



MIDWEST WIRELINE

MICRORESISTIVITY LOG

Company Murfin Drilling Company, Inc.
 Well Rusco-Davis #4-1
 Field Star Southwest
 County Ellis
 State Kansas

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Location: API #: 15-051-27025-00-00
 1000 FNL & 2250 FWL
 SEC 1 TWP 12S RGE 20W
 Permanent Datum Ground Level Elevation 2045
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing
 Other Services
 CNL/CDL
 DIL/BHCS
 Elevation
 K.B. 2050
 D.F.
 G.L. 2045

Date	2/13/2022
Run Number	One
Depth Driller	3700
Depth Logger	3700
Bottom Logged Interval	3699
Top Log Interval	2900
Casing Driller	8:625 @ 262
Casing Logger	260
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	4500
Density / Viscosity	9.3 54
pH / Fluid Loss	10.0 6.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.65 @ 76
Rmt @ Meas. Temp	.49 @ 76
Rmc @ Meas. Temp	.88 @ 76
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.44 @ 113
Operating Rig Time	5 Hours
Max Rec. Temp. F	113
Equipment Number	P-108
Location	HAYS
Recorded By	J. Henrickson
Witnessed By	Jeff Lawler

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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.

Ellis Kansas
North to Homestead, 2 1/2 East,
South Into

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

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

Your Midwest Wireline Crew

Engineer: J. Henrickson
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Jeff Lawler
Secondary Witness:
Secondary Witness:
Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfir_rusco_davis_4_1.db
 Dataset field/well/stackml/pass4.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	113	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	380	50	Off	3700

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33		GR-M&W (103)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48		CNT-M&W (210)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (303-03)	8.50	4.00	250.00
ML-PSI STKBL ML (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 (504 HT)	18.25	3.50	220.00

CILM 4.50

SP 0.20

Dataset: murfin_rusco_davis_4_1.db: field/well/stackml/pass4.1
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in



MIDWEST WIRELINE

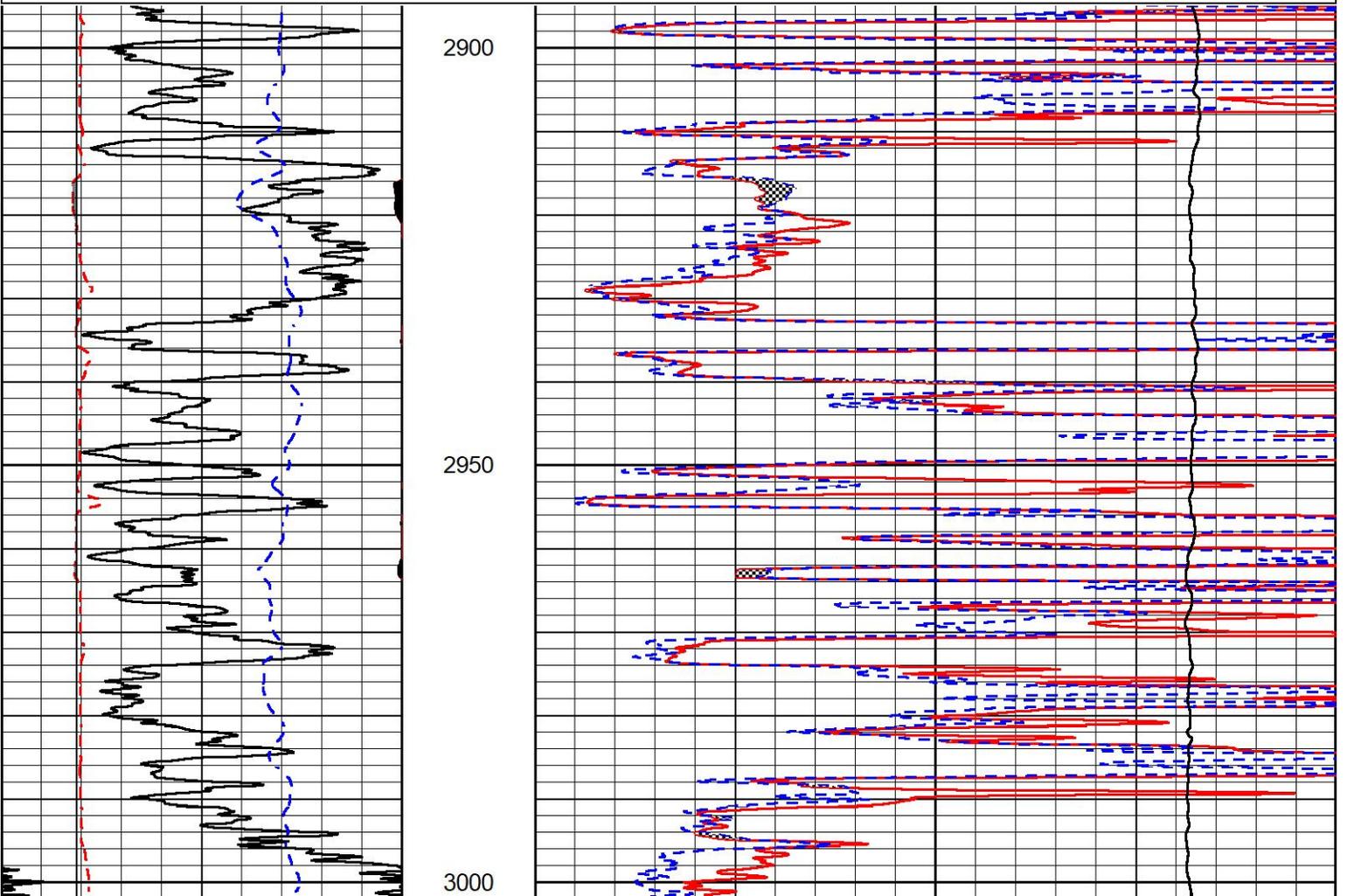
DETAIL SECTION

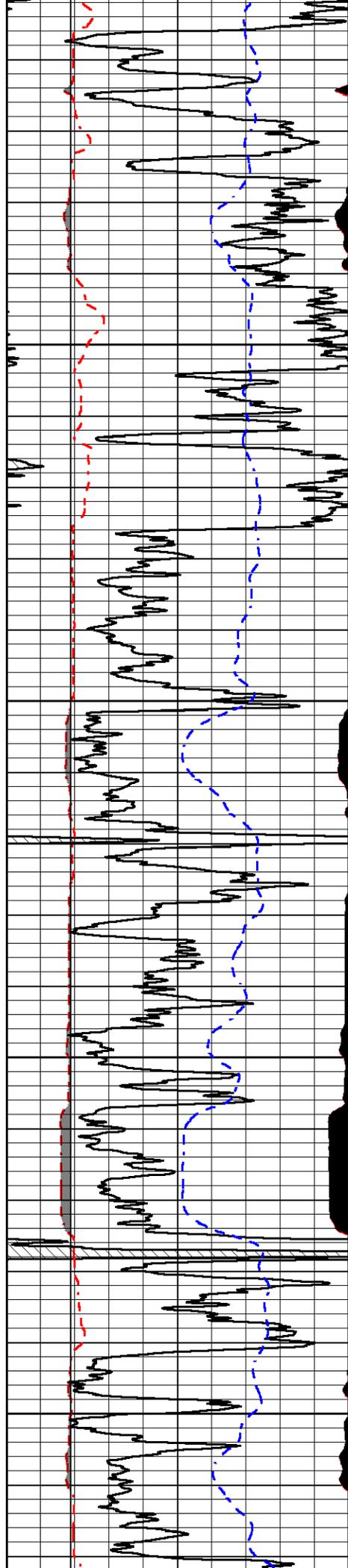
MAIN PASS

Database File murfin_rusco_davis_4_1.db
 Dataset Pathname stackml/pass4.1
 Presentation Format _micro
 Dataset Creation Sun Feb 13 11:08:51 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



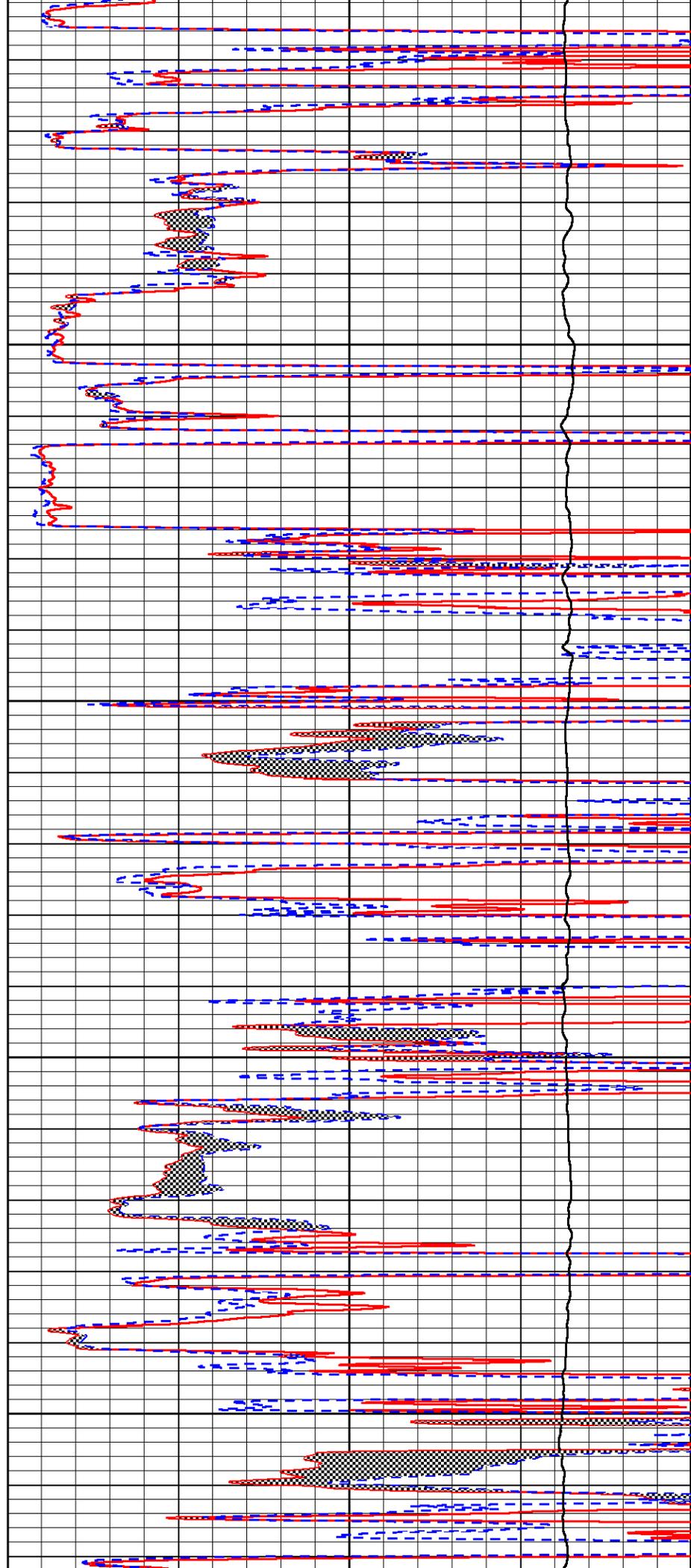


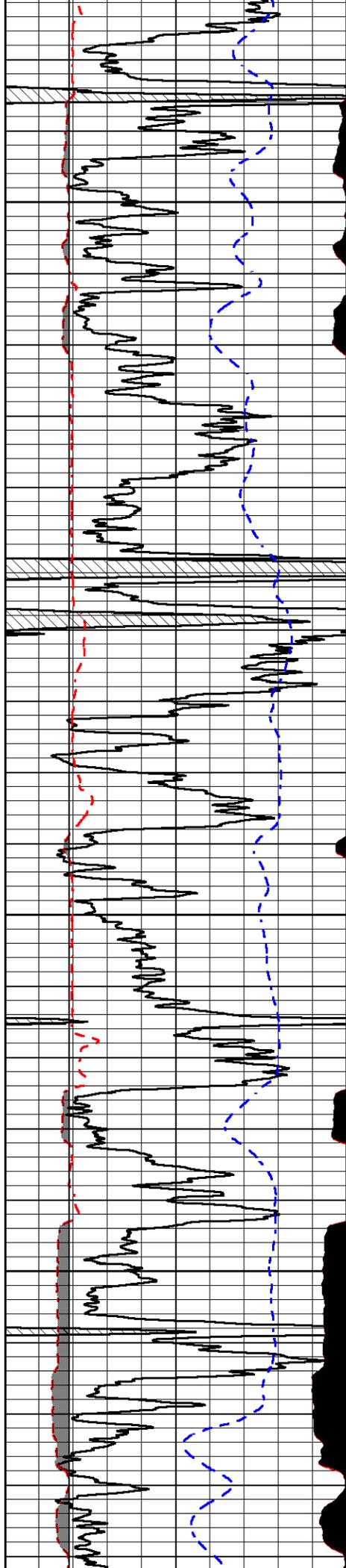
3050

3100

3150

3200



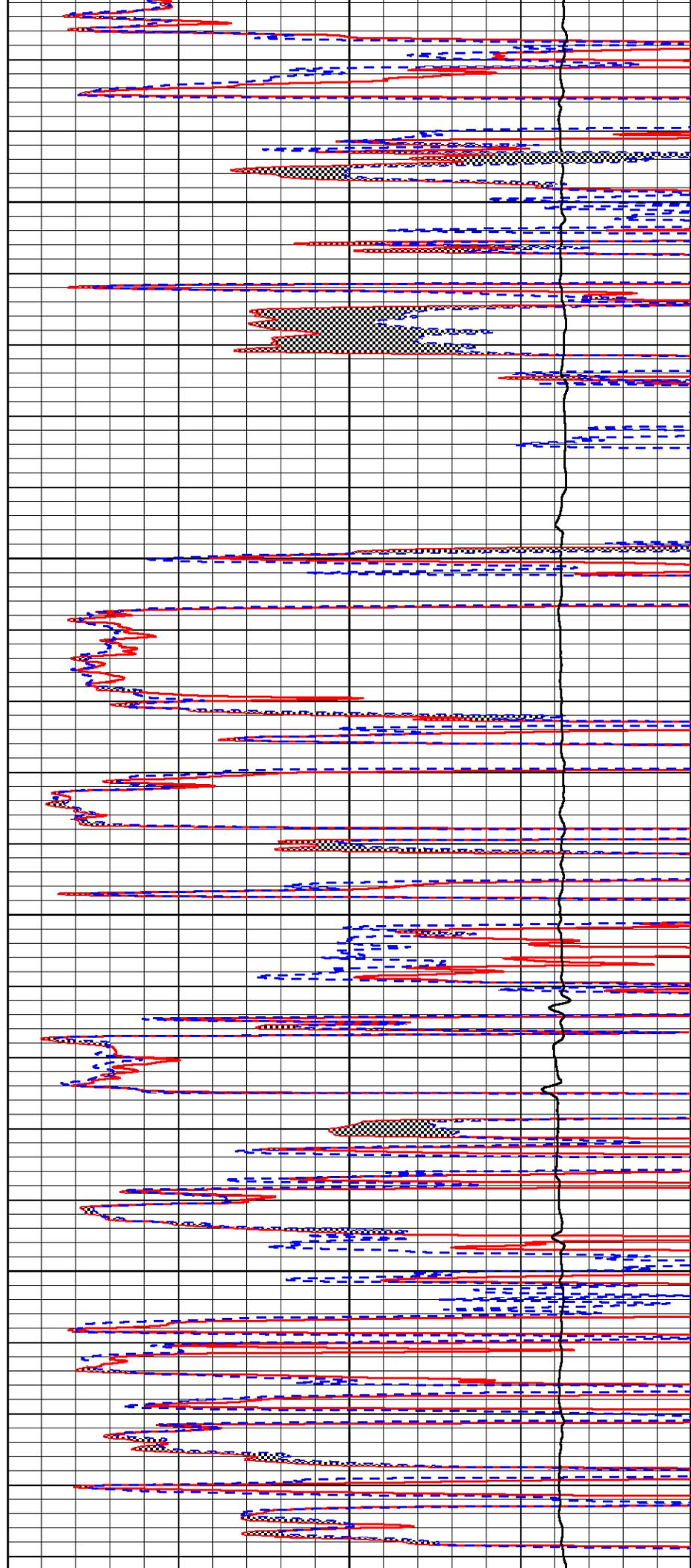


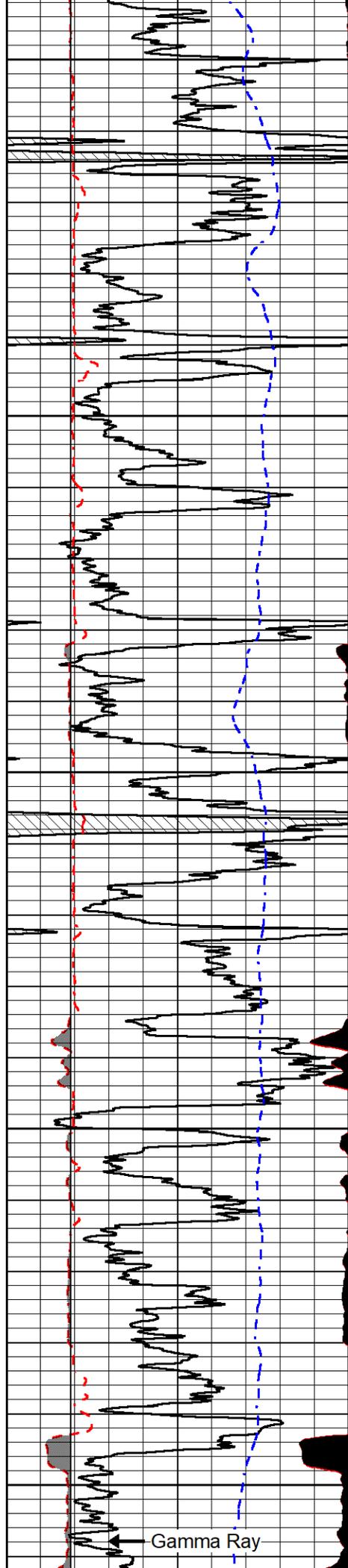
3250

3300

3350

3400





3450

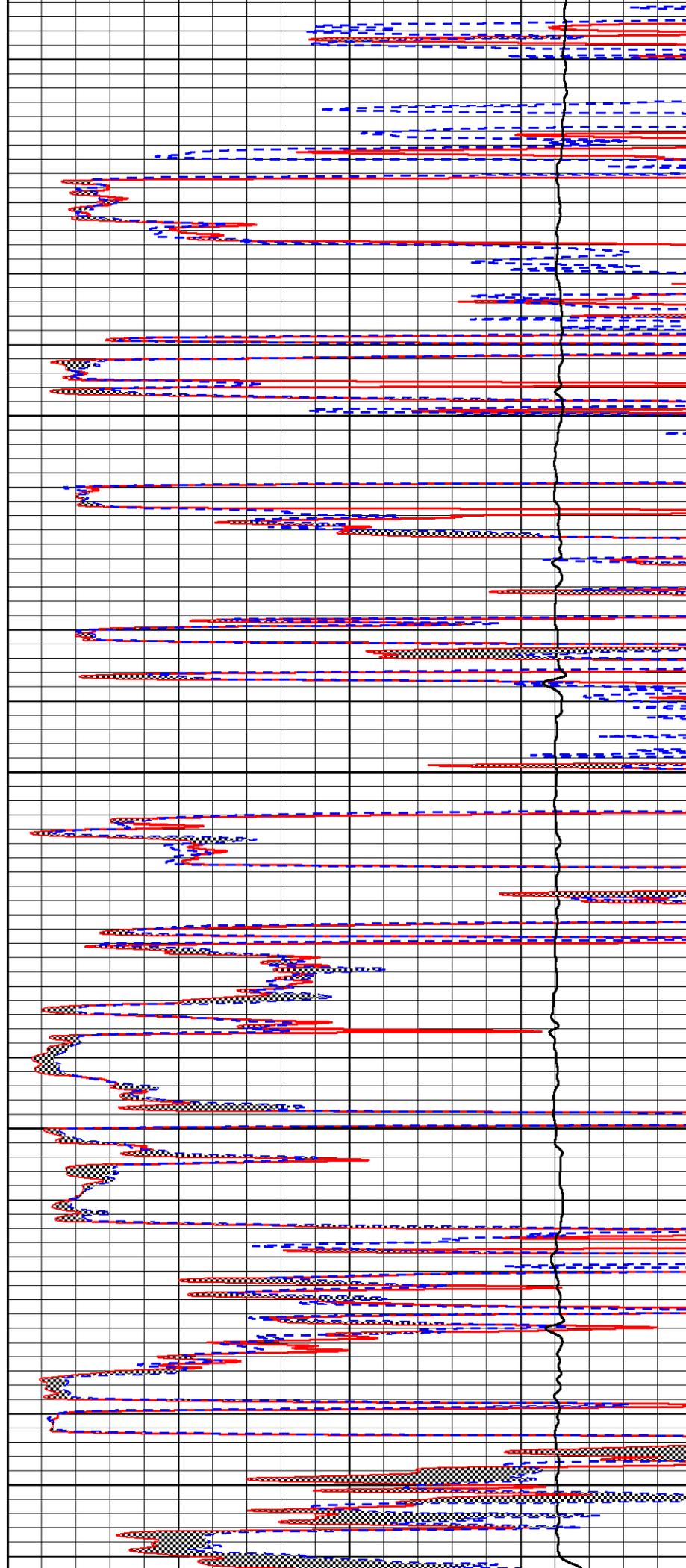
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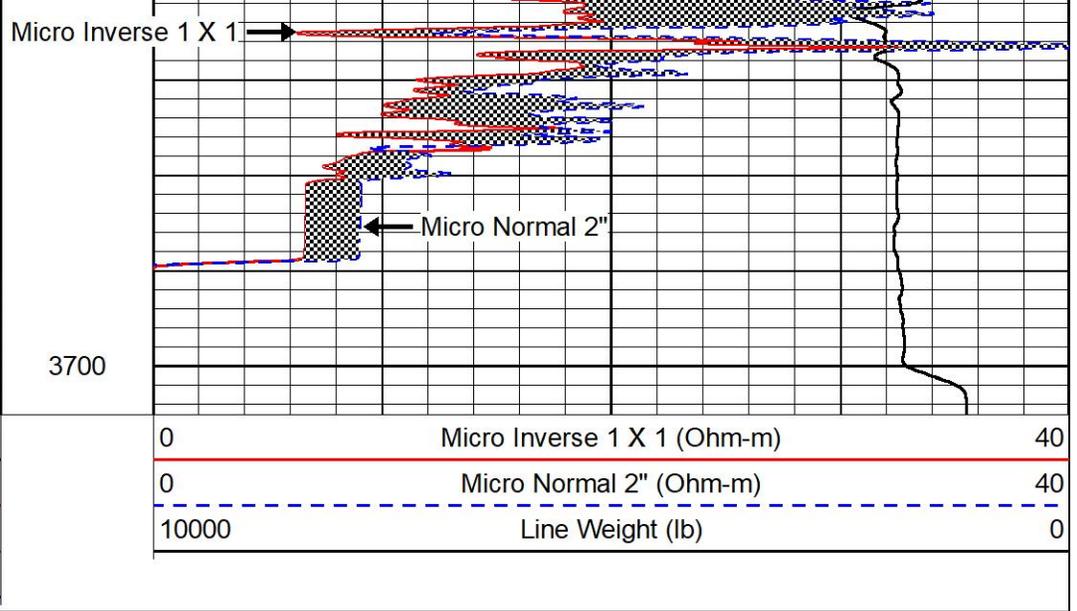
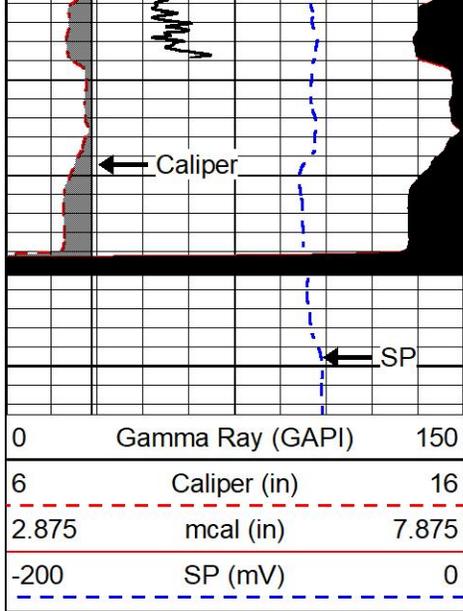
3550

3600

3650

Gamma Ray

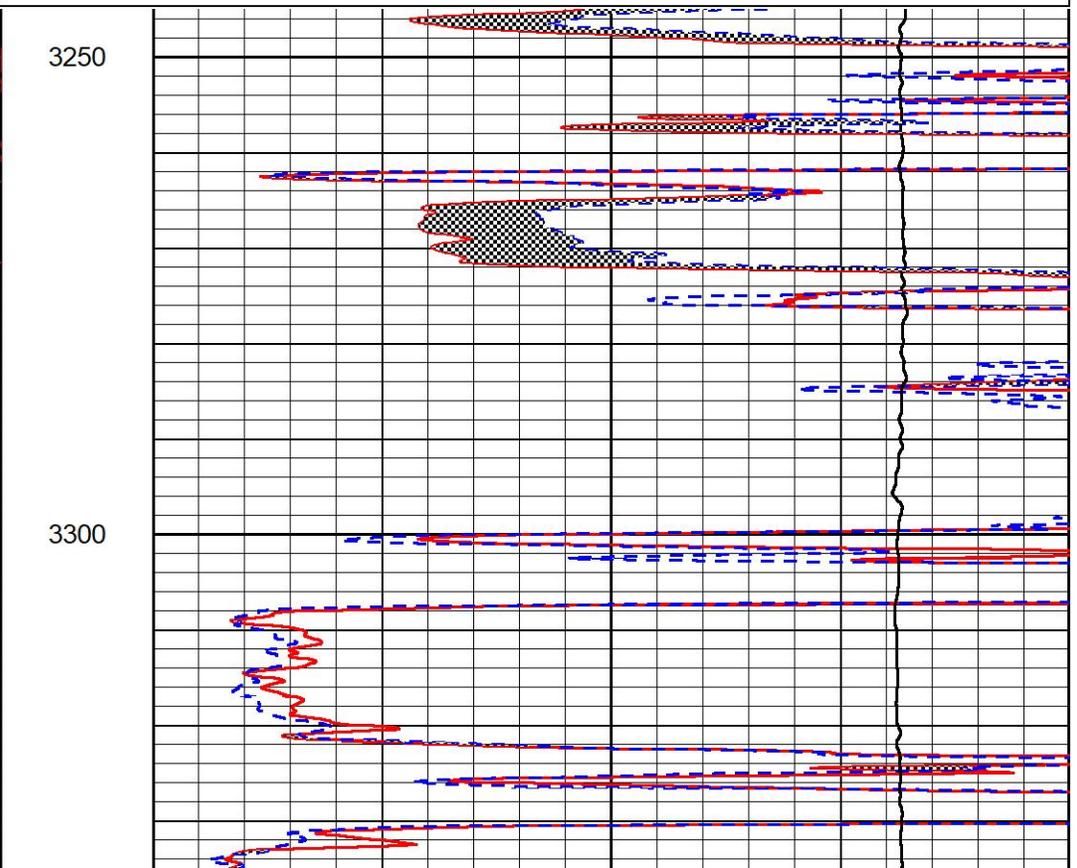
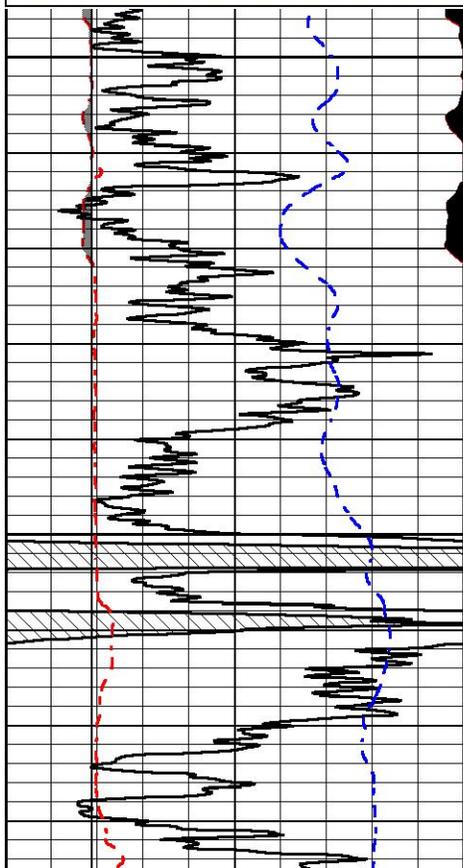
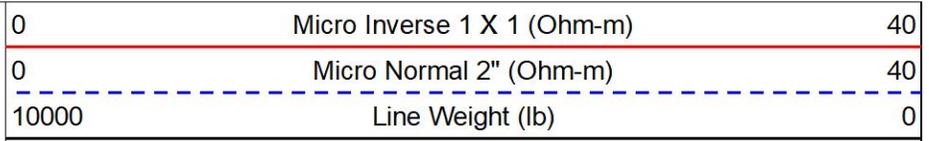
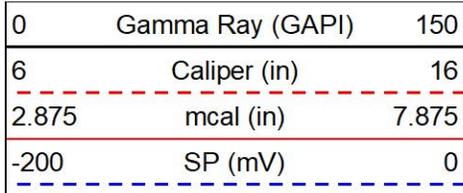


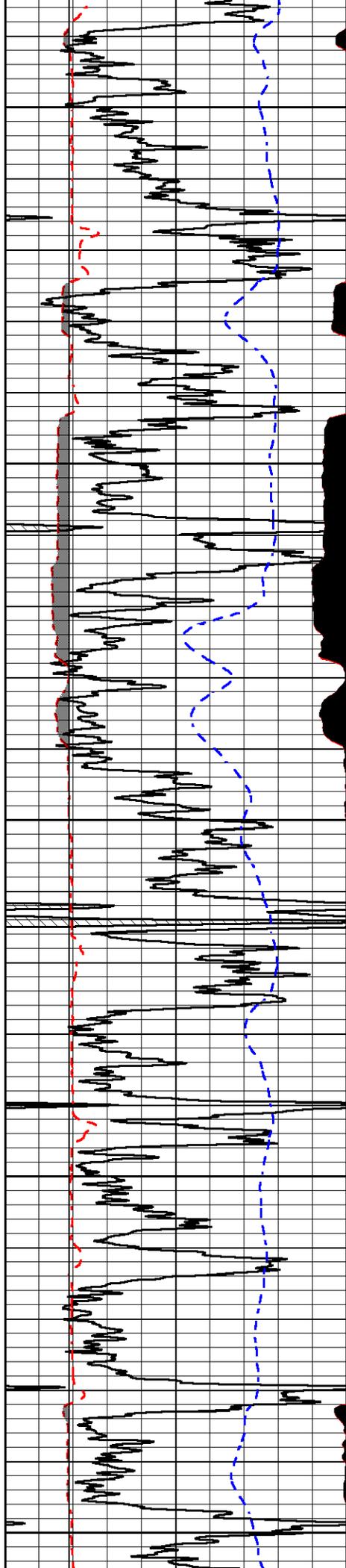


REPEAT SECTION

REPEAT PASS

Database File murfin_rusco_davis_4_1.db
 Dataset Pathname stackml/pass2.1
 Presentation Format _micro
 Dataset Creation Sun Feb 13 10:34:34 2022
 Charted by Depth in Feet scaled 1:240





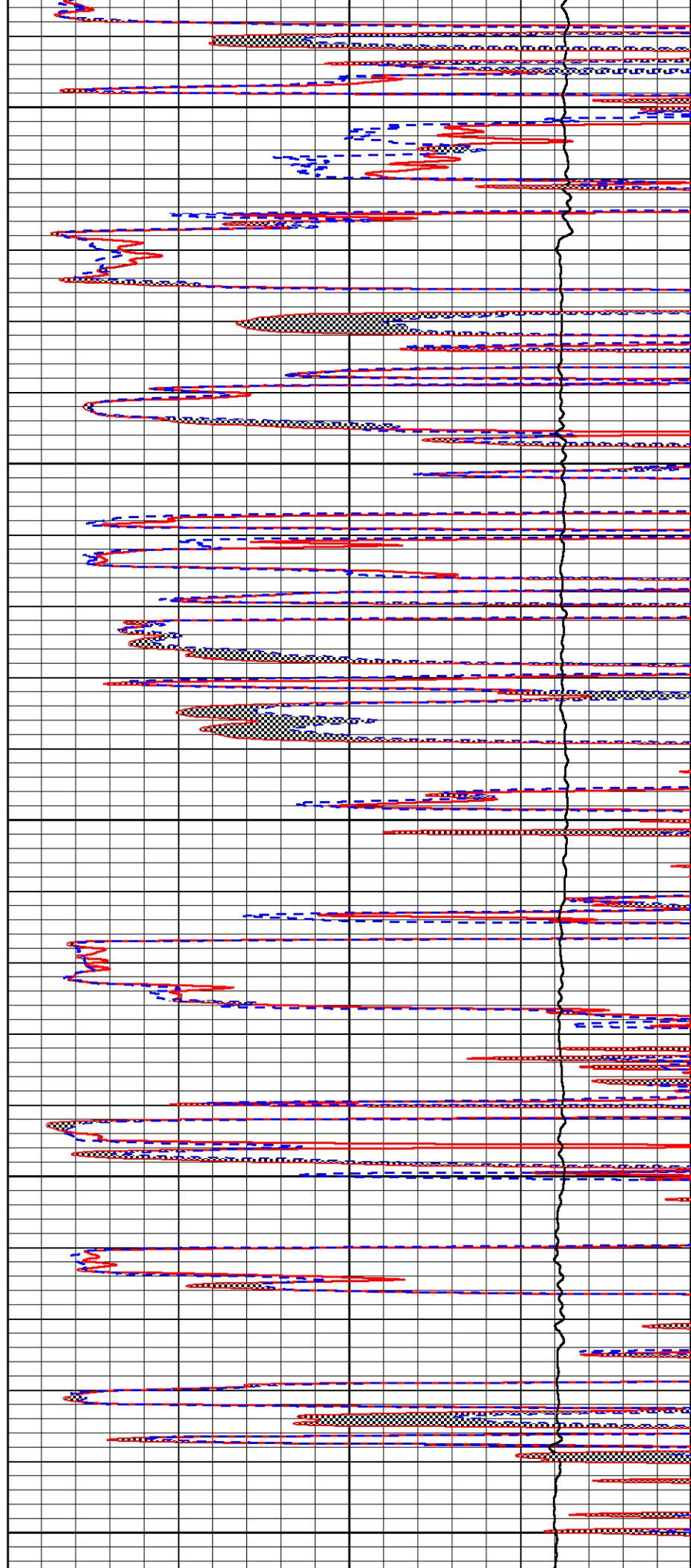
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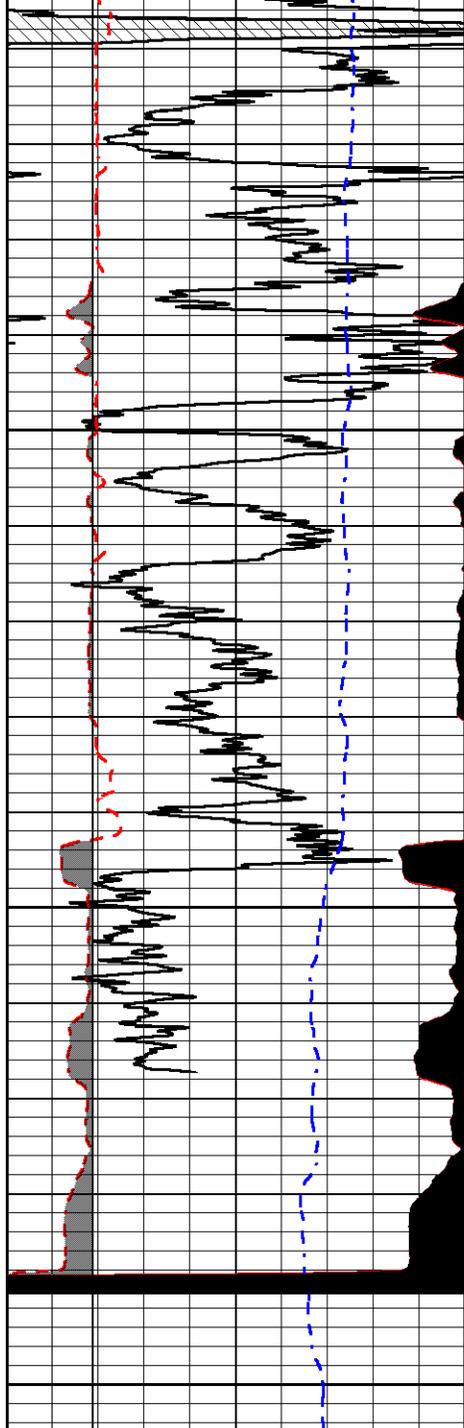
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3450

3500

3550



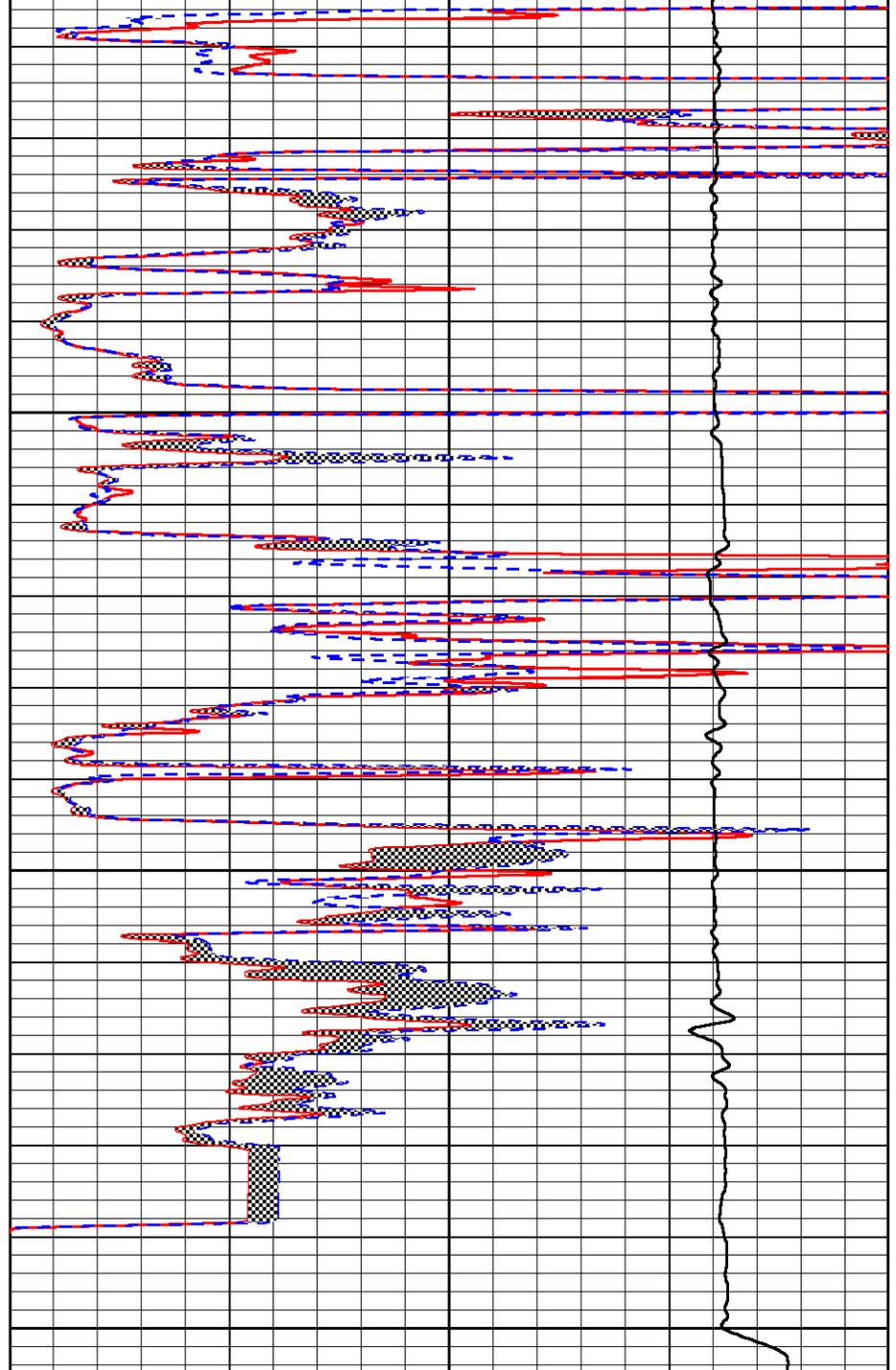


3600

3650

3700

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 murfin_rusco_davis_4_1.db
 Dataset Pathname stackml/pass4.1
 Dataset Creation Sun Feb 13 11:08:51 2022

Dual Induction Calibration Report

Serial-Model: 504 HT-M&W
 Surface Cal Performed: Thu Dec 16 22:32:49 2021

Readings

References

Results

Loop:	Air	Loop	Air	Loop		m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	0.650	-19.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.450	-45.500

Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML
 Performed: Thu Dec 16 22:29:48 2021

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	27000.0000	-1.0000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	20000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1520	-131.2000

Compensated Density Calibration Report

Serial-Model: 303-03-M&W
 Source #: 21170B
 Master Calibration Performed: Thu Dec 16 23:28:34 2021

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3841.78	5151.73	cps
Aluminum	2.670	g/cc	700.98	3068.49	cps
Spine Angle = 73.06			Density/Spine Ratio = 0.515		
	Size		Reading		
Small Ring	4.00	in	1.17		
Large Ring	14.00	in	1.05		

Compensated Neutron Calibration Report

Serial-Model: 210-M&W
 Source #: N-1238
 Master Calibration Performed: Fri Dec 3 09:16:24 2021

Master 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: 103
 Tool Model: M&W
 Performed: Fri Dec 3 12:13:24 2021

Calibrator Value: 500.0 GAPI

Background Reading: 28.0 cps
 Calibrator Reading: 986.0 cps

Sensitivity: 0.5700 GAPI/cps



Company	Murfin Drilling Company, Inc.
Well	Rusco-Davis #4-1
Field	Star Southwest
County	Ellis
State	Kansas