

COMPENSATED DENSITY / NEUTRON LOG

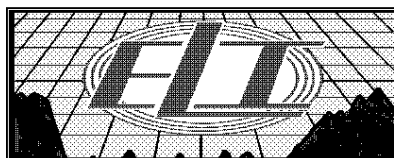
Company		DOWNING - NELSON OIL COMPANY, INC.	
Well		BOLLIG #2-17	
Field		RIGA	
County		TREGO	
State		KANSAS	
Location:		API # : 15-195-23025-0000	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 8' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 17 TWP 13S RGE 21W		Elevation	
1537' FSL & 1722' FEL		DIL/MEL	
Date		7/18/77	
Run Number		ONE	
Depth Driller		3970	
Depth Logger		3970	
Bottom Logged Interval		3946	
Top Log Interval		3000	
Casing Driller		8 5/8"@221'	
Casing Logger		222	
Bit Size		7 7/8"	
Type Fluid in Hole		CHEMICAL MUD	
Density / Viscosity		8.9/53	
pH / Fluid Loss		9.5/9.2	
Source of Sample		FLOWLINE	
Rim @ Meas. Temp		.500@94F	
Rmf @ Meas. Temp		.375@94F	
Rmc @ Meas. Temp		.600@94F	
Source of Rmf / Rmc		MEASUREMENT	
Rim @ BHT		.405@116F	
Time Circulation Stopped		8 HOURS	
Time Logger on Bottom		8:30 P.M.	
Maximum Recorded Temperature		116F	
Equipment Number		922339	
Location		HAYS, KANSAS	
Recorded By		JEFF LUEBBERS	
Witnessed By		MARC DOWNING	

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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

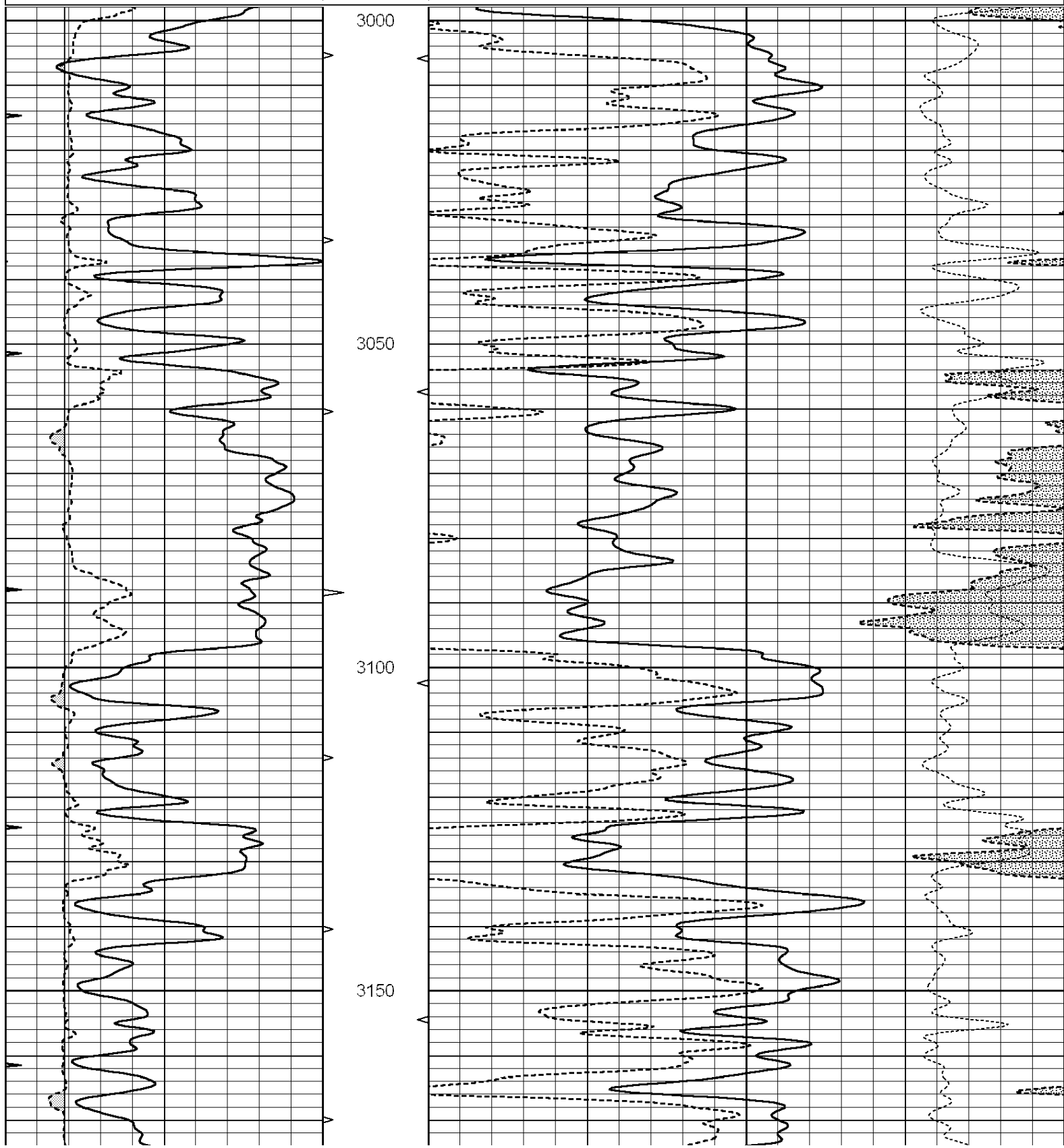
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
RIGA ELEVATOR, S. TO ROUND MOUND, 1W., 1/2N., W. INTO

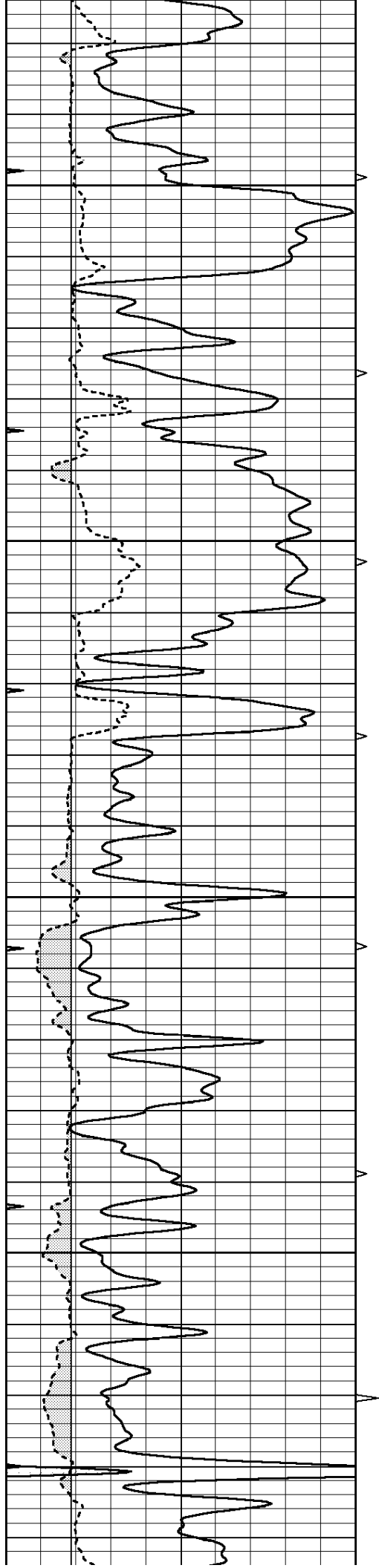


MAIN SECTION

Database File: 1590ddn.db
Dataset Pathname: pass3.P
Presentation Format: den_neu
Dataset Creation: Tue Jul 18 23:46:15 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		



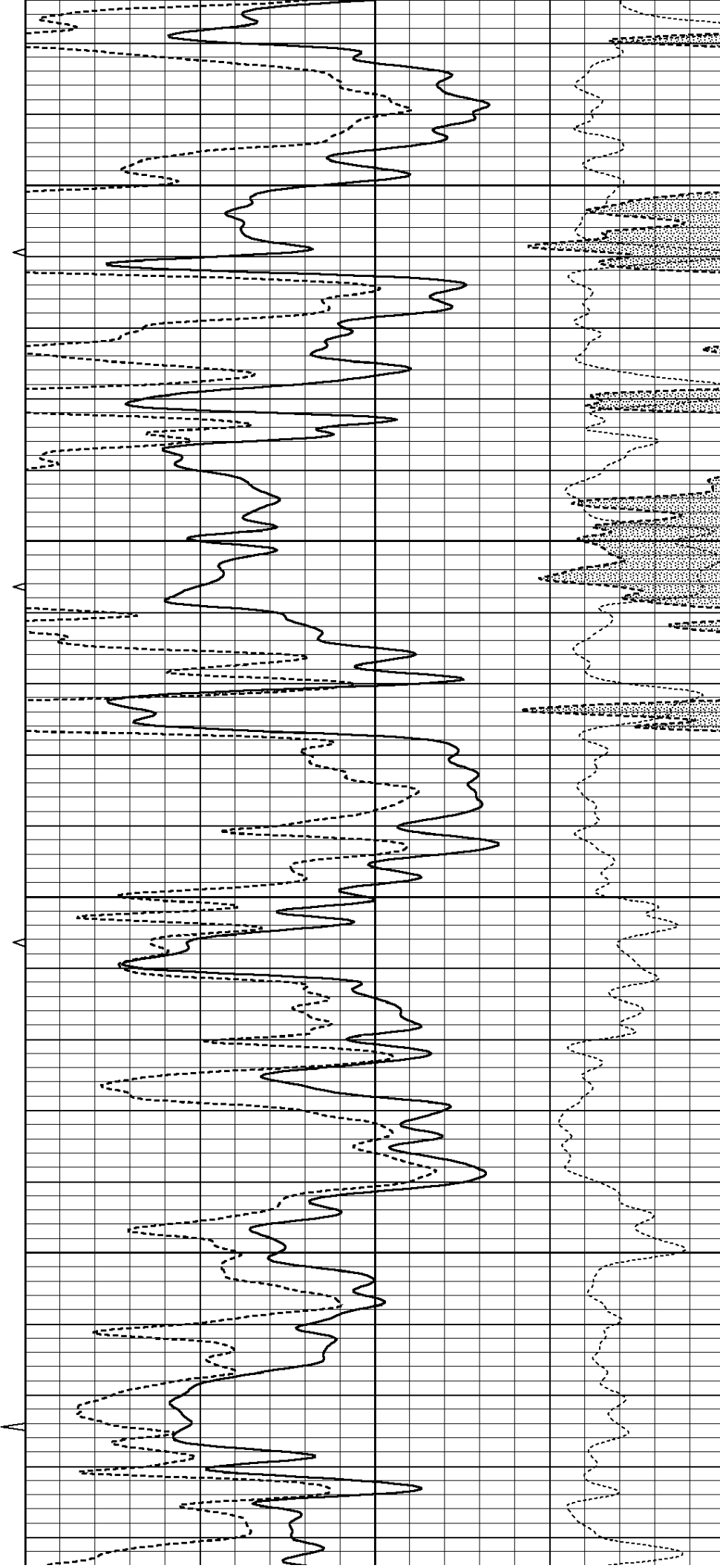


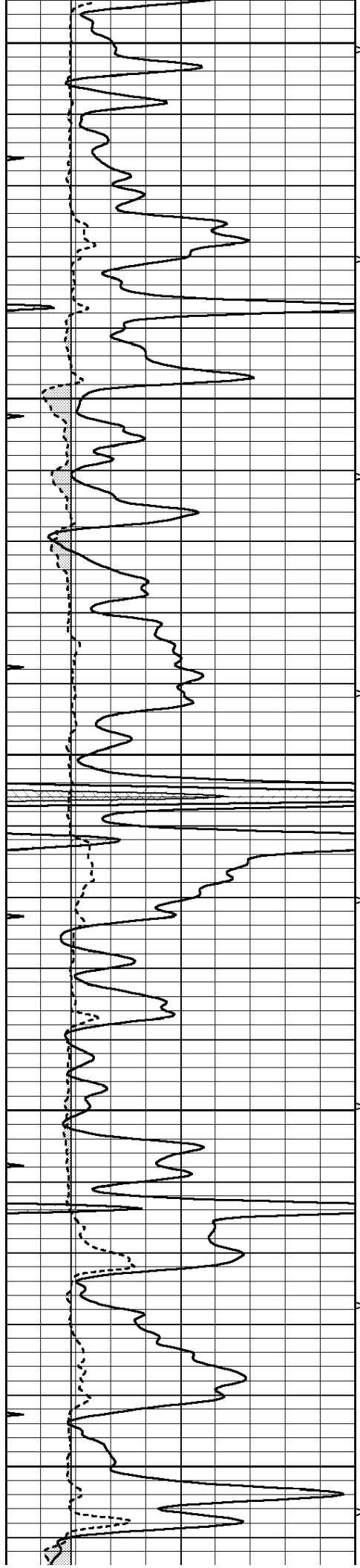
3200

3250

3300

3350





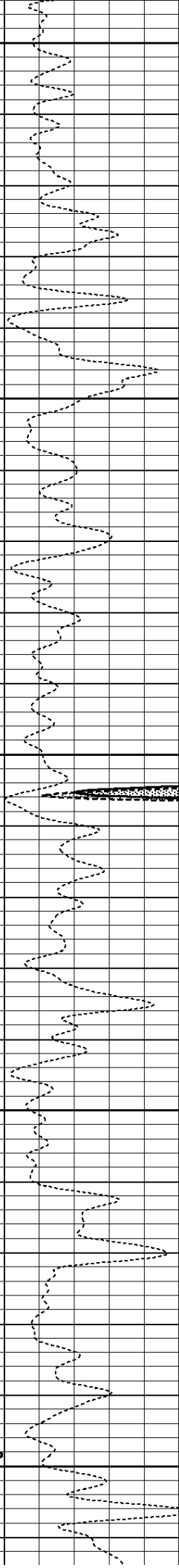
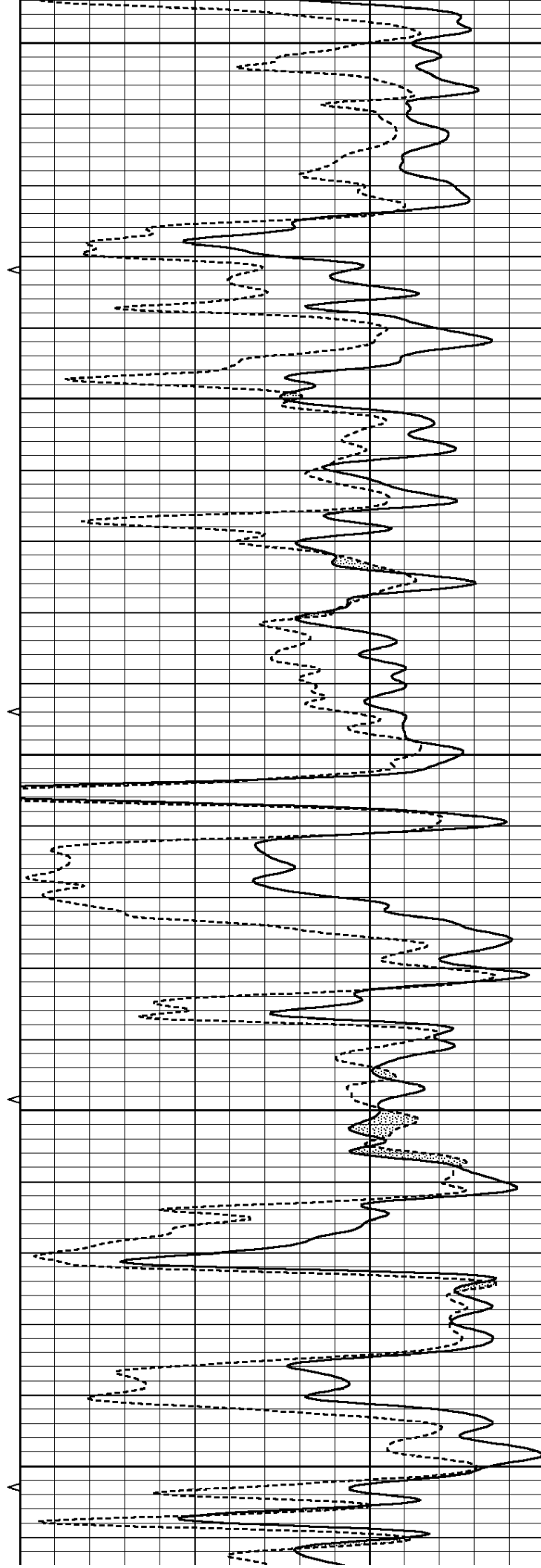
3400

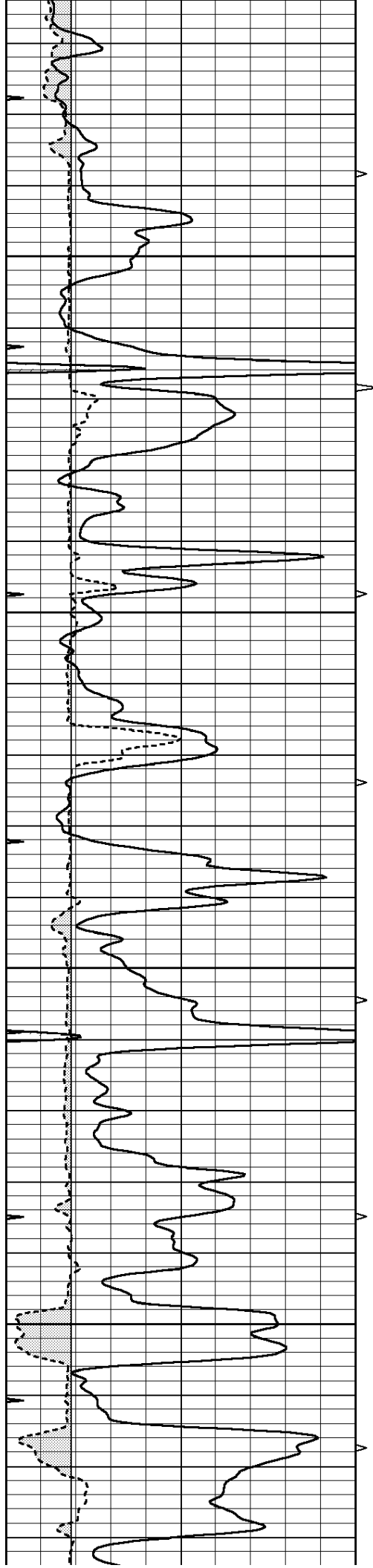
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3500

3550

3600



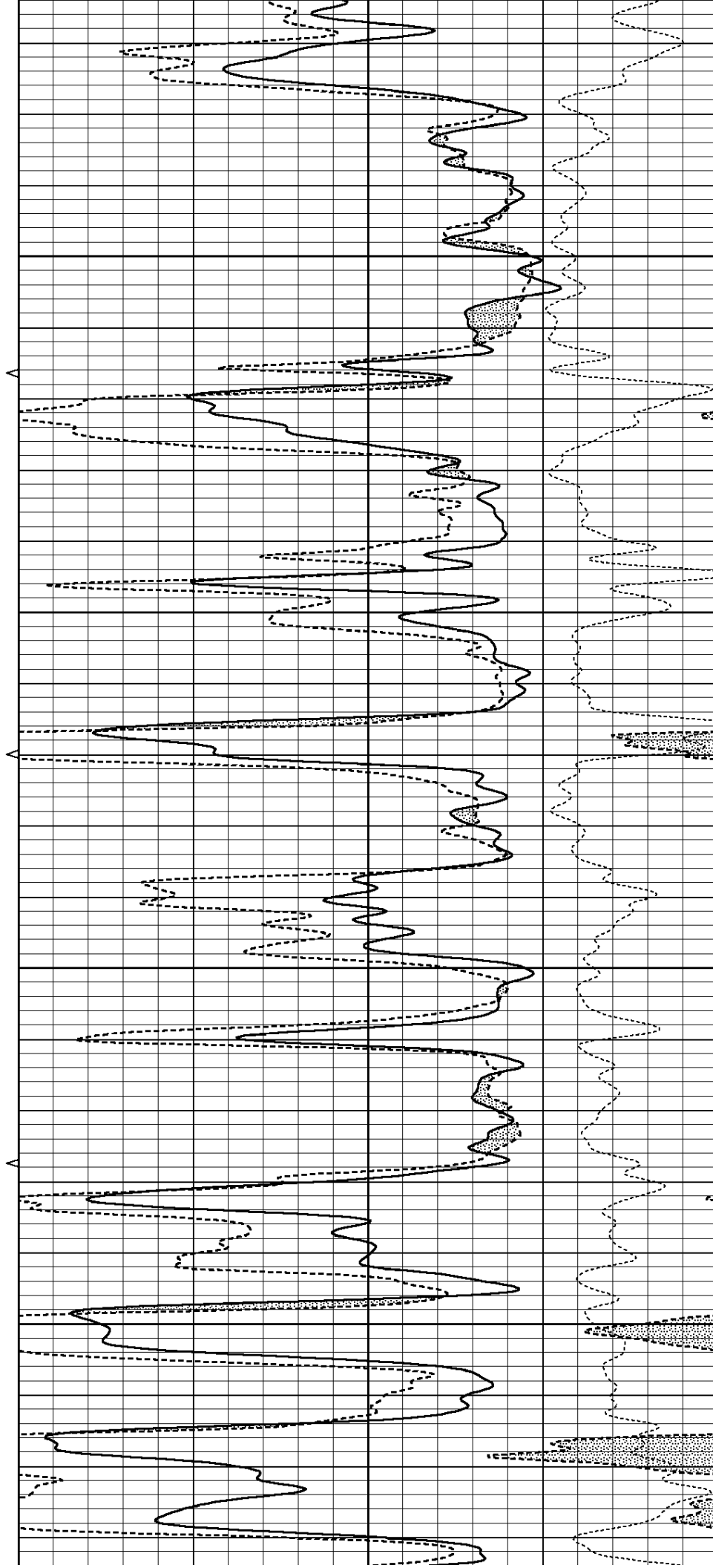


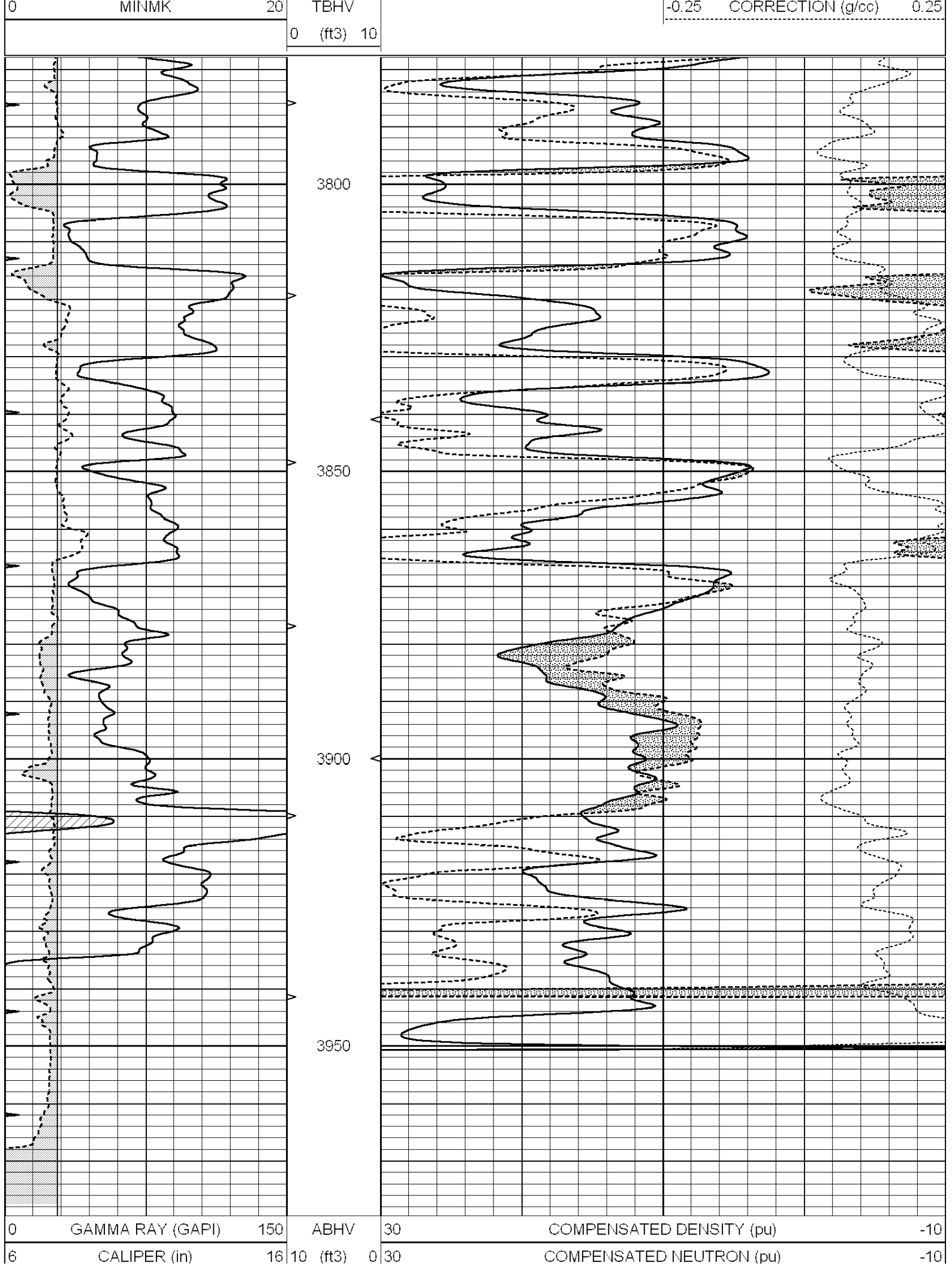
3650

3700

3750

3800





0	MINMK	20	TBHV	-0.25	CORRECTION (g/cc)	0.25
		0	(ft3) 10			

Calibration Report								
Database File:		1590ddn.db						
Dataset Pathname:		pass3.P						
Dataset Creation:		Tue Jul 18 23:46:15 2017						
Dual Induction Calibration Report								
Serial-Model:			PROBE7-DILG					
Surface Cal Performed:			Tue Jul 18 21:06:38 2017					
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	620.000	-8.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-55.000
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 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	

Rib Angle	: 49.0	Rib Slope	: 1.002	Density/Rib Ratio	: 0.971
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	

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Compensated Neutron Calibration Report	
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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	
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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