



DUAL INDUCTION LOG

Company BLACK ROCK RESOURCES, LLC.

Well POLIFKA #18-2

Field UNNAMED

County GOVE State KANSAS

Location: 1067' FSL & 634' FEL
NW-NE-SE-SE

AP1 #: 15-063-22405-0000

SEC 18 TWP 13S RGE 26W

Permanent Datum GROUND LEVEL Elevation 2516
Log Measured From KELLY BUSHING 10' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL
MEL
Elevation
K.B. 2526
D.F. 2524
G.L. 2516

Date	4/19/22
Run Number	ONE
Depth Driller	4418
Depth Logger	4419
Bottom Logged Interval	4417
Top Log Interval	00
Casing Driller	8 5/8"@270'
Casing Logger	270
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.2/62
pH / Fluid Loss	10.5/6.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.900@80F
Rmf @ Meas. Temp	.675@80F
Rmc @ Meas. Temp	1.080@80F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.600@120F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	10:00 P.M.
Maximum Recorded Temperature	120F
Equipment Number	922339
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	CHAD COUNTS
	COLE ROBBEN

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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.

15-063-22405-0000

Comments

THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
QUINTER KS. 10 MI S. ON CASTLE ROCK RD. TO P RD, 1/4 W, S. INTO

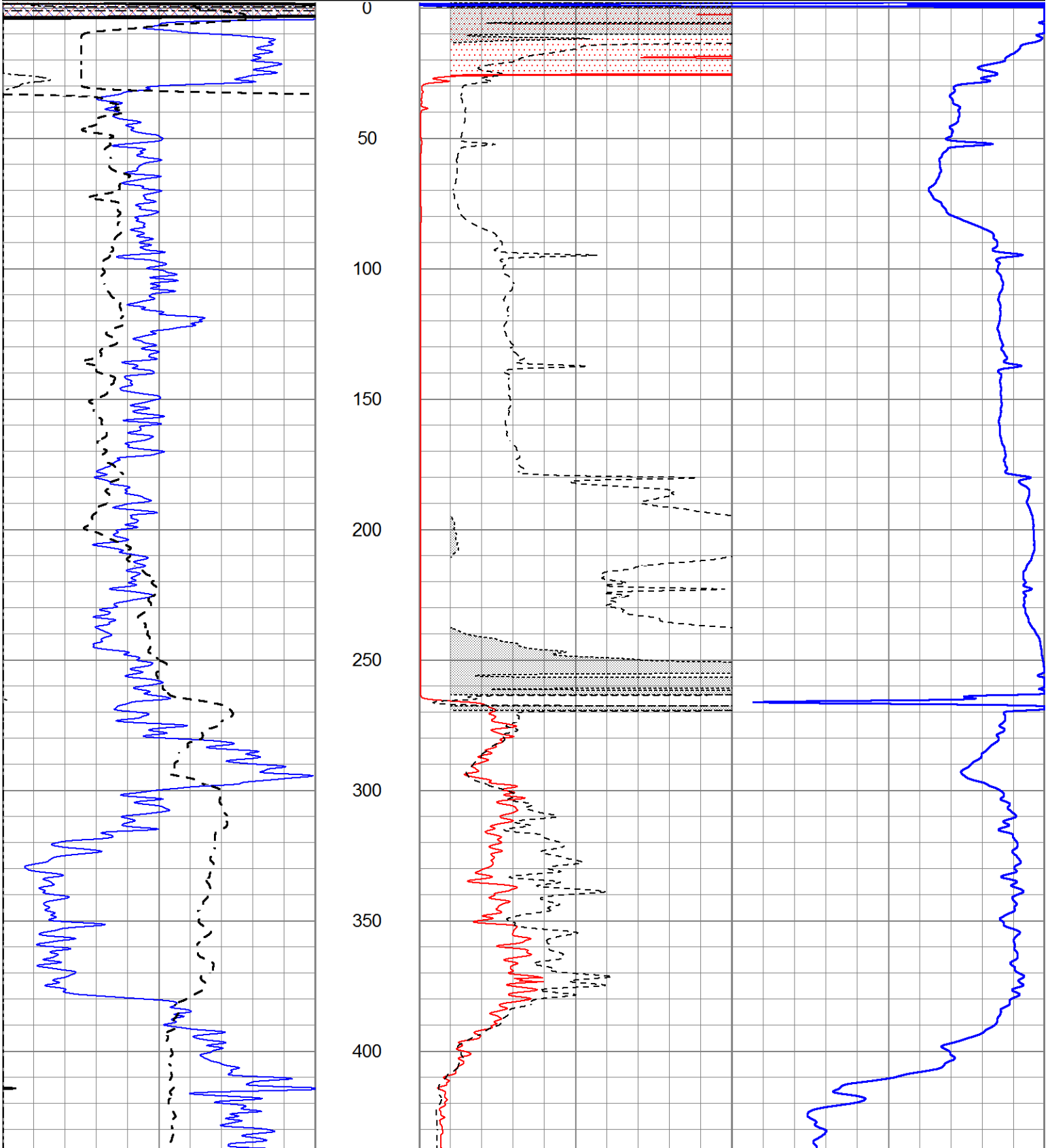


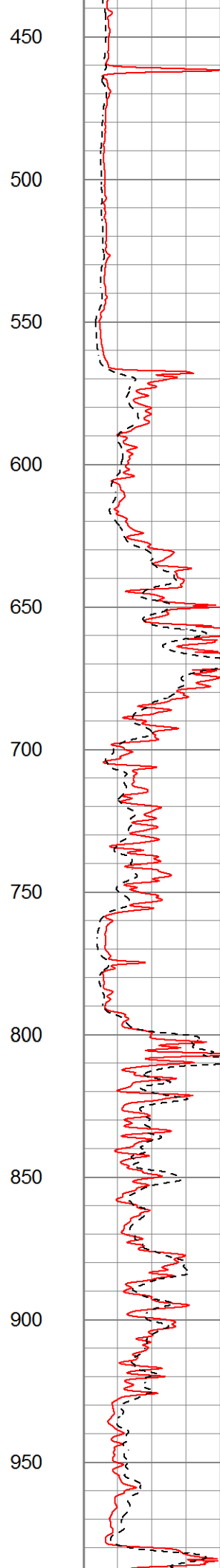
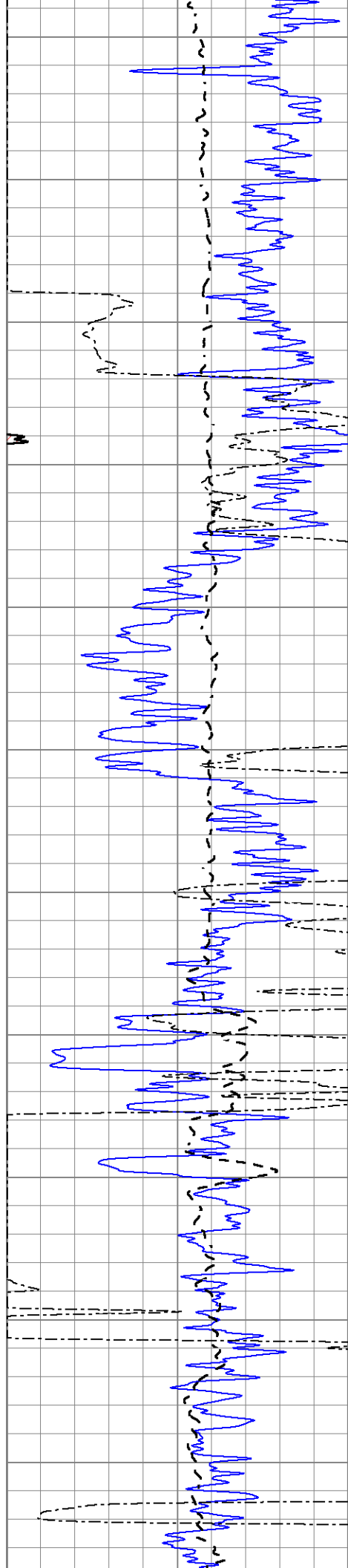
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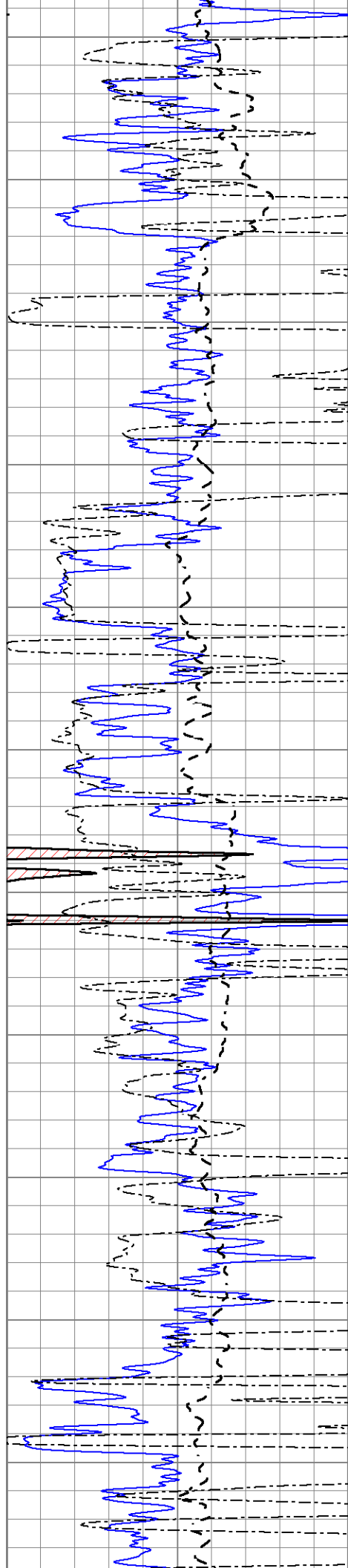
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 Dataset Pathname pass3.4M
 Presentation Format _dil2
 Dataset Creation Tue Apr 19 23:04:46 2022
 Charted by Depth in Feet scaled 1:600

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

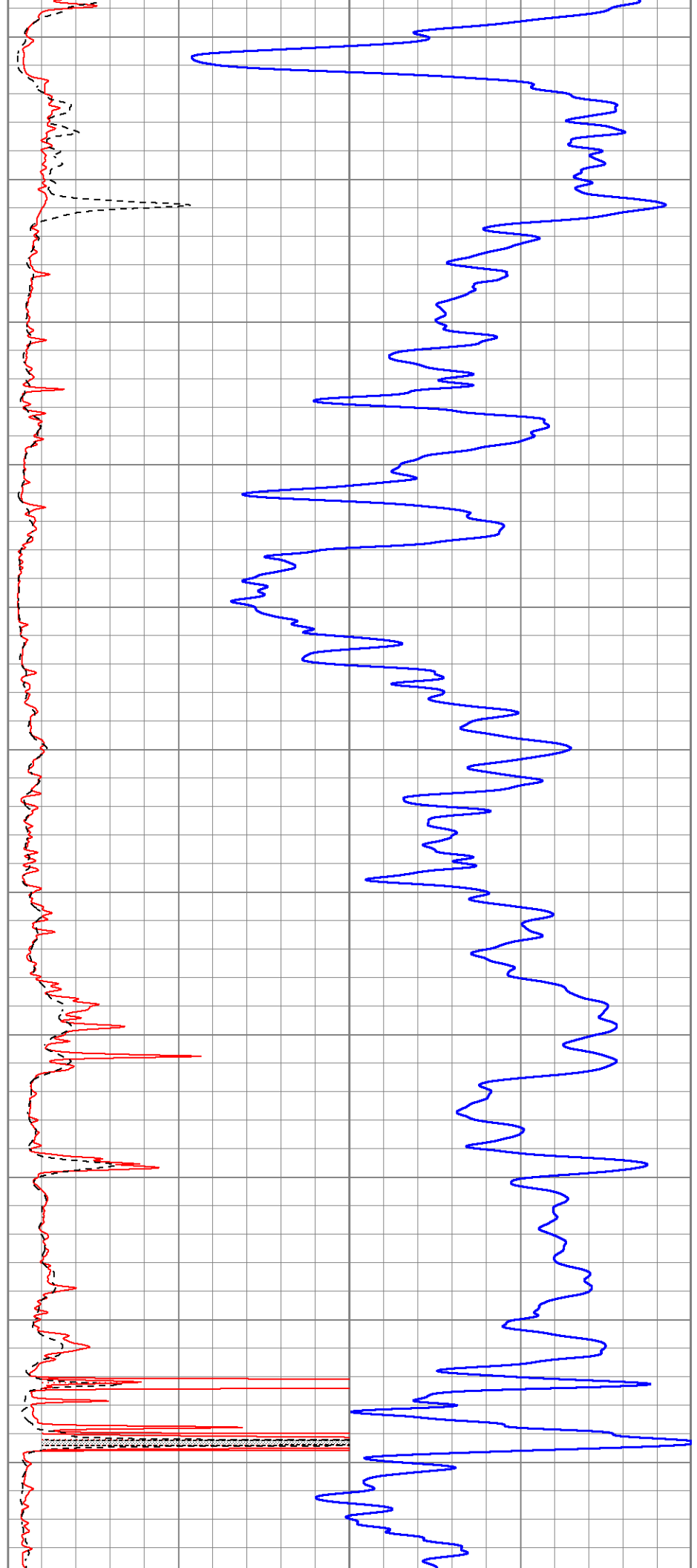
1000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

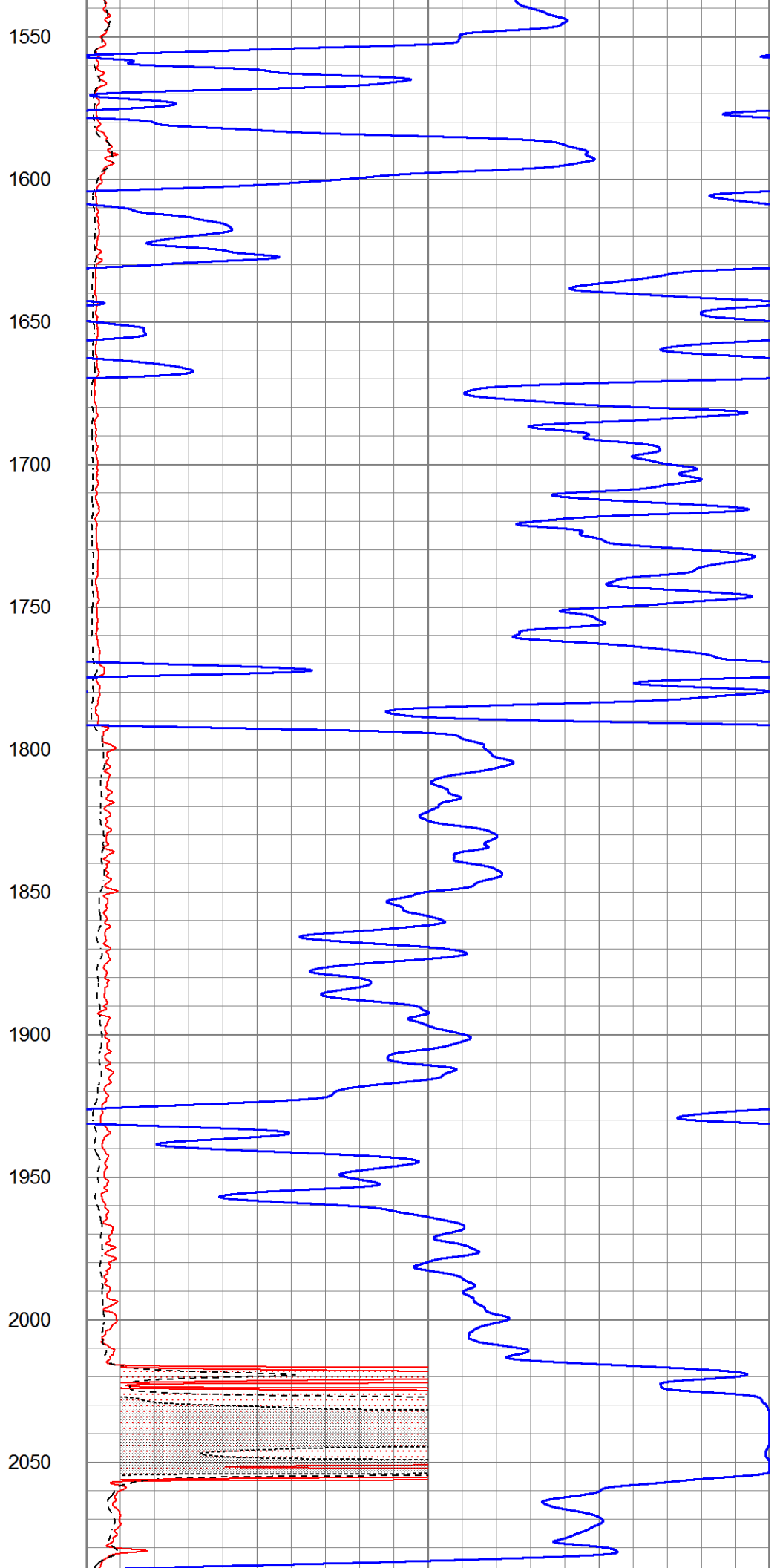
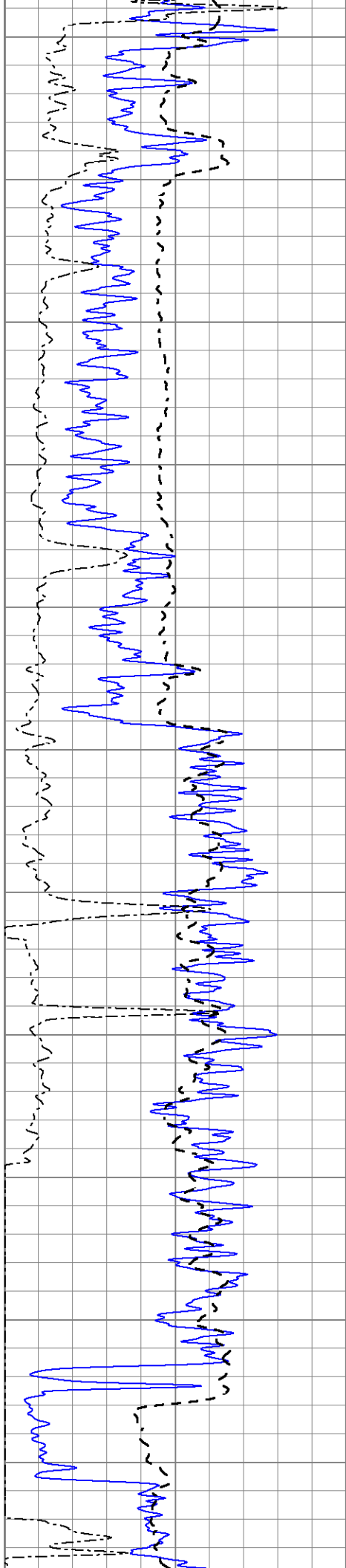


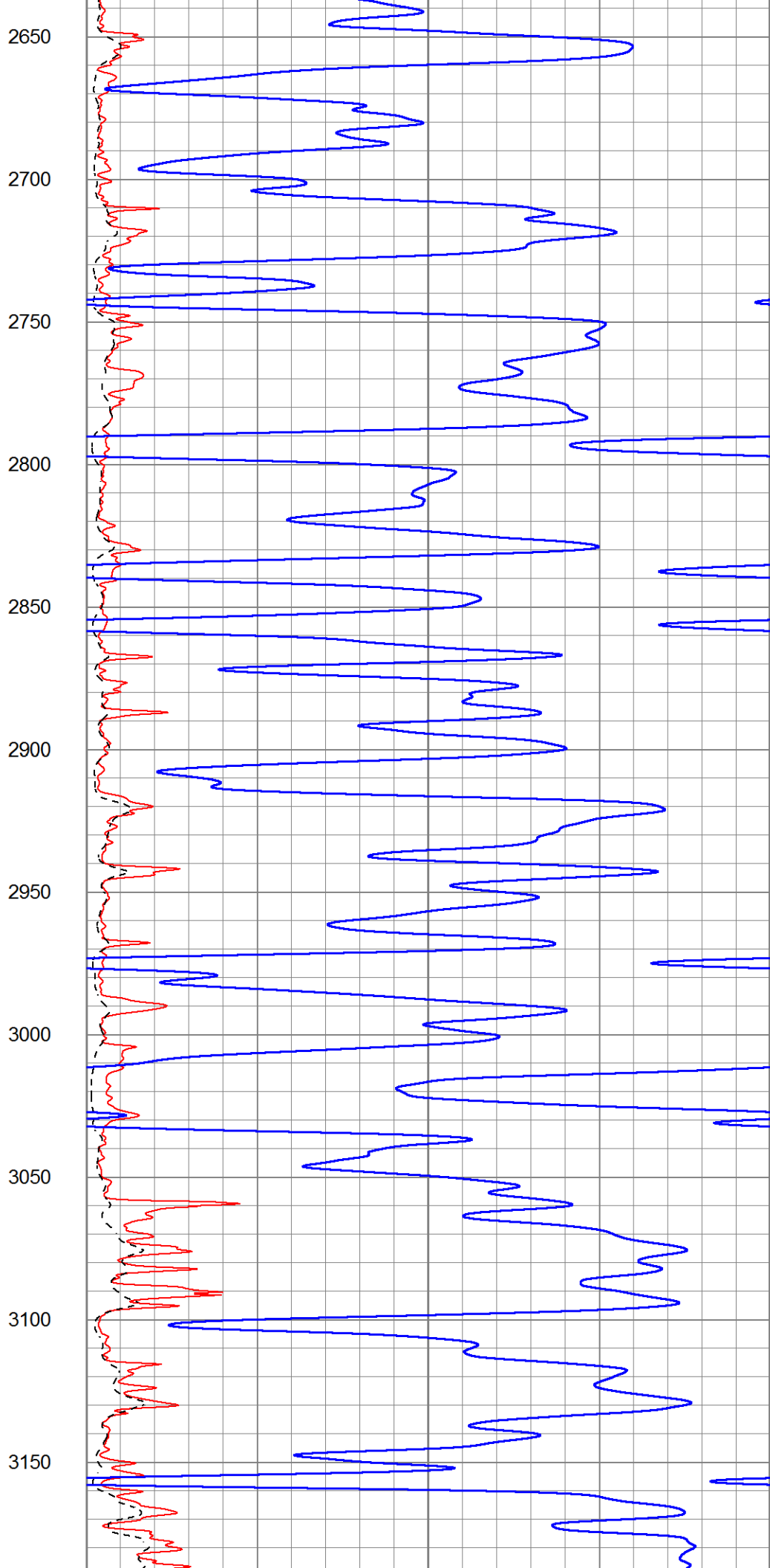
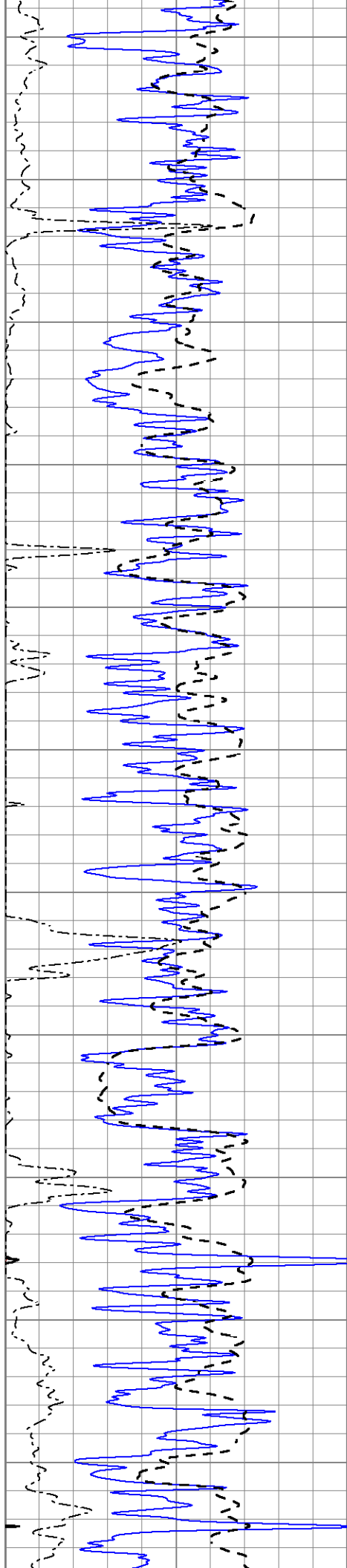


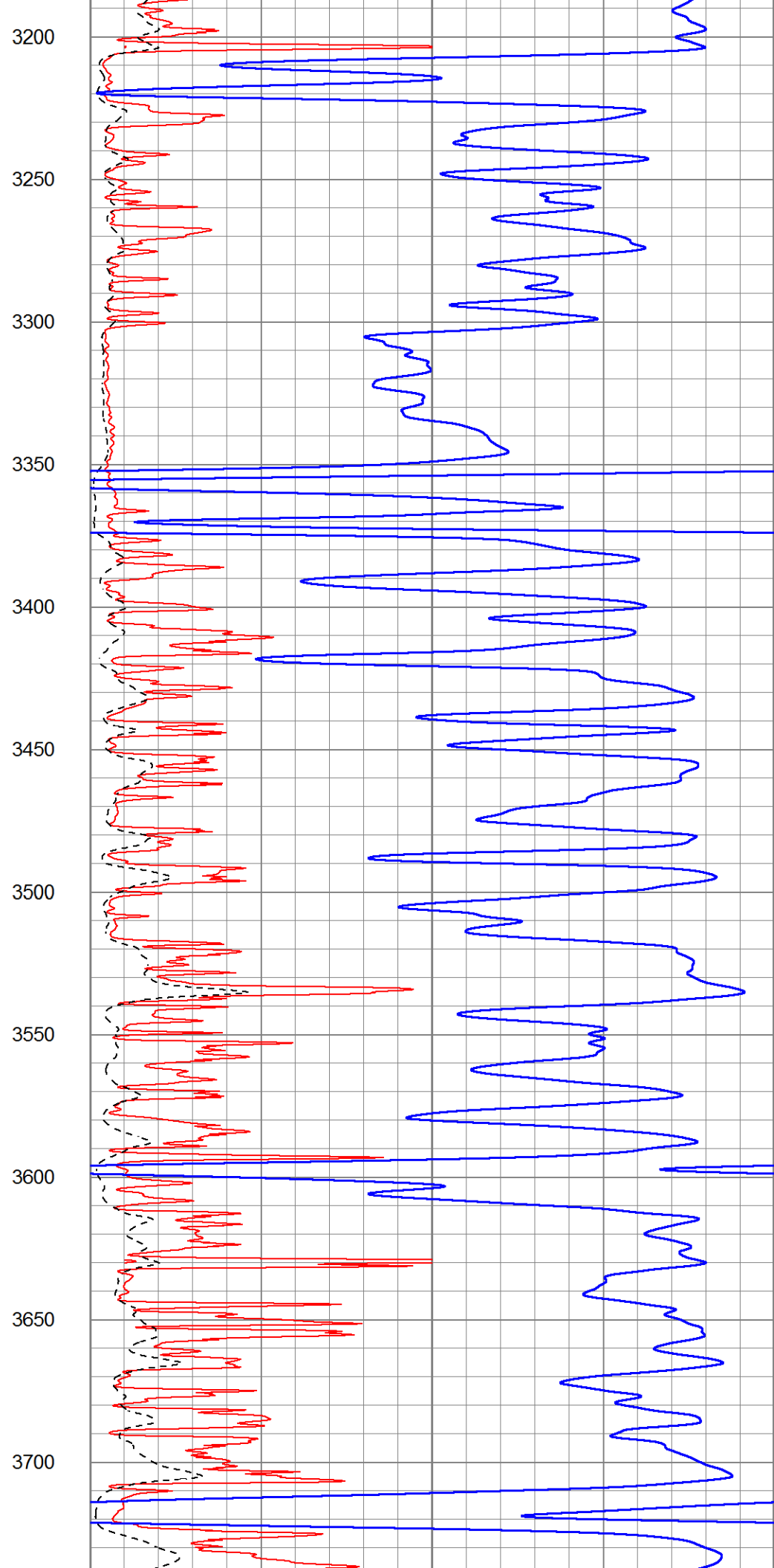
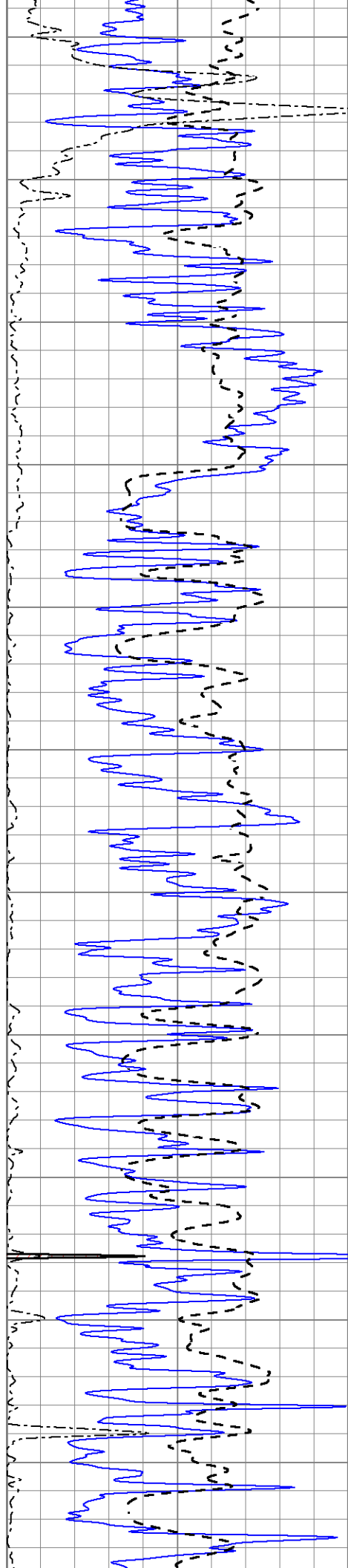


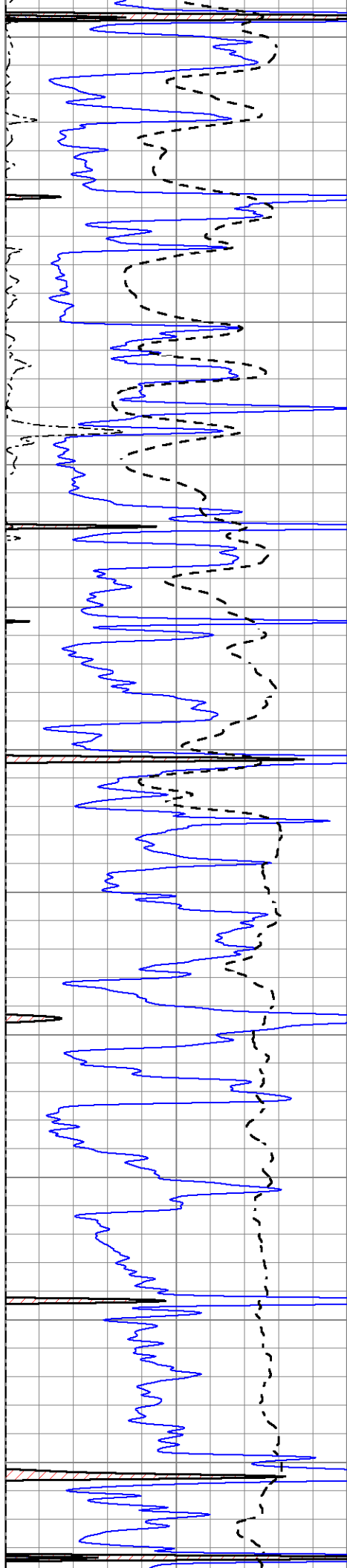
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500











3750

3800

3850

3900

3950

4000

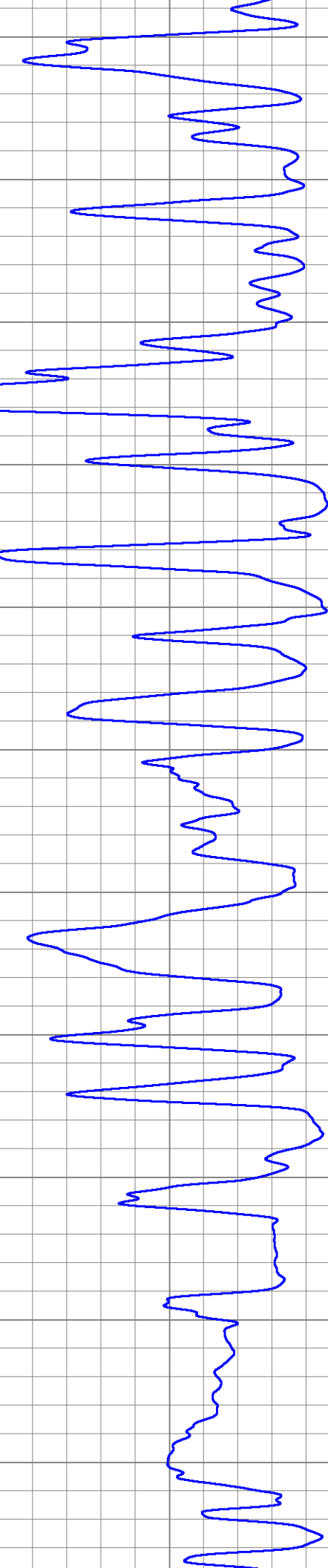
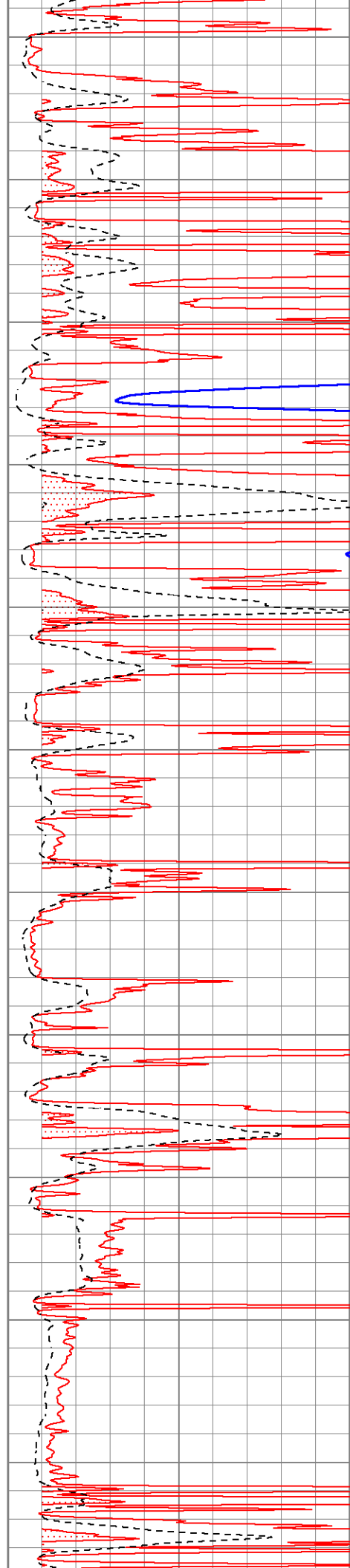
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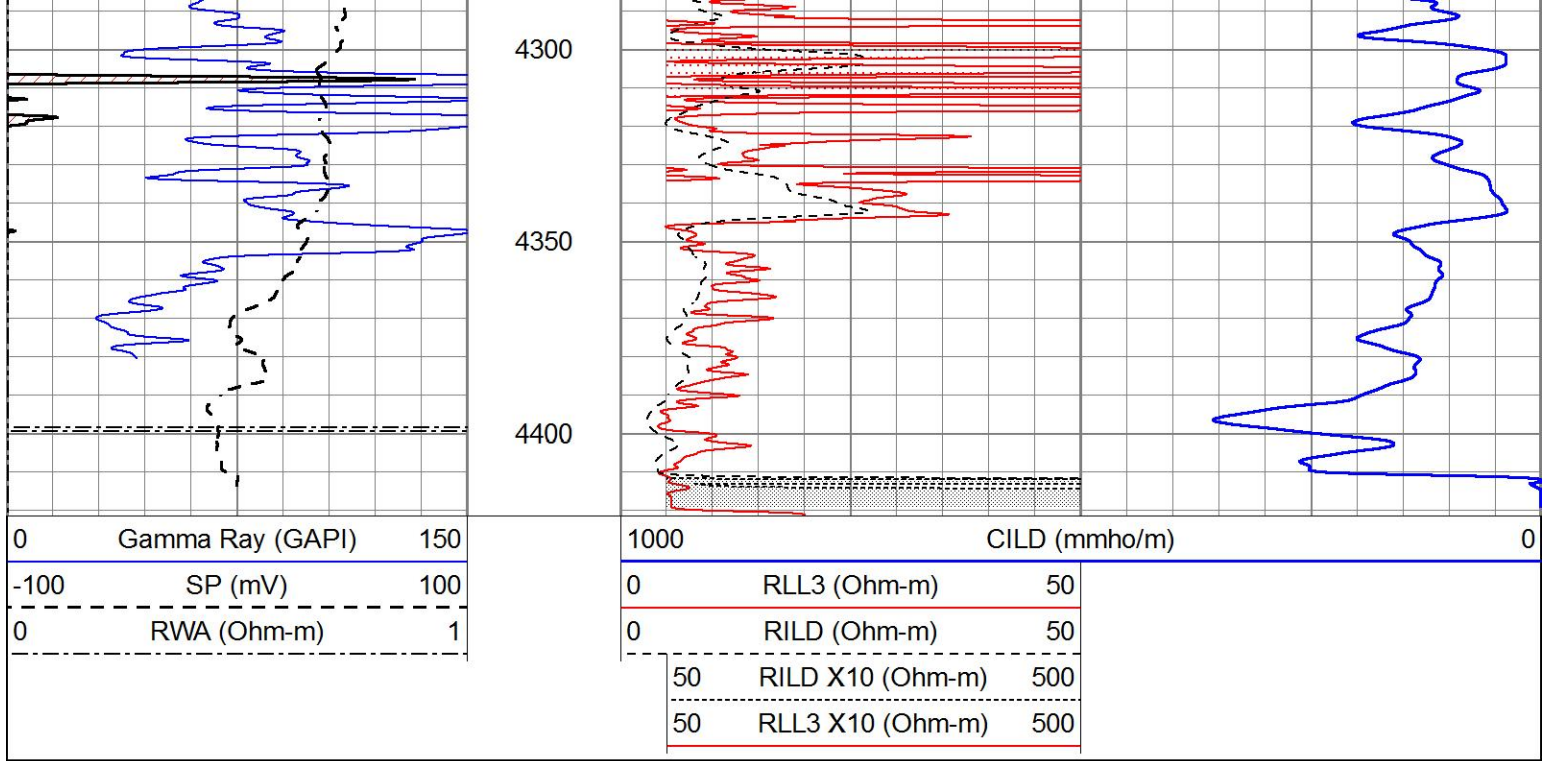
4100

4150

4200

4250

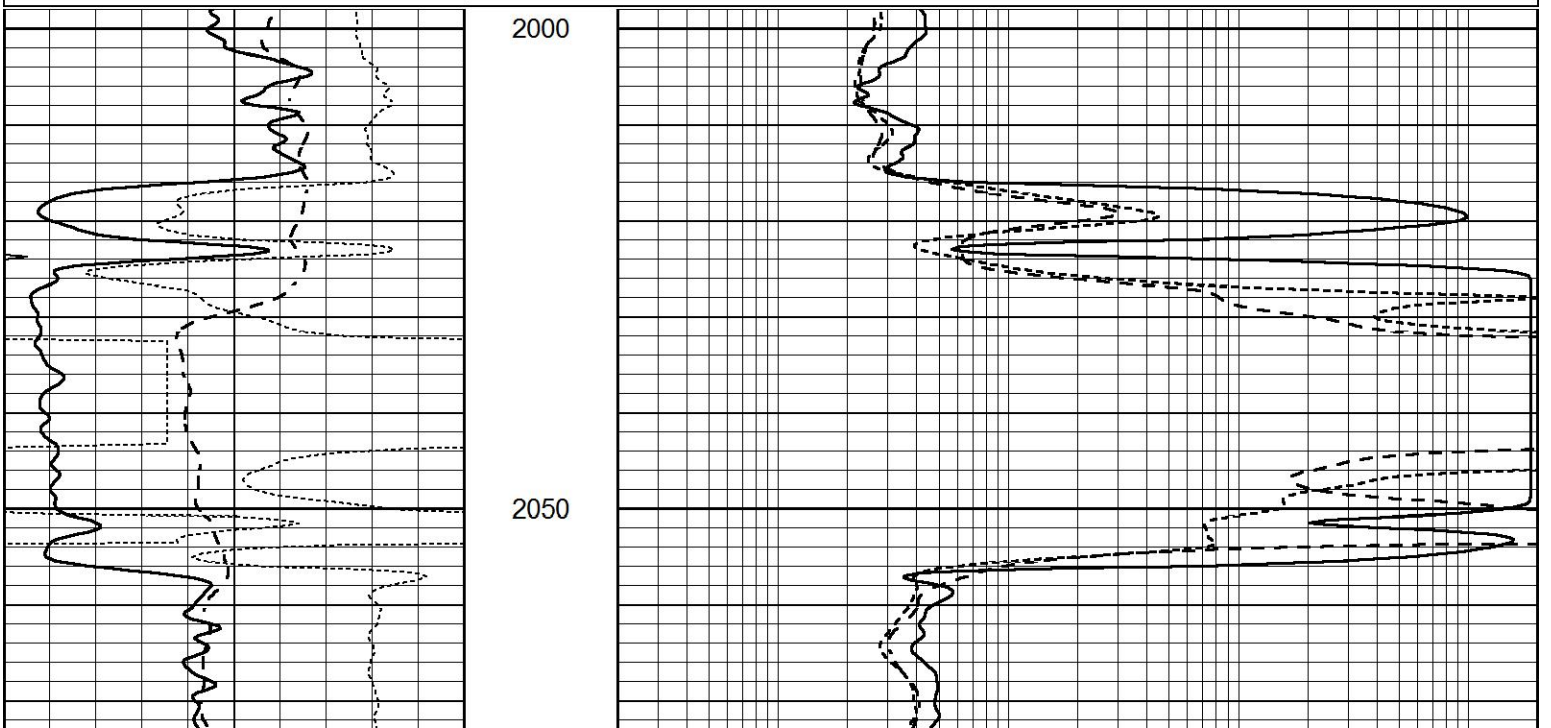


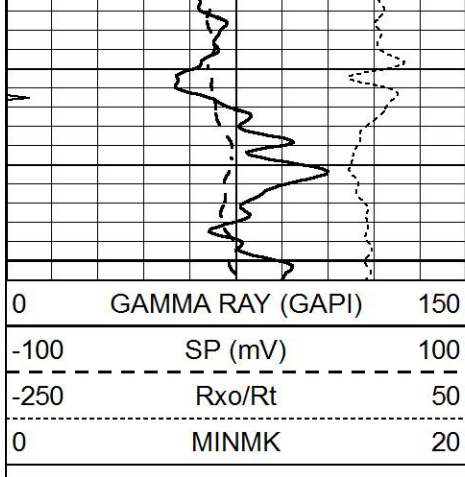


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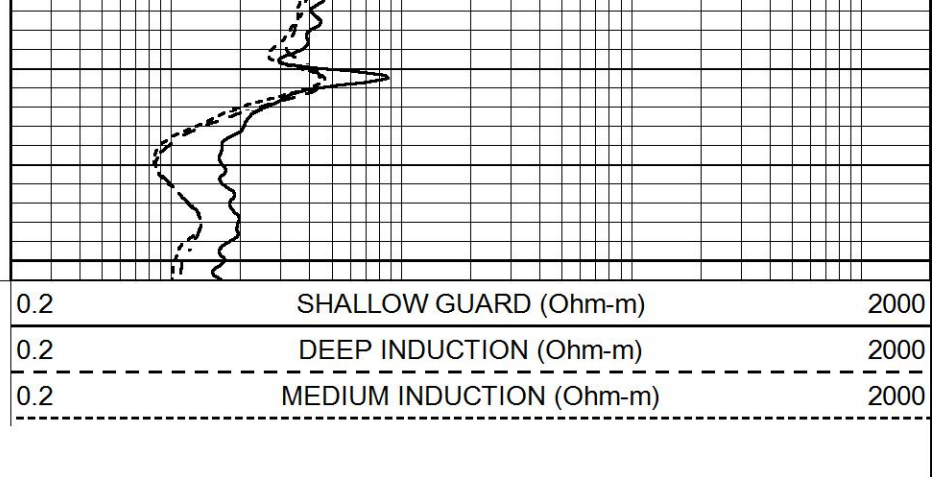
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 Dataset Creation Tue Apr 19 23:08:10 2022
 Charted by Depth in Feet scaled 1:240

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			



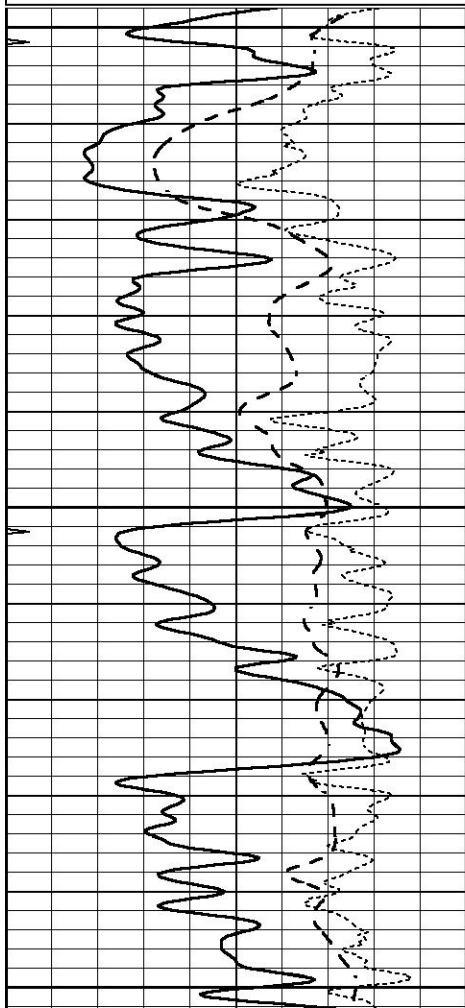
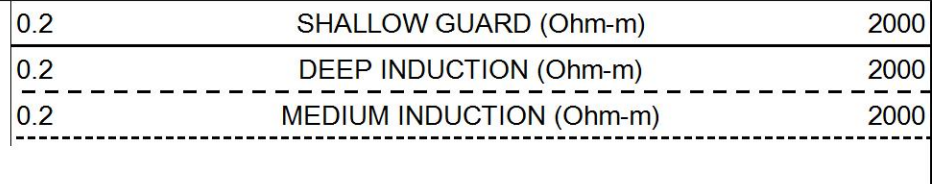
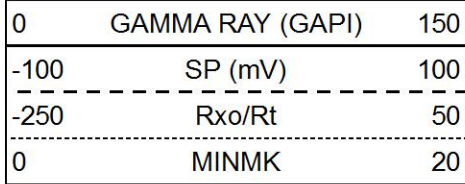


2100



MAIN SECTION

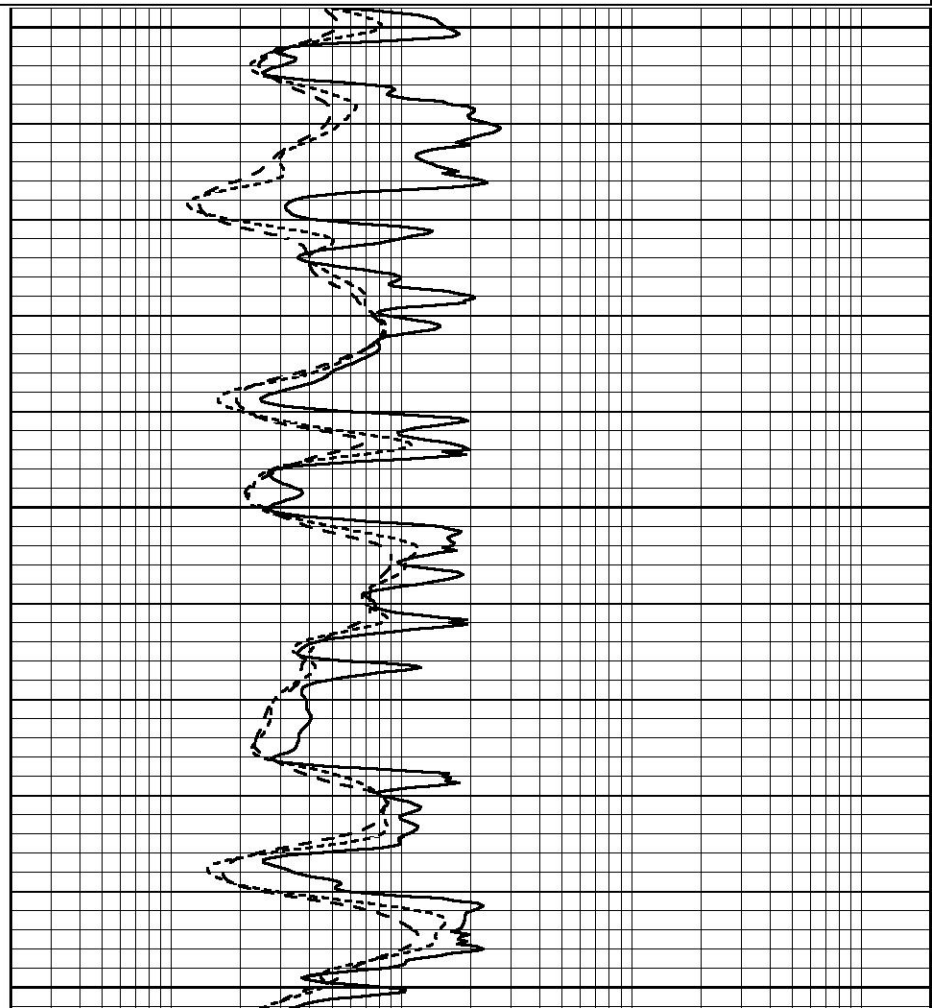
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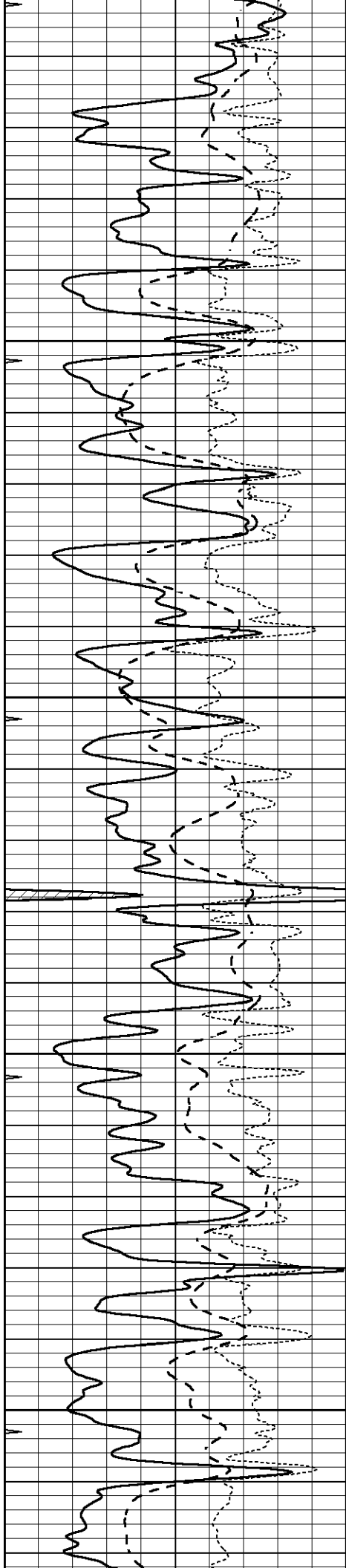


3400

3450

3500



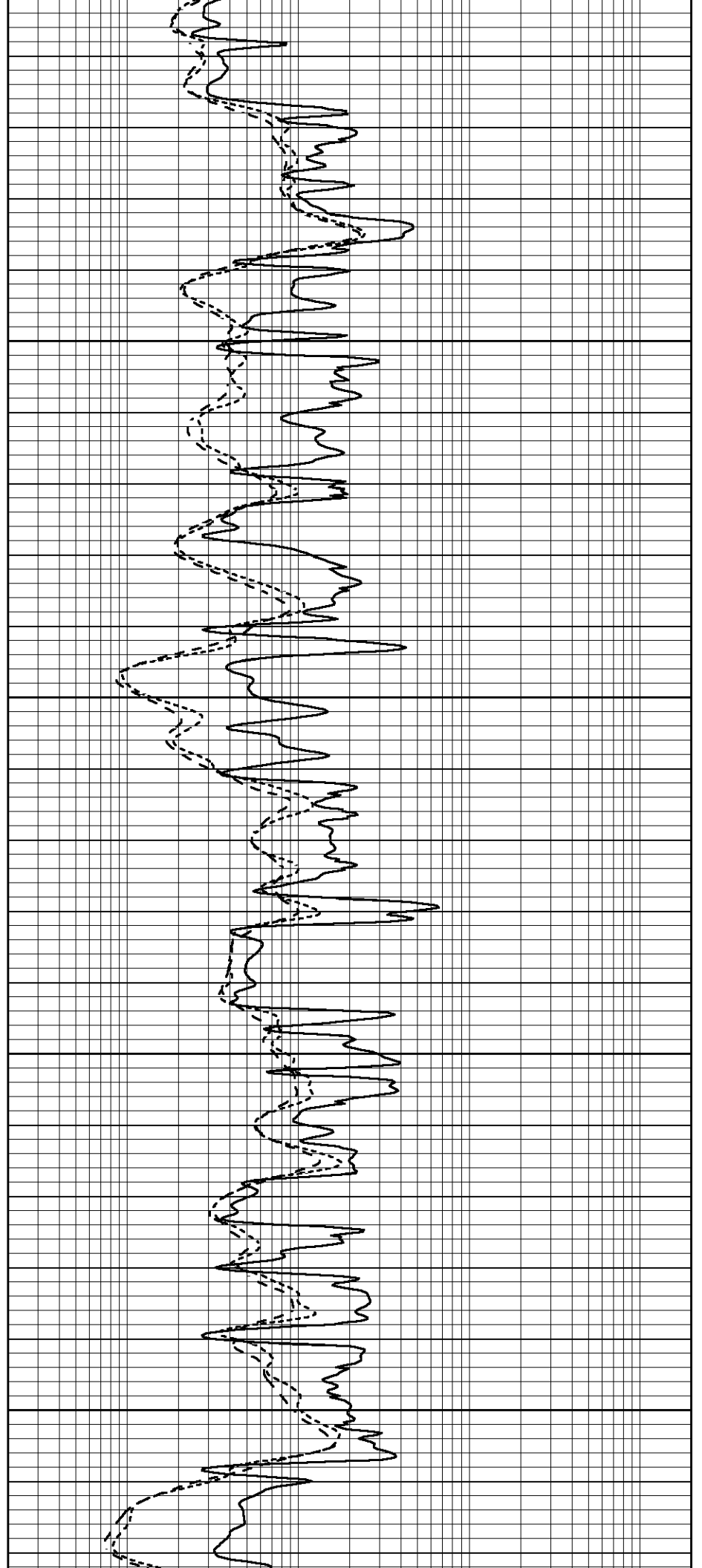


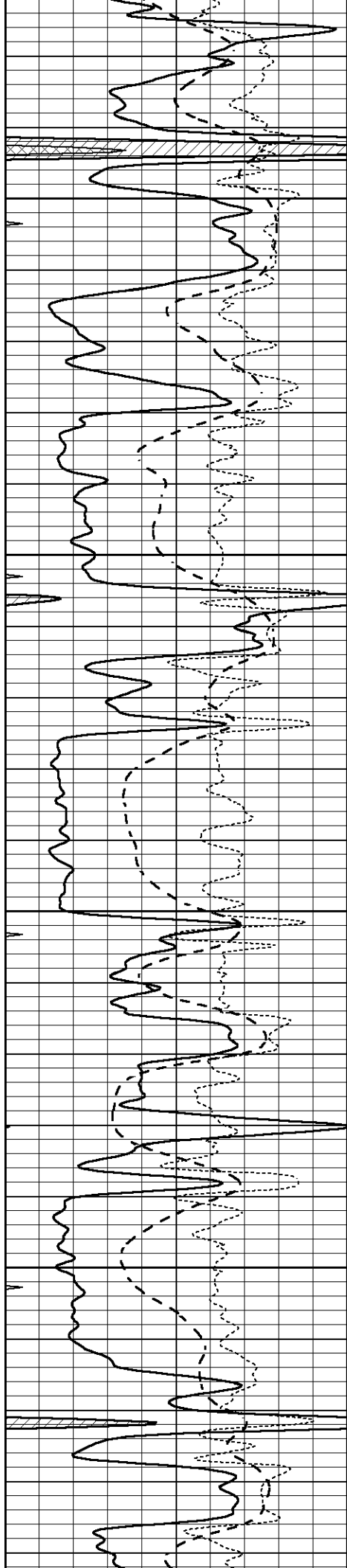
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3600

3650

3700



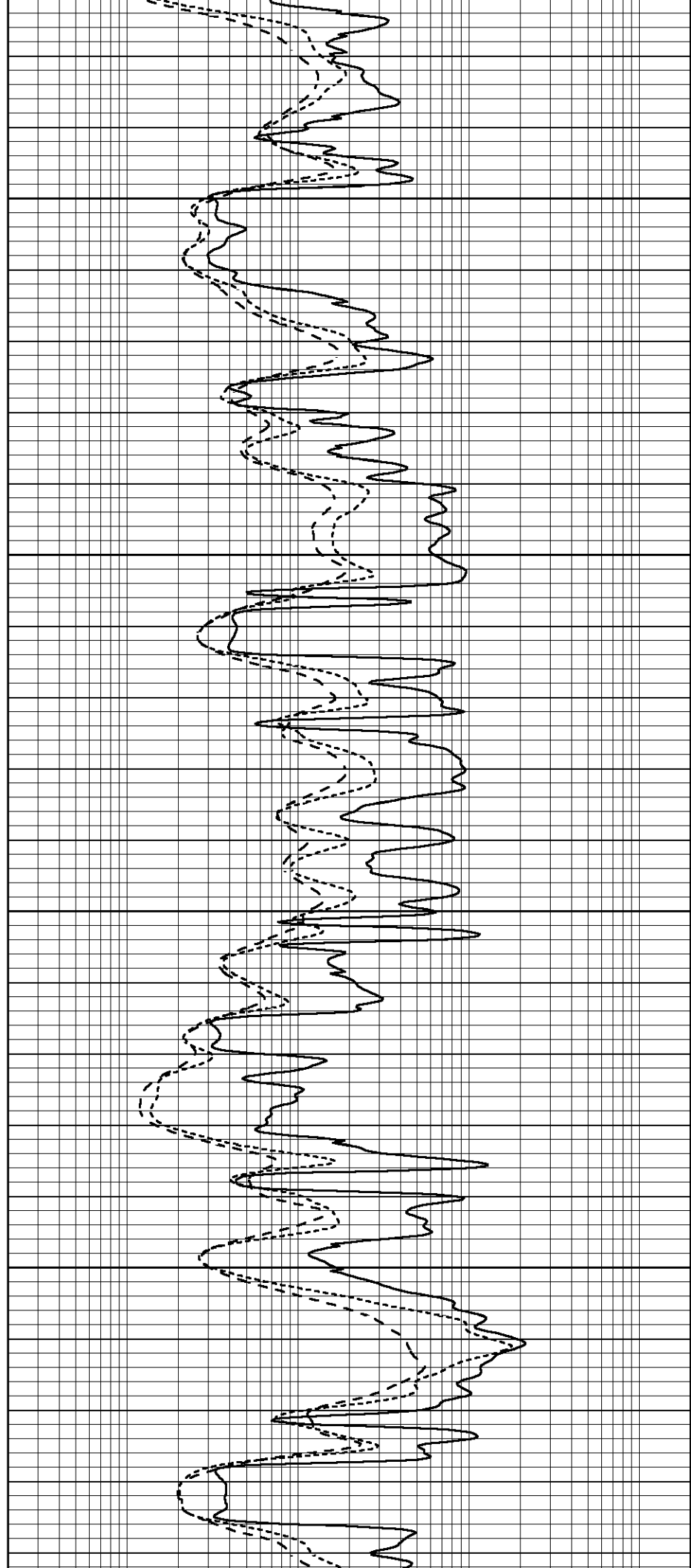


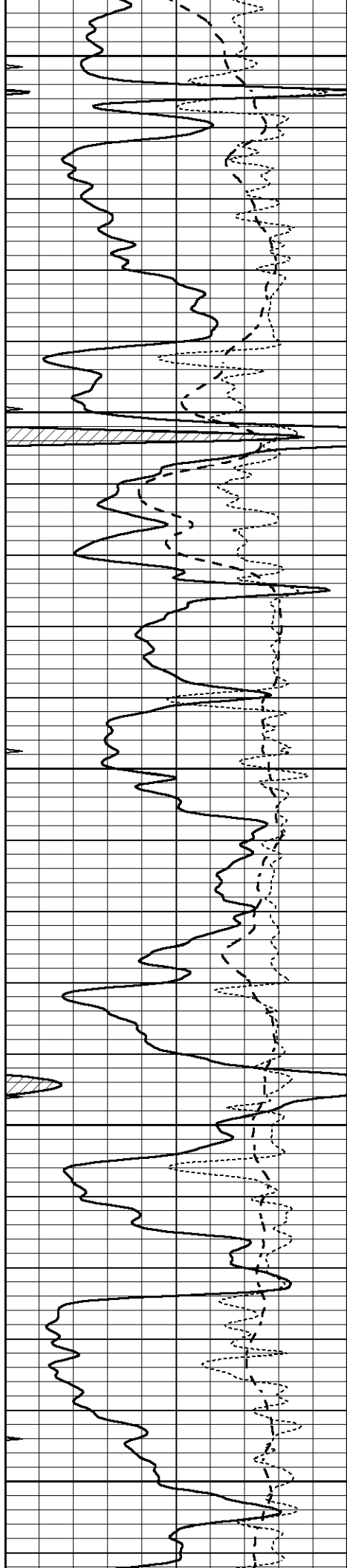
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3800

3850

3900





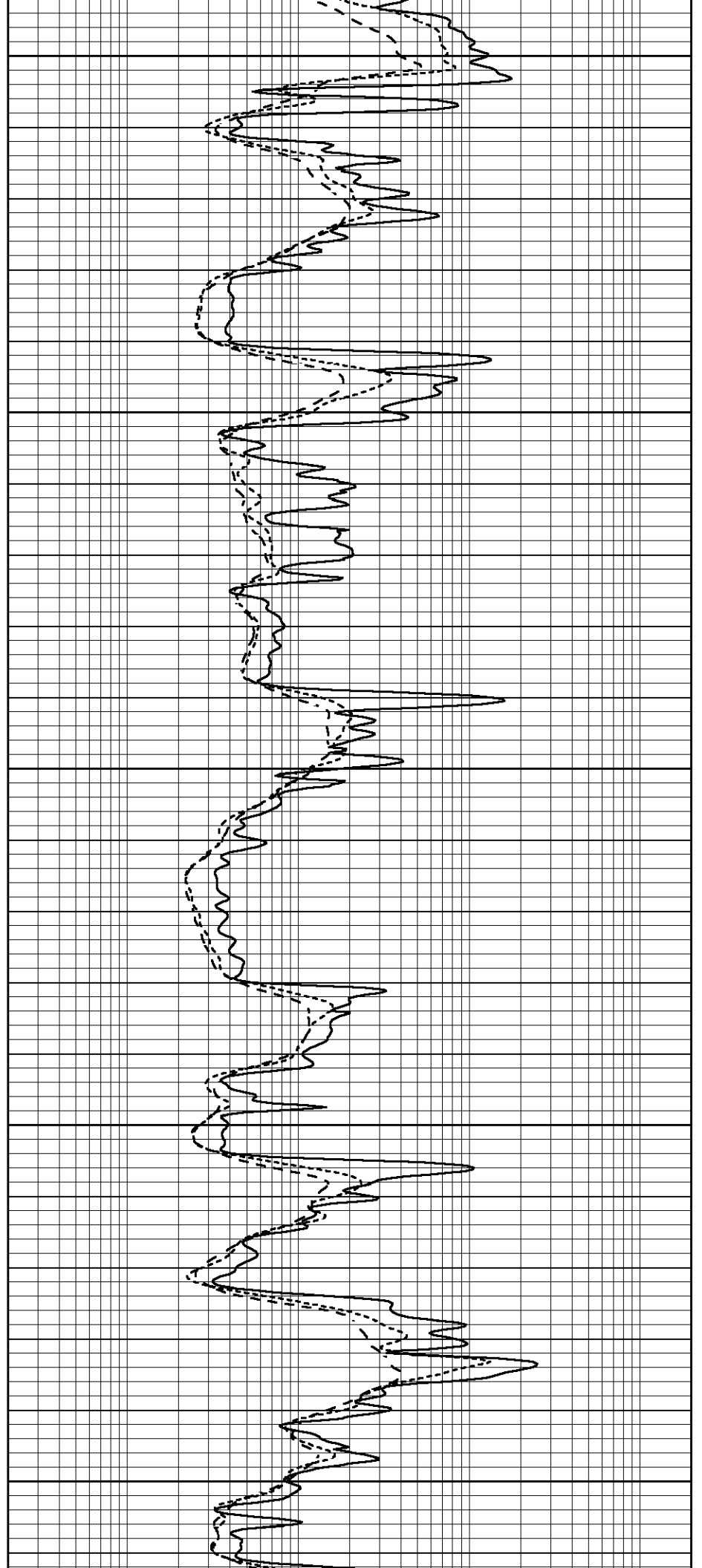
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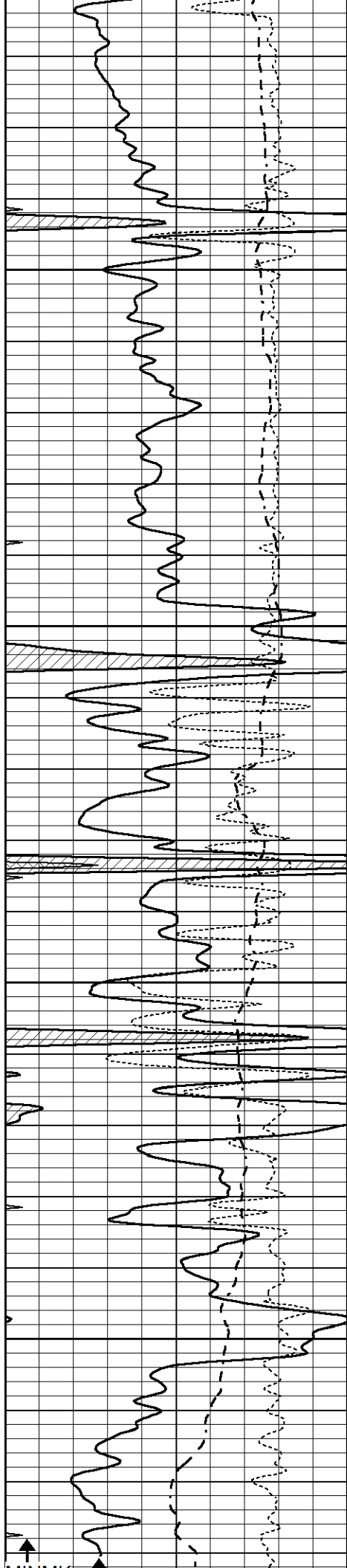
4000

4050

4100

4150



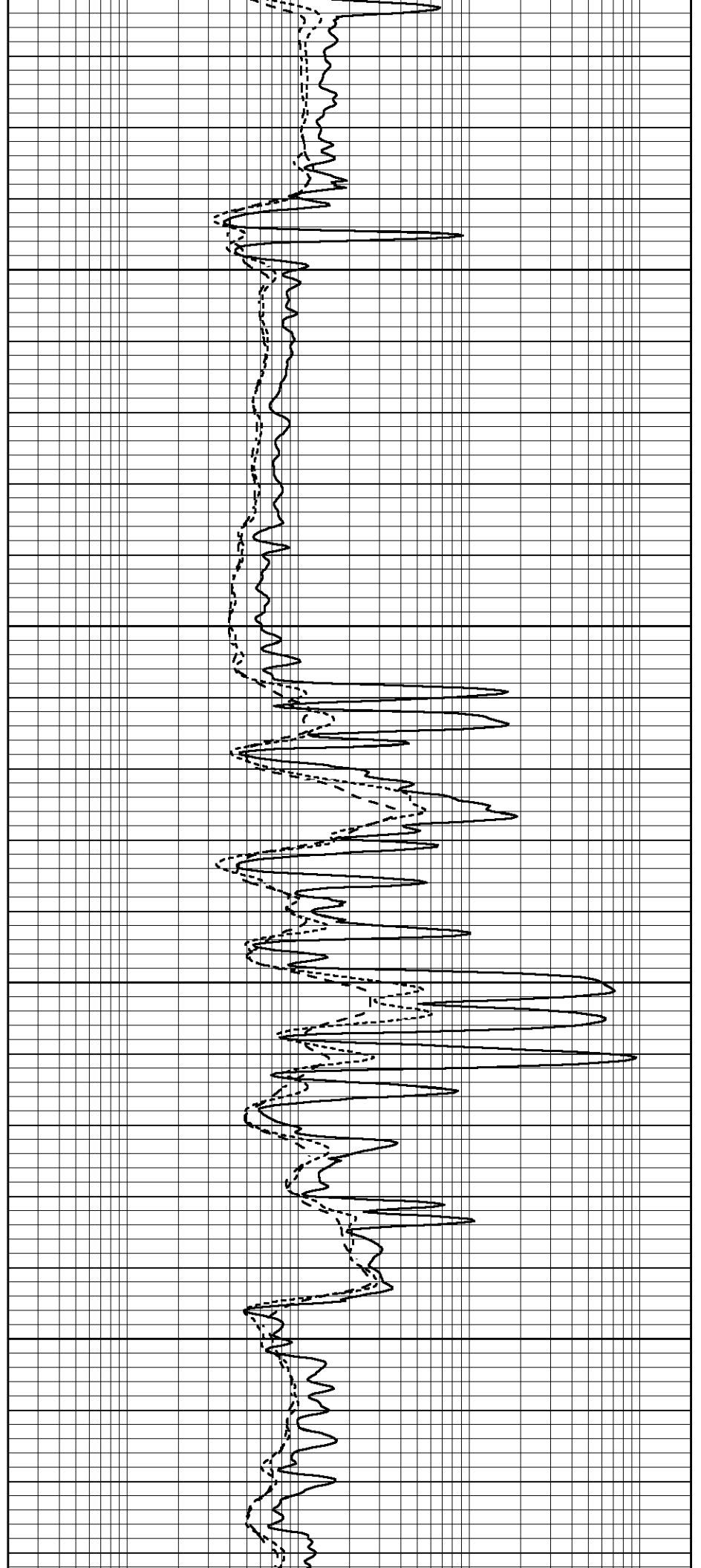


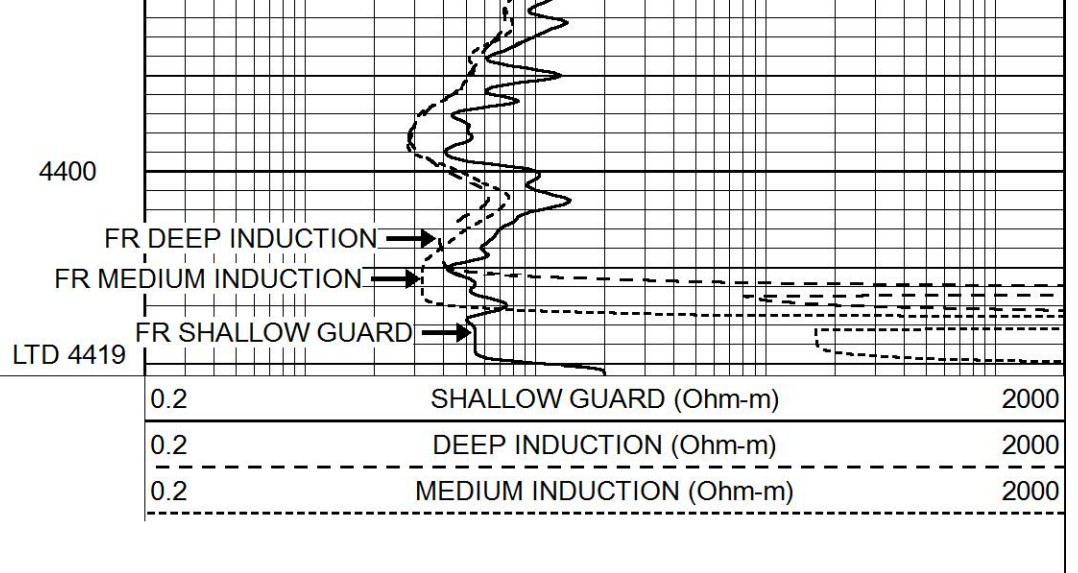
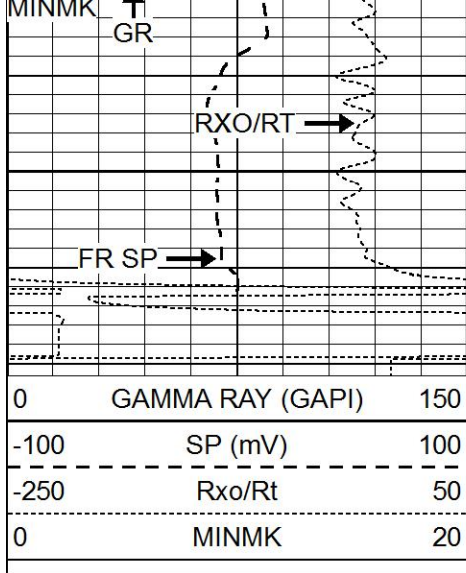
4200

4250

4300

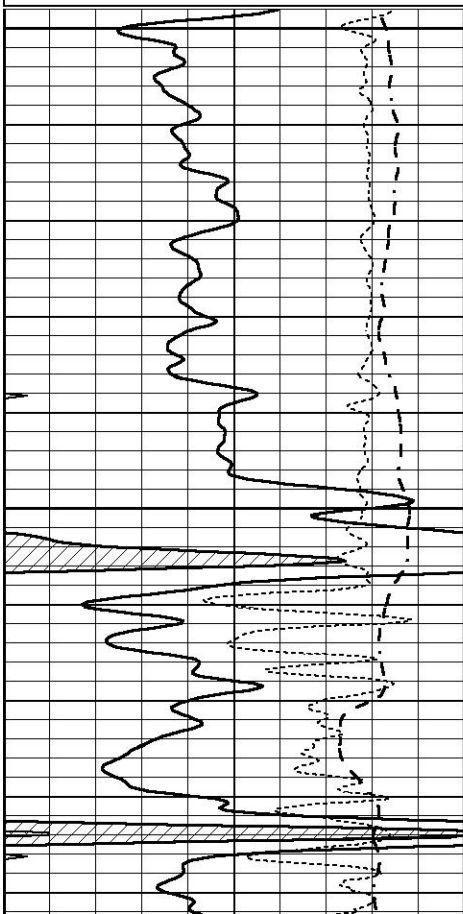
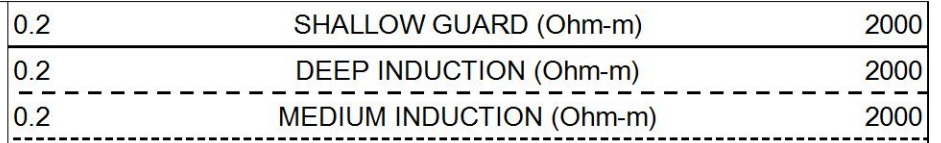
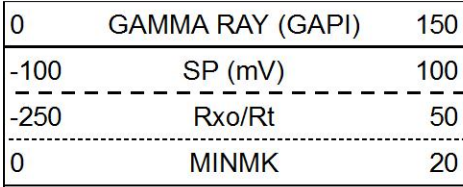
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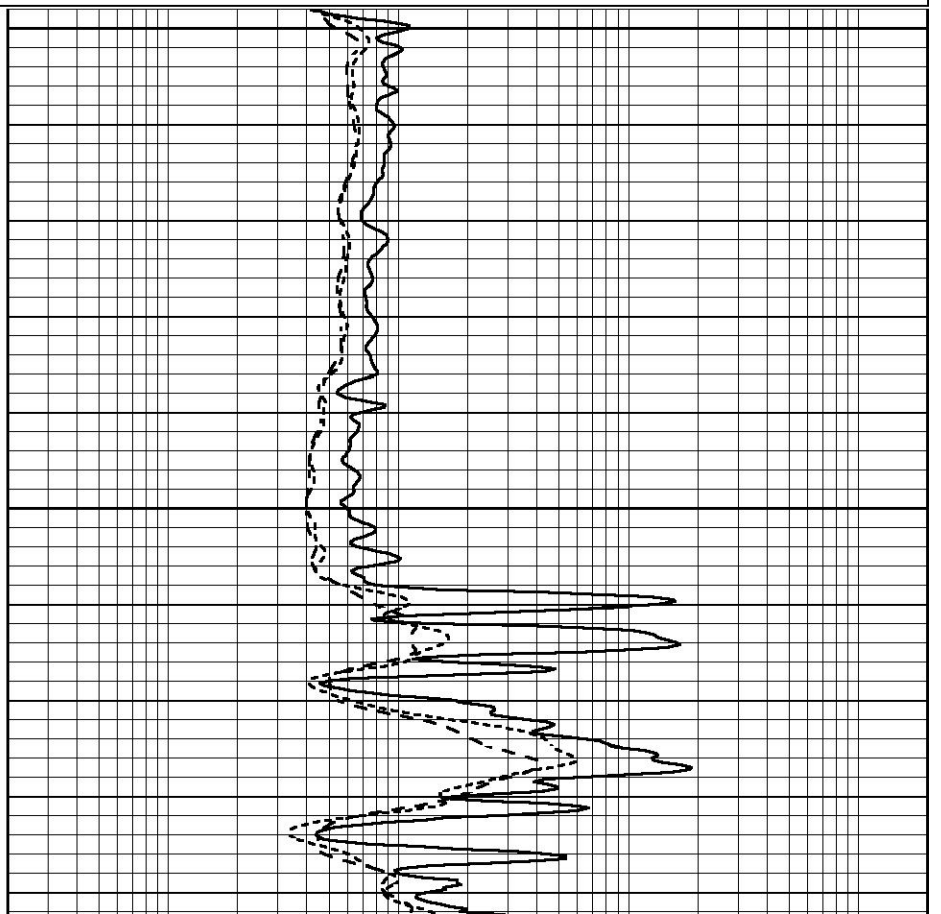
REPEAT SECTION

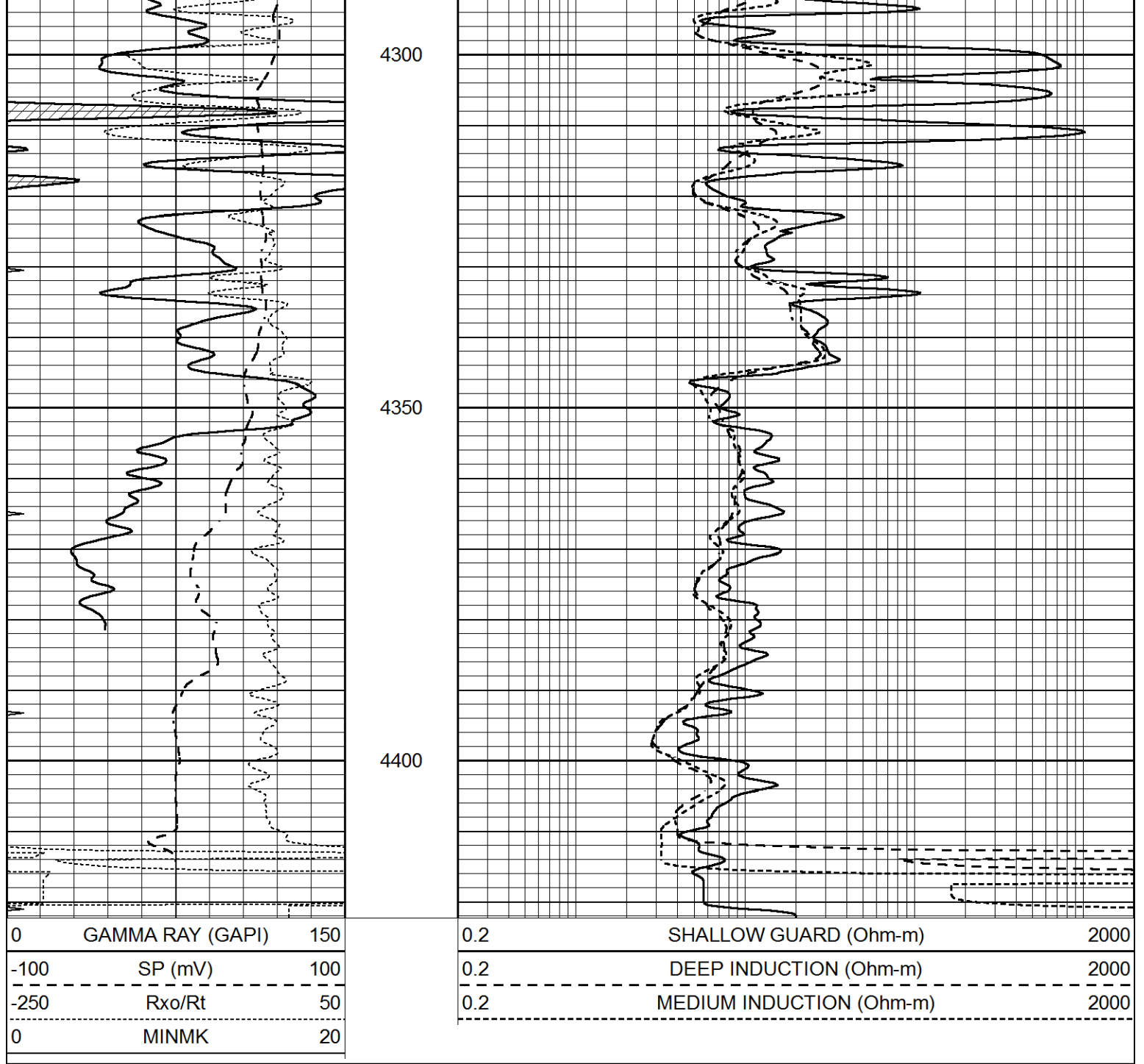
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 Charted by Depth in Feet scaled 1:240



4200

4250





Calibration Report

Database File 6331ddn.db
 Dataset Pathname pass3.4M
 Dataset Creation Tue Apr 19 23:04:46 2022

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Fri Apr 15 02:42:17 2022
 Downhole Cal Performed: Wed Mar 11 11:31:19 2020
 After Survey Verification Performed: Wed Mar 11 11:31:22 2020

Surface Calibration

Loop:	Readings			V	References			Results	
	Air	Loop			Air	Loop	mmho/m	m	b
Deep	-0.014	0.629		V	0.000	400.000	mmho/m	720.000	-15.000
Medium	0.039	0.728		V	0.000	464.000	mmho/m	720.000	-22.000

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 Mon Apr 11 11:55:35 2022						
	Background	Magnesium	Aluminum	Aluminum+Fe				
Window 1	1146.0	9908.5	3186.3	2798.4			cps	
Window 2	1047.5	8472.0	2762.1	2473.4			cps	
Window 3	895.2	5137.9	1835.4	1712.5			cps	
Window 4	256.9	263.7	257.1	255.3			cps	
Long Space	0.0	7424.5	1714.5	1425.8			cps	
Short Space	5.5	2048.0	1353.7	1107.5			cps	
Rho		1.7100	2.5900	0.0000			g/cc	
Pe		2.0000	2.7500	5.7900				
Rib Angle	: 44.2	Rib Slope	: 0.973	Density/Spine Ratio			: 0.578	
Spine Angle	: 74.2	Spine Slope	: 3.540	Spine Intercept			: -18.1	

Before Survey Verification		Performed Wed Dec 31 18:00:00 1969						
	Background	Magnesium	Aluminum	Aluminum+Fe				
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						
	Background	Magnesium	Aluminum	Aluminum+Fe				
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: Tue Mar 22 20:25:25 2022

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps