



Microresistivity Log

Pioneer Energy Services

API No.

15-179-21348-00-00

Company Dan Haffner

Well Haffner #4-18

Field Haffner Southwest

County Sheridan State

Kansas

Location

SW NW SE SW
690' FSL / 1600' FWL

Other Services
CNL/CDL
DIL

Sec: 18

Twp: 9S

Rge: 27W

Elevation

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

Elevation 2766
K.B. 2774
D.F. 2766
G.L. 2766

Date

1/19/2014

Run Number

Two

Depth Driller

4200

Depth Logger

4196

Bottom Logged Interval

4195

Top Log Interval

3675

Casing Driller

8.625 @ 277

Casing Logger

277

Bit Size

7.875

Type Fluid in Hole

Chemical

Salinity, ppm CL

900

Density / Viscosity

9.3 50

pH / Fluid Loss

10.5 6.4

Source of Sample

Flowline

Rm @ Meas. Temp

0.90 @ 60

Rmf @ Meas. Temp

0.68 @ 60

Rmc @ Meas. Temp

1.22 @ 60

Source of Rmf / Rmc

Charts

Rm @ BHT

0.46 @ 118

Operating Rig Time

4 Hours

Max Rec. Temp. F

118

Equipment Number

15

Location

Hays

Recorded By

R. Barnhart

Witnessed By

Richard Bell

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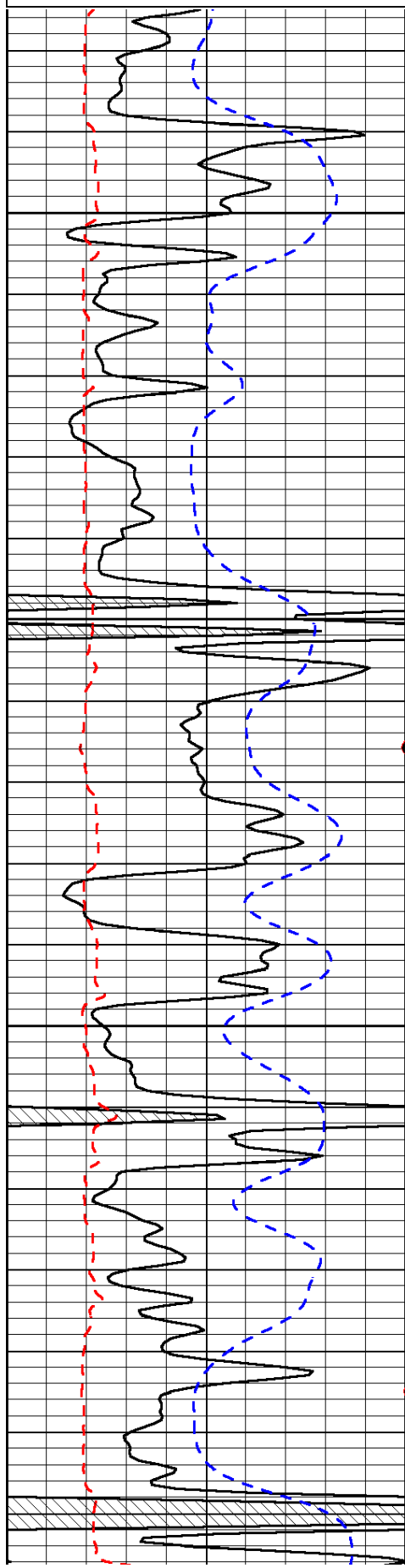
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

Grainfield, KS:
Grainfield Exit: N to Rd. 406, 4E, N into

Charted by: Depth in Feet scaled 1:2.10		
0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	Mud Cake (in)	7.875
-200	SP (mV)	0



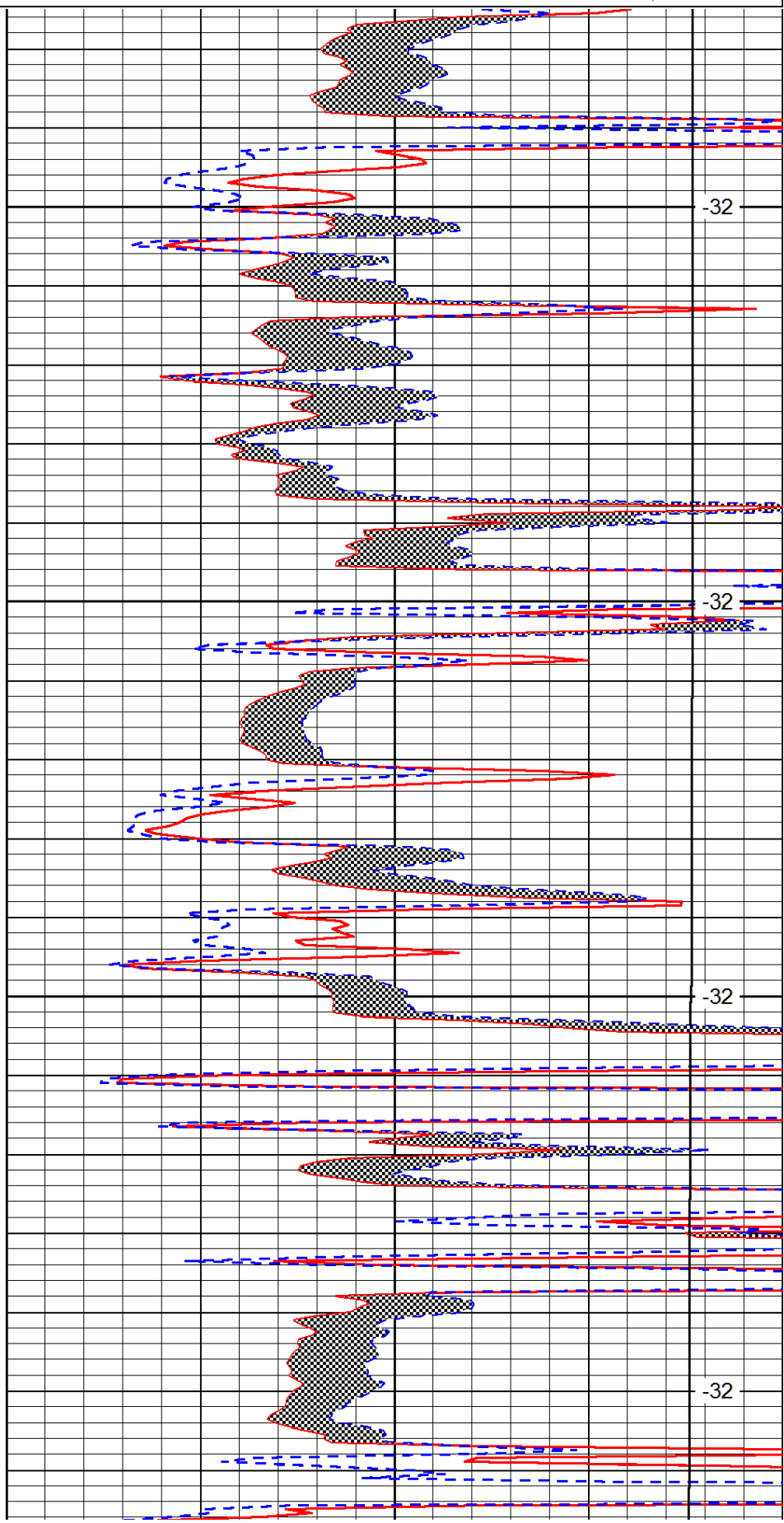
3700

3750

3800

3850

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

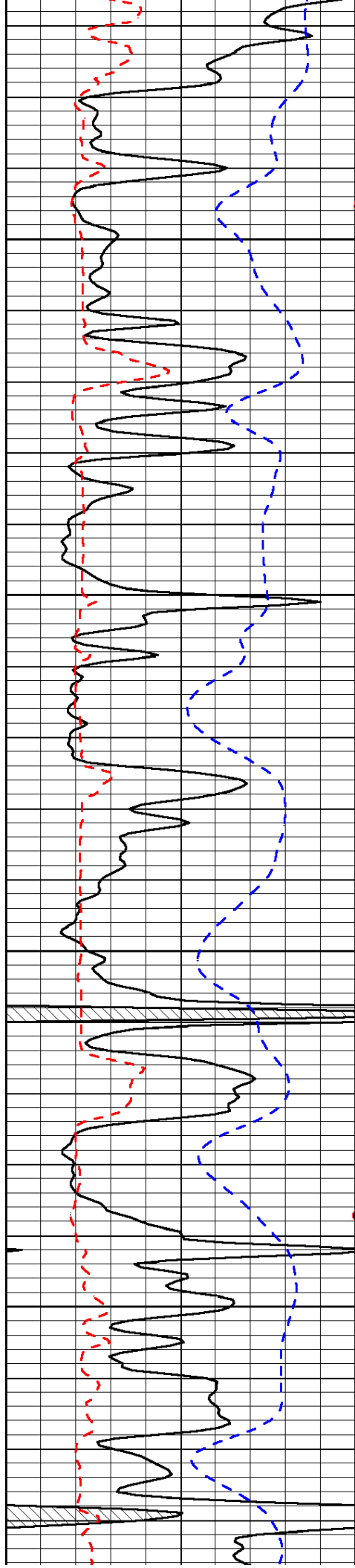


-32

-32

-32

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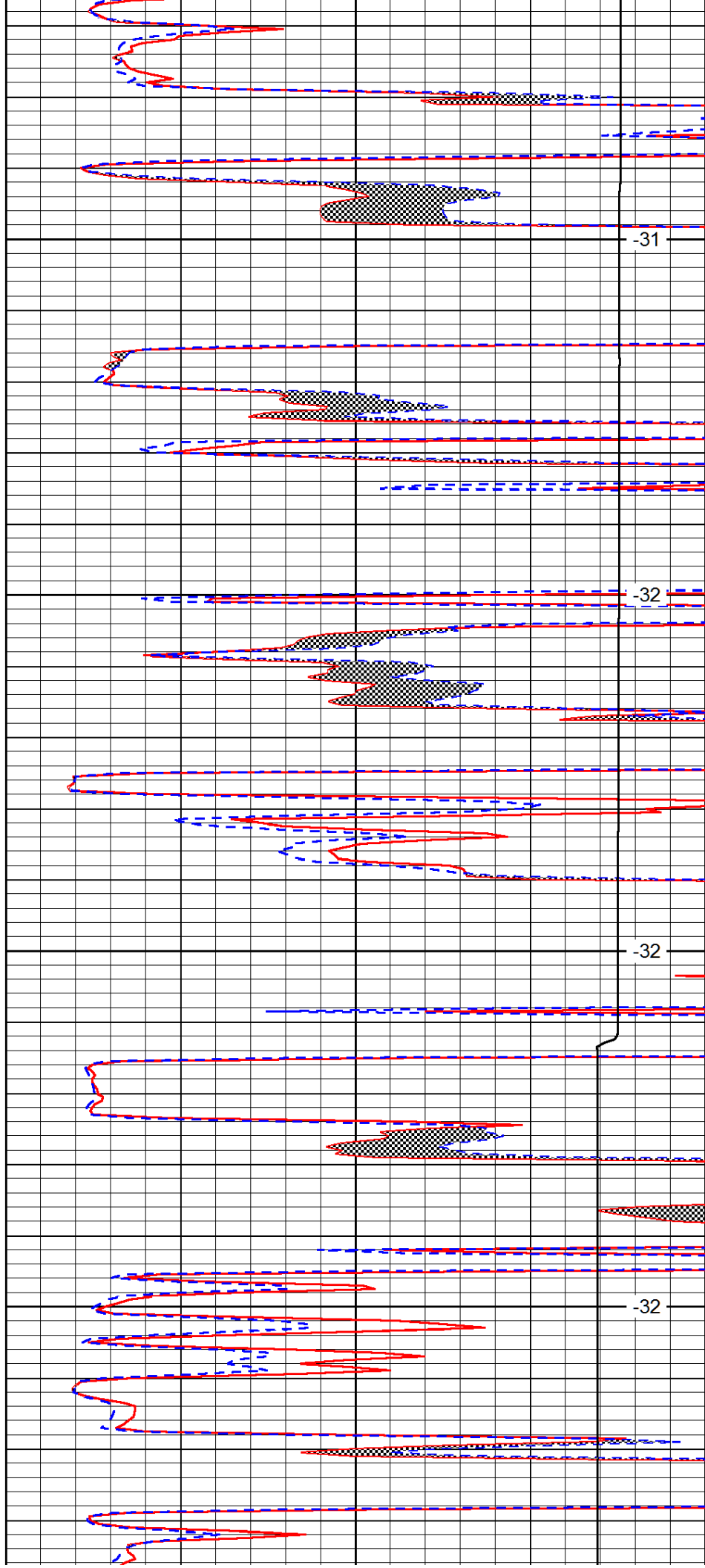


3900

3950

4000

4050

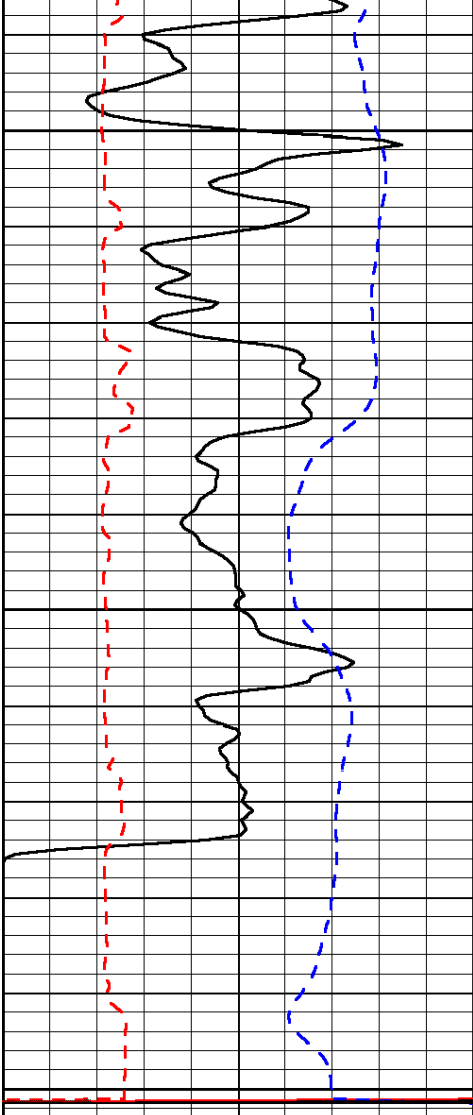


-31

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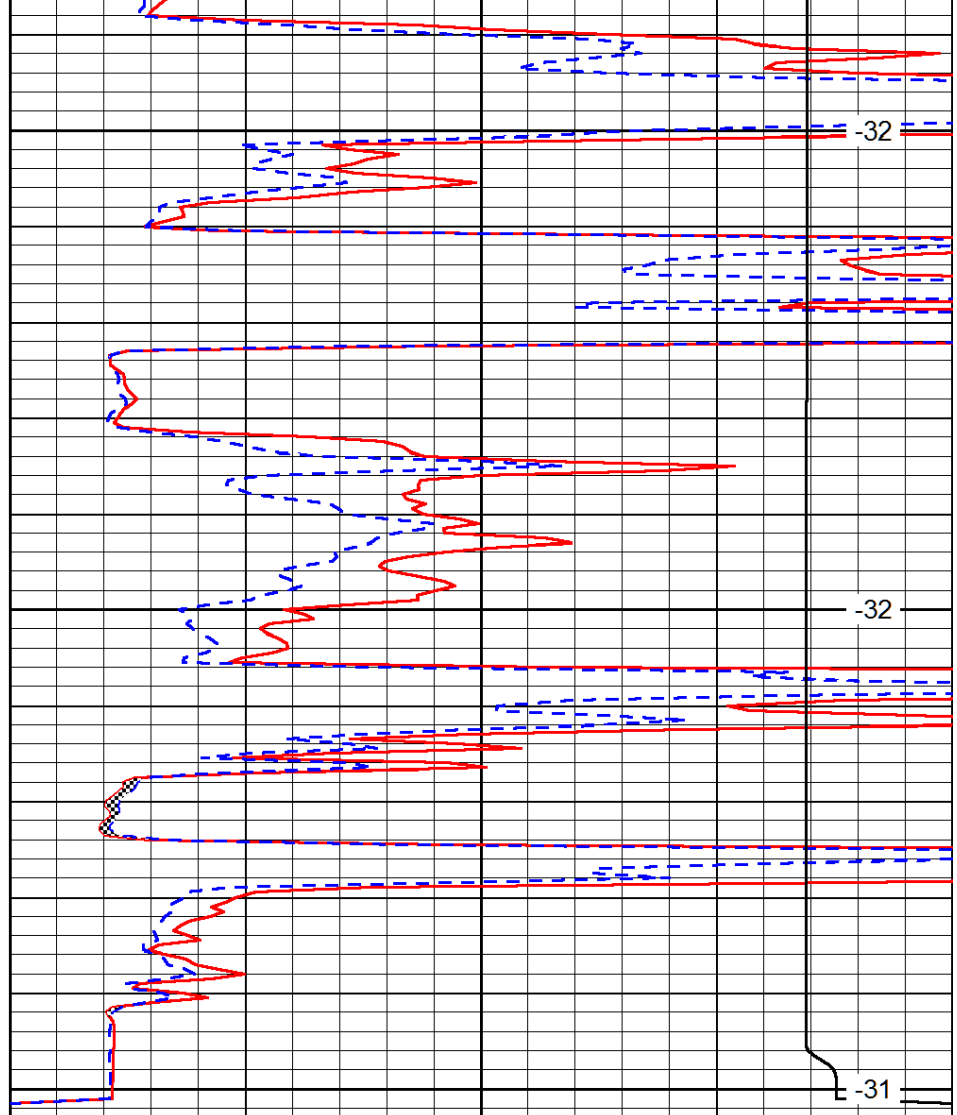


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4100

4150

4200



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LSPD
(ft/min)