

DUAL INDUCTION LOG

Company	DEUTSCH OIL COMPANY	Company	DEUTSCH OIL COMPANY
Well	DIETZ #3-8 OWWO	Well	DIETZ #3-8 OWWO
Field	GRIMES	Field	GRIMES
County	PRATT	County	PRATT
State	KANSAS	State	KANSAS
Location:	API # : 15-151-19032-0001 2208' FSL & 378' FWL	Other Services CDL/CNL MEL	
Permanent Datum	GROUND LEVEL	Elevation	1874
Log Measured From	KELLY BUSHING	Elevation	1886
Drilling Measured From	KELLY BUSHING	D.F.	1884
		G.L.	1874
Date	12/16/21		
Run Number	ONE		
Depth Driller	4415		
Depth Logger	4416		
Bottom Logged Interval	4414		
Top Log Interval	00		
Casing Driller	N/A		
Casing Logger	416		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES	73,000 PPM
Density / Viscosity	9.7/38		
pH / Fluid Loss	7.0/N/A		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.100@78F		
Rmf @ Meas. Temp	.075@78F		
Rmc @ Meas. Temp	.120@78F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.066@120F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	11:15 A.M.		
Maximum Recorded Temperature	120F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	KENT DEUTSCH		

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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.

15-151-19032-0001

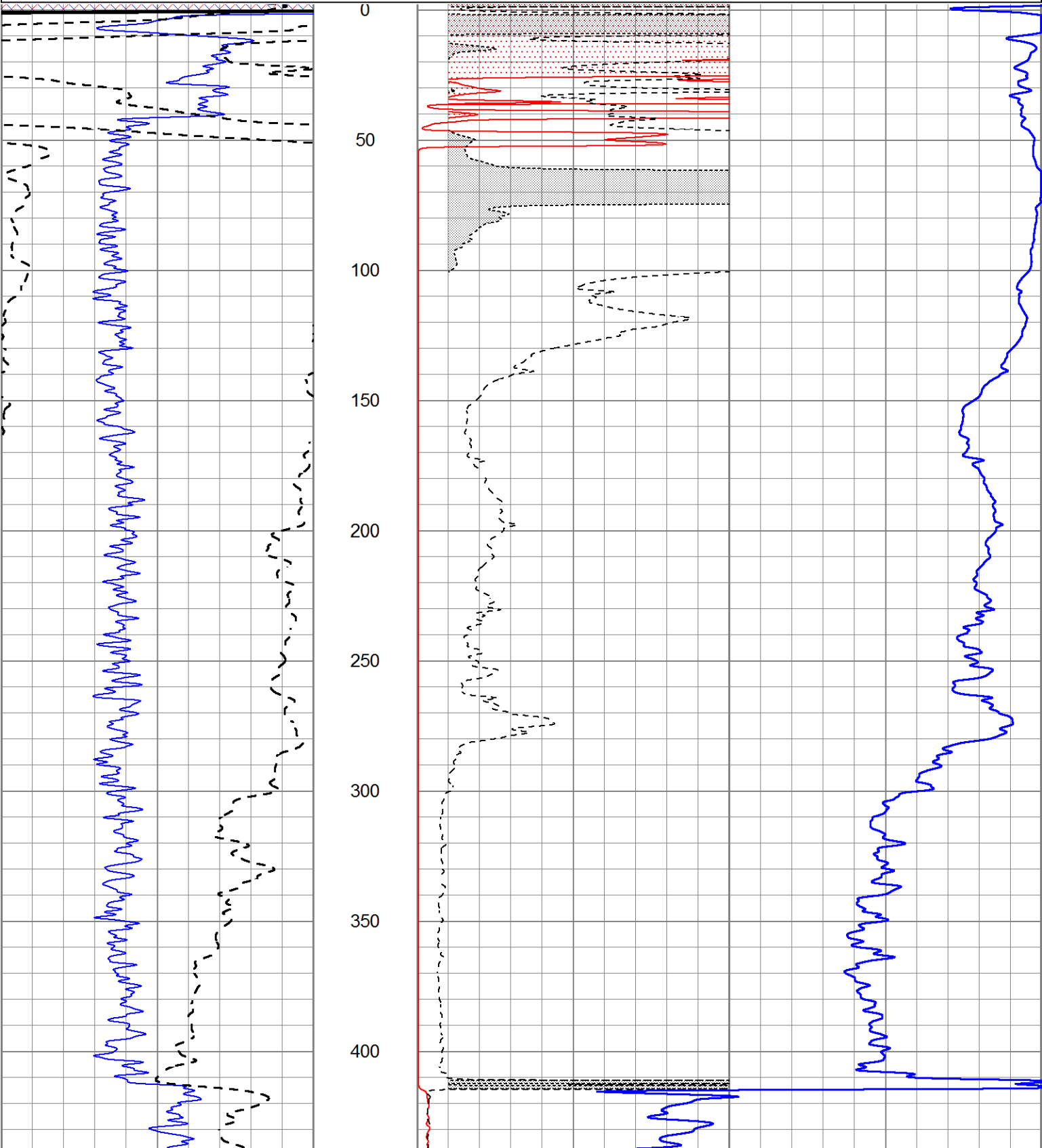
Comments

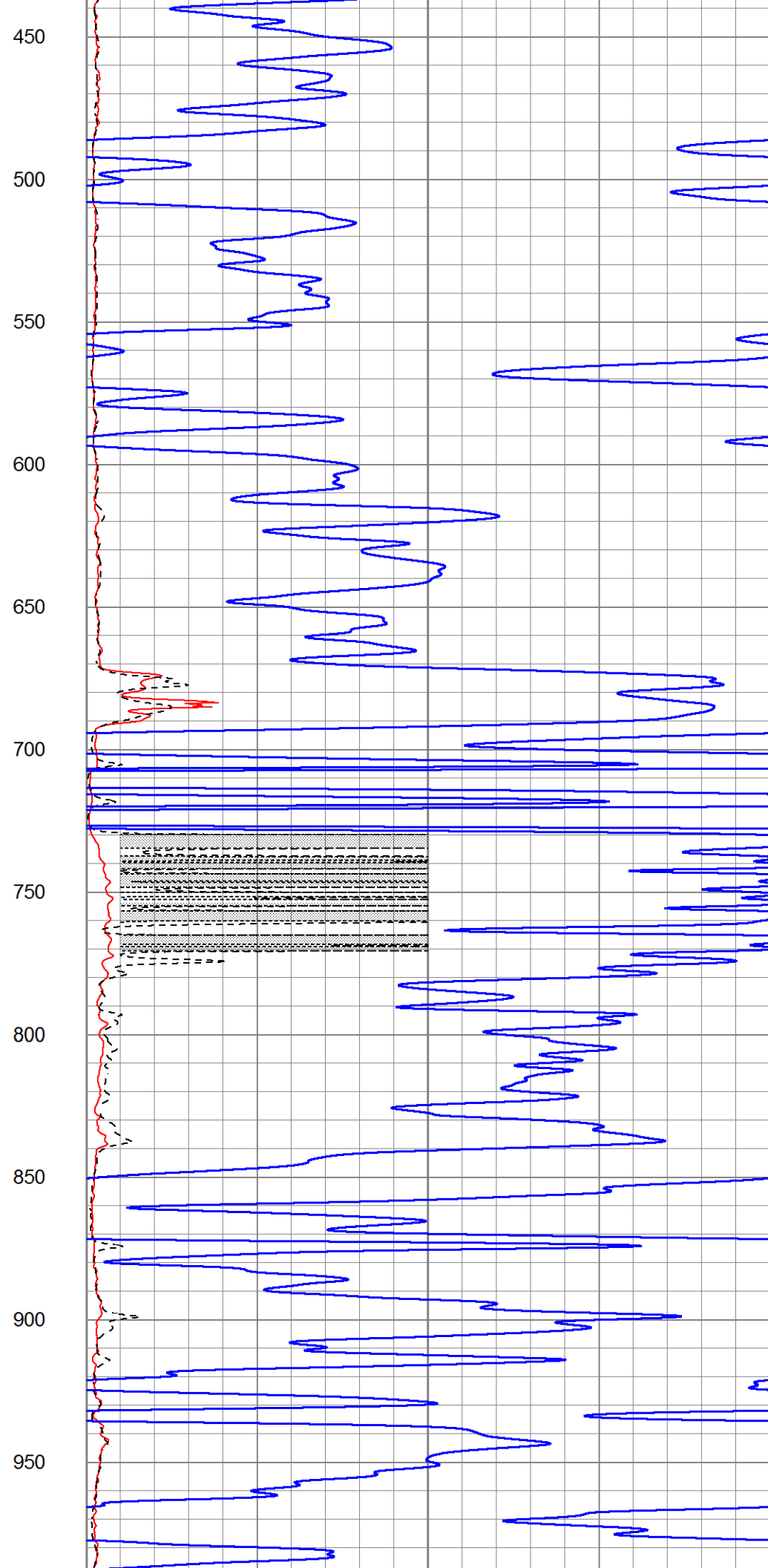
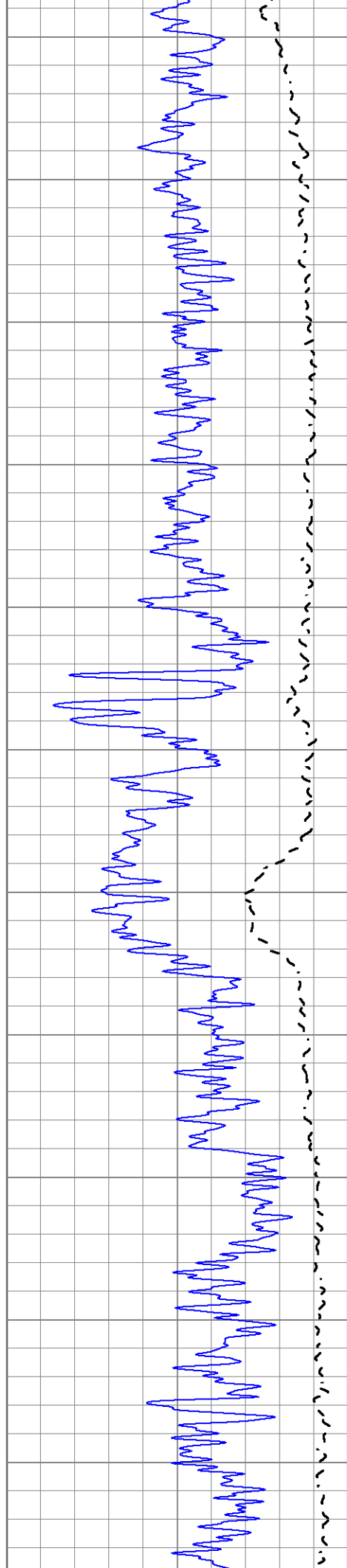
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
NATRONA CHURCH, S. ACROSS HWY 61, E. INTO

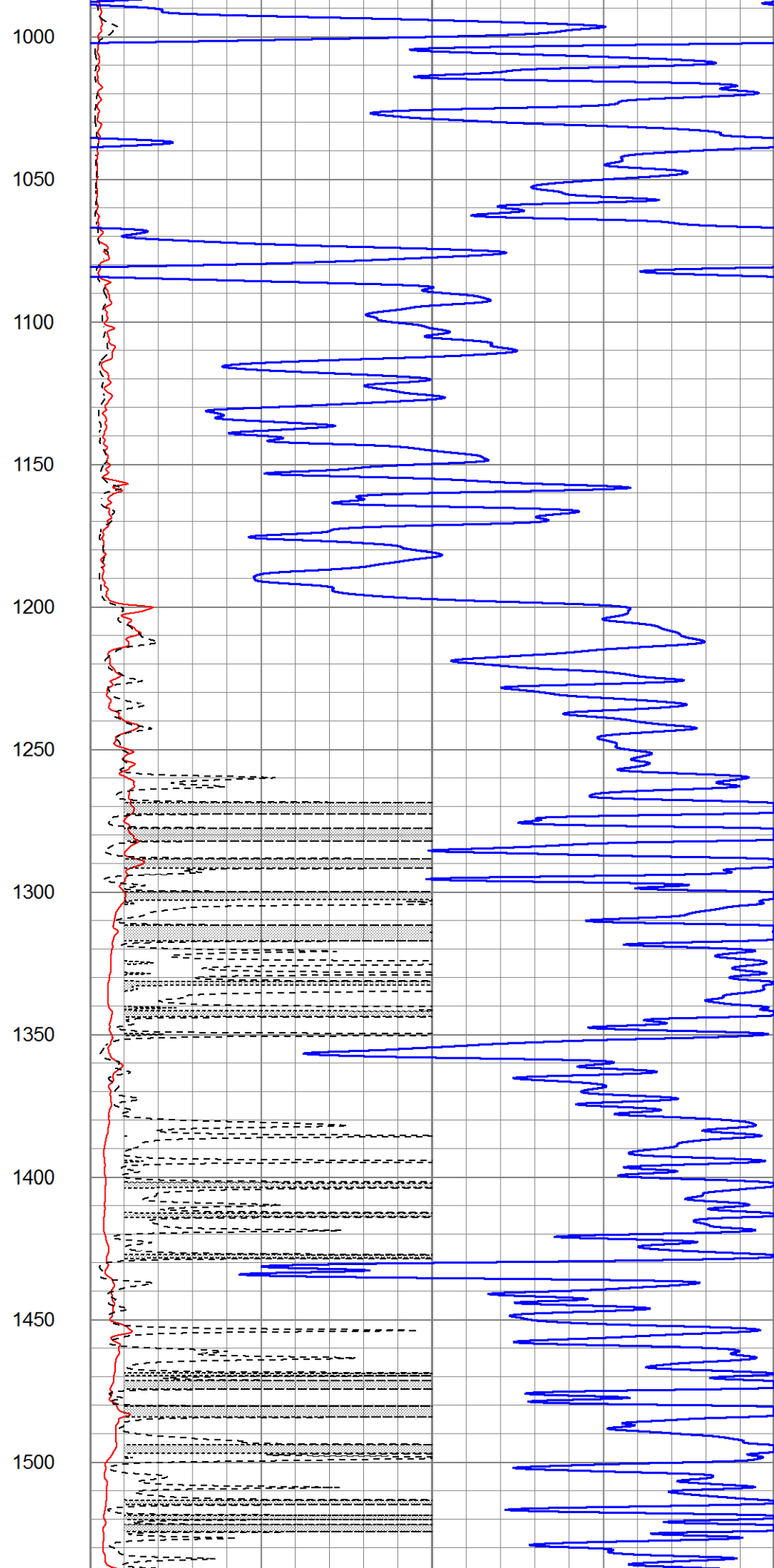
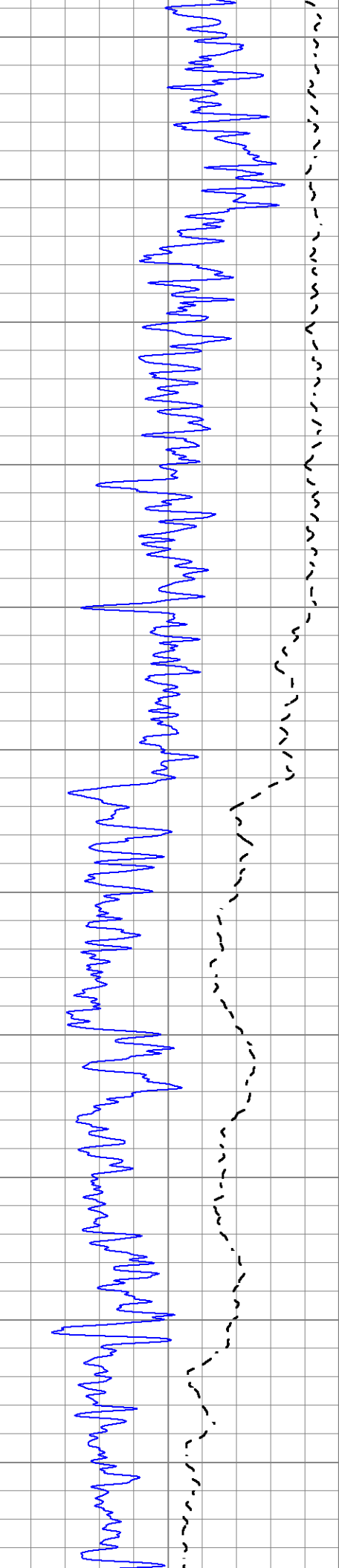


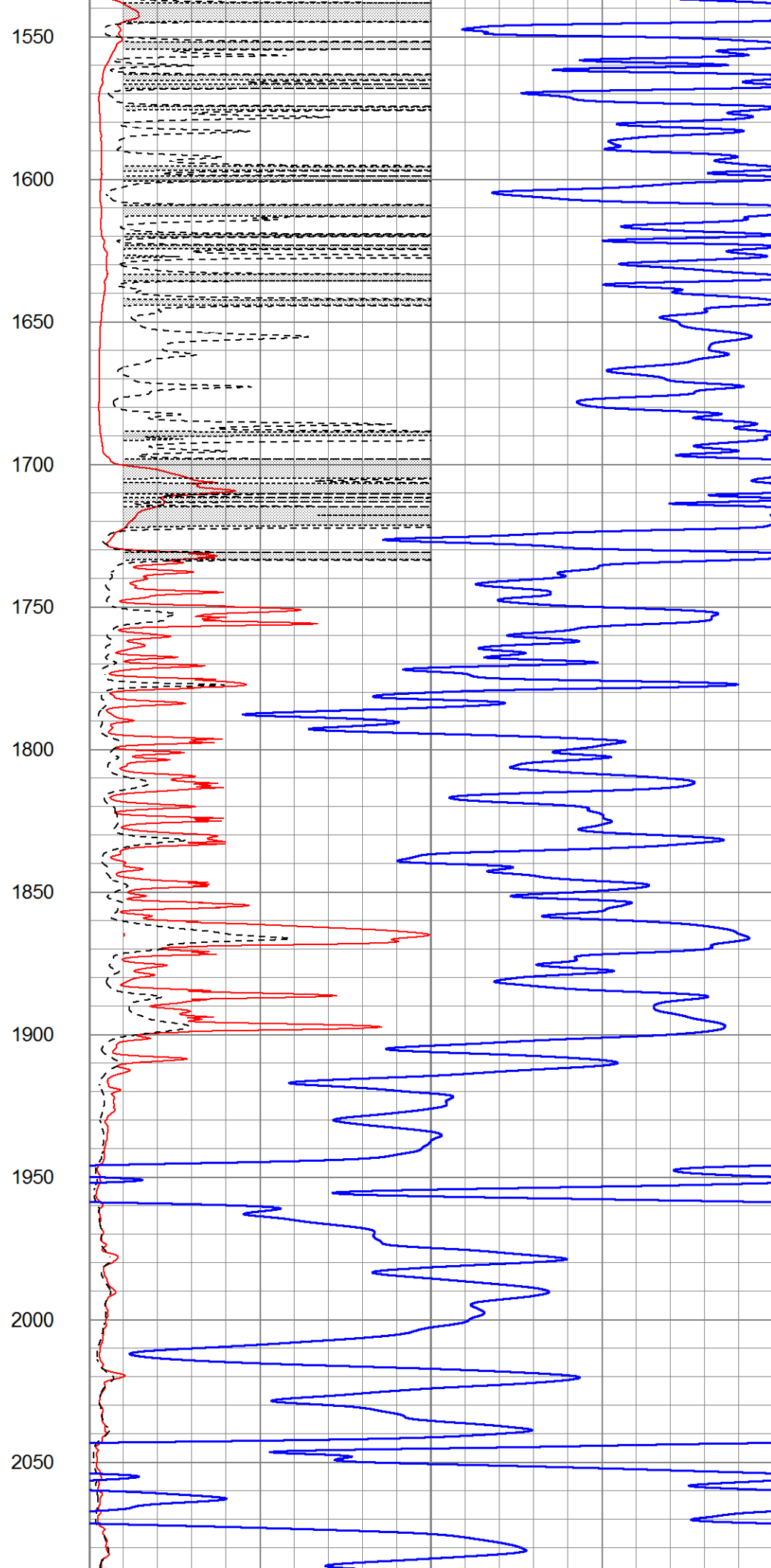
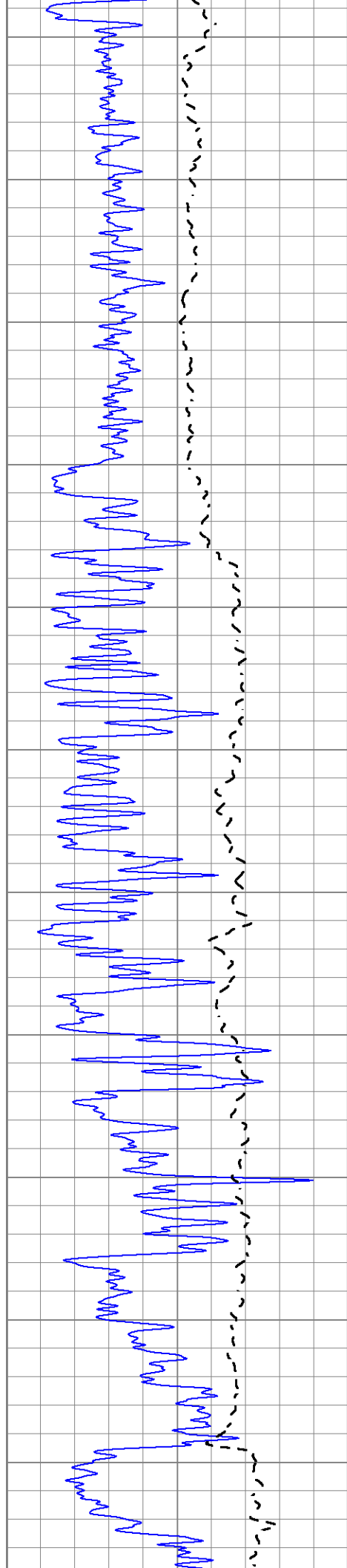
MAIN SECTION

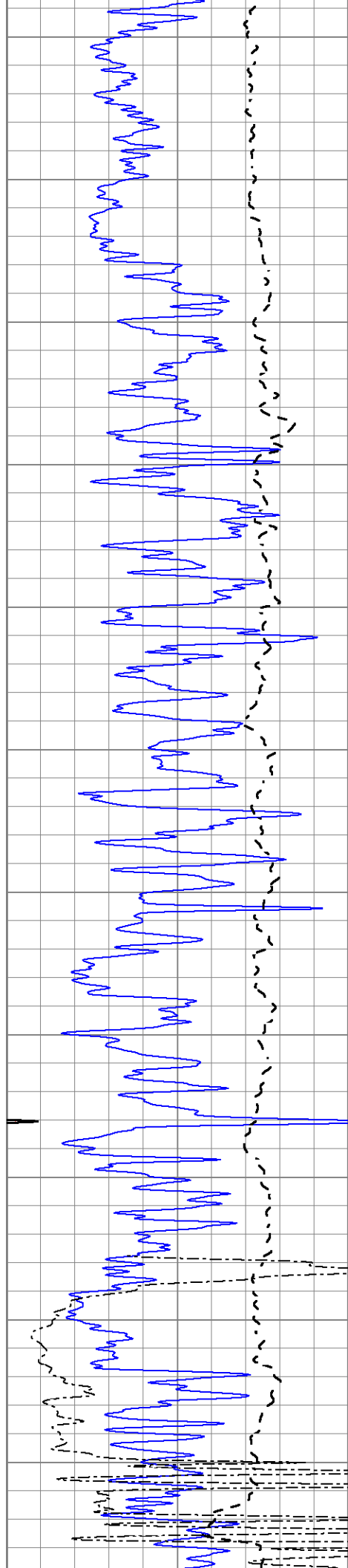
0	Gamma Ray (GAPI)	150	1000	CILD (mmho/m)	0
-100	SP (mV)	100	0	RLL3 (Ohm-m)	50
0	RWA (Ohm-m)	1	0	RILD (Ohm-m)	50
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500











2100

2150

2200

2250

2300

2350

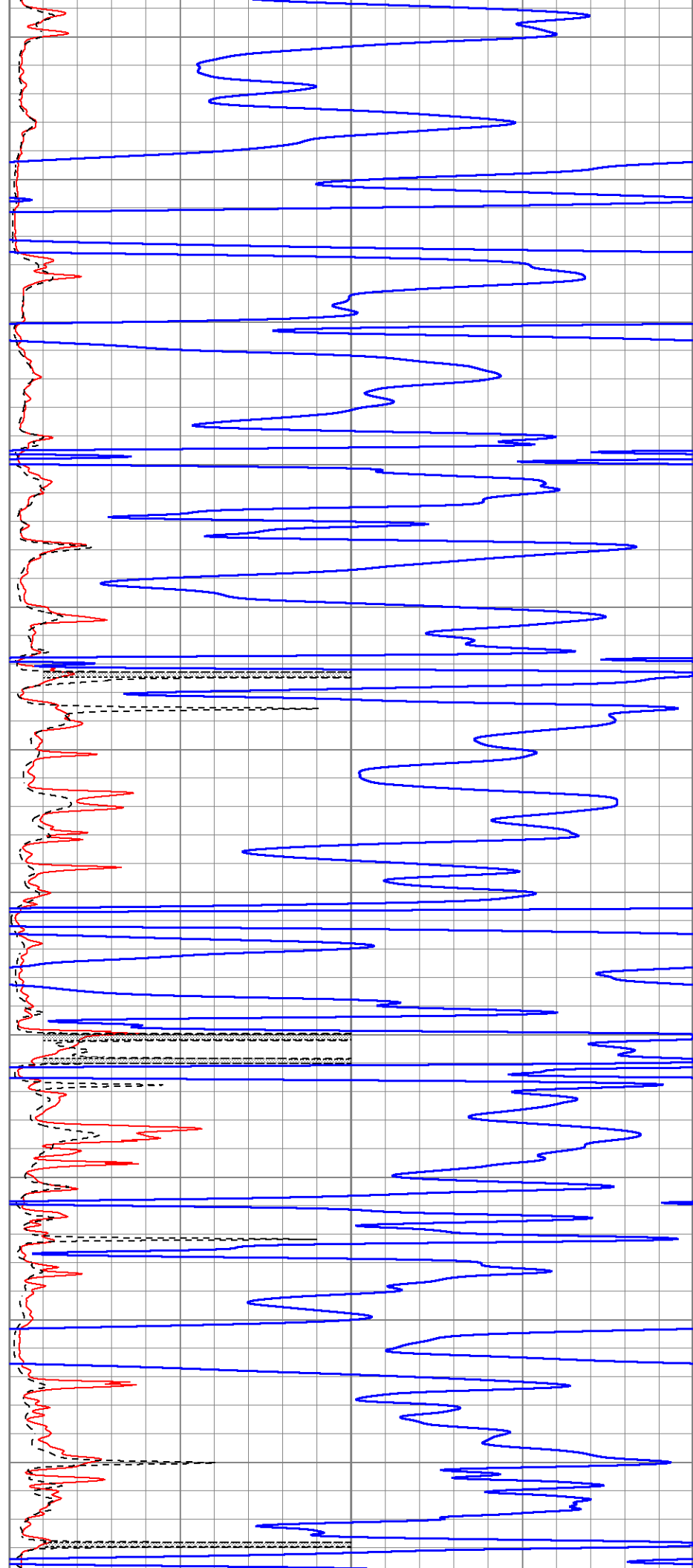
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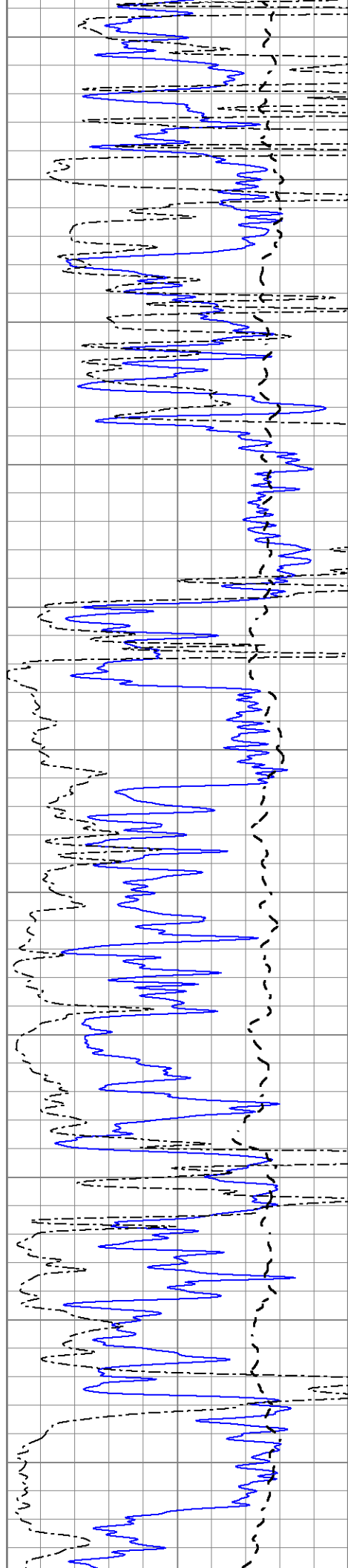
2450

2500

2550

2600





2650

2700

2750

2800

2850

2900

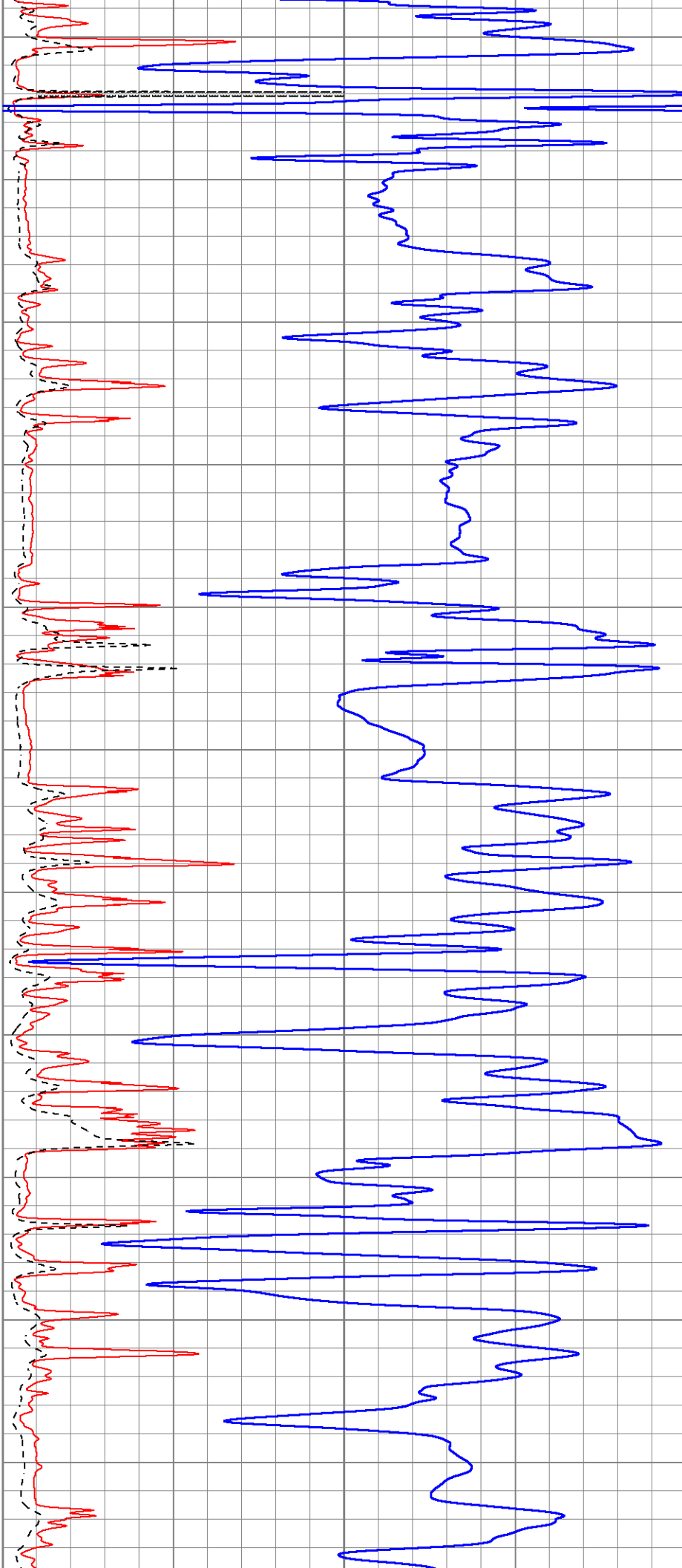
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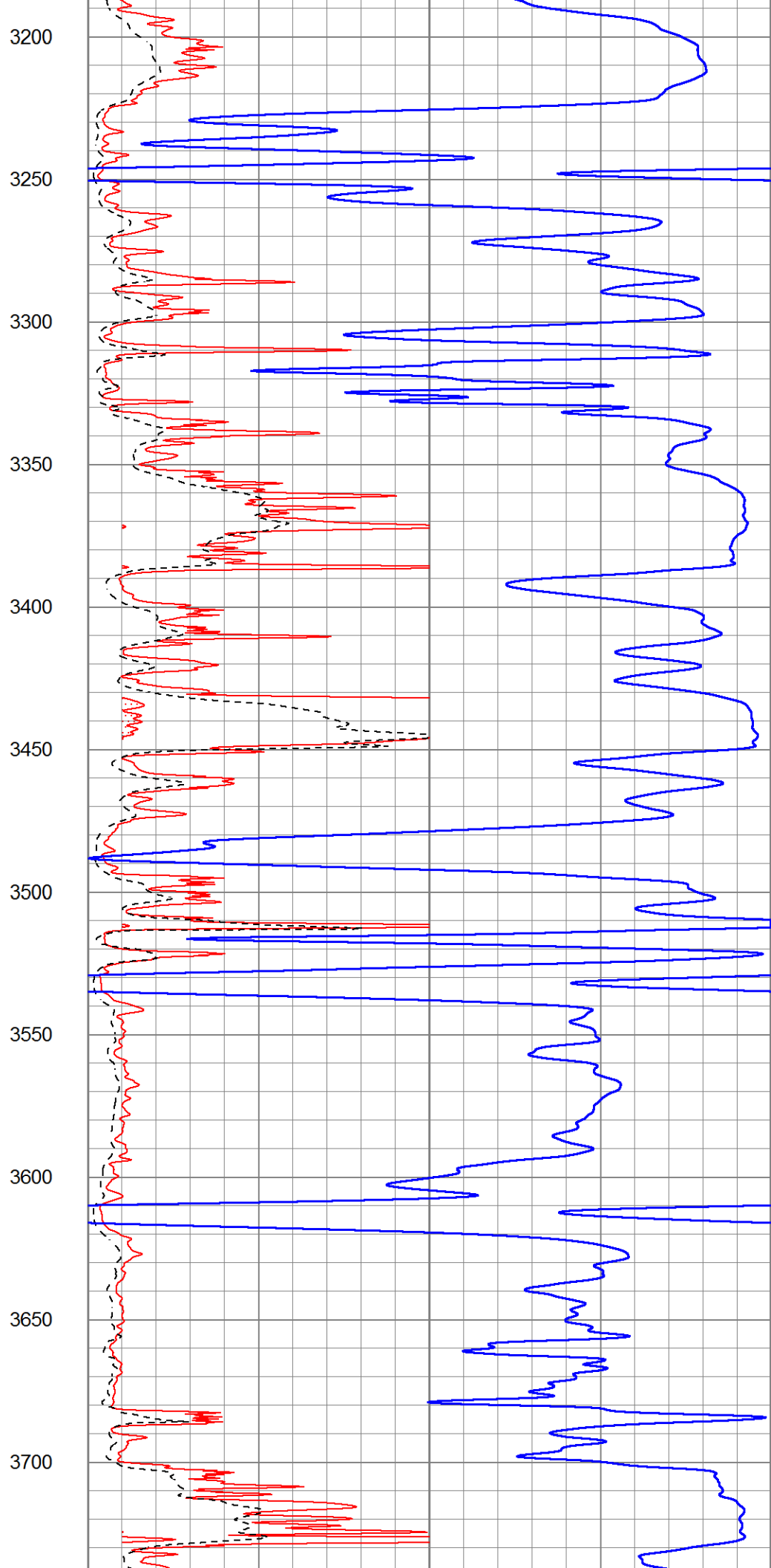
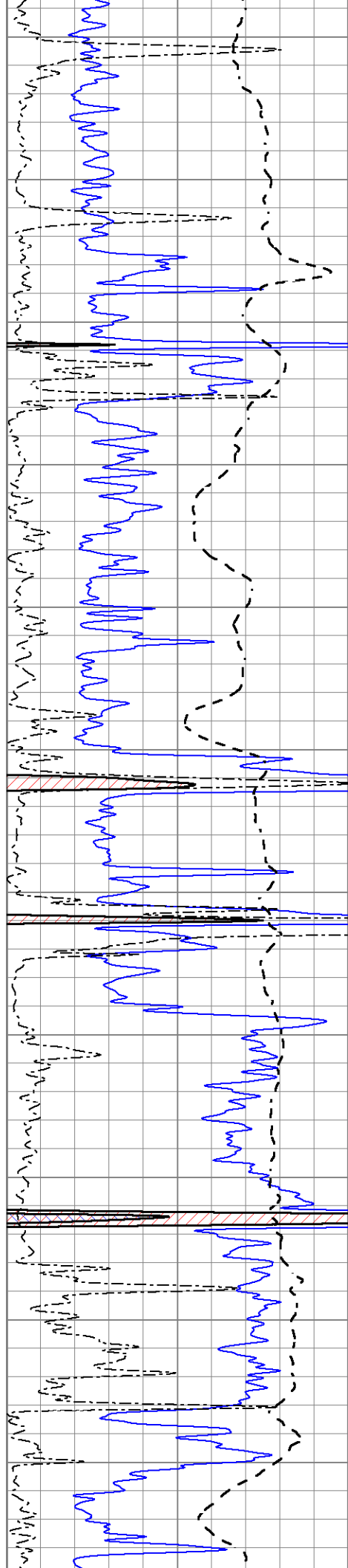
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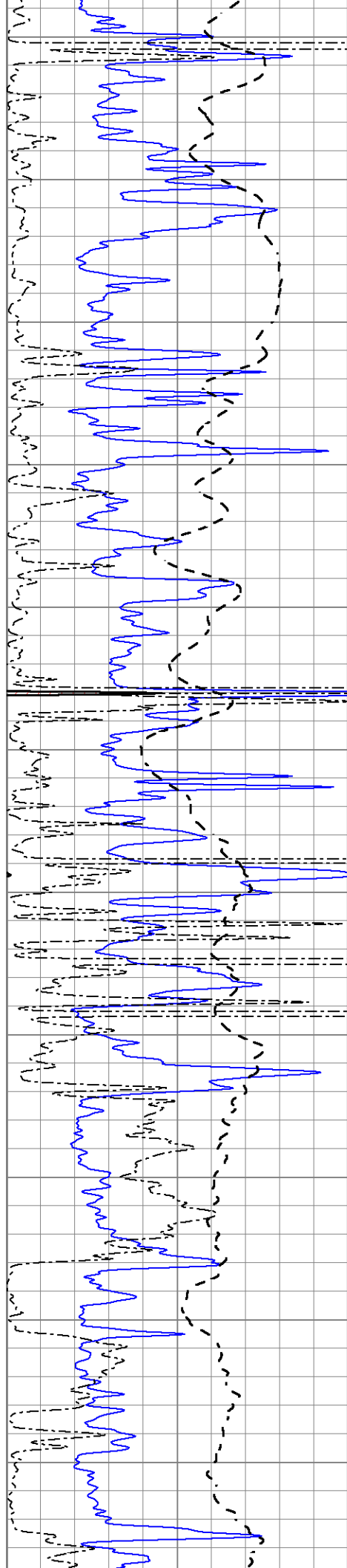
3050

3100

3150







3750

3800

3850

3900

3950

4000

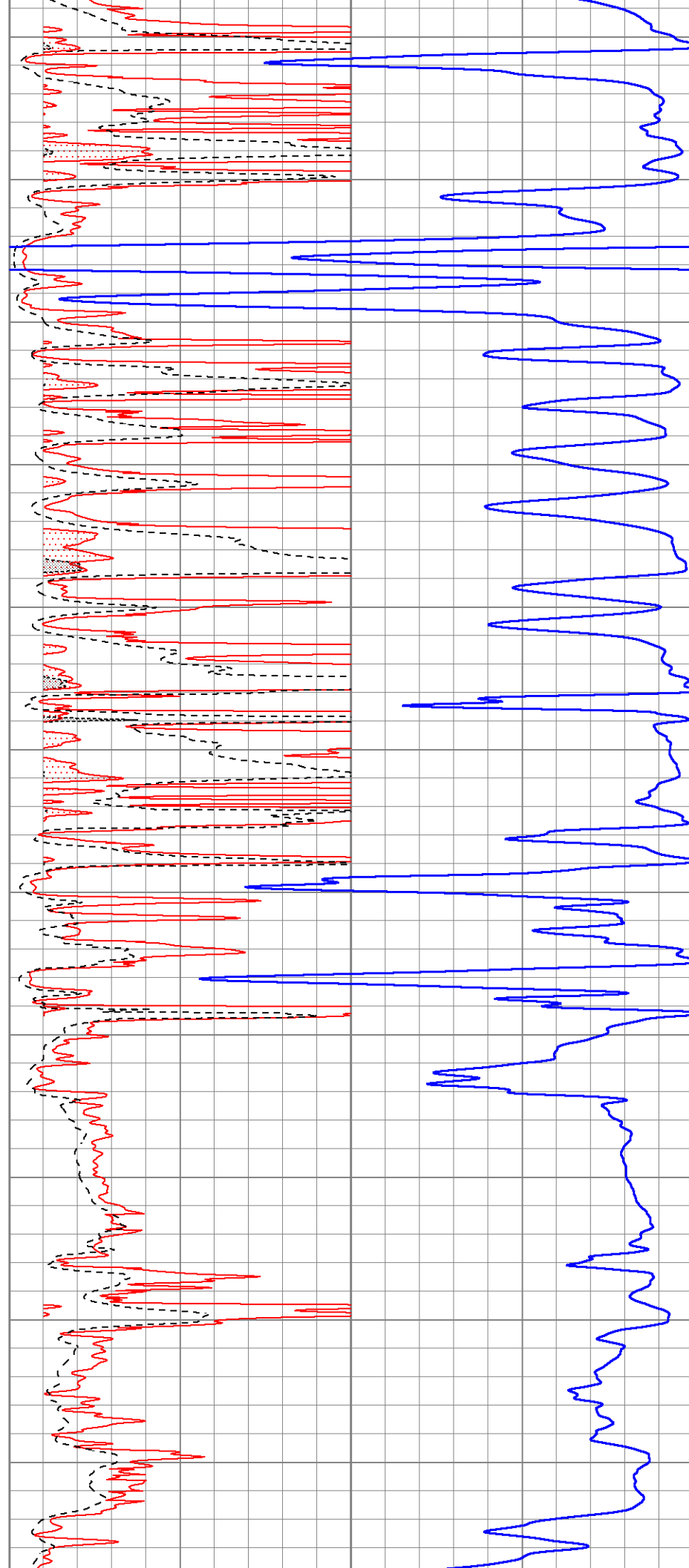
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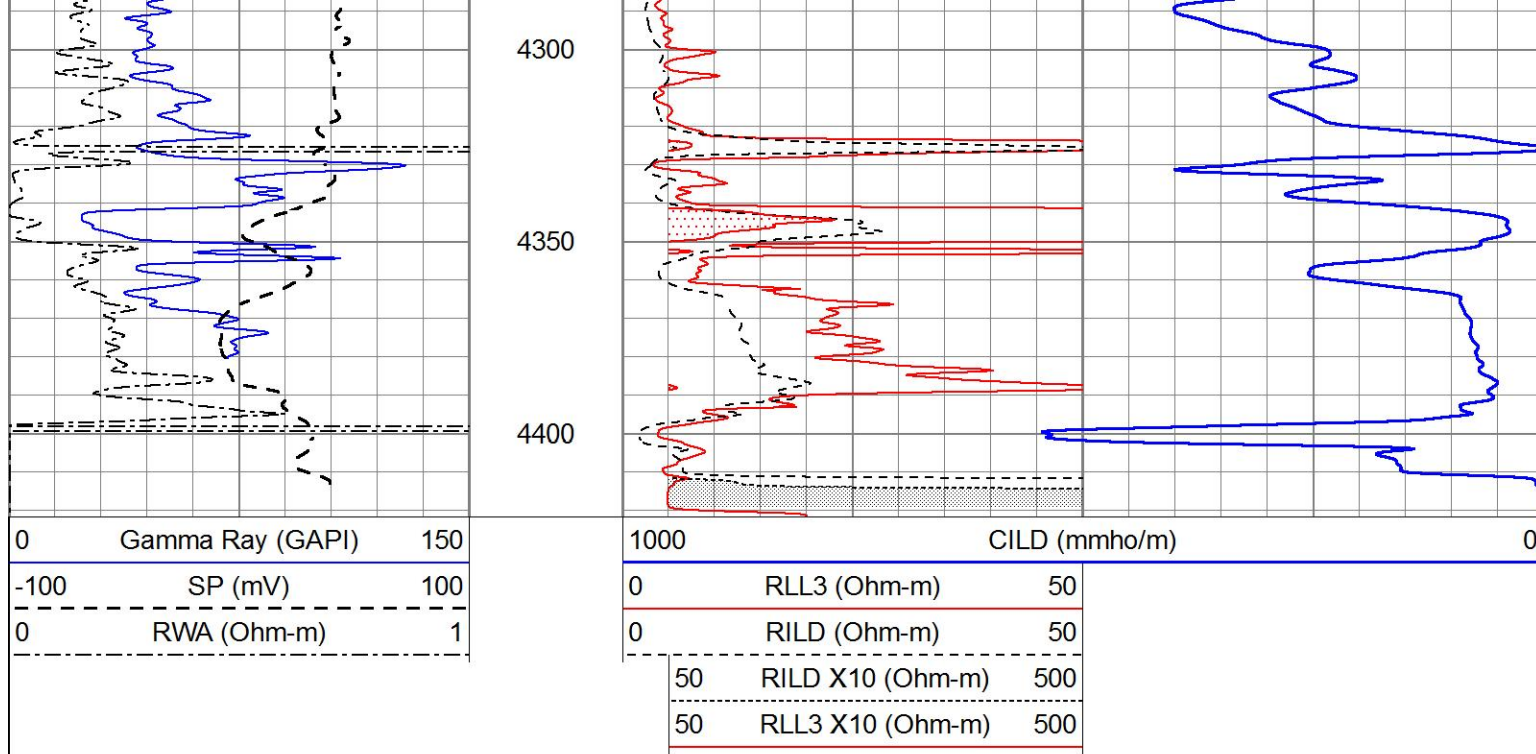
4100

4150

4200

4250

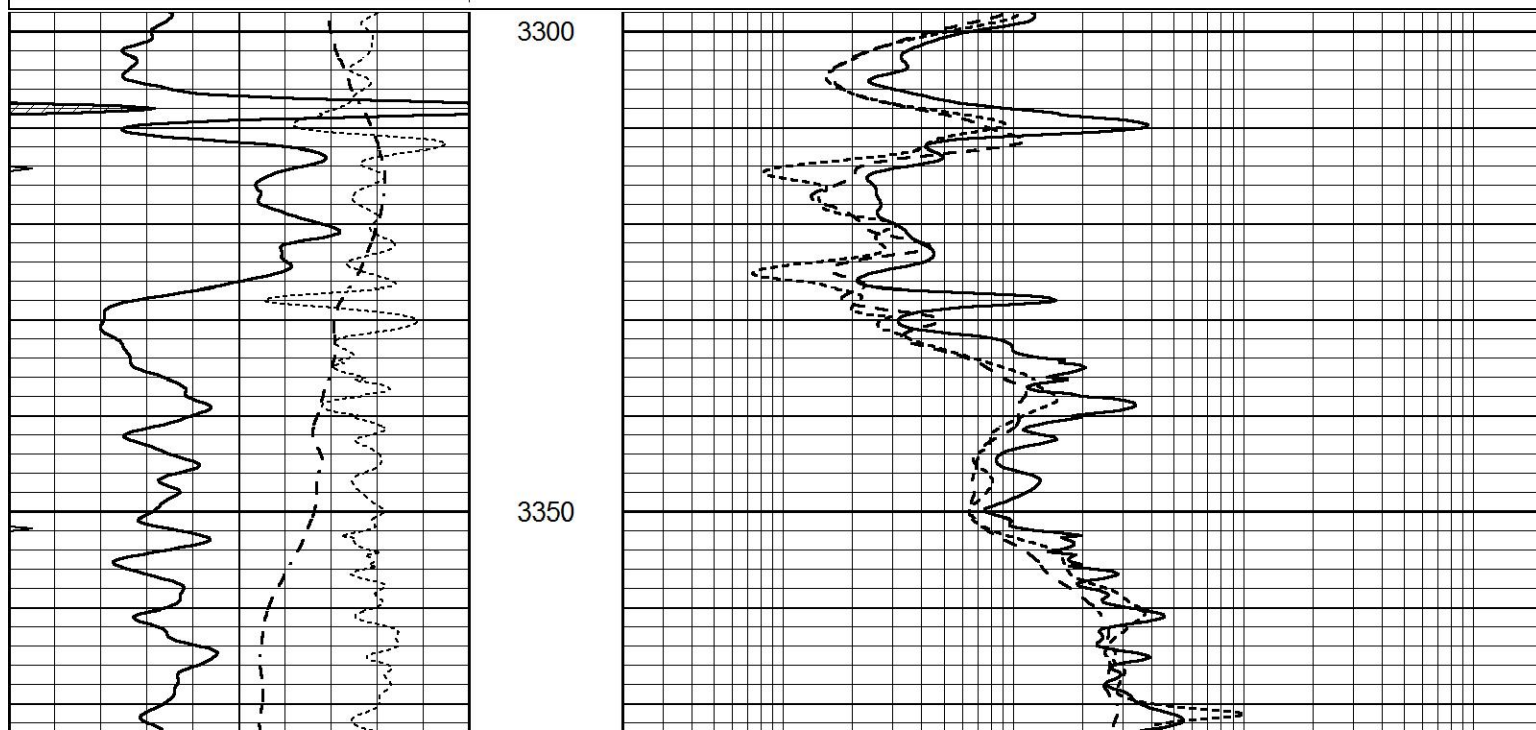


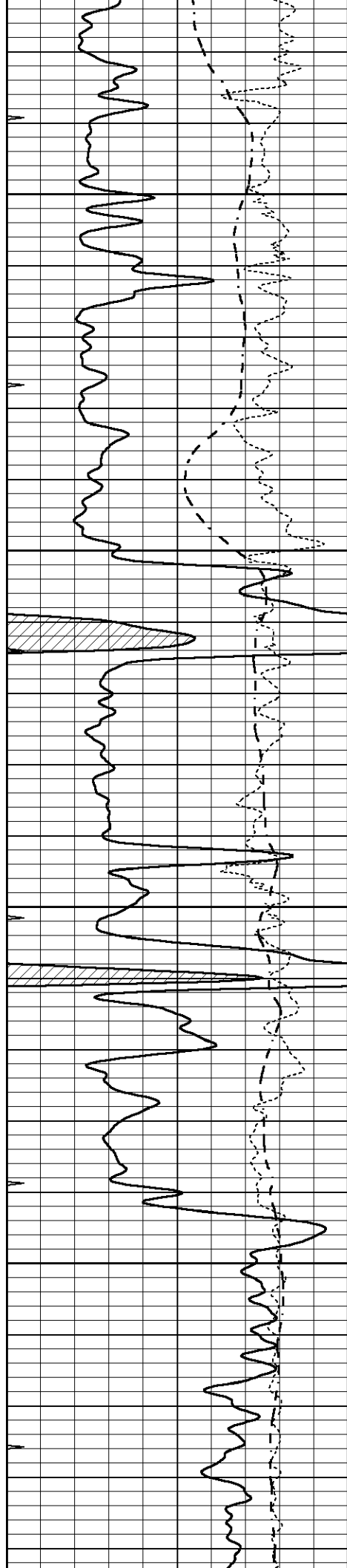


MAIN SECTION

Database File 5847ddn.db
 Dataset Pathname pass4.2M
 Presentation Format _dil
 Dataset Creation Wed Dec 15 12:29:34 2021
 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			



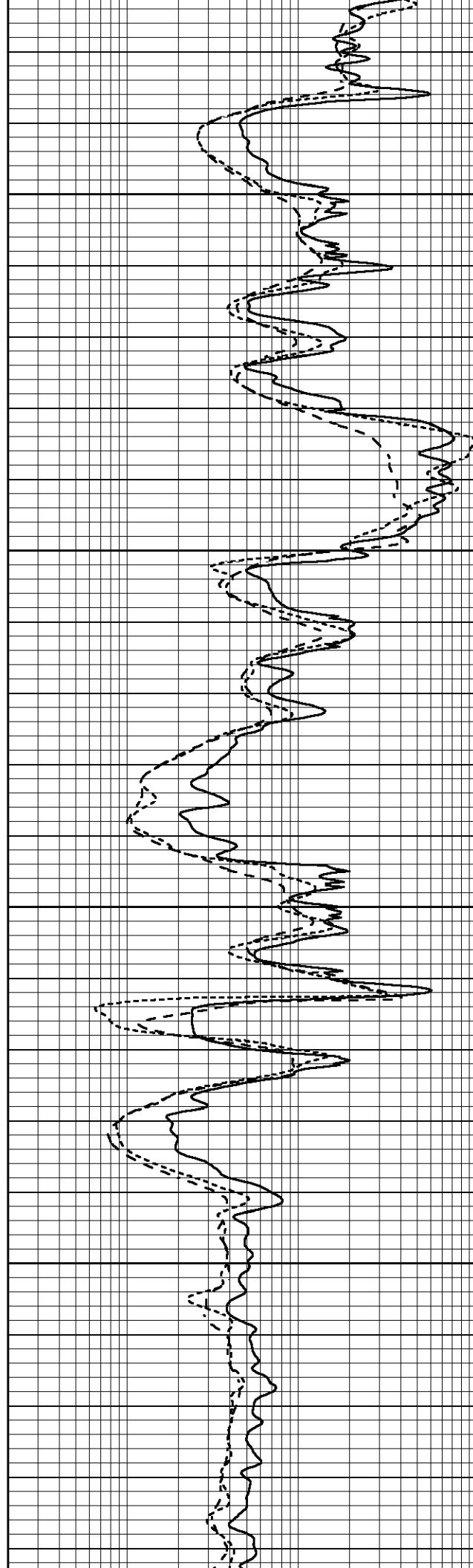


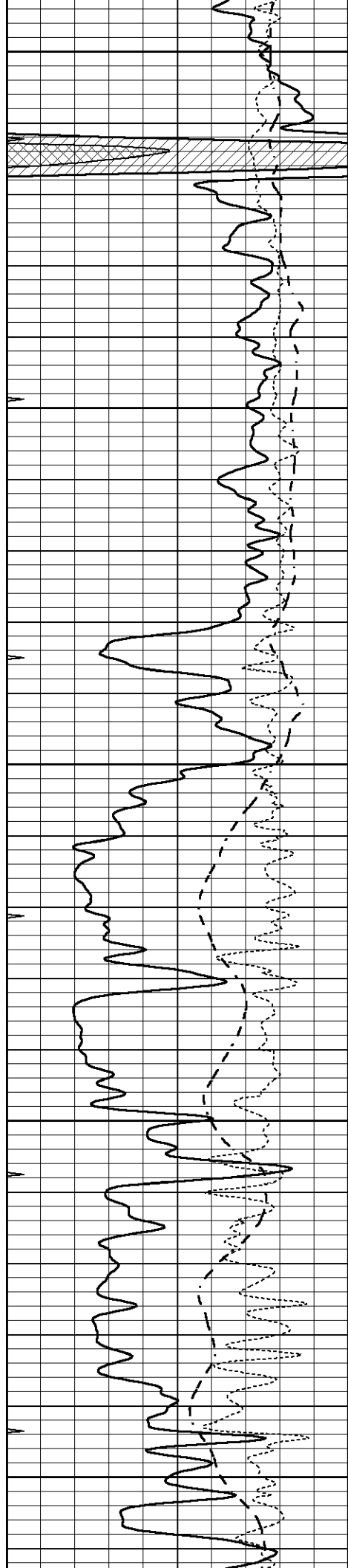
3400

3450

3500

3550





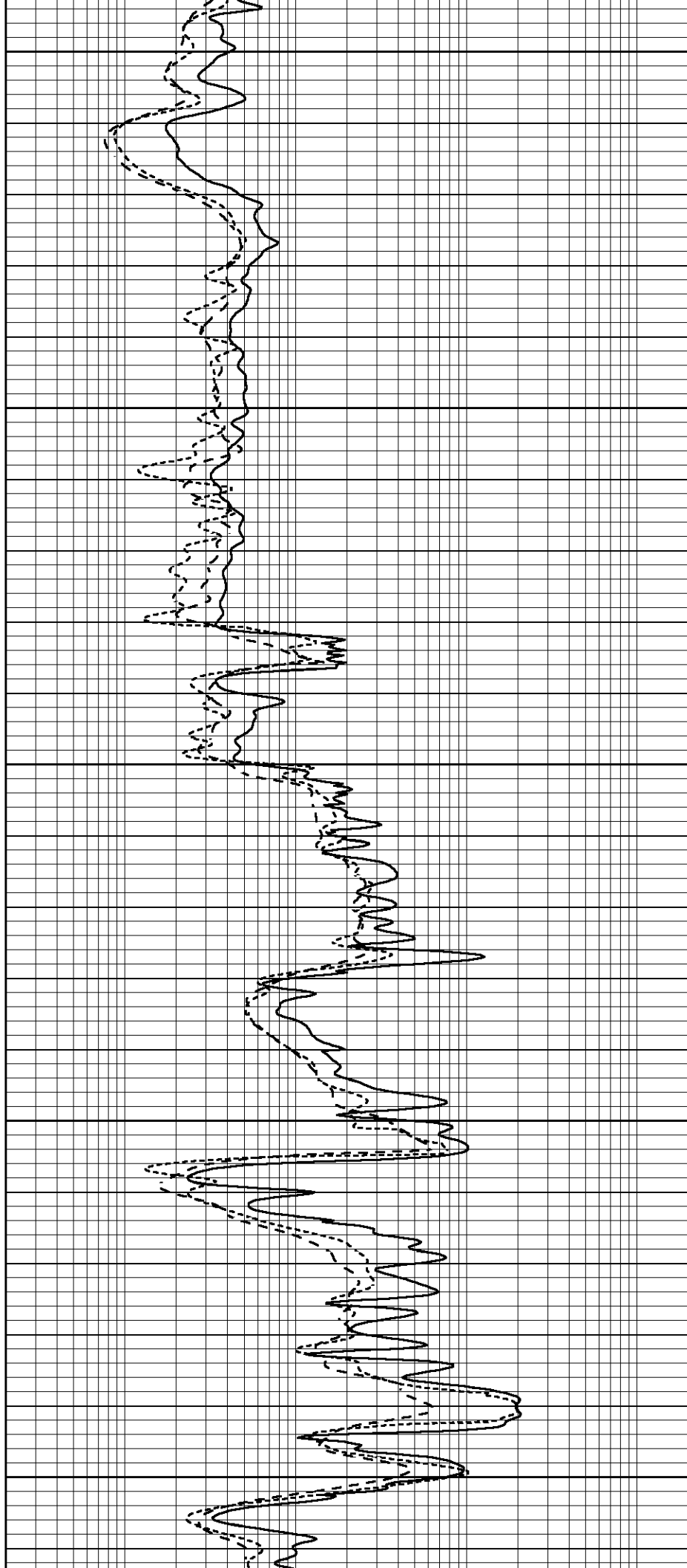
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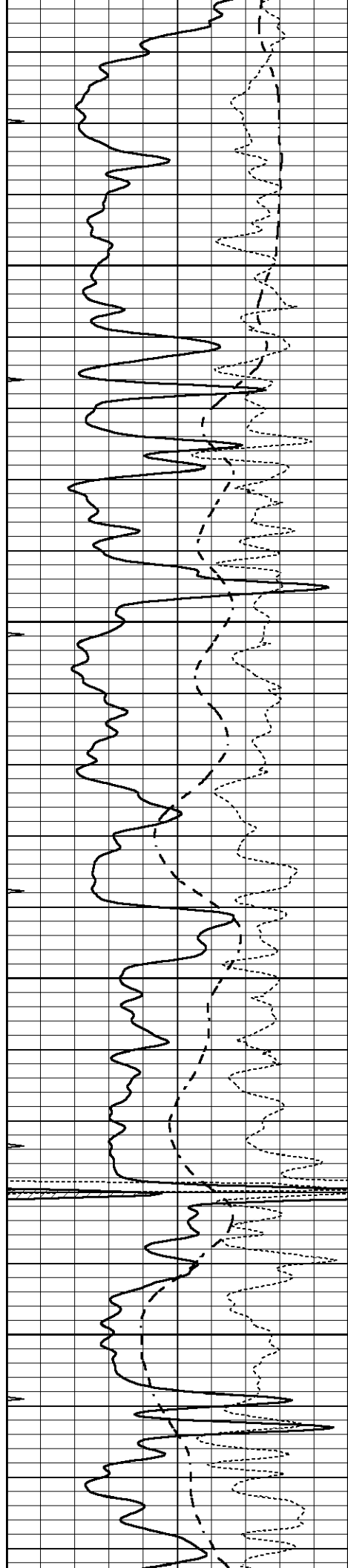
3650

3700

3750

3800



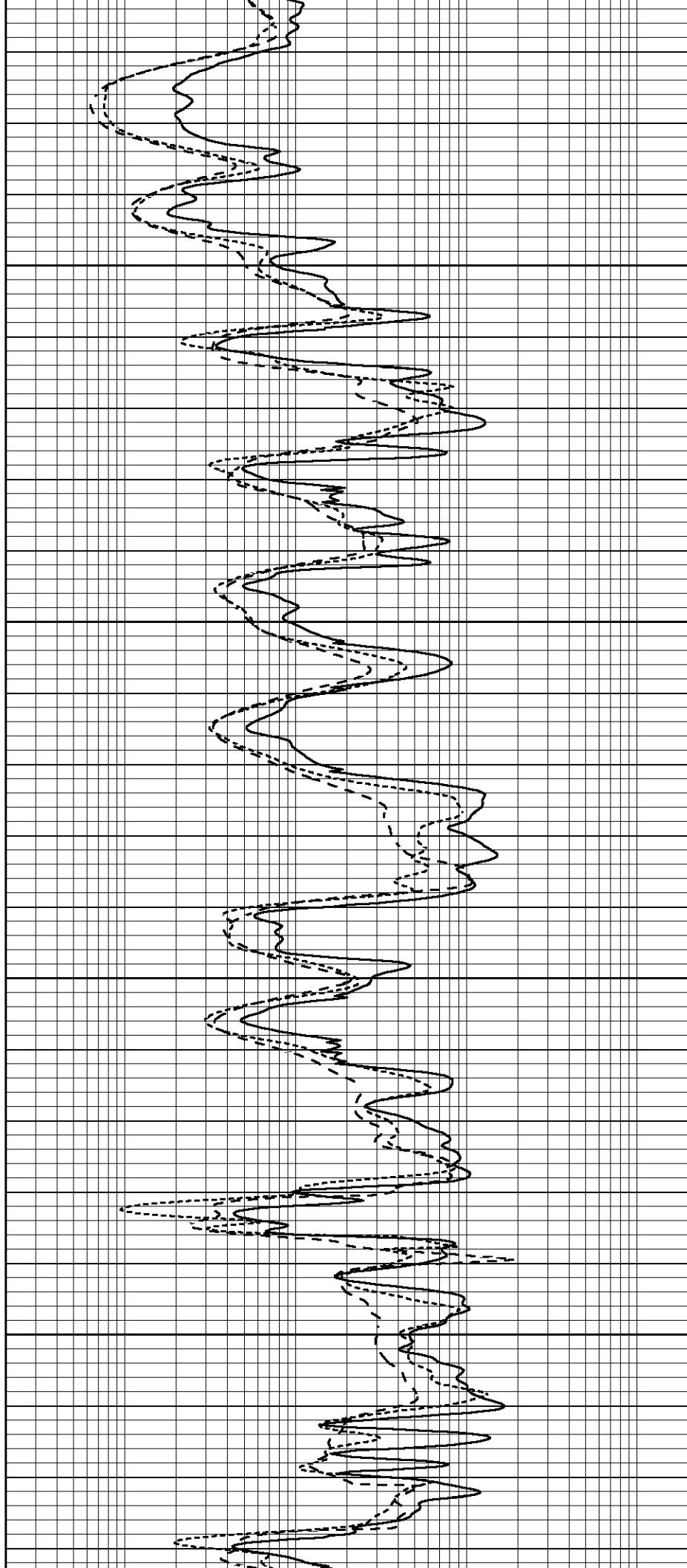


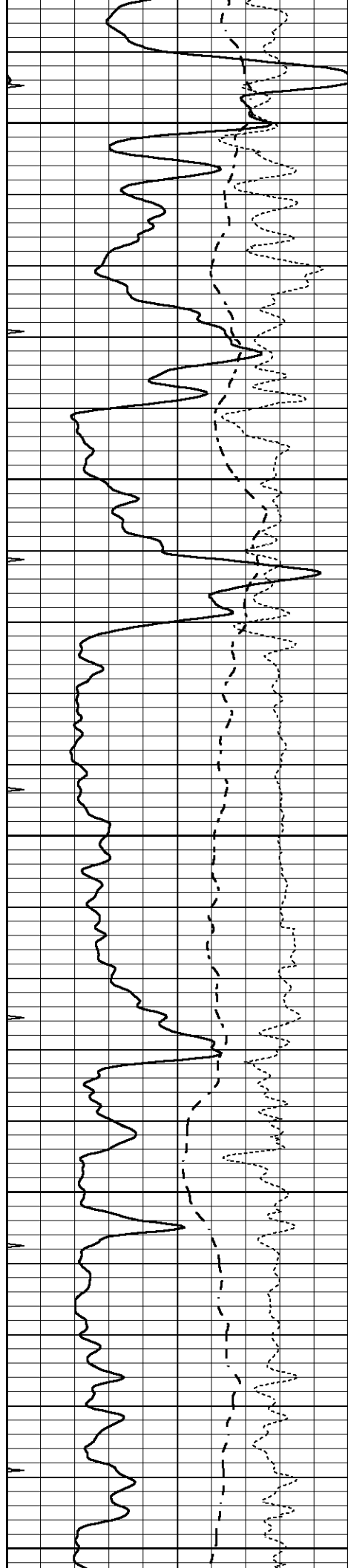
3850

3900

3950

4000





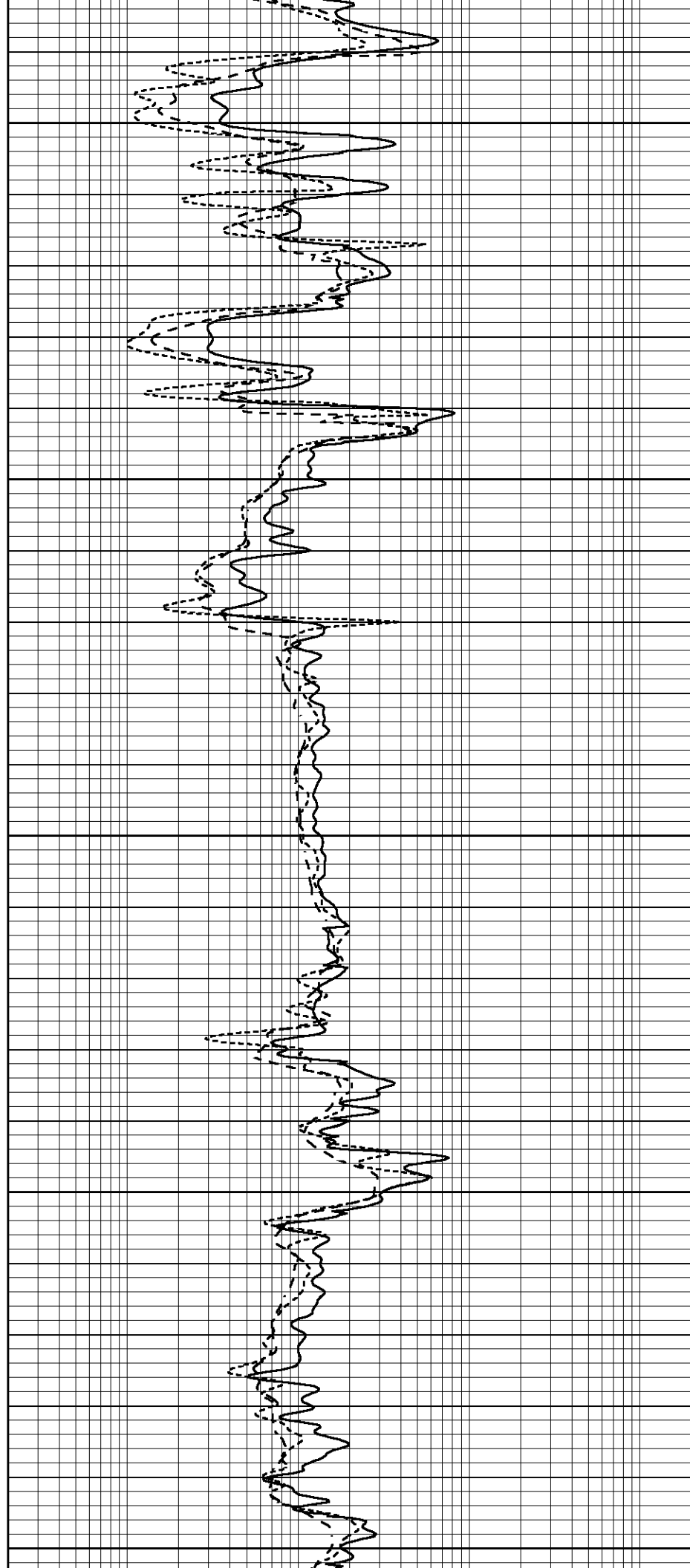
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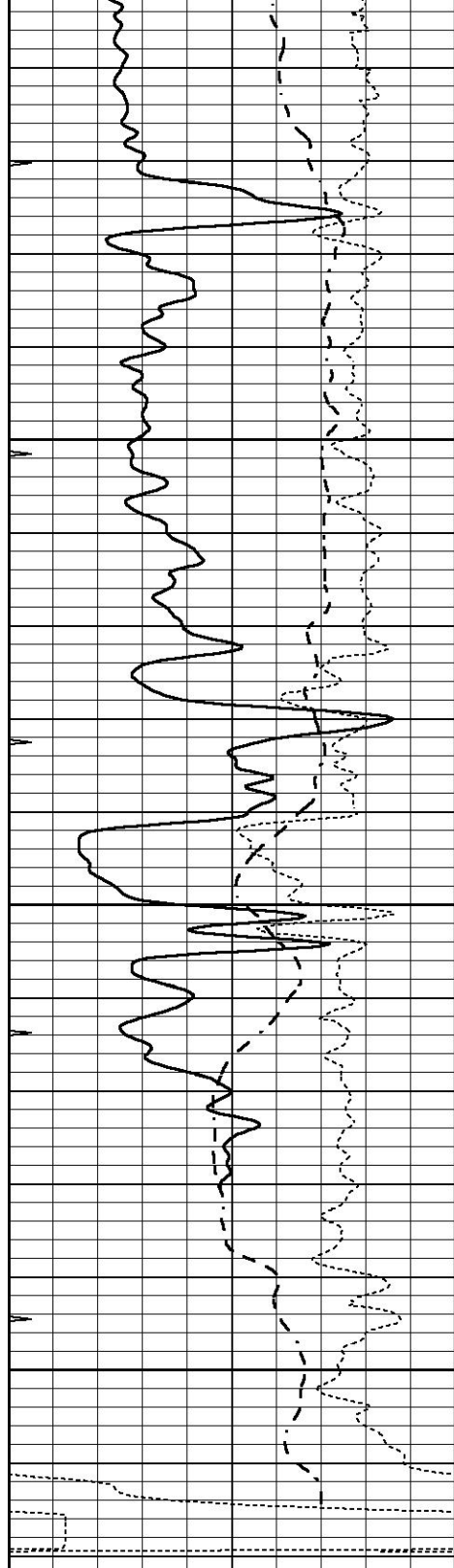
4100

4150

4200

4250



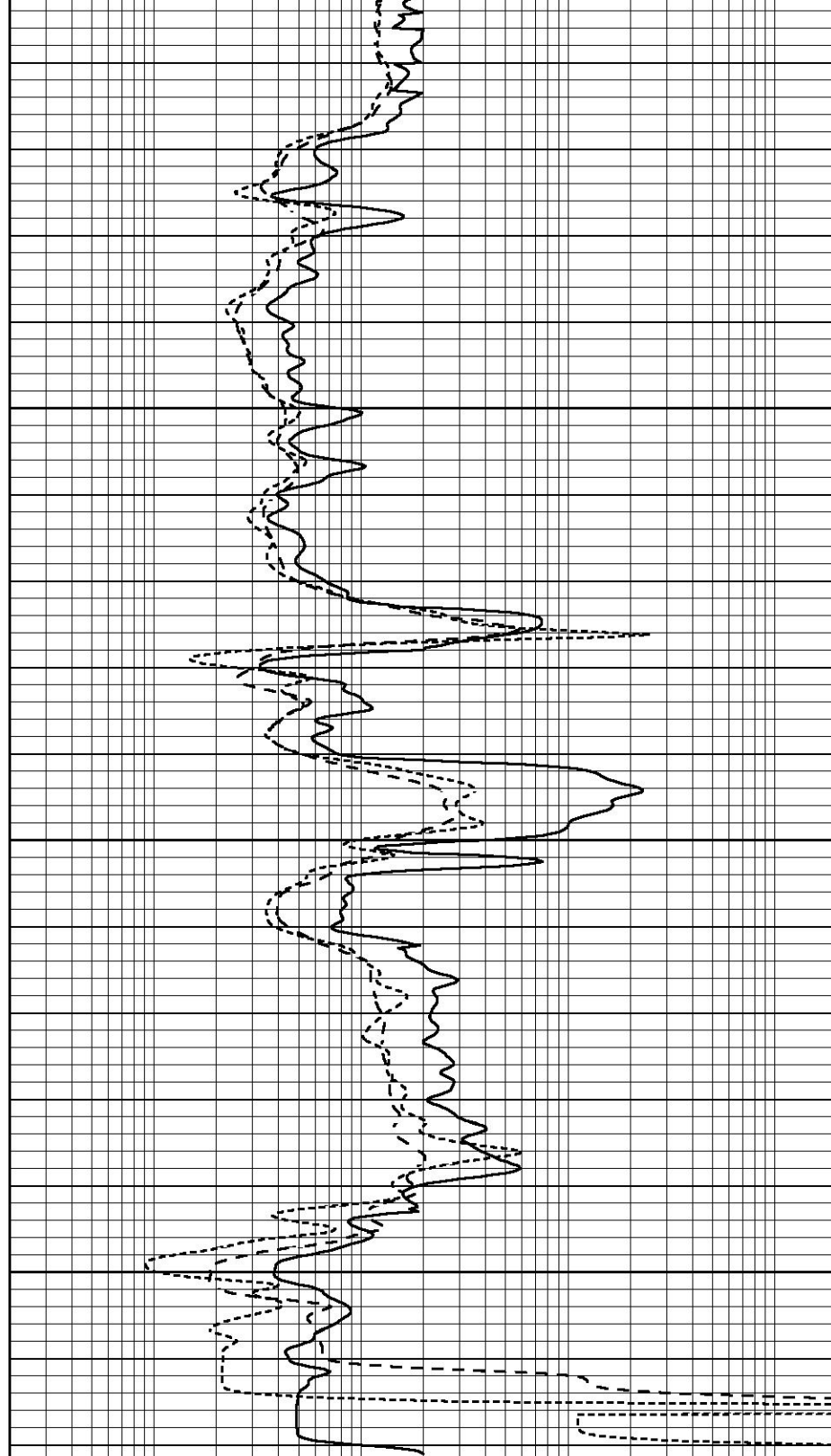


4300

4350

4400

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

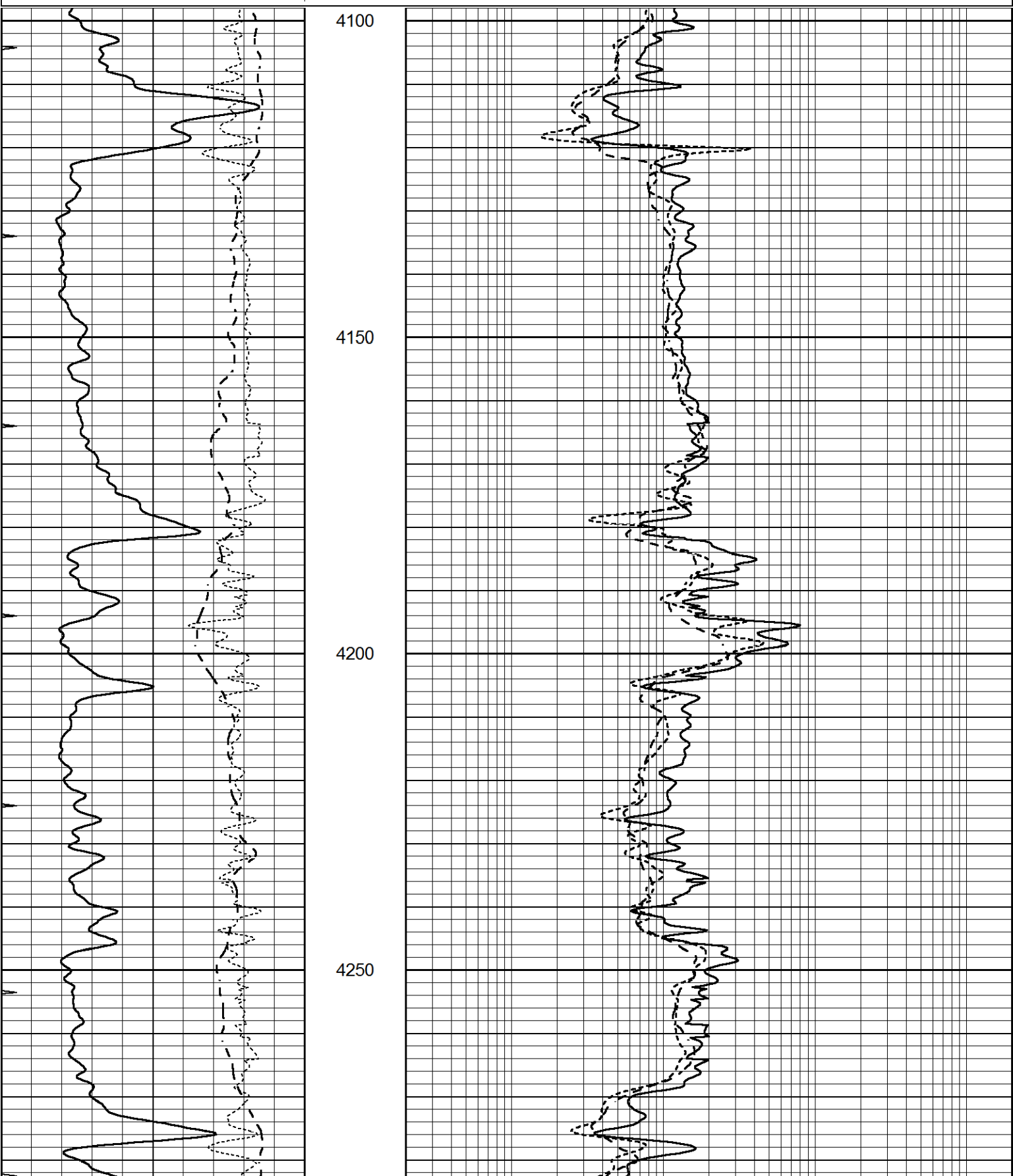


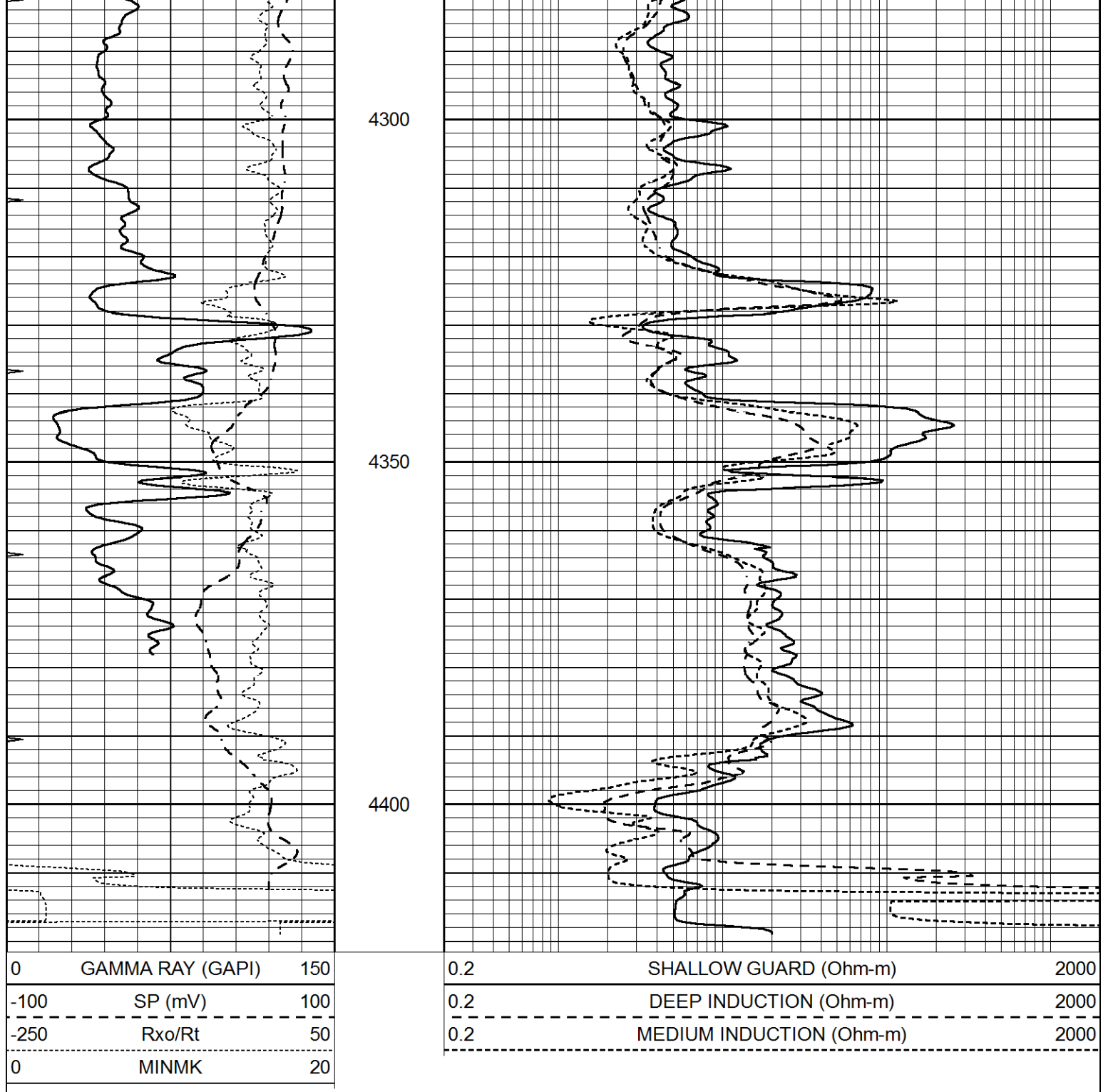
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



REPEAT SECTION

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		5847ddn.db					
Dataset Pathname		pass4.2M					
Dataset Creation		Wed Dec 15 12:29:34 2021					
Dual Induction Calibration Report							
Serial-Model:				PROBE9-DILG			
Surface Cal Performed:				Tue Dec 14 22:22:51 2021			
Downhole Cal Performed:				Wed Mar 11 11:31:19 2020			
After Survey Verification Performed:				Wed Mar 11 11:31:22 2020			
Surface Calibration							
		Readings		References		Results	
Loop:	Air	Loop	Air	Loop	m	b	

Deep	-0.014	0.629	V	0.000	400.000	mmho/m	720.000	0.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	720.000	-24.000
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: 004 Model: PRB								

Master Calibration					Performed Tue May 18 11:02:48 2021			
	Background	Magnesium	Aluminum	Aluminum+Fe				
Window 1	1187.1	10004.0	3142.5	2810.8				cps
Window 2	1084.9	8556.6	2749.3	2502.4				cps
Window 3	923.1	5129.8	1819.8	1719.3				cps
Window 4	263.5	263.6	259.7	262.8				cps
Long Space	0.0	7471.7	1664.4	1417.5				cps
Short Space	1.5	984.9	645.6	561.2				cps
Rho		1.7100	2.5900	0.0000				g/cc
Pe		2.0000	2.7500	5.7900				
Rib Angle	: 44.3	Rib Slope	: 0.976	Density/Spine Ratio			: 0.564	
Spine Angle	: 74.3	Spine Slope	: 3.555	Spine Intercept			: -15.6	

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			
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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:	070808PMC		
		Tool Model:	NABORS		
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:		Fri Sep 03 05:25:49 2021			
Calibrator Value:		1.0	GAPI		
Background Reading:		0.0	cps		
Calibrator Reading:		1.0	cps		
Sensitivity:		0.2800	GAPI/cps		