



DUAL INDUCTION LOG

Company	DARRAH OIL COMPANY, LLC.		
Well	BISHOP #1-17		
Field	WILDCAT		
County	LOGAN	State	KANSAS
Location:	API # : 15-109-21623-0000		Other Services CDL/CNL/PE MEL/SONIC
Permanent Datum	GROUND LEVEL	Elevation	3153
Log Measured From	KELLY BUSHING 11' A.G.L.	Elevation	K.B. 3164 D.F. 3162 G.L. 3153
Drilling Measured From	KELLY BUSHING		
Date	7/21/21		
Run Number	ONE		
Depth Driller	4792		
Depth Logger	4793		
Bottom Logged Interval	4791		
Top Log Interval	00		
Casing Driller	8 5/8"@258'		
Casing Logger	258		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,000 PPM	
Density / Viscosity	9.4/45		
pH / Fluid Loss	10.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.540@104F		
Rmf @ Meas. Temp	.405@104F		
Rmc @ Meas. Temp	.648@104F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.457@123F		
Time Circulation Stopped	3.5 HOURS		
Time Logger on Bottom	2:15 P.M.		
Maximum Recorded Temperature	123F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	LARRY NICHOLSON		

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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.

15-109-21623-0000

Comments

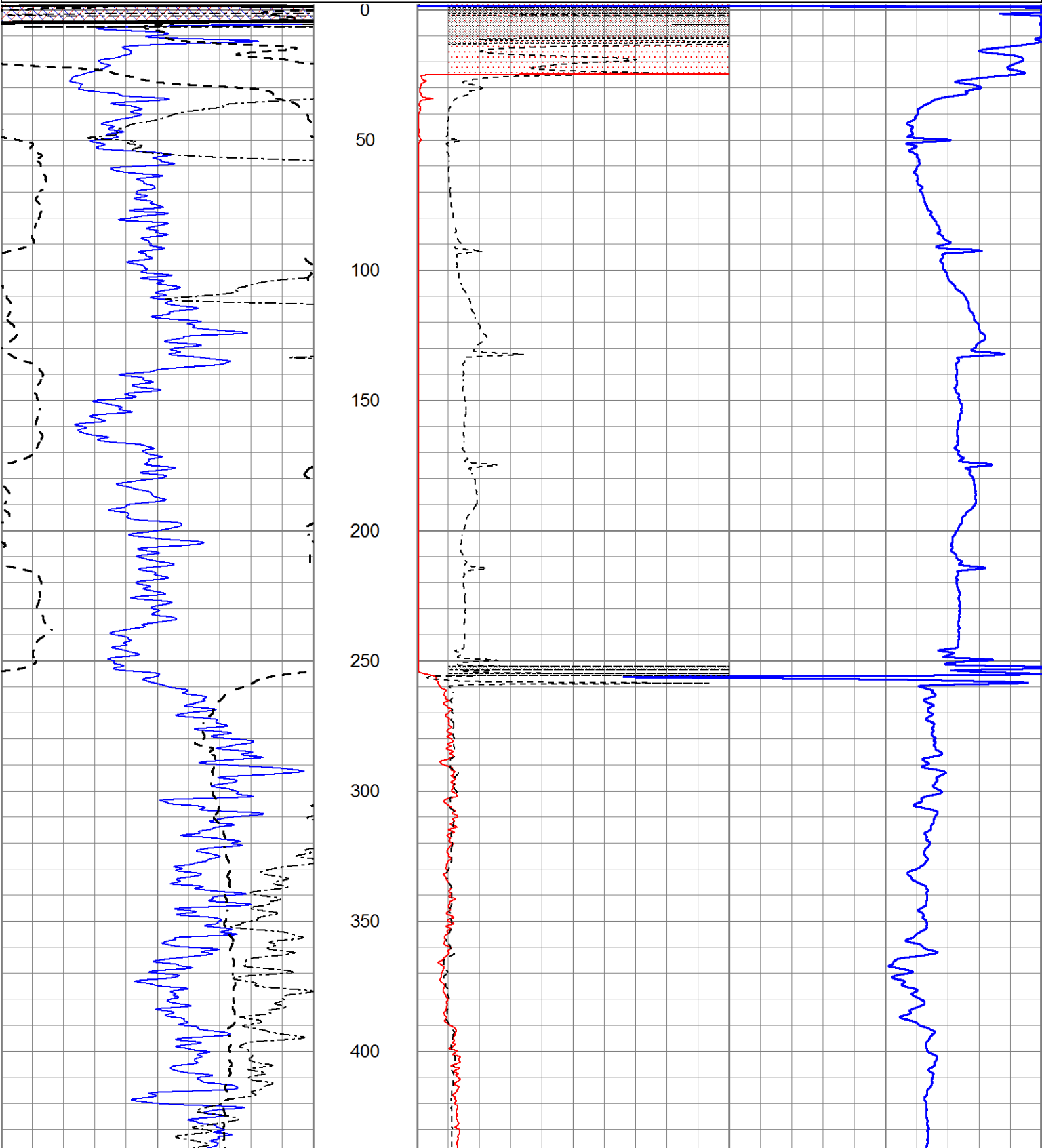
THANK YOU FOR USING E.L.I. WIRELINE SERVICES HAYS, KANSAS (785)628-6395
DIRECTIONS
WINONA, KS. 5W. ON OLD 40 TO JUST PAST MM# 41, S. INTO

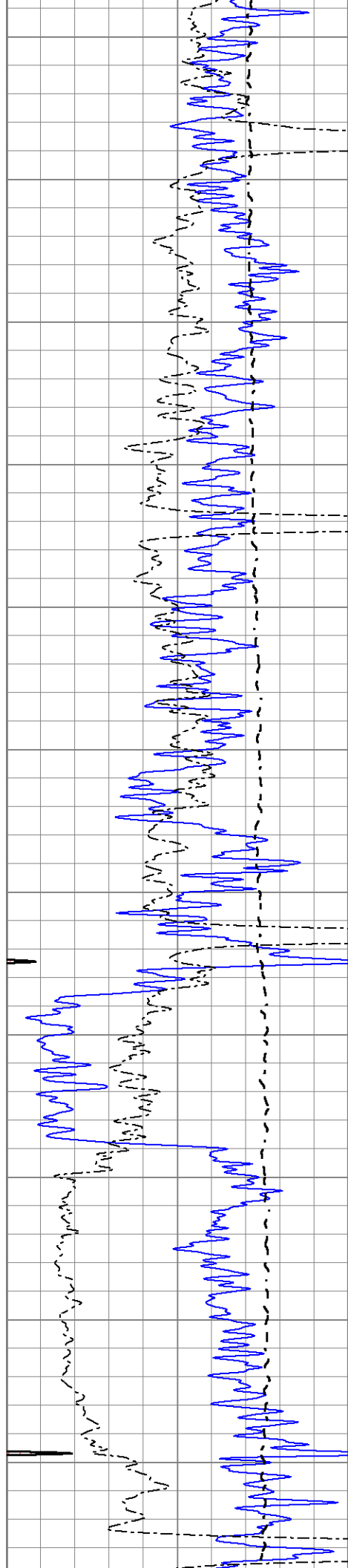


MAIN SECTION

Database File	5590pe.db
Dataset Pathname	pass3.1M
Presentation Format	dil2
Dataset Creation	Wed Jul 21 15:41:36 2021
Charted by	Depth in Feet scaled 1:600

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





450

500

550

600

650

700

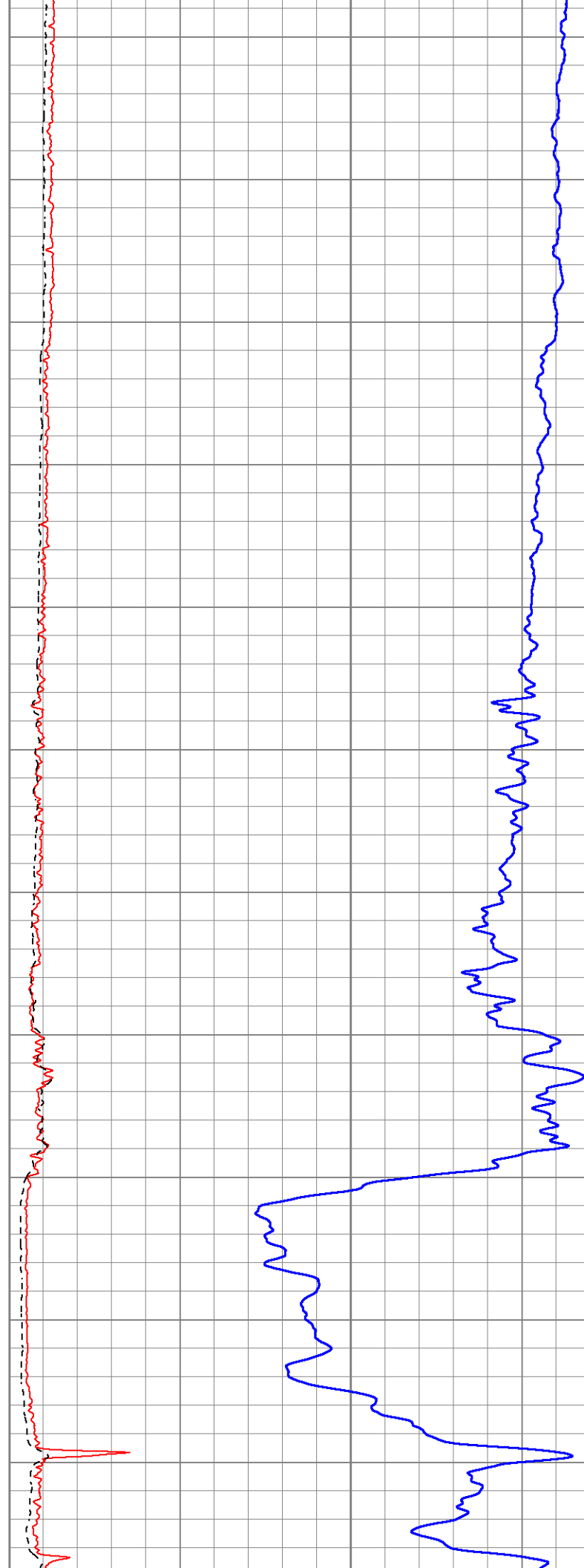
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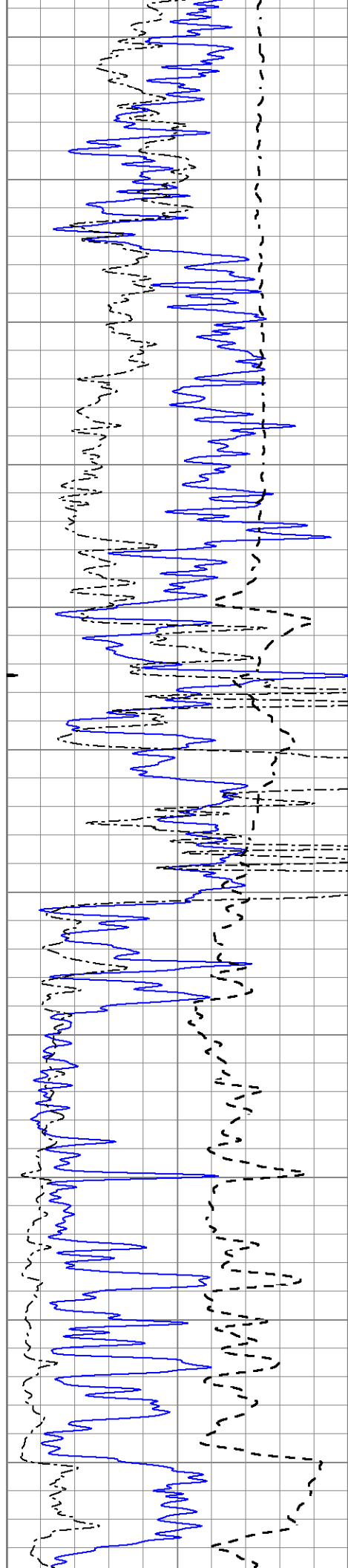
800

850

900

950





1000

1050

1100

1150

1200

1250

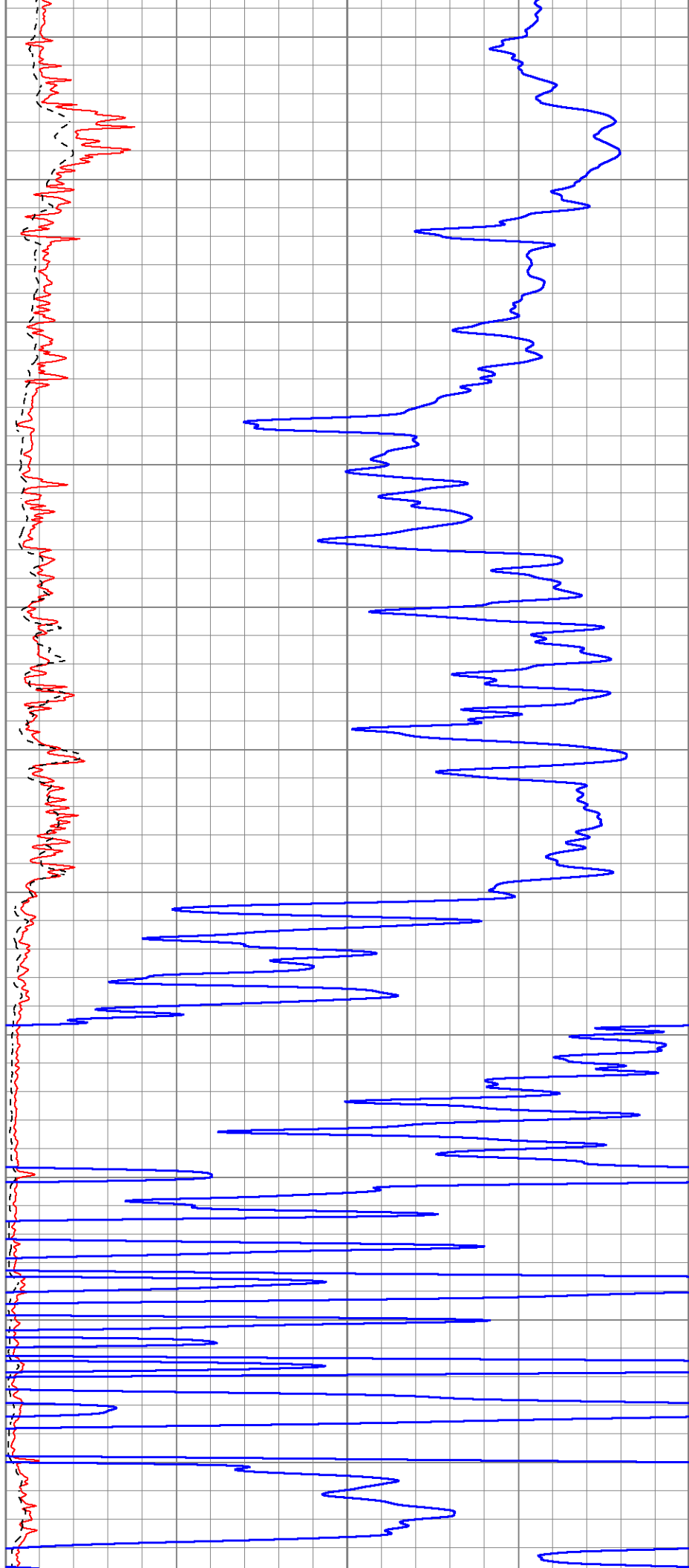
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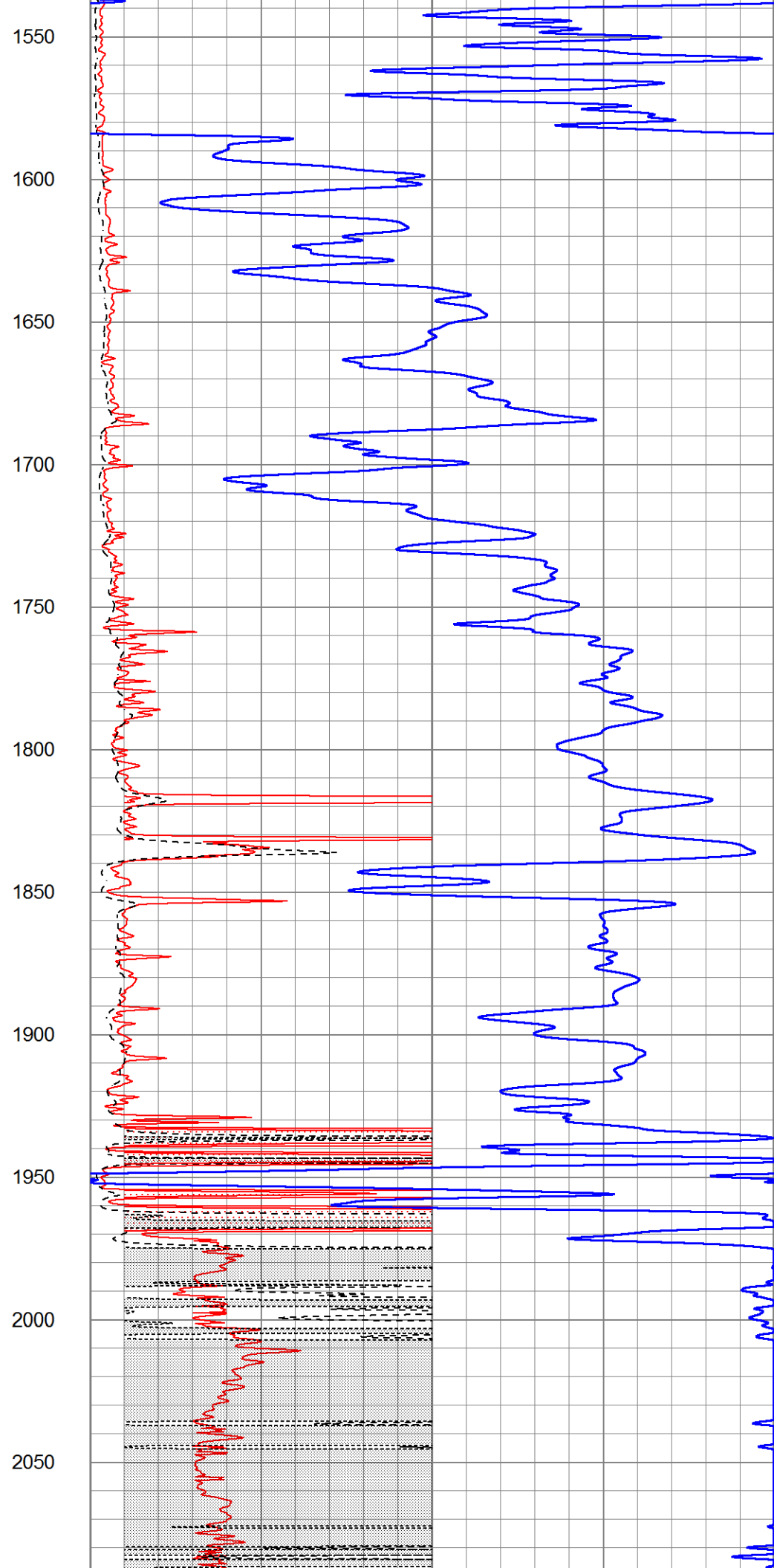
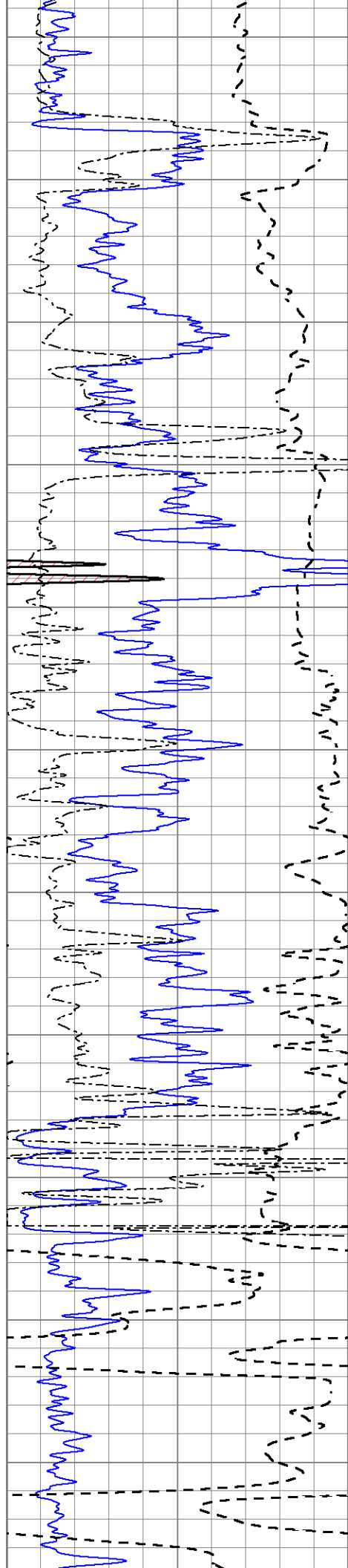
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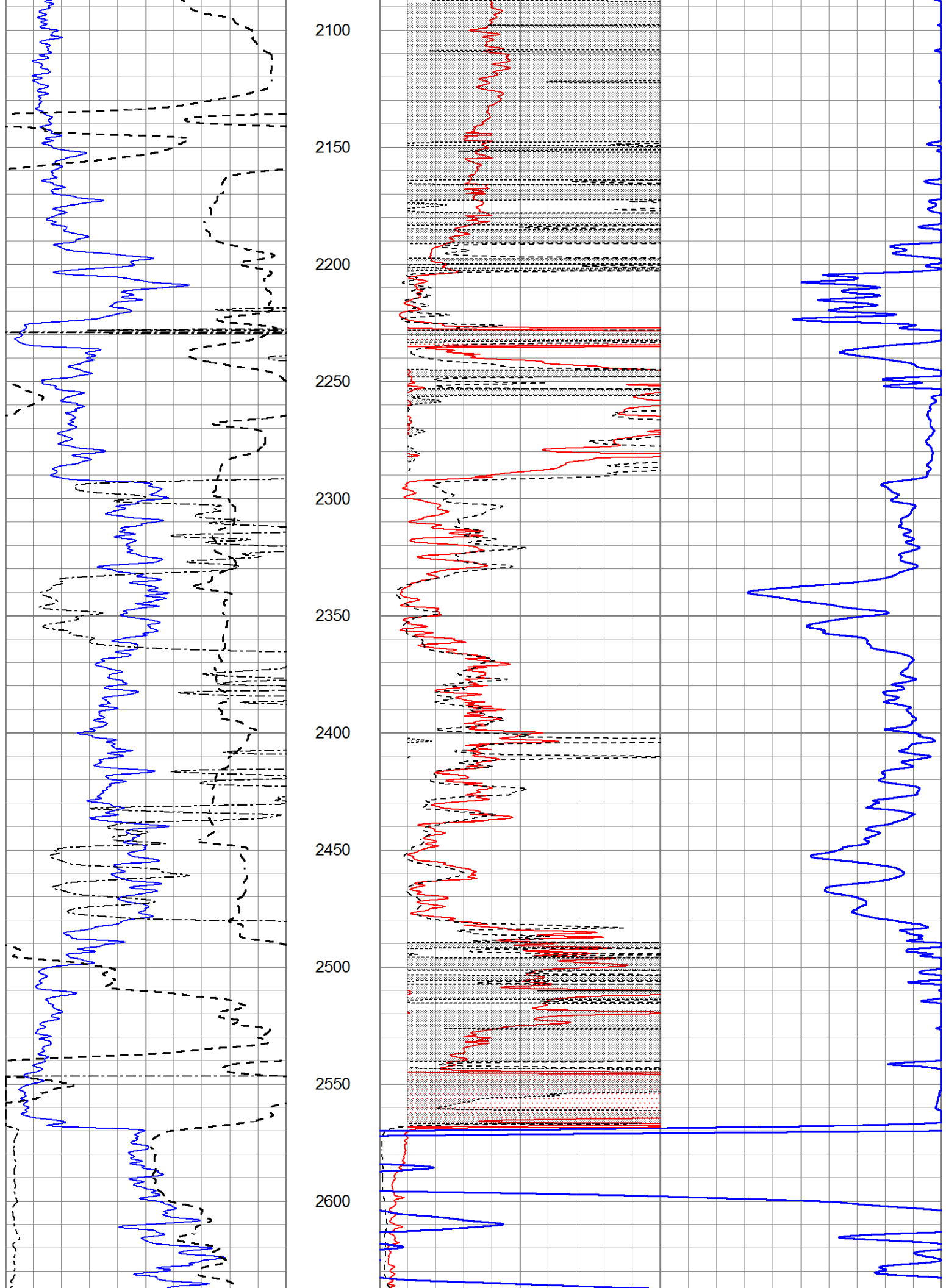
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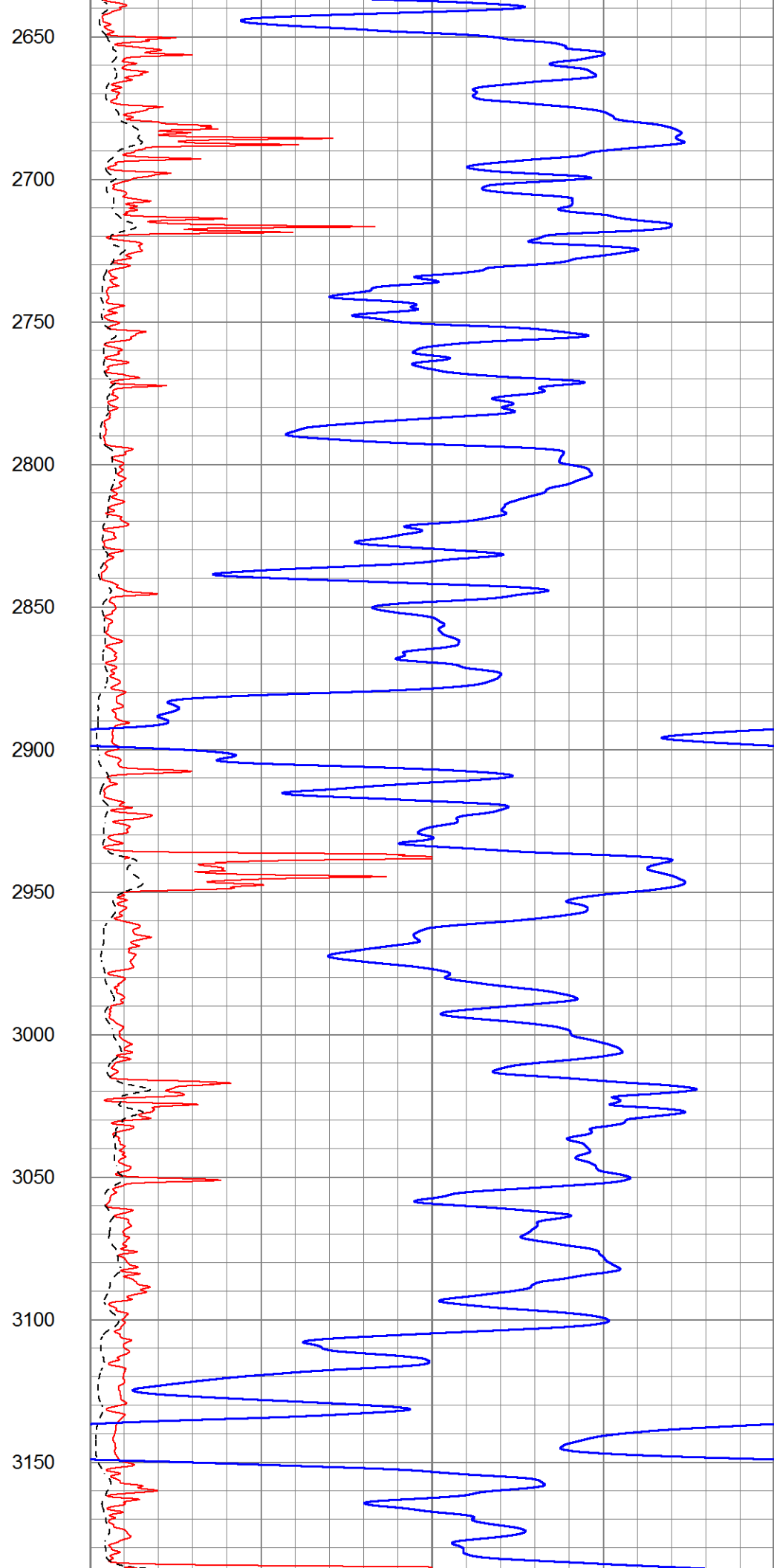
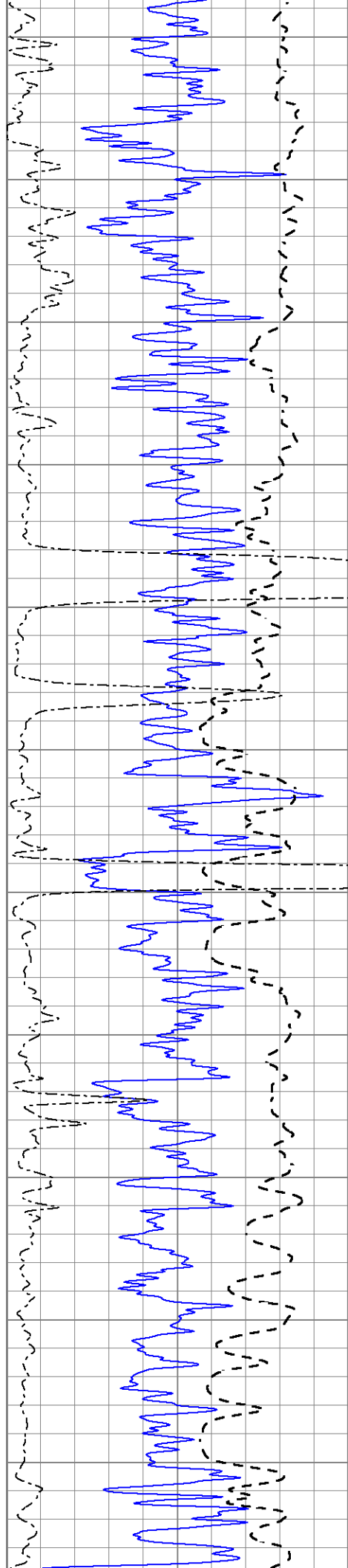
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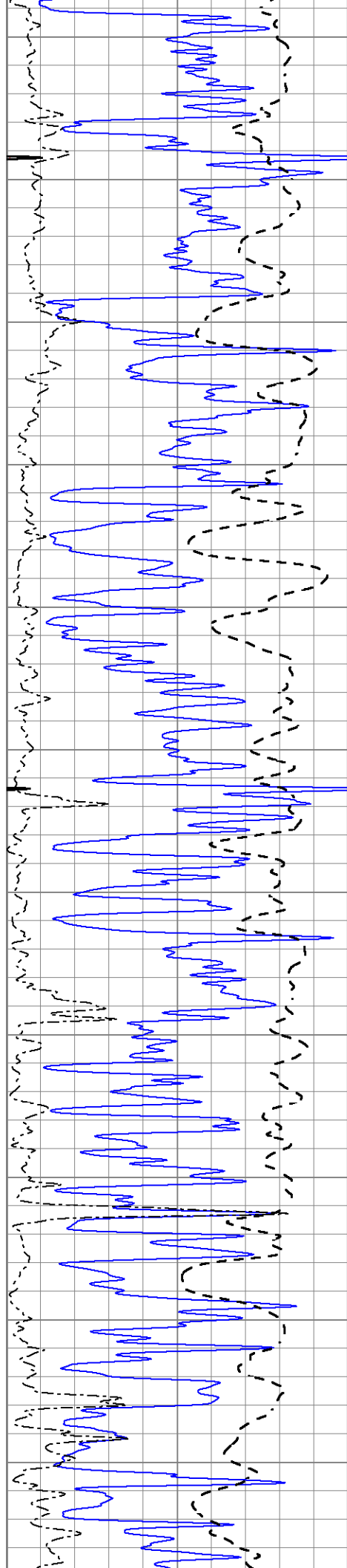
1500











3200

3250

3300

3350

3400

3450

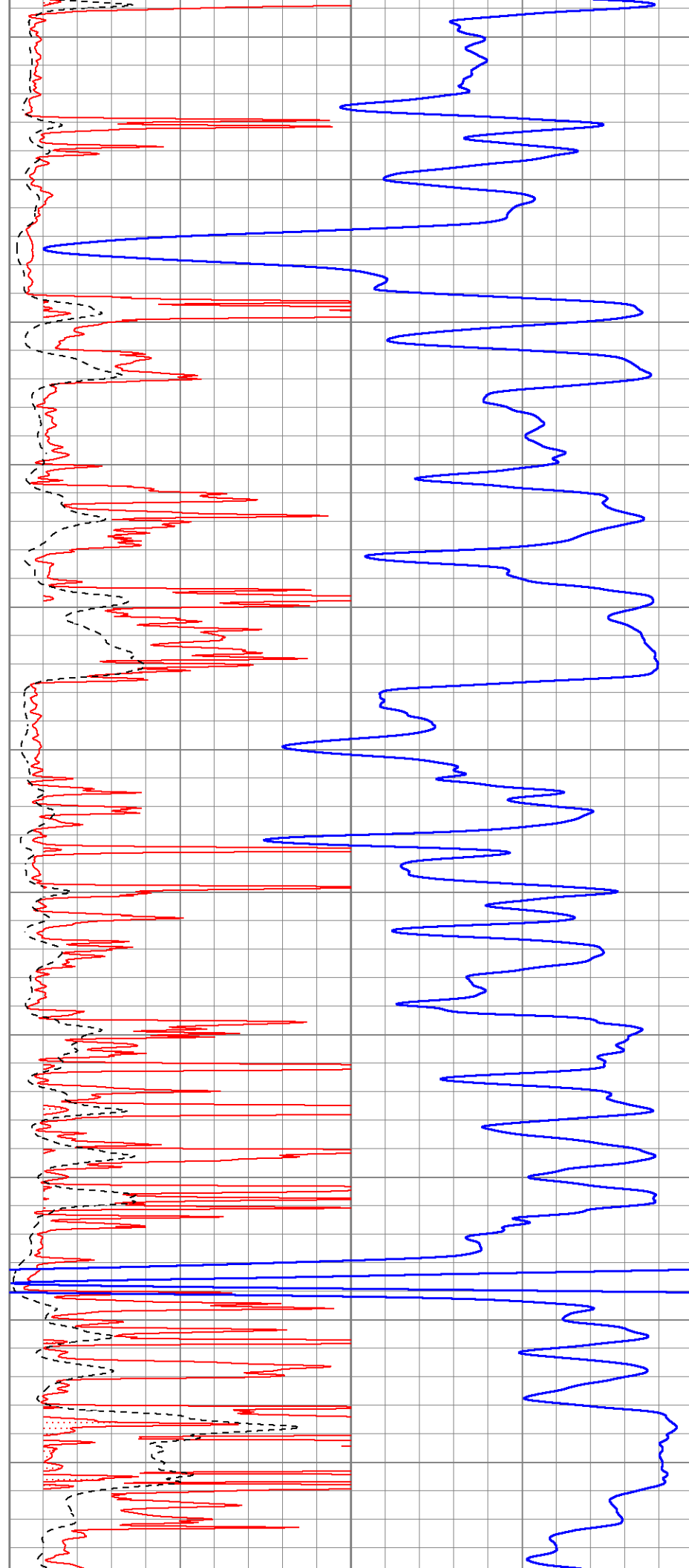
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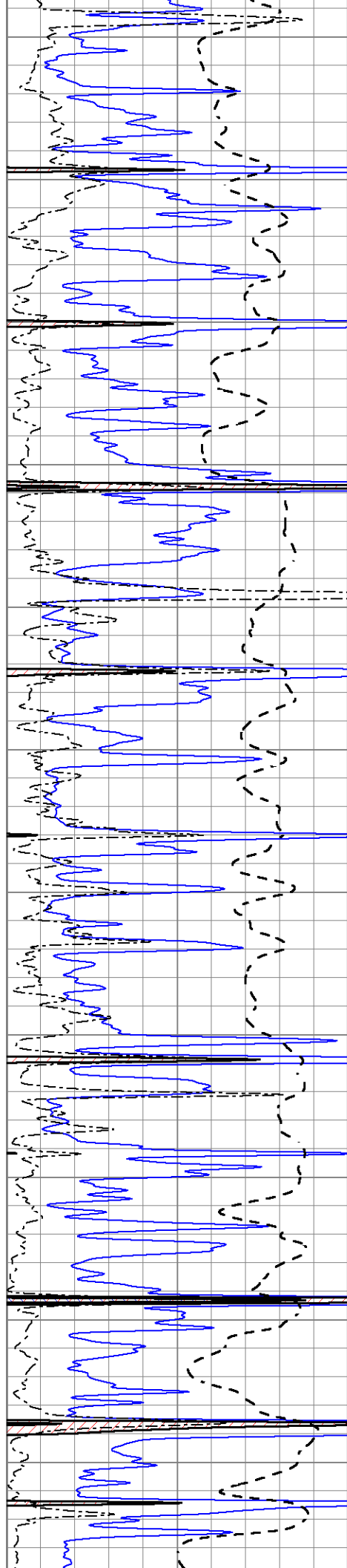
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3600

3650

3700





3750

3800

3850

3900

3950

4000

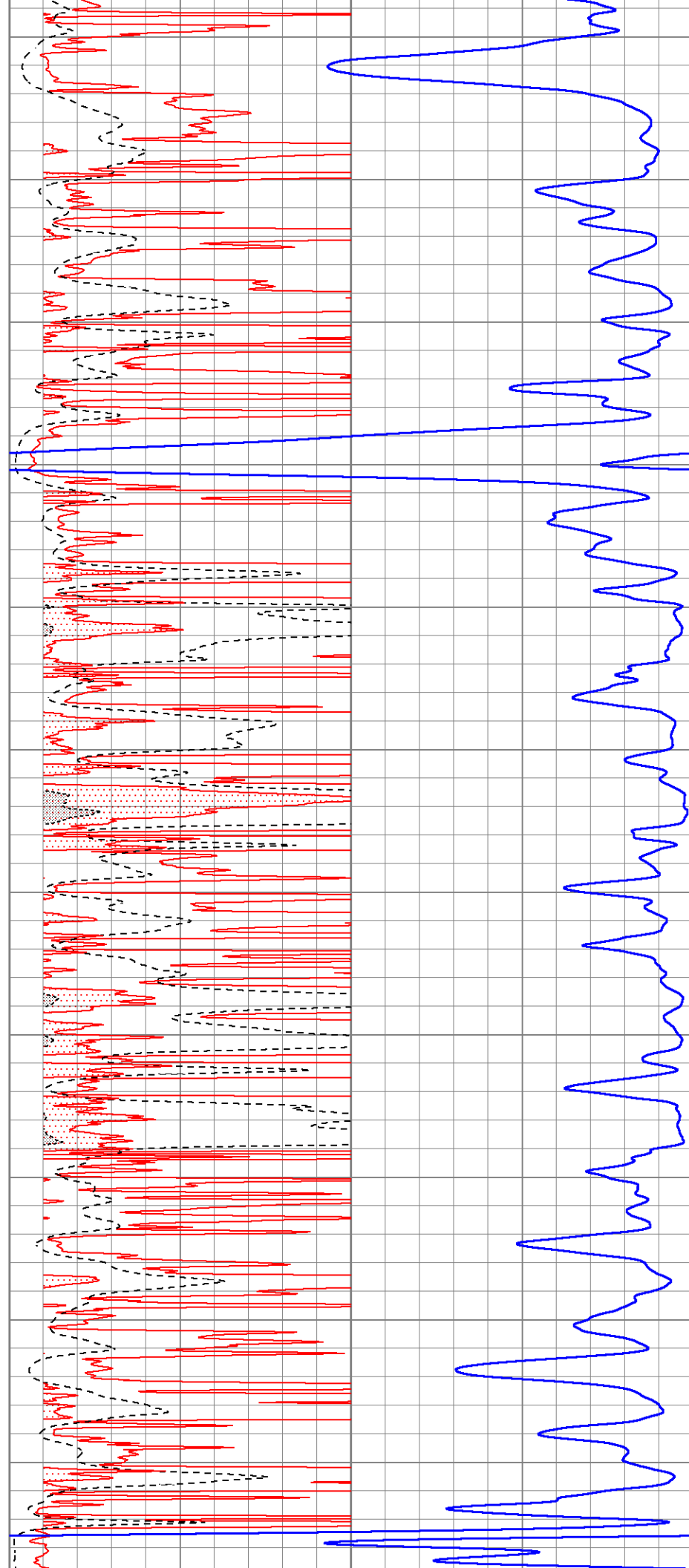
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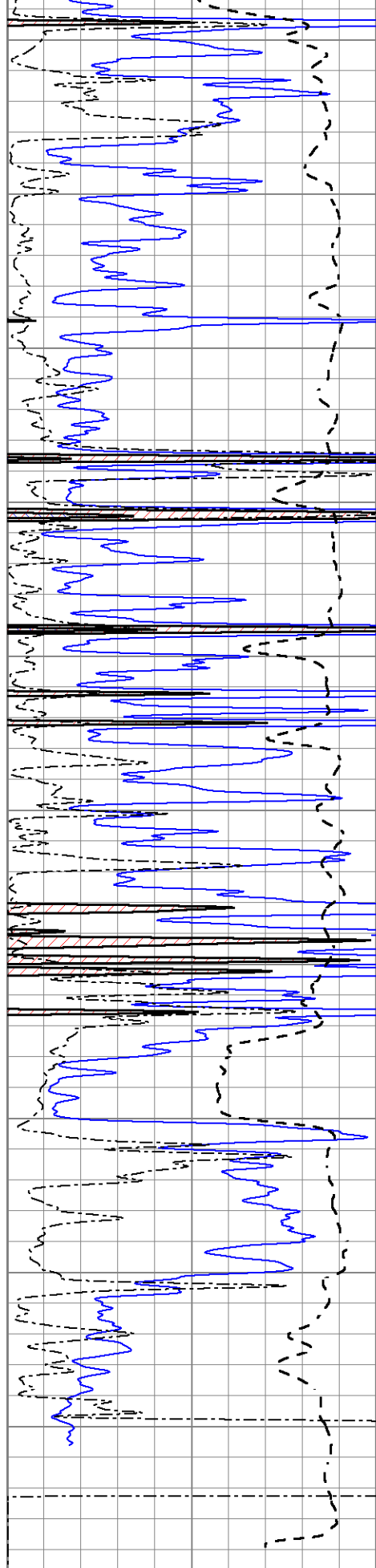
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4150

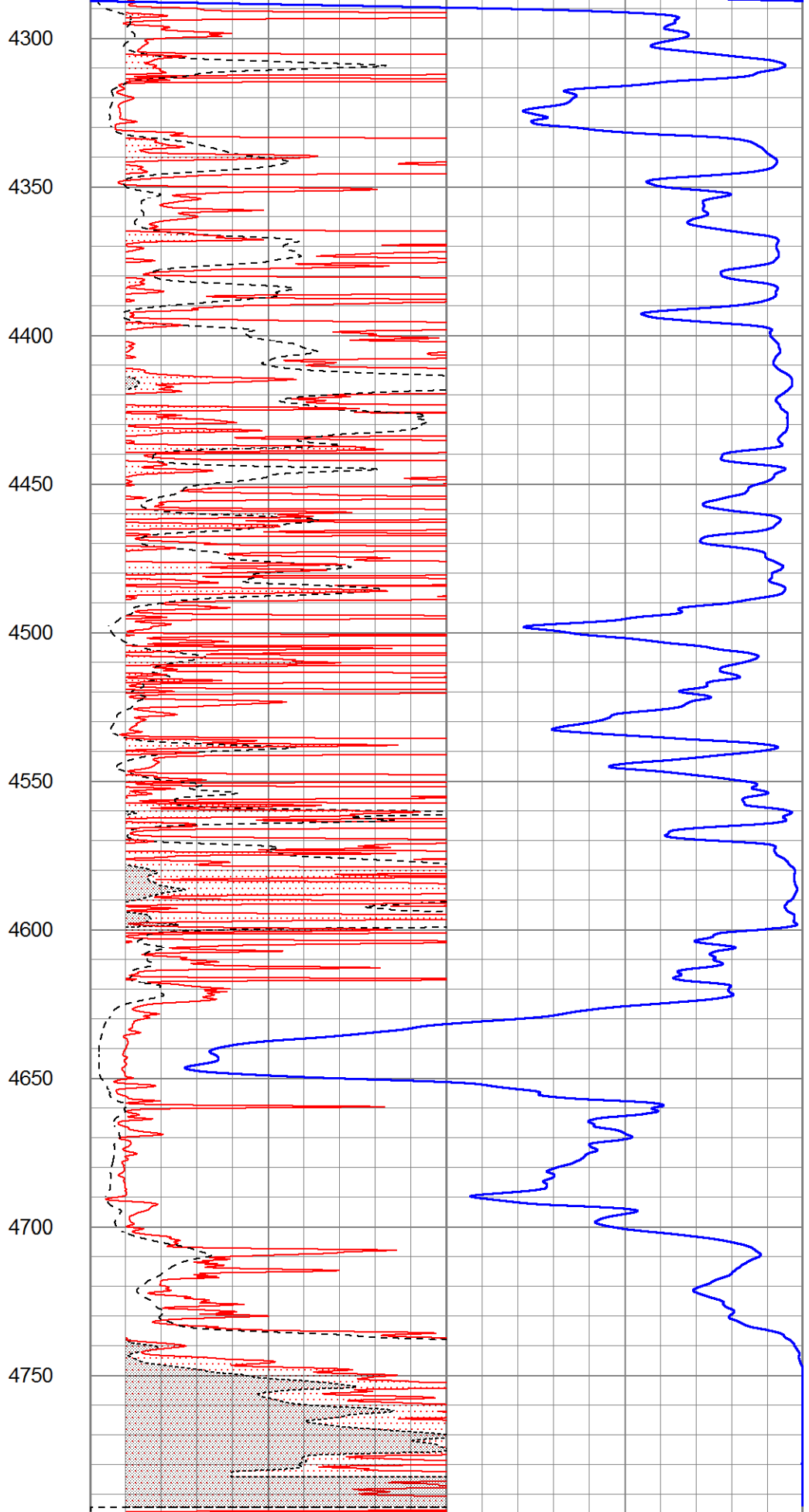
4200

4250





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

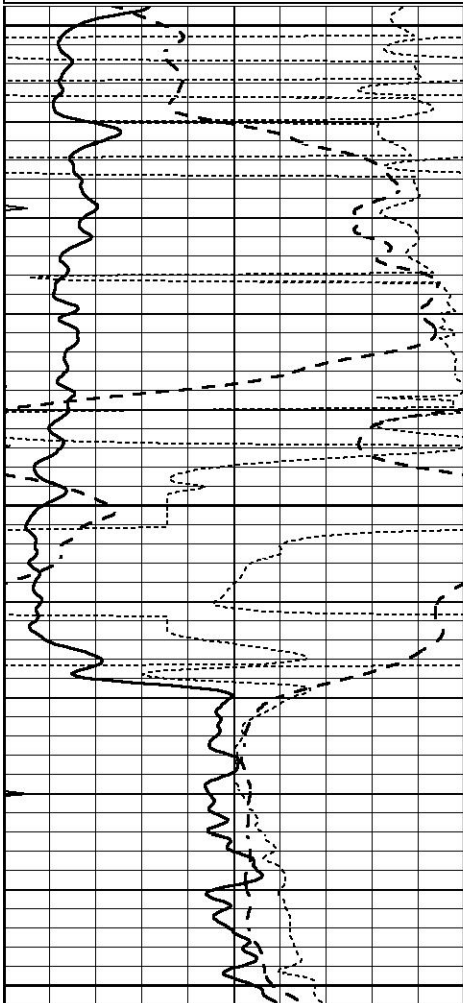
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500



ANHYDRITE

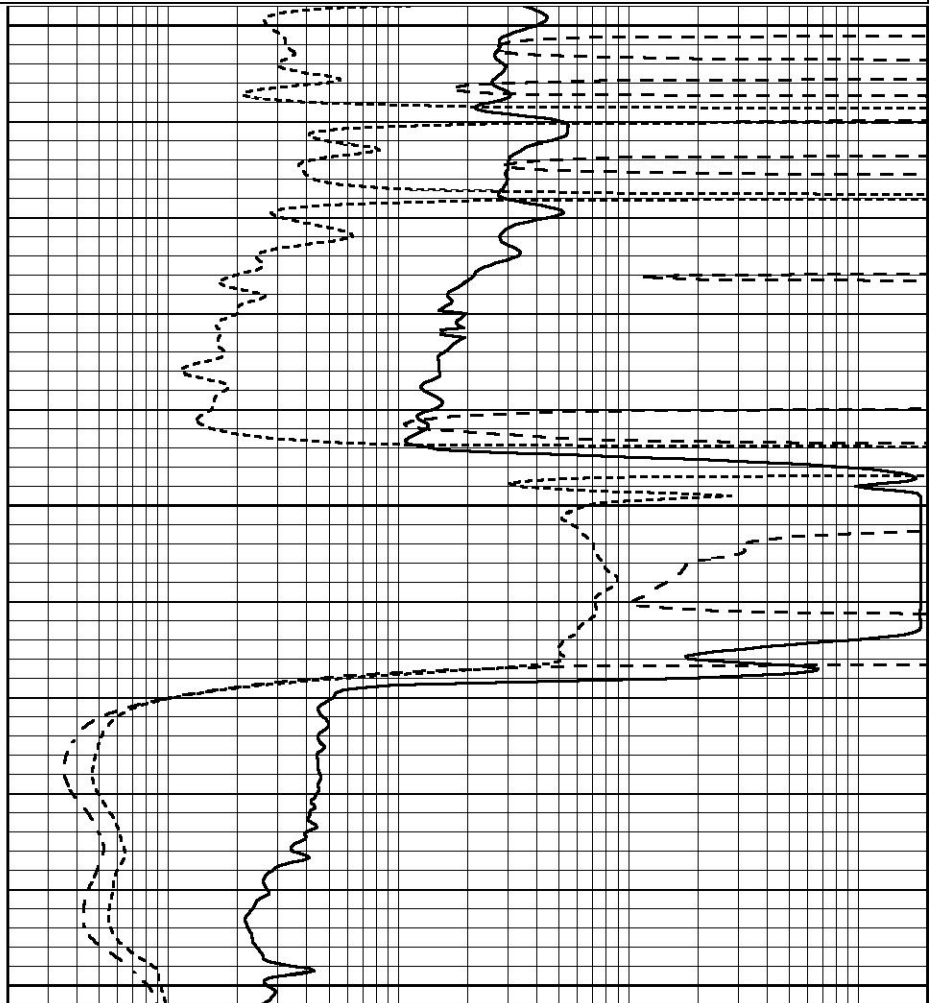
Database File 5590pe.db
Dataset Pathname pass3.1A
Presentation Format _dil
Dataset Creation Wed Jul 21 15:42:41 2021
Charted by Depth in Feet scaled 1:240

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



0	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



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



MAIN SECTION

Database File5590pe.db

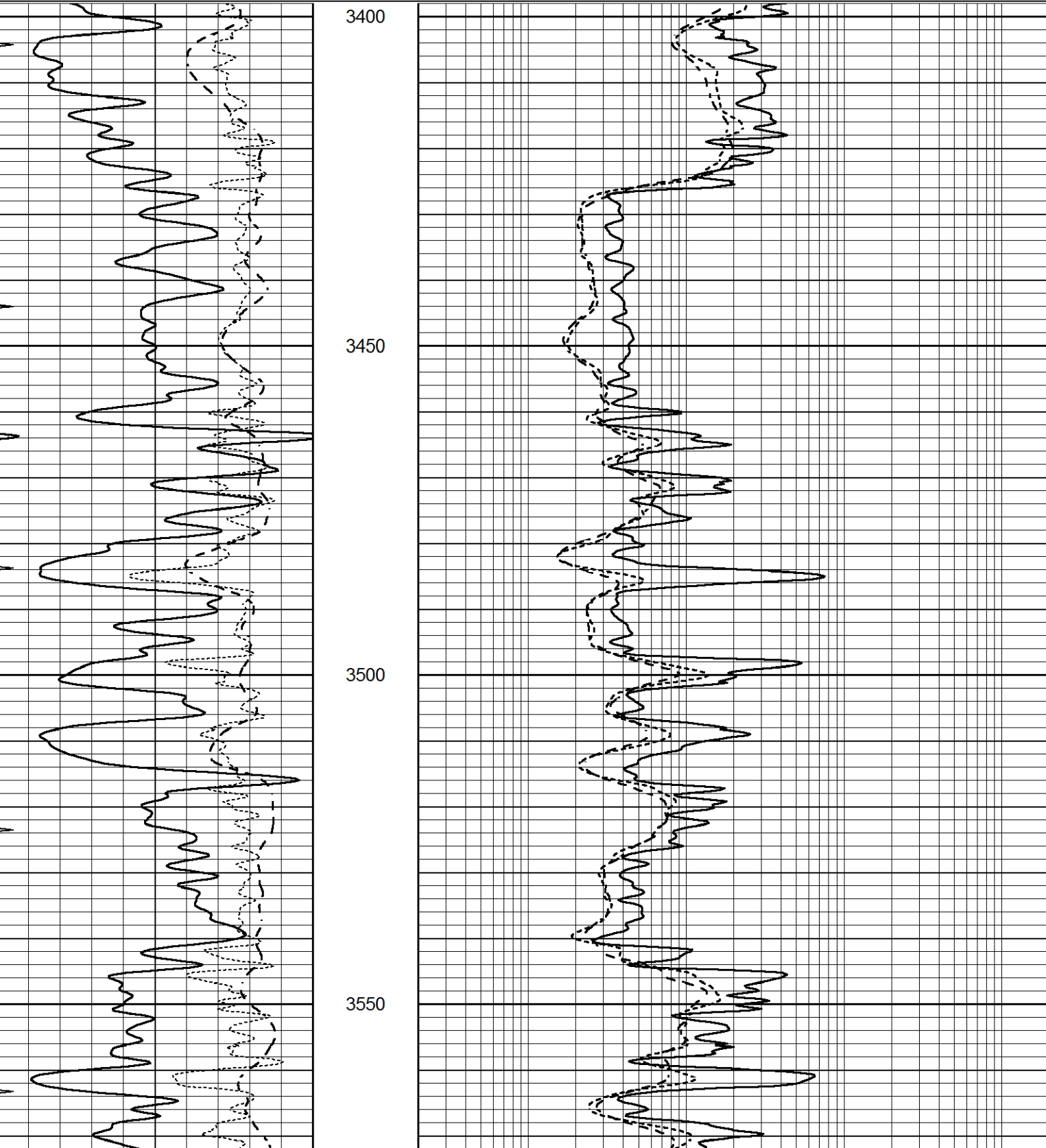
Dataset Pathnamepass3.1M

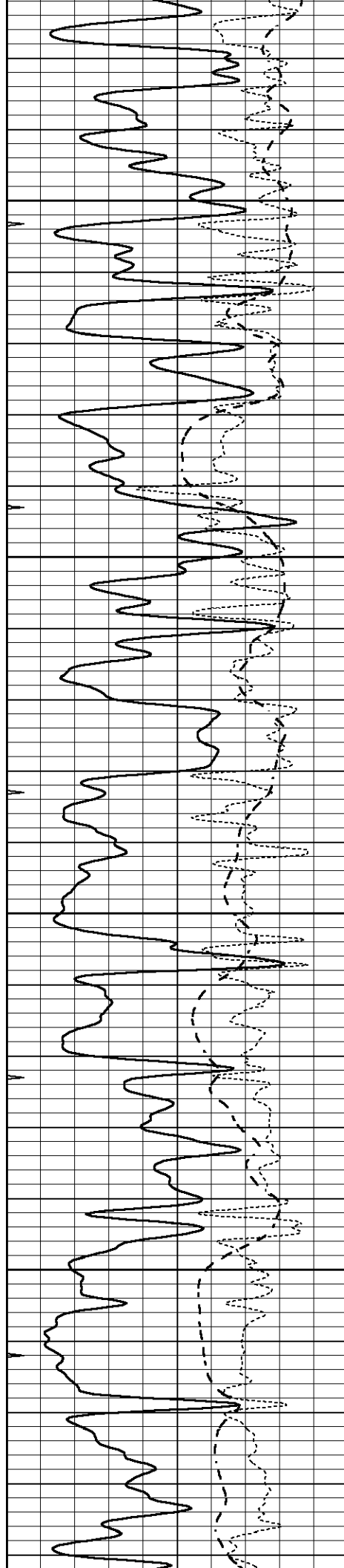
Presentation Format_dil

Dataset CreationWed Jul 21 15:41:36 2021

Charted byDepth 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			



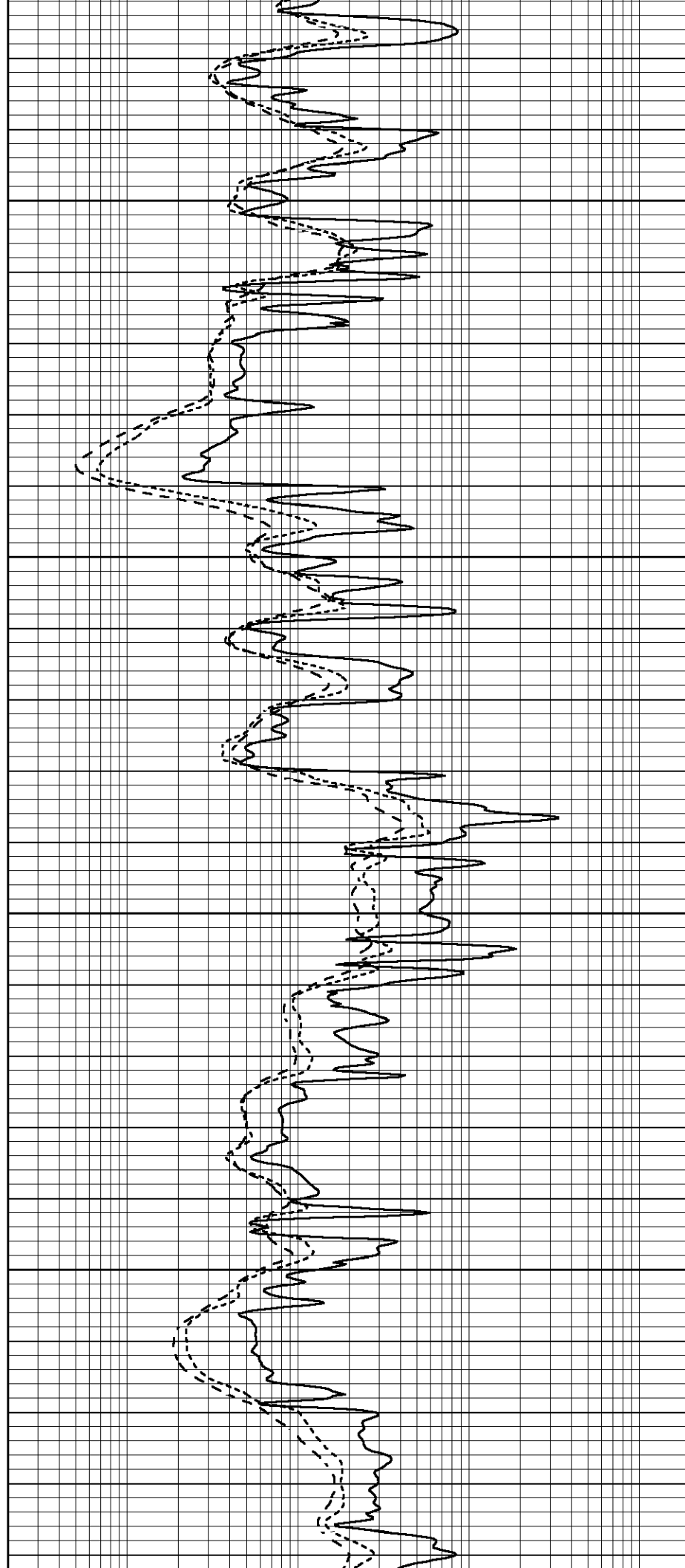


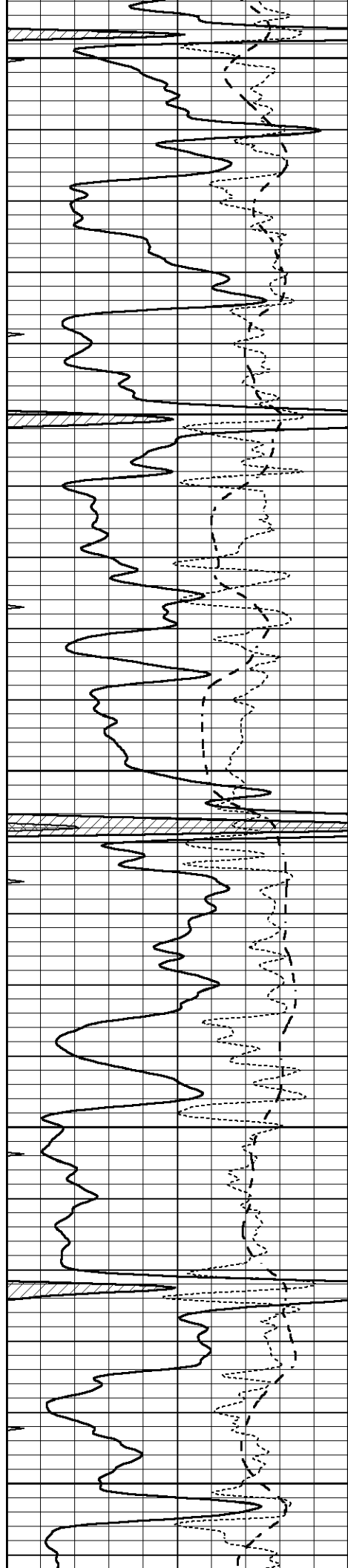
3600

3650

3700

3750





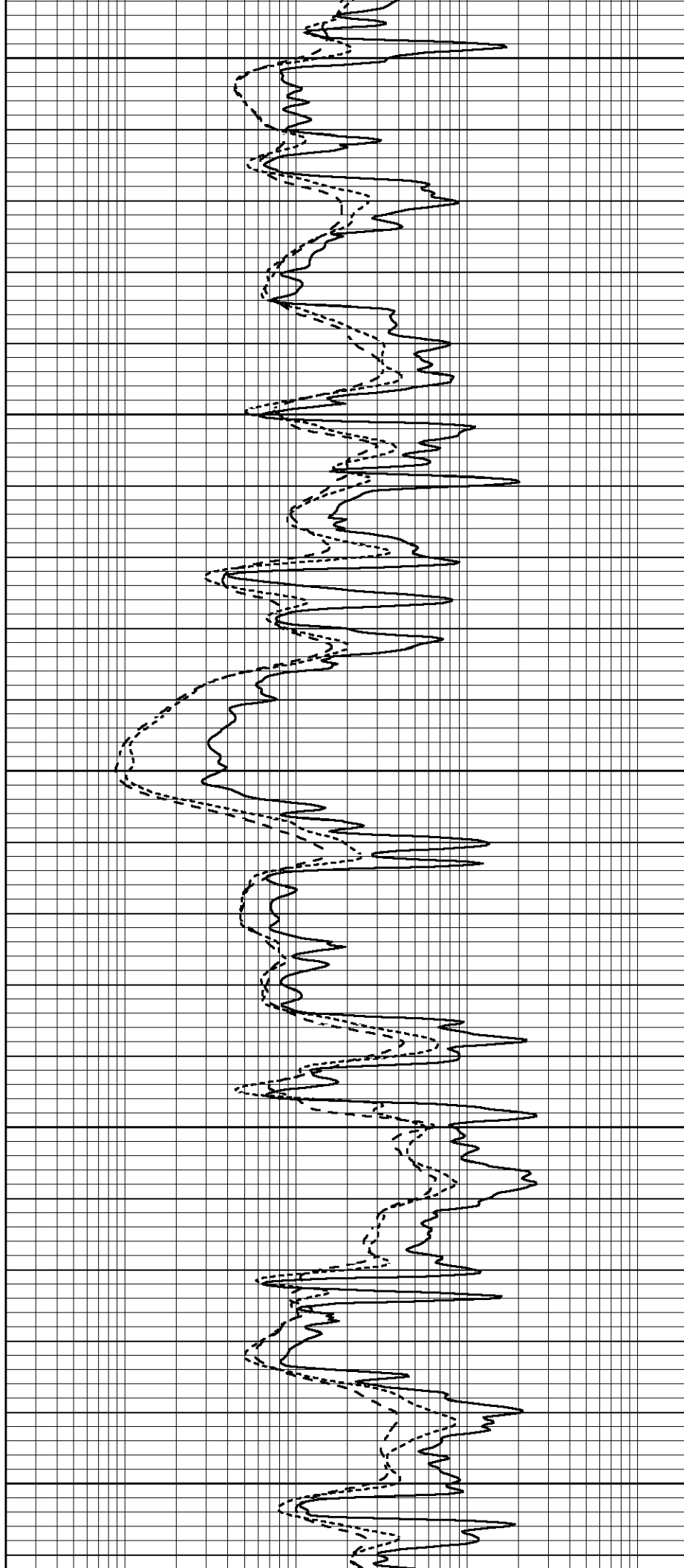
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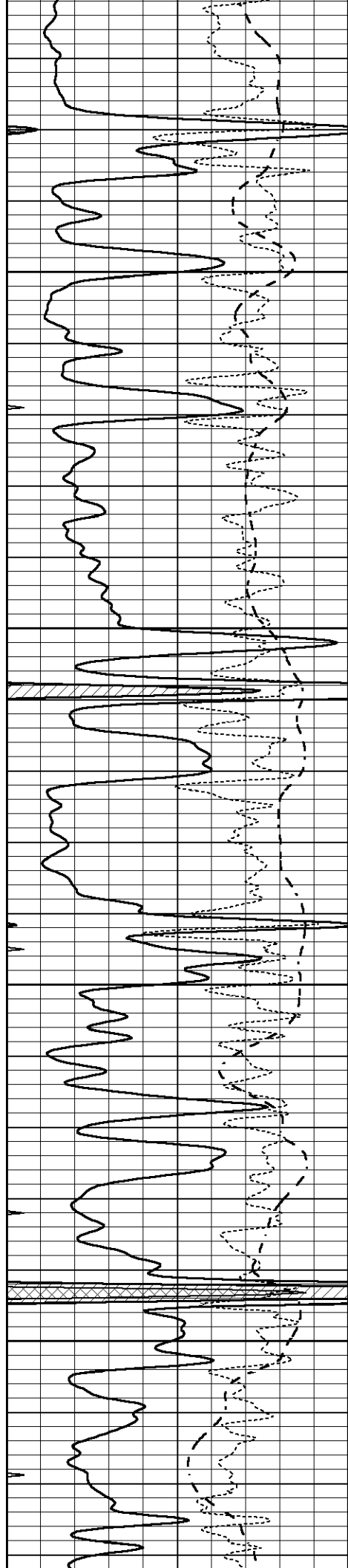
3850

3900

3950

4000



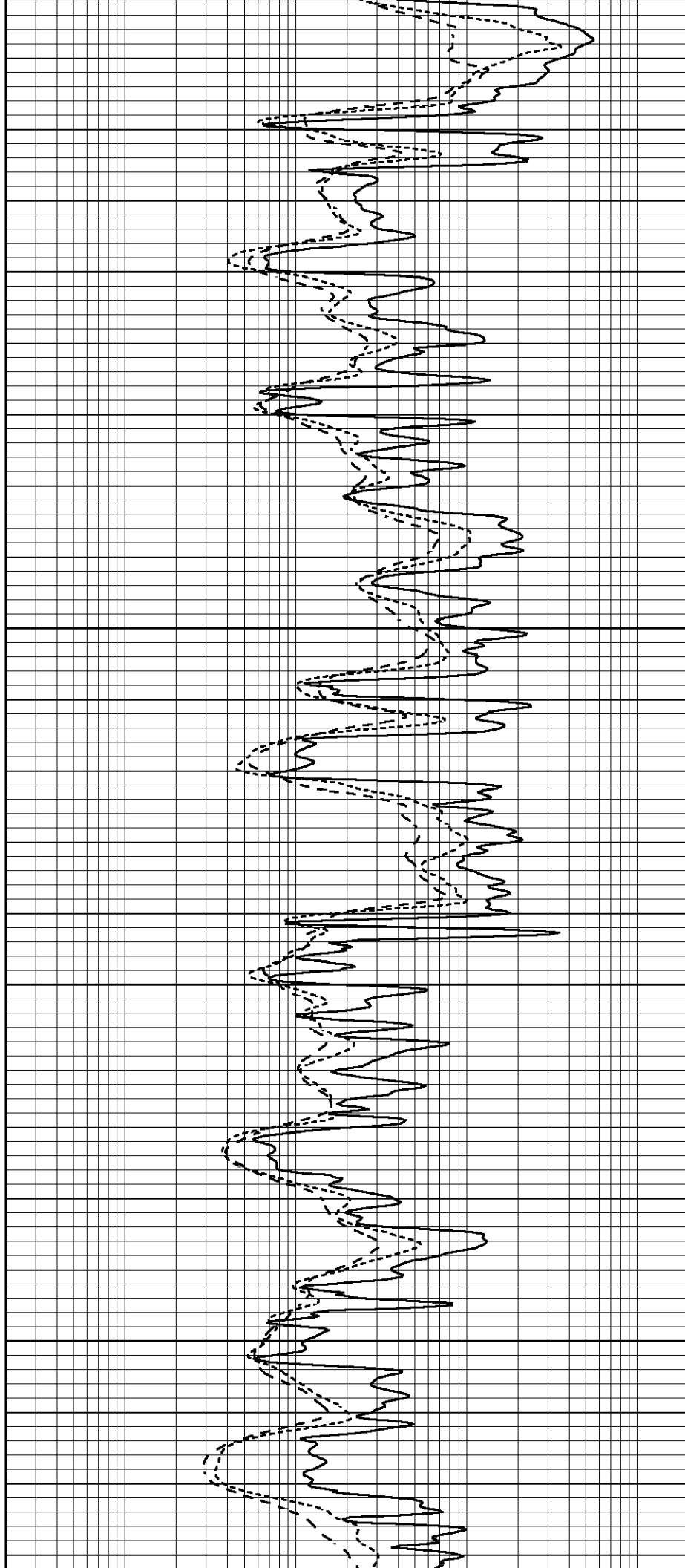


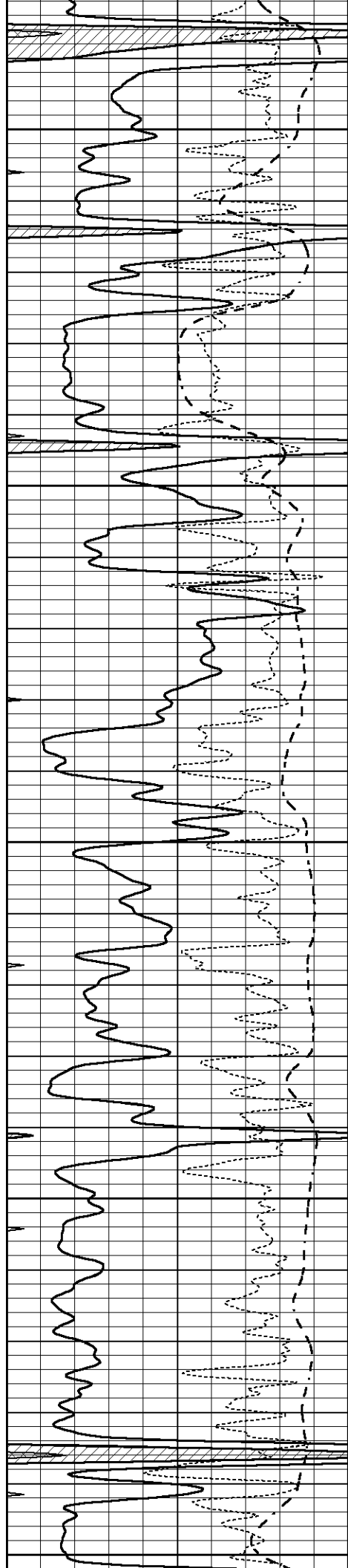
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4100

4150

4200





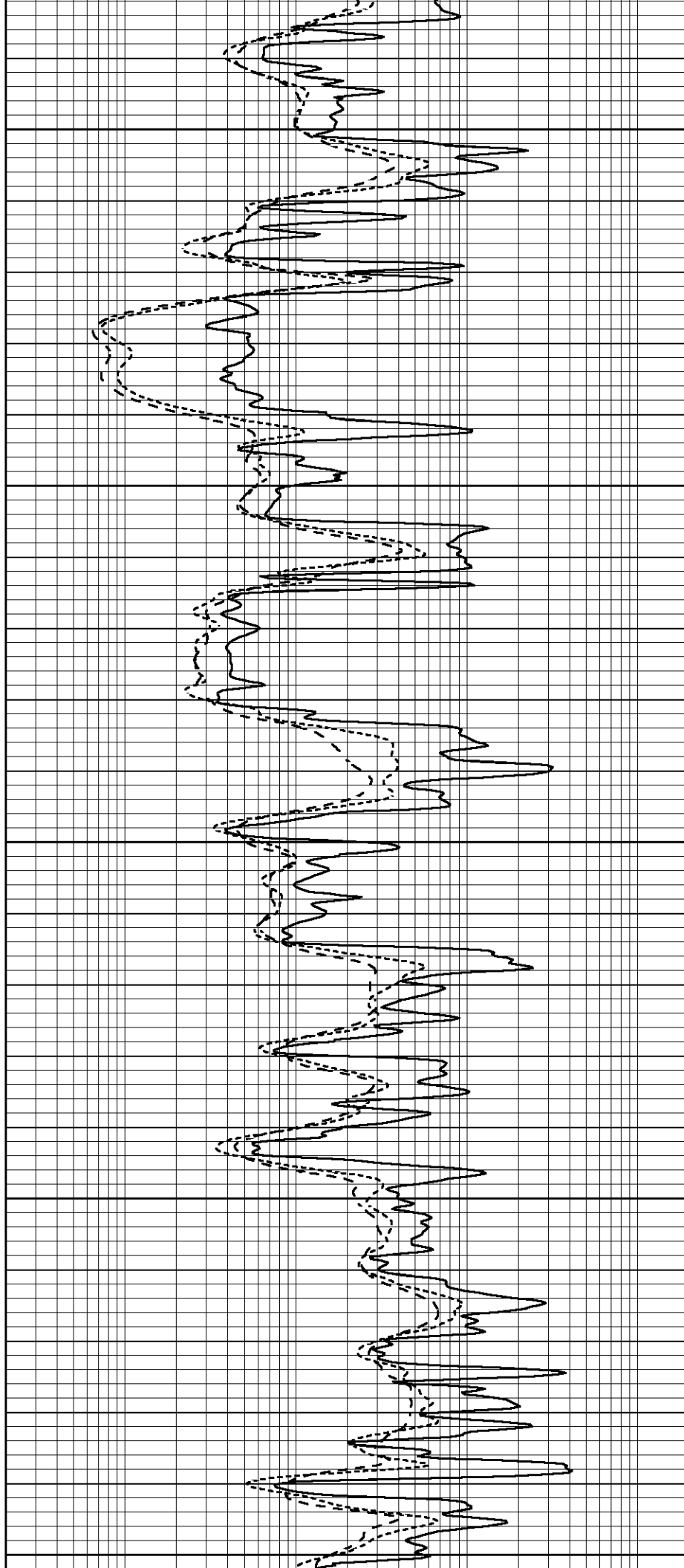
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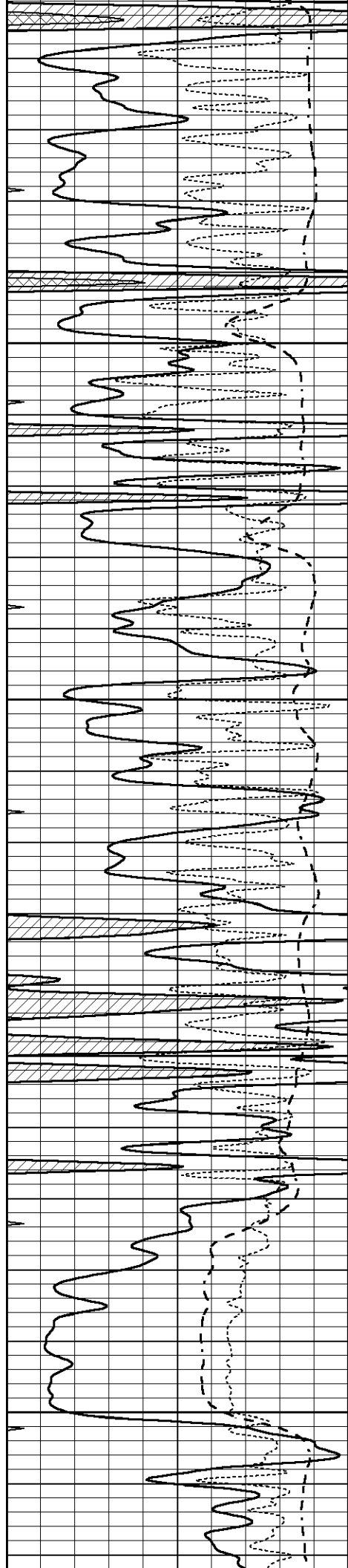
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4350

4400

4450



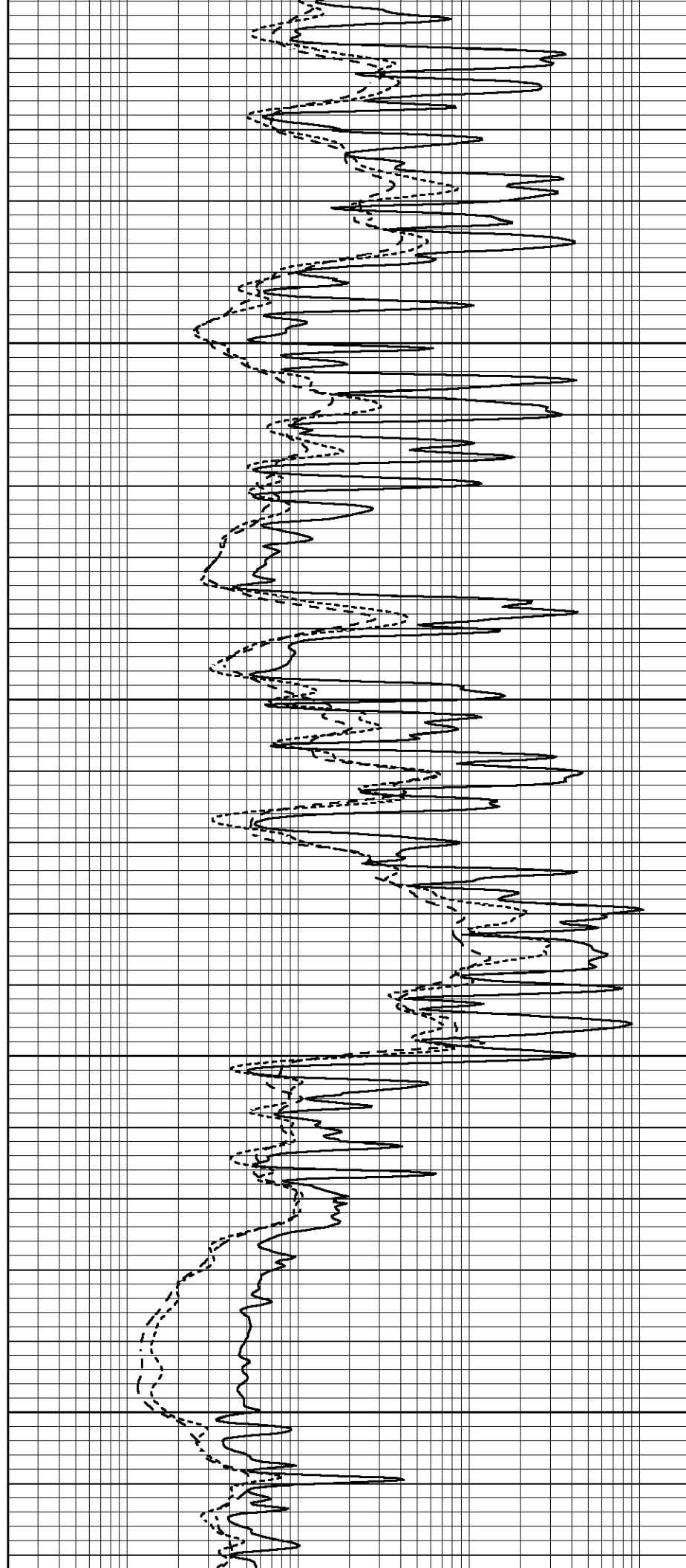


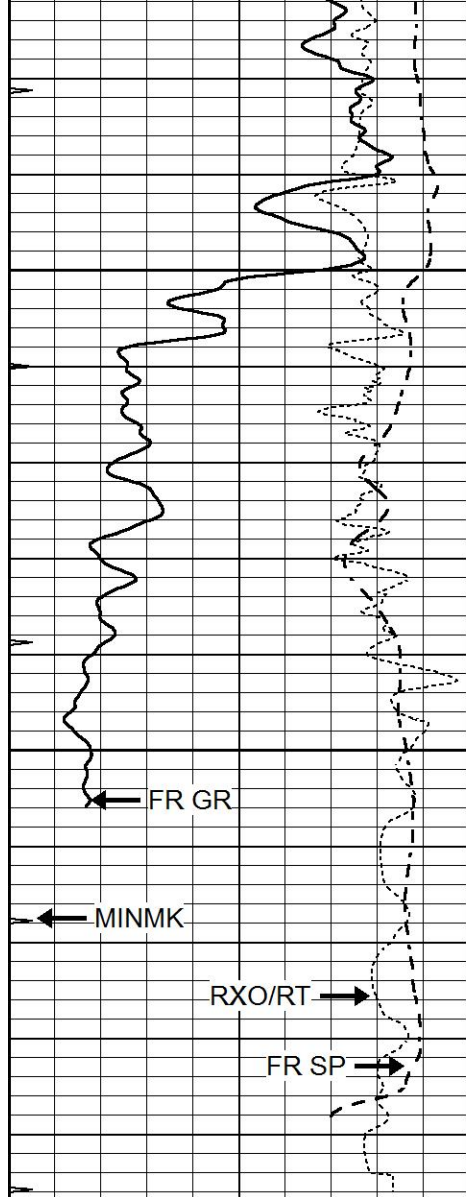
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4550

4600

4650



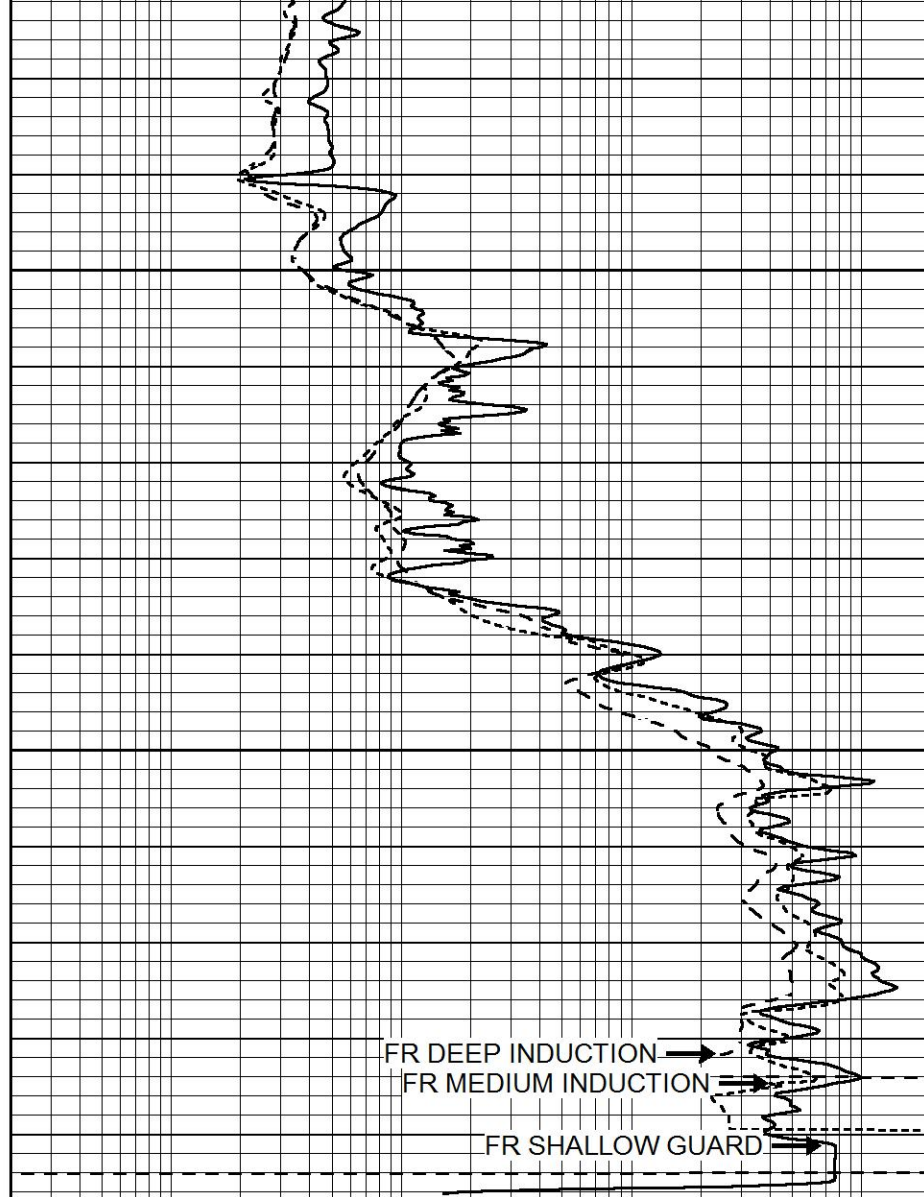


4700

4750

LTD 4793

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

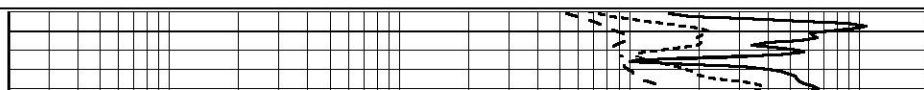


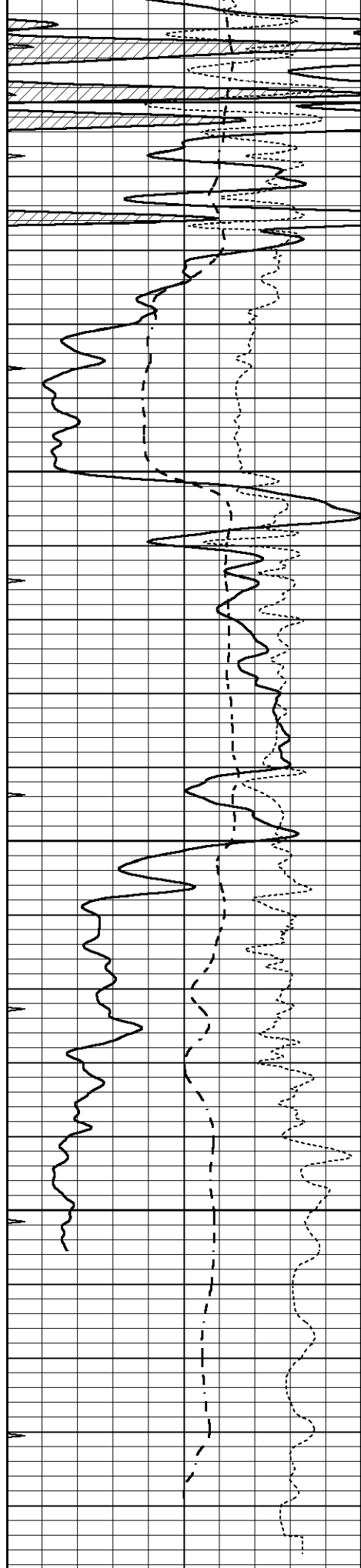
REPEAT SECTION

Database File 5590pe.db
 Dataset Pathname pass2.1R
 Presentation Format _dil
 Dataset Creation Wed Jul 21 14:29:26 2021
 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



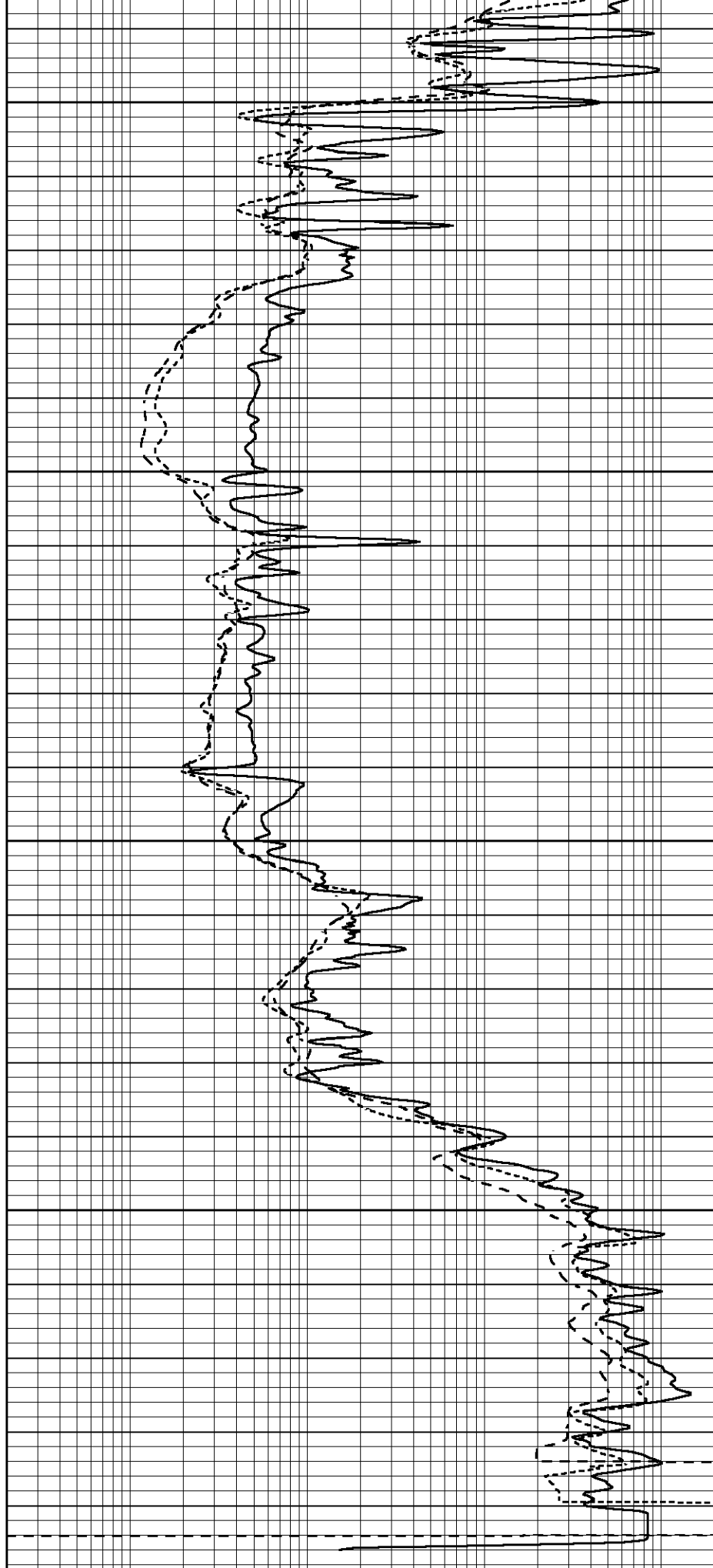


4600

4650

4700

4750



0.2 SHALLOW GUARD (Ohm-m) 2000

0.2 DEEP INDUCTION (Ohm-m) 2000

100	0.2	100	0.2	2000
-250	Rxo/Rt	50	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20		

Calibration Report	
Database File	5590pe.db
Dataset Pathname	pass3.1M
Dataset Creation	Wed Jul 21 15:41:36 2021

Dual Induction Calibration Report	
Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Wed Jul 21 14:45:28 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	-16.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	720.000	-28.000
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: 003	Model: PRB

Master Calibration		Performed Fri Mar 05 10:51:07 2021			
	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1570.6	10682.1	3457.0	3096.9	cps
Window 2	1451.7	9432.7	3101.4	2816.5	cps
Window 3	1334.0	7160.6	2532.0	2369.3	cps
Window 4	370.4	373.1	366.4	370.9	cps
Long Space	0.0	7981.0	1649.7	1364.8	cps
Short Space	2.8	3522.0	2211.0	1823.6	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	

Rib Angle	: 43.5	Rib Slope	: 0.951	Density/Spine Ratio	: 0.535
Spine Angle	: 73.5	Spine Slope	: 3.386	Spine Intercept	: -18.7
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					
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 Jul 09 13:16:04 2021				
Calibrator Value:	1.0	GAPI			
Background Reading:	0.0	cps			
Calibrator Reading:	1.0	cps			
Sensitivity:	0.3000	GAPI/cps			