



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY / NEUTRON LOG

Company DOWNING - NELSON OIL CO. INC. Well TAMMY "A" UNIT #1 Field WAKEENEY County TREGO State KANSAS		Company DOWNING - NELSON OIL COMPANY, INC. Well TAMMY "A" UNIT #1 Field WAKEENEY County TREGO State KANSAS	
Location: API # : 15-195-22855-0000 2370' FNL & 2225' FWL SW - SE - SE - NW SEC 26 TWP 11S RGE 23W		Other Services DIL/MEL SONIC	
Permanent Datum Log Measured From Drilling Measured From	GROUND LEVEL KELLY BUSHING 8' A.G.L. KELLY BUSHING	Elevation 2382 K.B. 2390 D.F. 2388 G.L. 2382	
Date	3/22/13		
Run Number	ONE		
Depth Driller	4150		
Depth Logger	4150		
Bottom Logged Interval	4126		
Top Log Interval	3300		
Casing Driller	8 5/8"@221'		
Casing Logger	221		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4,000 PPM	
Density / Viscosity	9.2/50		
pH / Fluid Loss	9.5/7.6		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.950@74F		
Rmf @ Meas. Temp	.713@74F		
Rmc @ Meas. Temp	1.14@74F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.601@117F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	7:45 A.M.		
Maximum Recorded Temperature	117F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	RON NELSON		

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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
 WAKEENEY, KS. (N. EDGE) TO HIXON RD., "H RD.", 1E. TO "270TH RD.", 2 1/2N., 1/2 E. INTO

Database File:

010729ddn.db

Dataset Pathname:

pass4.8

Presentation Format:

den_neu

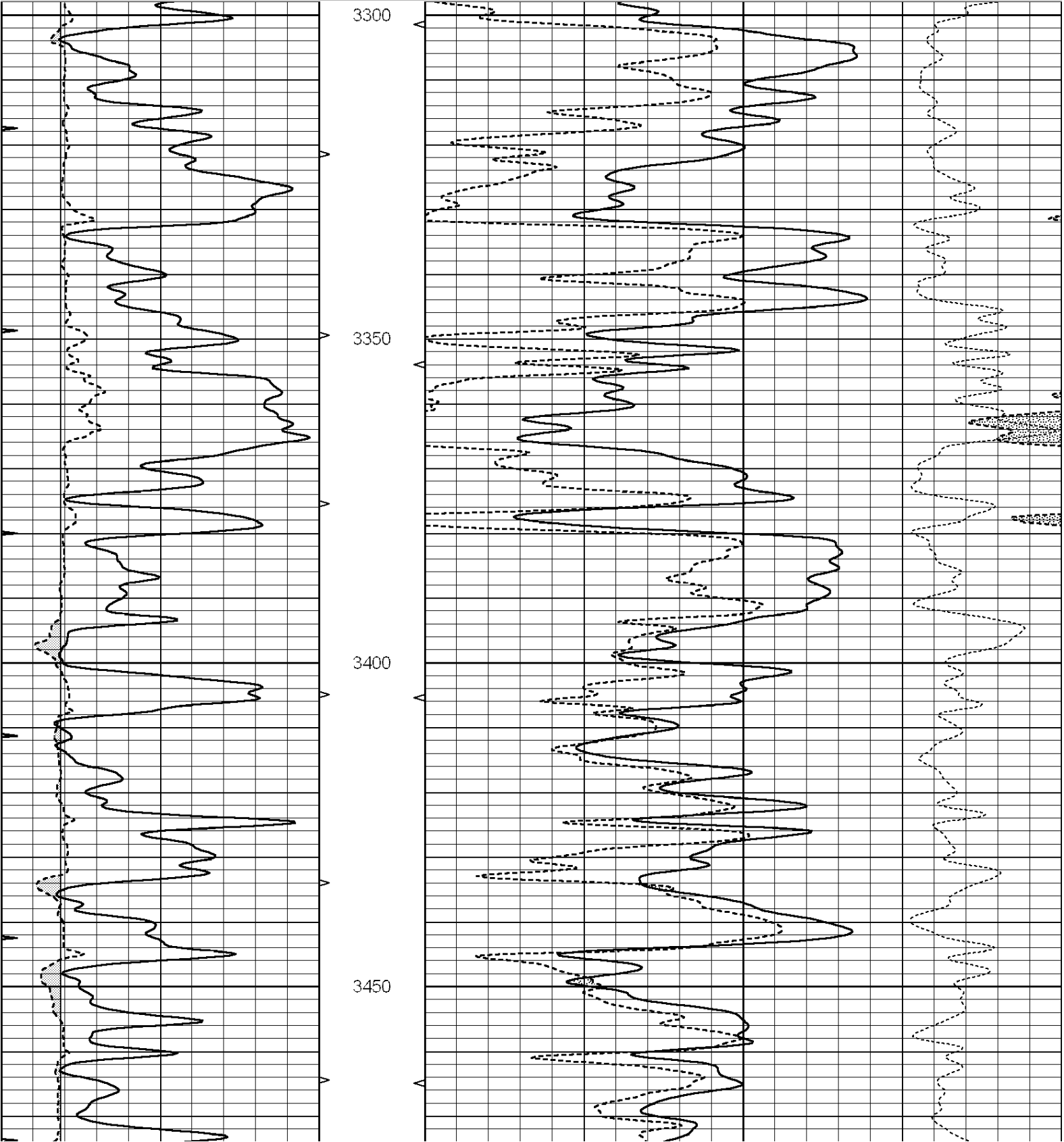
Dataset Creation:

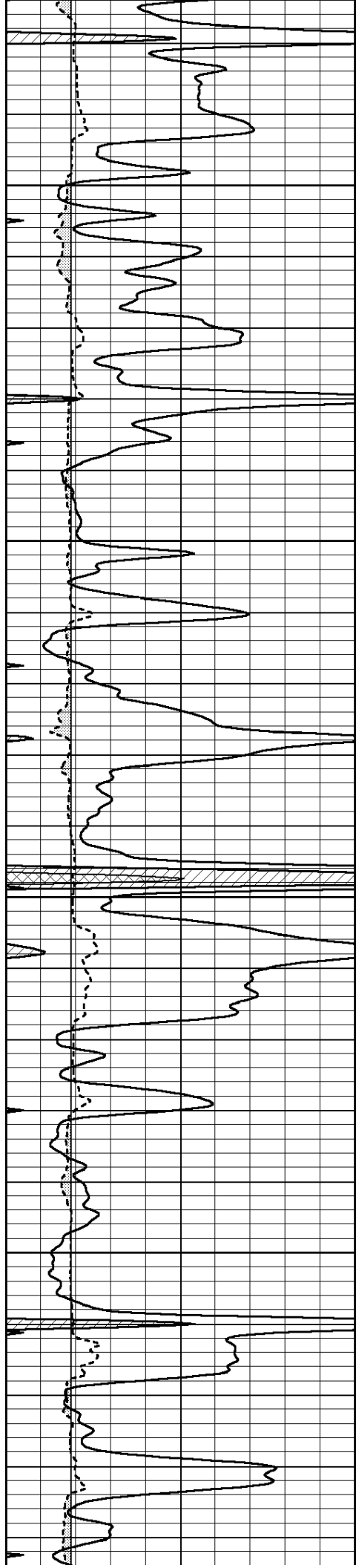
Fri Mar 22 09:13:19 2013 by Calc SOC 120430

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		



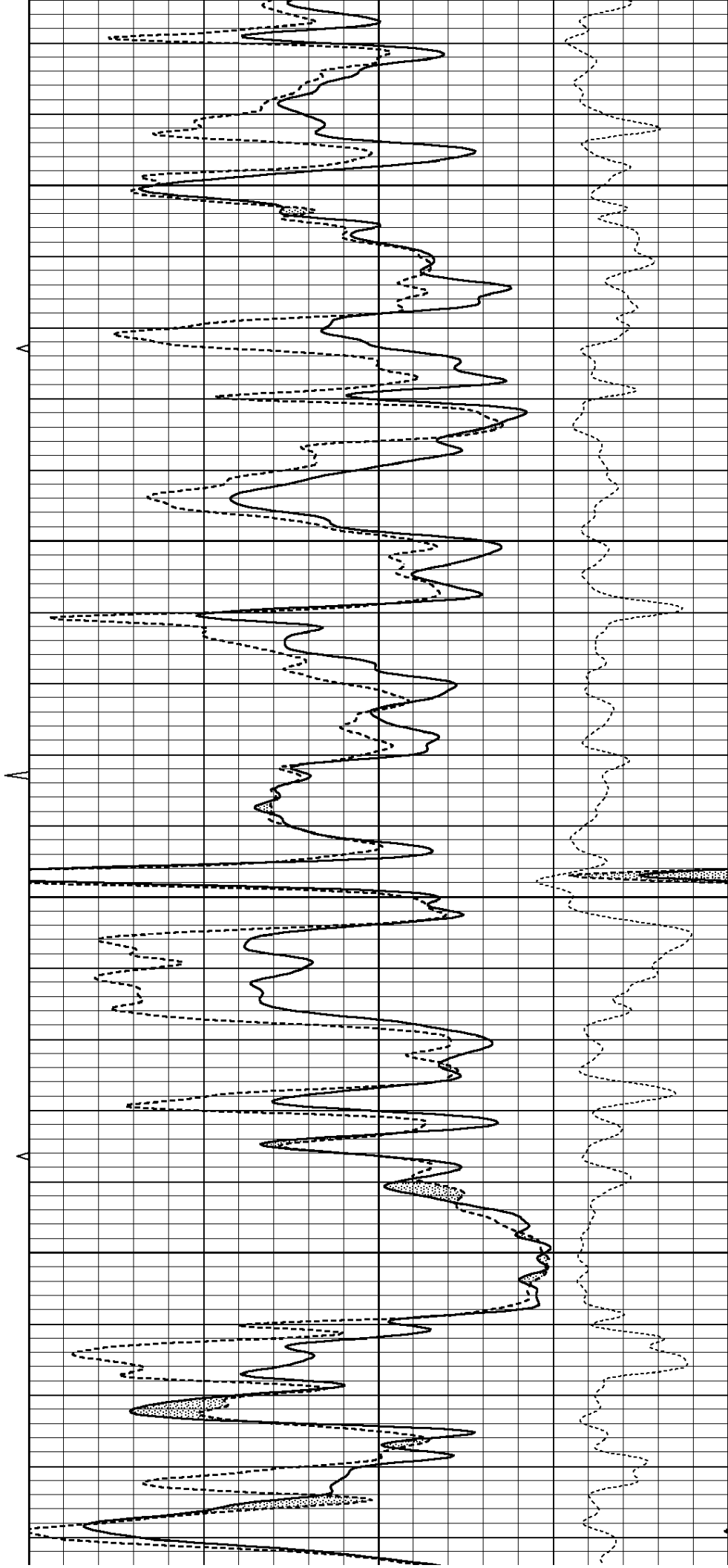


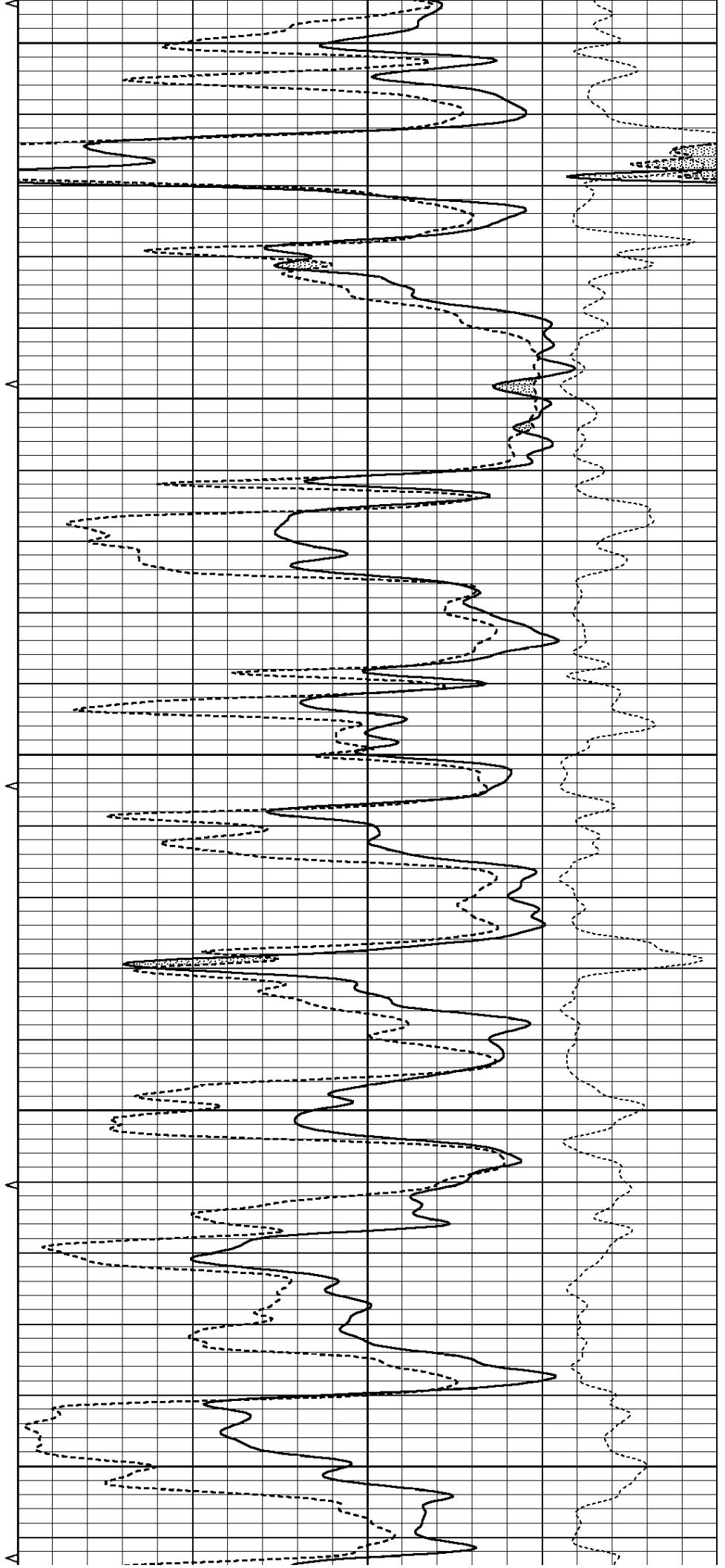
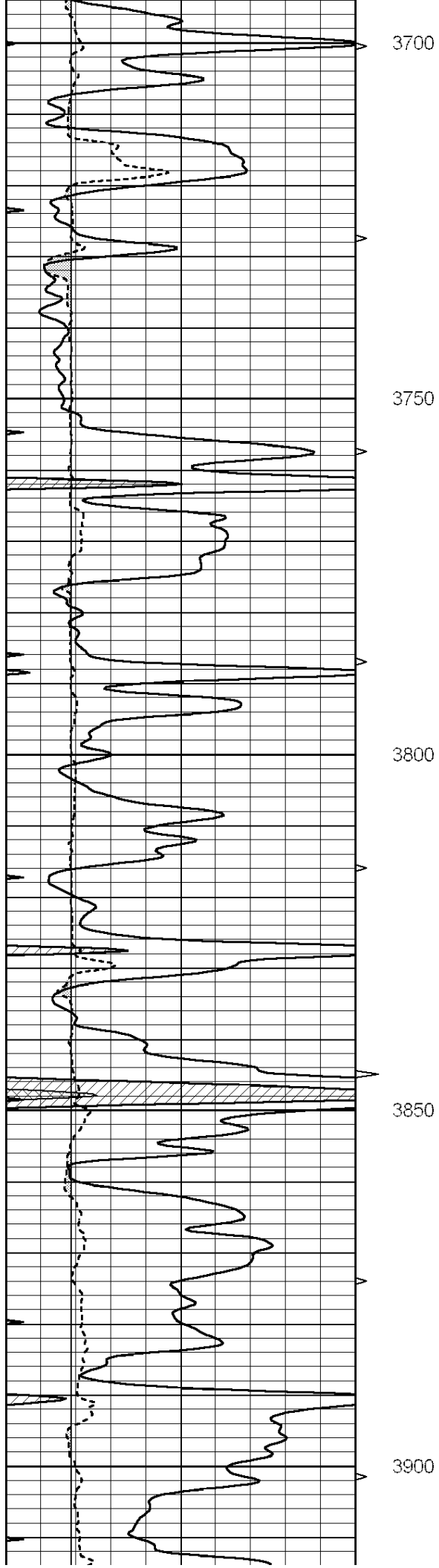
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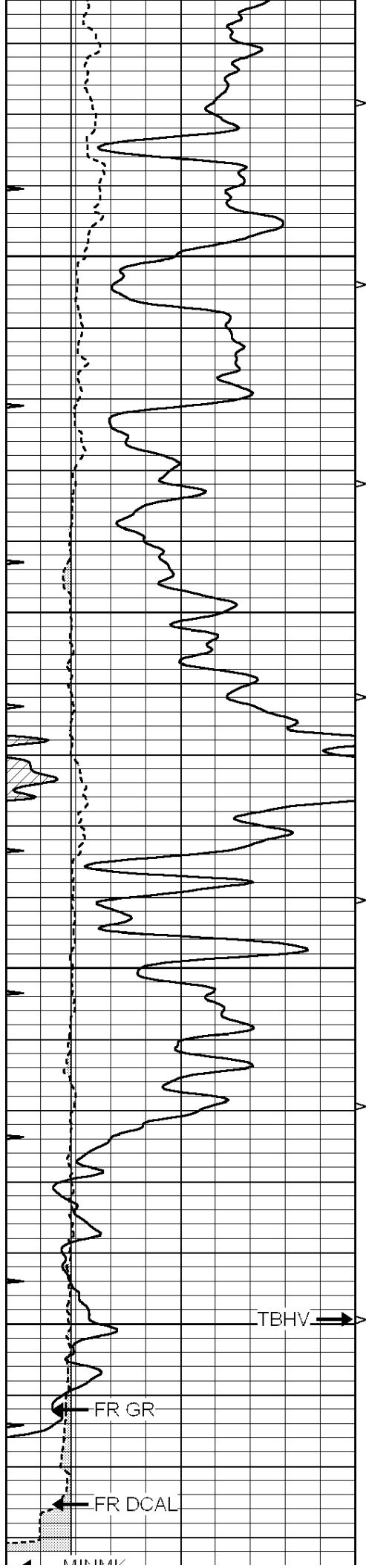
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3600

3650







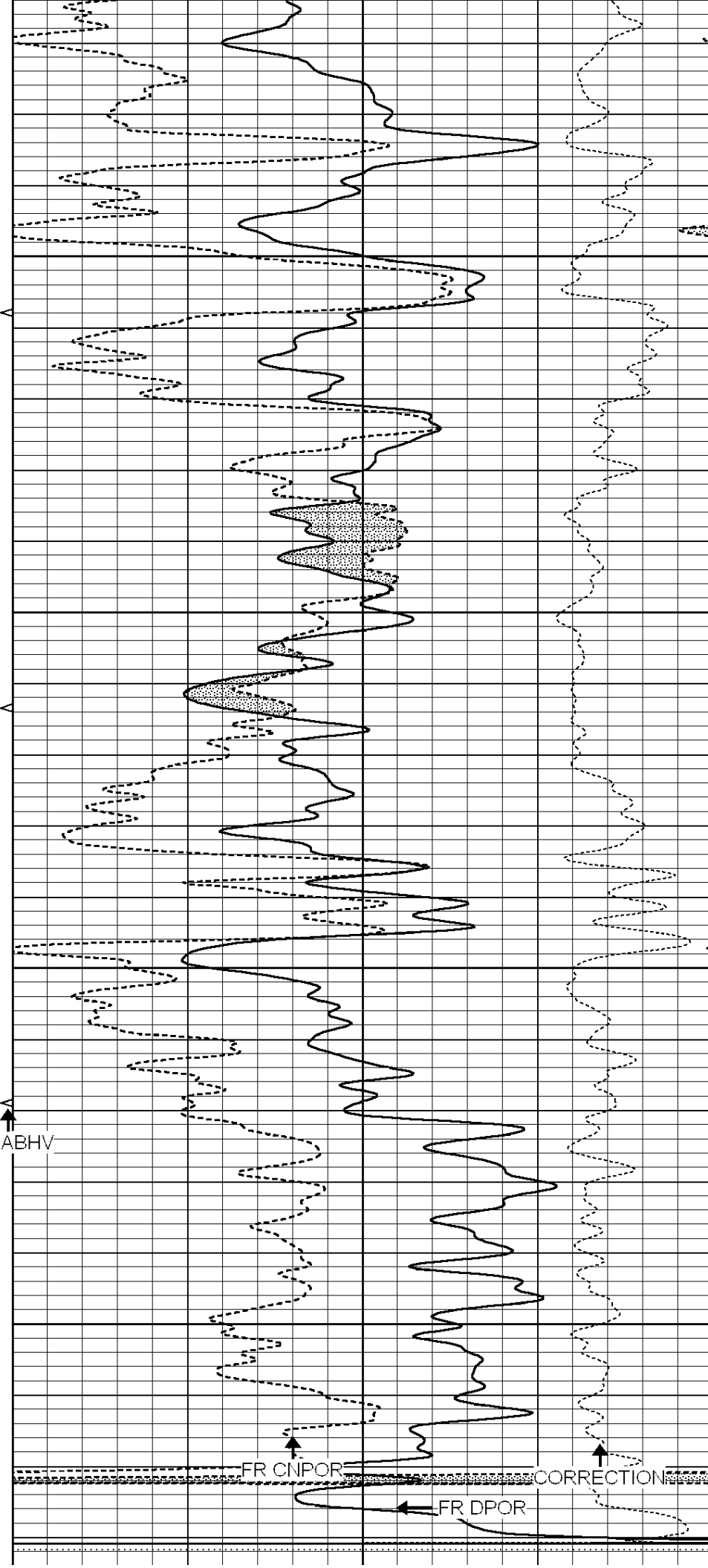
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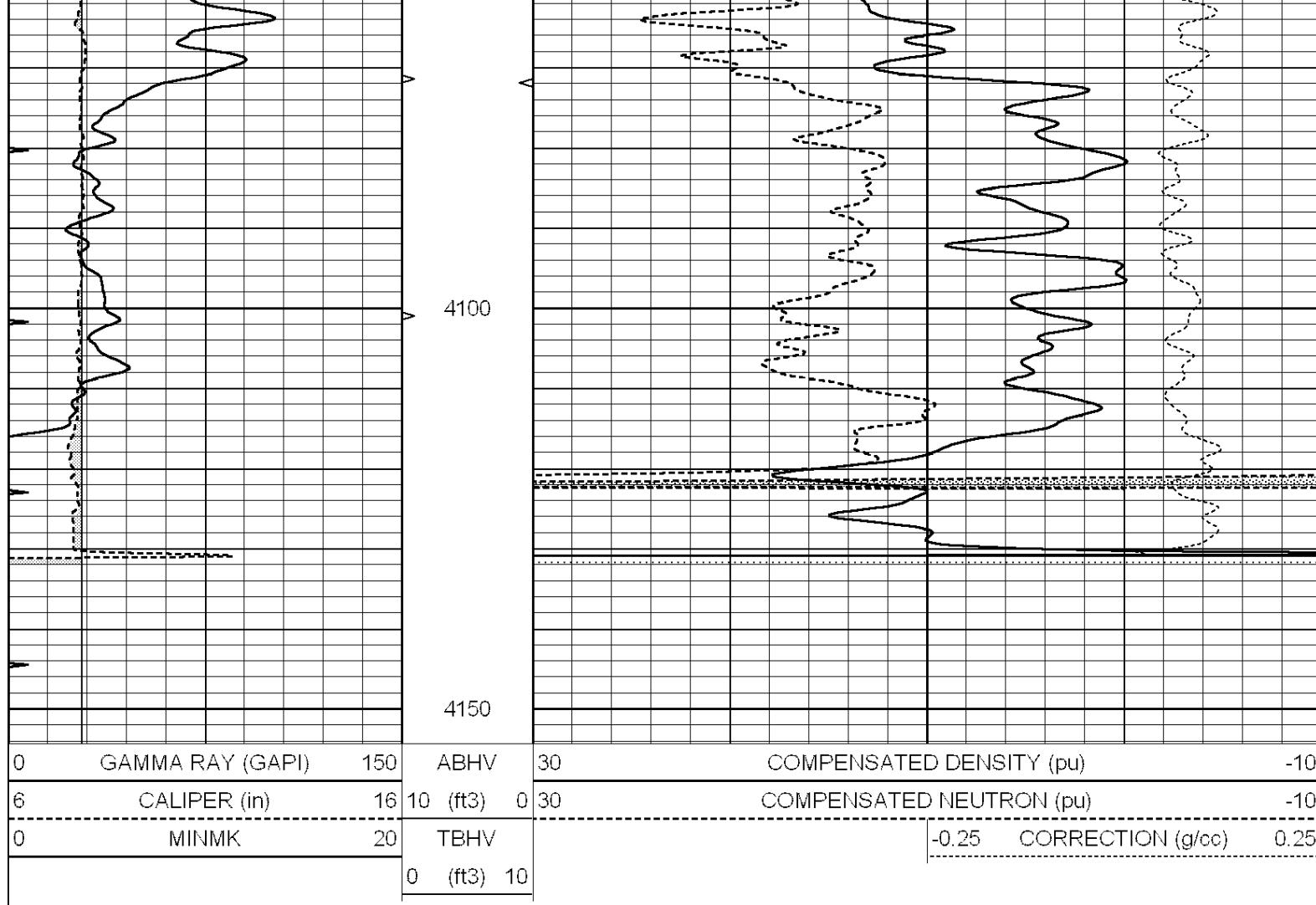
4000

4050

4100

5.5" ABHV





Calibration Report									
Database File:	010729ddn.db								
Dataset Pathname:	pass4.8								
Dataset Creation:	Fri Mar 22 09:13:19 2013 by Calc SOC 120430								
Dual Induction Calibration Report									
Serial-Model:					PROBE9-DILG				
Surface Cal Performed:					Sun Mar 10 00:44:14 2013				
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	621.923	-10.000	
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-13.500	
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	

Medium	0.000	0.000	mmho/m	100.000	0.000	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: 003N Model: PRB								

Master Calibration					Performed Tue Sep 08 14:14:44 2009			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	2042.6	12312.8	4225.8	13758.4				cps
Window 2	1855.8	10134.7	3624.2	11113.1				cps
Window 3	1639.4	6760.2	2716.3	7260.3				cps
Window 4	466.4	469.2	466.1	476.5				cps
Long Space	0.0	8278.9	1768.4	9257.4				cps
Short Space	2.2	2377.3	1544.1	2574.2				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio			: 0.549	
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept			: -18.8	

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 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								
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Serial Number:	070808
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		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:	070559		
Tool Model:	OPEN_GR		
Performed:	Sun Mar 10 00:43:54 2013		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3500	GAPI/cps	