



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company DOWNING - NELSON OIL CO. INC.
Well HEIDI #1-31
Field WILDCAT
County RUSH
State KANSAS

Company DOWNING - NELSON OIL COMPANY, INC.
Well HEIDI #1-31
Field WILDCAT
County RUSH State KANSAS

Location: API # : 15-165-22098-0000
1830' FSL & 1065' FWL
NE - SE - NW - SW
SEC 31 TWP 18S RGE 17W
Permanent Datum GROUND LEVEL Elevation 2036
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DIL/MEL
SONIIC
Elevation
K.B. 2044
D.F. 2042
G.L. 2036

Date	10/31/14
Run Number	ONE
Depth Driller	3895
Depth Logger	3895
Bottom Logged Interval	3871
Top Log Interval	3000
Casing Driller	8 5/8" @ 1169'
Casing Logger	1169
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	8.9/52
pH / Fluid Loss	10.0/8.8
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.900 @ .65F
Rmf @ Meas. Temp	.675 @ .65F
Rmc @ Meas. Temp	1.08 @ .65F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.509 @ 115F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	4:45 A.M.
Maximum Recorded Temperature	115F
Equipment Number	4854
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	MARC DOWNING

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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

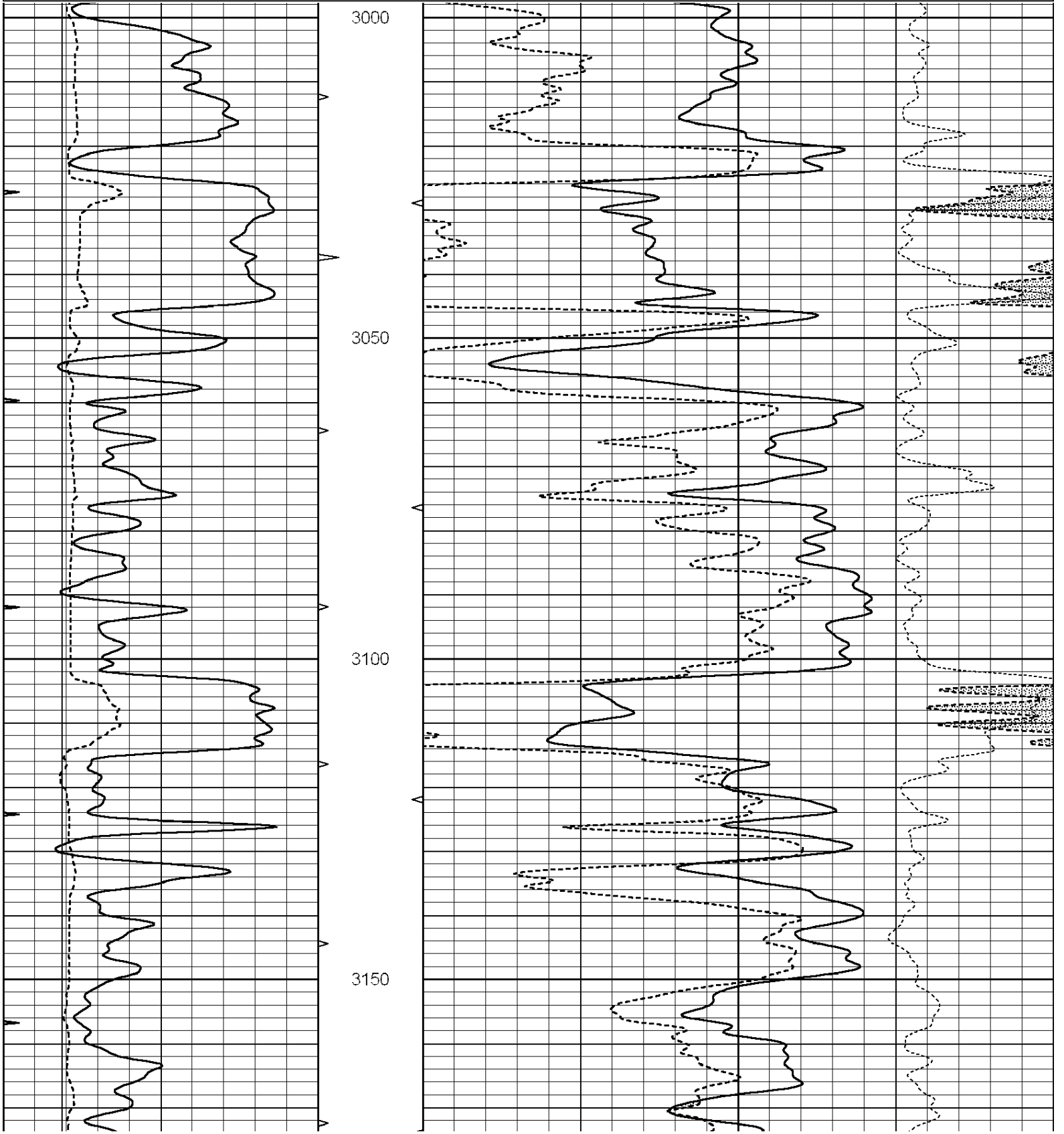
THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS
RUSH CENTER, KS., 3E. ON HWY 96, 1 1/2S., E. INTO

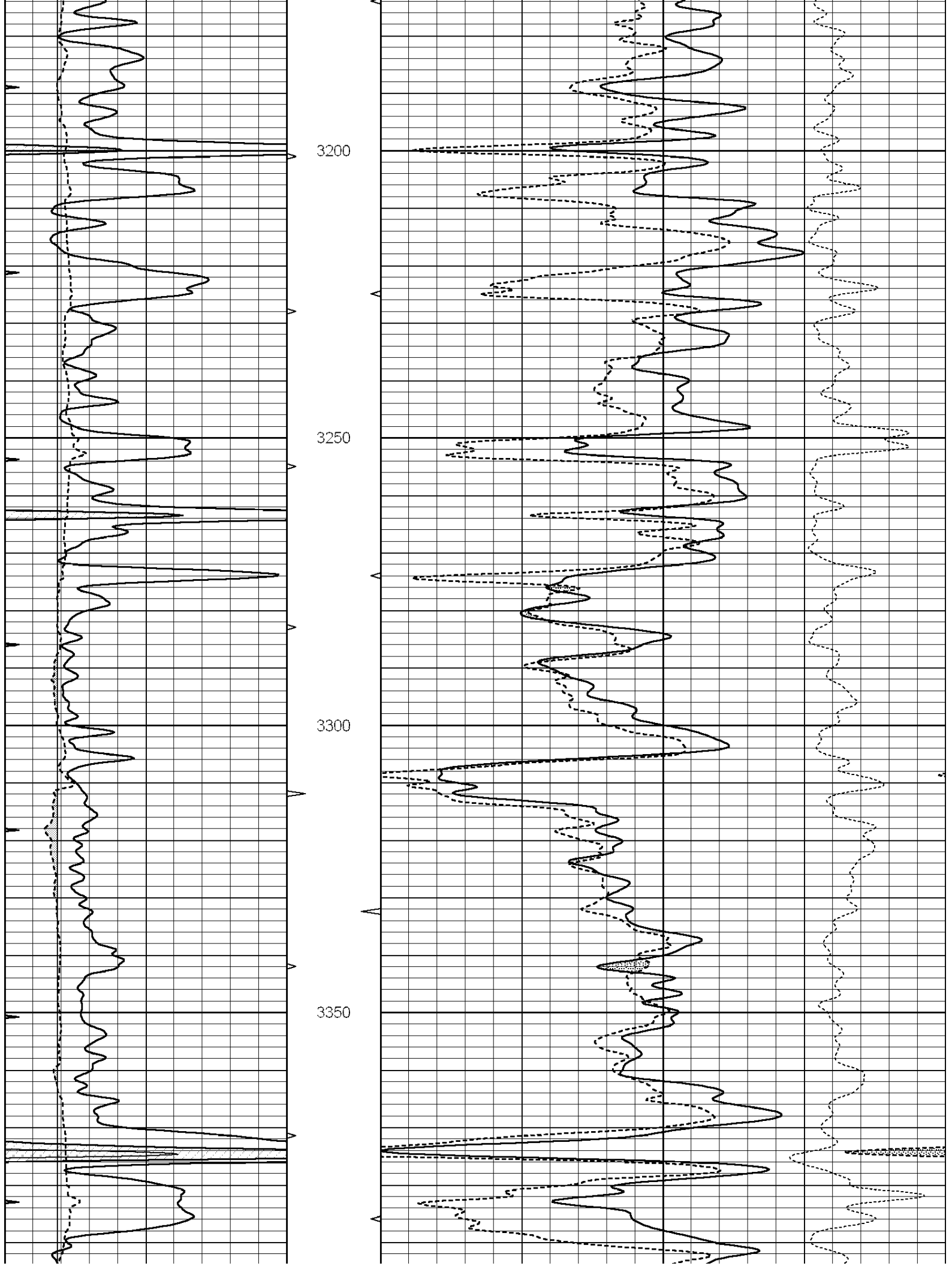


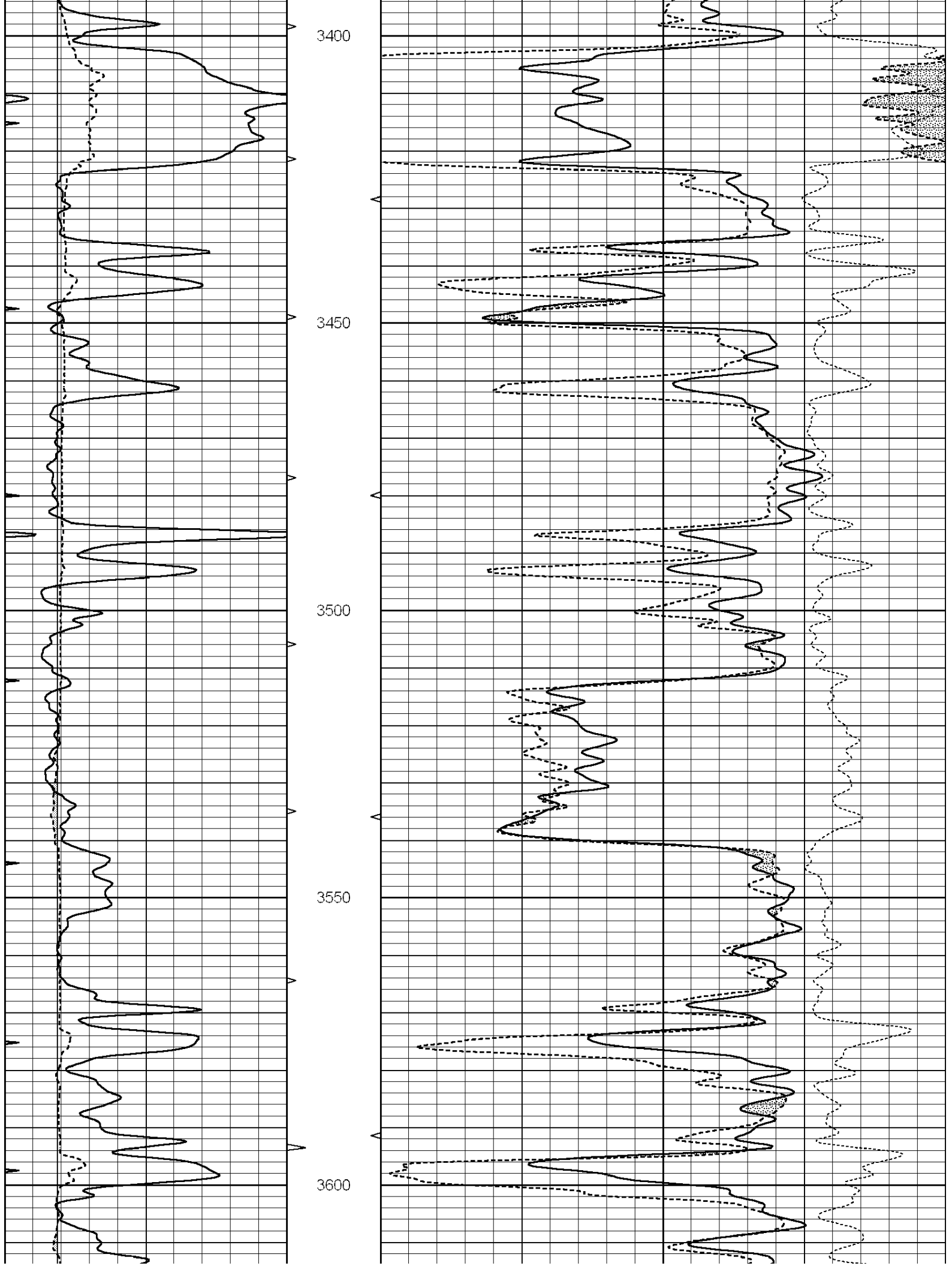
MAIN SECTION

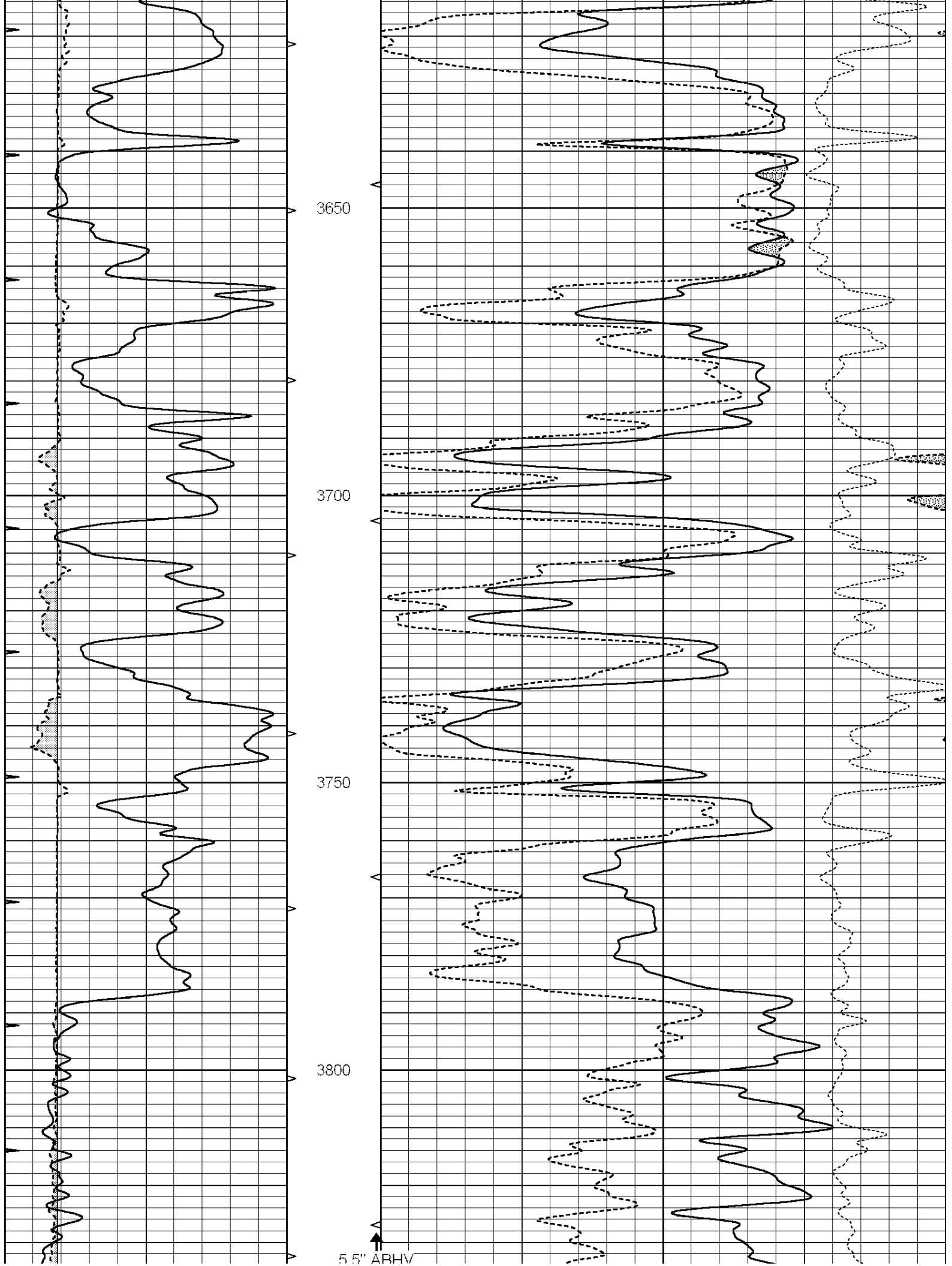
Database File: 25906ddn.db
 Dataset Pathname: pass5.4
 Presentation Format: den_neu
 Dataset Creation: Fri Oct 31 07:21:13 2014 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

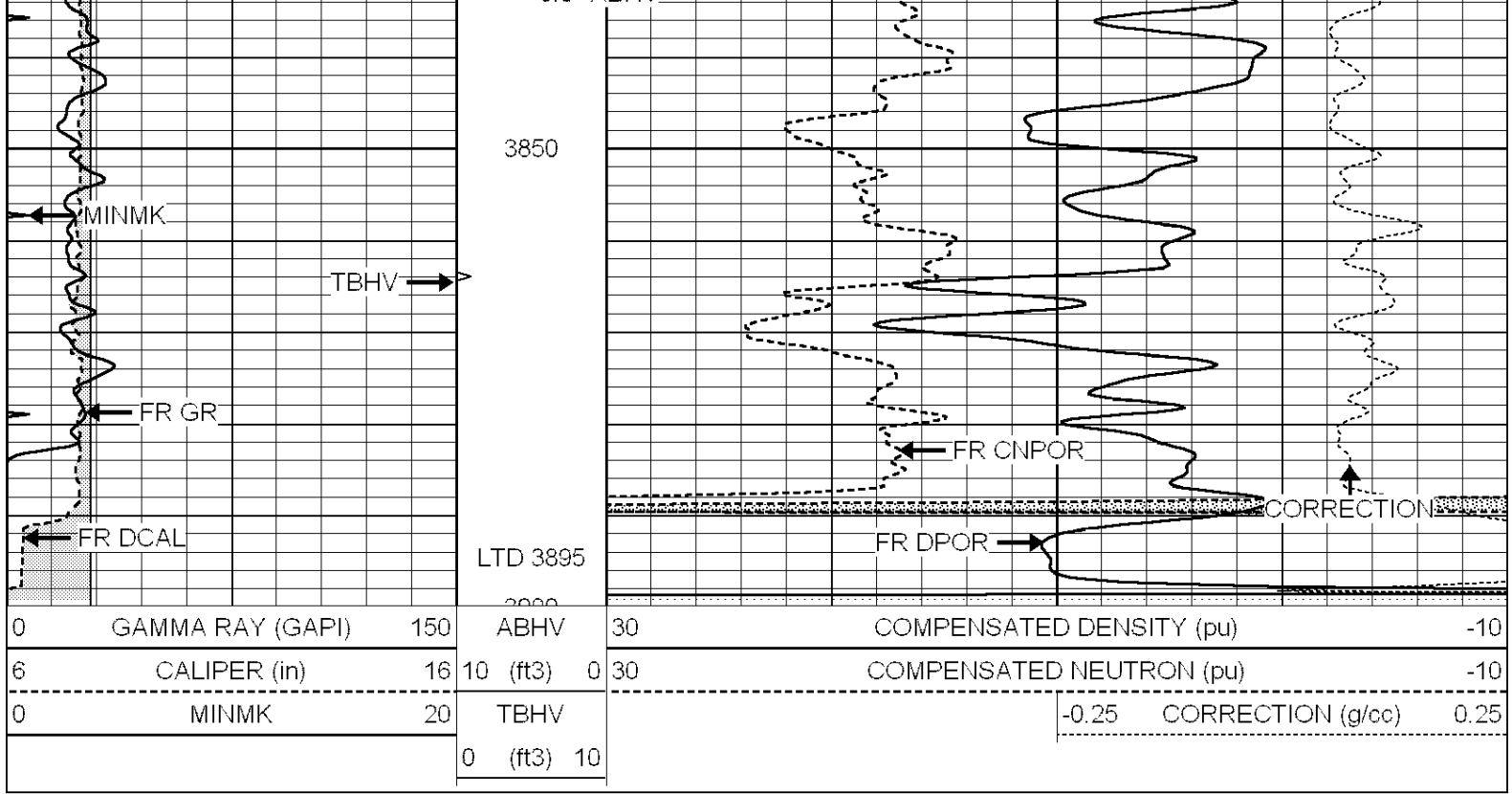
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		









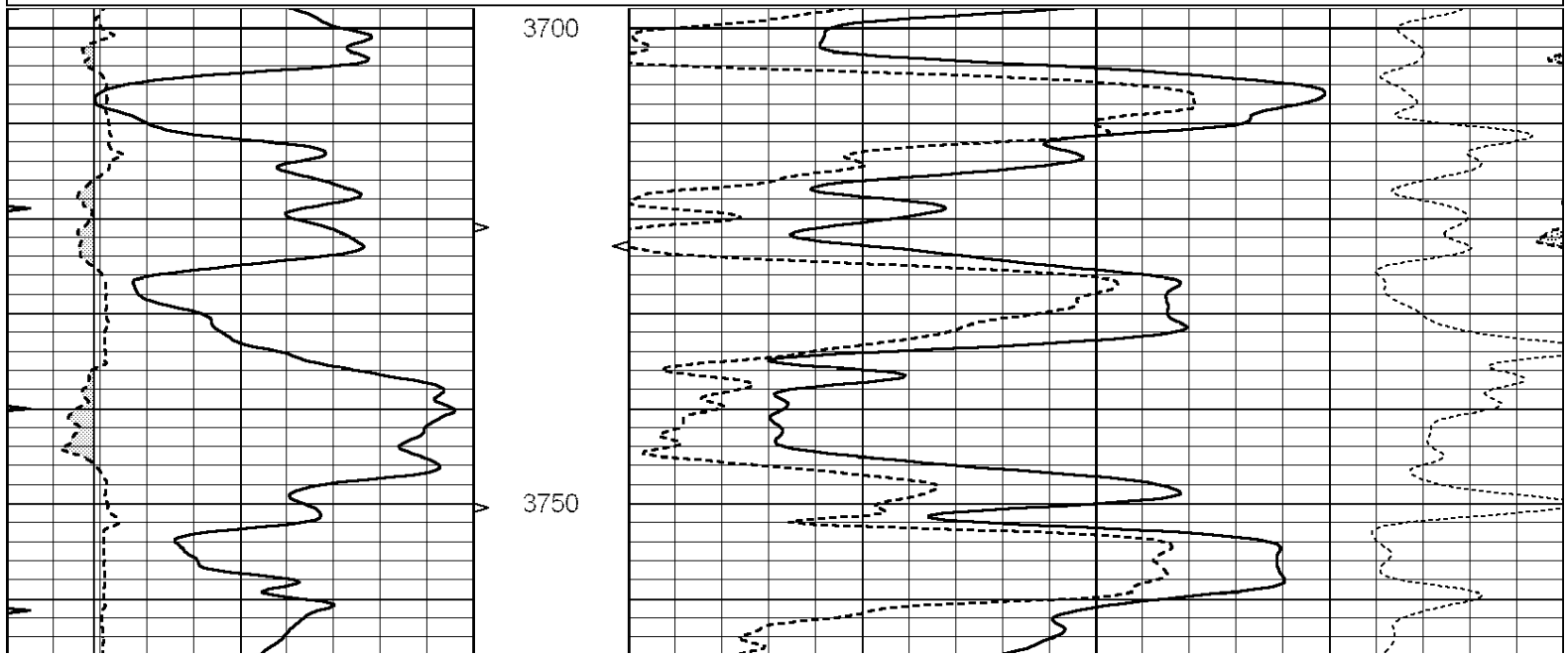


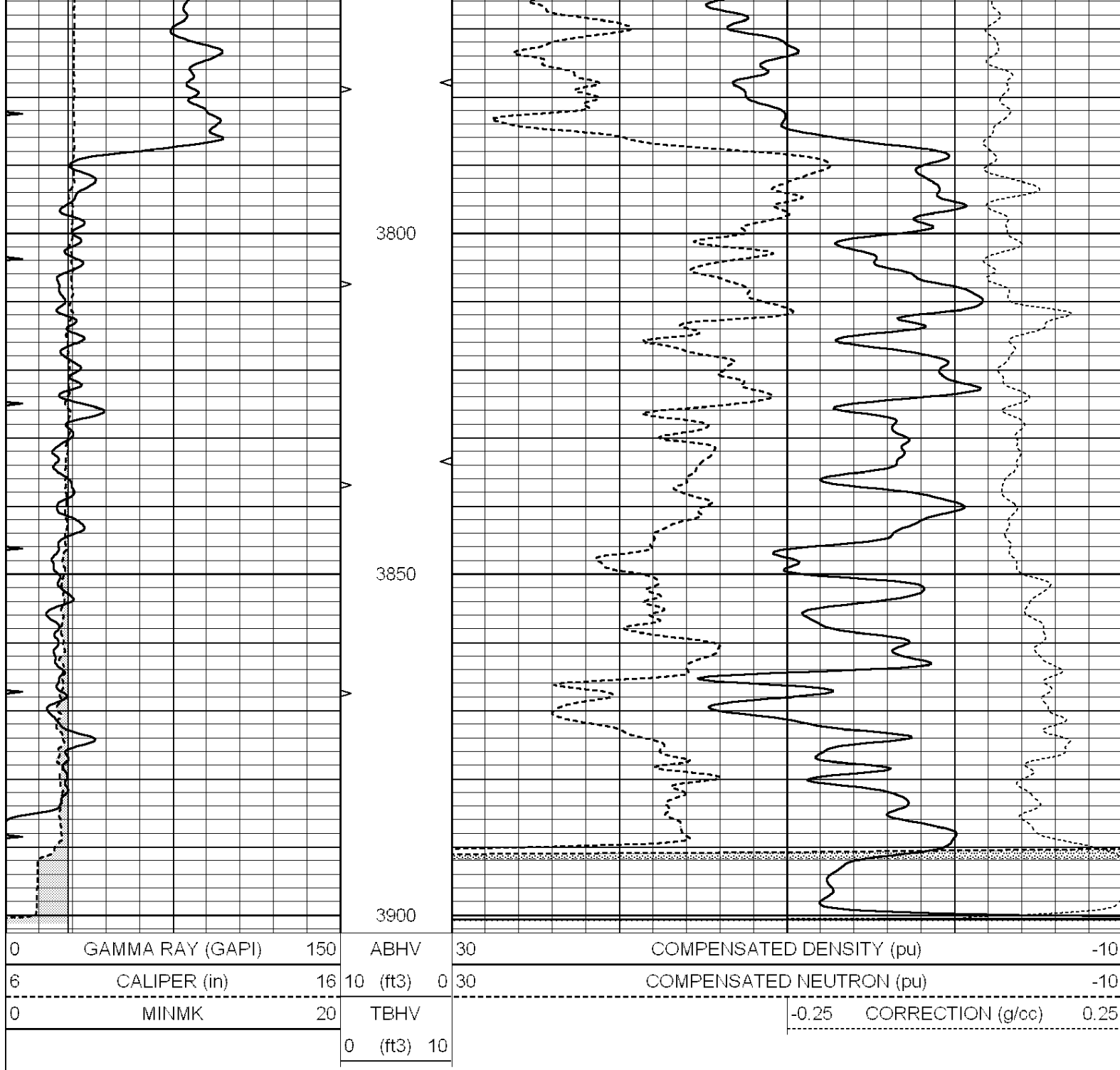
NABORS
COMPLETION & PRODUCTION SERVICES CO.

REPEAT SECTION

Database File: 25906ddn.db
 Dataset Pathname: pass4.2
 Presentation Format: den_neu
 Dataset Creation: Fri Oct 31 06:41:26 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		

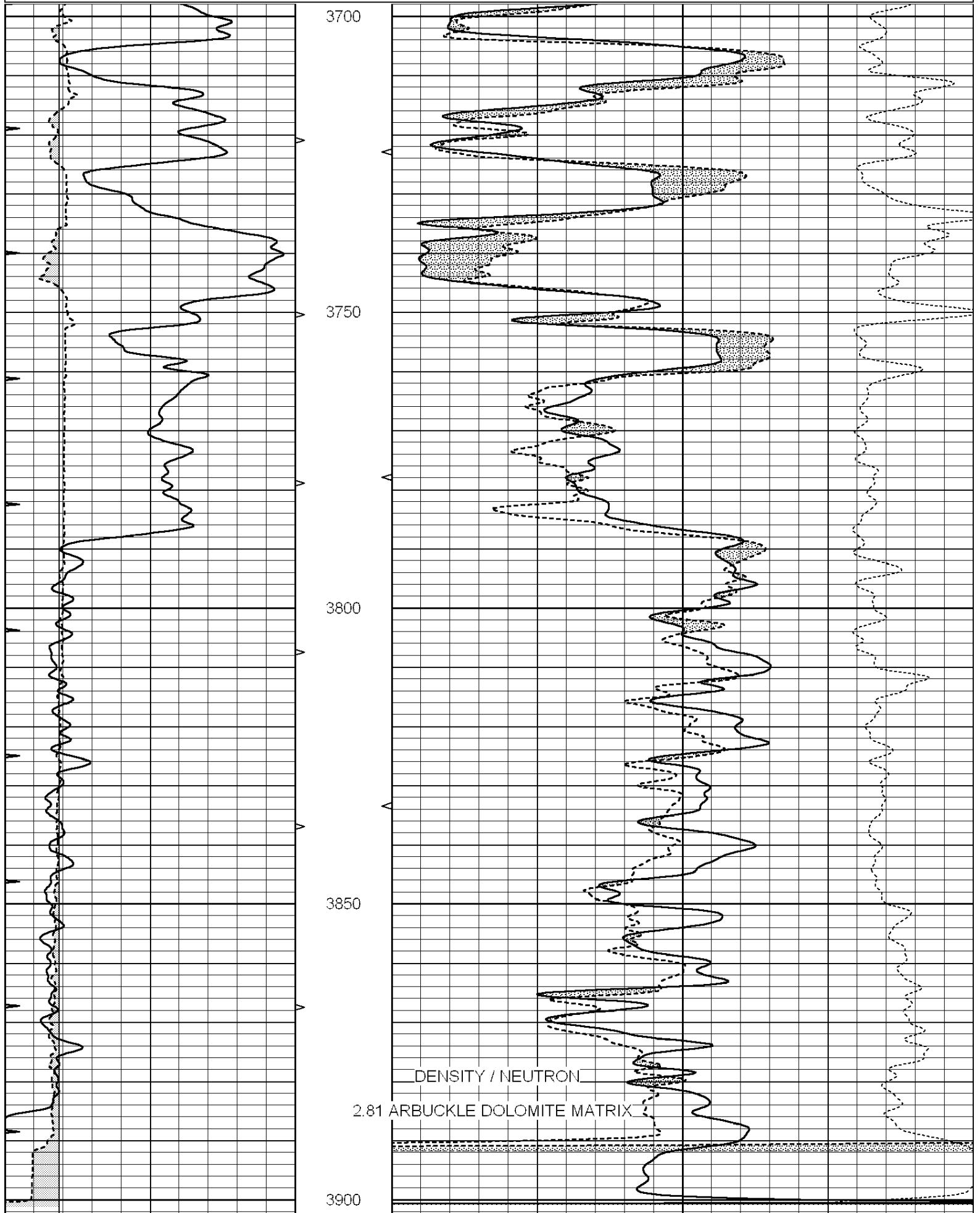




DOLOMITE MATRIX

Database File: 25906ddn.db
 Dataset Pathname: pass4.4
 Presentation Format: den_neu
 Dataset Creation: Fri Oct 31 07:27:25 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		



0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
6

MINIMK

20

TBHV

-0.25

CORRECTION (g/cc)

0.25

0 (ft3) 10

Calibration Report

Database File: 25906ddn.db
 Dataset Pathname: pass5.4
 Dataset Creation: Fri Oct 31 07:21:13 2014 by Calc SOC 120430

Litho Density Calibration Report
 Serial: 004N Model: PRB

Master Calibration

Performed Fri May 30 11:01:00 2014

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1378.8	10804.6	3492.0	12453.4	cps
Window 2	1262.4	9313.5	3076.7	10594.7	cps
Window 3	1077.6	5668.7	2076.0	6314.8	cps
Window 4	306.4	313.0	306.4	315.6	cps
Long Space	0.0	8051.0	1814.3	9332.3	cps
Short Space	1.9	1706.1	1146.0	1707.6	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 45.0	Rib Slope	: 1.002	Density/Spine Ratio	: 0.571
Spine Angle	: 75.0	Spine Slope	: 3.745	Spine Intercept	: -18.9

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
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Short Space
Long Space

cps
cps

pu

pu

POST-SURVEY VERIFICATION

Detector

Readings

Measured

Target

Short Space
Long Space

cps
cps

pu

pu

Gamma Ray Calibration Report

Serial Number: 070558
Tool Model: OPEN_GR
Performed: Mon Jun 30 21:53:39 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.2800 GAPI/cps