



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company MULL DRILLING COMPANY, INC. Well #2-4 THORNBURG "B" Field WILDCAT County NESS State KANSAS		Company MULL DRILLING COMPANY, INC. Well #2-4 THORNBURG "B" Field WILDCAT County NESS State KANSAS		Location: API # : 15-135-25581-0000 660' FNL & 2294' FWL	Other Services DIL/MEL SONIC
Permanent Datum GROUND LEVEL Elevation 2604 Log Measured From KELLY BUSHING 5' A.G.L. Drilling Measured From KELLY BUSHING		SEC 4 TWP 16S RGE 26W		Elevation K.B. 2609 D.F. 2607 G.L. 2604	
Date	5/11/13				
Run Number	ONE				
Depth Driller	4600				
Depth Logger	4600				
Bottom Logged Interval	4576				
Top Log Interval	3600				
Casing Driller	8 5/8"@220'				
Casing Logger	217				
Bit Size	7 7/8"				
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2,500 PPM			
Density / Viscosity	9.3/44				
pH / Fluid Loss	10.5/6.8				
Source of Sample	FLOWLINE				
Rm @ Meas. Temp	.900@82F				
Rmf @ Meas. Temp	.675@82F				
Rmc @ Meas. Temp	1.08@82F				
Source of Rmf / Rmc	MEASUREMENT				
Rm @ BHT	.610@121F				
Time Circulation Stopped	2.5 HOURS				
Time Logger on Bottom	6:30 P.M.				
Maximum Recorded Temperature	121F				
Equipment Number	4854				
Location	HAYS, KANSAS				
Recorded By	JEFF LUEBBERS				
Witnessed By	KEVIN KESSLER				

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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, KANSAS (785) 628-6395
 DIRECTIONS
 UTICA, KS. 2W. ON HWY 4 TO "RD. B", 4N. TO "T", 1/2E., S. INTO



NABORS

**COMPLETION
& PRODUCTION**

MAIN SECTION

Database File:

010903pe.db

Dataset Pathname:

pass3.2

Presentation Format:

ldt_neu

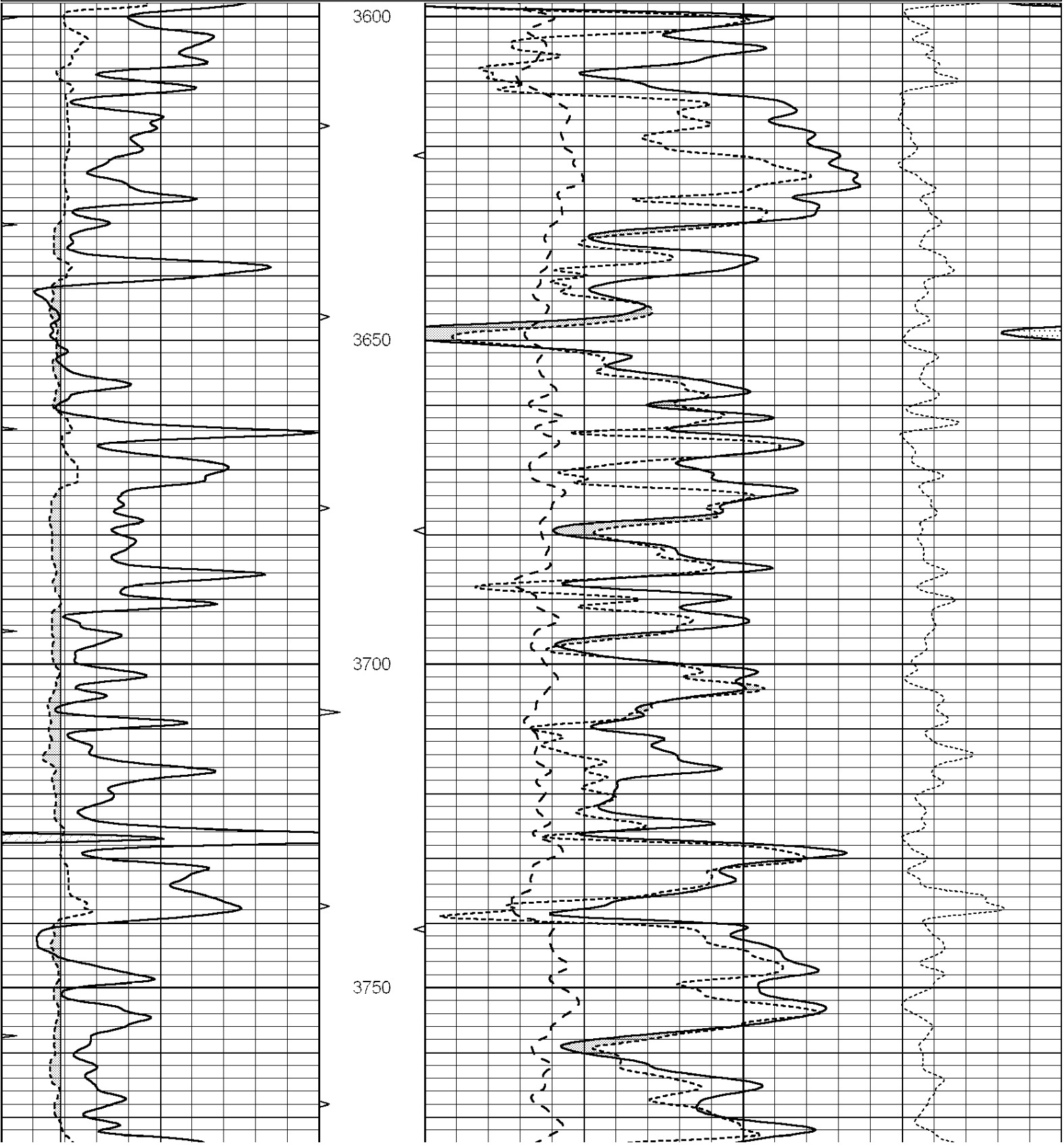
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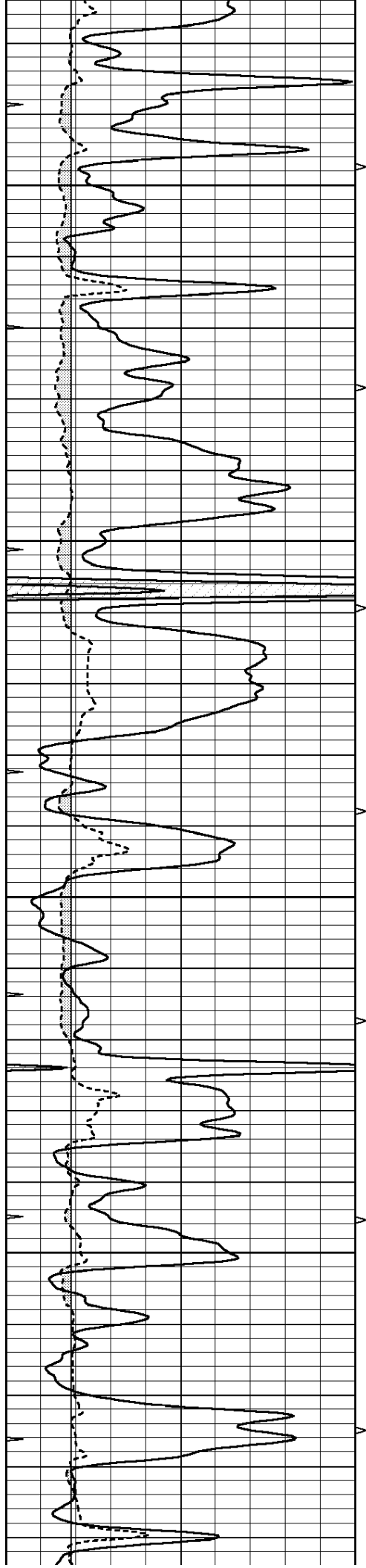
Sat May 11 19:58:45 2013 by Calc SOC 120430

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						



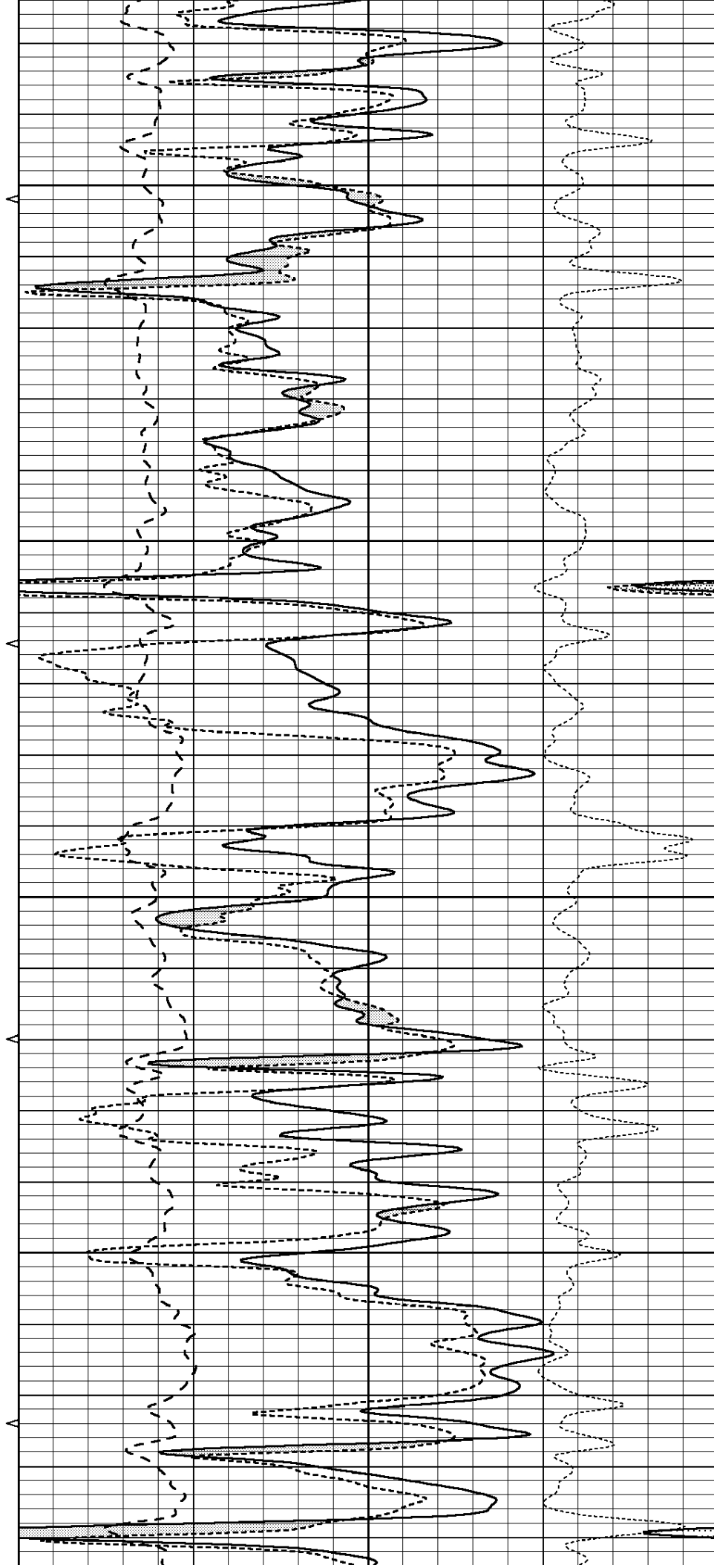


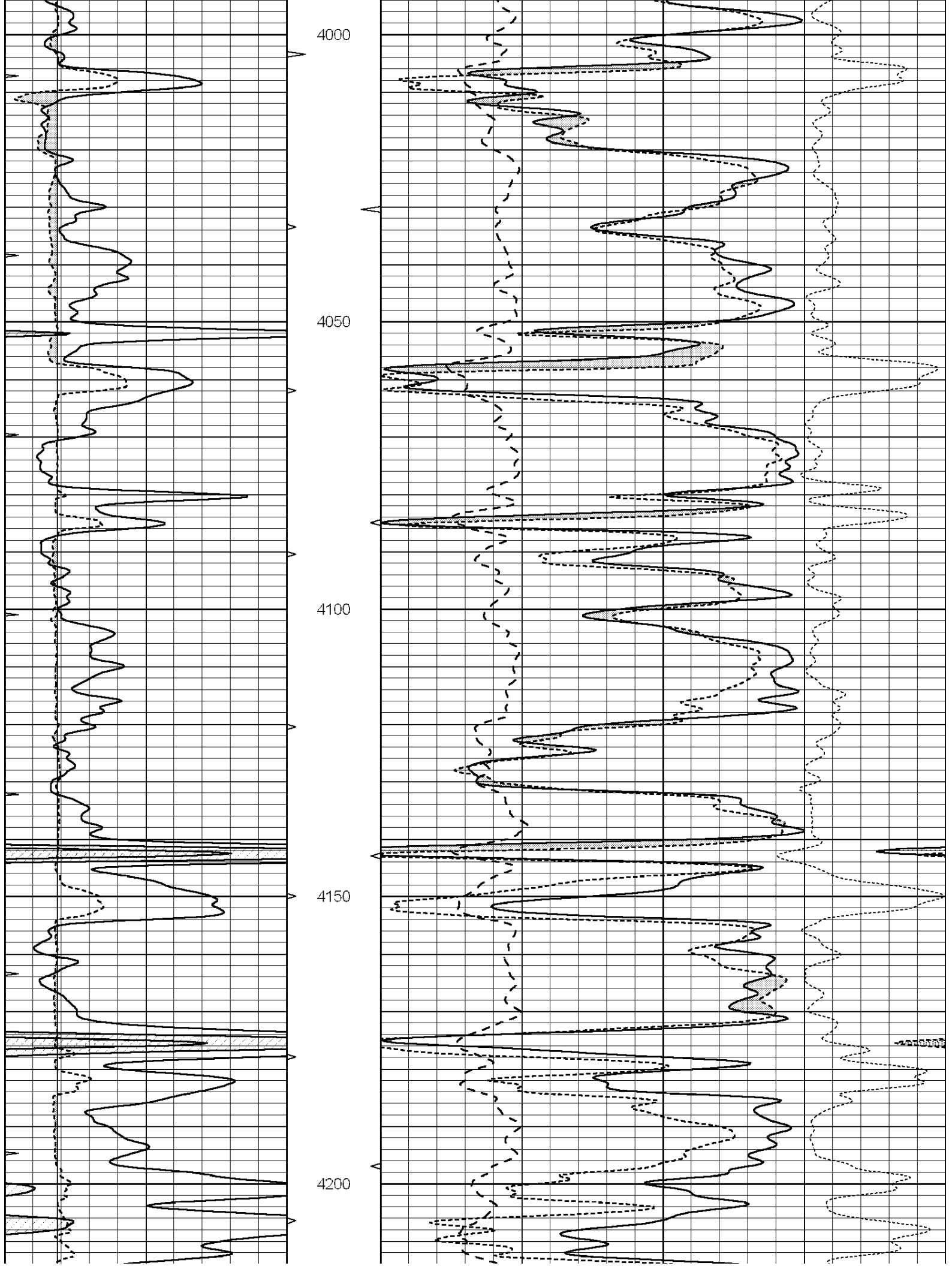
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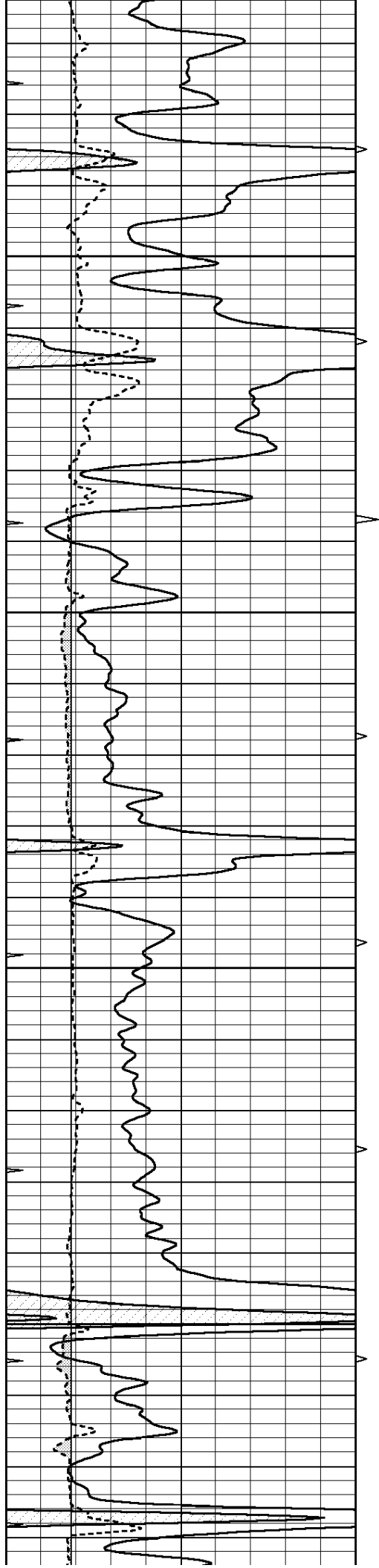
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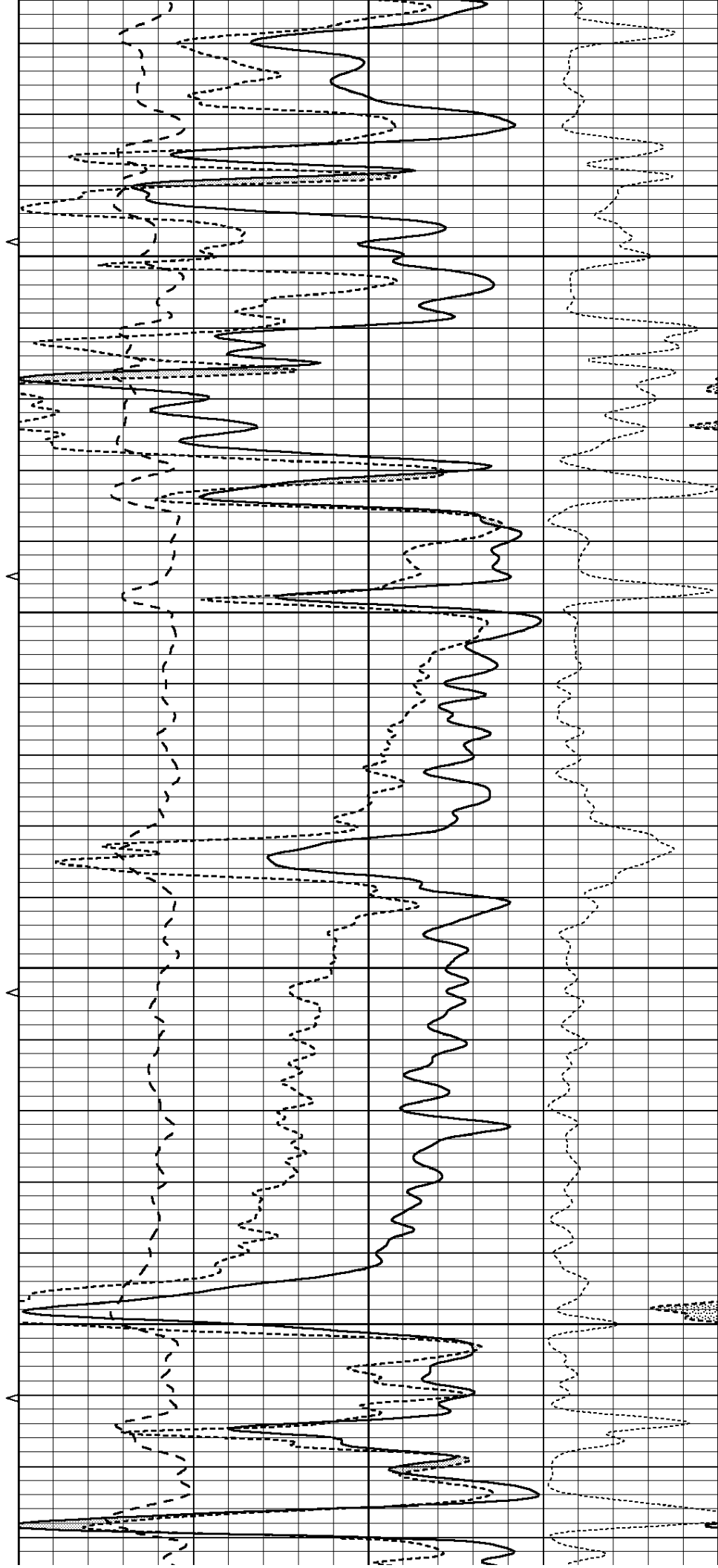


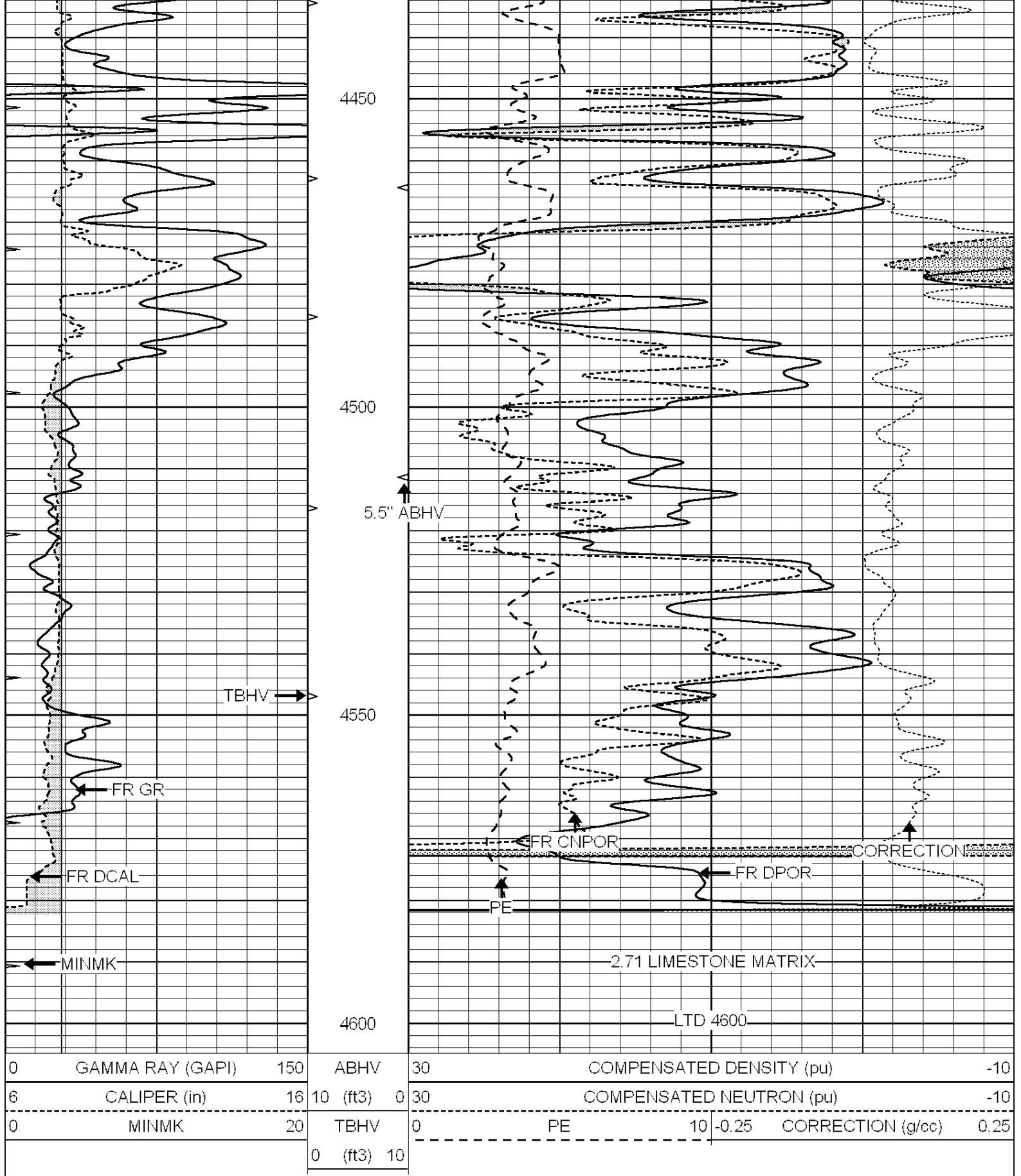
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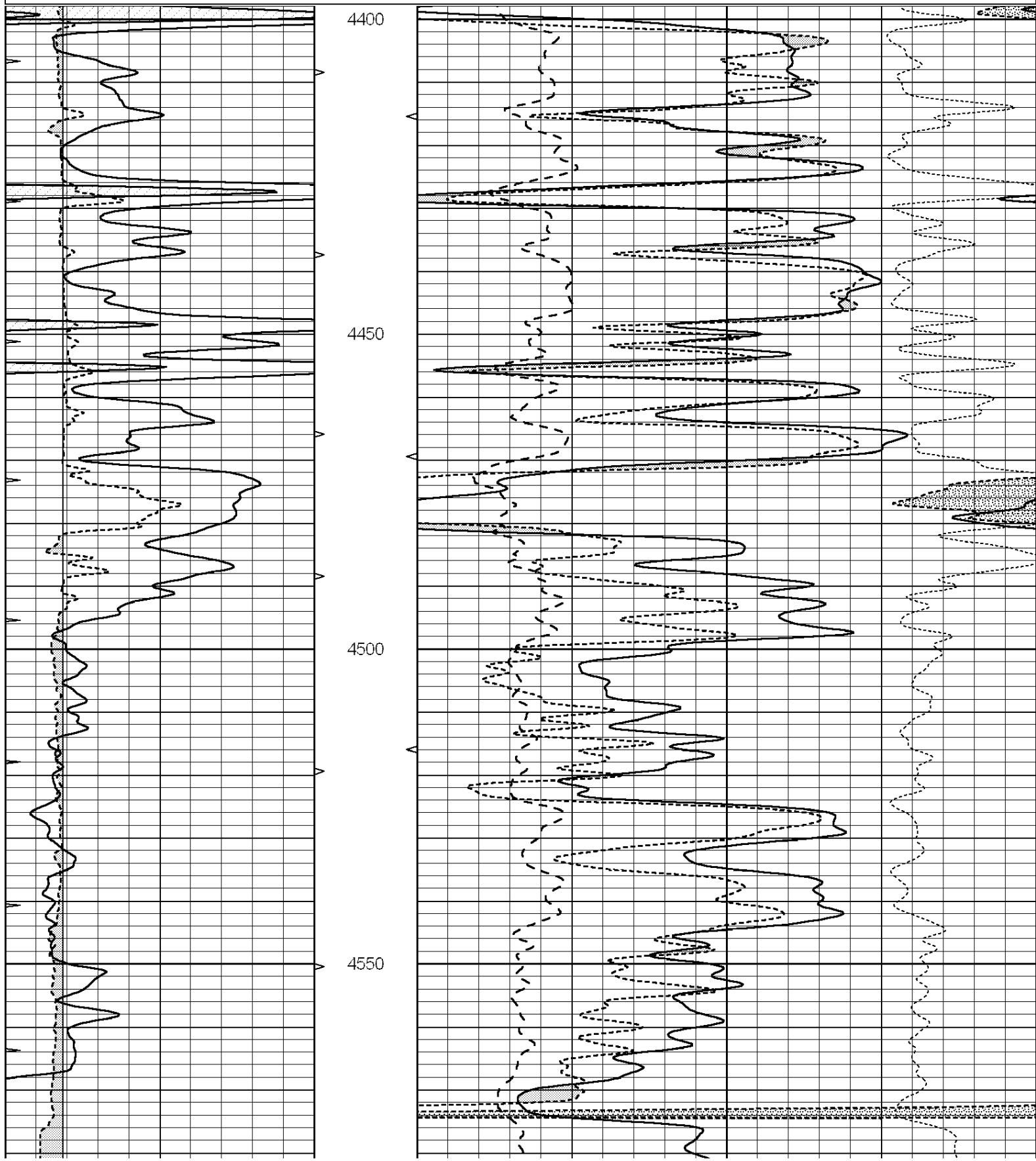
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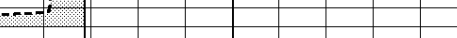
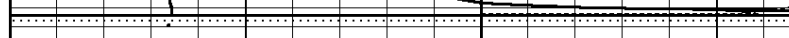




Database File: 010903pe.db
Dataset Pathname: pass2.5
Presentation Format: ldt_neu
Dataset Creation: Sat May 11 19:05:24 2013 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

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		



			4600							
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						

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
Pe		0.0000	2.5700	1.5500	
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

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

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:	Mon Apr 15 10:30:52 2013

Calibrator Value:	1.0	GAPI
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Background Reading:	0.0	cps
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Calibrator Reading:	1.0	cps
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Sensitivity:	0.3500	GAPI/cps
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