



MIDWEST WIRELINE

# MICRORESISTIVITY LOG

Company American Warrior, Inc.  
 Well Belleau Unit #1-33  
 Field Kenyon  
 County Graham  
 State Kansas

Company American Warrior, Inc.  
 Well Belleau Unit #1-33  
 Field Kenyon  
 County Graham State Kansas

Location: API #: 15-065-24309-00-00  
 1683 FSL & 1145 FWL  
 SEC 33 TWP 7S RGE 21W  
 Permanent Datum Ground Level Elevation 2090  
 Log Measured From Kelly Bushing  
 Drilling Measured From Kelly Bushing  
 Other Services  
 CNL/CDL  
 DIL  
 Elevation  
 K.B. 2098  
 D.F.  
 G.L. 2090

Date	2/27/2024
Run Number	One
Depth Driller	3845
Depth Logger	3844
Bottom Logged Interval	3843
Top Log Interval	2950
Casing Driller	8:625 @ 228
Casing Logger	226
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	1800
Density / Viscosity	9.1 58
pH / Fluid Loss	10.5 6.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.8 @ 70
Rmt @ Meas. Temp	0.6 @ 70
Rmc @ Meas. Temp	1.08 @ 70
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.49 @ 114
Operating Rig Time	2 Hours
Max Rec. Temp. F	114
Equipment Number	110
Location	HAYS
Recorded By	T. Martin
Witnessed By	Jason Alm

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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.

Bogue, KS, N to 18/24 Junction,  
 1/8 E, 1 N, 1/4 E, N into

Log Measured From: Kelly Bushing 8 Ft. Above Permanent Datum

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

### Your Midwest Wireline Crew

Engineer: T. Martin  
 Operator:  
 Operator:  
 Operator:

### This Log Record Was Witnessed By

Primary Witness: Jason Alm  
 Secondary Witness:  
 Secondary Witness:  
 Secondary Witness:



# Log Variables

DatabaseC:\ProgramData\Warrior\Data\amwar\_belleau unit #1-33.db  
 Dataset field/well/StkMI/pass3.1/\_vars\_

## Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	114	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	No	1.5	0	-70	50	Off	3844

## 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



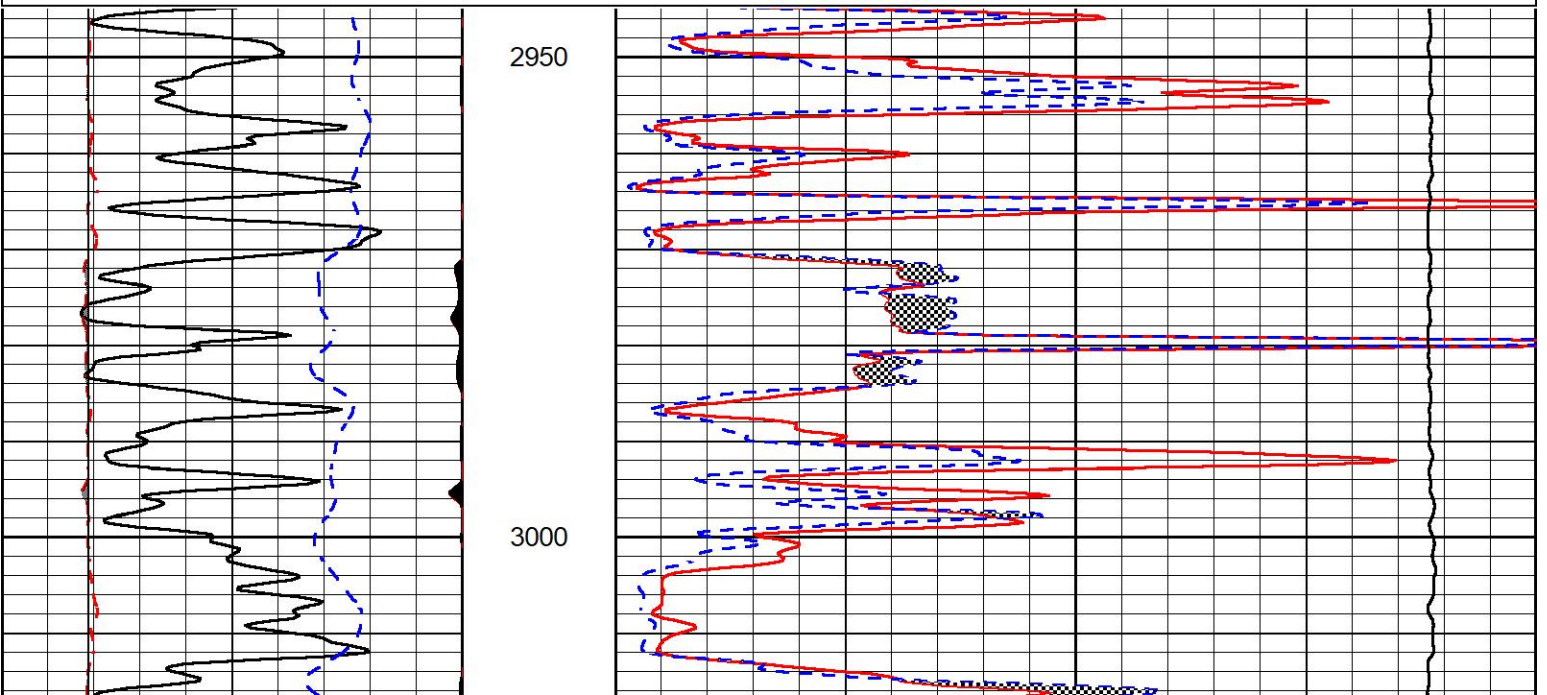
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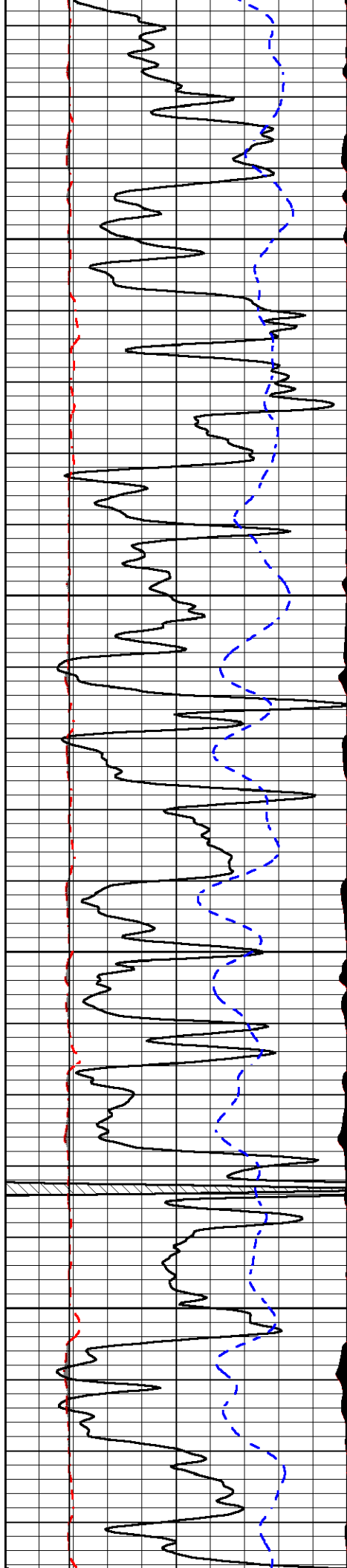
### MAIN PASS

Database File amwar\_belleau unit #1-33.db  
 Dataset Pathname StkMI/pass3.1  
 Presentation Format \_micro  
 Dataset Creation Tue Feb 27 01:20:43 2024  
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	Micro 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



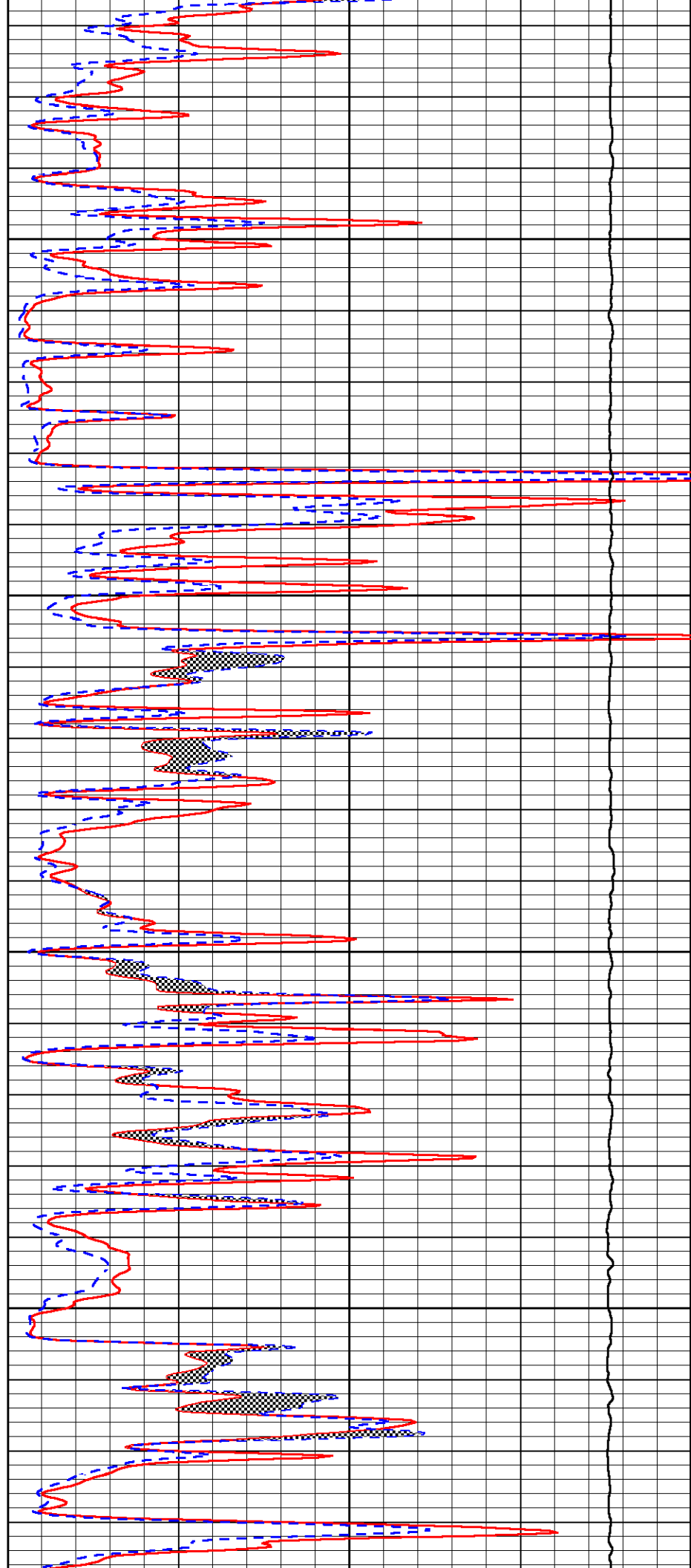


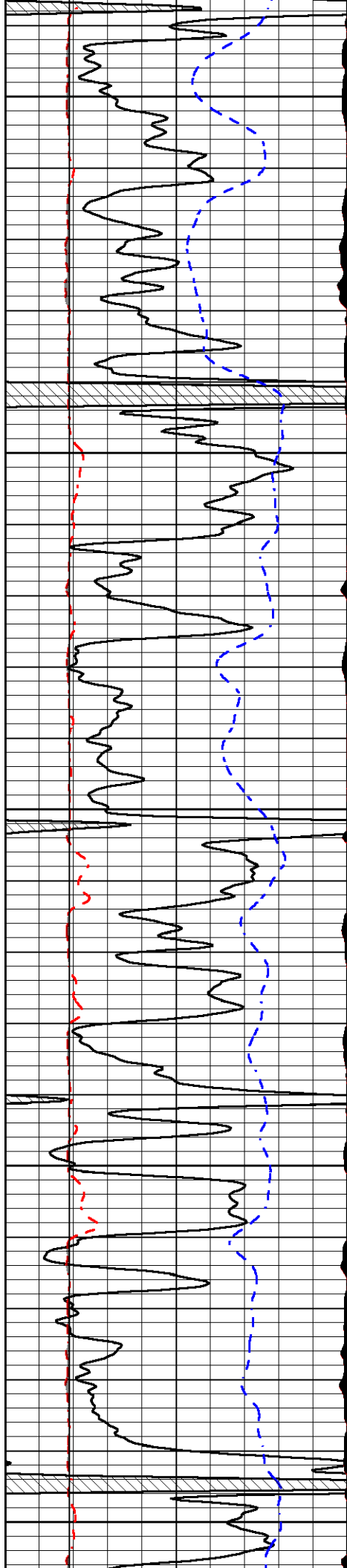
3050

3100

3150

3200





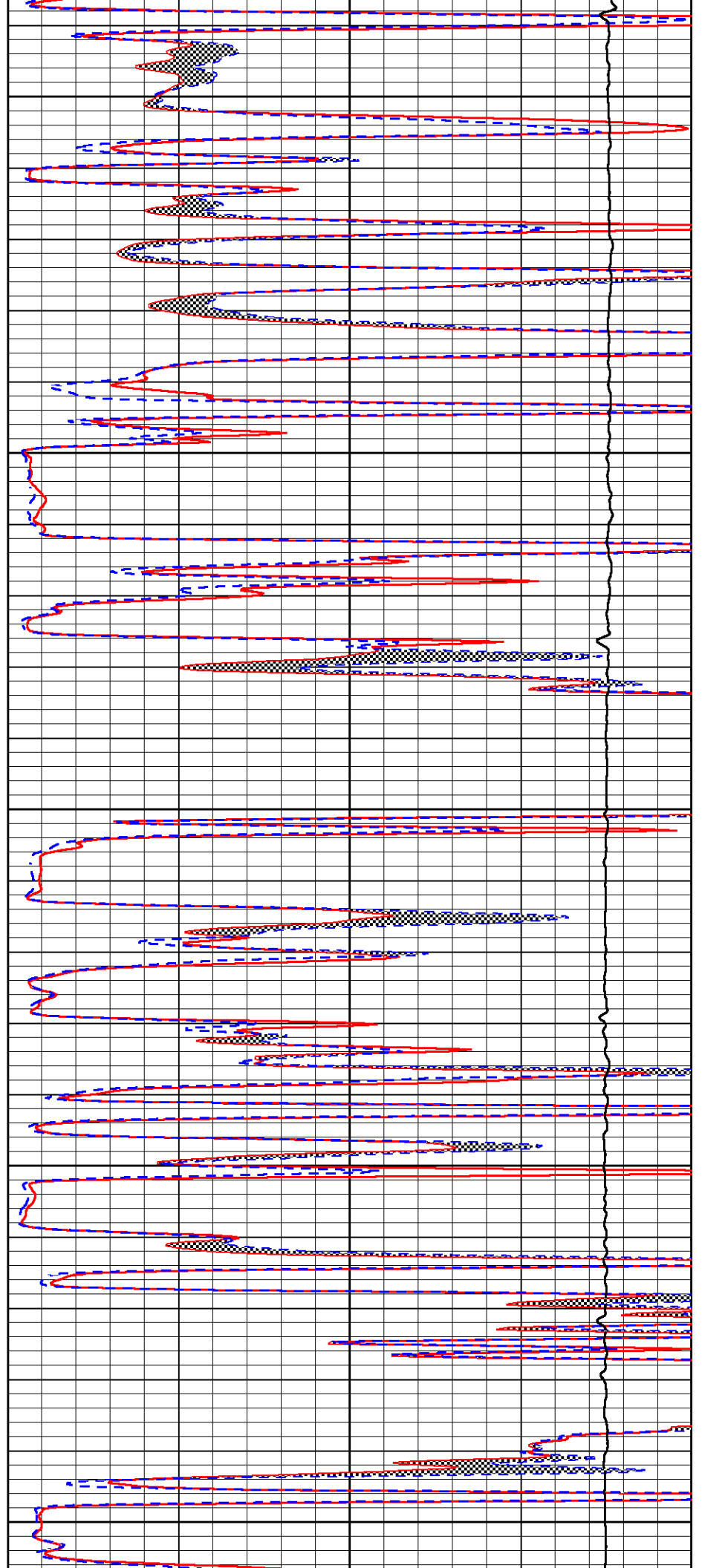
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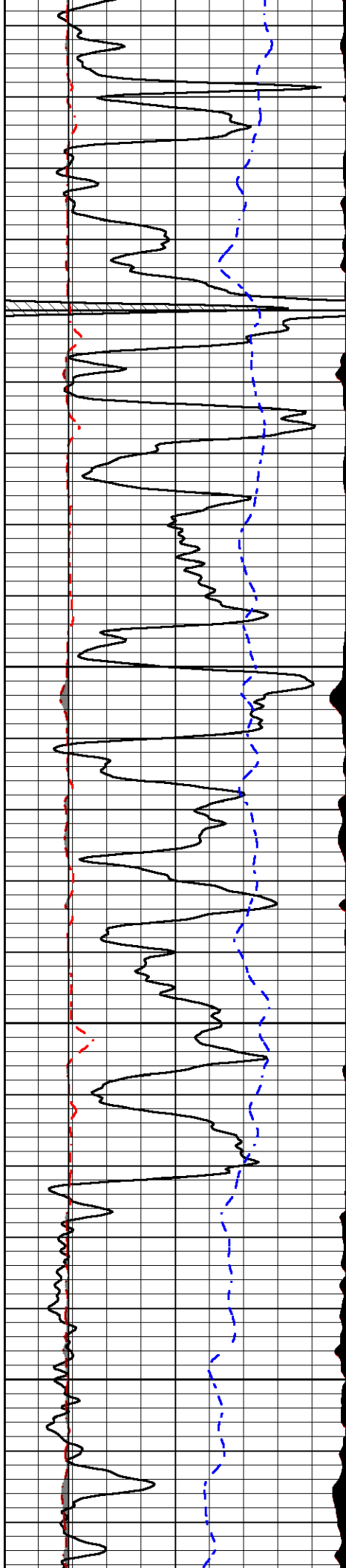
3300

3350

3400

3450



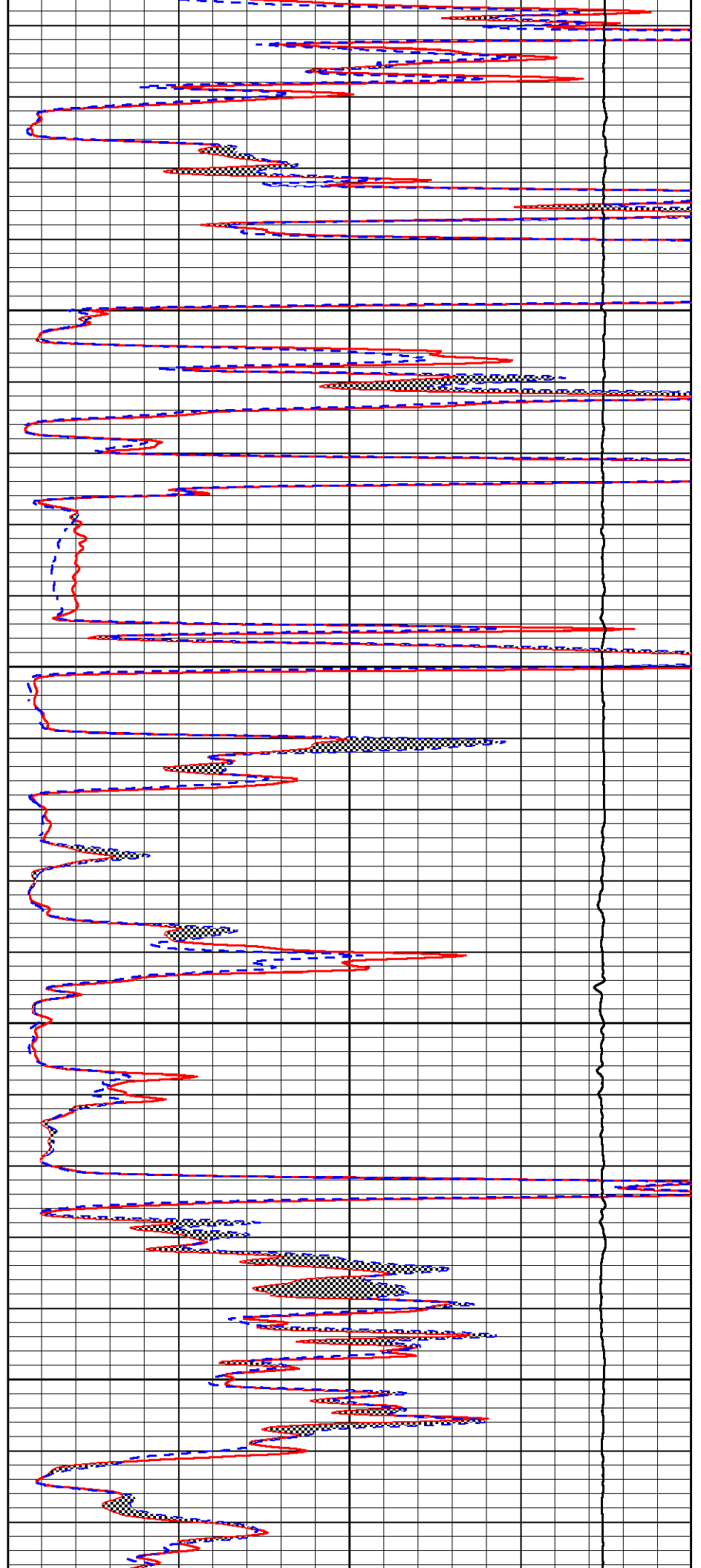


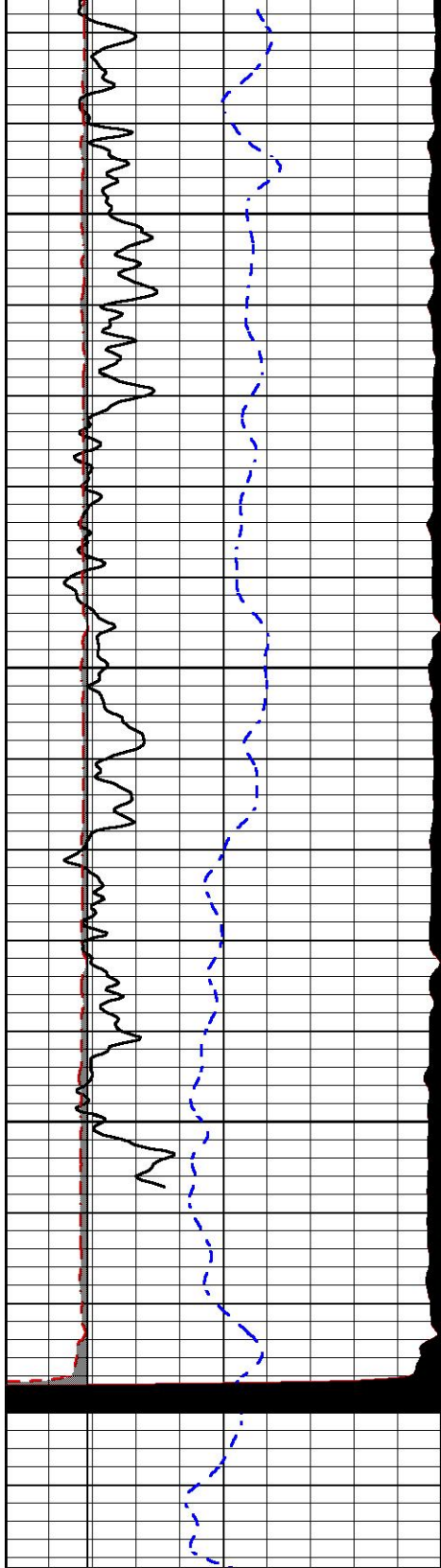
3500

3550

3600

3650



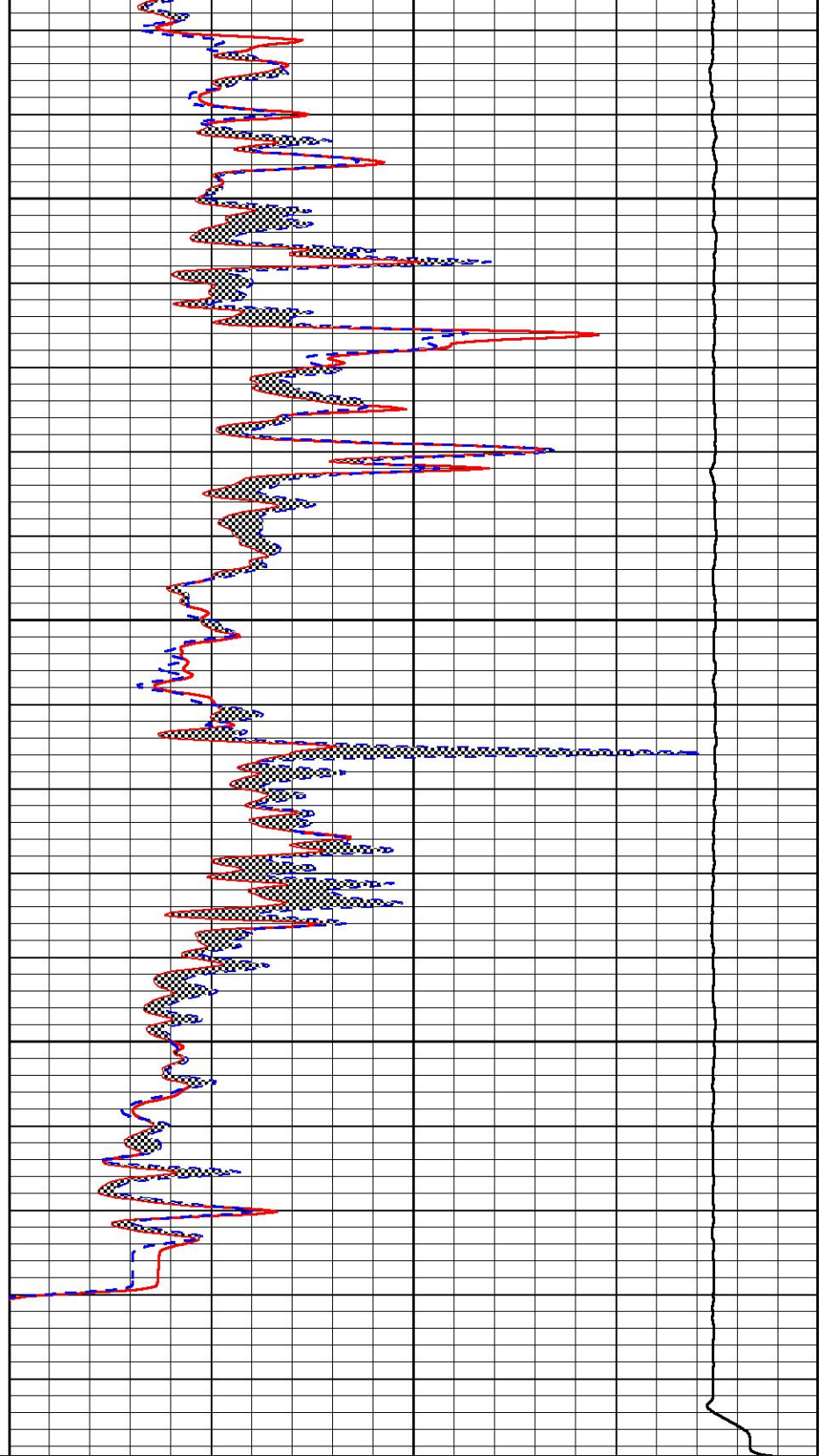


0	Gamma Ray (GAPI)	150
6	Micro Caliper (in)	16
2.875	mcal (in)	7.875
-200	SP (mV)	0

3700

3750

3800



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



MIDWEST WIRELINE

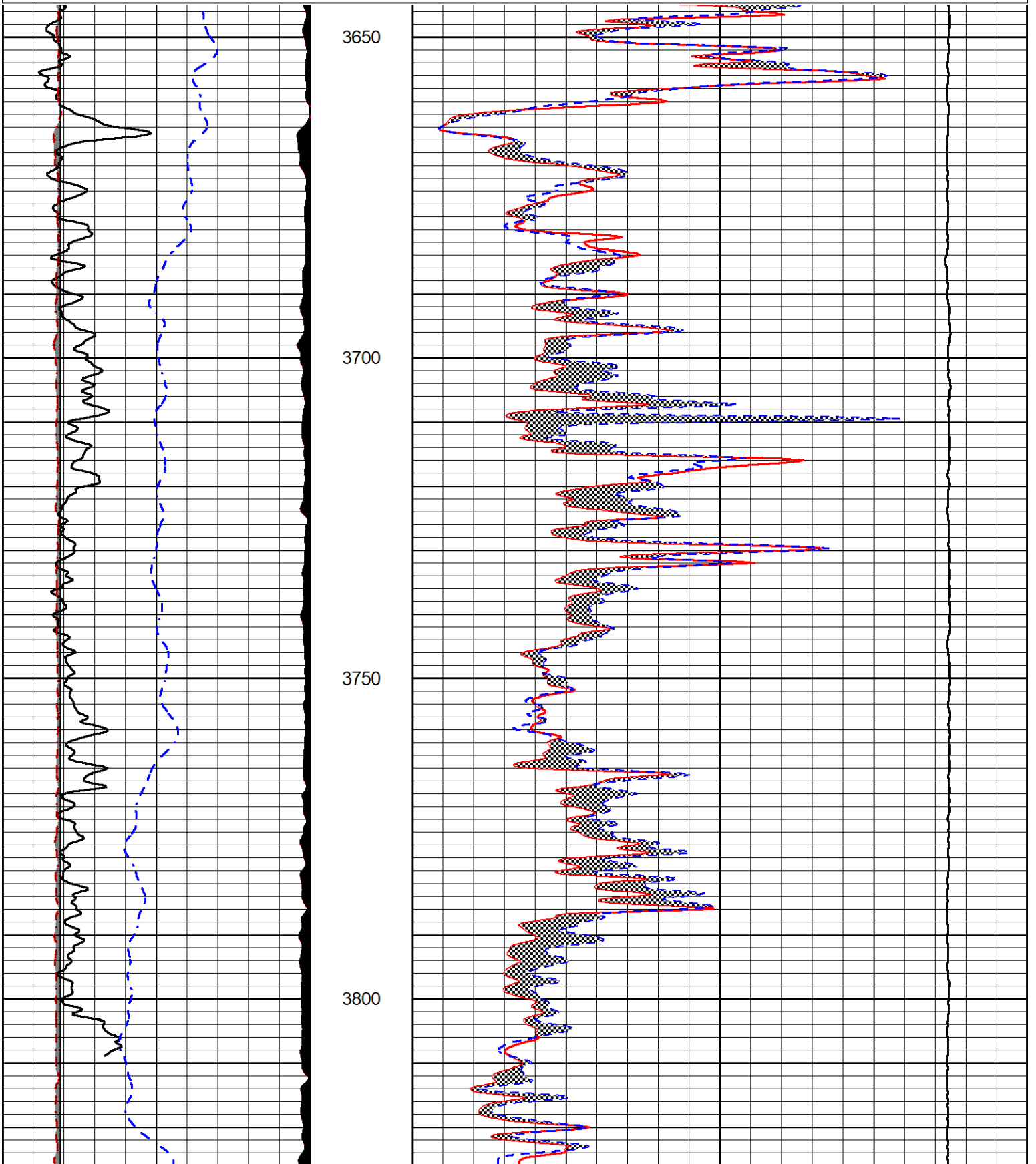
REPEAT SECTION

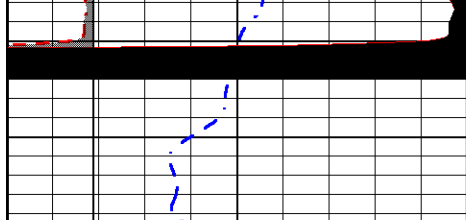
REPEAT PASS

Database File amwar\_belleau unit #1-33.db  
 Dataset Pathname StkMI/pass2.1  
 Presentation Format \_micro  
 Dataset Creation Tue Feb 27 00:50:29 2024  
 Charted by Depth in Feet scaled 1:240

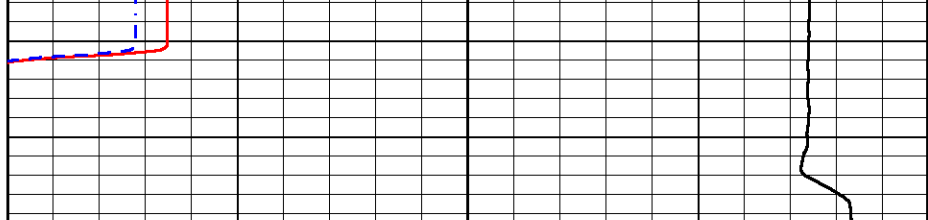
0	Gamma Ray (GAPI)	150
6	Micro Caliper (in)	16
2.875	mcal (in)	7.875
-200	SP (mV)	0

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





0	Gamma Ray (GAPI)	150
6	Micro 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

### Calibration Report

Database File amwar\_belleau unit #1-33.db  
 Dataset Pathname StkMI/pass3.1  
 Dataset Creation Tue Feb 27 01:20:43 2024

### Dual Induction Calibration Report

Serial-Model: 506-M&W  
 Surface Cal Performed: Wed Feb 21 00:04:51 2024

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		m	b
Deep	84.211	428.152	0.000	255.800	mmho/m	0.485	-34.500
Medium	141.000	670.654	0.000	255.800	mmho/m	0.435	-21.500

### Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML  
 Performed: Wed Feb 21 00:05:43 2024

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	14000.0000	-0.6000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	14000.0000	-0.2500
Caliper	1.0046	1.1419	5.5000	20.0000	in	50.0000	-44.5700

### LITHODENSITY Calibration Report

Serial Number: 701-01  
 Tool Model: STEP LITHO Short  
 Performed: Fri Dec 15 13:02:54 2023

#### Source:

	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
Background:									
SS:	50	53	200	252	23	67	44	1	cps
LS:	78	88	332	424	48	131	87	3	cps

#### Aluminum:

SS:	1069	1323	3068	2763	51	72	47	3	cps
LS:	1171	2261	4196	1923	57	133	82	6	cps

#### Magnesium:

SS:	1756	2109	4999	4049	59	72	48	5	cps
LS:	4803	8914	16228	6562	125	123	85	17	cps

Aluminum+Iron:									
SS:	682	909	2535	2363	47	72	47	3	cps
LS:	682	1582	3537	1707	57	132	82	5	cps
		Density			PE				
		Actual	Calibrated		Actual	Calibrated	Quality		
Background:									
SS:							0.201		
LS:							0.203		
Aluminum:									
SS:		2.6000	2.6000	g/cc			0.208		
LS:		2.6000	2.6000	g/cc			0.236		
Magnesium:									
SS:		1.6800	1.6800	g/cc	2.5700	2.5700	0.205		
LS:		1.6800	1.6800	g/cc	2.5700	2.5700	0.183		
Aluminum+Iron:									
SS:						6.1800	0.210		
LS:						6.1800	0.234		

Caliper:		Reference:	Reading:
Small Ring:		6.0 in	0.2
Large Ring:		14.0 in	0.8
Gain:		12.765	
Offset:		2.525	

### Compensated Neutron Calibration Report

Serial Number: 210  
Tool Model: M&W

#### 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: 105  
Tool Model: M&W  
Performed: Sat Oct 21 23:48:19 2023

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps  
Calibrator Reading: 637.0 cps

Sensitivity: 0.6000 GAPI/cps



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