



**PIONEER**

Pioneer Energy Services

## Microresistivity Log

API No.

15-165-22068-00-00

Company **Murfin Drilling Company, Inc.**

Well **Oelkers 'B' #1-2**

Field **Wildcat**

County

**Rush**

State

**Kansas**

Location

**1320' FSL & 2310' FWL**

Other Services  
CNL/CDL  
DIL/BHCS

Sec: **2**

Twp: **16S**

Rge: **19W**

Elevation

K.B. 2035  
D.F.  
G.L. 2030

Permanent Datum Ground Level Elevation 2030  
Log Measured From Kelly Bushing 5 Ft. Above Perm. Datum  
Drilling Measured From Kelly Bushing

Date

**5/10/2014**

Run Number

**Two**

Depth Driller

**3688**

Depth Logger

**3689**

Bottom Logged Interval

**3688**

Top Log Interval

**2800**

Casing Driller

**8.625 @ 1230**

Casing Logger

**1227**

Bit Size

**7.875**

Type Fluid in Hole

**Chemical**

Salinity, ppm CL

**7000**

Density / Viscosity

**9.3**

pH / Fluid Loss

**9.5**

Source of Sample

**Flowline**

Rm @ Meas. Temp

**0.30 @ 78**

Rmf @ Meas. Temp

**0.23 @ 78**

Rmc @ Meas. Temp

**0.41 @ 78**

Source of Rmf / Rmc

**Charts**

Rm @ BHT

**0.20 @ 115**

Operating Rig Time

**5 Hours**

Max Rec. Temp. F

**115**

Equipment Number

**91**

Location

**Hays**

Recorded By

**D. Schmidt**

Witnessed By

**Andy White**

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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

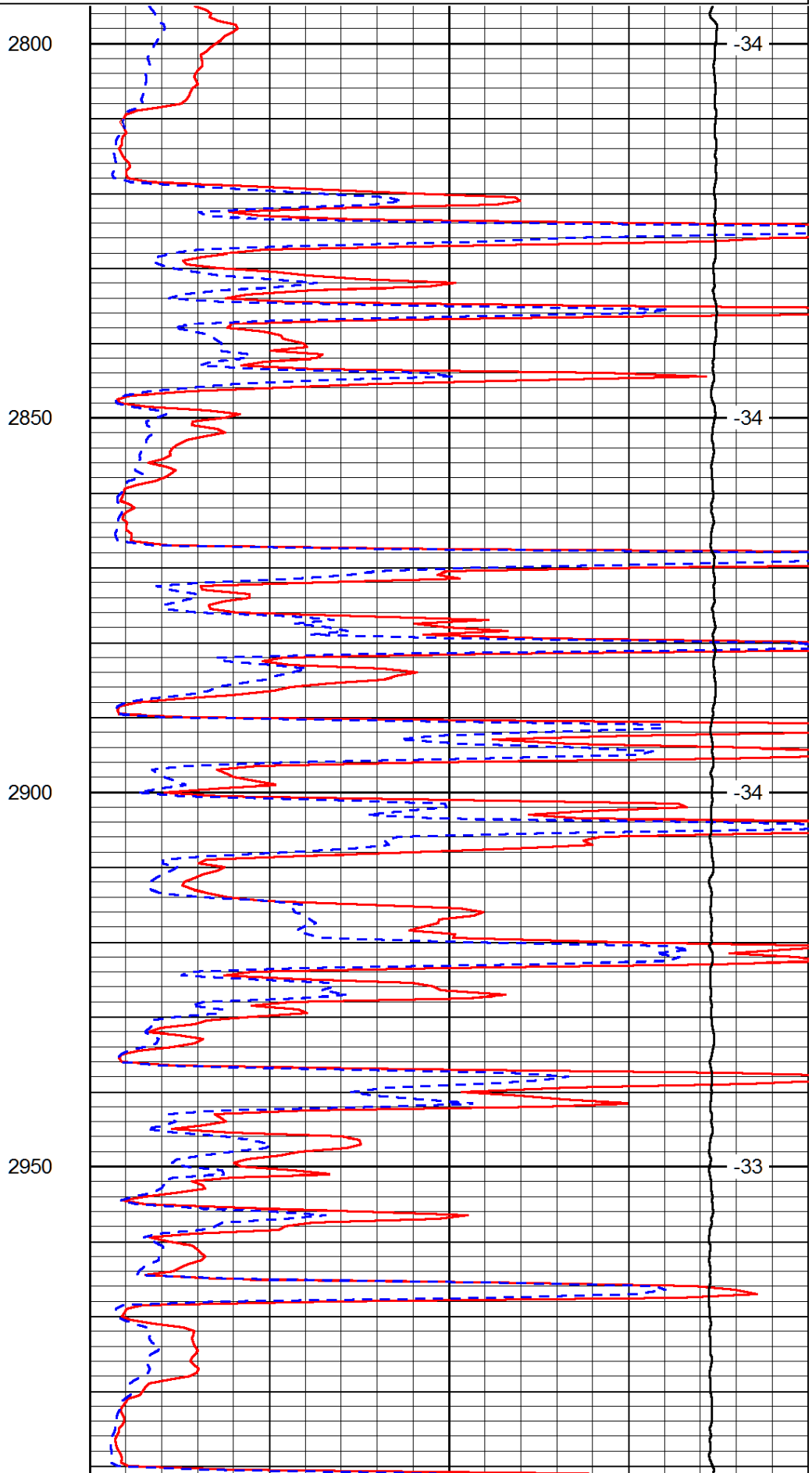
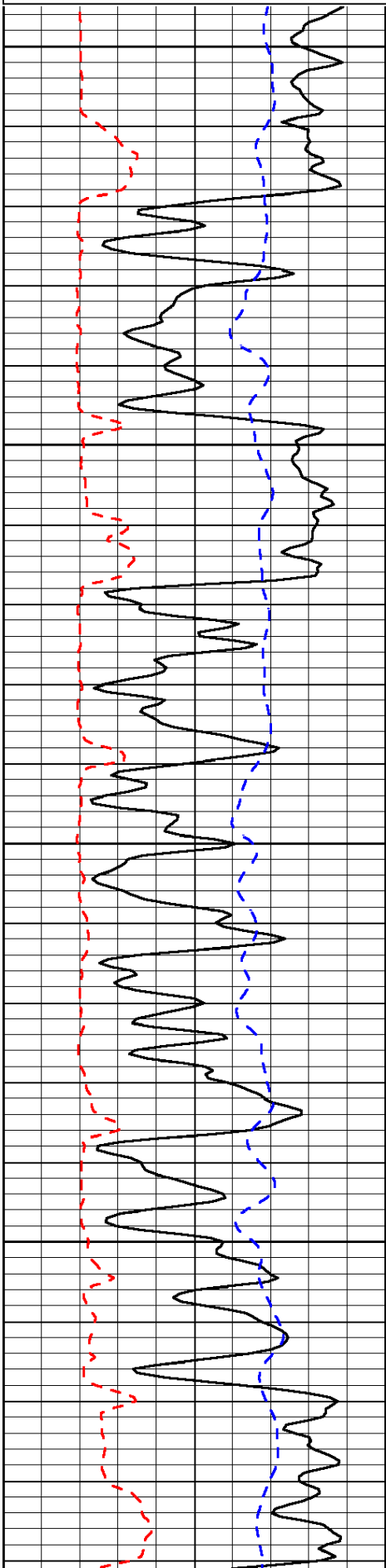
Thank you for using Log-Tech, Inc.  
(785) 625-3858

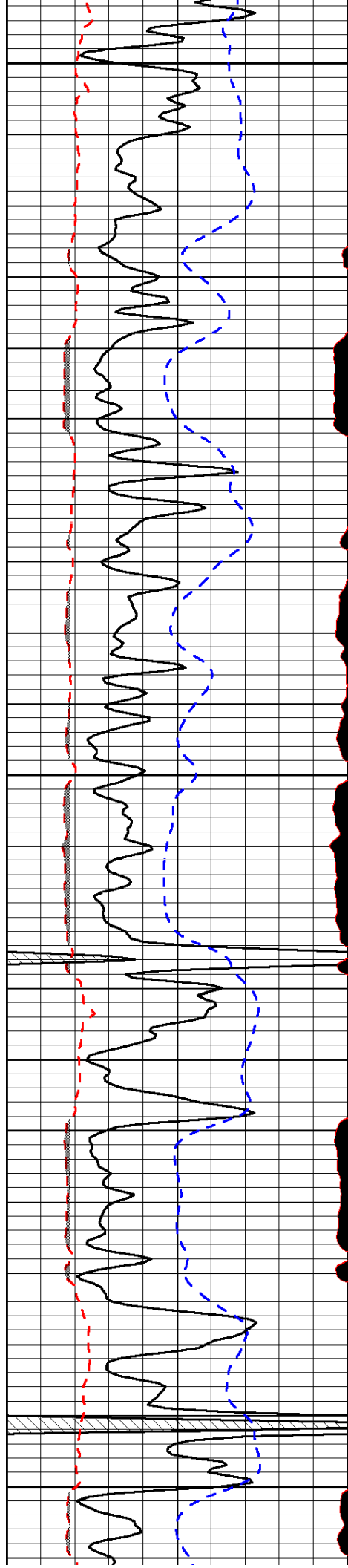
Liebenthal,  
North to B Rd, 4 West,  
North into 100 yards West of TB

Database File: murfin\_091014hd.db  
Dataset Pathname: dil/mrfstck  
Presentation Format: micro  
Dataset Creation: Sat May 10 15:20:38 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 |





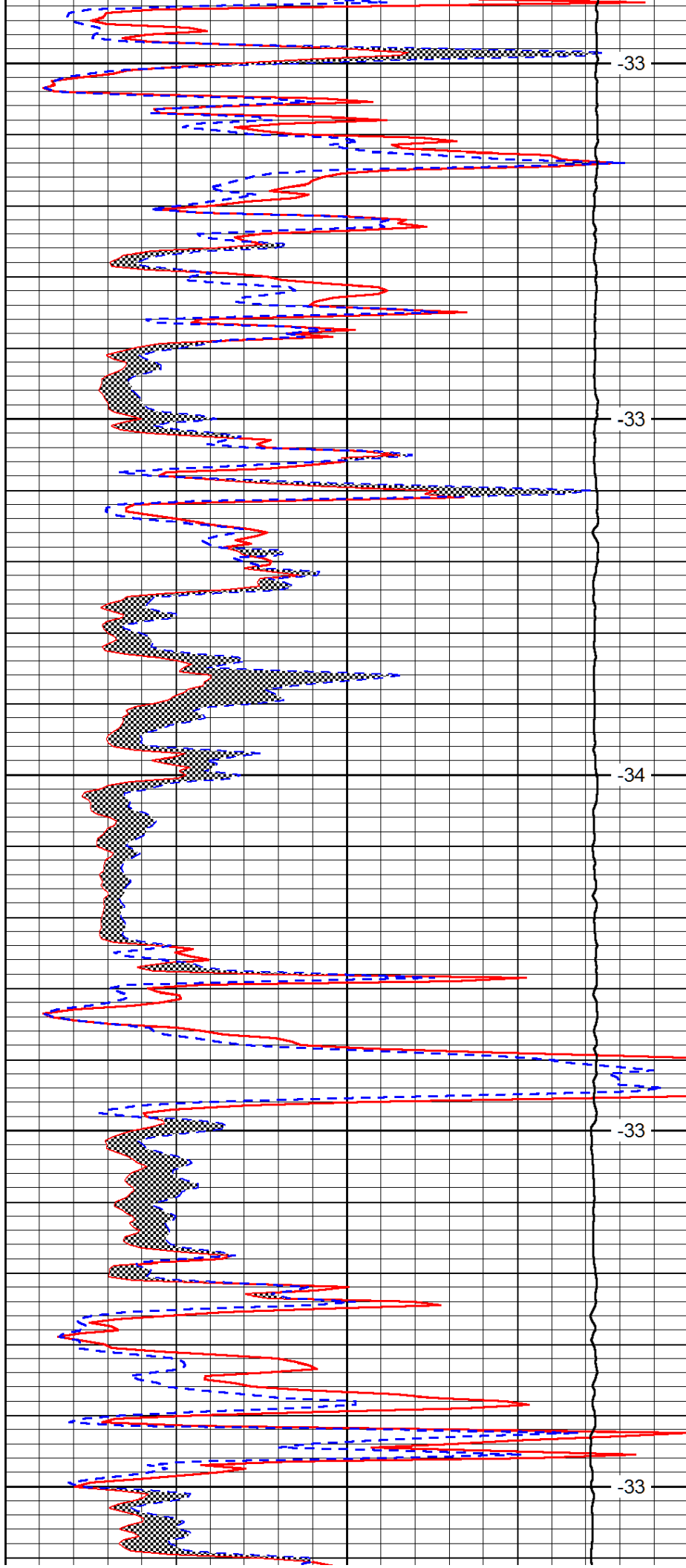
3000

3050

3100

3150

3200



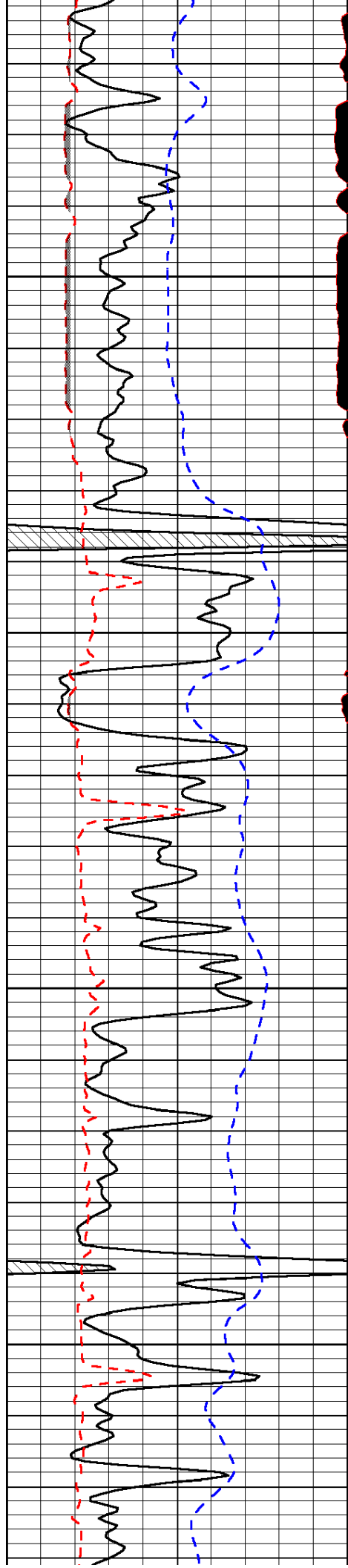
-33

-33

-34

-33

-33

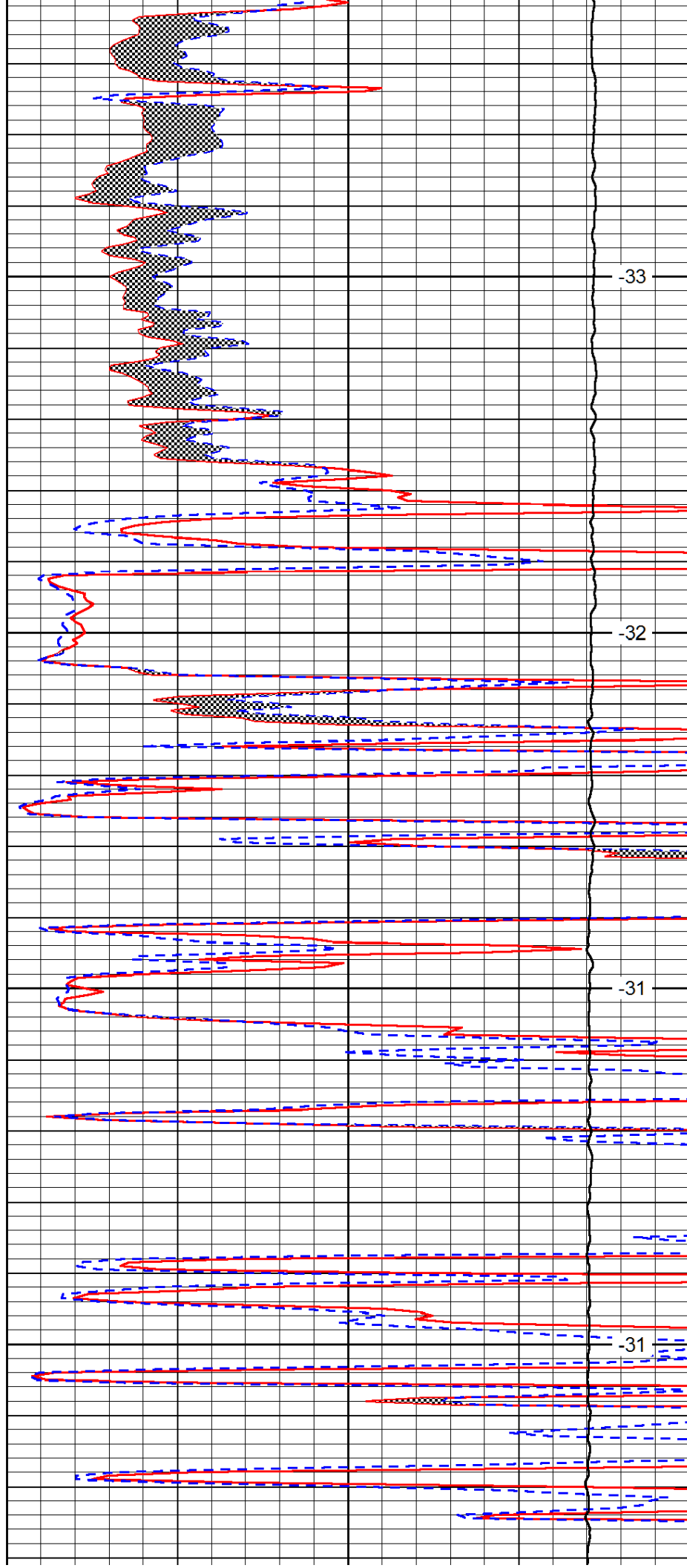


3250

3300

3350

3400

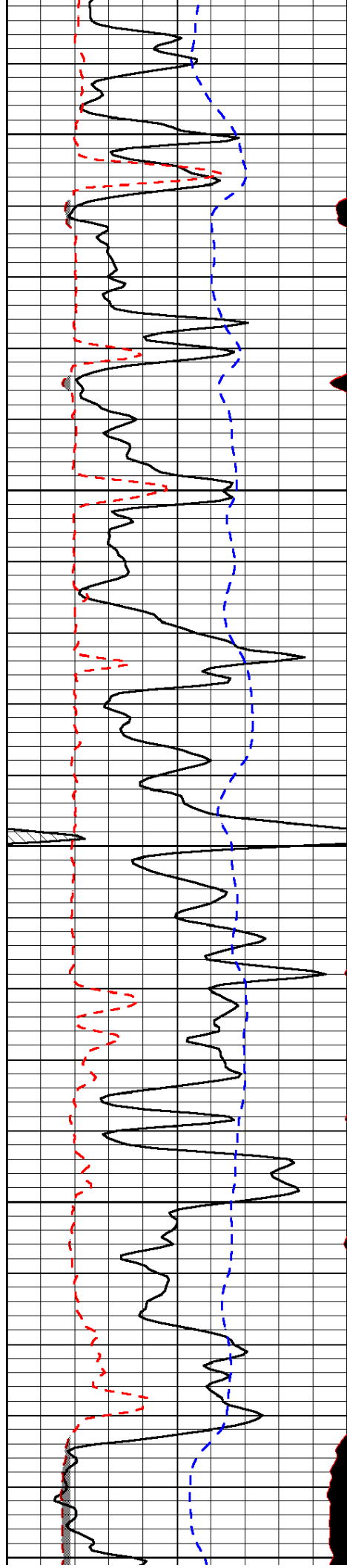


-33

-32

-31

-31



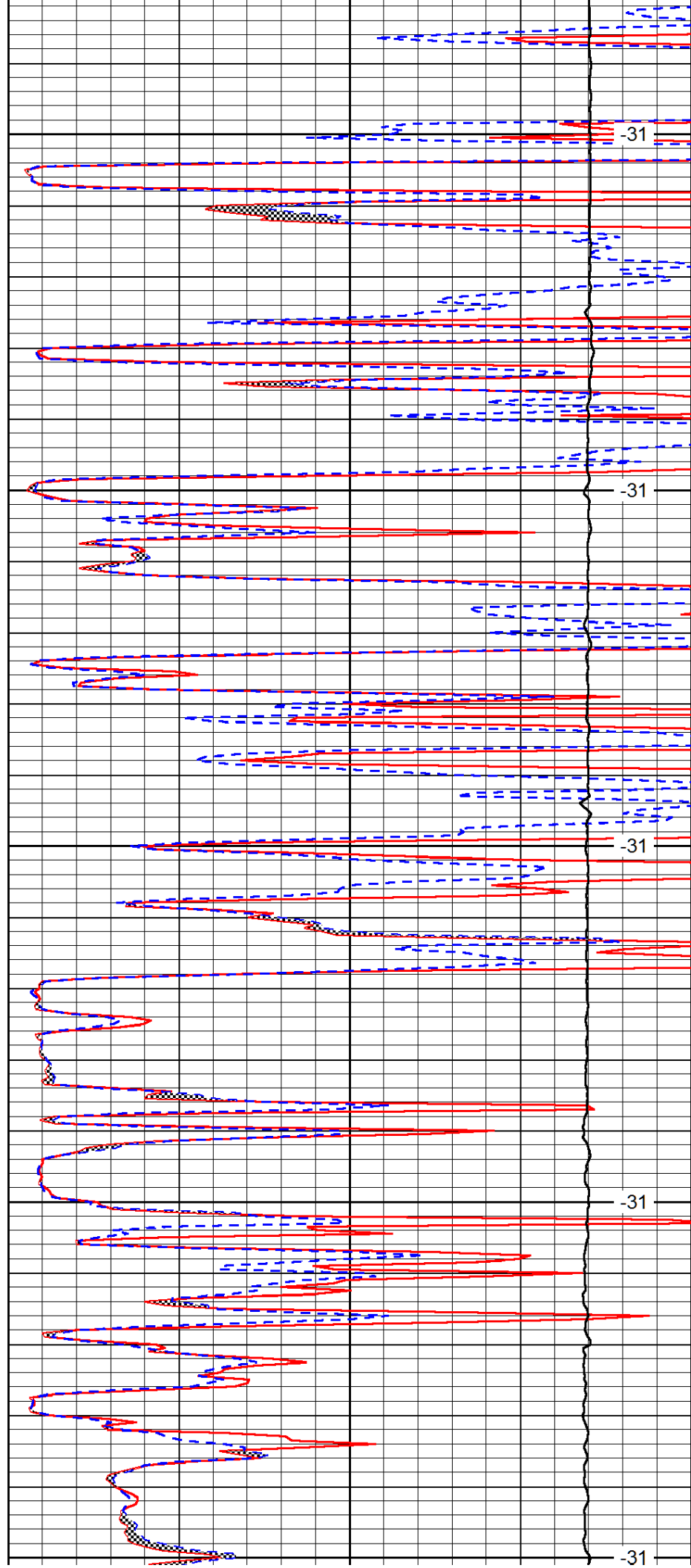
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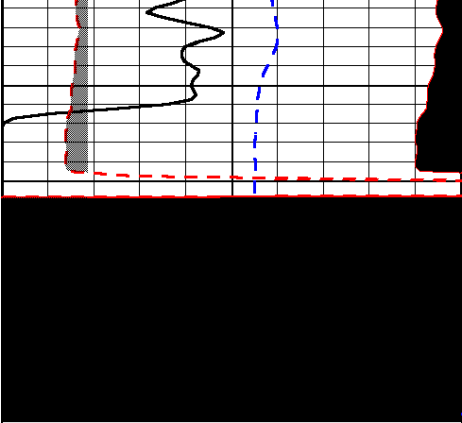
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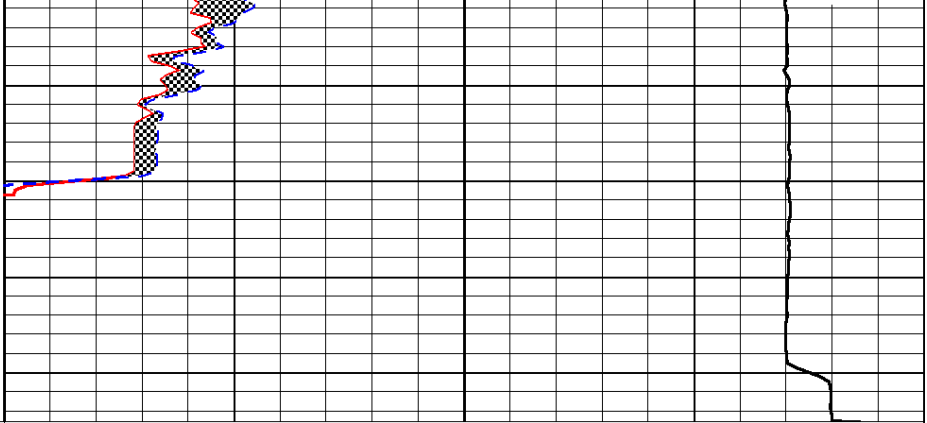
3600

3650





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LSPD