



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY / NEUTRON
PE LOG

Company MULL DRILLING COMPANY, INC.
Well MCBRIDE-MICHEL "A" #1-31
Field
County KIOWA
State COLORADO

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Field
County KIOWA State COLORADO

Location: API # : 05-061-06867-0000
605' FNL & 2400' FEL
NW/4 - NE/4
SEC 31 TWP 18S RGE 45W
Permanent Datum GROUND LEVEL Elevation 3904
Log Measured From KELLY BUSHING 11' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DIL/MEL
SONIC
Elevation
K.B. 3915
D.F. 3913
G.L. 13904

Date	1/28/12		
Run Number	ONE		
Depth Driller	4918		
Depth Logger	4917		
Bottom Logged Interval	4893		
Top Log Interval	3500		
Casing Driller	8 5/8"@355'		
Casing Logger	353'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6200 PPM	
Density / Viscosity	9.3/50		
pH / Fluid Loss	9.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.85@70F		
Rmt @ Meas. Temp	0.64@70F		
Rmc @ Meas. Temp	1.02@70F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	0.48@124F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	124F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
Witnessed By	PHIL ASKEY		

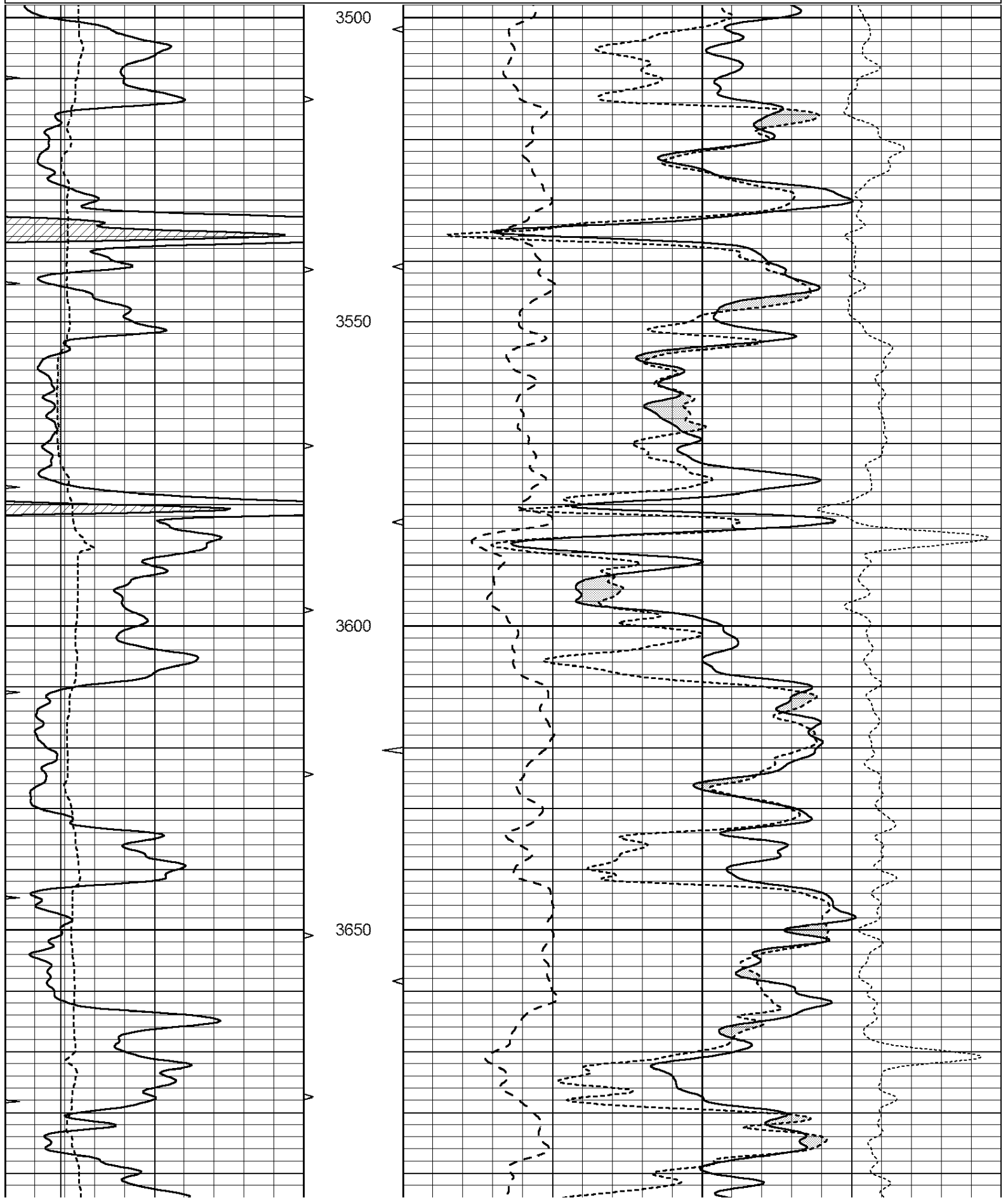
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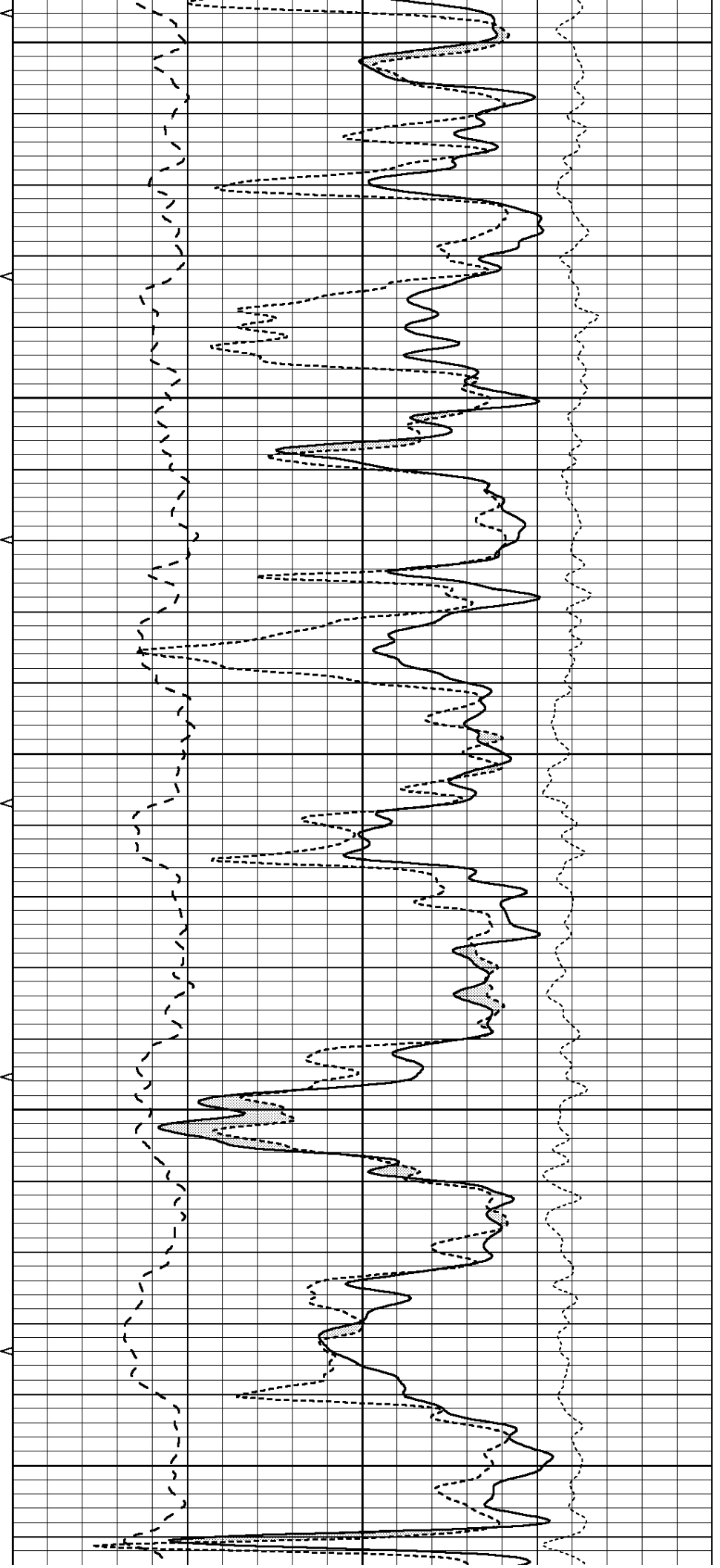
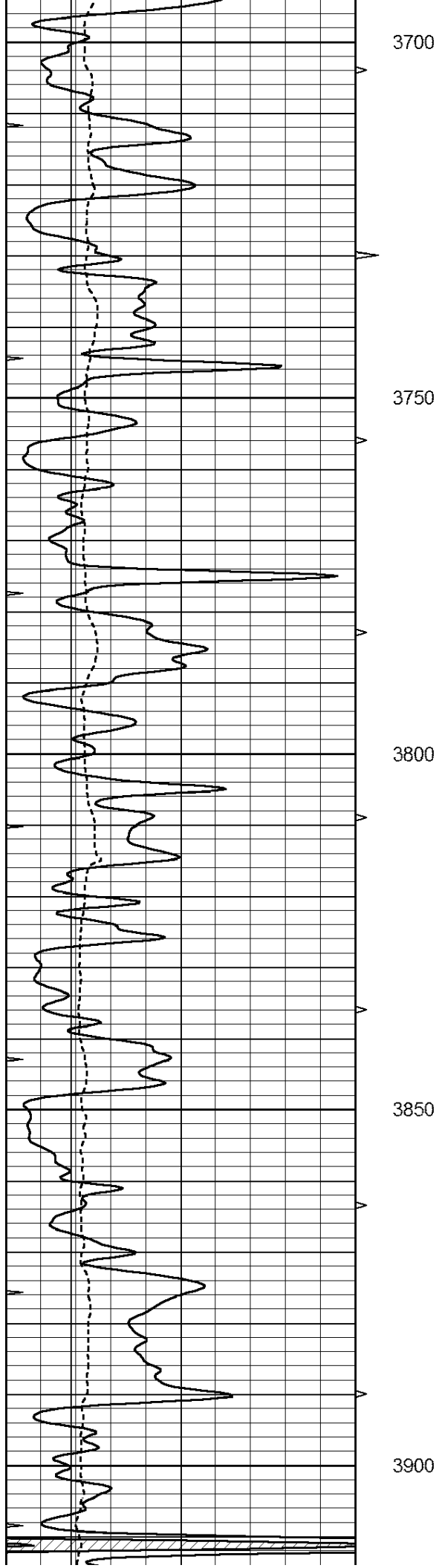
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

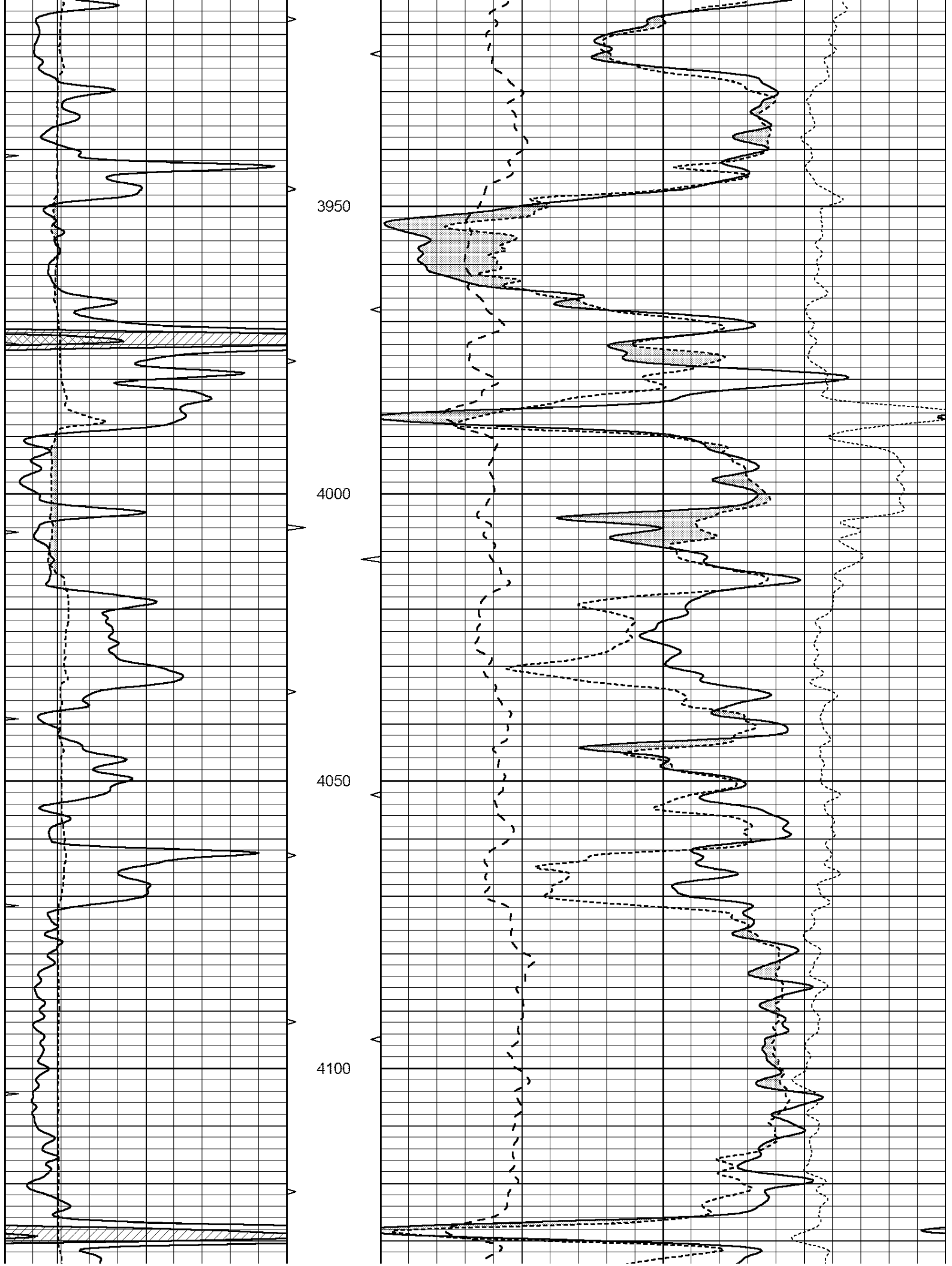
Comments

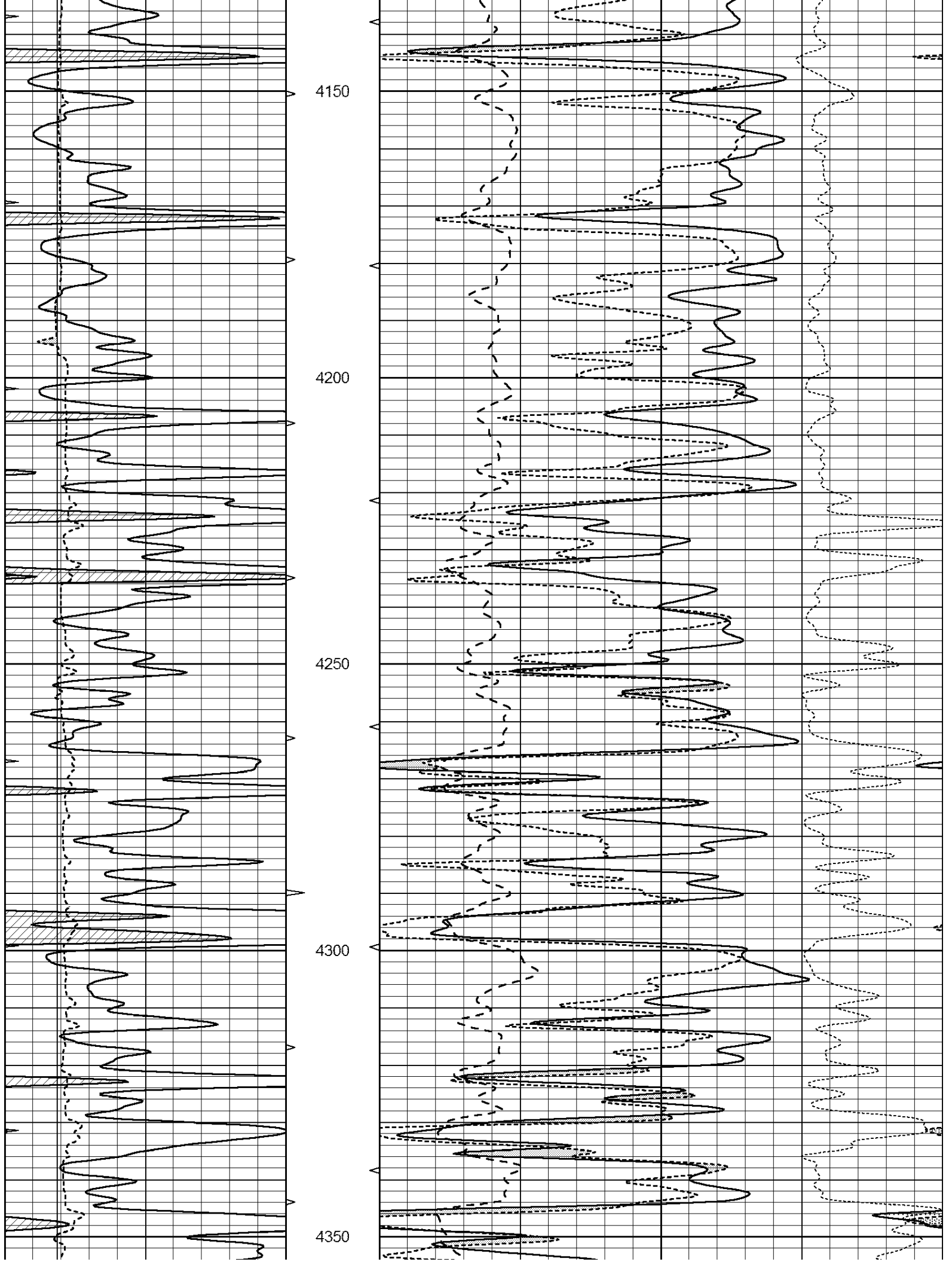
THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
BRANDON, CO - 5 MILES WEST TO RD 54 - 1/8 MILE NORTH
EAST INTO 2 1/2 MILES

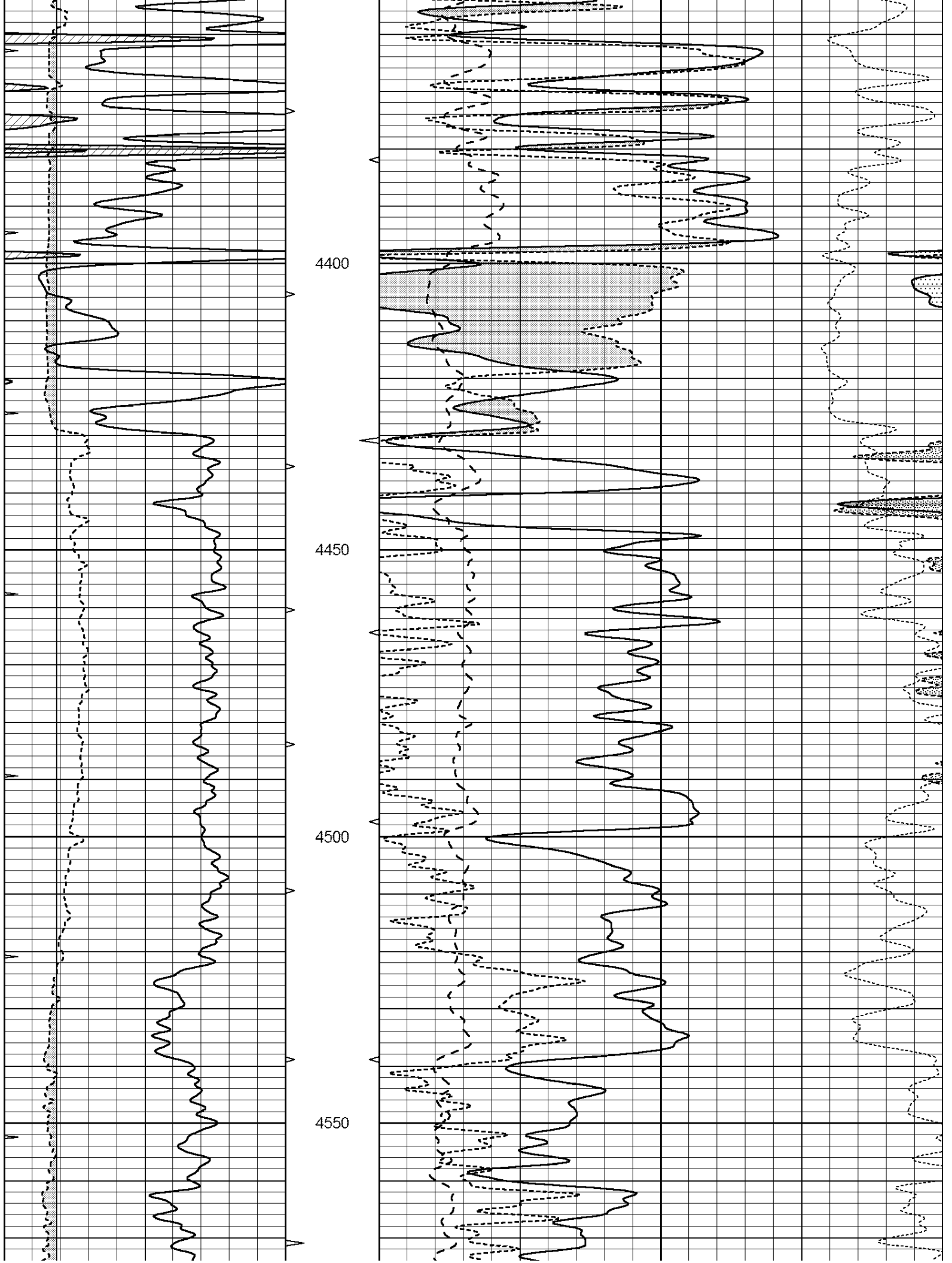
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25
			0 (ft3)	10	CORRECTION (g/cc)	0.25

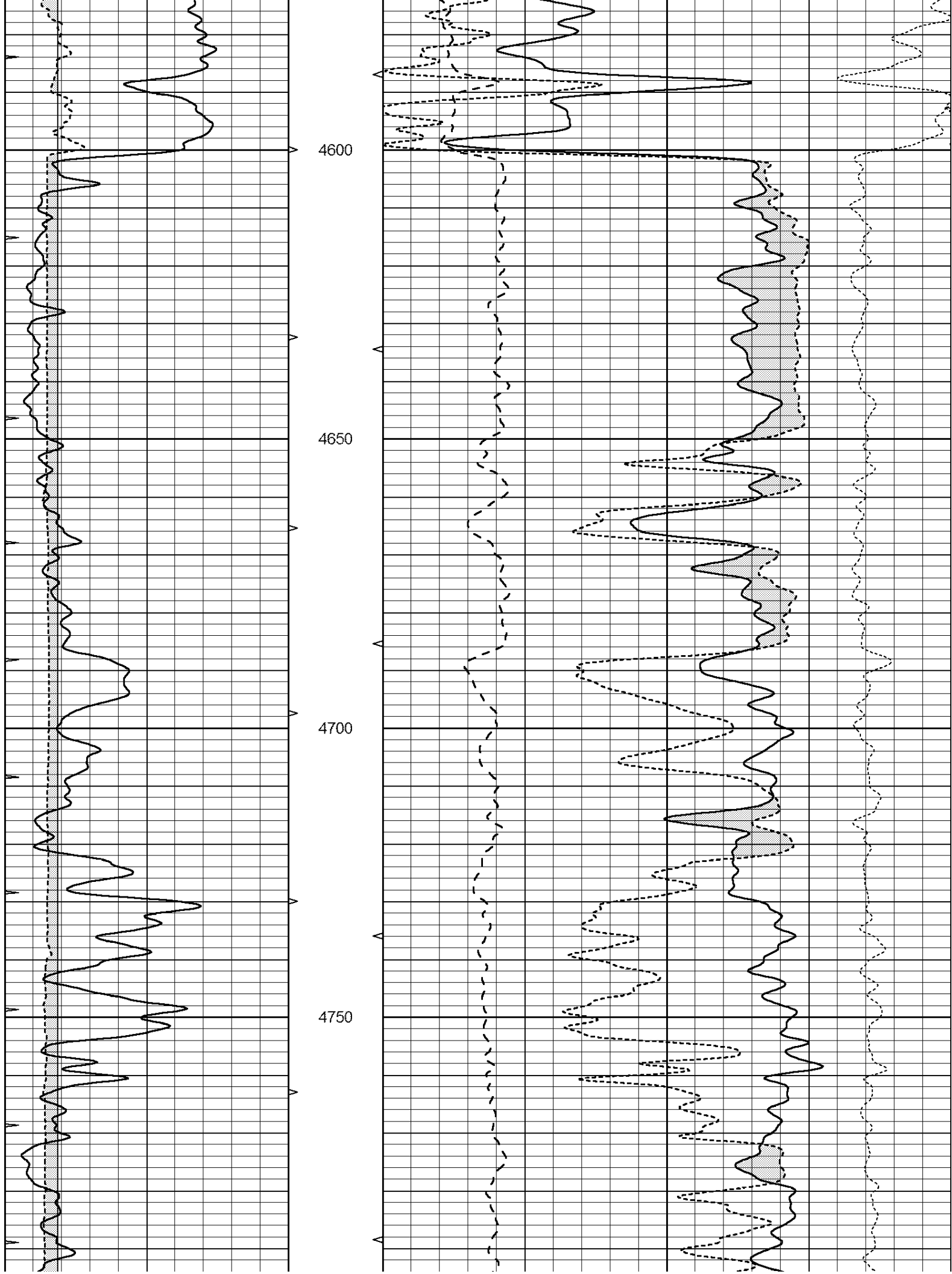


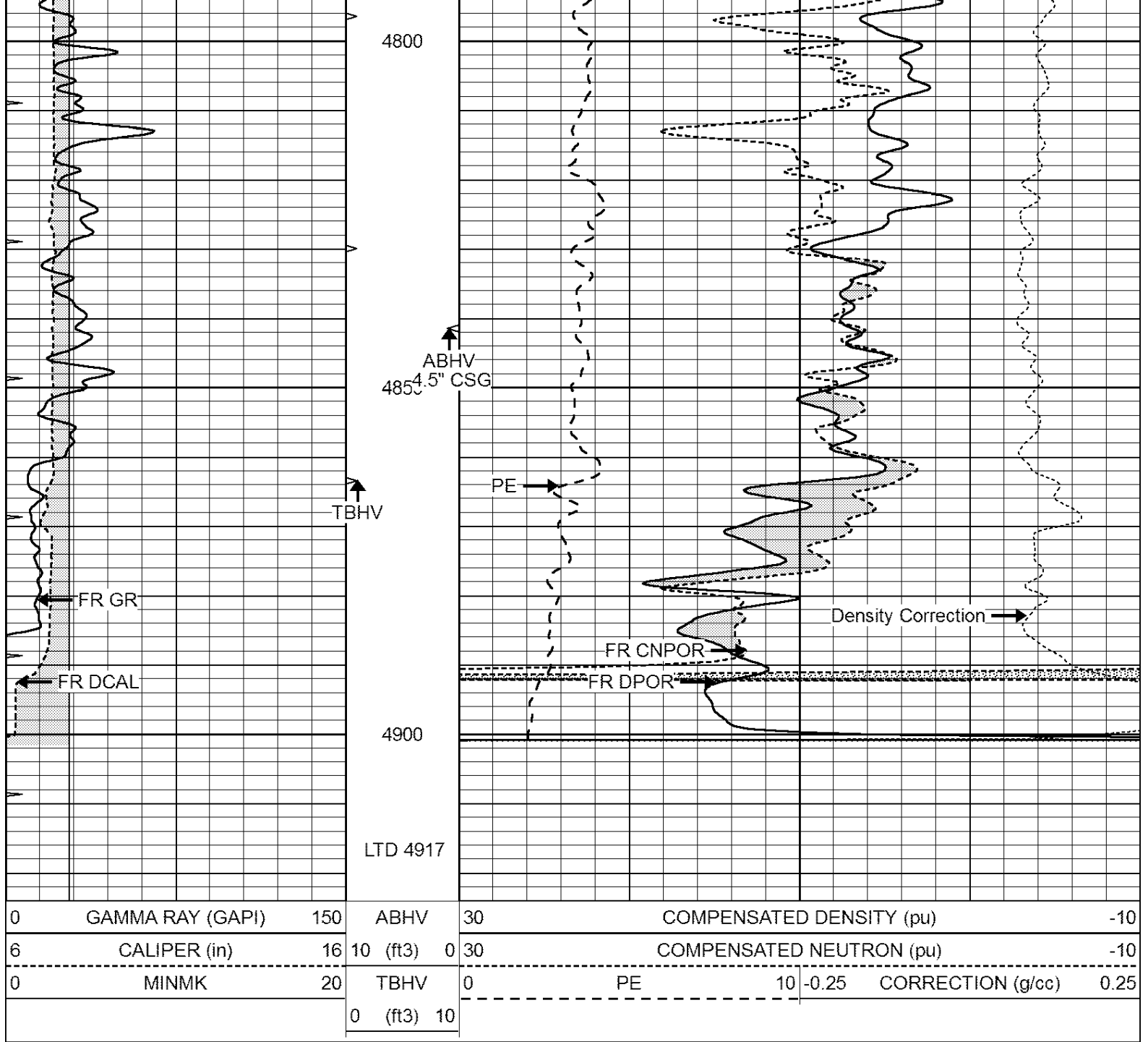












0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25
			0 (ft3)	10		CORRECTION (g/cc) 0.25



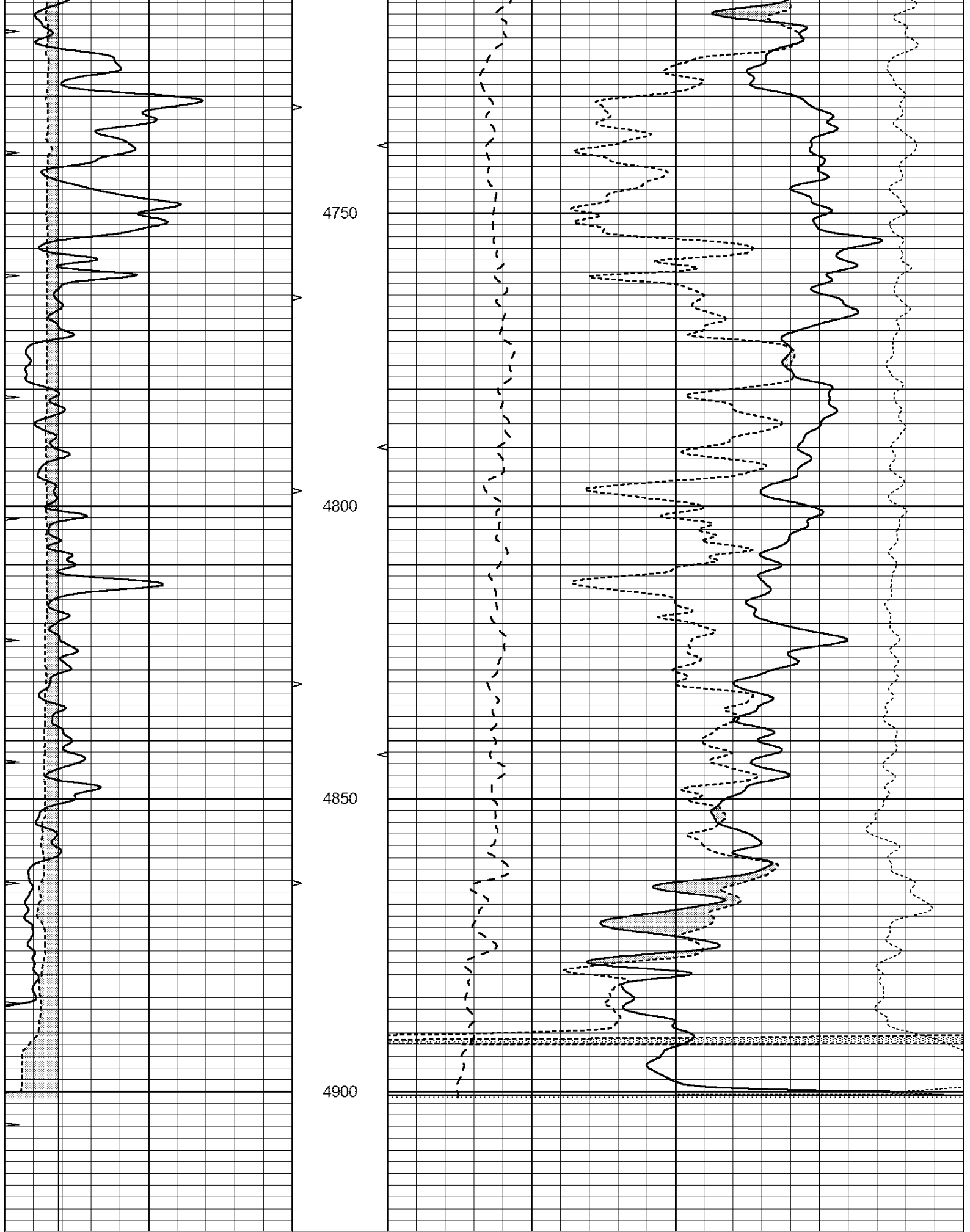
SUPERIOR
WELL SERVICES

SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 008150pe.db
 Dataset Pathname: pass2.1
 Presentation Format: _ldt_neu
 Dataset Creation: Sat Jan 28 09:30:38 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	PE	10 -0.25
			0 (ft3)	10		CORRECTION (g/cc) 0.25



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	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3) 10						

Calibration Report

Database File: 008150pe.db
 Dataset Pathname: pass3.2
 Dataset Creation: Sat Jan 28 07:29:26 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Fri Jan 27 17:03:29 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	7.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-4.000
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
 Serial: 006 Model: PRB
 Performed Sun Aug 15 09:48:41 2010

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	4.0	8.3	
High Ref	5.9	15.0	
Gain:	3.5		Offset: -5.5

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
Long Space

cps
cps

pu

pu

Gamma Ray Calibration Report

Serial Number:	070559	
Tool Model:	OPEN_GR	
Performed:	Fri Jan 27 16:46:37 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps