



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**COMPENSATED  
DENSITY/NEUTRON  
LOG**

Company MAI OIL OPERATIONS, INC.  
Well STULL #1  
Field ROLAND EAST  
County RUSH  
State KANSAS

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Field ROLAND EAST  
County RUSH State KANSAS

Location: API # : 15-165-22057-0000  
870' FNL & 1990' FWL  
NW - SE - NE - NW  
SEC 19 TWP 16S RGE 19W  
Permanent Datum GROUND LEVEL Elevation 2123  
Log Measured From KELLY BUSHING 8' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
DIL/MEL  
SONIC  
Elevation  
K.B. 2131  
D.F. 2129  
G.L. 2123

Date	4/10/14		
Run Number	ONE		
Depth Driller	3921		
Depth Logger	3923		
Bottom Logged Interval	3899		
Top Log Interval	3100		
Casing Driller	8 5/8" @ 1103		
Casing Logger	1103		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 7400 PPM	
Density / Viscosity	9.2/58		
pH / Fluid Loss	11.5/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.60 @ 79F		
Rmt @ Meas. Temp	.45 @ 79F		
Rmc @ Meas. Temp	.72 @ 79F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.40 @ 116F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	116F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	JIM MUSGROVE		

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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

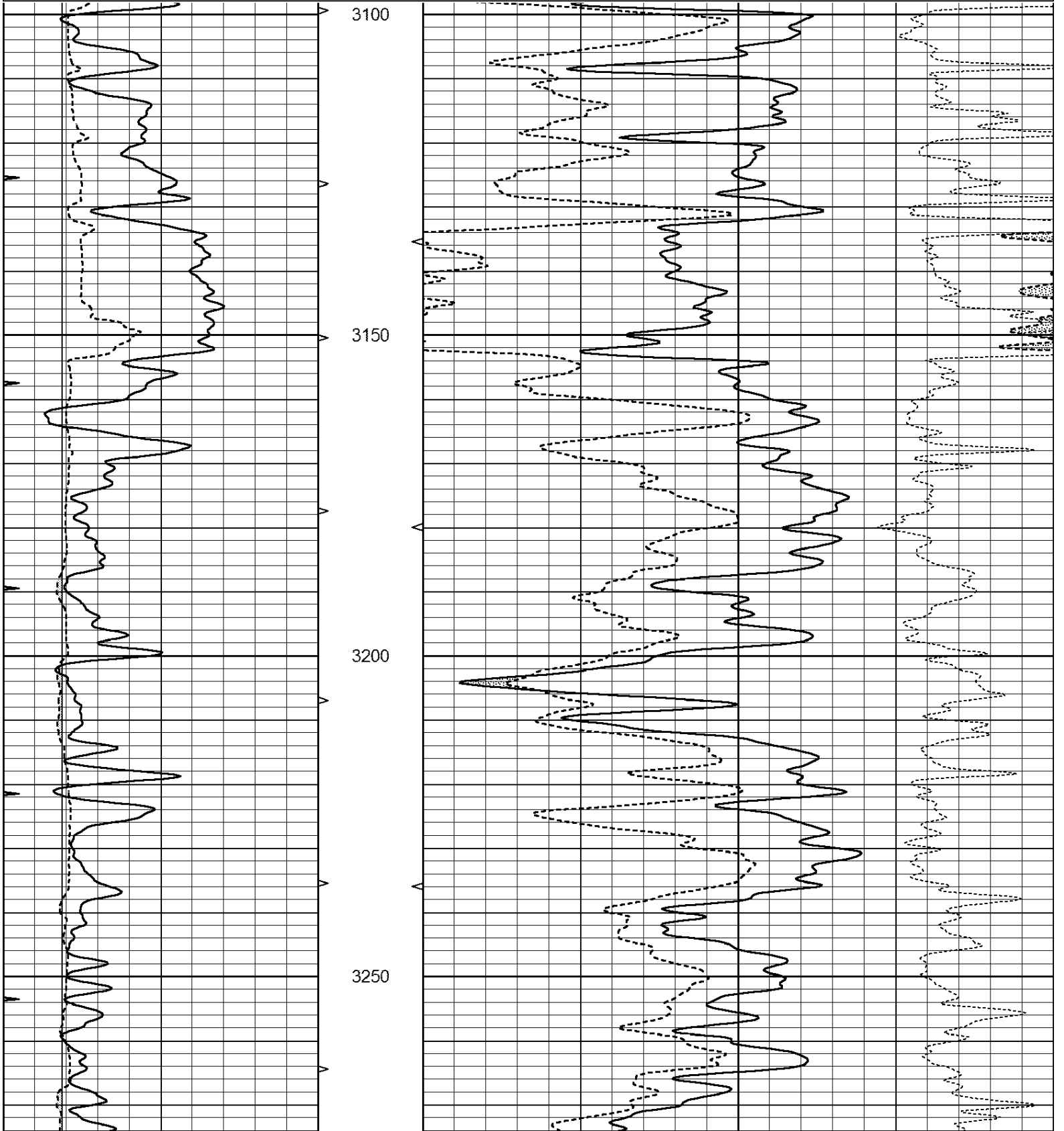
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395  
DIRECTIONS:  
LIEBENTHAL, KS. - 7 1/2 WEST ON BLKTOP TO RD. 170 - 1 NORTH - 1/2 WEST  
SOUTH INTO

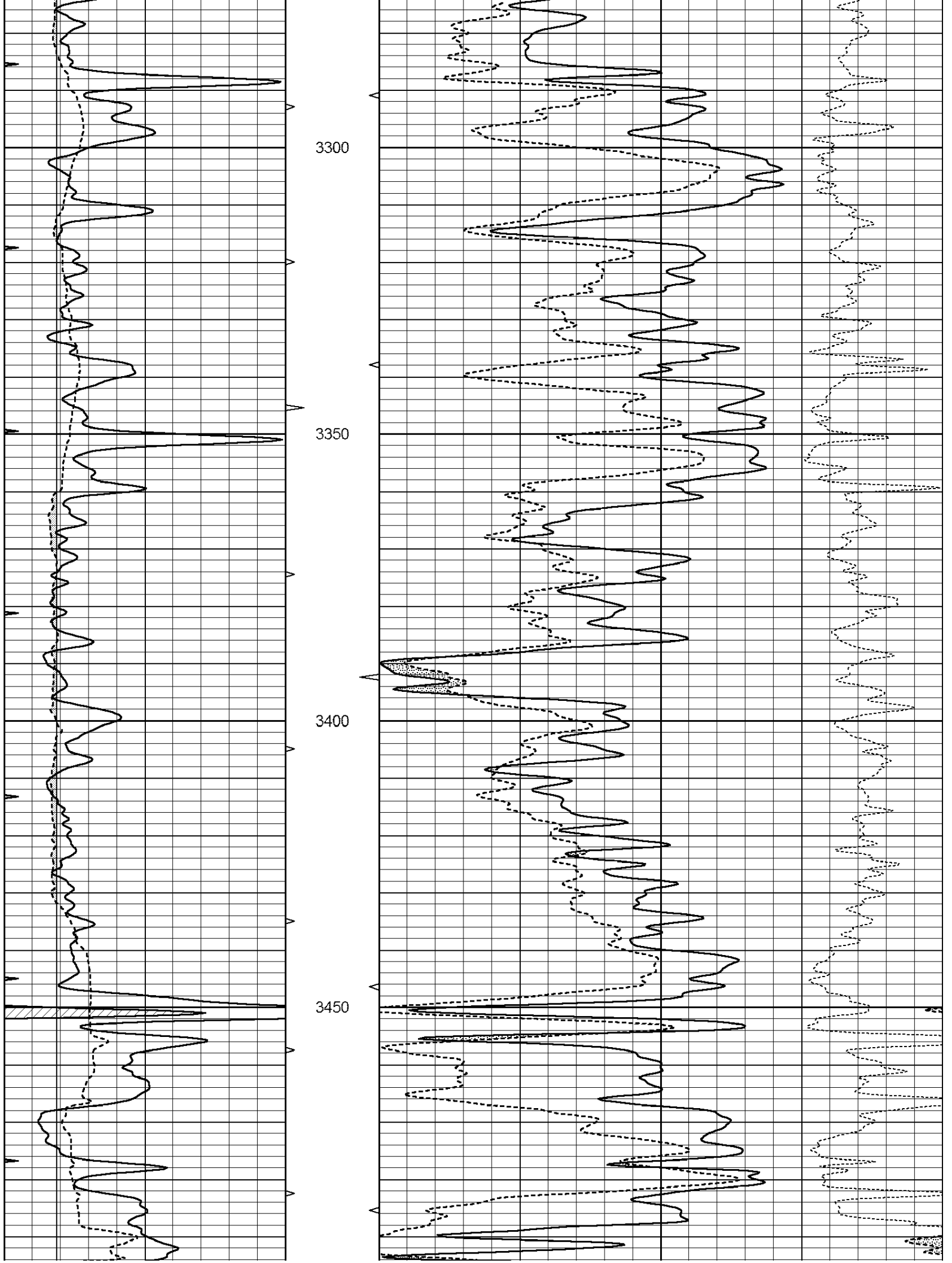


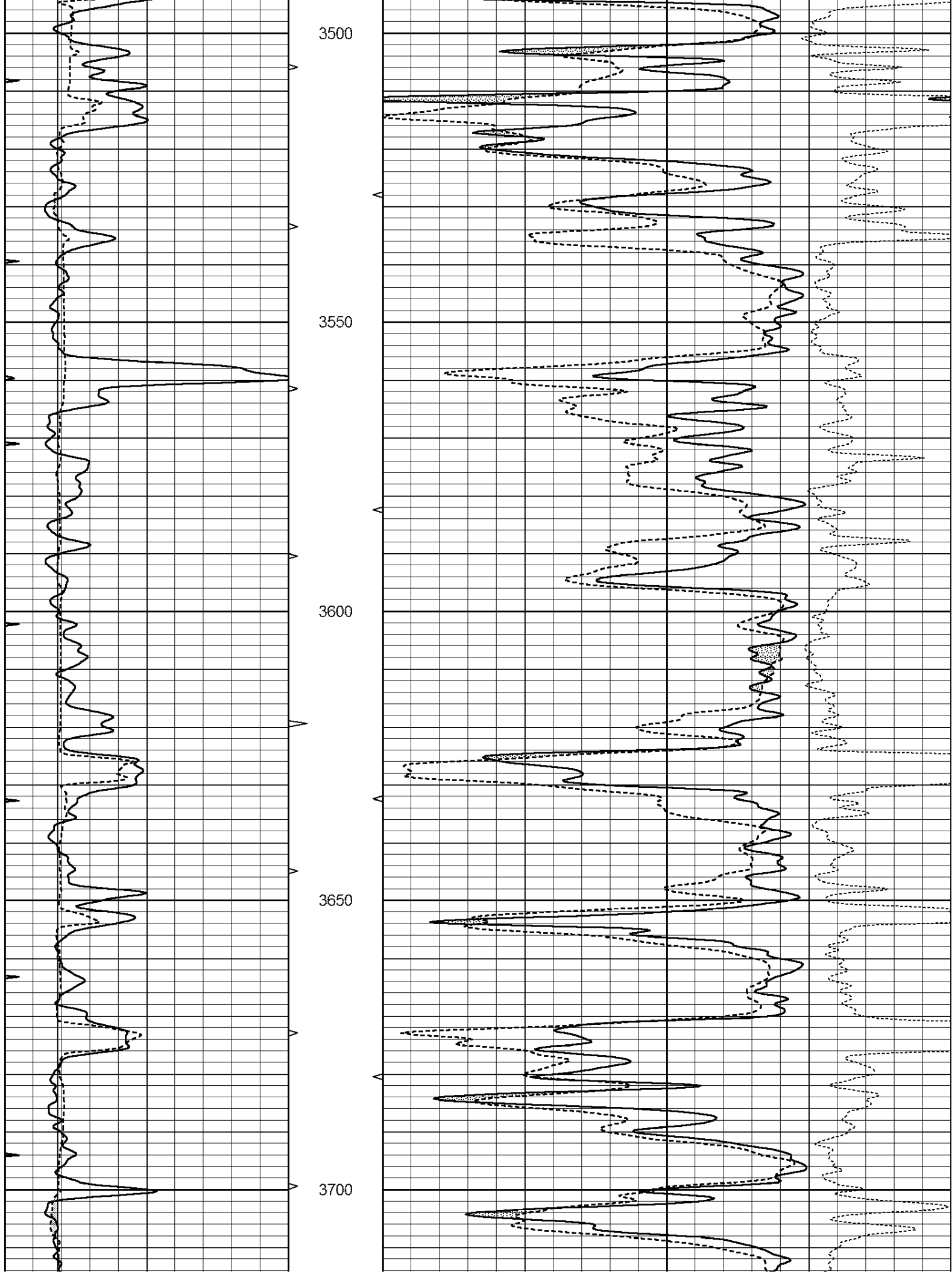
**MAIN SECTION**

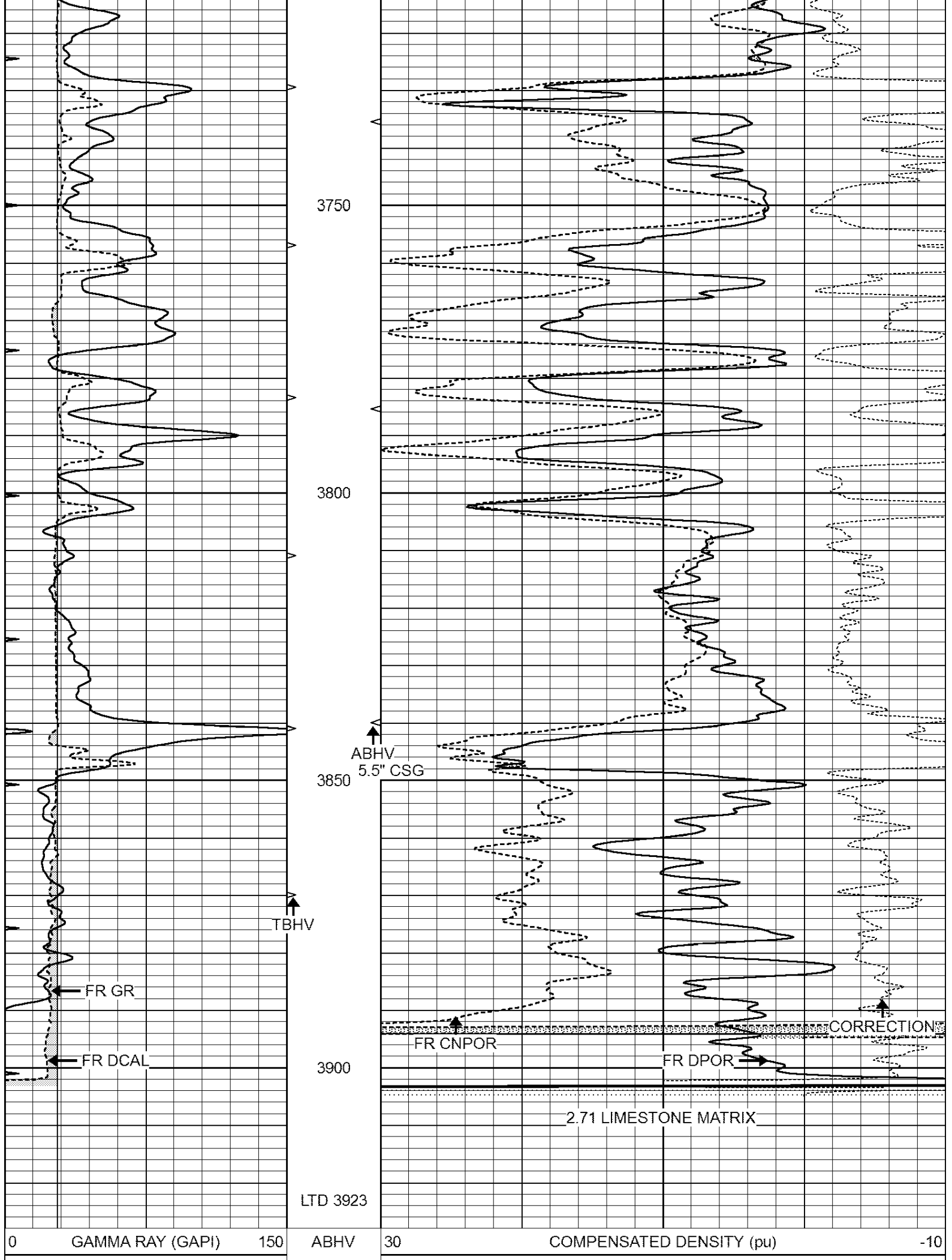
Database File: 24022ddn.db  
 Dataset Pathname: pass3.1  
 Presentation Format: den\_neu  
 Dataset Creation: Thu Apr 10 14:02:47 2014 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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		









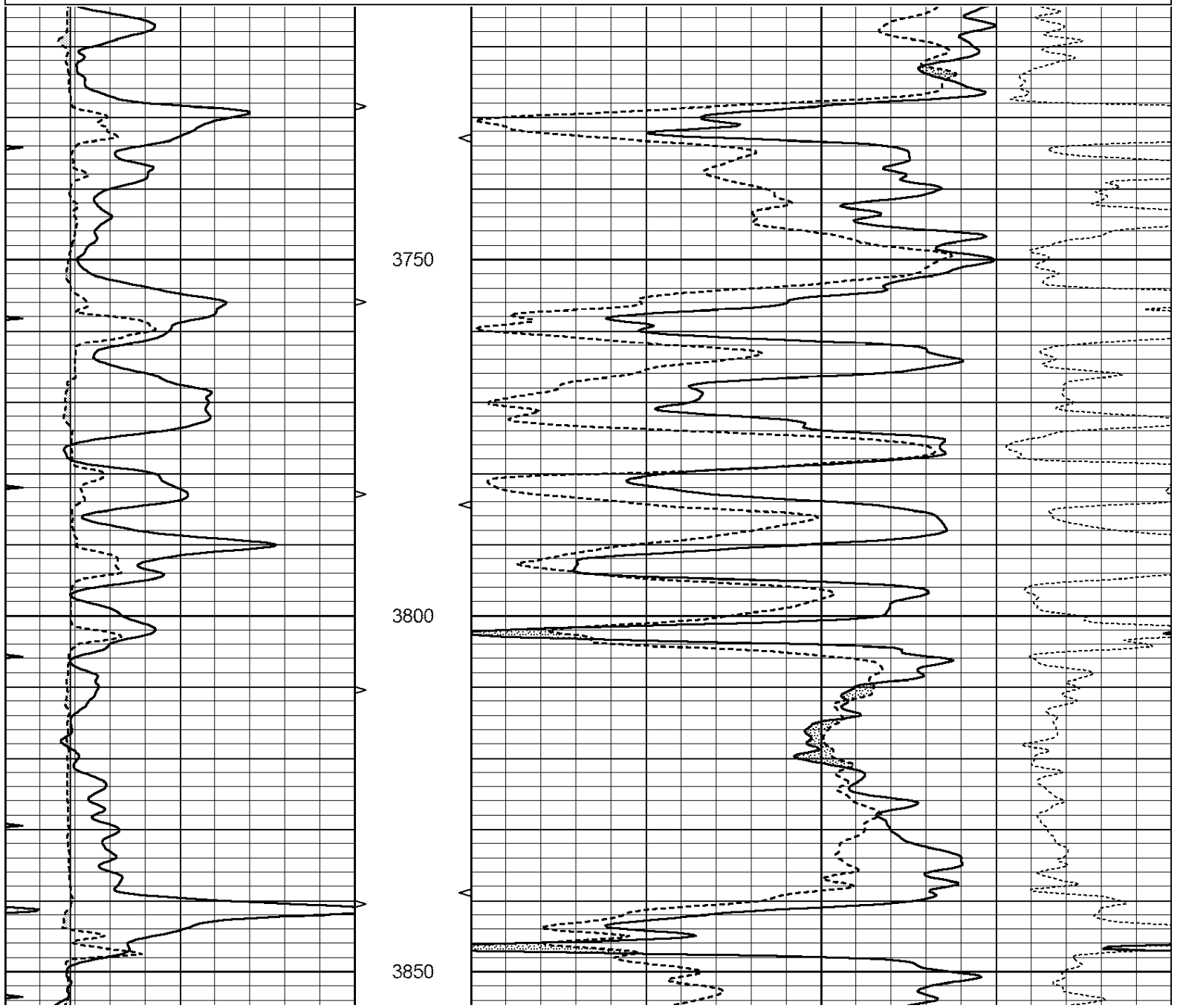
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV			-0.25	CORRECTION (g/cc) 0.25
			0 (ft3)	10			



# REPEAT SECTION

Database File: 24022ddn.db  
 Dataset Pathname: pass2.1  
 Presentation Format: den\_neu  
 Dataset Creation: Thu Apr 10 14:01:13 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			





	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		

Compensated Density Calibration Report

Serial-Model: GEAR4-GEARHART  
Source / Verifier: 143 / 143  
Master Calibration Performed: Wed Sep 18 03:03:09 2013  
Before Survey Verification Performed:  
After Survey Verification Performed:

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1075.98	532.39	cps
Aluminum	2.560	g/cc	286.51	422.88	cps
Spine Angle = 80.13			Density/Spine Ratio = 0.633		
	Size		Reading		
Small Ring	8.00	in	3.21	V	
Large Ring	14.00	in	5.46	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 Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Fri Nov 29 08:34:37 2013	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.6035	GAPI/cps