



SUPERIOR
Hays,
Kansas

**MICRO
LOG**

Company CRAWFORD OIL & GAS CO. LLC.
Well ZIMMERMAN #1-24
Field WILDCAT
County GOVE
State KANSAS

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Well ZIMMERMAN #1-24
Field WILDCAT
County GOVE State KANSAS

Location: API # : 15-063-22032-0000
2617' FSL & 622' FEL
SEC 24 TWP 13S RGE 31W
Permanent Datum GROUND LEVEL Elevation 2835
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
CDL/CNL/PE
DIL/SONIC
Elevation
K.B. 2840
D.F. 2838
G.L. 2835

Date	8/18/12
Run Number	TWO
Depth Driller	4590
Depth Logger	4590
Bottom Logged Interval	4568
Top Log Interval	3400
Casing Driller	8 5/8"@218'
Casing Logger	218
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.460
pH / Fluid Loss	10.5/7.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	2.40@88F
Rmt @ Meas. Temp	1.80@88F
Rmc @ Meas. Temp	2.88@88F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	1.75@121F
Time Circulation Stopped	4.5 HOURS
Time Logger on Bottom	7:00 A.M.
Maximum Recorded Temperature	121F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	LARRY FRIEND

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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
GRINNELL, KS. & I-70, 10 1/2S. TO "RD. S", 4W. TO "RD. 22", 3 1/2S., W. INTO

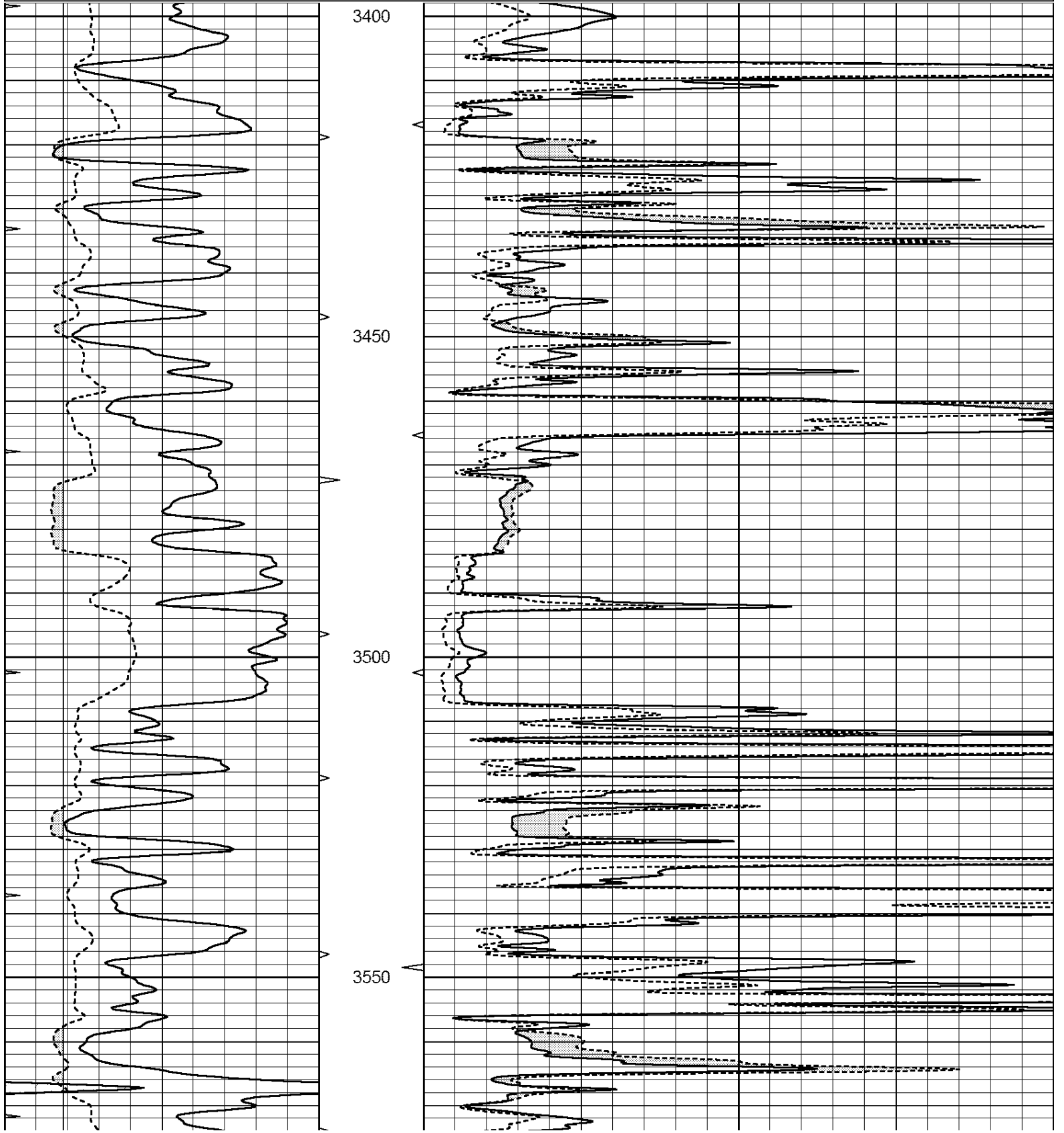


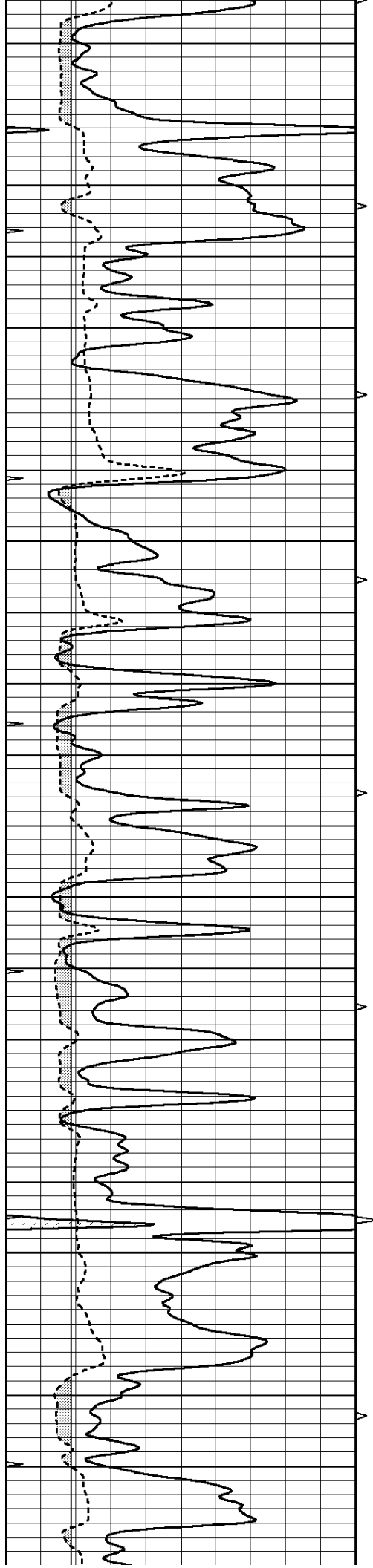
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MAIN SECTION

Database File: 409504pe.db
 Dataset Pathname: pass6.2
 Presentation Format: micro
 Dataset Creation: Sat Aug 18 11:11:42 2012
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	0	MEL1.5 (Ohm-m)	40
6	CALIPER (in)	16	10 (ft3)	0	MEL2.0 (Ohm-m)	40
0	MINMK	20	TBHV			
			0 (ft3)	10		



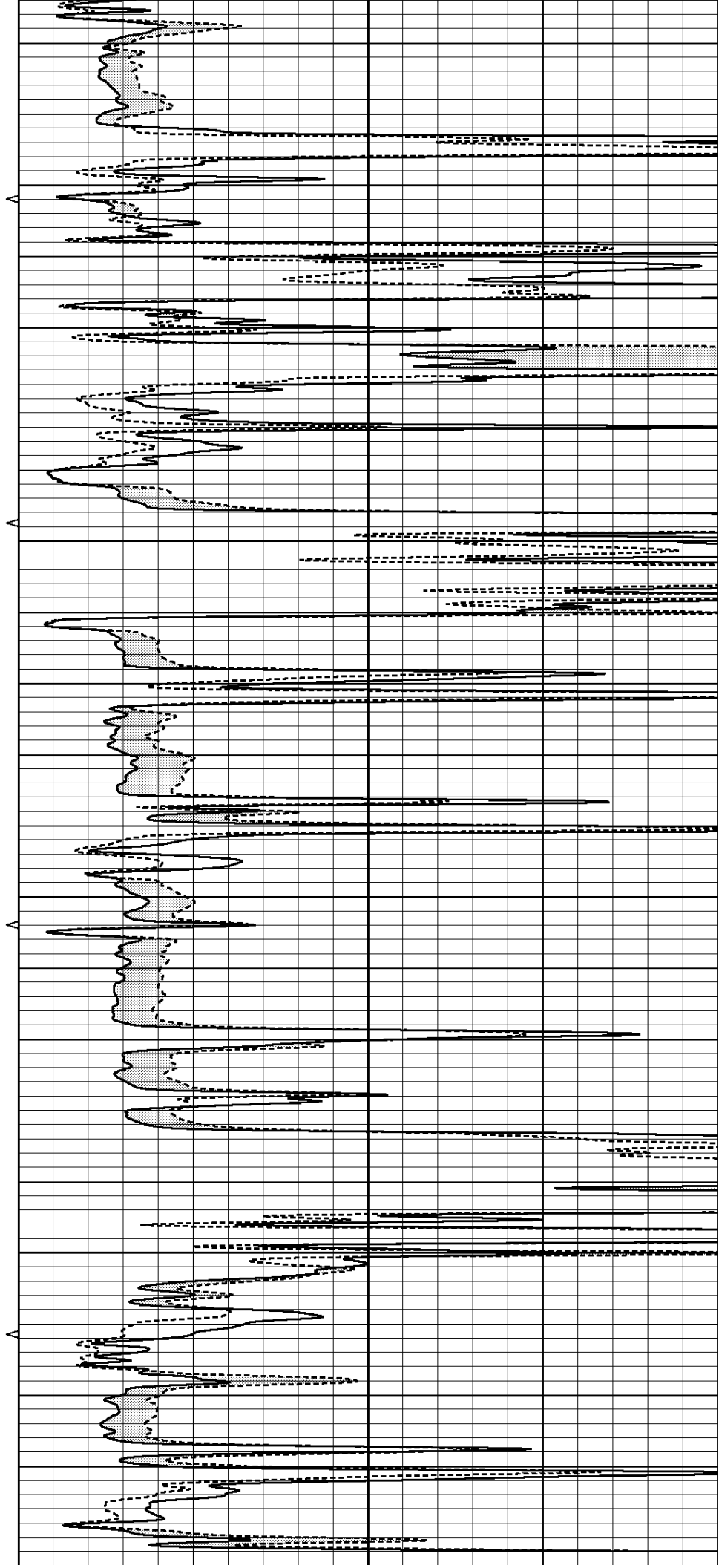


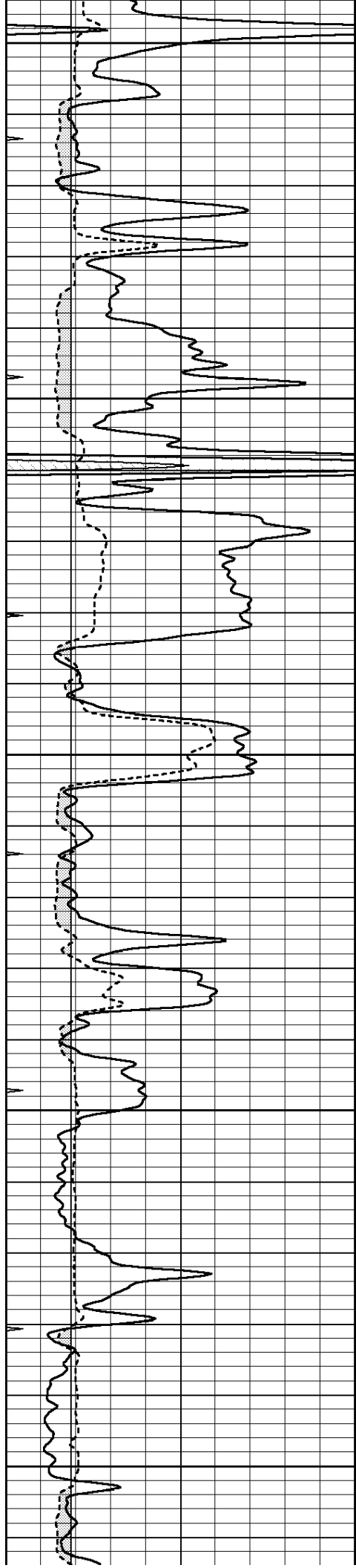
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3650

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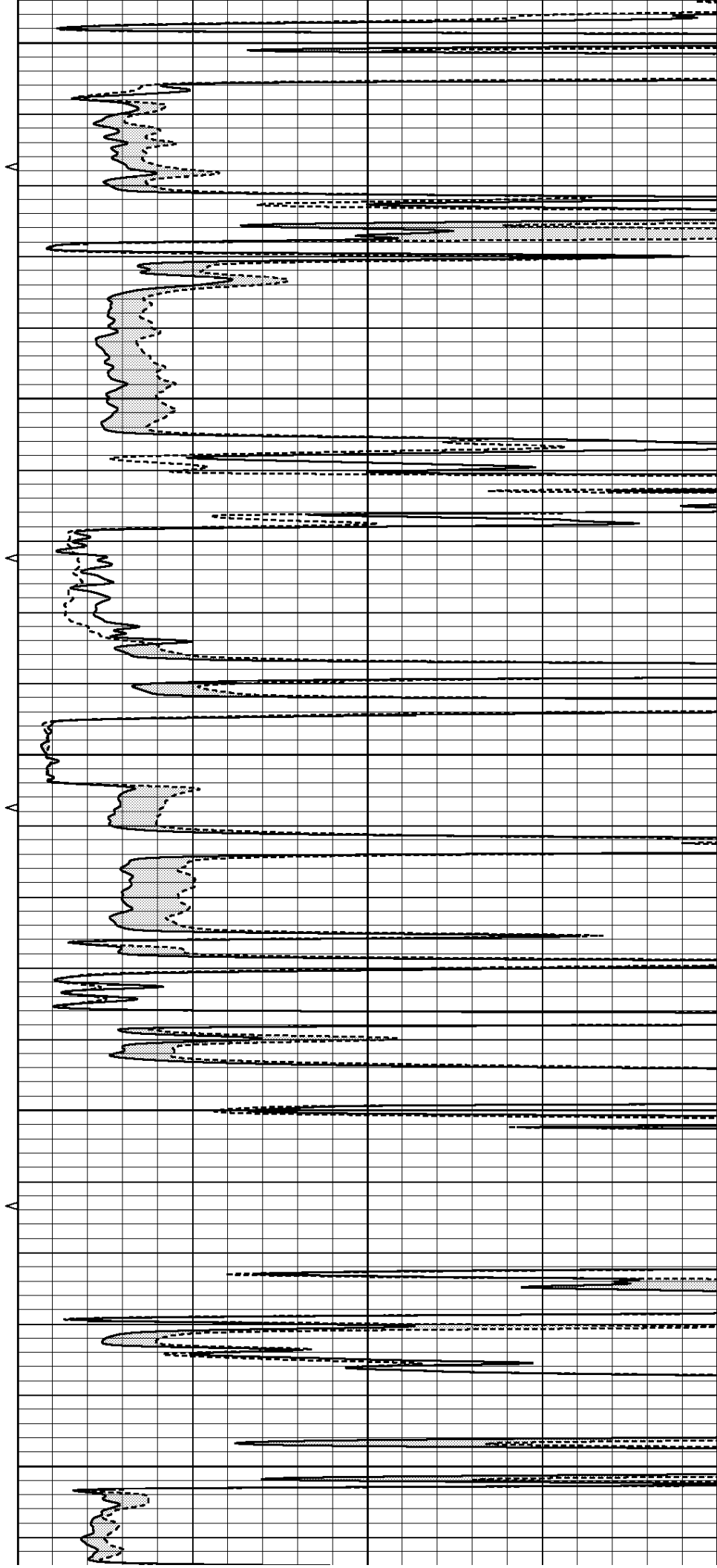
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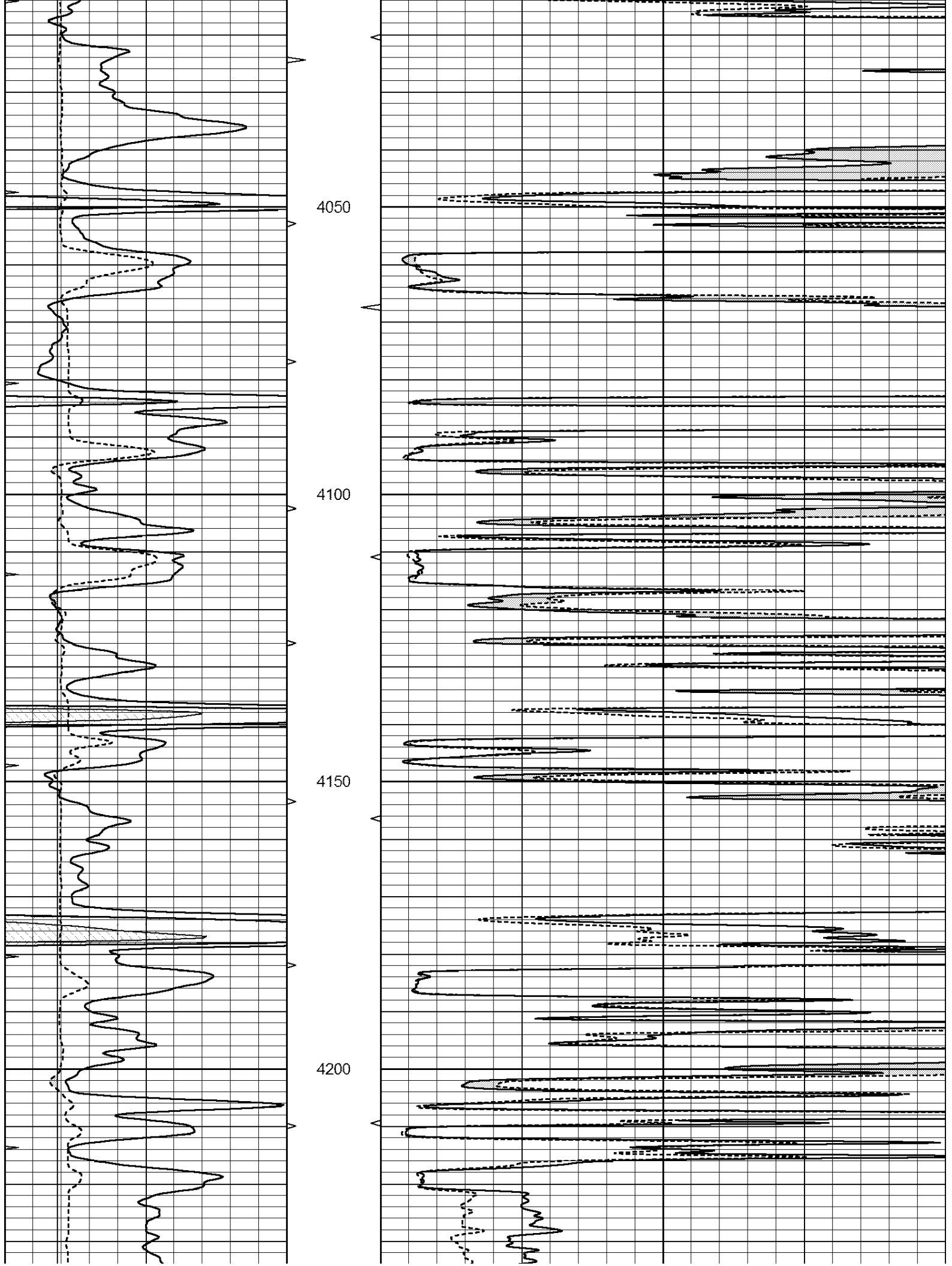
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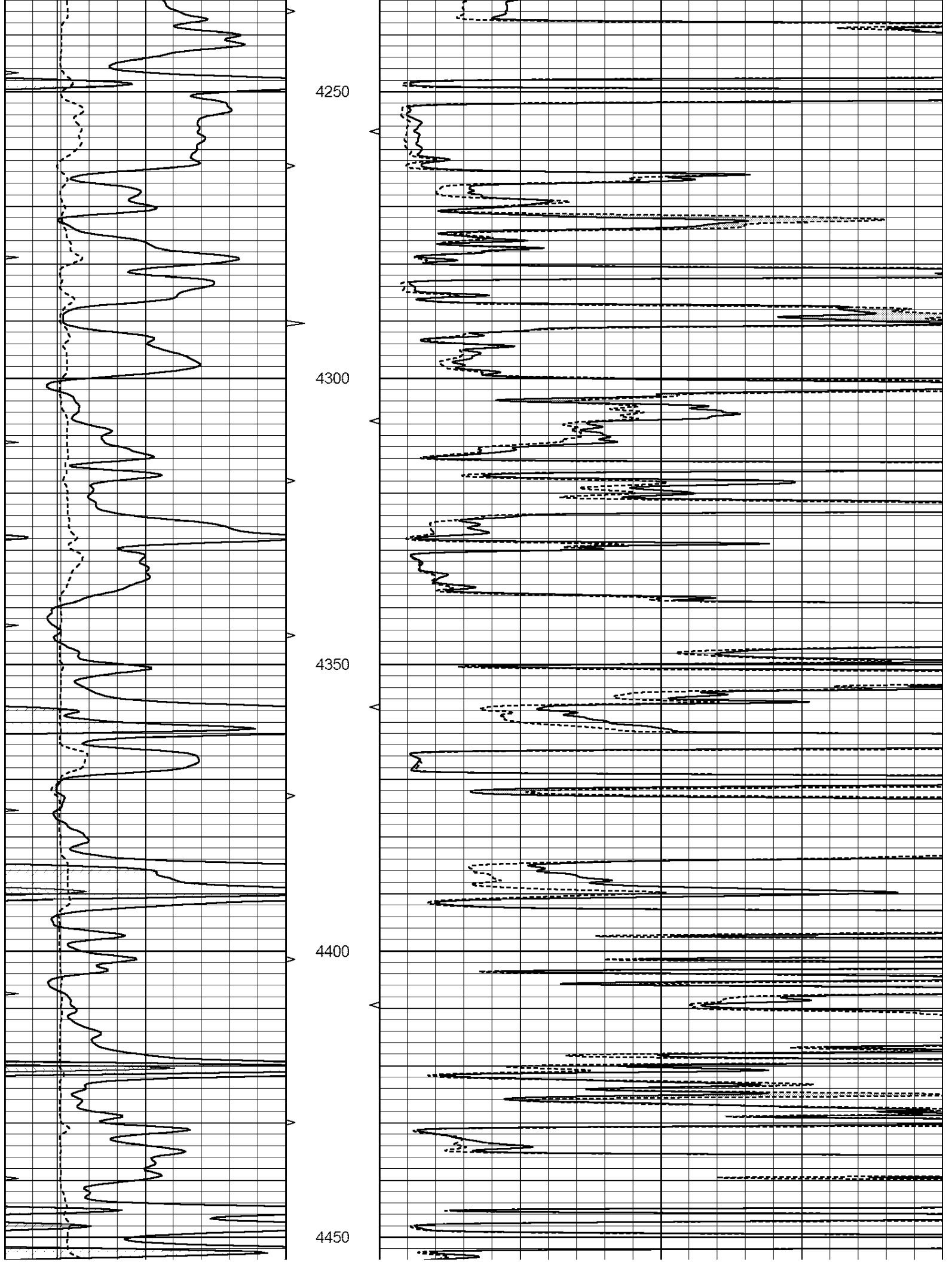
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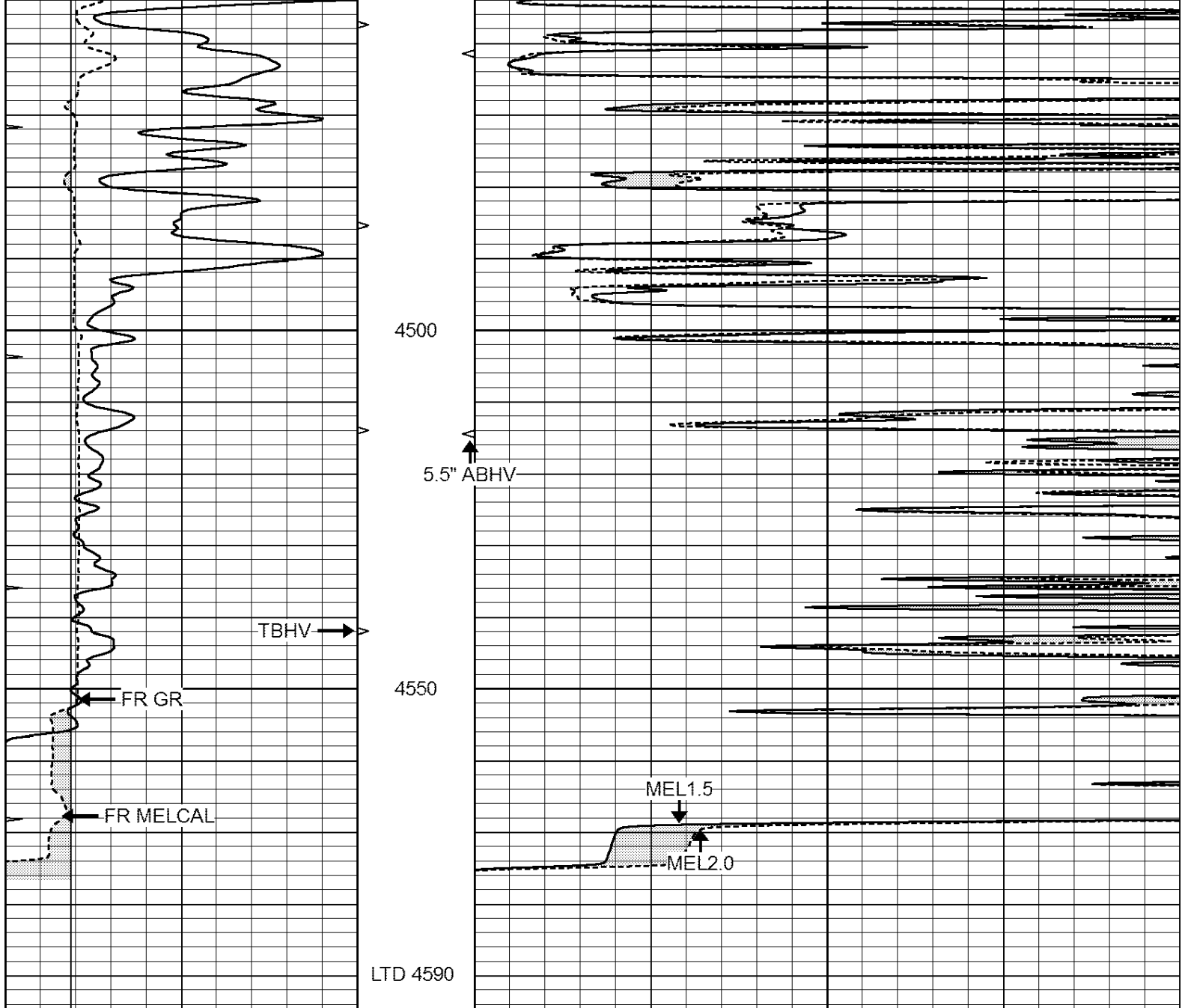
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4000









0	GAMMA RAY (GAPI)	150	ABHV	0	MEL1.5 (Ohm-m)	40
6	CALIPER (in)	16	10 (ft3)	0	MEL2.0 (Ohm-m)	40
0	MINMK	20	TBHV			
			0 (ft3)	10		



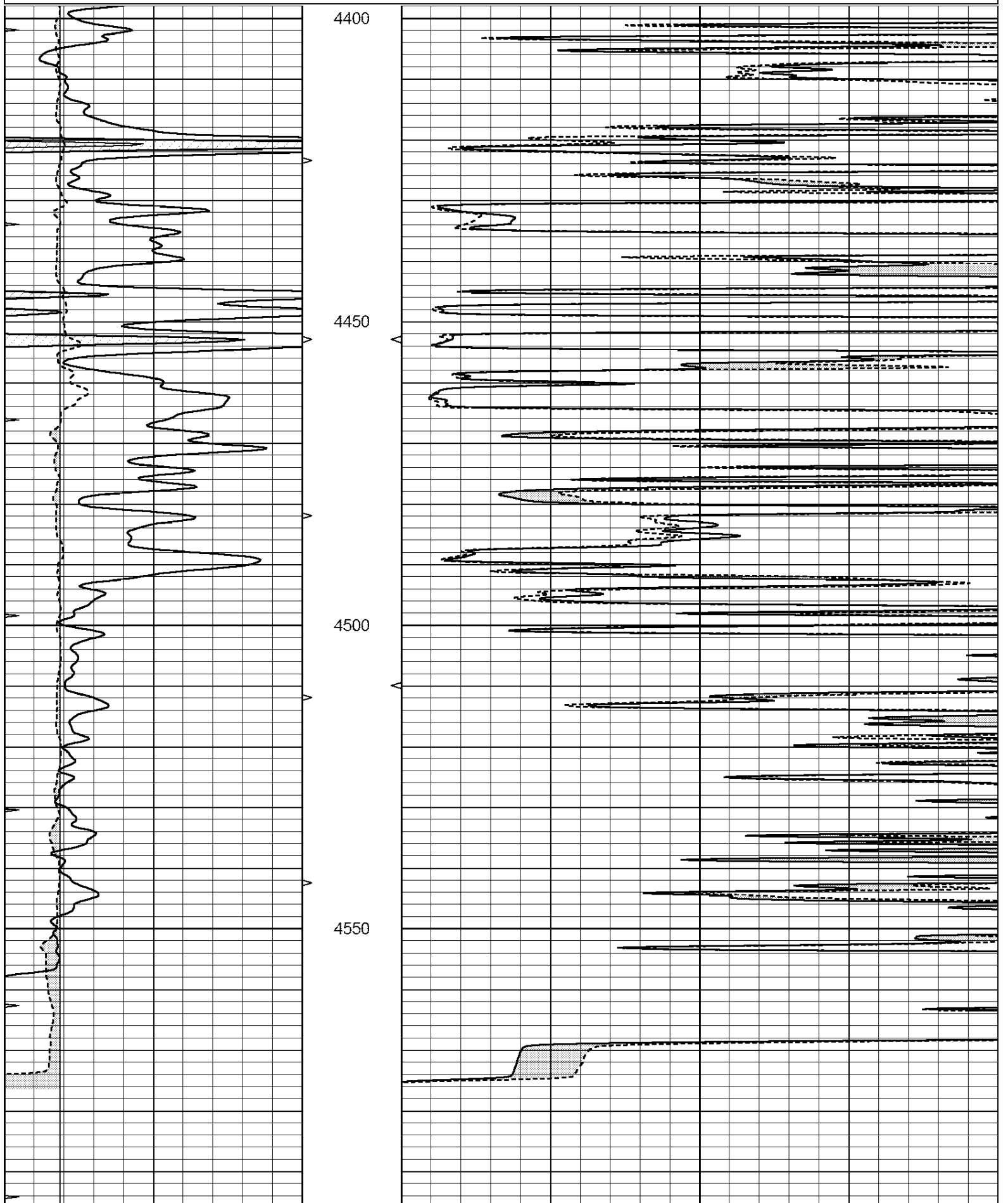
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REPEAT SECTION

Database File: 409504pe.db
 Dataset Pathname: pass5.7
 Presentation Format: micro
 Dataset Creation: Sat Aug 18 11:45:13 2012
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	0	MEL1.5 (Ohm-m)	40
6	CALIPER (in)	16	10 (ft3)	0	MEL2.0 (Ohm-m)	40
0	MINMK	20	TBHV			

0 (ft3) 10



0	GAMMA RAY (GAPI)	150	ABHV	0	MEL1.5 (Ohm-m)	40
6	CALIPER (in)	16	10 (ft3)	0 0	MEL2.0 (Ohm-m)	40
0	MINMK	20	TBHV			

Calibration Report

Database File: 409504pe.db
 Dataset Pathname: pass6.2
 Dataset Creation: Sat Aug 18 11:11:42 2012

MICRO Calibration Report

Serial Number: MICRO5
 Tool Model: PROBE
 Performed: Sat Aug 18 09:41:59 2012

Caliper Calibration:	Gain=4.241	Offset=-9.445
	Low Cal	High Cal
References	7.200	16.000
Readings	3.925	6.000

1.5" Calibration:	Gain=35.000	Offset=-0.500
	Low Cal	High Cal
References	0.000	20.000
Readings	-0.002	0.981

2" Calibration:	Gain=38.000	Offset=-0.500
	Low Cal	High Cal
References	0.000	20.000
Readings	0.002	0.898

Gamma Ray Calibration Report

Serial Number: GR3
 Tool Model: OPEN
 Performed: Tue Aug 14 00:16:20 2012

Calibrator Value:	200.0	GAPI
Background Reading:	3.0	cps
Calibrator Reading:	186.0	cps
Sensitivity:	1.0000	GAPI/cps