



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY/NEUTRON
PE LOG**

Company	WOOLSEY OPERATING COMPANY, LLC		
Well	STERNBERGER B-1		
Field	STRANATHAN		
County	BARBER	State	KANSAS
Company	WOOLSEY OPERATING COMPANY, LLC	Well	STERNBERGER B-1
Field	STRANATHAN	County	BARBER
State	KANSAS	Location:	APL # : 15-007-24128-0000
Permanent Datum	SEC 12 TWP 35S RGE 12W	Log Measured From	GROUND LEVEL Elevation 1357
Drilling Measured From	KELLY BUSHING 12' A.G.L.	Other Services	DIL
Date	2/14/14	Elevation	K.B. 1369 D.F. 1367 G.L. 1357
Run Number	TWO		
Depth Driller	5460		
Depth Logger			
Bottom Logged Interval			
Top Log Interval	1800		
Casing Driller	13 3/8" @ 224	8 5/8" @ 840'	
Casing Logger		849'	
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4000 PPM	
Density / Viscosity	9.1/74		
pH / Fluid Loss	12.0/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.75 @ 74F		
Rmt @ Meas. Temp	.56 @ 74F		
Rmc @ Meas. Temp	.90 @ 74F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.43 @ 129F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	129F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	BILL 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 NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
HARDTNER, KS. - 3 EAST - SOUTH INTO

Database File:

23894pe.db

Dataset Pathname:

pass5.1

Presentation Format:

_ldt_neu

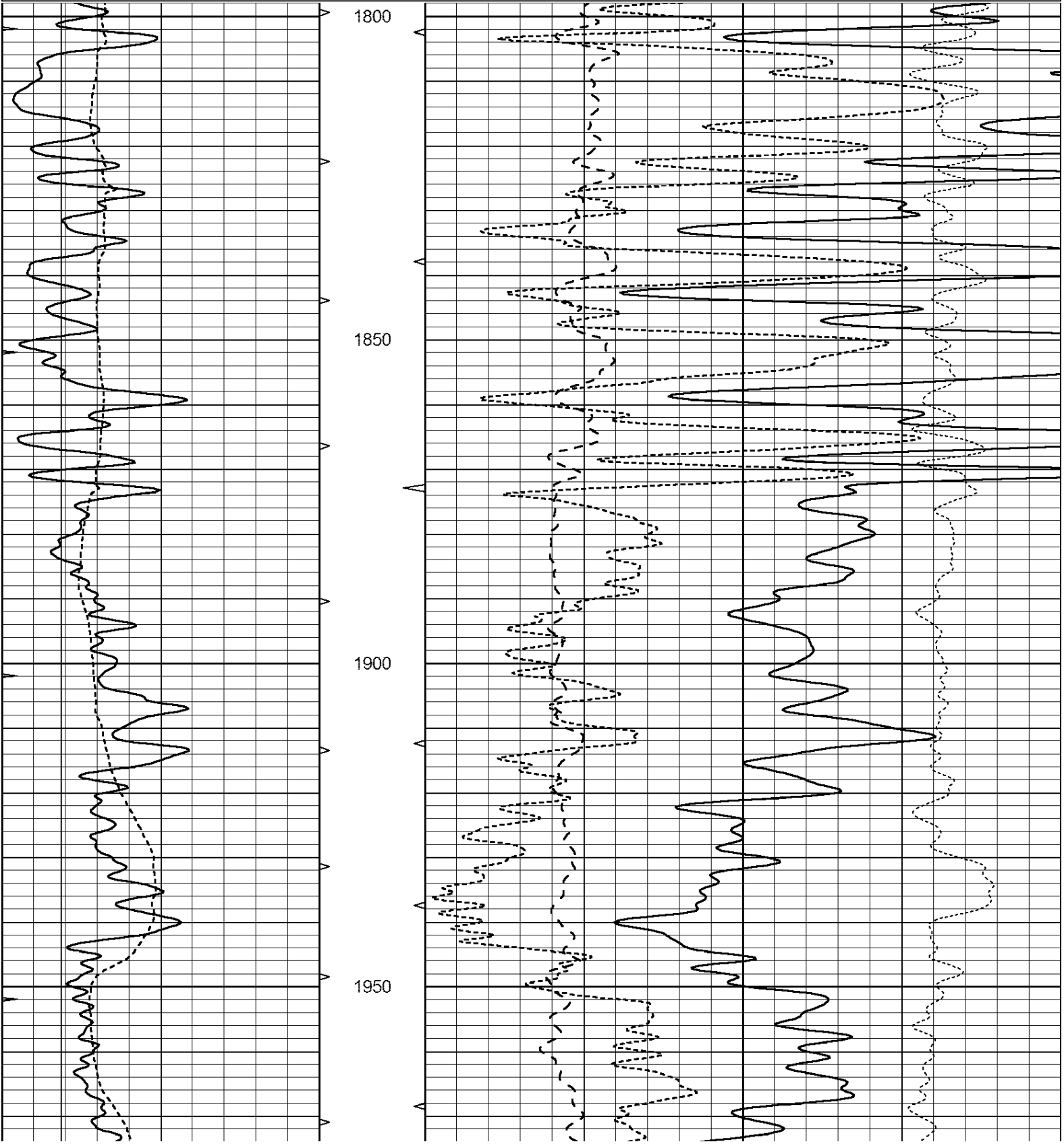
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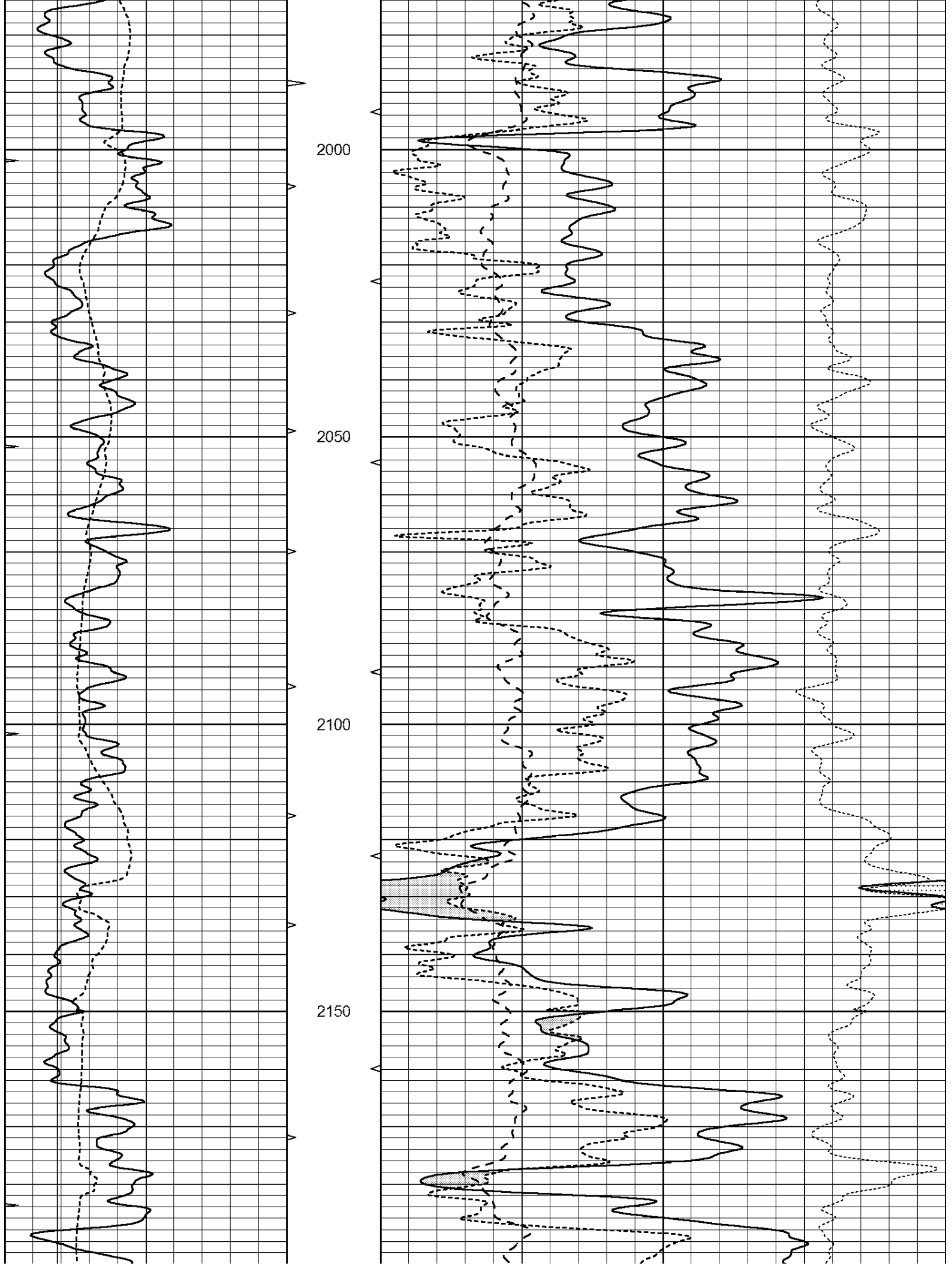
Fri Feb 14 22:35:46 2014

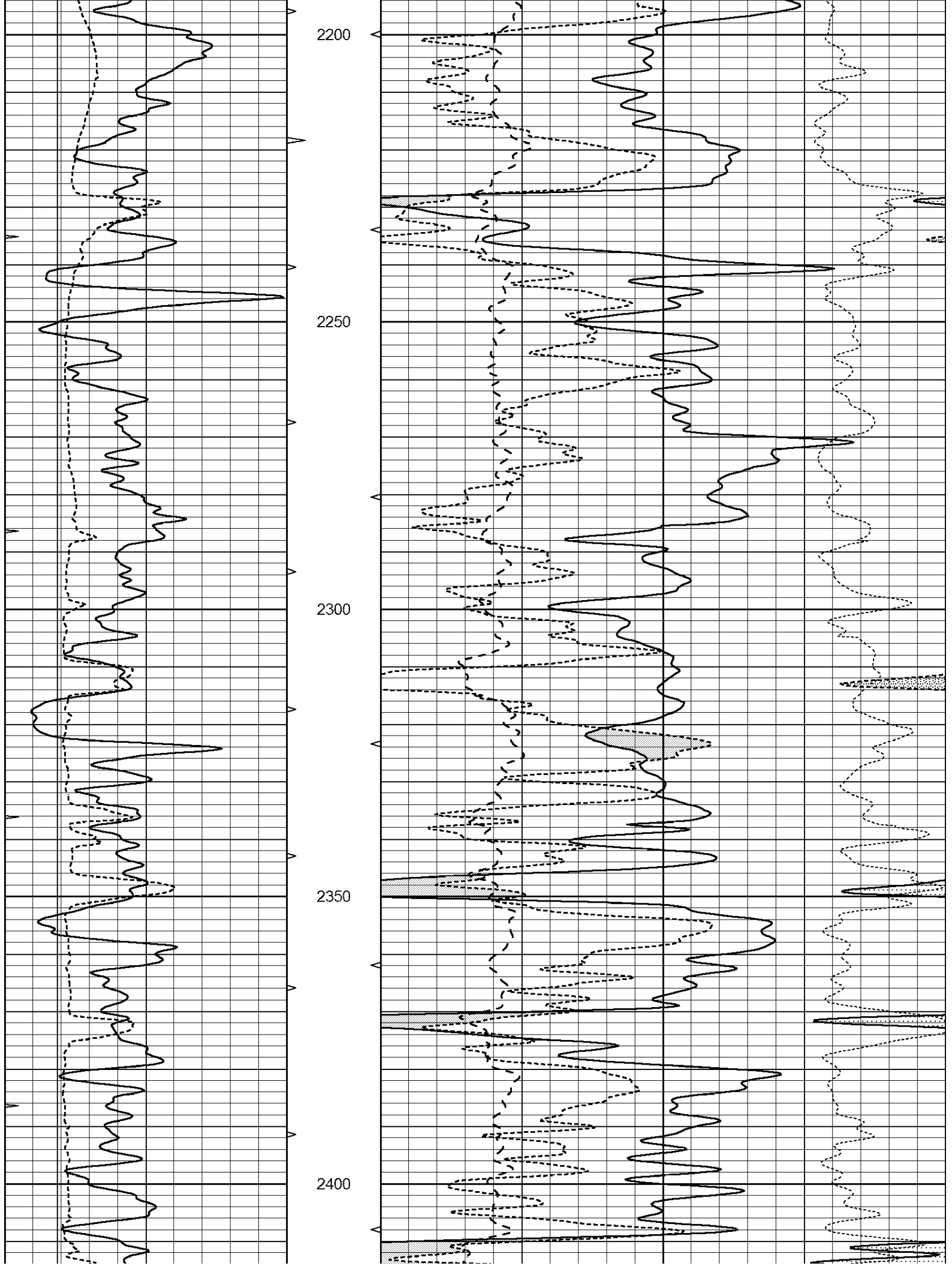
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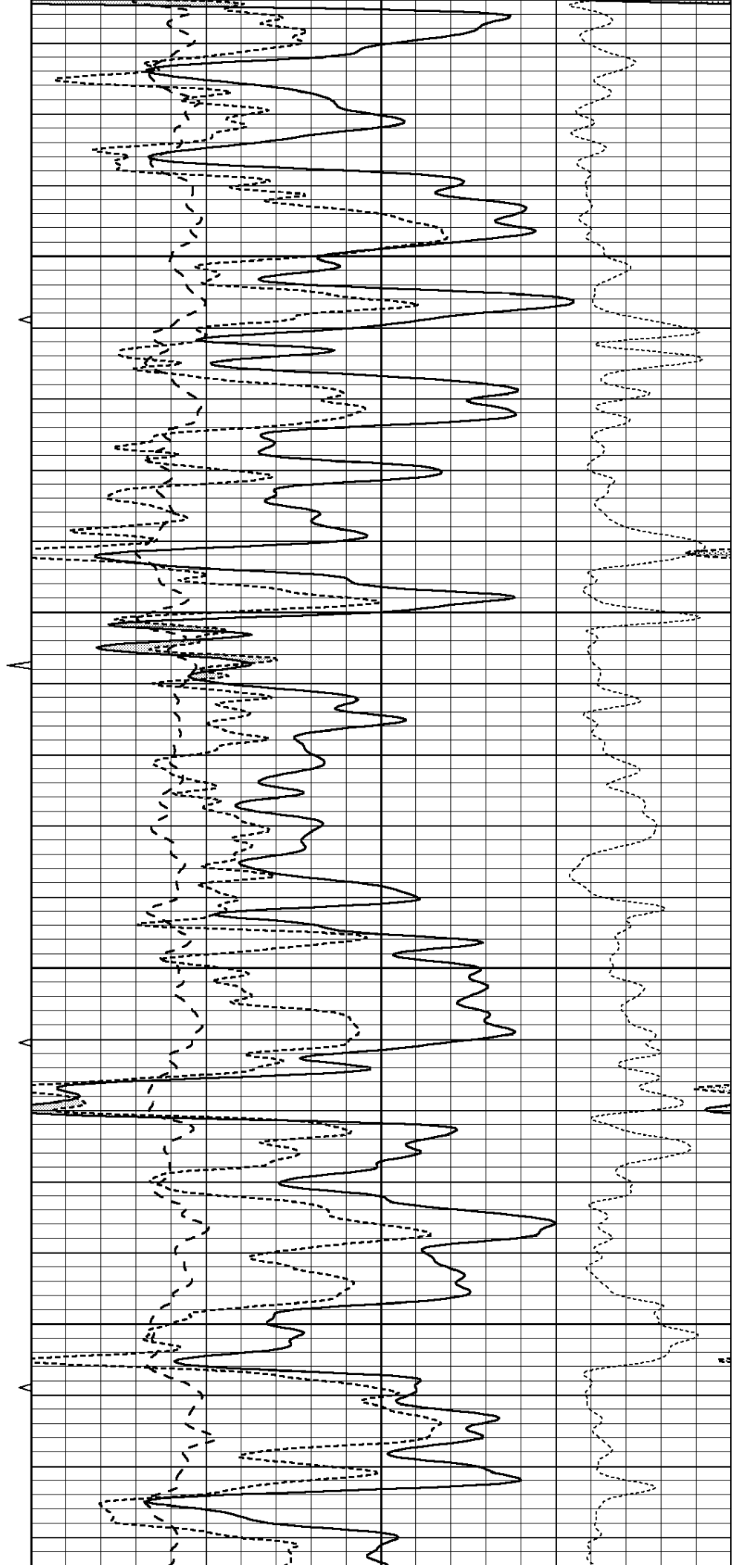
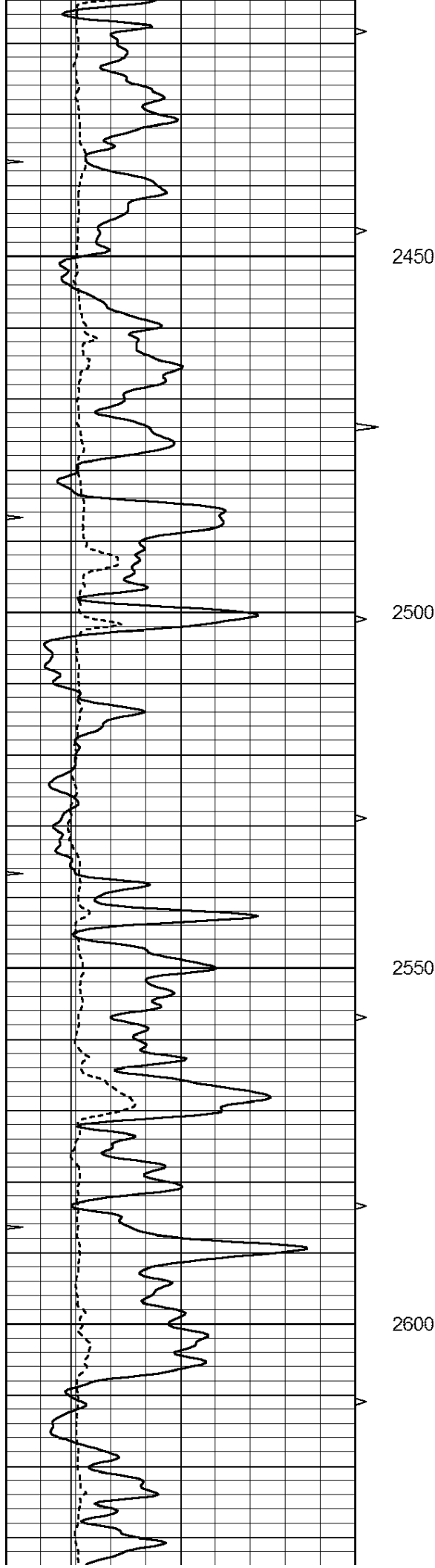
Depth in Feet scaled 1:240

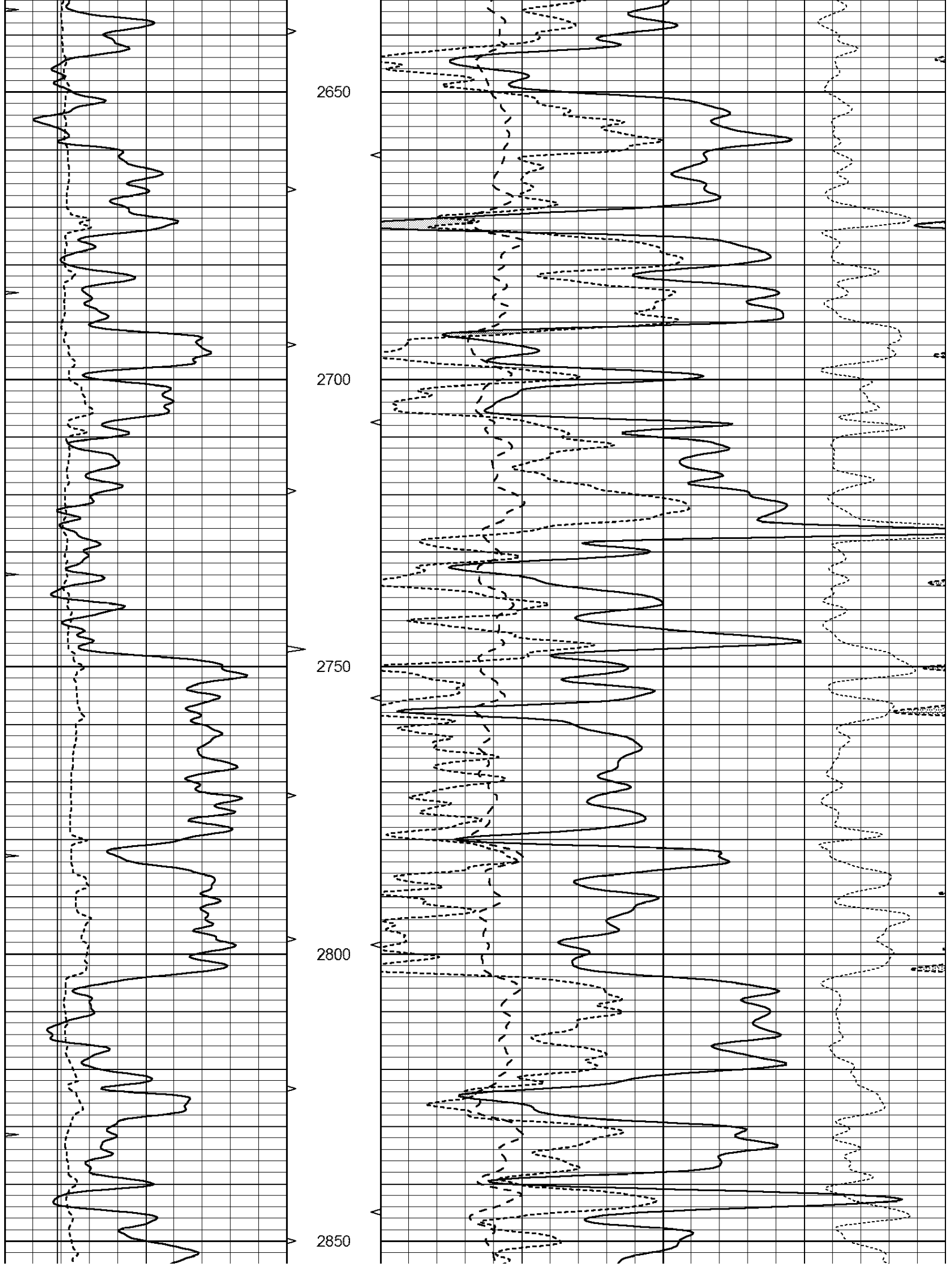
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10
			0 (ft3)	10	-0.25	CORRECTION (g/cc)
					0.25	

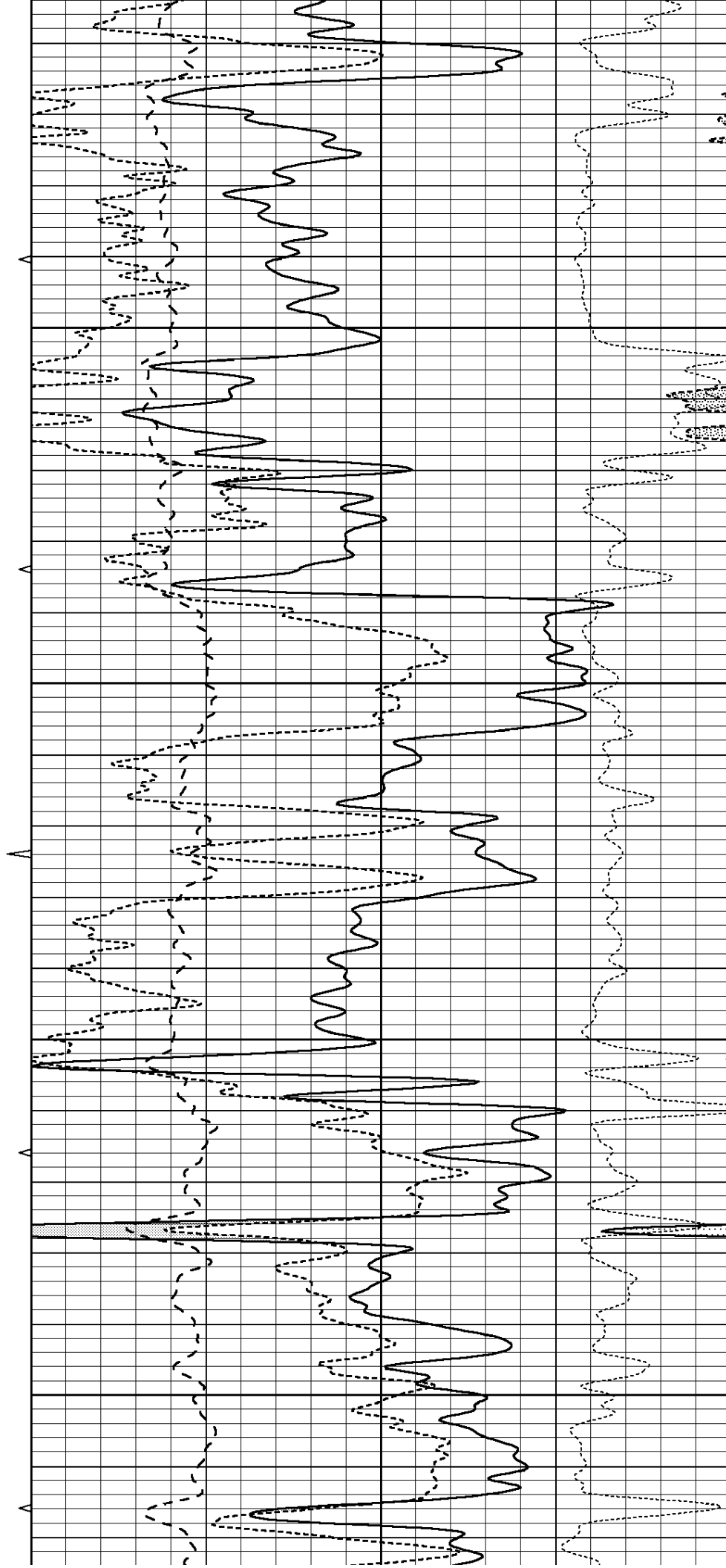
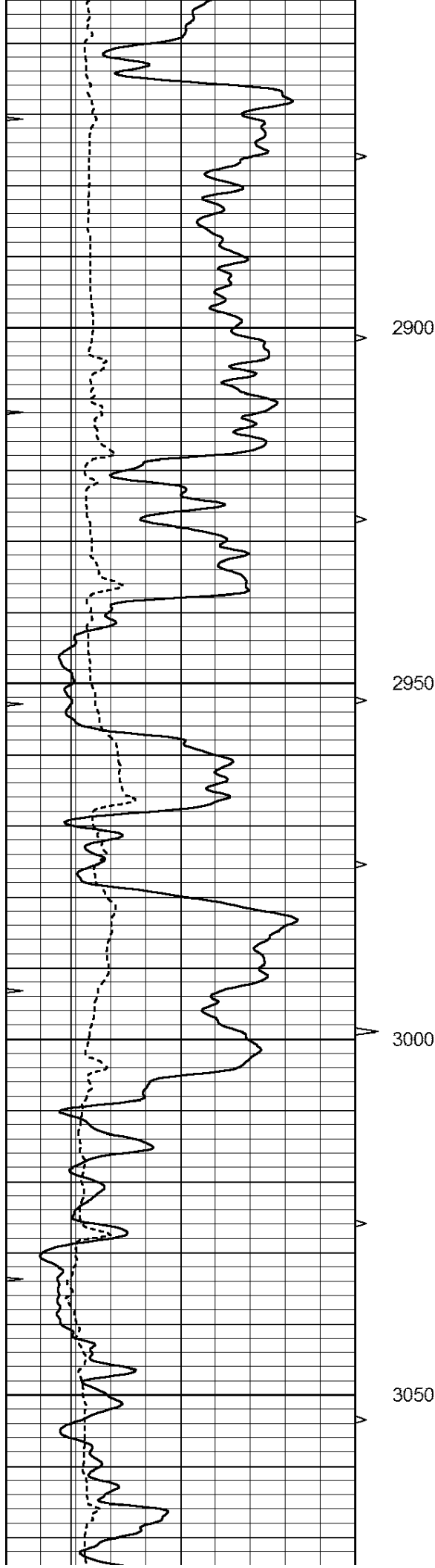


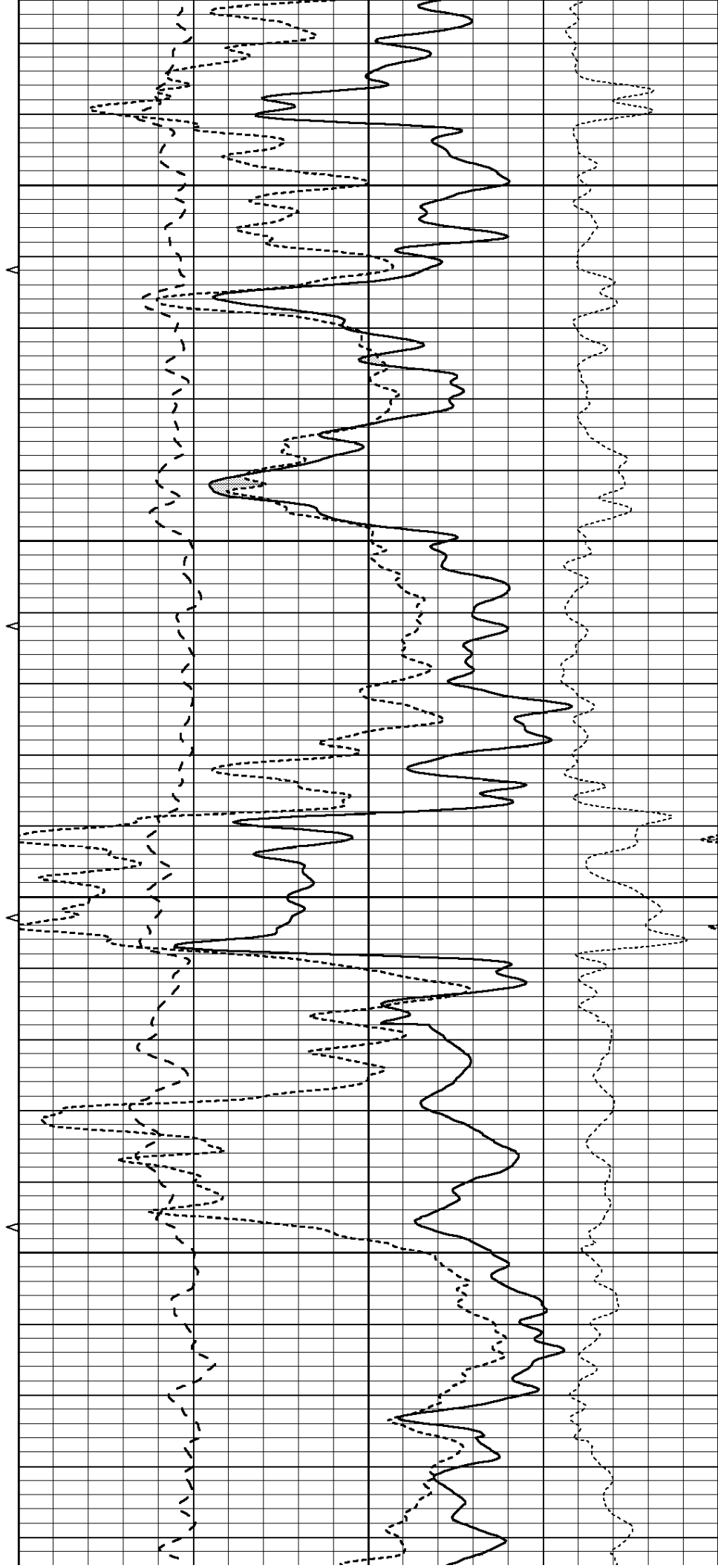
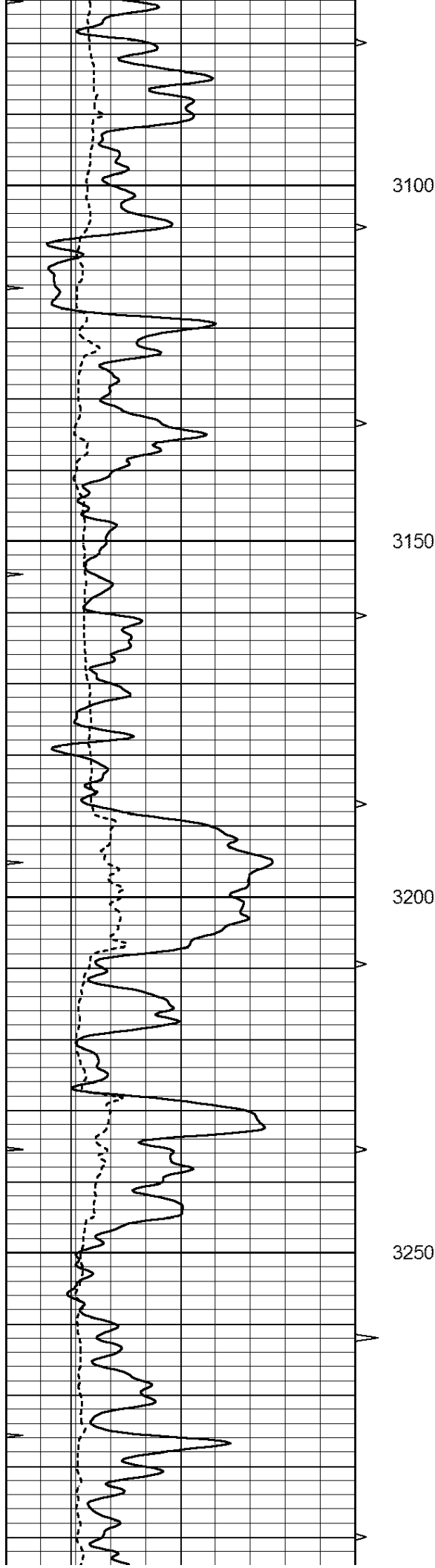


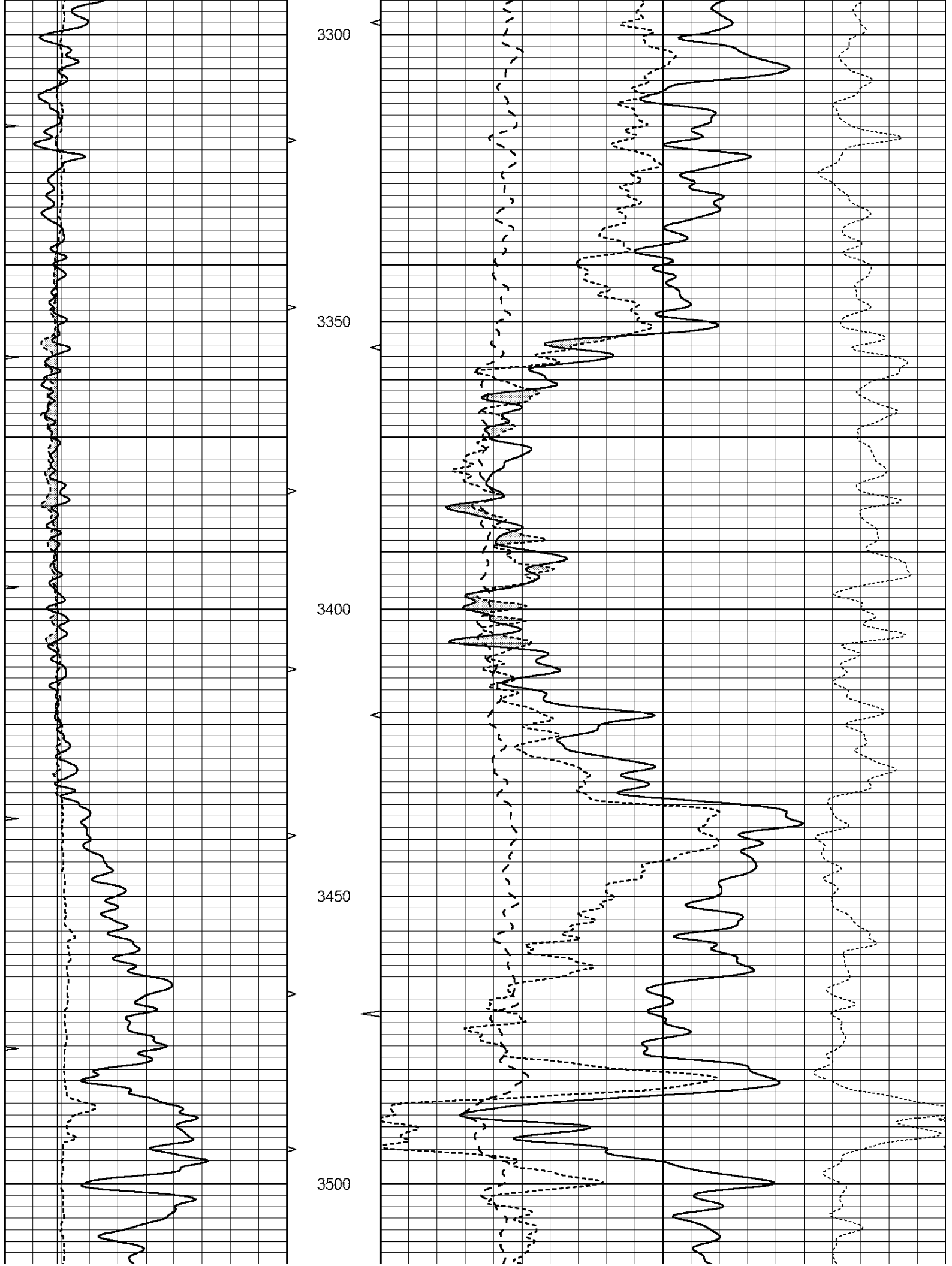


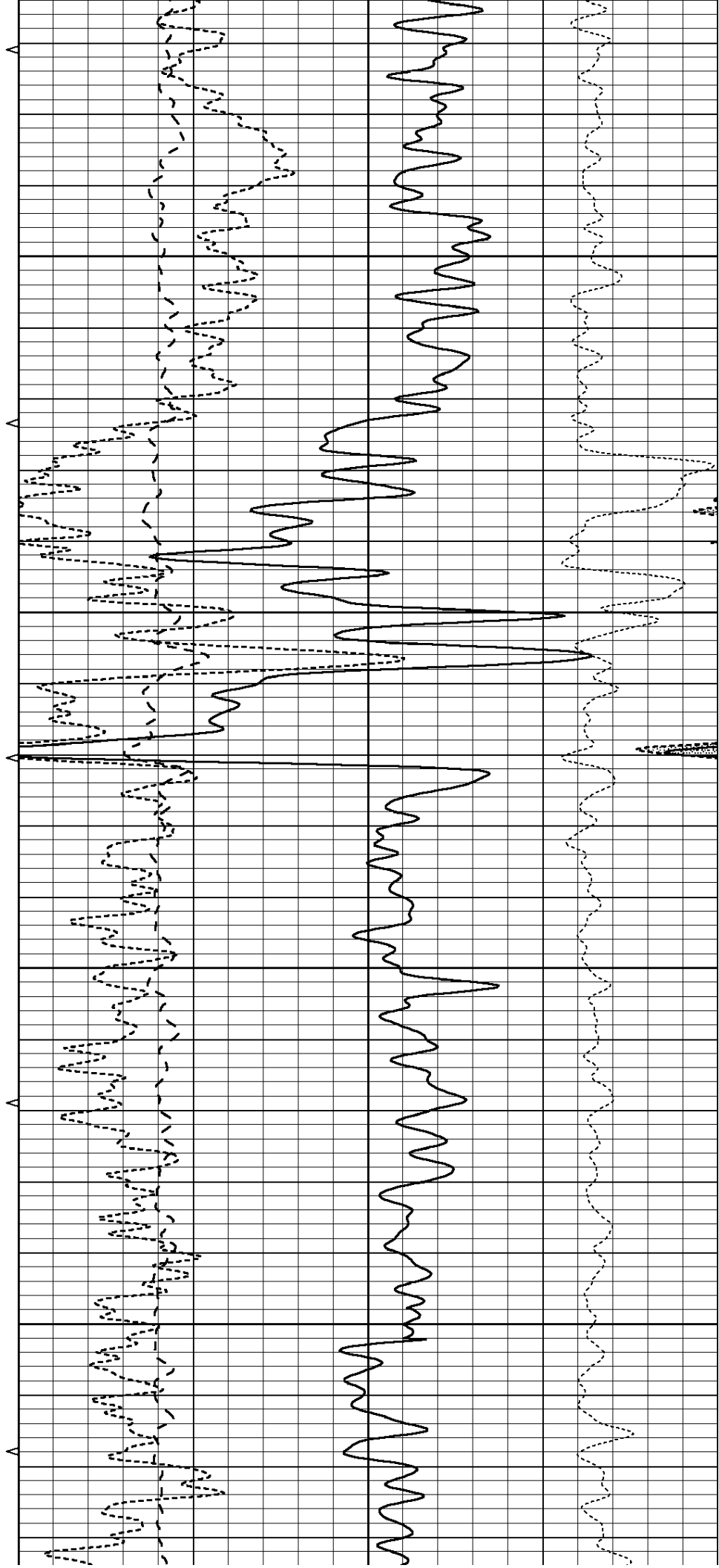
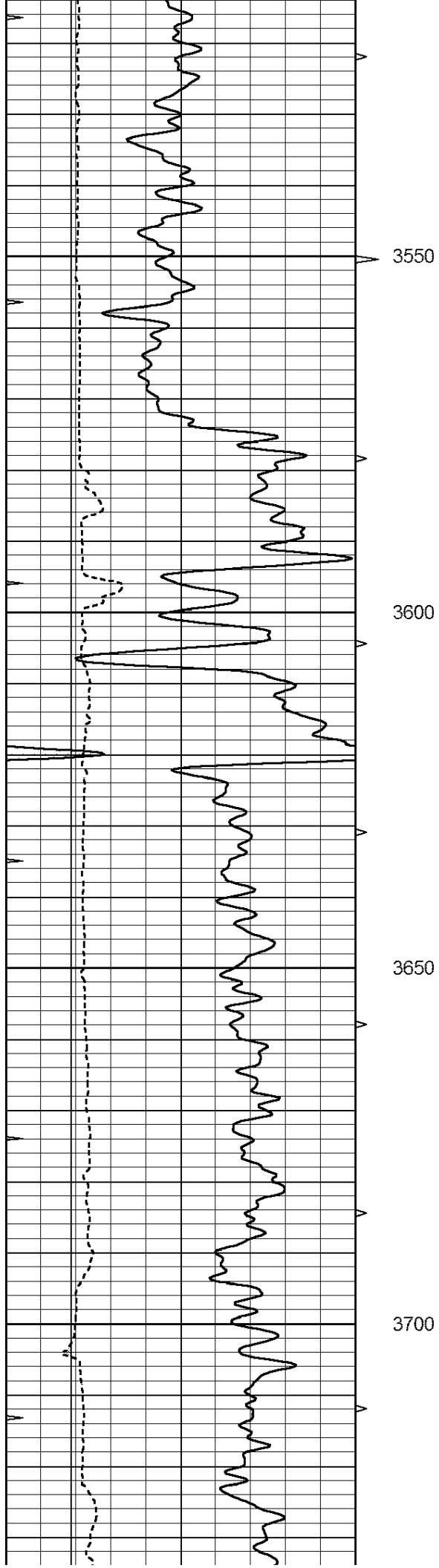


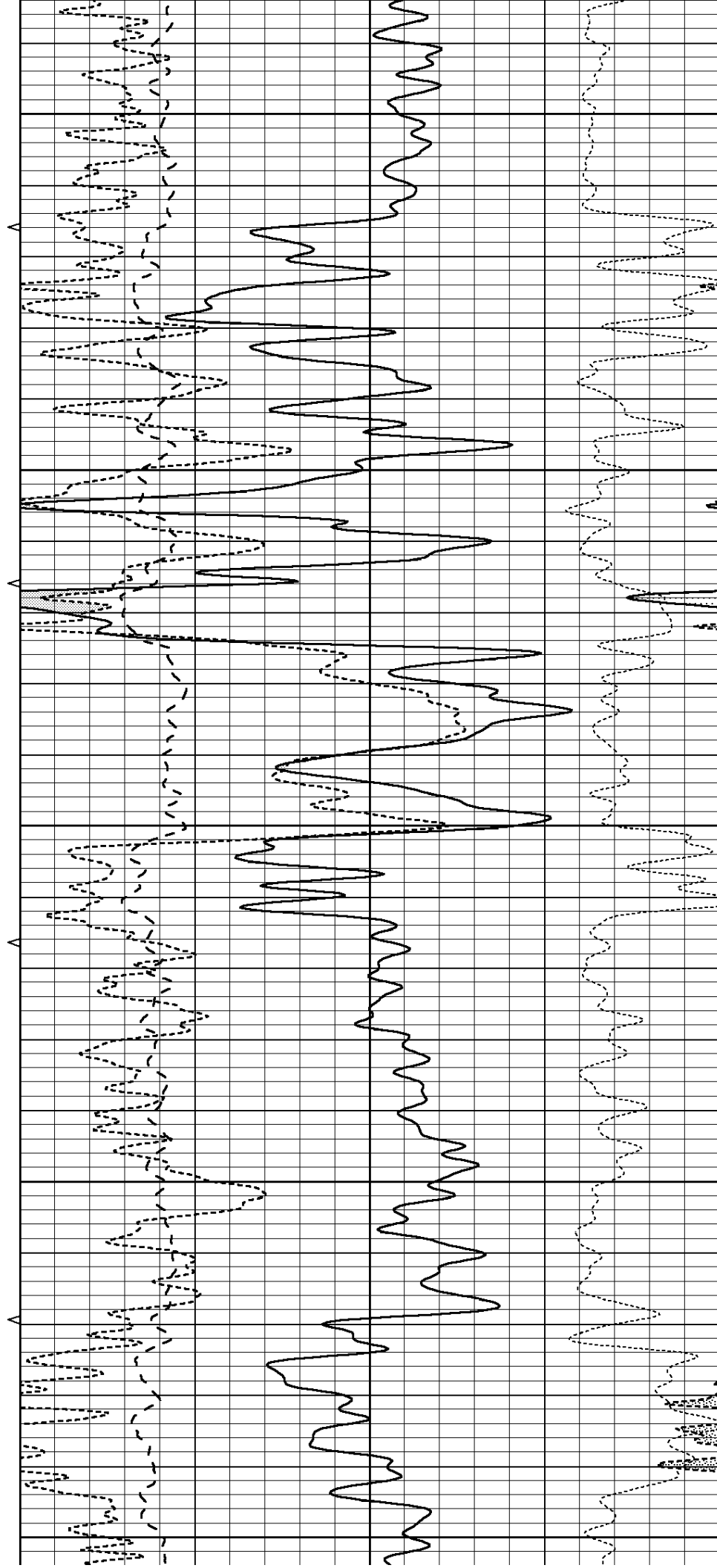
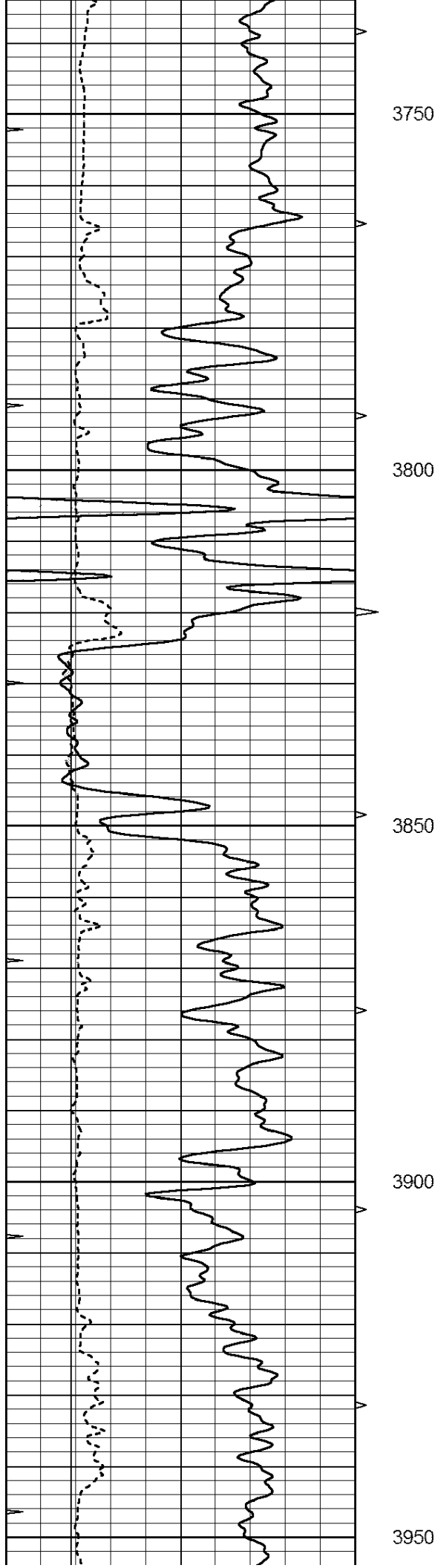


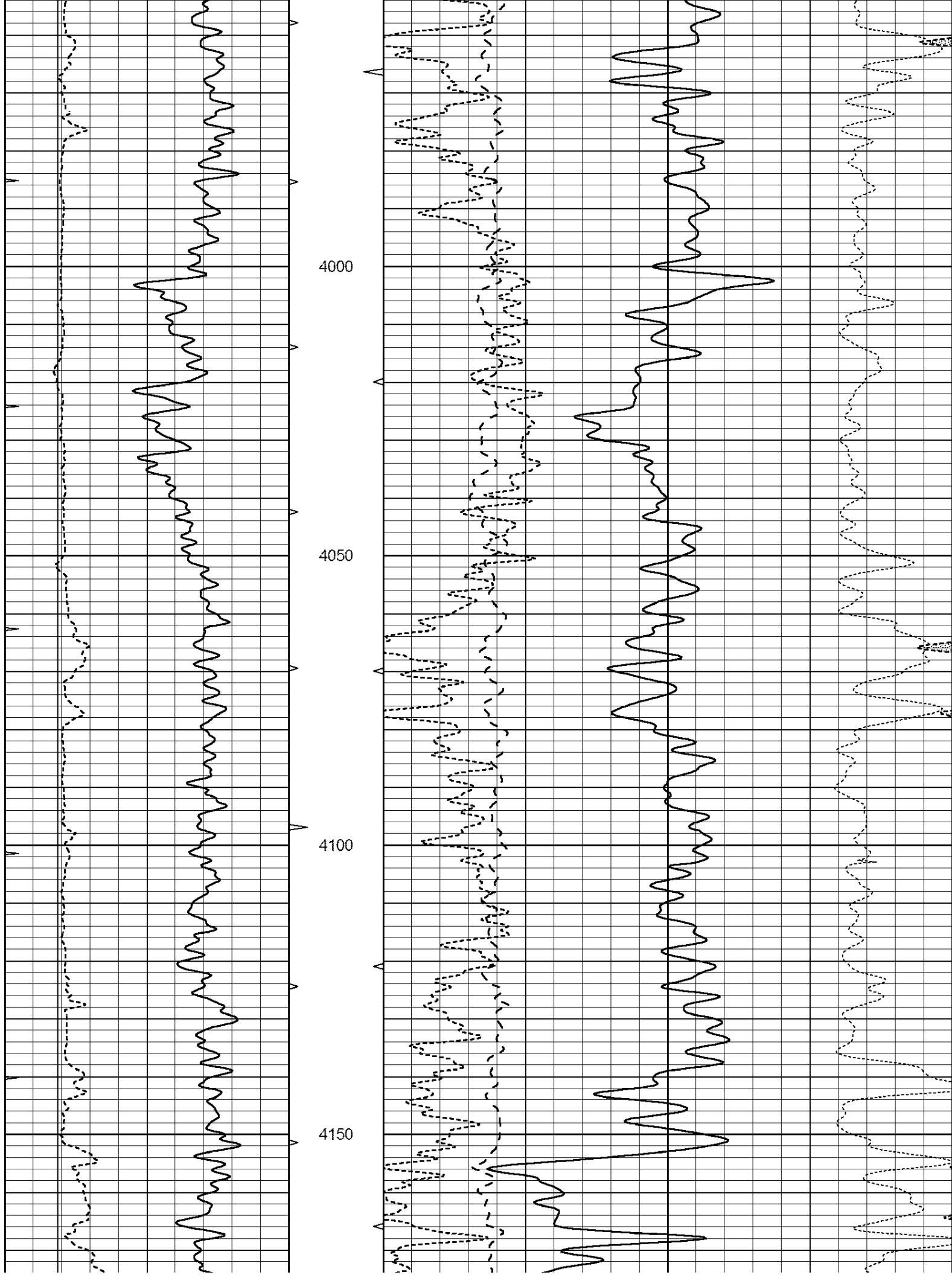


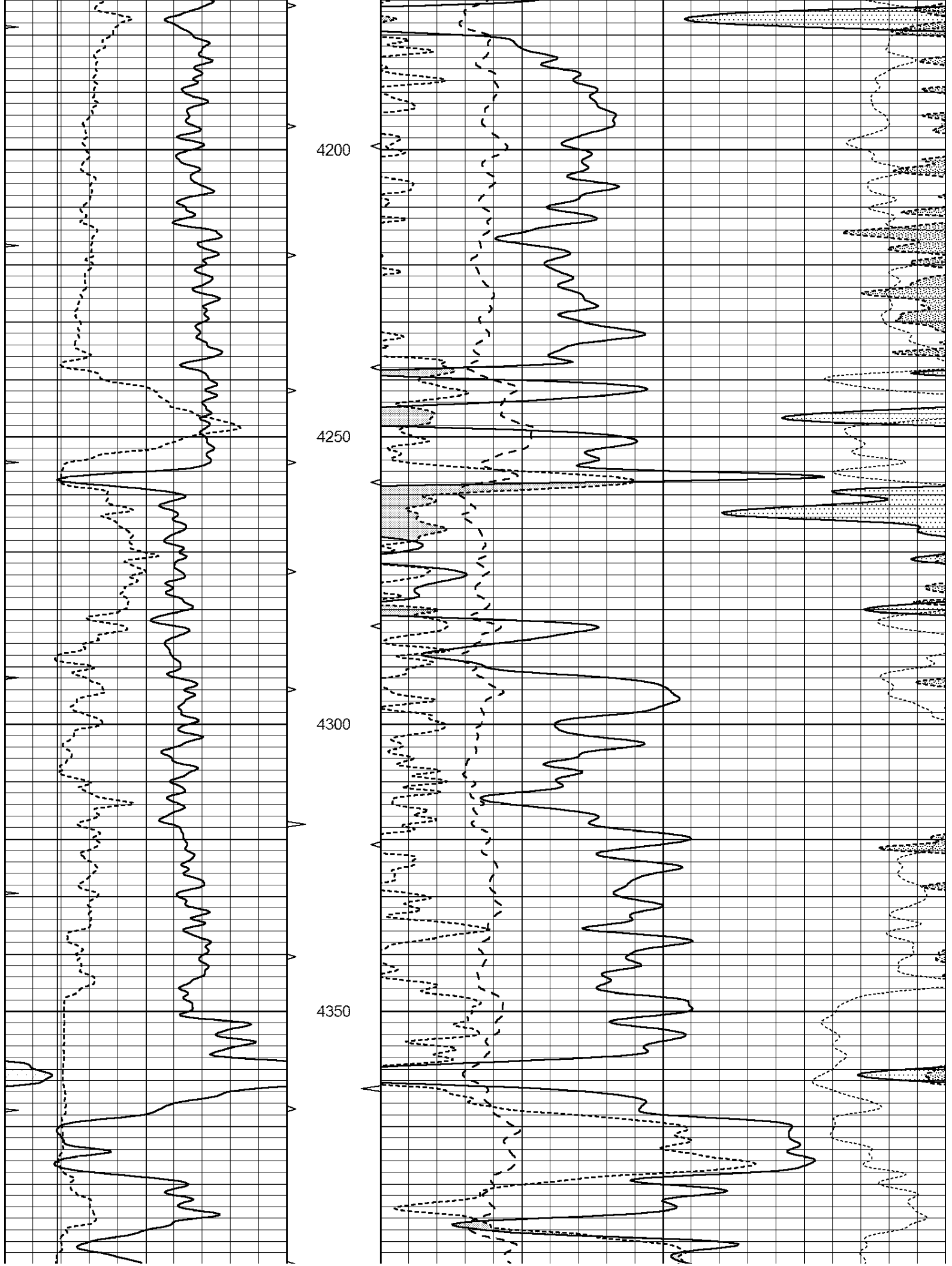


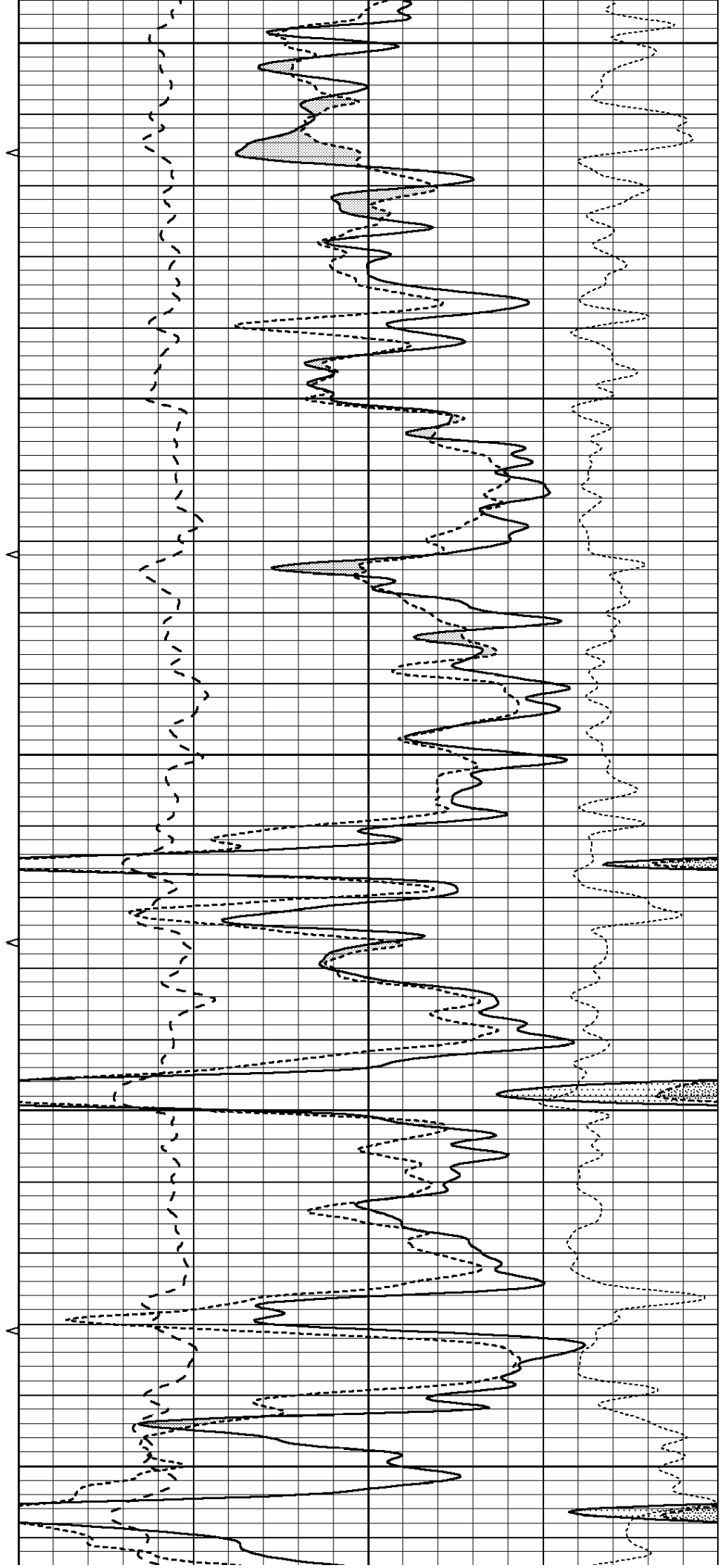
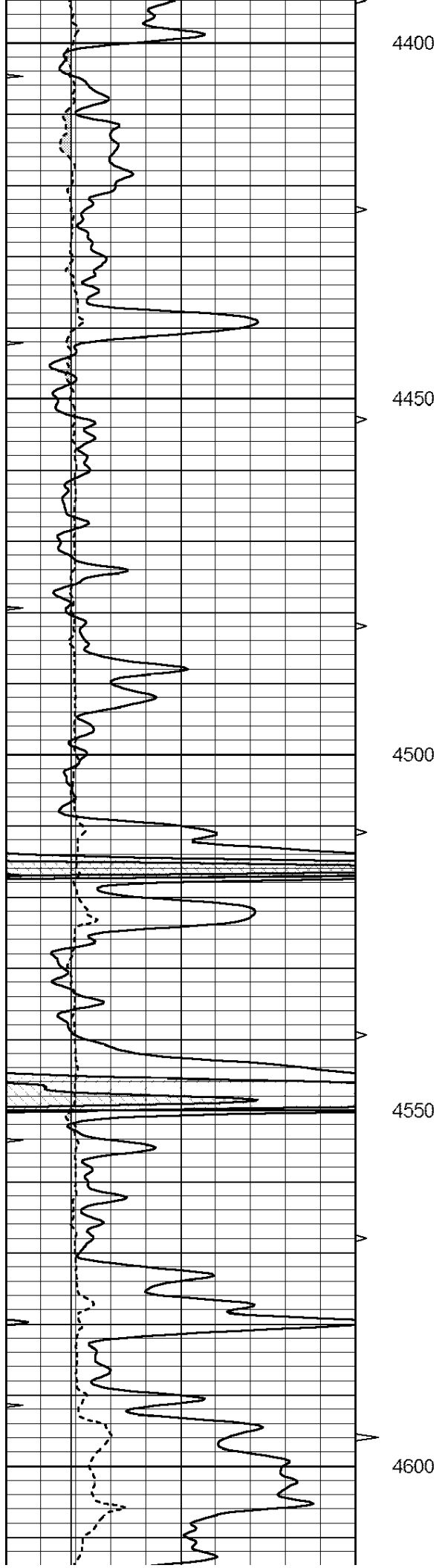


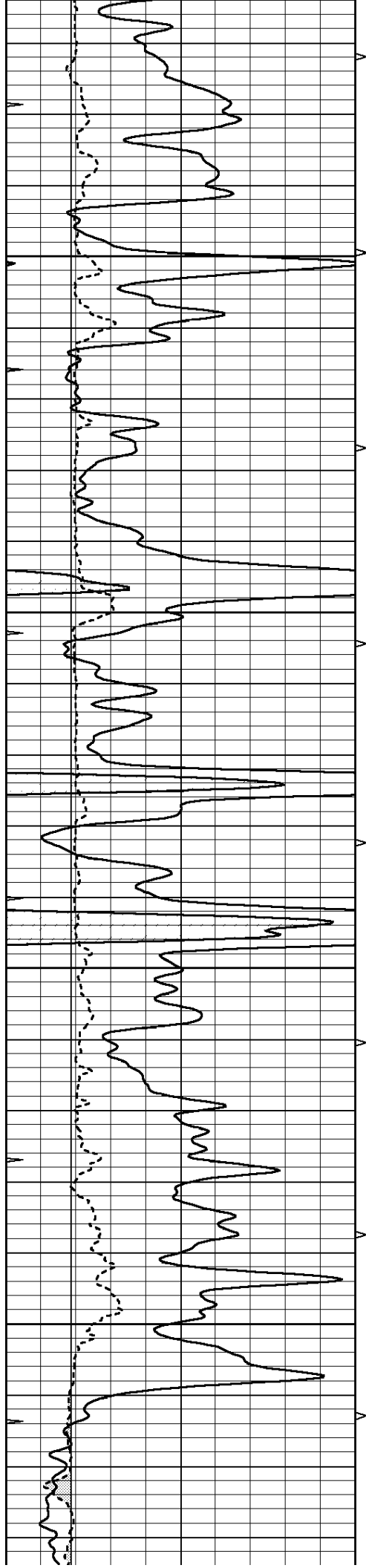










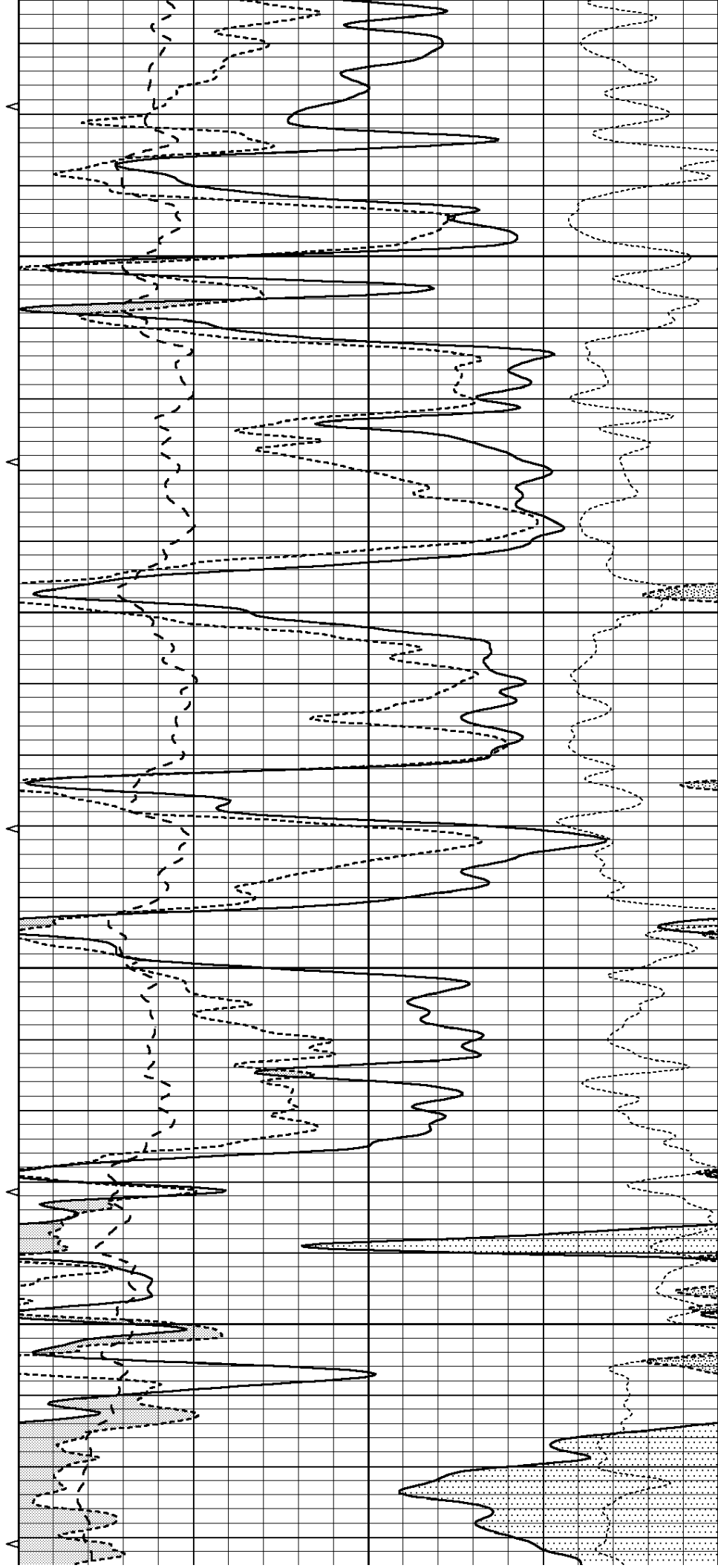


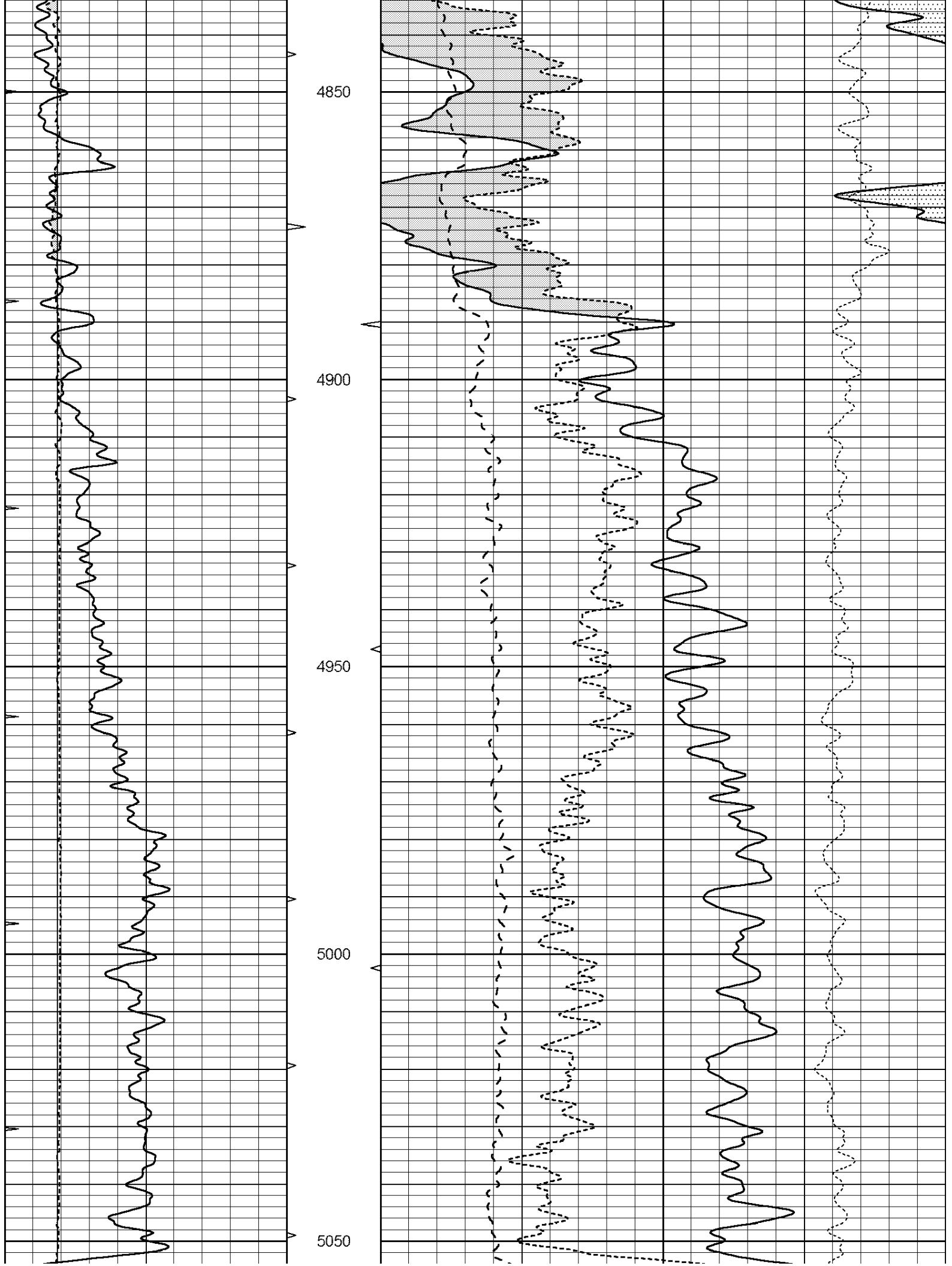
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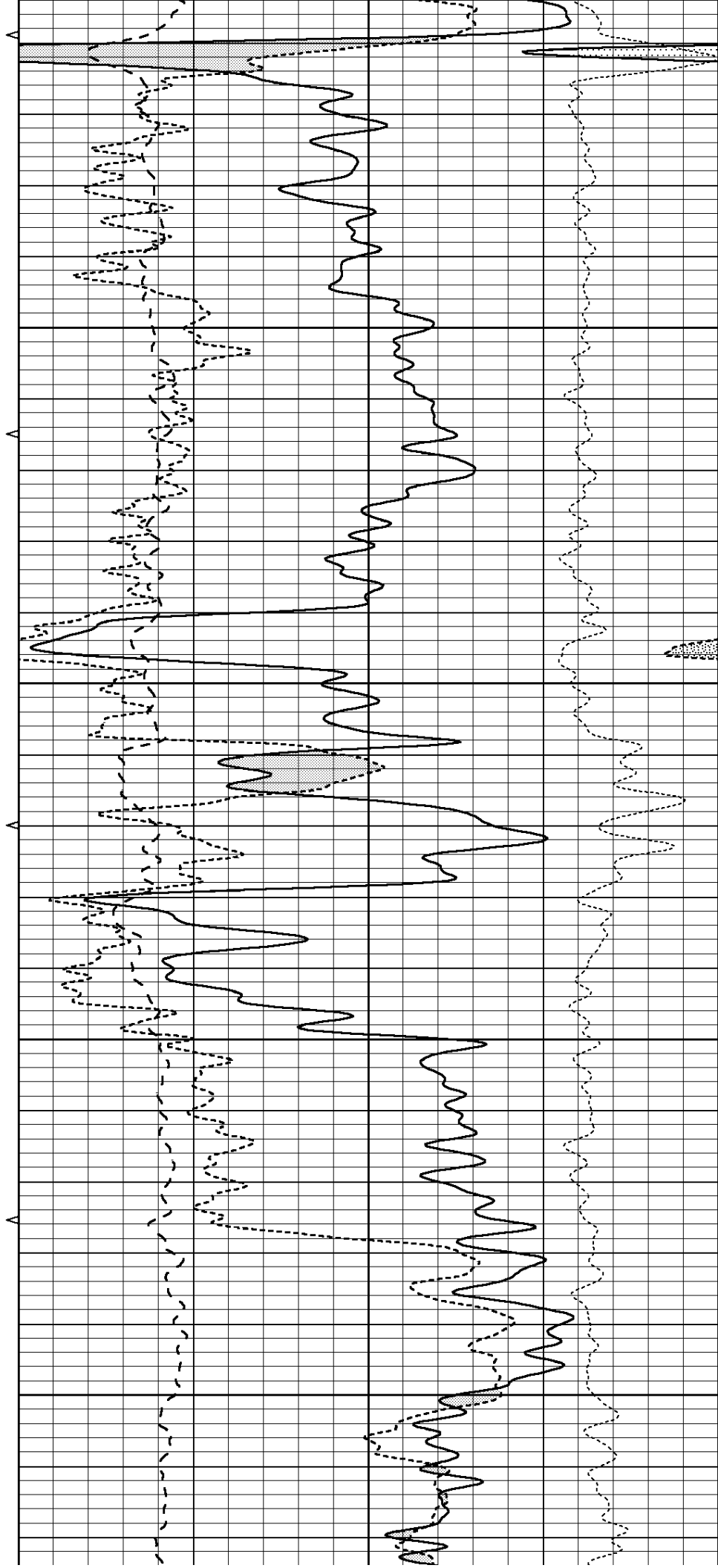
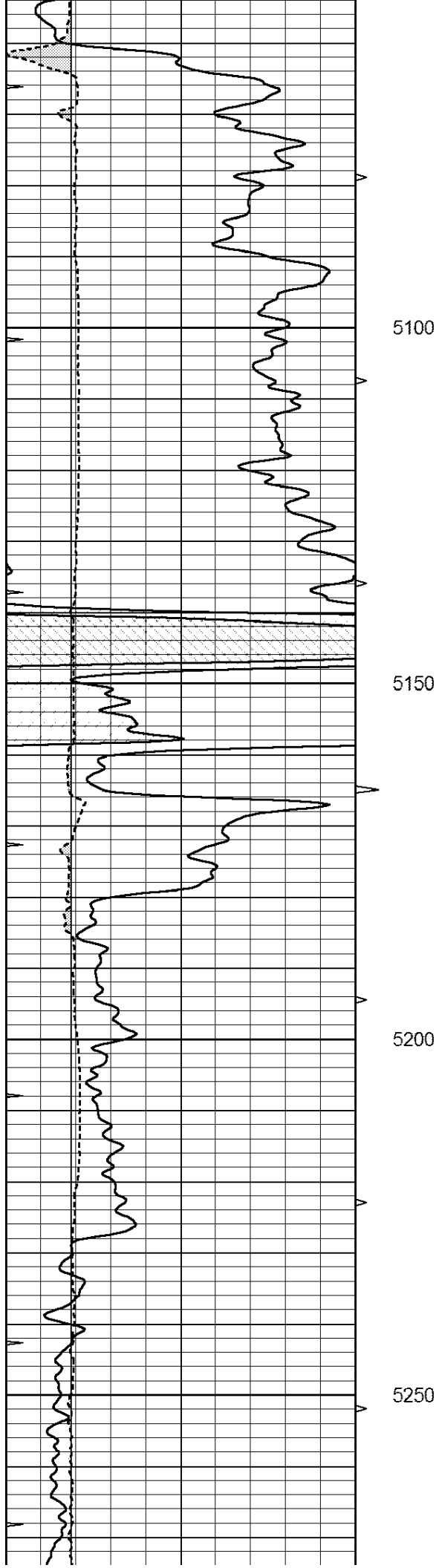
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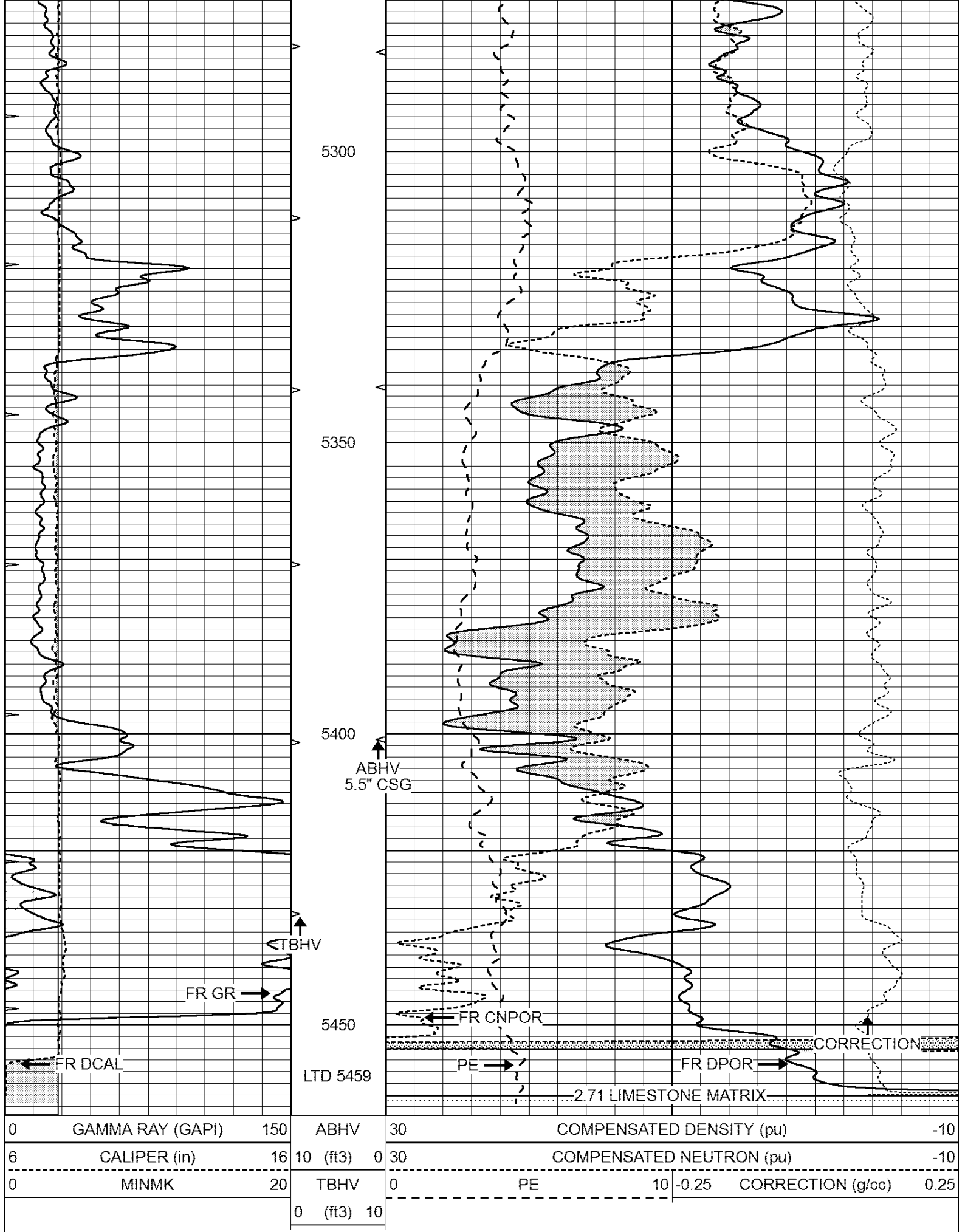
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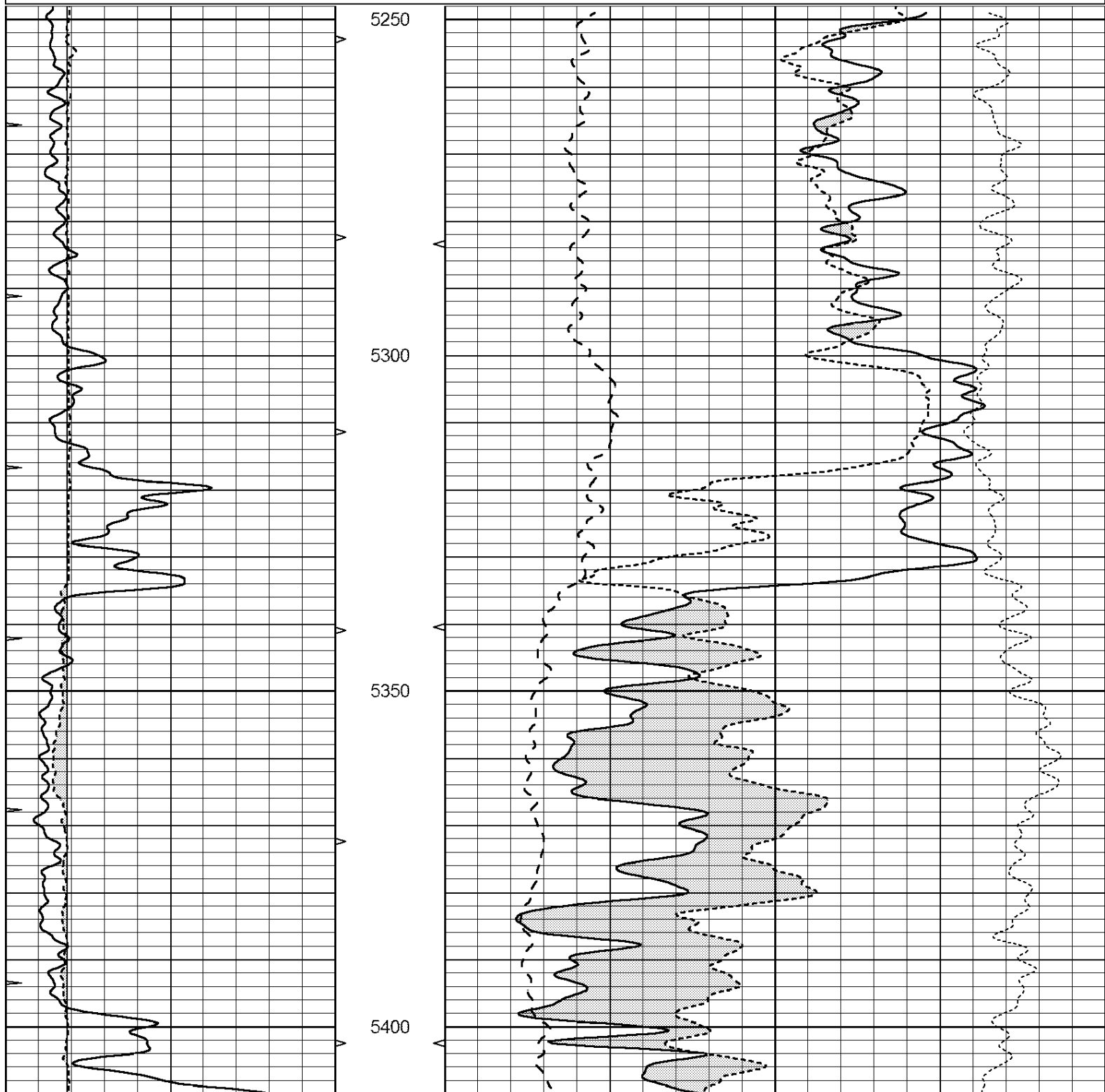


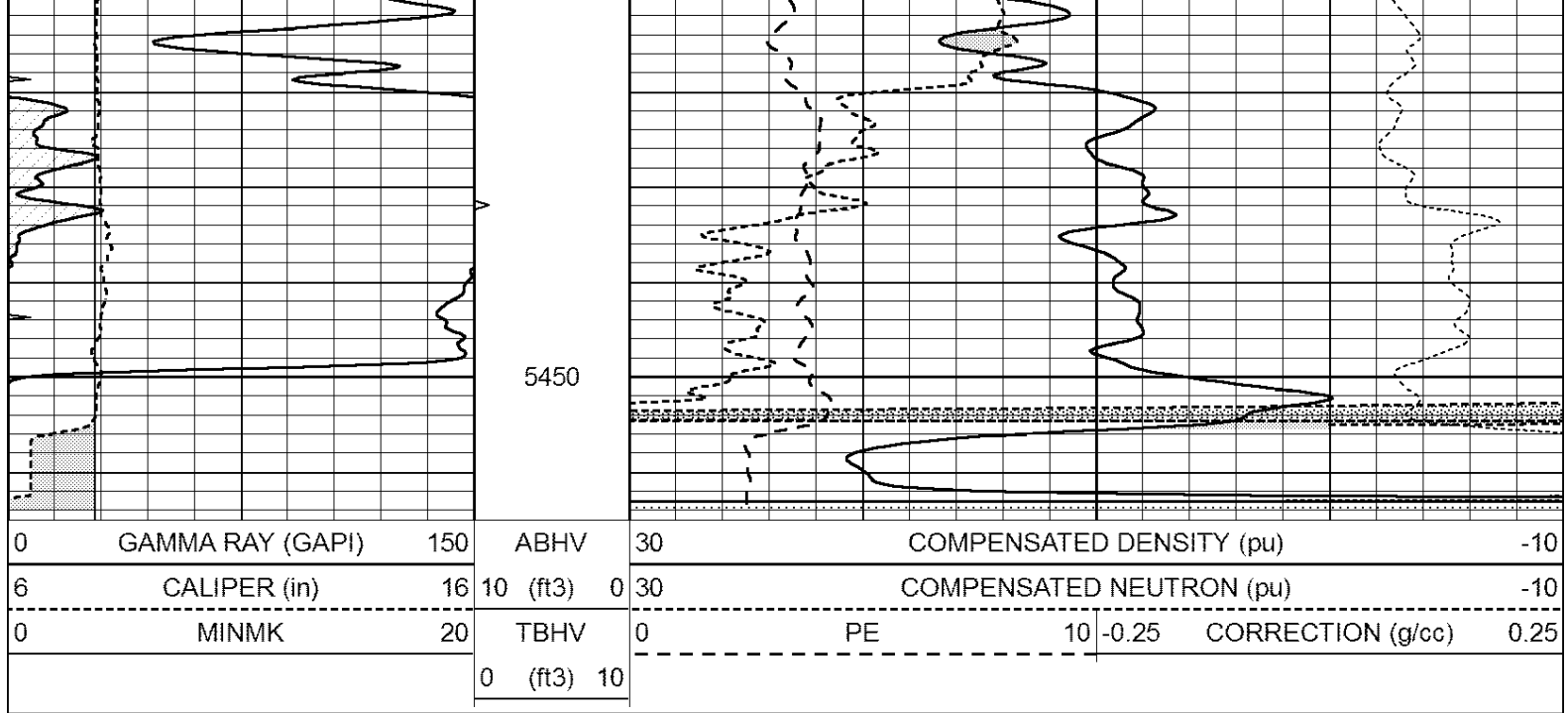


REPEAT SECTION

Database File: 23894pe.db
 Dataset Pathname: pass4.1
 Presentation Format: _ldt_neu
 Dataset Creation: Fri Feb 14 21:40:28 2014 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: 23894pe.db
 Dataset Pathname: pass4.1
 Dataset Creation: Fri Feb 14 21:40:28 2014 by Calc Open-Cased 090629

Litho Density Calibration Report

Serial: 001 Model: PRB

Master Calibration

Performed Thu Sep 17 09:57:21 2009

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2056.0	9796.8	3673.1	10821.3	cps
Window 2	1920.0	8541.1	3303.5	9307.2	cps
Window 3	1563.1	4735.7	2212.8	5017.5	cps
Window 4	466.0	466.1	465.6	471.5	cps
Long Space	0.0	6621.1	1383.5	7387.2	cps
Short Space	2.5	2361.7	1523.2	2534.0	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 44.4	Rib Slope	: 0.978	Density/Spine Ratio	: 0.541
Spine Angle	: 74.4	Spine Slope	: 3.570	Spine Intercept	: -18.9

Before Survey Verification

Performed Wed Dec 31 18:00:00 1969

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

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	

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Compensated Neutron Calibration Report
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Serial Number:	6l
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:	Fri Nov 29 08:34:37 2013	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.6035	GAPI/cps