



**SUPERIOR**  
Hays,  
Kansas

**COMPENSATED  
NEUTRON / DENSITY  
PE LOG**

Company	CHIEFTAIN OIL CO., INC.	Company	CHIEFTAIN OIL COMPANY, INC.
Well	DALE #1	Well	DALE #1
Field		Field	
County	BARBER	County	BARBER
State	KANSAS	State	KANSAS
Location:	API # : 15-007-23519-0000	Other Services	DIL
	SW - NE - NE - NW 340' FNL & 2300' FWL		
	SEC 34 TWP 34S RGE 10W		
Permanent Datum	GROUND LEVEL	Elevation	1312
Log Measured From	KELLY BUSHING 10' A.G.L.	K.B.	1322
Drilling Measured From	KELLY BUSHING	D.F.	1320
		G.L.	1312

Date	3/28/10
Run Number	ONE
Depth Driller	5382
Depth Logger	5383
Bottom Logged Interval	5360
Top Log Interval	3300
Casing Driller	8 5/8" @ 332'
Casing Logger	332'
Bit Size	7 7/8"
Type Fluid In Hole	CHEMICAL MUD
Density / Viscosity	9.2/53
pH / Fluid Loss	10.0/12.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.500 @ 71F
Rmf @ Meas. Temp	.380 @ 71F
Rmc @ Meas. Temp	.600 @ 71F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.280 @ 128F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	128F
Equipment Number	0836
Location	HAYS, KANSAS
Recorded By	DAN GOTTSCHALK
Witnessed By	ARDEN RATZLAFF

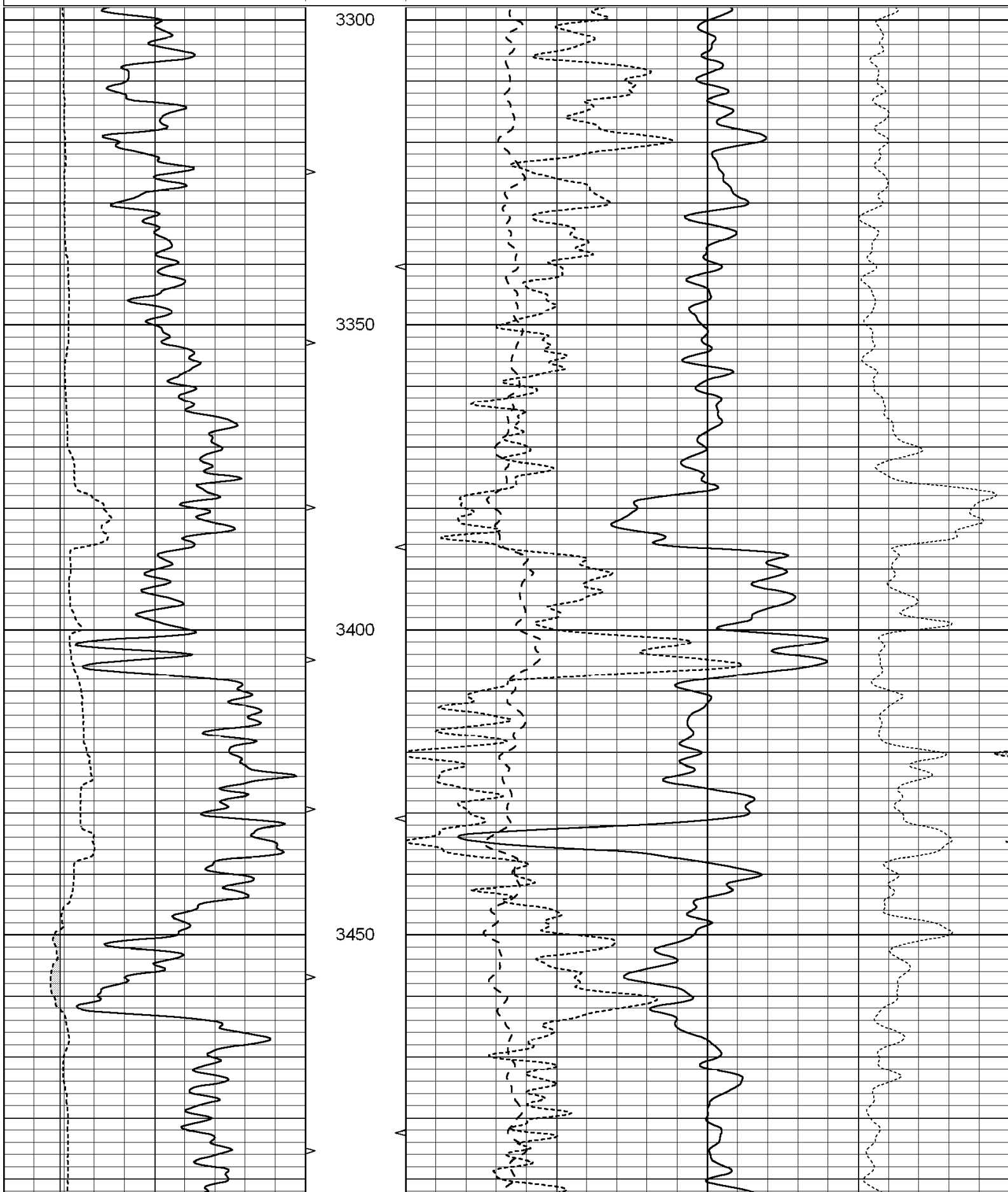
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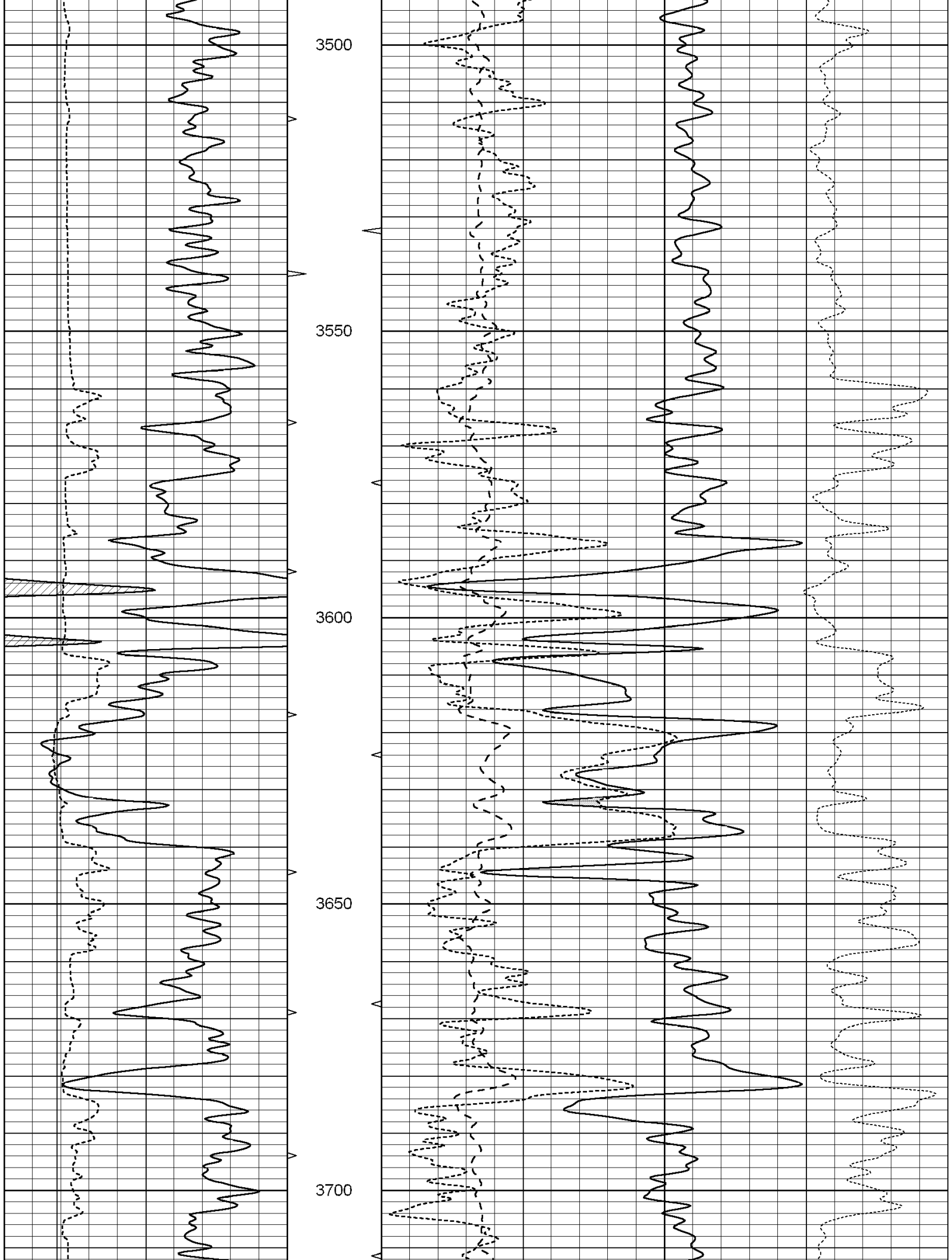
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

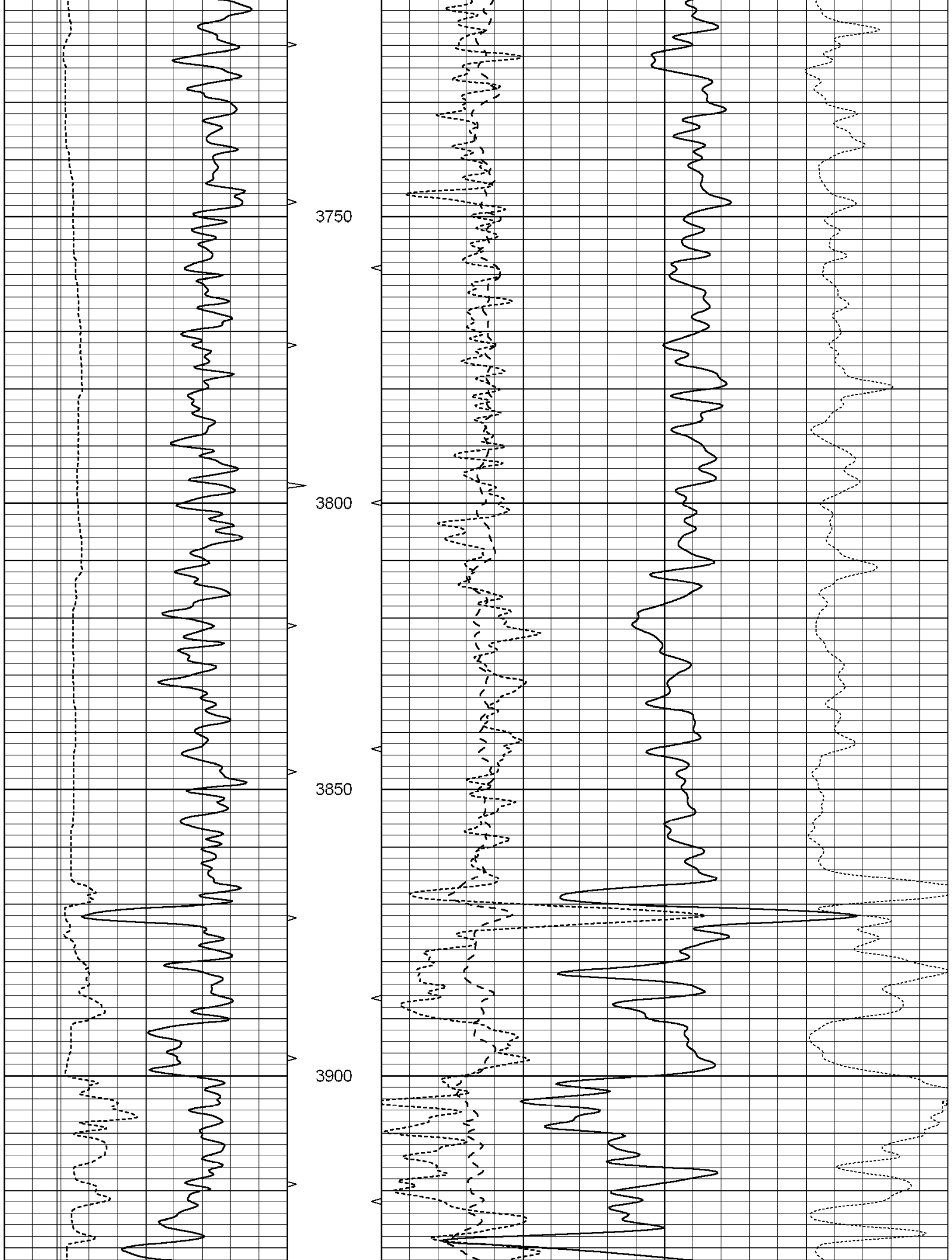
**Comments**

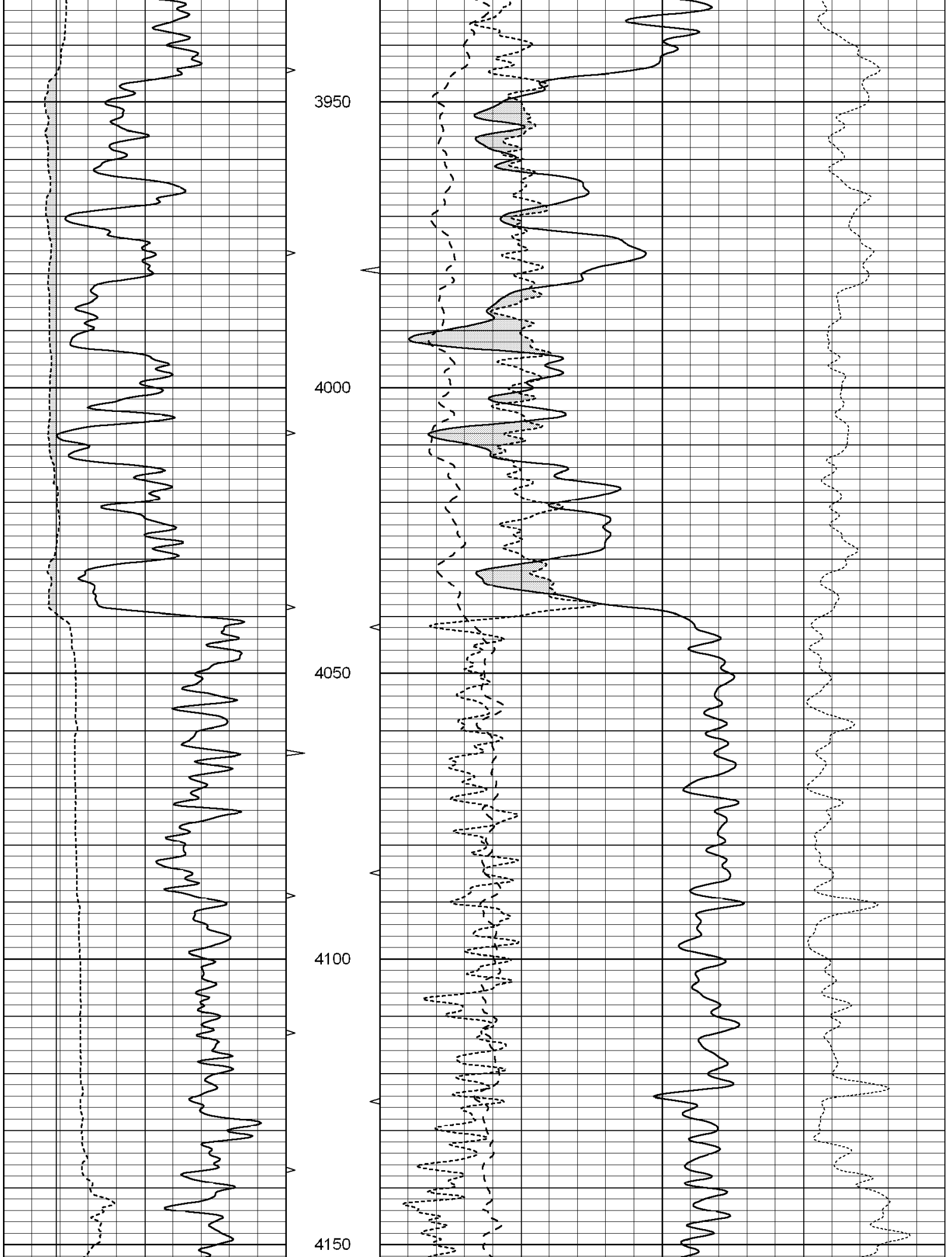
THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
HAZELTON - 3 SOUTH ON TRI-CITY RD. TO RATTLESNAKE RD. - 1/2 EAST - SOUTH INTO

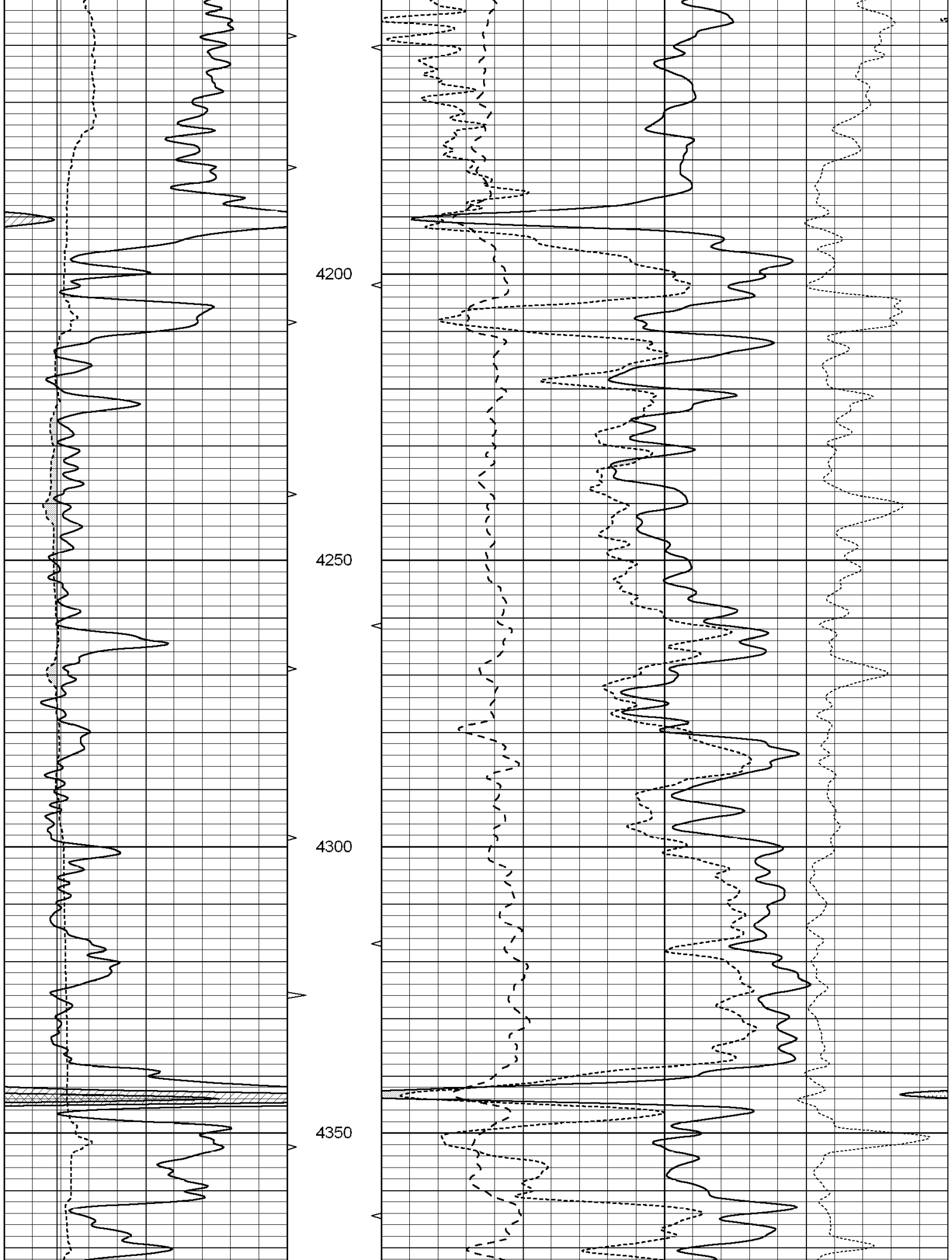
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
			TBHV	0	PE	10 -0.25
			0 (ft3) 10	CORRECTION (g/cc) 0.25		

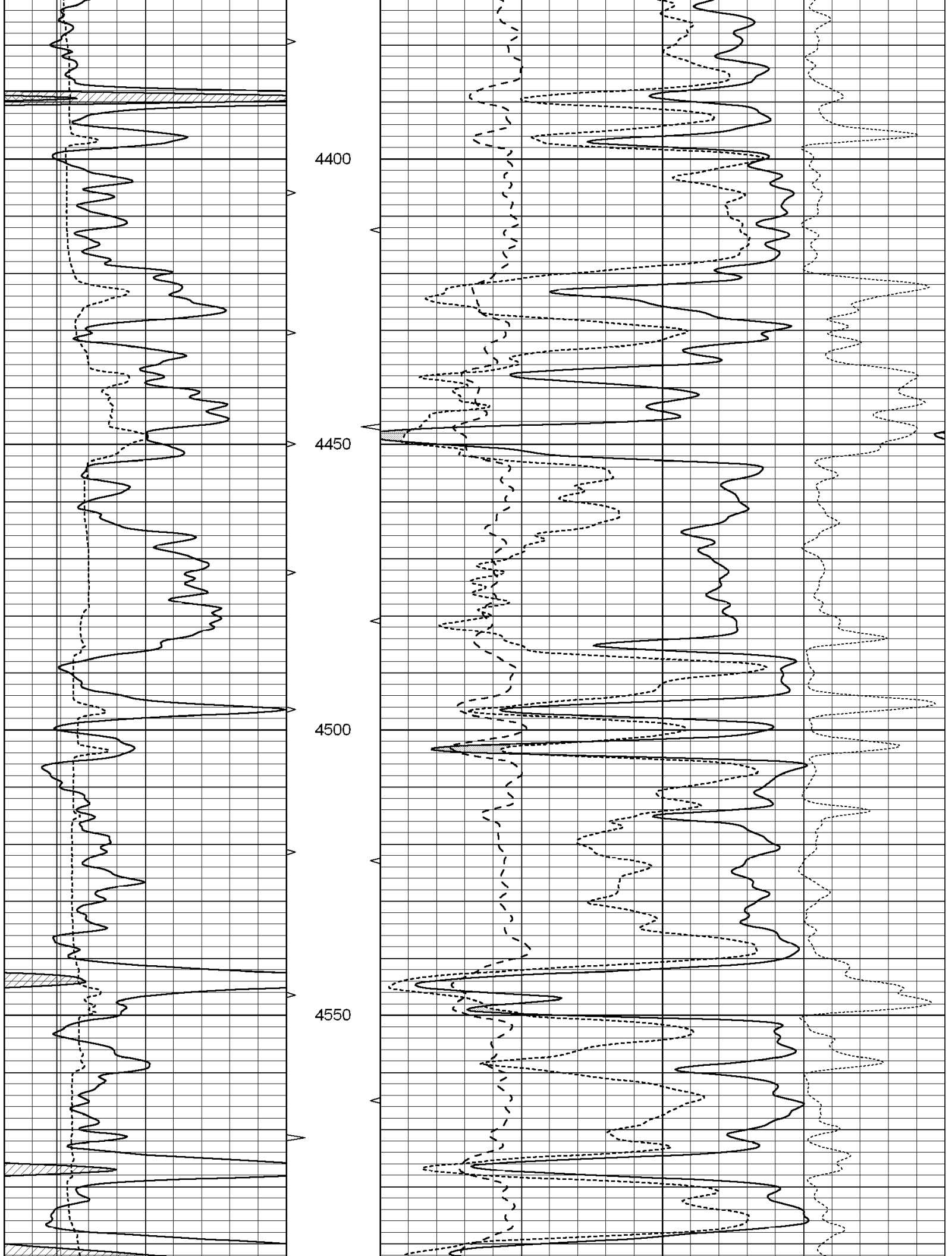


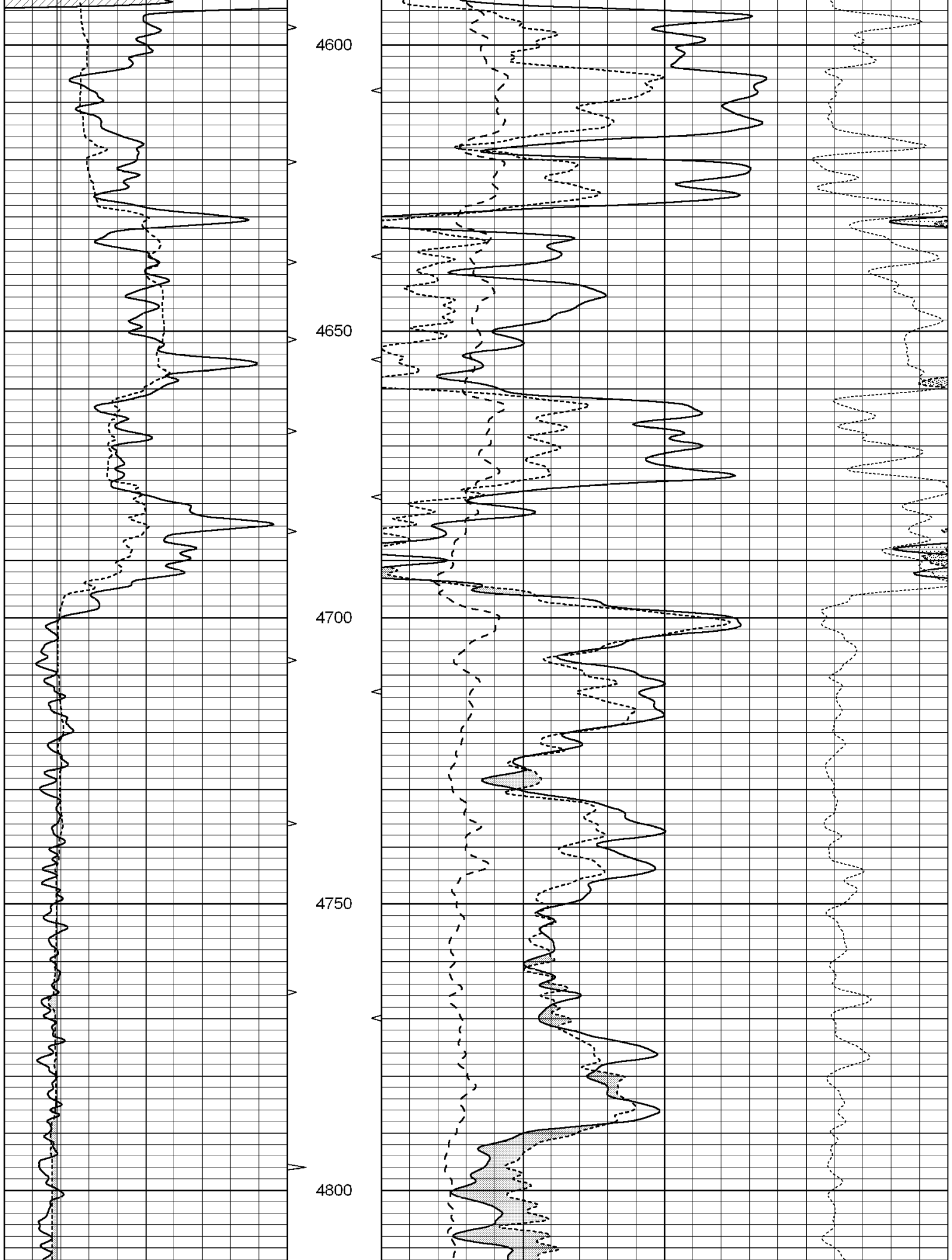


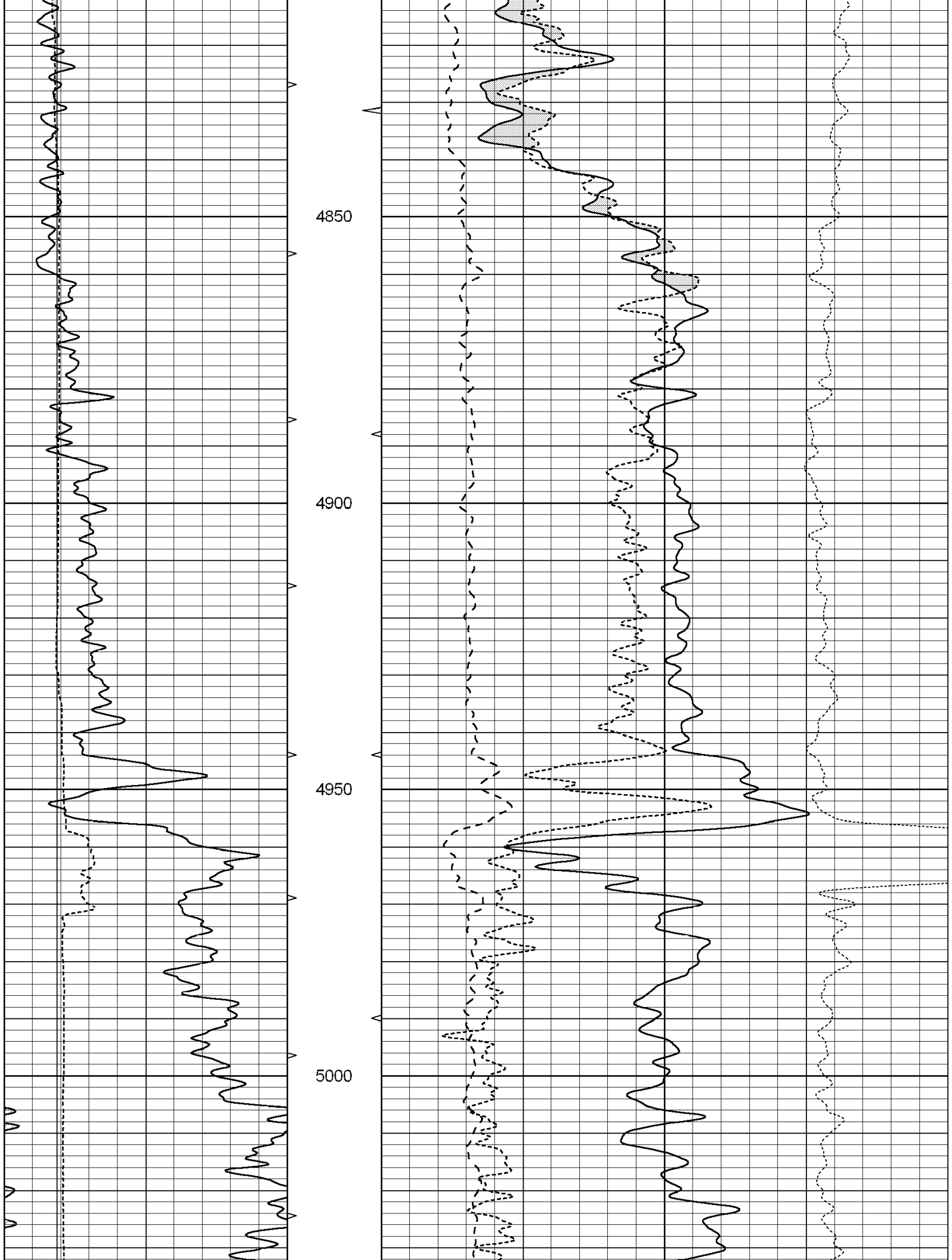


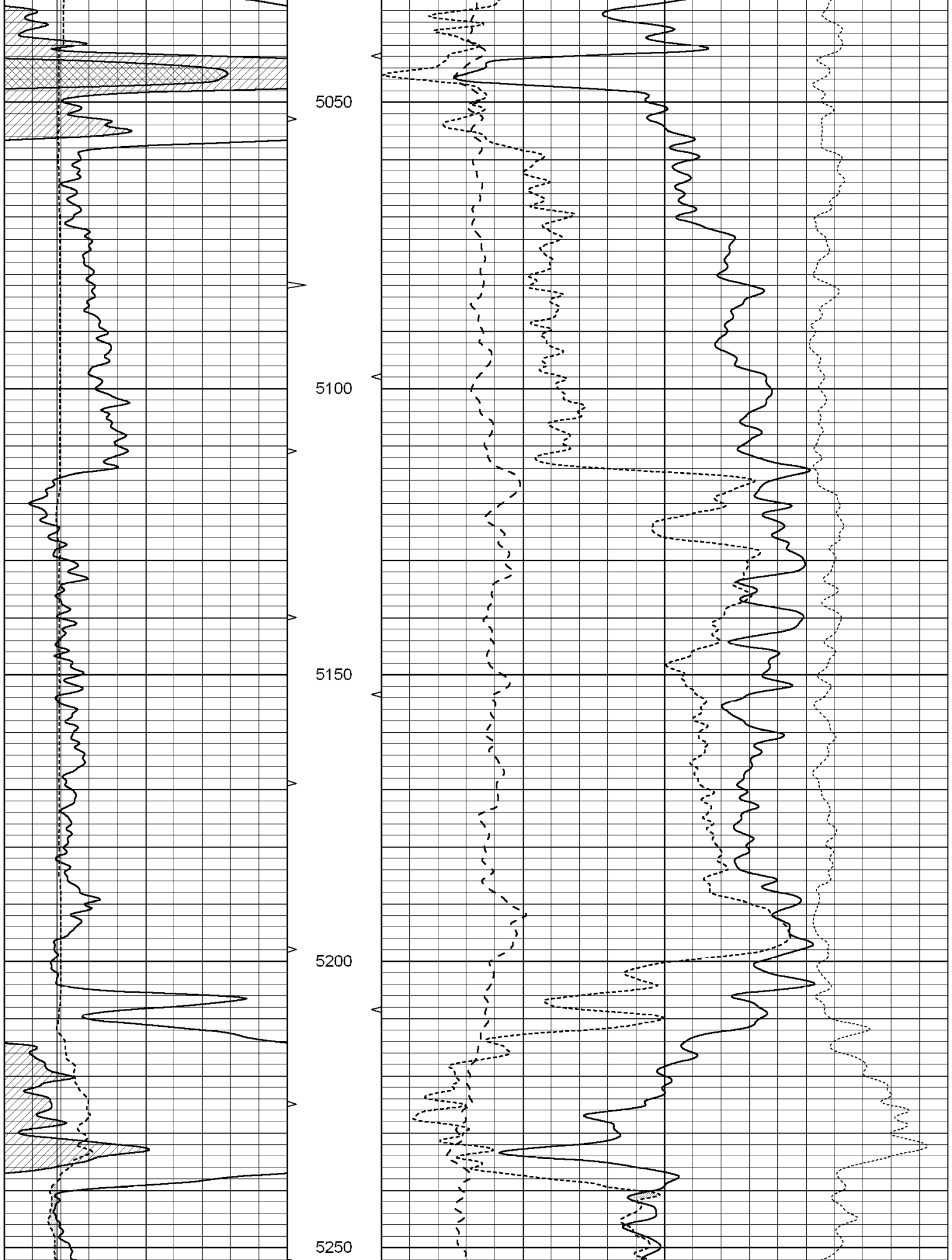


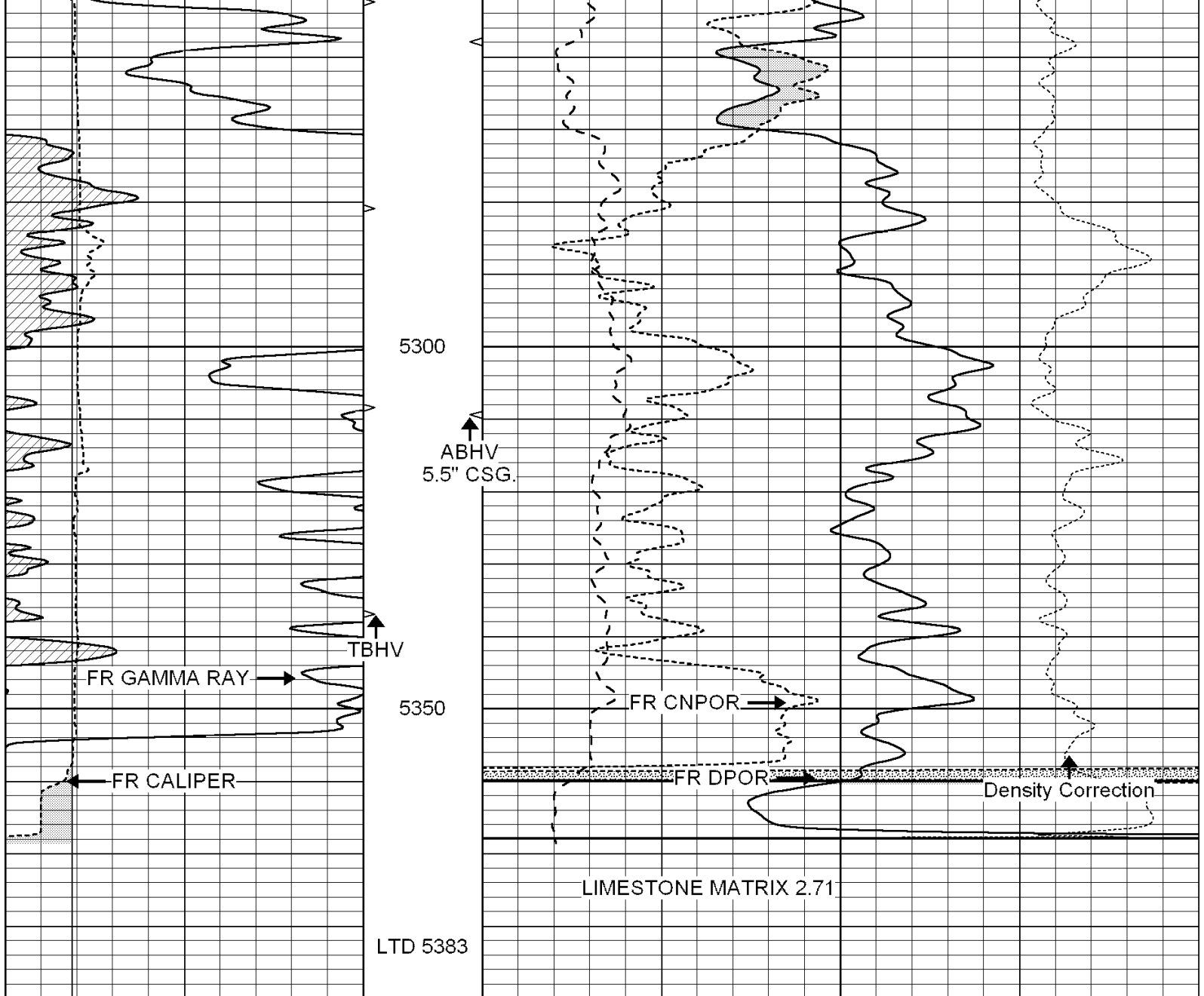












0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10		
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10	
			0		0	PE	10	
			0 (ft3)	10		-0.25	CORRECTION (g/cc)	0.25

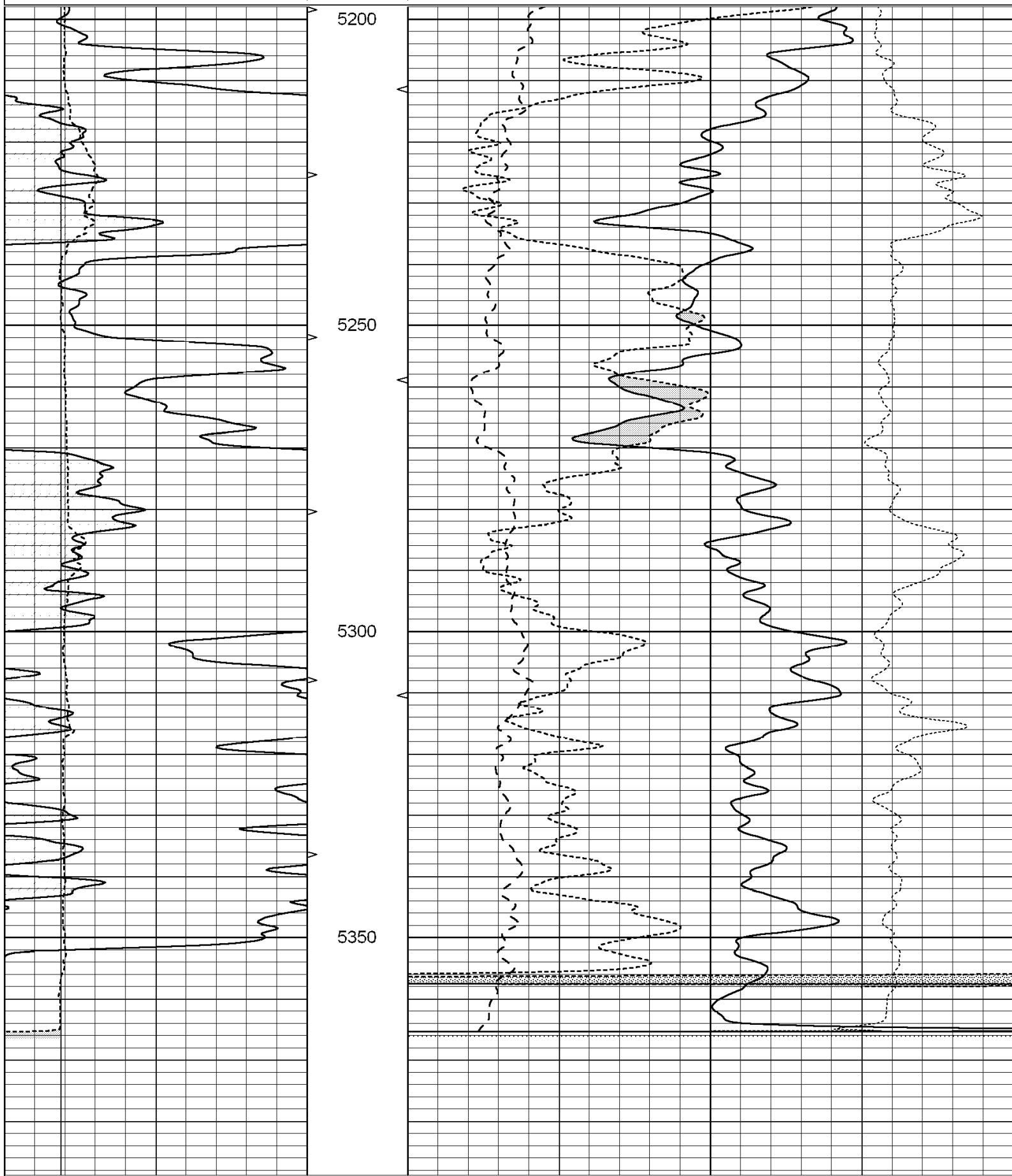


# REPEAT SECTION

Database File: 004839pe.db  
 Dataset Pathname: pass2.1  
 Presentation Format: ldt\_neu  
 Dataset Creation: Sun Mar 28 19:34:28 2010 by Calc Open-Cased 060407  
 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		0	PE	10	
			0 (ft3)	10		-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
			TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
			0 (ft3) 10			

Calibration Report

Database File: 004839pe.db  
 Dataset Pathname: pass2  
 Dataset Creation: Sun Mar 28 18:22:26 2010 by Log Open-Cased 060407

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR  
 Performed: Tue Mar 23 22:50:28 2010

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho-m	640.000	0.000
Medium	0.013	0.740	V	0.000	462.500	mmho-m	700.000	-12.000
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: 003N Model: PRB  
 Performed Tue Sep 08 14:14:44 2009

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2042.6	12312.8	4225.8	13758.4	cps
Window 2	1855.8	10134.7	3624.2	11113.1	cps
Window 3	1639.4	6760.2	2716.3	7260.3	cps
Window 4	466.4	469.2	466.1	476.5	cps
Long Space	0.0	8278.9	1768.4	9257.4	cps
Short Space	2.2	2377.3	1544.1	2574.2	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.549
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept	: -18.8

Caliper

	Readings	Reference
Low Ref	2.2	6.8
High Ref	4.6	14.0
Gain:	3.0	Offset: 0.4

Compensated Neutron Calibration Report

Serial Number: NEU\_3I  
 Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	997.00 cps	1000.00 cps	1.0000
Long Space	986.00 cps	1000.00 cps	1.0000

Gamma Ray Calibration Report

Serial Number: GR3  
 Tool Model: OPEN  
 Performed: Wed Mar 24 02:31:10 2010

Calibrator Value:	200.0	GAPI
Background Reading:	3.0	cps
Calibrator Reading:	186.0	cps
Sensitivity:	0.7000	GAPI/cps