



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company L. D. DRILLING, INC.
Well #2 BRYANT "A"
Field CHASE - SILICA
County BARTON
State KANSAS

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Field CHASE - SILICA
County BARTON State KANSAS

Location: API # : 15-009-25982-0000

450" FNL & 1650' FWL

Other Services
DIL/MEL

SEC 25 TWP 20S RGE 11W

Permanent Datum GROUND LEVEL Elevation 1743
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1748
D.F. 1746
G.L. 1743

Date	6/20/14		
Run Number	ONE		
Depth Driller	3350		
Depth Logger	3348		
Bottom Logged Interval	3324		
Top Log Interval	2500		
Casing Driller	8 5/8" @ 442'		
Casing Logger	444		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,500 PPM	
Density / Viscosity	9.5/54		
pH / Fluid Loss	10.0/10.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.650 @ 90F		
Rmf @ Meas. Temp	.488 @ 90F		
Rmc @ Meas. Temp	.780 @ 90F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.532 @ 110F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	8:00 A.M.		
Maximum Recorded Temperature	110F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	KIM SHOEMAKER		

<<< Fold Here >>>

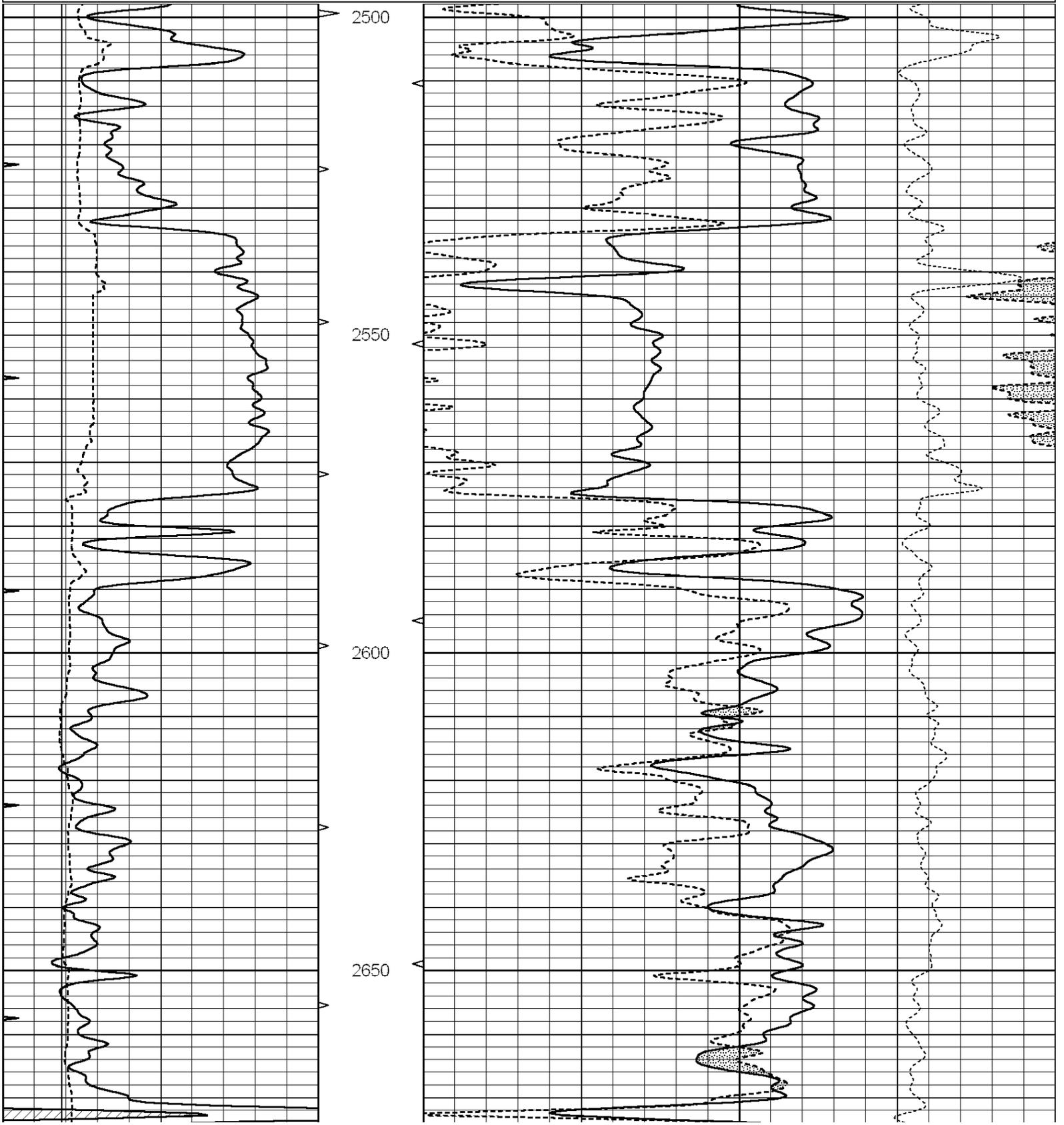
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

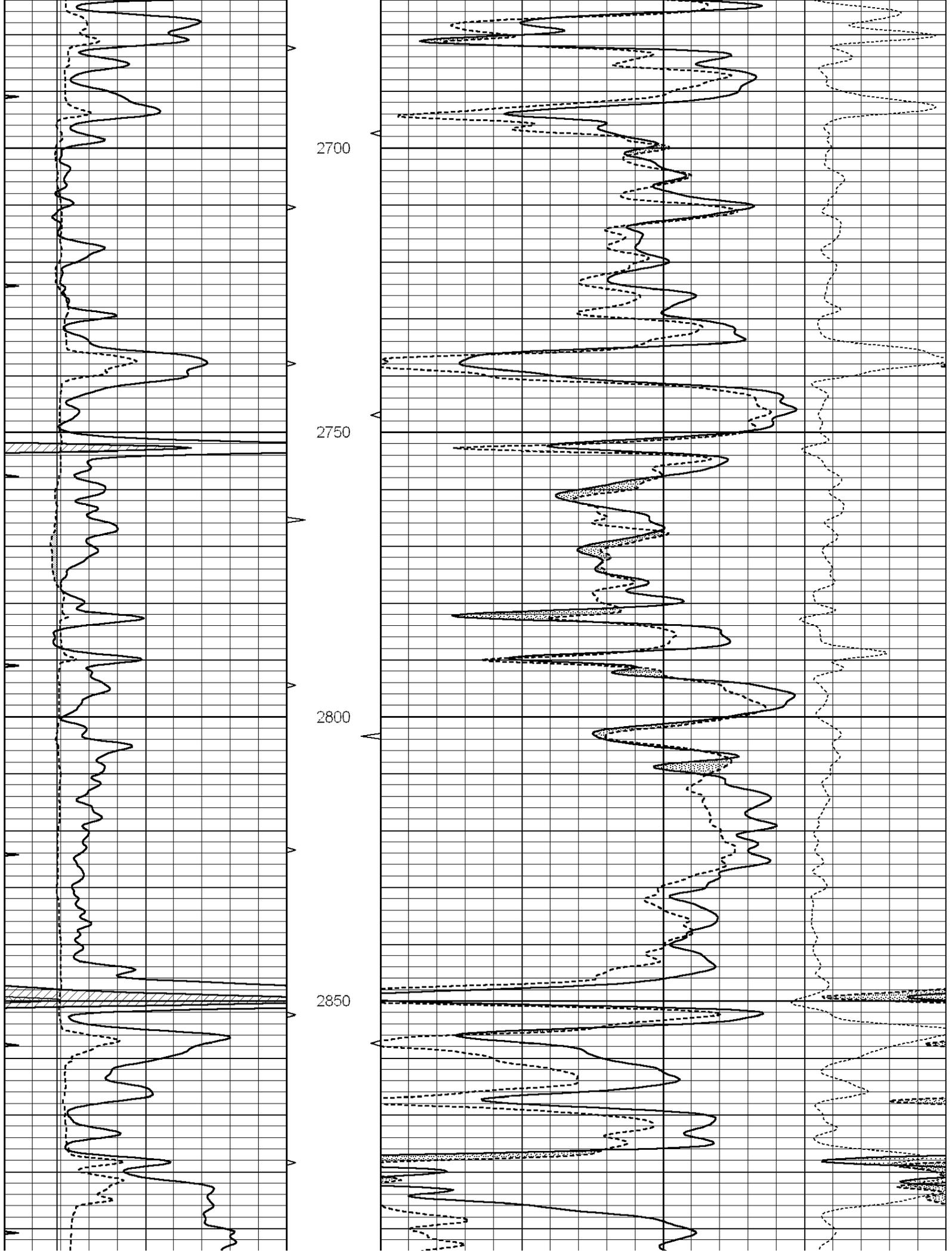
Comments

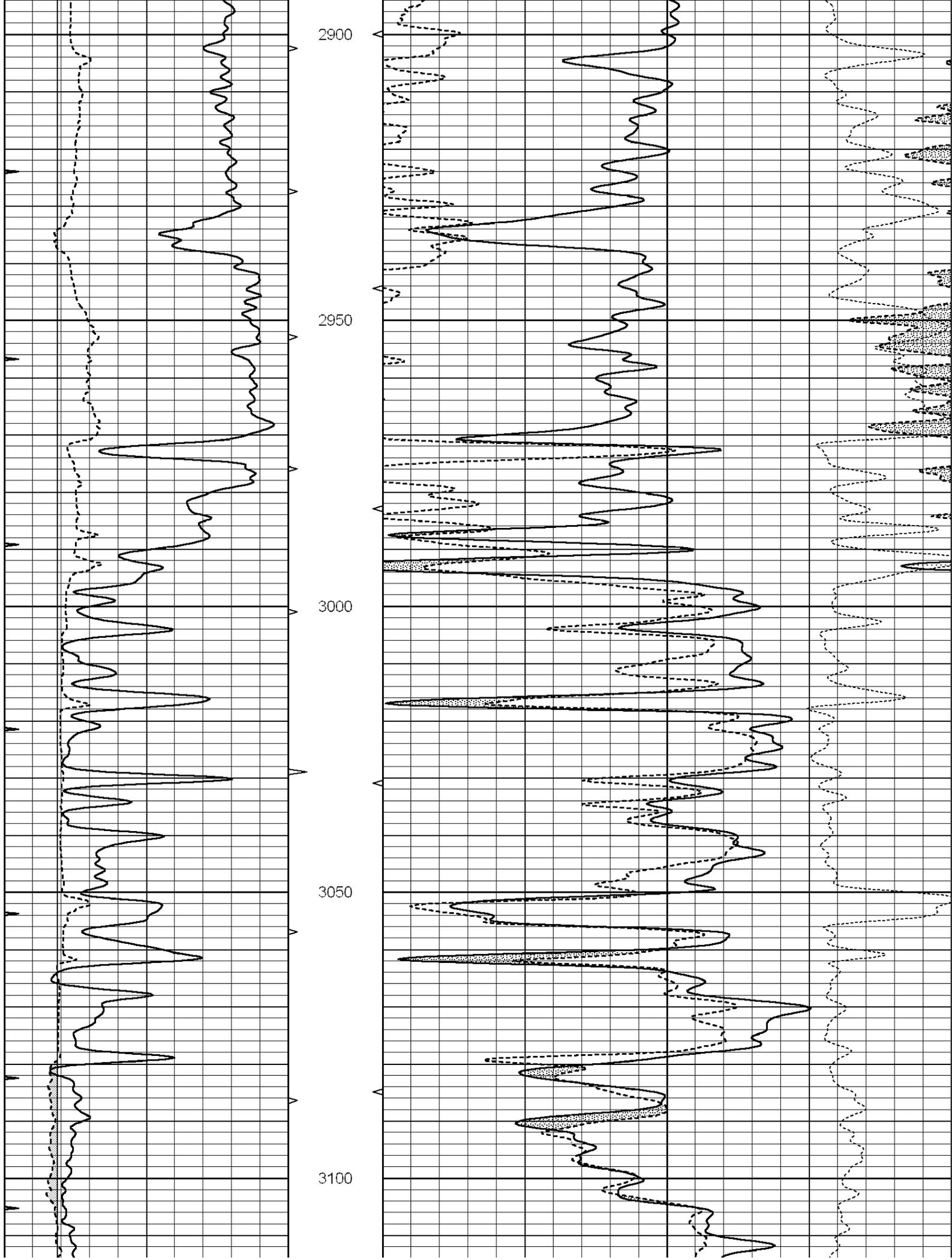
THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS
ELLINWOOD, KS., S. ON BLKTOP TO 5 MILE RD., 3 1/2E., S. INTO

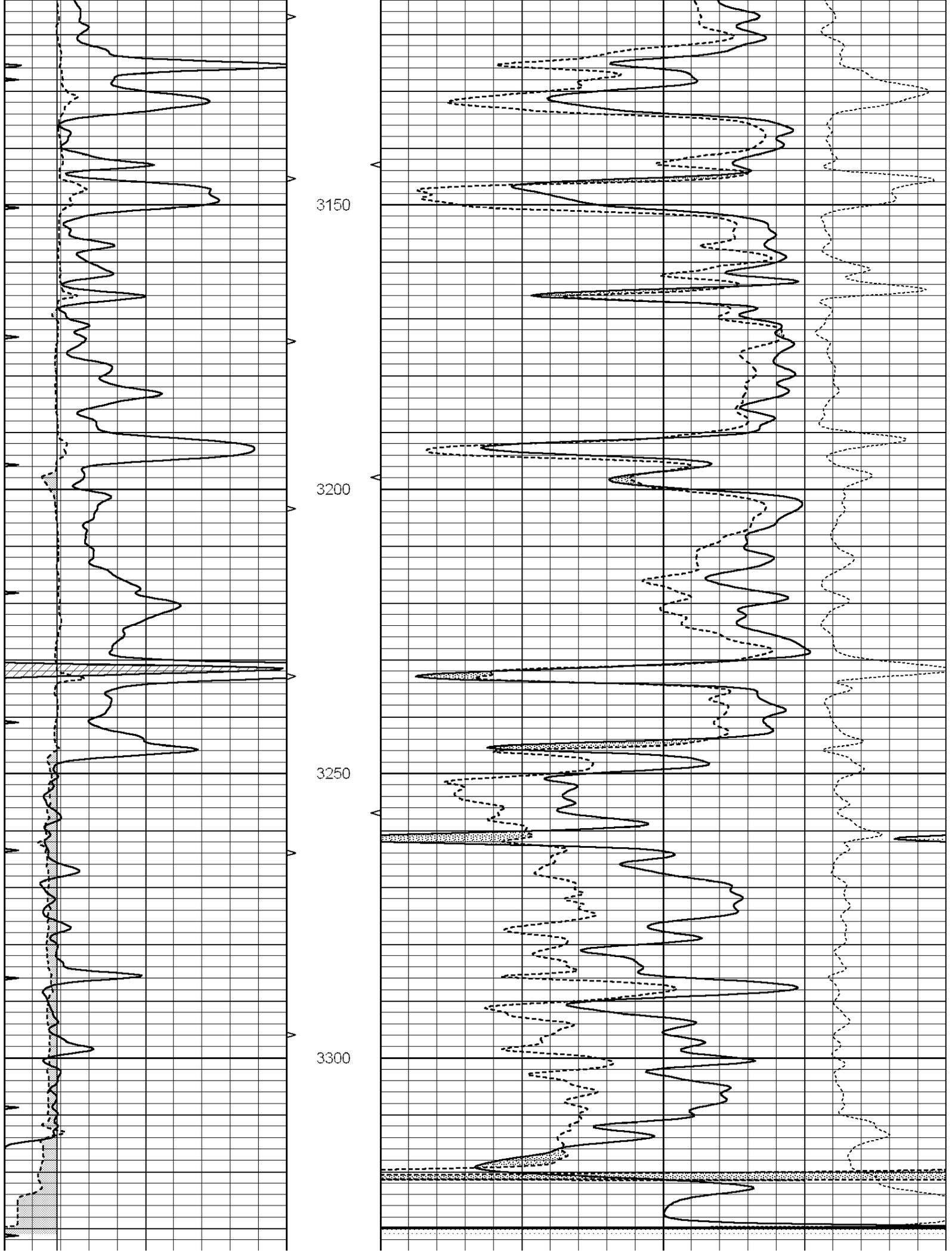
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 Dataset Pathname: pass3.4
 Presentation Format: den_neu
 Dataset Creation: Fri Jun 20 09:43:45 2014 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

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		









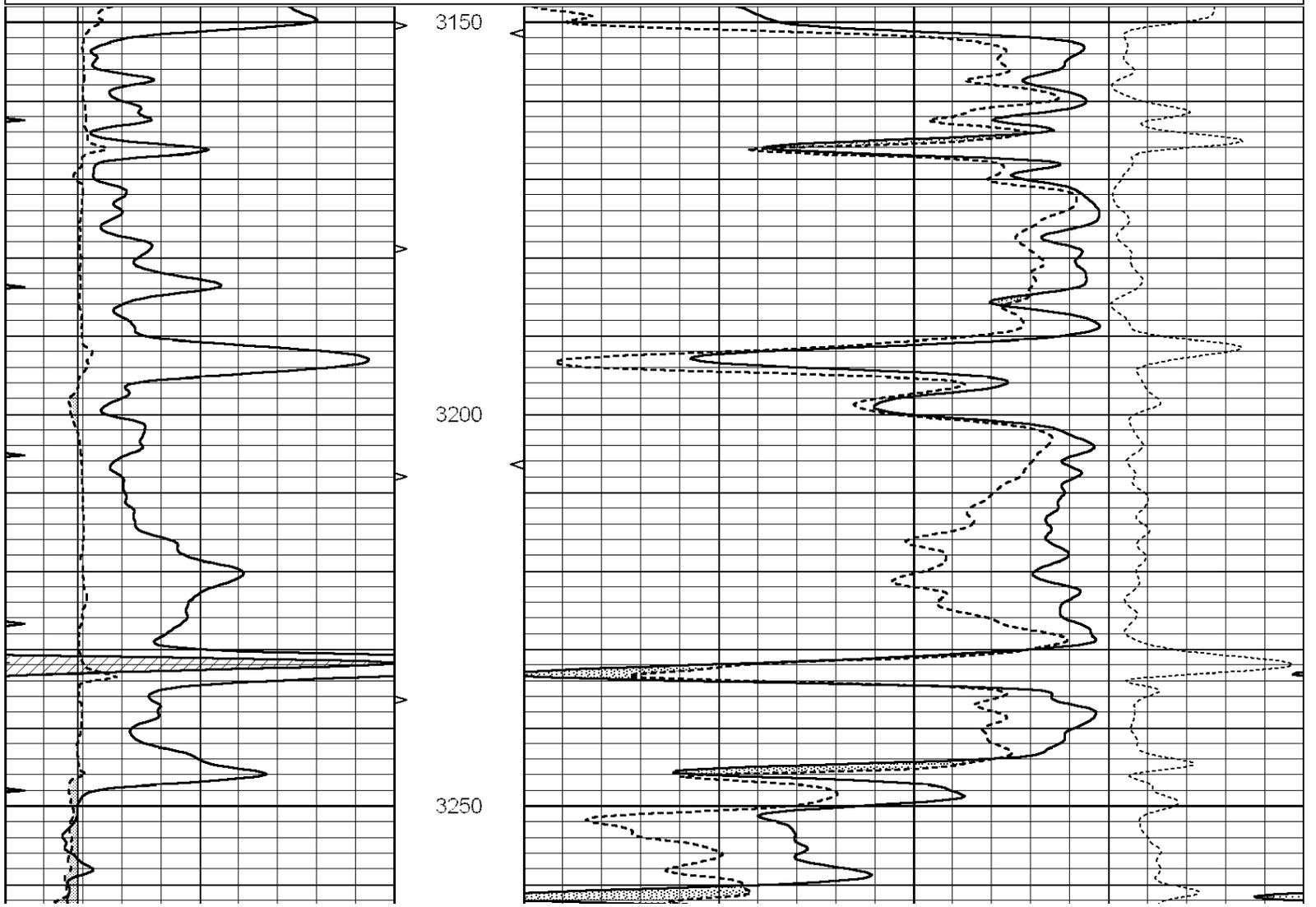
			3350					
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10		
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10		
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25		
			0 (ft3)	10				

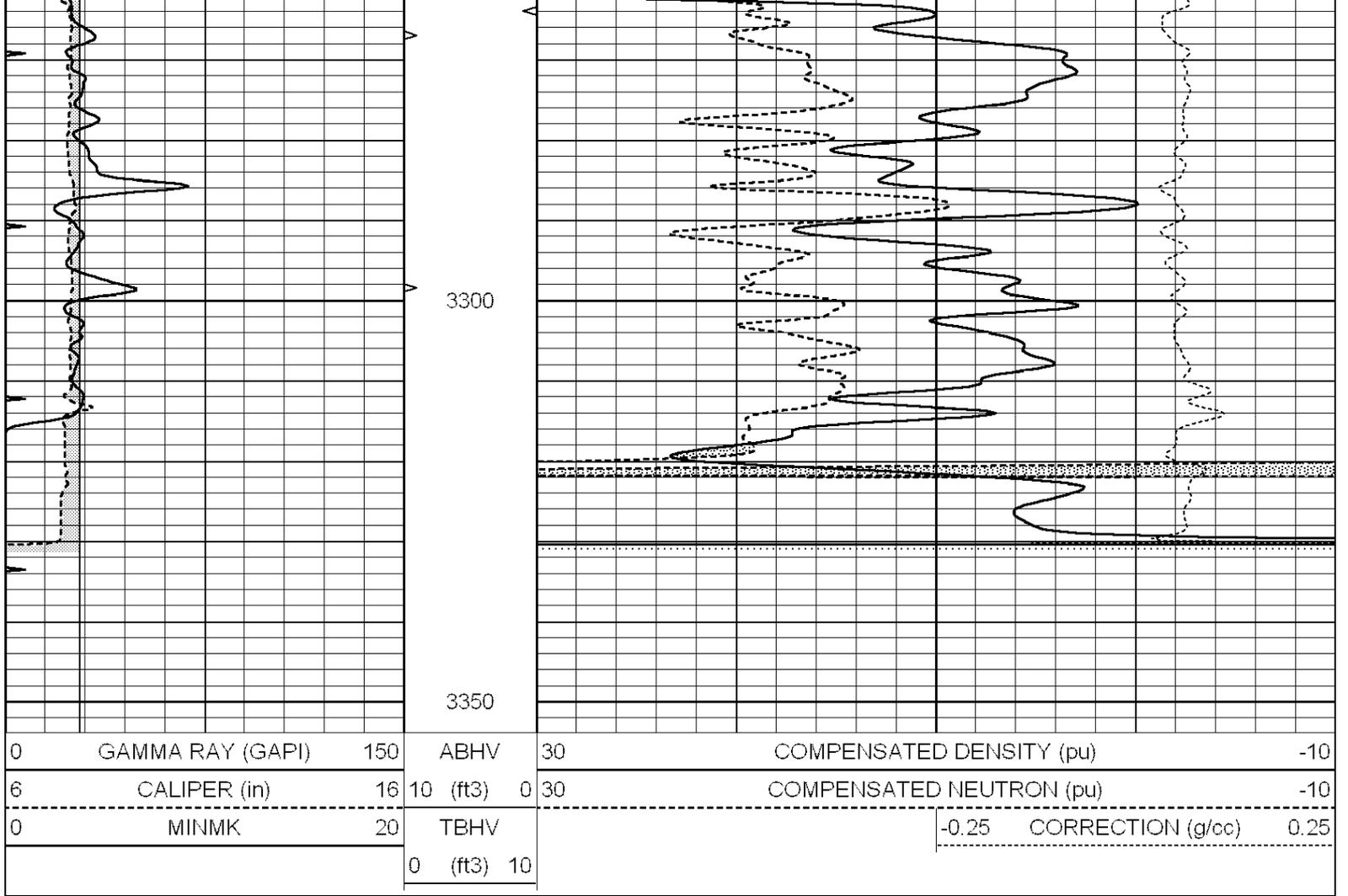


REPEAT SECTION

Database File: 24168ddn.db
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 Presentation Format: den_neu
 Dataset Creation: Fri Jun 20 08:40:29 2014 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				

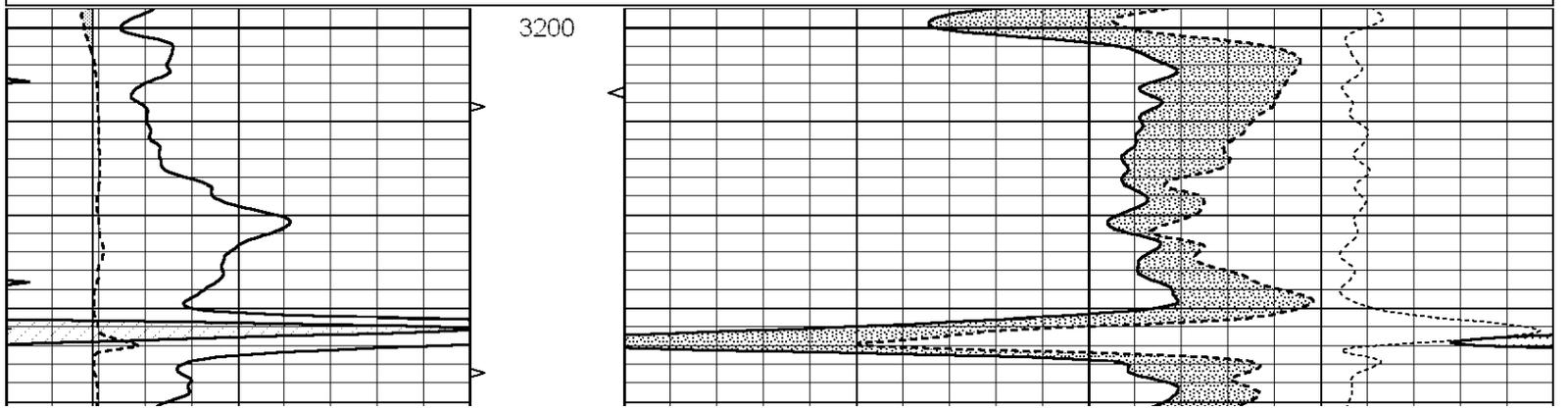


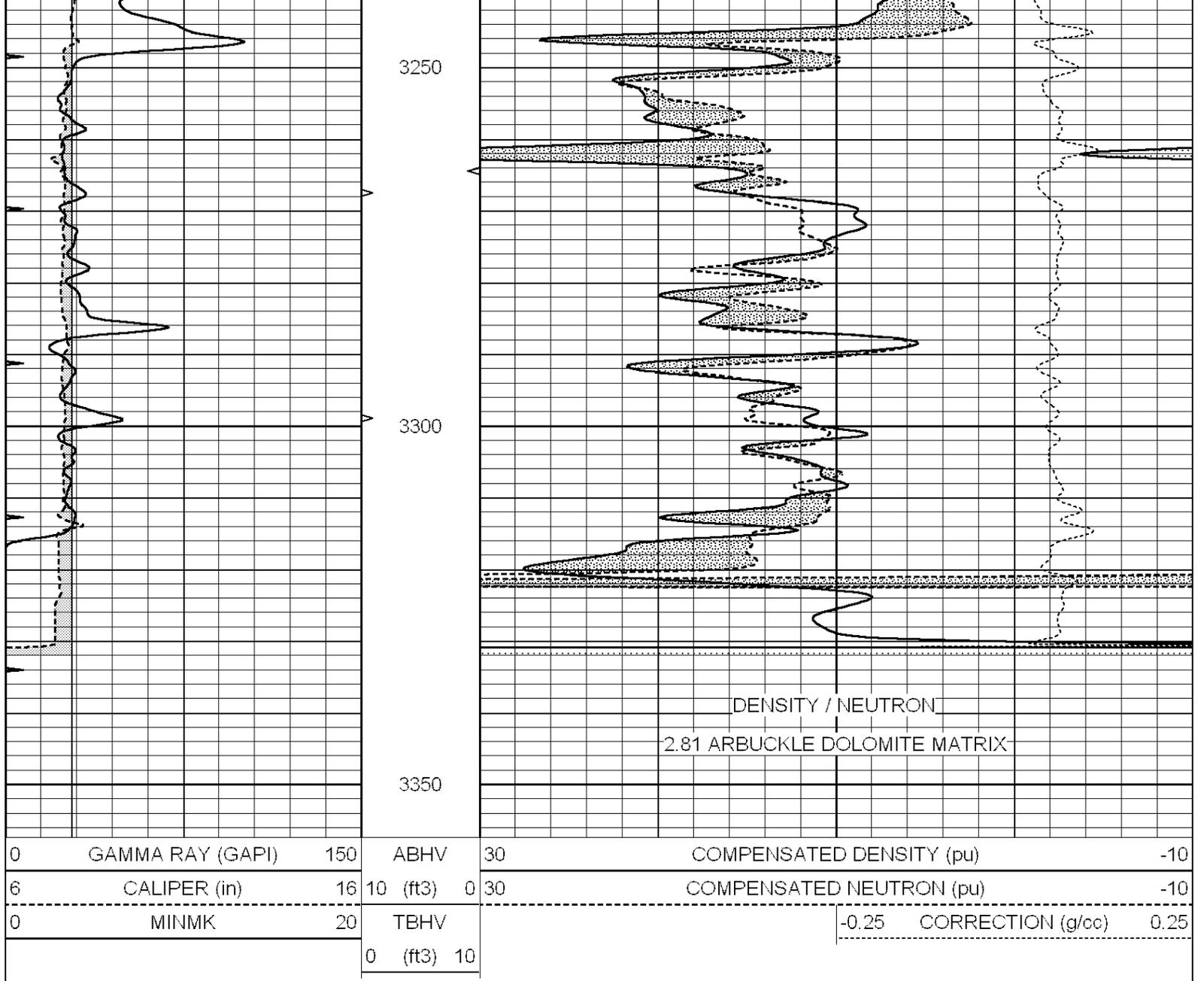


DOLOMITE MATRIX

Database File: 24168ddn.db
 Dataset Pathname: pass2.3
 Presentation Format: den_neu
 Dataset Creation: Fri Jun 20 09:28:17 2014
 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: 24168ddn.db
 Dataset Pathname: pass3.4
 Dataset Creation: Fri Jun 20 09:43:45 2014 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Mon Jun 02 00:42:05 2014
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	670.000	-28.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	670.000	-32.000
Internal:	Zero	Cal	V	Zero	Cal	mmho/m	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: 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					
	Background	Magnesium	Aluminum	Sandstone			
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					
	Background	Magnesium	Aluminum	Sandstone			
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 Correction:
Measured Pe

0.0000

0.0000
0.0000

0.0000
0.0000

gross

Compensated Neutron Calibration Report

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: Thu May 15 06:08:02 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps