



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company MULL DRILLING CO. INC.
Well JOY #1-1
Field WILDCAT
County WICHITA
State KANSAS

Company MULL DRILLING COMPANY, INC.
Well JOY #1-1
Field WILDCAT
County WICHITA
State KANSAS

Location: API # : 15-203-20255-0000
396' FSL 1852' FEL
SW/4 - SE/4
Permanent Datum GROUND LEVEL Elevation 3419
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DIL/MEL
SONIIC
Elevation

Date	5/16/14
Run Number	ONE
Depth Driller	5395
Depth Logger	5397
Bottom Logged Interval	5373
Top Log Interval	3600
Casing Driller	8 5/8"@219'
Casing Logger	219'
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.1/52
pH / Fluid Loss	9.0/10.0
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.50@82F
Rmf @ Meas. Temp	.38@82F
Rmc @ Meas. Temp	.60@82F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.32@129F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	129F
Equipment Number	4854
Location	HAYS, KANSAS
Recorded By	JEFF GRONEMEG
Witnessed By	STEVE REED

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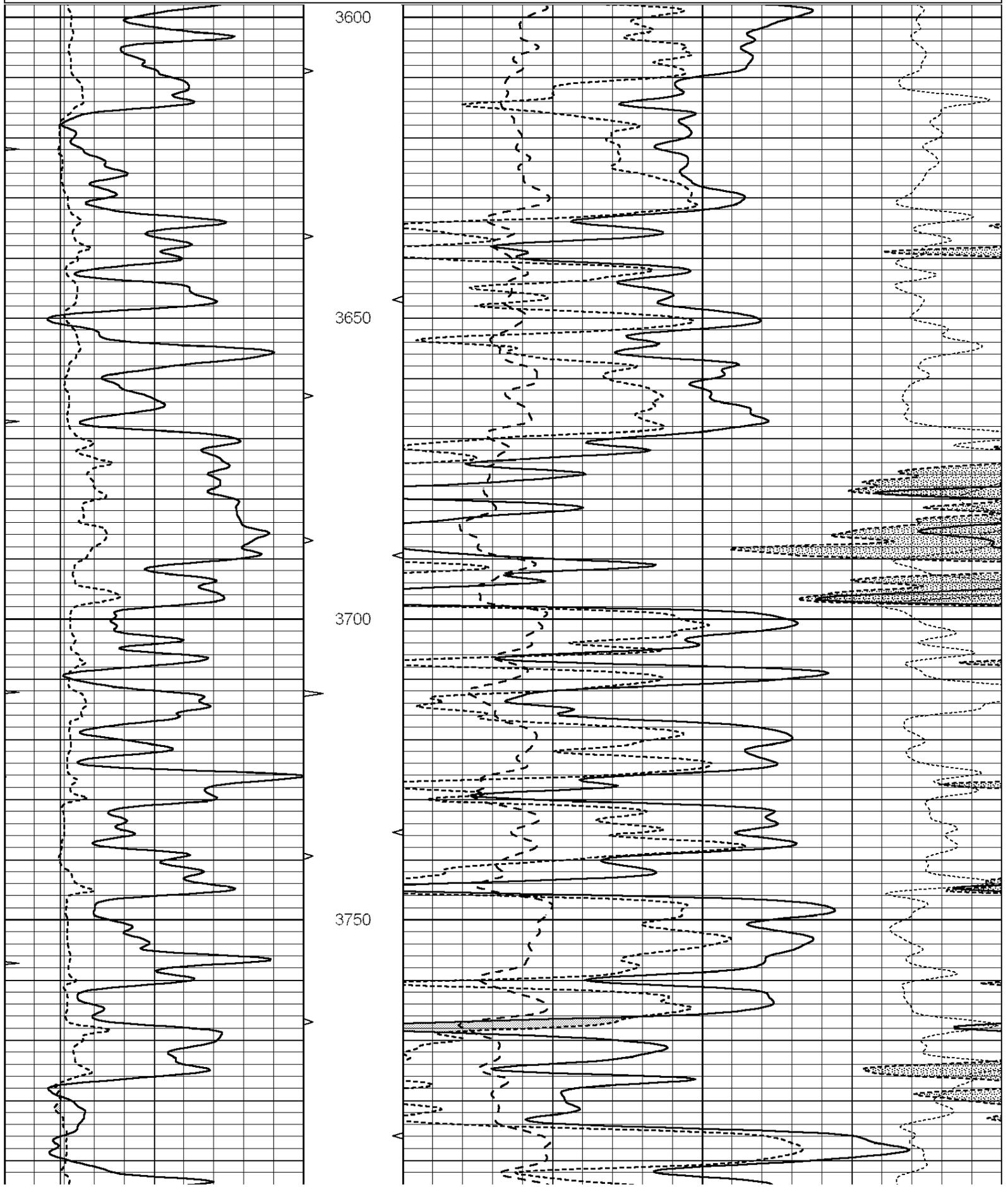
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

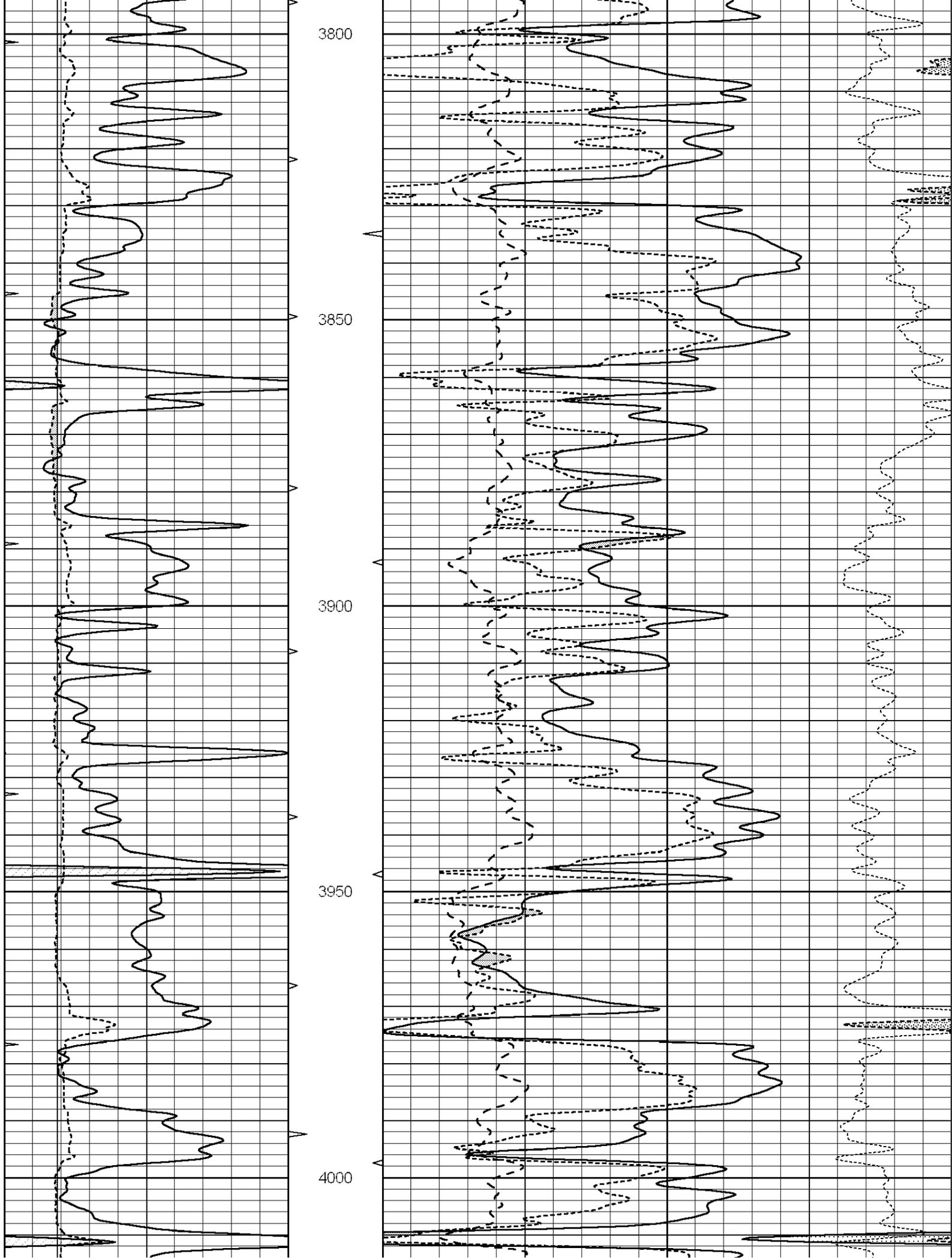
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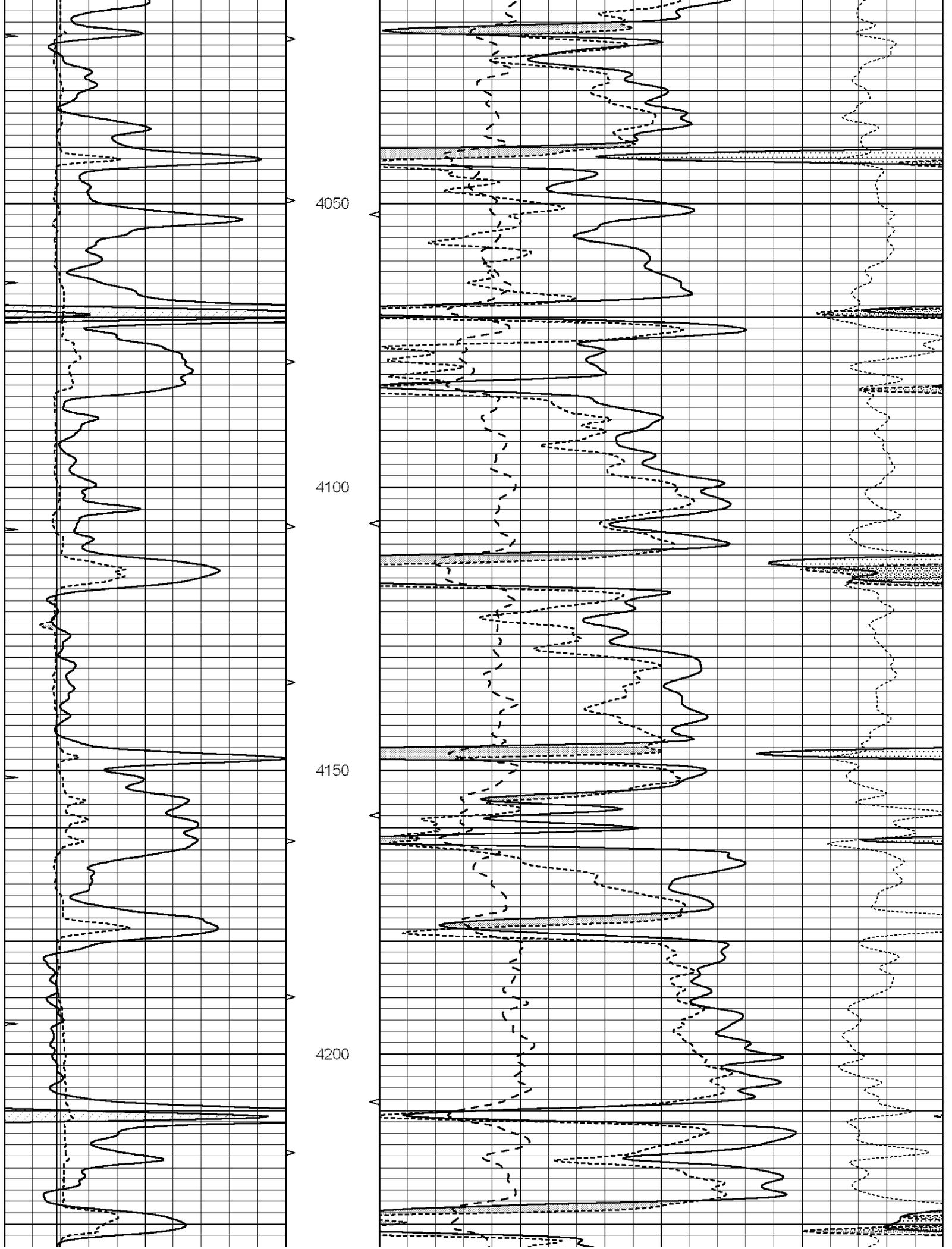
THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS
RUSSELL SPRINGS, KS - SOUTH TO LOGAN/WICHITA COUNTY LINE
1 MILE SOUTH TO RD B
5 MILES WEST - NORTH INTO

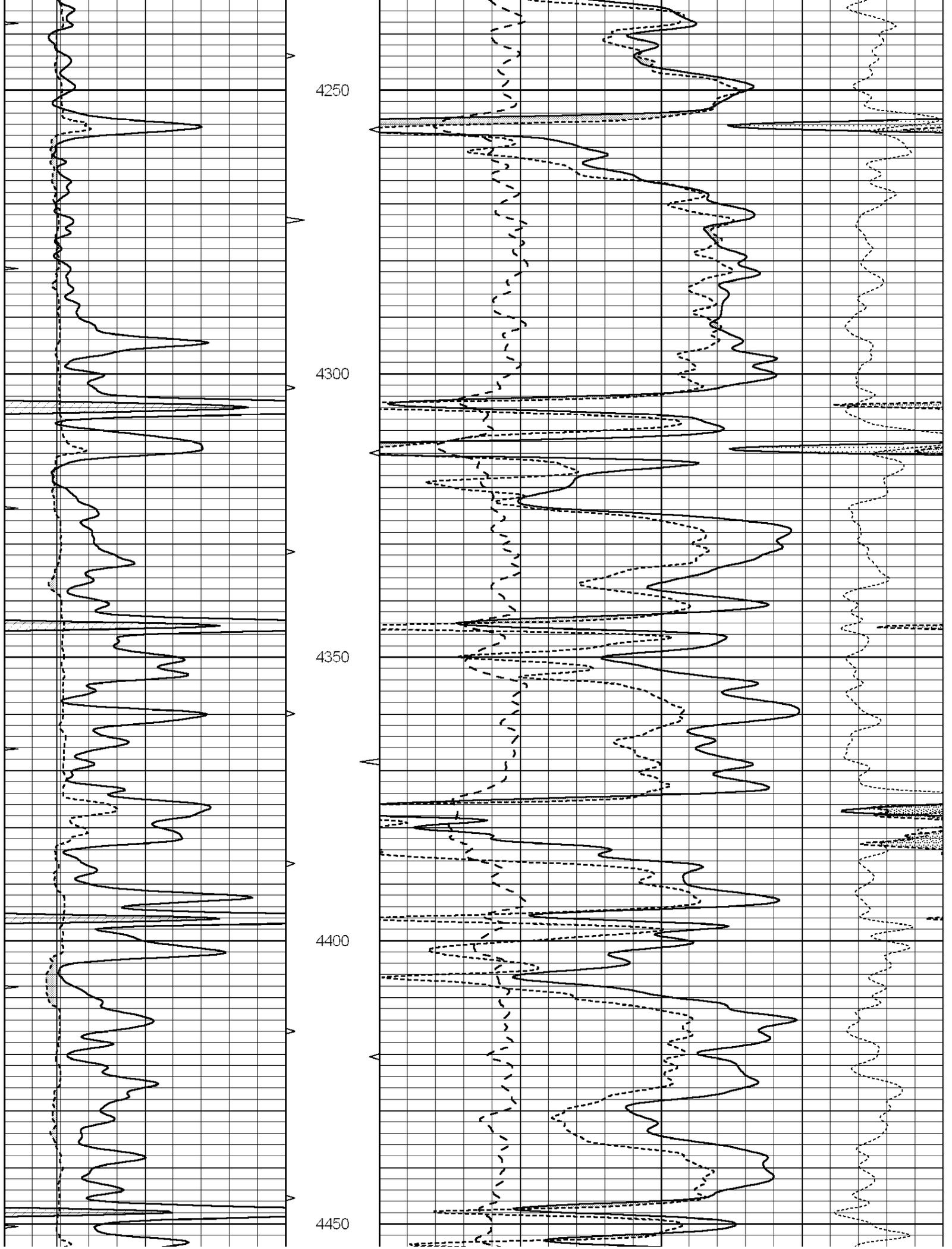
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Presentation Format: _ldt_neu
Dataset Creation: Fri May 16 14:47:25 2014 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

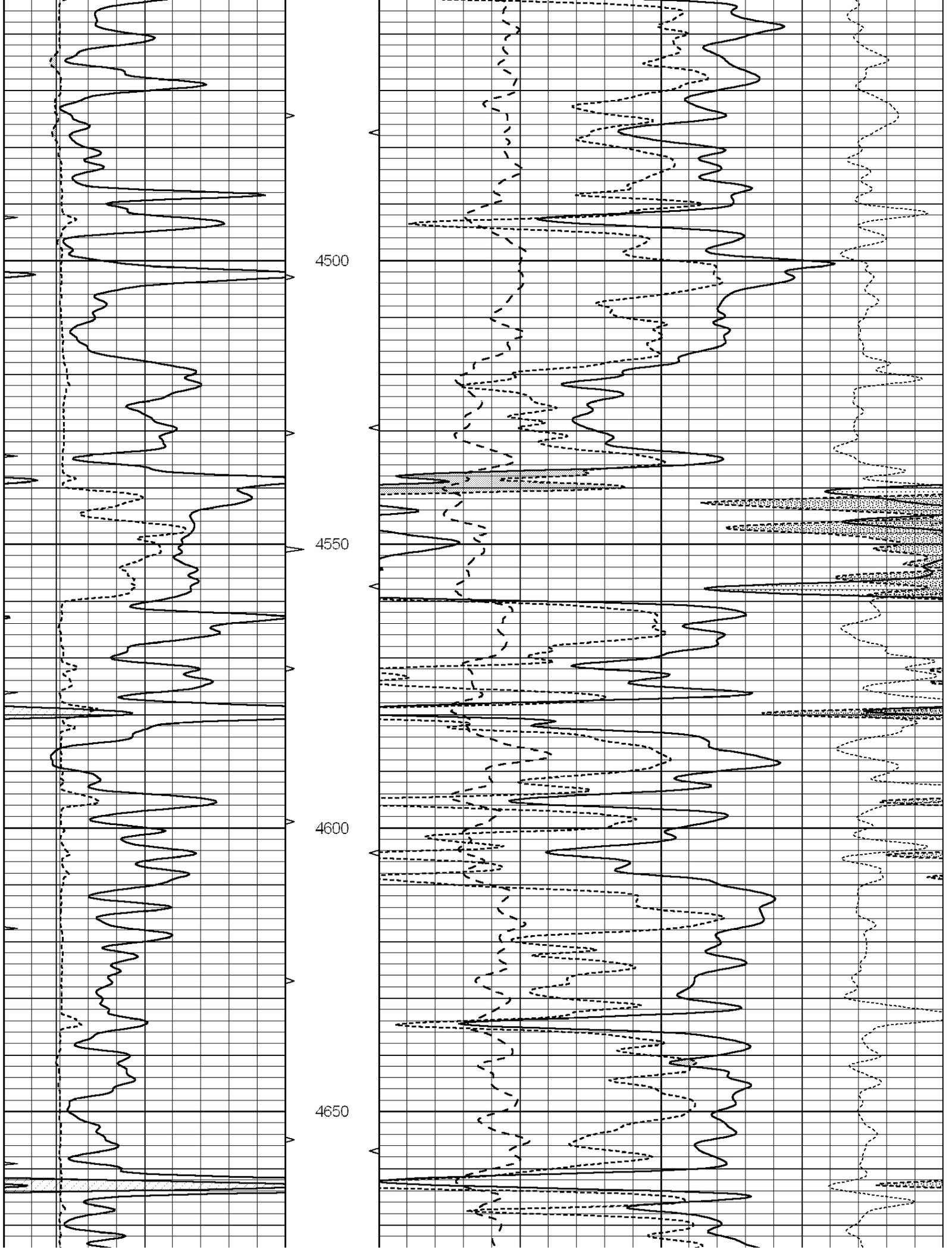
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)			-10	
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)			-10
0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					

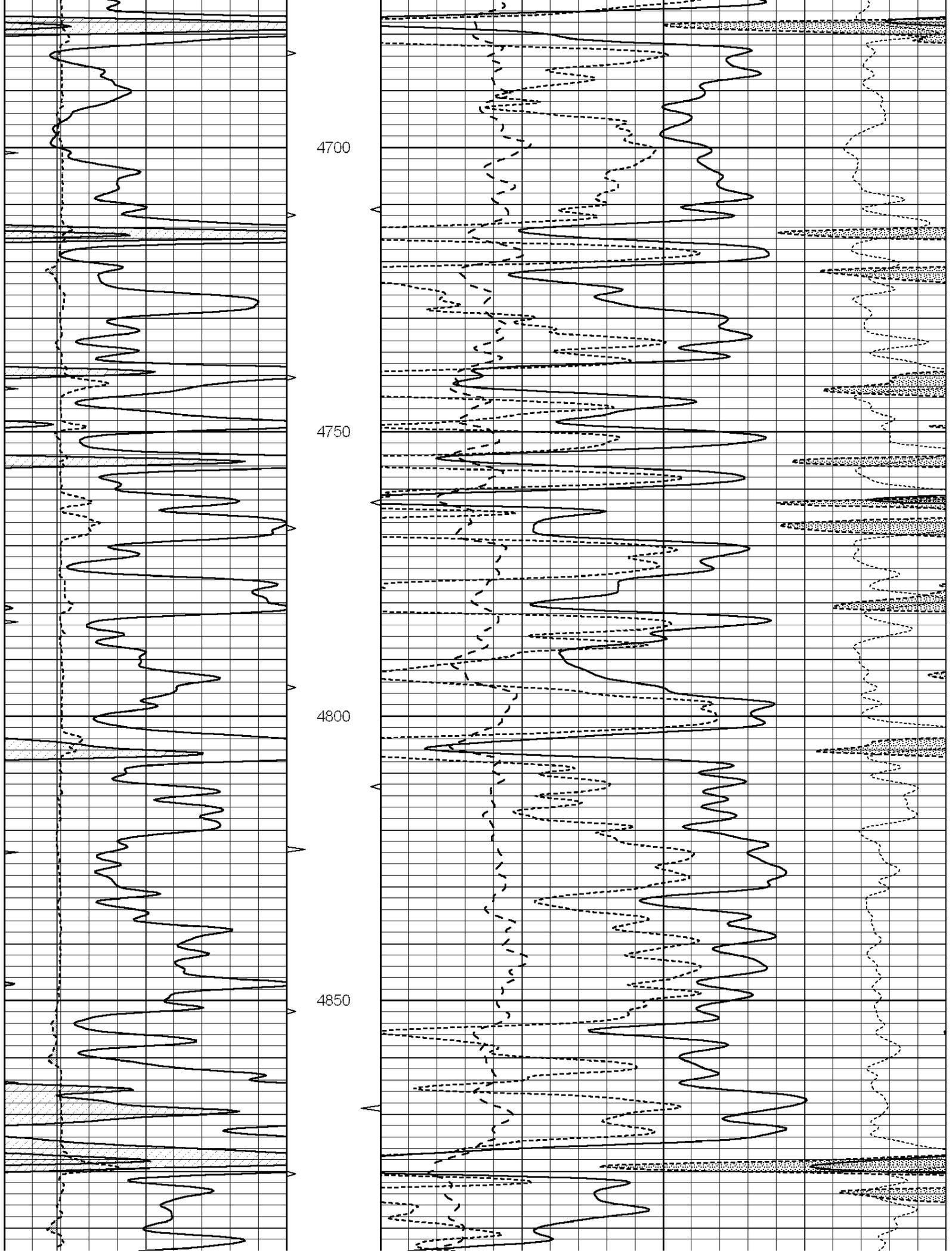


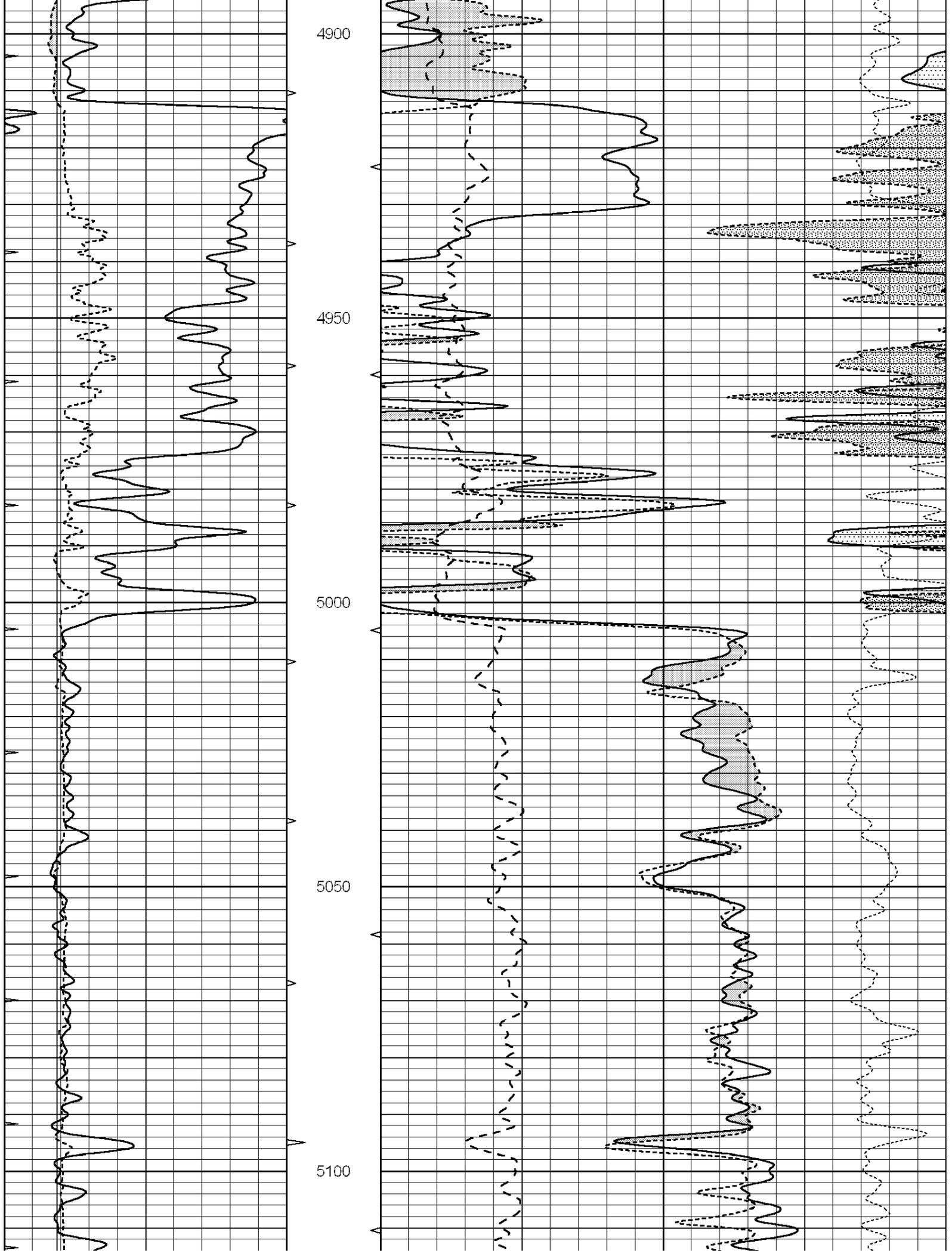


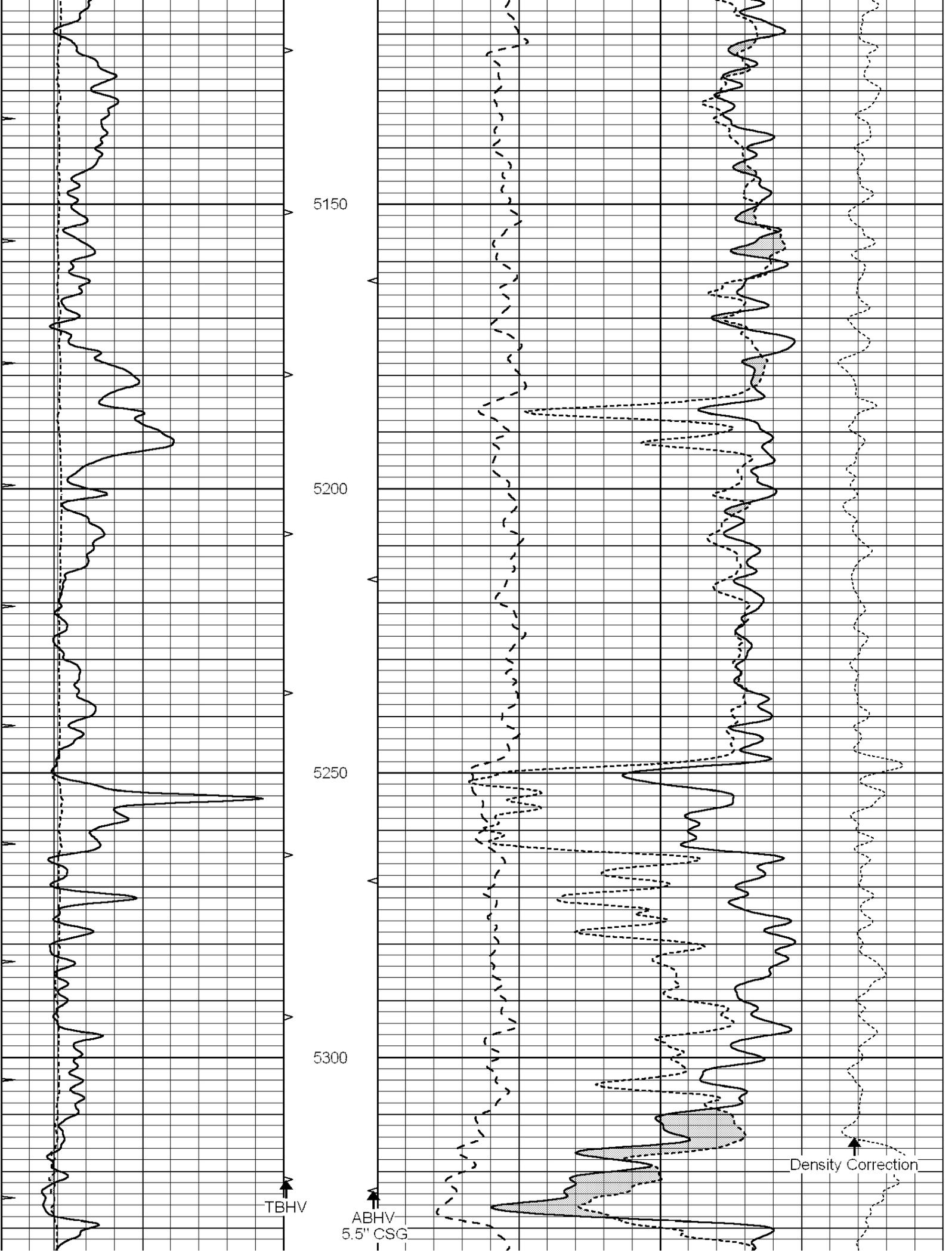


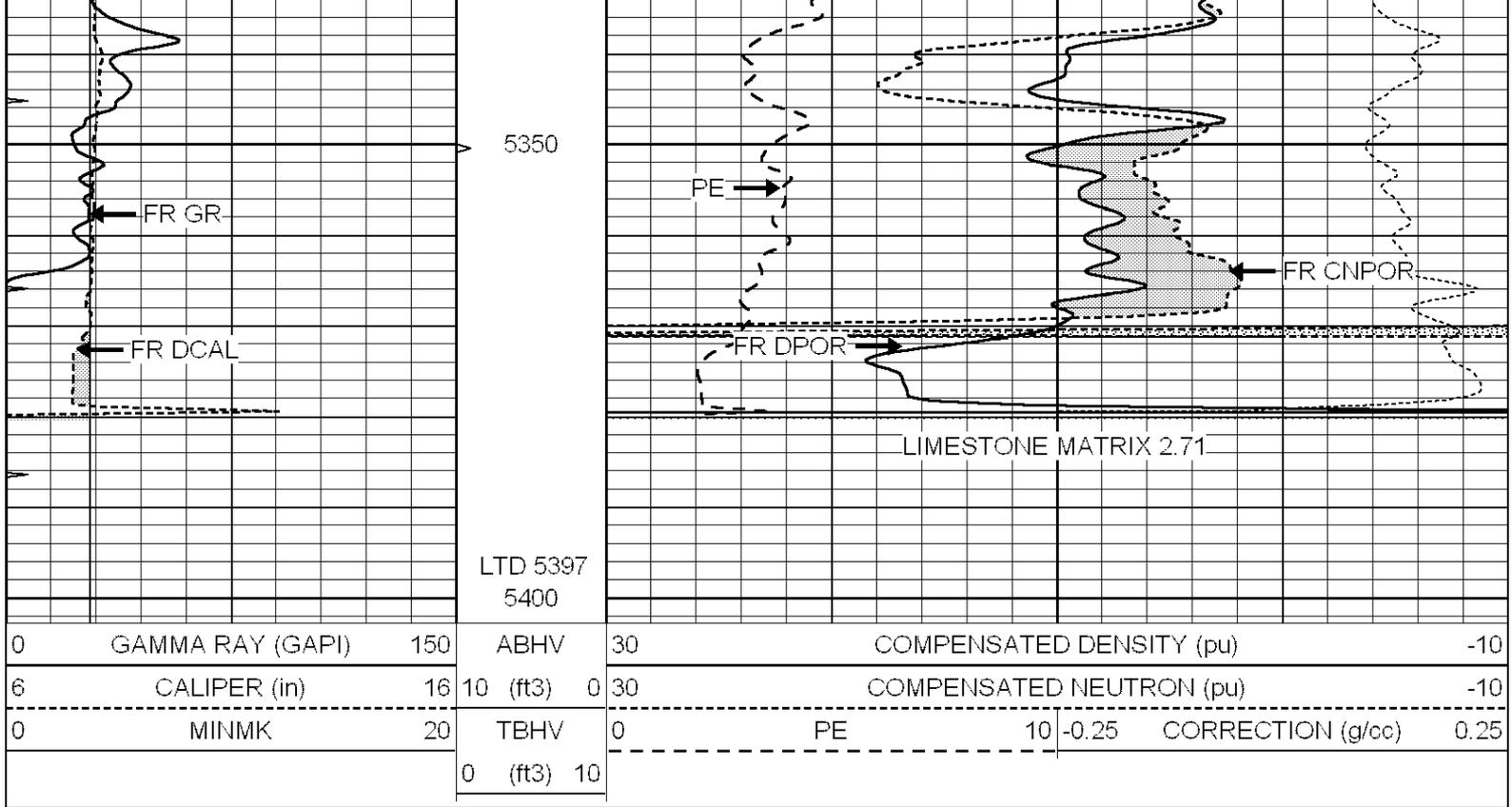








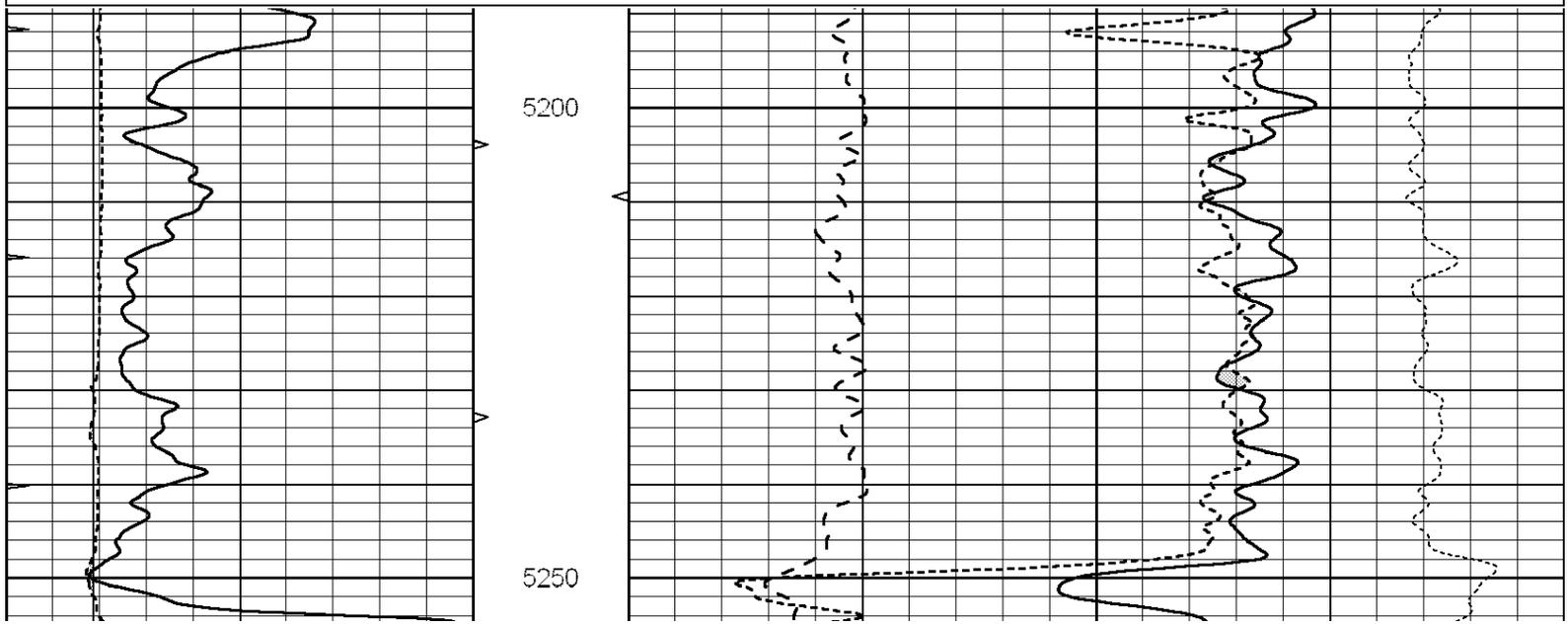


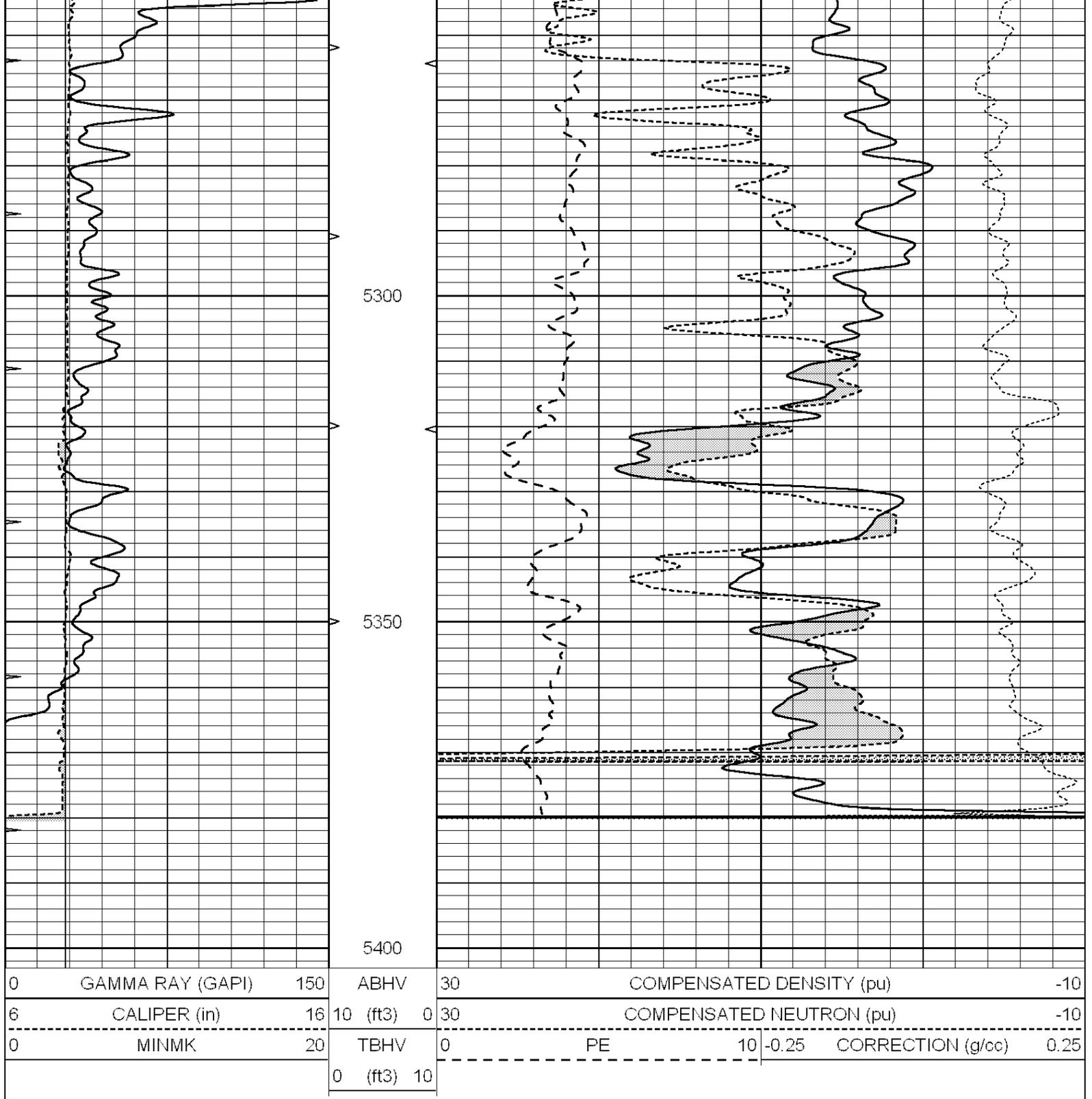


REPEAT SECTION

Database File: 24155pe.db
 Dataset Pathname: pass2.4
 Presentation Format: _ldt_neu
 Dataset Creation: Fri May 16 15:03:58 2014 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
			0 (ft3) 10			





Calibration Report

Database File: 24155pe.db
 Dataset Pathname: pass3.4
 Dataset Creation: Fri May 16 14:47:25 2014 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Sat May 03 21:20:05 2014
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

Readings

References

Results

Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	660.000	-8.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	600.000	-16.000
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: 004N Model: PRB

Master Calibration		Performed Mon Jun 03 09:36:56 2013				
	Background	Magnesium	Aluminum	Sandstone		
Window 1	1417.6	10391.4	3464.6	11537.5		cps
Window 2	1295.0	8959.7	3050.1	9816.4		cps
Window 3	1105.1	5464.2	2051.0	5838.8		cps
Window 4	315.0	317.7	312.9	319.8		cps
Long Space	0.0	7664.6	1755.0	8521.3		cps
Short Space	1.8	1582.4	1040.8	1699.4		cps
Rho		1.7100	2.5900	1.3800		g/cc
Pe		0.0000	2.5700	1.5500		
Rib Angle	: 44.1	Rib Slope	: 0.970	Density/Spine Ratio		: 0.574
Spine Angle	: 74.1	Spine Slope	: 3.519	Spine Intercept		: -17.0

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				
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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: Thu May 15 06:08:02 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps