



**COMPENSATED  
DENSITY/NEUTRON  
PE/LOG**

Company WOOLSEY OPERATING COMPANY, LLC.  
Well DARGEL #1  
Field URSULA SE  
County KIOWA  
State KANSAS

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Location: API # : 15-097-21831-00-00  
2010' FNL & 330' FEL  
SEC 15 TWP 29S RGE 18W  
Permanent Datum GROUND LEVEL Elevation 2171'  
Log Measured From KELLY BUSHING 12' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
DIL  
SONIC  
Elevation  
K.B. 2183'  
D.F. 2182  
G.L. 2171

Date	12/17/17
Run Number	ONE
Depth Driller	5250
Depth Logger	5254
Bottom Logged Interval	5230
Top Log Interval	2400
Casing Driller	8 5/8" @ 355
Casing Logger	355
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/49
pH / Fluid Loss	10.5/10.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.50@54
Rmt @ Meas. Temp	.38@54
Rmc @ Meas. Temp	.60@54
Source of Rmf / Rmc	MEASURED
Rm @ BHT	21@127
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	///
Maximum Recorded Temperature	127F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	GUS PFANENSTIEL
Witnessed By	BILLY KLAVER

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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 ELI WIRELINE, HAYS, KS. (785) 628-6395

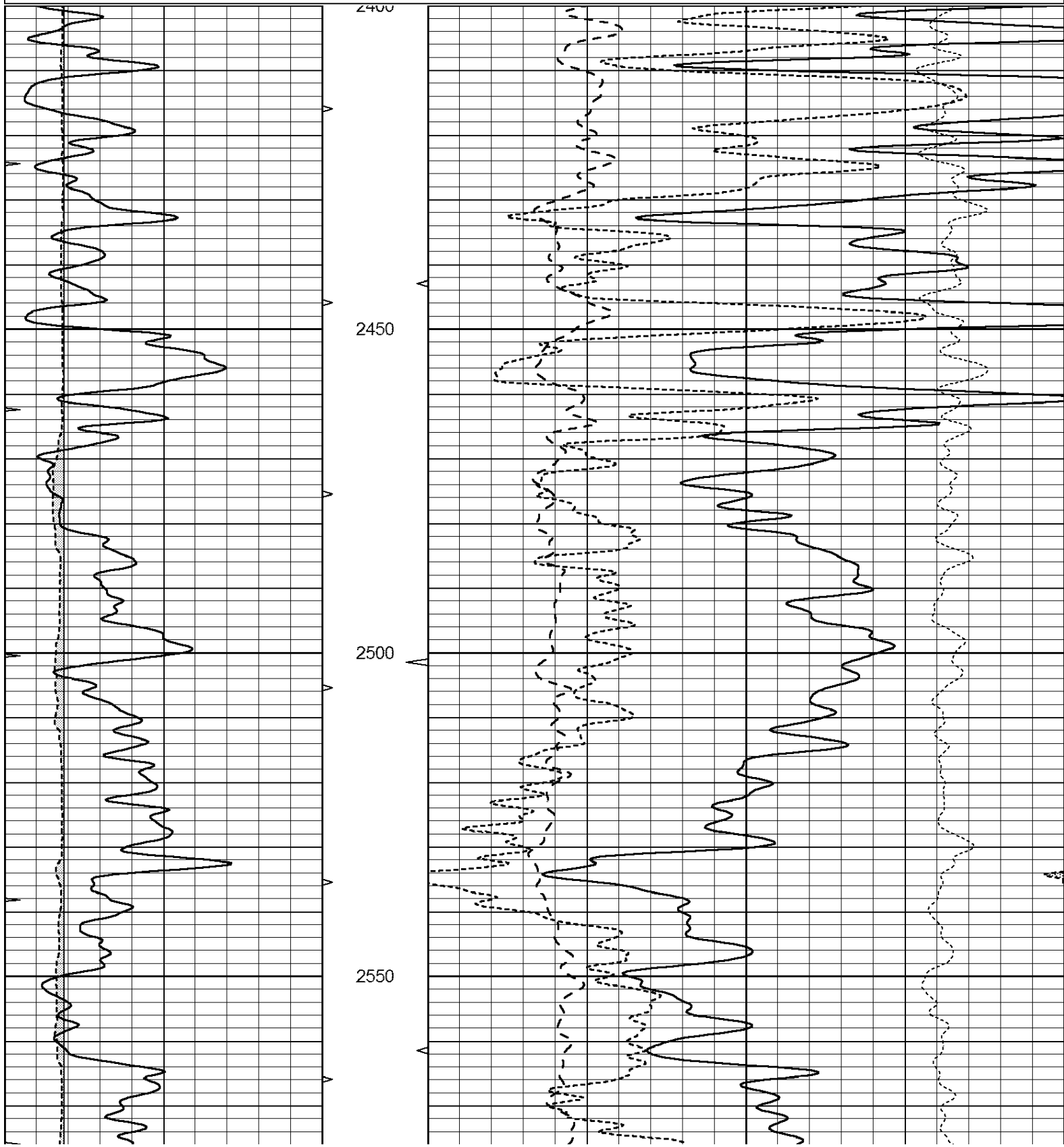
DIRECTIONS  
INTERSECTION OF HIGHWAY 183 AND HIGHWAY 54,  
SOUTH TO N RD, 3 MILES EAST, 1 1/2 SOUTH,  
WEST INTO.

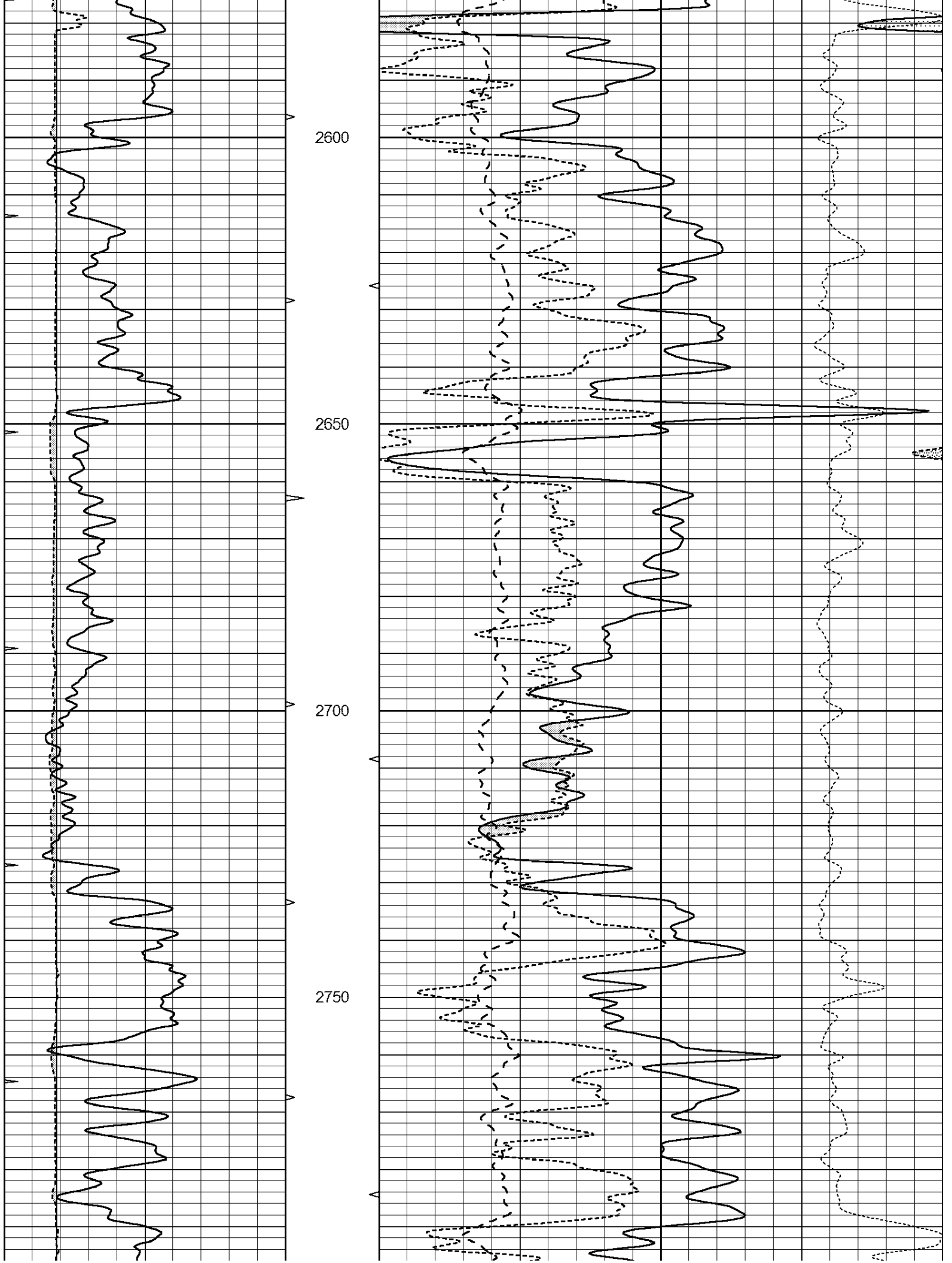


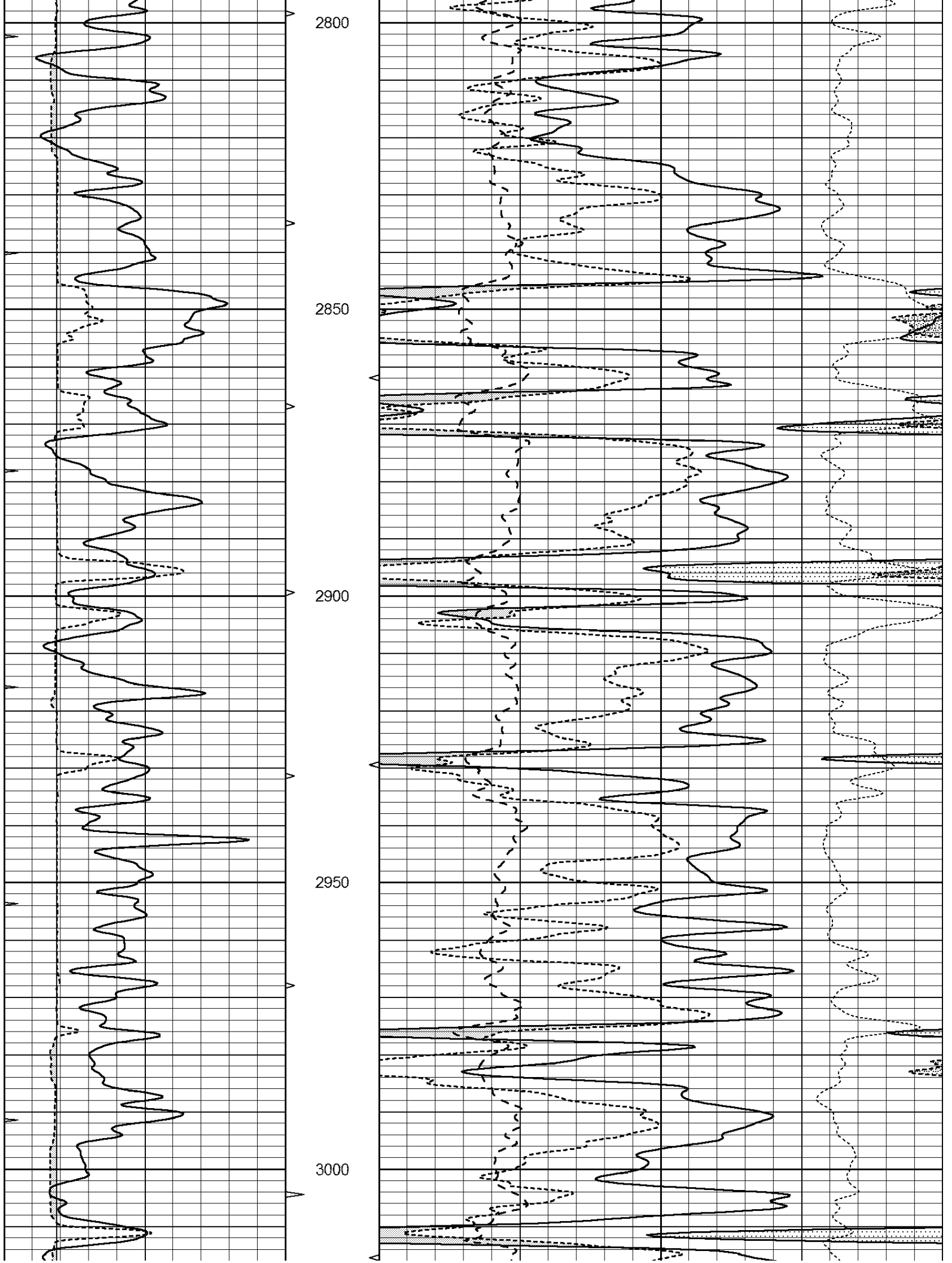
**MAIN PASS**

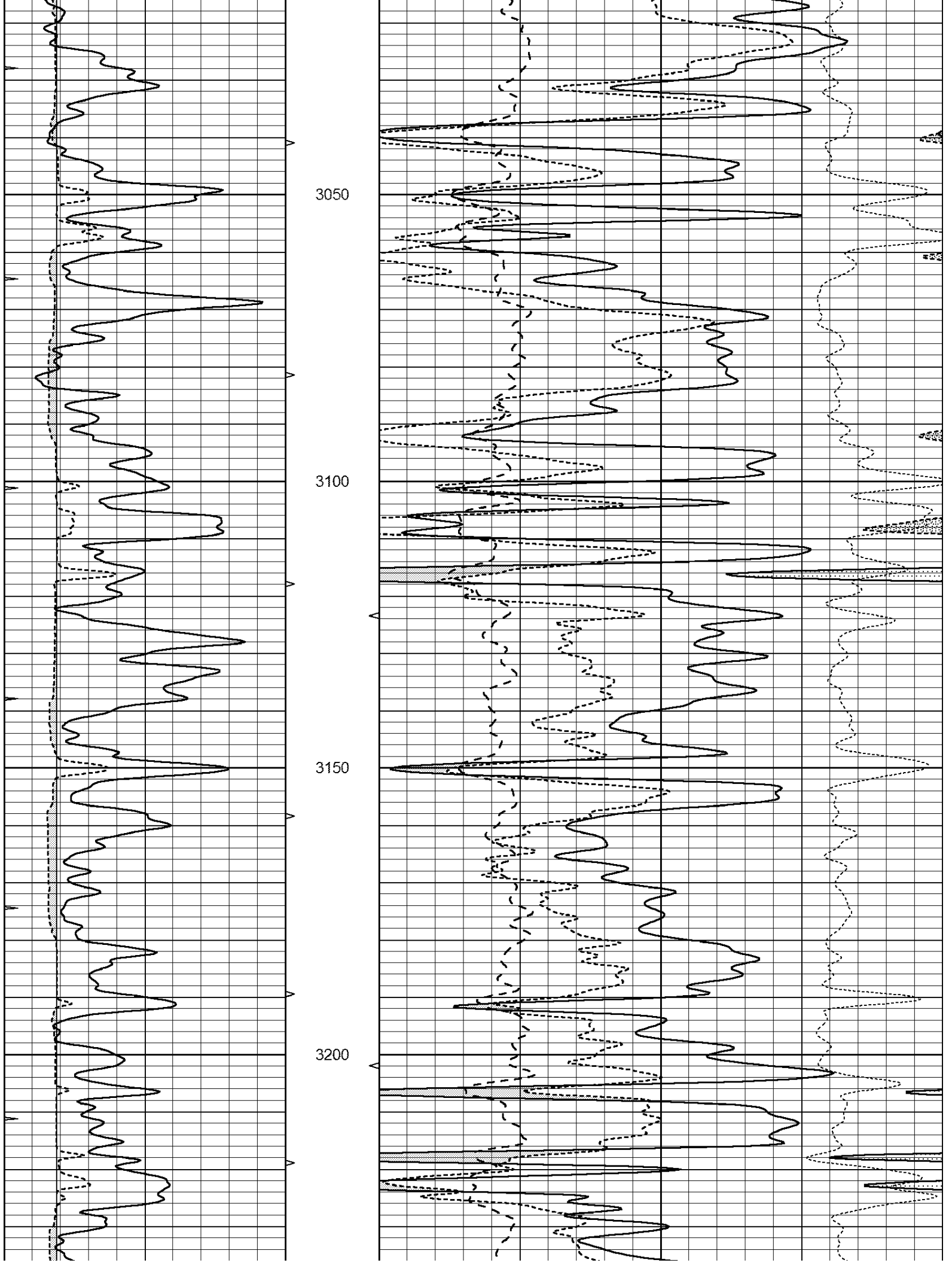
Database File: 2120pe.db  
 Dataset Pathname: pass3MAIN  
 Presentation Format: \_ldt\_neu  
 Dataset Creation: Mon Dec 18 01:21:52 2017  
 Charted by: Depth in Feet scaled 1:240

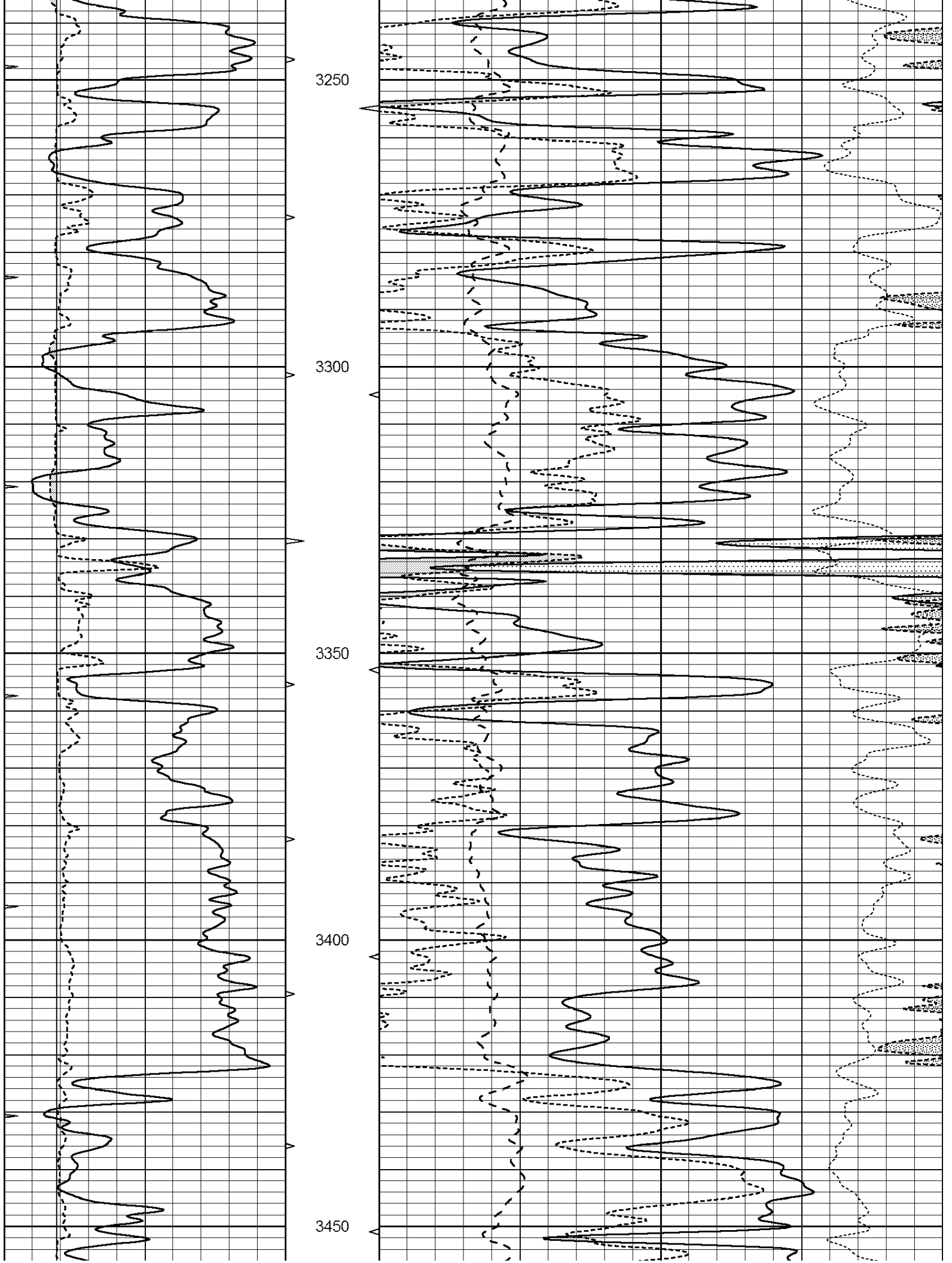
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10		
0	MINMK	20	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)		-10	
6	CALIPER (in)	16	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					

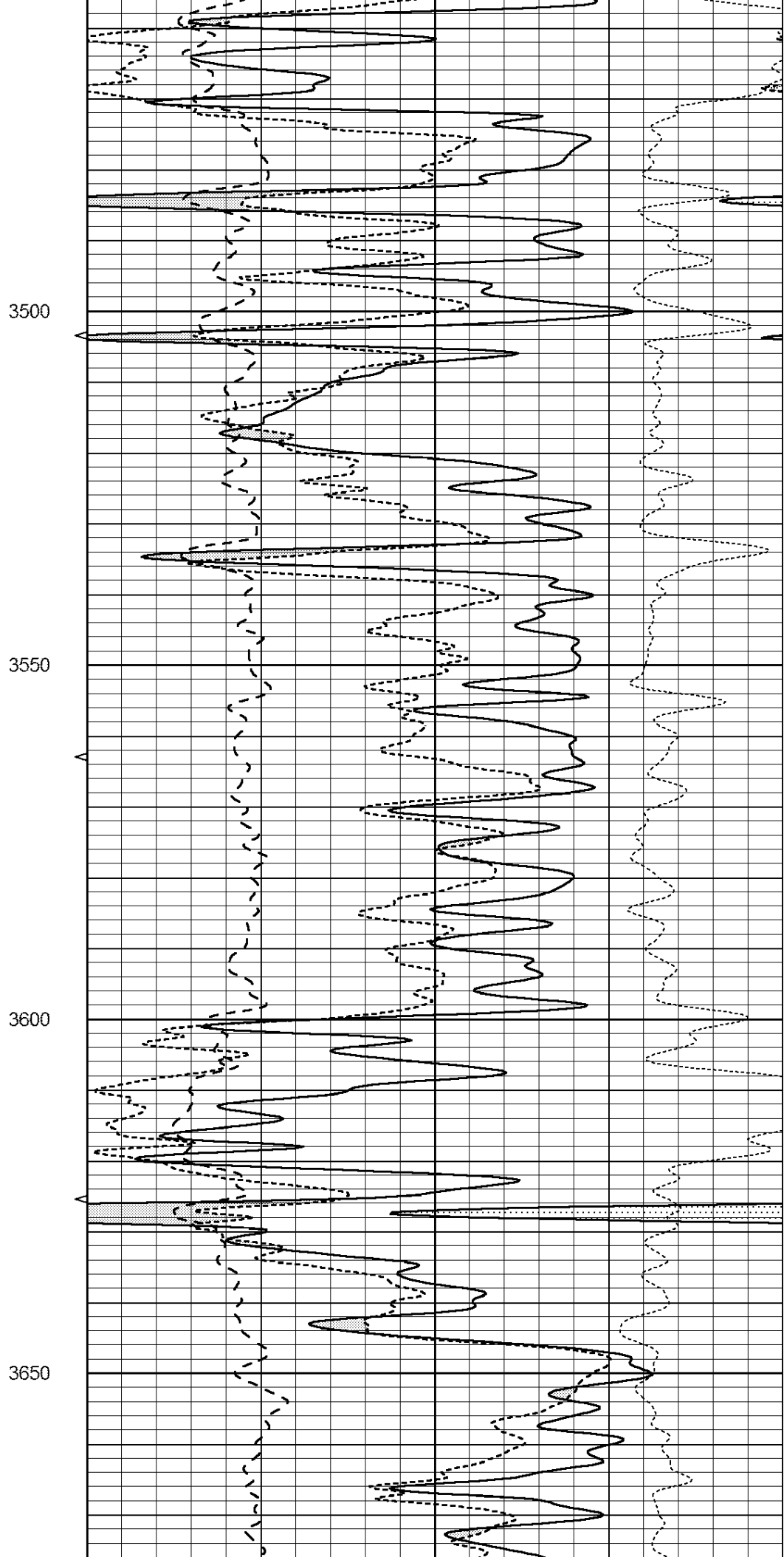
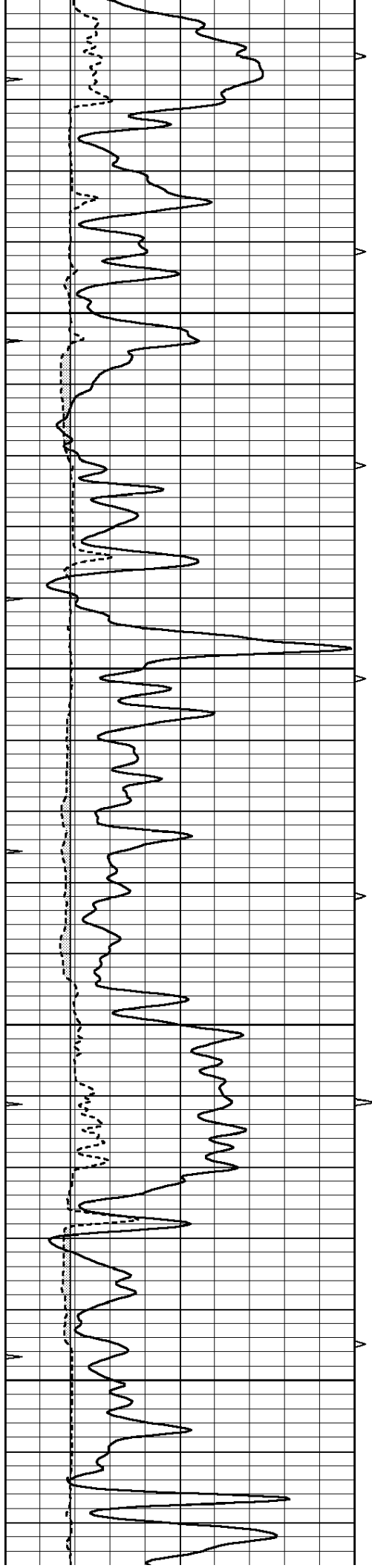


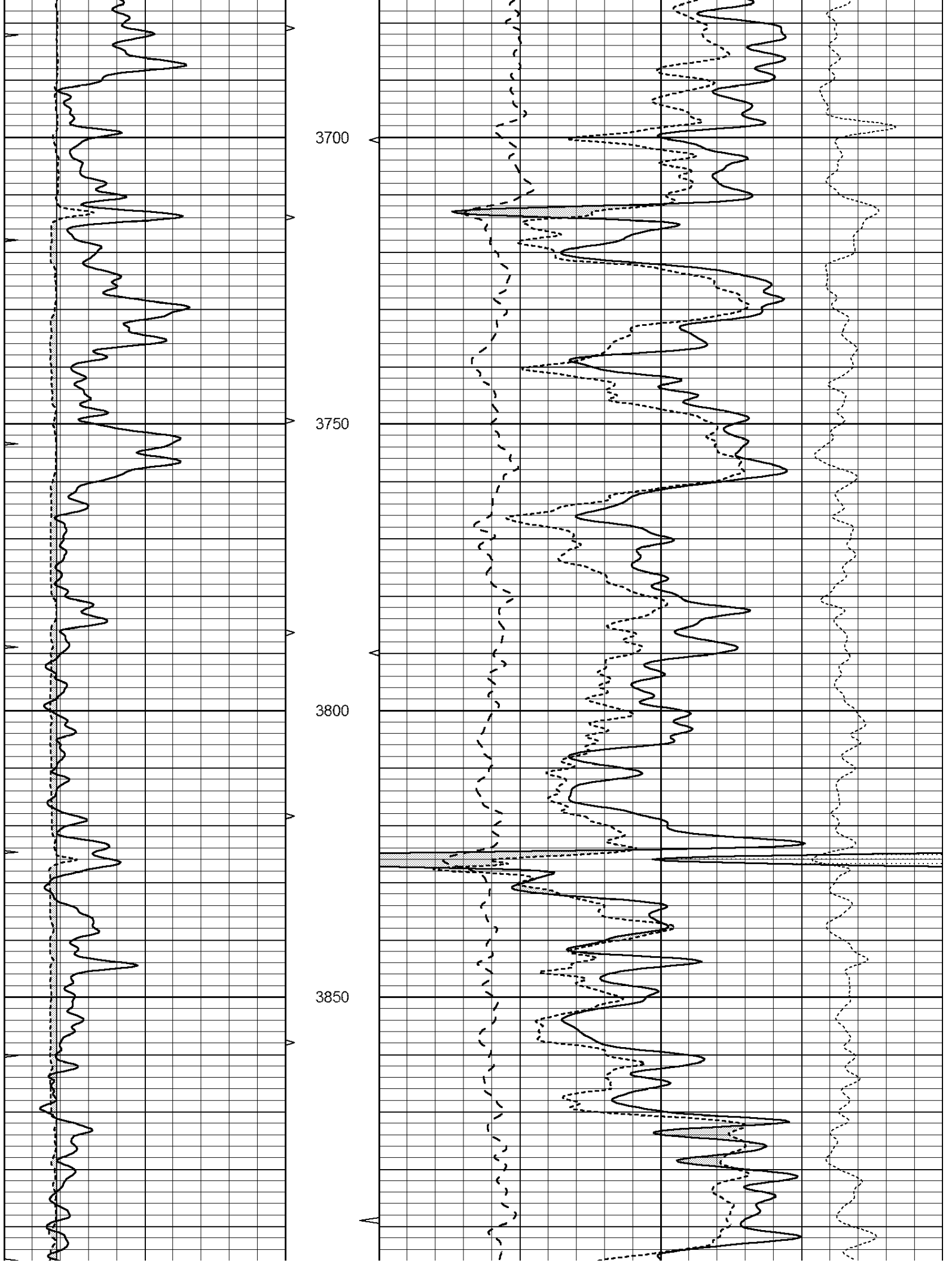


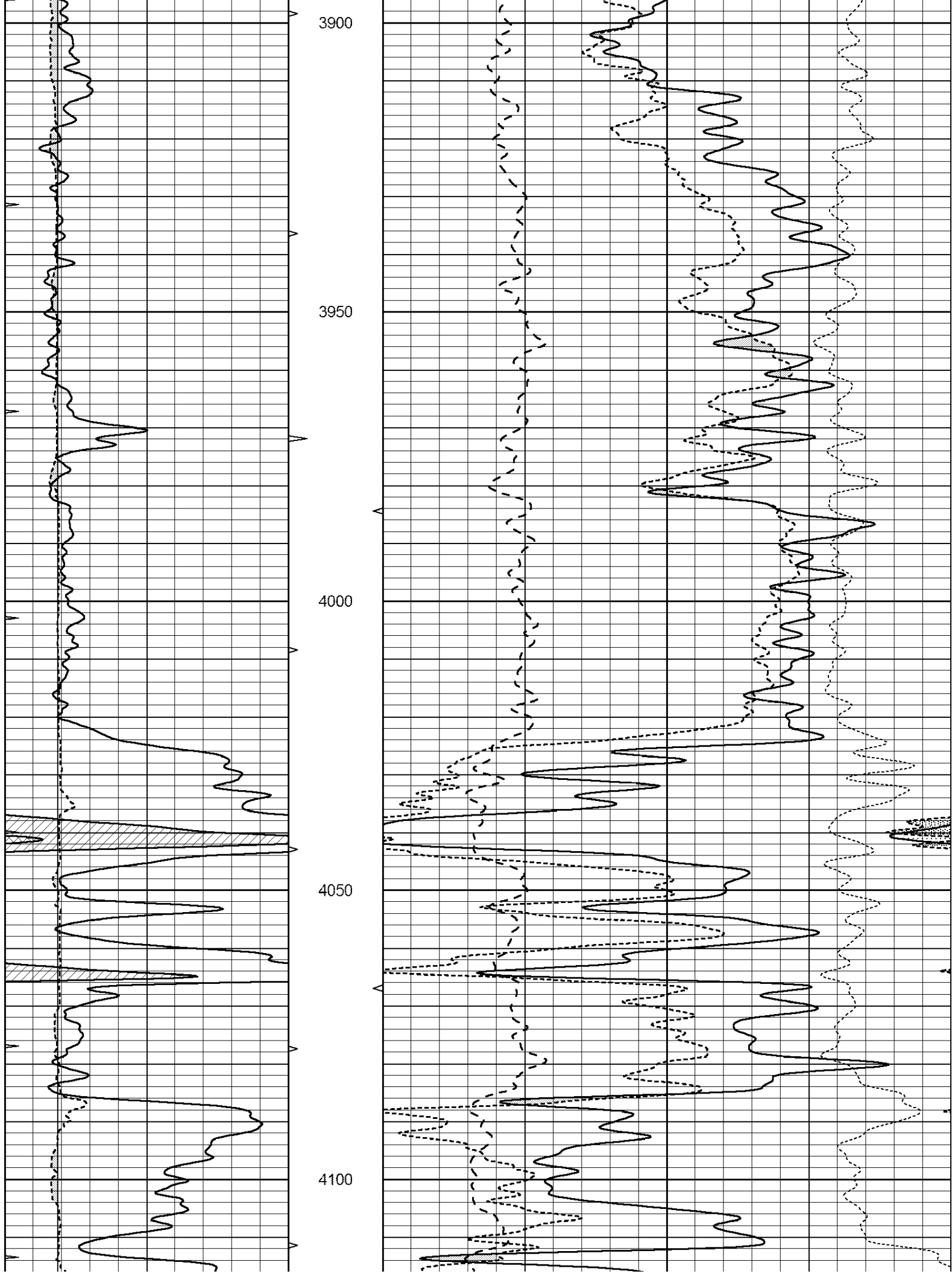


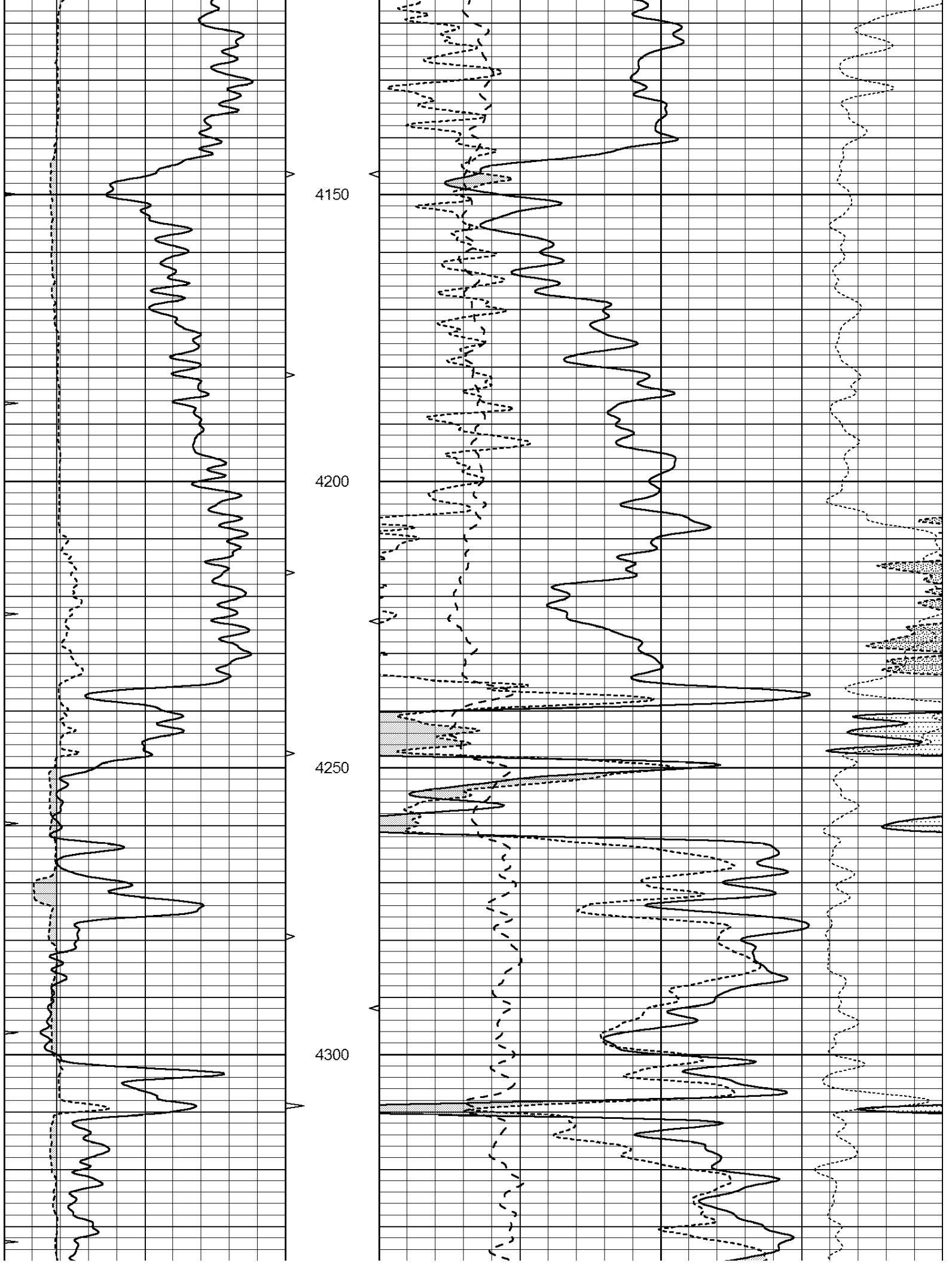


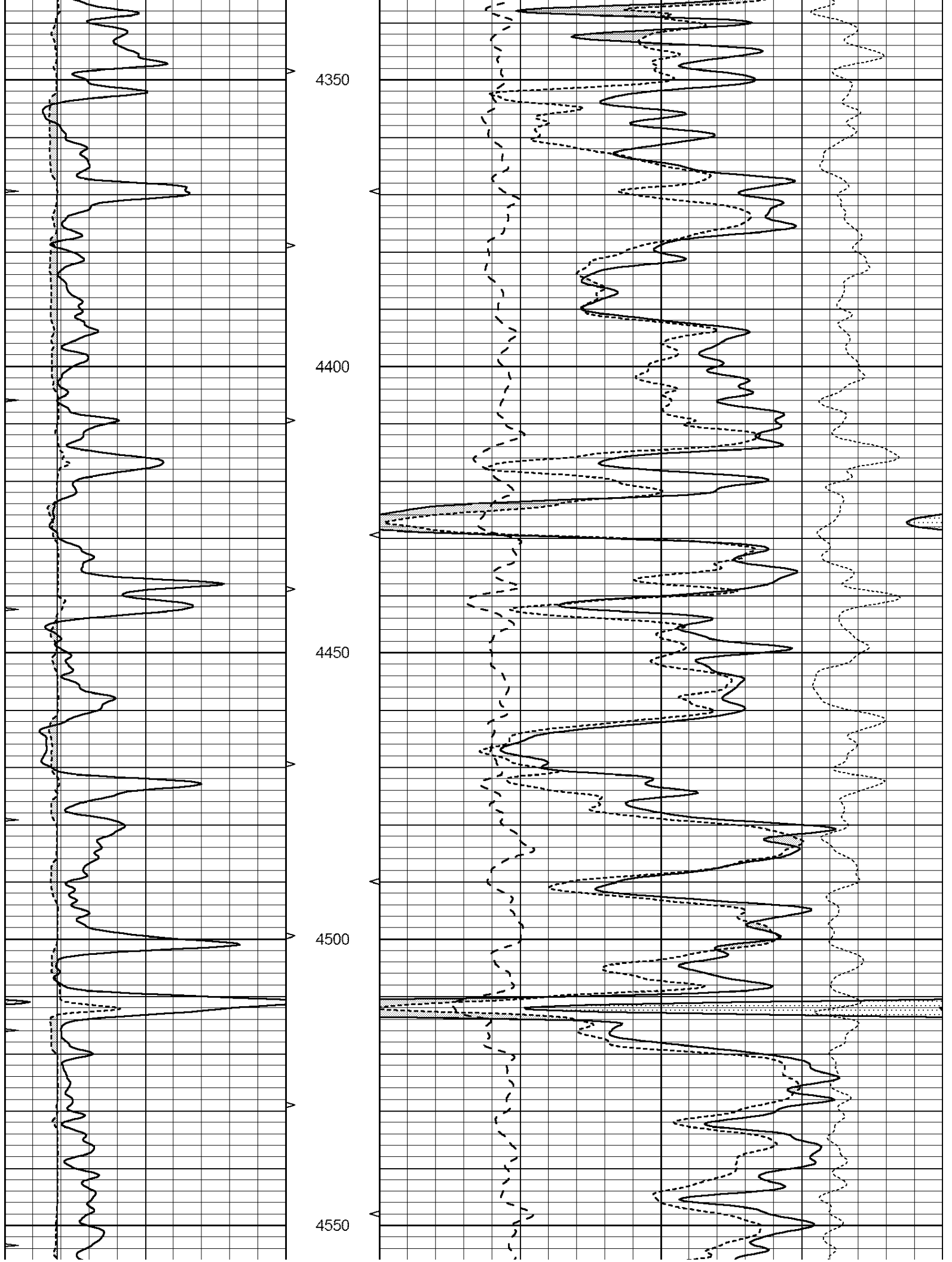


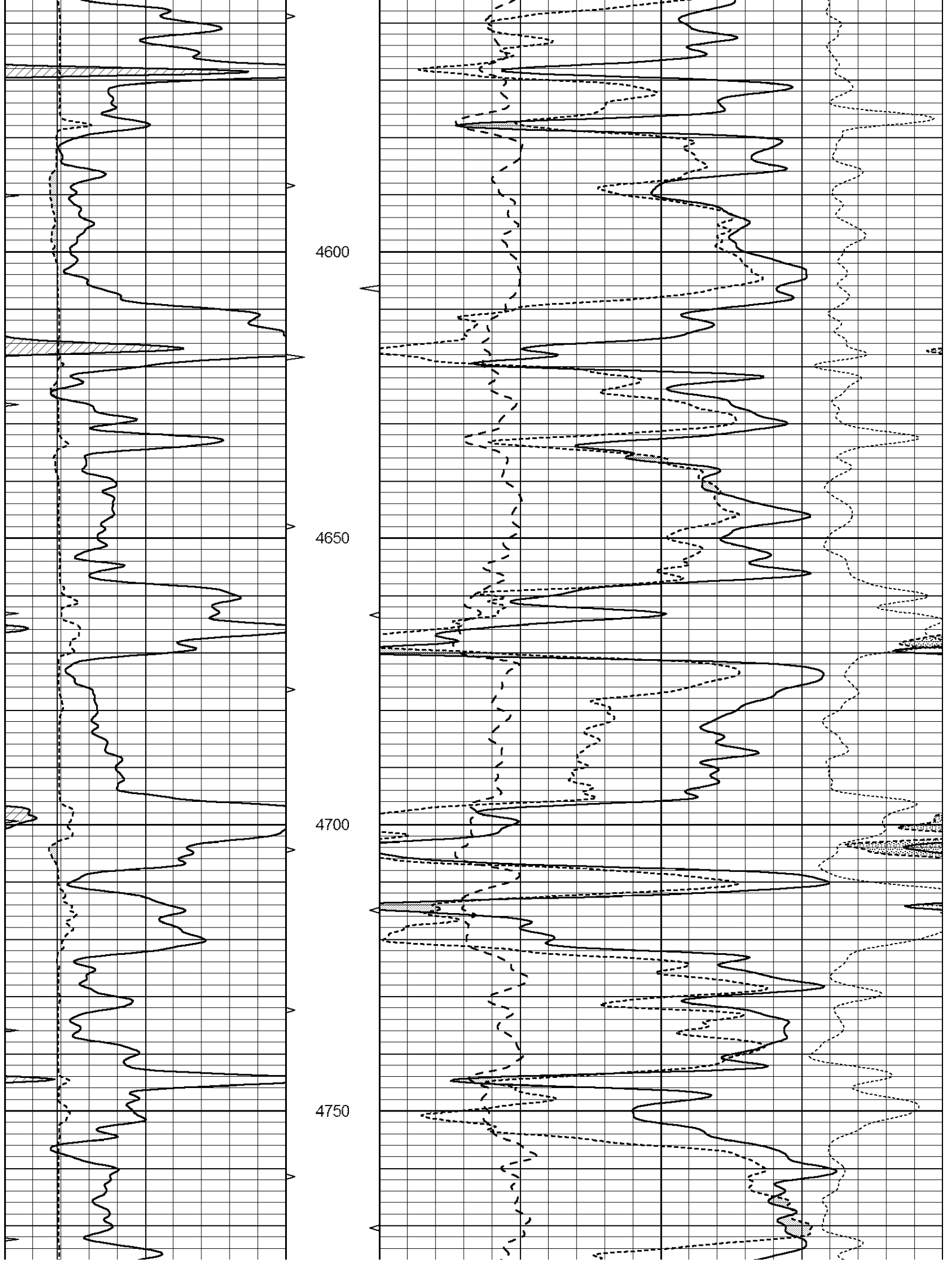


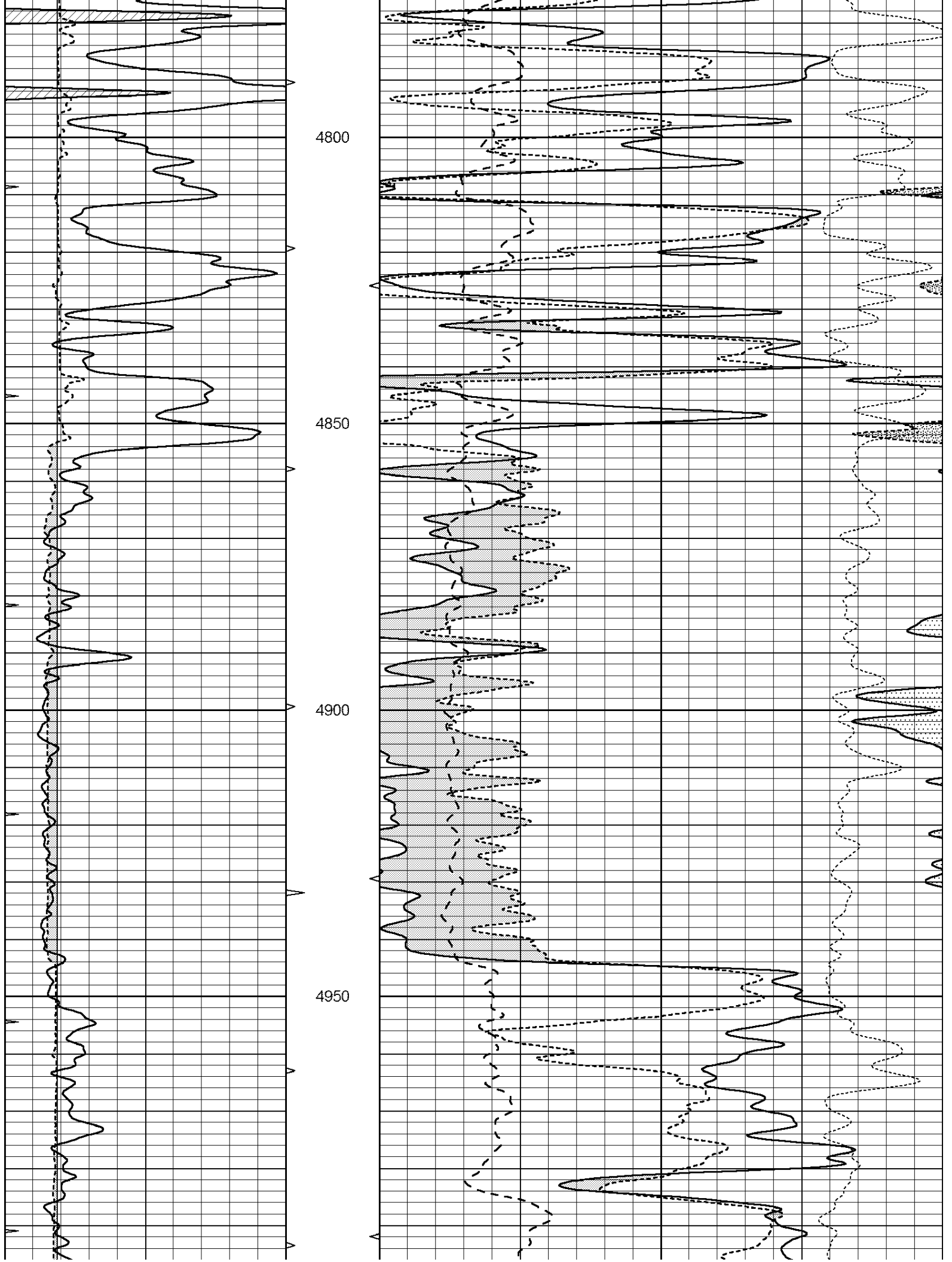


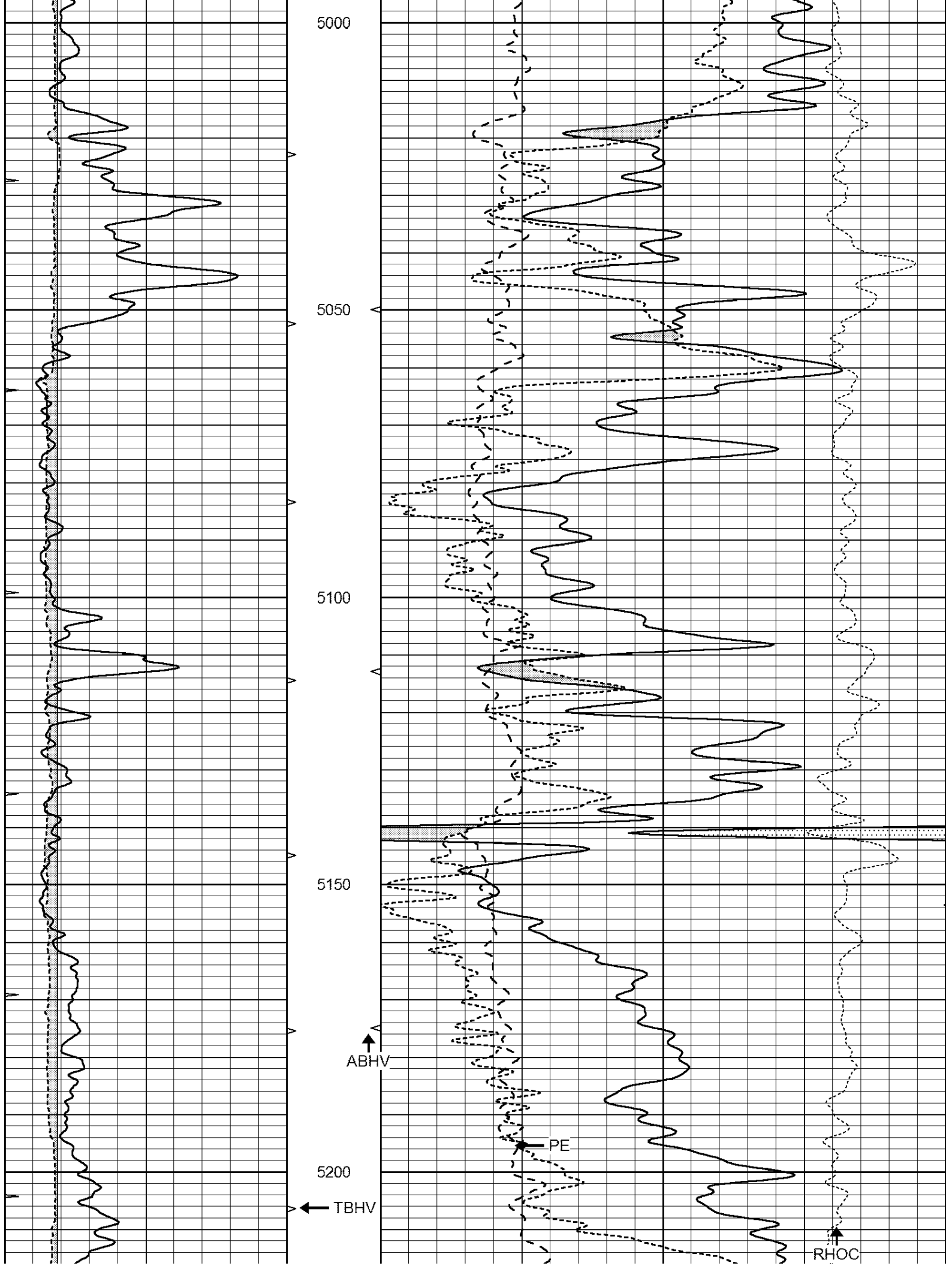


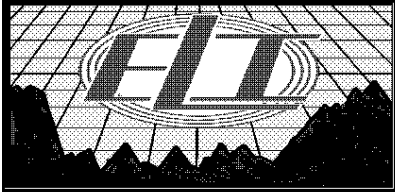
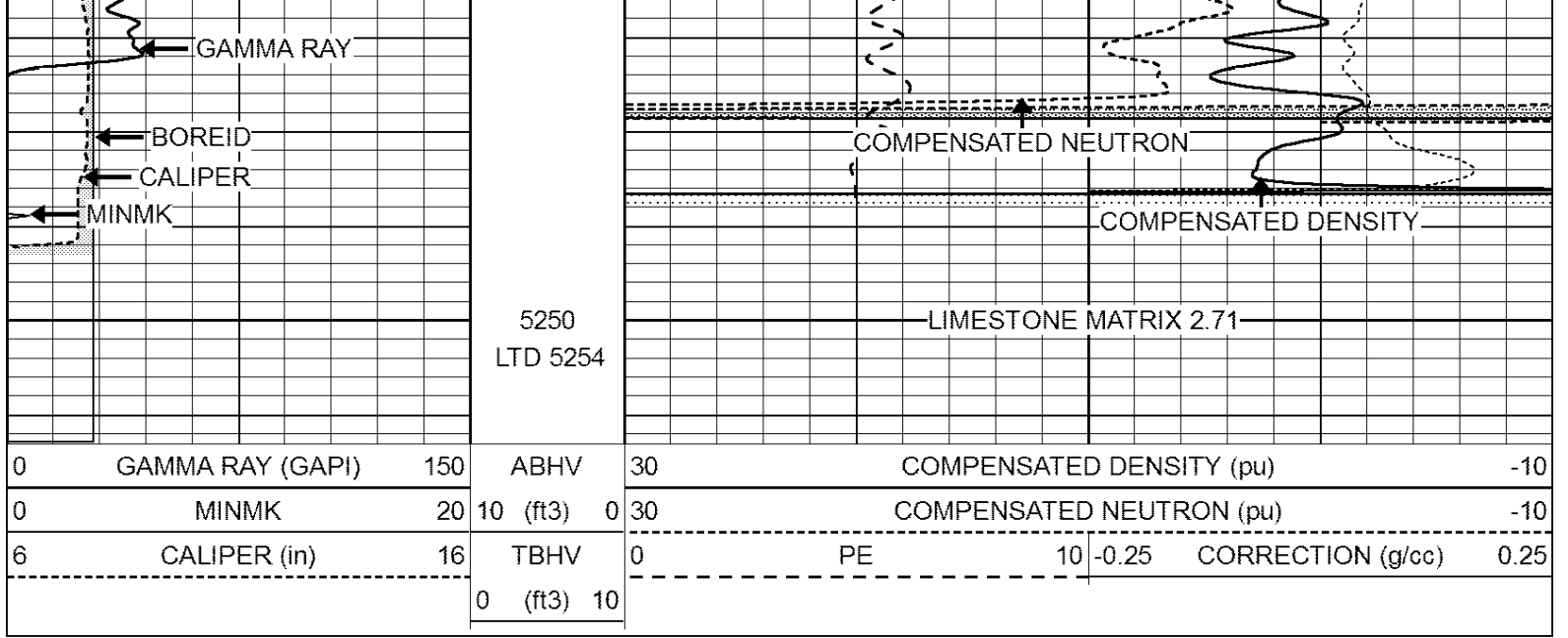








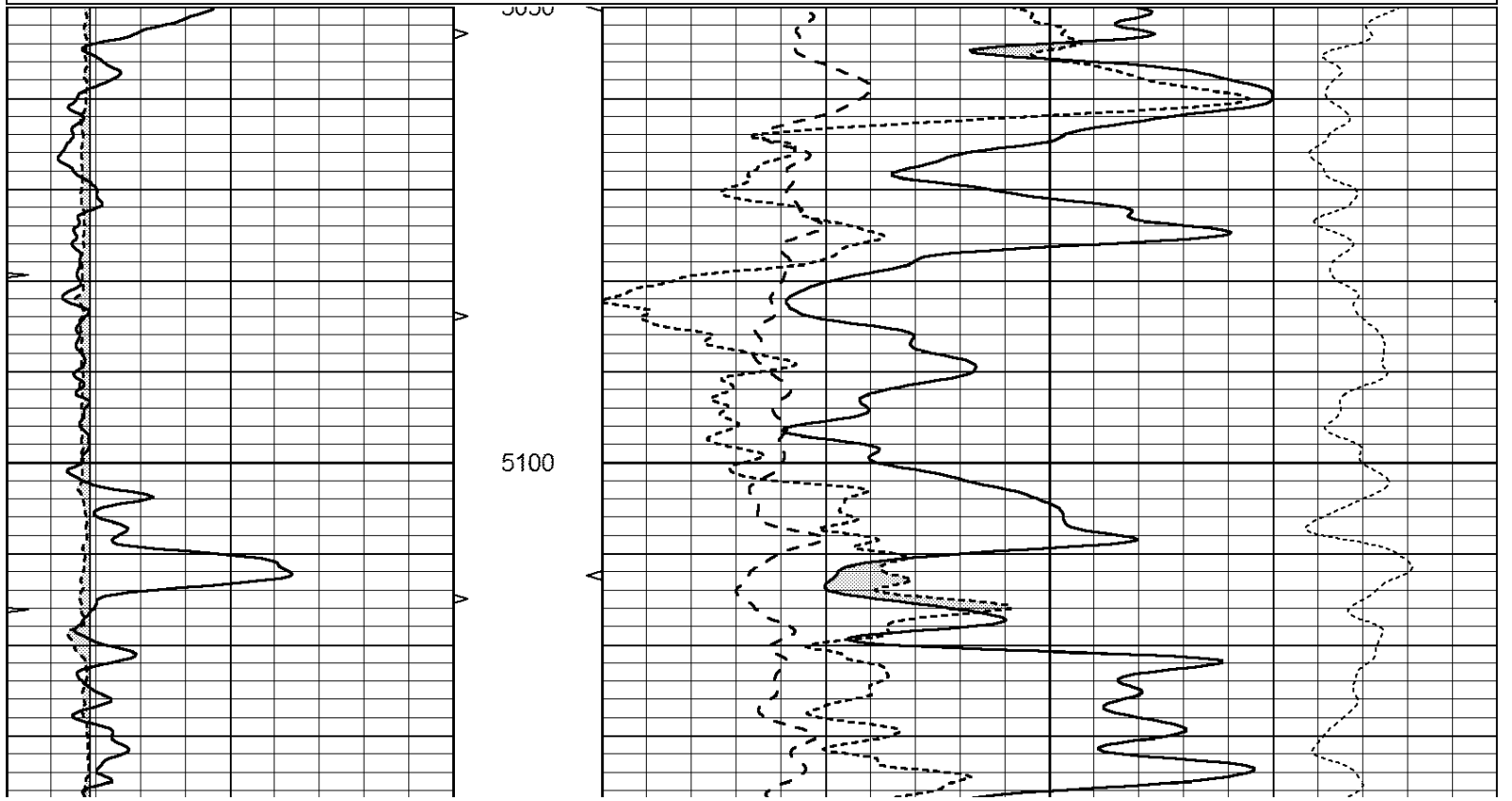


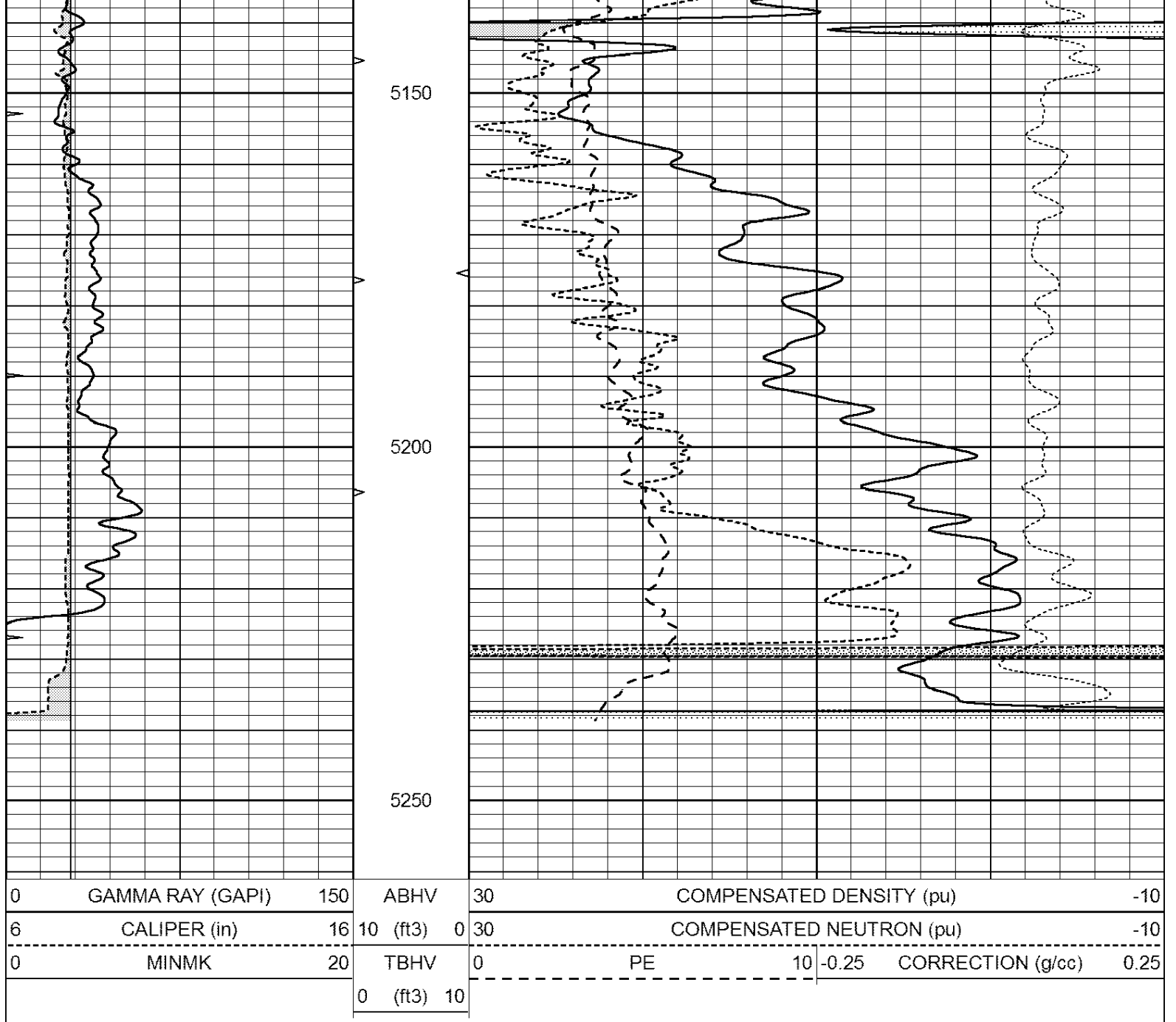


# REPEAT SECTION

Database File: 2120pe.db  
 Dataset Pathname: pass2.1  
 Presentation Format: \_ldt\_neu  
 Dataset Creation: Sun Dec 17 23:25:22 2017 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	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					





### Calibration Report

Database File: pe2.db  
 Dataset Pathname: pass2  
 Dataset Creation: Mon Aug 21 11:58:02 2017 by Log Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: PROBE8-DILG  
 Surface Cal Performed: Mon Aug 21 11:58:18 2017  
 Downhole Cal Performed: Mon Aug 21 11:58:21 2017  
 After Survey Verification Performed: Mon Aug 21 11:58:23 2017

#### Surface Calibration

Loop:	Readings			V	References		Results		
	Air	Loop			Air	Loop	m	b	
Deep	0.015	0.648		V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796		V	0.000	464.000	mmho/m	590.000	-12.000
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	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	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

Master Calibration								
Performed Mon Aug 21 11:56:41 2017								
	Background	Magnesium		Aluminum		Sandstone		
Window 1	833.6	7394.2		2287.3		8111.8		cps
Window 2	768.9	6322.3		1995.6		6800.0		cps
Window 3	621.5	3261.9		1186.4		3380.9		cps
Window 4	184.2	185.7		184.9		184.8		cps
Long Space	0.0	5553.4		1226.6		6031.1		cps
Short Space	1.2	1307.5		903.9		1387.7		cps
Rho		1.7100		2.5900		1.3800		g/cc
Pe		0.0000		2.5700		1.5500		
Rib Angle	: 46.3	Rib Slope	: 1.045	Density/Spine Ratio		: 0.566		
Spine Angle	: 76.3	Spine Slope	: 4.090	Spine Intercept		: -20.7		

Before Survey Verification								
Performed Wed Dec 31 18:00:00 1969								
	Background	Magnesium		Aluminum		Sandstone		
Window 1	0.0	0.0		0.0		0.0		cps
Window 2	0.0	0.0		0.0		0.0		cps
Window 3	0.0	0.0		0.0		0.0		cps
Window 4	0.0	0.0		0.0		0.0		cps
Long Space	0.0	0.0		0.0		0.0		cps
Short Space	0.0	0.0		0.0		0.0		cps
Measured Rho		0.0000		0.0000		0.0000		g/cc
Measured Correction		0.0000		0.0000		0.0000		g/cc
Measured Pe				0.0000		0.0000		

After Survey Verification								
Performed Wed Dec 31 18:00:00 1969								
	Background	Magnesium		Aluminum		Sandstone		
Window 1	0.0	0.0		0.0		0.0		cps
Window 2	0.0	0.0		0.0		0.0		cps
Window 3	0.0	0.0		0.0		0.0		cps
Window 4	0.0	0.0		0.0		0.0		cps
Long Space	0.0	0.0		0.0		0.0		cps

Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

Compensated Neutron Calibration Report

Serial Number: 6I  
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	

PRE-SURVEY VERIFICATION						
	Detector	Readings		Measured	Target	
1)	Short Space			cps		
	Long Space			cps	pu	pu
2)	Short Space			cps		
	Long Space			cps	pu	
3)	Short Space			cps		
	Long Space			cps	pu	

POST-SURVEY VERIFICATION						
	Detector	Readings		Measured	Target	
1)	Short Space			cps		
	Long Space			cps	pu	pu
2)	Short Space			cps		
	Long Space			cps	pu	pu
3)	Short Space			cps		
	Long Space			cps	pu	pu

Gamma Ray Calibration Report

Serial Number: GR6  
Tool Model: OPEN  
Performed: Mon Aug 21 11:59:01 2017

Calibrator Value: 150.0      GAPI

Background Reading: 0.0      cps  
Calibrator Reading: 276.0      cps

Sensitivity: 0.5500      GAPI/cps