MIDWEST WIRELINE

MICRORESISTIVITY LOG

Company The Bill Bowman Oil Company
Well Clark B #2
Field Hoxie East
County Sheridan
State Kansas

Location: API # : 15-179-21469-00-00
2400' FNL & 740" FEL
SEC 31 TWP 8S RGE 28W

Other Services
CNL/CDL
DIL

Permanent Datum	Ground Level	Elevation	2739'
Log Measured From	Kelly Bushing		
Drilling Measured From	Kelly Bushing		

Elevation	
K.B.	2744'
D.F.	N/A
G.L.	2739'

Date	9/20/2020			
Run Number	One			
Depth Driller	4126'			
Depth Logger	4124'			
Bottom Logged Interval	4123'			
Top Log Interval	3300'			
Casing Driller	8.625" @ 219'			
Casing Logger	219'			
Bit Size	7.875"			
Type Fluid in Hole	Chemical			
Salinity,ppm CL	800			
Density / Viscosity	8.7	41		
pH / Fluid Loss	9.5	6.0		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	0.60 @ 70			
Rmf @ Meas. Temp	0.45 @ 70			
Rmc @ Meas. Temp	0.81 @ 70			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	0.36 @ 117			
Operating Rig Time	3 Hours			
Max Rec. Temp. F	117			
Equipment Number	P-108			
Location	HAYS			
Recorded By	D. Schmidt			
Witnessed By	Jerry Green			

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Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Hoxie,
3 South to 30 Rd, 1 3/4 West,
South and West to location

Log Measured From: Kelly Bushing 5 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: Jerry Green
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (233-M&W)	3.00	3.50	50.00
GR	40.58					
CNLSC	37.48		CNT-M&W (207-MW)	5.50	3.50	100.00
CNSSC	36.73					
			CDL-M&W (817-947)	8.50	4.00	250.00
LSD	28.43					
DCAL	28.42					
SSD	27.93					
			ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3F	15.80					
RLL3	15.80					
			DIL-PSI HIGH TEMP (952-828)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					

Dataset: bowman_clark b 2.db: field/well/STKML/pass3.4
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\bowman_clark b 2.db
Dataset field/well/STKML/pass3.4/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	100	5.5	0	1	2	2.71

NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	235	0	Off	0

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

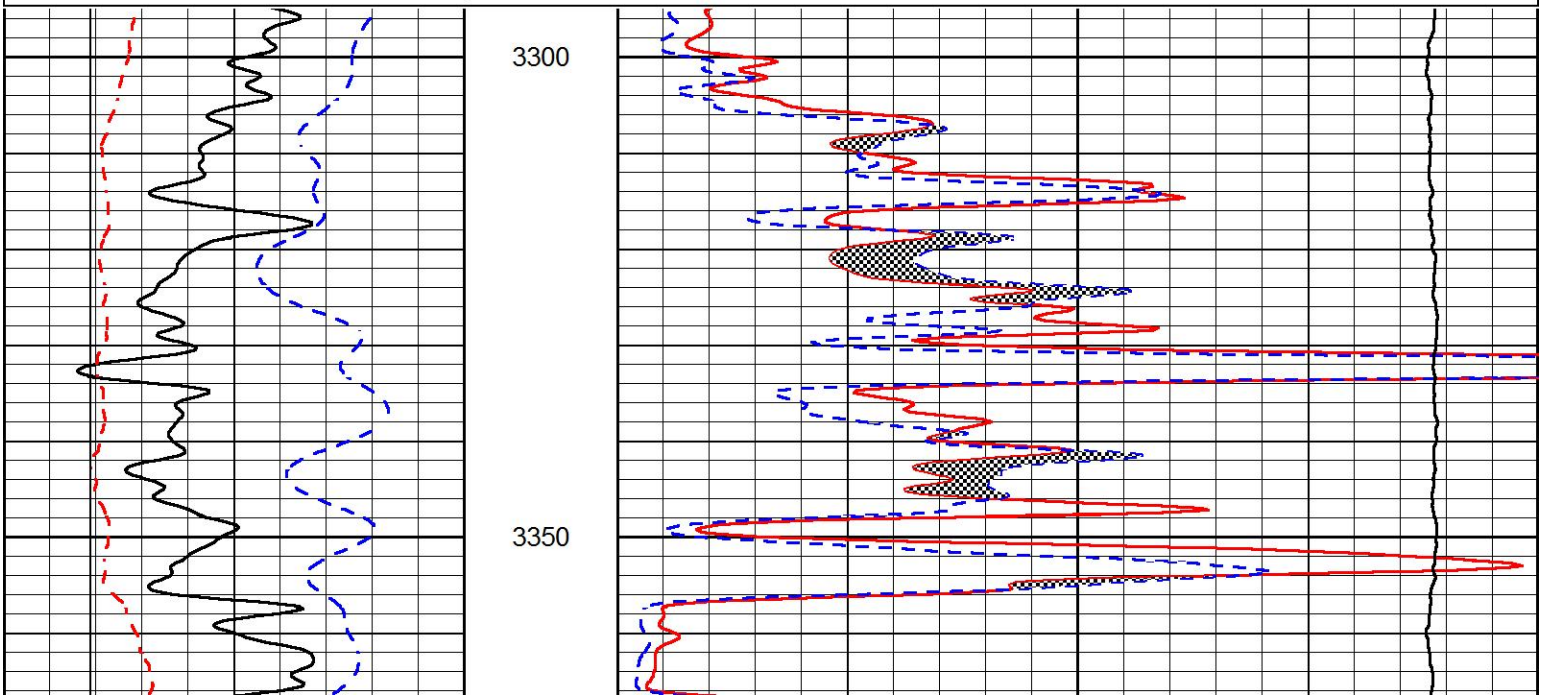
MIDWEST WIRELINE

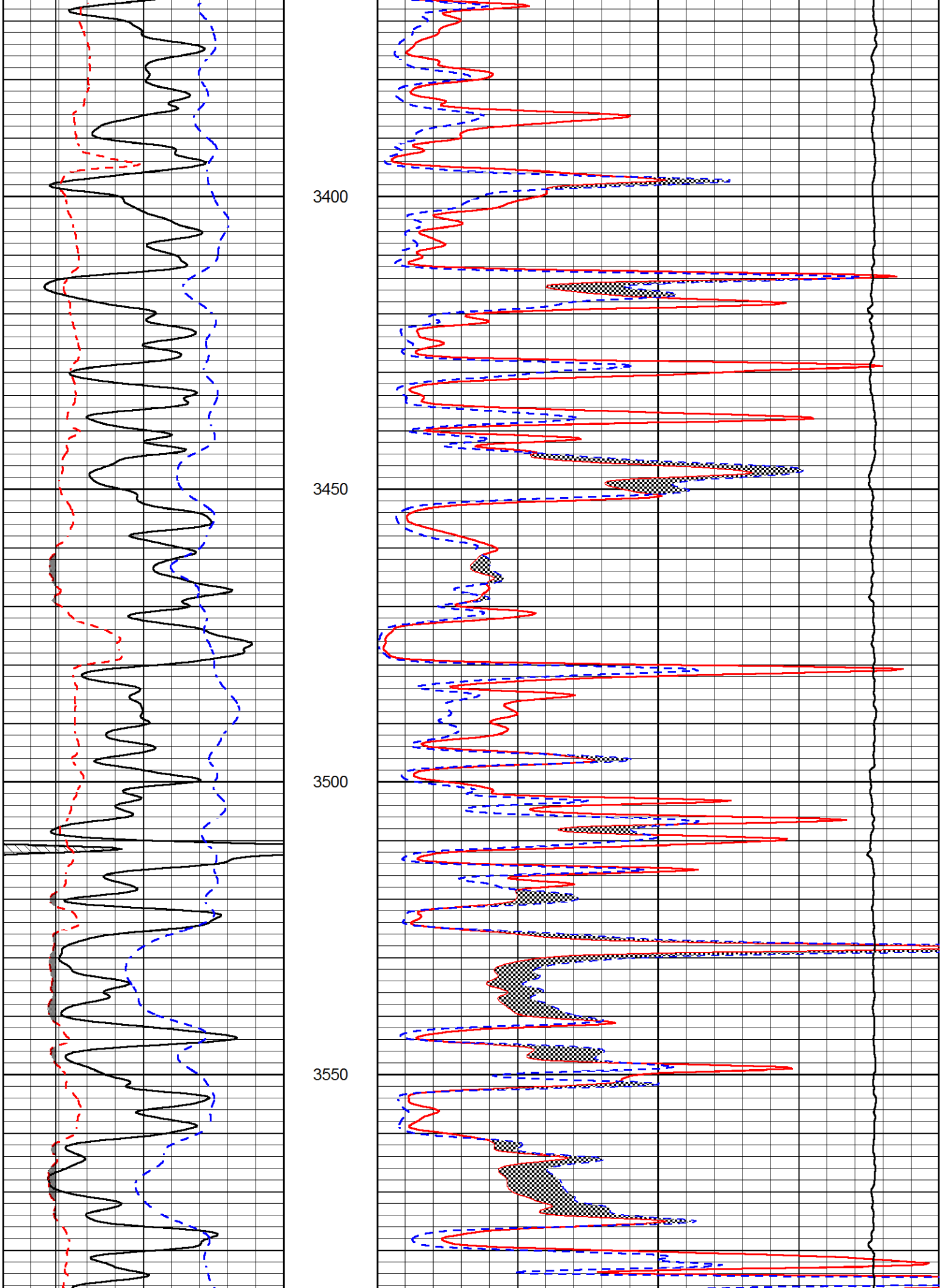
MAIN PASS

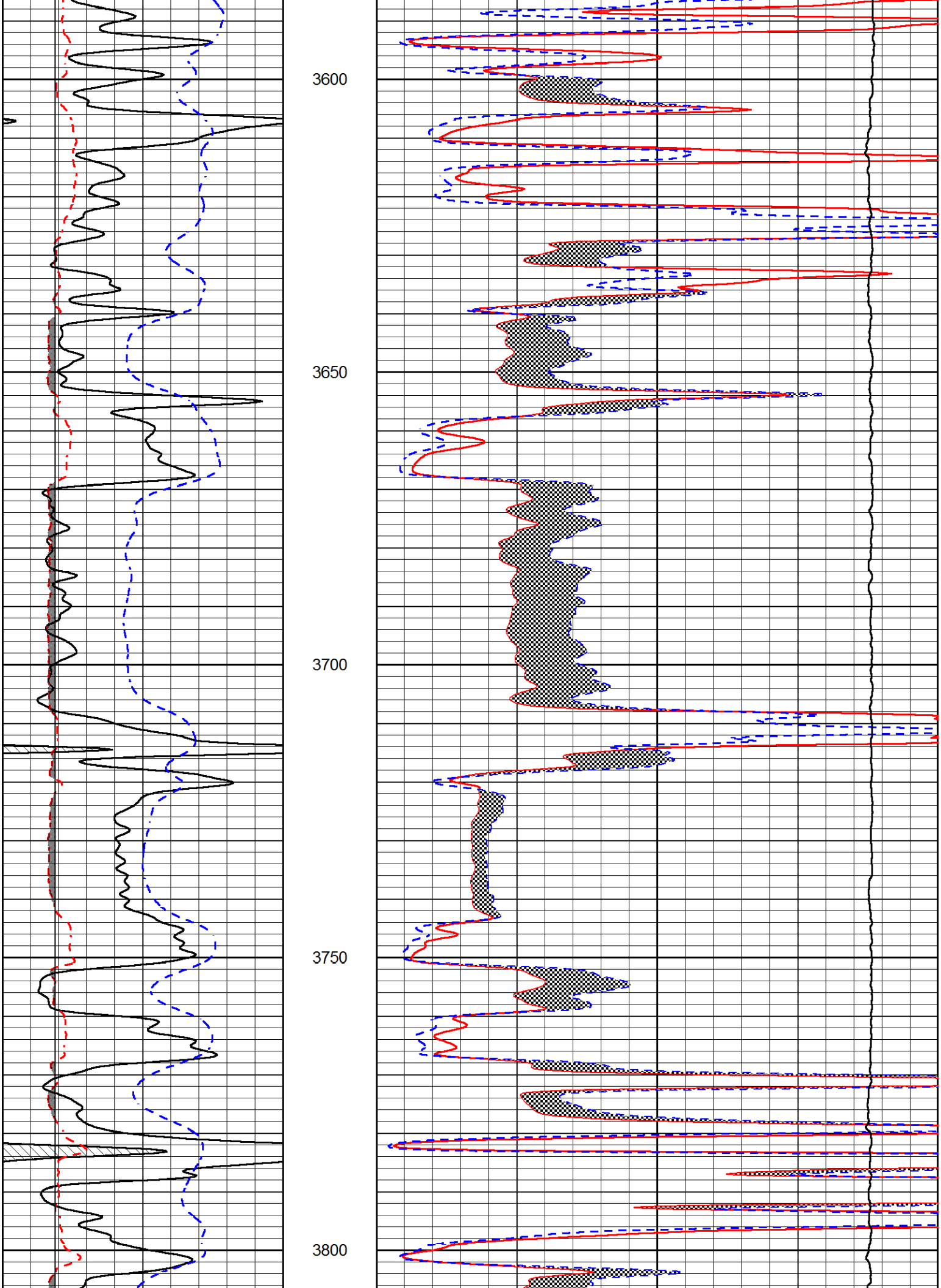
Database File	bowman_clark b 2.db
Dataset Pathname	STKML/pass3.1
Presentation Format	_micro
Dataset Creation	Sun Sep 20 23:14:57 2020
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
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




3400
3450
3500
3550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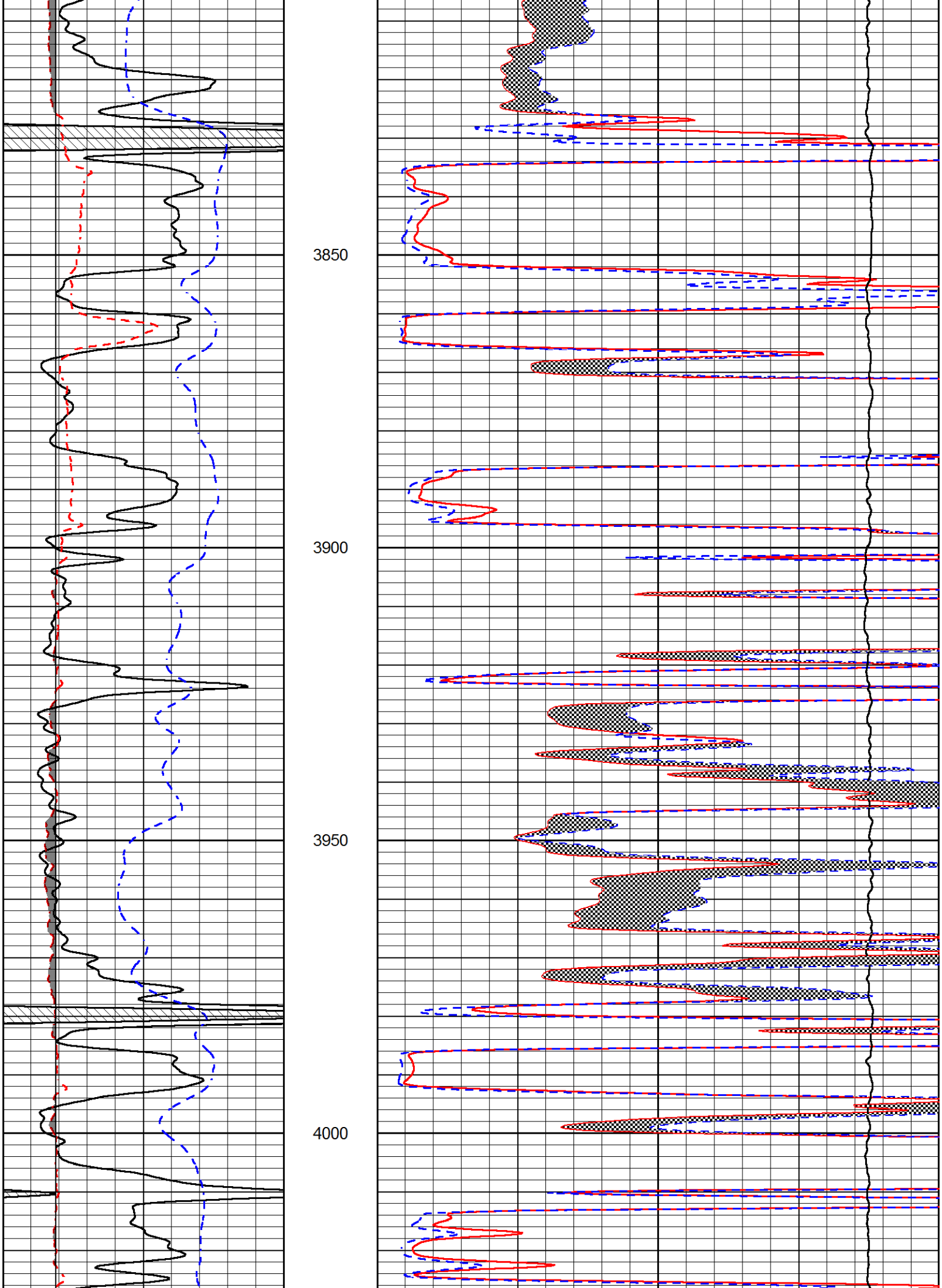
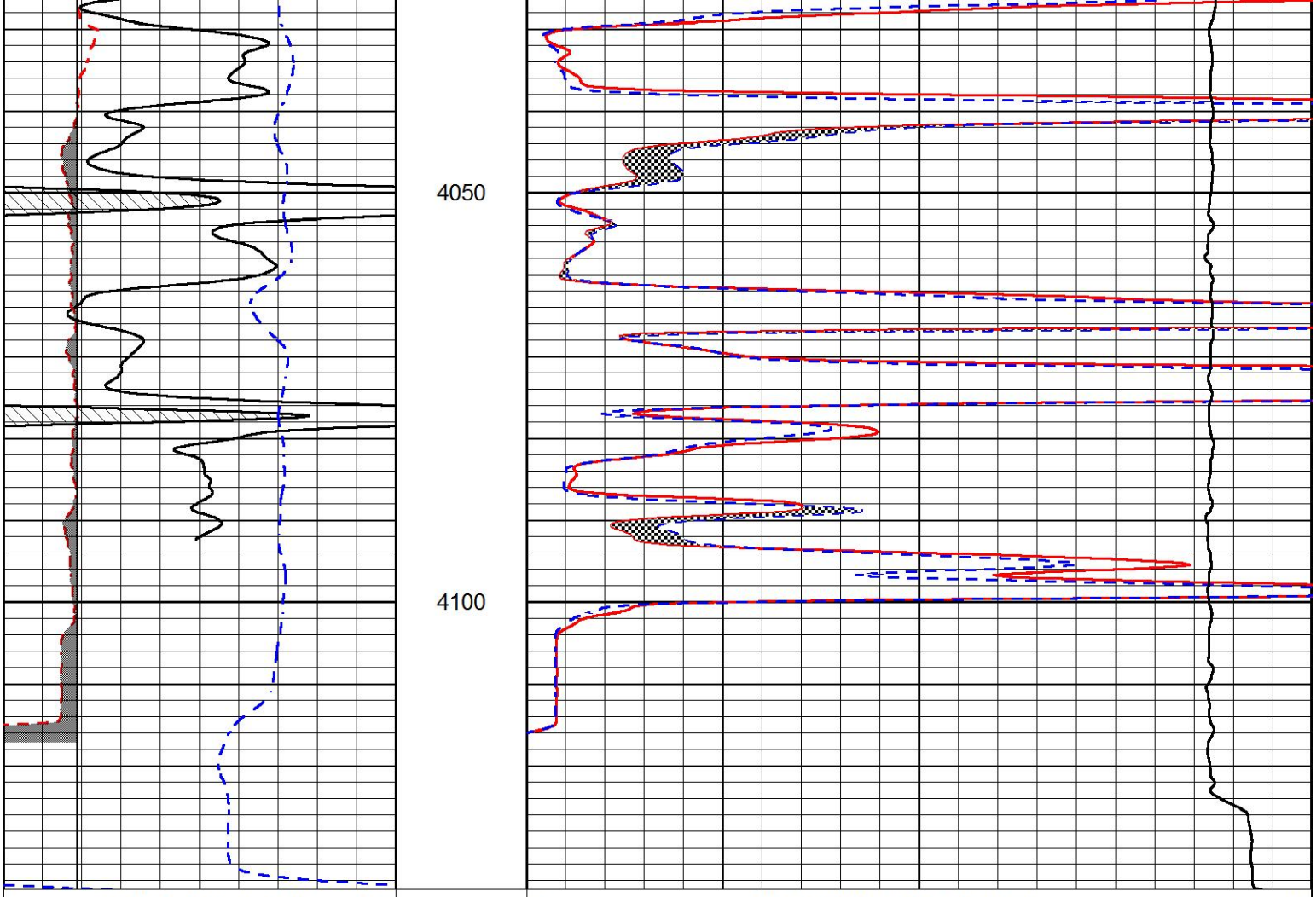
3650
3700
3750
3800


3850
3900
3950
4000



0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
6	Bit Size (in)	16
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10000	Line Weight (lb)	0

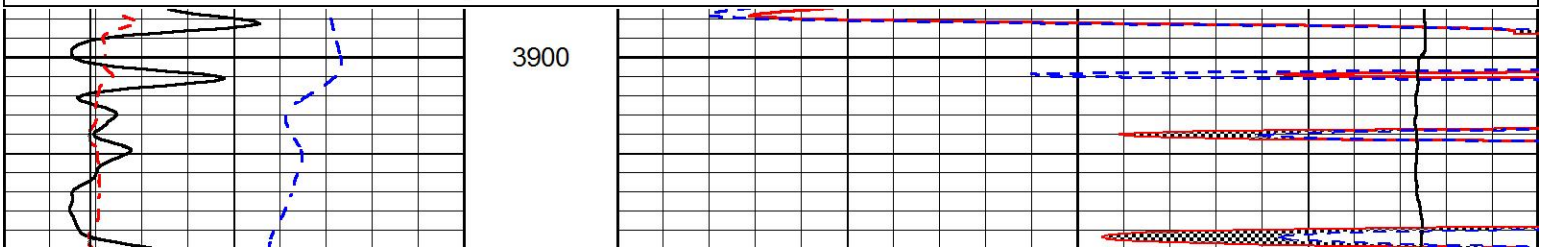
MIDWEST WIRELINE

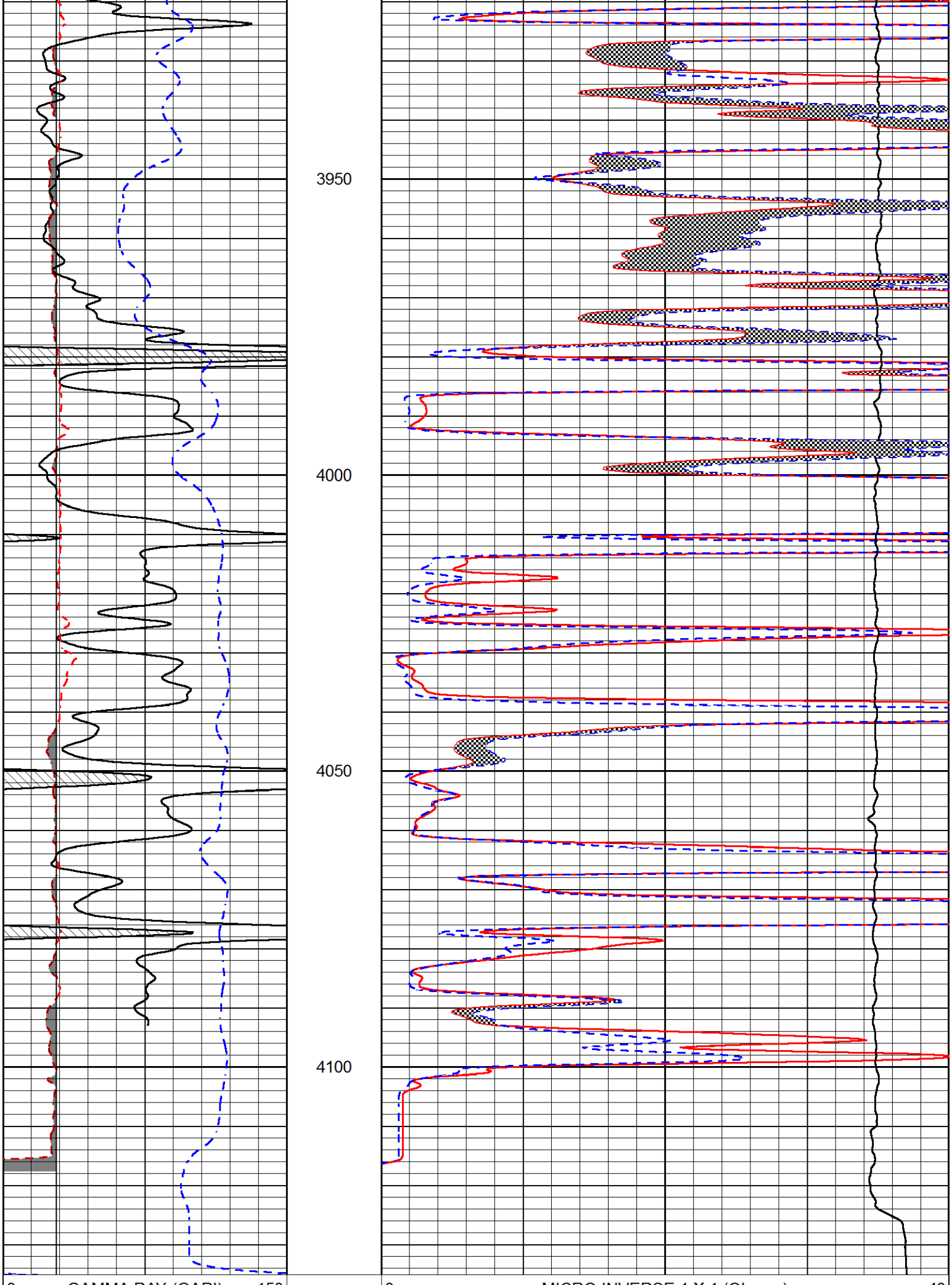
REPEAT SECTION

Database File	bowman_clark b 2.db
Dataset Pathname	STKML/pass2.1
Presentation Format	_micro
Dataset Creation	Sun Sep 20 22:49:19 2020
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
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




3950
4000
4050
4100
0
GAMMA RAY (GAPI)
150
0
MICRO INVERSE 1 X 1 (Ohm-m)
40

6	MCAL (in)	16
6	Bit Size (in)	16
-200	sp (mV)	0

0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0

Calibration Report

Database File bowman_clark b 2.db
Dataset Pathname STKML/pass3.4
Dataset Creation Sun Sep 20 22:43:11 2020

Dual Induction Calibration Report

Serial-Model: 952-828-PSI HIGH TEMP
Calibration Performed: Sun Jun 28 08:39:24 2020

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.455	-32.000
Medium	0.000	1348.000	142.000	255.000	mmho/m	0.325	-28.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
Performed: Tue Jun 16 01:32:04 2020

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	11000.0000	-1.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	12000.0000	-1.3000
Caliper	1.0033	1.0841	5.0000	16.5000	in	142.3500	-138.6000

Compensated Density Calibration Report

Serial-Model: 817-947-M&W
Source / Verifier: 16955B / 2ci
Master Calibration Performed: Sun Sep 20 22:09:47 2020

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6127.15	5922.31	cps
Aluminum	2.670	g/cc	1141.85	3762.09	cps

Spine Angle = 74.89

Density/Spine Ratio = 0.526

	Size		Reading
Small Ring	4.50	in	1.02
Large Ring	14.50	in	1.23

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: WED FEB 13 10:30:30 2019

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:	233-M&W	
Tool Model:	M&W	
Calibration Performed:	Sun Sep 20 22:10:24 2020	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5500	GAPI/cps