NABORS COMPLETION & PRODUCTION SERVICES CO.

COMPENSATED DENSITY / NEUTRON LOG

Company	DEUTSCH OIL COMPANY
Well	HOEME TRUST #3-17
Field	IUKA - CARMI
County	PRATT
State	KANSAS

Company DEUTSCH OIL COMPANY
Well HOEME TRUST #3-17
Field IUKA - CARMI
County PRATT State KANSAS
Location: API # : 15-151-22426-0000
2970' FSL & 2970' FEL
SE - SE - NW
SEC 17 TWP 27S RGE 12W

Other Services: DIL/MEL

Permanent Datum GROUND LEVEL Elevation 1858
Log Measured From KELLY BUSHING 10' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1868
D.F. 1866
G.L. 1858

Date	10/28/13		
Run Number	ONE		
Depth Driller	4452		
Depth Logger	4450		
Bottom Logged Interval	4426		
Top Log Interval	3400		
Casing Driller	10 3/4"@297'		
Casing Logger	300		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6,000 PPM	
Density / Viscosity	9.5/46		
pH / Fluid Loss	9.0/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.650@80F		
Rmf @ Meas. Temp	.488@80F		
Rmc @ Meas. Temp	.780@80F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.433@120F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	3:30 P.M.		
Maximum Recorded Temperature	120F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	KENT DEUTSCH		

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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
PRATT, KS., 3 N.E. ON HWY 61 TO "ST. PAUL CHURCH", 1E., N. INTO

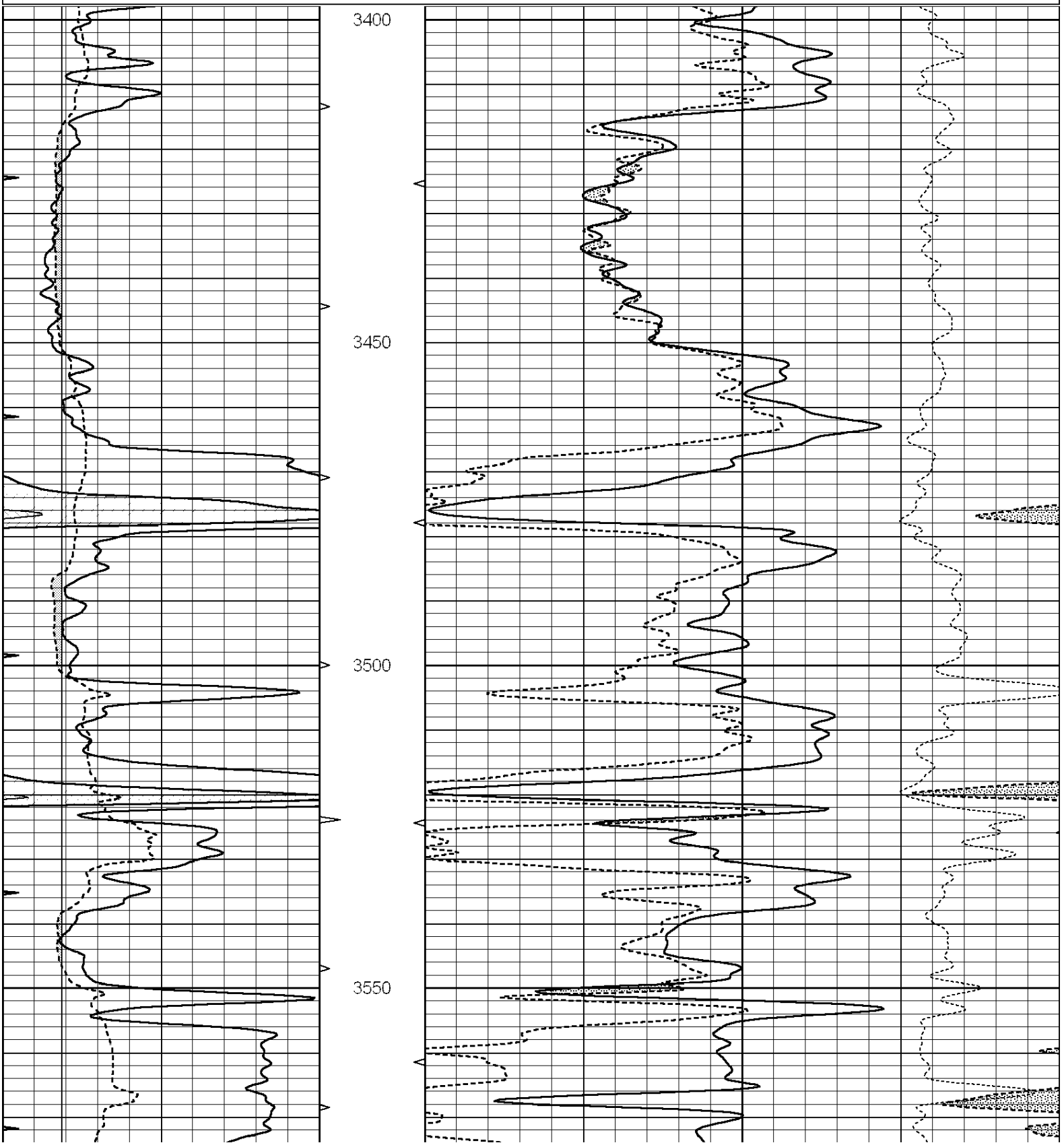
NABORS COMPLETION & PRODUCTION

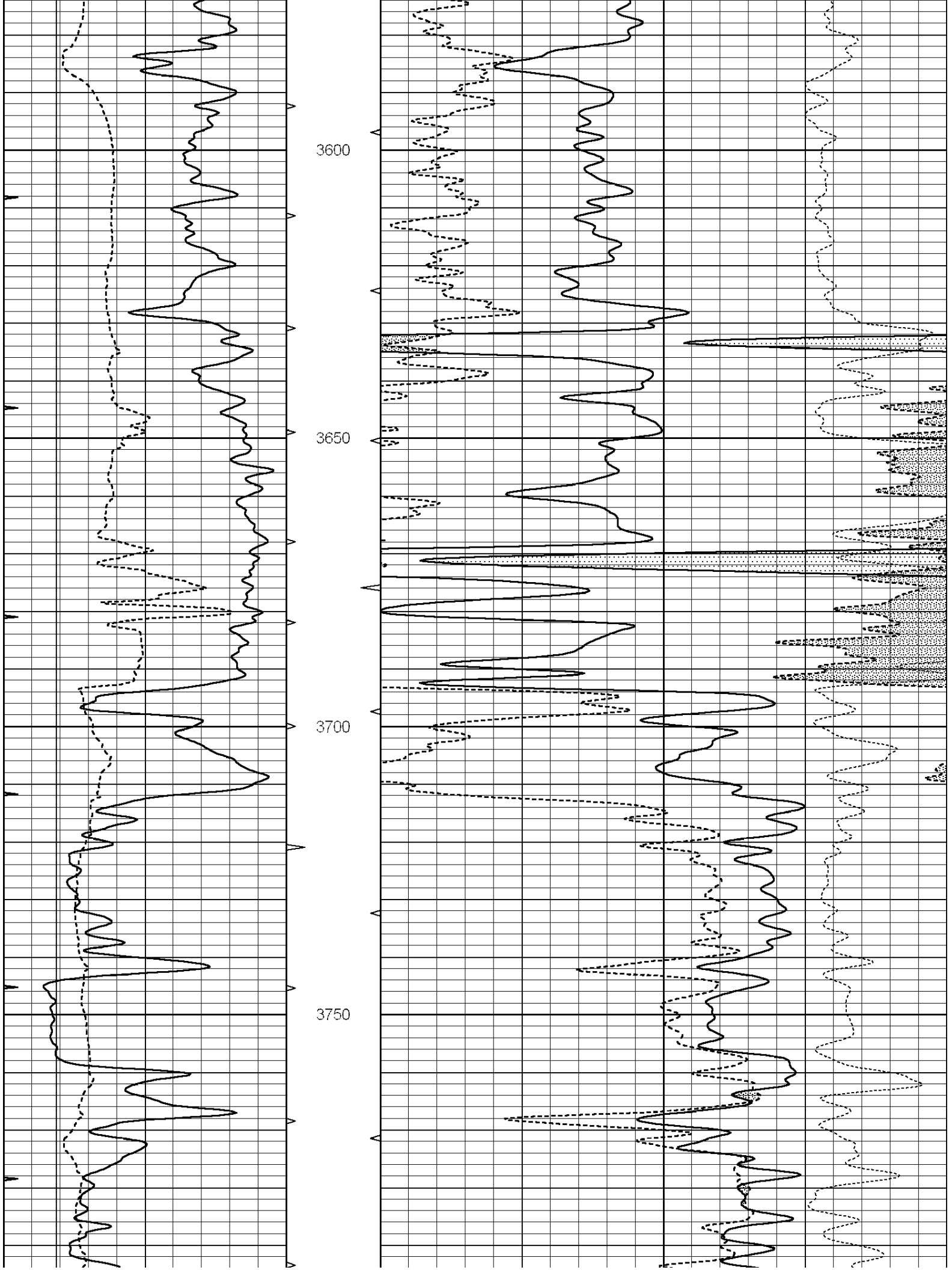
MAIN SECTION

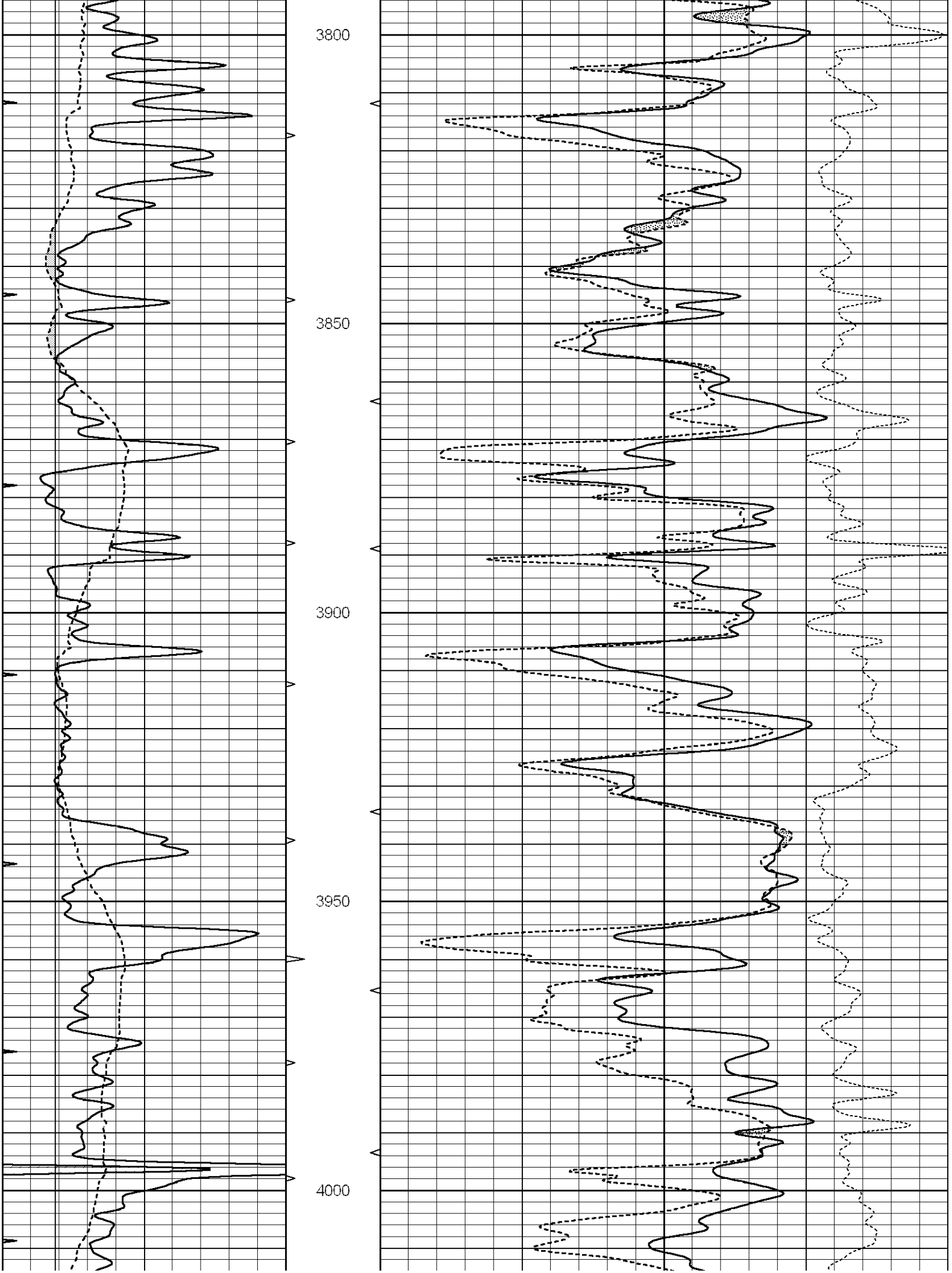
SERVICES CO.

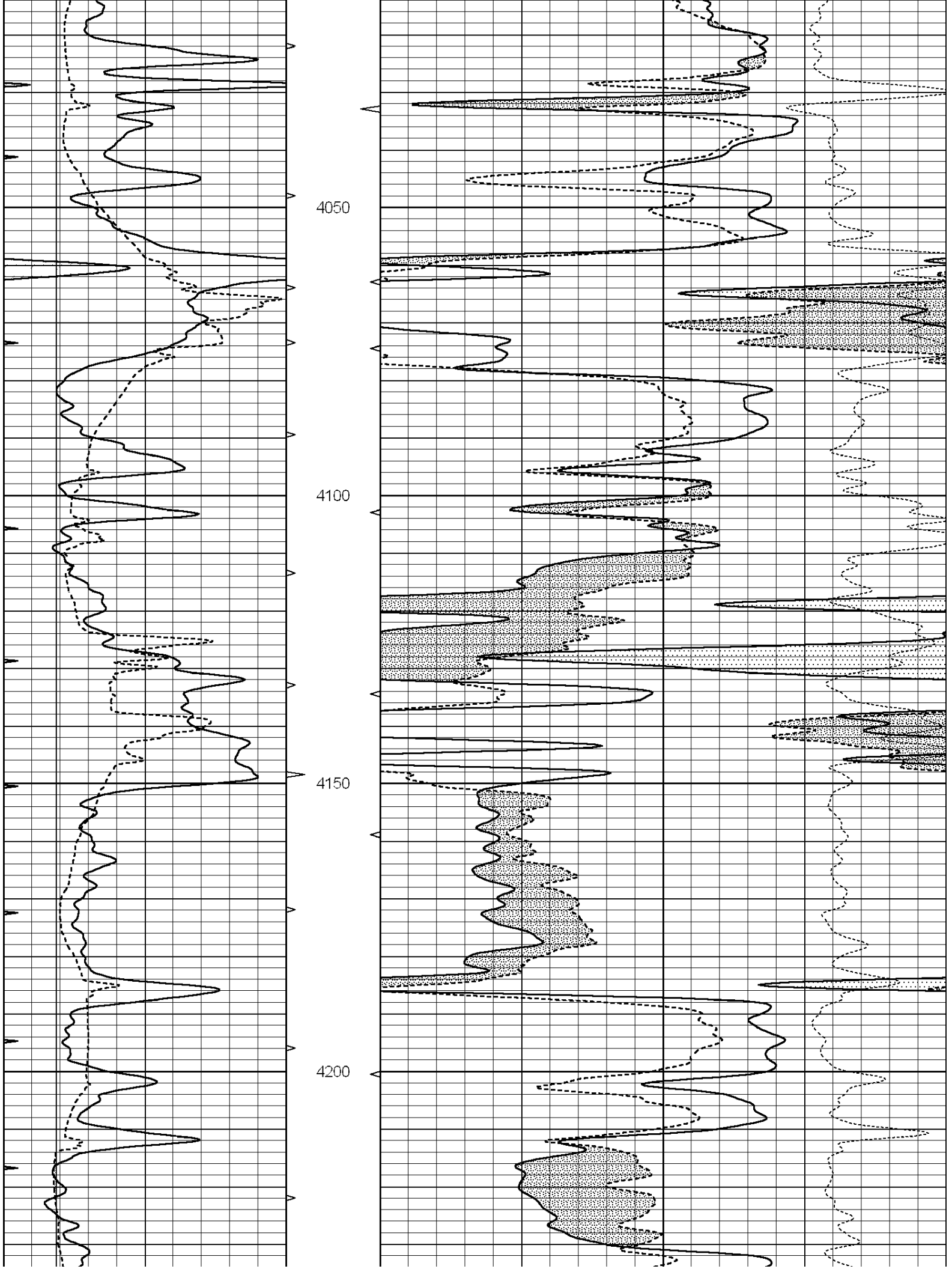
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Dataset Pathname: pass3.8
Presentation Format: den_neu
Dataset Creation: Mon Oct 28 17:05:10 2013 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

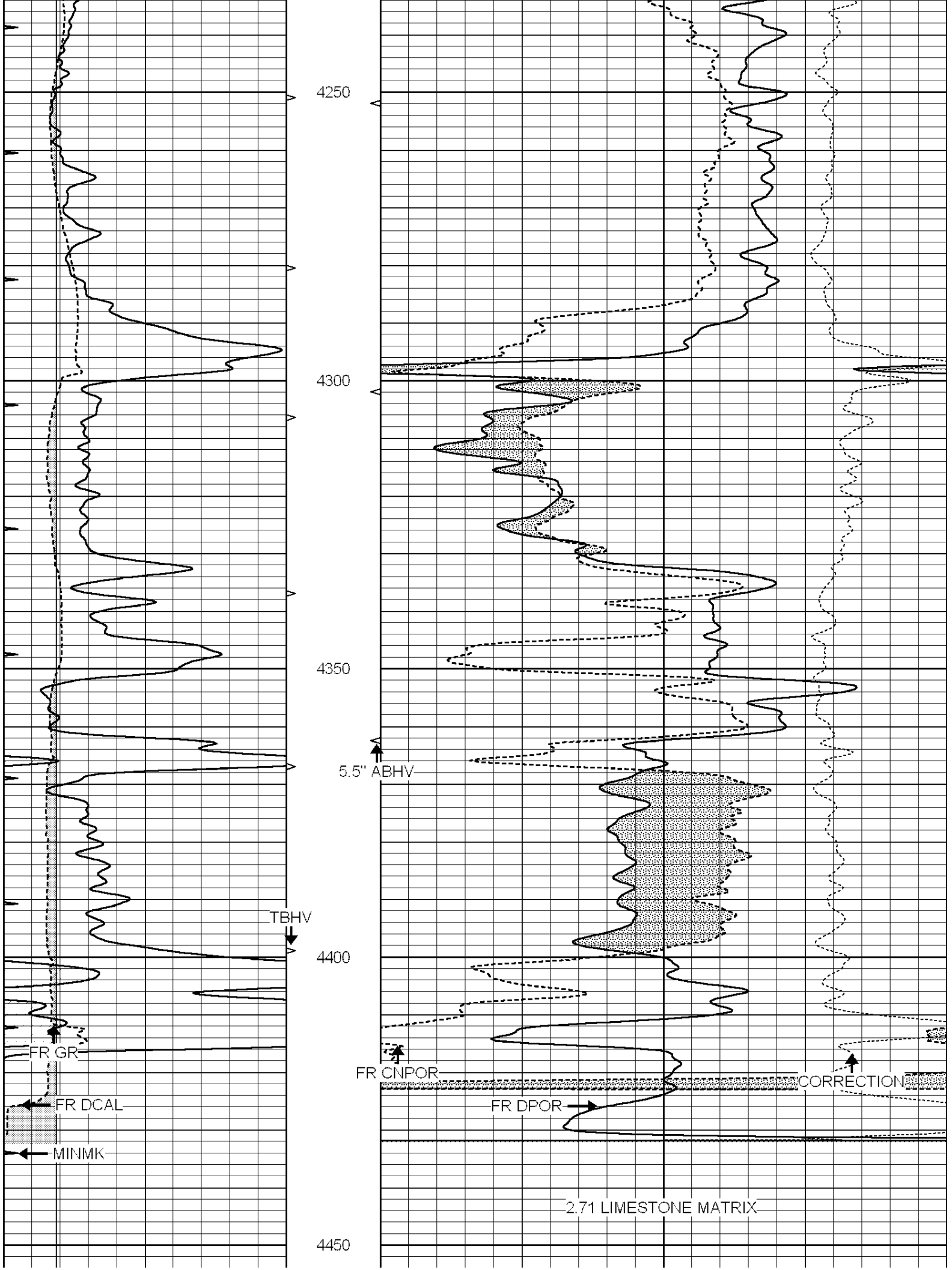
0	GAMMA RAY (GAPI) 150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in) 16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK 20	TBHV		-0.25 CORRECTION (g/cc) 0.25	
		0 (ft3) 10			




3600
3650
3700
3750


3800
3850
3900
3950
4000


4050
4100
4150
4200


4250
4300
4350
5.5" ABHV
TBHV
4400
FR GR
FR DCAL
MINMK
FR CNPOR
FR DPOR
CORRECTION
2.71 LIMESTONE MATRIX
4450

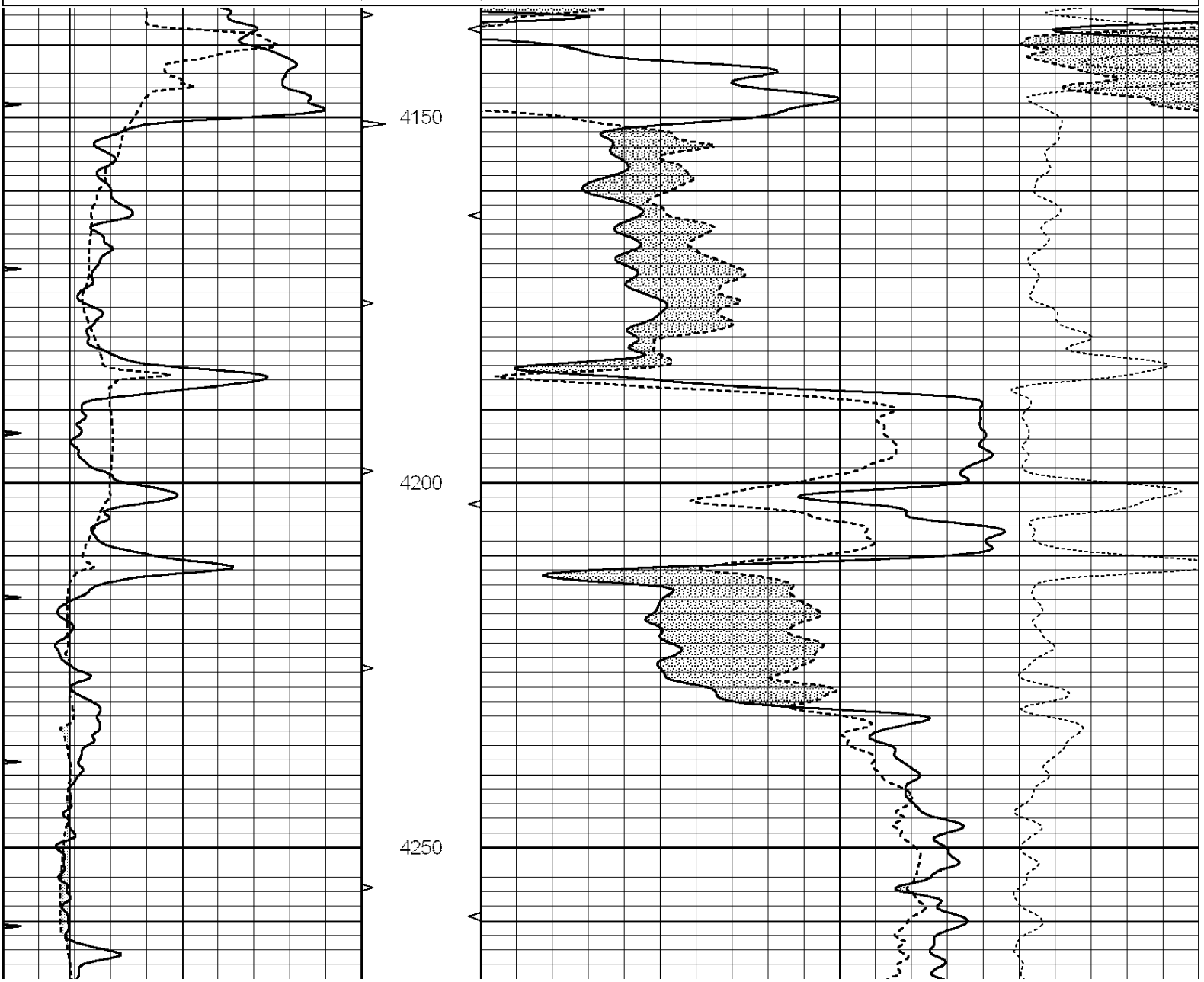
0	GAMMA RAY (GAPI)	150	ABHV		30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV			-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10				

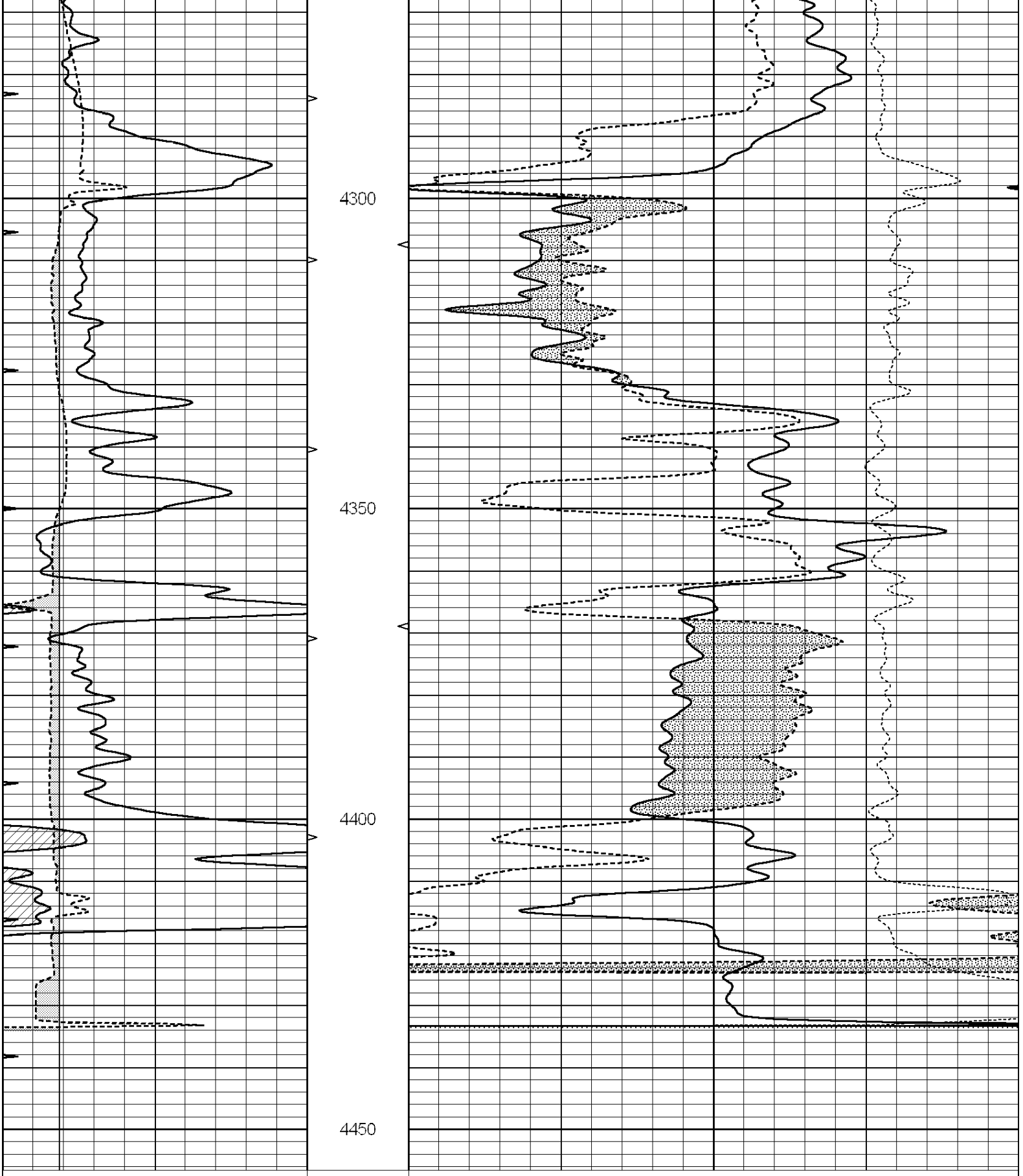
NABORS
COMPLETION & PRODUCTION SERVICES CO.

REPEAT SECTION

Database File: 011698ddn.db
Dataset Pathname: pass2.2
Presentation Format: den_neu
Dataset Creation: Mon Oct 28 17:19:48 2013 by Calc SOC 120430
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			-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10				





Calibration Report

Database File: 011698ddn.db
Dataset Pathname: pass3.8
Dataset Creation: Mon Oct 28 17:05:10 2013 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Thu Oct 24 00:58:04 2013
Downhole Cal Performed:	Mon Jul 28 12:02:56 2008
After Survey Verification Performed:	Mon Jul 28 12:02:56 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	650.000	-12.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-17.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	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: 004N Model: PRB

Master Calibration

Performed Mon Jun 03 09:36:56 2013

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1417.6	10391.4	3464.6	11537.5	cps
Window 2	1295.0	8959.7	3050.1	9816.4	cps
Window 3	1105.1	5464.2	2051.0	5838.8	cps
Window 4	315.0	317.7	312.9	319.8	cps
Long Space	0.0	7664.6	1755.0	8521.3	cps
Short Space	1.8	1582.4	1040.8	1699.4	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	

Rib Angle	: 44.1	Rib Slope	: 0.970	Density/Spine Ratio	: 0.574
Spine Angle	: 74.1	Spine Slope	: 3.519	Spine Intercept	: -17.0

Before Survey Verification

Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			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	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

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: Mon Oct 21 18:53:38 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps