



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**COMPENSATED  
DENSITY / NEUTRON  
LOG**

Company MAI OIL OPERATIONS, INC.  
Well BETTY #3-1  
Field FAUBION  
County ROOKS  
State KANSAS

Company L.D. DRILLING, INC.  
Well BETTY #3-1  
Field FAUBION  
County ROOKS State KANSAS

Location: API # : 15-163-24285  
708' FSL & 330' FWL  
S2 - NW - SW - SW  
SEC 1 TWP 6S RGE 18W  
Permanent Datum GROUND LEVEL Elevation 1867  
Log Measured From KELLY BUSHING 5' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
DIL/MEL  
Elevation  
K.B. 1872  
D.F. 1870  
G.L. 1867

Date	3/13/15		
Run Number	ONE		
Depth Driller	3332		
Depth Logger	3325		
Bottom Logged Interval	3301		
Top Log Interval	2700		
Casing Driller	8 5/8"@387'		
Casing Logger	388'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 700 PPM	
Density / Viscosity	9.1/54		
pH / Fluid Loss	11.0/6.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	1.50@70F		
Rmf @ Meas. Temp	1.05@70F		
Rmc @ Meas. Temp	1.68@70F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	0.95@110F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	110F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	IAN MABB		
Witnessed By	KIM SHOEMAKER		

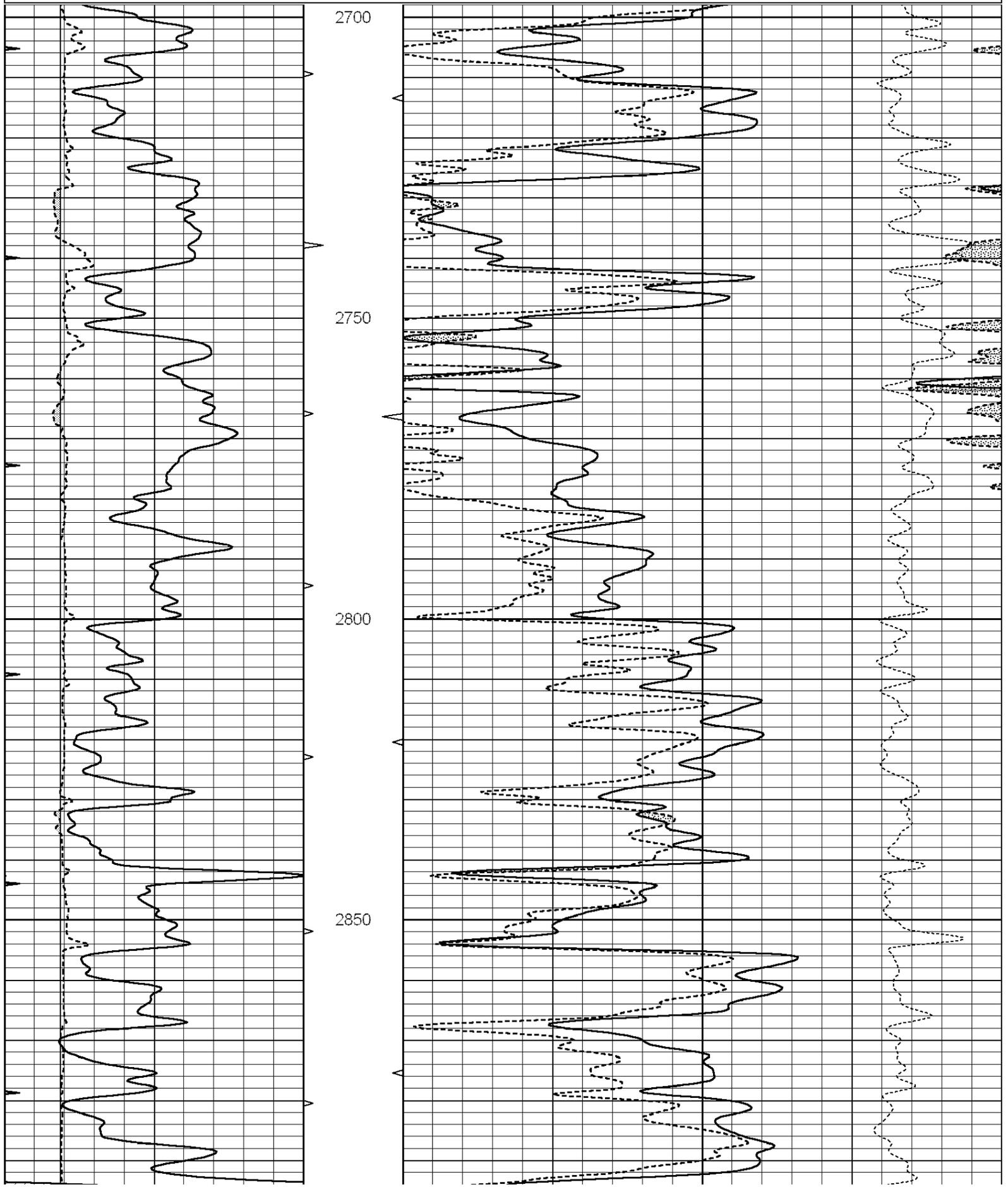
<<< Fold Here >>>

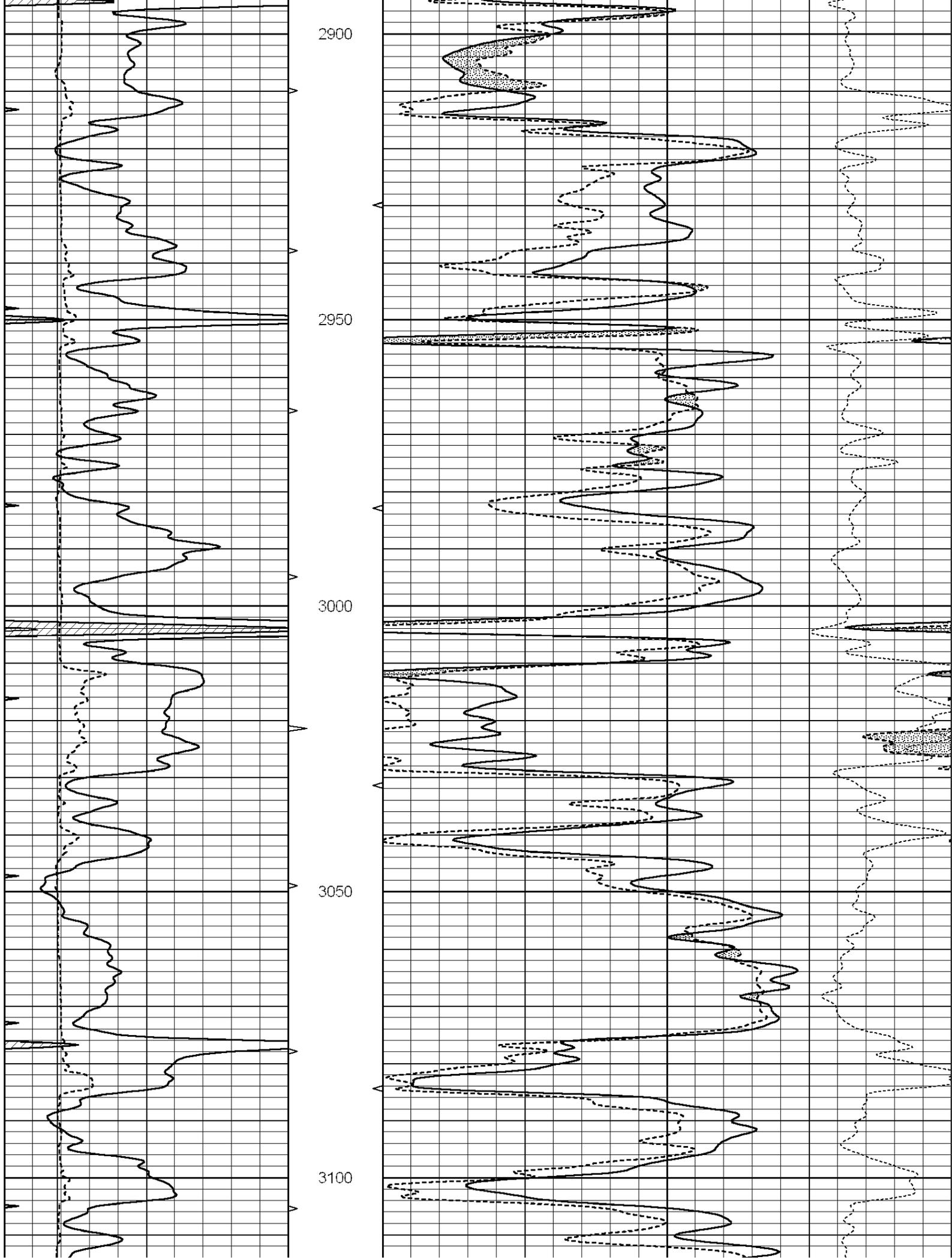
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

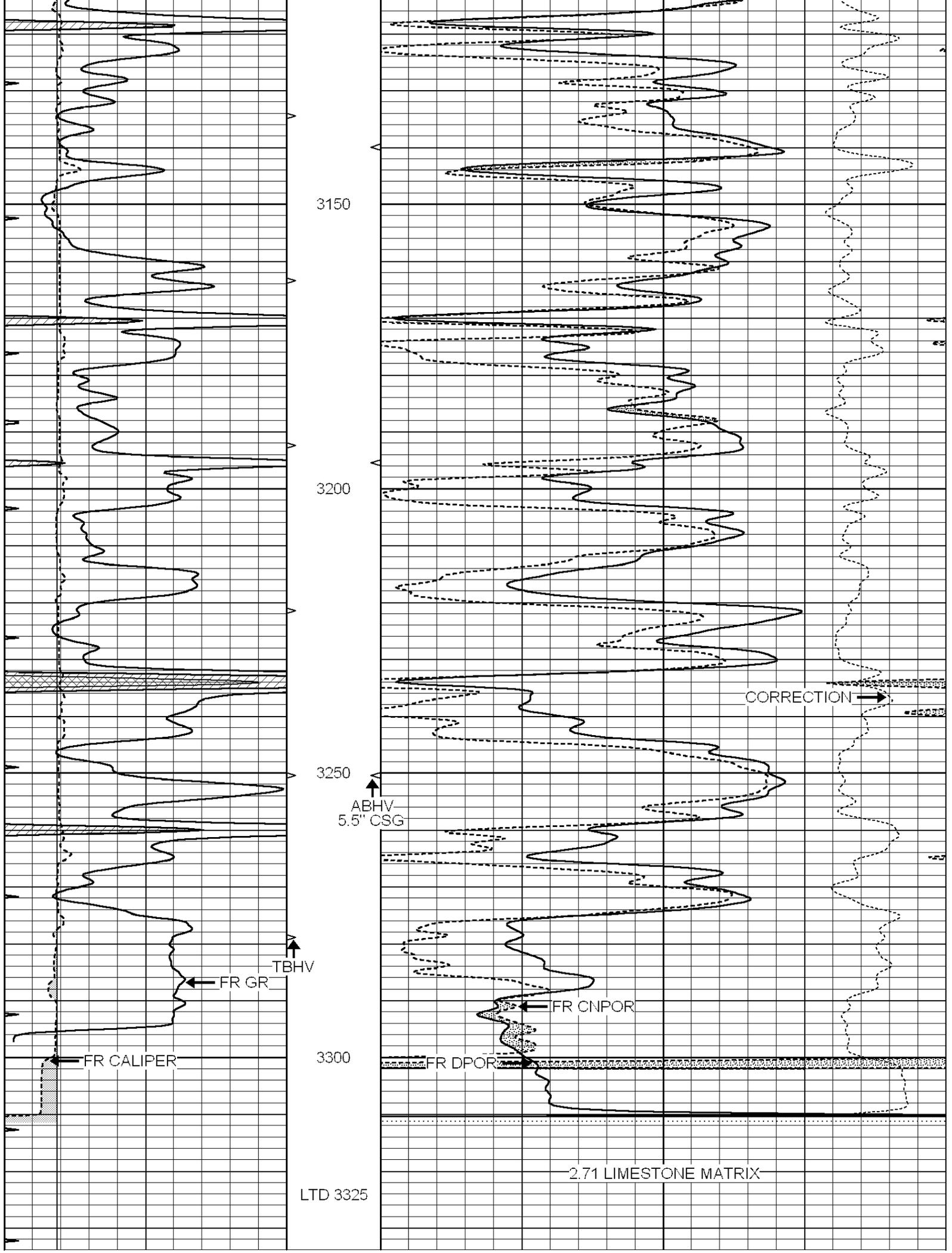
**Comments**

THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
STOCKTON, KS. - NORTH TO RD. B - EAST 1/4 MILE - NORTH INTO

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		







3150

3200

3250

3300

CORRECTION →

↑  
ABHV  
5.5\"/>

↑  
TBHV

←  
FR GR

←  
FR CALIPER

←  
FR CNPOR

←  
FR DPOR

2.71 LIMESTONE MATRIX

LTD 3325

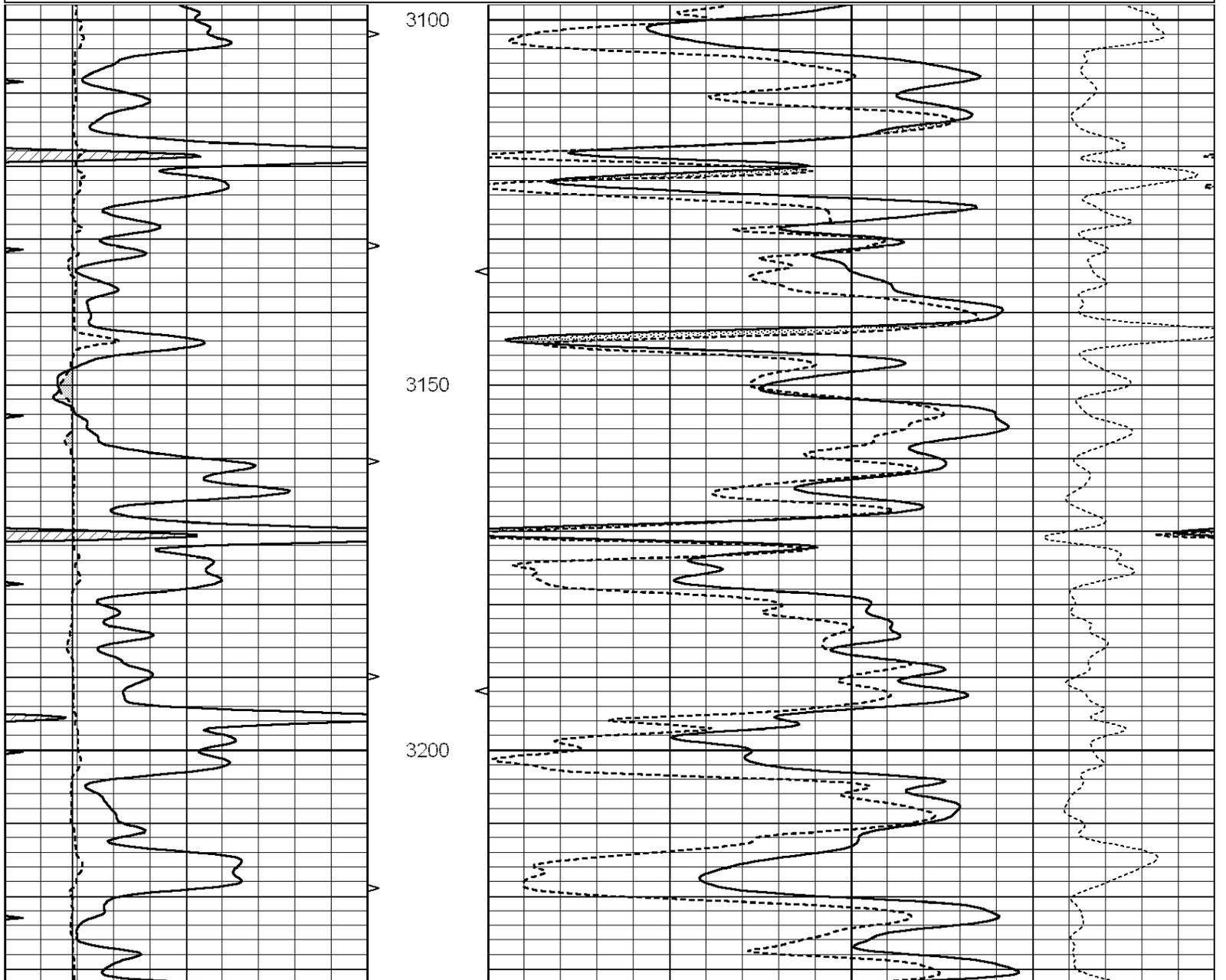
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		



# REPEAT SECTION

Database File: 26505ddn.db  
 Dataset Pathname: pass2.2  
 Presentation Format: den\_neu  
 Dataset Creation: Fri Mar 13 11:06:31 2015 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		





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: 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	0.0	0.0	cps	
Window 2	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Window 3	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Window 4	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Long Space	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Short Space	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Measured Rho		0.0000	0.0000	0.0000	0.0000	0.0000	g/cc	
Measured Correction		0.0000	0.0000	0.0000	0.0000	0.0000	g/cc	
Measured Pe			0.0000	0.0000	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	0.0	0.0	cps	
Window 2	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Window 3	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Window 4	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Long Space	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Short Space	0.0	0.0	0.0	0.0	0.0	0.0	cps	
Measured Rho		0.0000	0.0000	0.0000	0.0000	0.0000	g/cc	
Measured Correction		0.0000	0.0000	0.0000	0.0000	0.0000	g/cc	
Measured Pe			0.0000	0.0000	0.0000	0.0000		

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:	Fri Jan 30 18:19:46 2015	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2600	GAPI/cps