



Dual Compensated Porosity Log

Pioneer Energy Services

API No.

15-167-23,839-00-00

Company Larson Operating Company

Well Boardman No.1-23

Field Dreher

County Russell

State Kansas

Location 2180' FSL & 1310' FWL

Sec: 23 Twp: 11S Rge: 15W

Permanent Datum Ground Level Elevation 1848
Log Measured From Kelly Bushing 5 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Elevation

K.B. 1853
D.F. 1848
G.L. 1848

Other Services
DIL/MEI

Date

12/5/2012

Run Number

One

Type Log

CNL / CDL

Depth Driller

3400

Depth Logger

3406

Bottom Logged Interval

3385

Top Logged Interval

2400

Type Fluid In Hole

Chemical

Salinity, PPM CL

3,800

Density

9.4

Level

Full

Max. Rec. Temp. F

110

Operating Rig Time

4 Hours

Equipment -- Location

17 Days

Recorded By

C. Desaire

Witnessed By

Tom Larson

Borehole Record

Casing Record

Run No.

Bit

From

To

Size

Wgt.

From

To

One

12.25

00

227

8.625

23#

00

227

Two

7.875

227

TD

<<< Fold Here >>>

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

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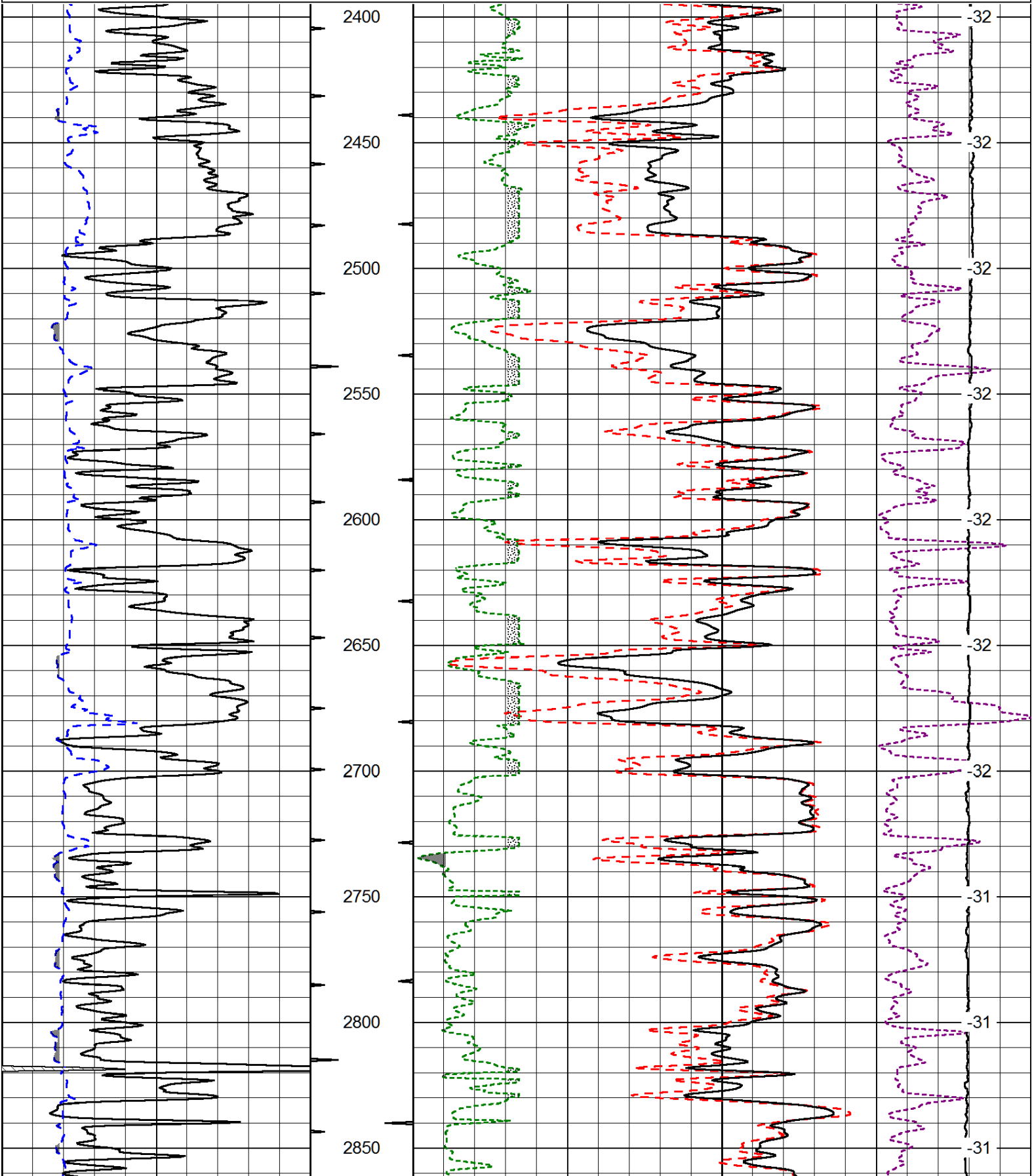
Paradise KS, 2 S on Main St through the curves to Paradise Rd,
2 W to 1799 Rd, 1/2 S, E Into

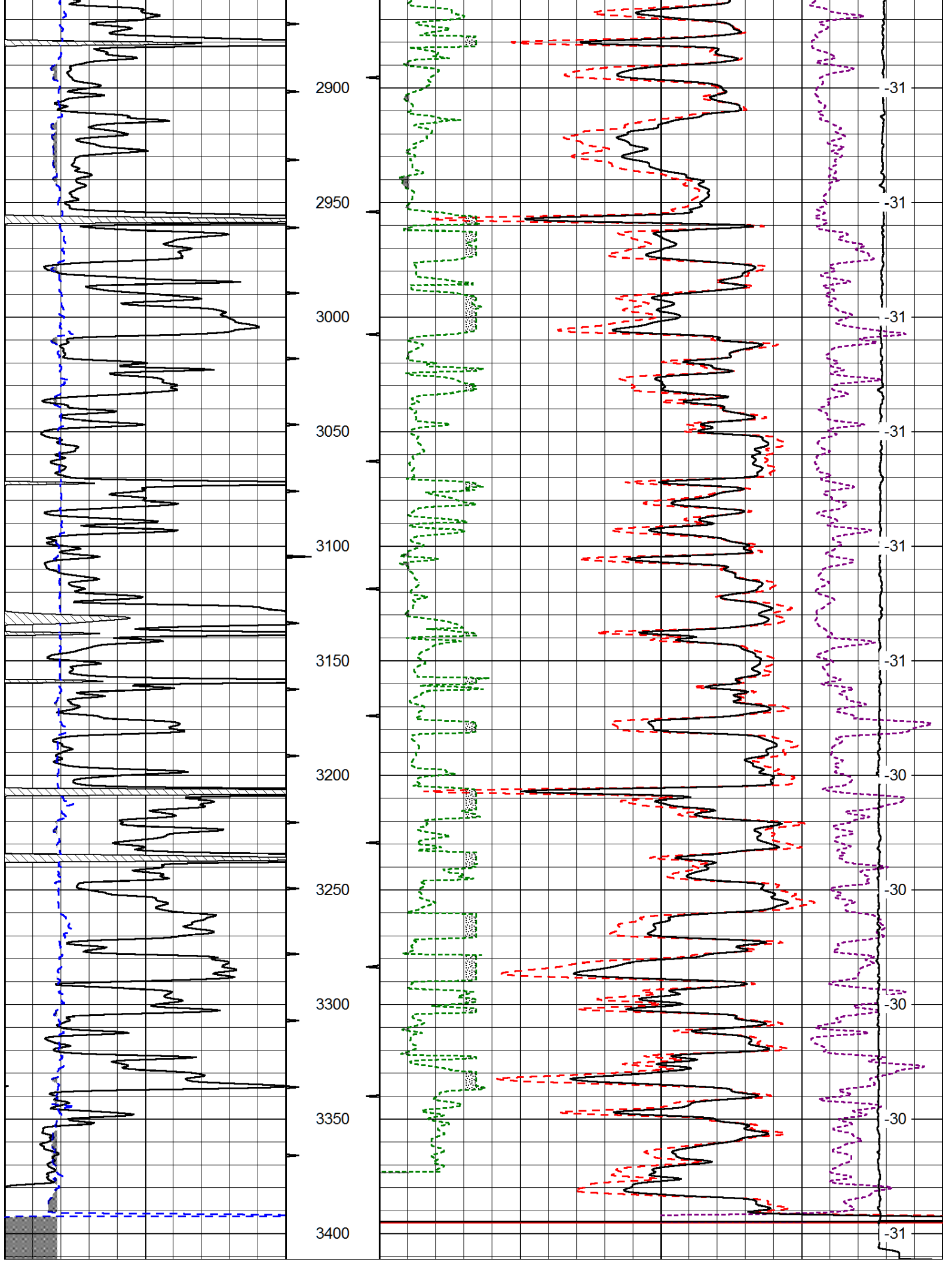
Database File: c:\warrior\data\larson_boardman_#1-23\larsonhd.db
Dataset Pathname: dil\larstk
Presentation Format: cdl
Dataset Creation: Wed Dec 05 07:45:41 2012
Charted by: Depth in Feet scaled 1:600

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)





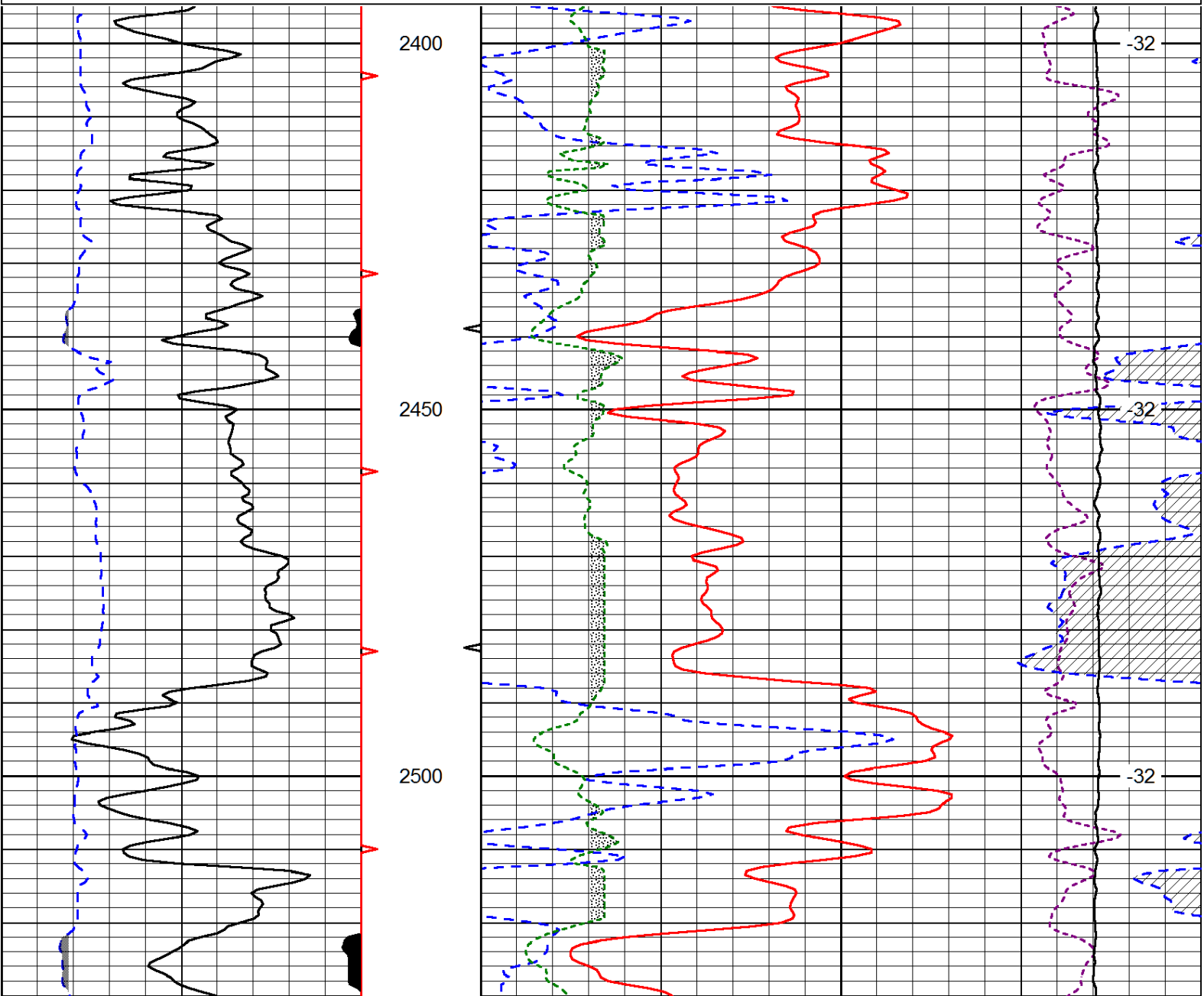
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

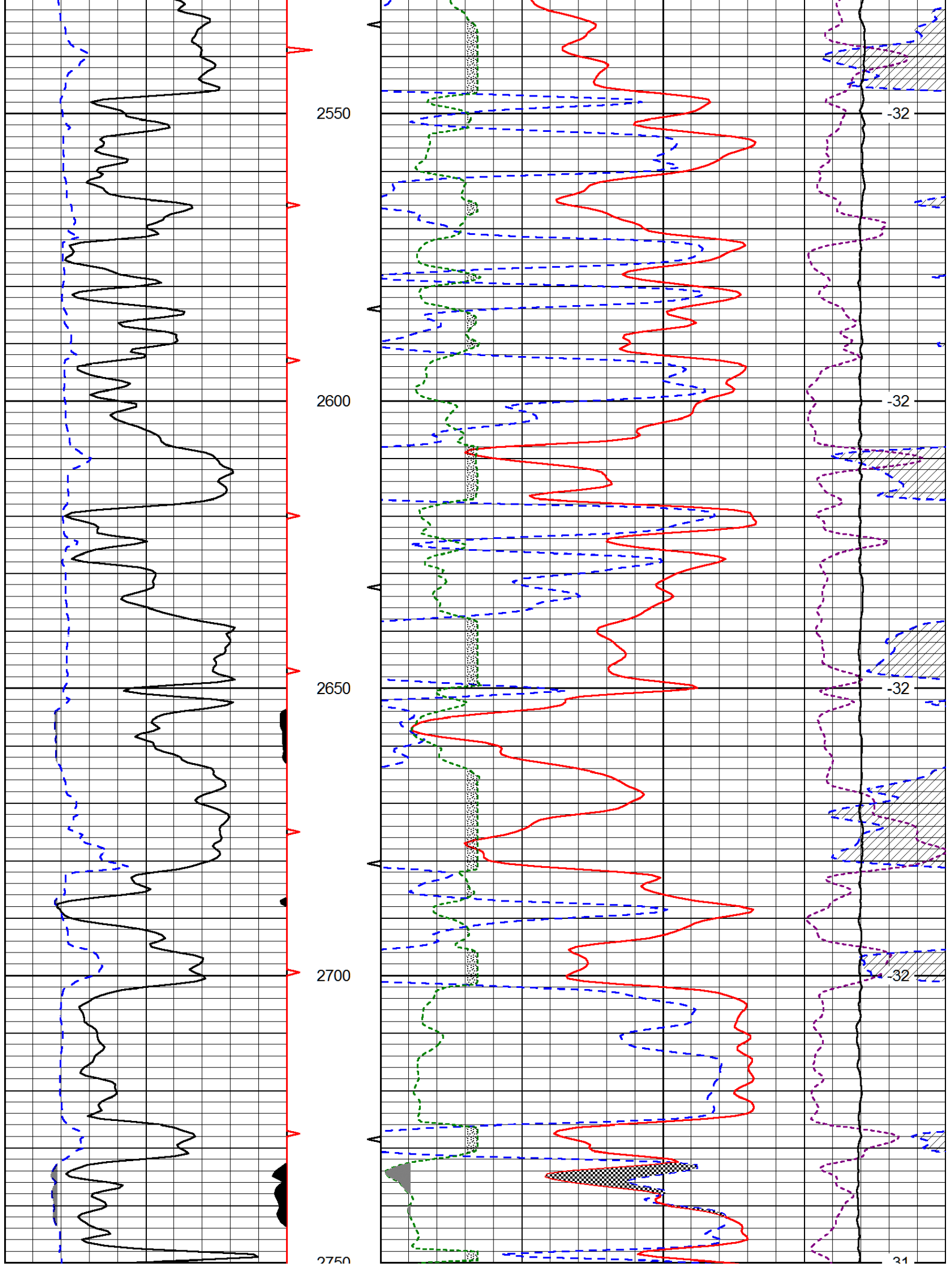
30	Compensated Density (pu)				-10
2	Bulk Density (g/cc)				3
15000	Line Tension (lb)				0
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25
LSPD					(ft/min)

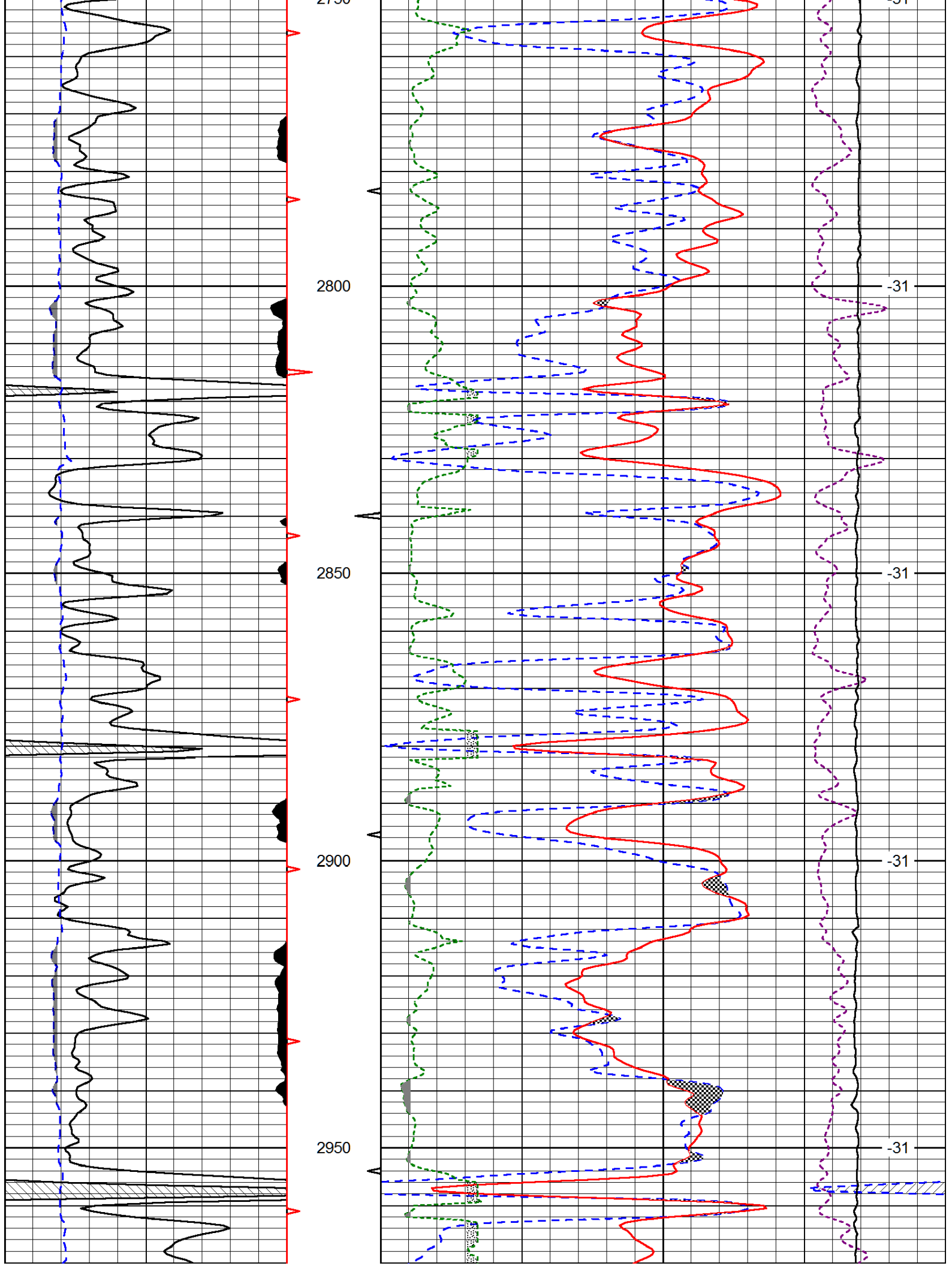
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Dataset Pathname:	dil\larstk
Presentation Format:	cndlspec
Dataset Creation:	Wed Dec 05 07:45:41 2012
Charted by:	Depth in Feet scaled 1:240

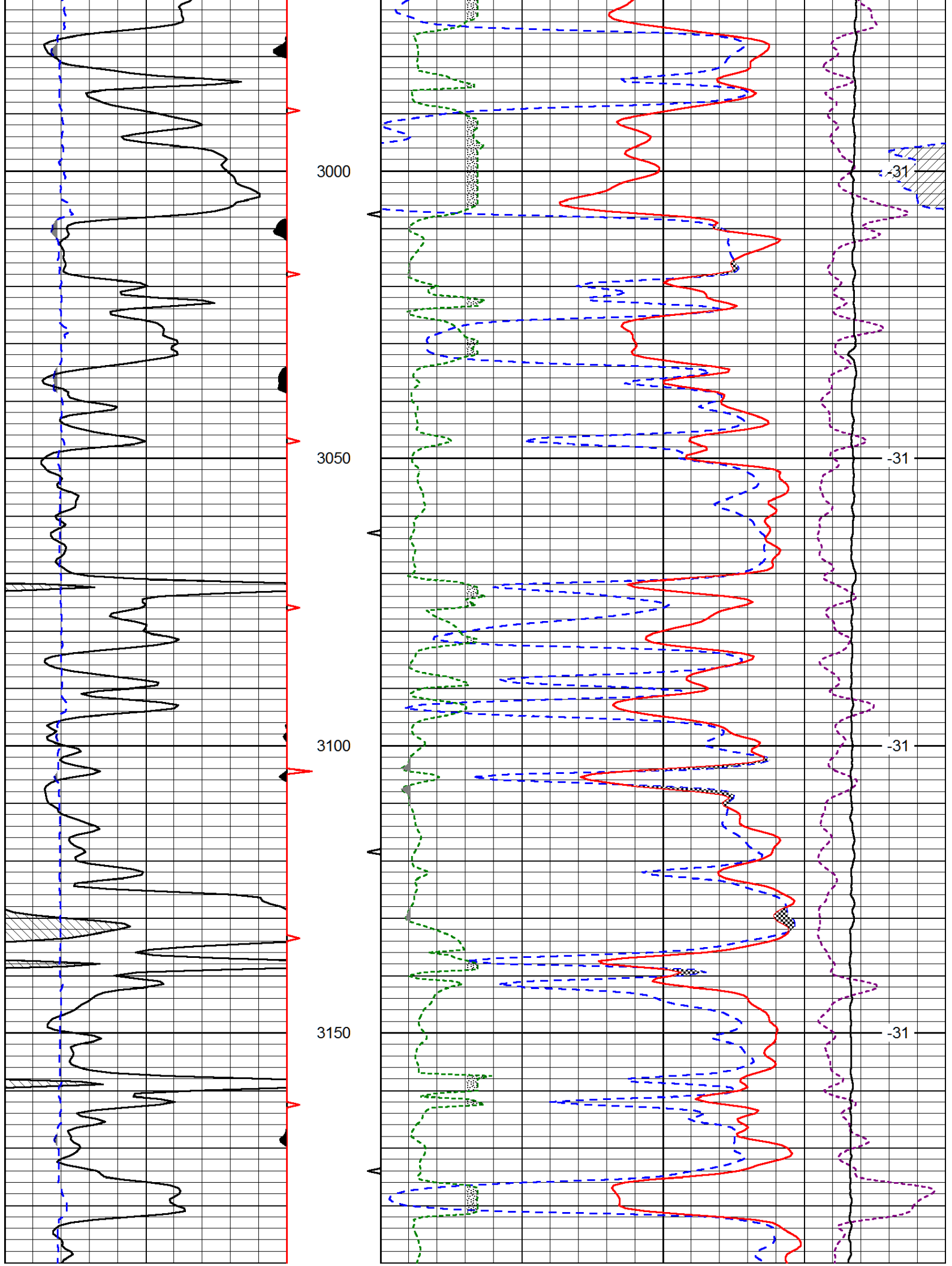
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

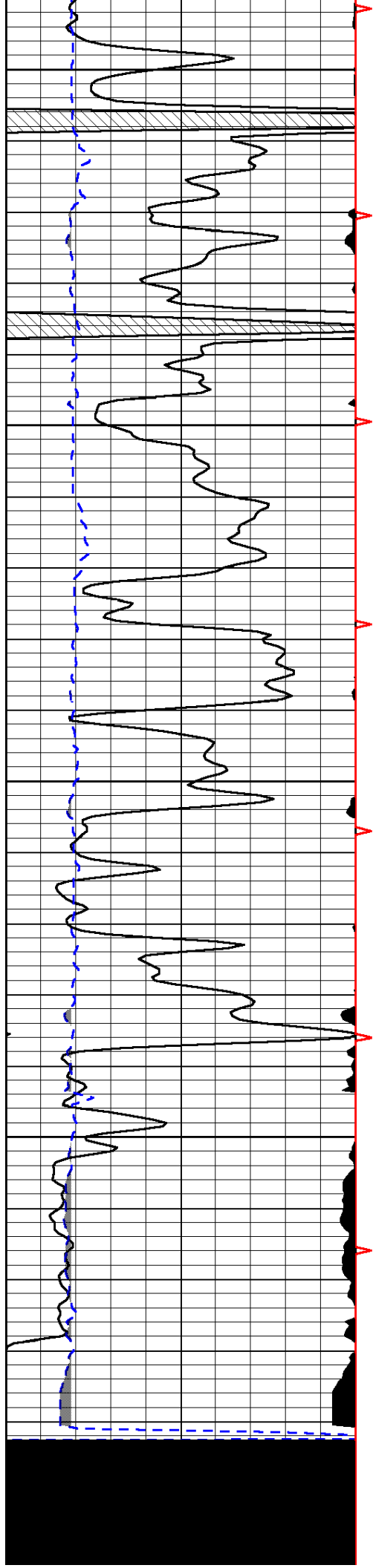
30	CNLS (pu)				-10
30	Compensated Density (2.71 ma) (pu)				-10
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25
10000	Line Tension (lb)				0
					LSPD
					(ft/min)











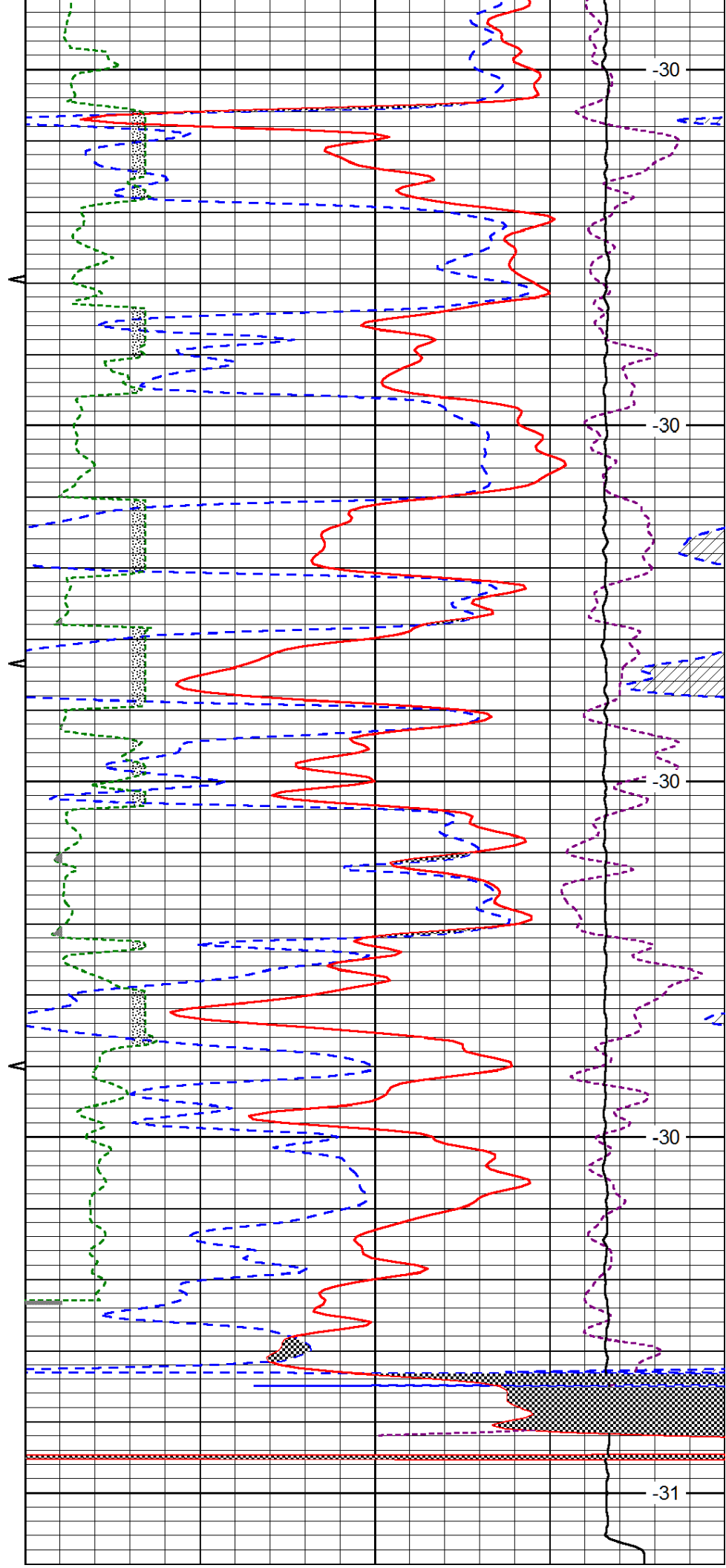
3200

3250

3300

3350

3400



-30

-30

-30

-30

-31

0	Gamma Ray (GAPI)	150	30	CNLS (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)