



Dual Induction Log

Pioneer Energy Services

API No.

15-009-28,899-00-00

Company H&D Exploration, LLC

Well Snider No. 1

Field Beaver

County Barton State

Kansas

Location SE-SW-NE-NE
1037' FNL & 703' FEL

Sec: 9 Twp: 16S Rge: 12W

Other Services
CNL/CDL
MEI/BHCS

Permanent Datum Ground Level Elevation 1861
Log Measured From Kelly Bushing 9 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Elevation
K.B. 1870
D.F. 1861
G.L. 1861

Date 10/25/13

Run Number One

Depth Driller 3303

Depth Logger 3303

Bottom Logged Interval 3302

Top Log Interval 750

Casing Driller 8.625 @ 775

Casing Logger 774

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 7.200

Density / Viscosity 9.3 48

pH / Fluid Loss 10.5 8.8

Source of Sample Flowline

Rm @ Meas. Temp .42 @ 64

Rmf @ Meas. Temp .32 @ 64

Rmc @ Meas. Temp .57 @ 64

Source of Rmf / Rmc Charts

Rm @ BHT .25 @ 109

Operating Rig Time 5 Hours

Max Rec. Temp. F 109

Equipment Number 108

Location Hays

Recorded By J. Henrickson

Witnessed By Jim Musgrove

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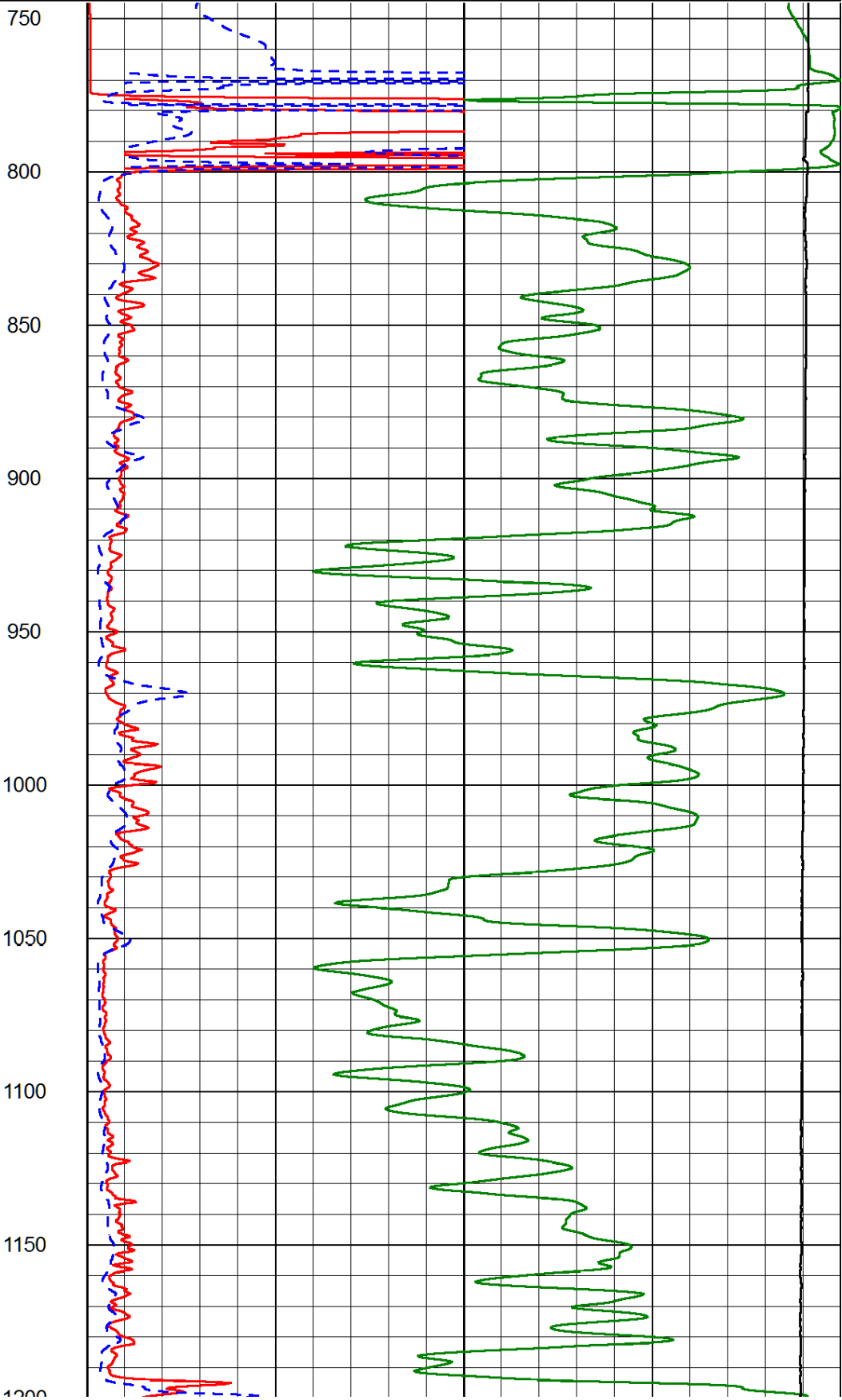
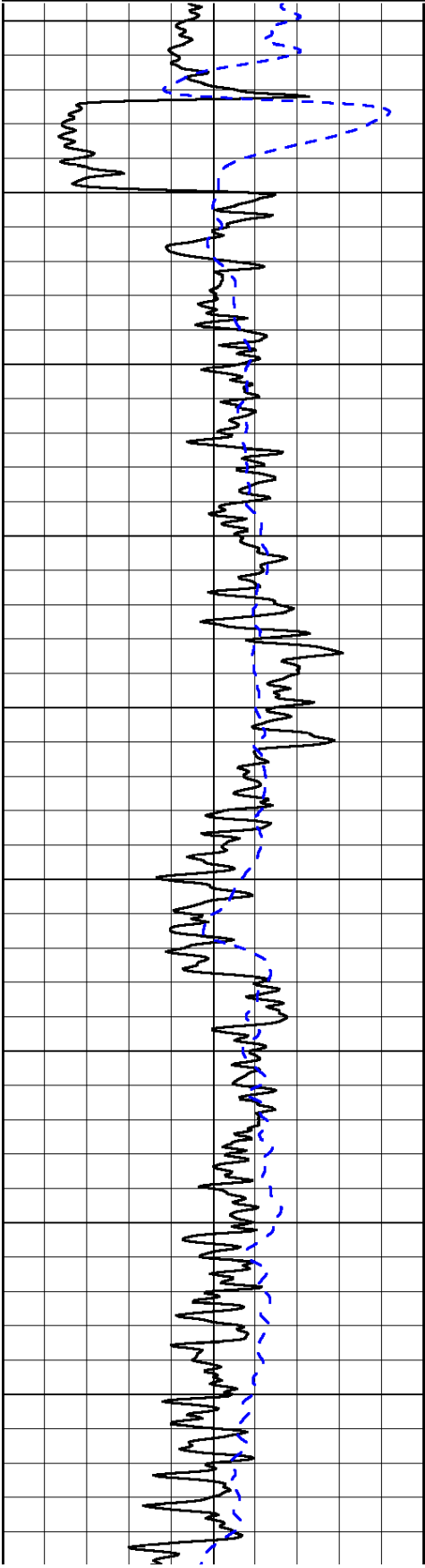
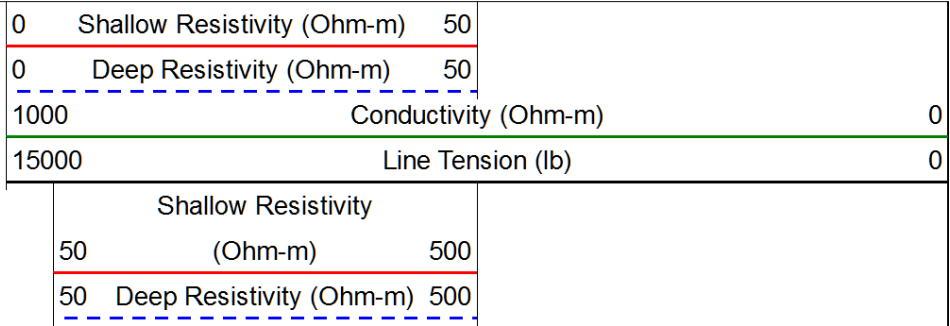
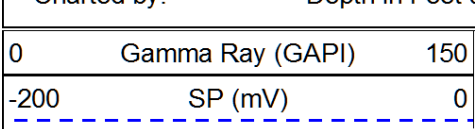
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

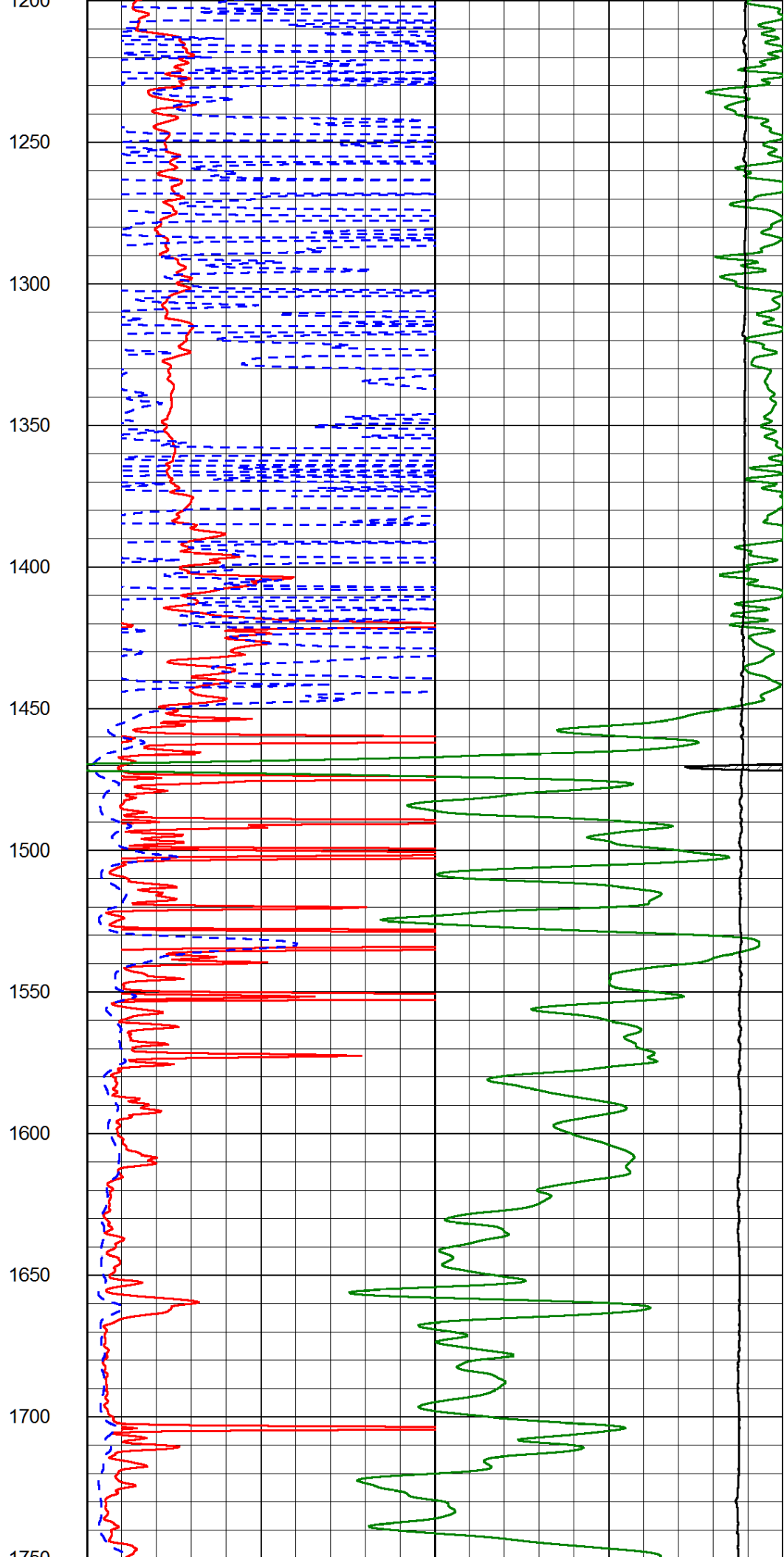
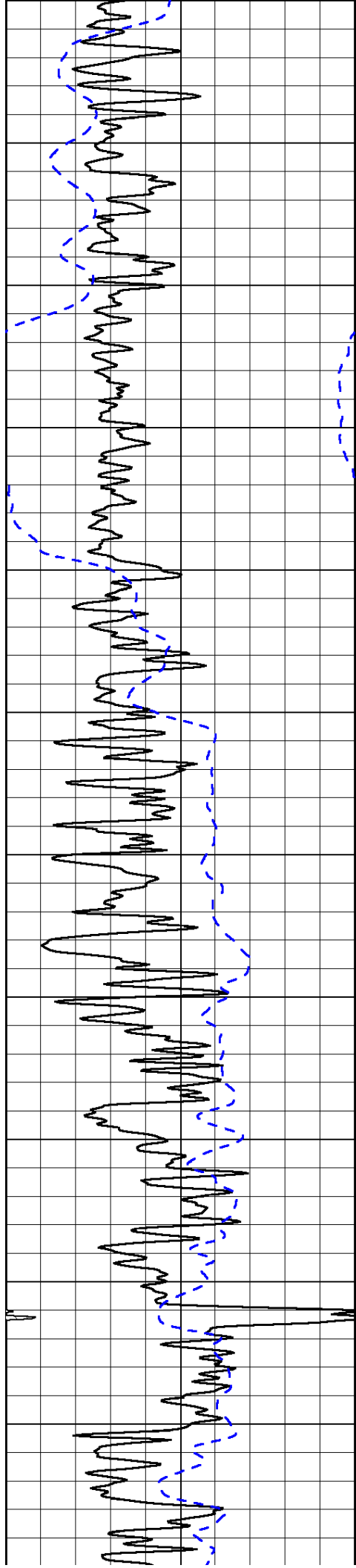
Comments

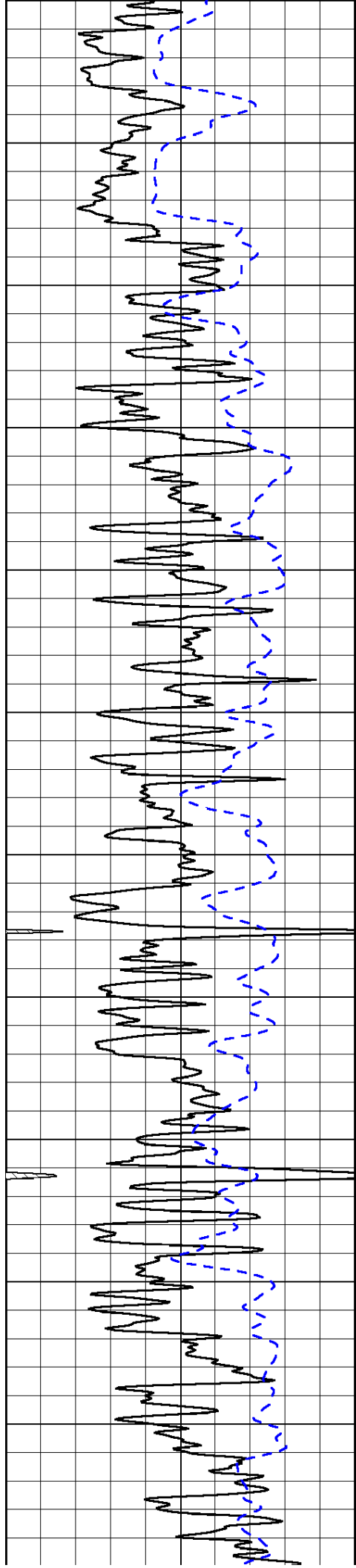
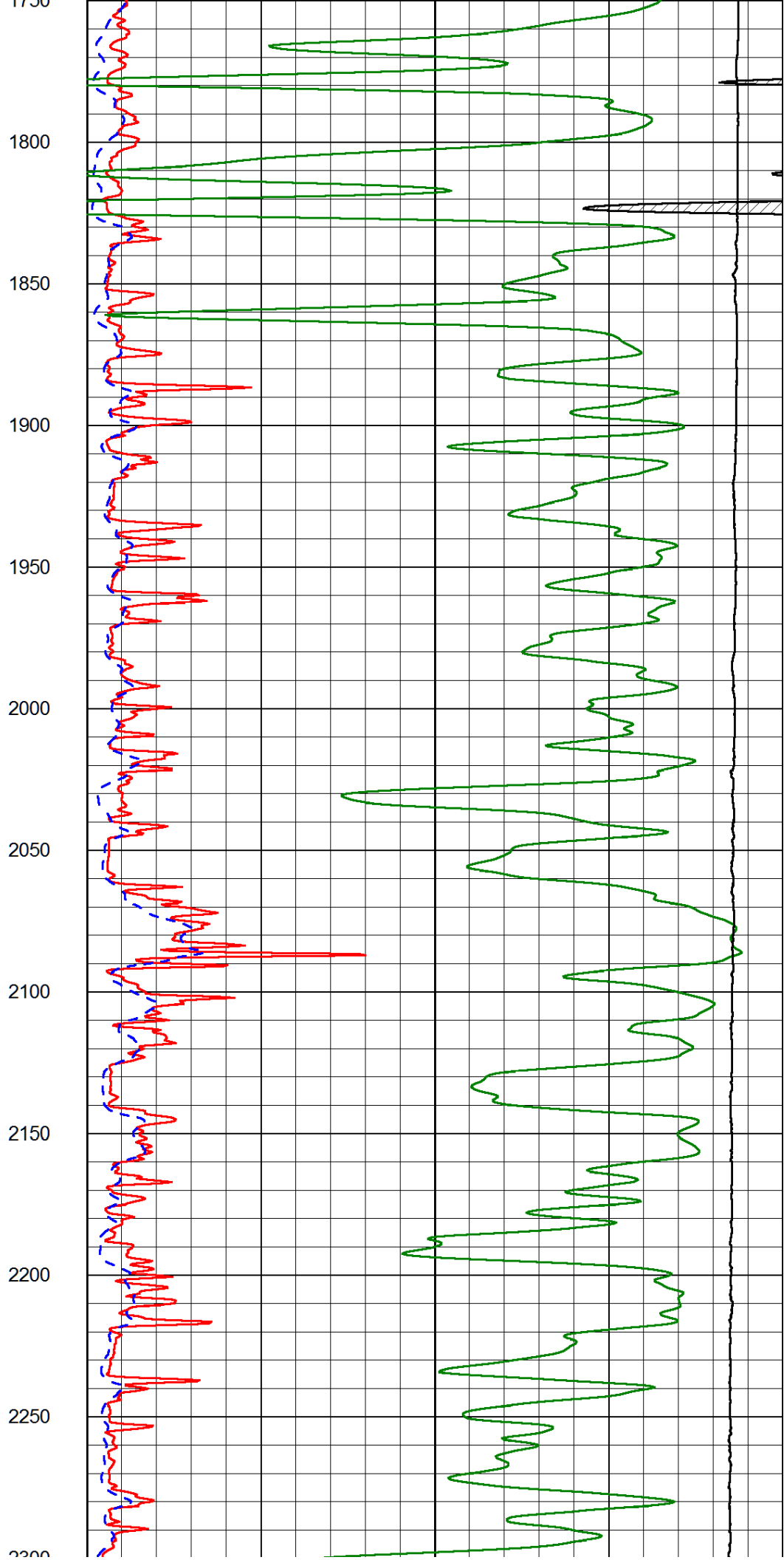
Thank you for using Log-Tech, Inc.
(785) 625-3858

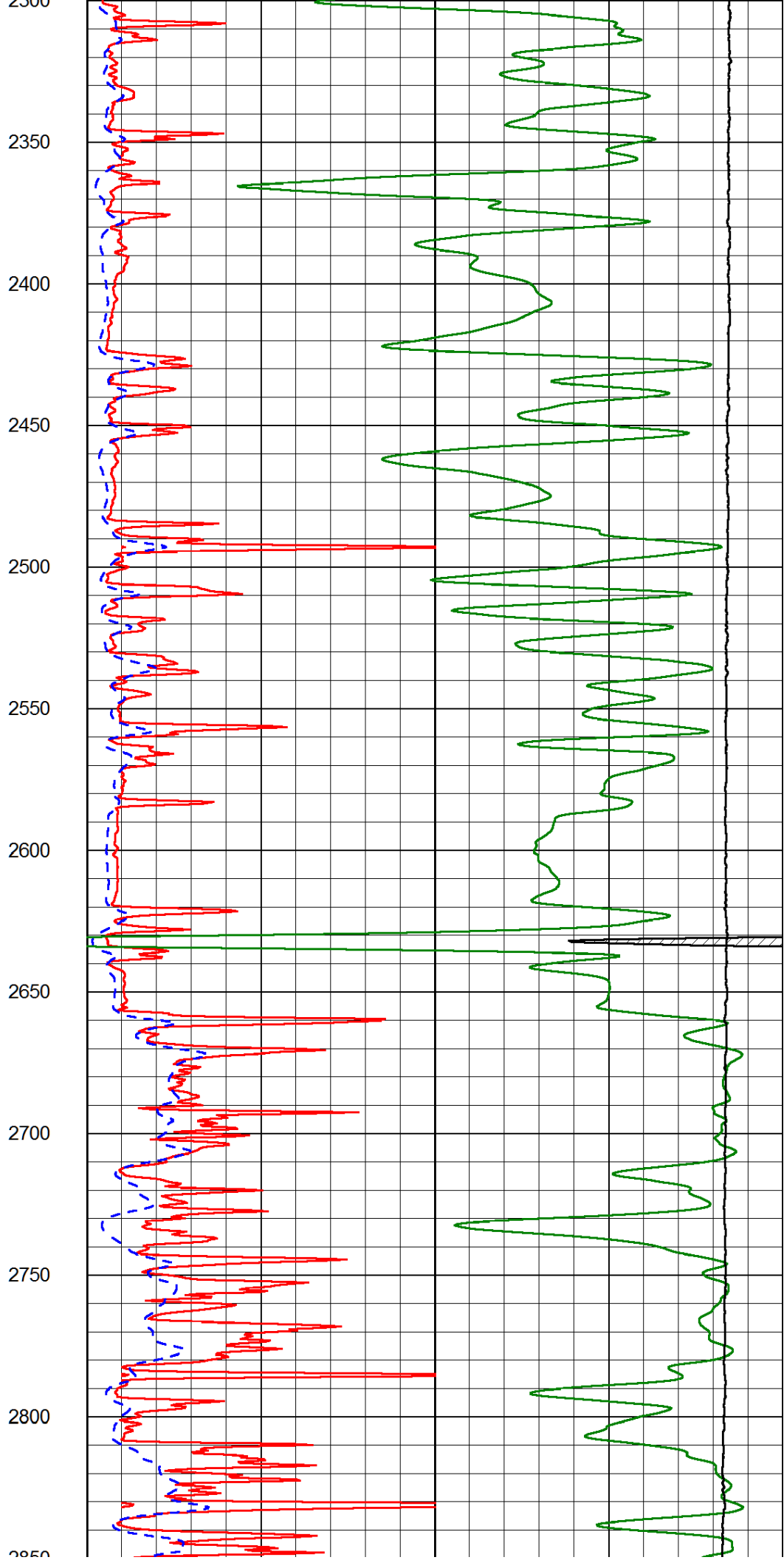
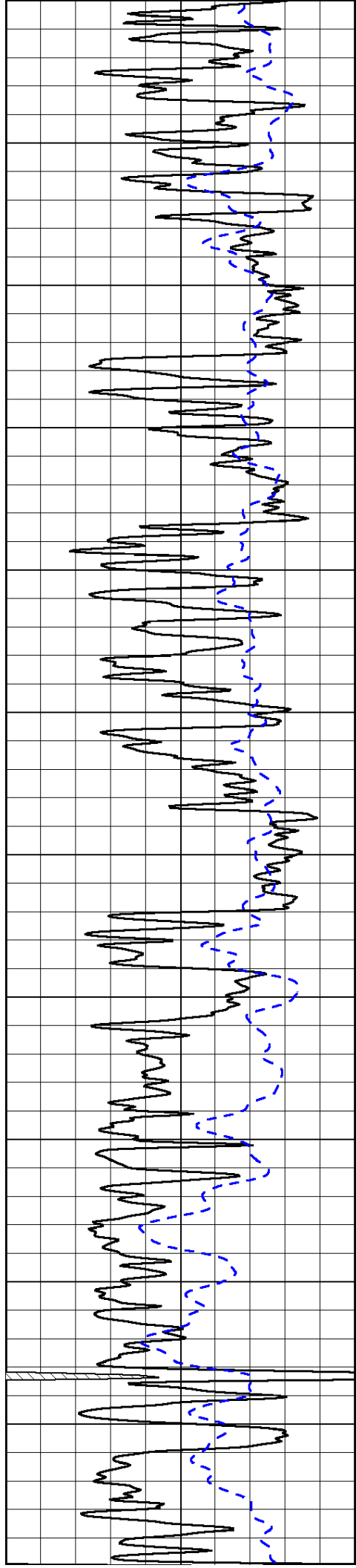
Beaver Kansas
1 East, 2 1/2 North, West Into

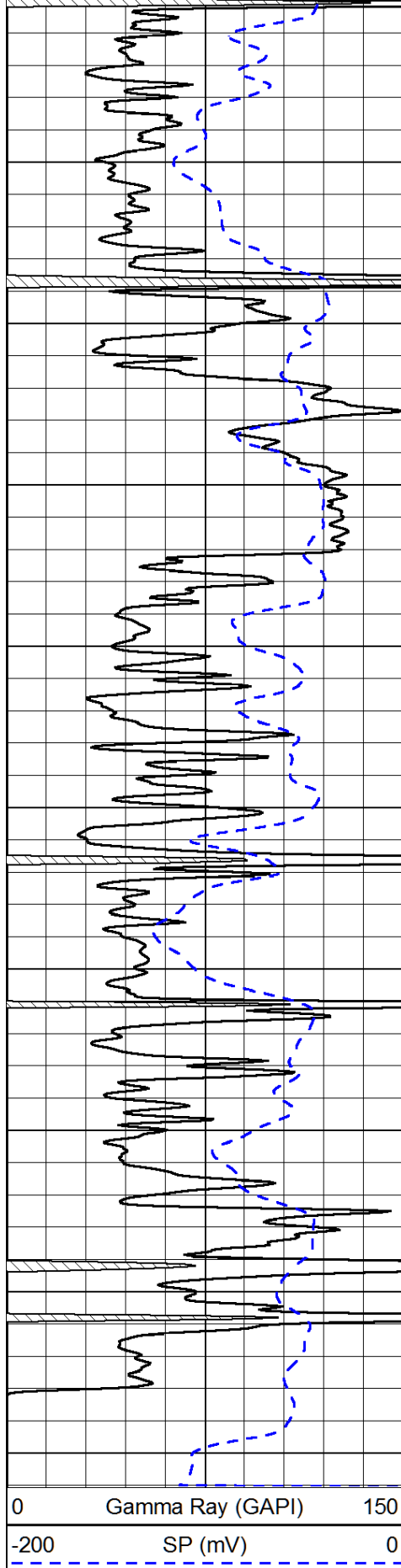
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Dataset Creation: Fri Oct 25 08:04:59 2013
Charted by: Depth in Feet scaled 1:600



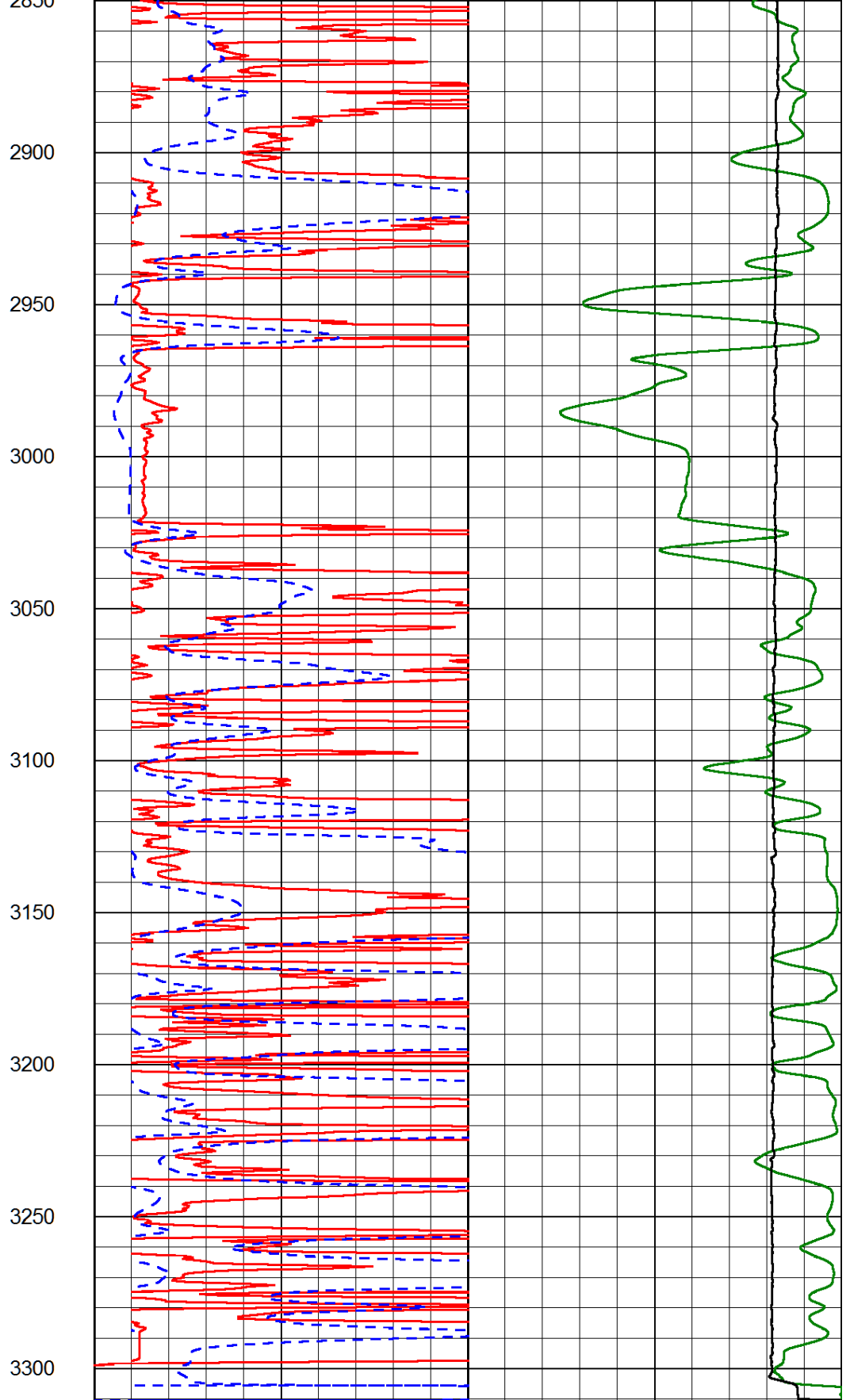








0 Gamma Ray (GAPI) 150
-200 SP (mV) 0



0 Shallow Resistivity (Ohm-m) 50
0 Deep Resistivity (Ohm-m) 50
1000 Conductivity (Ohm-m) 0
15000 Line Tension (lb) 0

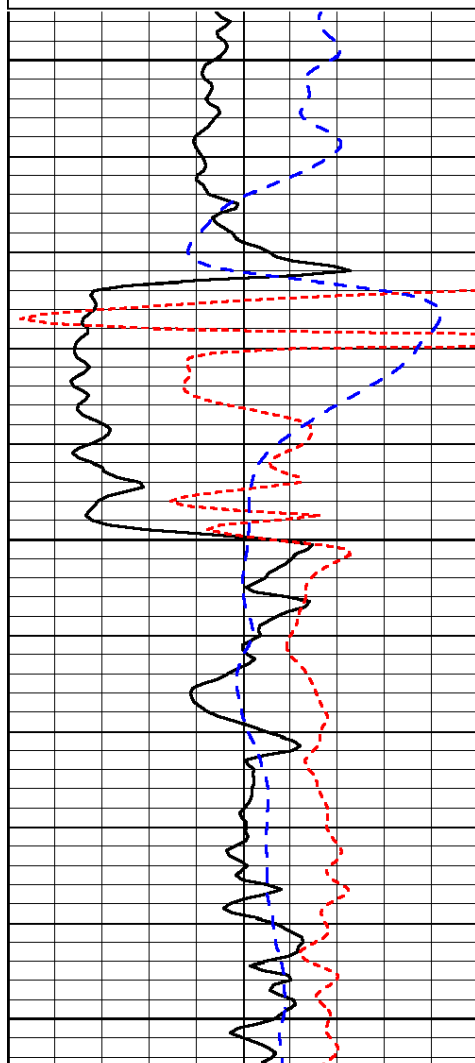
Shallow Resistivity
50 (Ohm-m) 500
50 Deep Resistivity (Ohm-m) 500

Database File: handd_snider_1hd.db
Dataset Pathname: DIL/hdstk
Presentation Format: dil
Dataset Creation: Fri Oct 25 08:04:59 2013
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)

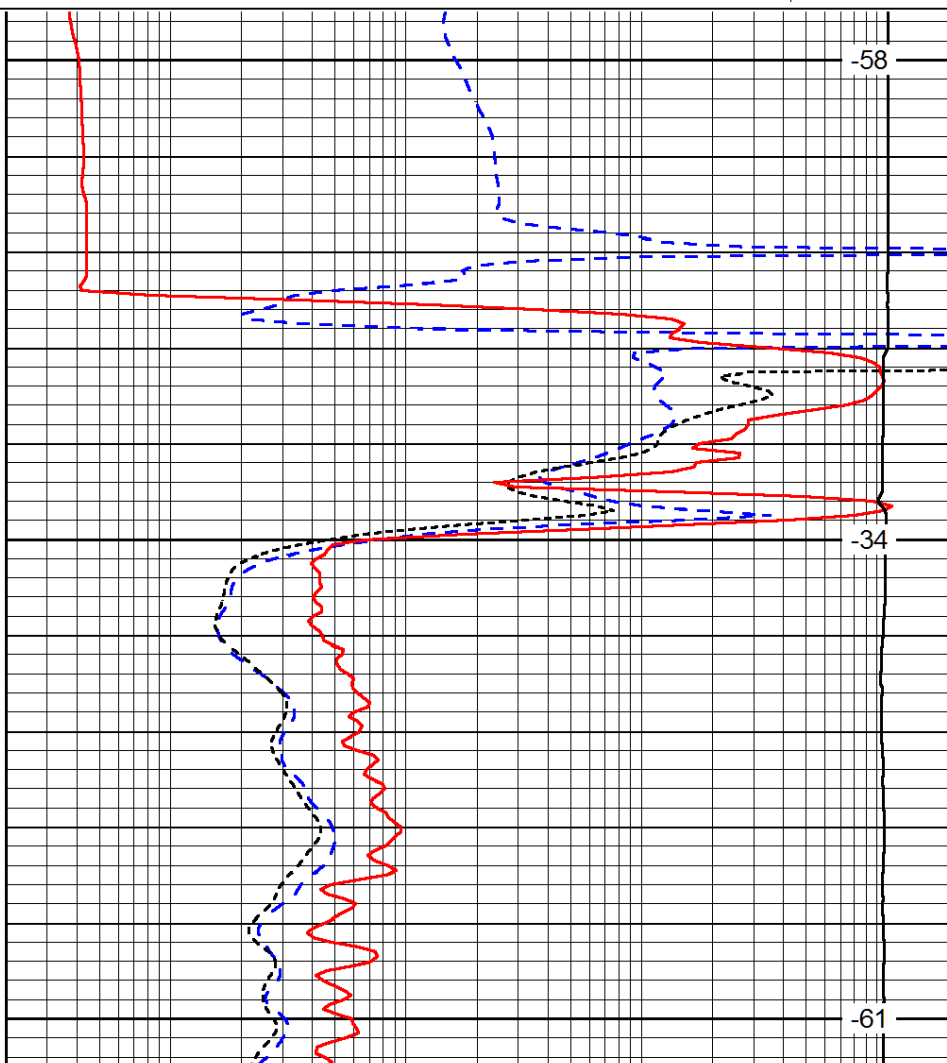


750

800

850

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



-58

-34

-61

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

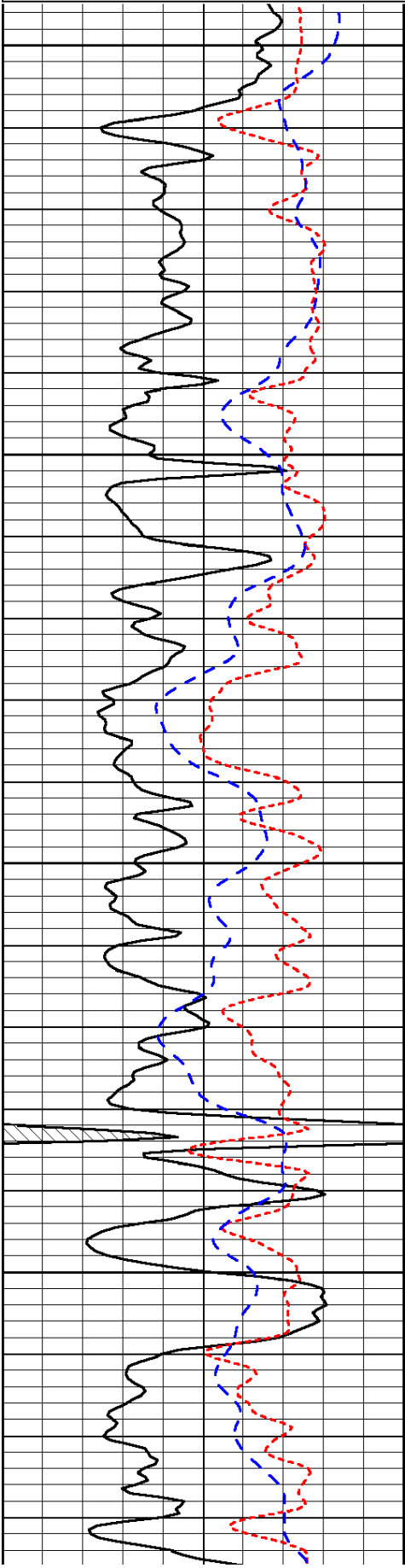
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(ft/min)

Database File: handd_snider_1hd.db
Dataset Pathname: DIL/hdstk
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10000	Line Tension (lb)	0

LSPD
(ft/min)

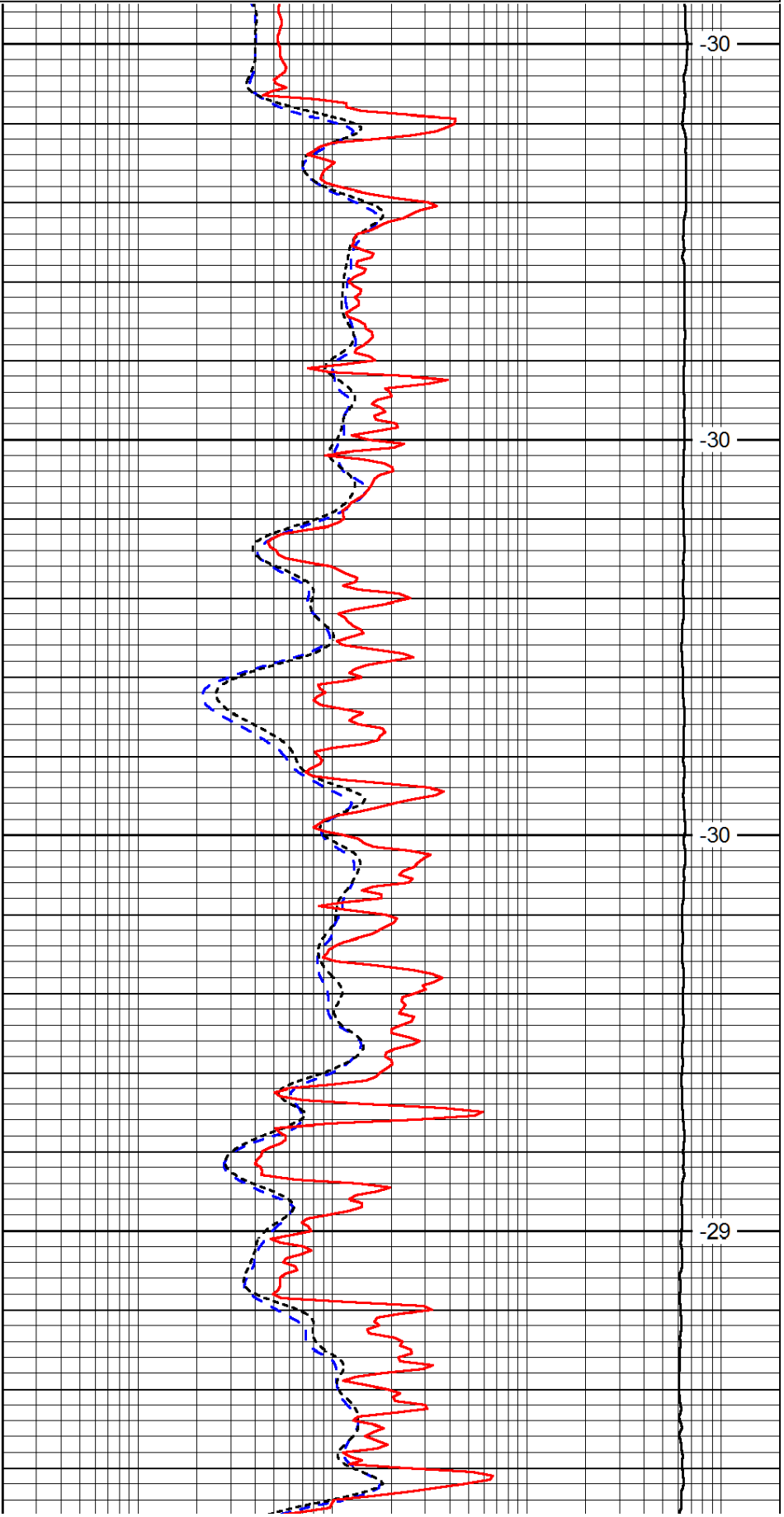


2650

2700

2750

2800

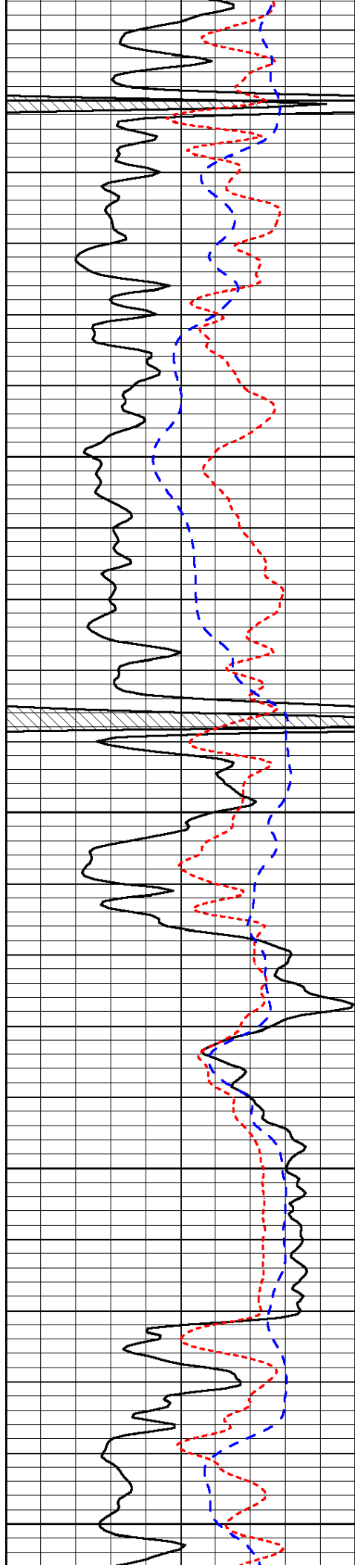


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-30

-30

-29



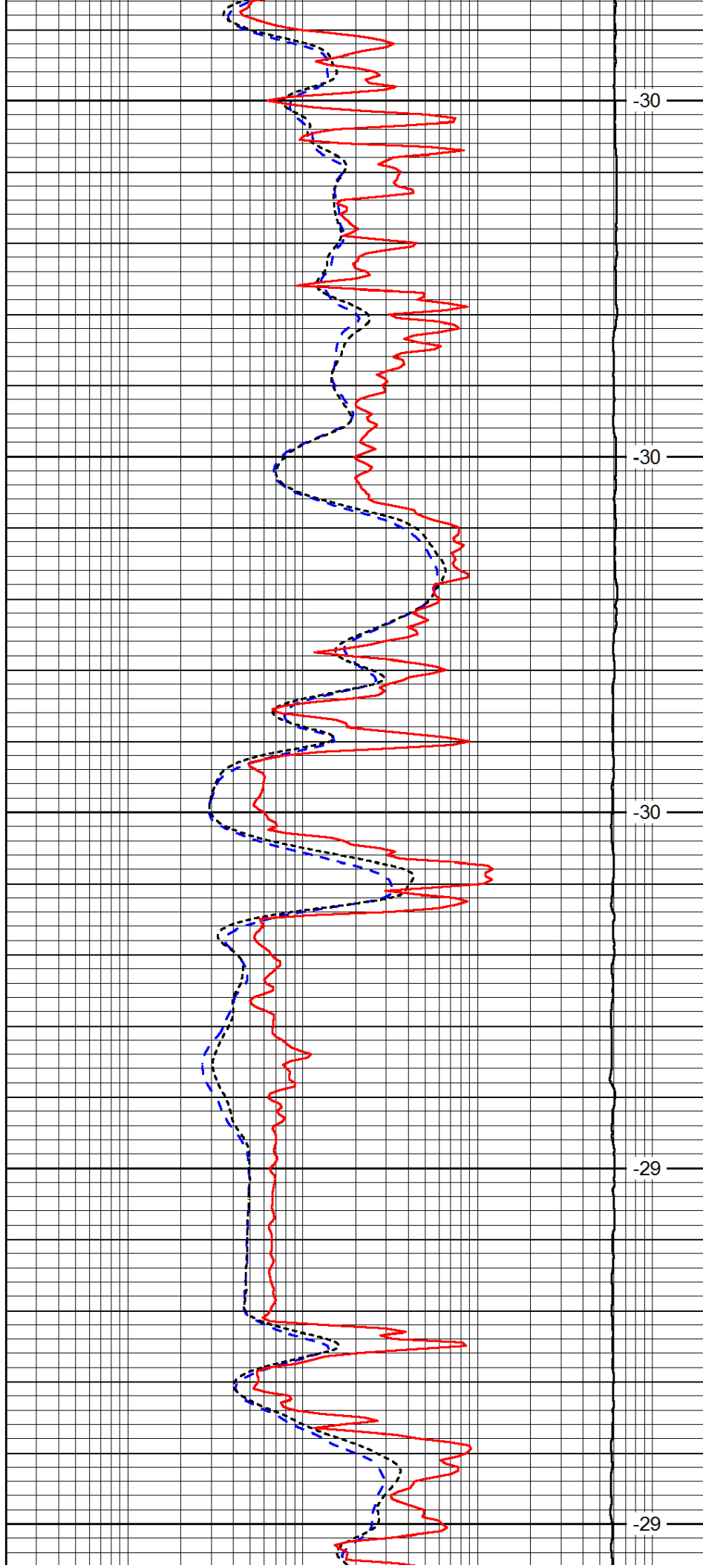
2850

2900

2950

3000

3050



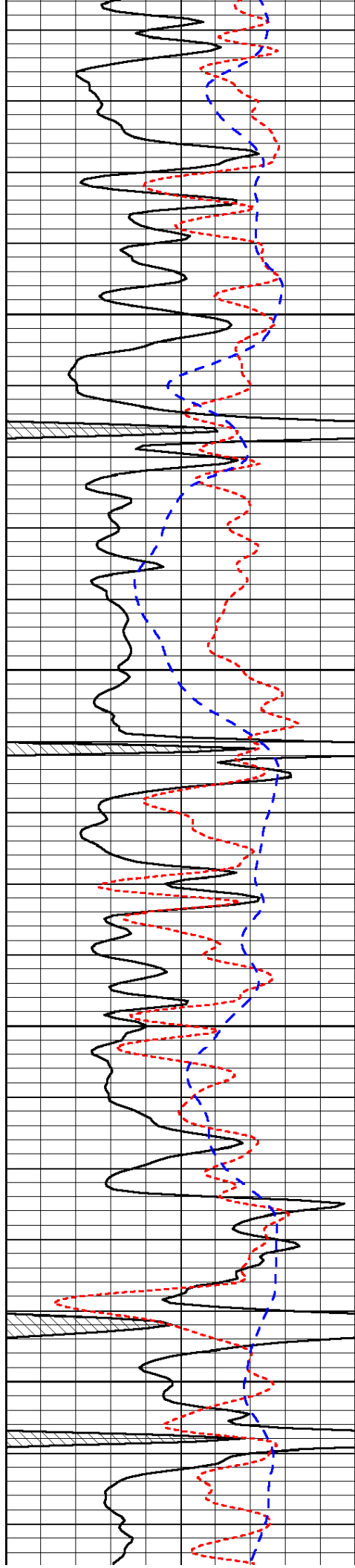
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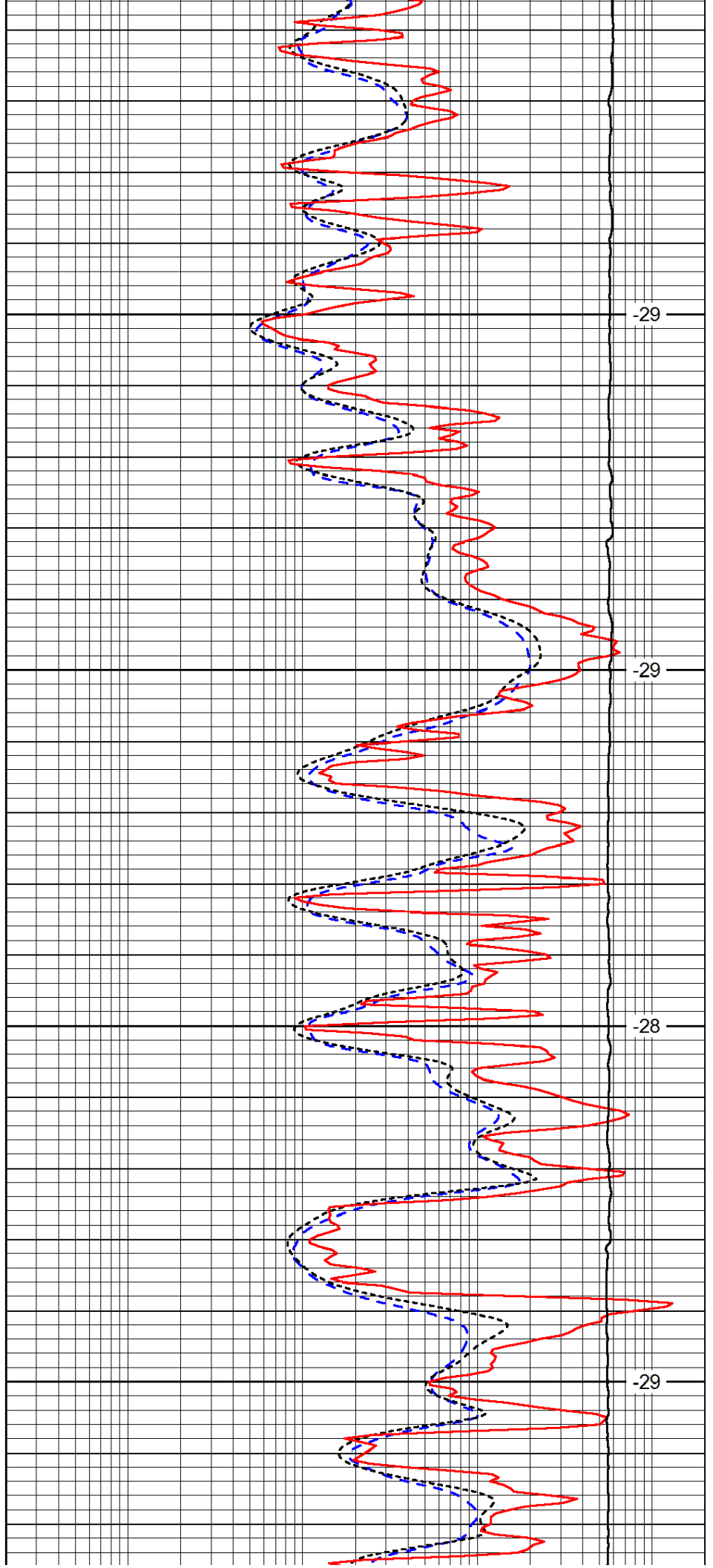


3100

3150

3200

3250

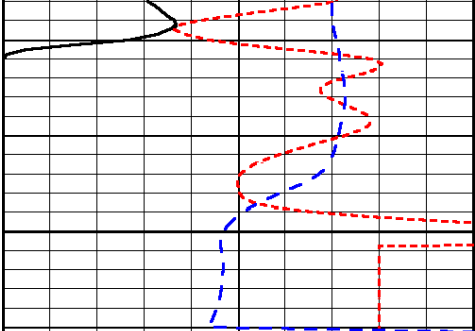


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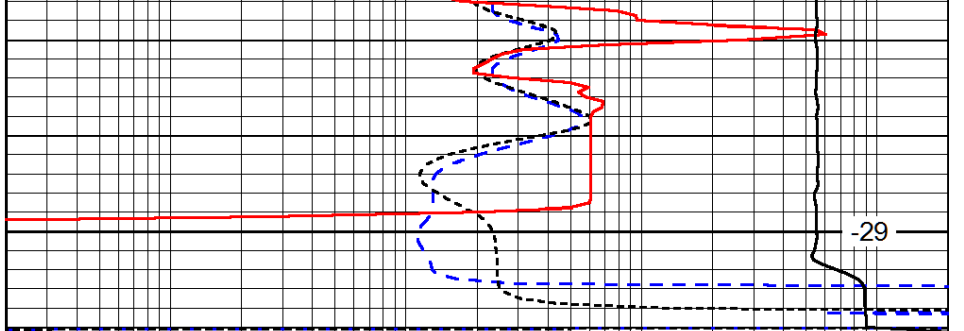
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0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

3300



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

-29

LSPD
(ft/min)