



**COMPENSATED  
DENSITY / NEUTRON  
PE LOG**

Company MULL DRILLING COMPANY, INC.  
 Well #1-8 KSU - GOERING UNIT  
 Field WILDCAT  
 County FINNEY  
 State KANSAS

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 Well #1-8 KSU - GOERING UNIT  
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 County FINNEY State KANSAS

Location: API # : 15-055-22459-0000  
 777' FNL & 124' FWL  
 SEC 8 TWP 21S RGE 31W  
 Permanent Datum GROUND LEVEL Elevation 2893  
 Log Measured From KELLY BUSHING 5' A.G.L.  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 DIL/MEL  
 SONIC  
 Elevation  
 K.B. 2898  
 D.F. 2896  
 G.L. 2893

Date	8/24/17
Run Number	ONE
Depth Driller	4790
Depth Logger	4788
Bottom Logged Interval	4764
Top Log Interval	3600
Casing Driller	8 5/8"@260'
Casing Logger	260
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3/48
pH / Fluid Loss	9.5/9.2
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.900@80F
Rmf @ Meas. Temp	.675@80F
Rmc @ Meas. Temp	1.08@80F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.585@123F
Time Circulation Stopped	2.5 HOURS
Time Logger on Bottom	4:15 A.M.
Maximum Recorded Temperature	123F
Equipment Number	922339
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	KEVIN KESSLER

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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**

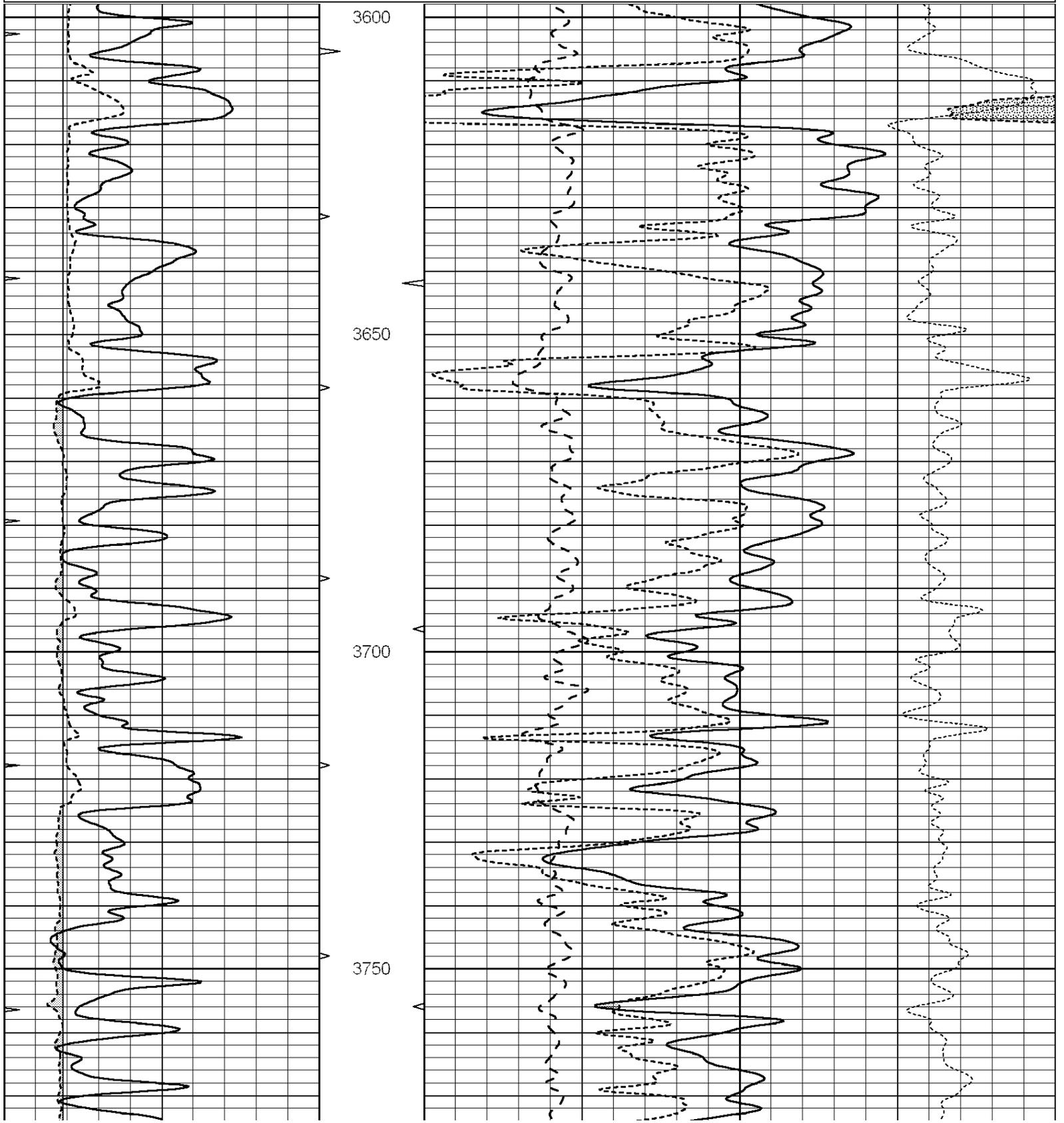
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395  
 DIRECTIONS  
 SCOTT CITY, KS., 18S. ON HWY 83 TO "MEAD RD.", 7E. TO "SIXTEEN MILE RD.", 1 1/2N., E. INTO THEN  
 BACK SOUTH ALONG FENCE

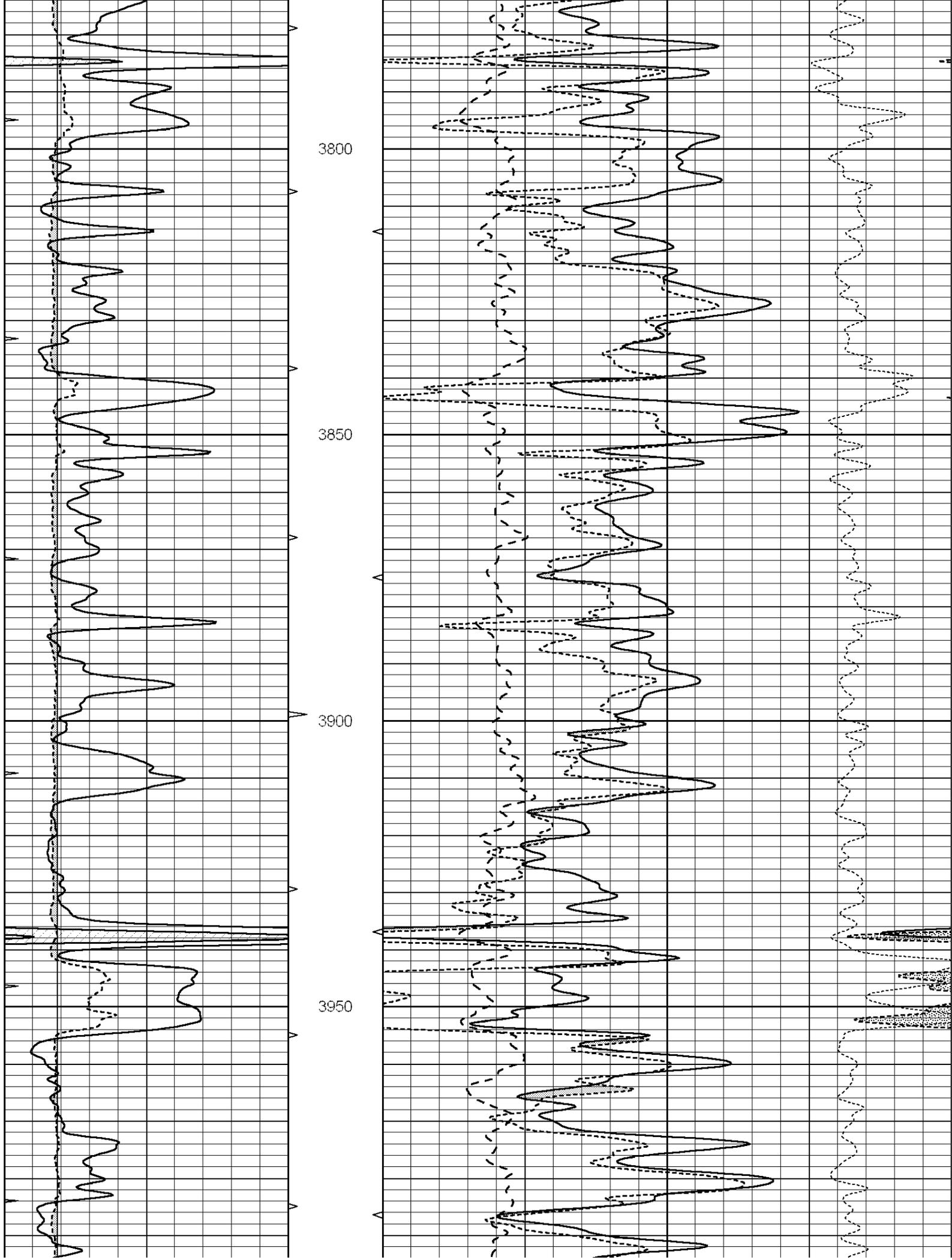


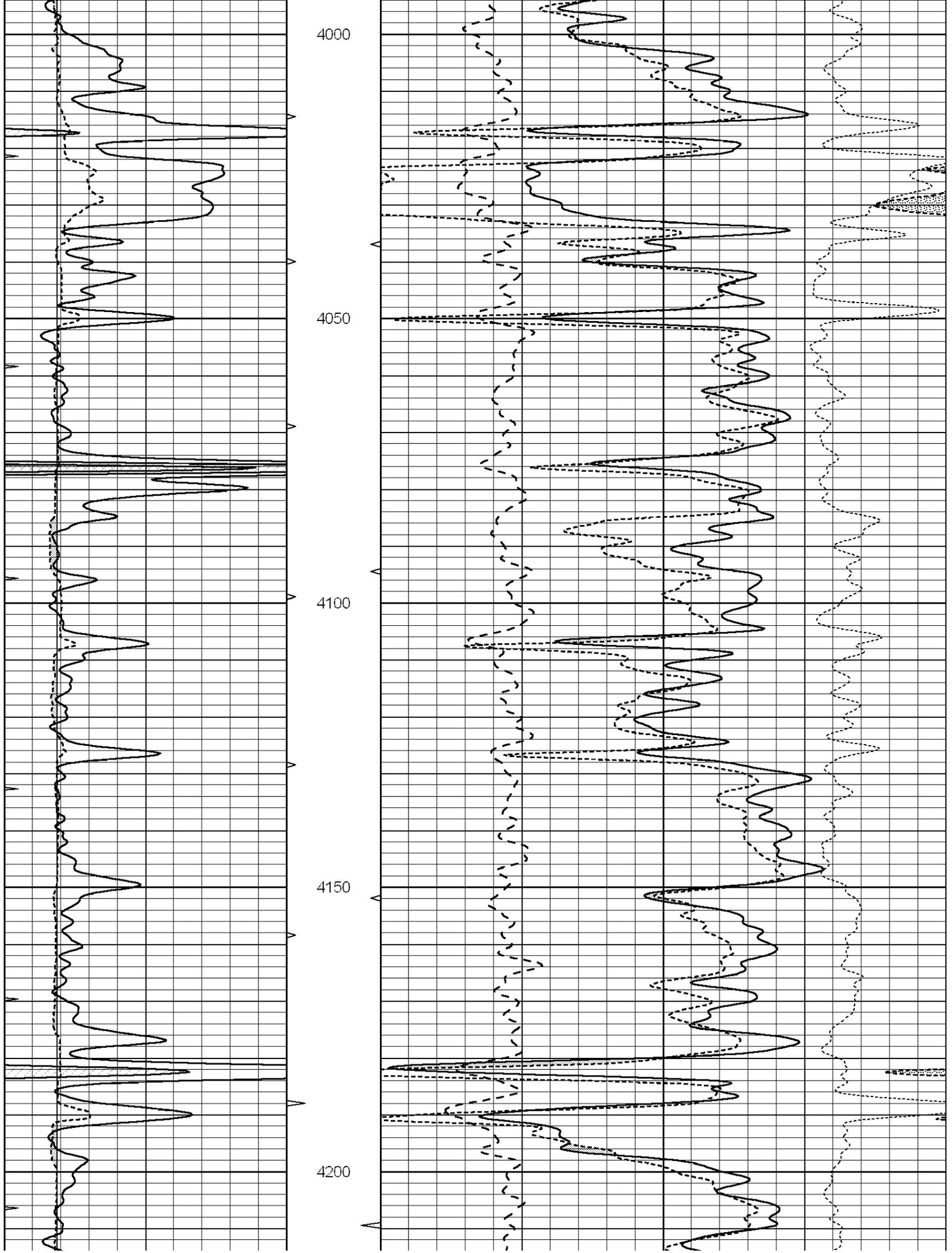
**MAIN SECTION**

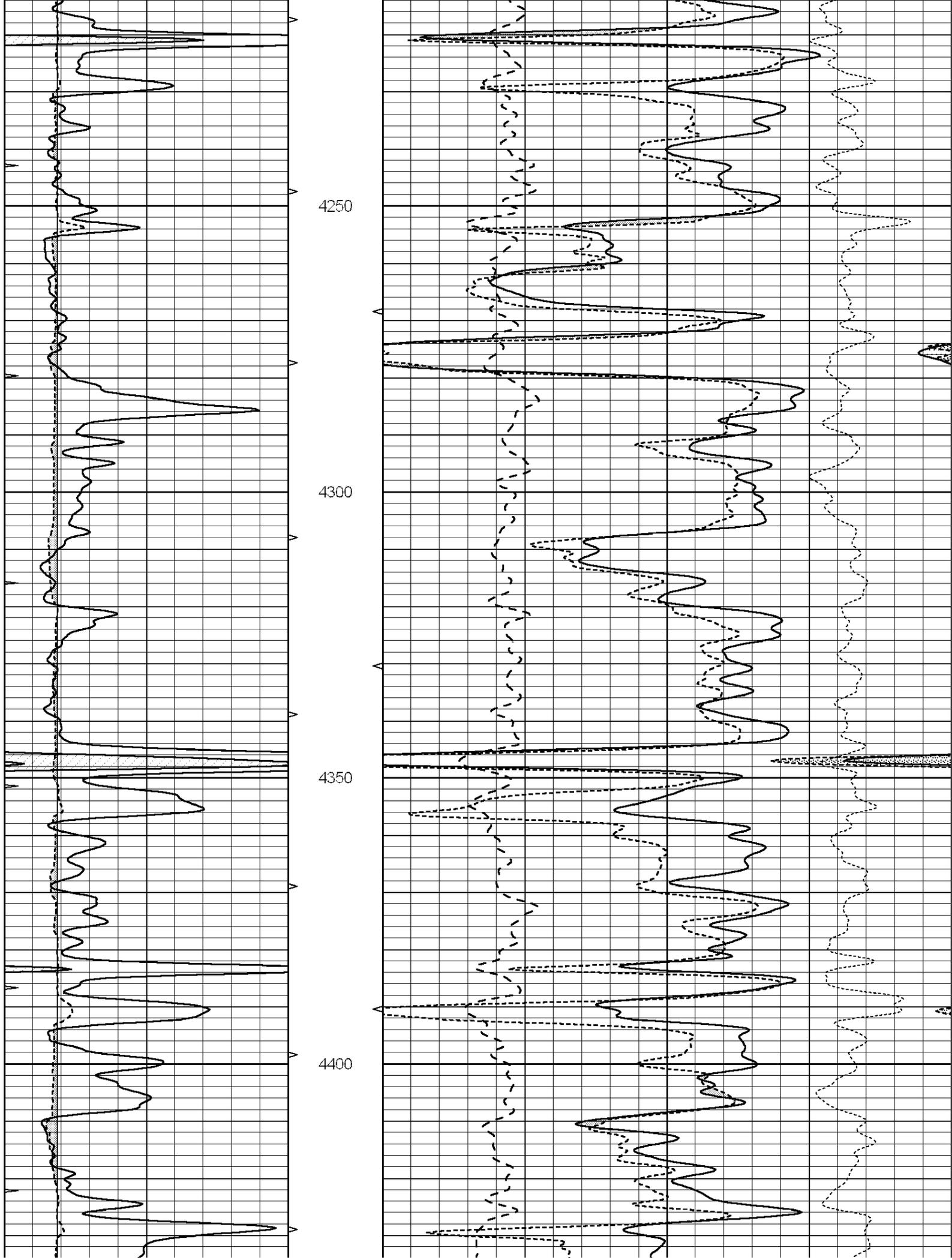
Database File: 1597pe.db  
 Dataset Pathname: pass3.8  
 Presentation Format: ldt\_neu  
 Dataset Creation: Thu Aug 24 05:40:31 2017  
 Charted by: Depth in Feet scaled 1:240

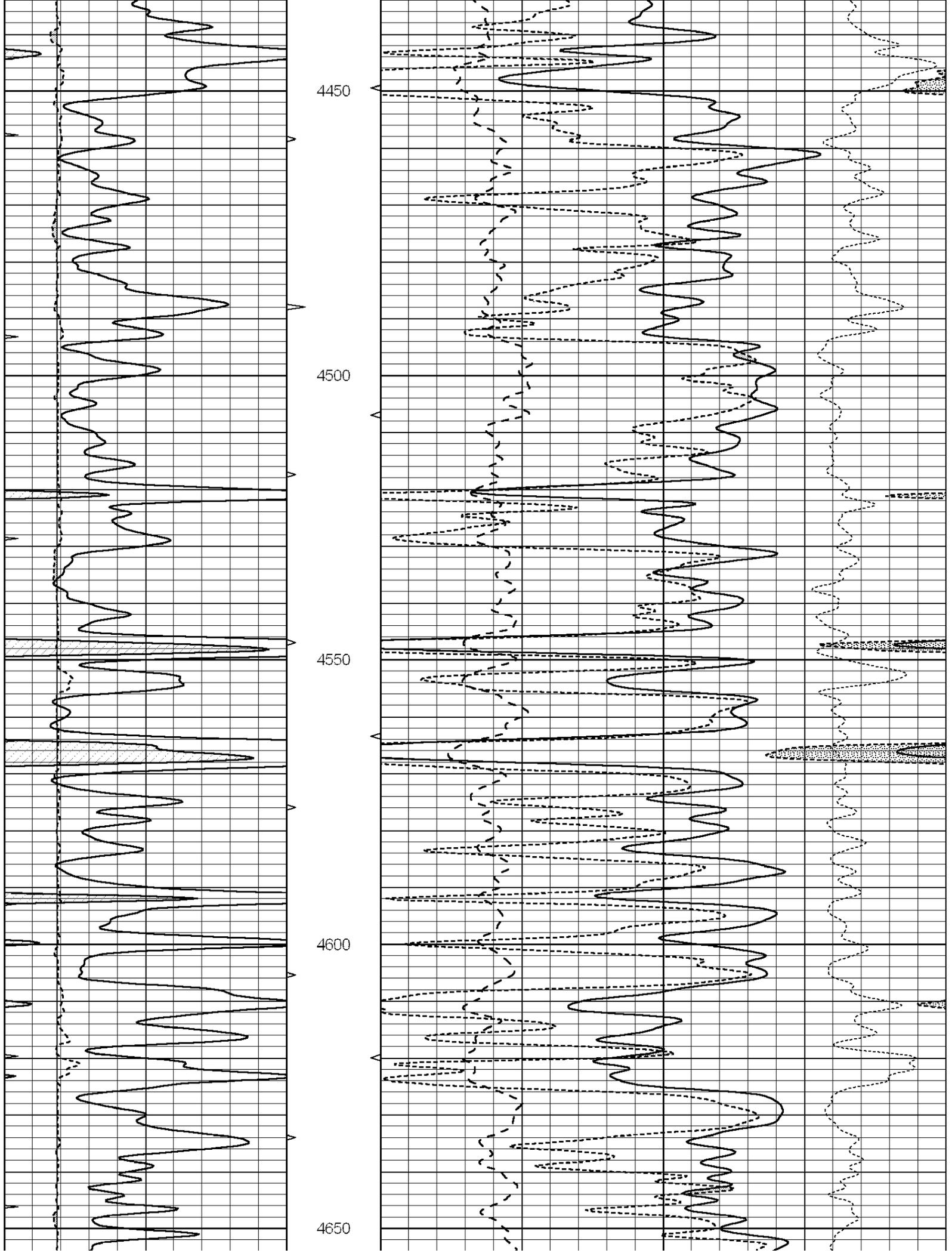
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10			

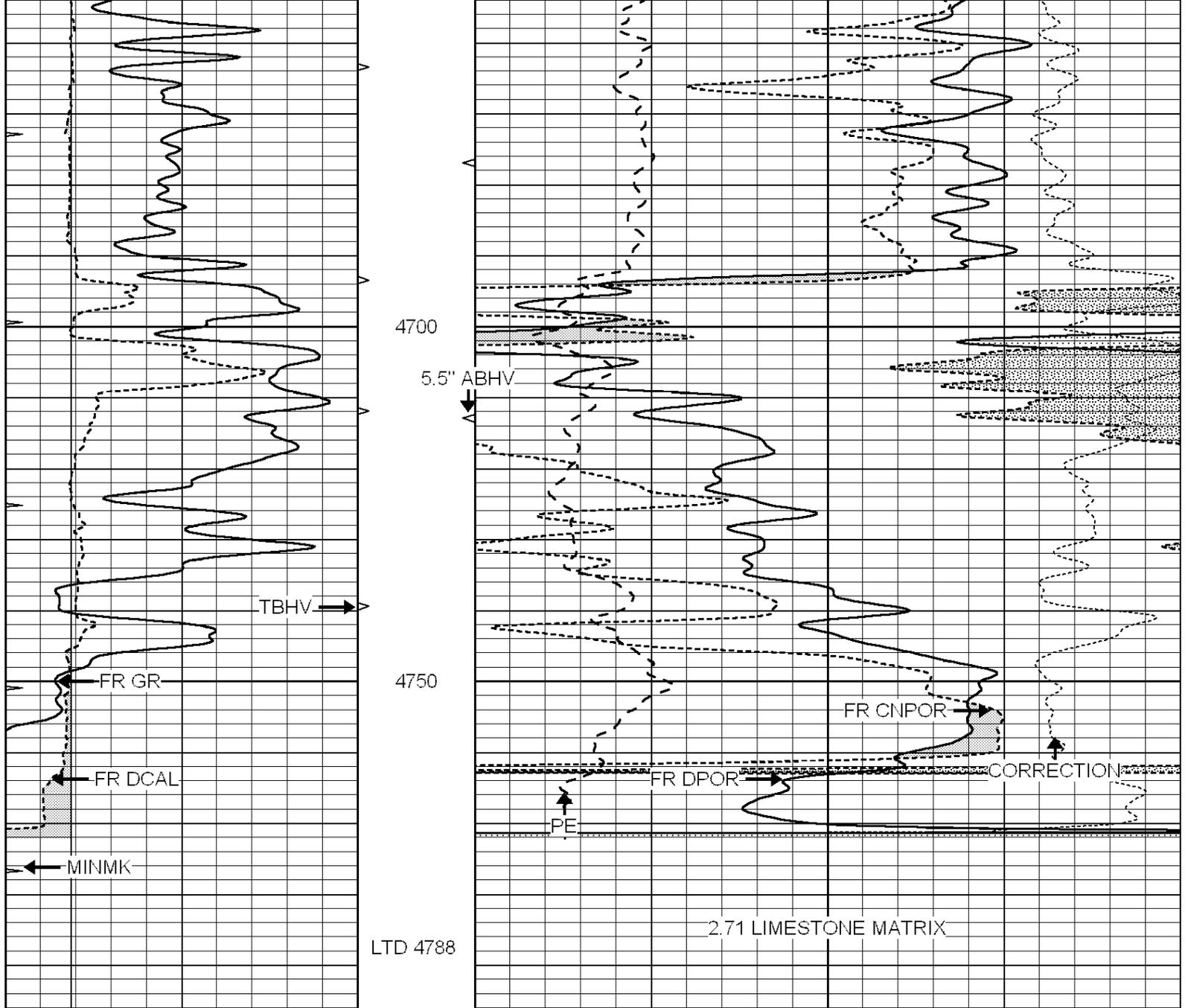




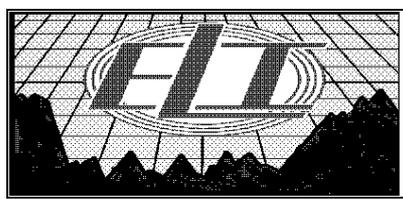








0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10			
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10		
0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					



# REPEAT SECTION

Database File: 1597pe.db  
 Dataset Pathname: pass2.2  
 Presentation Format: ldt\_neu  
 Dataset Creation: Thu Aug 24 05:37:42 2017 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

MINIMUM

20

DEPTH

0

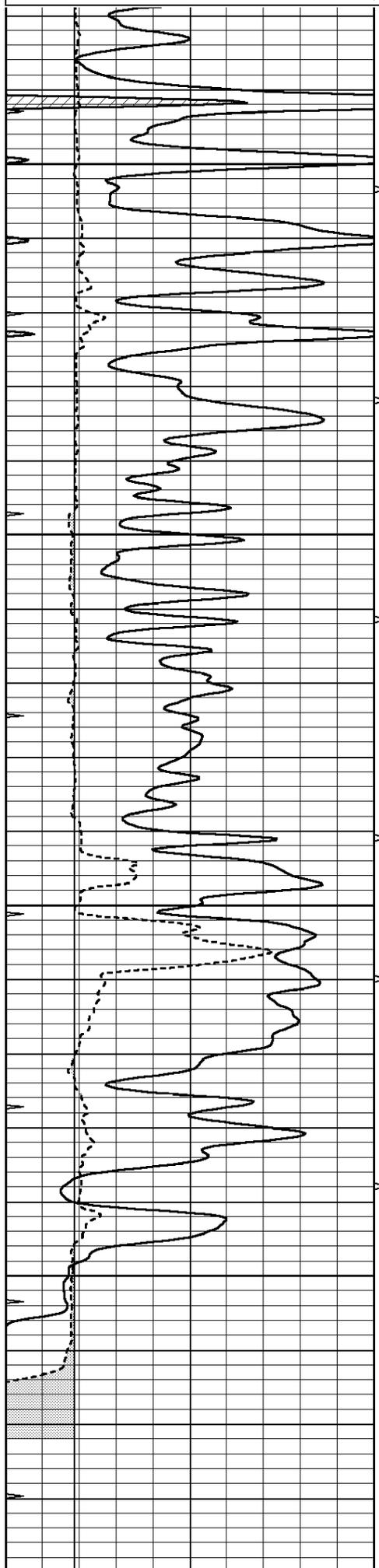
FE

10

CORRECTION (g/cc)

0.25

0 (ft3) 10

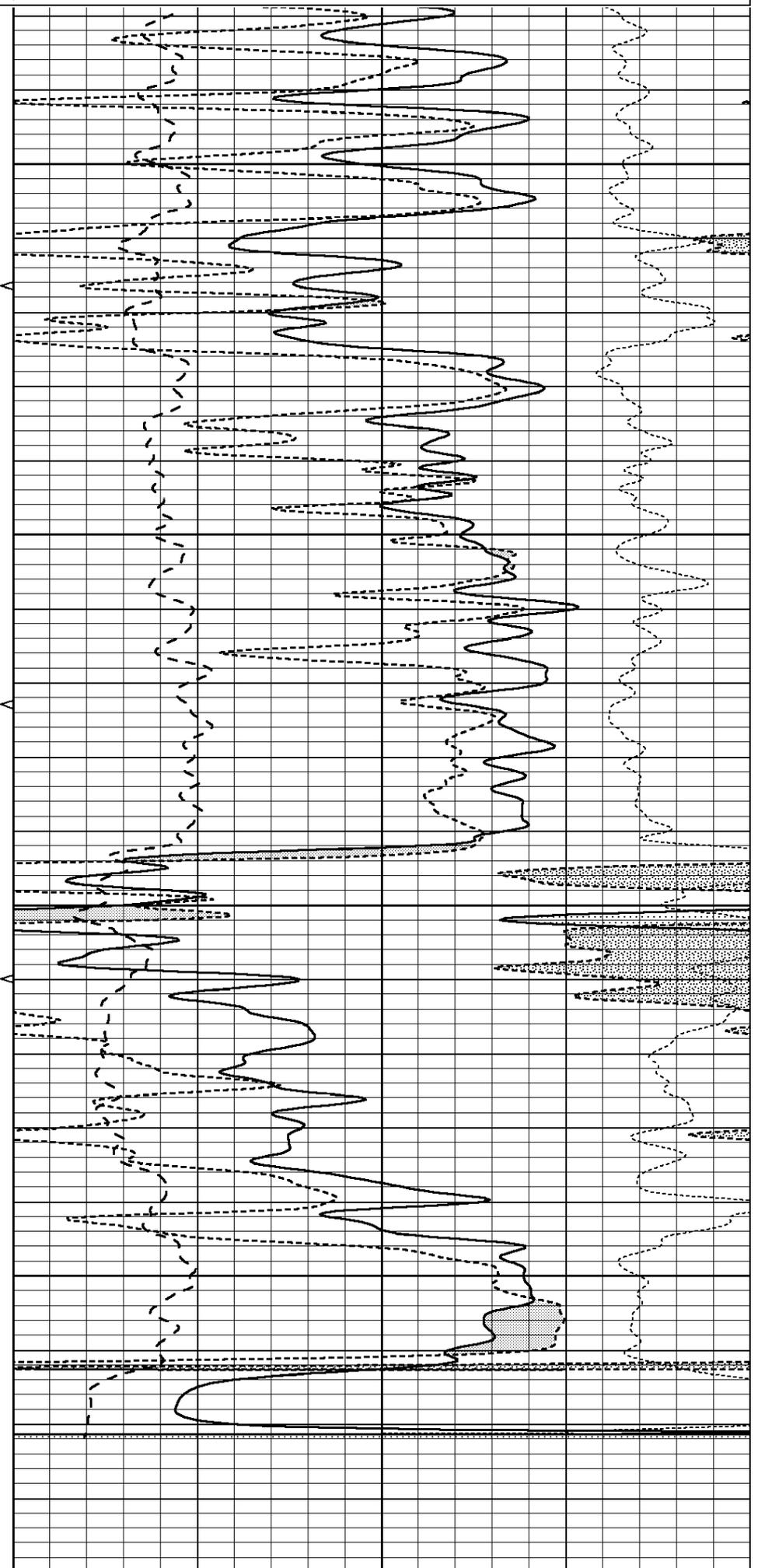


4600

4650

4700

4750



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: pe2.db  
 Dataset Pathname: pass2  
 Dataset Creation: Mon Aug 21 11:29:56 2017 by Log SOC 120430

#### Litho Density Calibration Report Serial: 002      Model: PRB

Master Calibration Performed Mon Aug 21 11:27:42 2017

	Background	Magnesium	Aluminum	Sandstone	
Window 1	837.1	10632.5	2945.1	12110.1	cps
Window 2	772.0	9117.4	2570.1	10197.3	cps
Window 3	631.7	4669.0	1481.9	5042.9	cps
Window 4	187.0	187.5	185.9	189.9	cps
Long Space	0.0	8345.4	1798.1	9425.3	cps
Short Space	1.1	1927.9	1285.9	2050.2	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 45.2	Rib Slope	: 1.008	Density/Spine Ratio	: 0.558
Spine Angle	: 75.2	Spine Slope	: 3.790	Spine Intercept	: -19.6

Before Survey Verification Performed Wed Dec 31 18:00:00 1969

	Background	Magnesium	Aluminum	Sandstone	
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

	Background	Magnesium	Aluminum	Sandstone	
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	

### Gamma Ray Calibration Report

Serial Number: 070558  
 Tool Model: OPEN GR

Test Model:

OPEN\_OR

Performed:

Wed May 31 00:09:32 2017

Calibrator Value:

1.0

GAPI

Background Reading:

0.0

cps

Calibrator Reading:

1.0

cps

Sensitivity:

0.2800

GAPI/cps