



SUPERIOR
Hays,
Kansas

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company PIONEER RESOURCES
Well KNOPP #3
Field WILDCAT
County LOGAN
State KANSAS

Company PIONEER RESOURCES
Well KNOPP #3
Field WILDCAT
County LOGAN State KANSAS

Location: API # : 15-109-21016-0000

330' FSL & 330' FEL

Other Services
DIL/MEL

SEC 13 TWP 14S RGE 32W

Permanent Datum GROUND LEVEL Elevation 2780
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2785
D.F. 2783
G.L. 2780

Date	8/4/11		
Run Number	TWO		
Depth Driller	4600		
Depth Logger	4602		
Bottom Logged Interval	4578		
Top Log Interval	3500		
Casing Driller	8 5/8"@218'		
Casing Logger	218		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,500 PPM	
Density / Viscosity	9.3/55		
pH / Fluid Loss	10.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.580@100F		
Rmt @ Meas. Temp	.435@100F		
Rmc @ Meas. Temp	.698@100F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.479@121F		
Time Circulation Stopped	4.5 HOURS		
Time Logger on Bottom	5:45 A.M.		
Maximum Recorded Temperature	121F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	RICHARD BELL		

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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
OAKLEY, KS. (OLD 40 & HWY 83 JUNCTION) 20S. ON HWY 83 TO "JAYHAWK RD.", 2E., N. INTO

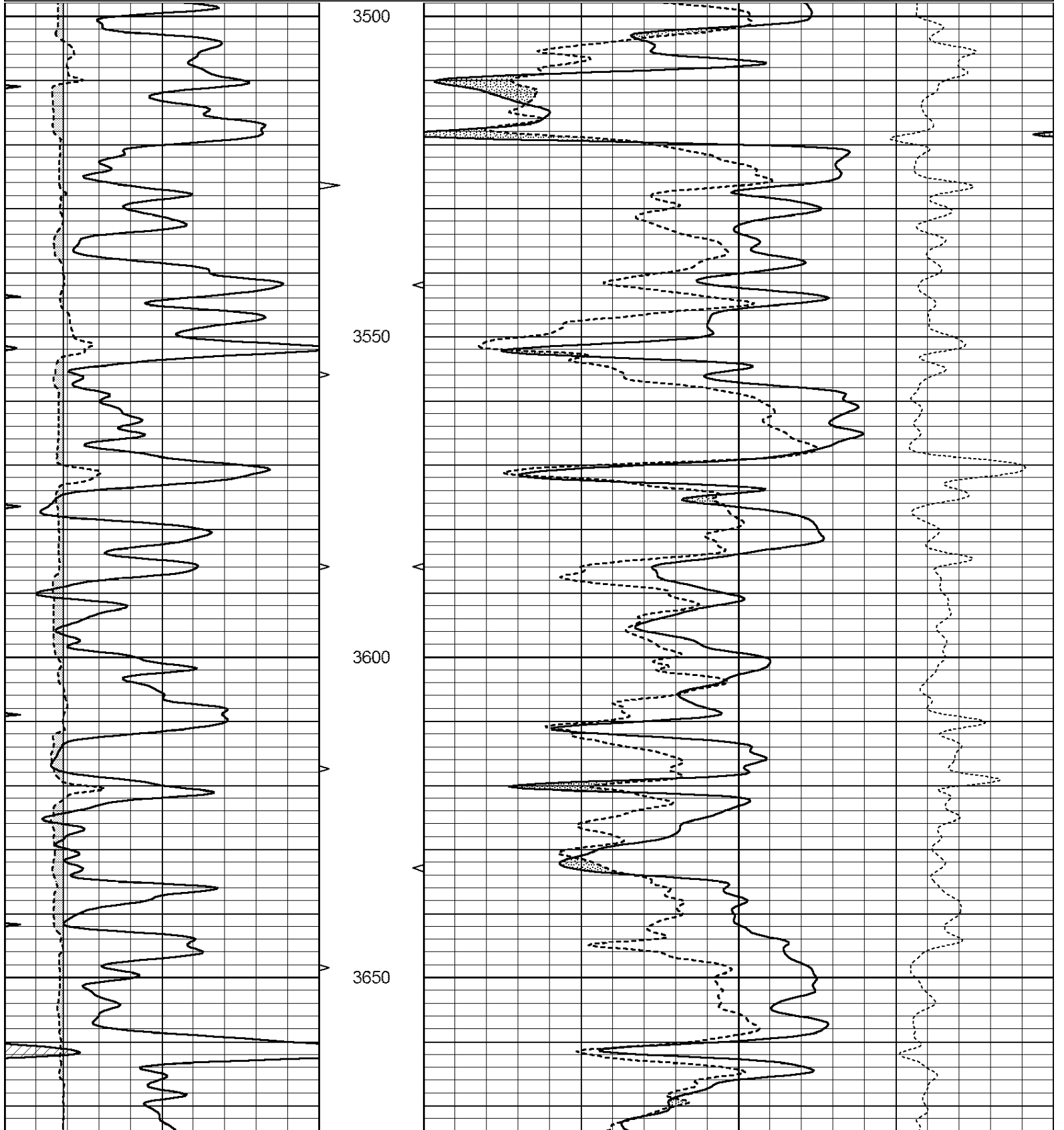


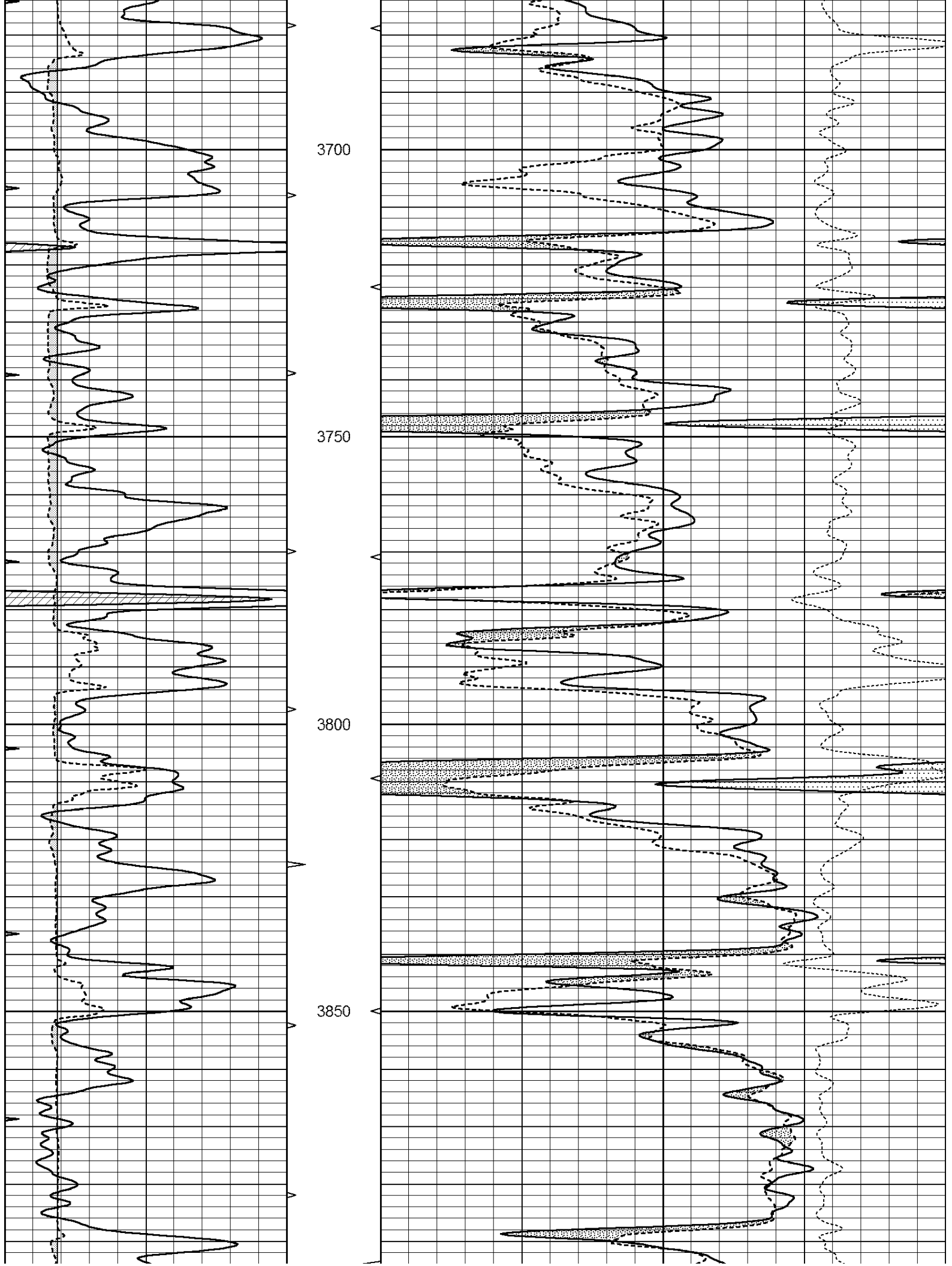
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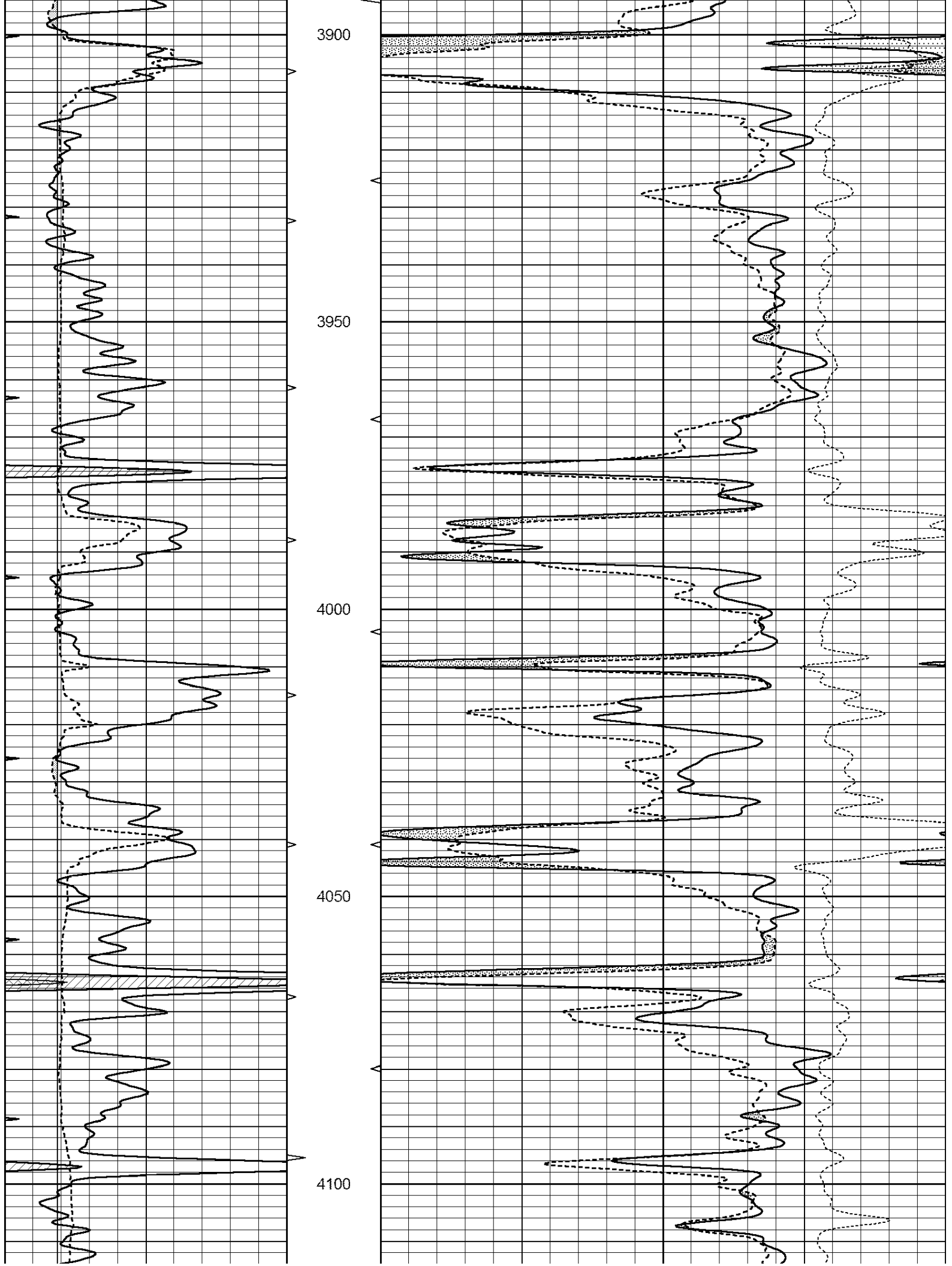
MAIN SECTION

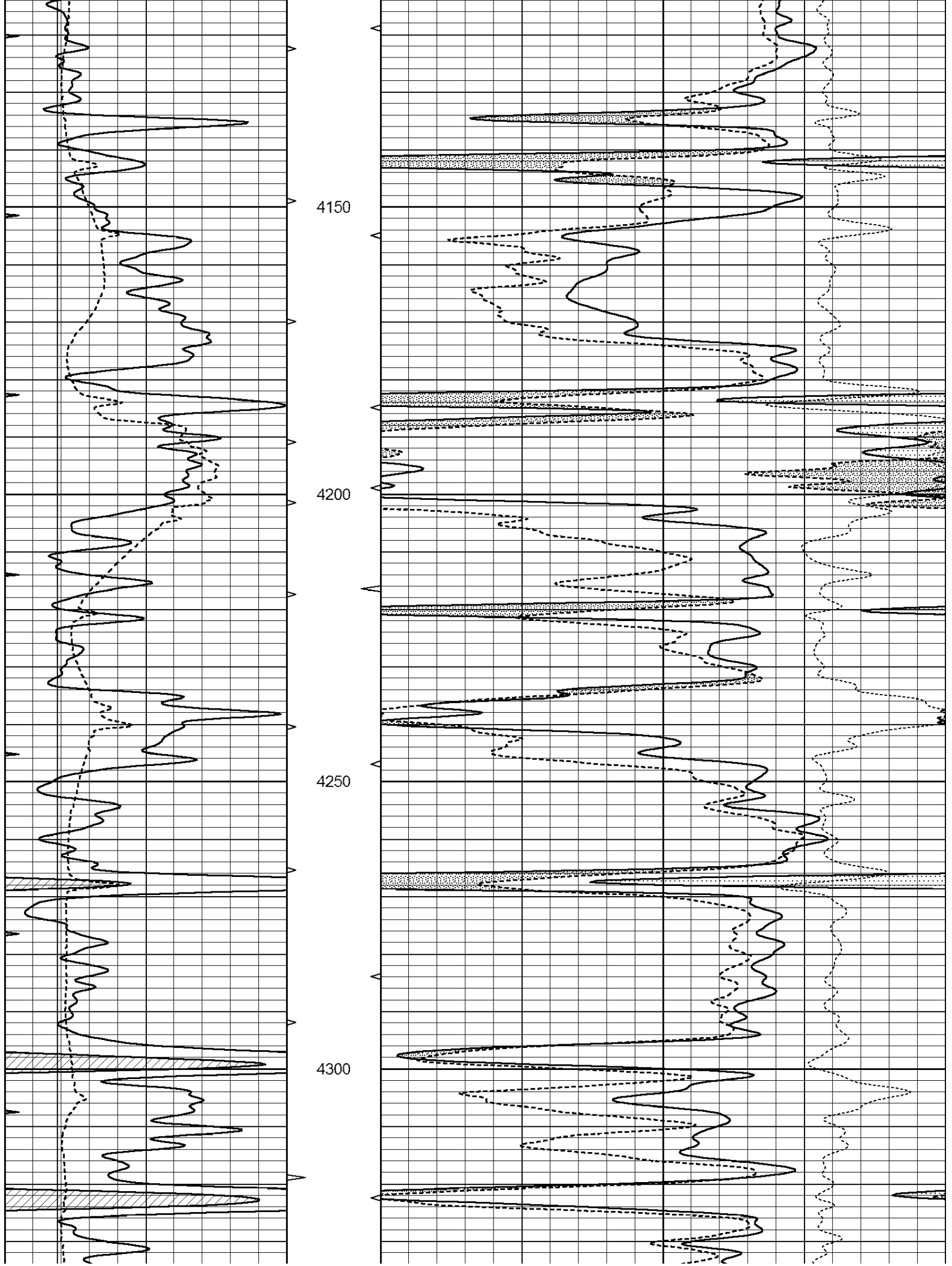
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 Charted by: Depth in Feet scaled 1:240

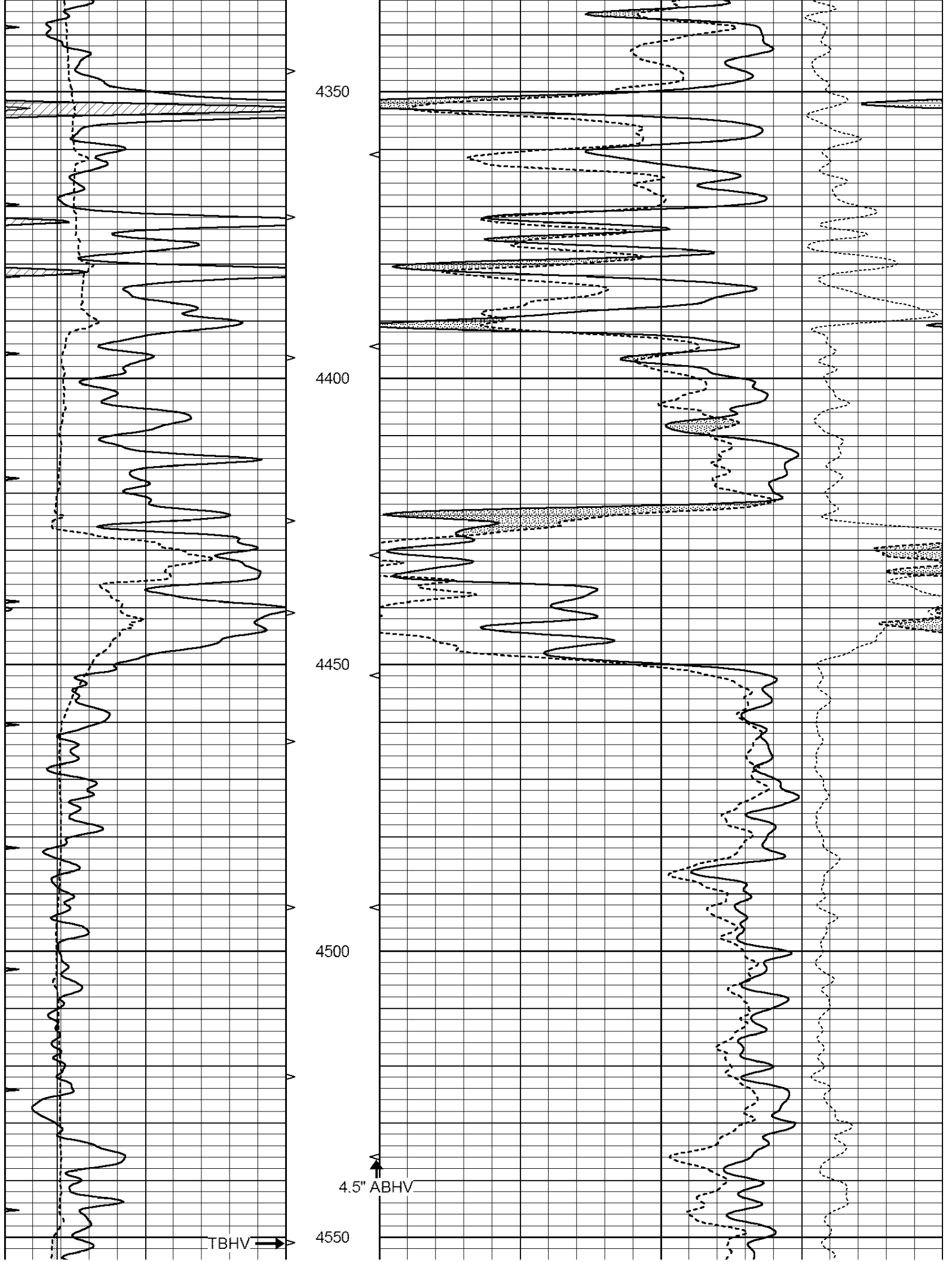
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6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		

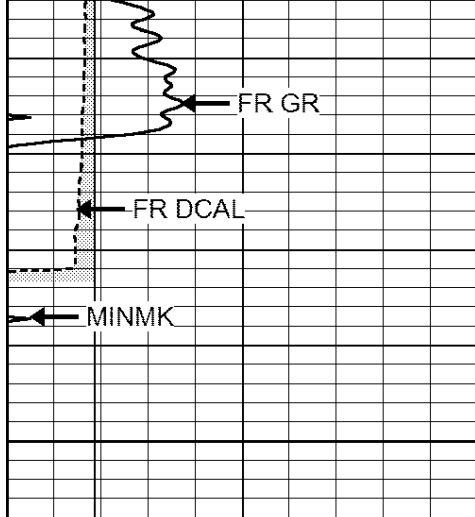




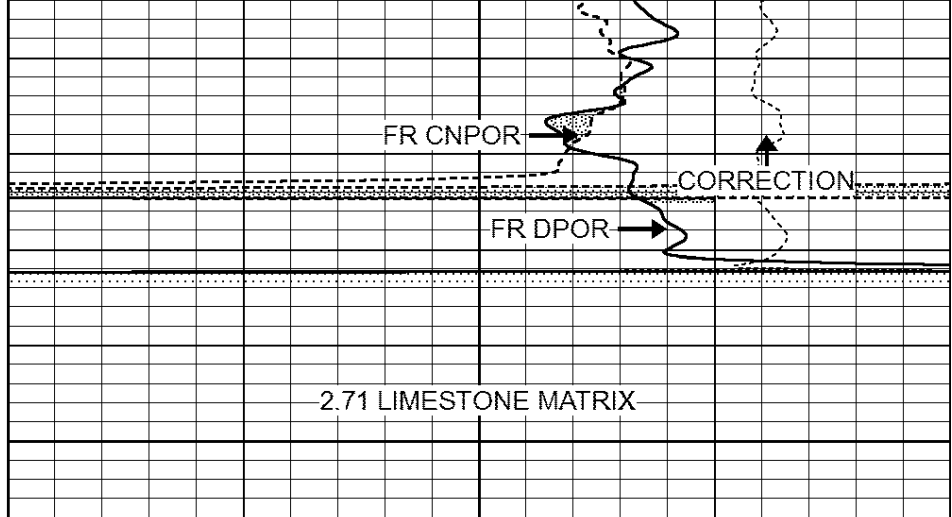








4600
LTD 4602



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		

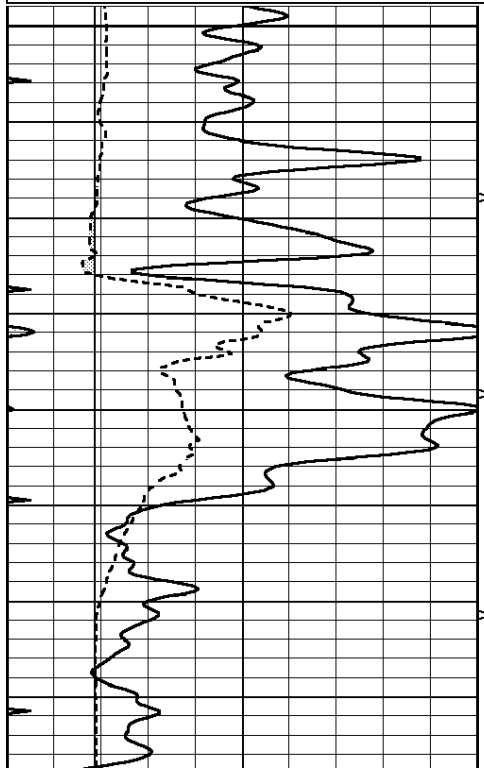


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REPEAT SECTION

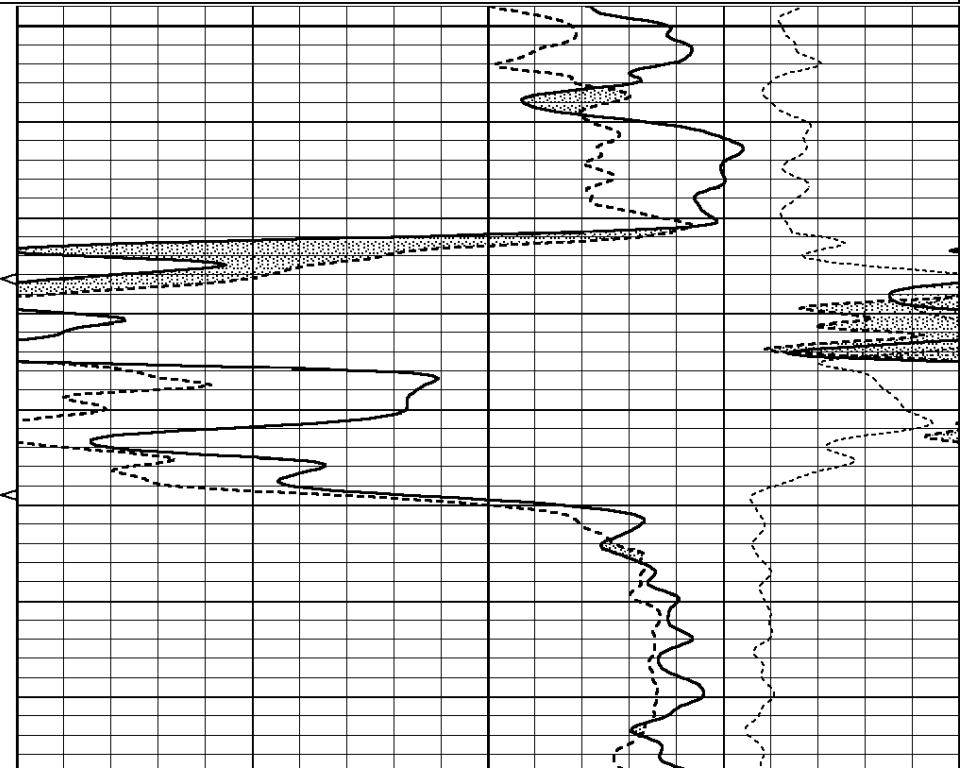
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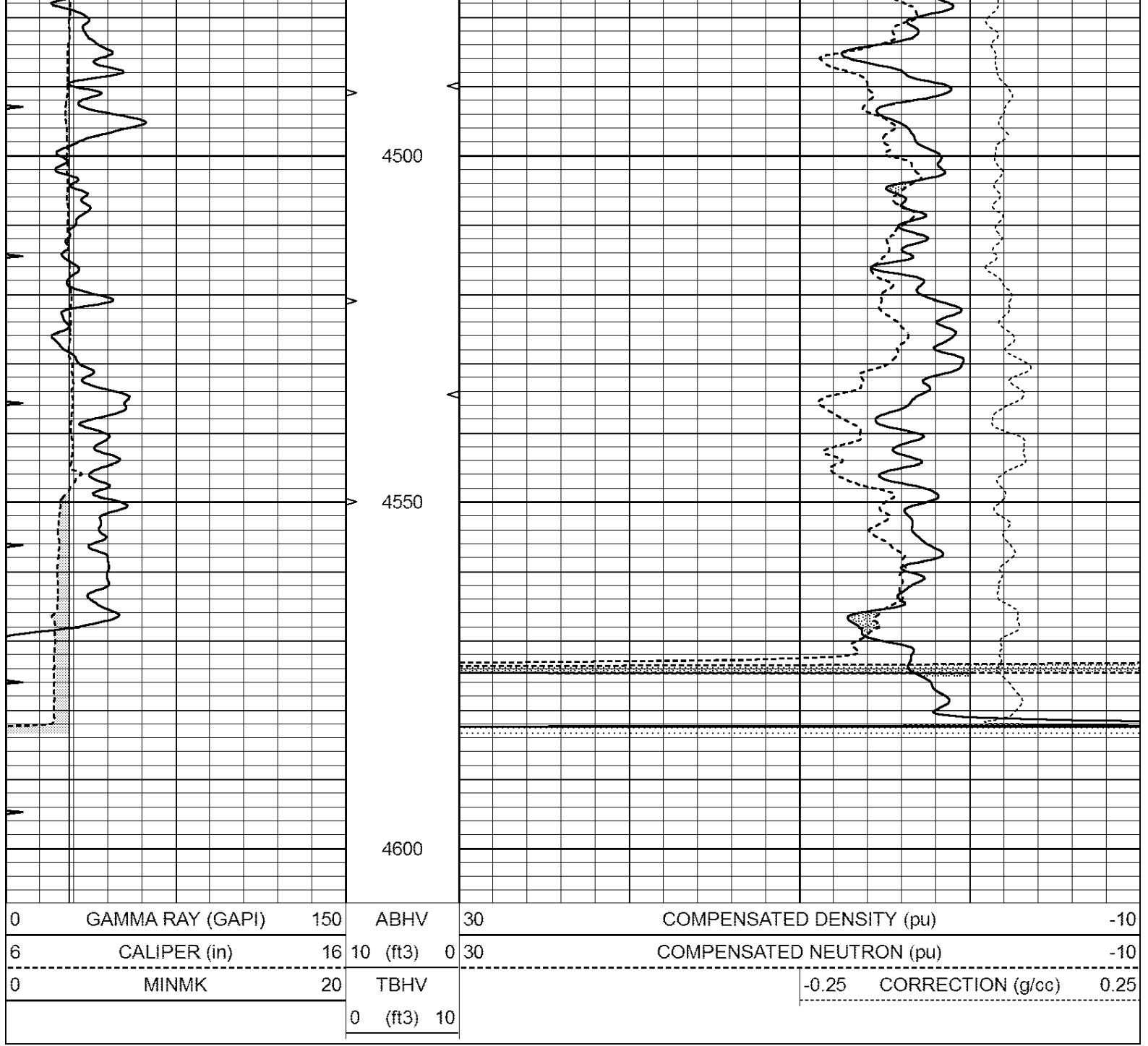
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		



4400

4450





Calibration Report

Database File: 007101ddn.db
 Dataset Pathname: pass6.5
 Dataset Creation: Thu Aug 04 08:38:41 2011

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Thu Aug 04 07:22:49 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	9.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-6.000
Internal:	Zero		Cal	Zero		Cal	m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071

0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
 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	4.4	8.4	
High Ref	6.5	15.0	
	Gain: 3.0		Offset: -4.9

Compensated Neutron Calibration Report

Serial Number: NEU_4I
 Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	996.00 cps	1000.00 cps	1.0000
Long Space	977.00 cps	1000.00 cps	1.0000

Gamma Ray Calibration Report

Serial Number:	GR3
Tool Model:	OPEN
Performed:	Thu Aug 04 07:37:59 2011
Calibrator Value:	200.0 GAPI
Background Reading:	3.0 cps
Calibrator Reading:	186.0 cps
Sensitivity:	4.5000 GAPI/cps