



Microresistivity Log

Pioneer Energy Services

API No.

15-065-24026-00-00

Company H & C Oil Operating, Inc.

Well Waggoner #24-1

Field Wildcat

County Graham State

Kansas

Location

W2 E2 NE SE
1980' FSL / 500' FEL

Sec: 24

Twp: 9S

Rge: 25W

Elevation

Permanent Datum Ground Level
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Elevation
K.B. 2544
D.F. 2537
G.L. 2537

Date

3/30/2014

Run Number

Two

Depth Driller

4154

Depth Logger

4154

Bottom Logged Interval

4153

Top Log Interval

3500

Casing Driller

8.625 @ 265

Casing Logger

262

Bit Size

7.875

Type Fluid in Hole

Chemical

Salinity, ppm CL

2800

Density / Viscosity

9.5 55
10.0 6.8

pH / Fluid Loss

Flowline

Source of Sample

0.40 @ 65

Rm @ Meas. Temp

0.30 @ 65

Rmc @ Meas. Temp

0.54 @ 65

Source of Rmf / Rmc

Charts

Rm @ BHT

0.22 @ 118

Operating Rig Time

4 Hours

Max Rec. Temp. F

118

Equipment Number

17

Location

Hays

Recorded By

R. Barnhart

Witnessed By

Marc Downing

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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.

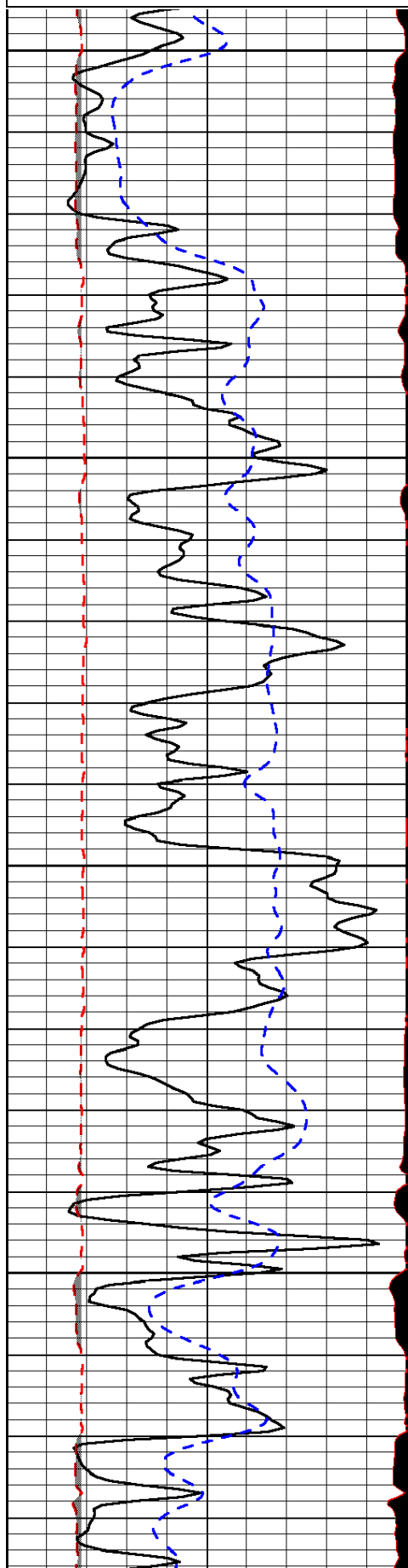
Comments

Thank you for using Log-Tech, Inc.
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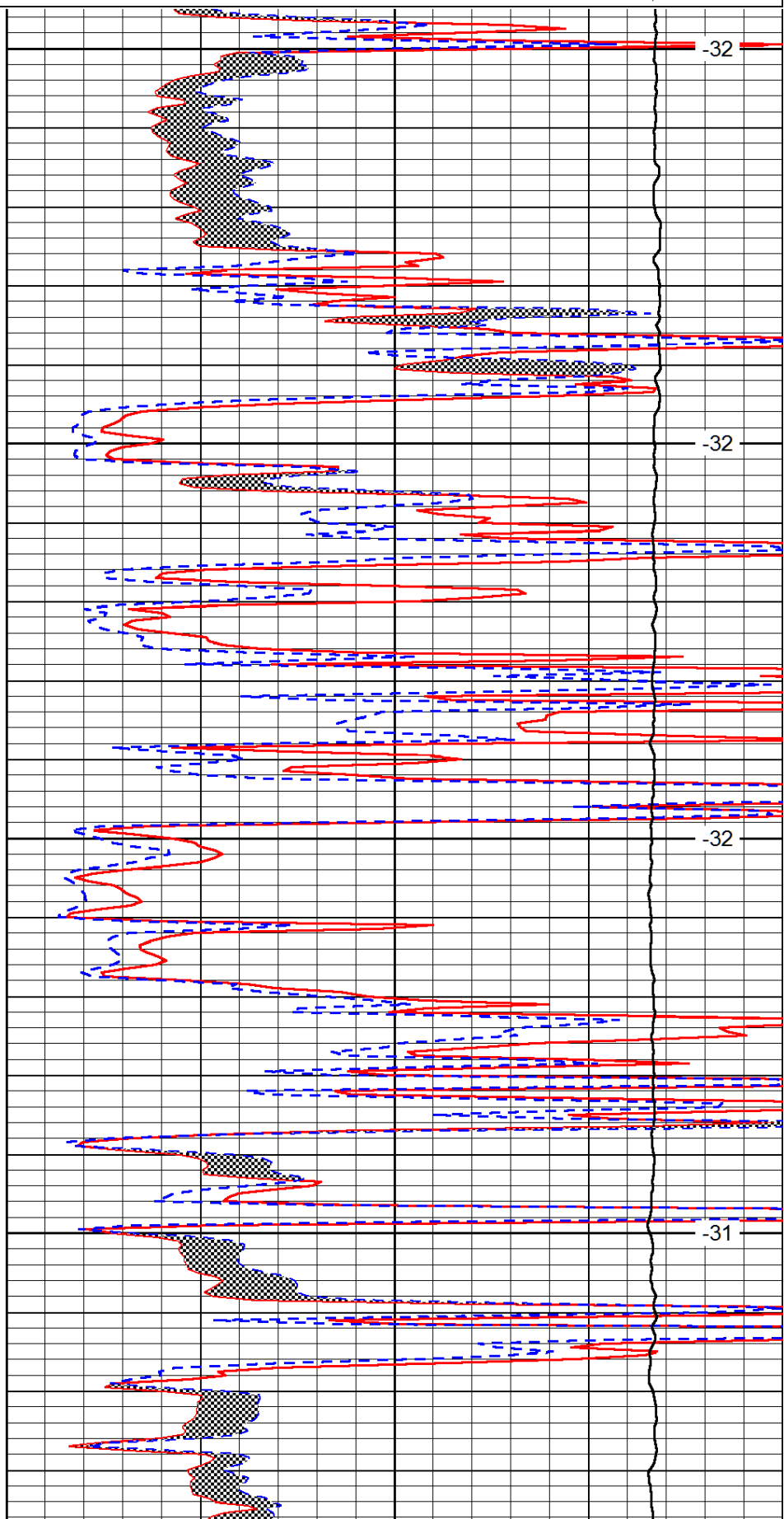
Hill City, KS:
S to Redline Rd., 10W, 1 1/2N into

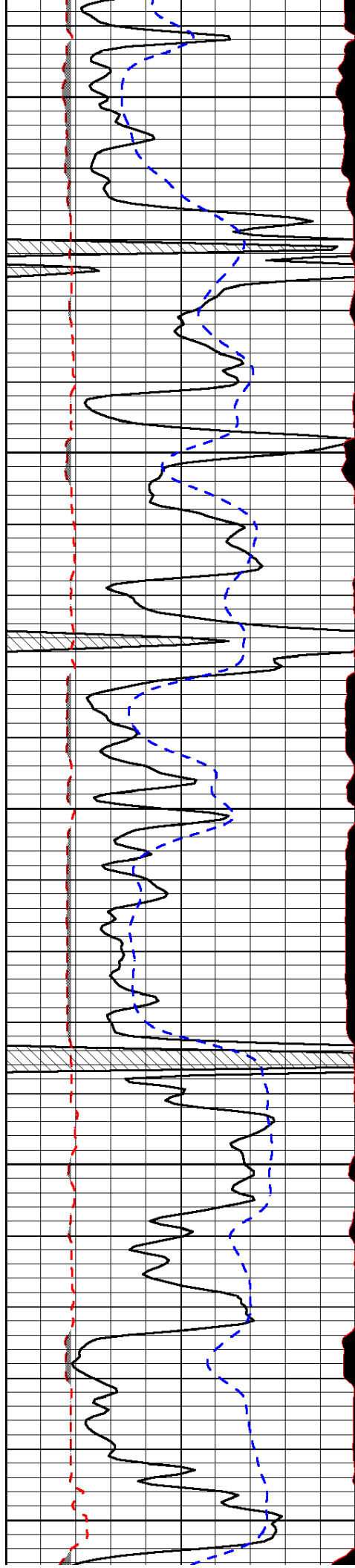
Database File: h&c_hd.db
Dataset Pathname: dil/hcmain
Presentation Format: micro
Dataset Creation: Sun Mar 30 23:28:18 2014
Charted by: Depth in Feet scaled 1:240

Charted by: Depth in Feet scaled 1:2.15		
0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	Mud Cake (in)	7.875
-200	SP (mV)	0



0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0
		LSPD (ft/min)





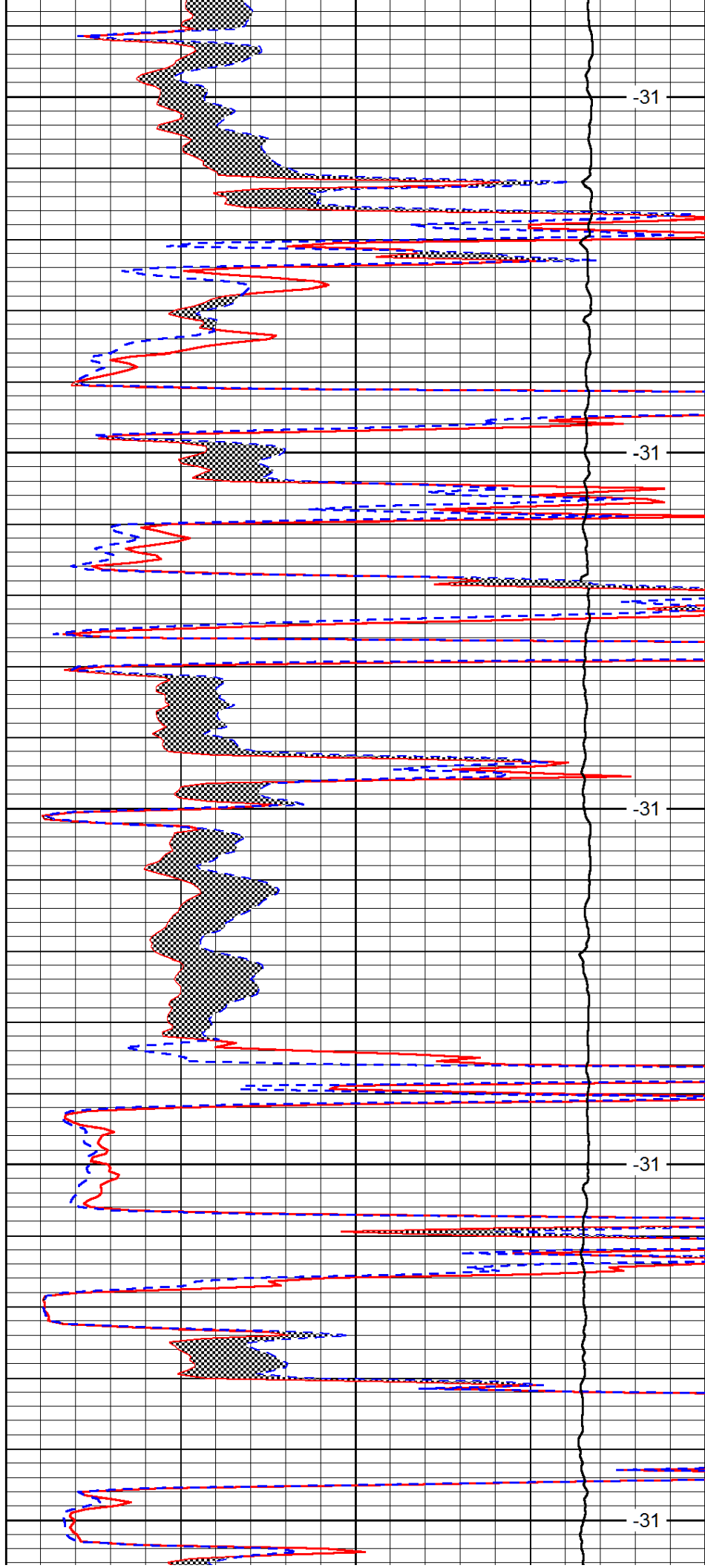
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3750

3800

3850

3900



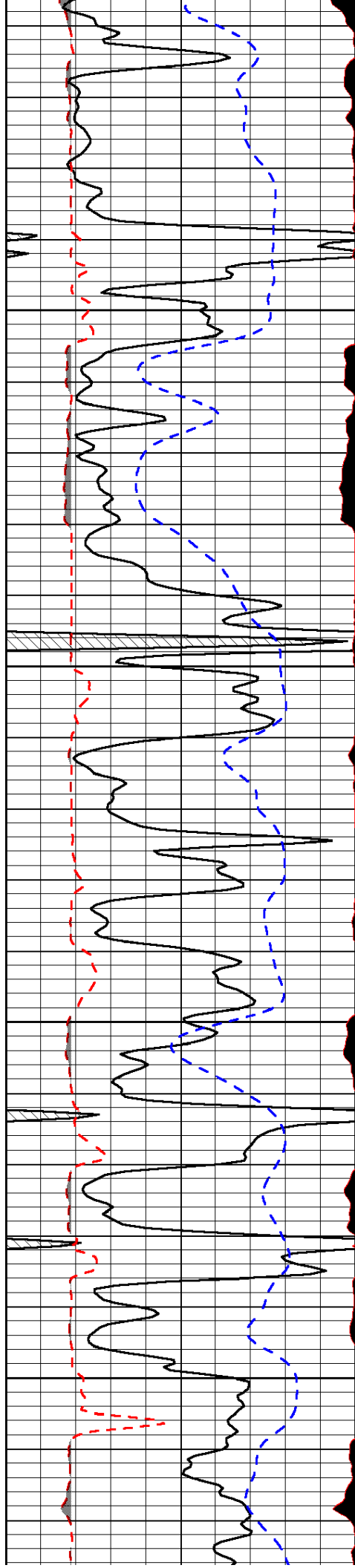
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-31

-31

-31

-31

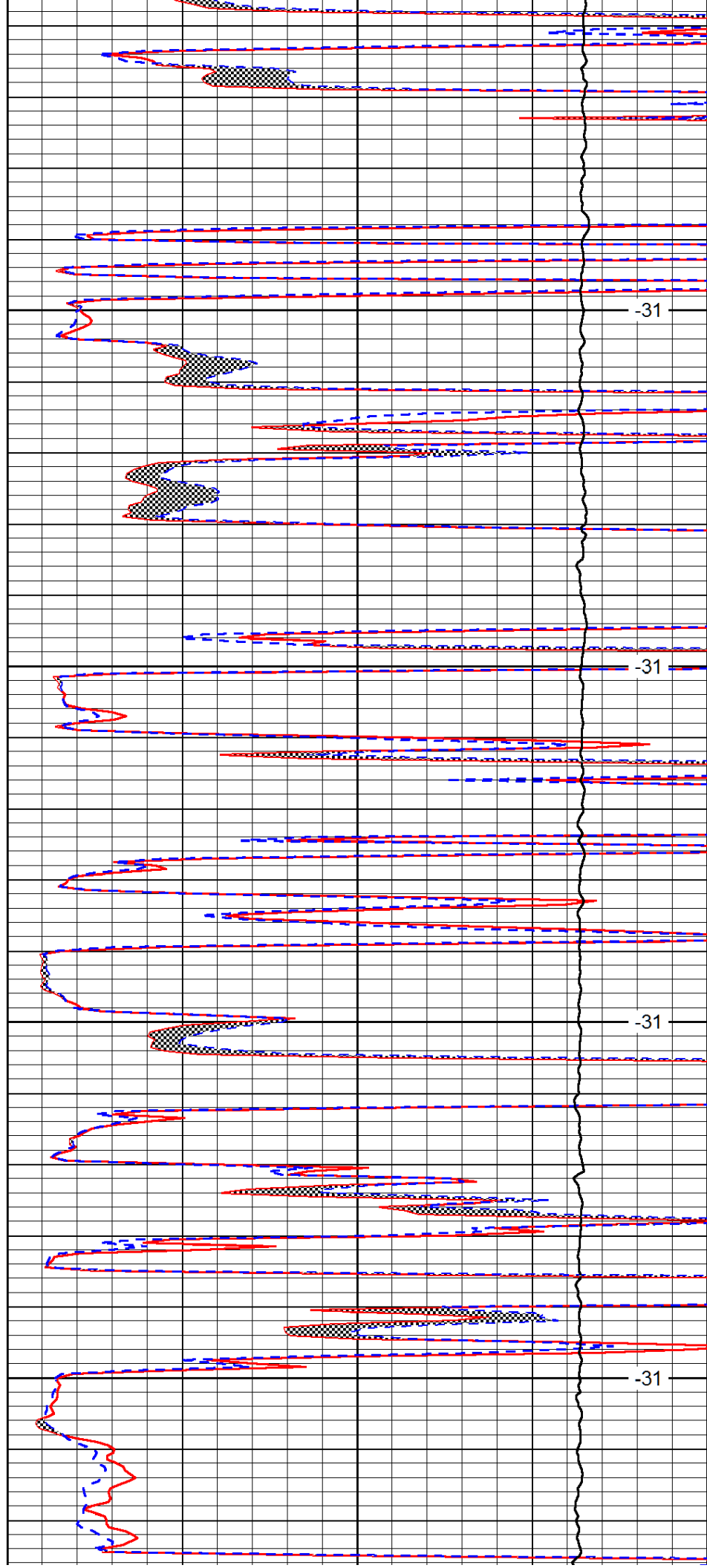


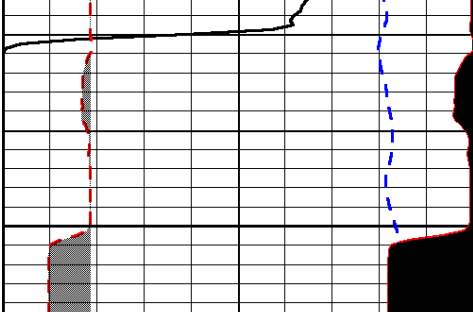
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4000

4050

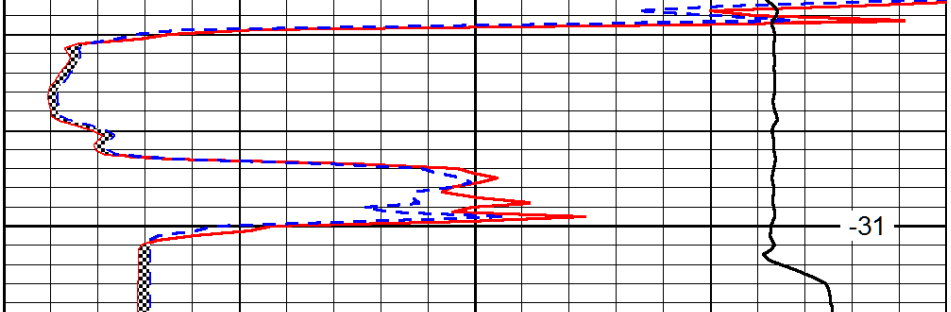
4100





0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	Mud Cake (in)	7.875
-200	SP (mV)	0

4150



0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0
		LSPD (ft/min)