



**COMPENSATED
DENSITY/NEUTRON
LOG**

Company **ABERCROMBIE ENERGY**
 Well **OWEN #8**
 Field **OWEN**
 County **LOGAN** State **KANSAS**

Location: **API # : 15-109-21559-0000**
2310' FSL & 330' FEL
 SEC 21 TWP 12S RGE 33W
 Permanent Datum **GROUND LEVEL Elevation 3104**
 Log Measured From **KELLY BUSHING 11' A.G.L**
 Drilling Measured From **KELLY BUSHING**
 Other Services **DILMEL SONIC**
 Elevation **K.B. 3115 D.F. 3113 G.L. 3104**

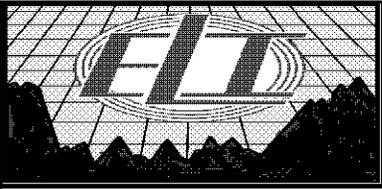
Date	8/14/18	
Run Number	ONE	
Depth Driller	4750	
Depth Logger	4754	
Bottom Logged Interval	4730	
Top Log Interval	3500	
Casing Driller	8 5/8" @ 393'	
Casing Logger	393	
Bit Size	7 7/8	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5000 PPM
Density / Viscosity	9.3/66	
pH / Fluid Loss	10.0/8.8	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	.60 @ 75F	
Rmt @ Meas. Temp	.45 @ 75F	
Rmc @ Meas. Temp	.72 @ 75F	
Source of Rmf / Rmc	MEASUREMENT	
Rm @ BHT	.36 @ 123F	
Time Circulation Stopped	2 HOURS	
Time Logger on Bottom	////	
Maximum Recorded Temperature	123F	
Equipment Number	3802	
Location	HAYS, KANSAS	
Recorded By	JASON CAPPELLUCCI	
Witnessed By	GRANT GALYON	KENT CRISLER

<<< Fold Here >>>

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

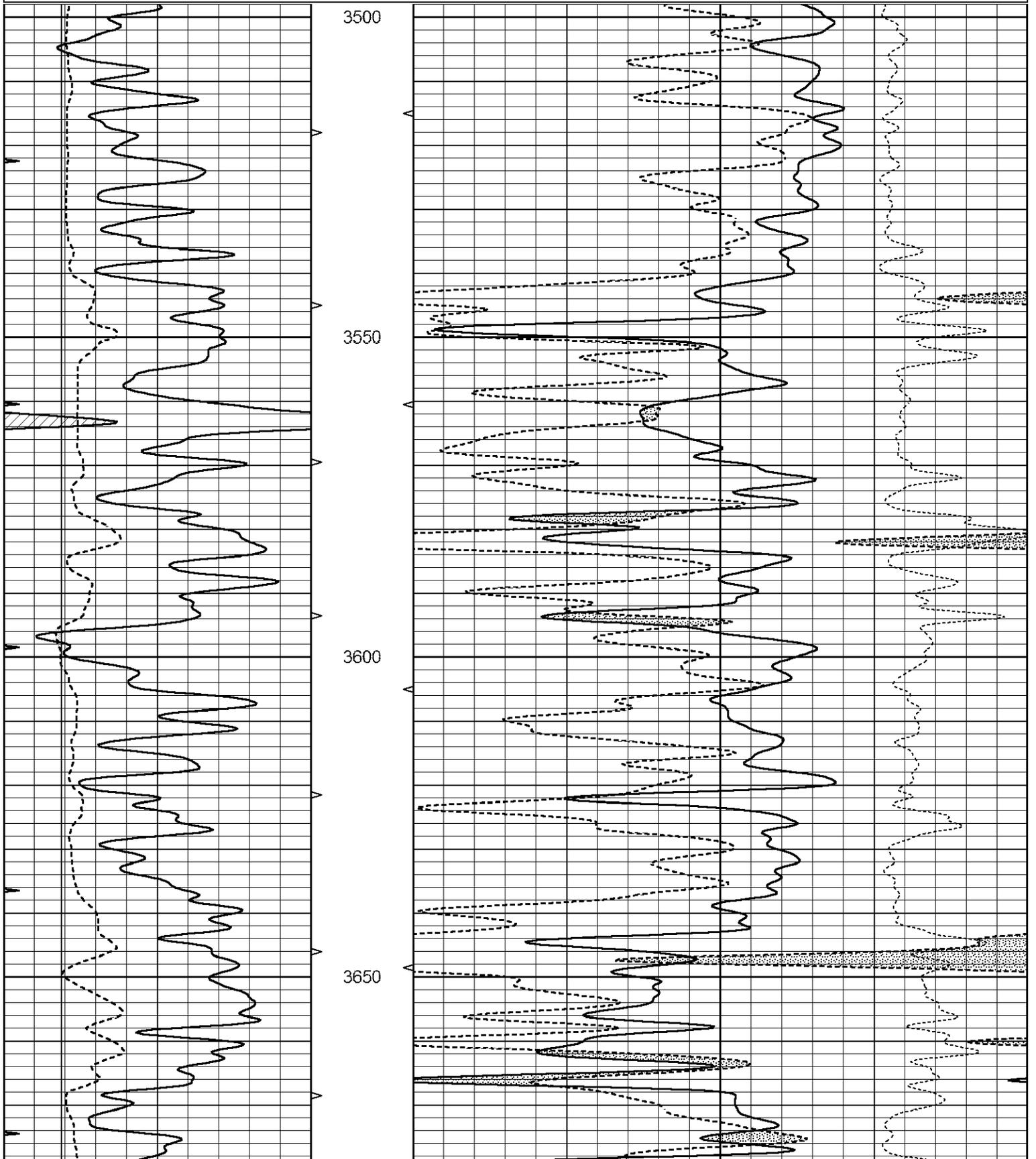
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
 DIRECTIONS
 OAKLEY, KS. - 9 SOUTH ON HWY 83 TO UTE RD. - 7 WEST TO 370 RD.
 1/2 NORTH - WEST INTO

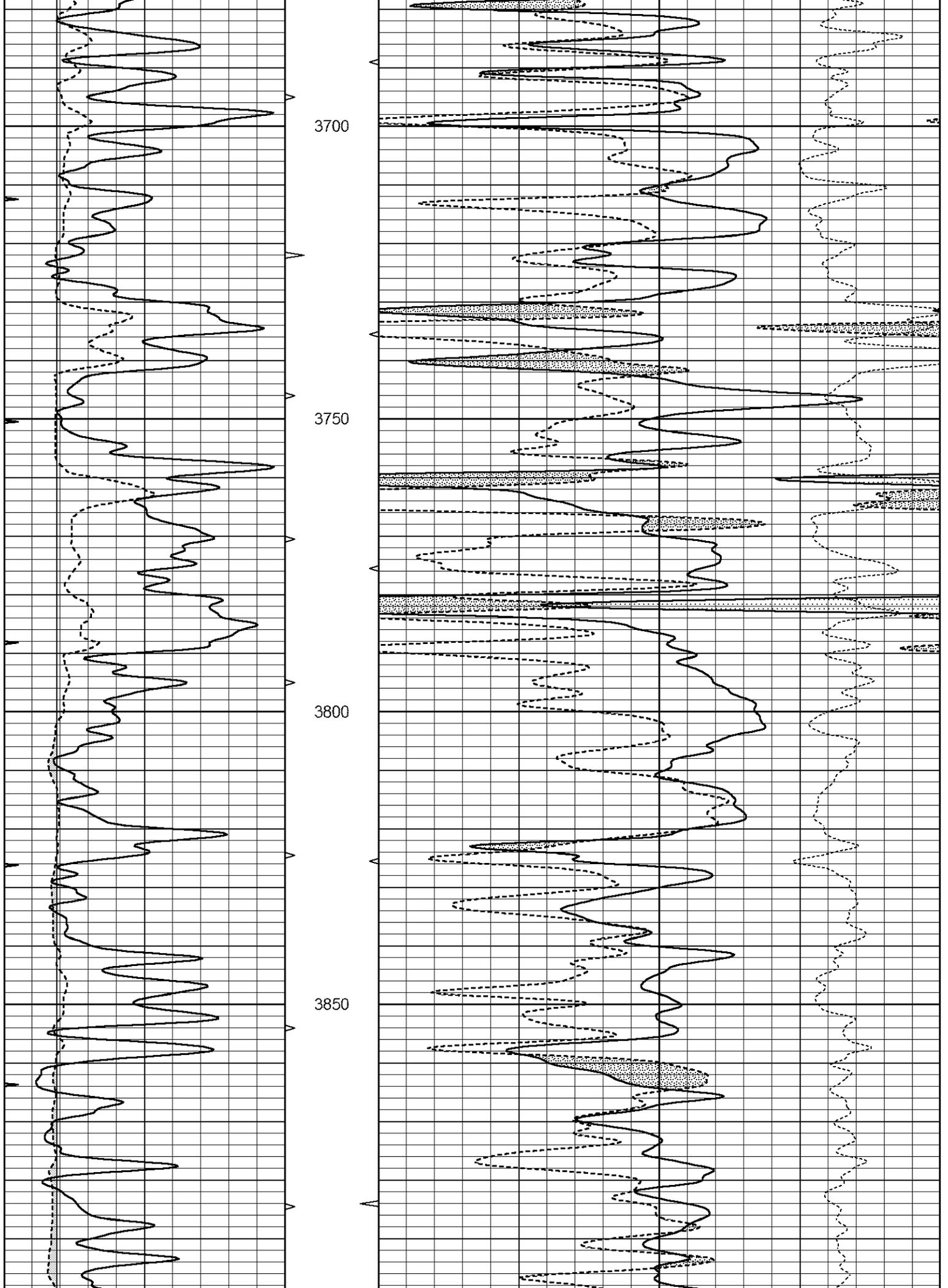


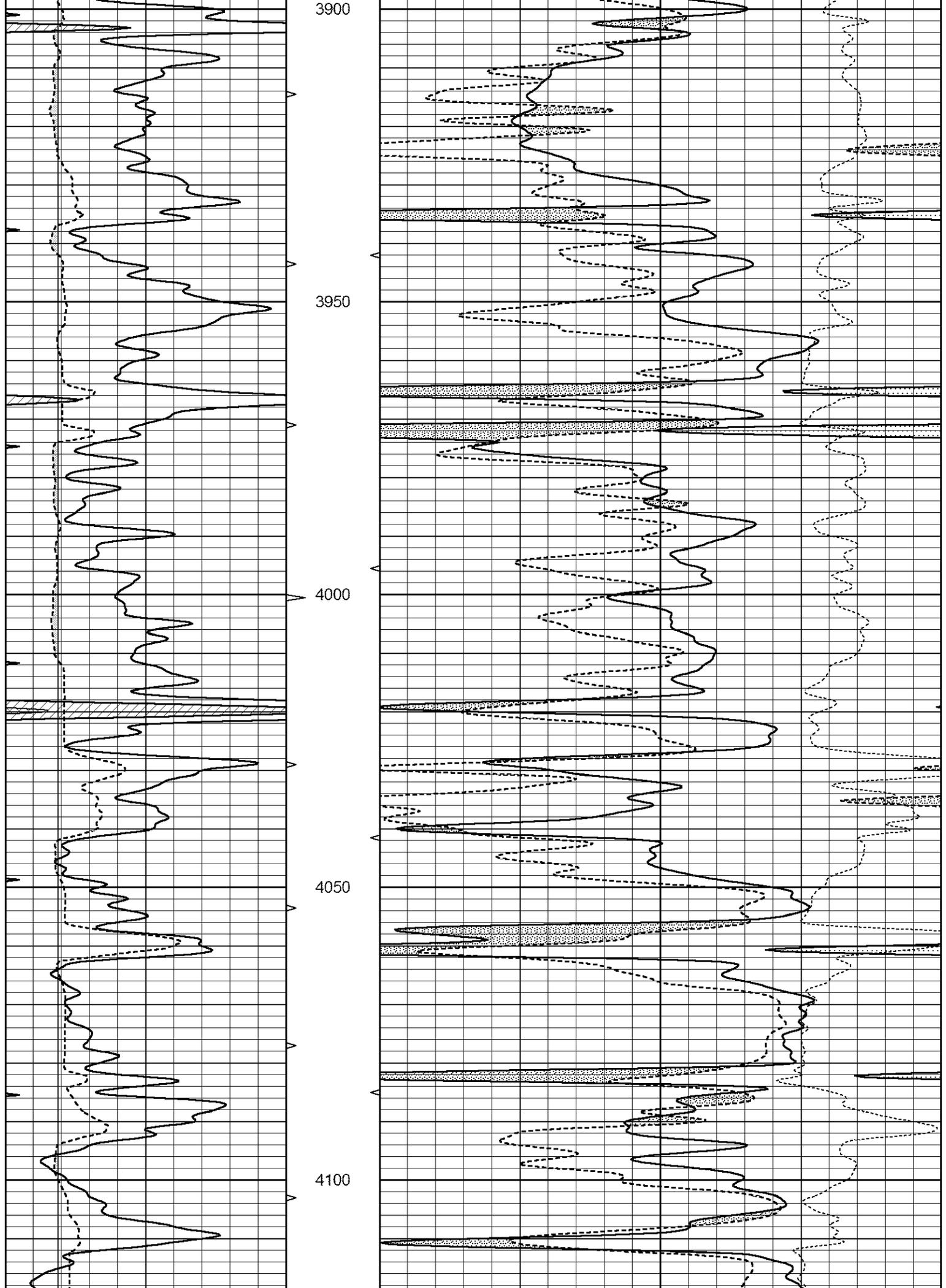
MAIN SECTION

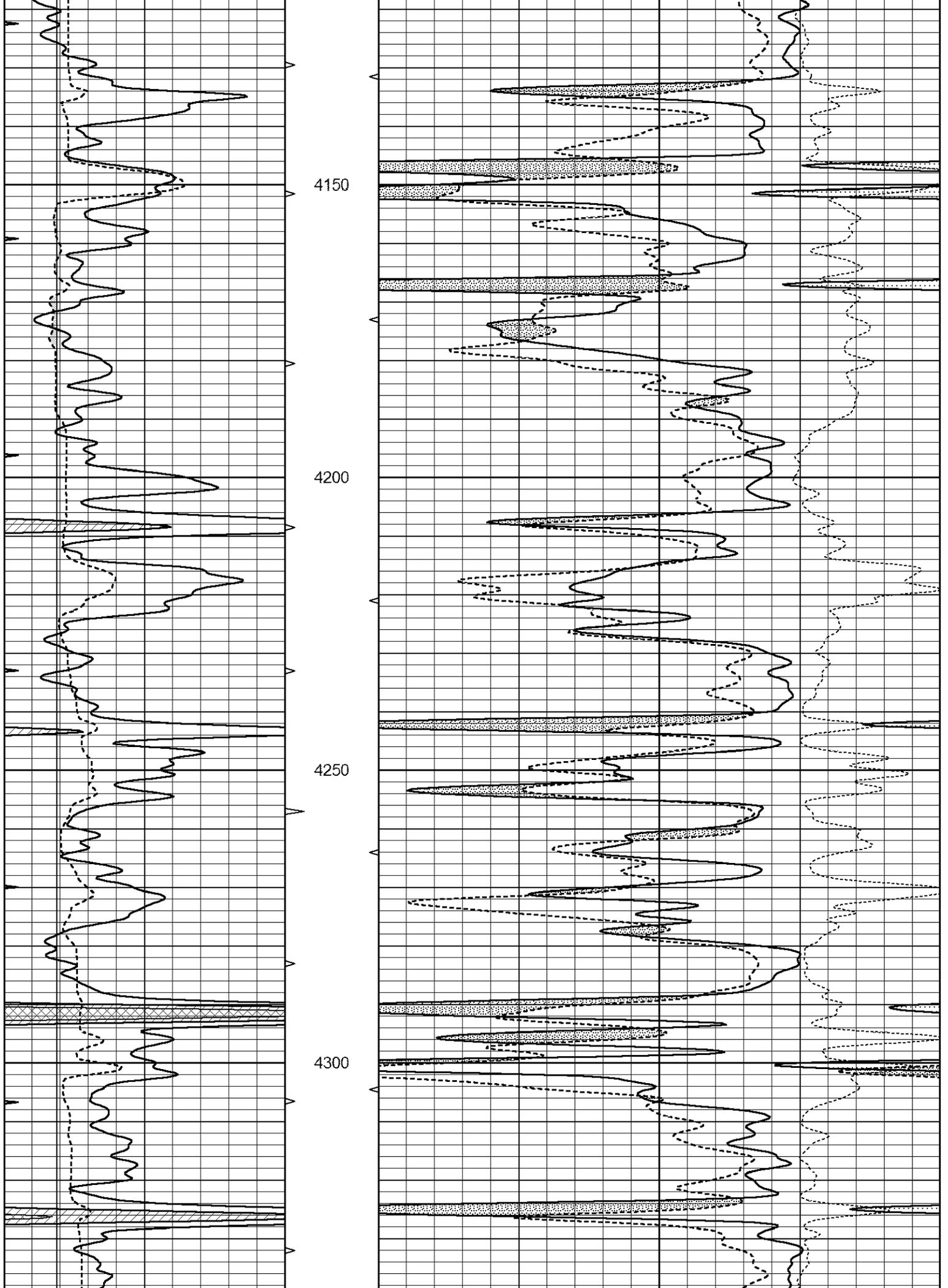
Database File 2520pe8.db
 Dataset Pathname pass3.1
 Presentation Format _den_neu
 Dataset Creation Tue Aug 14 08:51:49 2018
 Charted by Depth in Feet scaled 1:240

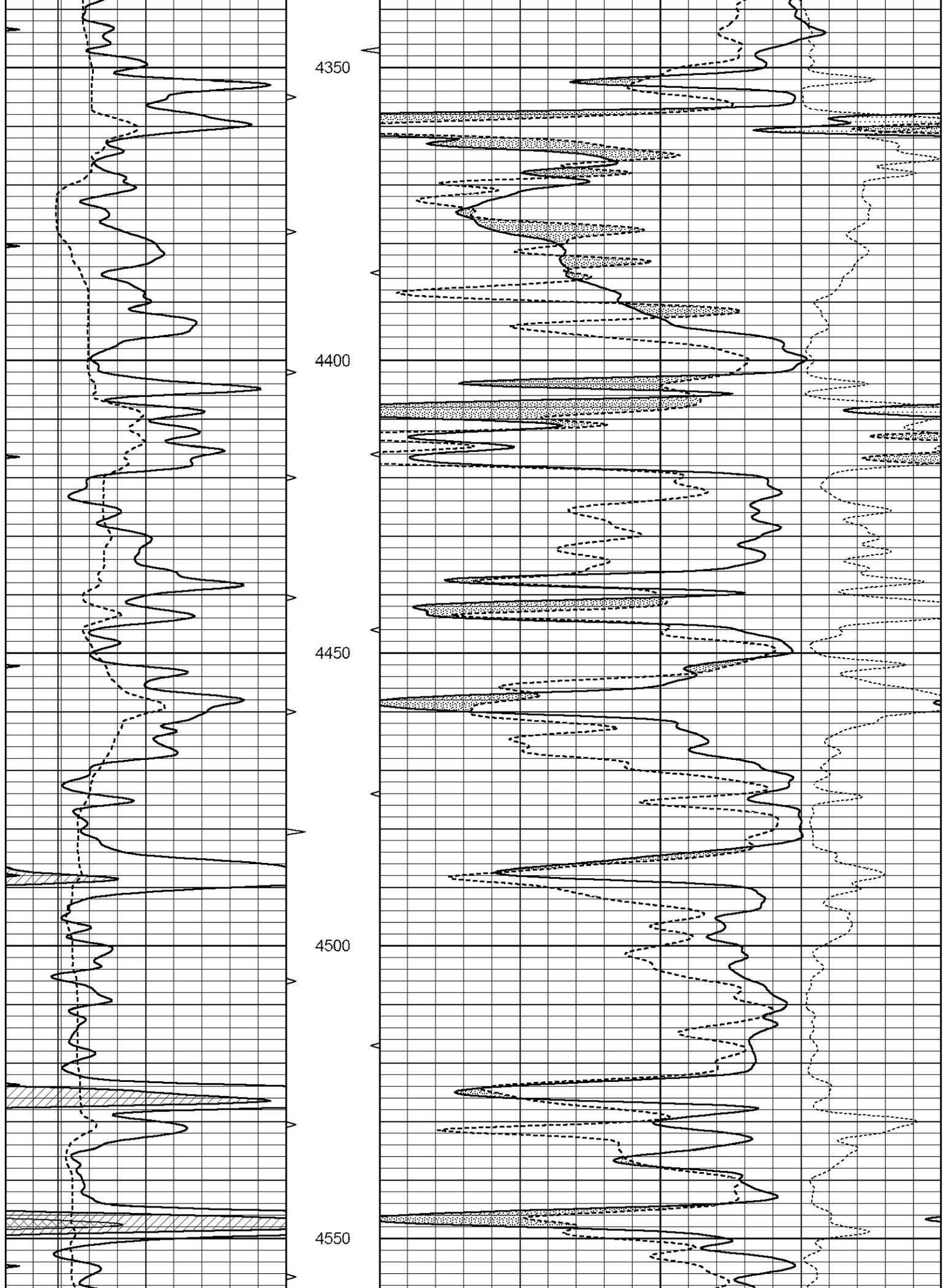
0	GAMMA RAY (GAPI)	150	AVTX	30	COMPENSATED DENSITY (pu)	-10
0	MINMK	20	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
6	CALIPER (in)	16	BVTX		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			

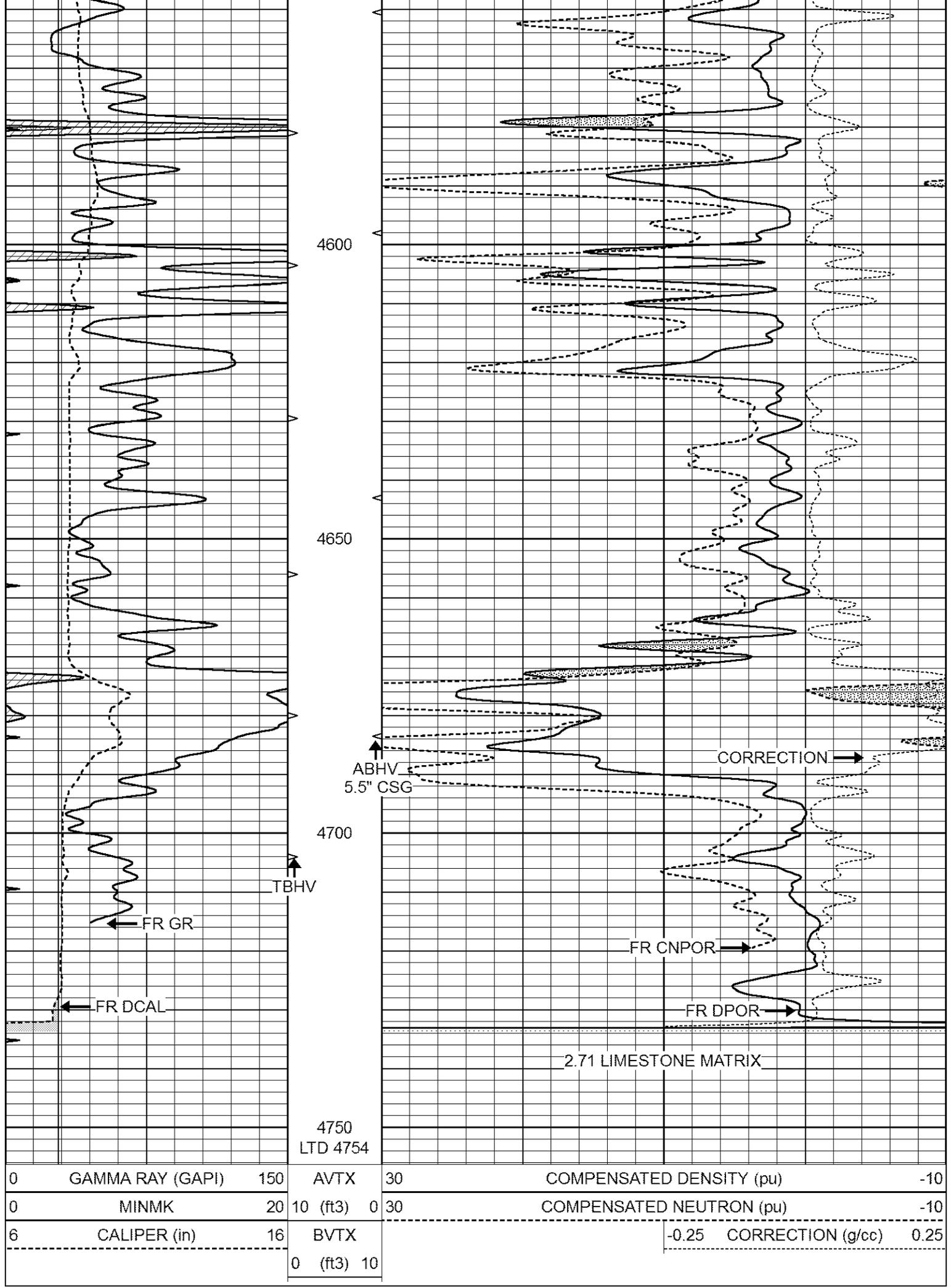












4600

4650

4700

4750

LTD 4754

ABHV
5.5" CSG

TBHV

FR GR

FR DCAL

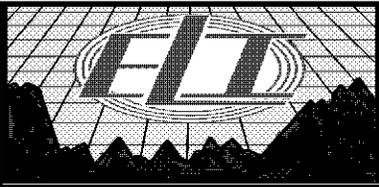
CORRECTION

FR CNPOR

FR DPOR

2.71 LIMESTONE MATRIX

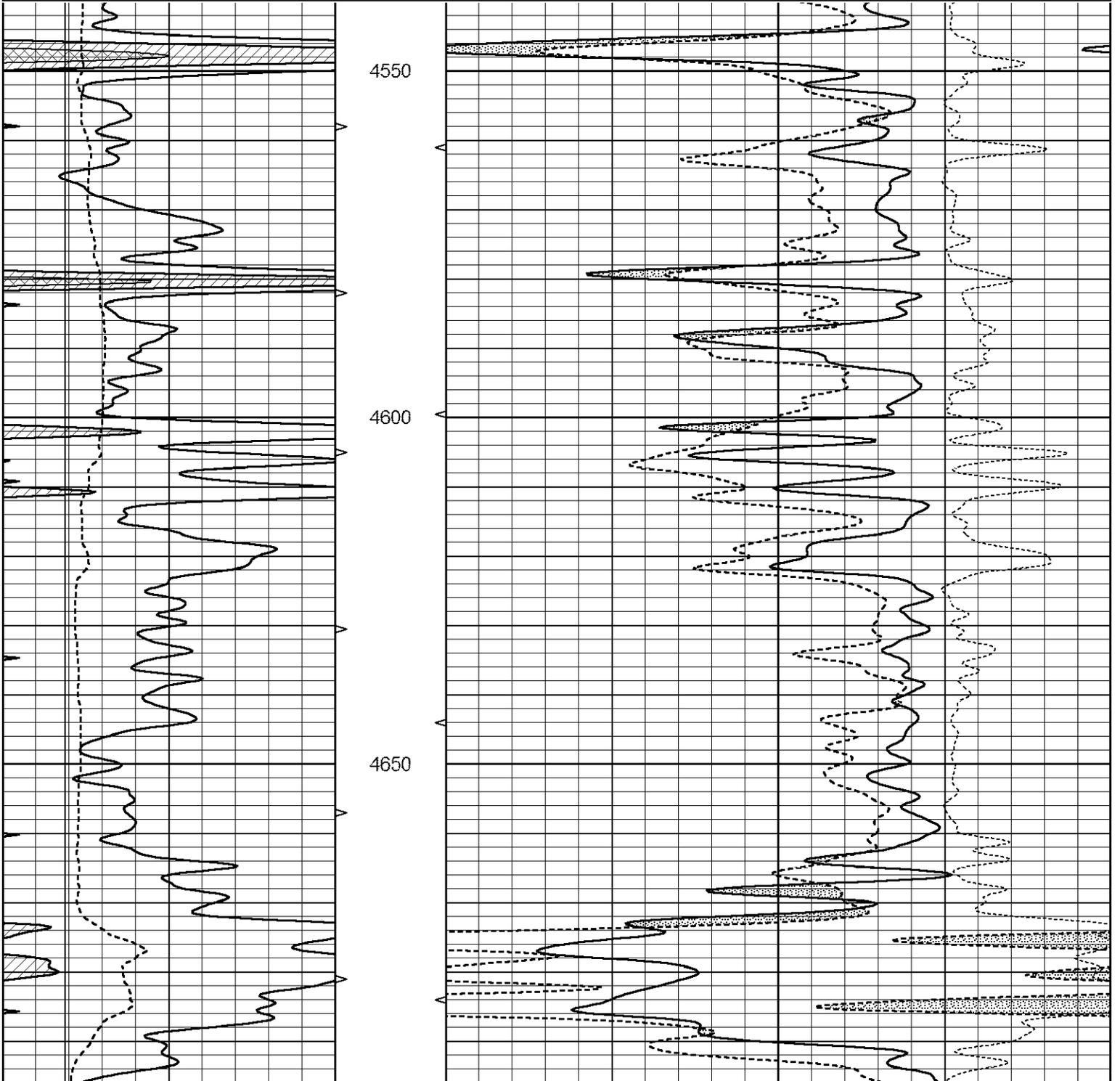
0	GAMMA RAY (GAPI)	150	AVTX	30	COMPENSATED DENSITY (pu)	-10
0	MINMK	20	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
6	CALIPER (in)	16	BVTX		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		

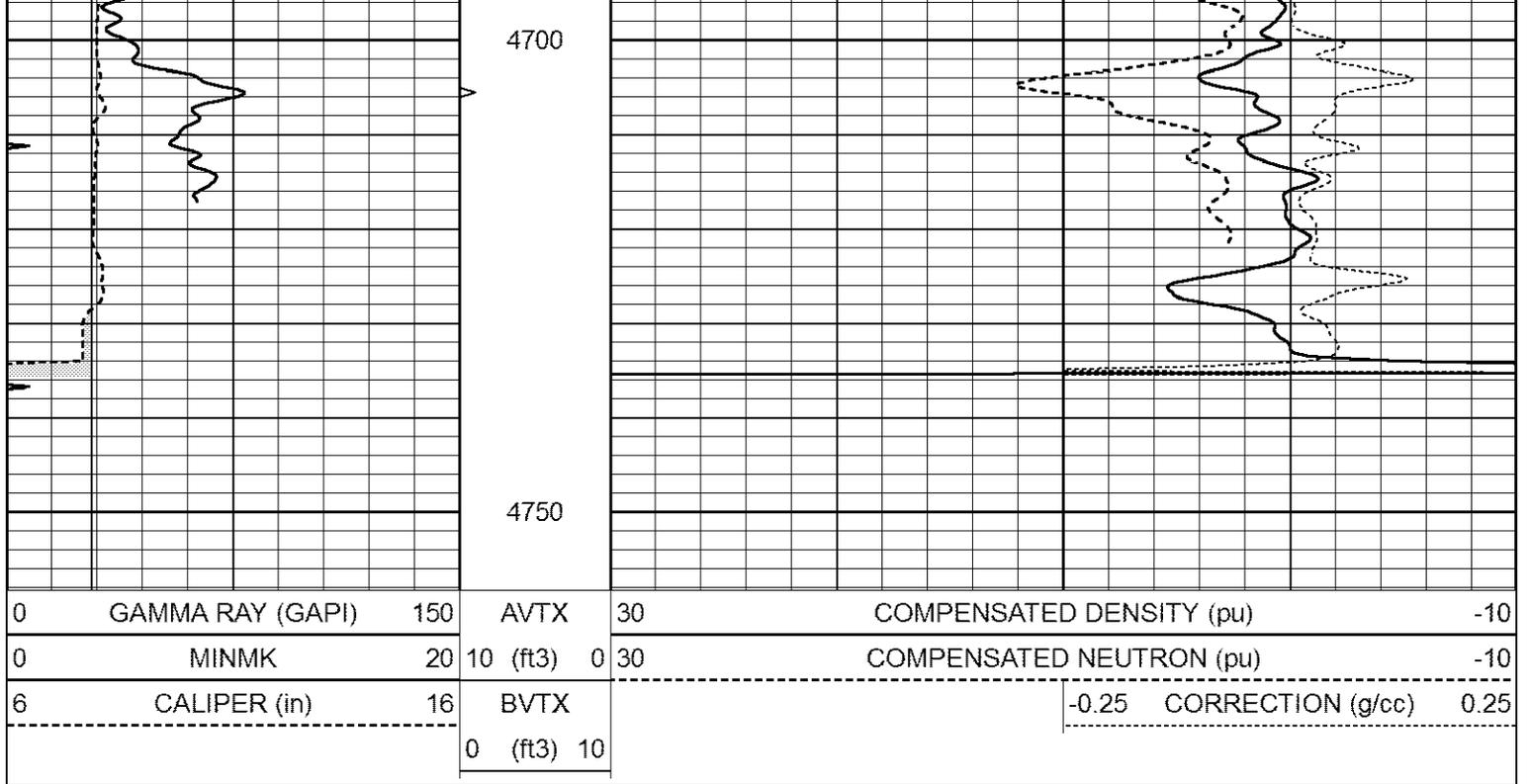


MAIN SECTION

Database File 2520pe8.db
 Dataset Pathname pass2.1
 Presentation Format _den_neu
 Dataset Creation Tue Aug 14 08:32:36 2018
 Charted by Depth in Feet scaled 1:240

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





Calibration Report

Database File 2520pe8.db
 Dataset Pathname pass2.1
 Dataset Creation Tue Aug 14 08:32:36 2018

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
 Surface Cal Performed: Mon May 22 14:23:32 2017
 Downhole Cal Performed: Thu Mar 12 09:29:20 2015
 After Survey Verification Performed: Thu Mar 12 09:29:20 2015

Surface Calibration

Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	618.595	-5.524
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	1.197
Internal:	Zero				Cal		m	
Deep	0.007	0.649	V	0.000	400.000	mmho/m	623.784	-4.595
Medium	0.004	0.743	V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration

	Readings				References		Results	
	Zero	Cal			Zero	Cal	m'	b'
Deep	-0.824	395.917	mmho/m	-0.976	397.550	mmho/m	1.004	-0.149
Medium	3.565	471.327	mmho/m	3.468	471.590	mmho/m	1.001	-0.099
LL3		7.503	V		1500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		
		-7.481	V		3745.000	mmho-m		

After Survey Verification

	Readings				Targets		Results	
	Zero	Cal			Zero	Cal	m'	b'

Deep	0.000	0.000	mmho/m	-0.824	395.917	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	3.565	471.327	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1500.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		3745.000	mmho-m		

Compensated Neutron Calibration Report

Serial Number: 080621PMC
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: 7
Tool Model: Probe1
Performed: Wed Jun 29 11:10:58 2016

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.4300 GAPI/cps