



Pioneer Energy Services

Dual Compensated Porosity Log

API No.	15-065-23,959-00-00		
Company	Cobalt Energy, LLC		
Well	SD Unit 'A' No. 1 - 19		
Field	Allodium East		
County	Graham		
State	Kansas		
Location	836' FSL & 2599' FEL		
Sec: 19	Twp: 6 S	Rge: 25 W	
Other Services	DILMEL		

Permanent Datum	Ground Level	Elevation	2597
Log Measured From	Kelly Bushing	5	Ft. Above Perm. Datum
Drilling Measured From	Kelly Bushing		
Date	8/16/2013		

Run Number	One
Type Log	CNL / CDL
Depth Driller	3925
Depth Logger	3925
Bottom Logged Interval	3904
Top Logged Interval	3400
Type Fluid In Hole	Chemical
Salinity, PPM CL	900
Density	9.3
Level	Full
Max. Rec. Temp. F	115
Operating Rig Time	4 1/2 Hours
Equipment -- Location	108 Hays
Recorded By	D. Martin
Witnessed By	Paul Gunzelman

Borehole Record				Casing Record			
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	00	345	8.625	23#	00	345
Two	7.875	345	TD				

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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.
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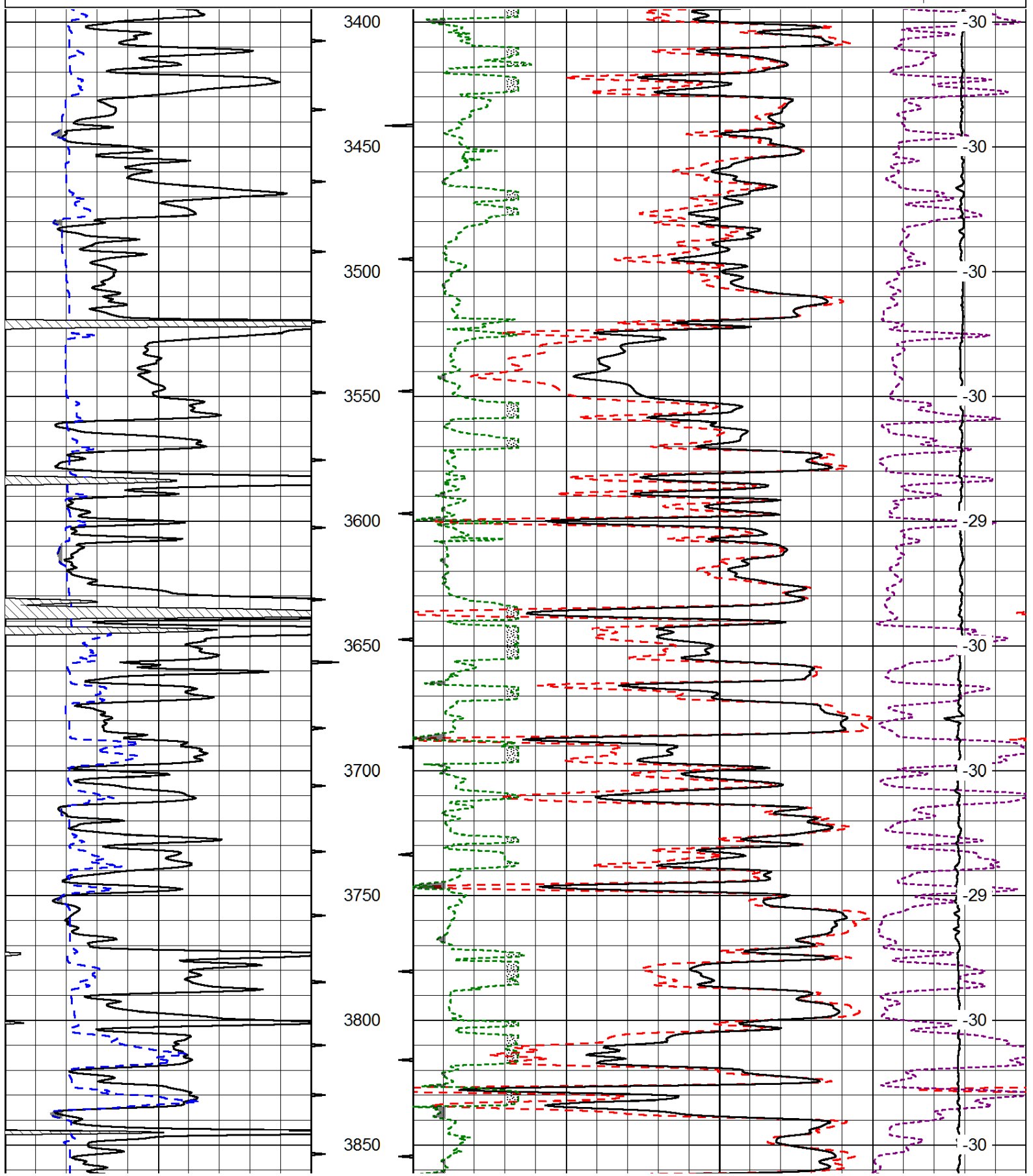
 Hill City, KS
 17 W to 100 Rd.(Co. Line), 11 N to 110N Rd.(AA Rd.),
 1/4 E, N Into

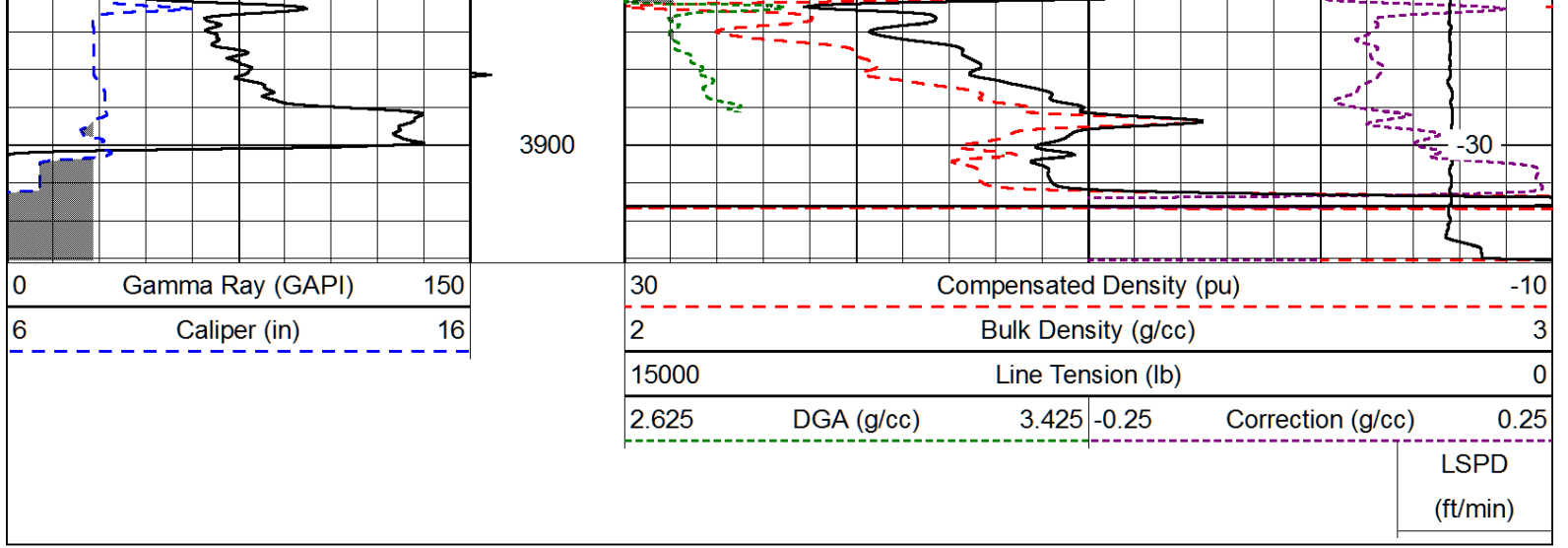
Database File: cobalt_sdunita_1-19hd.db
 Dataset Pathname: dil/cobstk
 Presentation Format: cdl
 Dataset Creation: Sat Aug 17 01:01:28 2013
 Charted by: Depth in Feet scaled 1:600

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

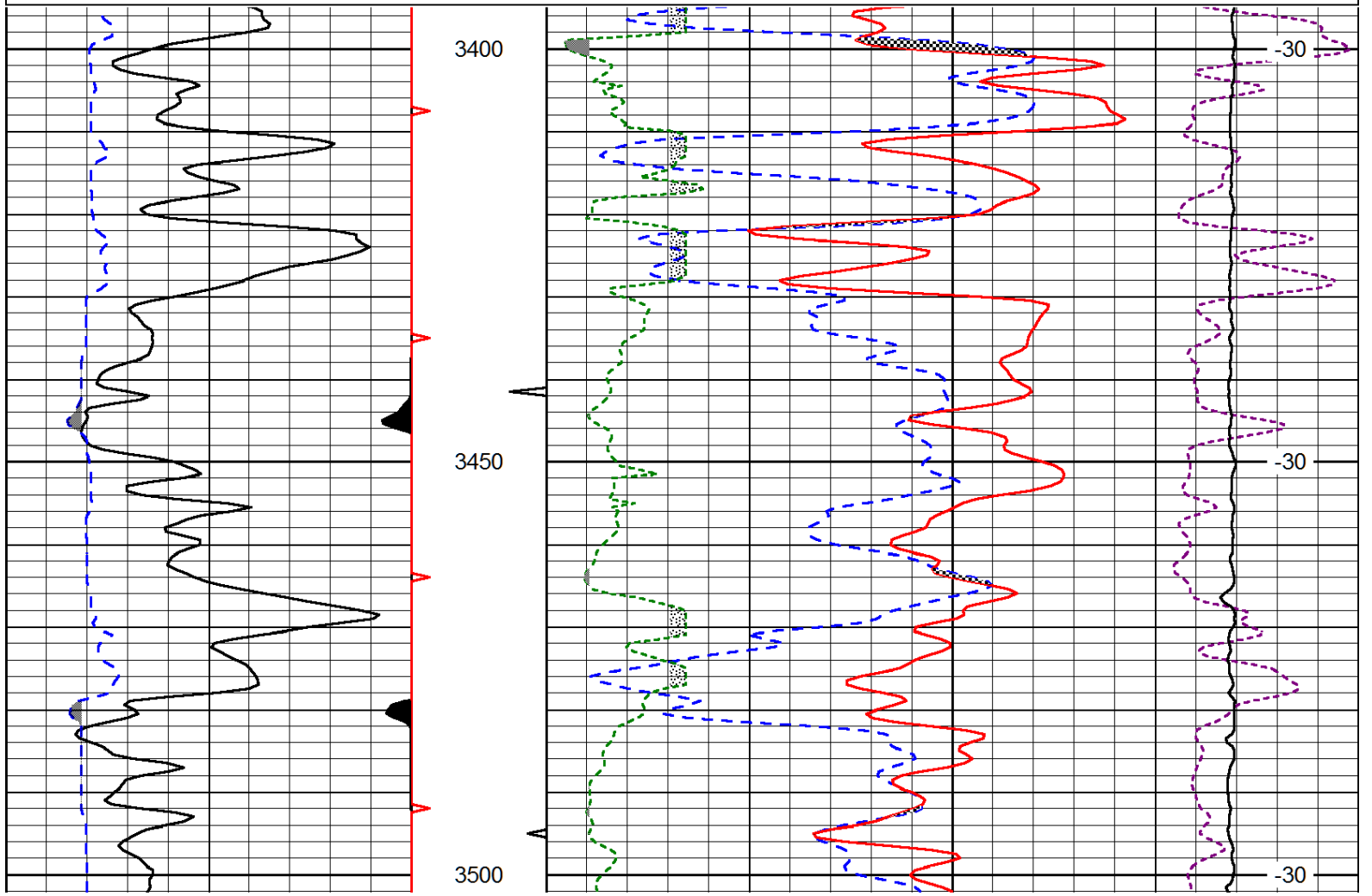
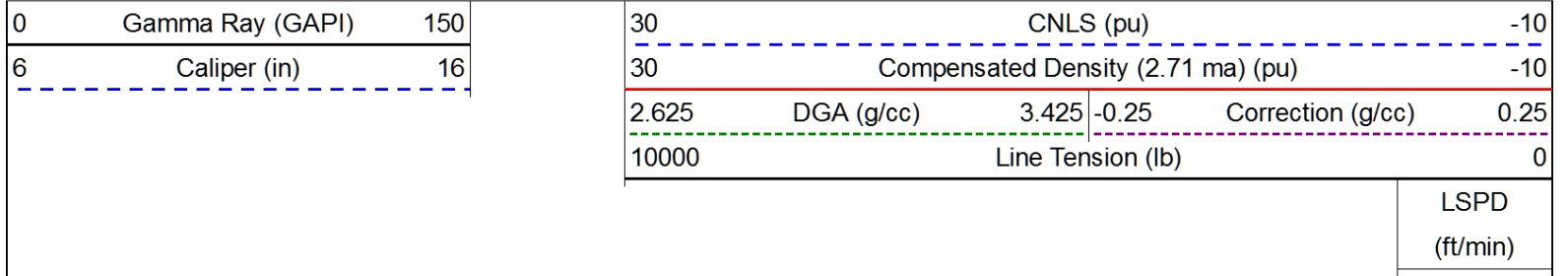
30	Compensated Density (pu)			-10	
2	Bulk Density (g/cc)			3	
15000	Line Tension (lb)			0	
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25

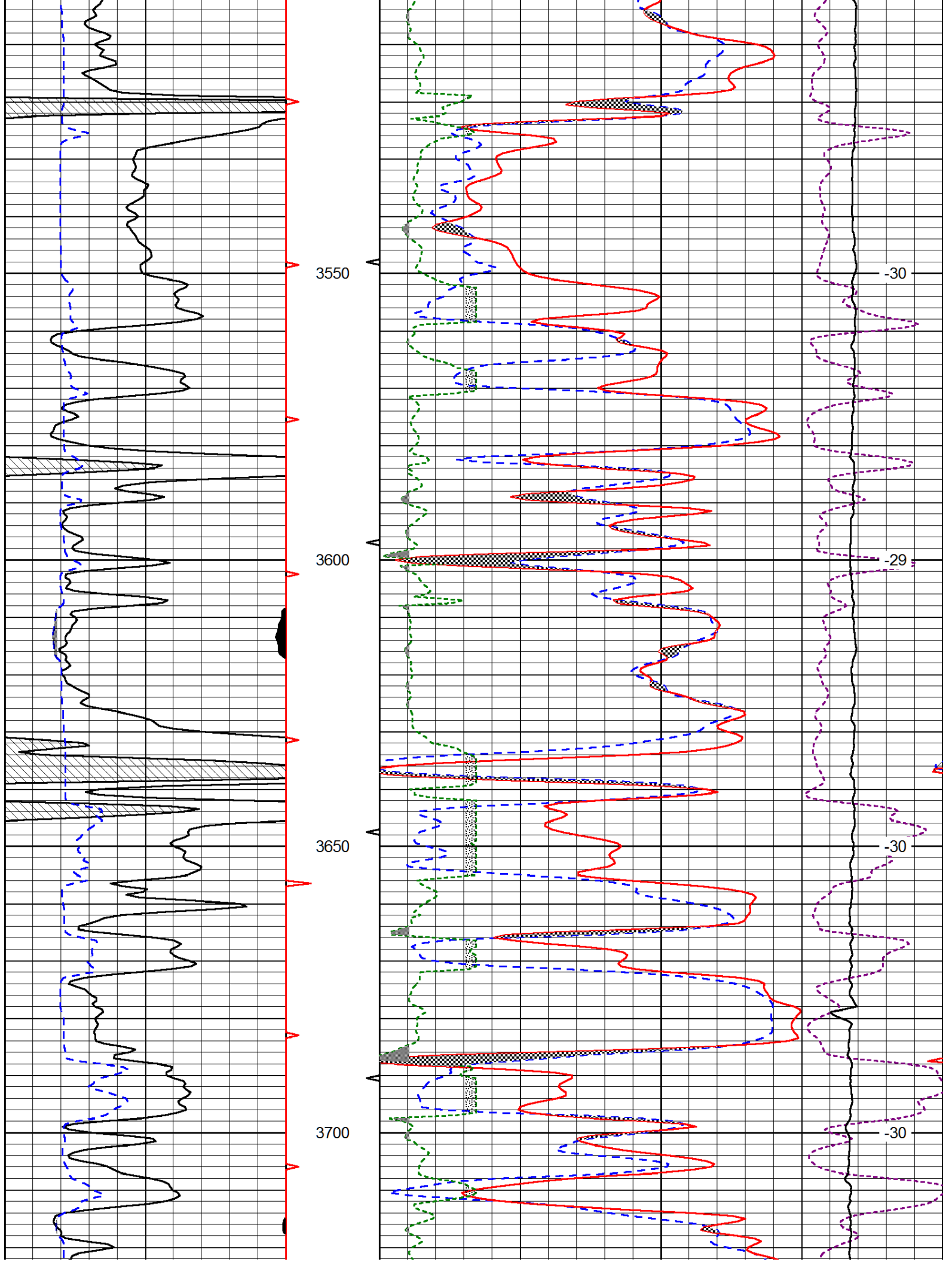
LSPD
(ft/min)

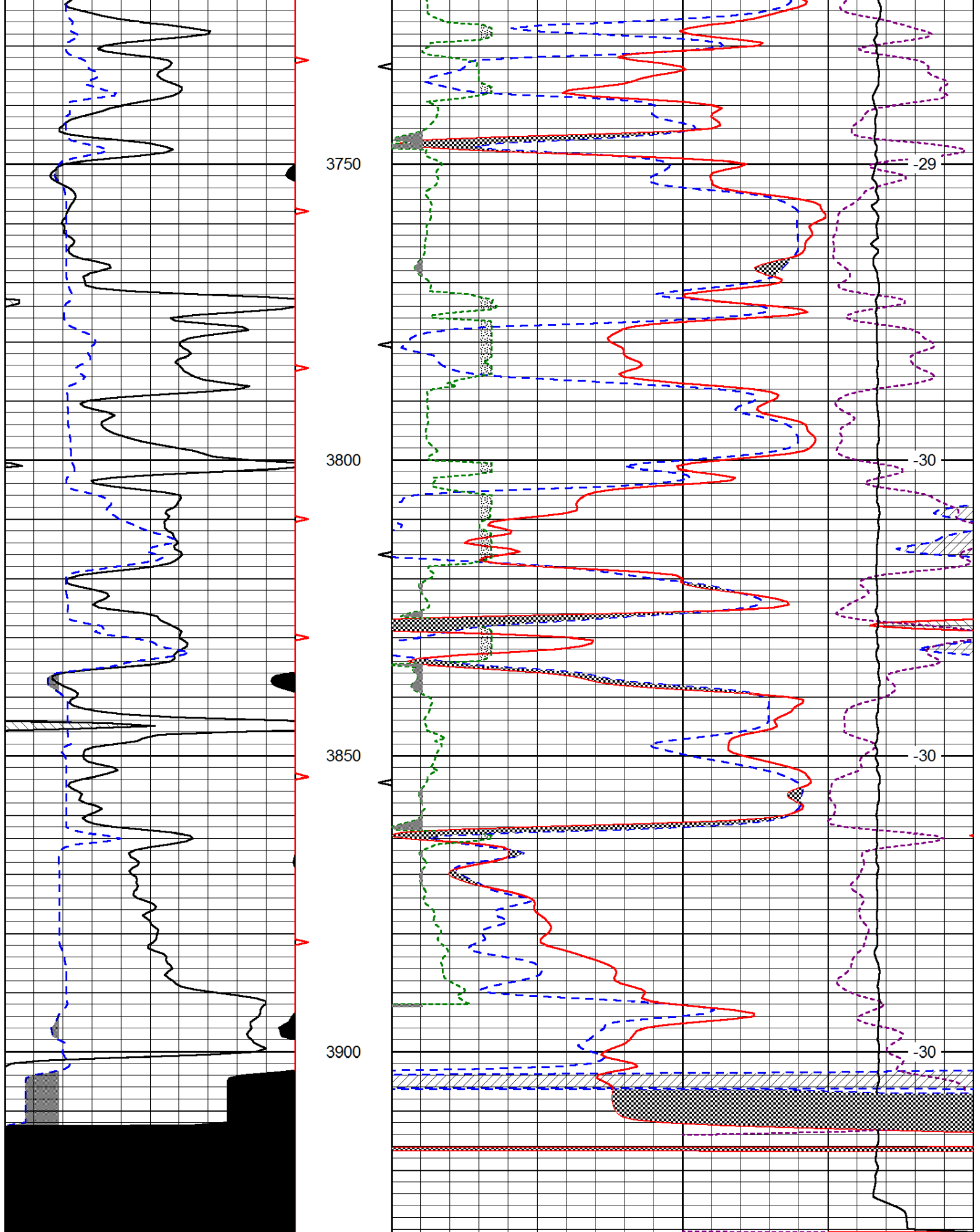




Database File: cobalt_sdunita_1-19hd.db
 Dataset Pathname: dil/cobstk
 Presentation Format: cndlspec
 Dataset Creation: Sat Aug 17 01:01:28 2013
 Charted by: Depth in Feet scaled 1:240







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)