



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company CHARTER ENERGY, INC.
Well GRANT UNIT #1
Field
County PAWNEE
State KANSAS

Company CHARTER ENERGY, INC.
Well GRANT UNIT #1
Field
County PAWNEE State KANSAS
Location: API # : 15-145-21691-00-00
SEC 34 TWP 20S RGE 16W
1710' FNL & 485' FEL
SW - NE - SE - NE
Permanent Datum GROUND LEVEL Elevation 1997
Log Measured From KELLY BUSHING 7' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
DIL/MEL
SONIC
Elevation
K.B. 2004
D.F. 2002
G.L. 1997

Date	10/26/12
Run Number	ONE
Depth Driller	3841
Depth Logger	3838
Bottom Logged Interval	3814
Top Log Interval	3200
Casing Driller	8 5/8"@1010'
Casing Logger	1002
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.6/61
pH / Fluid Loss	9.0/9.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.65@70F
Rmf @ Meas. Temp	0.49@70F
Rmc @ Meas. Temp	0.78@70F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	0.40@114F
Time Circulation Stopped	2.5 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	114F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	IAN MABB
Witnessed By	JIM MUSGROVE
	JEFF GRONWEG

<<< Fold Here >>>

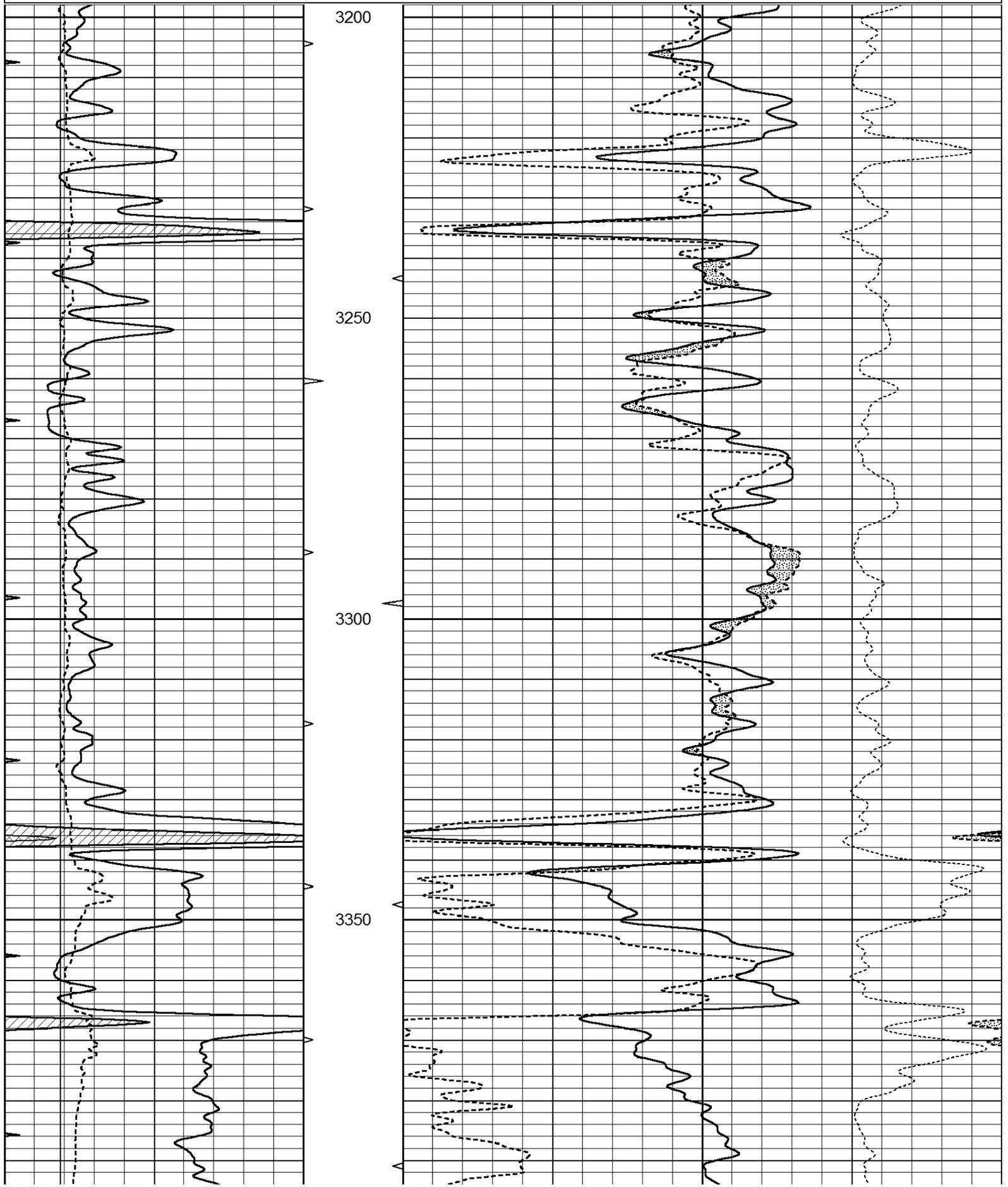
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

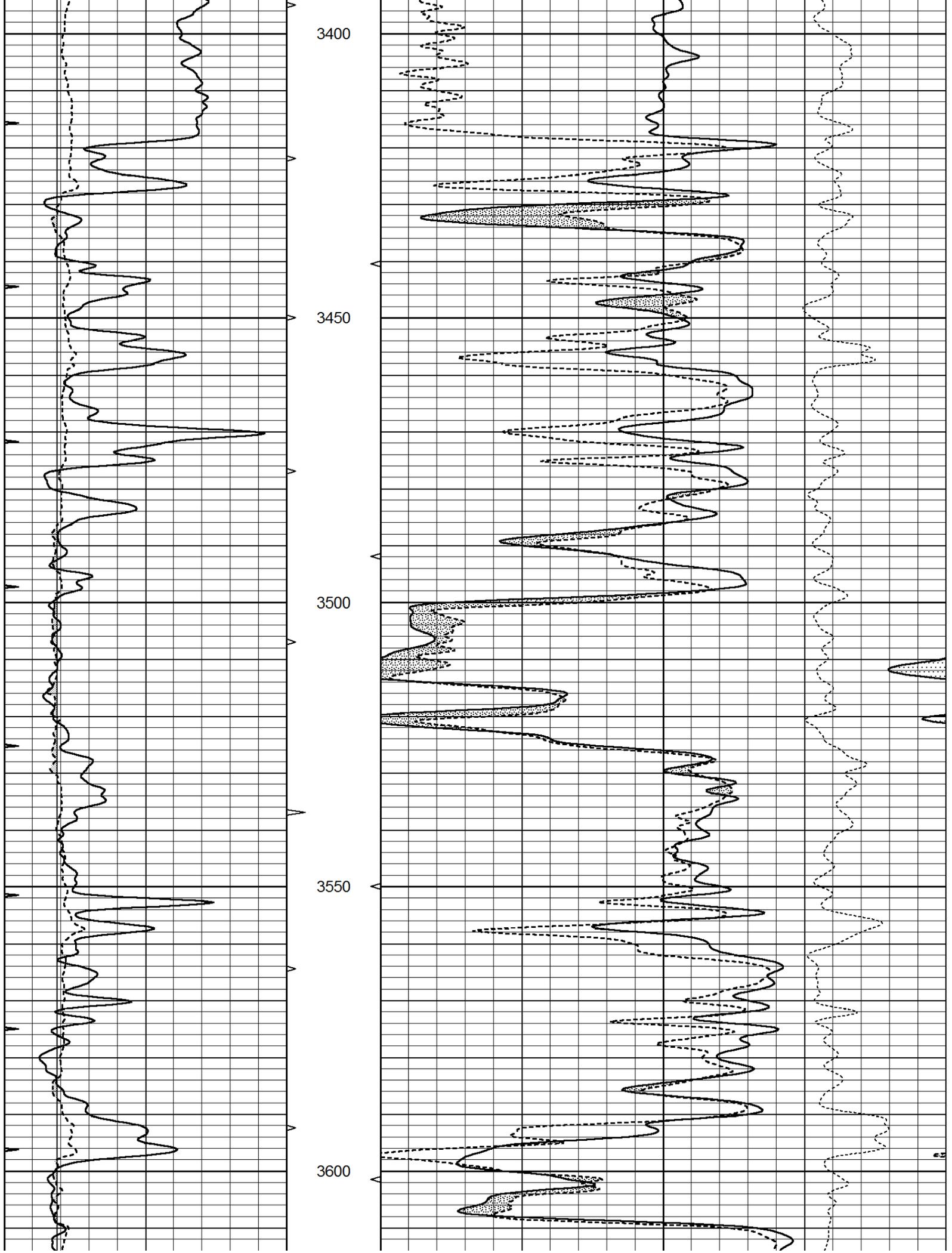
Comments

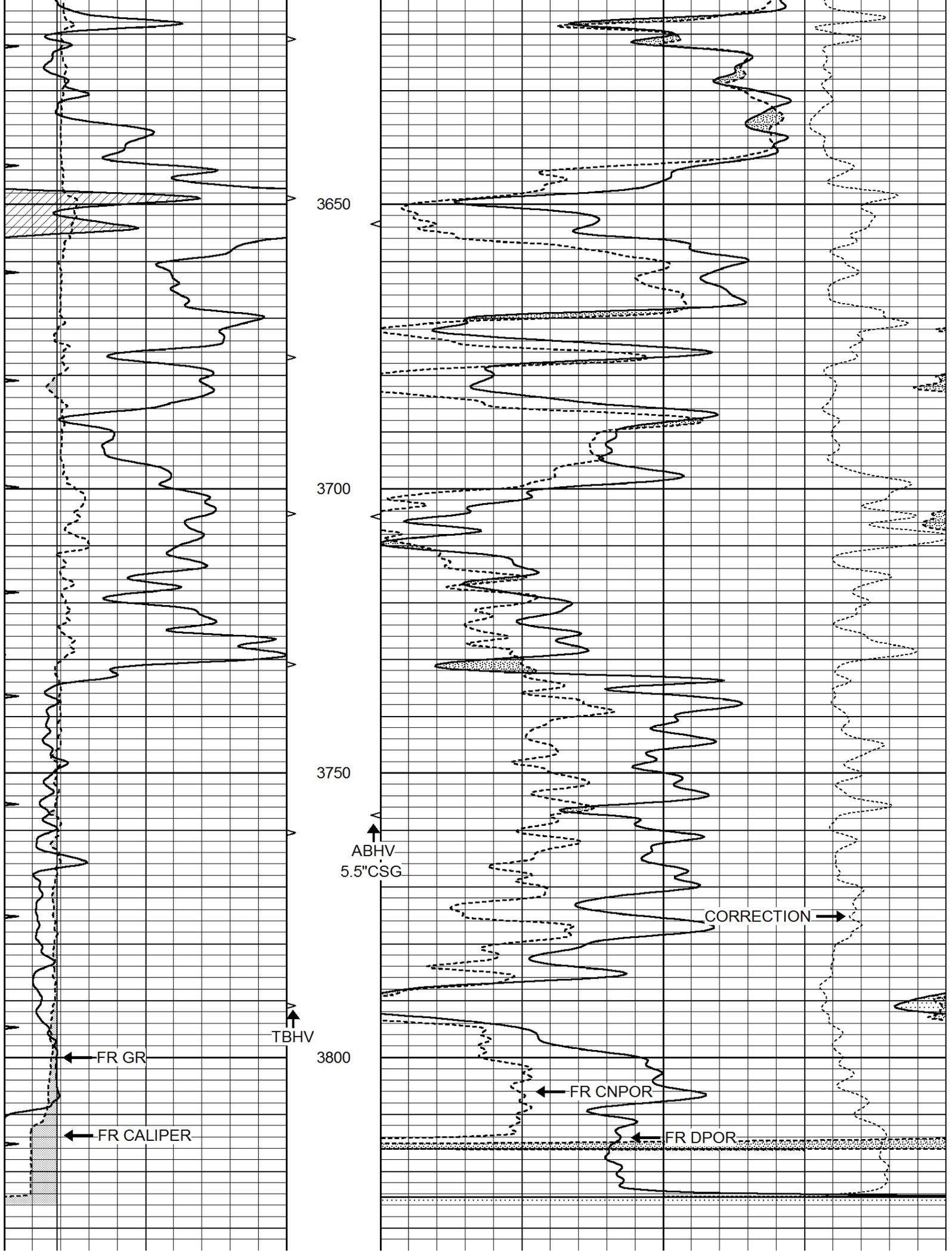
THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
PAWNEE ROCK, KS. W ON SW 70 4 MILES, N 1 MILE, W 1 MILE , SOUTH INTO

Database File: 9700ddn.db
Dataset Pathname: pass3.1
Presentation Format: den_neu
Dataset Creation: Fri Oct 26 02:24:02 2012 by Calc Open-Cased 110302
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		







LTD 3838

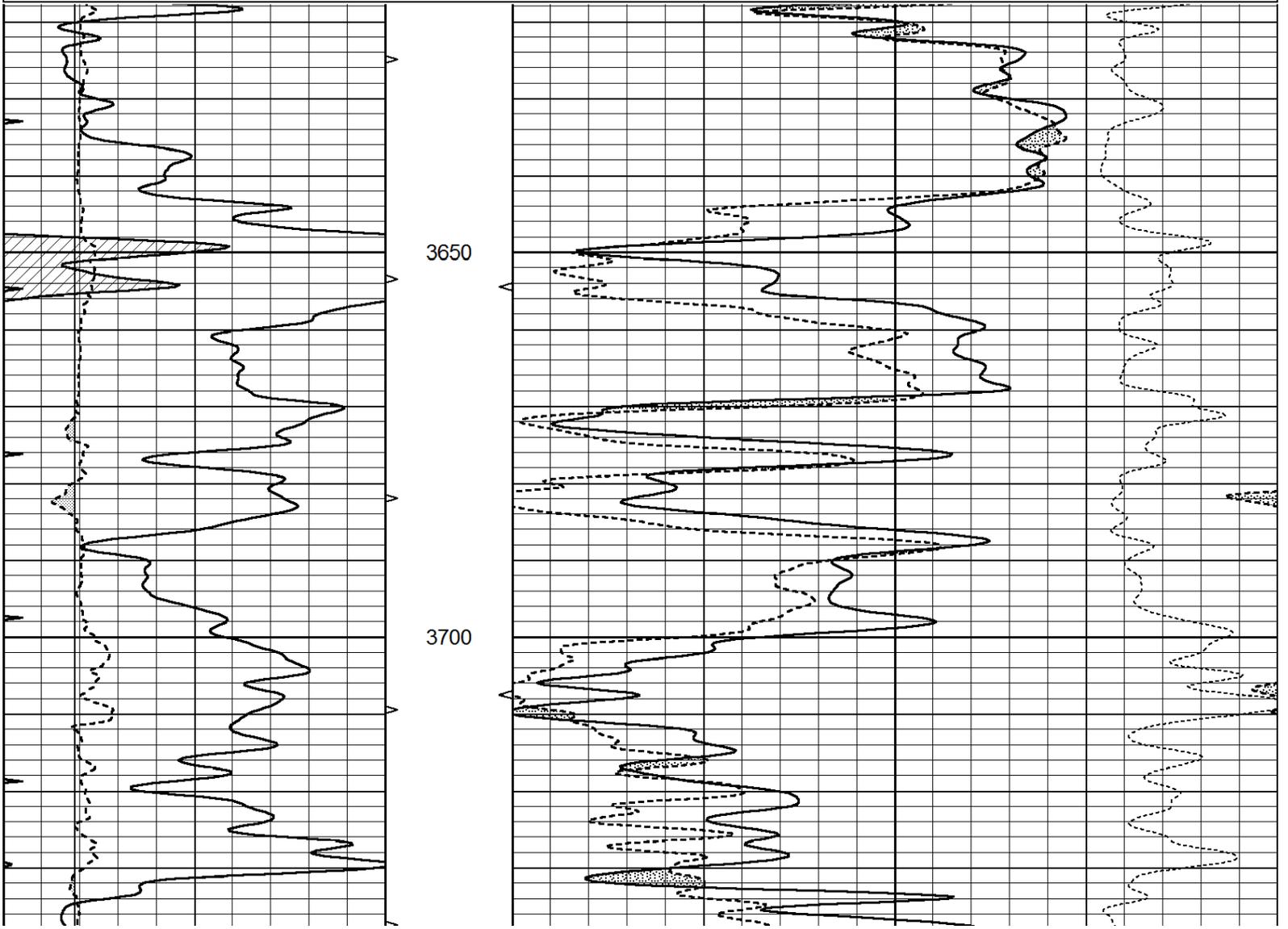
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			

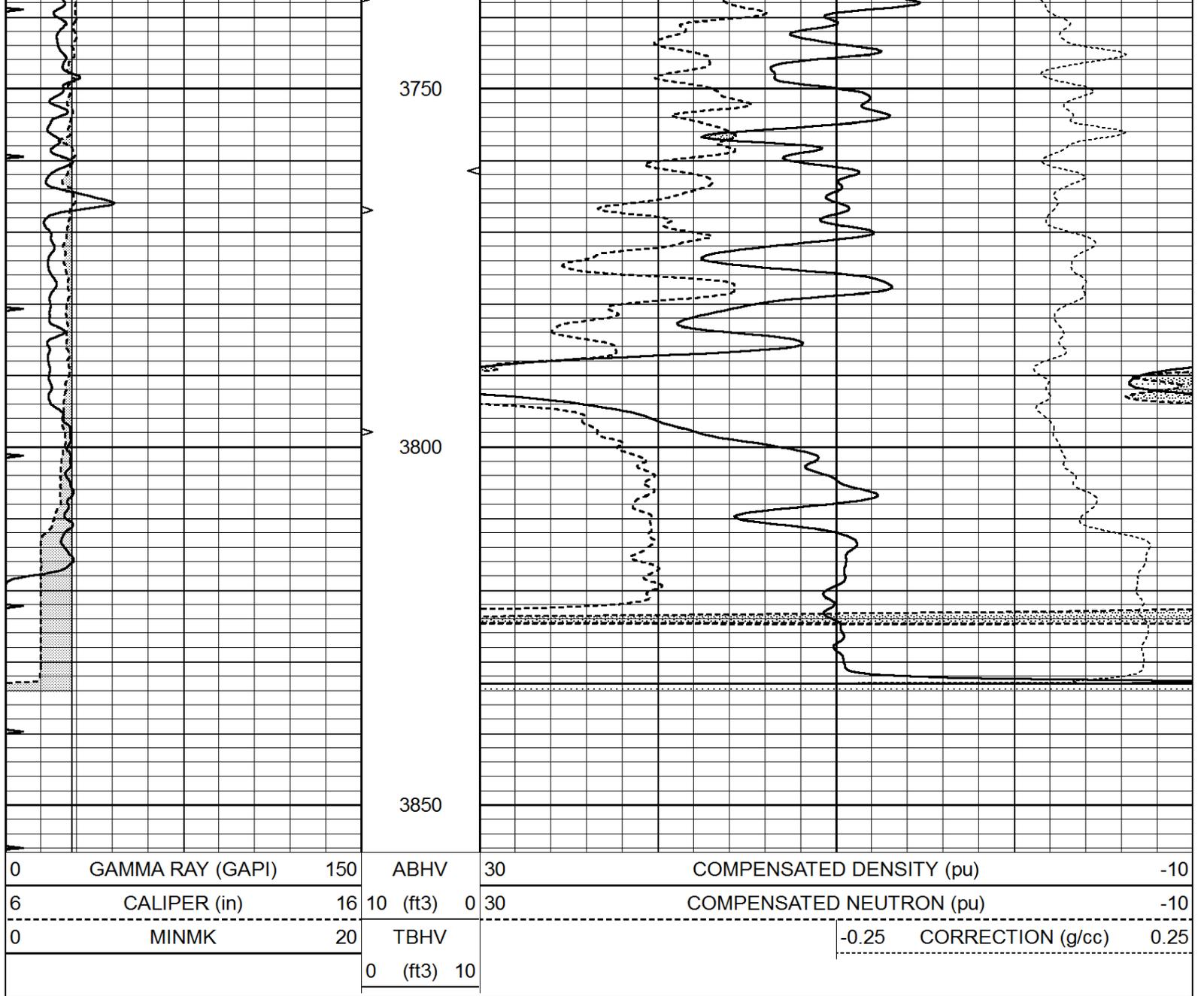


REPEAT SECTION

Database File: 9700ddn.db
Dataset Pathname: pass2.4
Presentation Format: den_neu
Dataset Creation: Fri Oct 26 02:12:56 2012 by Calc Open-Cased 110302
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: 9700ddn.db
 Dataset Pathname: pass3.1
 Dataset Creation: Fri Oct 26 02:24:02 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Wed Oct 24 10:22:26 2012

Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	9.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-5.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555

Litho Density Calibration Report

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1686.6	11612.8	3932.0	12718.8	cps
Window 2	1531.4	9204.7	3267.8	9851.9	cps
Window 3	1198.3	4733.6	1952.5	4920.6	cps
Window 4	317.3	321.2	325.9	303.6	cps
Long Space	0.0	7673.3	1736.4	8320.4	cps
Short Space	1.7	2548.5	1657.2	2628.8	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 43.8	Rib Slope	: 0.961	Density/Spine Ratio	: 0.569
Spine Angle	: 73.8	Spine Slope	: 3.453	Spine Intercept	: -18.1

Caliper

	Readings	Reference	
Low Ref	3.5	6.7	
High Ref	5.5	15.0	
	Gain: 4.3		Offset: -8.5

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 Sep 19 15:58:00 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps