



**SUPERIOR
Hays,
Kansas**

**COMPENSATED
DENSITY/NEUTRON
PE LOG**

Company	CHIEFTAIN OIL CO., INC.	Company	CHIEFTAIN OIL COMPANY, INC.
Well	DIEL #5	Well	DIEL #5
Field	ROUNDUP SOUTH	Field	ROUNDUP SOUTH
County	BARBER	County	BARBER
State	KANSAS	State	KANSAS
Location:	API # : 15-007-23447-0000	Other Services	
	475' FSL & 360' FWL NE - SW - SW - SW	DIL	
	SEC 3 TWP 34S RGE 11W		
Permanent Datum	GROUND LEVEL	Elevation	
Log Measured From	KELLY BUSHING 10' A.G.L.	K.B. 1360	
Drilling Measured From	KELLY BUSHING	D.F. 1358	
		G.L. 1350	
Date	9/19/09		
Run Number	CNE		
Depth Driller	5141		
Depth Logger	5139		
Bottom Logged Interval	5115		
Top Log Interval	3400		
Casing Driller	8 5/8" @ 850'		
Casing Logger	847'		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.1 / 59	CHLORIDES 7,600	
pH / Fluid Loss	8.5 / 12.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.50 @ 100F		
Rmf @ Meas. Temp	0.38 @ 100F		
Rmc @ Meas. Temp	0.60 @ 100F		
Source of Rmf / Rmc	CAL/CAL		
Rm @ BHT	0.40 @ 126F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	126F		
Equipment Number	680		
Location	HAYS, KS		
Recorded By	JEFF GRONEWEG		
Witnessed By	ARDEN RATZLAFF		

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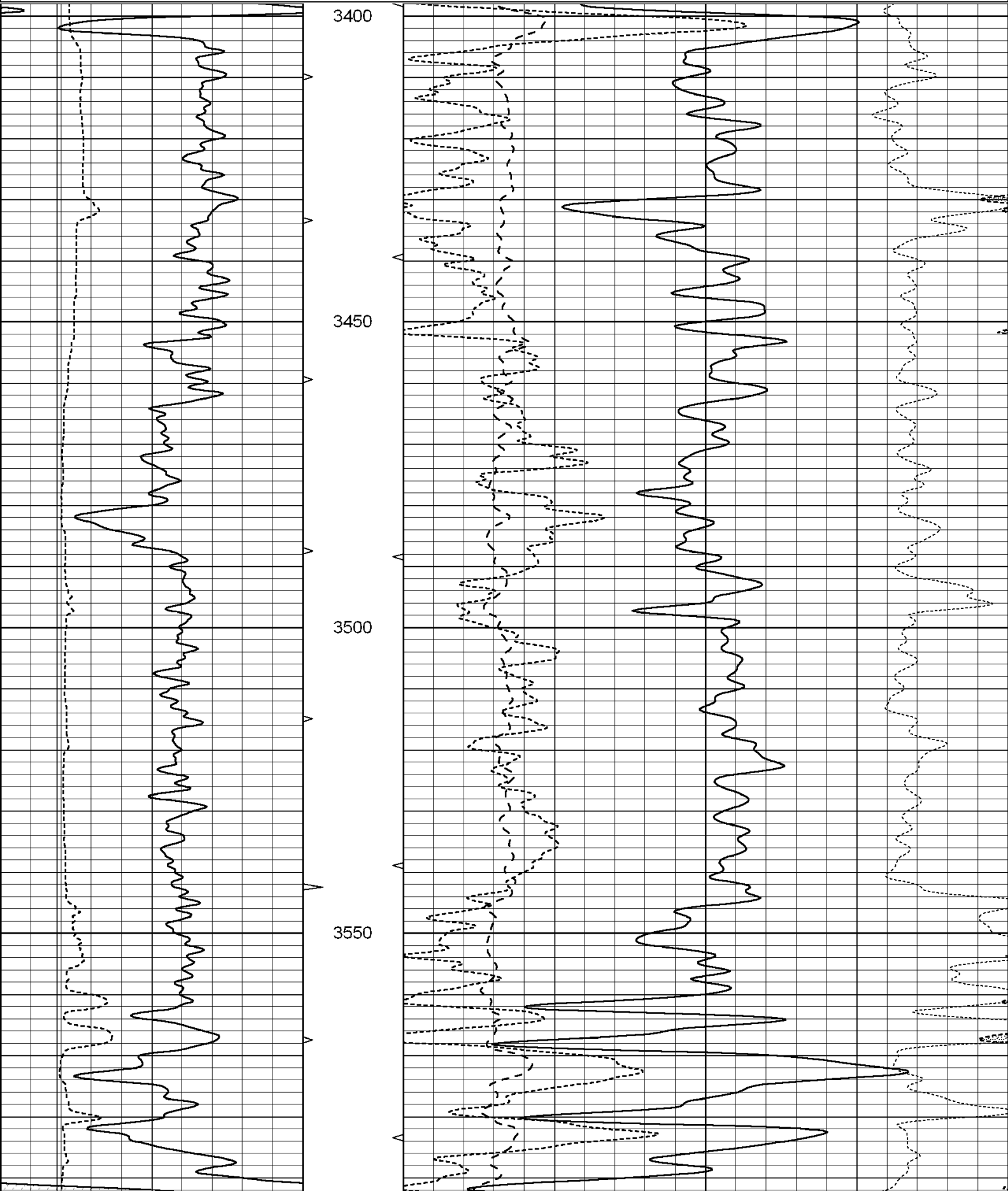
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

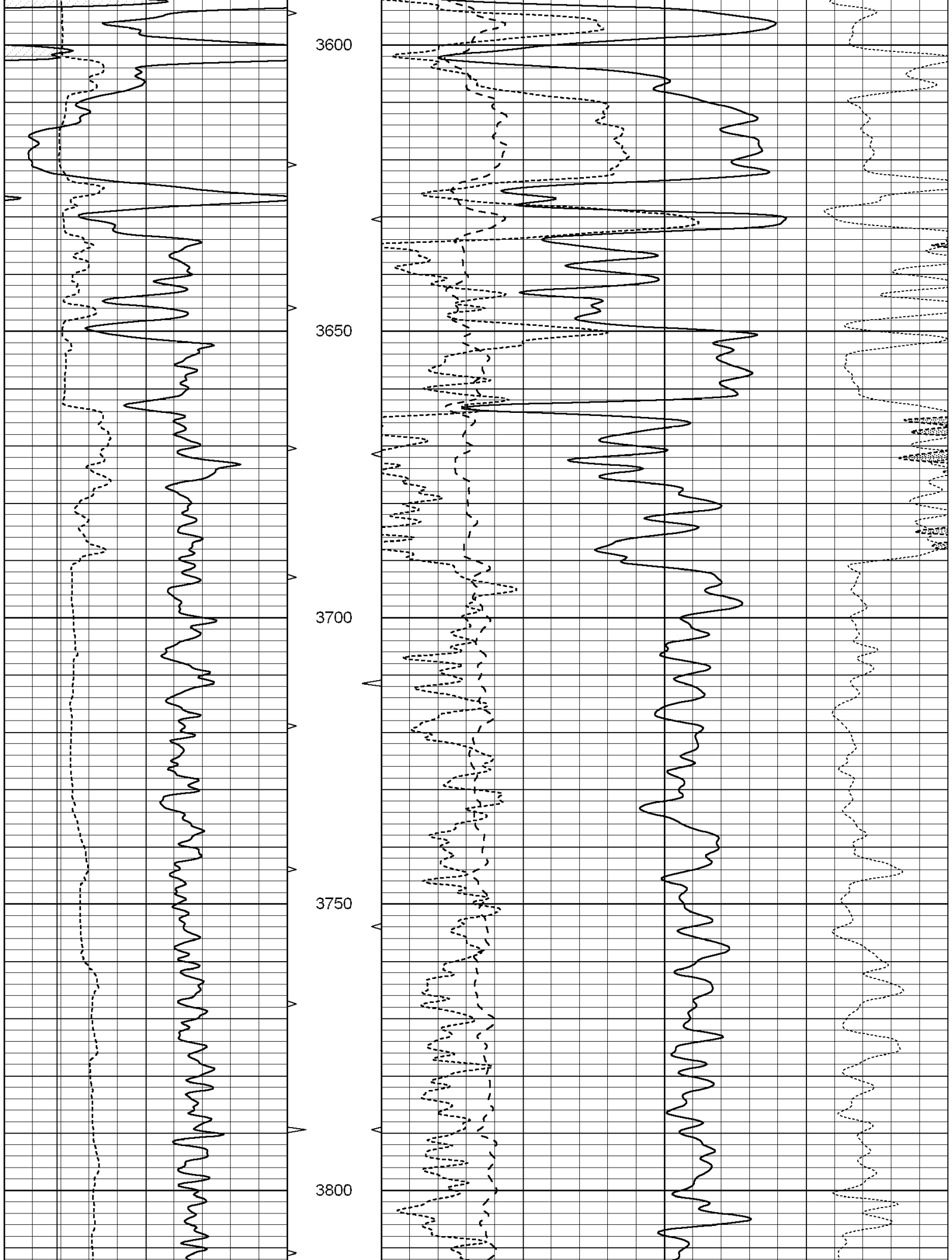
Comments

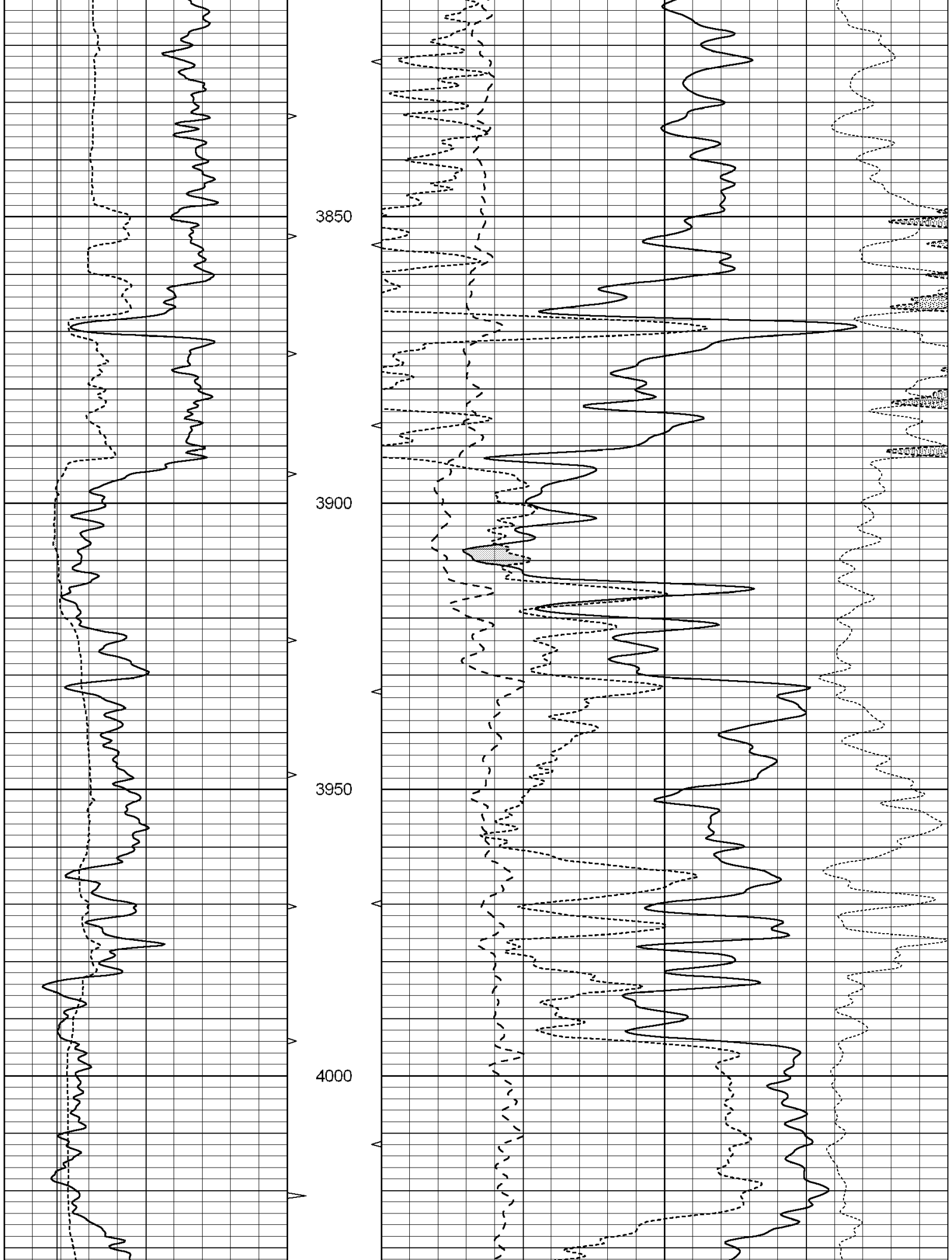
**THANK YOU FOR USING SUPERIOR WELL SERVICES
HAYS, KS. 785-628-6395**

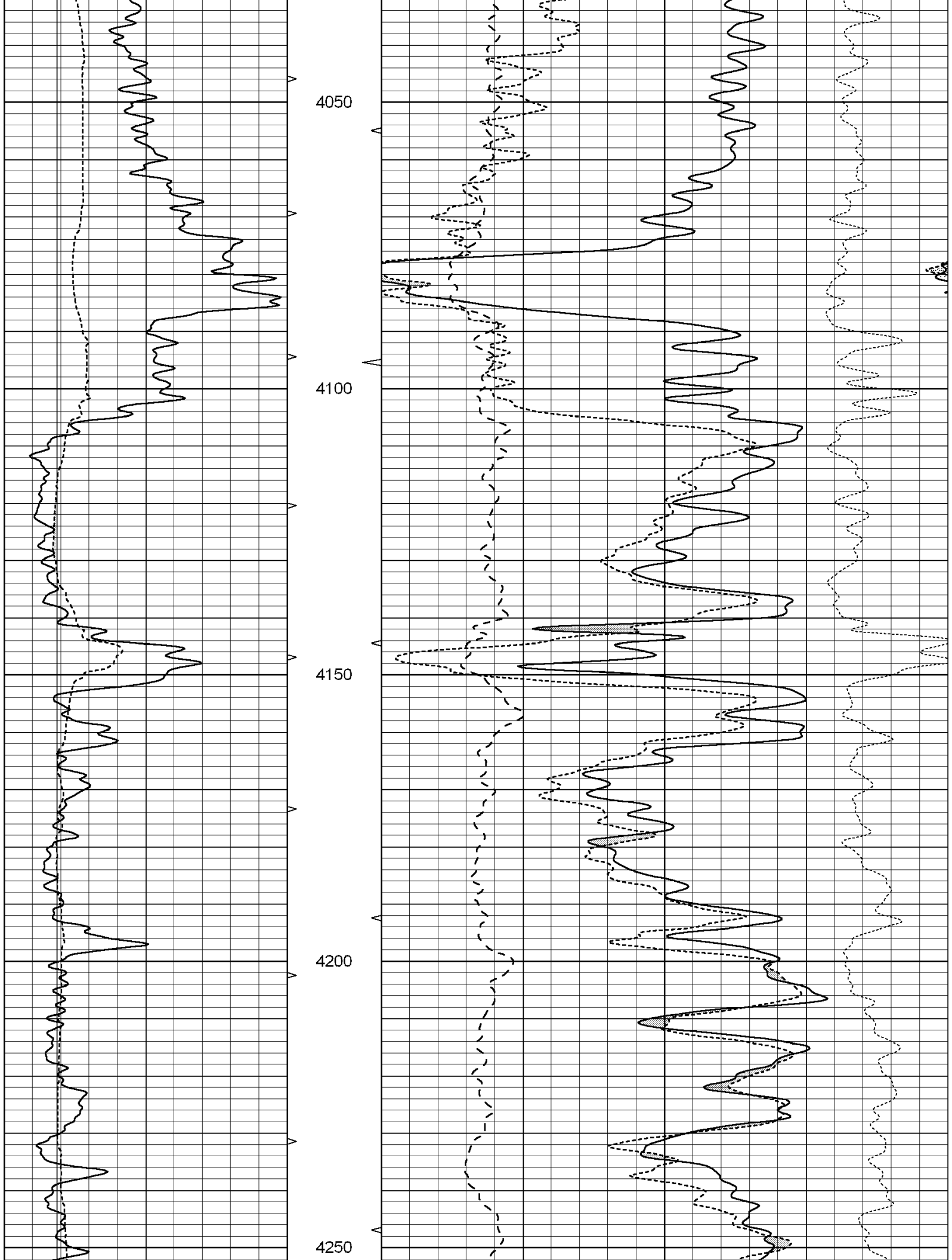
**DIRECTIONS: MEDICINE LODGE, KS - SOUTH ON HWY 281 TO MM 13 (TALBOT RD)
1 MILE EAST - 1 MILE SOUTH - 1 1/2 MILES EAST - NORTH INTO**

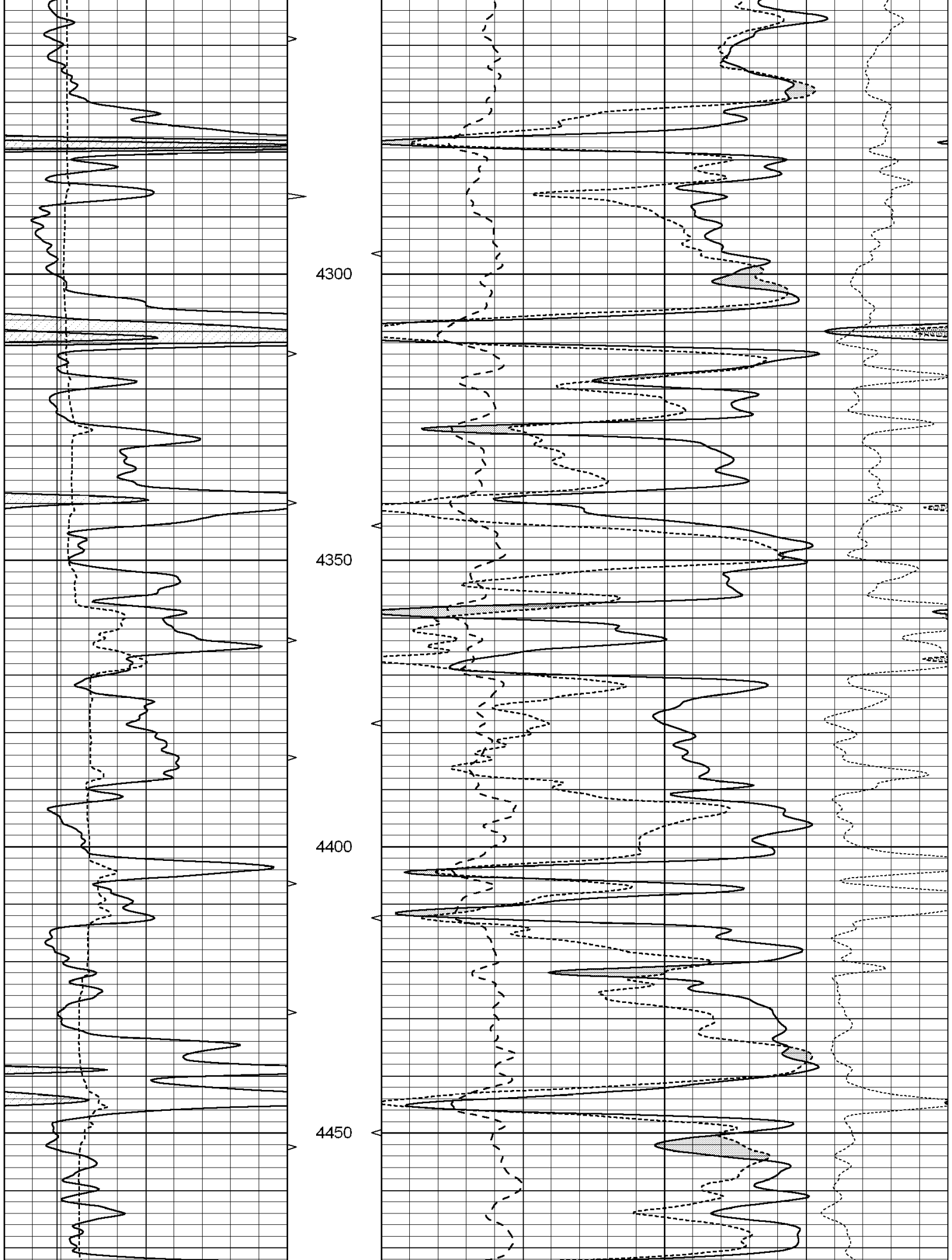
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
			TBHV	0	PE	10
			0 (ft3) 10	-0.25 CORRECTION (g/cc) 0.25		

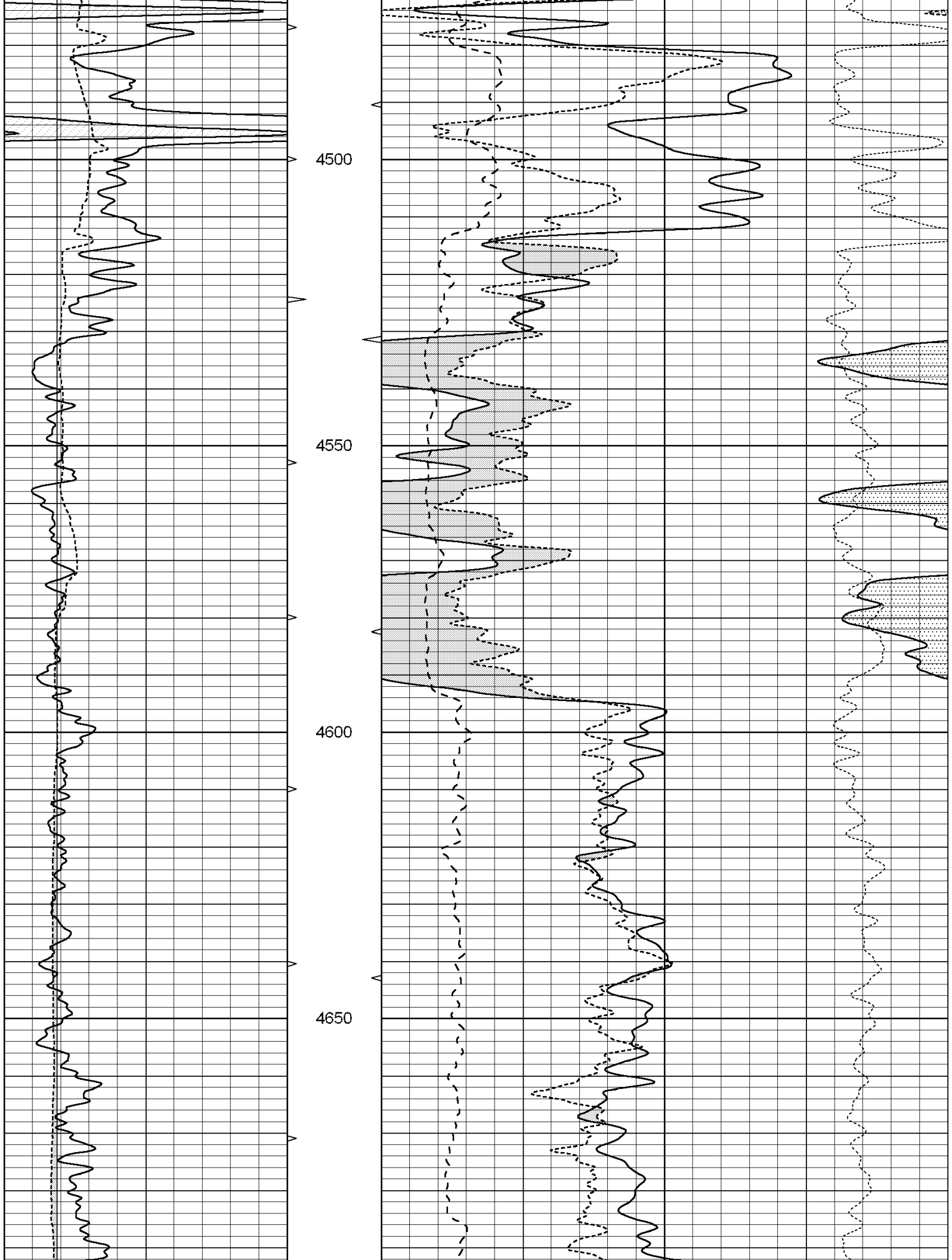


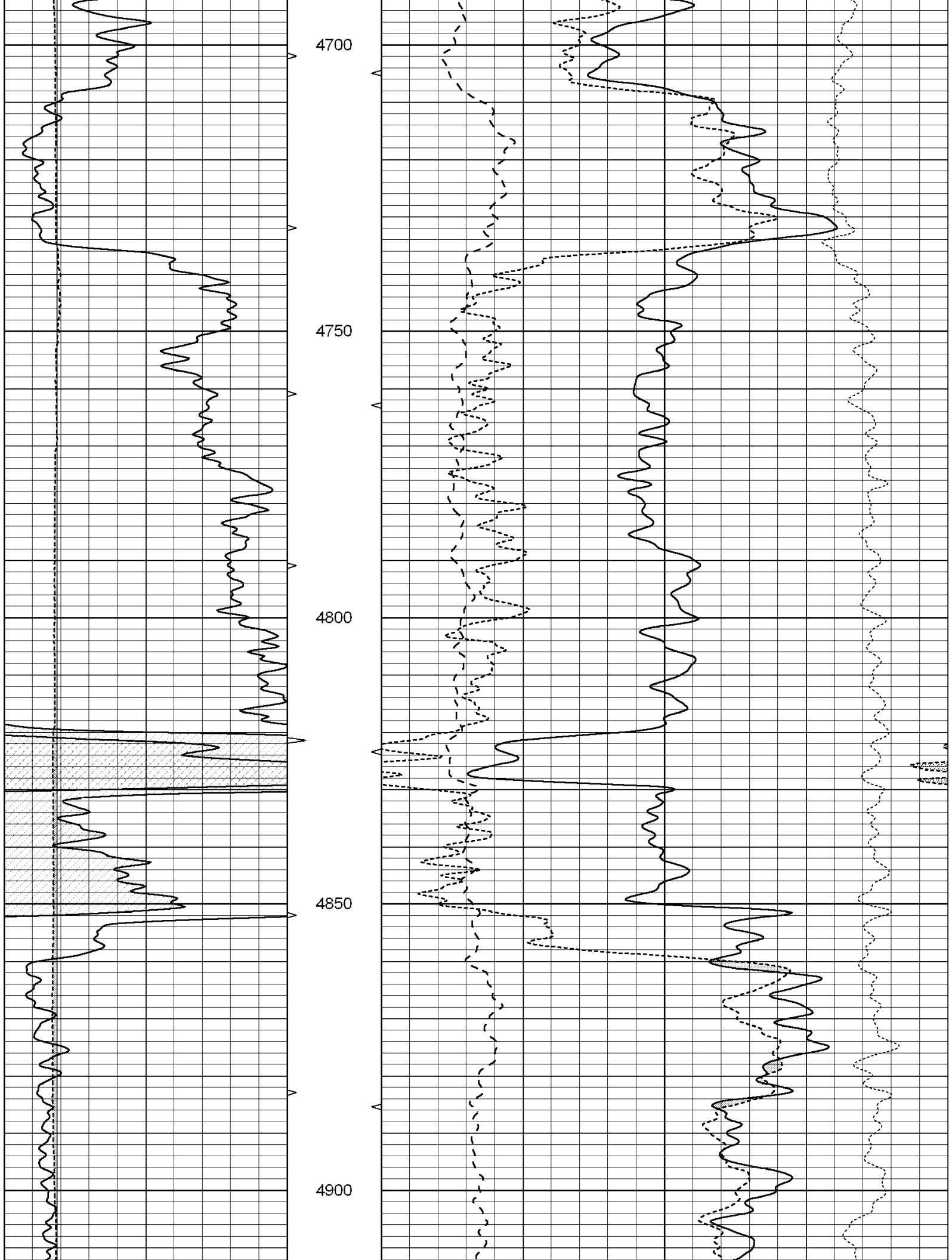


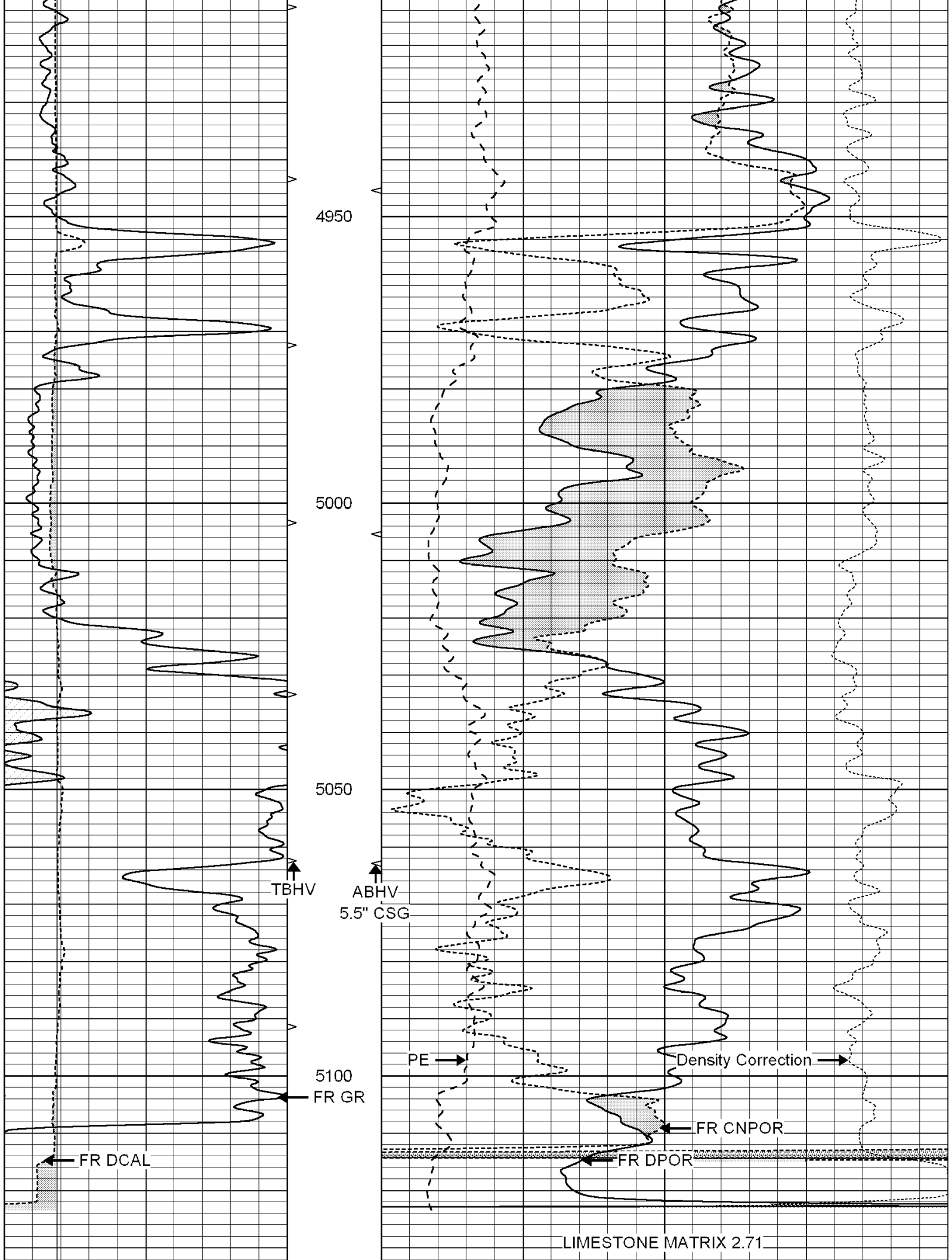












			LTD 5139					
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)			-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)			-10
			TBHV	0	PE	10	-0.25	CORRECTION (g/cc) 0.25
			0 (ft3) 10					

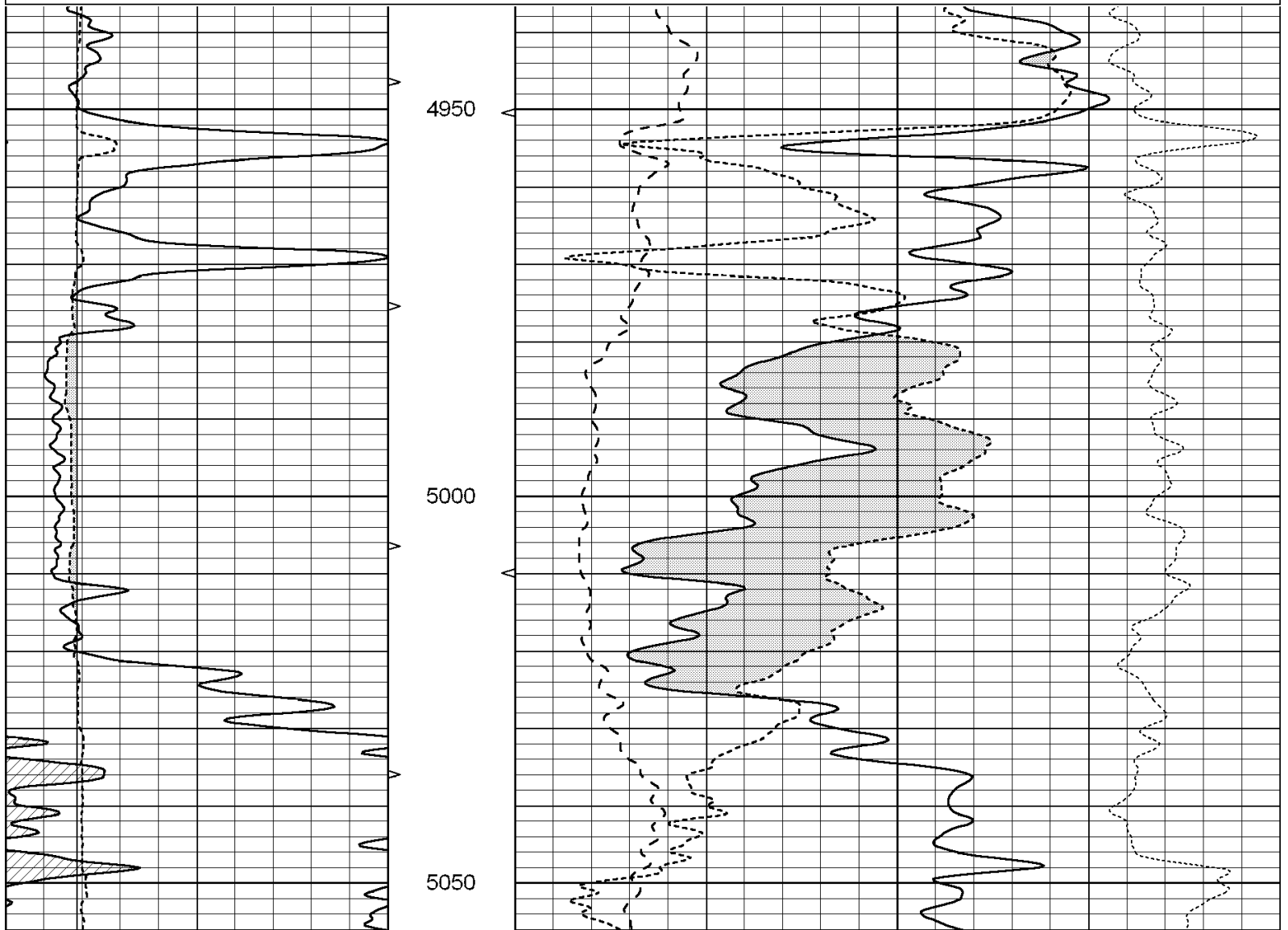


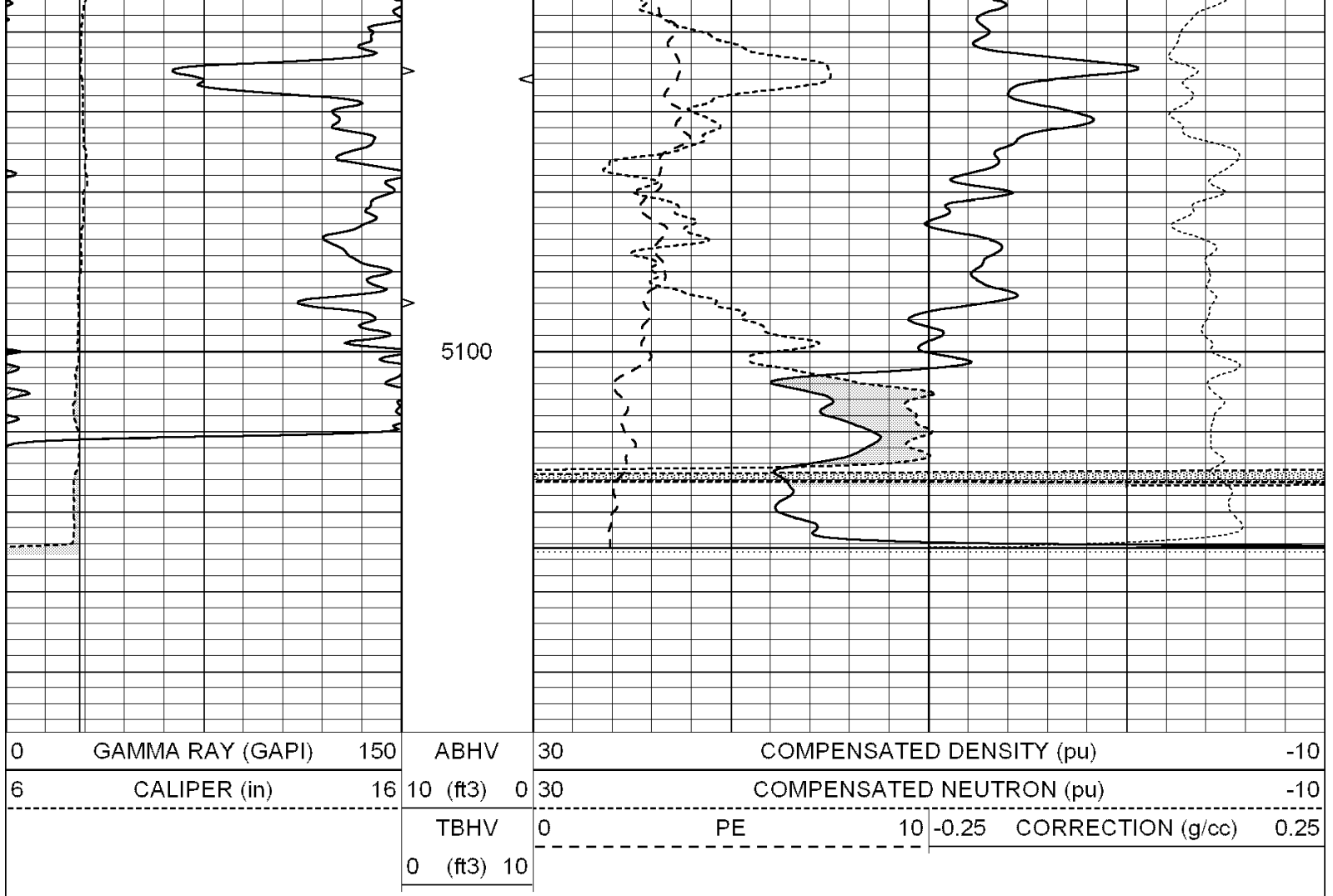
SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 004401pe.db
Dataset Pathname: pass2.2
Presentation Format: _ldt_neu
Dataset Creation: Sat Sep 19 17:22:37 2009 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
			TBHV	0	PE	10	-0.25	CORRECTION (g/cc) 0.25
			0 (ft3) 10					





Calibration Report

Database File: 004401pe.db
Dataset Pathname: pass3.3
Dataset Creation: Sat Sep 19 18:30:16 2009 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	7.500	503.303	mmho/m	1.000	0.000

Medium	0.000	0.000	mmho/m	7.590	305.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-6.500	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		
Litho Density Calibration Report Serial: 002 Model: PRB Performed Mon Oct 29 15:40:49 2007								
Litho Density Calibration								
	Background		Magnesium		Aluminum		Sandstone	
Window 1	1056.3		9118.0		2809.7		10378.4	
Window 2	969.9		7671.9		2431.6		8565.8	
Window 3	683.8		2939.8		1161.0		3161.8	
Window 4	231.4		231.6		226.7		230.8	
Long Space	0.0		6702.0		1461.7		7595.9	
Short Space	1.2		1433.6		959.4		1568.6	
Rho			1.7100		2.5900		1.3800	
Pe					2.5700		1.5500	
Rib Angle	: 45.2		Rib Slope	: 1.008		Density/Spine Ratio	: 0.559	
Spine Angle	: 75.2		Spine Slope	: 3.791		Spine Intercept	: -18.7	
Caliper								
Low Ref	Readings		Reference					
High Ref	3.1		8.0					
	5.4		14.0					
	Gain: 2.5				Offset: 0.2			
Compensated Neutron Calibration Report								
	Serial Number:				5I			
	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:		GR6					
	Tool Model:		OPEN					
	Performed:		Thu Jul 09 09:06:42 2009					
	Calibrator Value:		150.0		GAPI			
	Background Reading:		0.0		cps			
	Calibrator Reading:		276.0		cps			
	Sensitivity:		0.6835		GAPI/cps			