



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY/NEUTRON LOG

Company		L.D. DRILLING INC.	
Well		BARNES #1-21	
Field		WILDCAT	
County		BARTON	
State		KANSAS	
Location:		API # : 15-009-26044-00-00 1882' FNL & 1864' FWL SE - NW - SE - NW	
Permanent Datum Log Measured From Drilling Measured From		GROUND LEVEL KELLY BUSHING 5' A.G.L. KELLY BUSHING	
SEC 21 TWP 18S RGE 14W		Other Services DIL/MEL SONIC	
Elevation		1926	
K.B. 1931			
D.F. 1929			
G.L. 1926			
Date	11/10/14		
Run Number	ONE		
Depth Driller	3463		
Depth Logger	3457		
Bottom Logged Interval	3455		
Top Log Interval	2800		
Casing Driller	8 5/8" @ 914'		
Casing Logger	914'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6000 PPM	
Density / Viscosity	9.2/5.1		
pH / Fluid Loss	10.0/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.80 @ 60F		
Rmt @ Meas. Temp	.60 @ 60F		
Rmc @ Meas. Temp	.96 @ 60F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.43 @ 111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	111F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	IAN MABB		
Witnessed By	KURT TALBOTT		

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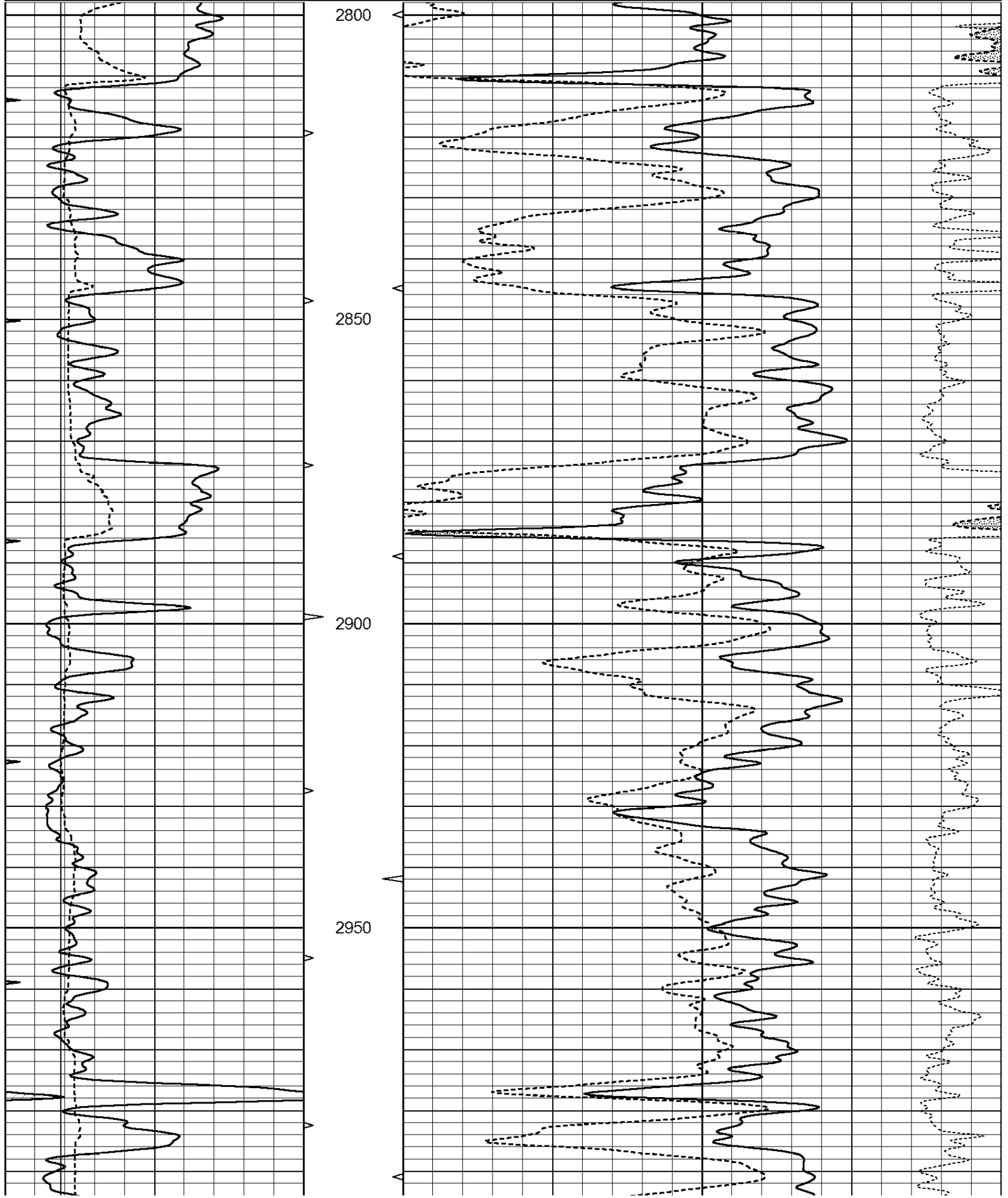
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

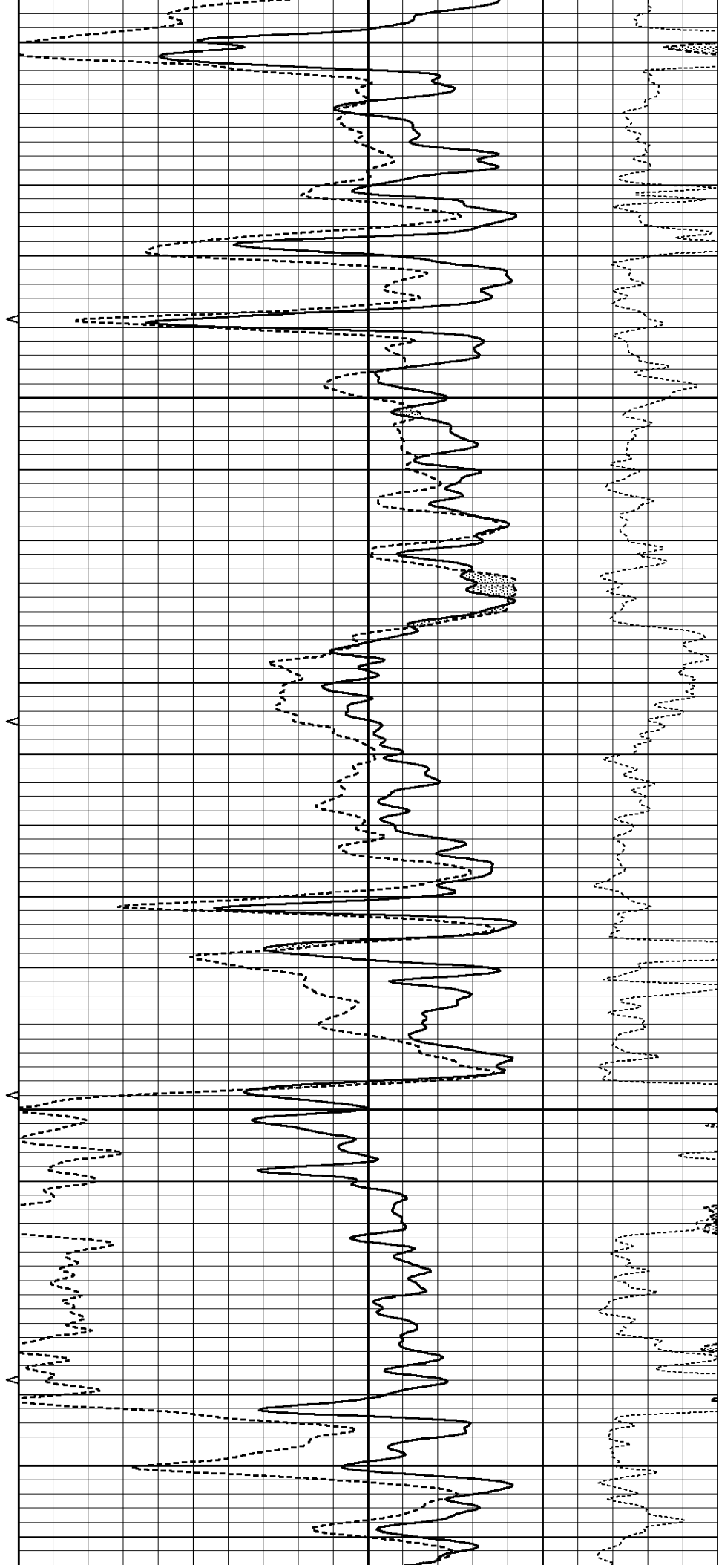
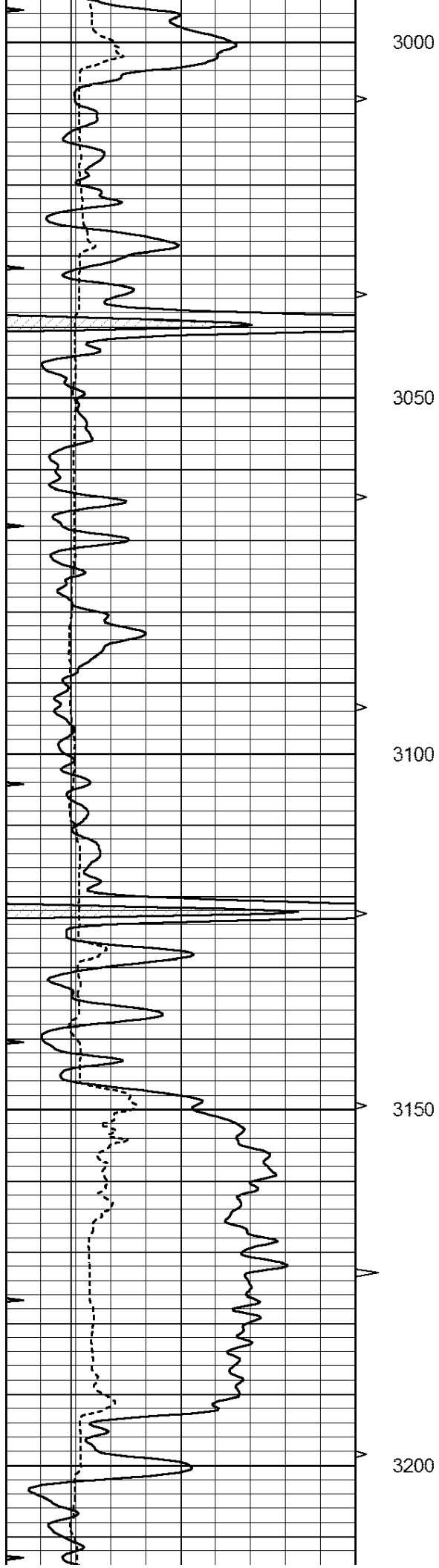
Comments

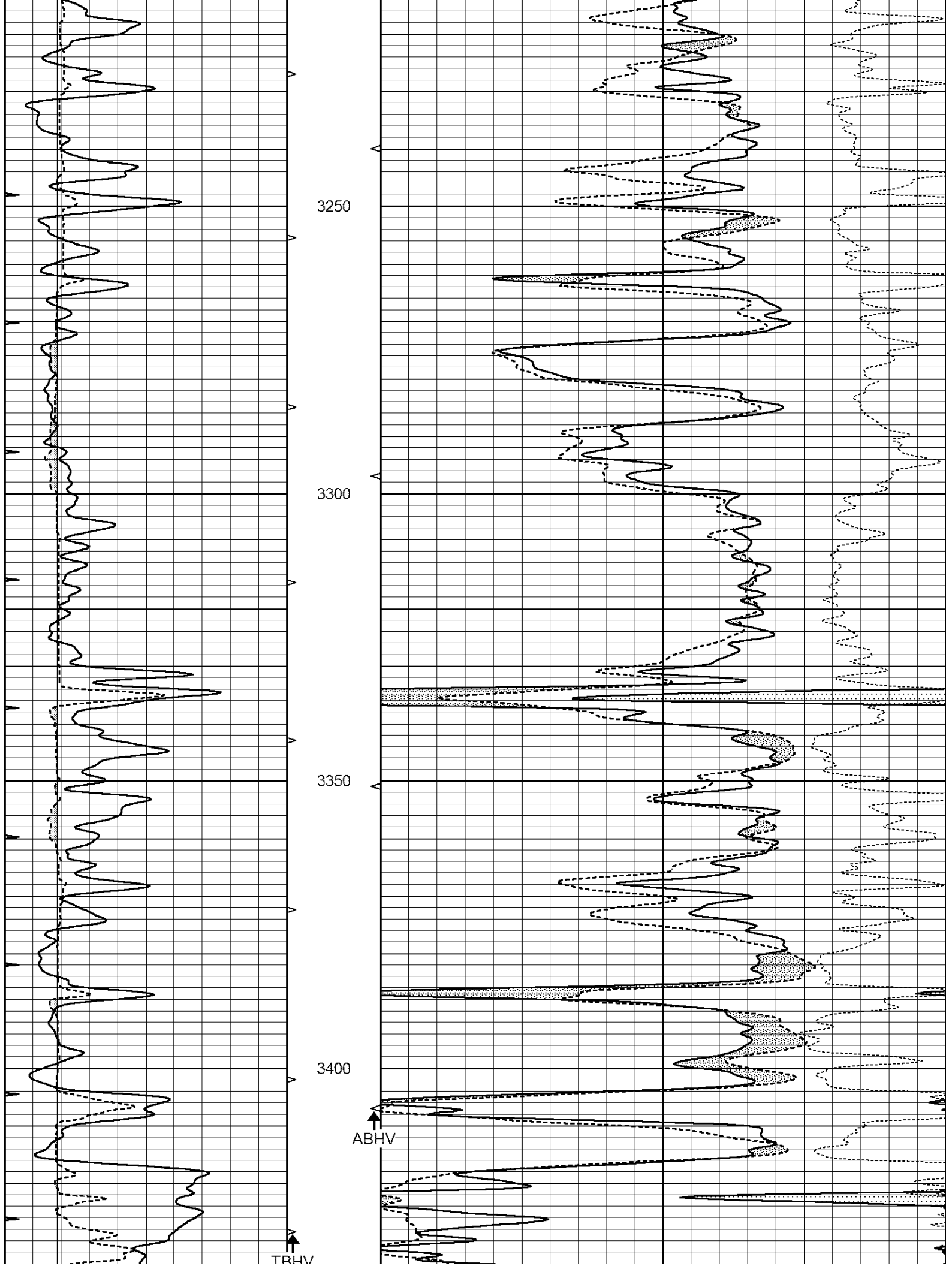
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
 DIRECTIONS:
 281 & HWY 4 - 4 MILES SOUTH - WEST 2 MILES - SOUTH 1/2 - EAST INTO

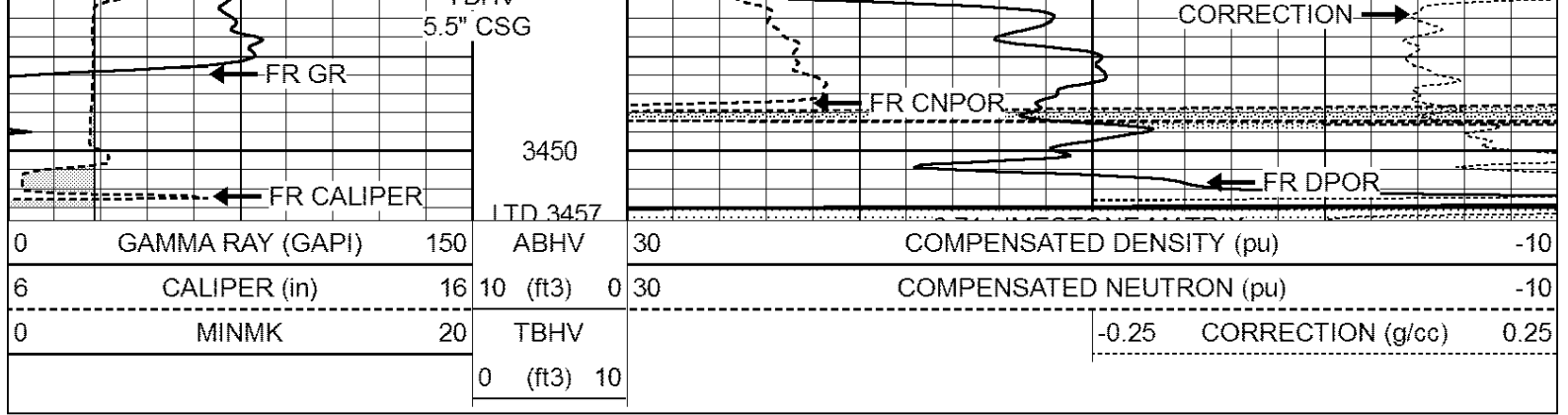
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 Dataset Pathname: pass7.2
 Presentation Format: den_neu
 Dataset Creation: Tue Nov 11 00:20:02 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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		







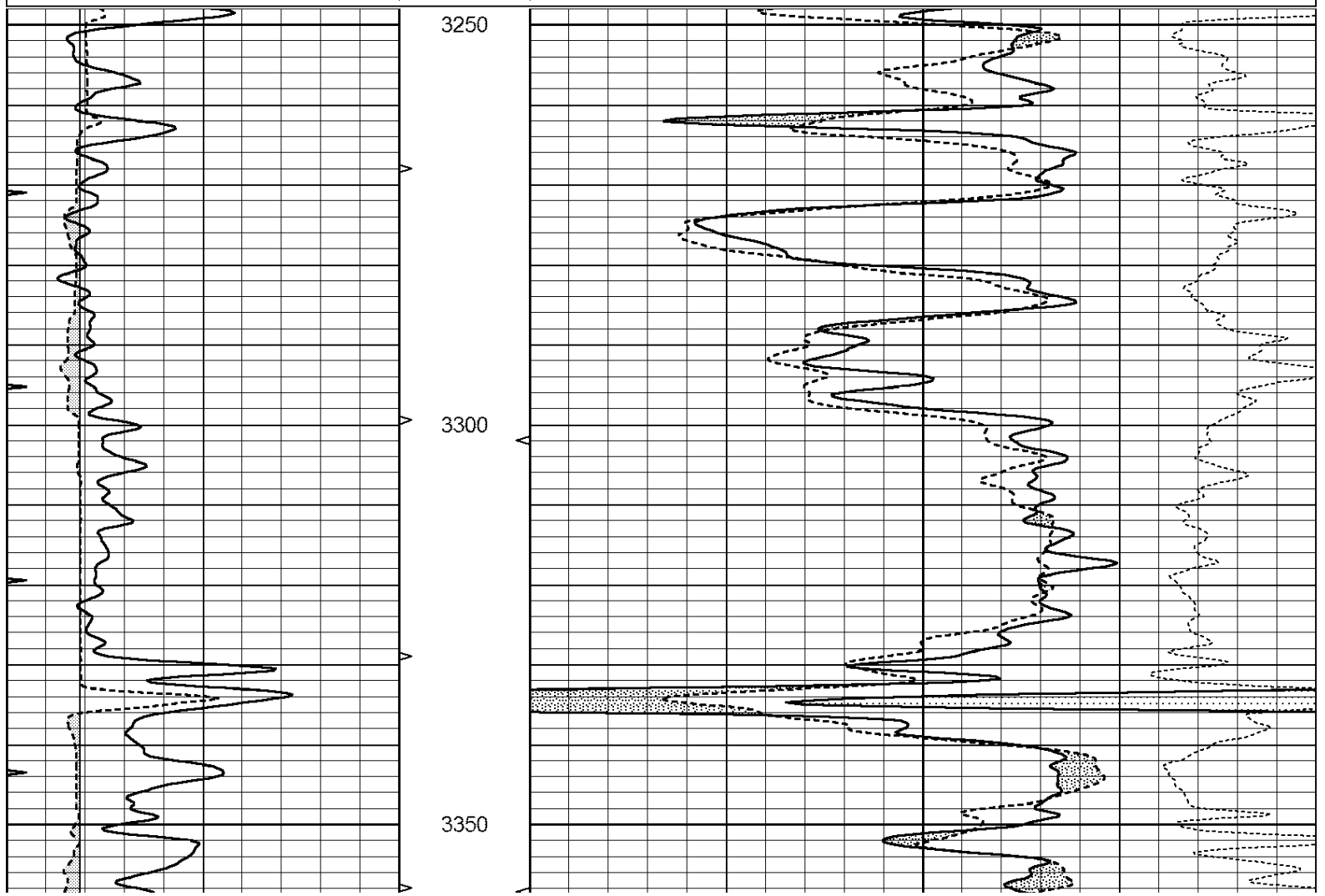
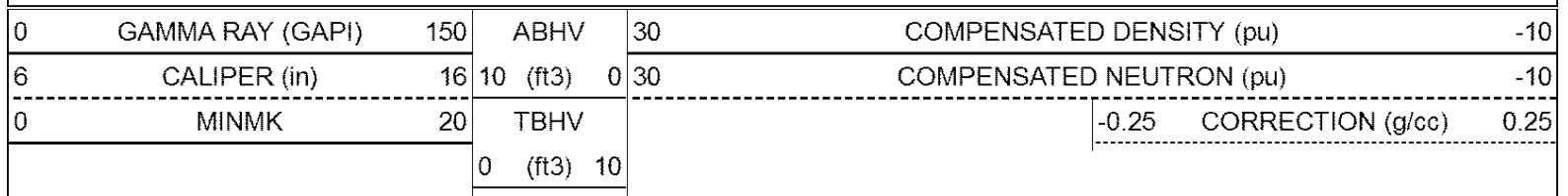


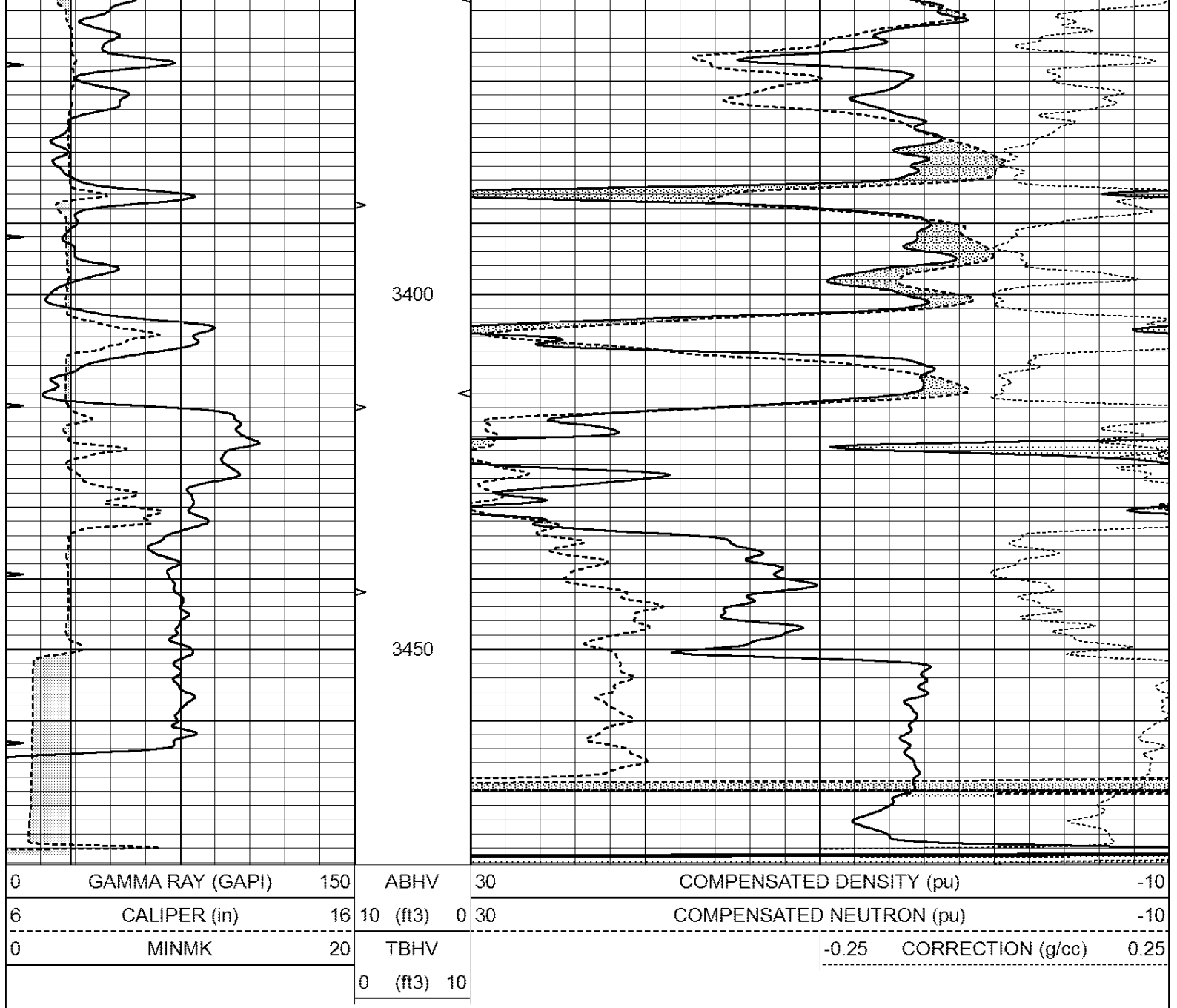


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REPEAT SECTION

Database File: 26403ddn.db
 Dataset Pathname: pass6.3
 Presentation Format: den_neu
 Dataset Creation: Mon Nov 10 23:52:28 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240





Calibration Report

Database File: 26403ddn.db
 Dataset Pathname: pass7.2
 Dataset Creation: Tue Nov 11 00:20:02 2014 by Calc Open-Cased 090629

Compensated Density Calibration Report

Serial-Model: GEAR3-GEARHART
 Source / Verifier: 143 / 143
 Master Calibration Performed: Tue Oct 28 11:14:59 2014
 Before Survey Verification Performed:
 After Survey Verification Performed:

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	881.29	468.35	cps
Aluminum	2.580	g/cc	210.51	354.56	cps

Spine Angle = 79.00

Density/Spine Ratio = 0.596

		Size		Reading		
Small Ring		8.00		4.29		V
Large Ring		14.00		6.24		V
Before Survey Verification						
		Target		Measured		
		g/cc		g/cc		
		g/cc		g/cc		
		g/cc		g/cc		
After Survey Verification						
		Target		Measured		
		g/cc		g/cc		
		g/cc		g/cc		
		g/cc		g/cc		
Compensated Neutron Calibration Report						
		Serial Number:		6I		
		Tool Model:		G		
CALIBRATION						
Detector		Readings		Target		Normalization
Short Space		1.00	cps	1.00	cps	1.0000
Long Space		1.00	cps	1.00	cps	1.0000
PRE-SURVEY VERIFICATION						
Detector		Readings		Measured		Target
1)	Short Space	cps				
	Long Space	cps		pu	pu	
2)	Short Space	cps				
	Long Space	cps		pu		
3)	Short Space	cps				
	Long Space	cps		pu		
POST-SURVEY VERIFICATION						
Detector		Readings		Measured		Target
1)	Short Space	cps				
	Long Space	cps		pu	pu	
2)	Short Space	cps				
	Long Space	cps		pu	pu	
3)	Short Space	cps				
	Long Space	cps		pu	pu	
Gamma Ray Calibration Report						
Serial Number:		GR6				
Tool Model:		OPEN				
Performed:		Sun Aug 17 15:23:09 2014				
Calibrator Value:		150.0		GAPI		
Background Reading:		0.0		cps		
Calibrator Reading:		276.0		cps		

Sensitivity:

0.7000

GAP/cps