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MICRORESISTIVITY LOG

Company MURFIN DRILLING COMPANY, INC.
Well BANISTER 'A' #3-22
Field WILDCAT
County CHEYENNE State KANSAS

Location: API #: 15-023-21515-00-00
2310' FSL & 330' FWL
SEC 22 TWP 2S RGE 37W

Other Services
CNL/CDL
DIL/BHCS

Elevation
K.B. 3416'
D.F. N/A
G.L. 3411'

Permanent Datum GROUND LEVEL Elevation 3411'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Date	5/28/2019			
Run Number	TWO			
Depth Driller	4950'			
Depth Logger	4950'			
Bottom Logged Interval	4949'			
Top Log Interval	4000'			
Casing Driller	8.625" @ 373'			
Casing Logger	268'			
Bit Size	7.875"			
Type Fluid in Hole	CHEMICAL			
Salinity,ppm CL	600			
Density / Viscosity	9.0	52		
pH / Fluid Loss	11.5	6.4		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	.90 @ 75			
Rmf @ Meas. Temp	.68 @ 75			
Rmc @ Meas. Temp	1.22 @ 75			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	.54 @ 126			
Operating Rig Time	5 HOURS			
Max Rec. Temp. F	126 DEG/F			
Equipment Number	P-108			
Location	HAYS			
Recorded By	J. HENRICKSON			
Witnessed By	ROBERT HENDRIX			

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, 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.

BIRD CITY KANSAS
EAST TO 32 ROAD, 7 NORTH, EAST INTO @ TANKS

Log Measured From: KELLY BUSHING 5 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneeres.com 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: ROBERT HENDRIX
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

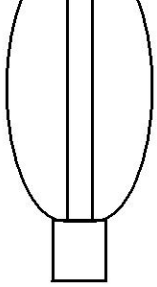
DatabaseC:\ProgramData\Warrior\Data\murfin_banister_a_3_22.db
Dataset field/well/stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	126	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	150	43	Off	4950

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			ML-Armadillo (Armadillo-1) Pengo micro log tool mandrel with Armadillo Electronics	5.00	3.50	100.00
MCAL	22.50					
MI	22.50					
MN	22.50					
WVF4	13.50		SLT-PENGO (0001)	16.00	3.50	300.00
WVF1	13.50					
WVF3	11.50					
WVF2	11.50					



CENT-PENGO	5.50	3.00	70.00

Dataset: murfin_banister_a_3_22.db: field/well/SONMEL/pass2
Total length: 26.50 ft
Total weight: 470.00 lb
O.D.: 3.50 in

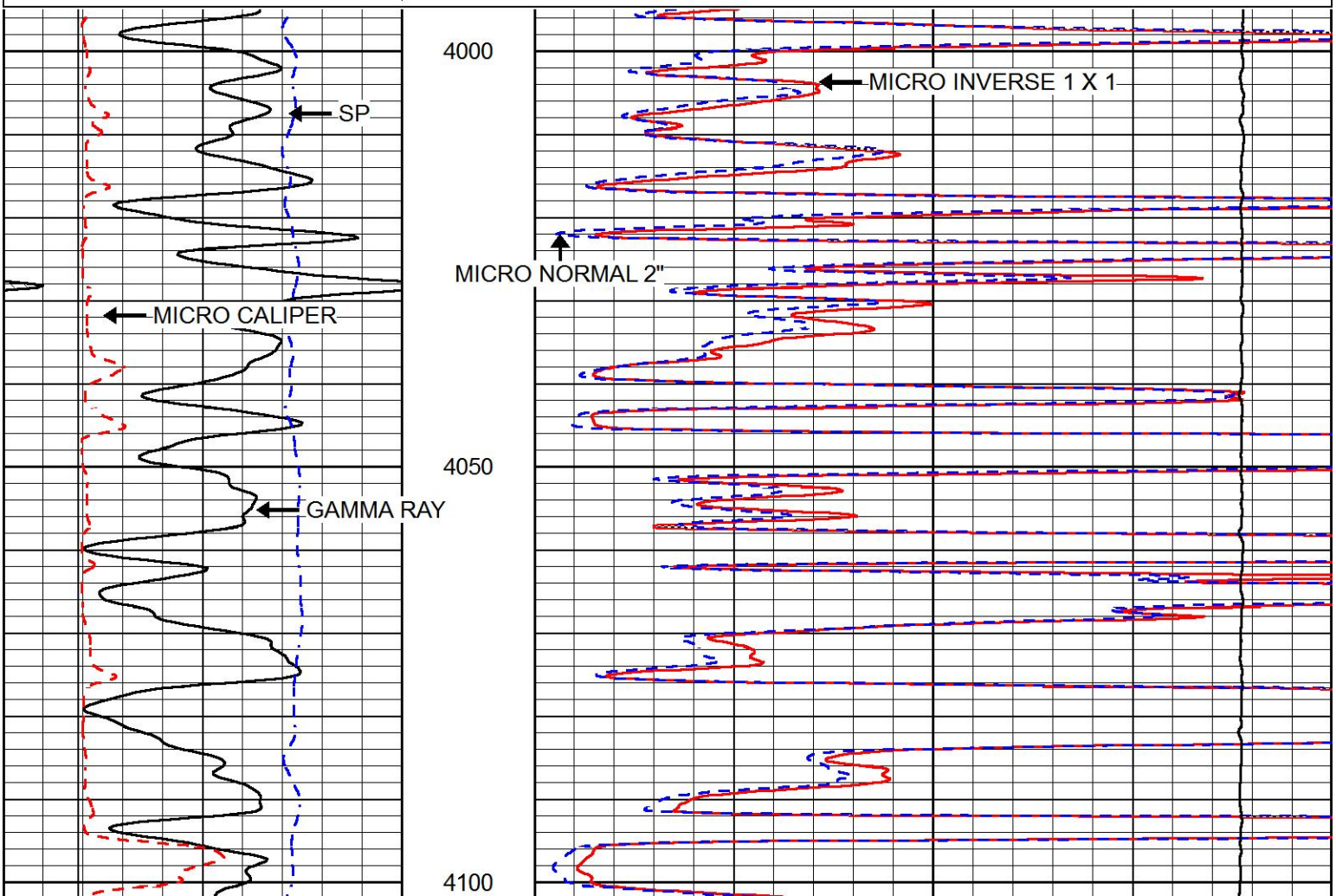
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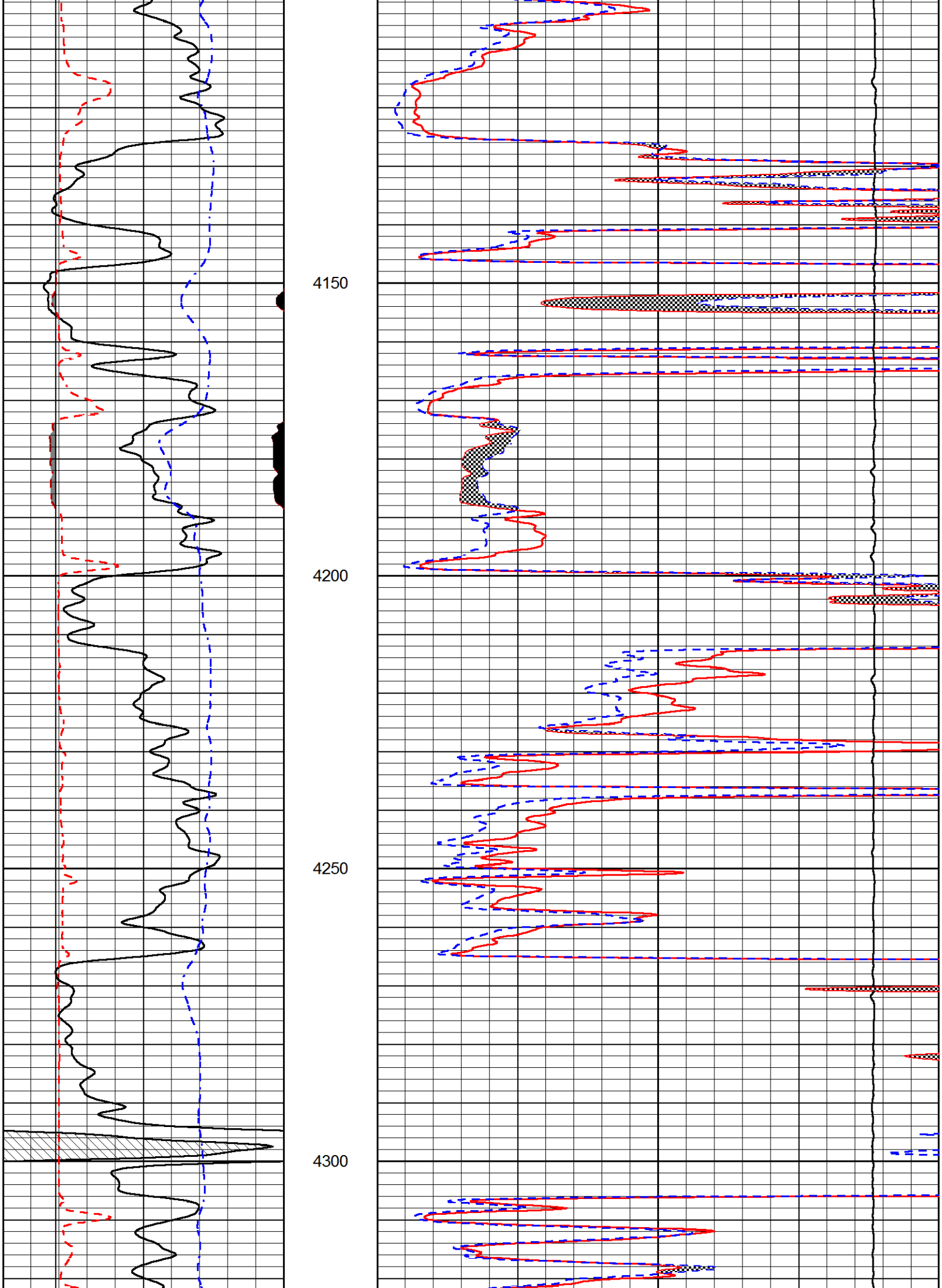
MAIN PASS

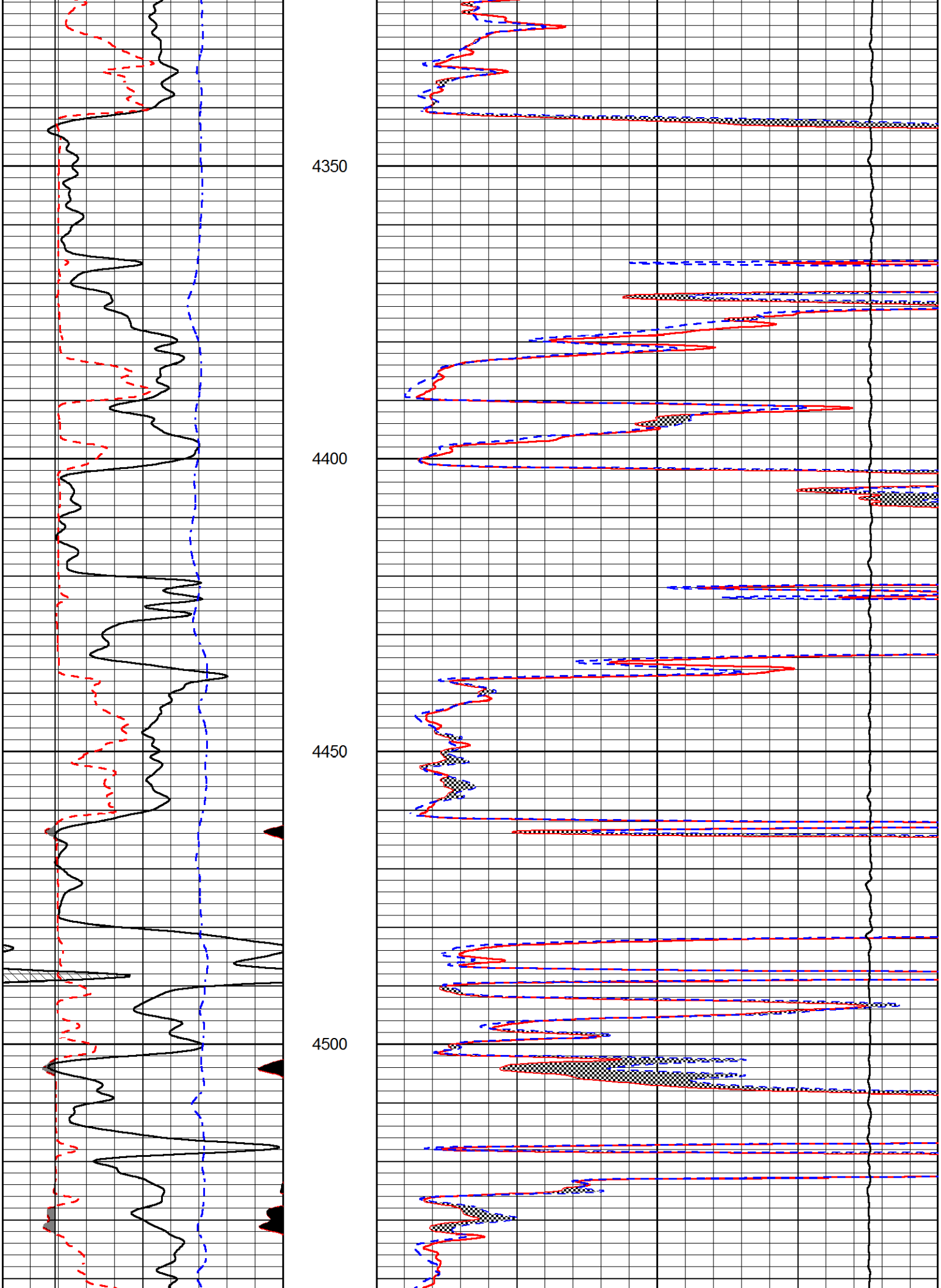
Database File	murfin_banister_a_3_22.db
Dataset Pathname	stack/pass3.1
Presentation Format	micro
Dataset Creation	Tue May 28 12:35:47 2019
Charted by	Depth in Feet scaled 1:240

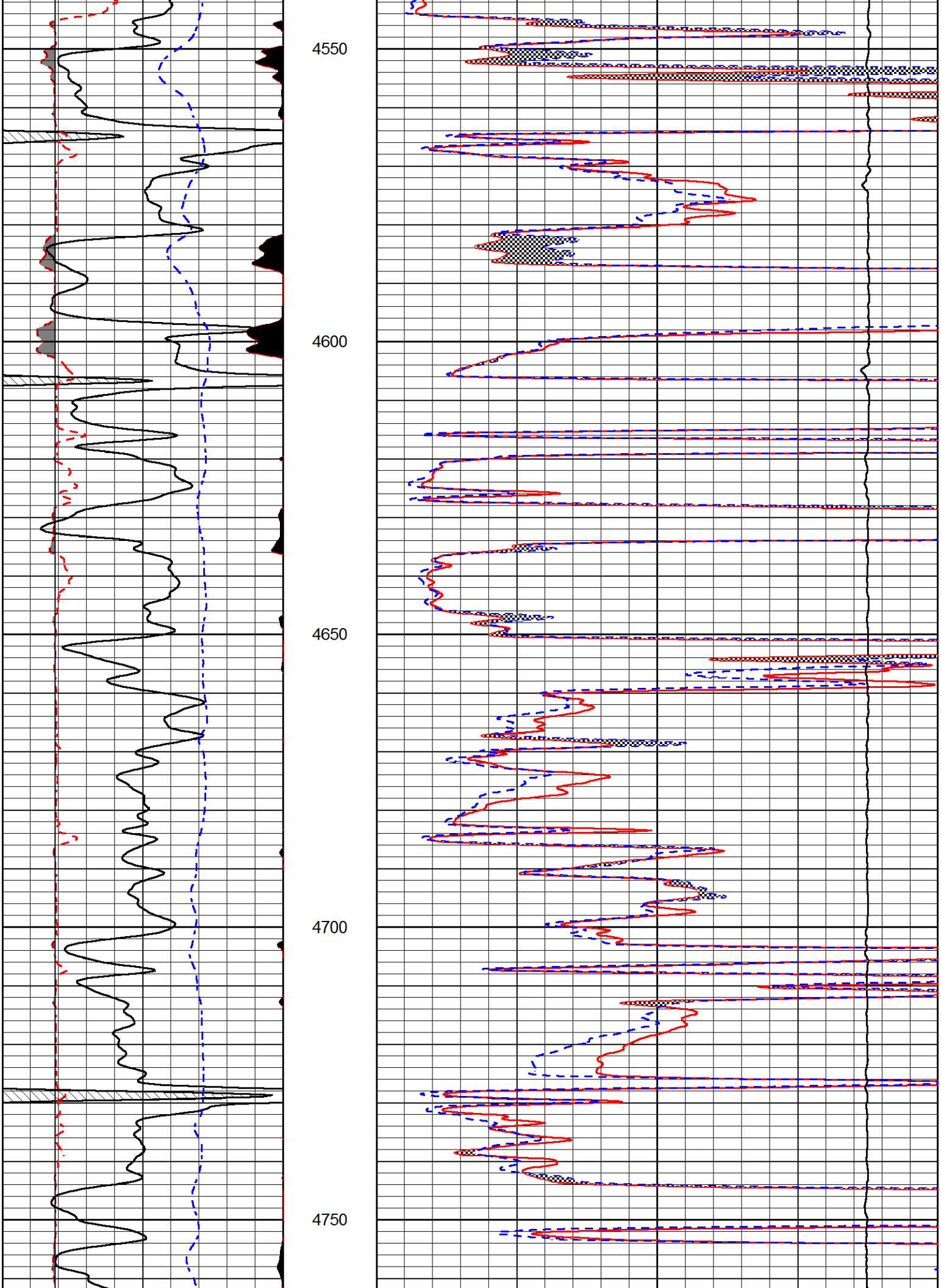
0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

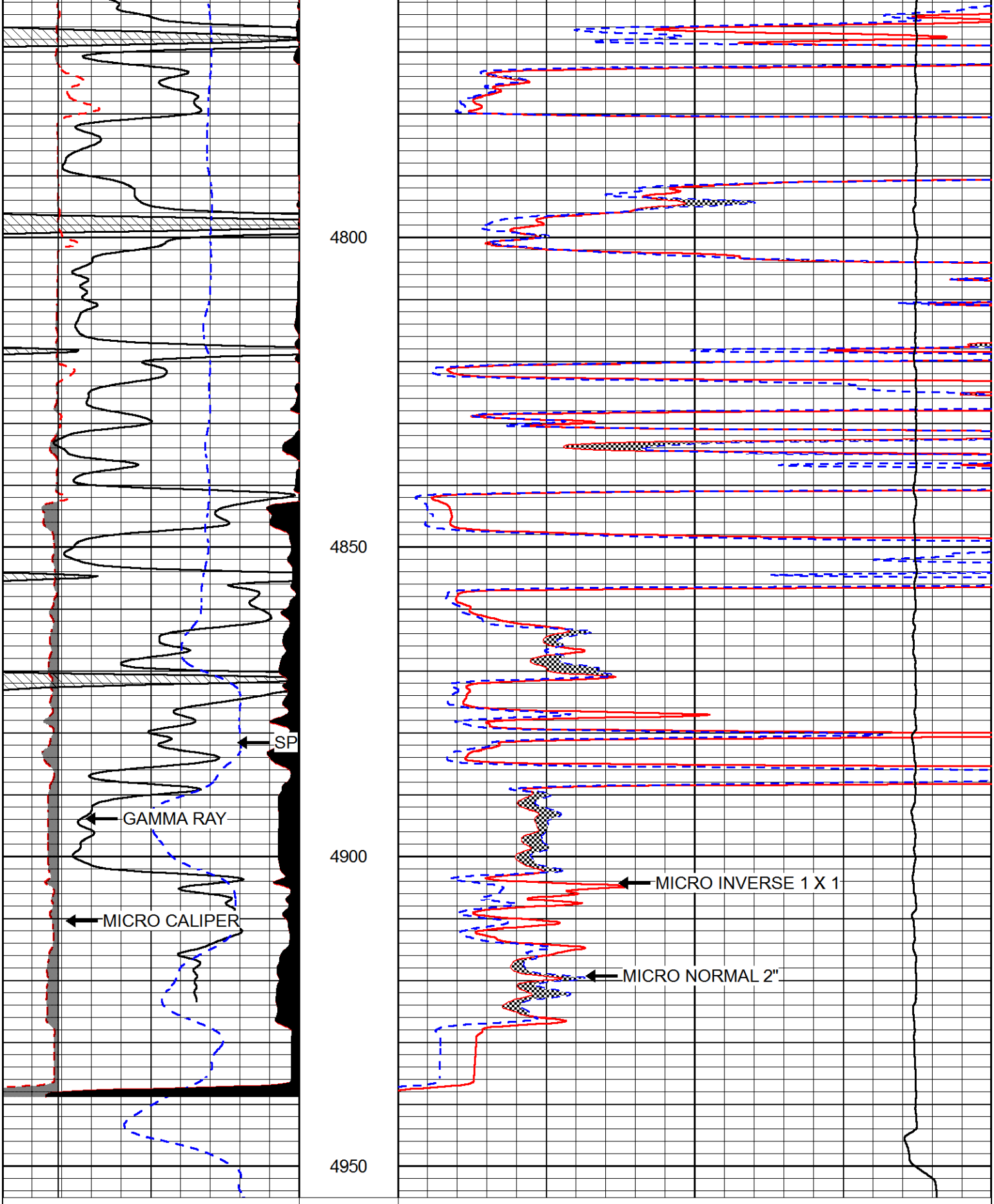
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0




4150
4200
4250
4300


4350
4400
4450
4500


4550
4600
4650
4700
4750



0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (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
15000	LINE TENSION (lb)	0

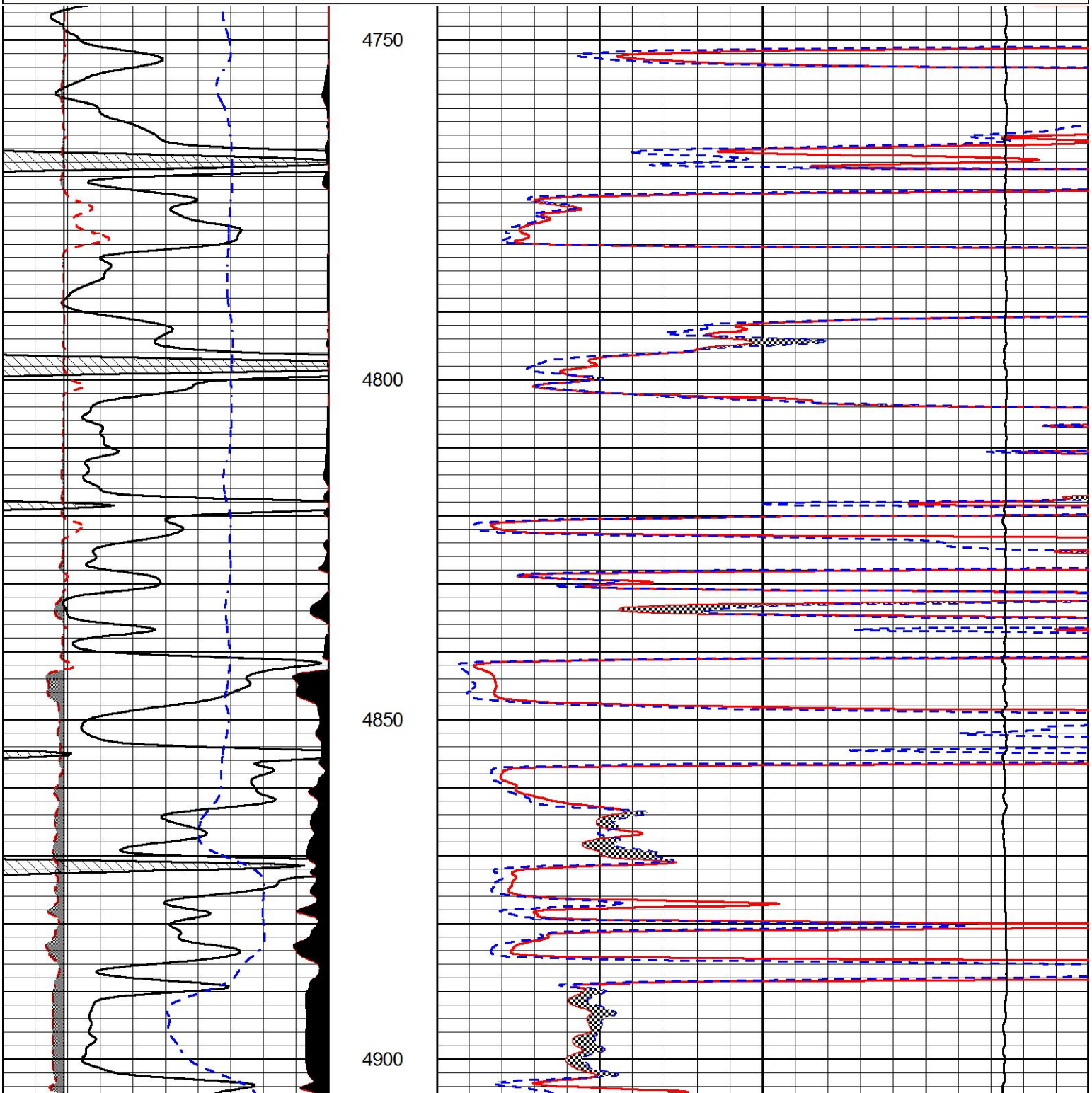
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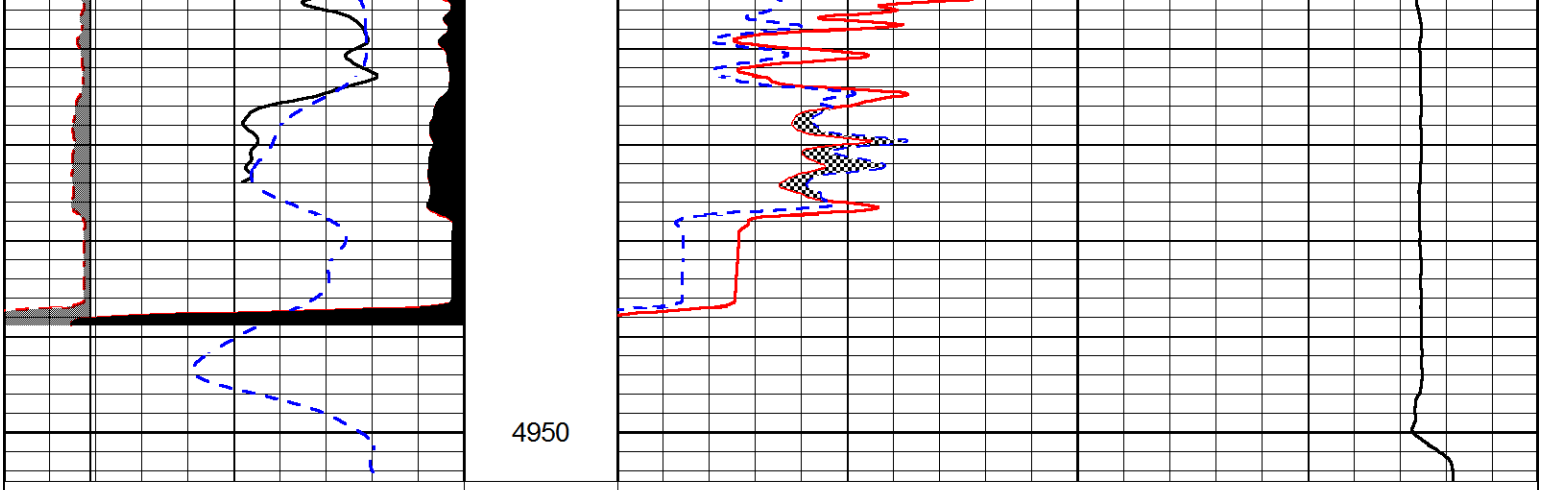
REPEAT SECTION

Database File	murfin_banister_a_3_22.db
Dataset Pathname	stack/pass2.1
Presentation Format	micro
Dataset Creation	Tue May 28 12:04:01 2019
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (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
15000	LINE TENSION (lb)	0





0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (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
15000	LINE TENSION (lb)	0

Calibration Report

Database File	murfin_banister_a_3_22.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Tue May 28 12:35:47 2019

Dual Induction Calibration Report

Serial-Model:	PSI 988-M&W
Calibration Performed:	Tue Nov 20 10:50:19 2018

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.525	-44.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-17.000

Compensated Density Calibration Report

Serial-Model:	144-84-M&W
Source / Verifier:	/
Master Calibration Performed:	Mon Jan 07 15:00:31 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4315.49	5309.89	cps
Aluminum	2.675	g/cc	825.26	3443.46	cps

Spine Angle = 75.33

Density/Spine Ratio = 0.538

	Size		Reading
Small Ring	4.00	in	0.69
Large Ring	14.00	in	0.04

Compensated Neutron Calibration Report

Serial Number:	tk10-MW
Tool Model:	M&W
Calibration Performed:	Wed Nov 16 11:21:36 2016

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:	89-M&W	
Tool Model:	M&W	
Calibration Performed:	Tue Apr 11 17:08:01 2017	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

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