



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY/NEUTRON LOG

Company	CHARTER ENERGY, INC.		
Well	HAMMOND #1		
Field	PAWNEE ROCK		
County	PAWNEE	State	KANSAS
Company	CHARTER ENERGY, INC.	Well	HAMMOND #1
Field	PAWNEE ROCK	County	PAWNEE
State	KANSAS	State	KANSAS
Location:	API # : 15-145-21771-0000		Other Services DIL/MEL
Permanent Datum	1645' FNL & 745' FEL NE - NW - SE - NE		Elevation
Log Measured From	SEC 13 TWP 20S RGE 16W	GROUND LEVEL	2046
Drilling Measured From	KELLY BUSHING 6' A.G.L. KELLY BUSHING	Elevation	K.B. 2052 D.F. 2050 G.L. 2046
Date	7/2/14		
Run Number	ONE		
Depth Driller	3850		
Depth Logger	3850		
Bottom Logged Interval	3826		
Top Log Interval	3200		
Casing Driller	8 5/8" @ 1080		
Casing Logger	1050		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES	5800 PPM
Density / Viscosity	9.1/5.1		
pH / Fluid Loss	10.5/12.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.70 @ 95F		
Rmt @ Meas. Temp	.52 @ 95F		
Rmc @ Meas. Temp	.84 @ 95F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.57 @ 115F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	2:00 P.M.		
Maximum Recorded Temperature	115F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	KURT TALBOTT		

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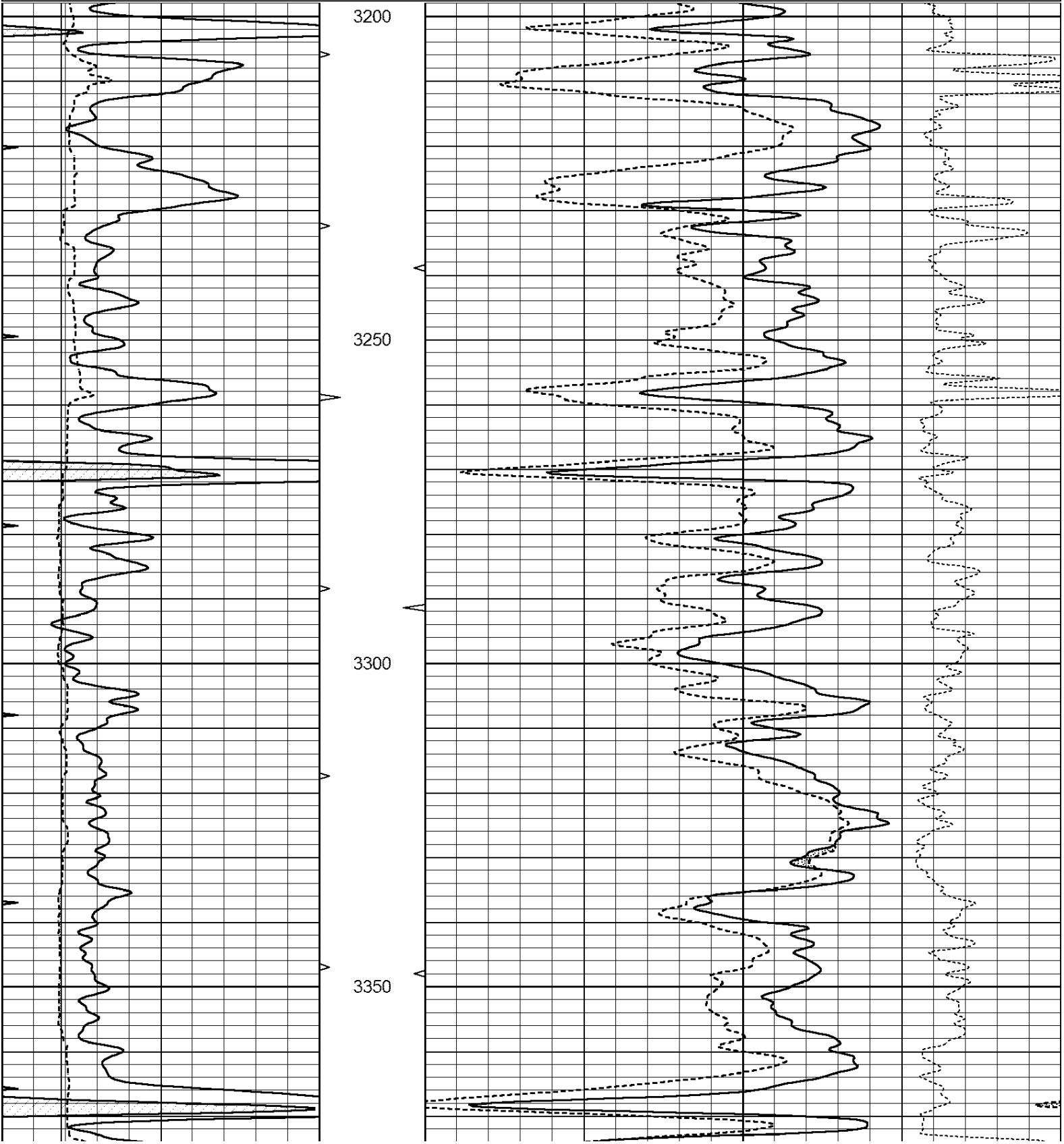
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

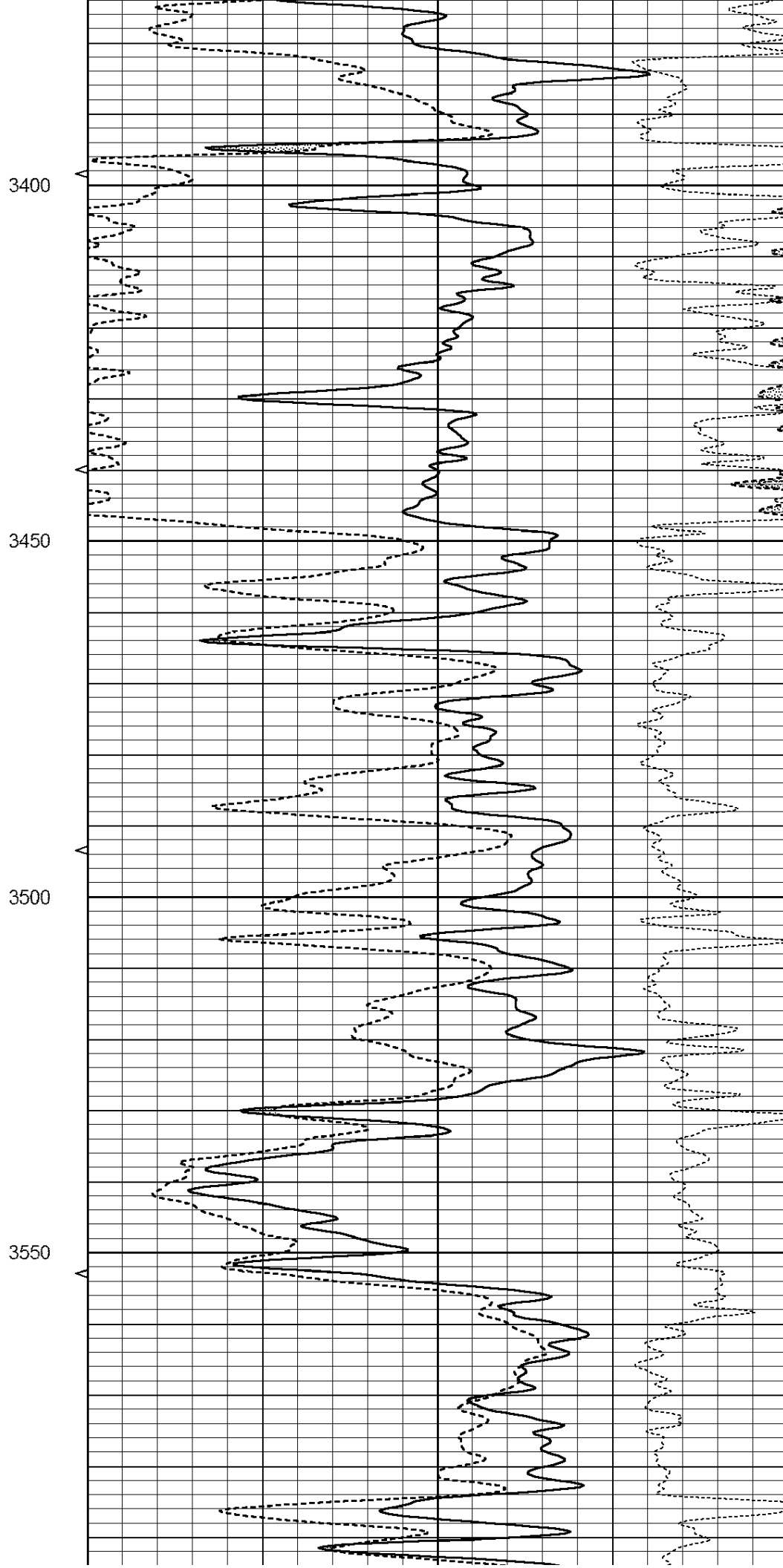
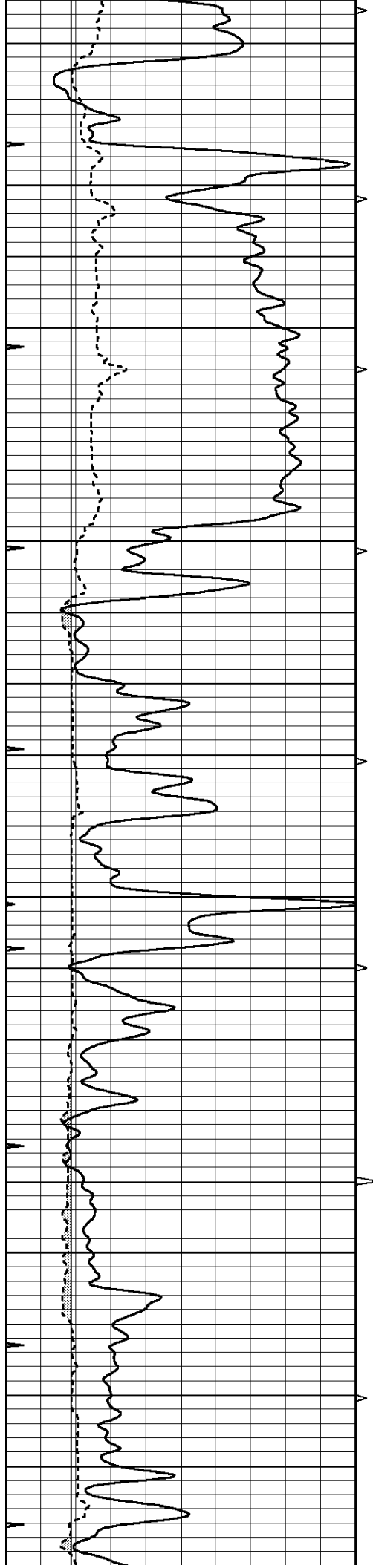
Comments

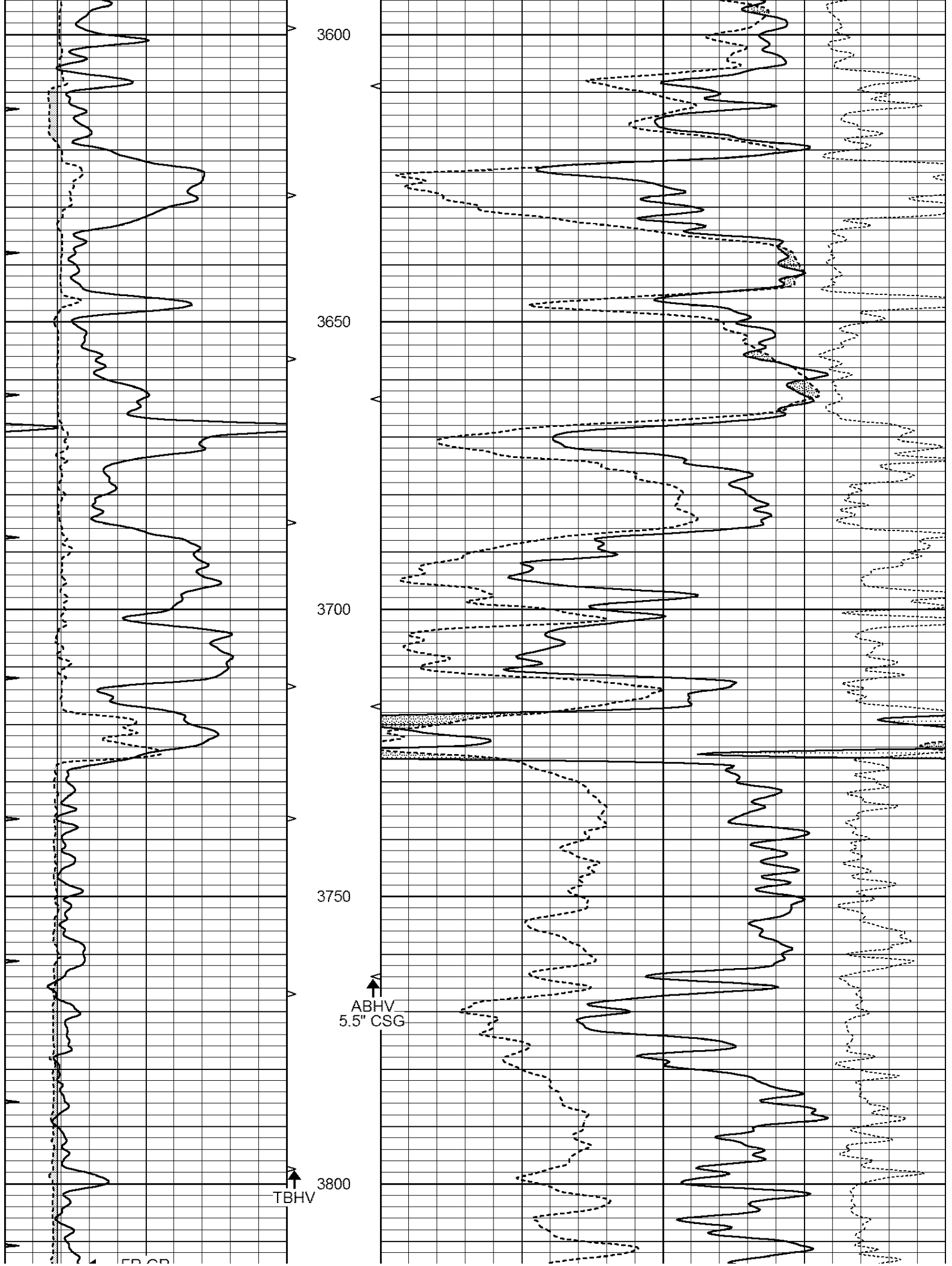
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
PAWNEE ROCK, KS. - 3 NORTH - 3 WEST UNTIL THE BLKTOP ENDS
1/2 MORE WEST - SOUTH INTO

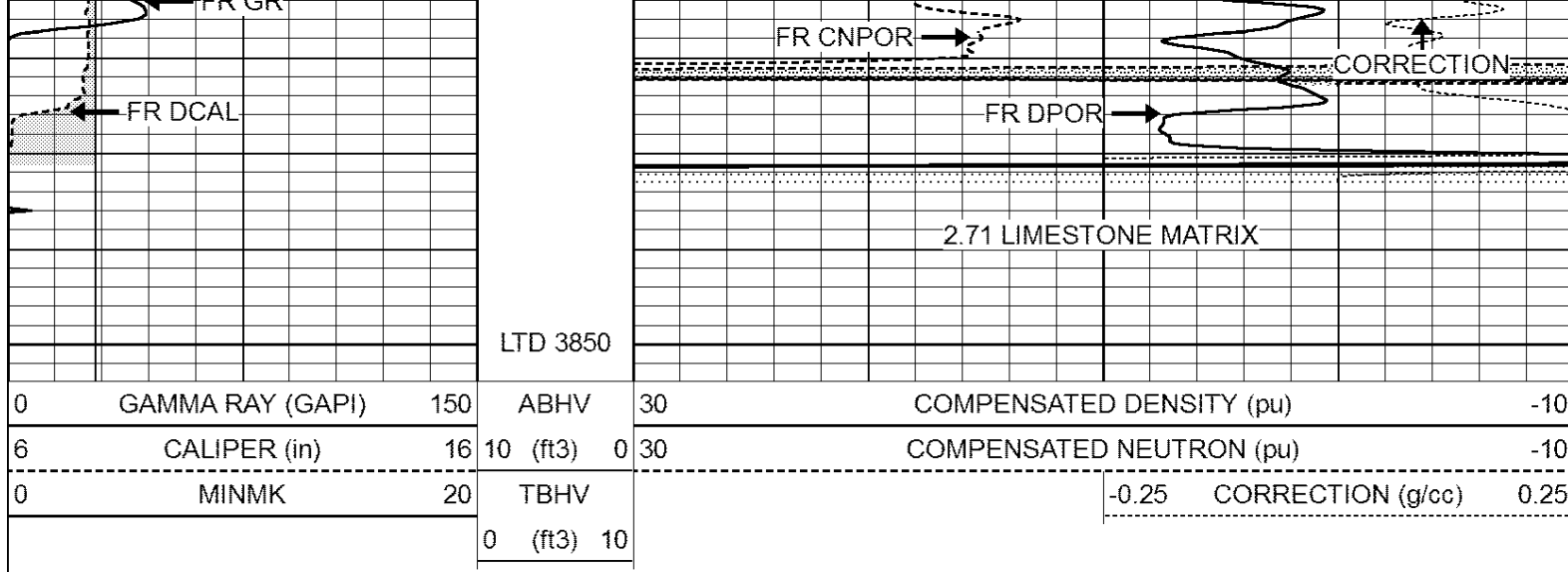
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Dataset Pathname: pass3.1
Presentation Format: den_neu
Dataset Creation: Wed Jul 02 14:39:01 2014 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

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		





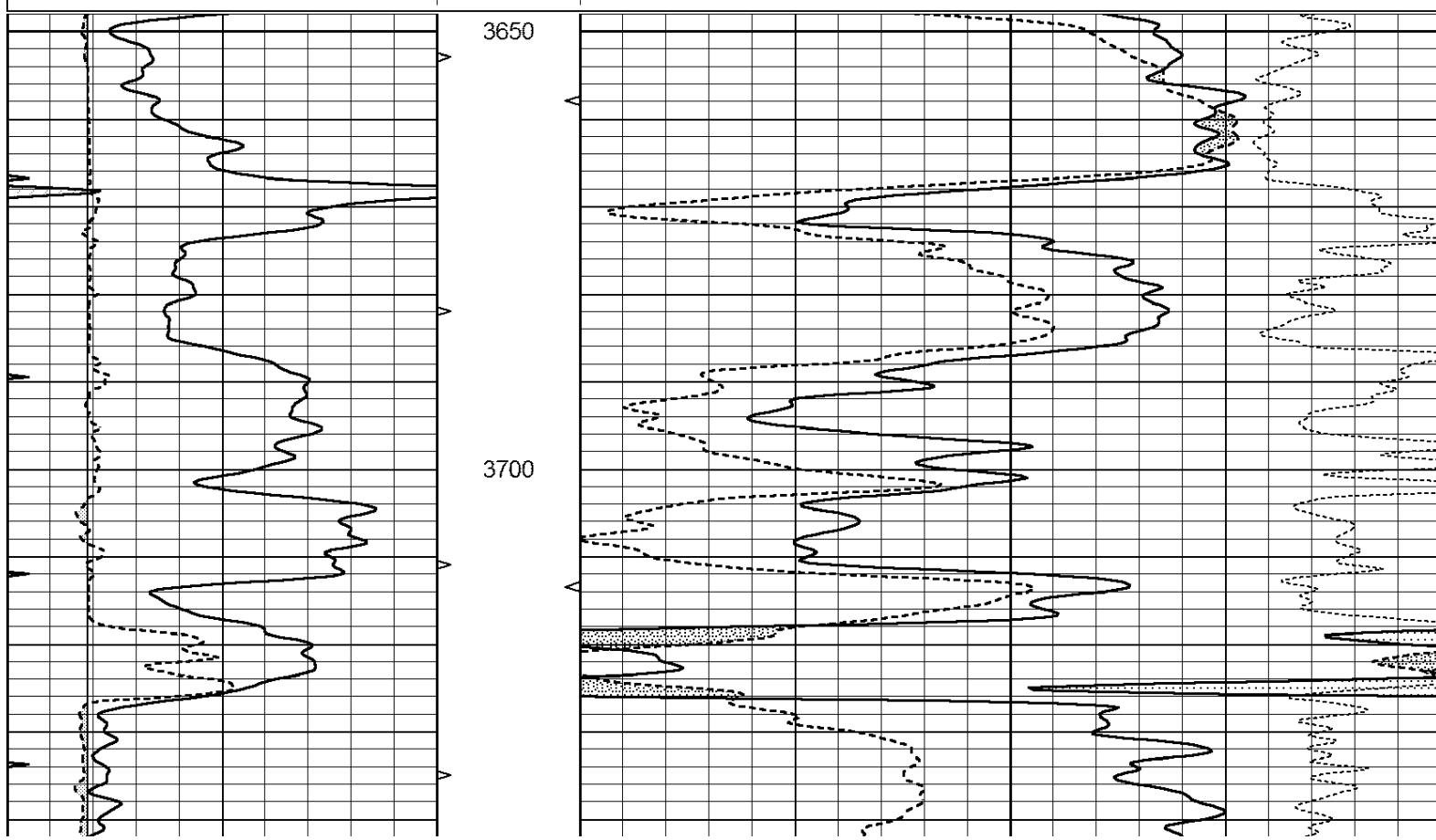


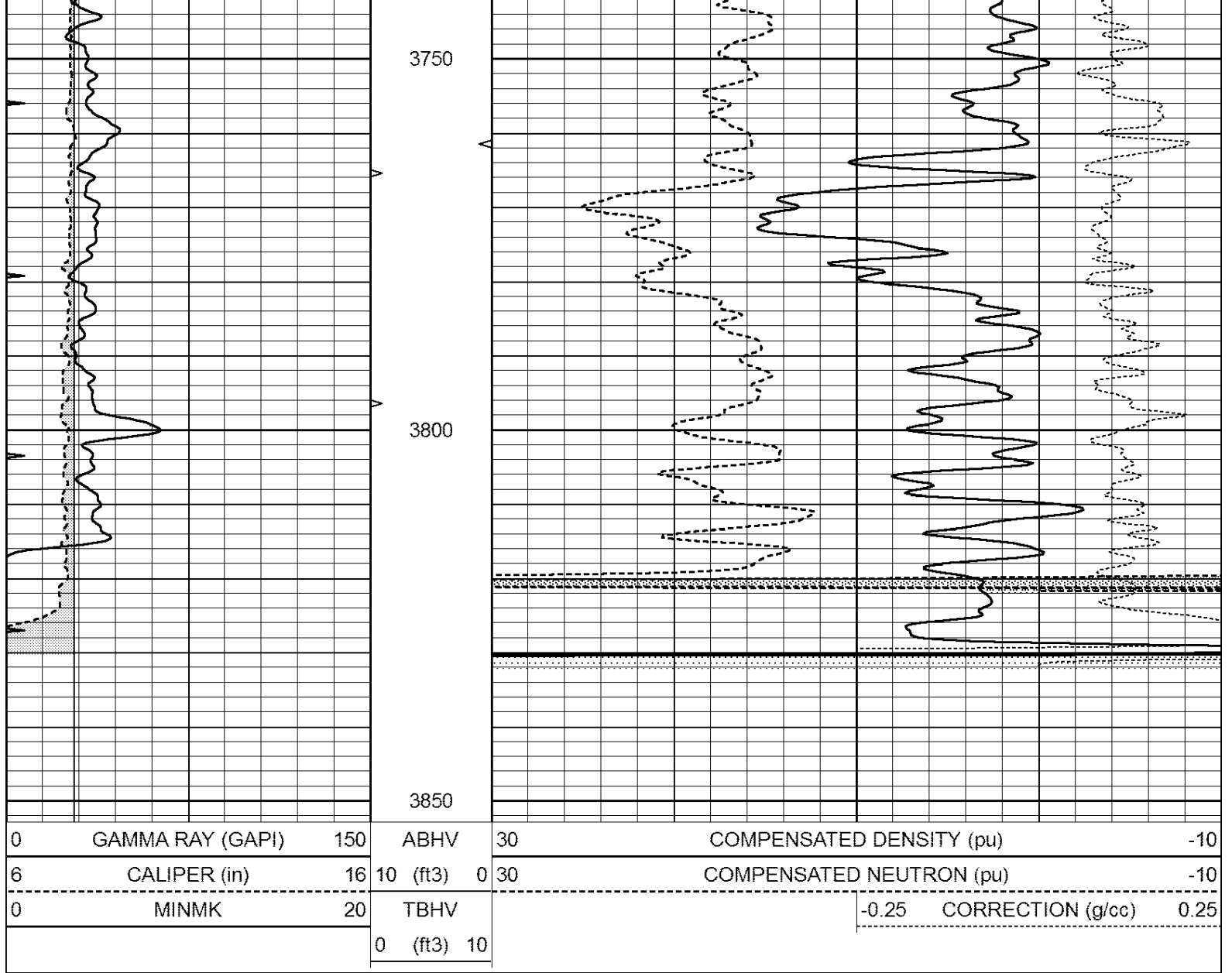


REPEAT SECTION

Database File: 24644ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: den_neu
 Dataset Creation: Wed Jul 02 14:33:16 2014 by Calc Open-Cased 090629
 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: 24644ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Wed Jul 02 14:33:16 2014 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:					GEAR3-GEARHART			
Source / Verifier:					143 / 143			
Master Calibration Performed:					Fri Jan 04 15:48:16 2013			
Before Survey Verification Performed:								
After Survey Verification Performed:								

Master Calibration						
	Density			Far Detector		Near Detector
Magnesium	1.710	g/cc		935.36	501.55	cps
Aluminum	2.580	g/cc		209.32	357.01	cps
Spine Angle = 77.21				Density/Spine Ratio = 0.567		
	Size			Reading		
Small Ring	8.00	in		4.29	V	
Large Ring	14.00	in		6.24	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:				6I		
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

	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:	GR6				
	Tool Model:	OPEN				
	Performed:	Sat May 31 01:22:06 2014				
	Calibrator Value:	150.0	GAPI			
	Background Reading:	0.0	cps			
	Calibrator Reading:	276.0	cps			
	Sensitivity:	0.7535	GAPI/cps			