



COMPENSATED DENSITY / NEUTRON PE LOG

Company HERMAN L. LOEB, LLC.

Well L-ROC #1-20

Field EINSEL NORTH EXTENSION

County KIOWA State KANSAS

Location: API # : 15-097-21859-0000

525' FSL & 1385' FWL
NW - SW - SE - SW
SEC 20 TWP 27S RGE 18W

Permanent Datum GROUND LEVEL Elevation 2199
Log Measured From KELLY BUSHING 11A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
DIL/ME
SONIC

Elevation

K.B. 2210
D.F. 2208
G.L. 2199

Date 7/7/21

Run Number ONE

Depth Driller 4815

Depth Logger 4815

Bottom Logged Interval 4791

Top Log Interval 3900

Casing Driller 8 5/8" @ 605'

Casing Logger 605

Bit Size 7 7/8"

Type Fluid in Hole CHEMICAL MUD

Density / Viscosity 9.2/64

pH / Fluid Loss 11.0/9.2

Source of Sample FLOWLINE

Rm @ Meas. Temp .600 @ 96F

Rmf @ Meas. Temp .450 @ 96F

Rmc @ Meas. Temp .720 @ 96F

Source of Rmf / Rmc MEASUREMENT

Rm @ BHT .468 @ 123F

Time Circulation Stopped 2 HOURS

Time Logger on Bottom 4:00 P.M.

Maximum Recorded Temperature 123F

Equipment Number 922339

Location HAYS, KANSAS

Recorded By JEFF LUEBBERS

Witnessed By JON CHRISTENSEN

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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.

15-097-21859-0000

Comments

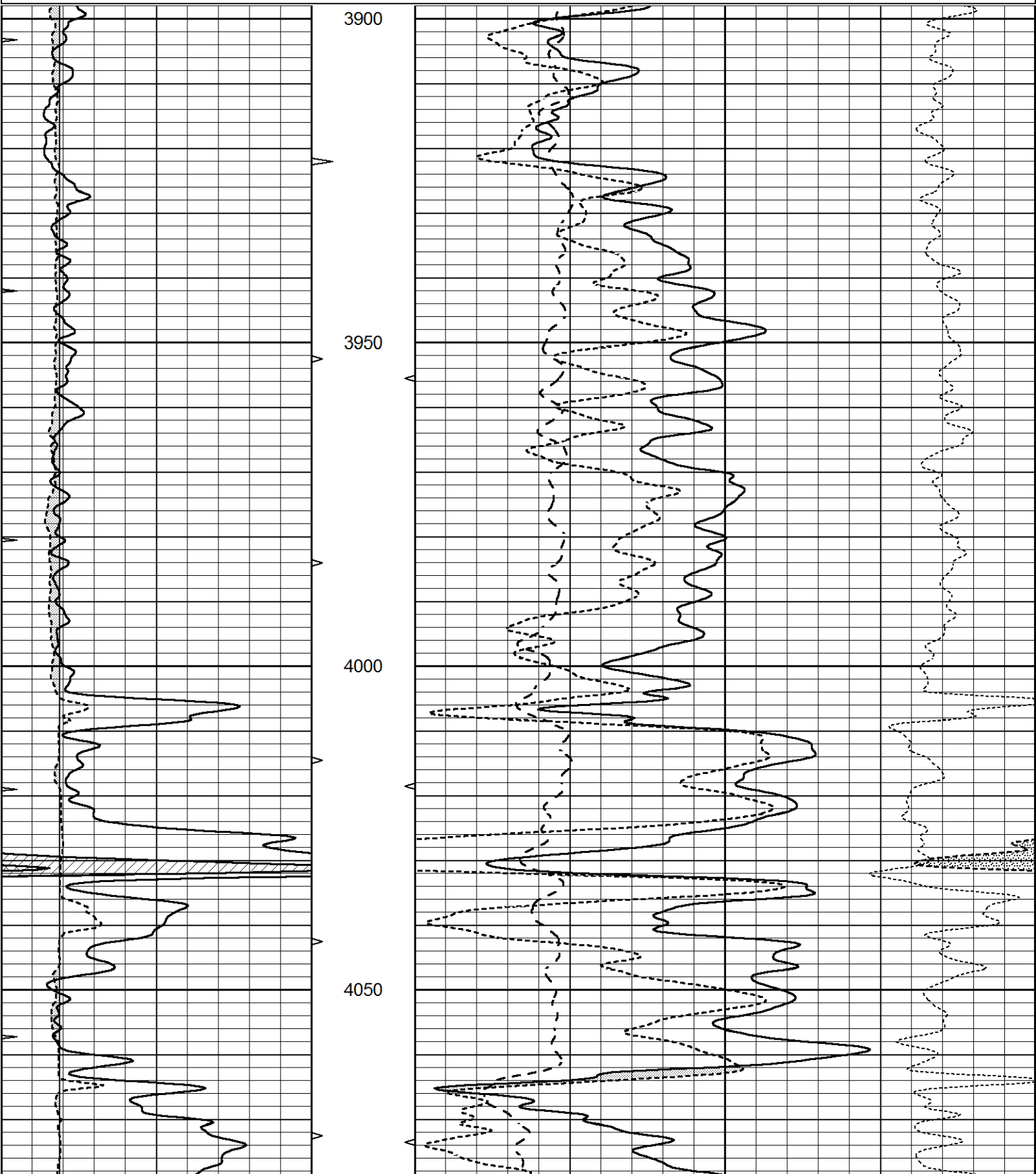
THANK YOU FOR USING E.L.I. WIRELINE SERVICES HAYS, KANSAS (785)628-6395
DIRECTIONS
GREENSBURG, KS., 1 W. TO (54 & 183 JUNCTION) 4 3/4 N. TO E RD., E. INTO GATE

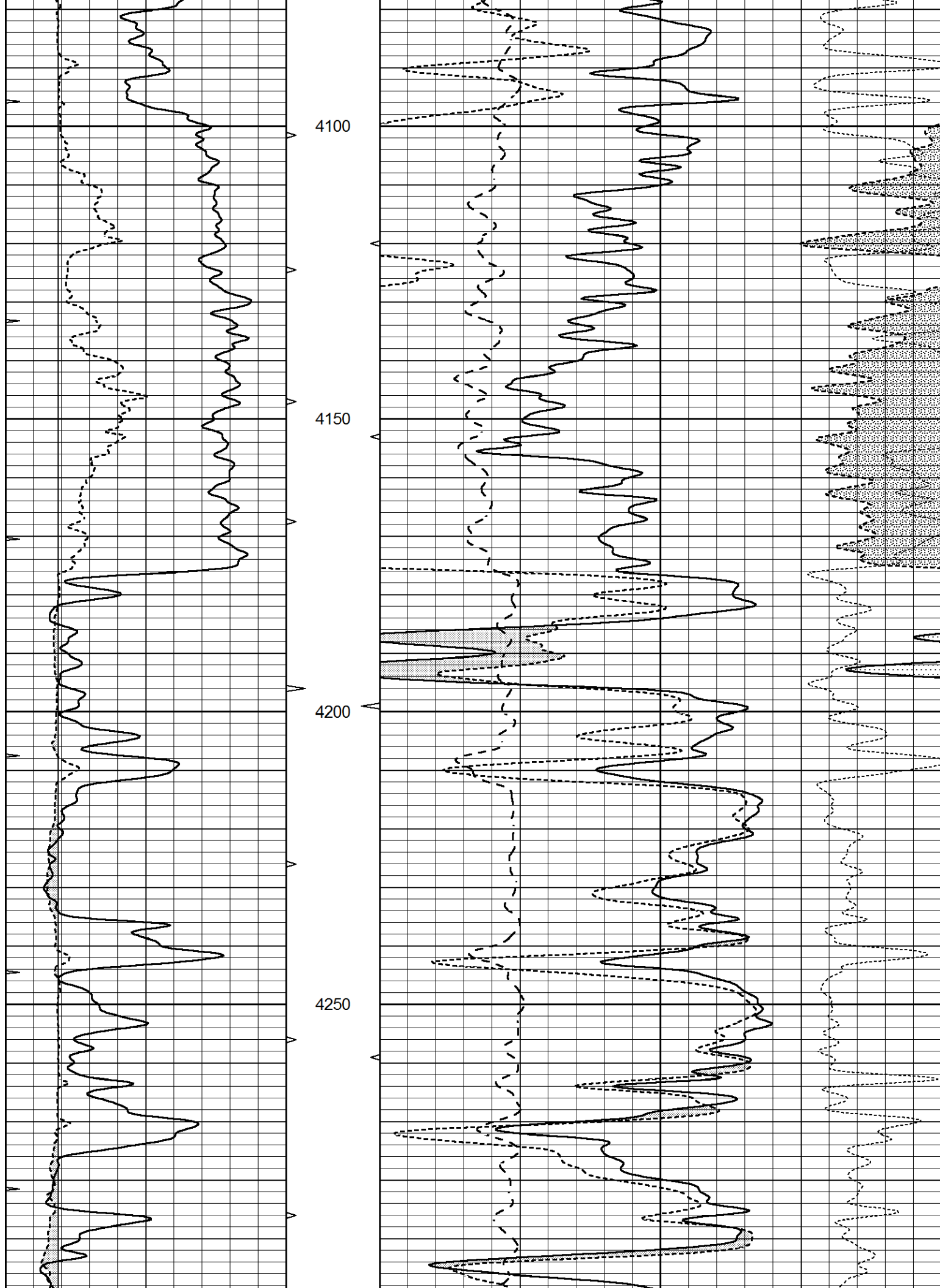


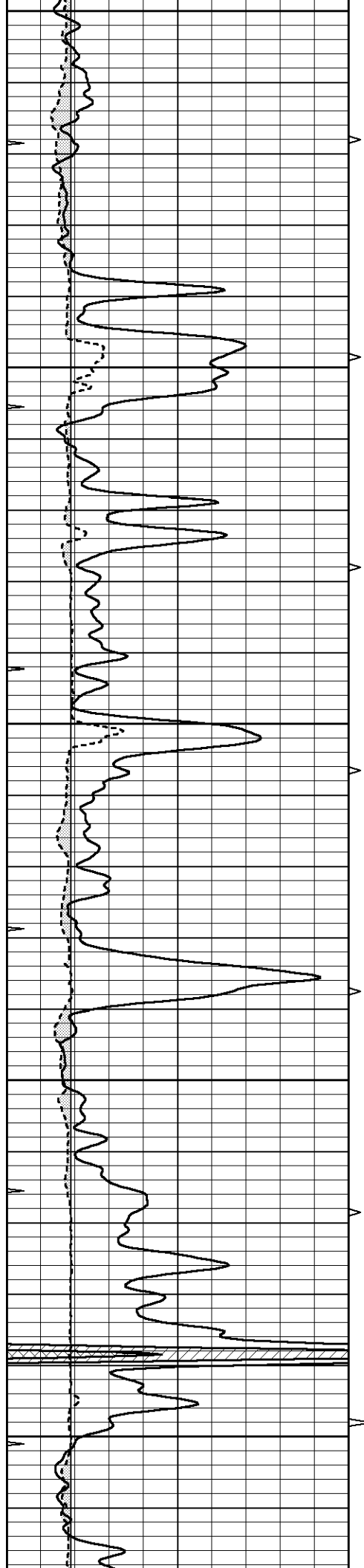
MAIN SECTION

Database File	5583pe.db
Dataset Pathname	pass3.1M
Presentation Format	ldt_neu
Dataset Creation	Wed Jul 07 17:25:07 2021
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			







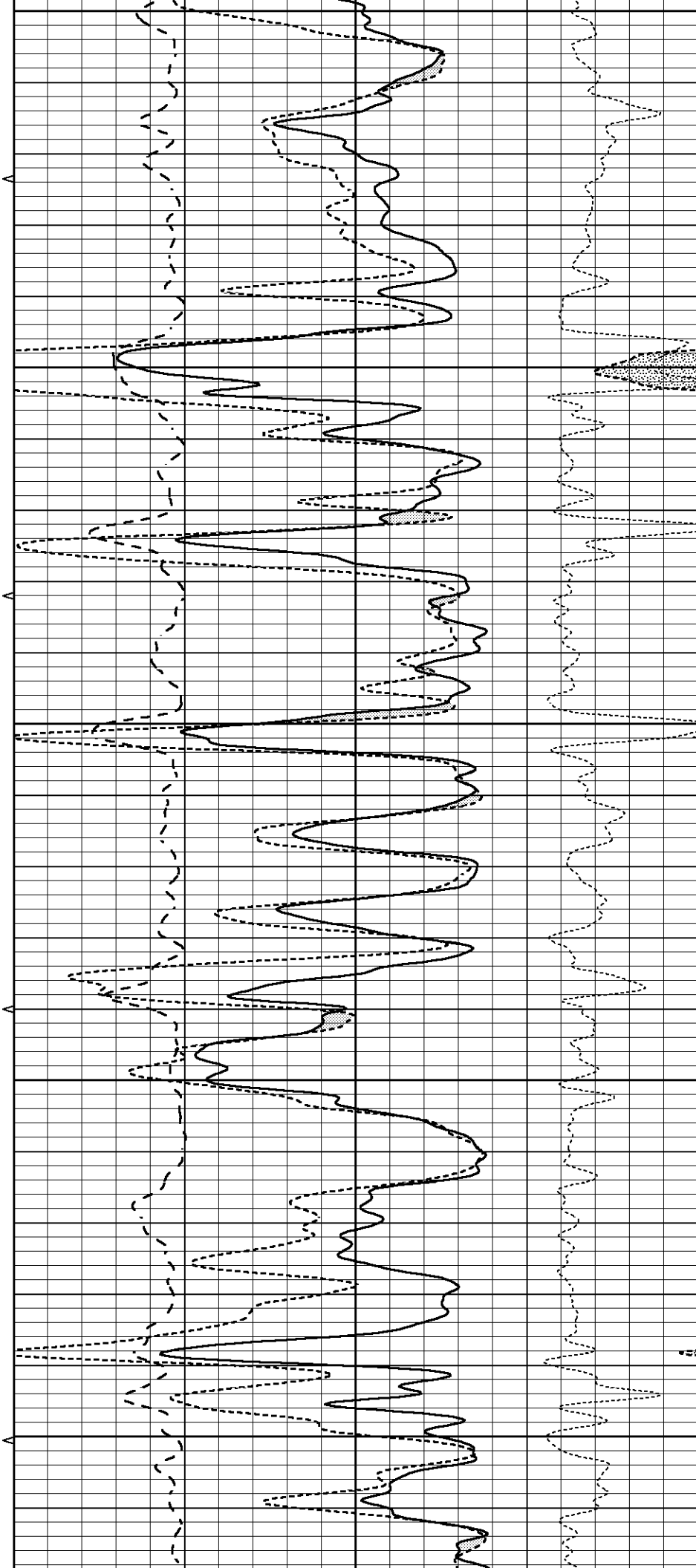
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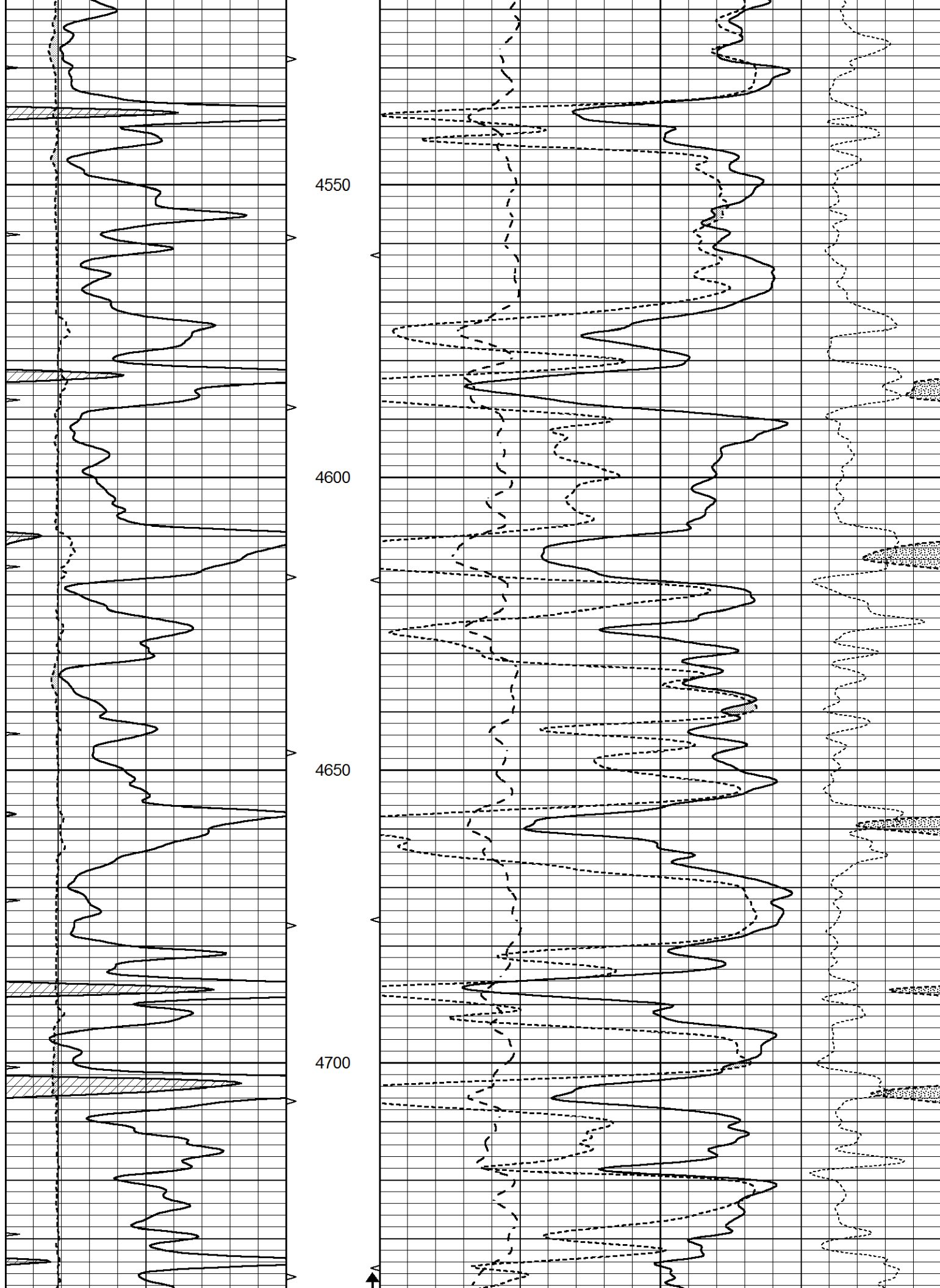
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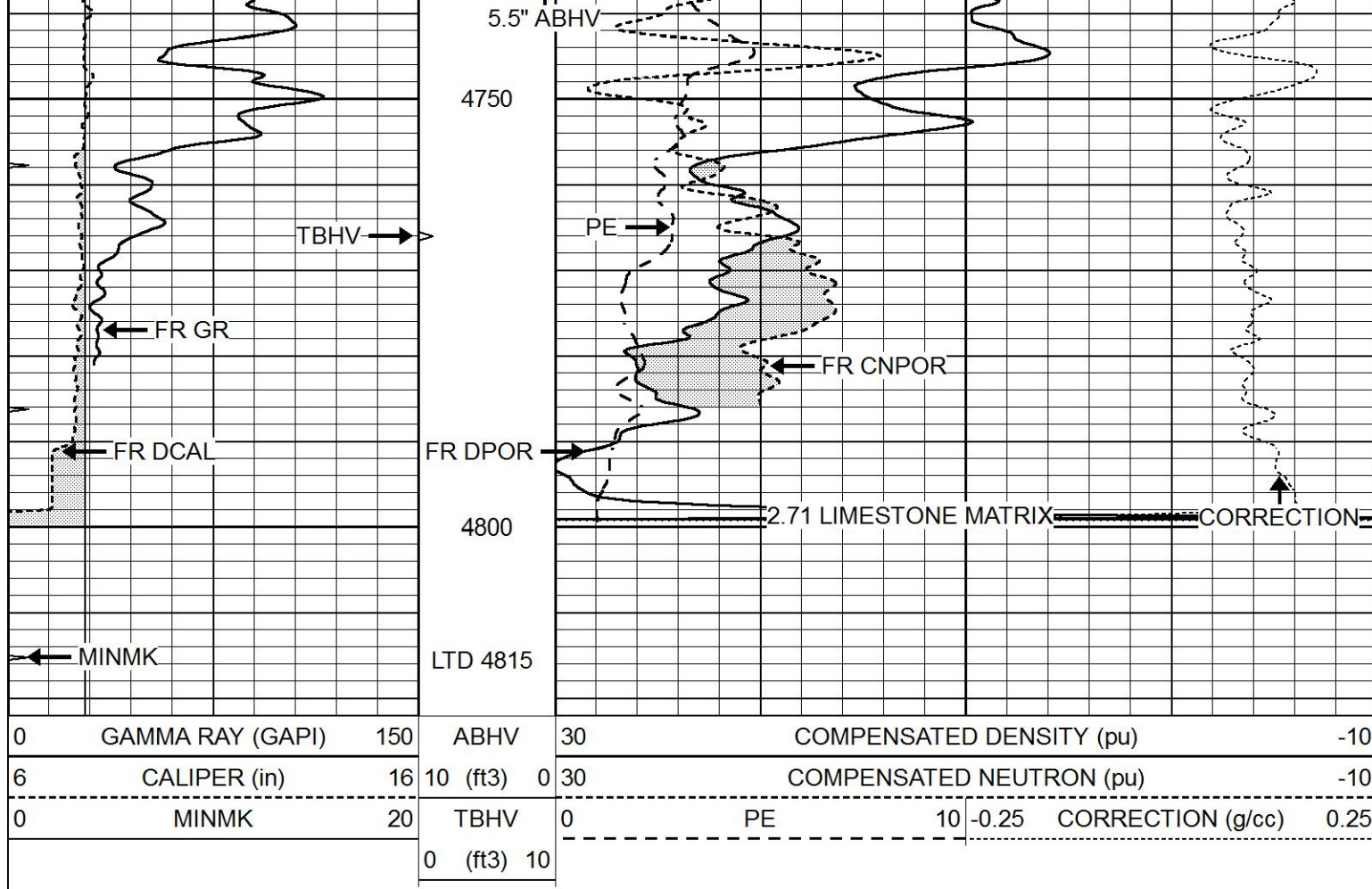
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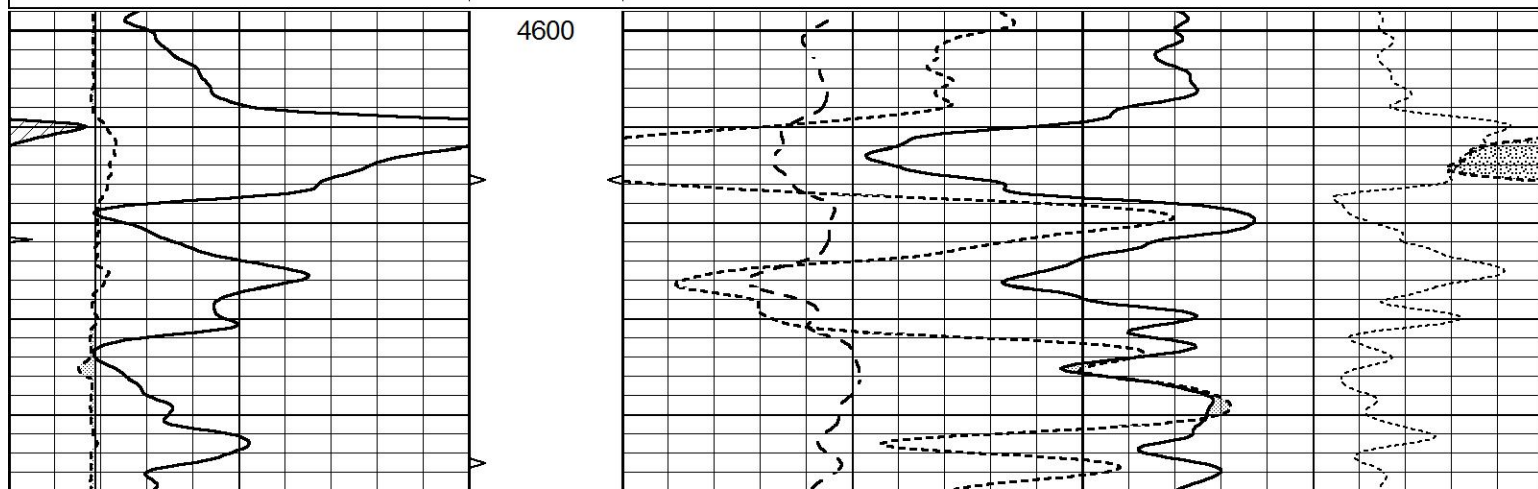


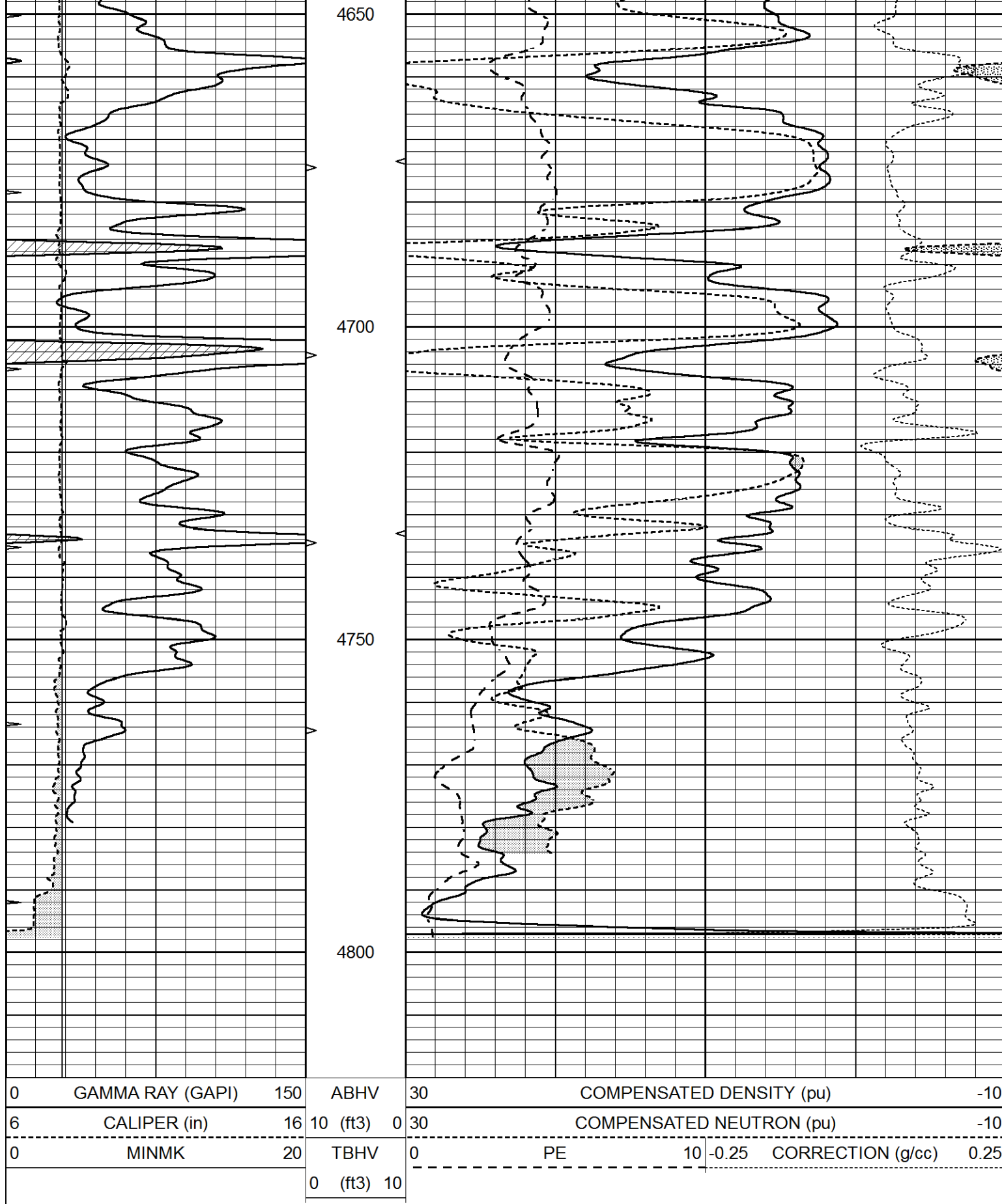


REPEAT SECTION

Database File 5583pe.db
 Dataset Pathname pass2.2R
 Presentation Format ldt_neu
 Dataset Creation Wed Jul 07 17:51:19 2021
 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 5583pe.db
 Dataset Pathname pass3.1M
 Dataset Creation Wed Jul 07 17:25:07 2021

Serial-Model:
Surface Cal Performed:
Downhole Cal Performed:
After Survey Verification Performed:

PROBE9-DILG
Wed Jul 07 16:22:21 2021
Wed Mar 11 11:31:19 2020
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	-22.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	720.000	-32.000
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:		Tue Jun 29 03:30:14 2021			
Calibrator Value:		1.0	GAPI		
Background Reading:		0.0	cps		
Calibrator Reading:		1.0	cps		
Sensitivity:		0.3000	GAPI/cps		