NABORS COMPLETION & PRODUCTION SERVICES CO.

COMPENSATED DENSITY / NEUTRON LOG

Company LD DRILLING, INC.
Well QUIVERA RANCH #1-34
Field SLEEPER SOUTH
County STAFFORD
State KANSAS

Company LD DRILLING, INC.
Well QUIVERA RANCH #1-34
Field SLEEPER SOUTH
County STAFFORD State KANSAS
Location: API # : 15-185-23784-0000
662' FNL & 2290' FWL
NW - SE - NE - NW
SEC 34 TWP 22S RGE 11W

Other Services
DIL
MEL/SON

Permanent Datum GROUND LEVEL Elevation 1793
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1798
D.F. 1796
G.L. 1793

Date	1/7/13		
Run Number	ONE		
Depth Driller	3730		
Depth Logger	3728		
Bottom Logged Interval	3704		
Top Log Interval	2900		
Casing Driller	8 5/8"" @ 343'		
Casing Logger	345'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8000 PPM	
Density / Viscosity	9.4/48		
pH / Fluid Loss	8.5/12.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 50F		
Rmf @ Meas. Temp	0.49 @ 50F		
Rmc @ Meas. Temp	0.78 @ 50F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	0.29 @ 111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	111F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
Witnessed By	JOSH AUSTIN		

<<< Fold Here >>>

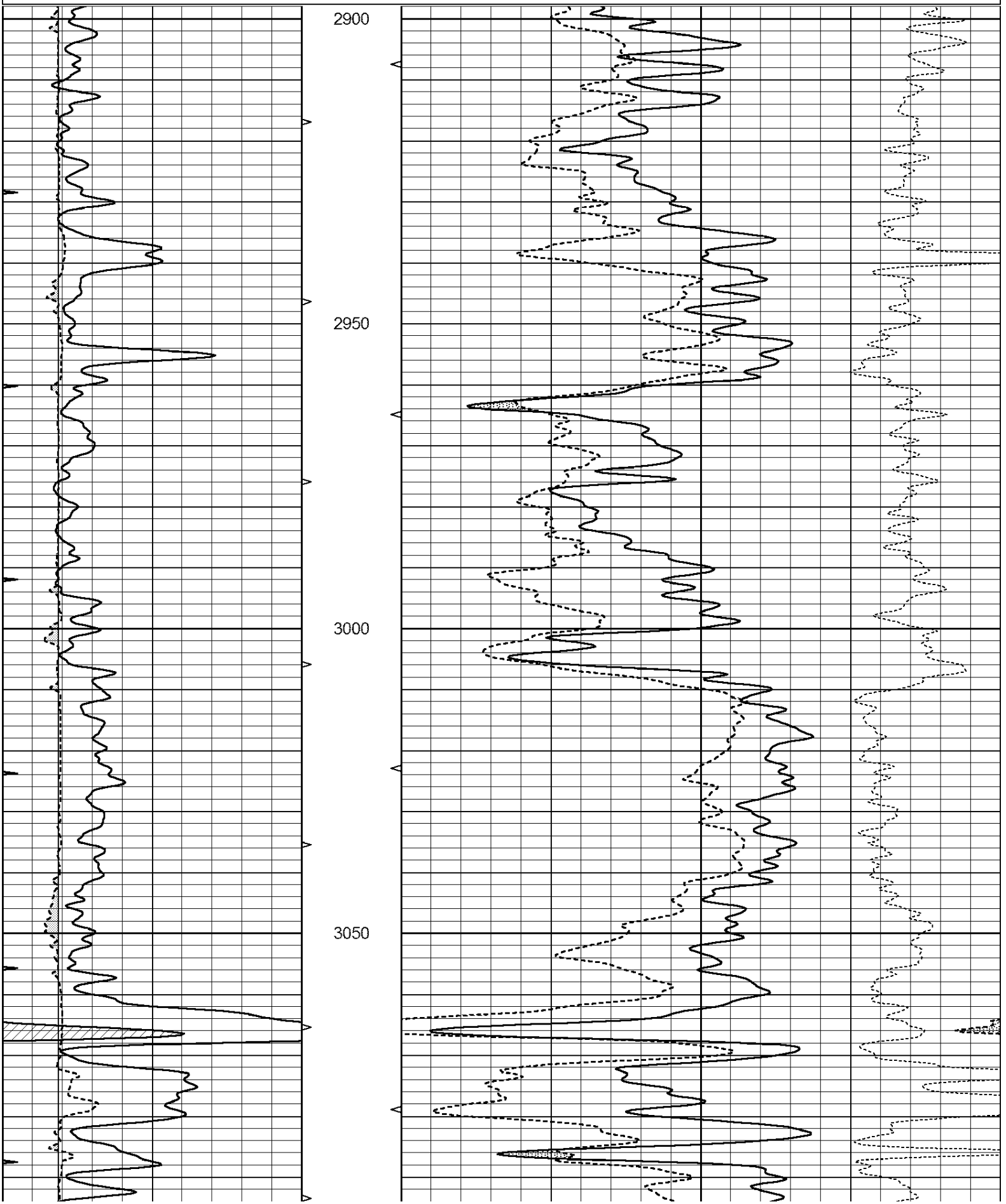
Comments

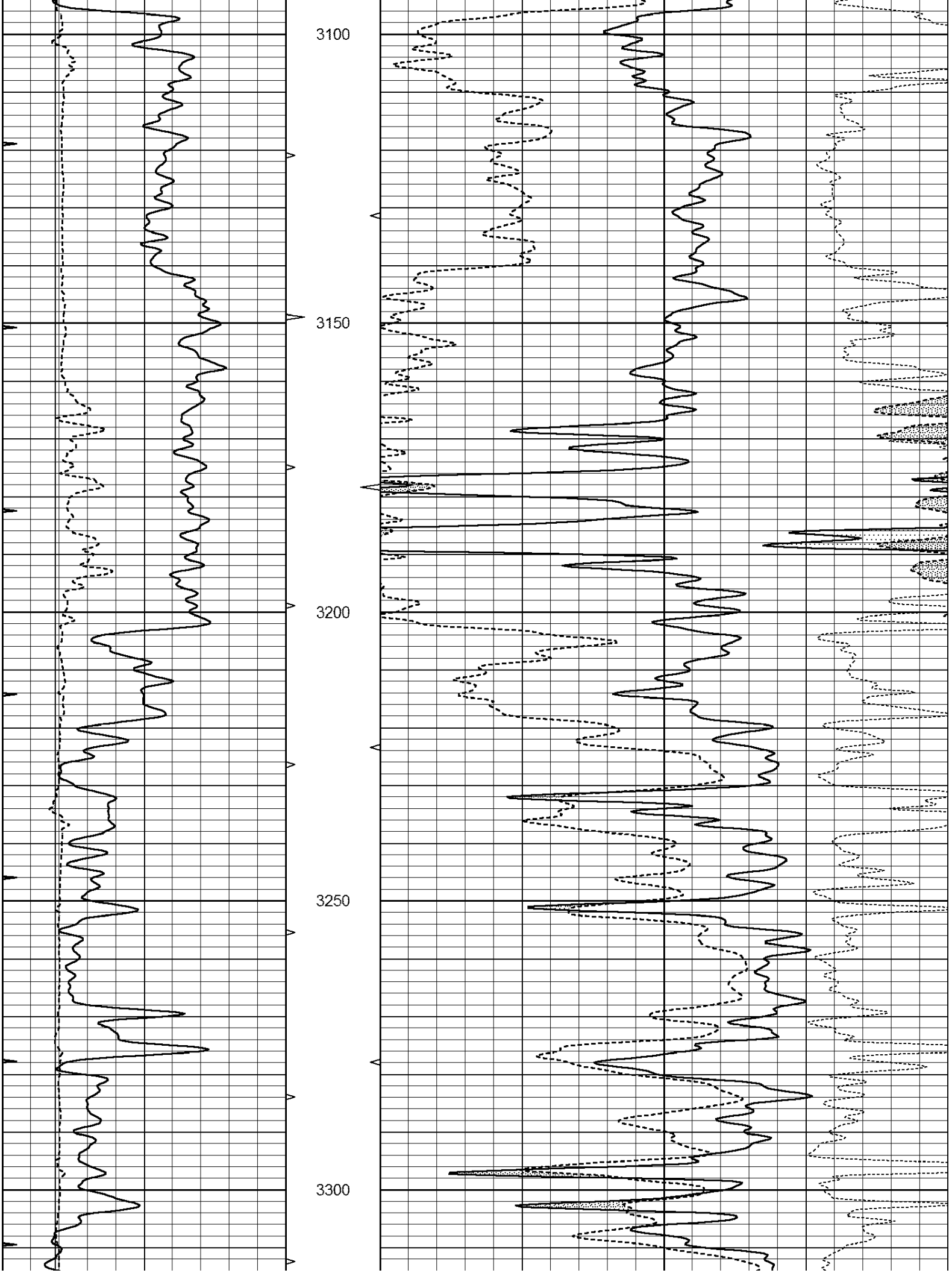
THANK YOU FOR USING NABORS HAYS, KANSAS (785) 628-6395
DIRECTIONS
GREAT BEND, KS - SOUTH TO 4TH STREET - 13 MILES EAST TO RD 130
3 MILES NORTH - WEST INTO

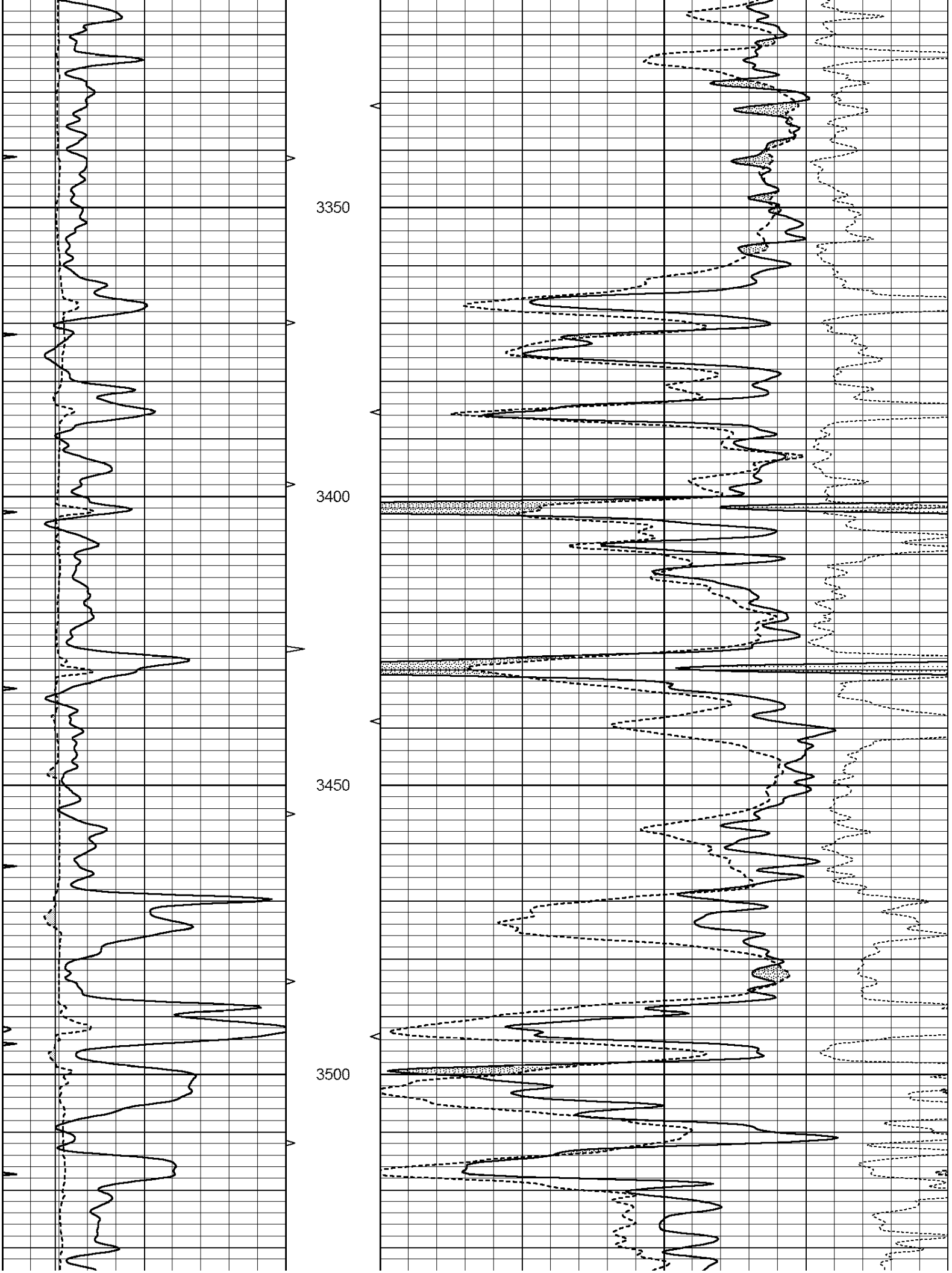
Database File: 009797ddn.db
Dataset Pathname: pass8.5
Presentation Format: den_neu
Dataset Creation: Mon Jan 07 11:23:21 2013 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

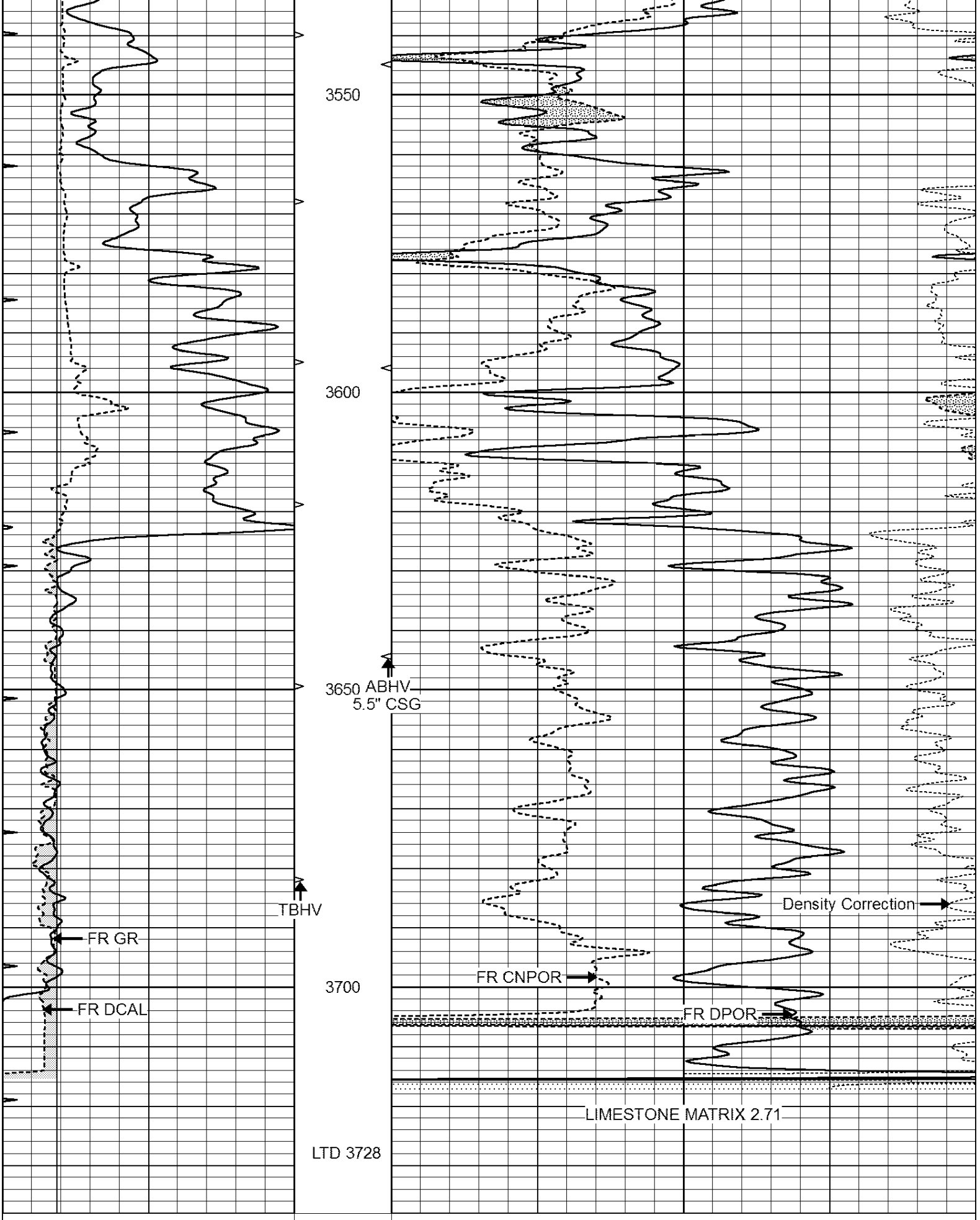
Started by: Depth in Feet scaled 1:240

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		




3100
3150
3200
3250
3300


3350
3400
3450
3500



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	

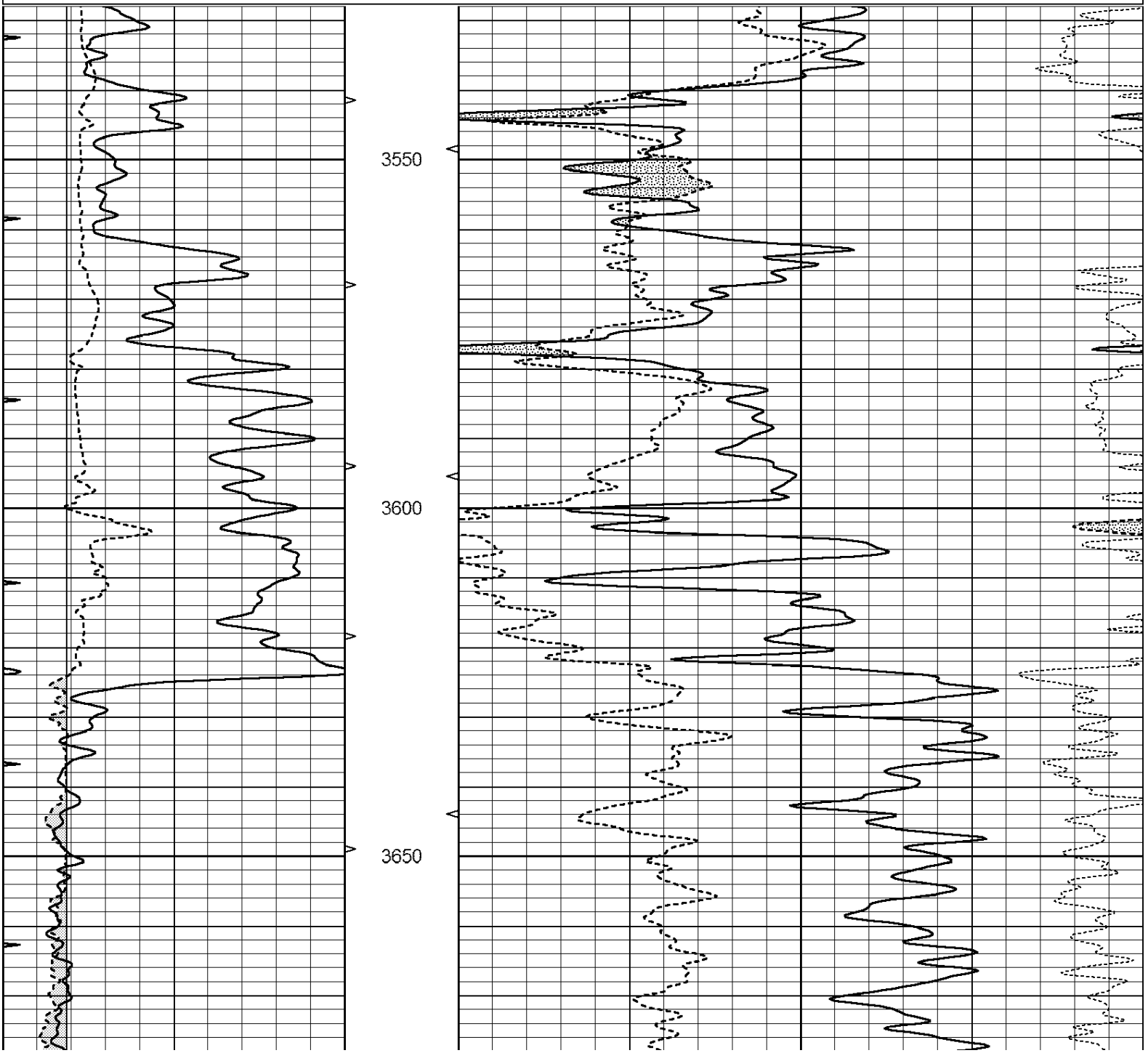
0 (ft3) 10

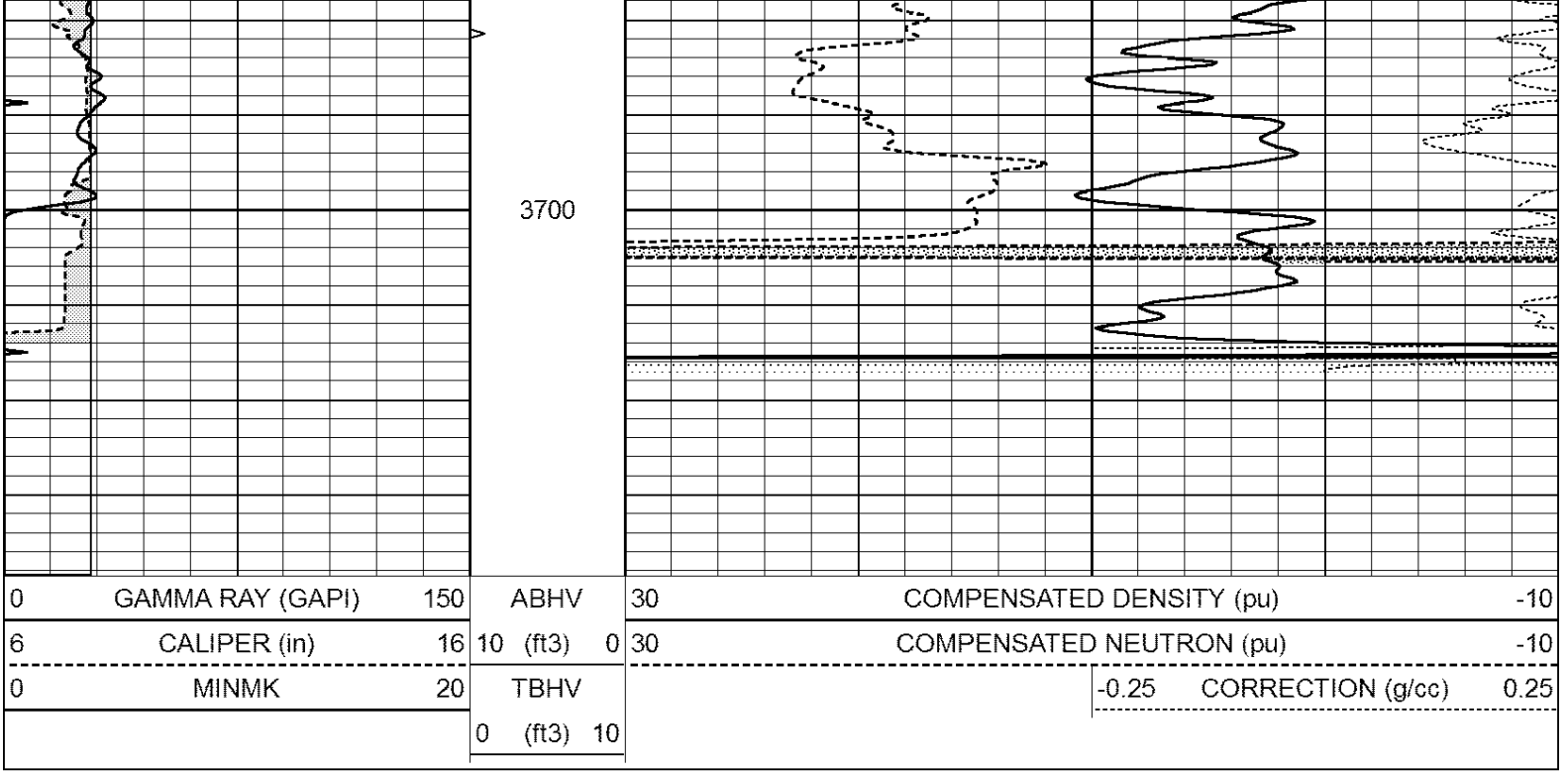
NABORS
COMPLETION & PRODUCTION SERVICES CO.

REPEAT SECTION

Database File: 009797ddn.db
Dataset Pathname: pass7.2
Presentation Format: den_neu
Dataset Creation: Mon Jan 07 11:28:41 2013
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: 009797ddn.db
Dataset Pathname: pass8.5
Dataset Creation: Mon Jan 07 11:23:21 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE8-DILG
Surface Cal Performed:	Fri Aug 01 06:33:19 2008
Downhole Cal Performed:	Mon Jul 28 11:08:27 2008
After Survey Verification Performed:	Mon Jul 28 11:08:27 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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		

Compensated Density Calibration Report

Serial-Model: GEAR4-GEARHART
Source / Verifier: 143 / 143
Master Calibration Performed: Fri Jan 04 15:33:37 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: 6l
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:	#8	
Tool Model:	OPEN	
Performed:	Mon Jun 13 16:56:43 2011	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	175.0	cps
Sensitivity:	0.8371	GAPI/cps