



Pioneer Energy Services

Microresistivity Log

API No.

15-007-24181-00-00

Company Lario Oil & Gas Company

Well Houlton #5

Field Whelan Southwest

County Barber State Kansas

Location 1650' FSL & 2310' FEL

Sec: 4 Twp: 32S Rge: 12W

Other Services
CNL/CDL
DIL/BHCS

Elevation

K.B. 1488
D.F.
G.L. 1478

Permanent Datum Ground Level Elevation 1478
Log Measured From Kelly Bushing 10 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Date 6/20/2014

Run Number Two

Depth Driller 4525

Depth Logger 4523

Bottom Logged Interval 4522

Top Log Interval 3300

Casing Driller 8.625 @ 290

Casing Logger 289

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 4000

Density / Viscosity 9.3 55

pH / Fluid Loss 10.5 8.8

Source of Sample Flowline

Rm @ Meas. Temp 0.49 @ 92

Rmf @ Meas. Temp 0.37 @ 92

Rmc @ Meas. Temp 0.66 @ 92

Source of Rmf / Rmc Charts

Rm @ BHT 0.37 @ 123

Operating Rig Time 6 Hours

Max Rec. Temp. F 123

Equipment Number 91

Location Hays

Recorded By D. Schmidt

Witnessed By Jeff Quimby

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

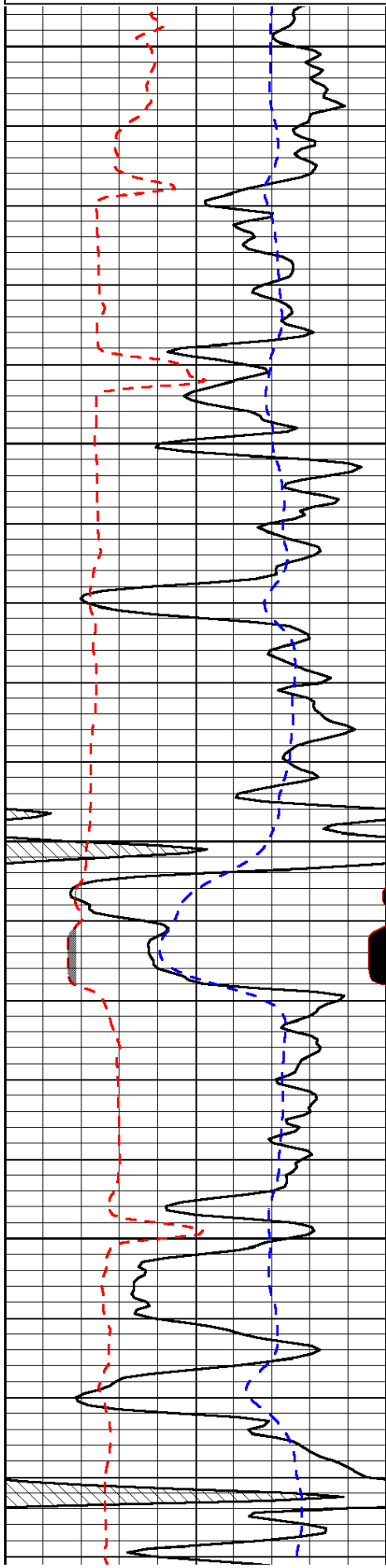
Comments

Thank you for using Log-Tech, Inc.
(785) 625-3858
Medicine Lodge,
West on River Road to Spring Creek Road,
1/4 South, East into

Database File: lario_houlton_5hd.db
Dataset Pathname: dil/lastack
Presentation Format: micro
Dataset Creation: Fri Jun 20 19:13:33 2014
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray	150
6	MCAL (GAPI)	16
2.875	Mud Cake (GAPI)	7.875
-200	SP (mV)	0

0	Micro Inverse 1 X 1	40
0	Micro Normal 2"	40
10000	Line Weight	0
		LSPD

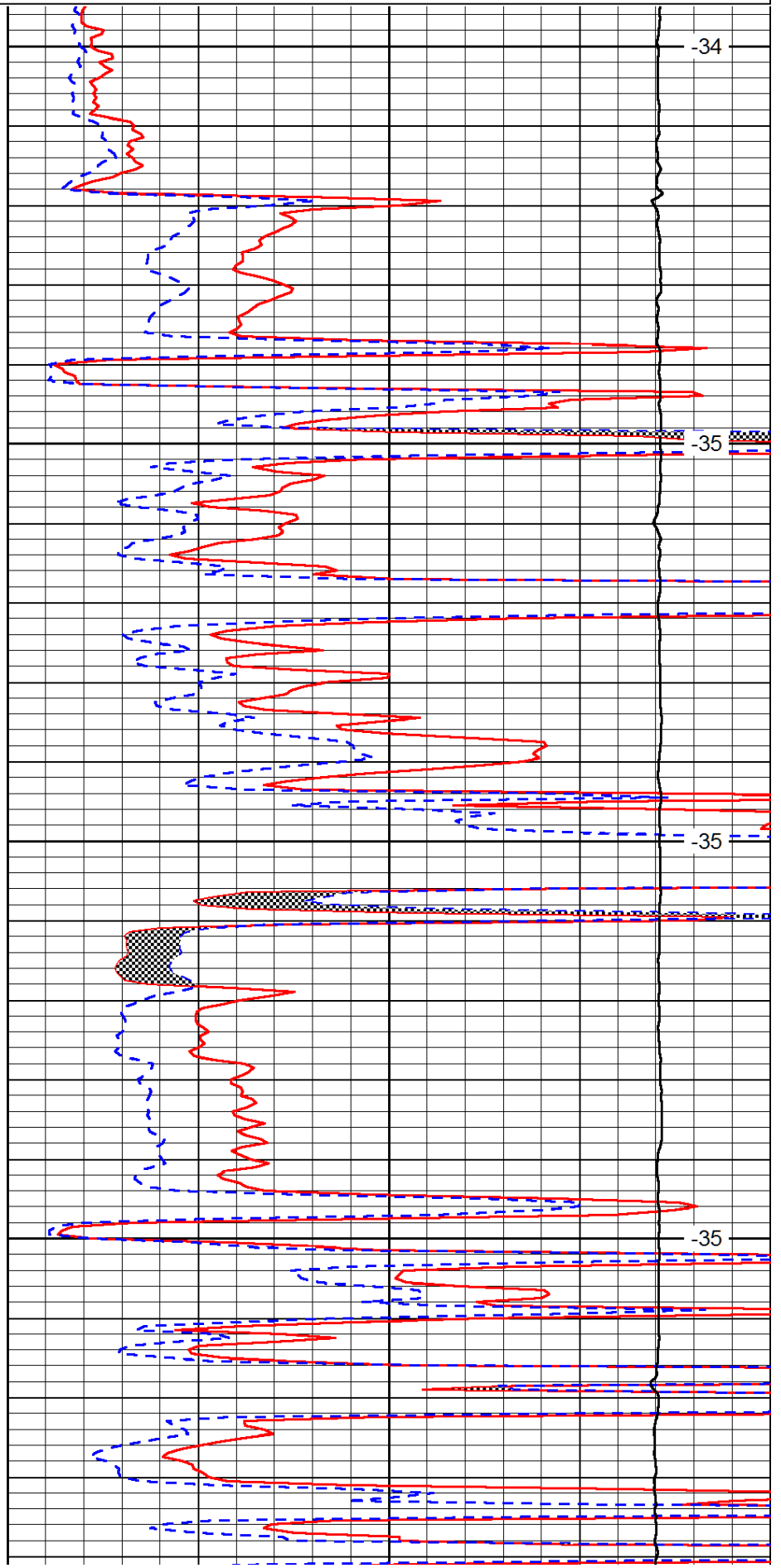


3300

3350

3400

3450

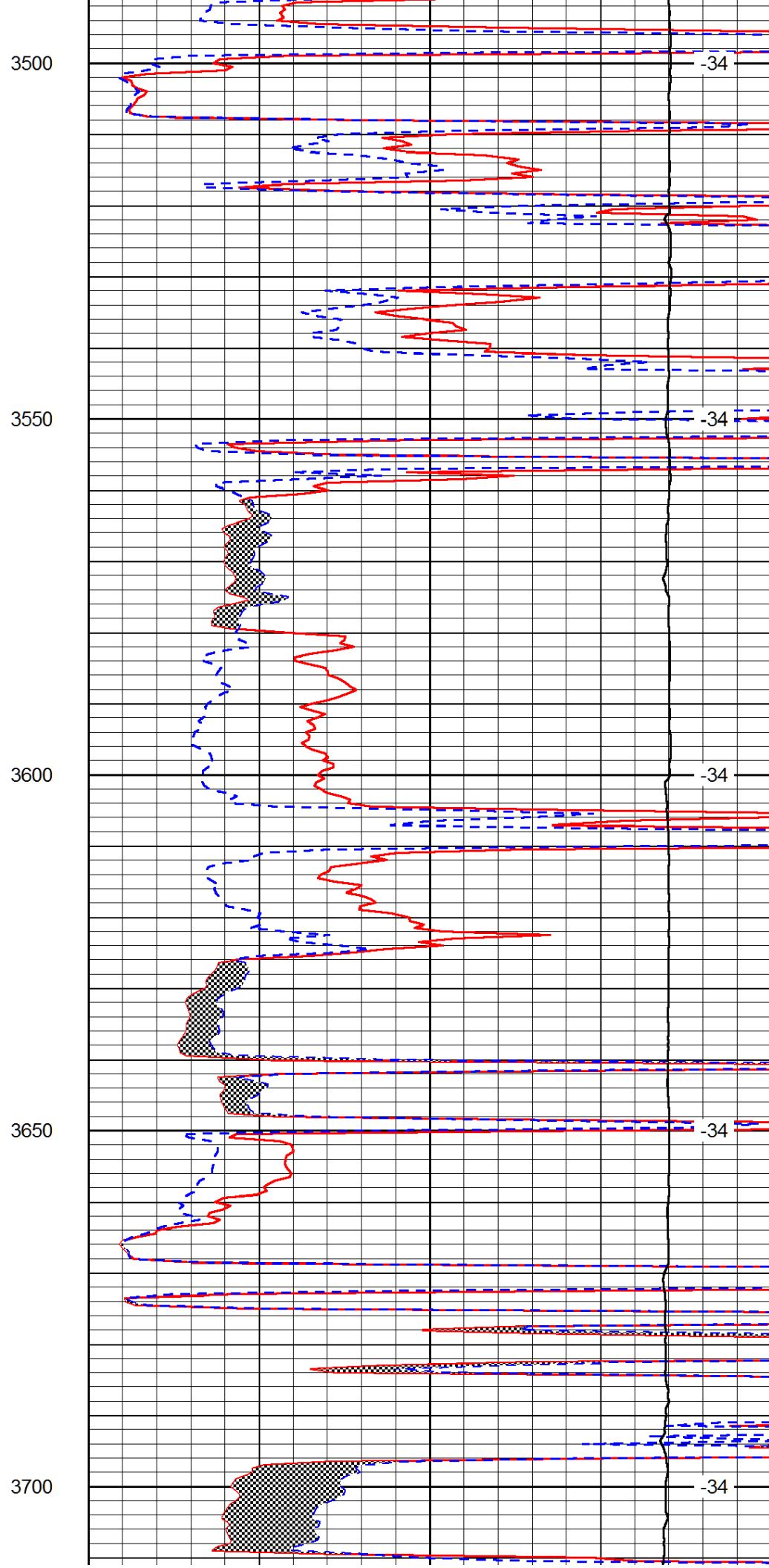
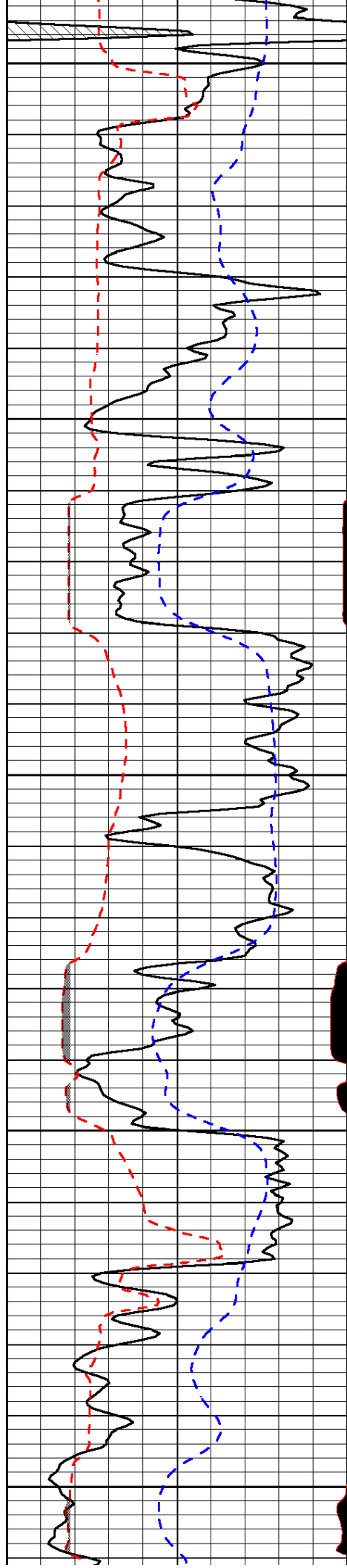


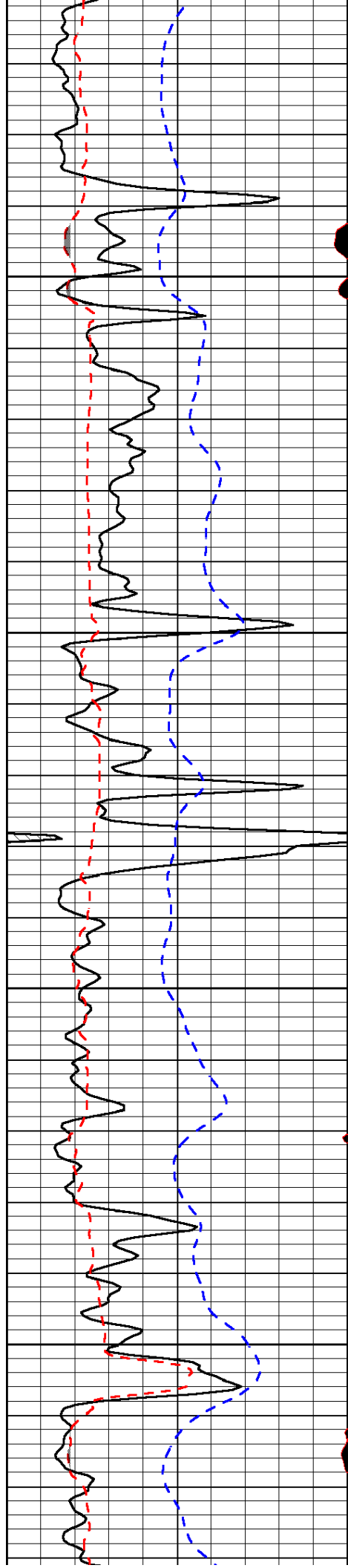
-34

-35

-35

-35



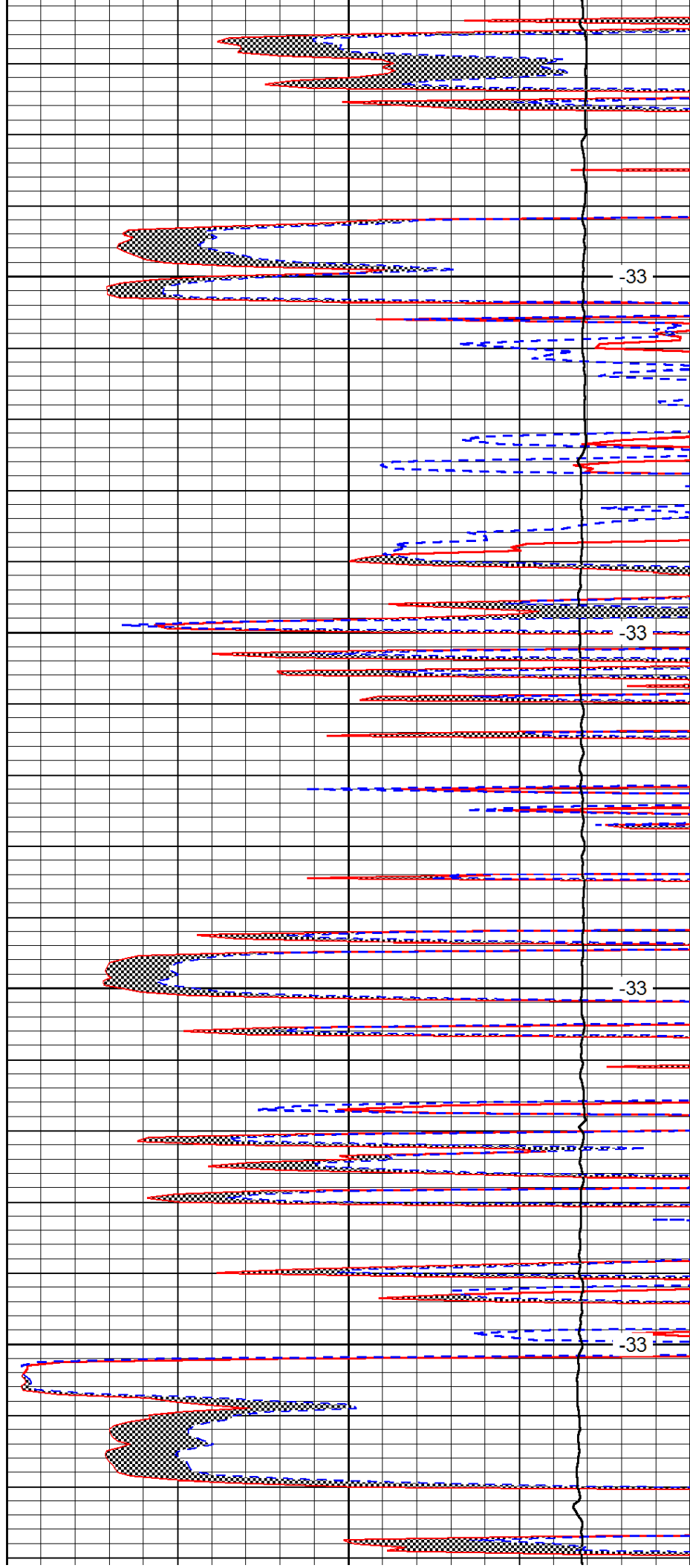


3750

3800

3850

3900

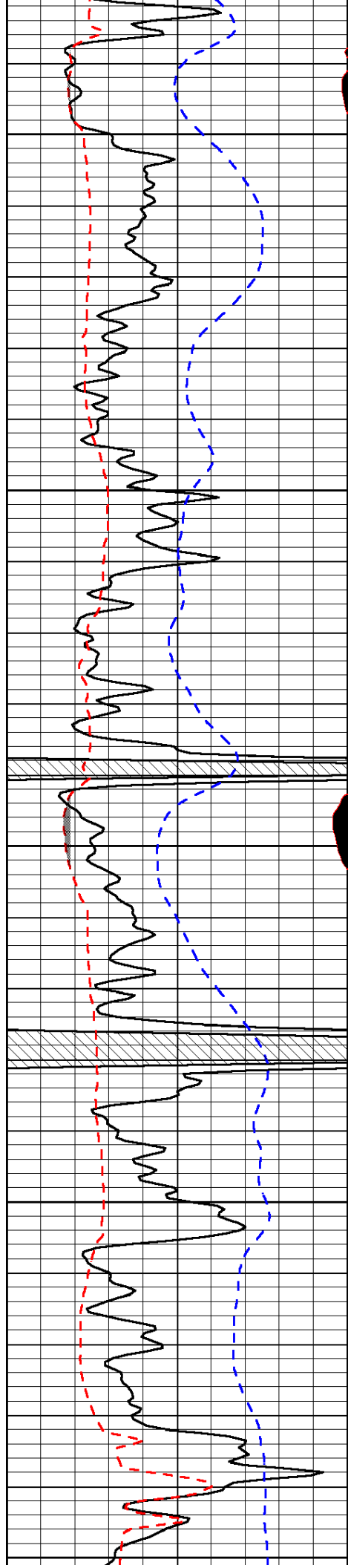


-33

-33

-33

-33



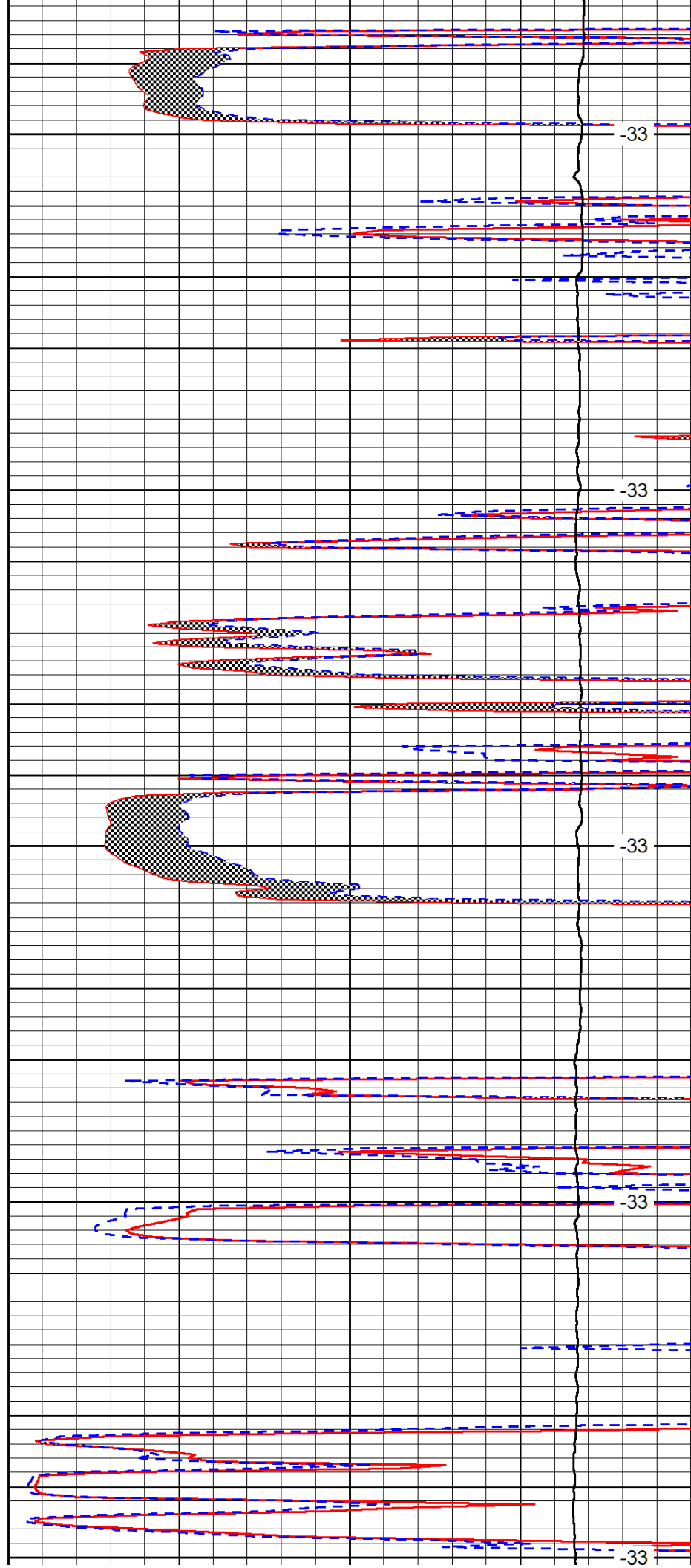
3950

4000

4050

4100

4150



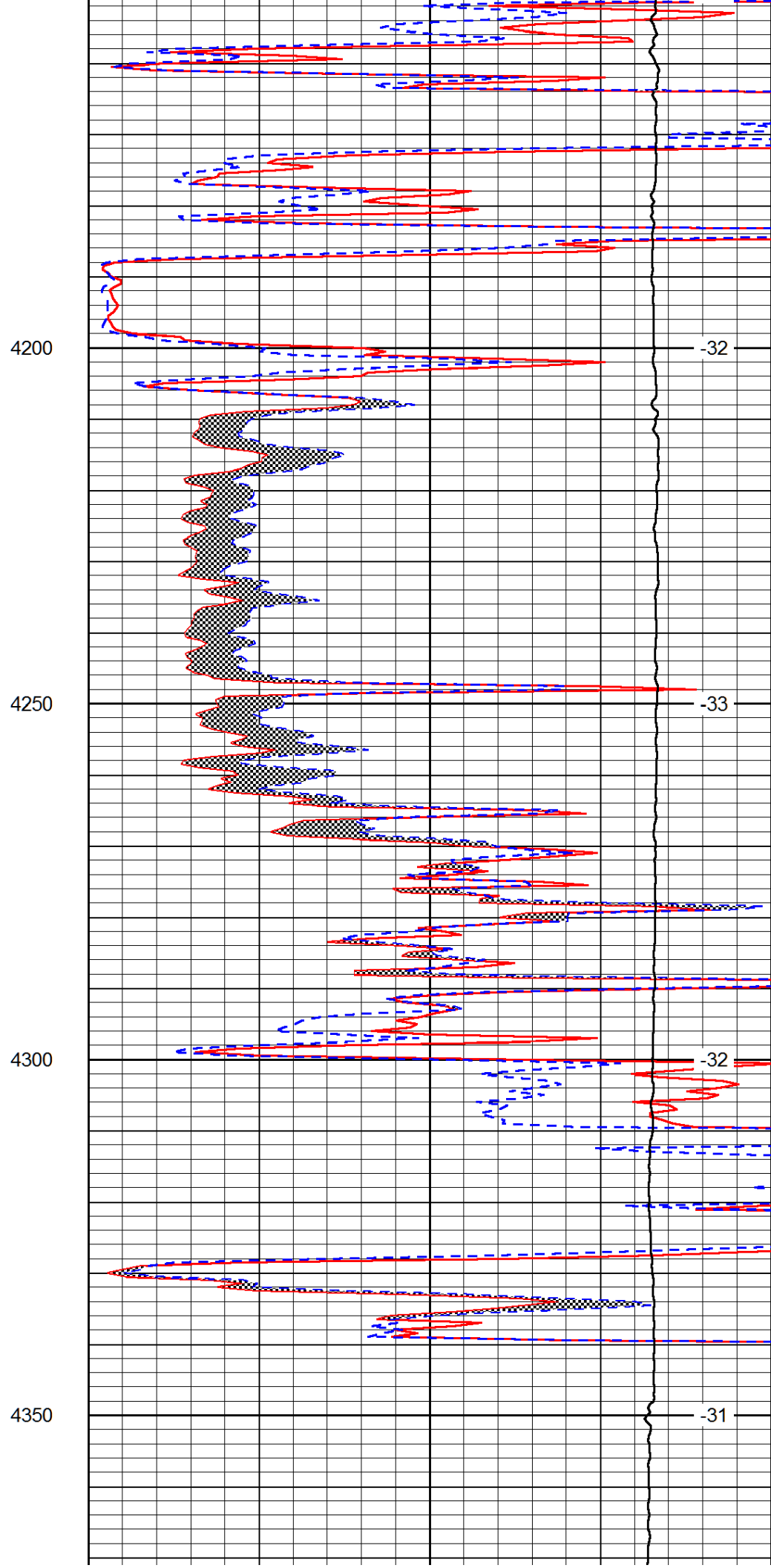
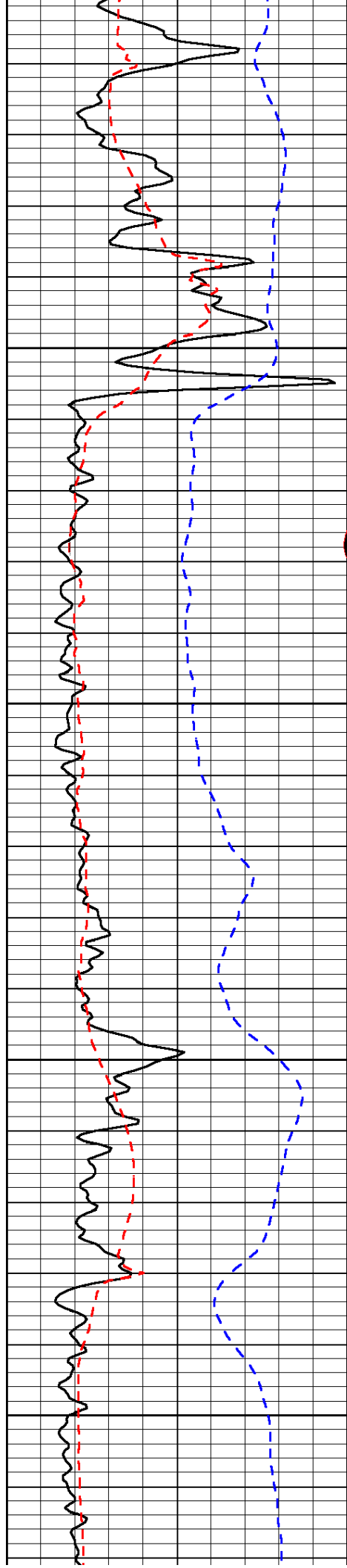
-33

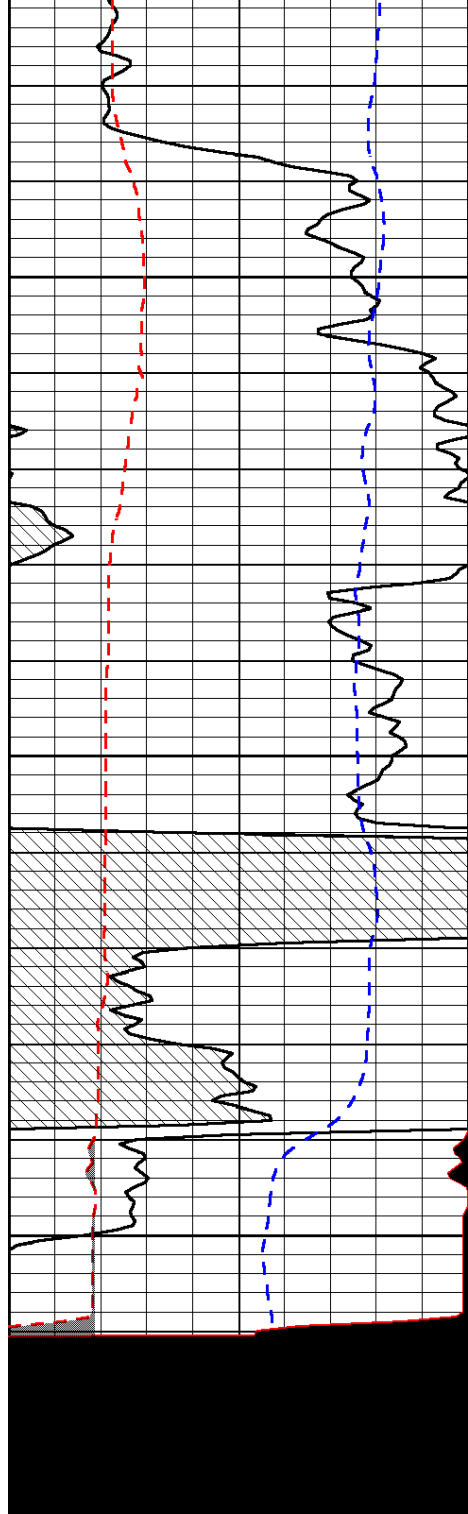
-33

-33

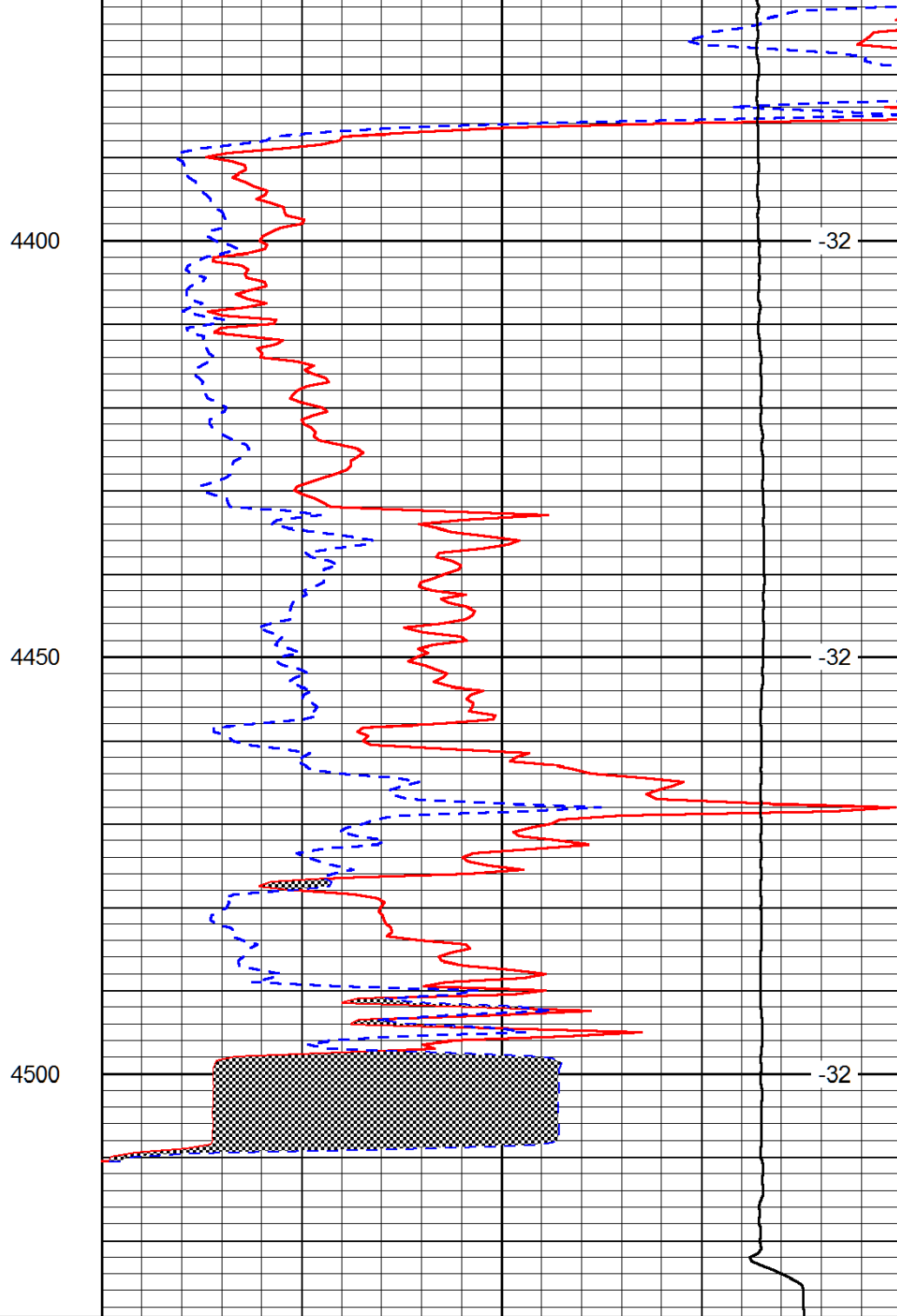
-33

-33





0	Gamma Ray	150
6	MCAL (GAPI)	16
2.875	Mud Cake (GAPI)	7.875
-200	SP (mV)	0



0	Micro Inverse 1 X 1	40
0	Micro Normal 2''	40
10000	Line Weight	0

LSPD