



# Microresistivity Log

Pioneer Energy Services

API No.

15-035-24,628-00-00

Company AAS Oil Company, Inc.

Well Warner A #1

Field Murphy

County Cowley State

Kansas

Location

1650' FSL & 3960' FEL

Sec: 19 Twp: 34S

Rge: 3E

Elevation

Permanent Datum Ground Level Elevation 1150  
Log Measured From Kelly Bushing 8 Ft. Above Perm. Datum  
Drilling Measured From Kelly Bushing

K.B. 1158  
D.F. 1150  
G.L. 1150

Date 12/12/2014

Run Number Two

Depth Driller 3499

Depth Logger 3499

Bottom Logged Interval 3498

Top Log Interval 2800

Casing Driller 8.625 @ 317

Casing Logger 328

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 450

Density / Viscosity 9.2 39

pH / Fluid Loss 10.5 8.0

Source of Sample Flowline

Rm @ Meas. Temp 1.7 @ 54

Rmf @ Meas. Temp 1.28 @ 54

Rmc @ Meas. Temp 2.3 @ 54

Source of Rmf / Rmc Charts

Rm @ BHT .83 @ 111

Operating Rig Time 4 Hours

Max Rec. Temp. F 111

Equipment Number 51

Location Hays

Recorded By C. Desaire

Witnessed By Dan Johnson

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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 Pioneer Energy Services  
www.pioneerres.com  
785 625 3858

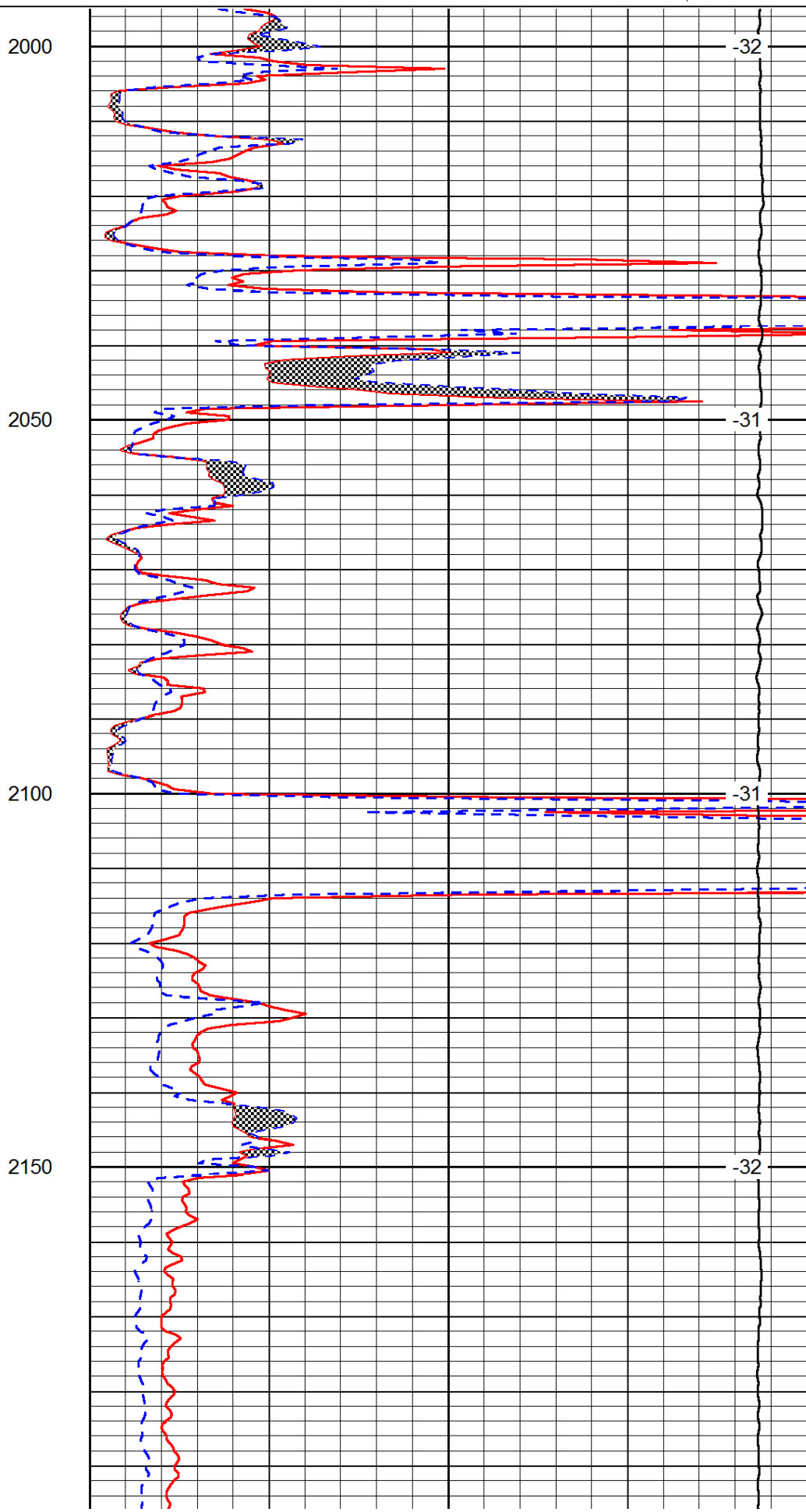
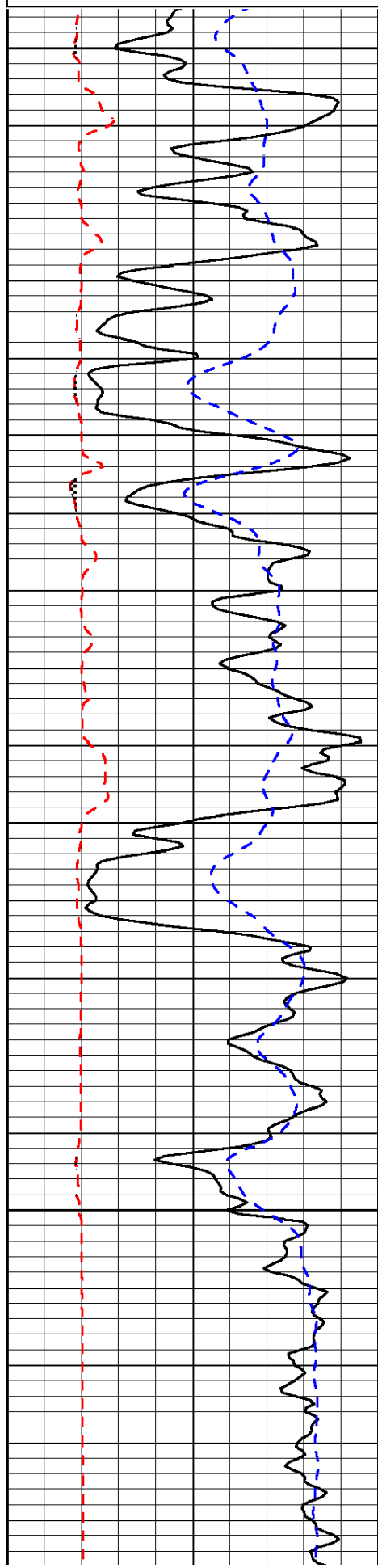
South Haven Exit, 10 E to County Line,  
1 N to 282 Rd, 1/4 E, N Into

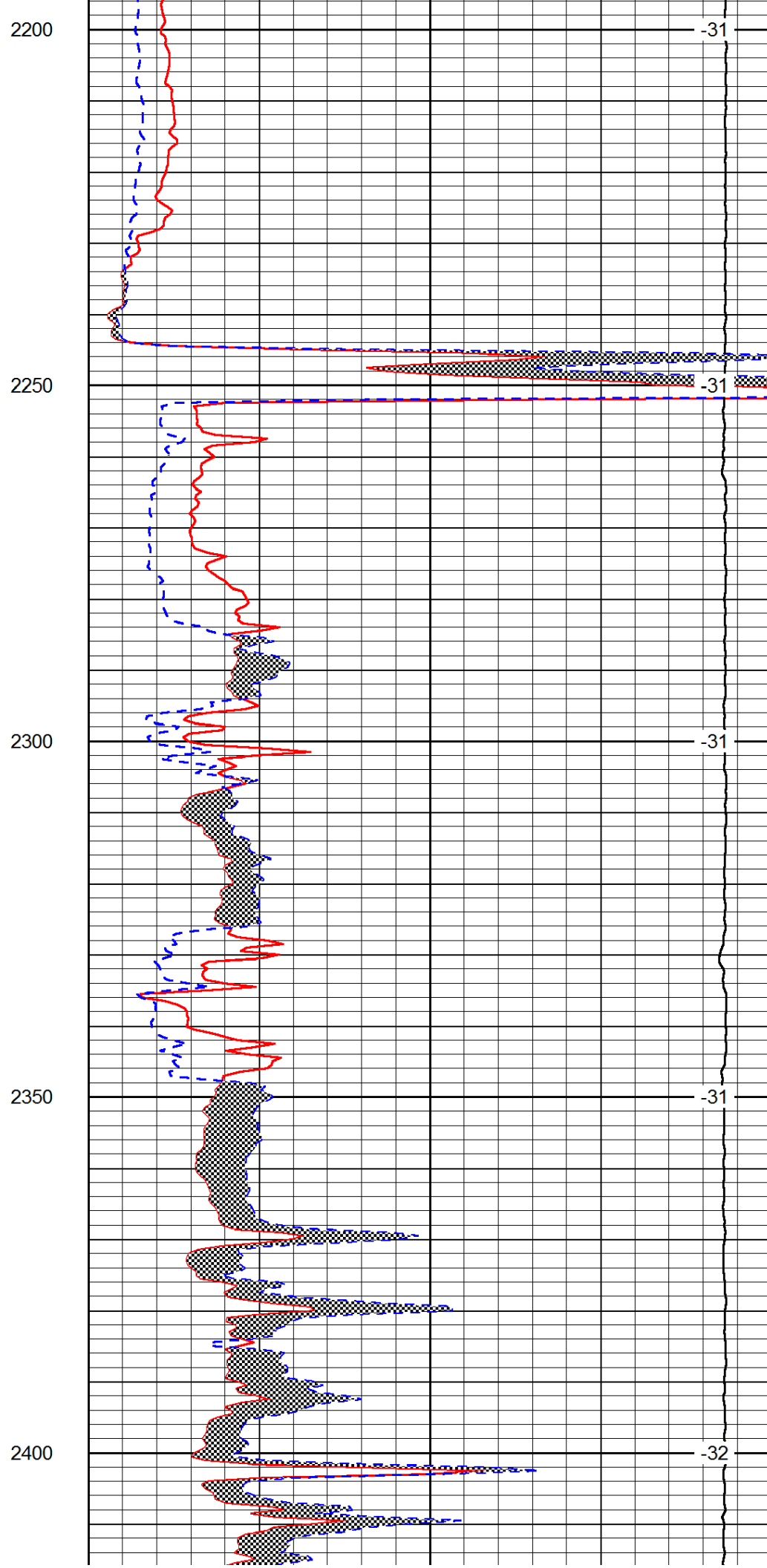
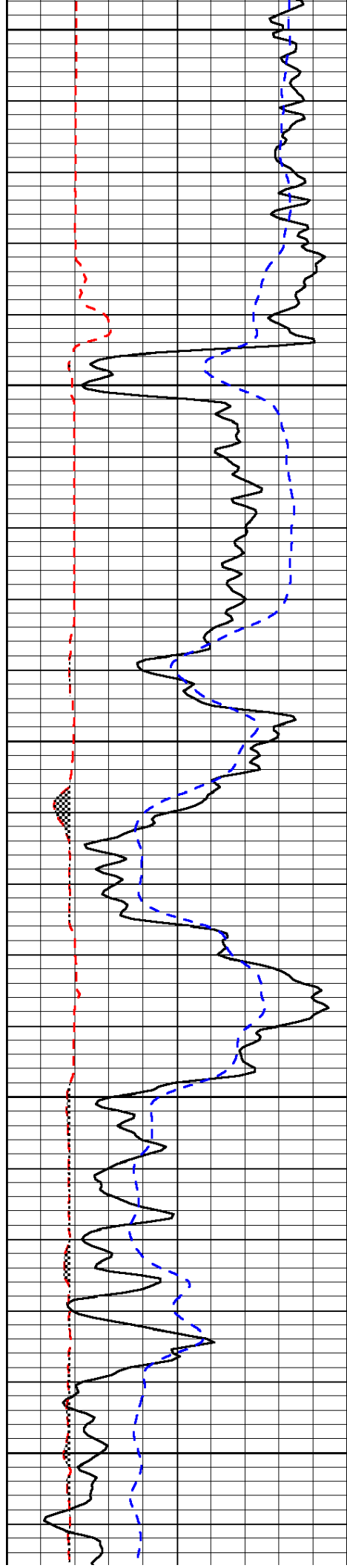
Database File: c:\warrior\data\as oil\_warner a #1\asshd.db  
Dataset Pathname: dil/aasstk  
Presentation Format: micro  
Dataset Creation: Fri Dec 12 07:41:58 2014  
Charted by: Depth in Feet scaled 1:240

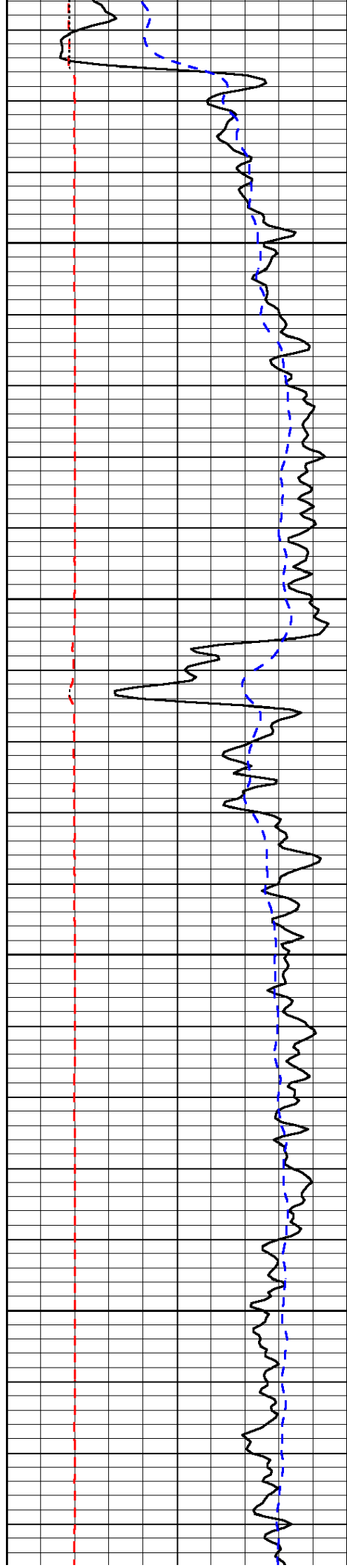
|      |             |     |
|------|-------------|-----|
| 0    | Gamma Ray   | 150 |
| 6    | MCAL (GAPI) | 16  |
| -200 | SP (mV)     | 0   |

|       |                     |    |
|-------|---------------------|----|
| 0     | Micro Inverse 1 X 1 | 40 |
| 0     | Micro Normal 2"     | 40 |
| 15000 | Line Weight         | 0  |

LSPD





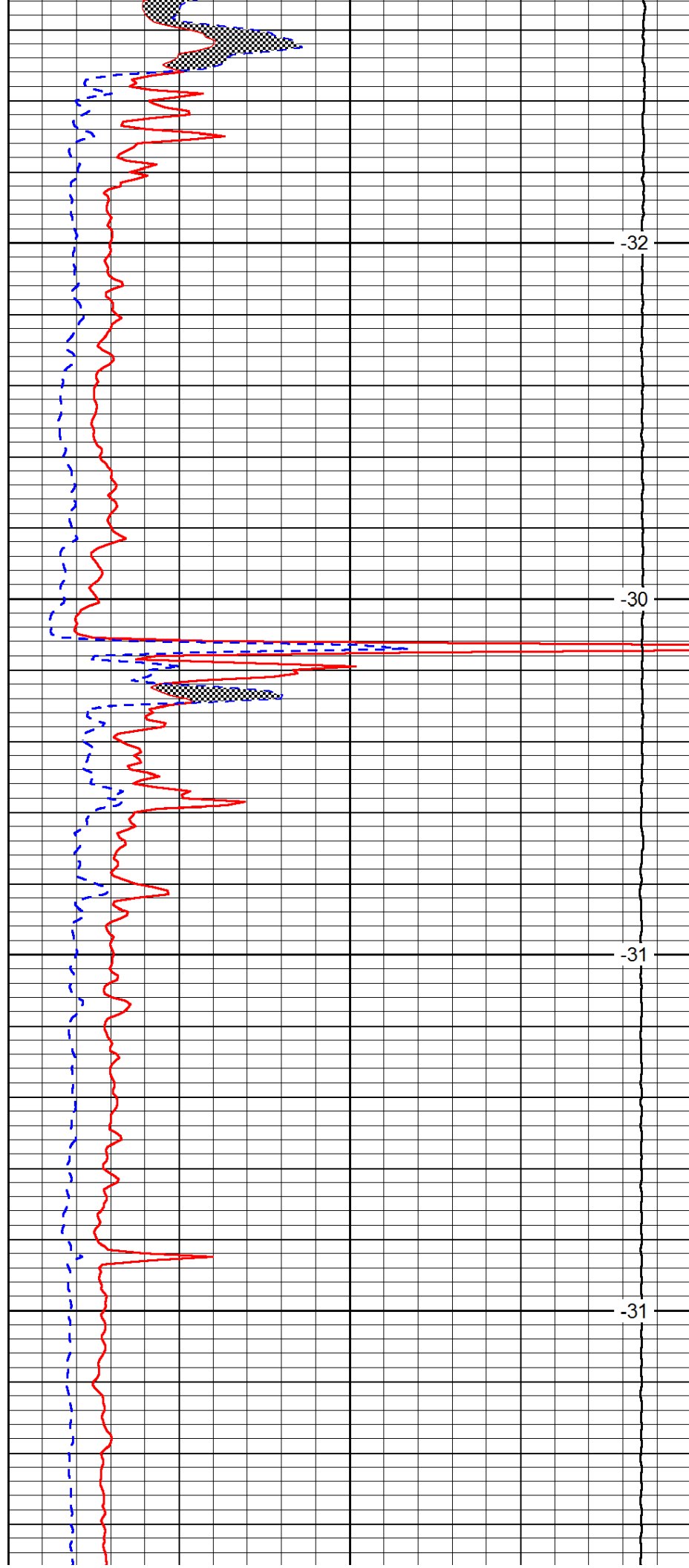


2450

2500

2550

2600

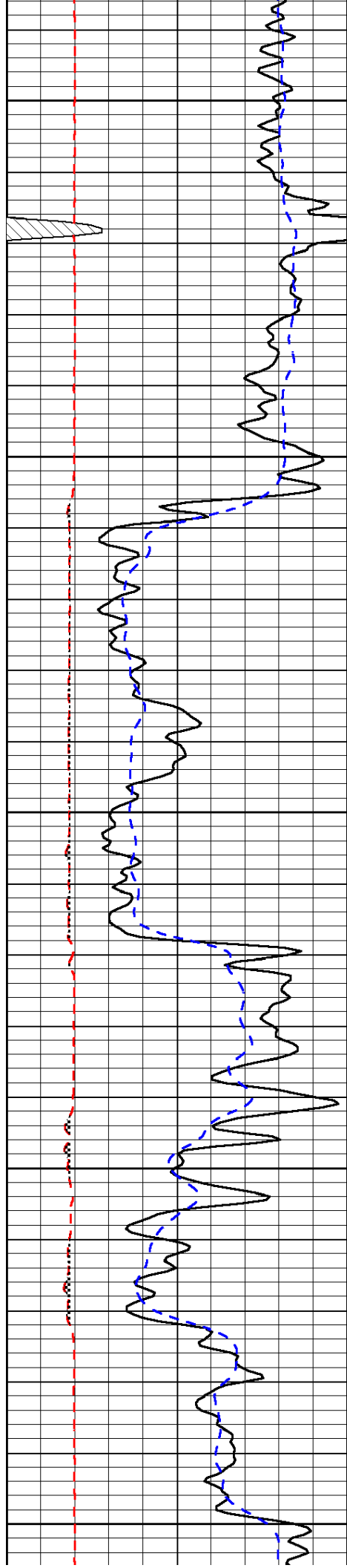


-32

-30

-31

-31



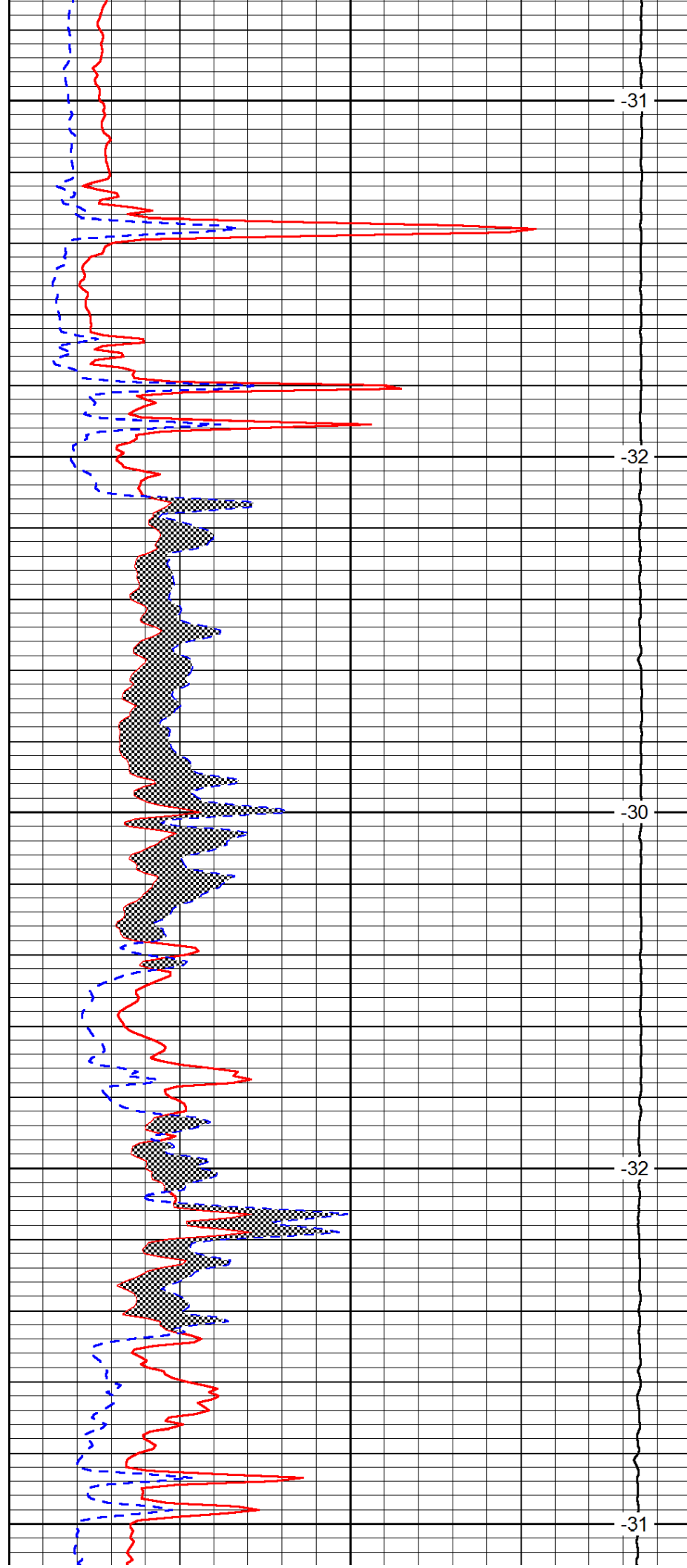
2650

2700

2750

2800

2850



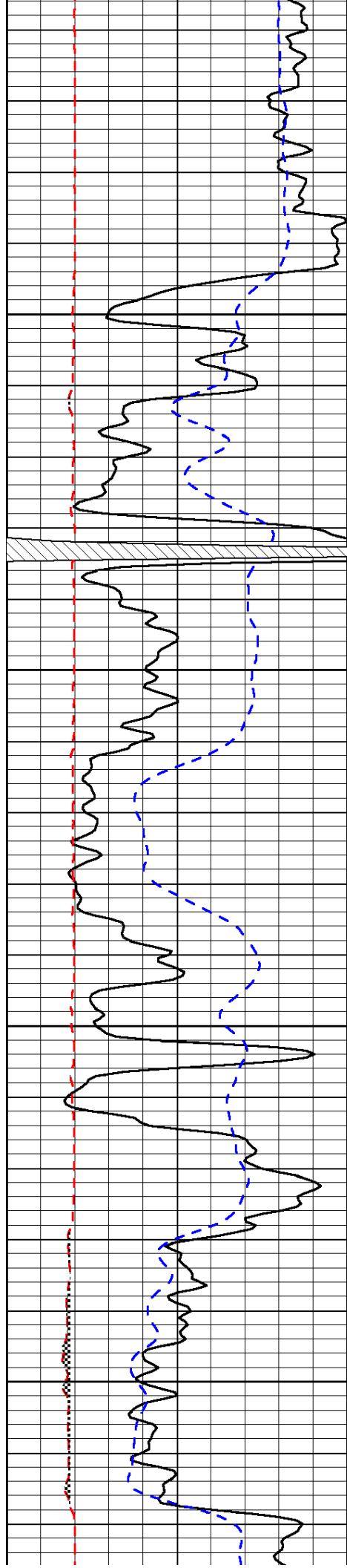
-31

-32

-30

-32

-31

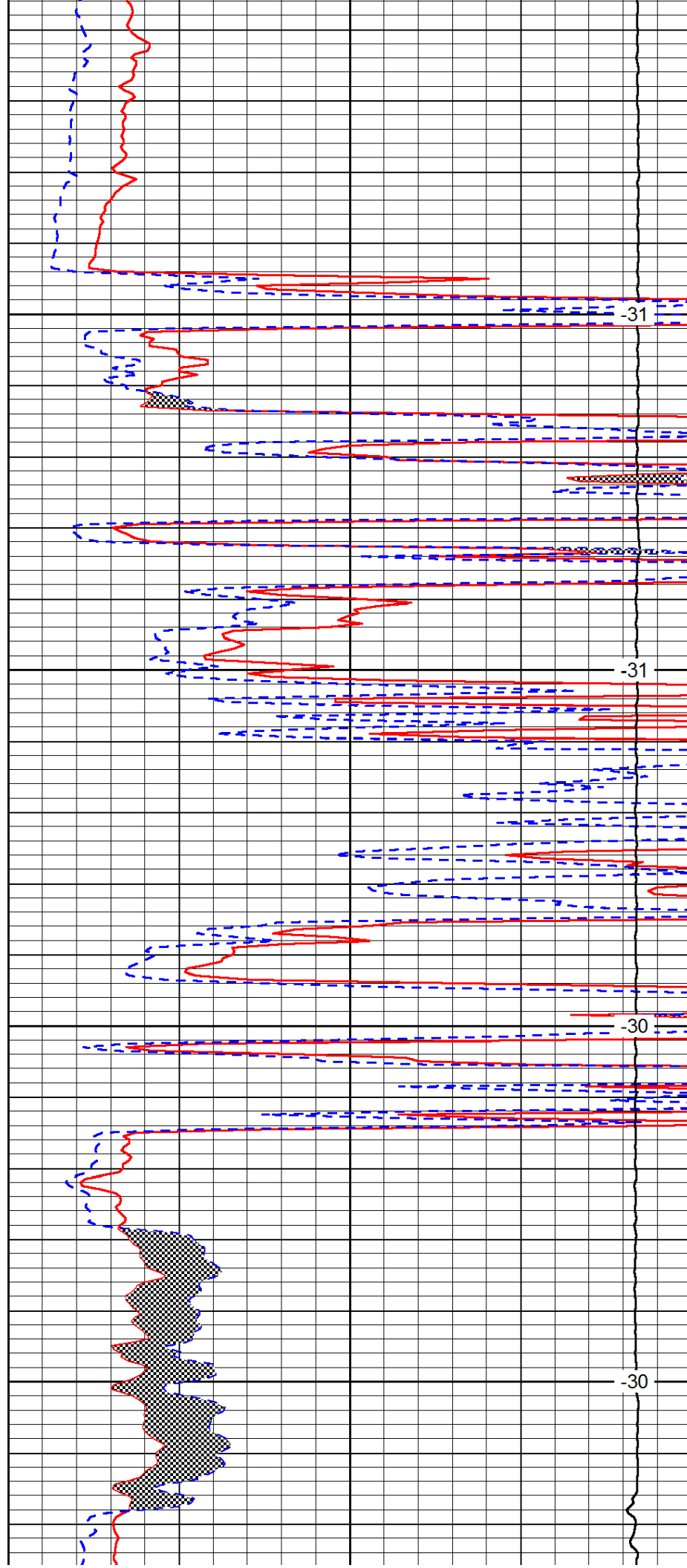


2900

2950

3000

3050

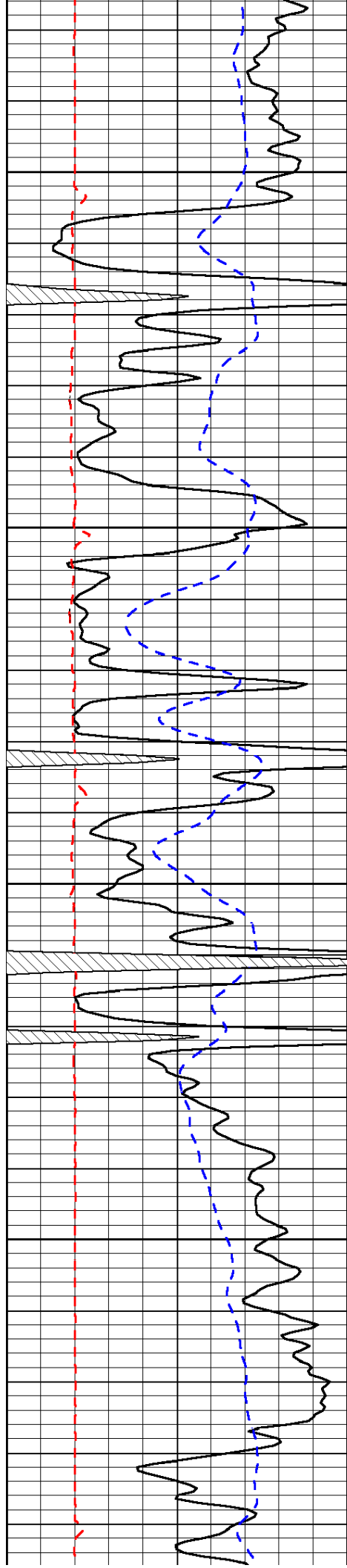


-31

-31

-30

-30

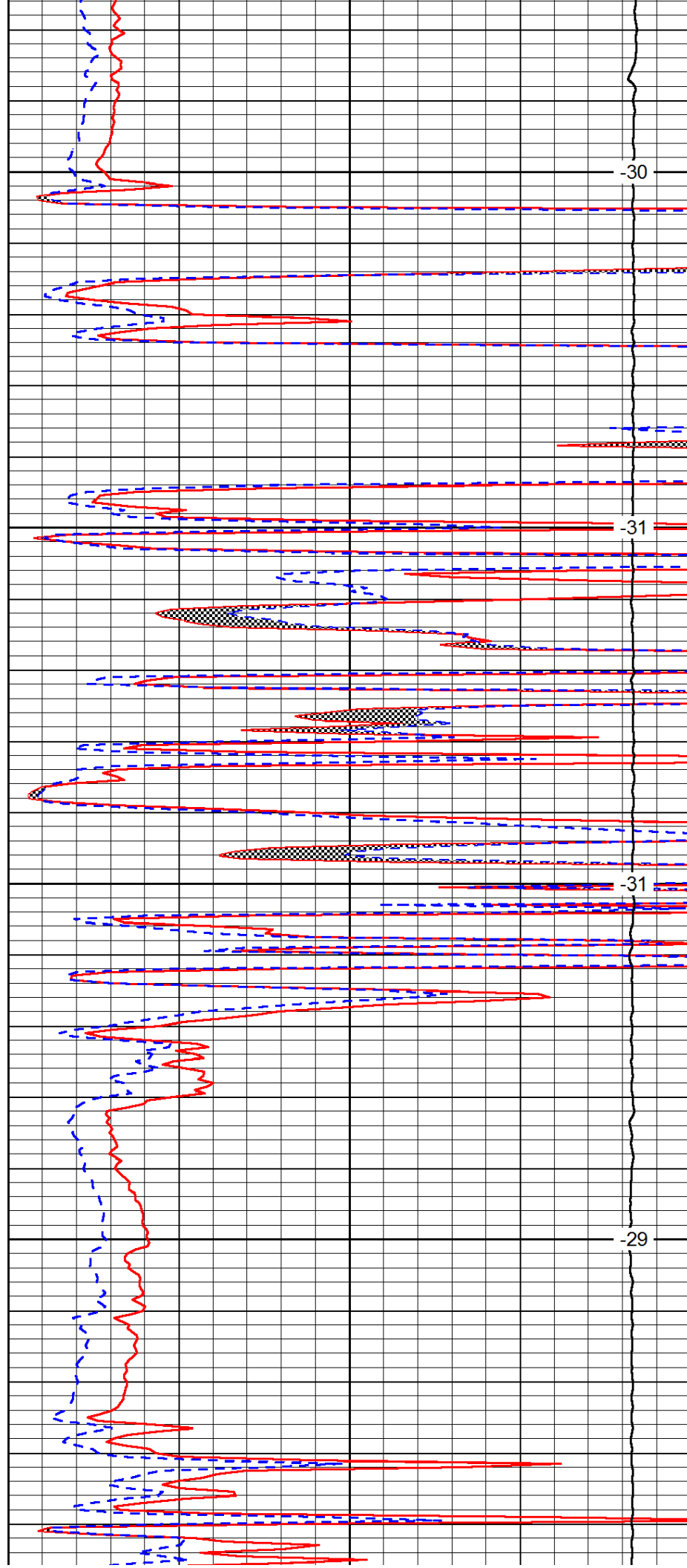


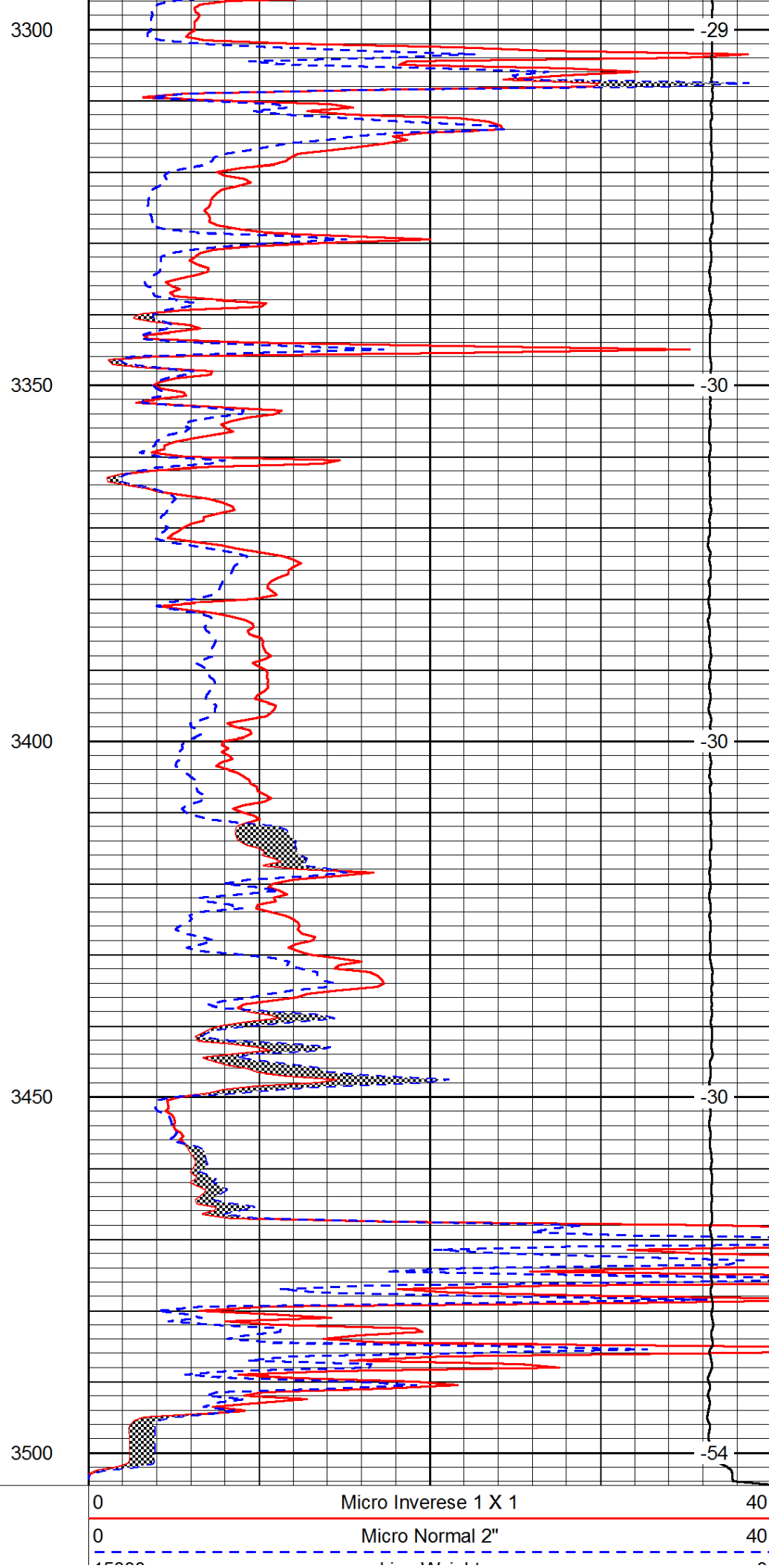
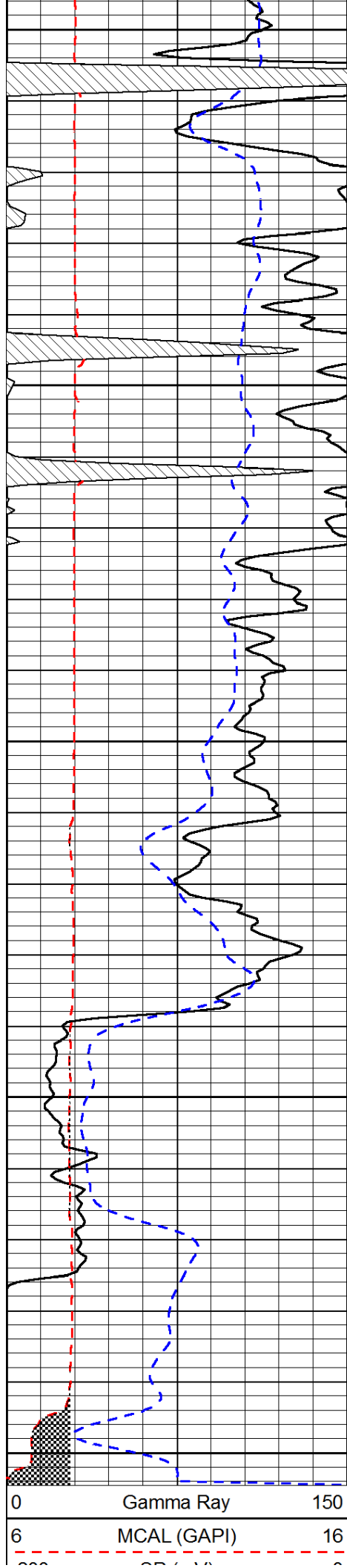
3100

3150

3200

3250





|      |         |   |       |             |      |
|------|---------|---|-------|-------------|------|
| -200 | SP (mv) | 0 | 15000 | Line weight | 0    |
|      |         |   |       |             | LSPD |