

# LOG-TECH



DIGITAL LOG (785) 625-3858

## Dual Induction Log

|                        |                                     |  |
|------------------------|-------------------------------------|--|
| API No.                | 15-007-23,880-00-00                 |  |
| Company                | Indian Oil Company, Inc.            |  |
| Well                   | Helen #1                            |  |
| Field                  |                                     |  |
| County                 | Barber                              | State  |
|                        |                                     | Kansas   |
| Location               | NW SE NE SE<br>1815' FSL & 335' FEL |  |
| Sec:                   | 10                                  | Twp: 35S Rge: 12W                                |
| Permanent Datum        | Ground Level                        | Elevation 1393                                   |
| Log Measured From      | Kelly Bushing                       | 11 Ft. Above Perm. Datum                         |
| Drilling Measured From | Kelly Bushing                       |  |
|                        |                                     | Other Services<br>CNL/CDL                        |
|                        |                                     | Elevation<br>K.B. 1404<br>D.F. 1393<br>G.L. 1393 |

|                        |              |
|------------------------|--------------|
| Date                   | 5/25/2012    |
| Run Number             | One          |
| Depth Driller          | 5233         |
| Depth Logger           | 5232         |
| Bottom Logged Interval | 5231         |
| Top Log Interval       | 750          |
| Casing Driller         | 8.625 @ 780  |
| Casing Logger          | 772          |
| Bit Size               | 7.875        |
| Type Fluid in Hole     | Chemical     |
| Salinity, ppm CL       | 5000         |
| Density / Viscosity    | 9.4 48       |
| pH / Fluid Loss        | 9.5 10.8     |
| Source of Sample       | Flowline     |
| Rm @ Meas. Temp        | 0.60 @ 80    |
| Rmf @ Meas. Temp       | 0.49 @ 80    |
| Rmc @ Meas. Temp       | 0.88 @ 80    |
| Source of Rmf / Rmc    | Charts       |
| Rm @ BHT               | 0.40 @       |
| Operating Rig Time     | 3 Hours      |
| Max Rec. Temp. F       | 130          |
| Equipment Number       | 91           |
| Location               | Hays         |
| Recorded By            | D. Schmidt   |
| Witnessed By           | Scott Alberg |

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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

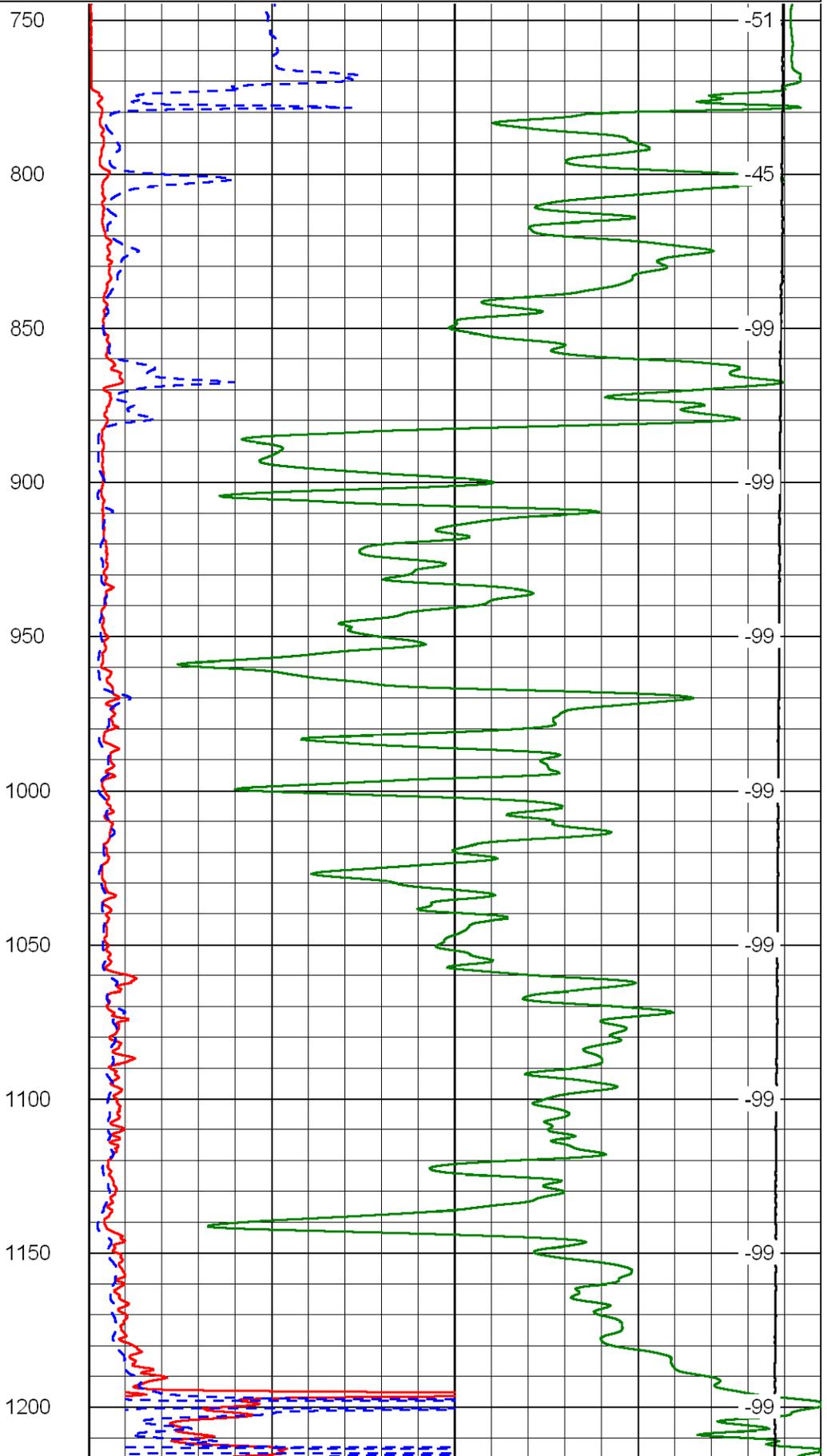
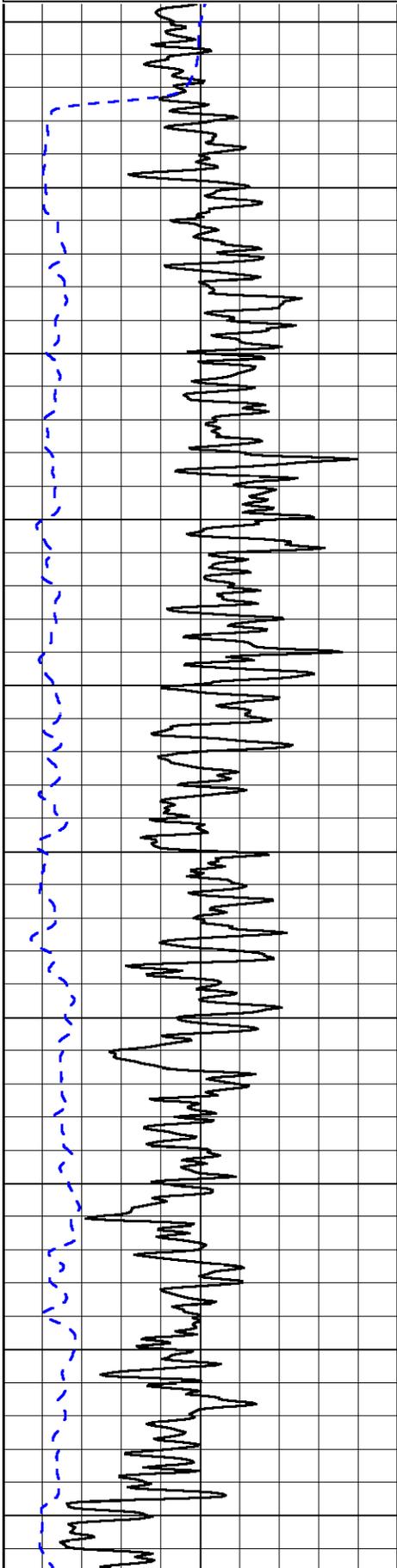
Hardtner,  
 2 1/2 E to Roundup, 1/8 S,  
 W into

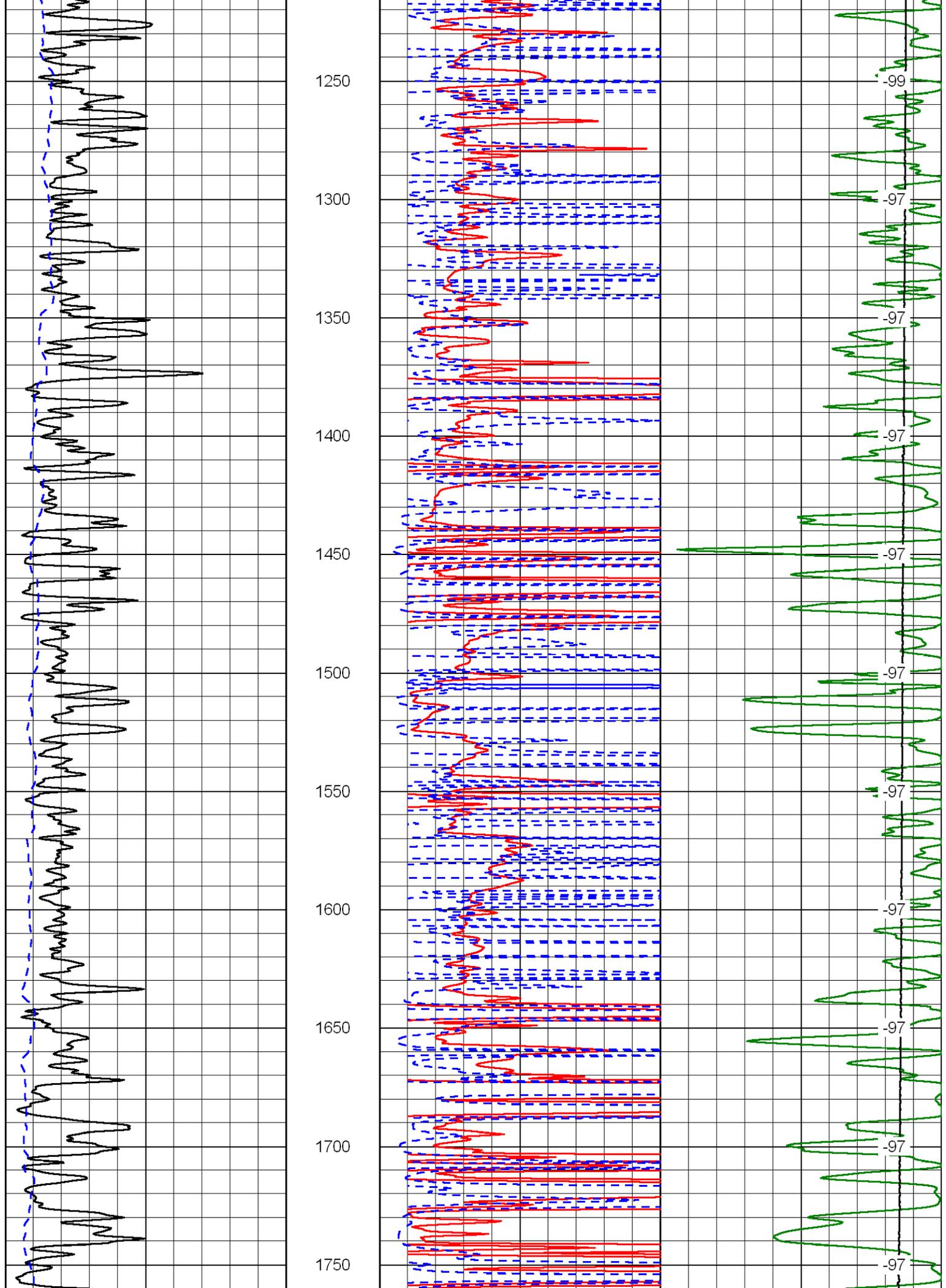
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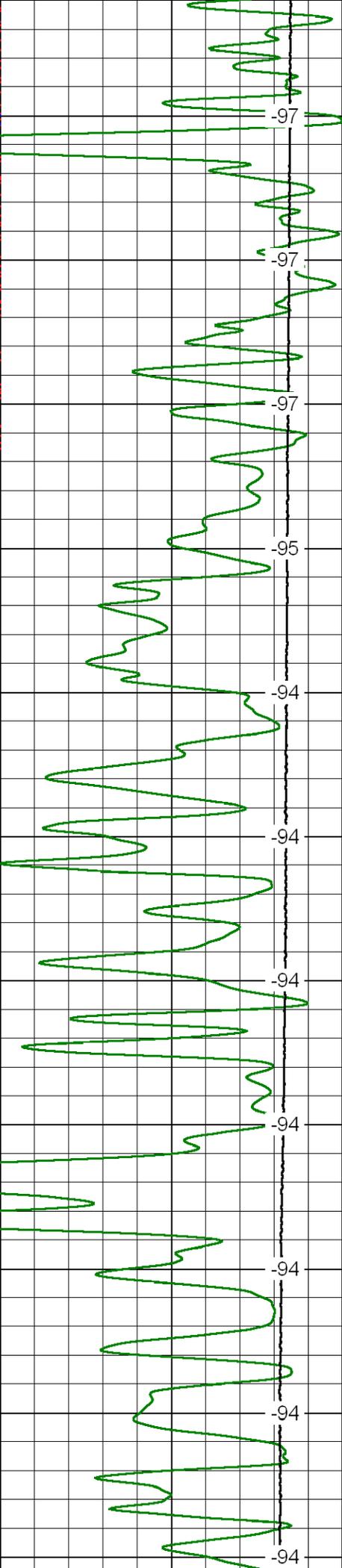
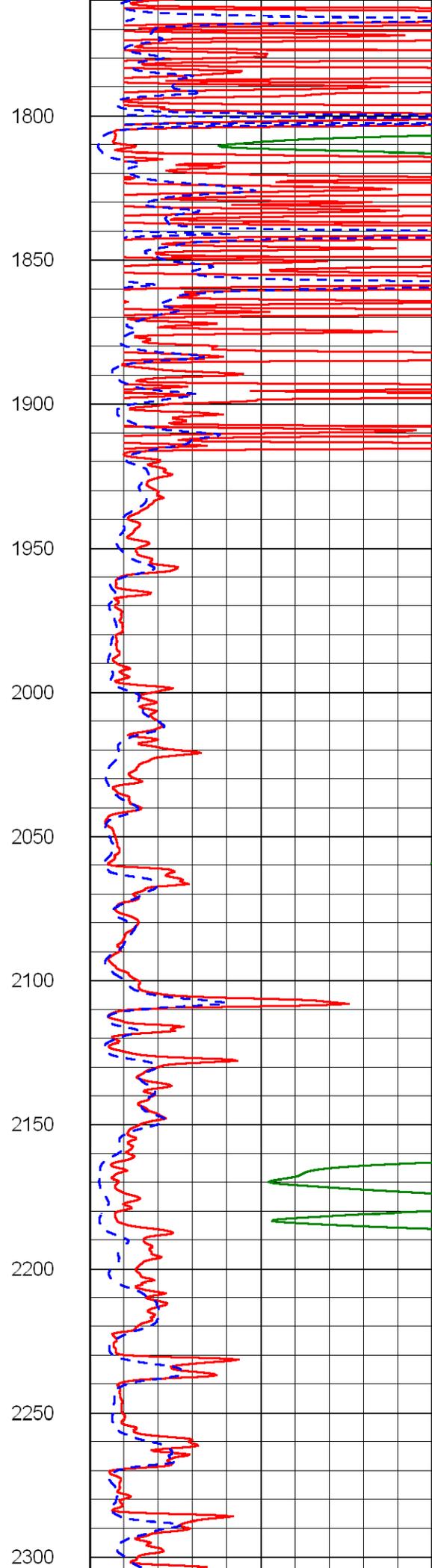
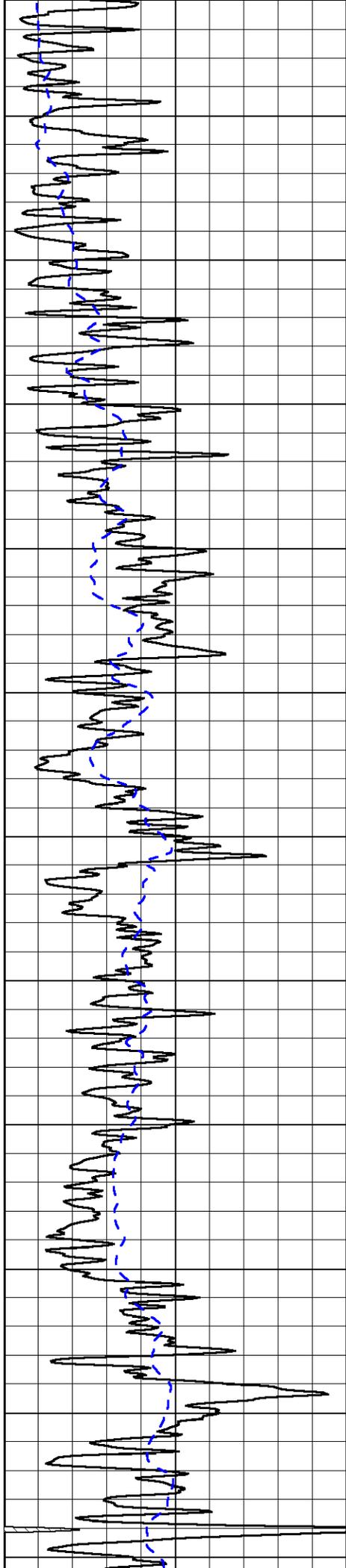
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|------|-----------|-----|
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| -200 | SP        | 0   |

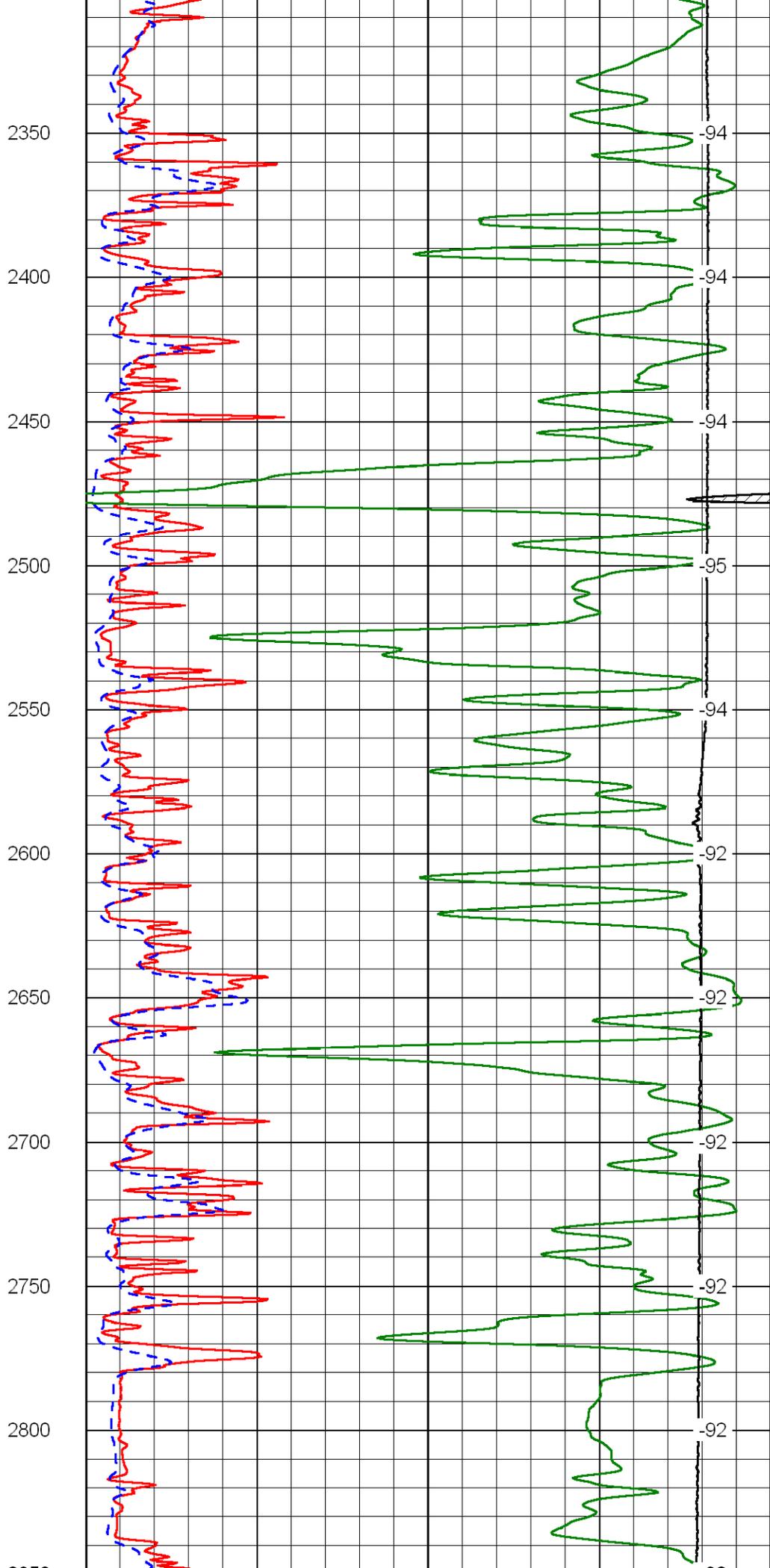
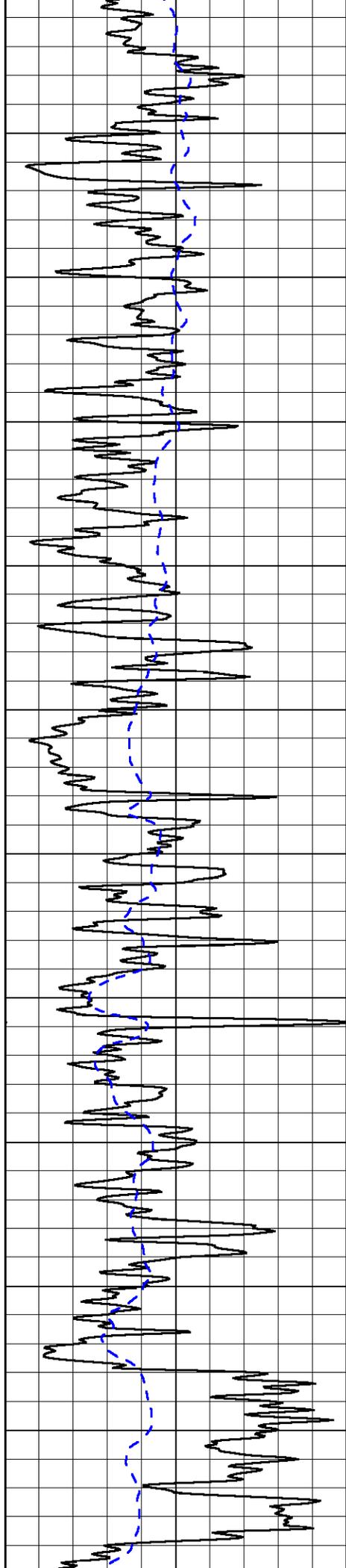
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|-------|---------------------|-----|
| 0     | Shallow Resistivity | 50  |
| 0     | Deep Resistivity    | 50  |
| 1000  | Conductivity        | 0   |
| 15000 | Line Tension        | 0   |
| 50    | Shallow Resistivity | 500 |
| 50    | Deep Resistivity    | 500 |

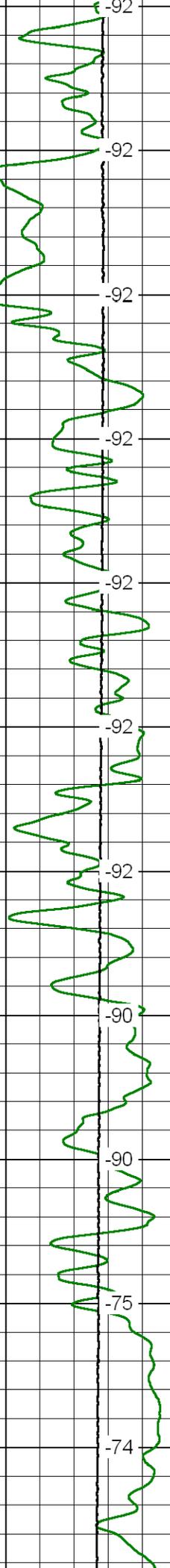
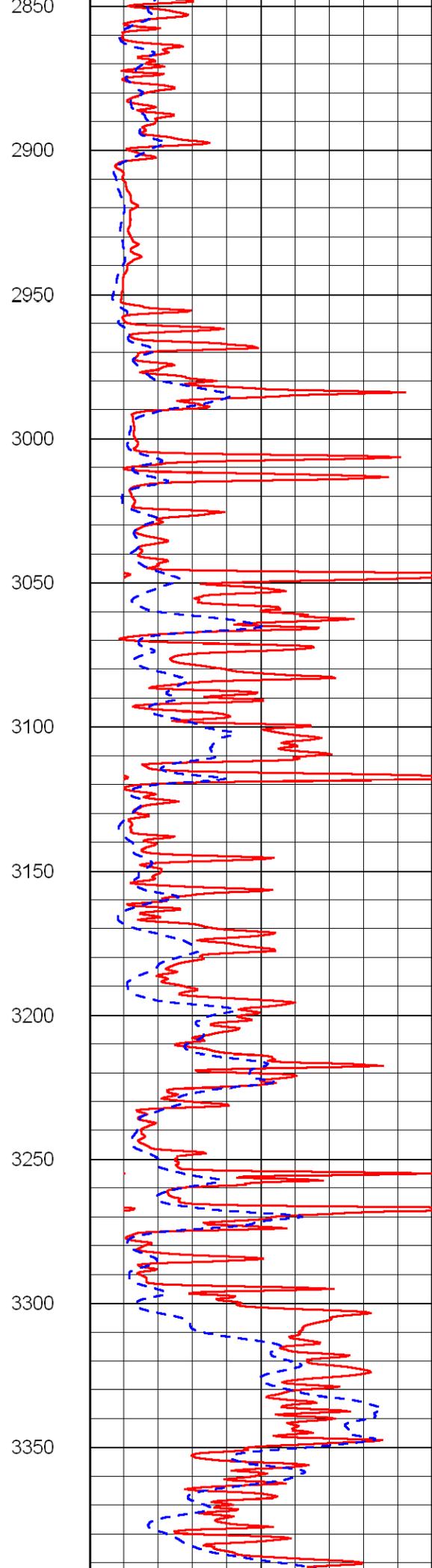
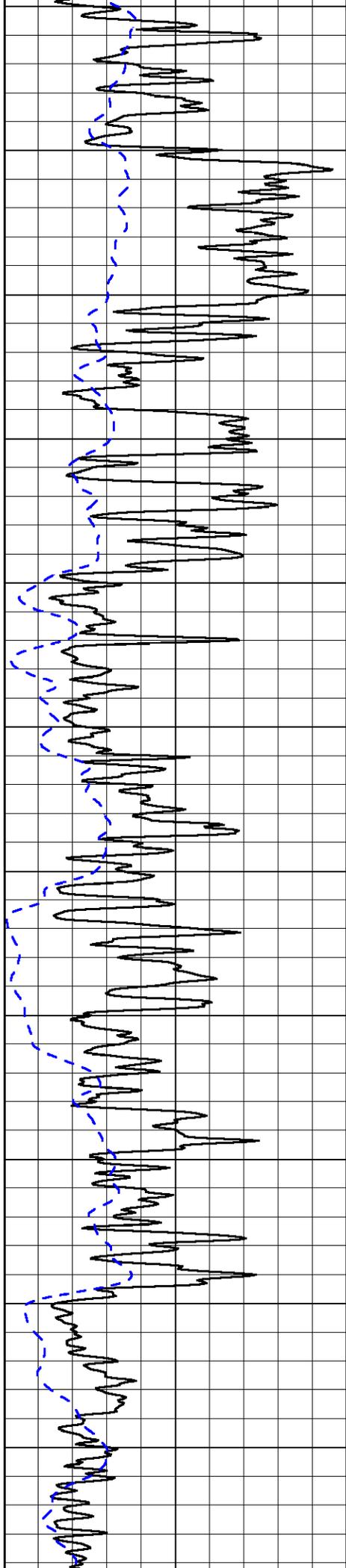
|      |   |
|------|---|
| LSPD | 0 |
|------|---|

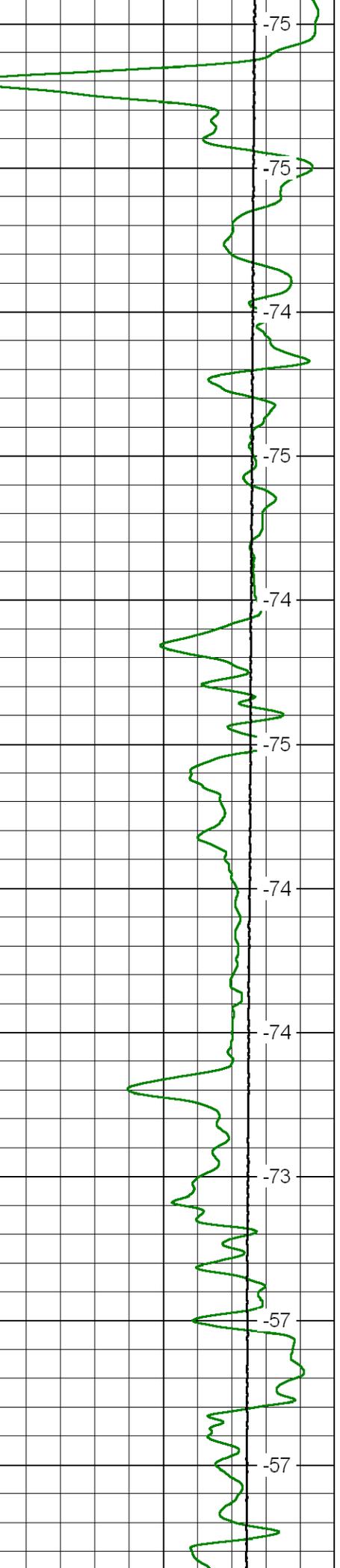
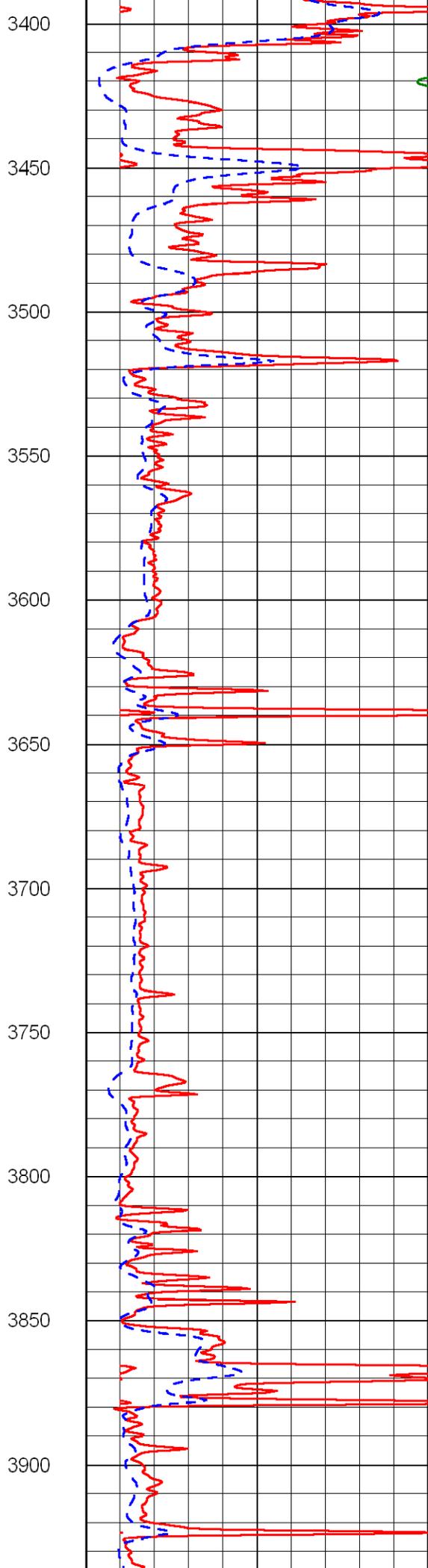
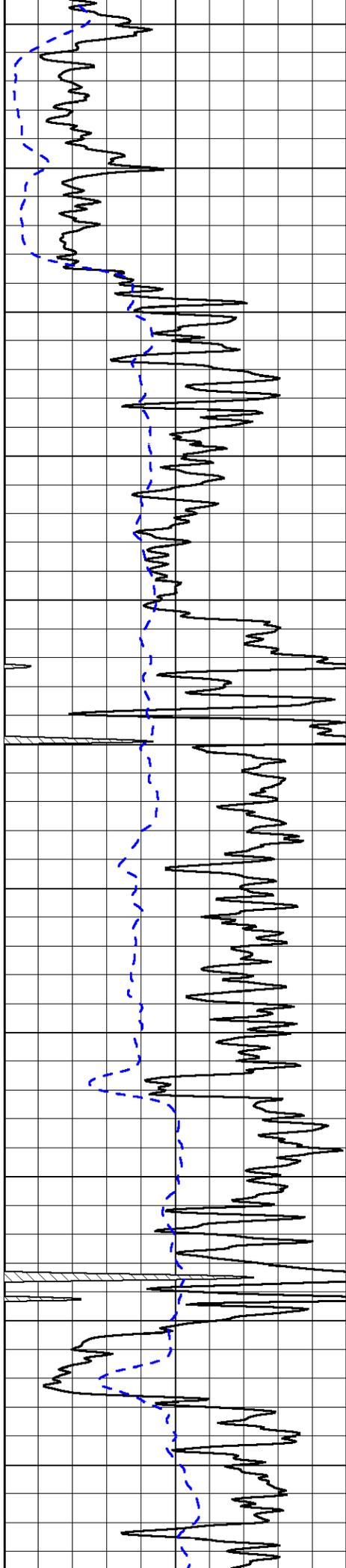


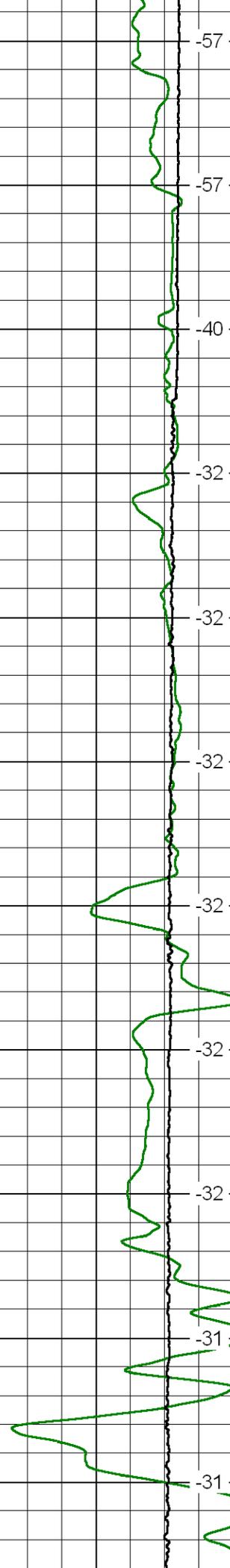
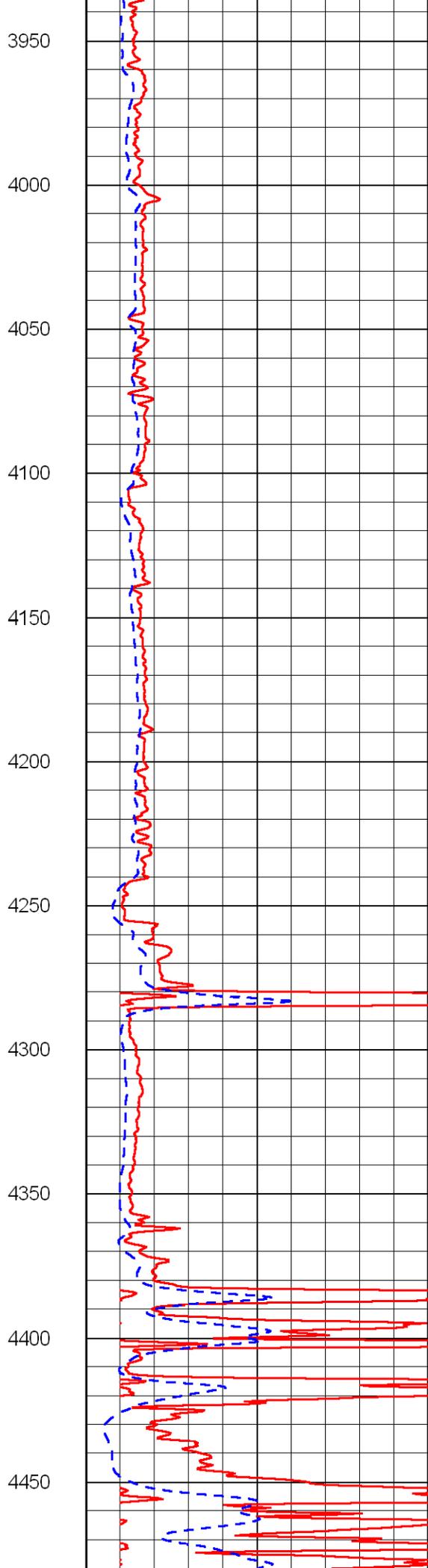
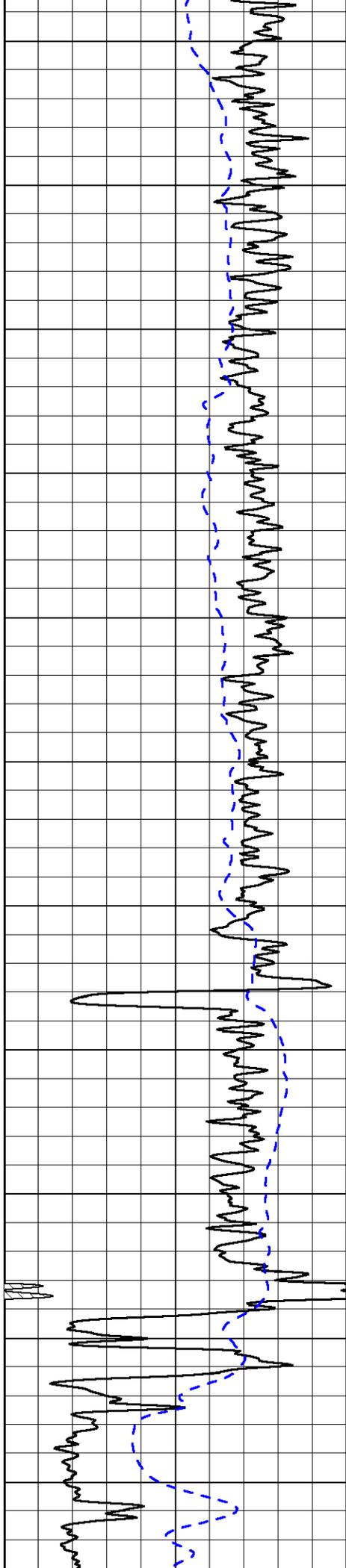


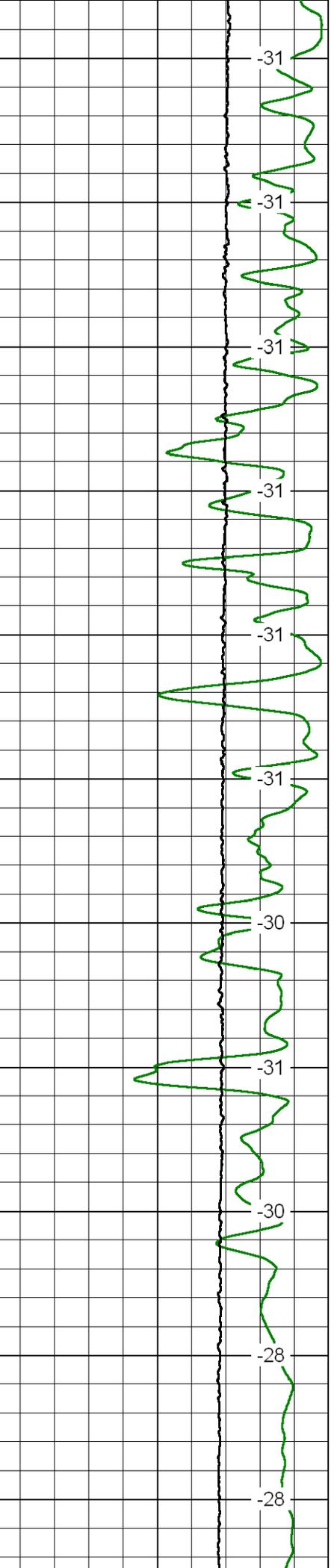
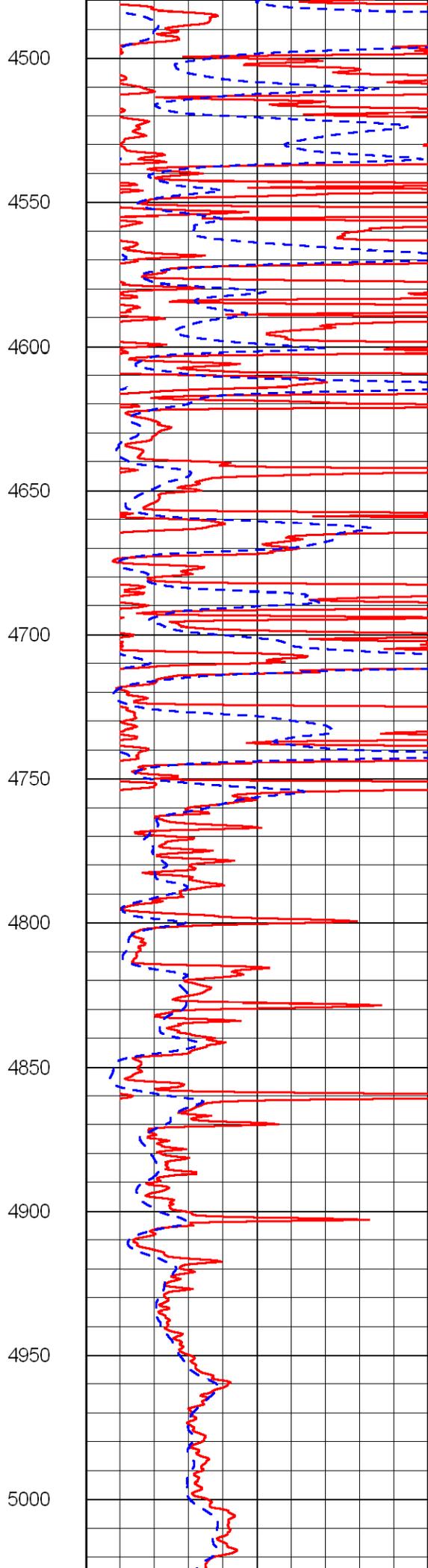
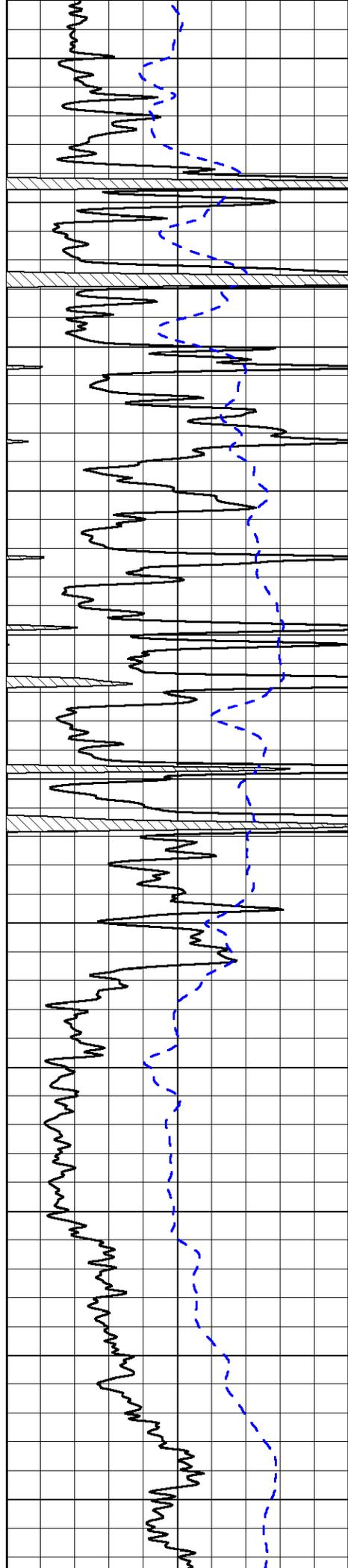


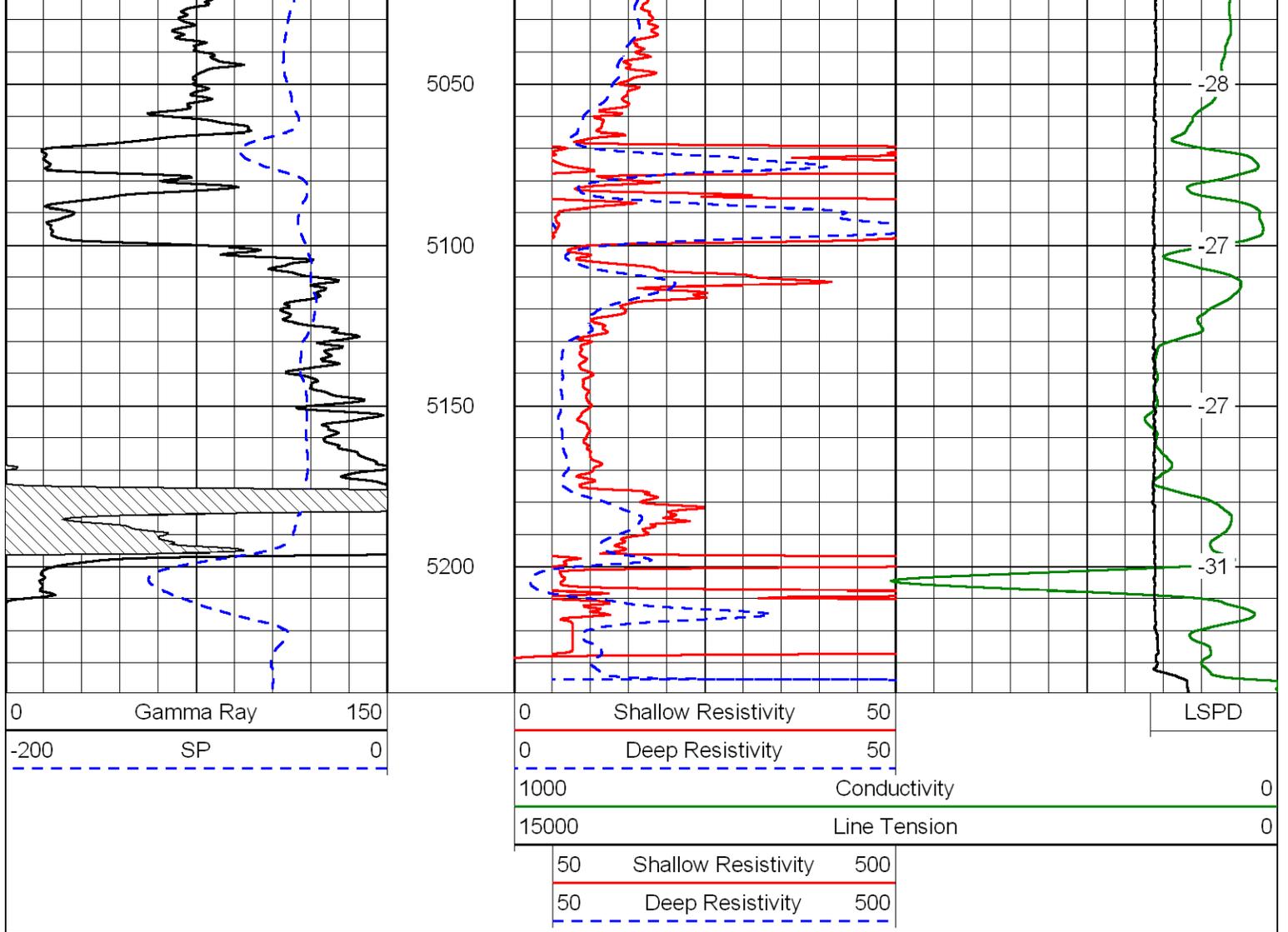




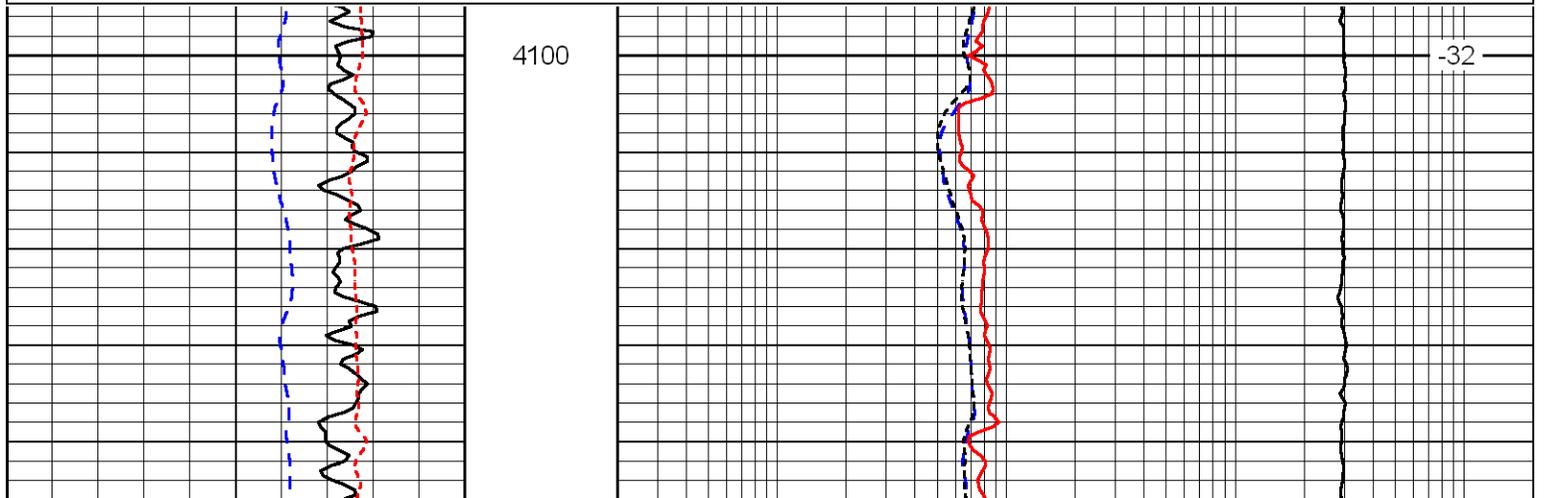
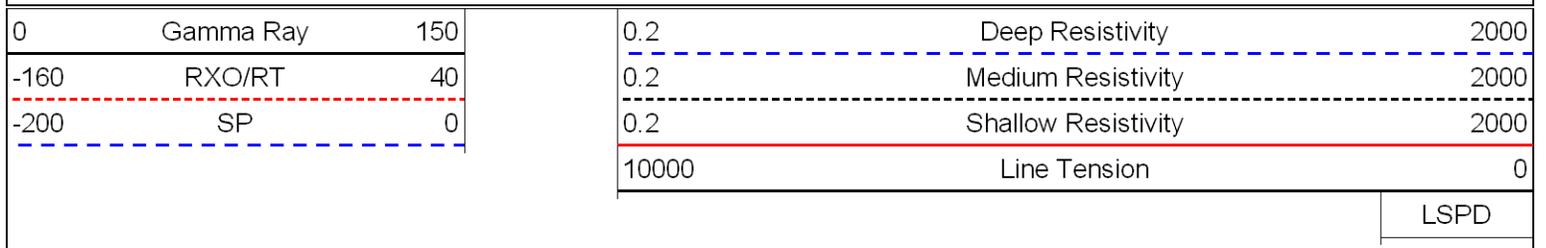


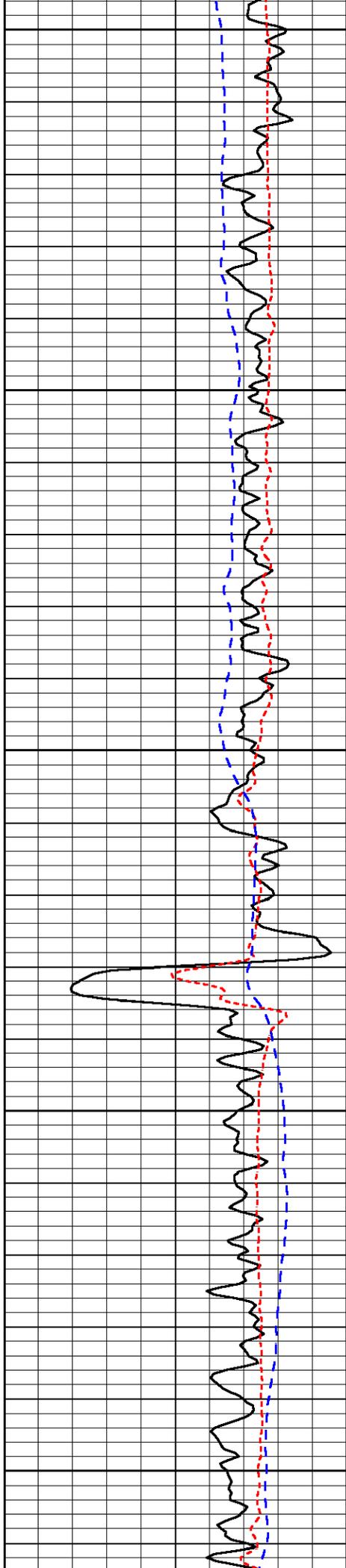






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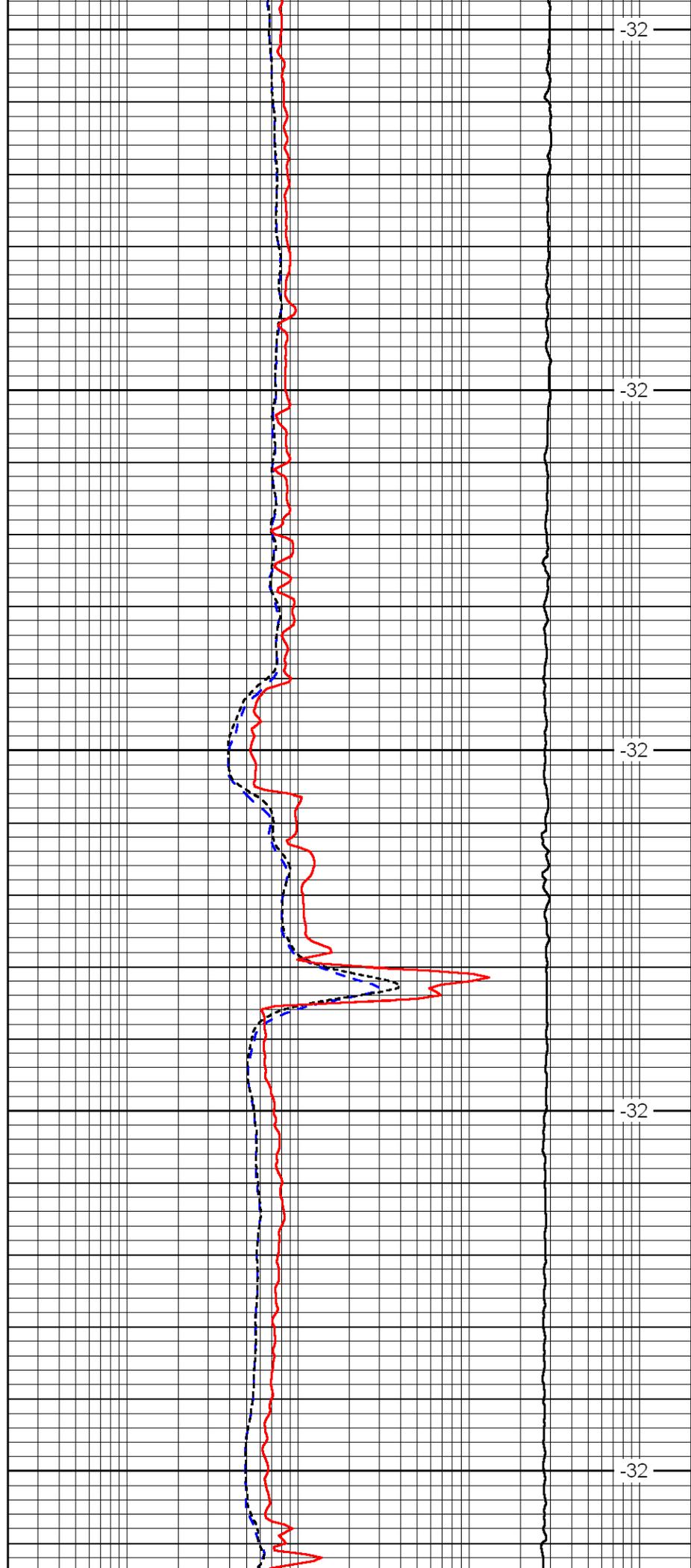
4150

4200

4250

4300

4350



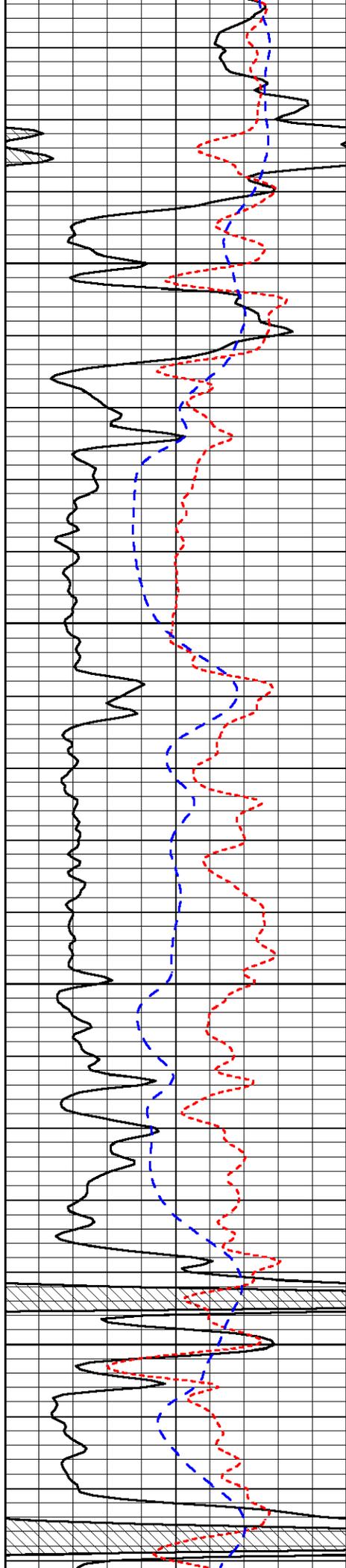
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-32

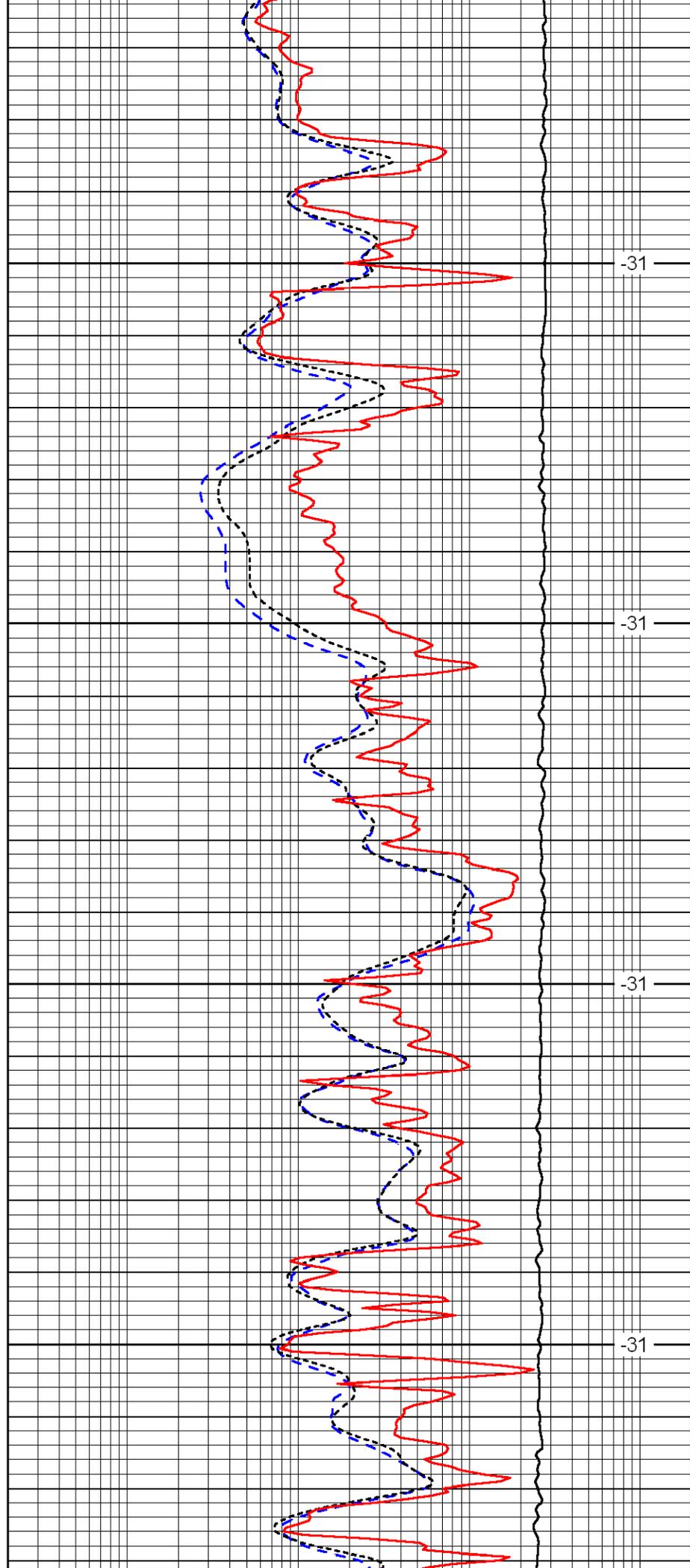


4400

4450

4500

4550

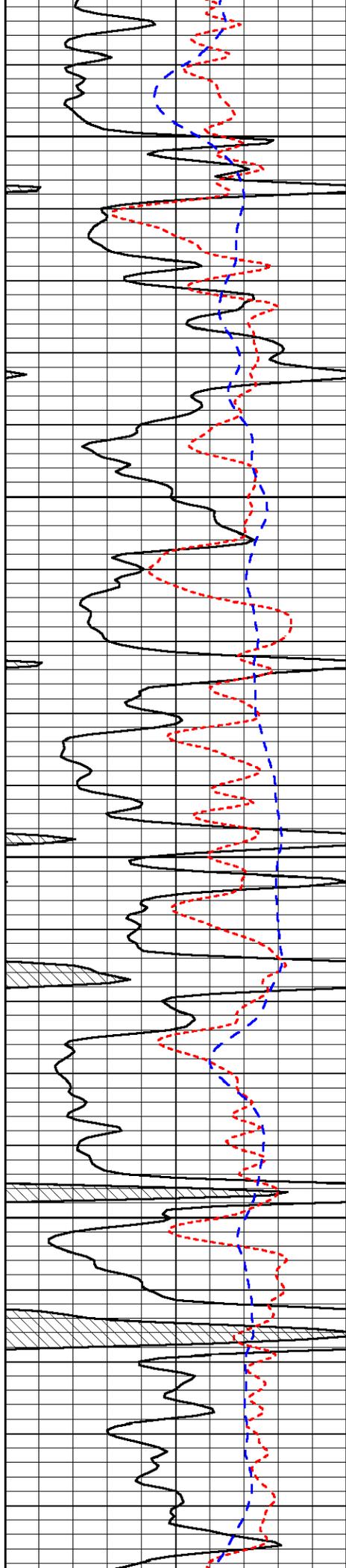


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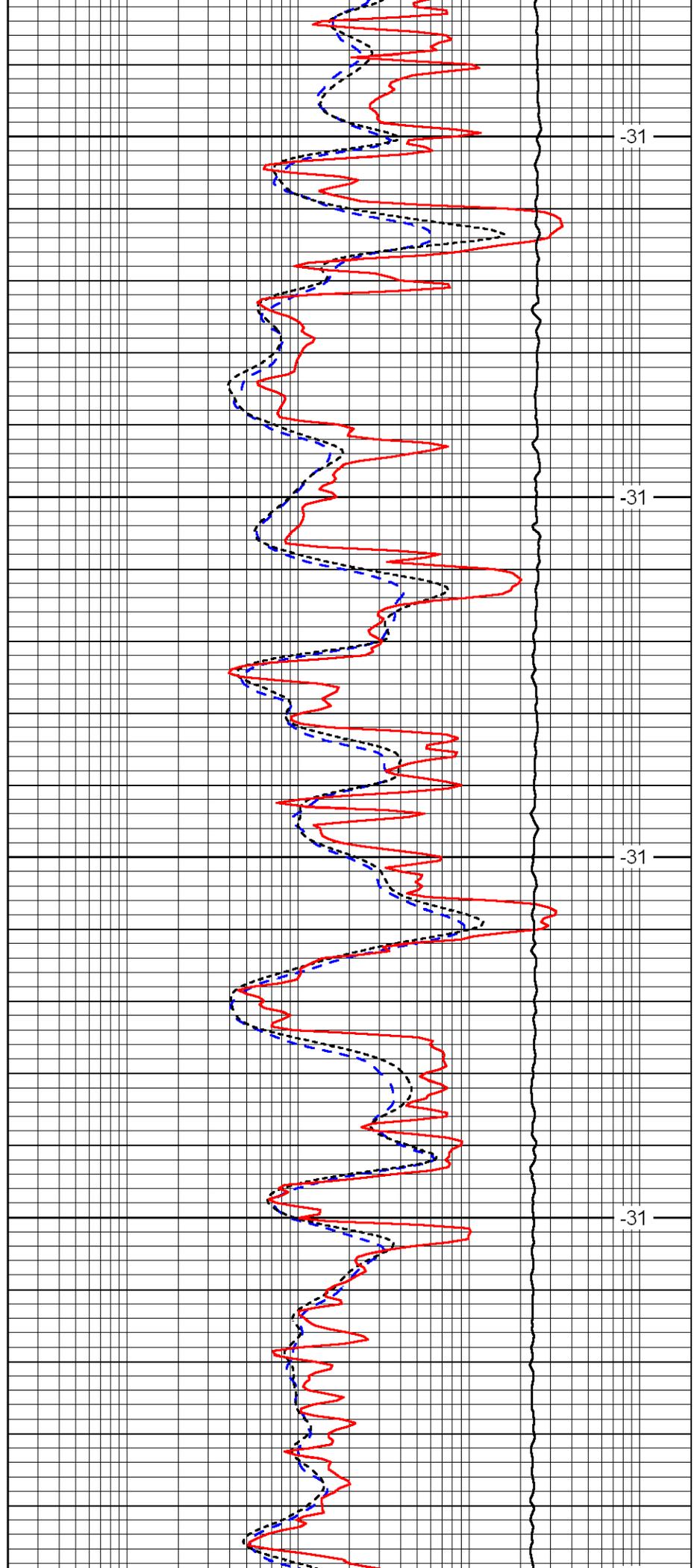


4600

4650

4700

4750

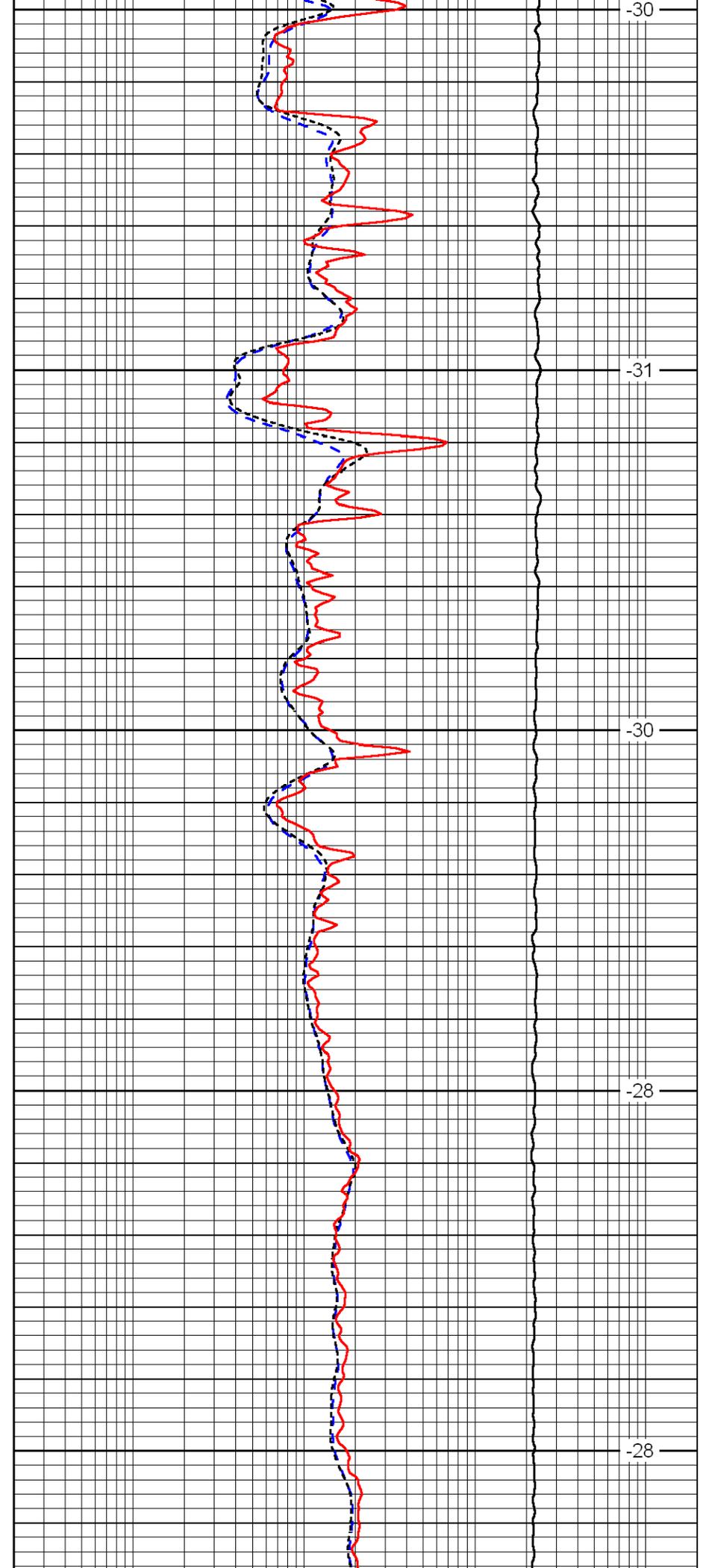
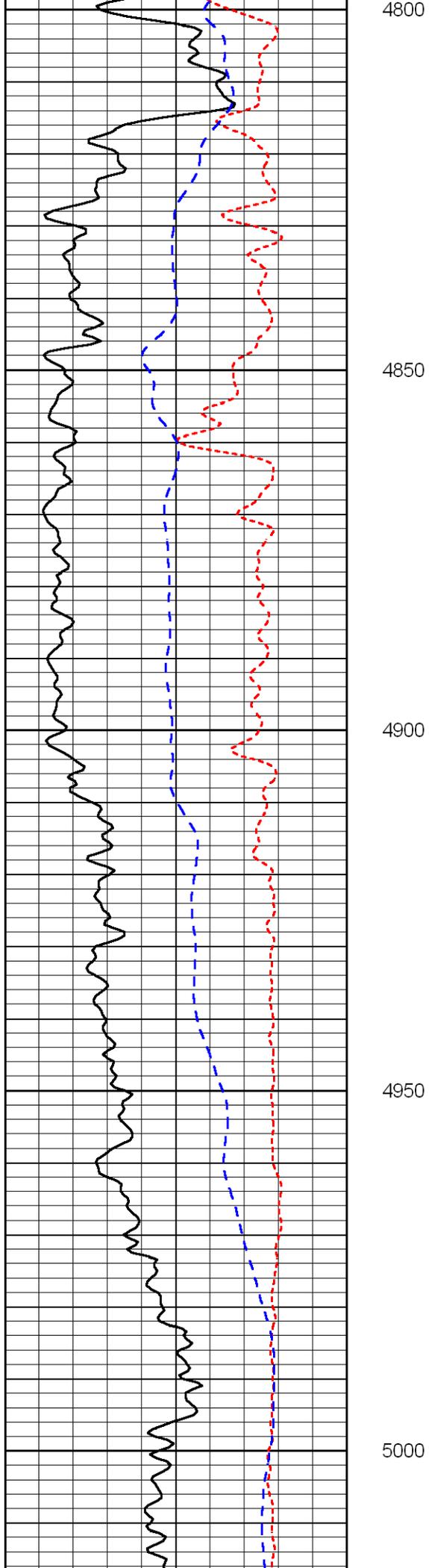


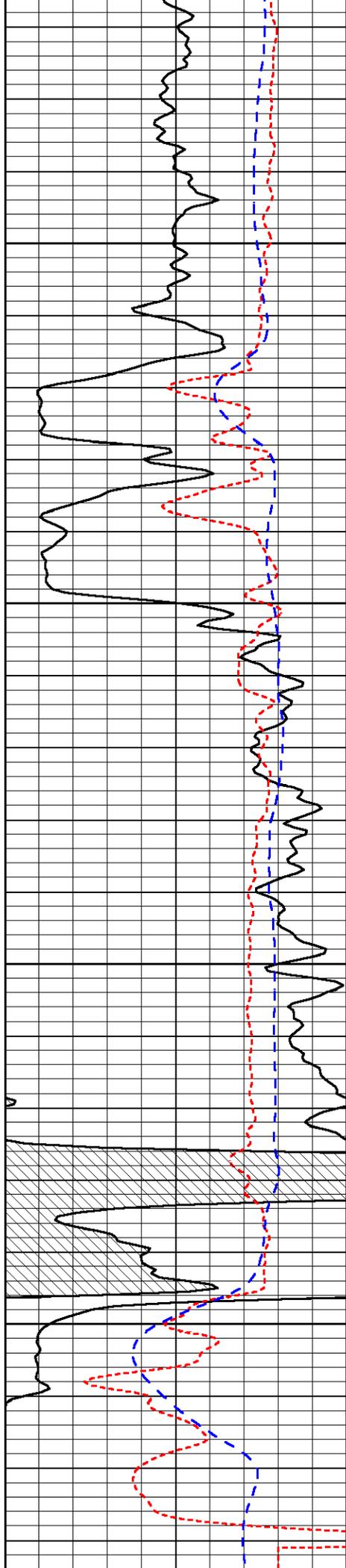
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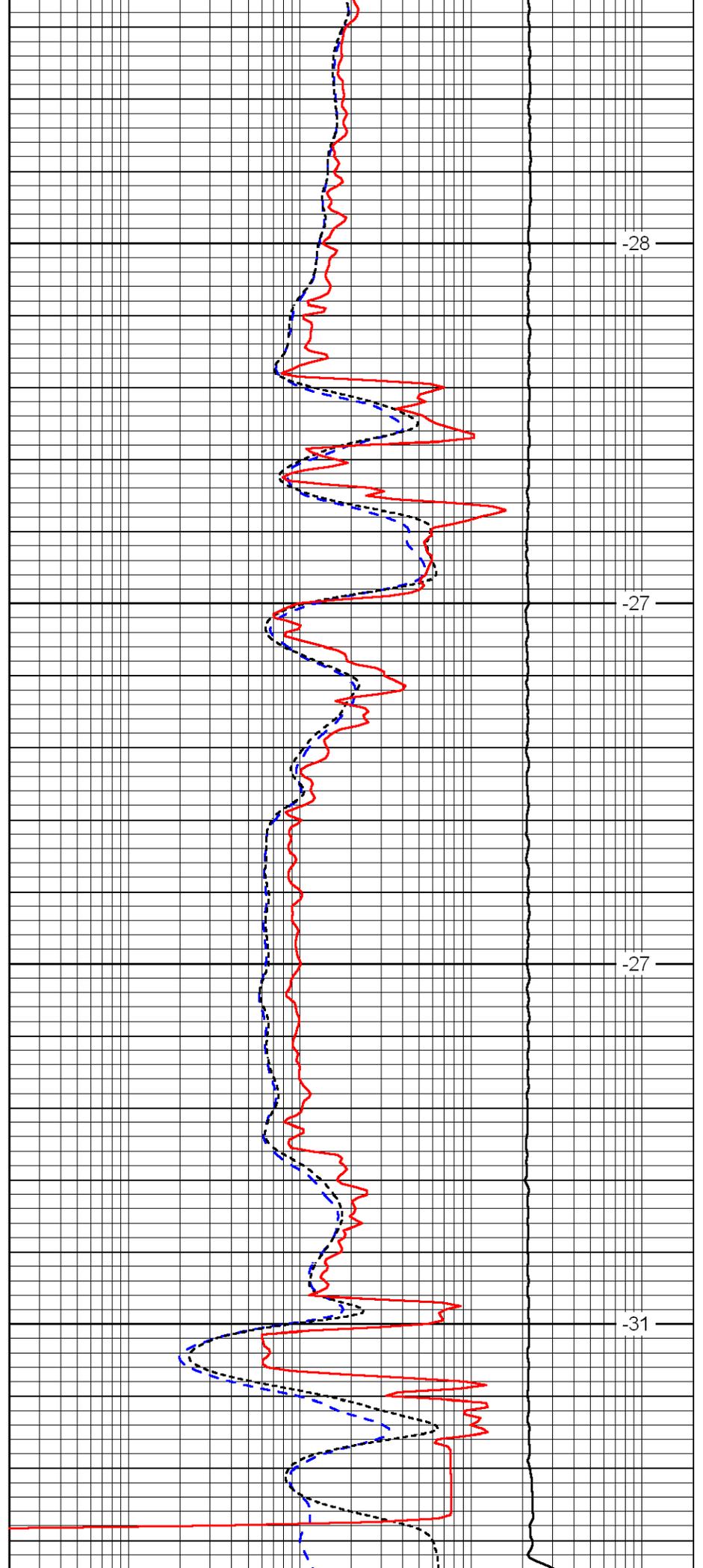


5050

5100

5150

5200



-28

-27

-27

-31

|      |           |     |
|------|-----------|-----|
| 0    | Gamma Ray | 150 |
| -160 | RXO/RT    | 40  |
| -200 | SP        | 0   |

|       |                     |      |
|-------|---------------------|------|
| 0.2   | Deep Resistivity    | 2000 |
| 0.2   | Medium Resistivity  | 2000 |
| 0.2   | Shallow Resistivity | 2000 |
| 10000 | Line Tension        | 0    |

LSPD