



Pioneer Energy Services

# Dual Induction Log

**Company** American Warrior, Inc.  
**Well** Uehling Unit No. 1 - 18  
**Field** Unknown  
**County** Ness **State** Kansas  
**Location** 1794' FNL & 2433' FEL  
**Sec:** 18 **Twp:** 20 S **Rge:** 25 W  
**Other Services**  
 CNL/CDL  
 MEL/BHCS

15-135-25,539-00-00

**Permanent Datum** Ground Level Elevation 2486  
**Log Measured From** Kelly Bushing 11 Ft. Above Perm. Datum  
**Drilling Measured From** Kelly Bushing

|                        |              |  |  |
|------------------------|--------------|--|--|
| Date                   | 3/1/2013     |  |  |
| Run Number             | One          |  |  |
| Depth Driller          | 4600         |  |  |
| Depth Logger           | 4600         |  |  |
| Bottom Logged Interval | 4599         |  |  |
| Top Log Interval       | 200          |  |  |
| Casing Driller         | 8.625 @ 212  |  |  |
| Casing Logger          | 209          |  |  |
| Bit Size               | 7.875        |  |  |
| Type Fluid in Hole     | Chemical     |  |  |
| Salinity, ppm CL       | 6400         |  |  |
| Density / Viscosity    | 9.3   74     |  |  |
| pH / Fluid Loss        | 9.5   8.8    |  |  |
| Source of Sample       | Flowline     |  |  |
| Rm @ Meas. Temp        | .30 @ 52     |  |  |
| Rmf @ Meas. Temp       | .23 @ 52     |  |  |
| Rmc @ Meas. Temp       | .41 @ 52     |  |  |
| Source of Rmf / Rmc    | Charts       |  |  |
| Rm @ BHT               | .13 @ 122    |  |  |
| Operating Rig Time     | 6 Hours      |  |  |
| Max Rec. Temp. F       | 122          |  |  |
| Equipment Number       | 17           |  |  |
| Location               | Hays         |  |  |
| Recorded By            | D. Martin    |  |  |
| Witnessed By           | Kevin Timson |  |  |

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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

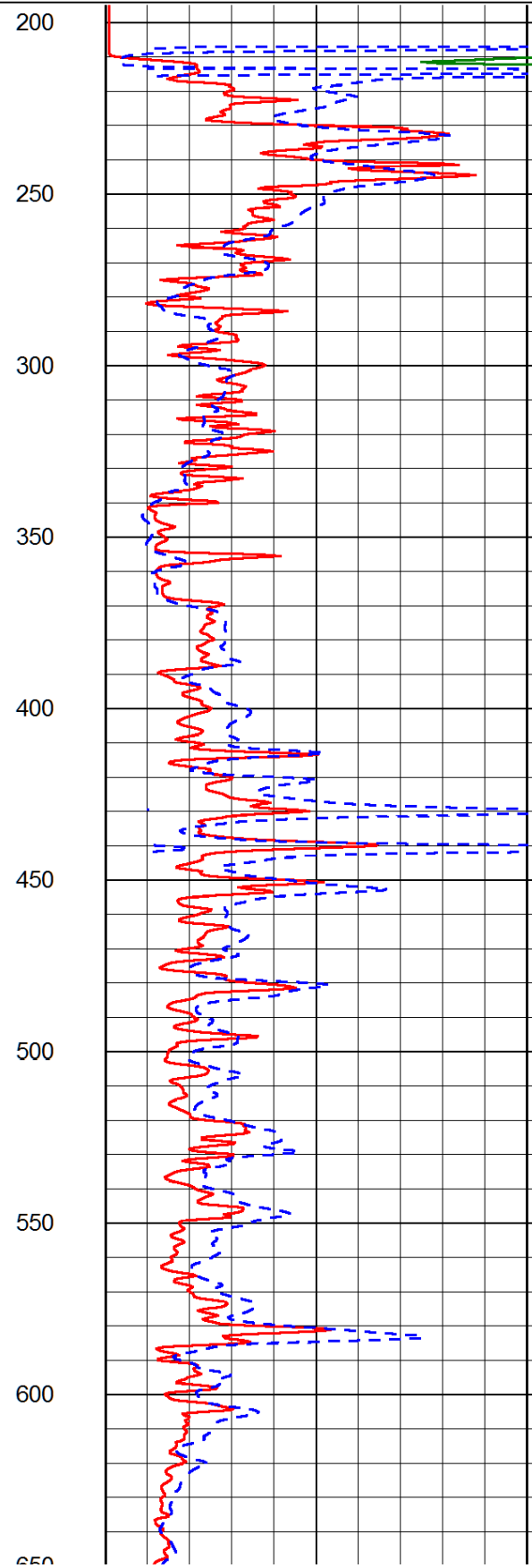
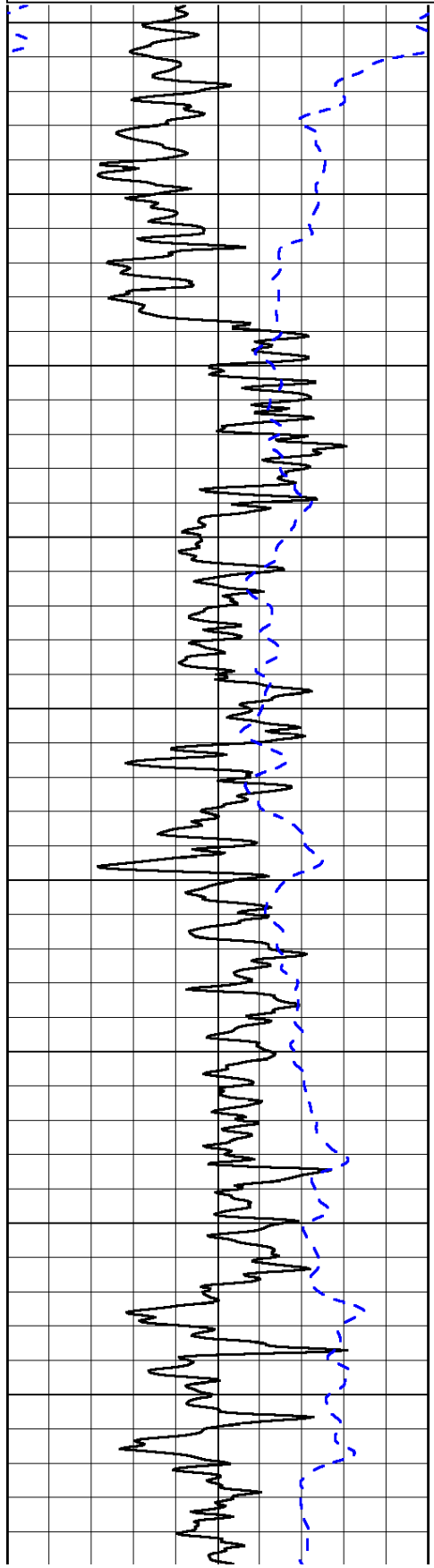
Thank you for using Log-Tech, Inc.  
 (785) 625-3858  
  
 Ness City, KS  
 6 S to 60 Rd., 12 W to G Rd.,  
 2 S to 40 Rd., 1/2 W, S Into

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

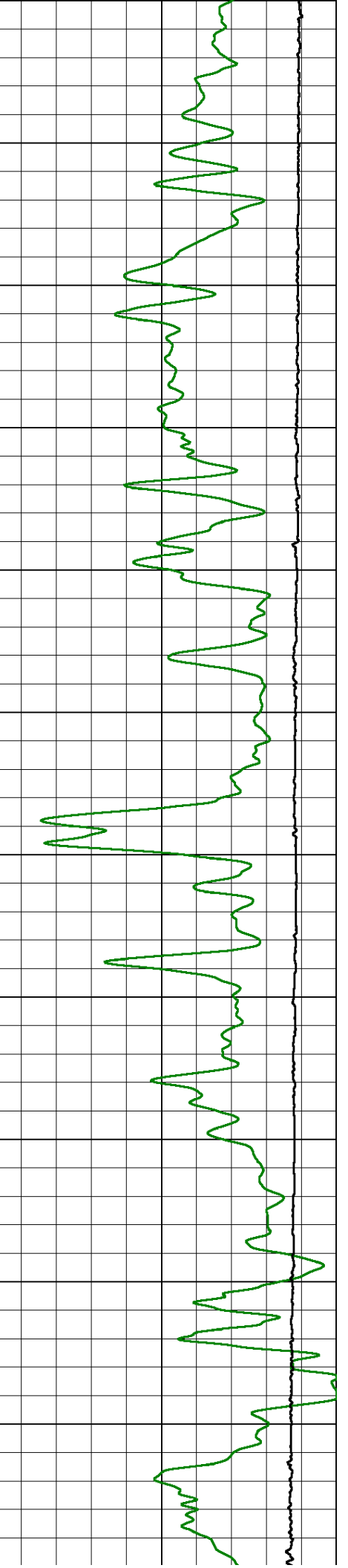
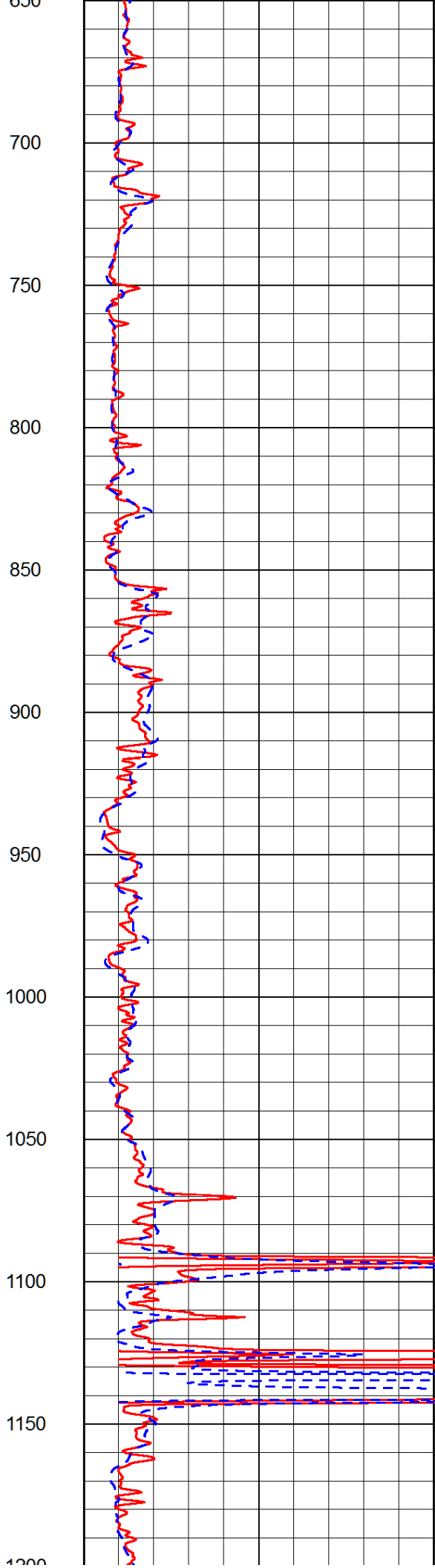
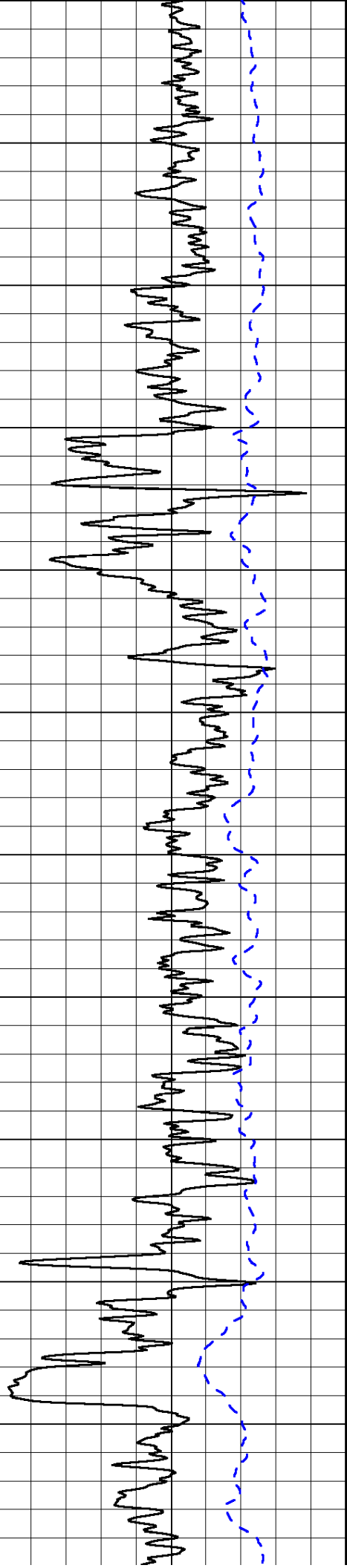
|   |                             |    |
|---|-----------------------------|----|
| 0 | Shallow Resistivity (Ohm-m) | 50 |
| 0 | Deep Resistivity (Ohm-m)    | 50 |

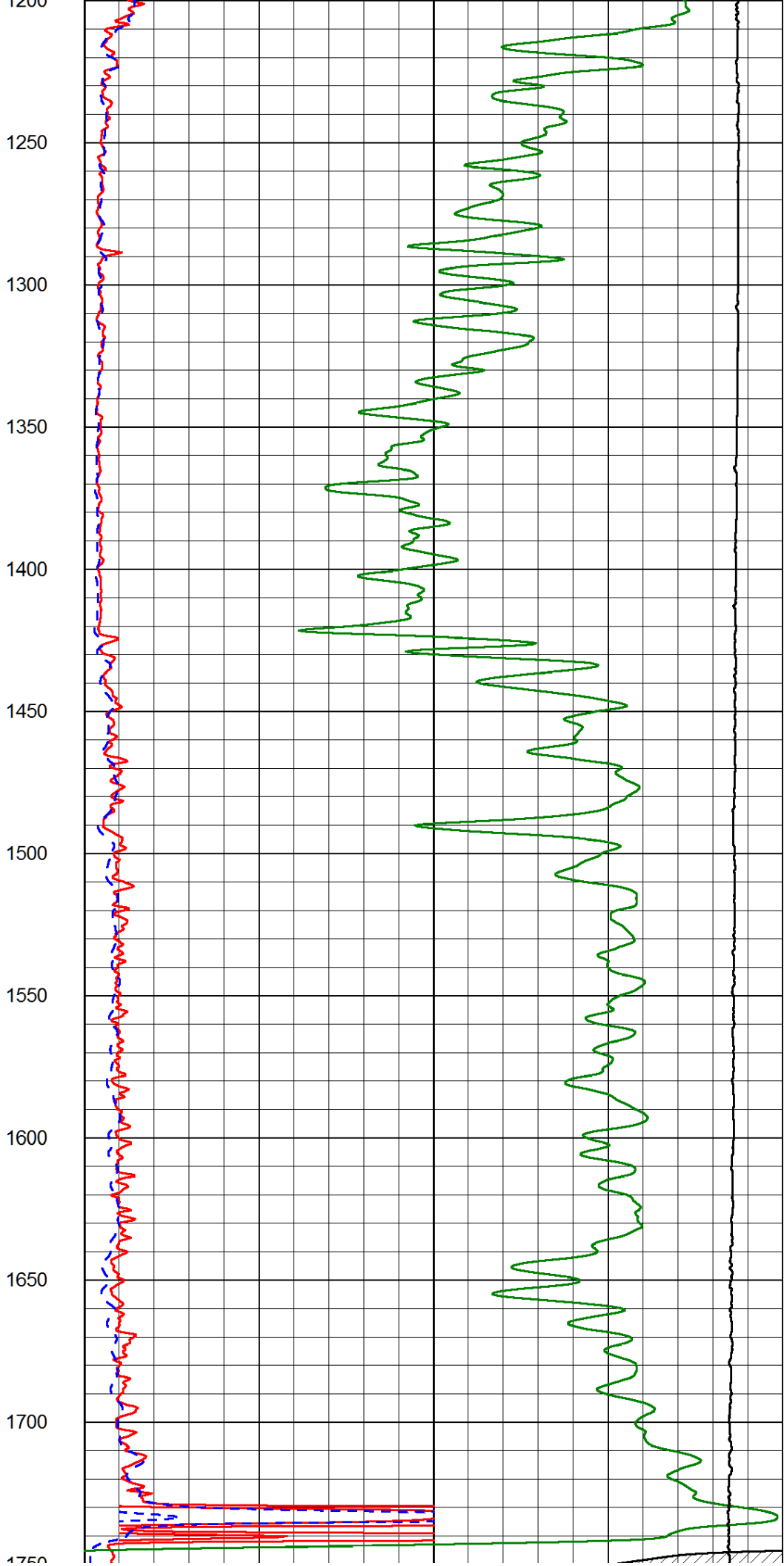
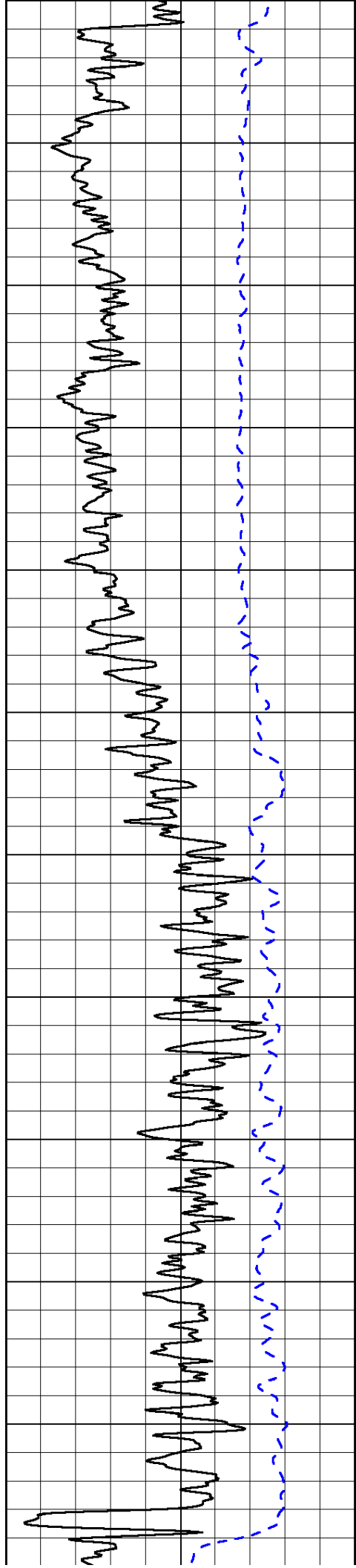
|       |                      |   |
|-------|----------------------|---|
| 1000  | Conductivity (Ohm-m) | 0 |
| 15000 | Line Tension (lb)    | 0 |

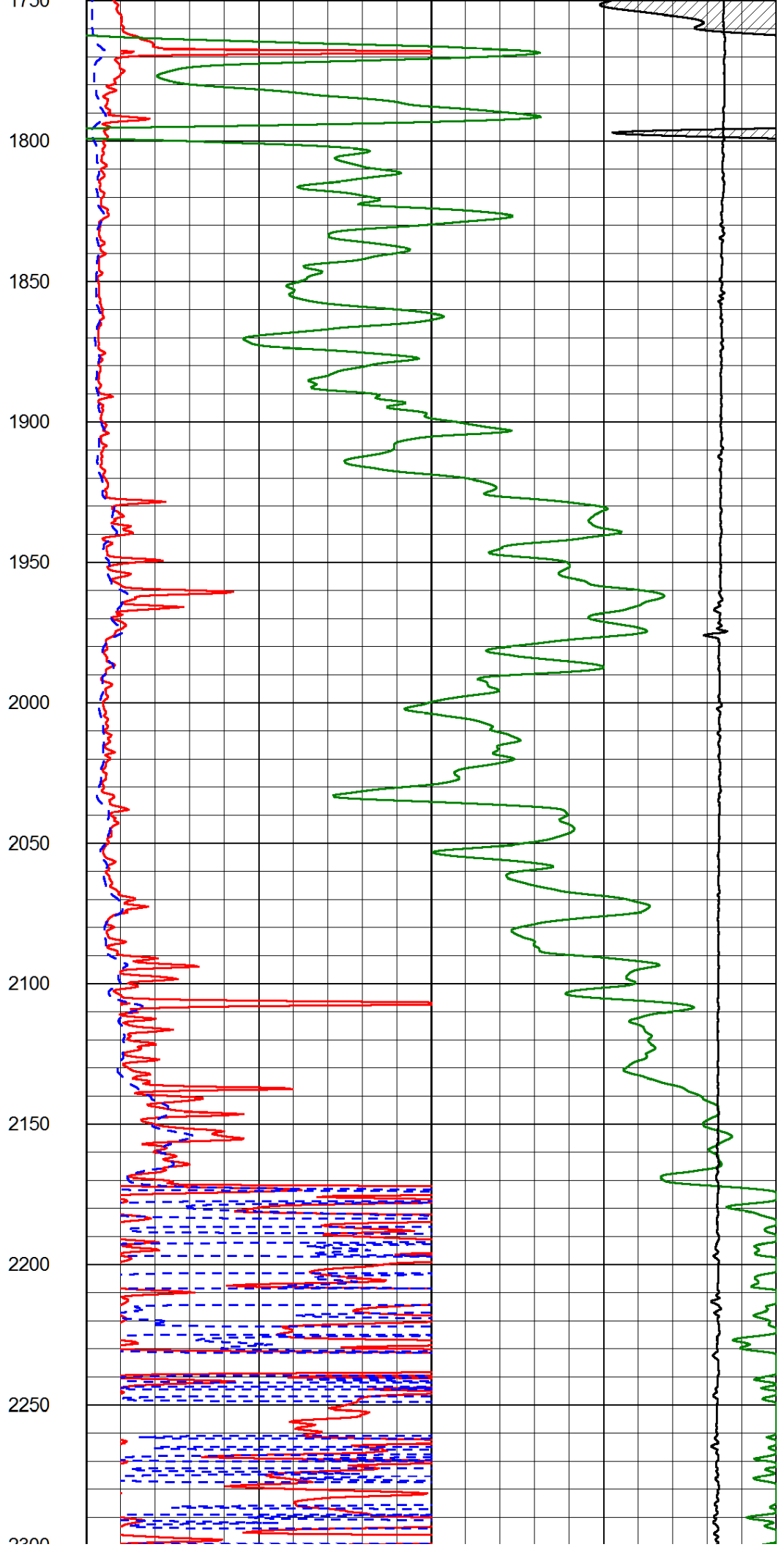
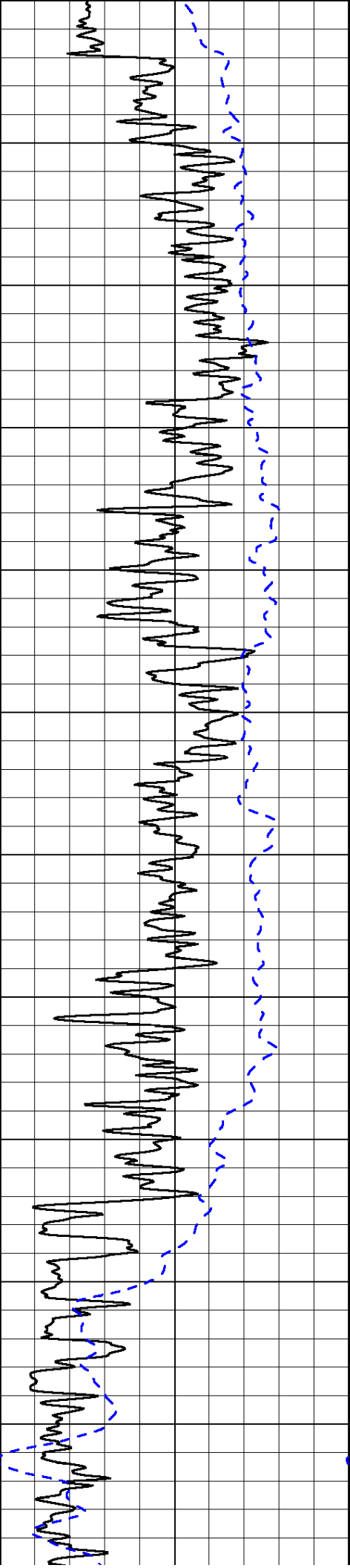
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|---------------------|--------------------------|-----|
| Shallow Resistivity |                          |     |
| 50                  | (Ohm-m)                  | 500 |
| 50                  | Deep Resistivity (Ohm-m) | 500 |

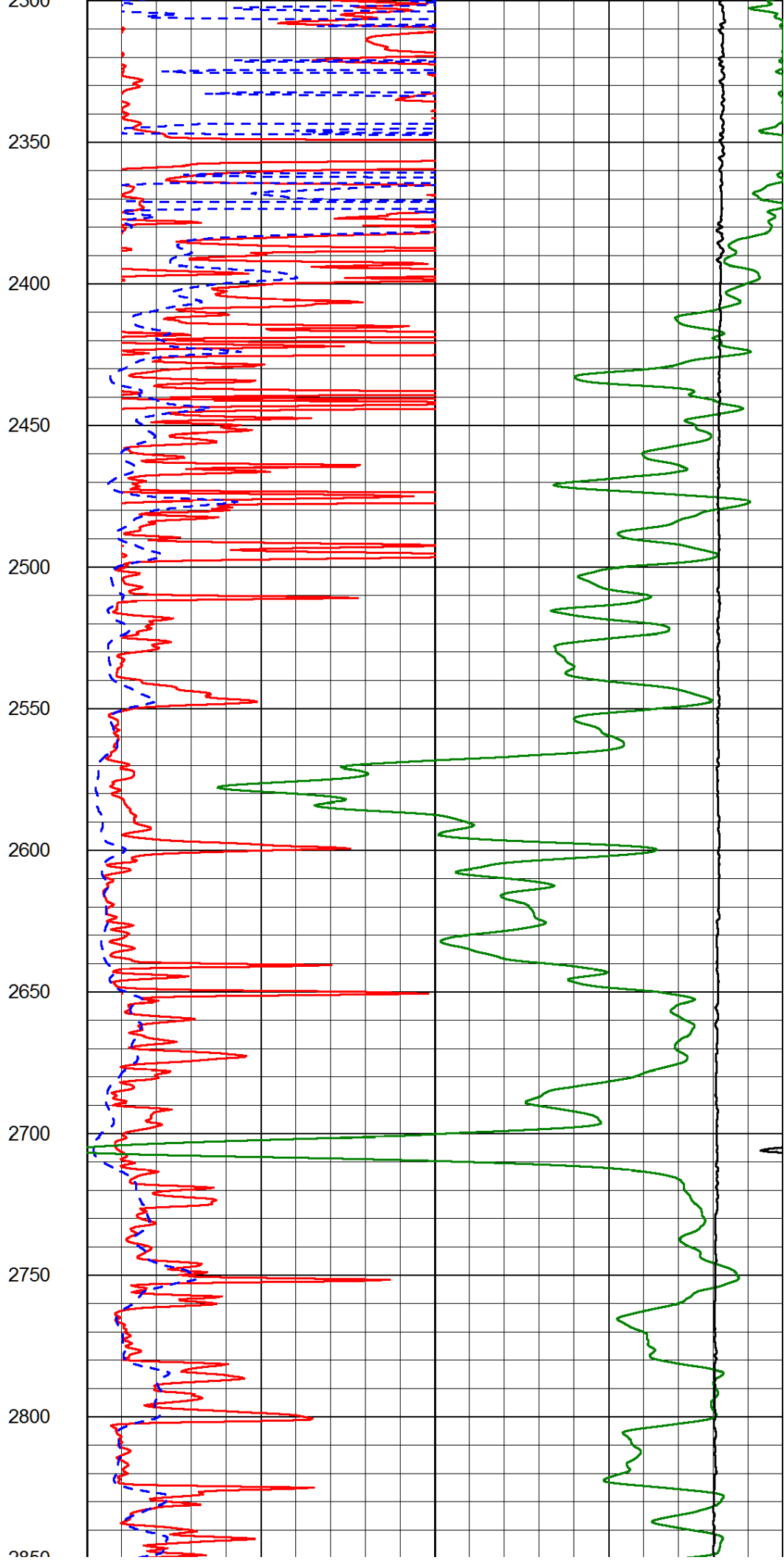
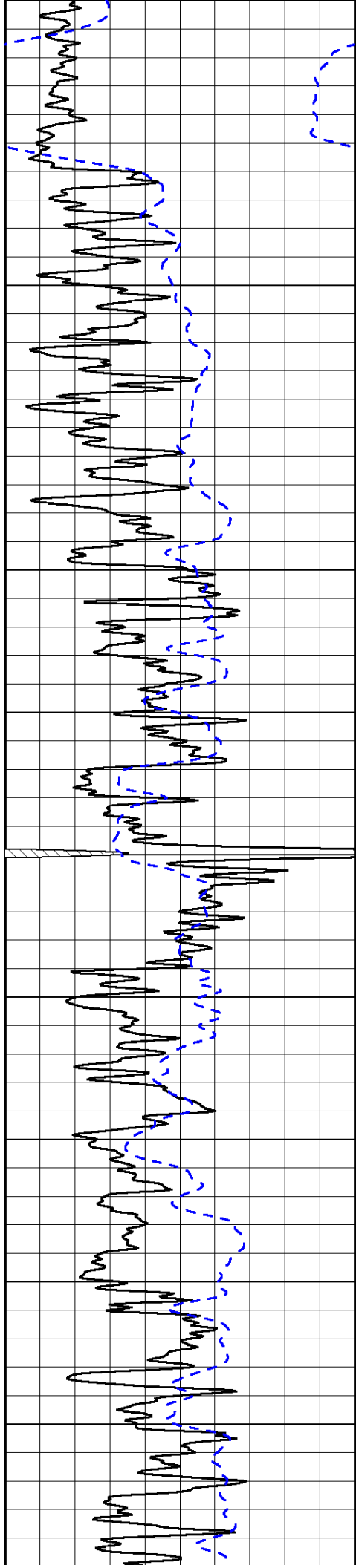


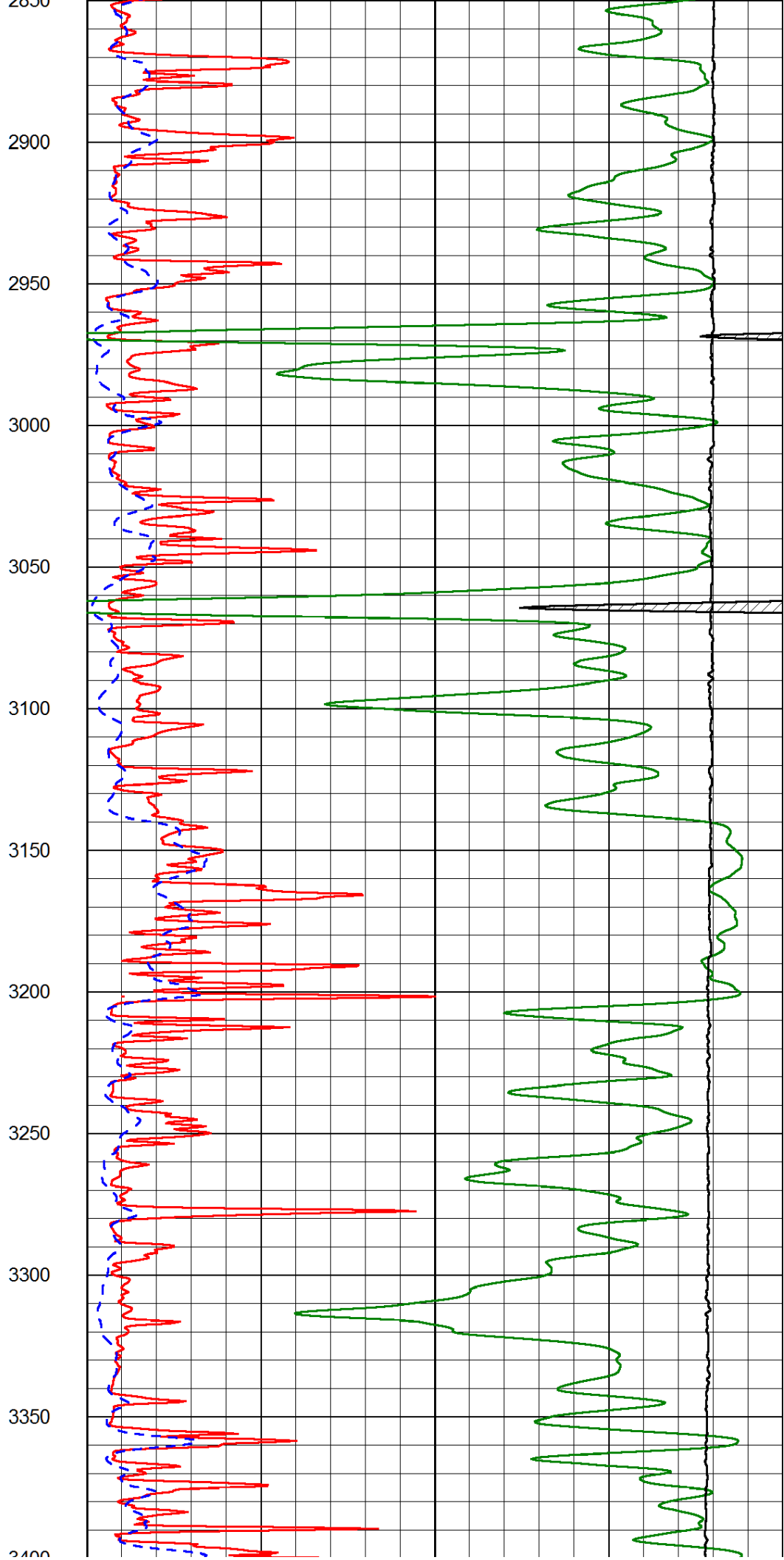
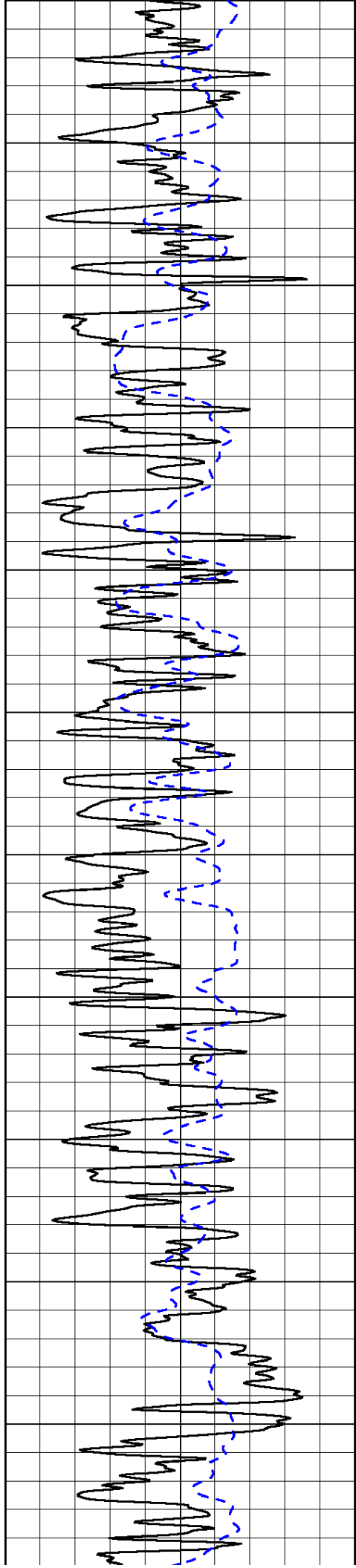
200  
250  
300  
350  
400  
450  
500  
550  
600  
650

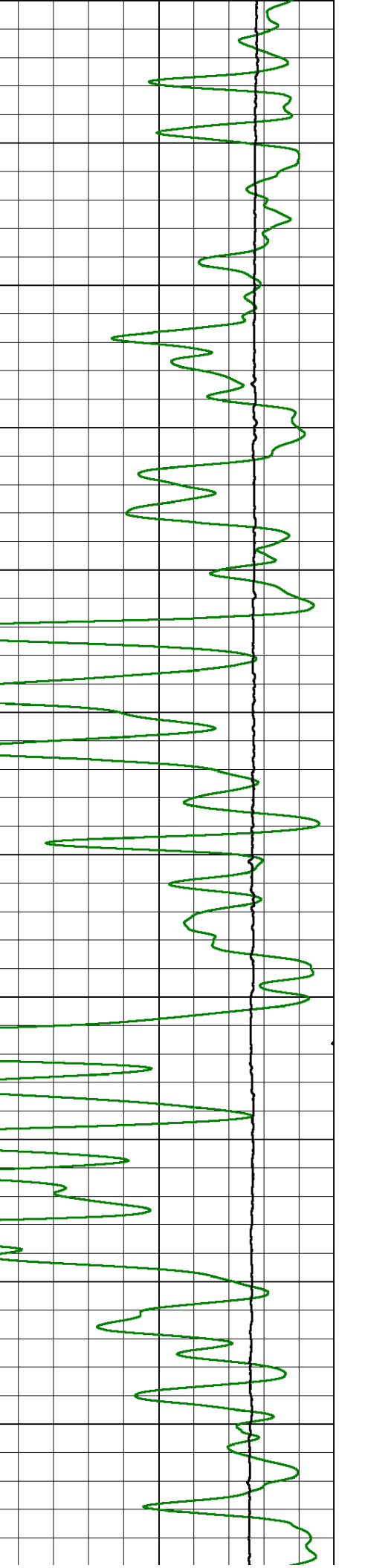
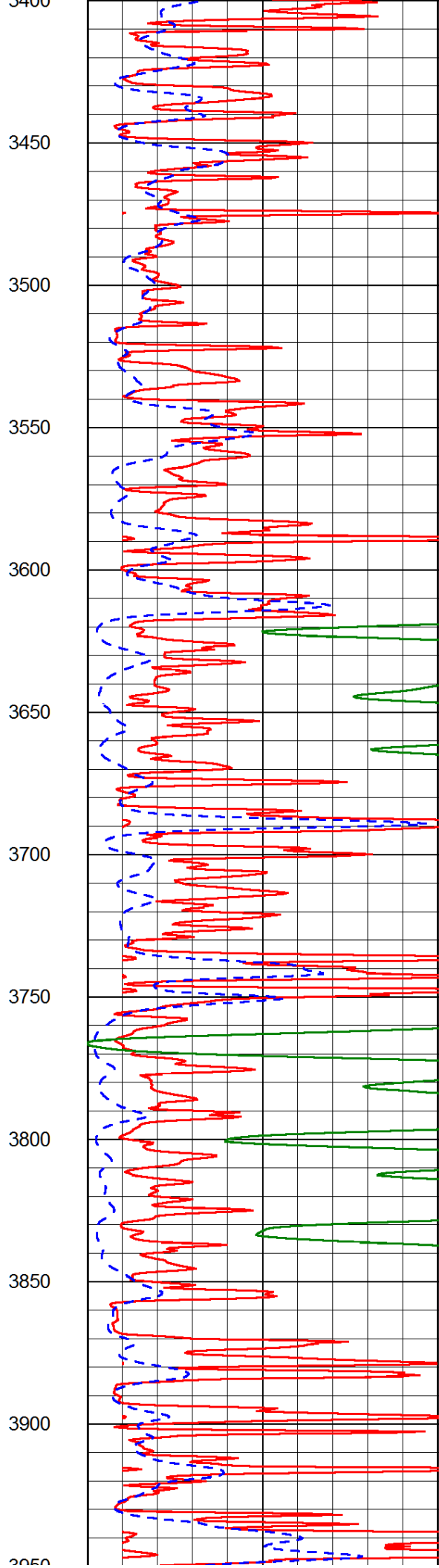
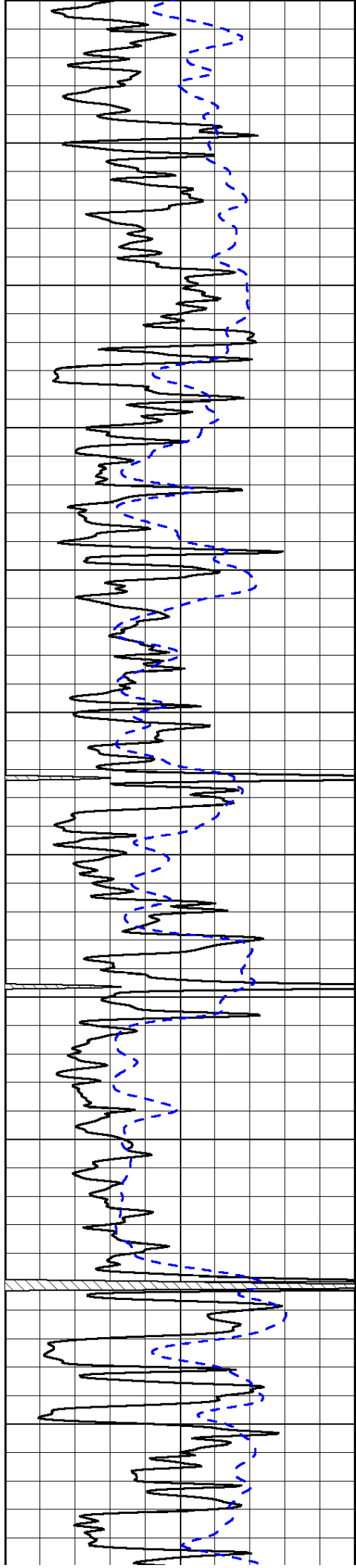




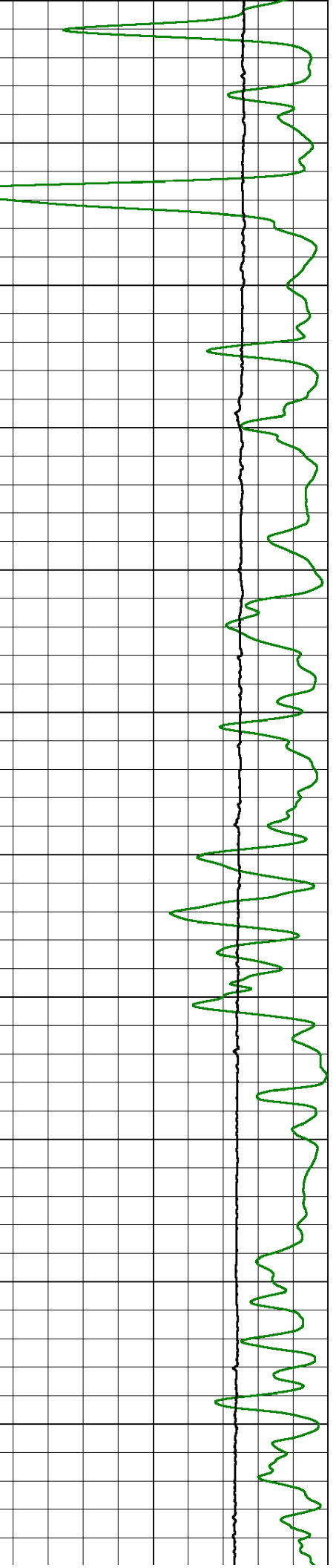
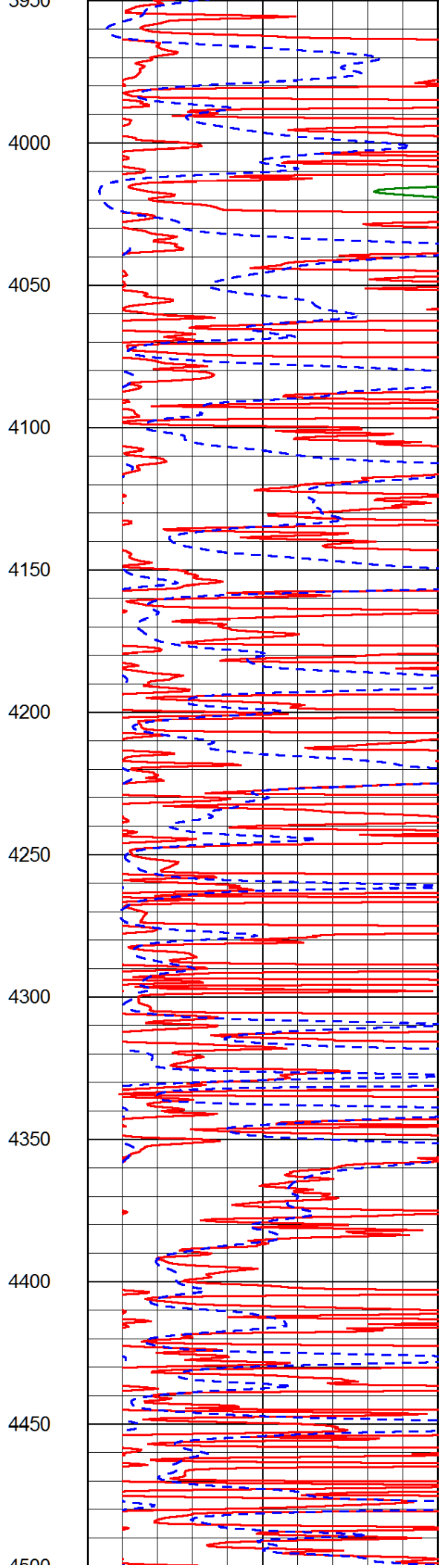
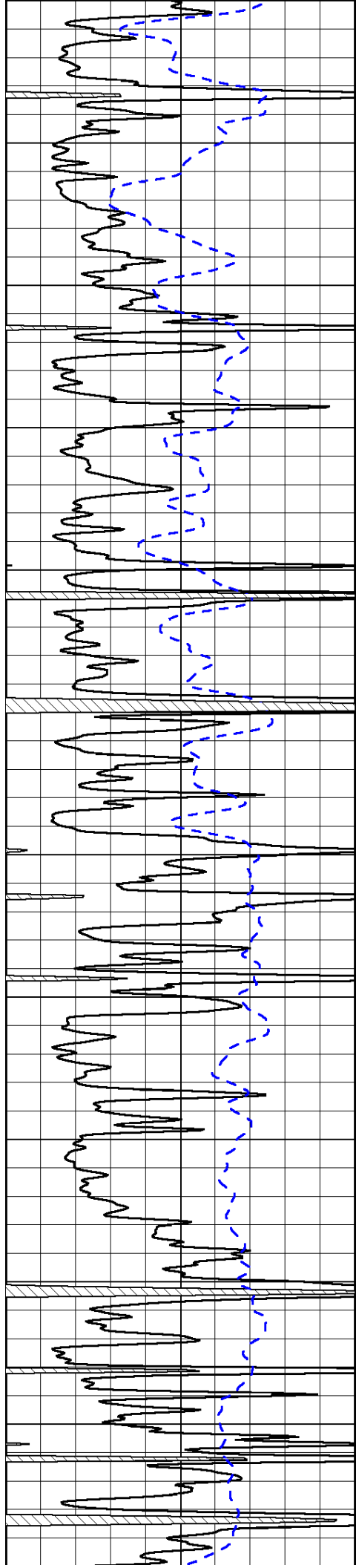


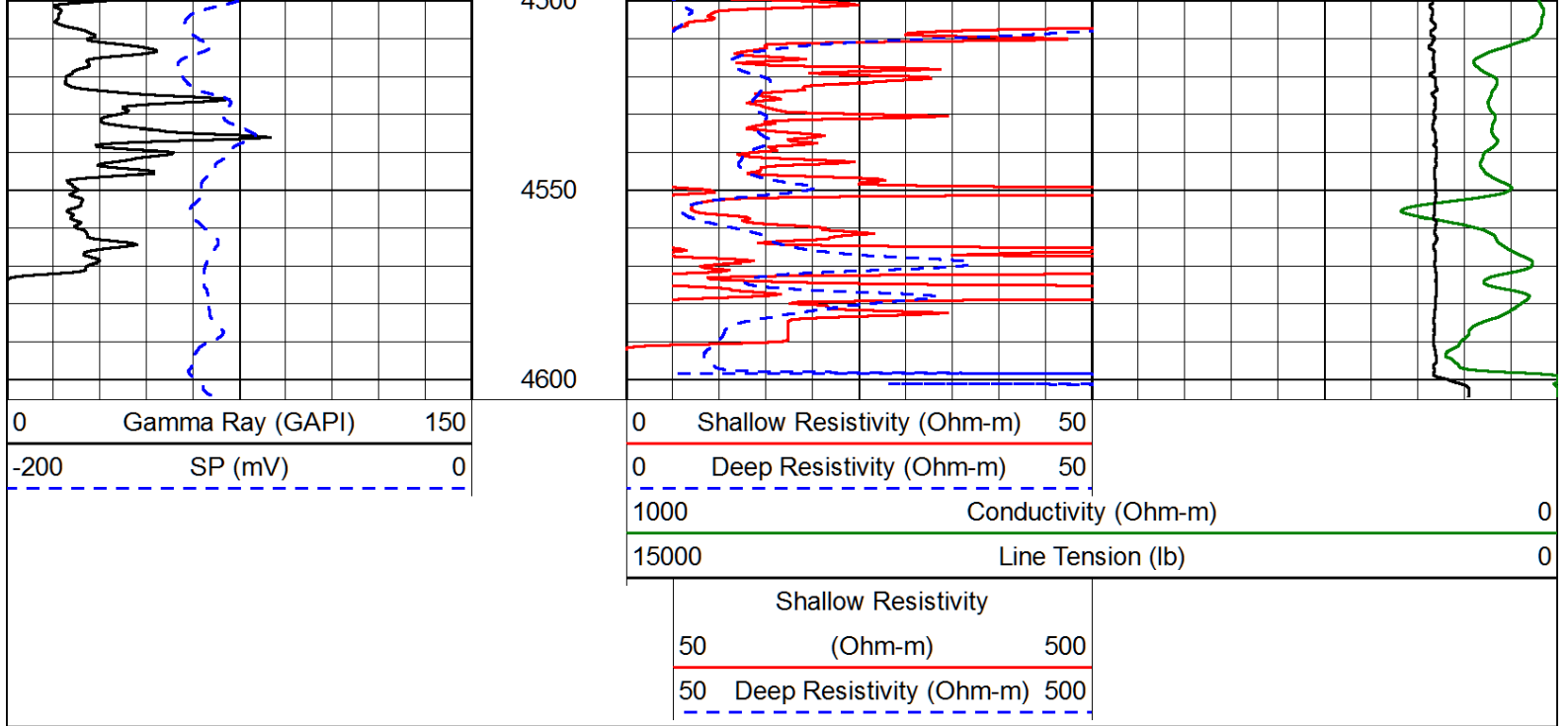




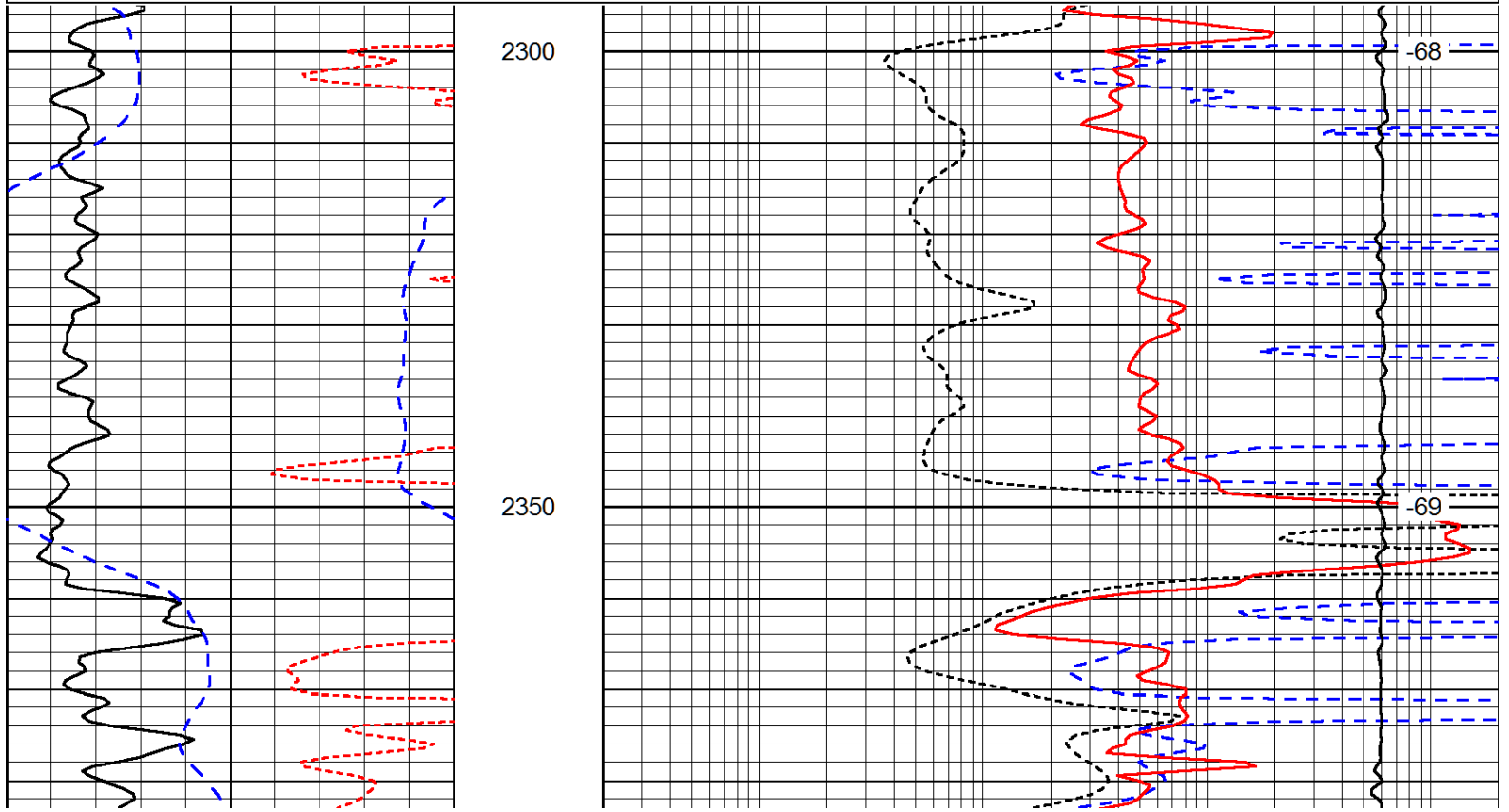
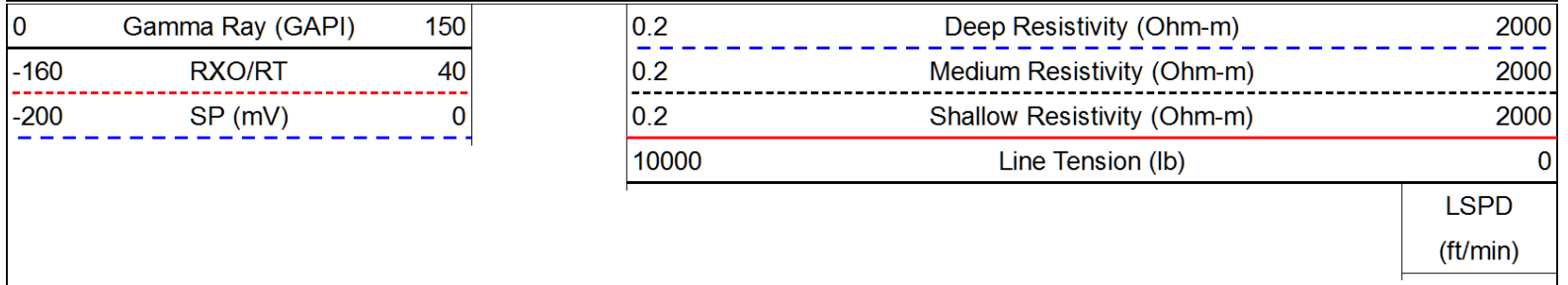


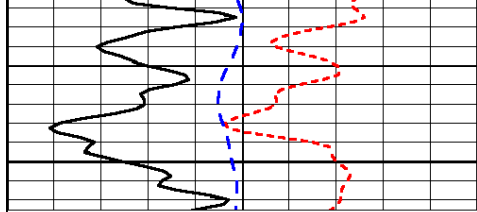






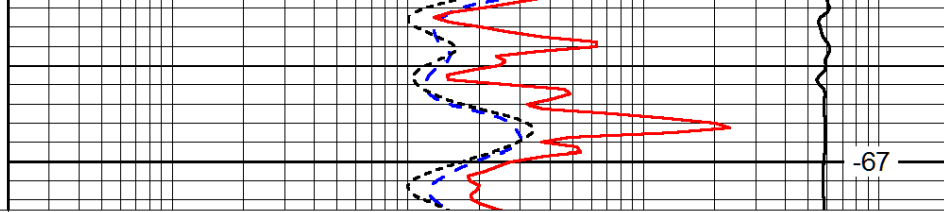
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 Dataset Pathname: DIL/amwastk  
 Presentation Format: dil  
 Dataset Creation: Fri Mar 01 22:06:12 2013  
 Charted by: Depth in Feet scaled 1:240





|      |                  |     |
|------|------------------|-----|
| 0    | Gamma Ray (GAPI) | 150 |
| -160 | RXO/RT           | 40  |
| -200 | SP (mV)          | 0   |

2400



|       |                             |      |
|-------|-----------------------------|------|
| 0.2   | Deep Resistivity (Ohm-m)    | 2000 |
| 0.2   | Medium Resistivity (Ohm-m)  | 2000 |
| 0.2   | Shallow Resistivity (Ohm-m) | 2000 |
| 10000 | Line Tension (lb)           | 0    |

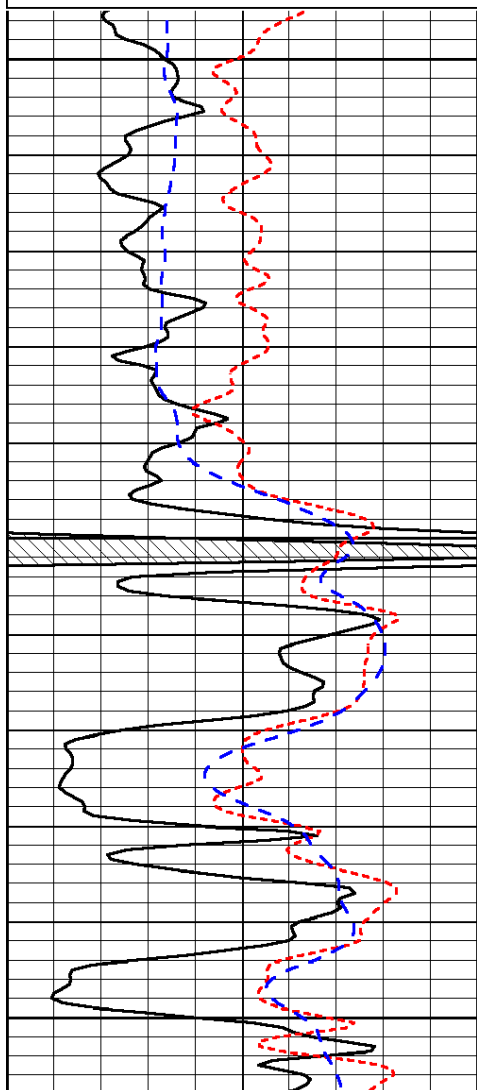
LSPD  
(ft/min)

Database File: amerhd.db  
 Dataset Pathname: DIL/amwastk  
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|------|------------------|-----|
| 0    | Gamma Ray (GAPI) | 150 |
| -160 | RXO/RT           | 40  |
| -200 | SP (mV)          | 0   |

|       |                             |      |
|-------|-----------------------------|------|
| 0.2   | Deep Resistivity (Ohm-m)    | 2000 |
| 0.2   | Medium Resistivity (Ohm-m)  | 2000 |
| 0.2   | Shallow Resistivity (Ohm-m) | 2000 |
| 10000 | Line Tension (lb)           | 0    |

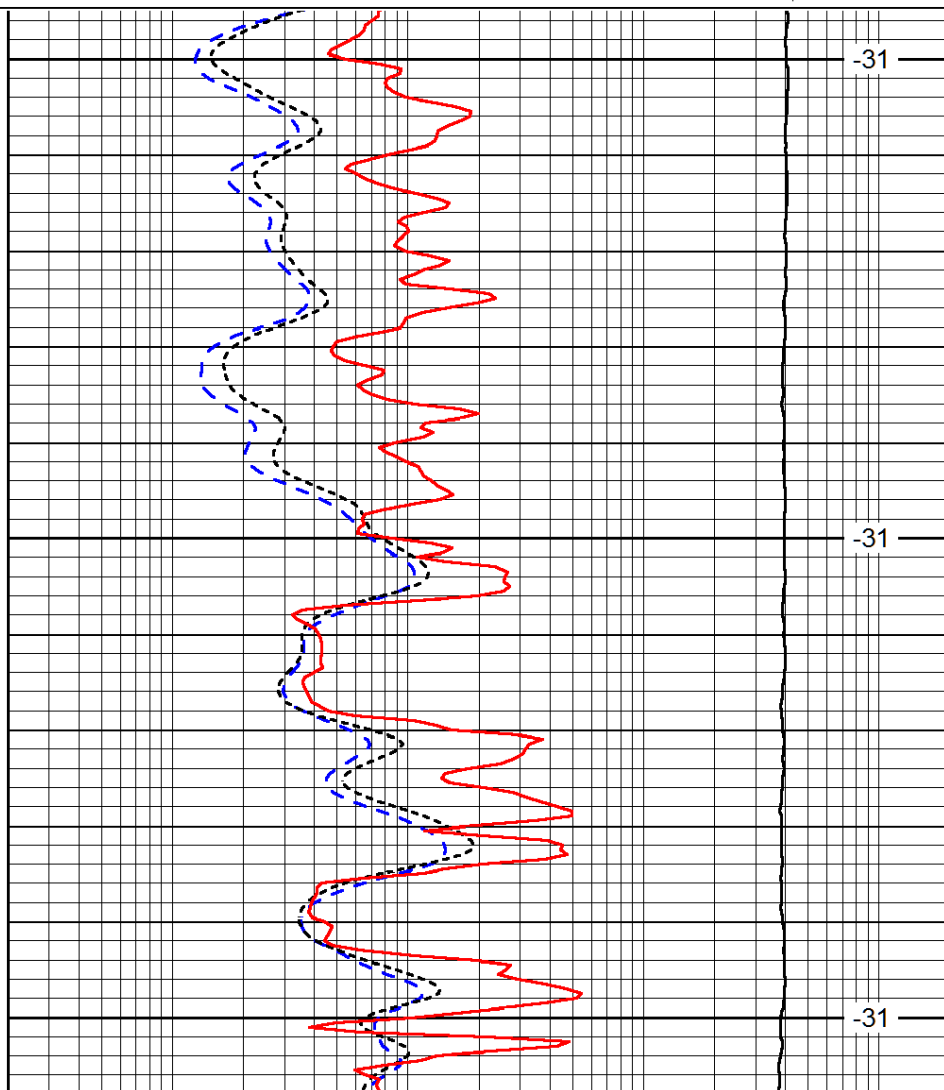
LSPD  
(ft/min)



3800

3850

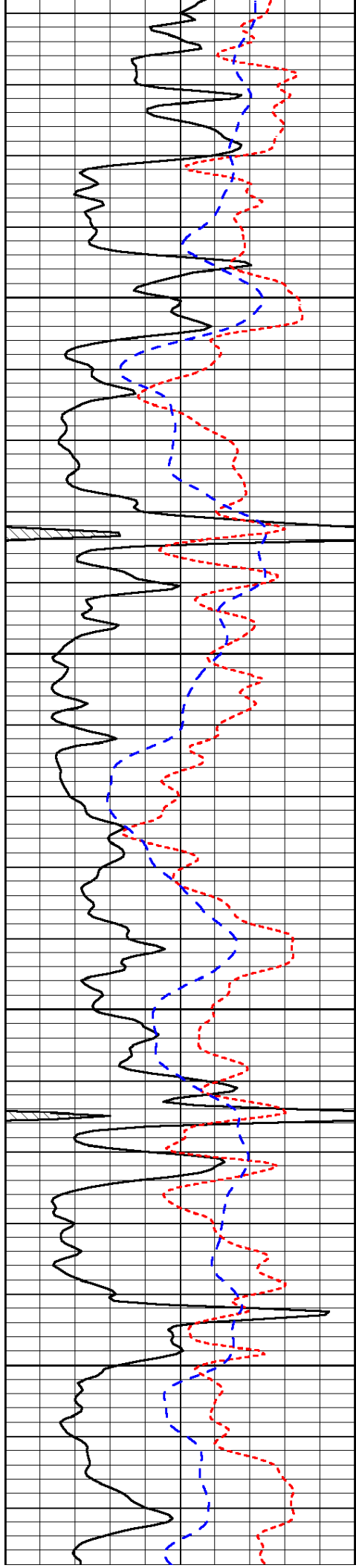
3900



-31

-31

-31

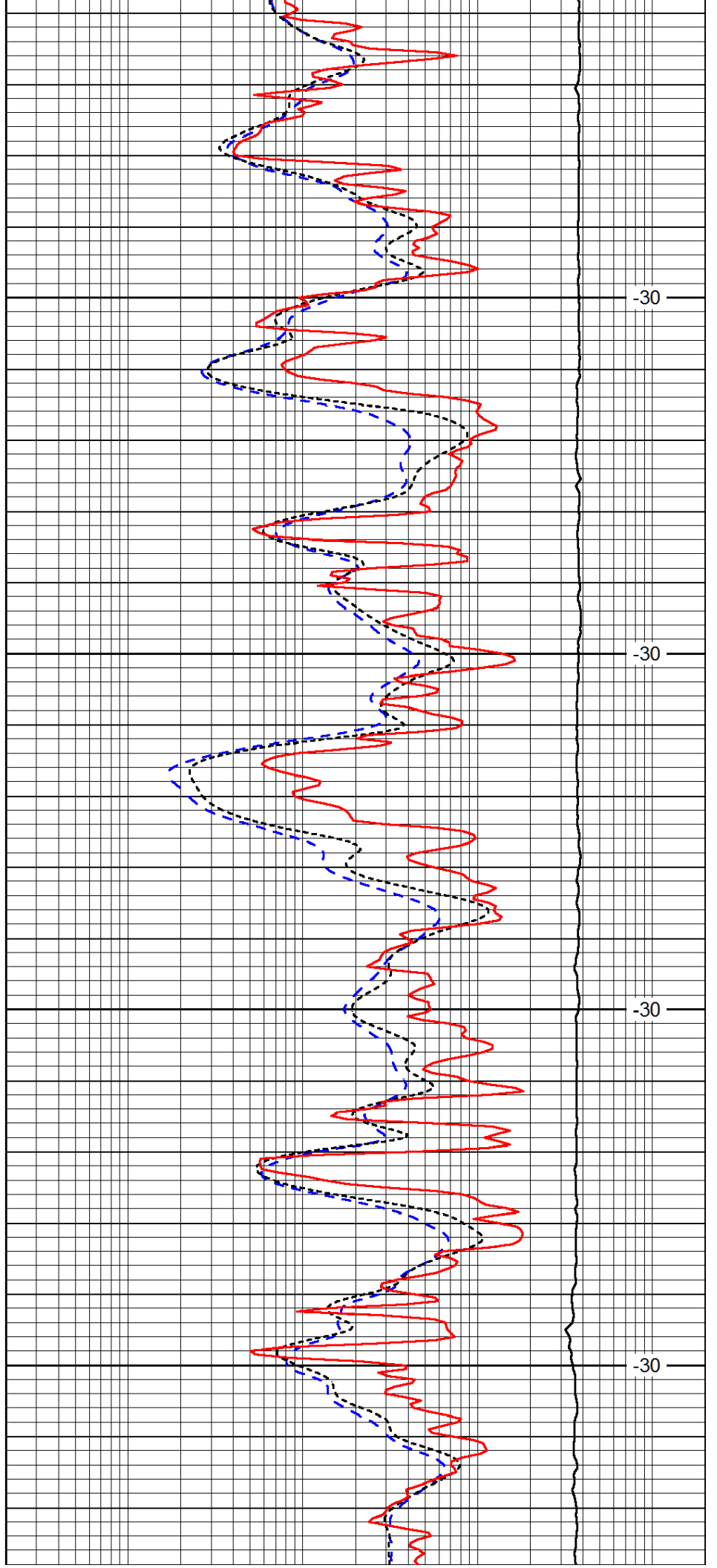


3950

4000

4050

4100

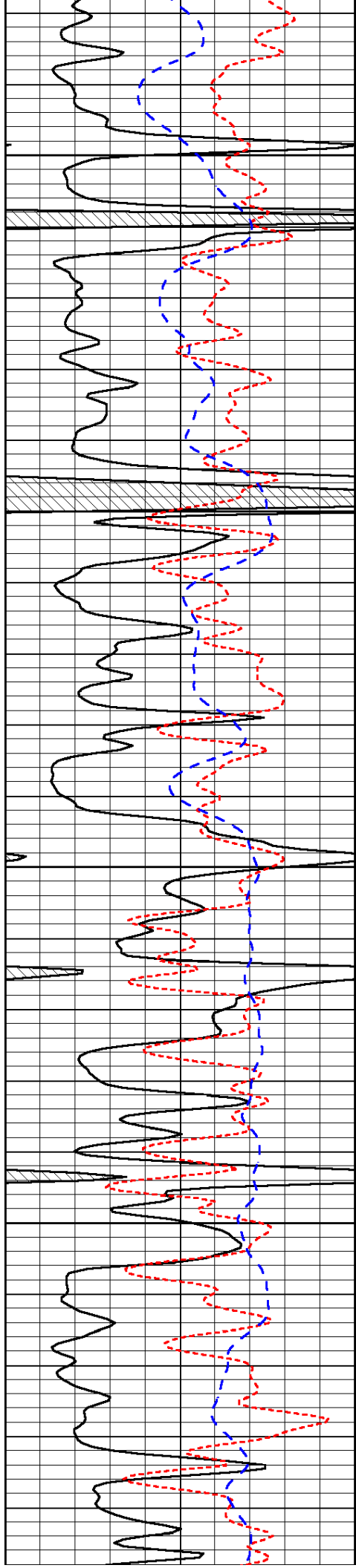


-30

-30

-30

-30

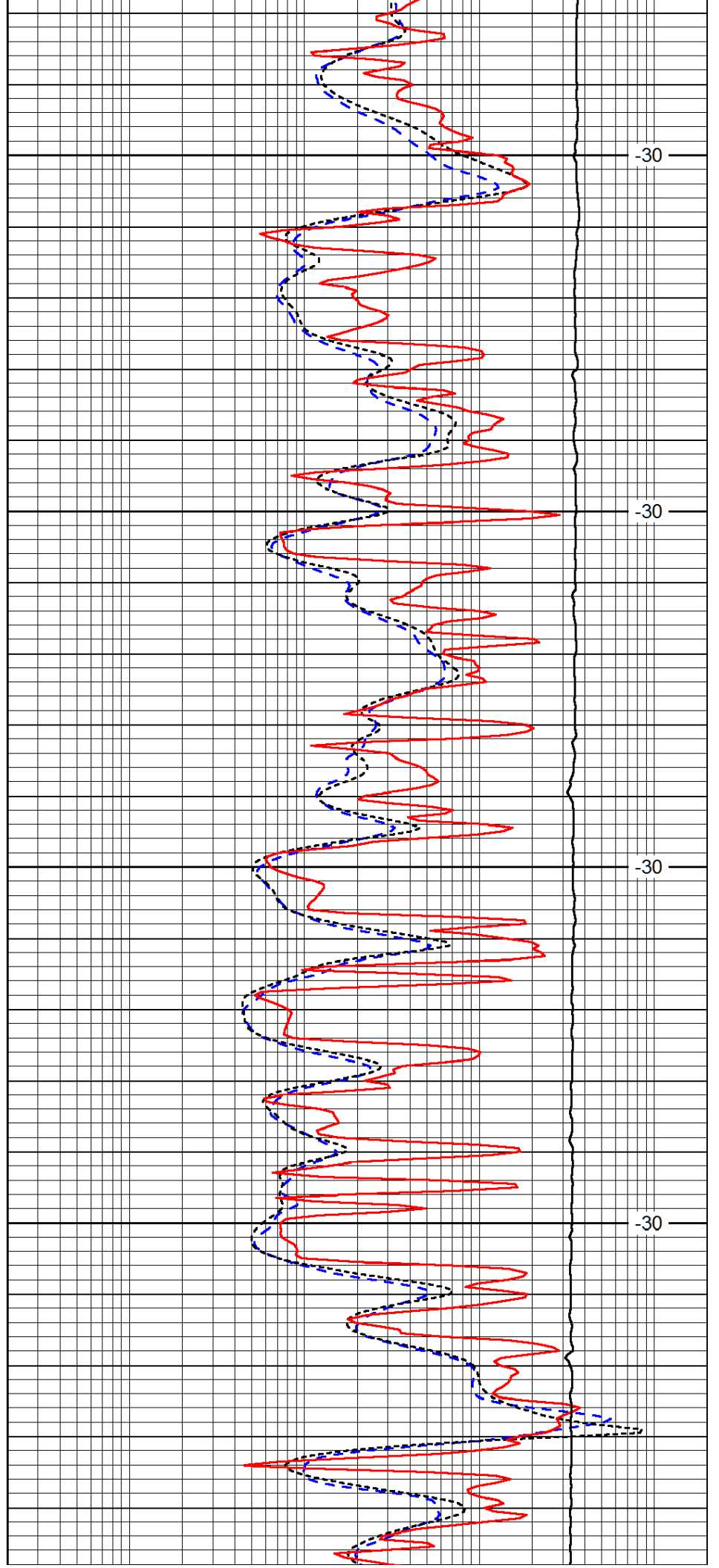


4150

4200

4250

4300

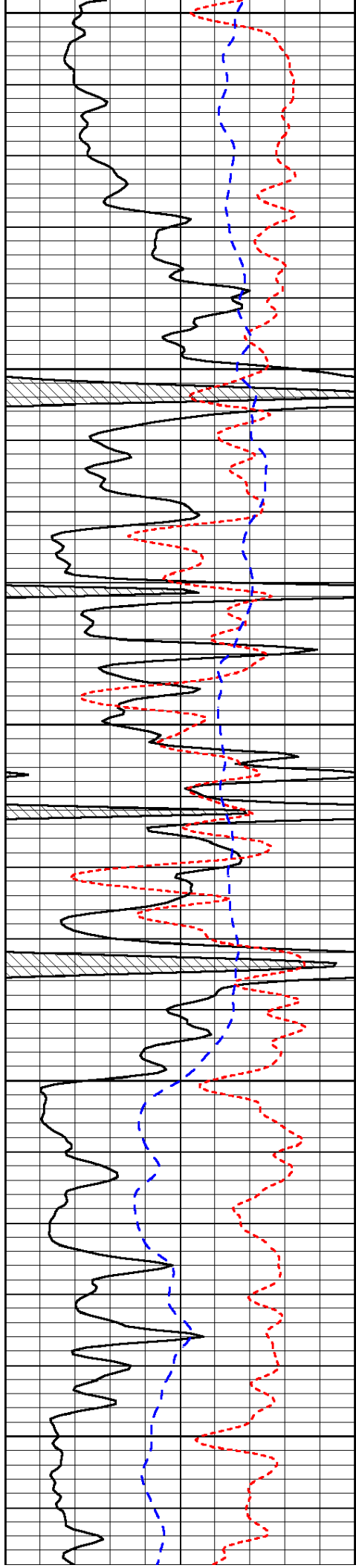


-30

-30

-30

-30



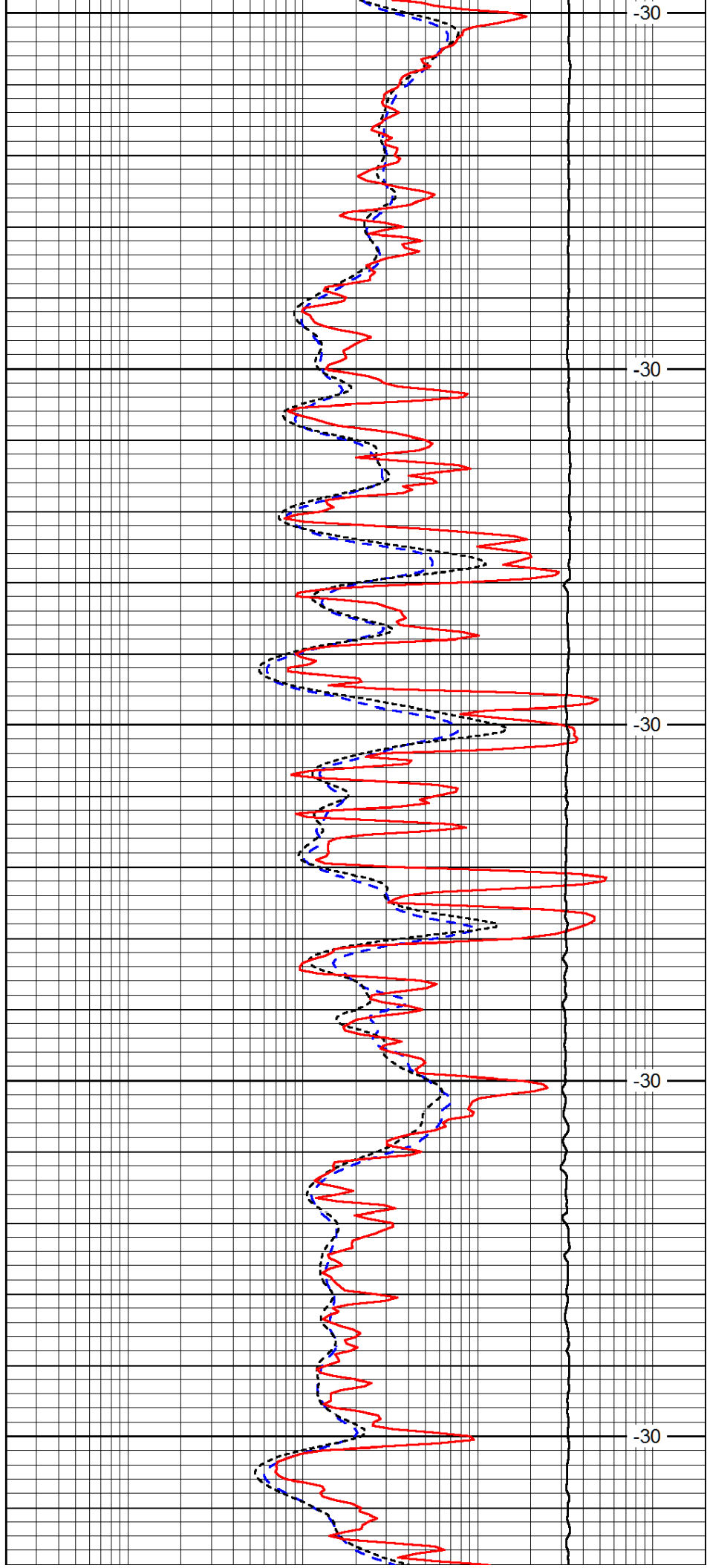
4350

4400

4450

4500

4550



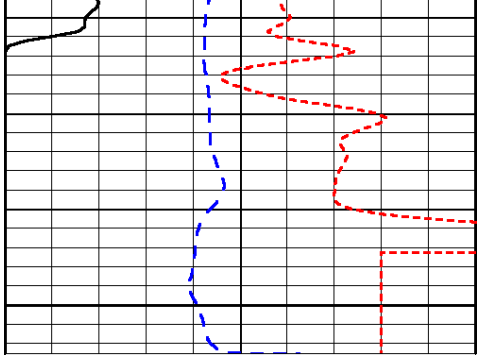
-30

-30

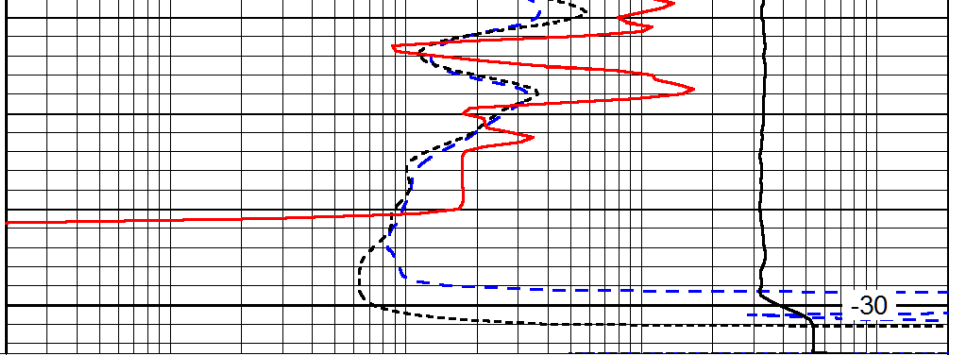
-30

-30

-30



4600



-30

|      |                  |     |
|------|------------------|-----|
| 0    | Gamma Ray (GAPI) | 150 |
| -160 | RXO/RT           | 40  |
| -200 | SP (mV)          | 0   |

|       |                             |      |
|-------|-----------------------------|------|
| 0.2   | Deep Resistivity (Ohm-m)    | 2000 |
| 0.2   | Medium Resistivity (Ohm-m)  | 2000 |
| 0.2   | Shallow Resistivity (Ohm-m) | 2000 |
| 10000 | Line Tension (lb)           | 0    |

LSPD  
(ft/min)