



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company	BICKLE ENERGIES, LLC
Well	A.B. FISHER #14-1
Field	WILDCAT
County	CHEYENNE
State	KANSAS
Location:	API # : 15-023-21505-00-00 1956' FSL & 615' FWL SEC 14 TWP 5S RGE 37W
Permanent Datum Log Measured From Drilling Measured From	GROUND LEVEL KELLY BUSHING KELLY BUSHING
Elevation K.B. 3372' D.F. N/A G.L. 3372'	Other Services CNL/CDL DIL
Date	1/31/2019
Run Number	ONE
Depth Driller	4960'
Depth Logger	4959'
Bottom Logged Interval	4958'
Top Log Interval	3700'
Casing Driller	8.625" @ 367'
Casing Logger	365'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	500
Density / Viscosity	9.3 59
pH / Fluid Loss	10.0 7.6
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.20 @ 58
Rmt @ Meas. Temp	.90 @ 58
Rmc @ Meas. Temp	1.62 @ 58
Source of Rmt / Rmc	CHARTS
Rm @ BHT	.55 @ 126
Operating Rig Time	2 HOURS
Max Rec. Temp. F	126 DEGF
Equipment Number	108
Location	HAYS
Recorded By	J. HENRICKSON
Witnessed By	KEITH REAVIS

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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.

BREWSTER KANSAS
NORTH TO EE RD, WEST TO 34 RD, NORTH TO D RD,
1 WEST, 1/4 NORTH, EAST 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	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: KEITH REAVIS
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

DatabaseC:\ProgramData\Warrior\Data\bickle_ab_fisher_14_1.db
Dataset field/well/stackml/pass3.1/_vars_

DatabaseC:\ProgramData\Warrior\Data\bickle_ab_fisher_14_1.db
Dataset field/well/stackml/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	50	32	Off	4959

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	37.48		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73					
LSD DCAL SSD	28.43		CDL-M&W (144-84)	8.50	4.00	250.00
	28.42					
	27.93					
MCAL MI MN	19.83		ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
	19.83					
	19.83					
RLL3 RLL3F	15.80 15.79		DIL-M&W (PSI 988)	18.50	3.50	220.00
CILD	8.00					

CILM

4.70

SP

0.20

Dataset: bickle_ab_fisher_14_1.db: field/well/stackml/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

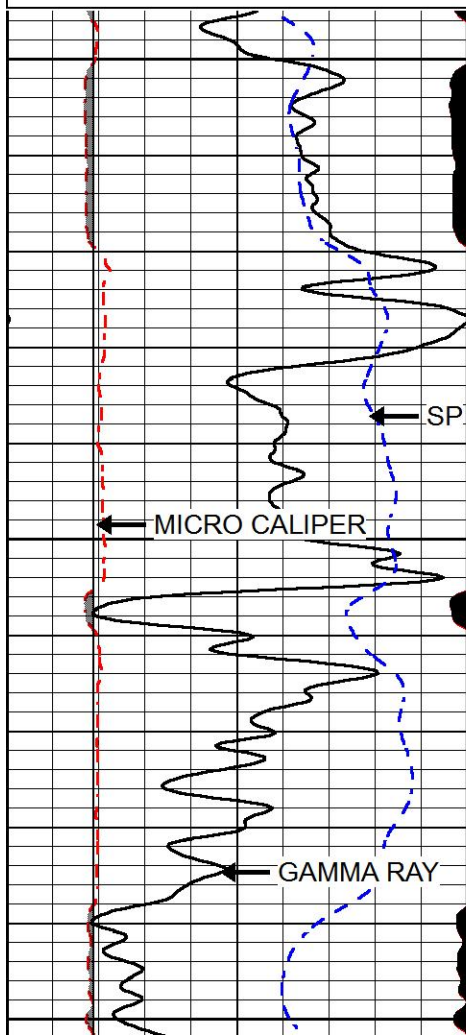


MAIN PASS

Database File bickle_ab_fisher_14_1.db
Dataset Pathname stackml/pass3.1
Presentation Format micro
Dataset Creation Thu Jan 31 21:06:24 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



3700

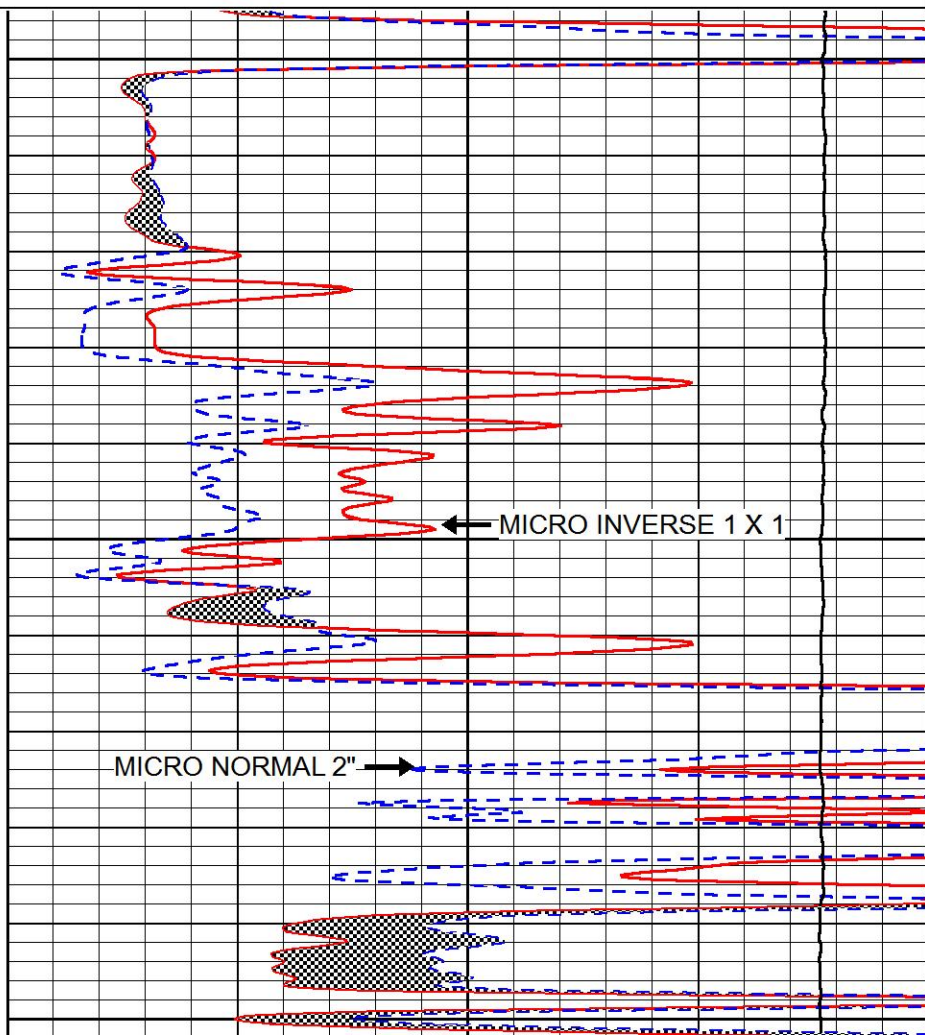
SP

MICRO CALIPER

GAMMA RAY

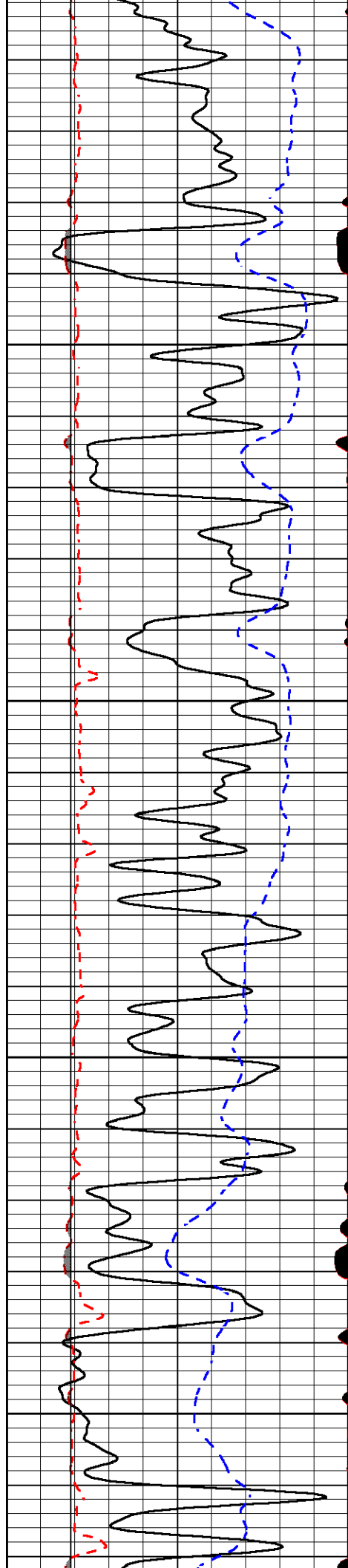
3750

3800



MICRO INVERSE 1 X 1

MICRO NORMAL 2"

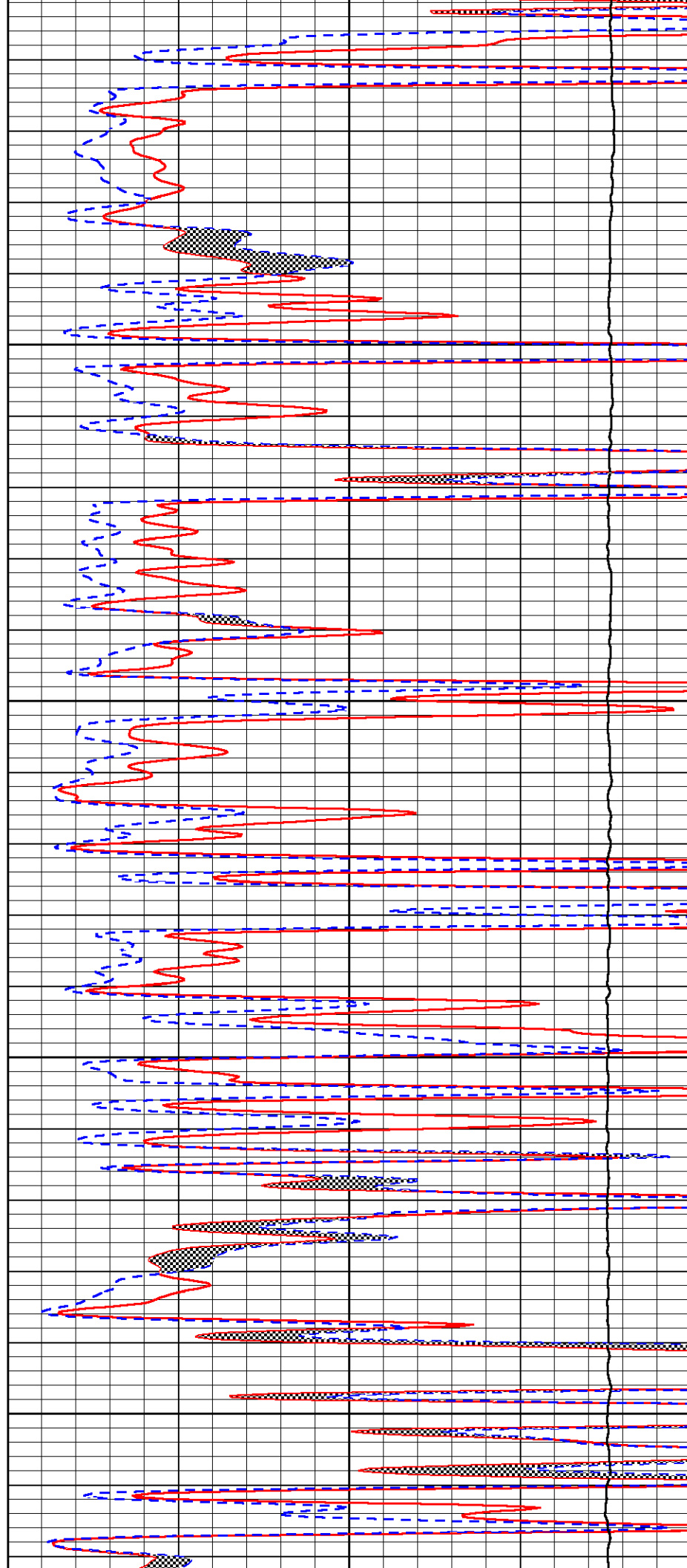


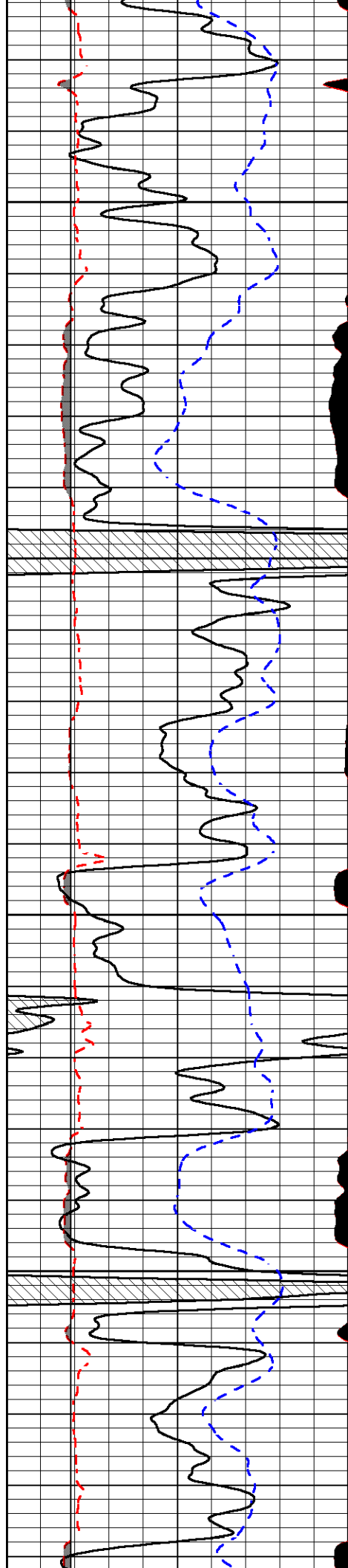
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3900

3950

4000



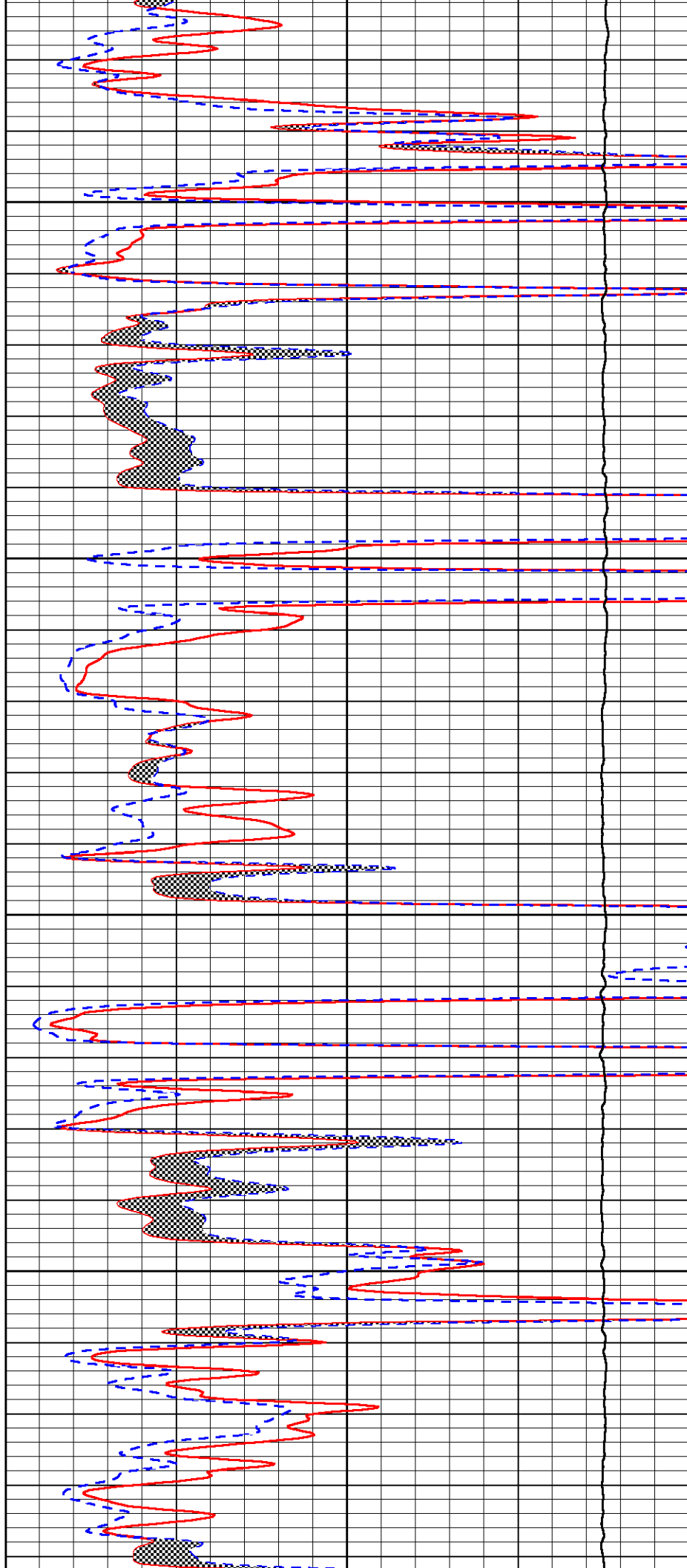


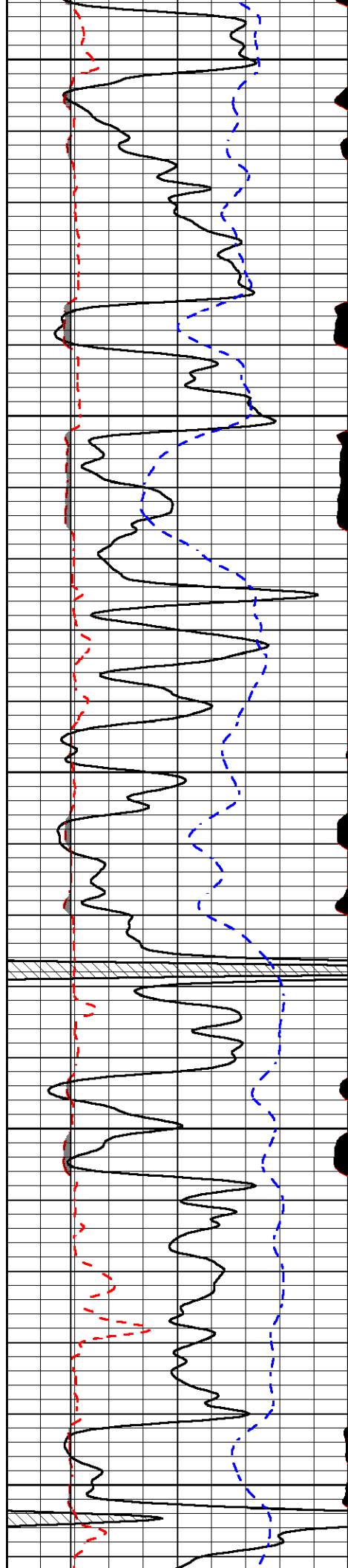
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4100

4150

4200





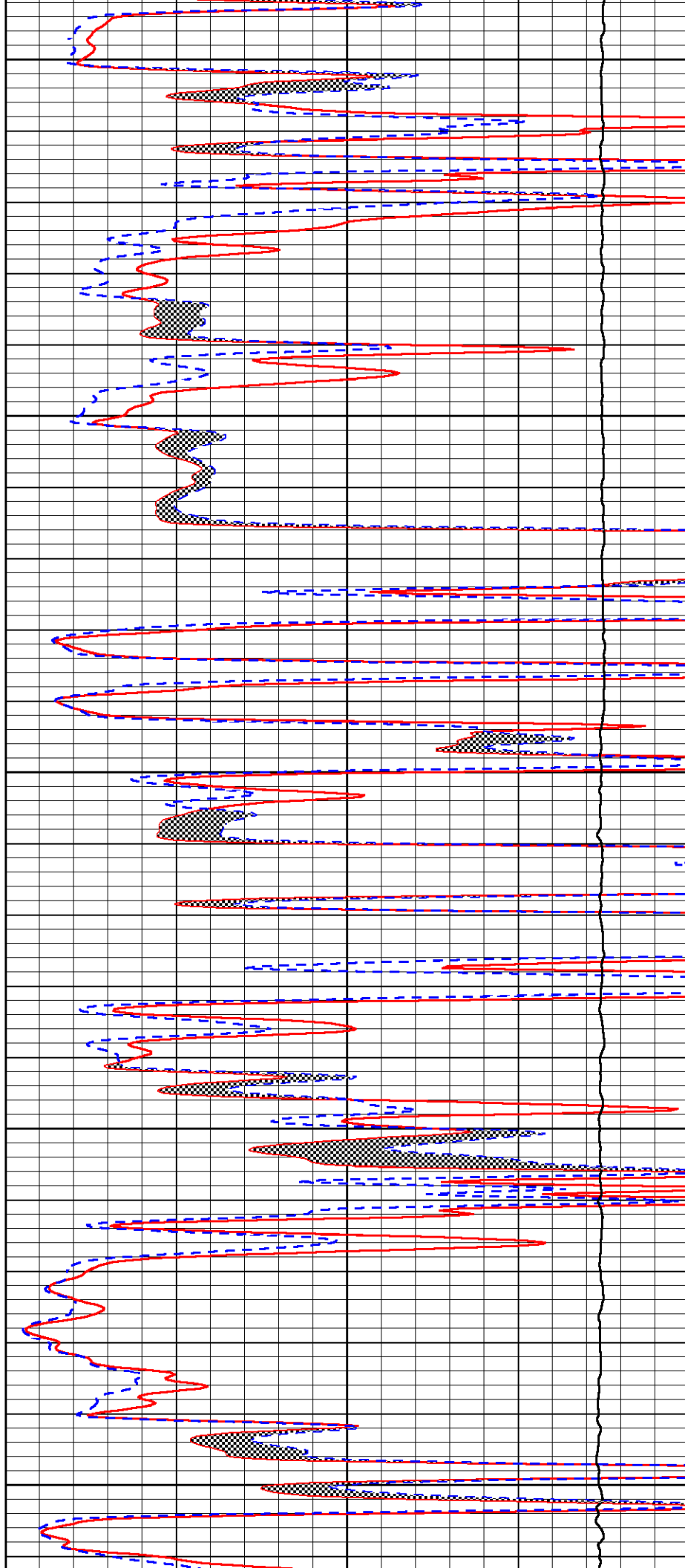
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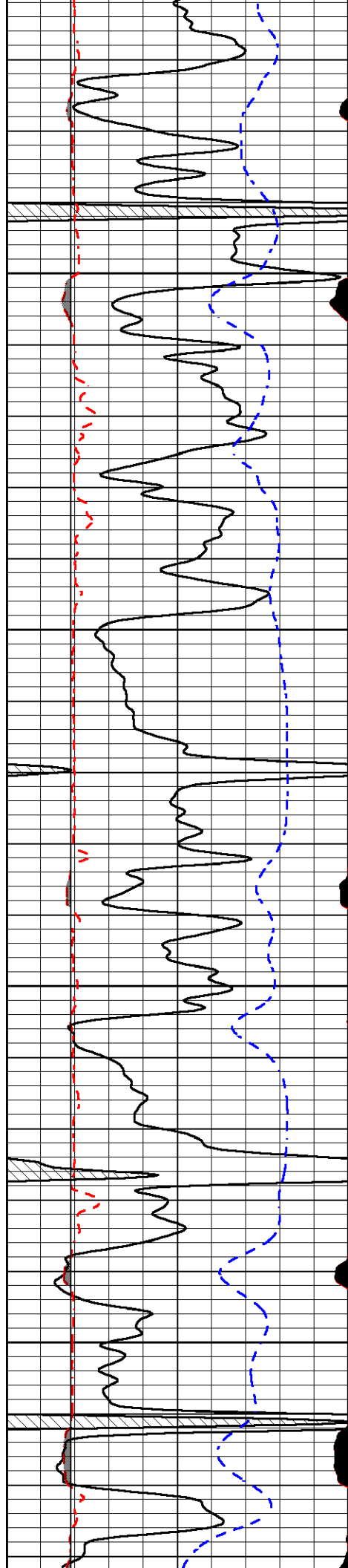
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4350

4400

4450



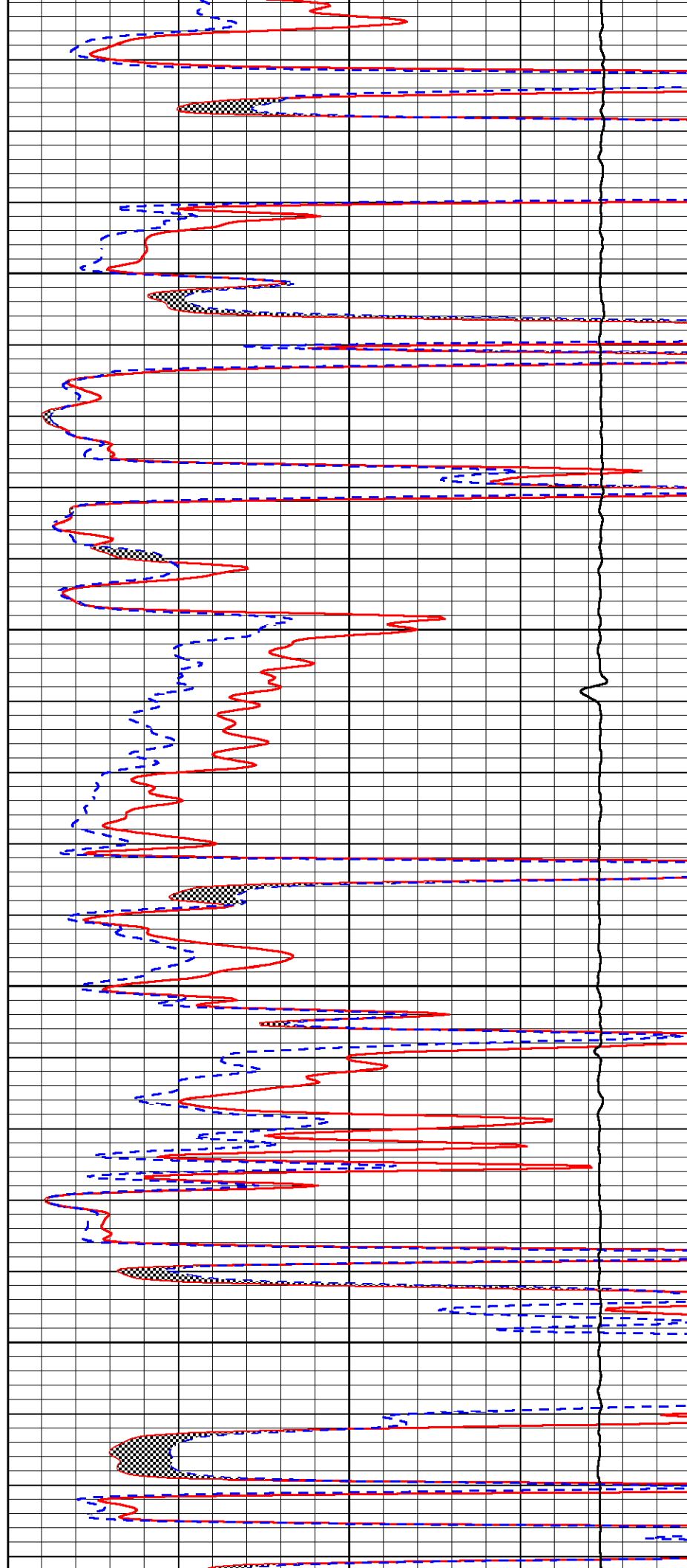


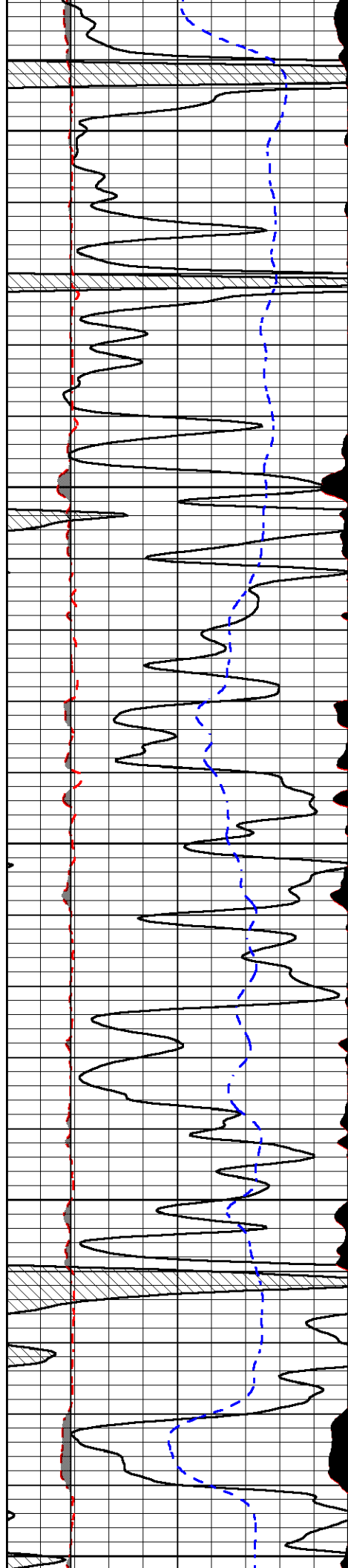
4500

4550

4600

4650





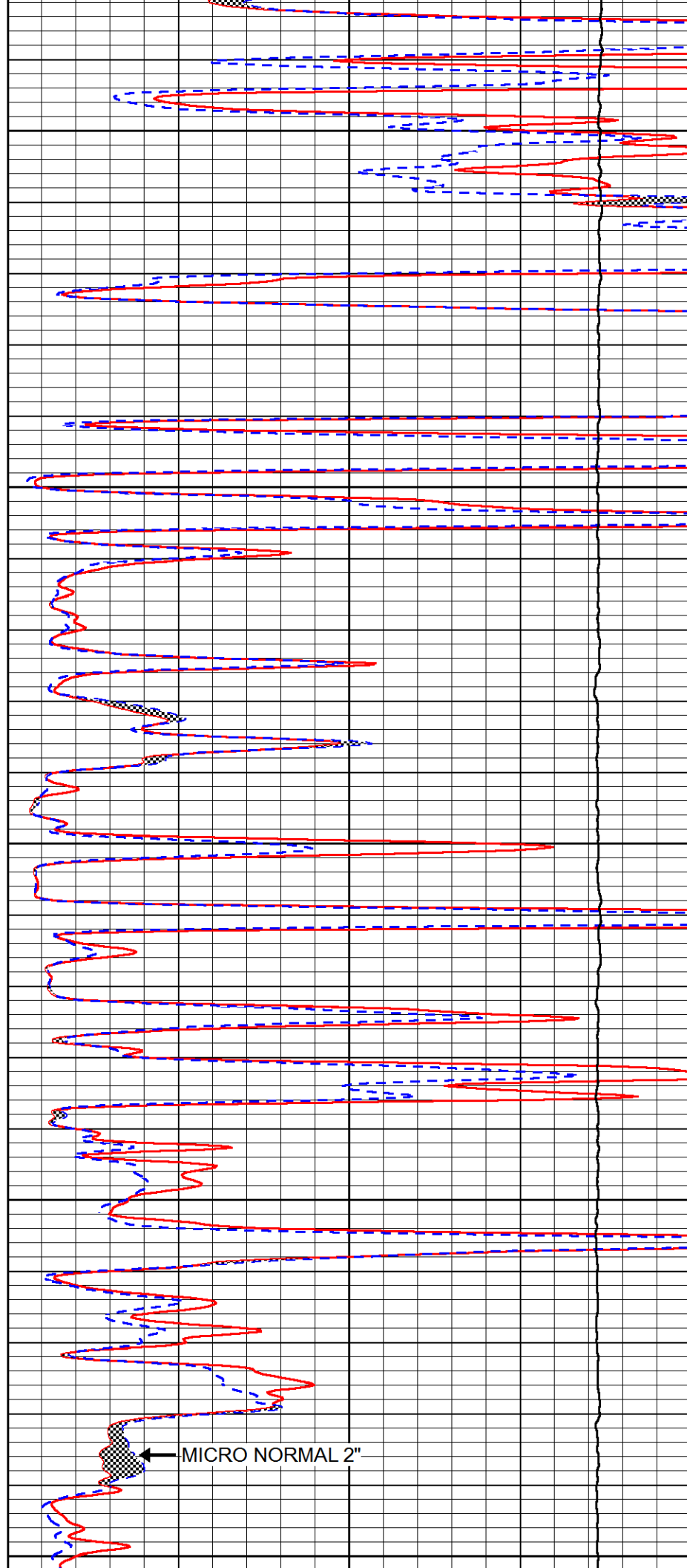
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4750

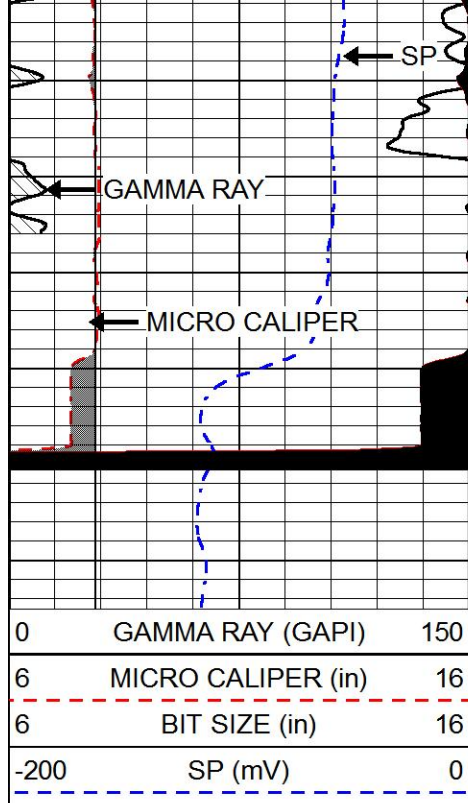
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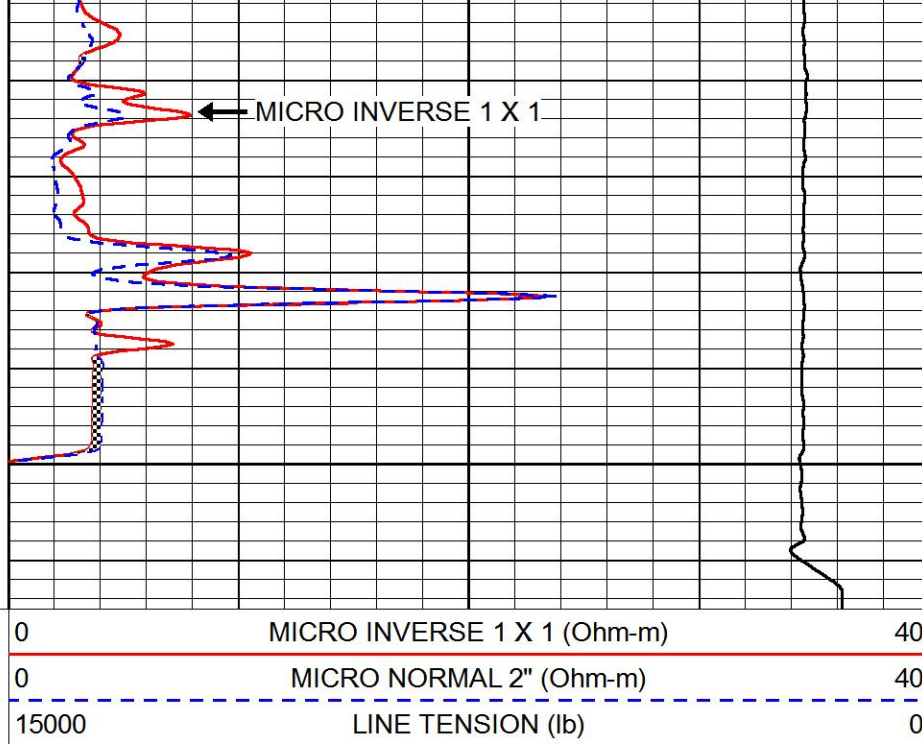
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← MICRO NORMAL 2"

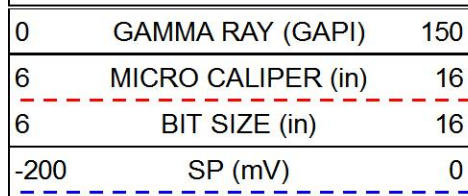


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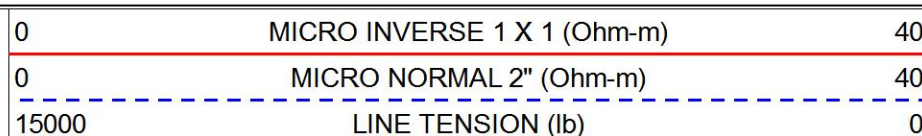
REPEAT SECTION

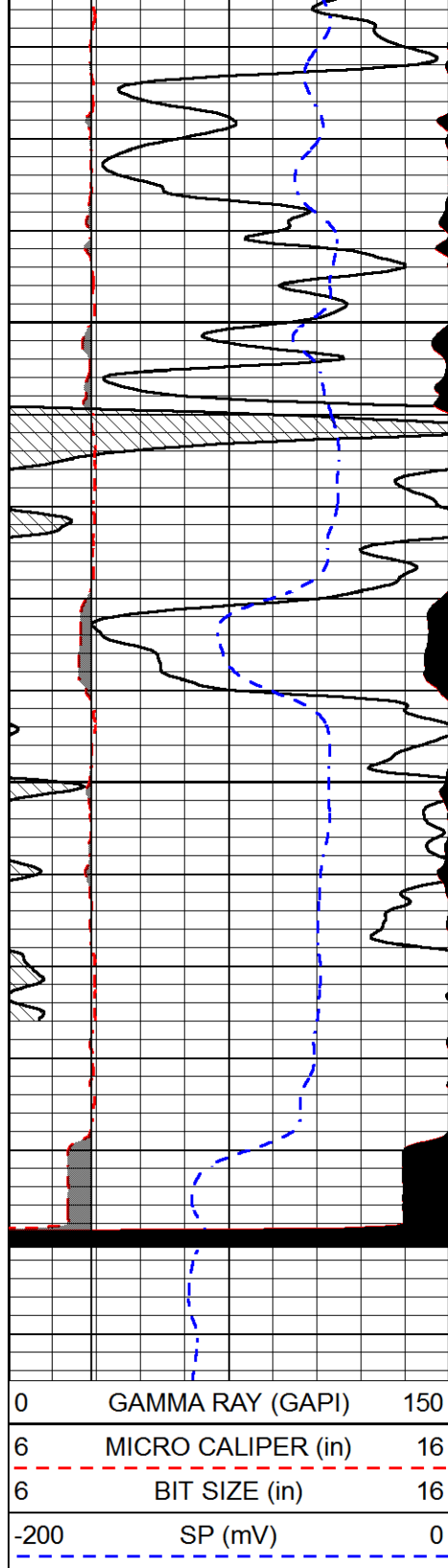
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 Presentation Format micro
 Dataset Creation Thu Jan 31 21:06:34 2019
 Charted by Depth in Feet scaled 1:240



4750

4800

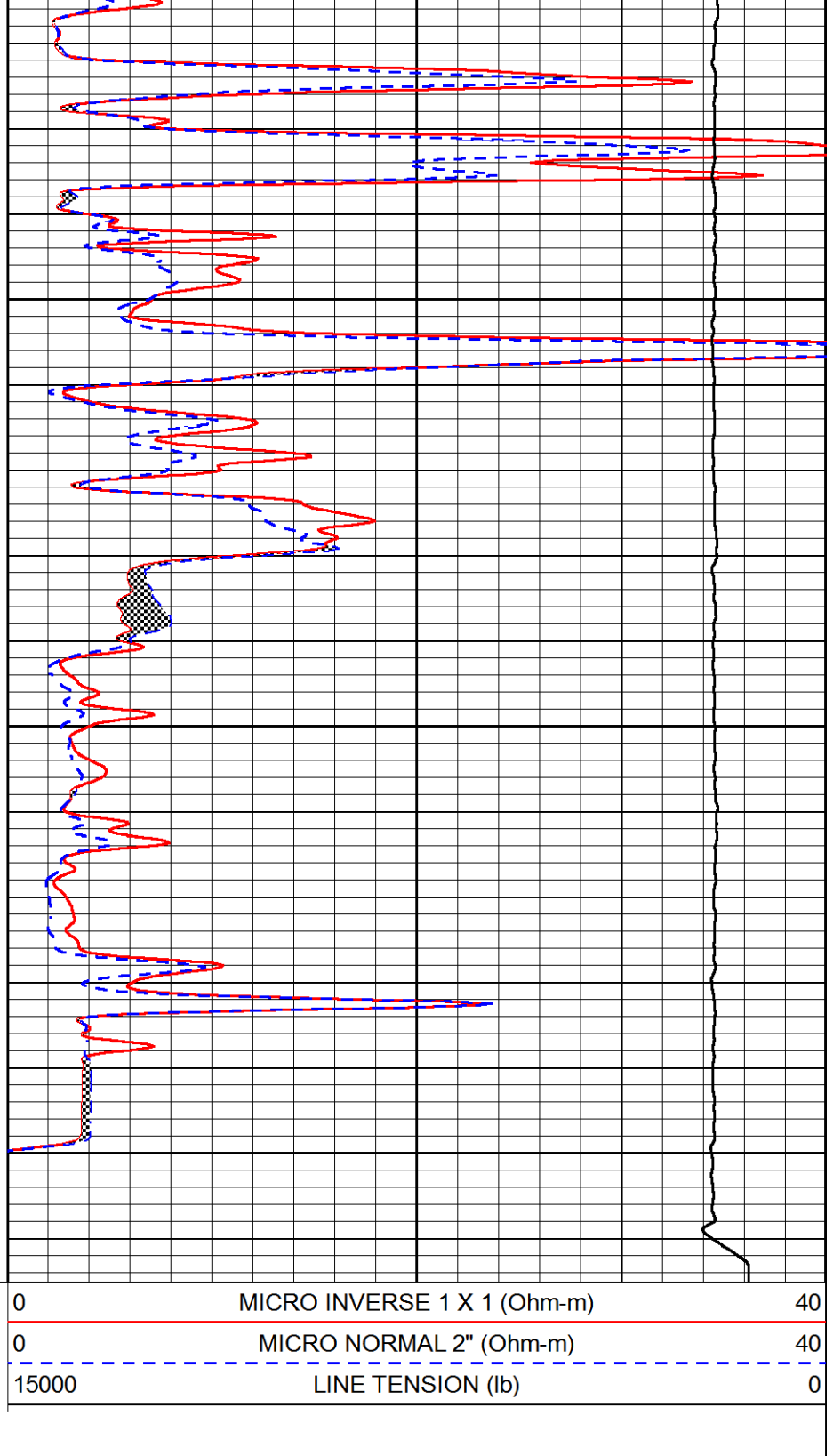




4850

4900

4950



Calibration Report

Database File bickle_ab_fisher_14_1.db
 Dataset Pathname stackml/pass3.1
 Dataset Creation Thu Jan 31 21:06:24 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	0.380	-17.000
Microlog Calibration Report							
Serial-Model: Performed:			PSI-01-PSI STKBL ML Thu Mar 31 18:14:32 2016				
Readings			References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	22500.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	29500.0000	-1.0000
Caliper	1.0001	1.1397	6.5000	18.5000	in	86.0000	-82.6000
Compensated Density Calibration Report							
Serial-Model: Source / Verifier: Master Calibration Performed:			144-84-M&W / 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: Tool Model: Calibration Performed:			tk10-MW M&W 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: Tool Model: Calibration Performed:		89-M&W M&W 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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