



MICRORESISTIVITY LOG

PIONEER
Pioneer Energy Services

Company MURFIN DRILLING CO., INC.
Well GAMBLIN #1-22
Field WILDCAT
County CHEYENNE
State KANSAS

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Field WILDCAT
County CHEYENNE State KANSAS

Location: API #: 15-023-21495-00-00

2310' FNL & 1805' FWL

SEC 22 TWP 2S RGE 37W

Permanent Datum GROUND LEVEL Elevation 3410'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Other Services
CNL/CDL
DIL/BHCS
Elevation
K.B. 3415'
D.F. N/A
G.L. 3410'

Date 9/25/2018

Run Number ONE

Depth Driller 4950'

Depth Logger 4954'

Bottom Logged Interval 4953'

Top Log Interval 4000'

Casing Driller 8.625" @ 387'

Casing Logger 384'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 900

Density / Viscosity 9.0 61

pH / Fluid Loss 11.5 6.0

Source of Sample FLOWLINE

Rm @ Meas. Temp 0.75 @ 82

Rmf @ Meas. Temp 0.56 @ 82

Rmc @ Meas. Temp 1.01 @ 82

Source of Rmf / Rmc CHARTS

Rm @ BHT 0.49 @ 126

Operating Rig Time 5 HOURS

Max Rec. Temp. F 126

Equipment Number 91

Location HAYS

Recorded By IAN MABB

Witnessed By SAMAN SHARIFAIE

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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, KS.

EAST TO RD. 32, NORTH 7 MILES, EAST INTO AT
THE TANK BATTERY

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

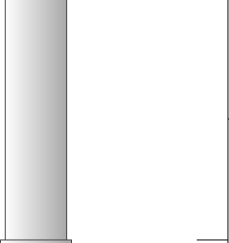
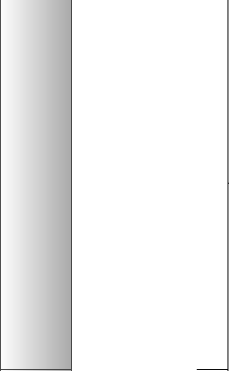
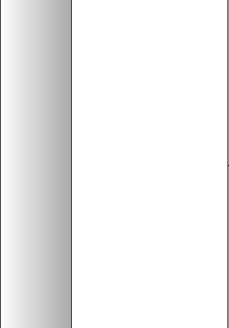
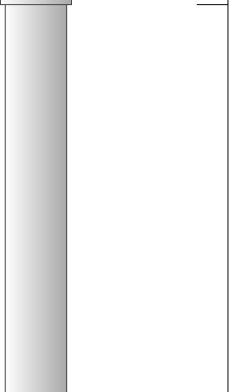
Secondary Witness:

Secondary Witness:

Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	689	3
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
5	55	0	5.5	0	4954	126	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (144-84)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

		DIL-PSI HIGH TEMP (967 (HT))		18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: murfin_gamblin_1_22.db: field/well/stackmel/pass3.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						



Database File

Dataset Pathname

Presentation Format

Dataset Creation

Charted by

murfin_gamblin_1_22.db

stackmel/pass3.1

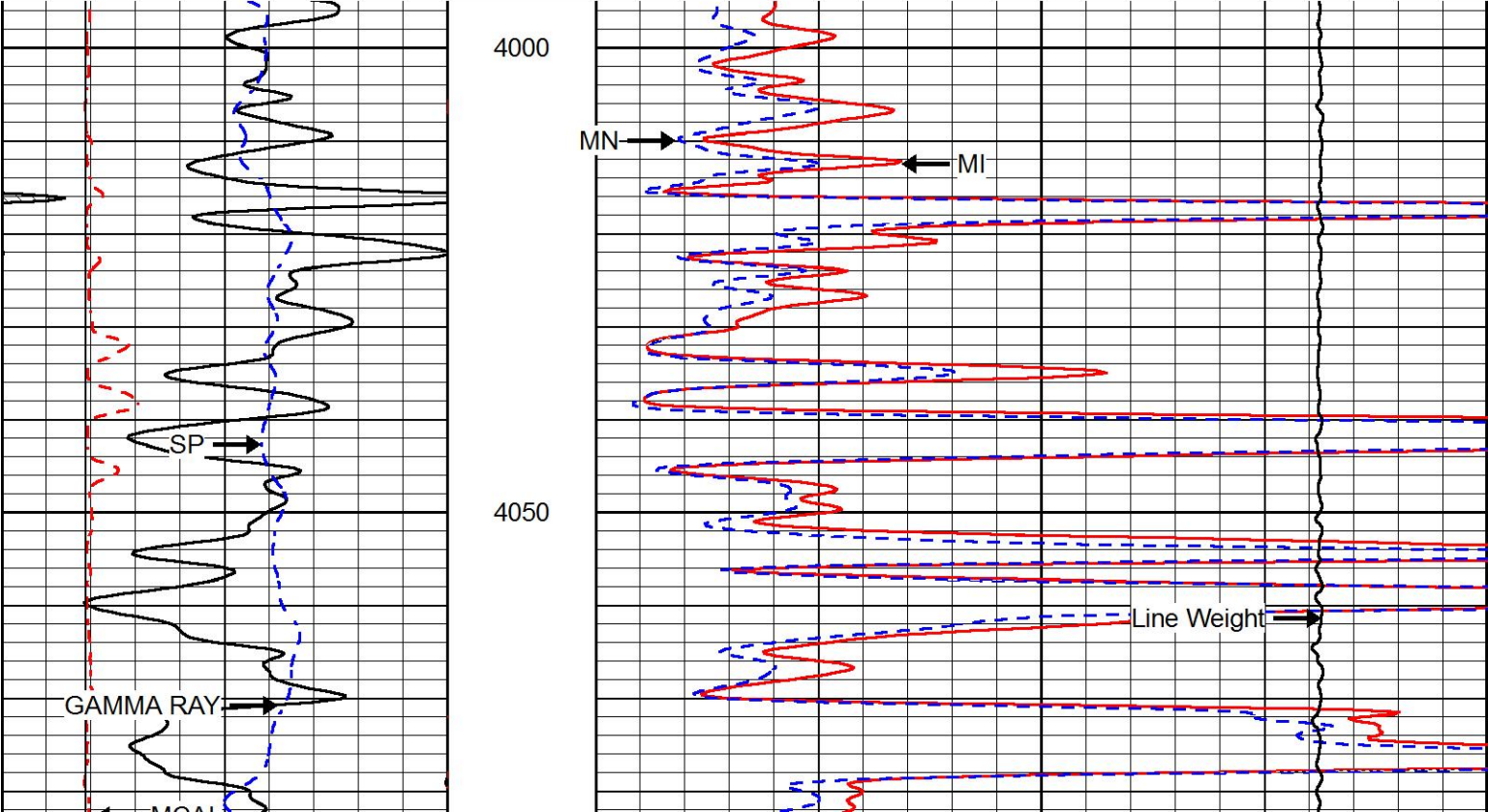
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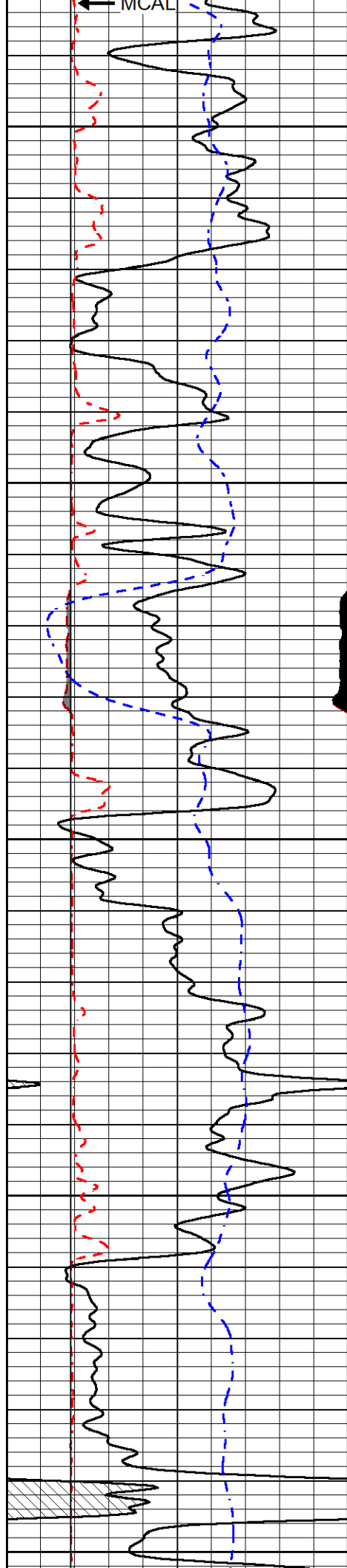
Tue Sep 25 07:07:00 2018

Depth in Feet scaled 1:240

MAIN PASS

0	GAMMA RAY (GAPI)	150	0	MICRO INVERSE 1 X 1 (Ohm-m)	40
6	MCAL (in)	16	0	MICRO NORMAL 2" (Ohm-m)	40
2.875	mcals (in)	7.875	10000	Line Weight (lb)	0
6	Bit Size (in)	16			
-200	SP (mV)	0			





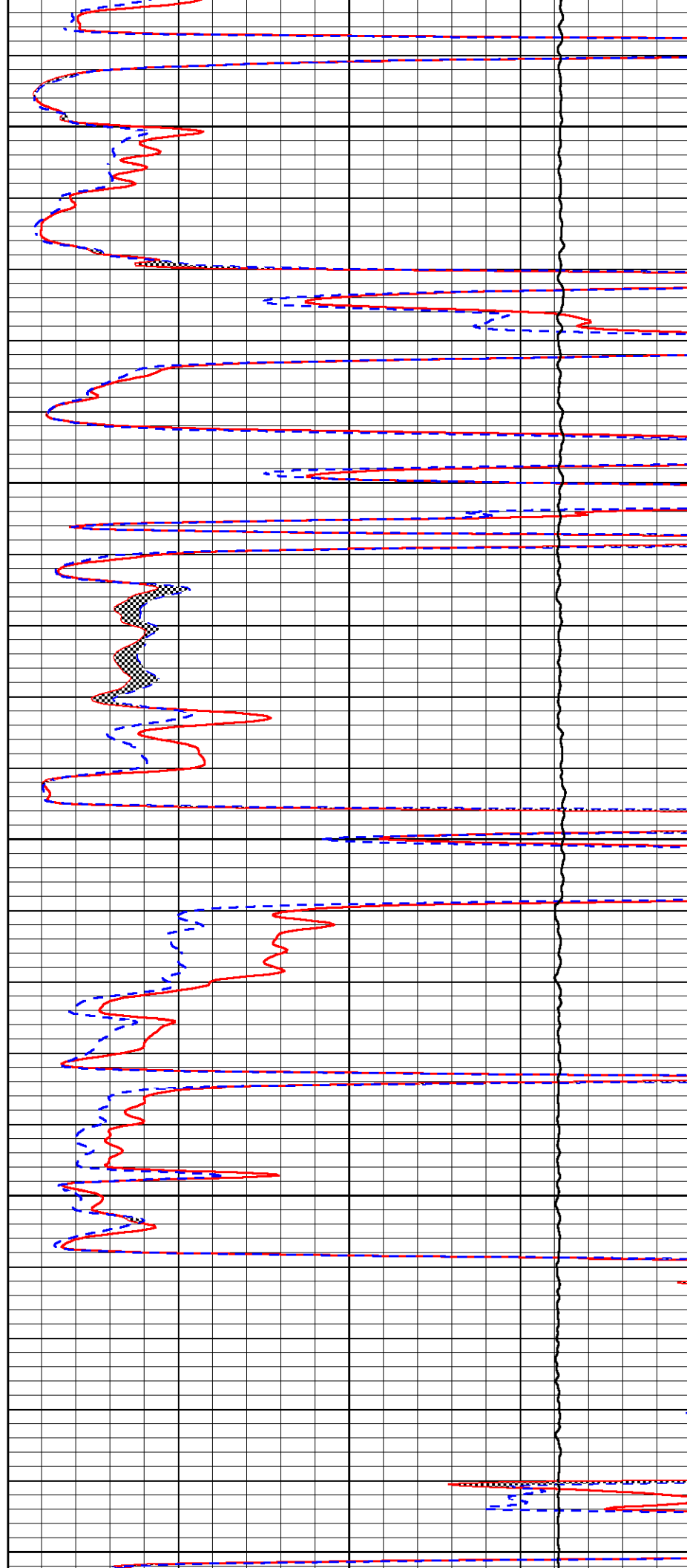
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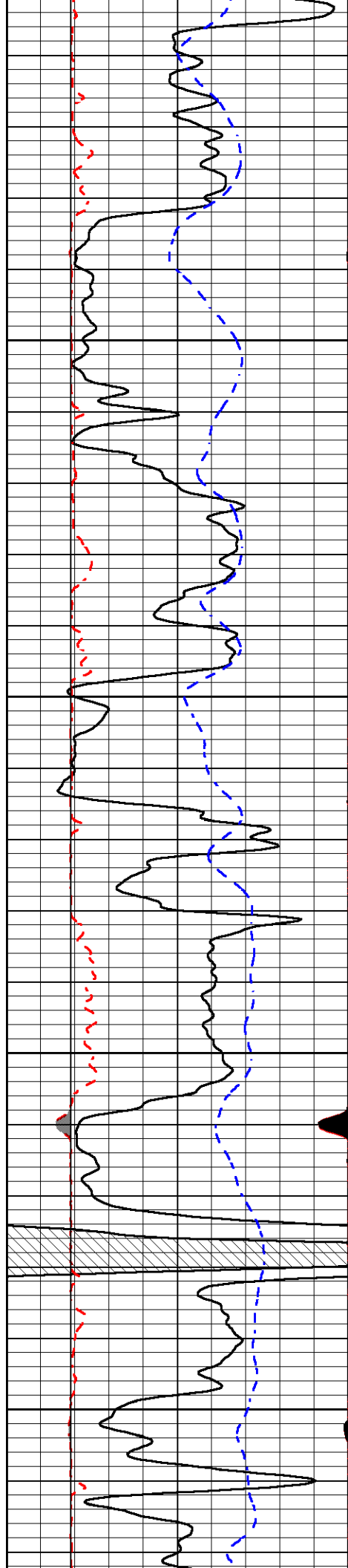
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4200

4250

4300



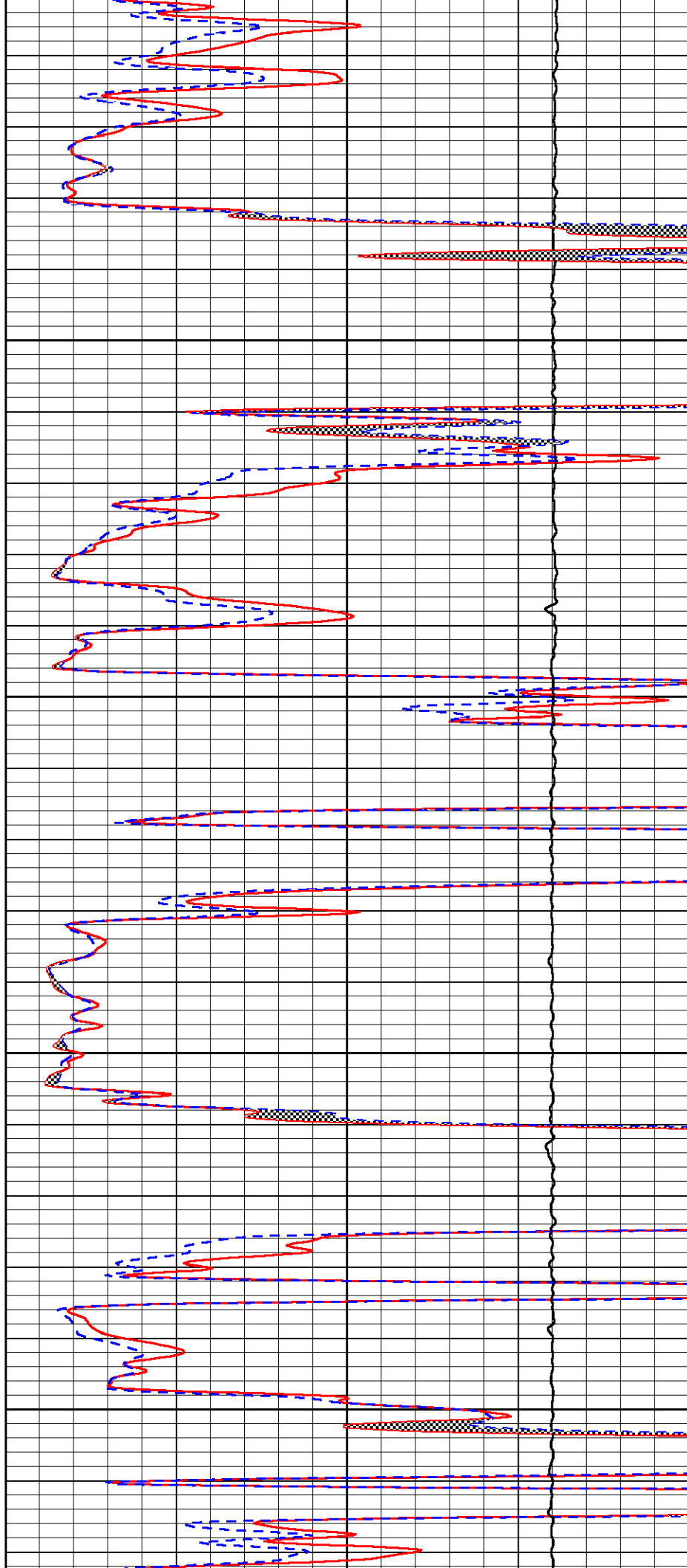


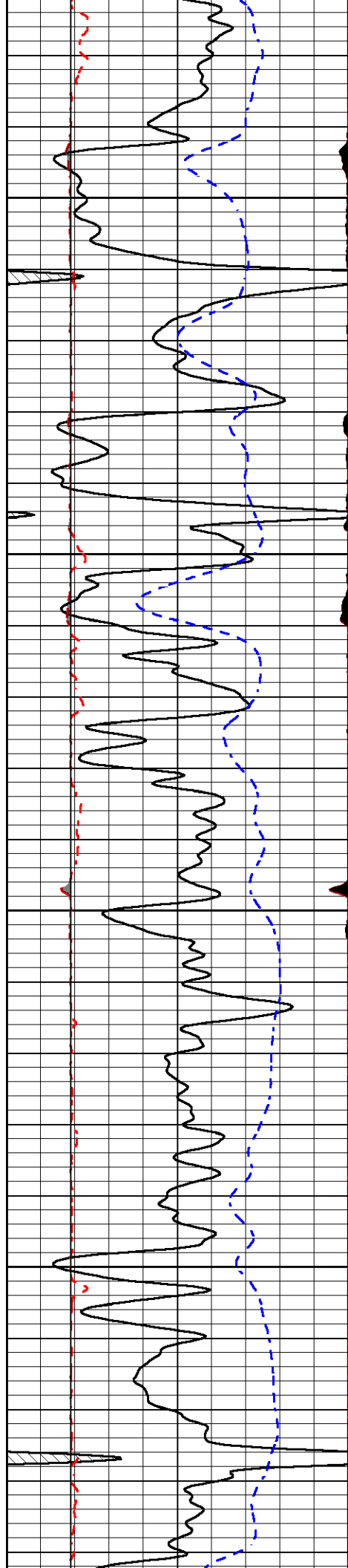
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4400

4450

4500



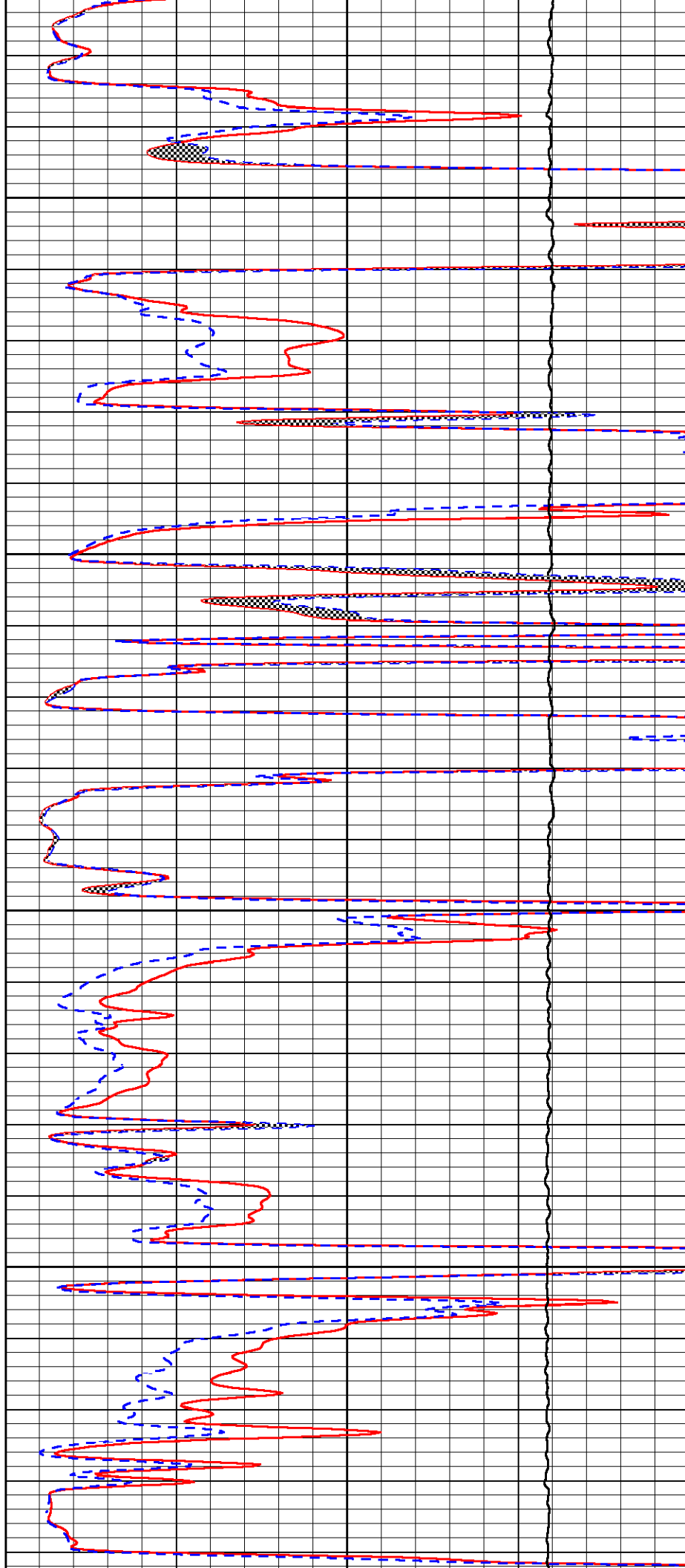


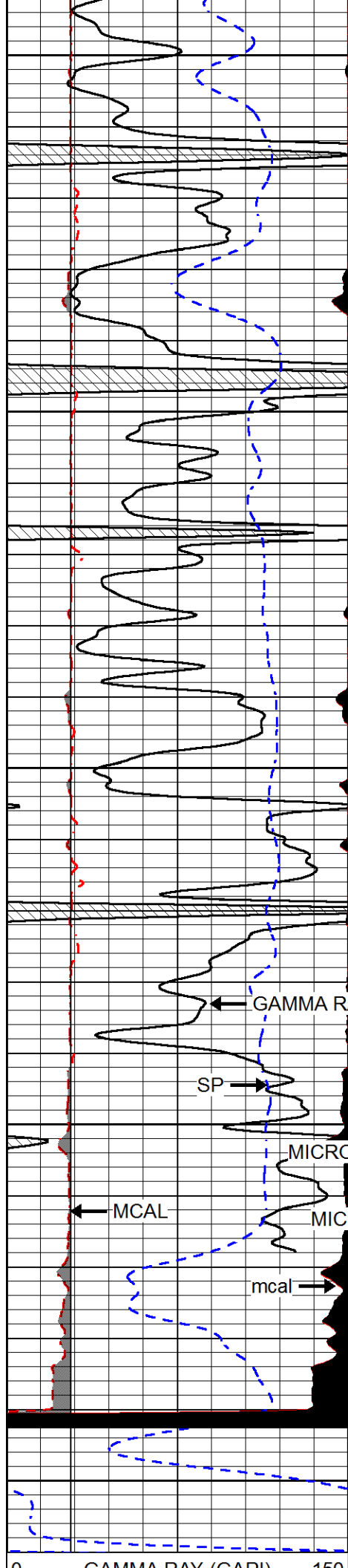
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4600

4650

4700





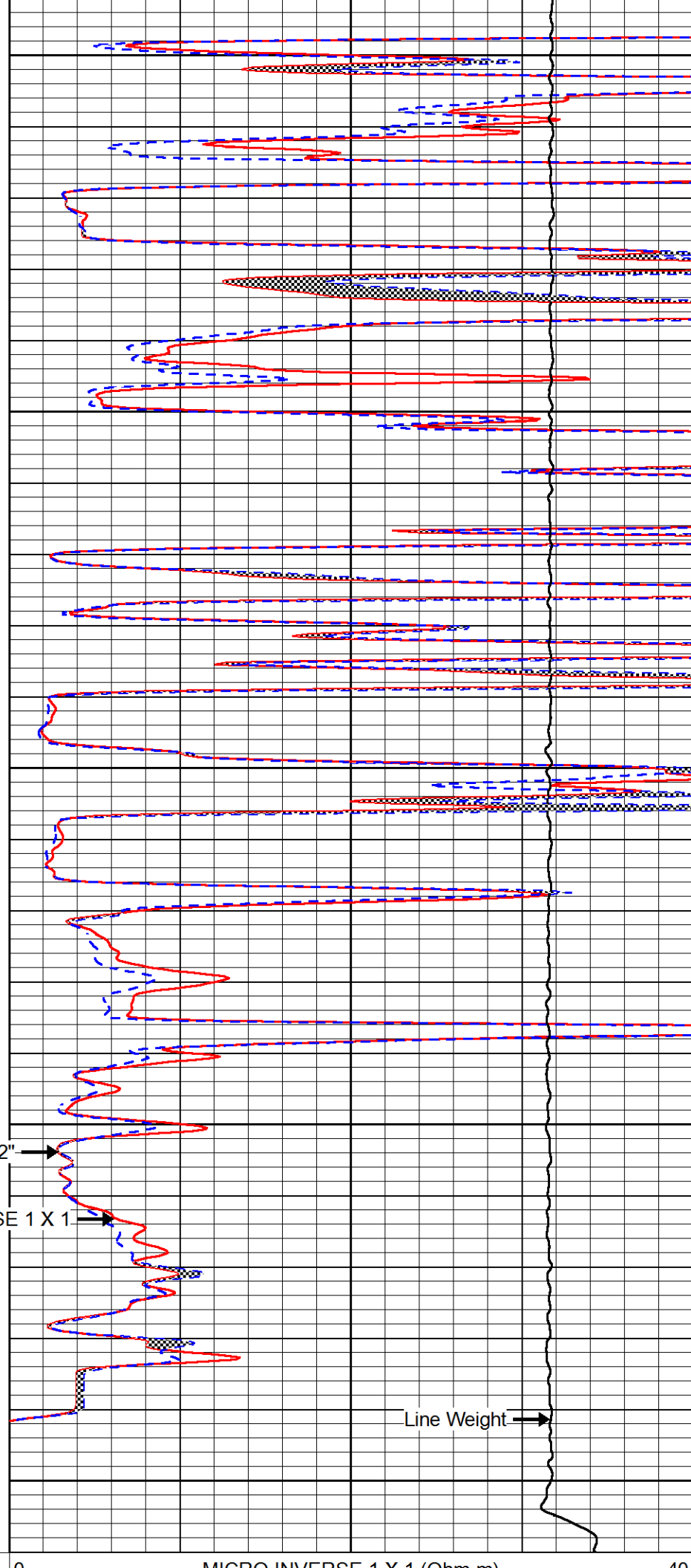
4750

4800

4850

4900

4950



0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
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

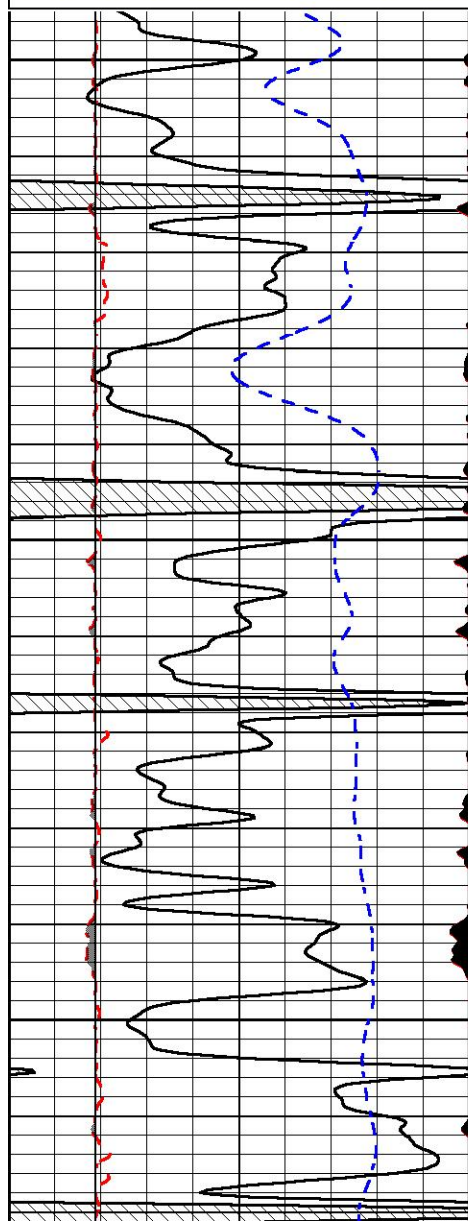


REPEAT SECTION

Database File murfin_gamblin_1_22.db
Dataset Pathname stackmel/pass2.1
Presentation Format micro
Dataset Creation Tue Sep 25 07:06:27 2018
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

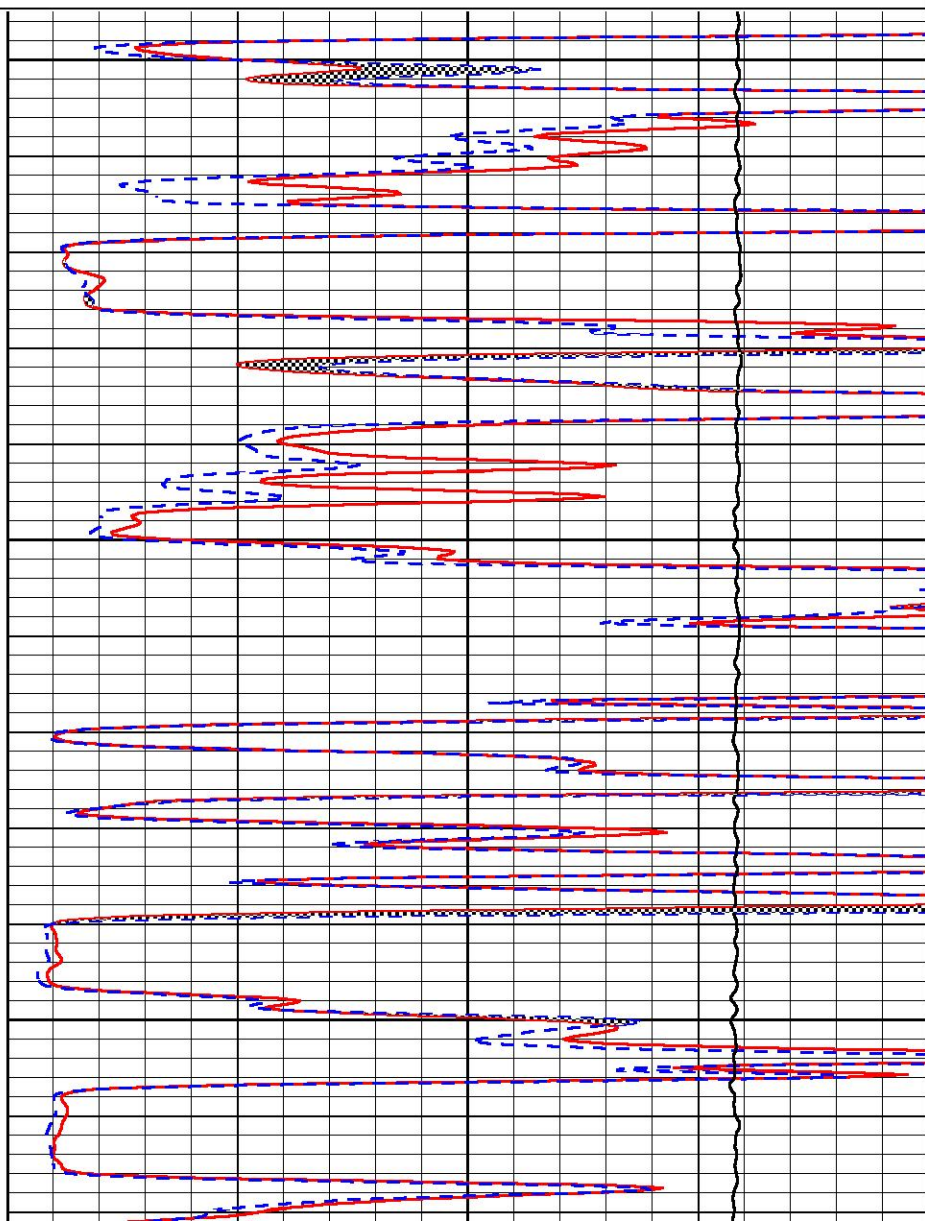
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0

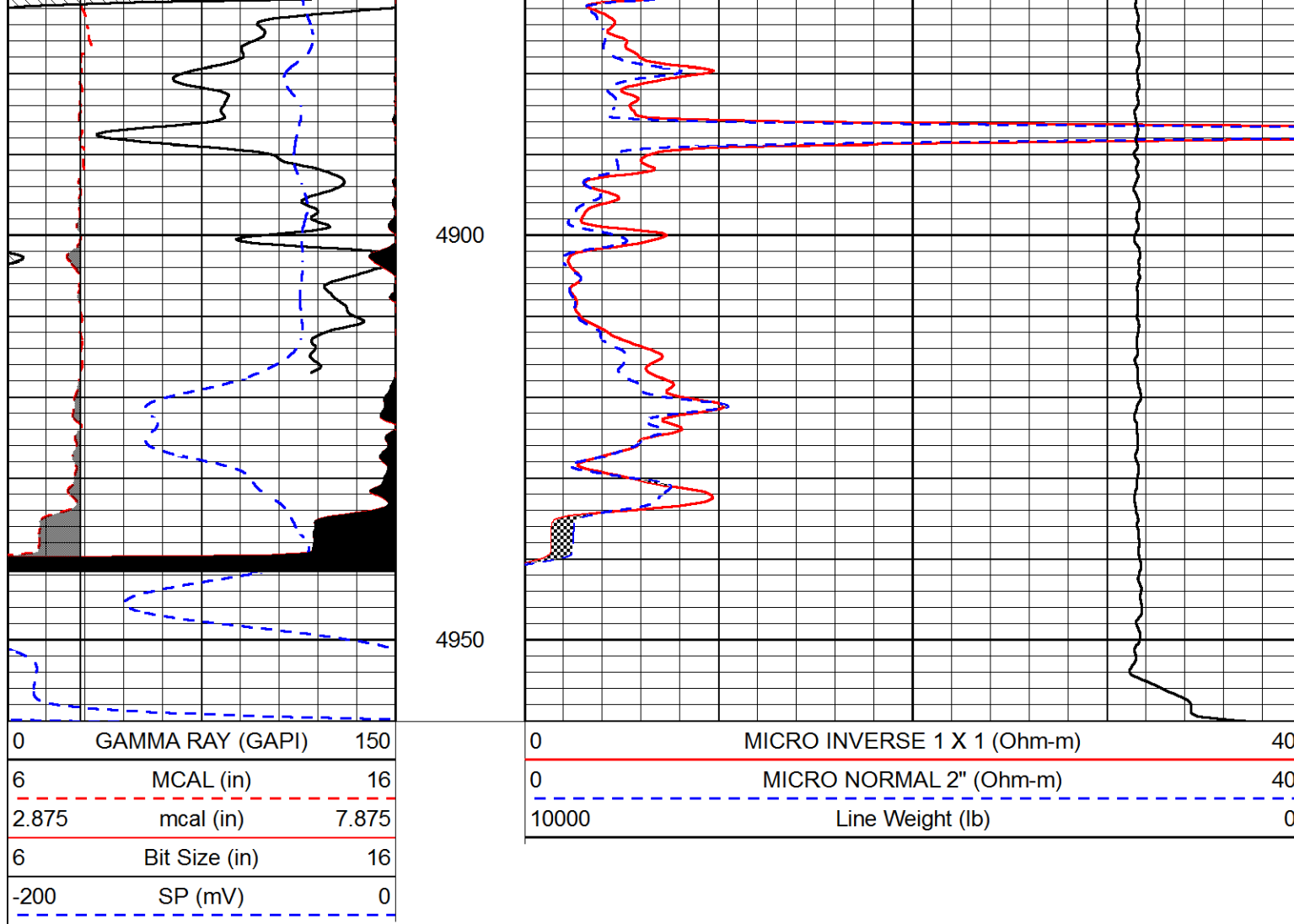


4750

4800

4850





Calibration Report

Database File: murfin_gamblin_1_22.db
 Dataset Pathname: stackmel/pass3.1
 Dataset Creation: Tue Sep 25 07:07:00 2018

Dual Induction Calibration Report

Serial-Model: 967 (HT)-PSI HIGH TEMP
 Calibration Performed: Sun Aug 26 00:41:13 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.565	-20.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-40.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Sat Sep 08 05:17:35 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	28000.0000	-0.8000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	35000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	65.9500

Compensated Density Calibration Report

Serial-Model: 144-84-M&W
Source / Verifier: 16955B / 2ci
Master Calibration Performed: Thu Aug 30 10:10:19 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4867.47	6031.92	cps
Aluminum	2.650	g/cc	906.23	3806.99	cps
Spine Angle = 74.69			Density/Spine Ratio = 0.514		
	Size		Reading		
Small Ring	5.00	in	0.70		
Large Ring	15.00	in	0.04		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: FRI AUG 24 10:30:30 2018

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
Tool Model: M&W
Calibration Performed: Fri Aug 24 11:16:10 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



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