



**SUPERIOR  
Hays,  
Kansas**

**COMPENSATED  
NEUTRON / DENSITY  
LOG**

Company RITCHIE EXPLORATION, INC.  
Well PHILLIPS-HESS #1  
Field  
County GOVE  
State KANSAS

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Well PHILLIPS-HESS #1  
Field  
County GOVE State KANSAS

Location: 660 FNL & 2410 FWL  
API # : 15-063-21786  
SEC 20 TWP 13S RGE 31W  
Permanent Datum GROUND LEVEL Elevation 2915  
Log Measured From KELLY BUSHING 10' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
DIL  
Elevation  
K.B. 2925  
D.F. 2923  
G.L. 2915

Date	7/12/09		
Run Number	ONE		
Depth Driller	4625		
Depth Logger	4624		
Bottom Logged Interval	4601		
Top Log Interval	3650		
Casing Driller	8 5/8" @ 227'		
Casing Logger	227'		
Bit Size	7 7/8		
Type Fluid In Hole	CHEMICAL MUD		
Density / Viscosity	9.3 / 53	CHLORIDES 6,000	
pH / Fluid Loss	10.0 / 9.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 107F		
Rmf @ Meas. Temp	0.49 @ 107F		
Rmc @ Meas. Temp	0.78 @ 107F		
Source of Rmf / Rmc	CAL/CAL		
Rm @ BHT	0.57 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	2:30 P.M		
Maximum Recorded Temperature	121F		
Equipment Number	680		
Location	HAYS, KS		
Recorded By	DAN GOTTSCHALK		
Witnessed By	STEVE CARL		

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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**

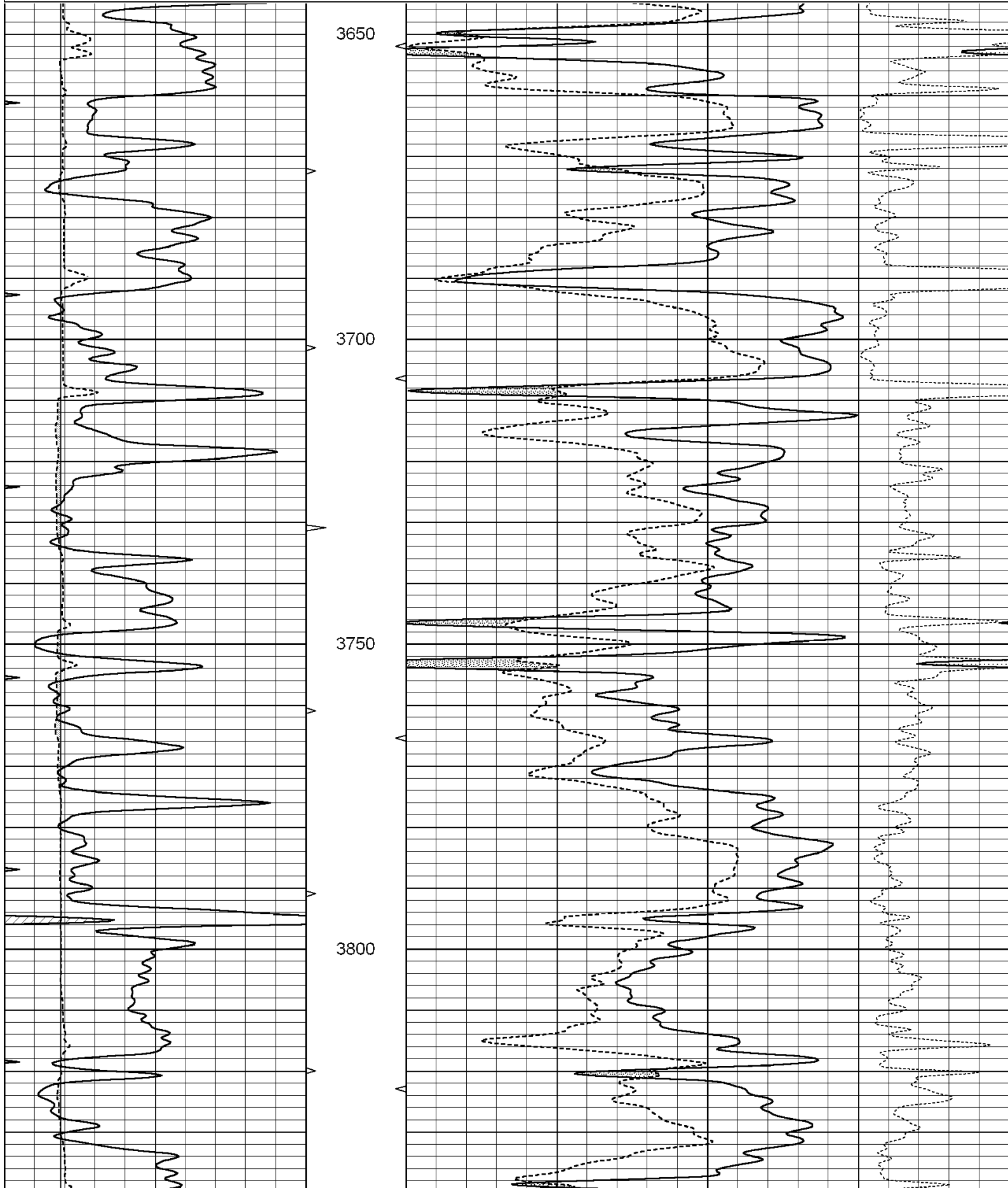
**THANK YOU FOR USING SUPERIOR WELL SERVICES  
HAYS, KS. 785-628-6395**

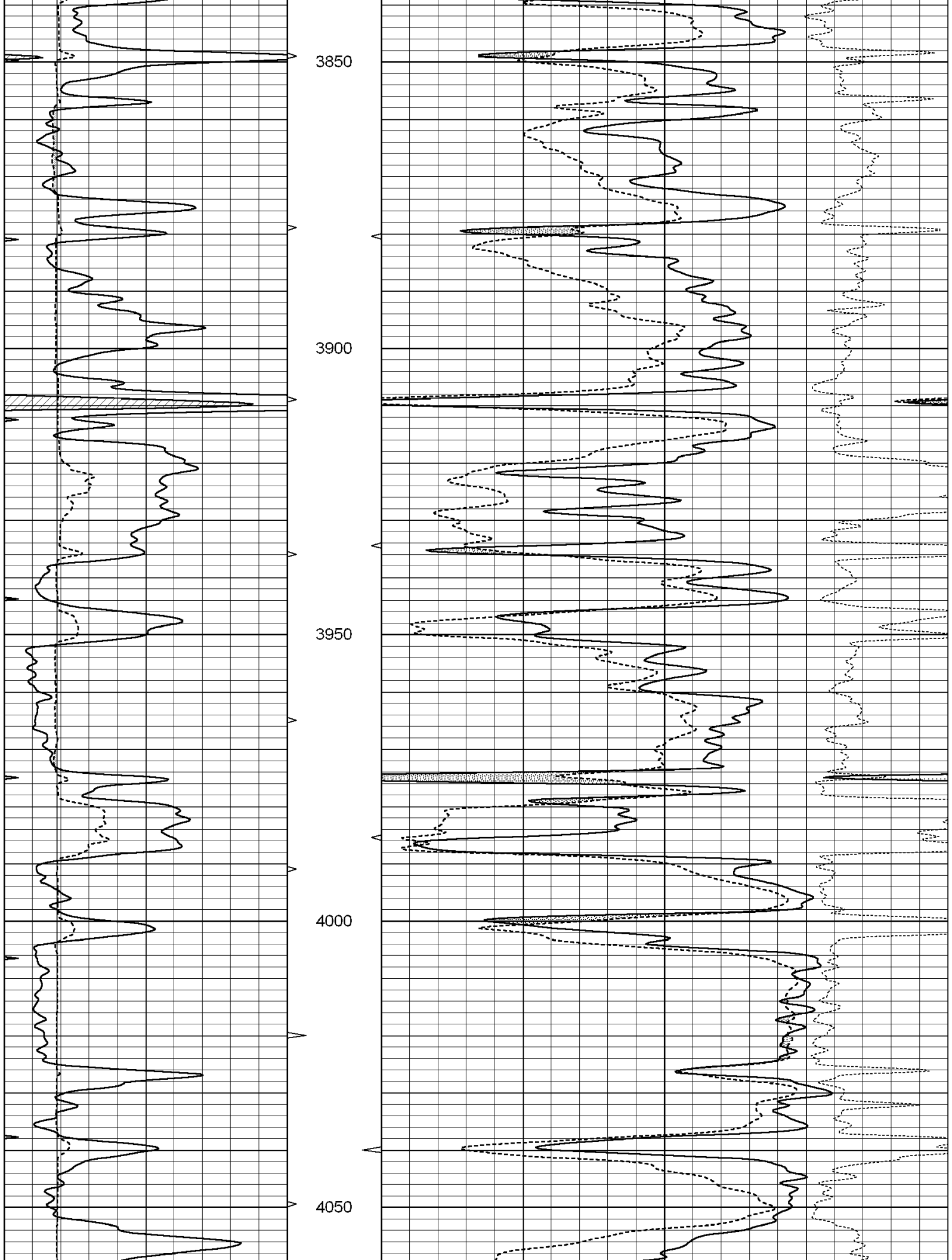
**DIRECTIONS: OAKLEY - 11 SOUTH TO GOVE RD. - 3 EAST - 3 SOUTH - EAST & SOUTH INTO**

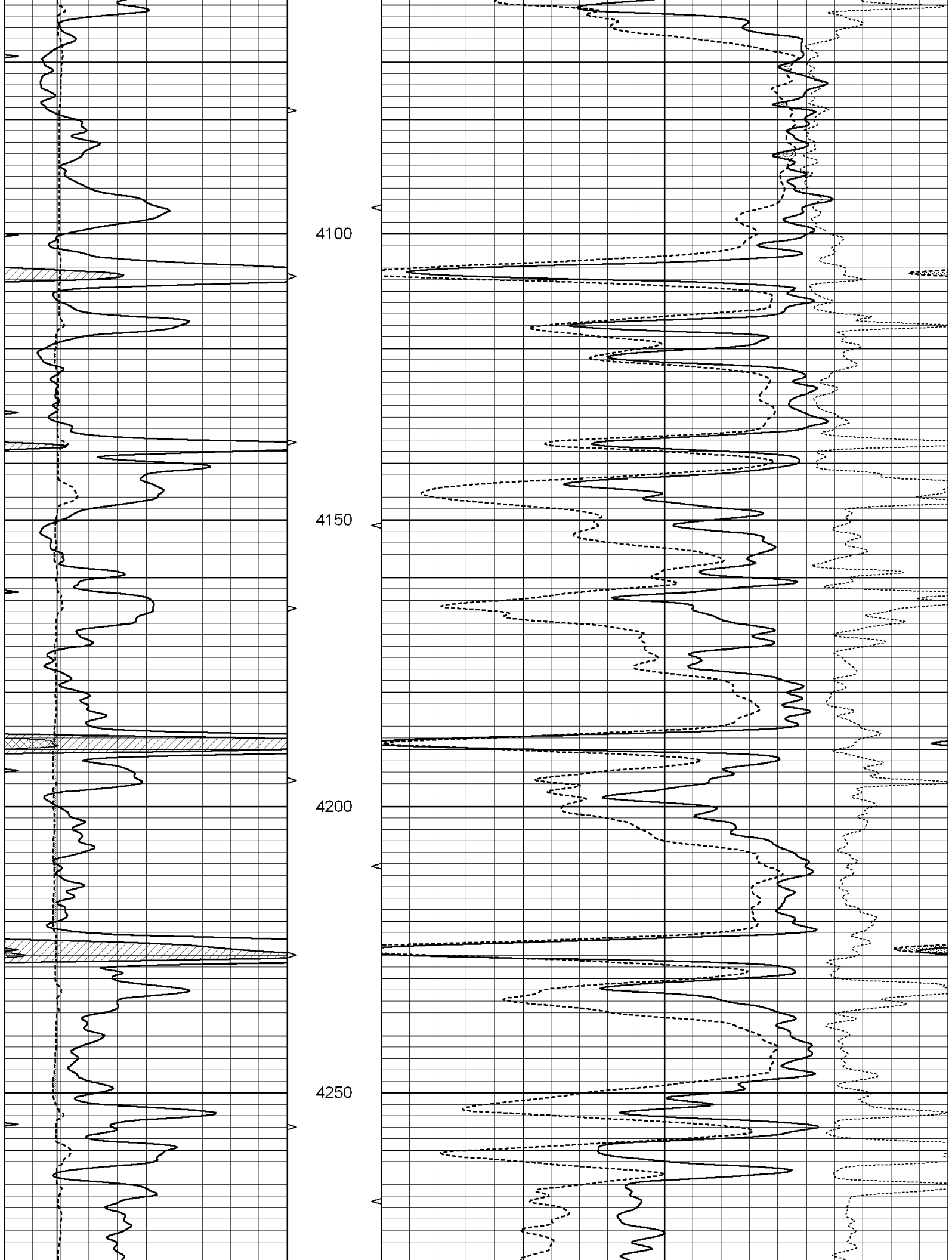
Charted by:

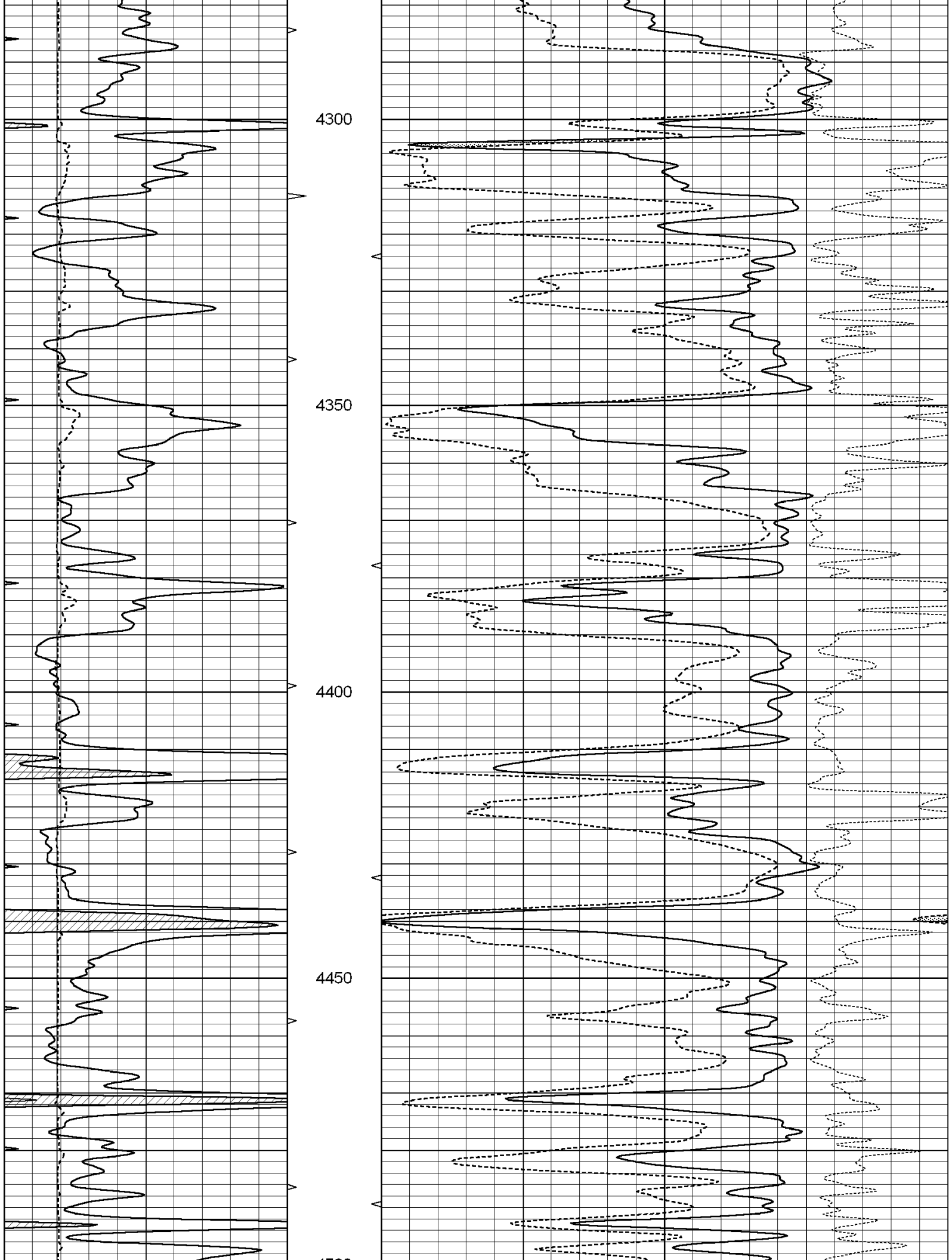
Depth in Feet scaled 1:240

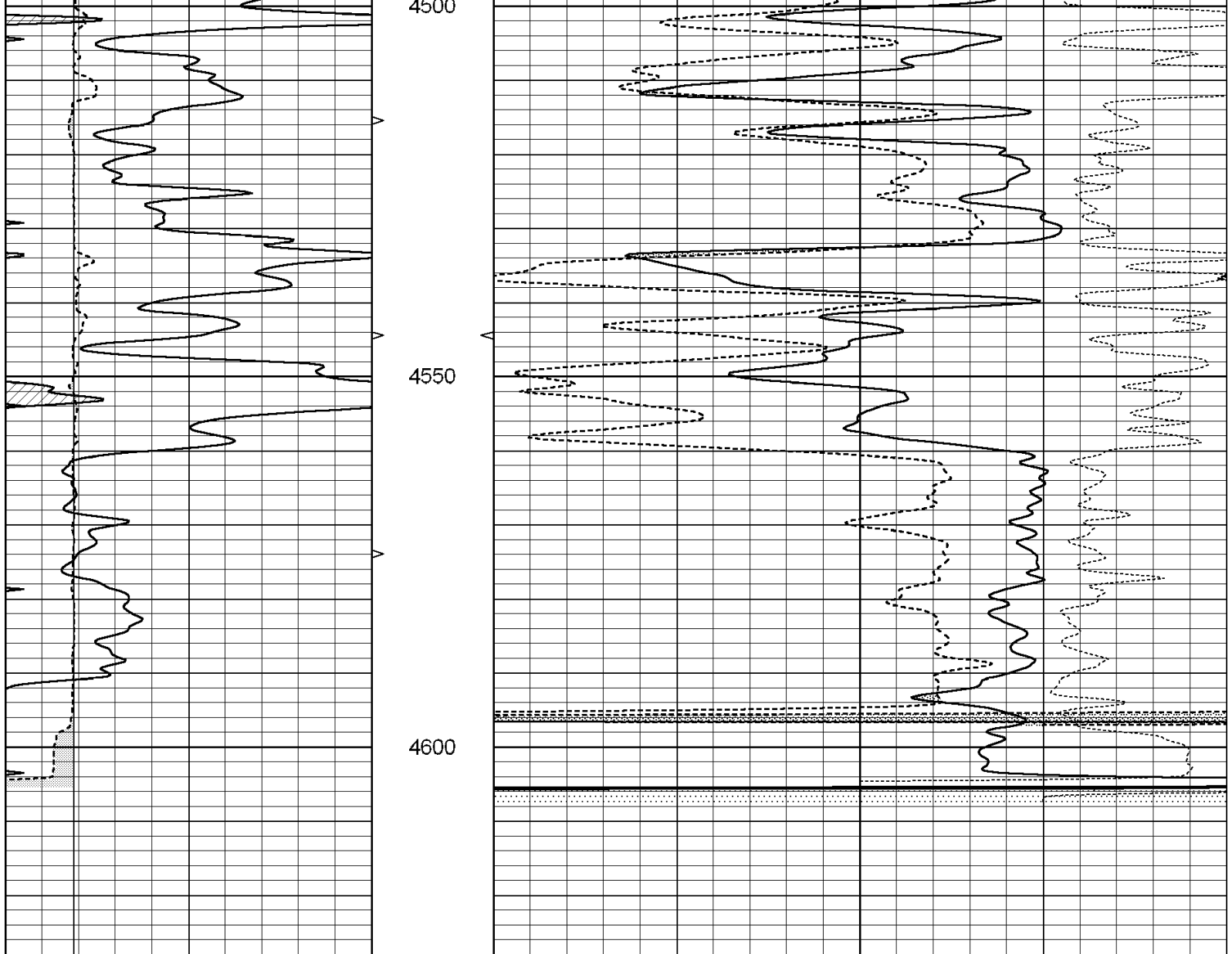
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		











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				

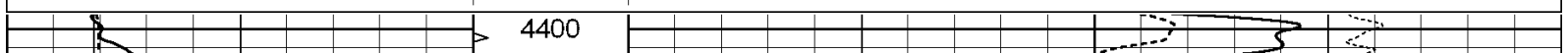


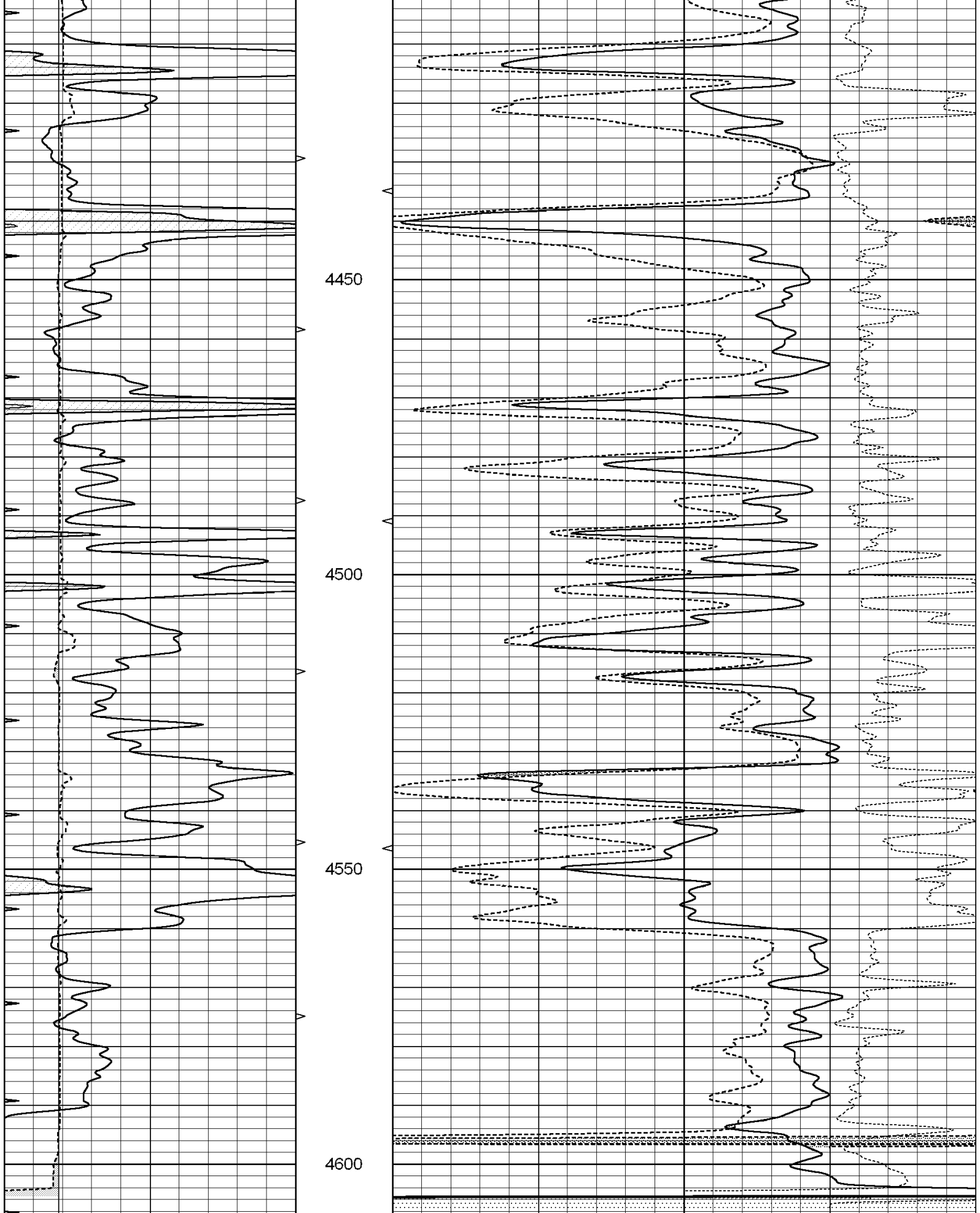
SUPERIOR  
Hays,  
Kansas

# REPEAT SECTION

Database File: 003123ddn.db  
 Dataset Pathname: pass3.1  
 Presentation Format: \_den\_neu  
 Dataset Creation: Sun Jul 12 15:31:42 2009 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			-0.25	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				-0.25	CORRECTION (g/cc)	0.25
			0 (ft3) 10						

### Calibration Report

Database File: 003123ddn.db  
Dataset Pathname: pass4.3  
Dataset Creation: Sun Jul 12 16:10:33 2009

### 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

Loop:	Readings				References			Results	
	Air	Loop			Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-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			
		-6.500	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: Fri Jan 16 10:06:35 2009

#### Master Calibration

	Density			Far Detector		Near Detector	
		g/cc			cps		cps
Magnesium	1.710	g/cc	1358.55	649.93	cps		

Aluminum

2.580 g/cc

325.11

479.52 cps

Spine Angle = 78.00

Density/Spine Ratio = 0.595

	Size		Reading	
Small Ring	8.50	in	3.56	V
Large Ring	14.00	in	6.65	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: GR6  
 Tool Model: OPEN  
 Performed: Thu Jul 09 09:06:42 2009

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 276.0 cps

Sensitivity: 0.6835 GAPI/cps