



COMPENSATED DENSITY/NEUTRON PE LOG

Company	ARP OPERATING, LLC.	
Well	CLOSE IMPLEMENT #1	
Field	UNNAMED	
County	THOMAS	State KANSAS
Location:	API # : 15-193-21113-0000	
Permanent Datum	660' FSL & 500' FWL E/2 - W/2 - SW - SW SEC 36 TWP 10S RGE 33W	Other Services DIL/MEL SONIC
Log Measured From	GROUND LEVEL Elevation 3136 KELLY BUSHING 9' A.G.L.	Elevation K.B. 3145 D.F. 3143 G.L. 3136
Drilling Measured From	KELLY BUSHING	
Date	3/16/23	
Run Number	ONE	
Depth Driller	4777	
Depth Logger	4762	
Bottom Logged Interval	4738	
Top Log Interval	3600	
Casing Driller	8 5/8"@311'	
Casing Logger	311	
Bit Size	7 7/8"	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES: 2,400 PPM
Density / Viscosity	9.2/62	
pH / Fluid Loss	11.0/7.2	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	1.00@72F	
Rmf @ Meas. Temp	.750@72F	
Rmc @ Meas. Temp	1.20@72F	
Source of Rmf / Rmc	MEASURED	
Rm @ BHT	.585@123F	
Time Circulation Stopped	3 HOURS	
Time Logger on Bottom	10:45 A.M.	
Maximum Recorded Temperature	123F	
Equipment Number	8916	
Location	HAYS, KANSAS	
Recorded By	JEFF LUEBBERS	
Witnessed By	SEAN DEENIHAN	RICH TABAKA

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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

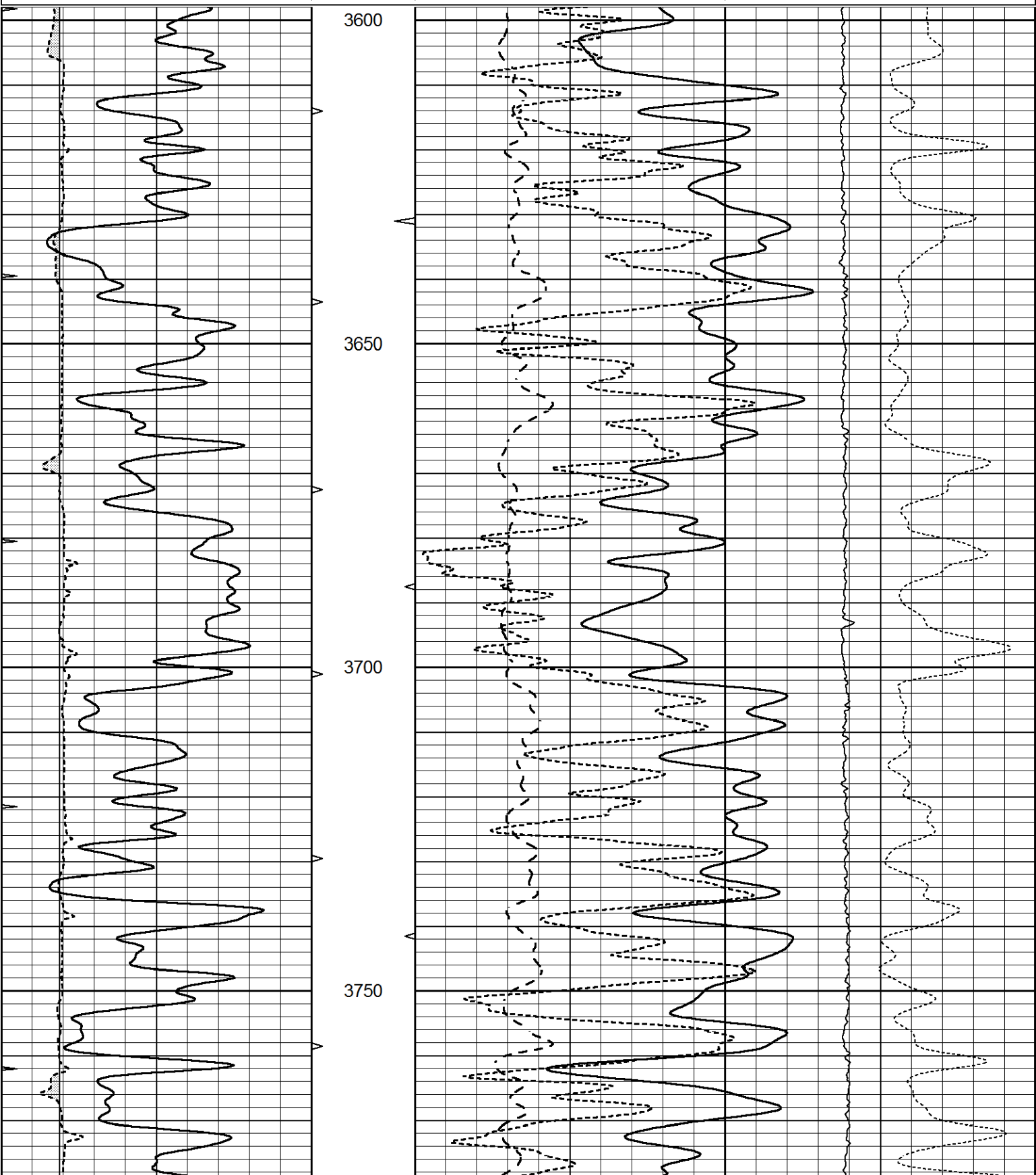
THANK YOU FOR USING ELI WIRELINE, HAYS, KS. (785) 628-6395
DIRECTIONS:
OAKLEY, KS. & SECOND I-70 EXIT, S. TO "RD. A" (FORT FOX RD.) W. TO RD. "380", N. INTO

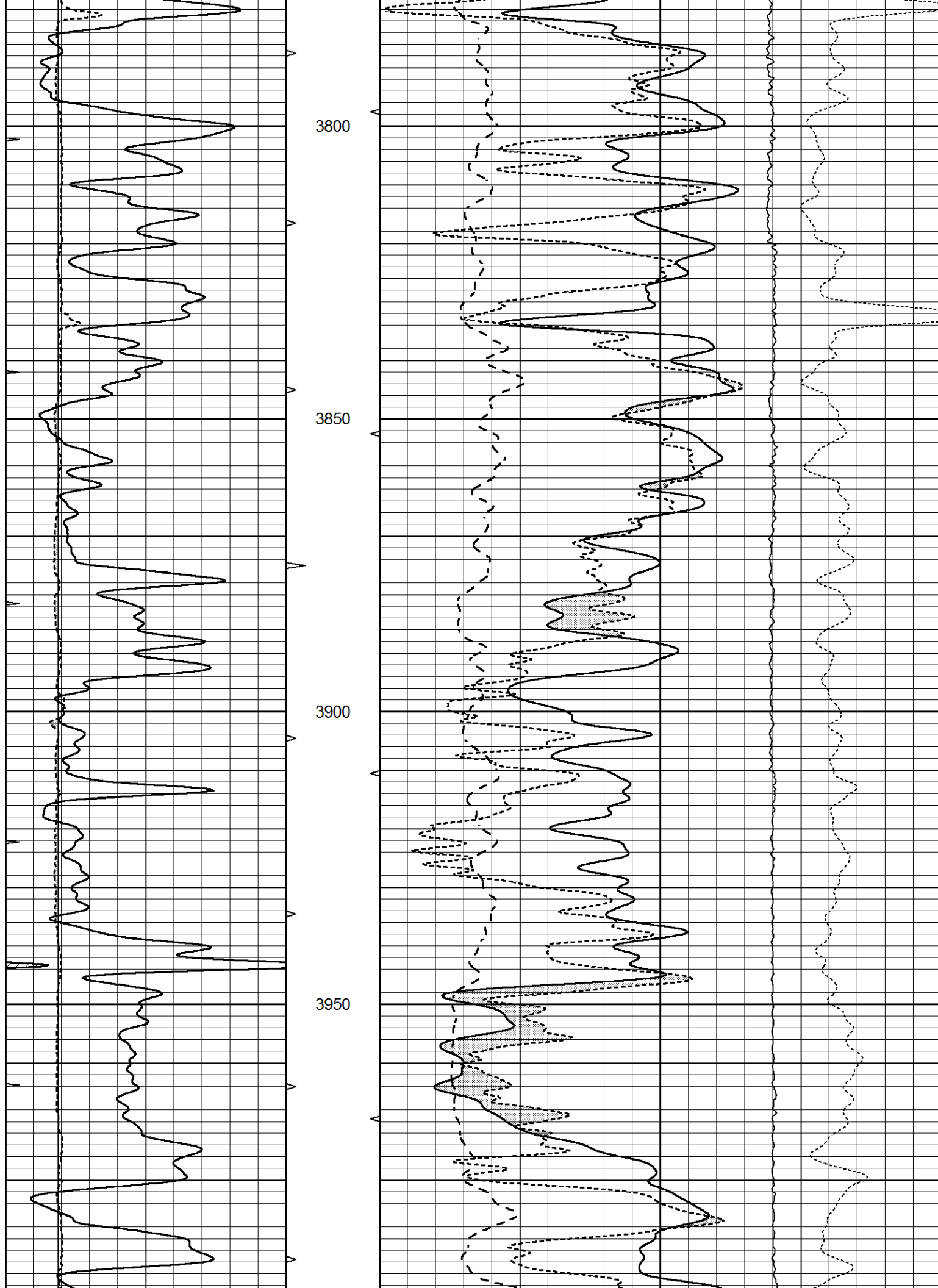


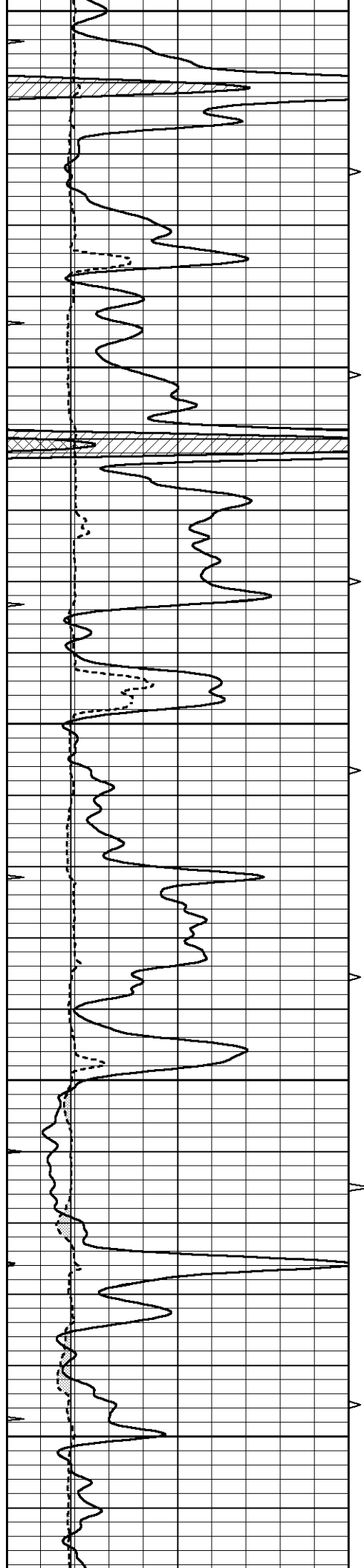
MAIN SECTION

Database File	7576pe.db
Dataset Pathname	pass3.1M
Presentation Format	ldt_neu
Dataset Creation	Thu Mar 16 12:23:05 2023
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 (ft3)	10	LTEN (lb)	5000
					-0.25	CORRECTION (g/cc)
						0.25







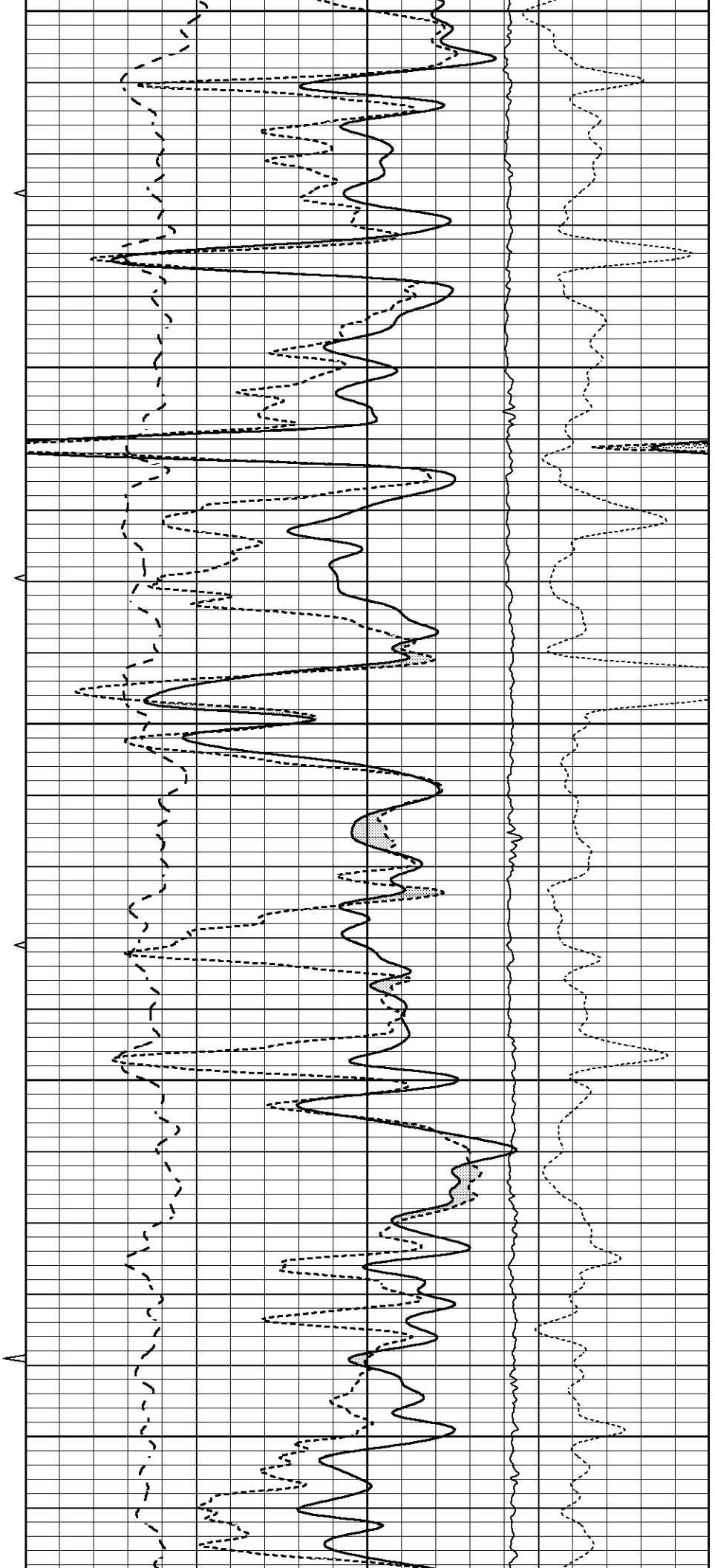
4000

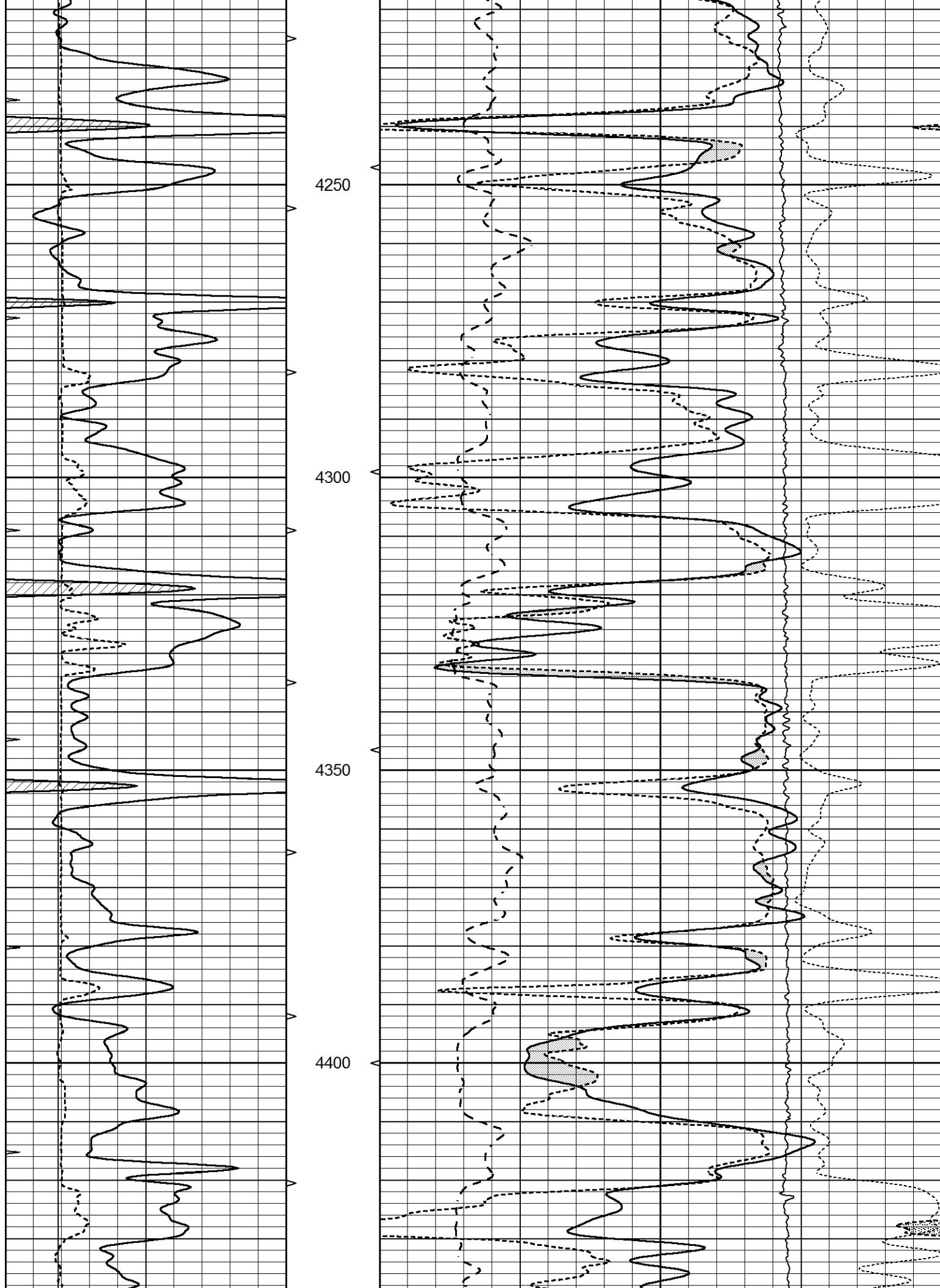
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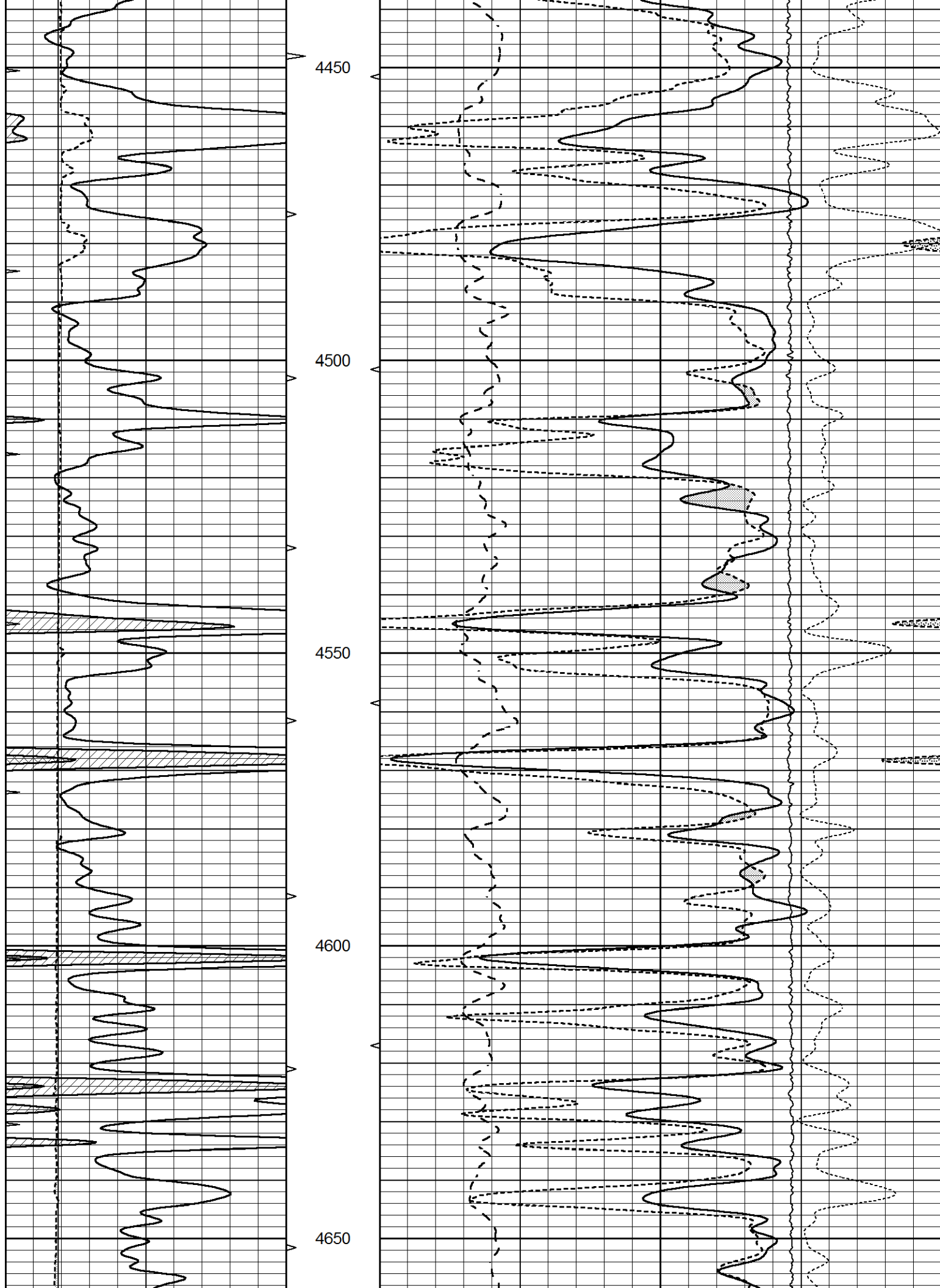
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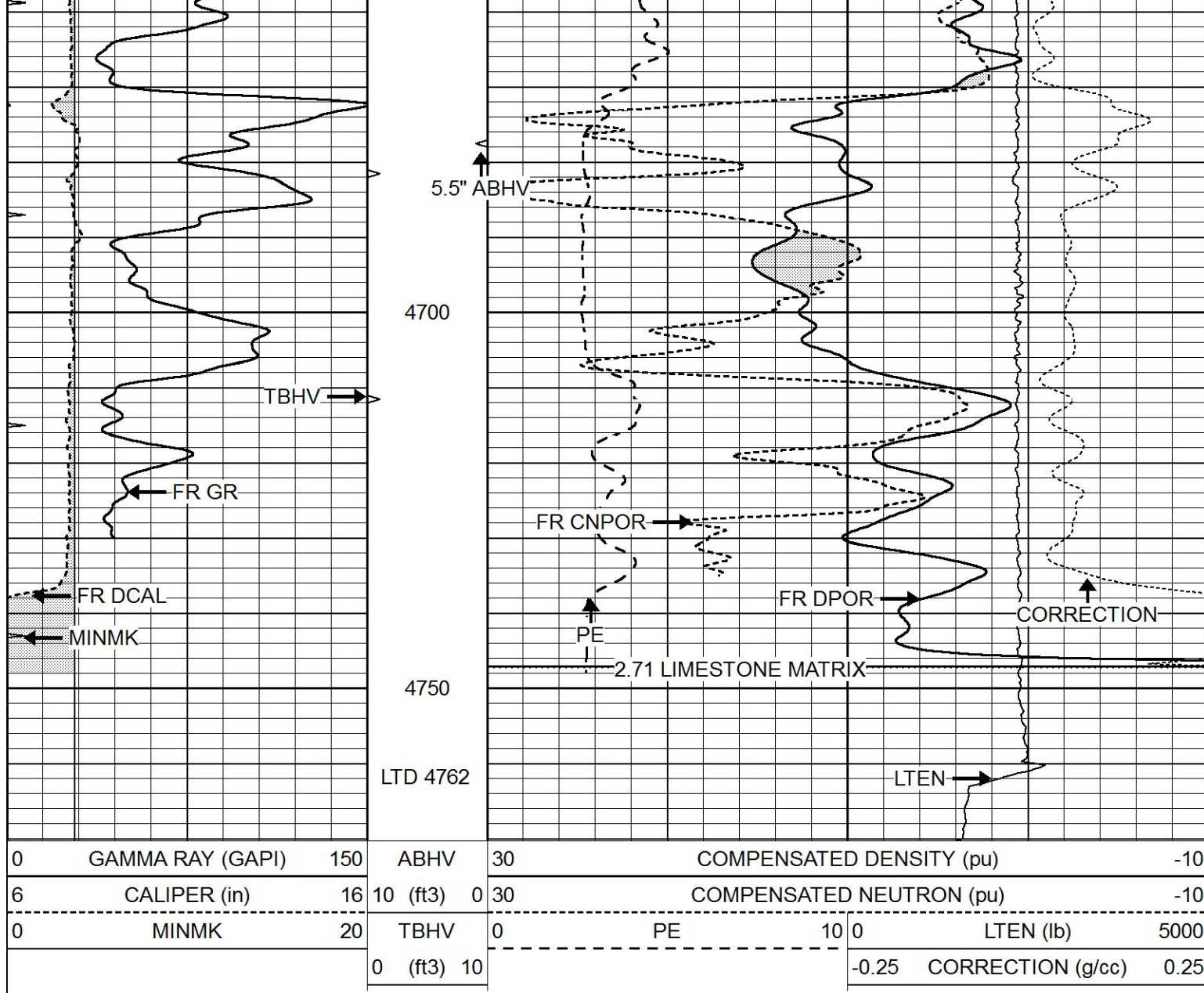
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4200





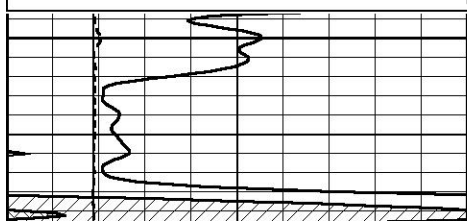




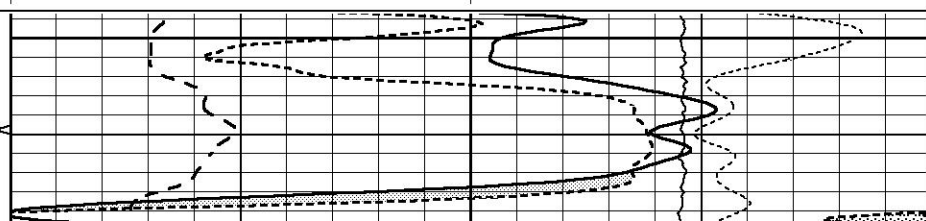
REPEAT SECTION

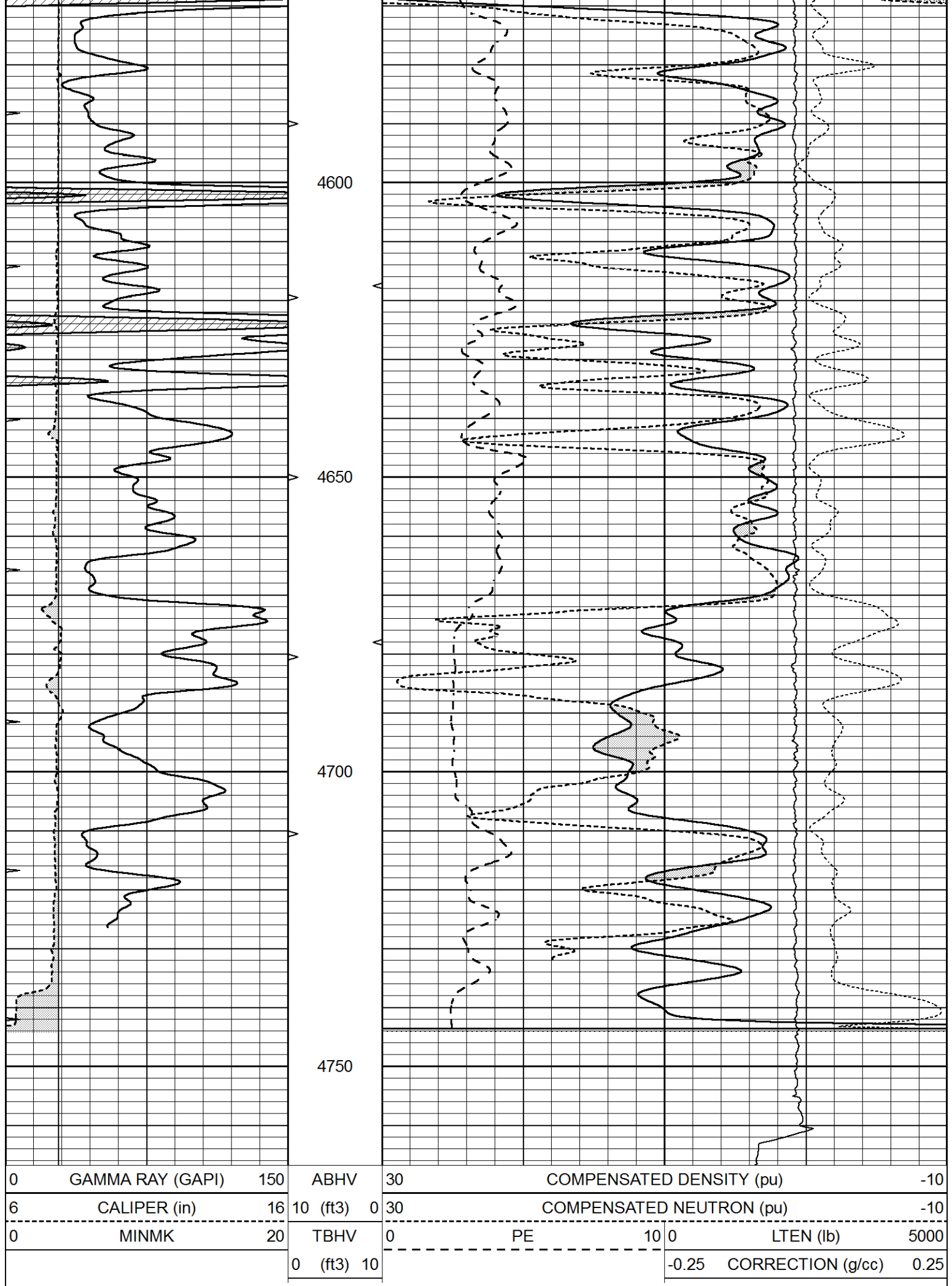
Database File 7576pe.db
 Dataset Pathname pass2.1R
 Presentation Format ldt_neu
 Dataset Creation Thu Mar 16 12:31:18 2023
 Charted by Depth in Feet scaled 1:240

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	LTEN (lb) 5000
			0 (ft3) 10				-0.25	CORRECTION (g/cc) 0.25



4550





Calibration Report								
Database File	7576pe.db							
Dataset Pathname	pass3.1M							
Dataset Creation	Thu Mar 16 12:23:05 2023							
Dual Induction Calibration Report								
Serial-Model:			PROBE8-DILG					
Surface Cal Performed:			Thu Mar 16 11:09:55 2023					
Downhole Cal Performed:			Mon Sep 10 14:28:38 2018					
After Survey Verification Performed:			Mon Sep 10 14:28:40 2018					
Surface Calibration								
Readings			References				Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	5.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	620.000	-9.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739
Downhole Calibration								
Readings			References				Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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: 004			Model: PRB					
Master Calibration								
Performed Fri Nov 04 15:19:59 2022								
	Background	Magnesium		Aluminum		Aluminum+Fe		
Window 1	1153.2	7232.1		2536.8		2279.5		cps
Window 2	1055.6	6225.5		2222.3		2030.5		cps
Window 3	902.5	3849.3		1546.4		1462.0		cps
Window 4	254.4	258.2		253.1		253.9		cps
Long Space	0.0	5169.9		1166.7		974.9		cps
Short Space	4.7	1383.0		950.5		792.1		cps
Rho		1.7100		2.5900		0.0000		g/cc
Pe		2.0000		2.7500		5.7900		
Rib Angle	: 45.9	Rib Slope	: 1.031	Density/Spine Ratio			: 0.573	
Spine Angle	: 75.9	Spine Slope	: 3.970	Spine Intercept			: -20.2	

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

Serial Number:	6I
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

PRE-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			
	Long Space		cps	pu		

POST-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		pu
3)	Short Space		cps			
	Long Space		cps	pu		pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Sat Mar 04 17:44:01 2023	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.9000	GAPI/cps