



Pioneer Energy Services

Dual Induction Log

15-009-26,074-00-00

API No.

Company **Russell Oil, Inc.**

Well **Charles #1-16**

Field **Deines**

County **Barton**

State

Kansas

Location

330' FNL & 1100' FWL

Sec: **16**

Twp: **16S**

Rge: **14W**

Elevation

K.B. 1954

D.F. 1945

G.L. 1945

Other Services
CNL/CDL
MEL

Permanent Datum Ground Level Elevation 1945
Log Measured From Kelly Bushing 9 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Date 2/18/2015

Run Number One

Depth Driller 3490

Depth Logger 3484

Bottom Logged Interval 3483

Top Log Interval 400

Casing Driller 8.625 @ 412

Casing Logger 416

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 9.700

Density / Viscosity 9.3 61

pH / Fluid Loss 9.0 10.4

Source of Sample Flowline

Rm @ Meas. Temp .3 @ 50

Rmf @ Meas. Temp .23 @ 50

Rmc @ Meas. Temp .41 @ 50

Source of Rmf / Rmc Charts

Rm @ BHT .14 @ 111

Operating Rig Time 3 1/2 Hours

Max Rec. Temp. F 111

Equipment Number 51

Location Hays

Recorded By C. Desai

Witnessed By Kitt Noah

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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.pioneeres.com
785 625 3858

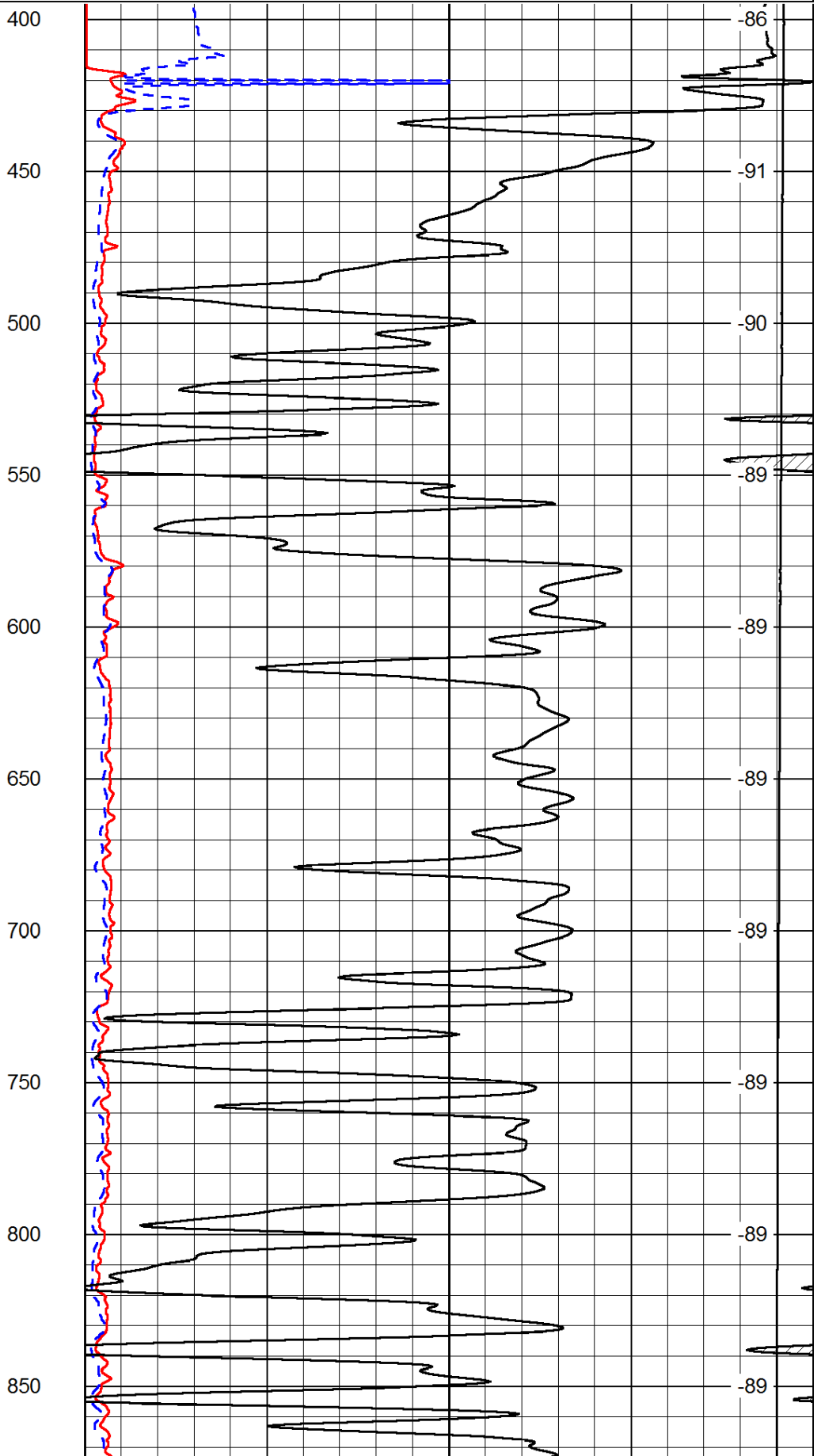
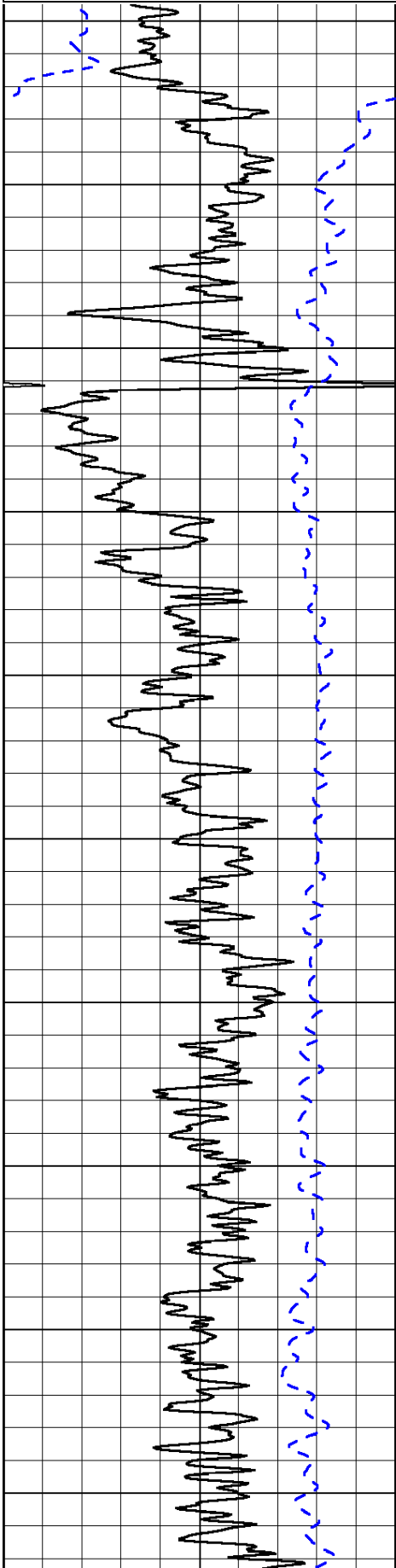
Russell KS, S to County Line,
2 S to 210 Rd, 1 3/4 W, S Into

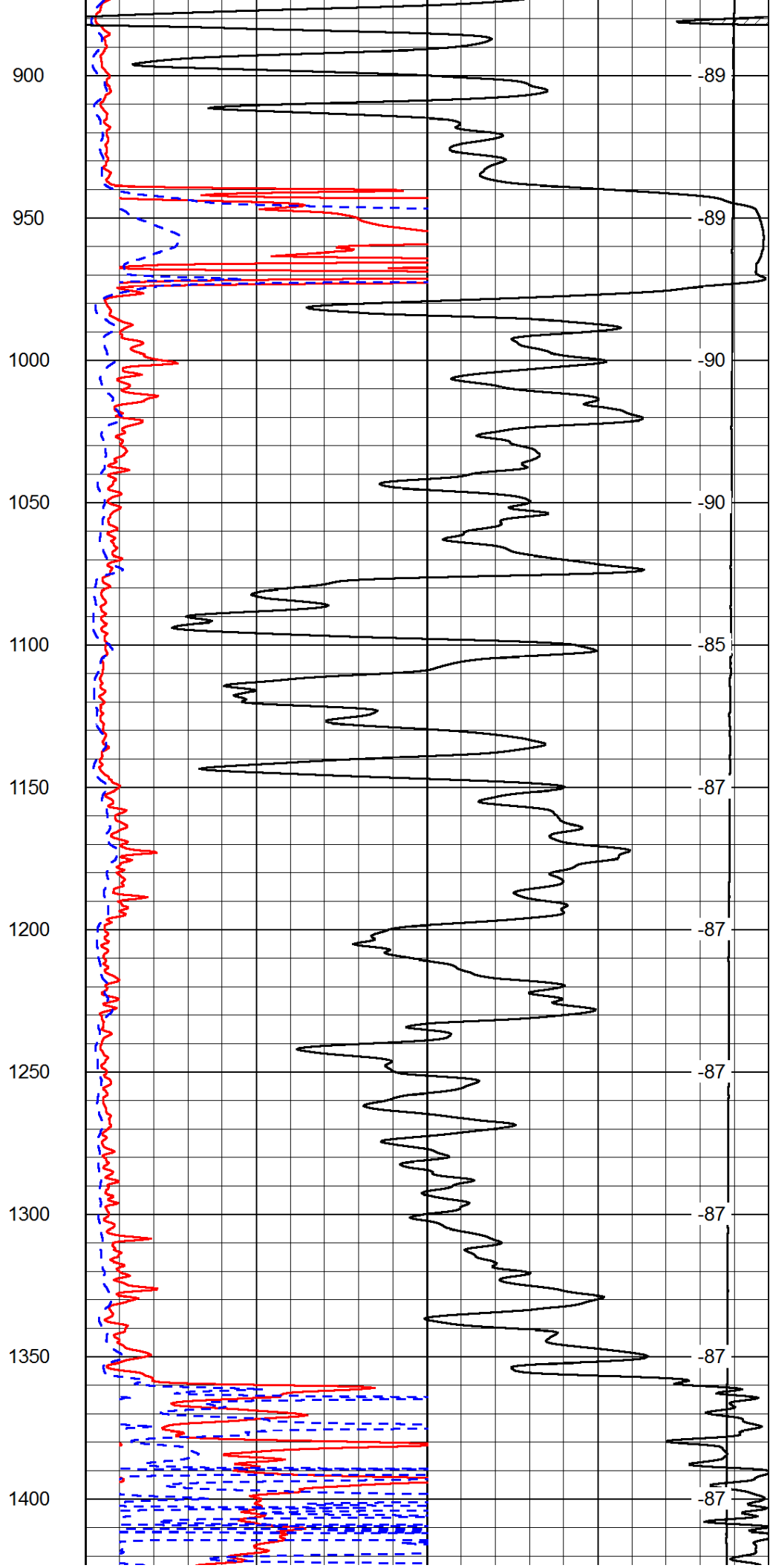
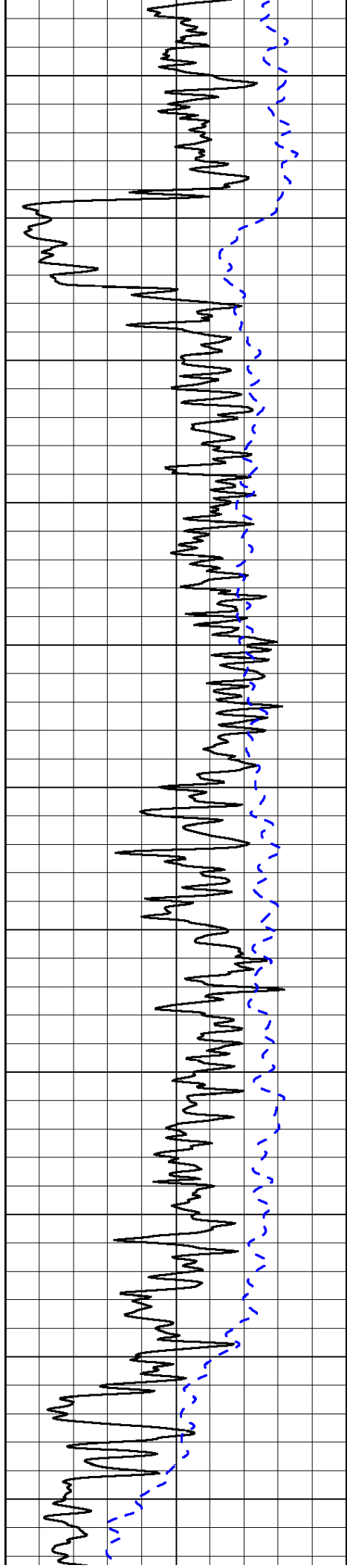
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Dataset Pathname: dil/russstk
Presentation Format: dil2in
Dataset Creation: Wed Feb 18 09:38:42 2015
Charted by: Depth in Feet scaled 1:600

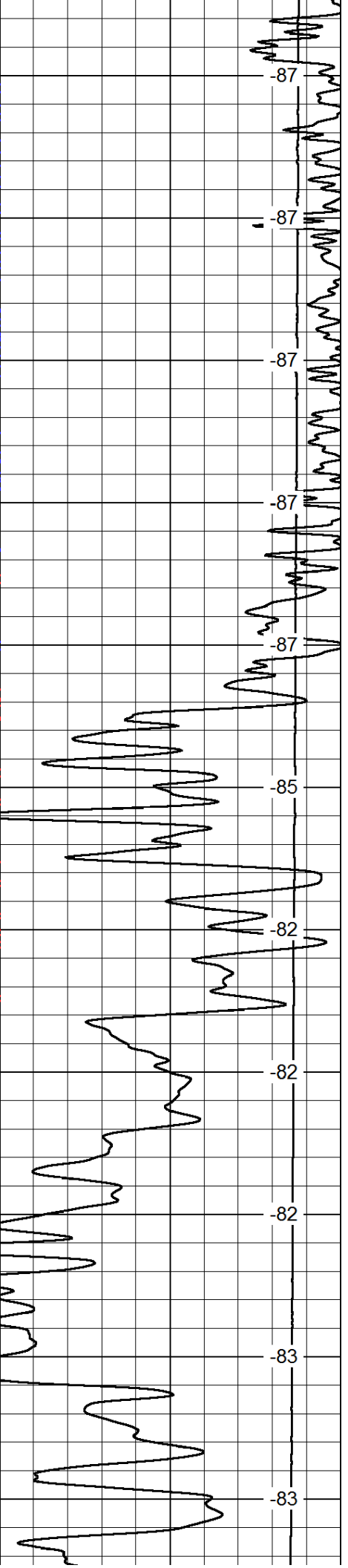
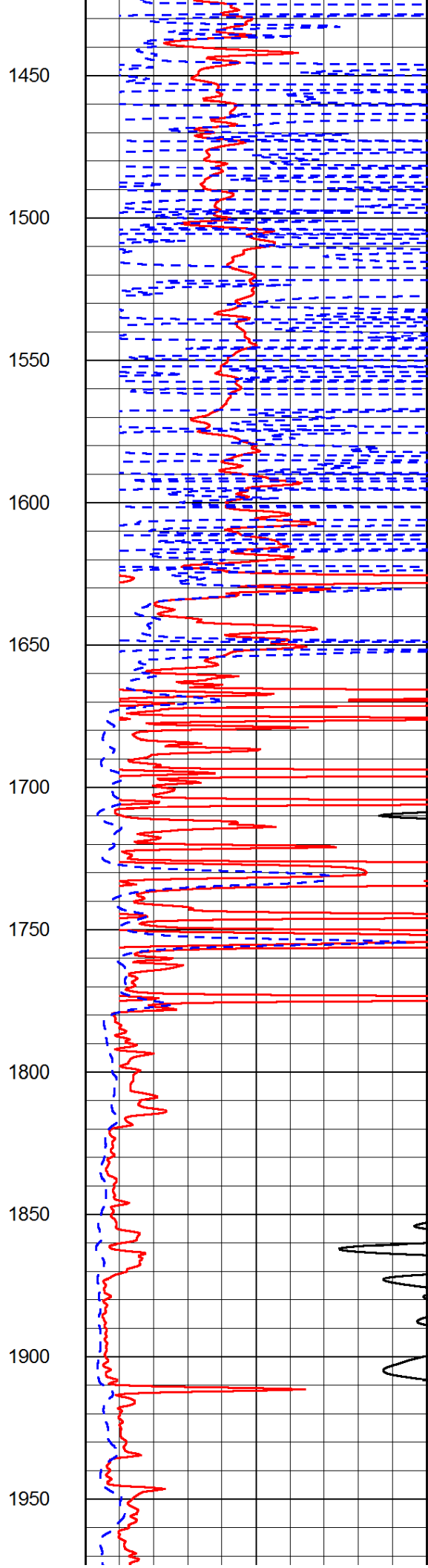
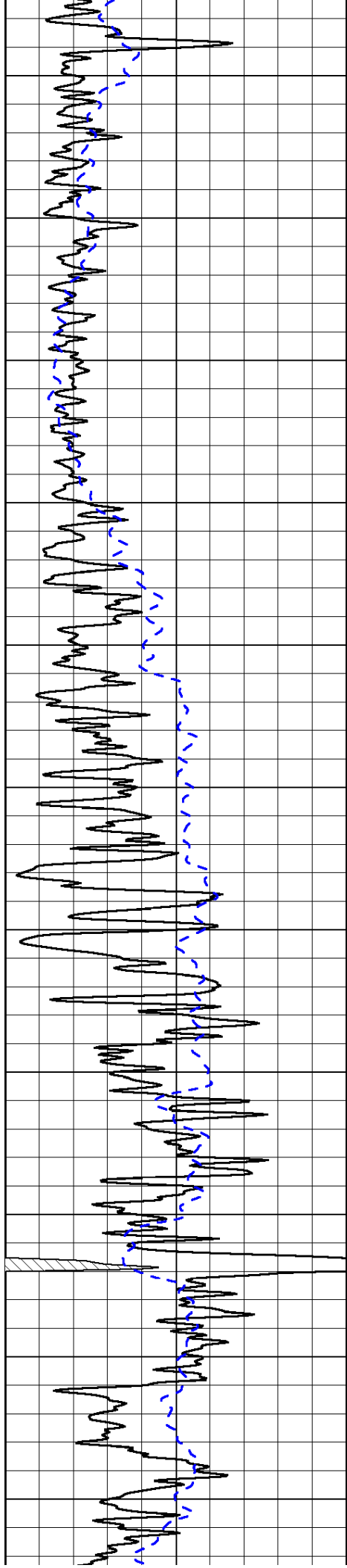
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|------|-----------|-----|
| 0 | Gamma Ray | 150 |
| -200 | SP (mV) | 0 |

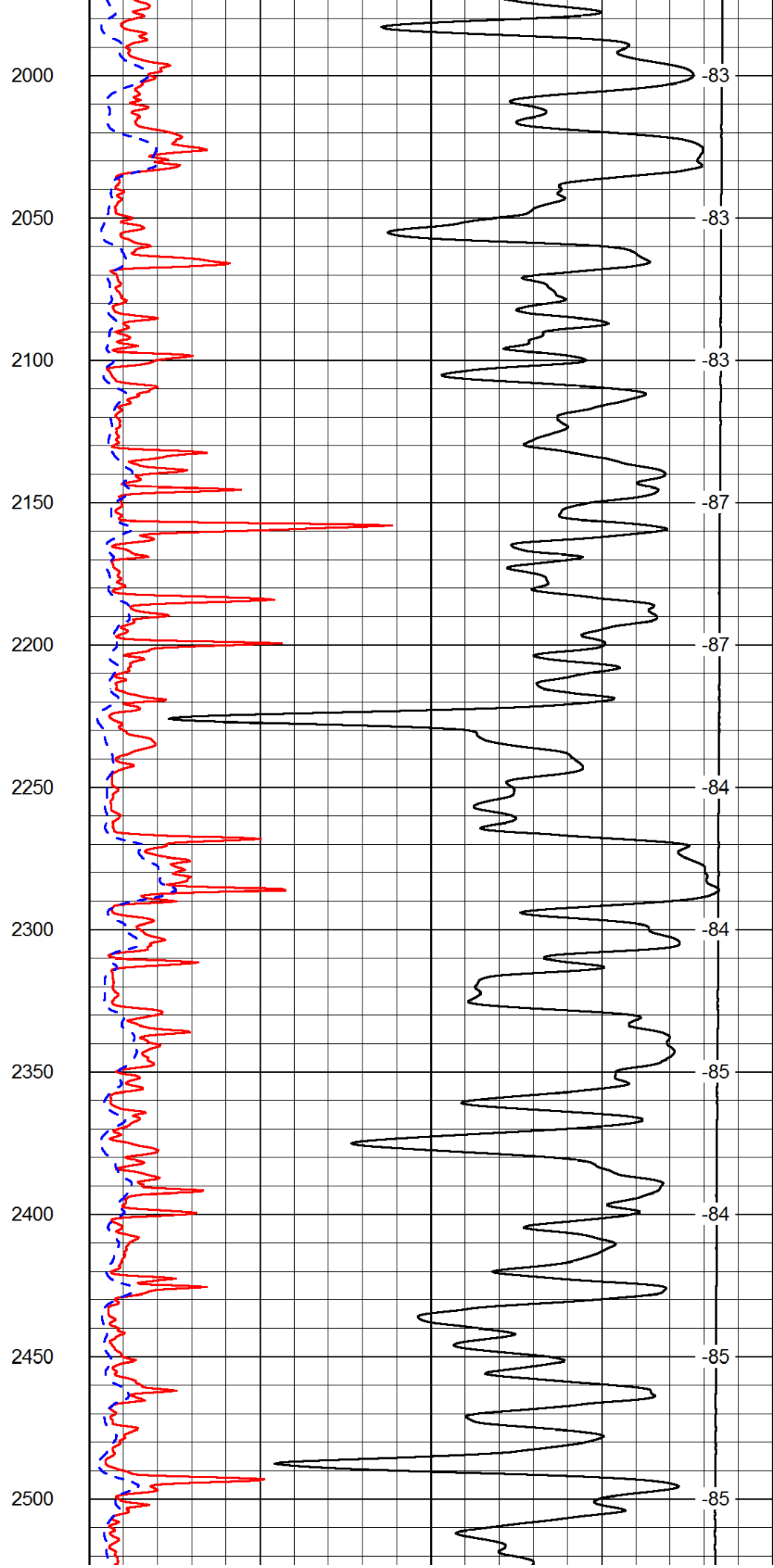
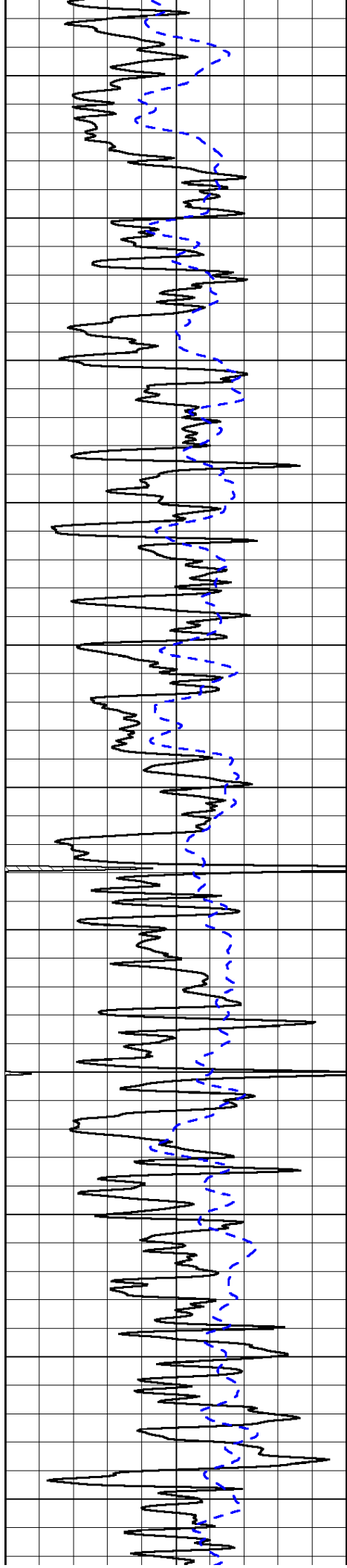
| | | |
|-------|---------------------|-----|
| 0 | Shallow Resistivity | 50 |
| 0 | Deep Resistivity | 50 |
| 1000 | Conductivity | 0 |
| 15000 | Line Tension | 0 |
| 50 | Shallow Resistivity | 500 |
| 50 | Deep Resistivity | 500 |

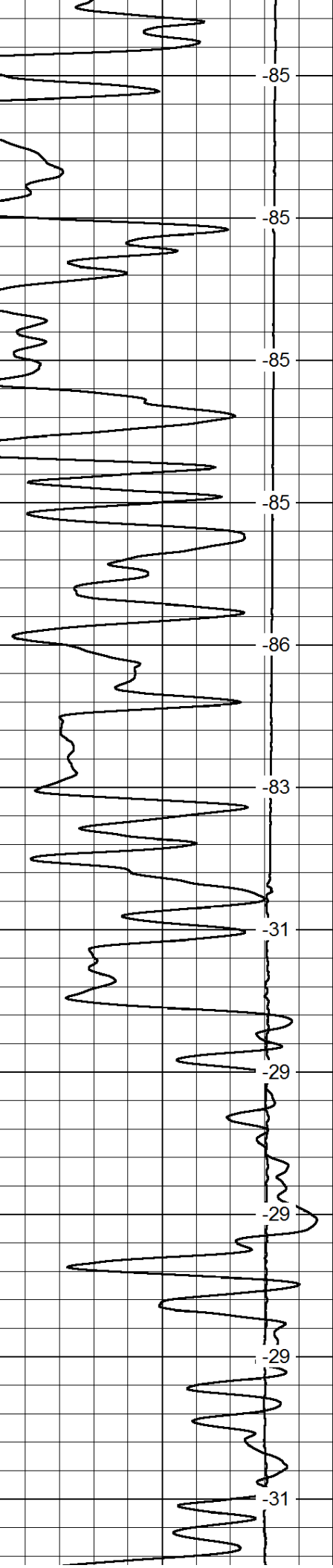
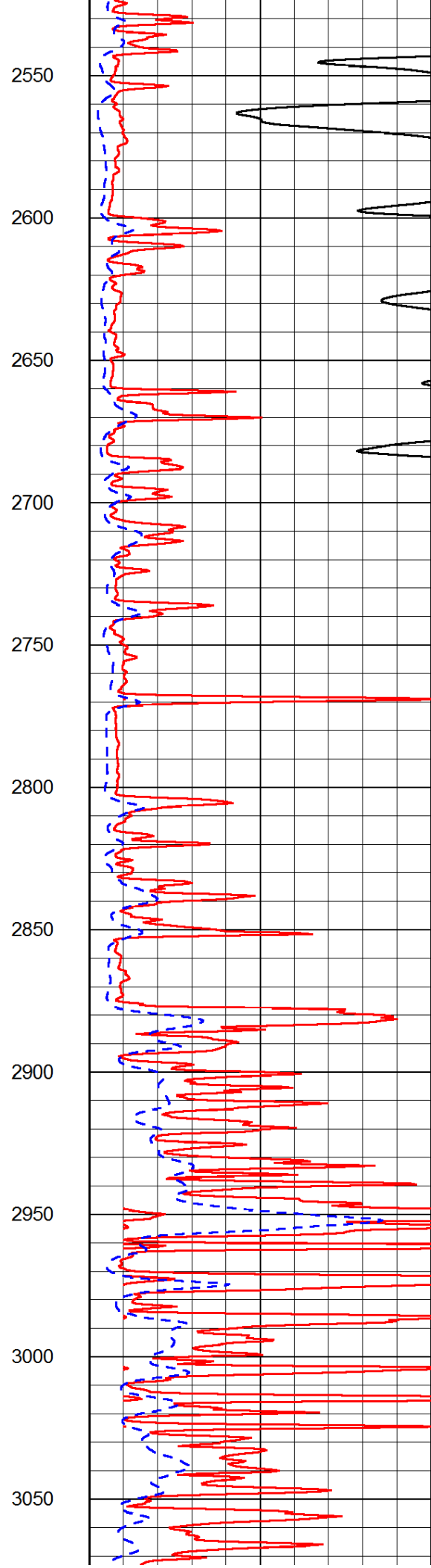
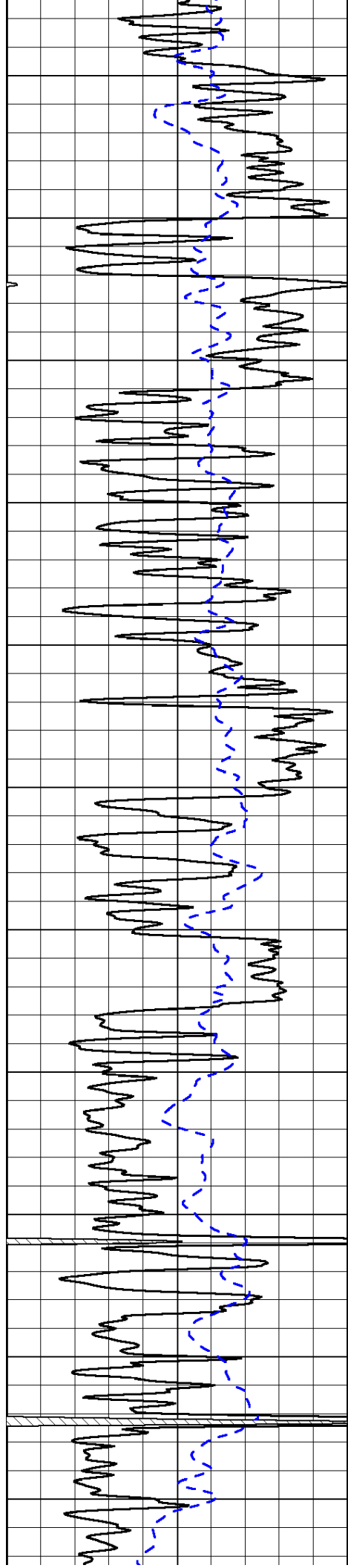
| |
|------|
| LSPD |
|------|

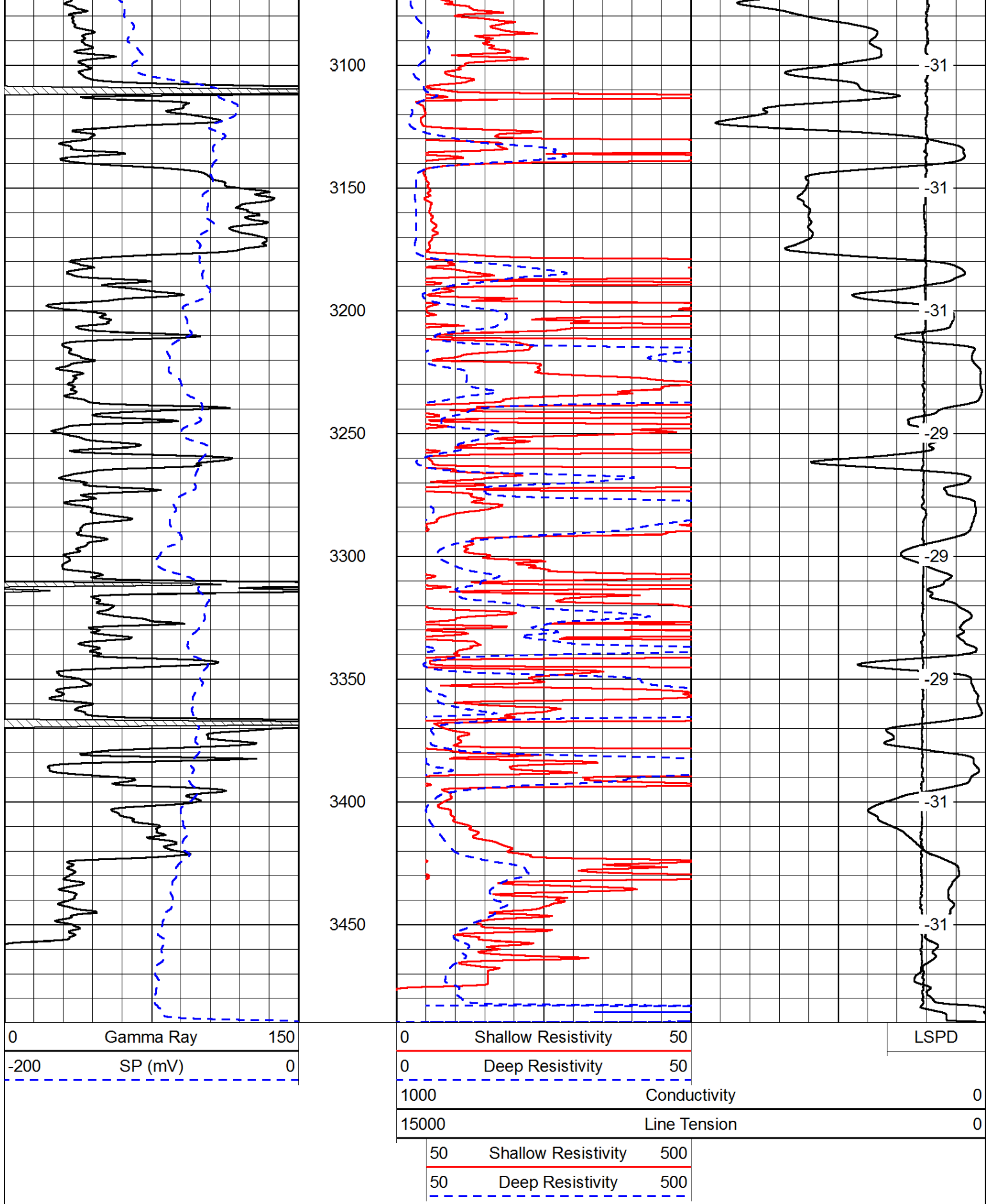










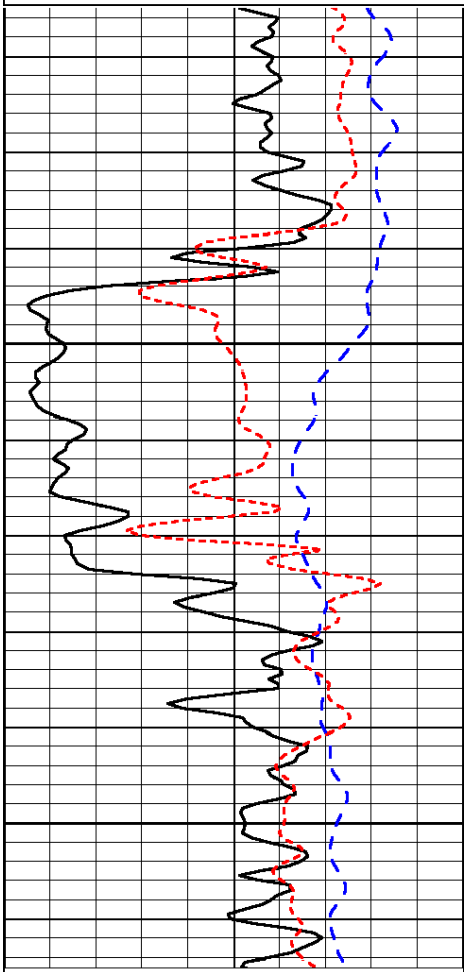


Database File: c:\warrior\data\russell_charles #1-16\rohd.db
 Dataset Pathname: dil/russtk
 Presentation Format: dil
 Dataset Creation: Wed Feb 18 09:38:42 2015
 Charted by: Depth in Feet scaled 1:240

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

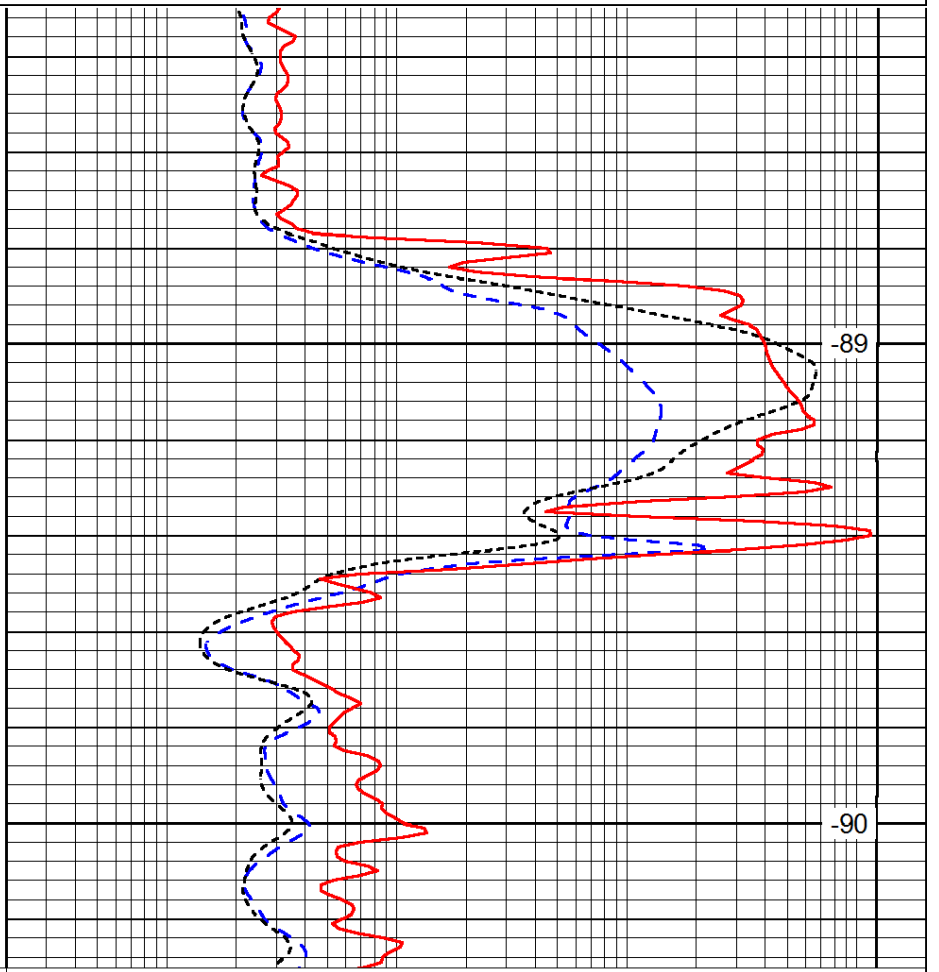
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|-------|---------------------|------|
| 0.2 | Deep Resistivity | 2000 |
| 0.2 | Medium Resistivity | 2000 |
| 0.2 | Shallow Resistivity | 2000 |
| 15000 | Line Tension | 0 |

LSPD



950

1000



-89

-90

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

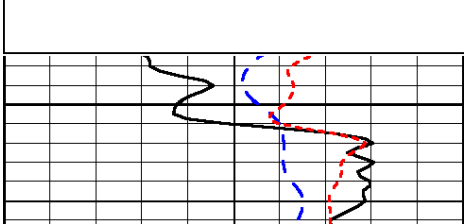
LSPD

Database File: c:\warrior\data\russell_charles #1-16\rohd.db
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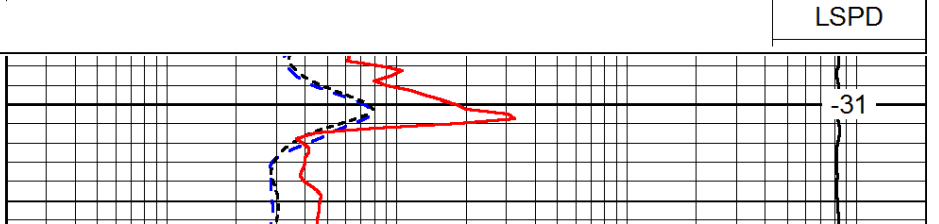
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|------|-----------|-----|
| 0 | Gamma Ray | 150 |
| -200 | SP (mV) | 0 |
| -160 | RxoRt | 40 |

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

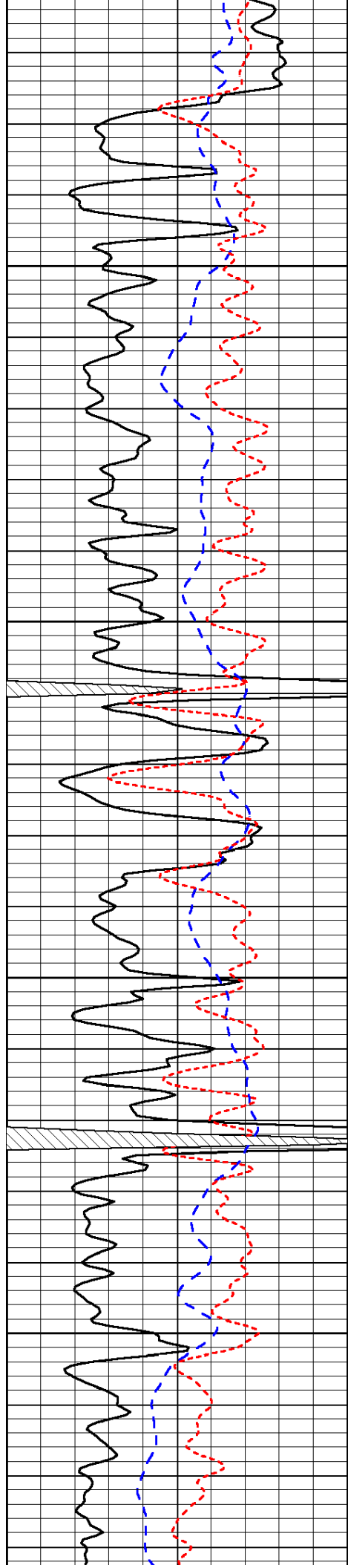
LSPD



2850



-31

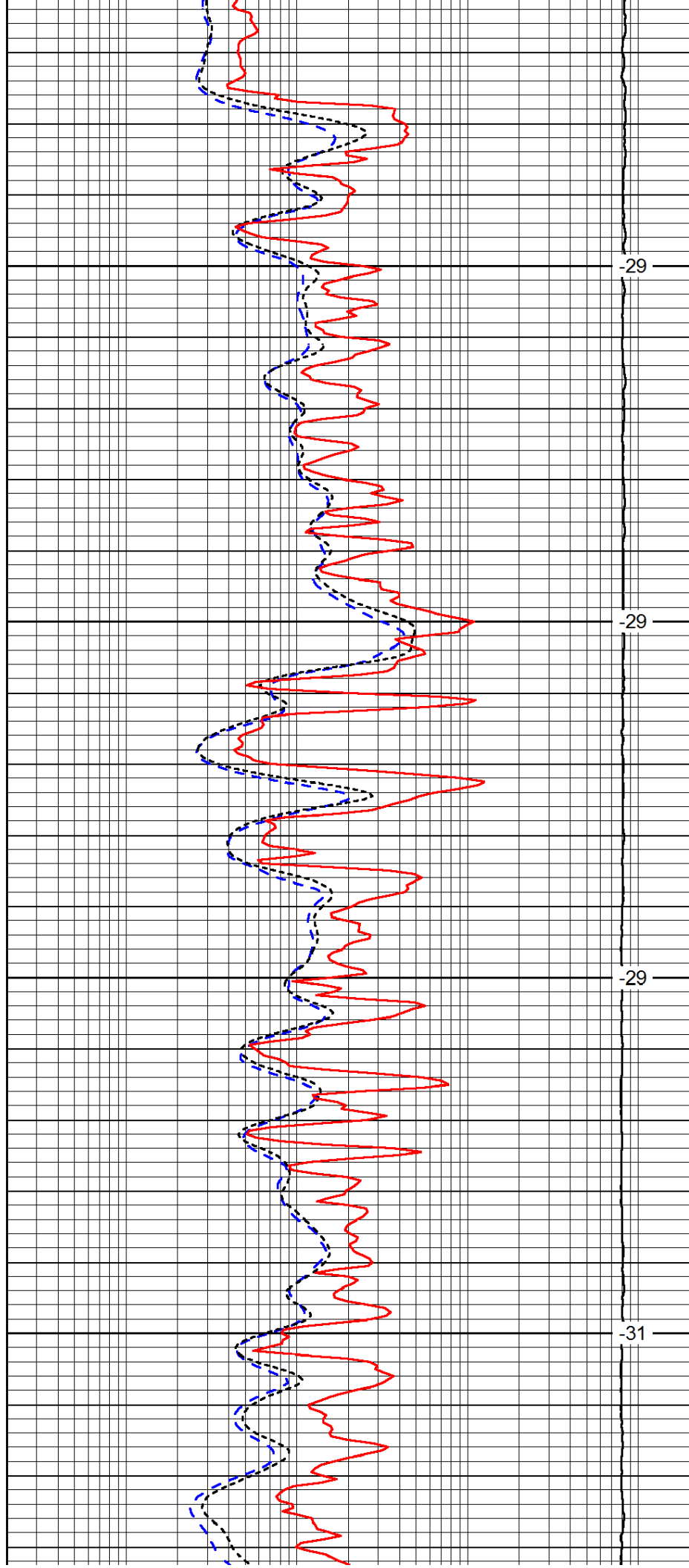


2900

2950

3000

3050

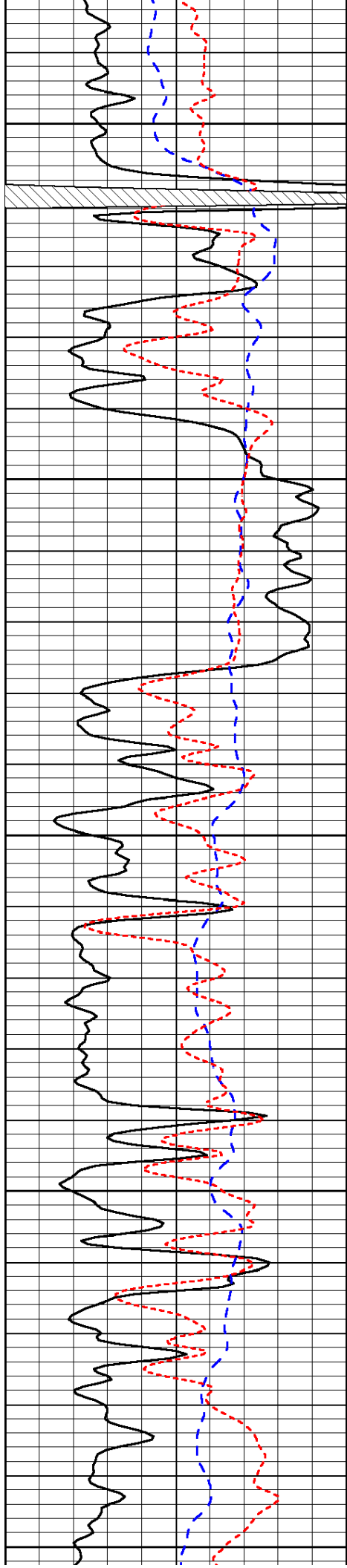


-29

-29

-29

-31



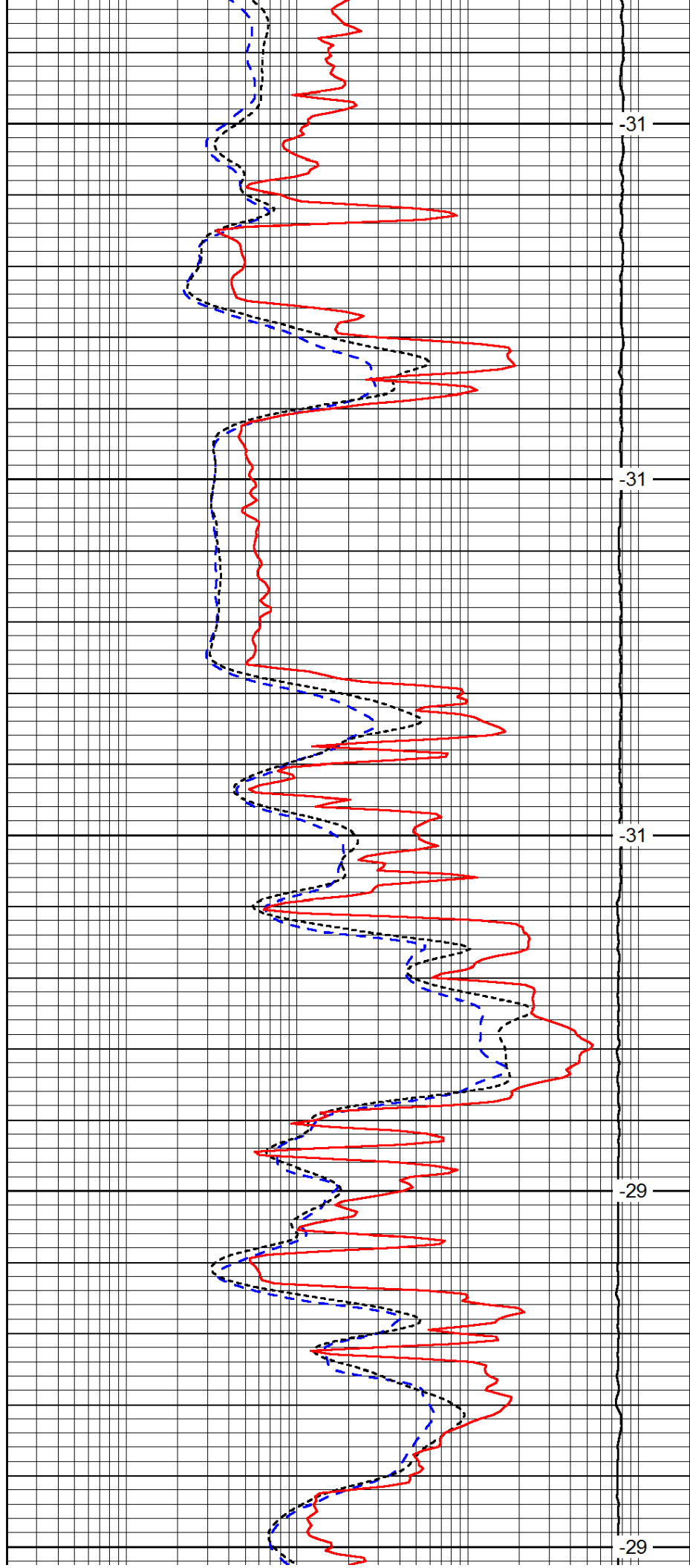
3100

3150

3200

3250

3300



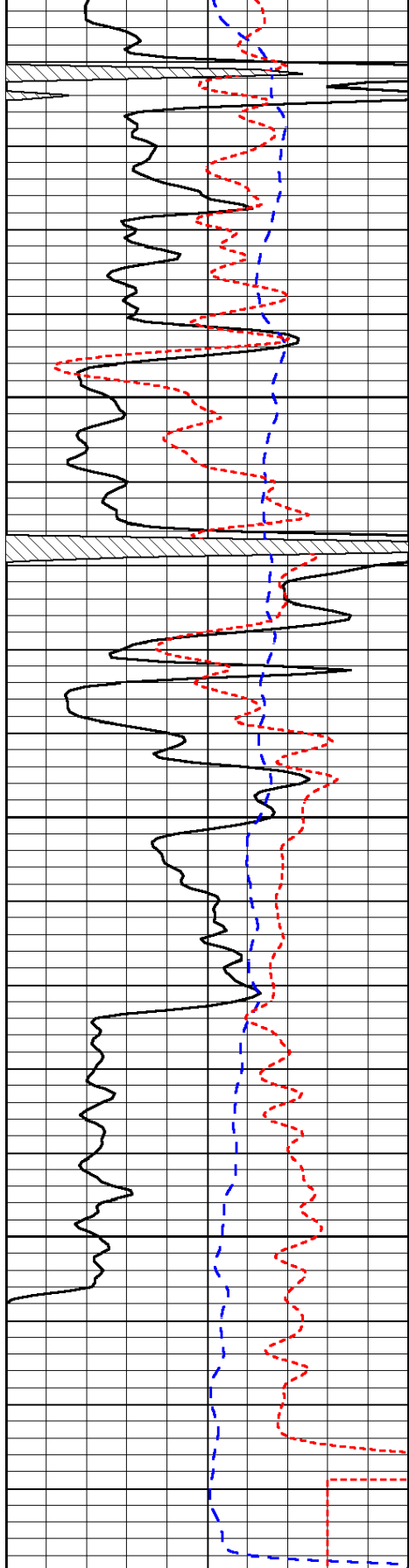
-31

-31

-31

-29

-29

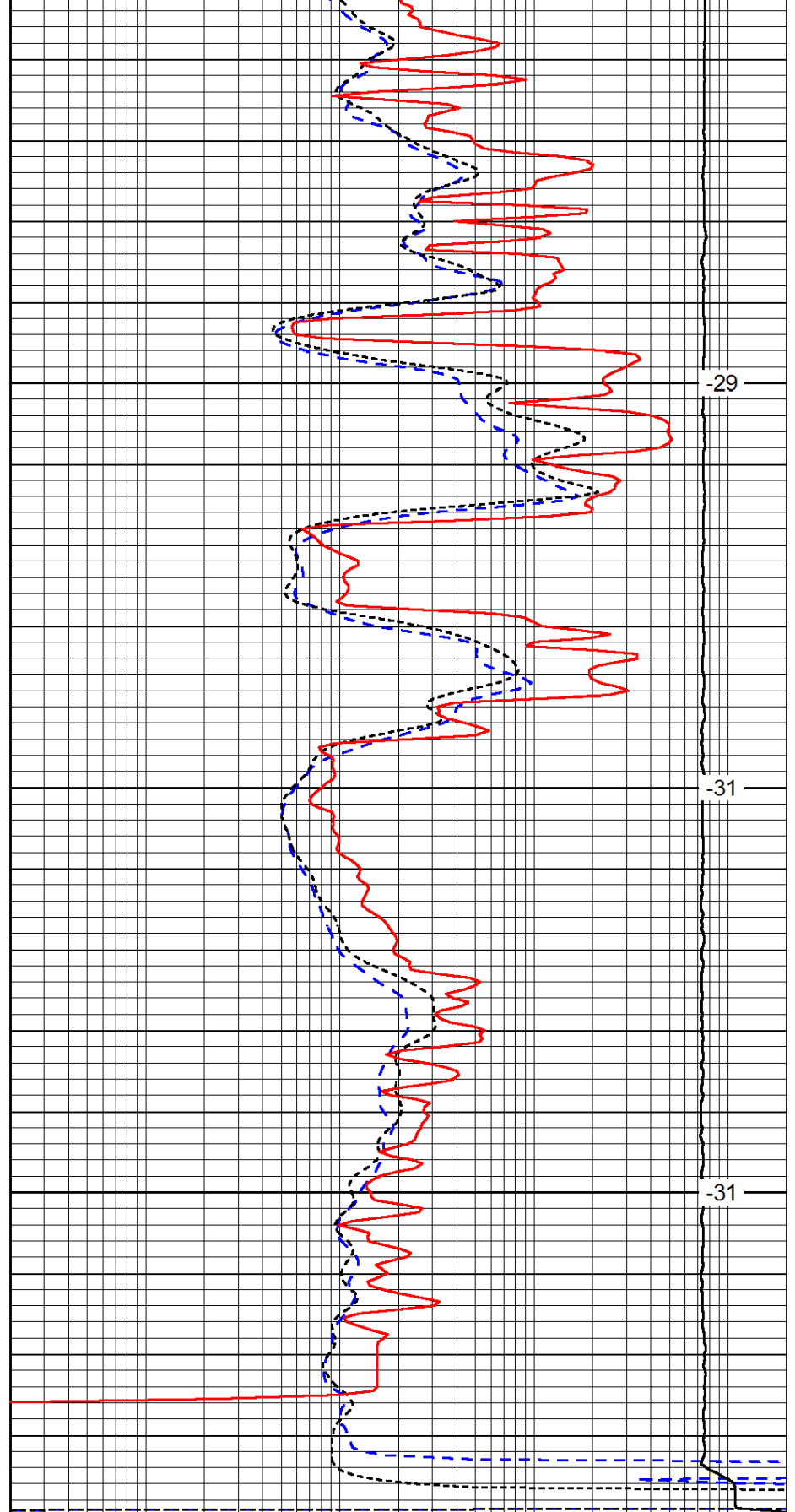


3350

3400

3450

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



-29

-31

-31

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

LSPD