



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company LIBERTY OPER. & COMPL. INC. Well CHAROLAIS #1 Field BEMIS - SHUTTS County ELLIS State KANSAS		Company LIBERTY OPERATIONS & COMPLETIONS, INC. Well CHAROLAIS #1 Field BEMIS - SHUTTS County ELLIS State KANSAS	
Location: API # : 15-051-26607-0000 1455' FNL & 330' FVL N/2 - NW - SW - NW SEC 5 TWP 11S RGE 17W		Other Services DIL/MEL SONIC	
Permanent Datum Log Measured From Drilling Measured From	GROUND LEVEL KELLY BUSHING 5' A.G.L. KELLY BUSHING	Elevation 1957 K.B. 1962 D.F. 1960 G.L. 1957	
Date	10/4/13		
Run Number	ONE		
Depth Driller	3610		
Depth Logger	3606		
Bottom Logged Interval	3582		
Top Log Interval	2700		
Casing Driller	8 5/8" @ 222'		
Casing Logger	222		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 7,500 PPM	
Density / Viscosity	9.3/55		
pH / Fluid Loss	10.0/8.8		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.850 @ 80F		
Rmf @ Meas. Temp	.638 @ 80F		
Rmc @ Meas. Temp	1.02 @ 80F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.602 @ 113F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	10:45 A.M.		
Maximum Recorded Temperature	113F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	TONY RICHARDSON	ROGER COMEAU	

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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 "NABORS" HAYS, KANSAS (785) 628-6395
 DIRECTIONS
 TURKVILLE SCHOOL, E. SIDE TO "TOULON RD.", 2 1/2N., E. INTO UP HILL

Database File:

011681pe.db

Dataset Pathname:

pass3.8

Presentation Format:

ldt_neu

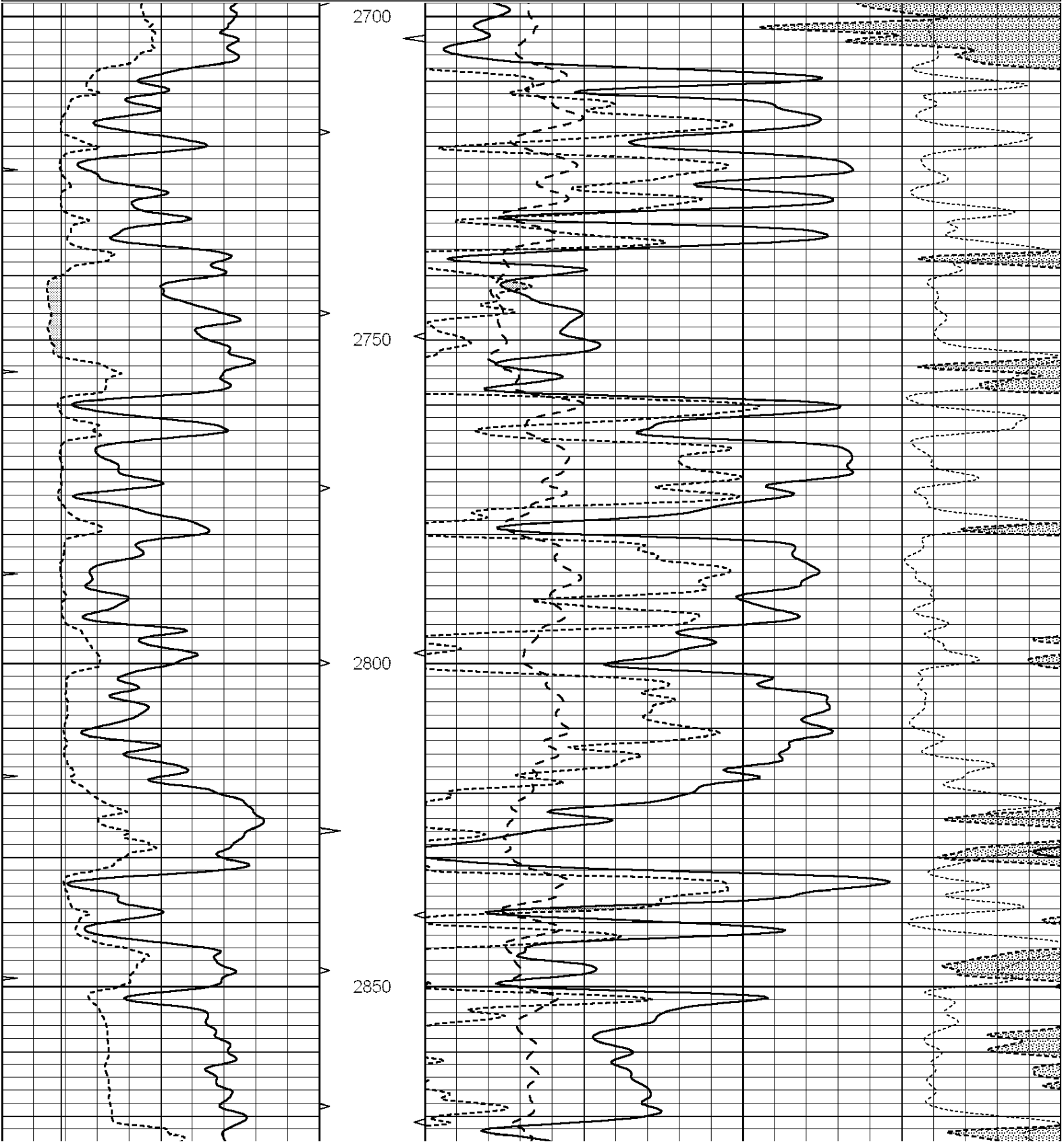
Dataset Creation:

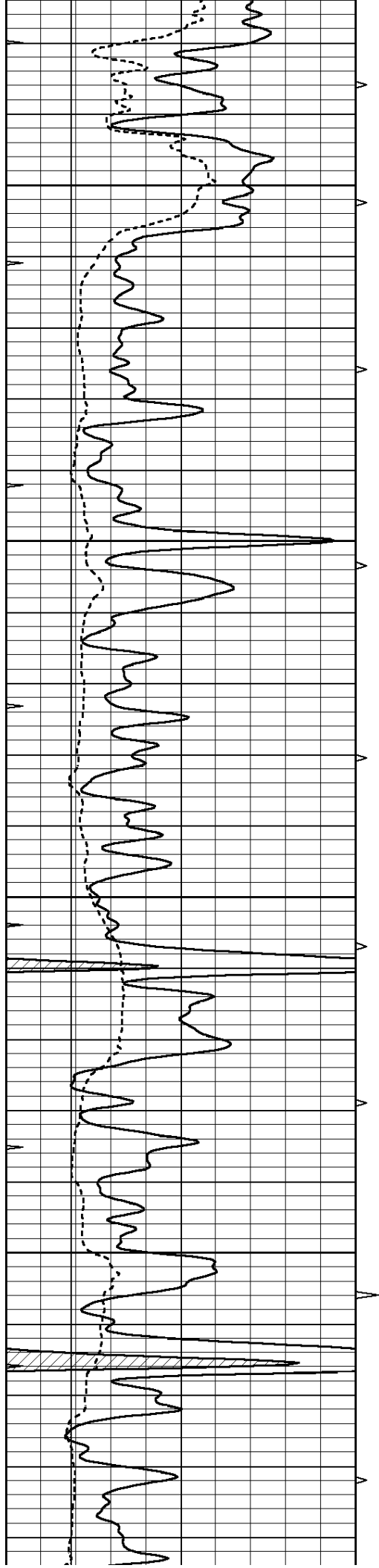
Fri Oct 04 12:00:43 2013 by Calc SOC 120430

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	30	COMPENSATED NEUTRON (pu)				-10
0	MINMK	20	TBHV	0	10	PE	-0.25	CORRECTION (g/cc)	0.25	
			0 (ft3)	10						



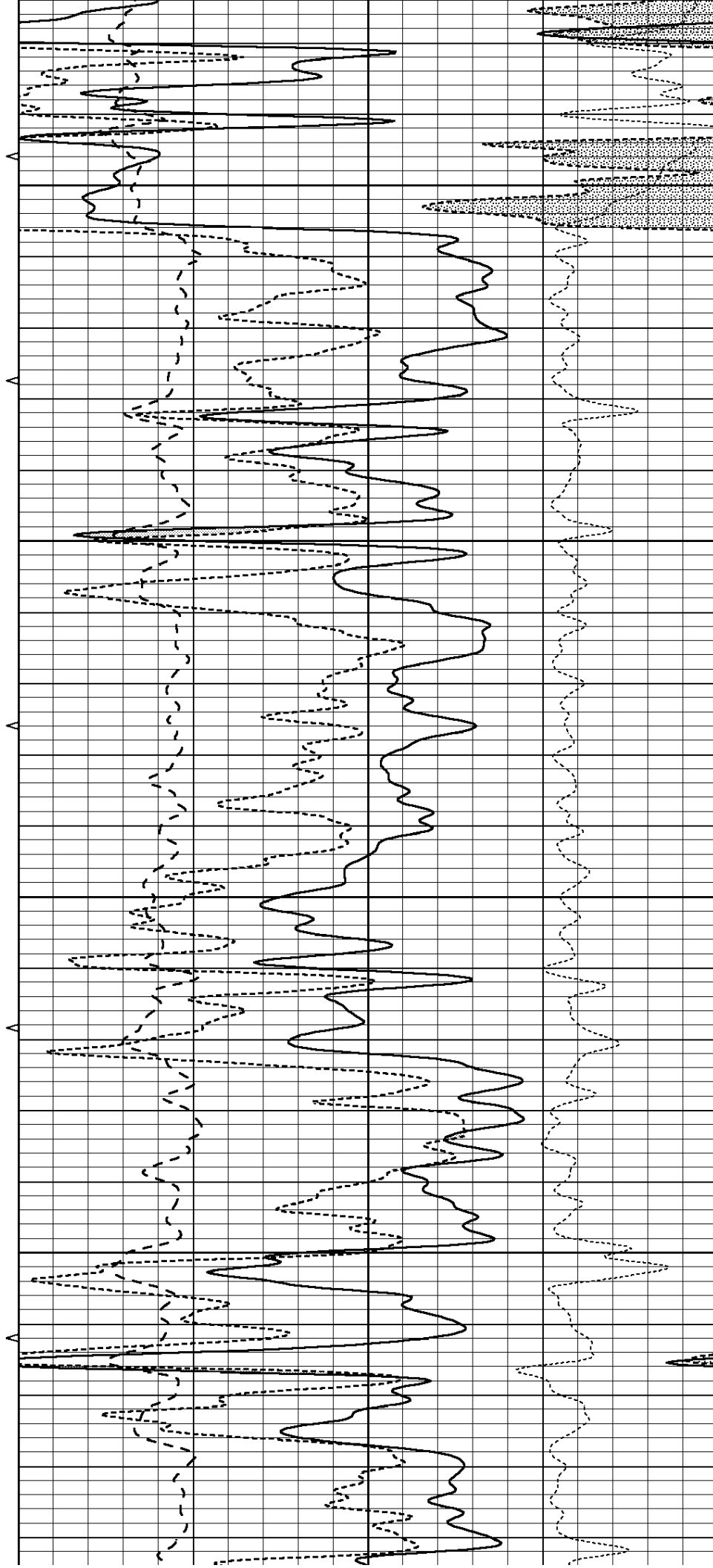


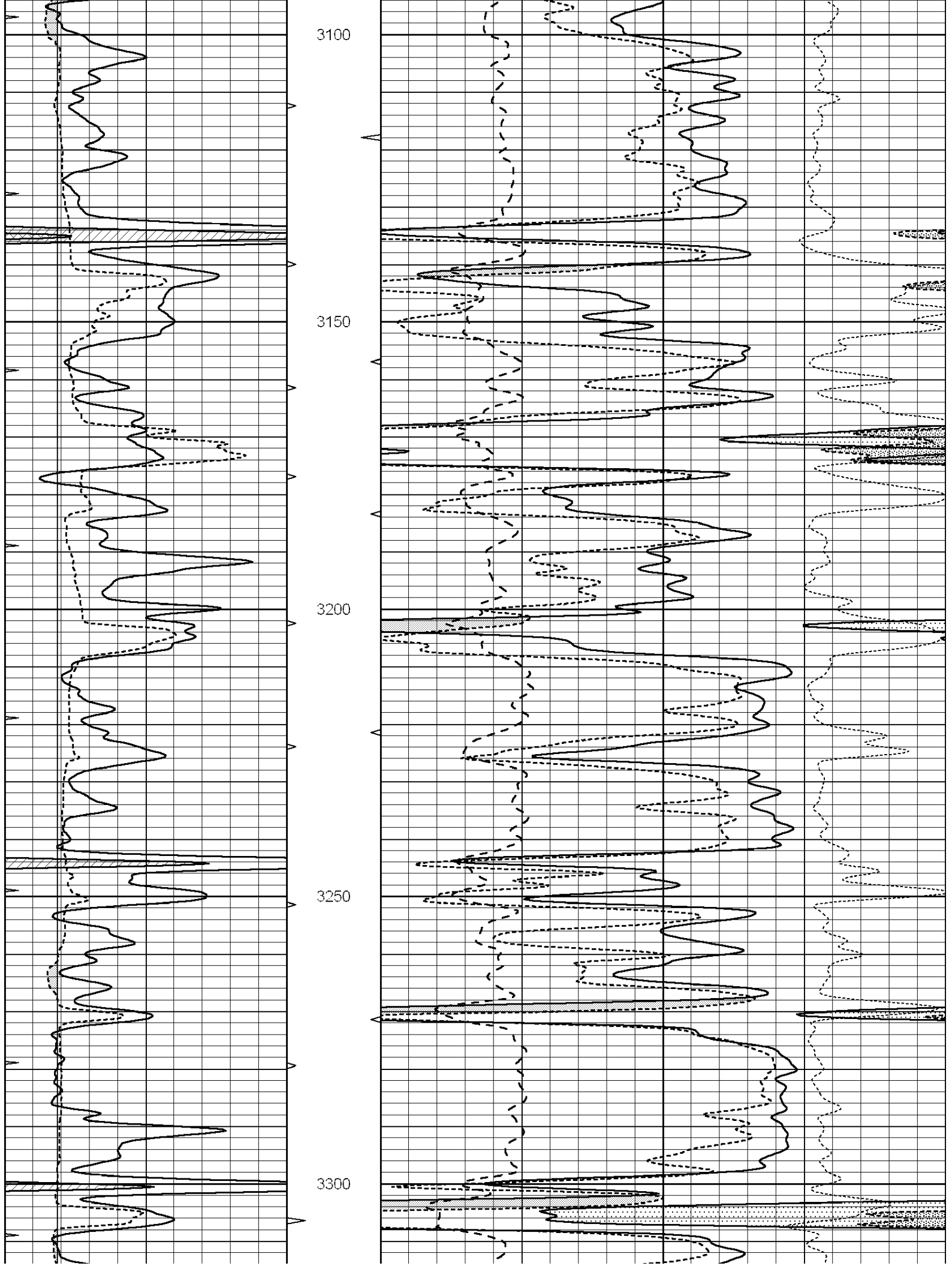
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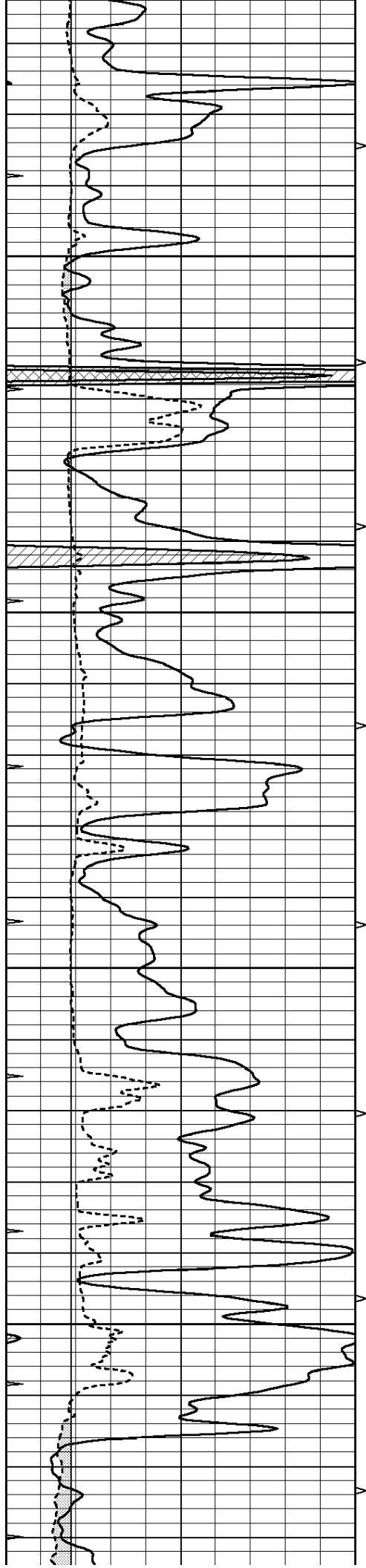
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3000

3050







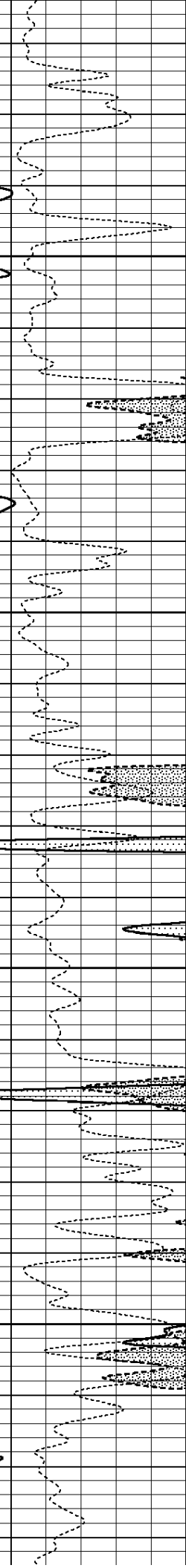
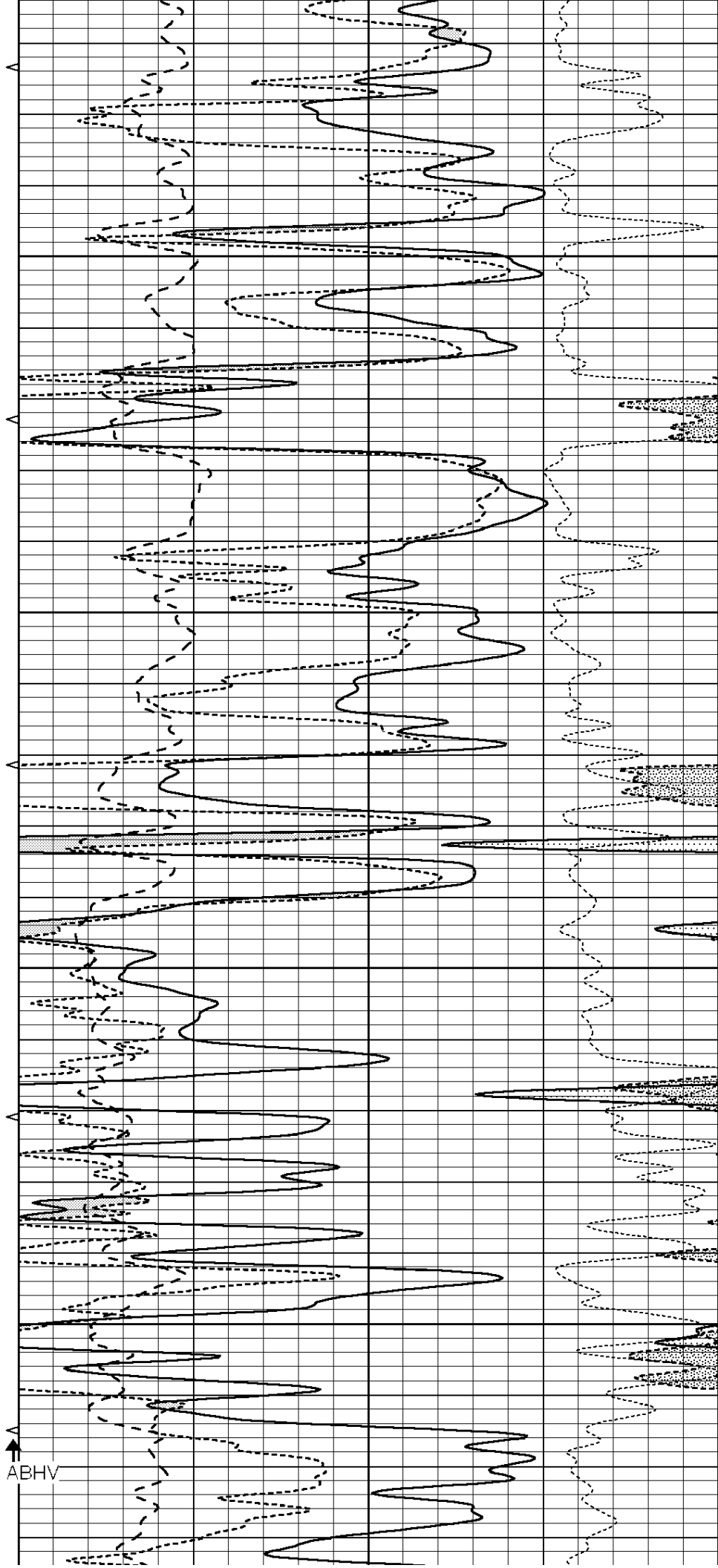
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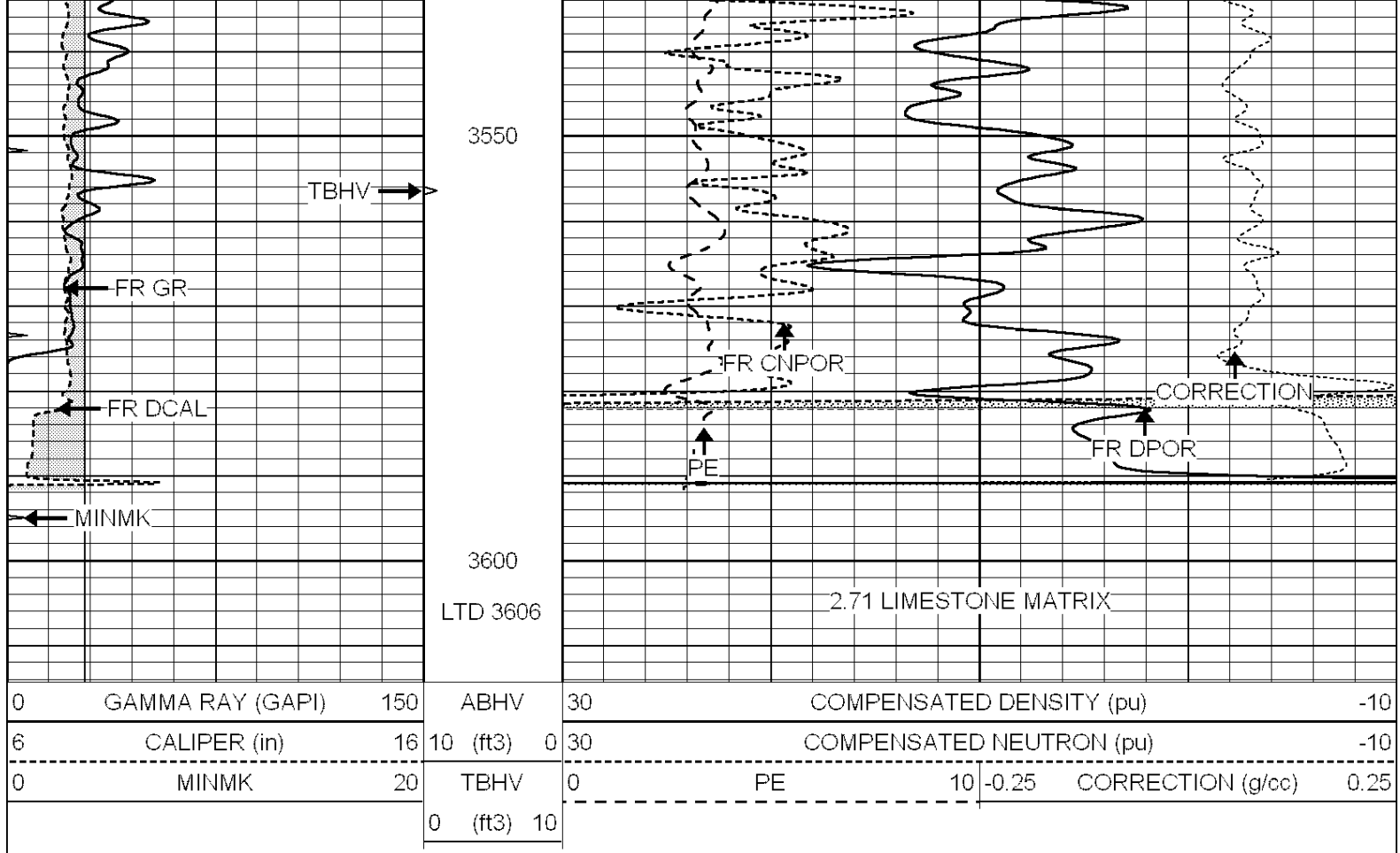
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3450

3500

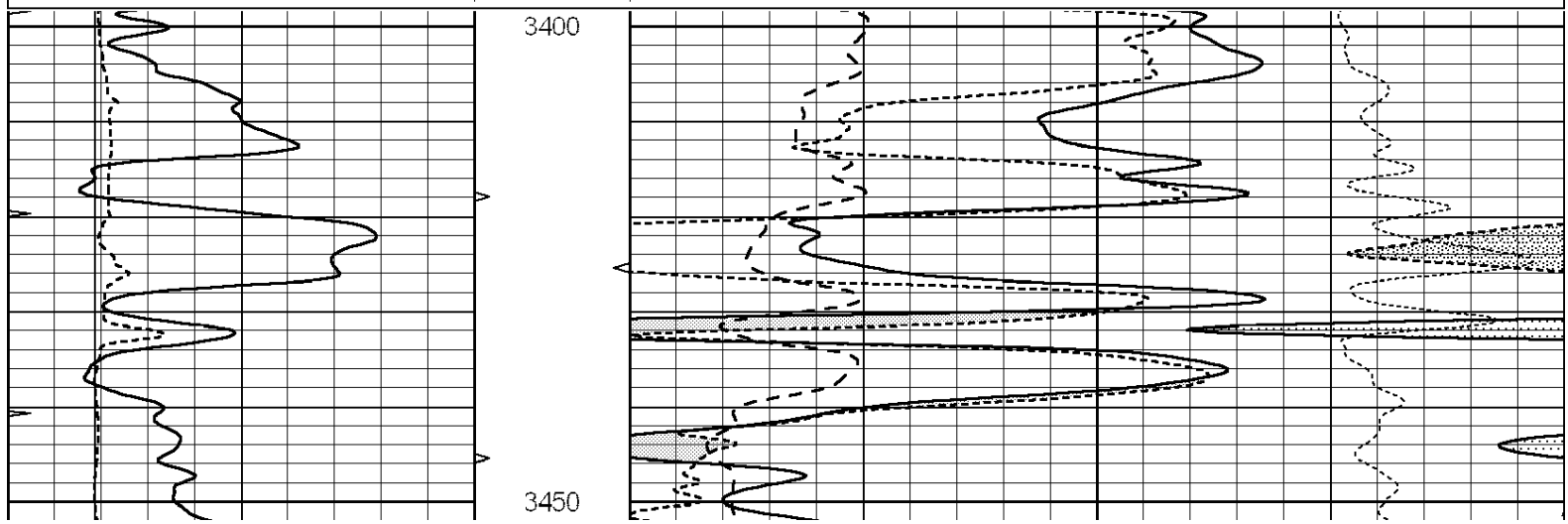
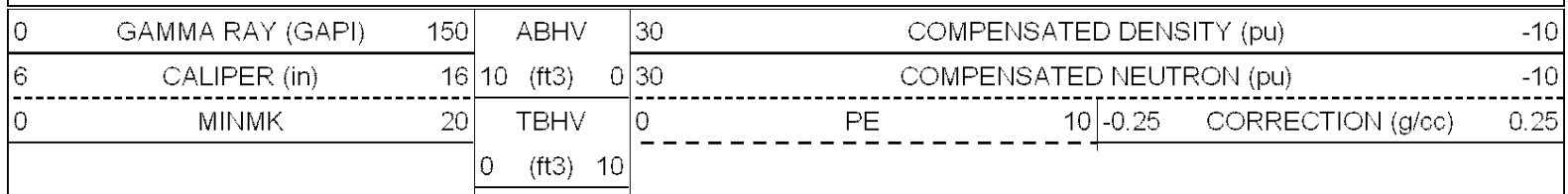
5.5" ABHV

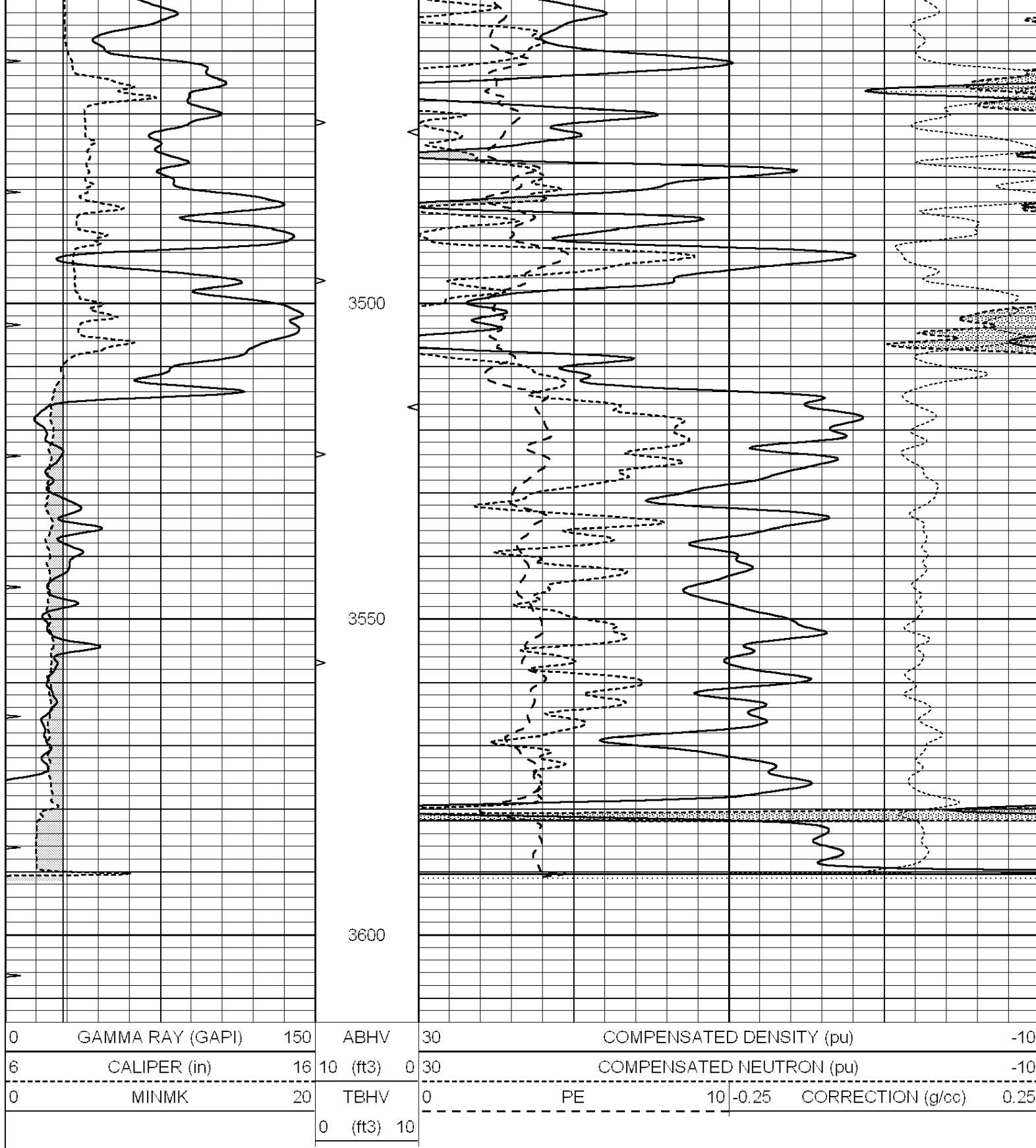




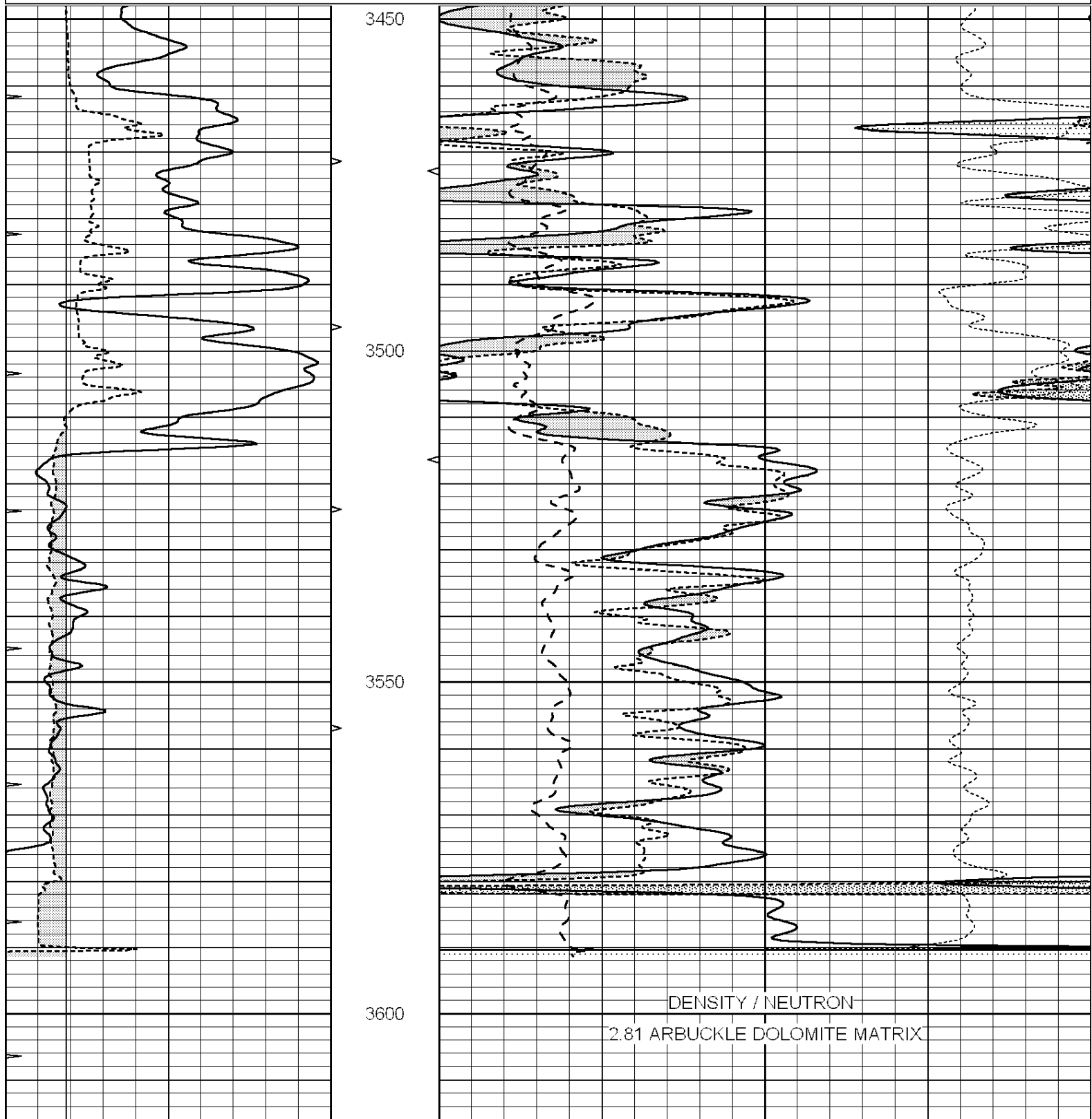
REPEAT SECTION

Database File: 011681pe.db
 Dataset Pathname: pass2.6
 Presentation Format: ldt_neu
 Dataset Creation: Fri Oct 04 11:04:21 2013 by Calc SOC 120430
 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	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
			0 (ft3) 10			



0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	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:		011681pe.db						
Dataset Pathname:		pass3.8						
Dataset Creation:		Fri Oct 04 12:00:43 2013 by Calc SOC 120430						
Dual Induction Calibration Report								
Serial-Model:			PROBE9-DILG					
Surface Cal Performed:			Fri Oct 04 10:50:50 2013					
Downhole Cal Performed:			Mon Jul 28 12:02:56 2008					
After Survey Verification Performed:			Mon Jul 28 12:02:56 2008					
Surface Calibration								
		Readings		References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	-19.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-24.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102
Downhole Calibration								
		Readings		References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	mmho-m		
After Survey Verification								
		Readings		Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		
Litho Density Calibration Report								
Serial: 006			Model: PRB					
Master Calibration								
Performed Thu Sep 26 15:53:45 2013								
	Background	Magnesium		Aluminum		Sandstone		
Window 1	1565.4	12562.4		3739.8		12212.1		cps
Window 2	1413.2	8067.0		2864.0		8623.7		cps
Window 3	1076.5	3958.2		1664.4		4154.1		cps
Window 4	186.1	185.7		176.4		168.9		cps
Long Space	0.0	6653.9		1450.8		7210.6		cps
Short Space	2.5	2515.7		1653.9		2694.6		cps
Rho		1.7100		2.5900		1.3800		g/cc
Pe		0.0000		2.5700		1.5500		
Rib Angle	: 44.6	Rib Slope	: 0.986	Density/Spine Ratio		: 0.557		
Spine Angle	: 74.6	Spine Slope	: 3.631	Spine Intercept		: -19.6		
Before Survey Verification				Performed Wed Dec 31 18:00:00 1969				

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification		Performed Wed Dec 31 18:00:00 1969			
Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

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Compensated Neutron Calibration Report
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Serial Number:	070808
Tool Model:	Probe

PRE-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	070559	
Tool Model:	OPEN_GR	
Performed:	Thu Oct 03 09:02:10 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3500	GAPI/cps