



MIDWEST WIRELINE

MICRORESISTIVITY LOG

Company **Ritchie Exploration, Inc.**
 Well **Stucky-Dirks #1**
 Field **Wildcat**
 County **Lane** State **Kansas**

Location: **API #: 15-101-22657-00-00**
290 FNL & 1502 FEL
 SEC 33 TWP 19S RGE 30W
 Permanent Datum **Ground Level** Elevation **2905**
 Log Measured From **Kelly Bushing**
 Drilling Measured From **Kelly Bushing**
 Other Services **CNL/CDL DIL/BHCS**
 Elevation **K.B. 2910 D.F. G.L. 2905**

Date	9/22/2021
Run Number	One
Depth Driller	4740
Depth Logger	4730
Bottom Logged Interval	4729
Top Log Interval	3450
Casing Driller	8.625 @ 255
Casing Logger	251
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	3300
Density / Viscosity	8.8 57
pH / Fluid Loss	11.0 7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.8 @ 62
Rmt @ Meas. Temp	.60 @ 62
Rmc @ Meas. Temp	1.08 @ 62
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.40 @ 123
Operating Rig Time	4 Hours
Max Rec. Temp. F	123
Equipment Number	P-108
Location	HAYS
Recorded By	J. Henrickson
Witnessed By	Max Lovely

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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.

Amy Kansas
 South on 250 to 70 Rd, 1 1/4 West, South Into

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

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

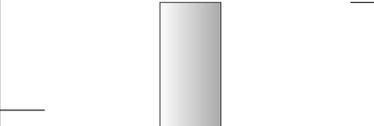
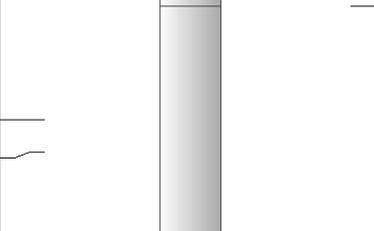
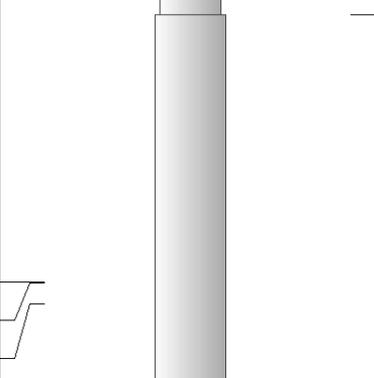
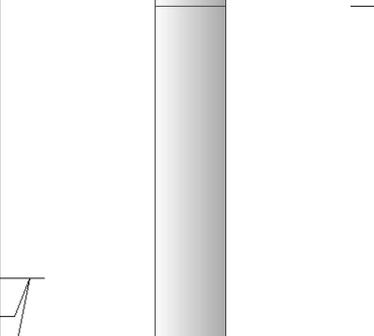
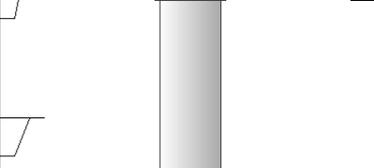
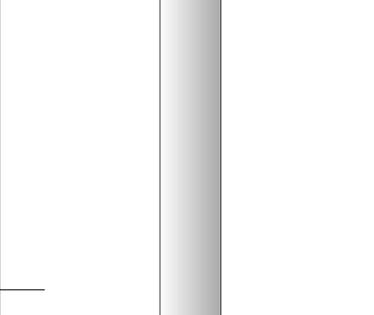
Your Midwest Wireline Crew	This Log Record Was Witnessed By
Engineer: J. Henrickson	Primary Witness: Max Lovely
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\ritchie_stucky_dirks_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	123	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	-5	0	340	0	Off	0

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (915-956)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-PSI HIGH TEMP (959-1032)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: ritchie_stucky_dirks_1.db: field/well/stackml/pass4.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in



MIDWEST WIRELINE

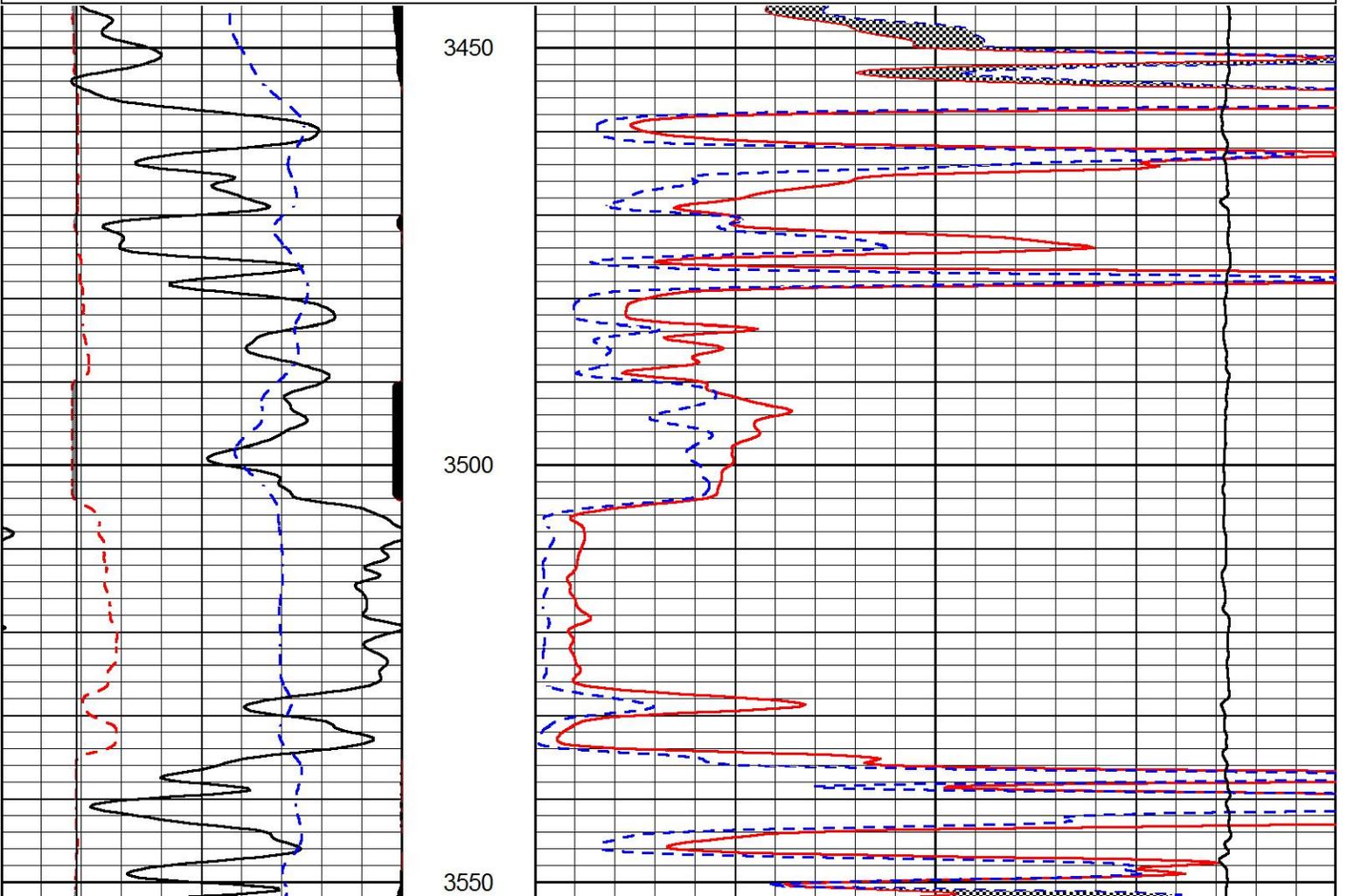
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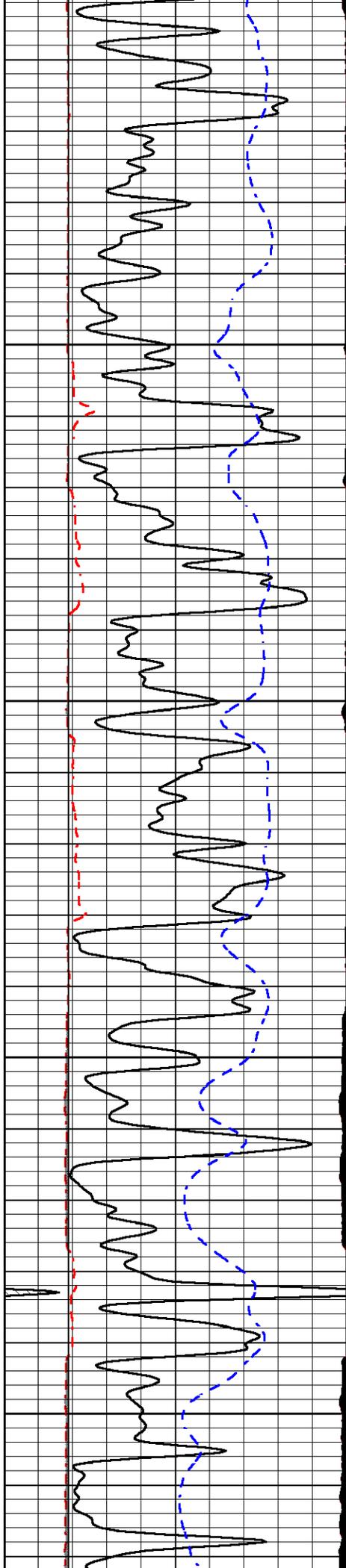
MAIN PASS

Database File ritchie_stucky_dirks_1.db
 Dataset Pathname stackml/pass5.1
 Presentation Format micro
 Dataset Creation Wed Sep 22 14:10:48 2021
 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



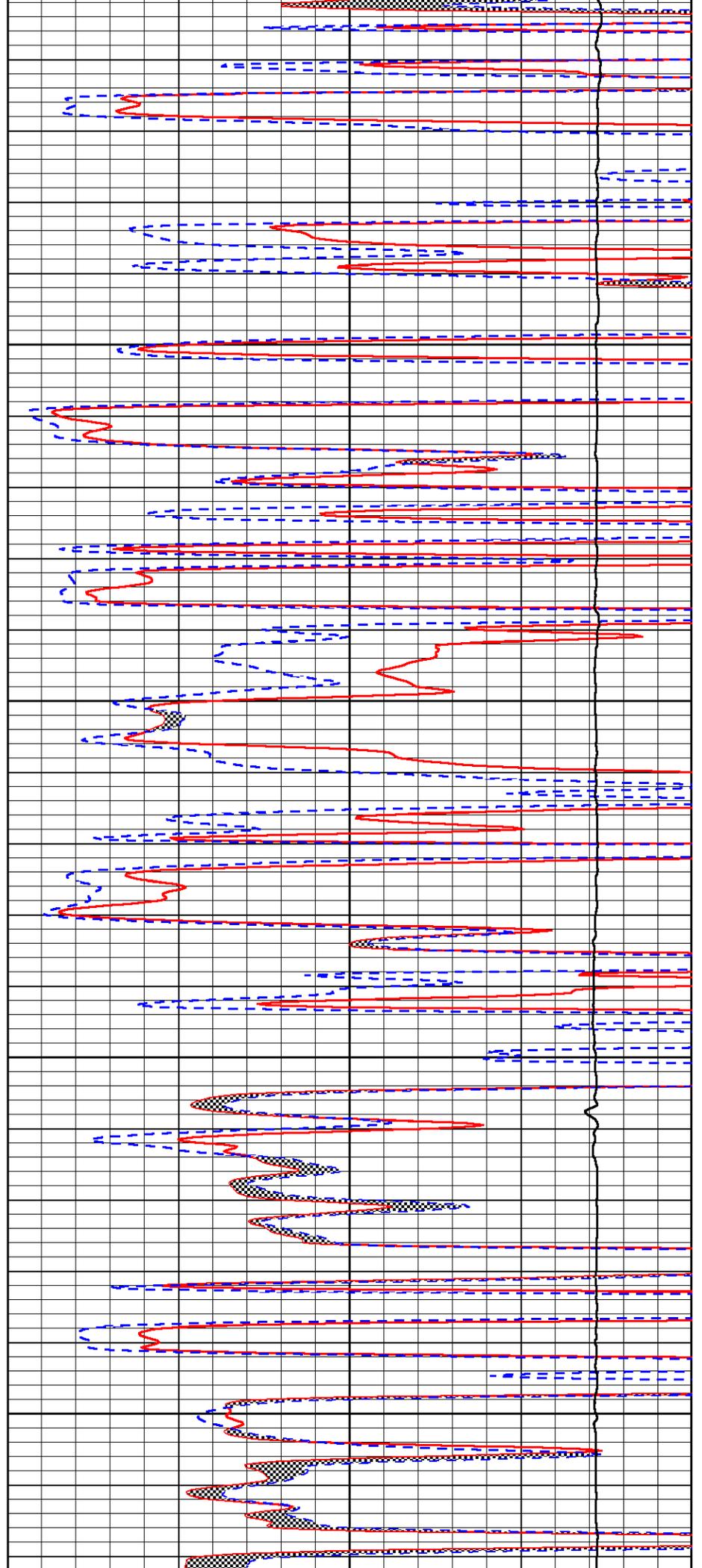


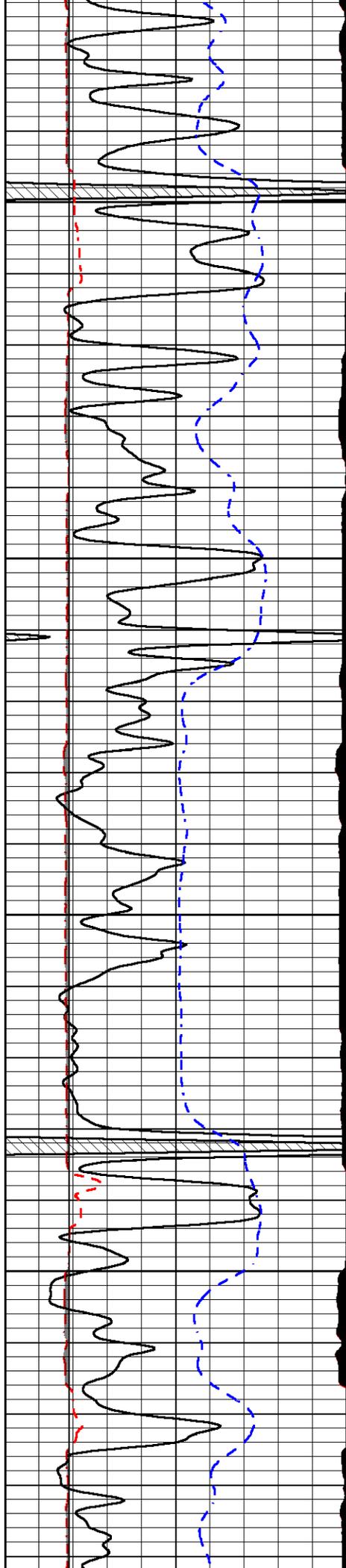
3600

3650

3700

3750



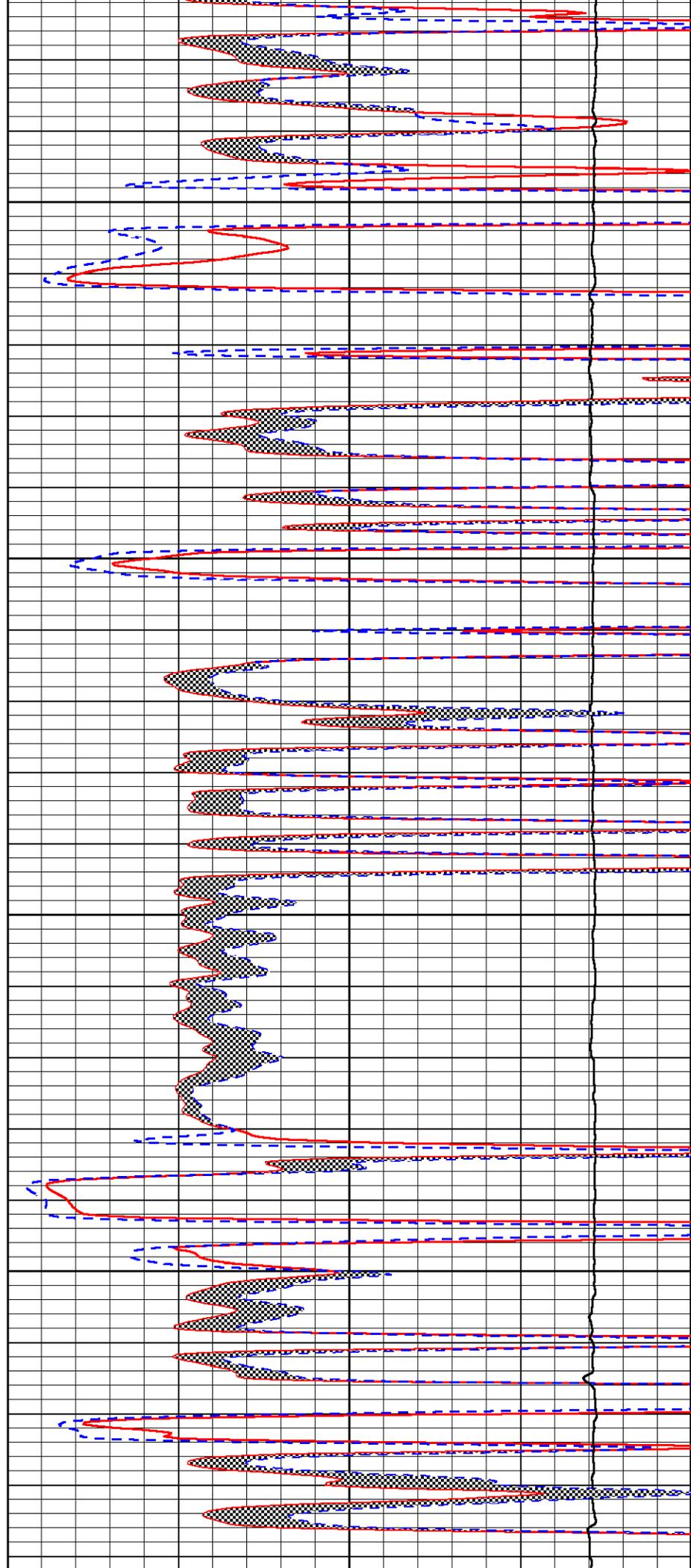


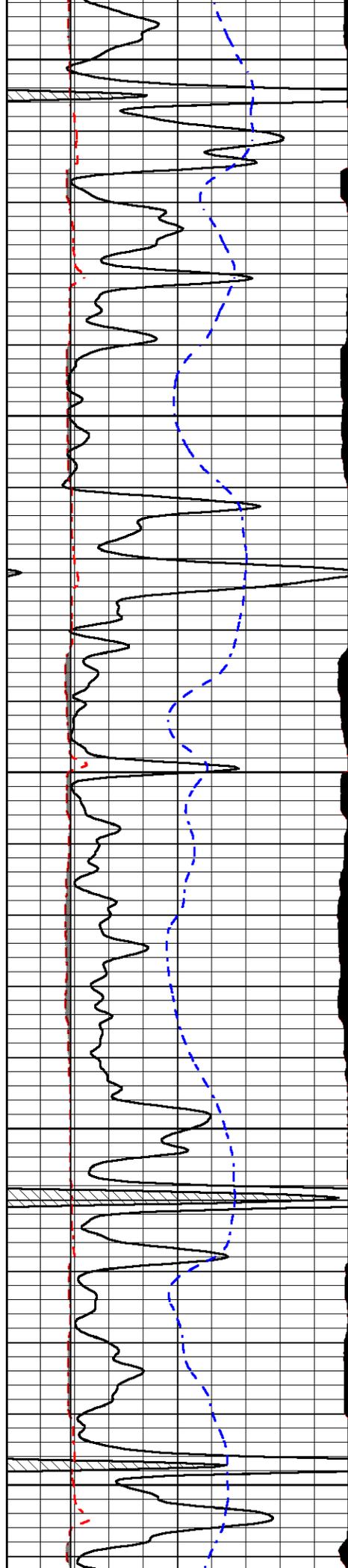
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3850

3900

3950





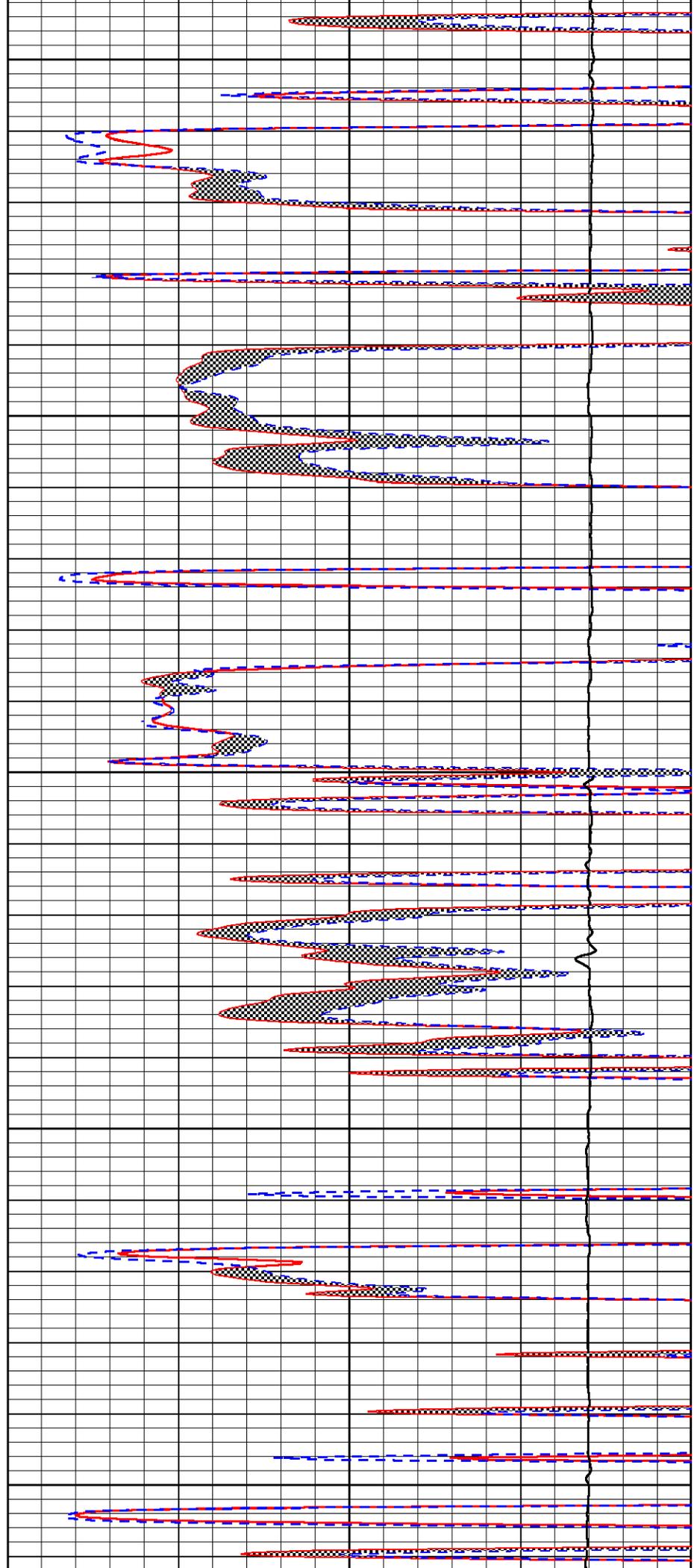
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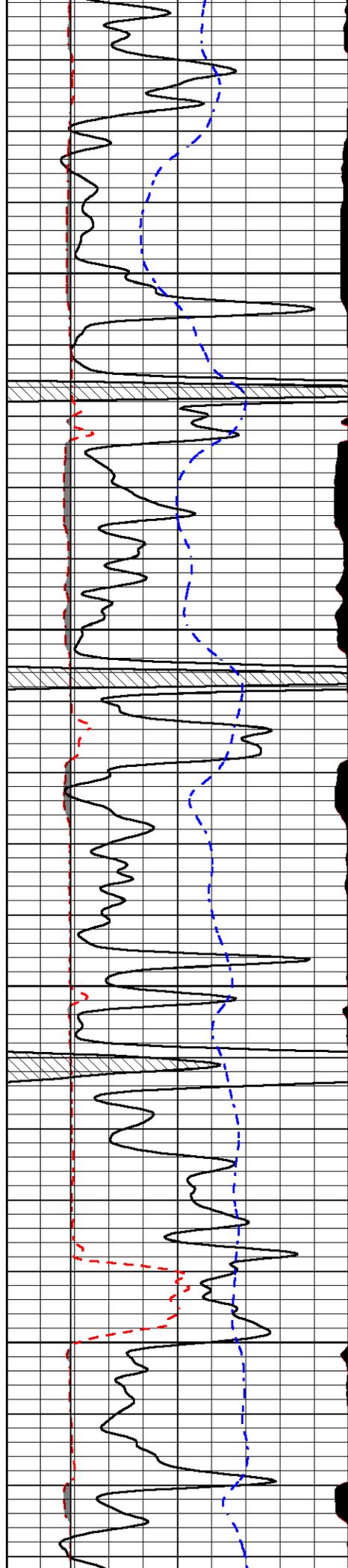
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4100

4150

4200



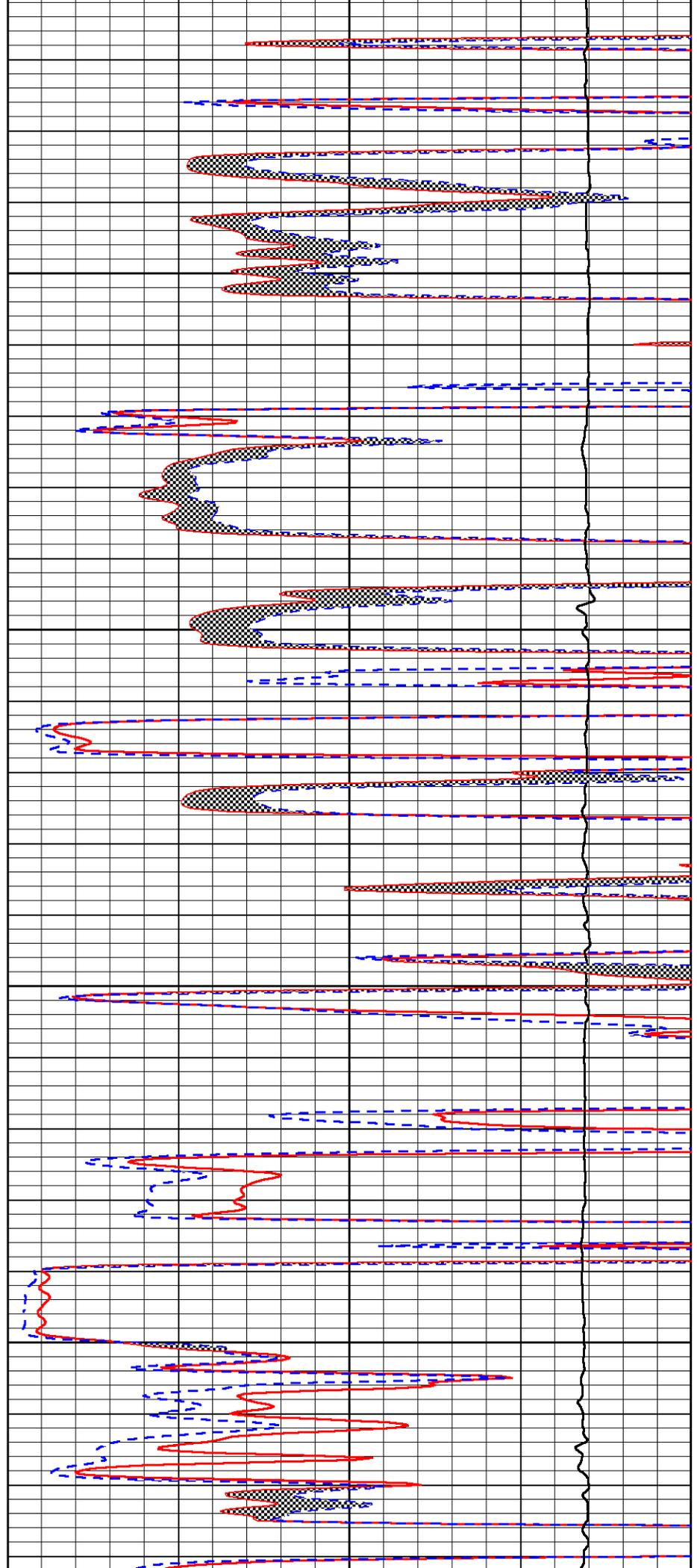


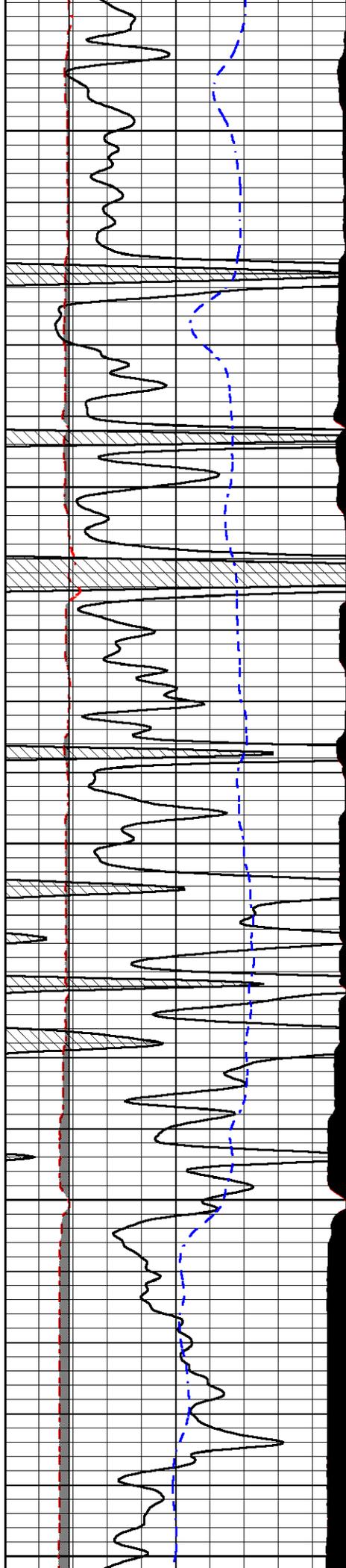
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4300

4350

4400





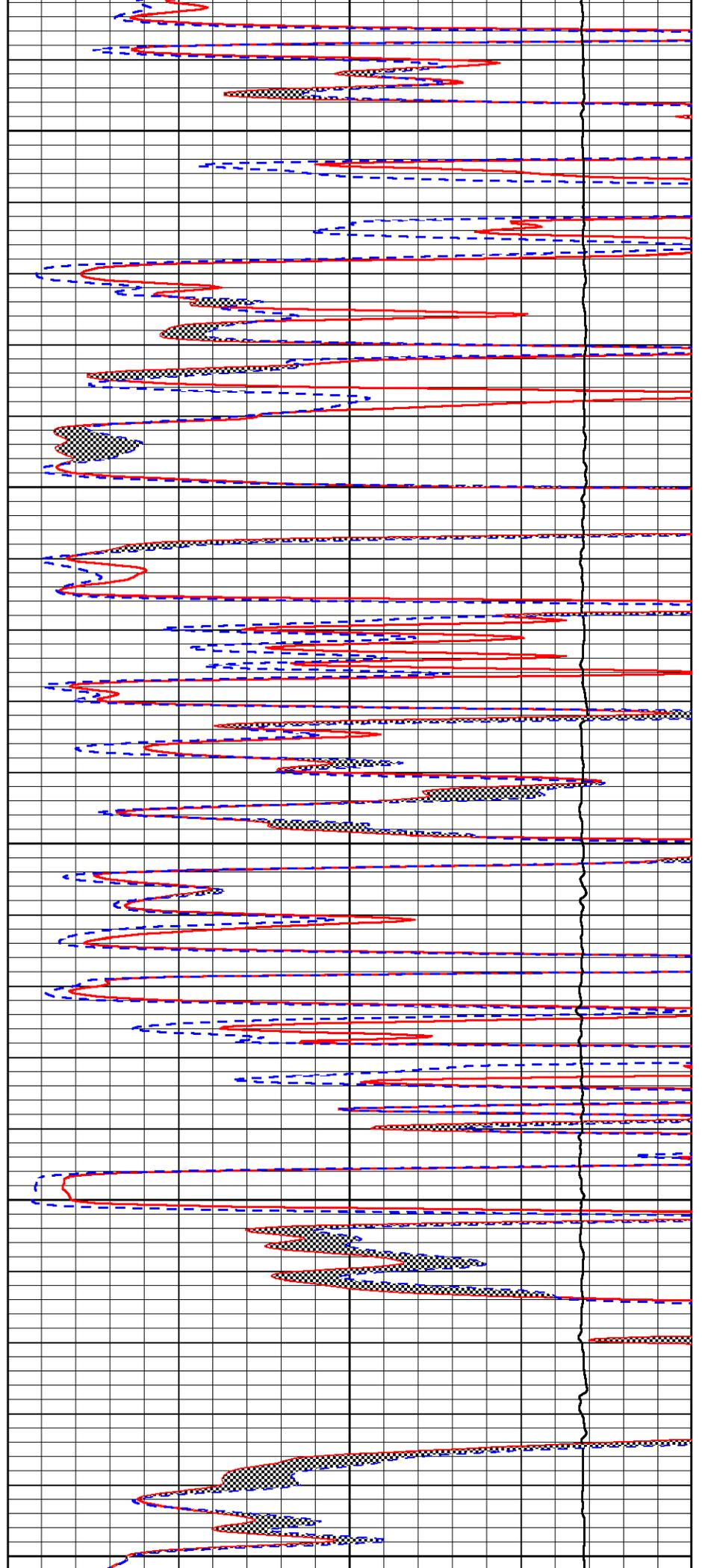
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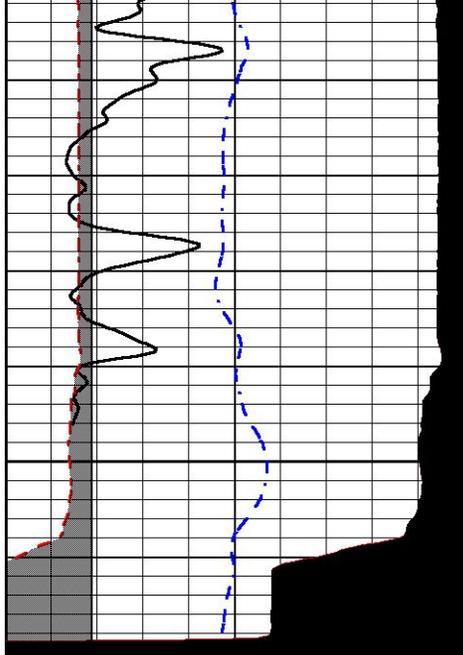
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4550

4600

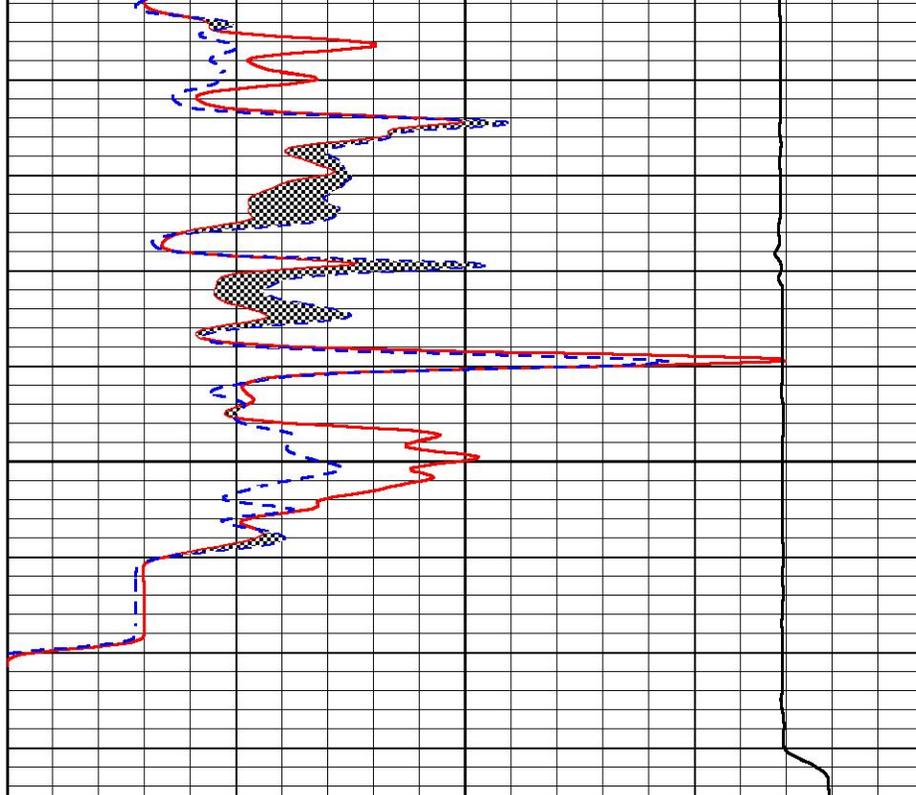
4650





4700

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15000	LINE TENSION (lb)	0



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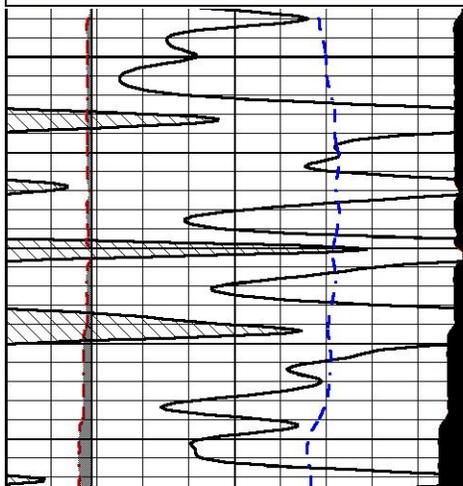
REPEAT SECTION

REPEAT PASS

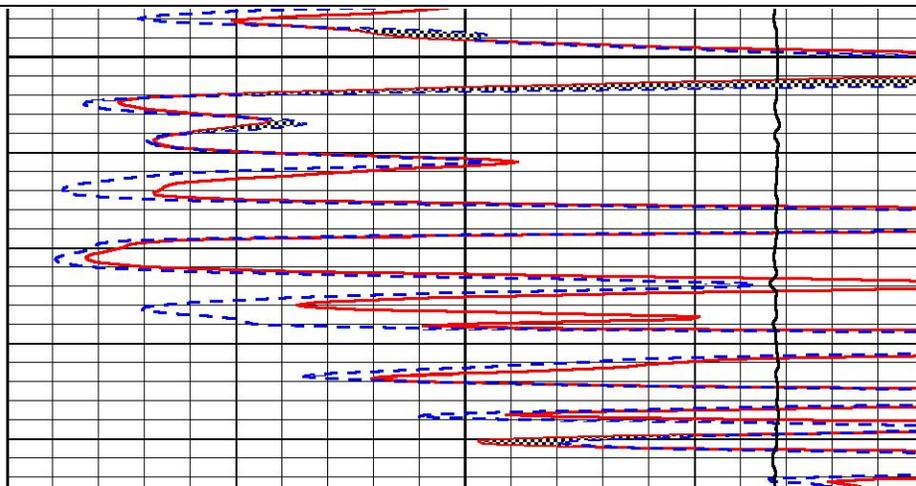
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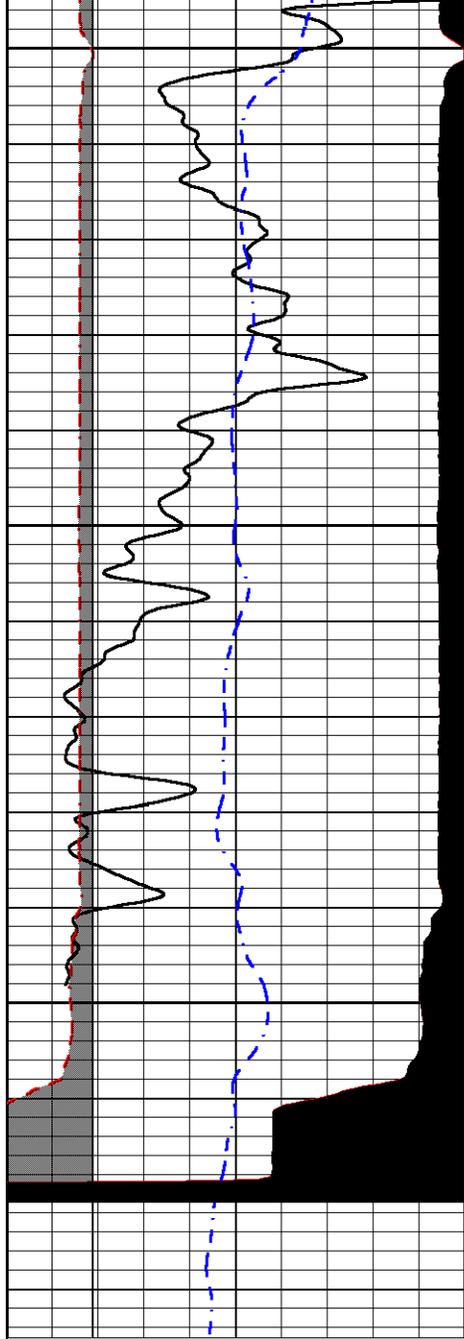
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-200	SP (mV)	0

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



4550



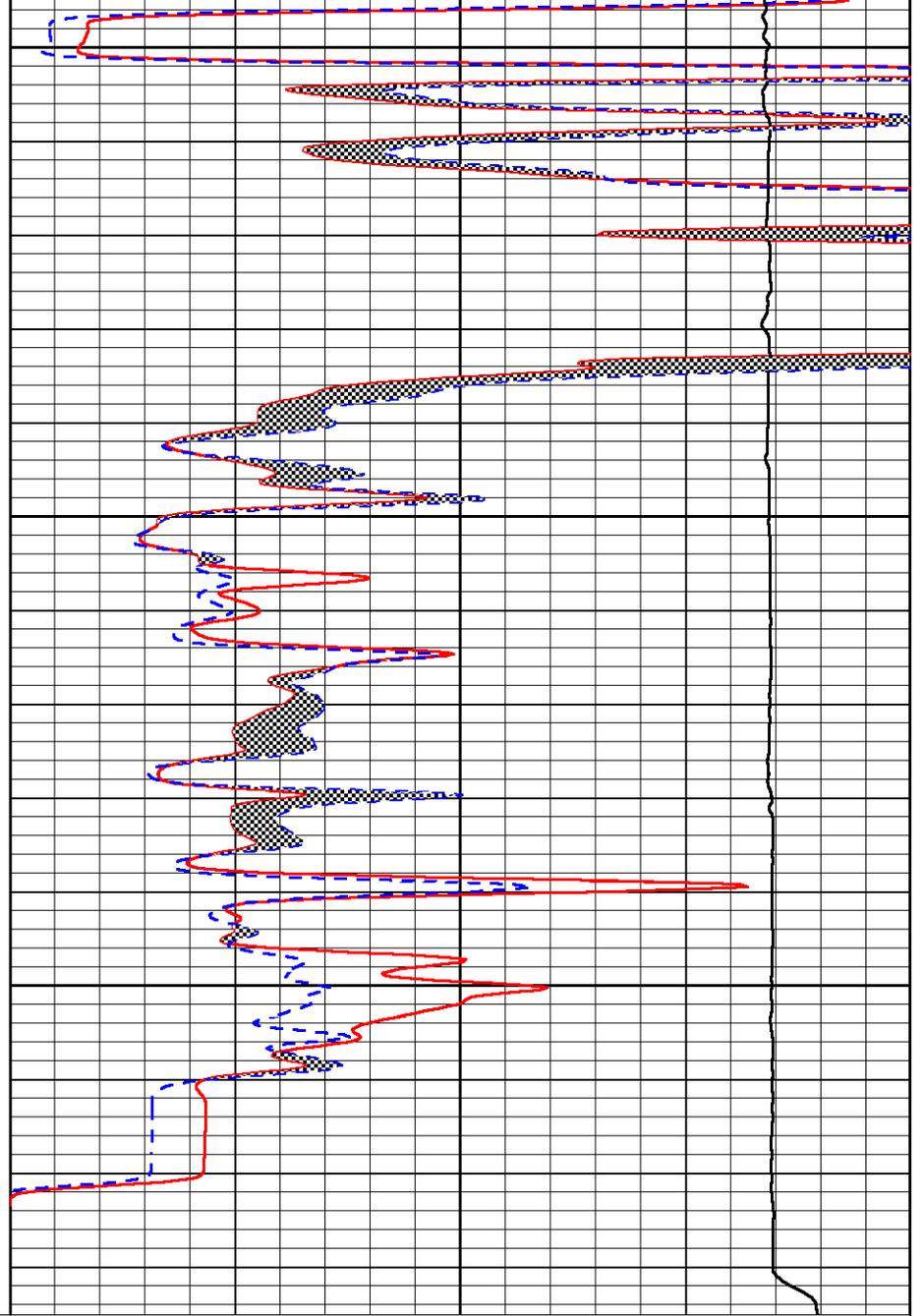


4600

4650

4700

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



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15000	LINE TENSION (lb)	0

Calibration Report

Database File ritchie_stucky_dirks_1.db
 Dataset Pathname stackml/pass5.1
 Dataset Creation Wed Sep 22 14:10:48 2021

Dual Induction Calibration Report

Serial-Model: 959-1032-PSI HIGH TEMP
 Calibration Performed: Wed Jul 14 23:14:54 2021

Loop:	Readings		References		Results		
	Air	Loop	Air	Loop	Gain	Offset	
Deep	178.615	710.235	0.000	255.800	mmho/m	0.630	-1.500

Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML
 Performed: Sat Apr 07 12:01:20 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	9000.0000	-1.0000
Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	10000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1560	-131.3000

Compensated Density Calibration Report

Serial-Model: 915-956-M&W
 Source / Verifier: /
 Master Calibration Performed: Mon May 10 06:44:16 2021

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3668.53	4669.61	cps
Aluminum	2.675	g/cc	710.88	3056.05	cps
Spine Angle = 75.51			Density/Spine Ratio = 0.543		
	Size		Reading		
Small Ring	4.00	in	1.17		
Large Ring	14.00	in	1.05		

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: Mon May 10 06:44:25 2021

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps