



Microresistivity Log

Pioneer Energy Services

API No.

15-053-21,300-00-00

Company American Warrior, Inc.
Well Grubb Unit #1-5
Field Stollenberg
County Ellsworth State Kansas

Location NE NE SE SW
1171' FSL & 2610' FWL
Sec: 5 Twp: 16S Rge: 10W

Other Services
CNL/CDL
DIL

Permanent Datum Ground Level Elevation 1818
Log Measured From Kelly Bushing 8 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Elevation
K.B. 1826
D.F. 1818
G.L. 1818

Date 1/9/2014

Run Number Two

Depth Driller 3407

Depth Logger 3407

Bottom Logged Interval 3406

Top Log Interval 2650

Casing Driller 8.625 @ 394

Casing Logger 385

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 8500

Density / Viscosity 9.6 67

pH / Fluid Loss 9.5 8.0

Source of Sample Flowline

Rm @ Meas. Temp 0.43 @ 60

Rmf @ Meas. Temp 0.32 @ 60

Rmc @ Meas. Temp 0.58 @ 60

Source of Rmf / Rmc Charts

Rm @ BHT 0.25 @ 110

Operating Rig Time 3 1/2 Hours

Max Rec. Temp. F 110

Equipment Number 15

Location Hays

Recorded By D. Kerr

Witnessed By Clint 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.

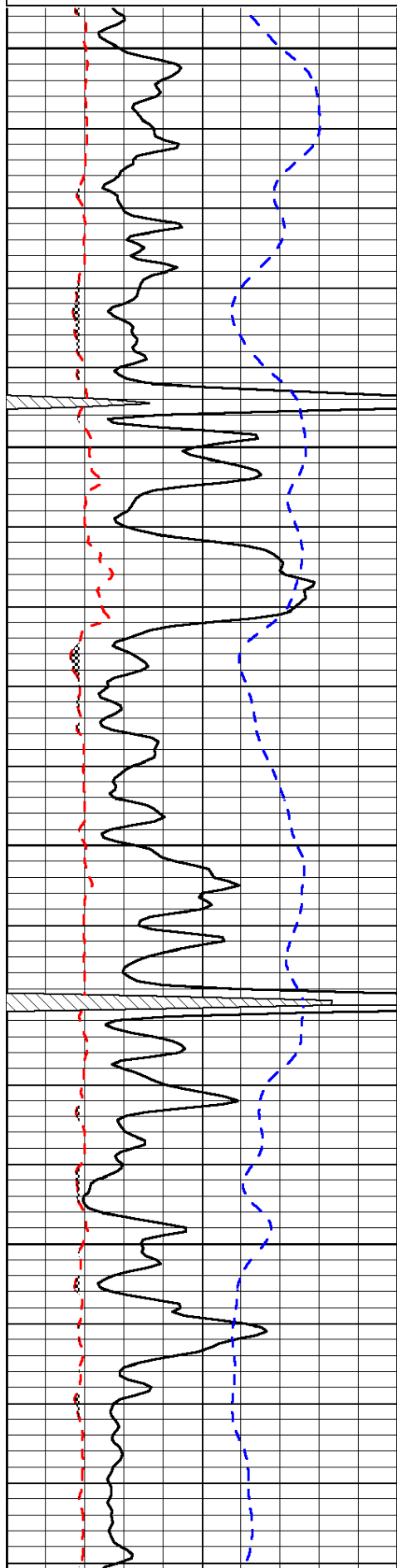
Comments

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

Wilson KS, 10 South,
1 1/2 East, North Into

Database File: c:\warrior\data\amwar_grubb unit #1-5\amwarrior_grubbunit_1_5hd.db
Dataset Pathname: DIL\awstk
Presentation Format: micro
Dataset Creation: Thu Jan 09 12:45:53 2014
Charted by: Depth in Feet scaled 1:240

Charted by: Depth in Feet scaled 1:210		
0	Gamma Ray	150
6	Micro Log Caliper (GAPI)	16
-200	SP (mV)	0



2650

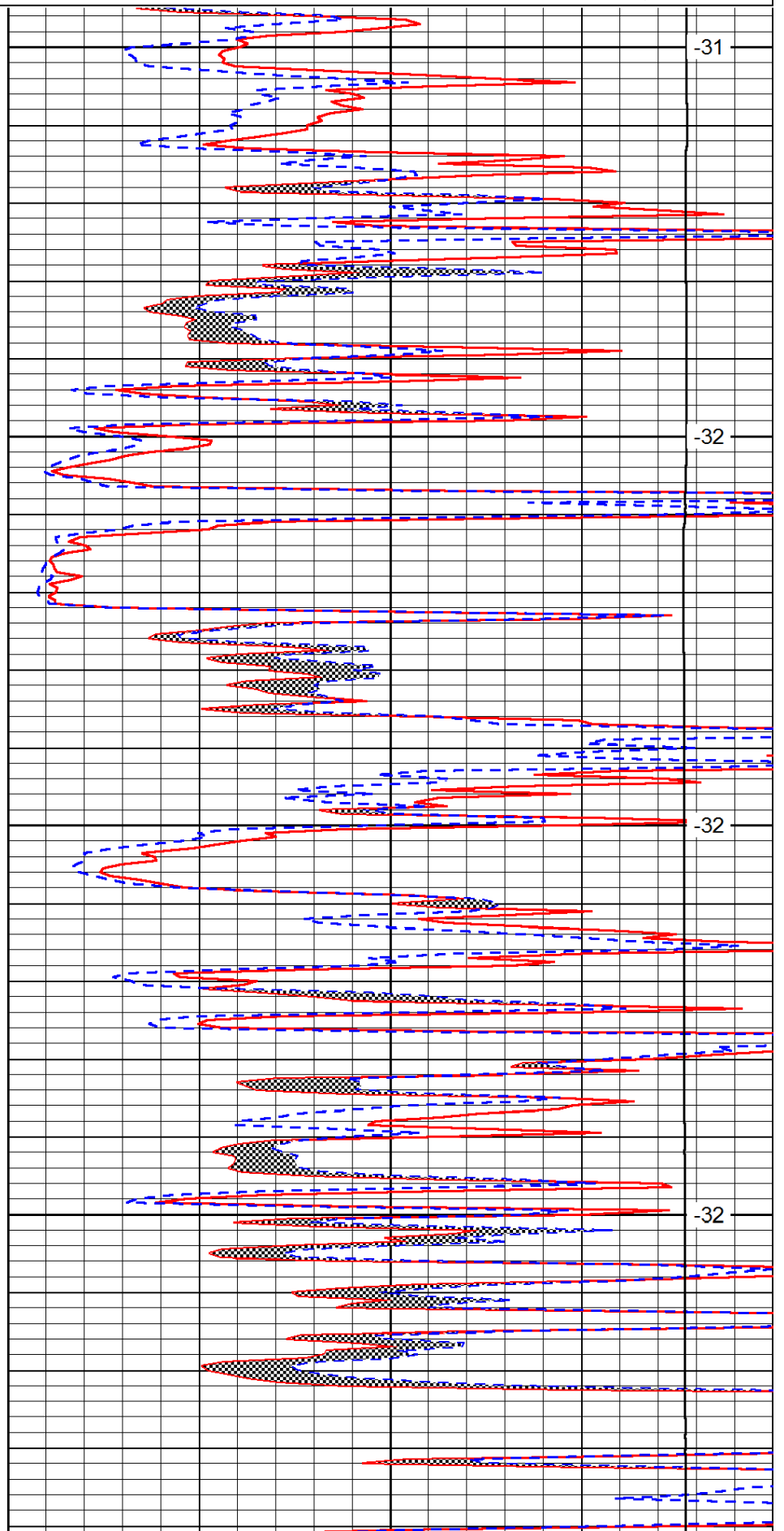
2700

2750

2800

0	Micro Inverse 1 X 1	40
0	Micro Normal 2"	40
15000	Line Weight	0

LSPD

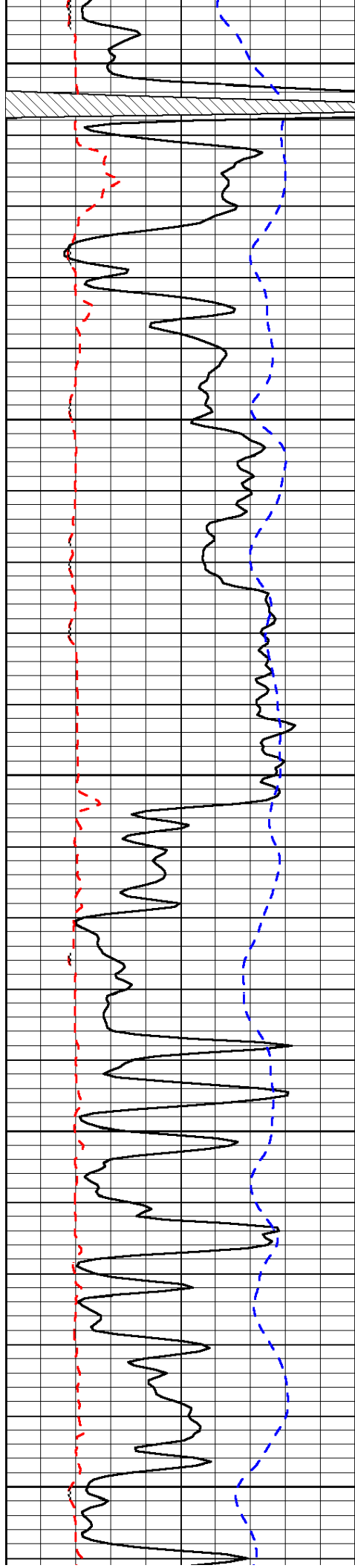


-31

-32

-32

-32



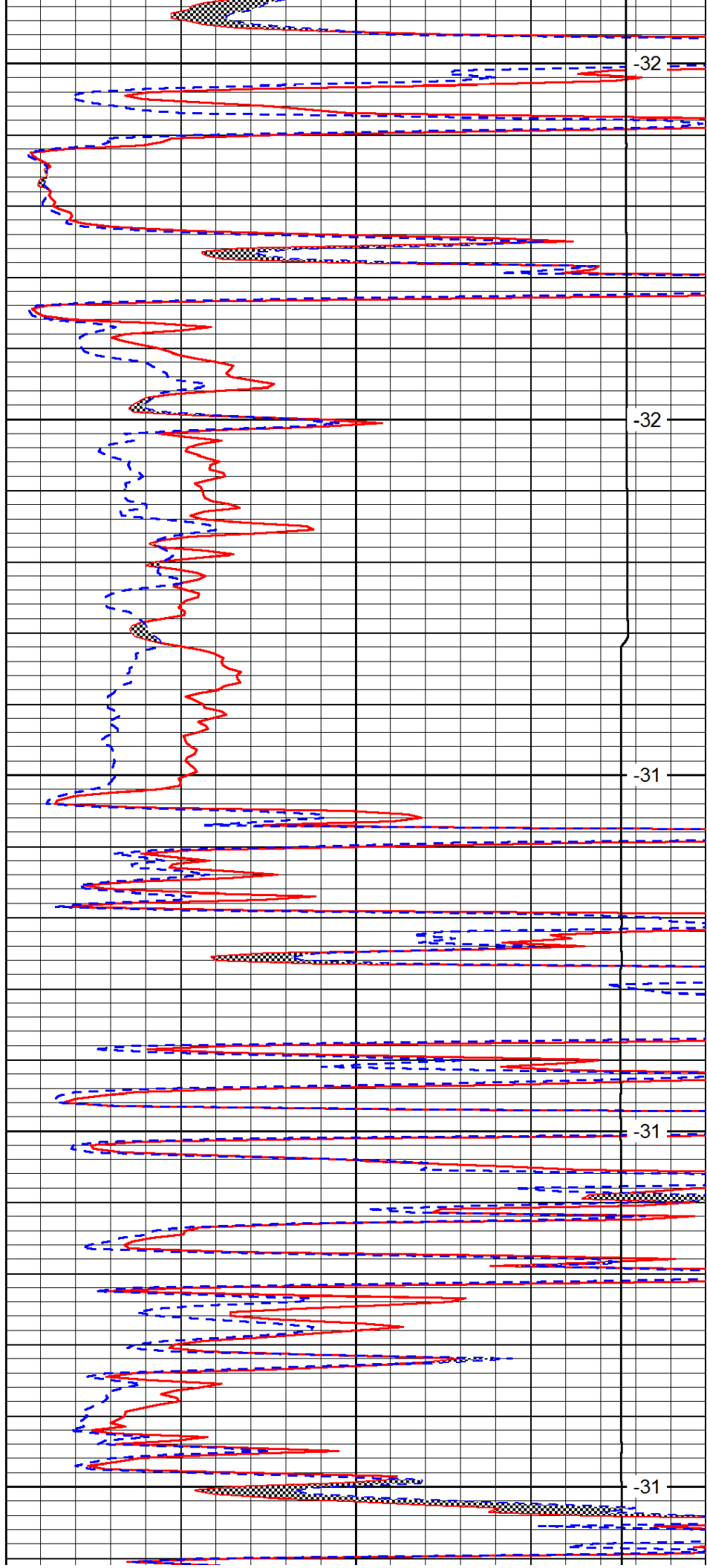
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2900

2950

3000

3050



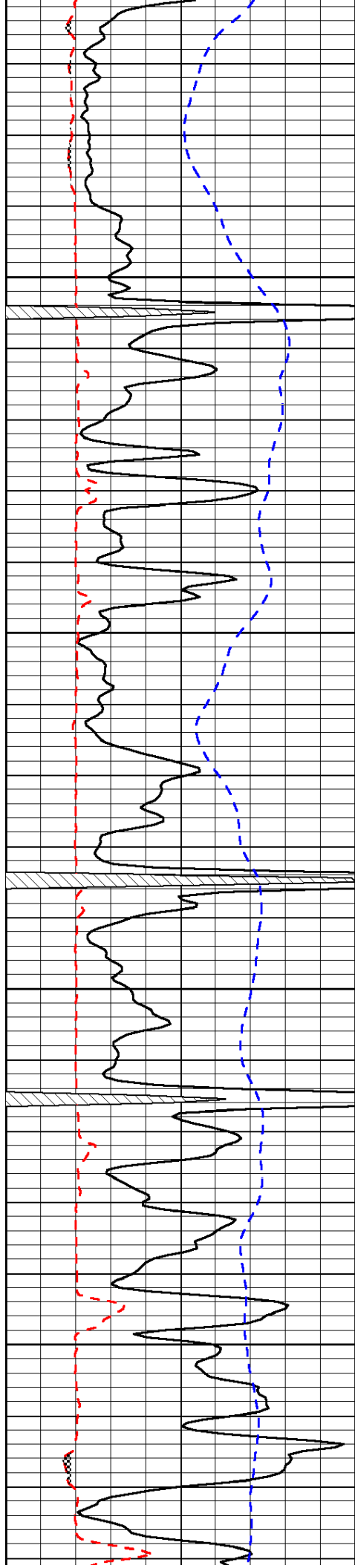
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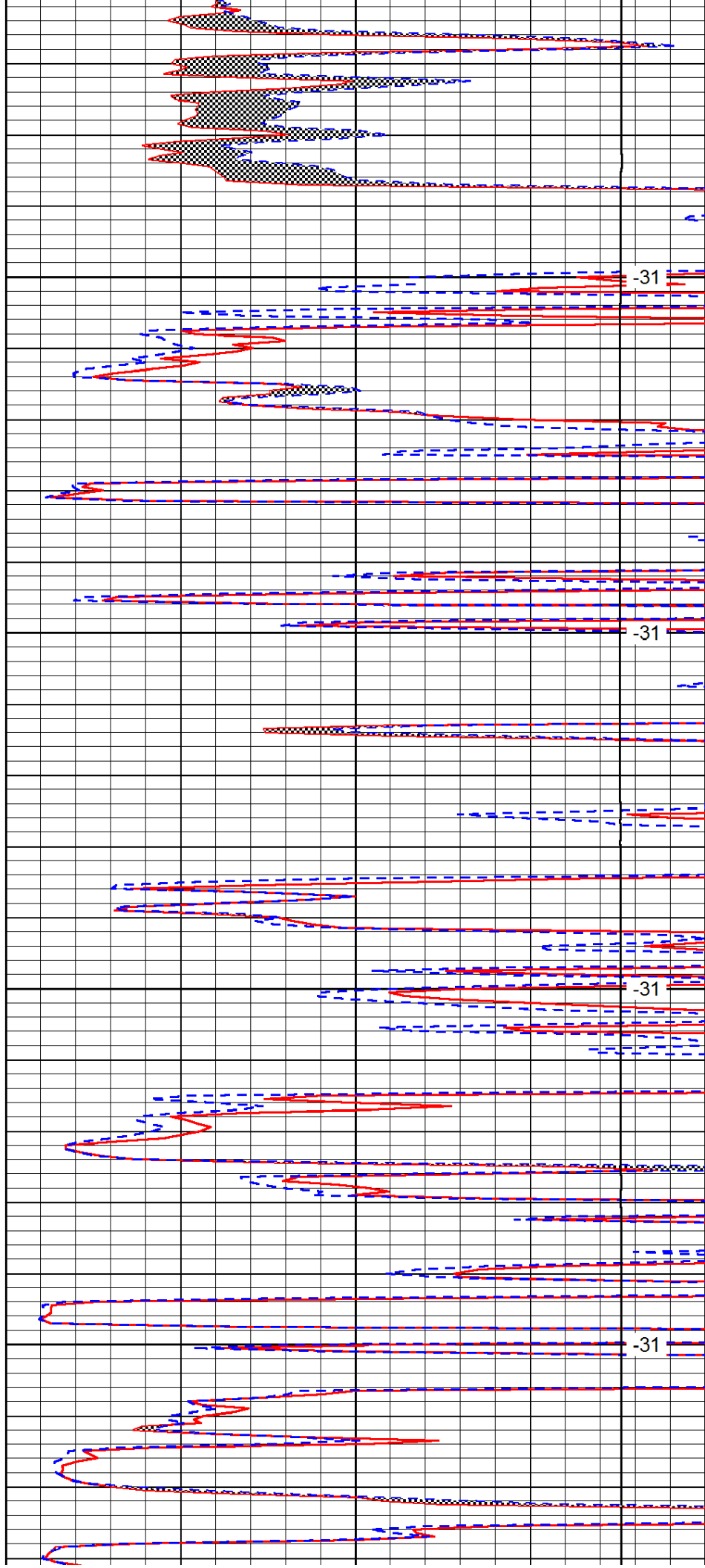


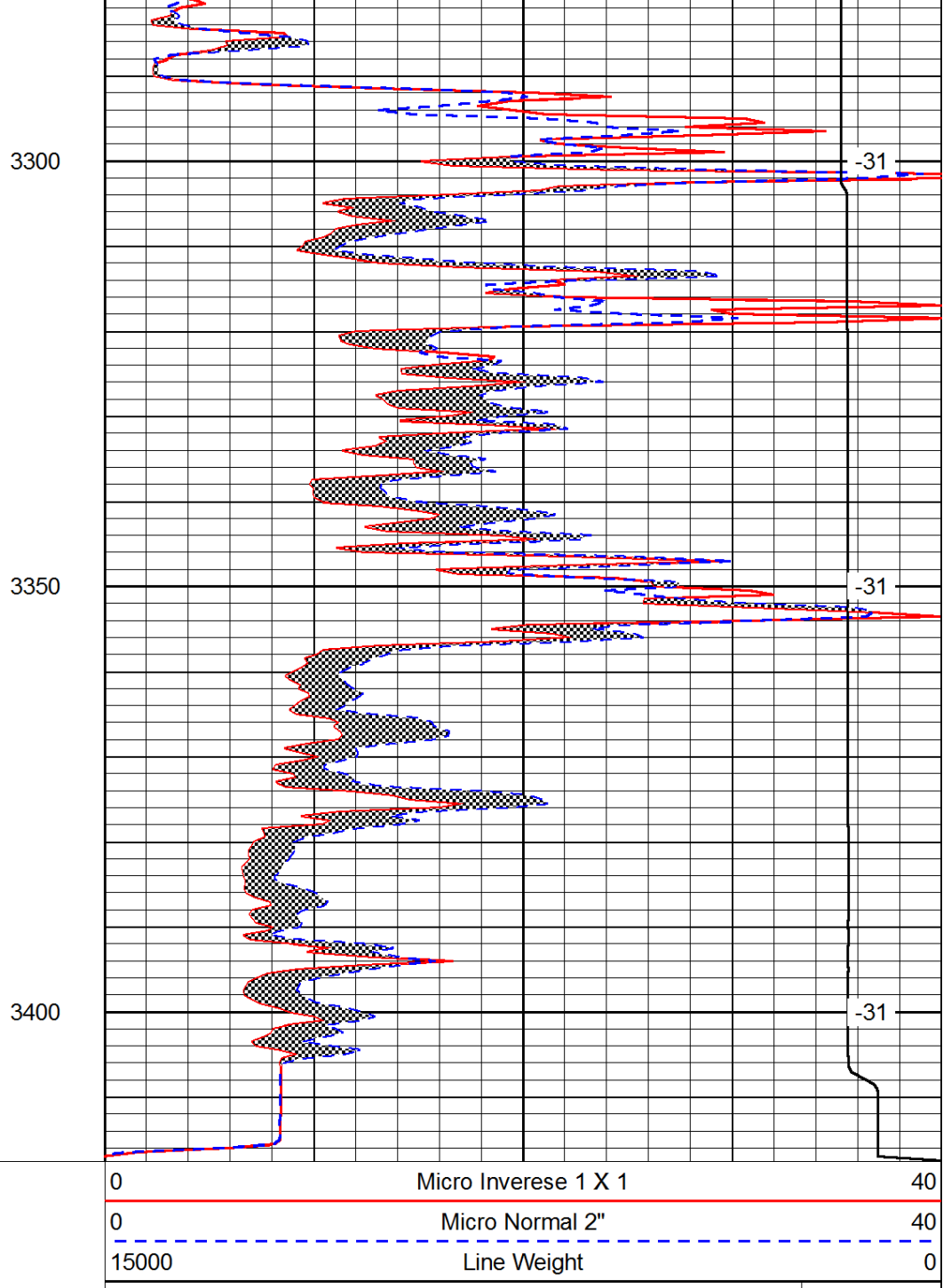
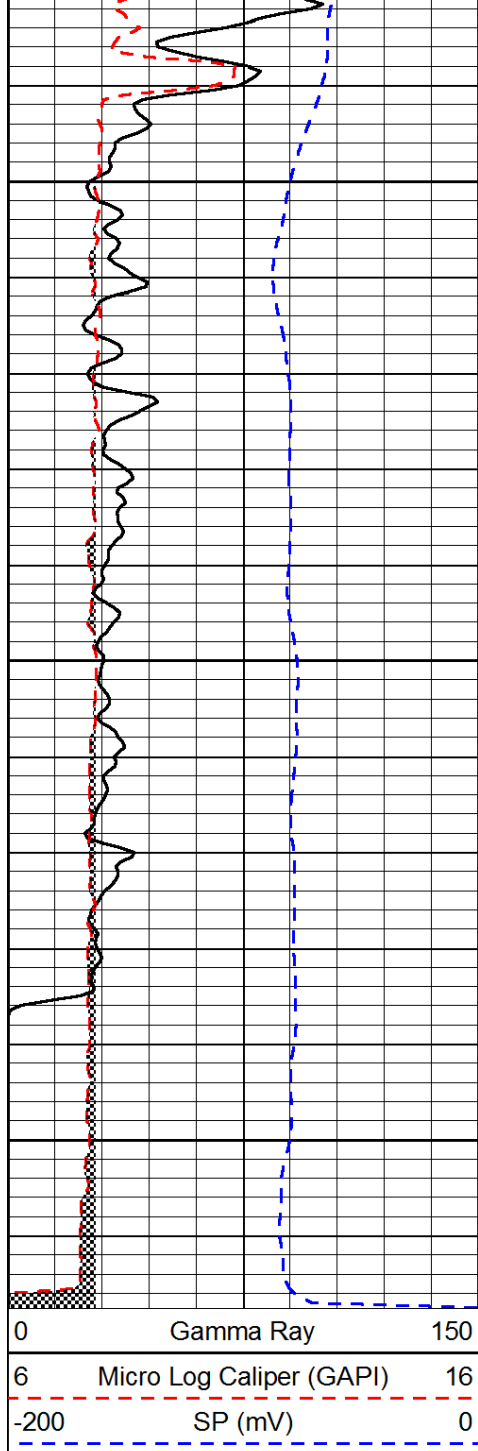
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3150

3200

3250





LSPD