



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY/NEUTRON LOG

Company		RITCHIE EXPLORATION, INC.	
Well		PHILLIPS-OTTLEY NO 1	
Field		WILDCAT	
County		GOVE	
State		KANSAS	
Location:		API # : 15-063-22058-00-00 SE - NE - SE 1645' FSL & 165' FEL SEC 18 TWP 13S RGE 31W	
Permanent Datum		GROUND LEVEL Elevation 2935	
Log Measured From		KELLY BUSHING & A.G.L.	
Drilling Measured From		KELLY BUSHING	
Date		11/29/2012	
Run Number		ONE	
Depth Driller		4725	
Depth Logger		4724	
Bottom Logged Interval		4700	
Top Log Interval		3500	
Casing Driller		8 5/8" @ 222'	
Casing Logger		220	
Bit Size		7 7/8	
Type Fluid in Hole		CHEMICAL MUD	
Density / Viscosity		9.3/55	
pH / Fluid Loss		10.5/5.6	
Source of Sample		FLOWLINE	
Rim @ Meas. Temp		.85@86F	
Rmf @ Meas. Temp		.68@86F	
Rmc @ Meas. Temp		1.02@86F	
Source of Rmf / Rmc		MEASURED	
Rim @ BHT		.60@122F	
Time Circulation Stopped		2 HOURS	
Time Logger on Bottom		2:30 P.M.	
Maximum Recorded Temperature		122	
Equipment Number		680	
Location		HAYS, KS.	
Recorded By		MIKE GARRISON	
Witnessed By		MAX LOVELY	

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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.

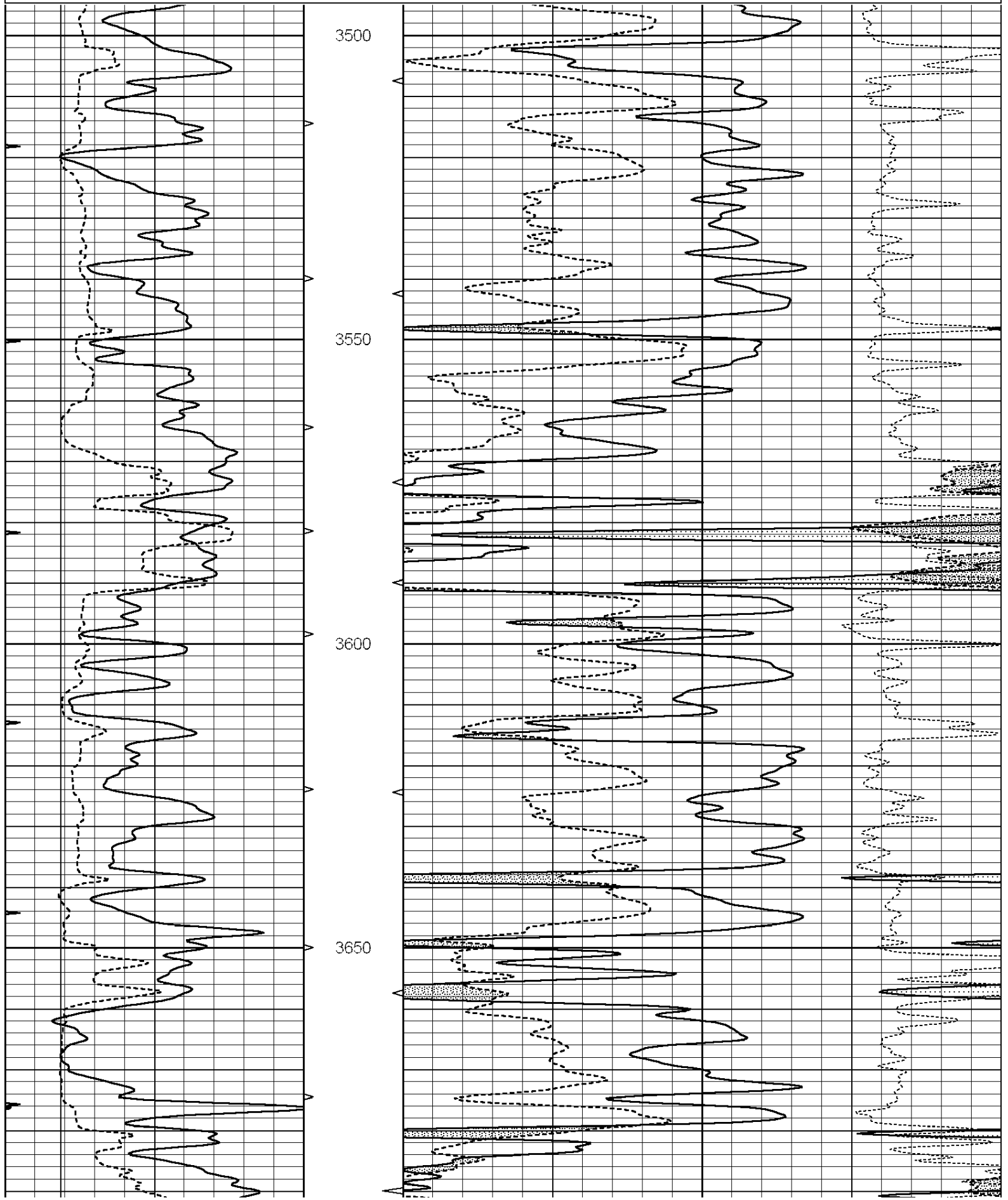
Comments

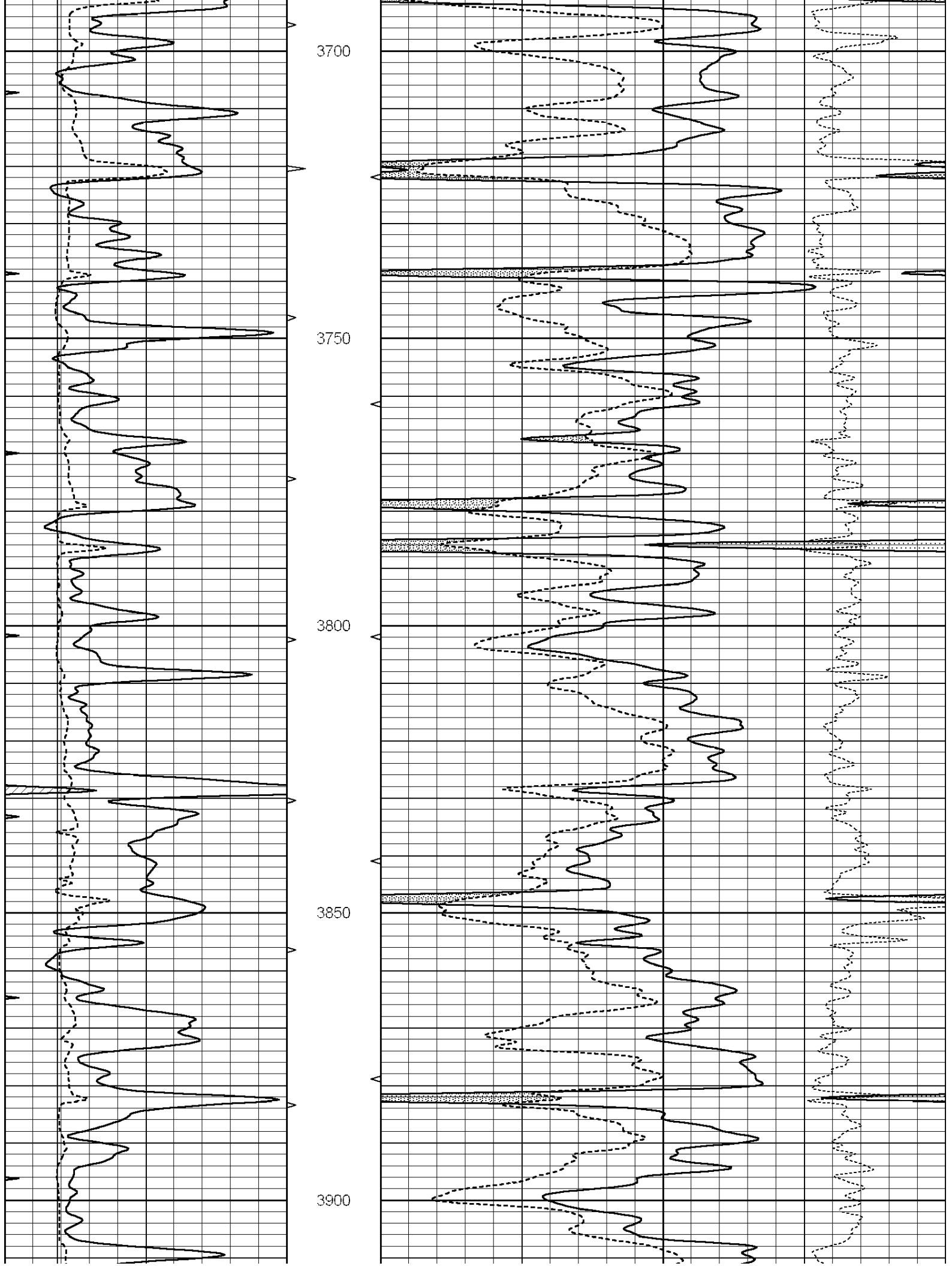
THANK YOU FOR USING NABORS COMPLETION & PRODUCTION SVCS. (785) 628-6395

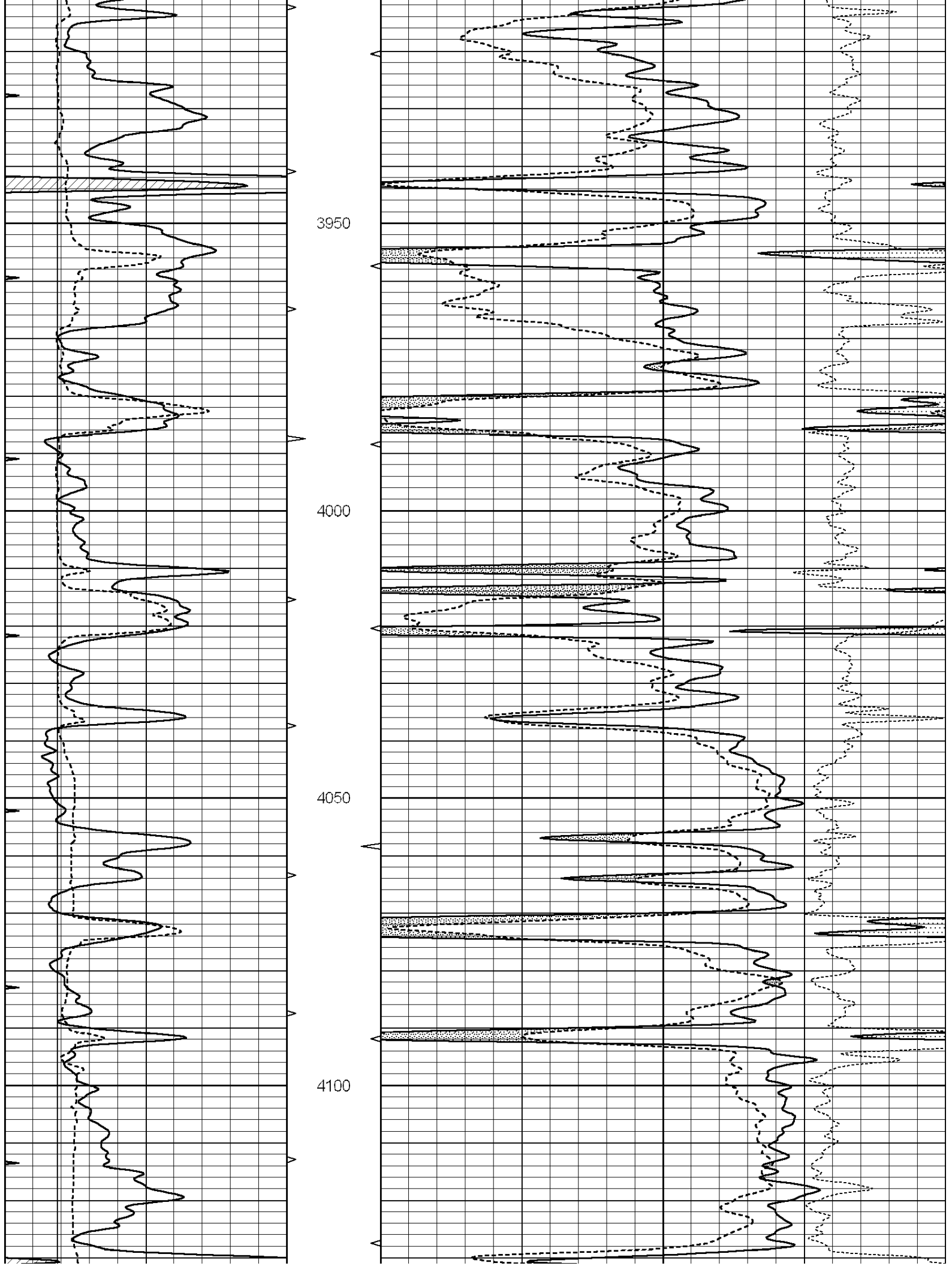
DIRECTIONS:
OAKLEY, KS 13 SOUTH, 3 EAST, 1/2 SOUTH, WEST INTO

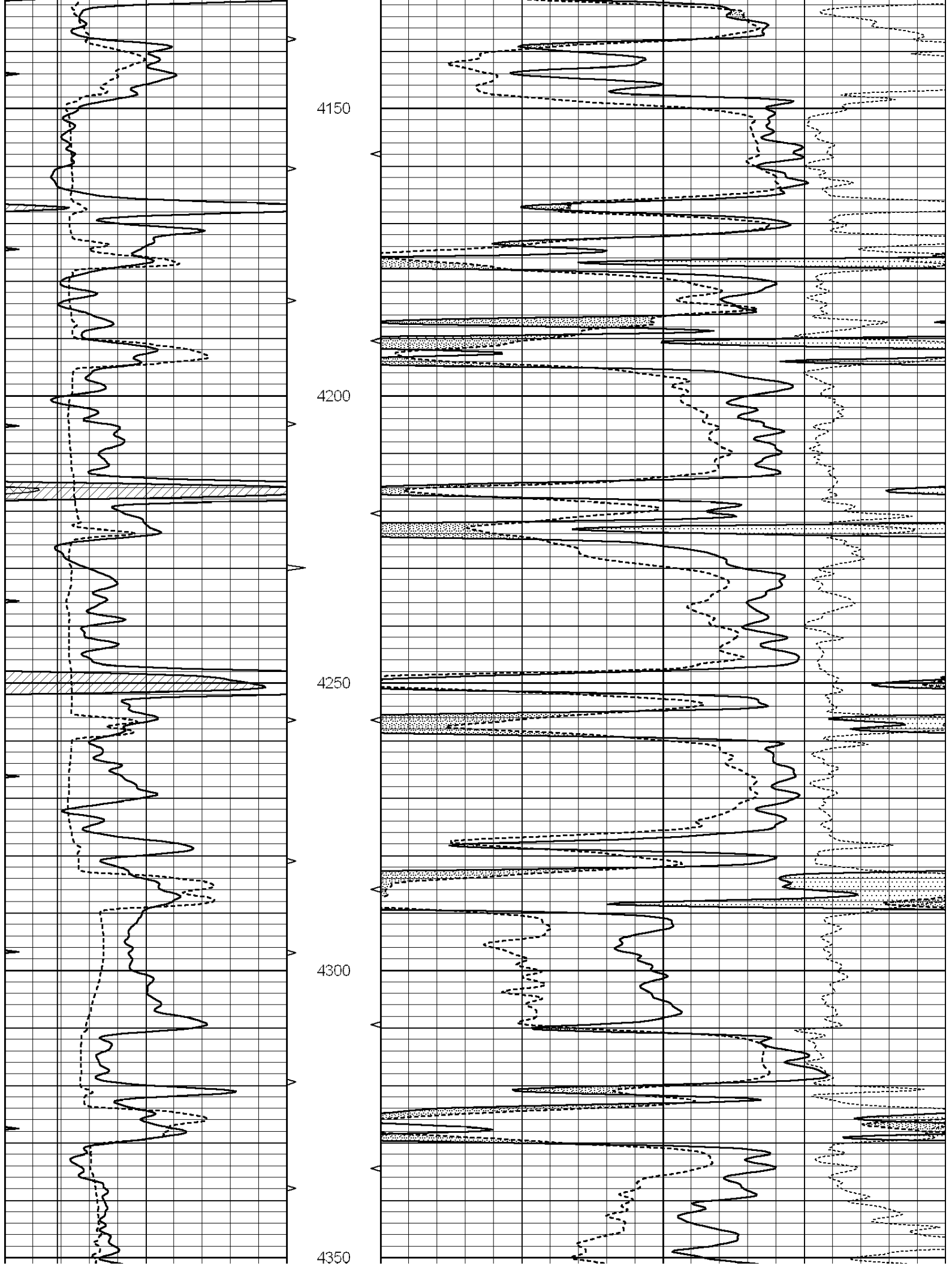
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 Presentation Format: _den_neu
 Dataset Creation: Thu Nov 29 16:21:10 2012 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

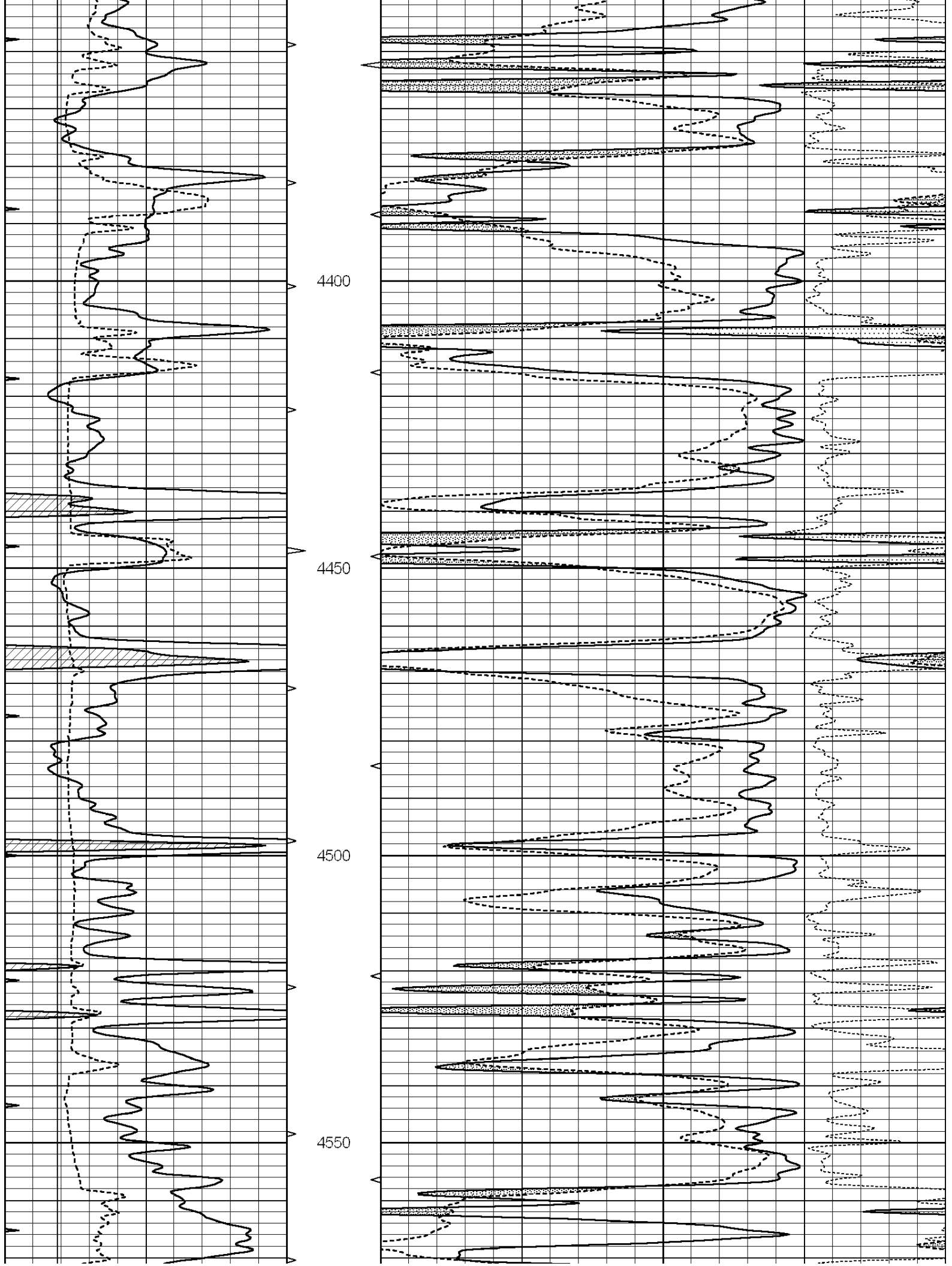
Charted by:		Depth in Feet scaled 1:2.15				
0	GAMMA RAY (GAPI)	150	AVTX	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	BVTX		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		

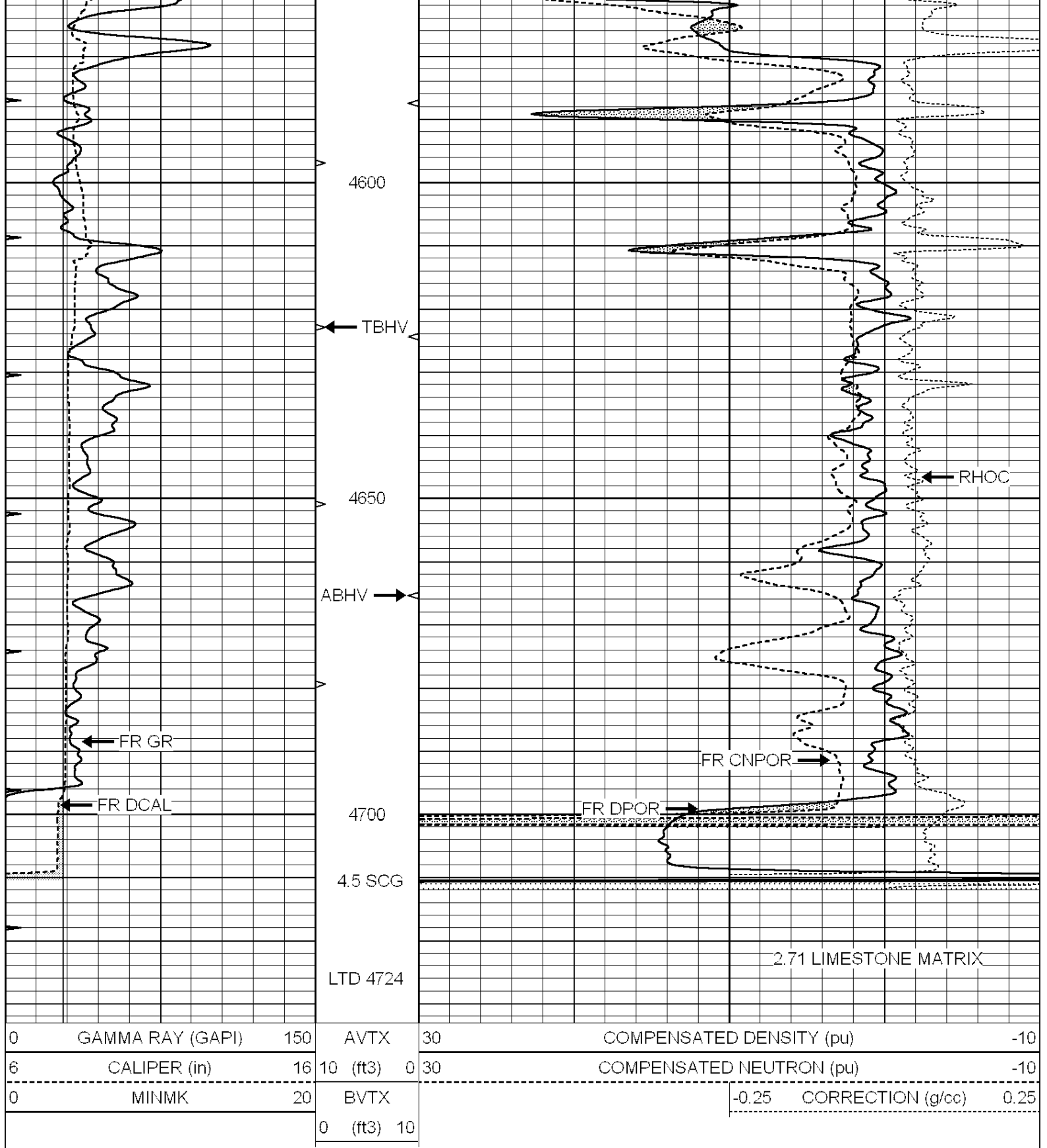








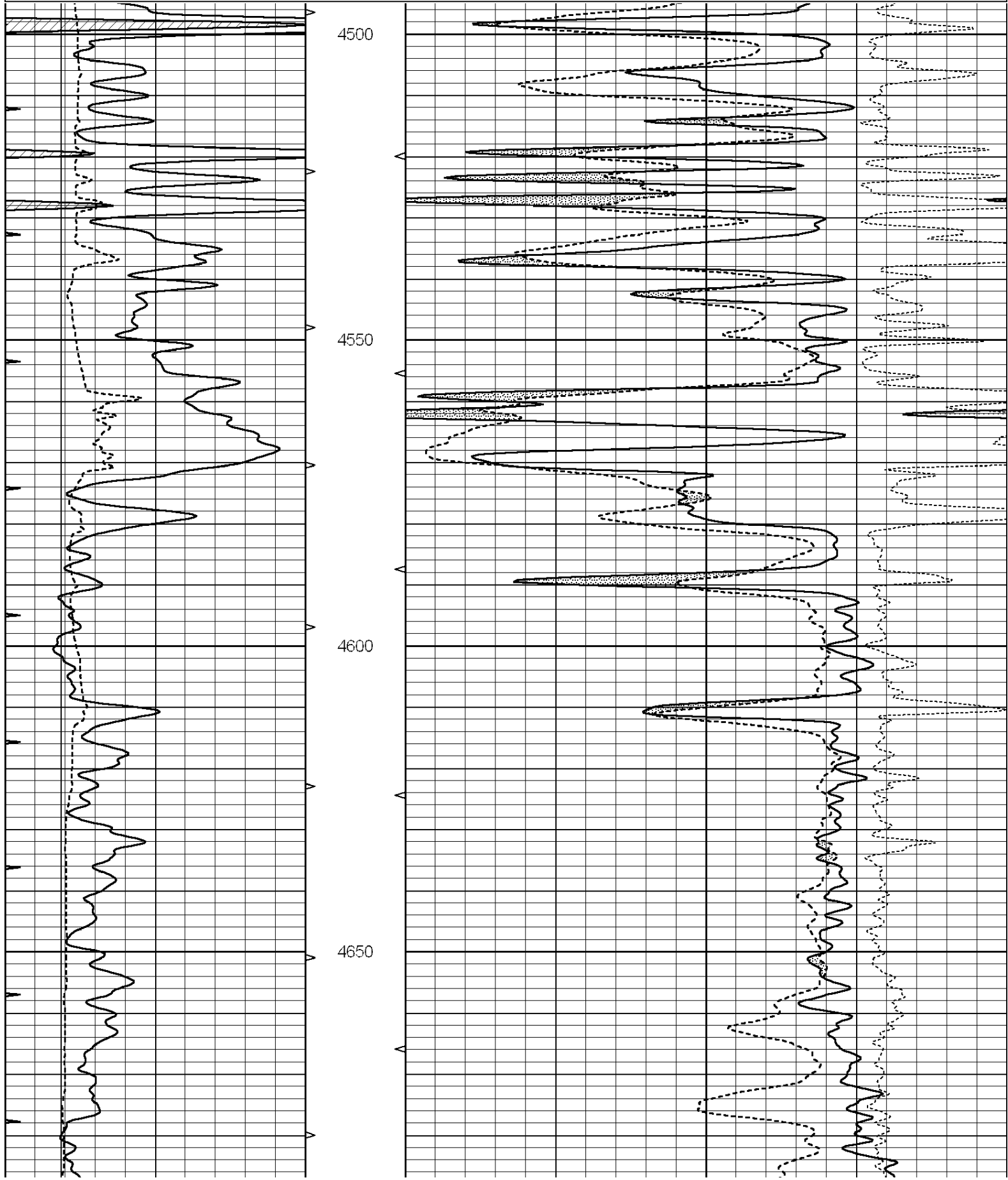


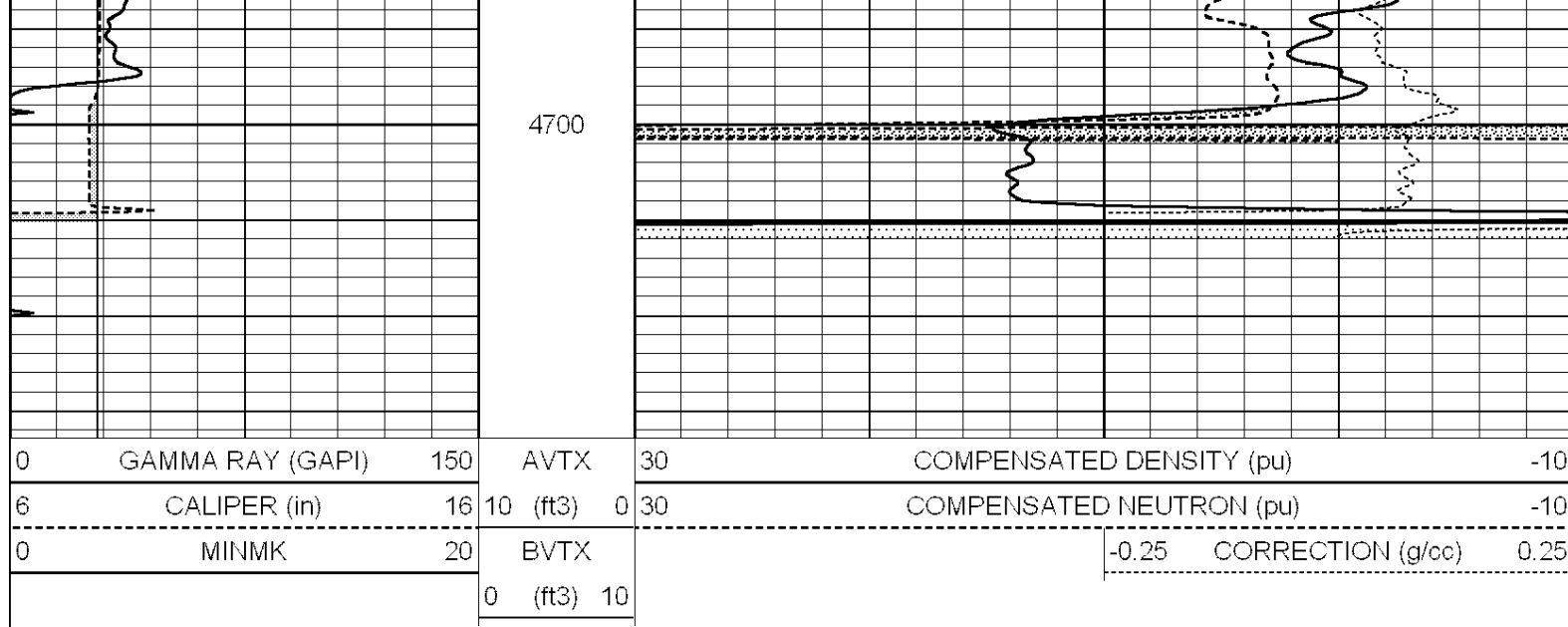


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REPEAT SECTION

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





Calibration Report

Database File: 40010142.db
Dataset Pathname: pass3.1
Dataset Creation: Thu Nov 29 16:21:10 2012 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
Surface Cal Performed: Fri Aug 01 06:33:19 2008
Downhole Cal Performed: Mon Jul 28 11:08:27 2008
After Survey Verification Performed: Mon Jul 28 11:08:27 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	612.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	595.049	-17.680
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

Readings				References			Results	
	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		

Compensated Density Calibration Report

Serial-Model: GEAR4-GEARHART
 Source / Verifier: 143 / 143
 Master Calibration Performed: Mon Mar 19 19:07:19 2012

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1015.91	497.51	cps
Aluminum	2.600	g/cc	227.67	350.20	cps
Spine Angle = 76.79			Density/Spine Ratio = 0.579		
	Size		Reading		
Small Ring	8.00	in	3.21	V	
Large Ring	14.00	in	5.46	V	

Compensated Neutron Calibration Report

Serial Number: 6I
 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

Gamma Ray Calibration Report

Serial Number: #8
 Tool Model: OPEN
 Performed: Mon Jun 13 16:56:43 2011

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 175.0 cps

Sensitivity: 0.8371 GAPI/cps