



MICRORESISTIVITY LOG

MIDWEST WIRELINE

Company EPOC LLC		Company EPOC LLC	
Well	Eck 'A' #1	Well	Eck 'A' #1
Field	Hazlett	Field	Hazlett
County	Butler	County	Butler
State	Kansas	State	Kansas
Location: API #: 15-015-24168-00-00		Other Services	
SE NE SW NW 1835 FNL & 1075 FWL SEC 32 TWP 23S RGE 5E		CNL/CDL DIL	
Permanent Datum	Ground Level	Elevation	1483
Log Measured From	Kelly Bushing	K.B.	1489
Drilling Measured From	Kelly Bushing	D.F.	
		G.L.	1483
Date	8/3/2022		
Run Number	One		
Depth Driller	2550		
Depth Logger	2547		
Bottom Logged Interval	2546		
Top Log Interval	1400		
Casing Driller	8.625 @ 210		
Casing Logger	210		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL			
Density / Viscosity	9.5	49	
pH / Fluid Loss			
Source of Sample	Flowline		
Rm @ Meas. Temp	1.09 @ 72		
Rmt @ Meas. Temp	0.68 @ 72		
Rmc @ Meas. Temp	1.22 @ 72		
Source of Rmt / Rmc	Charts		
Rm @ BHT	0.64 @ 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	Bill Stout	

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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, ~20 E on 1st Ave to
Purity Spgs Rd, 2 S, 1/8 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

Engineer: T. Martin
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Ray Gilbert
Secondary Witness: Bill Stout
Secondary Witness:
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 28.17 27.68			CDL-M&W (302-02)	8.50	4.00	250.00
				ML-PSIML (402)	7.58	4.00	65.00
MCAL MI MN	19.58 19.58 19.58						
RLL3F RLL3	15.50 15.50						
CILD	8.33			DIL-M&W (507)	18.25	3.50	220.00
CILM	4.50						
SP	0.20						
				Dataset:	eopc_eck a #1.db: field/well/StkMI/pass3.1		
		Total length:	42.33 ft				
		Total weight:	685.00 lb				
		O.D.:	4.00 in				

Log Variables

DatabaseC:\ProgramData\Warrior\Data\epc_eck a #1.db
Dataset field/well/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in	degF	in	in	g/cc	2	g/cc
	7.875	102	5.5	0	1		2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m	mmho/m	mV	degF	Off	ft
		0	0	-100	80		2547

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



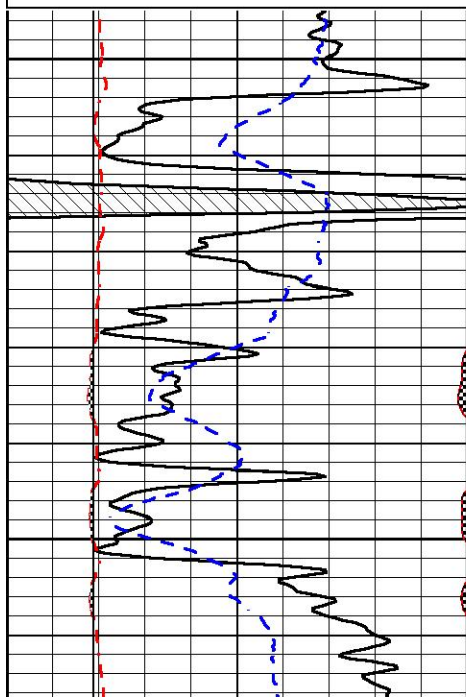
DETAIL SECTION

MAIN PASS

Database File eopc_eck a #1.db
Dataset Pathname StkMI/pass3.1
Presentation Format _micro
Dataset Creation Wed Aug 03 12:46:21 2022
Charted by Depth in Feet scaled 1:240

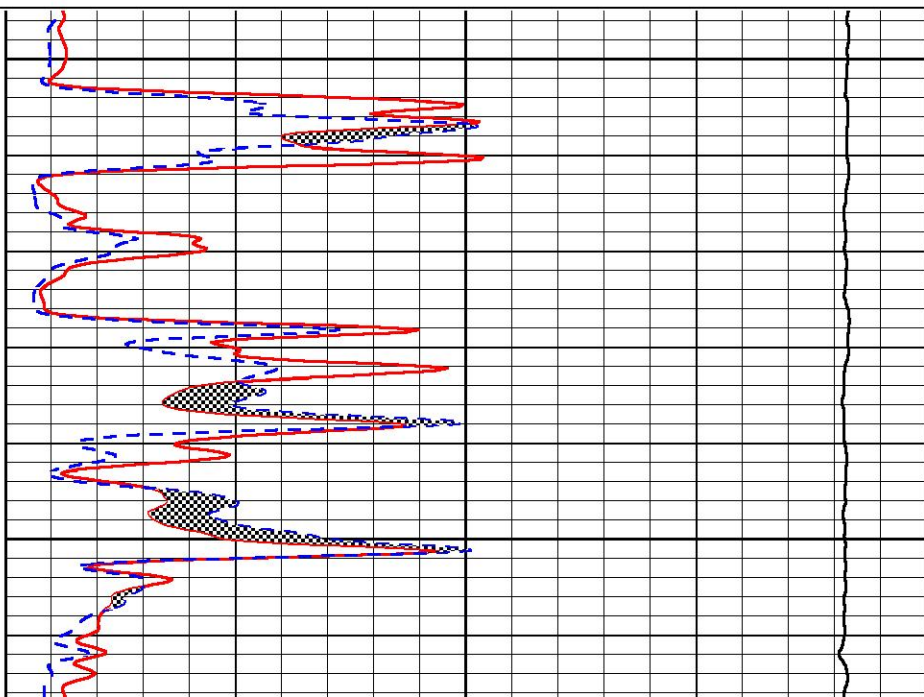
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	sp (mV)	0

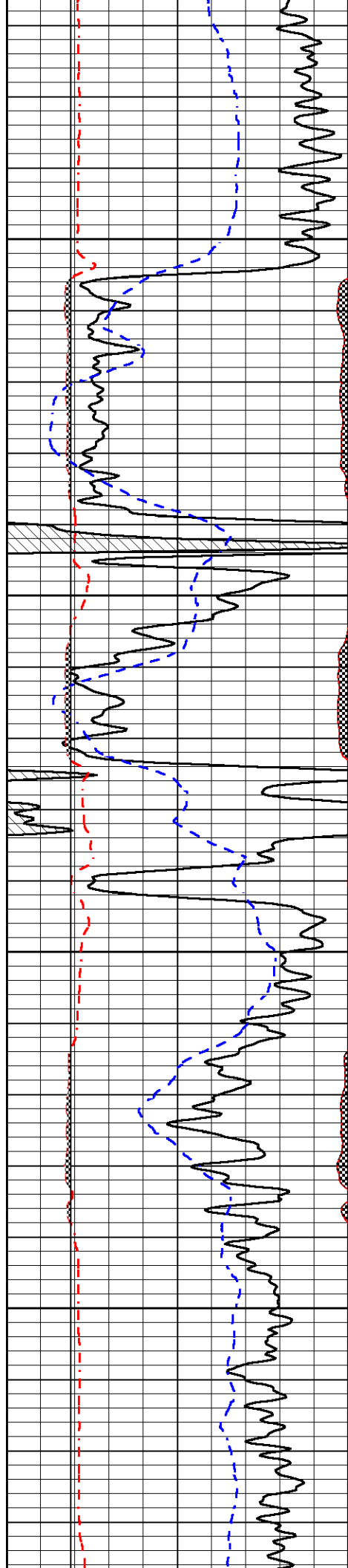
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



1400

1450



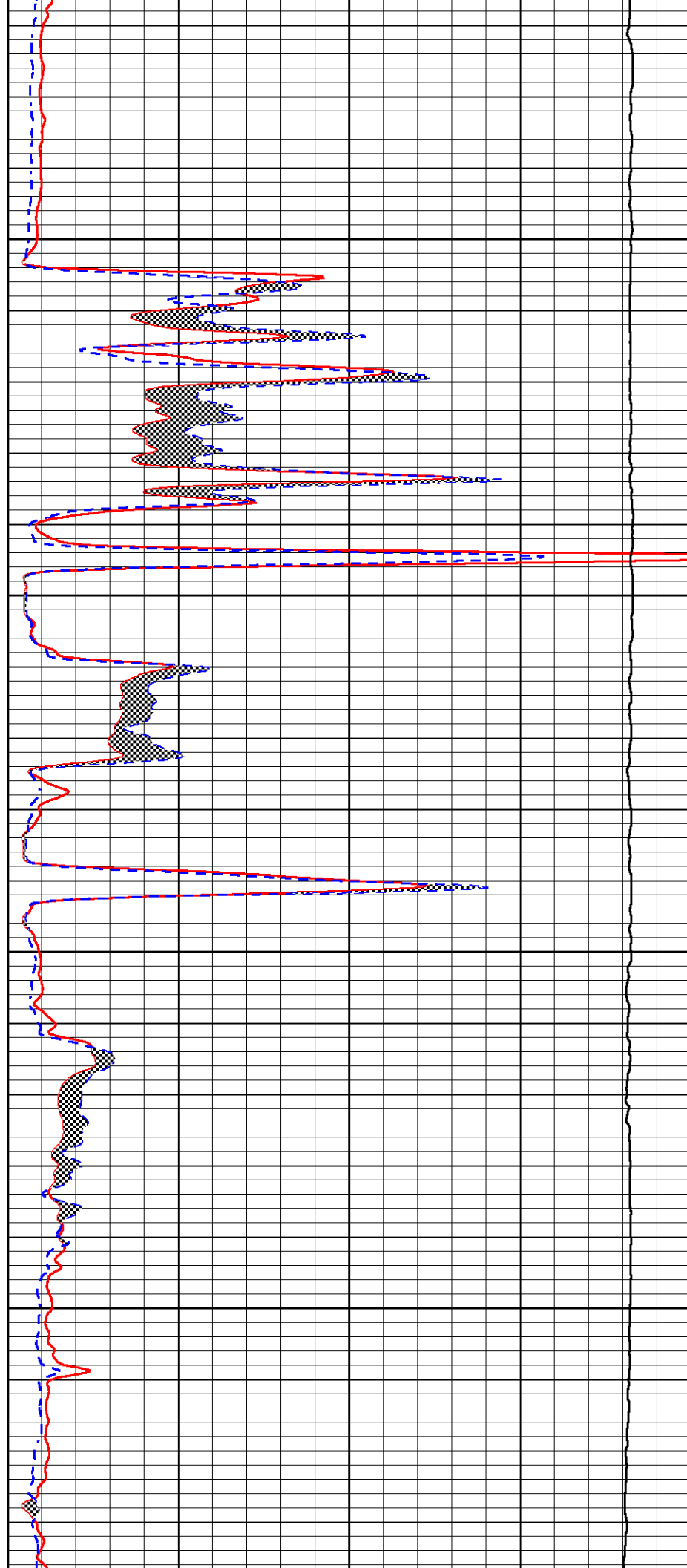


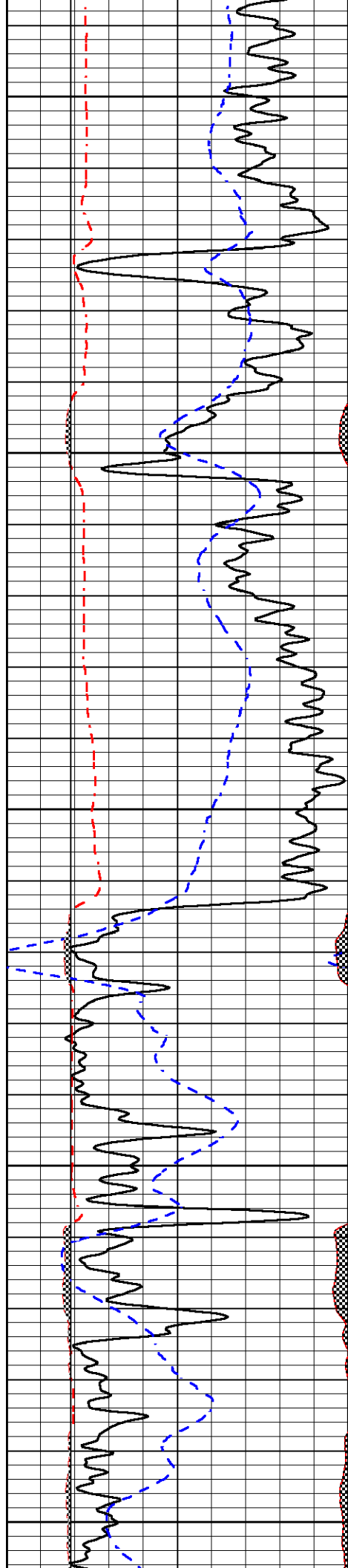
1500

1550

1600

1650





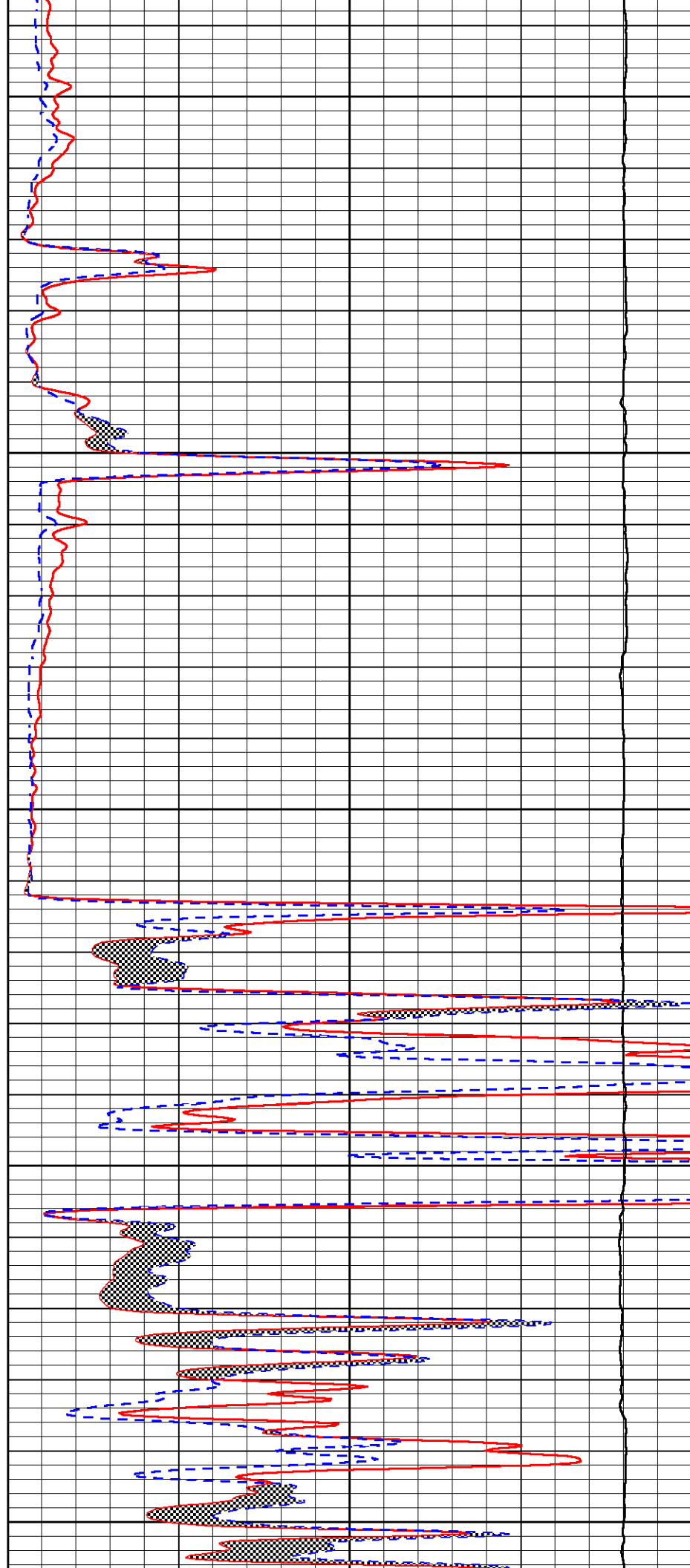
1700

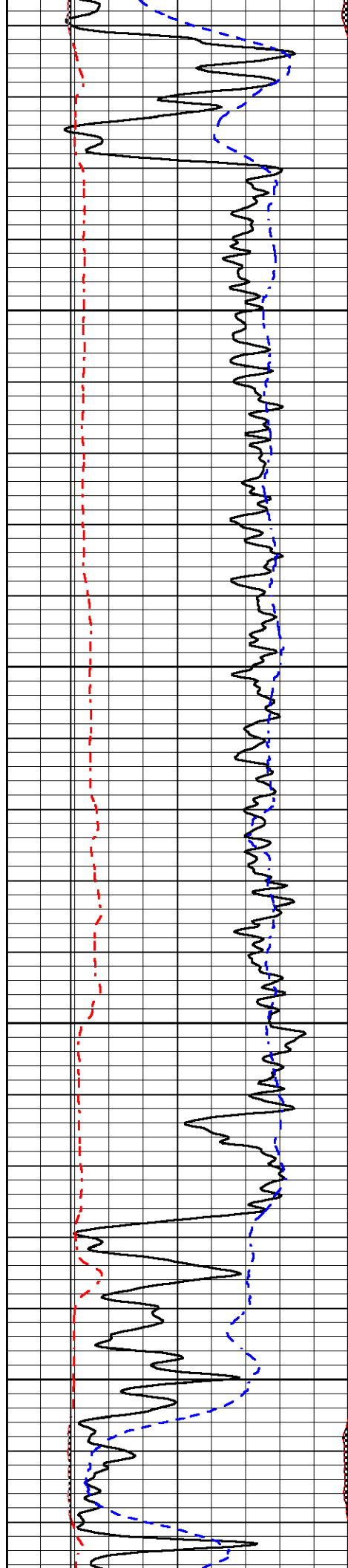
1750

1800

1850

1900



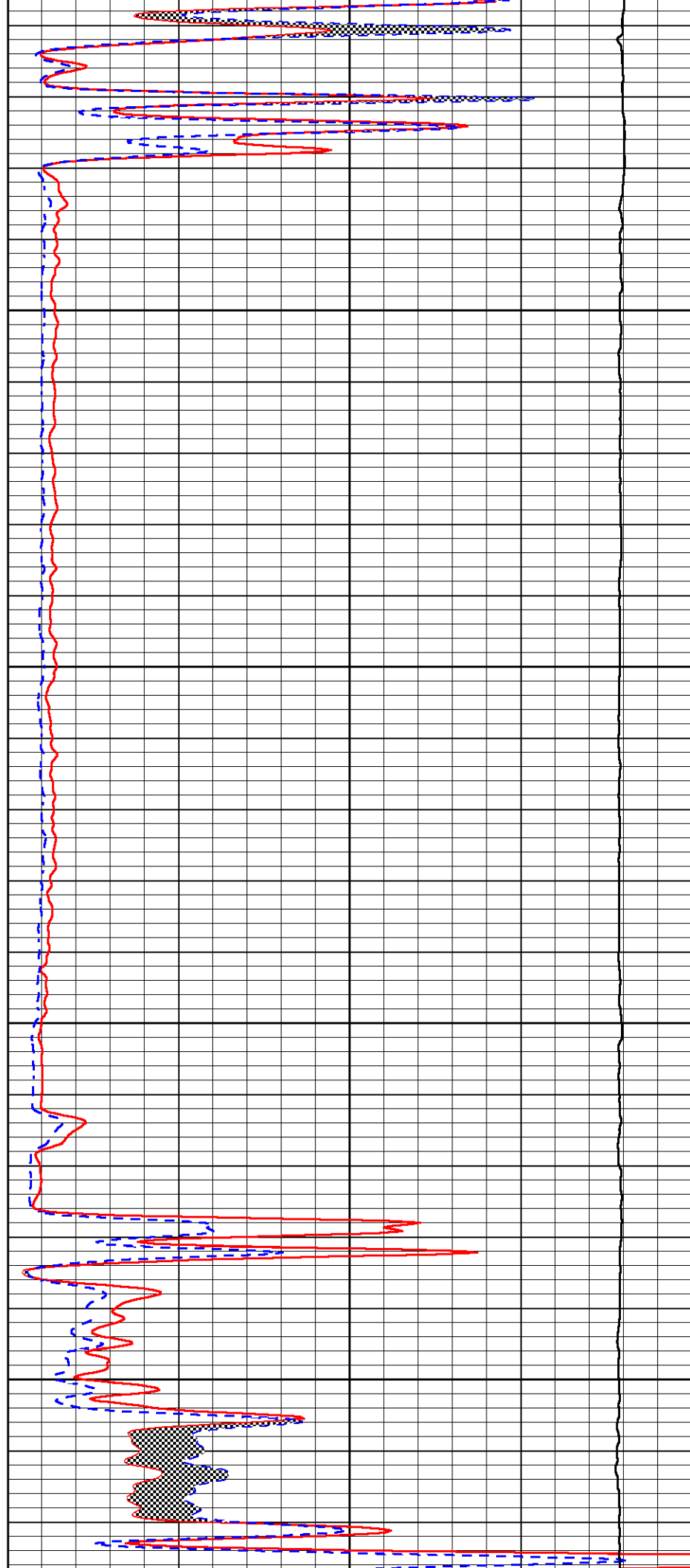


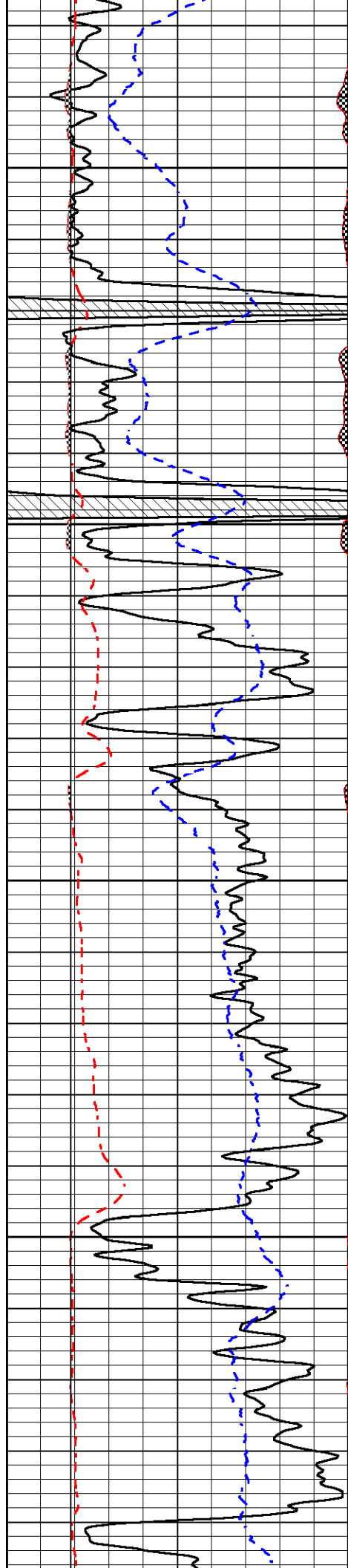
1950

2000

2050

2100



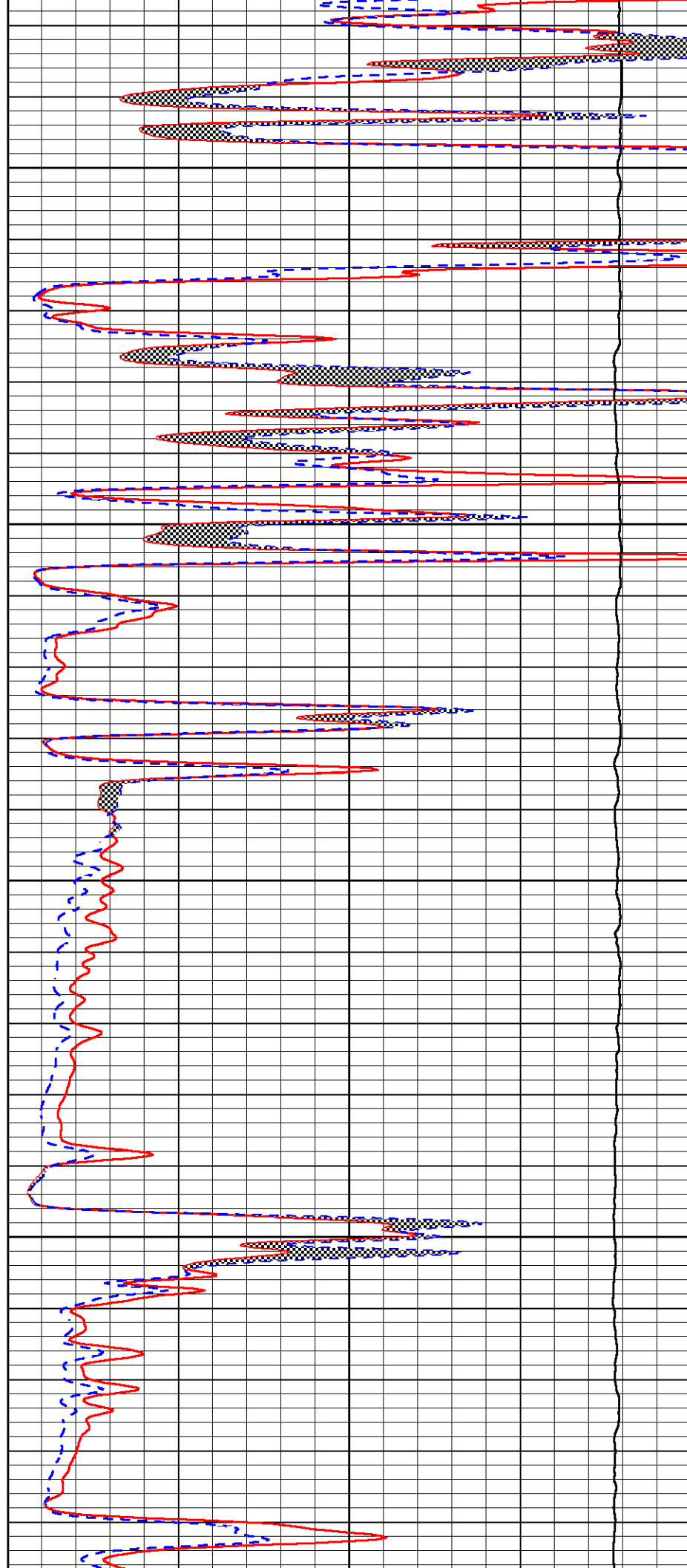


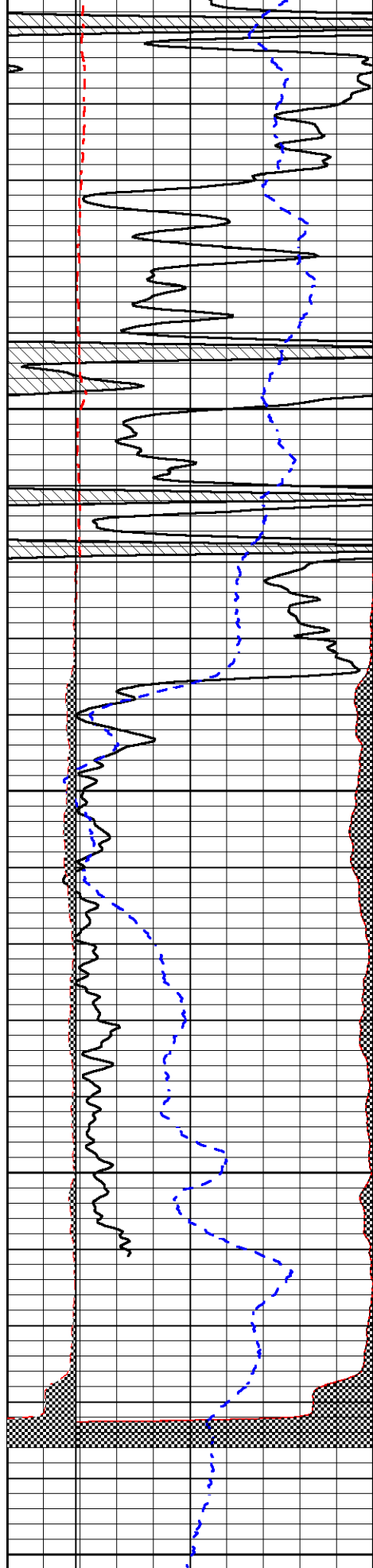
2150

2200

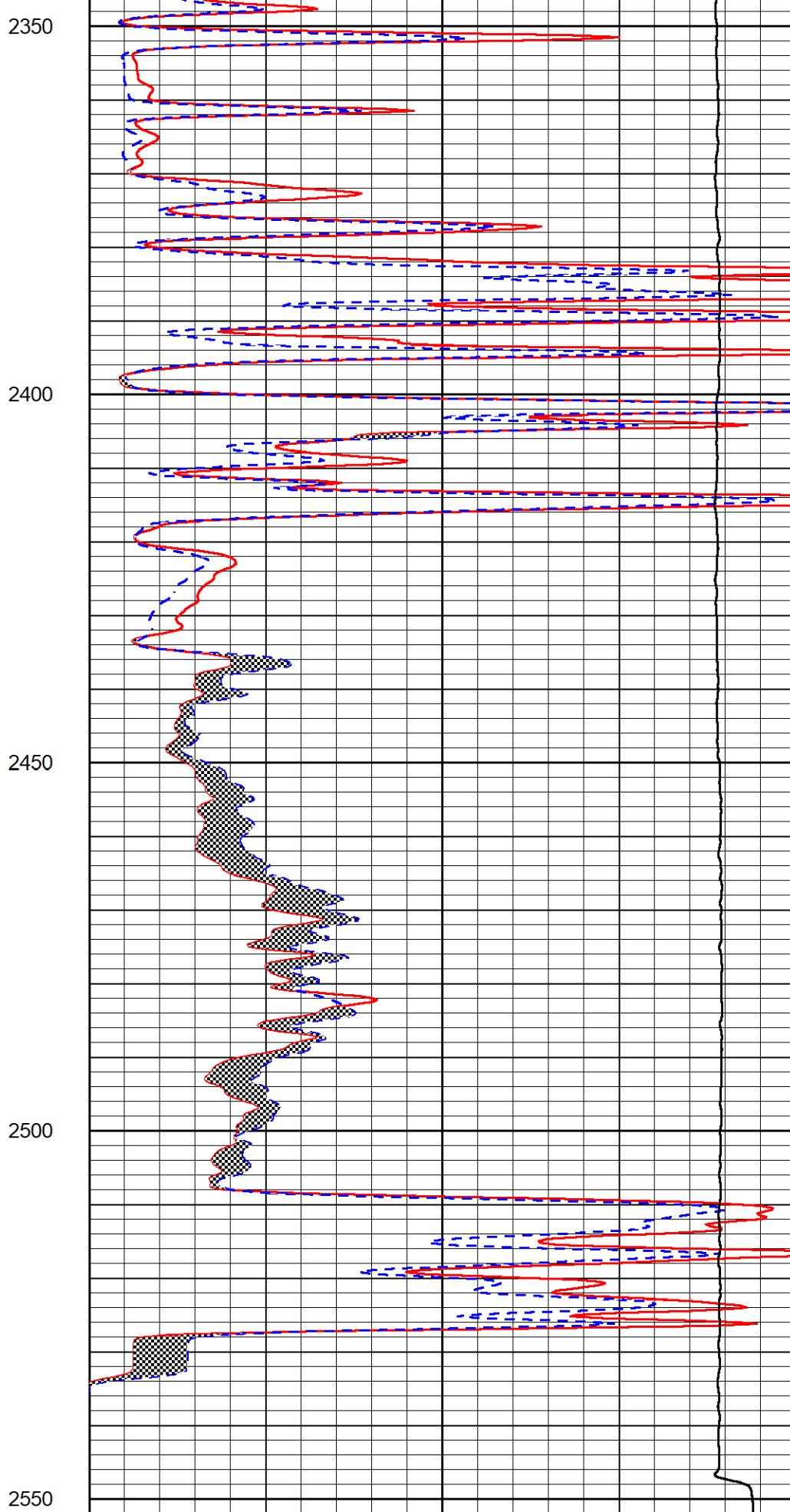
2250

2300





0	Gamma Ray (GAPI)	150
6	Caliper (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

-200 sp (mV) 0



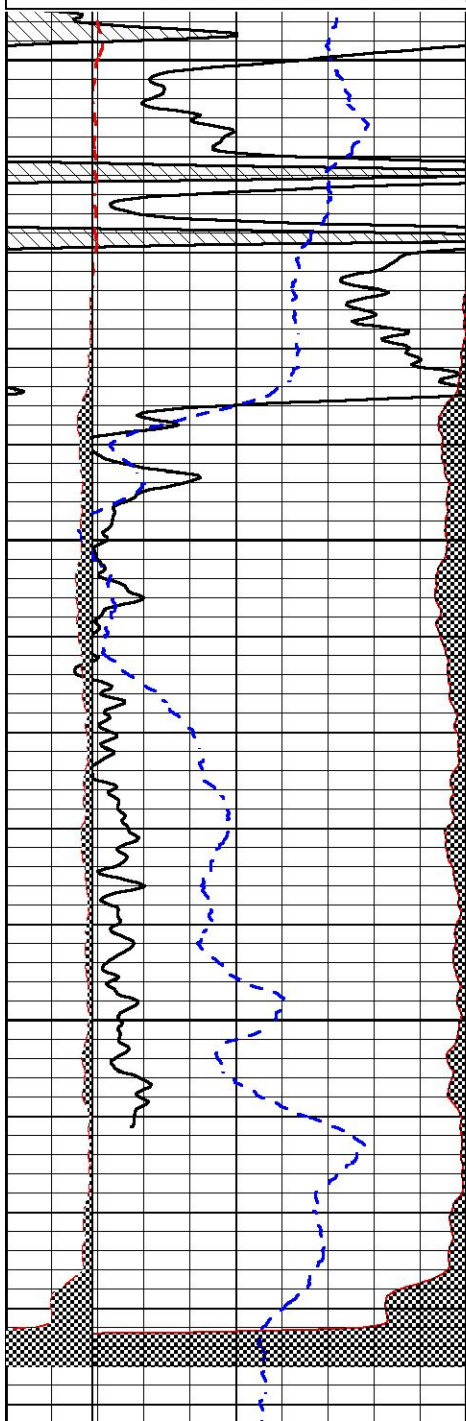
REPEAT SECTION

REPEAT PASS

Database File eopc_eck a #1.db
Dataset Pathname StkMI/pass2.1
Presentation Format _micro
Dataset Creation Wed Aug 03 12:18:06 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

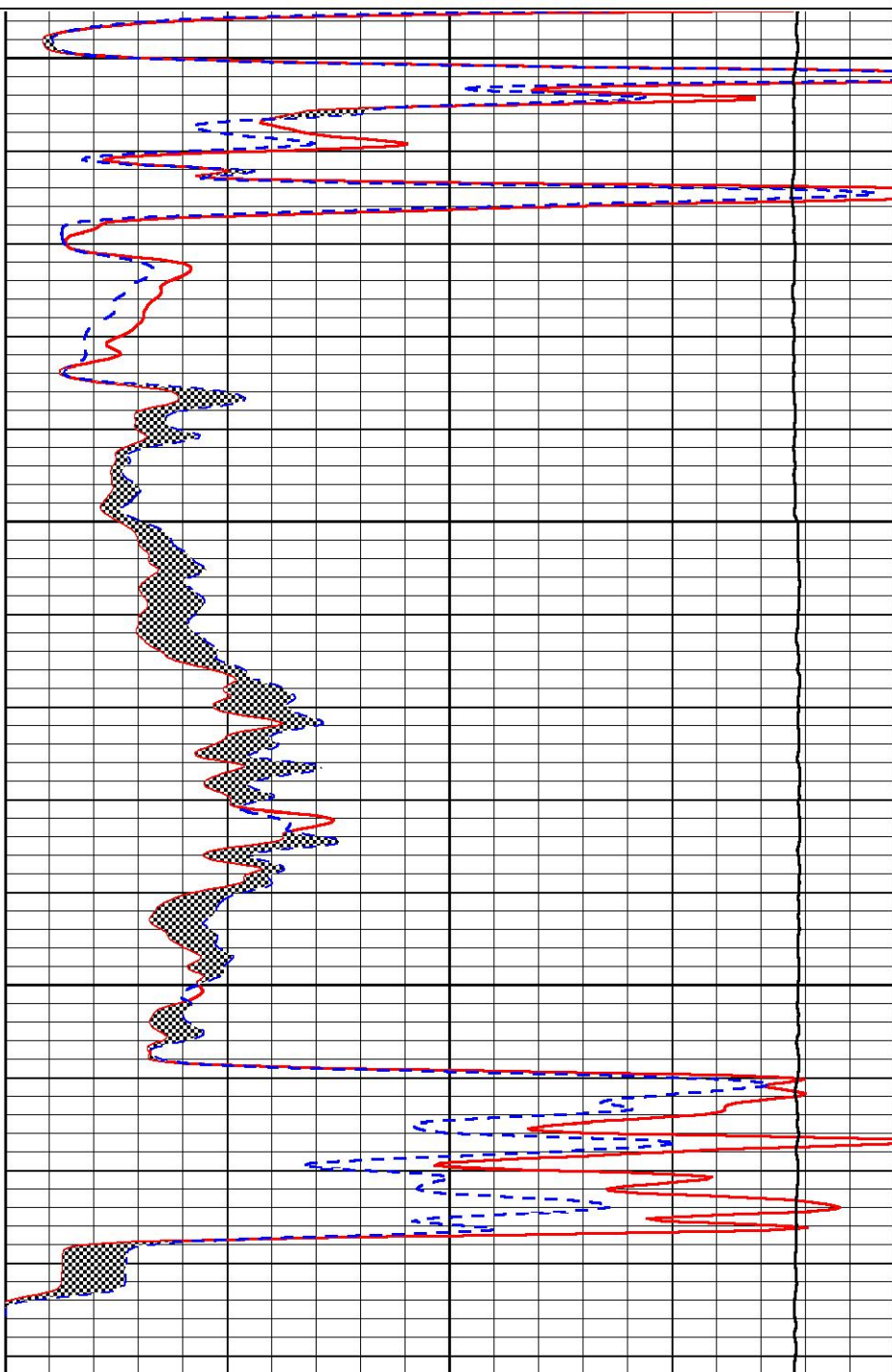
0 Micro Inverse 1 X 1 (Ohm-m) 40
0 Micro Normal 2" (Ohm-m) 40
10000 Line Weight (lb) 0



2400

2450

2500



Database File		eopc_eck a #1.db		Calibration Report			
Dataset Pathname		StkMI/pass3.1					
Dataset Creation		Wed Aug 03 12:46:21 2022					
Dual Induction Calibration Report							
Serial-Model:				507-M&W			
Surface Cal Performed:				Tue Jul 19 06:59:10 2022			
		Readings		References		Results	
Loop:	Air	Loop		Air	Loop	m	b
Deep	82.972	482.449		0.000	255.800	mmho/m	0.590
Medium	120.285	668.174		0.000	255.800	mmho/m	-35.130
							-61.500
Microlog Calibration Report							
Serial-Model:				402-PSIML			
Performed:				Sun Jul 17 13:11:21 2022			
		Readings		References		Results	
	Zero	Cal		Zero	Cal	m	b
Normal	0.0000	1.0000		0.0000	1.0000	Ohm-m	10000.0000
Inverse	0.0000	1.0000		0.0000	1.0000	Ohm-m	12000.0000
Caliper	1.0052	1.0858		5.0000	16.5000	in	65.0000
							-59.8000
Compensated Density Calibration Report							
Serial-Model:				302-02-M&W			
Source #:				20762B			
Master Calibration Performed:				Wed Jun 22 01:19:51 2022			
Master Calibration							
		Density		Far Detector		Near Detector	
Magnesium	1.755	g/cc		4422.04	6163.44	cps	
Aluminum	2.665	g/cc		835.14	3912.91	cps	
Spine Angle = 74.75				Density/Spine Ratio = 0.527			
		Size		Reading			
Small Ring	8.00	in		0.53			
Large Ring	30.00	in		0.60			
Compensated Neutron Calibration Report							

		Serial Number: Tool Model:		207-MW 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' #1
		Field	Hazlett
		County	Butler
		State	Kansas