



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company	RITCHIE EXPLORATION, INC.		
Well	HELL CREEK 5A #1		
Field	WILDCAT		
County	SCOTT	State	KANSAS
Location:	API # : 15-171-20952		Other Services
1260' FNL & 1735' FEL		DIL	
SEC 5 TWP 16S RGE 31W		Elevation	
Permanent Datum	GROUND LEVEL	Elevation	2800
Log Measured From	KELLY BUSHING 5' A.G.L.	K.B.	2805
Drilling Measured From	KELLY BUSHING	D.F.	
		G.L.	2800
Date	6-7-13		
Run Number	ONE		
Depth Driller	4622		
Depth Logger	4621		
Bottom Logged Interval	4597		
Top Log Interval	3400		
Casing Driller	218		
Casing Logger	218		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.3 / 54		
pH / Fluid Loss	10.0 / 6.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.10 @ 89F		
Rmf @ Meas. Temp	0.83 @ 89F		
Rmc @ Meas. Temp	1.32 @ 89F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.810 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	121F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	MAX LOVELY		

<<< 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

NABORS COMPLETION & PRODUCTION SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: HEALY, 7W TO TAOS RD., 7N, 1/4W, S INTO.

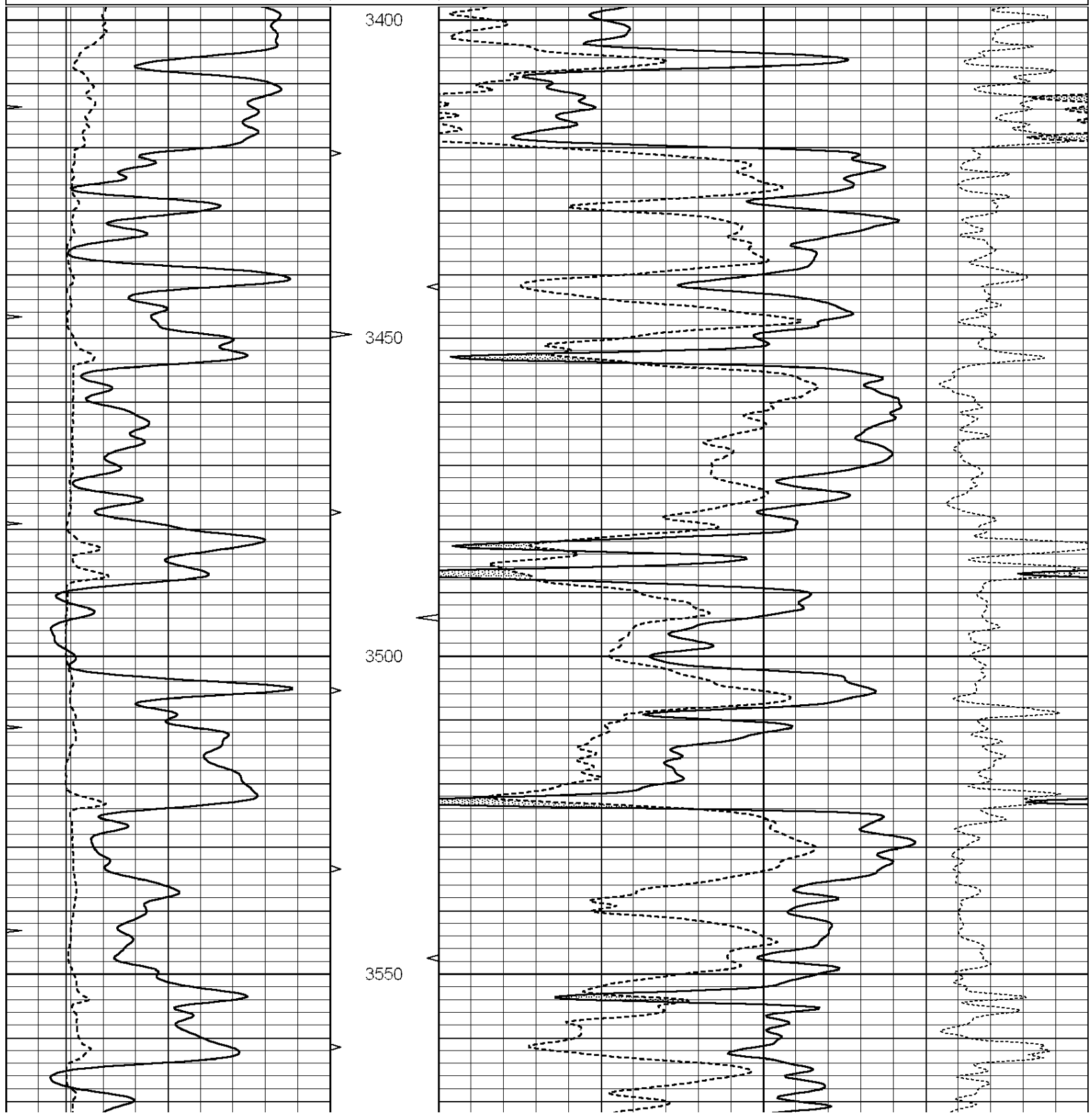


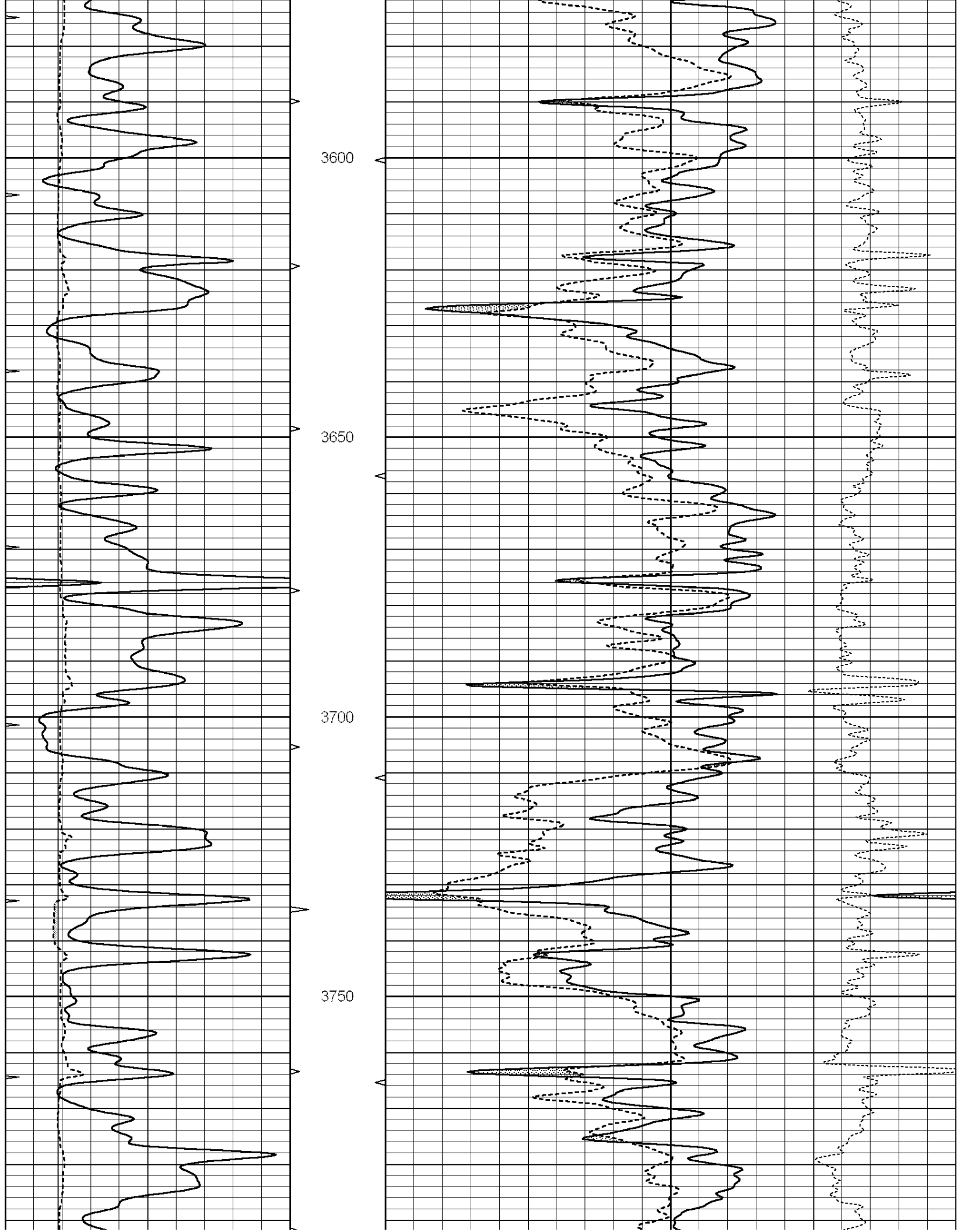
**COMPLETION
& PRODUCTION**

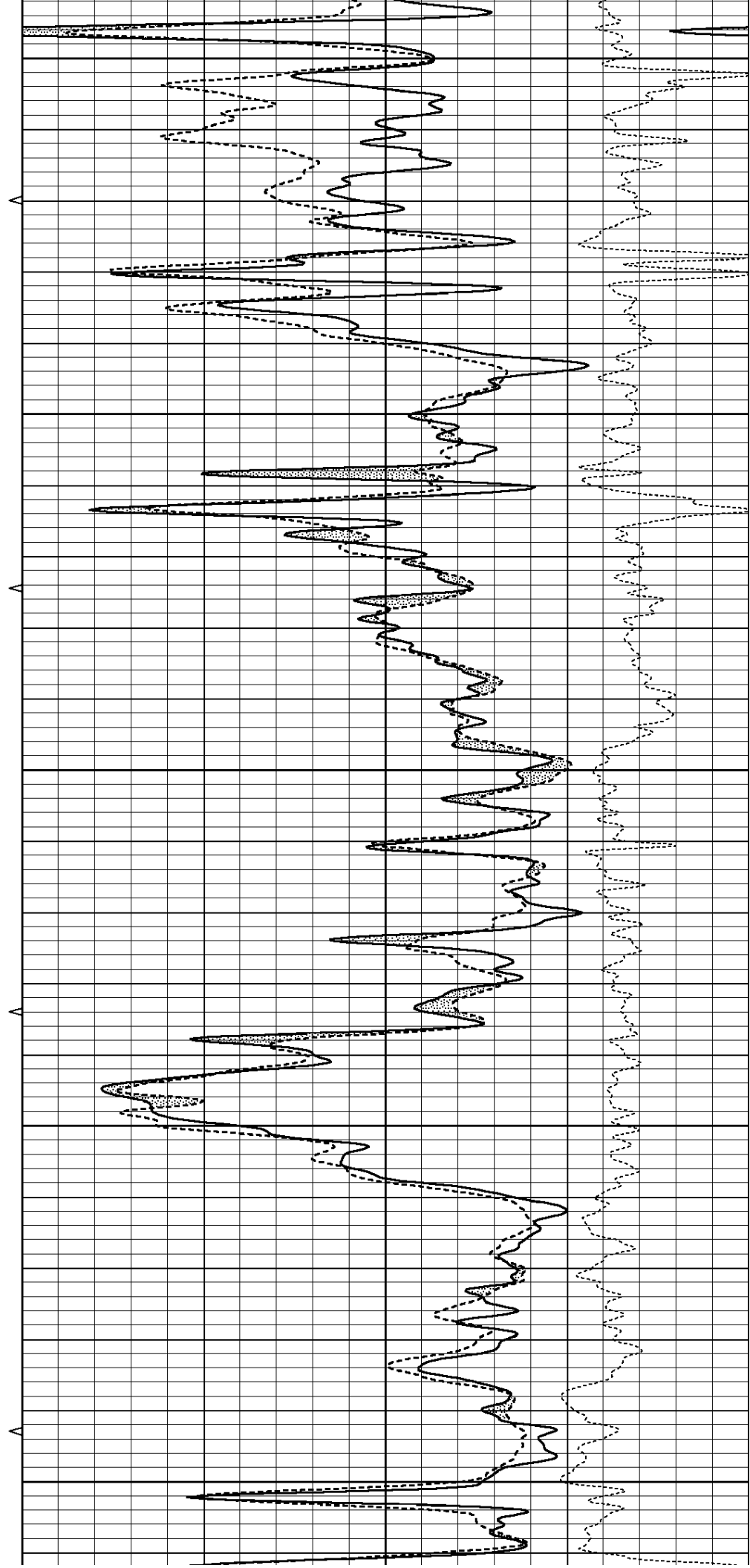
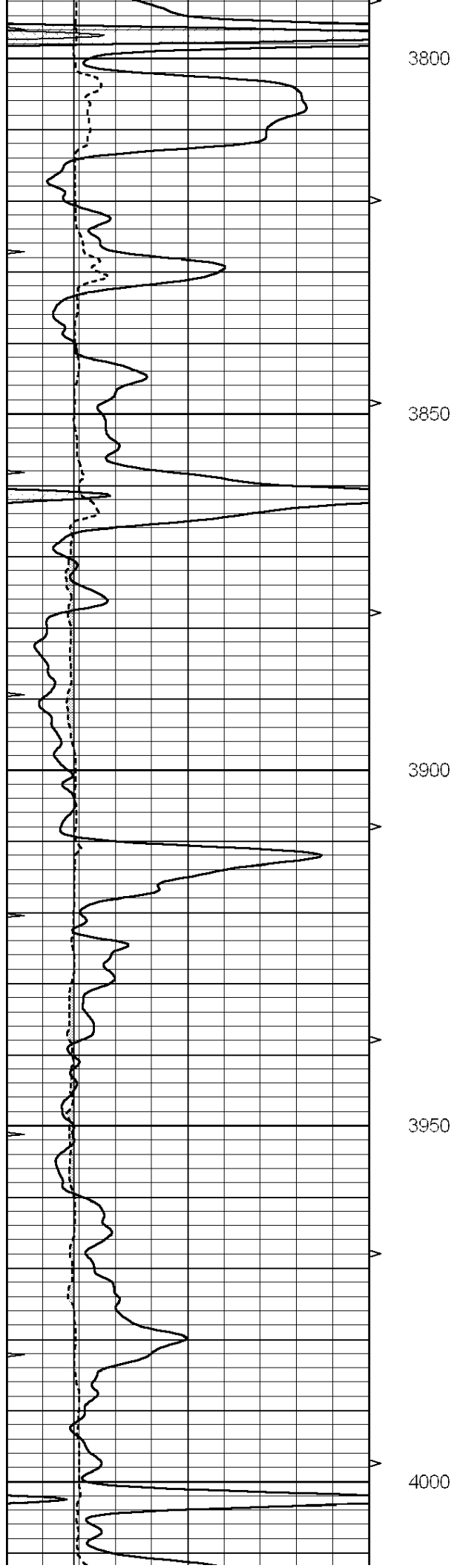
MAIN SECTION

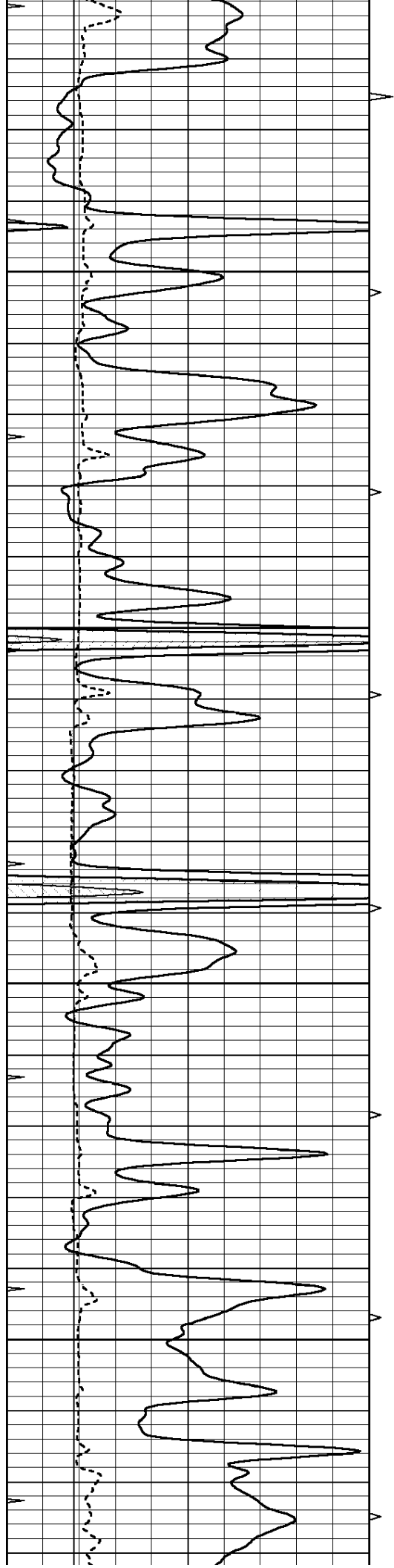
Database File: 010188ddn.db
 Dataset Pathname: pass8.2
 Presentation Format: _den_neu
 Dataset Creation: Wed May 08 02:08:59 2013
 Charted by: Depth in Feet scaled 1:240

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		







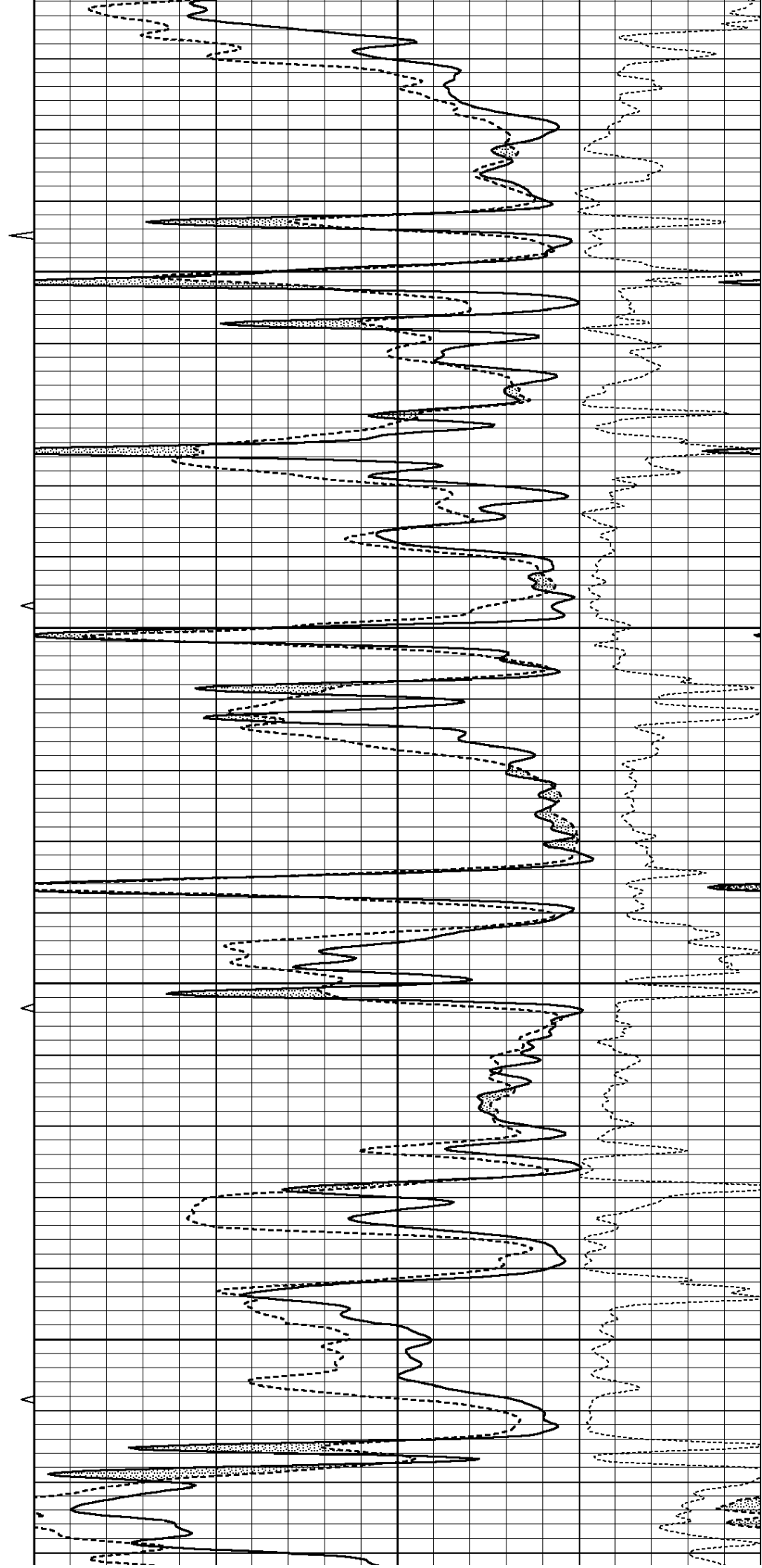


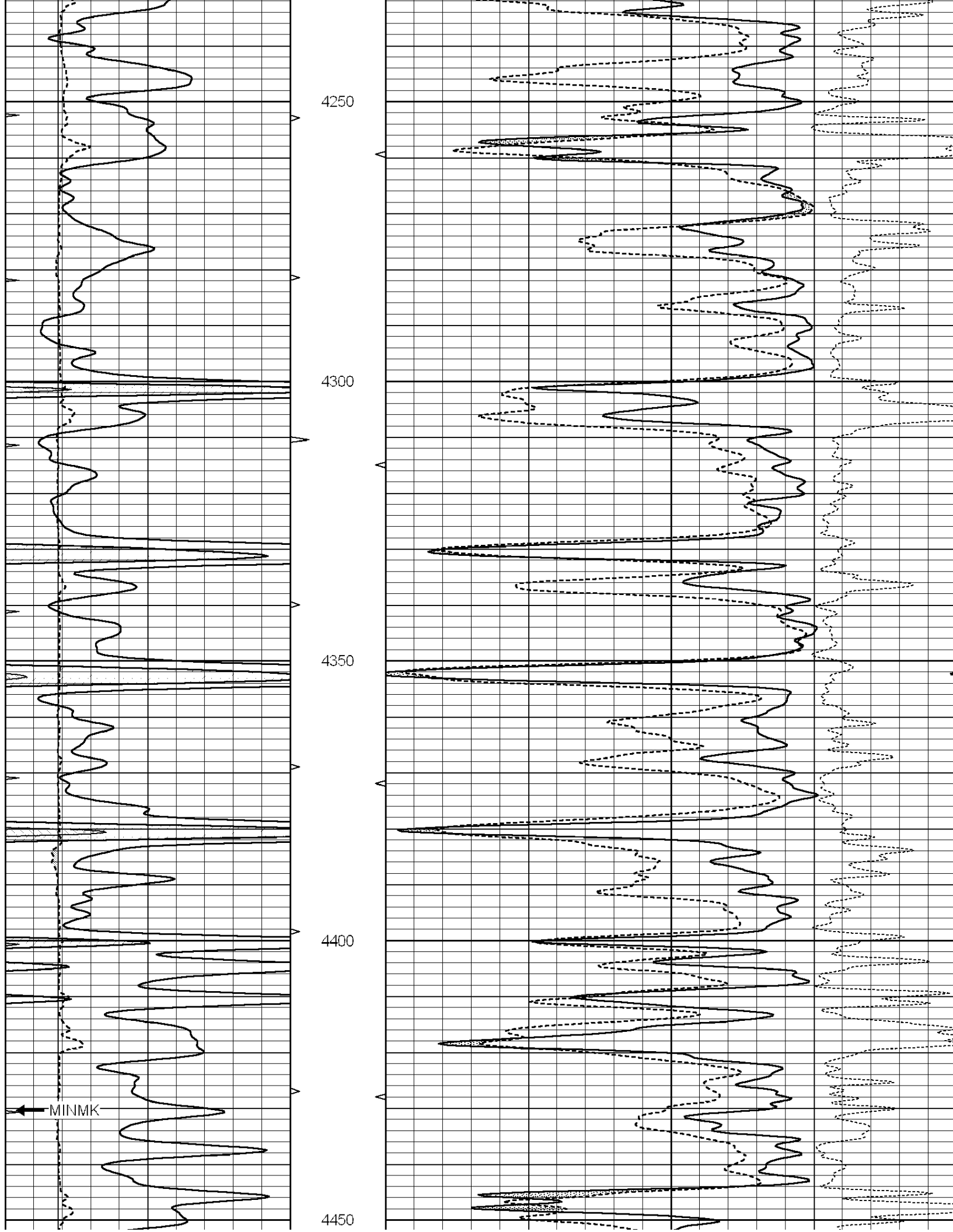
4050

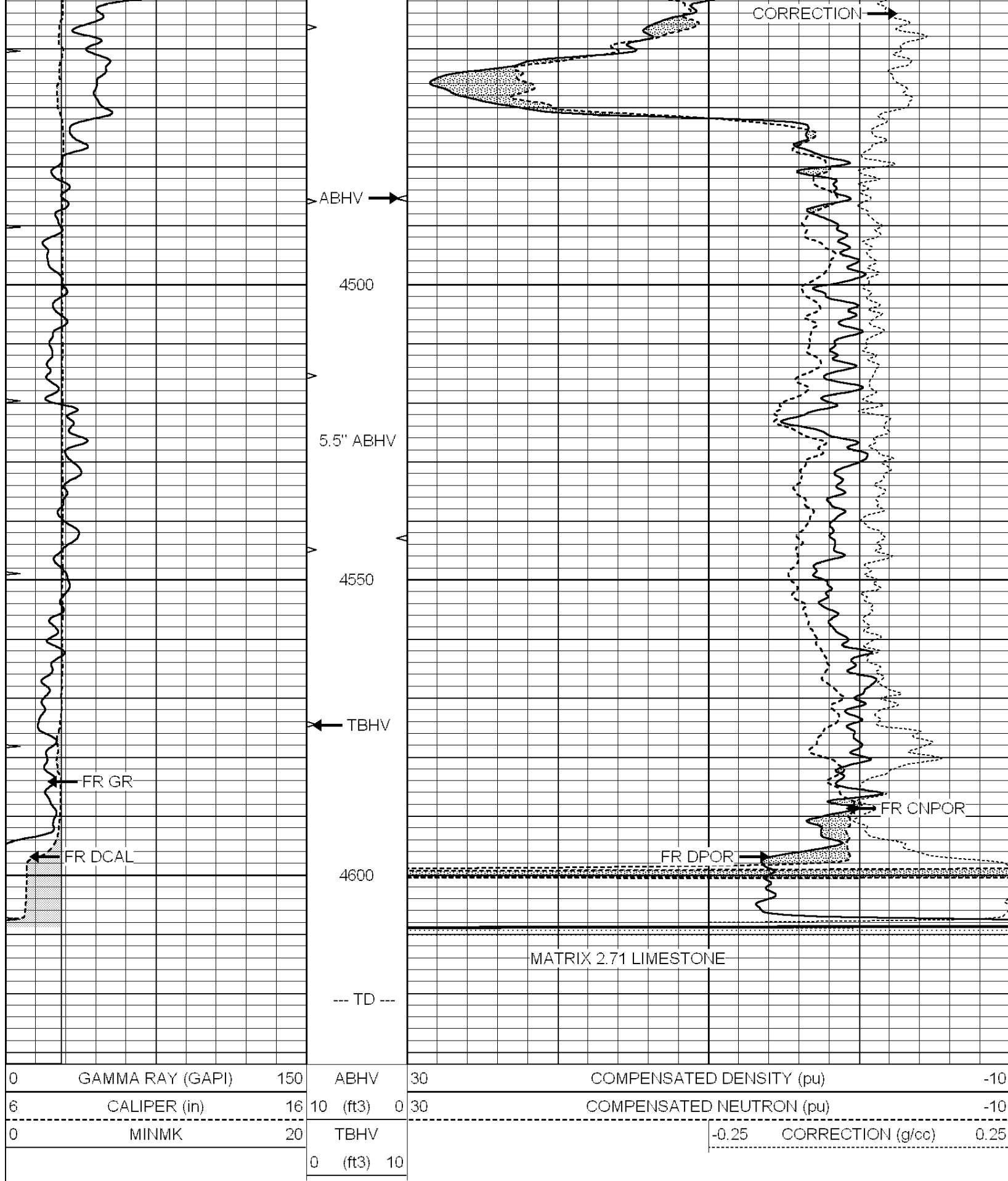
4100

4150

4200



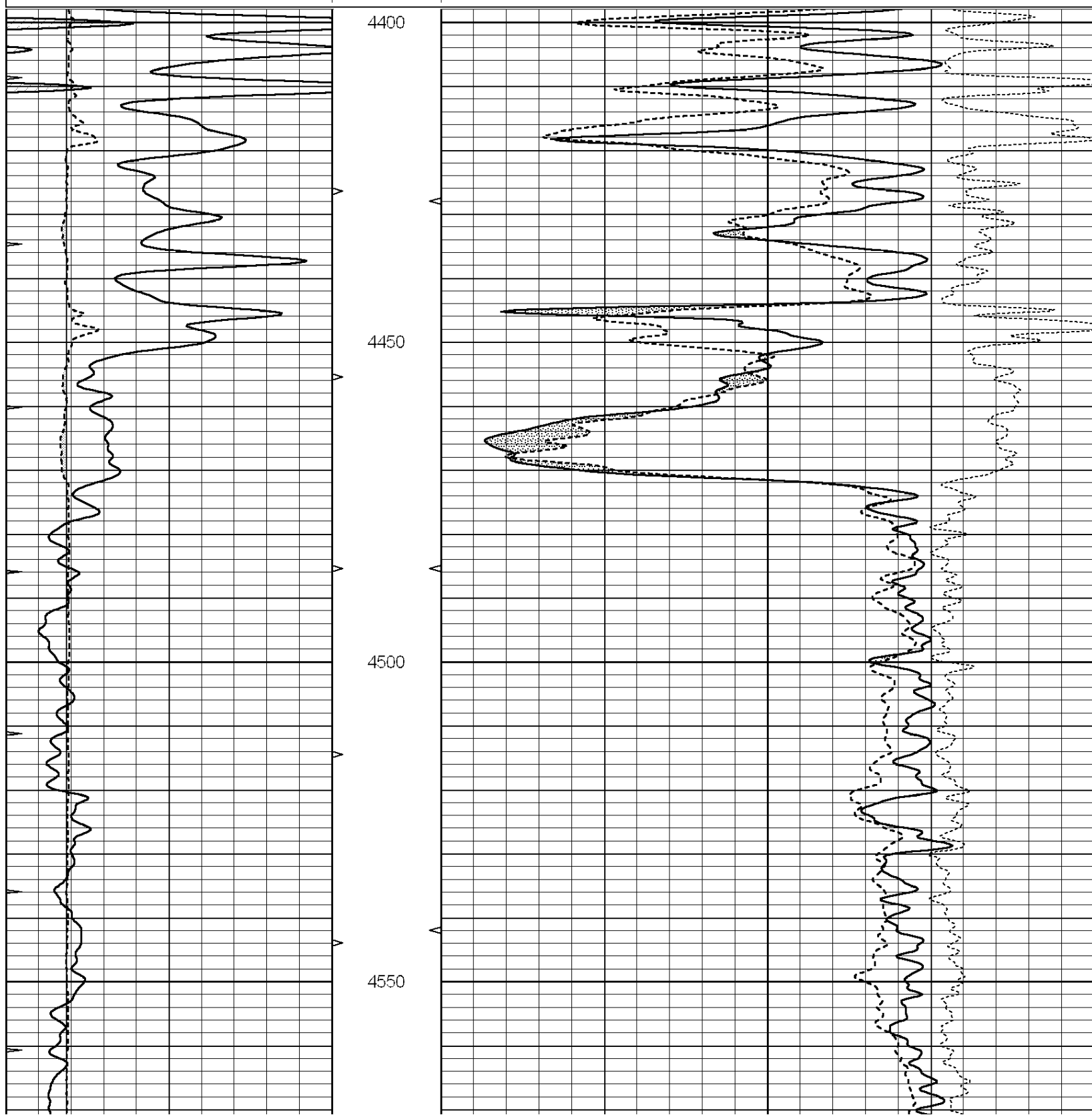


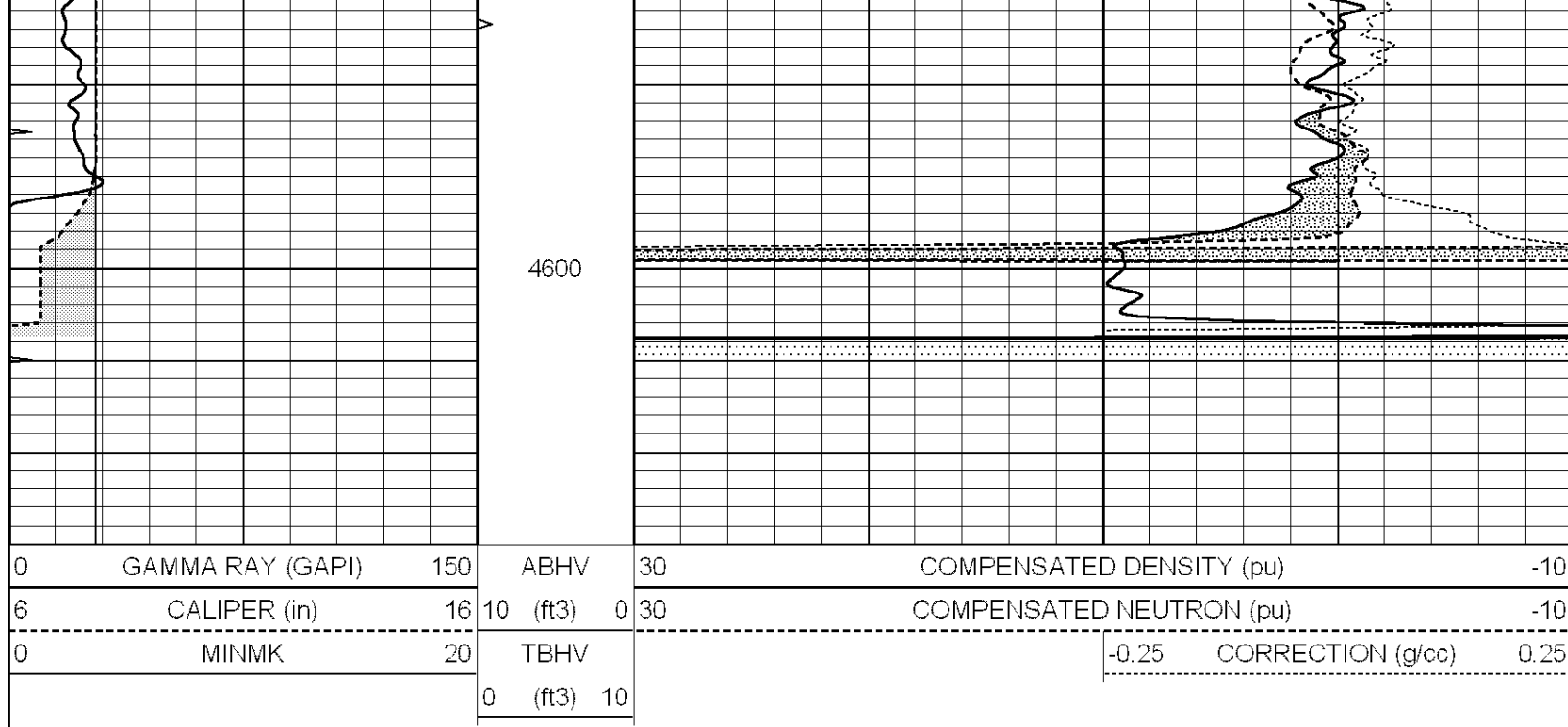


& PRODUCTION SERVICES CO.

Database File: 010188ddn.db
 Dataset Pathname: pass7.1
 Presentation Format: _den_neu
 Dataset Creation: Wed May 08 00:42:04 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: 010188ddn.db
 Dataset Pathname: pass8.2
 Dataset Creation: Wed May 08 02:08:59 2013

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Wed May 08 00:56:03 2013
 Downhole Cal Performed: Sat Jan 19 19:51:38 2013
 After Survey Verification Performed: Sat Jan 19 19:51:38 2013

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	620.000	7.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	660.000	-37.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.041	0.642	V	0.000	400.000	mmho/m	664.874	-27.011
Medium	0.035	0.802	V	0.000	464.000	mmho/m	604.936	-21.367

Downhole Calibration

Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	135384.000	27094.500	mmho/m	135400.000	27082.400	mmho/m	1.000	-19.259
Medium	-47330.100	-9381.740	mmho/m	-47327.100	-9389.280	mmho/m	1.000	-10.154
LL3		7.322	V		1400.000	Ohm-m		
		0.038	V		20.000	Ohm-m		
		-7.273	V		4000.000	mmho-m		

After Survey Verification

Readings				Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	135384.000	27094.500	mmho/m	1.000	0.000

Medium	0.000	0.000	mmho/m	-4/330.100	-9381.740	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1400.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		4000.000	mmho-m		

Compensated Density Calibration Report

Serial-Model:	GEAR1-GEARHART
Source / Verifier:	147 / 147
Master Calibration Performed:	Fri Jun 07 18:32:30 2013

Master Calibration					
	Density			Far Detector	Near Detector
Magnesium	1.710	g/cc		1205.77	610.74 cps
Aluminum	2.600	g/cc		271.21	419.72 cps
	Spine Angle = 75.89			Density/Spine Ratio = 0.579	
	Size			Reading	
Small Ring	7.60	in		3.69	V
Large Ring	14.00	in		6.52	V

Compensated Neutron Calibration Report

Serial Number:	NEU_4I
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

Gamma Ray Calibration Report

Serial Number:	GR5	
Tool Model:	OPEN	
Performed:	Wed May 08 00:45:03 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.9500	GAPI/cps