



Pioneer Energy Services

Microresistivity Log

API No.	15-065-23,958-00-00		
Company	Spiral Energy Corp.		
Well	Kuehnl No. 1		
Field	Cooper		
County	Graham	State	Kansas
Location	660' FSL & 2310' FWL		
Sec: 34	Twp: 9 S	Rge: 21 W	Other Services RAG

Permanent Datum	Ground Level	Elevation 2324
Log Measured From	Kelly Bushing	8 Ft. Above Perm. Datum
Drilling Measured From	Kelly Bushing	K.B. 2332 D.F. 2324 G.L. 2324
Date	7/20/2013	
Run Number	Two	
Depth Driller	3946	
Depth Logger	3945	
Bottom Logged Interval	3944	
Top Log Interval	3200	
Casing Driller	8.625 @ 266	
Casing Logger	263	
Bit Size	7.875	
Type Fluid in Hole	Chemical	
Salinity, ppm CL	3700	
Density / Viscosity	9.35	65
pH / Fluid Loss	10.0	6.0
Source of Sample	Flowline	
Rm @ Meas. Temp	.34	@ 88
Rmf @ Meas. Temp	.26	@ 88
Rmc @ Meas. Temp	.46	@ 88
Source of Rmf / Rmc	Charts	
Rm @ BHT	.26	@ 115
Operating Rig Time	3 Hours	
Max Rec. Temp. F	115	
Equipment Number	108	
Location	Hays	
Recorded By	D. Martin	
Witnessed By	Bill Robinson	Rodney Cox

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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

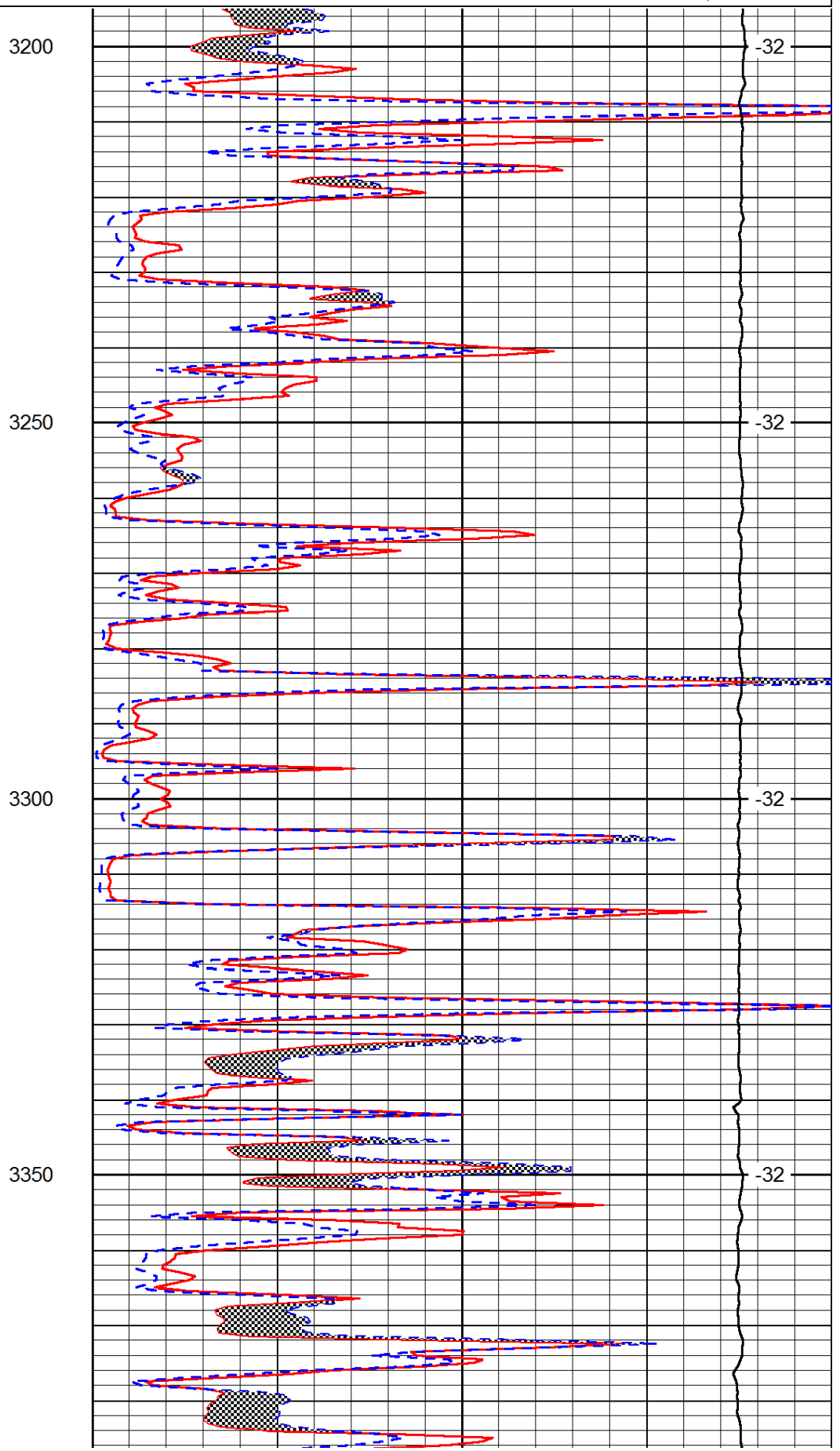
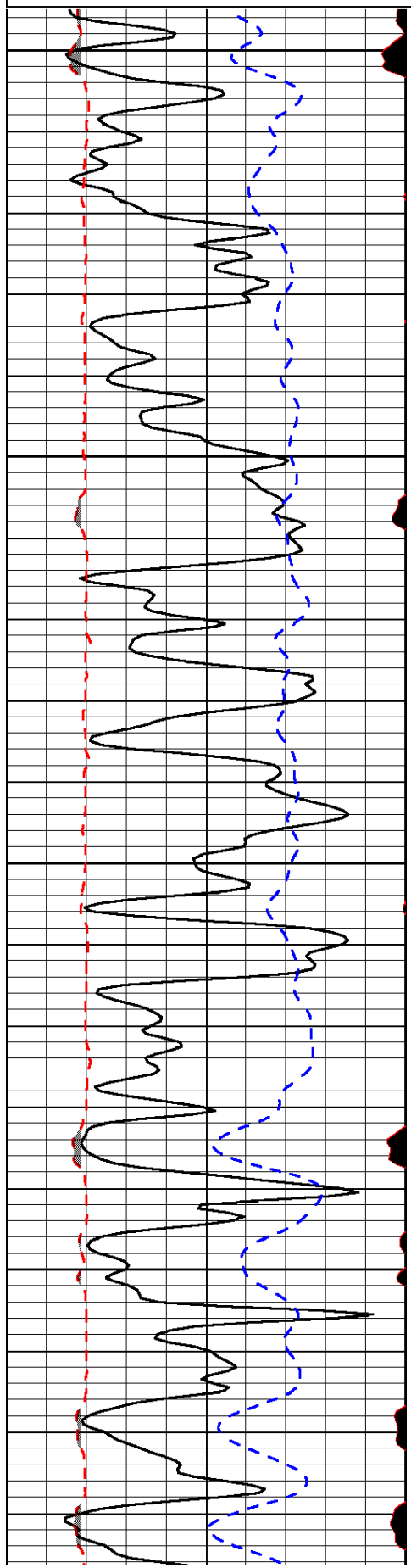
Thank you for using Log-Tech, Inc.
(785) 625-3858

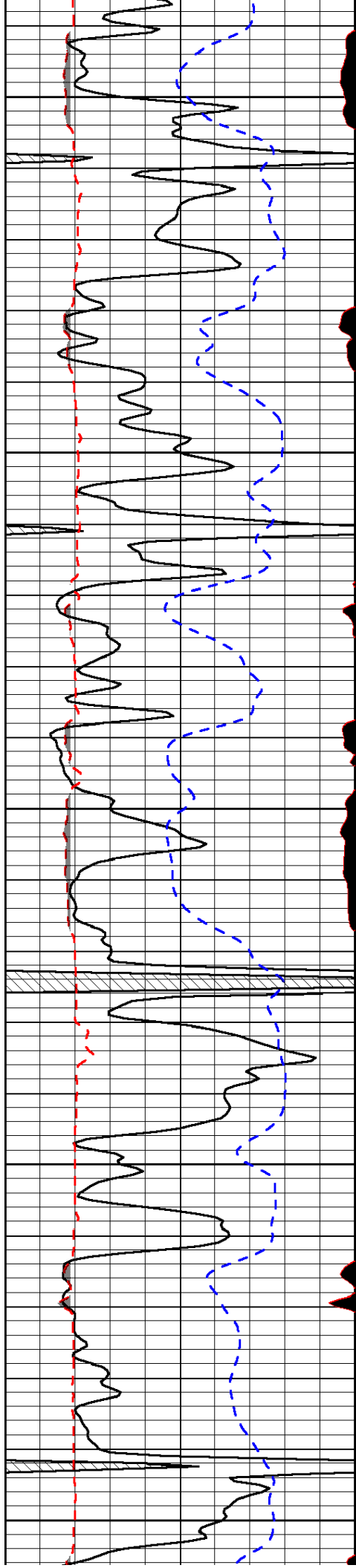
Palco, KS
2 S to Y Rd., 4 1/2 W, N Into

Database File: spiral_kuehnl_1hd.db
 Dataset Pathname: rag/spirag
 Presentation Format: micro
 Dataset Creation: Sat Jul 20 19:28:20 2013
 Charted by: Depth in Feet scaled 1:240

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)	





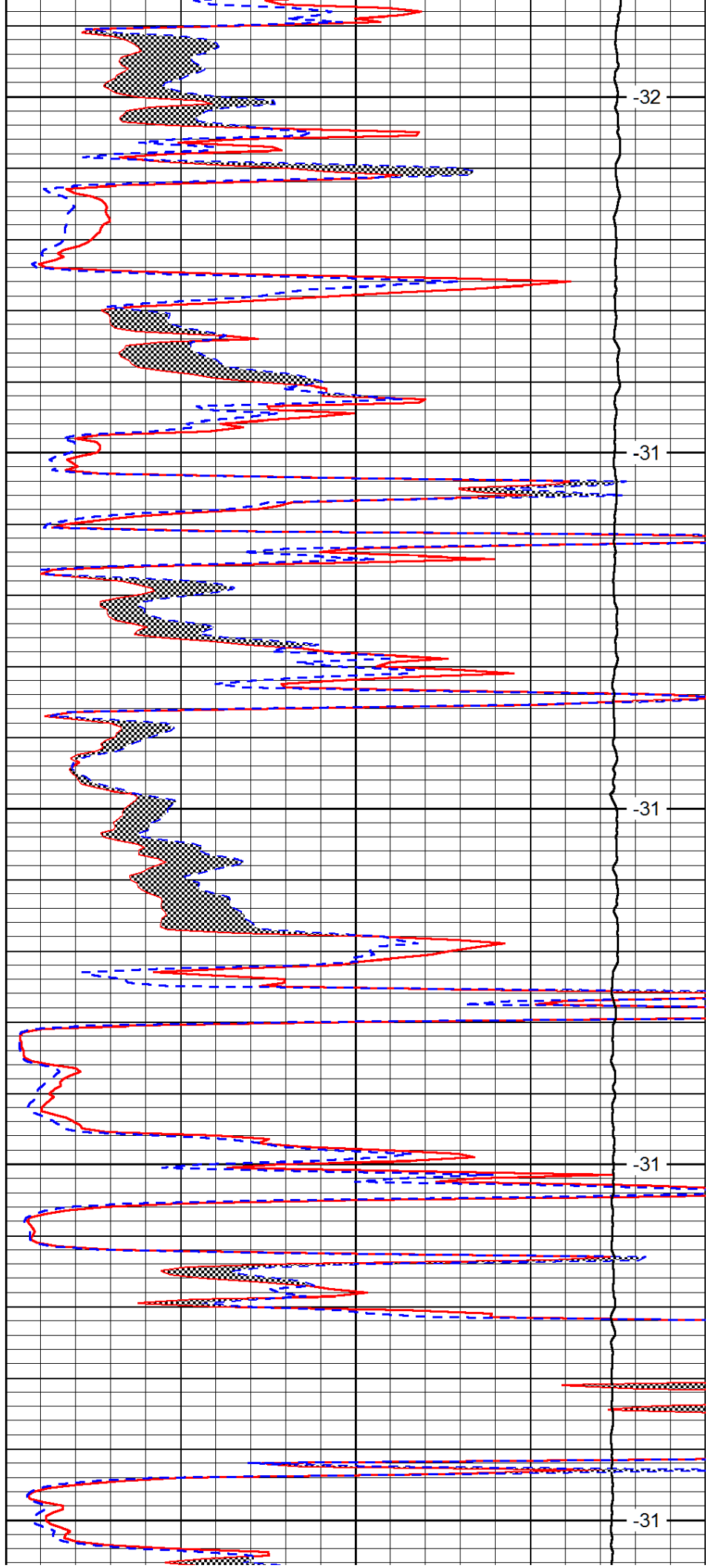
3400

3450

3500

3550

3600



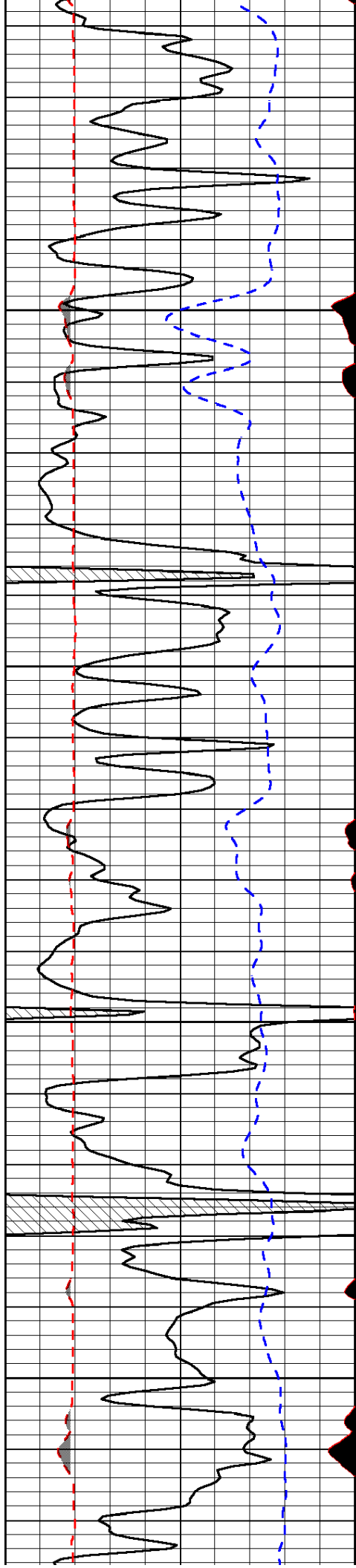
-32

-31

-31

-31

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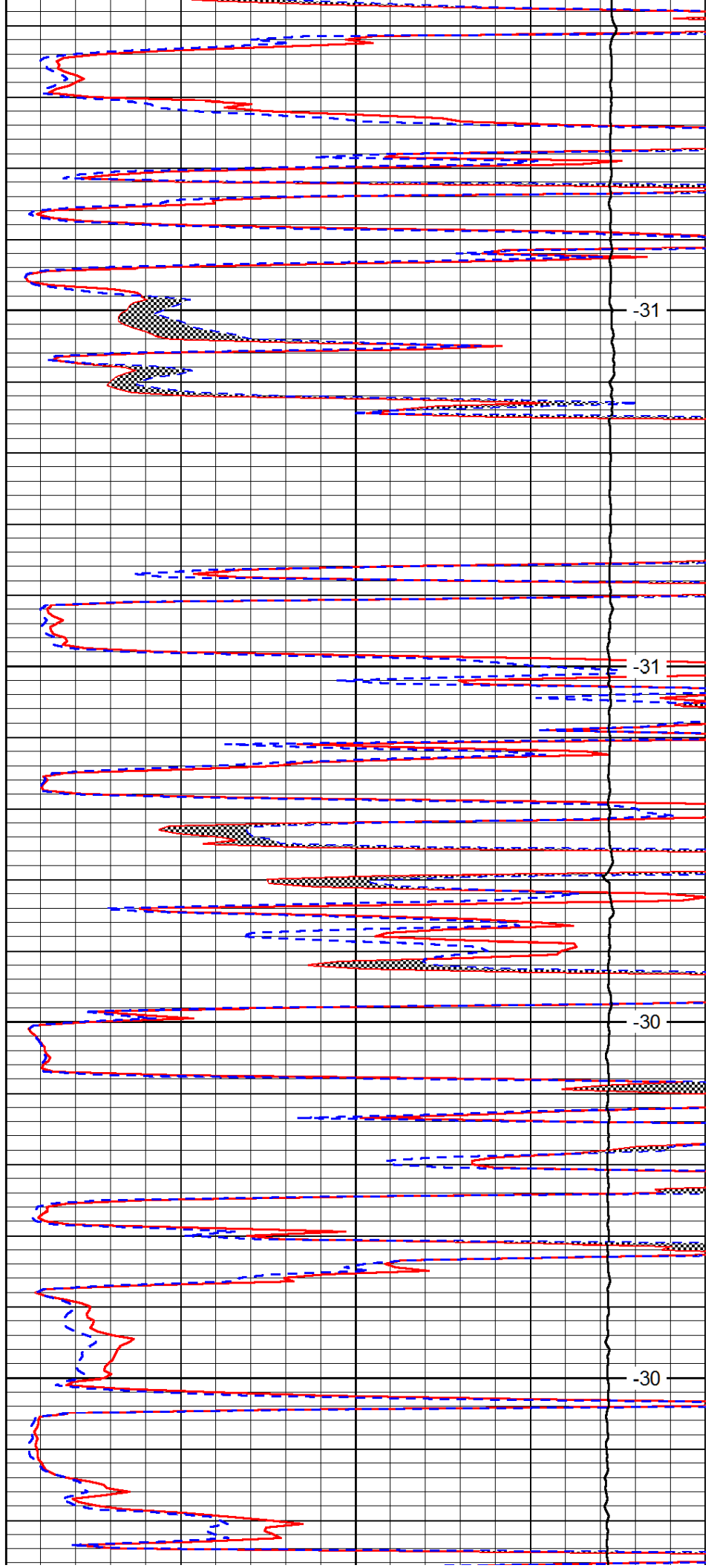


3650

3700

3750

3800

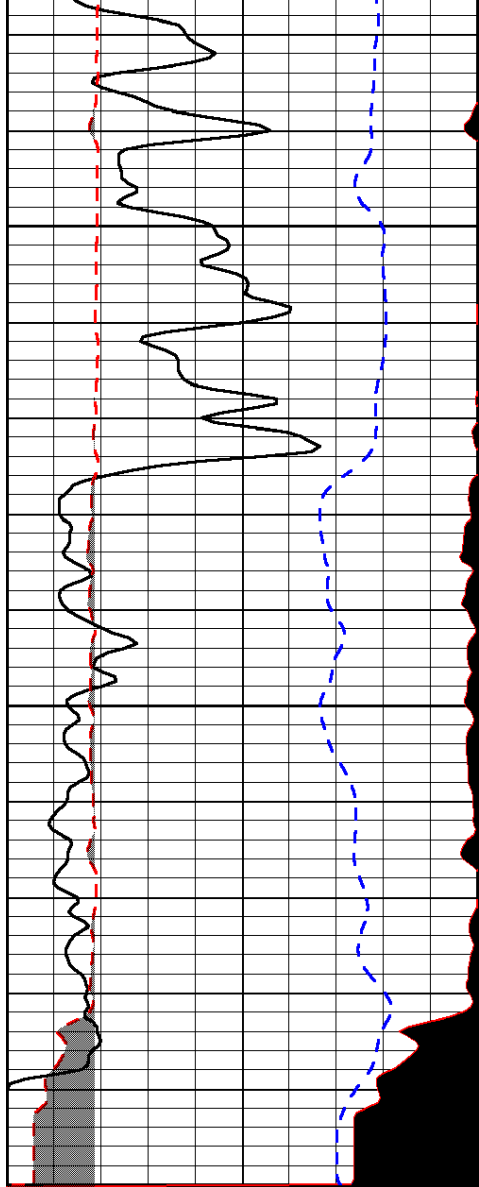


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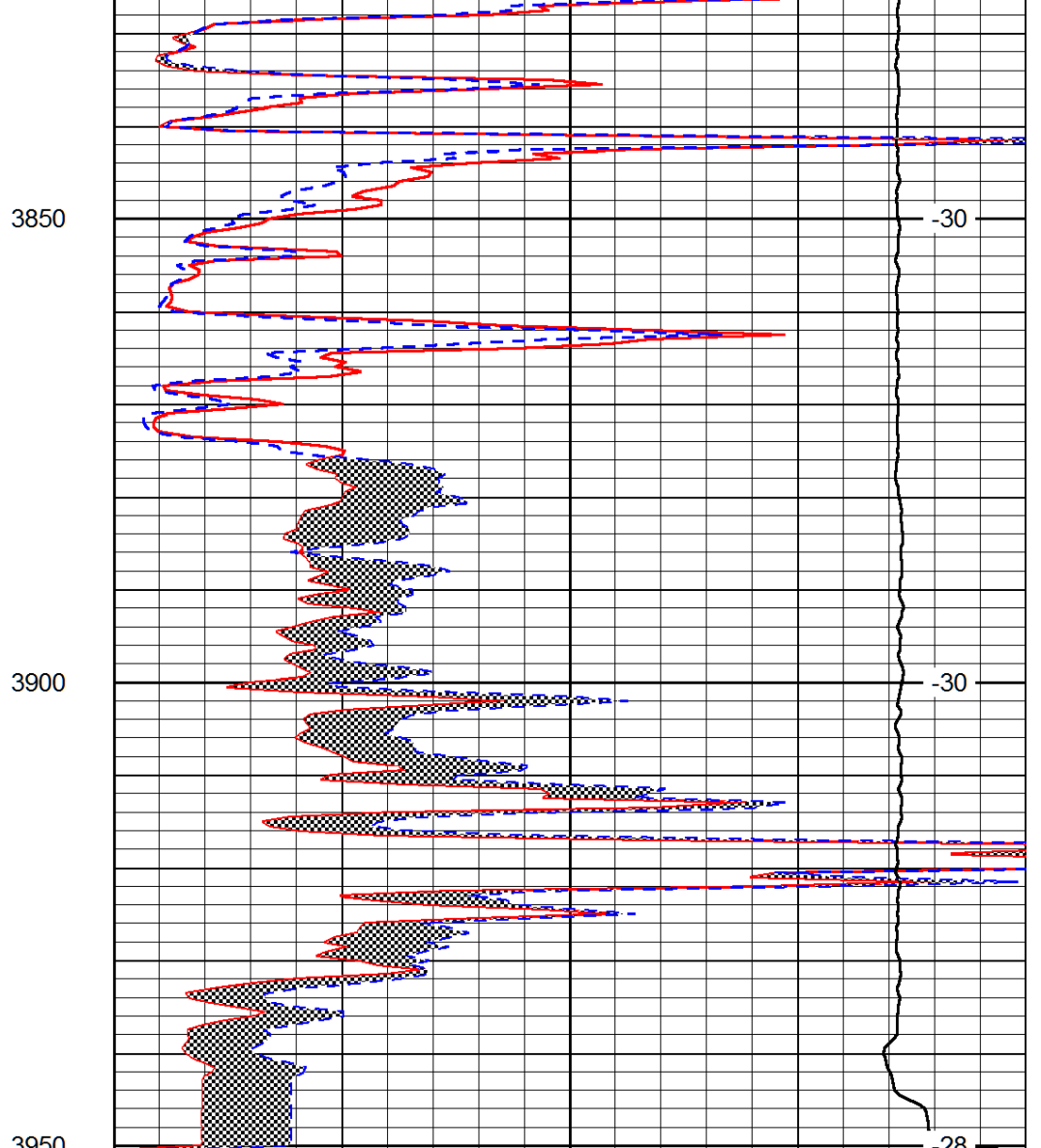
-31

-30

-30



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