



**SUPERIOR
Hays,
Kansas**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company MULL DRILLING CO., INC.
Well THORNBURG "C" #1-4
Field WILDCAT
County NESS
State KANSAS

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Well THORNBURG "C" #1-4
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County NESS State KANSAS

Location: API #: 15-135-25121
694' FNL & 1421' FEL
SEC 4 TWP 16S RGE 26W
Permanent Datum GROUND LEVEL Elevation 2575
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DIL
SONIC/MEL
Elevation
K.B. 2584
D.F.
G.L. 2575

Date	8-25-10
Run Number	ONE
Depth Driller	4600
Depth Logger	4600
Bottom Logged Interval	4576
Top Log Interval	3600
Casing Driller	222
Casing Logger	222
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3 / 53
pH / Fluid Loss	10.5 / 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.00 @ 96F
Rmf @ Meas. Temp	0.75 @ 96F
Rmc @ Meas. Temp	1.20 @ 96F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.790 @ 121F
Time Circulation Stopped	3 HOURS
Time Logger on Bottom	1:30 P.M.
Maximum Recorded Temperature	121F
Equipment Number	860
Location	HAYS, KS.
Recorded By	RUPP
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

SUPERIOR WELL SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: UTICA, S EDGE AT RD."D", 4N TO THE T IN THE RD., 2W, S INTO.

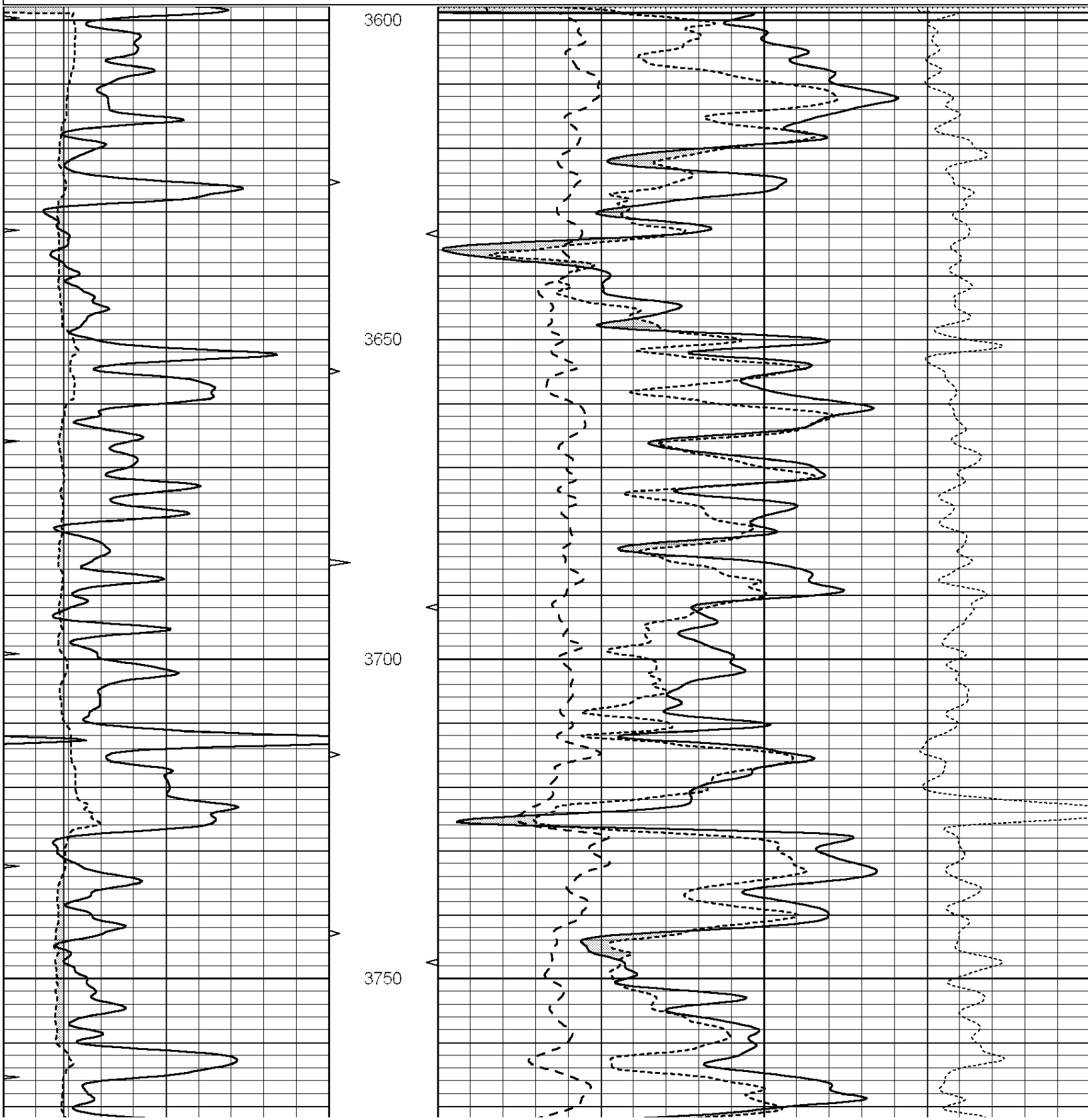


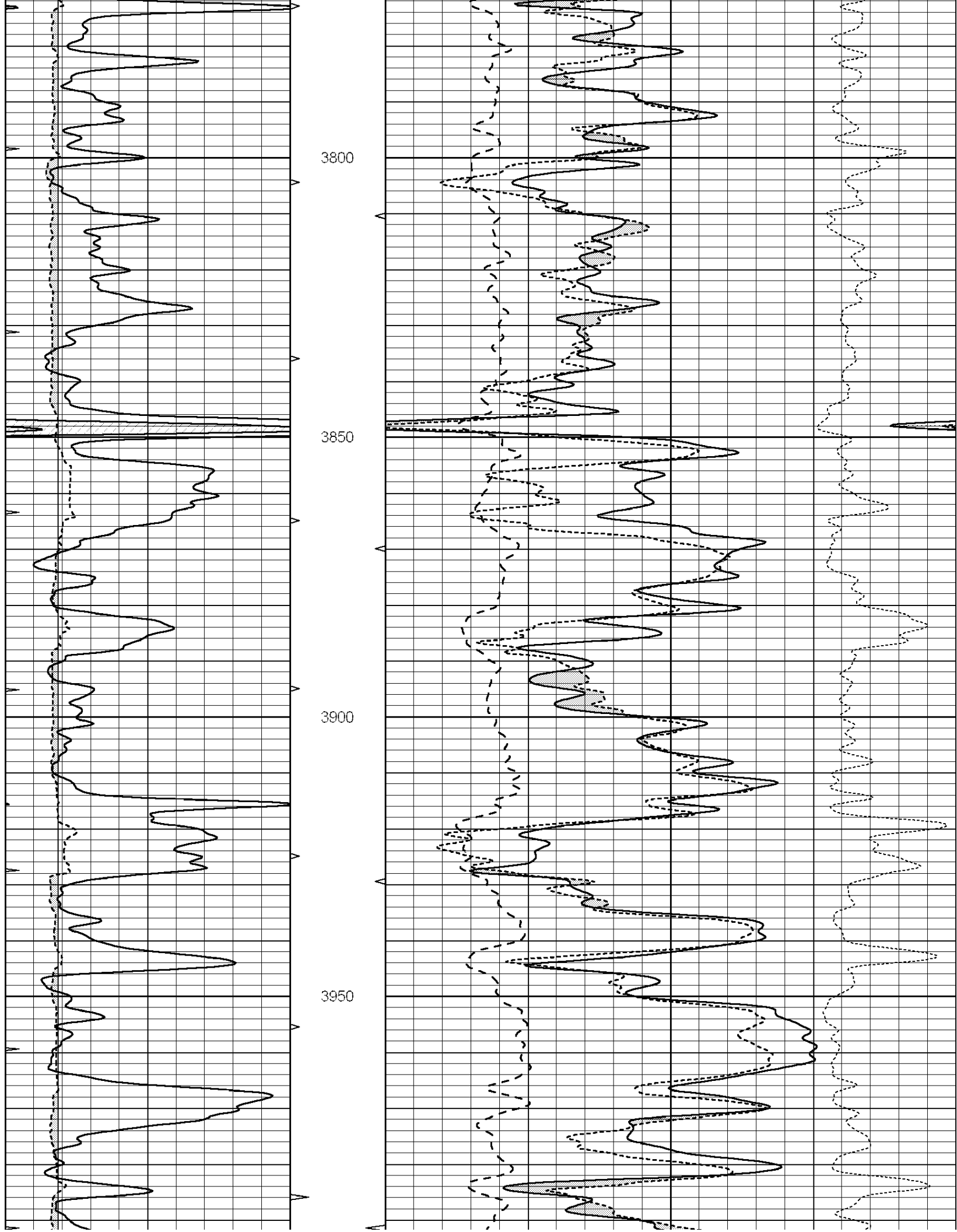
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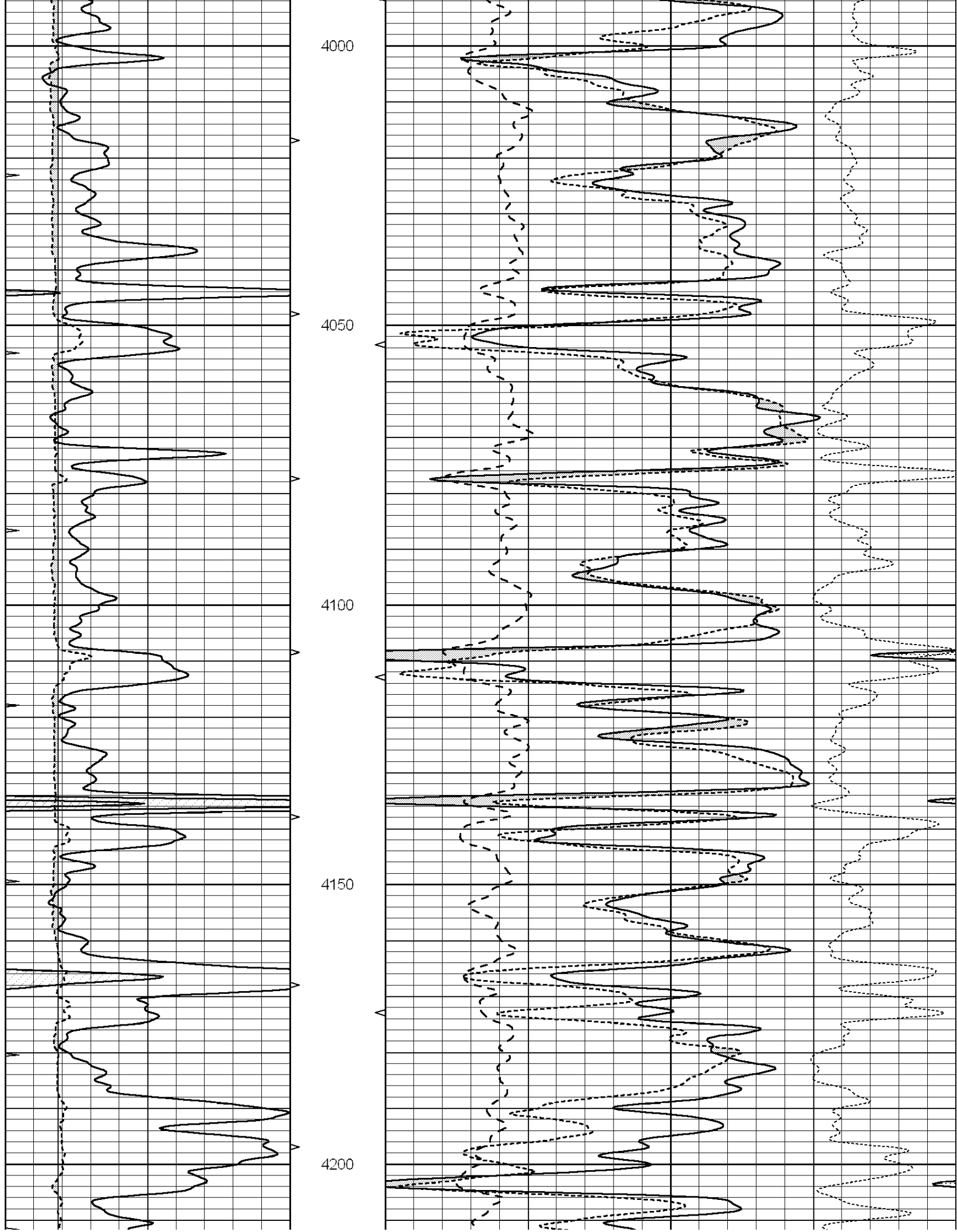
MAIN SECTION

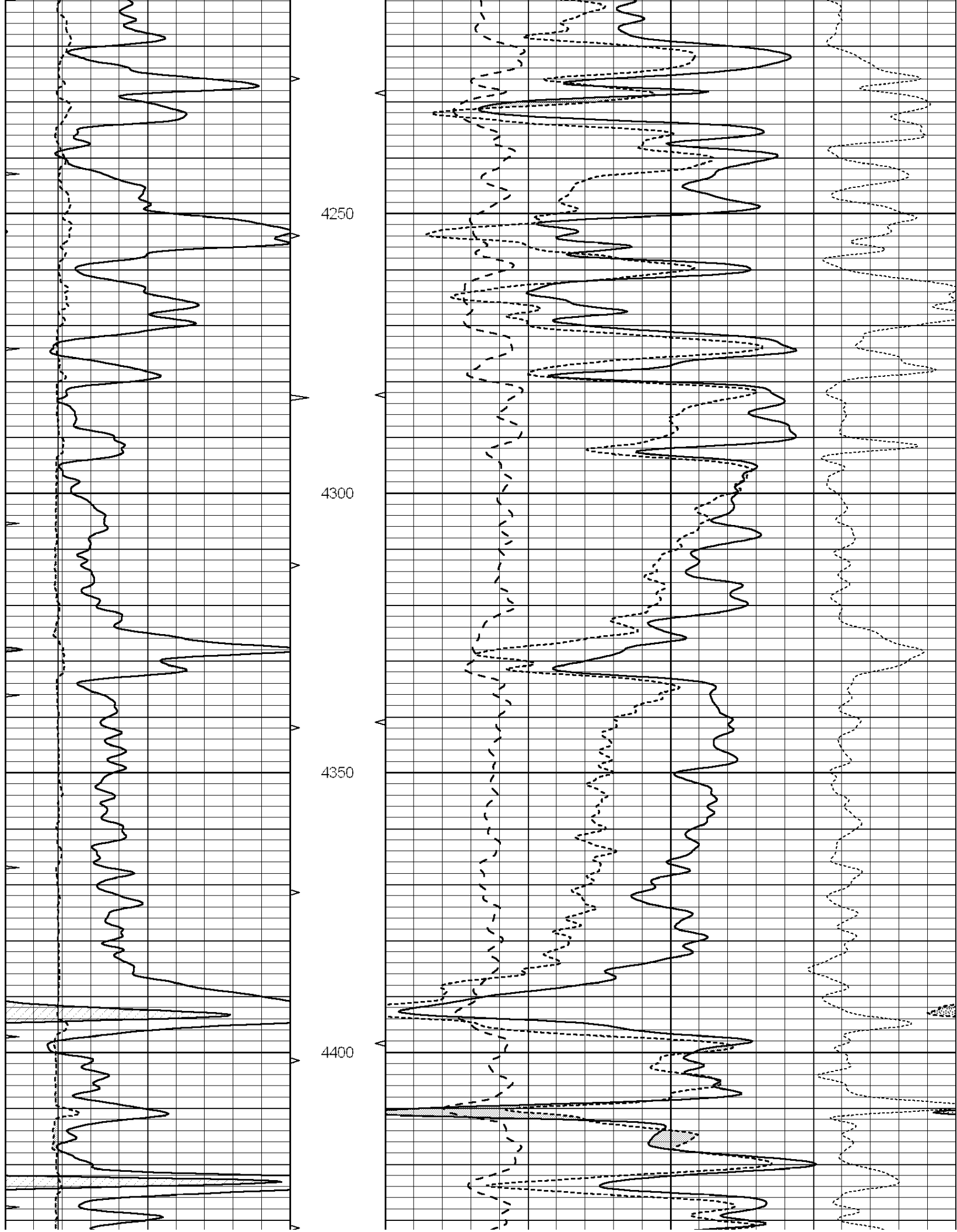
Database File: 005649pdn.db
 Dataset Pathname: pass3.A
 Presentation Format: ldt_neu
 Dataset Creation: Wed Aug 25 15:48:36 2010
 Charted by: Depth in Feet scaled 1:240

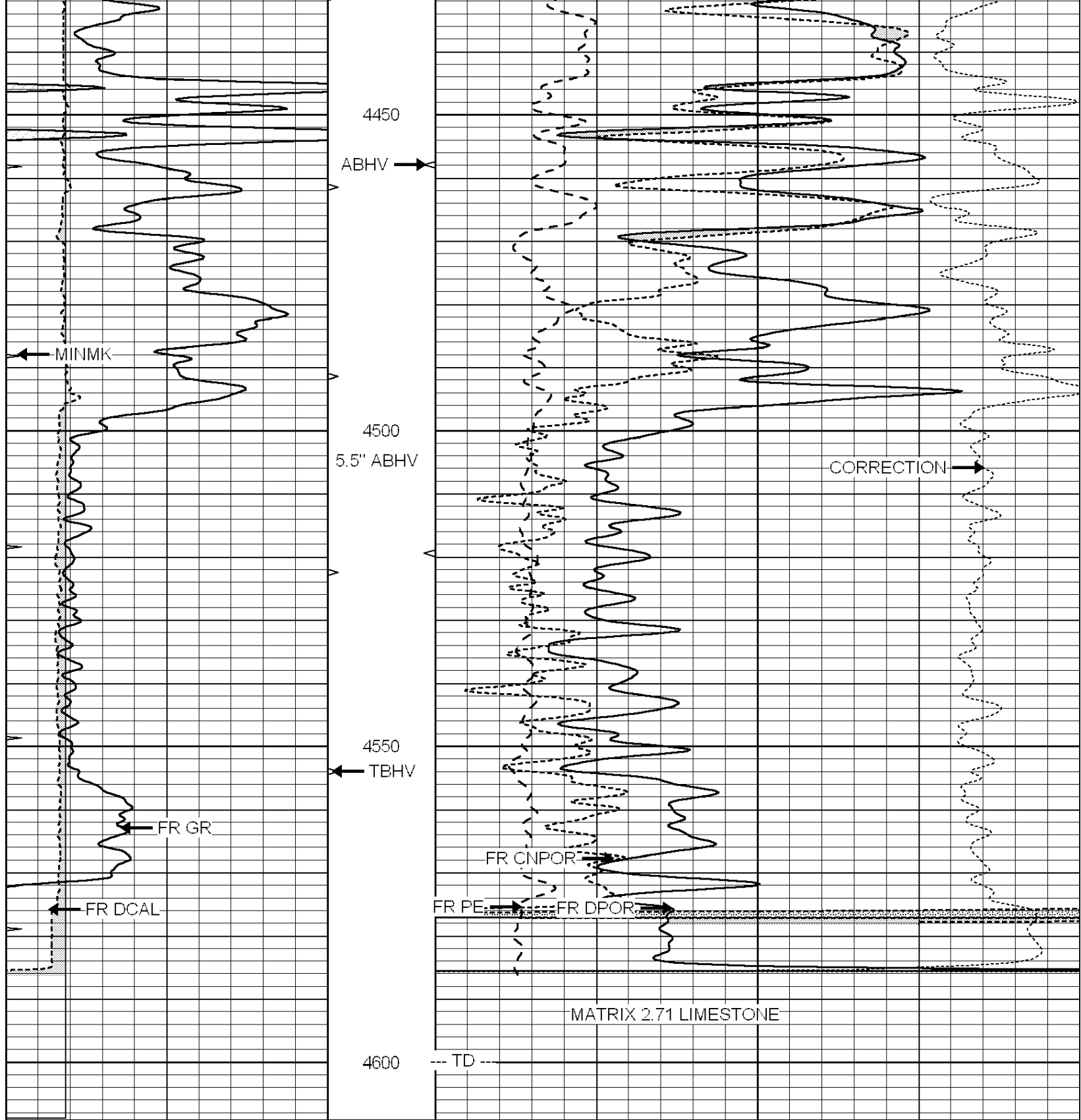
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10 -0.25	CORRECTION (g/cc) 0.25
			0 (ft3)	10			











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
			0 (ft3)	10	CORRECTION (g/cc)	0.25

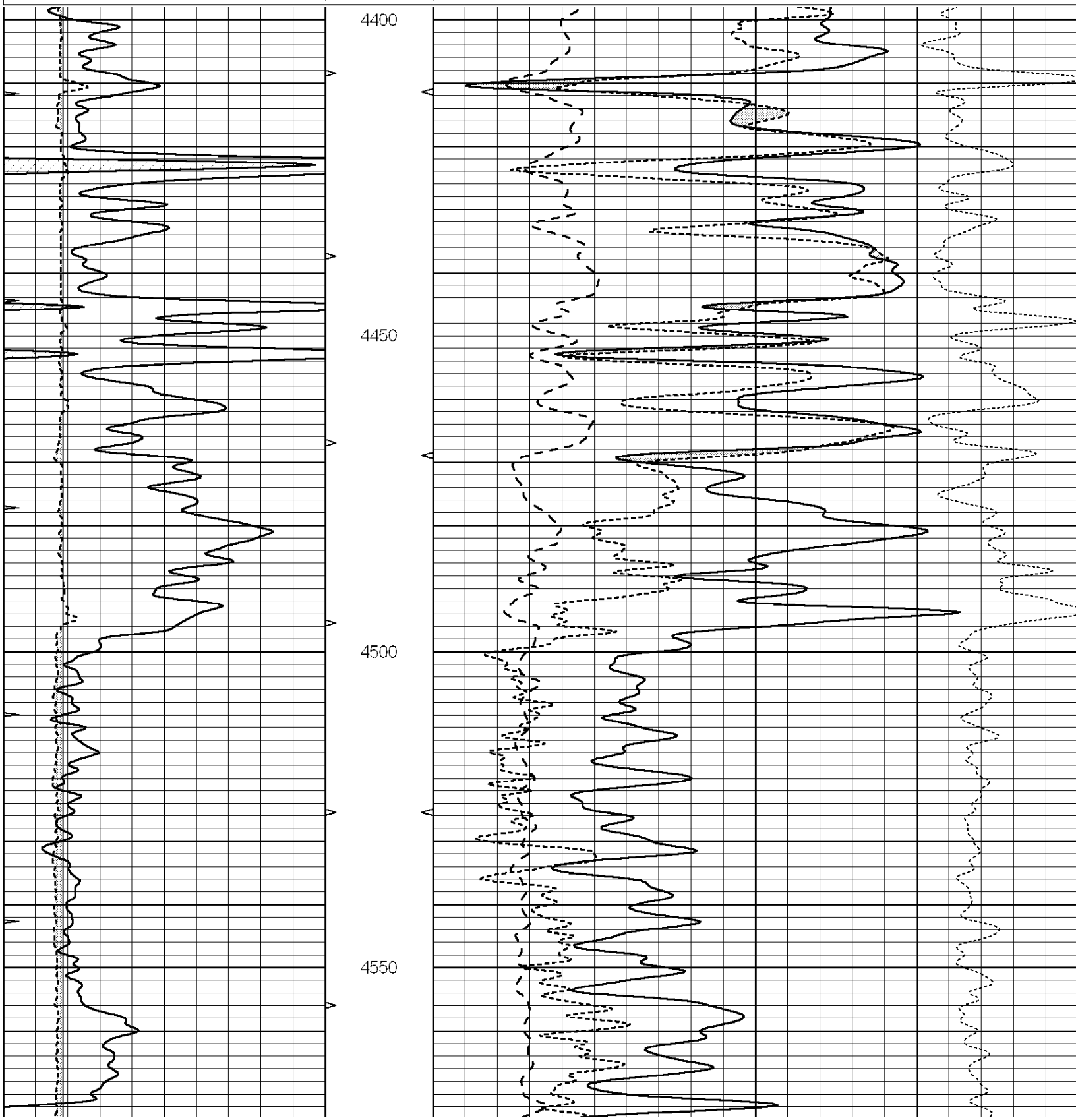


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REPEAT SECTION

Database File: 005649pdm.db
 Dataset Pathname: pass2A
 Presentation Format: ldt_neu
 Dataset Creation: Wed Aug 25 15:02:07 2010
 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					

Calibration Report

Database File: 005649pdn.db
 Dataset Pathname: pass3.A
 Dataset Creation: Wed Aug 25 15:48:36 2010

Dual Induction Calibration Report

Serial-Model: DIL5-GEAR
 Performed: Wed Aug 25 13:53:21 2010

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	530.000	-12.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	520.000	-14.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.006	0.655	V	0.000	400.000	mmho/m	615.668	-3.483
Medium	0.010	0.747	V	0.000	462.500	mmho/m	627.607	-6.064

Litho Density Calibration Report
 Serial: 002 Model: PRB
 Performed Tue Jul 03 11:12:28 2007

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1059.5	9172.0	2859.6	10210.6	cps
Window 2	976.0	7793.2	2486.1	8515.6	cps
Window 3	689.8	2930.5	1159.0	3096.2	cps
Window 4	231.9	237.2	231.1	234.0	cps
Long Space	0.0	6817.1	1510.1	7539.6	cps
Short Space	1.6	1758.1	1188.6	1898.8	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe			2.5700	1.5500	

Rib Angle : 45.4 Rib Slope : 1.015 Density/Spine Ratio : 0.569
 Spine Angle : 75.4 Spine Slope : 3.850 Spine Intercept : -19.9

Caliper	Readings	Reference
Low Ref	2.8	9.0
High Ref	4.8	14.0
	Gain: 2.5	Offset: 2.2

Compensated Neutron Calibration Report

Serial Number:
Tool Model:

NEU_1I
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: Wed Aug 25 13:52:53 2010

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6500 GAPI/cps