



Pioneer Energy Services

## Dual Compensated Porosity Log

**Company** Rama Operating Company, Inc.  
**Well** Licholat # 1-27  
**Field** North Star  
**County** Stafford **State** Kansas  
**Location** 700' FSL & 350' FEL  
**Other Services** DIL/MEI

API No. 15-185-23857-00-00  
 Sec: 27 Twp: 24 S Rge: 12 W

Permanent Datum Ground Level Elevation 1867  
 Log Measured From Kelly Bushing 13 Ft. Above Perm. Datum  
 Drilling Measured From Kelly Bushing  
 Date 1-31-2014  
 Elevation K.B. 1880  
 D.F. 1867  
 G.L. 1867

Run Number	One
Type Log	CNL / CDL
Depth Driller	4180
Depth Logger	4184
Bottom Logged Interval	4163
Top Logged Interval	3200
Type Fluid In Hole	Chemical
Salinity, PPM CL	9000
Density	9.3
Level	Full
Max. Rec. Temp. F	120
Operating Rig Time	4 Hours
Equipment -- Location	91 Hays
Recorded By	Y. Ruiz
Witnessed By	Josh Austin

Borehole Record		Casing Record				
Run No.	Bit From	To	Size	Wgt.	From	To
One	12.25	00	354	8.625	23#	00
Two	7.875	354	TD			354

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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**

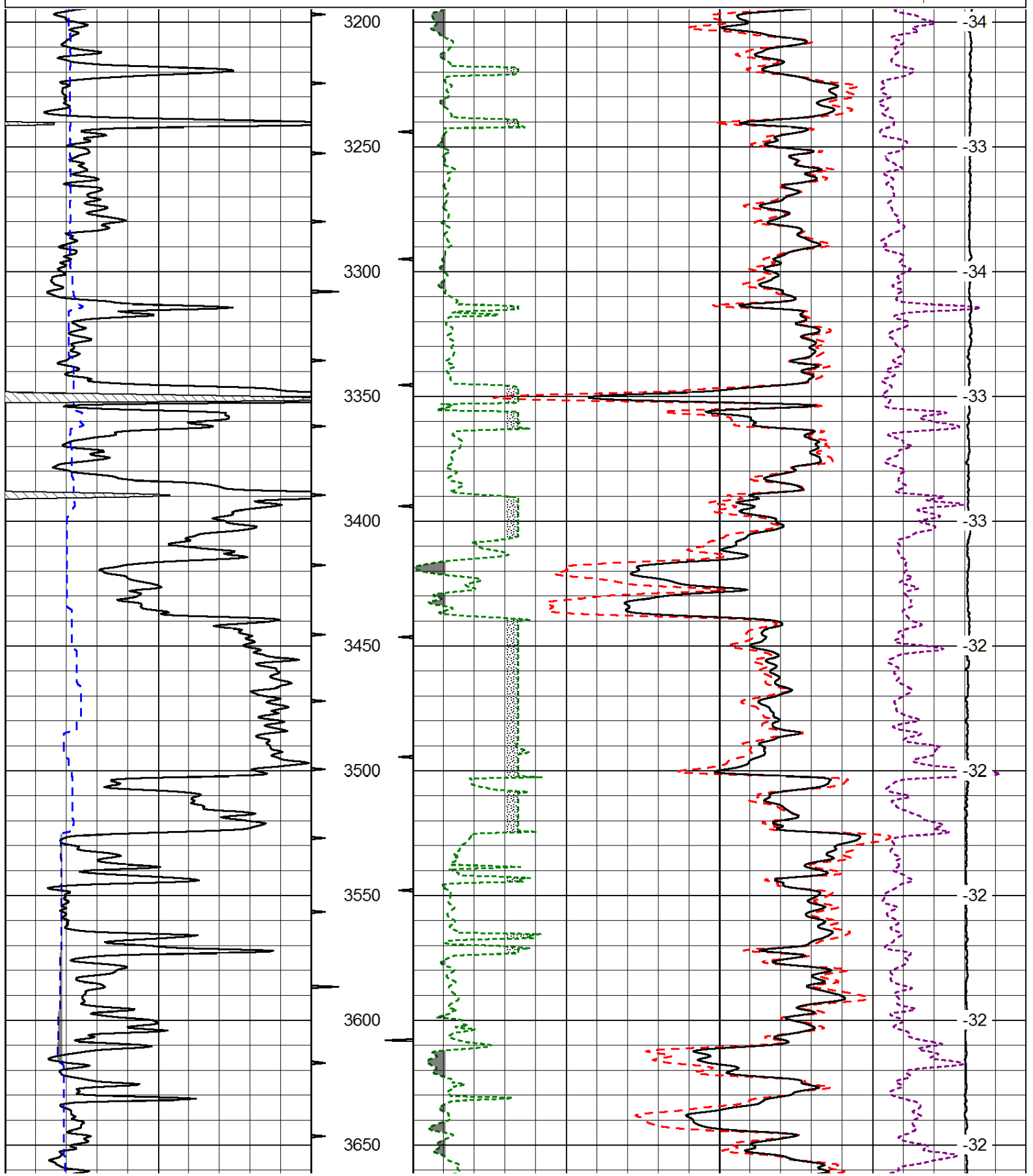
Thank you for using Log-Tech, Inc.  
 (785) 625-3858  
  
 Stafford,  
 2 South, 1 West, 1/8 North,  
 West into

Database File: rama\_013114hd3.db  
 Dataset Pathname: DIL/ramstk  
 Presentation Format: cdl  
 Dataset Creation: Fri Jan 31 04:01:50 2014  
 Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	Compensated Density (pu)		-10
2	Bulk Density (g/cc)		3
15000	Line Tension (lb)		0
2.625	DGA (g/cc)	3.425	-0.25
	Correction (g/cc)		0.25

LSPD  
(ft/min)

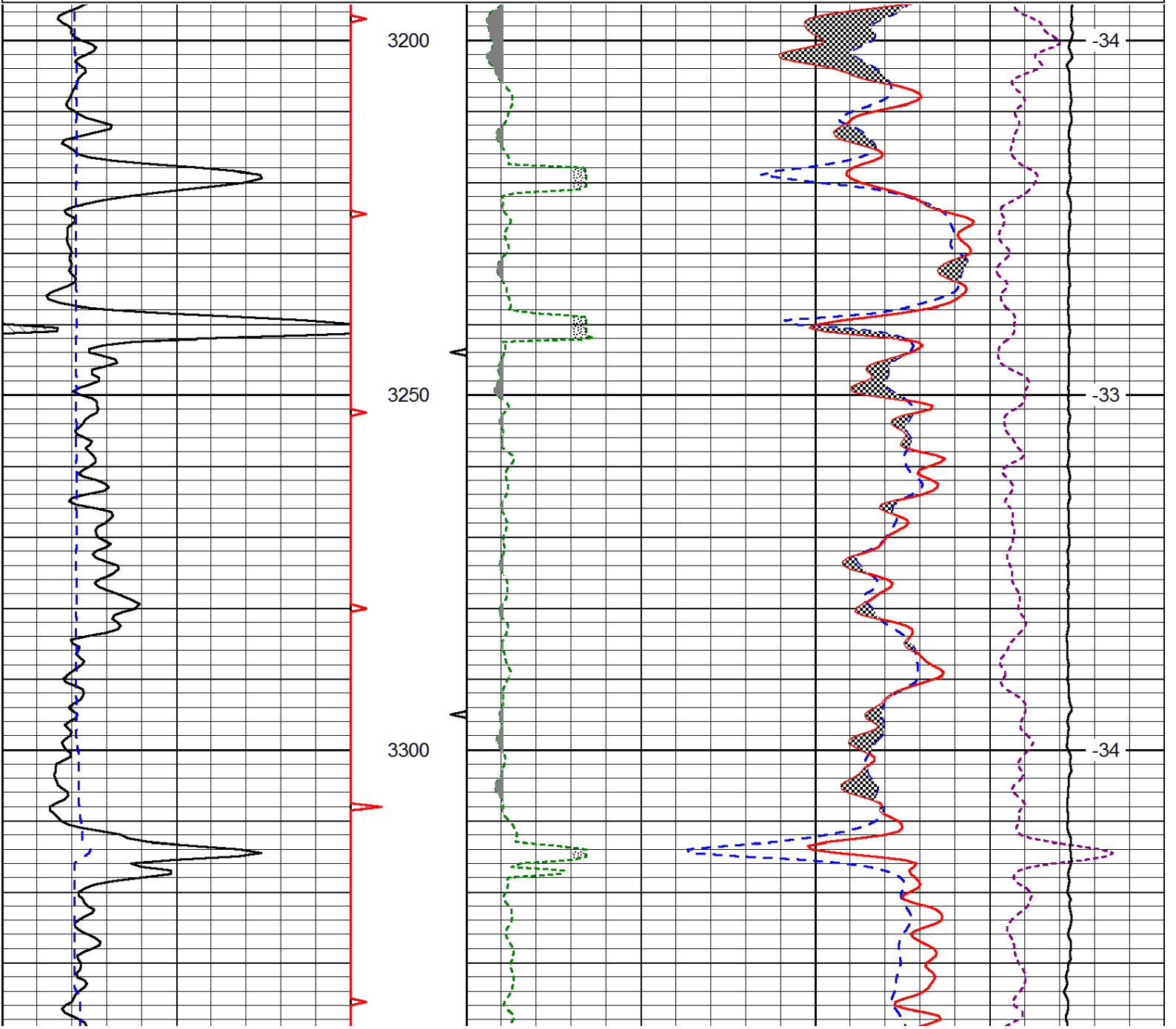


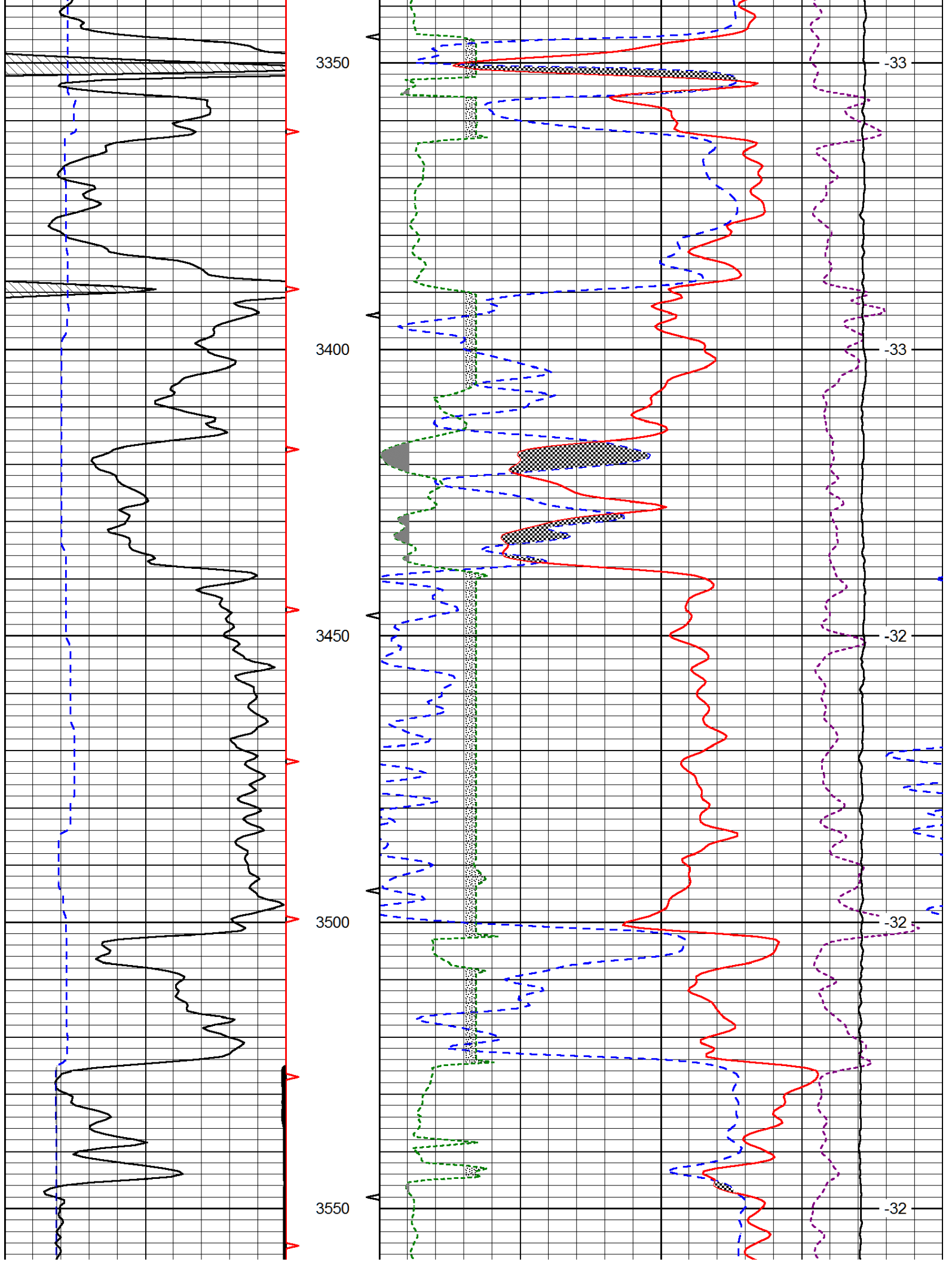


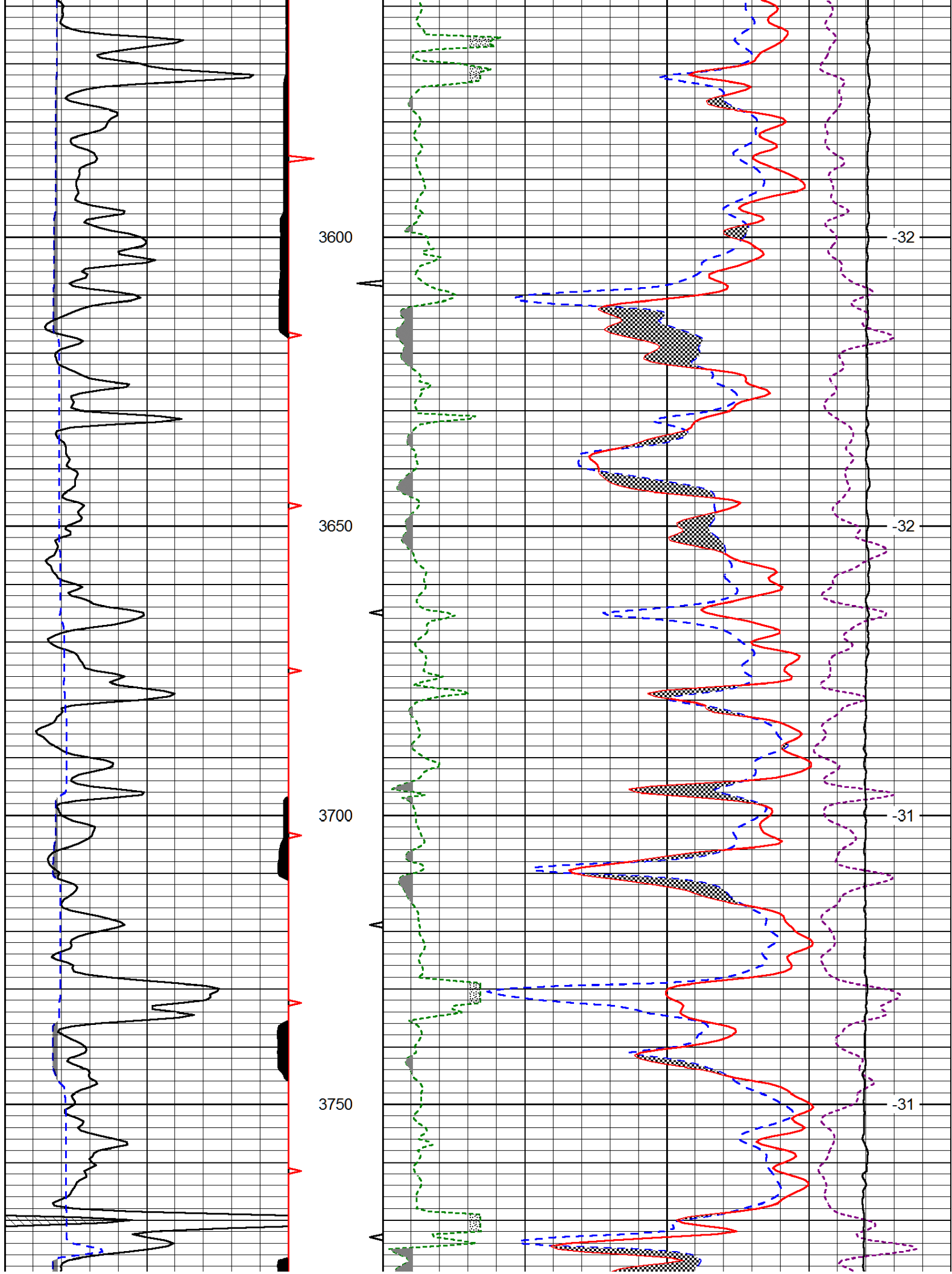
15000	Line Tension (lb)			0
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc) 0.25
				LSPD (ft/min)

Database File: rama\_013114hd3.db  
 Dataset Pathname: DIL/ramstk  
 Presentation Format: cndlspec  
 Dataset Creation: Fri Jan 31 04:01:50 2014  
 Charted by: Depth in Feet scaled 1:240

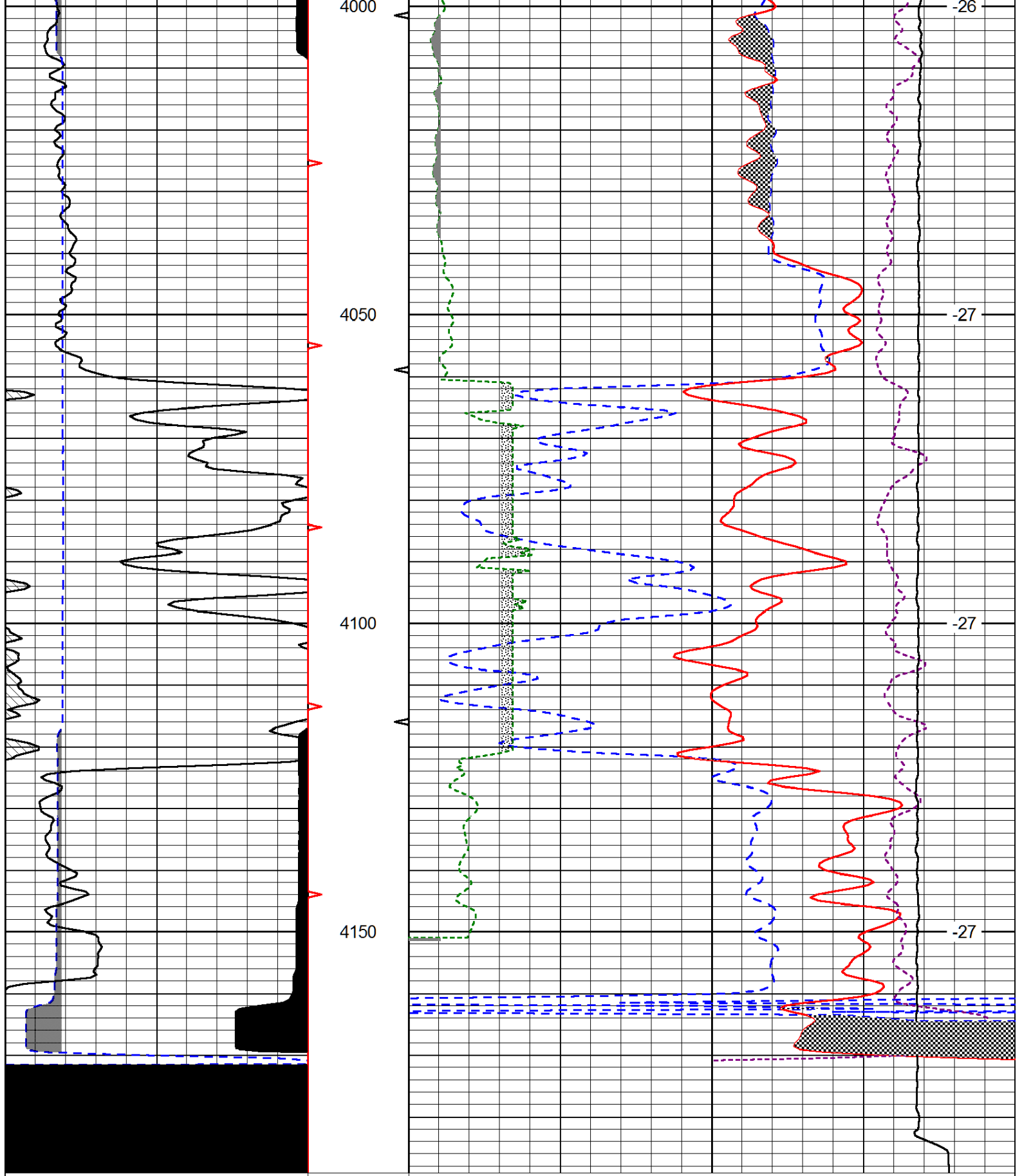
0	Gamma Ray (GAPI)	150	30	CNPOR (pu)		-10
6	Caliper (in)	16	30	Compensated Density (2.71 ma) (pu)		-10
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)		0.25
10000	Line Tension (lb)					0
						LSPD (ft/min)











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2.625	DGA (g/cc)	3.425	-0.25
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LSPD  
(ft/min)

