



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY / NEUTRON
PE LOG

Company MULL DRILLING COMPANY, INC.
Well #1-22 CORDER - HENNING UNIT
Field OSGOOD SOUTHEAST
County NESS
State KANSAS

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County NESS State KANSAS

Location: API # : 15-135-25207-0000
2534' FNL & 1003' FEL

Other Services
DIL/MEL
SONIC

Permanent Datum GROUND LEVEL Elevation 2480
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2485
D.F. 2483
G.L. 2480

Date	2/15/11
Run Number	ONE
Depth Driller	4575
Depth Logger	4572
Bottom Logged Interval	4548
Top Log Interval	3600
Casing Driller	8 5/8" @ 233'
Casing Logger	234
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.6/62
pH / Fluid Loss	9.5/6.8
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.700 @ 80F
Rmf @ Meas. Temp	.525 @ 80F
Rmc @ Meas. Temp	.840 @ 80F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.463 @ 121F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	8:15 P.M.
Maximum Recorded Temperature	121F
Equipment Number	0836
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 SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
BROWNELL, KS. 6W. ON HWY 4 TO "RD. U", 1/2N., E. INTO

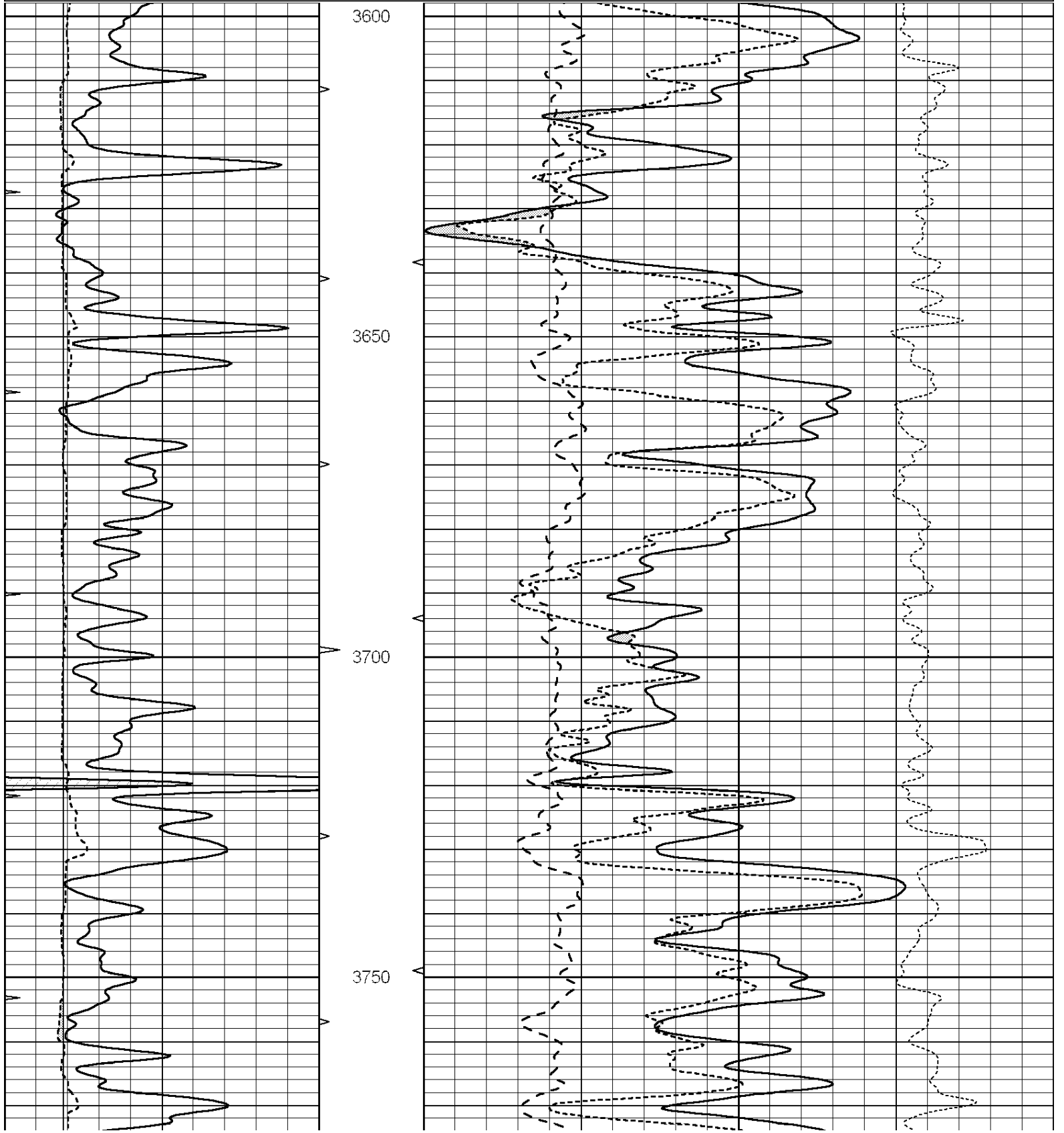


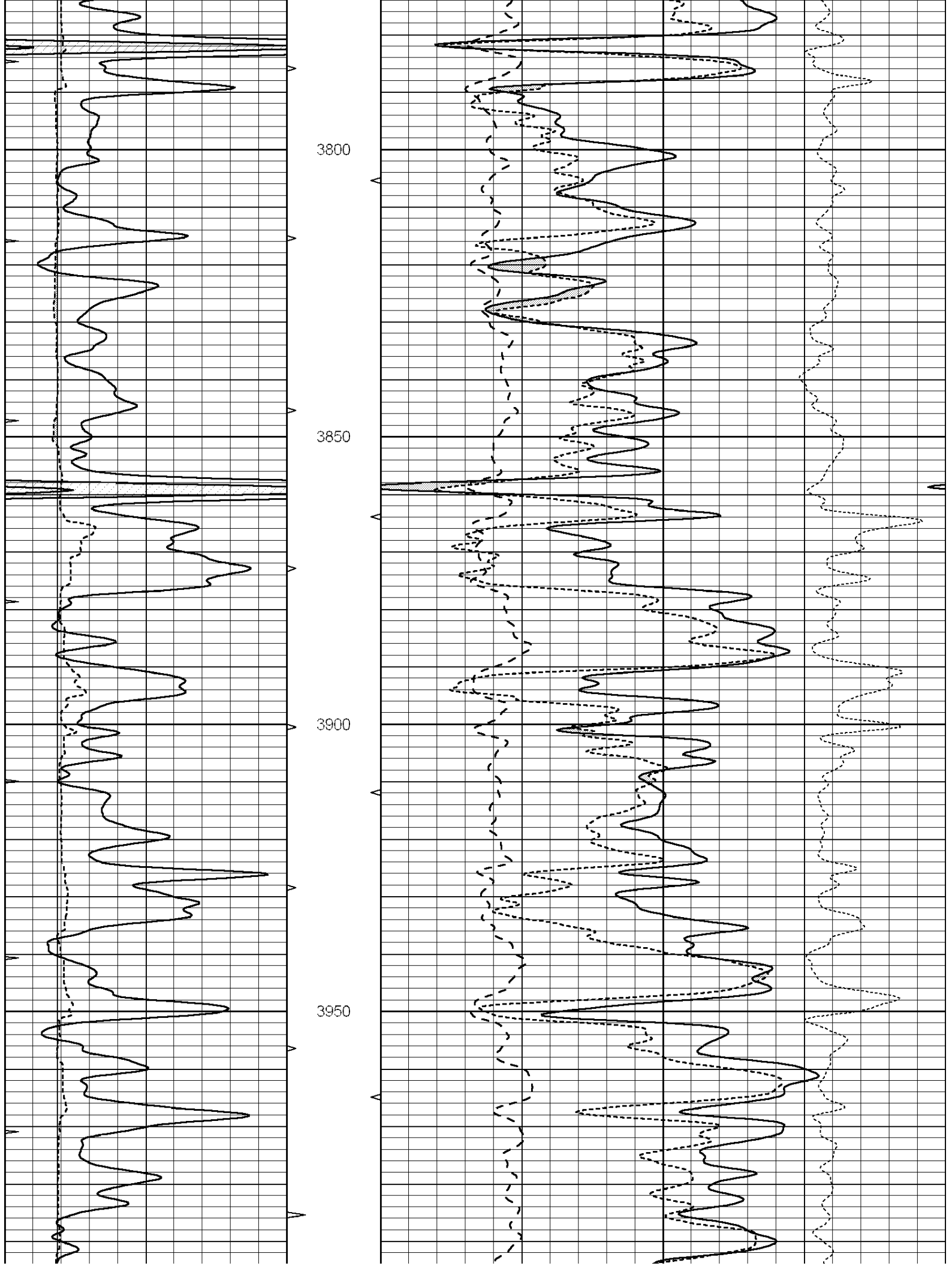
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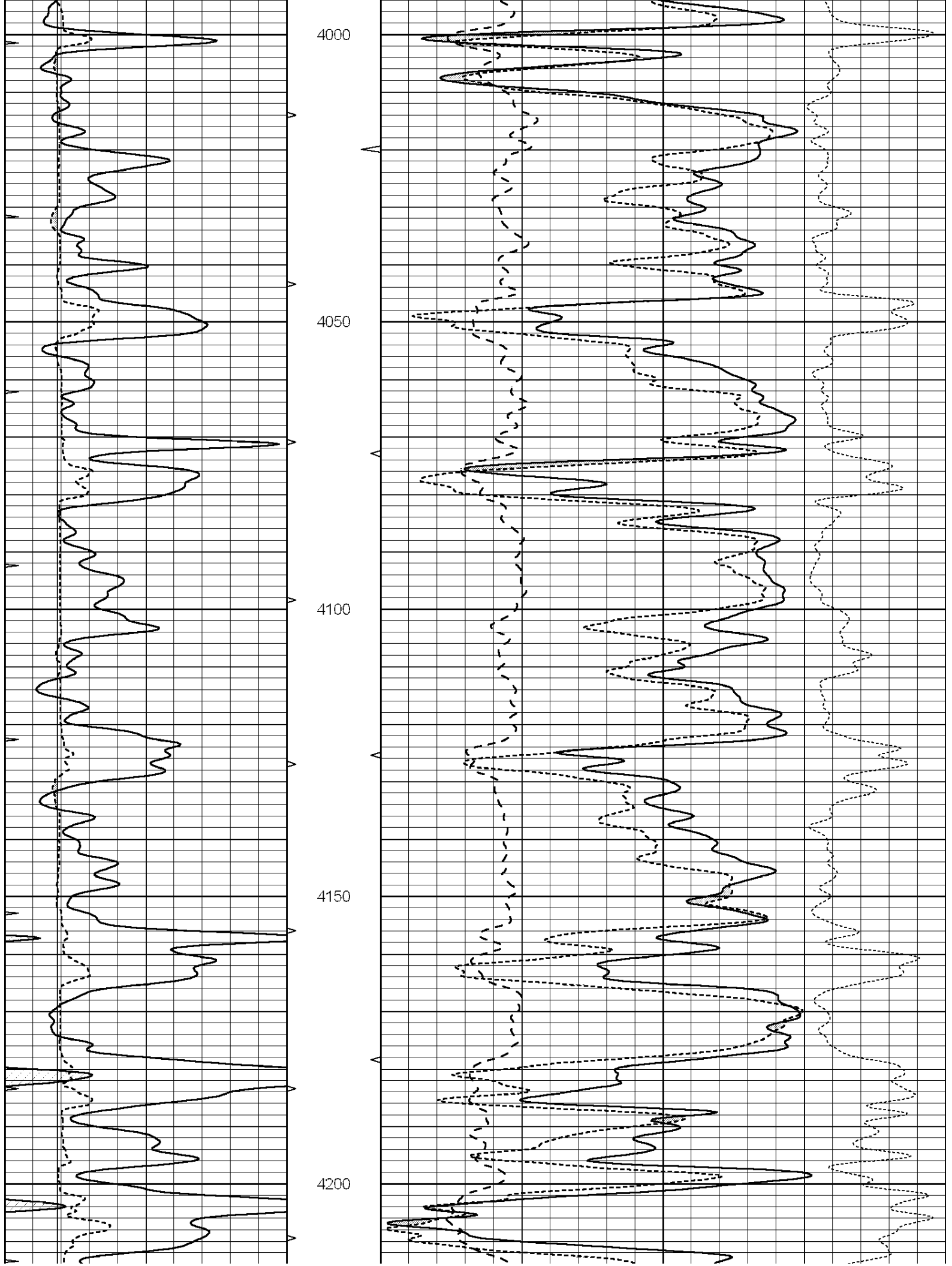
MAIN SECTION

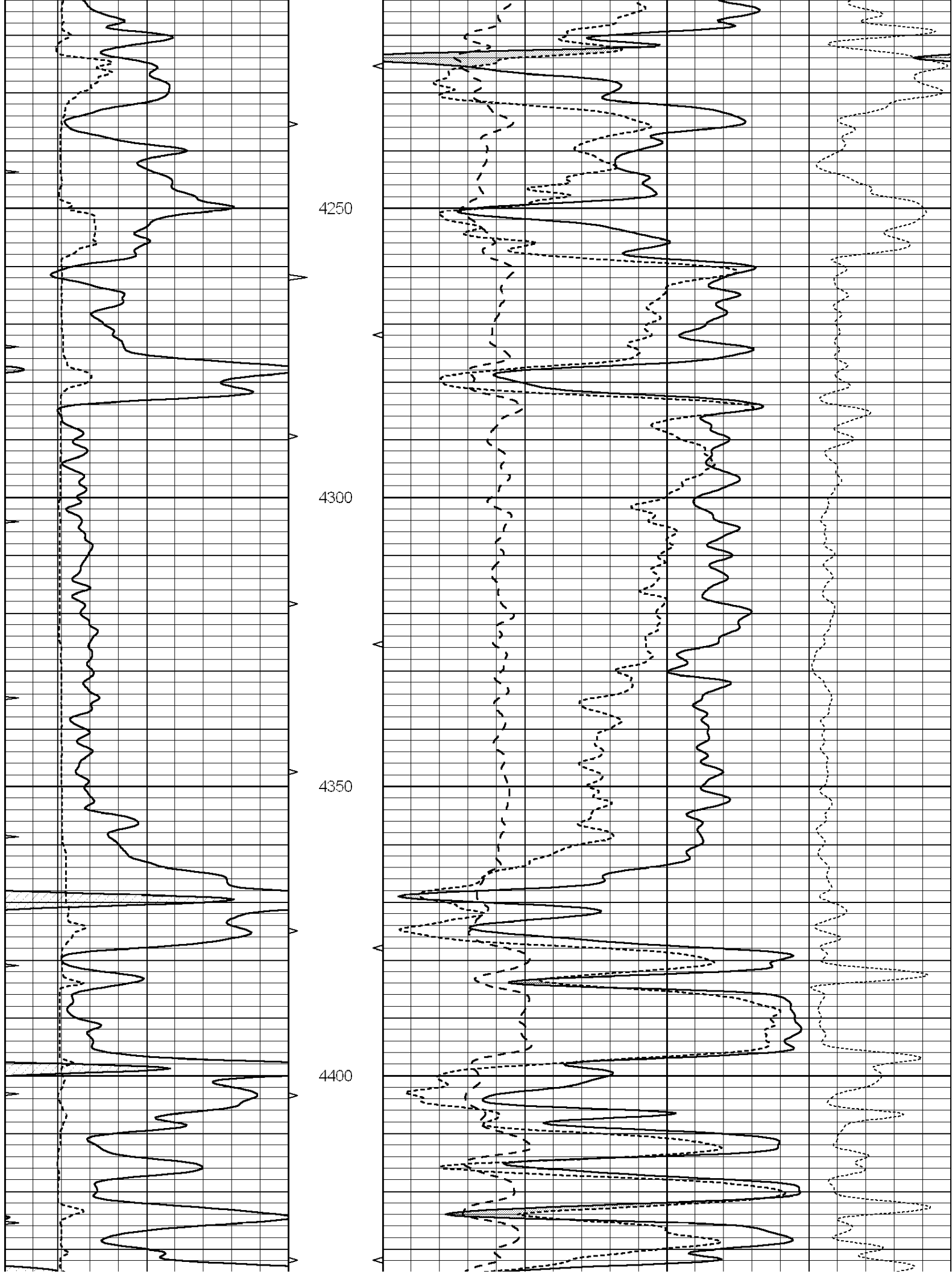
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 Dataset Pathname: pass3.5
 Presentation Format: ldt_neu
 Dataset Creation: Tue Feb 15 21:05:30 2011 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

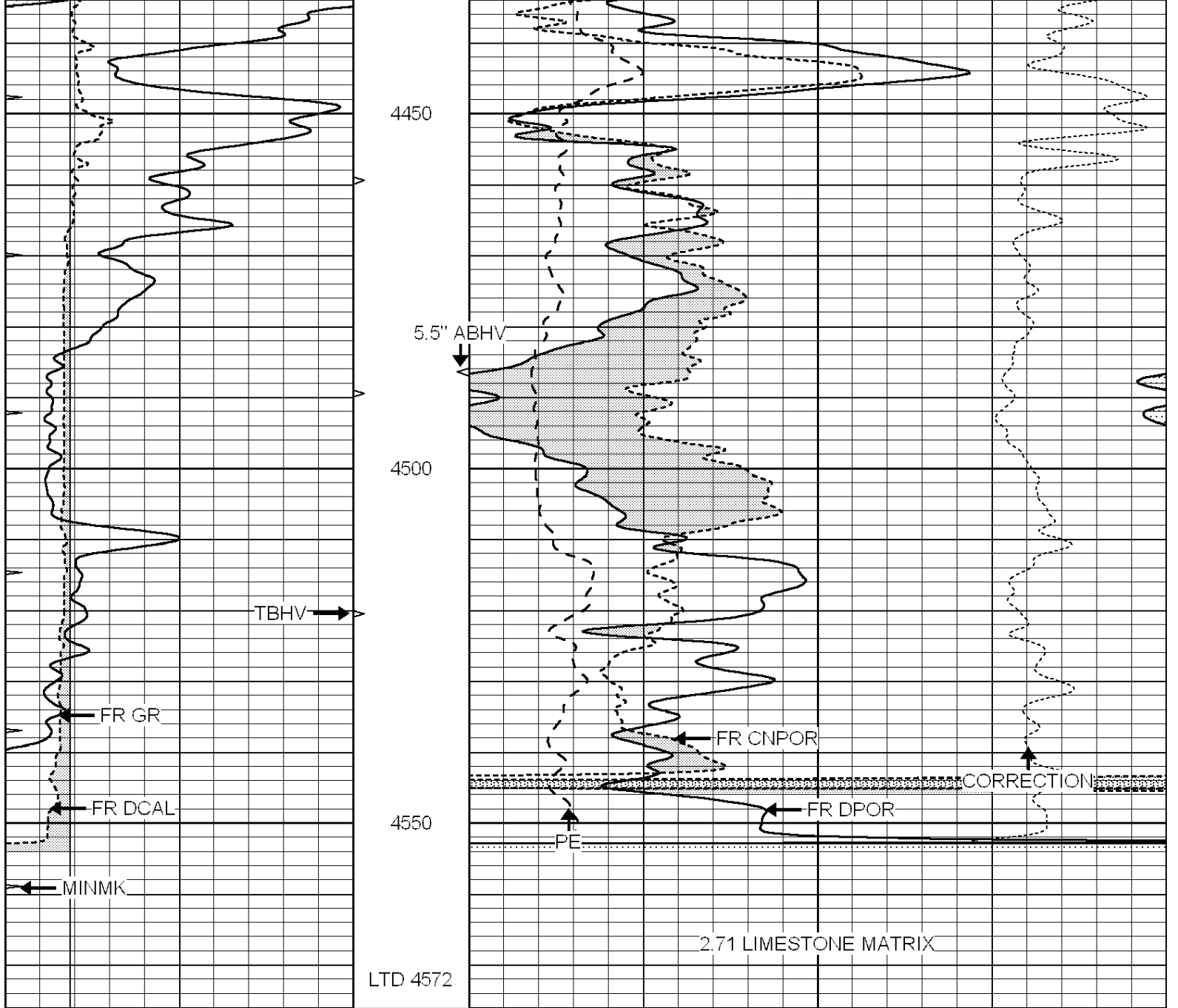
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10			
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10		
0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					












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



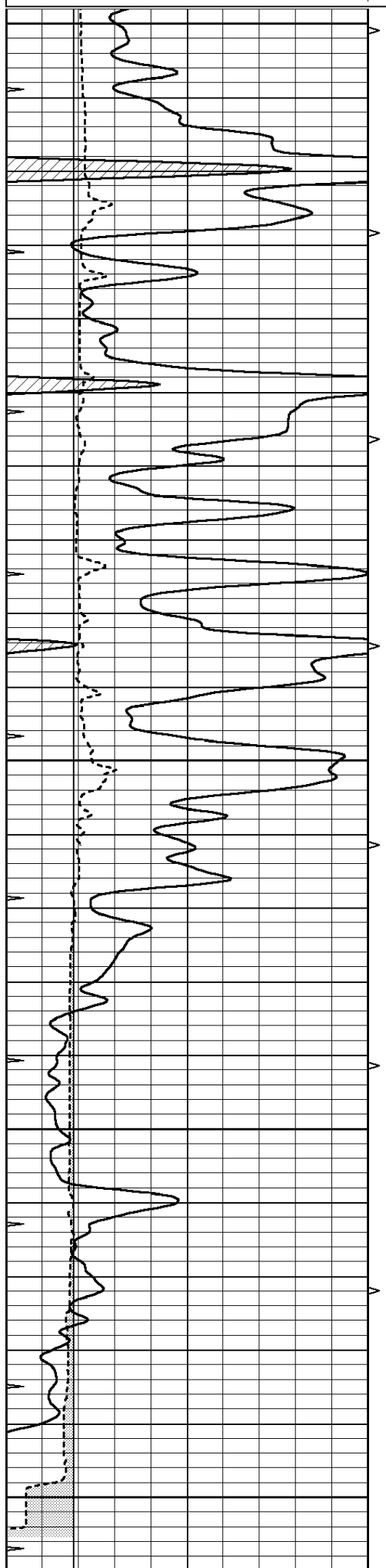
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REPEAT SECTION

Database File: 006288pe.db
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 Presentation Format: ldt_neu
 Dataset Creation: Tue Feb 15 21:09:27 2011 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	PE	10 -0.25	
						CORRECTION (g/cc)	0.25

0 (ft3) 10



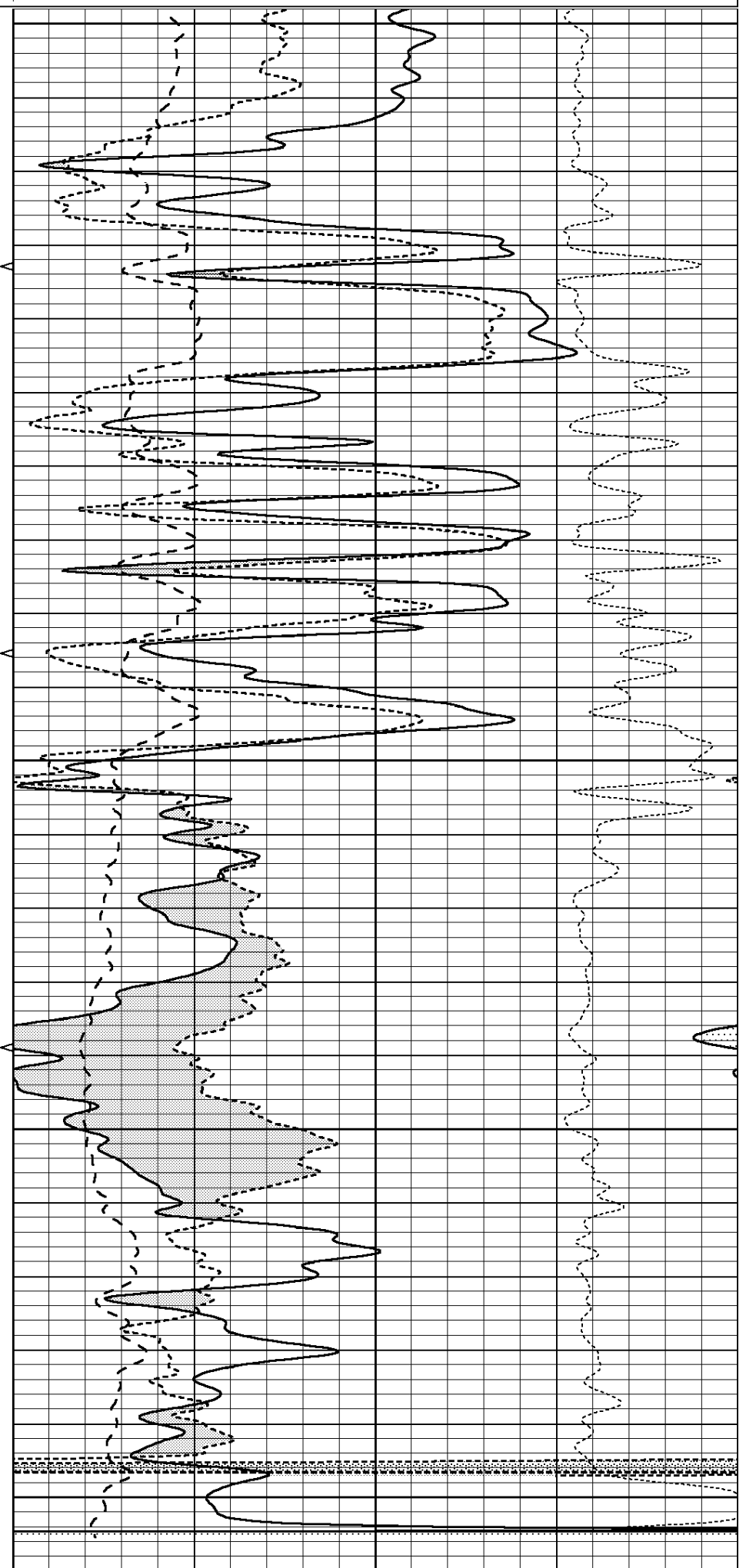
4350

4400

4450

4500

4550



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: 006288pe.db
 Dataset Pathname: pass3.5
 Dataset Creation: Tue Feb 15 21:05:30 2011 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Tue Feb 15 19:33:25 2011

Loop:	Readings				References			Results	
	Air	Loop			Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	0.000	
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-13.000	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071	
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555	

Litho Density Calibration Report
 Serial: 003N Model: PRB
 Performed Tue Sep 08 14:14:44 2009

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2042.6	12312.8	4225.8	13758.4	cps
Window 2	1855.8	10134.7	3624.2	11113.1	cps
Window 3	1639.4	6760.2	2716.3	7260.3	cps
Window 4	466.4	469.2	466.1	476.5	cps
Long Space	0.0	8278.9	1768.4	9257.4	cps
Short Space	2.2	2377.3	1544.1	2574.2	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	

Rib Angle : 44.4 Rib Slope : 0.979 Density/Spine Ratio : 0.549
 Spine Angle : 74.4 Spine Slope : 3.577 Spine Intercept : -18.8

Caliper

Readings	Reference	
Low Ref 1.8	5.7	
High Ref 4.6	14.0	
Gain: 3.0		Offset: 0.5

Compensated Neutron Calibration Report

Serial Number: NEU_3I
 Tool Model: G

Detector	Readings	Target	Normalization
Short Space	997.00 cps	1000.00 cps	1.0000
Long Space	986.00 cps	1000.00 cps	1.0000

Gamma Ray Calibration Report

Serial Number:	GR3	
Tool Model:	OPEN	
Performed:	Tue Feb 15 20:20:59 2011	
Calibrator Value:	200.0	GAPI
Background Reading:	3.0	cps
Calibrator Reading:	186.0	cps
Sensitivity:	0.6500	GAPI/cps