

COMPENSATED DENSITY / NEUTRON LOG

Company	RICHLAN DRILLING	Company	RICHLAN DRILLING
Well	R. J. SCHREIBER #1	Well	R. J. SCHREIBER #1
Field	BEAVER SOUTH	Field	BEAVER SOUTH
County	BARTON	County	BARTON
State	KANSAS	State	KANSAS
Location:	SEC 21 TWP 16S RGE 12W GROUND LEVEL KELLY BUSHING 11' A.G.L. KELLY BUSHING	API # : 15-009-26314-0000 957' FSL & 441' FWL SE - NW - SW - SW	Other Services DILMEL
Permanent Datum	GROUND LEVEL	Elevation	1918
Log Measured From	KELLY BUSHING	Elevation	K.B. 1929 D.F. 1927 G.L. 1918
Drilling Measured From	KELLY BUSHING		
Date	10/29/21		
Run Number	ONE		
Depth Driller	3485		
Depth Logger	3479		
Bottom Logged Interval	3465		
Top Log Interval	2600		
Casing Driller	8 5/8" @ 522'		
Casing Logger	514		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4,200 PPM	
Density / Viscosity	9.0/55		
pH / Fluid Loss	10.0/5.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.600 @ 60F		
Rmf @ Meas. Temp	.450 @ 60F		
Rmc @ Meas. Temp	.720 @ 60F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.324 @ 111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	2:15 P.M.		
Maximum Recorded Temperature	111F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM MUSGROVE	RICK SCHREIBER	BOB SCHREIBER

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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.

15-009-26314-0000

Comments

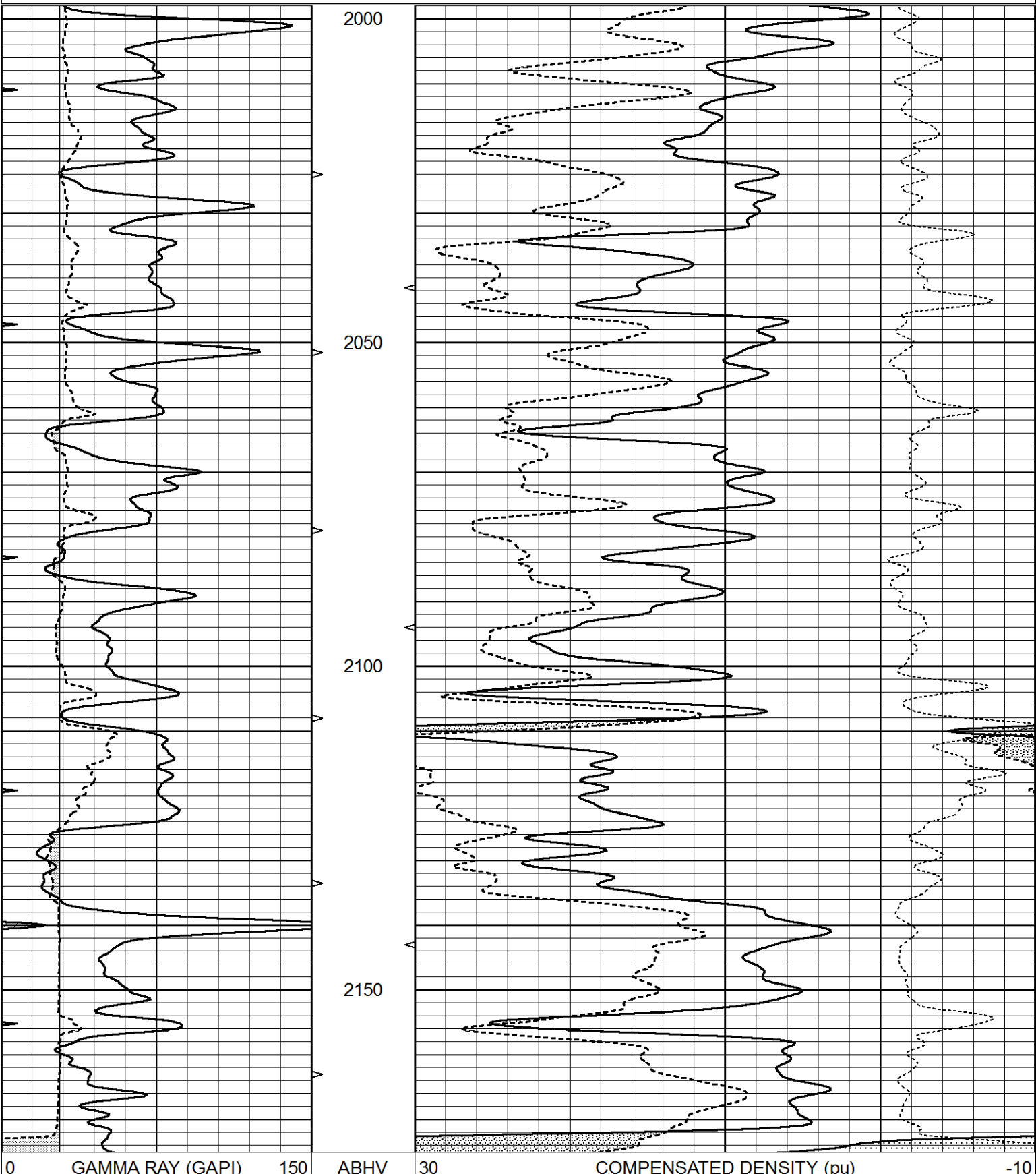
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
BEAVER, KS., 1/4N. ON BKLTOP, E. INTO



UPPER SECTION

Database File	5826ddn.db
Dataset Pathname	pass3.1U
Presentation Format	den_neu
Dataset Creation	Fri Oct 29 15:37:37 2021
Charted by	Depth in Feet scaled 1:240

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



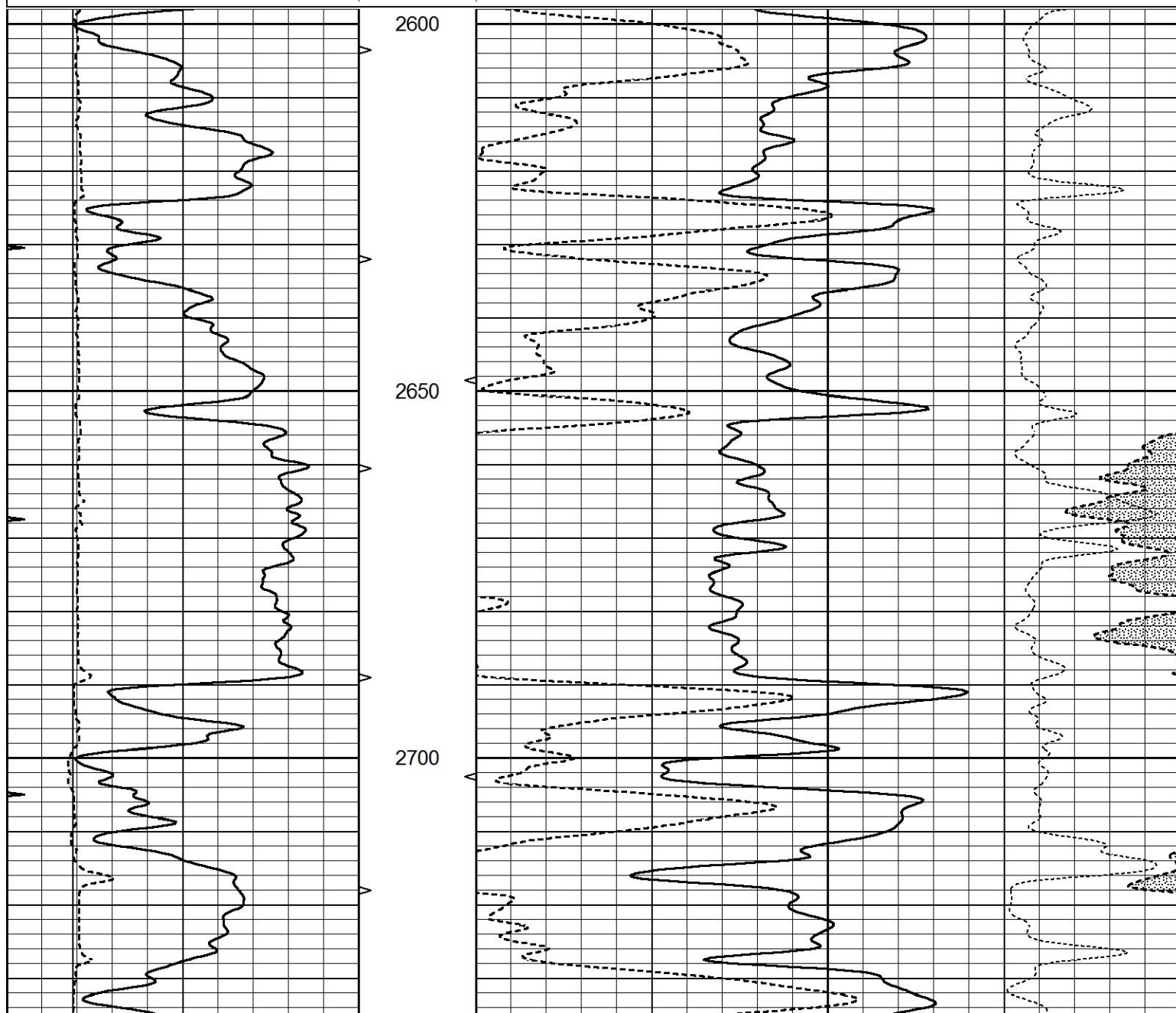
6	DCAL (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV			-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10			

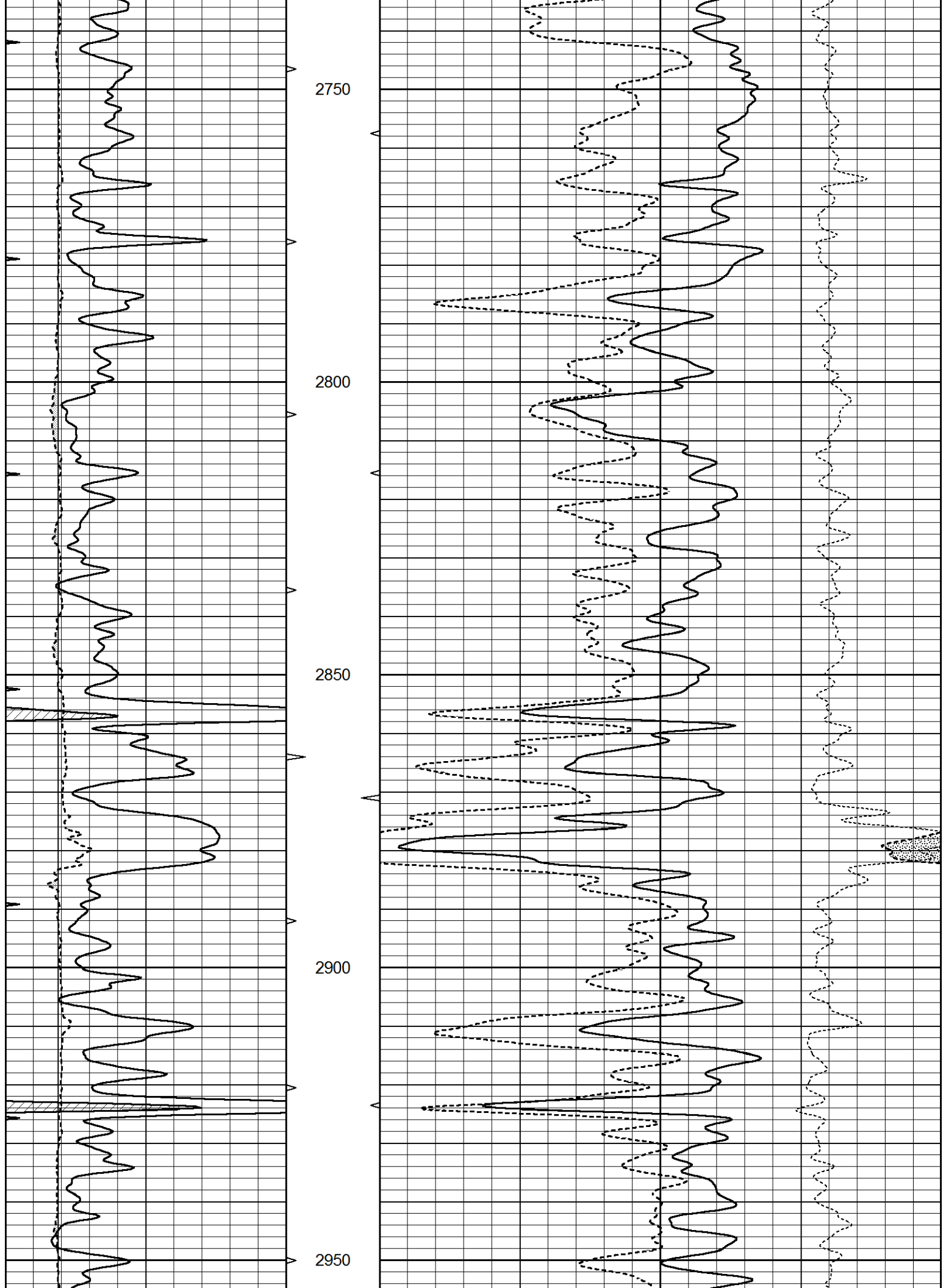


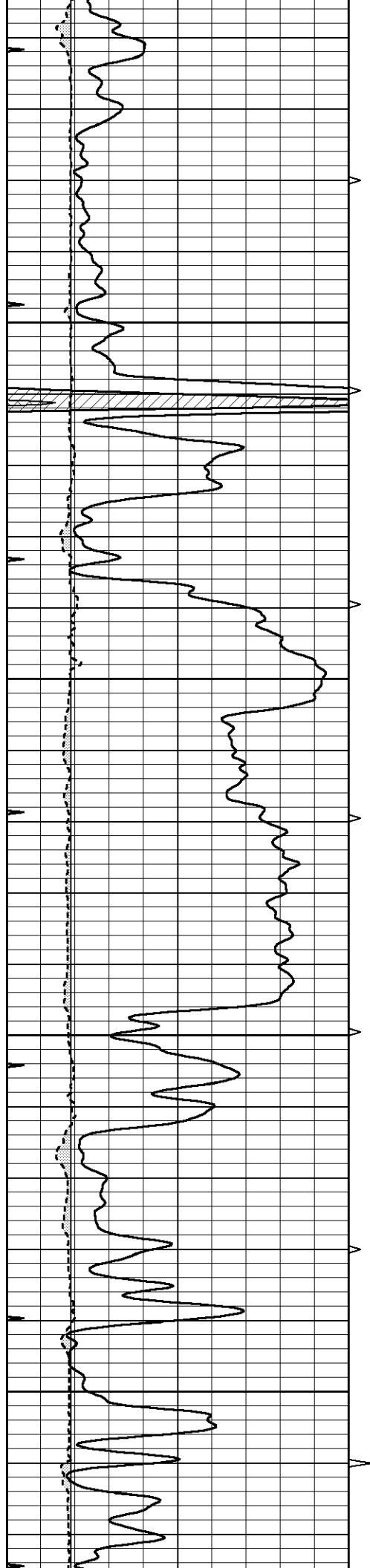
MAIN SECTION

Database File 5826ddn.db
 Dataset Pathname pass3.1M
 Presentation Format den_neu
 Dataset Creation Fri Oct 29 15:34:45 2021
 Charted by Depth in Feet scaled 1:240

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





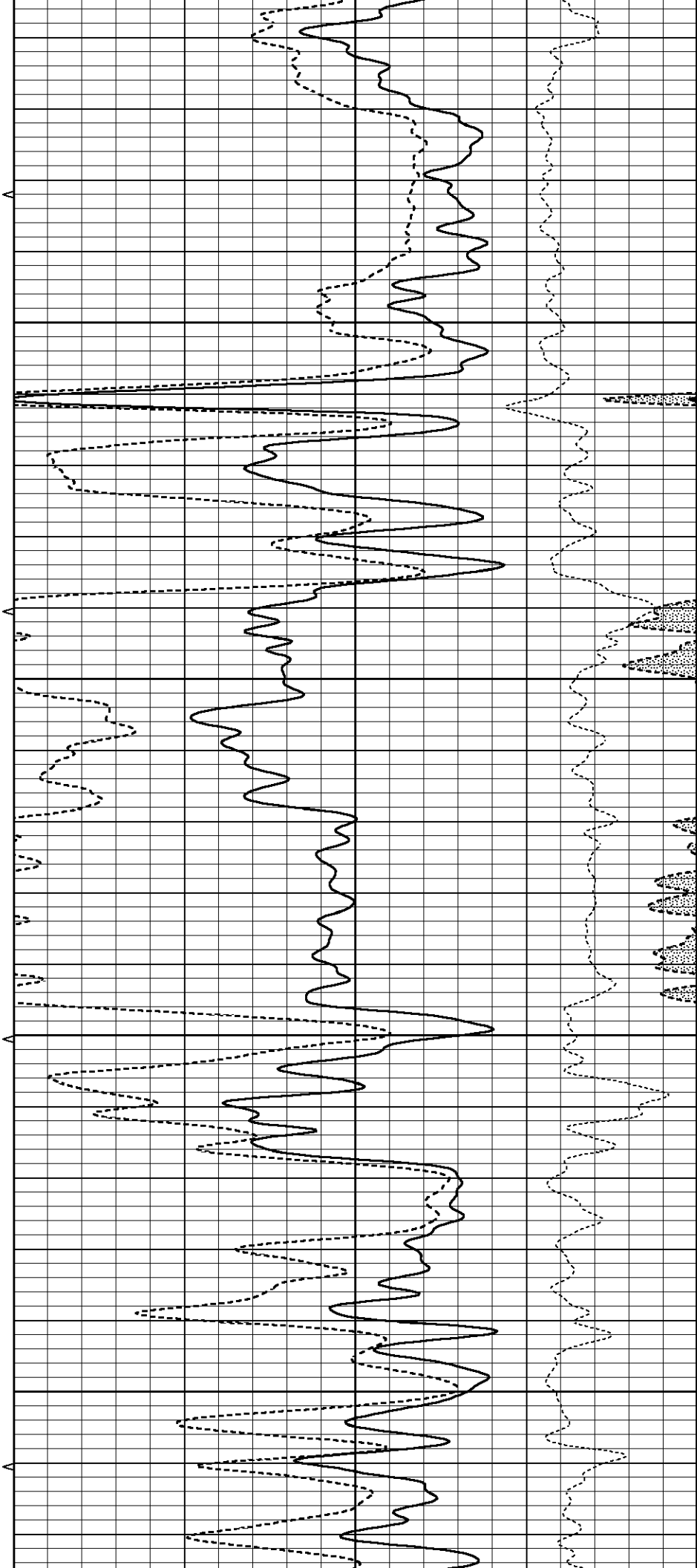


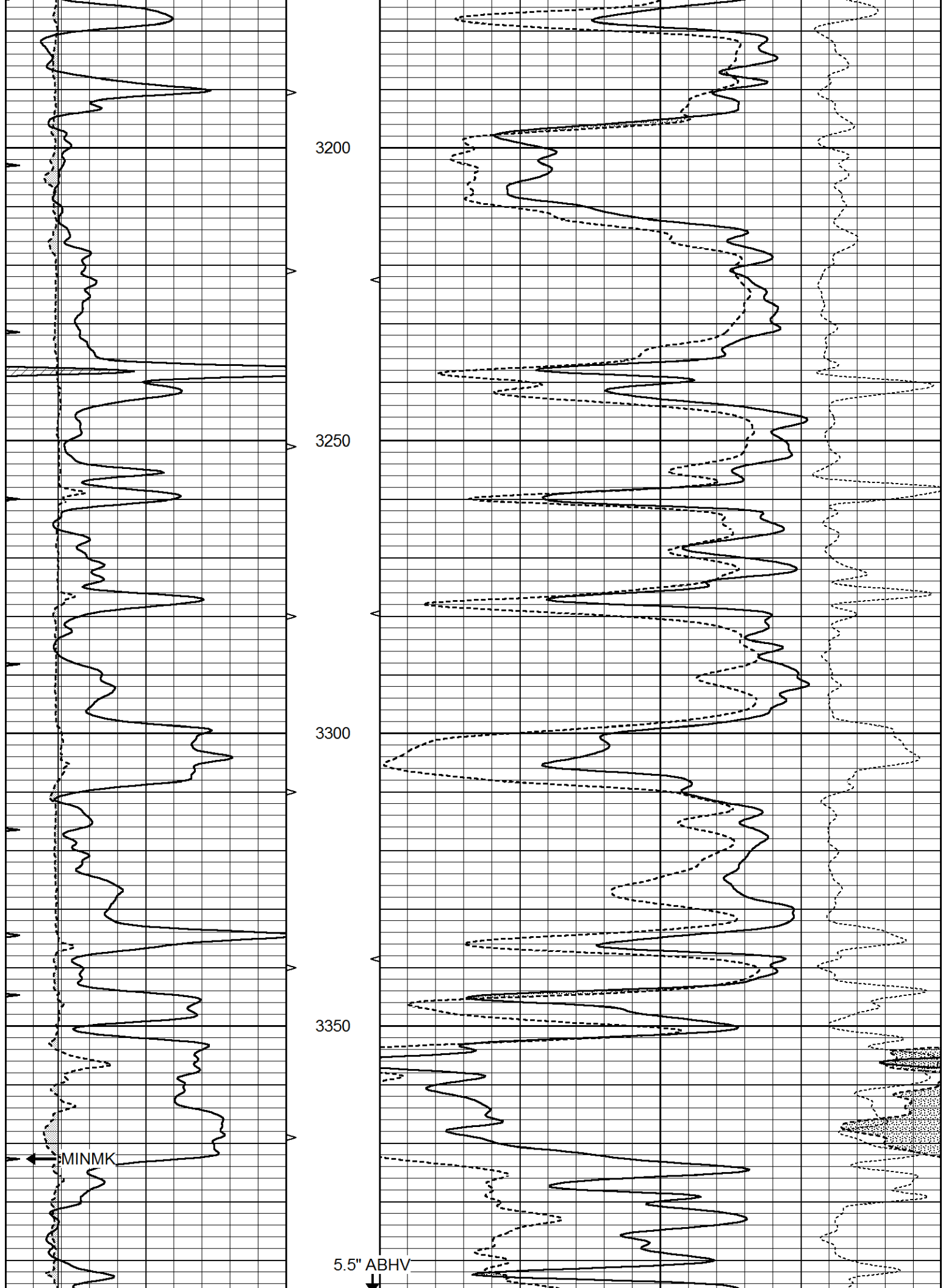
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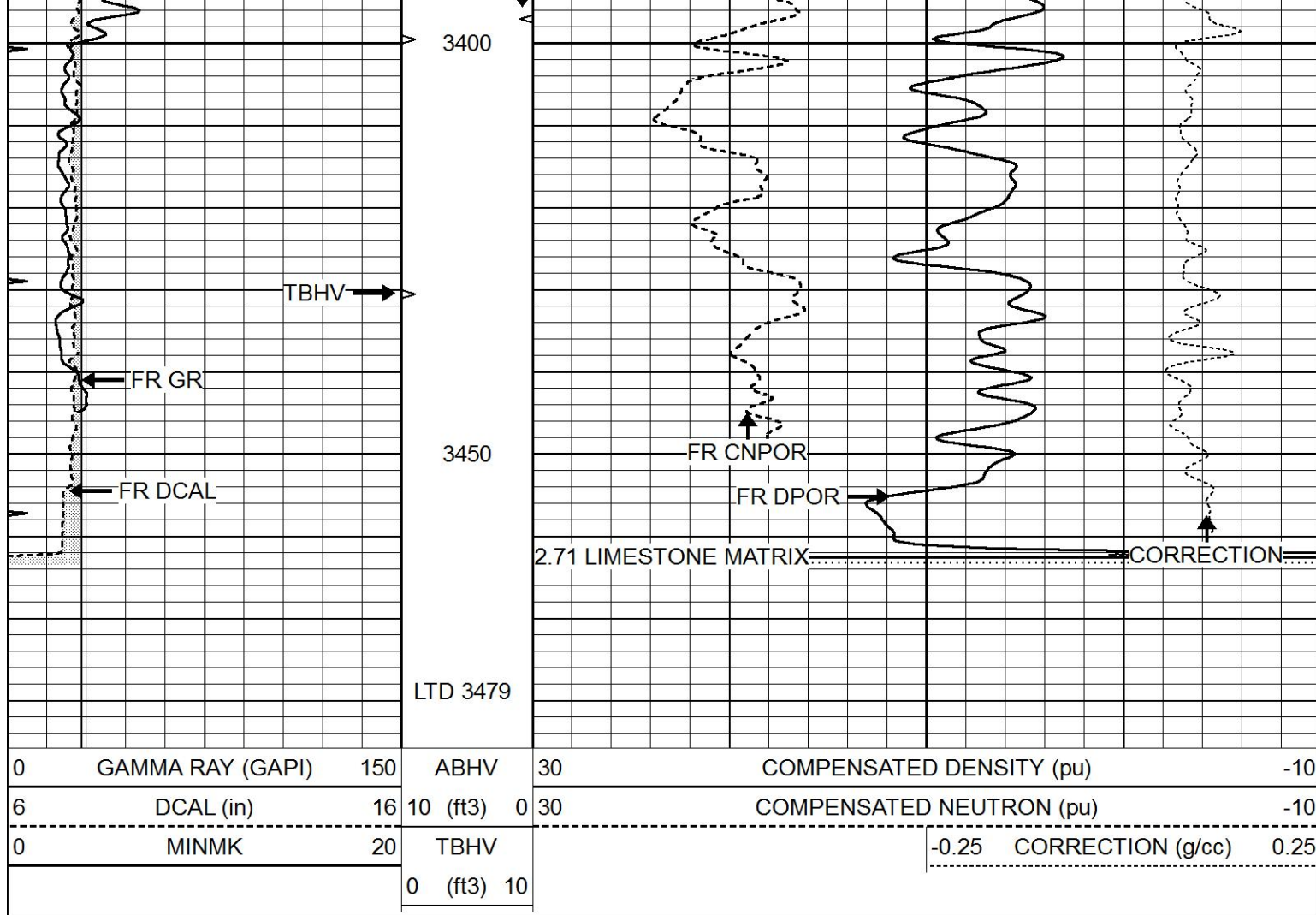
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3100

3150



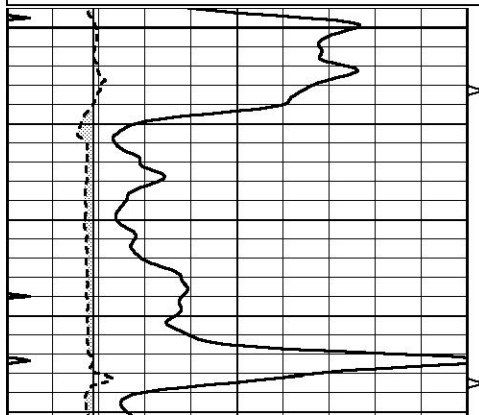




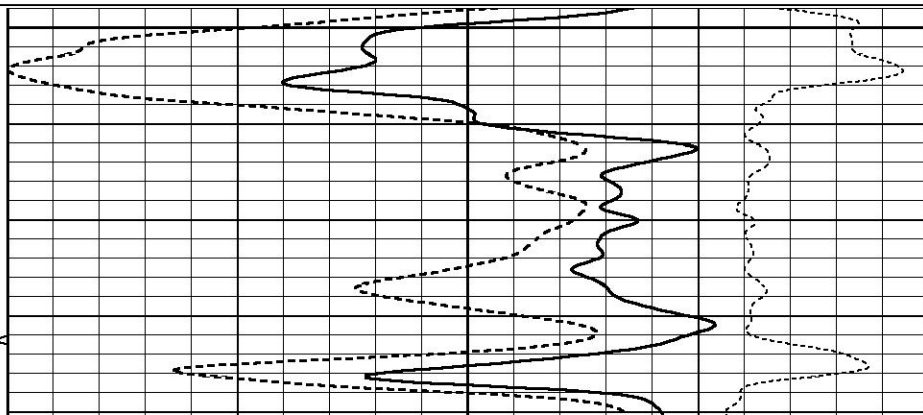
REPEAT SECTION

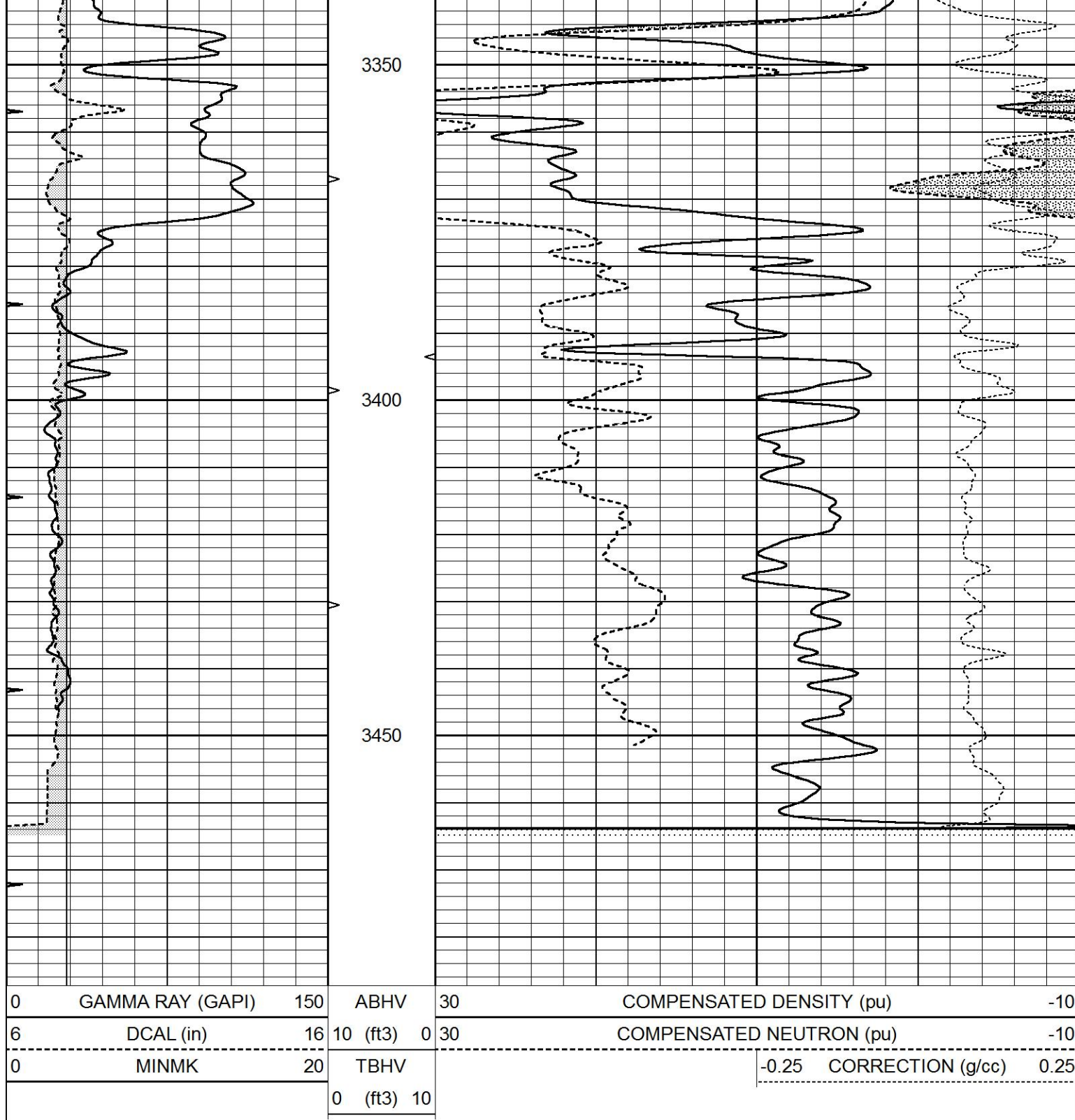
Database File 5826ddn.db
 Dataset Pathname pass2.1R
 Presentation Format den_neu
 Dataset Creation Fri Oct 29 14:53:32 2021
 Charted by Depth in Feet scaled 1:240

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



3300

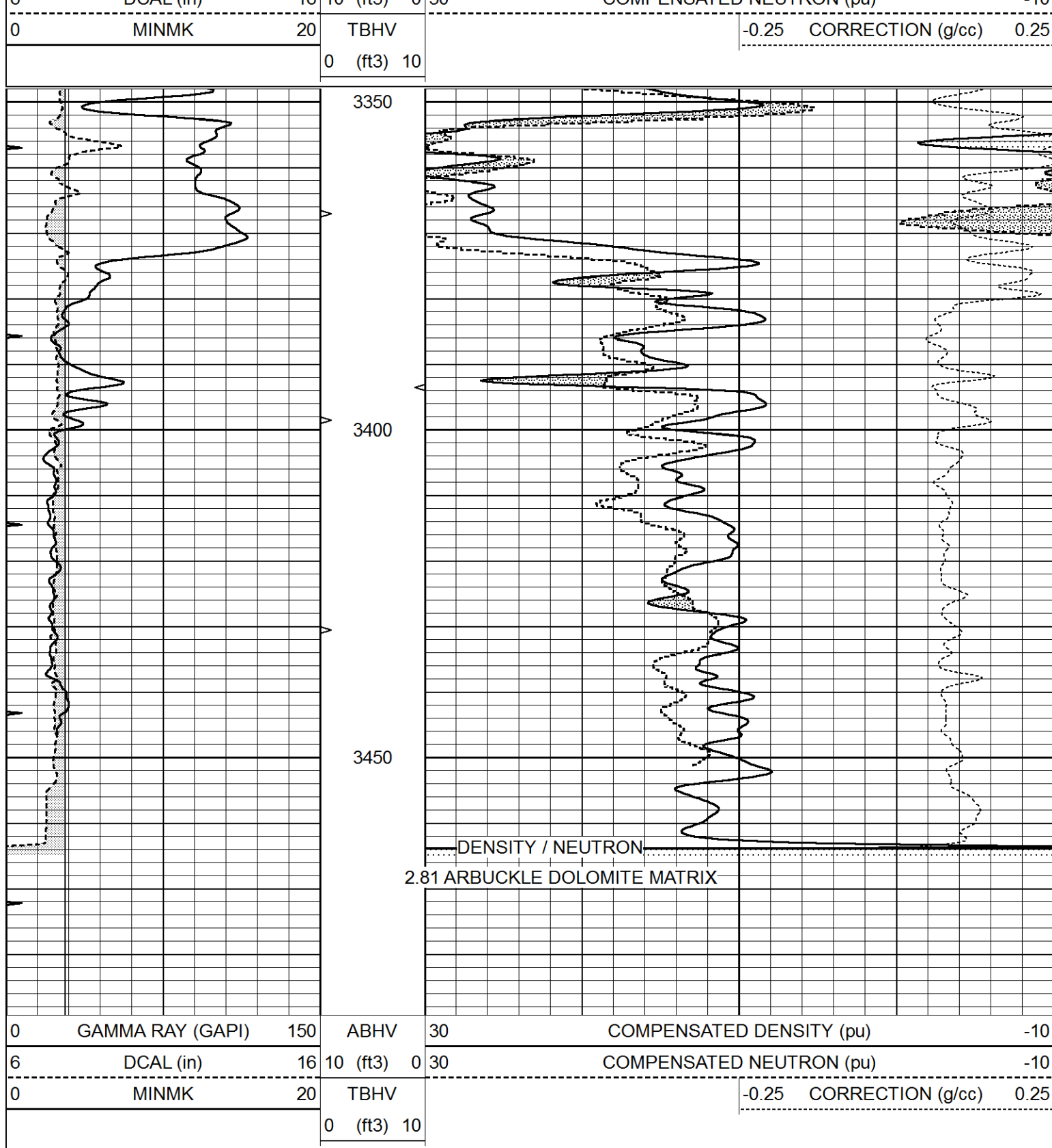




DOLOMITE MATRIX

Database File 5826ddn.db
 Dataset Pathname pass2.1D
 Presentation Format ldtstack
 Dataset Creation Fri Oct 29 14:56:11 2021
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	DCAL (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10



Calibration Report

Database File 5826ddn.db
Dataset Pathname pass3.1M
Dataset Creation Fri Oct 29 15:34:45 2021

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Sat Oct 16 05:47:03 2021
Downhole Cal Performed:	Wed Mar 11 11:31:19 2020
After Survey Verification Performed:	Wed Mar 11 11:31:22 2020

Surface Calibration				Readings			References			Results	
Loop:		Air	Loop		Air	Loop				m	b
Deep		-0.014	0.629	V	0.000	400.000	mmho/m			720.000	-18.000
Medium		0.039	0.728	V	0.000	464.000	mmho/m			720.000	-28.000
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: 003						Model: PRB					

Master Calibration				Performed Fri Mar 05 10:51:07 2021			
	Background	Magnesium		Aluminum	Aluminum+Fe		
Window 1	1570.6	10682.1		3457.0	3096.9		cps
Window 2	1451.7	9432.7		3101.4	2816.5		cps
Window 3	1334.0	7160.6		2532.0	2369.3		cps
Window 4	370.4	373.1		366.4	370.9		cps
Long Space	0.0	7981.0		1649.7	1364.8		cps
Short Space	2.8	3522.0		2211.0	1823.6		cps
Rho		1.7100		2.5900	0.0000		g/cc
Pe		2.0000		2.7500	5.7900		
Rib Angle	: 43.5	Rib Slope	: 0.951	Density/Spine Ratio		: 0.535	
Spine Angle	: 73.5	Spine Slope	: 3.386	Spine Intercept		: -18.7	

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	

Compensated Neutron Calibration Report

Serial Number: 070808PMC
Tool Model: NABORS

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: Fri Sep 03 05:25:49 2021

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps