



**COMPENSATED
DENSITY / NEUTRON
LOG**

Company MAI OIL OPERATIONS, INC.
 Well TIEPERMAN #1
 Field MUELLER
 County STAFFORD
 State KANSAS

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 Well TIEPERMAN #1
 Field MUELLER
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Location: API # : 15-185-23973-0000
 393' FSL & 1113' FWL
 NE - SE - SW - SW
 SEC 29 TWP 21S RGE 12W

Permanent Datum GROUND LEVEL Elevation 1859
 Log Measured From KELLY BUSHING 8' A.G.L.
 Drilling Measured From KELLY BUSHING

Other Services
 DIL/MEL
 Elevation
 K.B. 1867
 D.F. 1865
 G.L. 1859

Date	12/2/16		
Run Number	ONE		
Depth Driller	3710		
Depth Logger	3710		
Bottom Logged Interval	3686		
Top Log Interval	1900		
Casing Driller	8 5/8" @ 647'		
Casing Logger	657		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,300 PPM	
Density / Viscosity	9.3/8.1		
pH / Fluid Loss	9.5/9.6		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.800 @ 60F		
Rmf @ Meas. Temp	.600 @ 60F		
Rmc @ Meas. Temp	.960 @ 60F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.425 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	1:15 A.M.		
Maximum Recorded Temperature	113F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM MUSGROVE		

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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

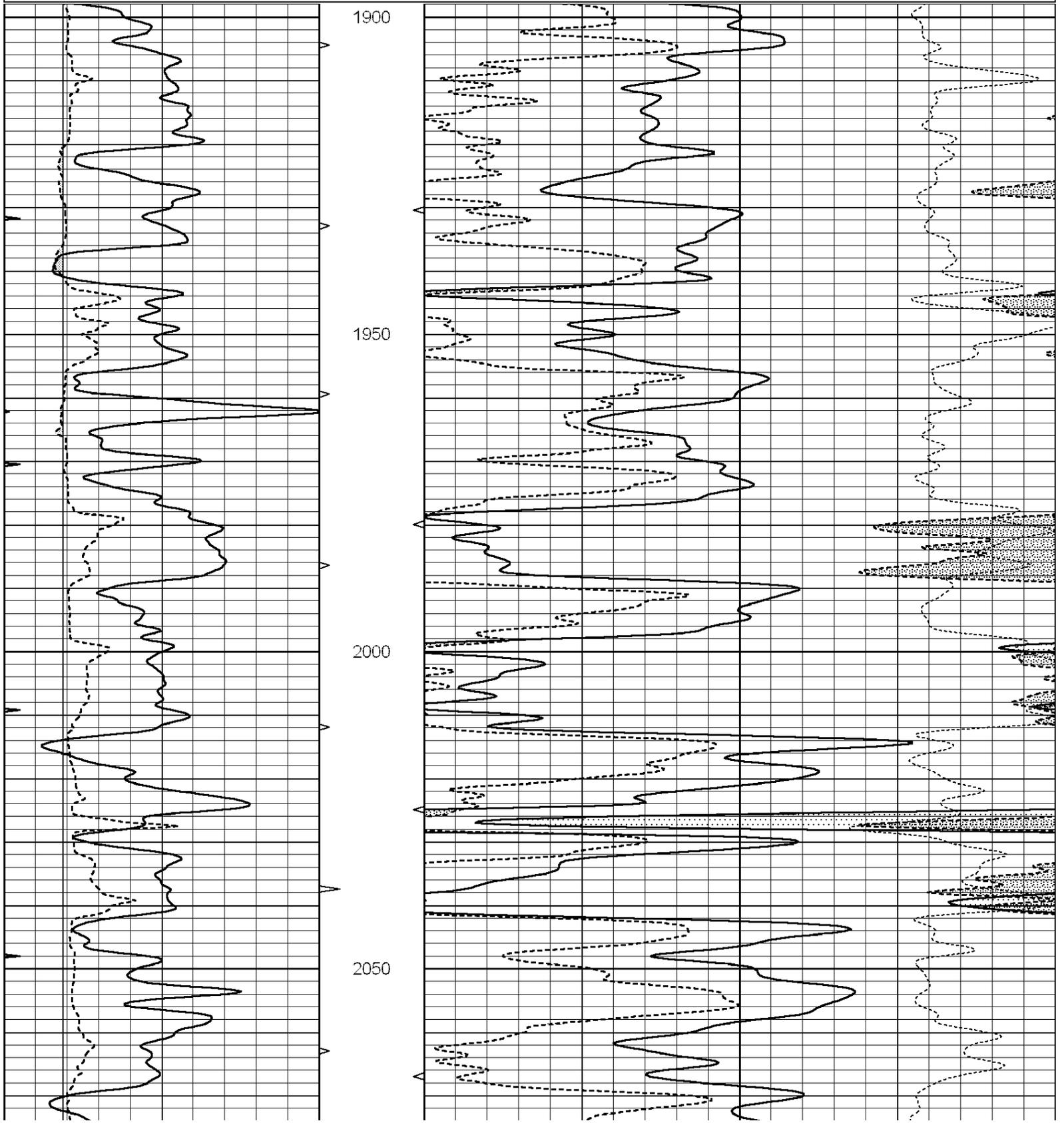
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
 DIRECTIONS
 GREAT BEND, KS., 12S. ON HWY 281 TO "160TH RD.", 4E. TO STOP SIGN, JOG N. ON BLKTOP, E. INTO

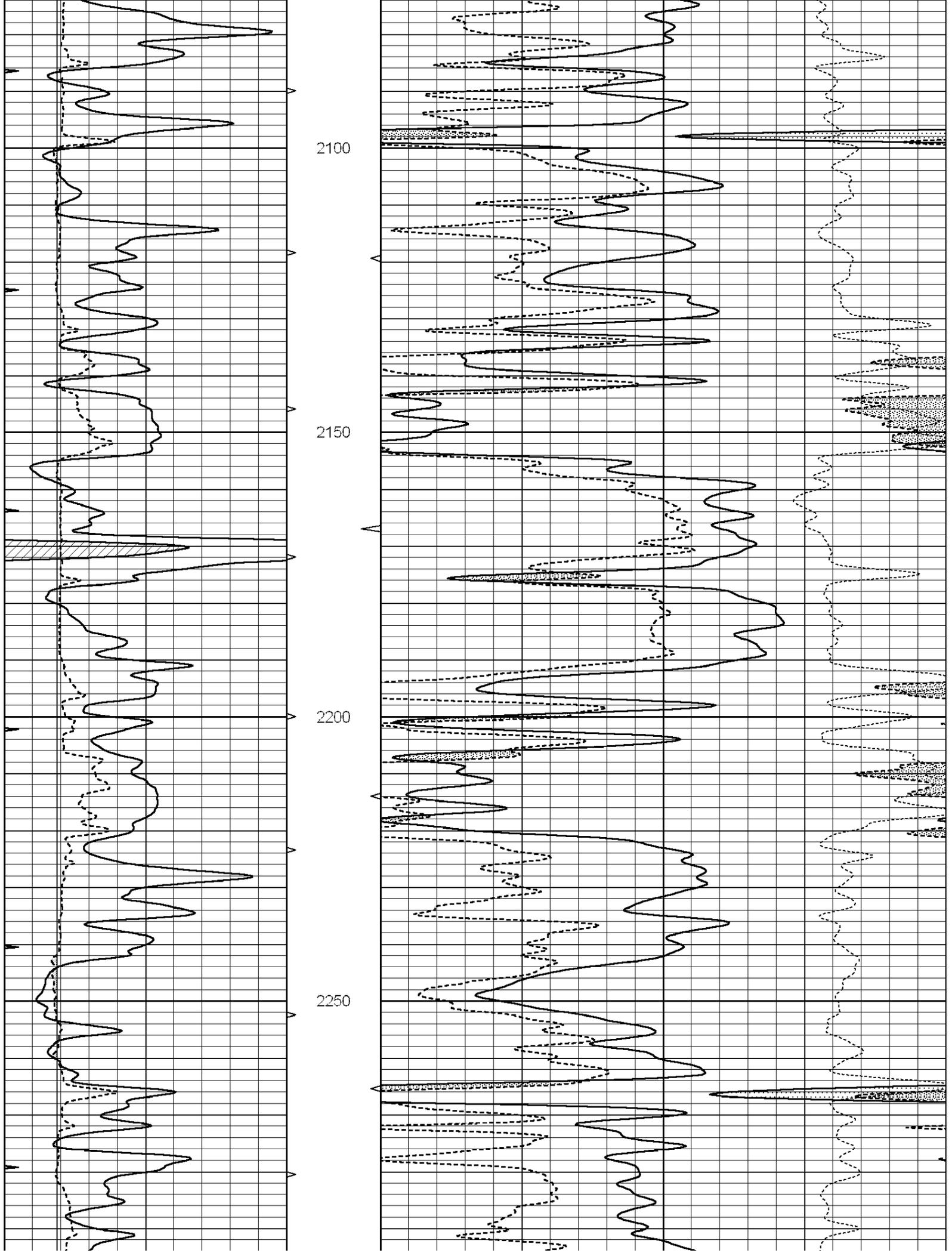


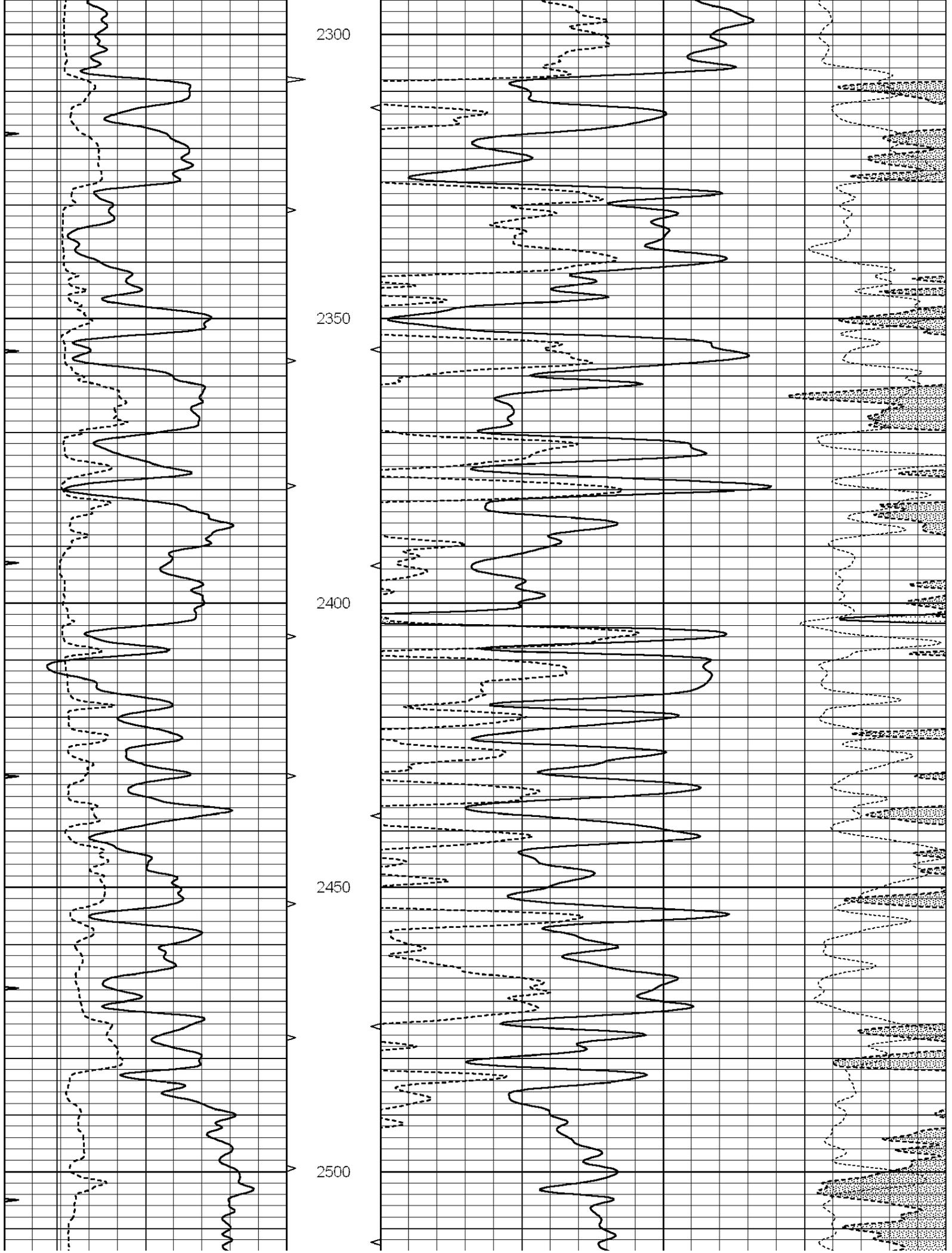
MAIN SECTION

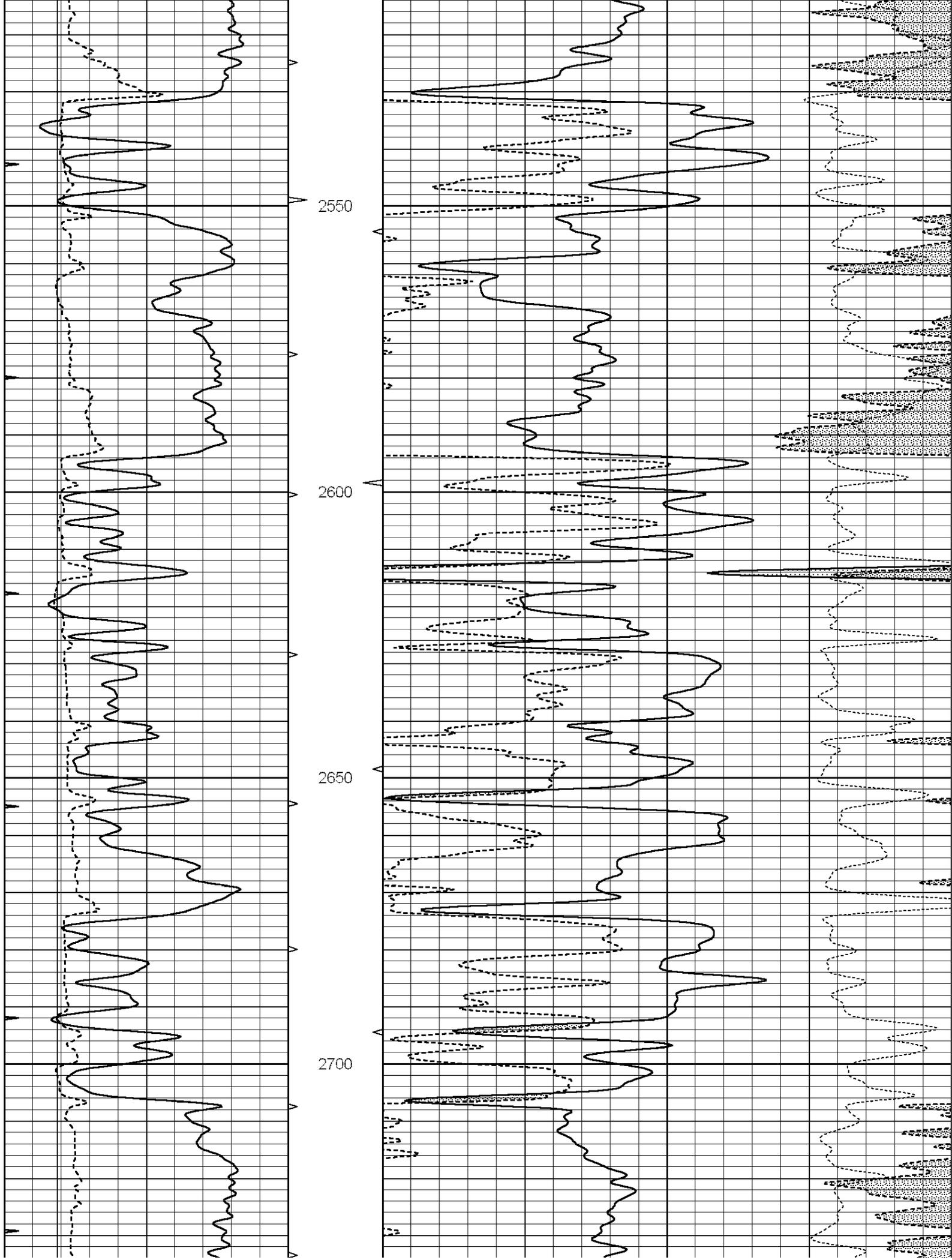
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 Dataset Pathname: pass3.3
 Presentation Format: den_neu
 Dataset Creation: Fri Dec 02 02:47:56 2016
 Charted by: Depth in Feet scaled 1:240

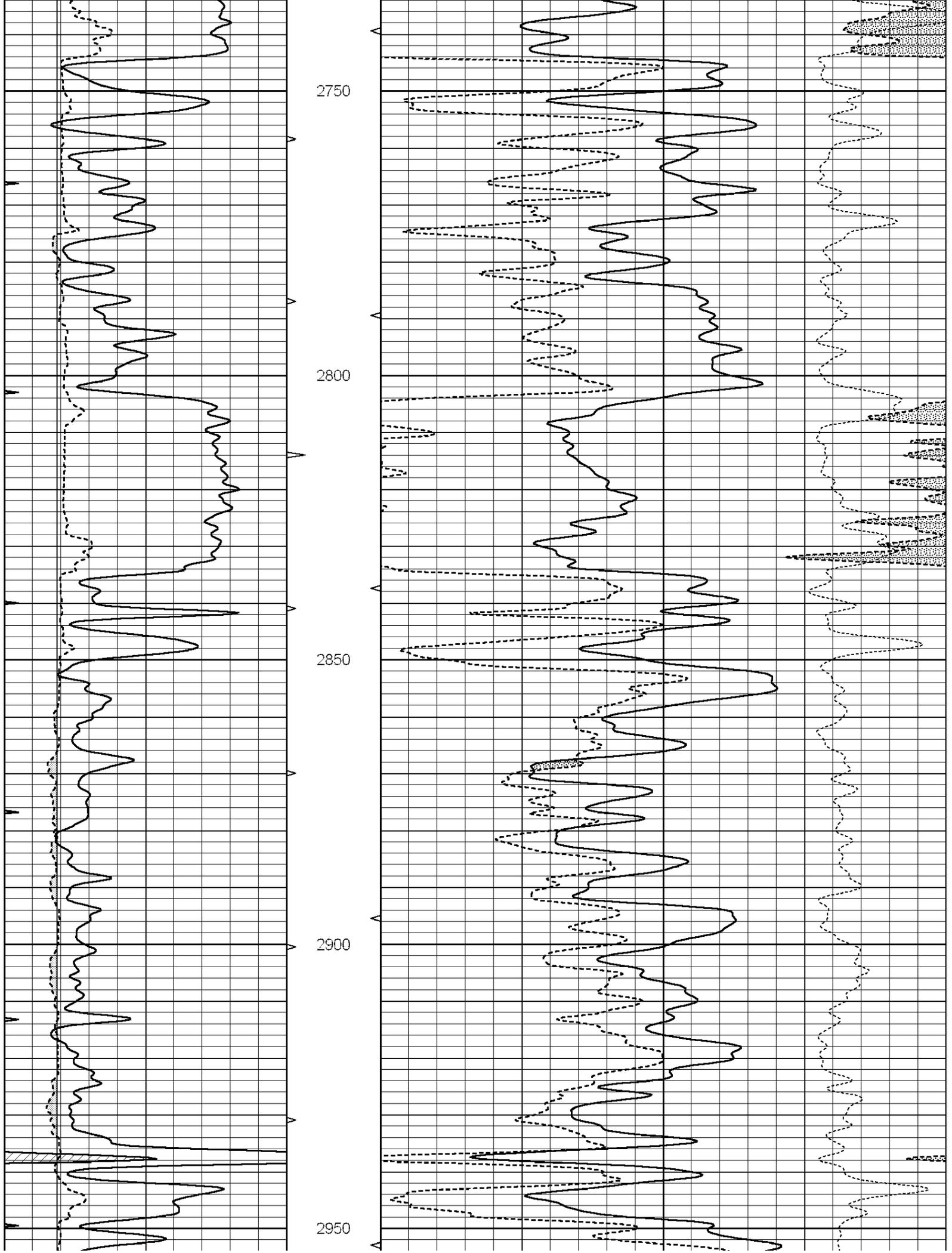
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		

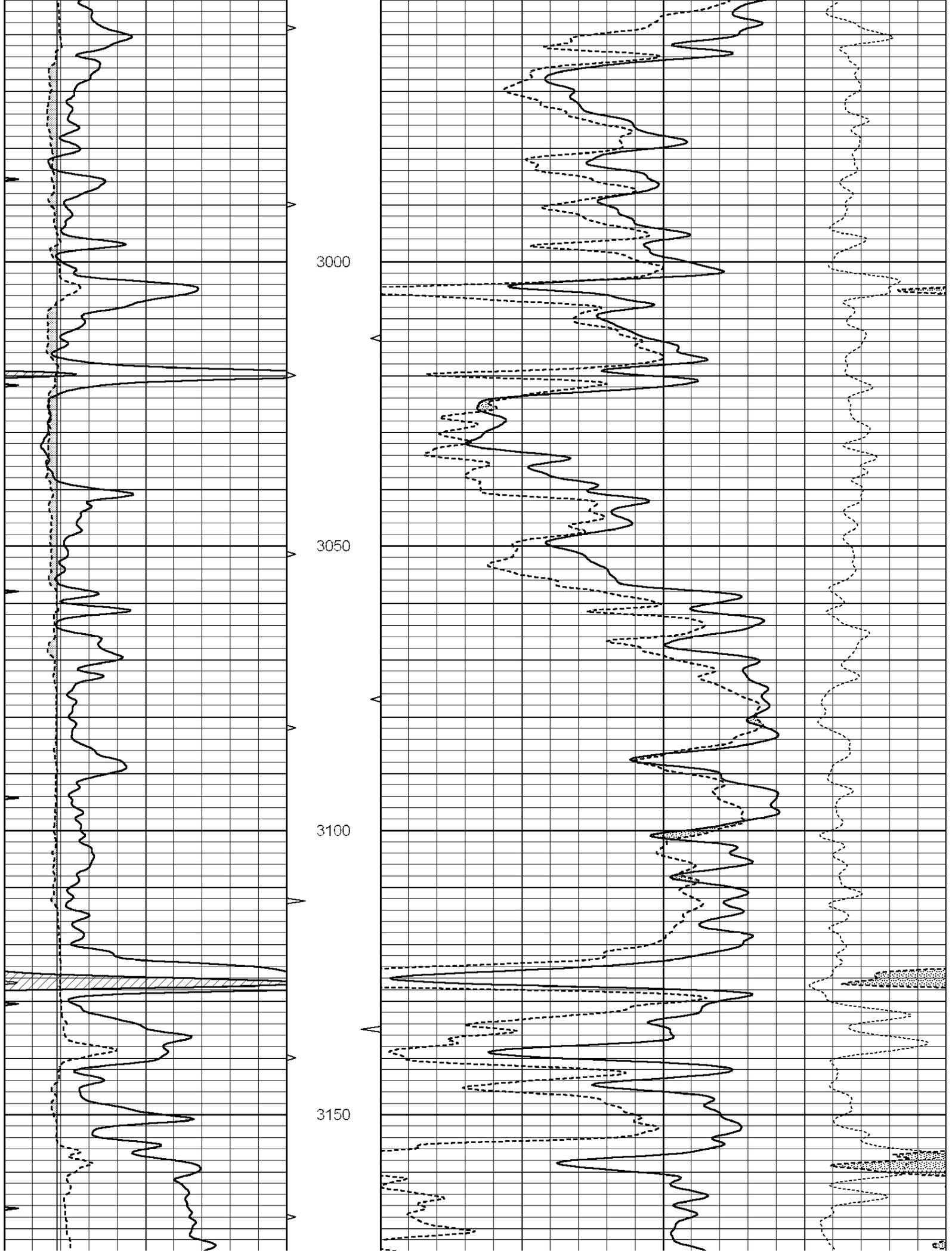


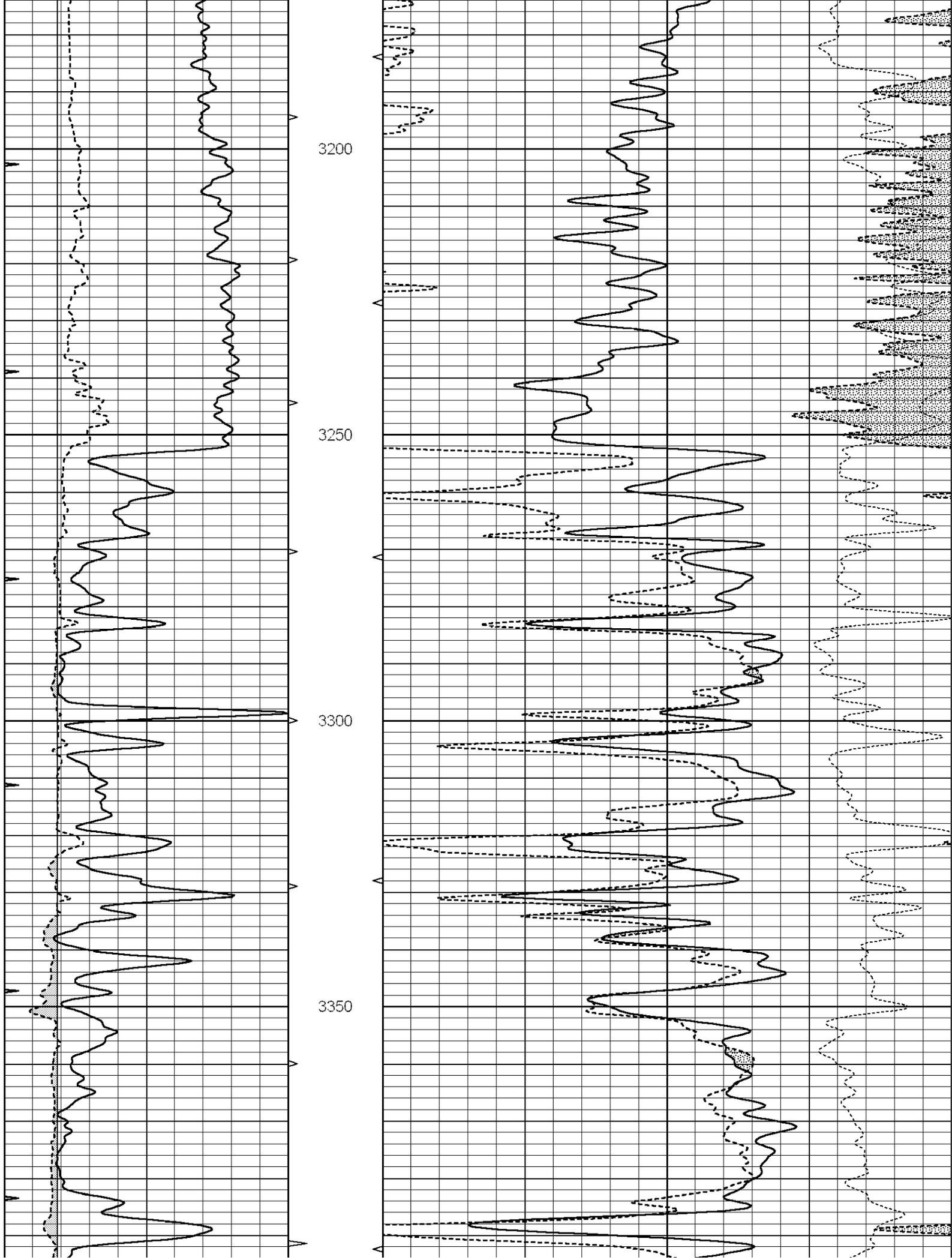


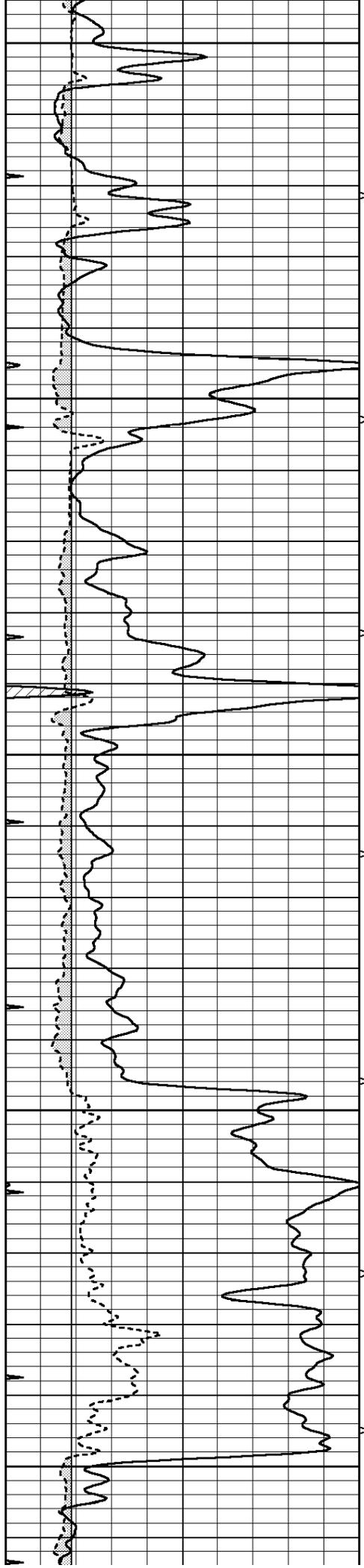












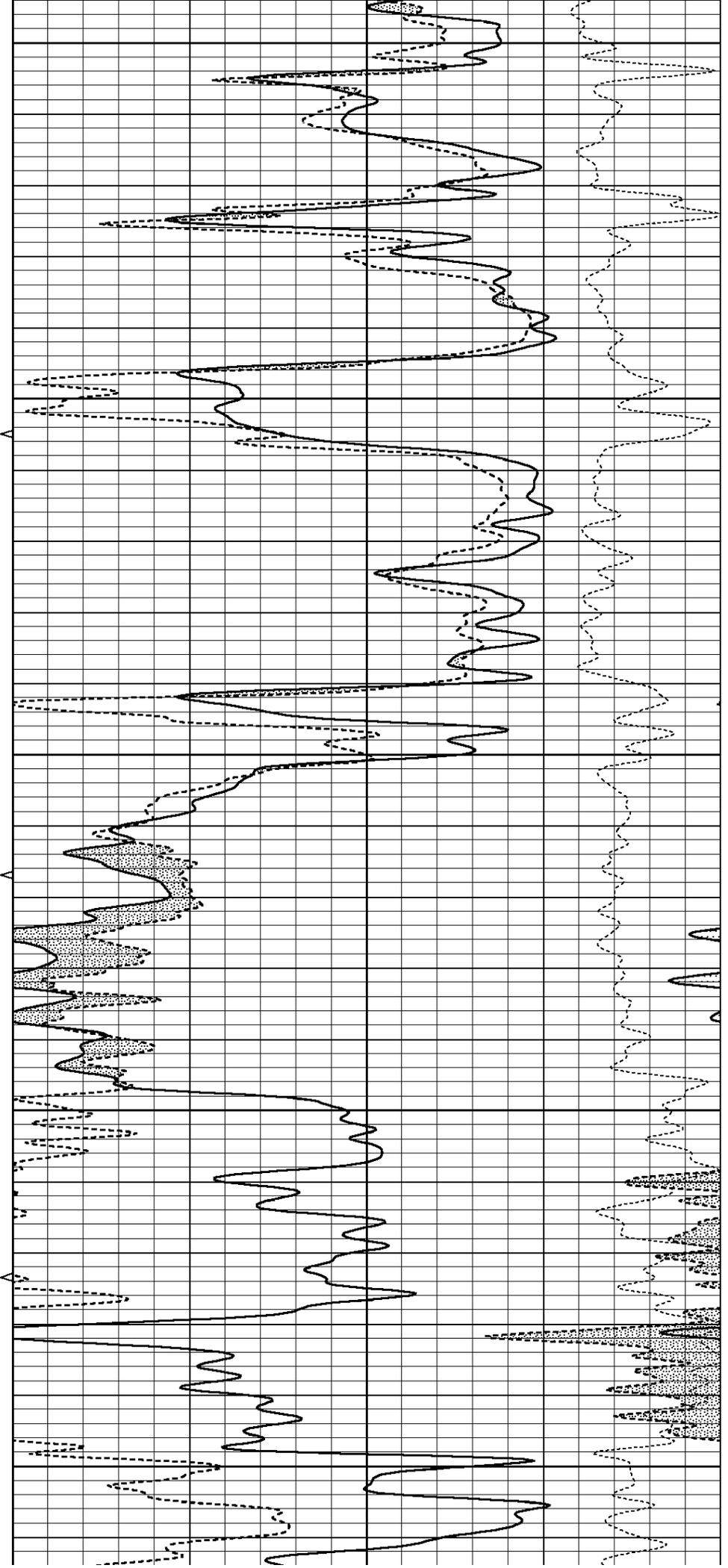
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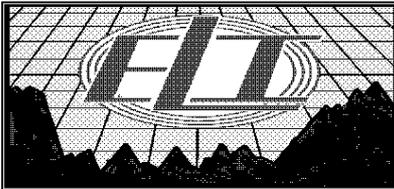
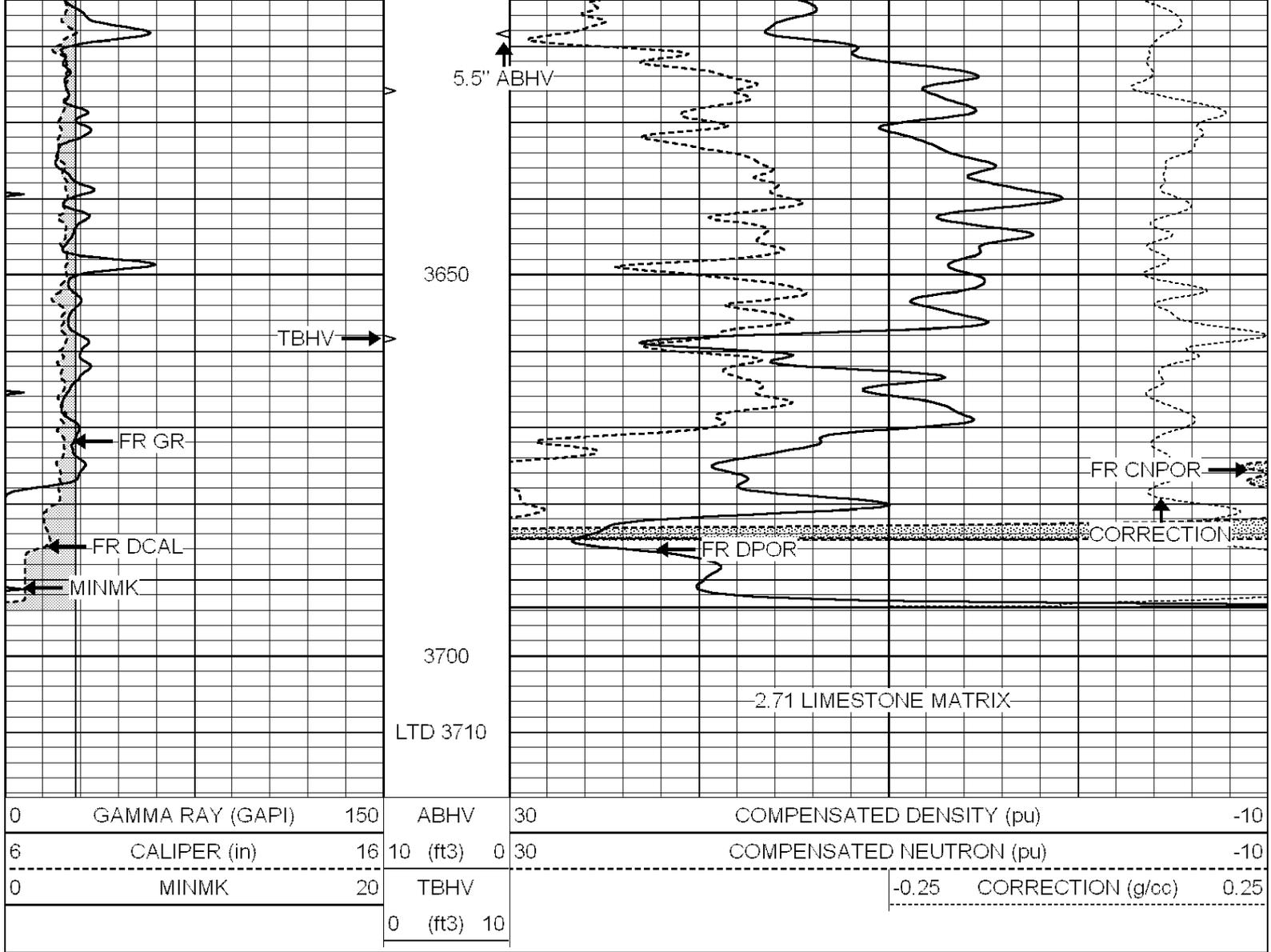
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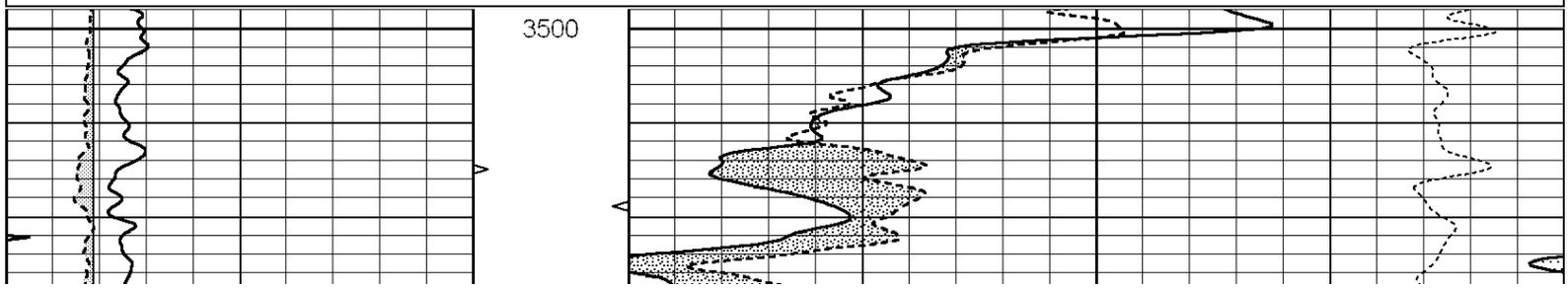


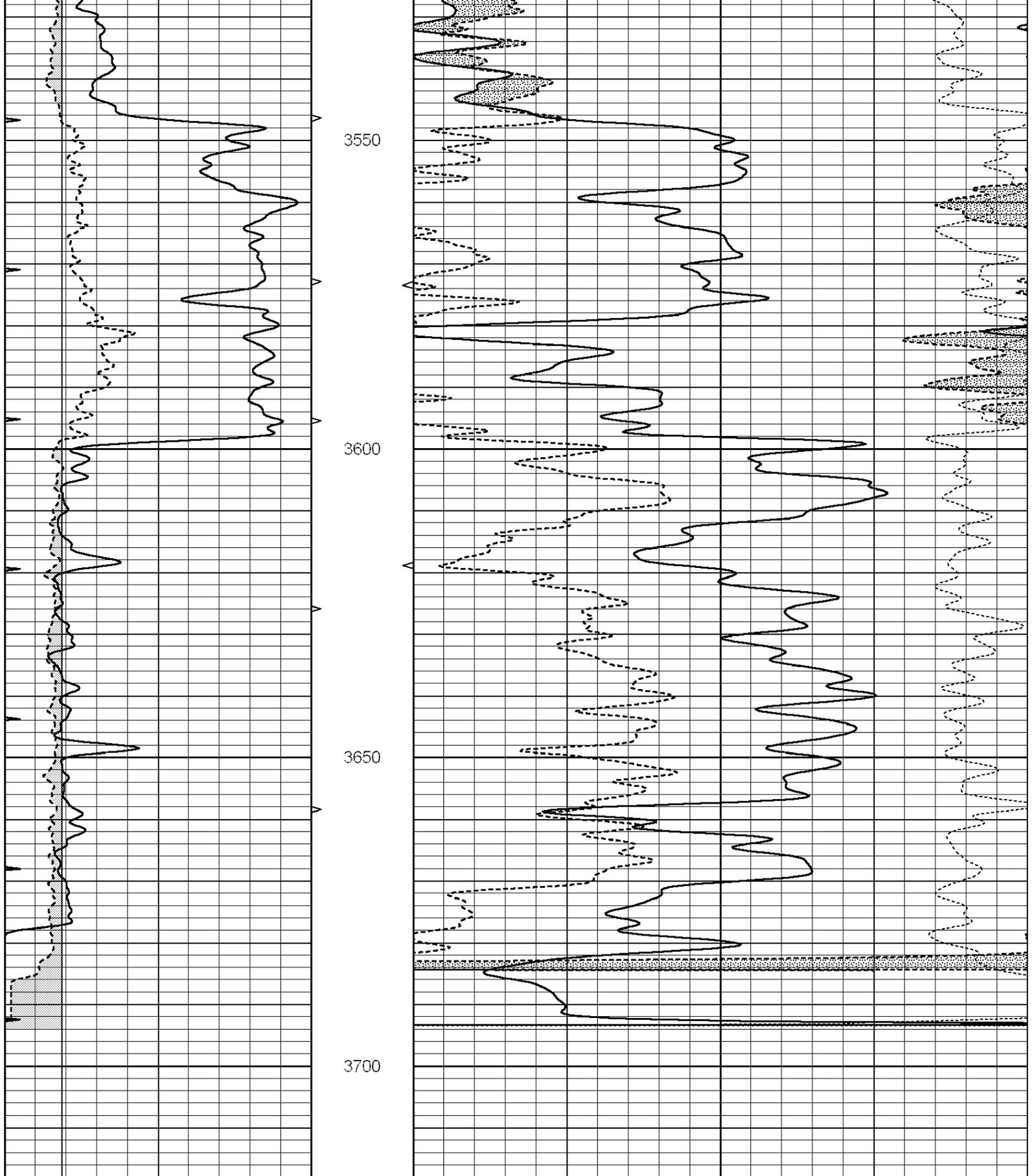


REPEAT SECTION

Database File: 1330ddn.db
 Dataset Pathname: pass2.6R
 Presentation Format: den_neu
 Dataset Creation: Fri Dec 02 01:54:43 2016
 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		-0.25 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		-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10			

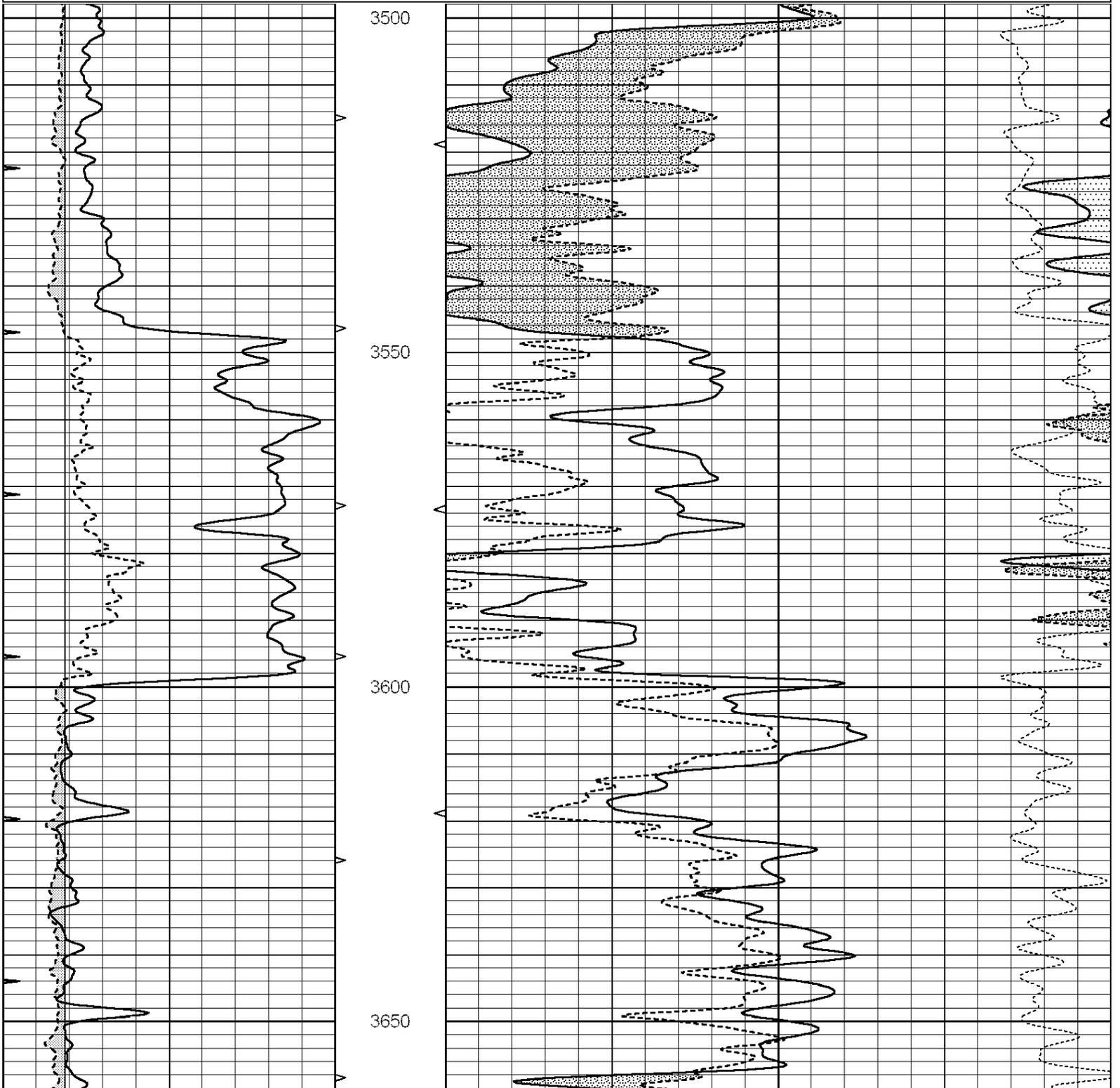


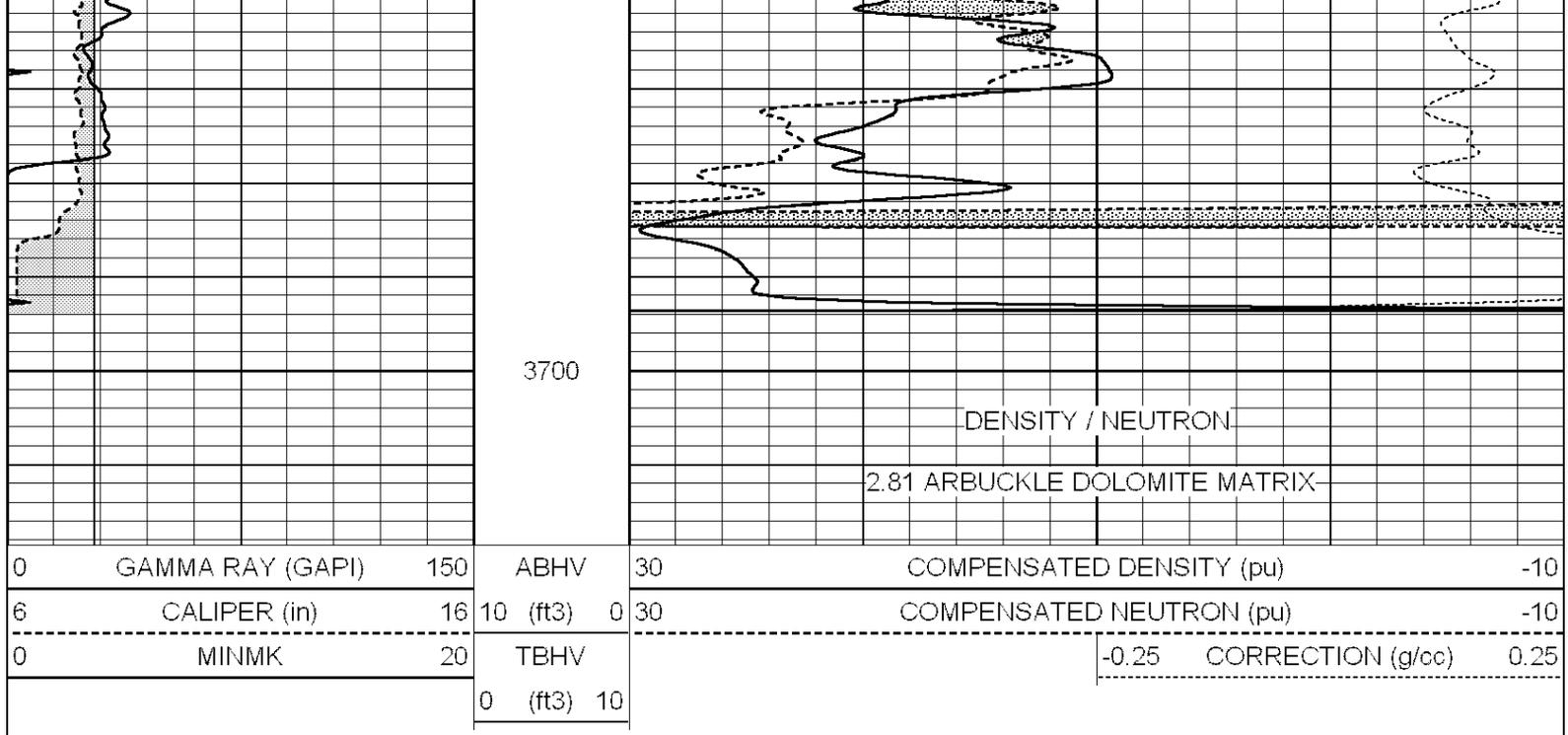


DOLOMITE MATRIX

Database File: 1330ddn.db
Dataset Pathname: pass2.4D
Presentation Format: den_neu
Dataset Creation: Fri Dec 02 01:33:25 2016
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		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		





Calibration Report

Database File: 1330ddn.db
 Dataset Pathname: pass3.3
 Dataset Creation: Fri Dec 02 02:47:56 2016

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Thu Nov 03 11:12:55 2016
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	625.000	-6.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-50.000
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

Medium	0.000	0.000	mmho-m	0.000	0.000	mmho-m
LL3		1.000	Ohm-m	1.000	0.000	Ohm-m
		1.000	mmho-m	1.000	1.000	mmho-m

Litho Density Calibration Report
Serial: 004N Model: PRB

Master Calibration

Performed Fri May 30 11:01:00 2014

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1378.8	10804.6	3492.0	12453.4	cps
Window 2	1262.4	9313.5	3076.7	10594.7	cps
Window 3	1077.6	5668.7	2076.0	6314.8	cps
Window 4	306.4	313.0	306.4	315.6	cps
Long Space	0.0	8051.0	1814.3	9332.3	cps
Short Space	1.9	1706.1	1146.0	1707.6	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 45.0	Rib Slope	: 1.002	Density/Spine Ratio	: 0.571
Spine Angle	: 75.0	Spine Slope	: 3.745	Spine Intercept	: -18.9

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: 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 Aug 22 01:00:15 2016

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps