



MICRORESISTIVITY LOG

Company AMERICAN WARRIOR, INC.
 Well DIRKS #1-22
 Field WILDCAT
 County LOGAN
 State KANSAS

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 County LOGAN State KANSAS

Location: API #: 15-109-21526-00-00
 949' FSL & 1004' FWL
 SEC 22 TWP 14S RGE 35W
 Permanent Datum GROUND LEVEL Elevation 3121'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services
 CNL/CDL
 DIL/BHCS
 Elevation
 K.B. 3129'
 D.F. N/A
 G.L. 3121'

Date	10/20/2017
Run Number	ONE
Depth Driller	4790'
Depth Logger	4789'
Bottom Logged Interval	4788'
Top Log Interval	3600'
Casing Driller	8.625" @ 211'
Casing Logger	208'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	8200
Density / Viscosity	9.4 51
pH / Fluid Loss	9.0 10.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.40 @ 80
Rmt @ Meas. Temp	0.30 @ 80
Rmc @ Meas. Temp	0.54 @ 80
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.26 @ 124
Operating Rig Time	5 HOURS
Max Rec. Temp. F	124
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	LUKE THOMPSON

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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.

RUSSELL SPRINGS,
 SOUTH ON HWY 25 TO CURVE,
 2 WEST TO 240 RD, 5 SOUTH TO JAYHAWK RD,
 1/2 EAST, 1/2 SOUTH,
 EAST INTO

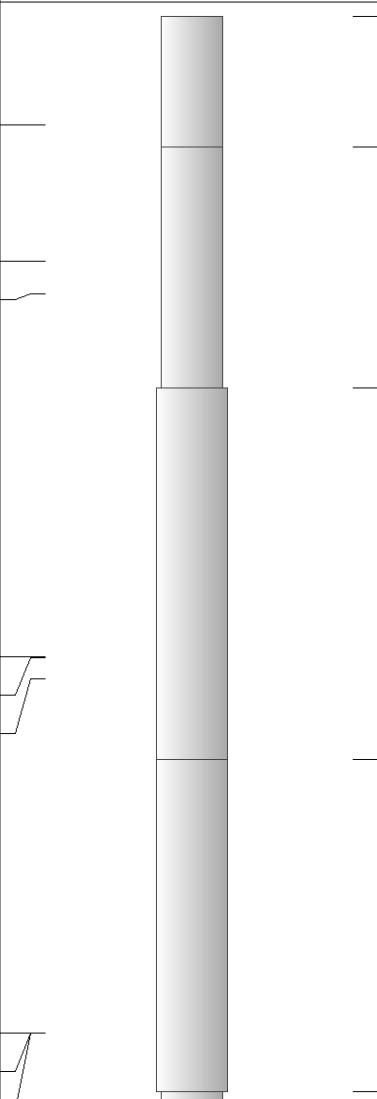
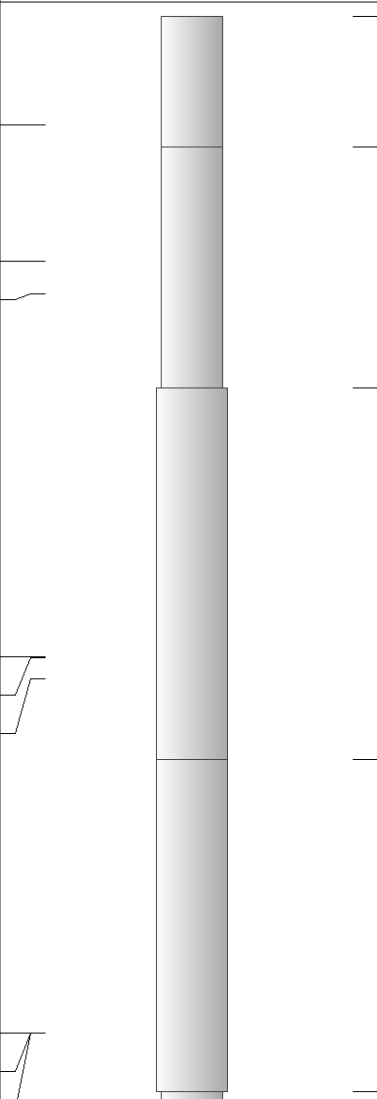
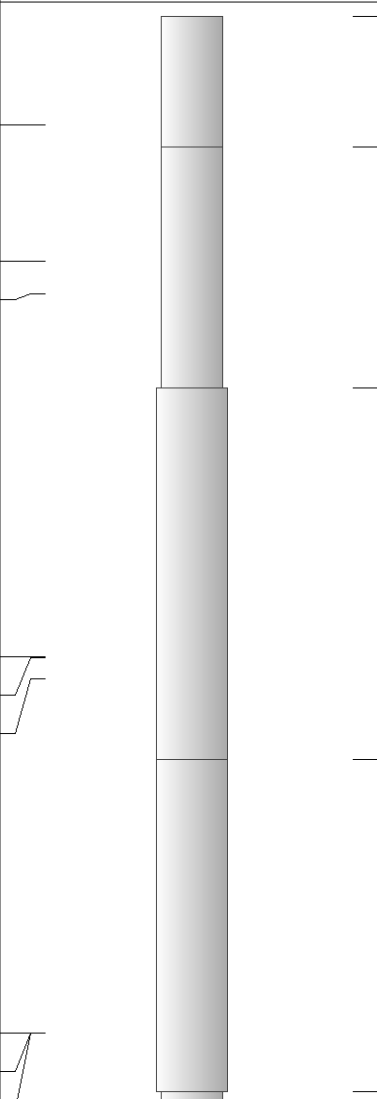
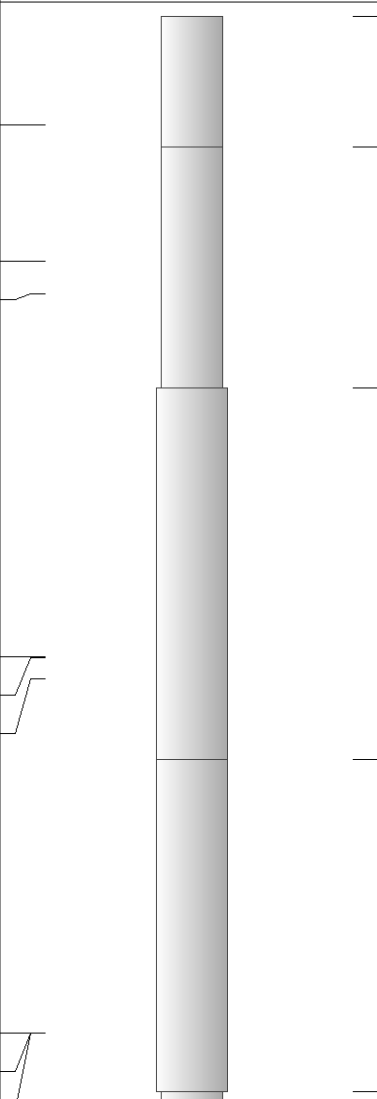
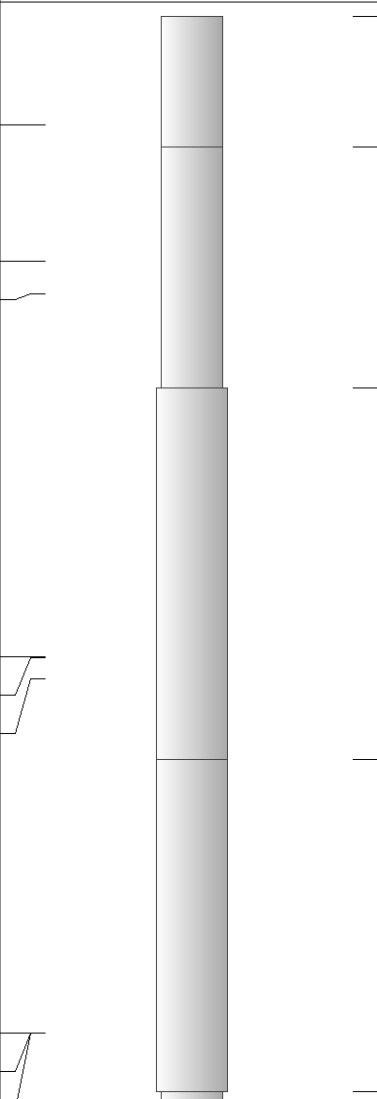
Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: D. SCHMIDT	Primary Witness: LUKE THOMPSON
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	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	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	4789	124	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 (90-1031)	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					

CILD 8.00

CILM 4.70

SP 0.20

DIL-M&W (PSI 91)

18.50

3.50

220.00

Dataset: american warrior_dirks 1-22.db: field/well/STKML/pass5.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

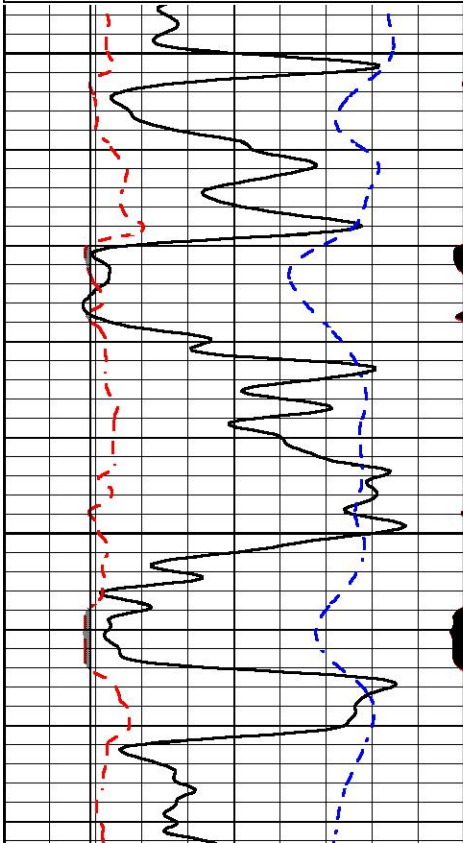


MAIN PASS

Database File american warrior_dirks 1-22.db
 Dataset Pathname STKML/pass5.1
 Presentation Format micro
 Dataset Creation Fri Oct 20 19:20:36 2017
 Charted by Depth in Feet scaled 1:240

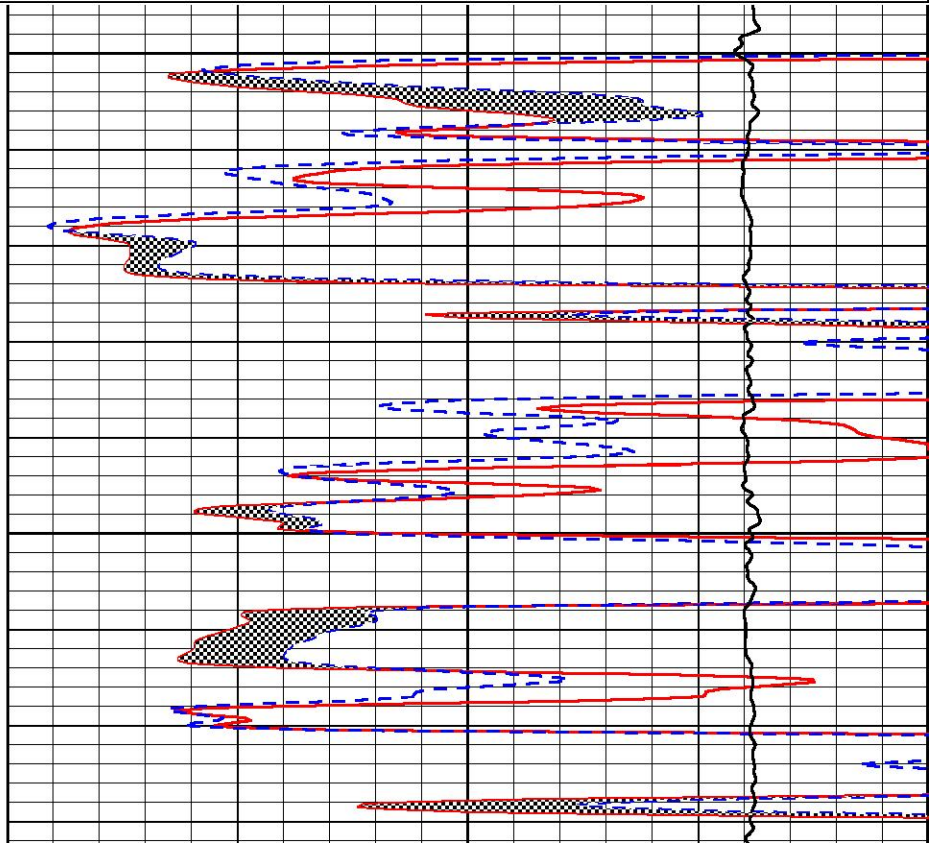
0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

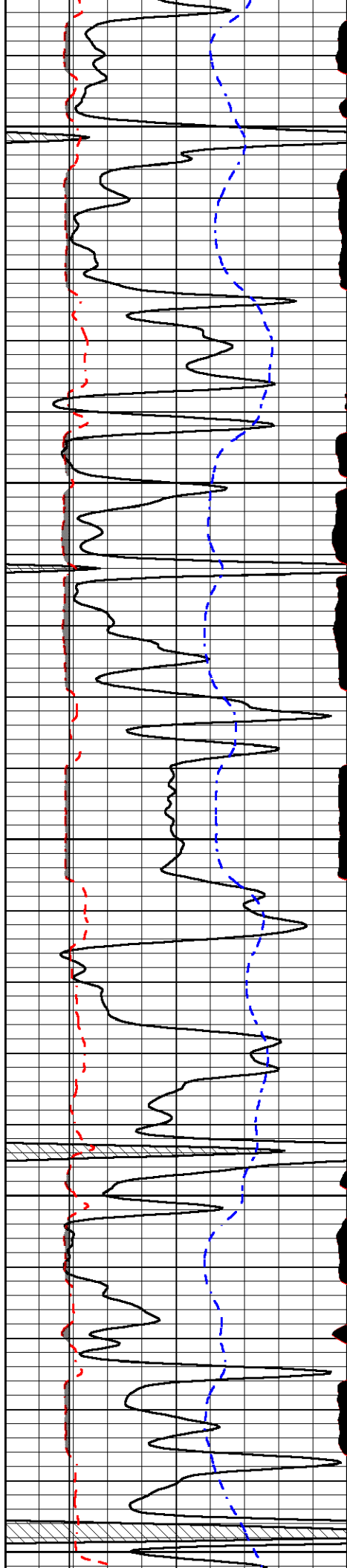
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



3600

3650





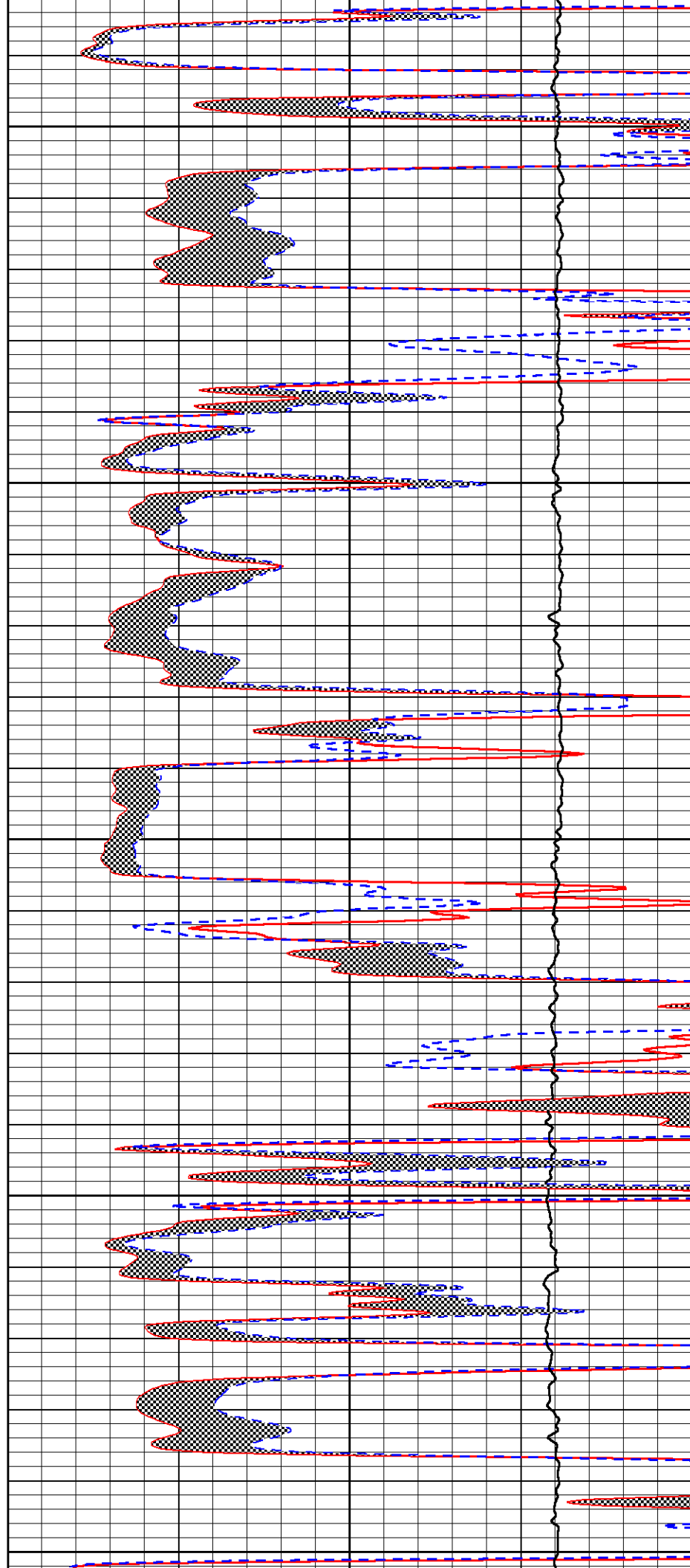
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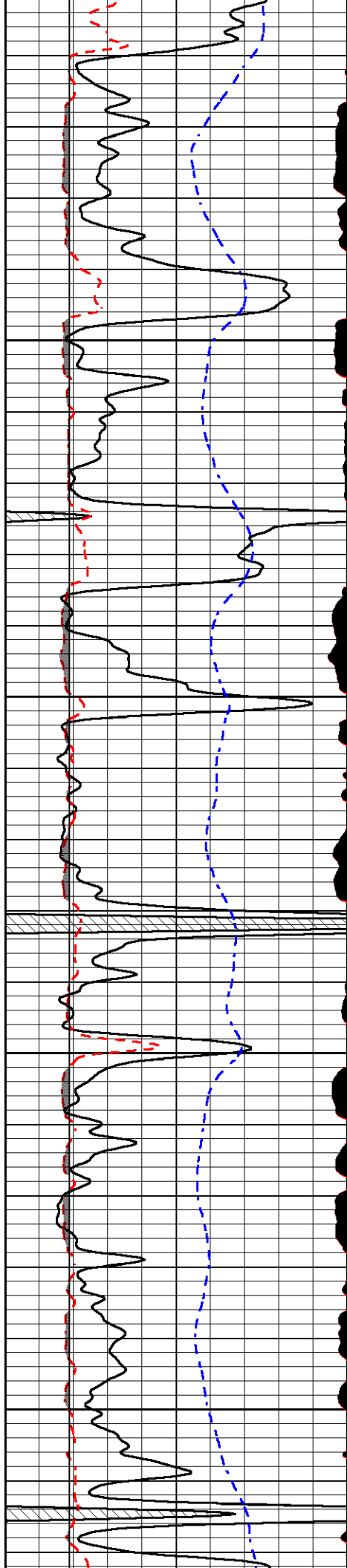
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3800

3850

3900



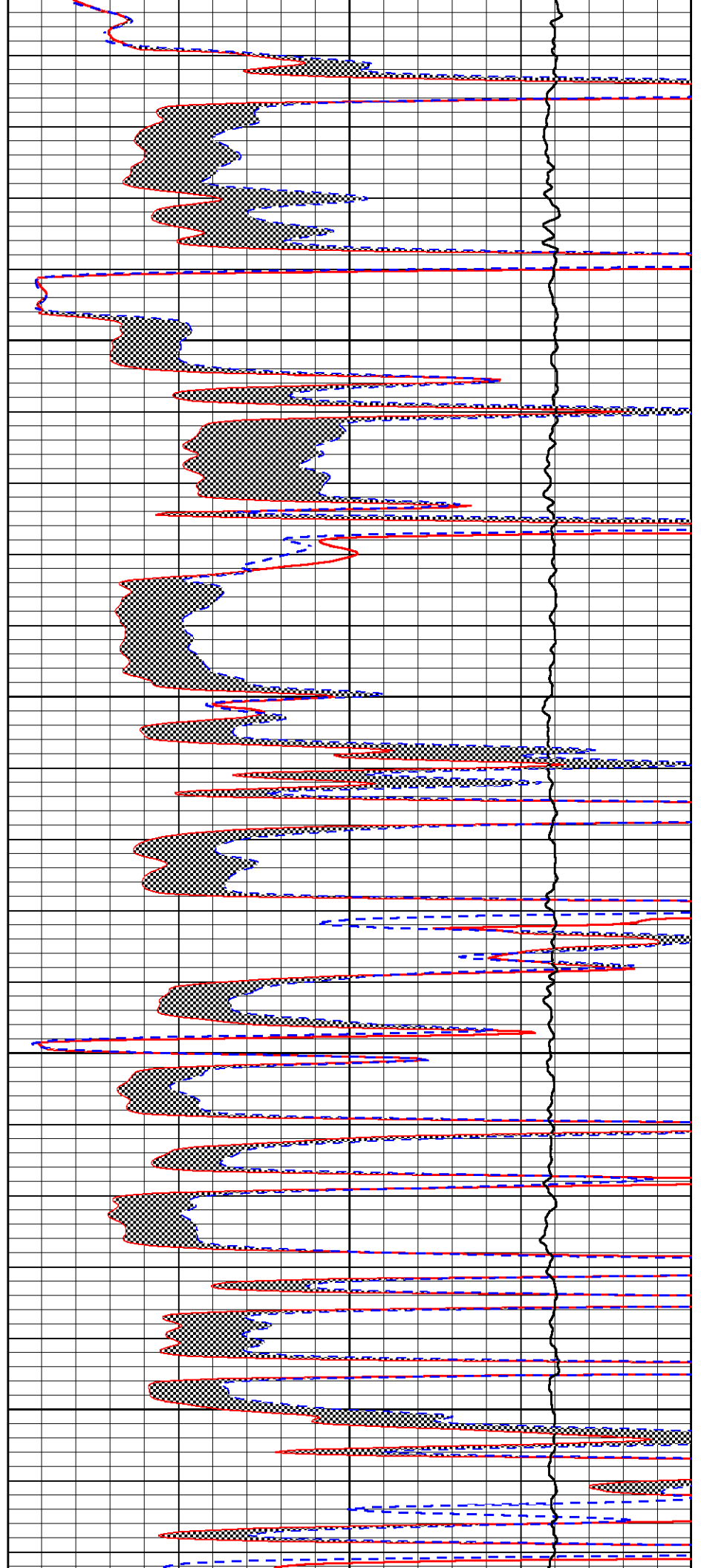


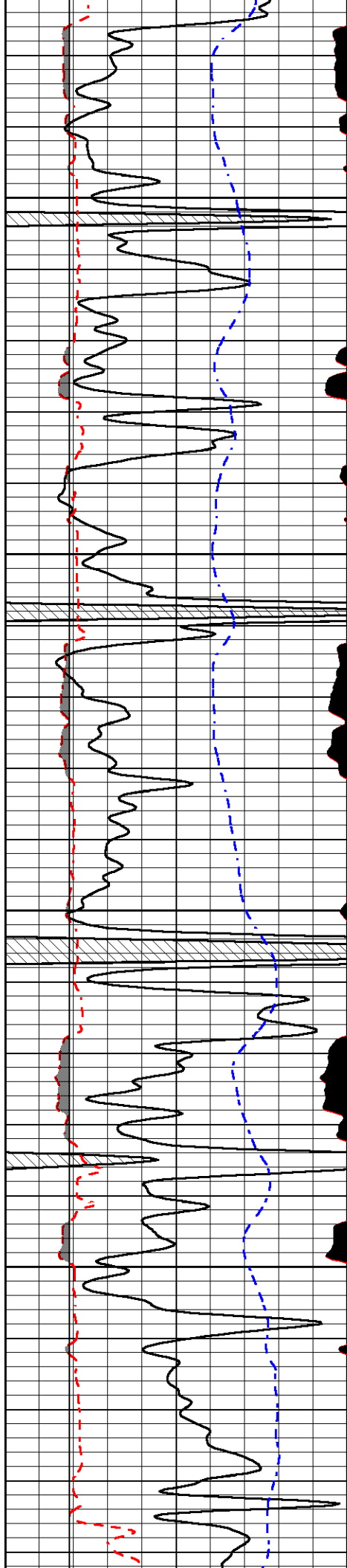
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4000

4050

4100



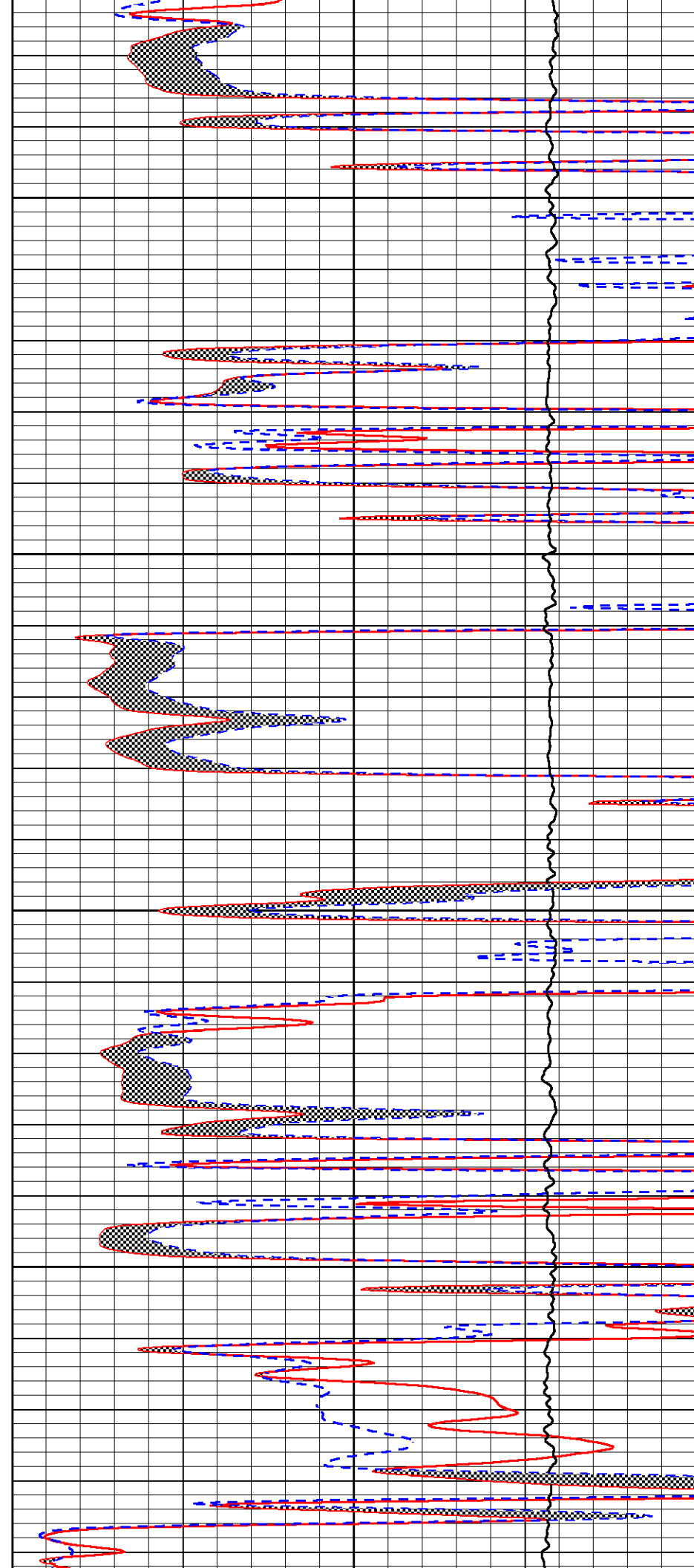


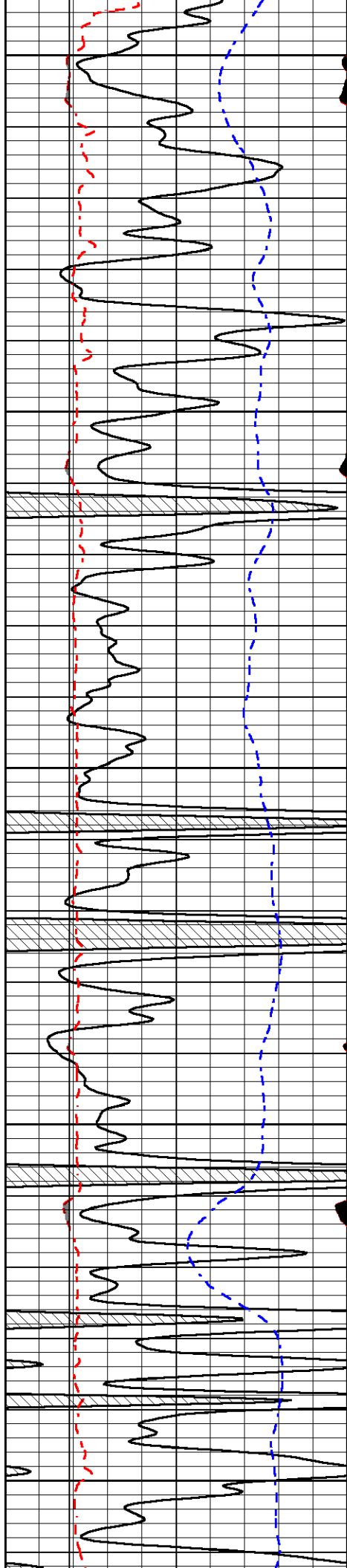
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4200

4250

4300





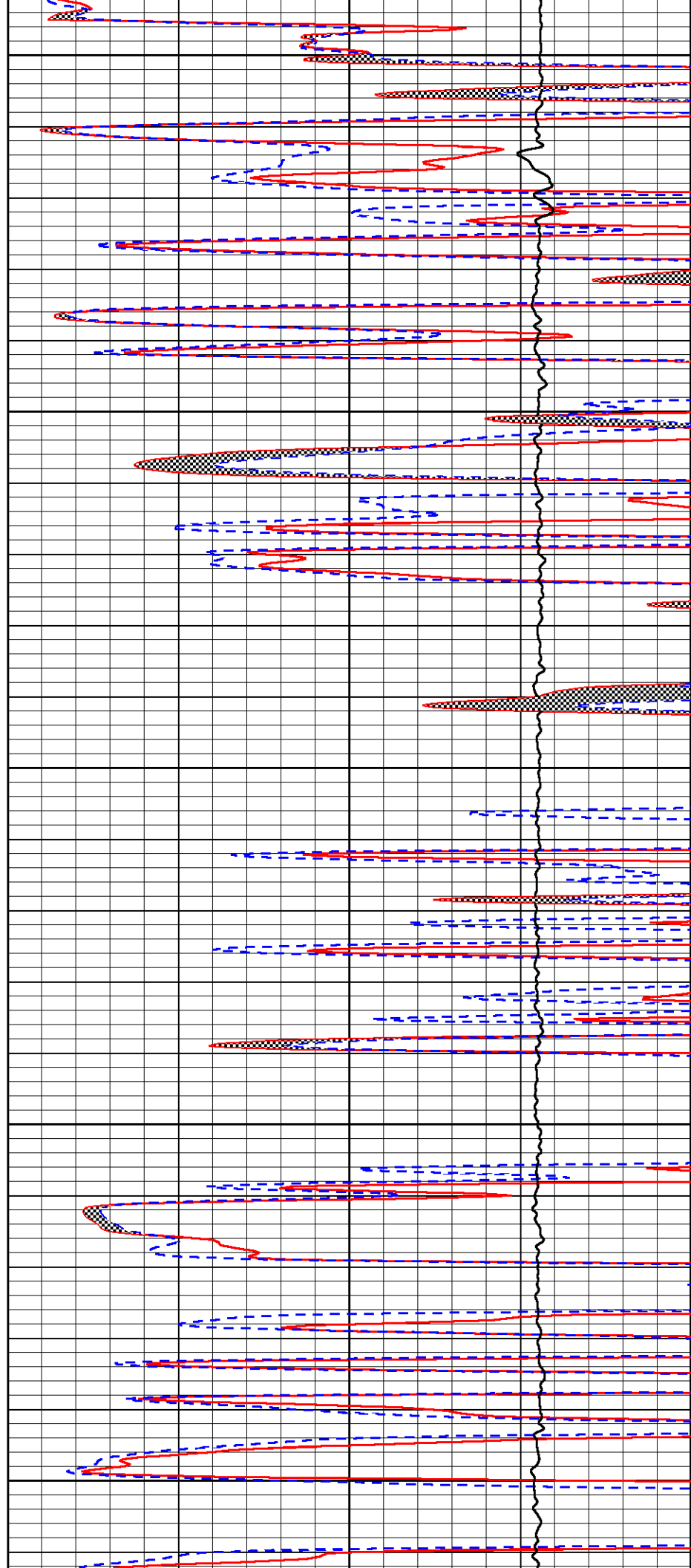
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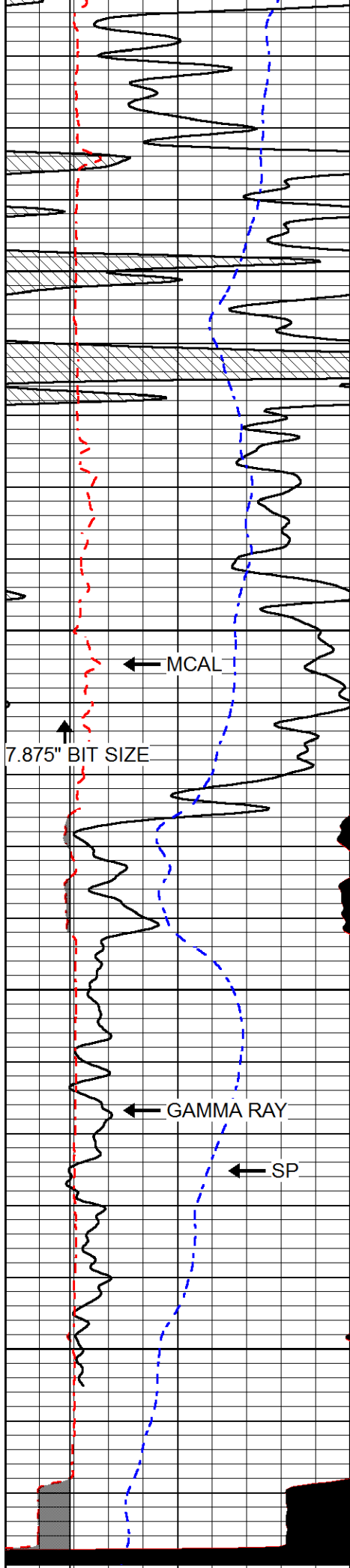
4400

4450

4500

4550



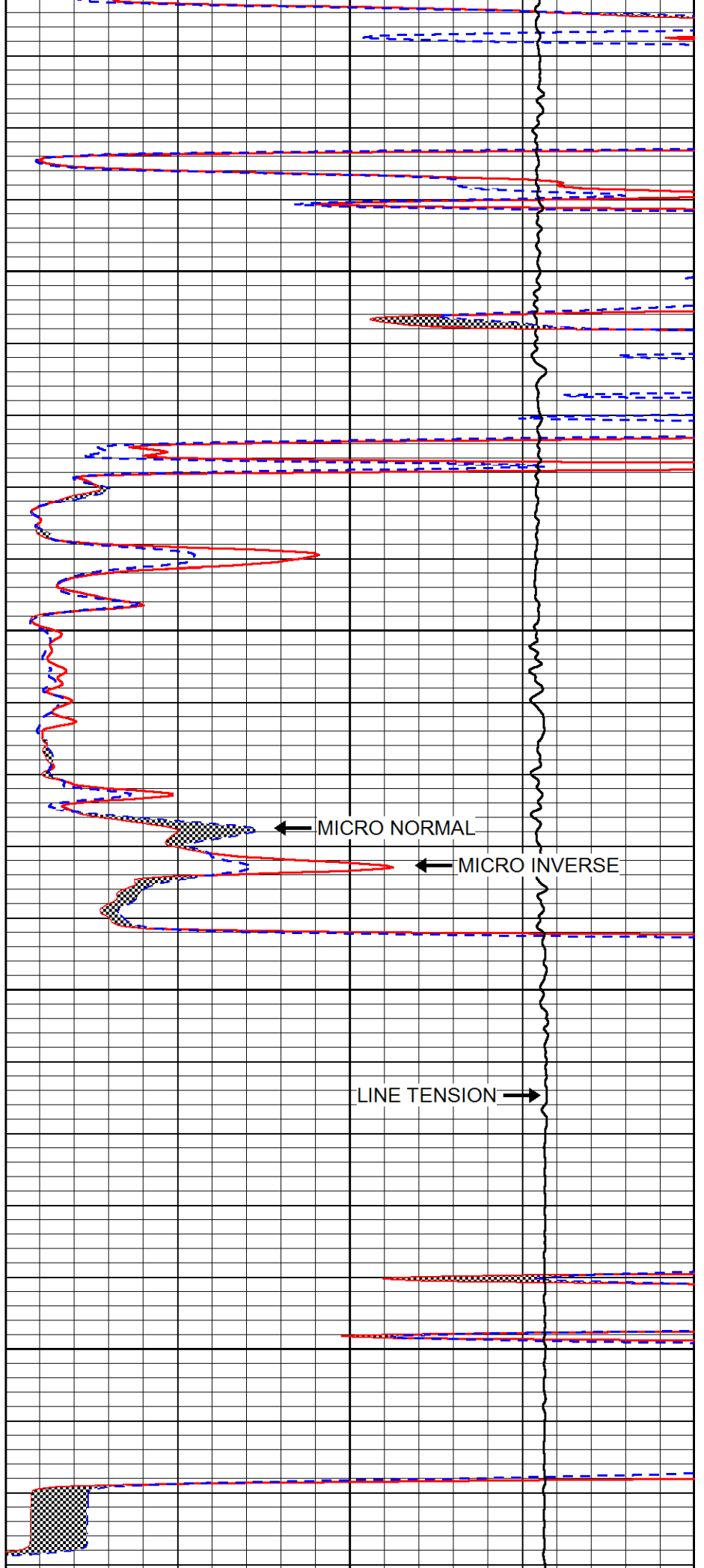


4600

4650

4700

4750



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

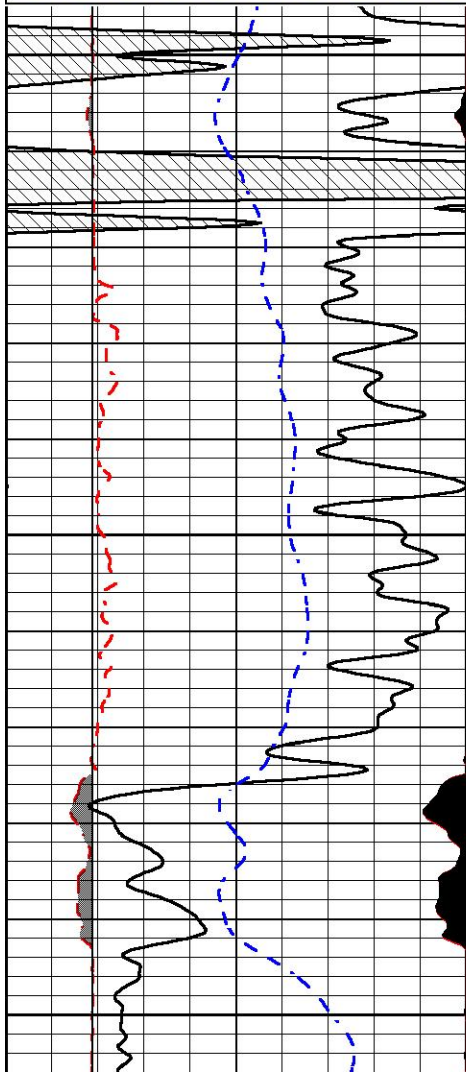


REPEAT SECTION

Database File american_warrior_dirks_1-22.db
 Dataset Pathname STKML/pass3.1
 Presentation Format micro
 Dataset Creation Fri Oct 20 19:56:14 2017
 Charted by Depth in Feet scaled 1:240

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

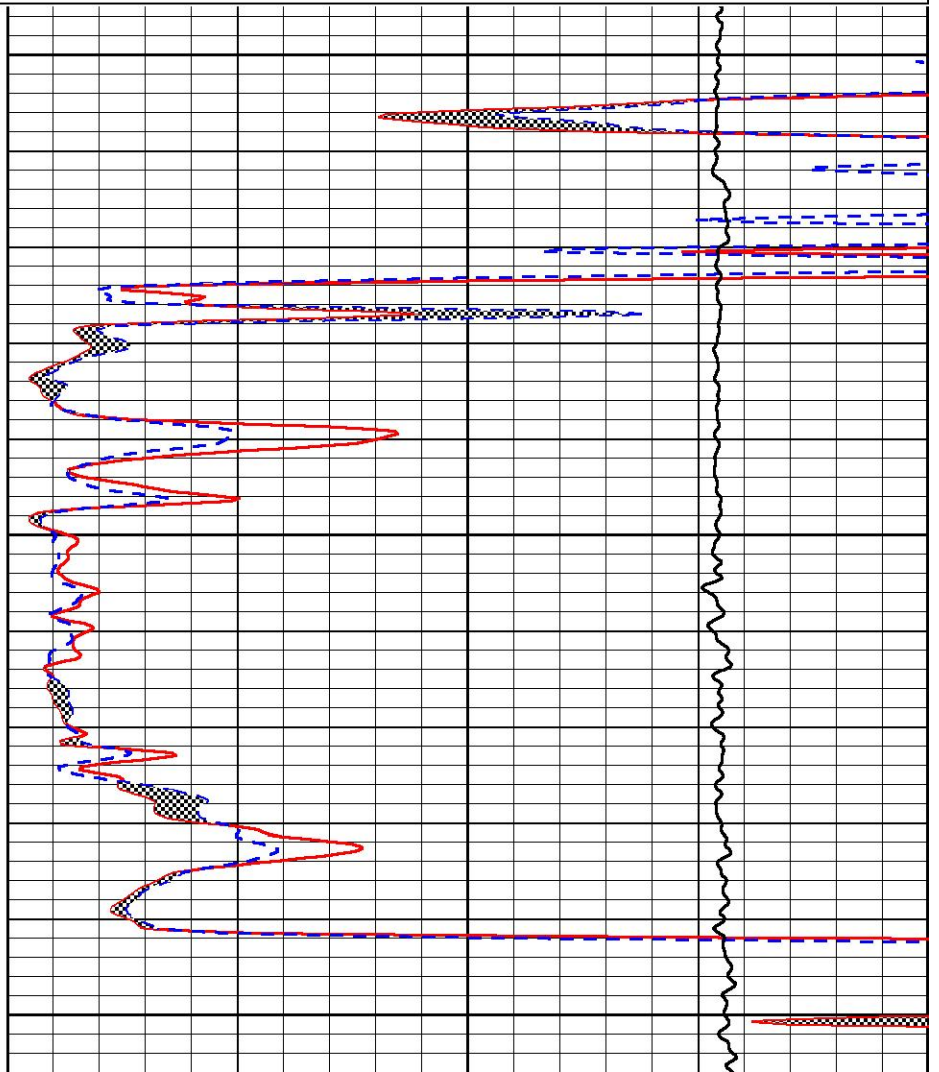
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



4600

4650

4700



Compensated Density Calibration Report

Serial-Model: 90-1031-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

Master Calibration

	<u>Density</u>		<u>Far Detector</u>	<u>Near Detector</u>	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
	Spine Angle = 75.61			Density/Spine Ratio = 0.517	
	<u>Size</u>		<u>Reading</u>		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW
 Tool Model: M&W
 Calibration Performed: WED SEP 6 10:30:30 2017

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: Wed Sep 06 19:51:14 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



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