



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company		CITATION OIL & GAS CORPORATION	
Well		COLBORG #4	
Field		SUNNY SLOPE	
County		TREGO	
State		KANSAS	
Company		CITATION OIL & GAS CORPORATION	
Well		COLBORG #4	
Field		SUNNY SLOPE	
County		TREGO	
State		KANSAS	
Location:		API # : 15-195-22858-0000 330' FNL & 990' FWL NE - NW - NW	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 10' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 27 TWP 14S RGE 21W		Elevation	
		K.B. 2132	
		D.F. 2130	
		G.L. 2122	
Date	5/2/13		
Run Number	ONE		
Depth Driller	4010		
Depth Logger	3976		
Bottom Logged Interval	3952		
Top Log Interval	3100		
Casing Driller	8 5/8" @ 1457'		
Casing Logger	1457		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 1,750 PPM	
Density / Viscosity	9.0/52		
pH / Fluid Loss	10.5/7.2		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.800 @ 80F		
Rmf @ Meas. Temp	.600 @ 80F		
Rmc @ Meas. Temp	.960 @ 80F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.552 @ 116F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	3:15 P.M.		
Maximum Recorded Temperature	116F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JUSTIN CARTER		

<<< 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

ELLIS, KS., 4S. TO (LAKE RD.)/"VICTORIA RD.", 4W. TO "RD. 390", 4 1/2S. TO CATTLE GUARD WITH
BEREXCO SIGN, 1 MILE W. INTO ON MAIN TRAIL
NOTE: WE WERE 34' SHALLOW TO ROTARY



NABORS

**COMPLETION
& PRODUCTION**

MAIN SECTION

Database File:

010749pe.db

Dataset Pathname:

pass3.9

Presentation Format:

ldt_neu

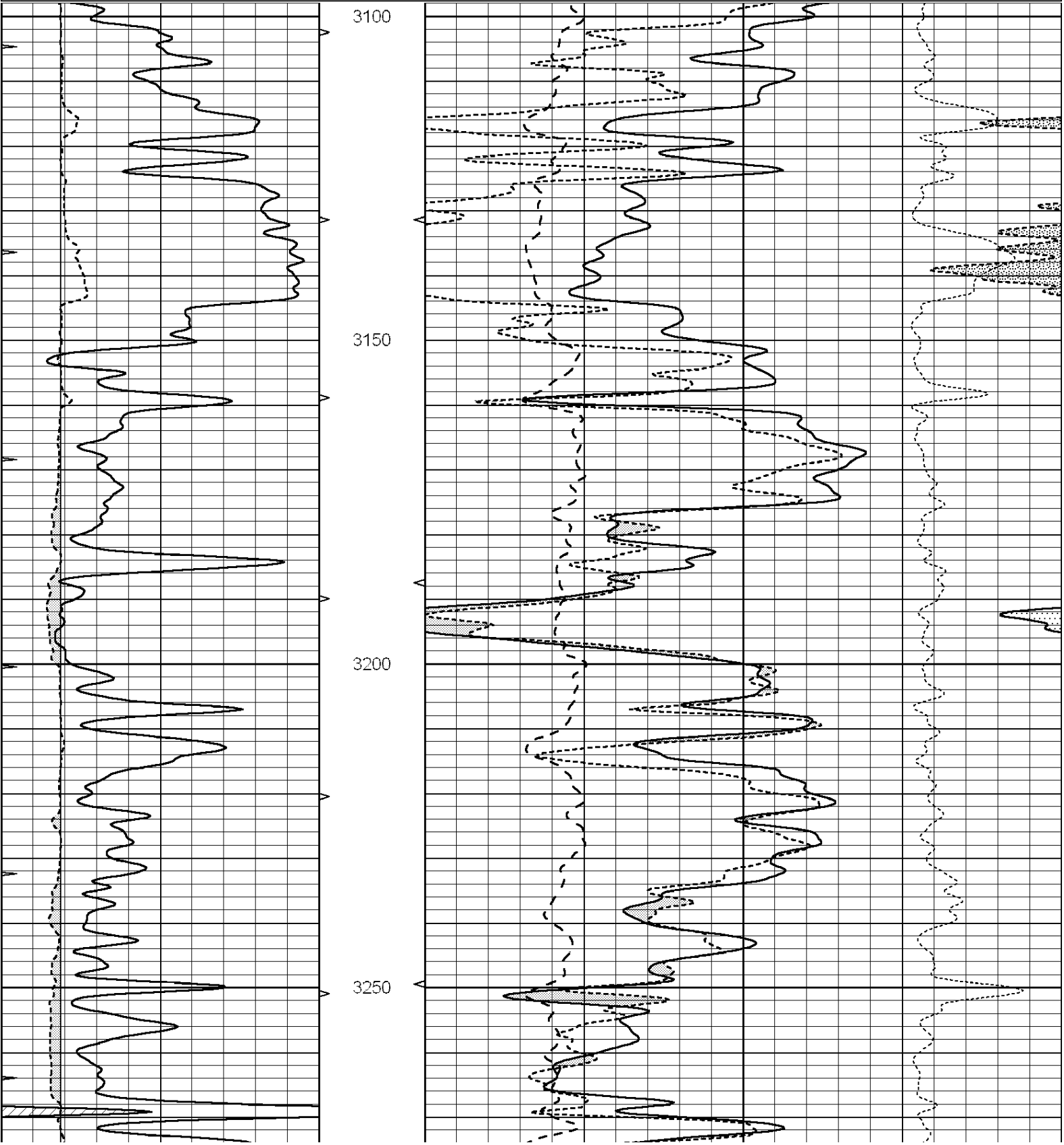
Dataset Creation:

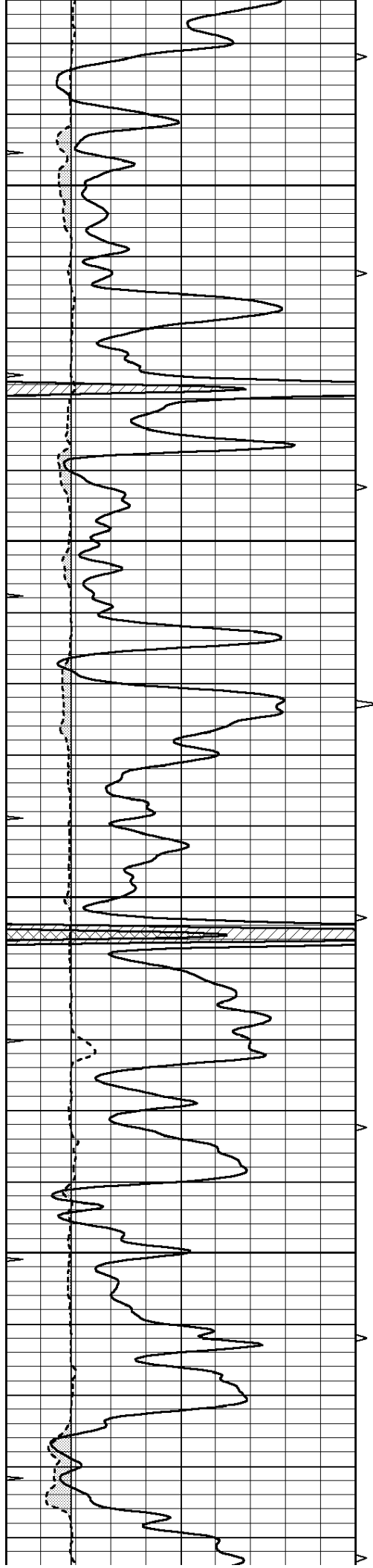
Thu May 02 17:42:59 2013

Charted by:

Depth in Feet scaled 1:240

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



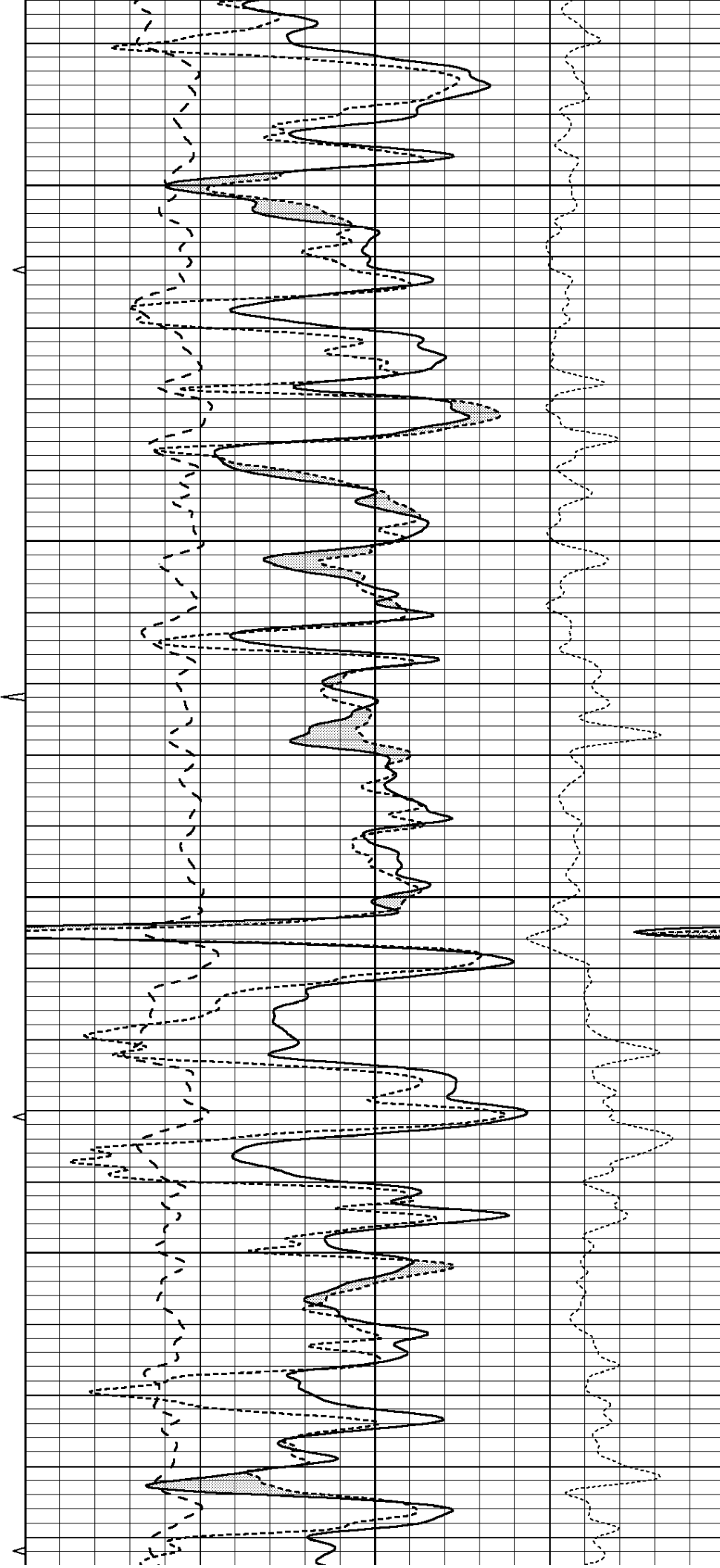


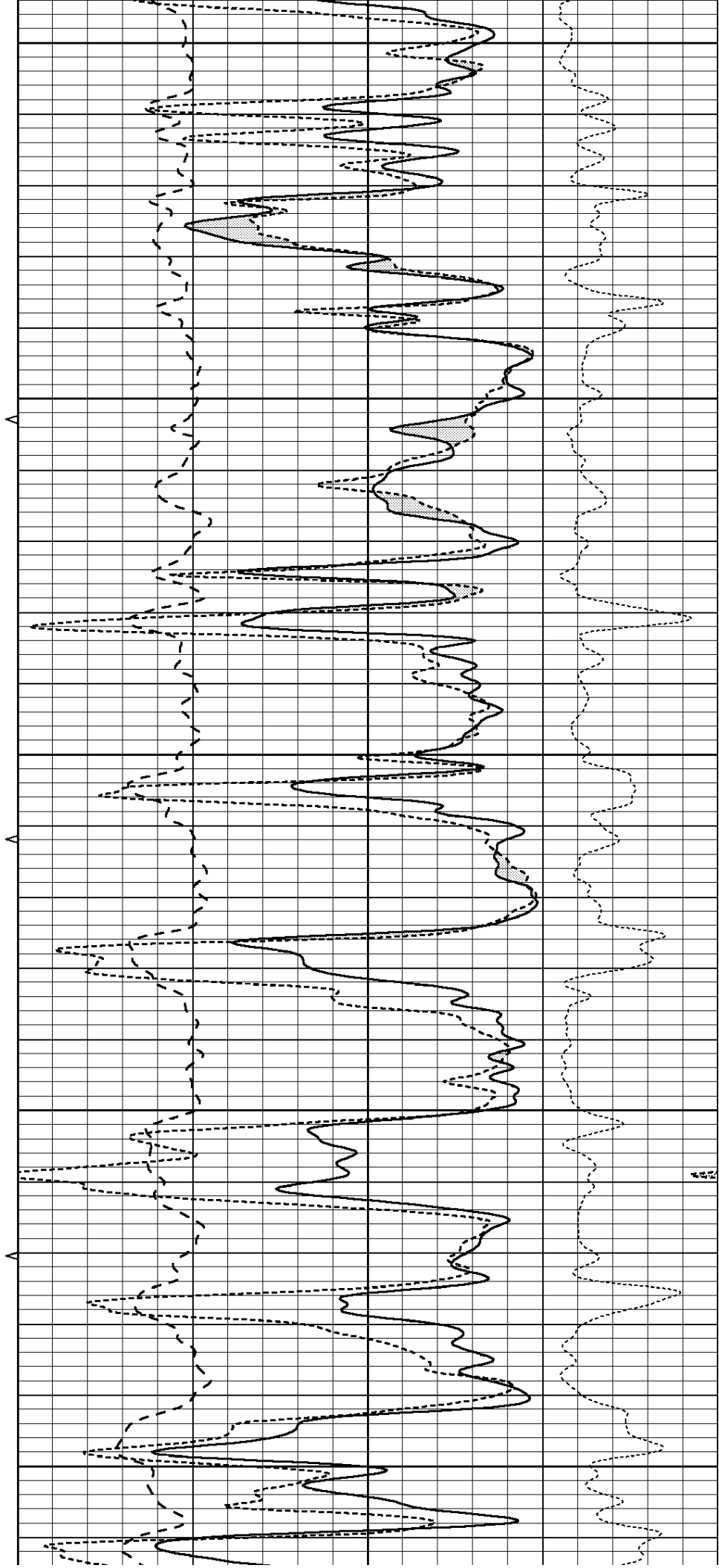
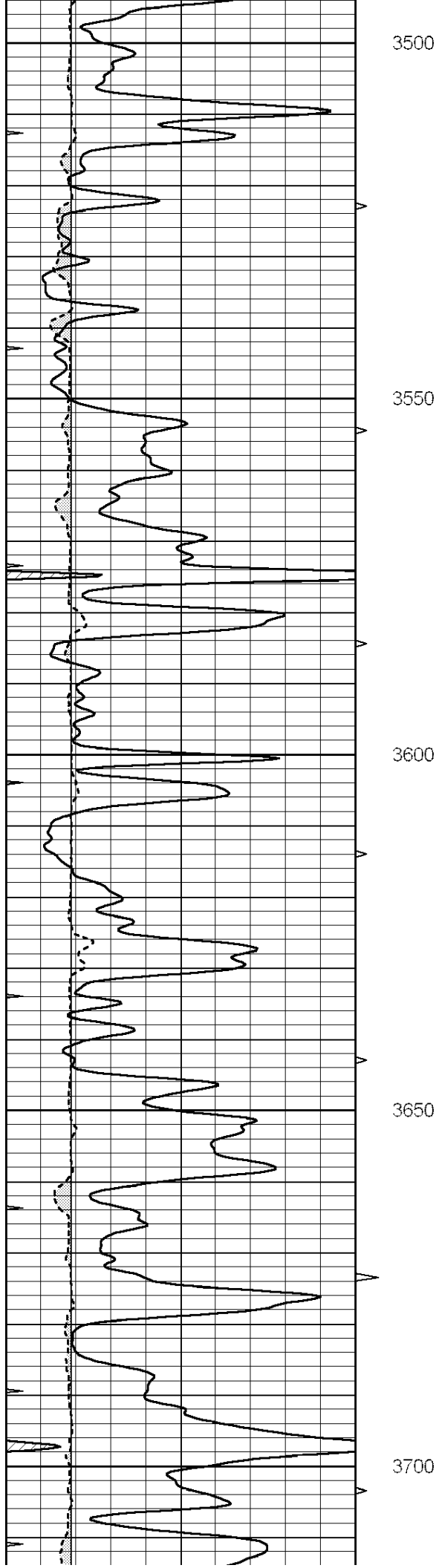
3300

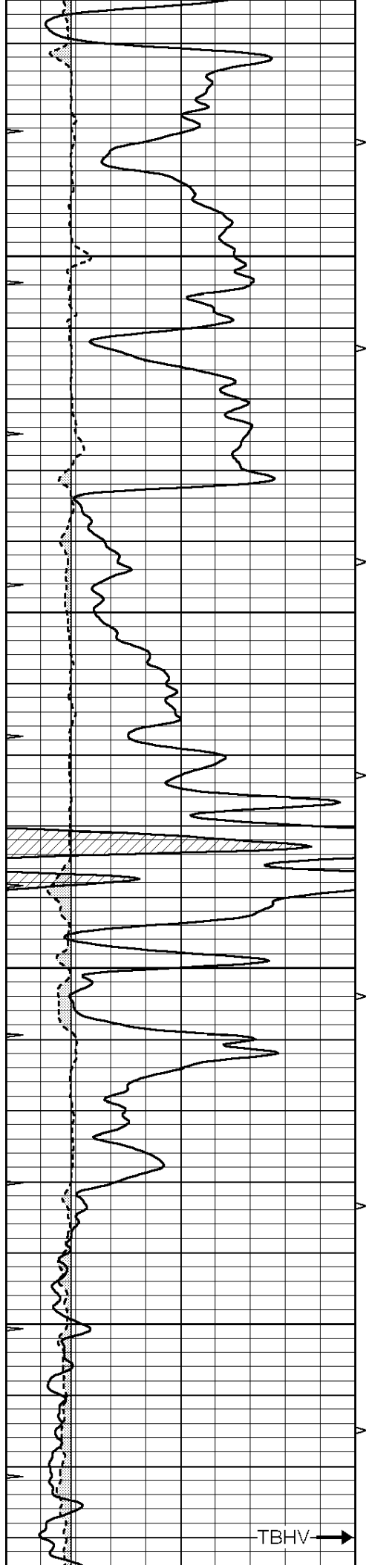
3350

3400

3450







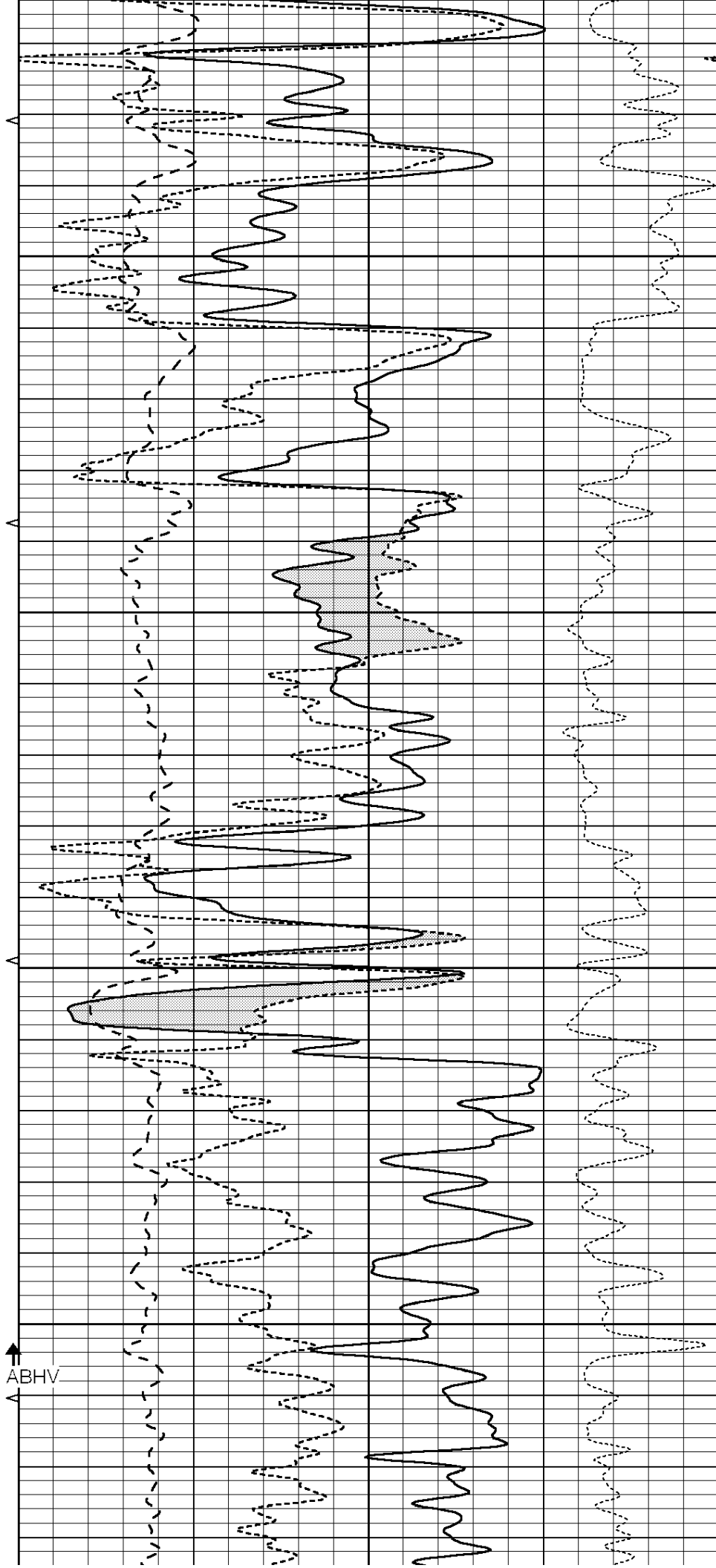
3750

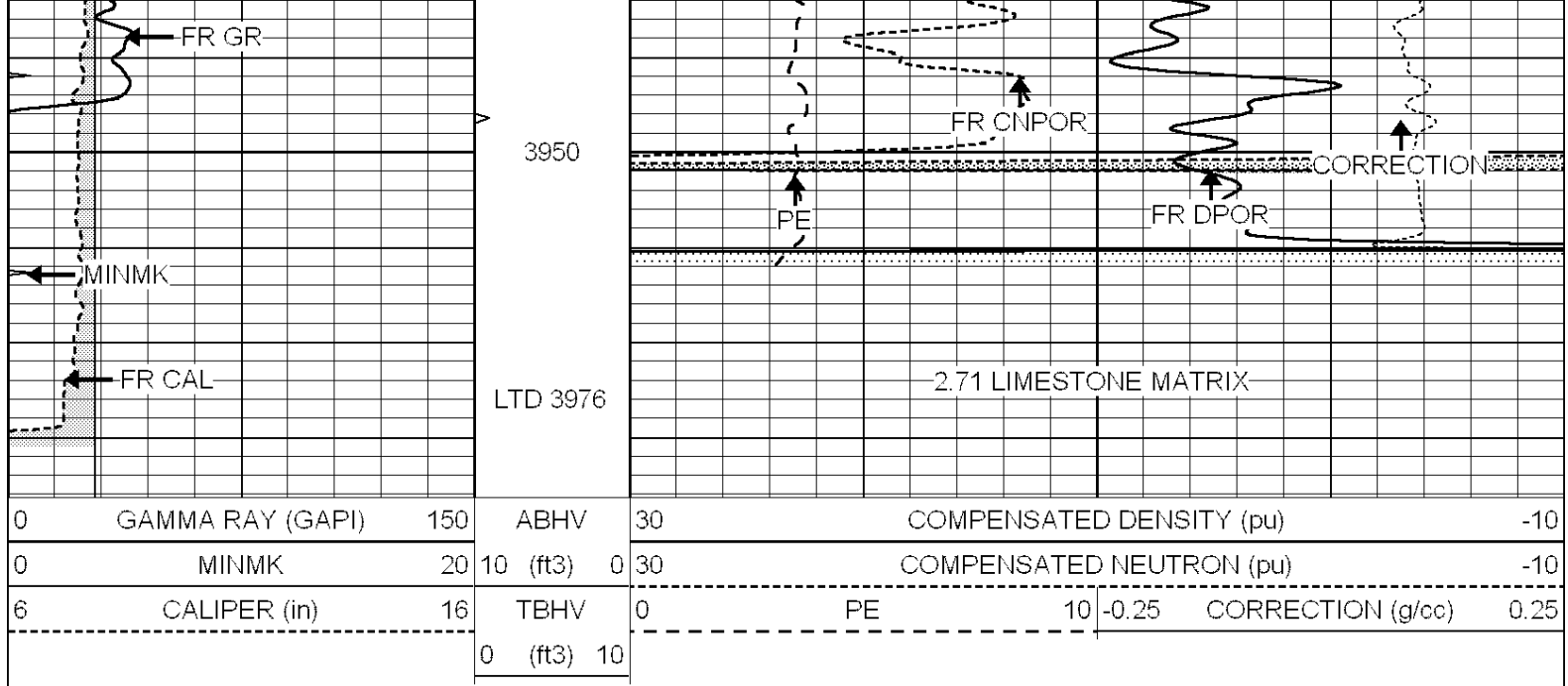
3800

3850

3900

5.5" ABHV

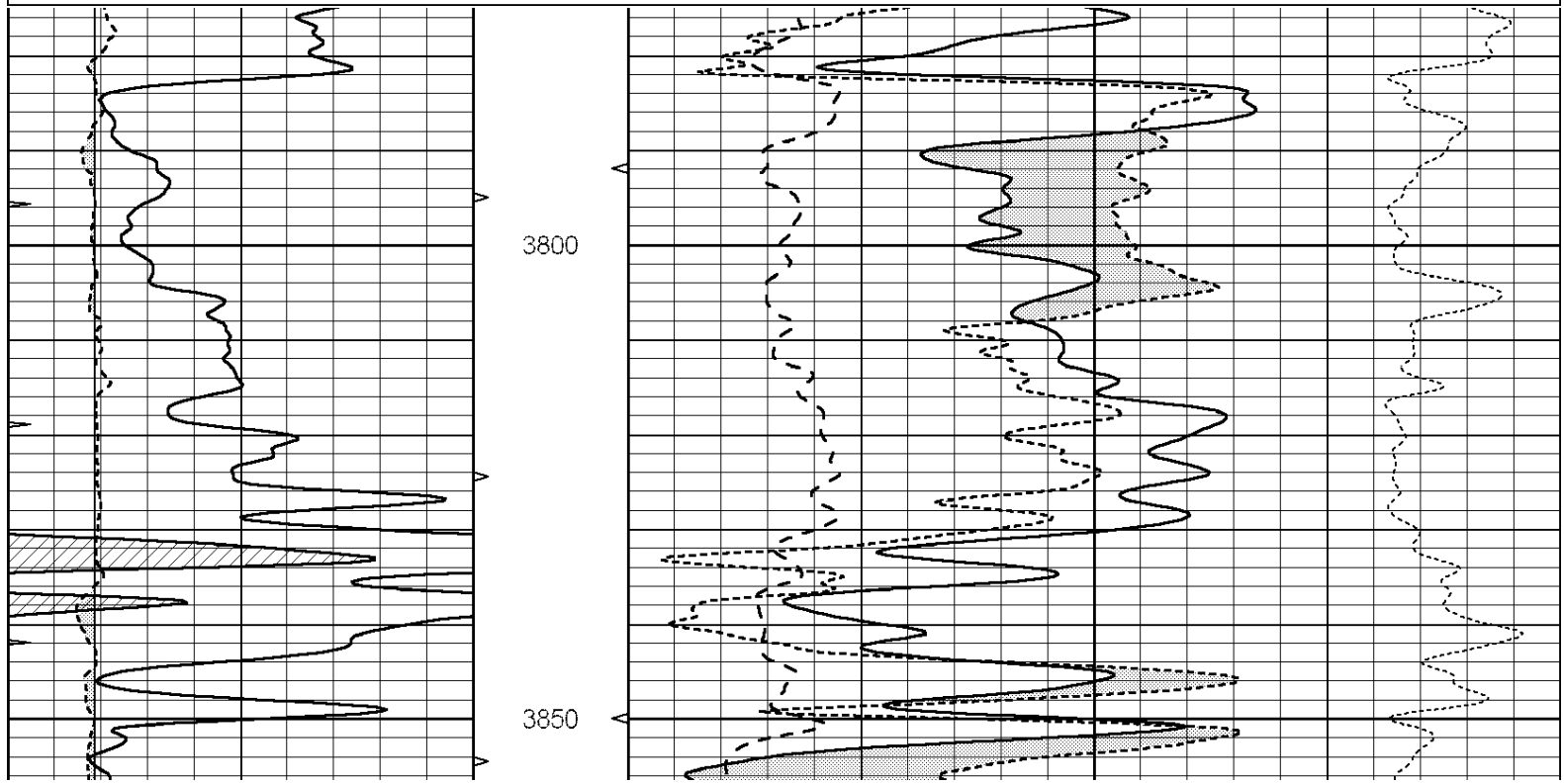


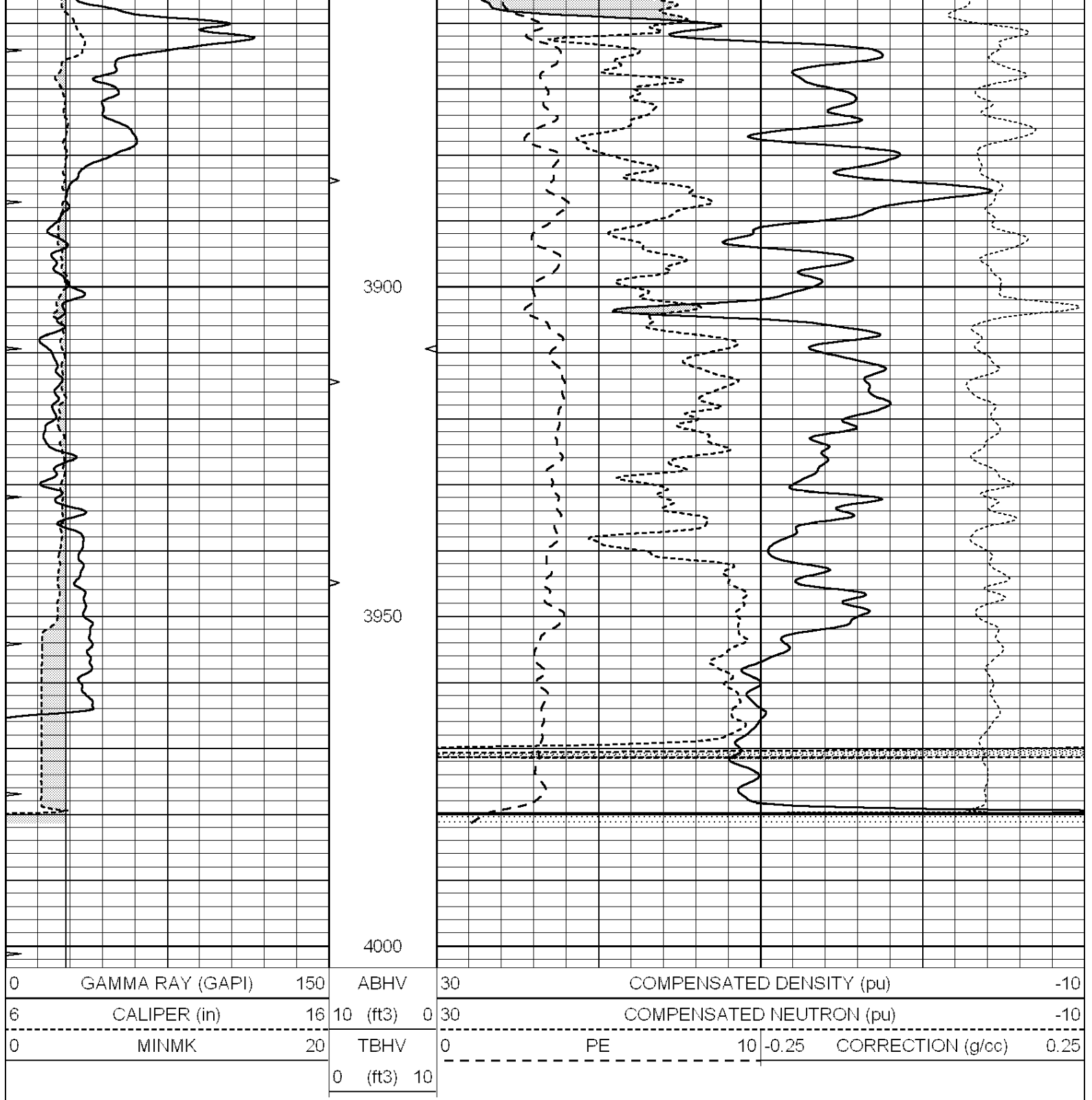


REPEAT SECTION

Database File: 010749pe.db
 Dataset Pathname: pass2.3
 Presentation Format: _ldt_neu
 Dataset Creation: Thu May 02 16:56:41 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	PE	10	-0.25	CORRECTION (g/cc)	0.25	
			0 (ft3)	10						





Calibration Report

Database File: 010749pe.db
 Dataset Pathname: pass3.9
 Dataset Creation: Thu May 02 17:42:59 2013

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Thu Apr 25 06:19:30 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	-12.500
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-20.500
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: 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		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:	Mon Apr 15 10:30:52 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3500	GAPI/cps