



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company MURFIN DRILLING CO., INC.
Well C & C UNIT #1-30
Field WILDCAT
County CHEYENNE
State KANSAS

Company MURFIN DRILLING CO., INC.
Well C & C UNIT #1-30
Field WILDCAT
County CHEYENNE State KANSAS

Location: API #: 15-023-21529-00-00

1320' FNL & 2815' FEL

SEC 30 TWP 2S RGE 37W

Permanent Datum GROUND LEVEL Elevation 3321'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 3326'
D.F. N/A
G.L. 3321'

Date 2/1/2020

Run Number ONE

Depth Driller 5100'

Depth Logger 5100'

Bottom Logged Interval 5099'

Top Log Interval 3900'

Casing Driller 8.625" @ 306'

Casing Logger 304'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 800

Density / Viscosity 9.2 62

pH / Fluid Loss 11.5 6.4

Source of Sample FLOWLINE

Rm @ Meas. Temp 0.80 @ 60

Rmt @ Meas. Temp 0.60 @ 60

Rmc @ Meas. Temp 1.08 @ 60

Source of Rmt / Rmc CHARTS

Rm @ BHT 0.41 @ 118

Operating Rig Time 4 HOURS

Max Rec. Temp. F 118

Equipment Number P-24

Location HAYS

Recorded By IAN MABB

Witnessed By SAMAN SHARIFAIE

<<< Fold Here >>>

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, KS.

NORTH 7 MILES TO U RD, EAST 1 1/2 MILES,
SOUTH INTO

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

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

Your Pioneer Energy Services Crew

Engineer: IAN MABB
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: SAMAN SHARIFAIE
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 118	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 3	mmho/m 6	mV 554	degF 0	Off	ft 5100

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

CILM

4.70

SP

0.20

Dataset: murfin_c&c_unit_1_30.db: field/well/stackmel/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

PIONEER

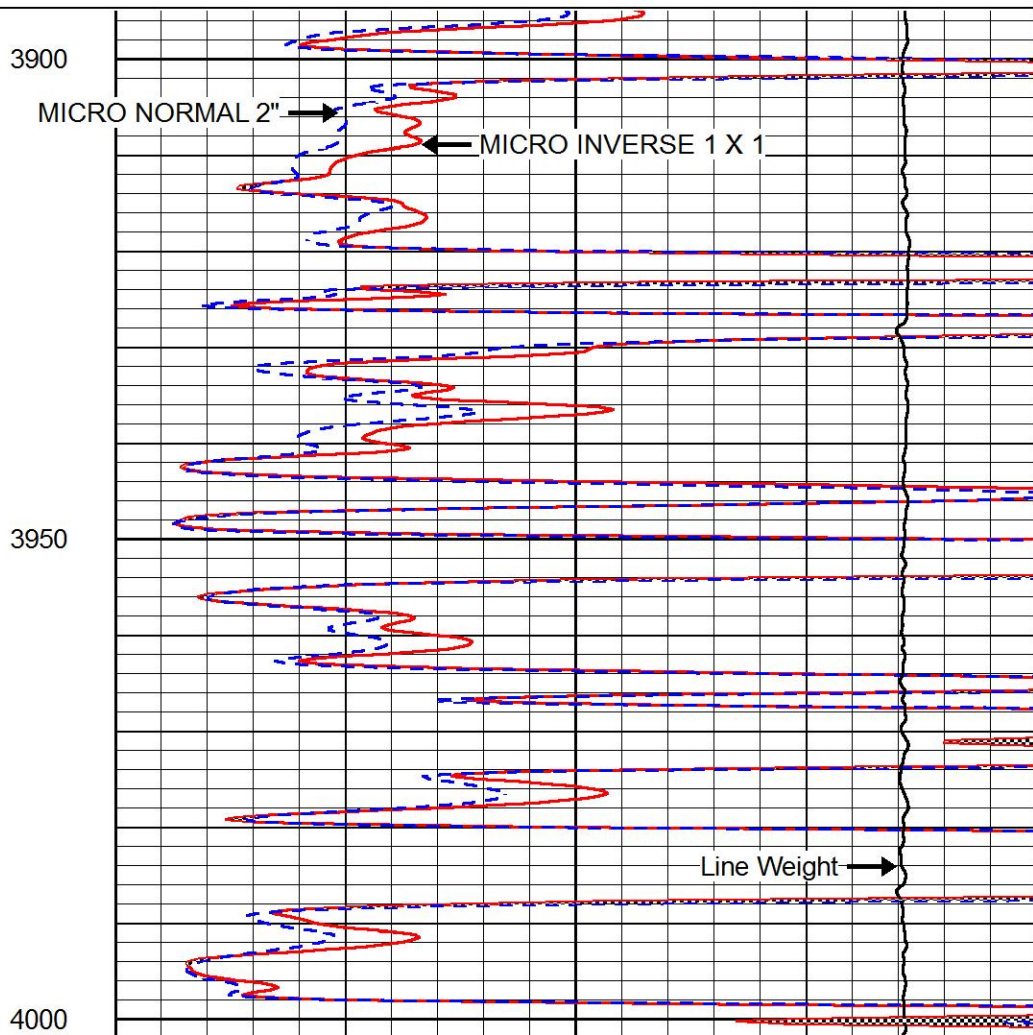
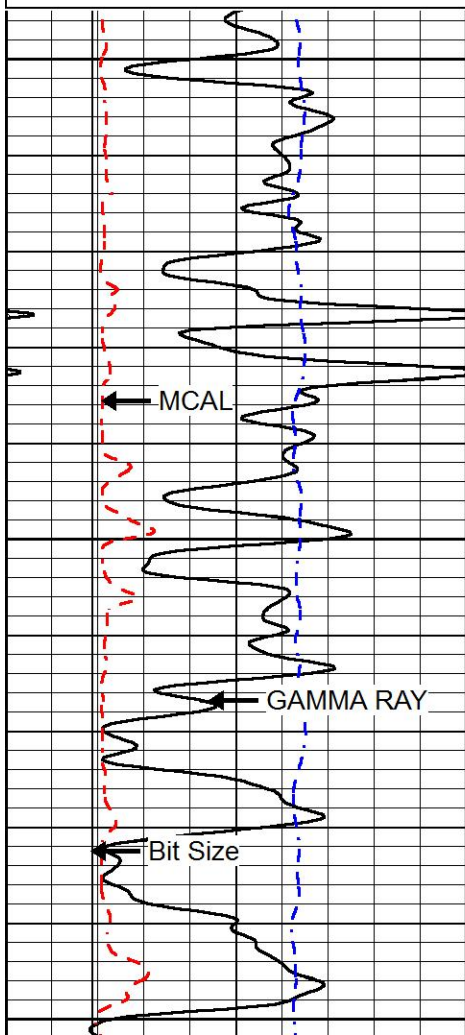
Pioneer Energy Services

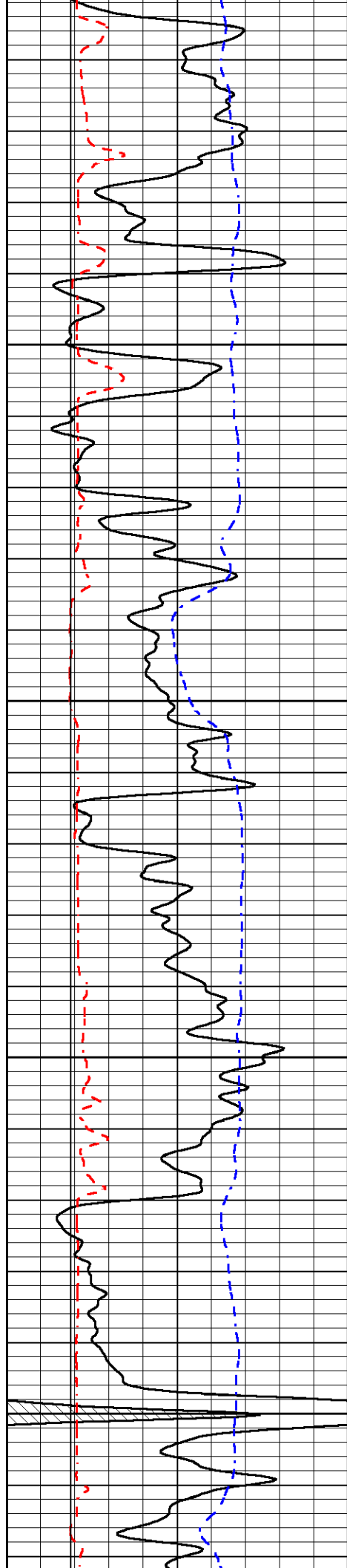
MAIN PASS

Database File murfin_c&c_unit_1_30.db
Dataset Pathname stackmel/pass3.1
Presentation Format _micro
Dataset Creation Sat Feb 01 07:47:26 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



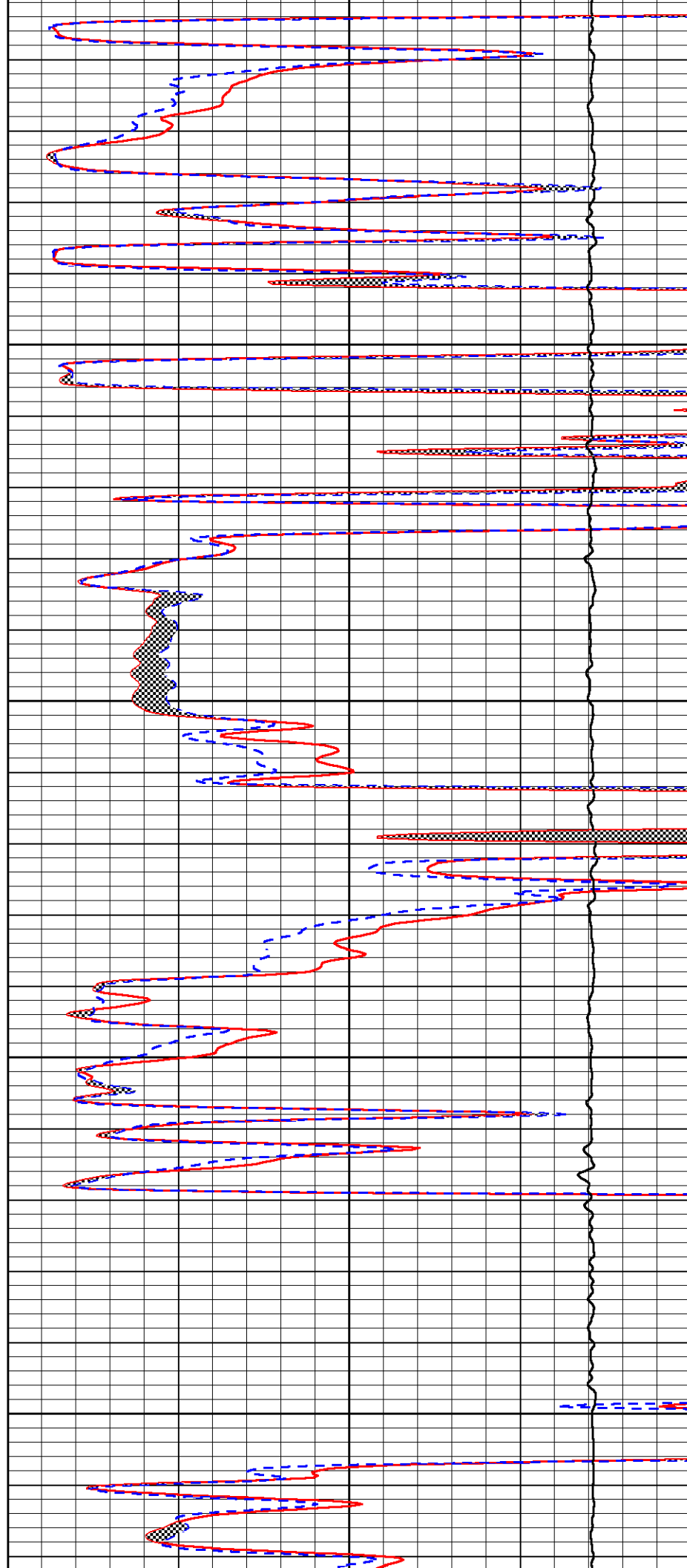


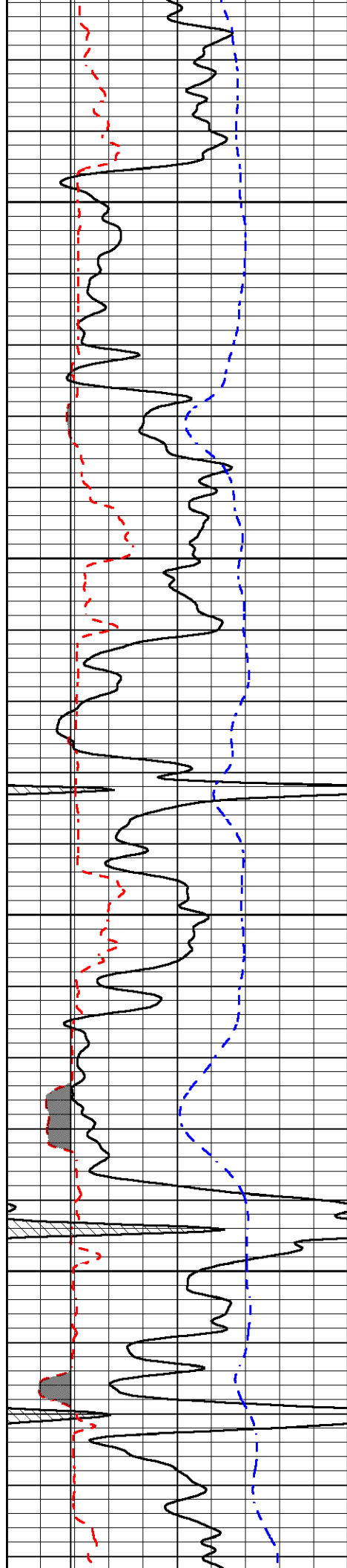
4050

4100

4150

4200



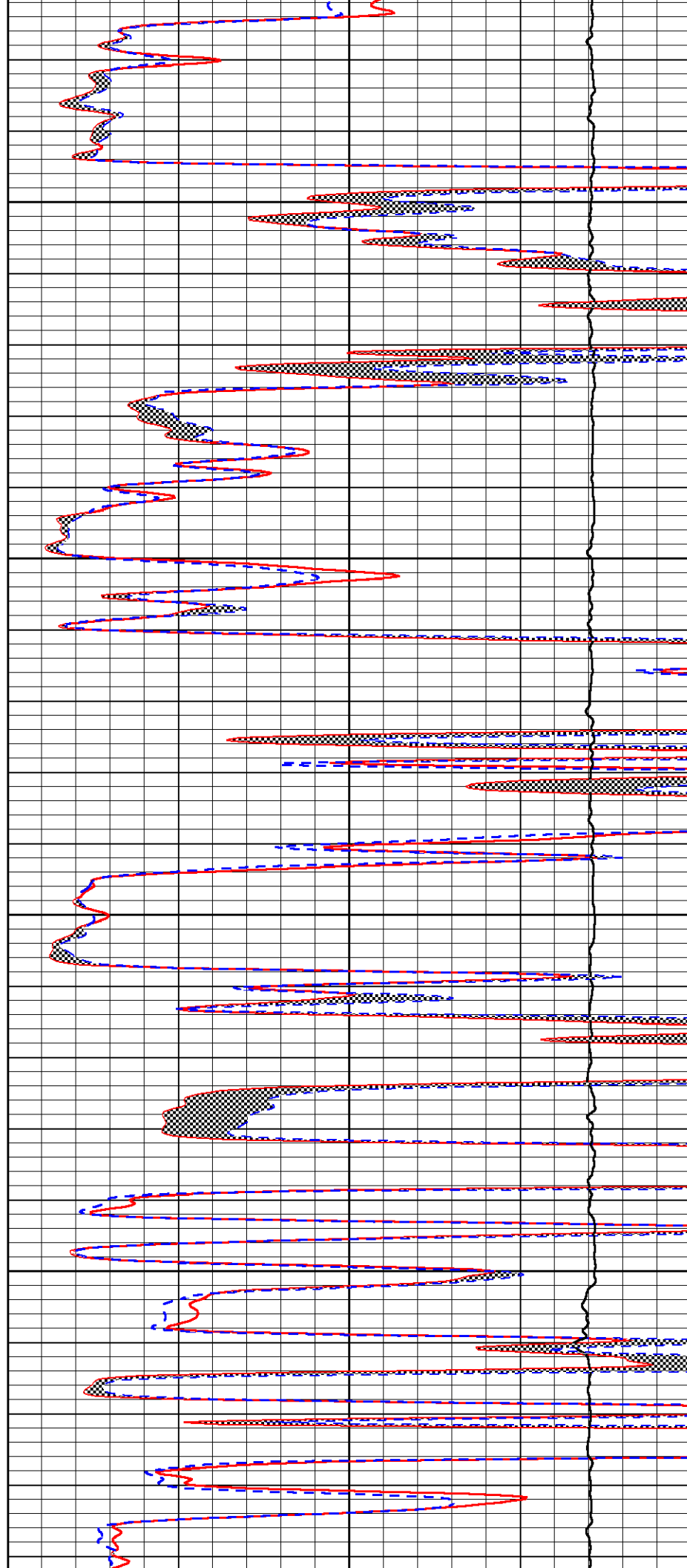


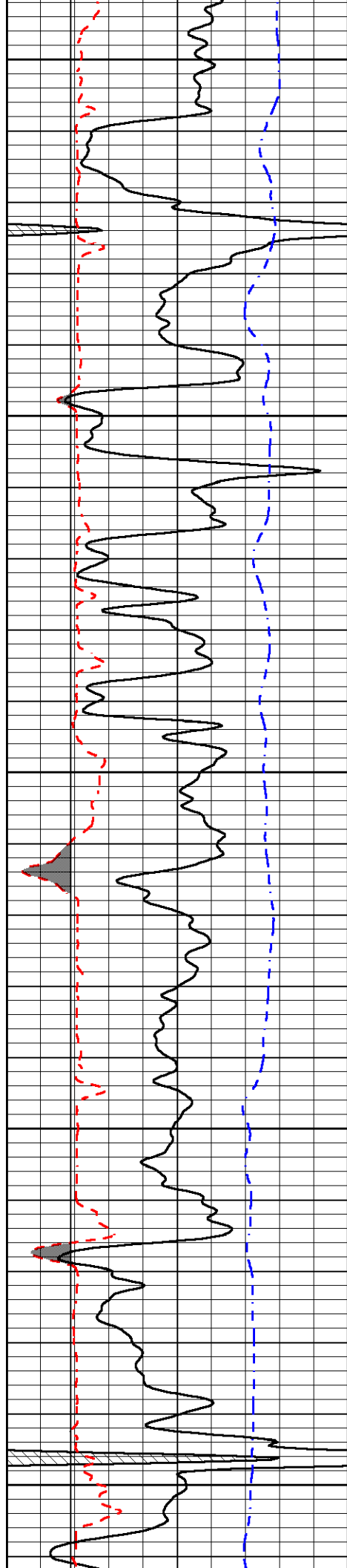
4250

4300

4350

4400





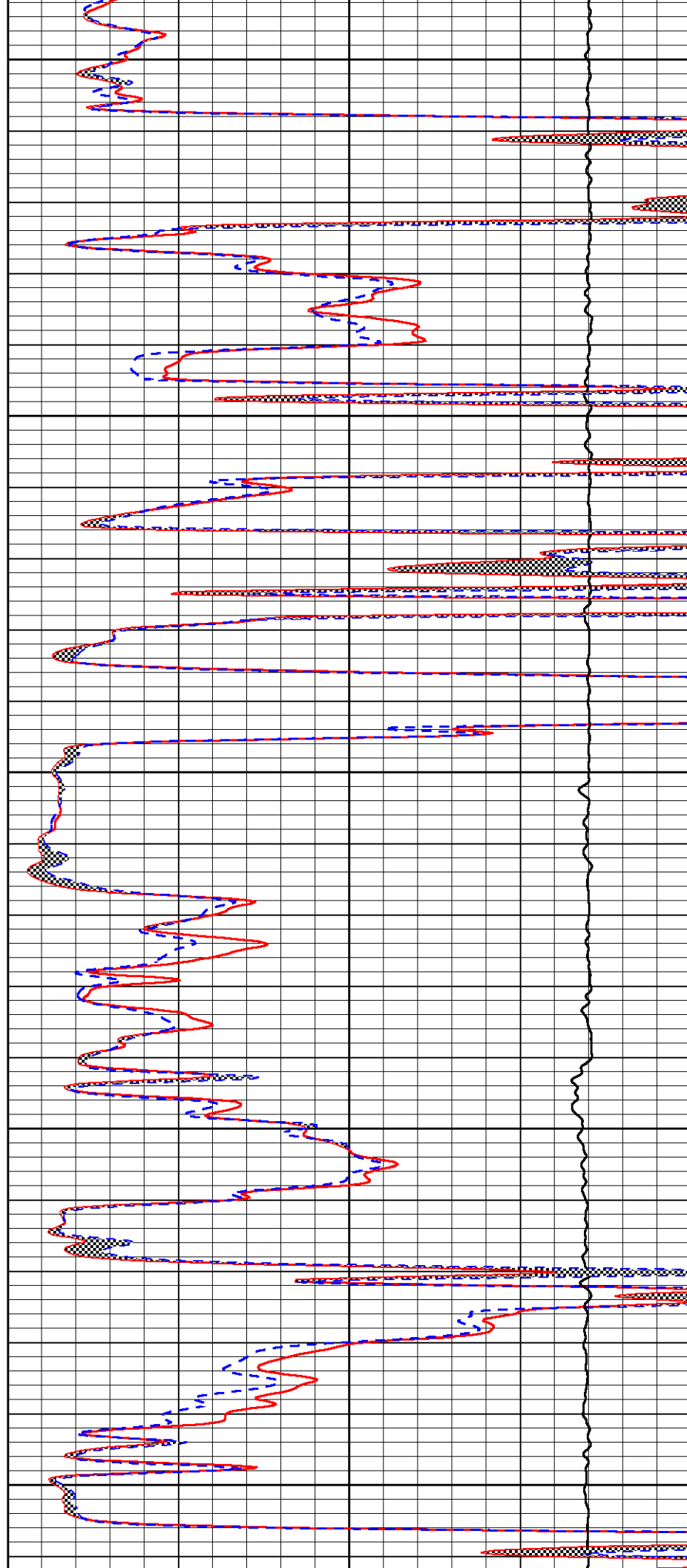
4450

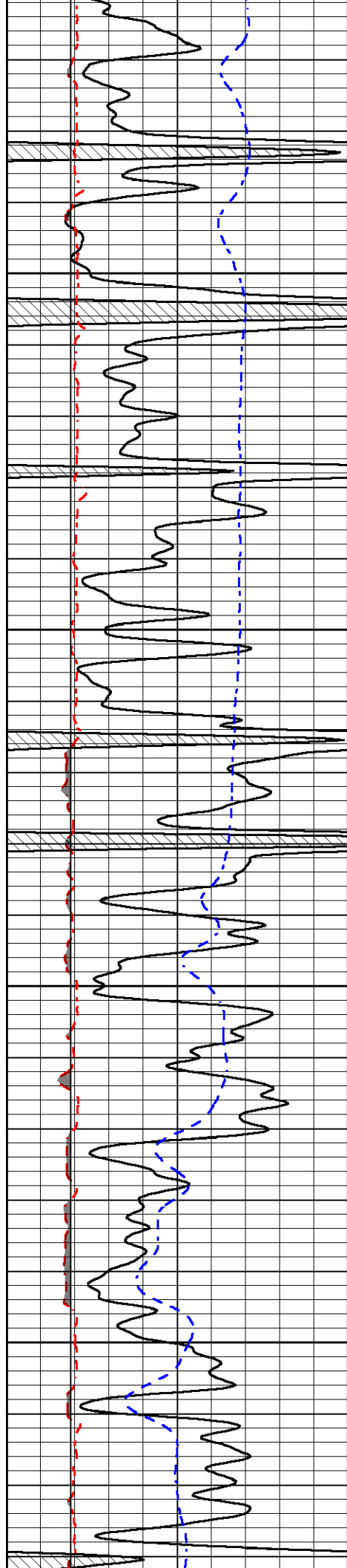
4500

4550

4600

4650



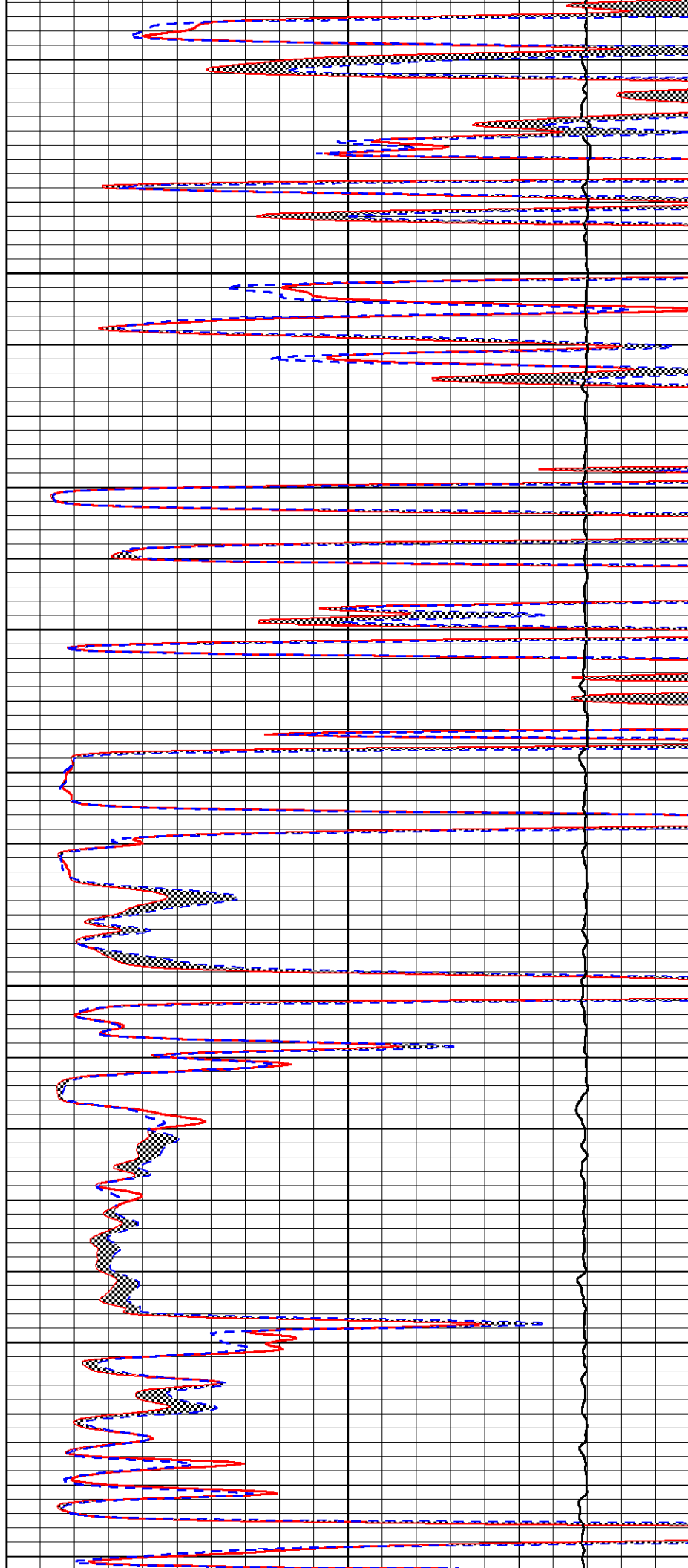


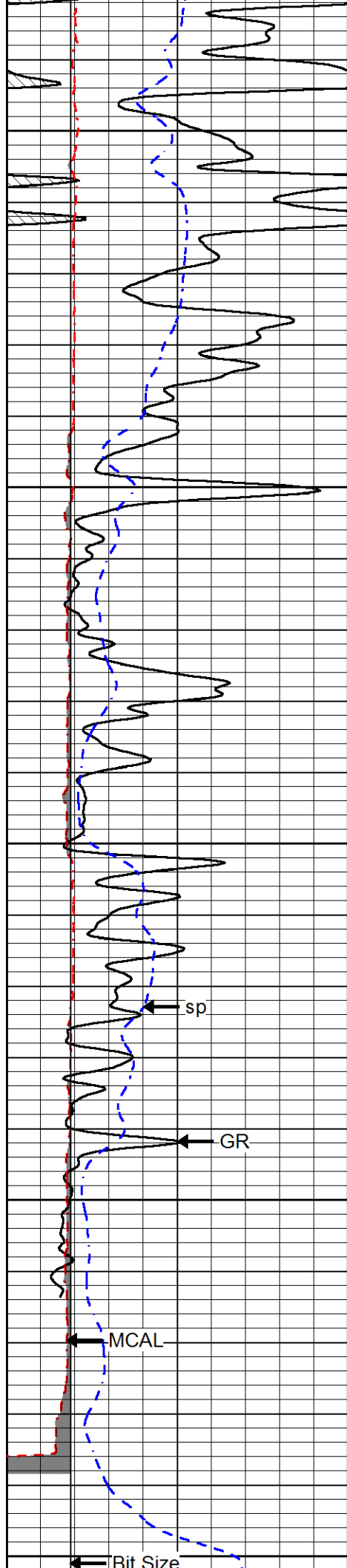
4700

4750

4800

4850





4900

4950

5000

5050

5100

MICRO INVERSE 1 X 1

MICRO NORMAL 2"

Line Weight

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

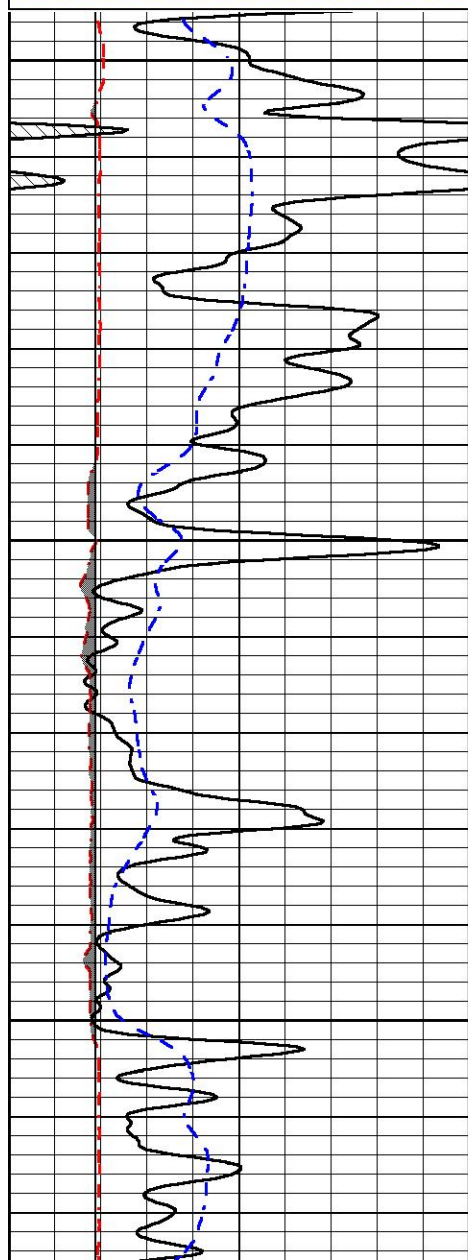


REPEAT SECTION

Database File murfin_c&c_unit_1_30.db
Dataset Pathname stackmel/pass2.1
Presentation Format _micro
Dataset Creation Sat Feb 01 07:54:08 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

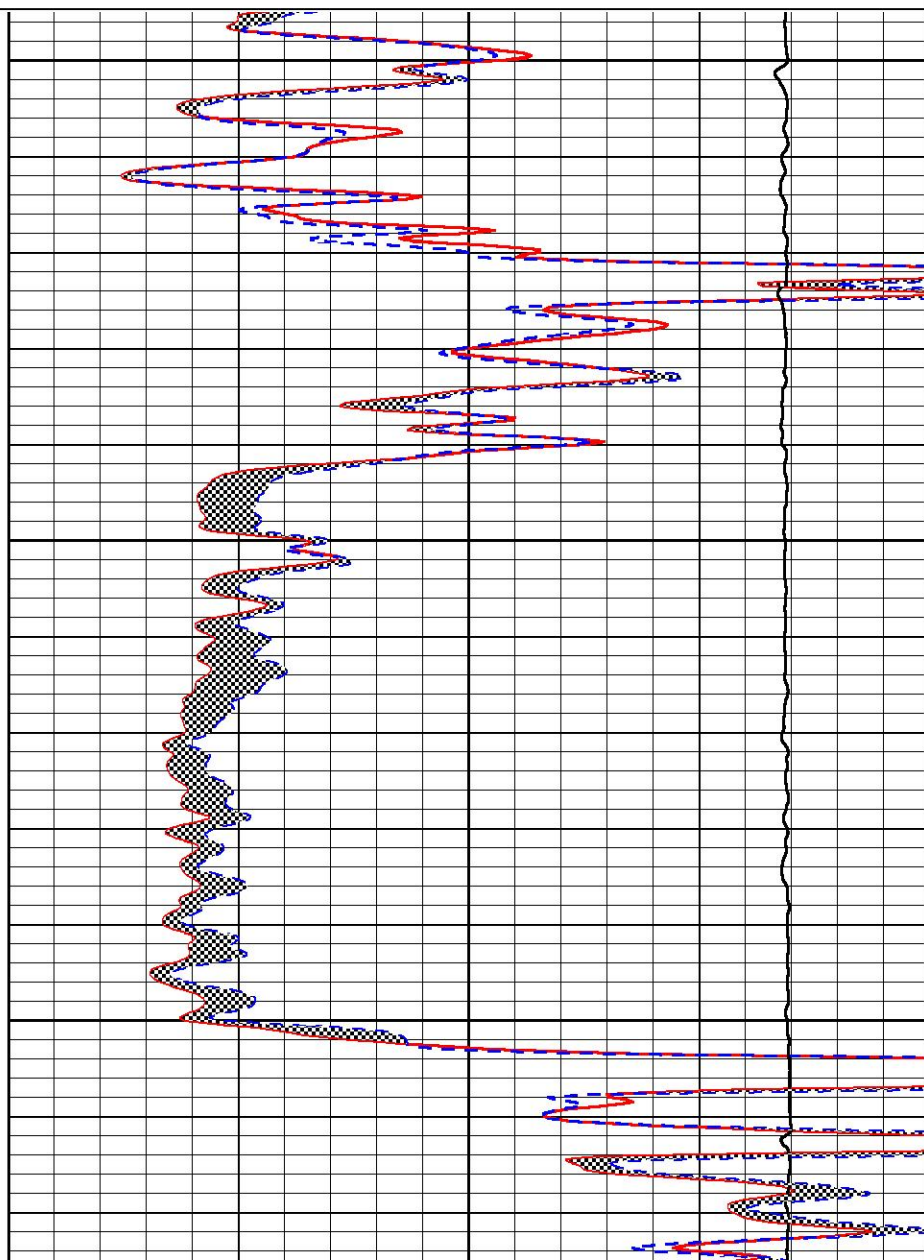
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0

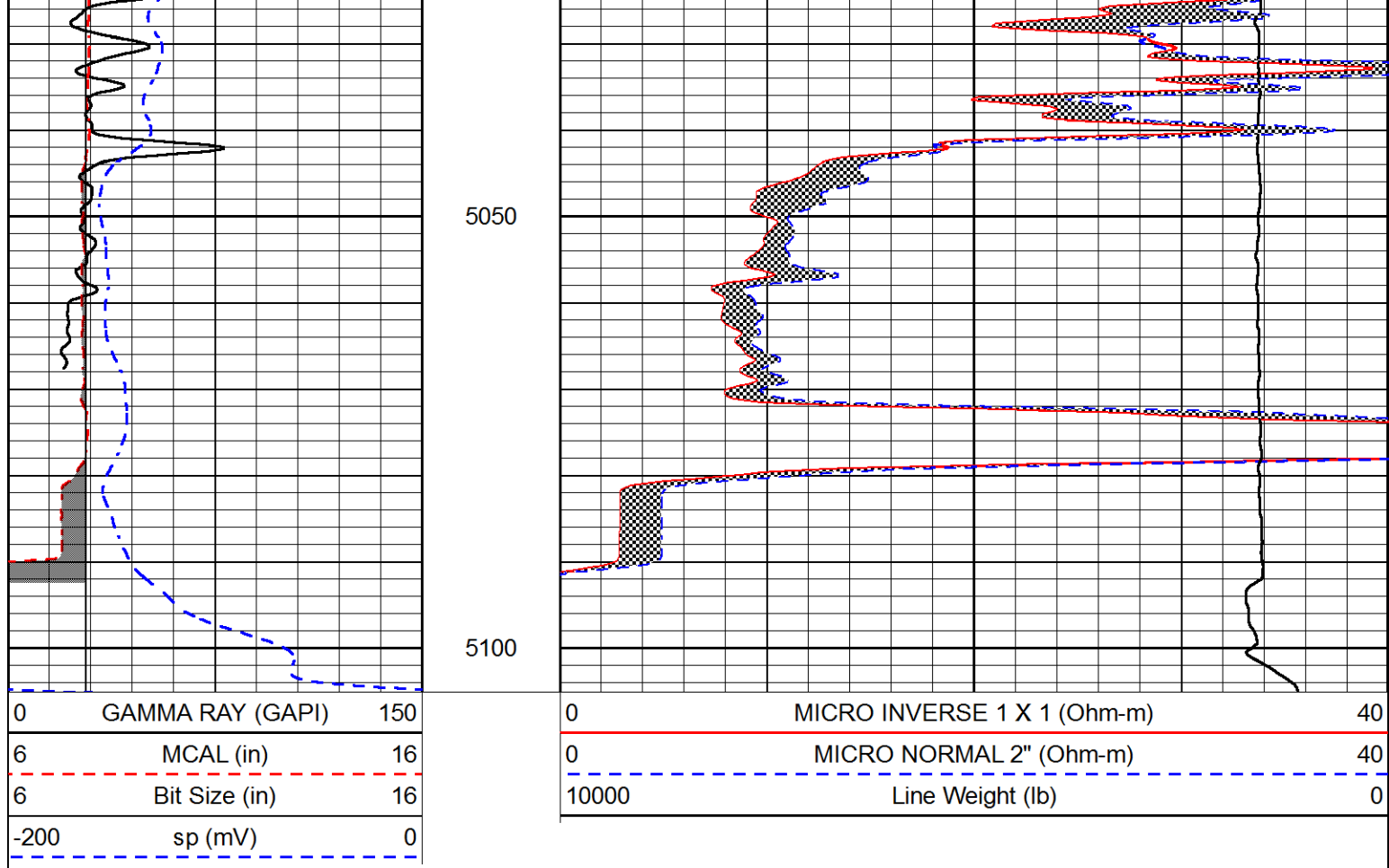


4900

4950

5000





Calibration Report

Database File murfin_c&c_unit_1_30.db
 Dataset Pathname stackmel/pass3.1
 Dataset Creation Sat Feb 01 07:47:26 2020

Dual Induction Calibration Report

Serial-Model: 952-828-PSI HIGH TEMP
 Calibration Performed: Wed Oct 09 13:38:53 2019

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.400	-27.500
Medium	0.000	1348.000	142.000	255.000	mmho/m	0.275	-27.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Sat Feb 01 06:29:21 2020

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	18000.0000	-0.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	20000.0000	-0.6000
Caliper	1.0000	1.0827	5.0000	16.5000	in	139.1950	-135.6000

Compensated Density Calibration Report

Serial-Model:
Source / Verifier:
Master Calibration Performed:

817-947-M&W
16955B / 2ci
Tue Sep 24 21:18:50 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6127.15	5922.31	cps
Aluminum	2.680	g/cc	1141.85	3762.09	cps
Spine Angle = 74.89			Density/Spine Ratio = 0.532		
	Size		Reading		
Small Ring	4.50	in	1.02		
Large Ring	15.00	in	1.33		

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: Fri Feb 07 01:42:40 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.5500 GAPI/cps



Company MURFIN DRILLING CO., INC.
Well C & C UNIT #1-30
Field WILDCAT
County CHEYENNE
State KANSAS