



# MICRORESISTIVITY LOG

Company BOWMAN OIL COMPANY  
 Well EUNICE BERLAND #1  
 Field BERLAND EAST  
 County ROOKS  
 State KANSAS

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Location: API #: 15-163-24396-00-00  
 4520' FSL & 2500' FEL  
 SEC 20 TWP 10S RGE 19W  
 Permanent Datum GROUND LEVEL Elevation 2198'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 CNL/CDL  
 DIL  
 Elevation  
 K.B. 2203'  
 D.F. N/A  
 G.L. 2198'

Date	9/13/2019
Run Number	ONE
Depth Driller	3880'
Depth Logger	3880'
Bottom Logged Interval	3879'
Top Log Interval	2900'
Casing Driller	8.625" @ 259'
Casing Logger	258'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	3500
Density / Viscosity	9.4 54
pH / Fluid Loss	9.5 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.65 @ 71
Rmt @ Meas. Temp	.49 @ 71
Rmc @ Meas. Temp	.88 @ 71
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.40 @ 115
Operating Rig Time	2 HOURS
Max Rec. Temp. F	115 DEGF
Equipment Number	P-108
Location	HAYS
Recorded By	J. HENRICKSON
Witnessed By	ROGER MOSES

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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.

ZURICH KANSAS  
 WEST TO 8 ROAD, 4 1/2 SOUTH, EAST INTO

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

THANK YOU FOR USING PIONEER ENERGY SERVICES  
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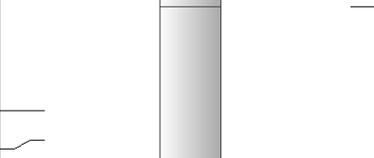
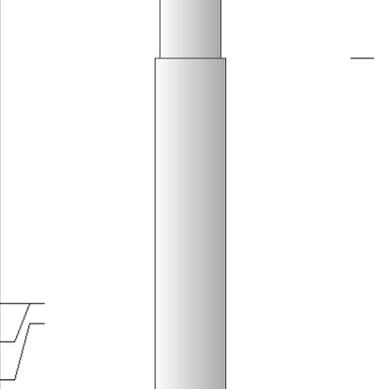
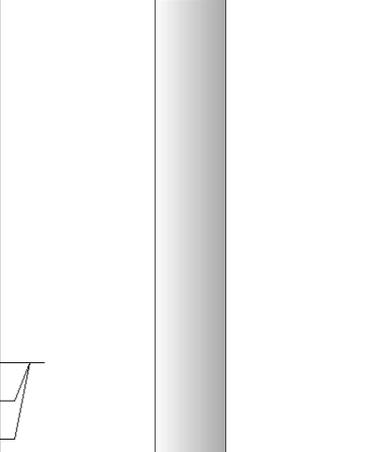
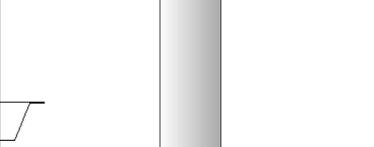
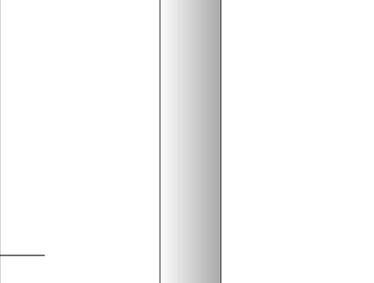
Your Pioneer Energy Services Crew Engineer: J. HENRICKSON Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: ROGER MOSES Secondary Witness: Secondary Witness: Secondary Witness:
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# Log Variables

DatabaseC:\ProgramData\Warrior\Data\borman\_eunice\_berland\_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	115	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	60	0	Off	3880

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	44.50		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	41.40 40.65		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	32.35 32.33 31.85		CDL-M&W (979-229)	8.50	4.00	250.00
MCAL MI MN	20.87 20.87 20.87		ML-PSI UDM ML (UDM-01) Stackable Microlog Tools	11.50	4.00	215.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (PSI 988)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: bowman\_eunice\_berland\_1.db: field/well/stackml/pass3.1  
 Total length: 47.00 ft  
 Total weight: 835.00 lb  
 O.D.: 4.00 in

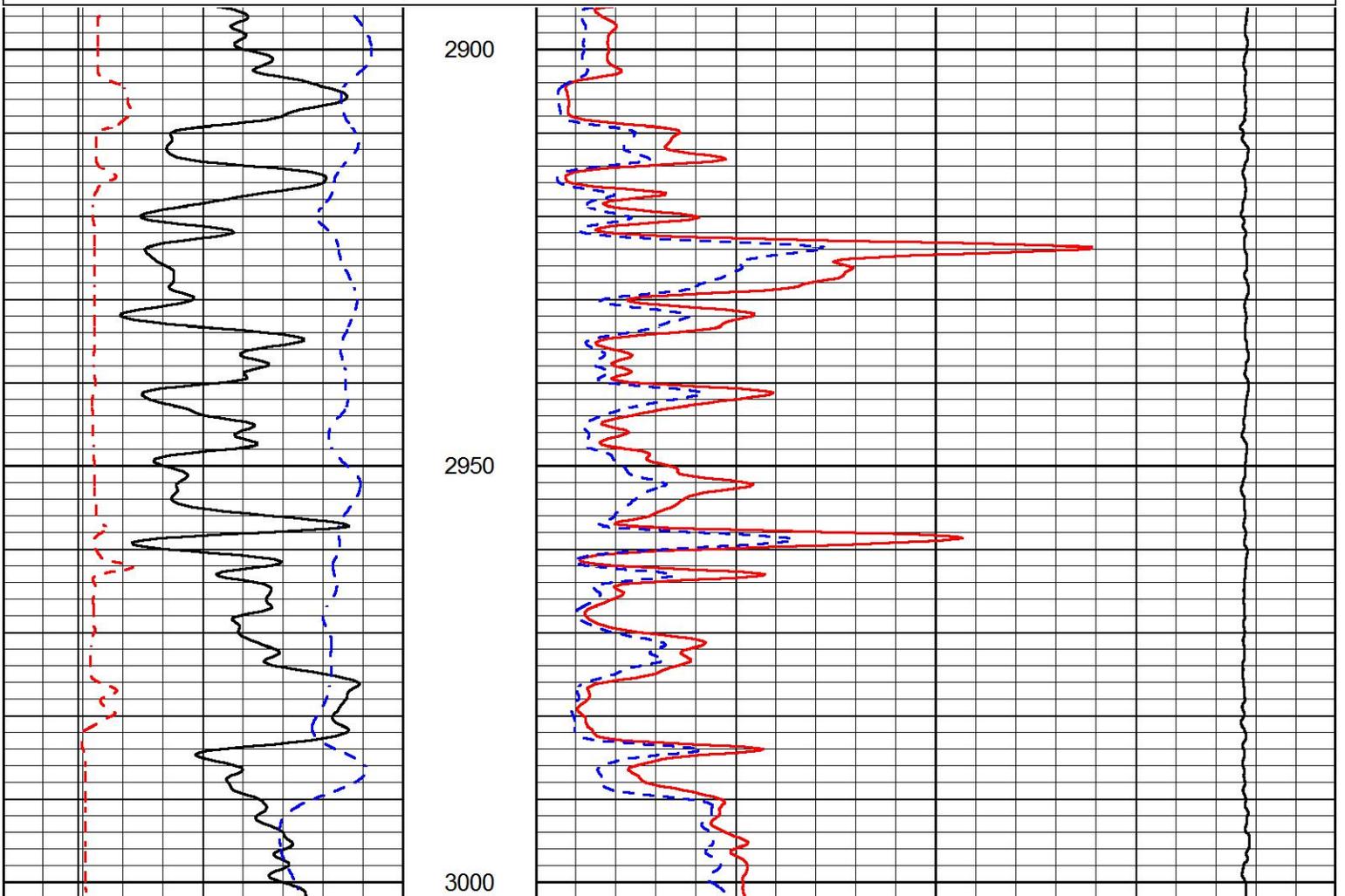


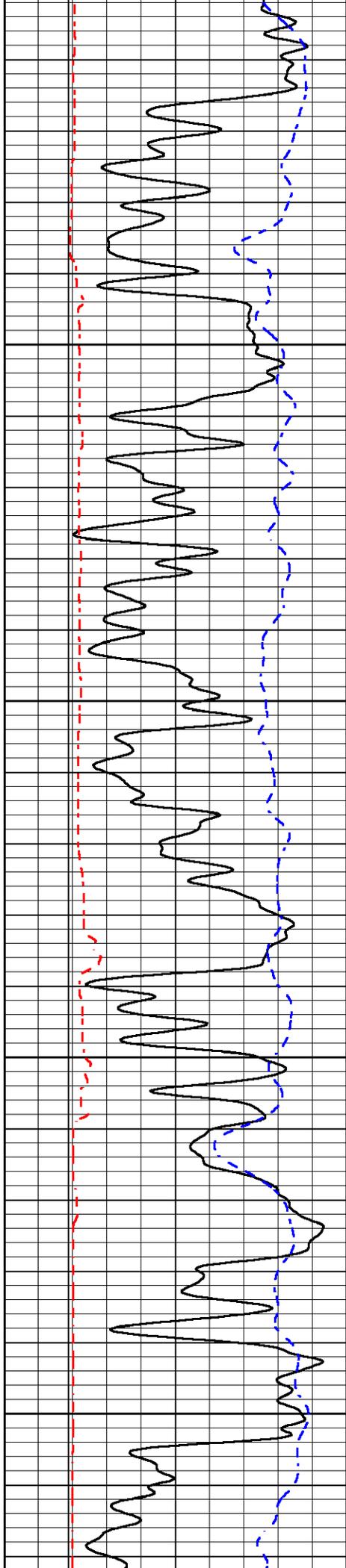
# MAIN PASS

Database File bowman\_eunice\_berland\_1.db  
 Dataset Pathname stackml/pass3.1  
 Presentation Format micro  
 Dataset Creation Fri Sep 13 18:03:42 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



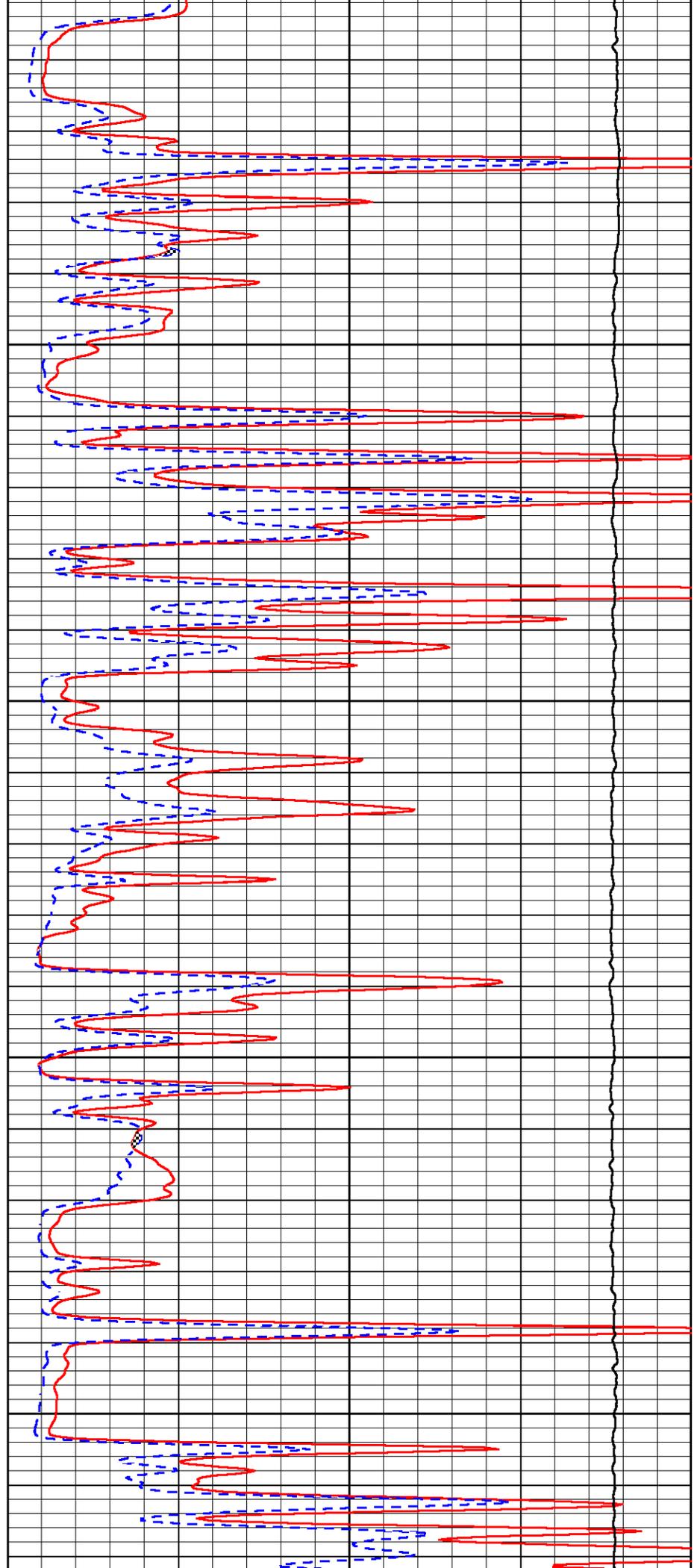


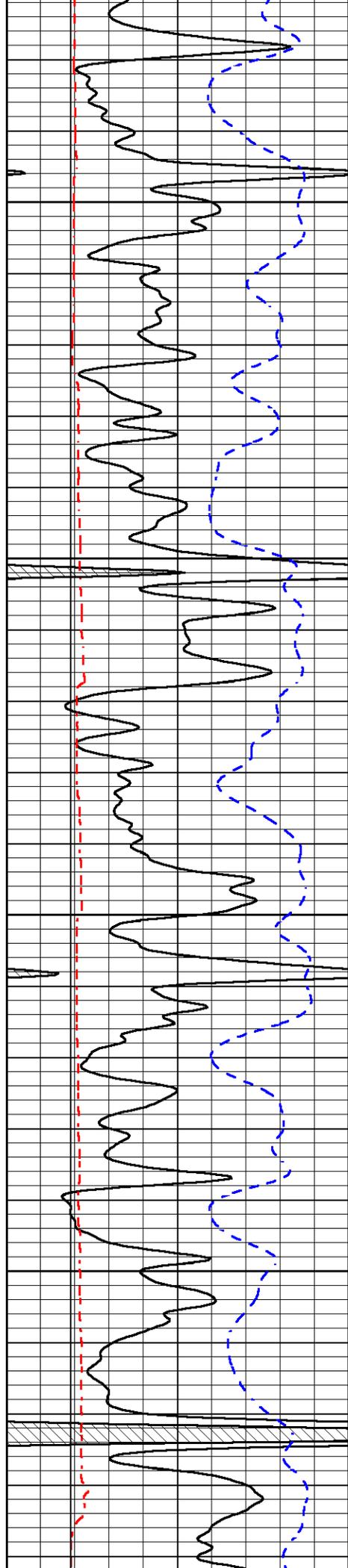
3050

3100

3150

3200



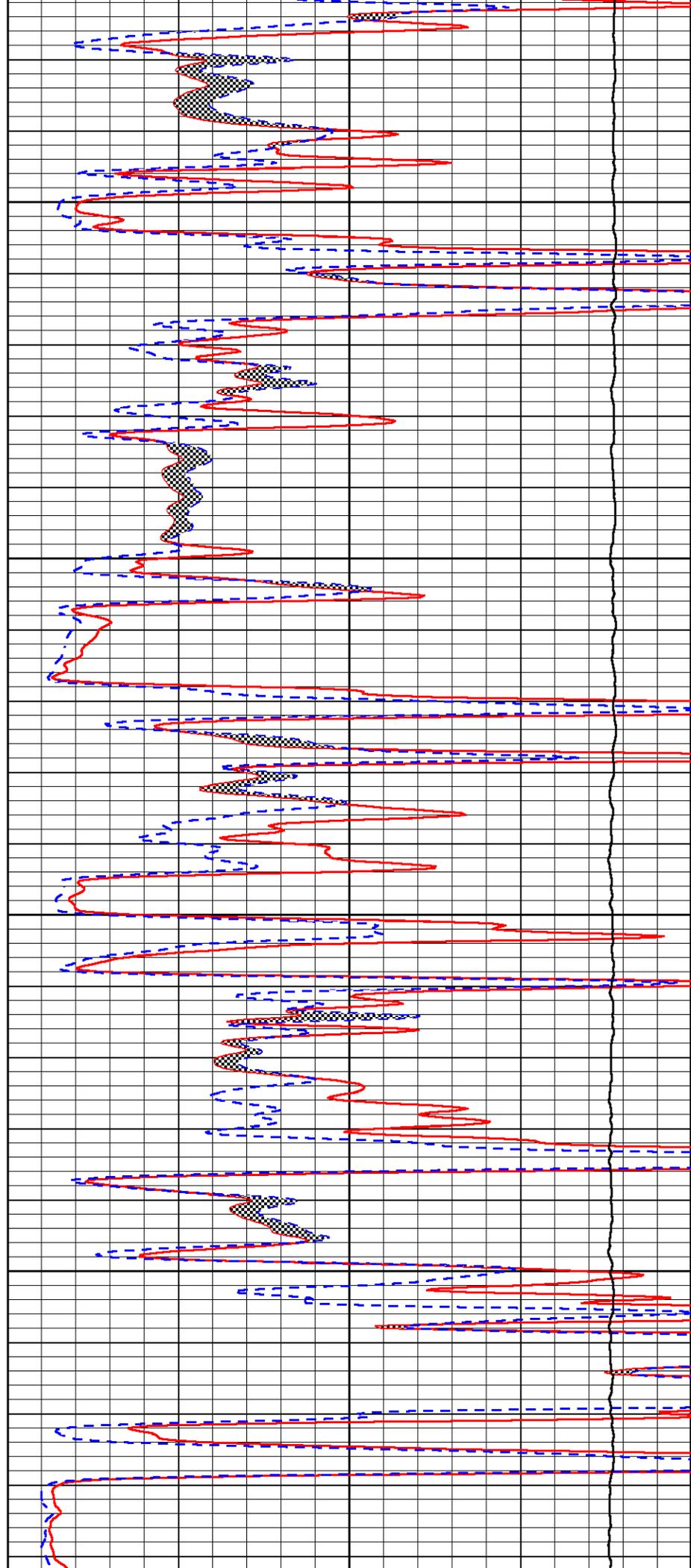


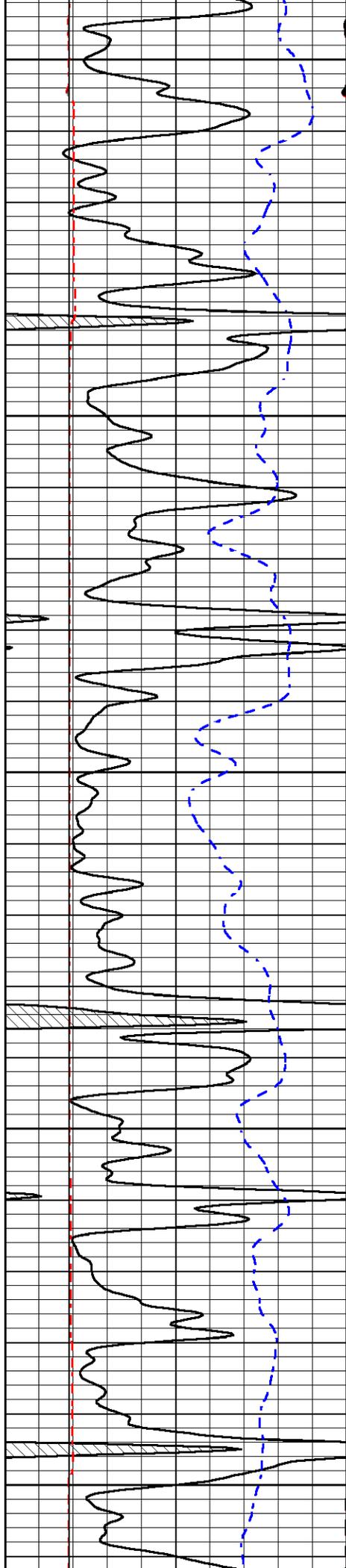
3250

3300

3350

3400





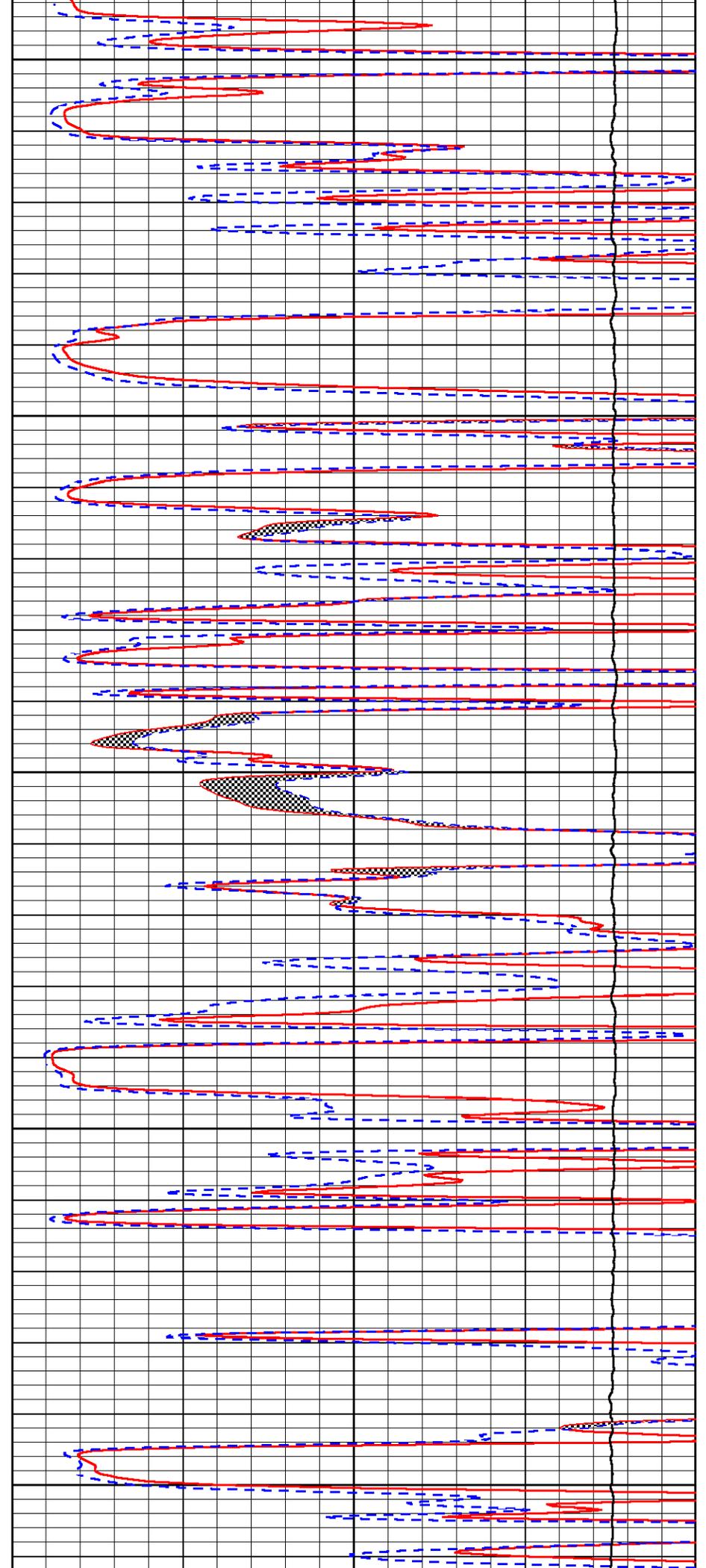
3450

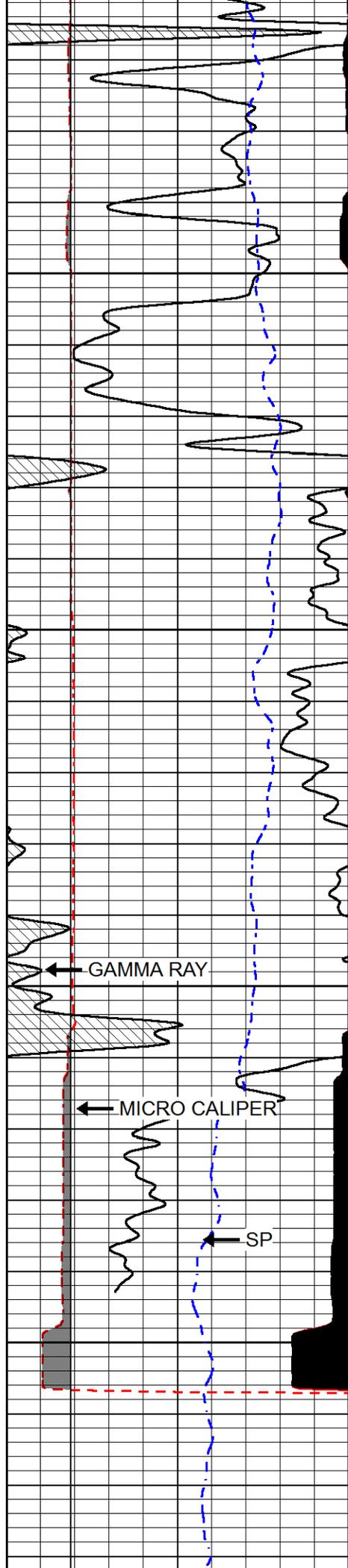
3500

3550

3600

3650



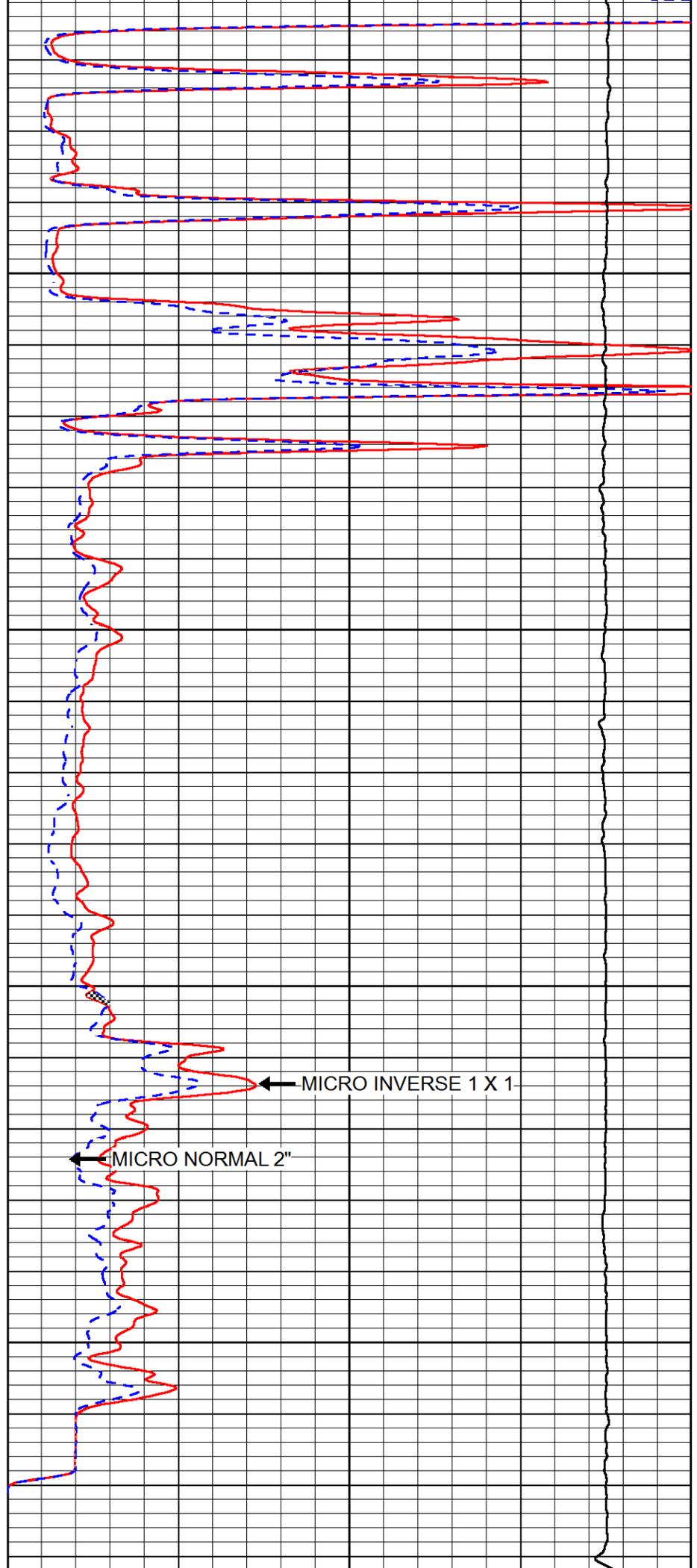


3700

3750

3800

3850



MICRO INVERSE 1 X 1

MICRO NORMAL 2"

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

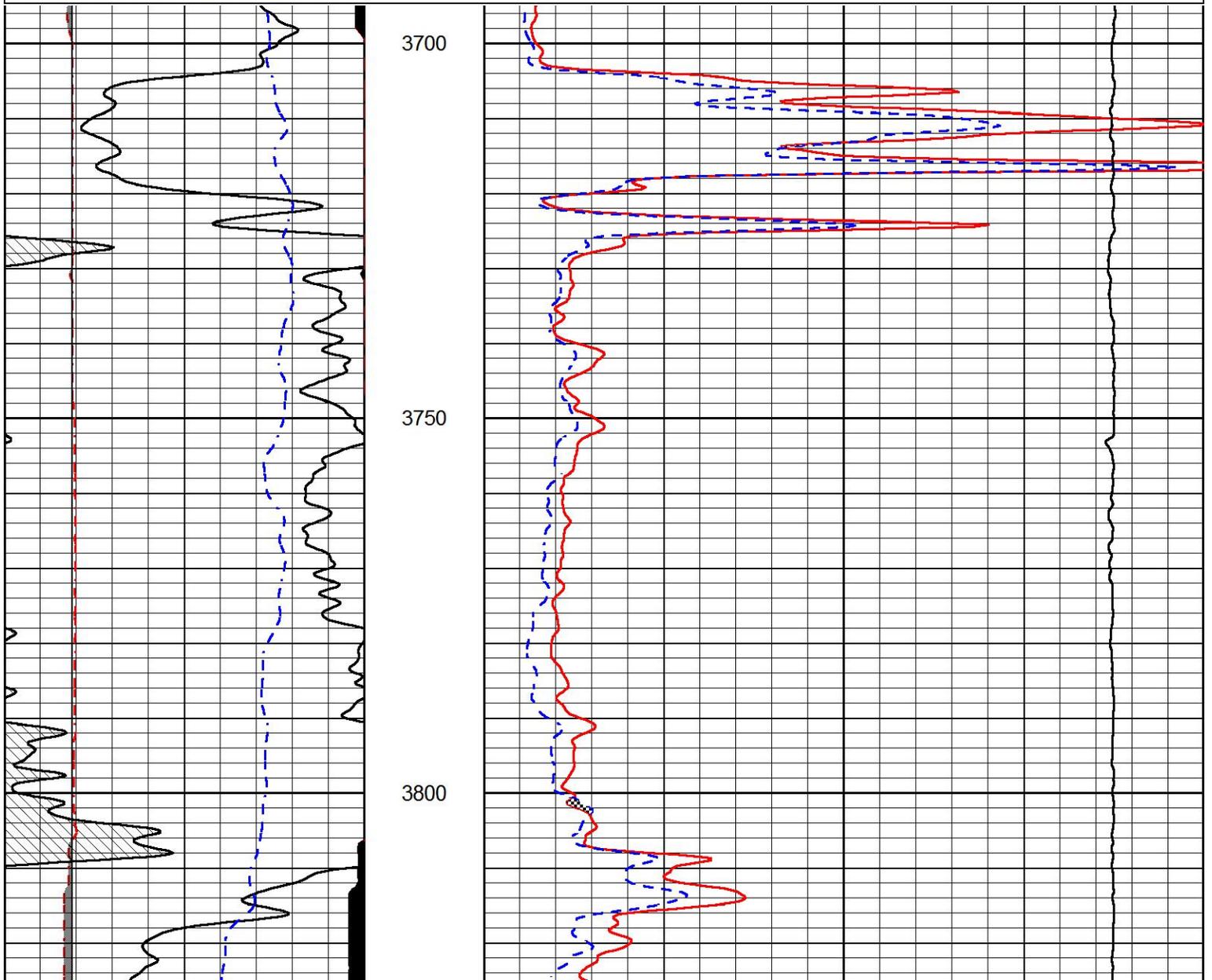


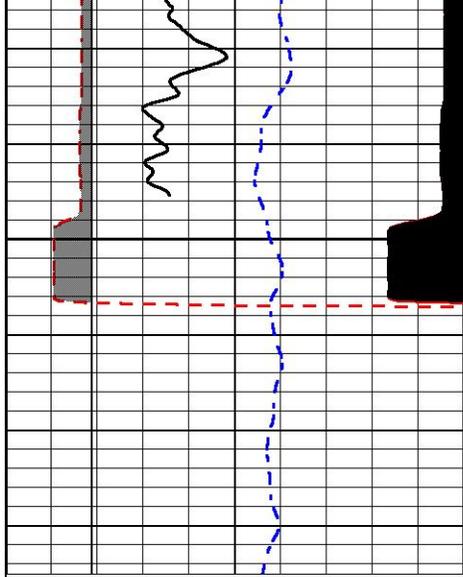
# REPEAT SECTION

Database File      bowman\_eunice\_berland\_1.db  
 Dataset Pathname    stackml/pass2.1  
 Presentation Format    micro  
 Dataset Creation      Fri Sep 13 17:32:57 2019  
 Charted by            Depth in Feet scaled 1:240

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6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

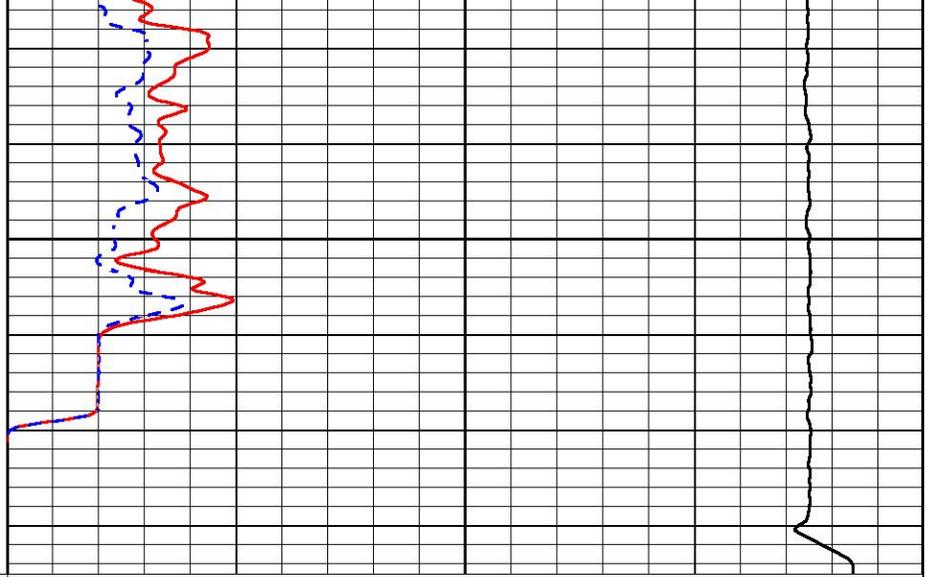
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0





3850

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



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