



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company HERMAN L. LOEB, LLC.
Well SCHMITT #4-23
Field HALLET EAST
County HODGEMAN
State KANSAS

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Location: API # : 15-083-21863-0000
2310' FNL & 2199' FWL
W/2 - SE - SE - NW
SEC 23 TWP 22S RGE 25W
Permanent Datum GROUND LEVEL Elevation 2507
Log Measured From KELLY BUSHING 11' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services DIL/MEL
Elevation K.B. 2518
D.F. 2516
G.L. 2507

Date	12/4/12		
Run Number	ONE		
Depth Driller	4730		
Depth Logger	4736		
Bottom Logged Interval	4712		
Top Log Interval	3800		
Casing Driller	8 5/8" @ 607'		
Casing Logger	607		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3,800 PPM	
Density / Viscosity	9.1/60		
pH / Fluid Loss	10.5/7.2		
Source of Sample	FLOWLINE		
Rin @ Meas. Temp	.700 @ 100F		
Rmf @ Meas. Temp	.525 @ 100F		
Rmc @ Meas. Temp	.840 @ 100F		
Source of Rmf / Rmc	MEASUREMENT		
Rin @ BHT	.569 @ 123F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	8:30 A.M.		
Maximum Recorded Temperature	123F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JON CHRISTENSEN	GEORGE PAYNE	

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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

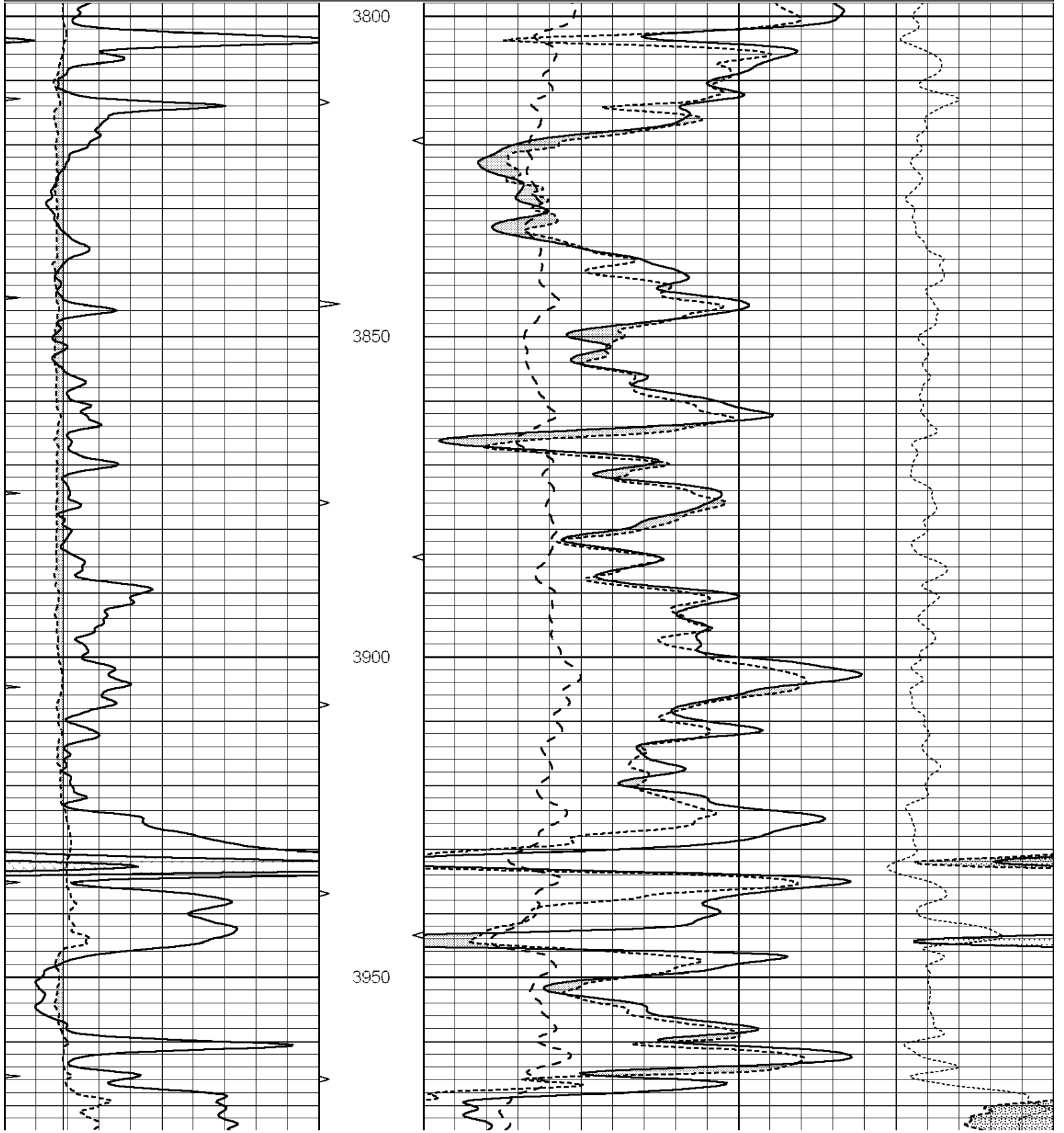
THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS
JETMORE, KS., 8.7 W. ON HWT 156 TO "RD. 210", 3 1/2 N., 1/2 E. INTO

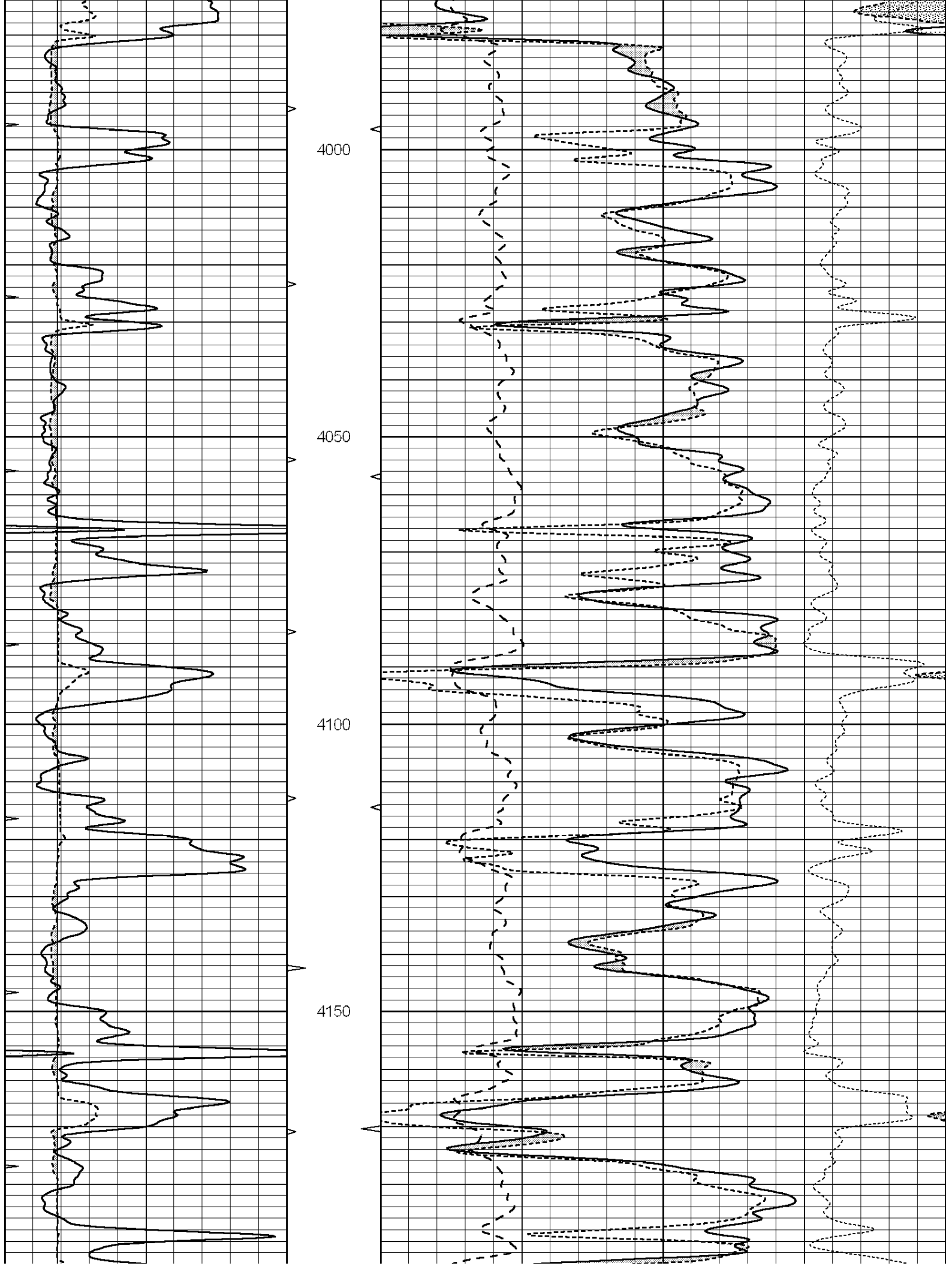


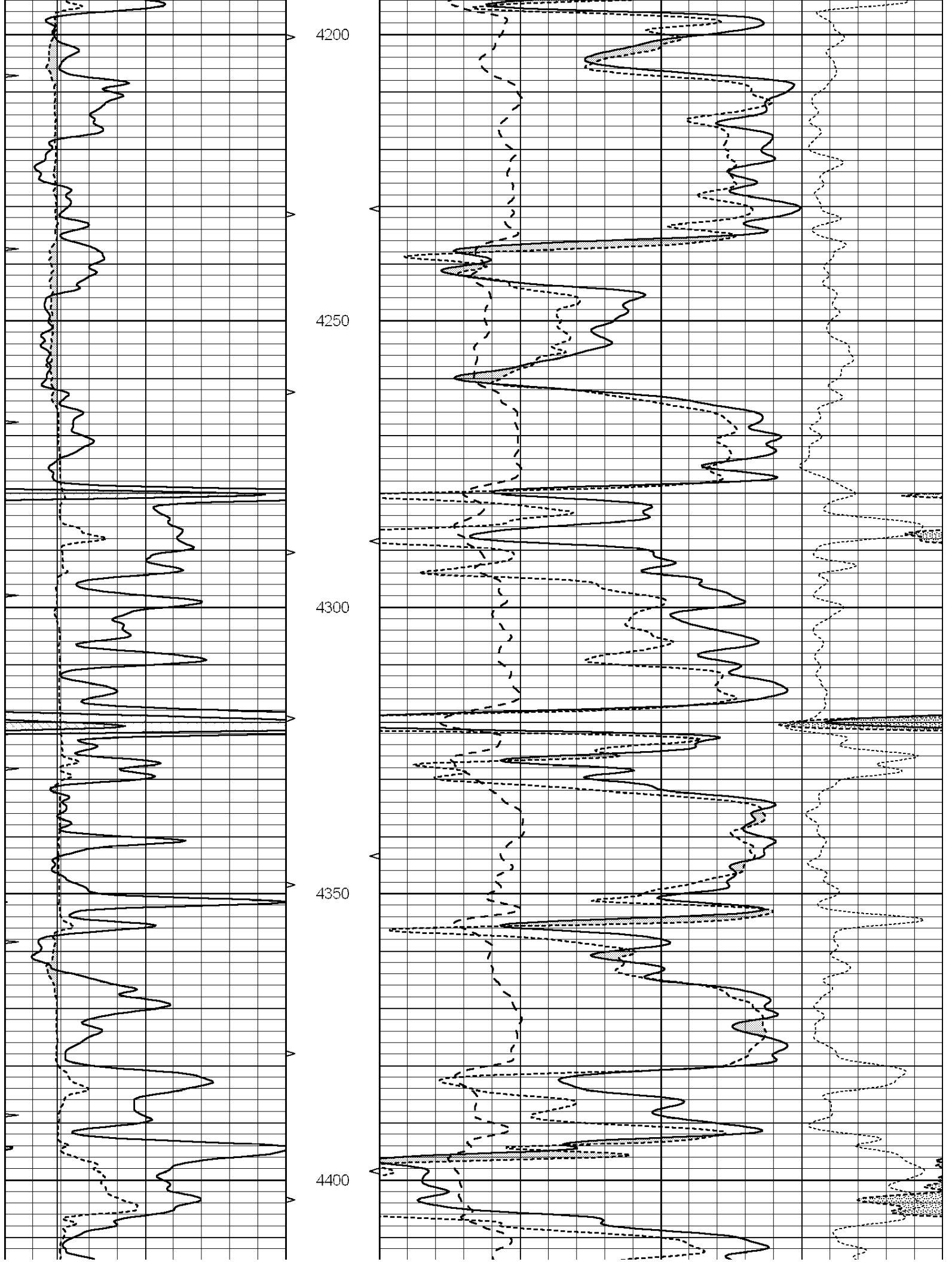
MAIN SECTION

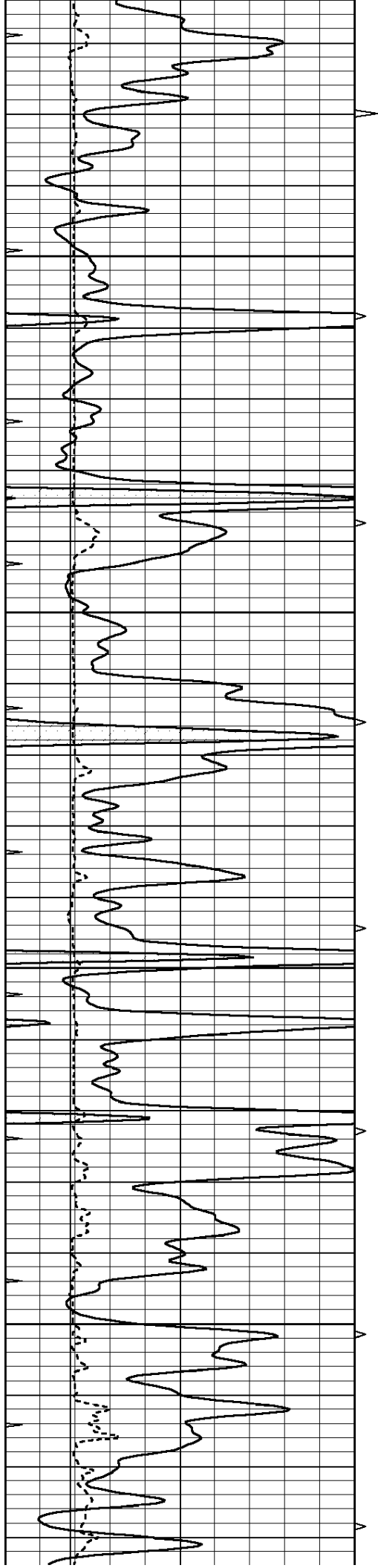
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 Dataset Pathname: pass3.6
 Presentation Format: ldt_neu
 Dataset Creation: Tue Dec 04 10:05:02 2012
 Charted by: Depth in Feet scaled 1:240

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			







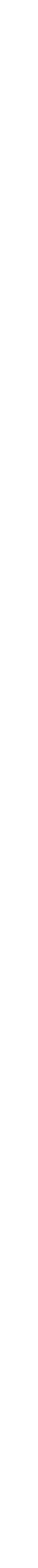
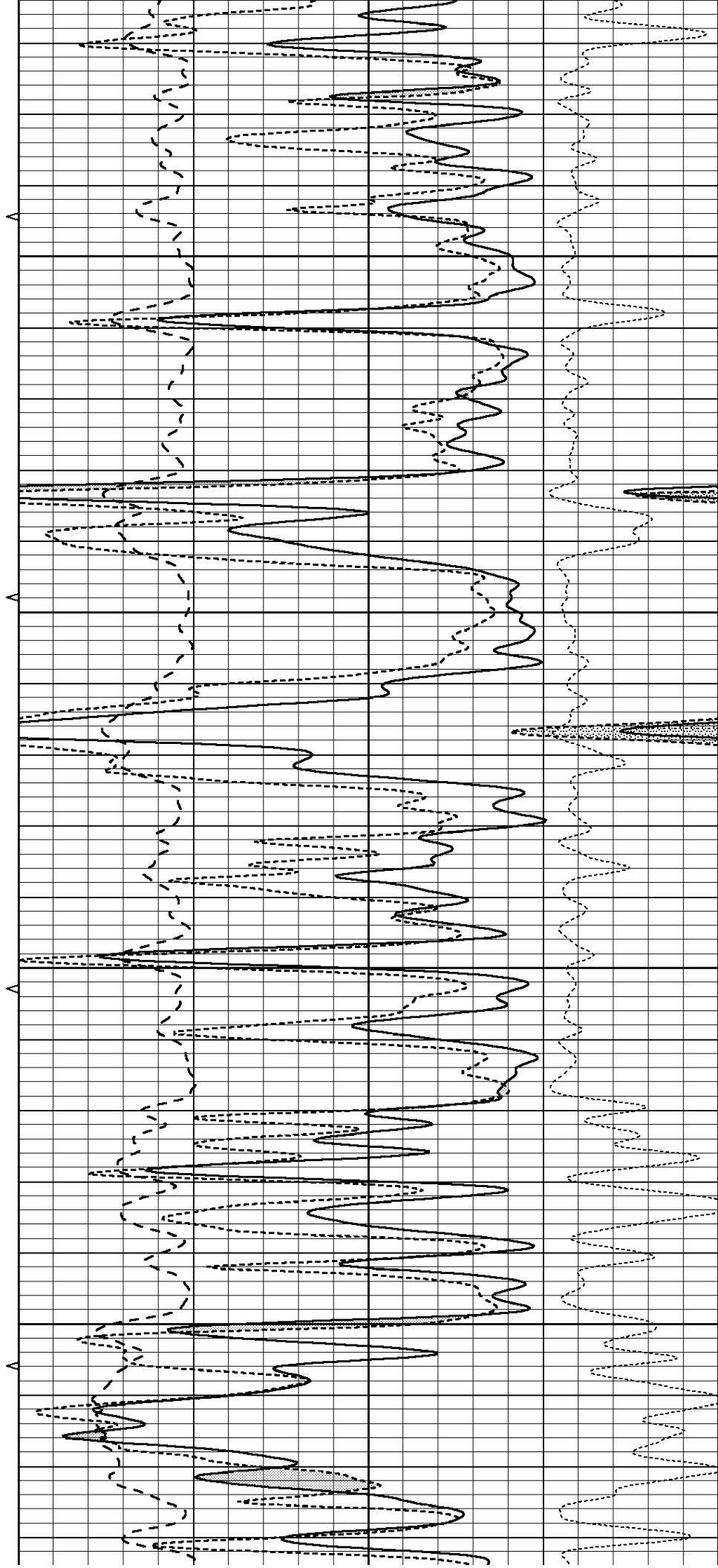


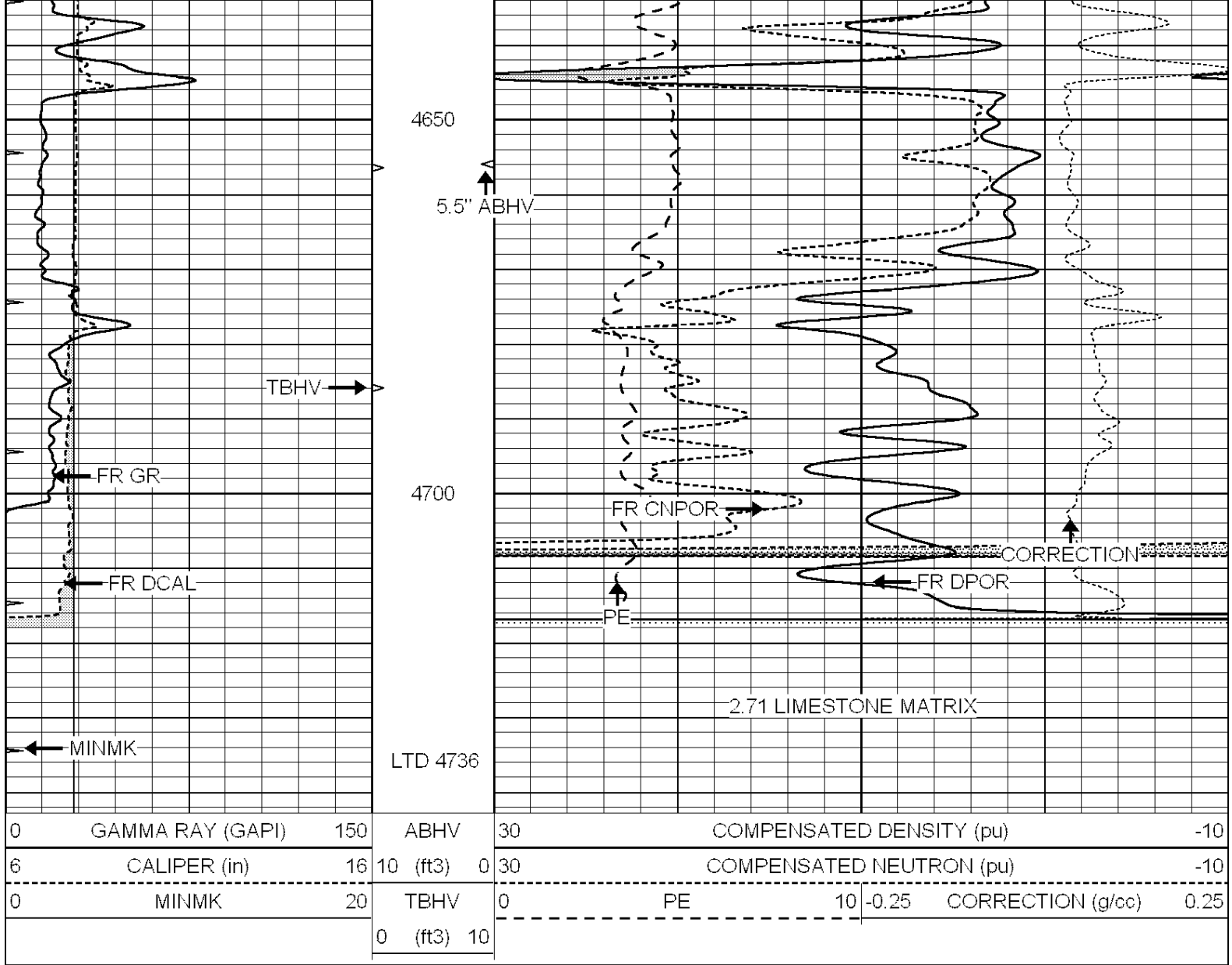
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4550

4600

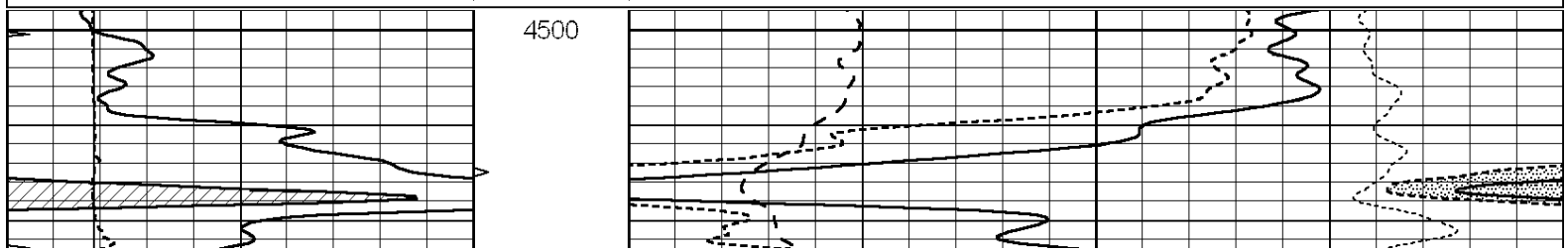


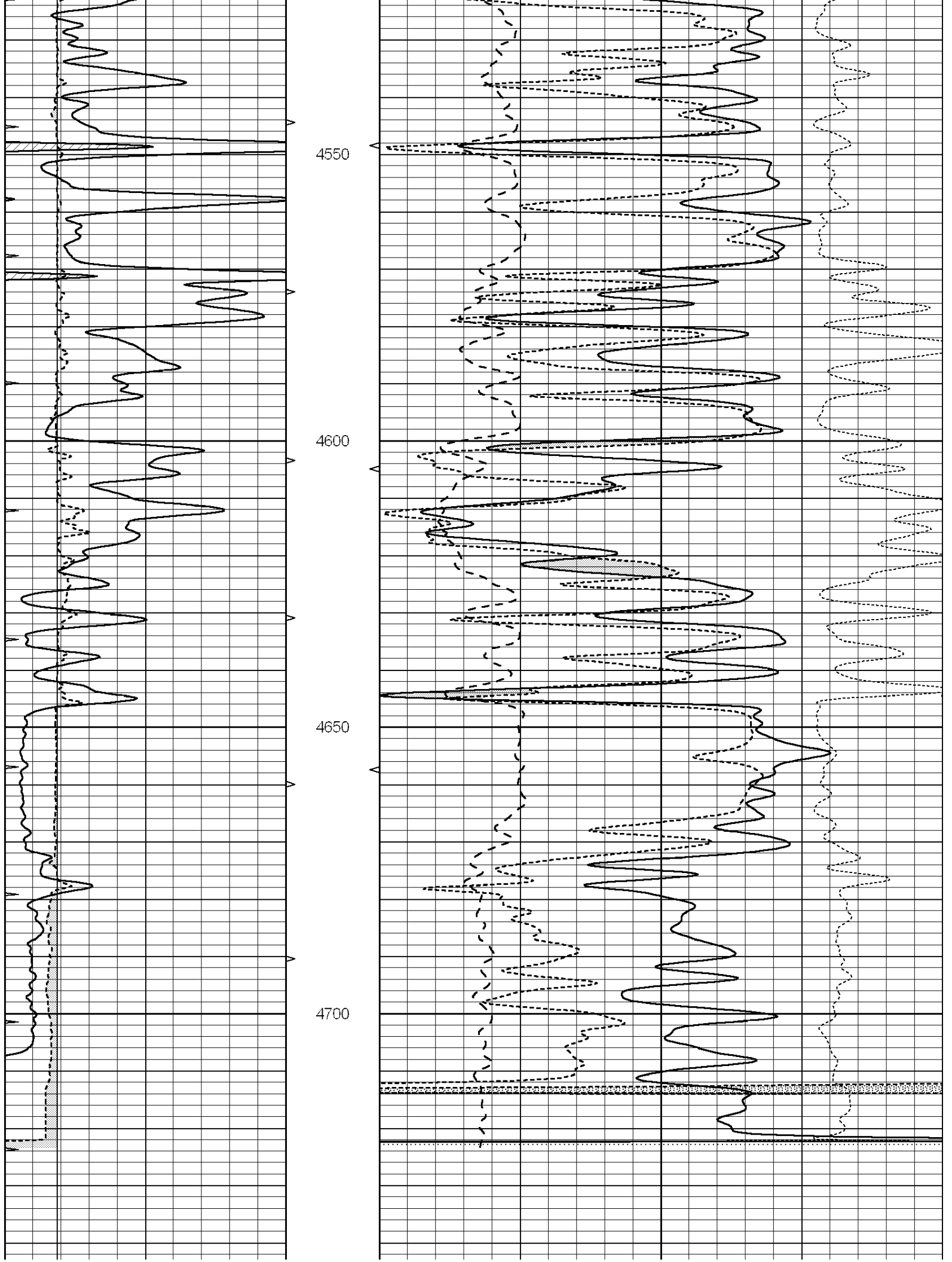


REPEAT SECTION

Database File: 010027pe.db
 Dataset Pathname: pass2.4
 Presentation Format: ldt_neu
 Dataset Creation: Tue Dec 04 10:08:40 2012
 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	CORRECTION (g/cc)	0.25	
			0 (ft3)	10						

Calibration Report

Database File: 010027pe.db
Dataset Pathname: pass3.6
Dataset Creation: Tue Dec 04 10:05:02 2012

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
Performed: Mon Dec 03 20:26:59 2012

Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	6.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	1.000
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: 006 Model: PRB
Performed Sun Aug 15 09:48:41 2010

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
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			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

Caliper

	Readings	Reference
Low Ref	3.5	6.6
High Ref	5.5	15.0
Gain:	4.4	
Offset:		-8.8

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:

Wed Nov 28 18:32:17 2012

Calibrator Value:

1.0

GAPI

Background Reading:

0.0

cps

Calibrator Reading:

1.0

cps

Sensitivity:

0.3000

GAPI/cps