



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY / NEUTRON LOG

Company		I. A. OPERATING, INC.	
Well		BEIKER TRUST #13-1	
Field		COOPER	
County		GRAHAM	
State		KANSAS	
Company		I. A. OPERATING, INC.	
Well		BEIKER TRUST #13-1	
Field		COOPER	
County		GRAHAM	
State		KANSAS	
Location:		API # : 15-065-24085-0000	
SEC 13 TWP 10S RGE 21W		690' FSL & 1360' FEL SE - NE - SW - SE	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 8' A.G.L.	
Drilling Measured From		KELLY BUSHING	
Elevation		2253	
Other Services		DIL/MEL SONIC	
Date		12/8/14	
Run Number		ONE	
Depth Driller		3950	
Depth Logger		3948	
Bottom Logged Interval		3924	
Top Log Interval		3200	
Casing Driller		8 5/8"@221'	
Casing Logger		221	
Bit Size		7 7/8"	
Type Fluid in Hole		CHEMICAL MUD	
Density / Viscosity		9.3/56	
pH / Fluid Loss		10.0/8.8	
Source of Sample		FLOWLINE	
Rim @ Meas. Temp		.800@70F	
Rinf @ Meas. Temp		.600@80F	
Rmc @ Meas. Temp		.960@70F	
Source of Rinf / Rmc		MEASUREMENT	
Rim @ BHT		.483@116F	
Time Circulation Stopped		2 HOURS	
Time Logger on Bottom		2:00 P.M.	
Maximum Recorded Temperature		116F	
Equipment Number		4854	
Location		HAYS, KANSAS	
Recorded By		JEFF LUEBBERS	
Witnessed By		STEVE REED	

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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
PALCO, KS., S. ON BLKTOP TO "CC RD.", 2 1/2W., 3/4N. INTO ON LEASE RD.

Database File:

26325ddn.db

Dataset Pathname:

pass3.10

Presentation Format:

den_neu

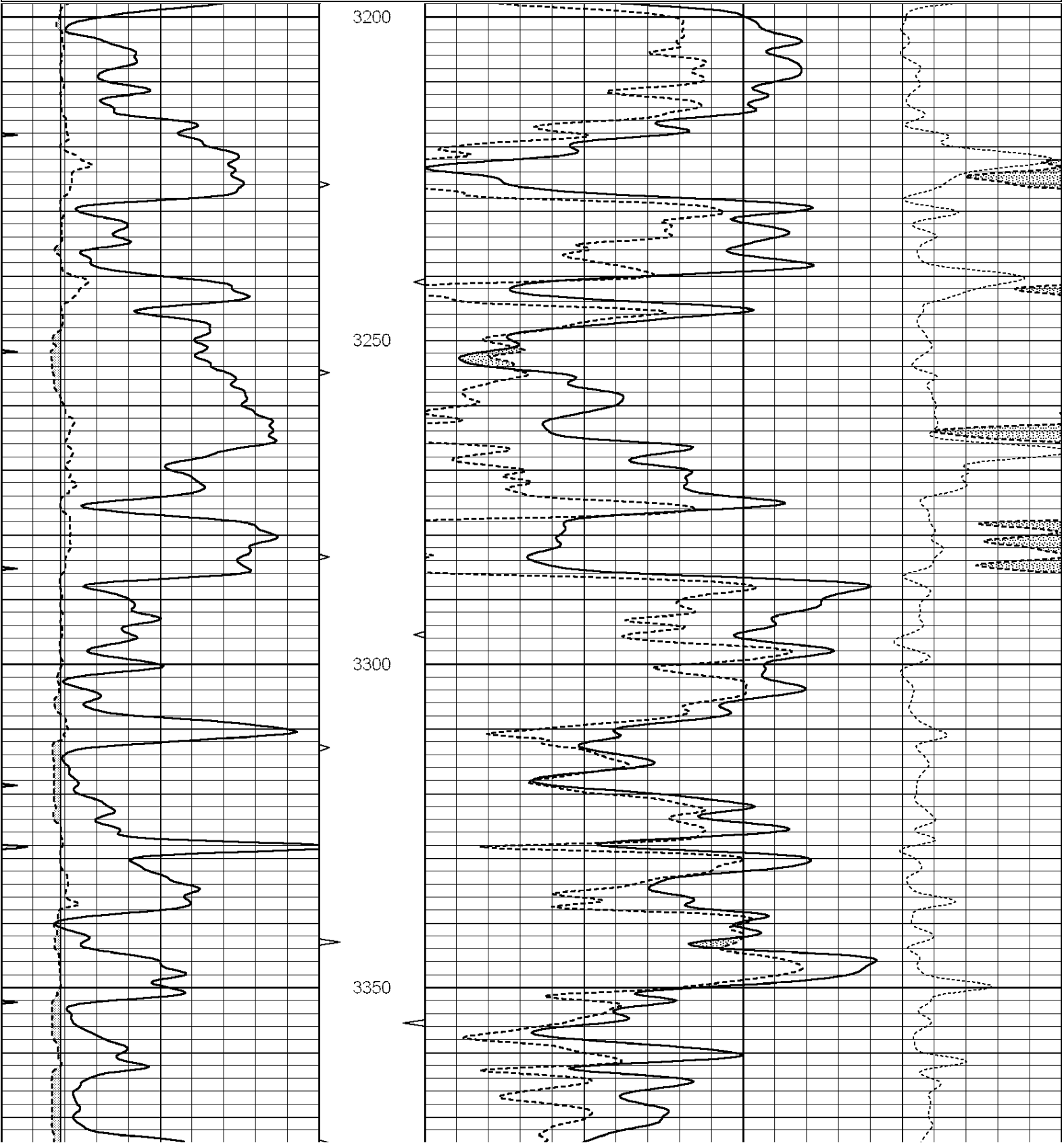
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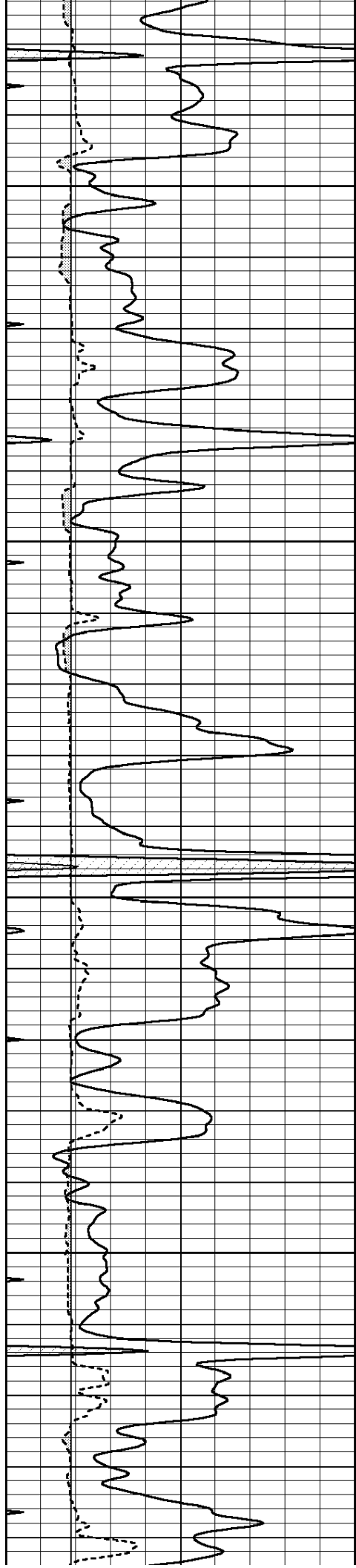
Tue Dec 09 17:01:59 2014

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		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		



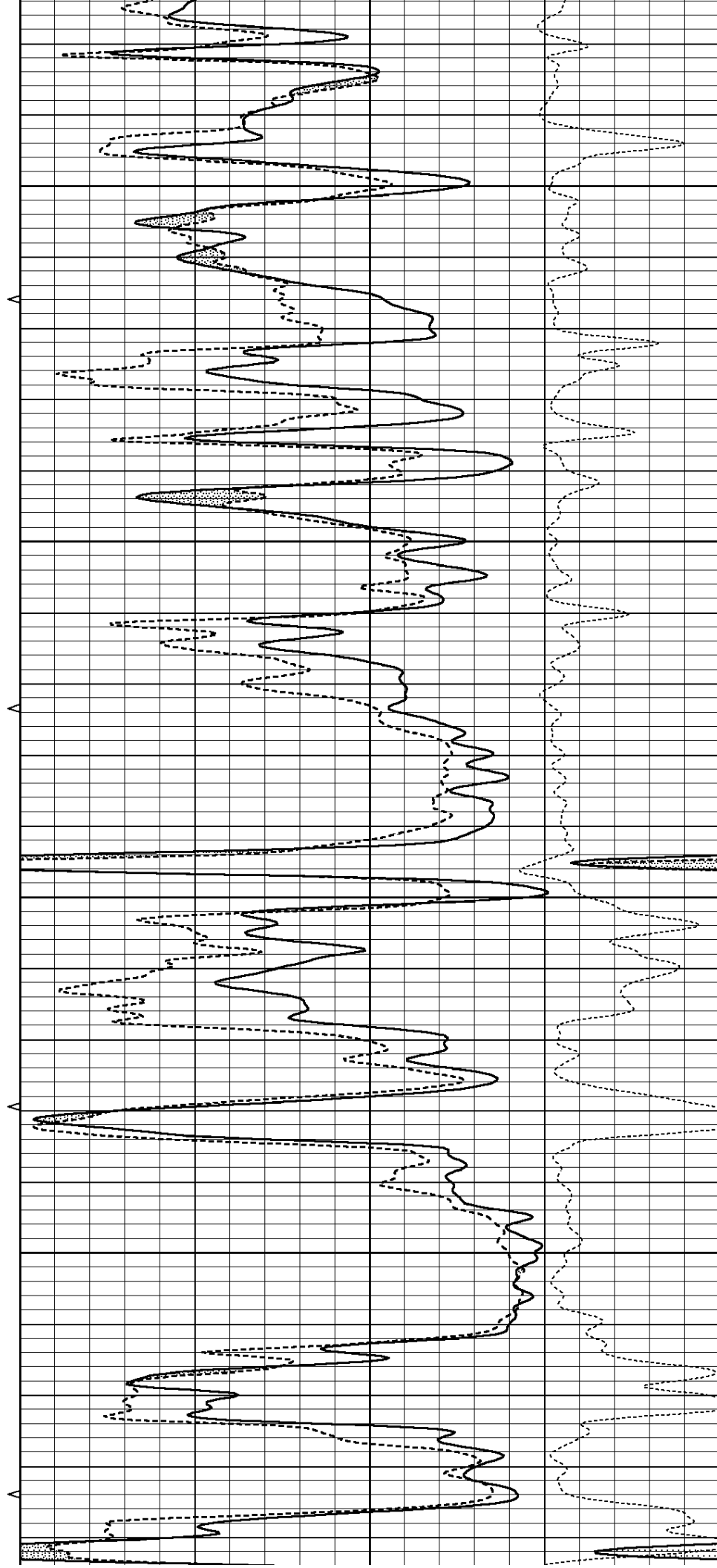


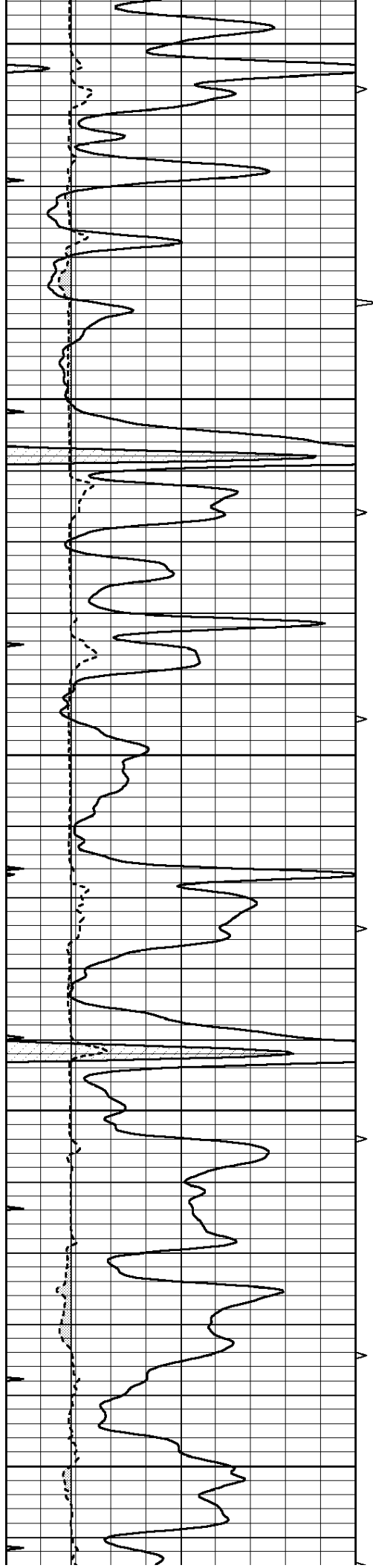
3400

3450

3500

3550





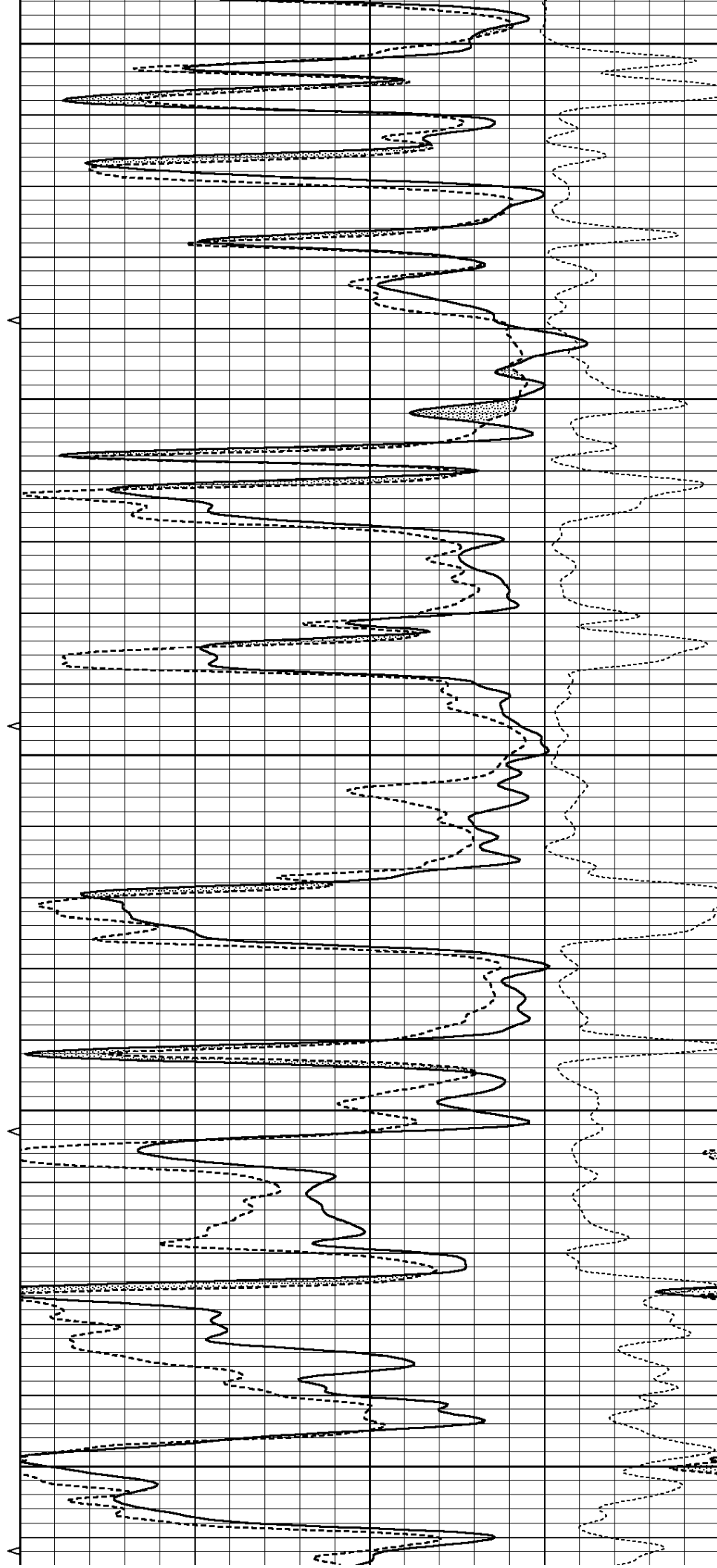
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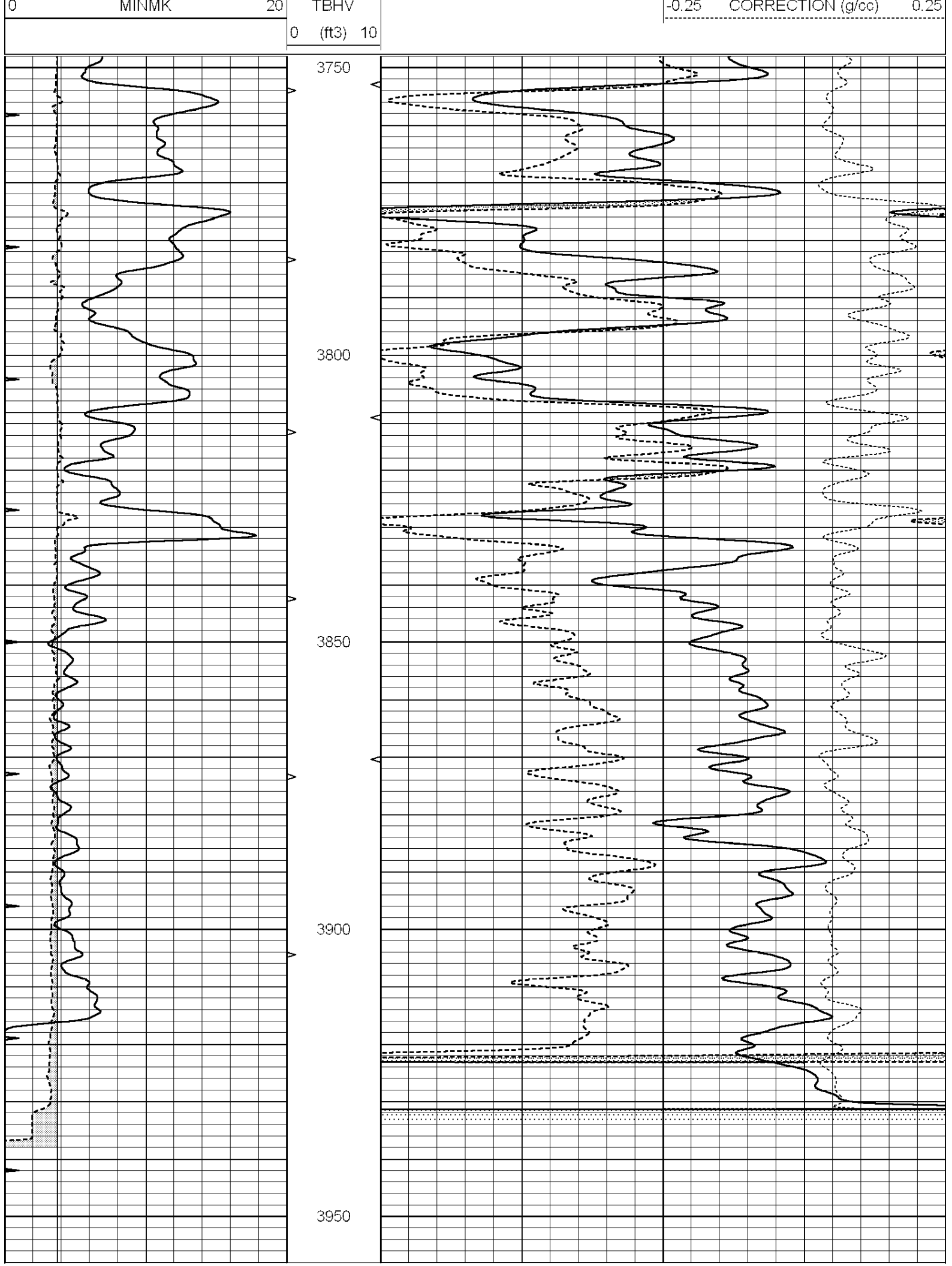
3650

3700

3750

3800





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		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		



NABORS

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DOLOMITE MATRIX

Database File:

26325ddn.db

Dataset Pathname:

pass2.11

Presentation Format:

den_neu

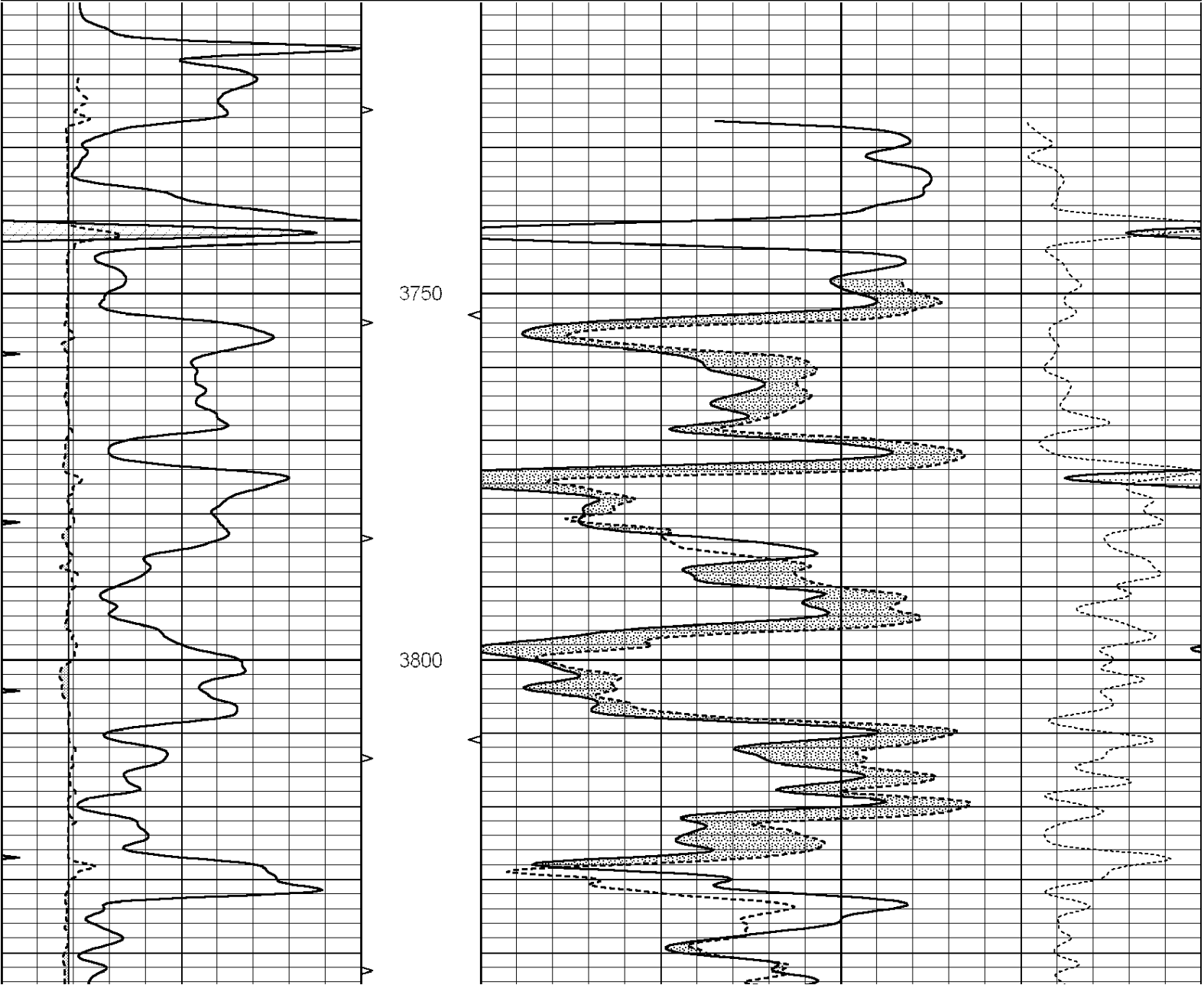
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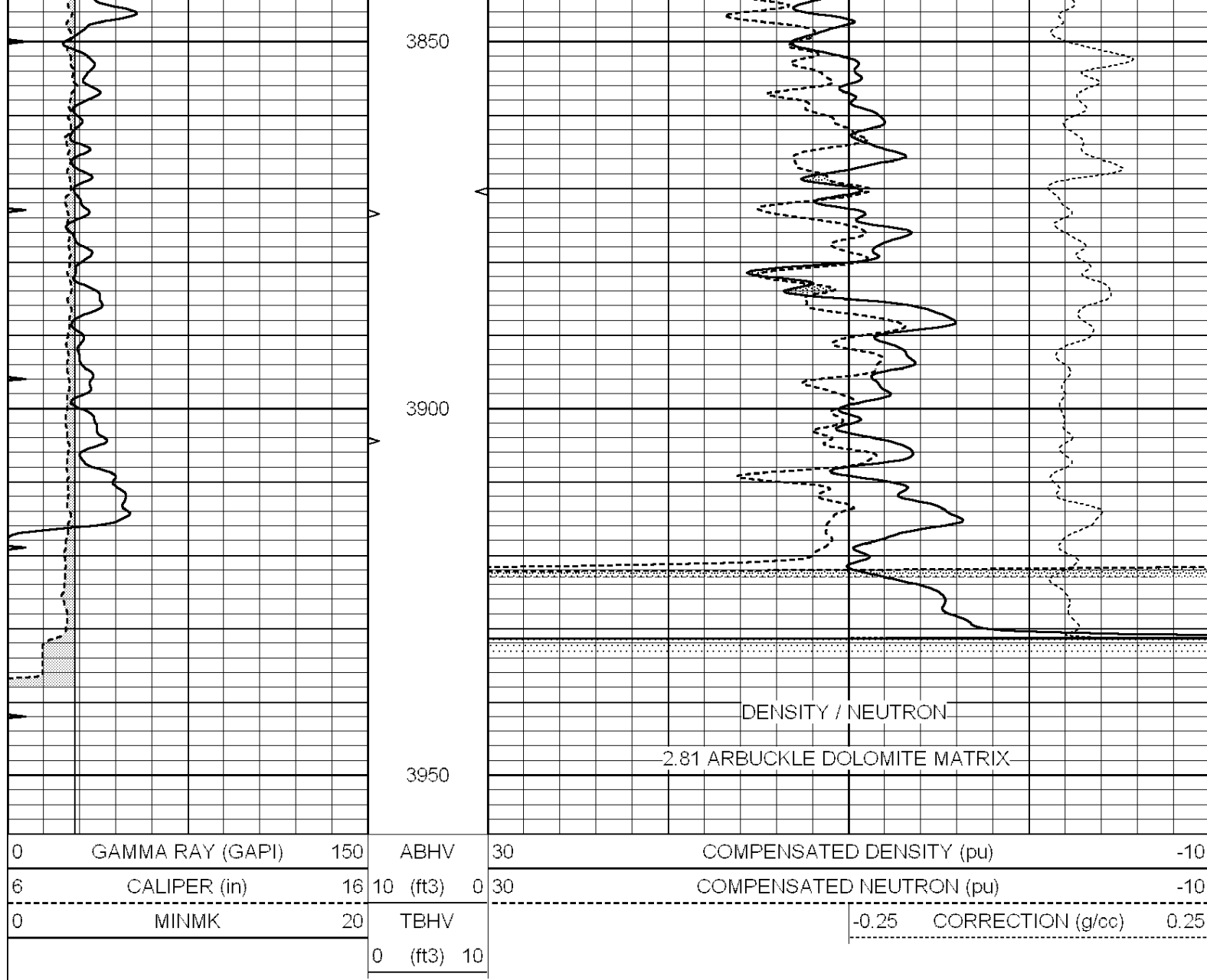
Tue Dec 09 16:38:21 2014

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		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		





Calibration Report

Database File: 26325ddn.db
 Dataset Pathname: pass3.10
 Dataset Creation: Tue Dec 09 17:01:59 2014

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Sat Dec 06 09:31:12 2014
 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	670.000	-18.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	670.000	-26.000
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: 003N Model: PRB								

Master Calibration			Performed Tue Sep 08 14:14:44 2009					
	Background	Magnesium	Aluminum	Sandstone				
Window 1	2042.6	12312.8	4225.8	13758.4				cps
Window 2	1855.8	10134.7	3624.2	11113.1				cps
Window 3	1639.4	6760.2	2716.3	7260.3				cps
Window 4	466.4	469.2	466.1	476.5				cps
Long Space	0.0	8278.9	1768.4	9257.4				cps
Short Space	2.2	2377.3	1544.1	2574.2				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio			: 0.549	
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept			: -18.8	

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				

Measured:	0.0000	0.0000
Compensated Neutron Calibration Report		
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:	070558	
Tool Model:	OPEN_GR	
Performed:	Mon Nov 17 10:01:40 2014	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps