



Microresistivity Log

Pioneer Energy Services

API No.

15-145-21,750-00-00

Company **Castle Resources, Inc.**

Well **Harms No. 1**

Field **Oro**

County **Pawnee** State

Kansas

Location **2,310' FSL & 990' FWL**

Sec: **10** Twp: **20S** Rge: **19W**

Other Services
CNL/CDL
DIL

Permanent Datum **Ground Level** Elevation **2240**

Log Measured From **Kelly Bushing** 5 Ft. Above Perm. Datum

Elevation
K.B. 2245
D.F.
G.L. 2240

Date **2/24/2014**

Run Number **Two**

Depth Driller **4275**

Depth Logger **4275**

Bottom Logged Interval **4274**

Top Log Interval **3550**

Casing Driller **8.625 @ 532**

Casing Logger **532**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **7000**

Density / Viscosity **9.5 46**

pH / Fluid Loss **9.5 10.2**

Source of Sample **Flowline**

Rm @ Meas. Temp **.32 @ 60**

Rmf @ Meas. Temp **.24 @ 60**

Rmc @ Meas. Temp **.43 @ 60**

Source of Rmf / Rmc **Charts**

Rm @ BHT **.16 @ 119**

Operating Rig Time **4 Hours**

Max Rec. Temp. F **119**

Equipment Number **108**

Location **Hays**

Recorded By **J. Long**

Witnessed By **Chris Bean**

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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.

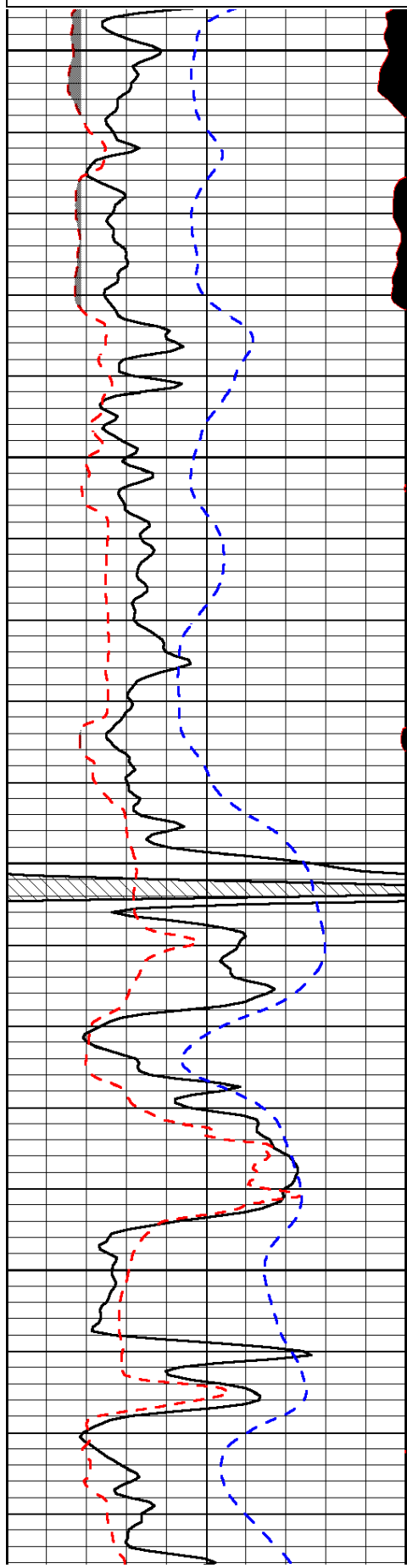
Comments

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

Rush Center, 10 1/2 South to X Road, 6 West, 1/2 North, East Into

Database File: castleresources_harms_1hd.db
Dataset Pathname: dil/cstlstck
Presentation Format: micro
Dataset Creation: Mon Feb 24 09:41:51 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



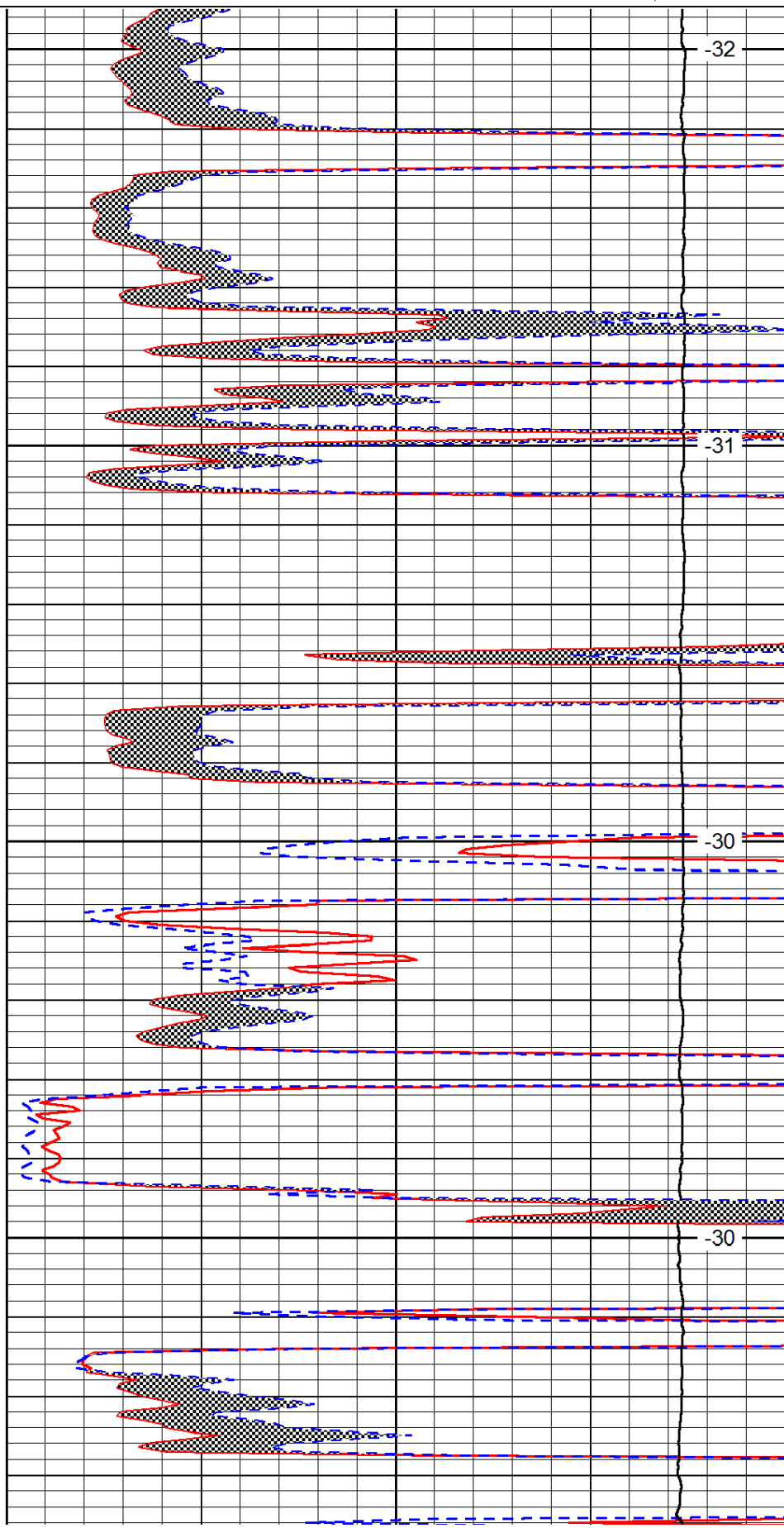
3550

3600

3650

3700

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

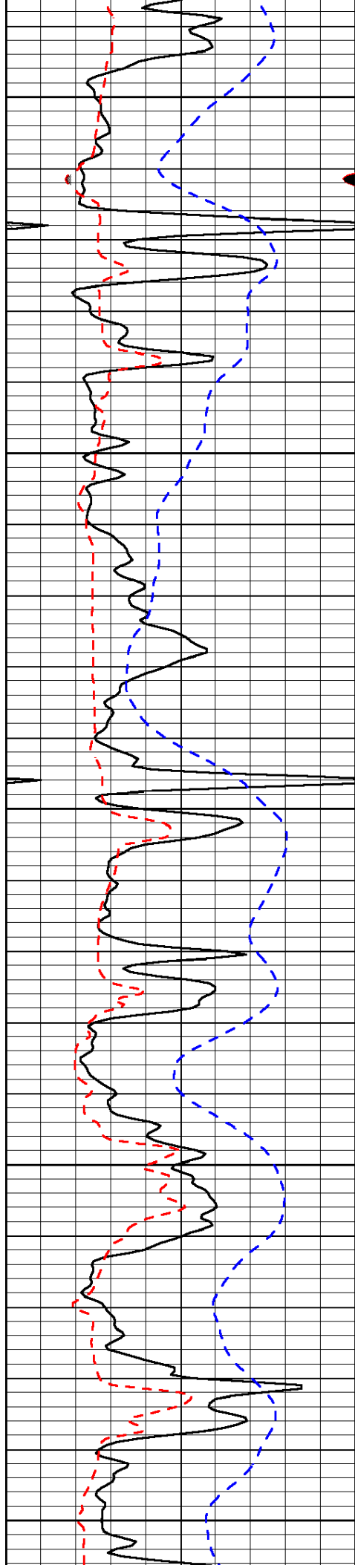


-32

-31

-30

-30



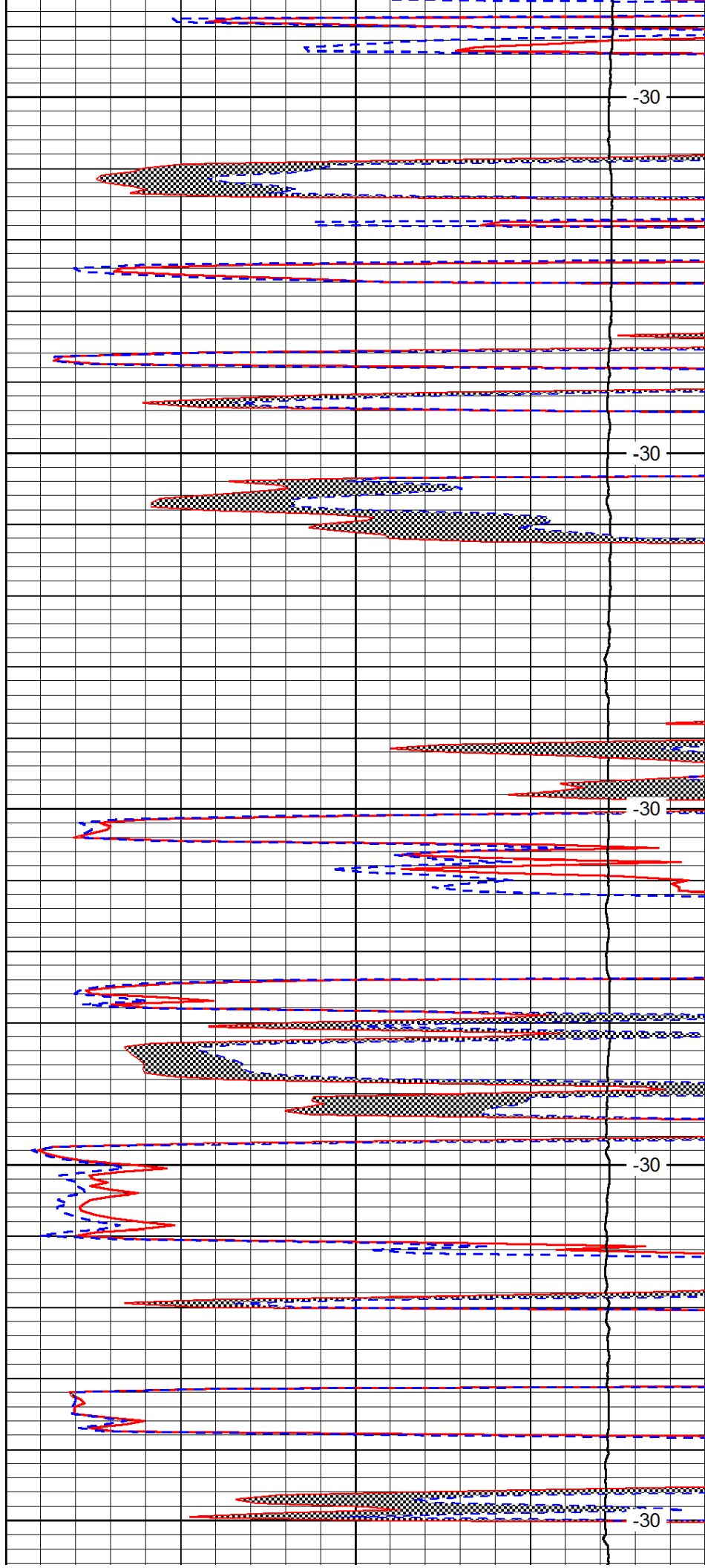
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3800

3850

3900

3950



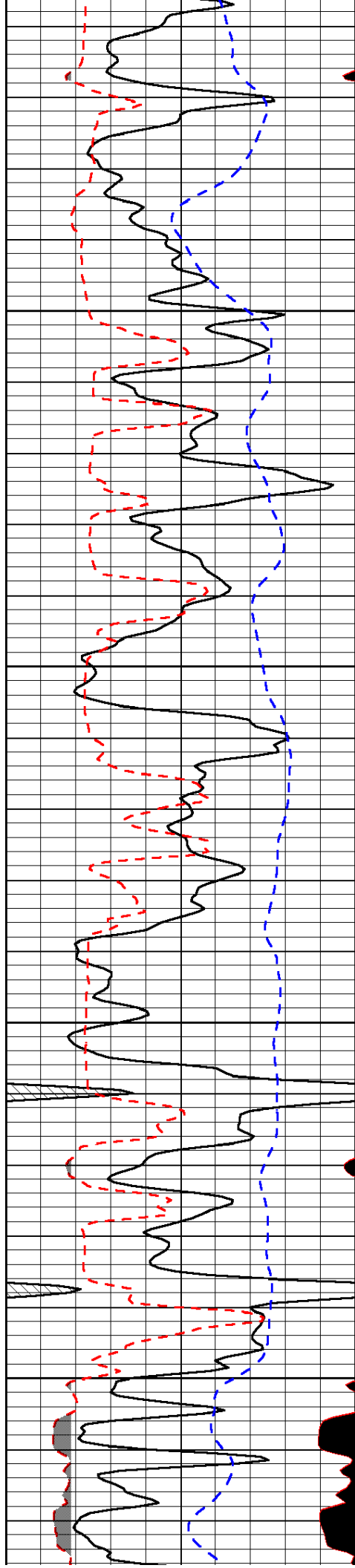
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-30

-30

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-30

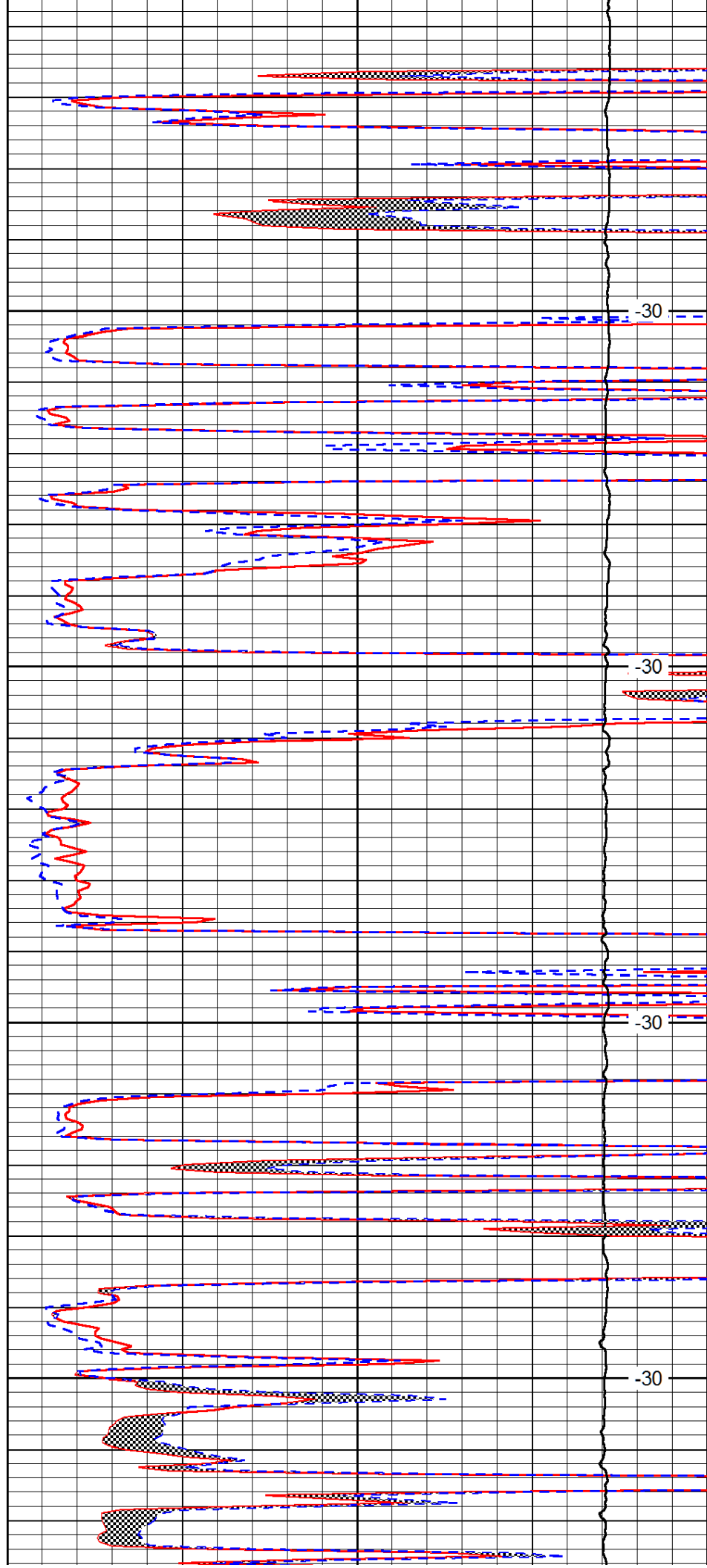


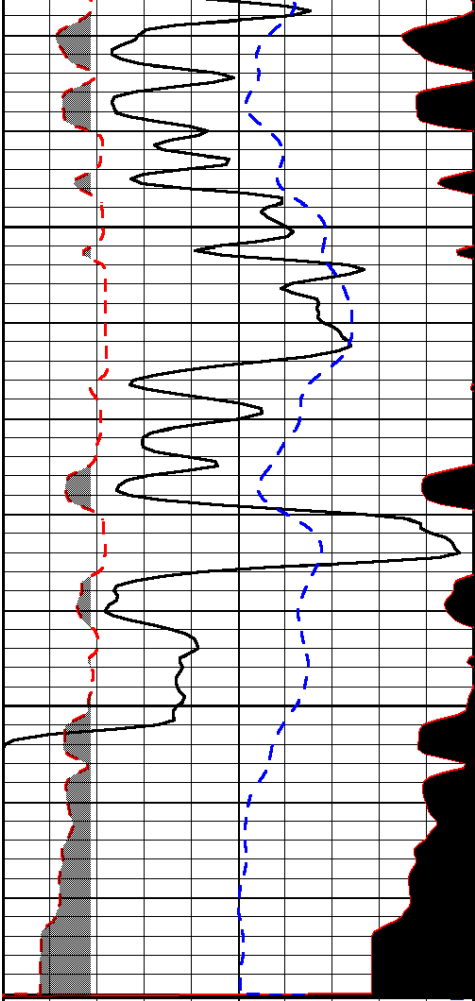
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4050

4100

4150

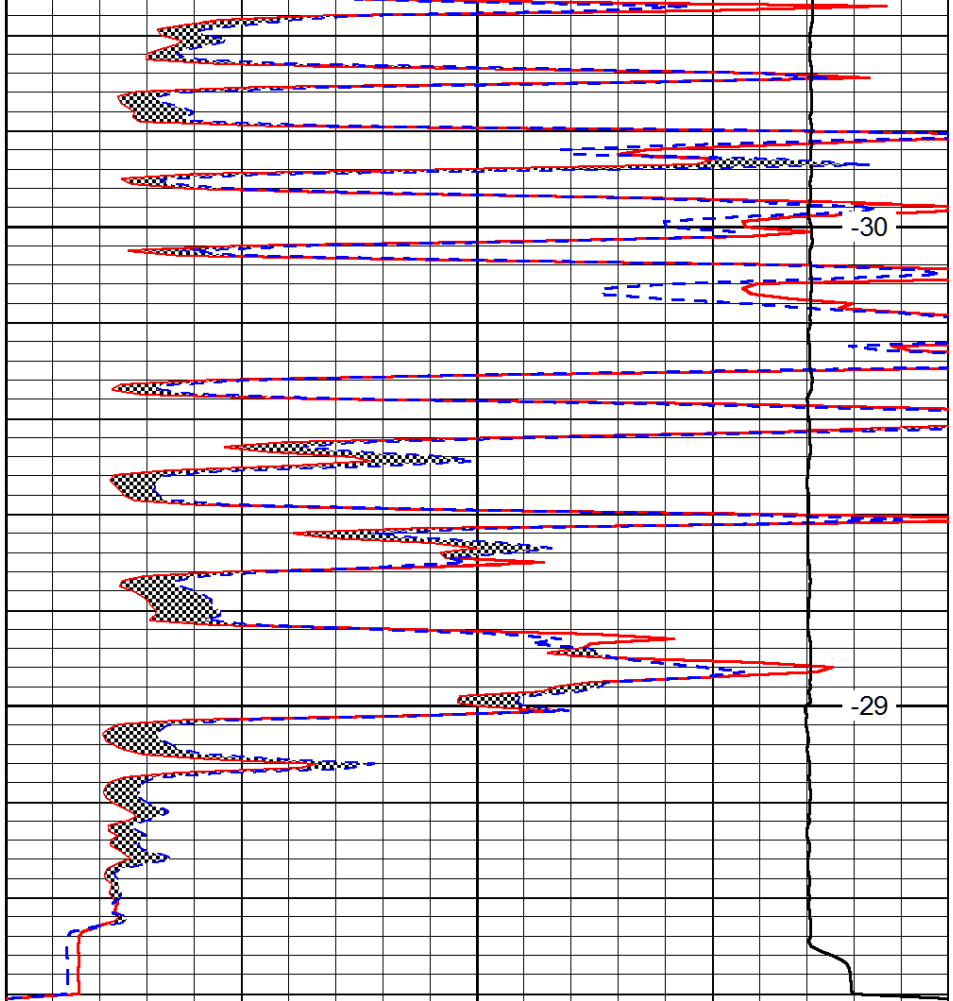




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4200

4250



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