



Pioneer Energy Services

Dual Induction Log

| | | | |
|----------|-----------------------------------|----------|---------------------------|
| API No. | 15-193-20918-00-00 | | |
| Company | Prater Oil & Gas Operations, Inc. | | |
| Well | Maurath #1 | | |
| Field | Triangle Northwest | | |
| County | Thomas | State | Kansas |
| Location | 660' FEL & 2310' FSL | | |
| Sec: 15 | Twp: 10S | Rge: 31W | Other Services CNL/CDL |

| | | | |
|------------------------|---------------|-----------|-----------------------|
| Permanent Datum | Ground Level | Elevation | 2985 |
| Log Measured From | Kelly Bushing | 8 | Ft. Above Perm. Datum |
| Drilling Measured From | Kelly Bushing | | |
| Date | 4/21/2014 | | |
| Run Number | One | | |
| Depth Driller | 4660 | | |
| Depth Logger | 4660 | | |
| Bottom Logged Interval | 4659 | | |
| Top Log Interval | 250 | | |
| Casing Driller | 8.625 @ 261 | | |
| Casing Logger | 263 | | |
| Bit Size | 7.875 | | |
| Type Fluid in Hole | Chemical | | |
| Salinity, ppm CL | 2500 | | |
| Density / Viscosity | 9.4 | 47 | |
| pH / Fluid Loss | 10.0 | 8.8 | |
| Source of Sample | Flowline | | |
| Rm @ Meas. Temp | 1.40 @ 68 | | |
| Rmf @ Meas. Temp | 1.05 @ 68 | | |
| Rmc @ Meas. Temp | 1.89 @ 68 | | |
| Source of Rmf / Rmc | Charts | | |
| Rm @ BHT | 0.76 @ 125 | | |
| Operating Rig Time | 3 Hours | | |
| Max Rec. Temp. F | 125 | | |
| 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
 I-70 & Campus Exit,
 4 1/2 North, 3/4 West, 1/2 North,
 West into

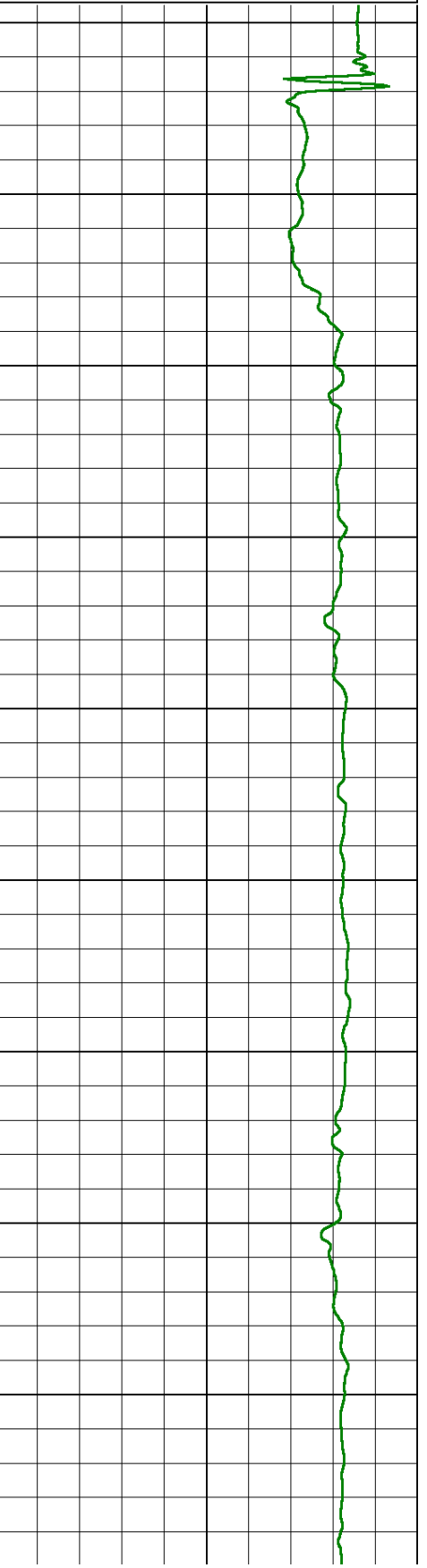
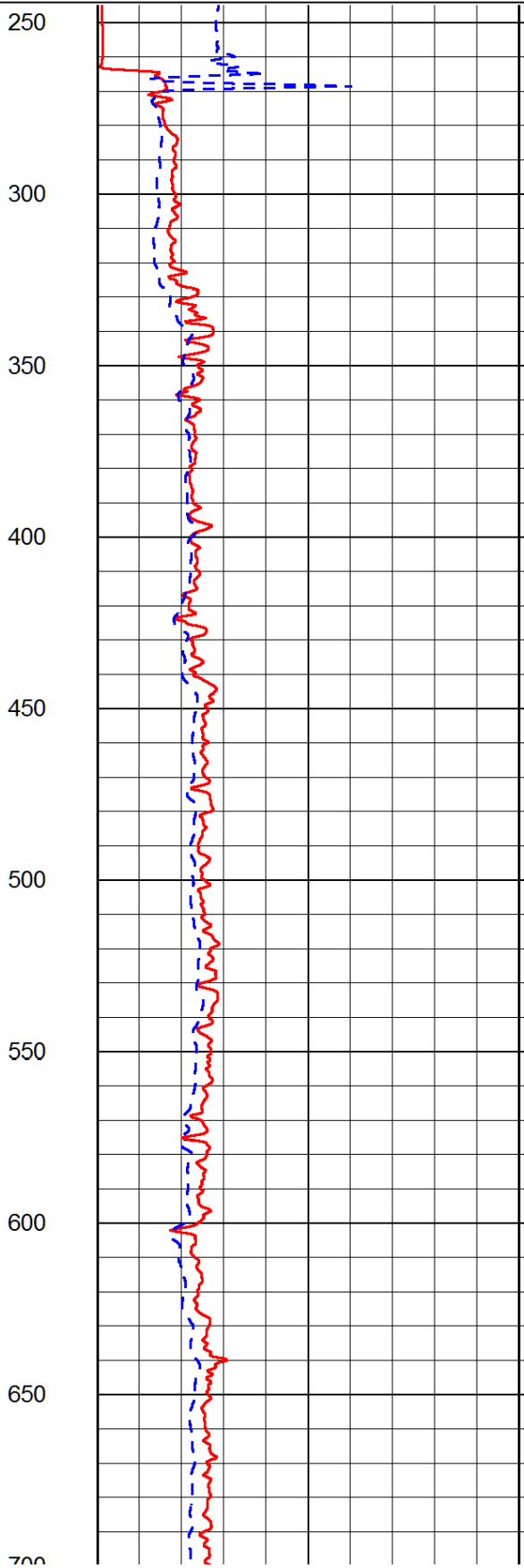
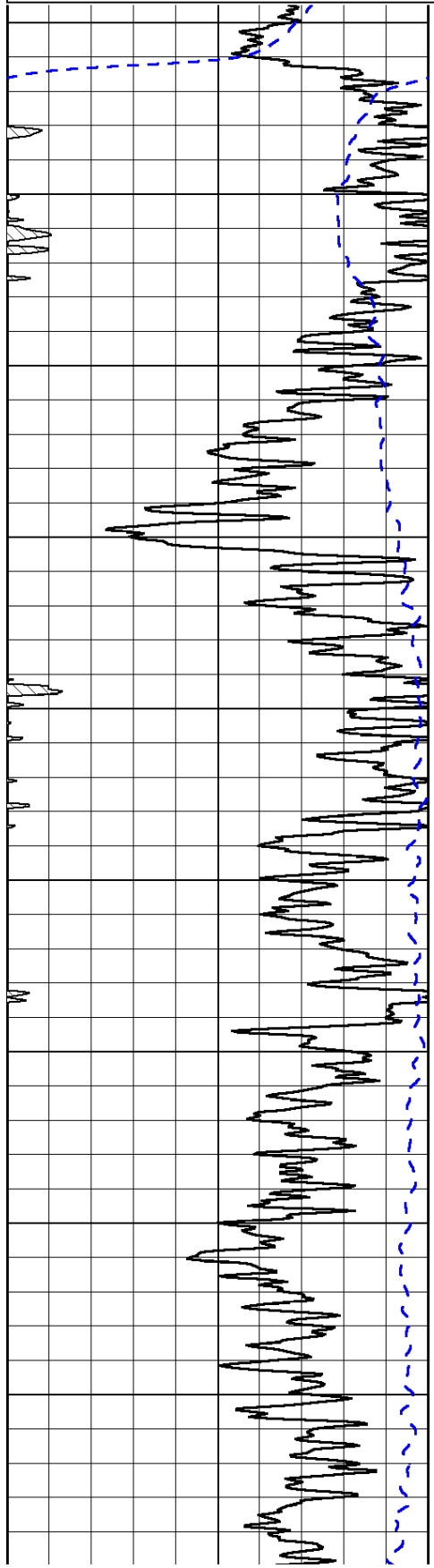
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 Dataset Pathname: dil/prstack
 Presentation Format: dil2in
 Dataset Creation: Mon Apr 21 15:49:30 2014
 Charted by: Depth in Feet scaled 1:600

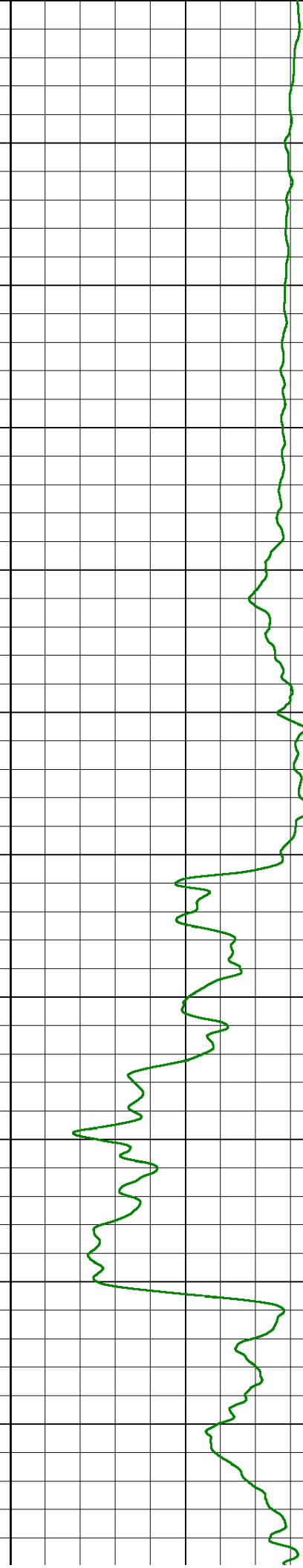
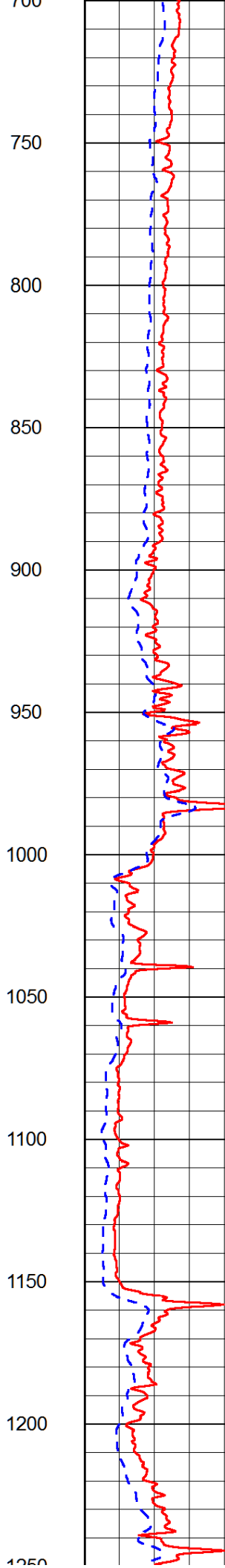
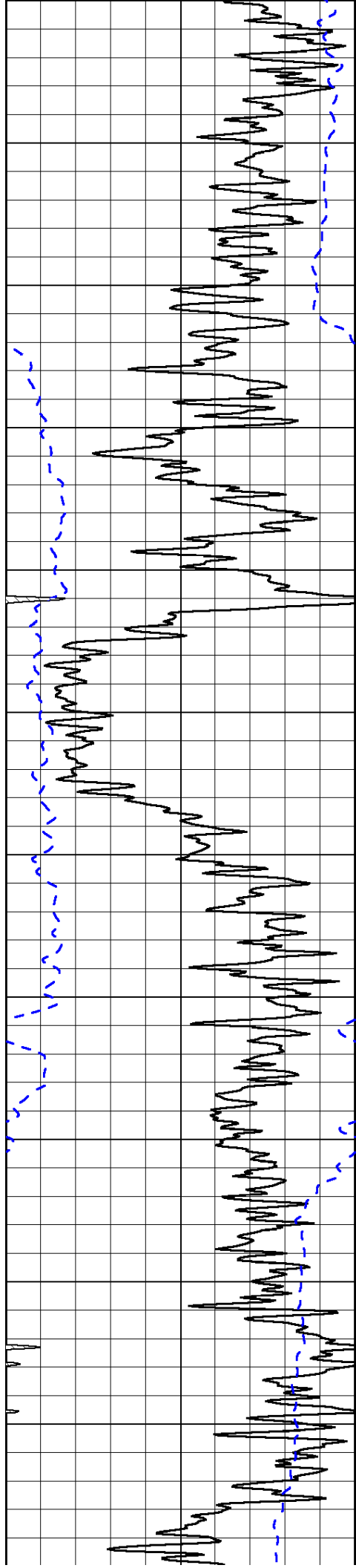
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|------|------------------|-----|
| 0 | Gamma Ray (GAPI) | 150 |
| -200 | SP (mV) | 0 |

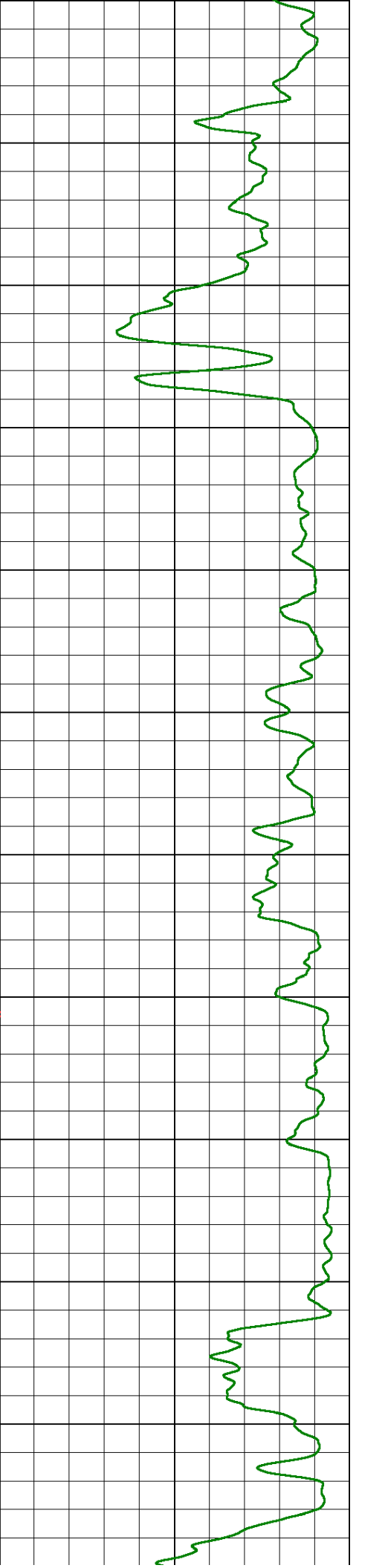
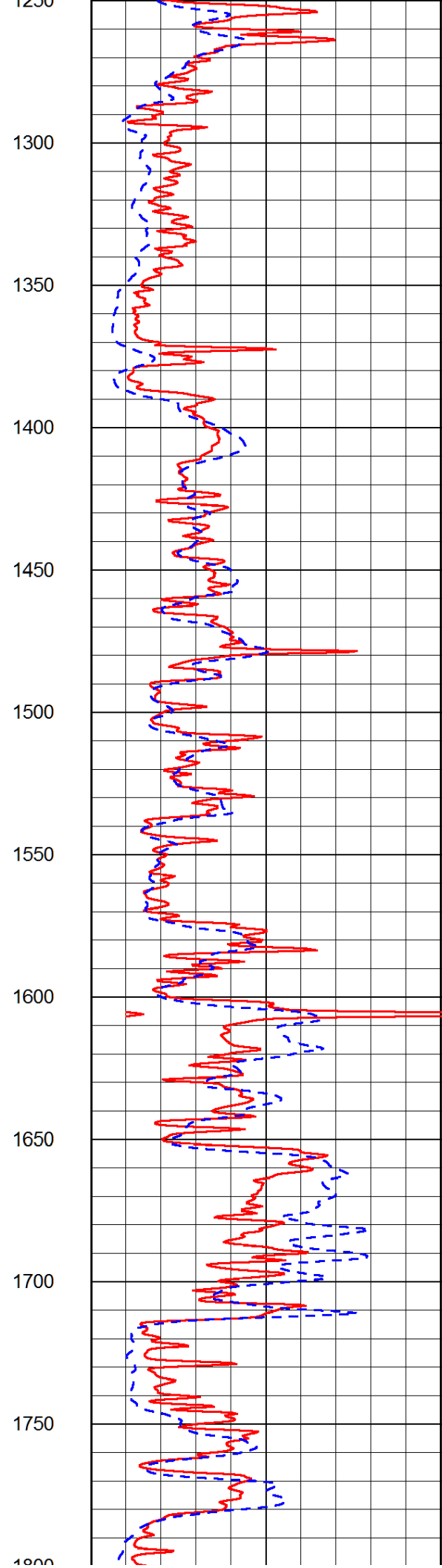
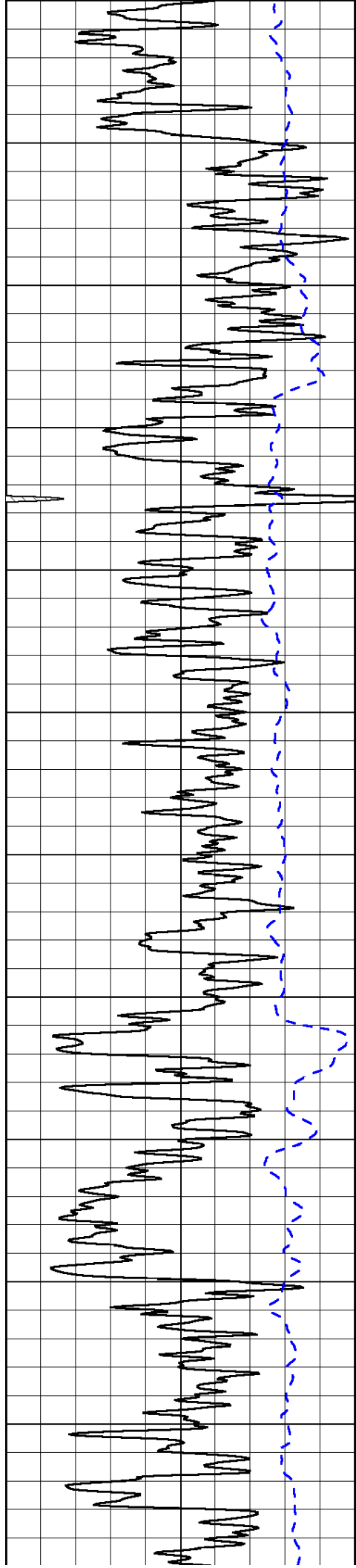
| | | |
|---|-----------------------------|----|
| 0 | Shallow Resistivity (Ohm-m) | 50 |
| 0 | Deep Resistivity (Ohm-m) | 50 |

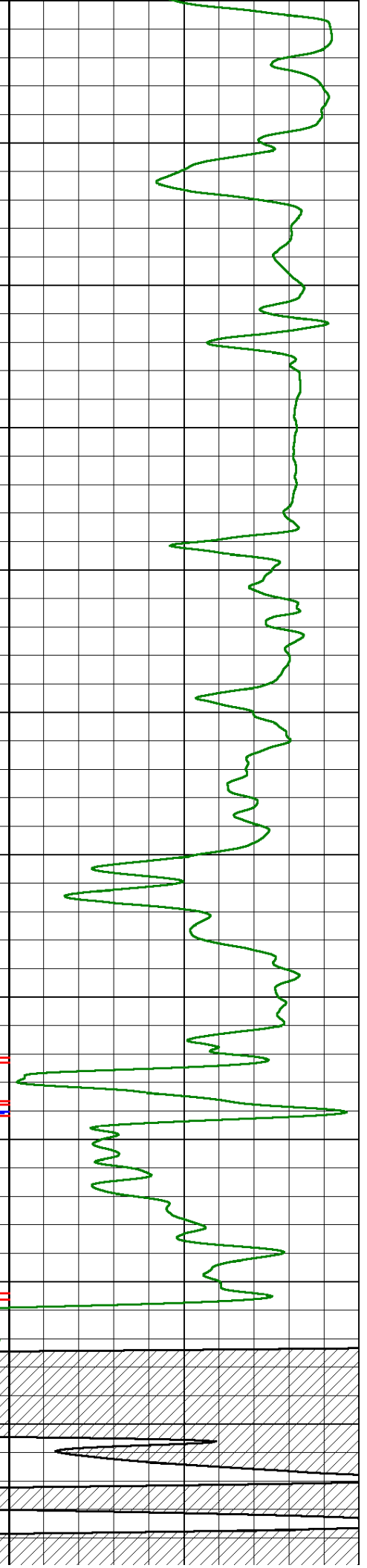
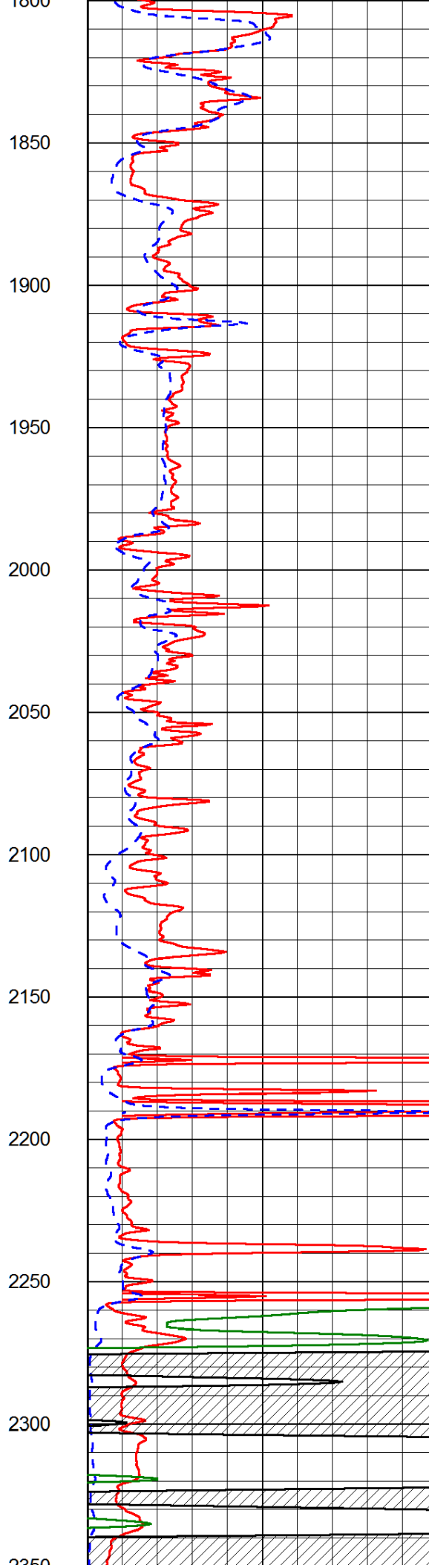
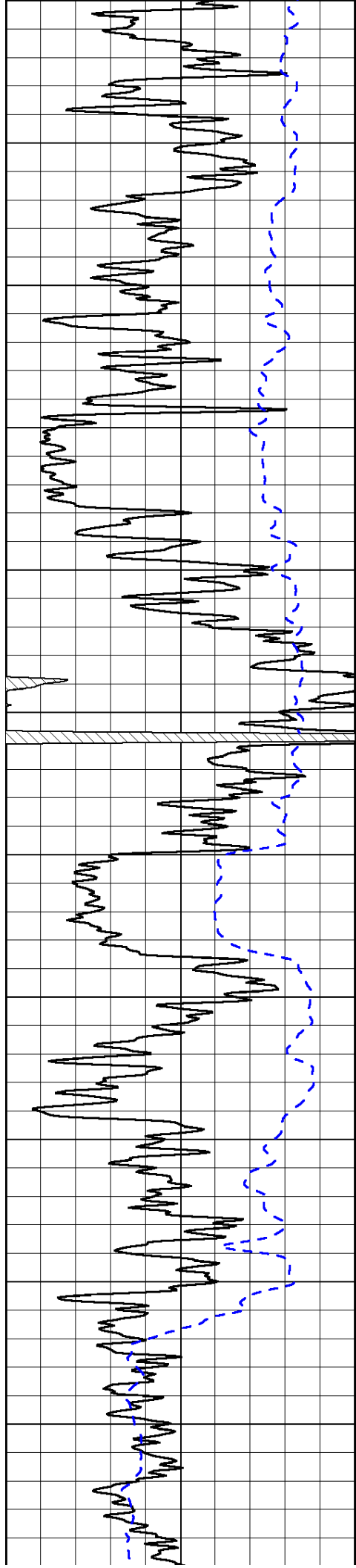
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|-------|----------------------|---|
| 1000 | Conductivity (Ohm-m) | 0 |
| 15000 | Line Tension (lb) | 0 |

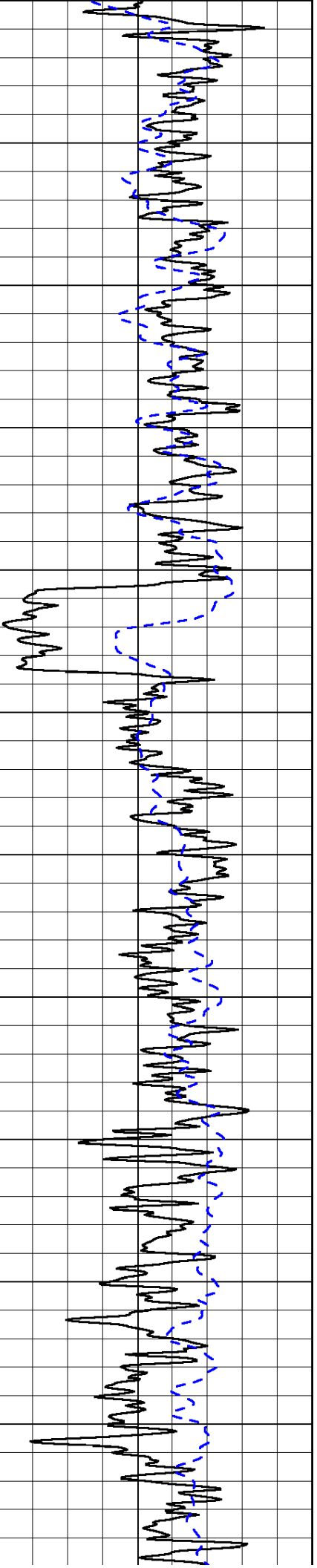
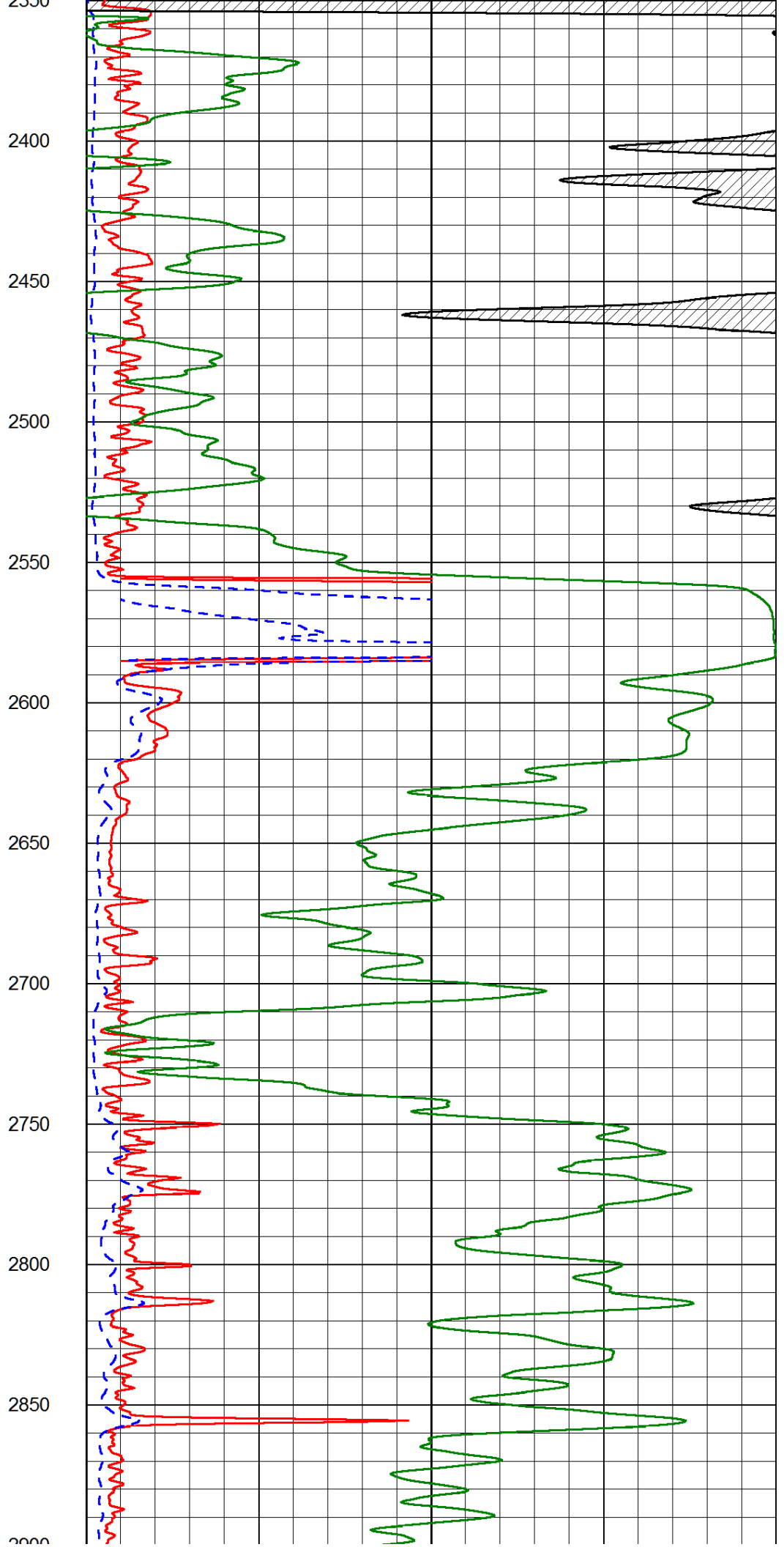
| | | |
|---------------------|--------------------------|-----|
| Shallow Resistivity | | |
| 50 | (Ohm-m) | 500 |
| 50 | Deep Resistivity (Ohm-m) | 500 |

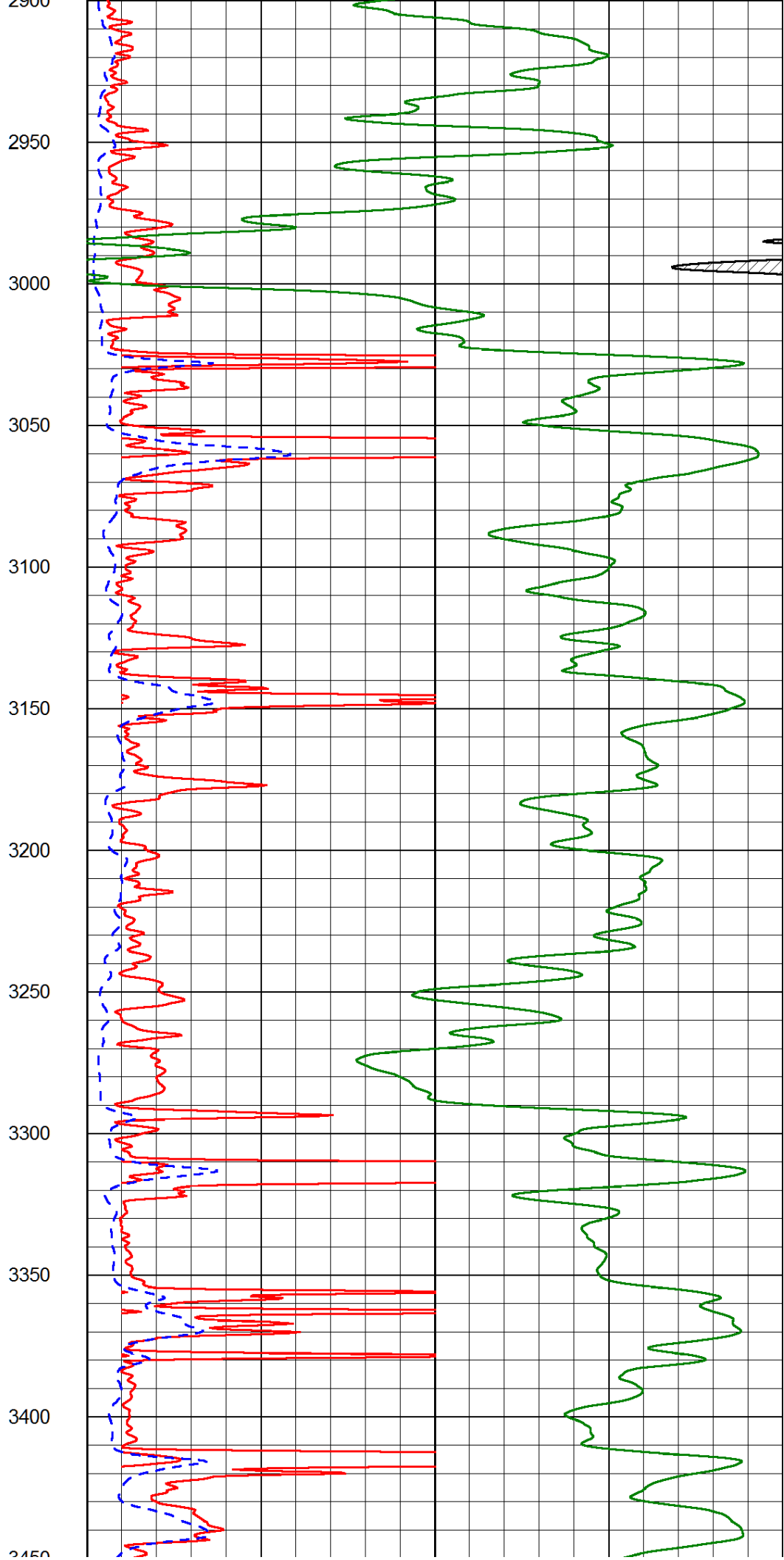
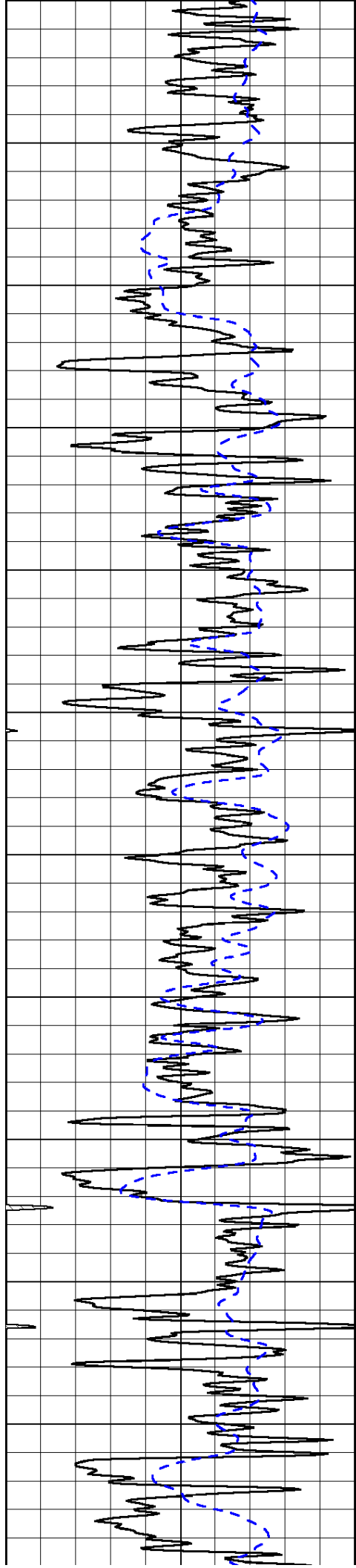


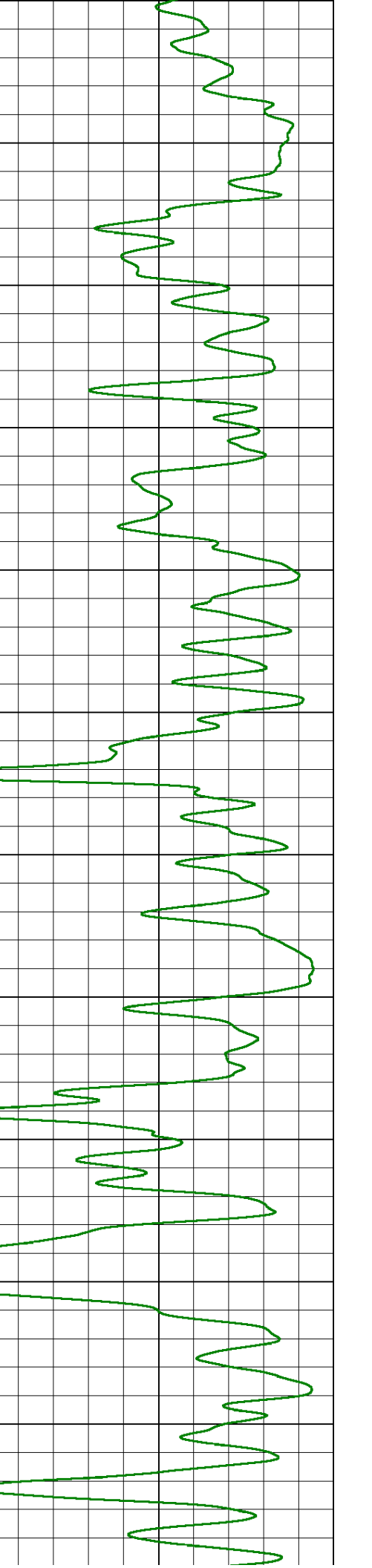
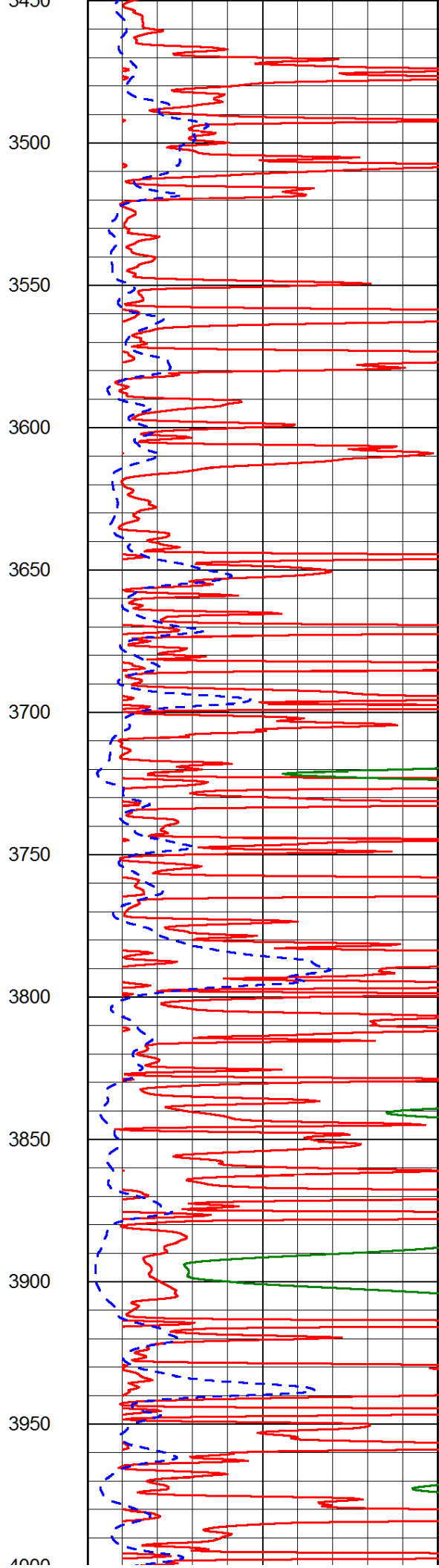
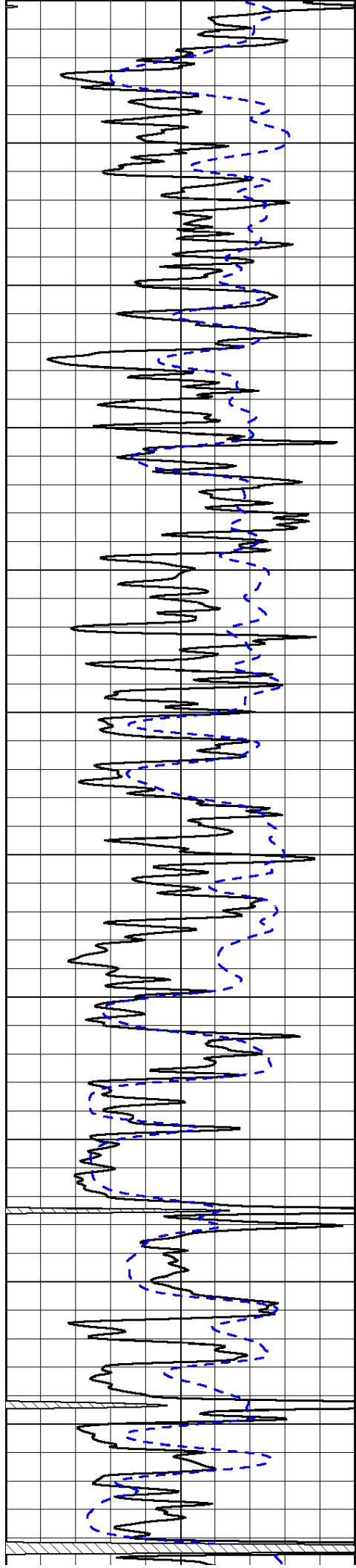


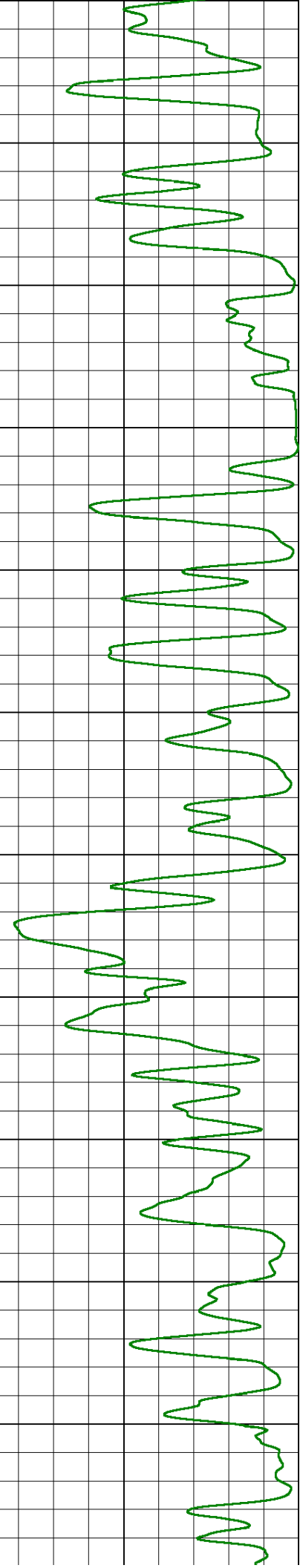
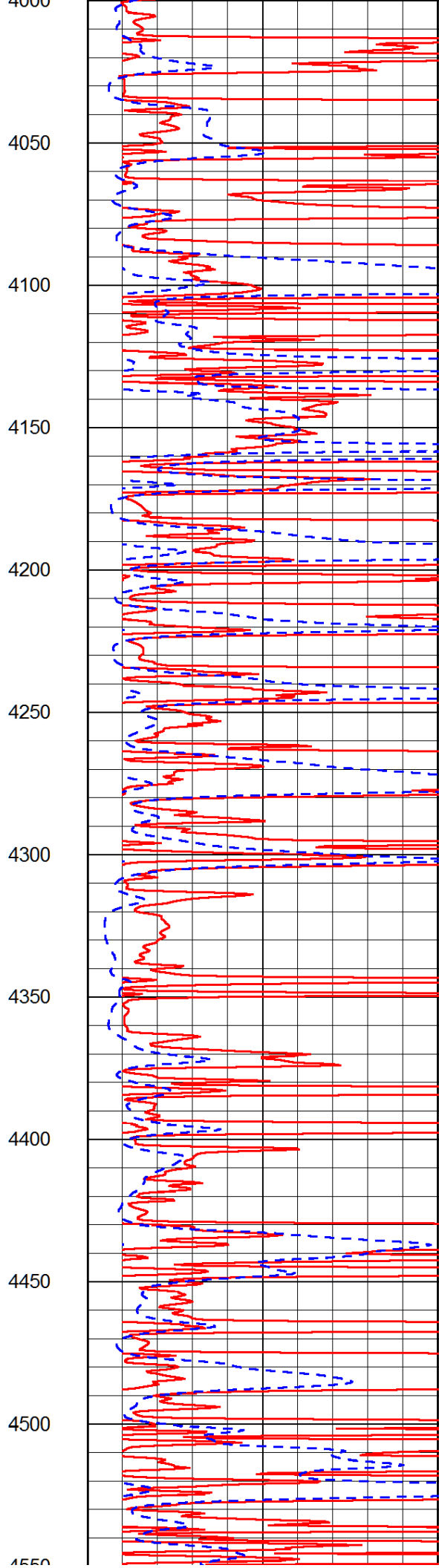
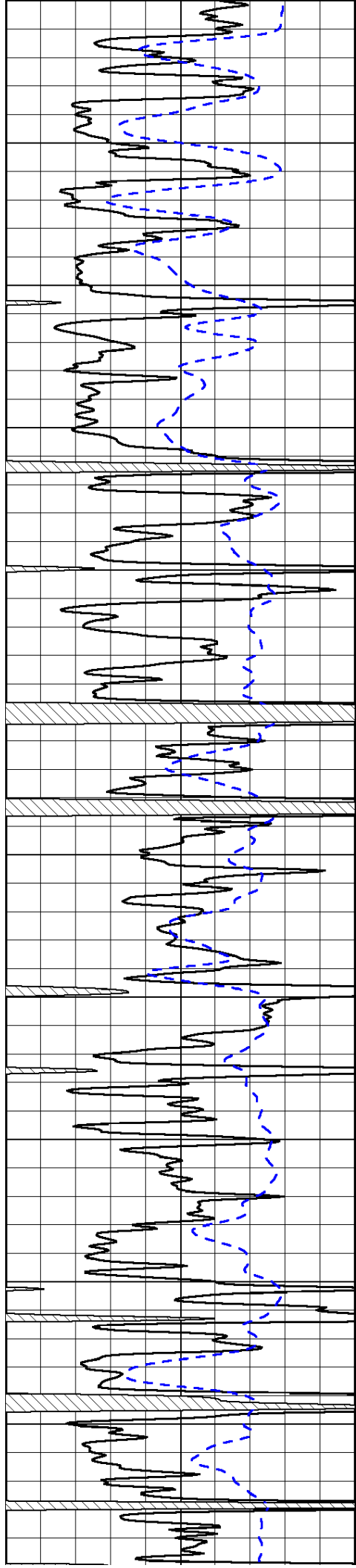


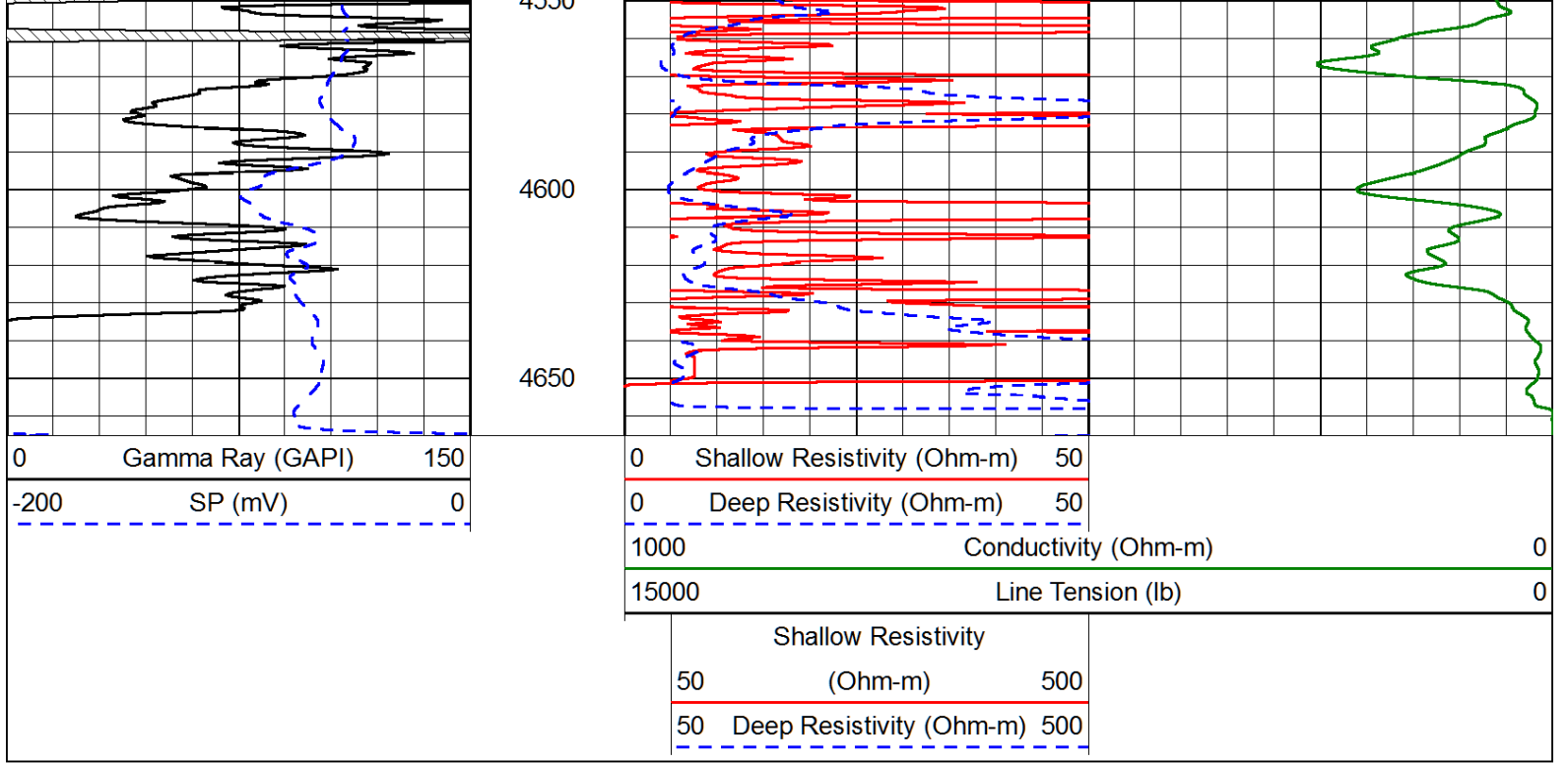




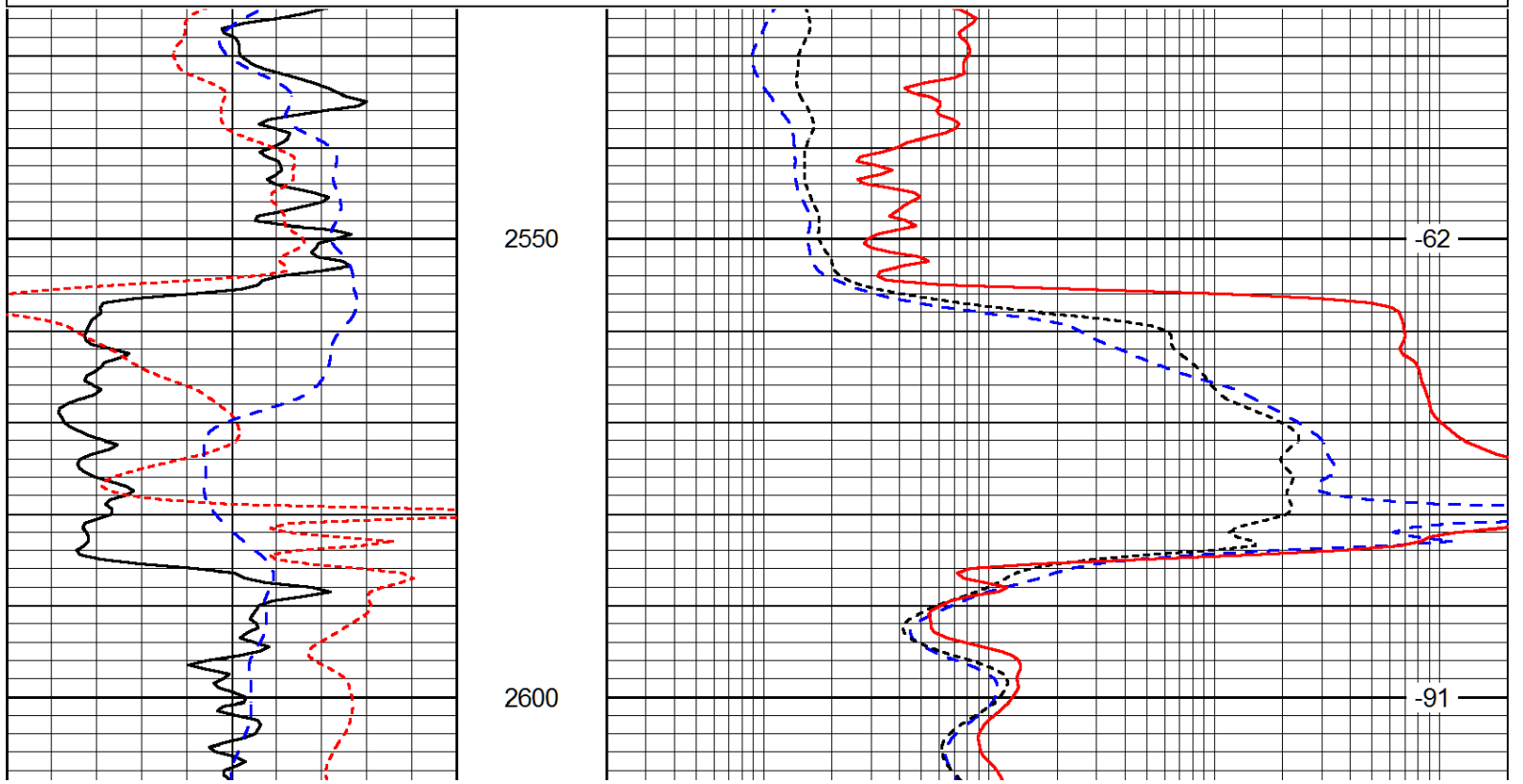
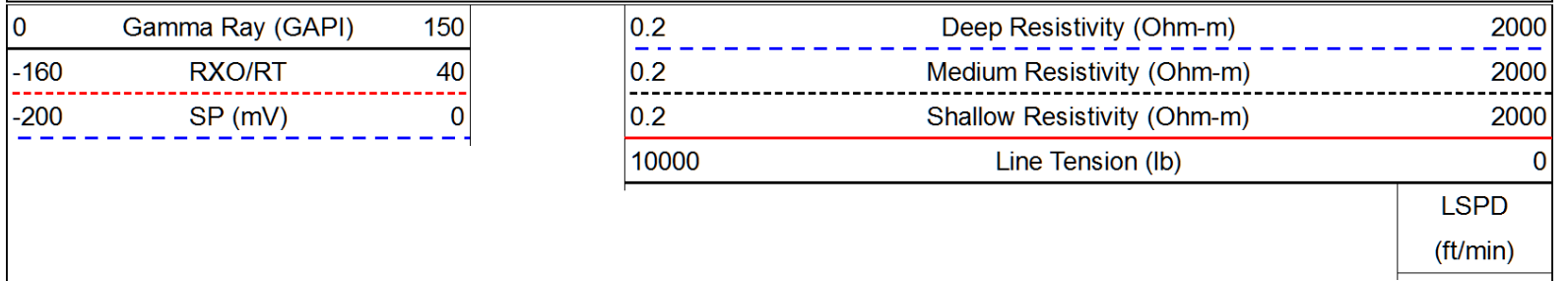


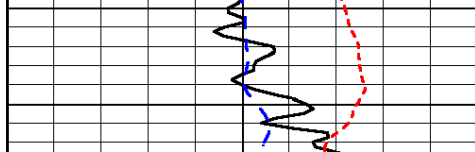




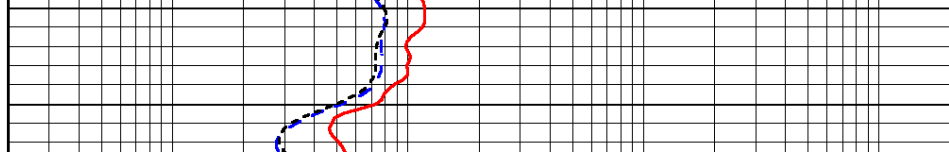


Database File: prater_042114hd.db
 Dataset Pathname: dil/prstack
 Presentation Format: dil
 Dataset Creation: Mon Apr 21 15:49:30 2014
 Charted by: Depth in Feet scaled 1:240





| | | |
|------|------------------|-----|
| 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 |

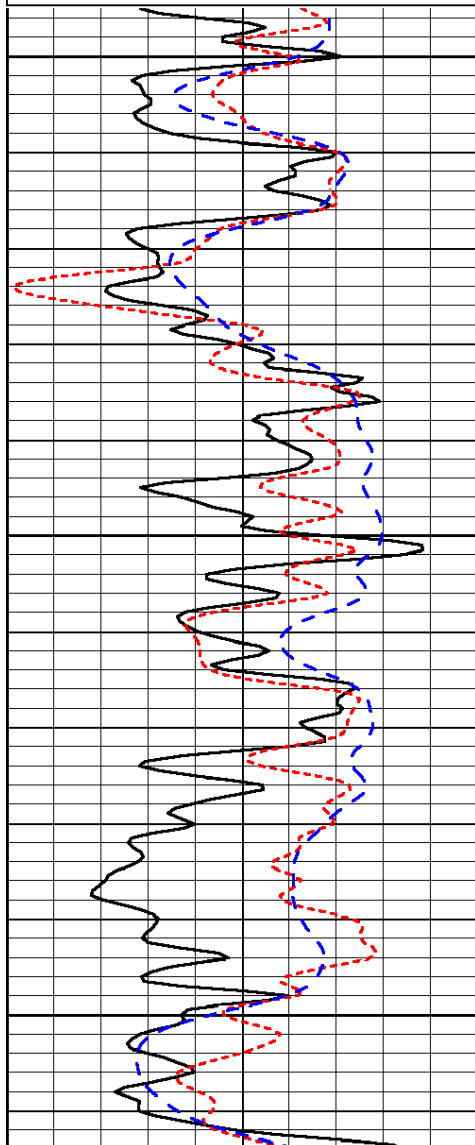
LSPD
(ft/min)

Database File: prater_042114hd.db
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 Dataset Creation: Mon Apr 21 15:49:30 2014
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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 |

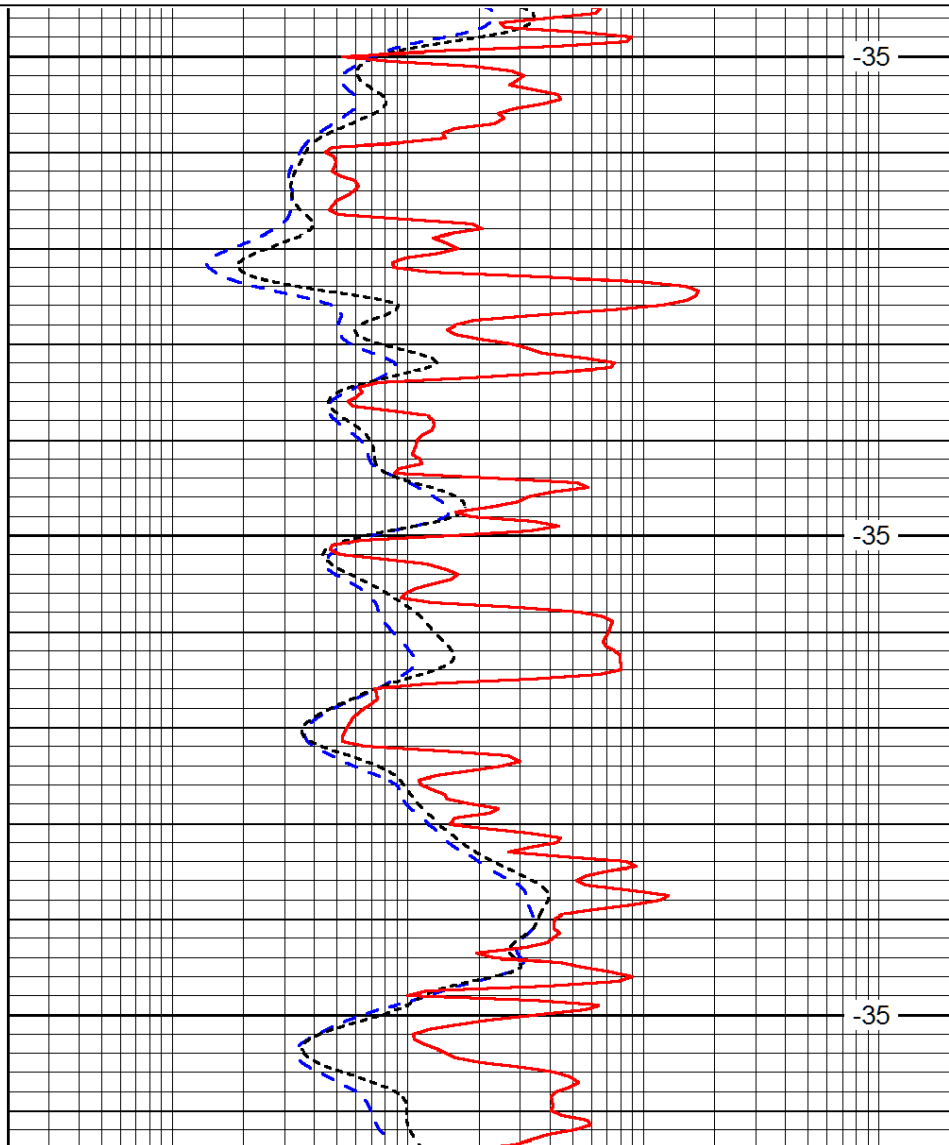
LSPD
(ft/min)



3700

3750

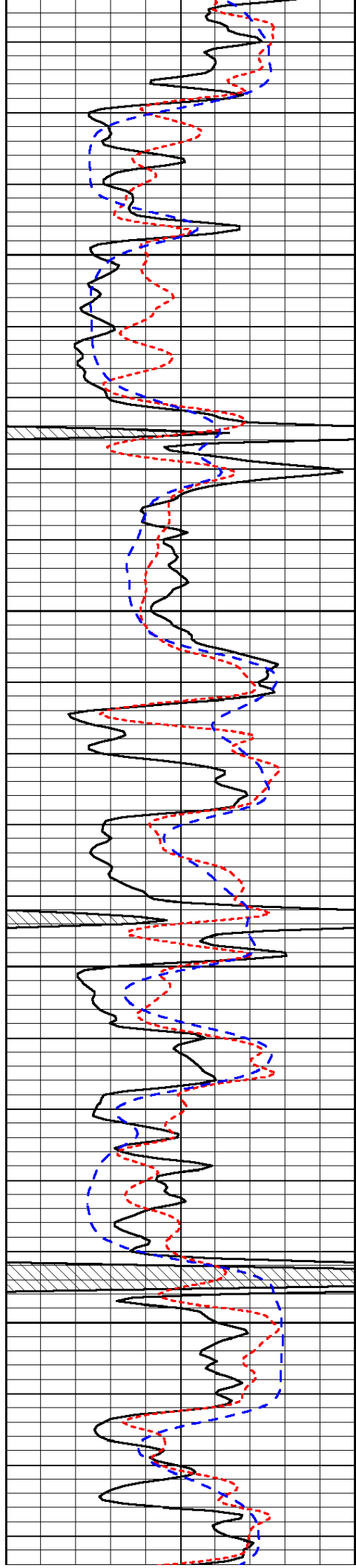
3800



-35

-35

-35

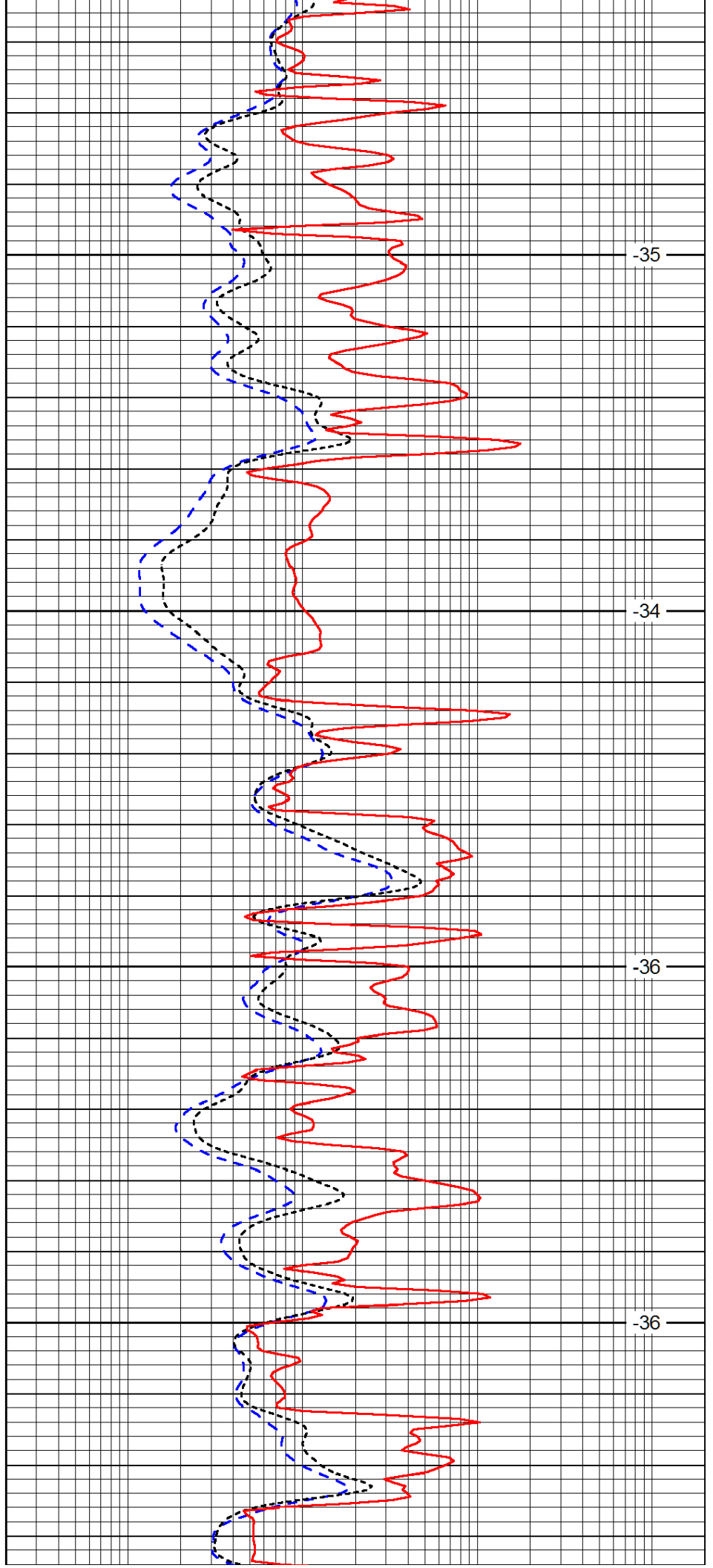


3850

3900

3950

4000

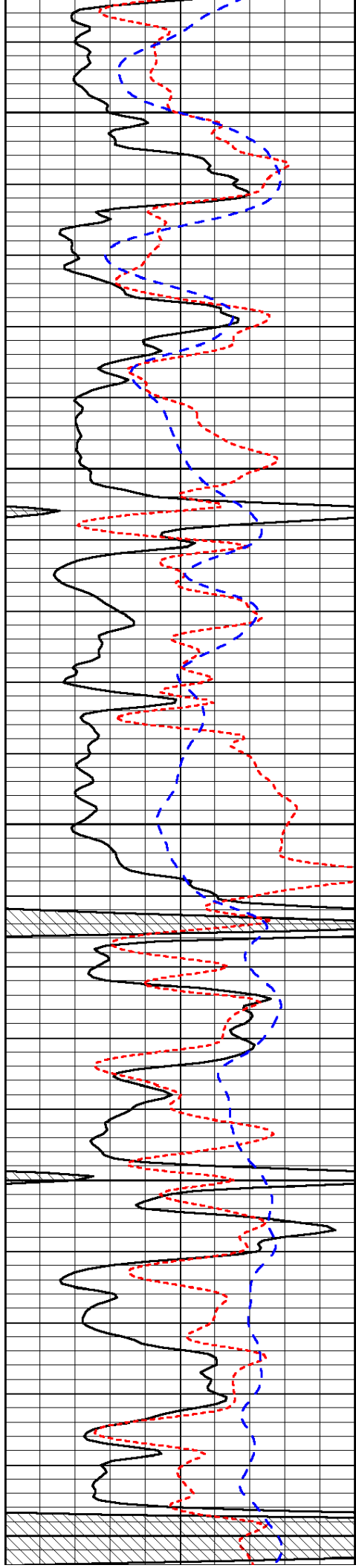


-35

-34

-36

-36



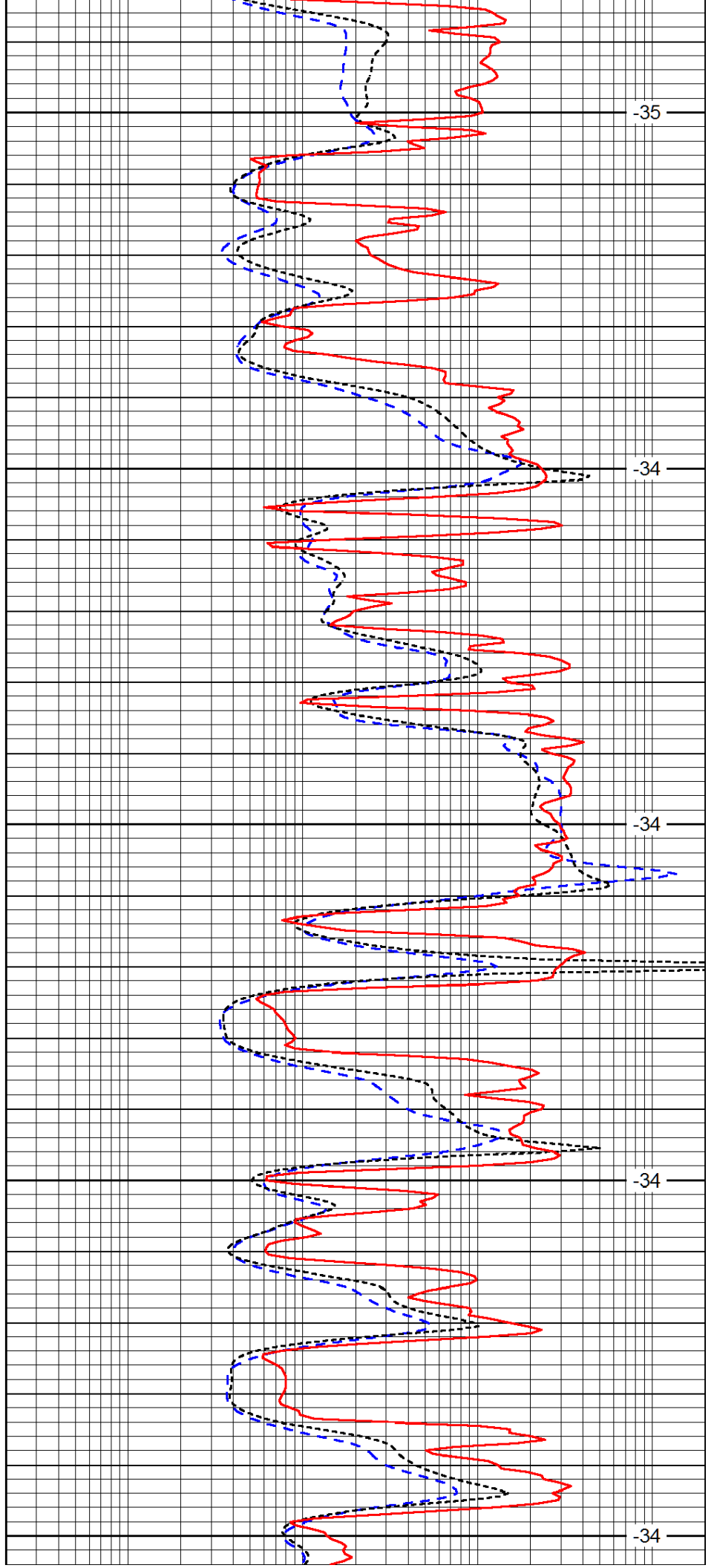
4050

4100

4150

4200

4250



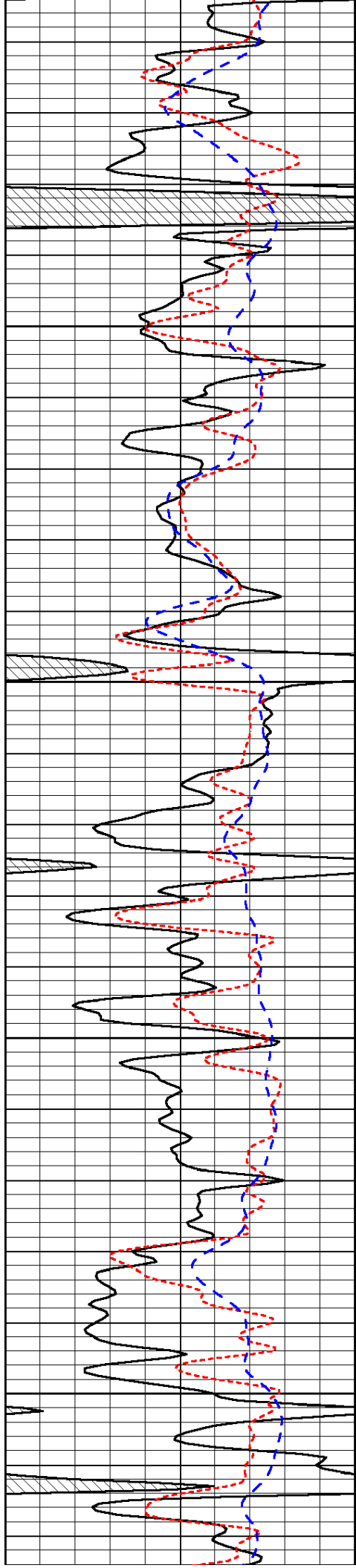
-35

-34

-34

-34

-34

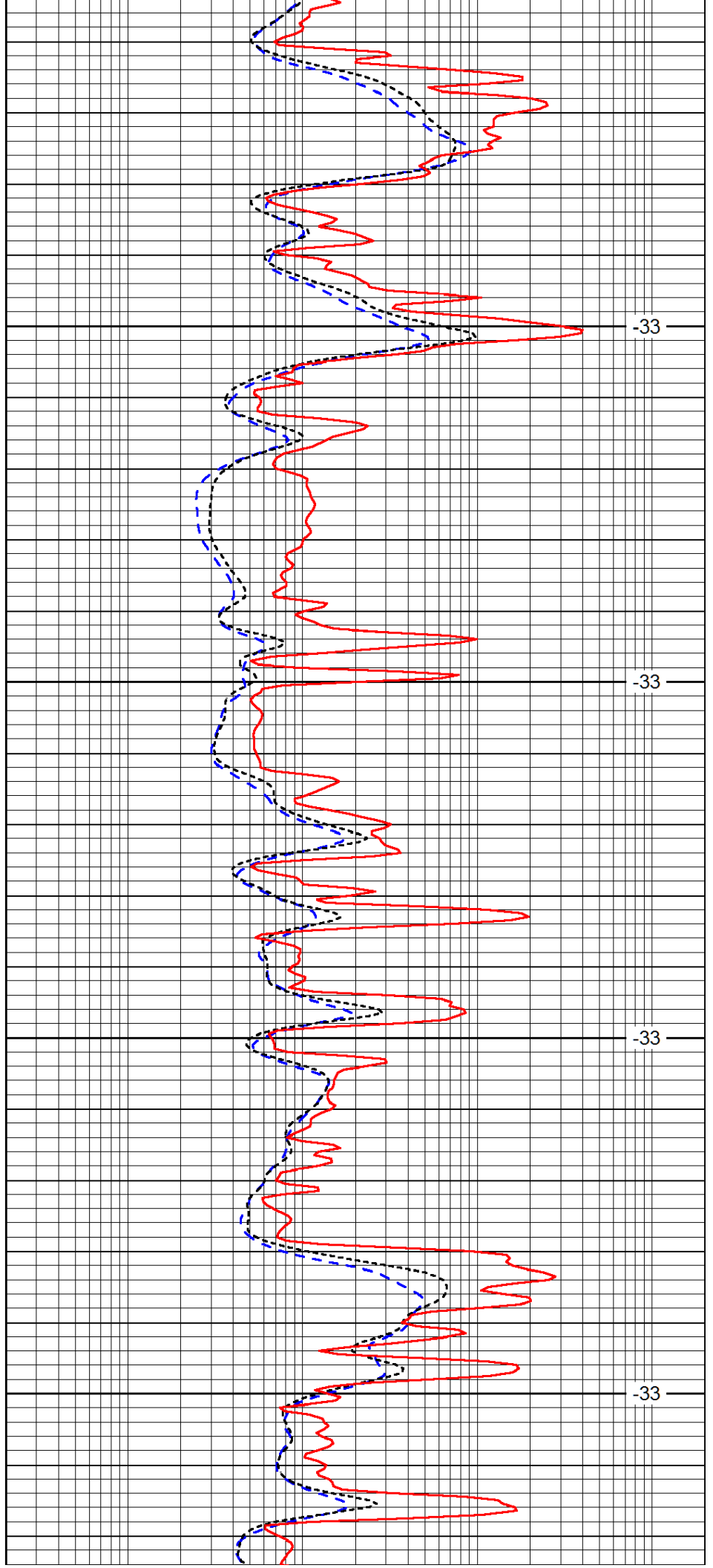


4300

4350

4400

4450

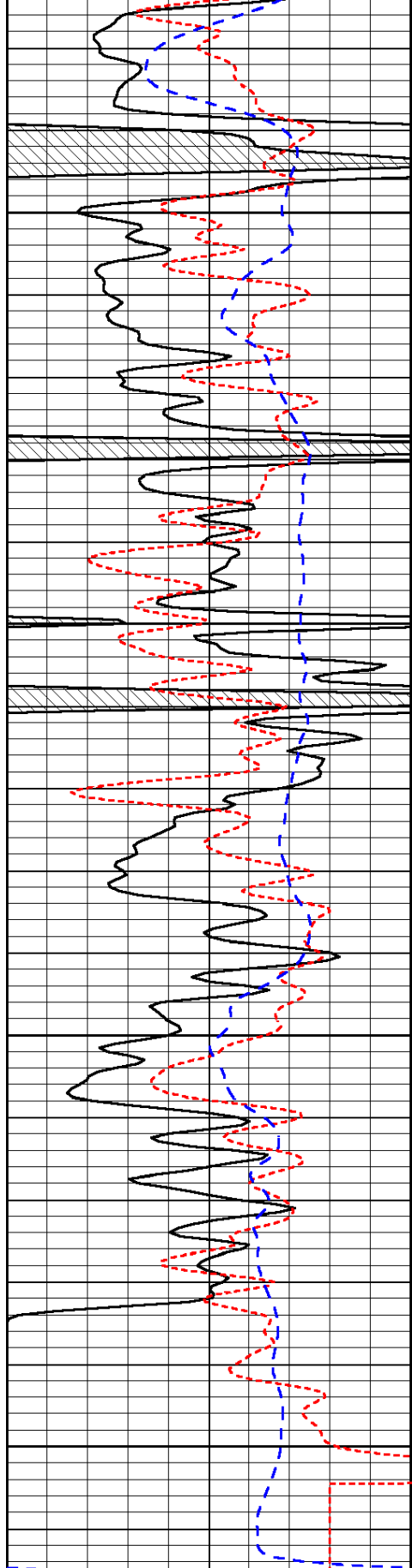


-33

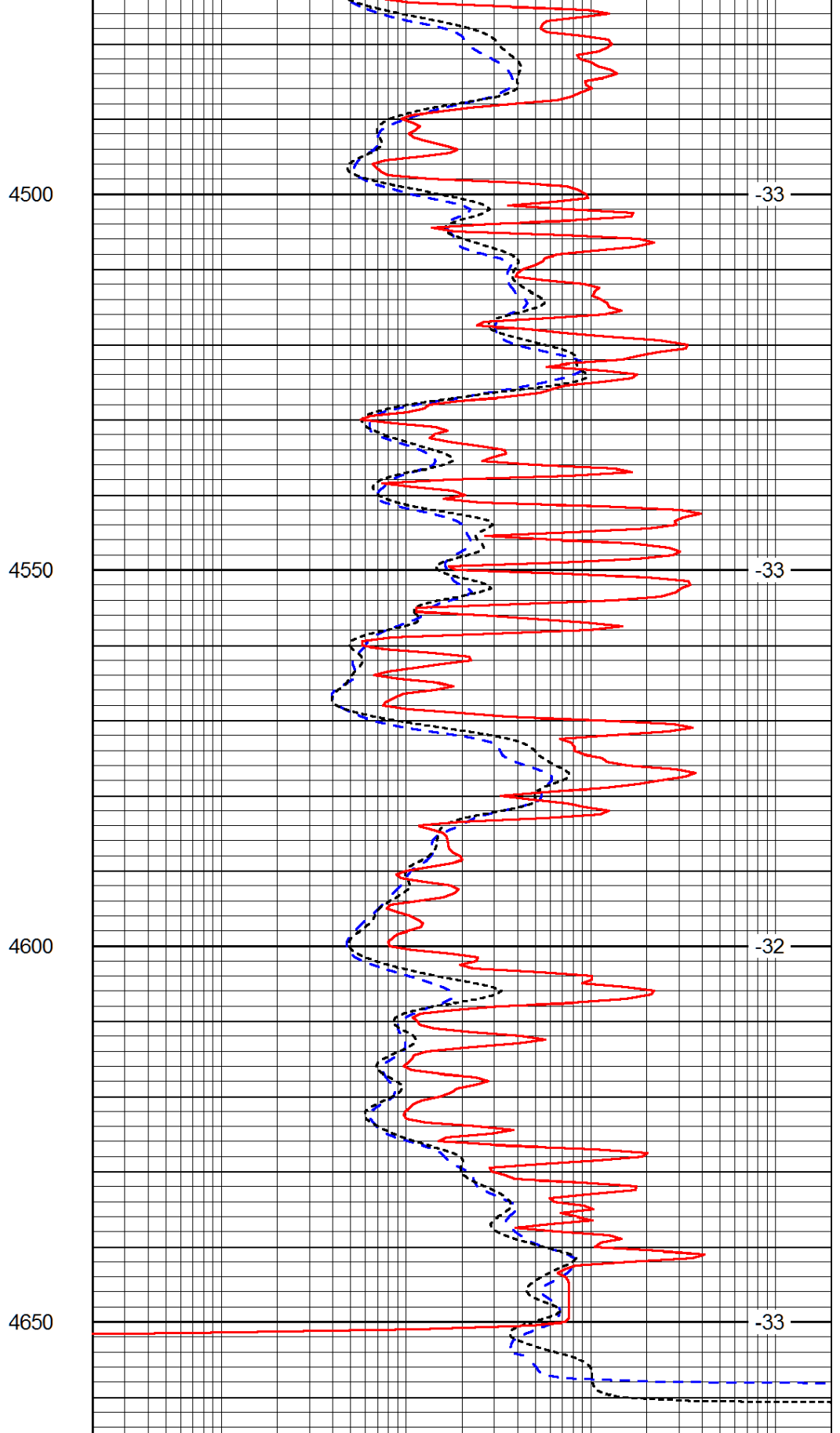
-33

-33

-33



| | | |
|------|------------------|-----|
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| -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)

