



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company MURFIN DILLING CO., INC.
Well PLUMMER #1-25
Field DIETTERICH
County STANTON
State KANSAS

Company MURFIN DILLING CO., INC.
Well PLUMMER #1-25
Field DIETTERICH
County STANTON State KANSAS

Location: API #: 15-187-21341-00-00

2100' FSL & 1925' FEL

SEC 25 TWP 28S RGE 41W

Permanent Datum GROUND LEVEL Elevation 3332'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Other Services
CNL/CDL
DIL/BHCS
Elevation
K.B. 3343'
D.F. N/A
G.L. 3332'

Date 10/2/2018

Run Number ONE

Depth Driller 5795'

Depth Logger 5795'

Bottom Logged Interval 5794'

Top Log Interval 3600'

Casing Driller 8.625" @ 1777'

Casing Logger 1770'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 675

Density / Viscosity 9.4 55

pH / Fluid Loss 10.5 8.0

Source of Sample FLOWLINE

Rm @ Meas. Temp 1.20 @ 78

Rmt @ Meas. Temp 0.90 @ 78

Rmc @ Meas. Temp 1.62 @ 78

Source of Rmt / Rmc CHARTS

Rm @ BHT 0.70 @ 134

Operating Rig Time 5 HOURS

Max Rec. Temp. F 134

Equipment Number 91

Location HAYS

Recorded By IAN MABB

Witnessed By KEITH REAVIS

<<< Fold Here >>>

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

JOHNSON CITY, KS.

BY THE CENEX TAKE THE FRONTAGE RD. ON THE NORTH SIDE,
AND NORTH INTO ON THE WEST SIDE OF
WESTERN SHELTER INS.

Log Measured From: KELLY BUSHING

11 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

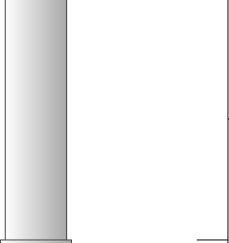
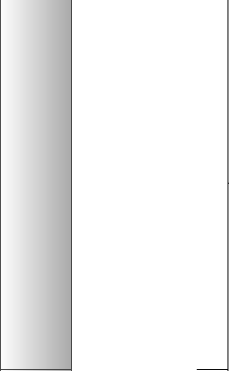
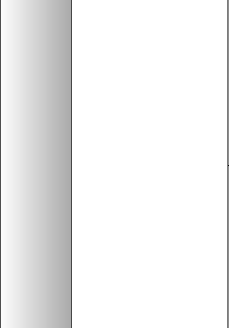
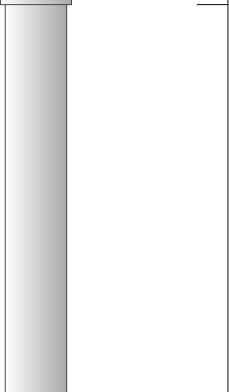
Engineer: IAN MABB
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: KEITH REAVIS
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	54	3
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
7	0	0	5.5	0	5795	134	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (144-84)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

				DIL-PSI HIGH TEMP (967 (HT))	18.50	3.50	220.00
CILD	8.00						
CILM	4.70						
SP	0.20						
Dataset: murfin_plummer_1_25.db: field/well/stackmel/pass3.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in							



PIONEER

Pioneer Energy Services

MAIN PASS

Database File

murfin_plummer_1_25.db

Dataset Pathname

stackmel/pass3.1

Presentation Format

micro

Dataset Creation

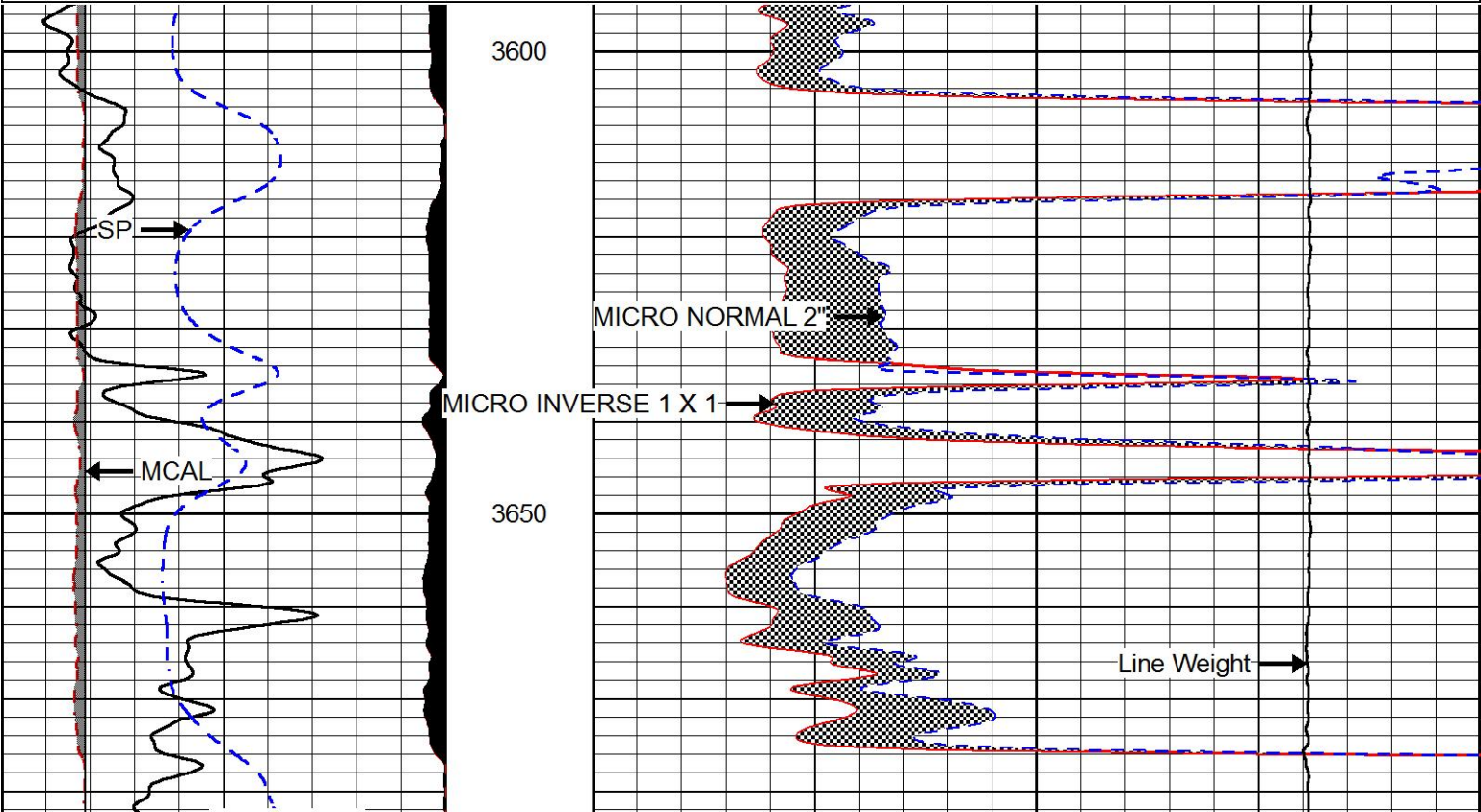
Tue Oct 02 13:42:49 2018

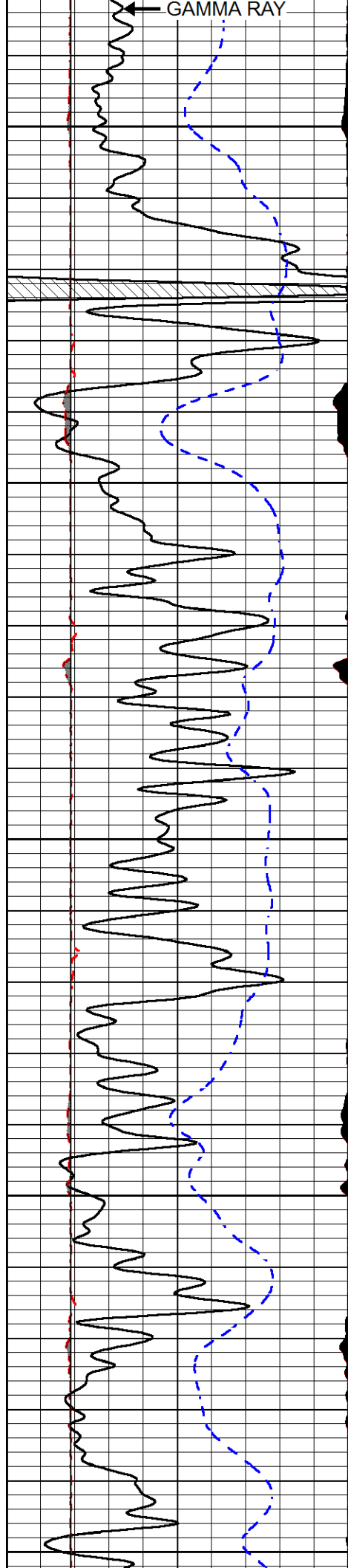
Charted by

Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcals (in)	7.875
6	Bit Size (in)	16
-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





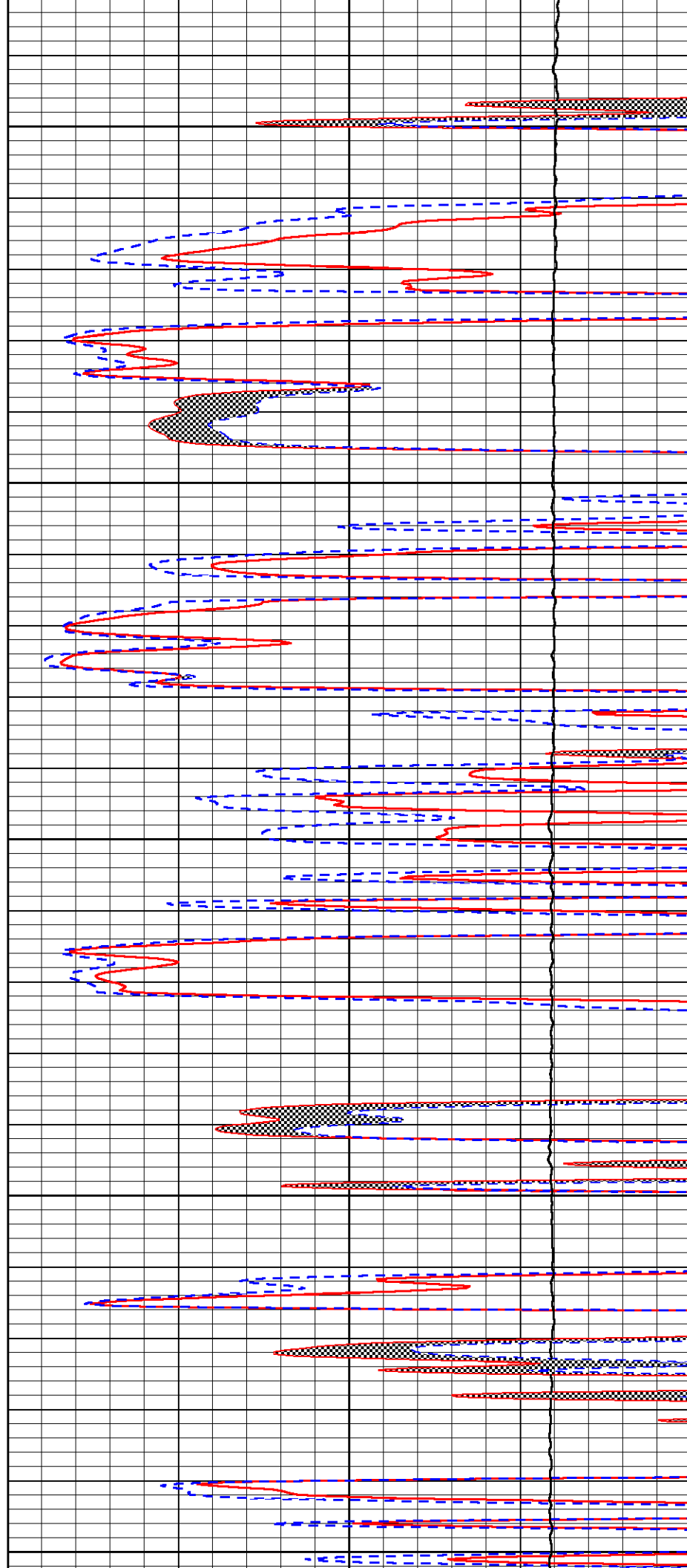
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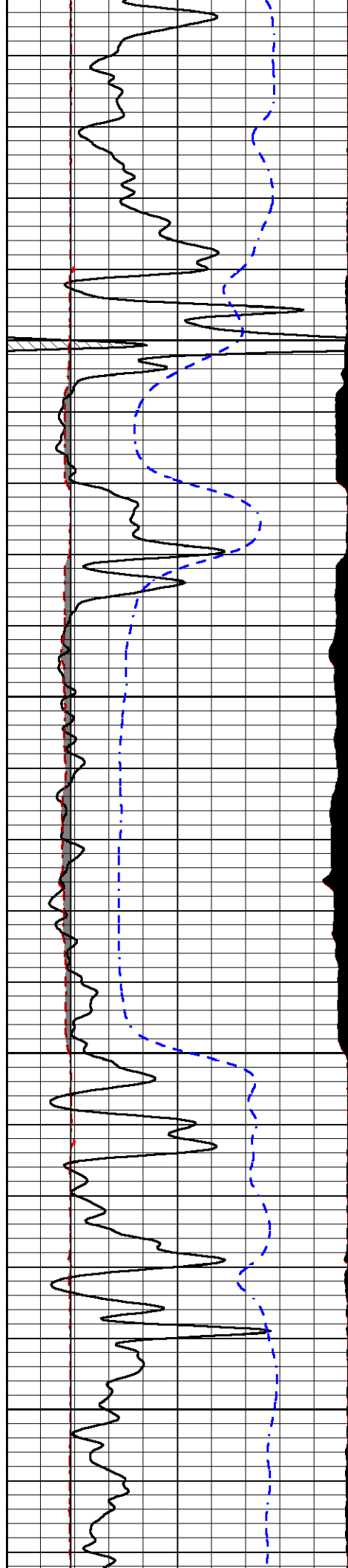
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3800

3850

3900



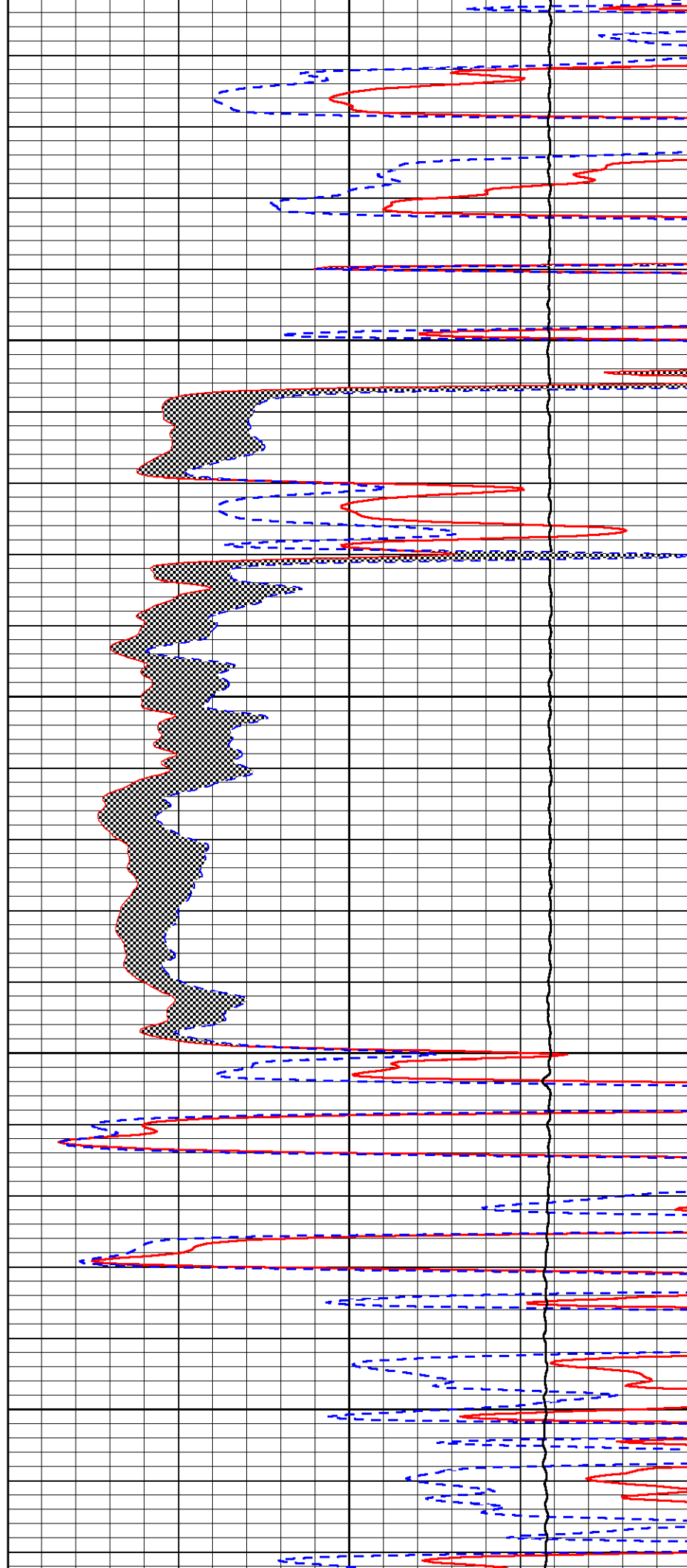


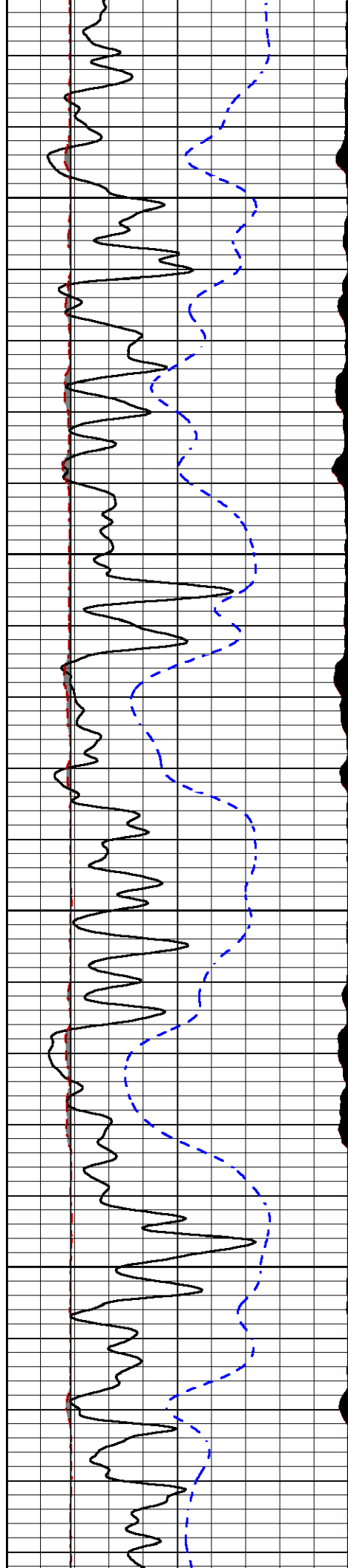
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4000

4050

4100



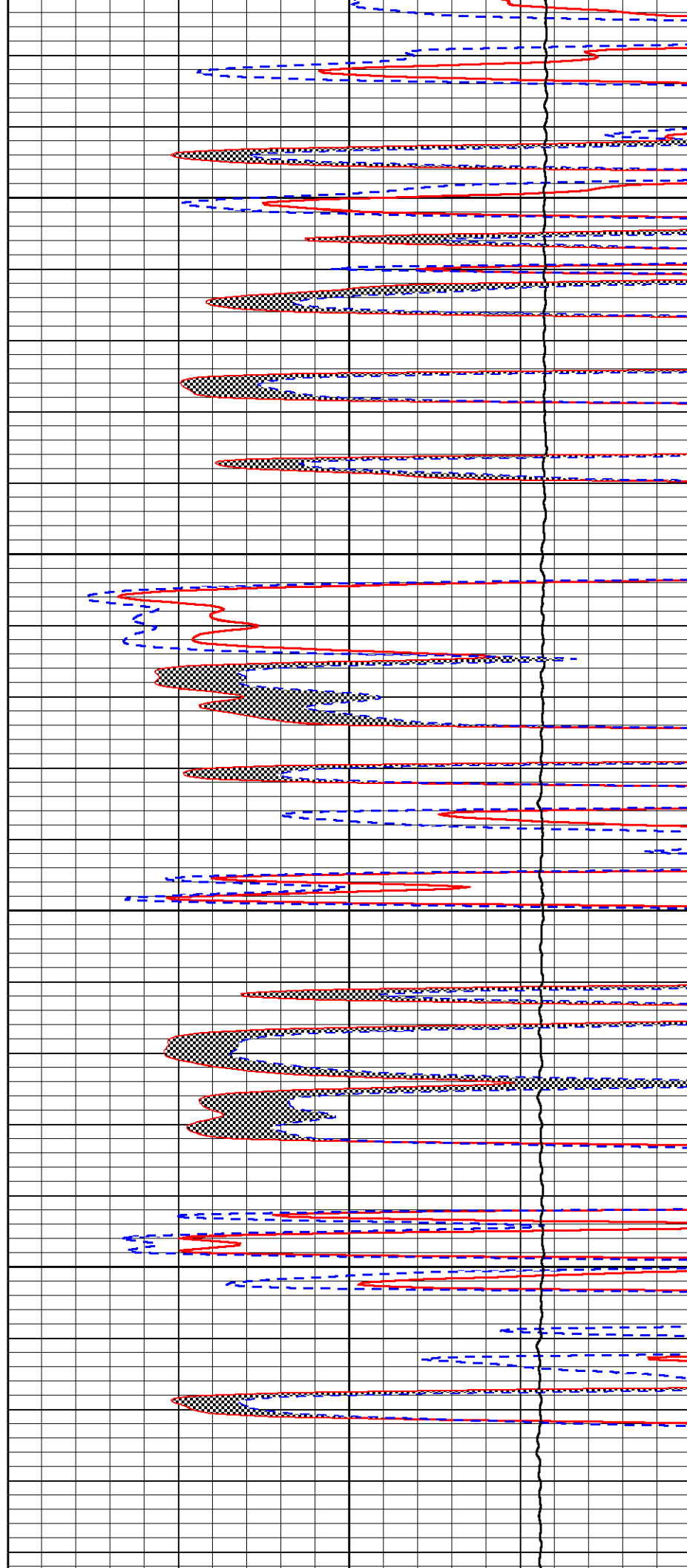


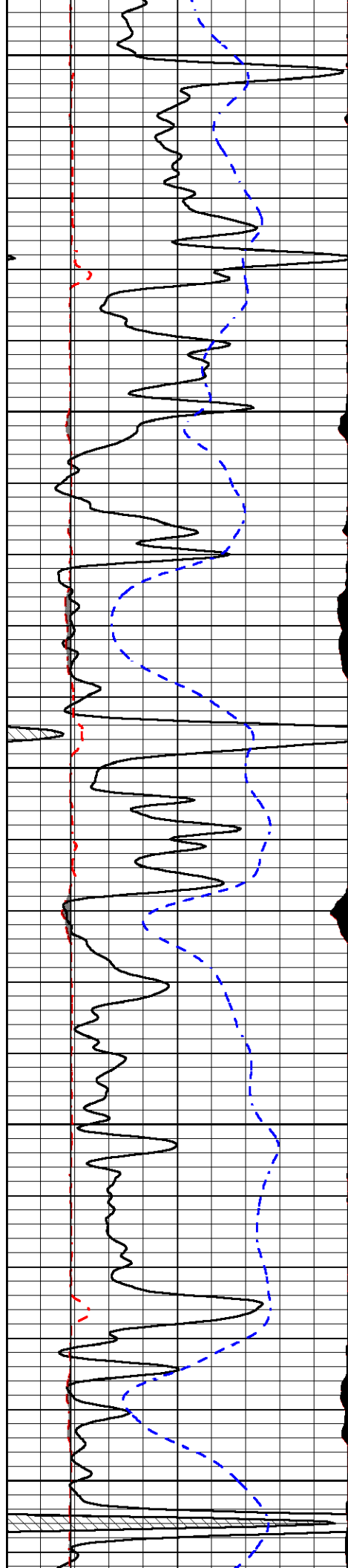
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4200

4250

4300





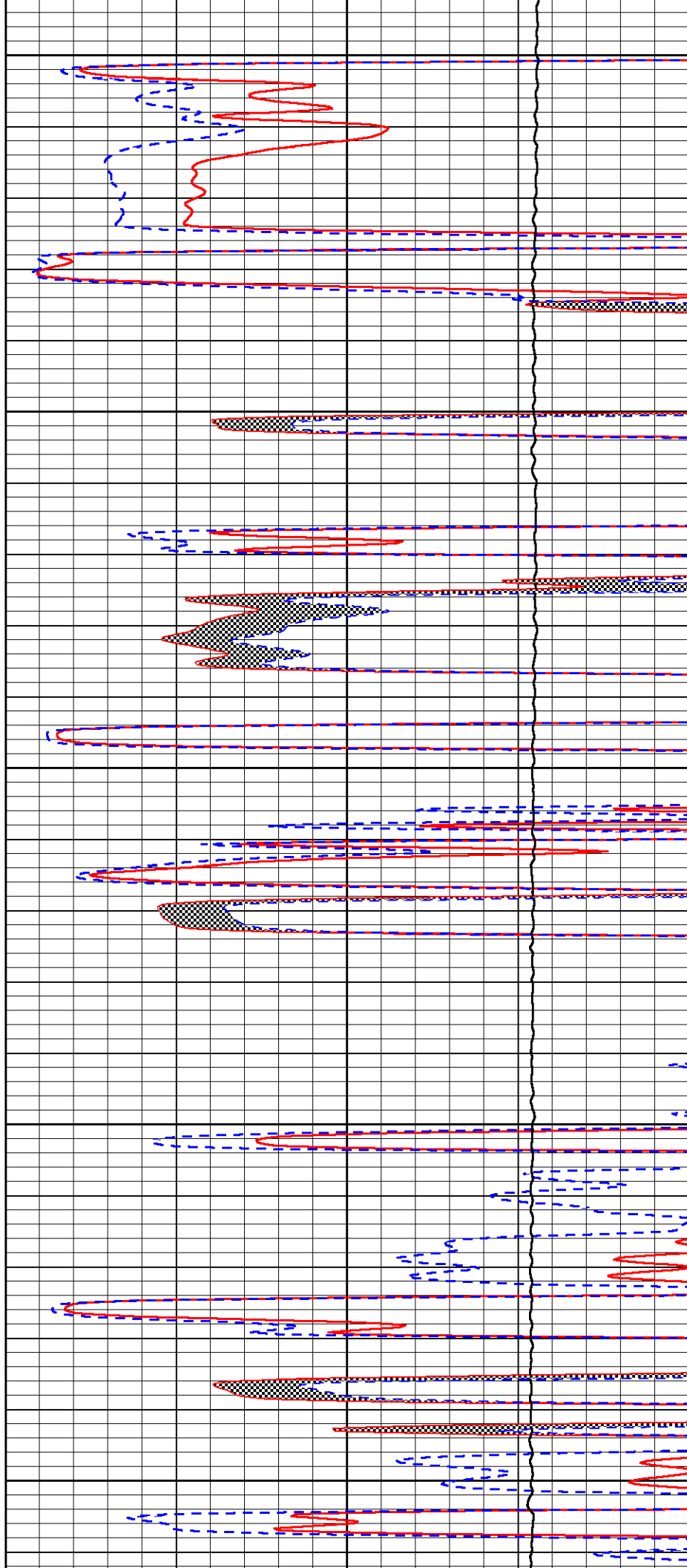
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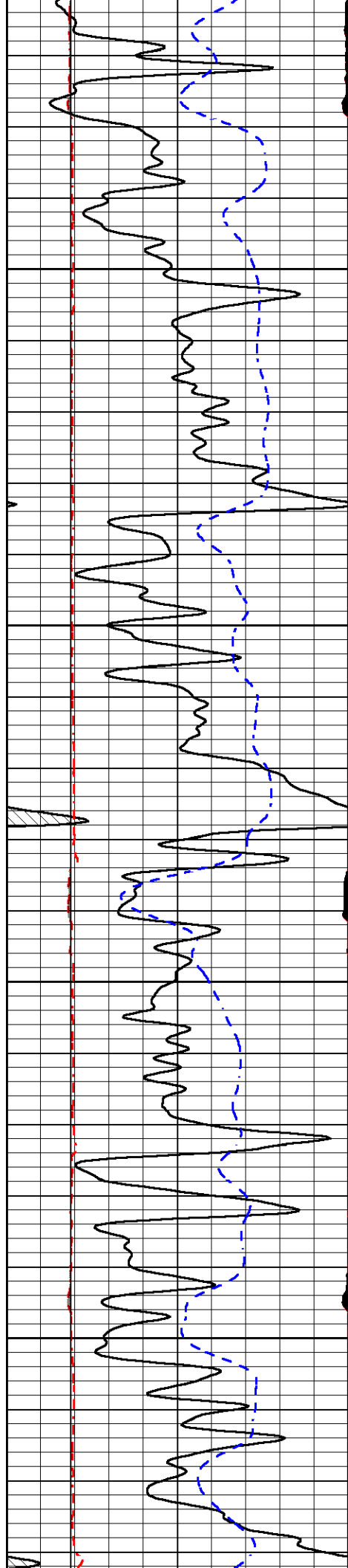
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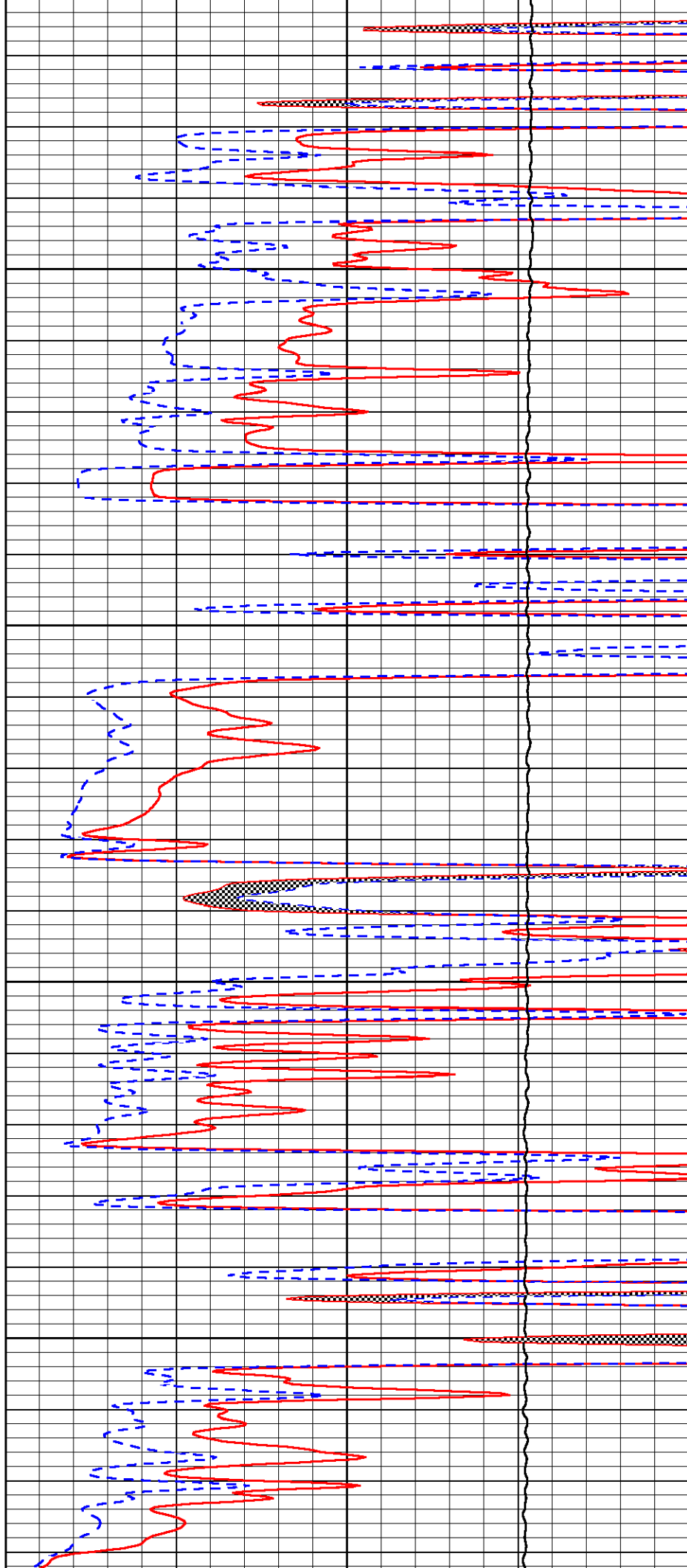


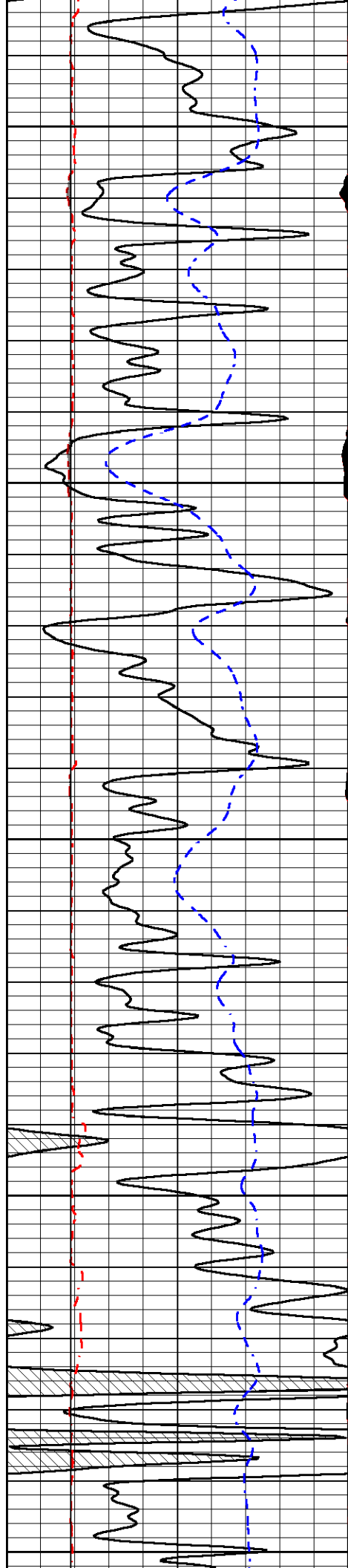
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4750





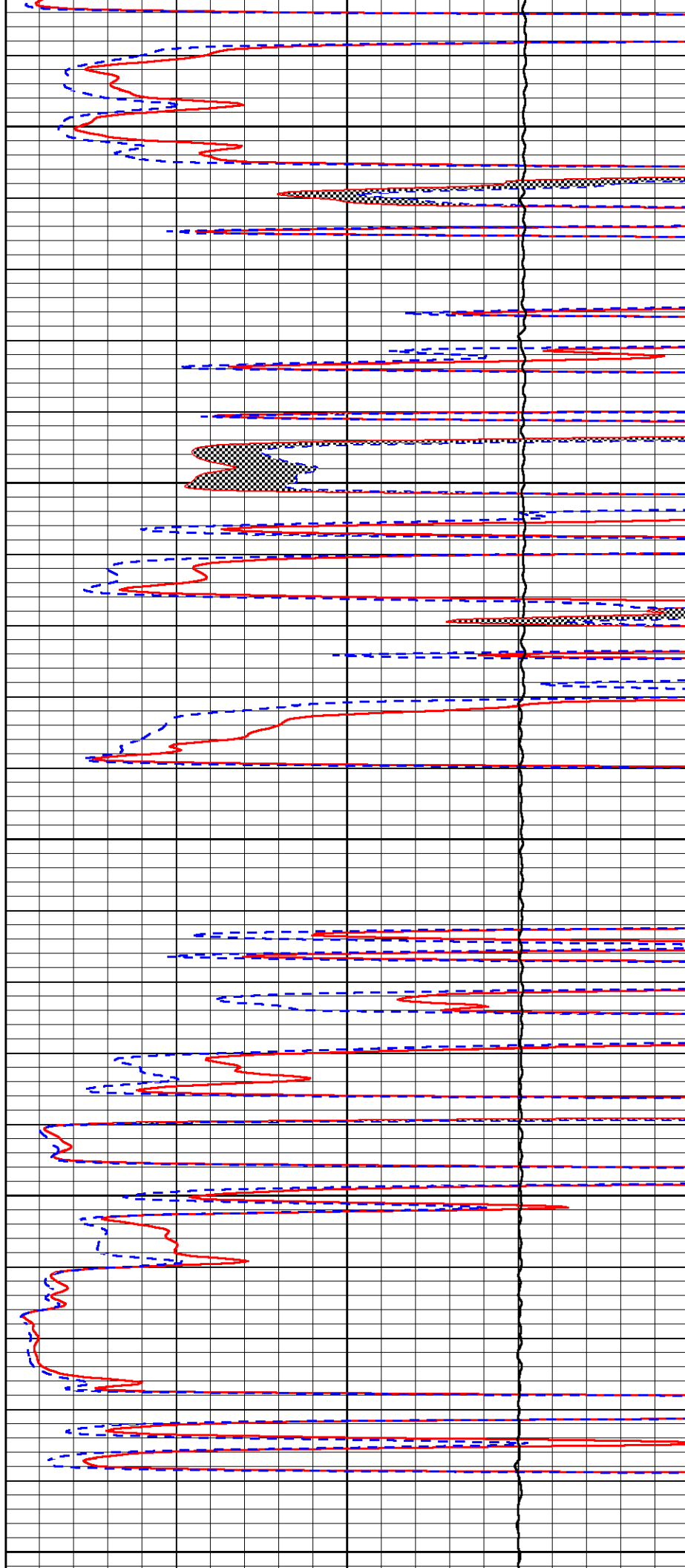
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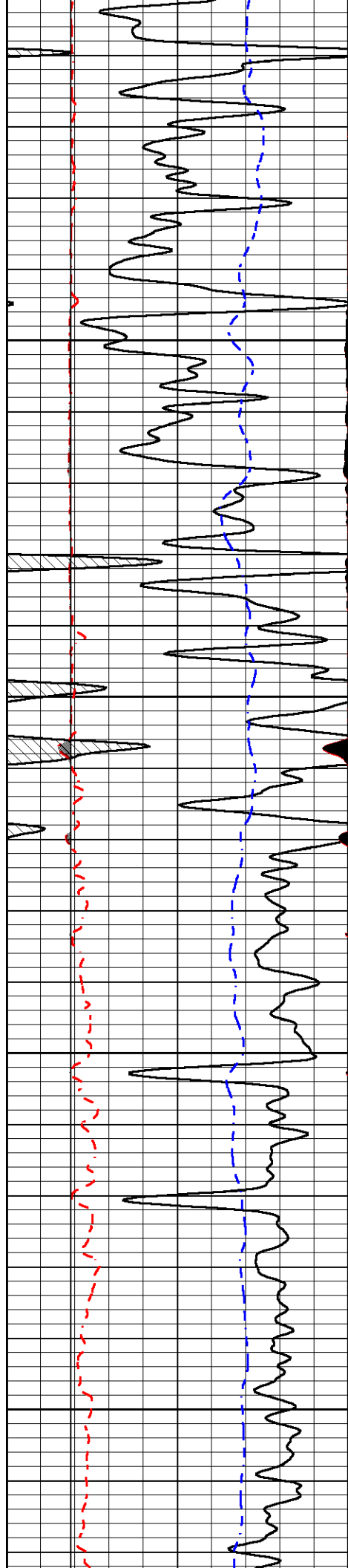
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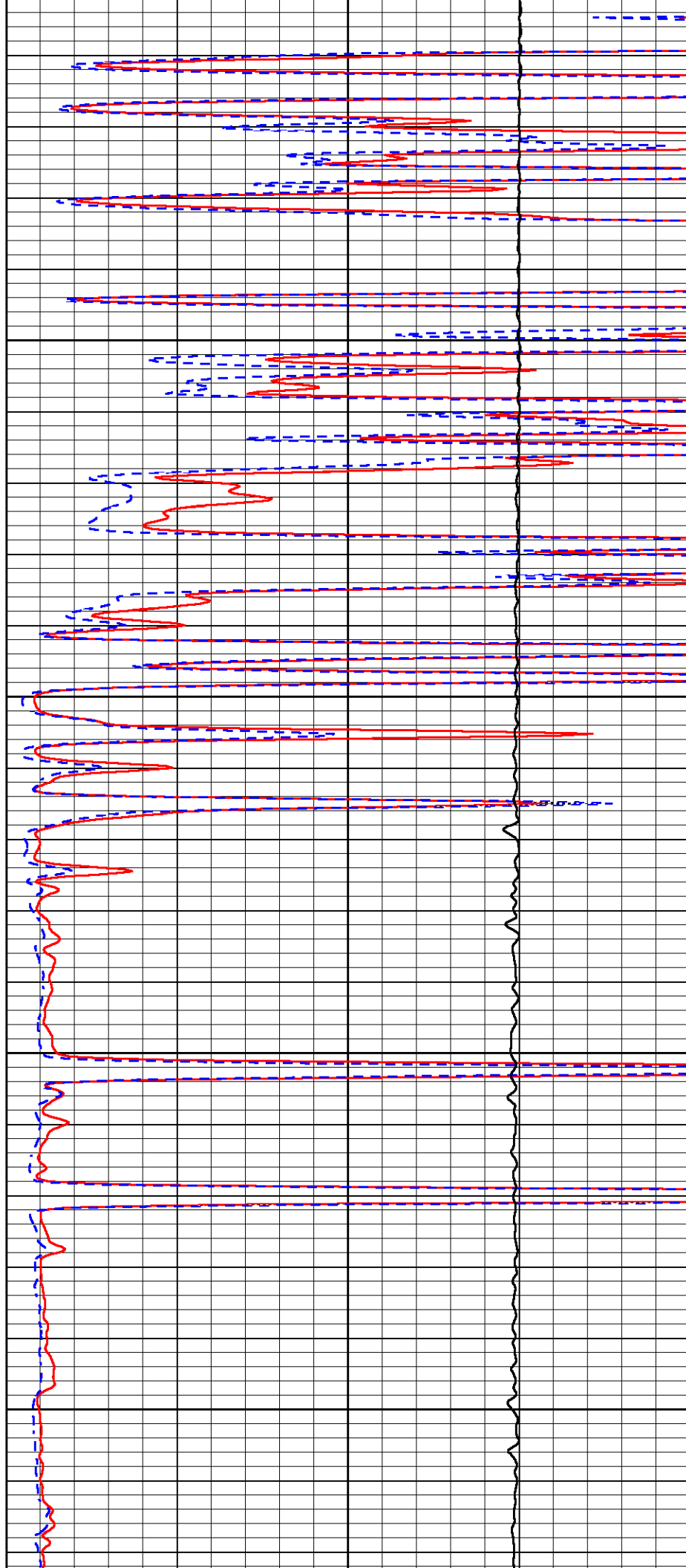


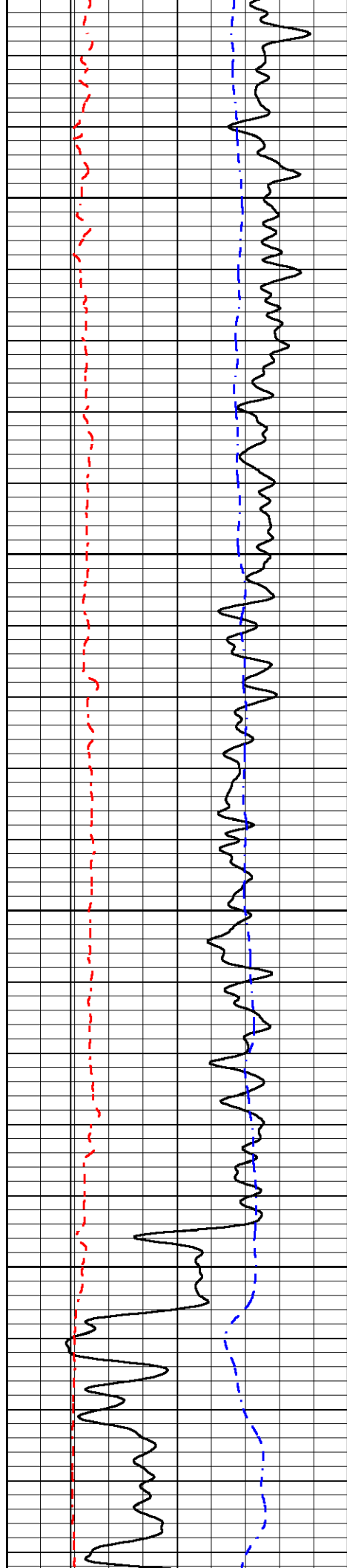
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5200





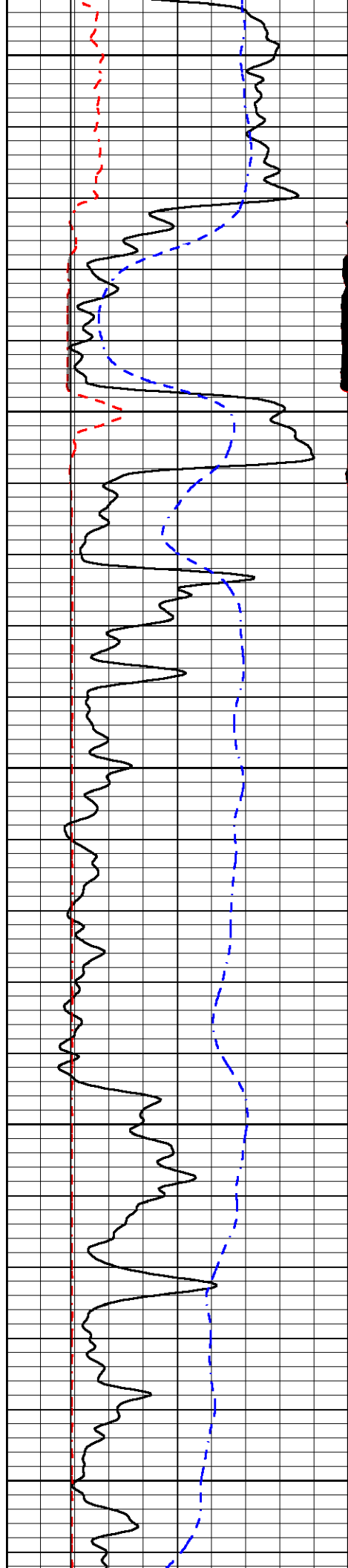
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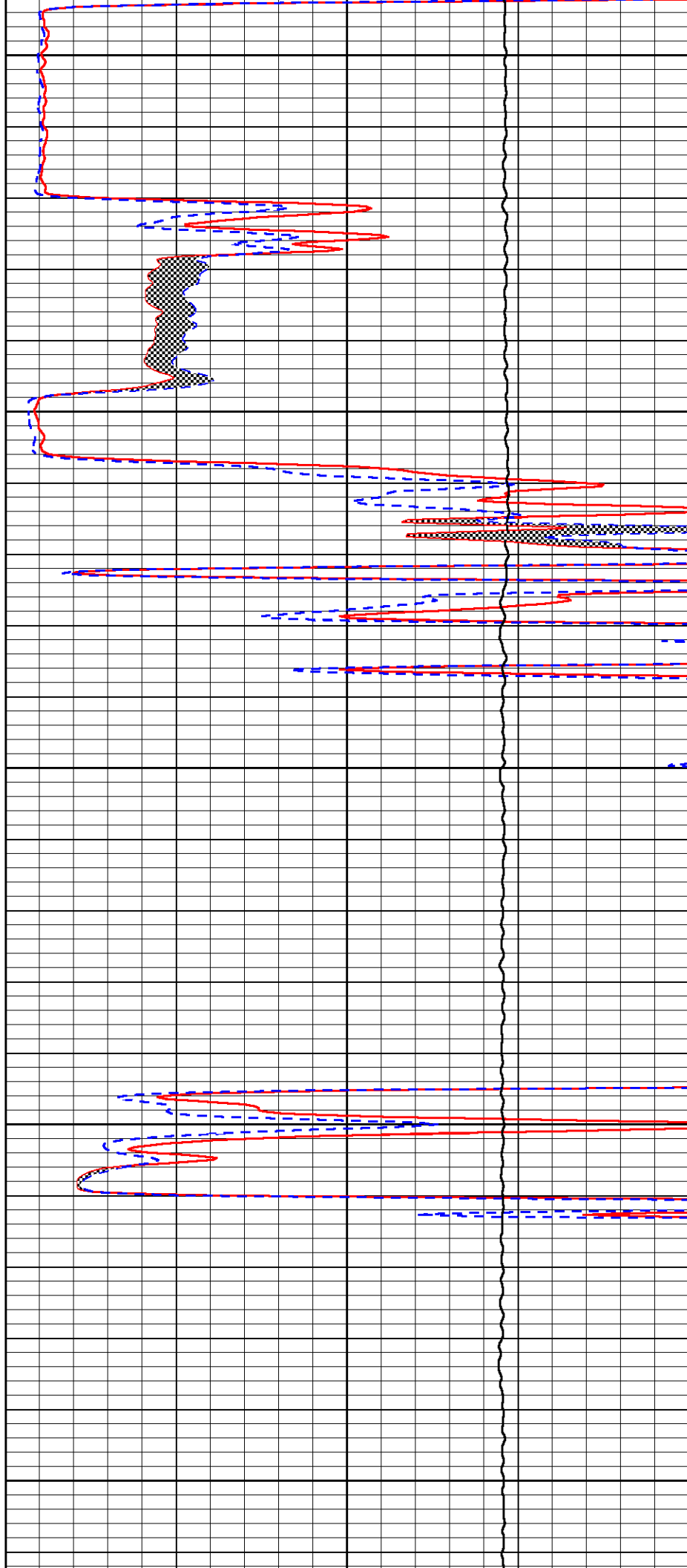
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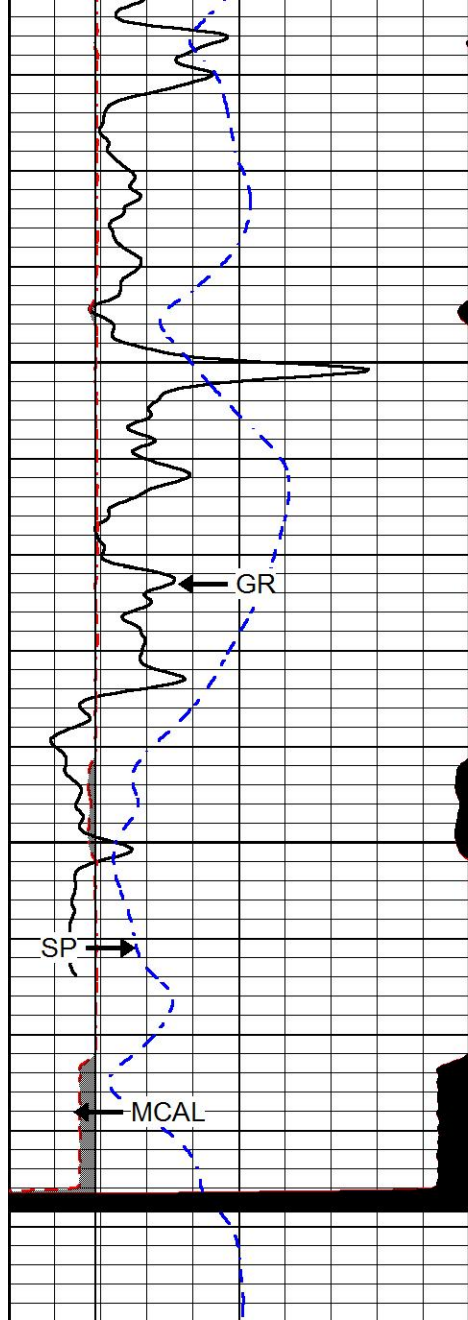
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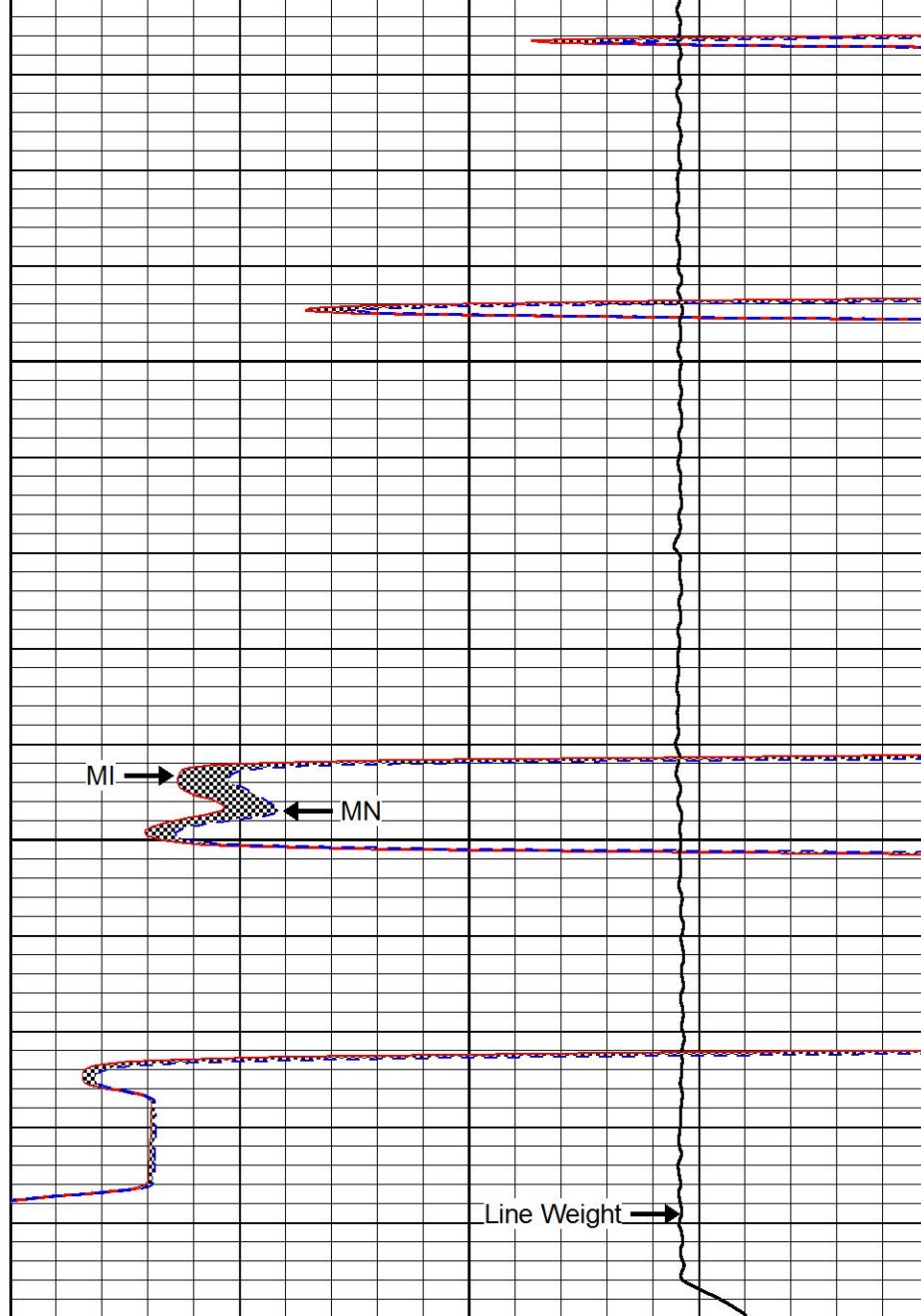


5700

5750

5800

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-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



REPEAT SECTION

Database File murfin_plummer_1_25.db
 Dataset Pathname stackmel/pass2.1
 Presentation Format micro
 Dataset Creation Tue Oct 02 13:48:56 2018
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0

2.875	in	7.875
6	Bit Size (in)	16
-200	SP (mV)	0



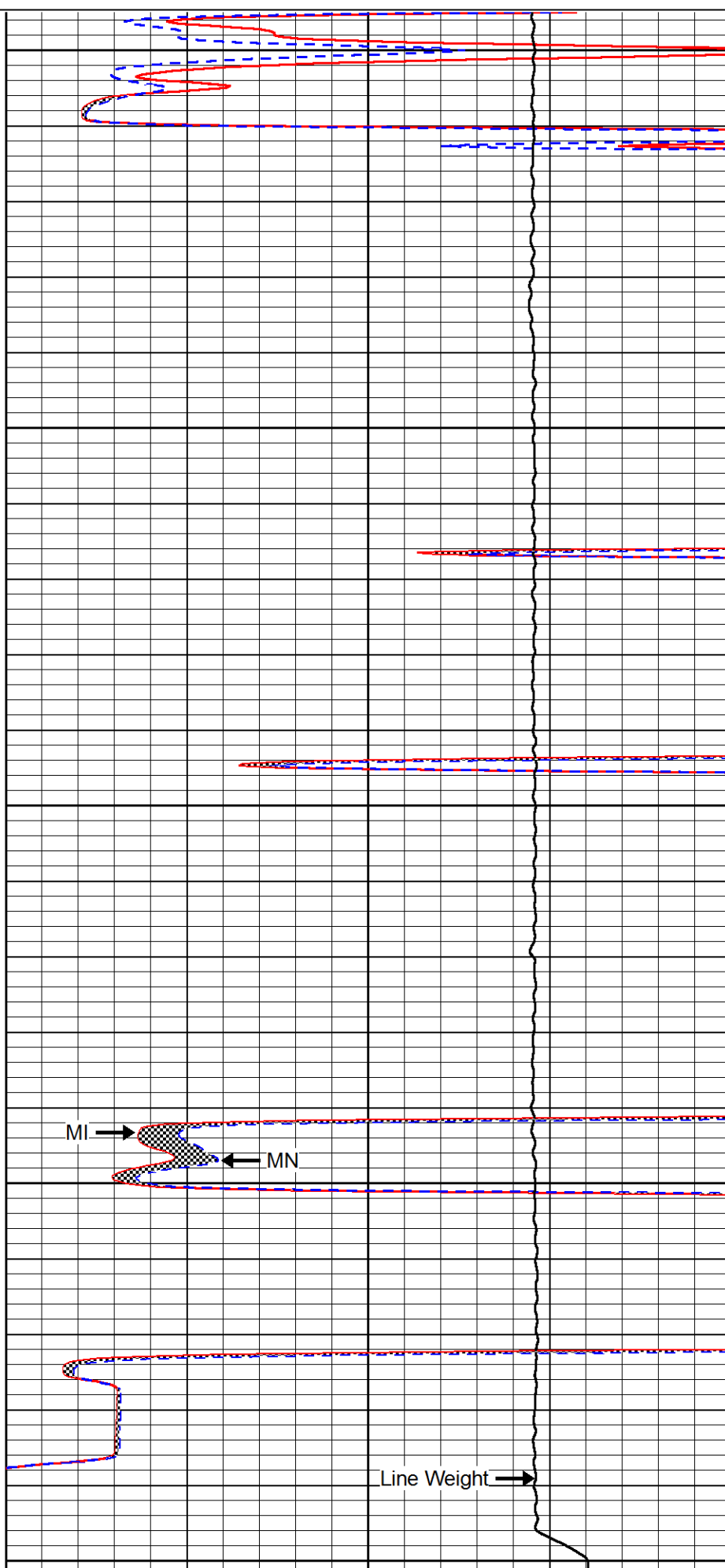
5600

5650

5700

5750

5800



0	GAMMA RAY (GAPI)	150	0	MICRO INVERSE 1 X 1 (Ohm-m)	40
6	MCAL (in)	16	0	MICRO NORMAL 2" (Ohm-m)	40
2.875	mcAl (in)	7.875	10000	Line Weight (lb)	0
6	Bit Size (in)	16			
-200	SP (mV)	0			

Calibration Report	
Database File	murfin_plummer_1_25.db
Dataset Pathname	stackmel/pass3.1
Dataset Creation	Tue Oct 02 13:42:49 2018

Dual Induction Calibration Report	
Serial-Model:	967 (HT)-PSI HIGH TEMP
Calibration Performed:	Sun Aug 26 00:41:13 2018

		Readings				References				Results	
Loop:		Air	Loop			Air	Loop			Gain	Offset
Deep		167.000	835.000			0.000	255.800	mmho/m		0.565	-20.000
Medium		0.000	1348.000			142.000	255.800	mmho/m		0.390	-40.000

Microlog Calibration Report	
Serial-Model:	PSI-01-PSIML
Performed:	Sat Sep 08 05:17:35 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	23000.0000	-0.8000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	30000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.9500

Compensated Density Calibration Report	
Serial-Model:	144-84-M&W
Source / Verifier:	16955B / 2ci
Master Calibration Performed:	Thu Aug 30 10:10:19 2018

Master Calibration					
Density			Far Detector	Near Detector	
Magnesium	1.755	g/cc	4867.47	6031.92	cps
Aluminum	2.650	g/cc	906.23	3806.99	cps
Spine Angle = 74.69			Density/Spine Ratio = 0.514		
Size			Reading		
Small Ring	5.00	in	0.70		
Large Ring	15.00	in	0.04		

Compensated Neutron Calibration Report	
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Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: FRI AUG 24 10:30:30 2018

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: 89
Tool Model: M&W
Calibration Performed: Fri Aug 24 11:16:10 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



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