



# DUAL INDUCTION LOG

Company KNIGHTON OIL COMPANY, INC.

Well BGM #1-2

Field SMITH NORTHEAST

County COWLEY State KANSAS

Location: API #: 15-035-24787-0000

990' FSL & 330' FWL

NW - SW - SW  
SEC 2 TWP 31S RGE 3E

Permanent Datum GROUND LEVEL Elevation 1230

Log Measured From KELLY BUSHING 9' A.G.L.

Drilling Measured From KELLY BUSHING

Other Services  
CDL/CNL/PE  
MEL/SONIC

Elevation

K.B. 1239

D.F. 1237

G.L. 1230

Date	8/18/23		
Run Number	ONE		
Depth Driller	3487		
Depth Logger	3486		
Bottom Logged Interval	3484		
Top Log Interval	00		
Casing Driller	13 3/8"@342'		
Casing Logger	342		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,200 PPM	
Density / Viscosity	8.9/45		
pH / Fluid Loss	11.0/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.900@97F		
Rmf @ Meas. Temp	.675@97F		
Rmc @ Meas. Temp	1.08@97F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.786@111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	5.45 P.M.		
Maximum Recorded Temperature	111F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	PHIL ASKEY		

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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.

15-035-24787-0000

Comments

THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
UDALL, KS., 2W. ON HWY 15 TO "41ST ST.", 3/4S., E. INTO

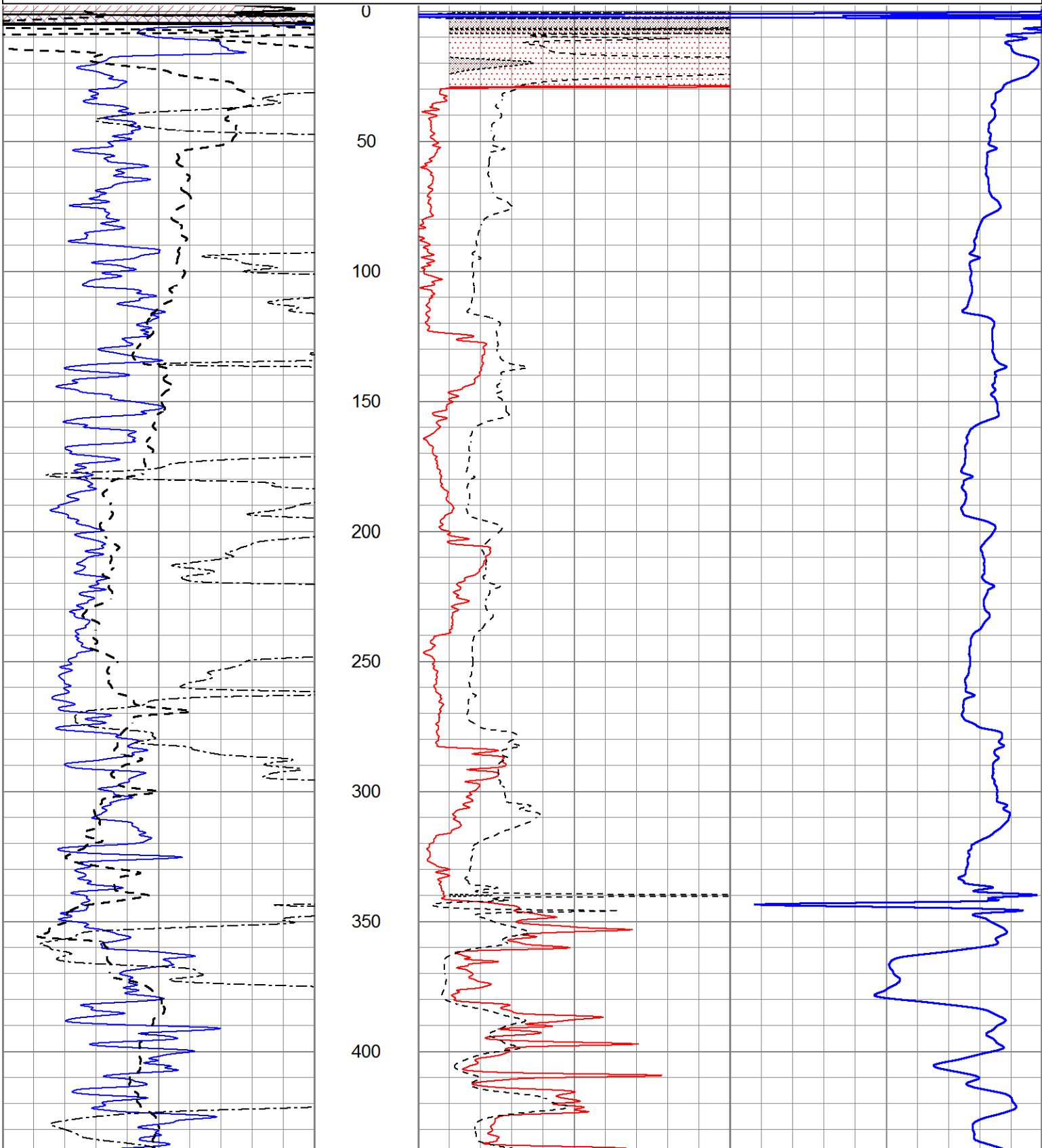


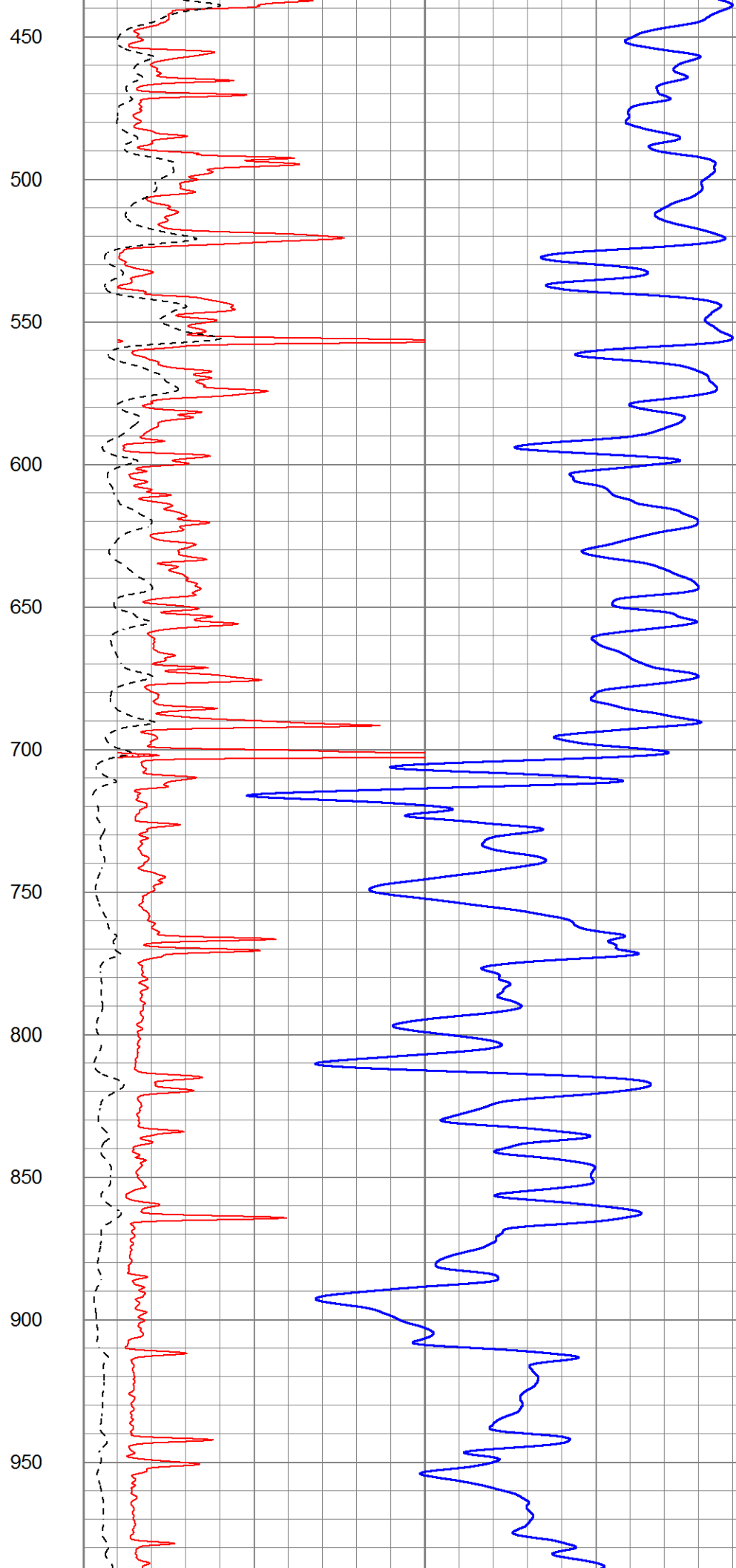
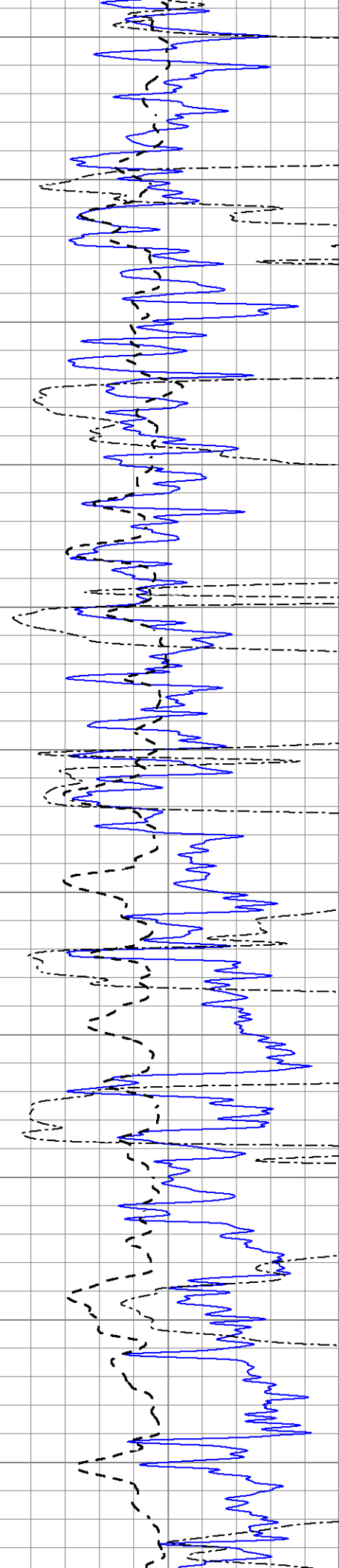
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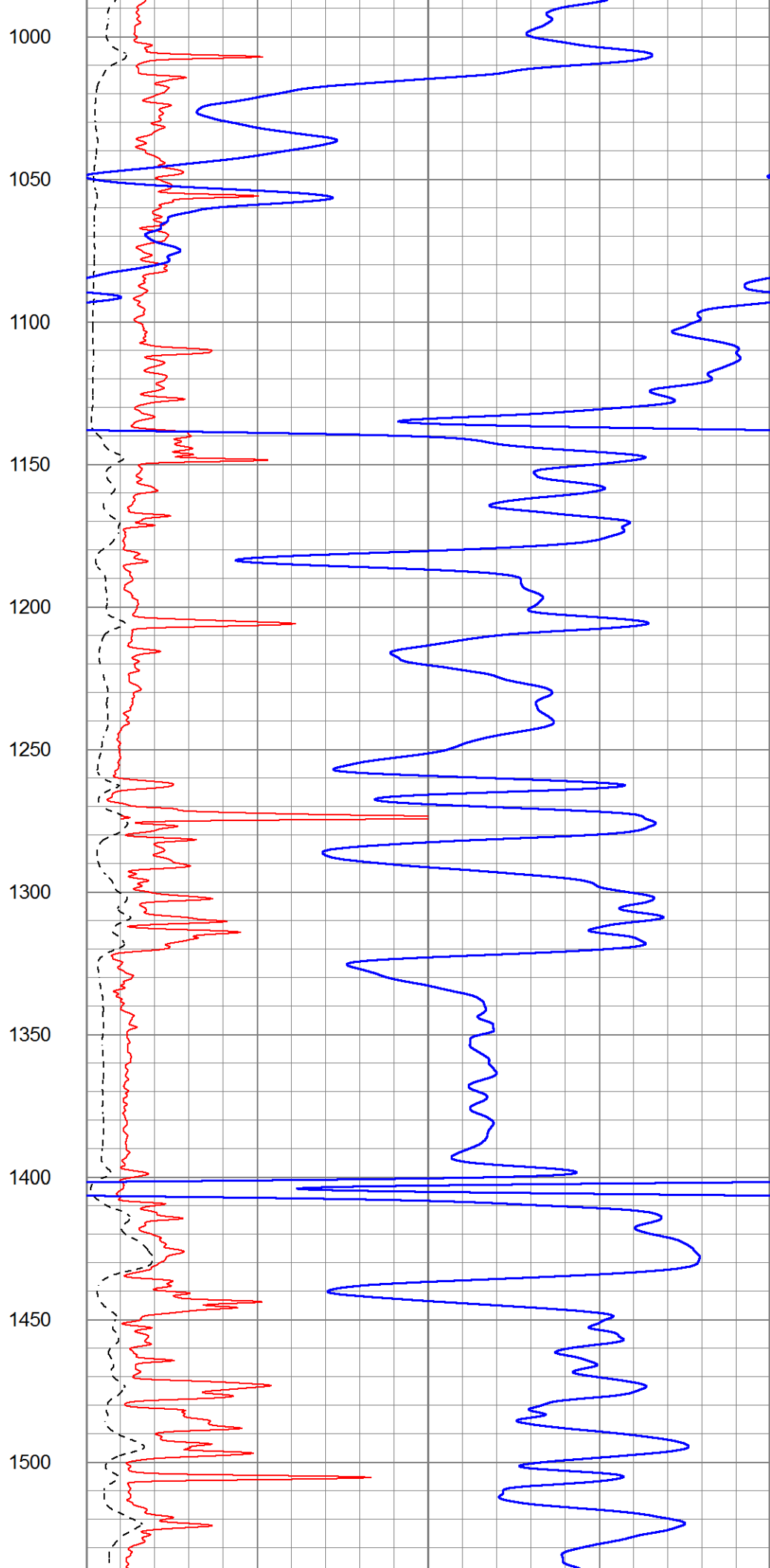
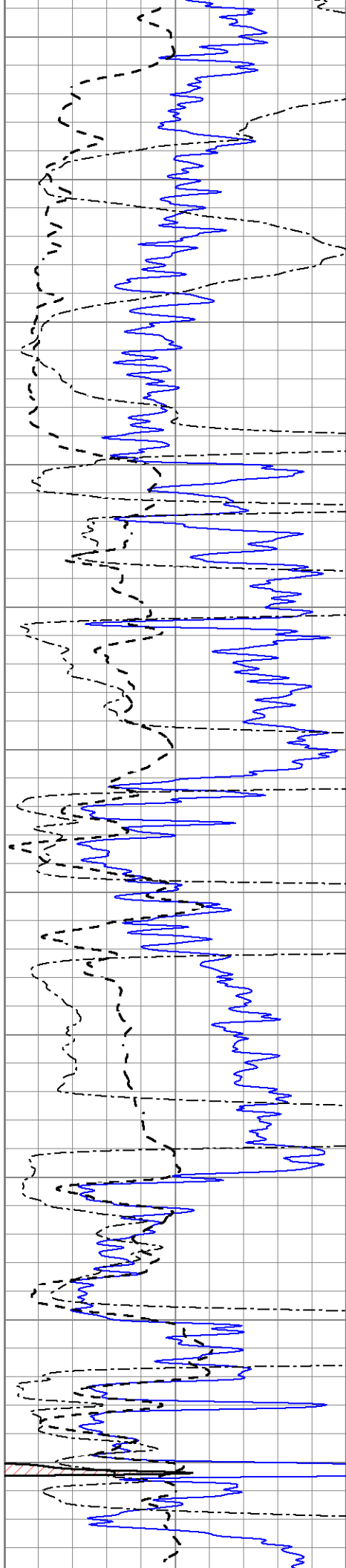
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 Dataset Pathname pass3.1M  
 Presentation Format \_dil2  
 Dataset Creation Fri Aug 18 19:29:08 2023  
 Charted by Depth in Feet scaled 1:600

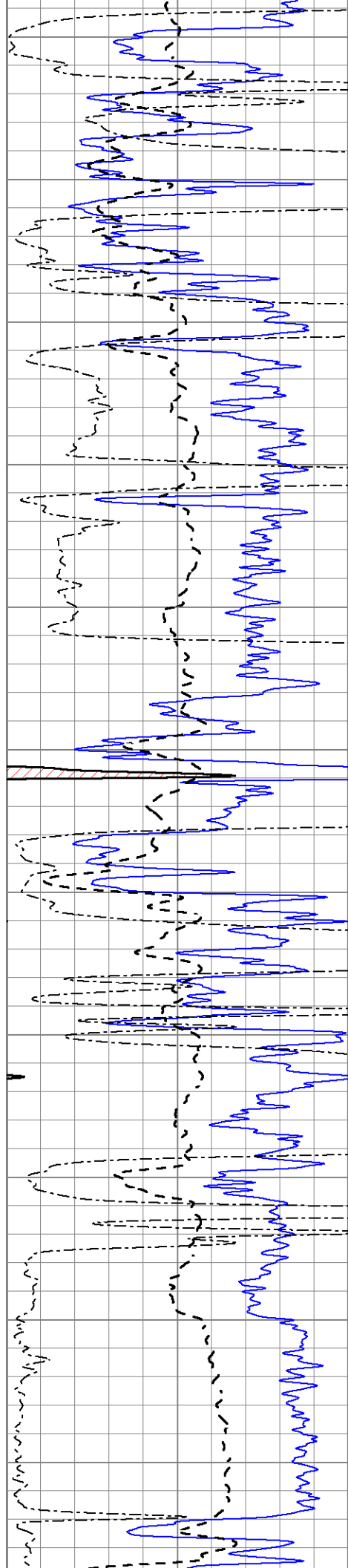
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-100	SP (mV)	100
0	RWA (Ohm-m)	1

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









1550

1600

1650

1700

1750

1800

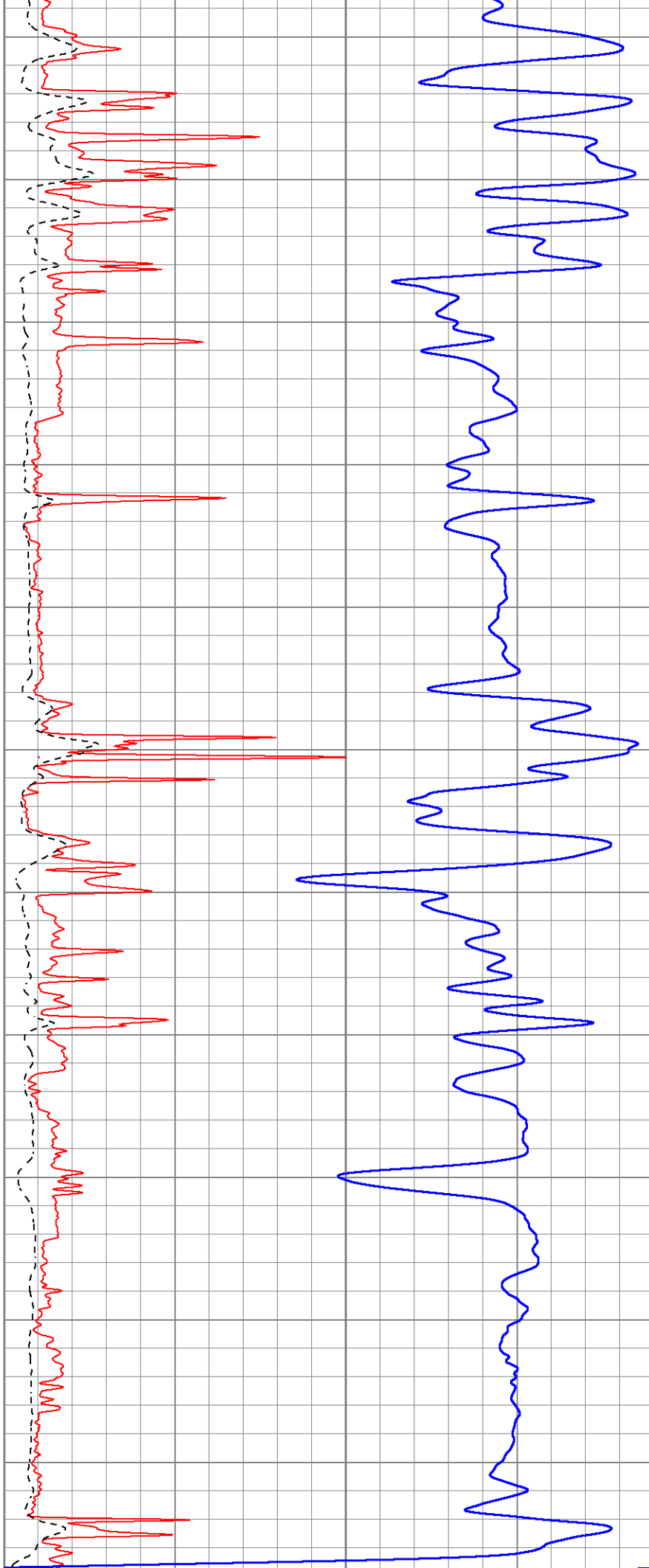
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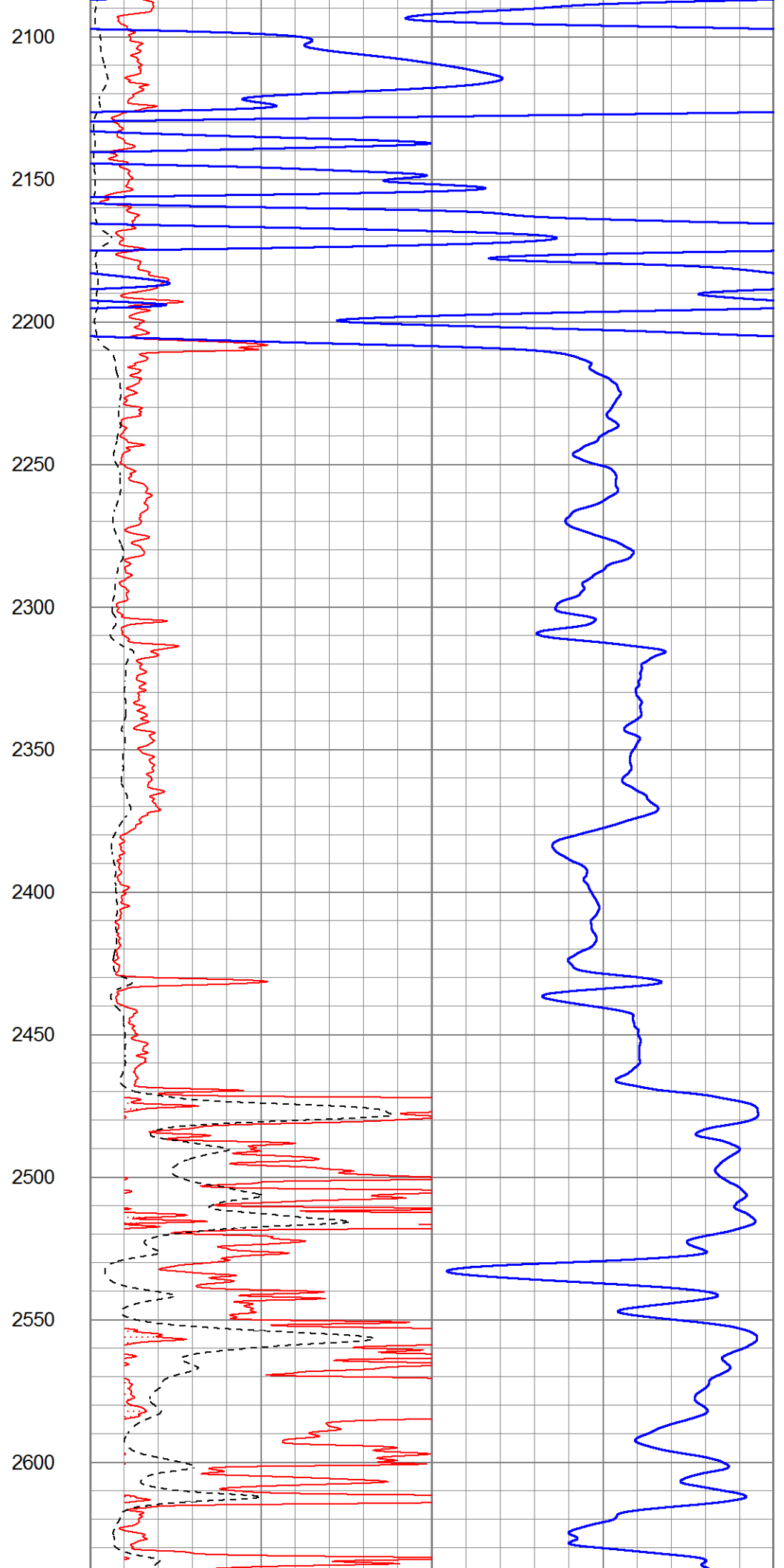
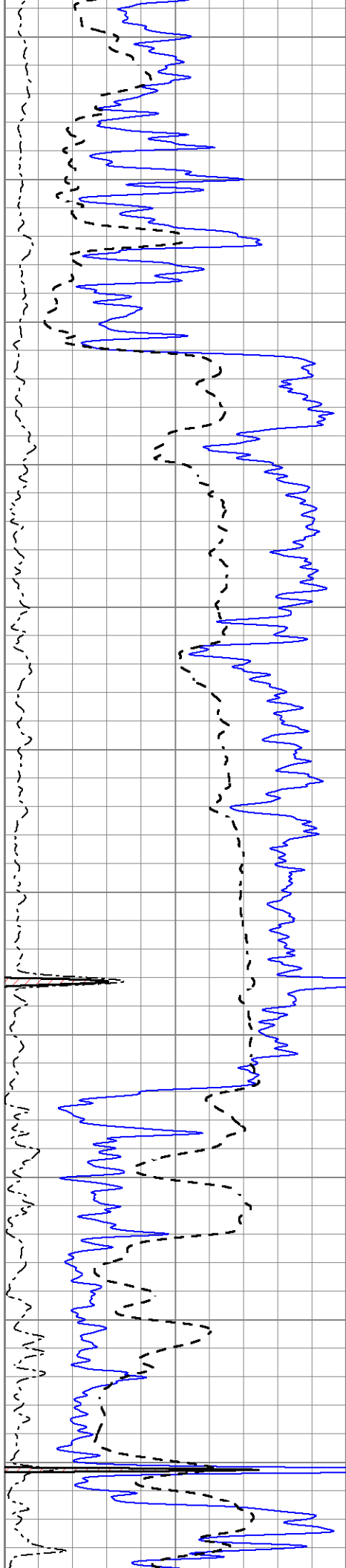
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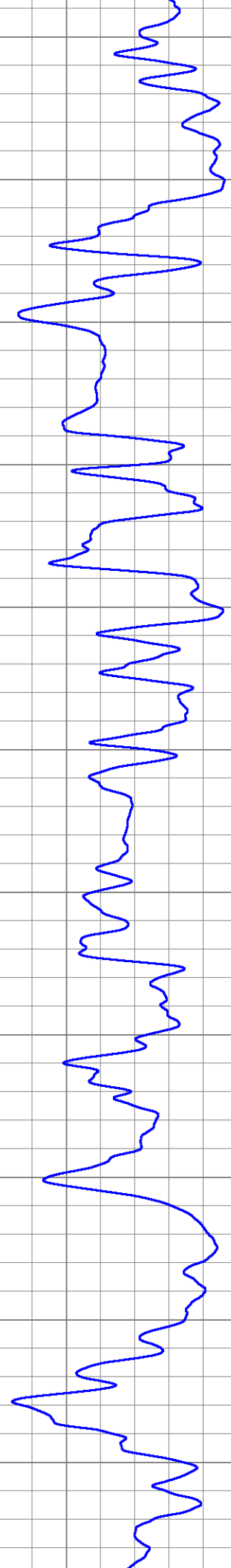
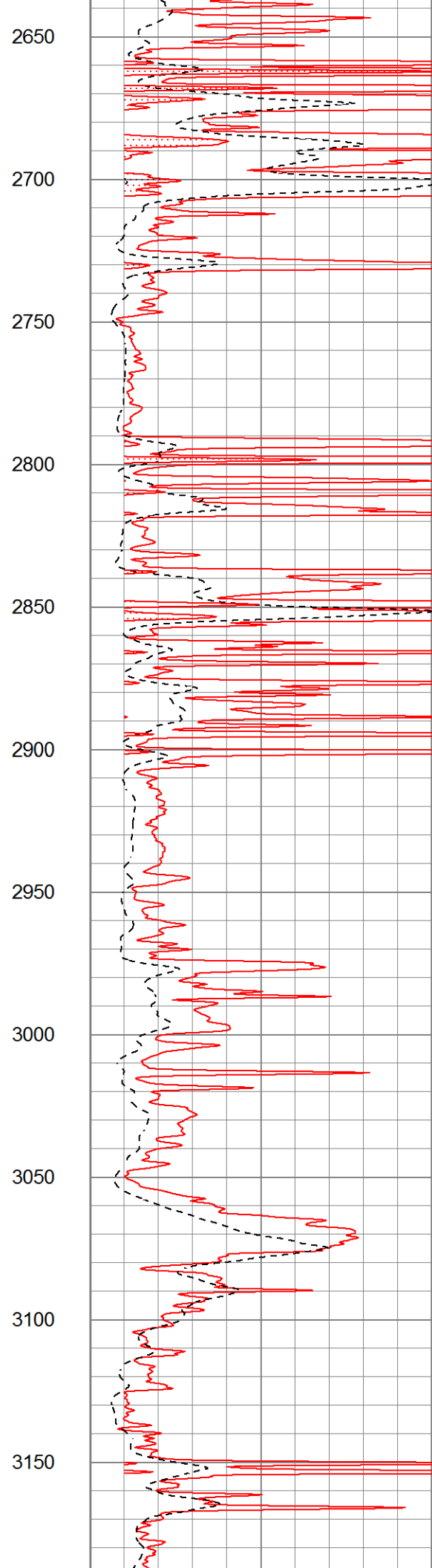
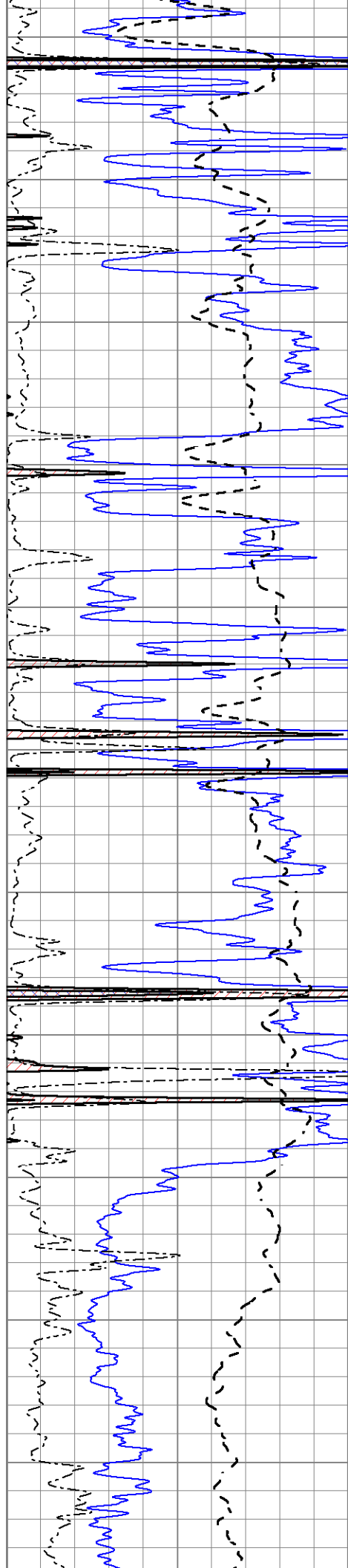
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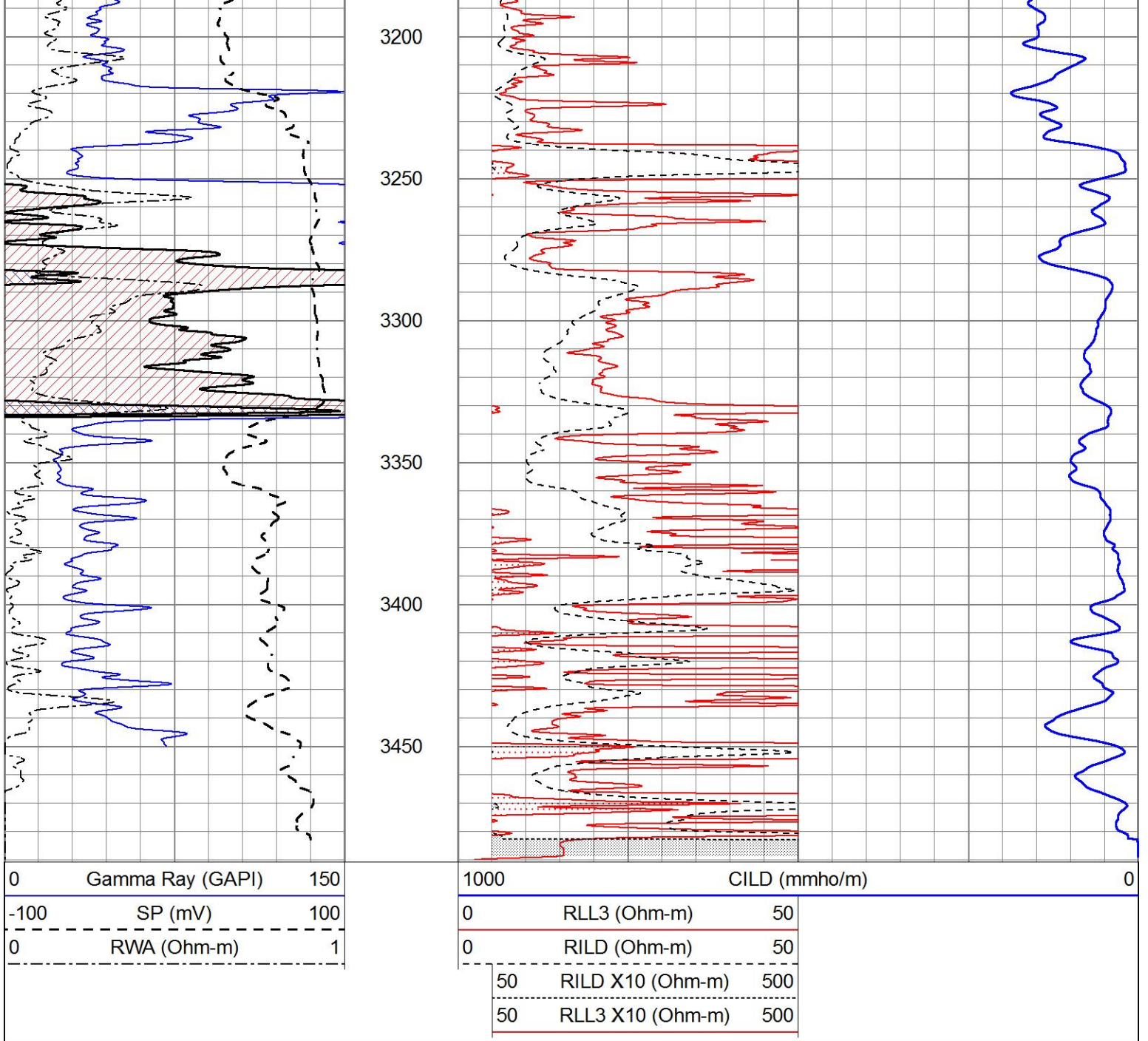
2000

2050





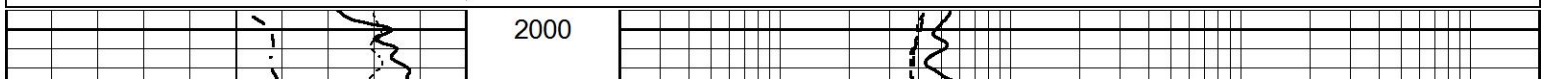


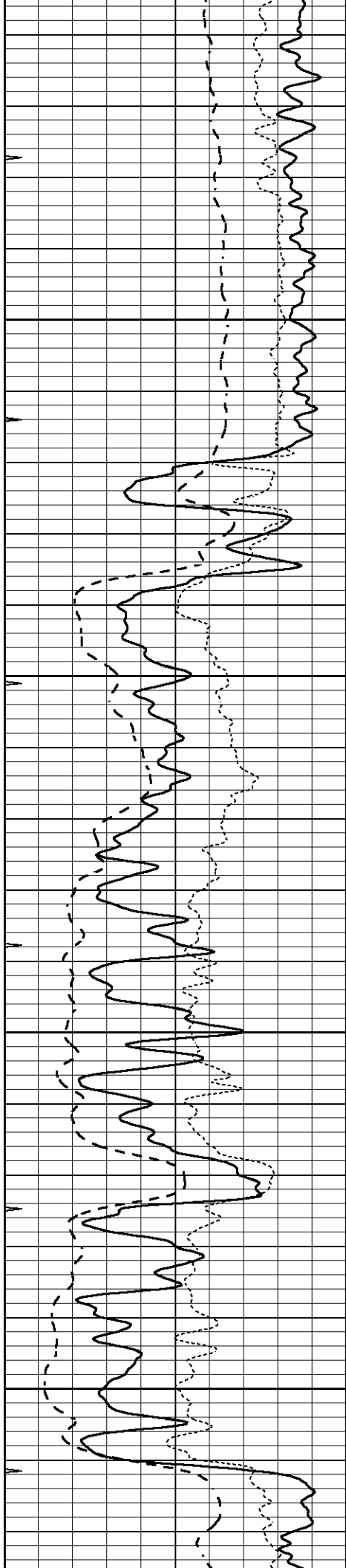


# MAIN SECTION

Database File      7321pe.db  
 Dataset Pathname    pass3.1M  
 Presentation Format    \_dil  
 Dataset Creation      Fri Aug 18 19:29:08 2023  
 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			



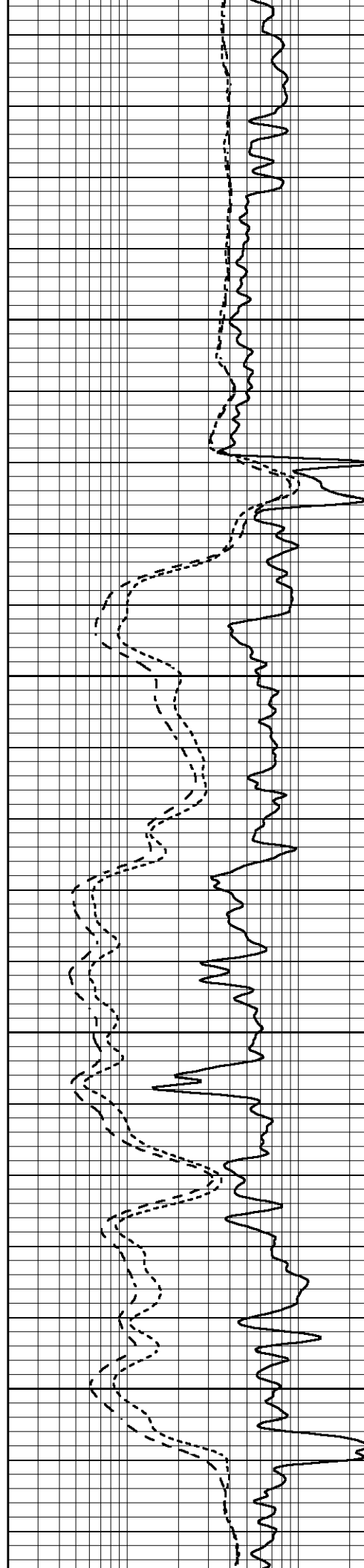


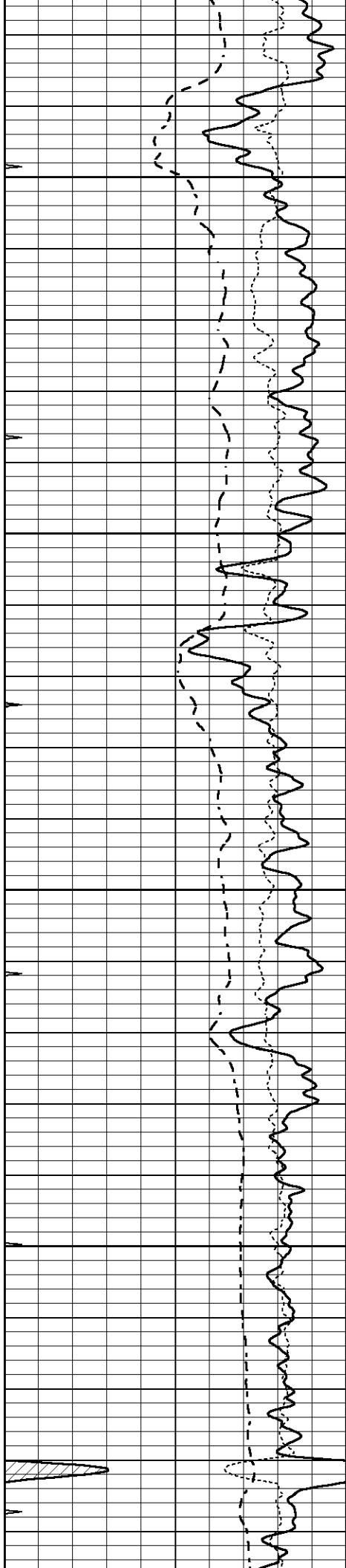
2050

2100

2150

2200



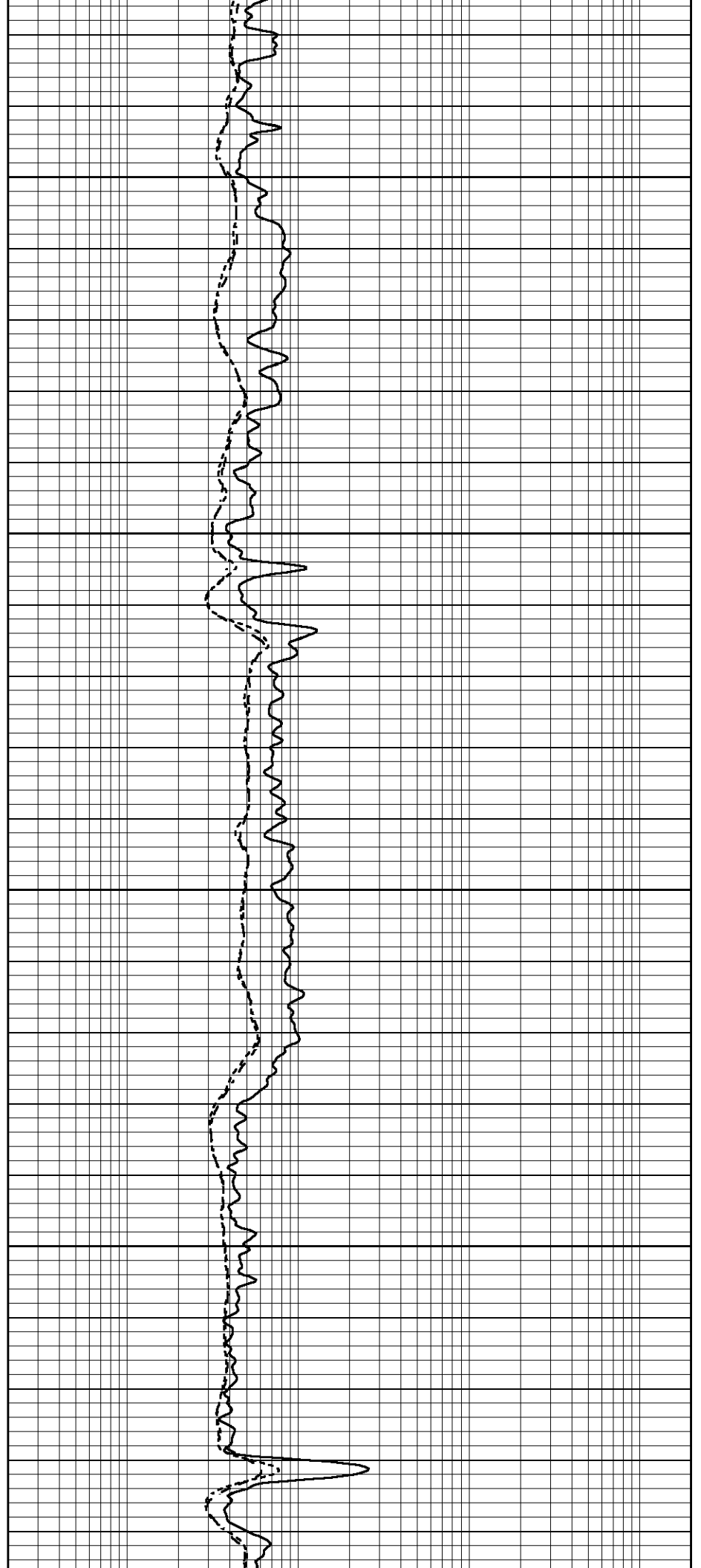


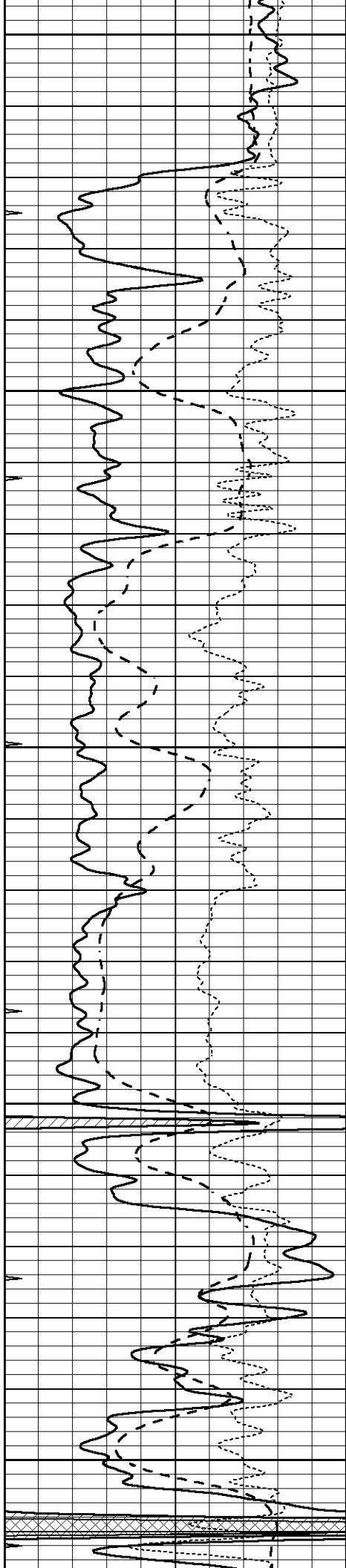
2250

2300

2350

2400





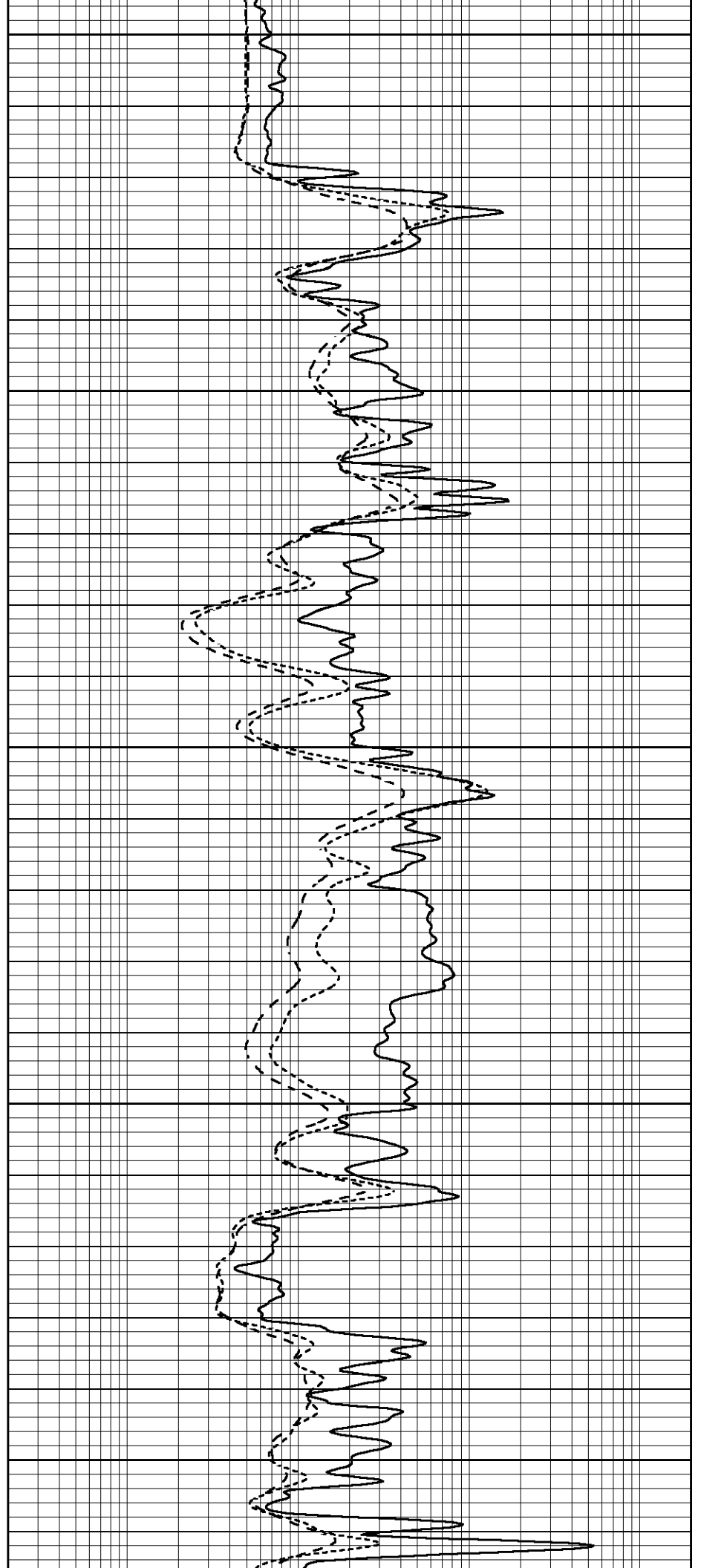
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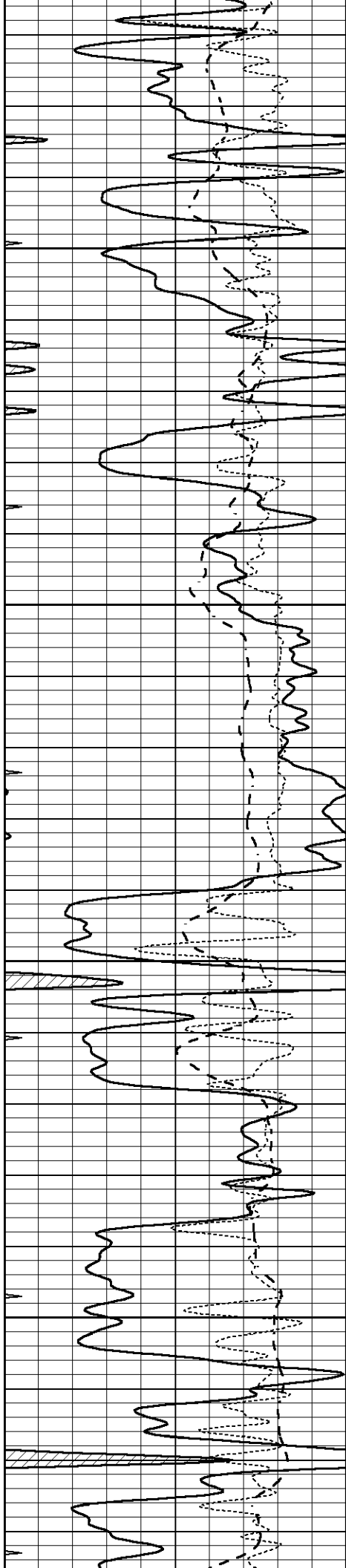
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2550

2600

2650



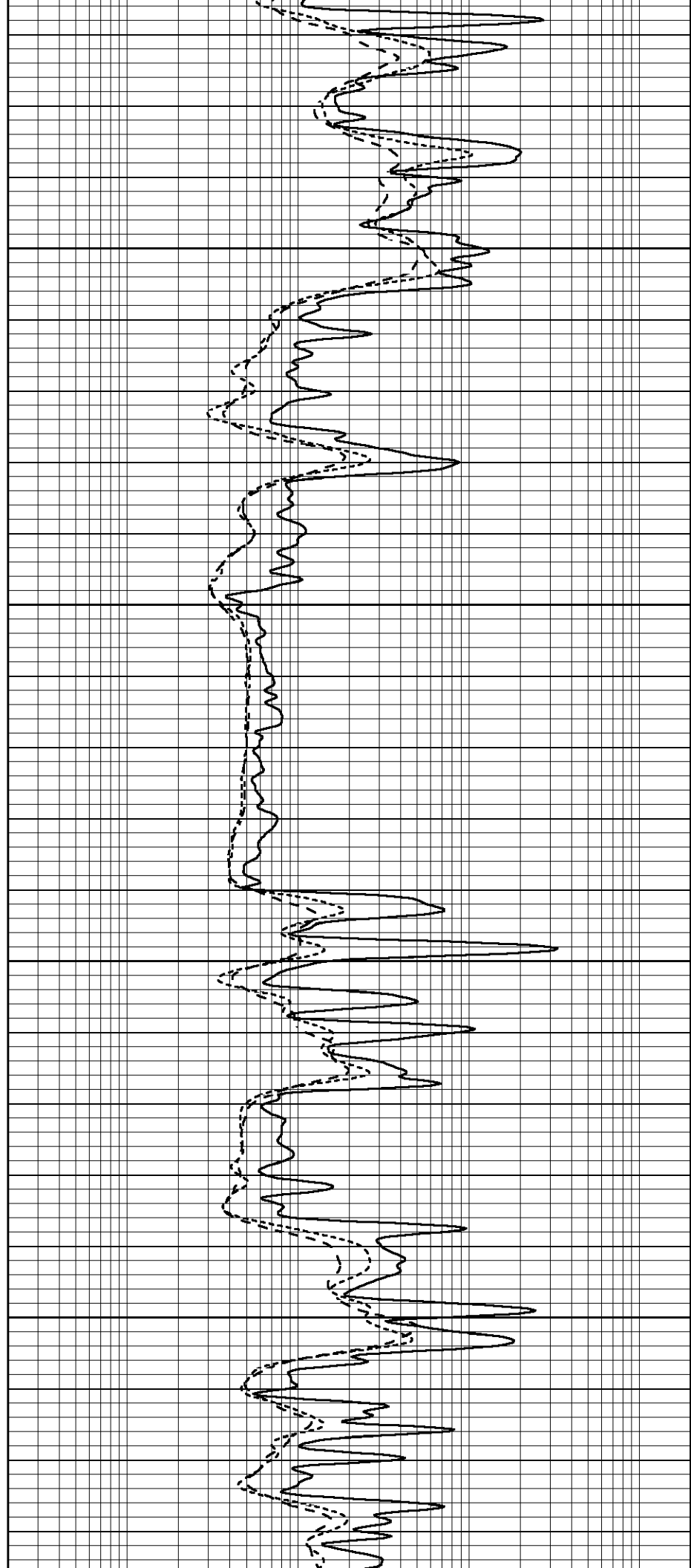


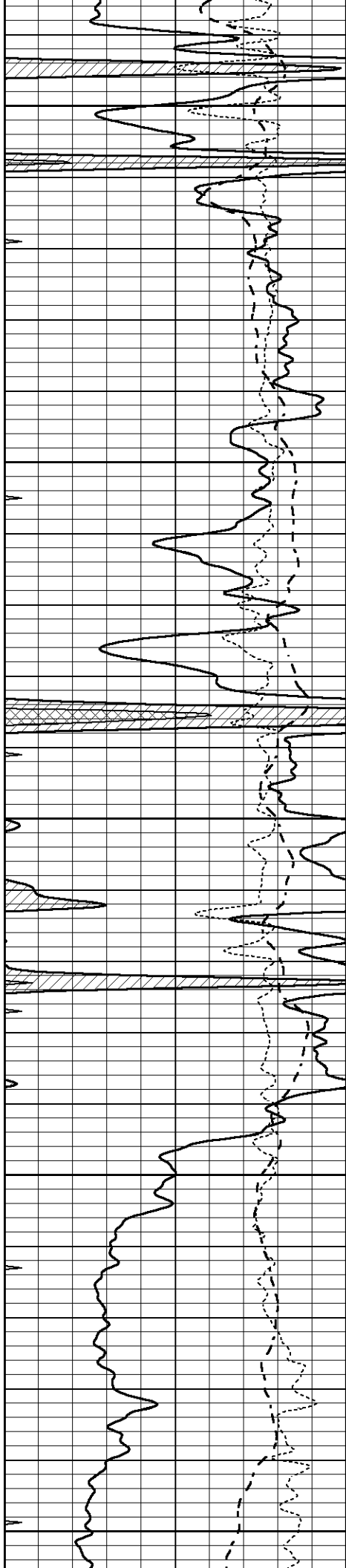
2700

2750

2800

2850





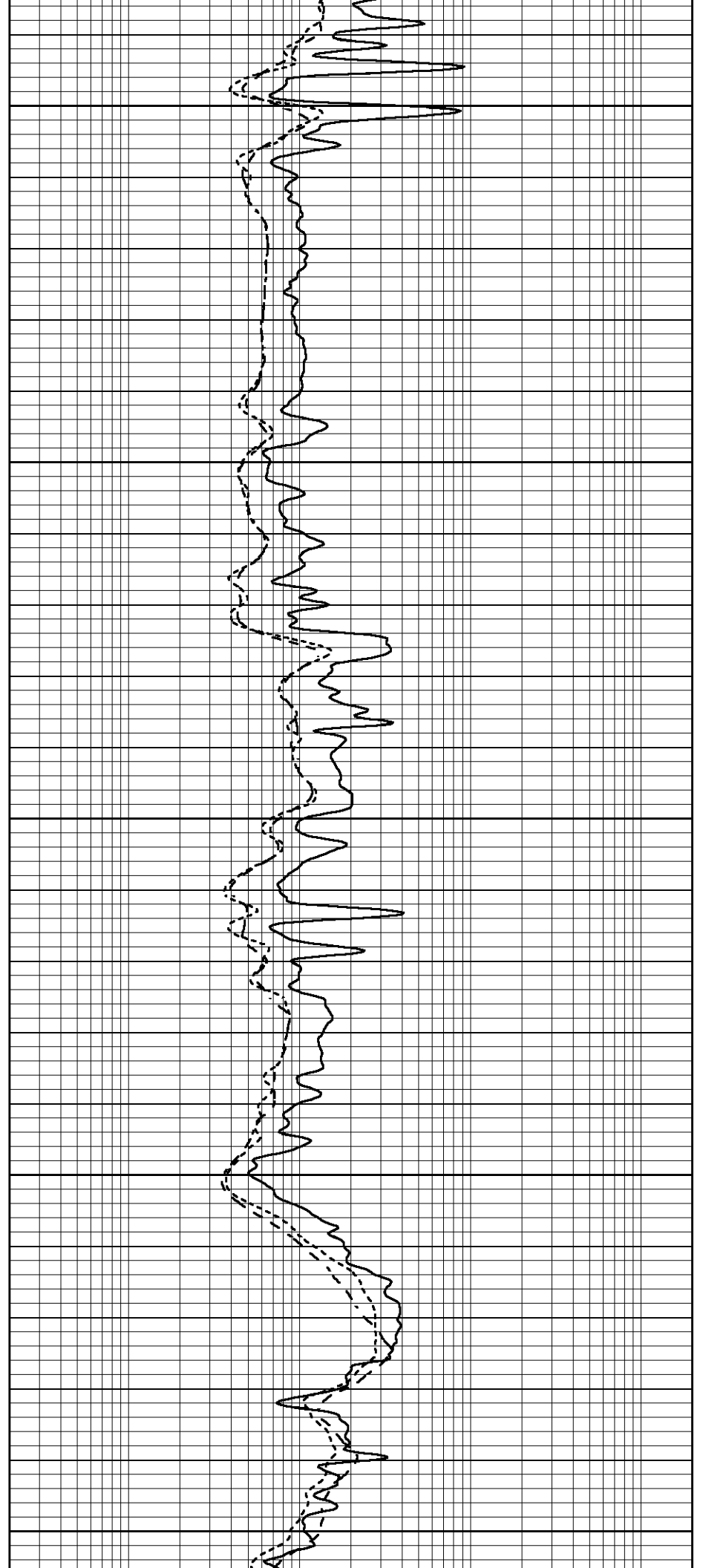
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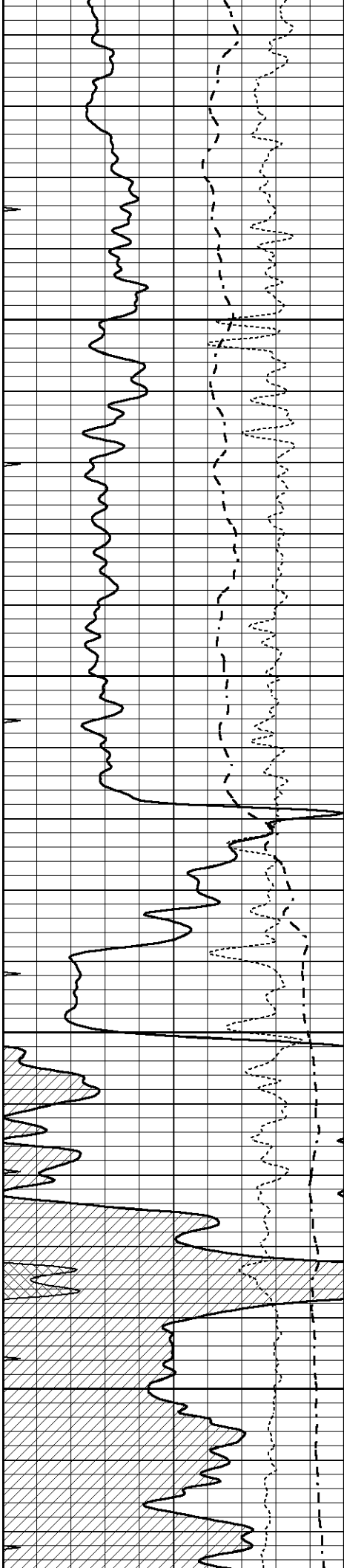
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3000

3050

3100



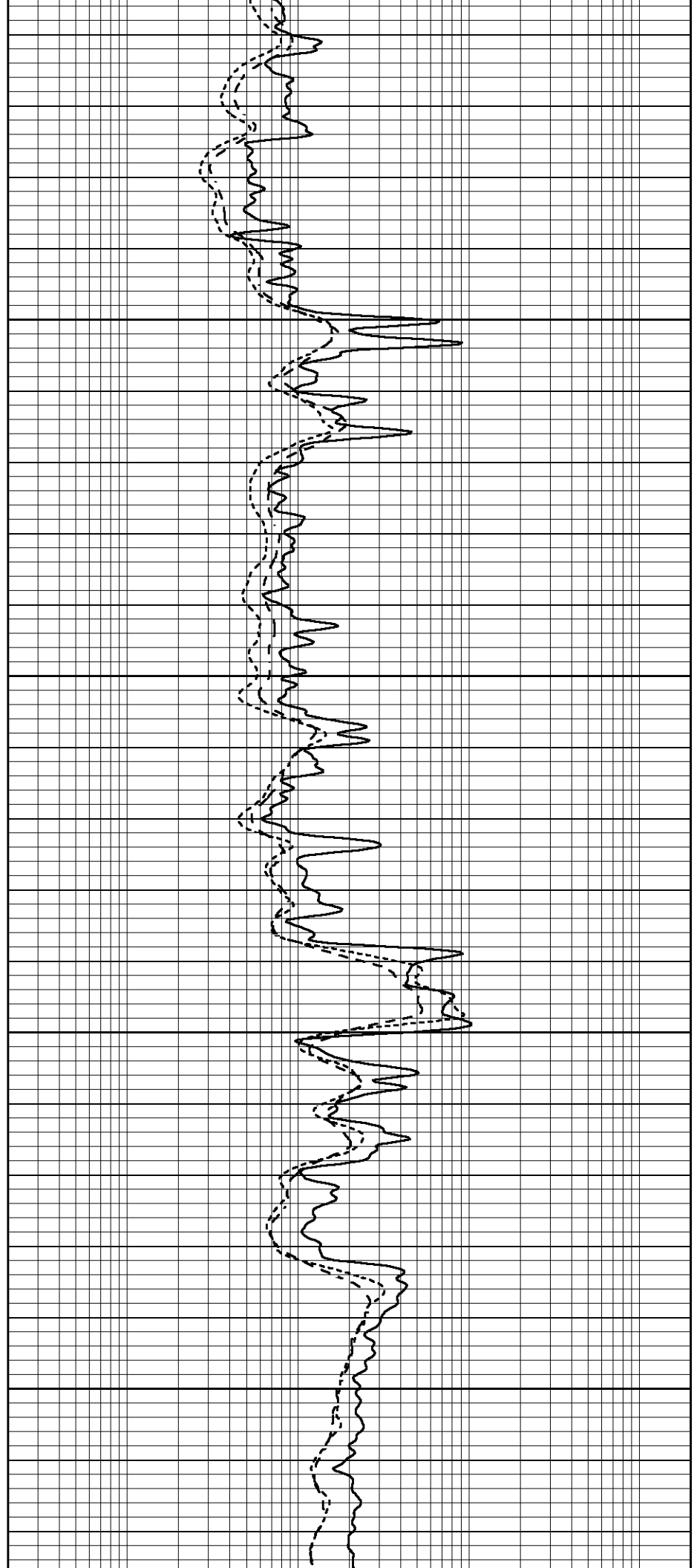


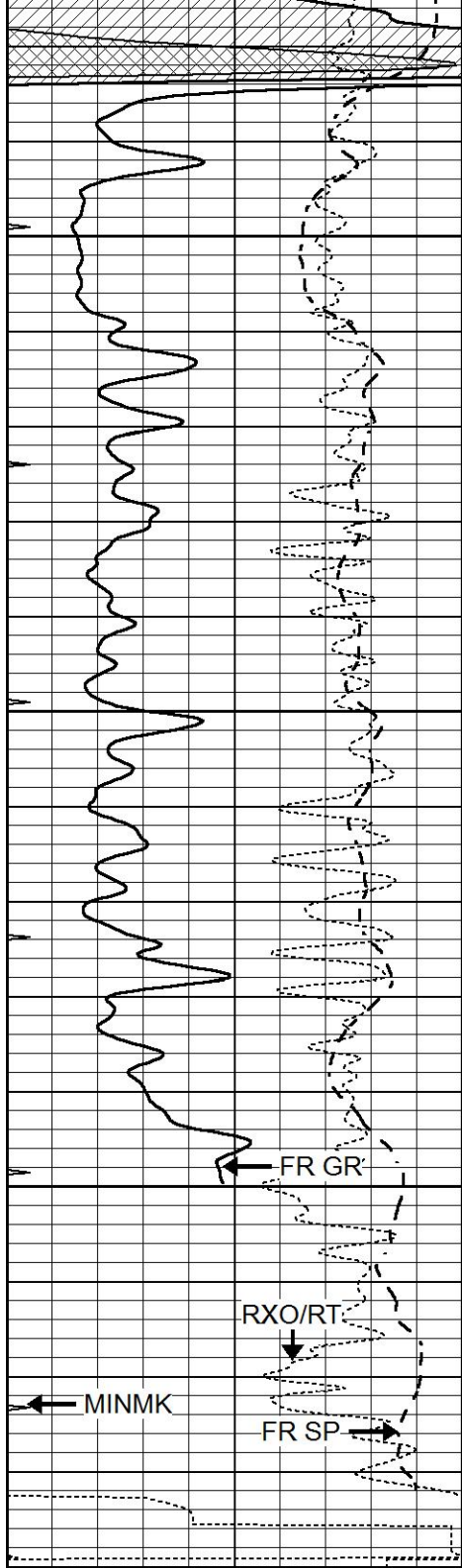
3150

3200

3250

3300





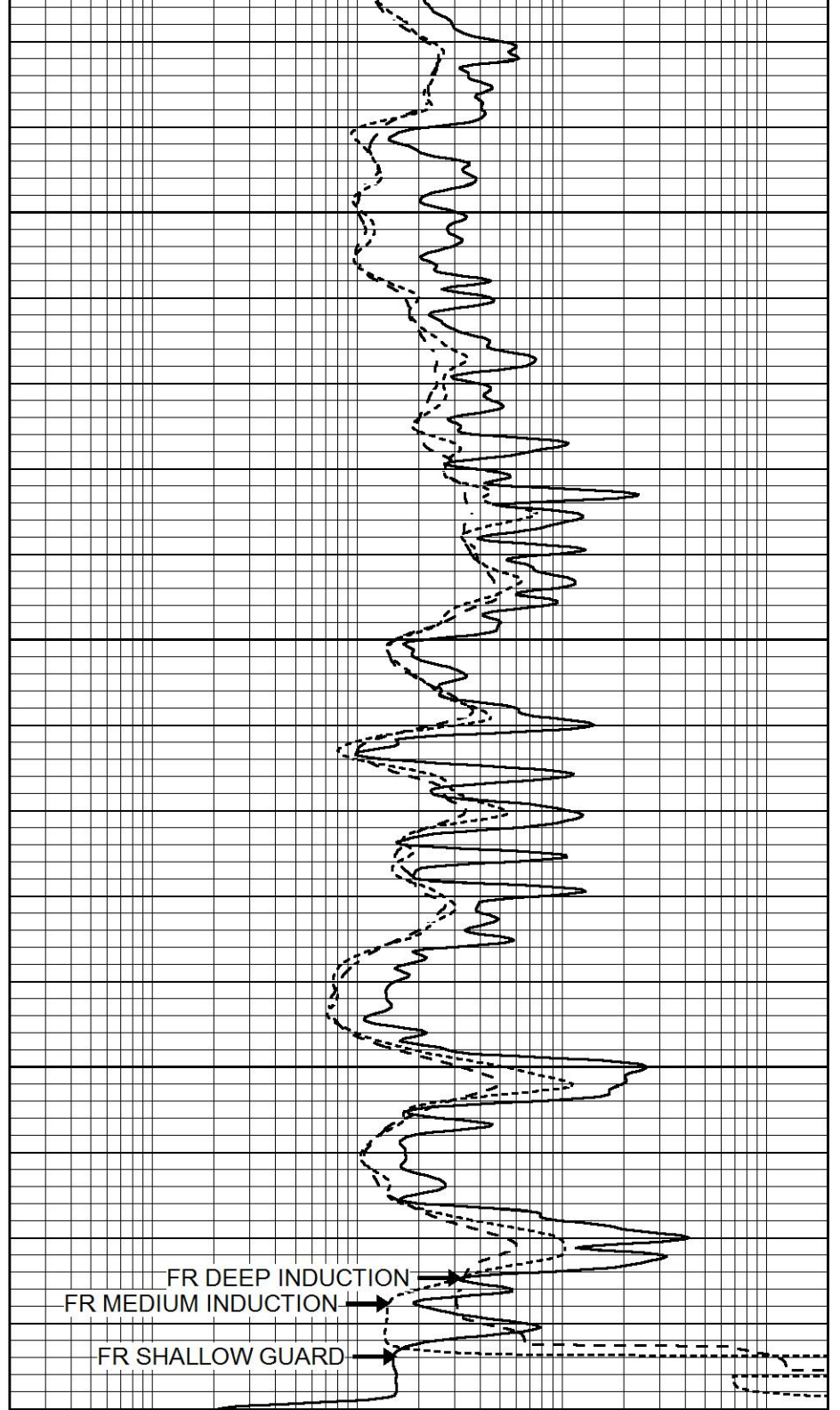
3350

3400

3450

LTD 3486

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



FR DEEP INDUCTION

FR MEDIUM INDUCTION

FR SHALLOW GUARD

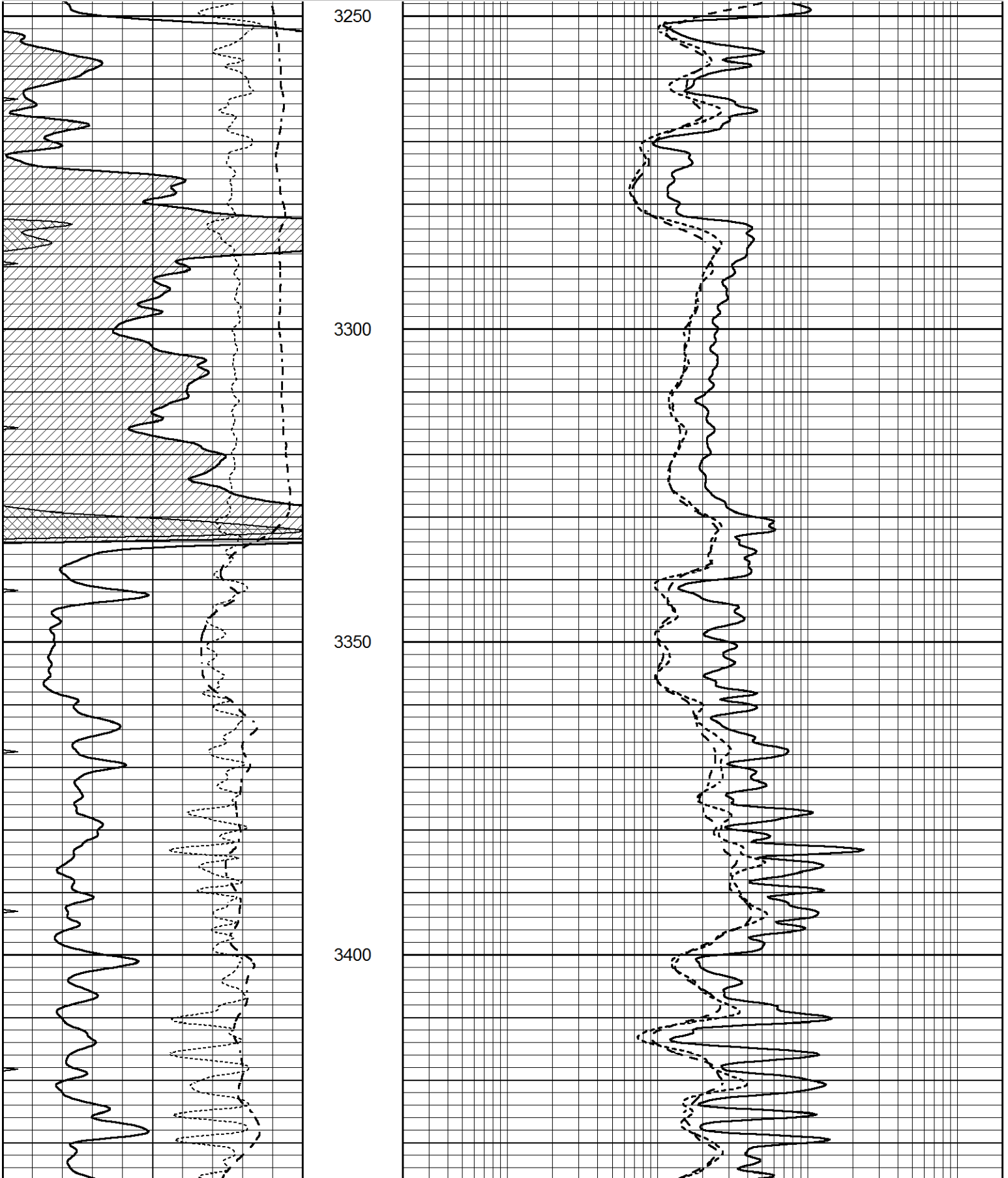
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

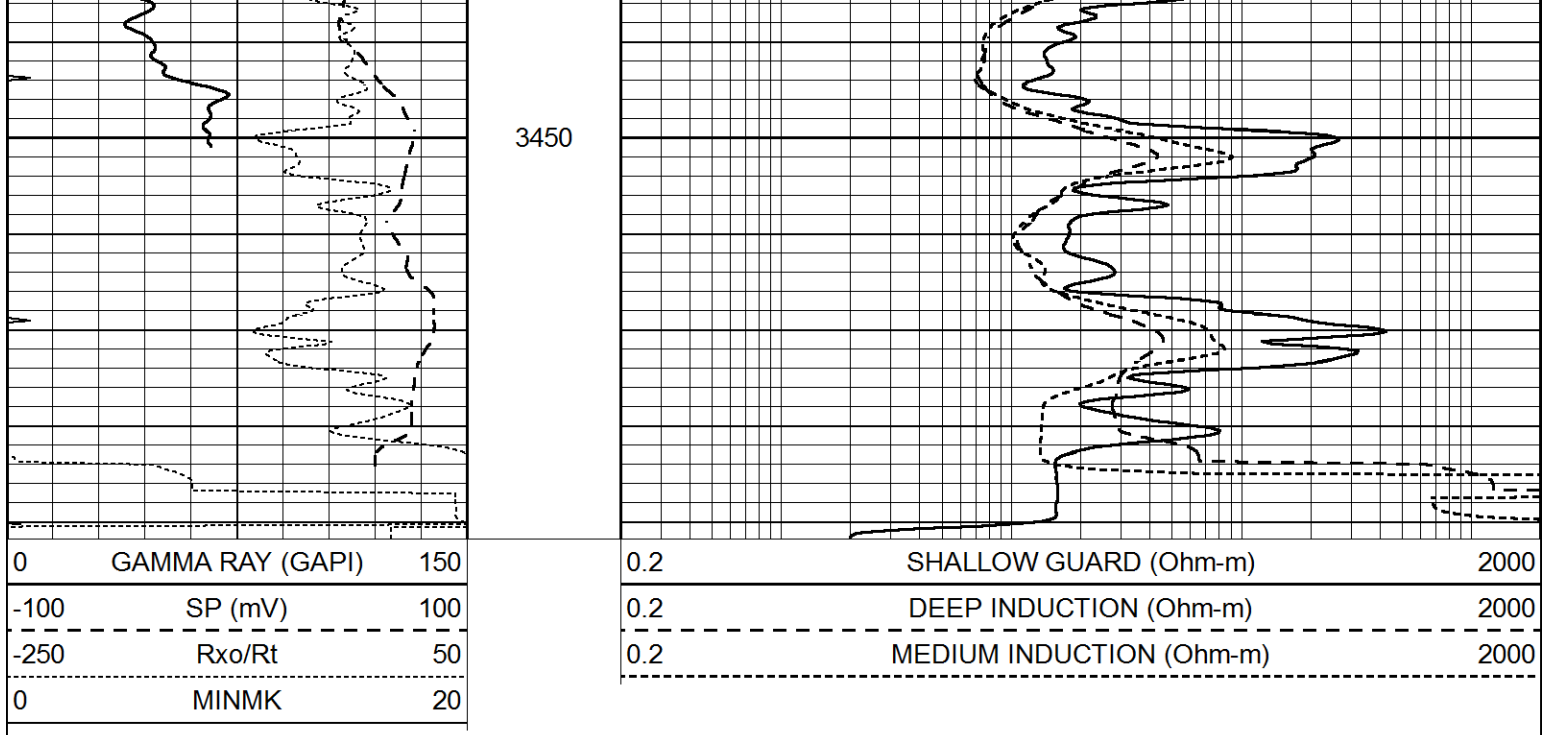


# REPEAT SECTION

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





### Calibration Report

Database File 7321pe.db  
 Dataset Pathname pass3.1M  
 Dataset Creation Fri Aug 18 19:29:08 2023

### Dual Induction Calibration Report

Serial-Model: DIL7-GEAR  
 Surface Cal Performed: Fri Aug 18 16:47:08 2023  
 Downhole Cal Performed: Tue Apr 17 15:38:44 2007  
 After Survey Verification Performed: Tue Apr 17 15:38:40 2007

#### Surface Calibration

Loop:	Readings			V	References			Results	
	Air	Loop			Air	Loop		m	b
Deep	0.019	0.660			0.000	400.000	mmho/m	660.000	16.000
Medium	-0.006	0.655			0.000	462.500	mmho/m	720.000	-26.000
Internal:	Zero			V	Cal			Results	
									m
Deep	0.010	0.665			0.000	400.000	mmho/m	610.018	-5.925
Medium	0.009	0.655			0.000	400.000	mmho/m	618.983	-5.564

#### Downhole Calibration

Internal:	Readings			V	References			Results	
	Zero	Cal			Zero	Cal		m	b
Deep	3.372	400.834	mmho/m		0.556	401.206	mmho/m	1.008	-2.843
Medium	13.557	467.446	mmho/m		9.465	462.114	mmho/m	0.997	-4.055
Shallow	2.521	0.019	V		500.000	2.000	Ohm-m	225.000	2.000

#### After Survey Verification

Internal:	Readings			V	Targets			Results	
	Zero	Cal			Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m		3.372	400.834	mmho/m	1.008	-2.843

Deep	0.000	0.000	mmho/m	5.372	400.834	mmho/m	1.000	-2.043
Medium	0.000	0.000	mmho/m	13.557	467.446	mmho/m	0.997	-4.055
Shallow	2.500	0.000	Ohm-m	500.000	2.000	Ohm-m	225.000	0.000

Litho Density Calibration Report  
Serial: 004 Model: PRB

Master Calibration

Performed Tue Aug 02 11:29:35 2022

	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1154.2	10019.5	3137.9	2795.6	cps
Window 2	1054.4	8597.6	2733.4	2469.5	cps
Window 3	902.3	5241.4	1832.1	1719.3	cps
Window 4	251.9	261.1	255.8	252.9	cps
Long Space	0.0	7543.2	1679.0	1415.0	cps
Short Space	4.4	2049.3	1321.7	1116.8	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	
Rib Angle	: 43.7	Rib Slope	: 0.957	Density/Spine Ratio	: 0.562
Spine Angle	: 73.7	Spine Slope	: 3.426	Spine Intercept	: -17.2

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: 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: Mon Aug 14 04:12:15 2023

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps