



MIDWEST WIRELINE

MICRORESISTIVITY
LOG

Company American Warrior, Inc.		Company American Warrior, Inc.	
Well Ward Unit #1-10		Well Ward Unit #1-10	
Field		Field	
County Logan		County Logan	
State Kansas		State Kansas	
Location: API #: 15-109-21649-00-00		Other Services	
1347 FNL & 2554 FWL		CNL/CDL DIL/BHCS	
SEC 10 TWP 12S RGE 36W			
Permanent Datum	Ground Level	Elevation	3246
Log Measured From	Kelly Bushing	K.B.	3257
Drilling Measured From	Kelly Bushing	D.F.	
		G.L.	3246
Date	7/25/2022		
Run Number	One		
Depth Driller	4828		
Depth Logger	4830		
Bottom Logged Interval	4829		
Top Log Interval	3800		
Casing Driller	8.625 @ 392		
Casing Logger	389		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	4400		
Density / Viscosity	9.4 55		
pH / Fluid Loss	11.0 8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.40 @ 65		
Rmt @ Meas. Temp	0.30 @ 65		
Rmc @ Meas. Temp	0.54 @ 65		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	0.21 @ 124		
Operating Rig Time	5 Hours		
Max Rec. Temp. F	124		
Equipment Number	P-108		
Location	HAYS		
Recorded By	D. Schmidt		
Witnessed By	Austin Garner		

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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.

Winona,
4 West, North and East into

Log Measured From: Kelly Bushing 13 Ft. Above Permanent Datum

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

Your Midwest Wireline Crew		This Log Record Was Witnessed By	
Engineer: D. Schmidt		Primary Witness: Austin Garner	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	

Log Variables

DatabaseC:\ProgramData\Warrior\Data\american warrior_ward unit 1-10.db
Dataset field/well/stkml/pass3.12/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 124	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 0	mmho/m 0	mV 670	degF 60	Off	ft 4830

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



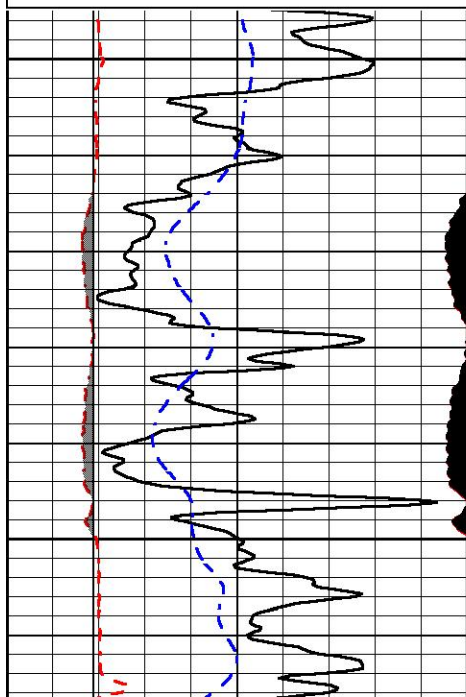
DETAIL SECTION

MAIN PASS

Database File american warrior_ward unit 1-10.db
Dataset Pathname stkml/pass3.1
Presentation Format _micro
Dataset Creation Mon Jul 25 04:27:21 2022
Charted by Depth in Feet scaled 1:240

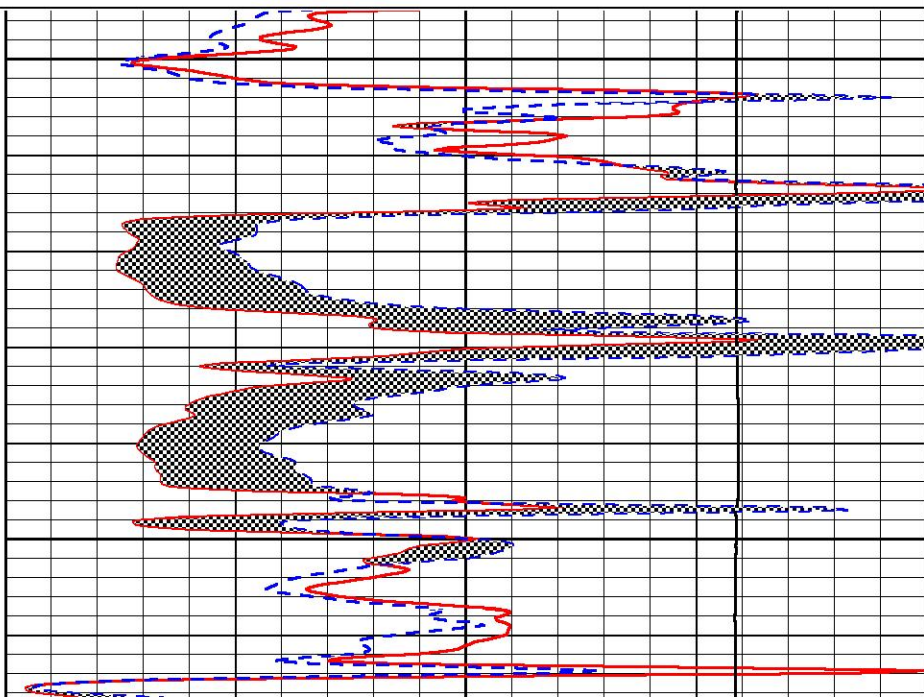
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	SP (mV)	0

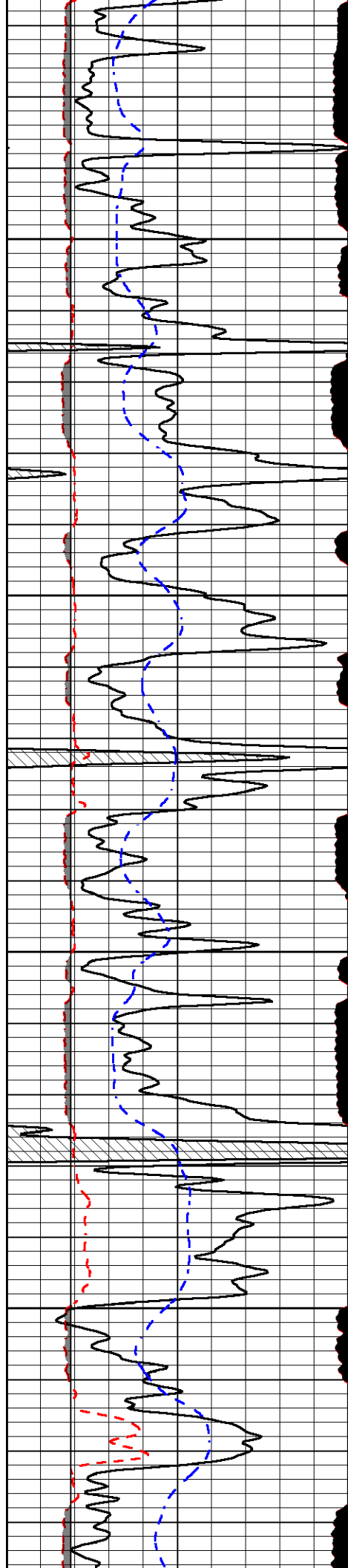
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



3800

3850



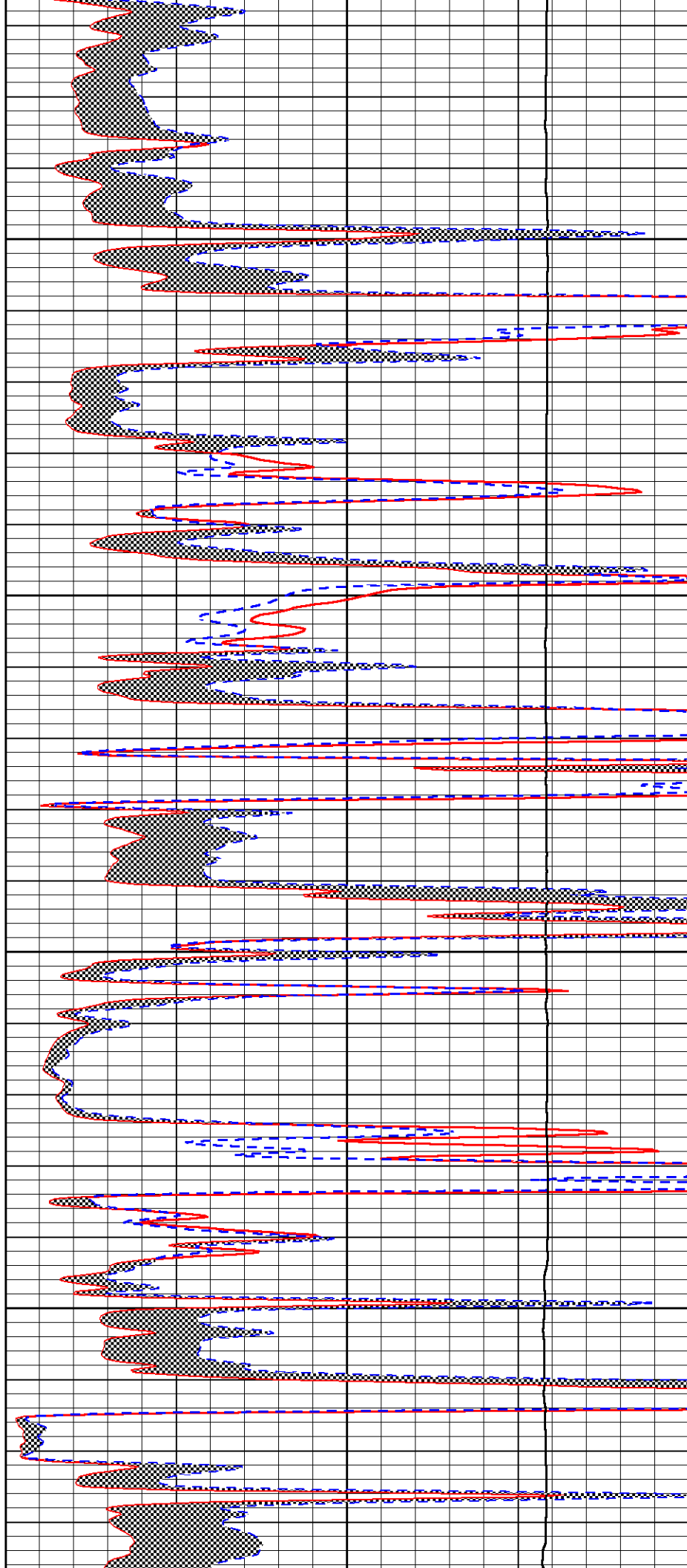


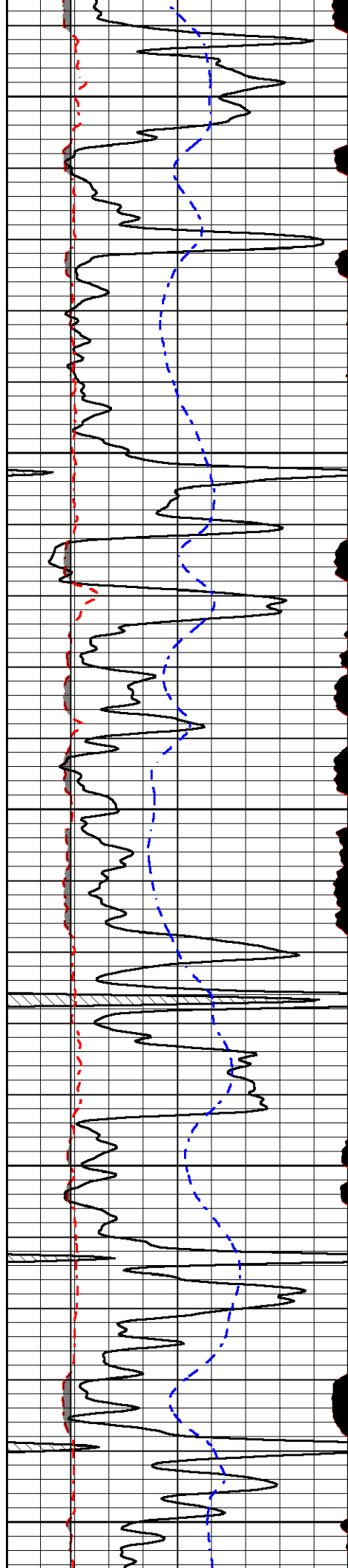
3900

3950

4000

4050





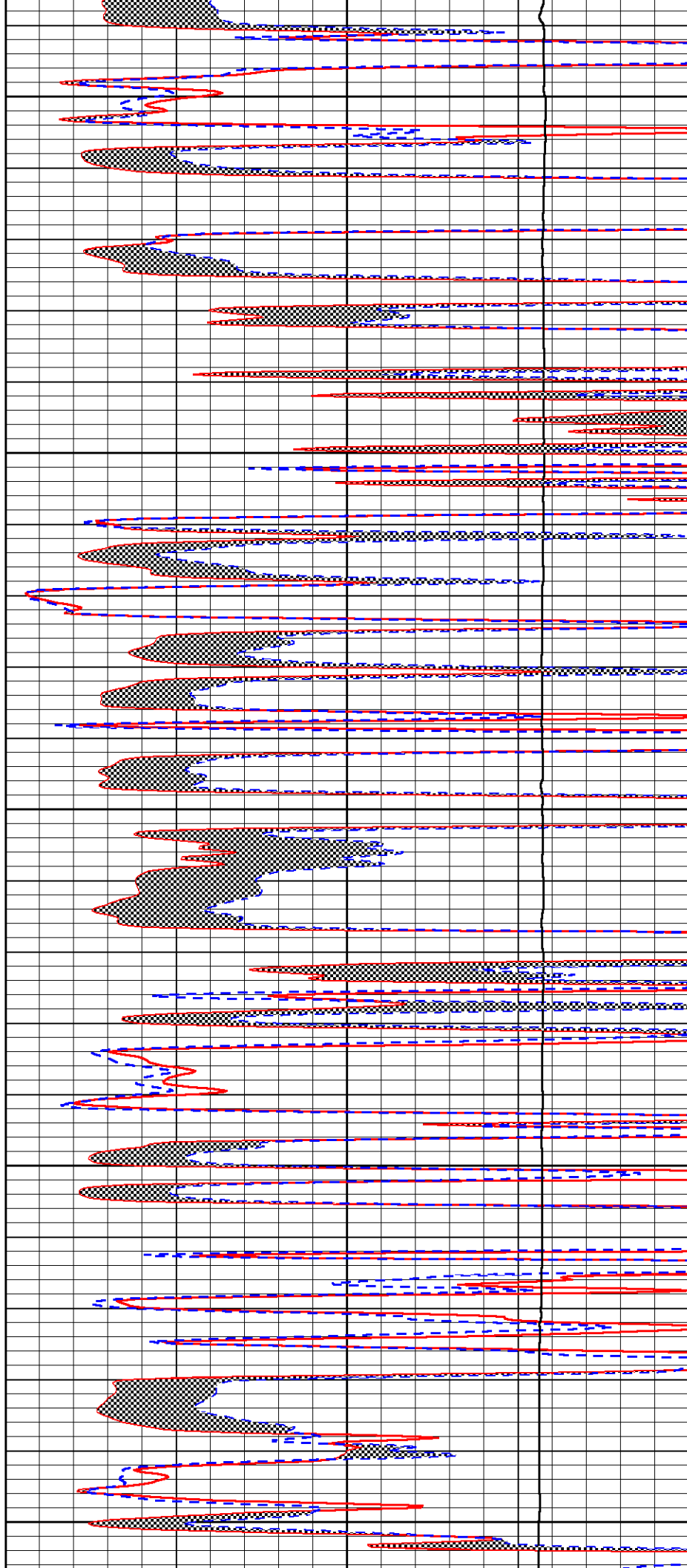
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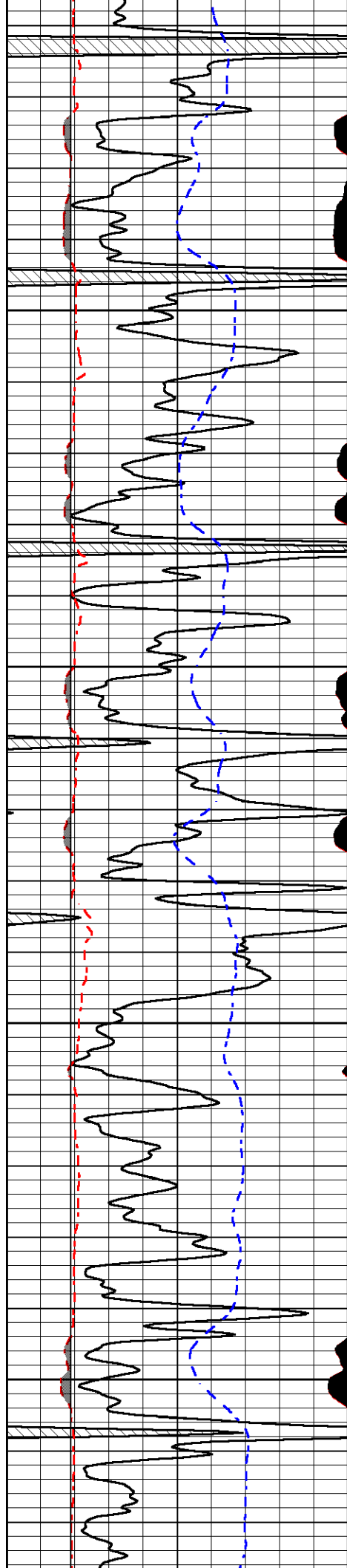
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4200

4250

4300



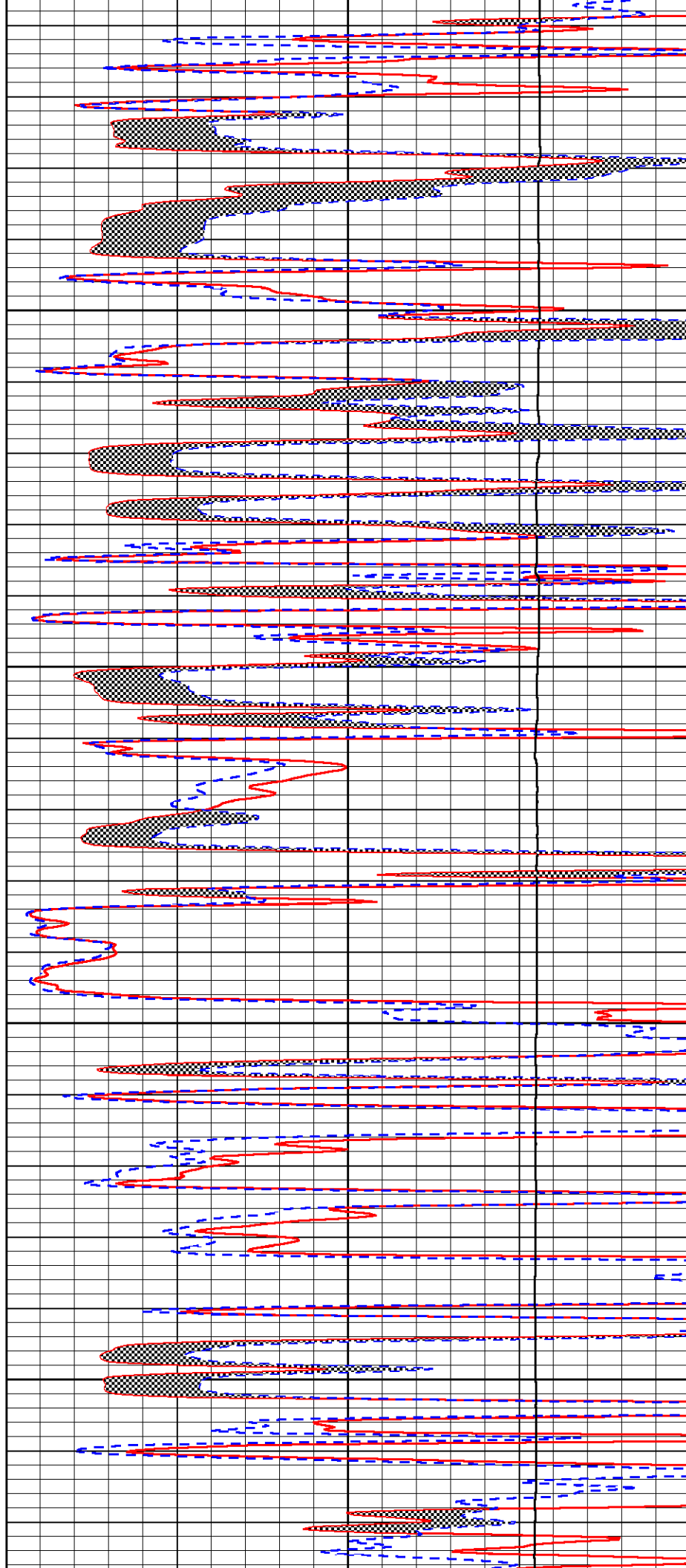


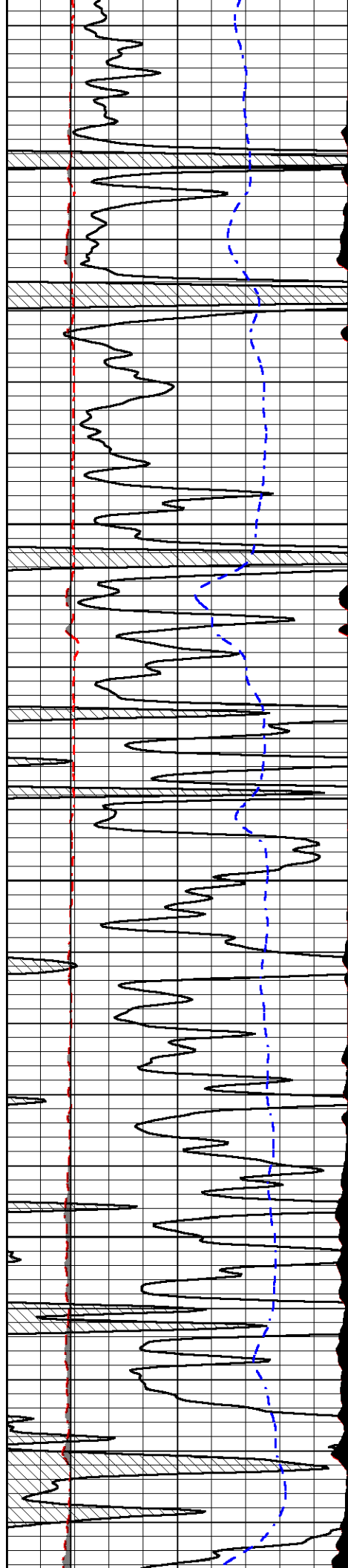
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4400

4450

4500



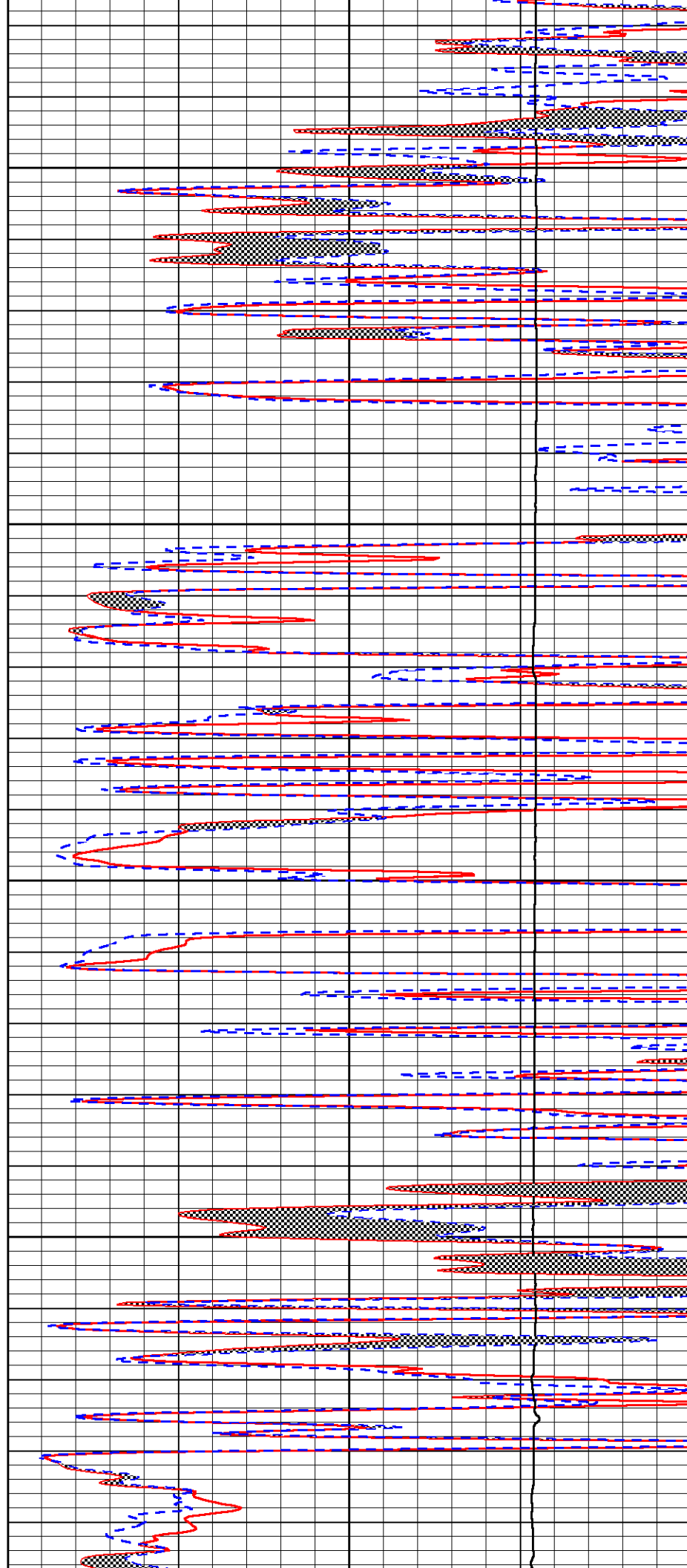


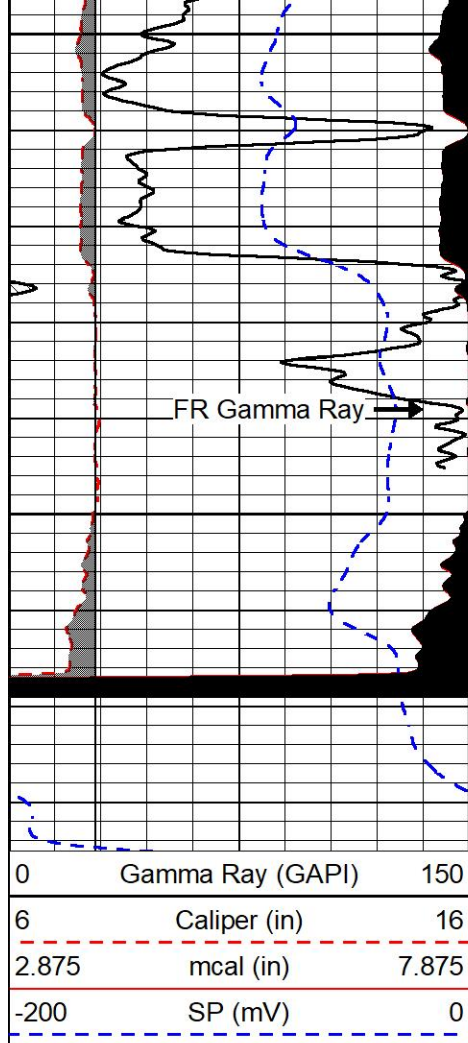
4550

4600

4650

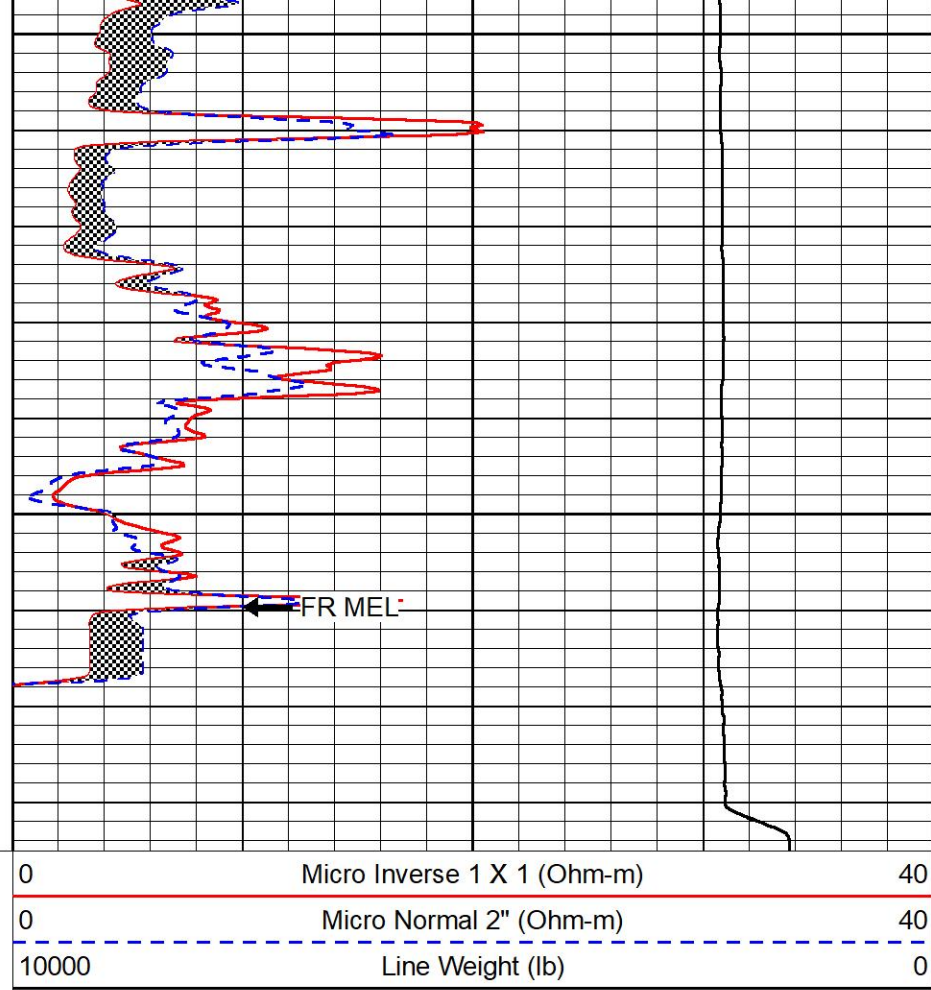
4700





4750

4800

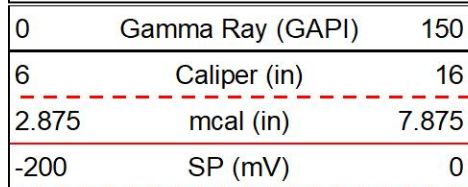


MIDWEST WIRELINE

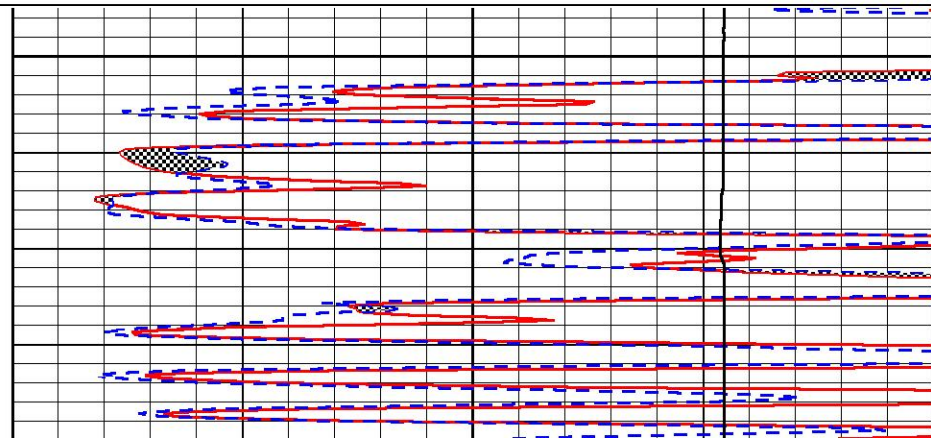
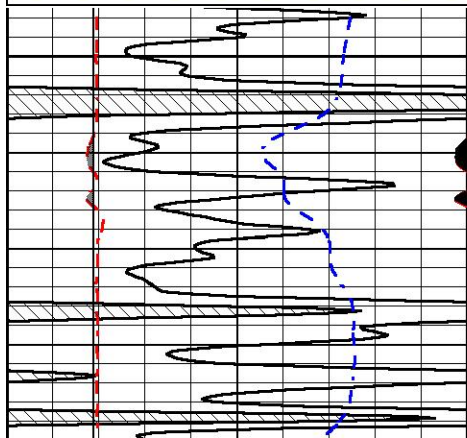
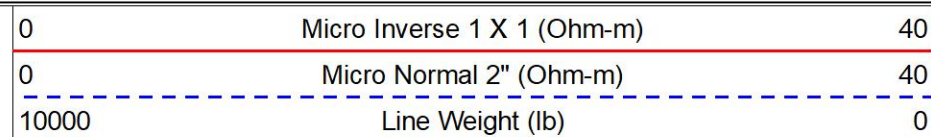
REPEAT SECTION

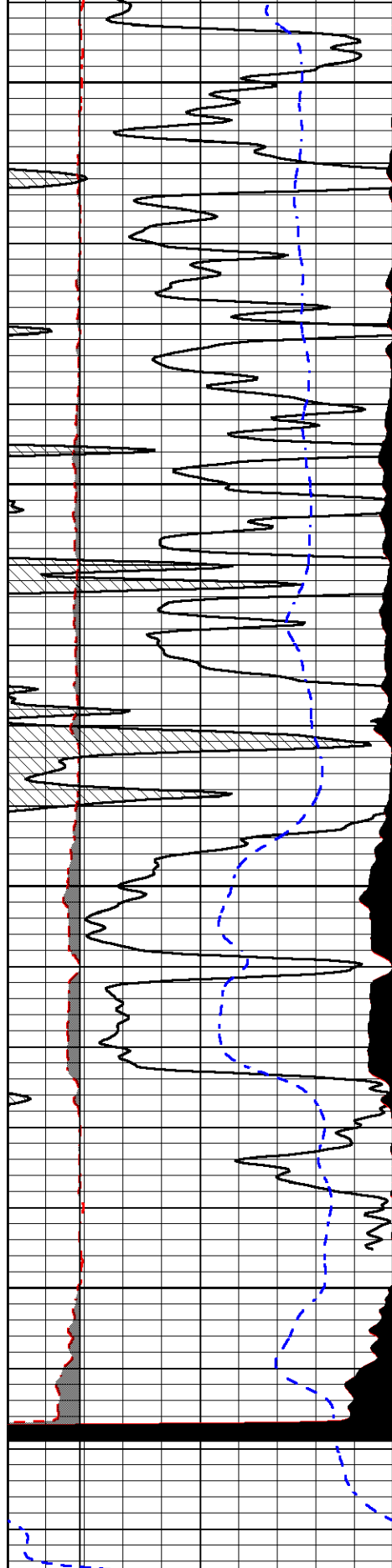
REPEAT PASS

Database File american_warrior_ward unit 1-10.db
 Dataset Pathname stkml/pass2.1
 Presentation Format _micro
 Dataset Creation Mon Jul 25 03:47:31 2022
 Charted by Depth in Feet scaled 1:240



4600





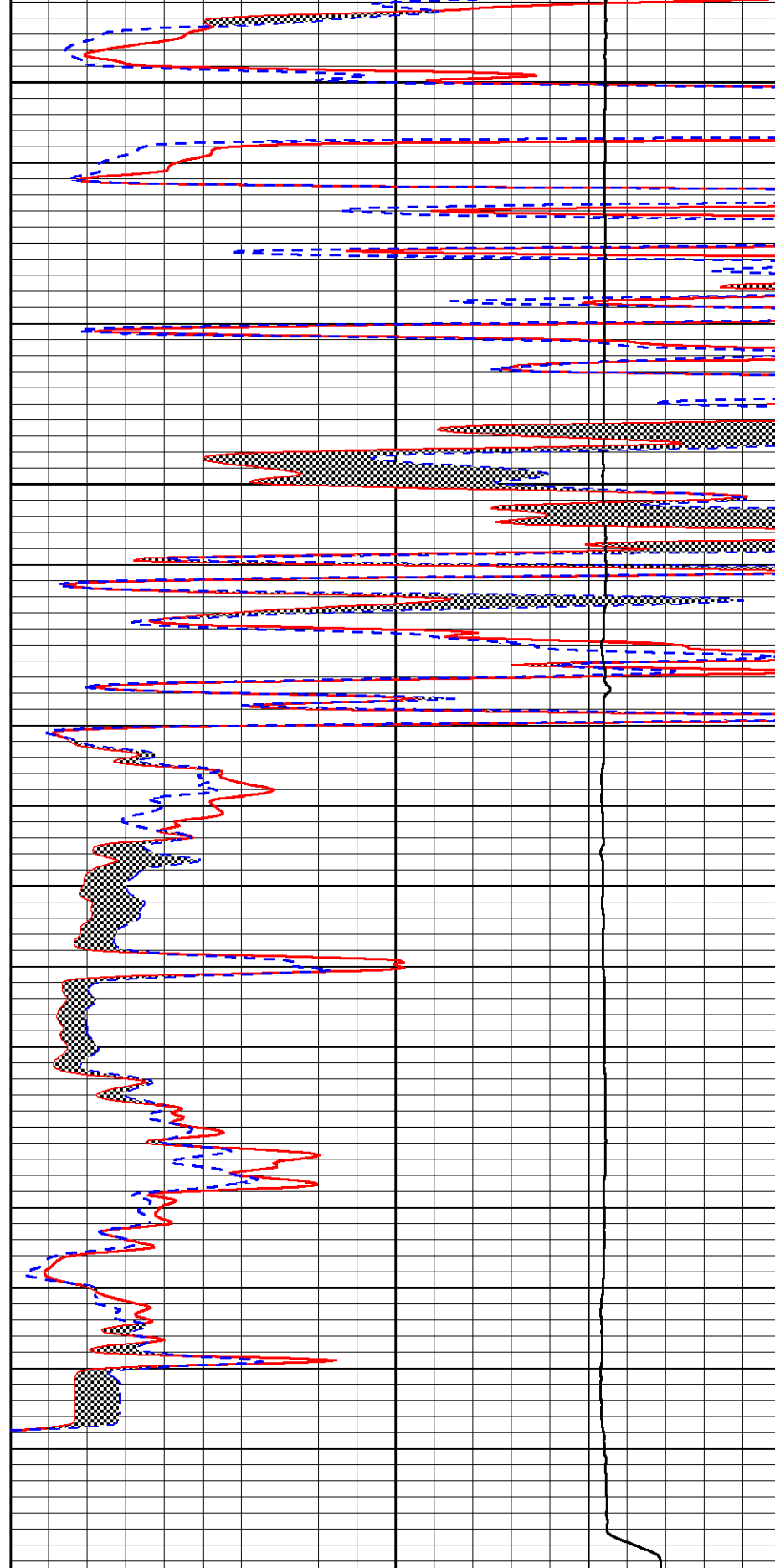
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	SP (mV)	0

4650

4700

4750

4800



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

Database File	american_warrior_ward unit 1-10.db
Dataset Pathname	stkml/pass3.12
Dataset Creation	Mon Jul 25 03:46:45 2022

Serial-Model: 504 HT-M&W
Surface Cal Performed: Wed Jun 29 12:51:29 2022

		Readings		References		Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	0.650	-19.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.450	-48.500

Serial-Model: 401-PSI STKBL ML
Performed: Sat Jul 16 16:13:48 2022

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	26500.0000	-2.8000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	18700.0000	-1.2000
Caliper	1.0049	1.0846	5.5000	20.0000	in	90.0000	-84.7000

Serial-Model: 303-03-M&W
Source #: 21170B
Master Calibration Performed: Thu Dec 16 23:28:34 2021

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3841.78	5151.73	cps
Aluminum	2.670	g/cc	700.98	3068.49	cps
Spine Angle = 73.06			Density/Spine Ratio = 0.515		
	Size		Reading		
Small Ring	4.00	in	1.17		
Large Ring	14.00	in	1.04		

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

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		
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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



Company	American Warrior, Inc.
Well	Ward Unit #1-10
Field	
County	Logan
State	Kansas