



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company LOTUS OPERATING COMPANY, LLC.
Well #1 ACHENBACH "B"
Field STRANATHAN / HARDTNER
County BARBER
State KANSAS

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County BARBER State KANSAS

Location: API # : 15-007-24230-0000
NE - NE - NW
Other Services
DIL/MEL
SON/FF
Elevation
Permanent Datum GROUND LEVEL Elevation 1477
Log Measured From KELLY BUSHING 13' A.G.L.
Drilling Measured From KELLY BUSHING

Date	9/30/14		
Run Number	ONE		
Depth Driller	5547		
Depth Logger	5547		
Bottom Logged Interval	5523		
Top Log Interval	3800		
Casing Driller	10 3/4"@300'		
Casing Logger	300		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,000 PPM	
Density / Viscosity	9.4/42		
pH / Fluid Loss	11.0/9.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.650@80F		
Rmf @ Meas. Temp	.488@80F		
Rmc @ Meas. Temp	.780@80F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.400@130F		
Time Circulation Stopped	6 HOURS		
Time Logger on Bottom	11:00 P.M.		
Maximum Recorded Temperature	130F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	TIM HELLMAN		

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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

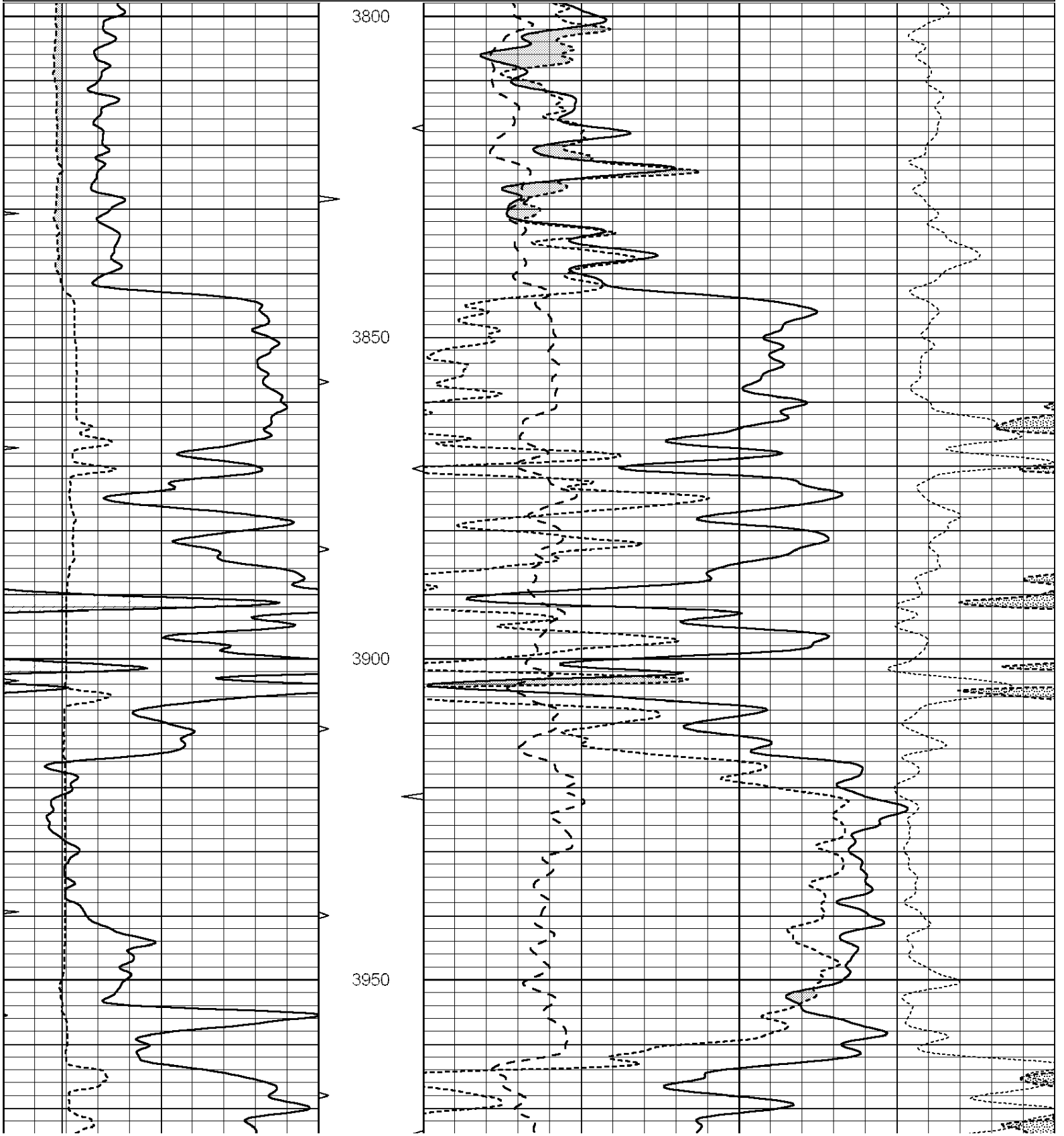
THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS
HARDTNER, KS., 3W. ON BLKTOP JUST PAST "GYP HILL RD.", N. INTO PAST FARM HOUSE, FOLLOW TRAIL 1/2 MILE, W. & N.

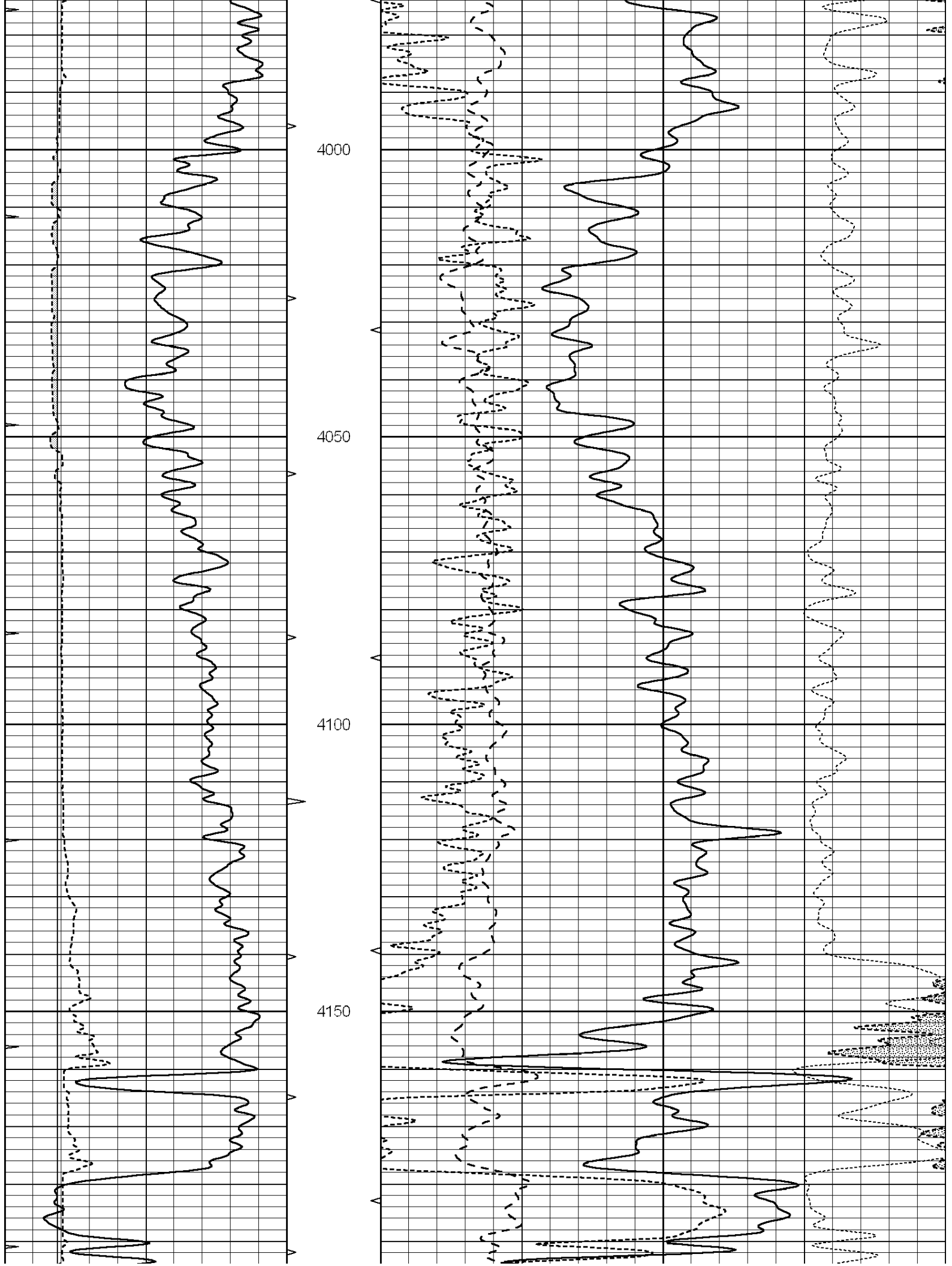


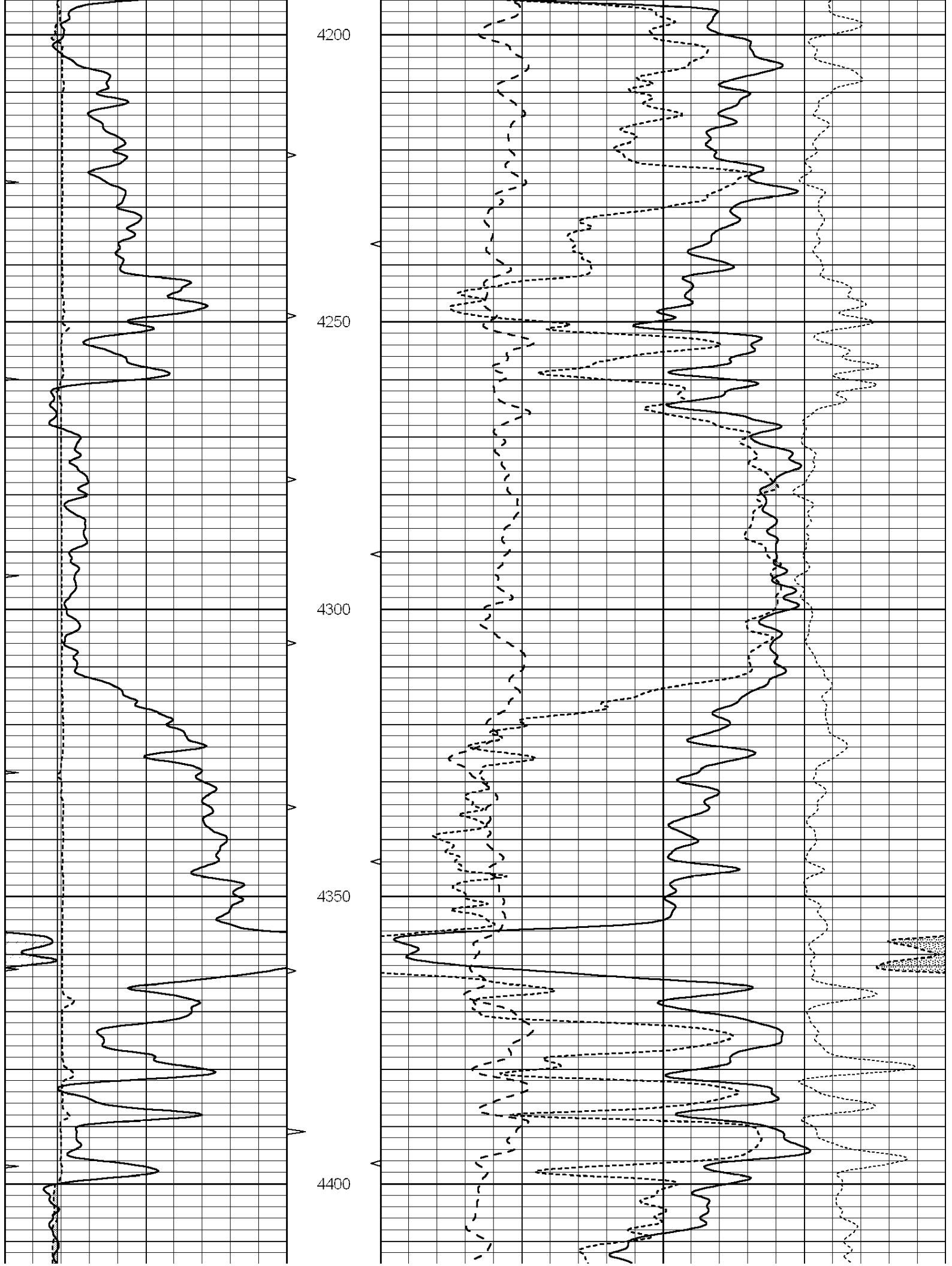
MAIN SECTION

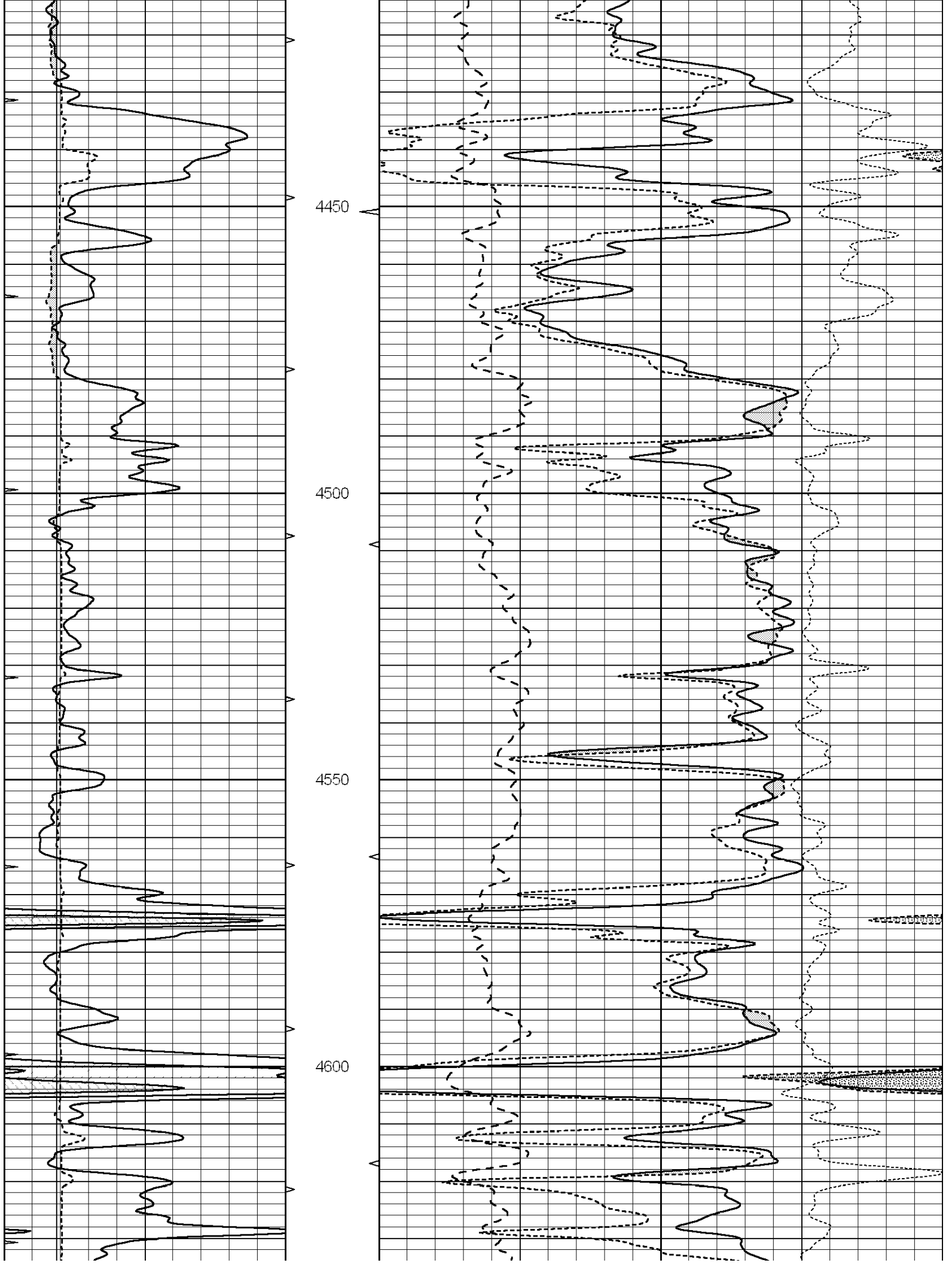
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 Dataset Pathname: pass4.11
 Presentation Format: ldt_neu
 Dataset Creation: Wed Oct 01 03:28:56 2014
 Charted by: Depth in Feet scaled 1:240

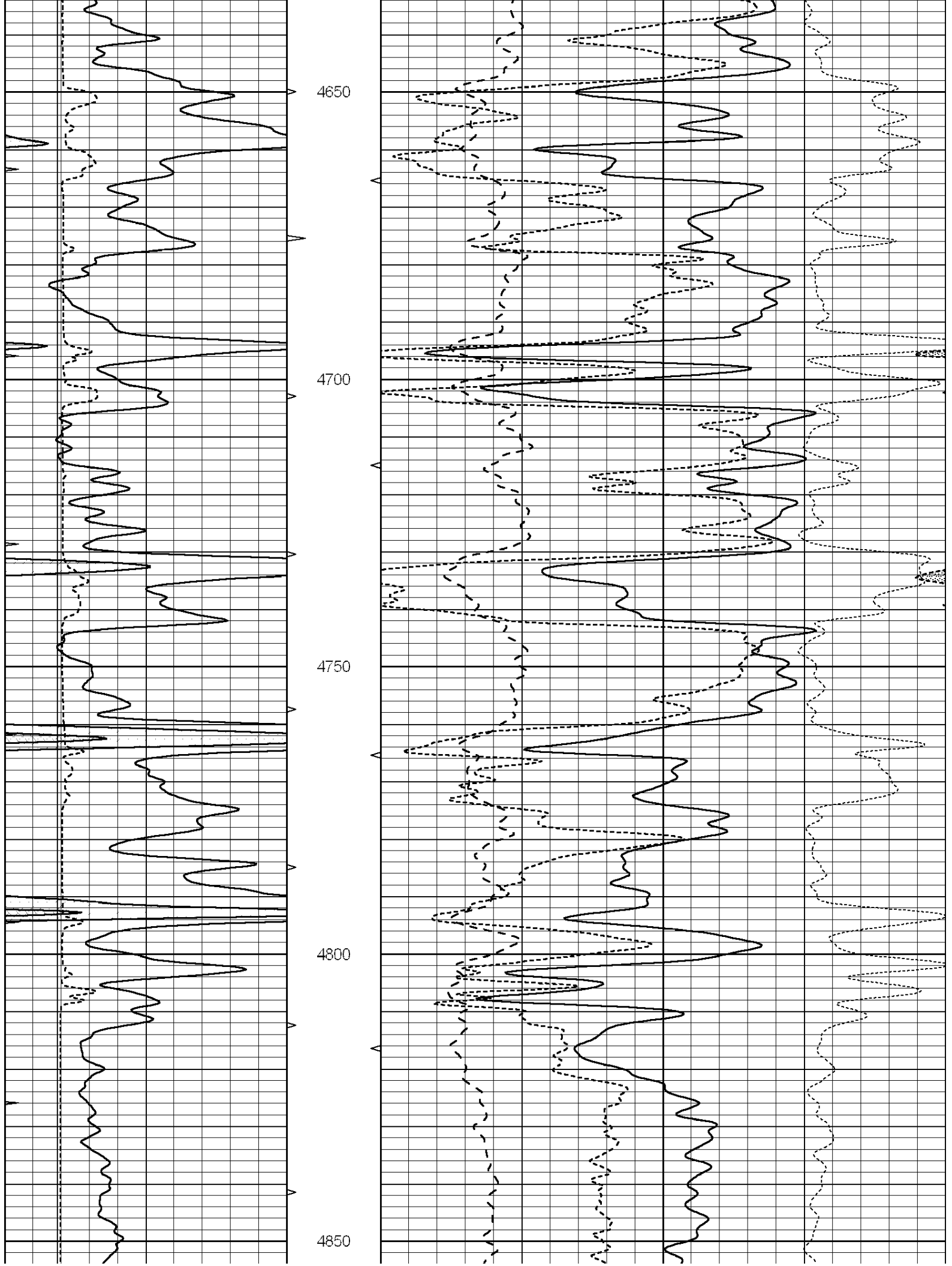
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
0	MINMK	20	10 (ft3)	0	COMPENSATED NEUTRON (pu)		-10
6	CALIPER (in)	16	TBHV	0	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10			

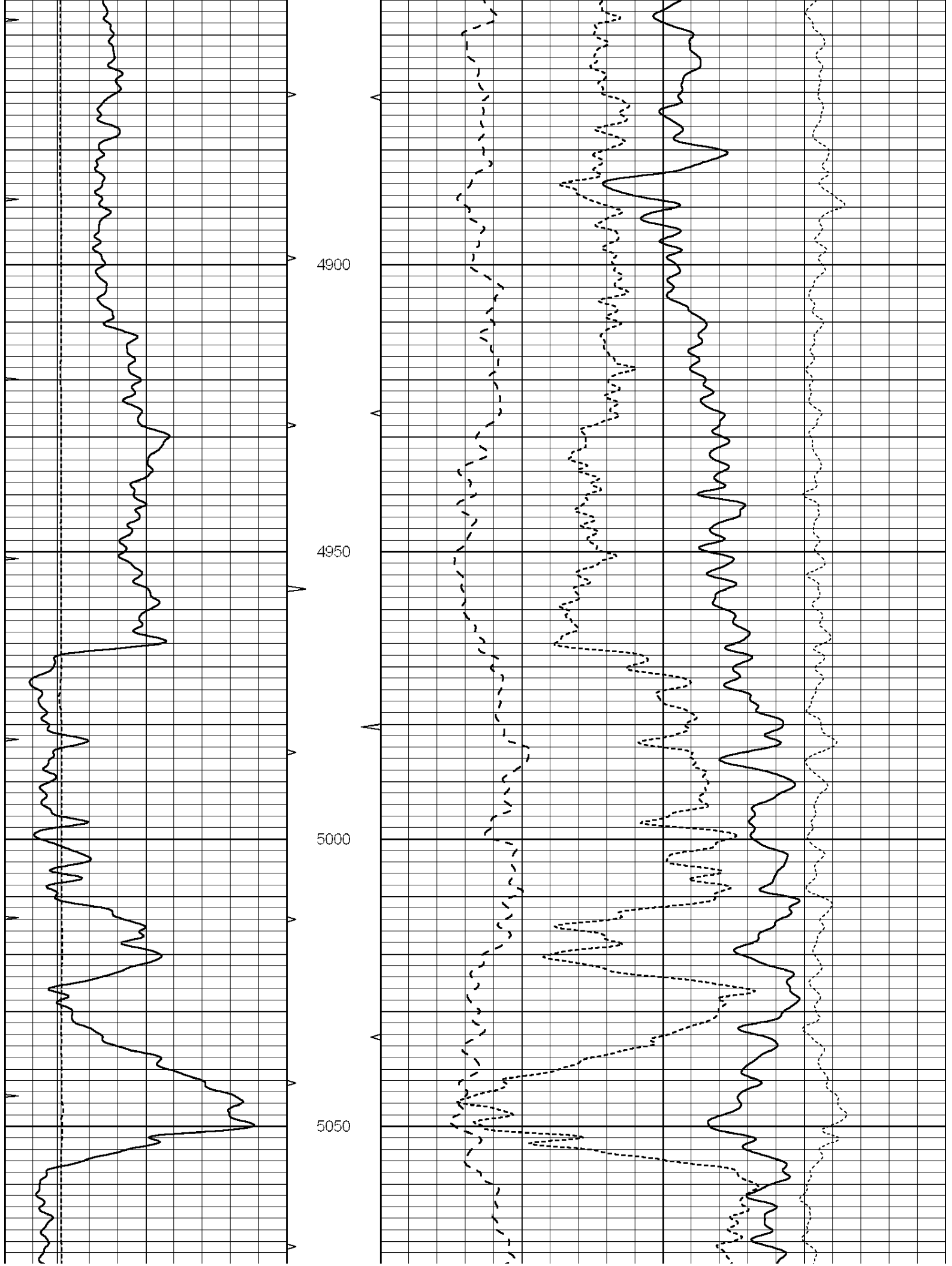


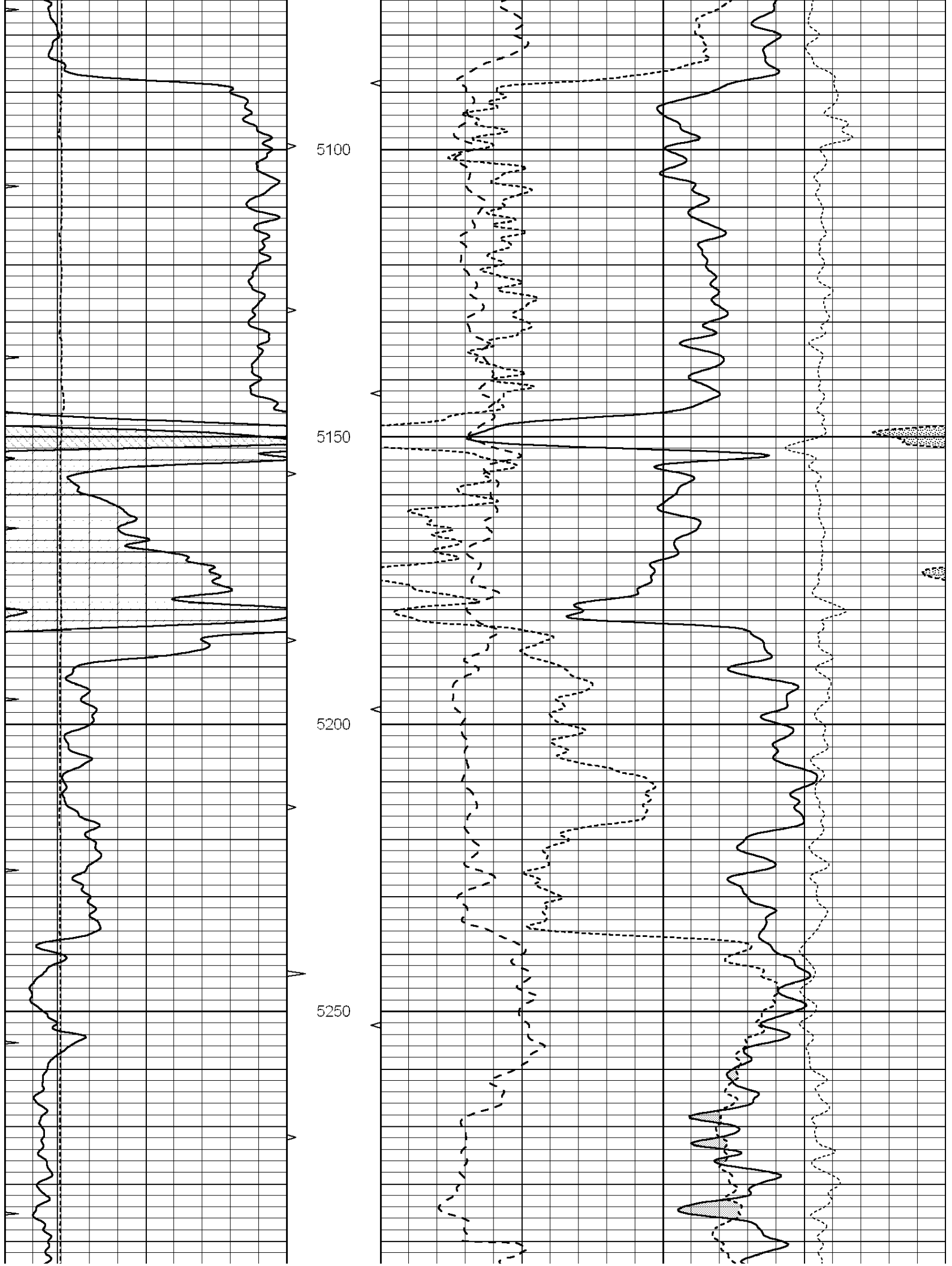


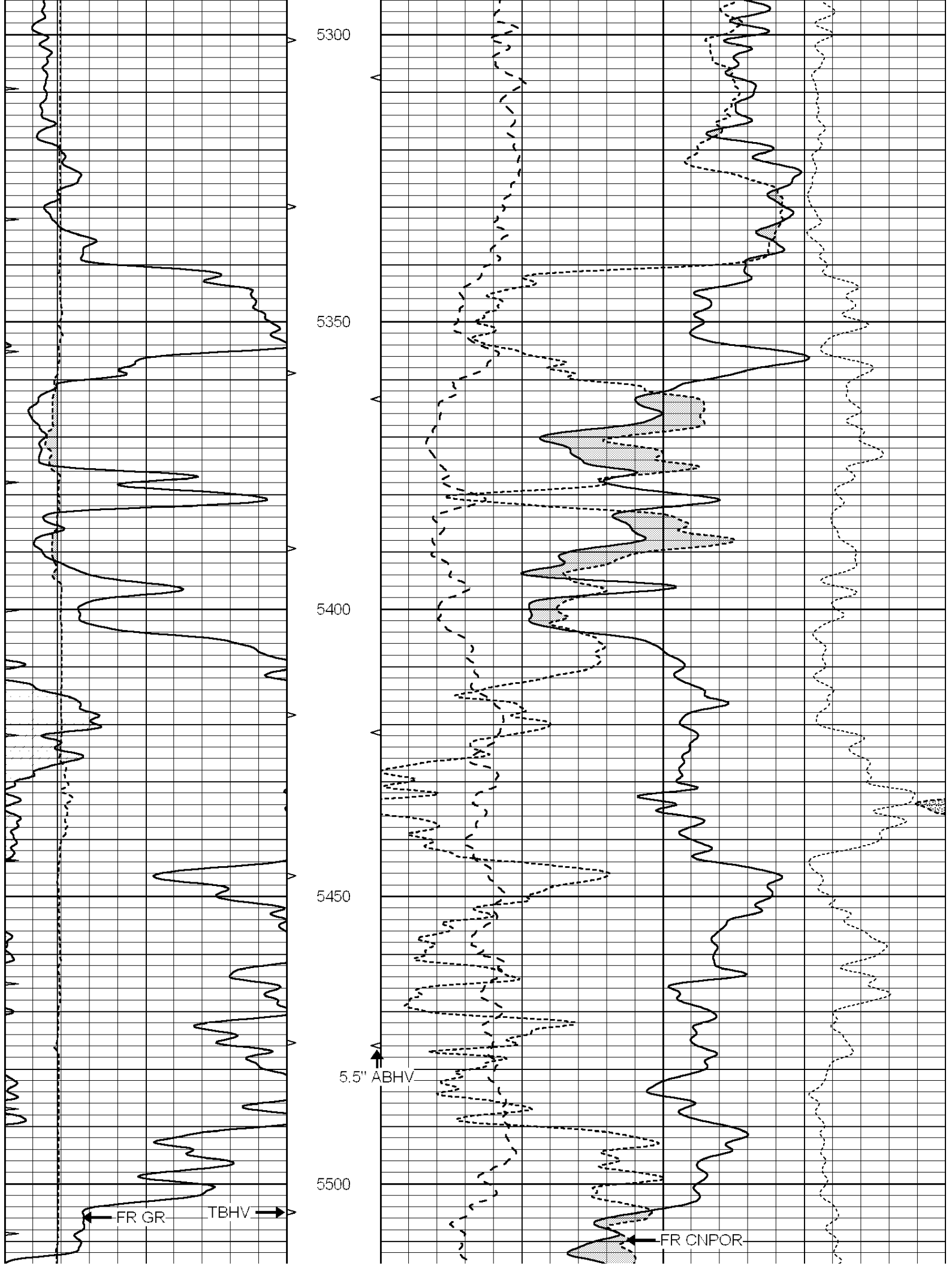


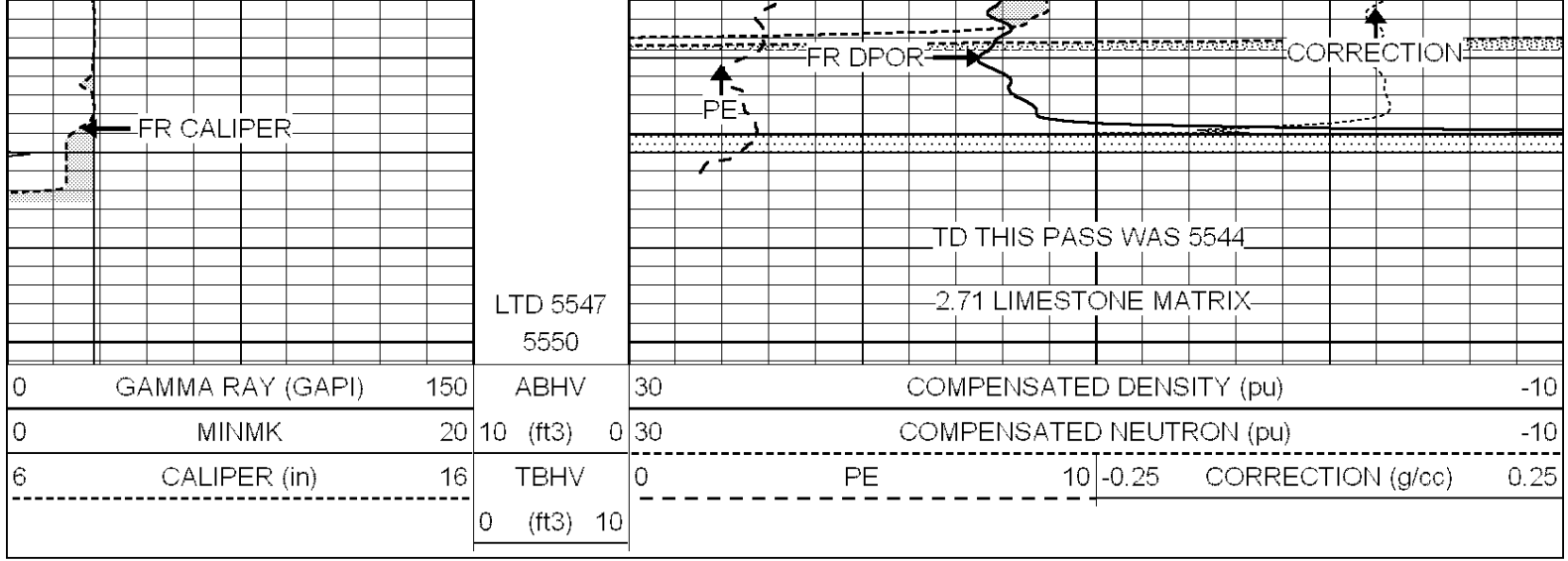








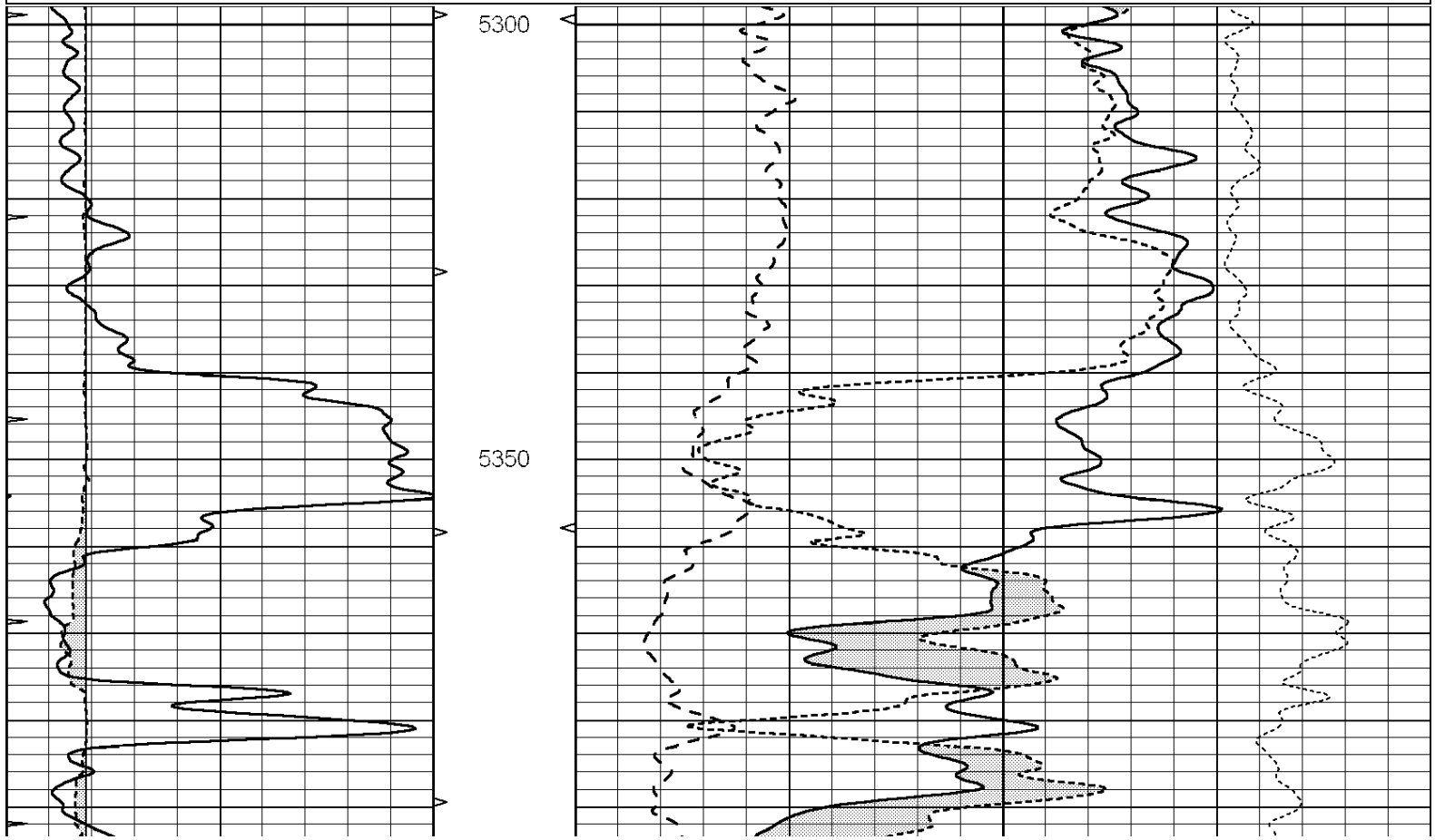


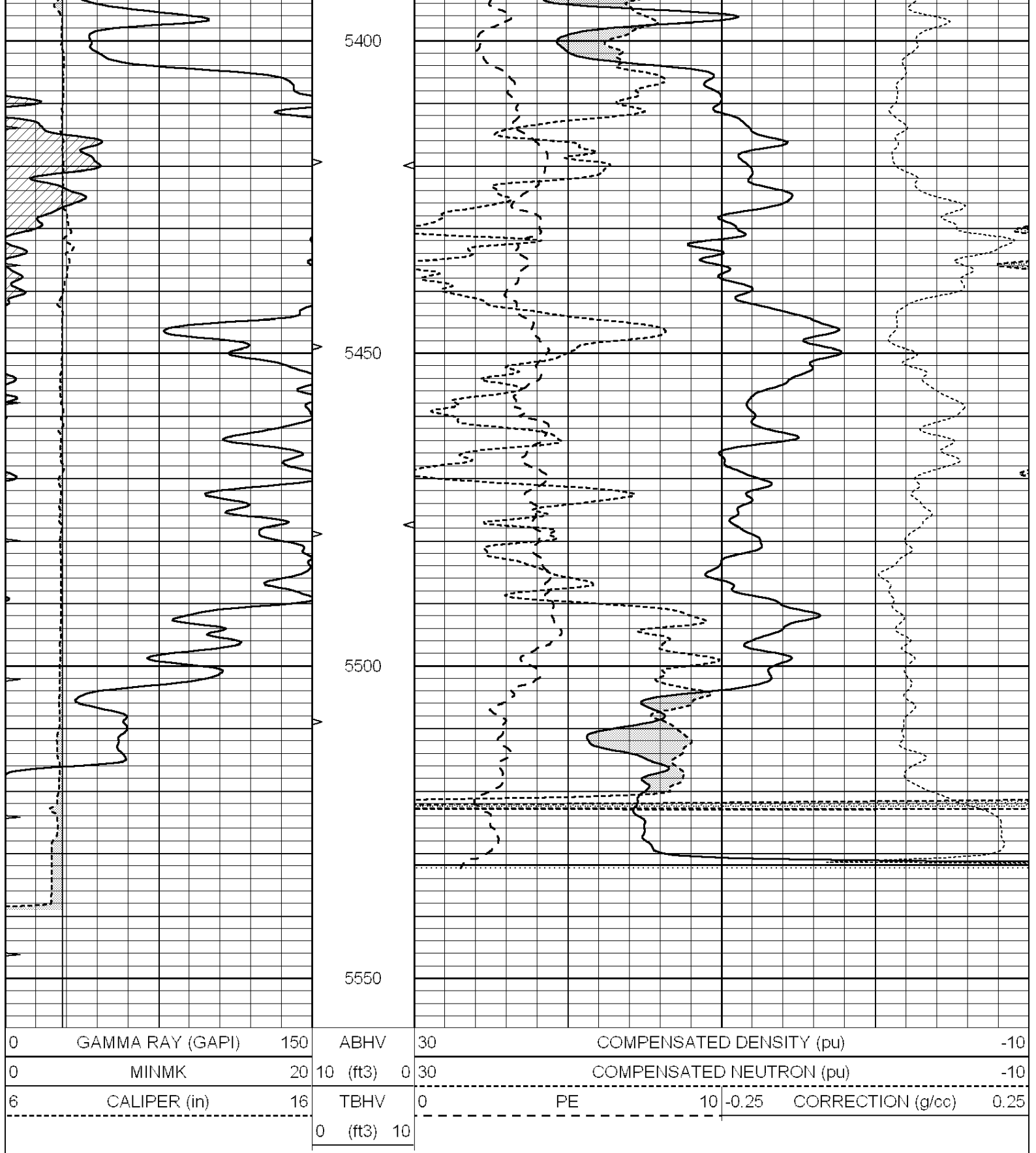


REPEAT SECTION

Database File: 25888pe.db
 Dataset Pathname: pass3.8
 Presentation Format: ldt_neu
 Dataset Creation: Wed Oct 01 02:28:26 2014
 Charted by: Depth in Feet scaled 1:240

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





Calibration Report

Database File: 25888pe.db
 Dataset Pathname: pass4.11
 Dataset Creation: Wed Oct 01 03:28:56 2014

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Fri Sep 26 22:43:29 2014

Surface Calibration								
Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	670.000	-12.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	670.000	-22.000
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: 006 Model: PRB

Master Calibration					Performed Fri May 30 11:50:45 2014			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	1256.6	9989.4	3203.9	10919.3				cps
Window 2	1137.0	8207.0	2724.6	8764.6				cps
Window 3	749.9	3977.2	1516.7	4097.1				cps
Window 4	144.0	317.0	303.6	310.9				cps
Long Space	0.0	7070.0	1587.6	7627.6				cps
Short Space	1.9	2571.4	1707.5	2736.8				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.7	Rib Slope	: 0.989	Density/Spine Ratio				: 0.568
Spine Angle	: 74.7	Spine Slope	: 3.648	Spine Intercept				: -19.8

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 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: 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: 070558
 Tool Model: OPEN_GR
 Performed: Mon Jun 30 21:53:39 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps