

MIDWEST WIRELINE

MICRORESISTIVITY
LOG

Company EPOC LLC		Company EPOC LLC	
Well Eck 'A' #3		Well Eck 'A' #3	
Field Hazlett		Field Hazlett	
County Butler		County Butler	
State Kansas		State Kansas	
Location: API #: 15-015-24165-00-00		Other Services	
SEC 32 TWP 23S RGE 5E		CNL/CDL DIL	
Permanent Datum	Ground Level	Elevation	1478
Log Measured From	Kelly Bushing	K.B.	1484
Drilling Measured From	Kelly Bushing	D.F.	1478
Date 9/19/2022			
Run Number	One		
Depth Driller	2600		
Depth Logger	2594		
Bottom Logged Interval	2593		
Top Log Interval	1500		
Casing Driller	8.625 @ 212		
Casing Logger	211		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL			
Density / Viscosity	9.5	39	
pH / Fluid Loss			
Source of Sample	Flowline		
Rm @ Meas. Temp	0.95 @ 76		
Rmf @ Meas. Temp	0.71 @ 76		
Rmc @ Meas. Temp	1.28 @ 76		
Source of Rmf / Rmc	Charts		
Rm @ BHT	0.71 @ 102		
Operating Rig Time	2 Hours		
Max Rec. Temp. F	102		
Equipment Number	P-24		
Location	Hays		
Recorded By	T. Martin		
Witnessed By	Ray Gilbert		

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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.

Newton, KS, E on 1st Ave to Purity
Springs Rd, 2 S, 1/4 E, S into

Log Measured From: Kelly Bushing 6 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: T. Martin		Primary Witness: Ray Gilbert	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33			GR-M&W (106)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48			CNT-M&W (207-MW)	5.00	3.50	100.00
LSD DCAL SSD	28.18			CDL-M&W (307-11)	8.50	4.00	250.00
	28.17			ML-PSIML (402)	7.58	4.00	65.00
	27.68						
MCAL MI MN	19.58						
	19.58						
	19.58						
RLL3F RLL3	15.50 15.50			DIL-M&W (501 HT)	18.25	3.50	220.00
CILD	8.33						
	4.50						
CILM	4.50						
SP	0.20						
Dataset: epoc_eck a #3.db: field/well1/StkMI/pass3.1 Total length: 42.33 ft Total weight: 685.00 lb O.D.: 4.00 in							

Log Variables

DatabaseC:\ProgramData\Warrior\Data\epoc_eck a #3.db
Dataset field/well1/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 102	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 -80	degF 80	Off	ft 2594

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



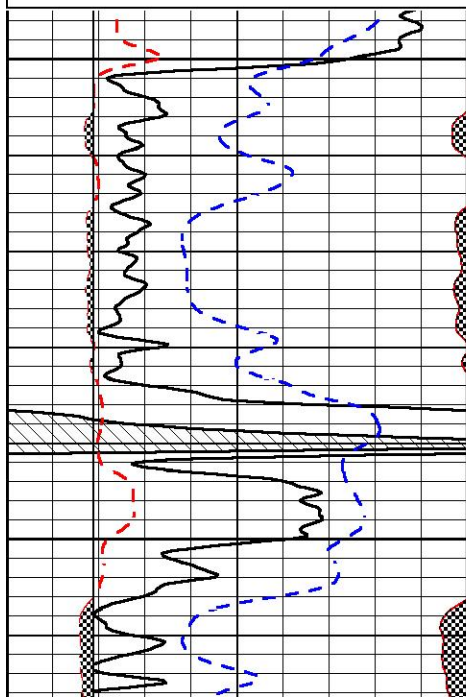
DETAIL SECTION

MAIN PASS

Database File epoc_eck a #3.db
Dataset Pathname well1/StkMI/pass3.1
Presentation Format _micro
Dataset Creation Mon Sep 19 02:27:36 2022
Charted by Depth in Feet scaled 1:240

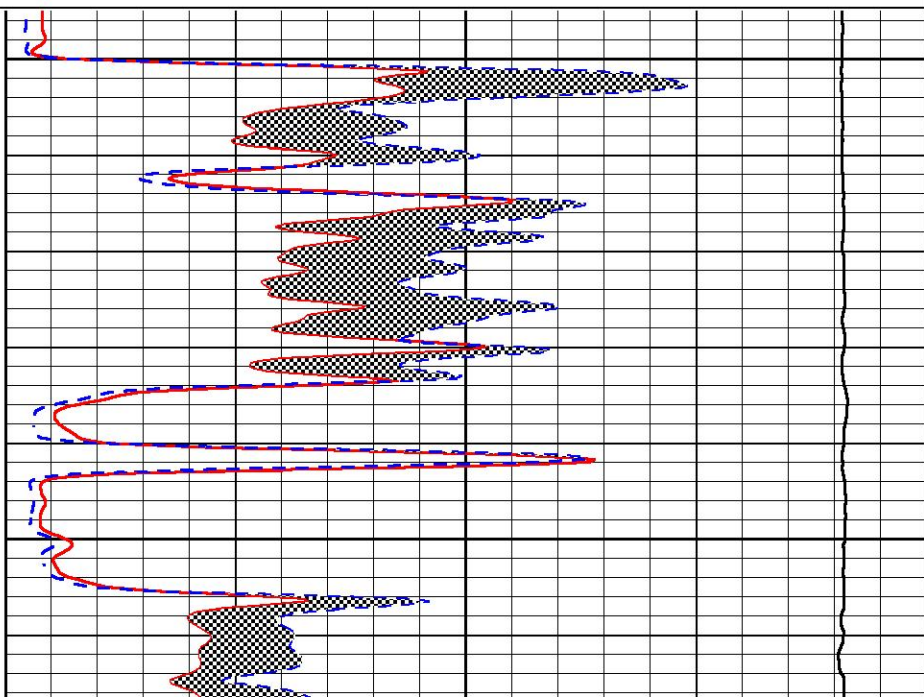
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	sp (mV)	0

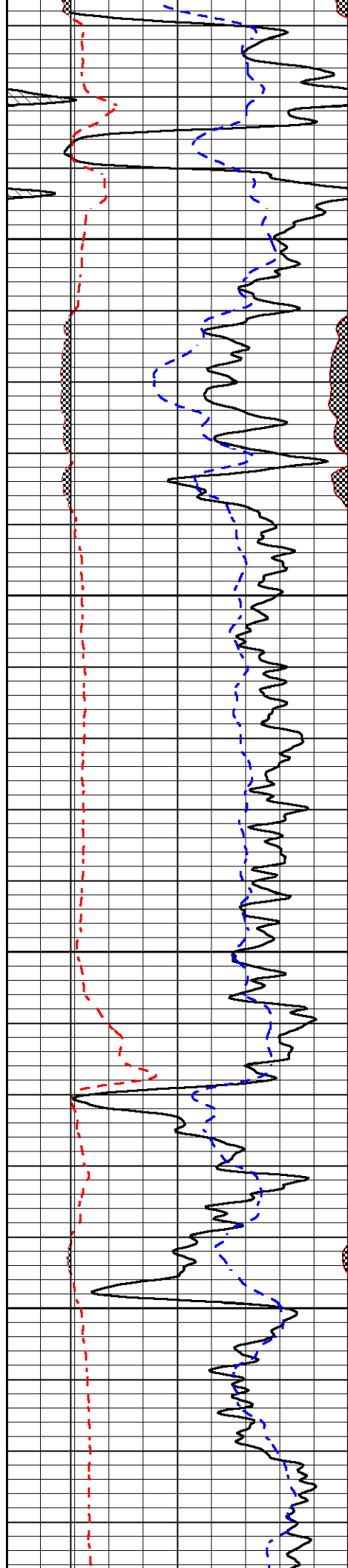
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



1500

1550



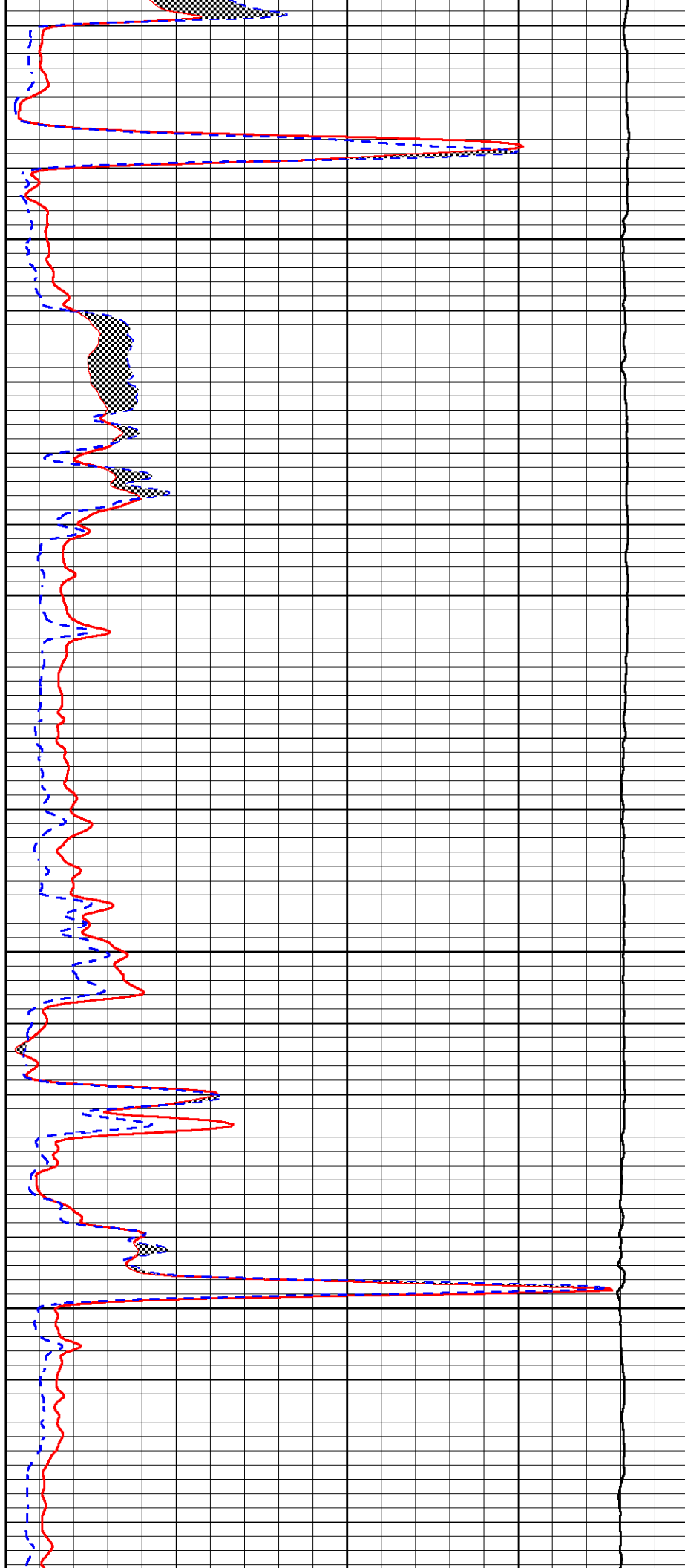


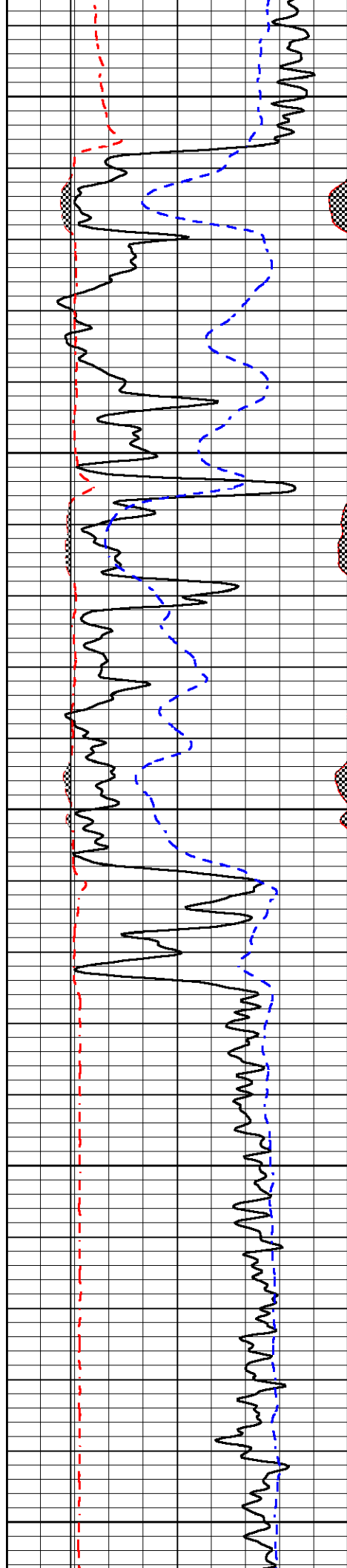
1600

1650

1700

1750





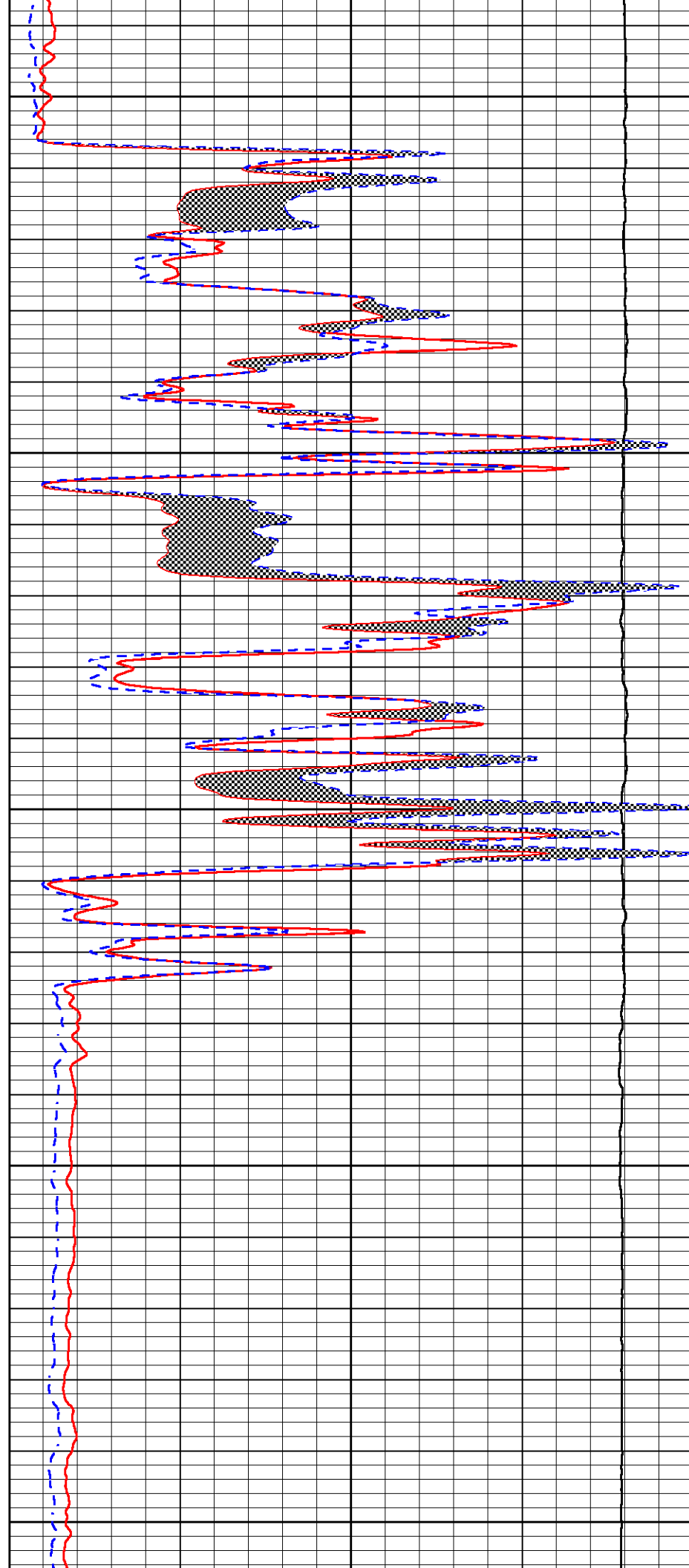
1800

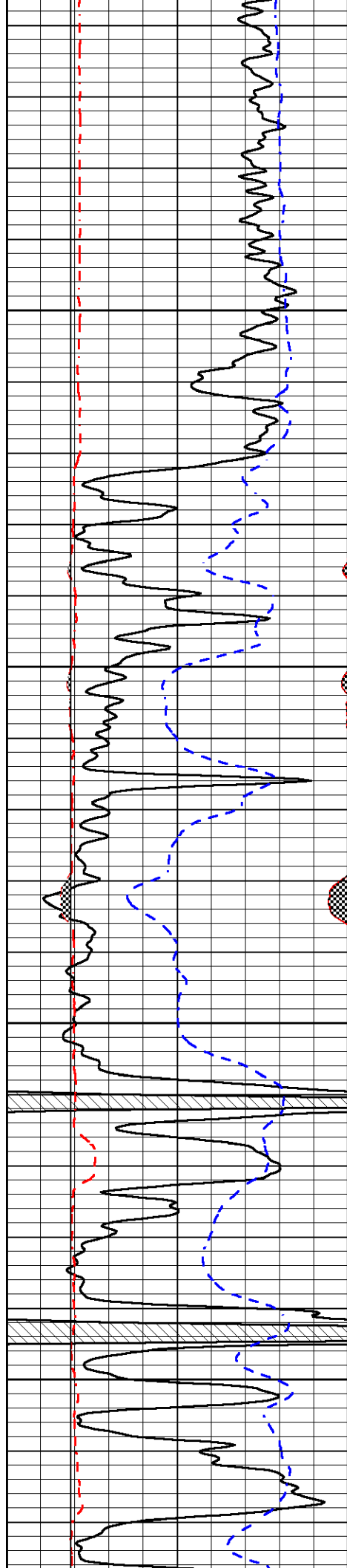
1850

1900

1950

2000



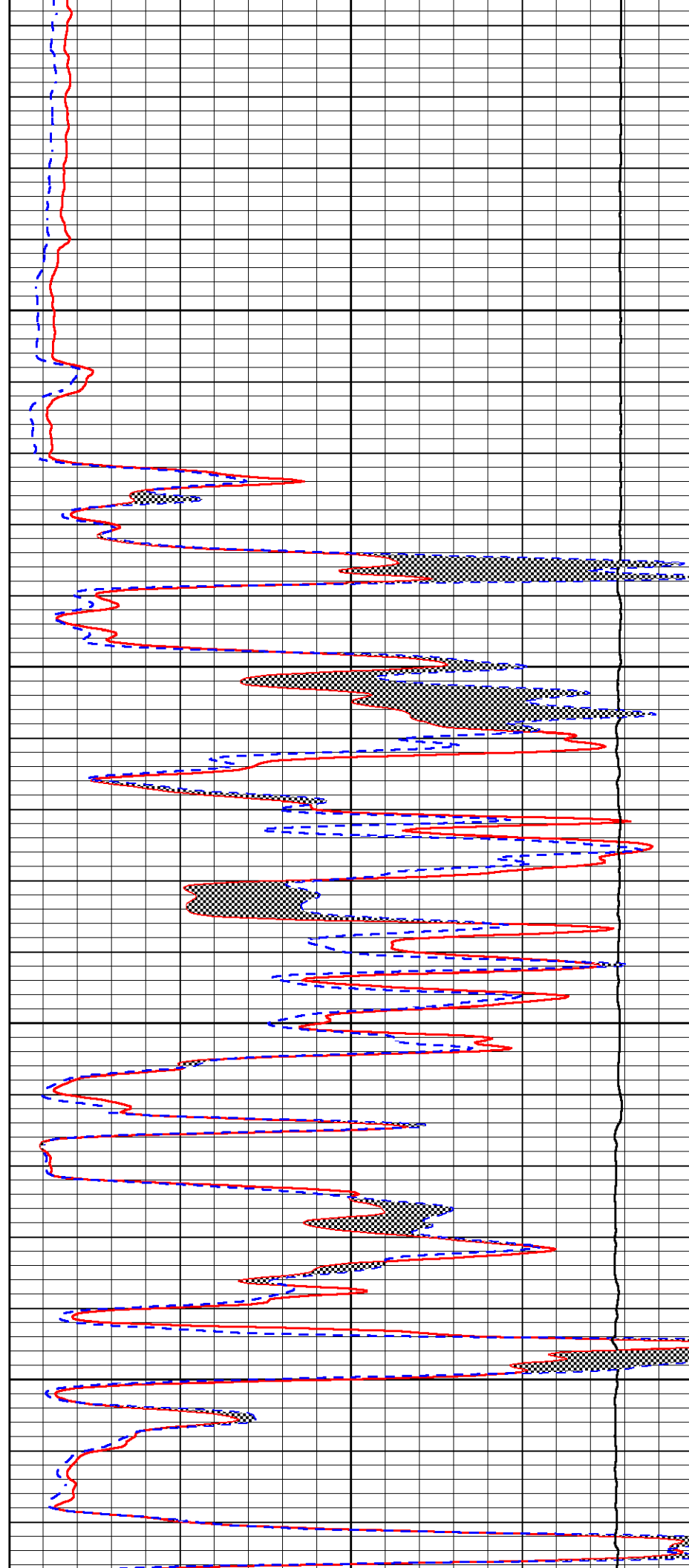


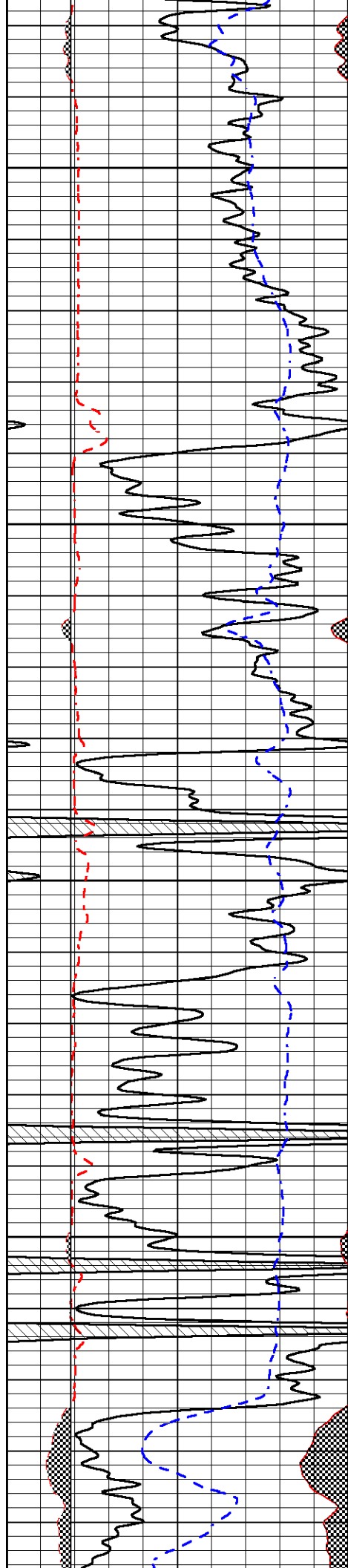
2050

2100

2150

2200



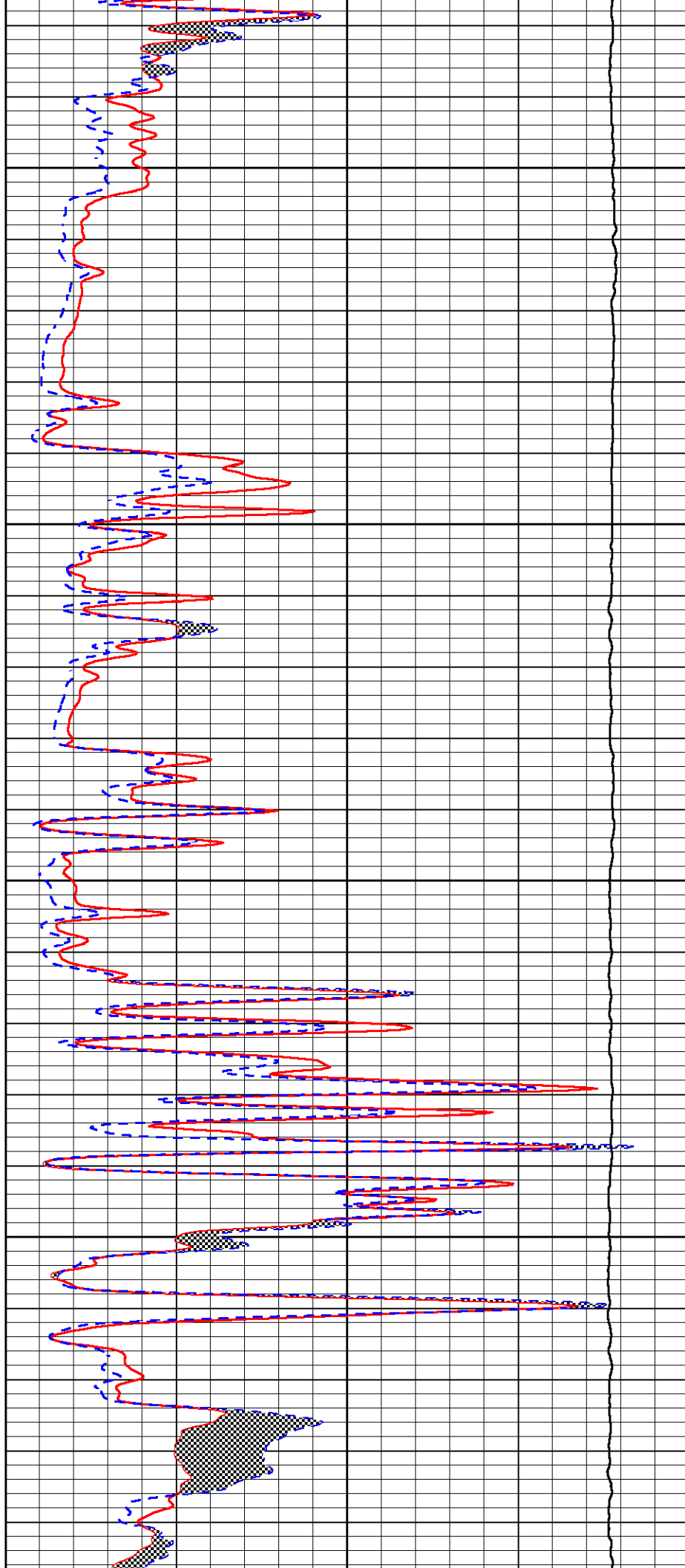


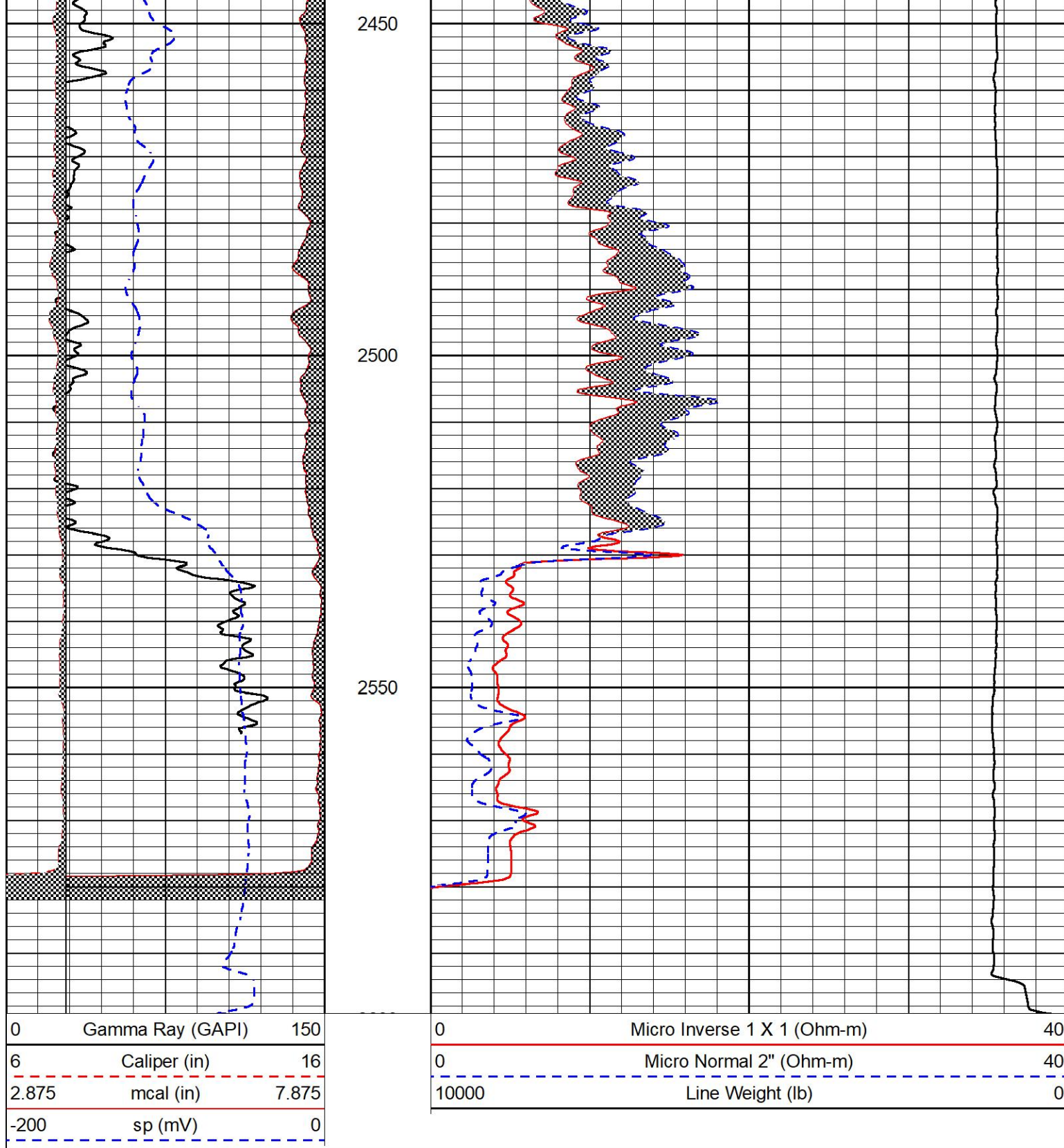
2250

2300

2350

2400





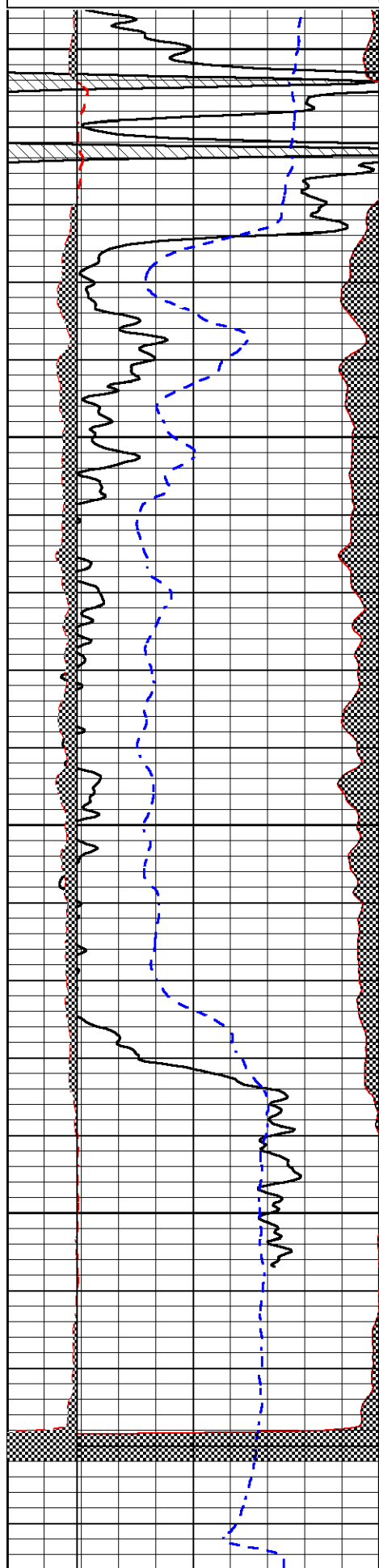
MIDWEST WIRELINE

REPEAT SECTION

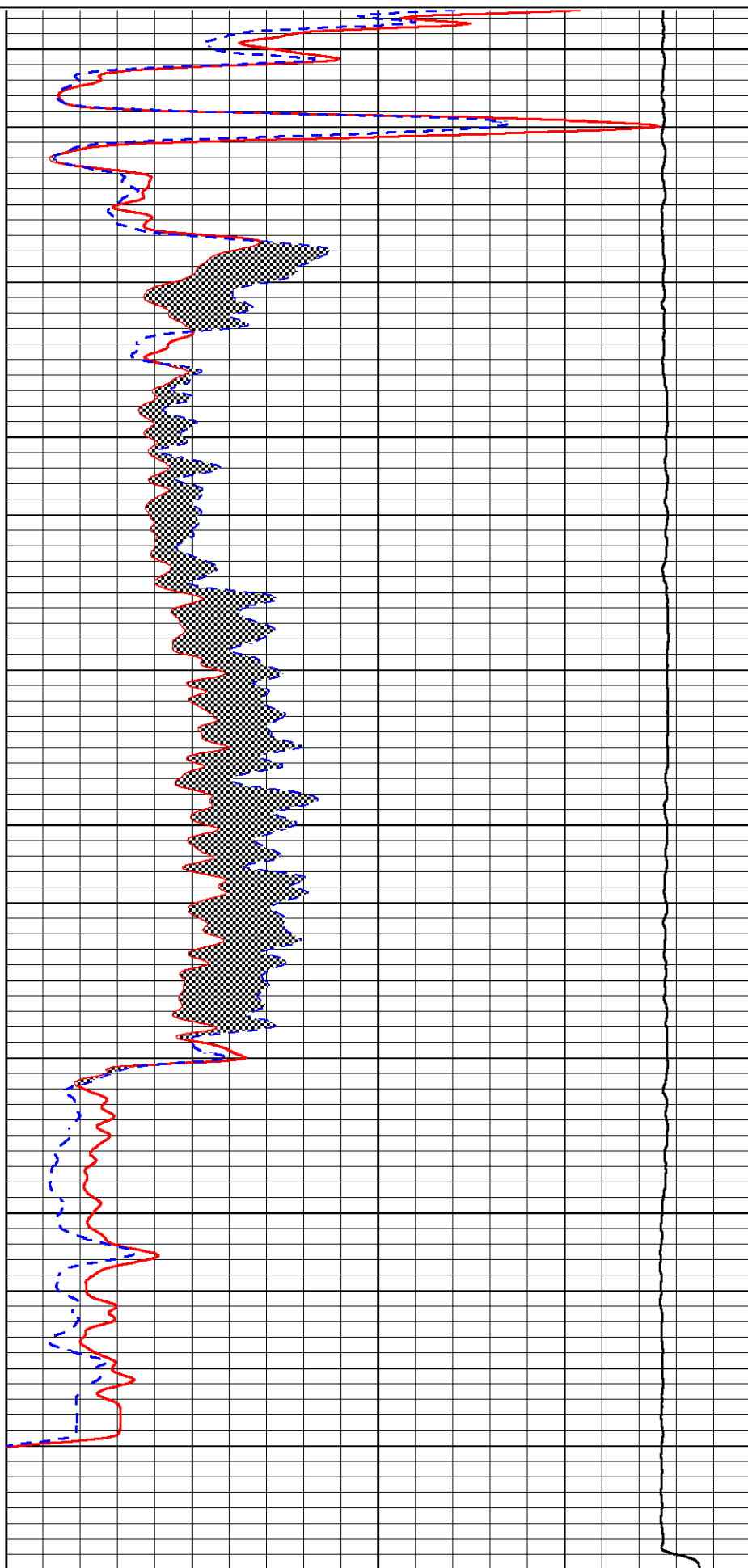
REPEAT PASS

Database File epoc_eck a #3.db
 Dataset Pathname well1/StkMI/pass2.1
 Presentation Format _micro
 Dataset Creation Mon Sep 19 02:03:45 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



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

Calibration Report	
Database File	epoc_eck a #3.db
Dataset Pathname	well1/StkMI/pass3.1
Dataset Creation	Mon Sep 19 02:27:36 2022

Dual Induction Calibration Report	
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Serial-Model:	501 HT-M&W
Surface Cal Performed:	Sun Sep 11 11:20:04 2022

Readings		References		Results	
Loop:	Air	Loop	Air	Loop	
Deep	83.639	487.104	0.000	183.000	mmho/m
Medium	113.335	1585.690	0.000	442.000	mmho/m

Microlog Calibration Report	
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Serial-Model:	402-PSIML
Performed:	Fri Sep 9 11:18:26 2022

Readings		References		Results	
	Zero	Cal	Zero	Cal	
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m
Caliper	1.0052	1.0858	5.0000	16.5000	in

Compensated Density Calibration Report	
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Serial-Model:	307-11-M&W
Source #:	20762B
Master Calibration Performed:	Sat Aug 27 10:20:16 2022

Master Calibration	
	Density
Magnesium	1.755 g/cc
Aluminum	2.670 g/cc
Spine Angle = 75.41	
	Size
Small Ring	6.00 in
Large Ring	18.00 in
	Far Detector
	3600.52
	693.98
	Near Detector
	4768.22 cps
	3106.20 cps
Density/Spine Ratio = 0.538	
	Reading
	1.16
	1.01

Compensated Neutron Calibration Report	
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Serial Number:	207-MW
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
PRE-SURVEY VERIFICATION						
	Detector	Readings		Measured	Target	
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			
	Long Space		cps	pu		
POST-SURVEY VERIFICATION						
	Detector	Readings		Measured	Target	
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		pu
3)	Short Space		cps			
	Long Space		cps	pu		pu
Gamma Ray Calibration Report						
Serial Number:		106				
Tool Model:		M&W				
Performed:		Fri Dec 3 15:10:46 2021				
Calibrator Value:		500.0		GAPI		
Background Reading:		24.0		cps		
Calibrator Reading:		637.0		cps		
Sensitivity:		0.5500		GAPI/cps		

		Company	EPOC LLC
		Well	Eck 'A' #3
		Field	Hazlett
		County	Butler
		State	Kansas