



# Microresistivity Log

DIGITAL LOG (785) 625-3858

|                                                                |              |                                                     |  |
|----------------------------------------------------------------|--------------|-----------------------------------------------------|--|
| API No.<br>15-065-23629-00-00                                  |              | Company<br>H&C Oil Operating, Inc.                  |  |
| Well<br>Kraus # 18-1                                           |              | Field<br>Unknown                                    |  |
| County<br>Graham                                               |              | State<br>Kansas                                     |  |
| Location<br>SW - NE - NW - SW<br>2150' FSL & 700' FWL          |              | Other Services<br>CNL/CDL<br>DIL/BHCS               |  |
| Sec: 18                                                        |              | Twp: 8 S                                            |  |
| Permanent Datum<br>Log Measured From<br>Drilling Measured From |              | Ground Level<br>Kelly Bushing<br>From Kelly Bushing |  |
| Elevation 2045<br>5 Ft. Above Perm. Datum                      |              | Elevation<br>K.B. 2050<br>D.F. 2045<br>G.L. 2045    |  |
| Date                                                           | 4/6/2010     |                                                     |  |
| Run Number                                                     | Two          |                                                     |  |
| Depth Driller                                                  | 3662         |                                                     |  |
| Depth Logger                                                   | 3663         |                                                     |  |
| Bottom Logged Interval                                         | 3662         |                                                     |  |
| Top Log Interval                                               | 2900         |                                                     |  |
| Casing Driller                                                 | 8.625 @ 262  |                                                     |  |
| Casing Logger                                                  | 257          |                                                     |  |
| Bit Size                                                       | 7.875        |                                                     |  |
| Type Fluid in Hole                                             | Chemical     |                                                     |  |
| Salinity, ppm CL                                               | 1500         |                                                     |  |
| Density / Viscosity                                            | 9.5 51       |                                                     |  |
| pH / Fluid Loss                                                | 9.0 9.6      |                                                     |  |
| Source of Sample                                               | Flowline     |                                                     |  |
| Rm @ Meas. Temp                                                | 2.40 @ 65    |                                                     |  |
| Rmf @ Meas. Temp                                               | 1.80 @ 65    |                                                     |  |
| Rmc @ Meas. Temp                                               | 3.24 @ 65    |                                                     |  |
| Source of Rmf / Rmc                                            | Charts       |                                                     |  |
| Rm @ BHT                                                       | 1.39 @ 113   |                                                     |  |
| Operating Rig Time                                             | 4-1/2 Hours  |                                                     |  |
| Max Rec. Temp. F                                               | 113          |                                                     |  |
| Equipment Number                                               | 15           |                                                     |  |
| Location                                                       | Hays         |                                                     |  |
| Recorded By                                                    | B. Becker    |                                                     |  |
| Witnessed By                                                   | Marc Downing |                                                     |  |

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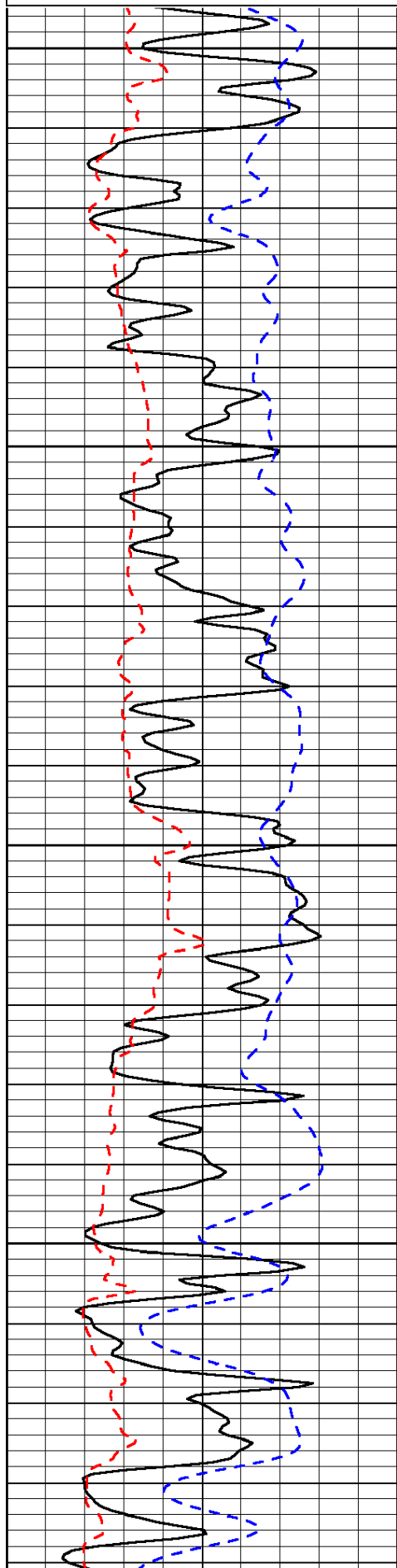
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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

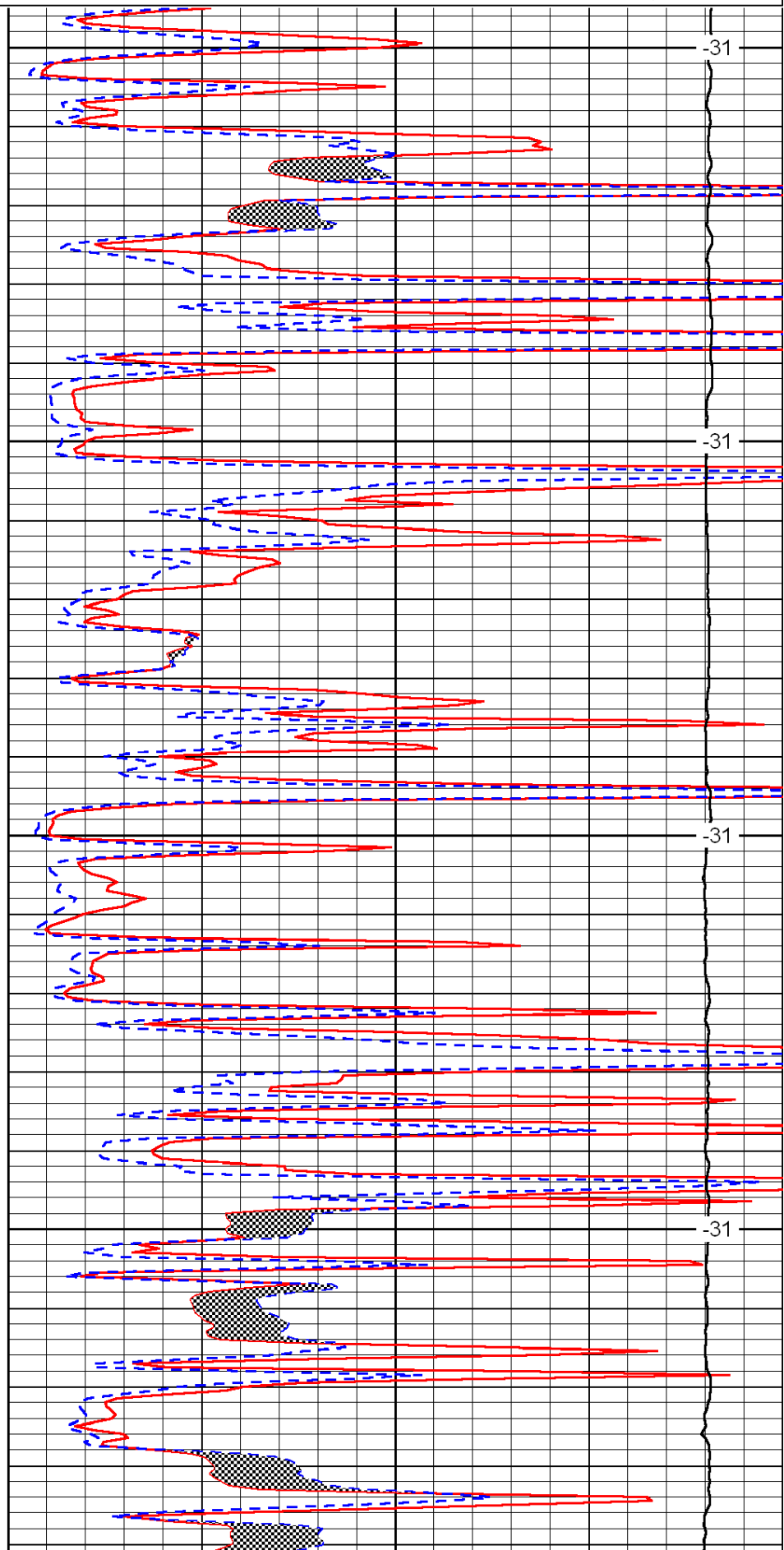
Thank you for using Log-Tech, Inc.  
(785) 625-3858

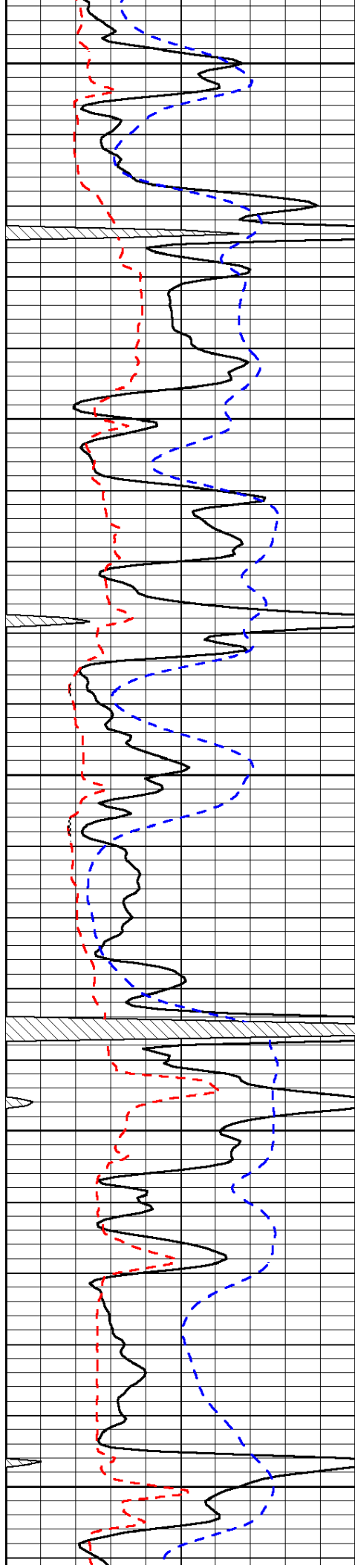
Bogue, Ks; 1-1/2 West; South and East into

|                                         |                          |     |
|-----------------------------------------|--------------------------|-----|
| Charted by: Depth in Feet scaled 1:2.15 |                          |     |
| 0                                       | Gamma Ray                | 150 |
| 6                                       | Micro Log Caliper (GAPI) | 16  |
| -200                                    | SP (mV)                  | 0   |



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





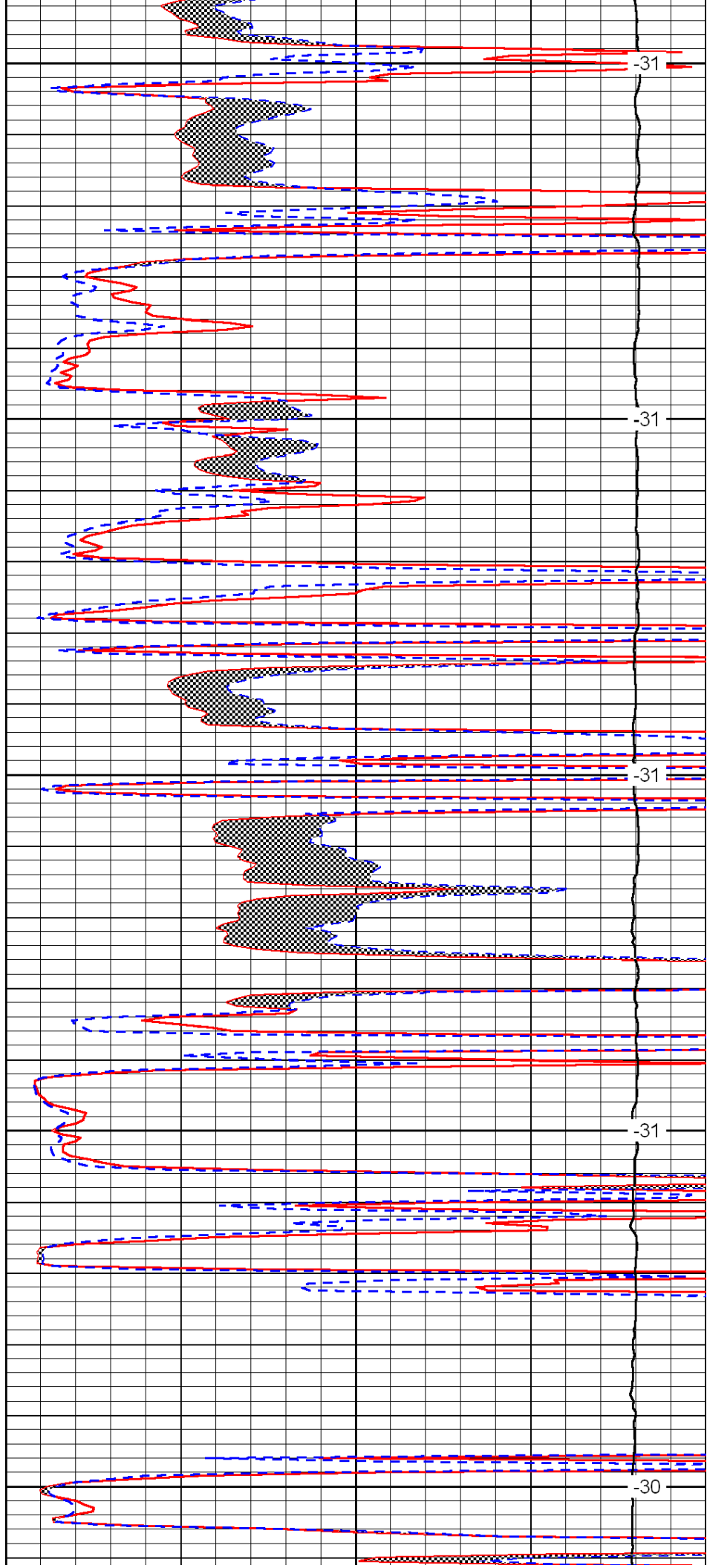
3100

3150

3200

3250

3300



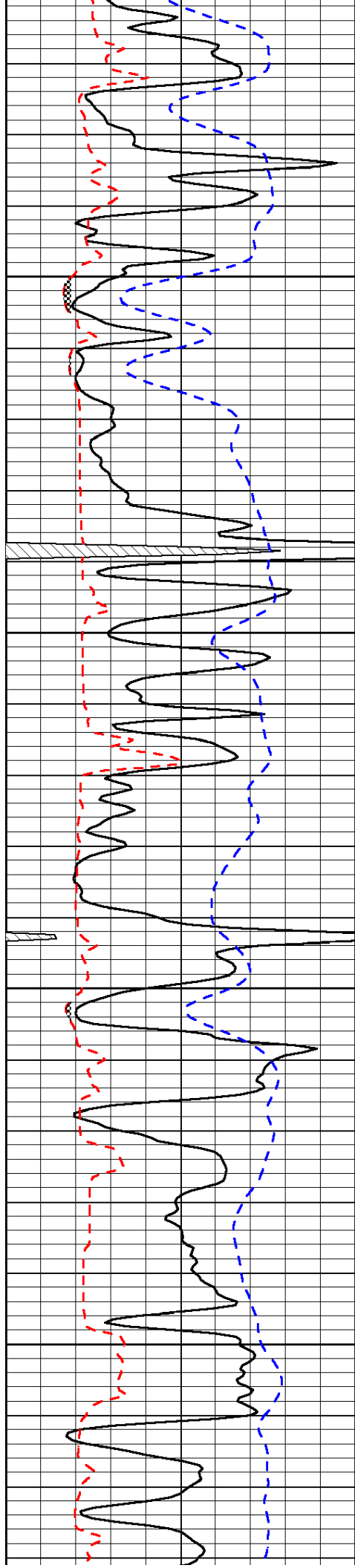
-31

-31

-31

-31

-30

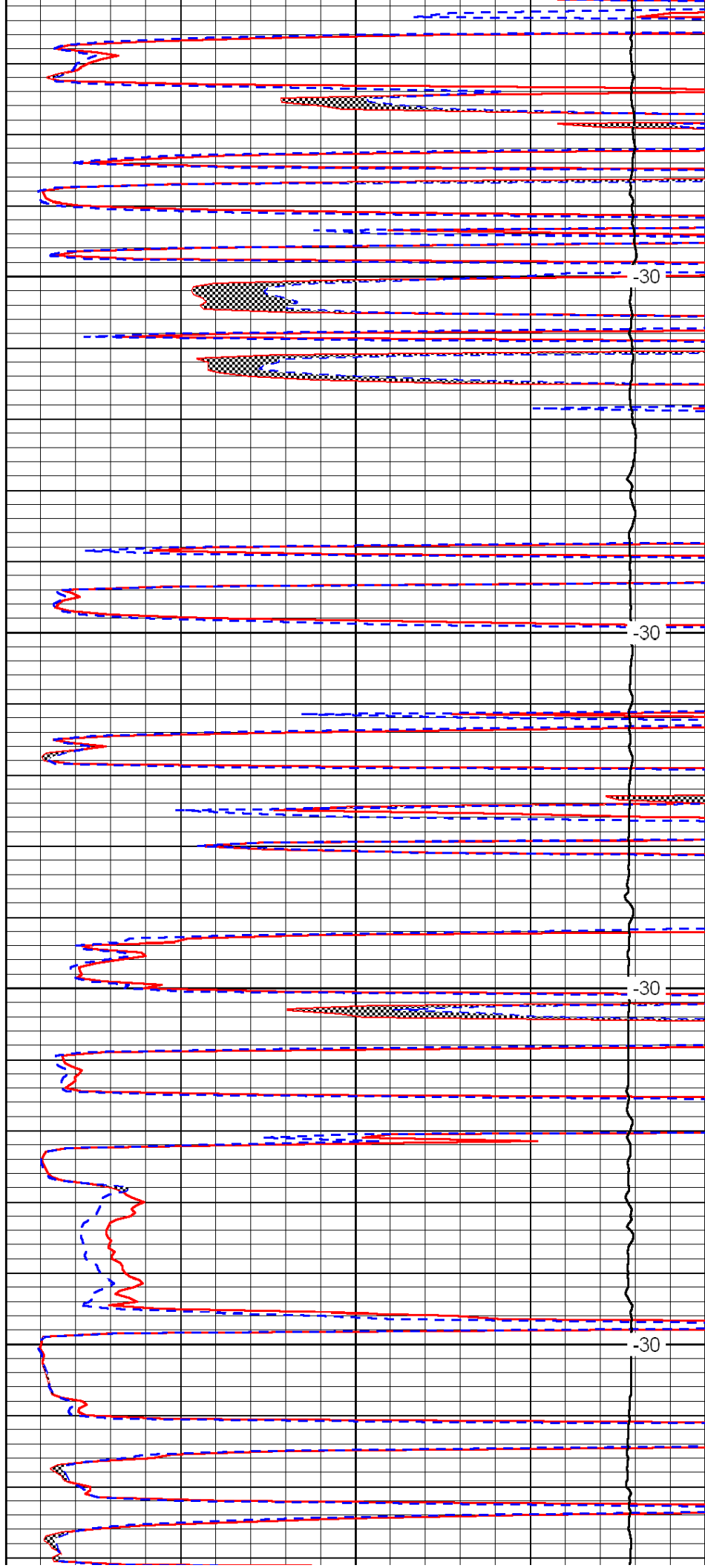


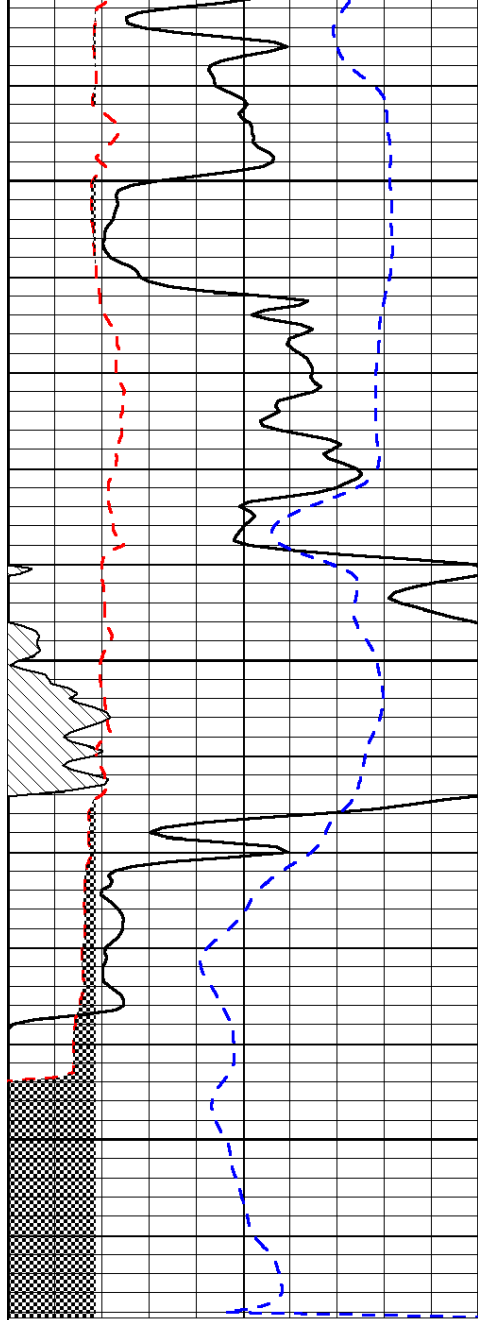
3350

3400

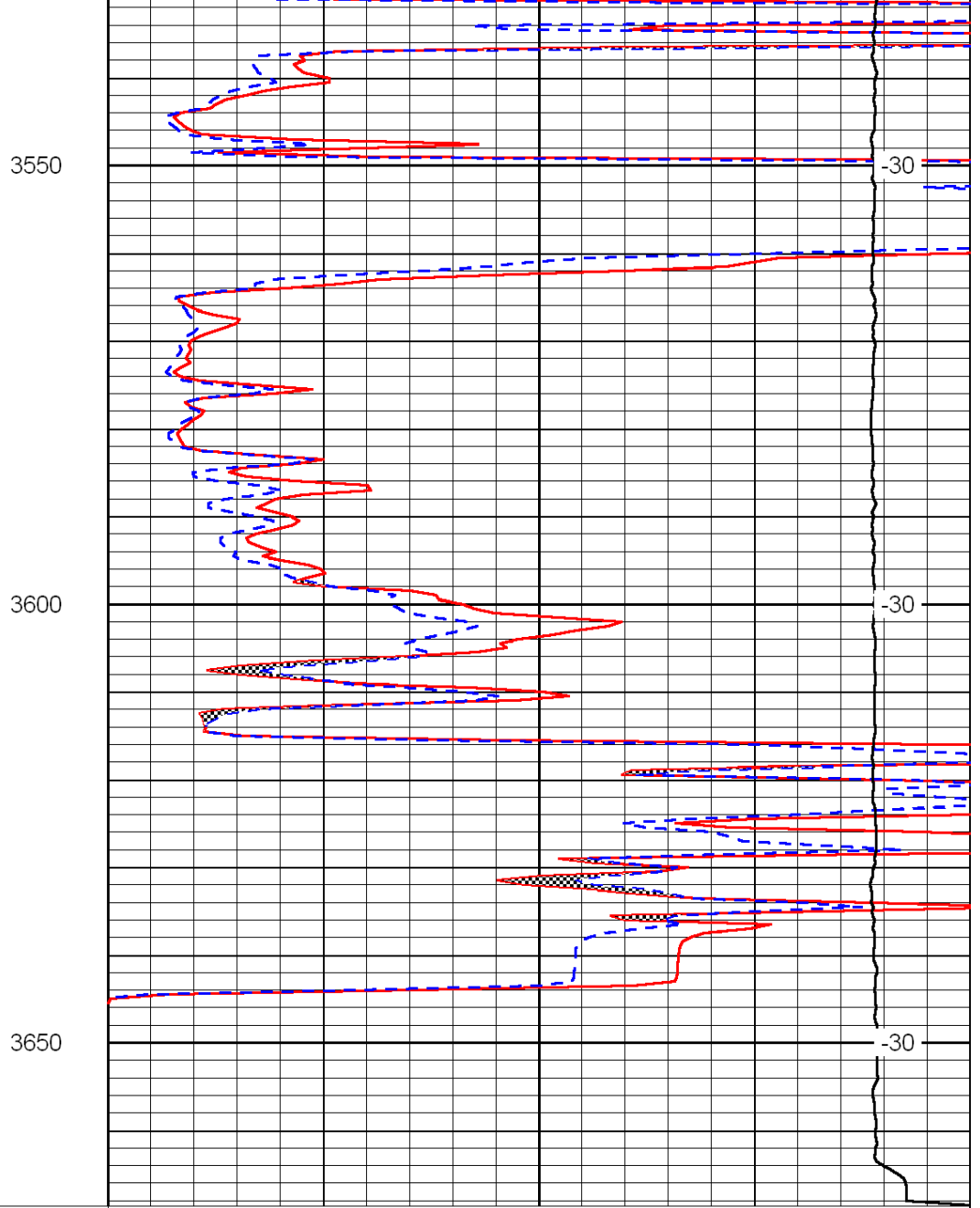
3450

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LSPD