



MICRORESISTIVITY LOG

MIDWEST WIRELINE

Company N-10 Oil & Gas, Inc.
Well Bertholf C-1
Field Spivey-Grabs-Basil
County Harper
State Kansas

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Location: API #: 15-077-22191-00-00

330 FNL & 2310 FEL

SEC 24 TWP 31S RGE 9W

Permanent Datum Ground Level Elevation 1595
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Other Services
CNL/CDL
DIL
K.B. 1607
D.F.
G.L. 1595

Date	12/16/2022		
Run Number	One		
Depth Driller	4600		
Depth Logger	4596		
Bottom Logged Interval	4595		
Top Log Interval	2000		
Casing Driller	8.625 @ 252		
Casing Logger	248		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	5300		
Density / Viscosity	8.5 58		
pH / Fluid Loss	9.5 8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.60 @ 55		
Rmt @ Meas. Temp	0.45 @ 55		
Rmc @ Meas. Temp	0.81 @ 55		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	0.27 @ 122		
Operating Rig Time	3 Hours		
Max Rec. Temp. F	122		
Equipment Number	P-108		
Location	HAYS		
Recorded By	D. Schmidt		
Witnessed By	Tim Pierce		

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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Zenda,
5 South, 1 East, 2 South, 1/2 East,
South into

Log Measured From: Kelly Bushing

12 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
785-625-3858

Your Midwest Wireline Crew

Engineer: D. Schmidt
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Tim Pierce
Secondary Witness:
Secondary Witness:
Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\n-10_.db
Dataset field/well/stkml/pass3.15/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in	degF	in	in	g/cc	2	g/cc
	7.875	122	5.5	0	1		2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	No	mmho/m	mmho/m	mV	degF	Off	ft
		0	0	295	30		4596

Variable Description

A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM : Medium Sonde Error Correction
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth



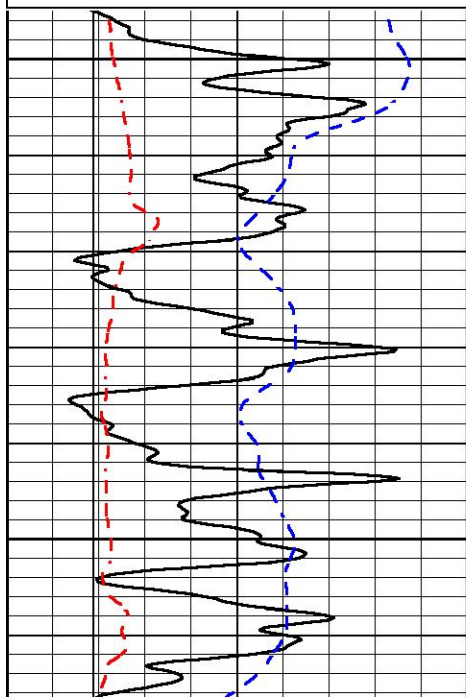
DETAIL SECTION

MAIN PASS

Database File n-10_.db
Dataset Pathname stkml/pass3.1
Presentation Format _micro
Dataset Creation Fri Dec 16 07:54:28 2022
Charted by Depth in Feet scaled 1:240

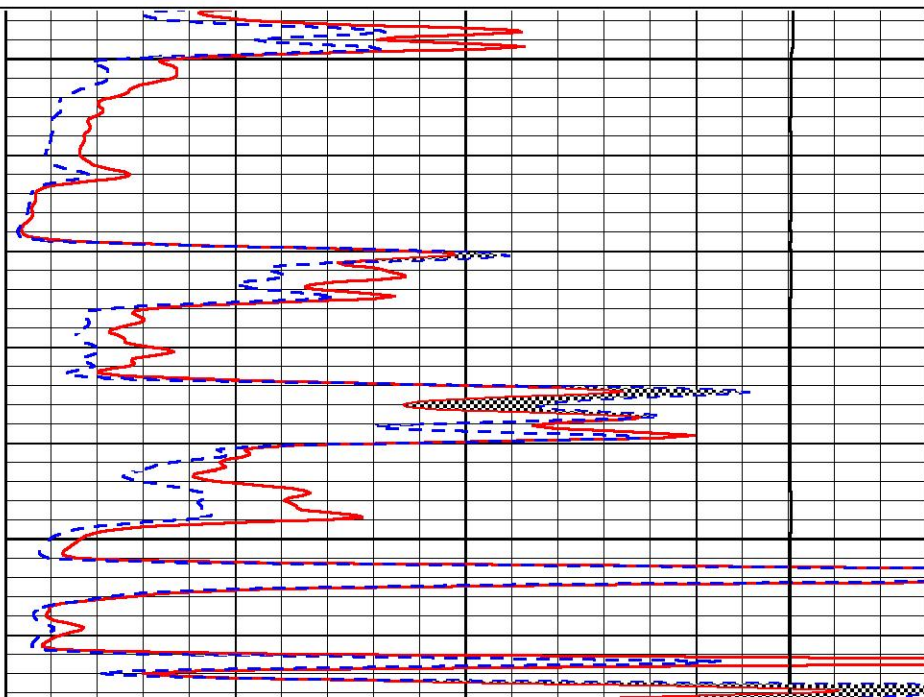
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	SP (mV)	0

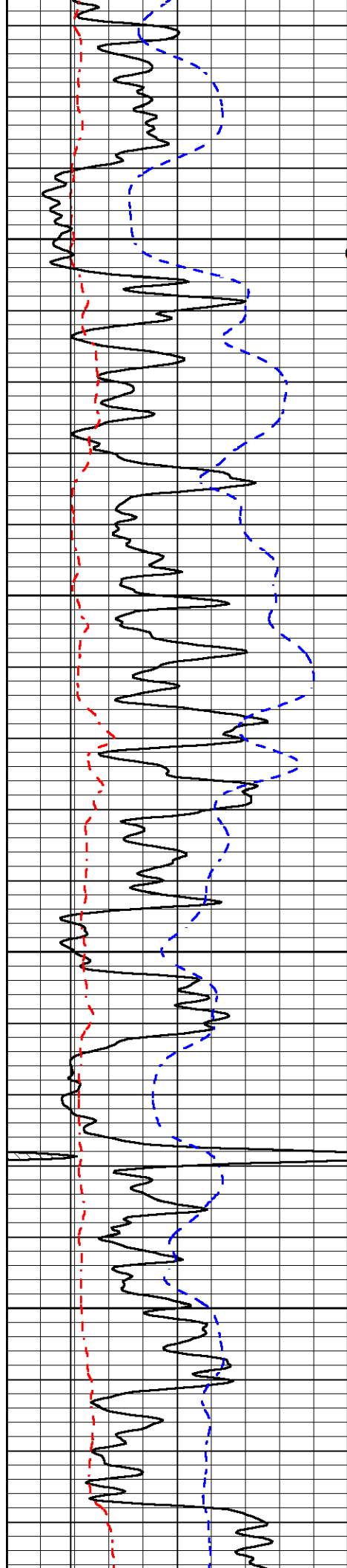
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



2000

2050



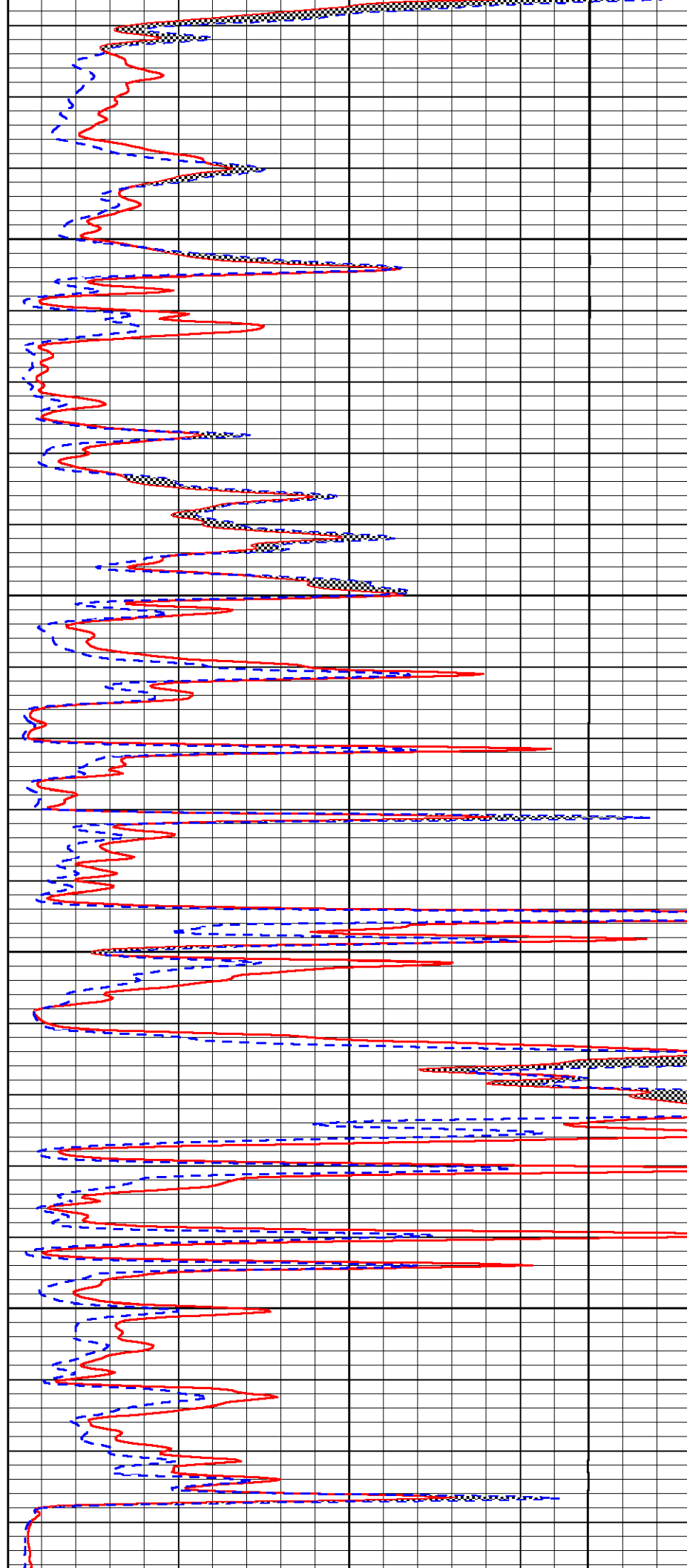


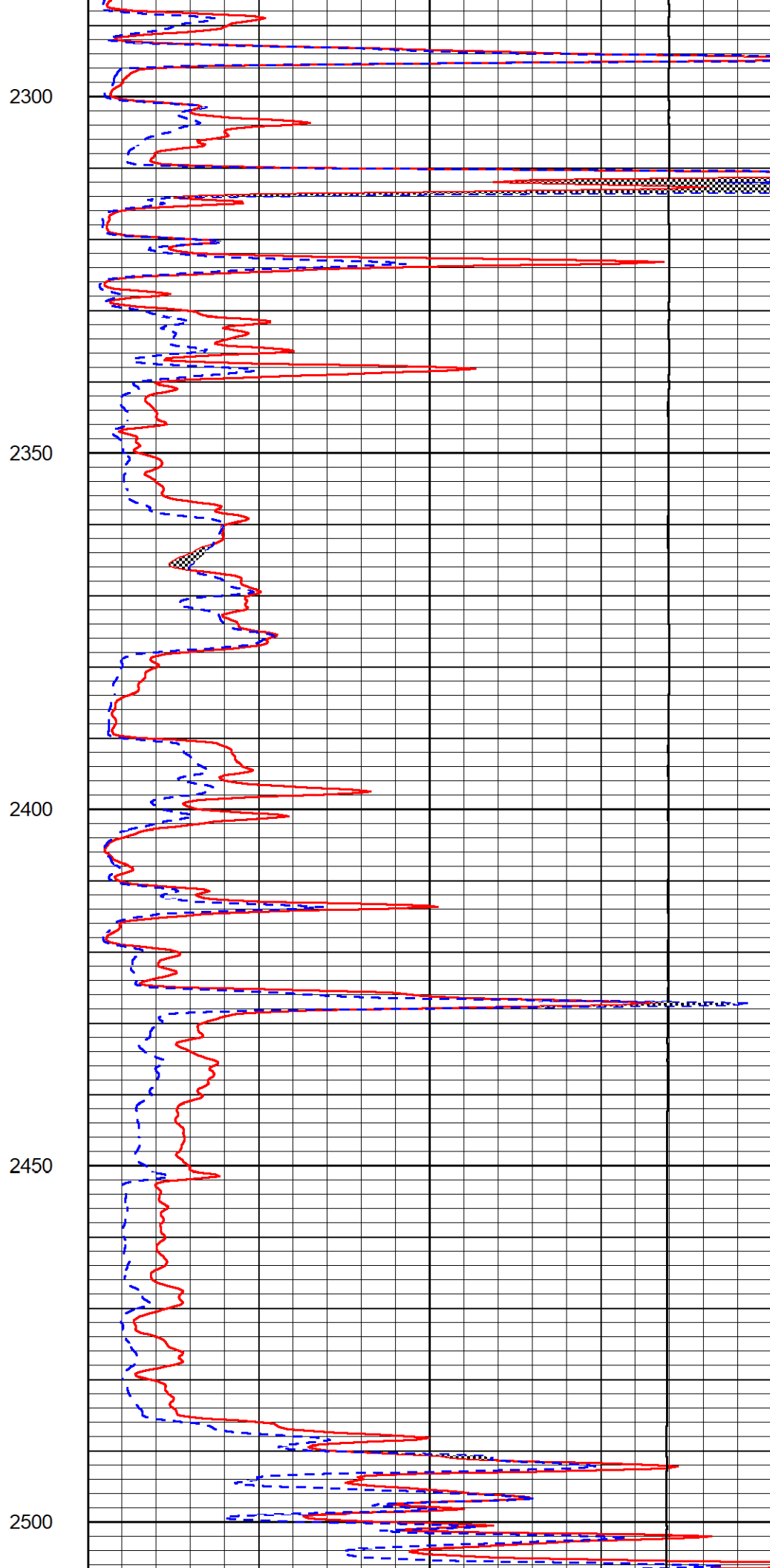
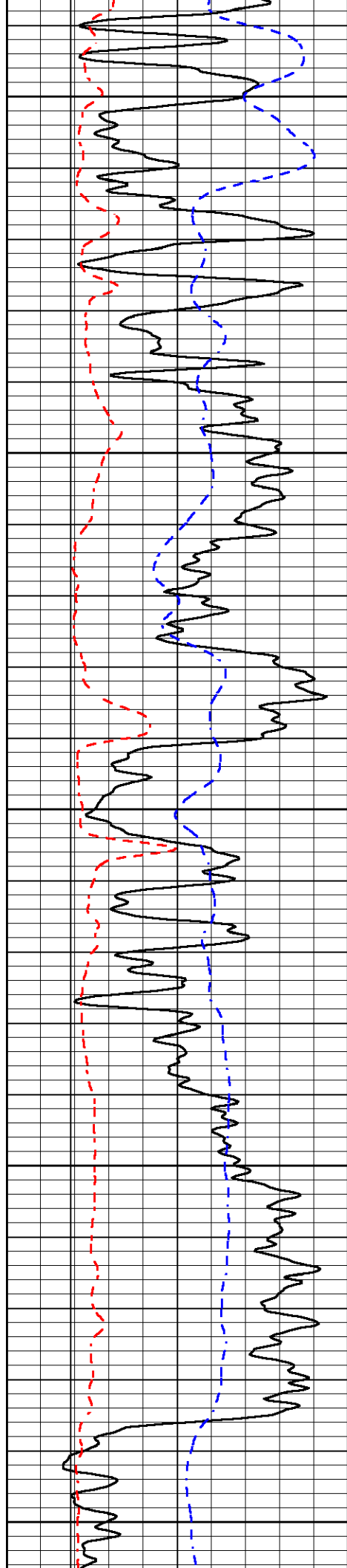
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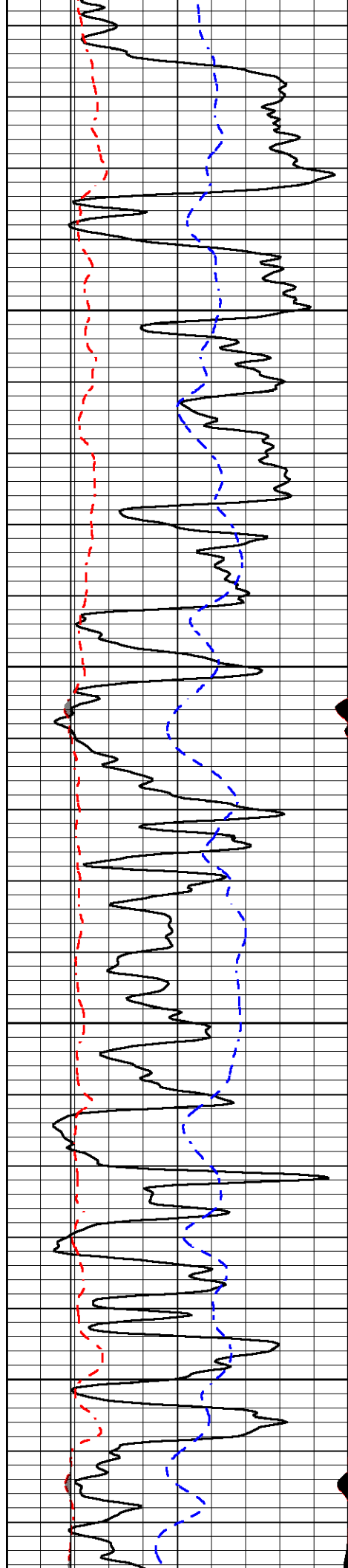
2150

2200

2250





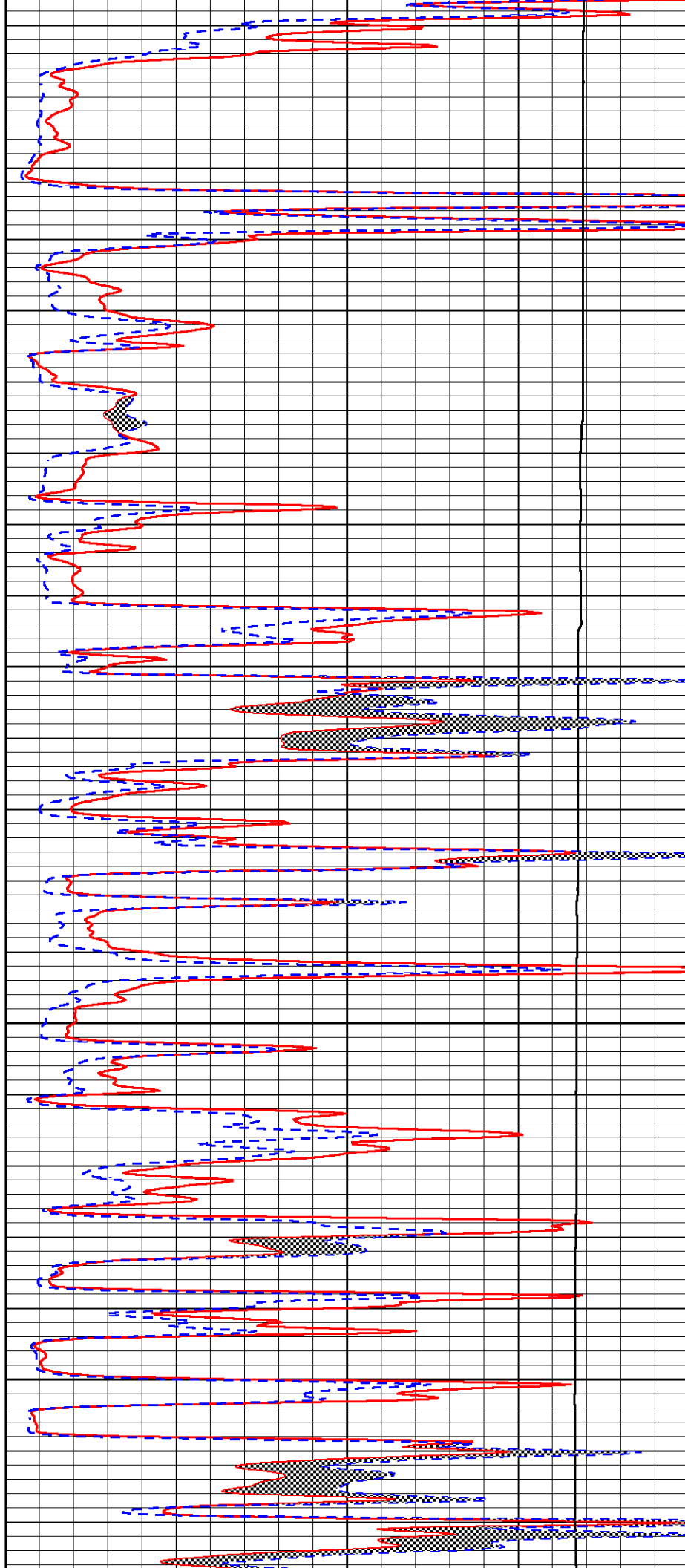


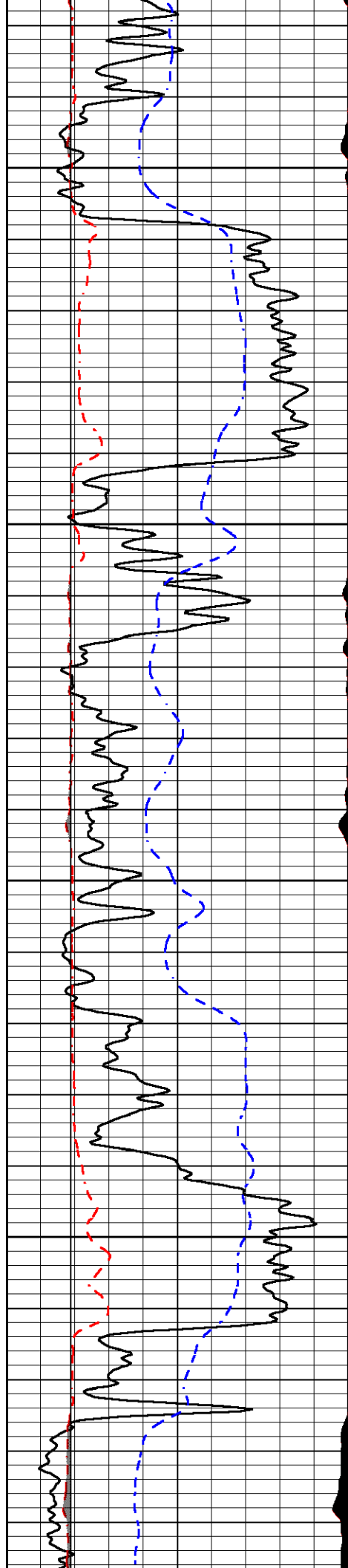
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2600

2650

2700



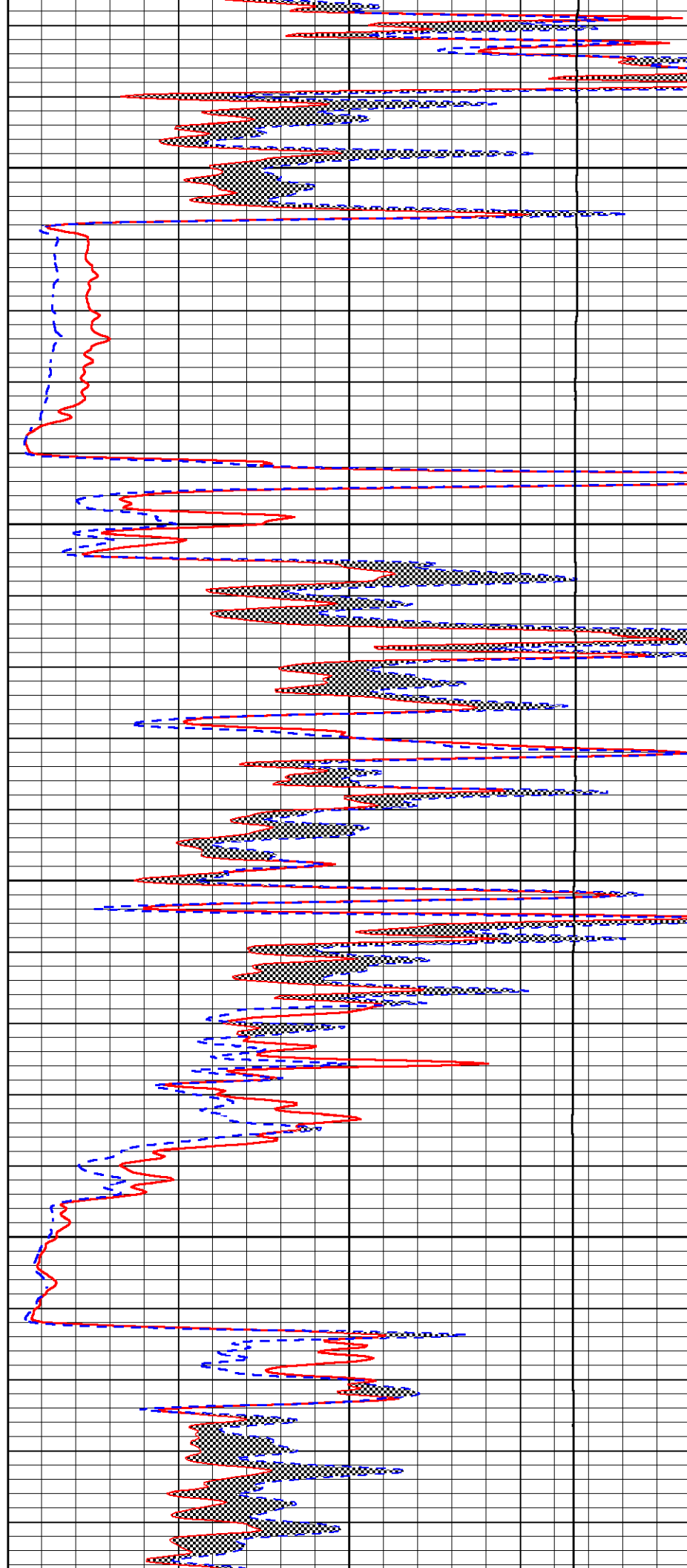


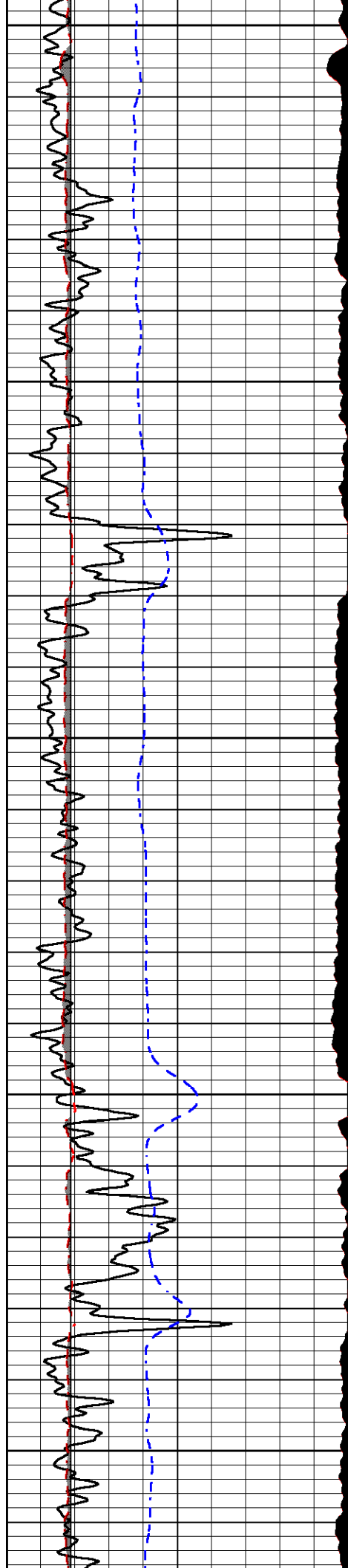
2750

2800

2850

2900





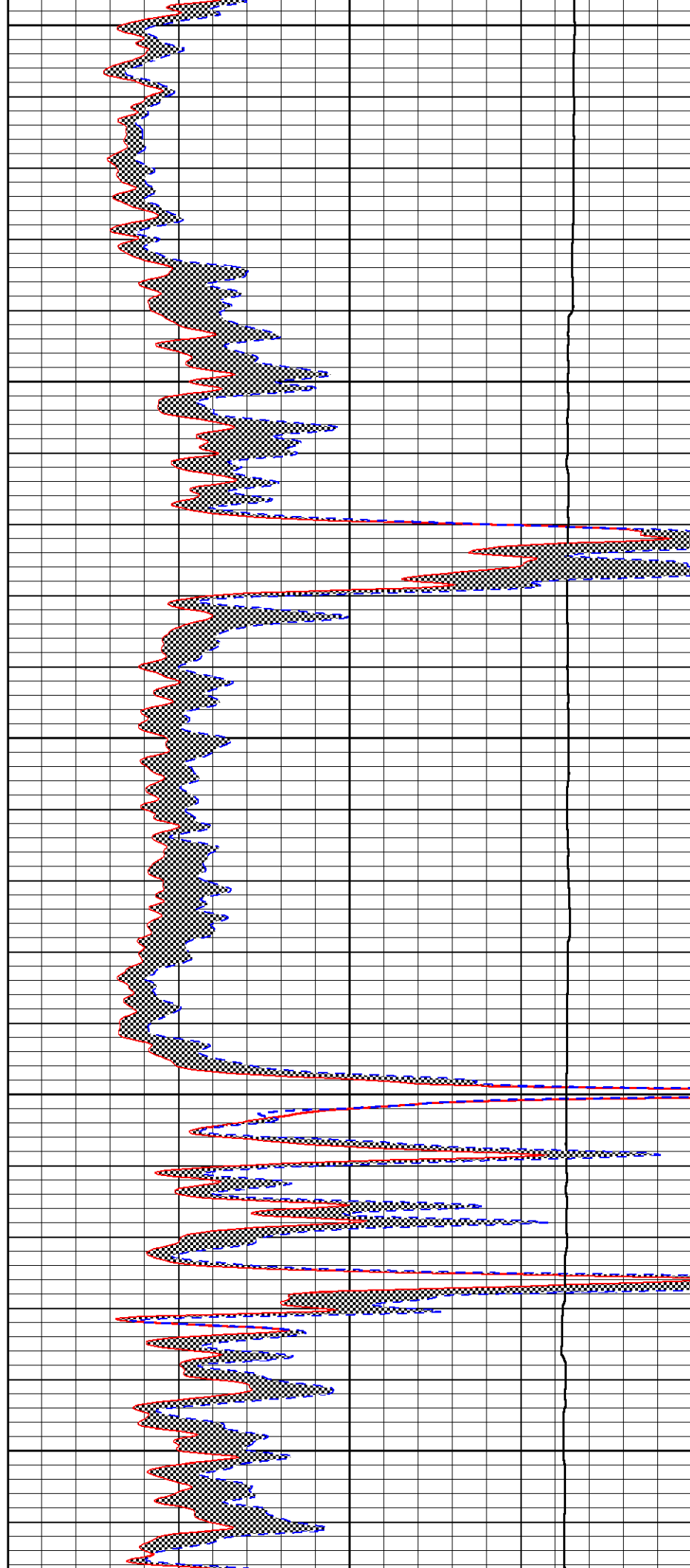
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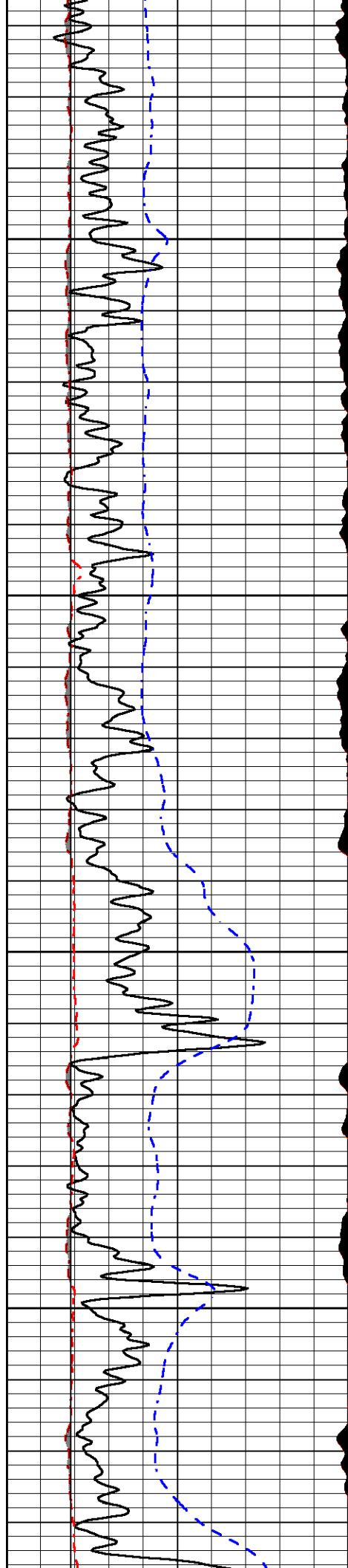
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3050

3100

3150



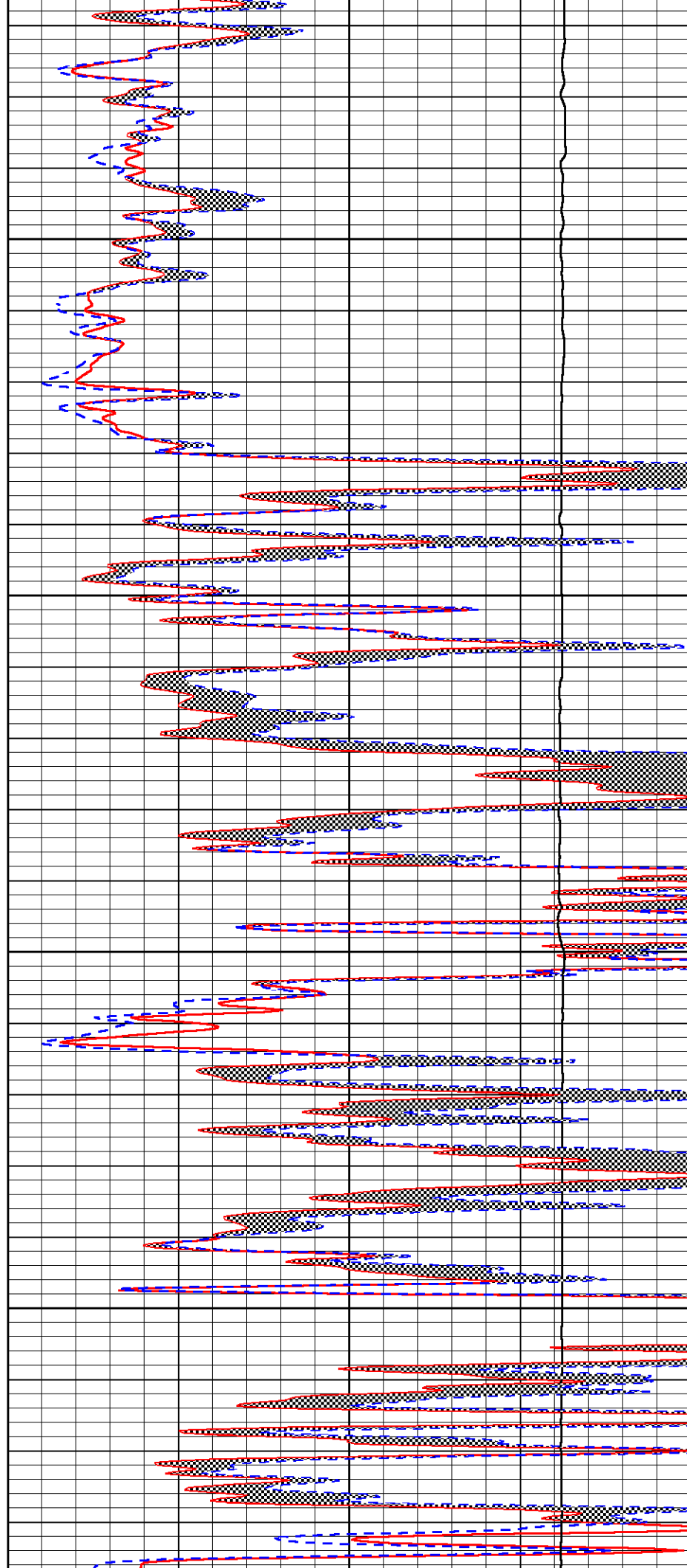


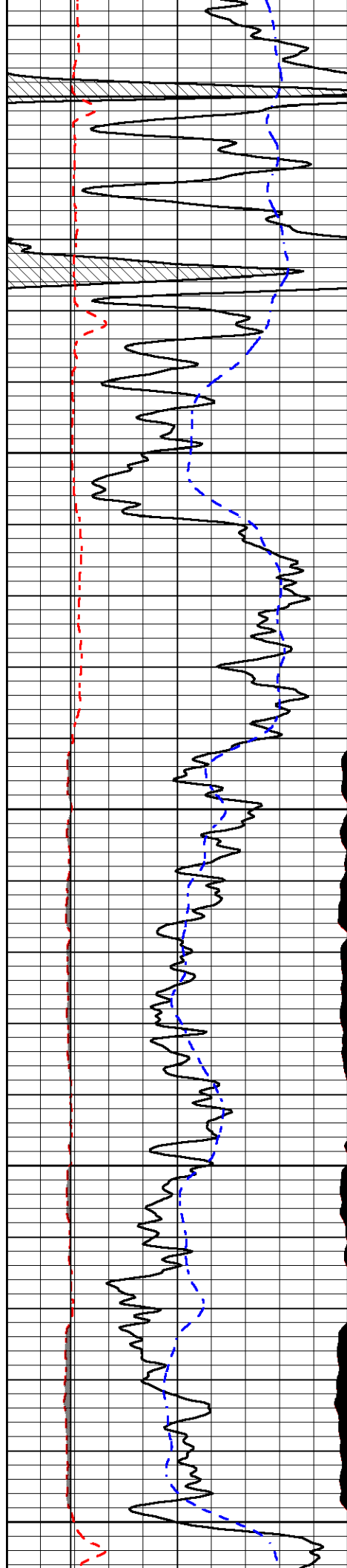
3200

3250

3300

3350





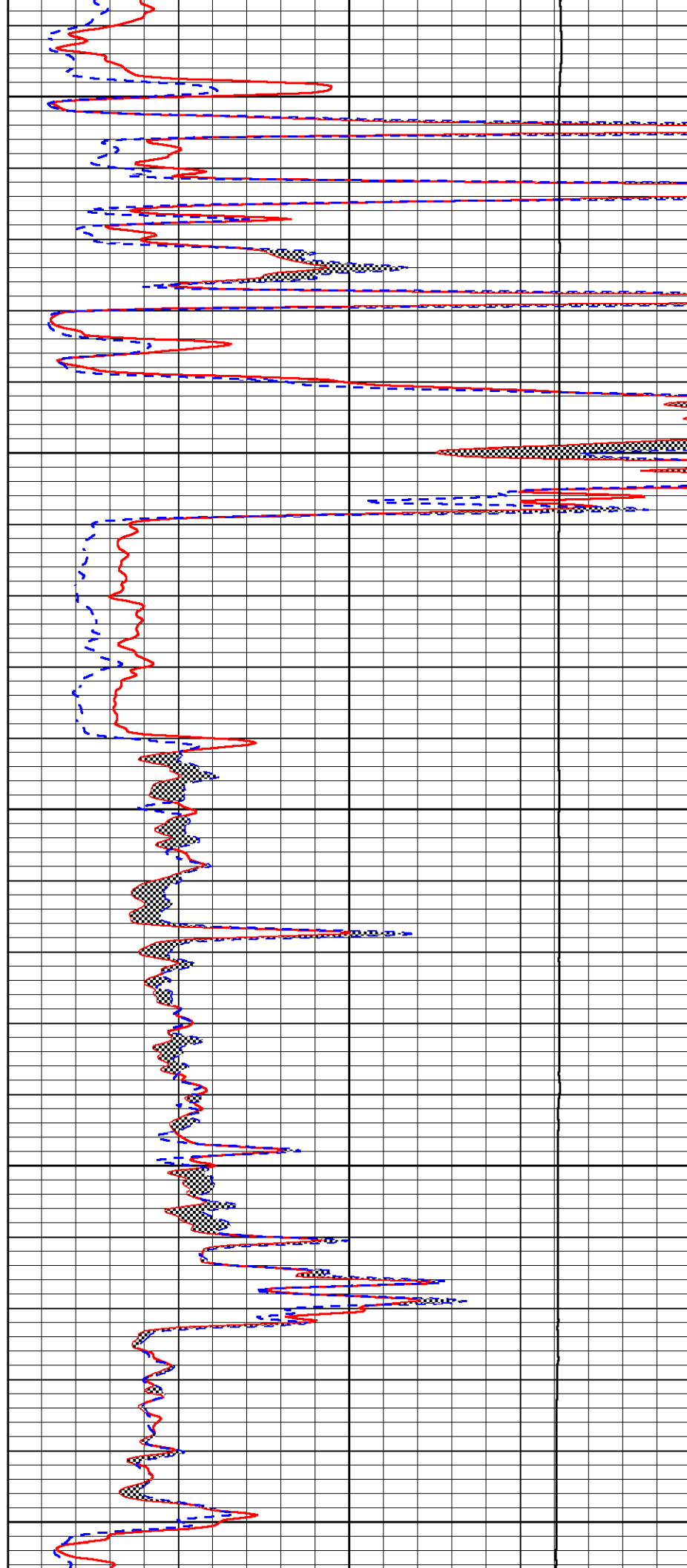
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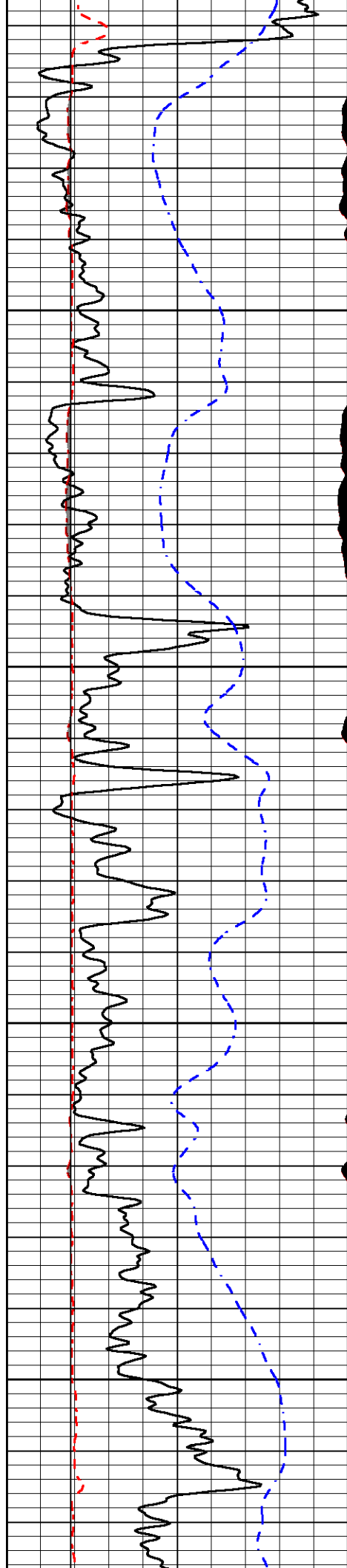
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3500

3550

3600



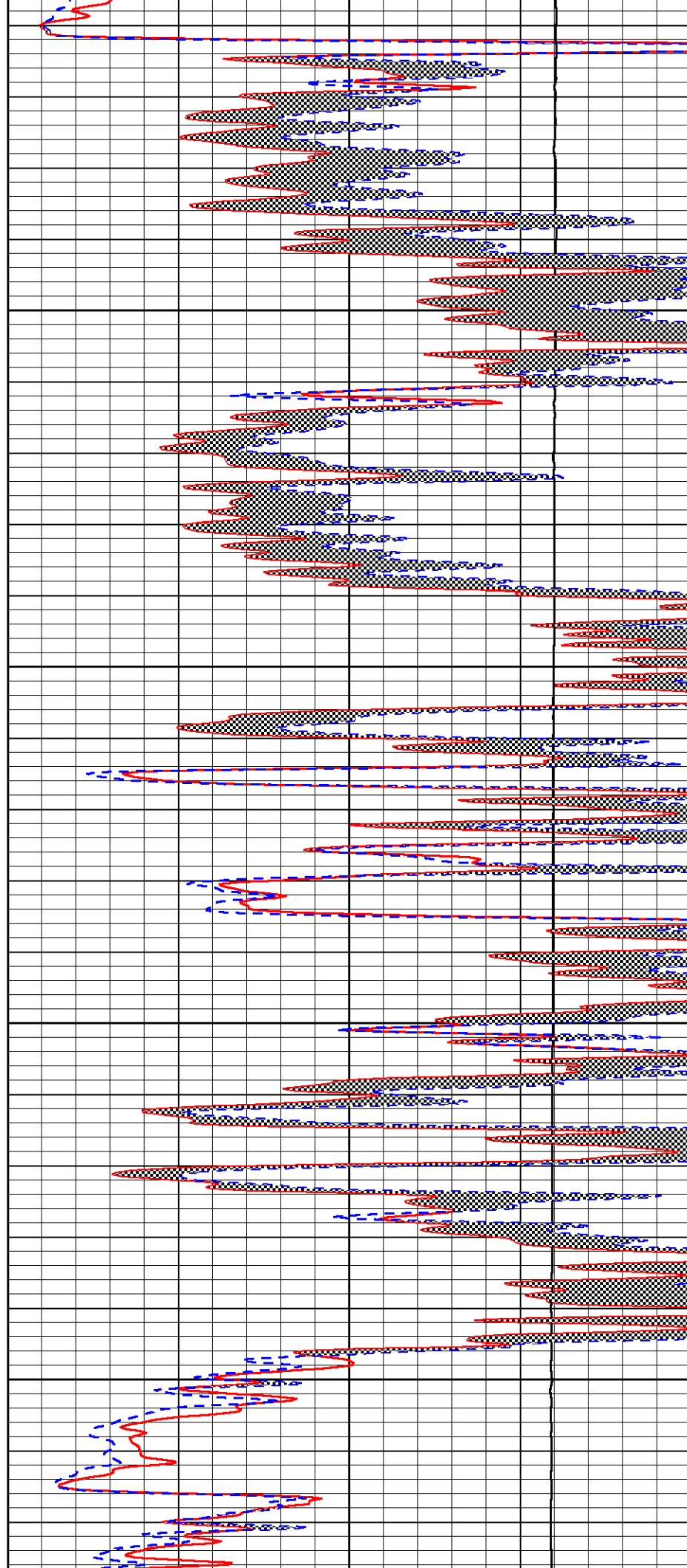


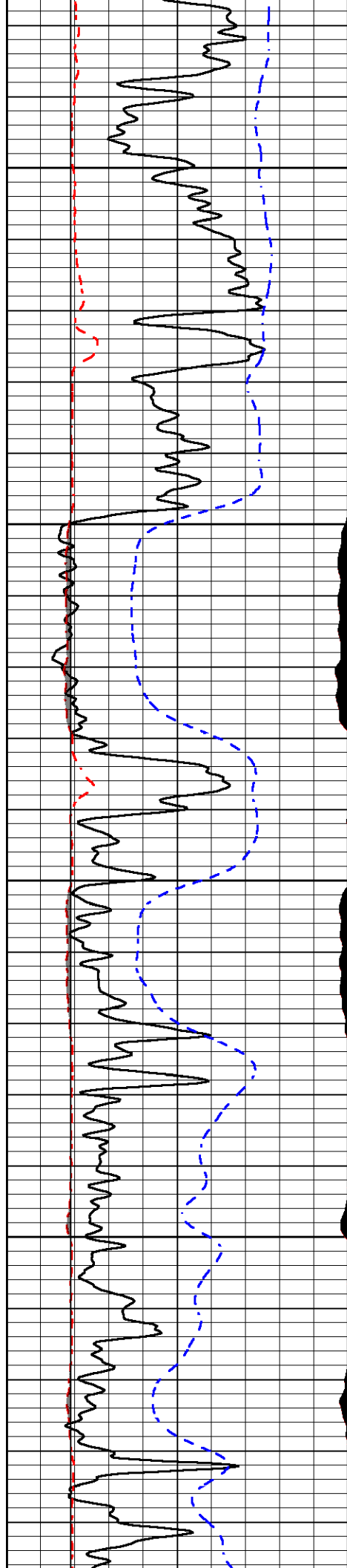
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3800



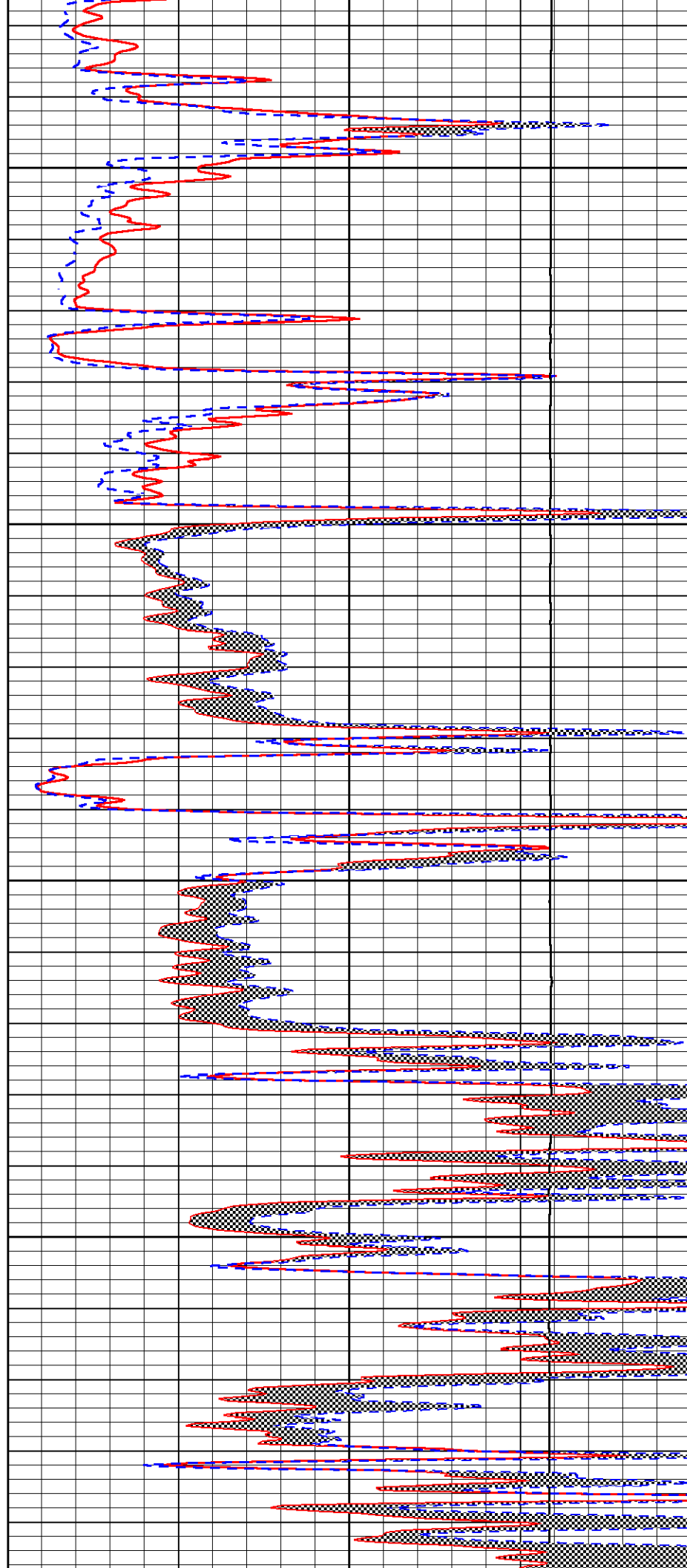


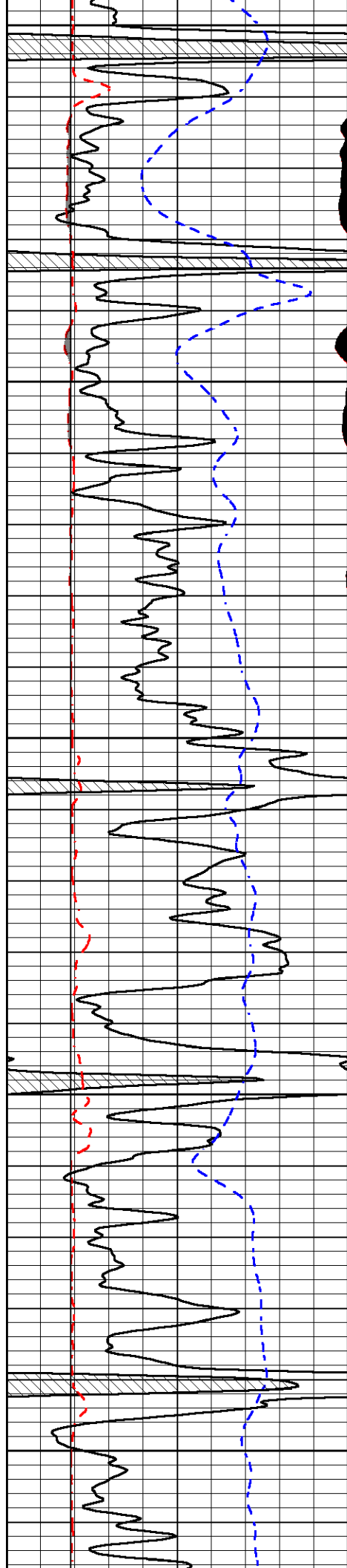
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3900

3950

4000





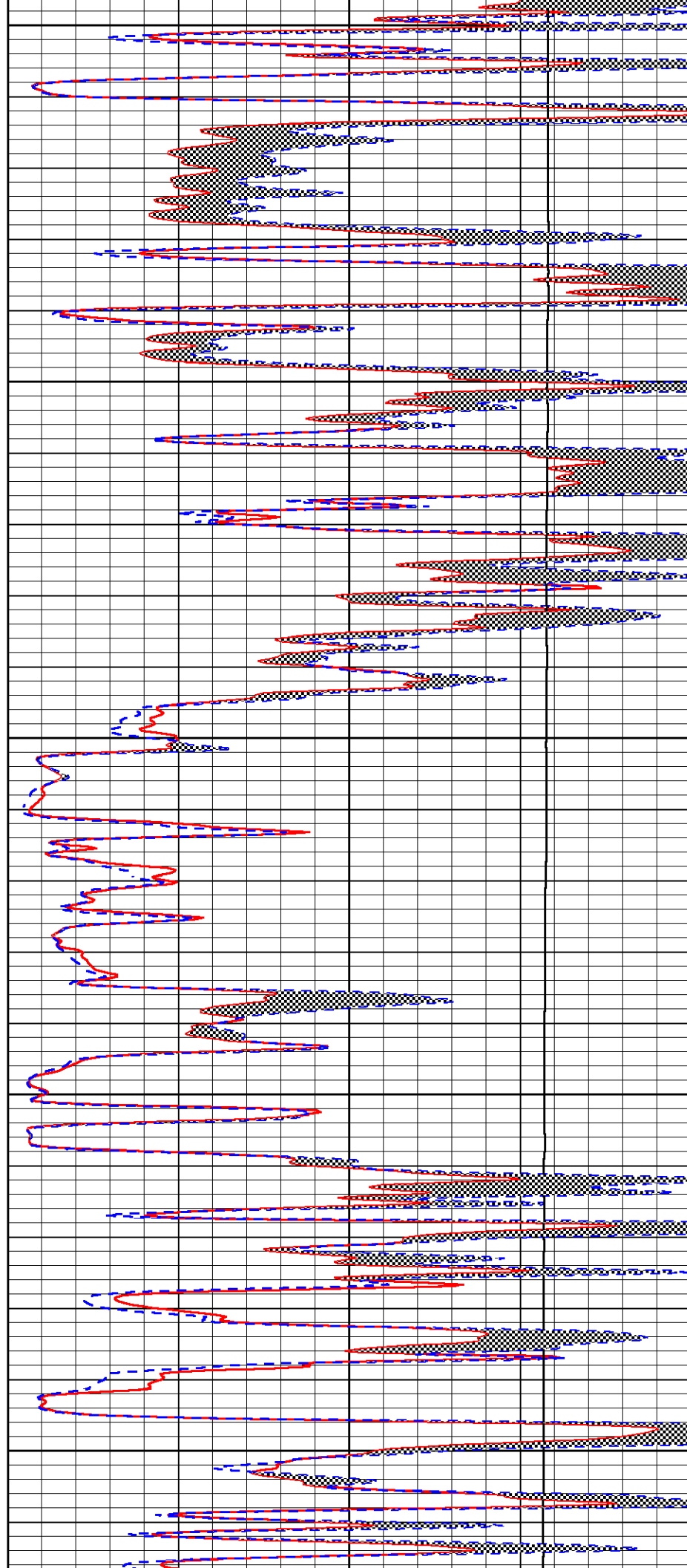
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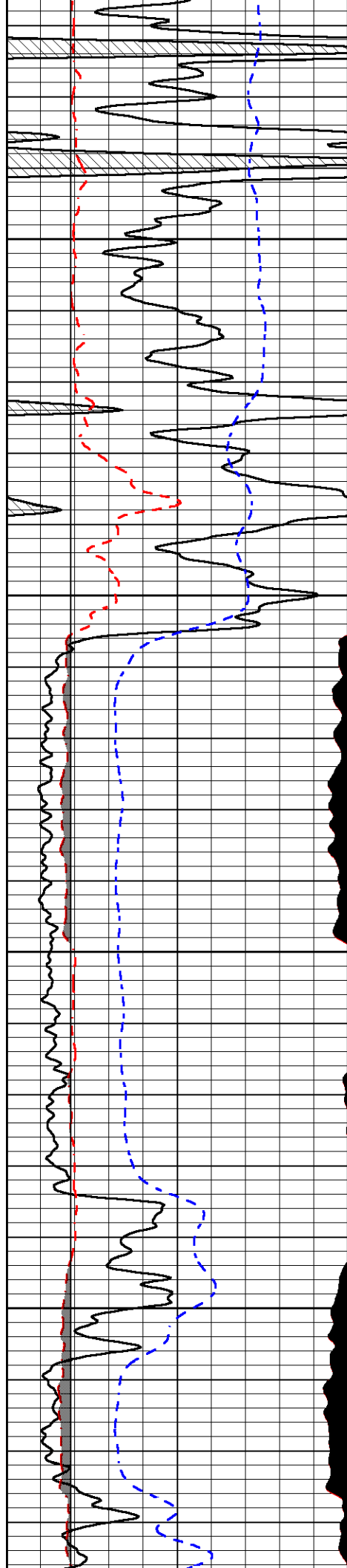
4100

4150

4200

4250



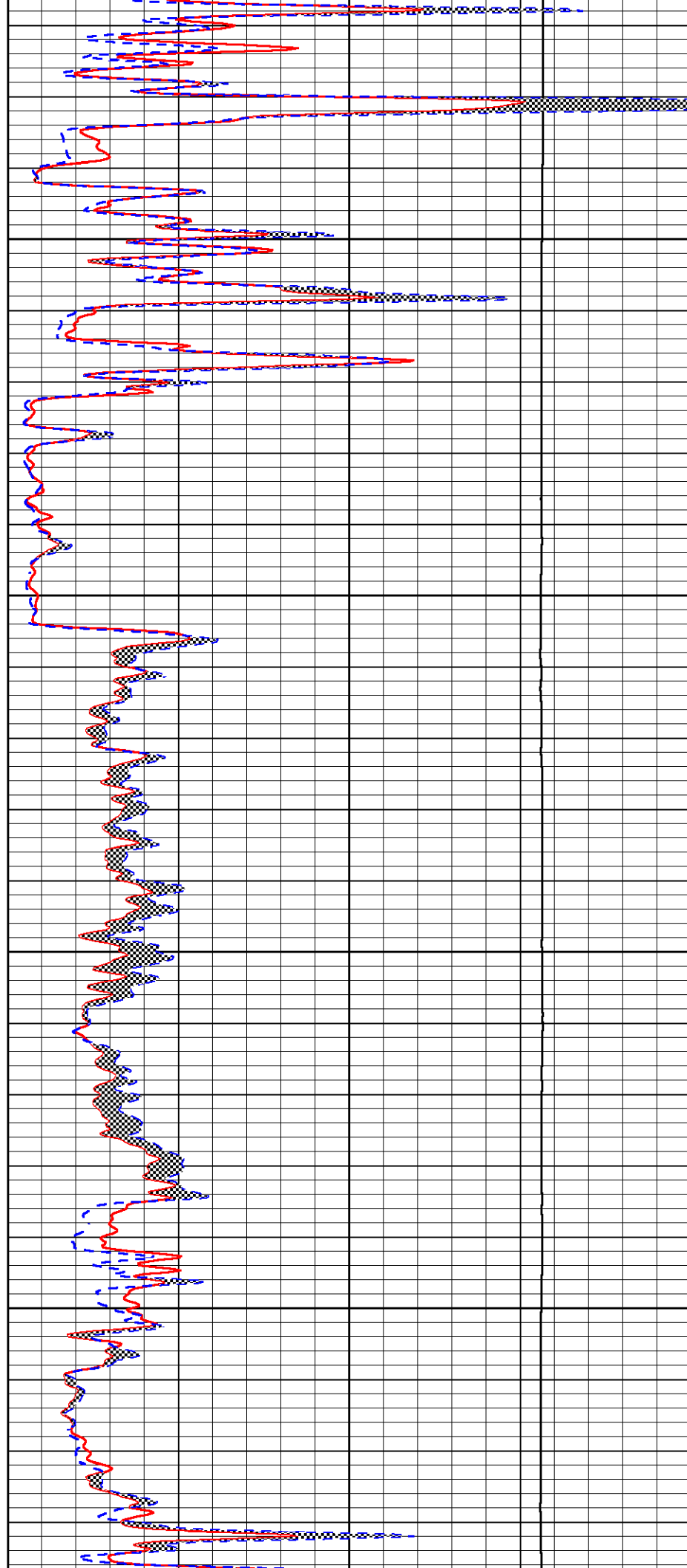


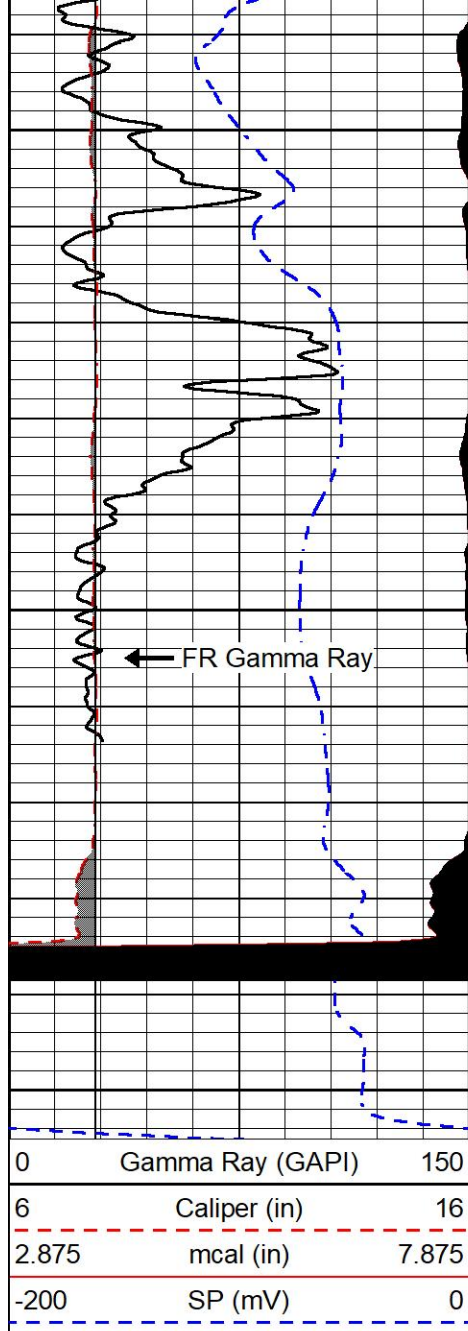
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4350

4400

4450

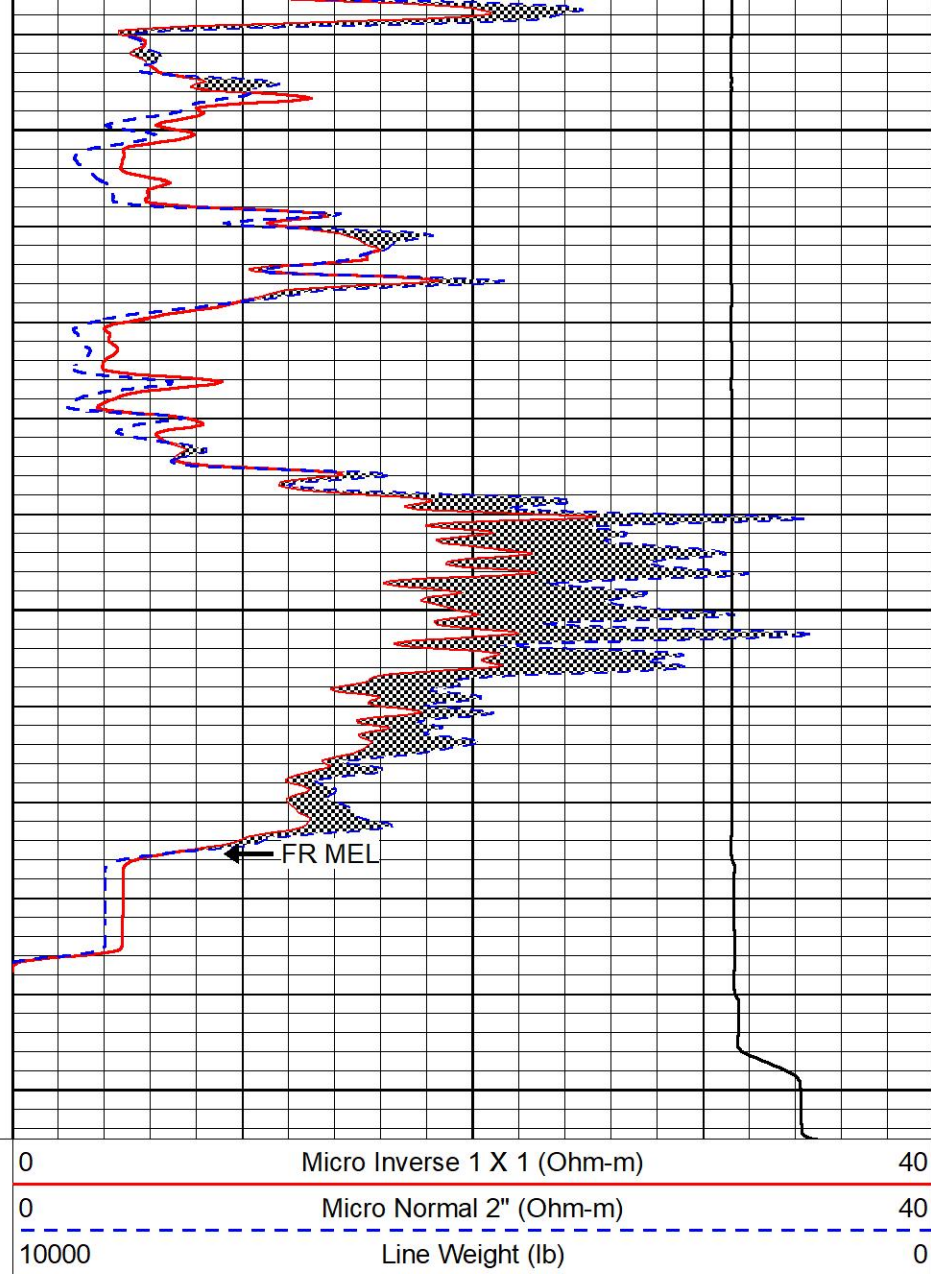




4500

4550

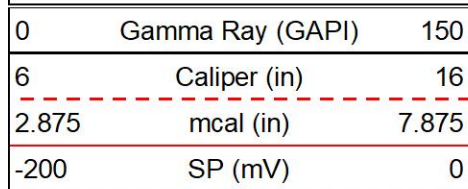
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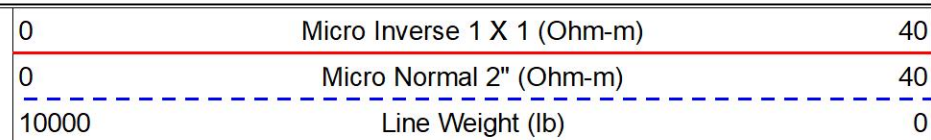
REPEAT SECTION

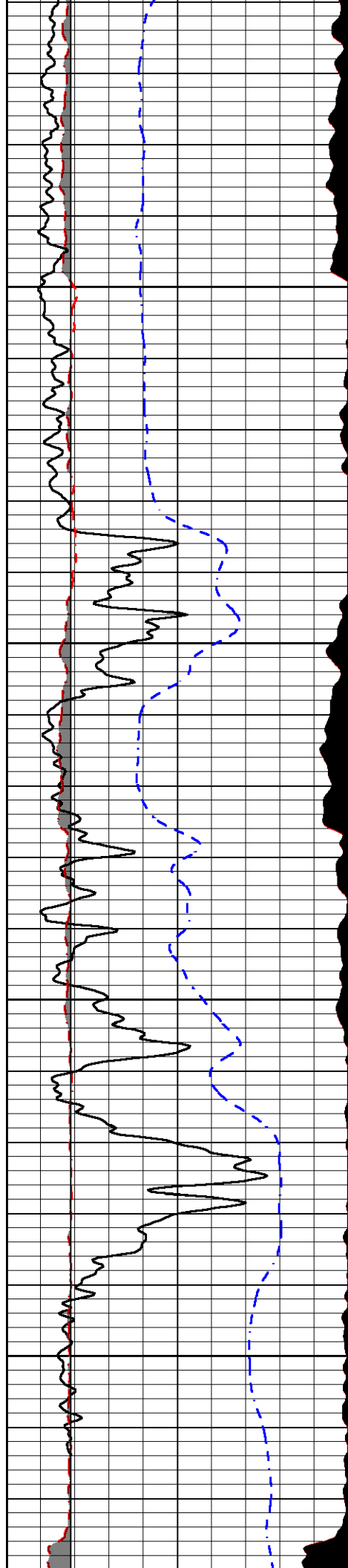
REPEAT PASS

Database File n-10_db
 Dataset Pathname stkml/pass2.1
 Presentation Format _micro
 Dataset Creation Fri Dec 16 06:51:17 2022
 Charted by Depth in Feet scaled 1:240



4350



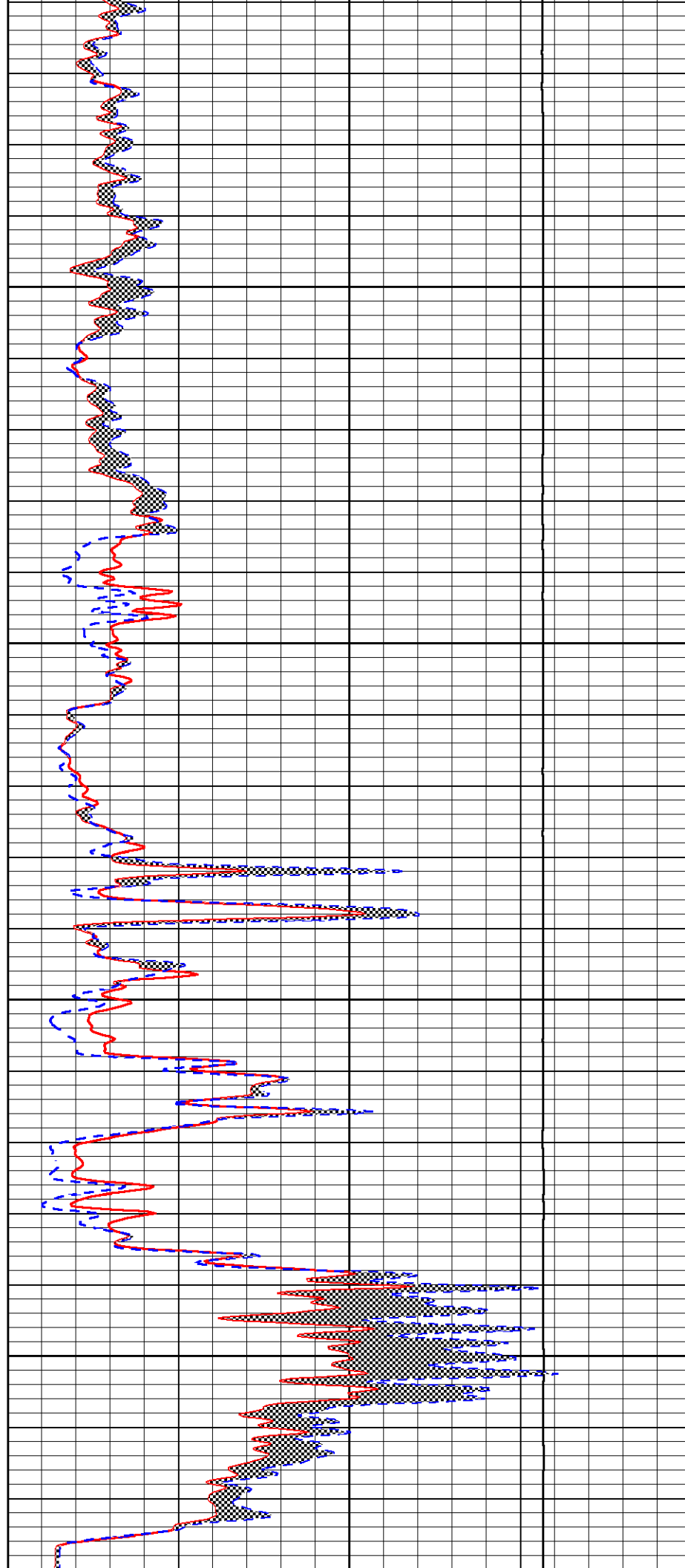


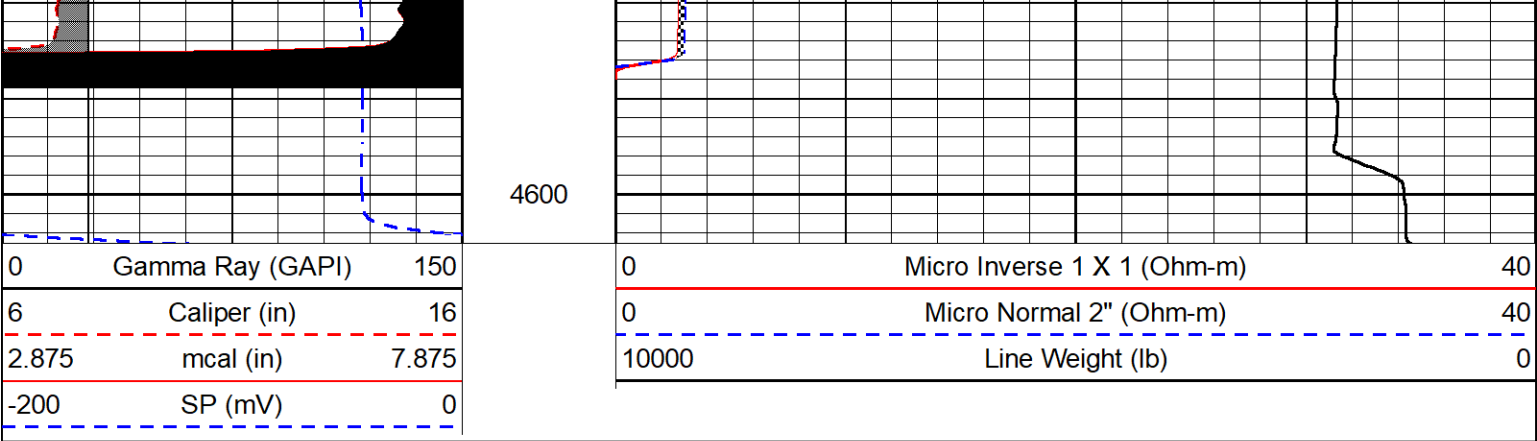
4400

4450

4500

4550





Calibration Report	
Database File	n-10_.db
Dataset Pathname	stkml/pass3.15
Dataset Creation	Fri Dec 16 06:48:11 2022

Dual Induction Calibration Report

Serial-Model:	505 HT-M&W
Surface Cal Performed:	Mon Nov 14 06:05:40 2022

Readings			References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	167.000	835.000	0.000	255.800	mmho/m	0.480	-50.000
Medium	1348.000	1348.000	0.000	255.800	mmho/m	0.390	-48.000

Microlog Calibration Report

Serial-Model:	402-PSI STKBL ML
Performed:	Sat Dec 3 15:10:39 2022

Readings			References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	15000.0000	-0.2000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	17000.0000	0.0000
Caliper	1.0046	1.1419	5.5000	20.0000	in	105.5890	-102.7550

Compensated Density Calibration Report

Serial-Model:	303-03-M&W
Source #:	21170B
Master Calibration Performed:	Mon Oct 17 15:14:24 2022

Master Calibration					
		Density		Far Detector	Near Detector
Magnesium		1.755	g/cc	3841.78	5151.73 cps
Aluminum		2.640	g/cc	700.98	3068.49 cps
Spine Angle = 73.06			Density/Spine Ratio = 0.498		
		Size		Reading	
Small Ring		4.00	in	1.17	

Large Ring

14.00

in

1.04

Compensated Neutron Calibration Report

Serial-Model: 210-M&W
Source #: N-1238
Master Calibration Performed: Fri Dec 3 09:16:24 2021

Master Calibration

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number: 103
Tool Model: M&W
Performed: Fri Dec 3 12:13:24 2021

Calibrator Value: 500.0 GAPI

Background Reading: 28.0 cps
Calibrator Reading: 986.0 cps

Sensitivity: 0.5700 GAPI/cps



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