



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**COMPENSATED  
DENSITY / NEUTRON  
LOG**

Company RITCHIE EXPLORATION, INC.  
Well DURLER 14B NO. 1  
Field WILDCAT  
County FORD State KANSAS

Location: 2200' FNL & 1120' FWL  
API #: 15-057-20884-00-00

Other Services  
DIL

SEC 14 TWP 27S RGE 24W  
Permanent Datum GROUND LEVEL Elevation 2452  
Log Measured From KELLY BUSHING 10' A.G.L.  
Drilling Measured From KELLY BUSHING  
Elevation  
K.B. 2462  
D.F. 2460  
G.L. 2452

Date	04/01/2013
Run Number	ONE
Depth Driller	5120
Depth Logger	5121
Bottom Logged Interval	5097
Top Log Interval	3400
Casing Driller	369
Casing Logger	
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.25 / 69
pH / Fluid Loss	9.0 / 10.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.70 @ 80 F
Rmf @ Meas. Temp	.56 @ 80 F
Rmc @ Meas. Temp	.84 @ 80 F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.44 @ 126 F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	7:30 P.M.
Maximum Recorded Temperature	126 F
Equipment Number	860
Location	HAYS, KS.
Recorded By	MIKE GARRISON
Witnessed By	MAKLIN ARMSTRONG

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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

NABORS COMPLETION & PRODUCTION SERVICES  
785-628-6395

THANK YOU FOR YOUR BUSINESS

DIRECTIONS: FORT DODGE KS- 2 MILES EAST ON HWY 400 TO 117 RD, 2 SOUTH TO PRIMROSE RD, 1 WEST, NORTH INTO

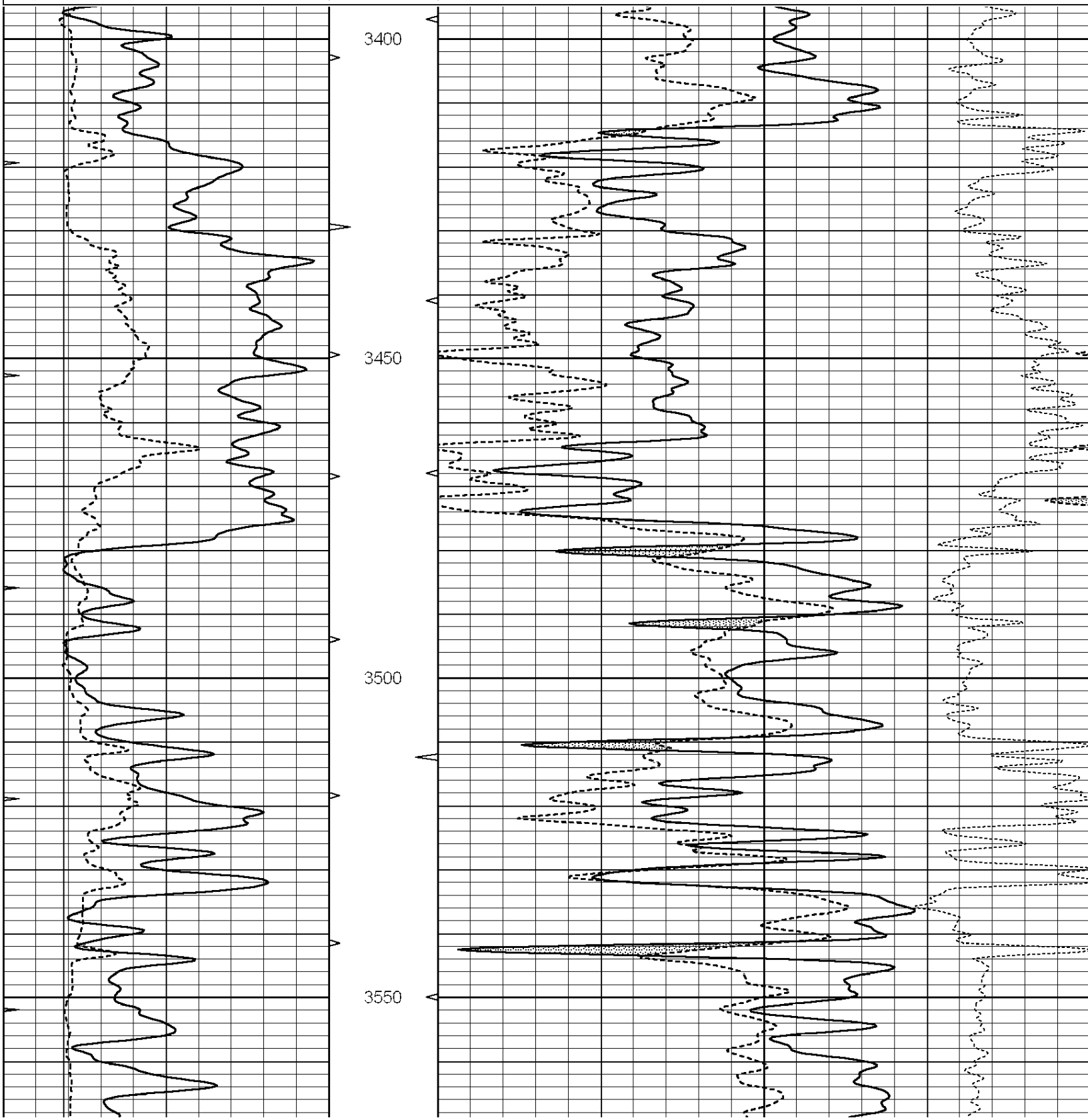


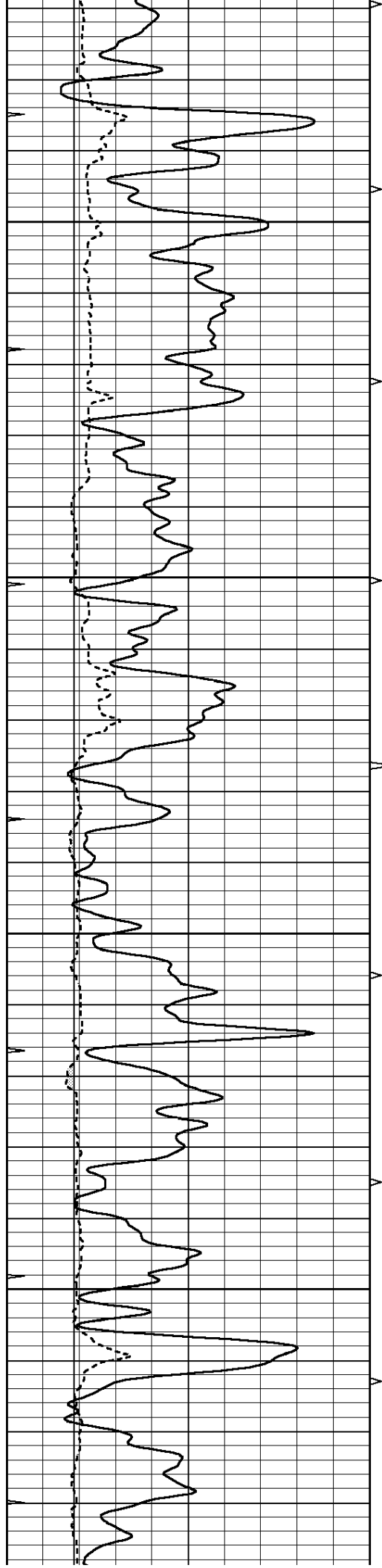
**COMPLETION  
& PRODUCTION**

**MAIN SECTION**

Database File: 010976dildn.db  
 Dataset Pathname: pass3.5  
 Presentation Format: den\_neu  
 Dataset Creation: Mon Apr 01 20:32:30 2013 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	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		



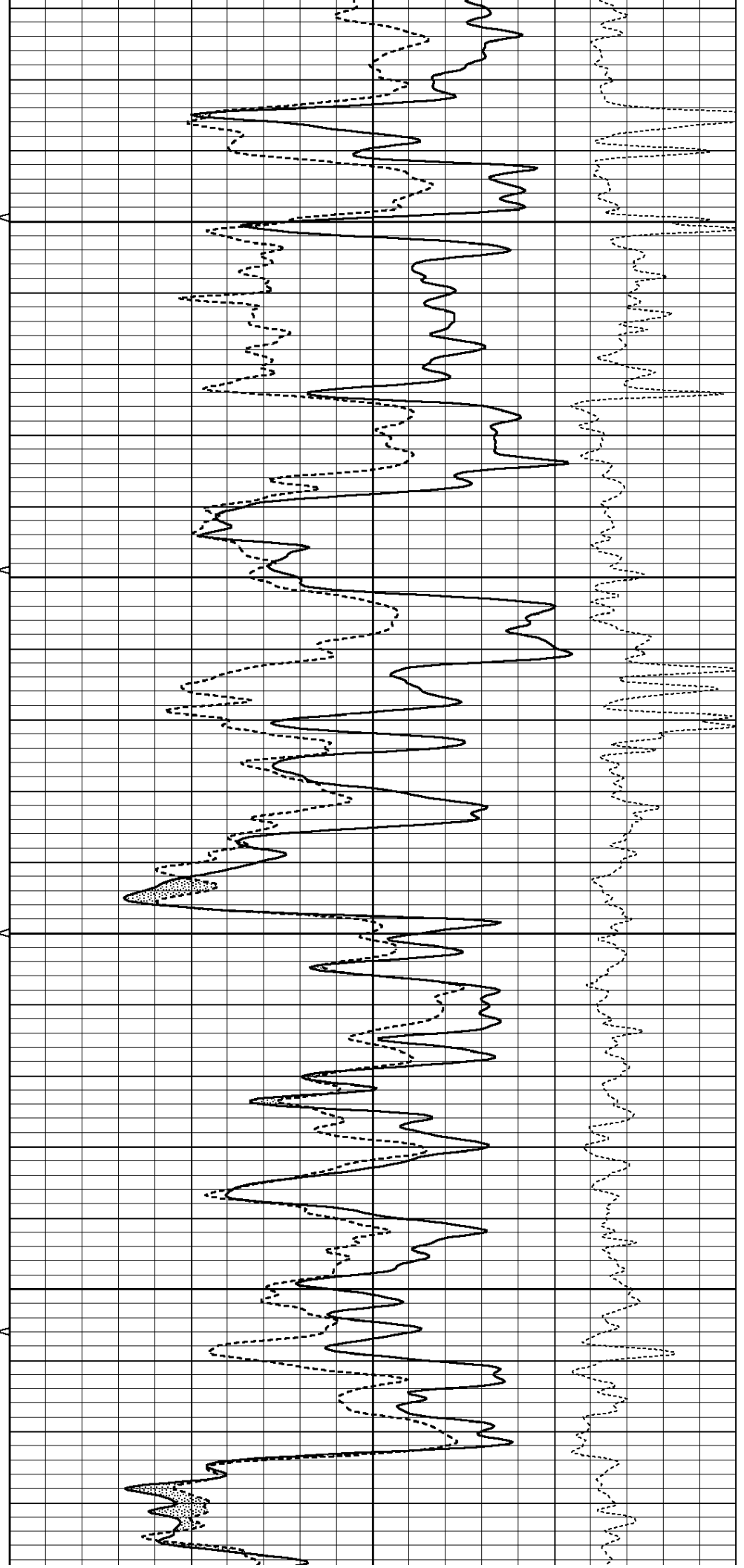


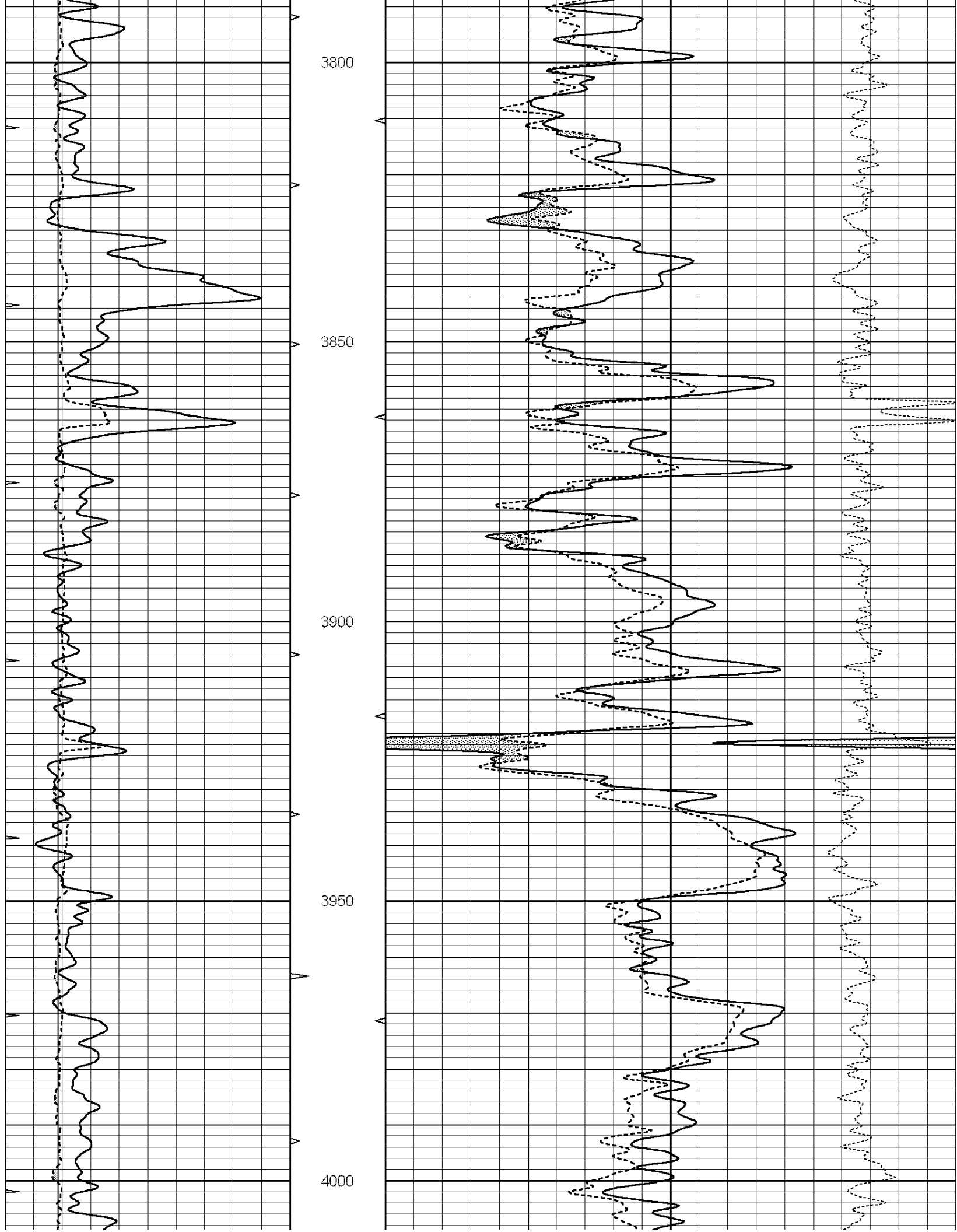
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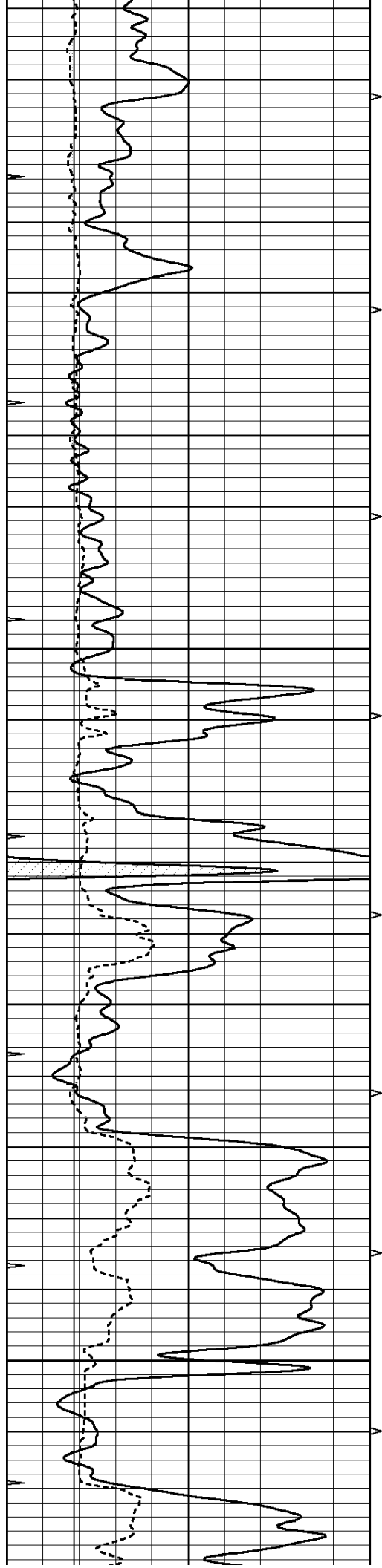
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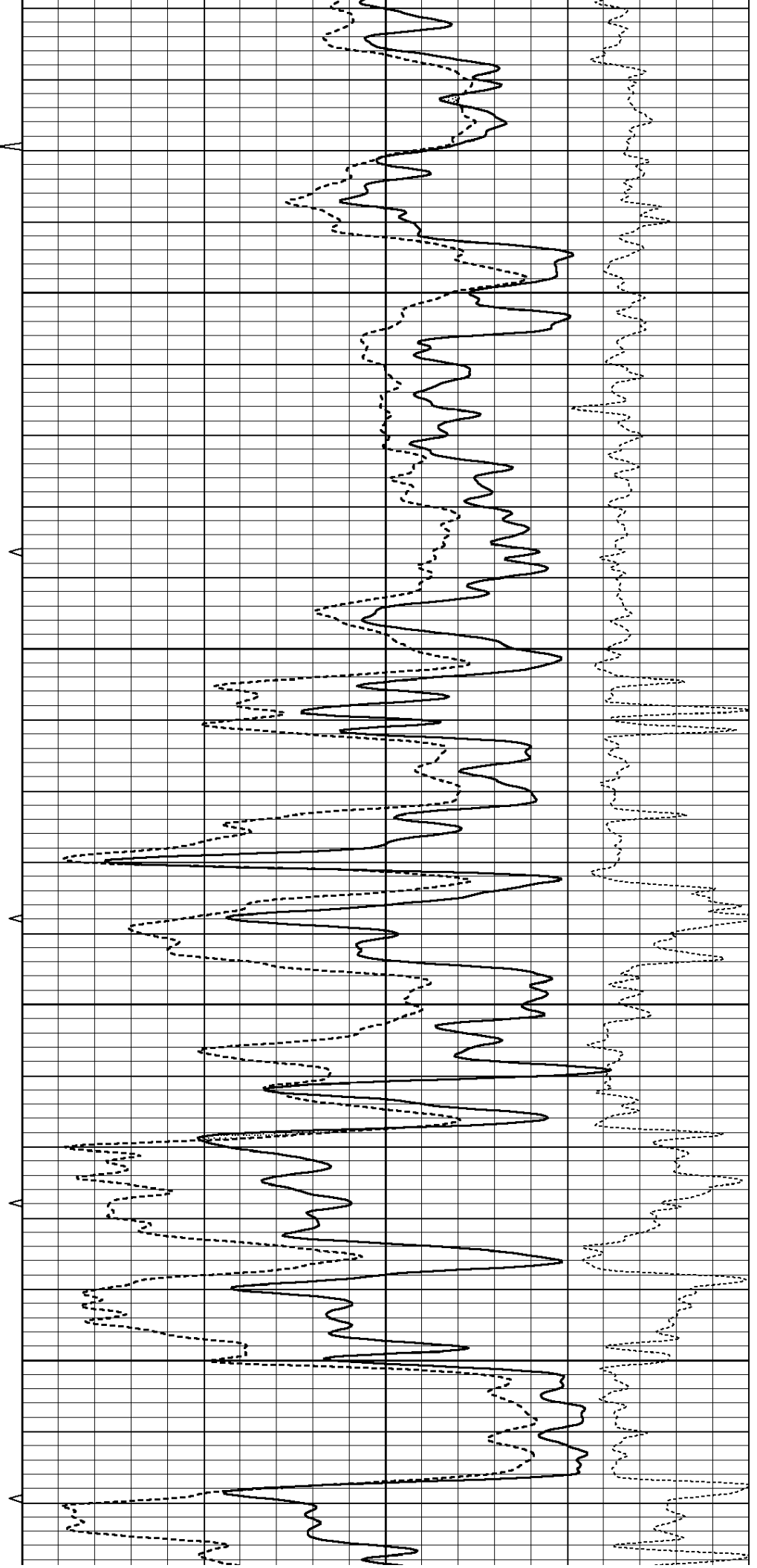


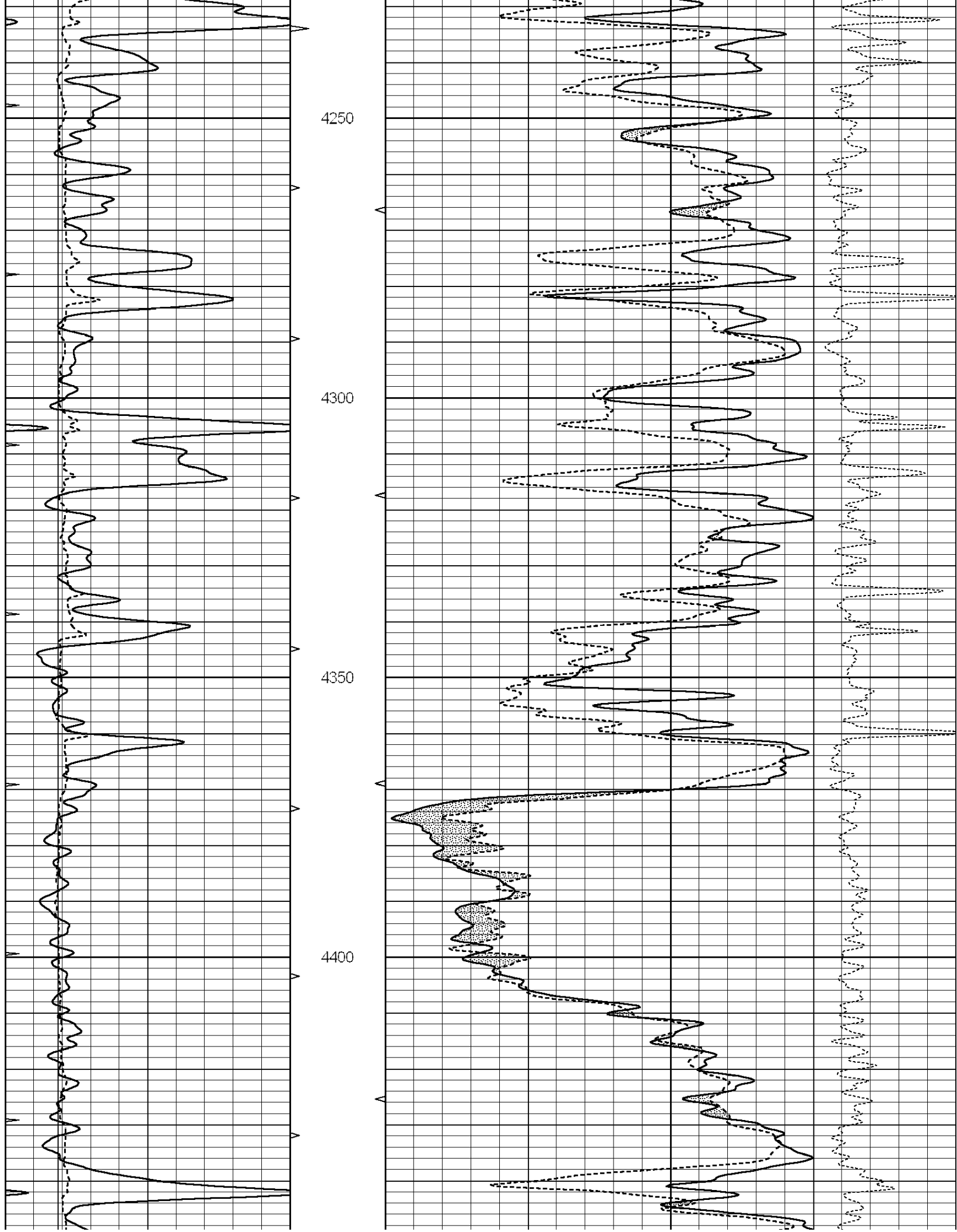
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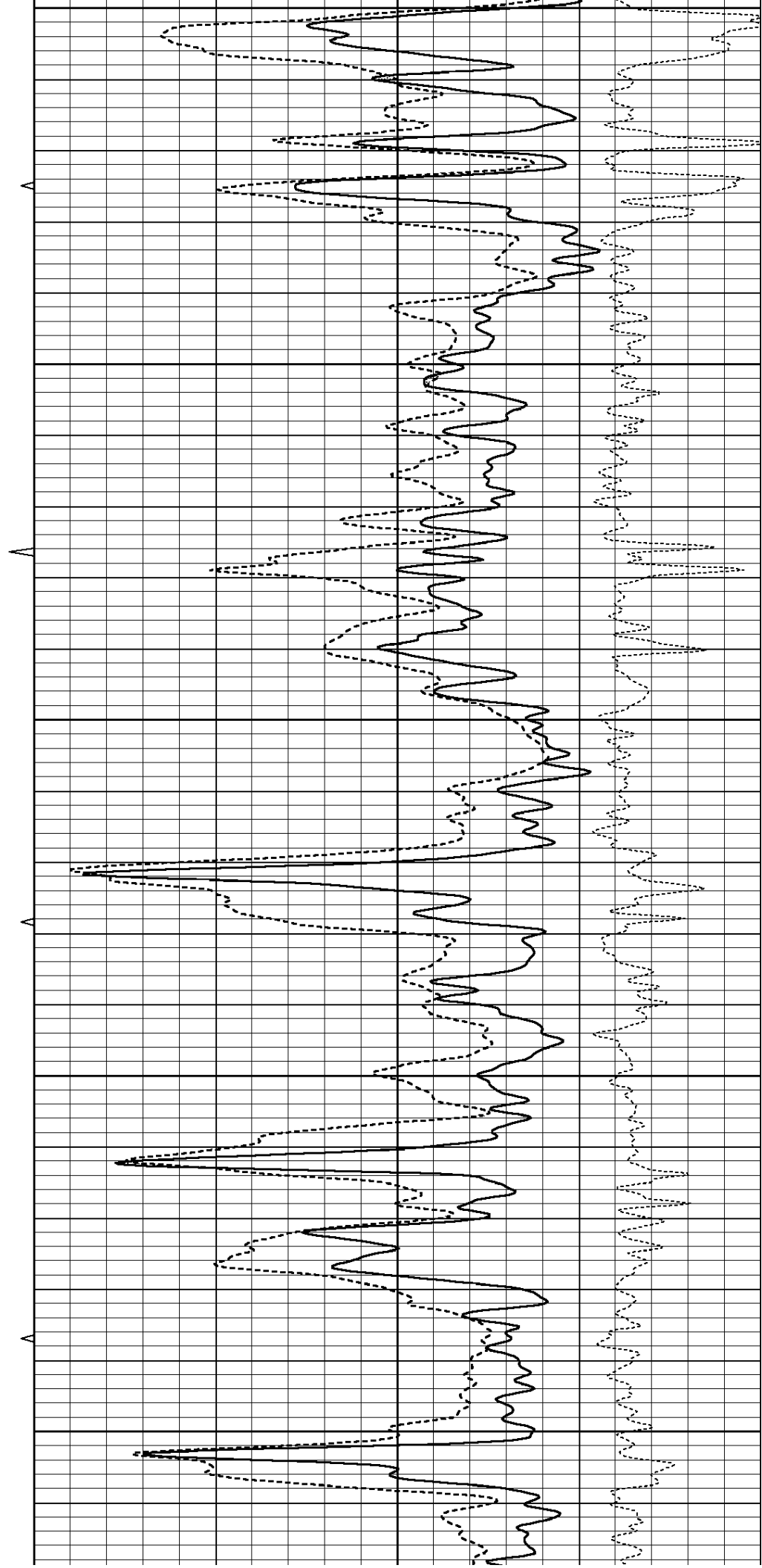
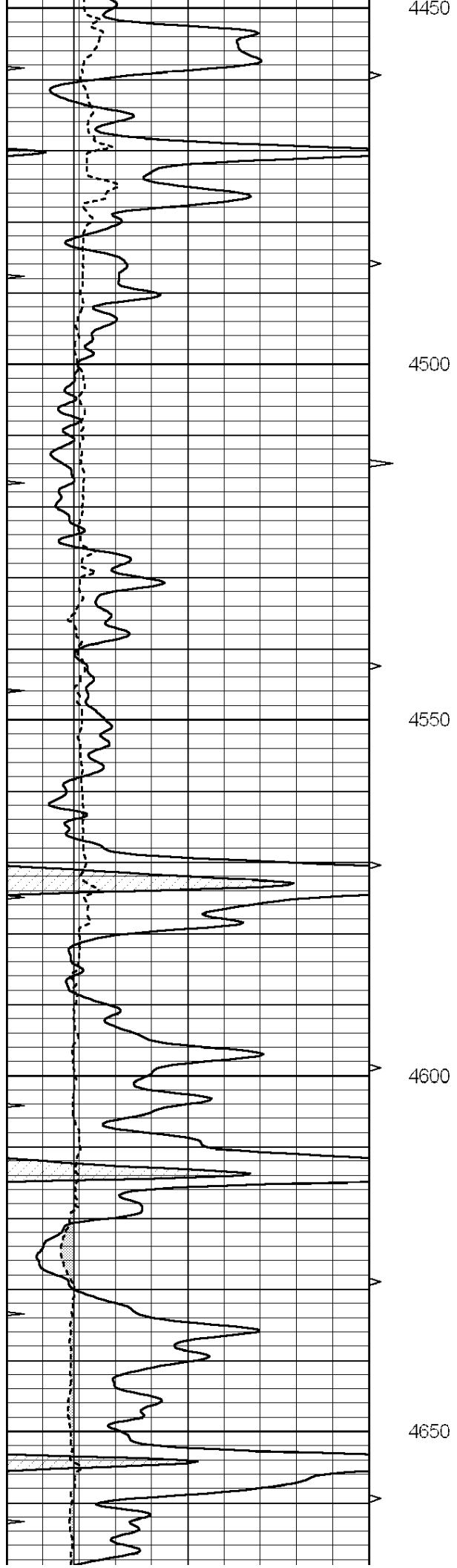
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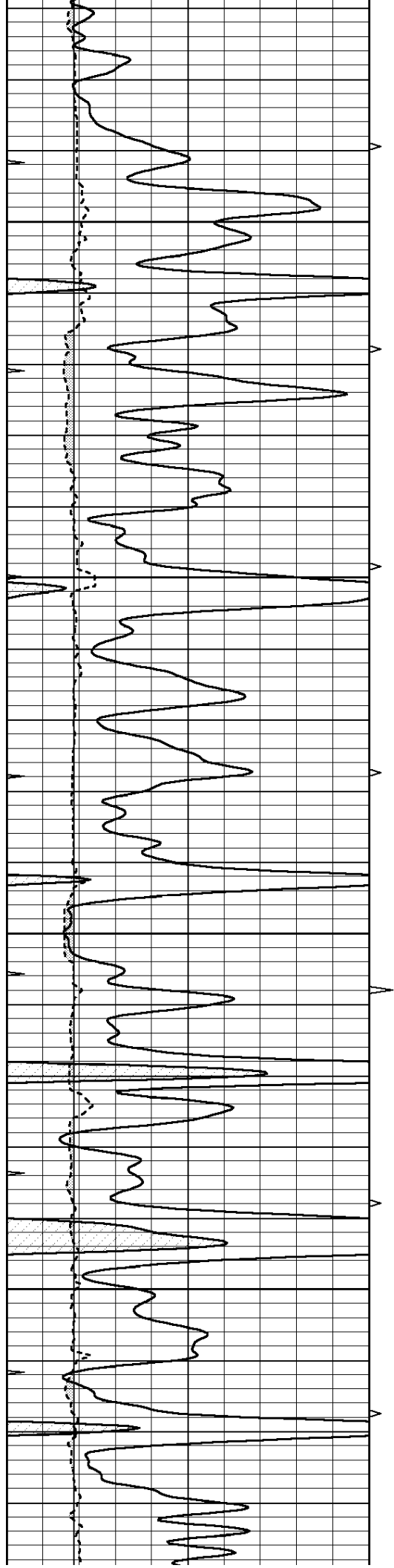
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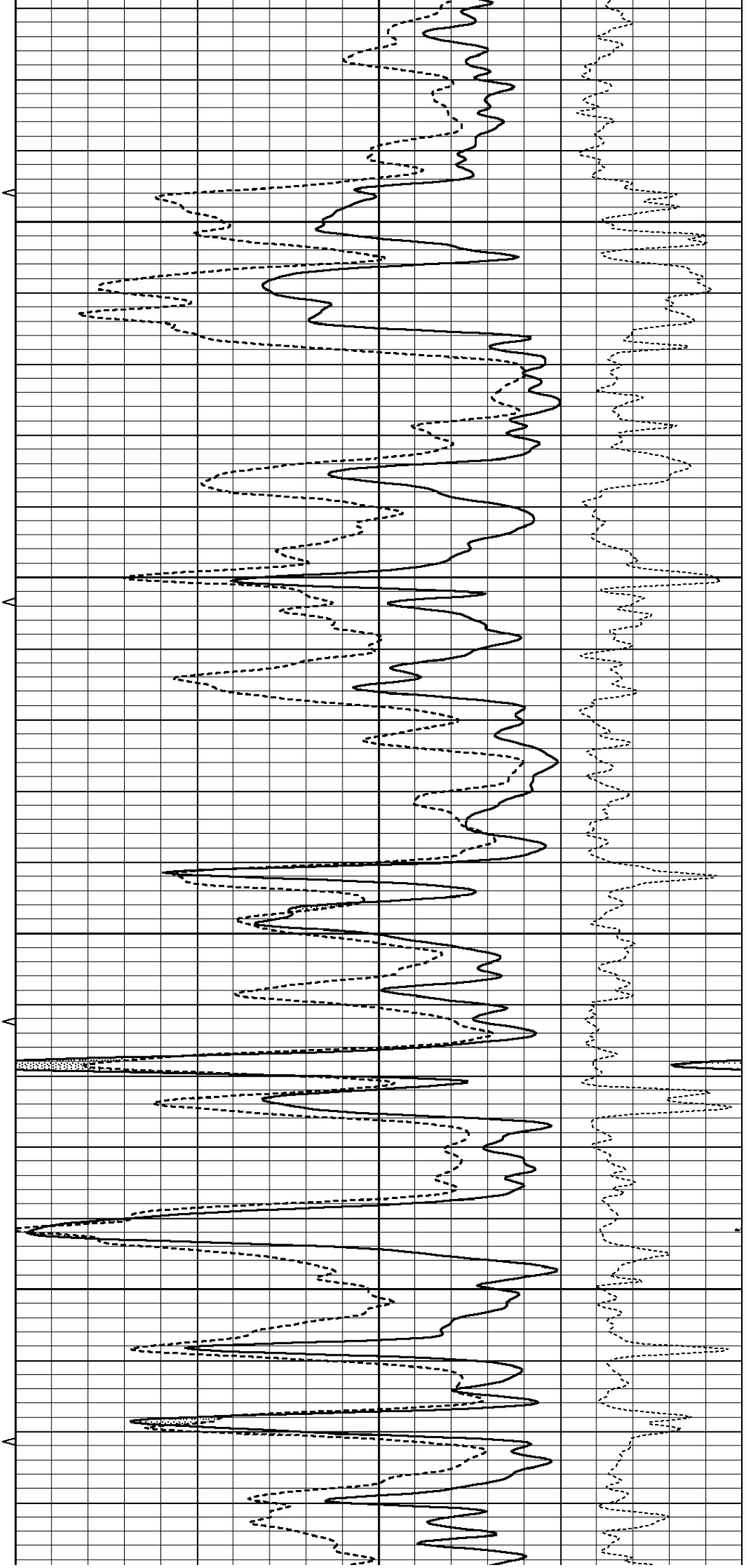


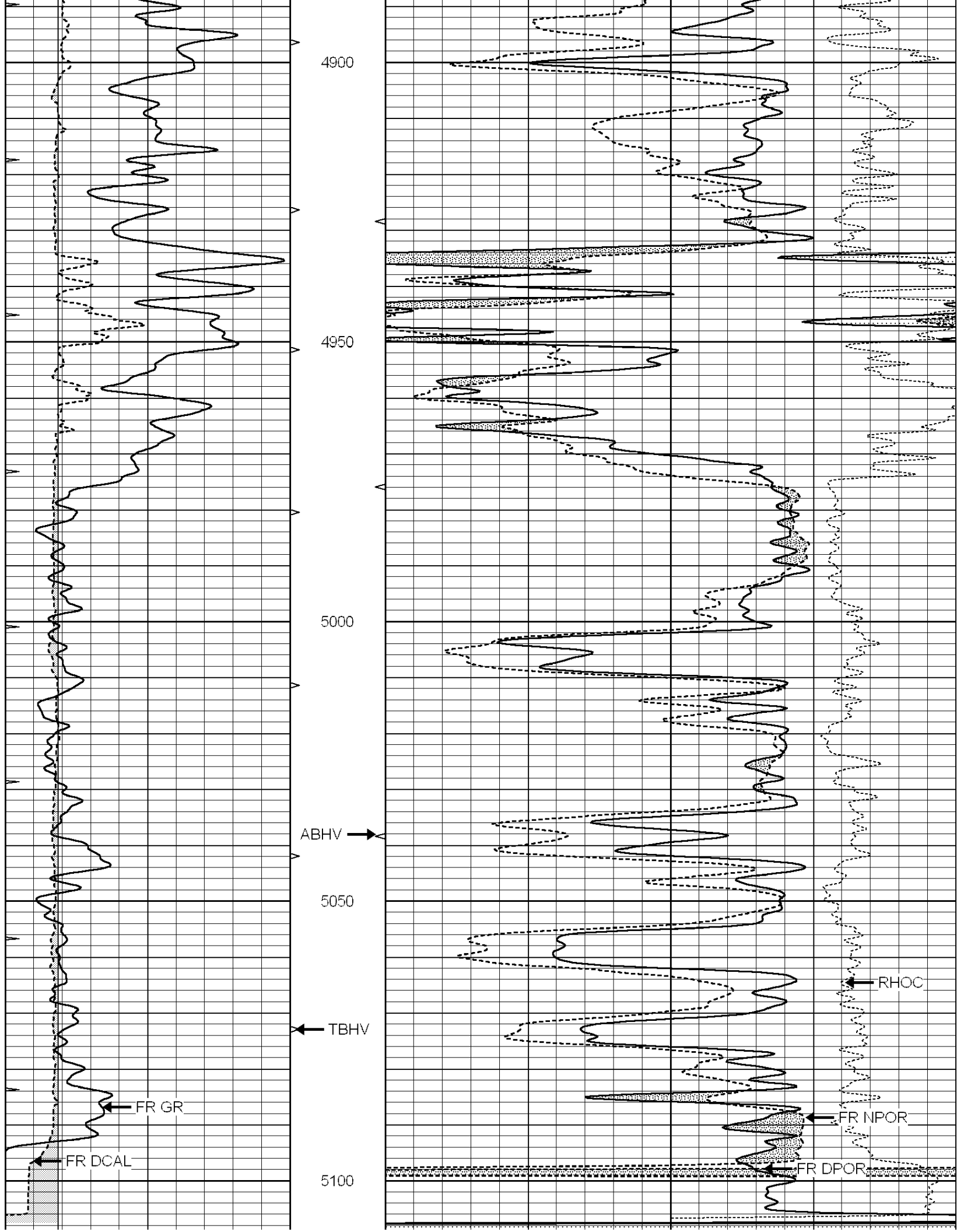
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4850





5.5 CSG

LIMESTONE MATRIX 2.71

LTD 5121

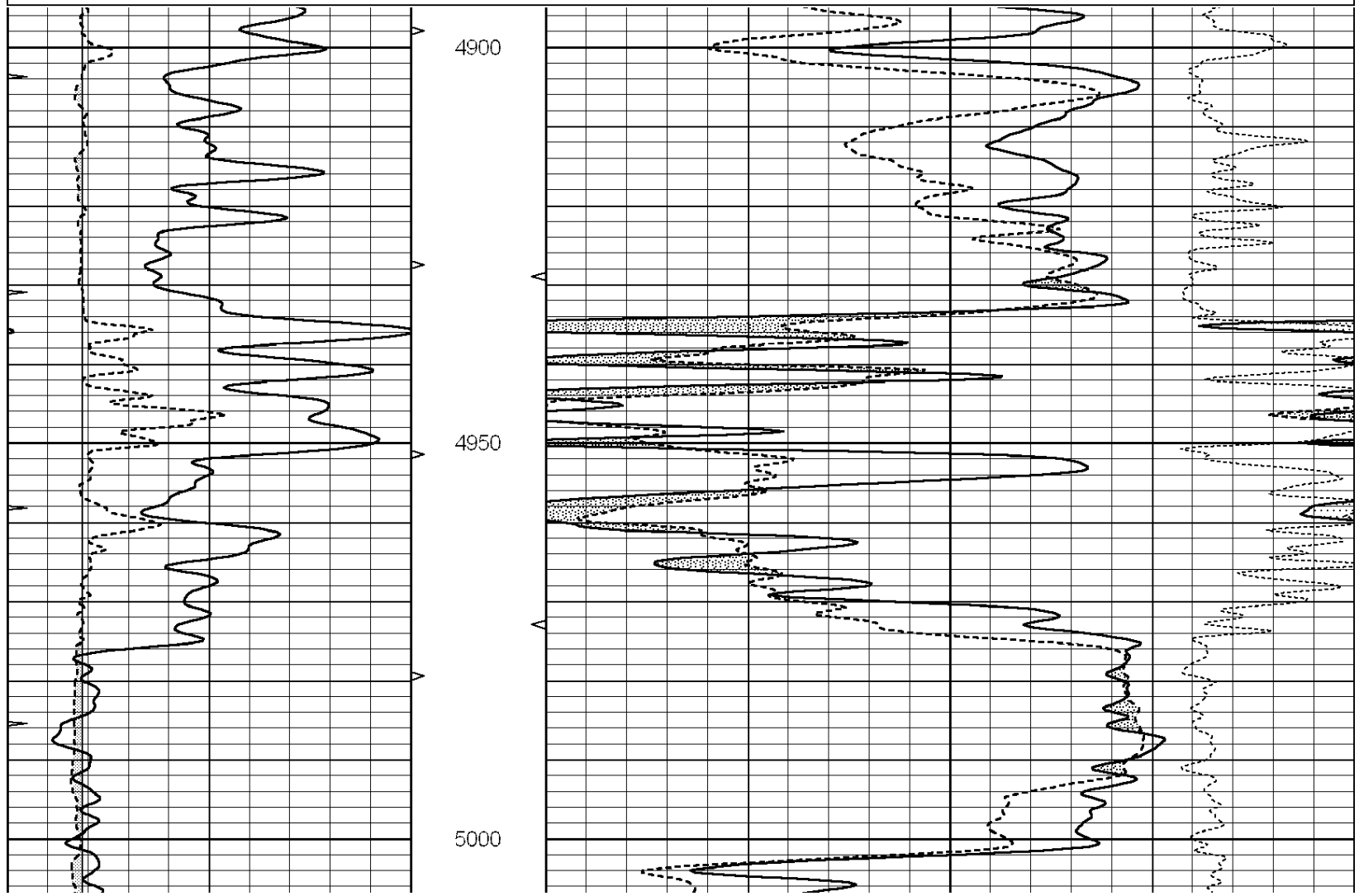
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			

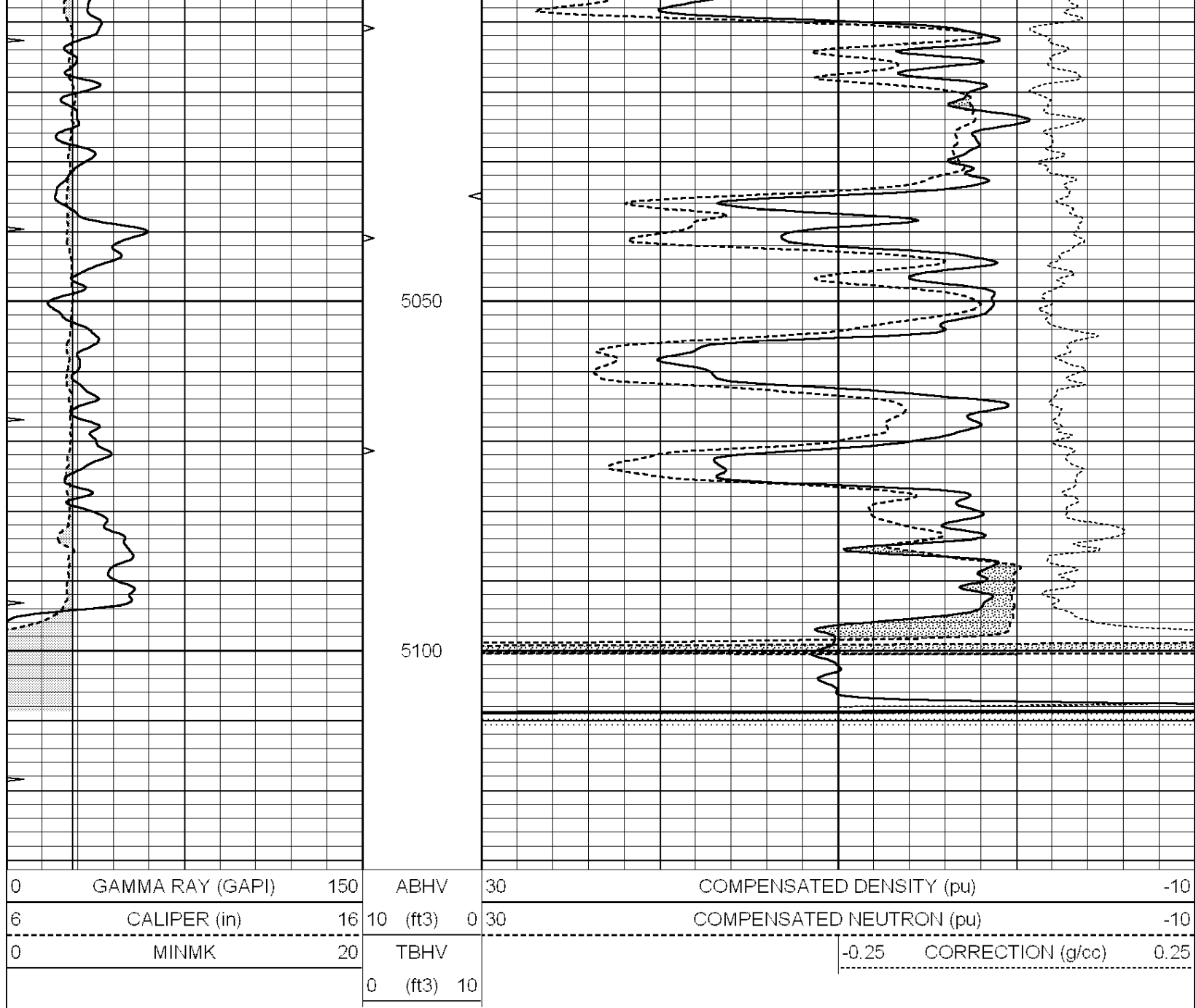


# REPEAT SECTION

Database File: 010976dildn.db  
 Dataset Pathname: pass2.2  
 Presentation Format: den\_neu  
 Dataset Creation: Mon Apr 01 20:03:12 2013 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		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			





Calibration Report

Database File: 010976dildn.db  
 Dataset Pathname: pass3.5  
 Dataset Creation: Mon Apr 01 20:32:30 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE7-DILG
Surface Cal Performed:	Tue Mar 26 01:01:54 2013
Downhole Cal Performed:	Sat Jan 19 19:51:38 2013
After Survey Verification Performed:	Sat Jan 19 19:51:38 2013

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	680.000	-48.000
Internal:	Zero	Cal		Zero	Cal		m	b

Deep	0.041	0.642	V	0.000	400.000	mmho/m	664.874	-27.011
Medium	0.035	0.802	V	0.000	464.000	mmho/m	604.936	-21.367

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	135384.000	27094.500	mmho/m	135400.000	27082.400	mmho/m	1.000	-19.259
Medium	-47330.100	-9381.740	mmho/m	-47327.100	-9389.280	mmho/m	1.000	-10.154
LL3		7.322	V		1400.000	Ohm-m		
		0.038	V		20.000	Ohm-m		
		-7.273	V		4000.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	135384.000	27094.500	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	-47330.100	-9381.740	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1400.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		4000.000	mmho-m		

Compensated Density Calibration Report

Serial-Model: GEAR1-GEARHART  
Source / Verifier: 147 / 147  
Master Calibration Performed: Mon Mar 25 23:10:31 2013

Master Calibration

	Density		Far Detector		Near Detector	
Magnesium	1.710	g/cc	1205.77	610.74	cps	
Aluminum	2.590	g/cc	271.21	419.72	cps	
Spine Angle = 75.89			Density/Spine Ratio = 0.572			
	Size		Reading			
Small Ring	7.10	in	4.69	V		
Large Ring	14.00	in	6.52	V		

Compensated Neutron Calibration Report

Serial Number: NEU\_4I  
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

Gamma Ray Calibration Report

Serial Number: GR5  
Tool Model: OPEN  
Performed: Tue Mar 26 03:22:48 2013

Calibrator Value: 1.0 GAPI  
Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps  
Sensitivity: 2.4000 GAPI/cps

