



**COMPENSATED
DENSITY / NEUTRON
LOG**

Company MAI OIL OPERATIONS, INC.
 Well MORGENSTERN FAMILY CORP. #1
 Field AKERS
 County BARTON
 State KANSAS

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Location: API # : 15-009-26182-0000
 2184' FNL & 802' FVL
 NW - SE - SW - NW
 SEC 35 TWP 17S RGE 13W
 Permanent Datum GROUND LEVEL Elevation 1878
 Log Measured From KELLY BUSHING 8' A.G.L.
 Drilling Measured From KELLY BUSHING
 Other Services DIL/MEL
 Elevation
 K.B. 1886
 D.F. 1884
 G.L. 1878

Date	8/30/17
Run Number	ONE
Depth Driller	3455
Depth Logger	3456
Bottom Logged Interval	3432
Top Log Interval	2800
Casing Driller	8 5/8" @ 454
Casing Logger	454
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.2/52
pH / Fluid Loss	9.0/9.8
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.900 @ 85F
Rmf @ Meas. Temp	.675 @ 85F
Rmc @ Meas. Temp	1.08 @ 85F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.689 @ 111F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	1:00 A.M.
Maximum Recorded Temperature	111F
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

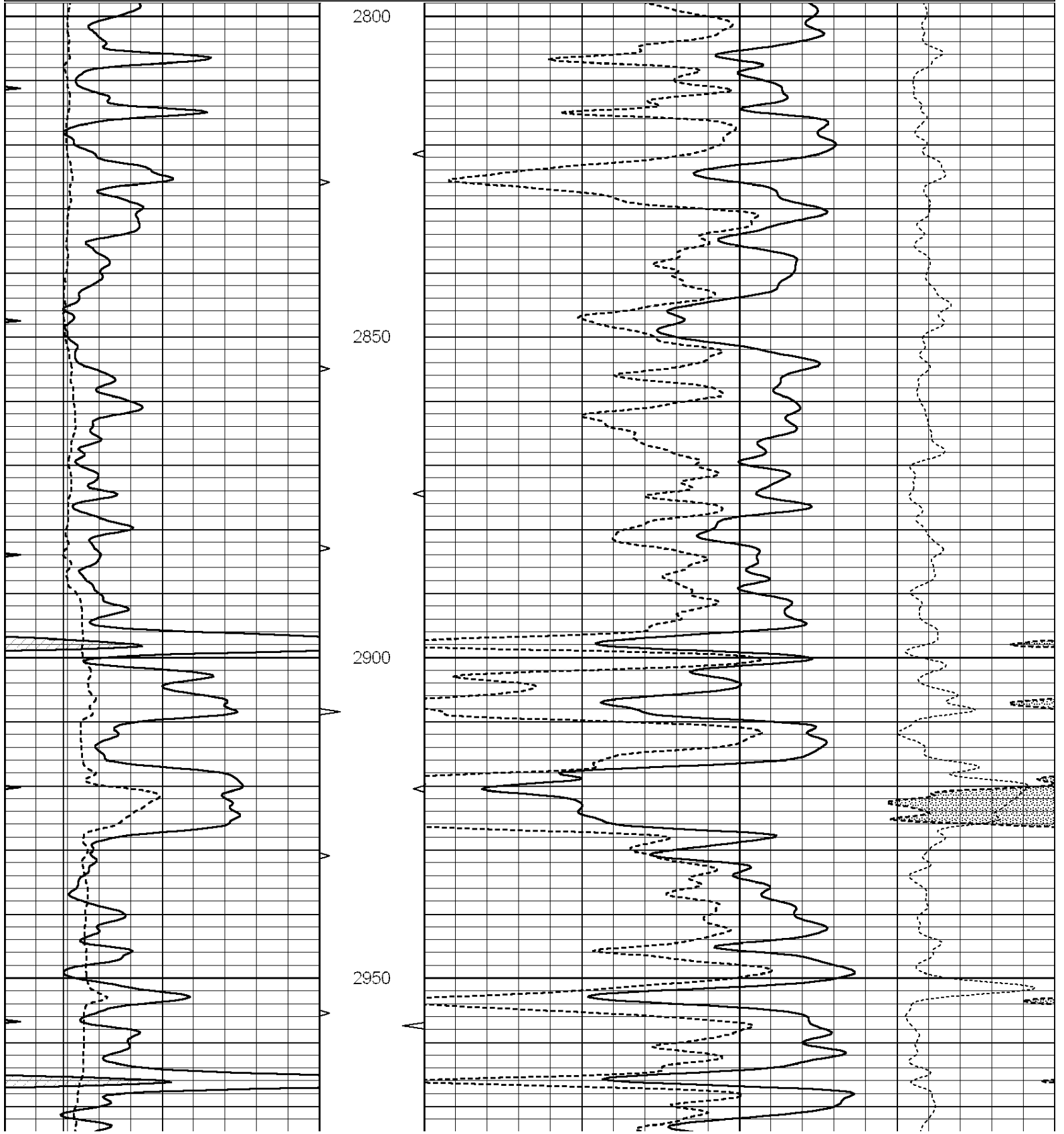
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
 DIRECTIONS
 HOISINGTON, KS., 2E. ON HWY 4 TO "NE 20TH RD.", 1/2N., E. INTO

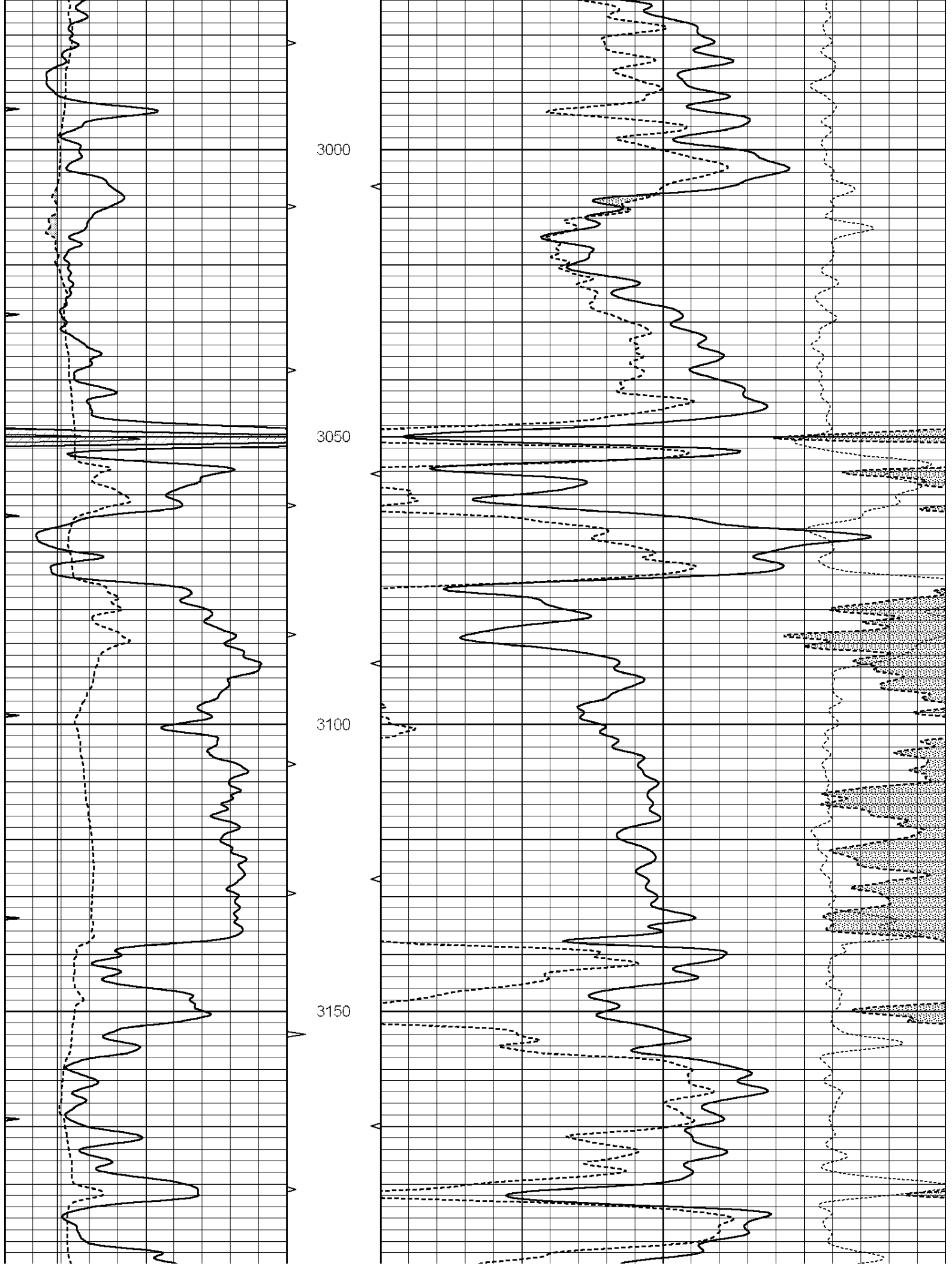


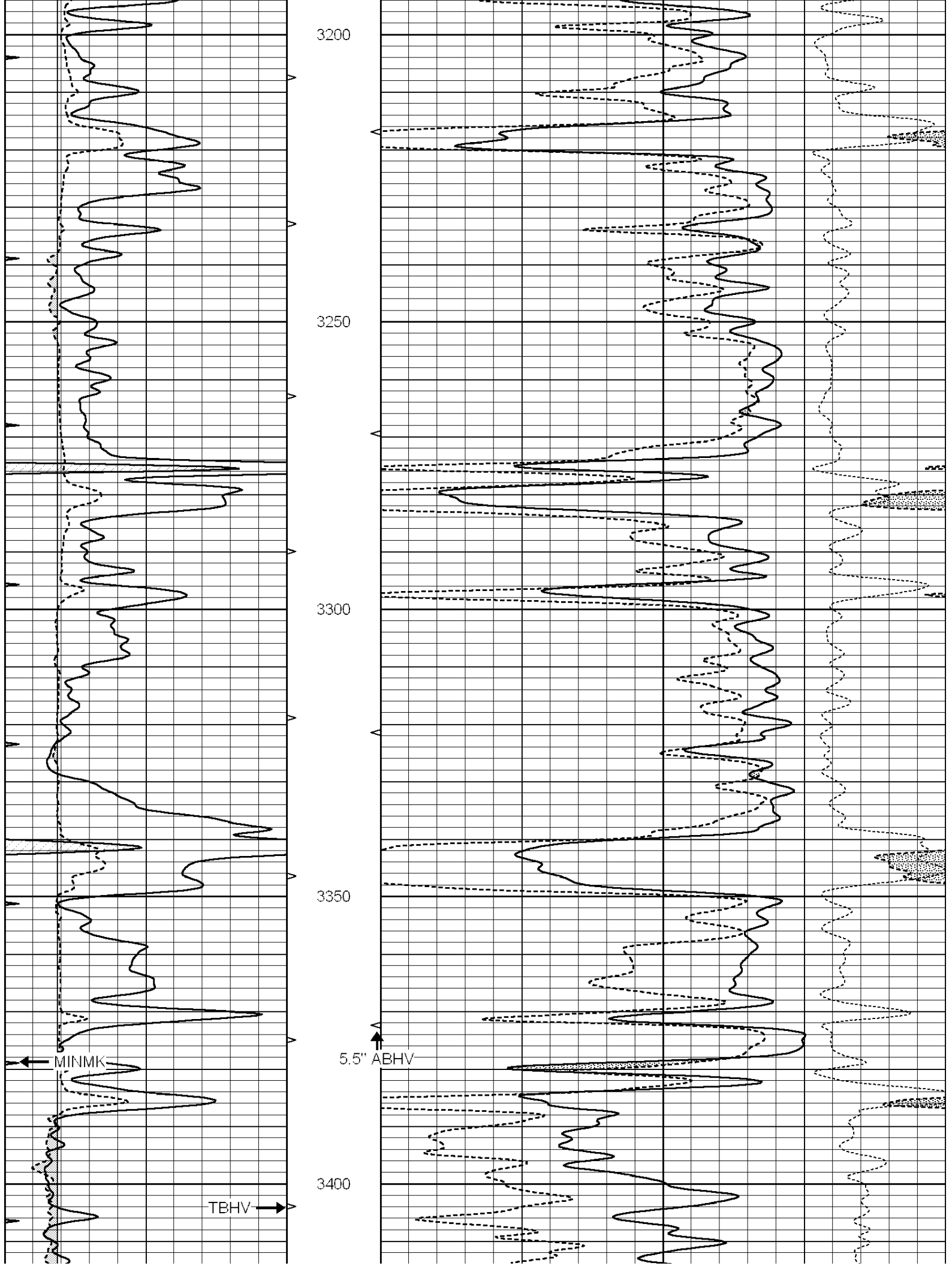
MAIN SECTION

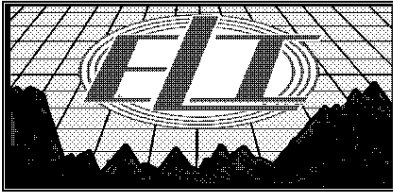
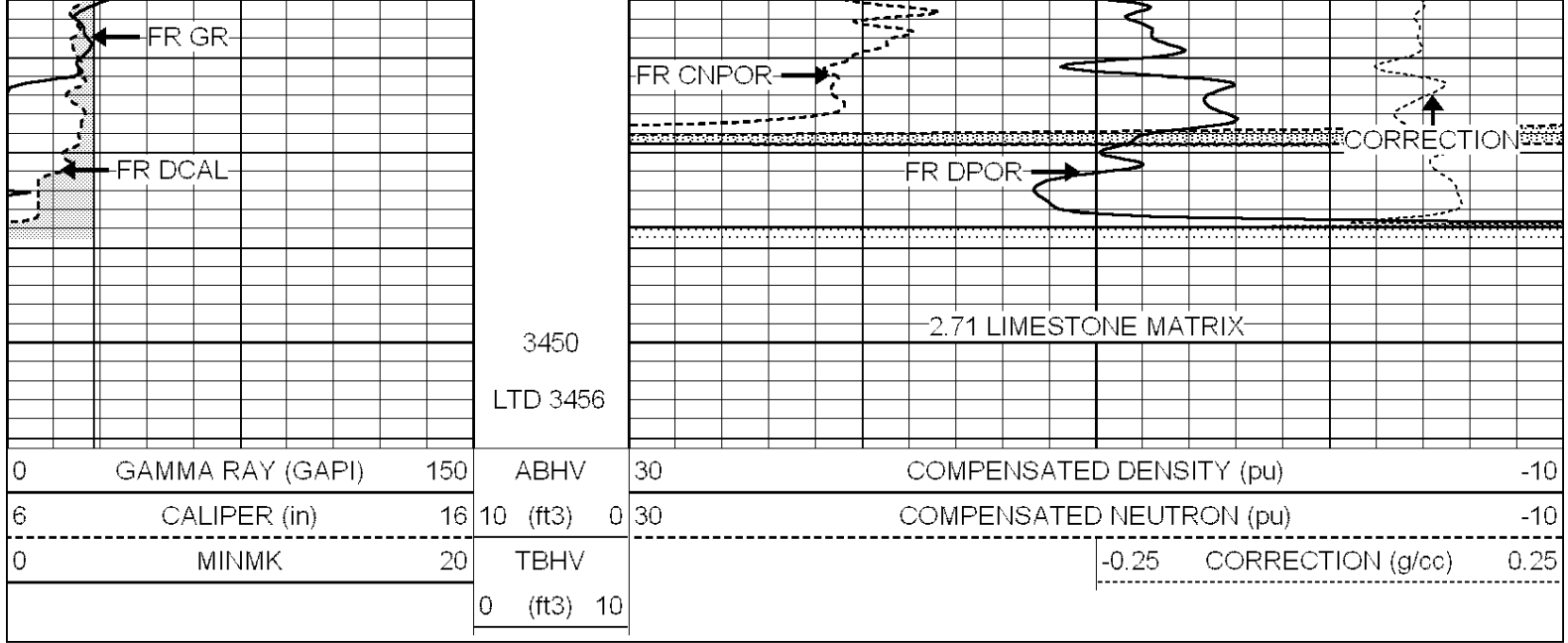
Database File: 1598ddn.db
 Dataset Pathname: pass3.5
 Presentation Format: den_neu
 Dataset Creation: Wed Aug 30 02:03:37 2017 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

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





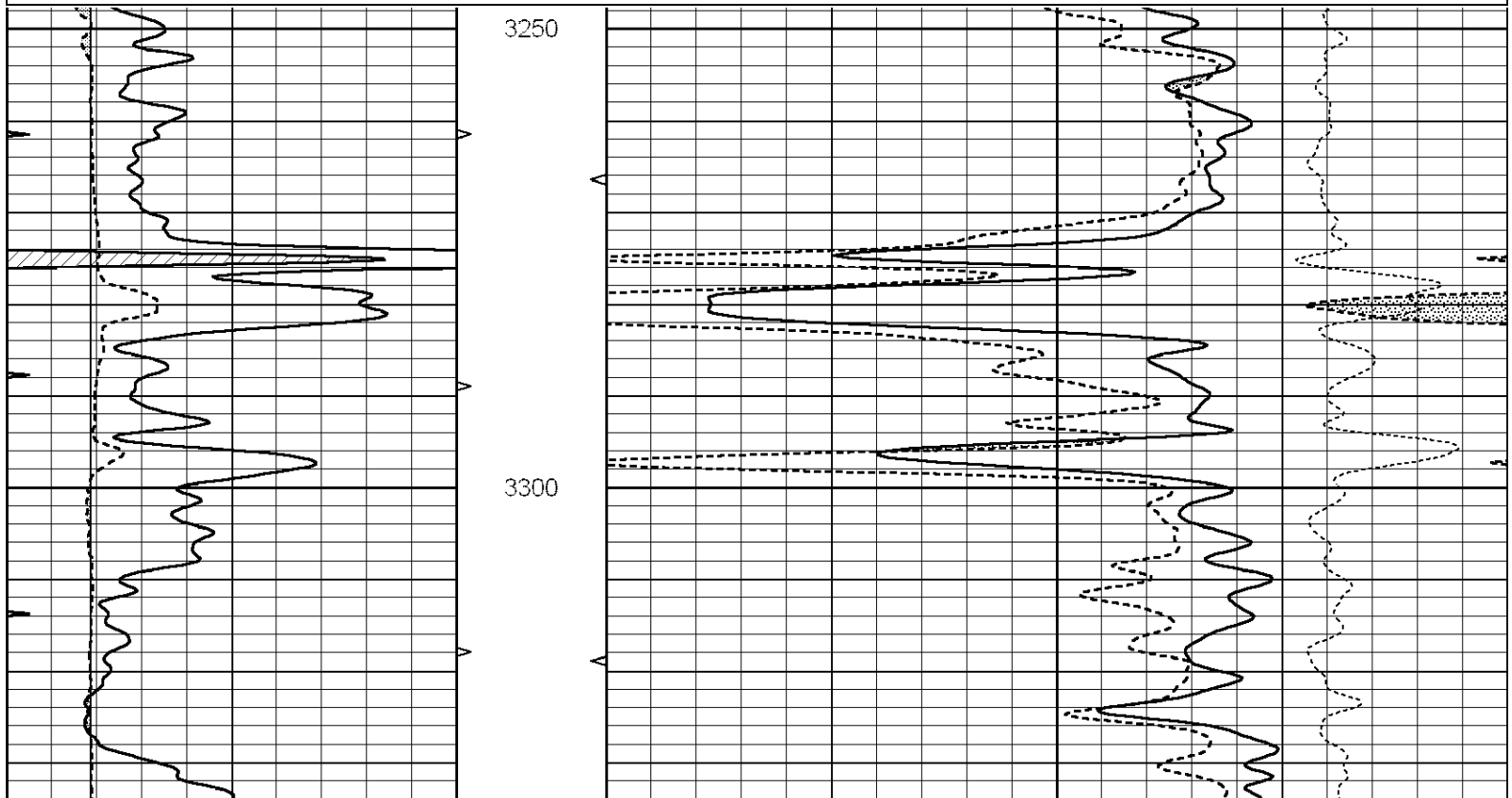


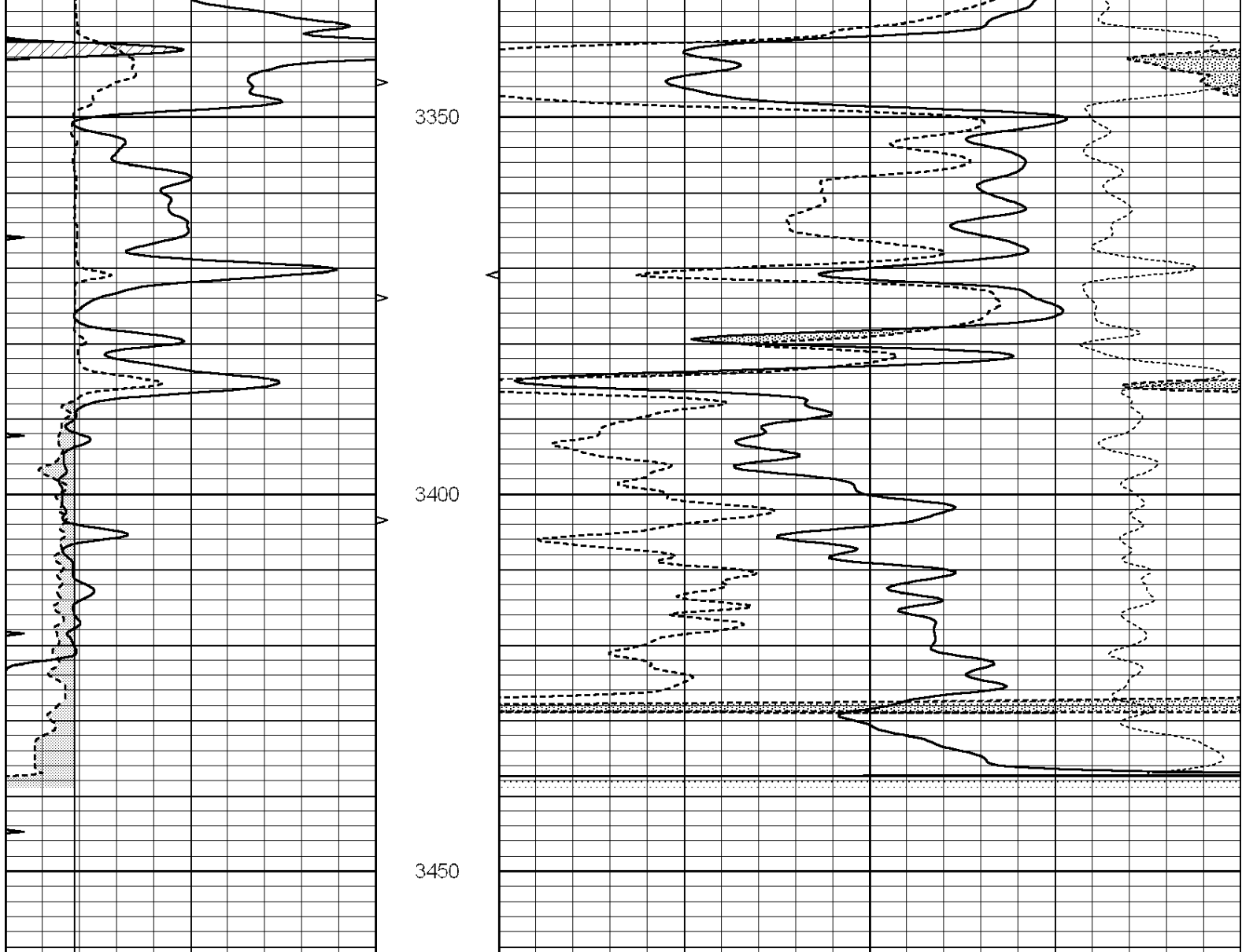


REPEAT SECTION

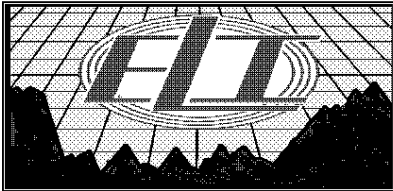
Database File: 1598ddn.db
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 Charted by: Depth in Feet scaled 1:240

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			





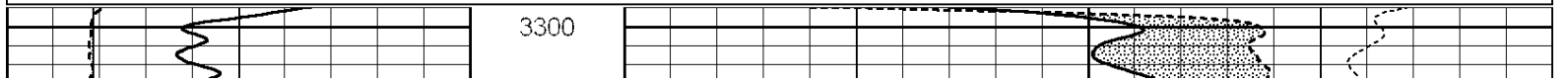
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6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		

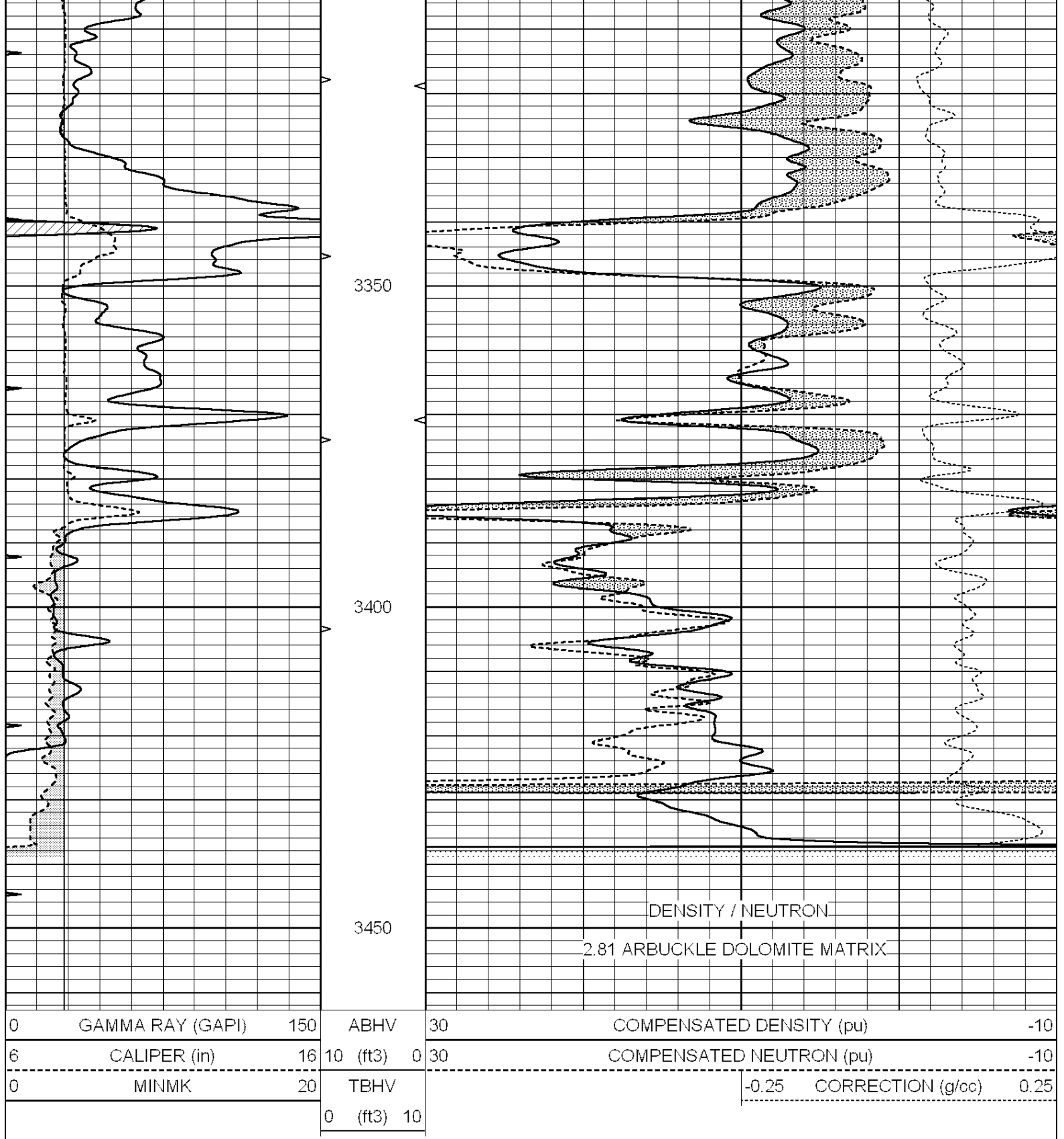


DOLOMITE MATRIX

Database File: 1598ddn.db
 Dataset Pathname: pass2.3D
 Presentation Format: den_neu
 Dataset Creation: Wed Aug 30 01:12:19 2017
 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: 1587pe2.db
 Dataset Pathname: pass2
 Dataset Creation: Mon Aug 21 11:29:56 2017 by Log SOC 120430

Litho Density Calibration Report
 Serial: 002 Model: PRB

Master Calibration

Performed Mon Aug 21 11:27:42 2017

Background

Magnesium

Aluminum

Sandstone

Window 1	837.1	10632.5	2945.1	12110.1	cps
Window 2	772.0	9117.4	2570.1	10197.3	cps
Window 3	631.7	4669.0	1481.9	5042.9	cps
Window 4	187.0	187.5	185.9	189.9	cps
Long Space	0.0	8345.4	1798.1	9425.3	cps
Short Space	1.1	1927.9	1285.9	2050.2	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	

Rib Angle	: 45.2	Rib Slope	: 1.008	Density/Spine Ratio	: 0.558
Spine Angle	: 75.2	Spine Slope	: 3.790	Spine Intercept	: -19.6

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	

Gamma Ray Calibration Report

Serial Number:	070558	
Tool Model:	OPEN_GR	
Performed:	Wed May 31 00:09:32 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps