



## Dual Induction Log

Pioneer Energy Services

API No.

15-179-20,219-00-02

Company Pioneer Oil Company, Inc.

Well Shaw No.1

Field Freda

County Sheridan State

Kansas

Location 1980' FSL & 1980' FEL

Other Services  
CNL/CDL

Sec: 33 Twp: 8S Rge: 28W

Permanent Datum Ground Level Elevation 2716  
Log Measured From Kelly Bushing 5 Ft. Above Perm. Datum

Drilling Measured From Kelly Bushing

Elevation  
K.B. 2721  
D.F. 2716  
G.L. 2716

Date 12/13/2012

Run Number One

Depth Driller 4100

Depth Logger 4066

Bottom Logged Interval 4065

Top Log Interval 200

Casing Driller 8.625 @ 208

Casing Logger 207

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity,ppm CL 17,100

Density / Viscosity 8.7 48

pH / Fluid Loss 9.5 22

Source of Sample Flowline

Rm @ Meas. Temp .56 @ 58

Rmf @ Meas. Temp .42 @ 58

Rmc @ Meas. Temp .76 @ 58

Source of Rmf / Rmc Charts

Rm @ BHT .26 @ 117

Operating Rig Time 5 Hours

Max Rec. Temp. F 117

Equipment Number 15

Location Hays

Recorded By D.Kerr

Witnessed By Rick Popp

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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.

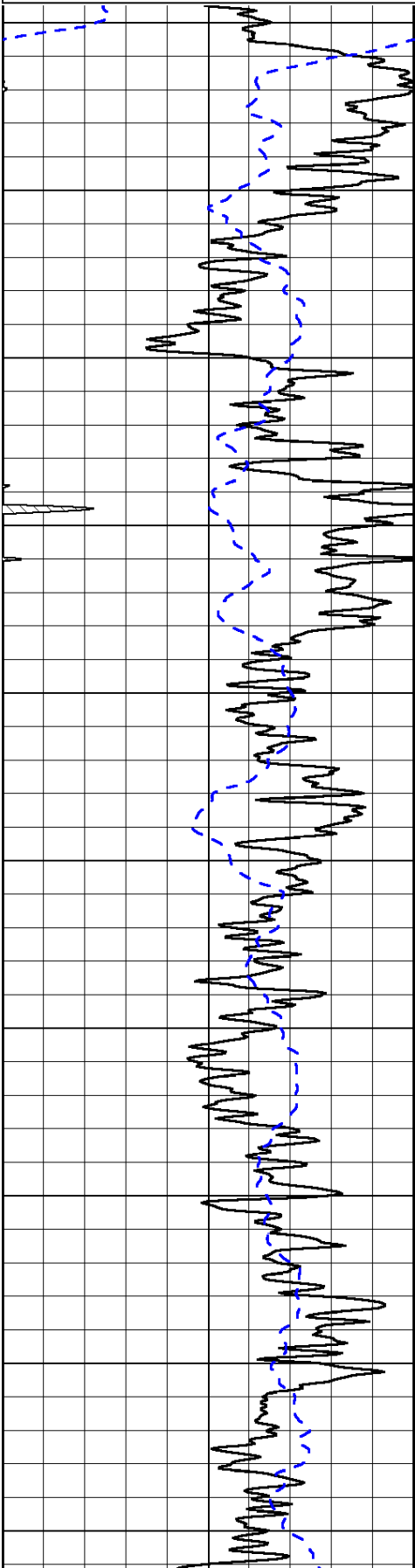
### Comments

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

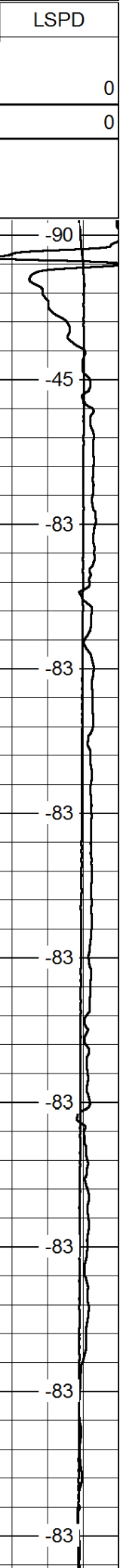
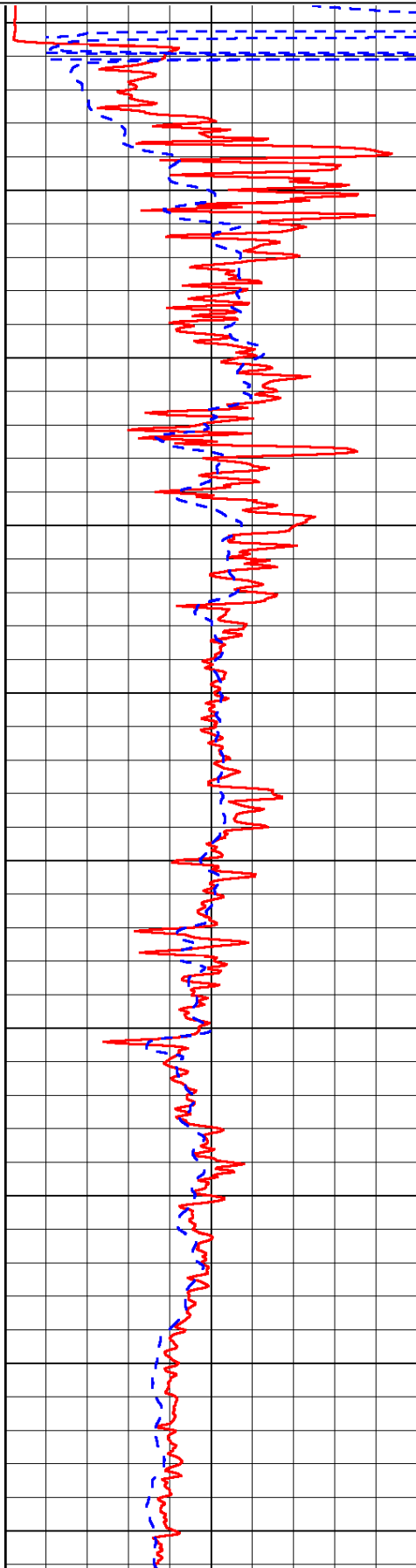
Hoxie KS, 3 South to 40 RD,  
1/10 West, North Into

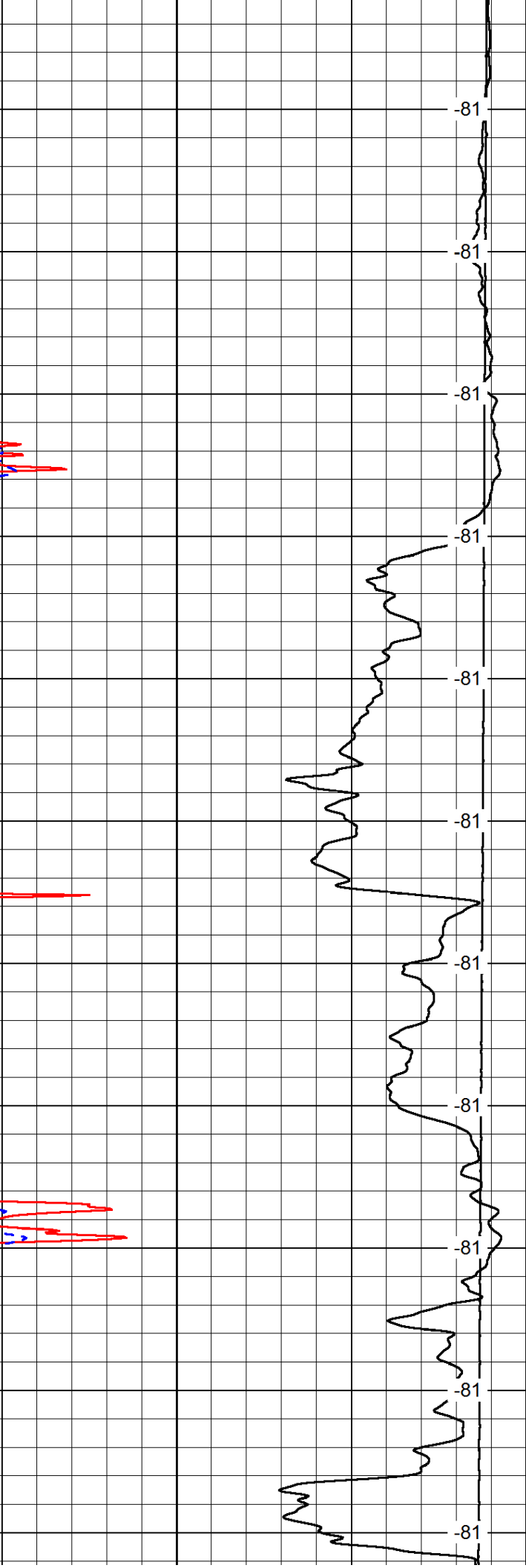
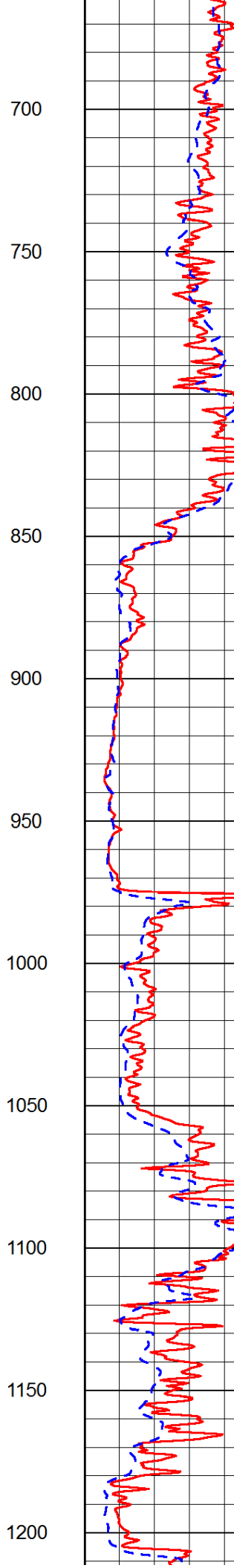
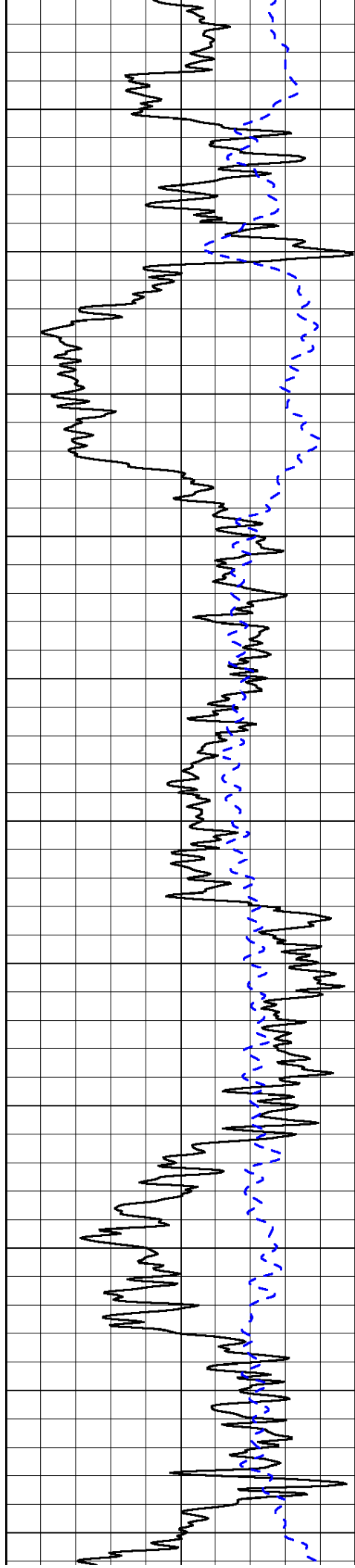
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Dataset Creation: Thu Dec 13 19:59:51 2012  
Charted by: Depth in Feet scaled 1:600

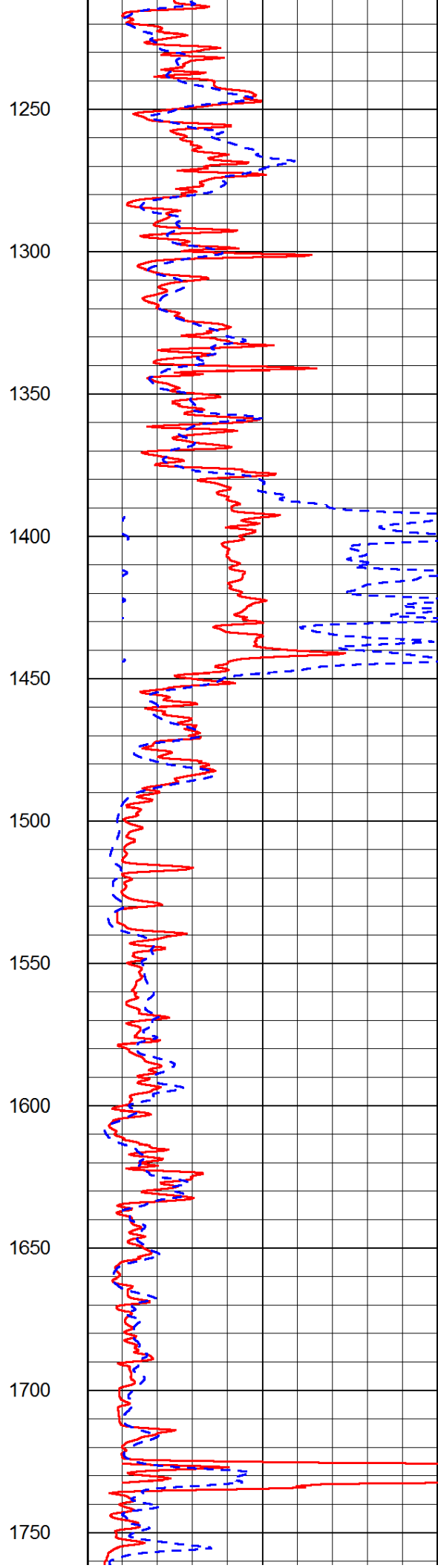
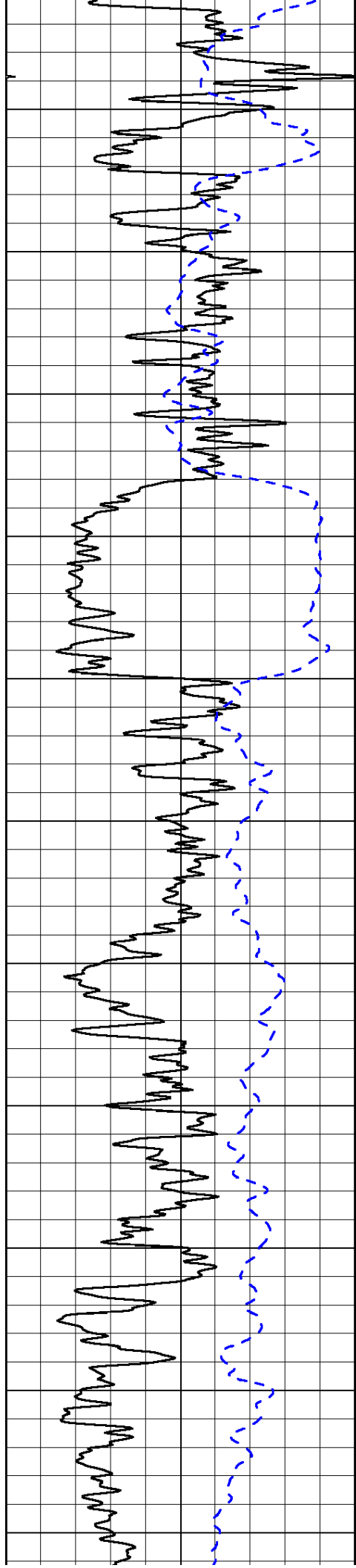
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|------|-----------|-----|
| 0    | Gamma Ray | 150 |
| -200 | SP (mV)   | 0   |

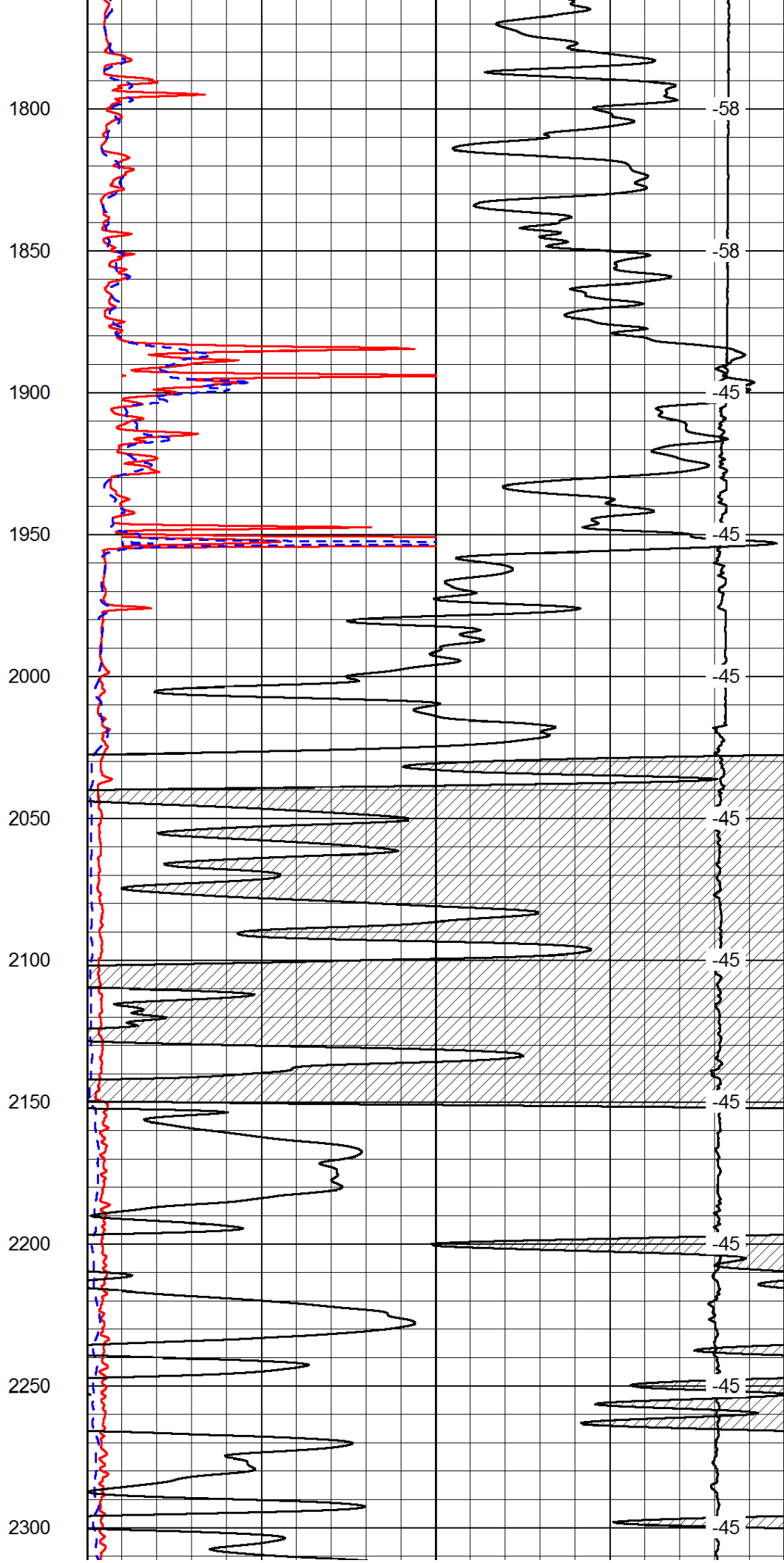
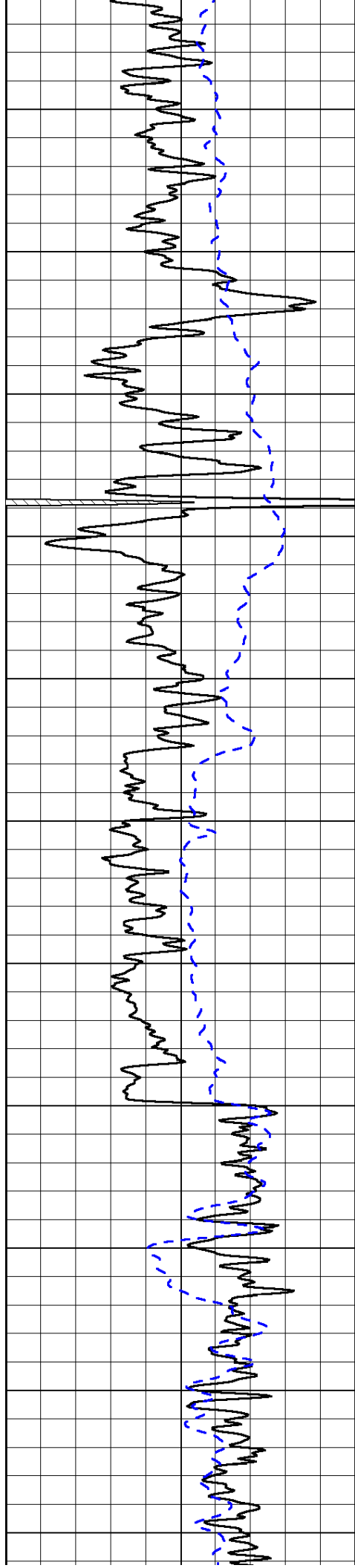


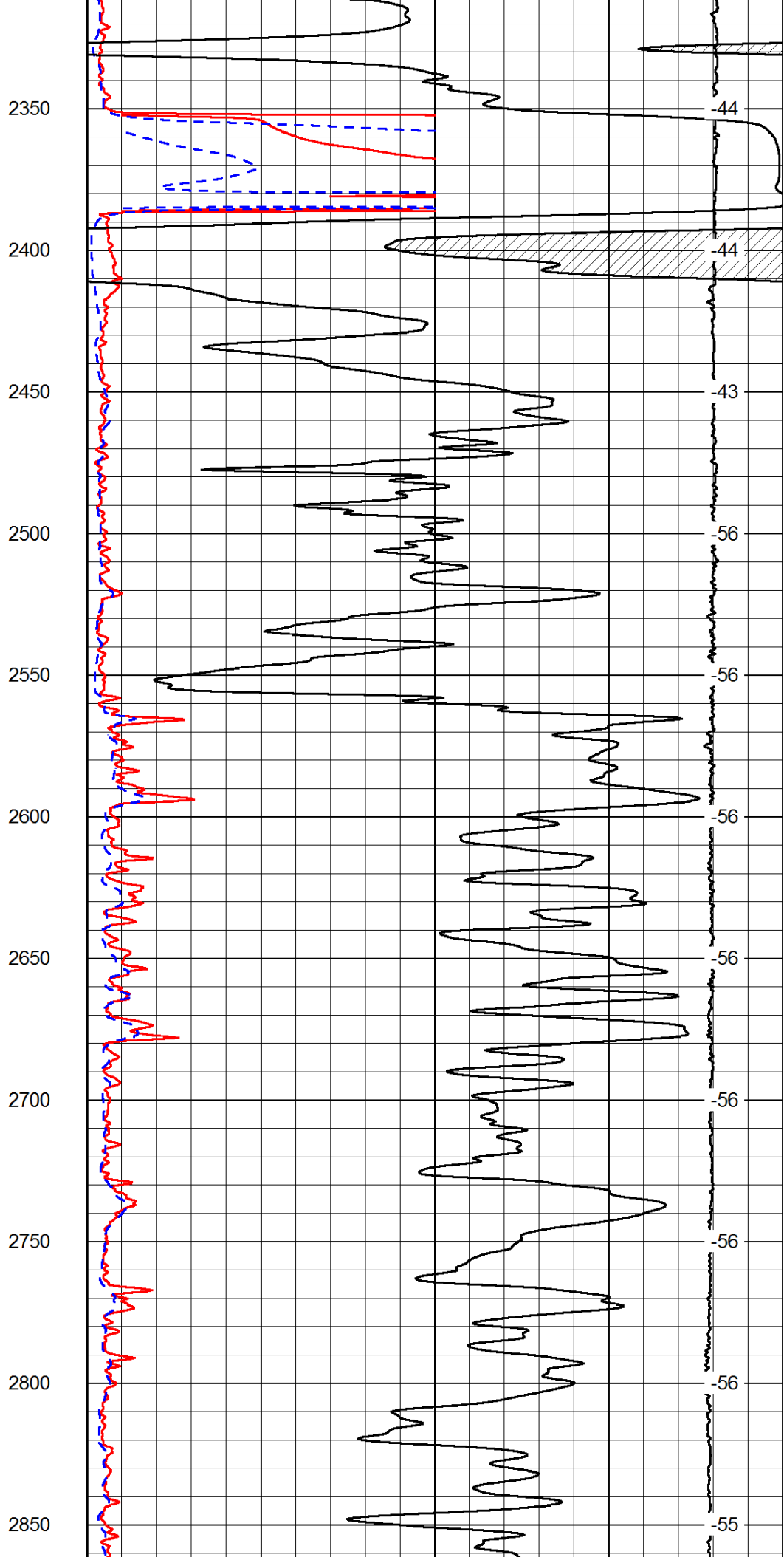
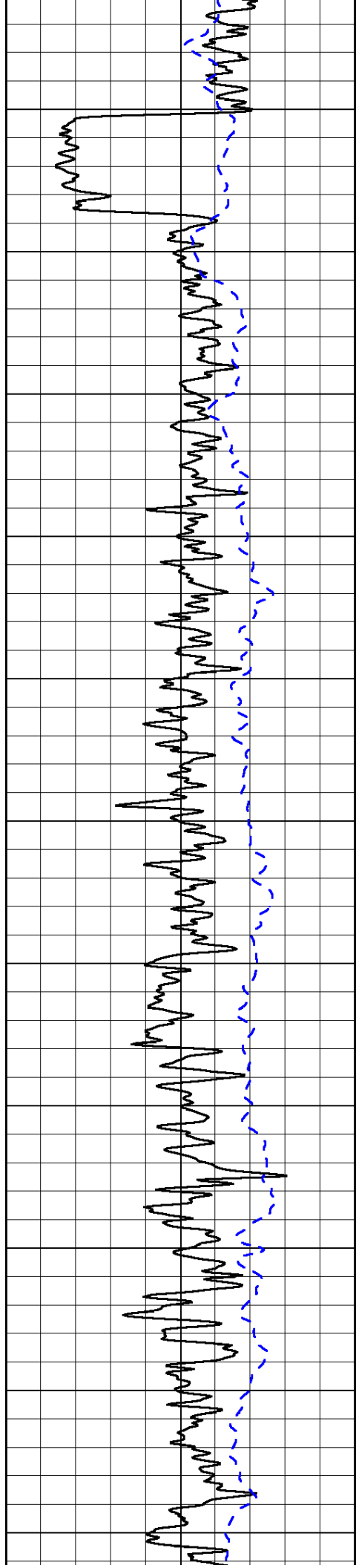
|       |                     |     |
|-------|---------------------|-----|
| 0     | Shallow Resistivity | 50  |
| 0     | Deep Resistivity    | 50  |
| 1000  | Conductivity        | 0   |
| 15000 | Line Tension        | 0   |
| 50    | Shallow Resistivity | 500 |
| 50    | Deep Resistivity    | 500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

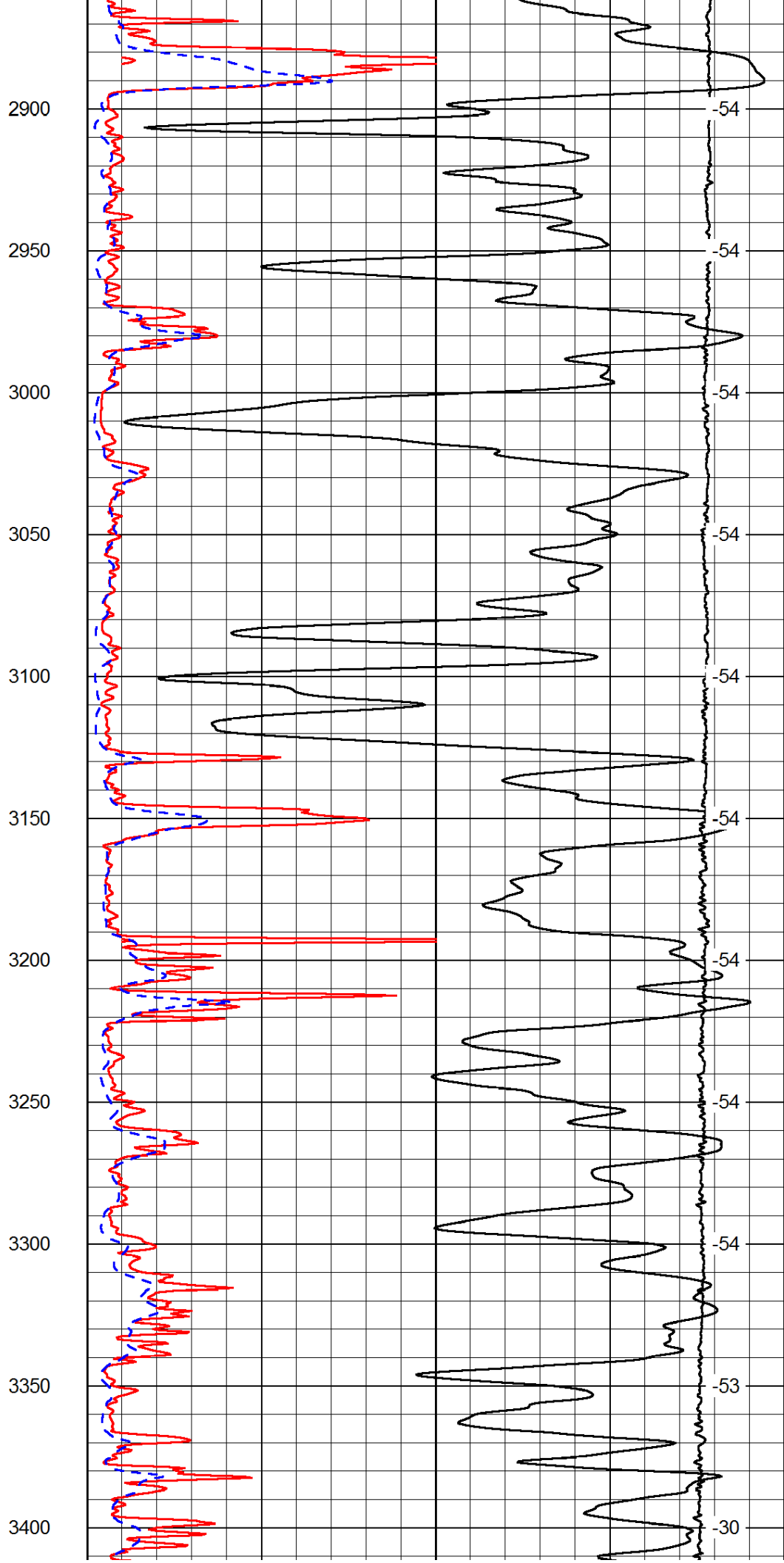
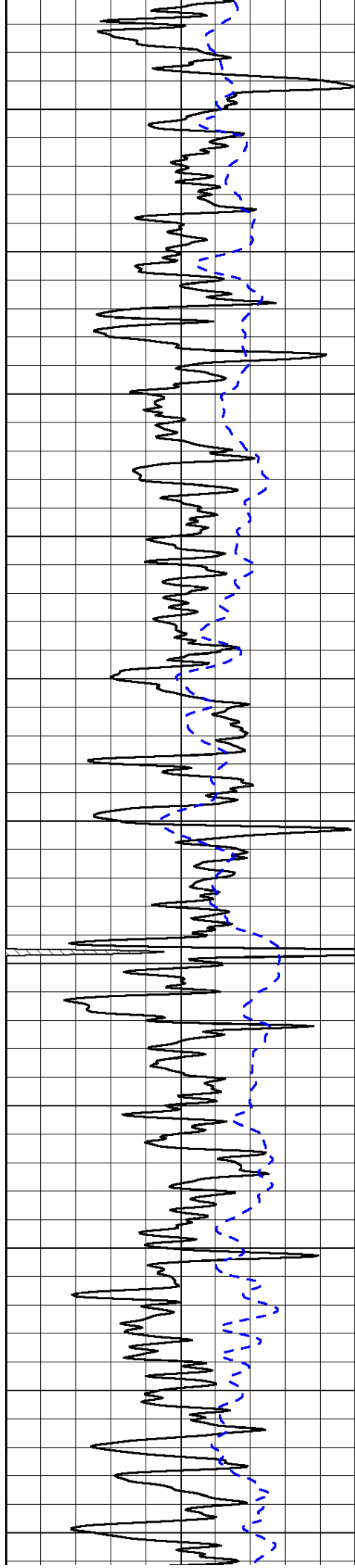


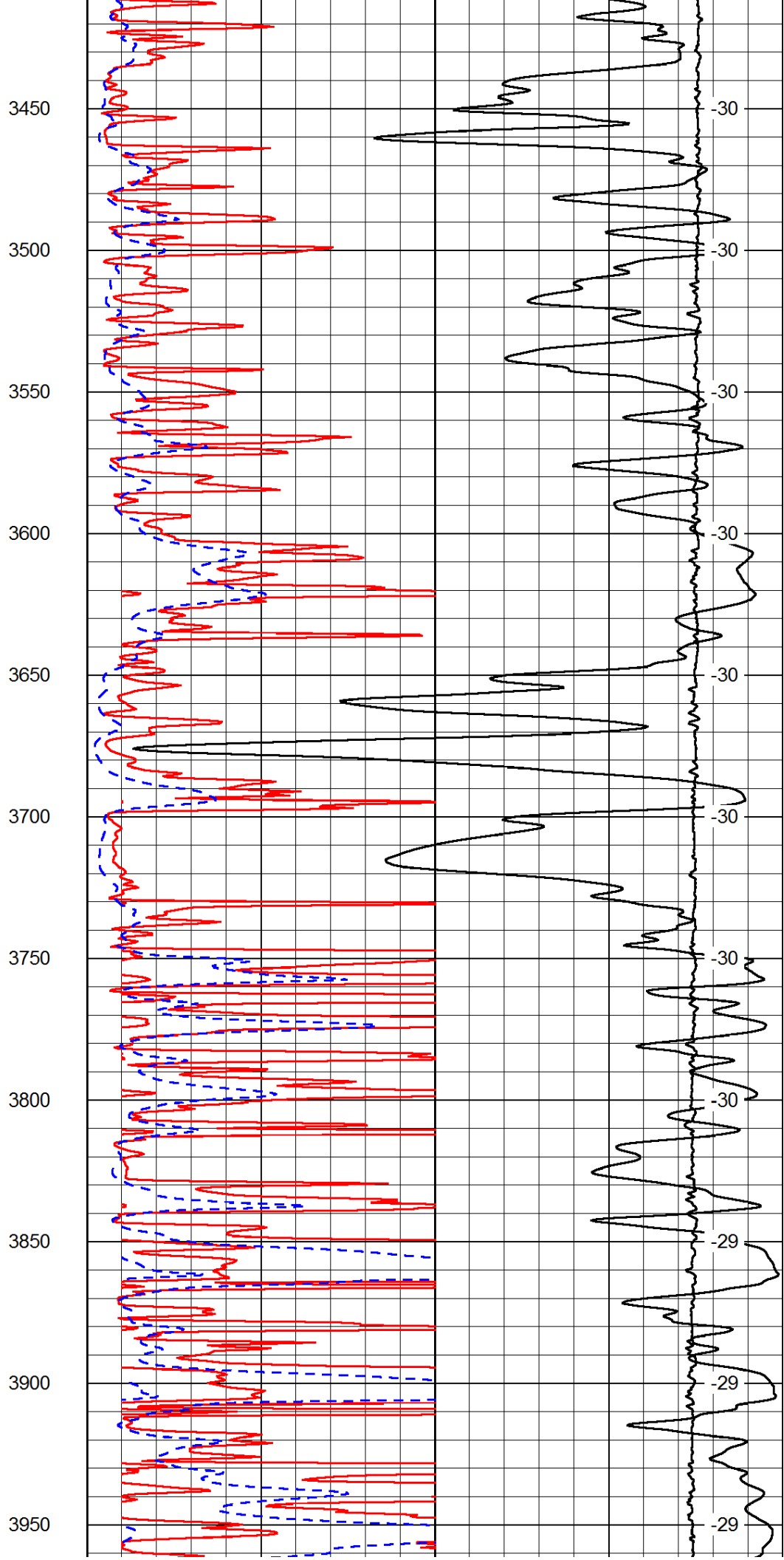
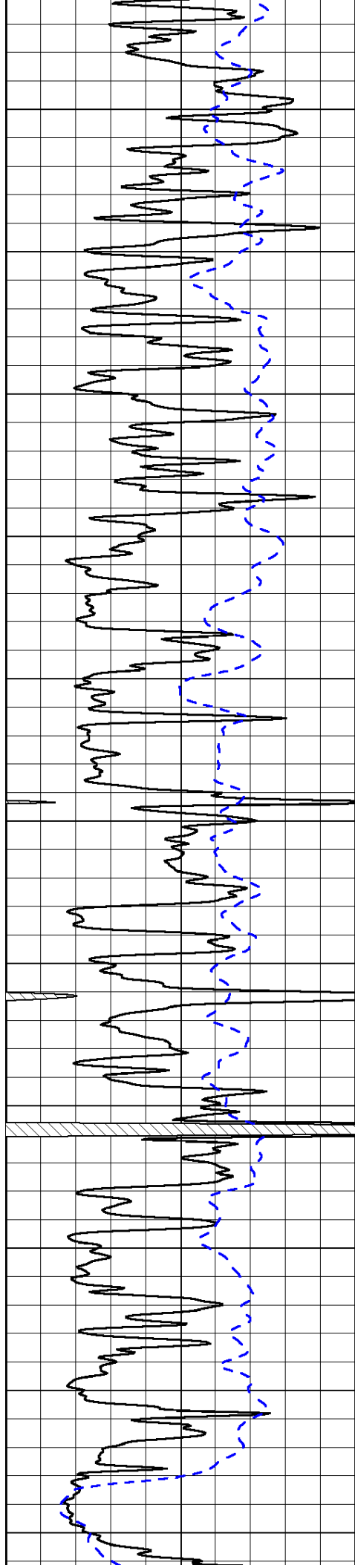


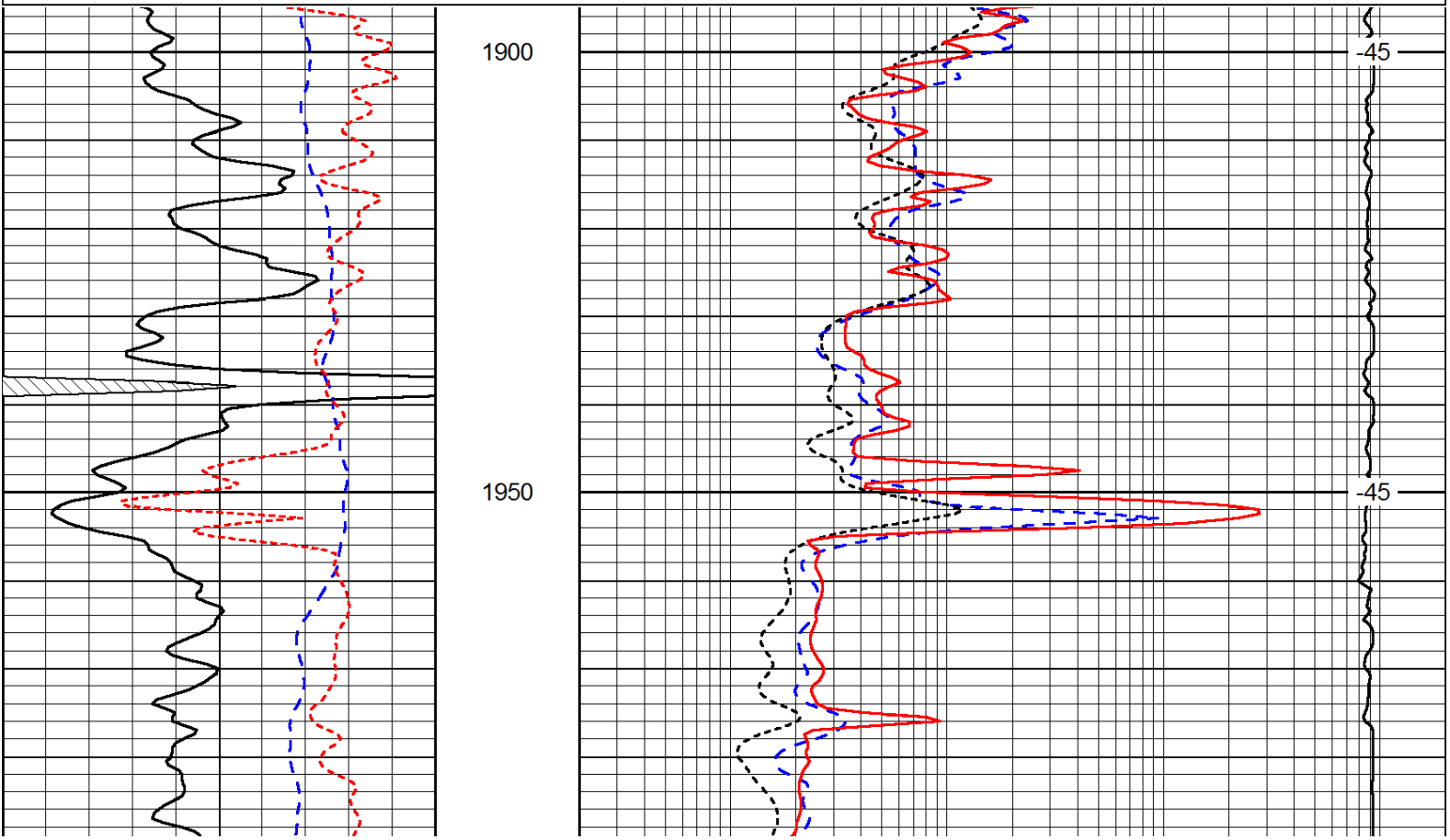
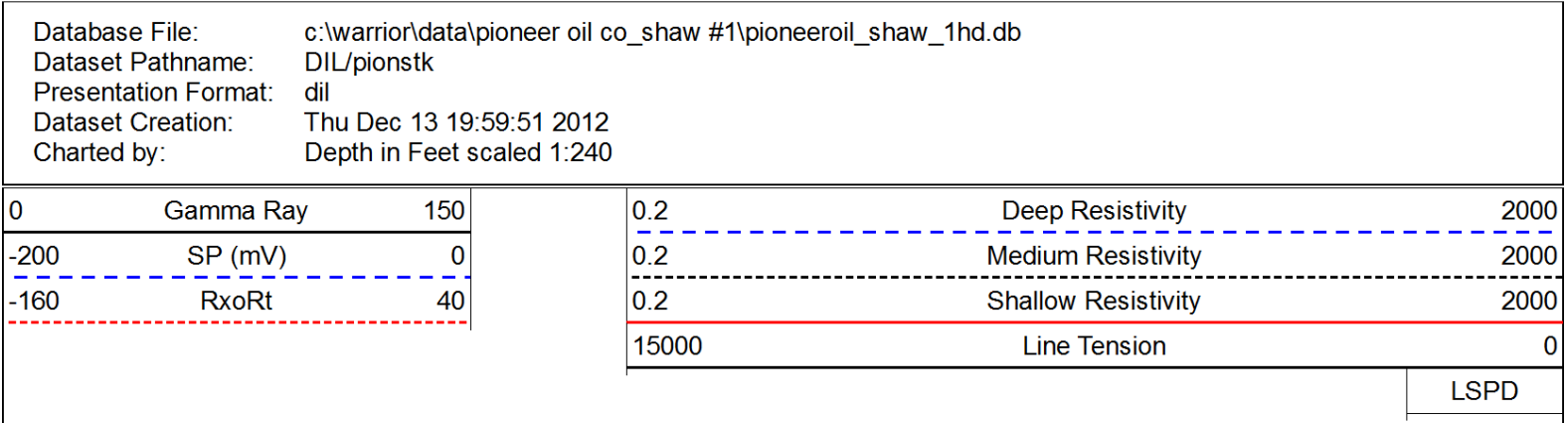
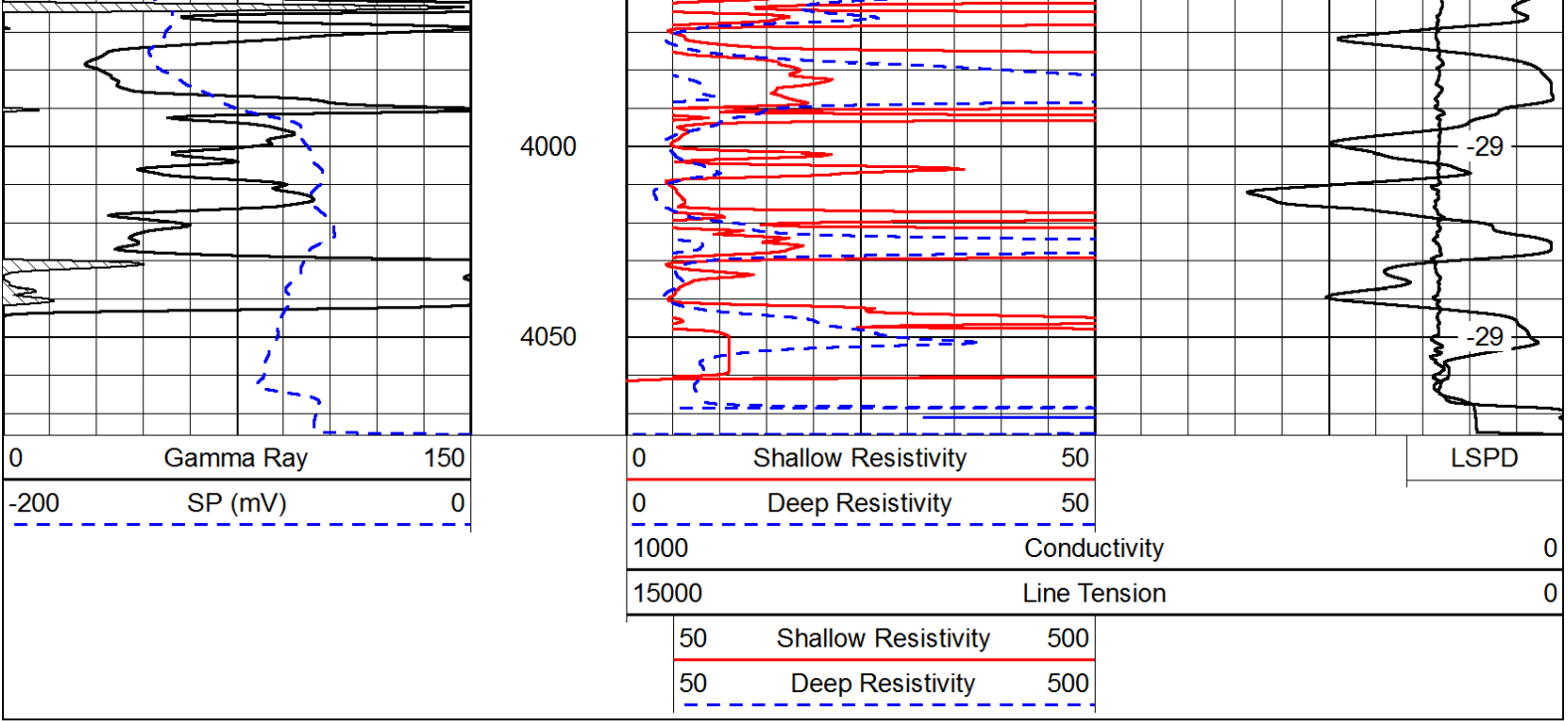


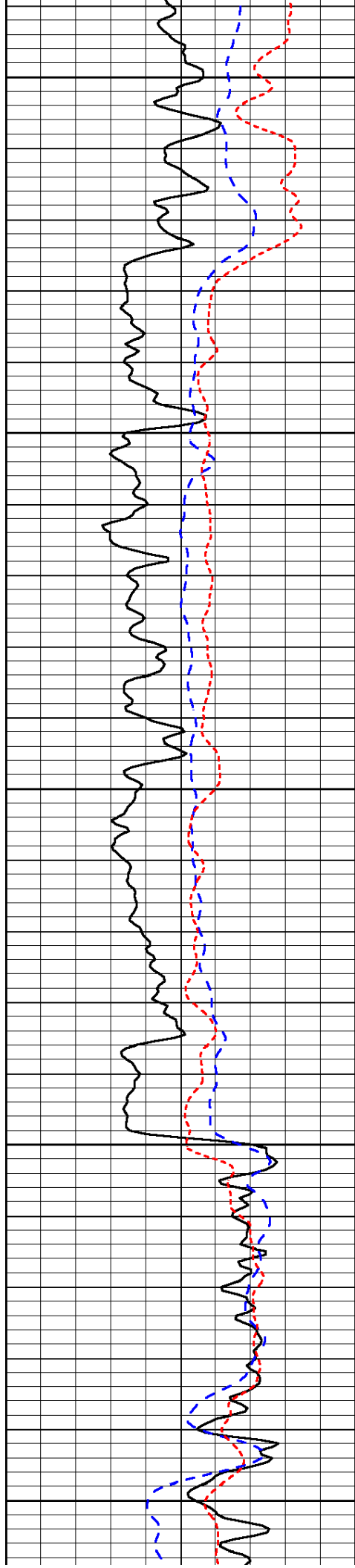












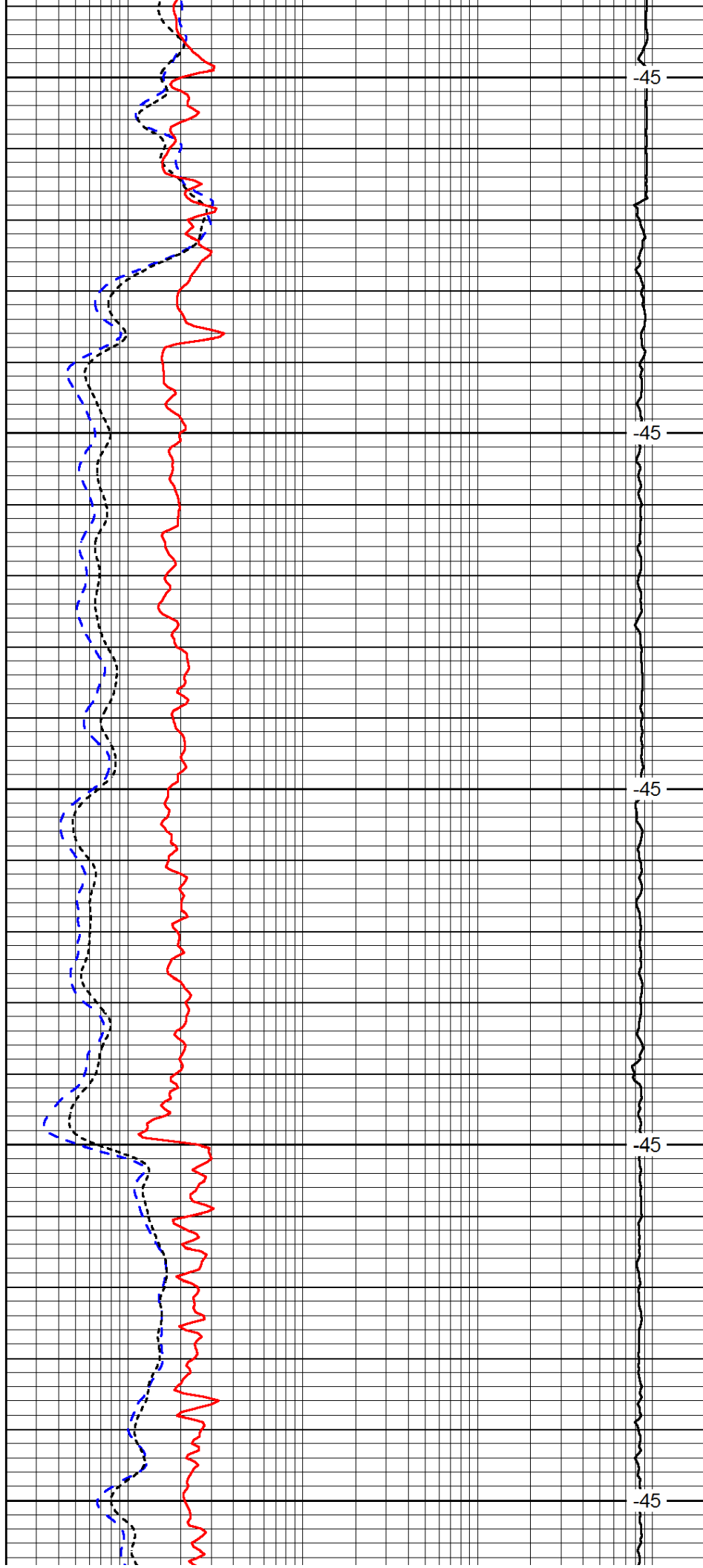
2000

2050

2100

2150

2200



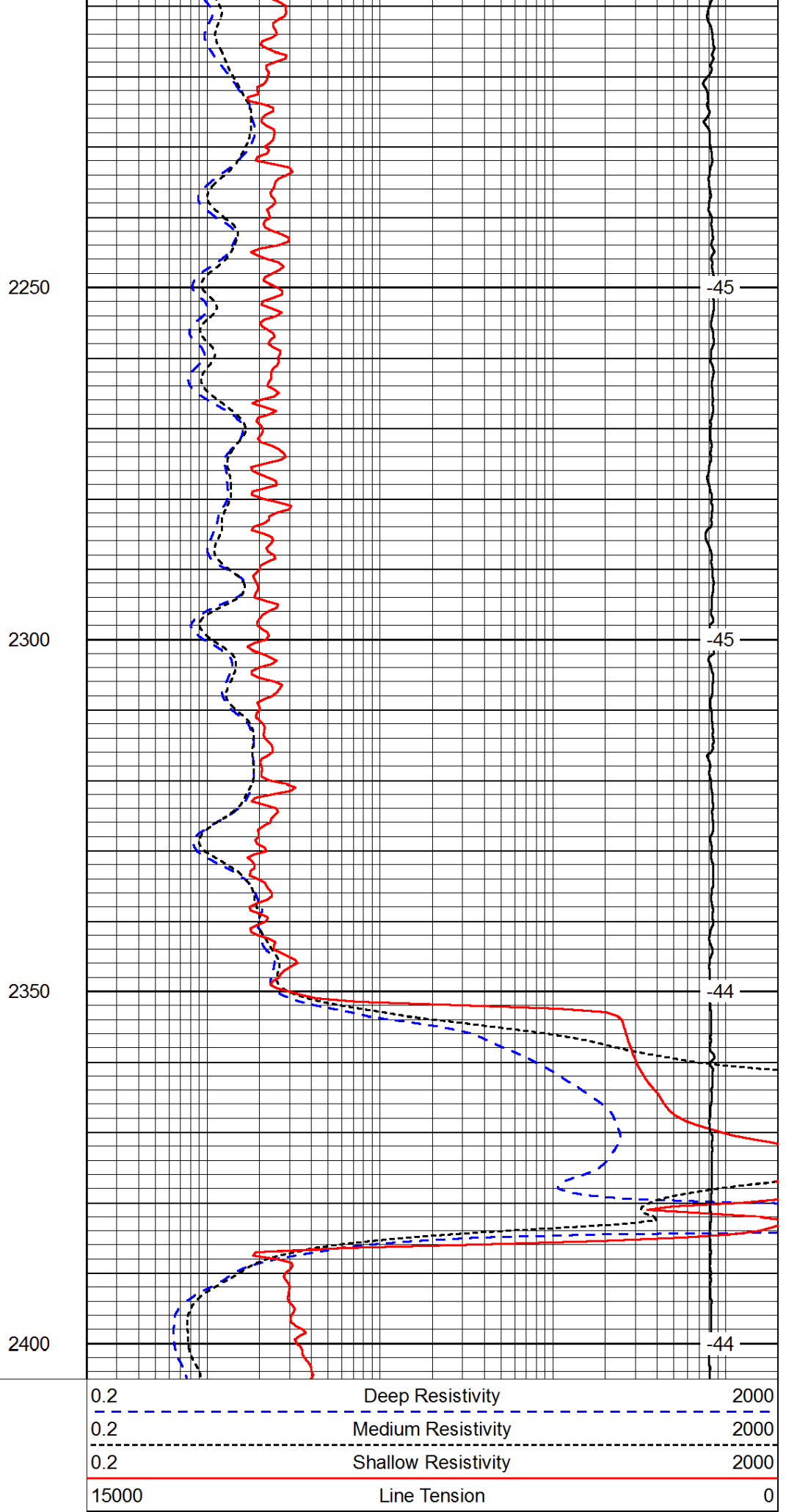
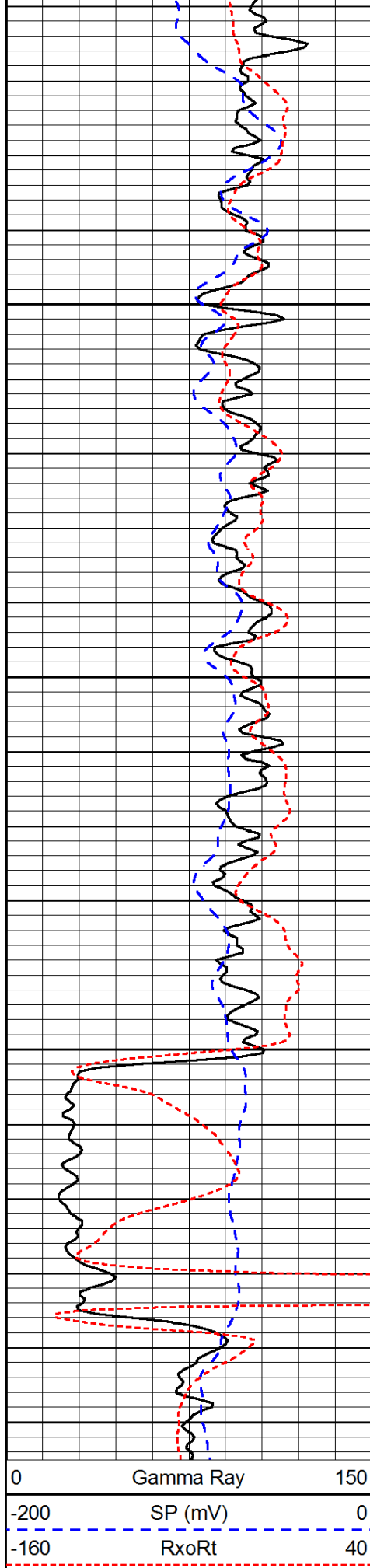
-45

-45

-45

-45

-45

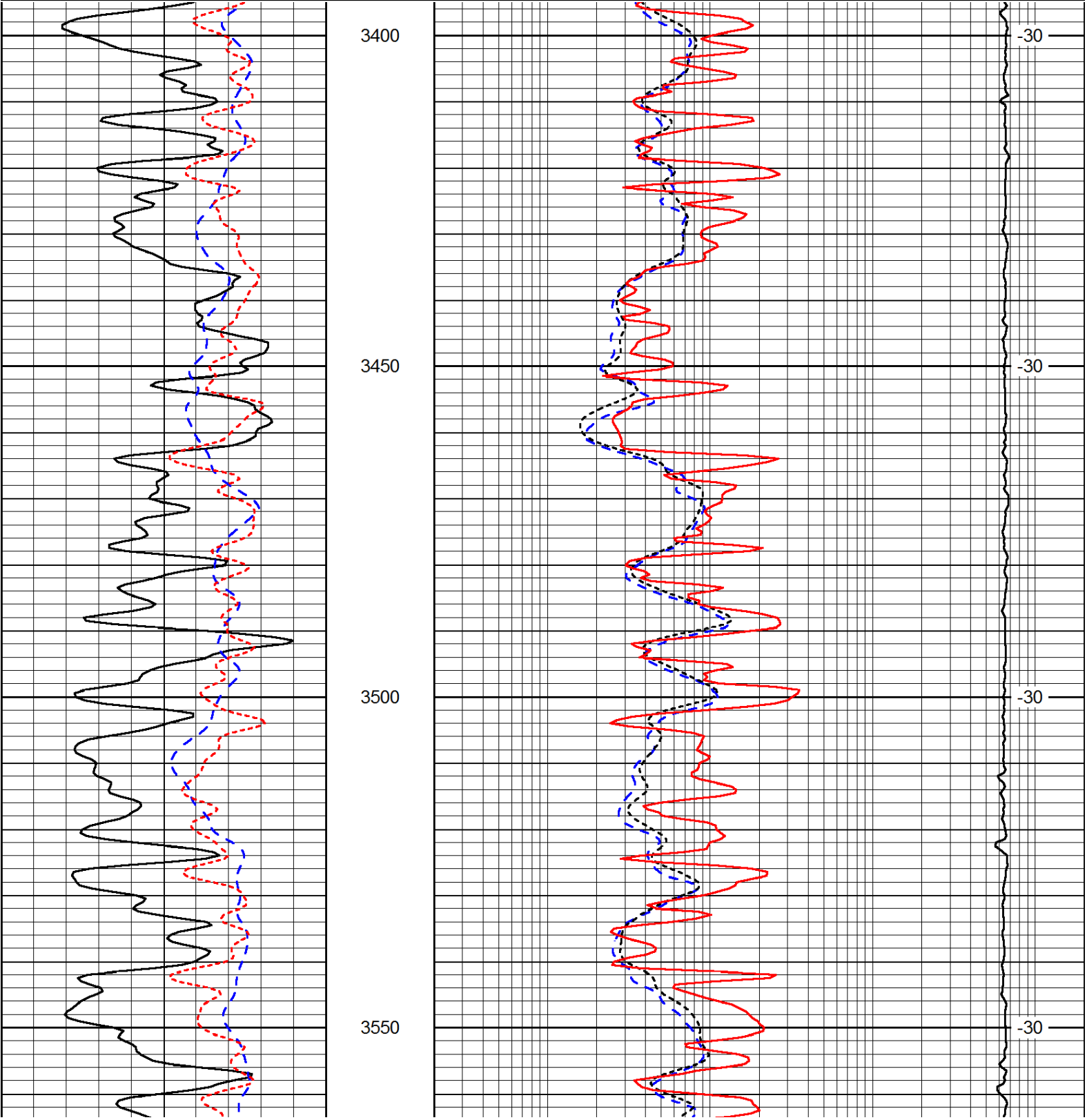


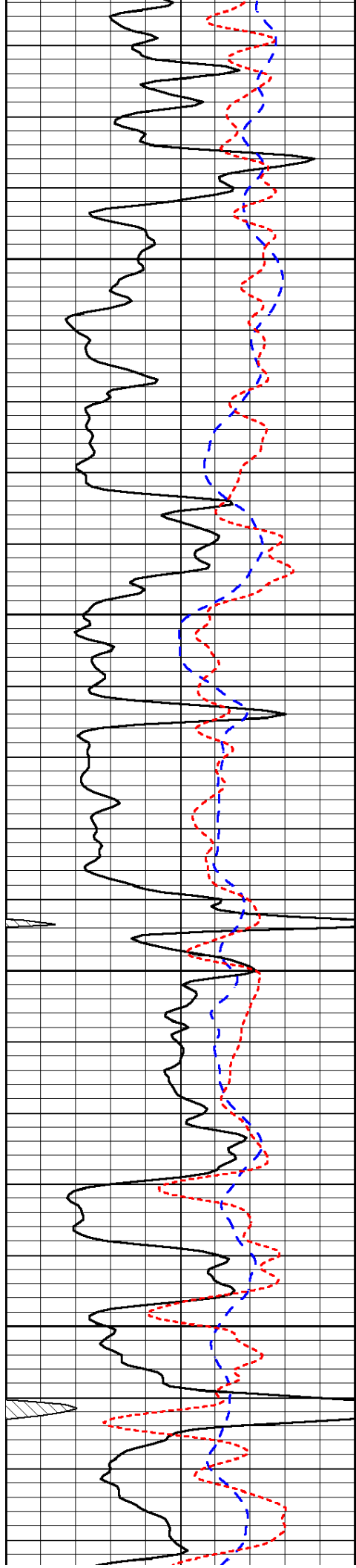
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Dataset Pathname: DIL/pionstk  
Presentation Format: dil  
Dataset Creation: Thu Dec 13 19:59:51 2012  
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|      |           |     |
|------|-----------|-----|
| 0    | Gamma Ray | 150 |
| -200 | SP (mV)   | 0   |
| -160 | RxoRt     | 40  |

|       |                     |      |
|-------|---------------------|------|
| 0.2   | Deep Resistivity    | 2000 |
| 0.2   | Medium Resistivity  | 2000 |
| 0.2   | Shallow Resistivity | 2000 |
| 15000 | Line Tension        | 0    |

LSPD



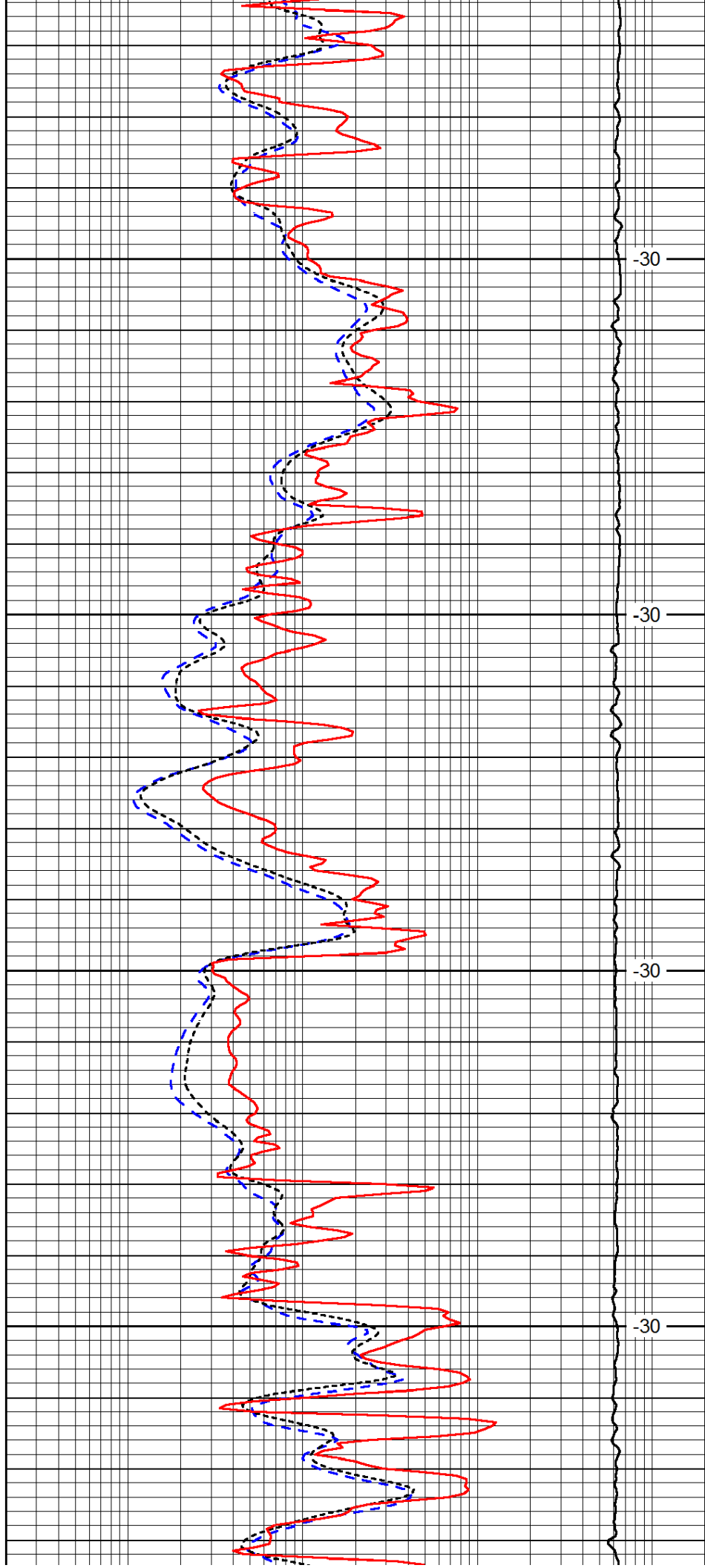


3600

3650

3700

3750

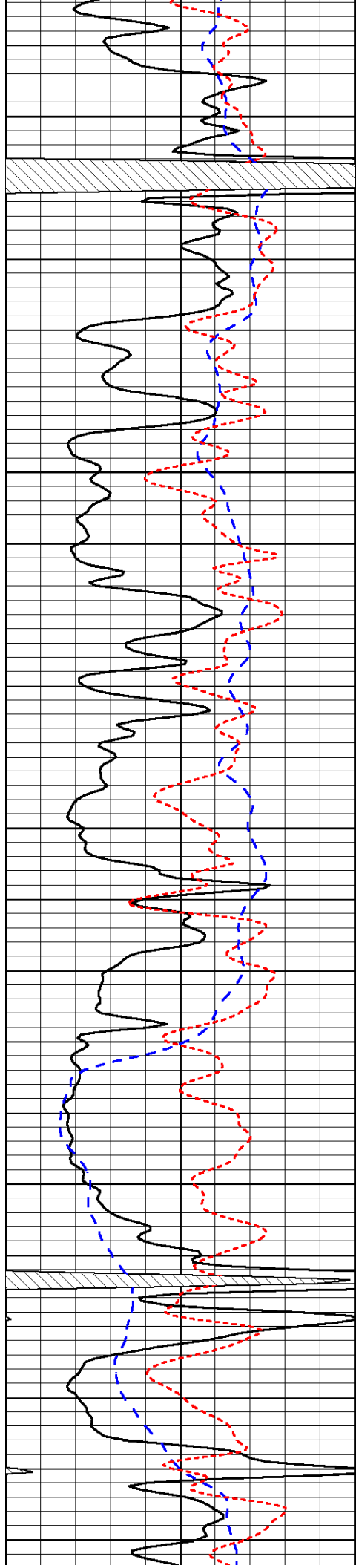


-30

-30

-30

-30



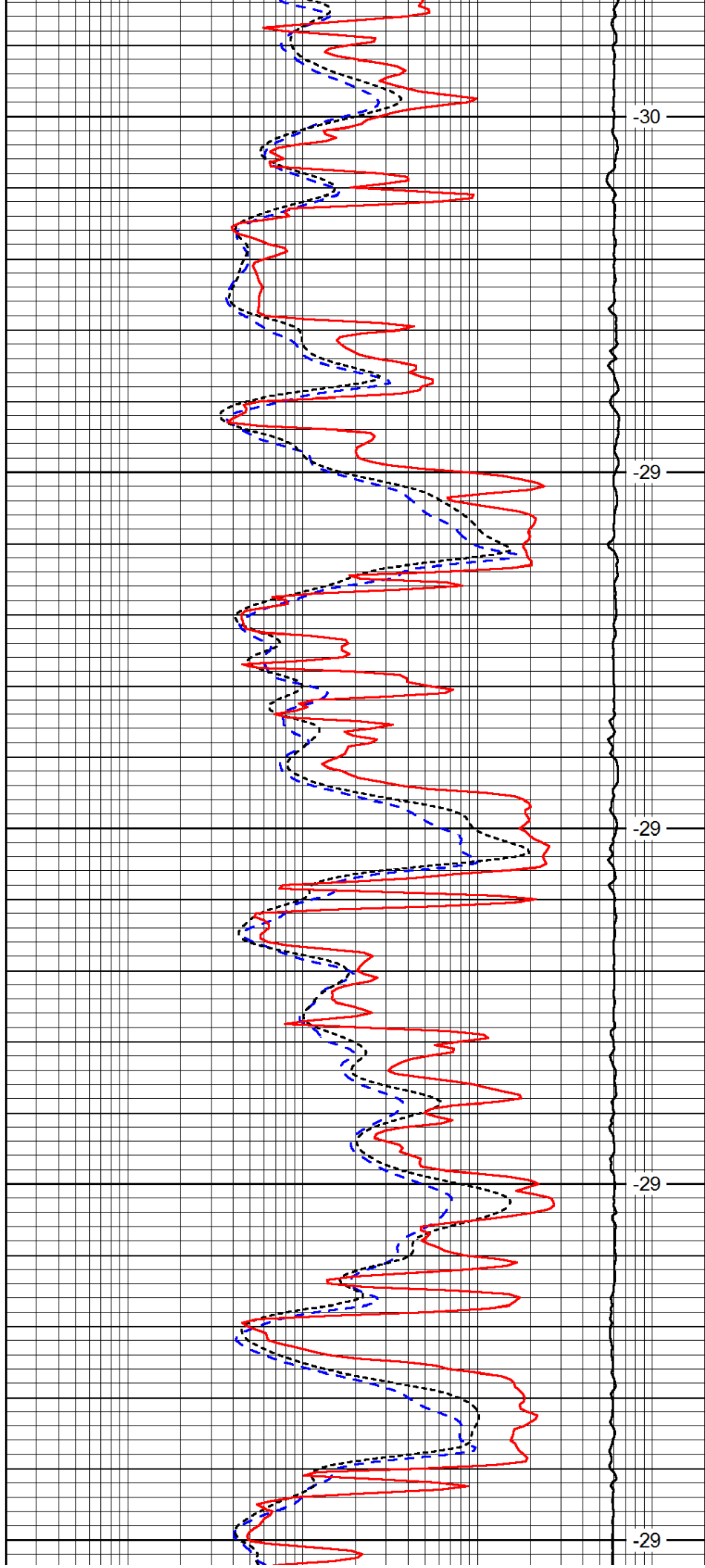
3800

3850

3900

3950

4000



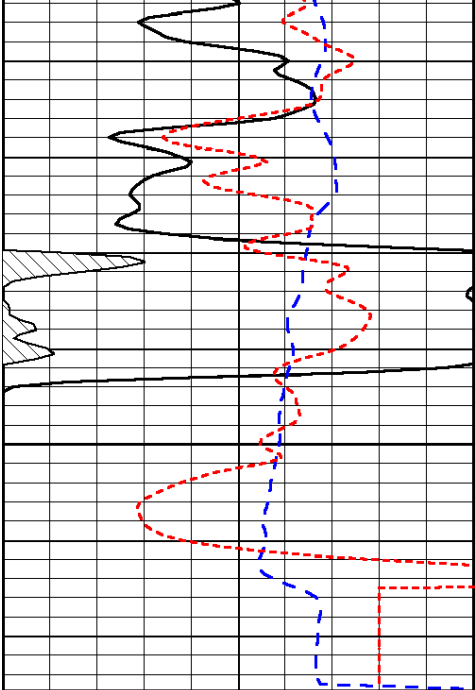
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-29

-29

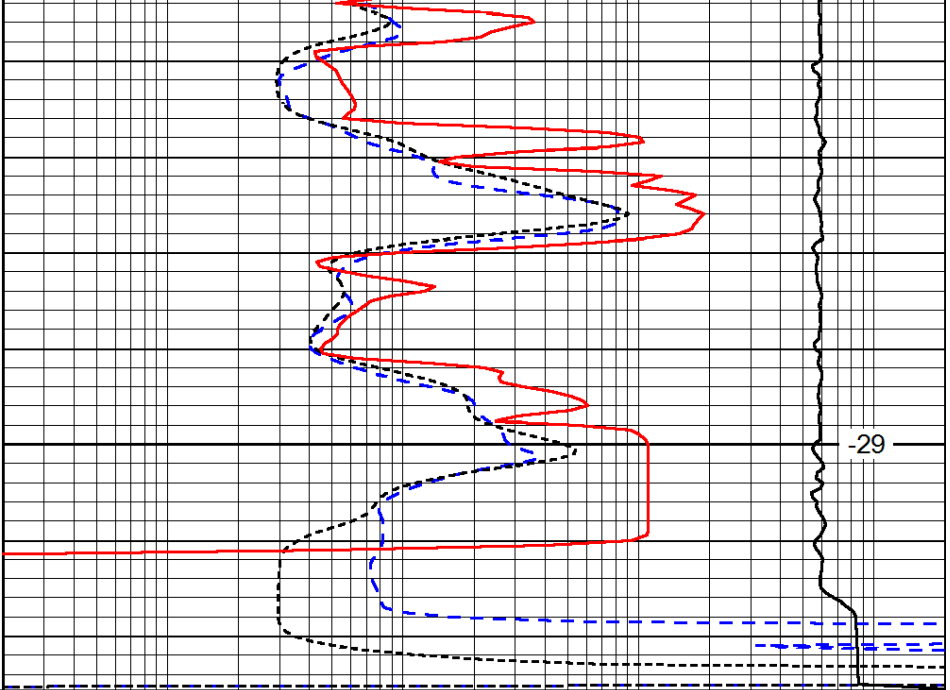
-29

-29



4050

|      |           |     |
|------|-----------|-----|
| 0    | Gamma Ray | 150 |
| -200 | SP (mV)   | 0   |
| -160 | RxoRt     | 40  |



-29

|       |                     |      |
|-------|---------------------|------|
| 0.2   | Deep Resistivity    | 2000 |
| 0.2   | Medium Resistivity  | 2000 |
| 0.2   | Shallow Resistivity | 2000 |
| 15000 | Line Tension        | 0    |

LSPD