



**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company ELK ENERGY HOLDINGS, LLC.

Well F & J FARMS #1-18

Field WILDCAT

County THOMAS State KANSAS

Location: API #: 15-193-21078-0000

2304' FNL & 335' FWL
NE - SW - SW - NW

Other Services
DILMEL

SEC 18 TWP 10S RGE 32W

Elevation

Permanent Datum GROUND LEVEL Elevation 3096
Log Measured From KELLY BUSHING 5" A.G.L.
Drilling Measured From KELLY BUSHING

K.B. 3101
D.F. 3099
G.L. 3096

Date	6/28/20		
Run Number	ONE		
Depth Driller	4703		
Depth Logger	4704		
Bottom Logged Interval	4680		
Top Log Interval	3800		
Casing Driller	8 5/8"@300'		
Casing Logger	306		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2.500 PPM	
Density / Viscosity	9.4/59		
pH / Fluid Loss	10.0/8.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.860@100F		
Rmf @ Meas. Temp	.645@100F		
Rmc @ Meas. Temp	1.03@100F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.705@122F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	1:15 P.M.		
Maximum Recorded Temperature	122F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	SEAN DEENIHAN		

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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

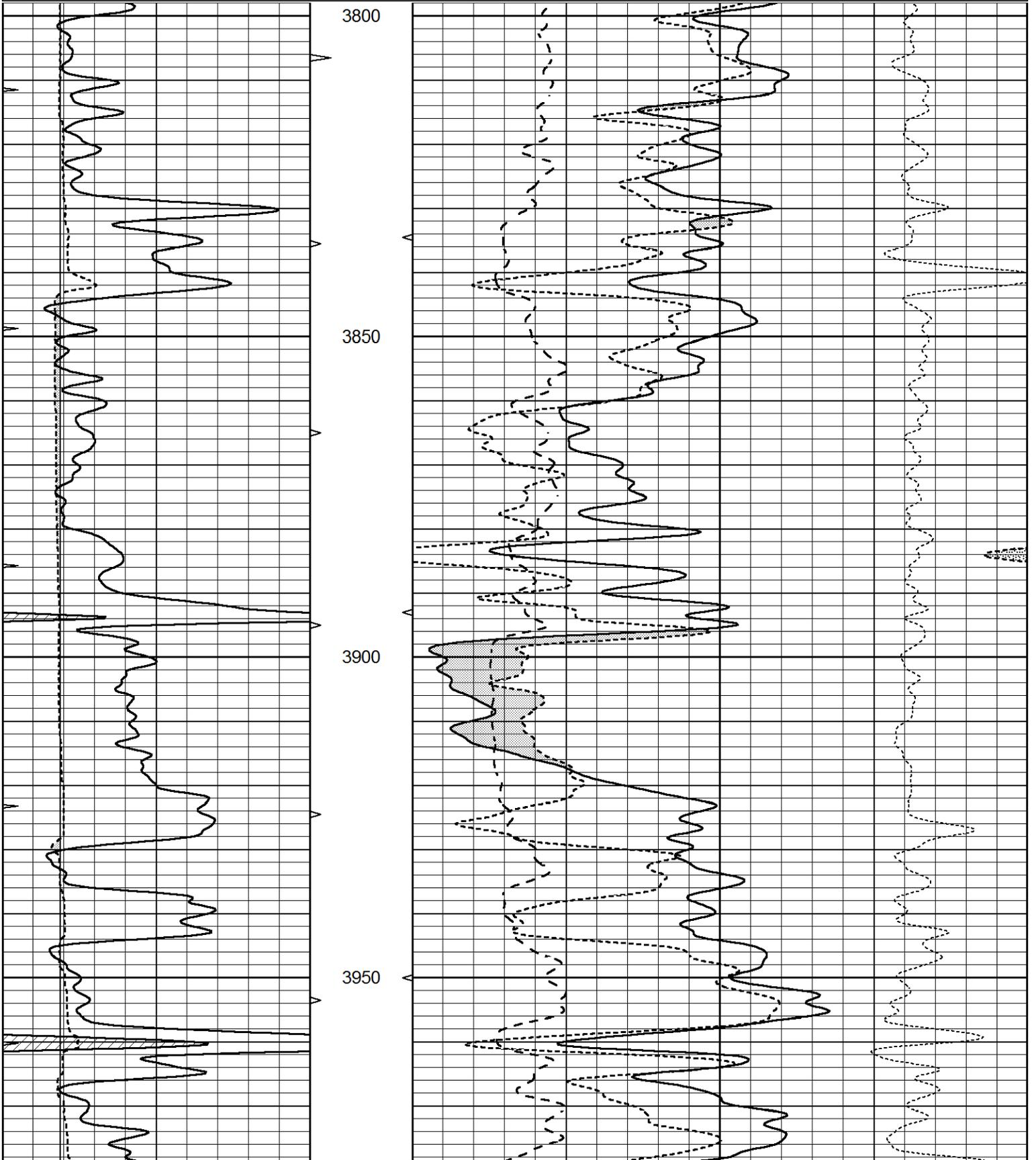
THANK YOU FOR USING E.L.I. WIRELINE SERVICES HAYS, KANSAS (785)628-6395
DIRECTIONS
OAKLEY, KS. & EXIT 70, 2S. TO "RD. C", 4W. TO "RD. 25" 1 1/2N., E. INTO

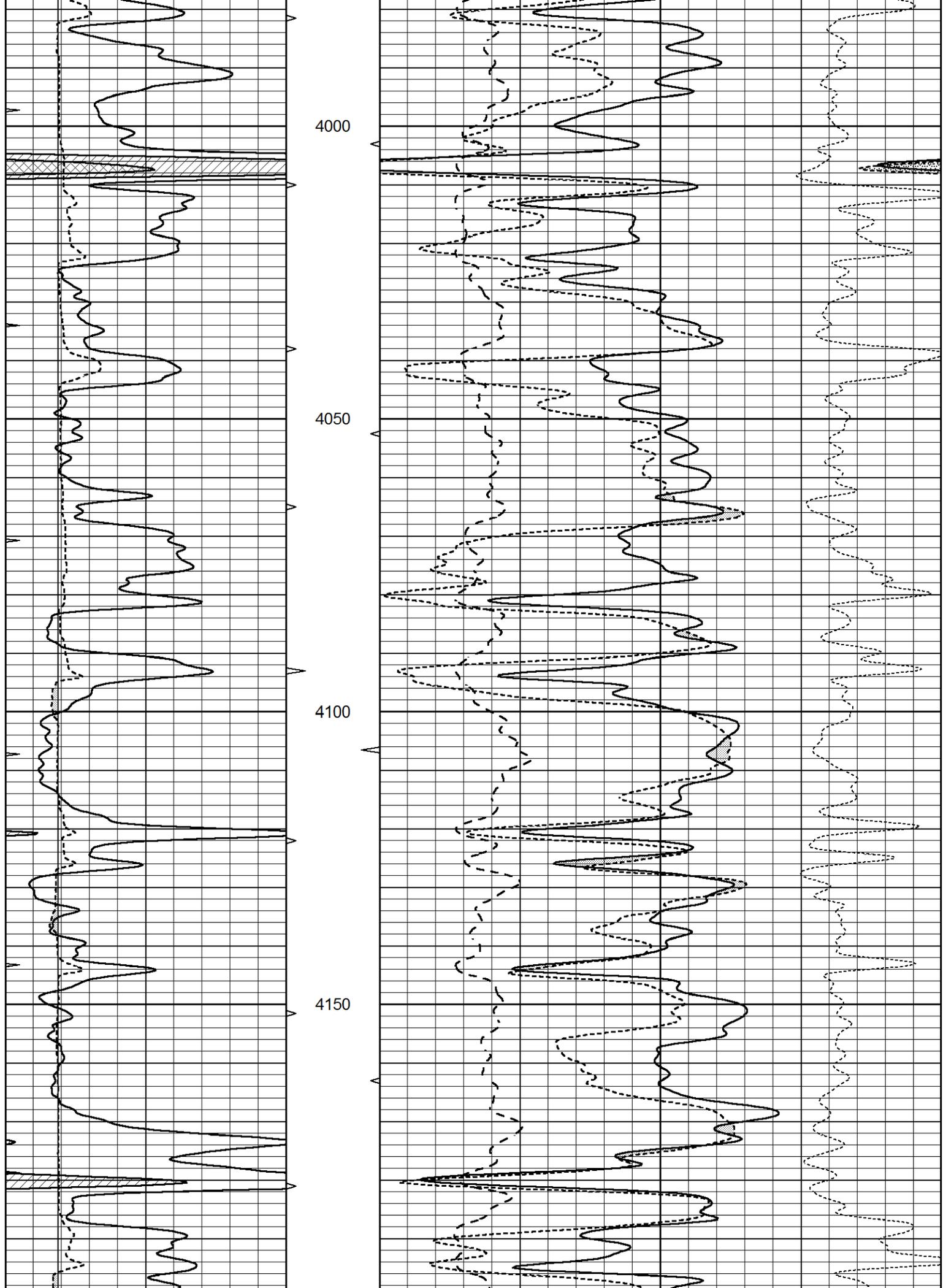


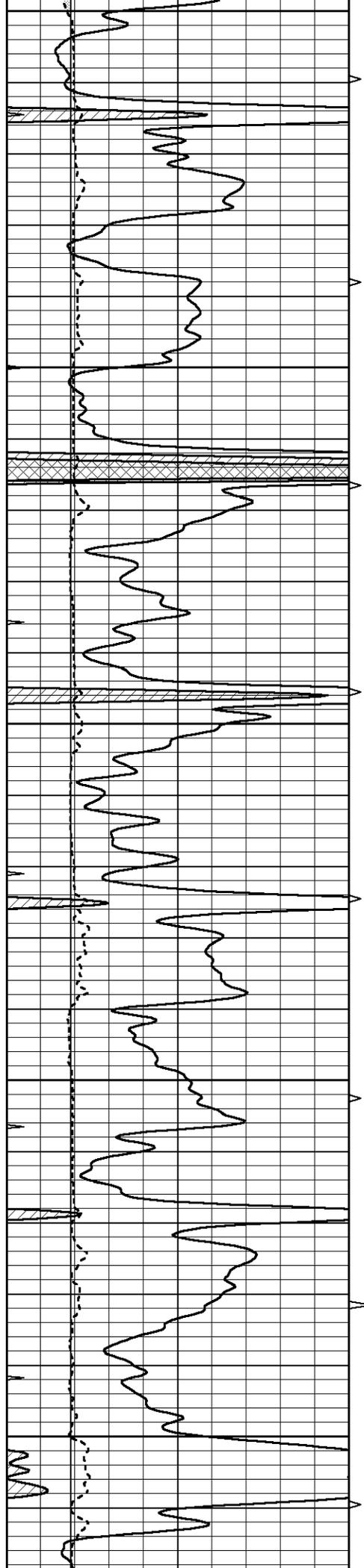
MAIN SECTION

Database File 4547pe.db
 Dataset Pathname pass3.7M
 Presentation Format ldt_neu
 Dataset Creation Sun Jun 28 14:48:19 2020
 Charted by Depth in Feet scaled 1:240

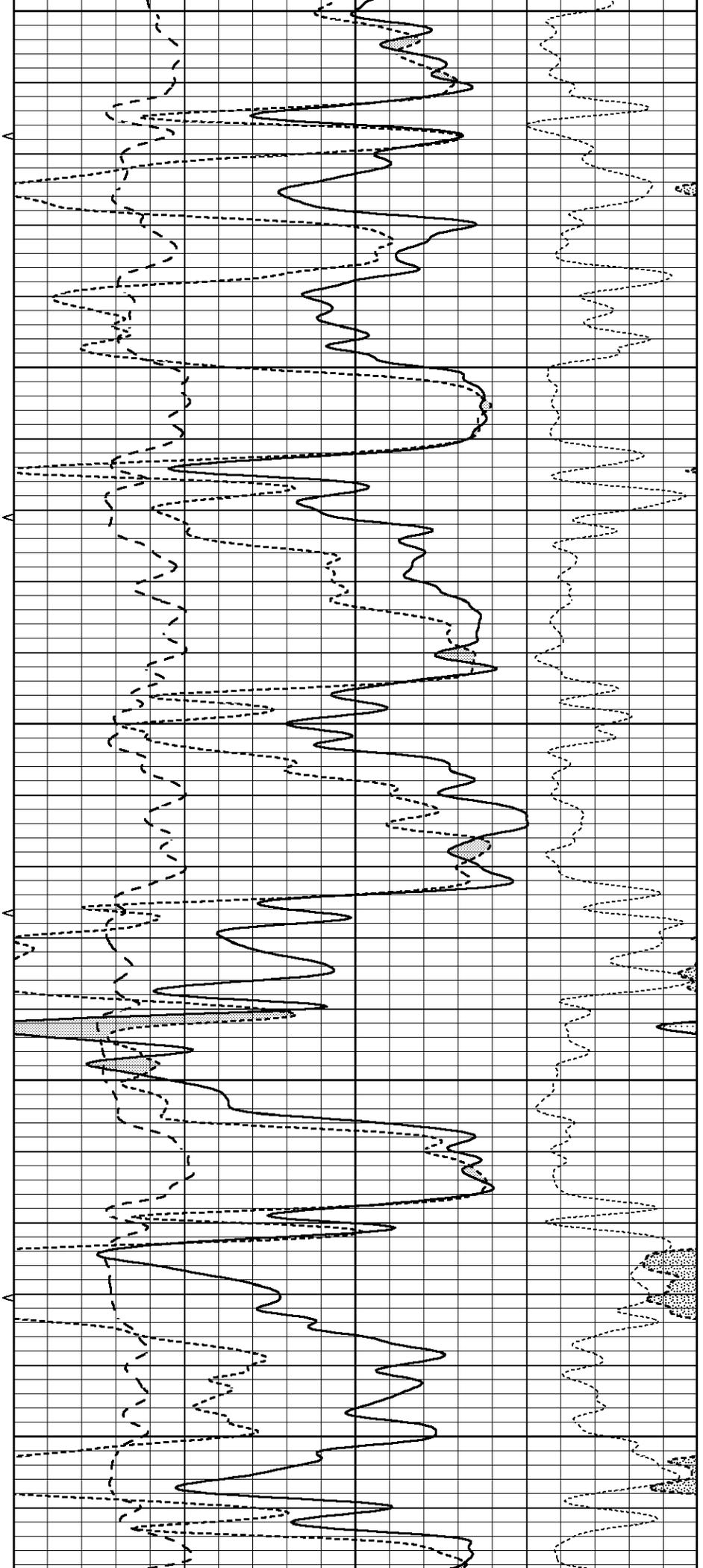
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10	-0.25
			0 (ft3)	10	CORRECTION (g/cc)		0.25

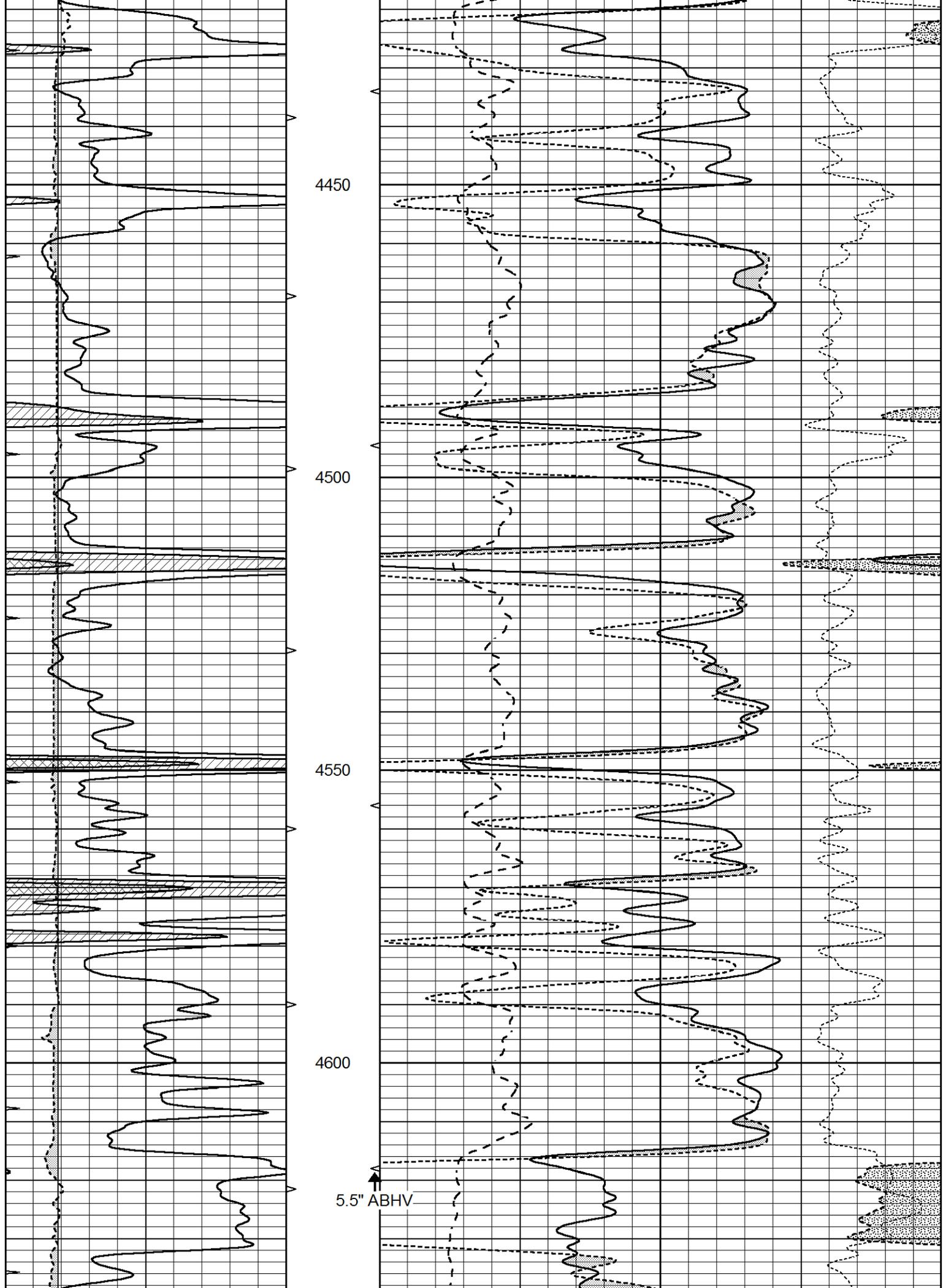


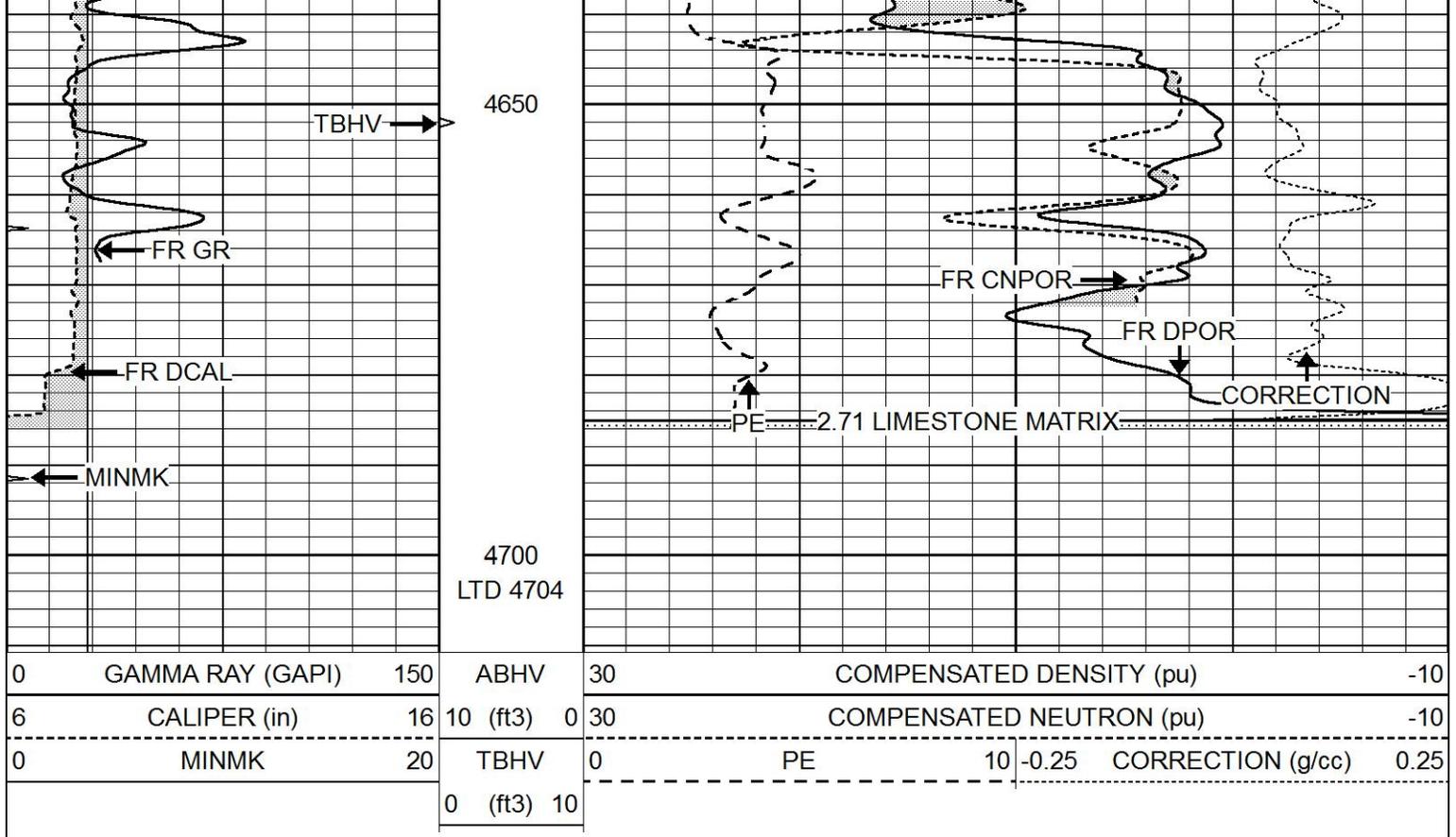




4200
4250
300
350
400



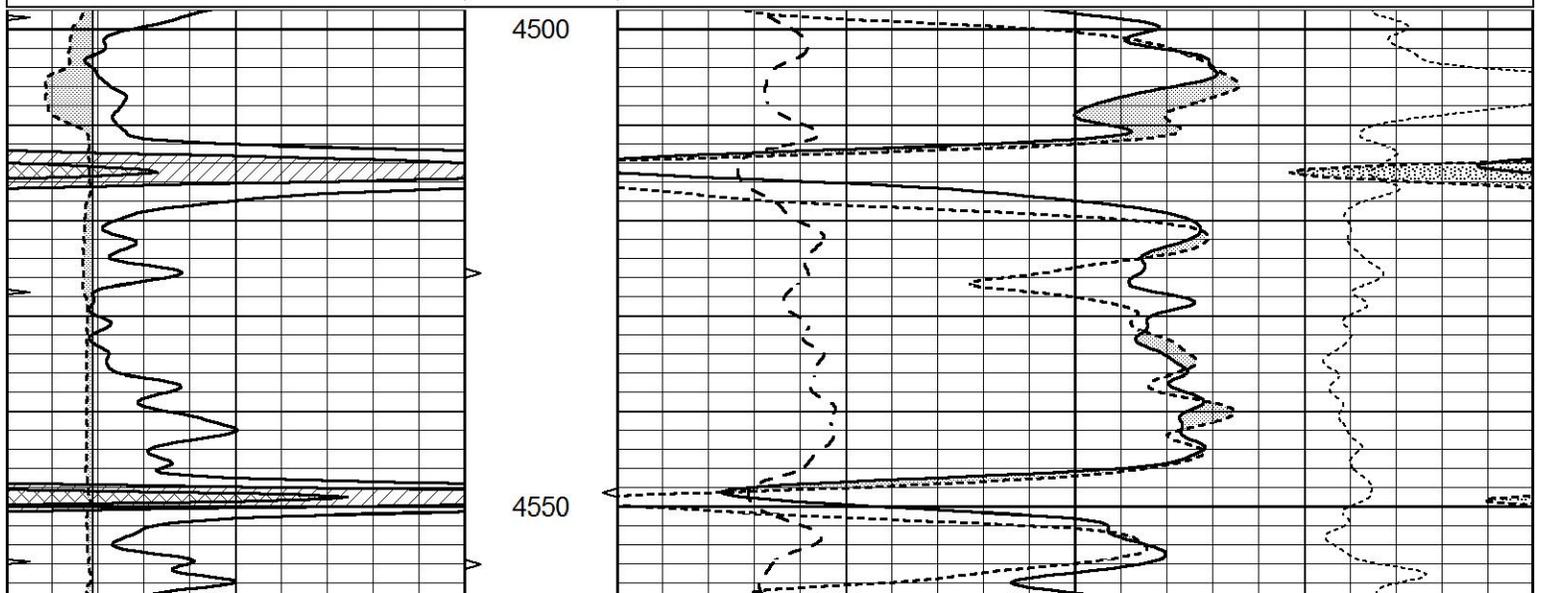


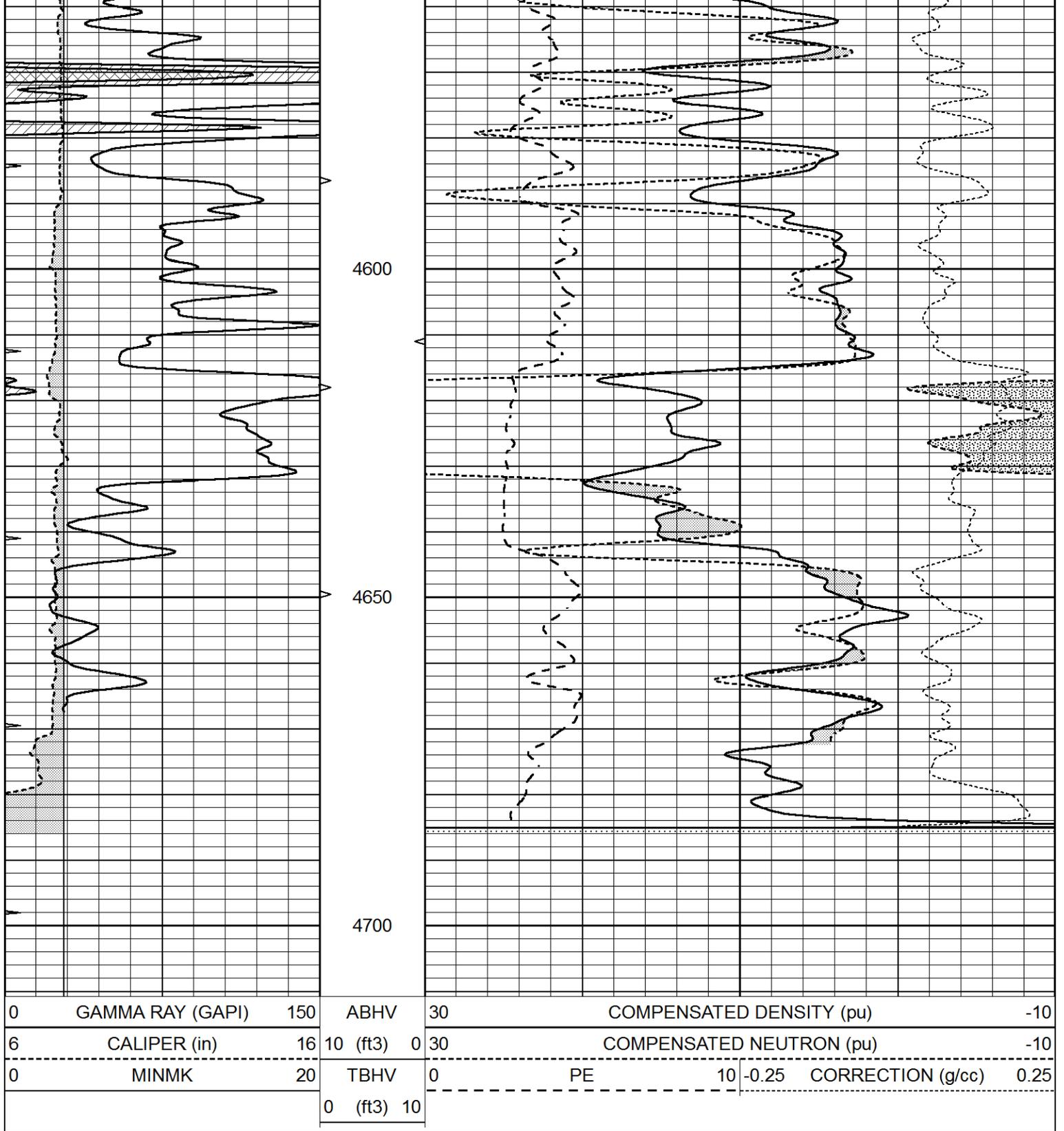


REPEAT SECTION

Database File 4547pe.db
 Dataset Pathname pass2.5
 Presentation Format ldt_neu
 Dataset Creation Sun Jun 28 14:53:02 2020
 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					





Calibration Report

Database File 4547pe.db
 Dataset Pathname pass3.7M
 Dataset Creation Sun Jun 28 14:48:19 2020

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Sun Jun 28 13:26:17 2020
 Downhole Cal Performed: Thu Mar 12 11:45:10 2020
 After Survey Verification Performed: Thu Mar 12 11:45:00 2020

Surface Calibration				References			Results	
Loop:	Readings			References			m	b
	Air	Loop		Air	Loop			
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	620.000	-15.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-72.000
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		
		0.000	mmho-m		4000.000	mmho-m		

Litho Density Calibration Report
Serial: 004 Model: PRB

Master Calibration					Performed Mon May 11 10:45:58 2020			
	Background	Magnesium	Aluminum	Aluminum+Fe				
Window 1	1199.7	10039.4	3208.4	2838.9				cps
Window 2	1096.3	8590.5	2806.1	2527.9				cps
Window 3	934.1	5176.2	1855.7	1739.5				cps
Window 4	267.0	271.6	264.8	264.9				cps
Long Space	0.0	7494.2	1709.8	1431.6				cps
Short Space	1.1	1784.3	1183.7	971.1				cps
Rho		1.7100	2.5900	0.0000				g/cc
Pe		2.0000	2.7500	5.7900				
Rib Angle	: 44.5	Rib Slope	: 0.982	Density/Spine Ratio				: 0.574
Spine Angle	: 74.5	Spine Slope	: 3.601	Spine Intercept				: -18.0

Before Survey Verification					Performed Wed Dec 31 18:00:00 1969			
	Background	Magnesium	Aluminum	Aluminum+Fe				
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				

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: Wed Jul 03 10:25:53 2019

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps