



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY / NEUTRON
PE LOG

Company	WOOLSEY OPERATING CO. LLC.	Company	WOOLSEY OPERATING COMPANY, LLC.
Well	ACHENBACH #1	Well	ACHENBACH #1
Field	STRANATHAN	Field	STRANATHAN
County	BARBER	County	BARBER
State	KANSAS	State	KANSAS
Location:	API # : 15-007-23938-0000	Other Services	DIL
Permanent Datum	GROUND LEVEL	Elevation	1374
Log Measured From	KELLY BUSHING 8' A.G.L.	K.B.	1382
Drilling Measured From	KELLY BUSHING	D.F.	1380
		G.L.	1374
Date	9/27/12		
Run Number	ONE		
Depth Driller	5485		
Depth Logger	5468		
Bottom Logged Interval	5444		
Top Log Interval	1800		
Casing Driller	13 3/8"@239'		
Casing Logger	230		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES	7,000 PPM
Density / Viscosity	9.2/54		
pH / Fluid Loss	9.5/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.650@84F		
Rmt @ Meas. Temp	.486@84F		
Rmc @ Meas. Temp	.780@84F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.423@129F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	2:00 P.M.		
Maximum Recorded Temperature	129F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	SCOTT ALBERG		

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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
HARDTNER, KS., 3E. ON HWY 281 TO "ROUNDUP RD.", 1S., E. INTO



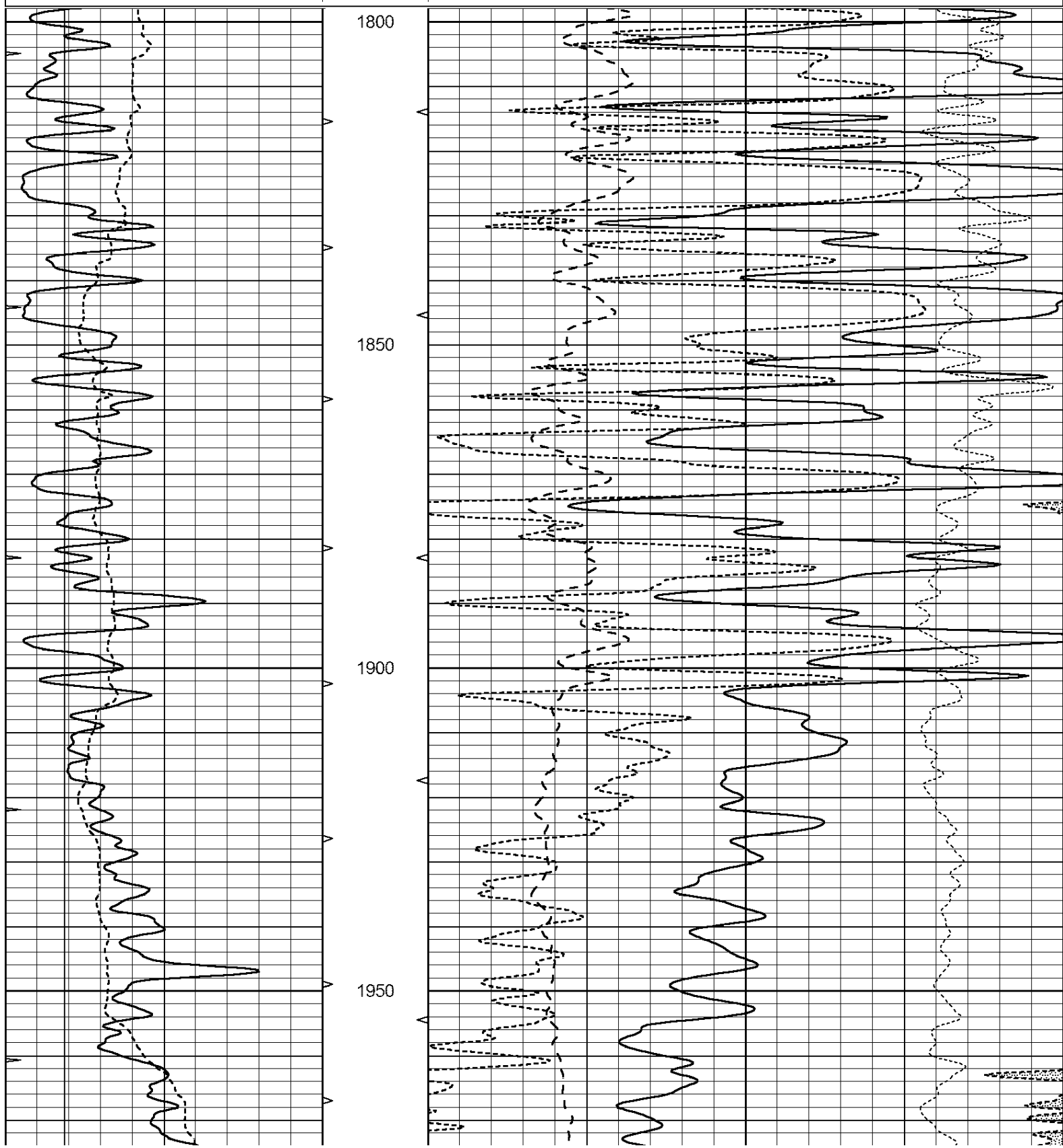
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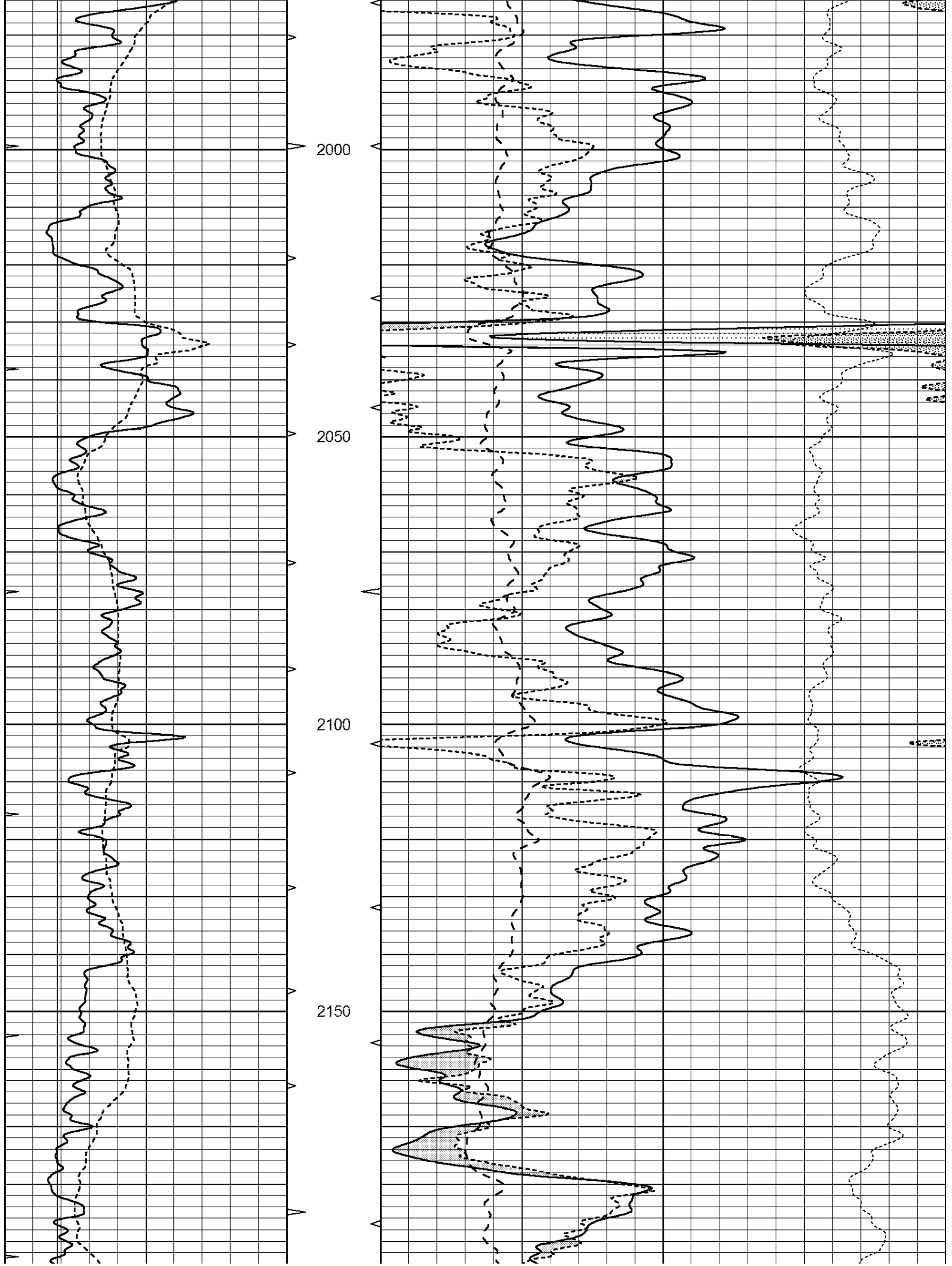
MAIN SECTION

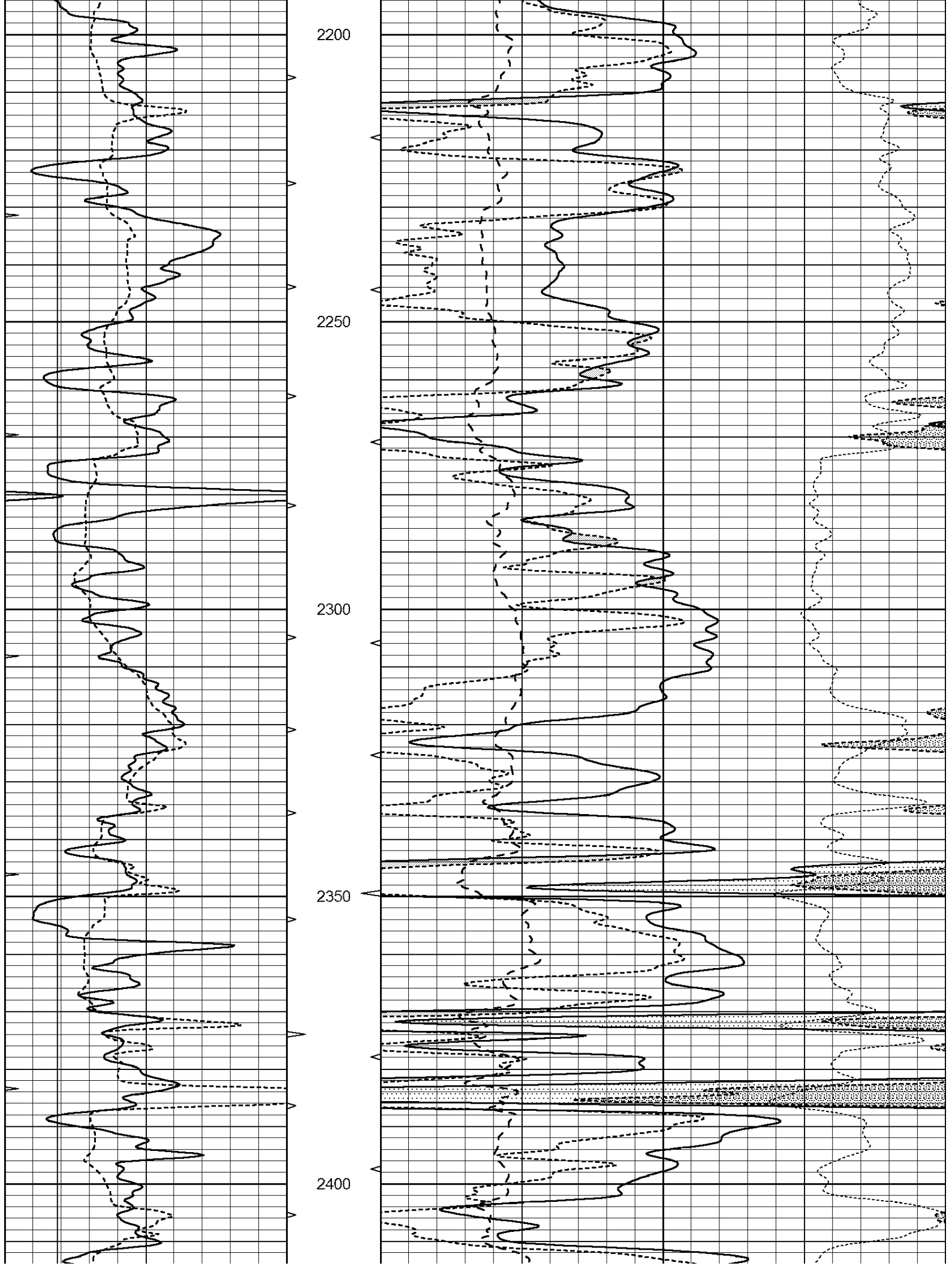
Database File: 409682pe.db
Dataset Pathname: pass4.9
Presentation Format: _ldt_neu
Dataset Creation: Thu Sep 27 16:43:21 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

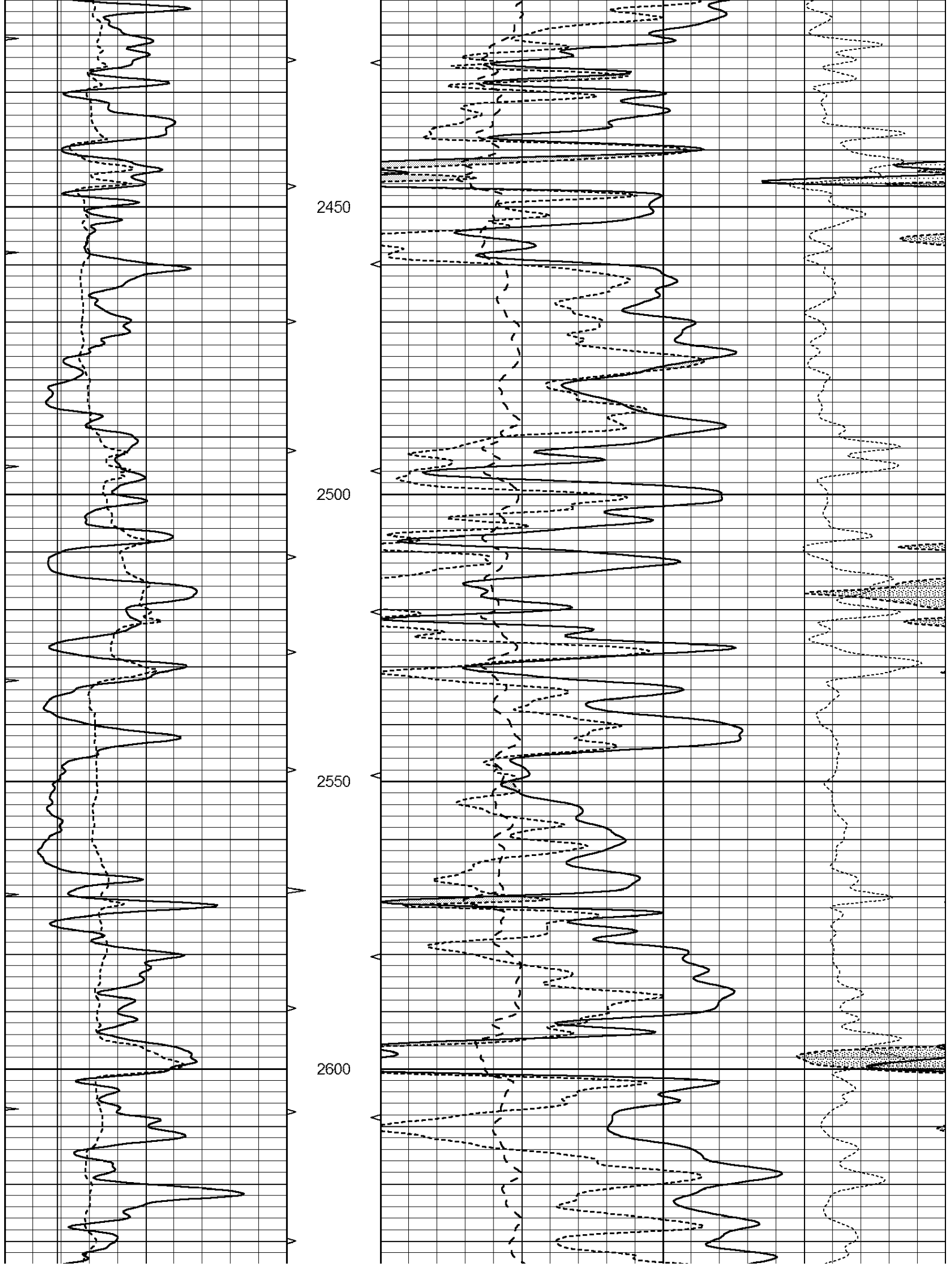
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10		
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)		-10	

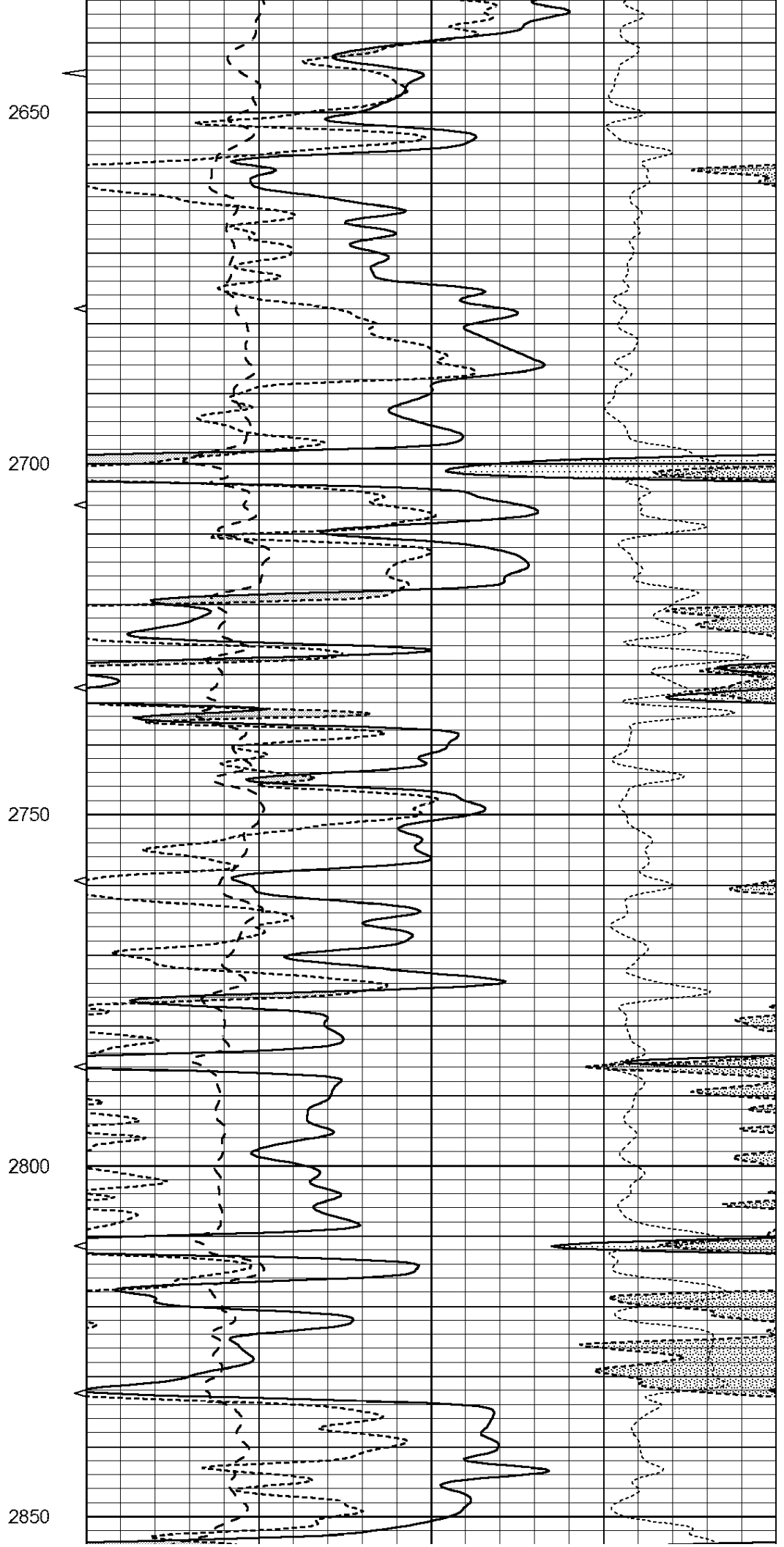
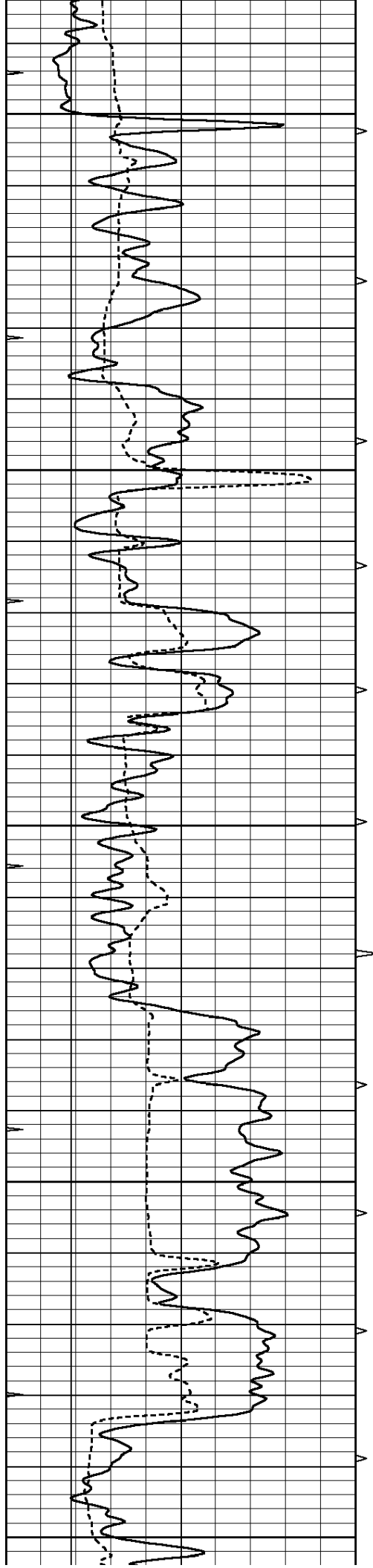
0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					

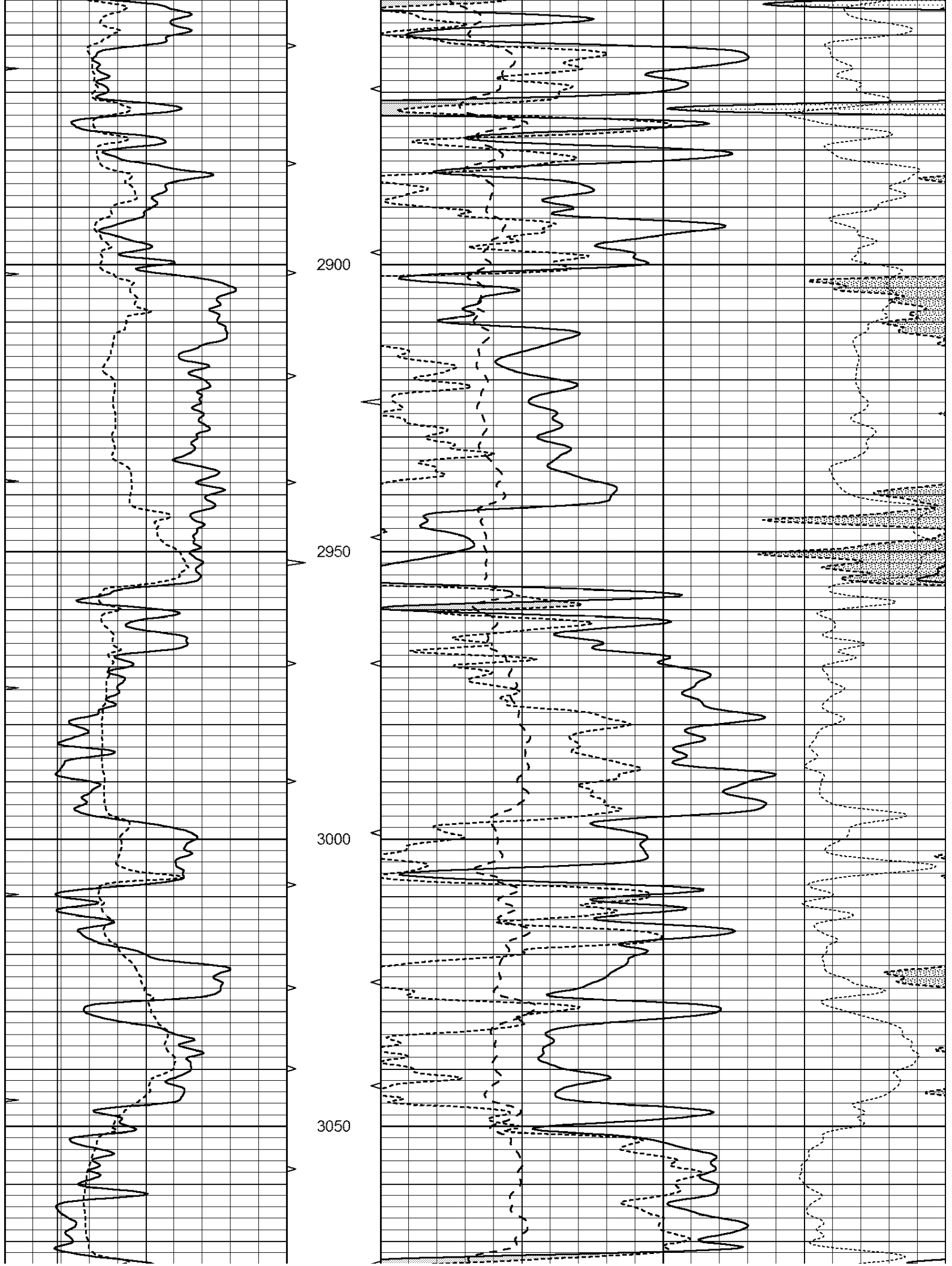


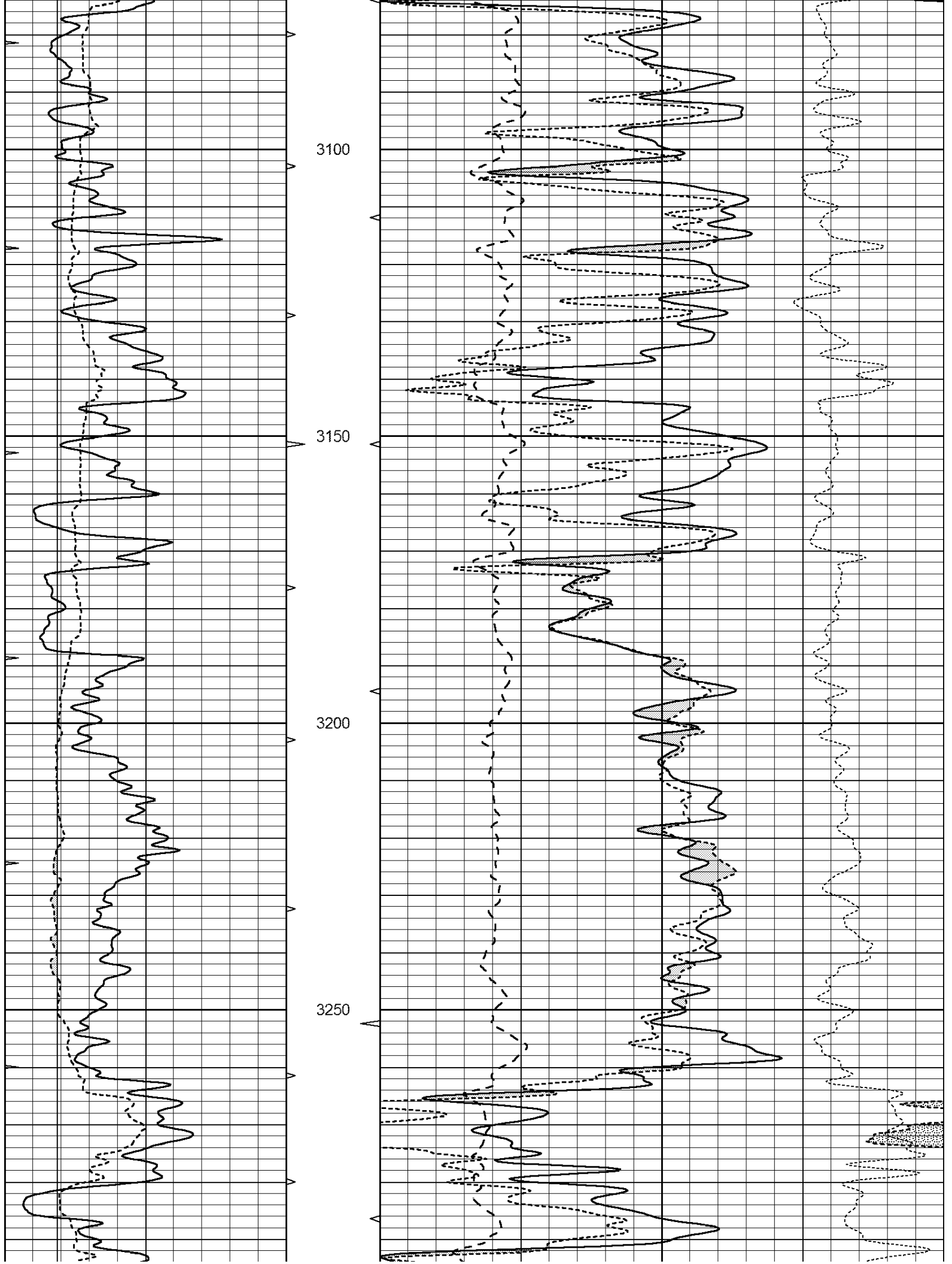


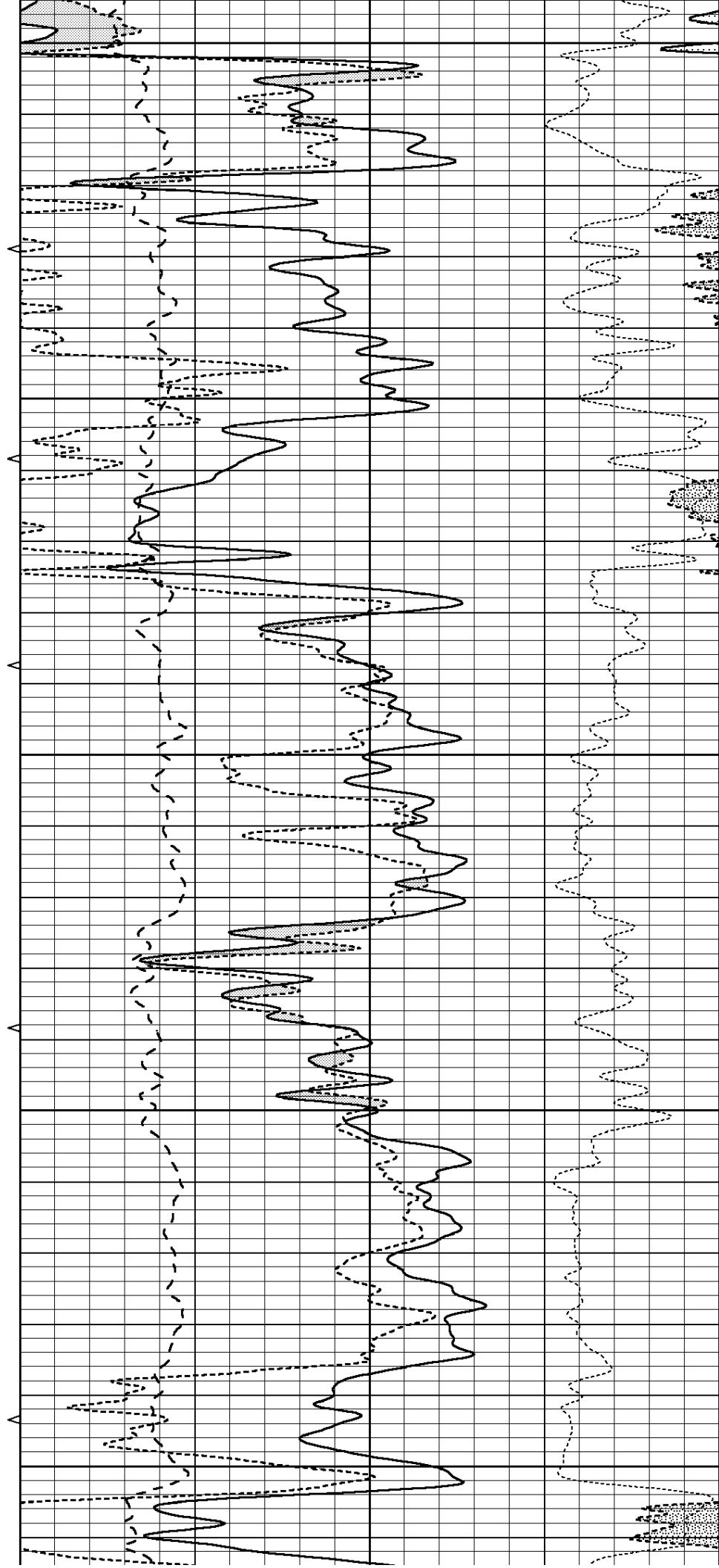
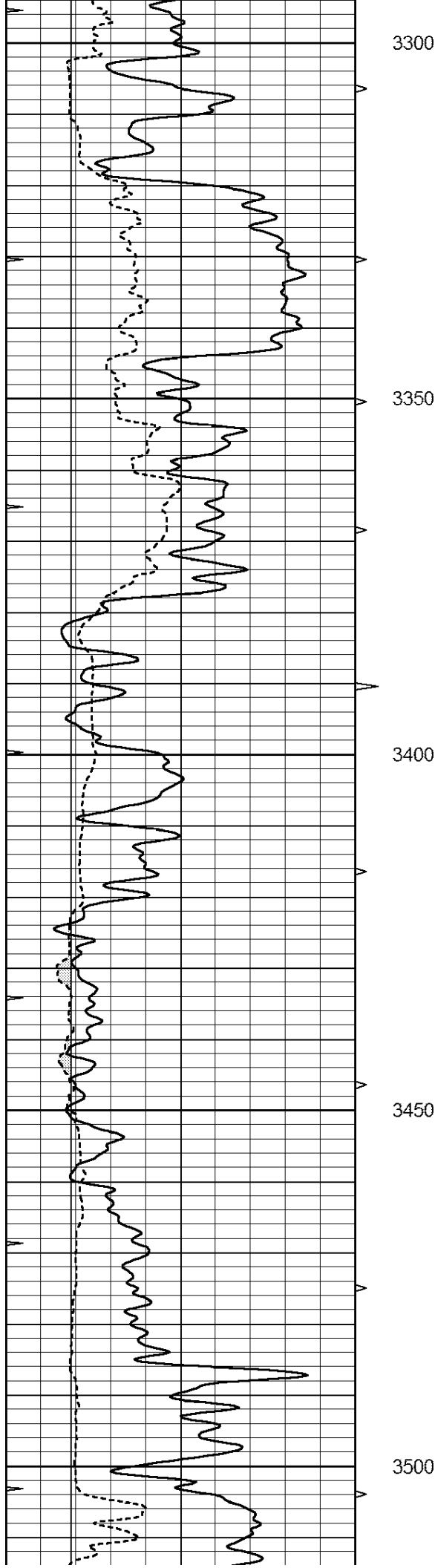


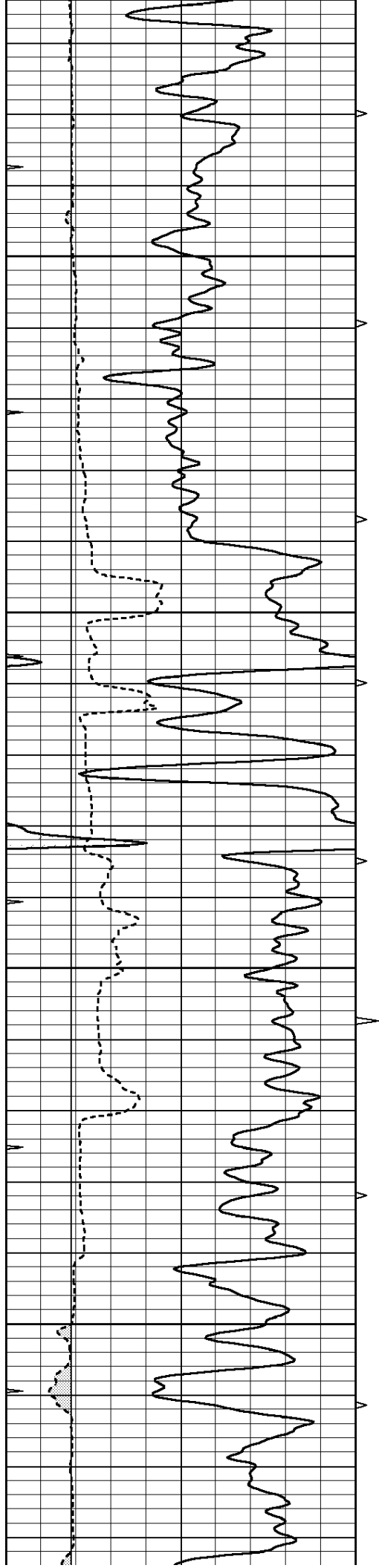










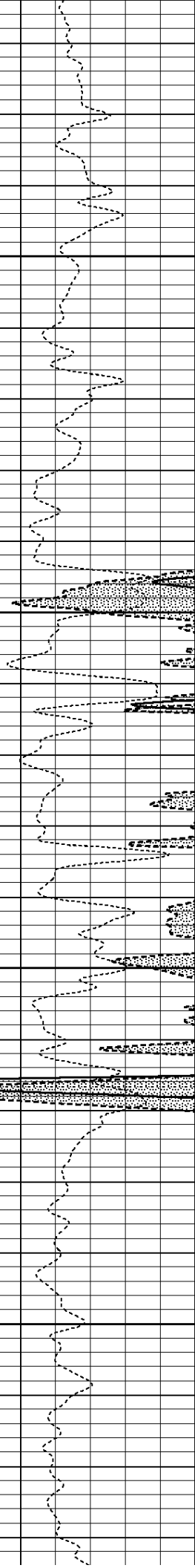
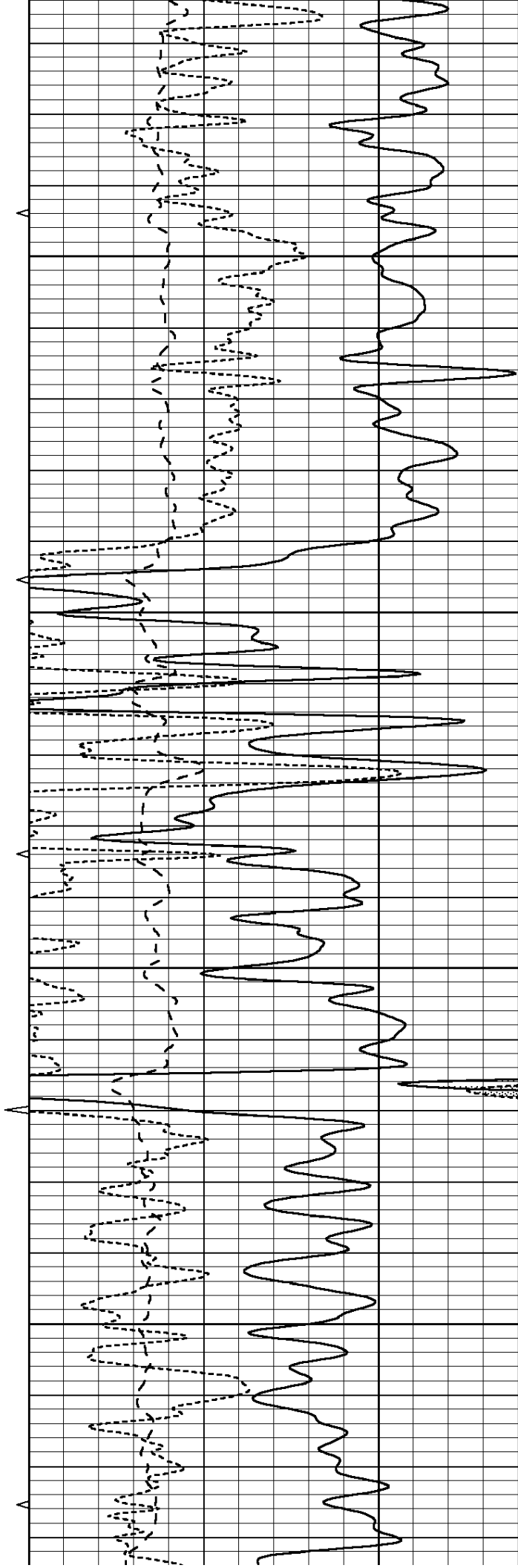


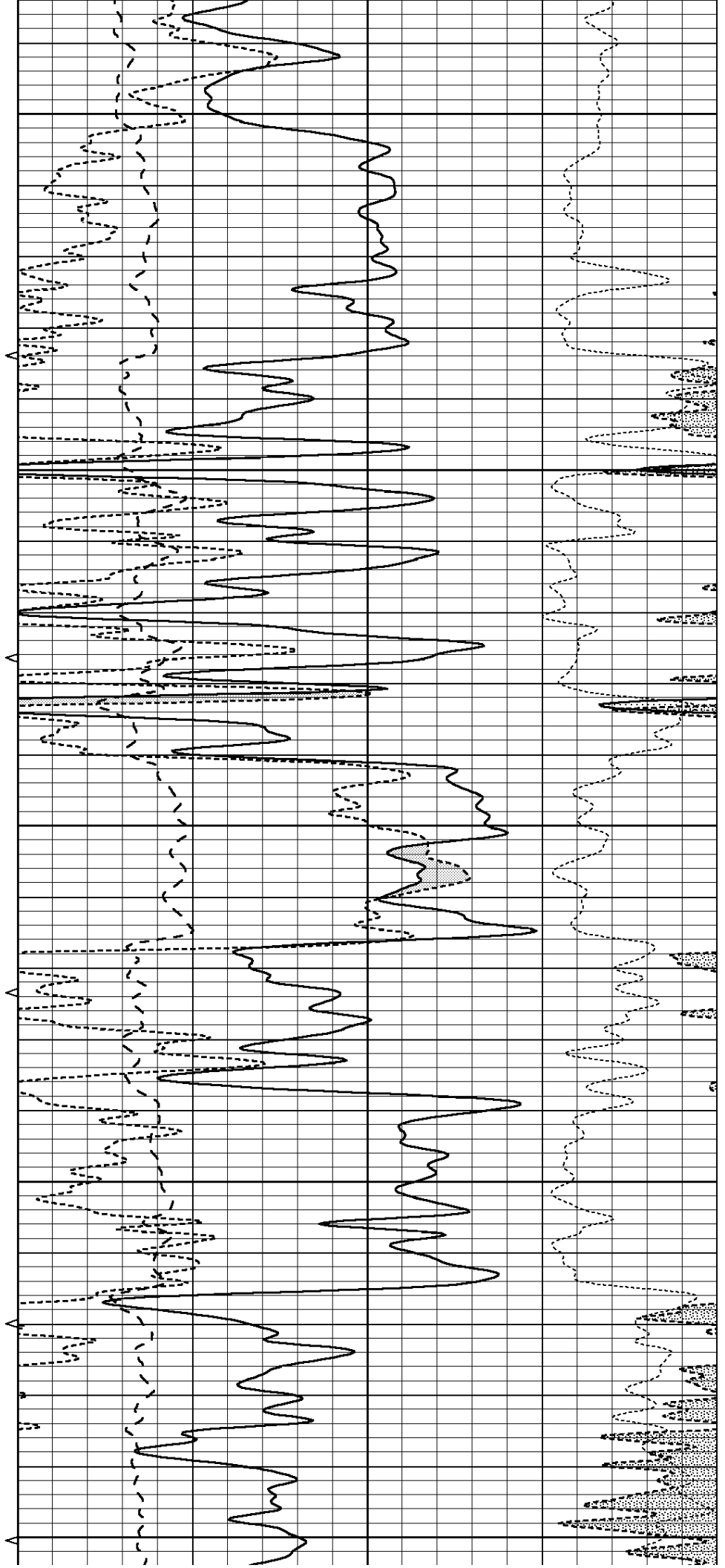
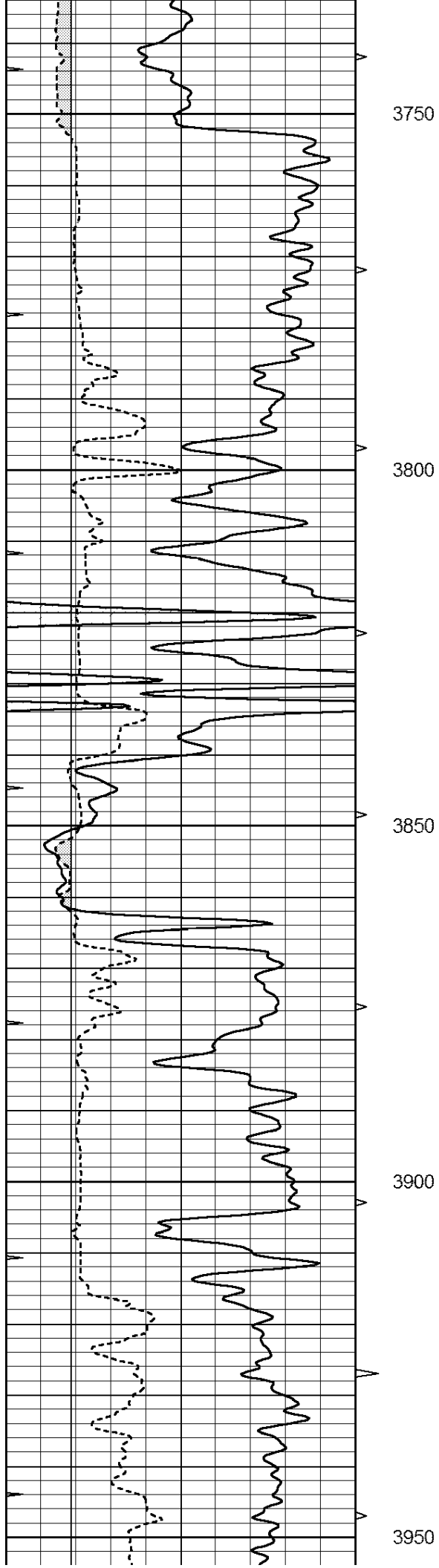
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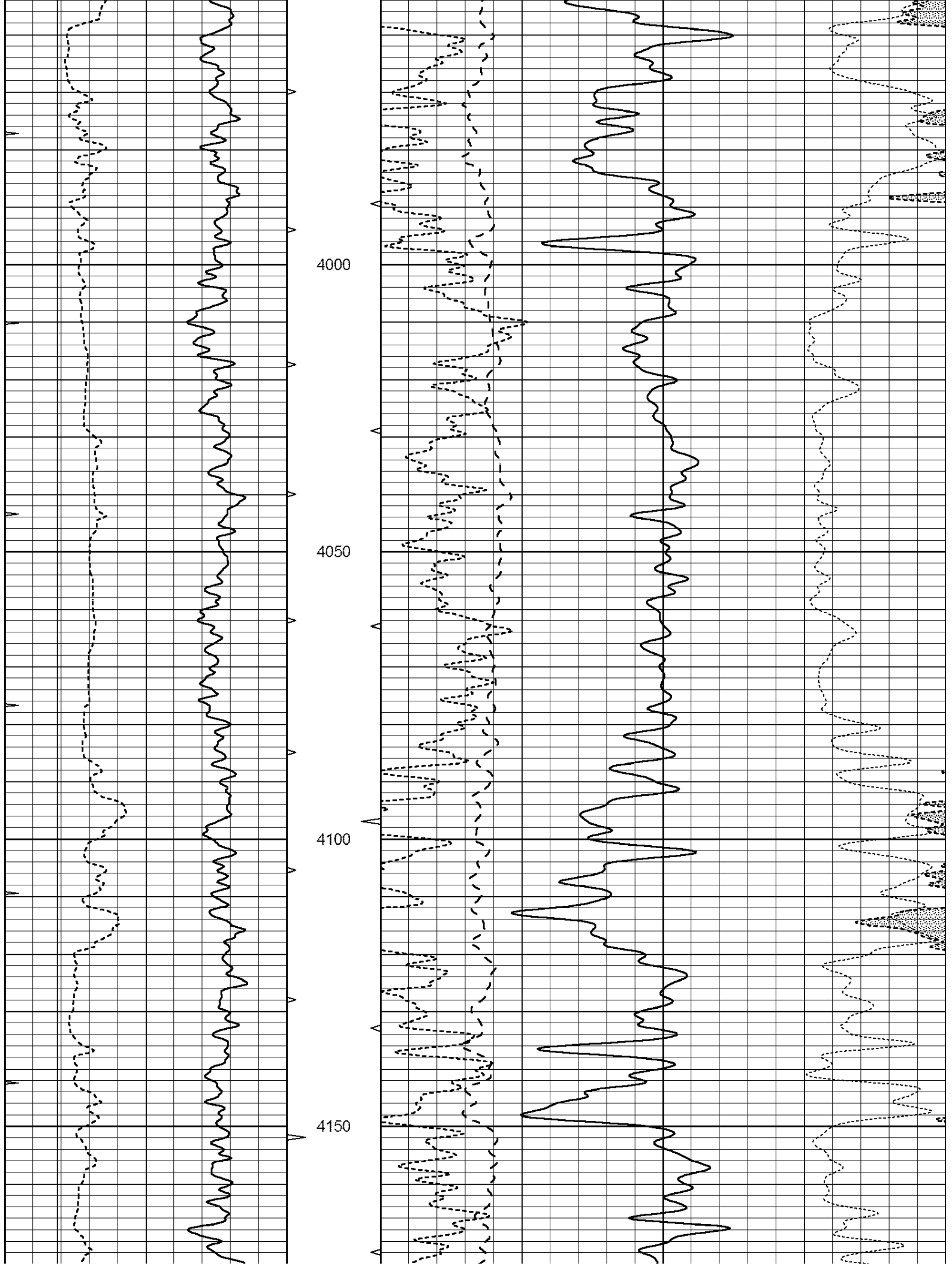
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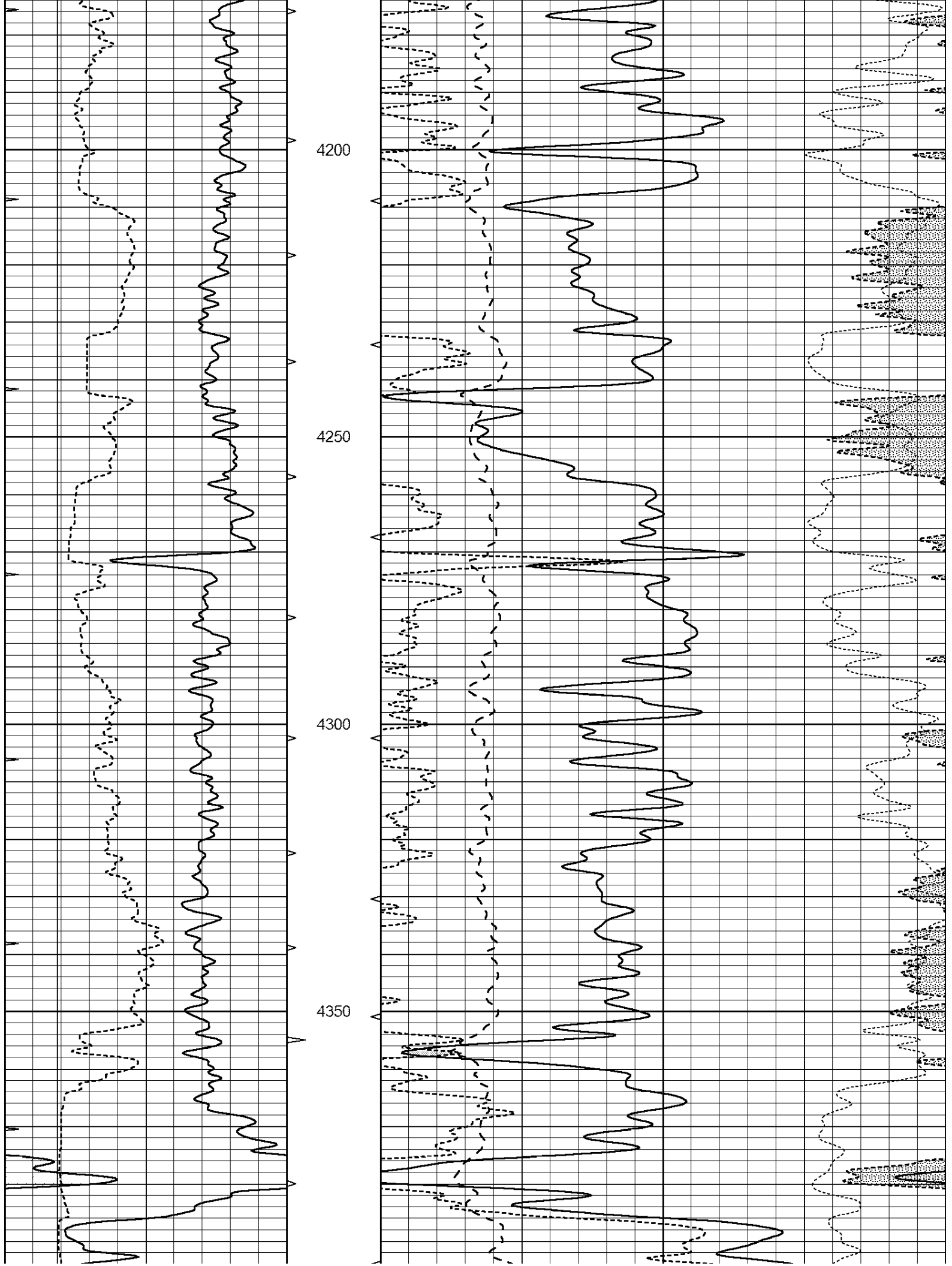
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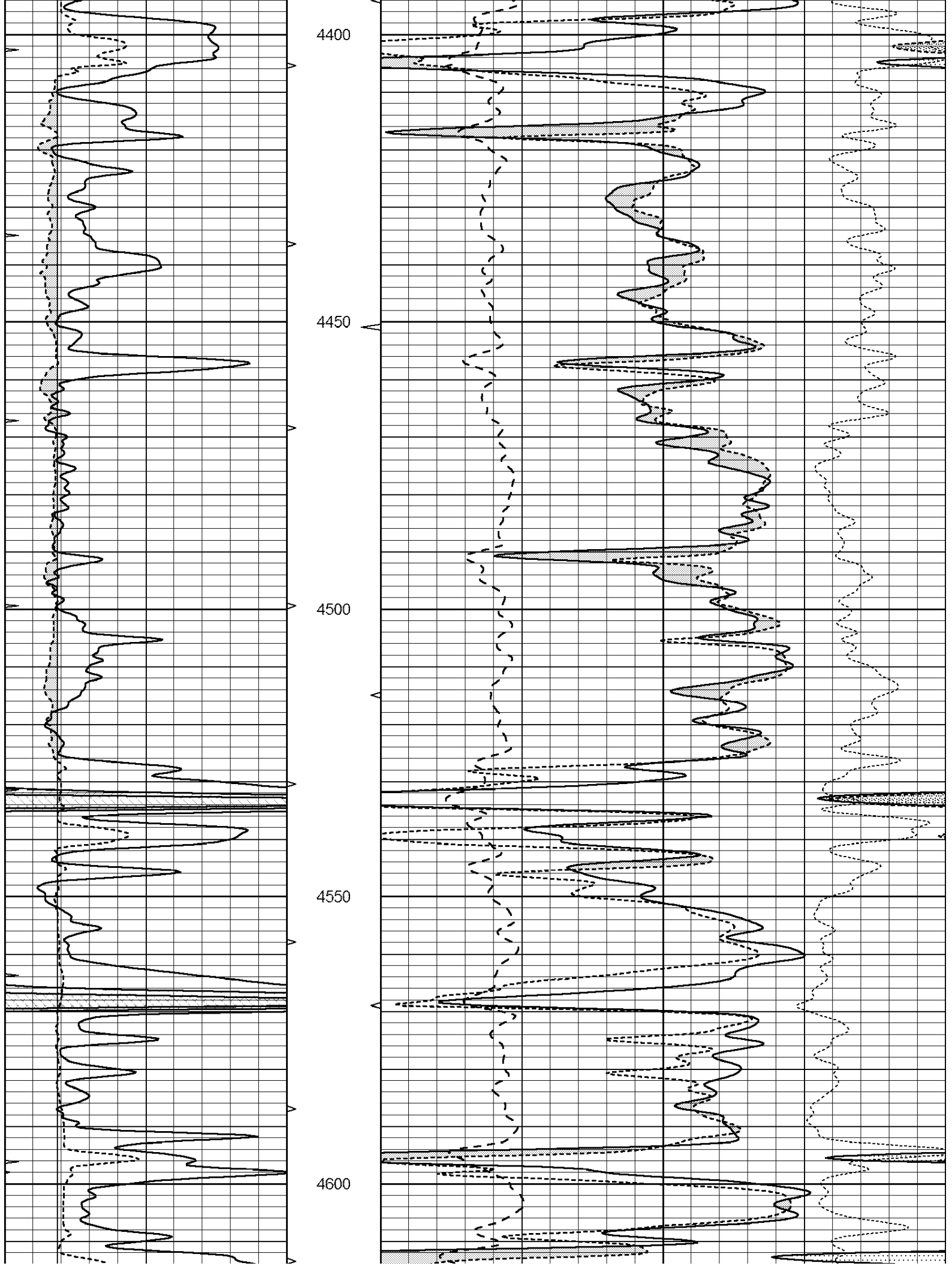
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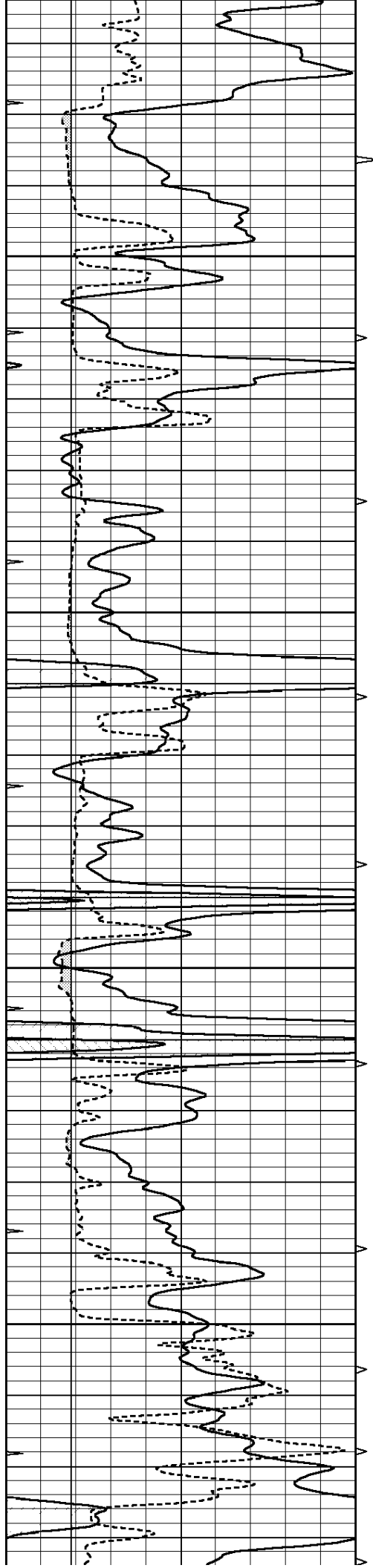










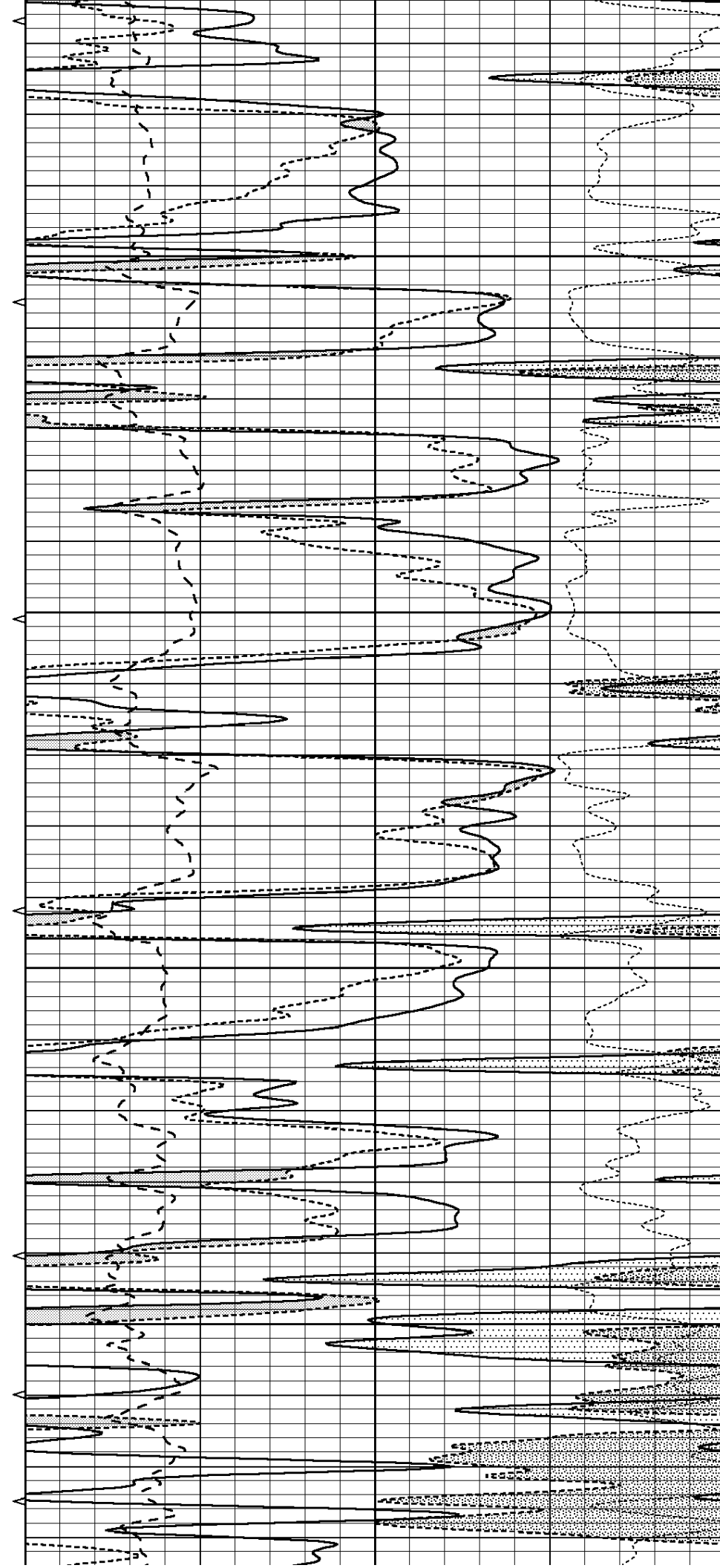


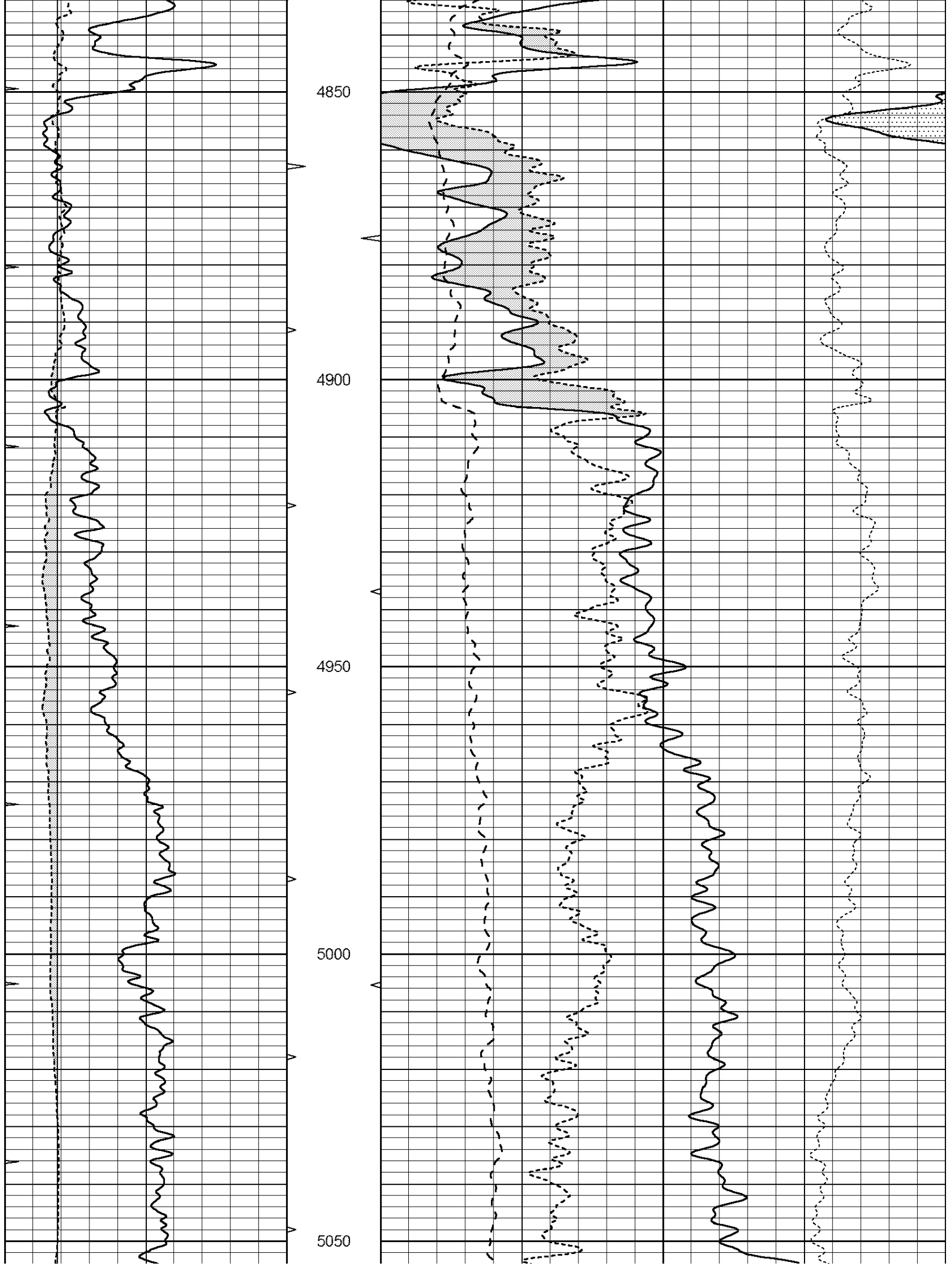
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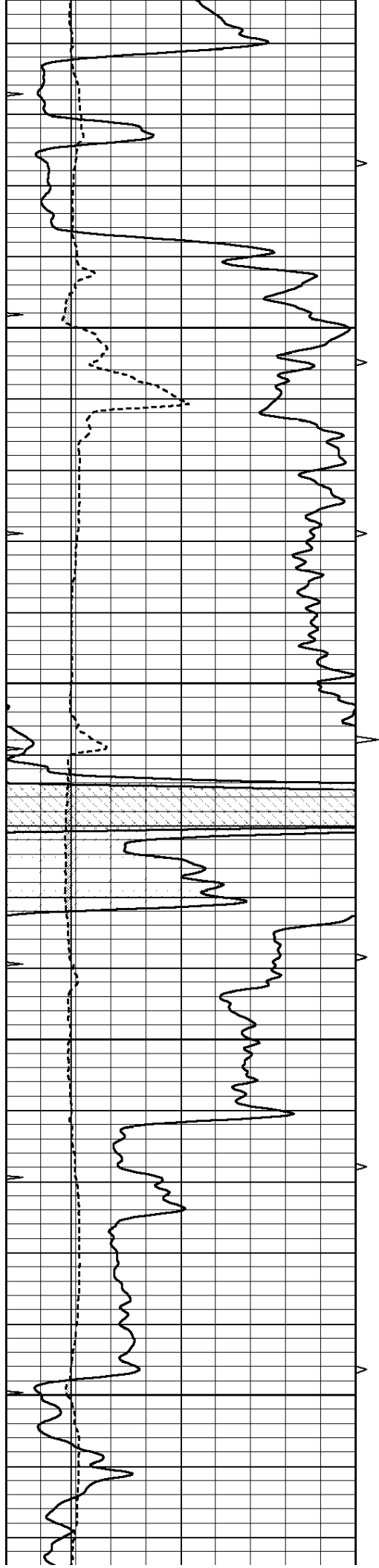
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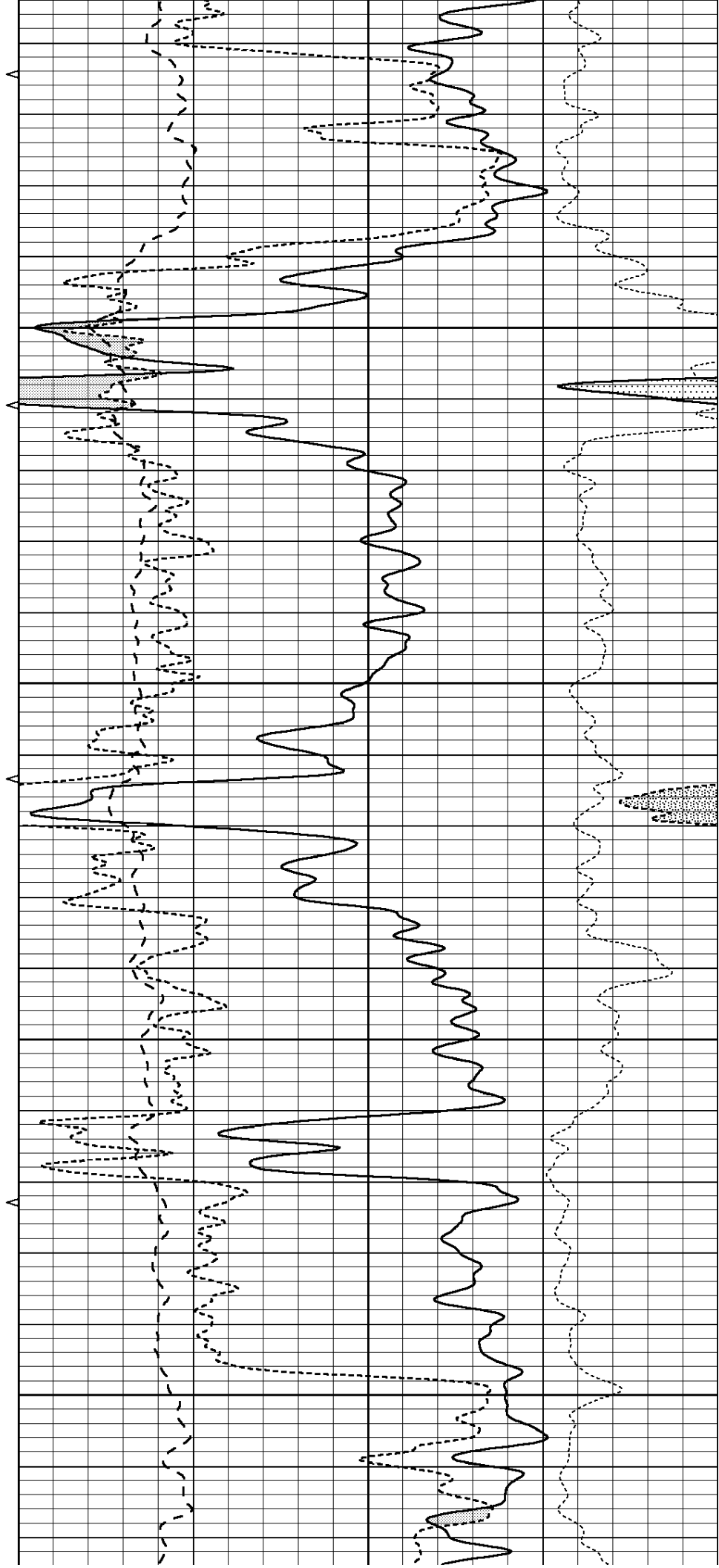


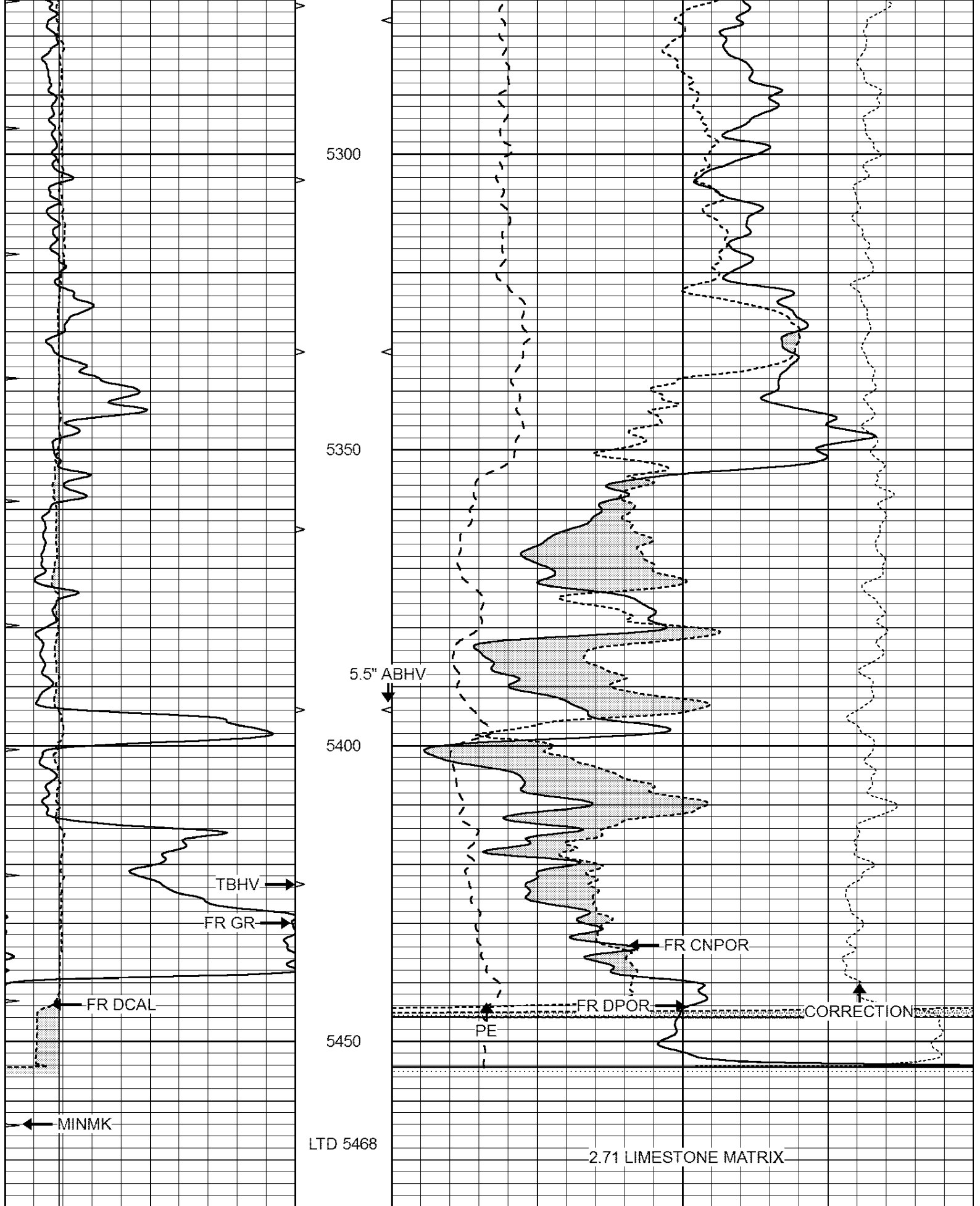
5100

5150

5200

5250





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

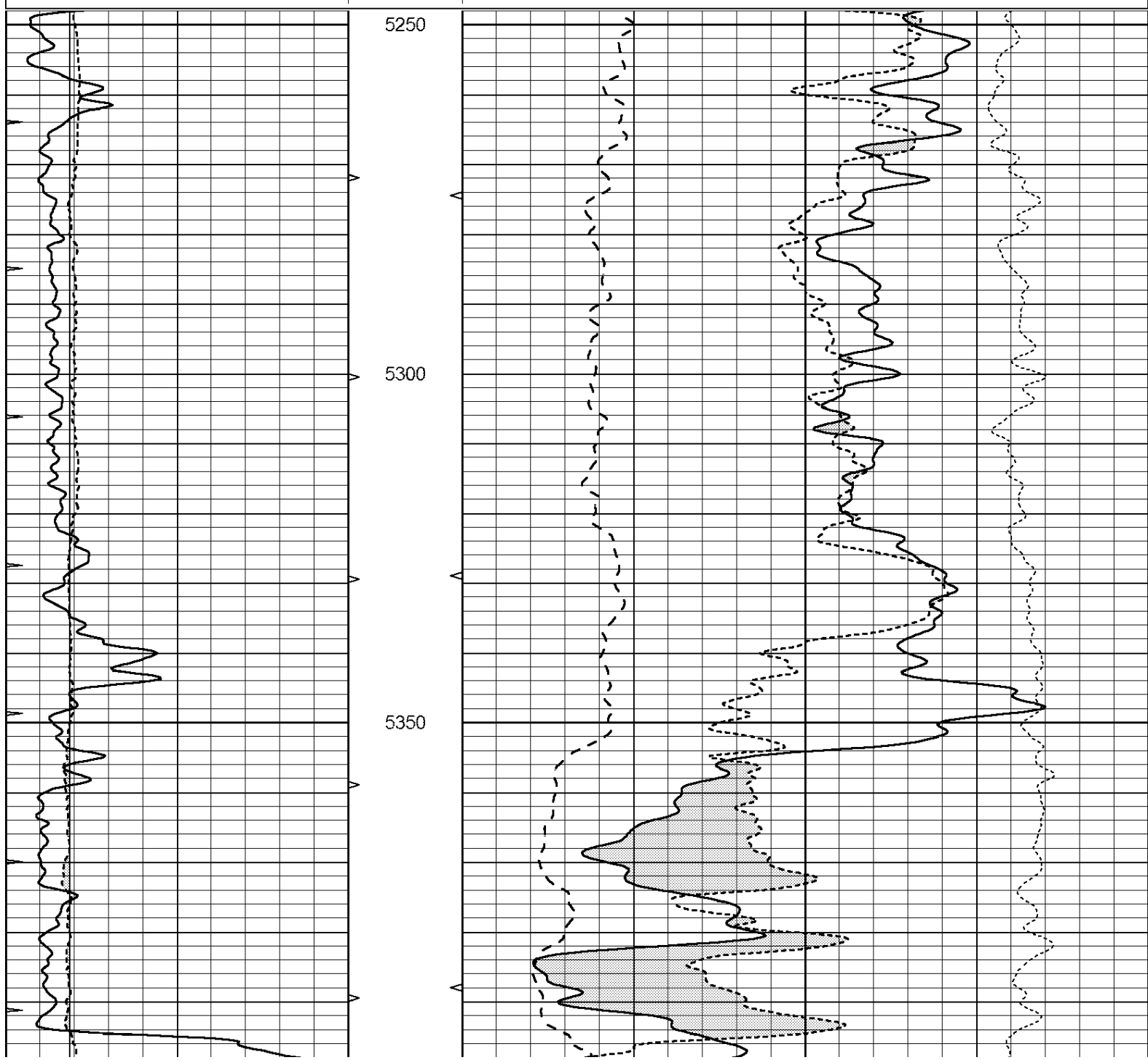


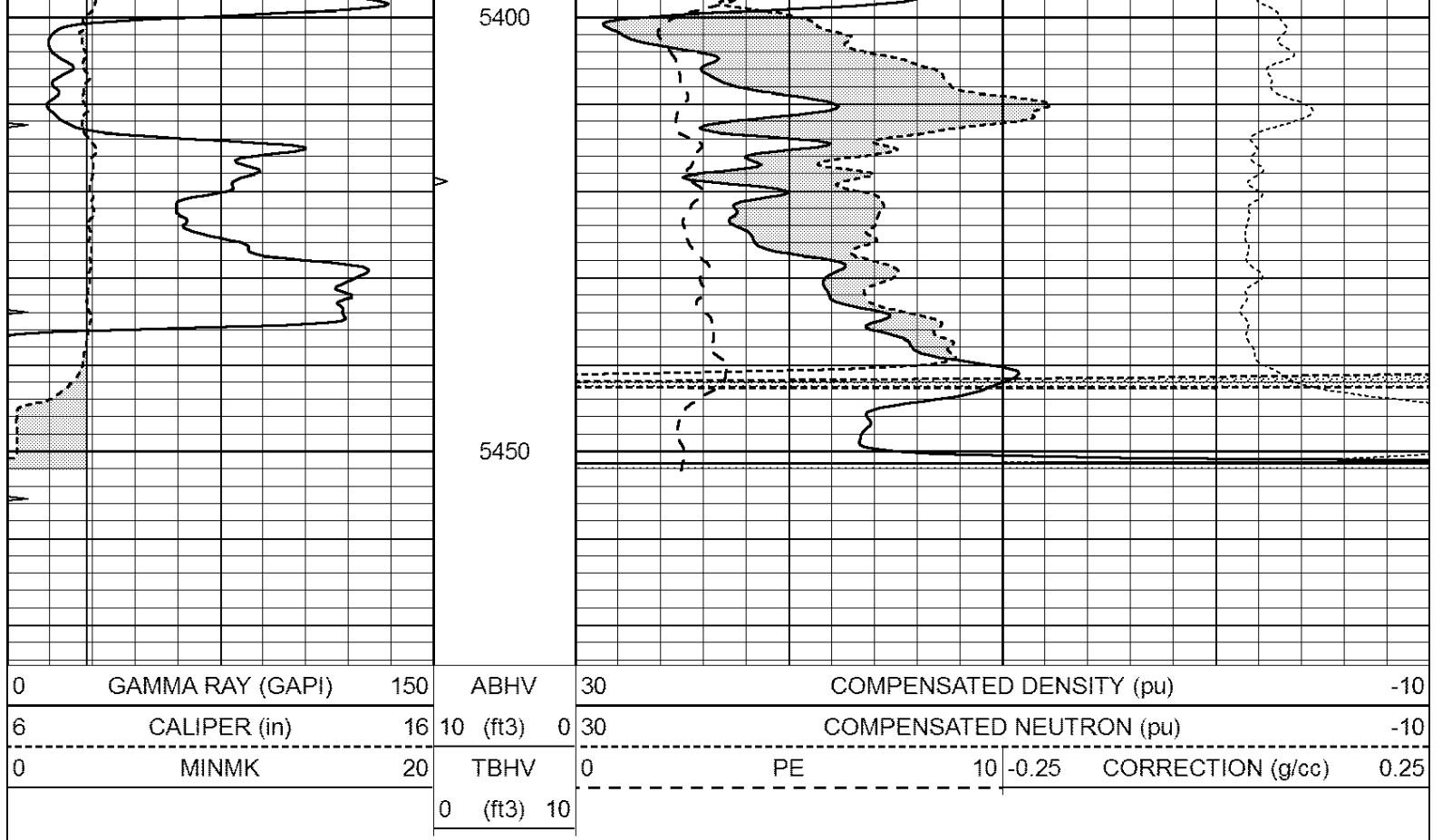
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REPEAT SECTION

Database File: 409682pe.db
Dataset Pathname: pass3.3
Presentation Format: _ldt_neu
Dataset Creation: Thu Sep 27 16:44:59 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	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: 409682pe.db
 Dataset Pathname: pass4.9
 Dataset Creation: Thu Sep 27 16:43:21 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Thu Sep 27 15:14:13 2012

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	9.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-5.000
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

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					
Low Ref	Readings	Reference			
High Ref	3.5	6.8			
	5.5	15.0			
	Gain: 4.3		Offset: -8.2		
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		cps			
Long Space		cps	pu	pu	
Gamma Ray Calibration Report					
Serial Number:		070559			
Tool Model:		OPEN_GR			
Performed:		Wed Sep 19 15:58:00 2012			
Calibrator Value:		1.0	GAPI		
Background Reading:		0.0	cps		
Calibrator Reading:		1.0	cps		
Sensitivity:		0.3000	GAPI/cps		