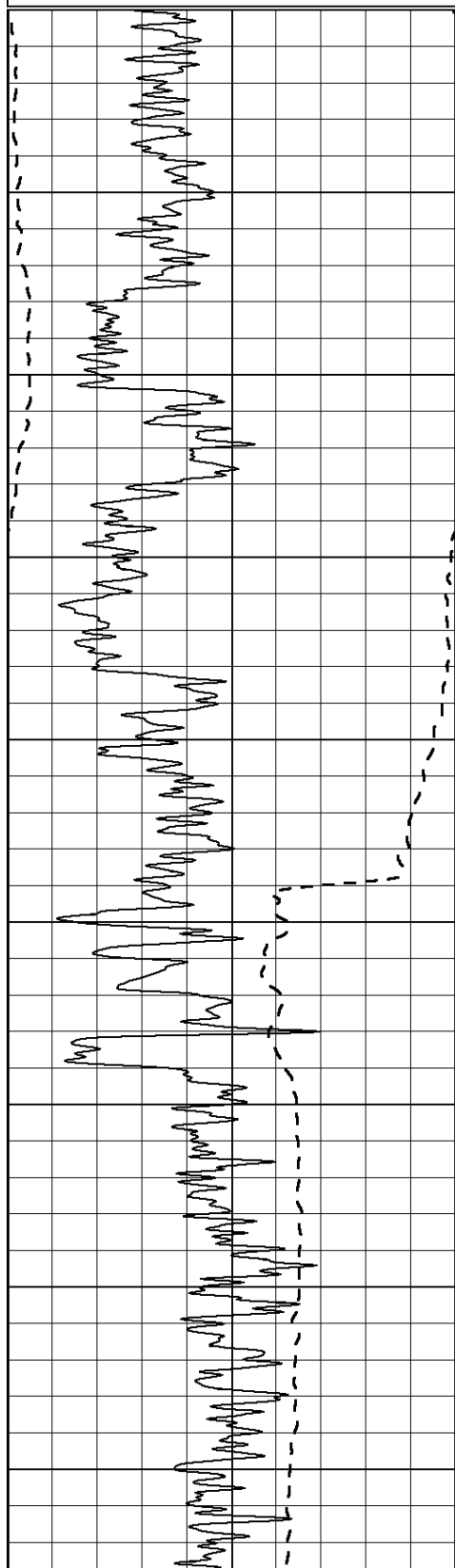
Database File: 2700pe.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil2
 Dataset Creation: Wed Aug 08 09:04:00 2018 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

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

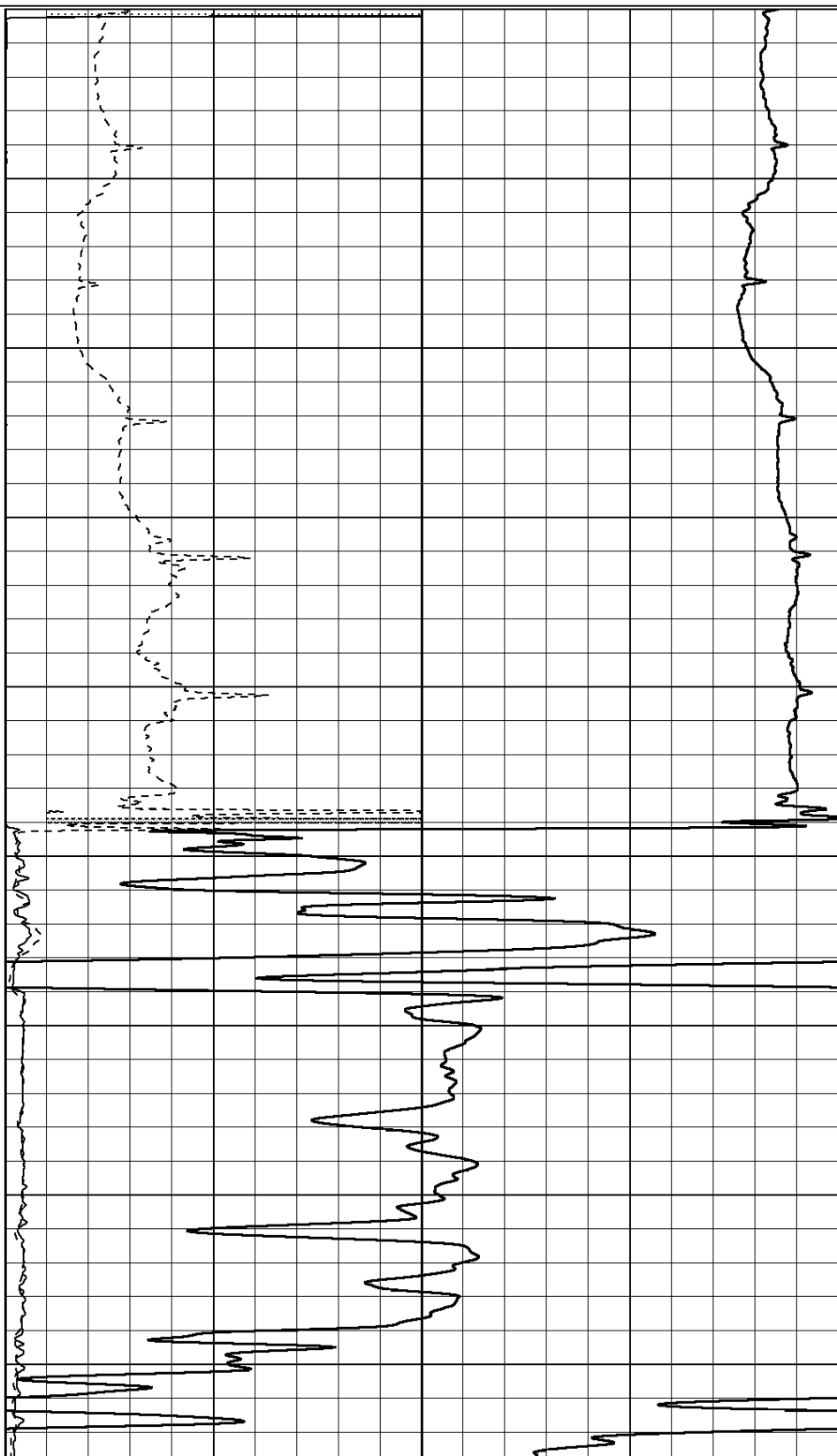
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50

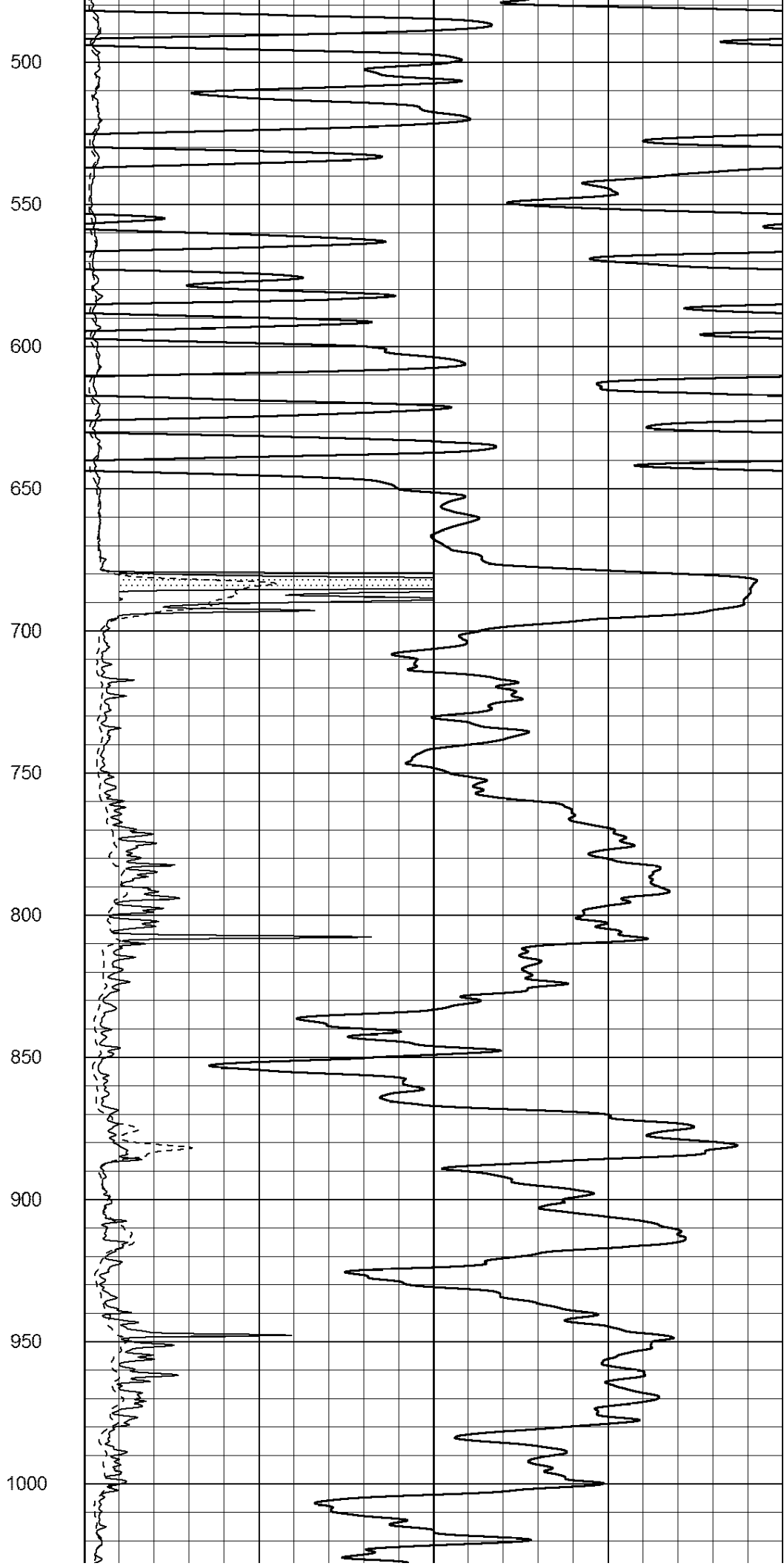
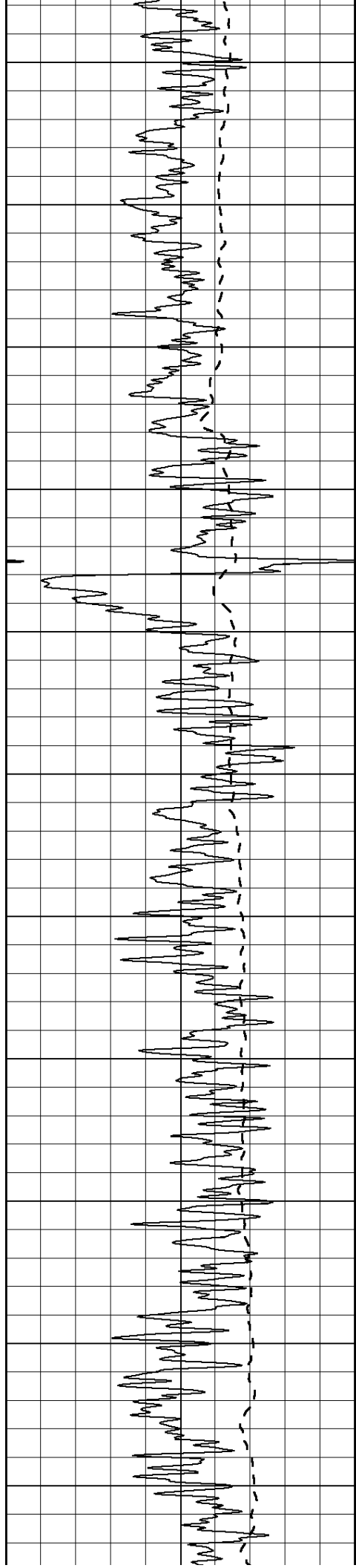
1000	CILD (mmho/m)	0
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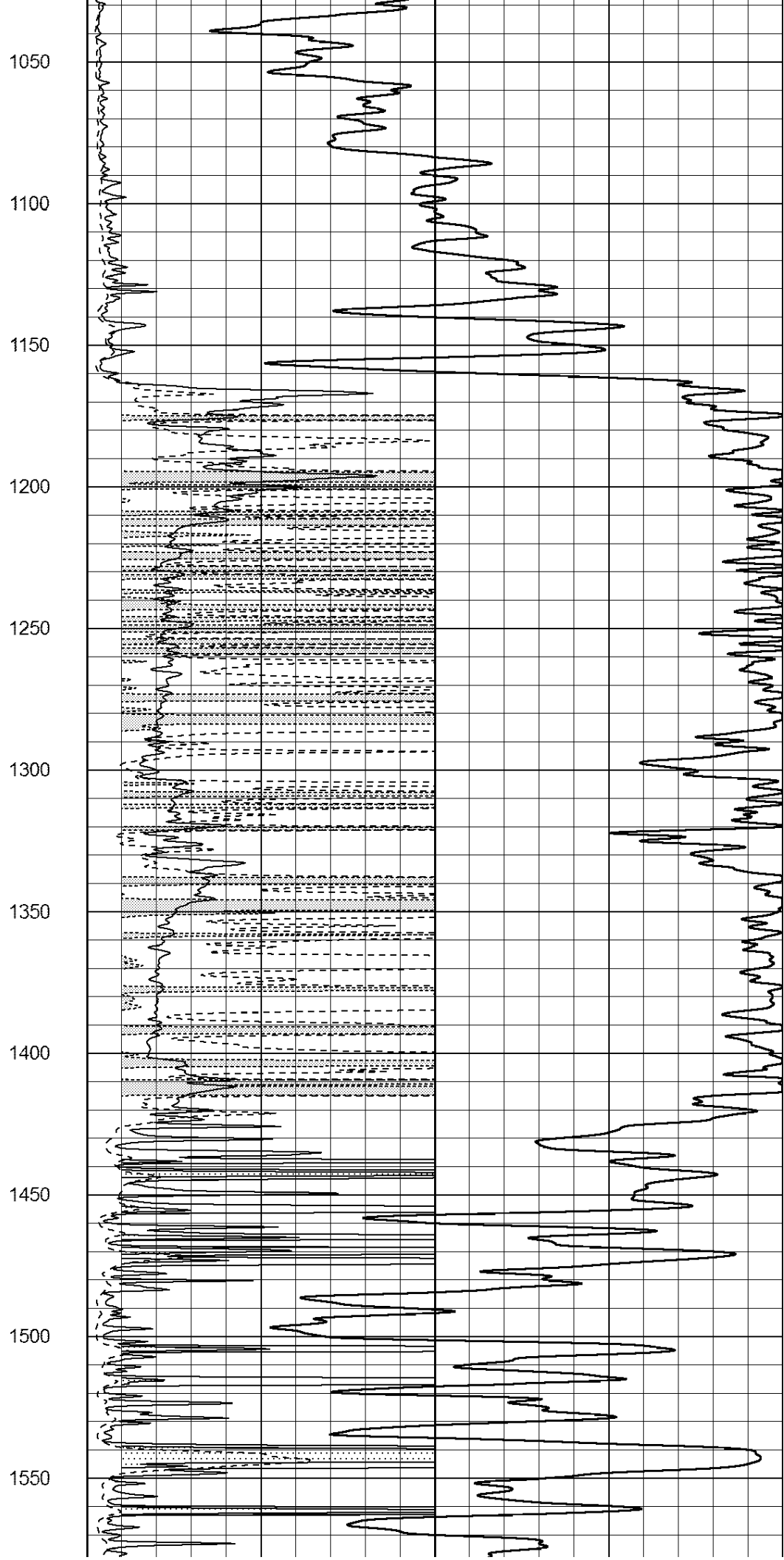
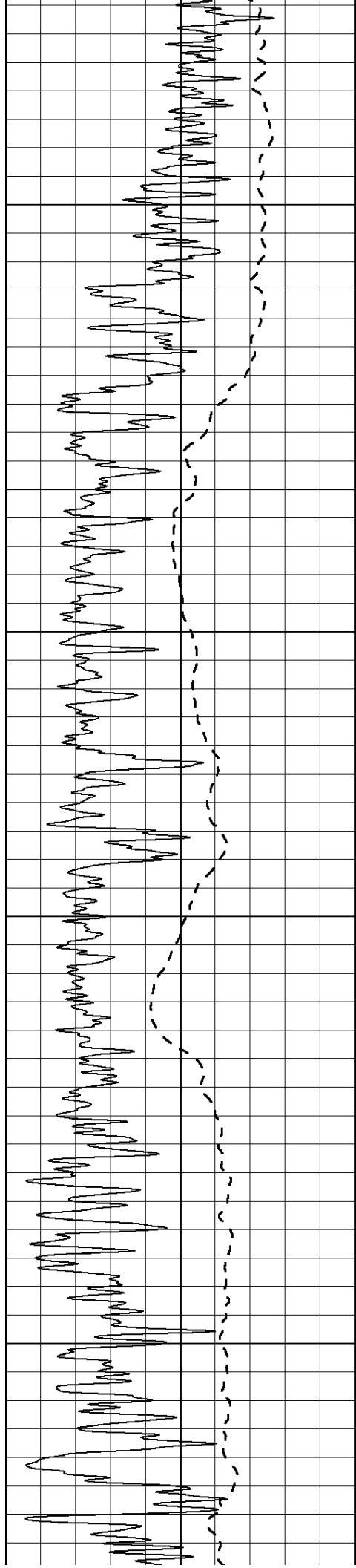
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

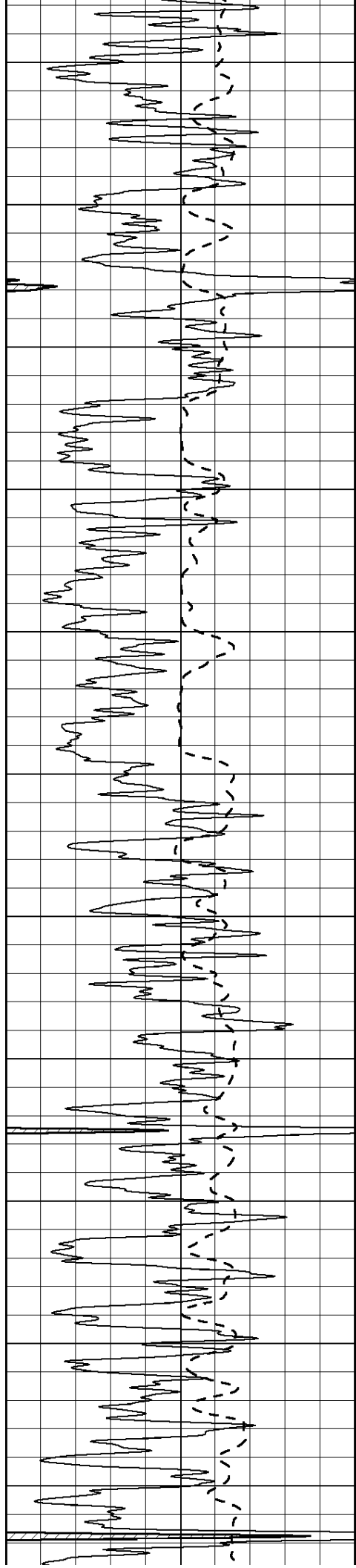


50
 100
 150
 200
 250
 300
 350
 400
 450









1600

1650

1700

1750

1800

1850

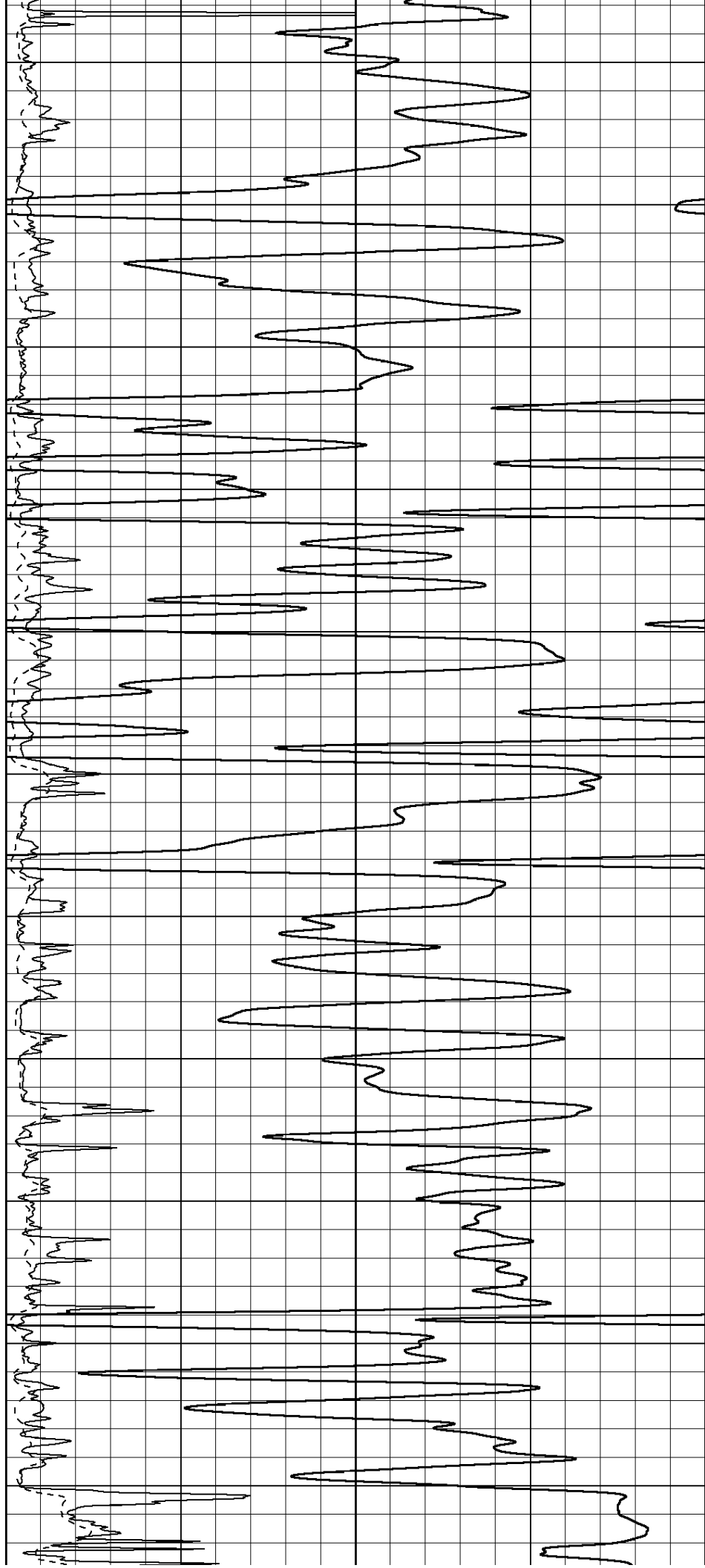
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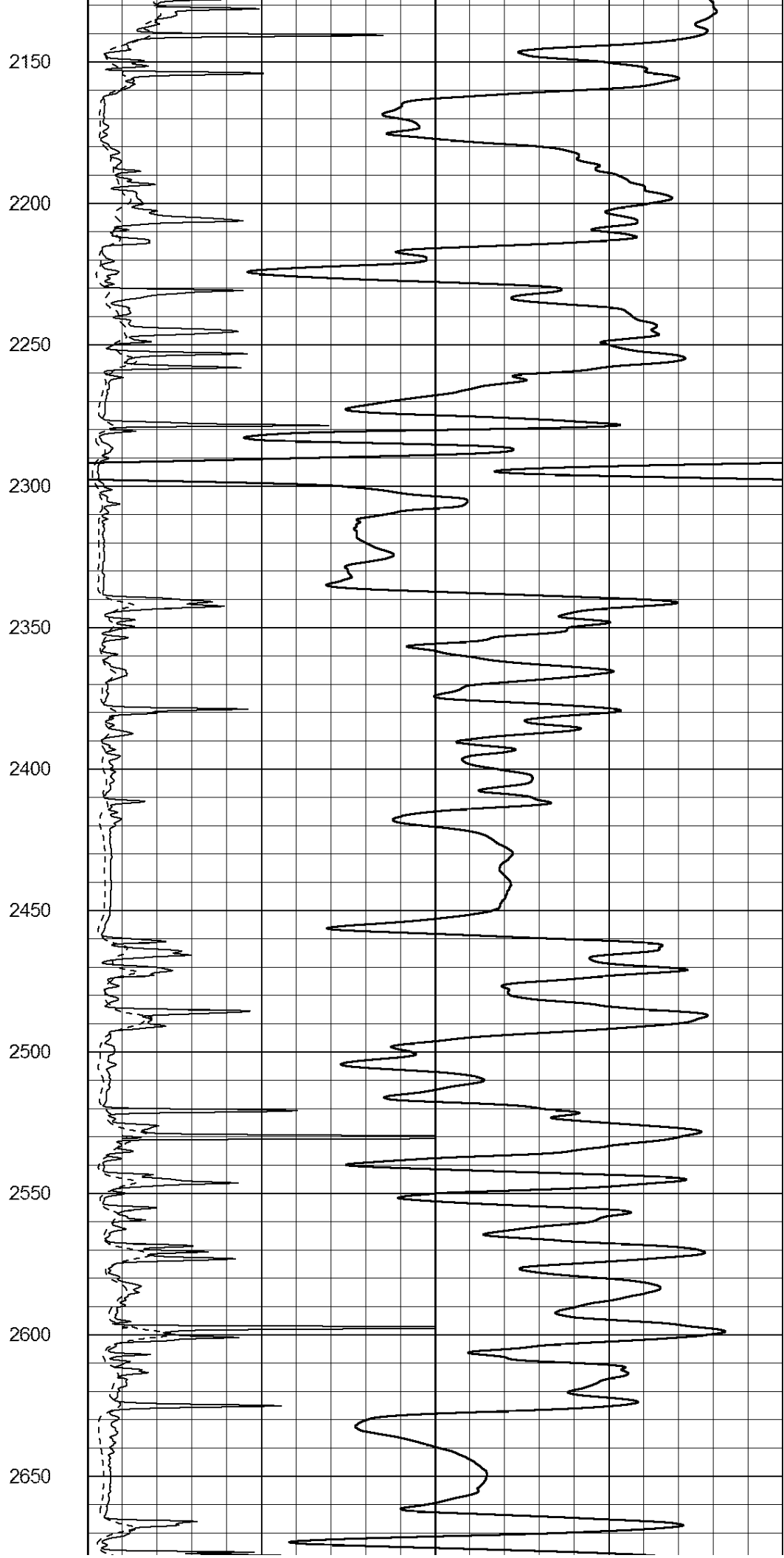
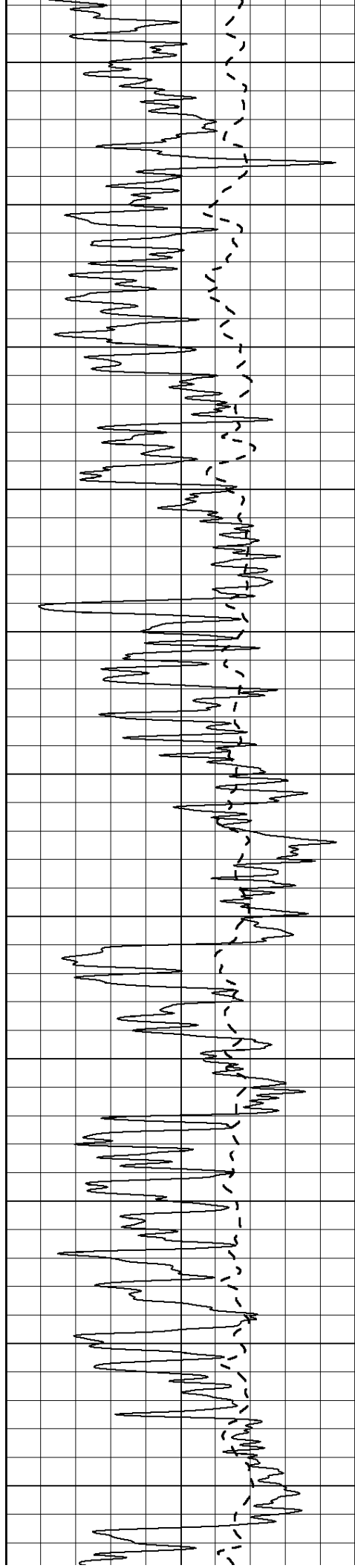
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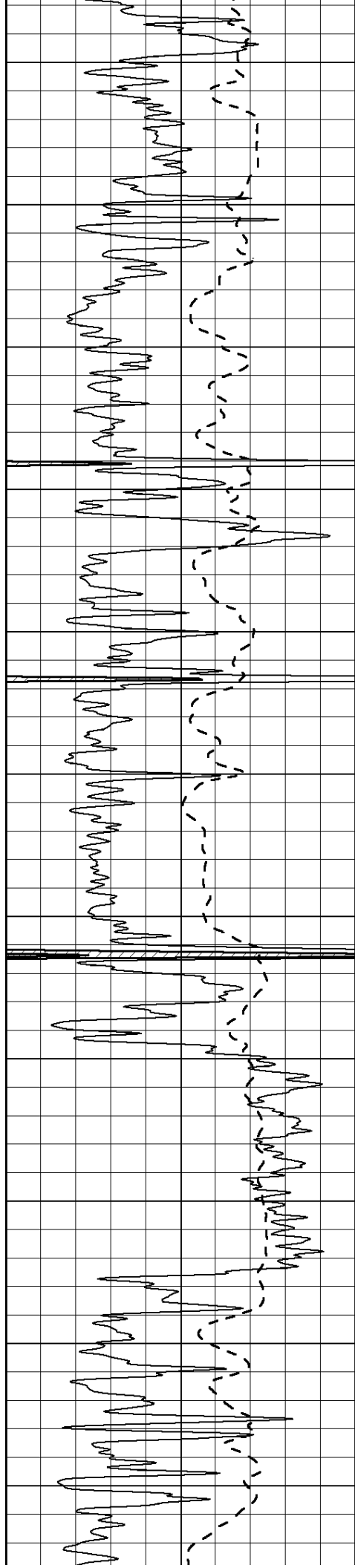
2000

2050

2100







2700

2750

2800

2850

2900

2950

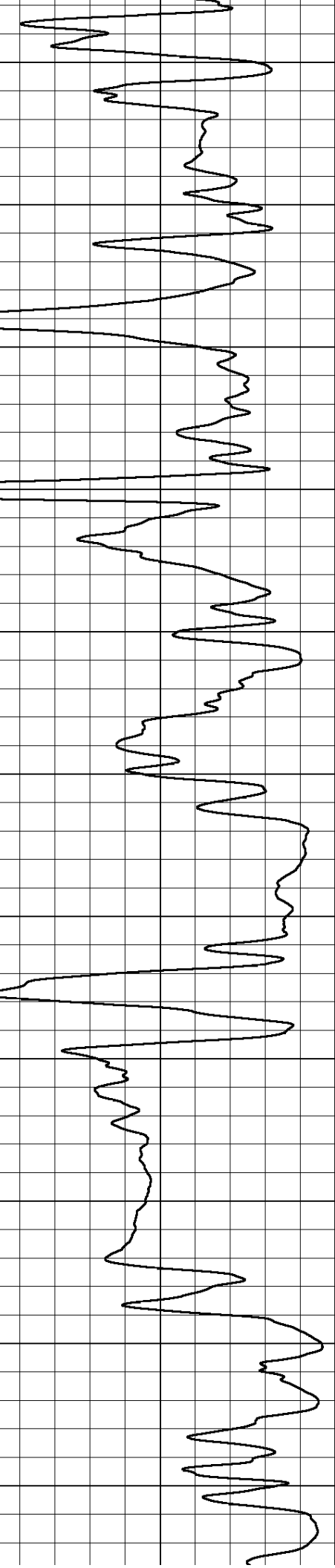
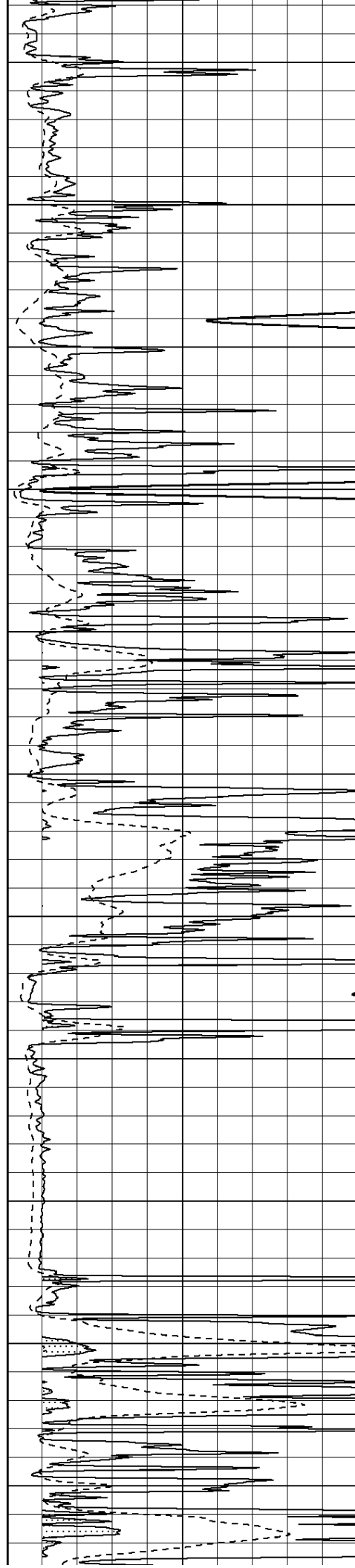
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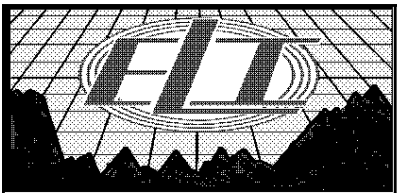
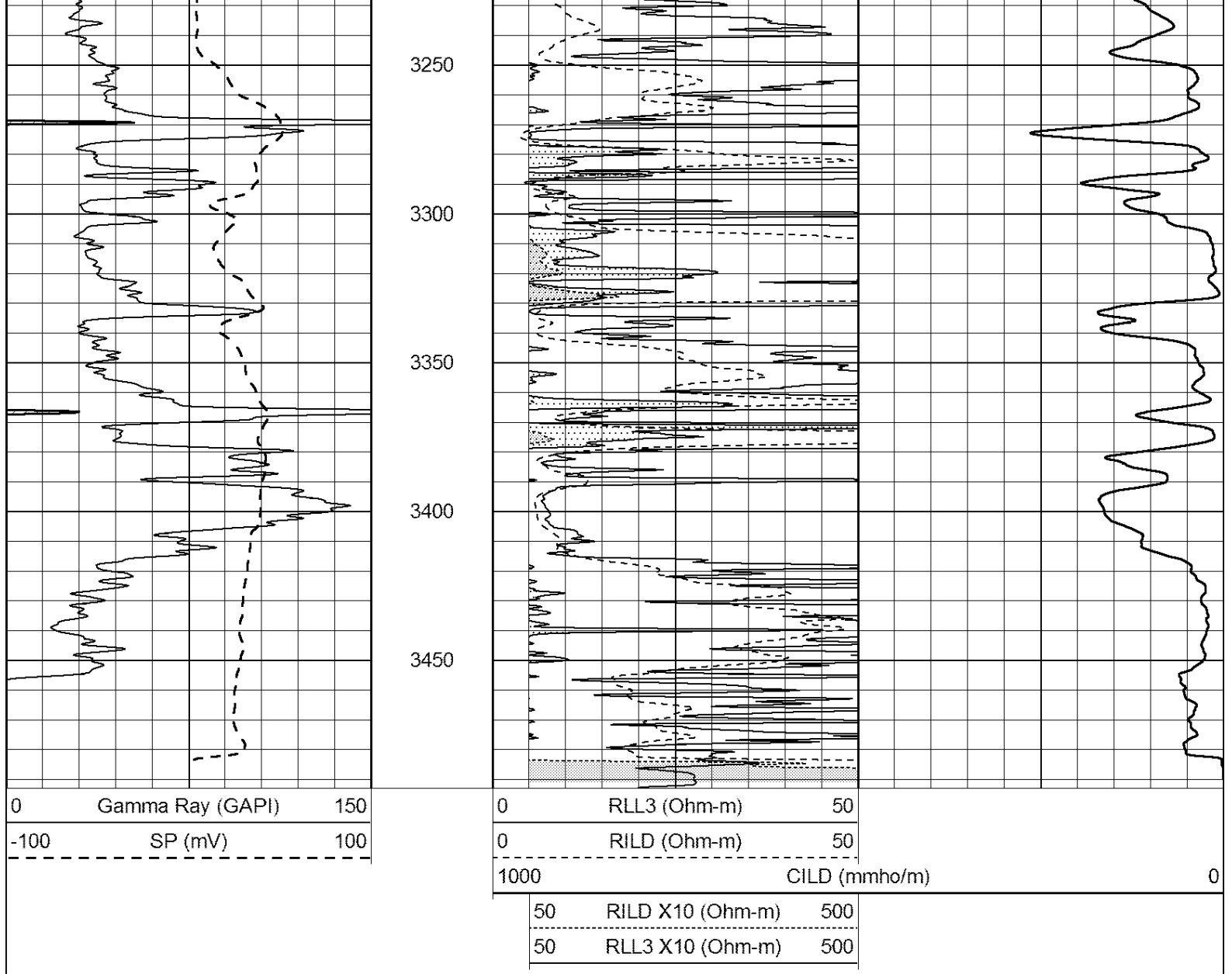
3050

3100

3150

3200

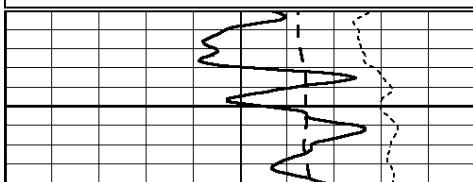




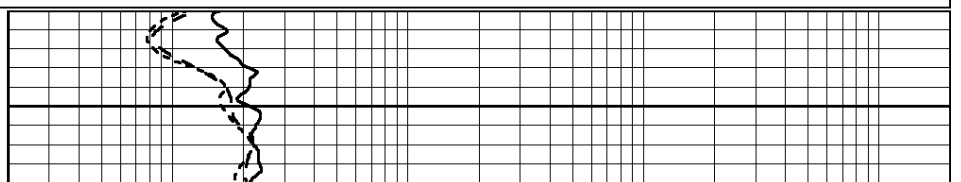
MAIN PASS

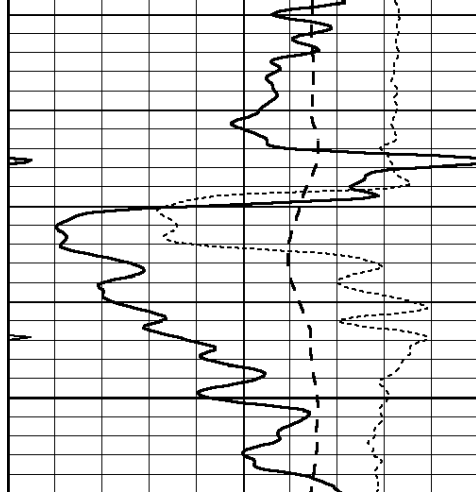
Database File: 2700pe.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Wed Aug 08 09:04:00 2018 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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			



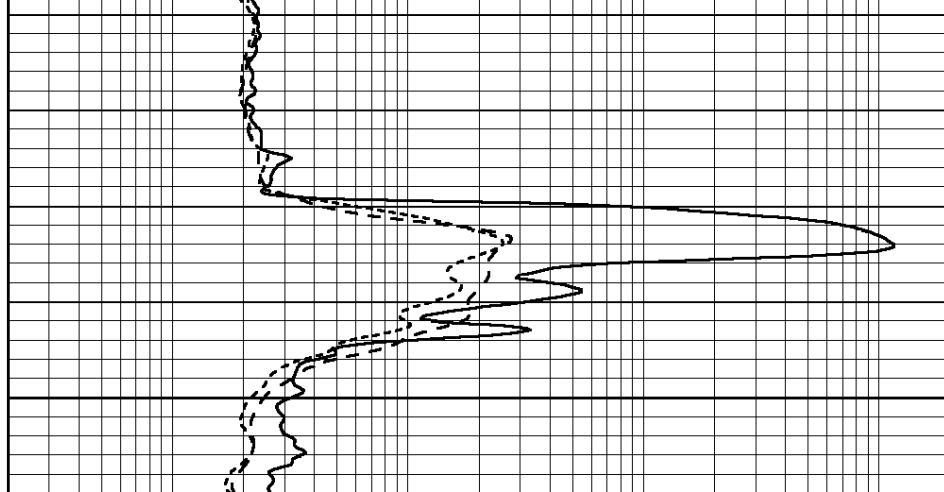
650



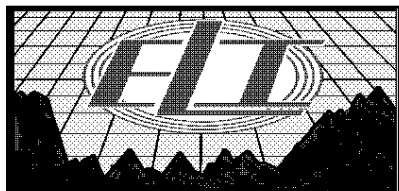


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

700



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

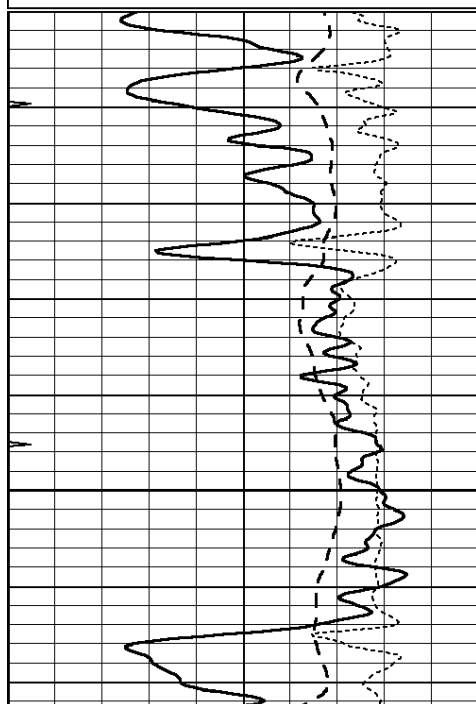


MAIN PASS

Database File: 2700pe.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Wed Aug 08 09:04:00 2018 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

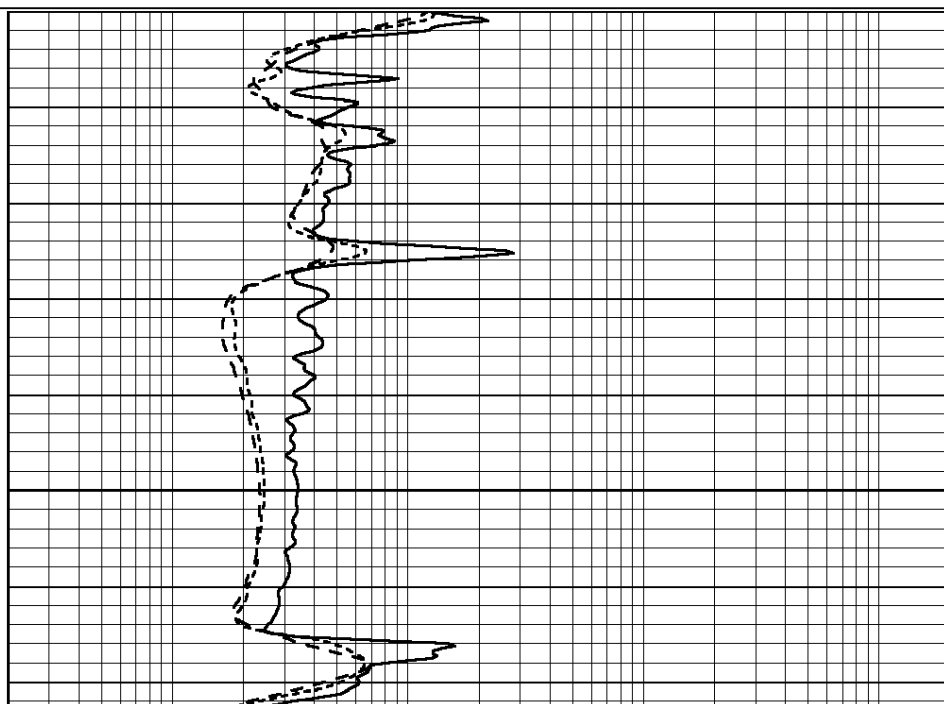
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

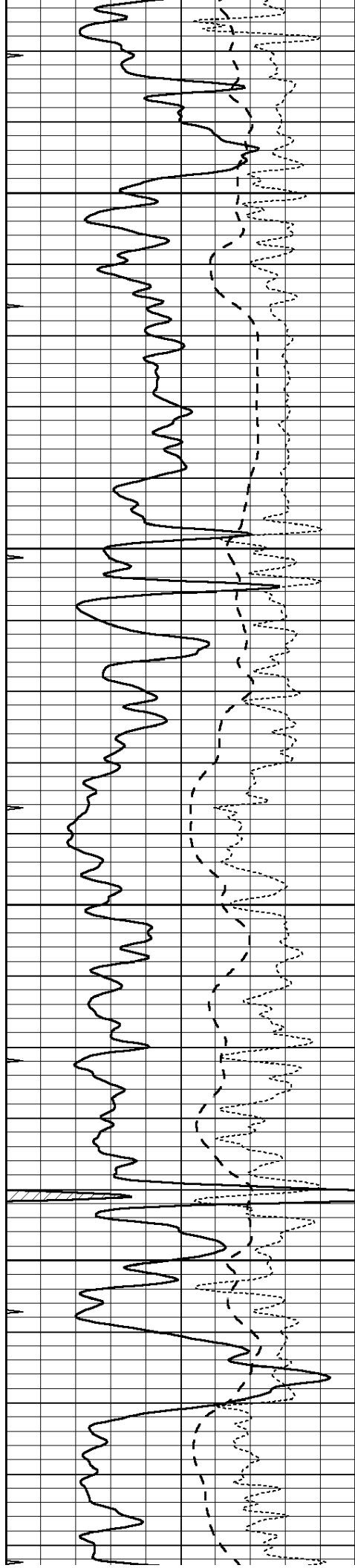
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



2000

2650



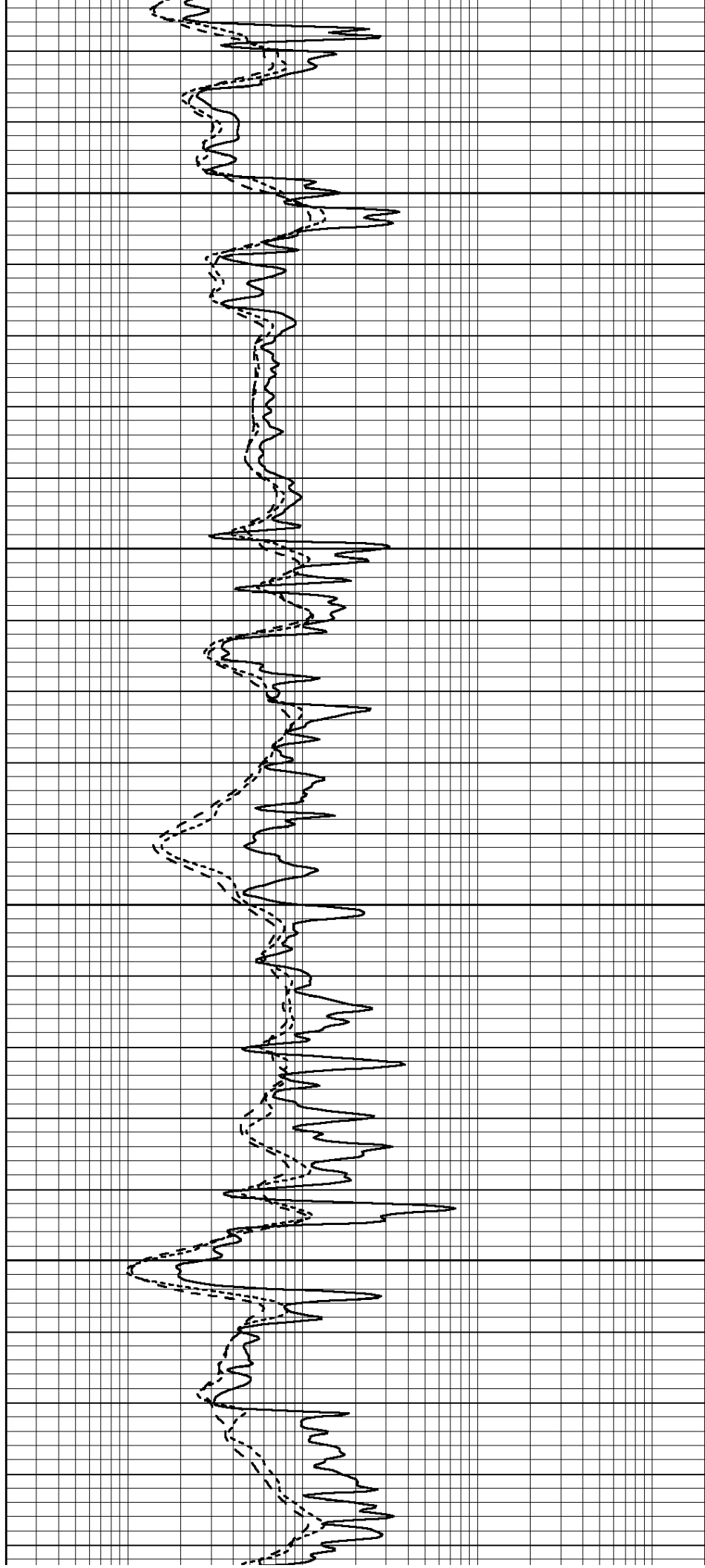


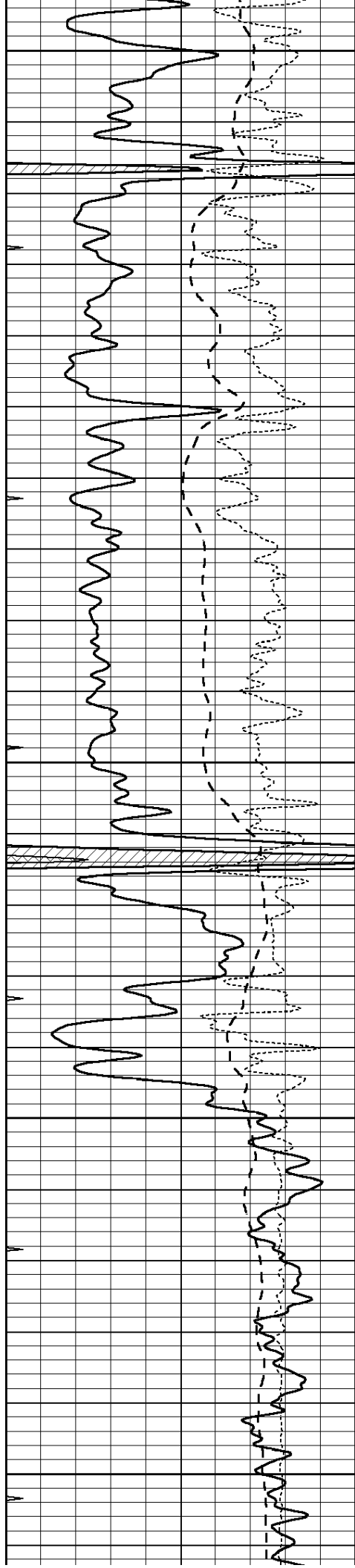
2700

2750

2800

2850





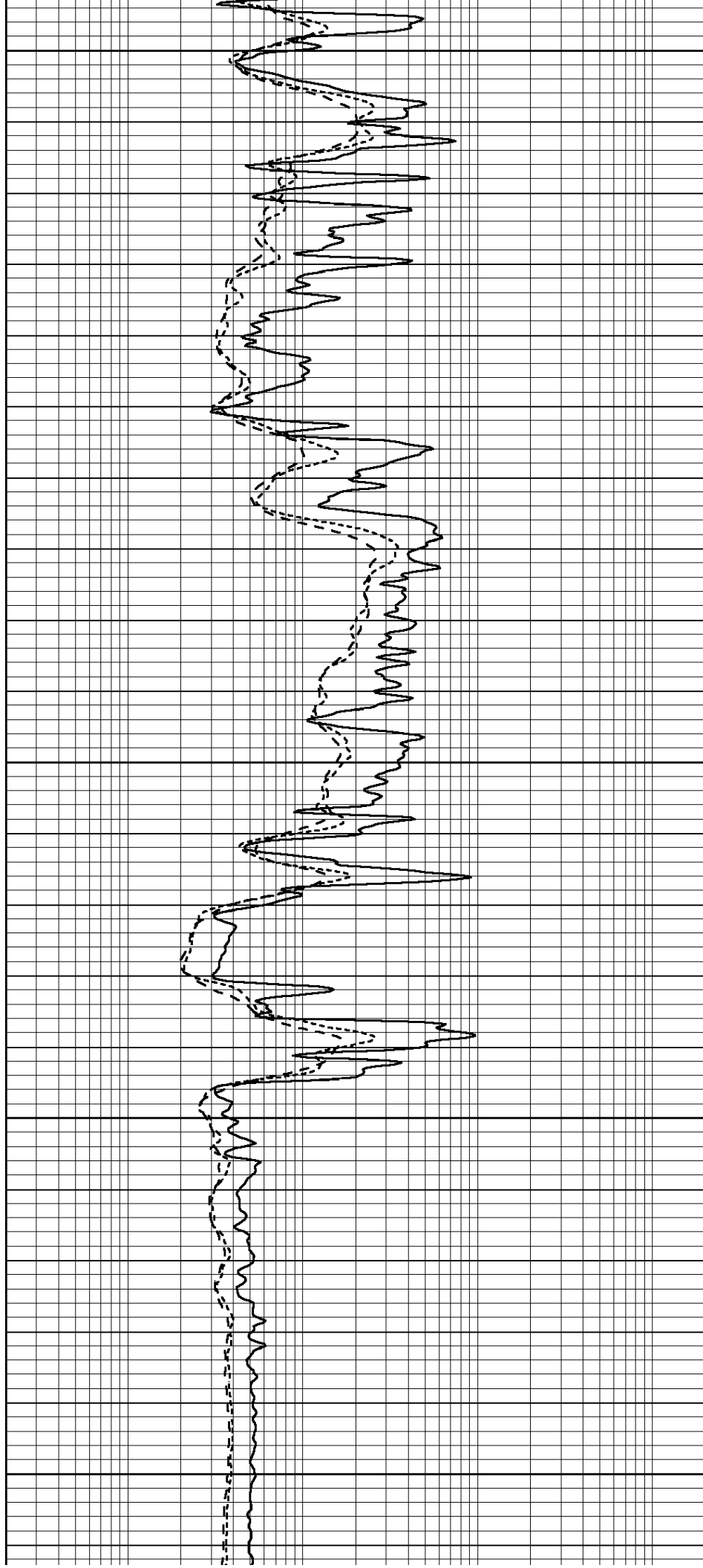
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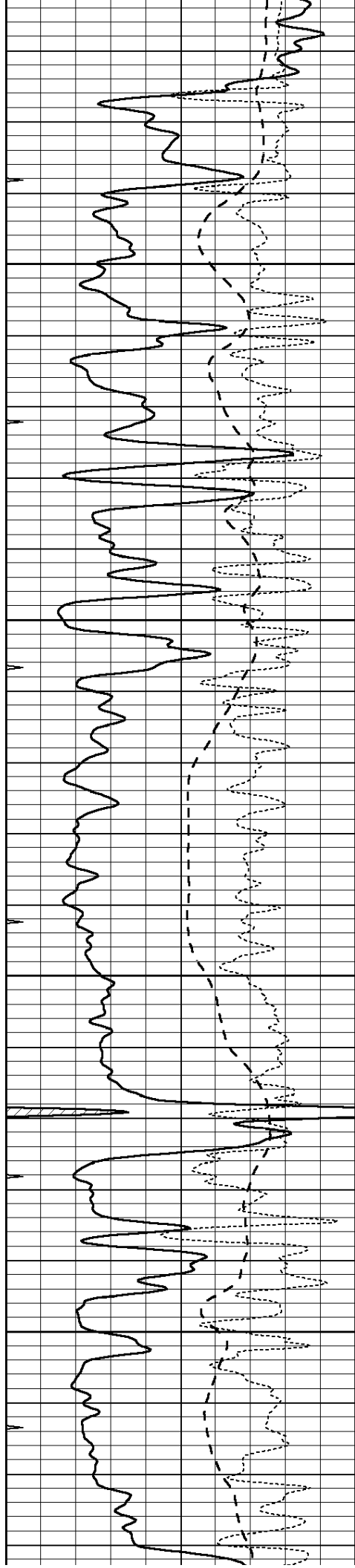
2950

3000

3050

3100



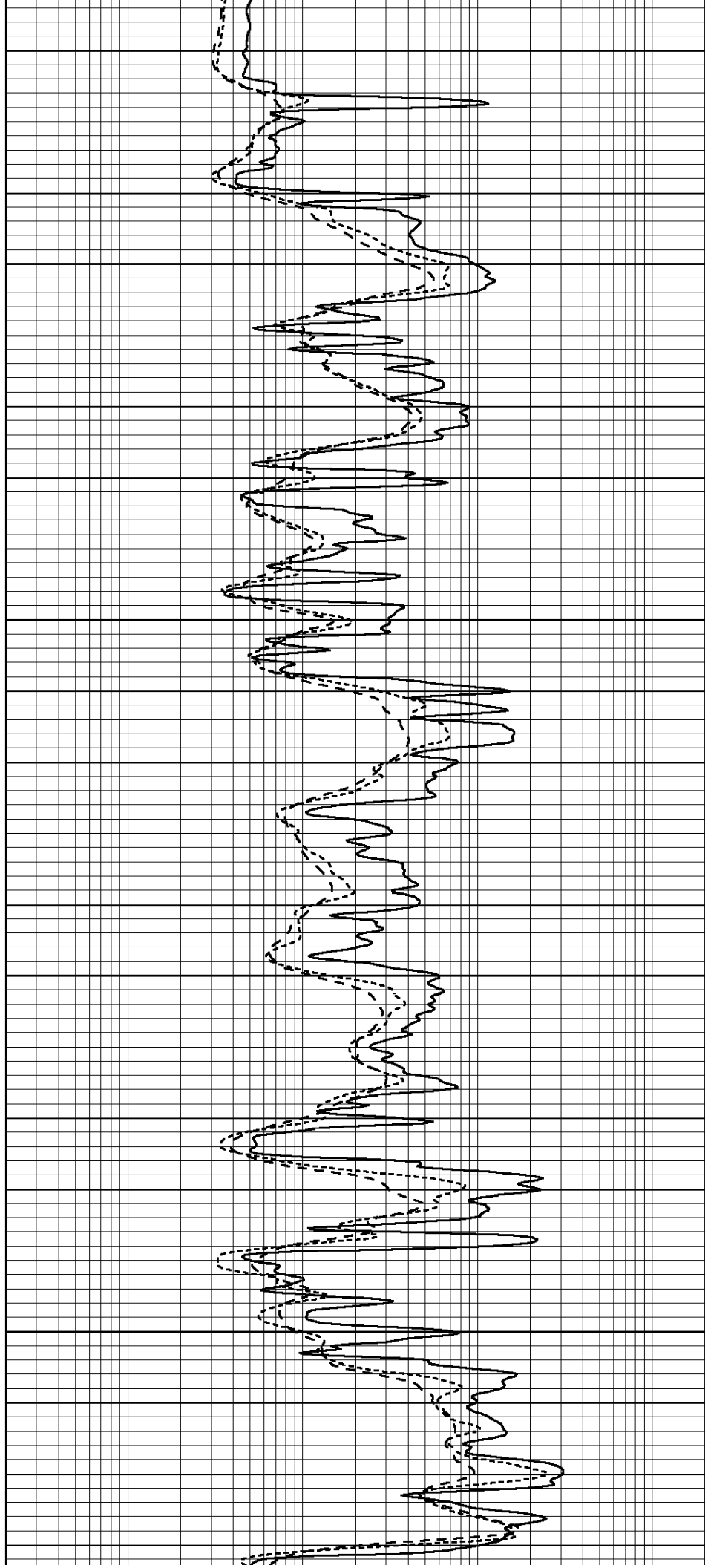


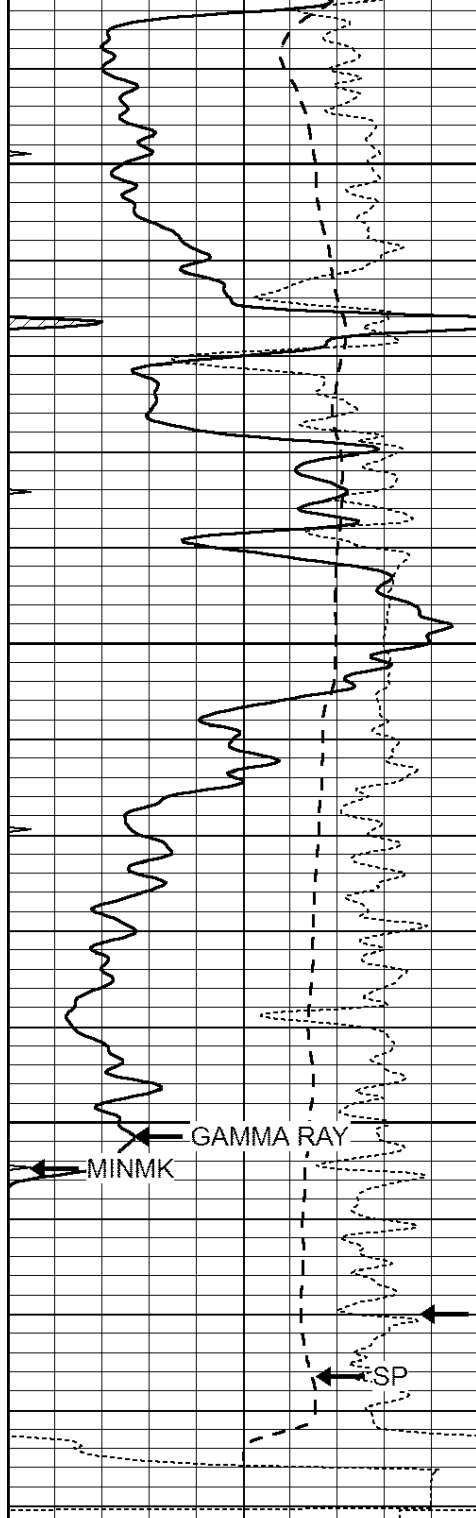
3150

3200

3250

3300





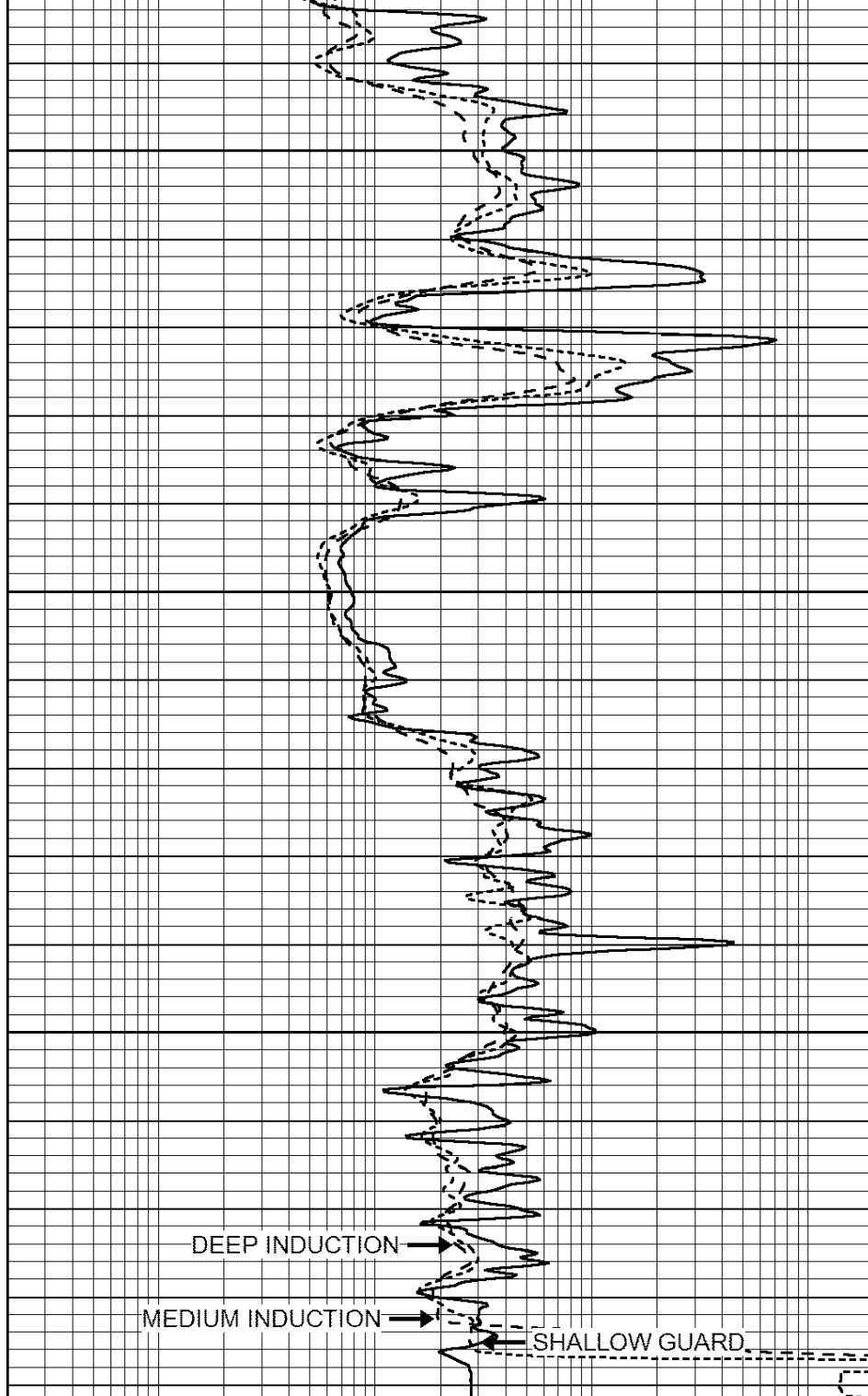
3350

3400

3450

LTD 3488

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

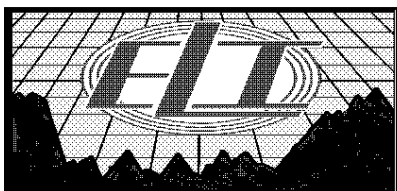


DEEP INDUCTION

MEDIUM INDUCTION

SHALLOW GUARD

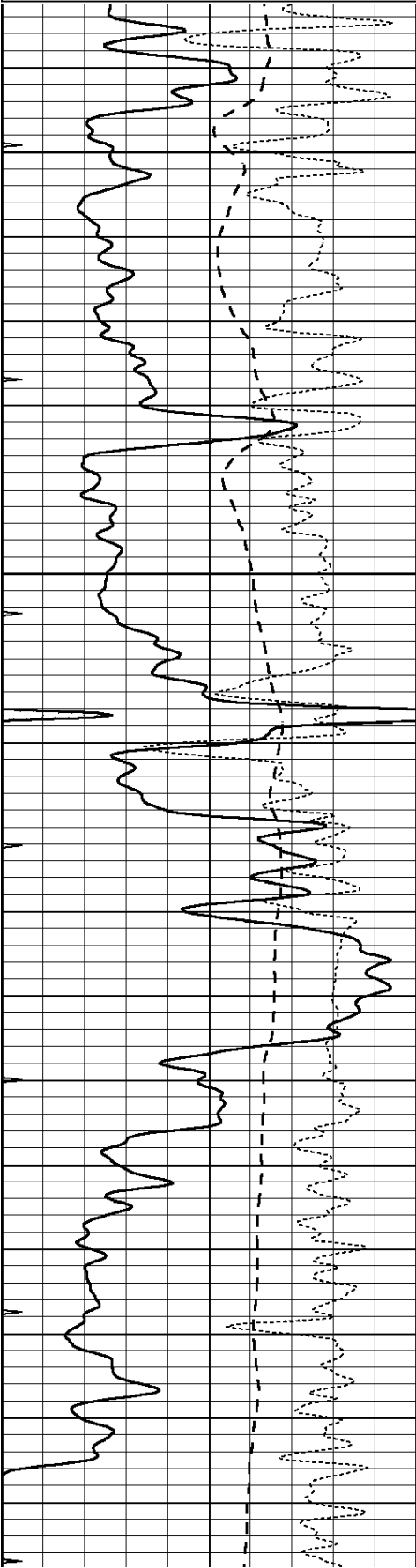
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



REPEAT SECTION

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

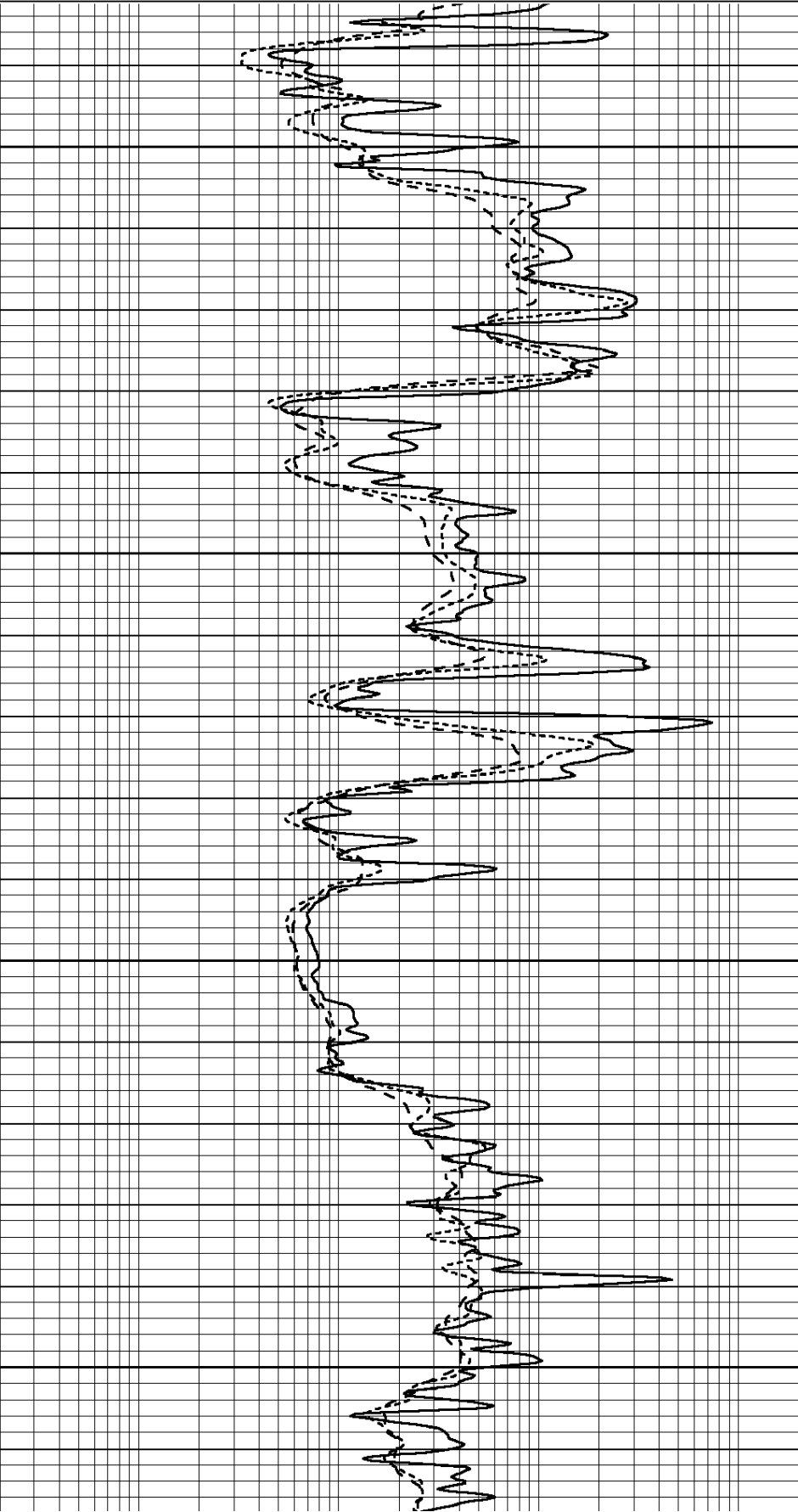


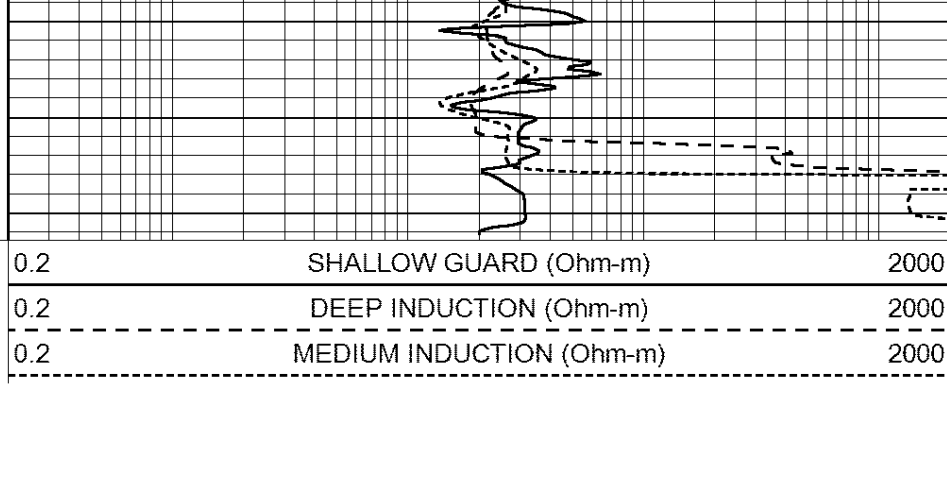
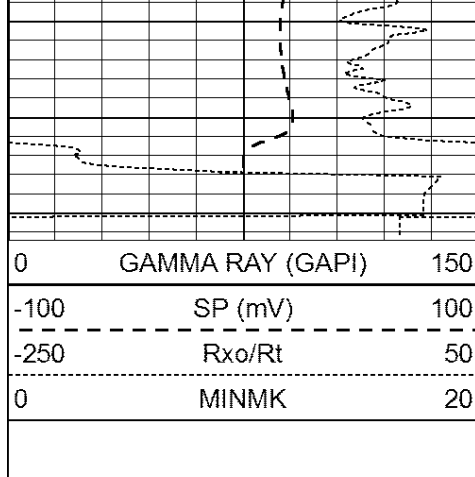
3300

3350

3400

3450





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	
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	

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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