



**SUPERIOR**  
Hays,  
Kansas

**COMPENSATED**  
DENSITY / NEUTRON  
PE LOG

Company OIL PRODUCERS INC. OF KANSAS  
Well HAWES RANCH #1B-14  
Field WILDCAT  
County FORD  
State KANSAS

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Well HAWES RANCH #1B-14  
Field WILDCAT  
County FORD State KANSAS

Location: API # : 15-057-20837-0000  
2309' FSL & 901' FWL  
SEC 14 TWP 28S RGE 23W  
Permanent Datum GROUND LEVEL Elevation 2423  
Log Measured From KELLY BUSHING 12' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
DIL/MEL  
SONIC  
Elevation  
K.B. 2435  
D.F. 2433  
G.L. 2423

Date	8/31/12		
Run Number	ONE		
Depth Driller	5276		
Depth Logger	5256		
Bottom Logged Interval	5232		
Top Log Interval	4100		
Casing Driller	8 5/8" @ 742'		
Casing Logger	742		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8,000 PPM	
Density / Viscosity	9.0/47		
pH / Fluid Loss	9.0/11.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.450 @ 95F		
Rmt @ Meas. Temp	.338 @ 95F		
Rmc @ Meas. Temp	.540 @ 95F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.338 @ 127F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	2:30 P.M.		
Maximum Recorded Temperature	127F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	PAUL GERLACH		

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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 SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
FORD, KS., 2W. ON "SADDLE RD.", 2S., 1W., 1/2S., E. INTO

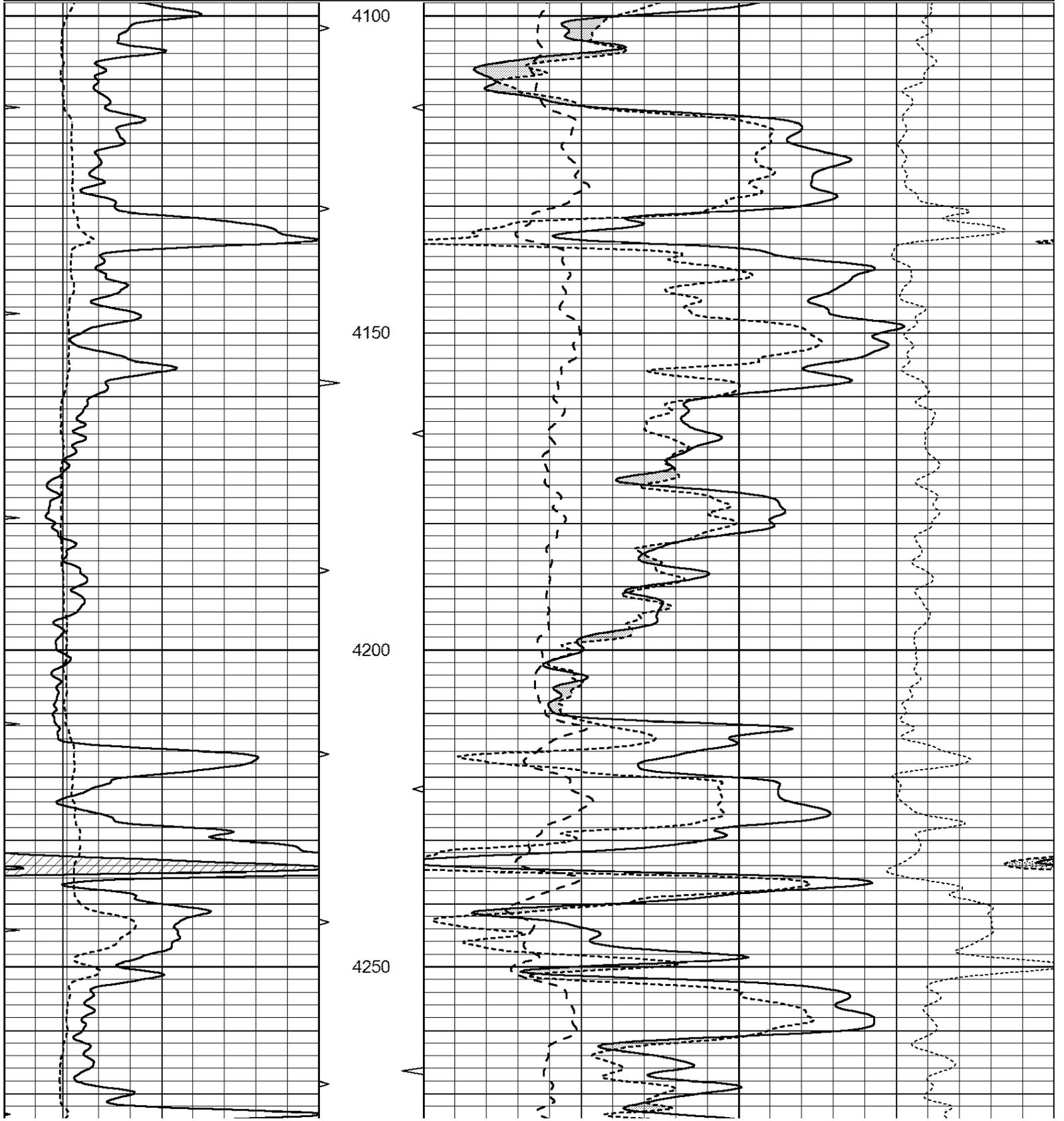


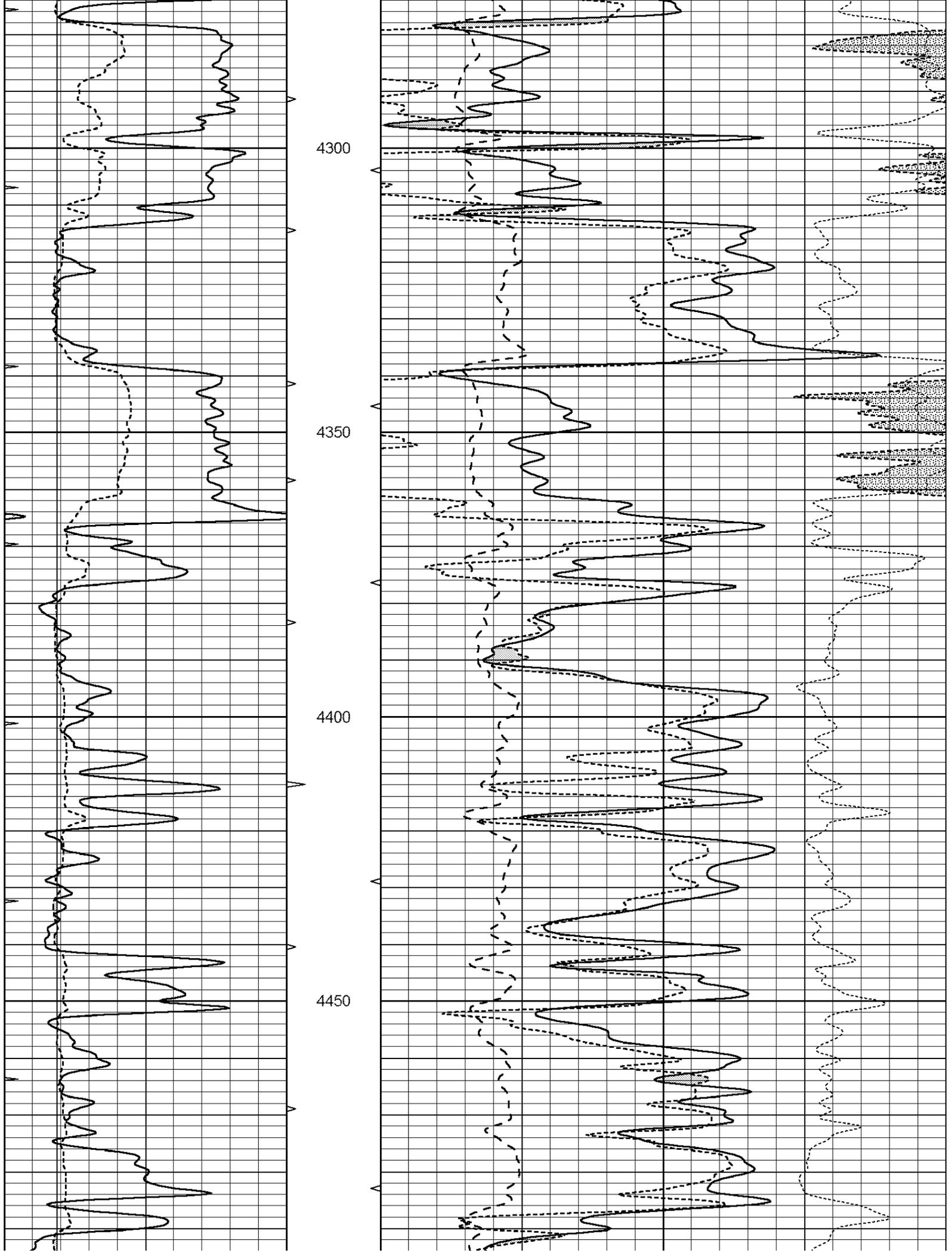
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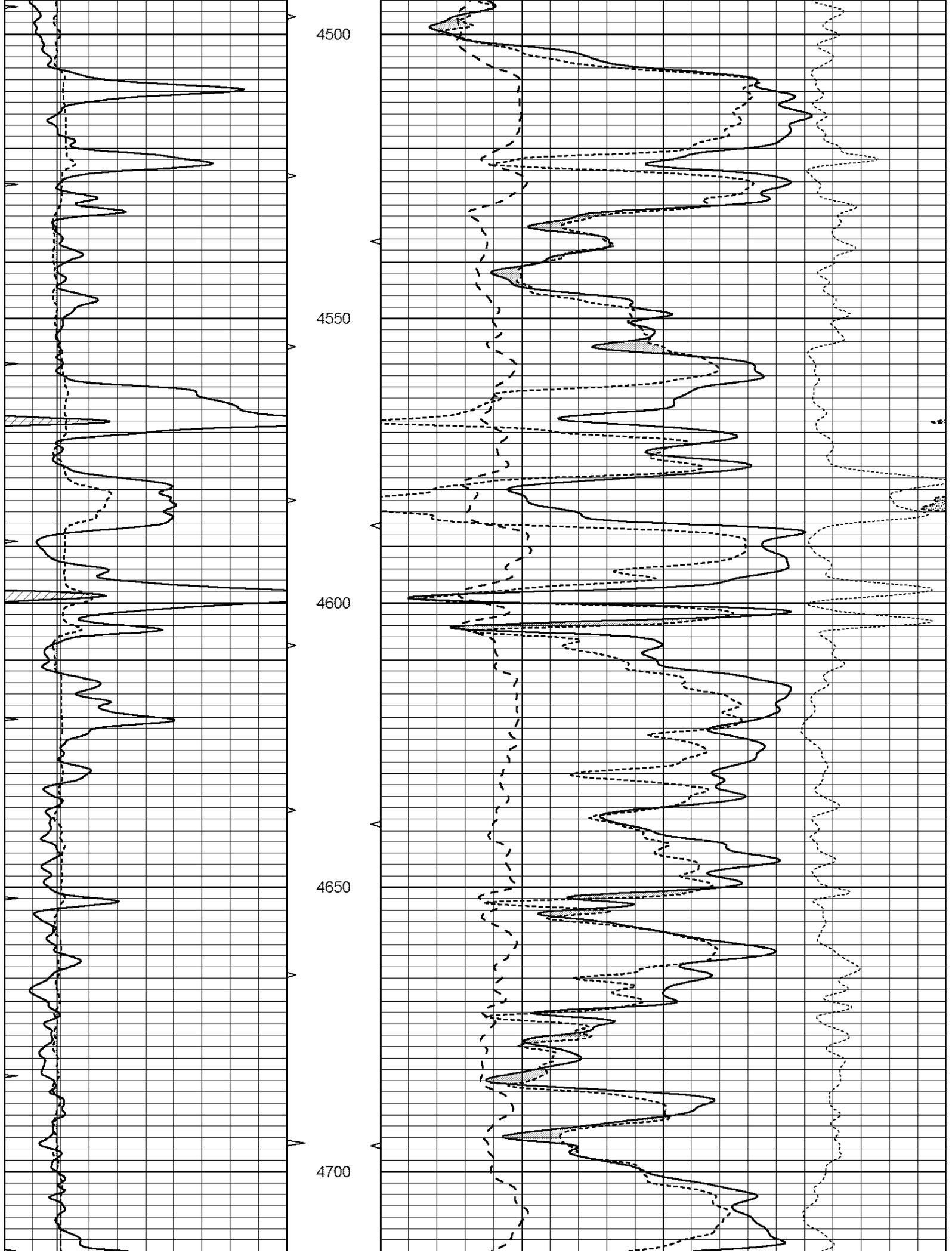
**MAIN SECTION**

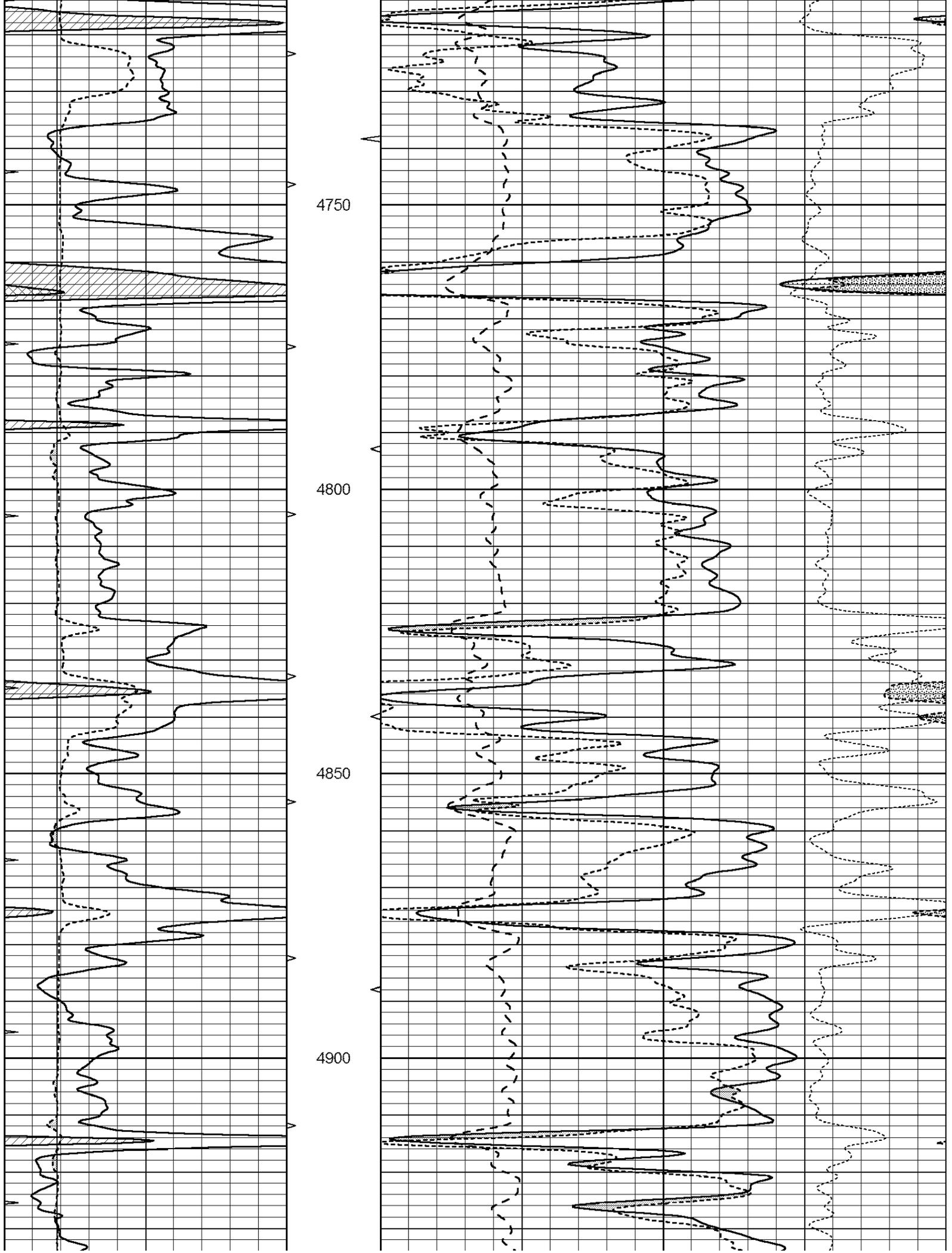
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 Dataset Pathname: pass3.3  
 Presentation Format: ldt\_neu  
 Dataset Creation: Fri Aug 31 17:01:04 2012 by Calc Open-Cased 110302  
 Charted by: Depth in Feet scaled 1:240

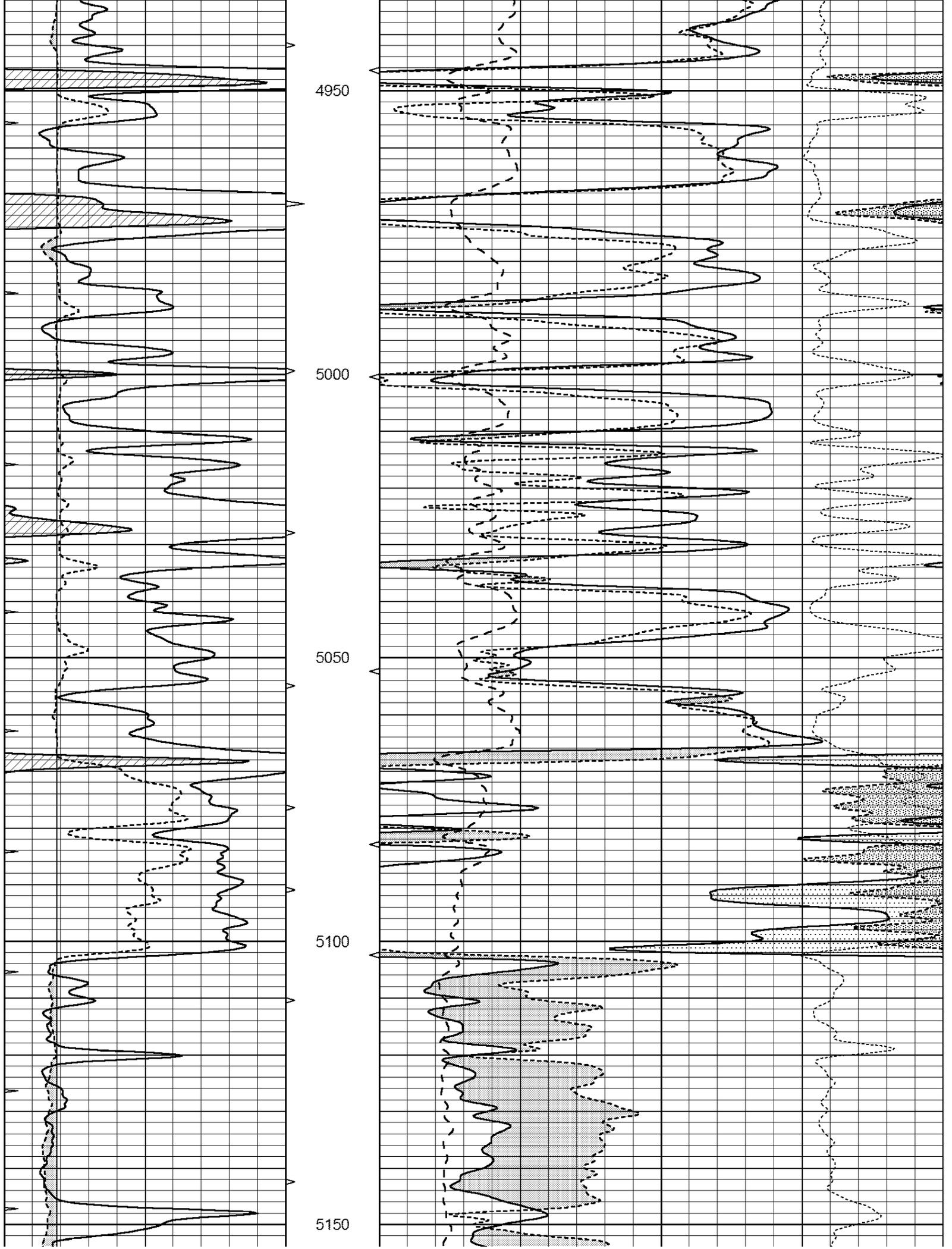
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10			

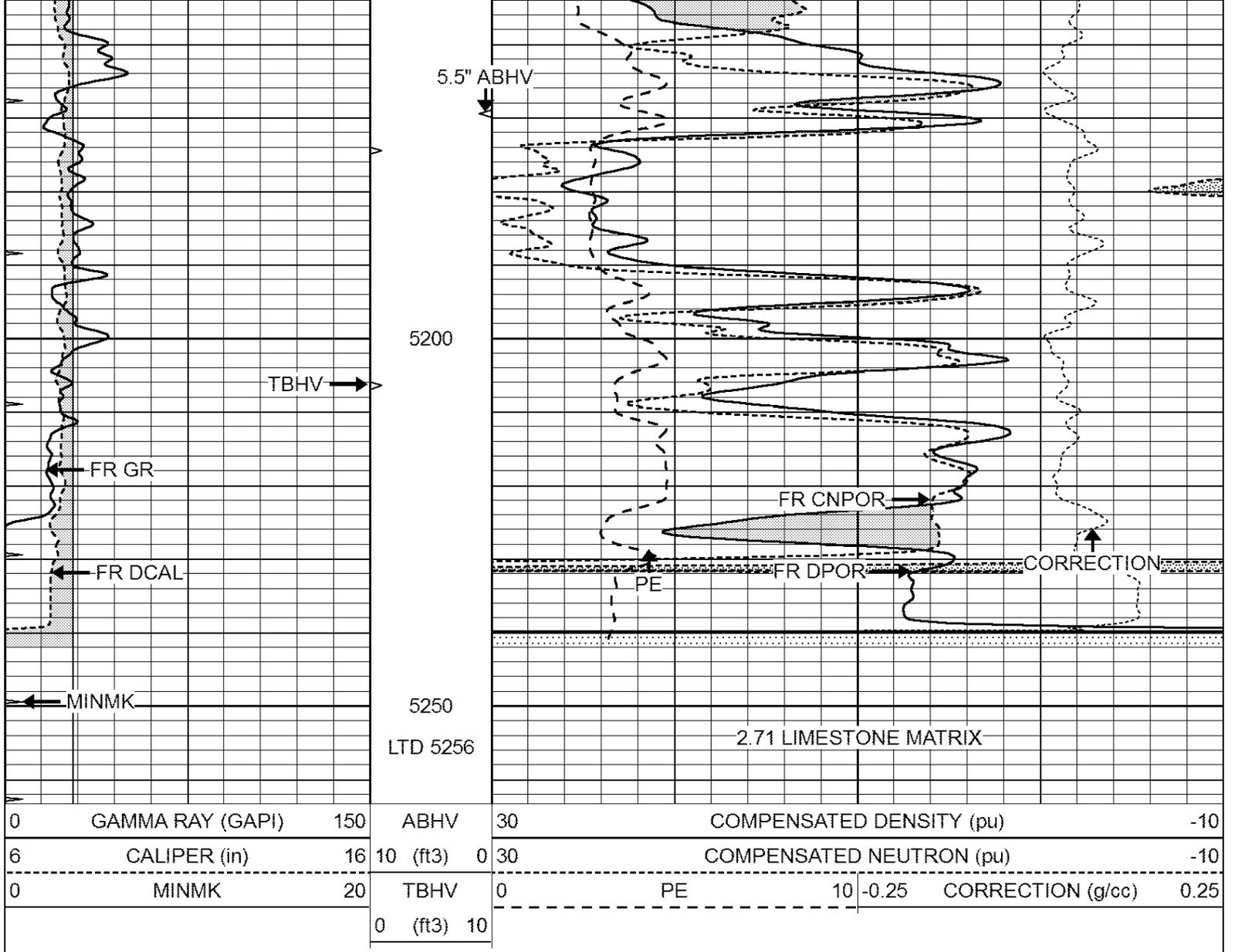










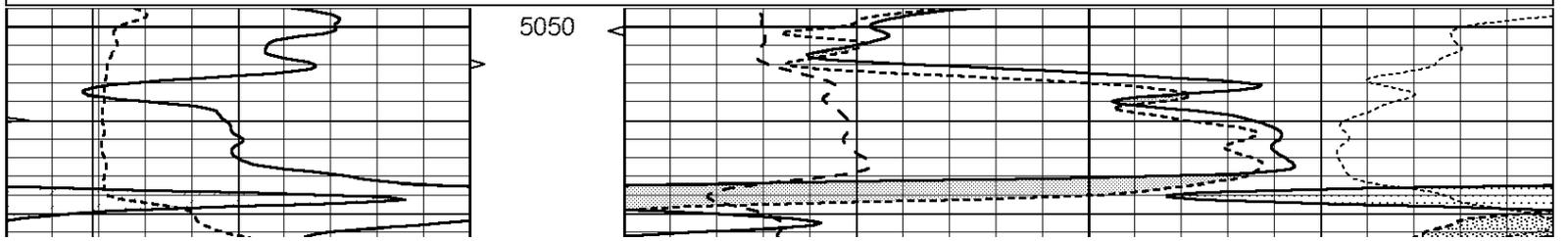


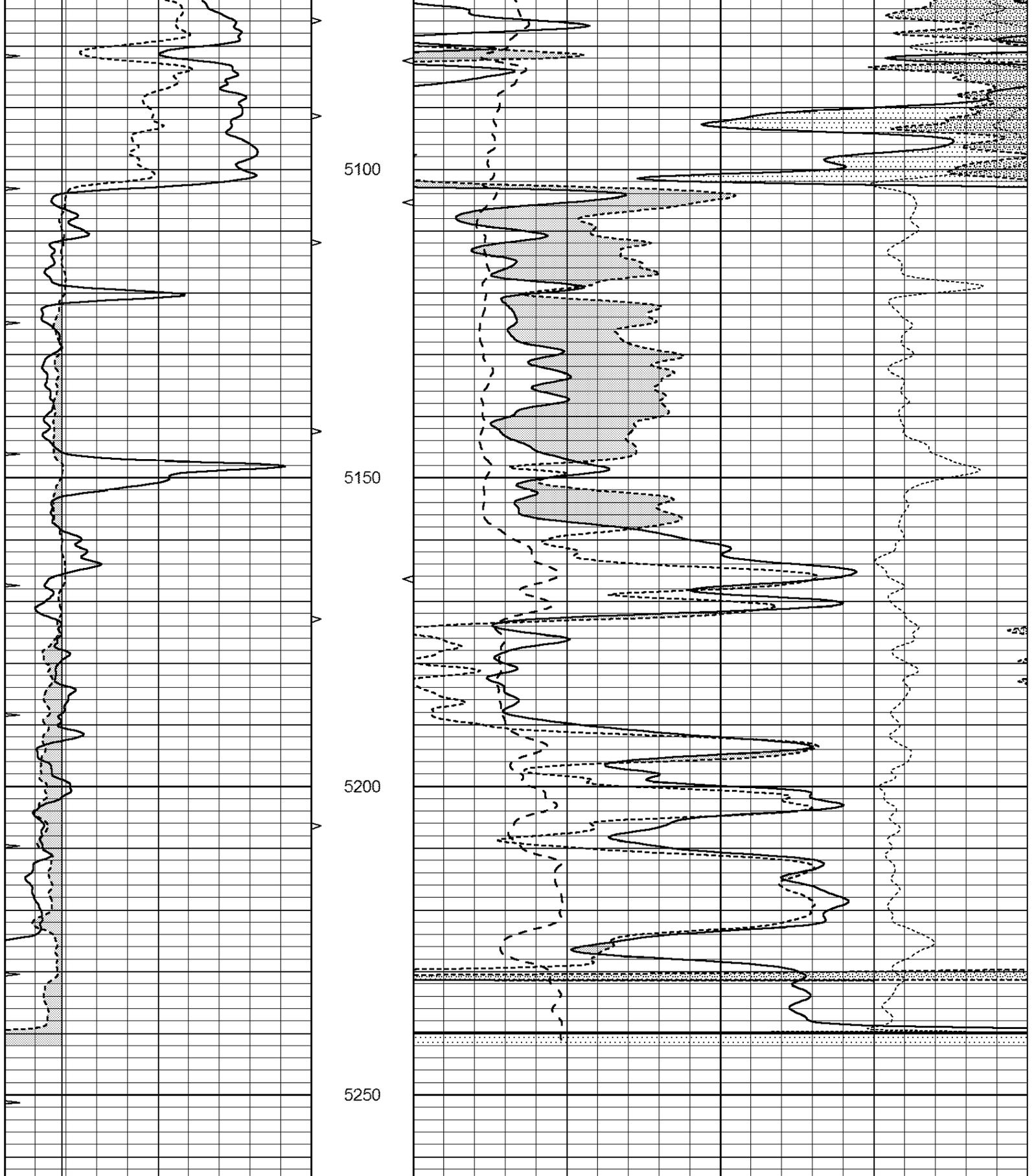
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# REPEAT SECTION

Database File: 409515pe.db  
 Dataset Pathname: pass2.3  
 Presentation Format: ldt\_neu  
 Dataset Creation: Fri Aug 31 17:14:53 2012 by Calc Open-Cased 110302  
 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					





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
			0 (ft3) 10			CORRECTION (g/cc) 0.25

Database File: 409515pe.db  
 Dataset Pathname: pass3.3  
 Dataset Creation: Fri Aug 31 17:01:04 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR  
 Performed: Thu Aug 23 03:54:36 2012

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	15.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-6.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555

Litho Density Calibration Report  
 Serial: 006 Model: PRB  
 Performed Sun Aug 15 09:48:41 2010

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1686.6	11612.8	3932.0	12718.8	cps
Window 2	1531.4	9204.7	3267.8	9851.9	cps
Window 3	1198.3	4733.6	1952.5	4920.6	cps
Window 4	317.3	321.2	325.9	303.6	cps
Long Space	0.0	7673.3	1736.4	8320.4	cps
Short Space	1.7	2548.5	1657.2	2628.8	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 43.8	Rib Slope	: 0.961	Density/Spine Ratio	: 0.569
Spine Angle	: 73.8	Spine Slope	: 3.453	Spine Intercept	: -18.1

Caliper

	Readings	Reference
Low Ref	3.5	7.2
High Ref	5.5	15.0
	Gain: 4.0	Offset: -7.1

Compensated Neutron Calibration Report

Serial Number: 070808  
 Tool Model: Probe

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: 070559  
Tool Model: OPEN\_GR  
Performed: Thu Jul 26 17:34:29 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps