



## Dual Induction Log

Pioneer Energy Services

|                        |                     |                          |             |        |                                                  |
|------------------------|---------------------|--------------------------|-------------|--------|--------------------------------------------------|
| API No.                | Company TDI, Inc    |                          |             |        |                                                  |
|                        | Well Rosemary No. 1 |                          |             |        |                                                  |
|                        | Field Virginia      |                          |             |        |                                                  |
|                        | County Ellis        | State                    |             | Kansas |                                                  |
| 15-051-26,347-00-00    | Location            | 330' FSL & 990' FWL      |             |        | Other Services<br>CNL/CDL                        |
|                        | Sec: 9              | Twp: 15 S                | Rge: 19 W   |        | Elevation<br>K.B. 2029<br>D.F. 2019<br>G.L. 2019 |
|                        |                     |                          |             |        |                                                  |
| Permanent Datum        | Ground Level        | Elevation 2019           |             |        |                                                  |
| Log Measured From      | Kelly Bushing       | 10 Ft. Above Perm. Datum |             |        |                                                  |
| Drilling Measured From | Kelly Bushing       |                          |             |        |                                                  |
| Date                   | 8/22/2012           |                          |             |        |                                                  |
| Run Number             | One                 |                          |             |        |                                                  |
| Depth Driller          | 3725                |                          |             |        |                                                  |
| Depth Logger           | 3728                |                          |             |        |                                                  |
| Bottom Logged Interval | 3727                |                          |             |        |                                                  |
| Top Log Interval       | 1250                |                          |             |        |                                                  |
| Casing Driller         | 8.625 @ 1261        |                          |             |        |                                                  |
| Casing Logger          | 1269                |                          |             |        |                                                  |
| Bit Size               | 7.875               |                          |             |        |                                                  |
| Type Fluid in Hole     | Chemical            |                          |             |        |                                                  |
| Salinity, ppm CL       | 4200                |                          |             |        |                                                  |
| Density / Viscosity    | 9.0                 | 56                       |             |        |                                                  |
| pH / Fluid Loss        | 10.5                | 7.8                      |             |        |                                                  |
| Source of Sample       | Flowline            |                          |             |        |                                                  |
| Rm @ Meas. Temp        | .50 @ 80            |                          |             |        |                                                  |
| Rmf @ Meas. Temp       | .38 @ 80            |                          |             |        |                                                  |
| Rmc @ Meas. Temp       | .68 @ 80            |                          |             |        |                                                  |
| Source of Rmf / Rmc    | Charts              |                          |             |        |                                                  |
| Rm @ BHT               | .35 @ 113           |                          |             |        |                                                  |
| Operating Rig Time     | 3 1/2 Hours         |                          |             |        |                                                  |
| Max Rec. Temp. F       | 113                 |                          |             |        |                                                  |
| Equipment Number       | 17                  |                          |             |        |                                                  |
| Location               | Hays                |                          |             |        |                                                  |
| Recorded By            | D. Martin           |                          |             |        |                                                  |
| Witnessed By           | Tom Denning         |                          | Herb Deines |        |                                                  |

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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

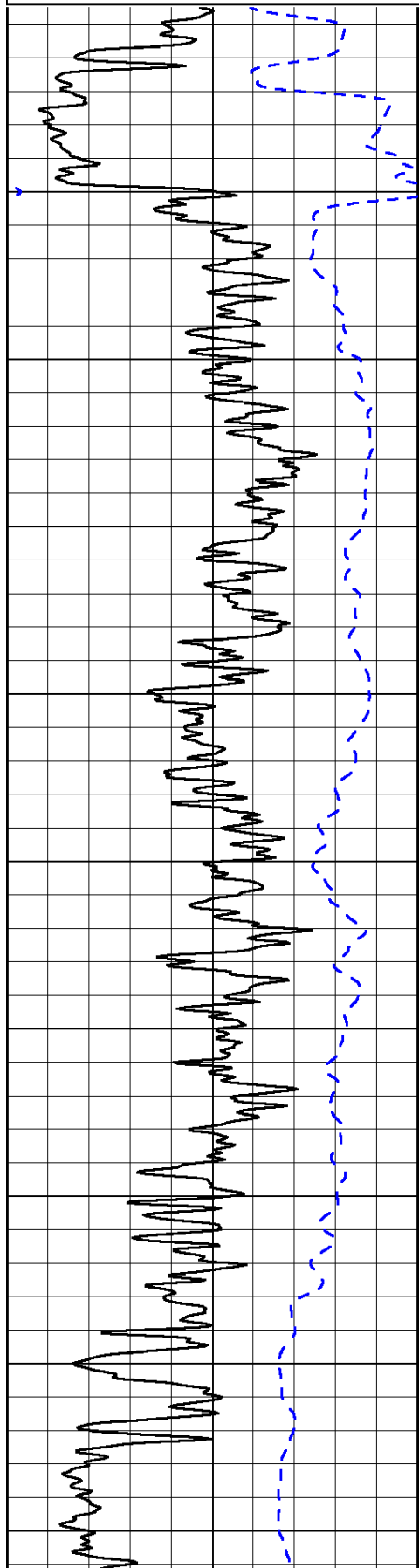
Thank you for using Pioneer Energy Services  
www.pioneerres.com  
785 625 3858

Antonino, KS  
3 W, 2 S, 1/8 E, N Into

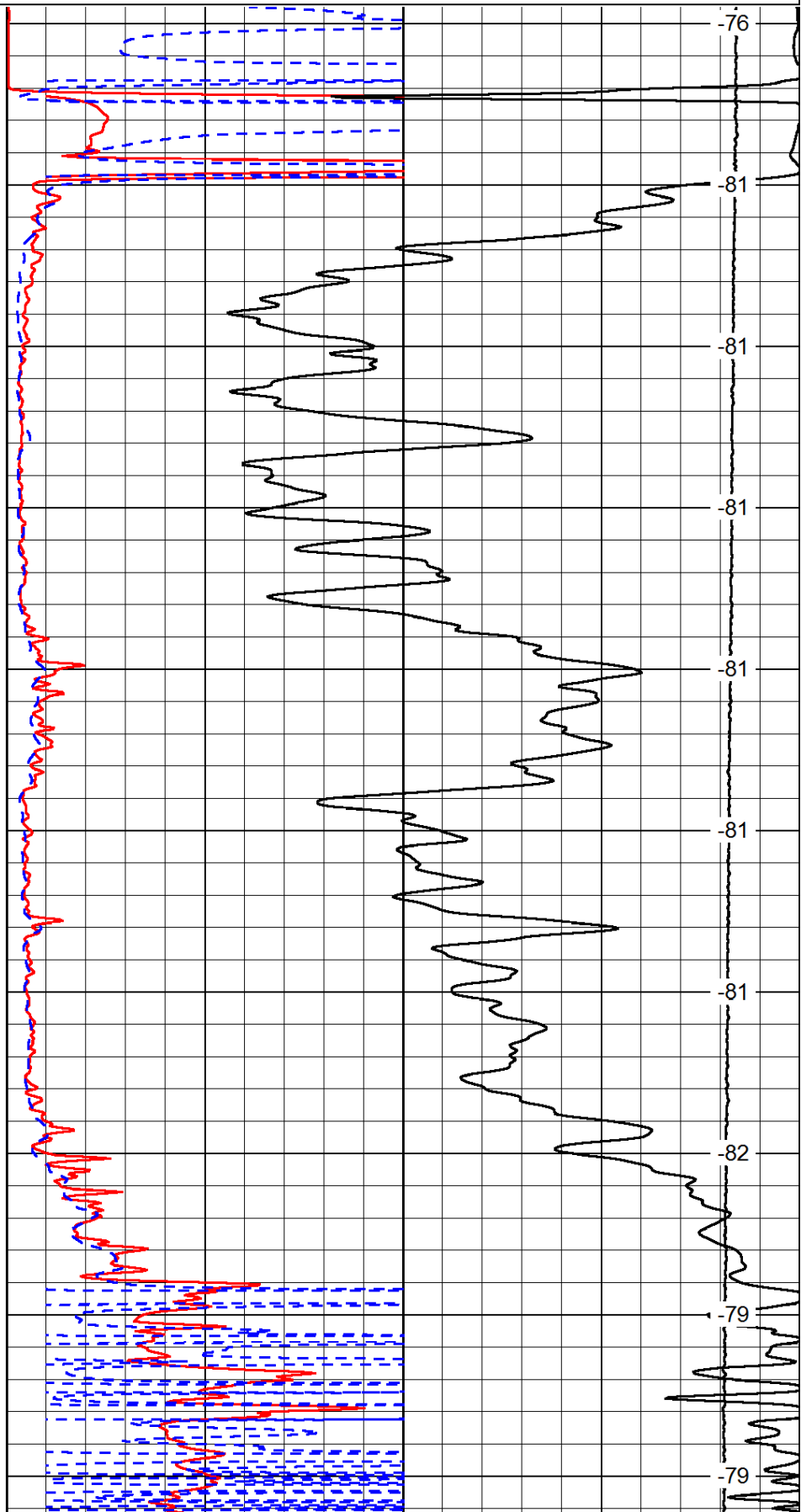
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Dataset Pathname: DIL\tdistk  
Presentation Format: dil2in  
Dataset Creation: Wed Aug 22 20:47:43 2012  
Charted by: Depth in Feet scaled 1:600

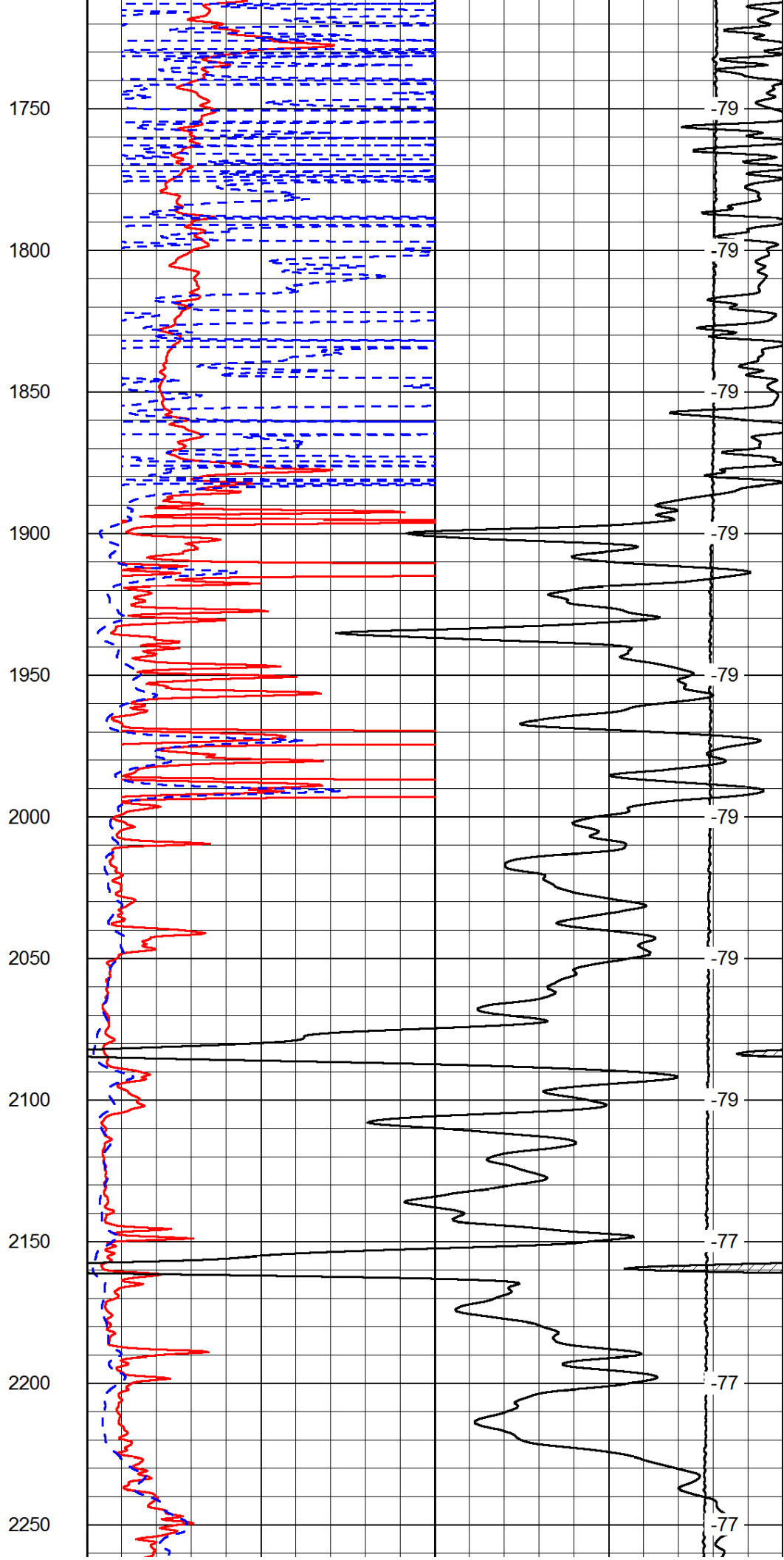
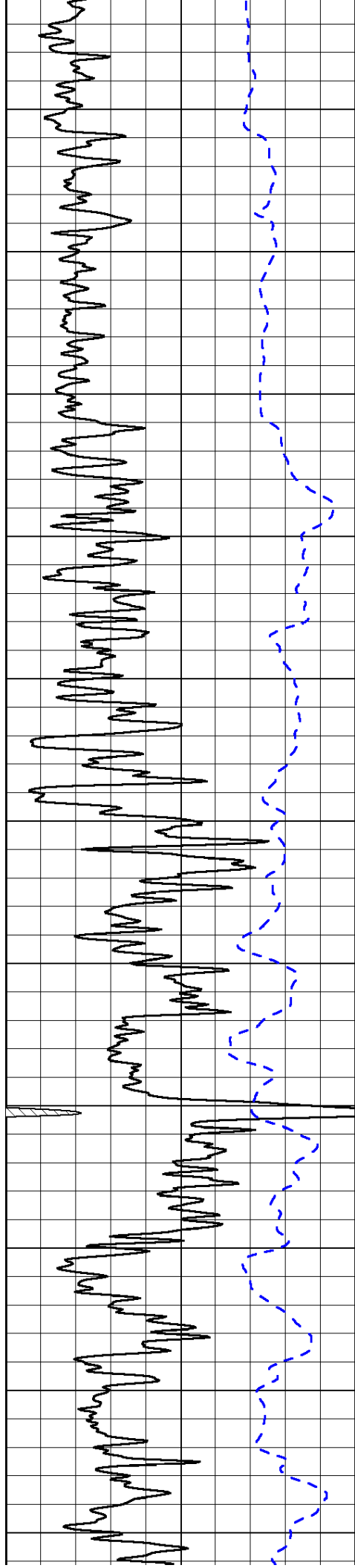
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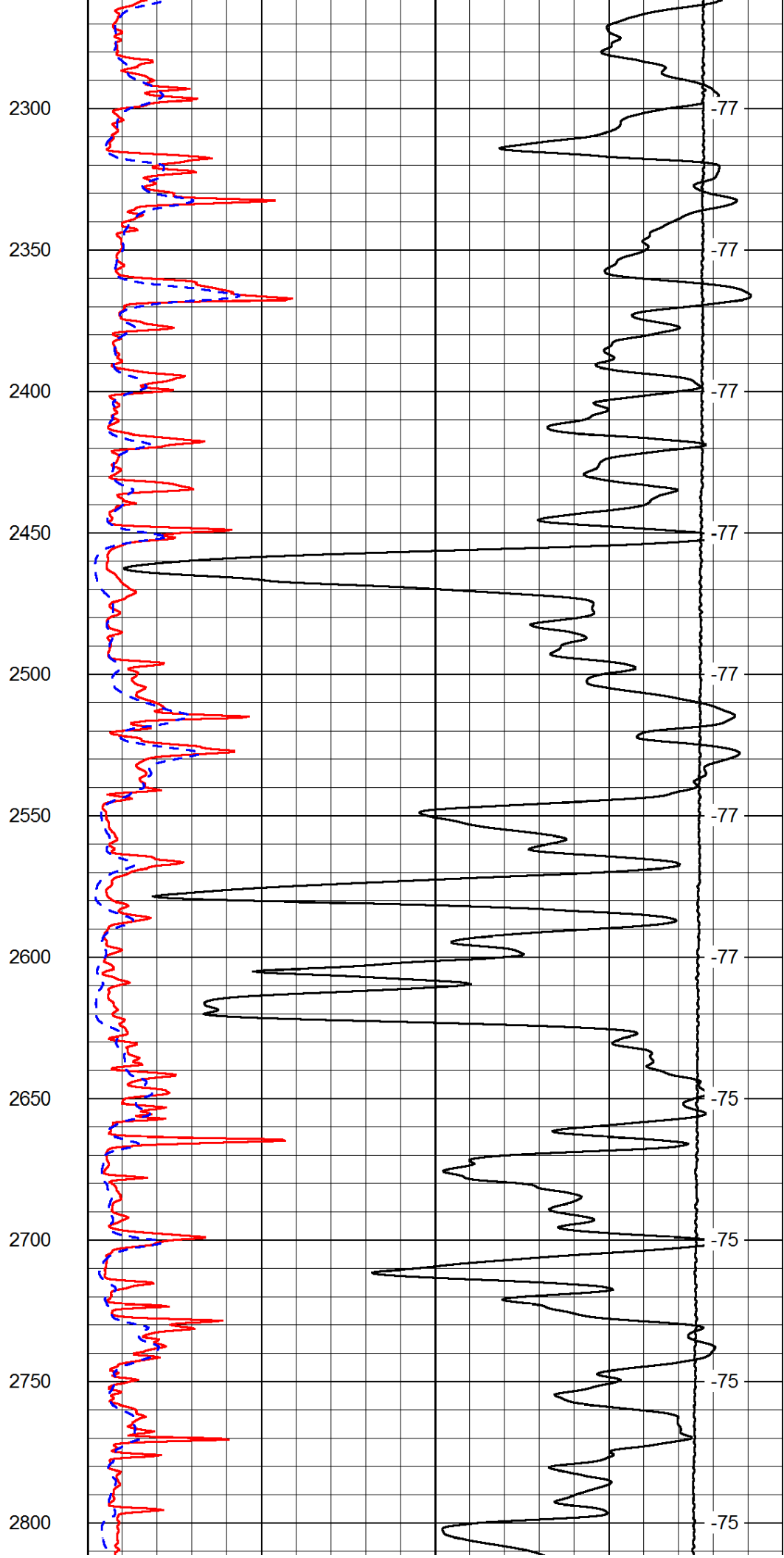
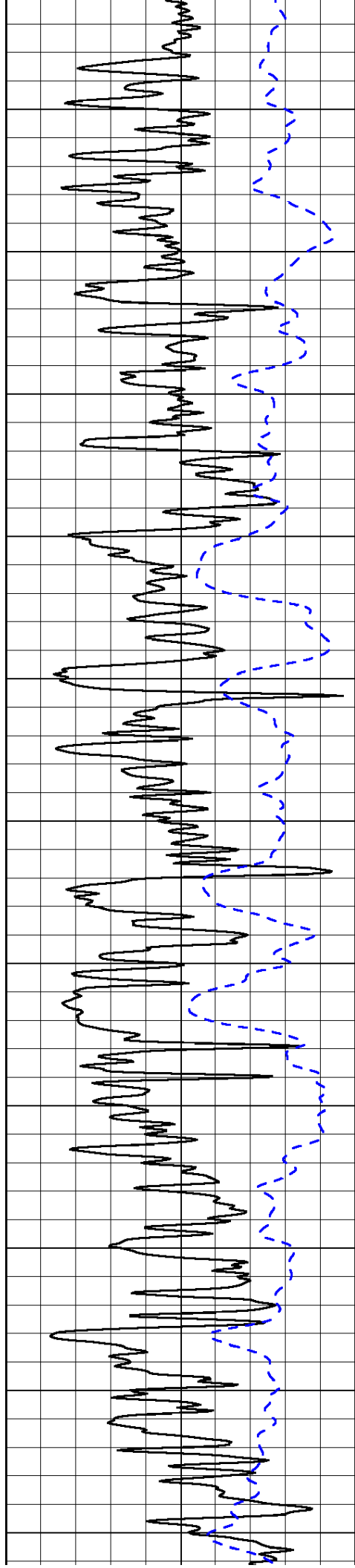
|      |           |     |
|------|-----------|-----|
| 0    | Gamma Ray | 150 |
| -200 | SP (mV)   | 0   |

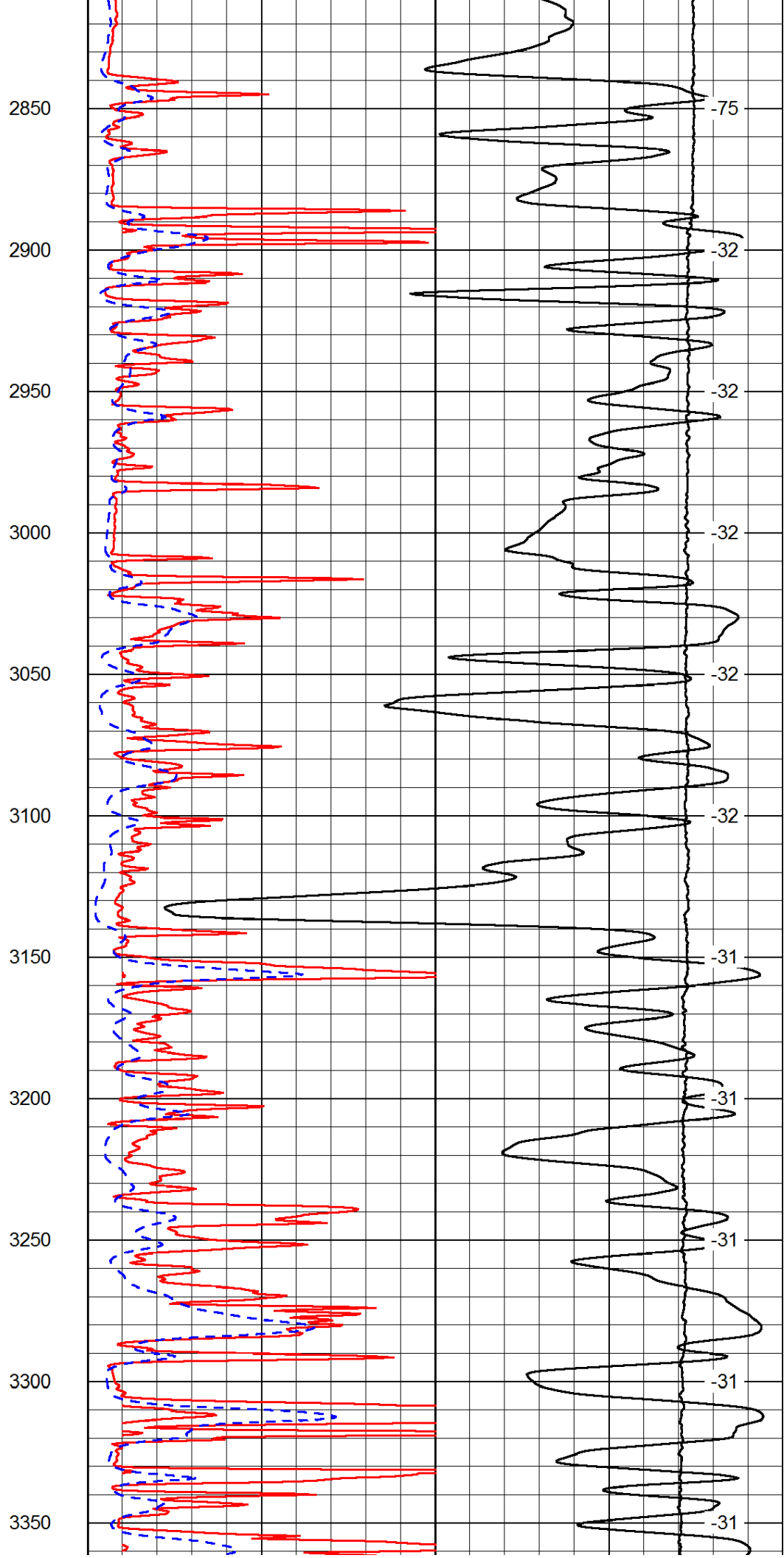
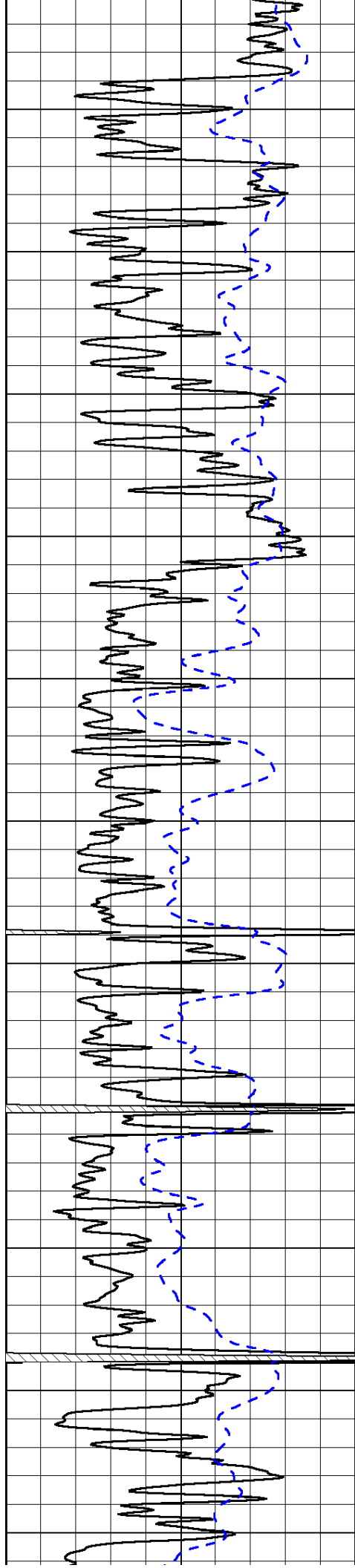


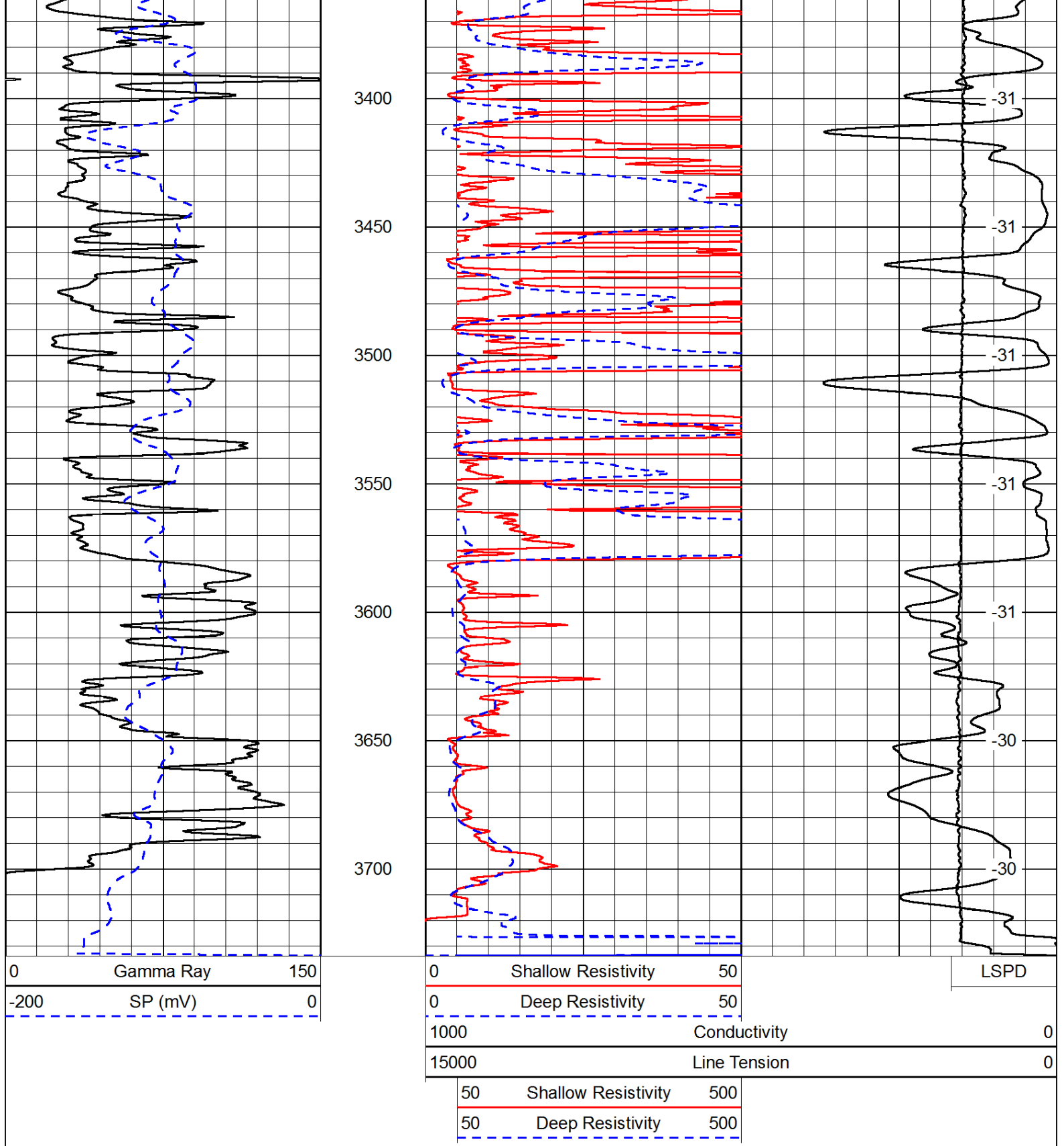
|       |                     |     |      |
|-------|---------------------|-----|------|
| 0     | Shallow Resistivity | 50  | LSPD |
| 0     | Deep Resistivity    | 50  |      |
| 1000  | Conductivity        |     | 0    |
| 15000 | Line Tension        |     | 0    |
| 50    | Shallow Resistivity |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





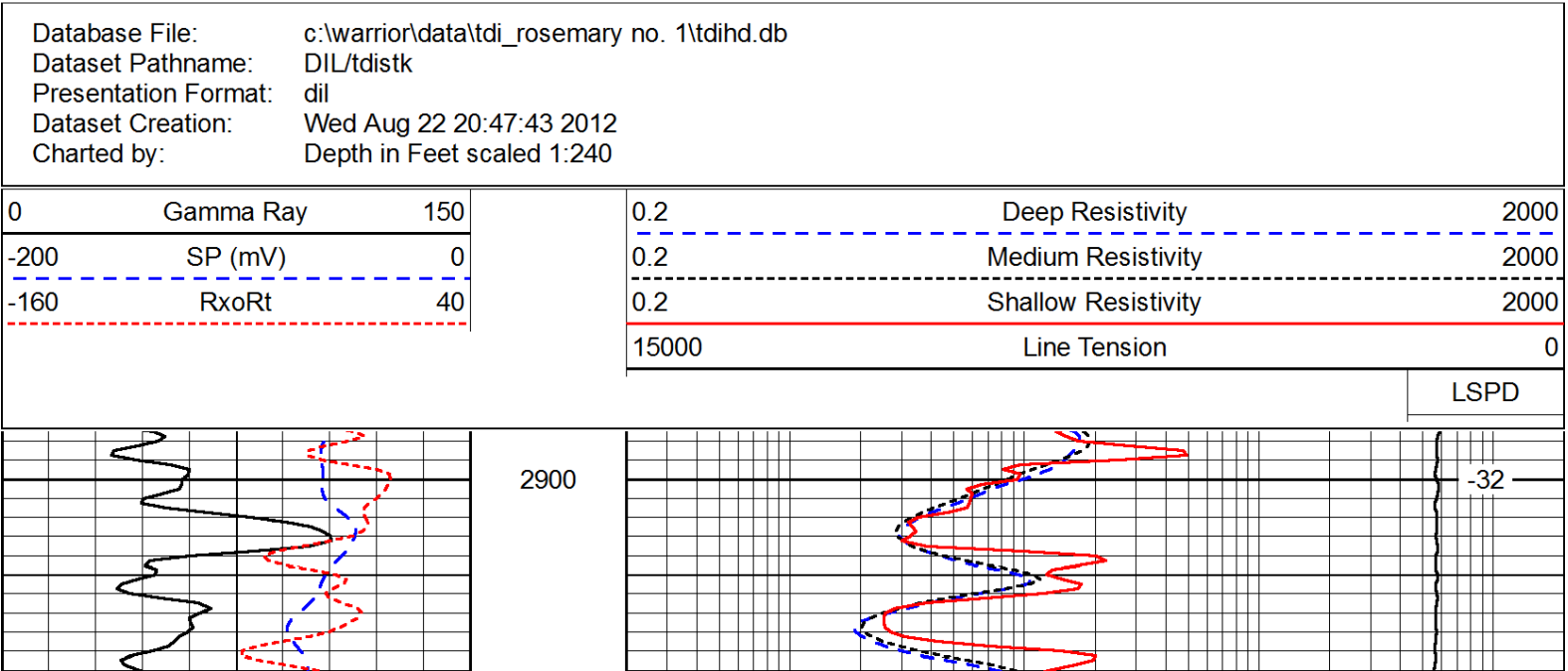
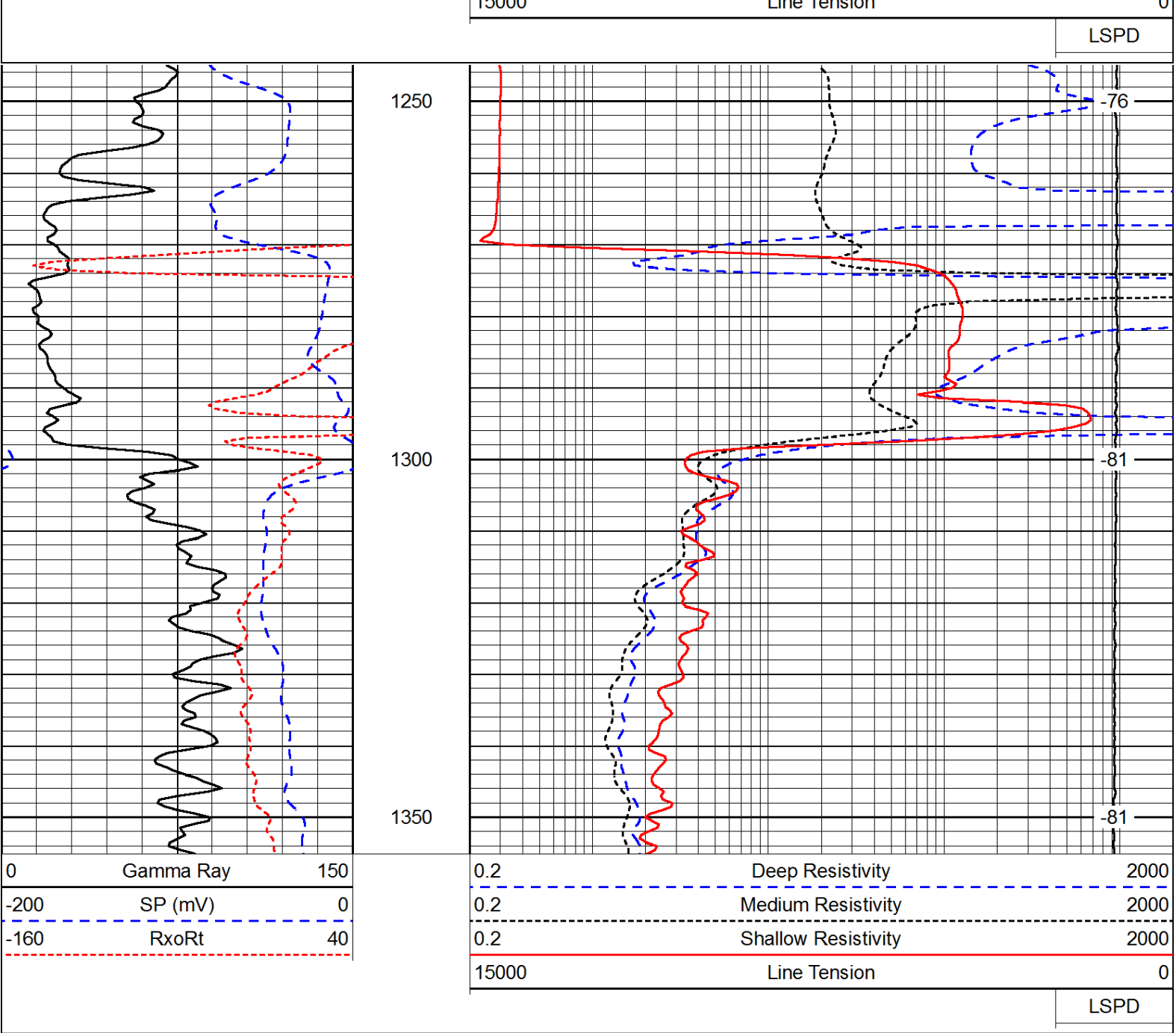


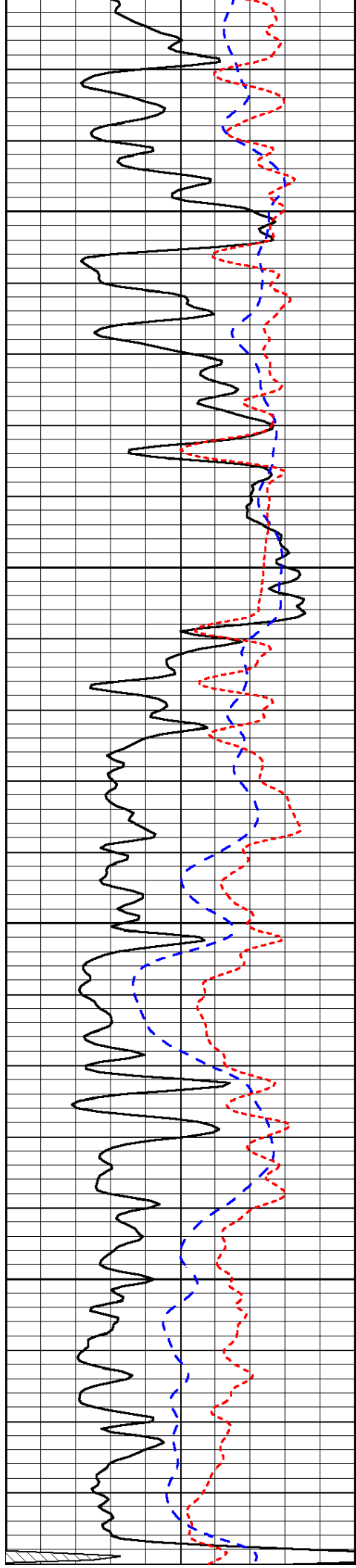




Database File: c:\warrior\data\tdi\_rosemary no. 1\tdihd.db  
 Dataset Pathname: DIL\tdistk  
 Presentation Format: dil  
 Dataset Creation: Wed Aug 22 20:47:43 2012  
 Charted by: Depth in Feet scaled 1:240

|      |           |     |       |                     |      |
|------|-----------|-----|-------|---------------------|------|
| 0    | Gamma Ray | 150 | 0.2   | Deep Resistivity    | 2000 |
| -200 | SP (mV)   | 0   | 0.2   | Medium Resistivity  | 2000 |
| -160 | RxoRt     | 40  | 0.2   | Shallow Resistivity | 2000 |
|      |           |     | 15000 | Line Tension        | 0    |



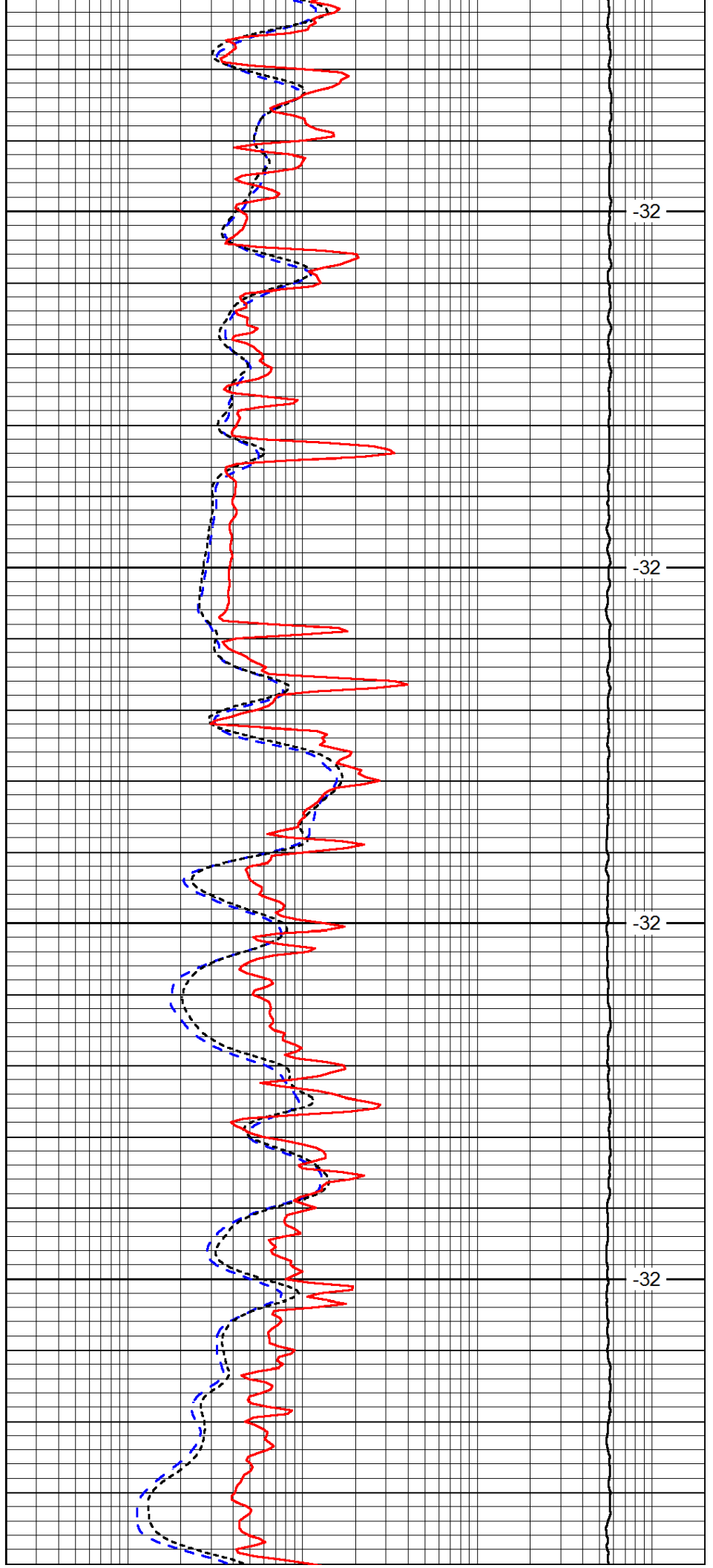


2950

3000

3050

3100



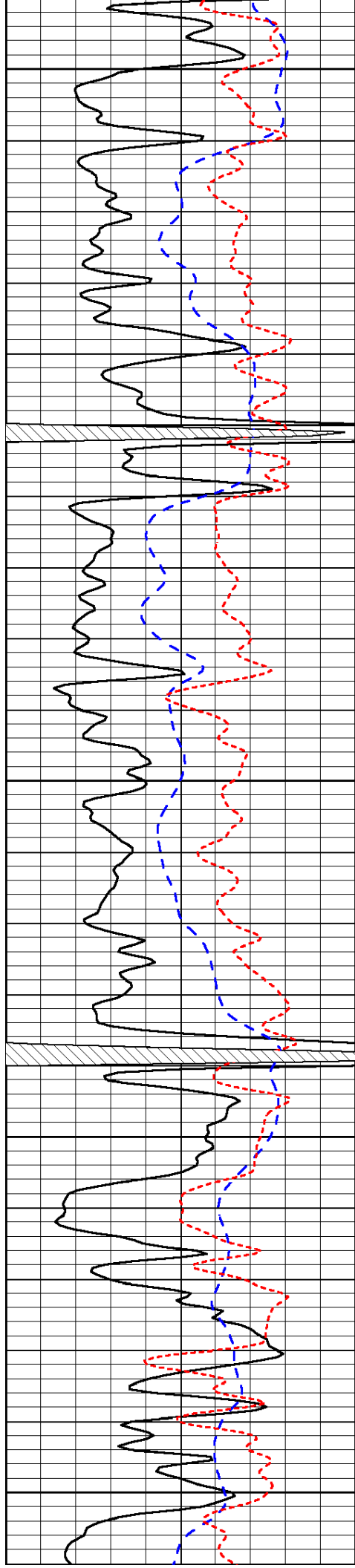
-32

-32

-32

-32





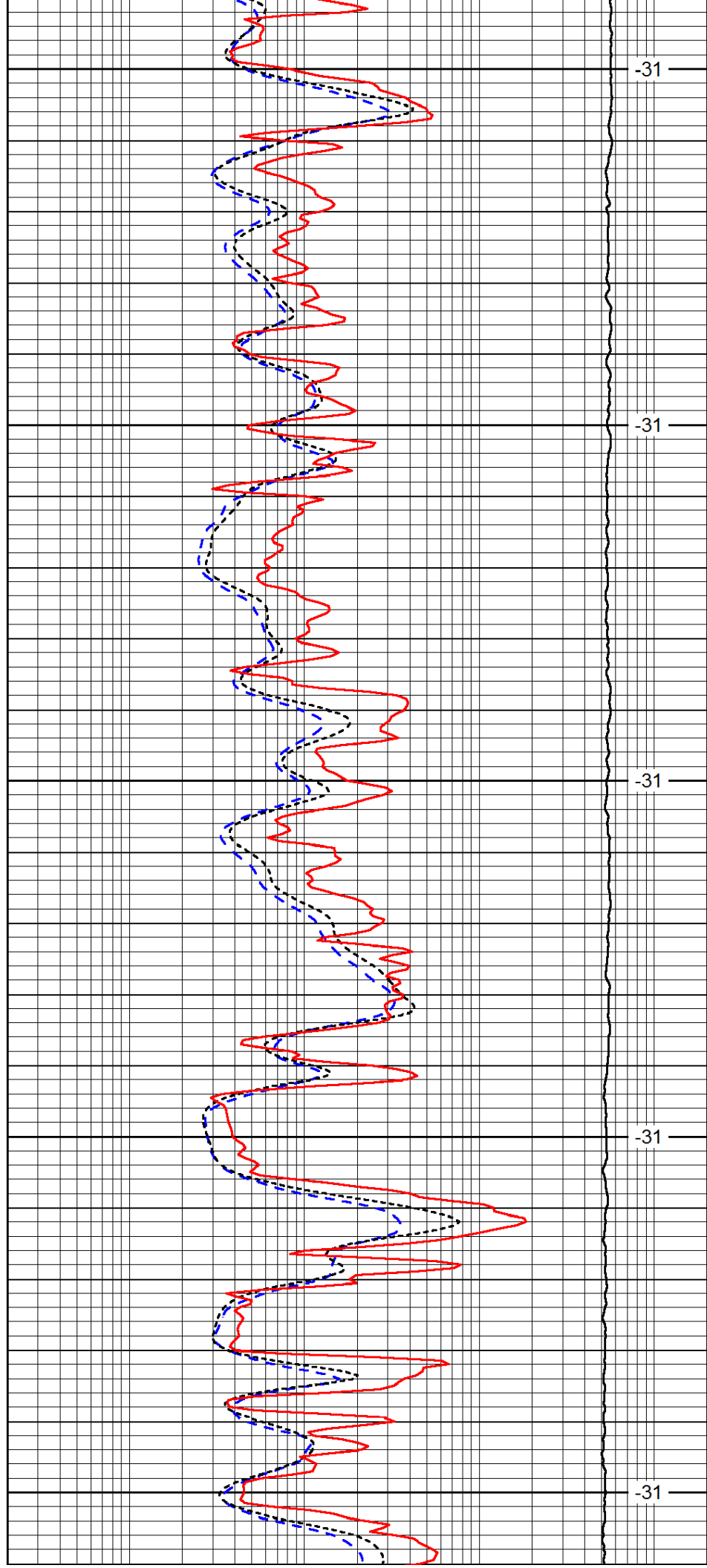
3150

3200

3250

3300

3350



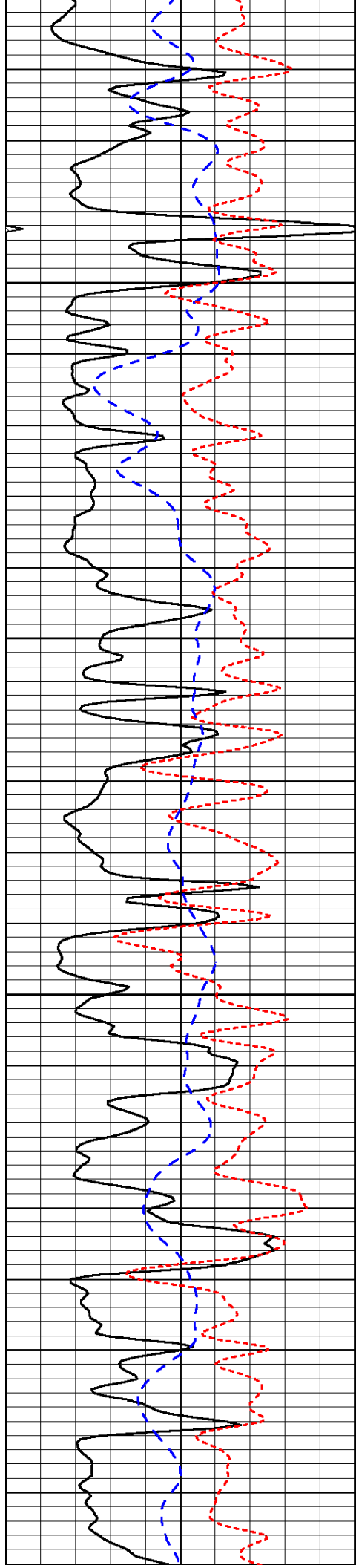
-31

-31

-31

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-31

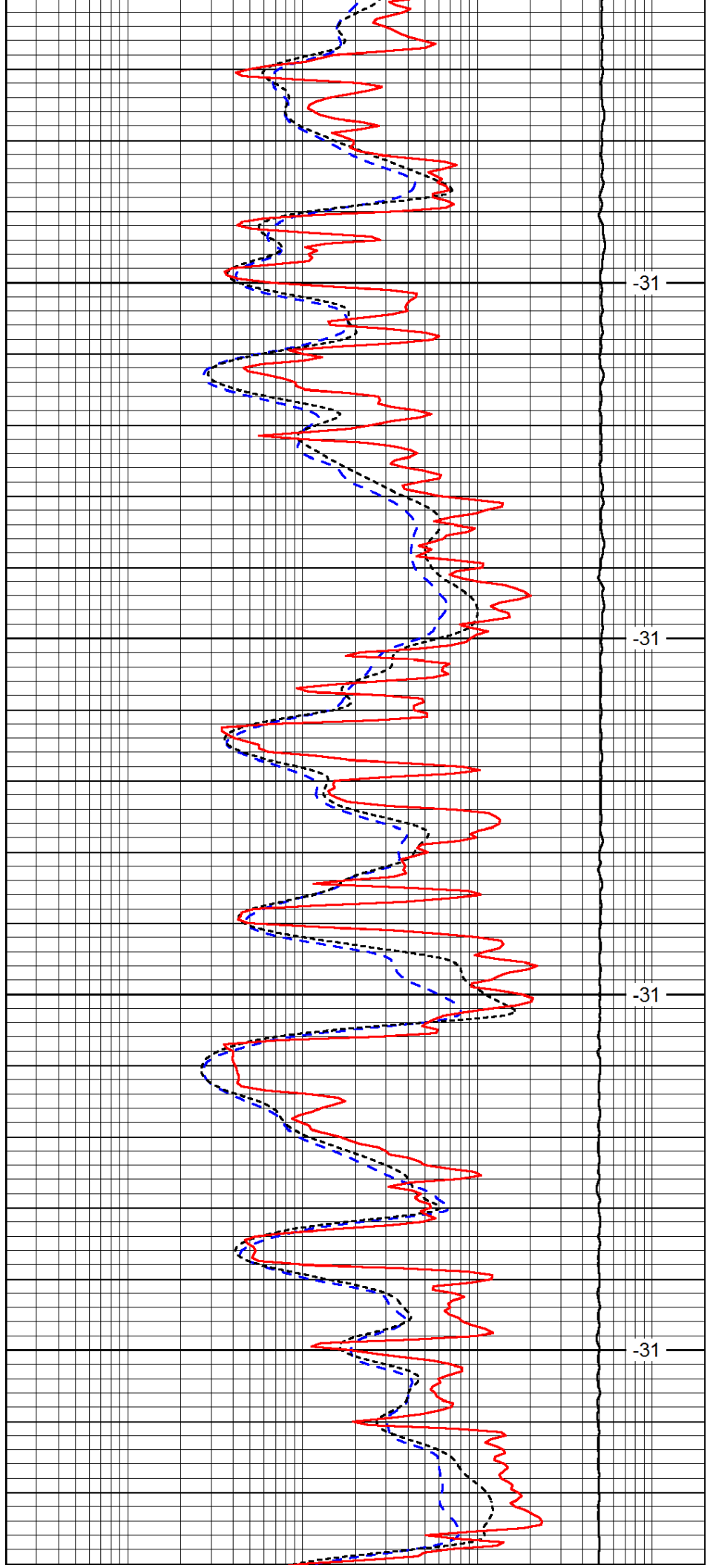


3400

3450

3500

3550

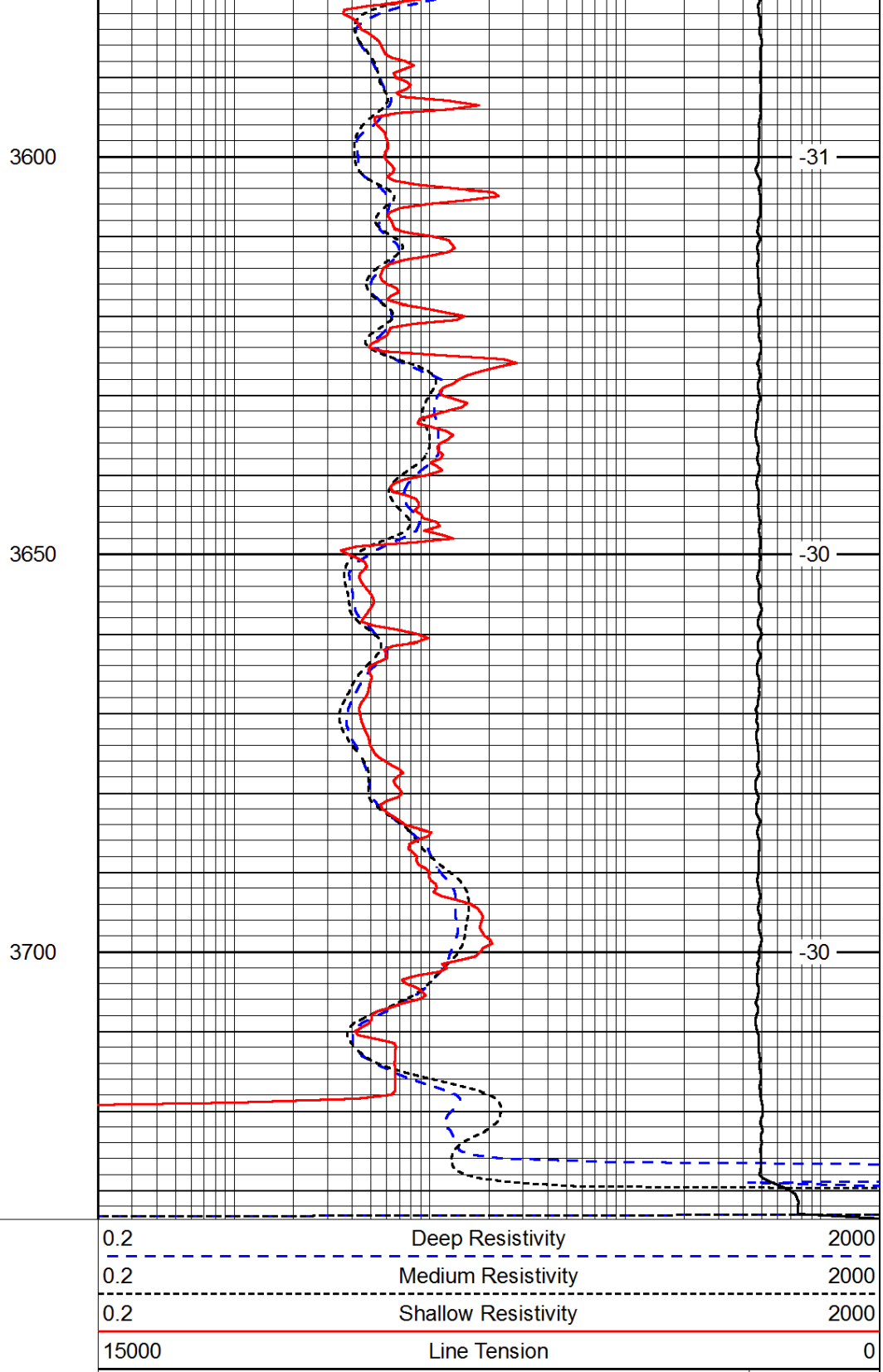
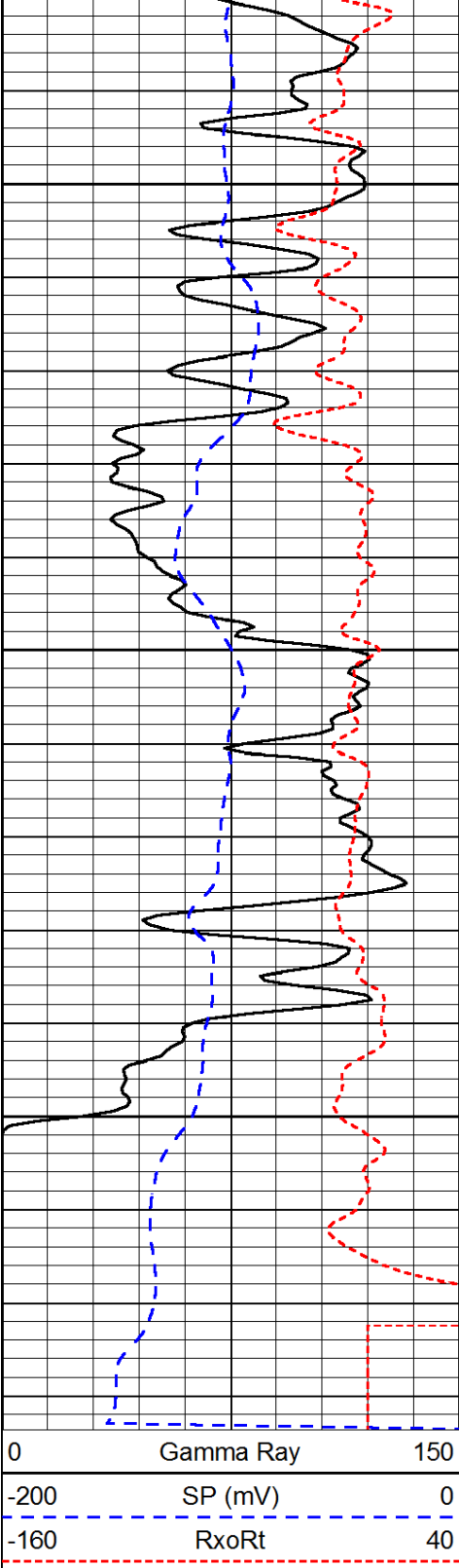


-31

-31

-31

-31



LSPD