



COMPENSATED
DENSITY / NEUTRON
PE LOG

Company BEREXCO, LLC.

Well ARNOLD UNIT #13-12

Field ARROYO NORTHEAST

County STANTON State KANSAS

Location: API # : 15-187-21360-0000
475' FNL & 875' FEL
SE - NW - NE - NE

SEC 12 TWP 29S RGE 41W

Permanent Datum GROUND LEVEL Elevation 3334
Log Measured From KELLY BUSHING 13' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation

K.B. 3347
D.F. 3345
G.L. 3334

Date 6/14/23

Run Number ONE

Depth Driller 5560

Depth Logger 5560

Bottom Logged Interval 5536

Top Log Interval 3400

Casing Driller 8 5/8" @ 1741'

Casing Logger 1742

Bit Size 7 7/8"

Type Fluid in Hole CHEMICAL MUD

Density / Viscosity 9.4/65

pH / Fluid Loss 10.0/6.4

Source of Sample FLOWLINE

Rm @ Meas. Temp 1.60 @ 79F

Rmf @ Meas. Temp 1.20 @ 79F

Rmc @ Meas. Temp 1.92 @ 79F

Source of Rmf / Rmc MEASUREMENT

Rm @ BHT .972 @ 130F

Time Circulation Stopped 3 HOURS

Time Logger on Bottom 3:30 A.M.

Maximum Recorded Temperature 130F

Equipment Number 922339

Location HAYS, KANSAS

Recorded By JEFF LUEBBERS

Witnessed By PETE VOLLMER

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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.

15-187-21360-0000 Comments

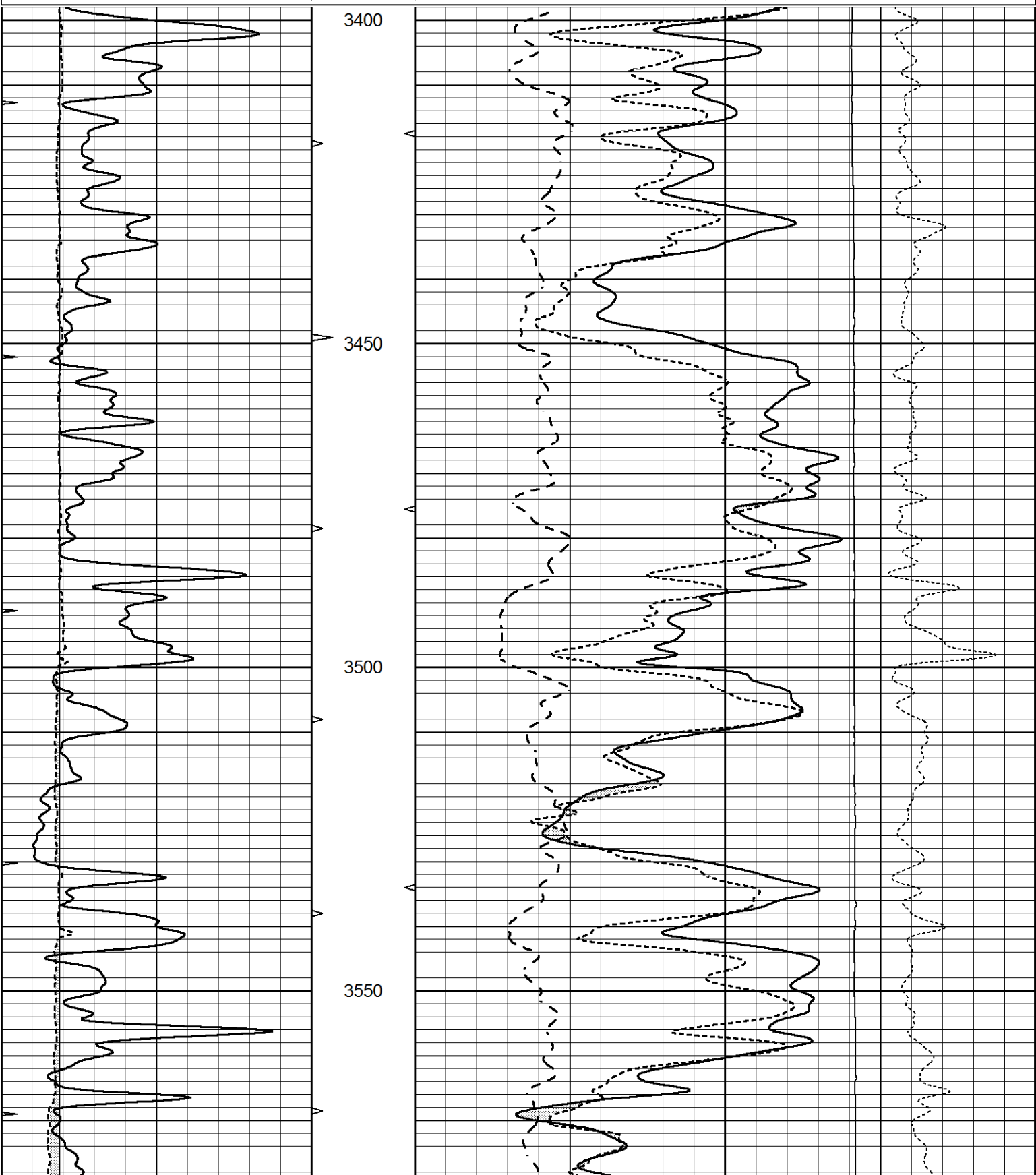
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
JOHNSON CITY, KS., (HWY 160 & RD. L), 2S. TO "RD. 14", 1/4W., S. INTO

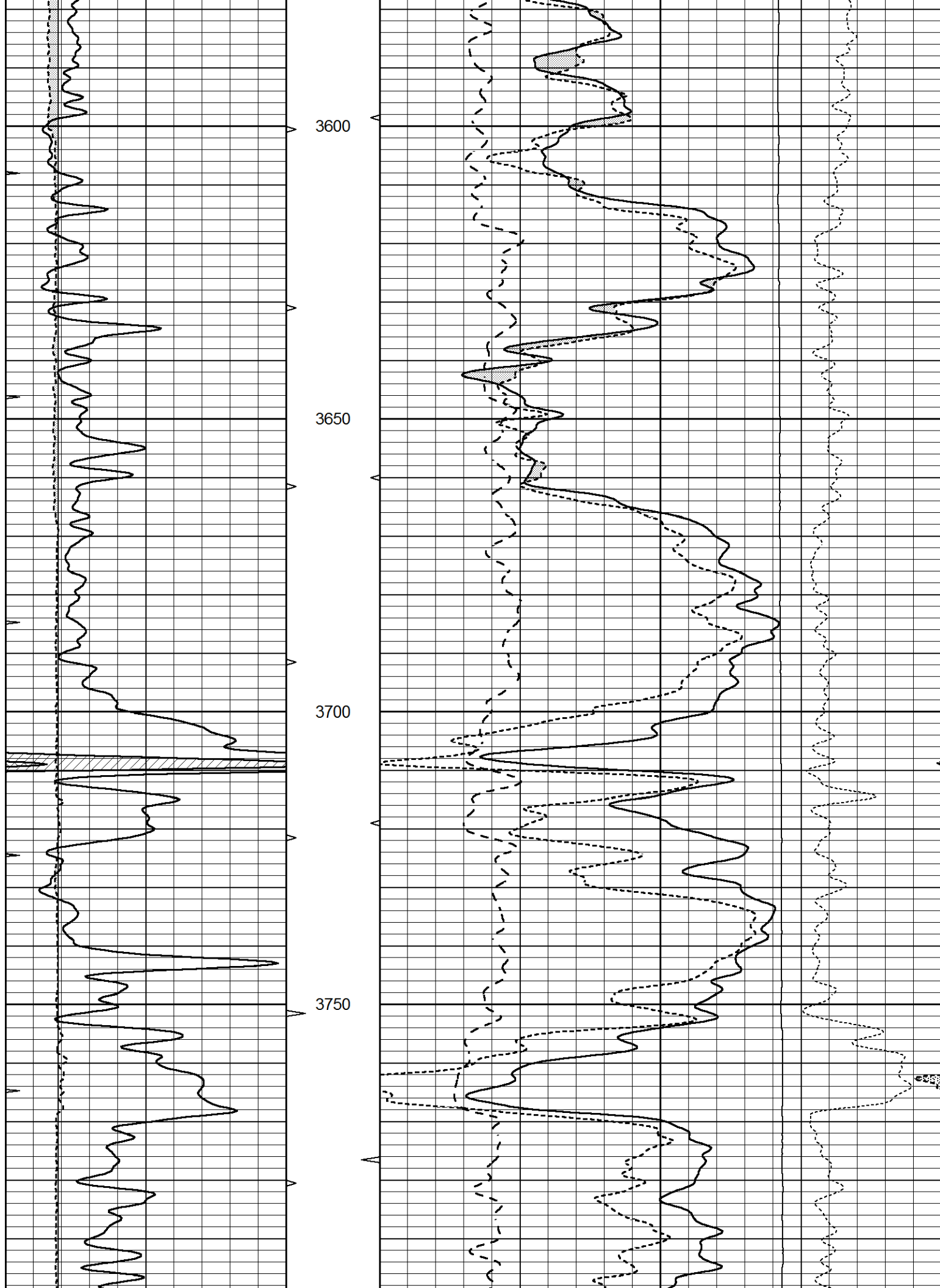


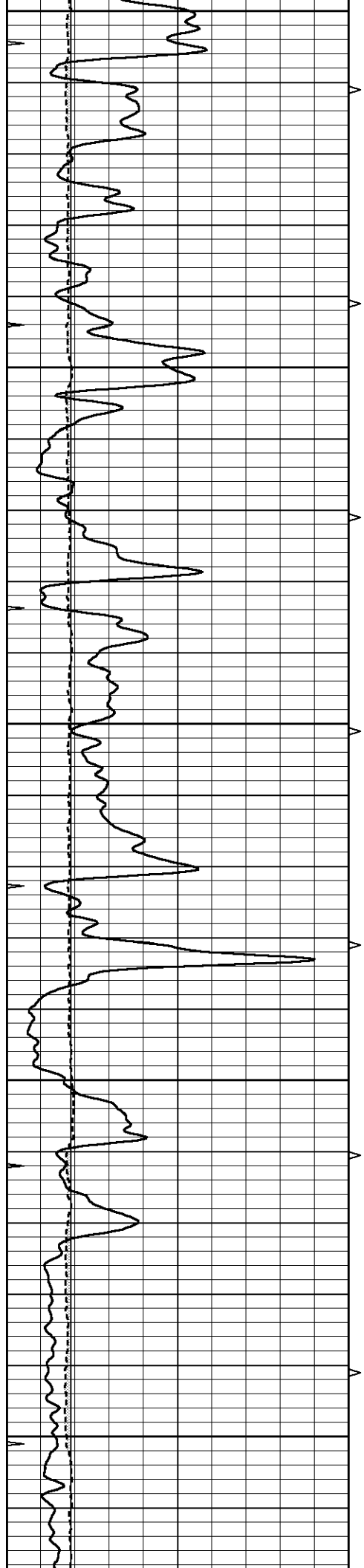
MAIN SECTION

Database File	7895pe.db
Dataset Pathname	pass3.2M
Presentation Format	_ldt_neu
Dataset Creation	Wed Jun 14 05:45:23 2023
Charted by	Depth in Feet scaled 1:240

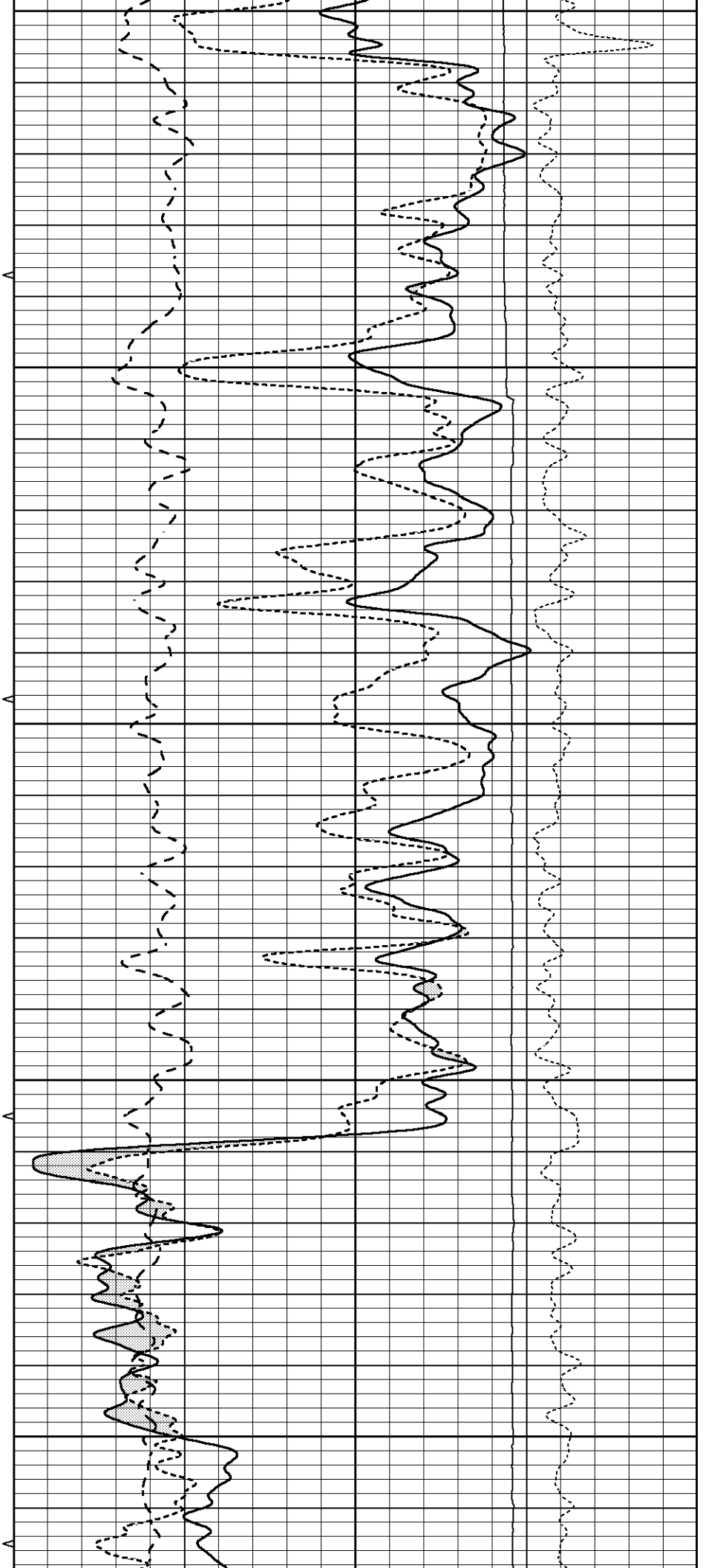
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6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25
			0 (ft3) 10			CORRECTION (g/cc) 0.25
					0	LTEN (lb) 5000

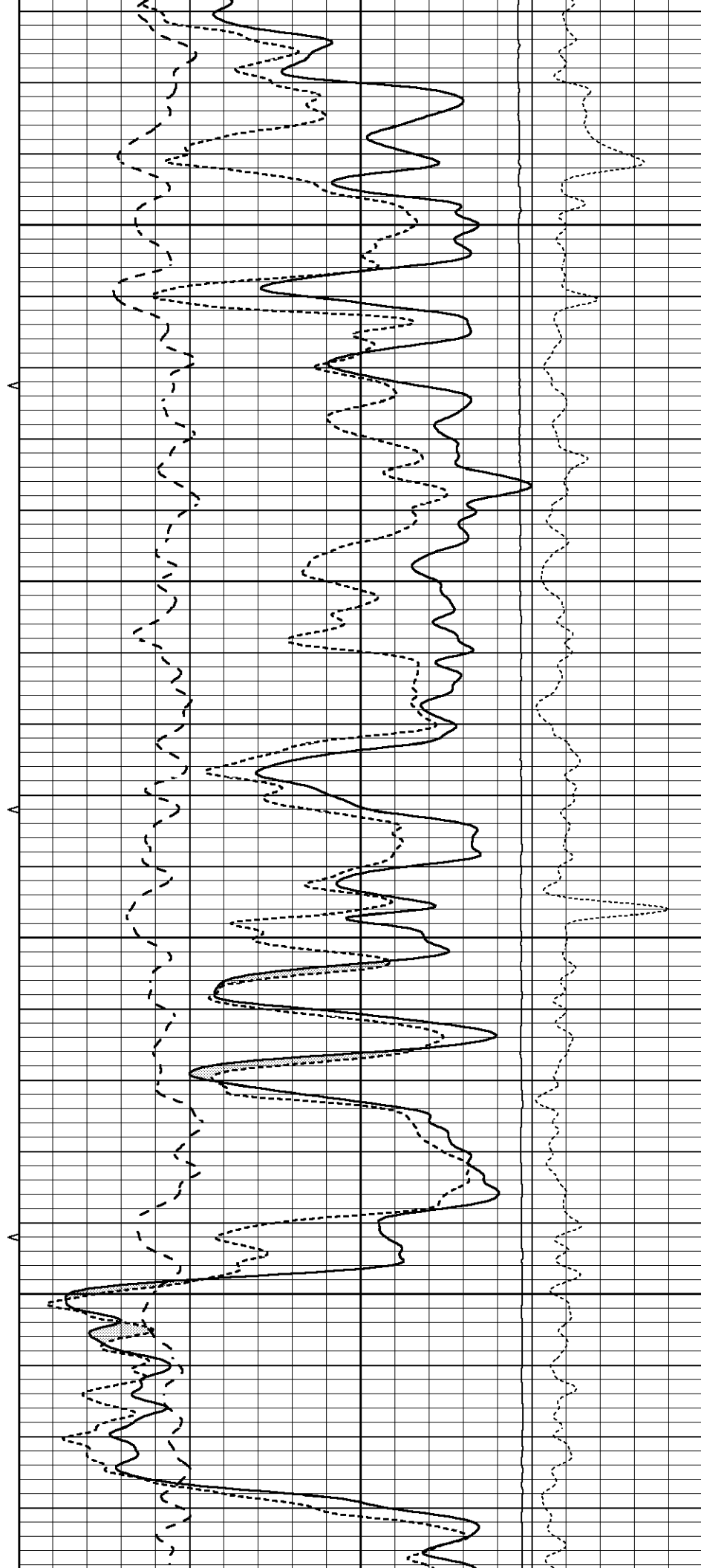
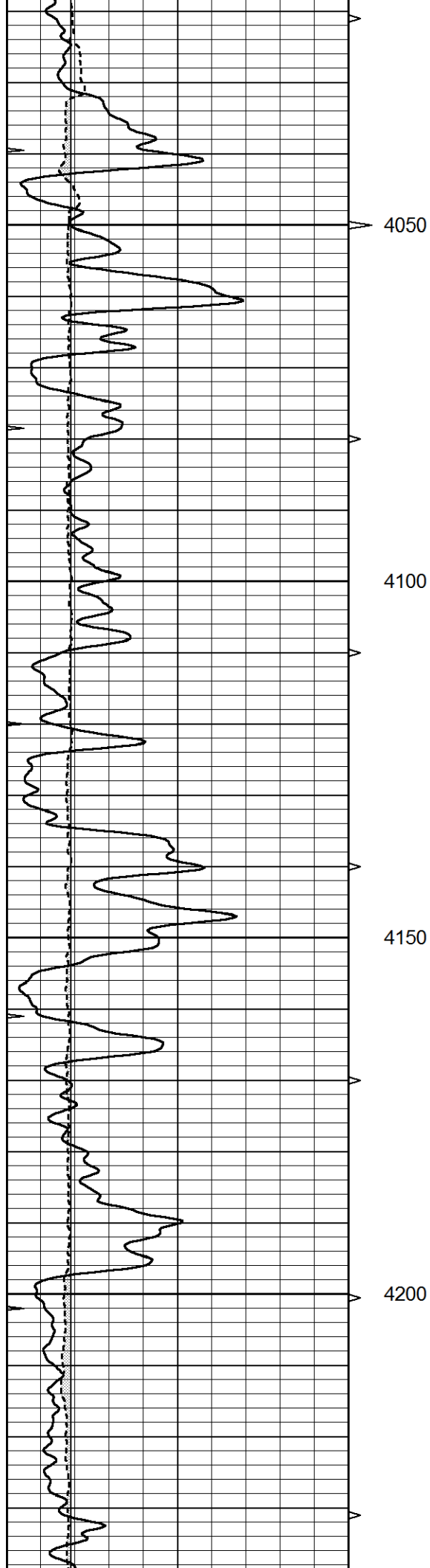


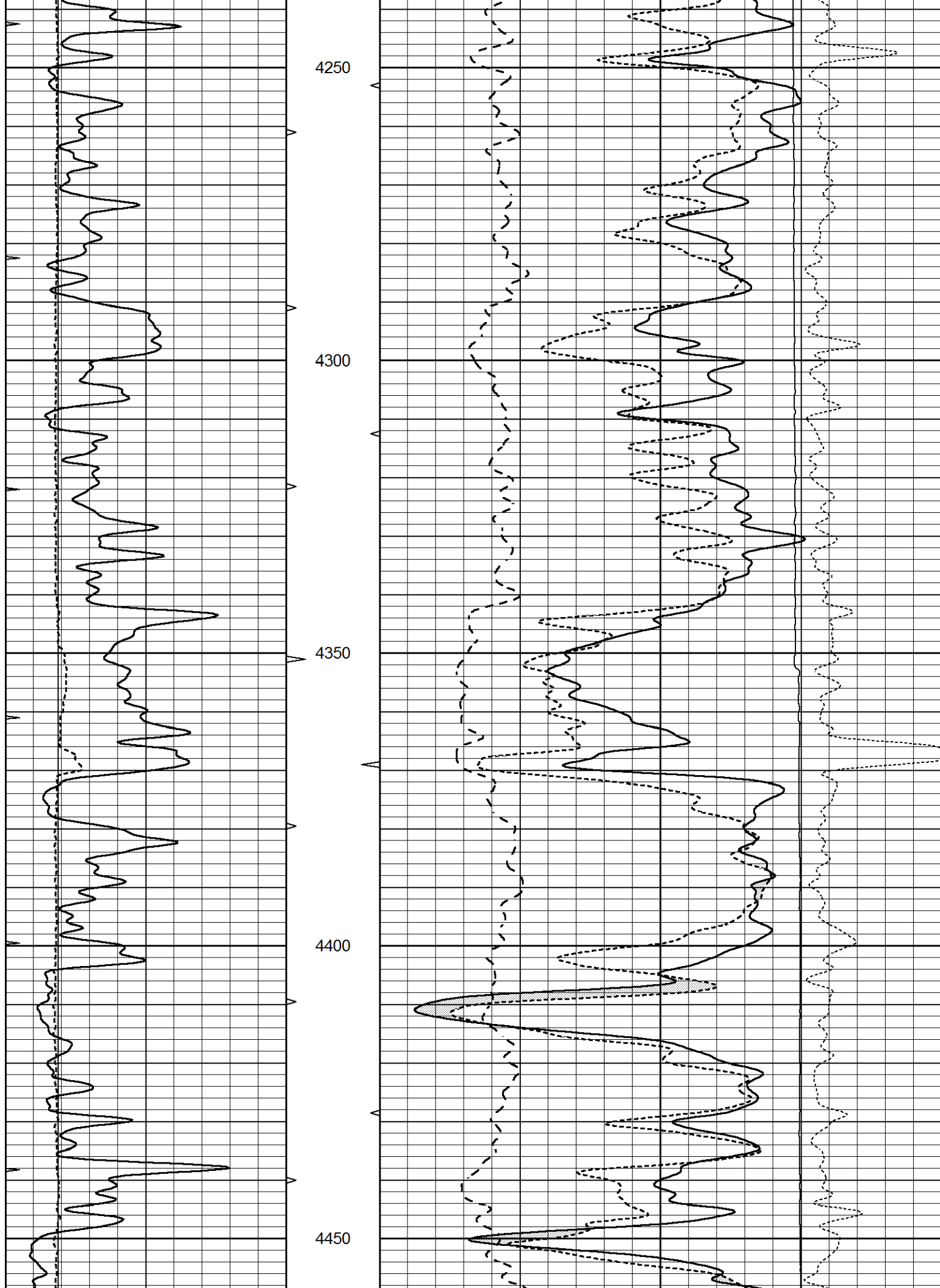


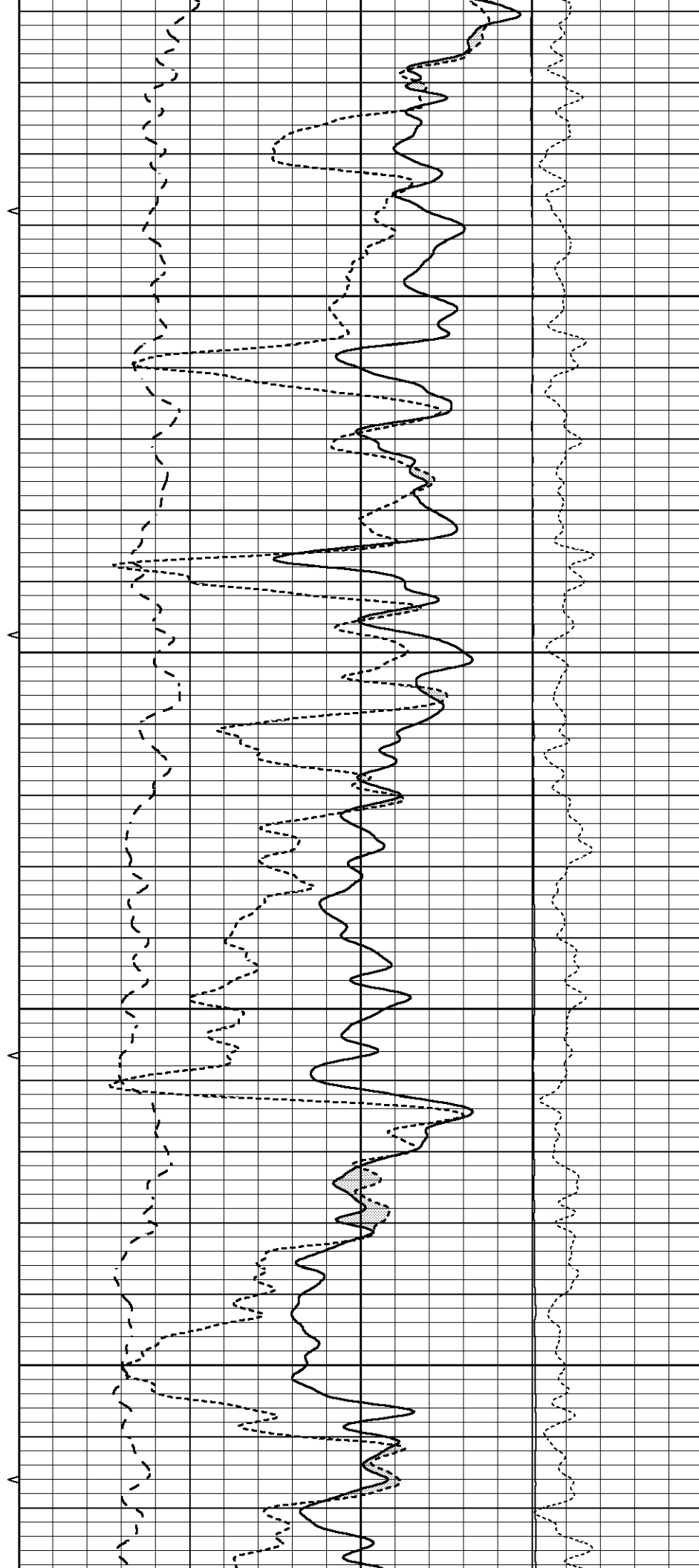
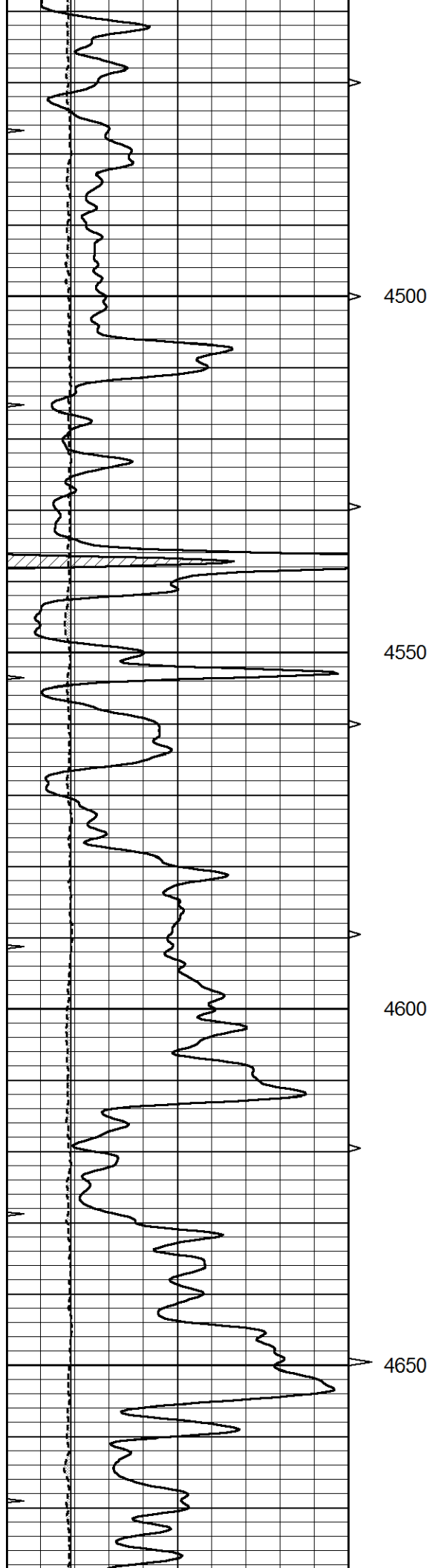


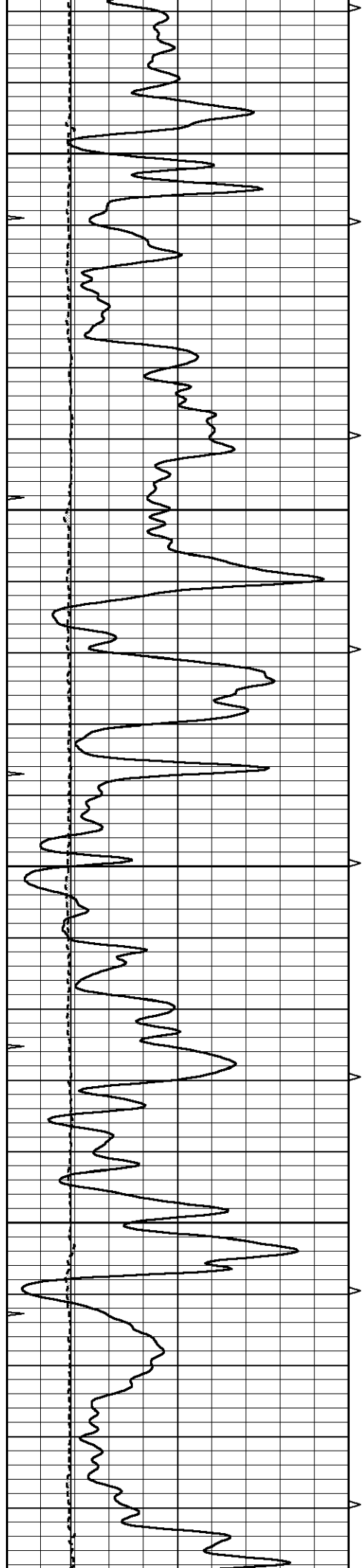
3800
3850
3900
3950
4000









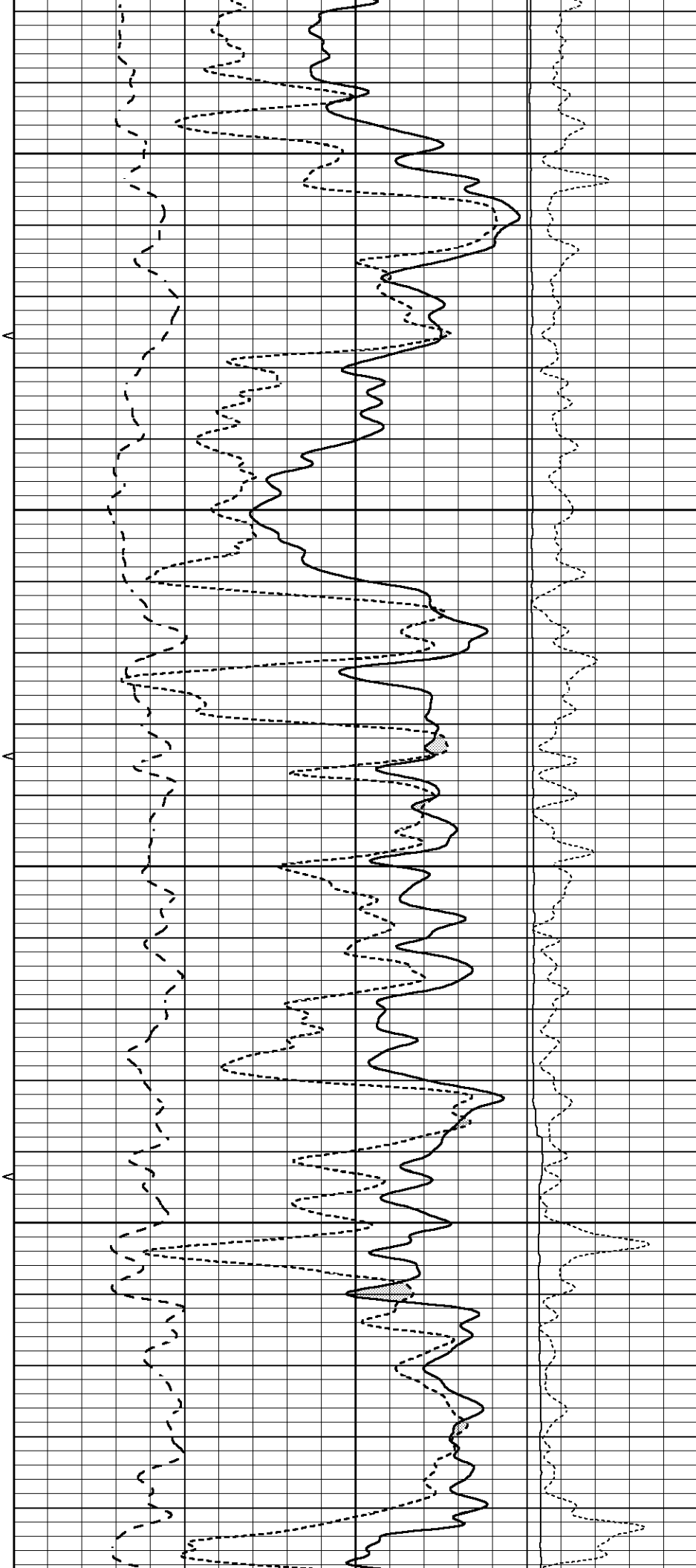


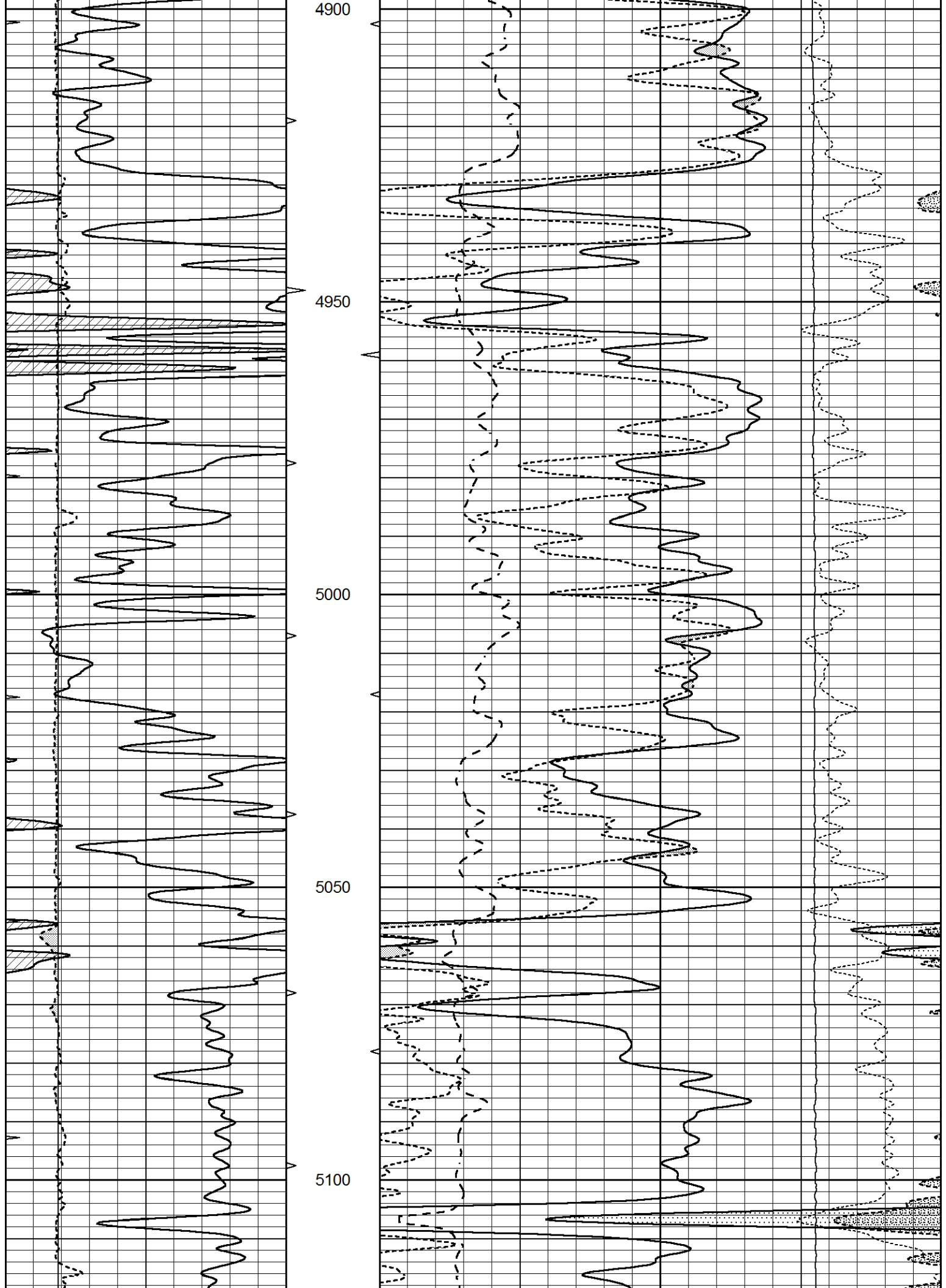
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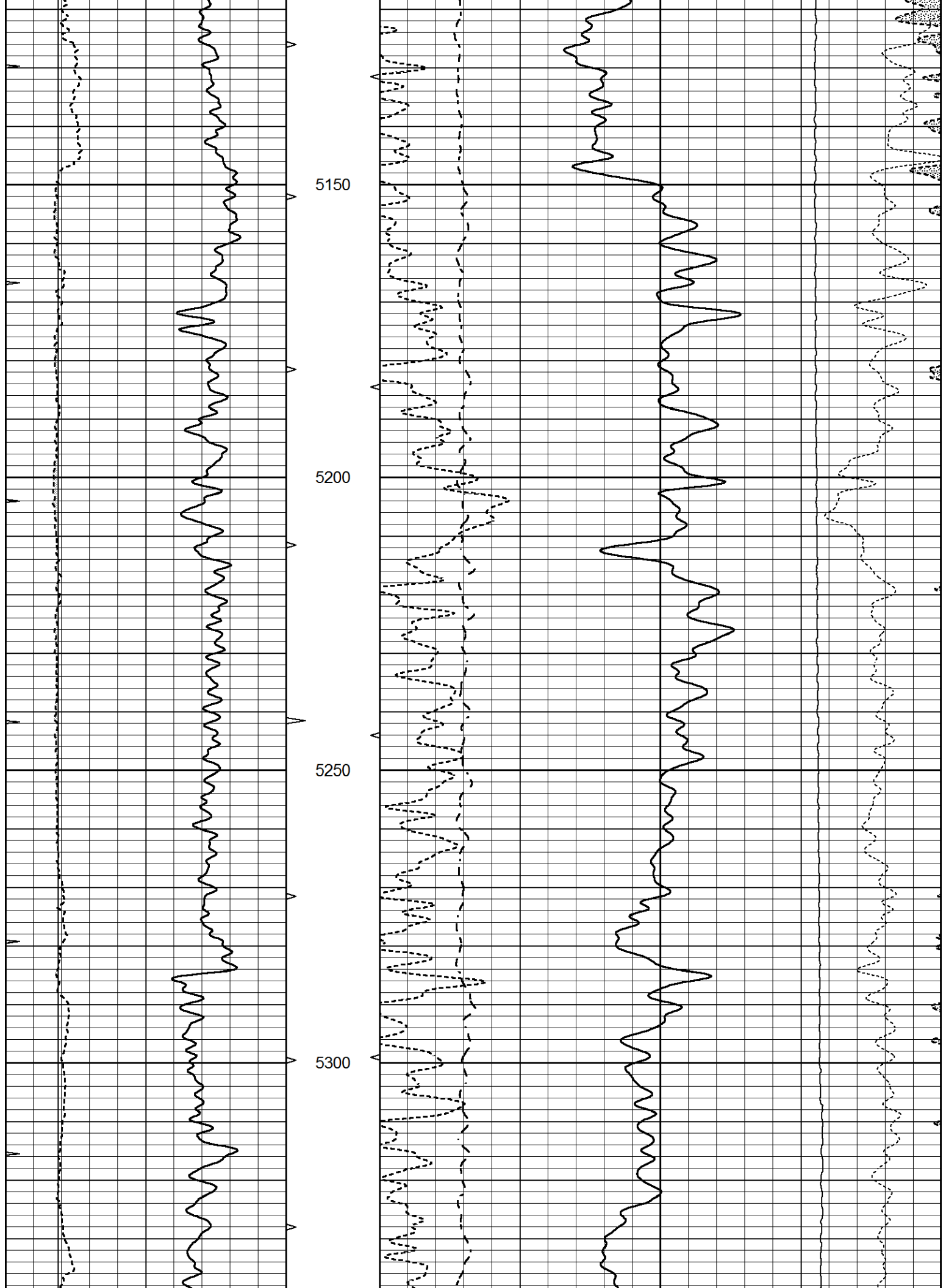
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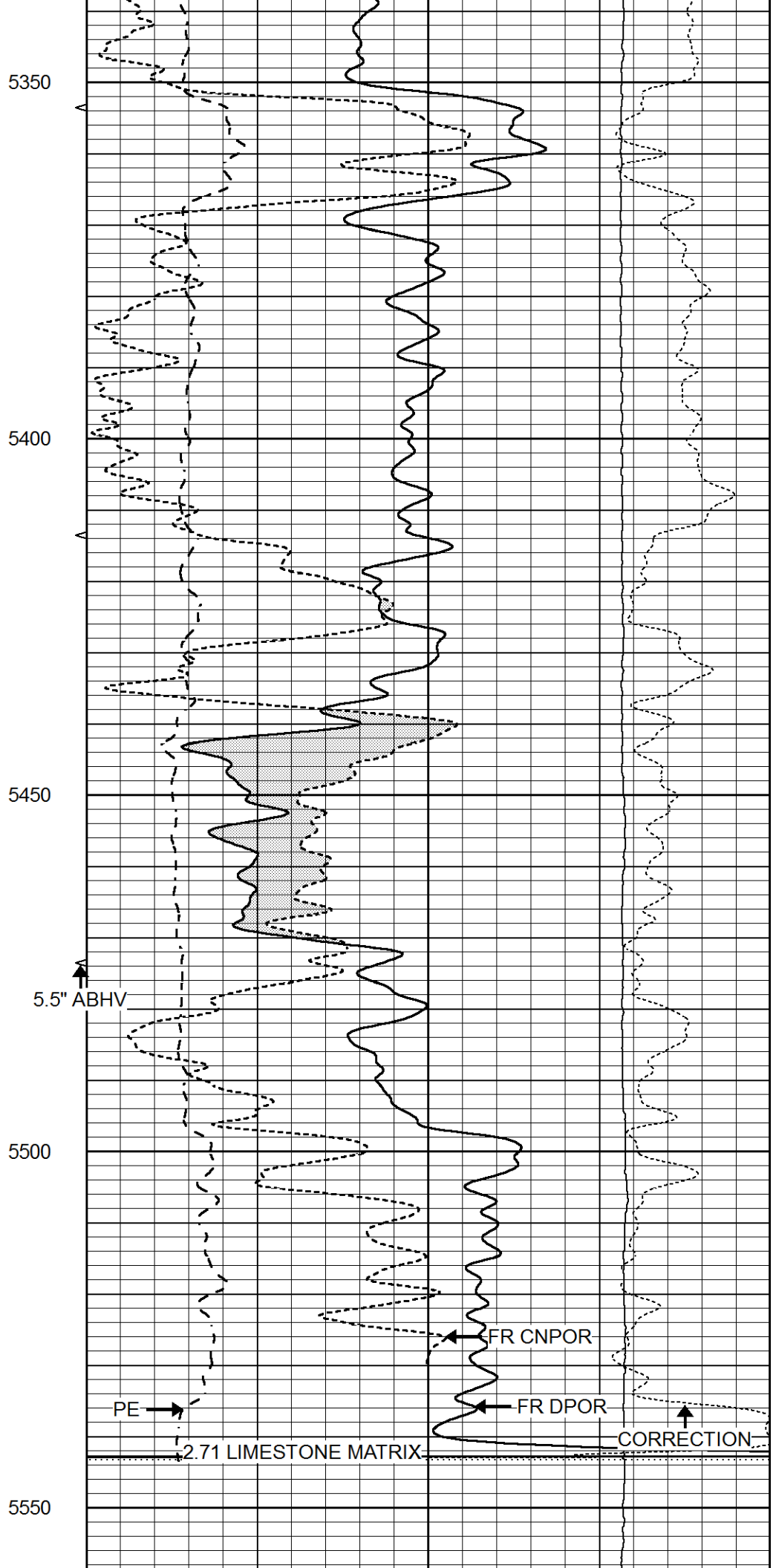
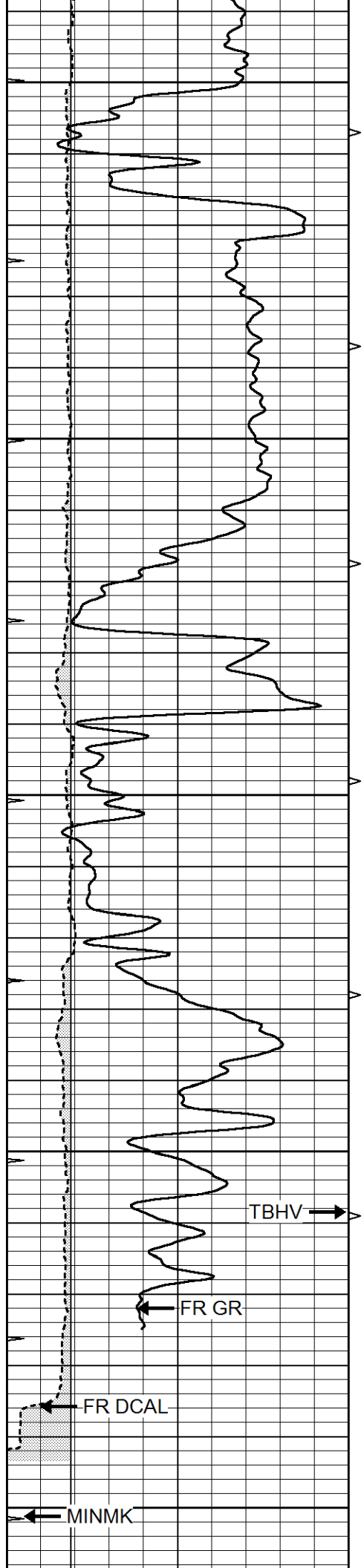
4800

4850









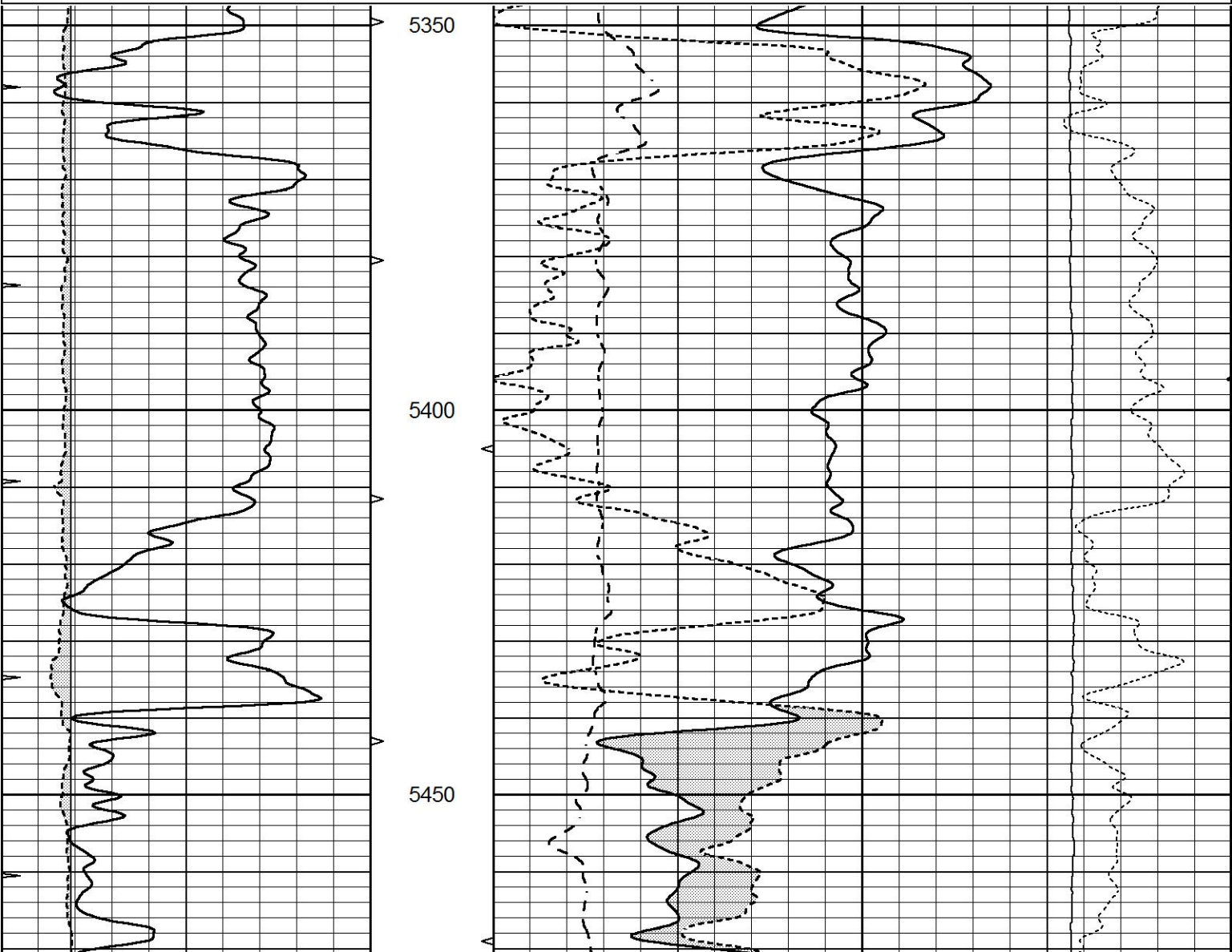
			LTD 5560			LTEN 		
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)			-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)			-10
0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc) 0.25
			0 (ft3) 10			0	LTEN (lb)	5000

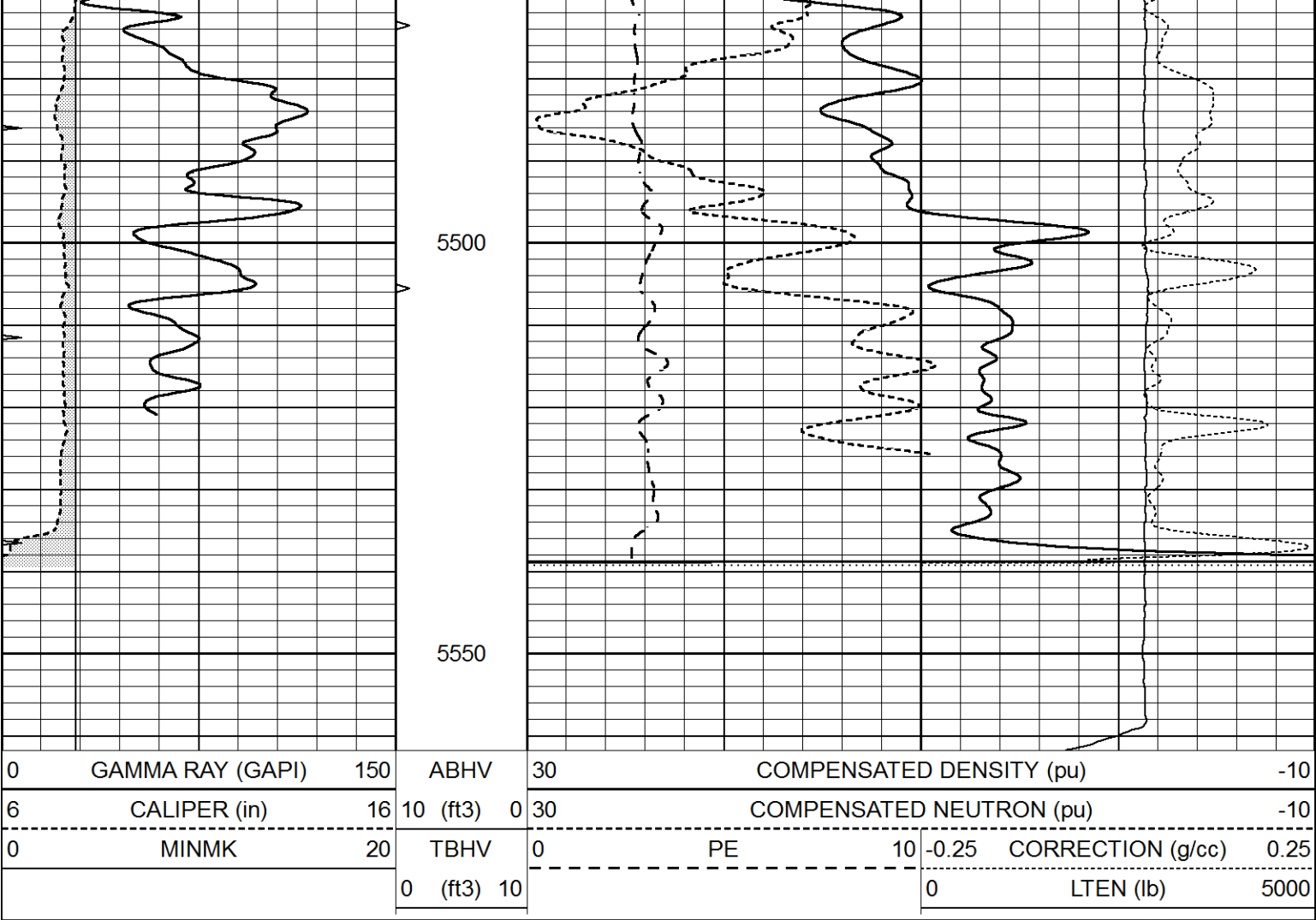


REPEAT SECTION

Database File	7895pe.db
Dataset Pathname	pass2.1R
Presentation Format	_ldt_neu
Dataset Creation	Wed Jun 14 05:52:02 2023
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			0	LTEN (lb)	5000





Calibration Report									
Database File	7895pe.db								
Dataset Pathname	pass3.2M								
Dataset Creation	Wed Jun 14 05:45:23 2023								
Dual Induction Calibration Report									
Serial-Model:					DIL7-GEAR				
Surface Cal Performed:					Sun Apr 30 05:42:20 2023				
Downhole Cal Performed:					Tue Apr 17 15:38:44 2007				
After Survey Verification Performed:					Tue Apr 17 15:38:40 2007				
Surface Calibration									
Readings				References			Results		
Loop:	Air	Loop		Air	Loop		m	b	
Deep	0.019	0.660	V	0.000	400.000	mmho/m	660.000	16.000	
Medium	-0.006	0.655	V	0.000	462.500	mmho/m	720.000	-20.000	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.010	0.665	V	0.000	400.000	mmho/m	610.018	-5.925	
Medium	0.009	0.655	V	0.000	400.000	mmho/m	618.983	-5.564	
Downhole Calibration									
Readings				References			Results		
Internal:	Zero	Cal		Zero	Cal		m	b	

Deep	3.372	400.834	mmho/m	0.556	401.206	mmho/m	1.008	-2.843
Medium	13.557	467.446	mmho/m	9.465	462.114	mmho/m	0.997	-4.055
Shallow	2.521	0.019	V	500.000	2.000	Ohm-m	250.000	2.500

After Survey Verification								
Readings			Targets			Results		
Internal:	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	3.372	400.834	mmho/m	1.008	-2.843
Medium	0.000	0.000	mmho/m	13.557	467.446	mmho/m	0.997	-4.055
Shallow	2.500	0.000	Ohm-m	500.000	2.000	Ohm-m	225.000	1.000

Litho Density Calibration Report								
Serial: 004			Model: PRB					

Master Calibration					Performed Tue Aug 02 11:29:35 2022			
	Background	Magnesium		Aluminum		Aluminum+Fe		
Window 1	1154.2	10019.5		3137.9		2795.6		cps
Window 2	1054.4	8597.6		2733.4		2469.5		cps
Window 3	902.3	5241.4		1832.1		1719.3		cps
Window 4	251.9	261.1		255.8		252.9		cps
Long Space	0.0	7543.2		1679.0		1415.0		cps
Short Space	4.4	2049.3		1321.7		1116.8		cps
Rho		1.7100		2.5900		0.0000		g/cc
Pe		2.0000		2.7500		5.7900		
Rib Angle	: 43.7	Rib Slope	: 0.957	Density/Spine Ratio			: 0.562	
Spine Angle	: 73.7	Spine Slope	: 3.426	Spine Intercept			: -17.2	

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		

Compensated Neutron Calibration Report								
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Serial Number:			070808PMC					
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Tool Model:		NABORS	
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:	070558		
Tool Model:	OPEN_GR		
Performed:	Wed Jun 14 03:45:13 2023		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3000	GAPI/cps	