



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY / NEUTRON LOG

Company		DREILING OIL COMPANY, INC.	
Well	GRABBE "B" #3		
Field	SCHOENCHEN WEST		
County	ELLIS	State	KANSAS
Location:		API # : 15-051-26545-0000	
Permanent Datum		GROUND LEVEL	Elevation 1985
Log Measured From		KELLY BUSHING 8' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 20 TWP 15S RGE 18W		Other Services DIL/MEL BGR/CCL	
Date	7/27/13		
Run Number	ONE		
Depth Driller	3650		
Depth Logger	3648		
Bottom Logged Interval	3624		
Top Log Interval	2900		
Casing Driller	8 5/8" @ 1140'		
Casing Logger	1140		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2,000 PPM	
Density / Viscosity	8.9/48		
pH / Fluid Loss	10.0/8.4		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.800 @ 85F		
Rmf @ Meas. Temp	.600 @ 85F		
Rmc @ Meas. Temp	.960 @ 85F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.602 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	10:30 A.M.		
Maximum Recorded Temperature	113F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	ROGER FISHER		

<<< 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

HAYS, KS. 10S. ON HWY 183 TO HAYS MACK, 1W. TO "T" CONTINUE WEST INTO PASTURE THEN SOU



NABORS

**COMPLETION
& PRODUCTION**

MAIN SECTION

Database File:

011194ddn.db

Dataset Pathname:

pass3.4

Presentation Format:

den_neu

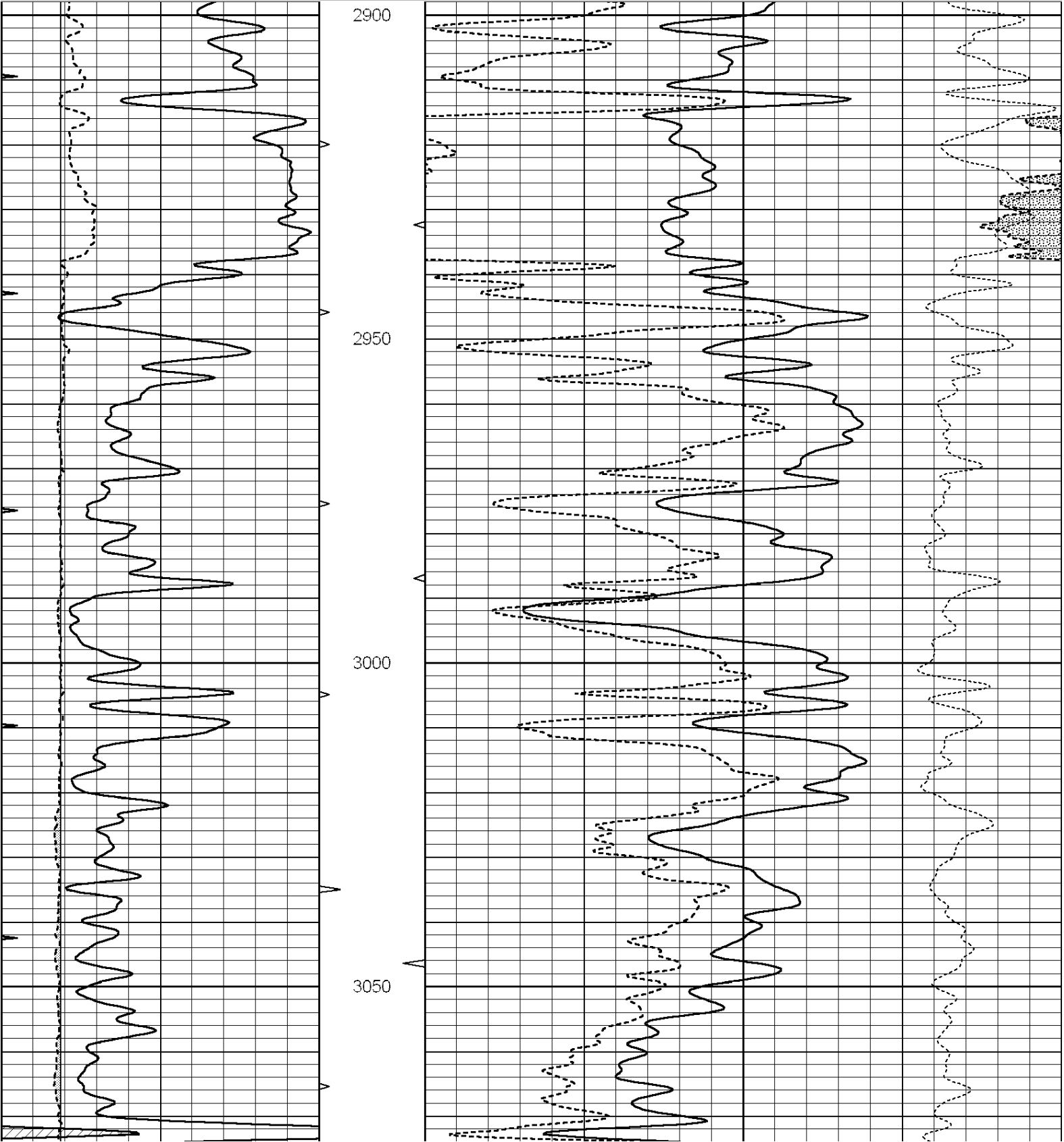
Dataset Creation:

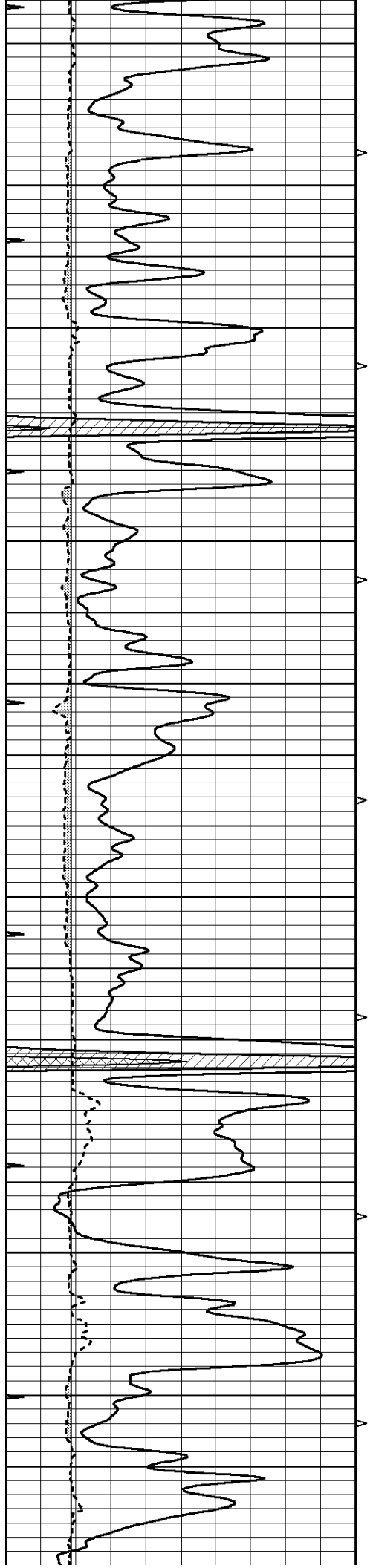
Sat Jul 27 11:38:05 2013 by Calc SOC 120430

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		



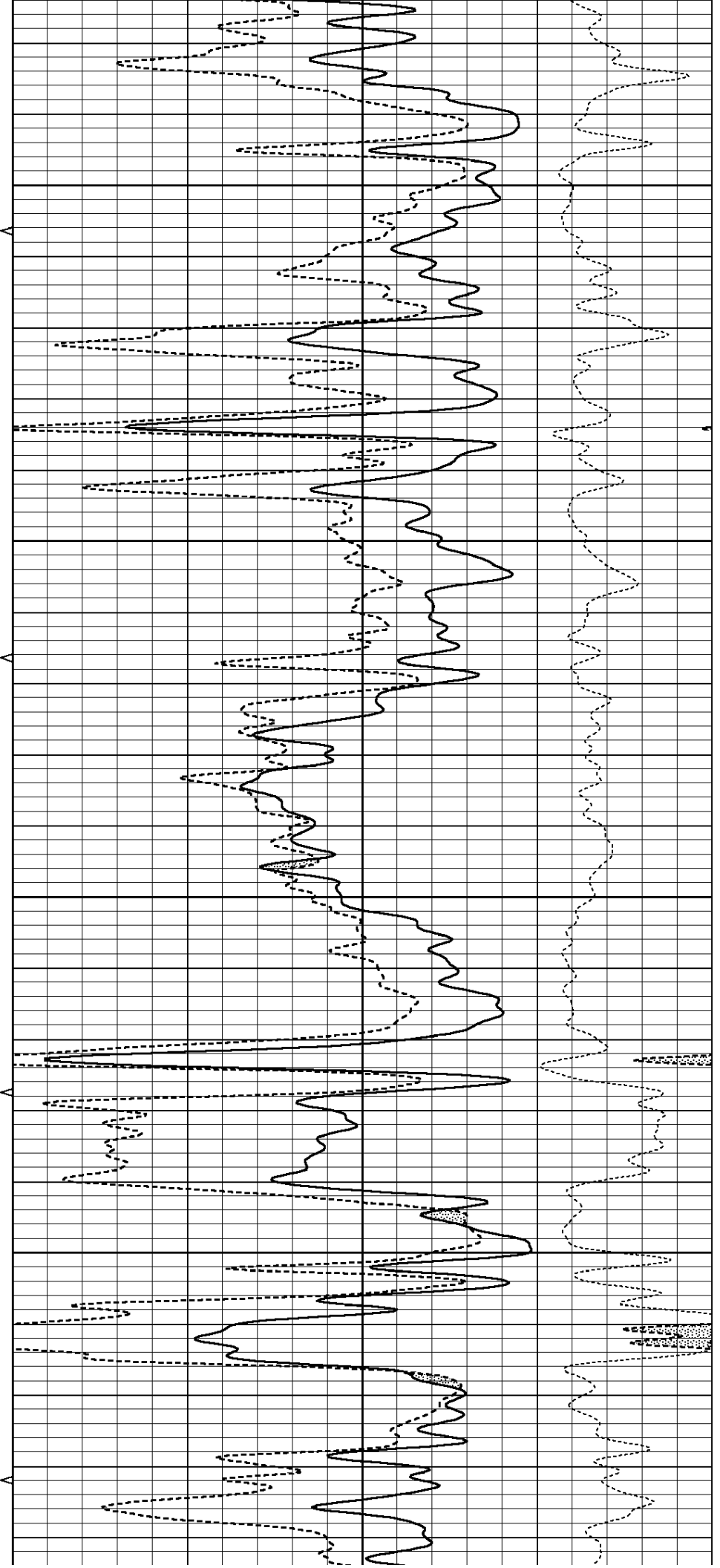


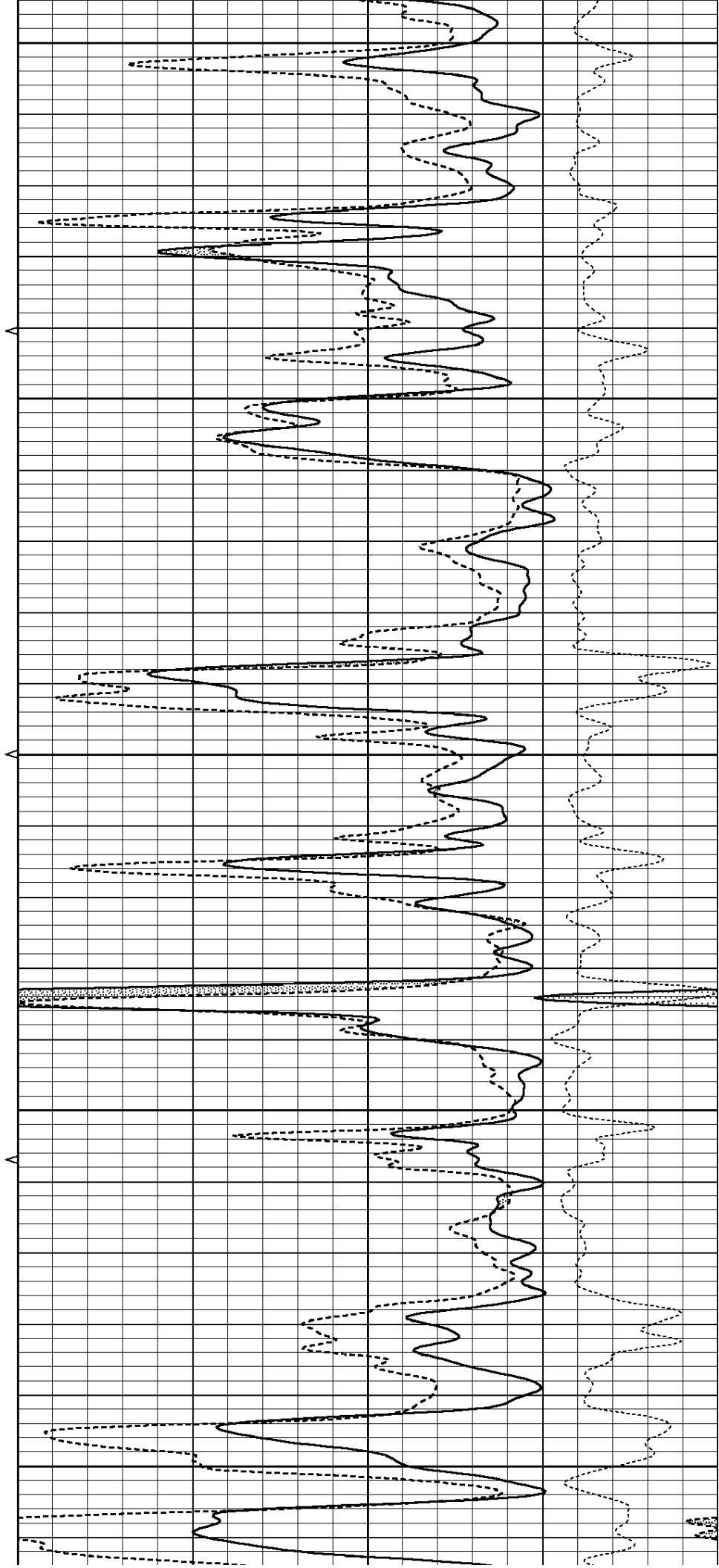
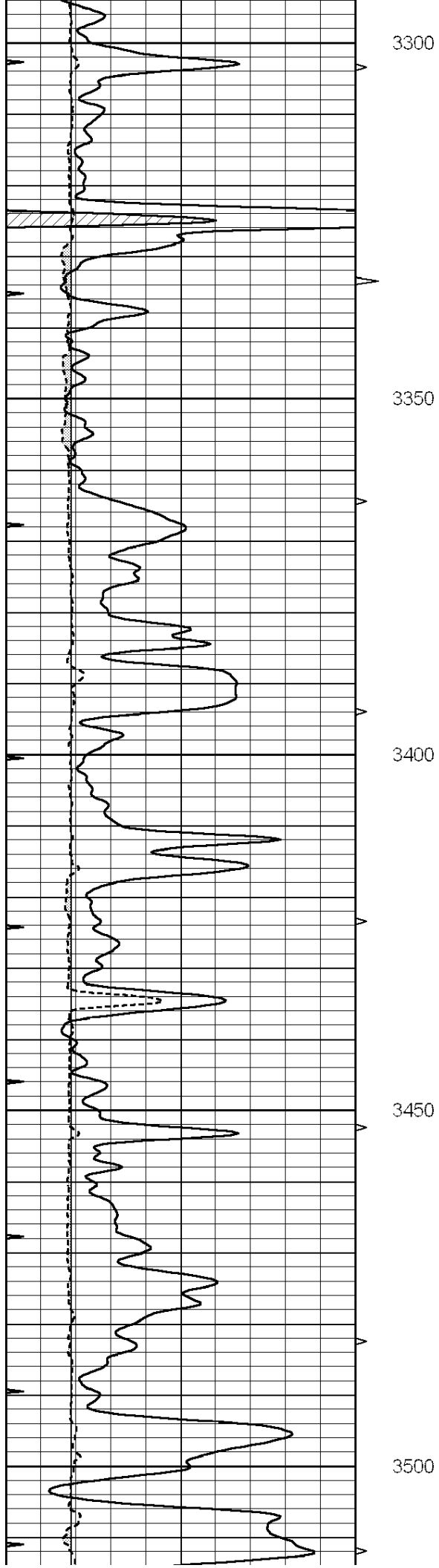
3100

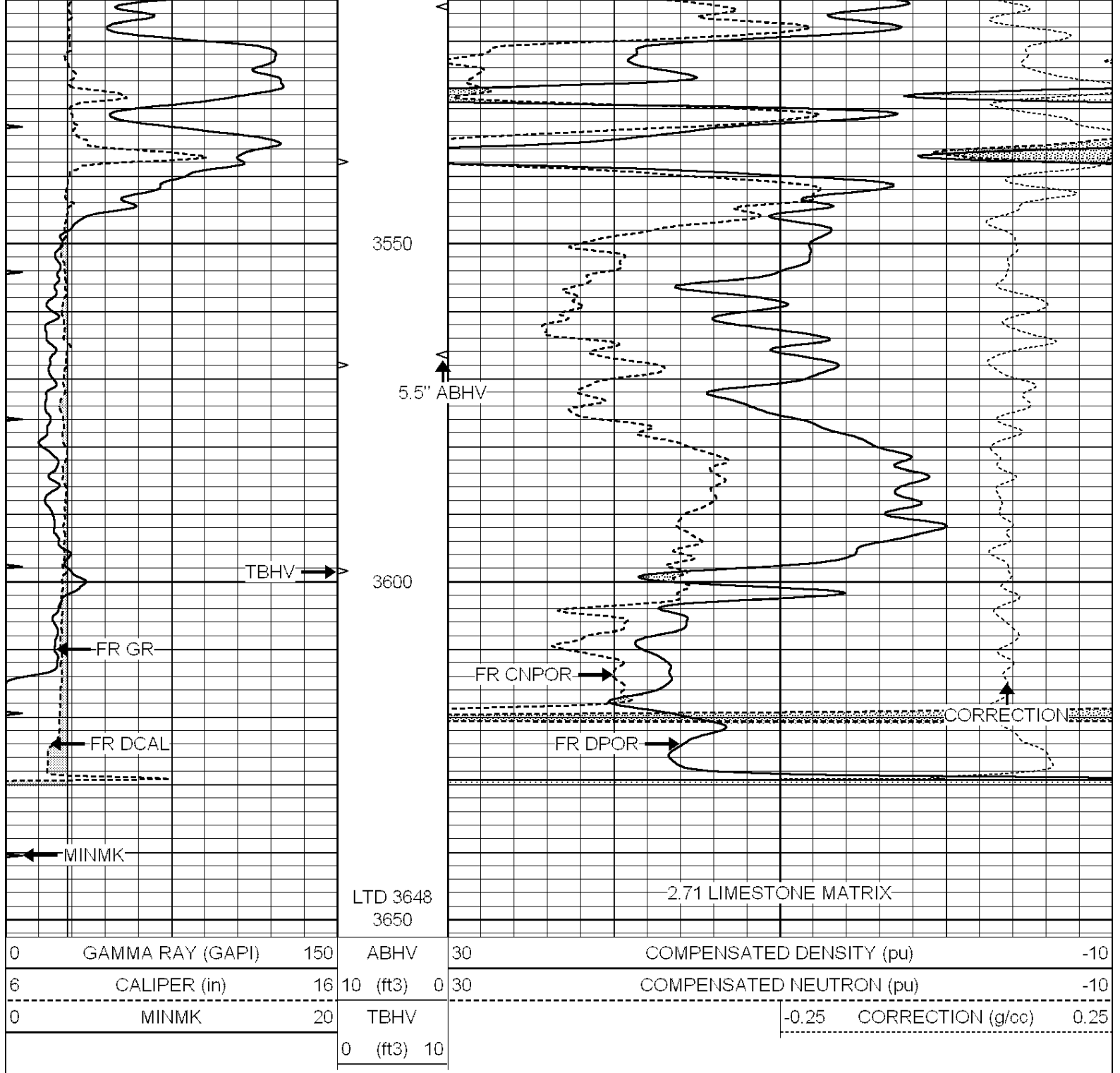
3150

3200

3250







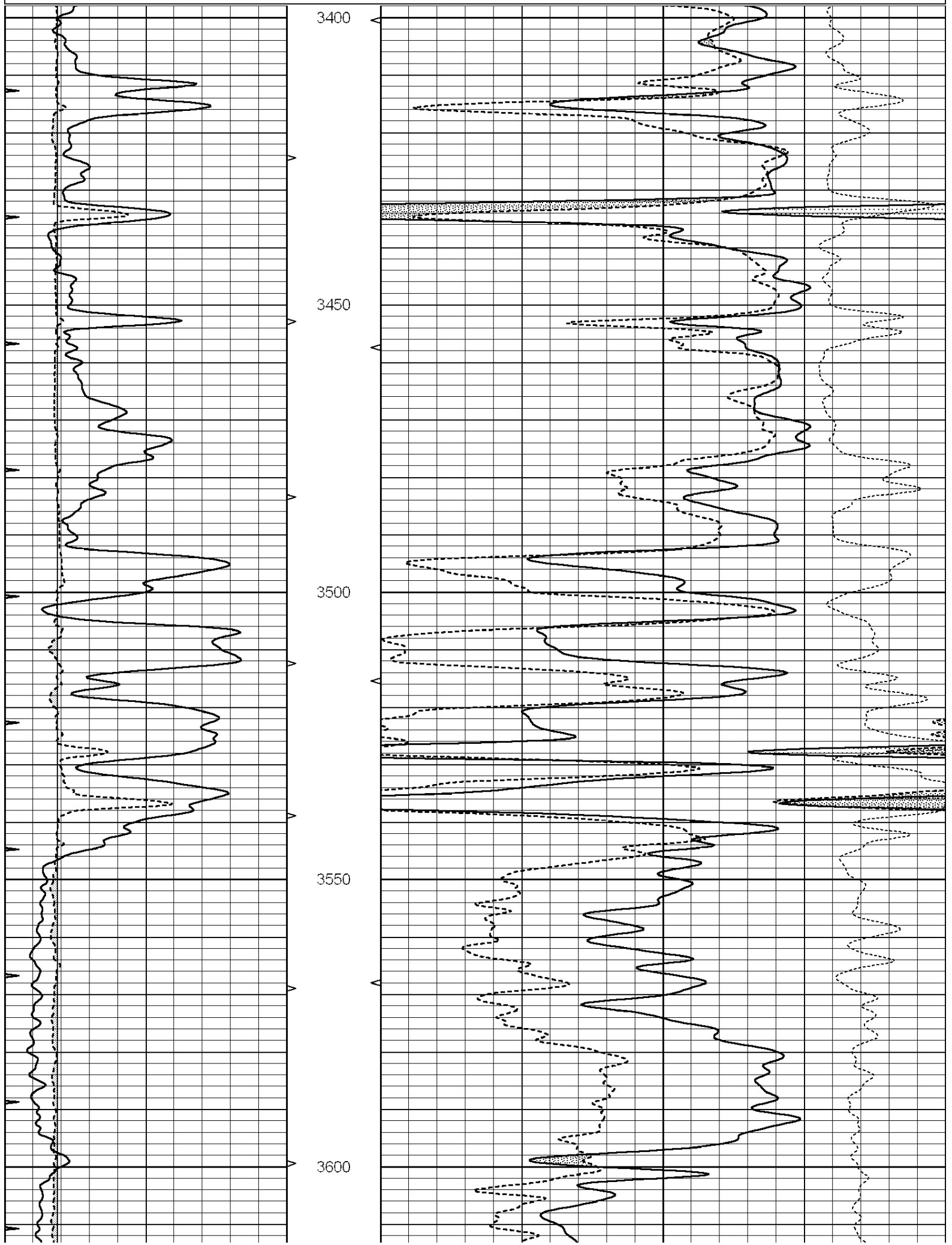
NABORS
COMPLETION
& PRODUCTION
SERVICES CO.

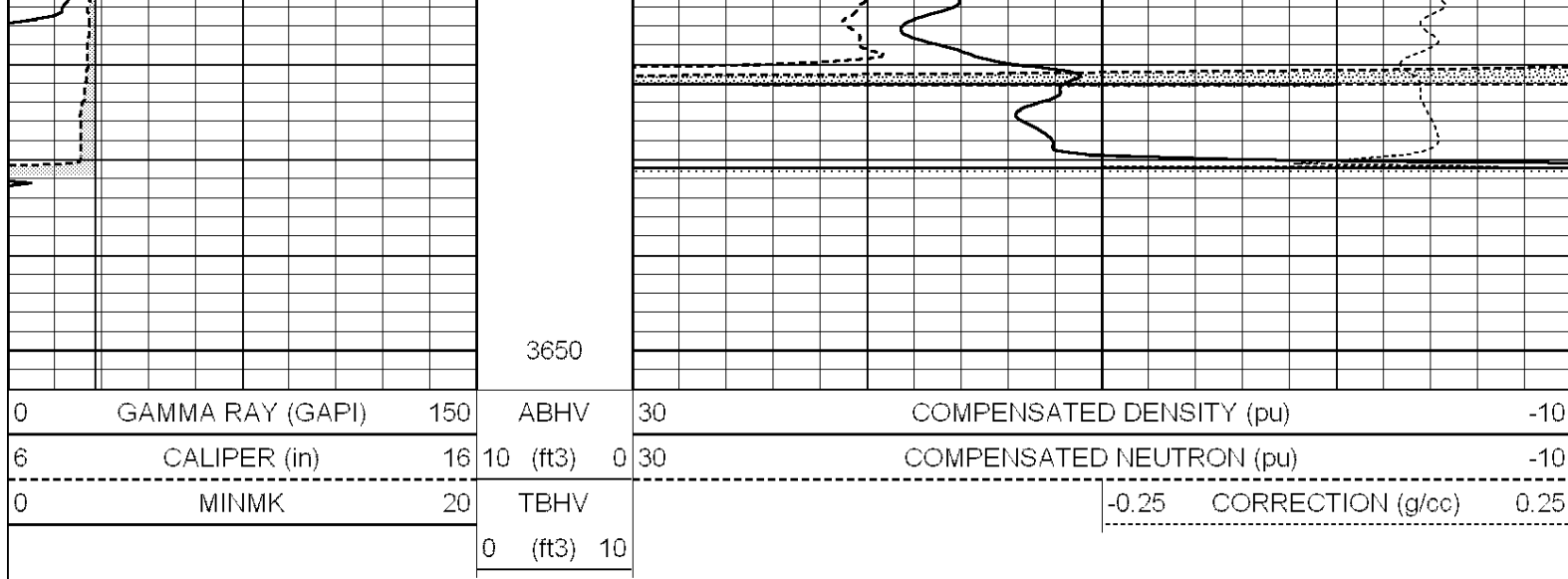
REPEAT SECTION

Database File: 011194ddn.db
Dataset Pathname: pass2.4
Presentation Format: den_neu
Dataset Creation: Sat Jul 27 10:43:47 2013 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		

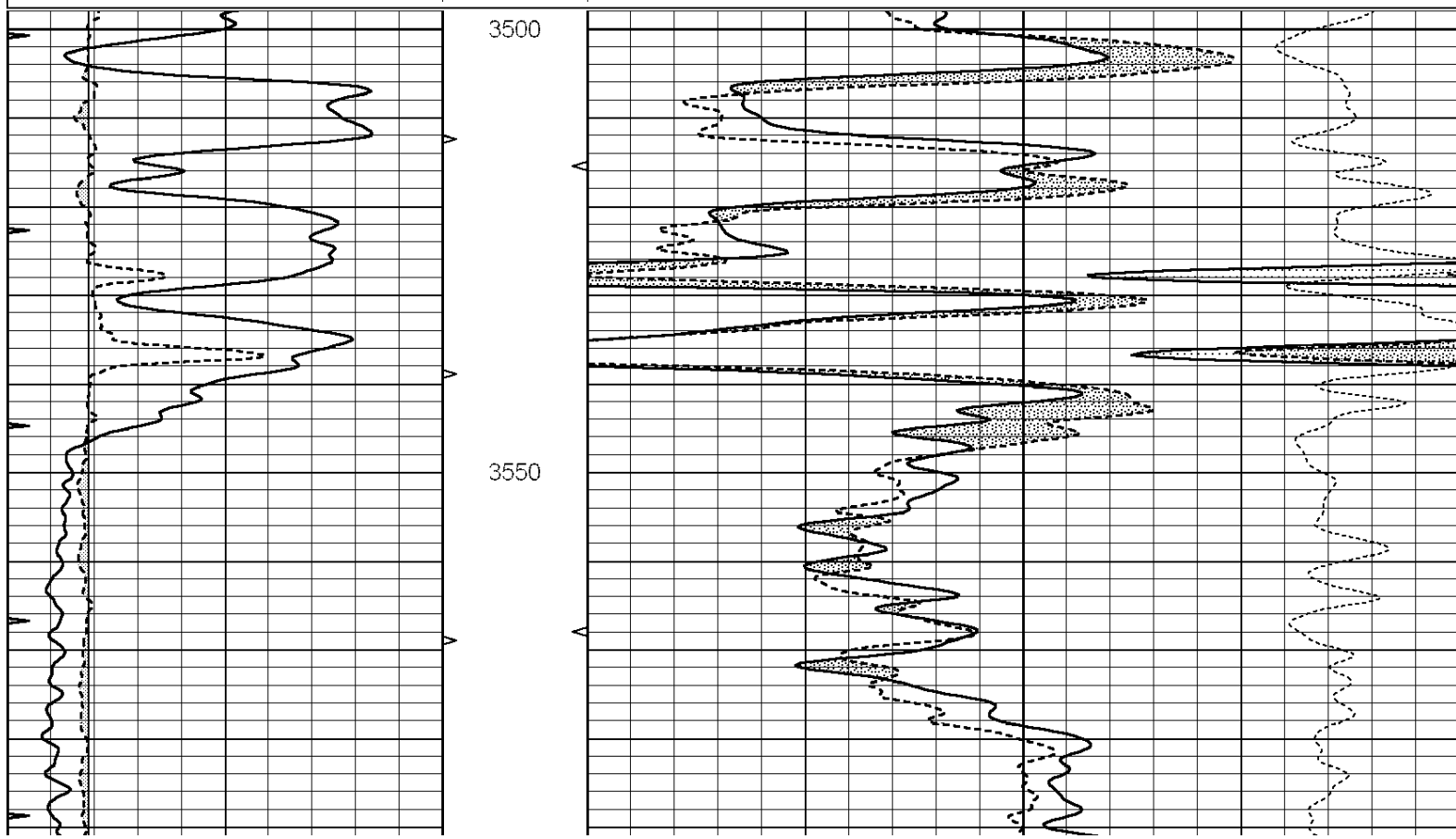
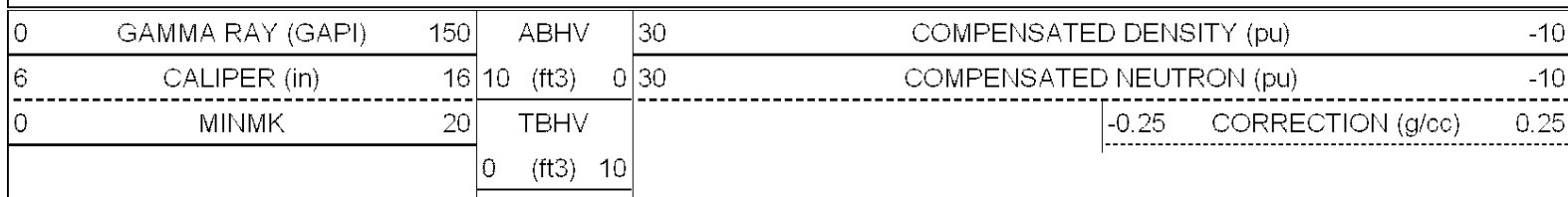
0 (ft3) 10

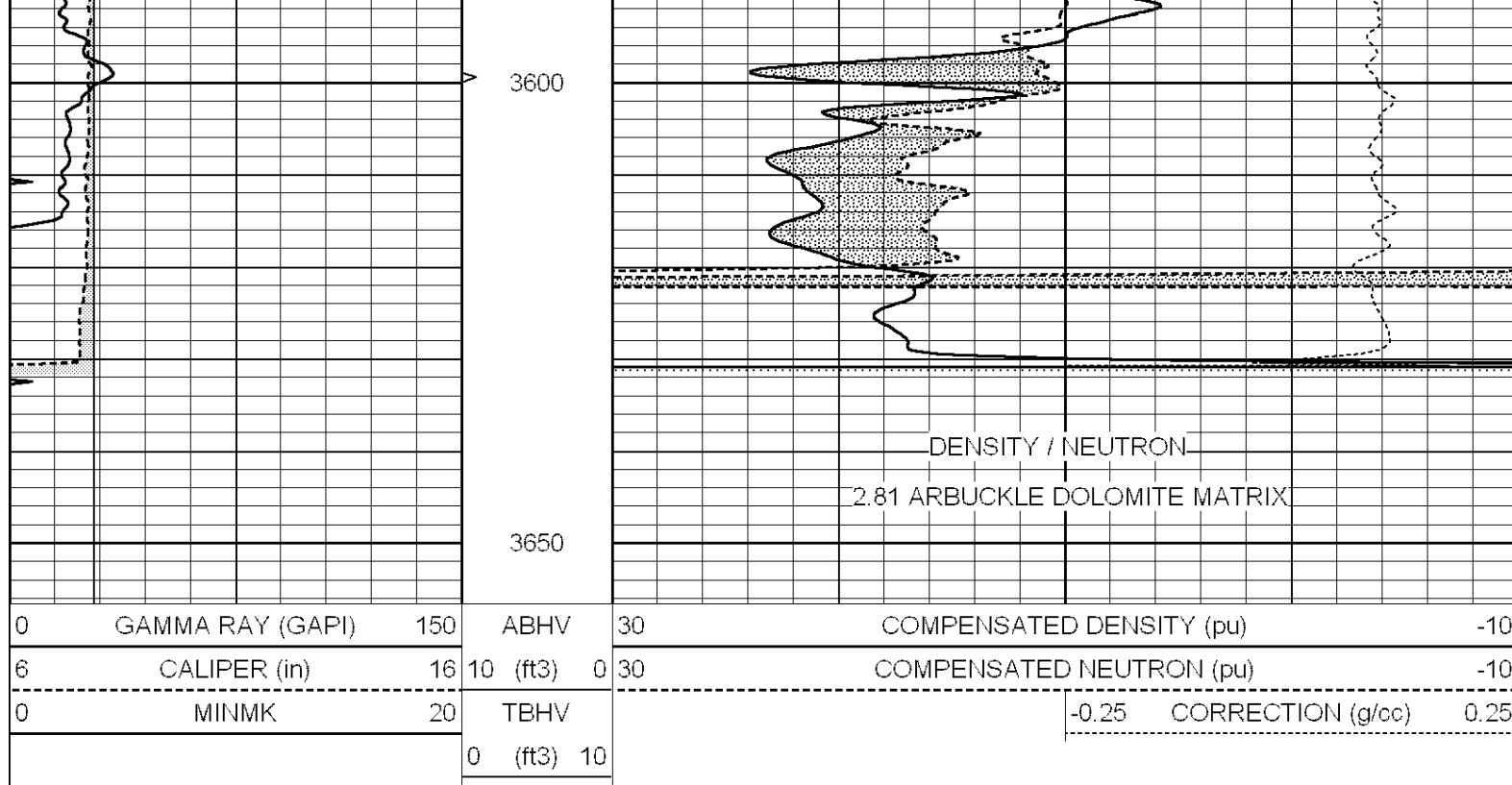




DOLOMITE MATRIX

Database File: 011194ddn.db
 Dataset Pathname: pass2.6
 Presentation Format: den_neu
 Dataset Creation: Sat Jul 27 12:19:27 2013
 Charted by: Depth in Feet scaled 1:240





Calibration Report

Database File: 011194ddn.db
Dataset Pathname: pass3.4
Dataset Creation: Sat Jul 27 11:38:05 2013 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
Surface Cal Performed: Thu Jul 11 13:14:55 2013
Downhole Cal Performed: Mon Jul 28 12:02:56 2008
After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	-9.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-13.500
Internal:	Zero	Cal		Zero	Cal		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: 001 Model: PRB

Master Calibration			Performed Tue May 28 08:54:22 2013					
	Background		Magnesium		Aluminum		Sandstone	
Window 1	1890.3		12786.5		4236.7		13497.2	cps
Window 2	1764.1		11051.7		3765.5		11456.4	cps
Window 3	1442.8		5894.4		2376.2		5911.4	cps
Window 4	428.0		428.9		420.8		426.5	cps
Long Space	0.0		9287.6		2001.3		9692.3	cps
Short Space	3.2		3351.1		2186.8		3398.0	cps
Rho			1.7100		2.5900		1.3800	g/cc
Pe			0.0000		2.5700		1.5500	
Rib Angle	: 44.5		Rib Slope	: 0.981	Density/Spine Ratio		: 0.552	
Spine Angle	: 74.5		Spine Slope	: 3.596	Spine Intercept		: -20.1	

Before Survey Verification			Performed Wed Dec 31 18:00:00 1969					
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					
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	

--

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:	070559		
Tool Model:	OPEN_GR		
Performed:	Wed Jun 12 18:25:42 2013		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3500	GAPI/cps	