

**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**COMPENSATED  
DENSITY / NEUTRON  
PE LOG**

Company MULL DRILLING COMPANY, INC.  
Well SANTEE #1-17  
Field WILDCAT  
County TREGO State KANSAS

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Field WILDCAT  
County TREGO  
State KANSAS

Location: API #: 15-195-22822  
776' FNL & 1118' FNL  
SEC 17 TWP 15S RGE 23W  
Permanent Datum GROUND LEVEL Elevation 2297  
Log Measured From KELLY BUSHING 8' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
DIL  
SONIC/MEL  
Elevation  
K.B. 2305  
D.F.  
G.L. 2297

Date	11-16-12
Run Number	ONE
Depth Driller	4375
Depth Logger	4374
Bottom Logged Interval	4350
Top Log Interval	3600
Casing Driller	233
Casing Logger	233
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.1 / 54
pH / Fluid Loss	9.0 / 10.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.60 @ 74F
Rmf @ Meas. Temp	0.45 @ 74F
Rmc @ Meas. Temp	0.72 @ 74F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.380 @ 118F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	10:00 P.M.
Maximum Recorded Temperature	118F
Equipment Number	860
Location	HAYS, KS.
Recorded By	RUPP
Witnessed By	KEVIN KESSLER

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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

NABORS COMPLETION & PRODUCTION CO.  
THANK YOU FOR YOUR BUSINESS  
DIRECTIONS: WAKEENEY, S TO RD. "AA", 1/2W, S INTO.

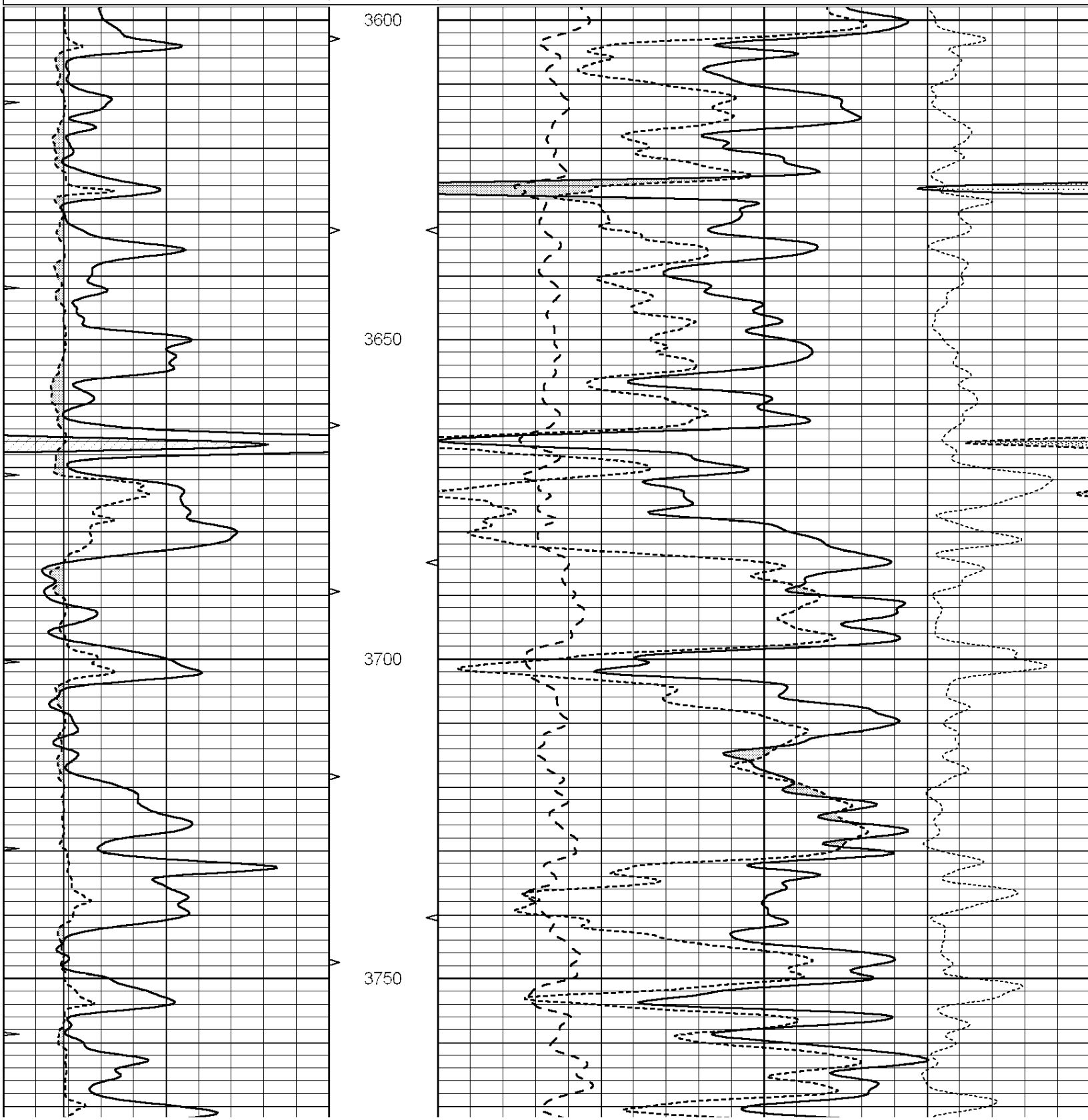


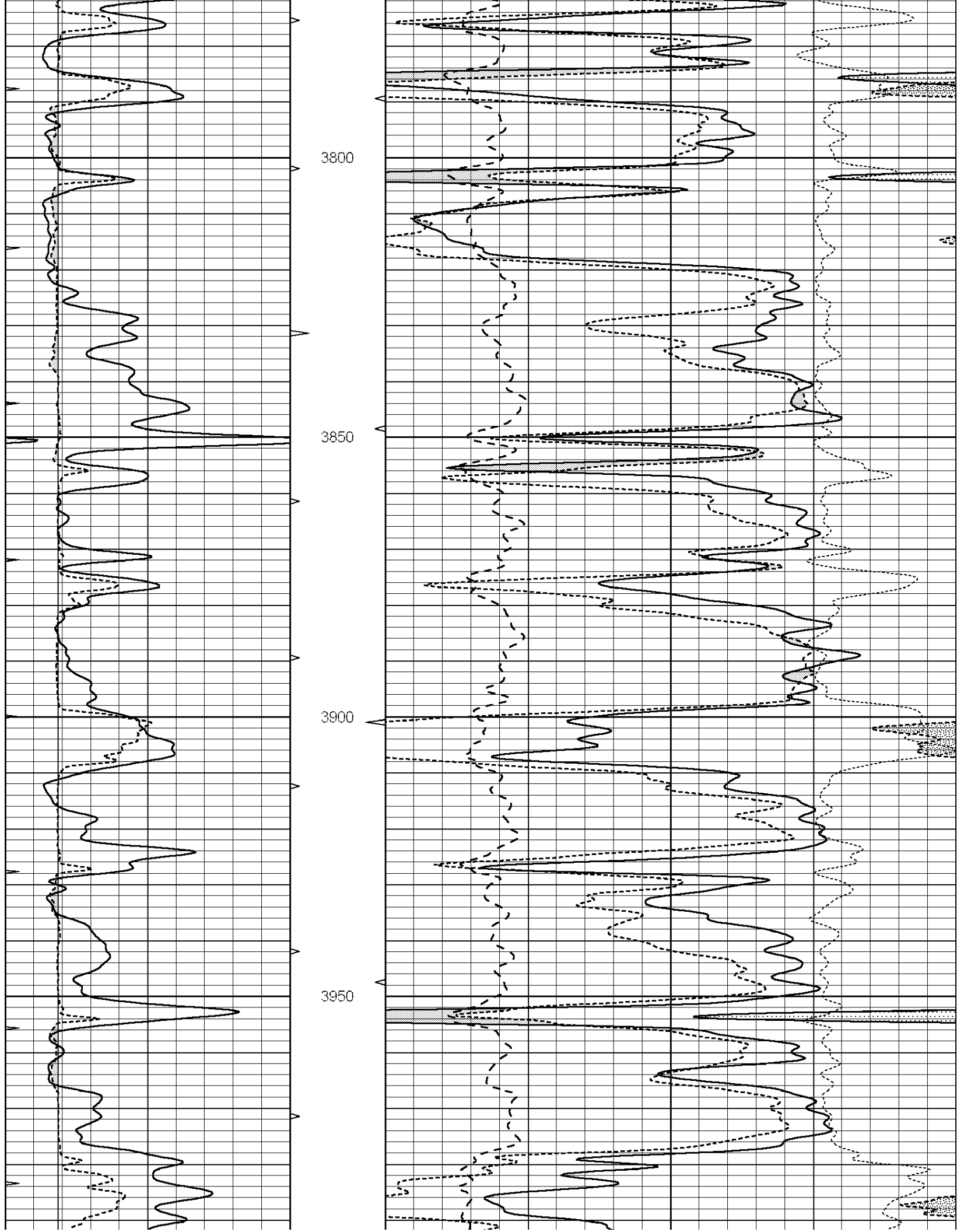
**COMPLETION  
& PRODUCTION**

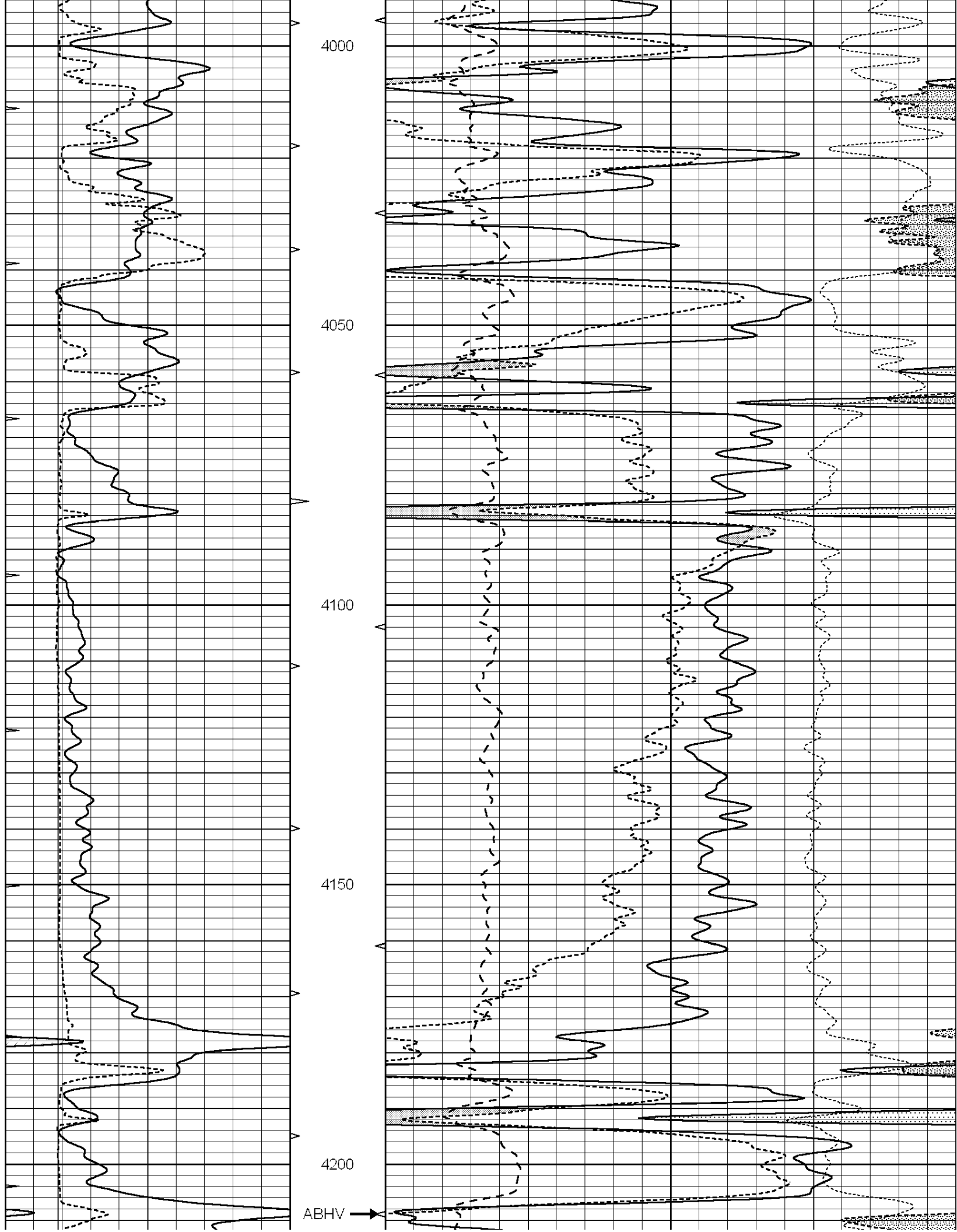
**MAIN SECTION**

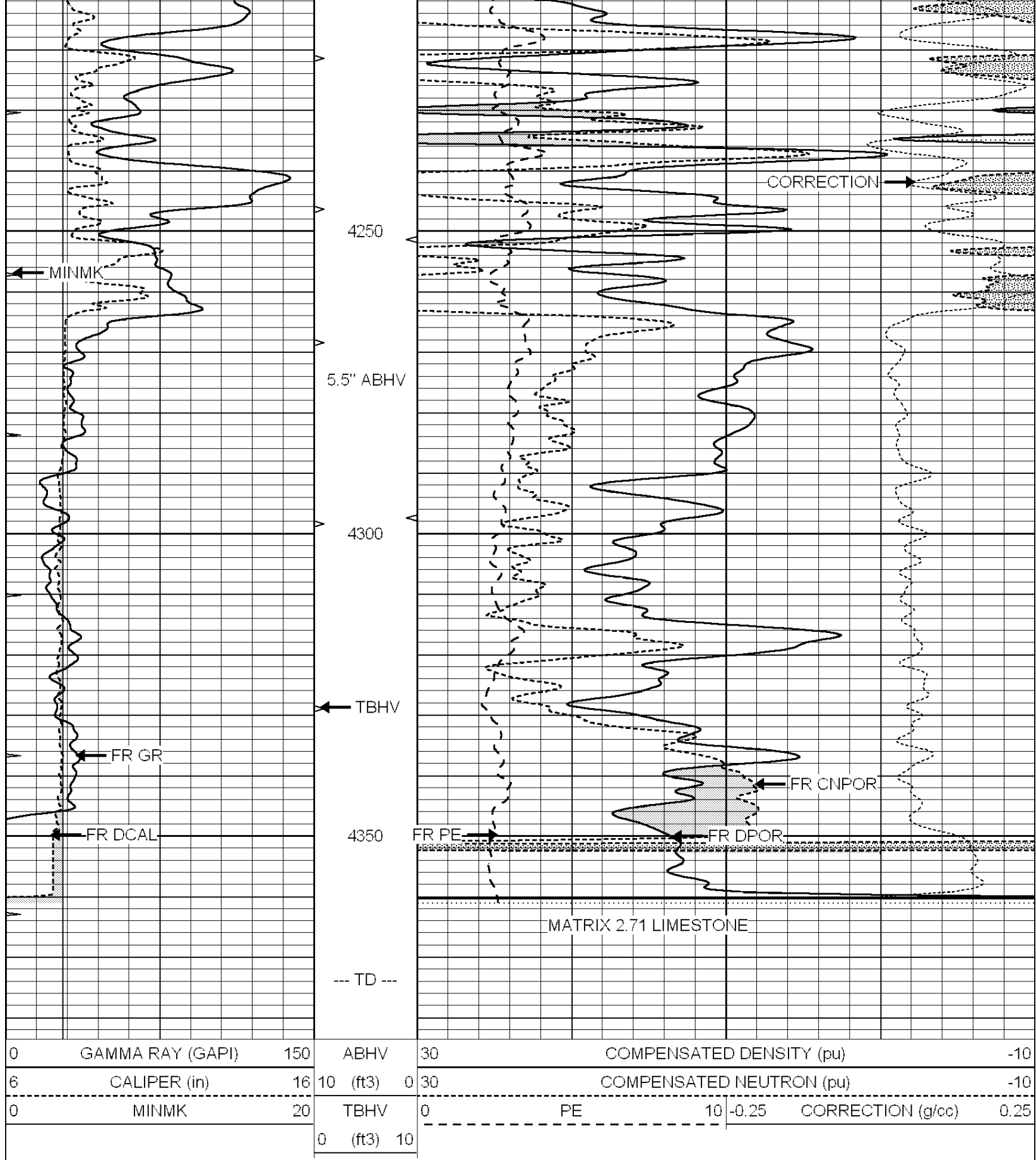
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 Dataset Pathname: pass3.1  
 Presentation Format: ldt\_neu  
 Dataset Creation: Fri Nov 16 23:19:43 2012 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10			



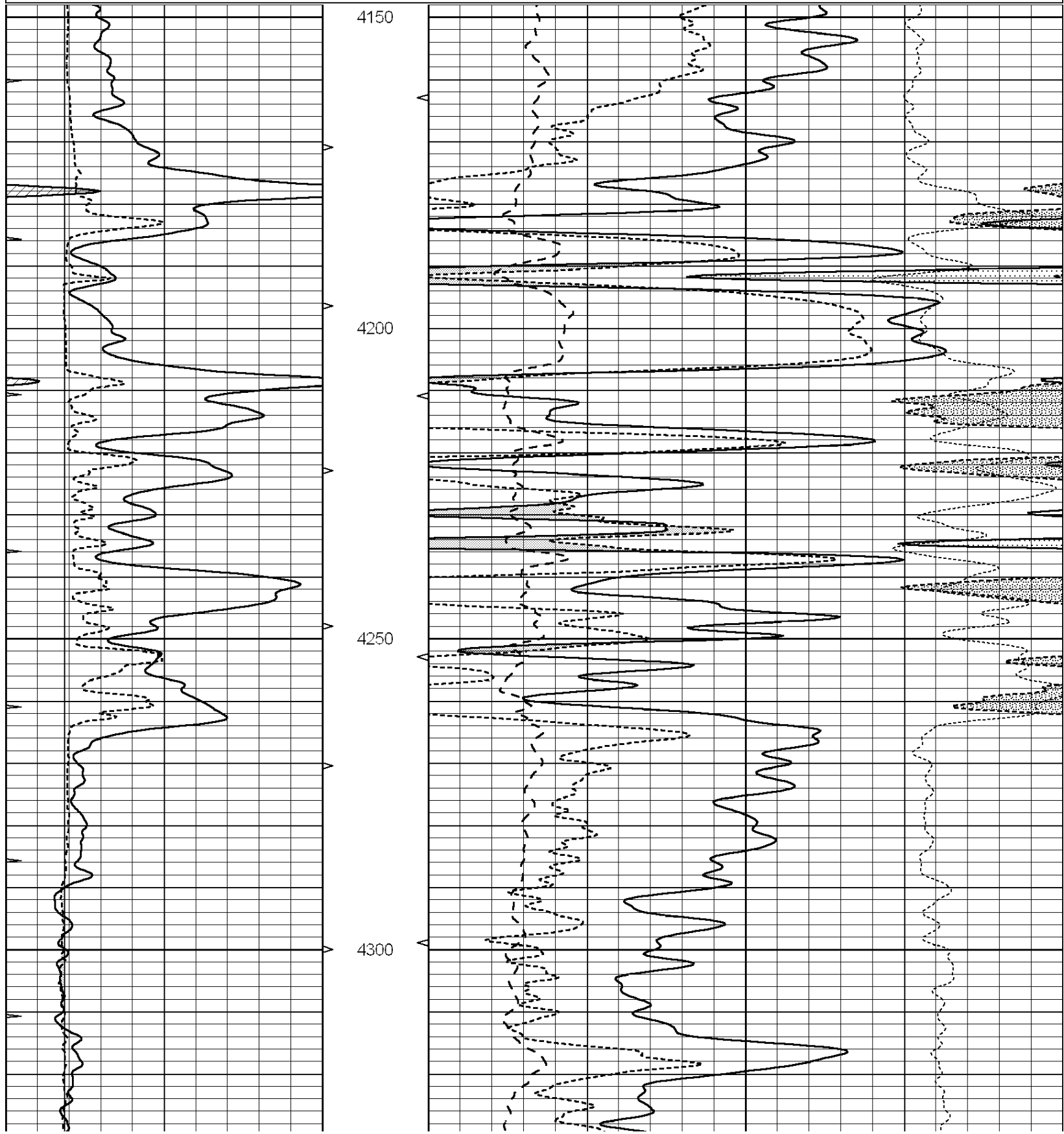


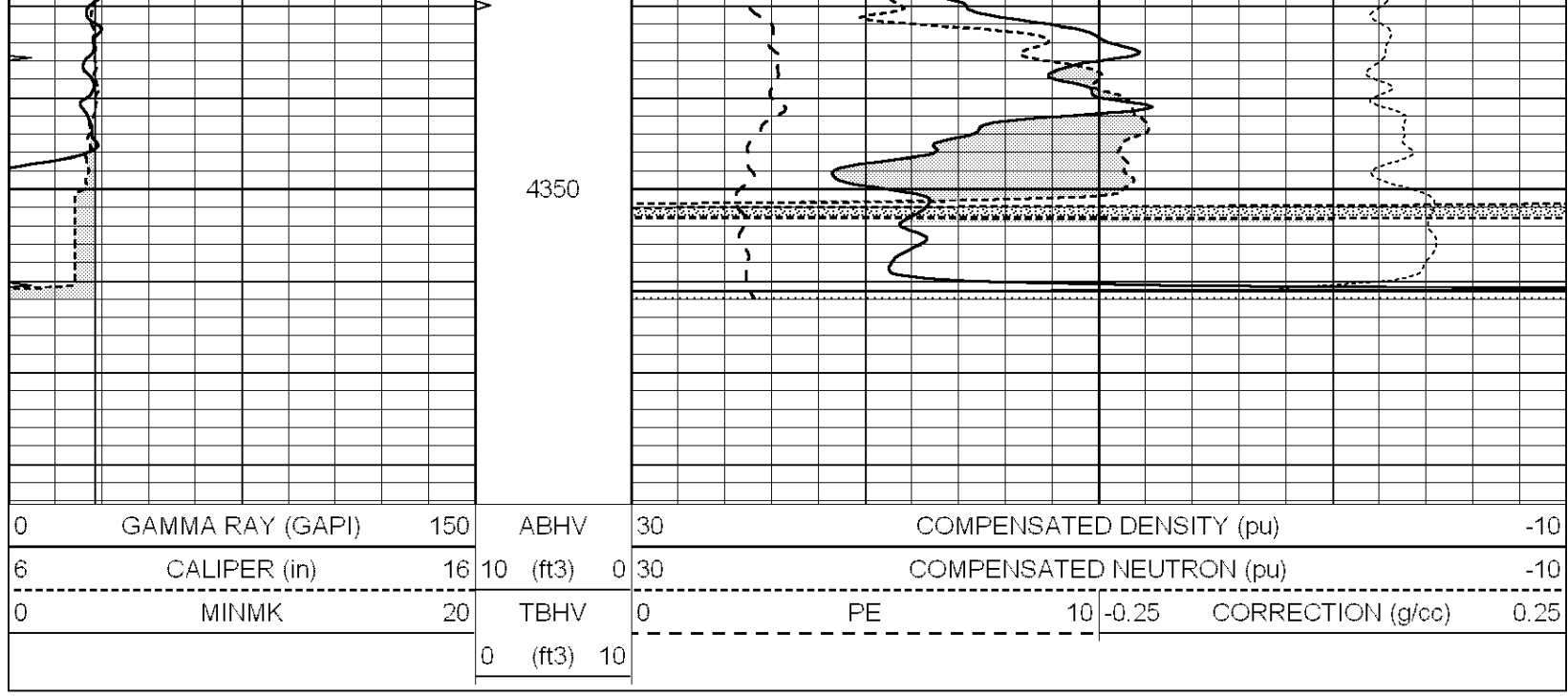




Database File: 009949pdn.db  
 Dataset Pathname: pass2.1  
 Presentation Format: ldt\_neu  
 Dataset Creation: Fri Nov 16 23:09:27 2012 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10			





### Calibration Report

Database File: 009949pdm.db  
 Dataset Pathname: pass3.1  
 Dataset Creation: Fri Nov 16 23:19:43 2012 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: DIL5-GEAR  
 Performed: Fri Nov 16 23:05:58 2012

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	470.000	-13.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	500.000	-9.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.006	0.655	V	0.000	400.000	mmho/m	615.668	-3.483
Medium	0.010	0.747	V	0.000	462.500	mmho/m	627.607	-6.064

### Litho Density Calibration Report

Serial: 002 Model: PRB  
 Performed Mon Apr 02 17:56:53 2012

#### Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	872.3	7266.3	2292.6	7931.5	cps
Window 2	822.9	5957.5	1958.0	6389.6	cps
Window 3	670.4	3219.9	1211.9	3388.2	cps
Window 4	201.6	201.1	202.3	204.6	cps
Long Space	0.0	5134.6	1135.0	5566.6	cps
Short Space	1.1	994.2	674.4	1059.2	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 45.6	Rib Slope	: 1.020	Density/Spine Ratio	: 0.569
Spine Angle	: 75.6	Spine Slope	: 3.888	Spine Intercept	: -18.3

Caliper

Caliper	Readings	Reference	
Low Ref	4.3	8.4	
High Ref	6.1	14.0	
	Gain: 3.0		Offset: -4.4

Compensated Neutron Calibration Report

Serial Number: NUE\_2I  
Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	1.00 cps	1.00 cps	1.0000
Long Space	1.00 cps	1.00 cps	1.0000

Gamma Ray Calibration Report

Serial Number: GR5  
Tool Model: OPEN  
Performed: Fri Nov 16 23:05:30 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.7400 GAPI/cps