



Pioneer Energy Services

Dual Induction Log

API No.

15-113-21,371-00-00

Company Torchlight Energy Operating, LLC

Well Hudson #9-1T

Field Lindsborg

County McPherson State

Kansas

Location 660' FNL & 1654' FWL

Sec: 9 Twp: 17S Rge: 3W

Permanent Datum Ground Level Elevation 1332
Log Measured From Kelly Bushing 10 Ft. Above Perm. Datum
Drilling Measured From Kelly BushingOther Services
CNL/CDL
MEL
Elevation
K.B. 1342
D.F.
G.L. 1332

Date 7/16/2014

Run Number One

Depth Driller 3520

Depth Logger 3515

Bottom Logged Interval 3514

Top Log Interval 500

Casing Driller 8.625 @ 519

Casing Logger 518

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 2600

Density / Viscosity 8.7 46

pH / Fluid Loss 9.0 9.2

Source of Sample Flowline

Rm @ Meas. Temp 1.10 @ 82

Rmf @ Meas. Temp 0.83 @ 82

Rmc @ Meas. Temp 1.49 @ 82

Source of Rmf / Rmc Charts

Rm @ BHT 0.81 @ 111

Operating Rig Time 4 Hours

Max Rec. Temp. F 111

Equipment Number 15

Location Hays

Recorded By D.Kerr

Witnessed By John Worley

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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

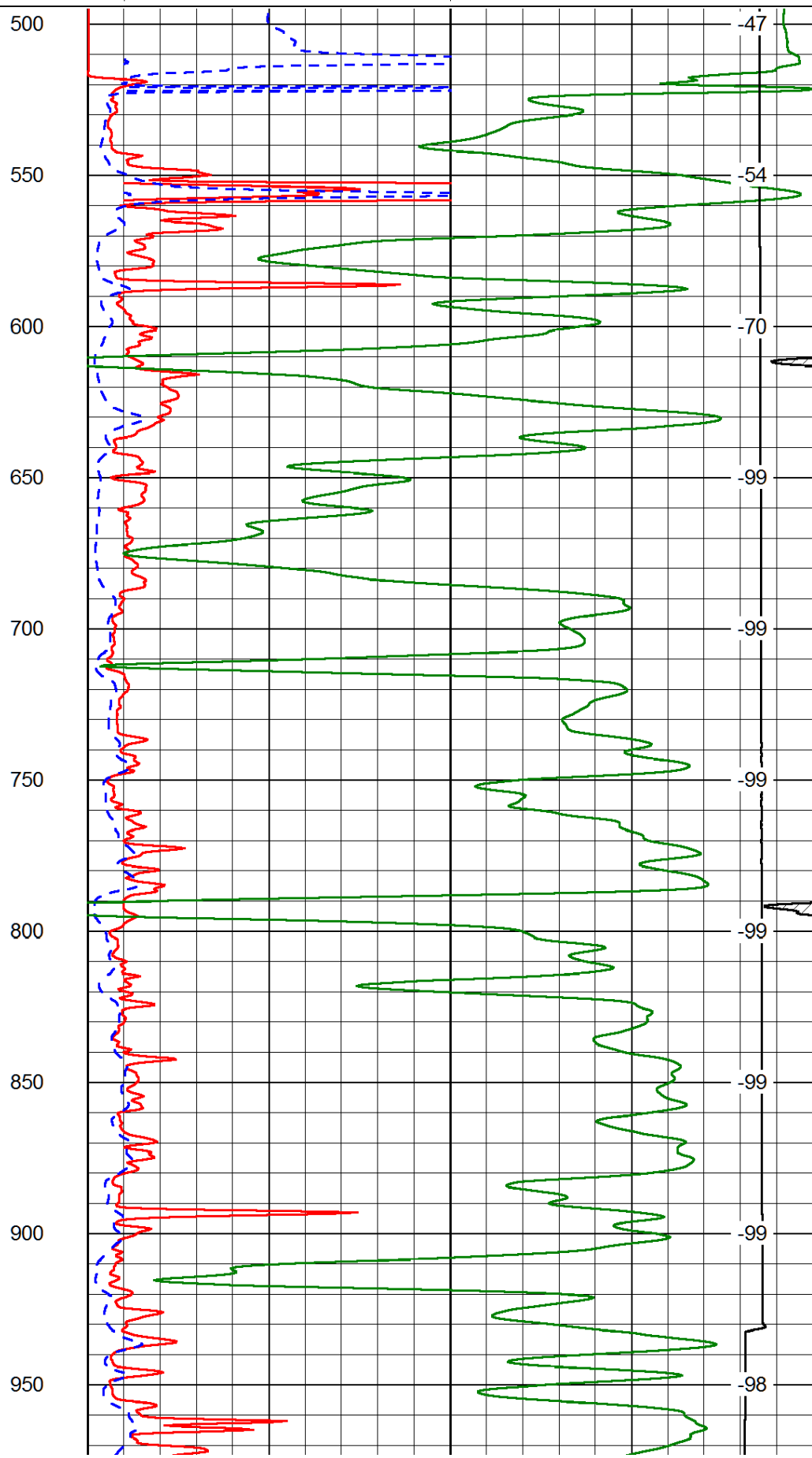
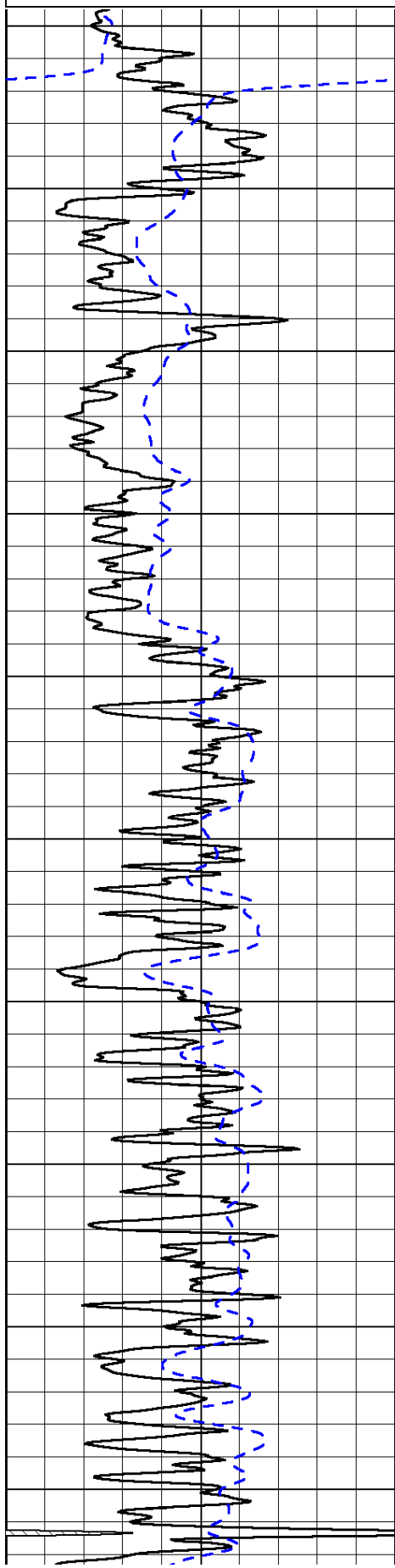
Thank you for using Log-Tech, Inc.
(785) 625-3858

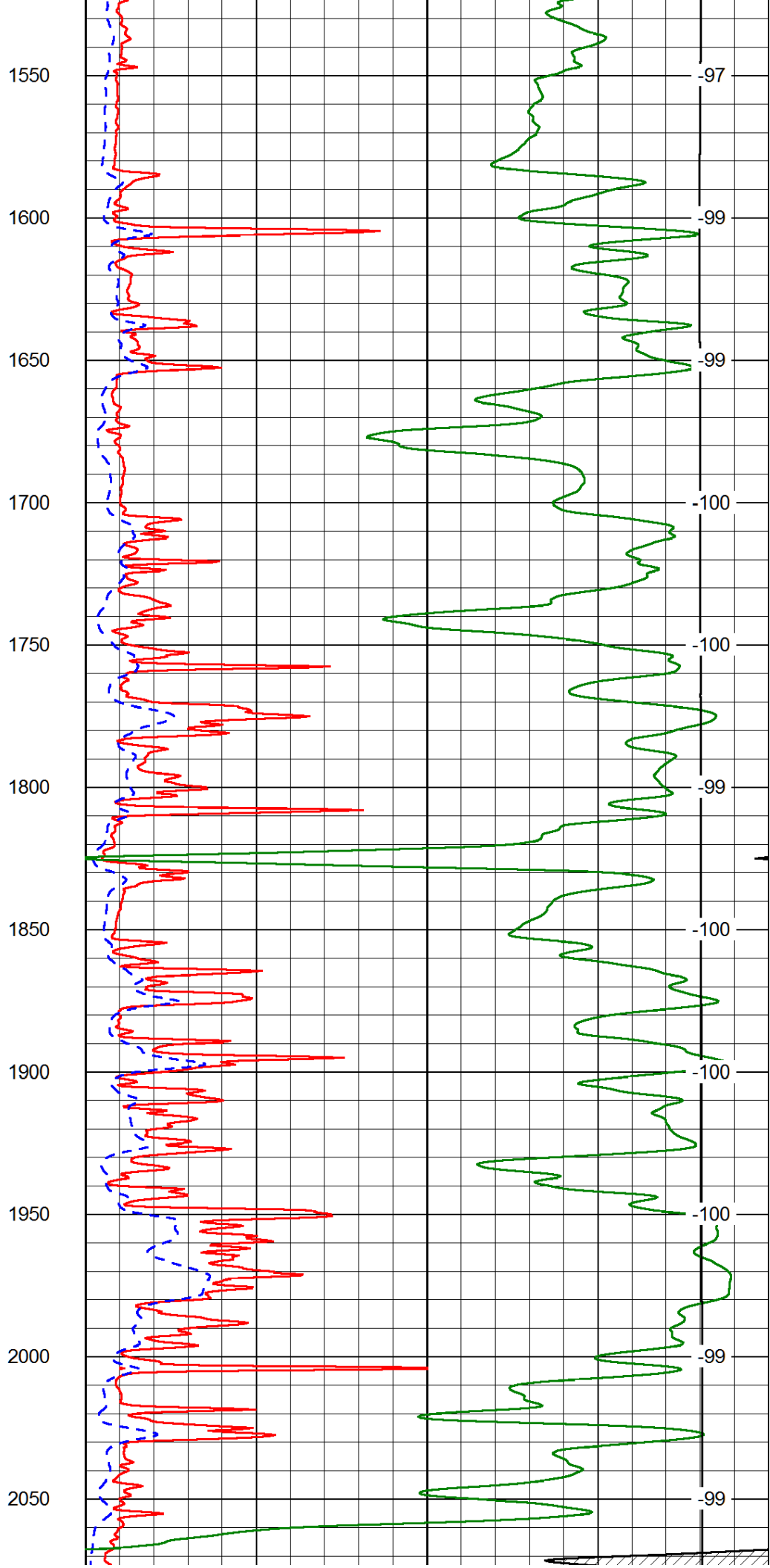
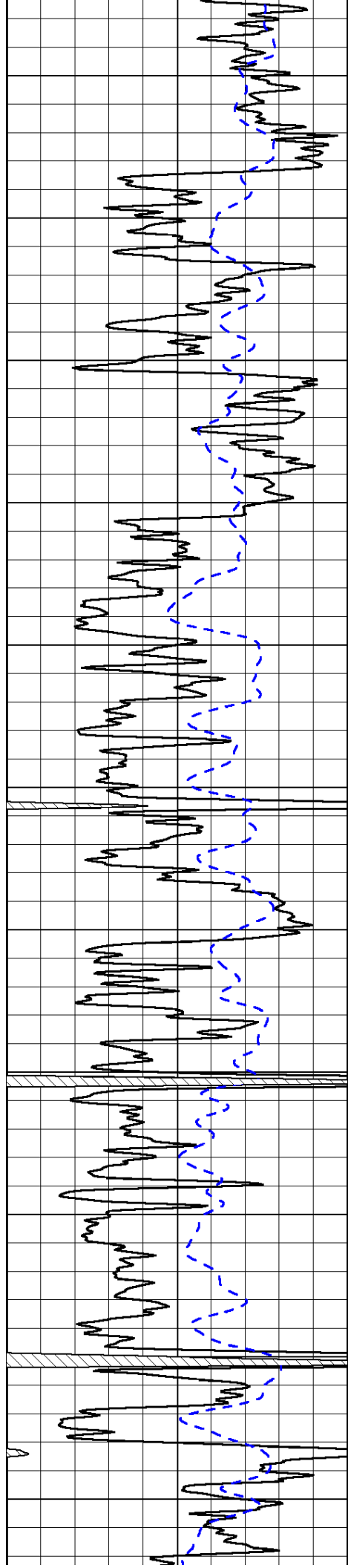
Lindsborg KS, East to Wheatridge RD,
3/4 West, South Into

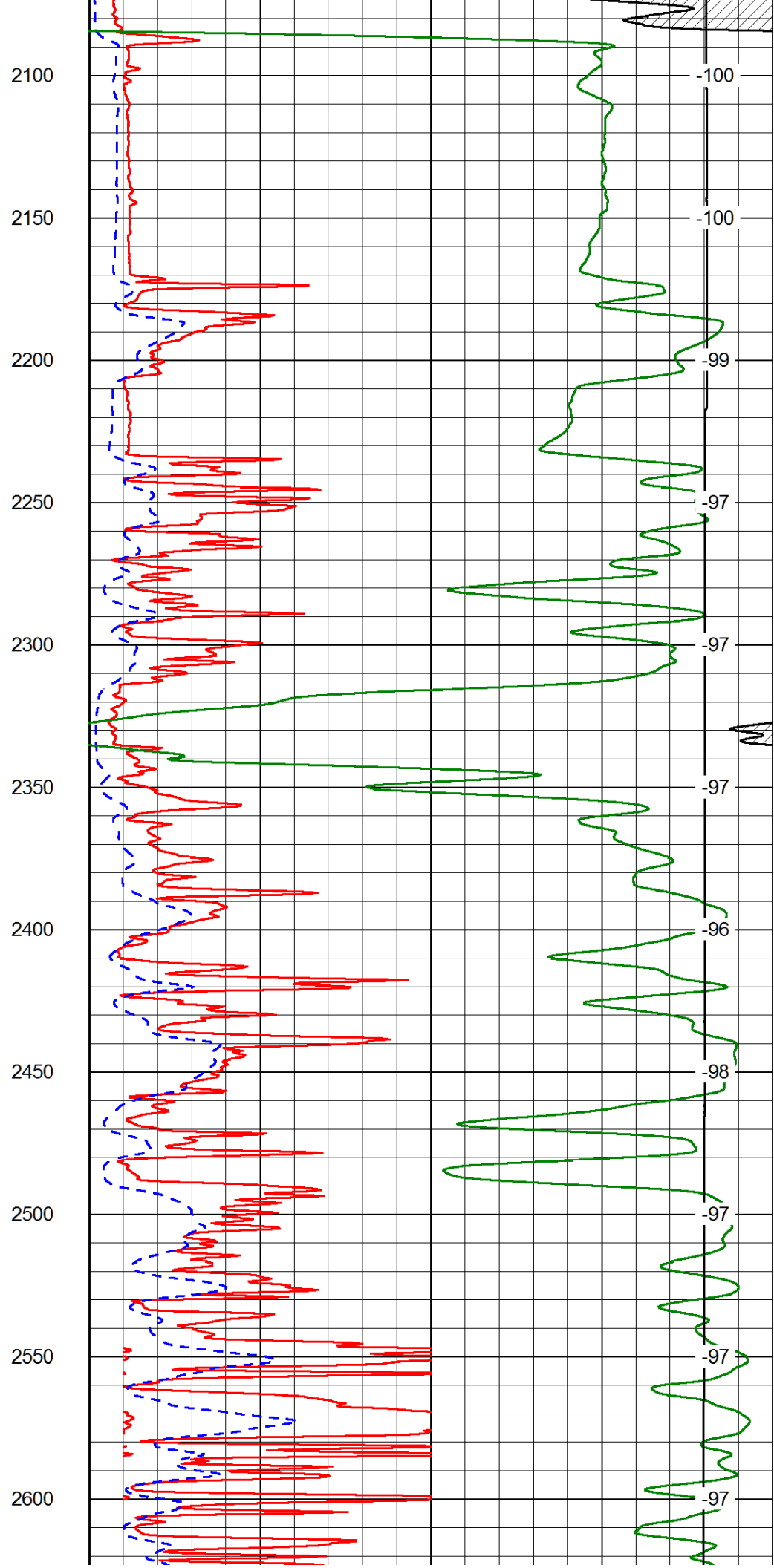
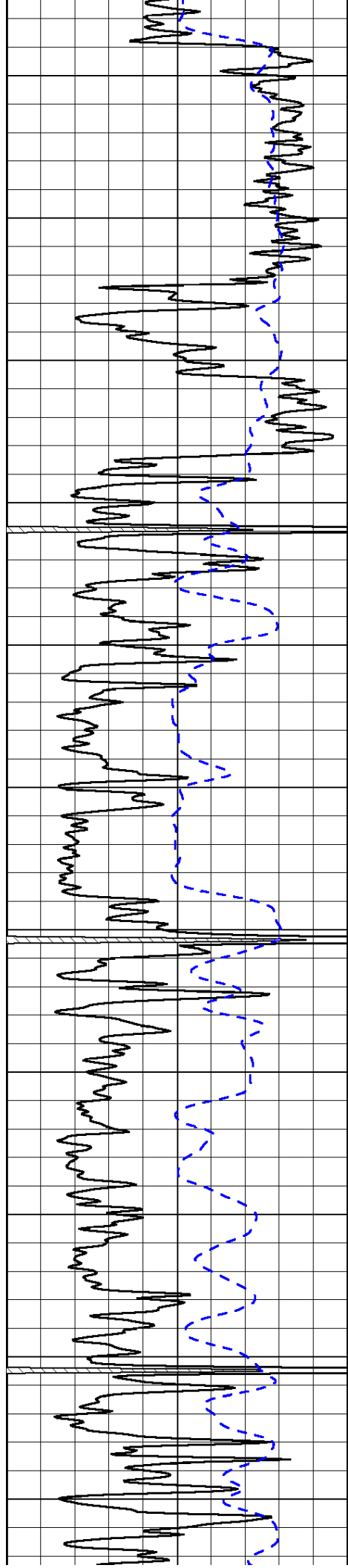
Database File: torchlight_hudson_9_1thd.db
Dataset Pathname: DIL/tlstk
Presentation Format: dil2in
Dataset Creation: Thu Jul 17 01:13:29 2014
Charted by: Depth in Feet scaled 1:600

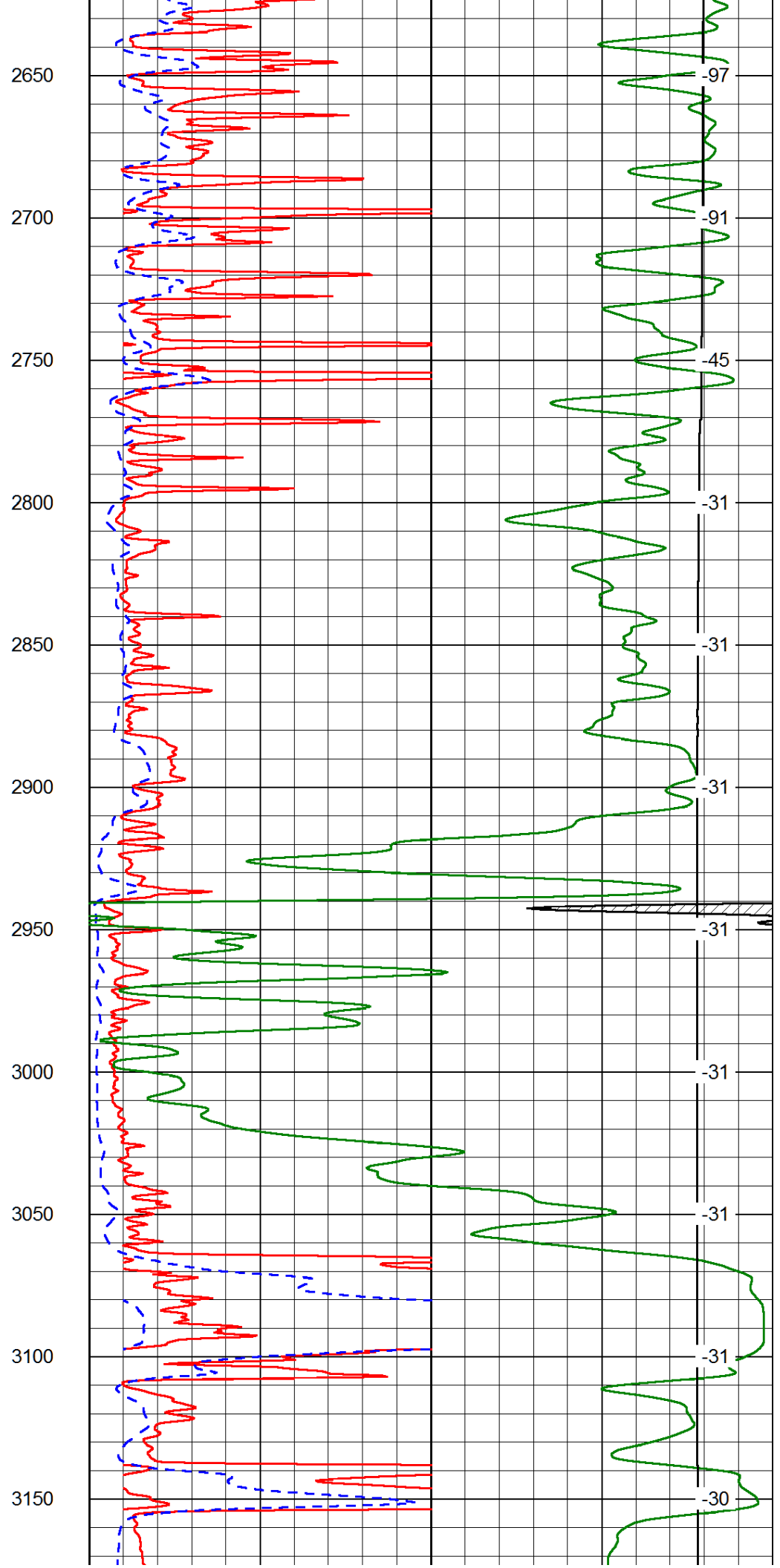
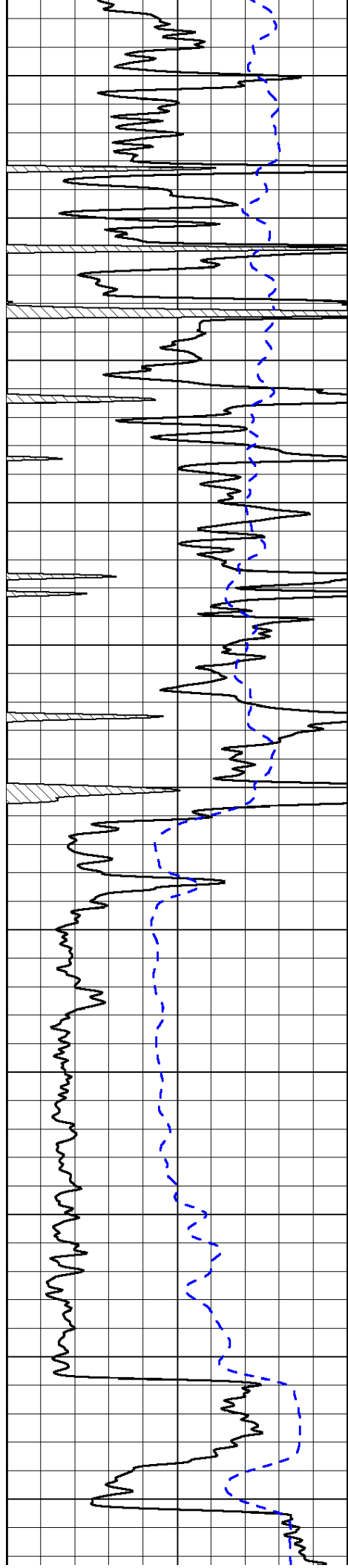
0	Gamma Ray	150
-200	SP (mV)	0

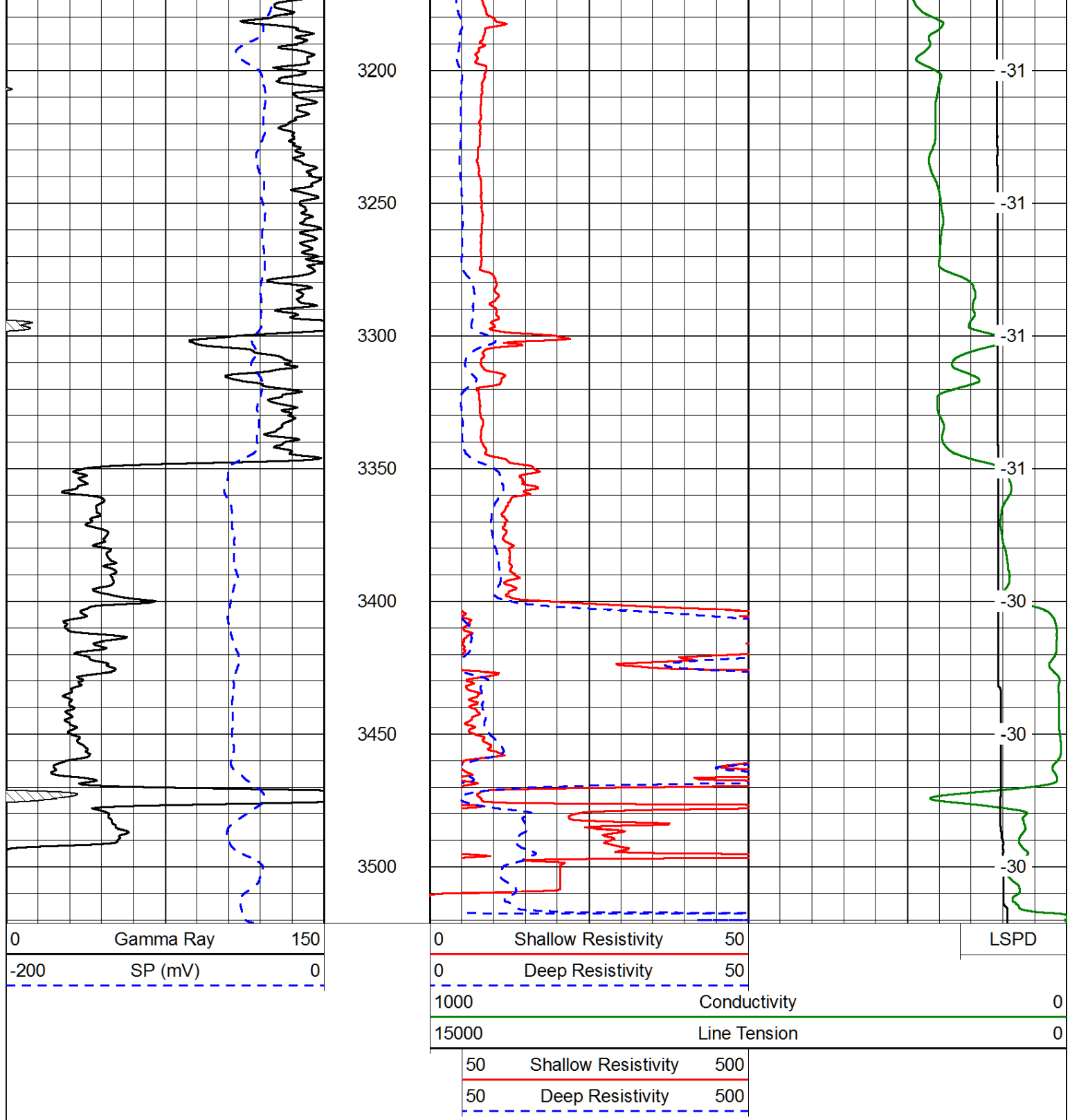
0	Shallow Resistivity	50
0	Deep Resistivity	50
1000	Conductivity	0
15000	Line Tension	0
50	Shallow Resistivity	500
50	Deep Resistivity	500



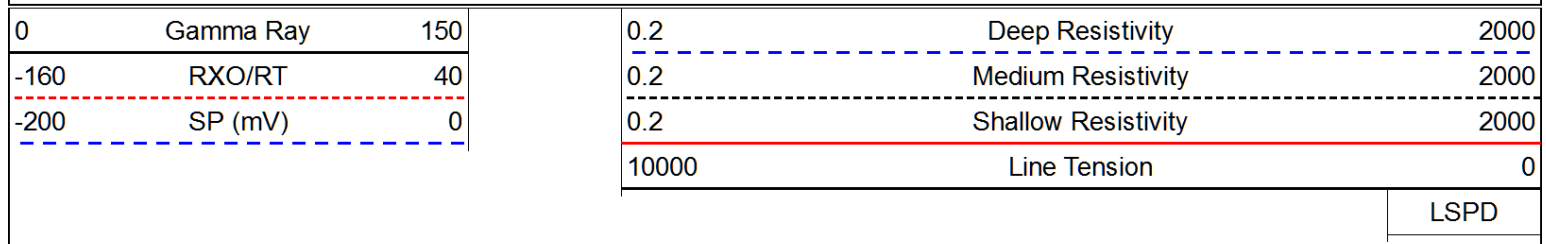


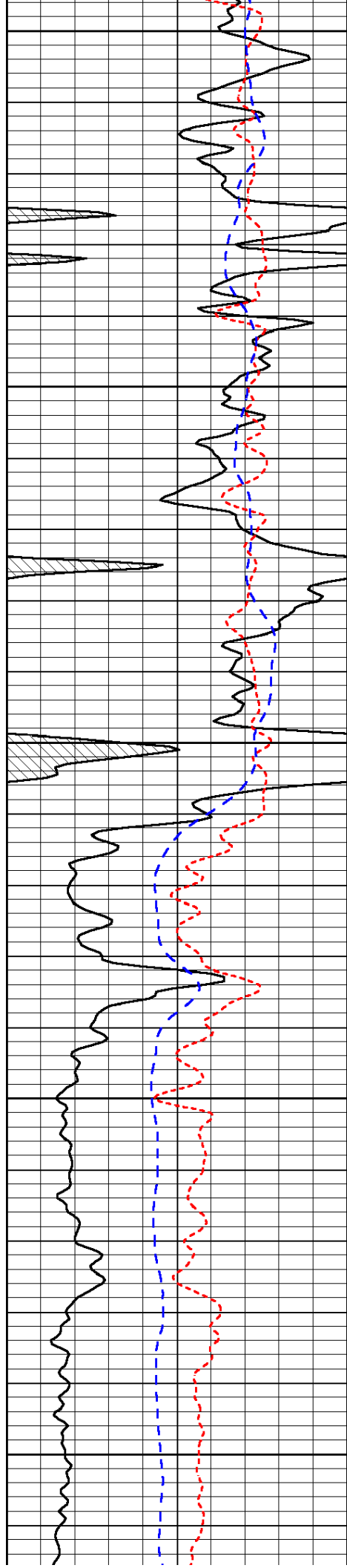






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Dataset Creation: Thu Jul 17 01:13:29 2014
Charted by: Depth in Feet scaled 1:240





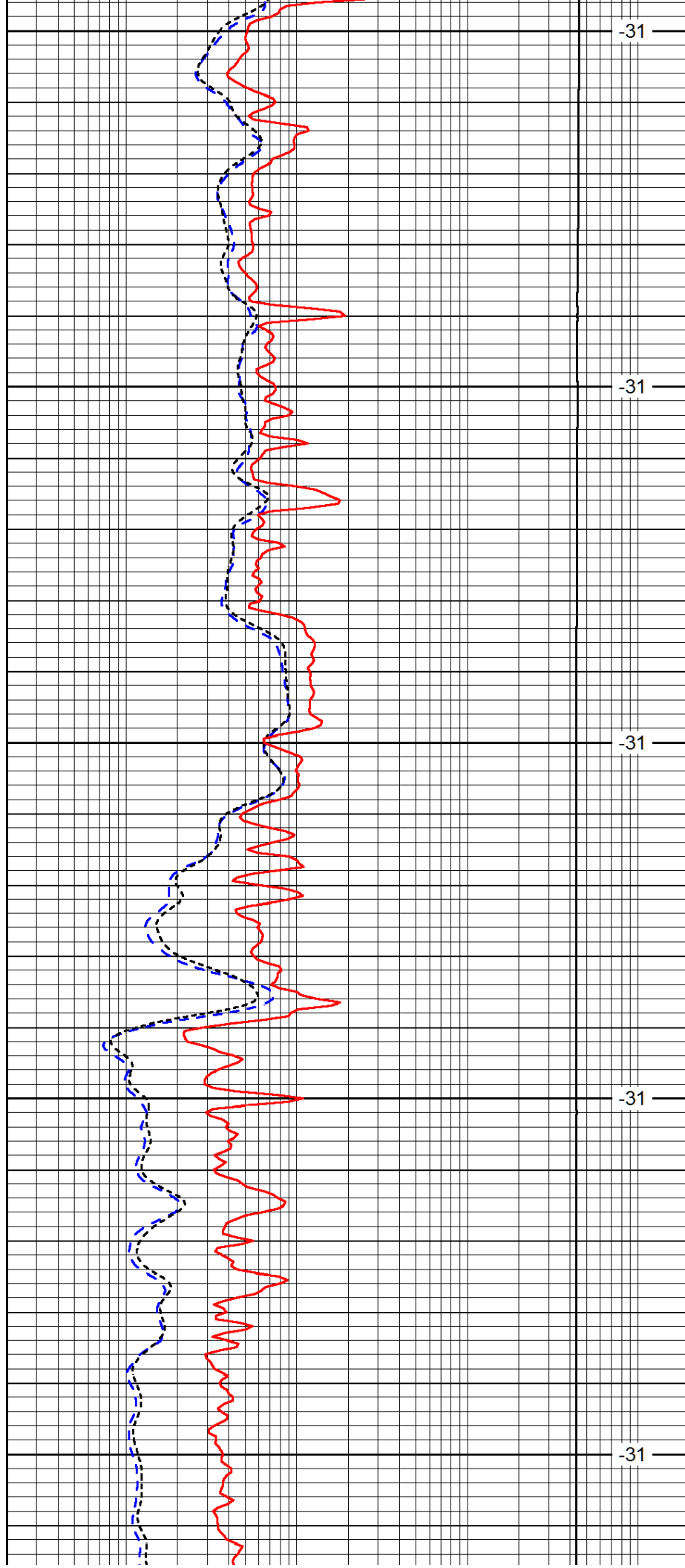
2800

2850

2900

2950

3000



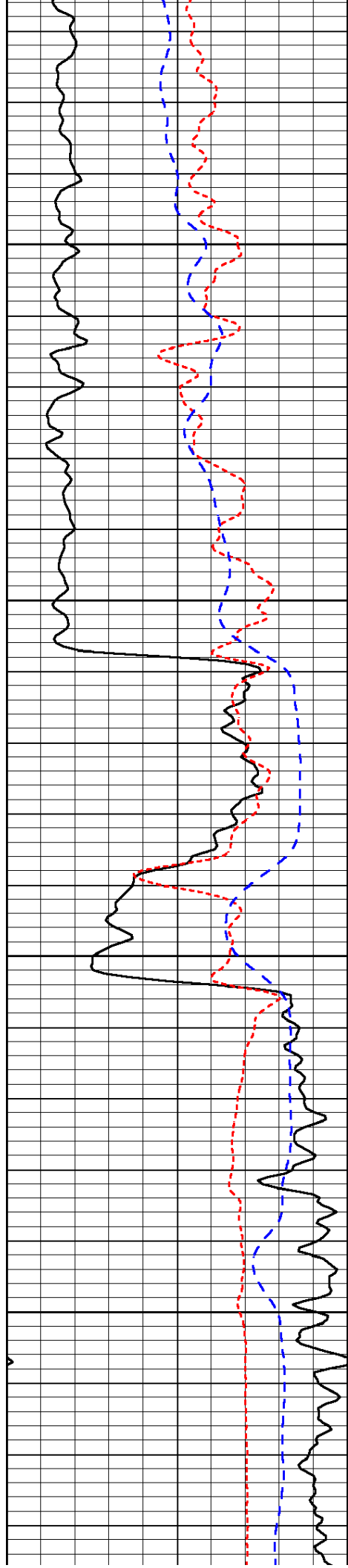
-31

-31

-31

-31

-31

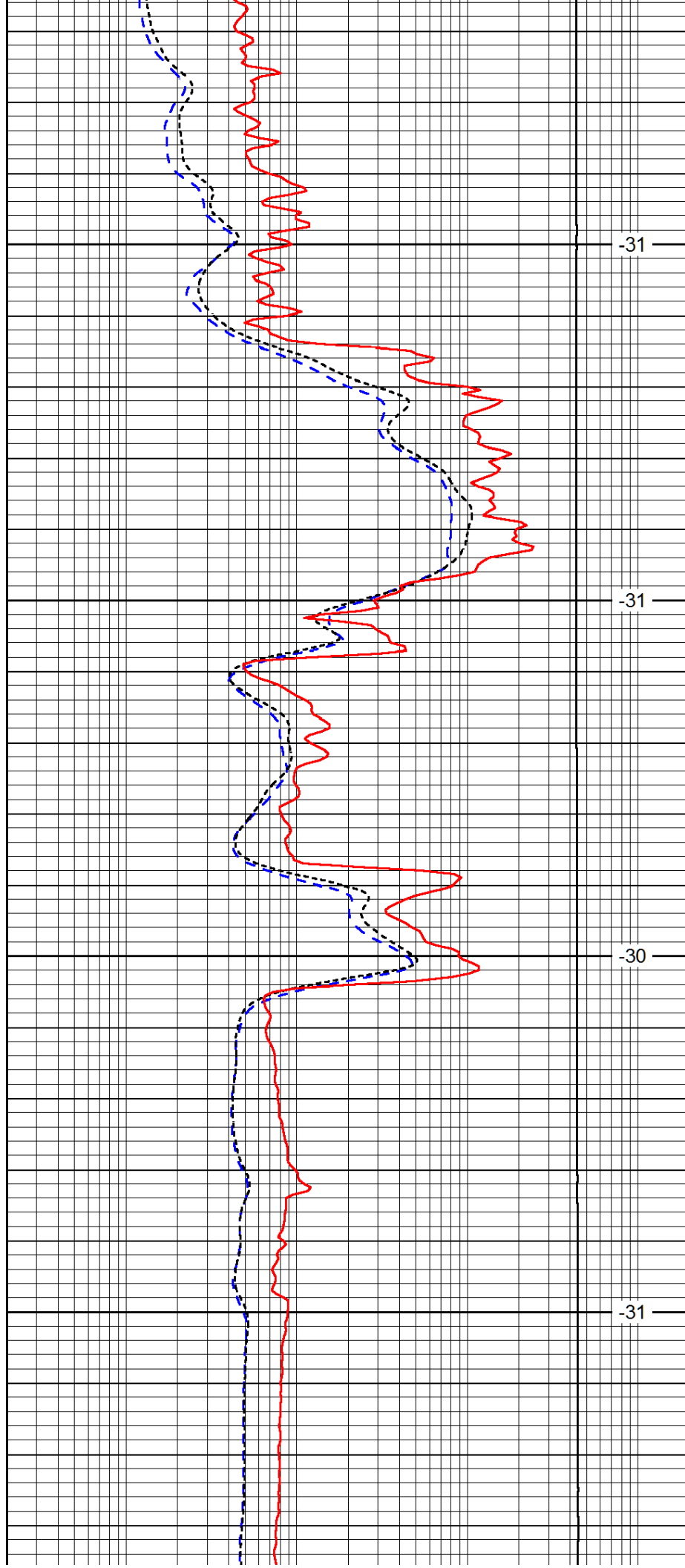


3050

3100

3150

3200

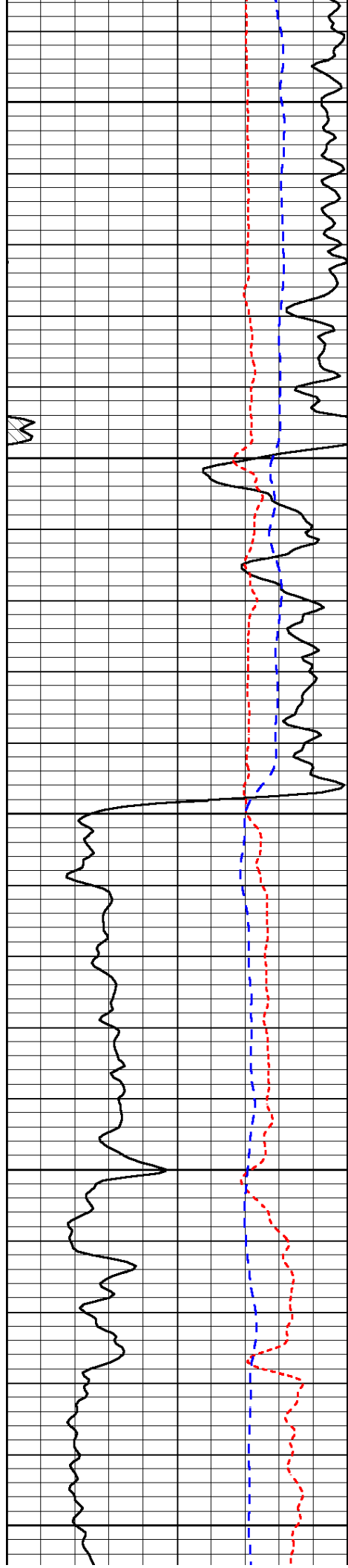


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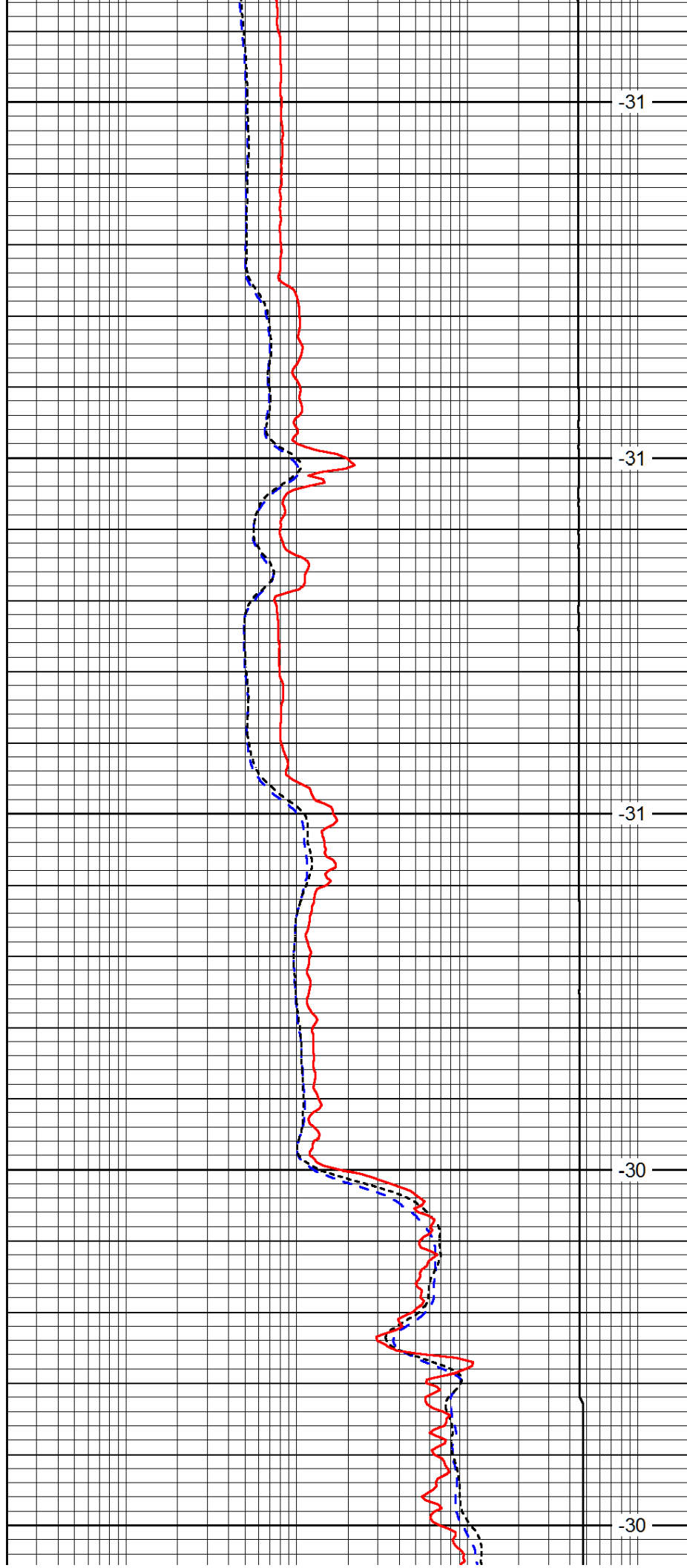
3250

3300

3350

3400

3450



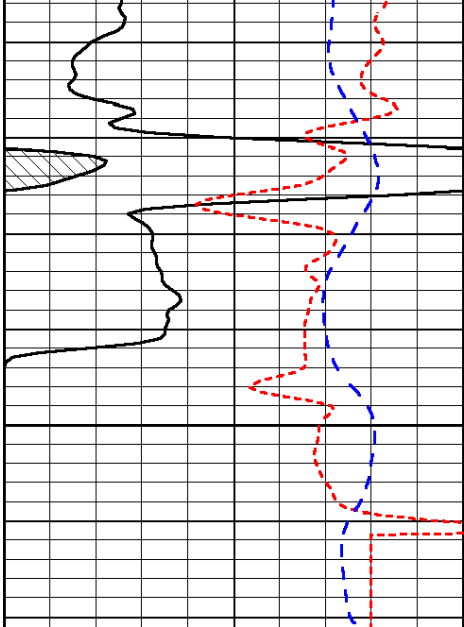
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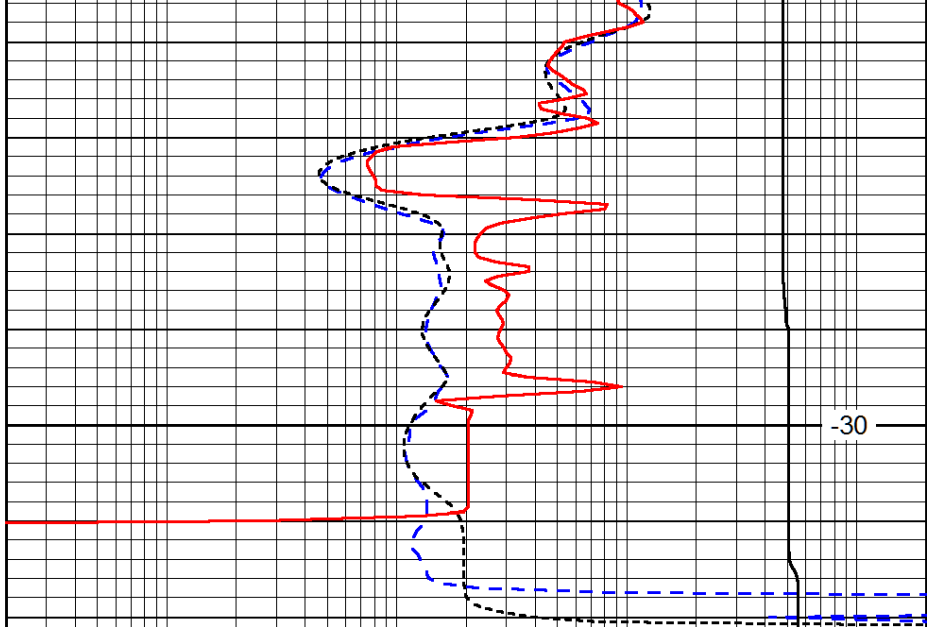
-30

-30



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

3500



0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD