



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY/NEUTRON
PE LOG**

Company MULL DRILLING COMPANY, INC.
Well #1-5 SOMY
Field
County NESS
State KANSAS

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Well #1-5 SOMY
Field
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Location: 600' FSL & 2310' FWL
API #: 15-135-25640-0000
Permanent Datum GROUND LEVEL Elevation 2465
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
SEC 5 TWP 17S RGE 24W
Elevation
DIL MEL/SON
K.B. 2470
D.F. 2468
G.L. 2465

Date	8/29/13
Run Number	ONE
Depth Driller	4570
Depth Logger	4568
Bottom Logged Interval	4544
Top Log Interval	3700
Casing Driller	8 5/8" @ 215'
Casing Logger	213'
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	8.9 / 47
pH / Fluid Loss	11.0 / 7.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.90 @ 88F
Rmt @ Meas. Temp	0.68 @ 88F
Rmc @ Meas. Temp	1.08 @ 88F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	0.65 @ 121F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	121F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JEFF GRONEWEG
Witnessed By	KEVIN KESSLER

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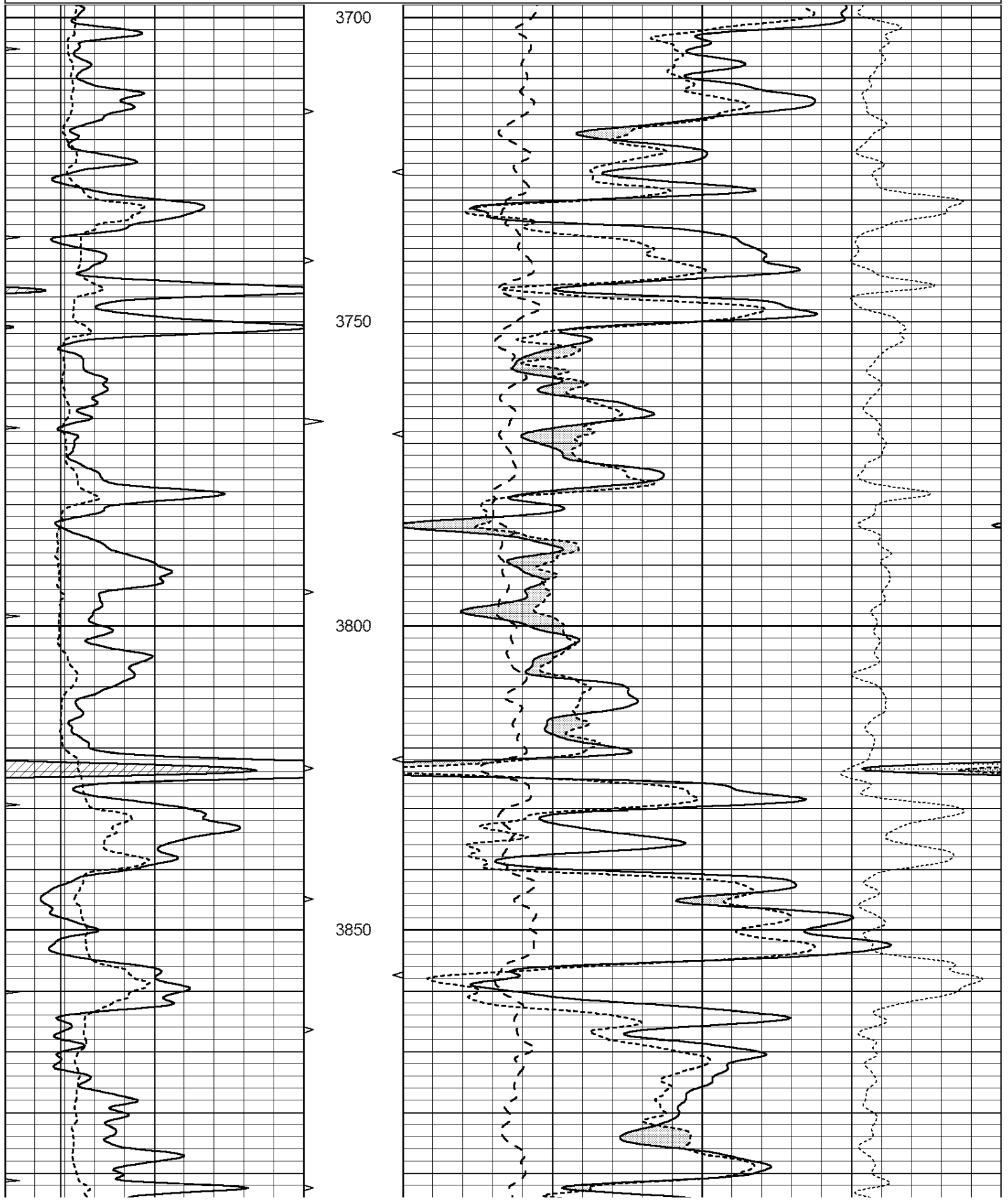
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

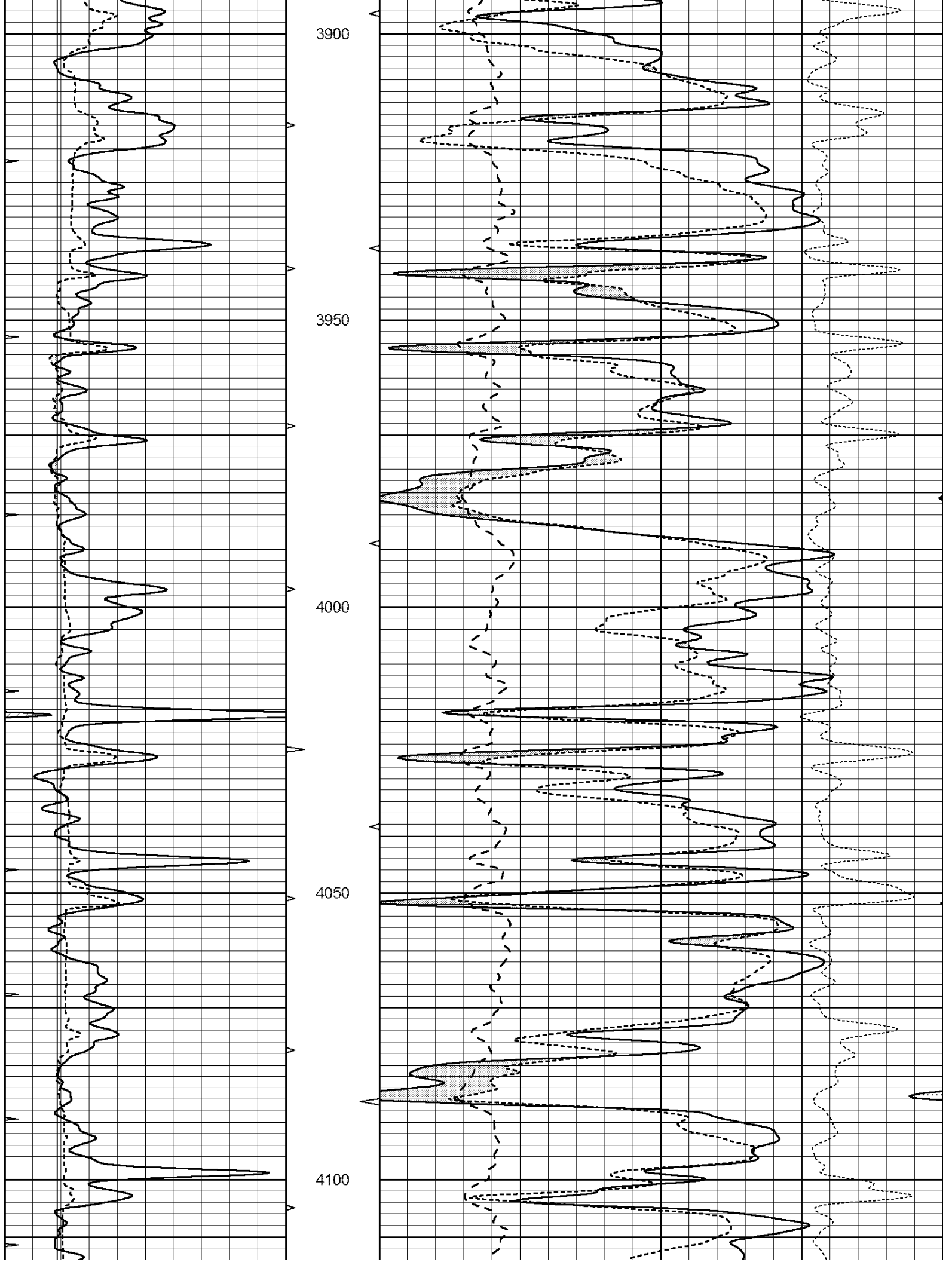
Comments

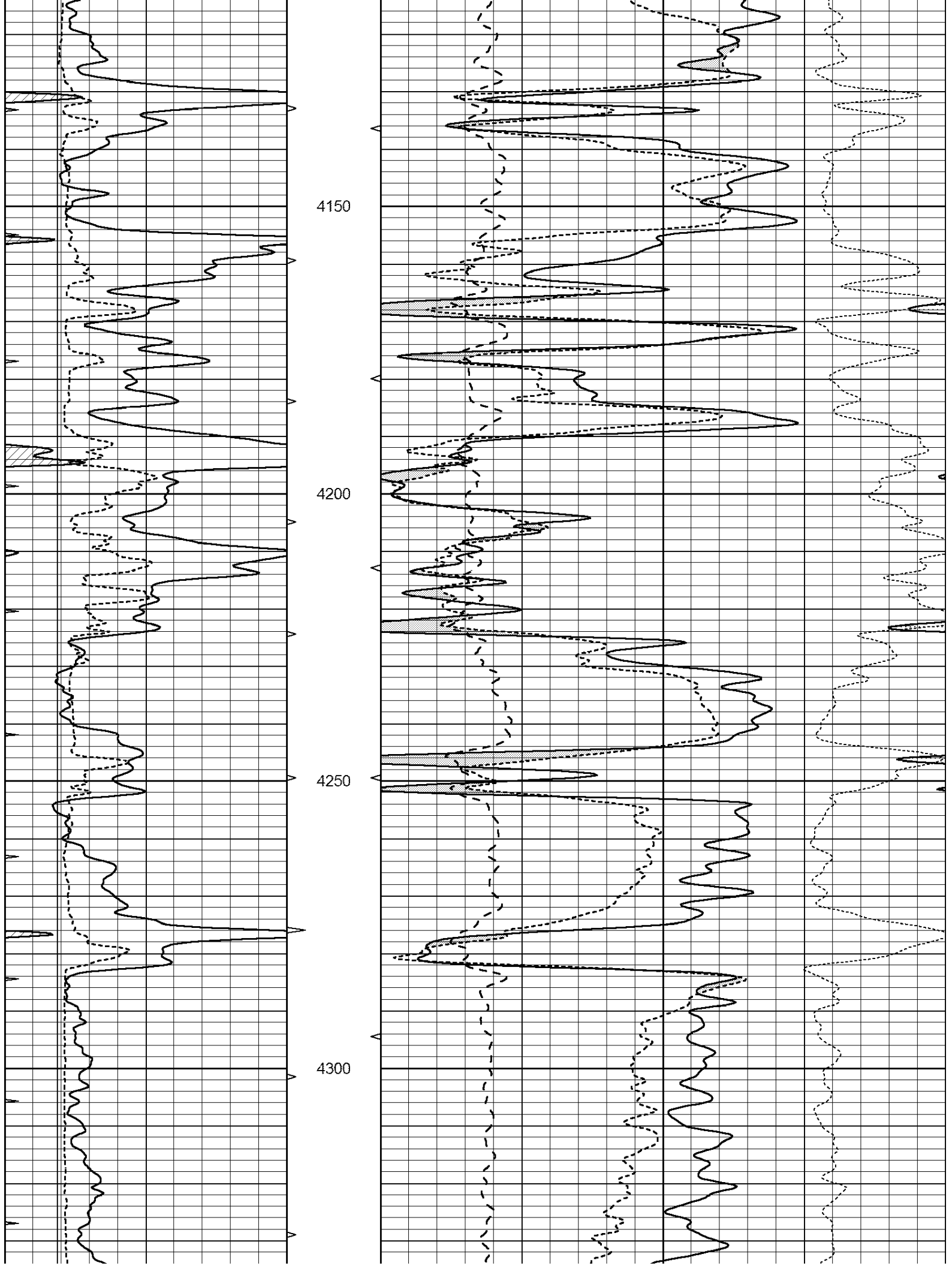
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
INTERSECTION OF HWYS 283 & 4 - 3 MILES SOUTH TO RD 230 - 4 1/2 MILES WEST
NORTH INTO

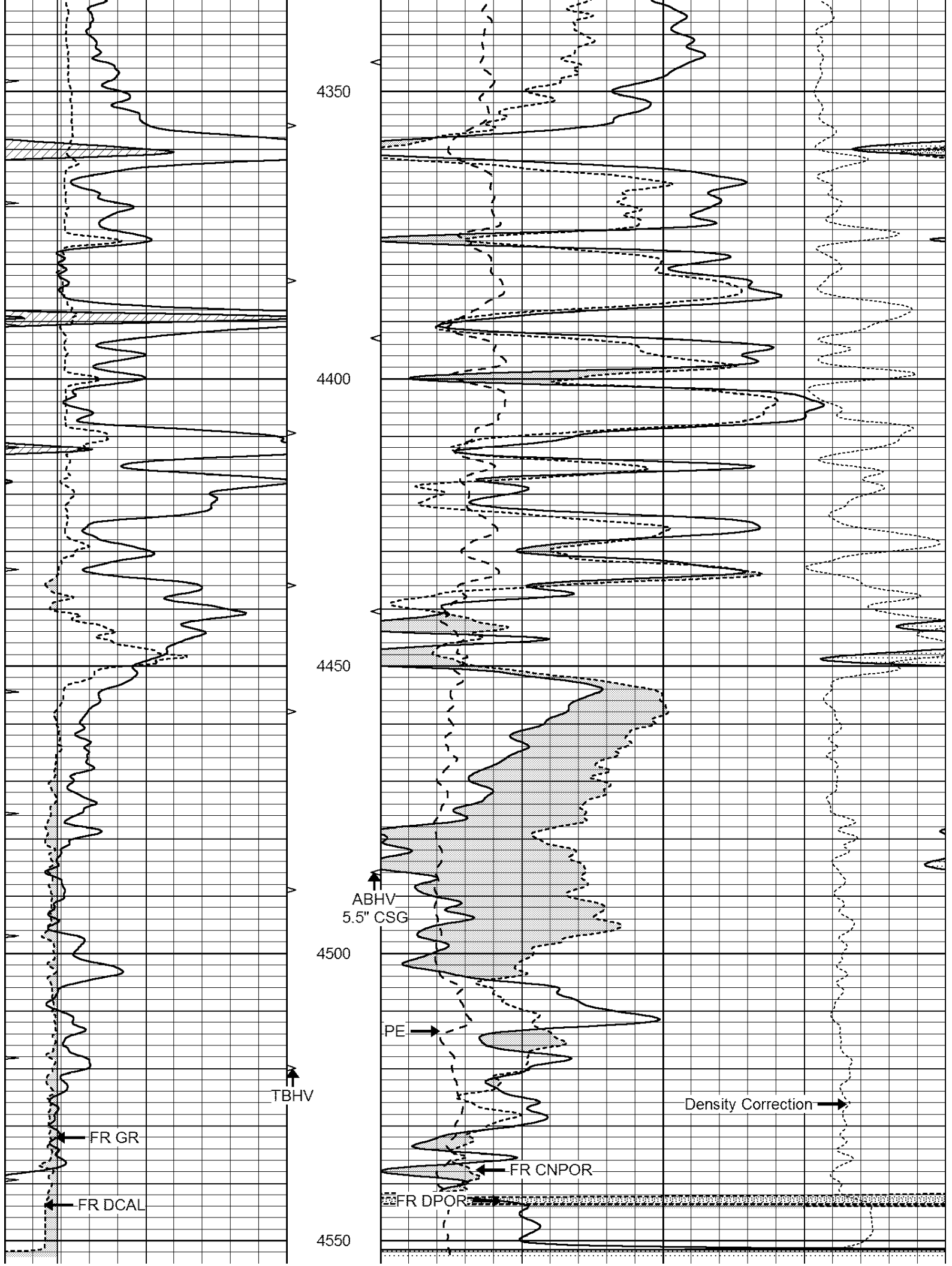
Database File: 011595pe.db
Dataset Pathname: pass3.2
Presentation Format: _ldt_neu
Dataset Creation: Thu Aug 29 23:30:43 2013 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

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					









LIMESTONE MATRIX 2.71

LTD 4568

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		

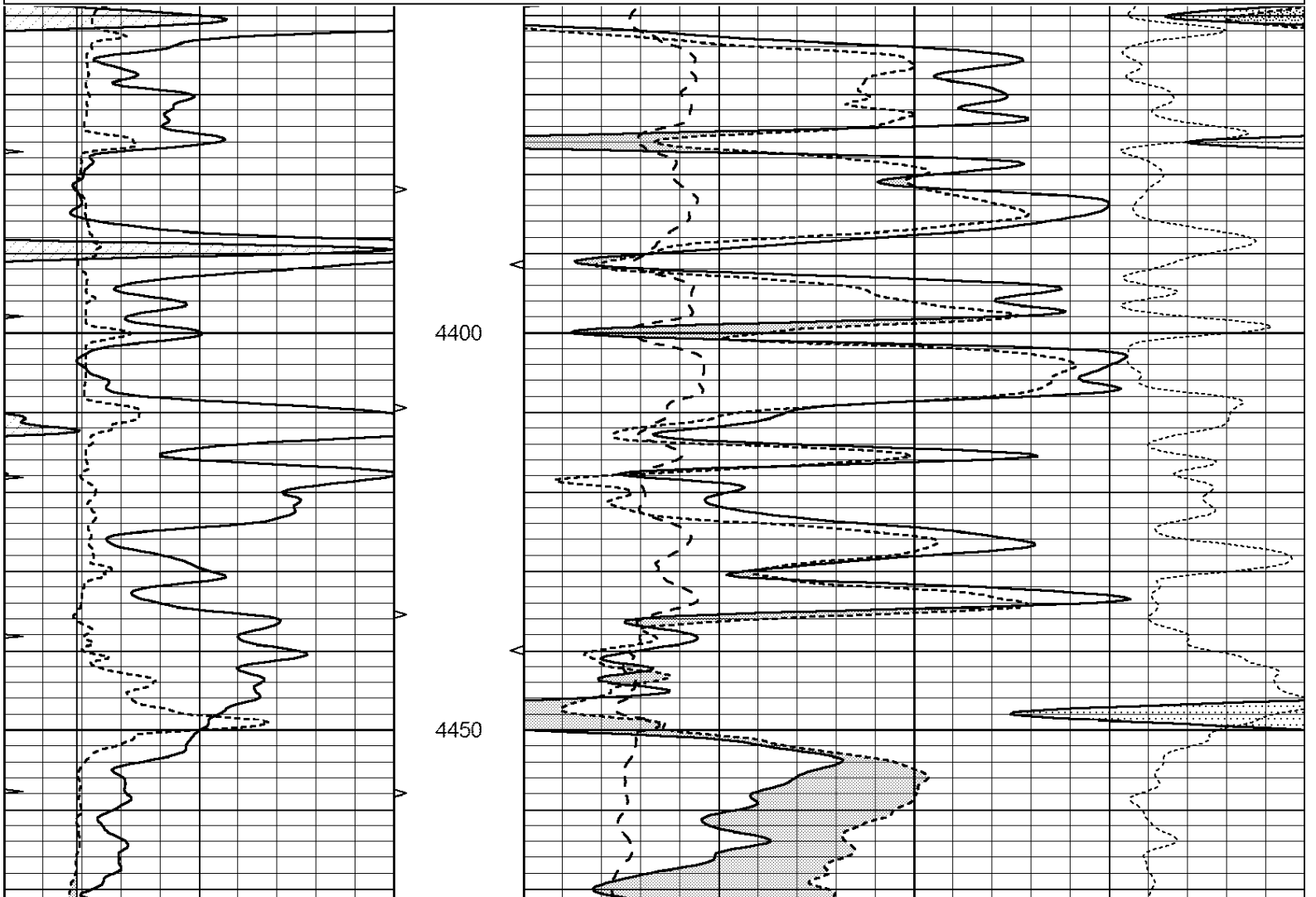


COMPLETION & PRODUCTION SERVICES CO.

REPEAT SECTION

Database File: 011595pe.db
 Dataset Pathname: pass2.6
 Presentation Format: _ldt_neu
 Dataset Creation: Thu Aug 29 23:51:18 2013 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		



	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	mmho-m		

After Survey Verification								
	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Litho Density Calibration Report
Serial: 003 Model: PRB

Master Calibration		Performed Thu Jul 26 15:13:22 2007						
	Background	Magnesium	Aluminum	Sandstone				
Window 1	2128.0	9601.6	3737.0	10737.0			cps	
Window 2	1913.5	7519.1	3114.0	8210.1			cps	
Window 3	1668.2	5026.8	2370.0	5373.3			cps	
Window 4	492.7	497.5	492.3	491.1			cps	
Long Space	0.0	5605.6	1200.5	6296.6			cps	
Short Space	2.2	2279.3	1489.7	2489.1			cps	
Rho		1.7100	2.5900	1.3800			g/cc	
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.6	Rib Slope	: 0.985	Density/Spine Ratio			: 0.550	
Spine Angle	: 74.6	Spine Slope	: 3.623	Spine Intercept			: -19.4	

Before Survey Verification		Performed Wed Dec 31 18:00:00 1969						
Window 1	0.0	0.0	0.0	0.0	0.0		cps	
Window 2	0.0	0.0	0.0	0.0	0.0		cps	
Window 3	0.0	0.0	0.0	0.0	0.0		cps	
Window 4	0.0	0.0	0.0	0.0	0.0		cps	
Long Space	0.0	0.0	0.0	0.0	0.0		cps	
Short Space	0.0	0.0	0.0	0.0	0.0		cps	
Measured Rho		0.0000	0.0000	0.0000	0.0000		g/cc	
Measured Correction		0.0000	0.0000	0.0000	0.0000		g/cc	
Measured Pe			0.0000	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	0.0		cps	
Window 2	0.0	0.0	0.0	0.0	0.0		cps	
Window 3	0.0	0.0	0.0	0.0	0.0		cps	
Window 4	0.0	0.0	0.0	0.0	0.0		cps	
Long Space	0.0	0.0	0.0	0.0	0.0		cps	
Short Space	0.0	0.0	0.0	0.0	0.0		cps	
Measured Rho		0.0000	0.0000	0.0000	0.0000		g/cc	
Measured Correction		0.0000	0.0000	0.0000	0.0000		g/cc	
Measured Pe			0.0000	0.0000	0.0000			

Compensated Neutron Calibration Report

Serial Number: 61
 Tool Model: 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

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number: #8
 Tool Model: OPEN
 Performed: Tue Jun 18 19:34:11 2013

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 175.0 cps

Sensitivity: 0.8371 GAPI/cps