



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company RITCHIE EXPLORATION, INC.
Well HUSEMAN 20B #1
Field WILDCAT
County SCOTT State KANSAS

Company RITCHIE EXPLORATION, INC.
Well HUSEMAN 20B #1
Field WILDCAT
County SCOTT
State KANSAS

Location: API #: 15-171-20968
485' FNL & 1180' FWL
SEC 20 TWP 16S RGE 31W
Permanent Datum GROUND LEVEL Elevation 2938
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DIL
Elevation
K.B. 2943
D.F. 2941
G.L. 2938

Date	8/18/13
Run Number	ONE
Depth Driller	4770
Depth Logger	4772
Bottom Logged Interval	4748
Top Log Interval	3450
Casing Driller	225
Casing Logger	224
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4 / 51
pH / Fluid Loss	10 / 9.6
Source of Sample	FLOWLINE
Rim @ Meas. Temp	0.75 @ 95F
Rmf @ Meas. Temp	0.56 @ 95F
Rmc @ Meas. Temp	0.90 @ 95F
Source of Rmf / Rmc	MEASURED
Rim @ BHT	0.63 @ 123F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	123F
Equipment Number	860
Location	HAYS, KS.
Recorded By	IAN MABB
Witnessed By	KIM SHOEMAKER

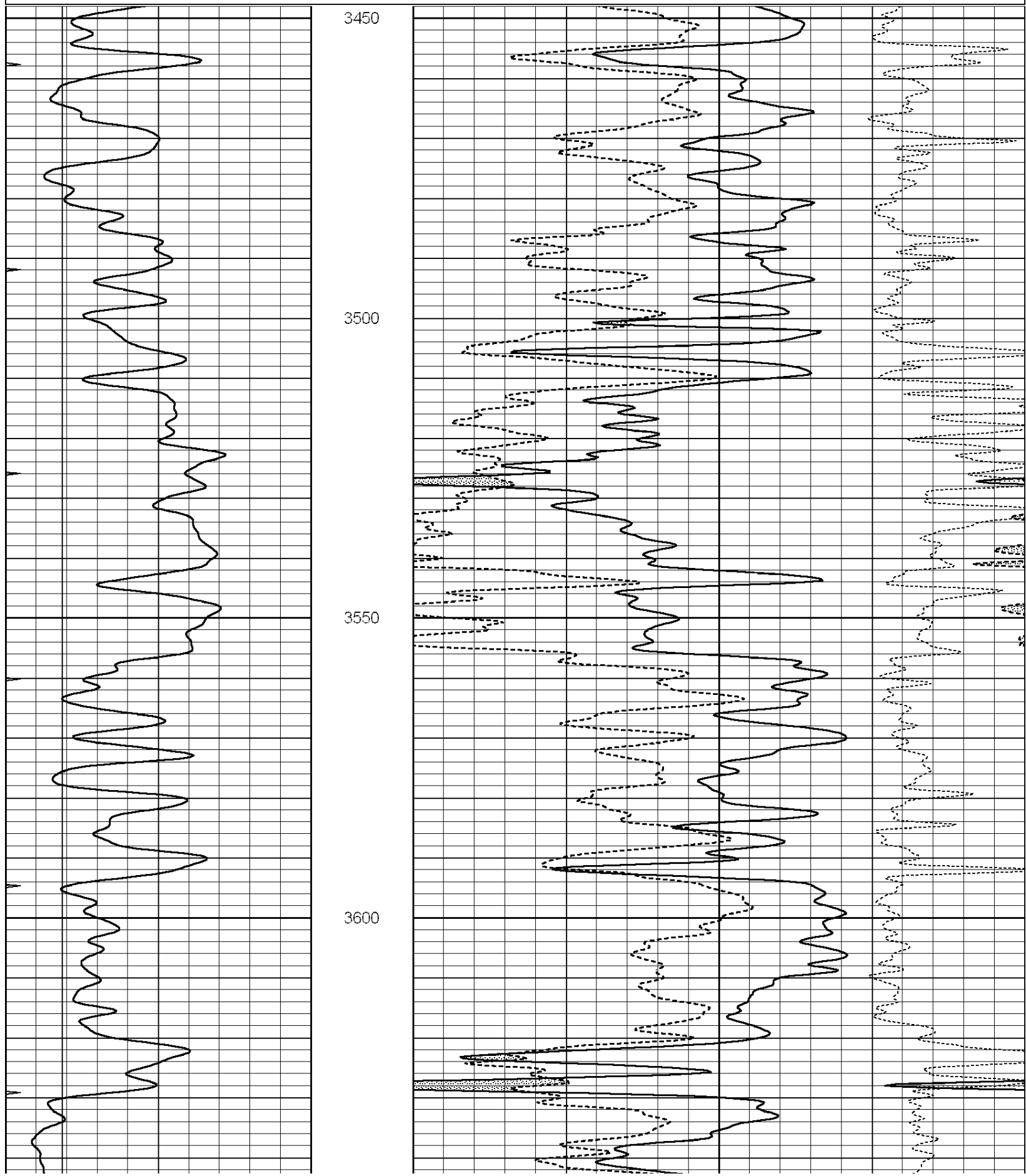
<<< Fold Here >>>

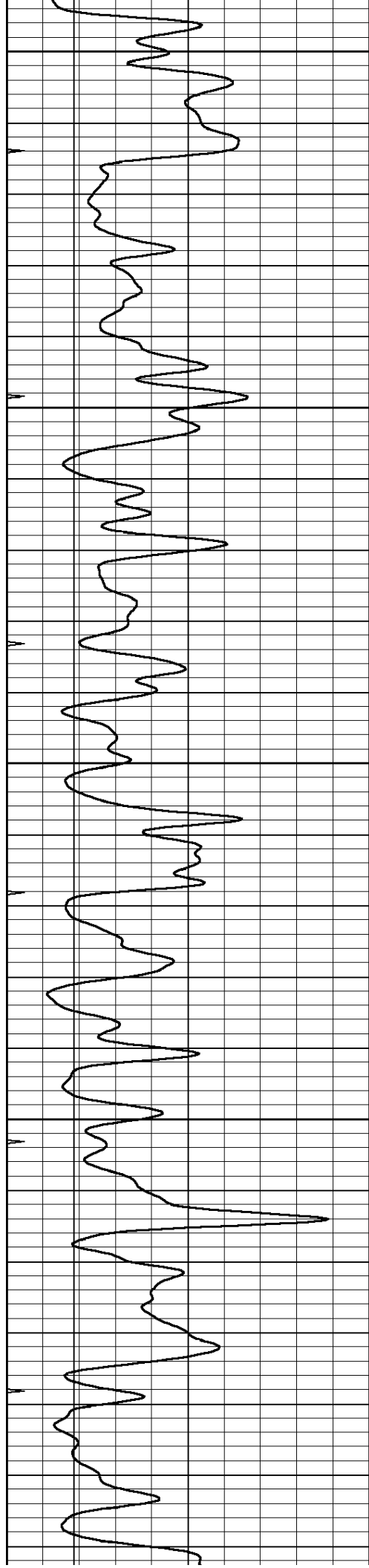
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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, KS. - 8 MILES WEST TO TAOS RD. - NORTH 4 MILES WEST INTO

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





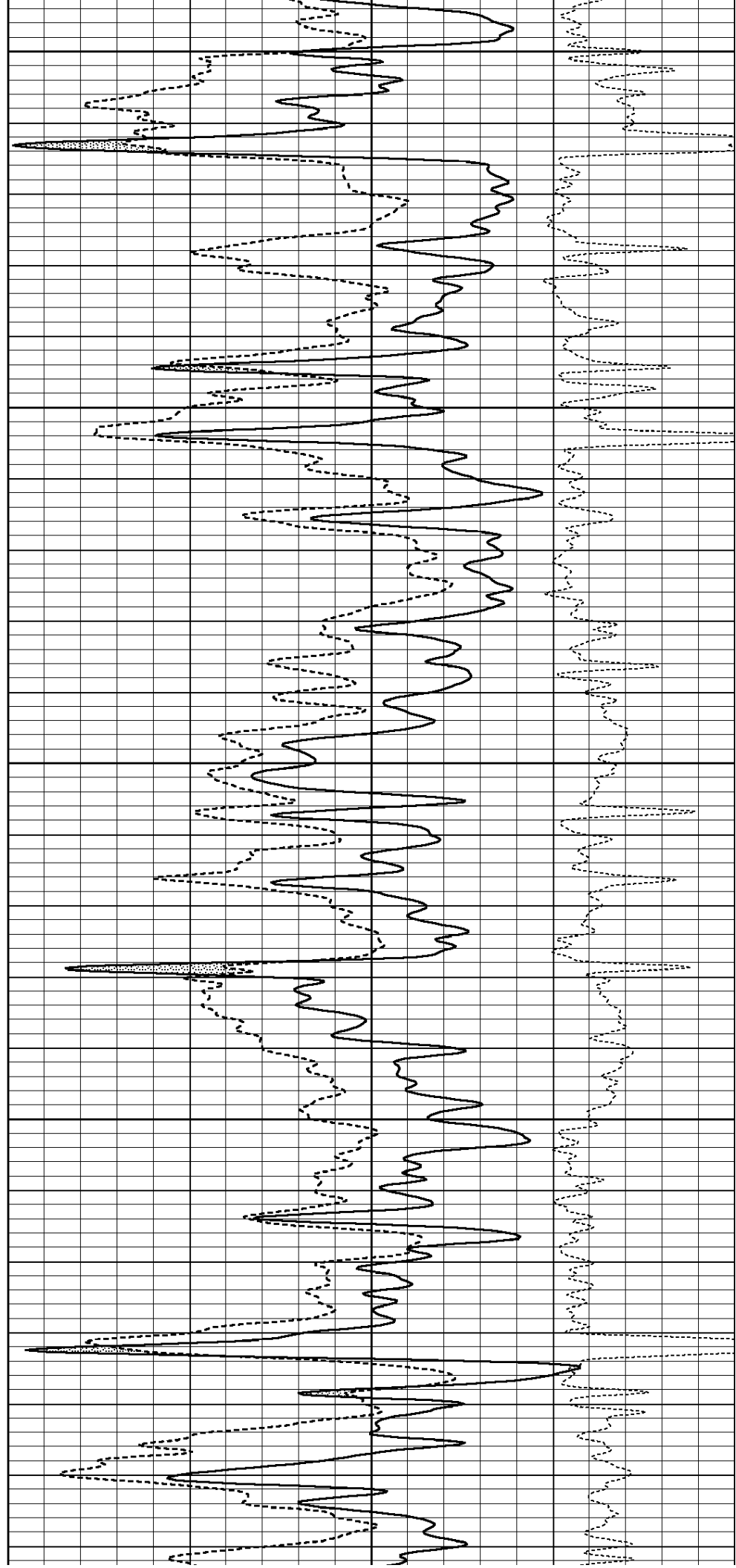
3650

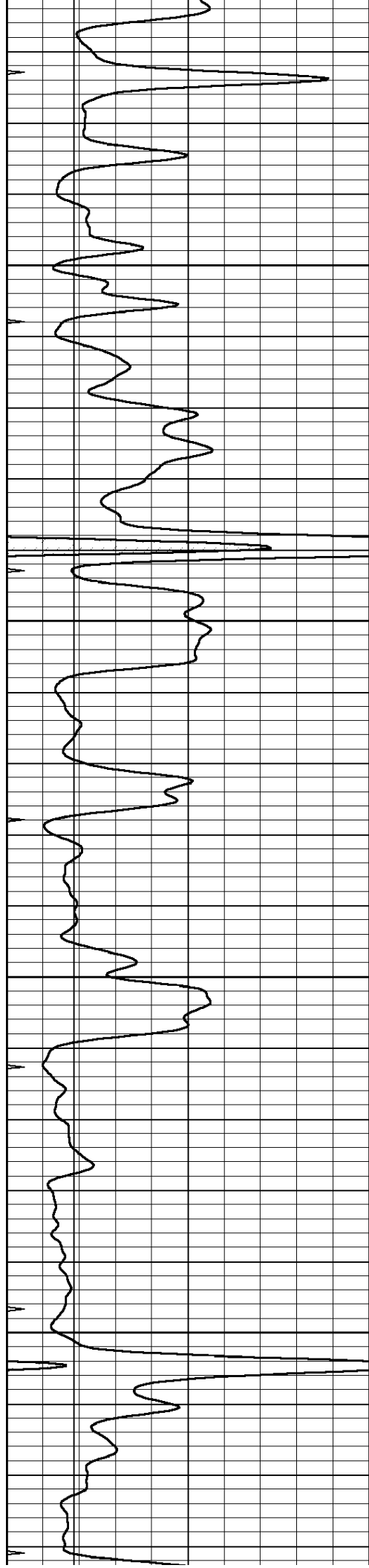
3700

3750

3800

3850



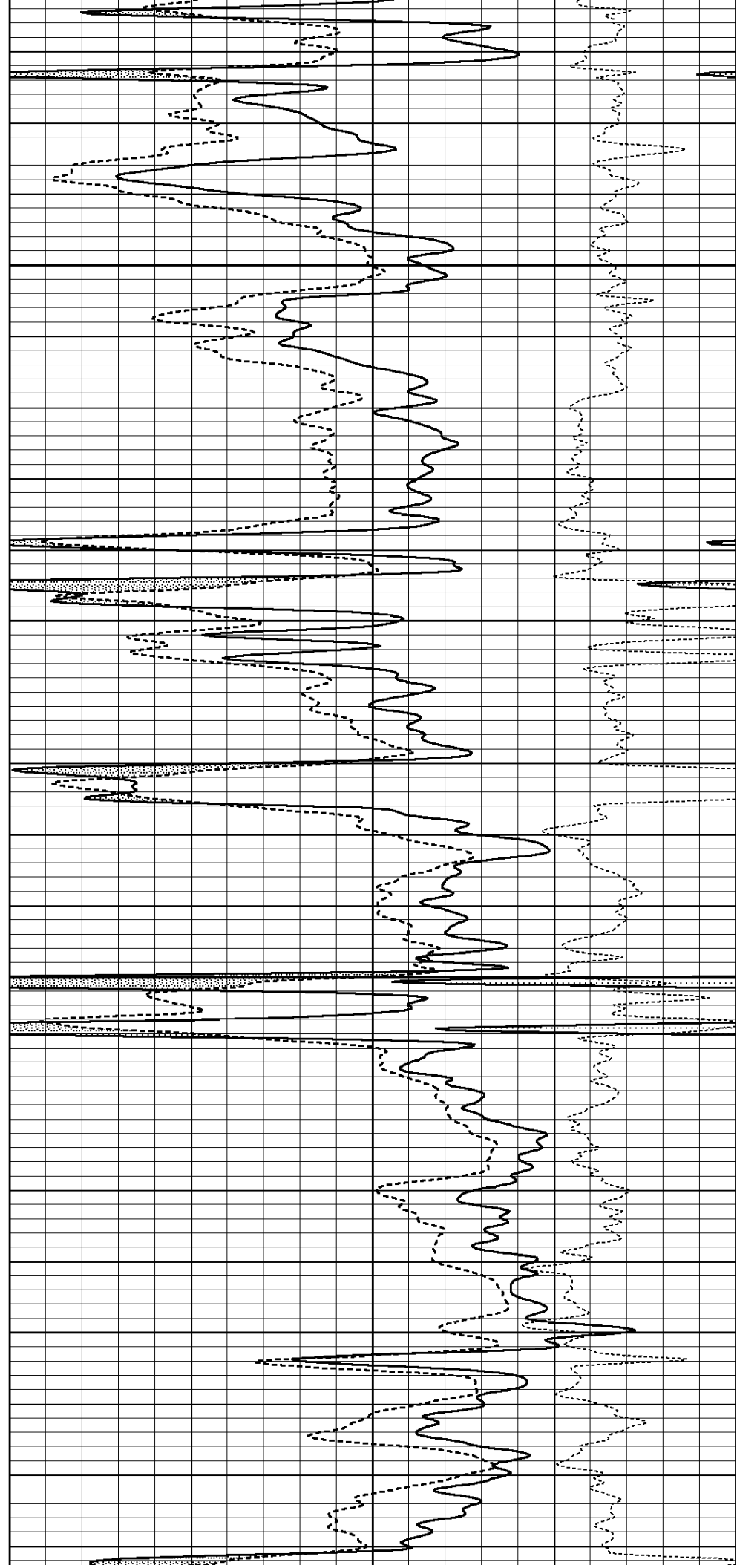


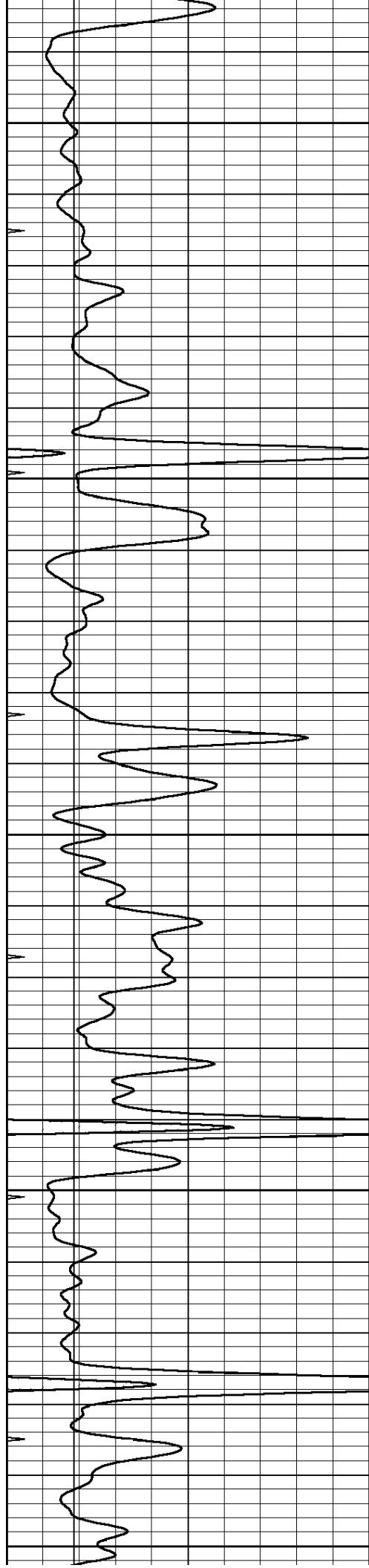
3900

3950

4000

4050





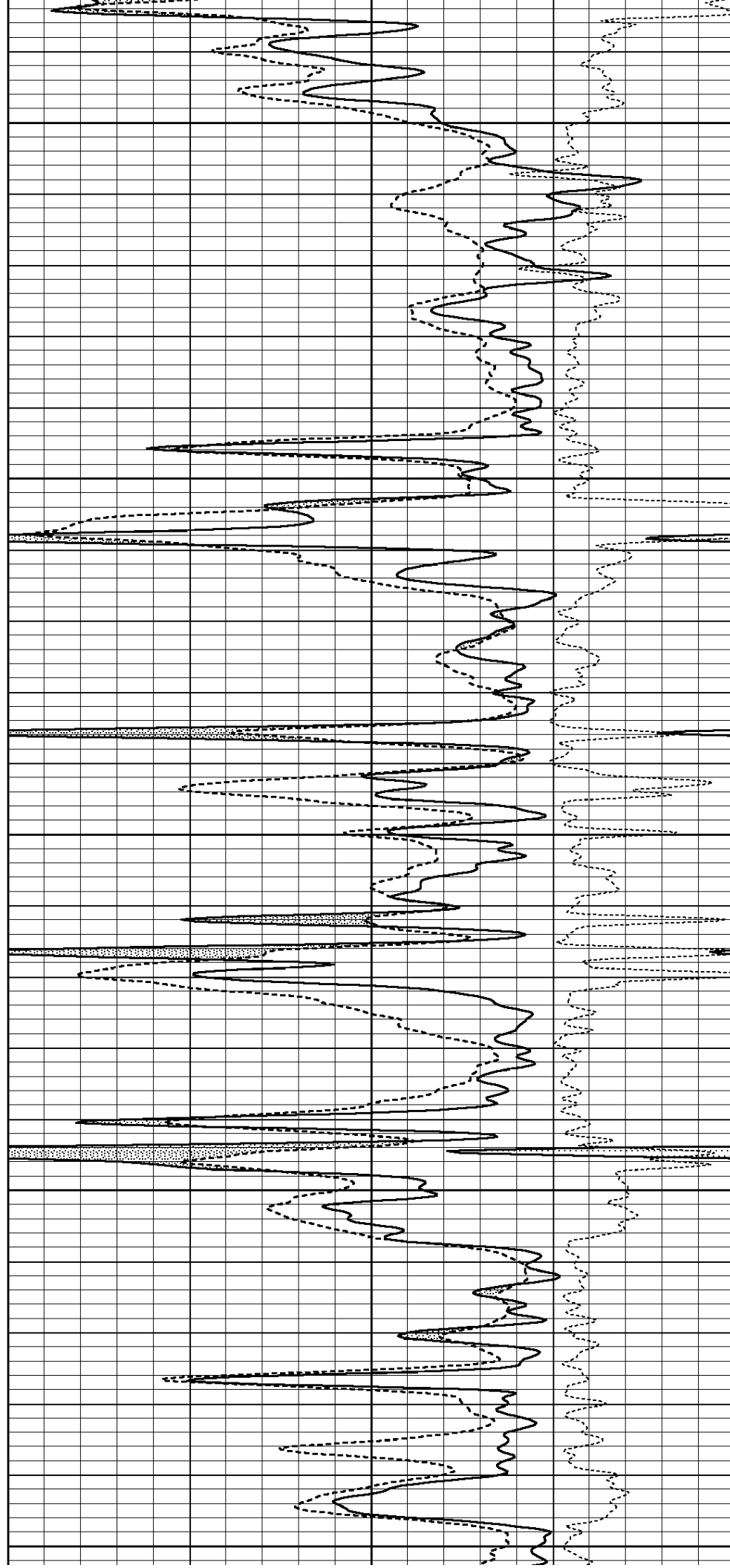
4100

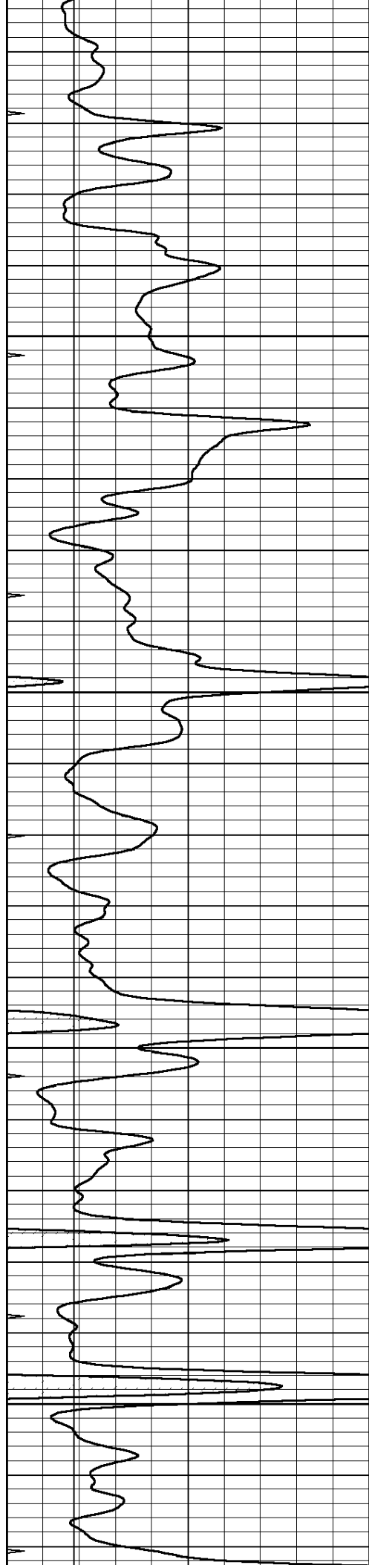
4150

4200

4250

4300



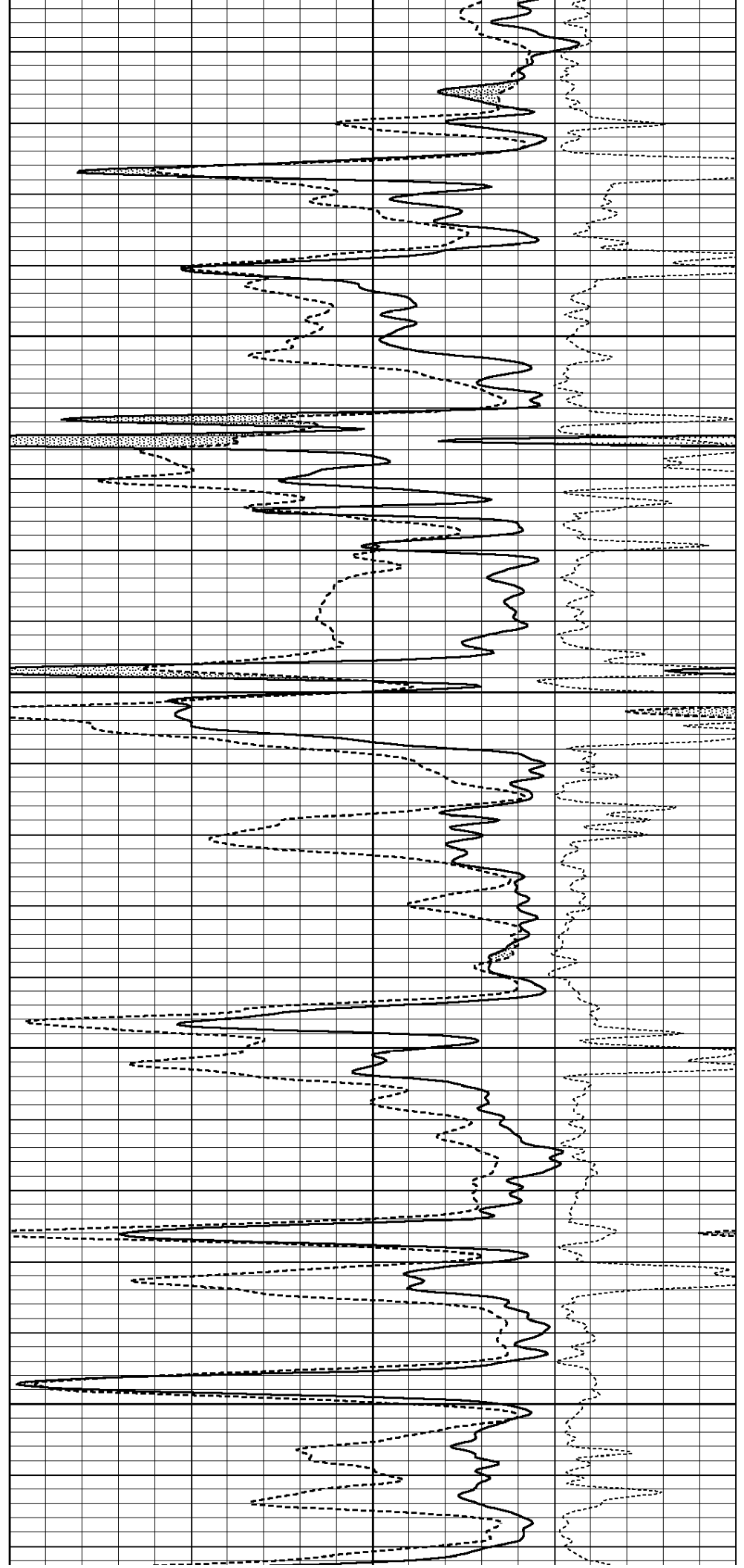


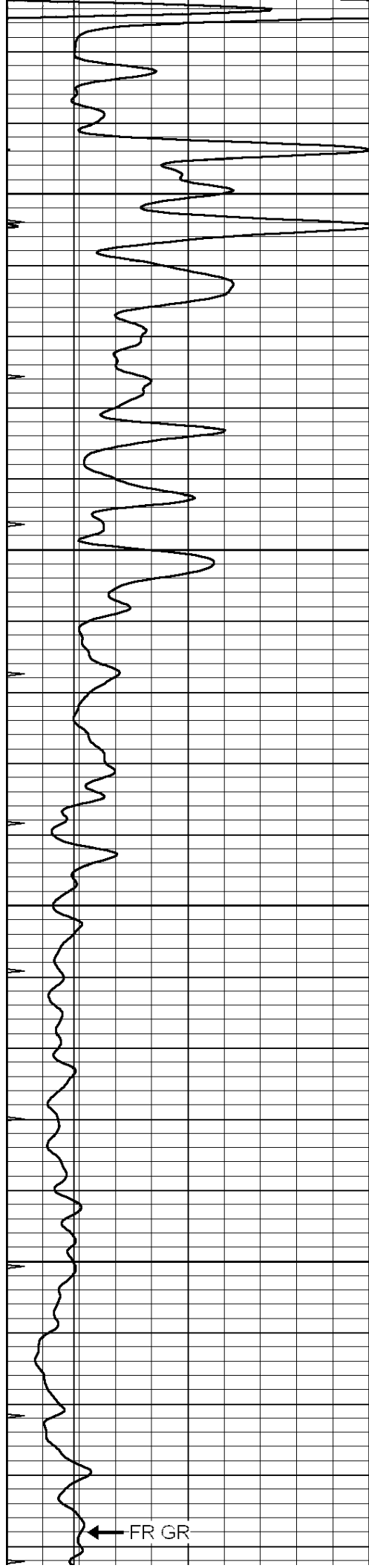
4350

4400

4450

4500



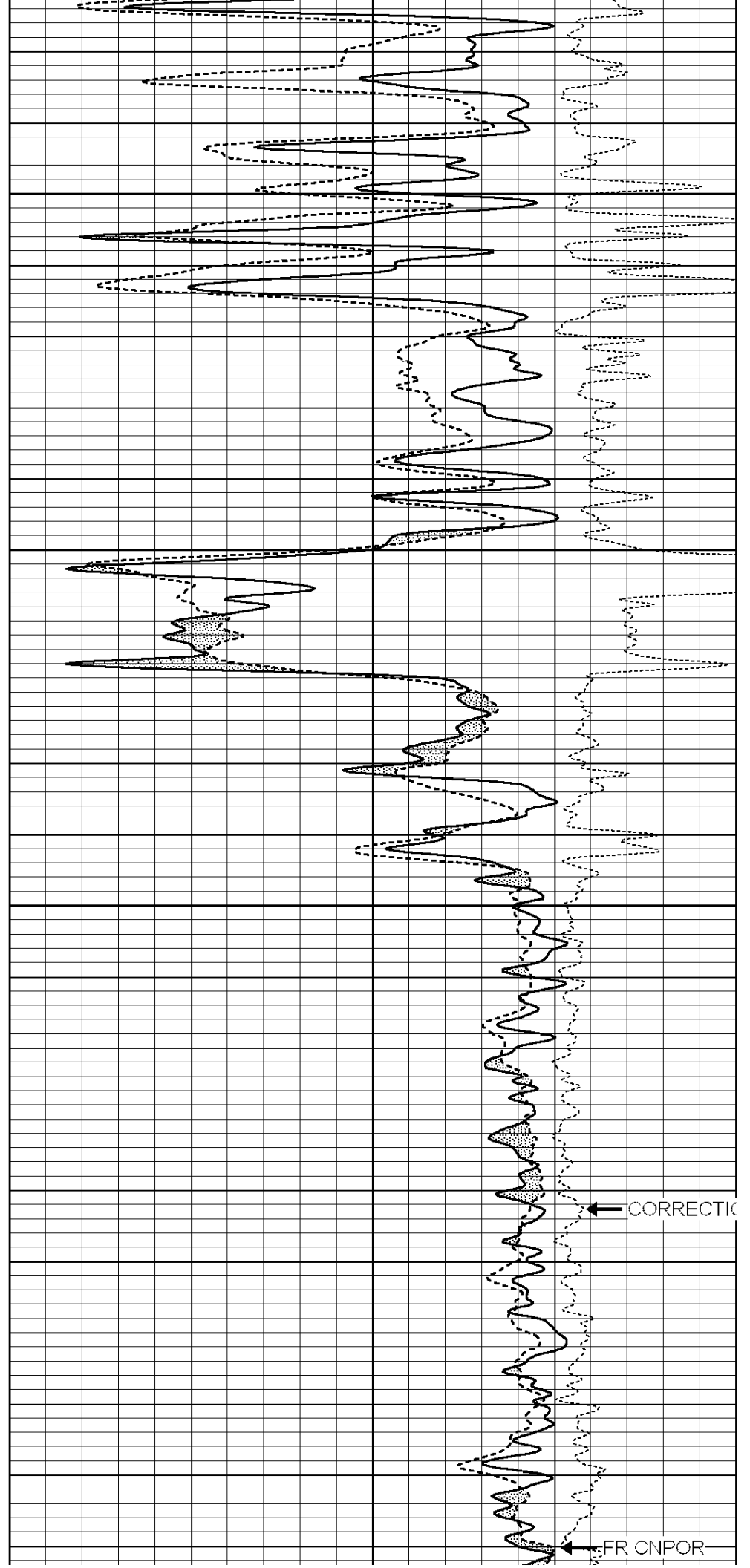


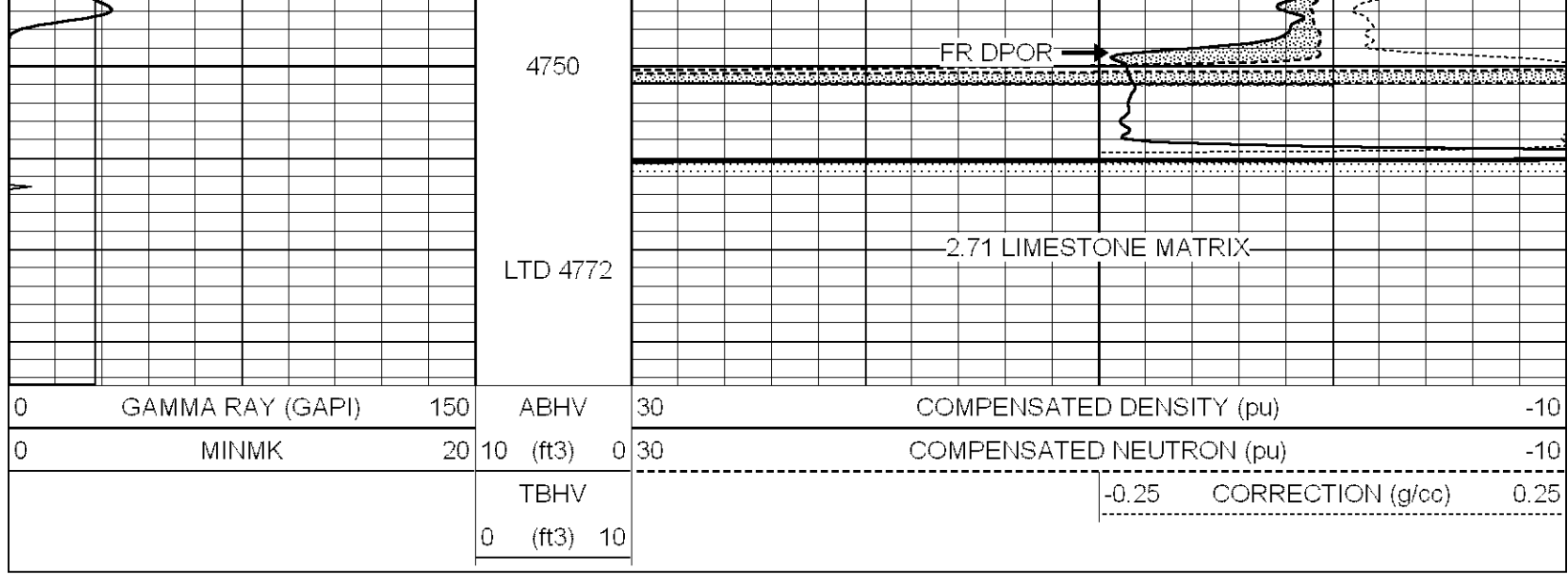
4550

4600

4650

4700



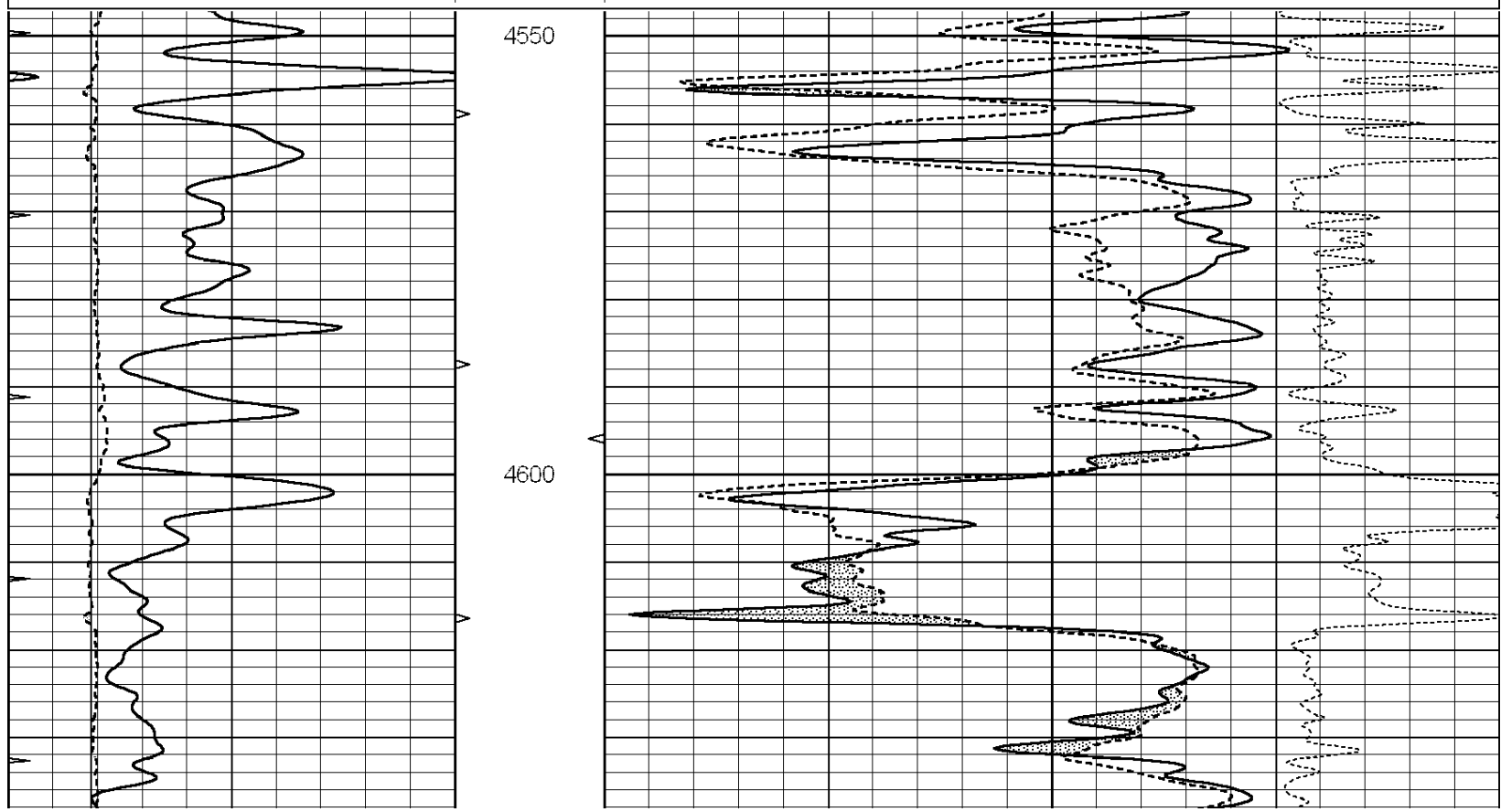


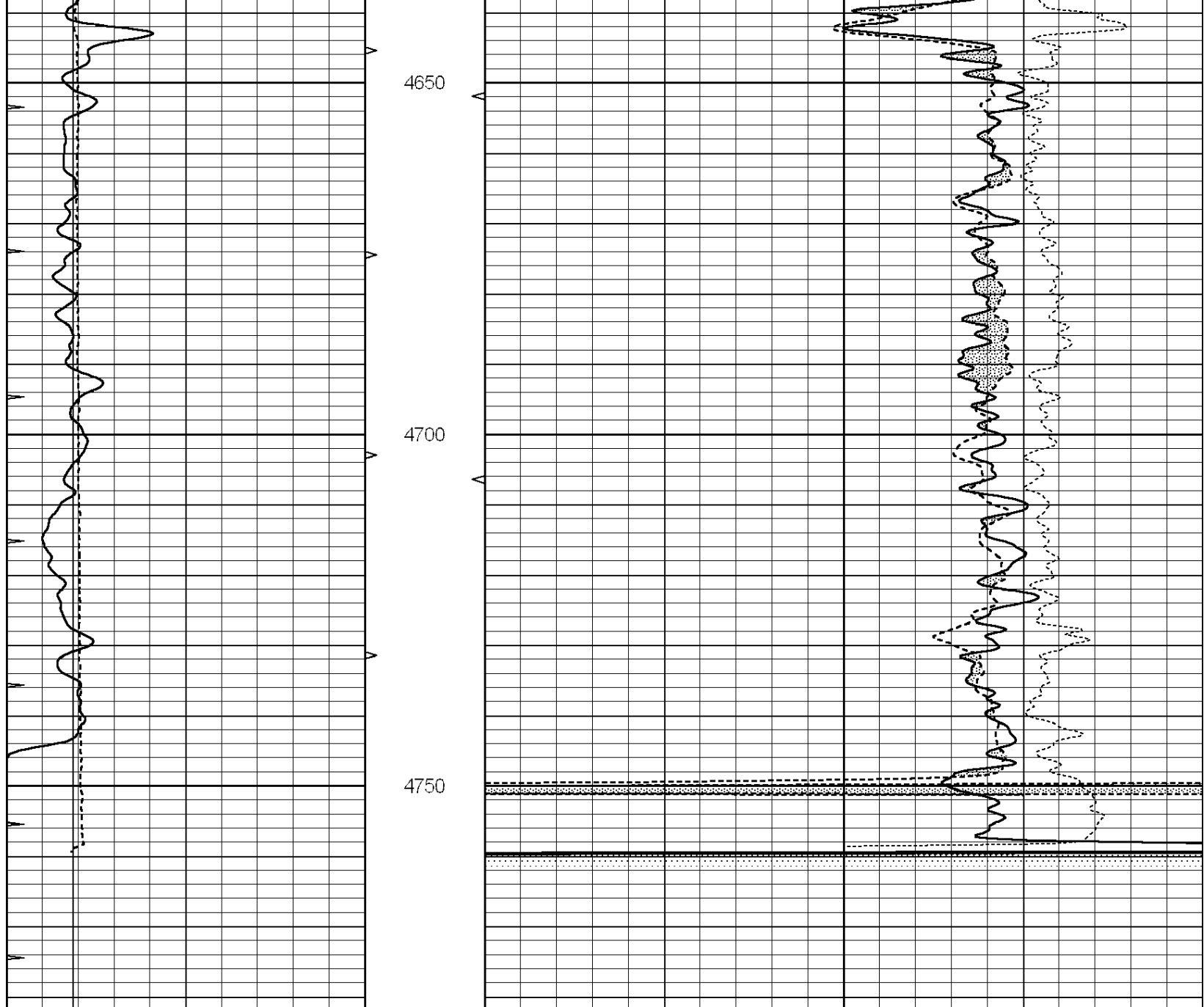
**COMPLETION
& PRODUCTION
SERVICES CO.**

REPEAT SECTION

Database File: 011706ddn.db
 Dataset Pathname: pass2.9
 Presentation Format: _den_neu
 Dataset Creation: Sun Aug 18 17:28:02 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			





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: 011706ddn.db
 Dataset Pathname: pass3.3
 Dataset Creation: Sun Aug 18 16:33:29 2013

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Sat Oct 20 06:29:01 2012
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Fri Jun 01 07:32:39 2012

Surface Calibration

Readings

References

Results

Loop.	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	530.000	-14.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	540.000	-8.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration								
	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3970.000	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:	GEAR2-GEARHART
Source / Verifier:	147 / 147
Master Calibration Performed:	Mon Aug 12 03:45:04 2013

Master Calibration						
	Density		Far Detector	Near Detector		
Magnesium	1.710	g/cc	923.76	475.45	cps	
Aluminum	2.580	g/cc	205.31	331.69	cps	
Spine Angle = 76.54			Density/Spine Ratio = 0.563			
	Size		Reading			
Small Ring	8.40	in	5.48	V		
Large Ring	14.00	in	7.58	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:	Fri Aug 16 02:46:42 2013

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.7600	GAPI/cps