



MICRORESISTIVITY LOG

Company **ELK ENERGY HOLDINGS, LLC**
 Well **SHEPHERD NO.2-14**
 Field **NOLLETTE SOUTHEAST**
 County **THOMAS**
 State **KANSAS**

Company **ELK ENERGY HOLDINGS, LLC**
 Well **SHEPHERD NO.2-14**
 Field **NOLLETTE SOUTHEAST**
 County **THOMAS** State **KANSAS**

Location: **API #: 15-193-21072-00-00**
2310' FSL & 2310' FEL
SEC 14 TWP 10S RGE 33W
 Permanent Datum **GROUND LEVEL Elevation 3138'**
 Log Measured From **KELLY BUSHING**
 Drilling Measured From **KELLY BUSHING**
 Other Services **CNL/CDL DIL**
 Elevation **K.B. 3146'**
D.F. N/A
G.L. 3138'

Date	2/5/2020
Run Number	ONE
Depth Driller	4700'
Depth Logger	4700'
Bottom Logged Interval	4679'
Top Log Interval	3800'
Casing Driller	8.625" @ 308'
Casing Logger	308'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	500
Density / Viscosity	9.4 59
pH / Fluid Loss	10 6.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.1 @ 60
Rmt @ Meas. Temp	.83 @ 60
Rmc @ Meas. Temp	1.49 @ 60
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.54 @ 123
Operating Rig Time	3 HOURS
Max Rec. Temp. F	123 DEG. F.
Equipment Number	P-108
Location	HAYS
Recorded By	M. HISS
Witnessed By	PAT DEENIHAN
	J. HENRICKSON

<<< 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.

OAKLEY WEST EXIT,
 NORTH TO F RD, WEST TO 23 RD, 1 SOUTH,
 1/3 EAST, NORTH INTO

Log Measured From: **KELLY BUSHING** 8 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew Engineer: M. HISS Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: PAT DEENIHAN Secondary Witness: Secondary Witness: Secondary Witness:
--	--

Log Variables

DatabaseC:\ProgramData\Warrior\Data\elk_shepherd_#2_14.db
Dataset field/well/stackmel/pass3.1/_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	0	0	295	50	Off	0

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 (934-229)	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		DIL-M&W (55-222)	18.50	3.50	220.00	
CILD	8.00						

CILM 4.70

SP 0.20

Dataset: elk_shepherd_#2_14.db: field/well/stackmel/pass3.1
 Total length: 47.00 ft
 Total weight: 835.00 lb
 O.D.: 4.00 in

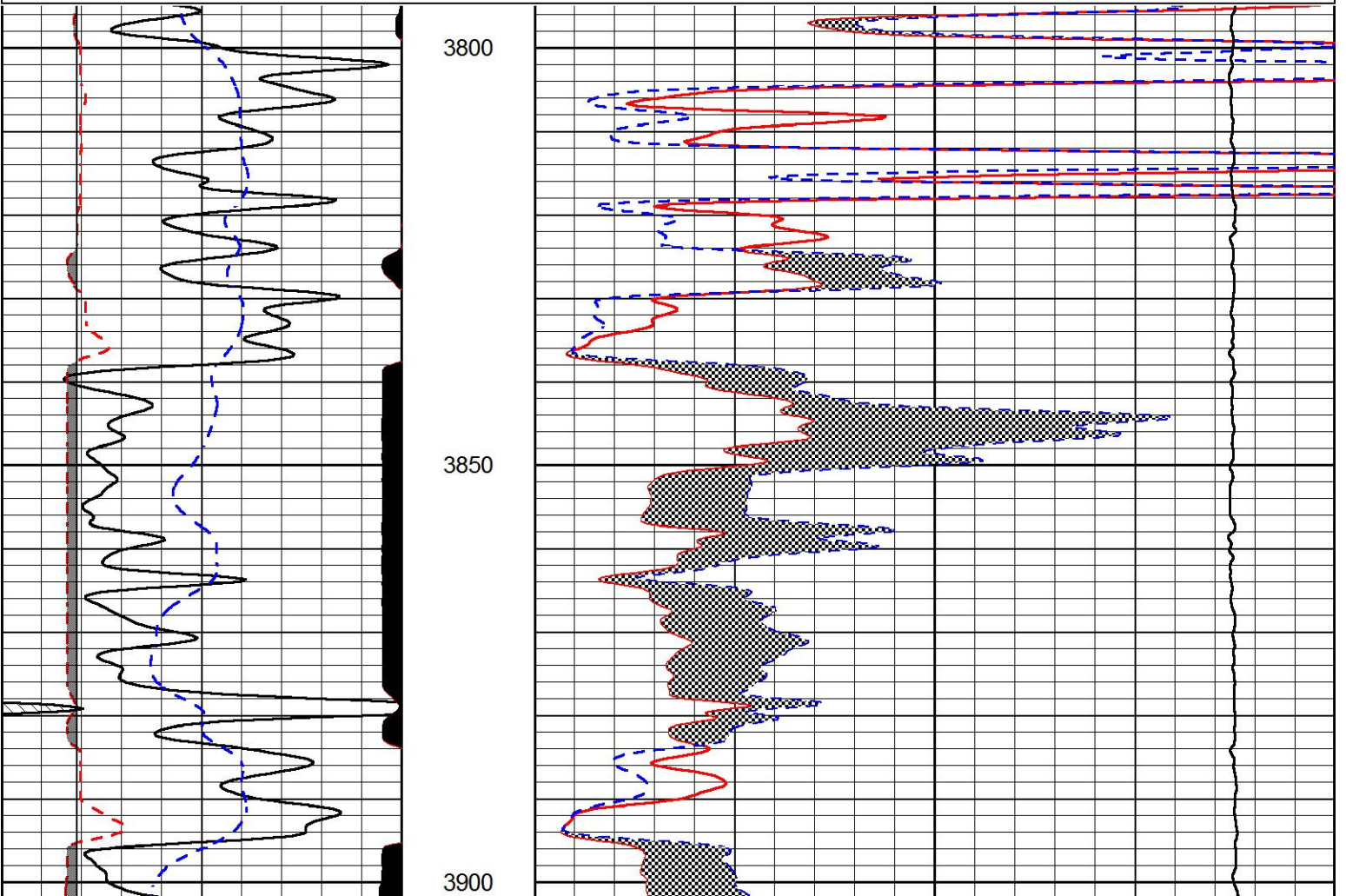


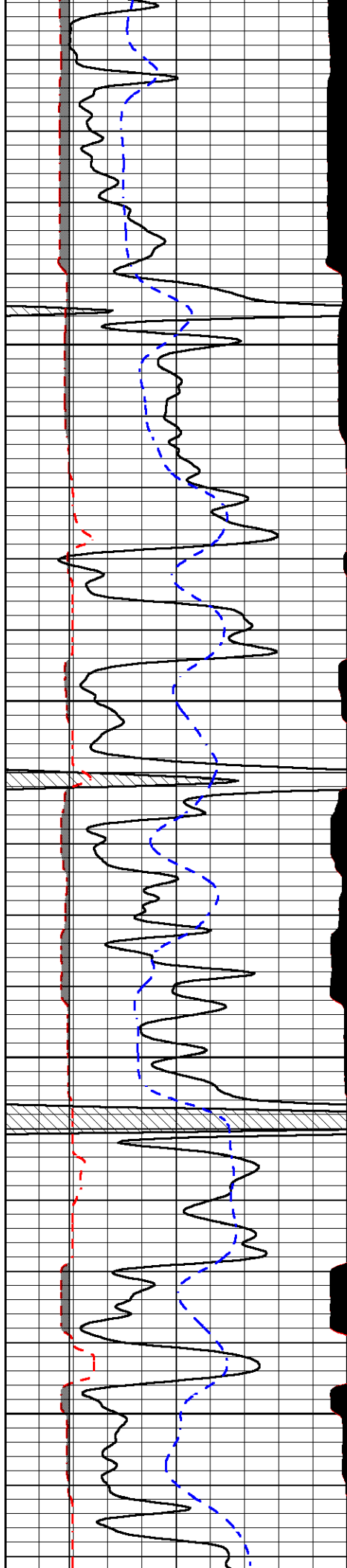
MAIN PASS

Database File elk_shepherd_#2_14.db
 Dataset Pathname stackmel/pass3.1
 Presentation Format micro
 Dataset Creation Wed Feb 05 23:58:26 2020
 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



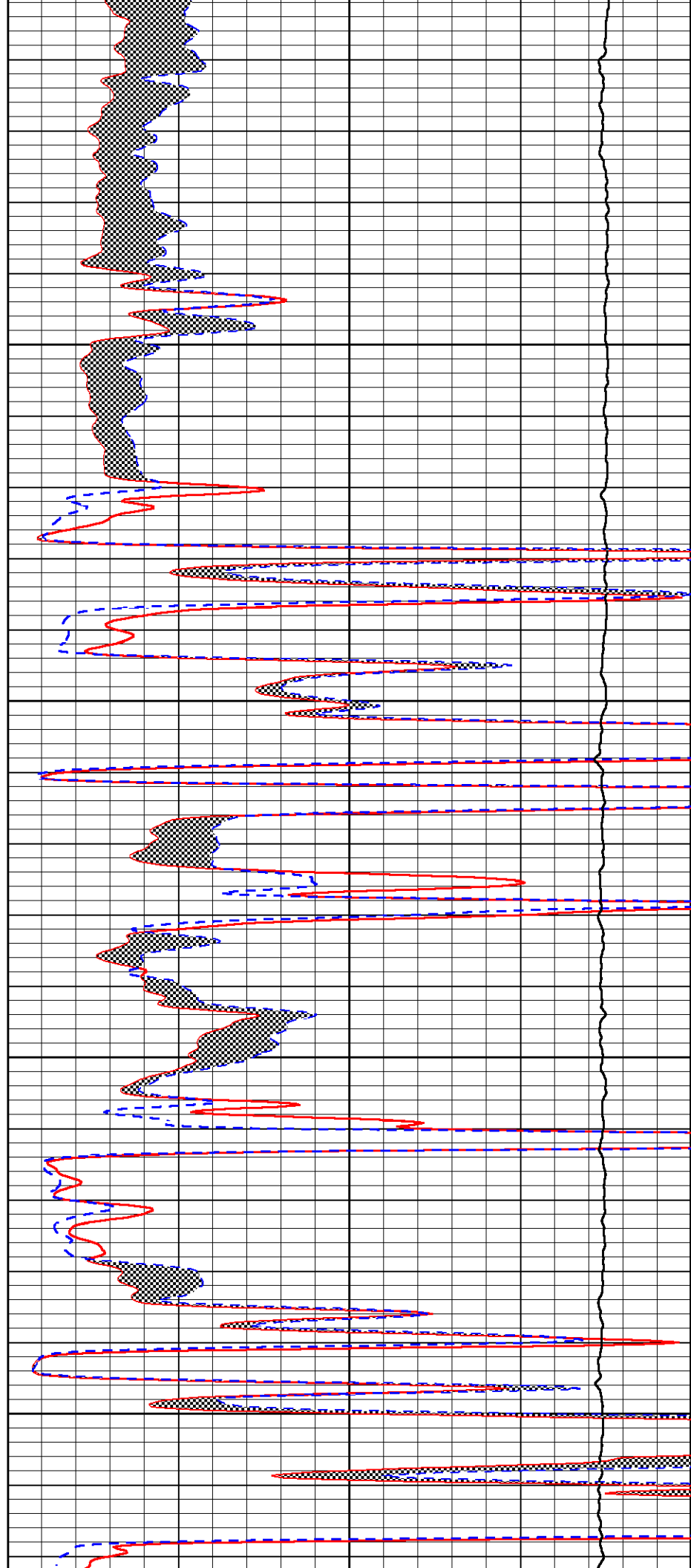


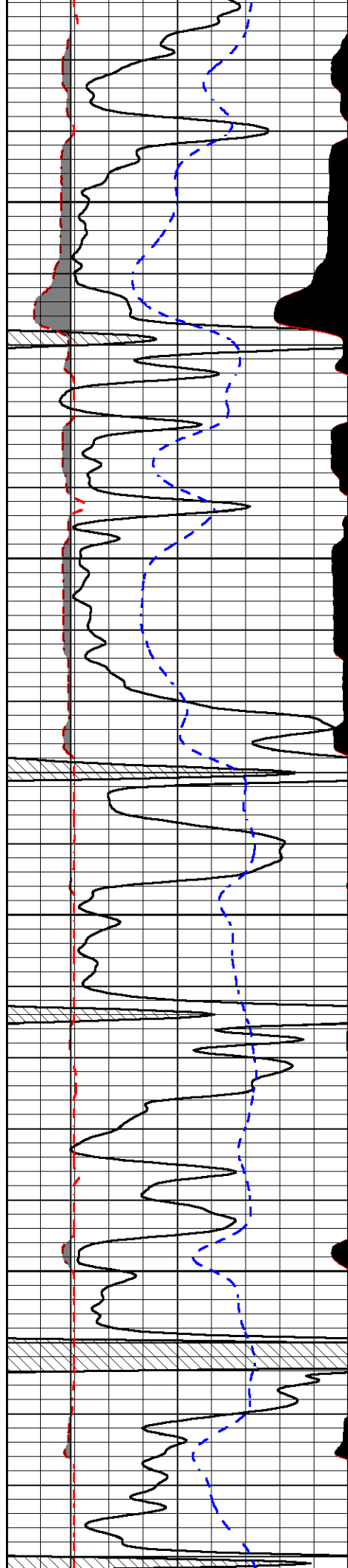
3950

4000

4050

4100



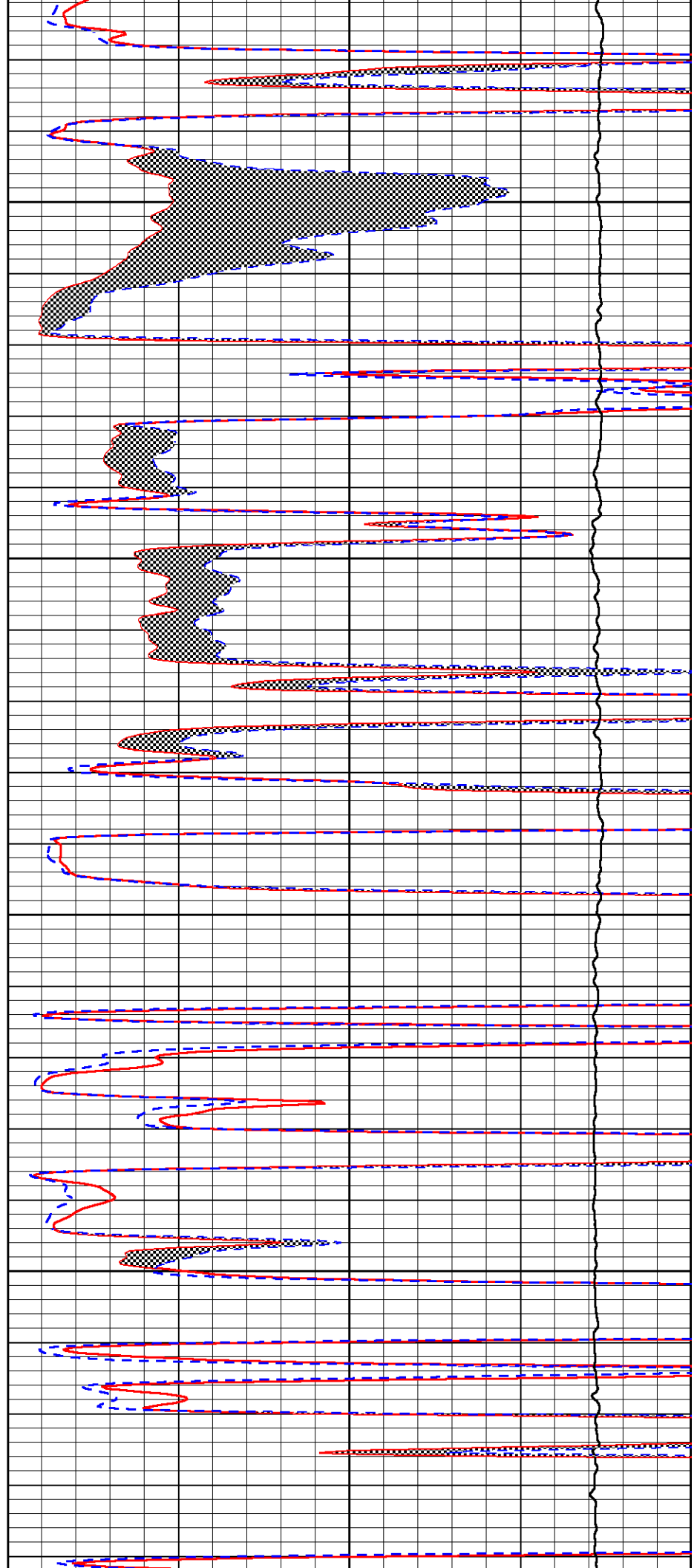


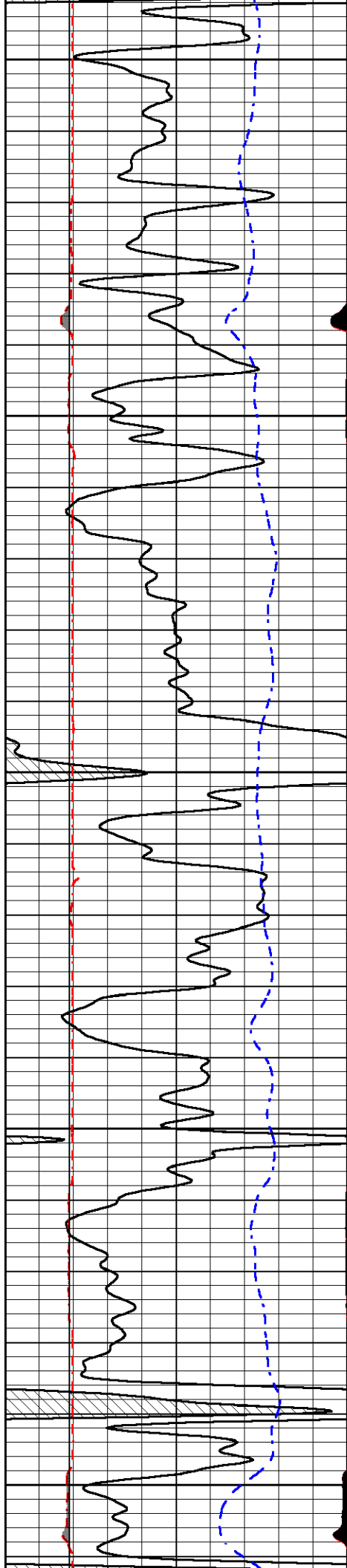
4150

4200

4250

4300





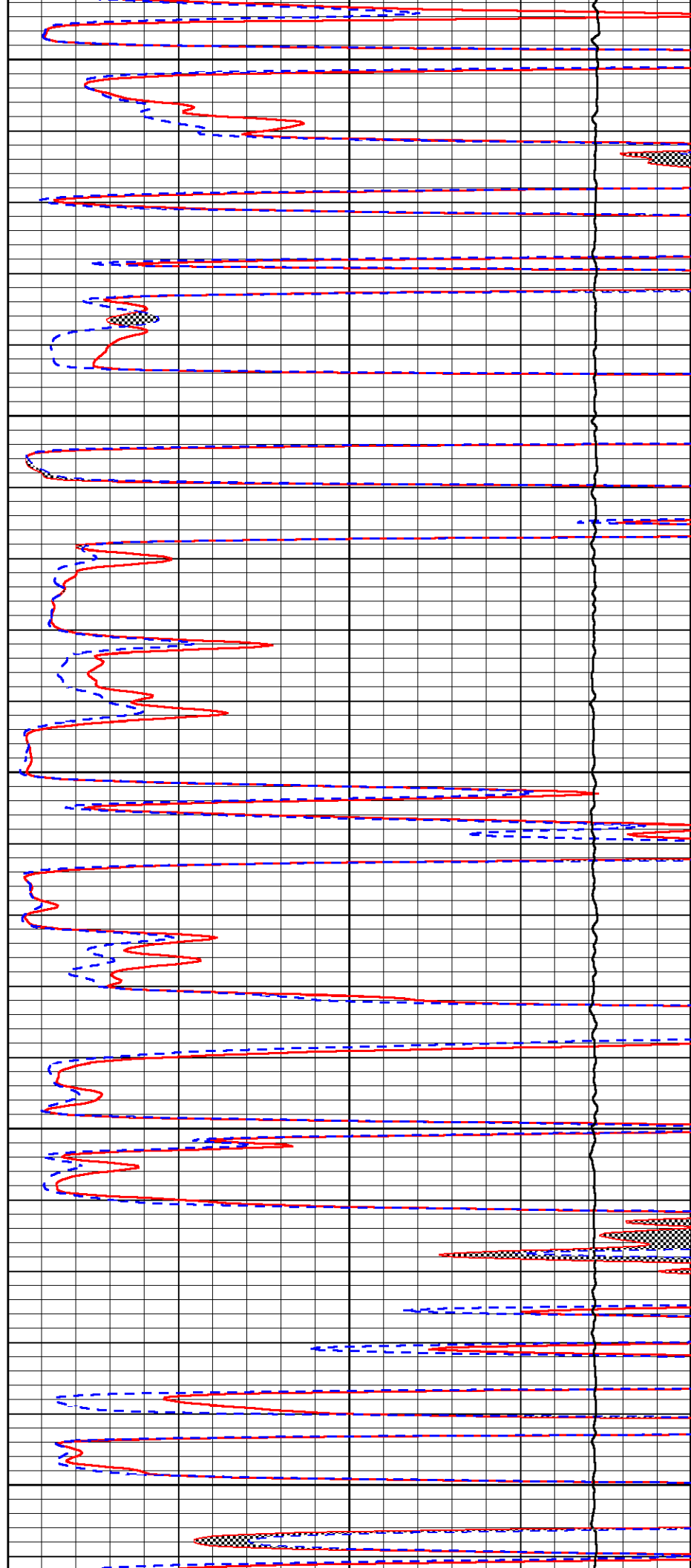
4350

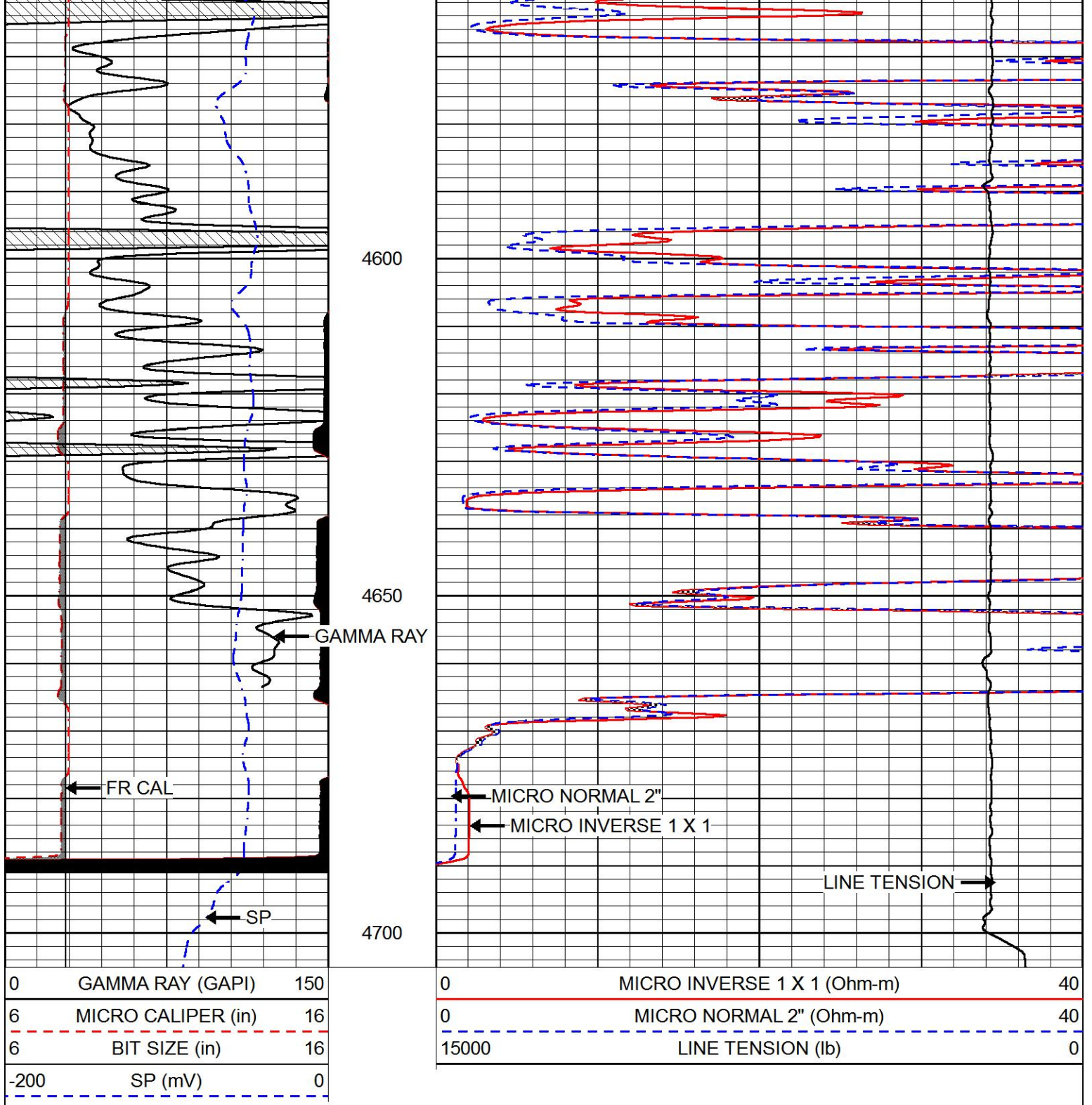
4400

4450

4500

4550





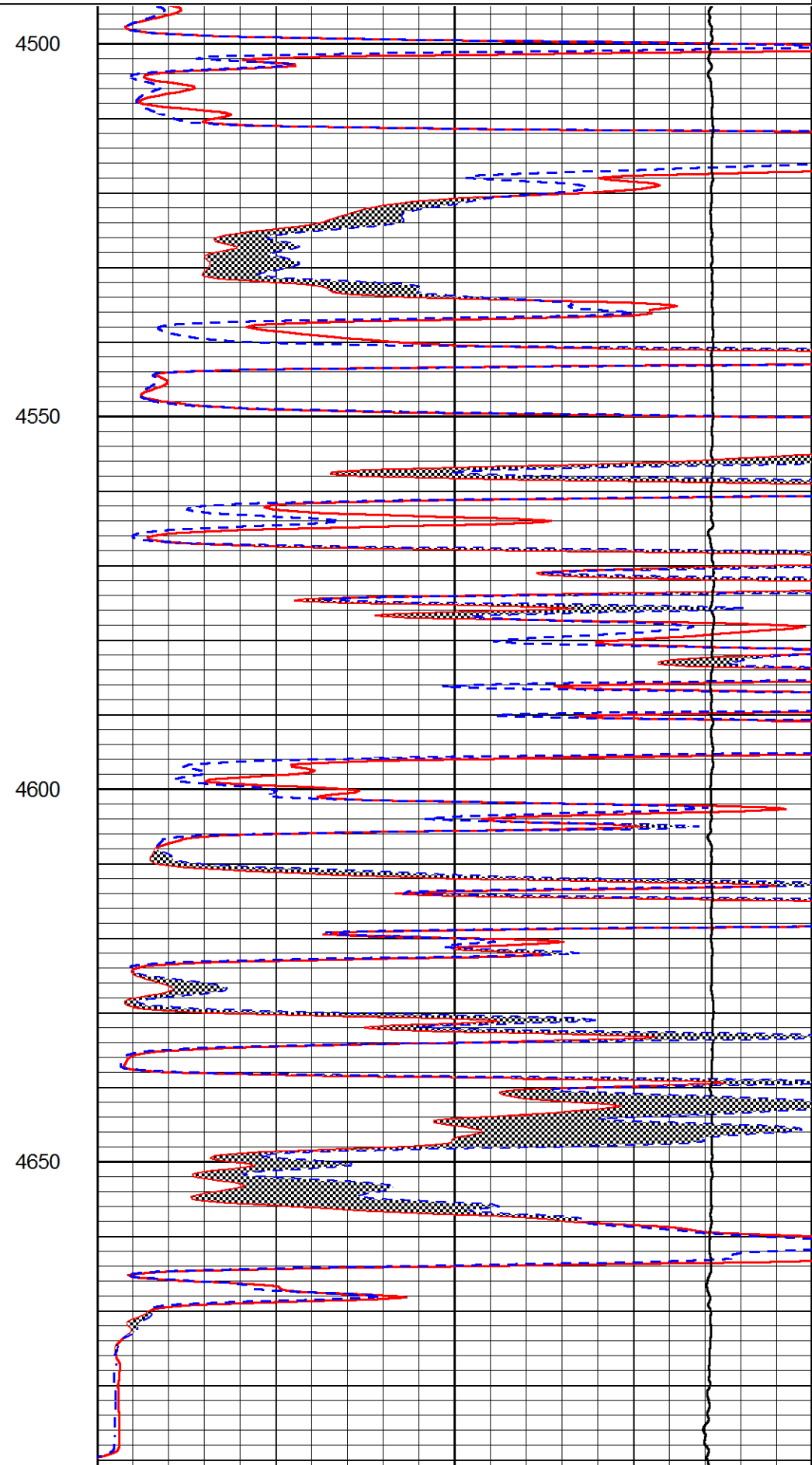
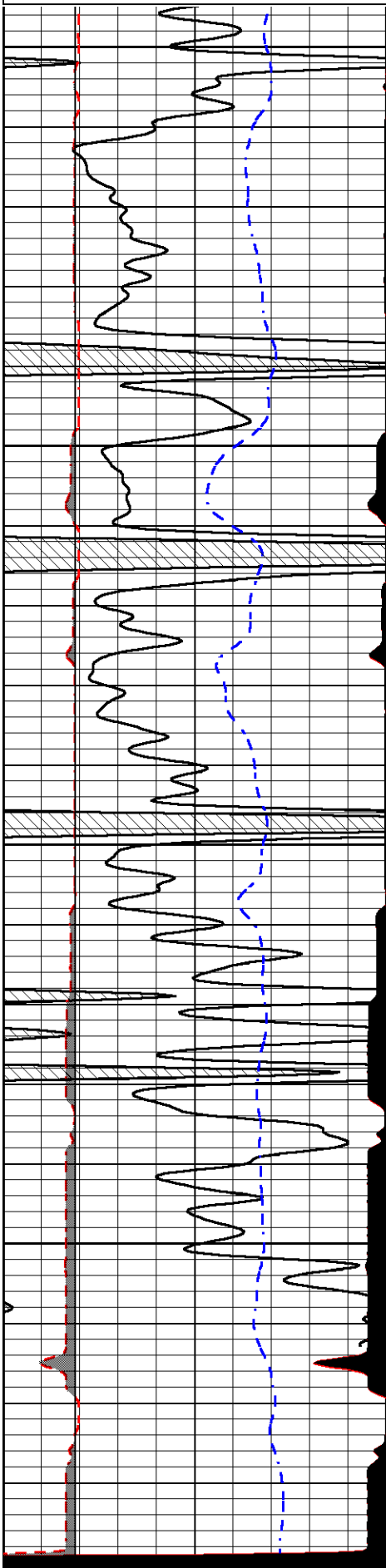
REPEAT SECTION

Database File elk_shepherd_#2_14.db
 Dataset Pathname stackmel/pass2.1
 Presentation Format micro
 Dataset Creation Wed Feb 05 23:24:09 2020
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0	MICRO INVERSE 1 X 1 (Ohm-m)	40
6	MICRO CALIPER (in)	16	0	MICRO NORMAL 2" (Ohm-m)	40

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

15000 LINE TENSION (lb) 0



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



PIONEER
Pioneer Energy Services

Company ELK ENERGY HOLDINGS, LLC
 Well SHEPHERD NO.2-14
 Field NOLLETTE SOUTHEAST
 County THOMAS
 State KANSAS