



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY / NEUTRON LOG

Company	PICKERELL DRILLING COMPANY, INC.		
Well	#5 NORTON "B"		
Field	T & L		
County	NESS	State	KANSAS
Location:	AP1 # : 15-135-25523-0000		Other Services
	2250' FNL & 2110' FWL		DIL
	SEC 12 TWP 18S RGE 26W		MEL/SON
Permanent Datum	GROUND LEVEL	Elevation	2514
Log Measured From	KELLY BUSHING 7' A.G.L.	K.B. 2521	
Drilling Measured From	KELLY BUSHING	D.F. 2519	
		G.L. 2514	
Date	1/24/13		
Run Number	ONE		
Depth Driller	4550		
Depth Logger	4554		
Bottom Logged Interval	4530		
Top Log Interval	3500		
Casing Driller	8 5/8" @ 271'		
Casing Logger	270		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6000 PPM	
Density / Viscosity	9.3/46		
pH / Fluid Loss	8.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.75 @ 55F		
Rmt @ Meas. Temp	.56 @ 55F		
Rmc @ Meas. Temp	.90 @ 55F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.34 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	121F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	JERRY SMITH		

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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
NESS CITY, KS. - W. TO LAIRD ELEVATOR - 3 MORE W. TO RD. G
3 N. - 1 1/2 W. INTO



NABORS
COMPLETION
& PRODUCTION

MAIN SECTION

Database File:

010633ddn.db

Dataset Pathname:

pass3.1

Presentation Format:

den_neu

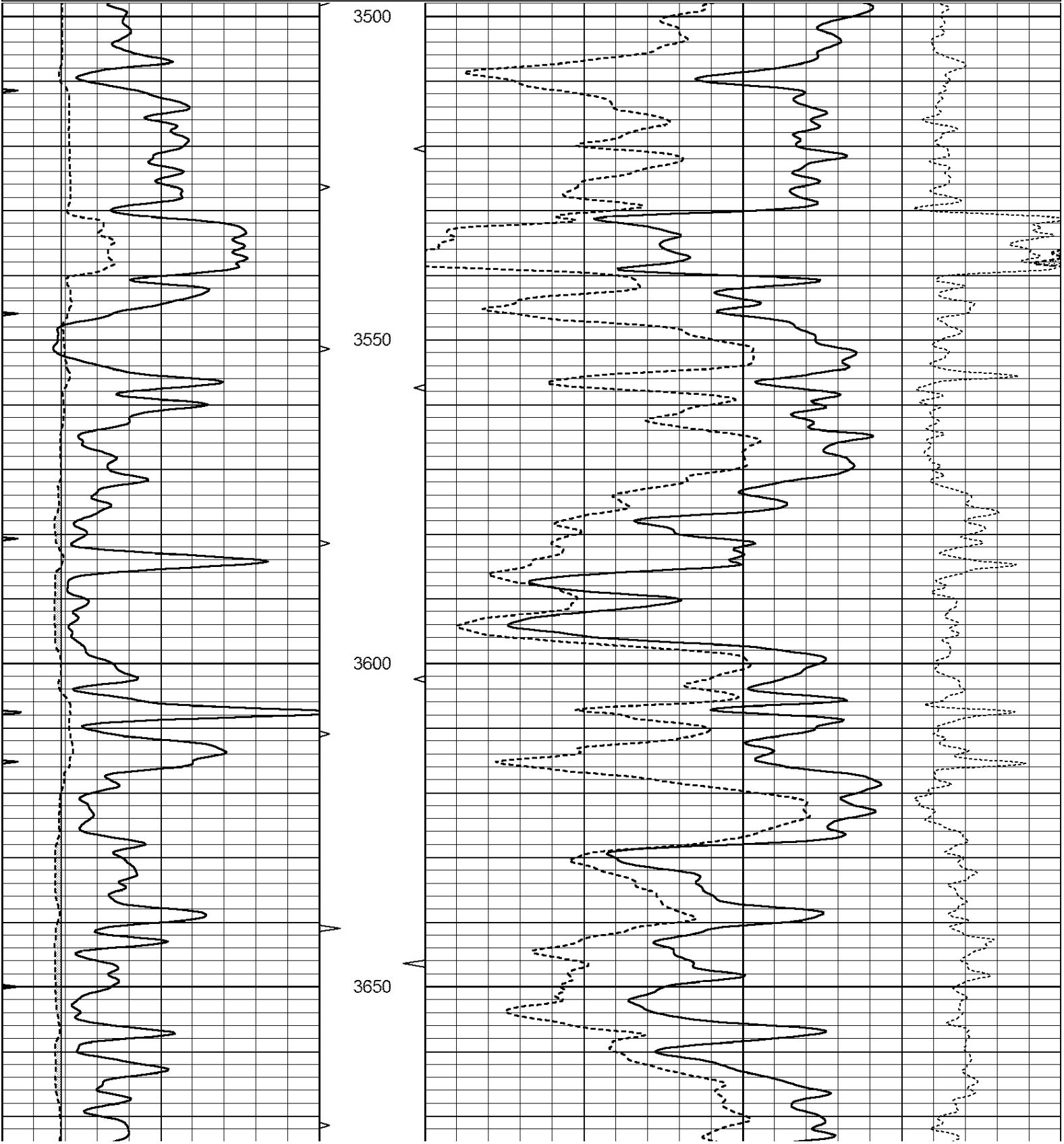
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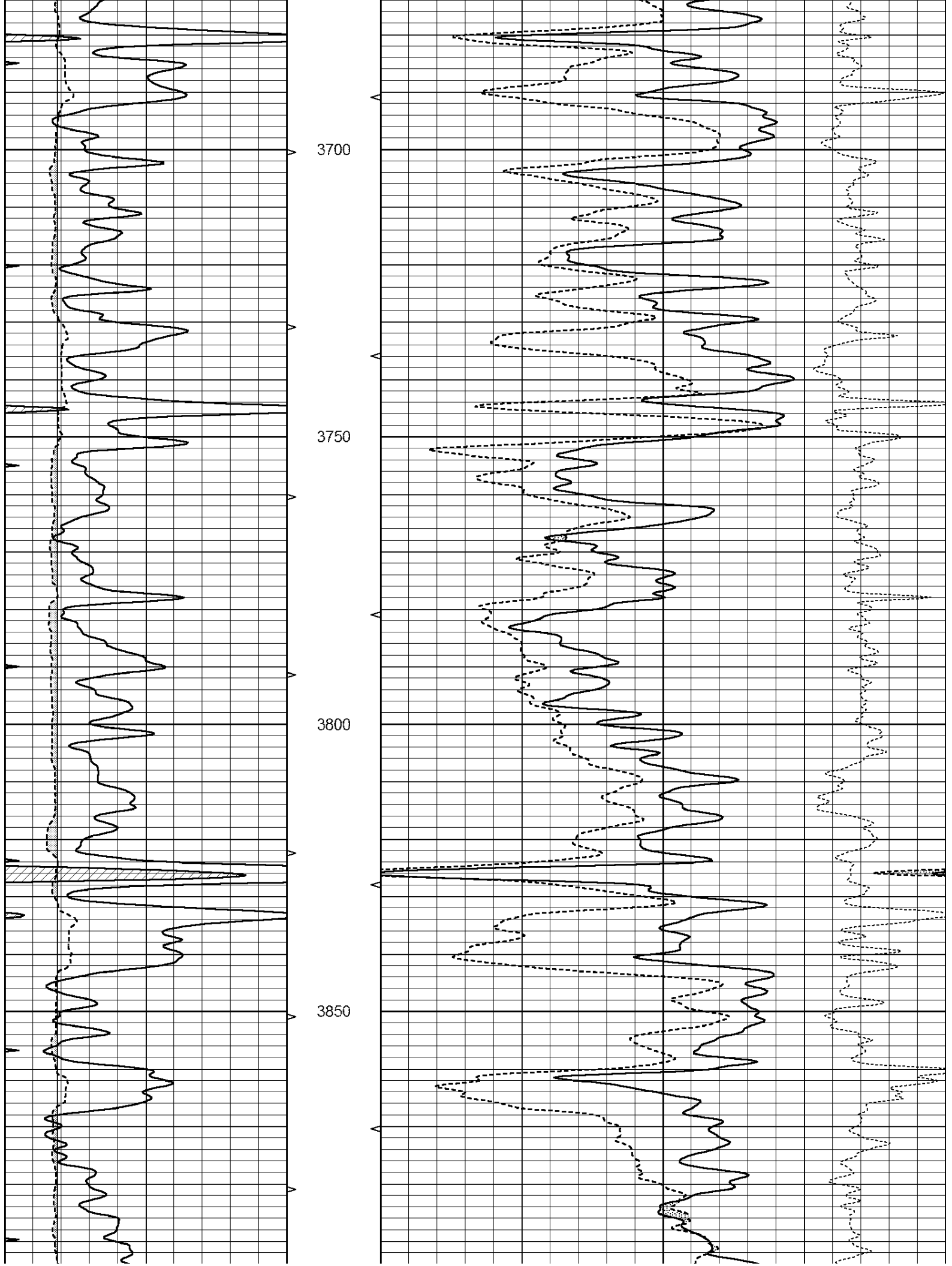
Fri Jan 25 00:08:05 2013 by Calc Open-Cased 090629

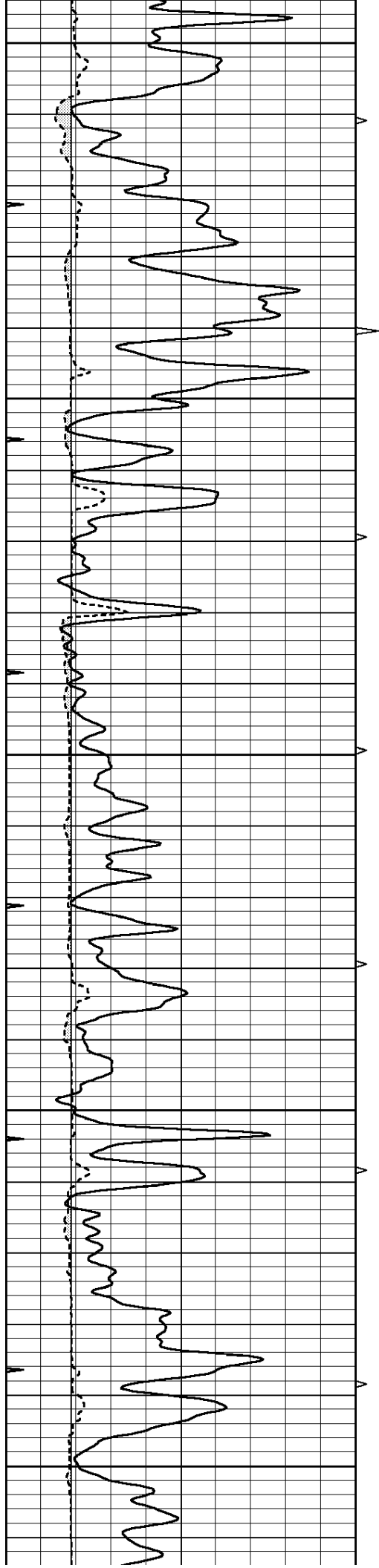
Charted by:

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		







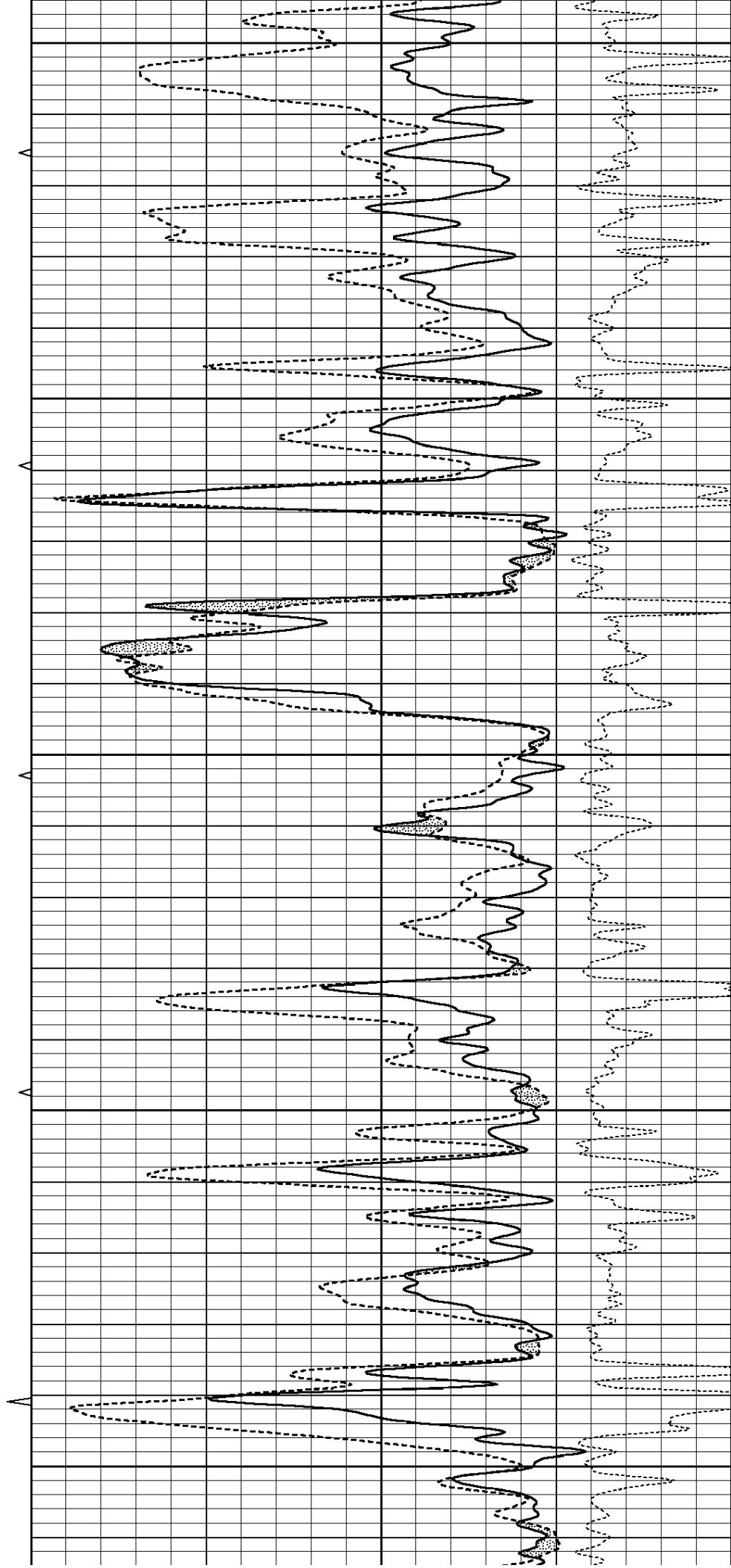
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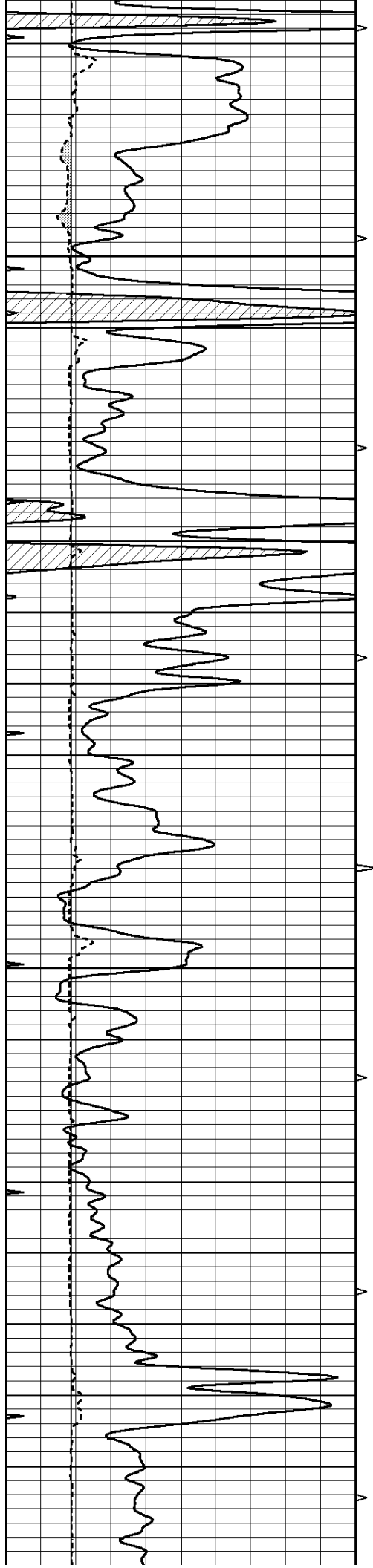
3950

4000

4050

4100



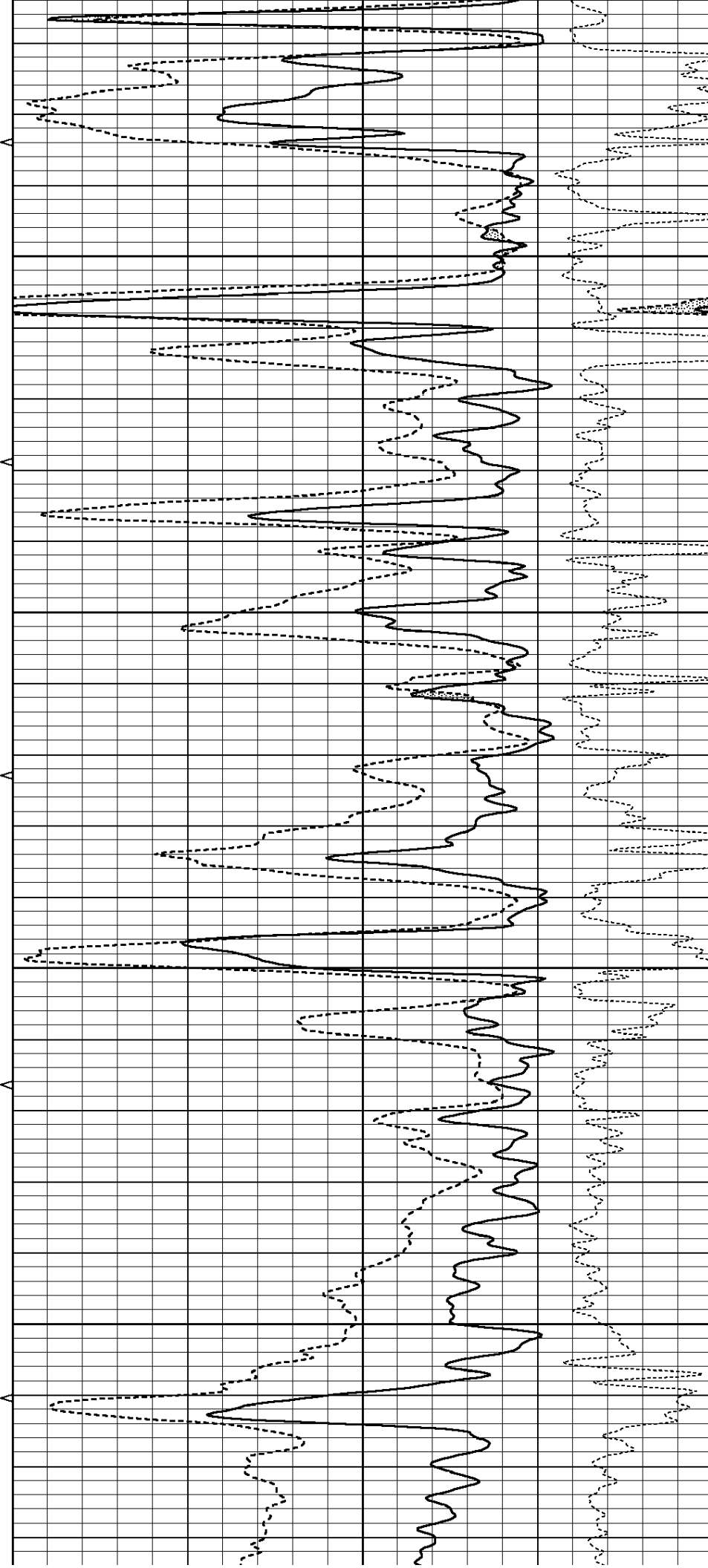


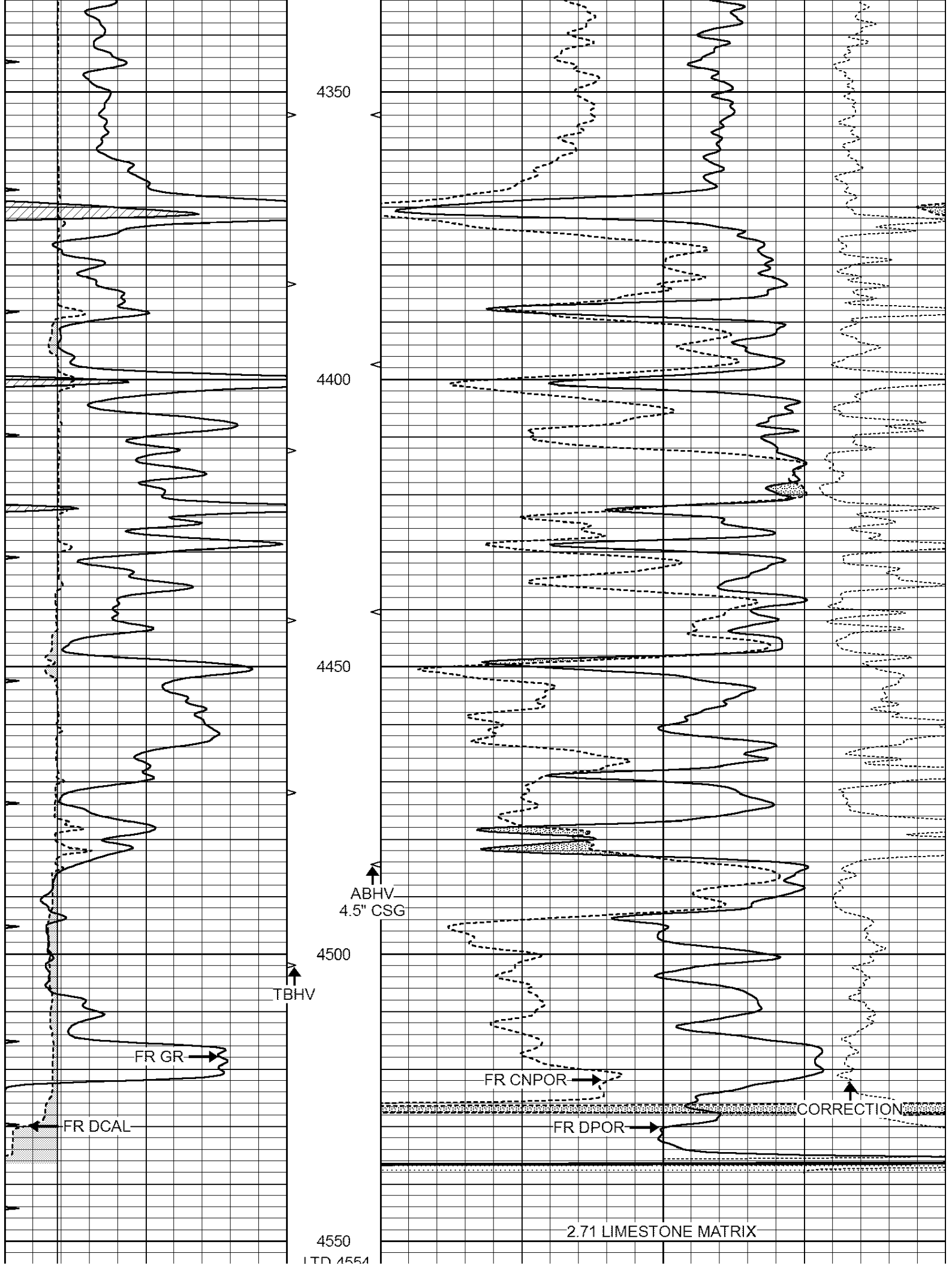
4150

4200

4250

4300





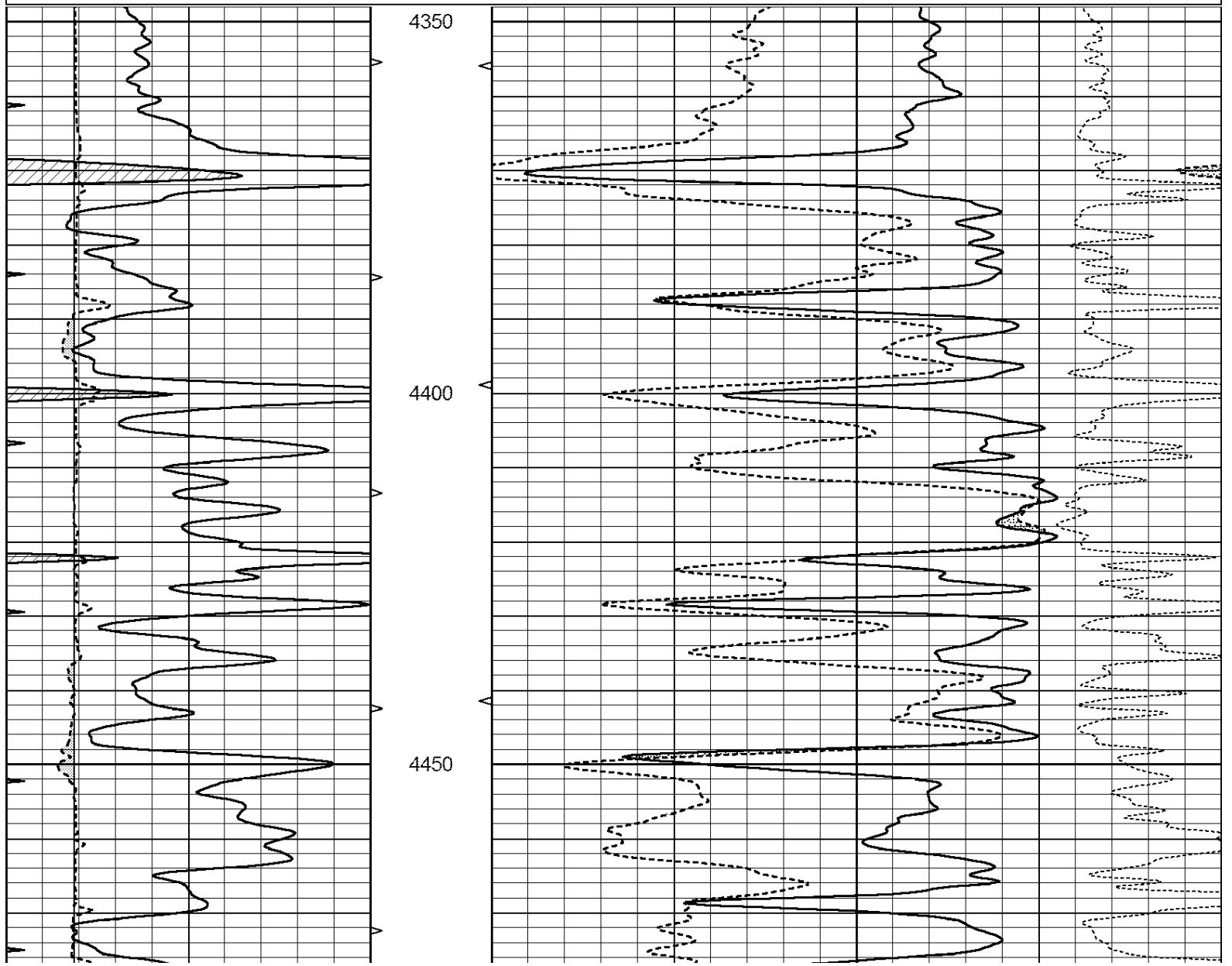
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			

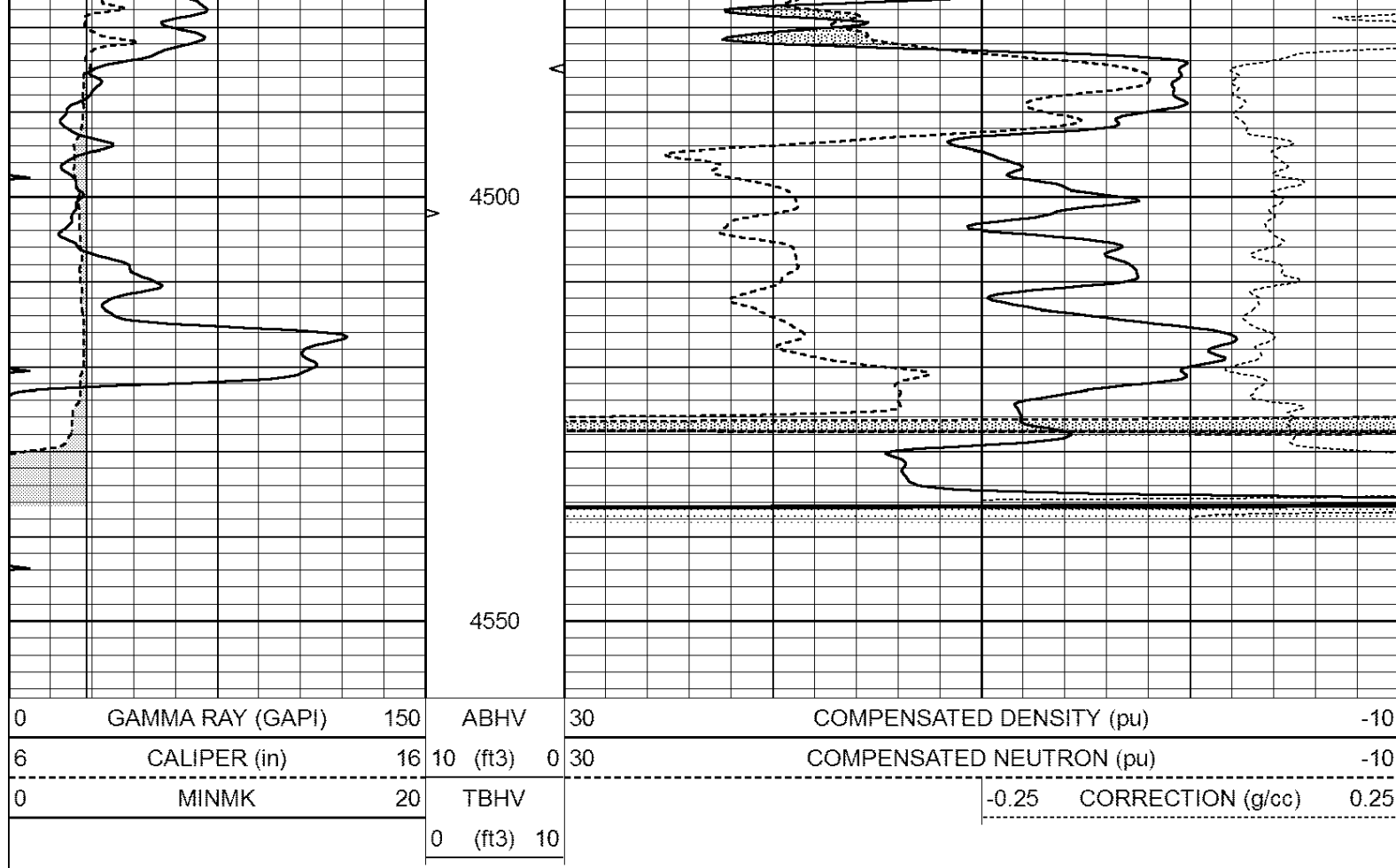


REPEAT SECTION

Database File: 010633ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: den_neu
 Dataset Creation: Fri Jan 25 00:04:32 2013 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: 010633ddn.db
Dataset Pathname: pass3.1
Dataset Creation: Fri Jan 25 00:08:05 2013 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	0.708	V	0.000	400.000	mmho/m	577.788	-8.886
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:	6l
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

PRE-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			

2)	Short Space Long Space	cps cps	pu
3)	Short Space Long Space	cps cps	pu

POST-SURVEY VERIFICATION			
	Detector	Readings	Measured Target
1)	Short Space Long Space	cps cps	pu pu
2)	Short Space Long Space	cps cps	pu pu
3)	Short Space Long Space	cps cps	pu pu

Gamma Ray Calibration Report			
	Serial Number:	#8	
	Tool Model:	OPEN	
	Performed:	Mon Jun 13 16:56:43 2011	
	Calibrator Value:	150.0	GAPI
	Background Reading:	0.0	cps
	Calibrator Reading:	175.0	cps
	Sensitivity:	0.8371	GAPI/cps