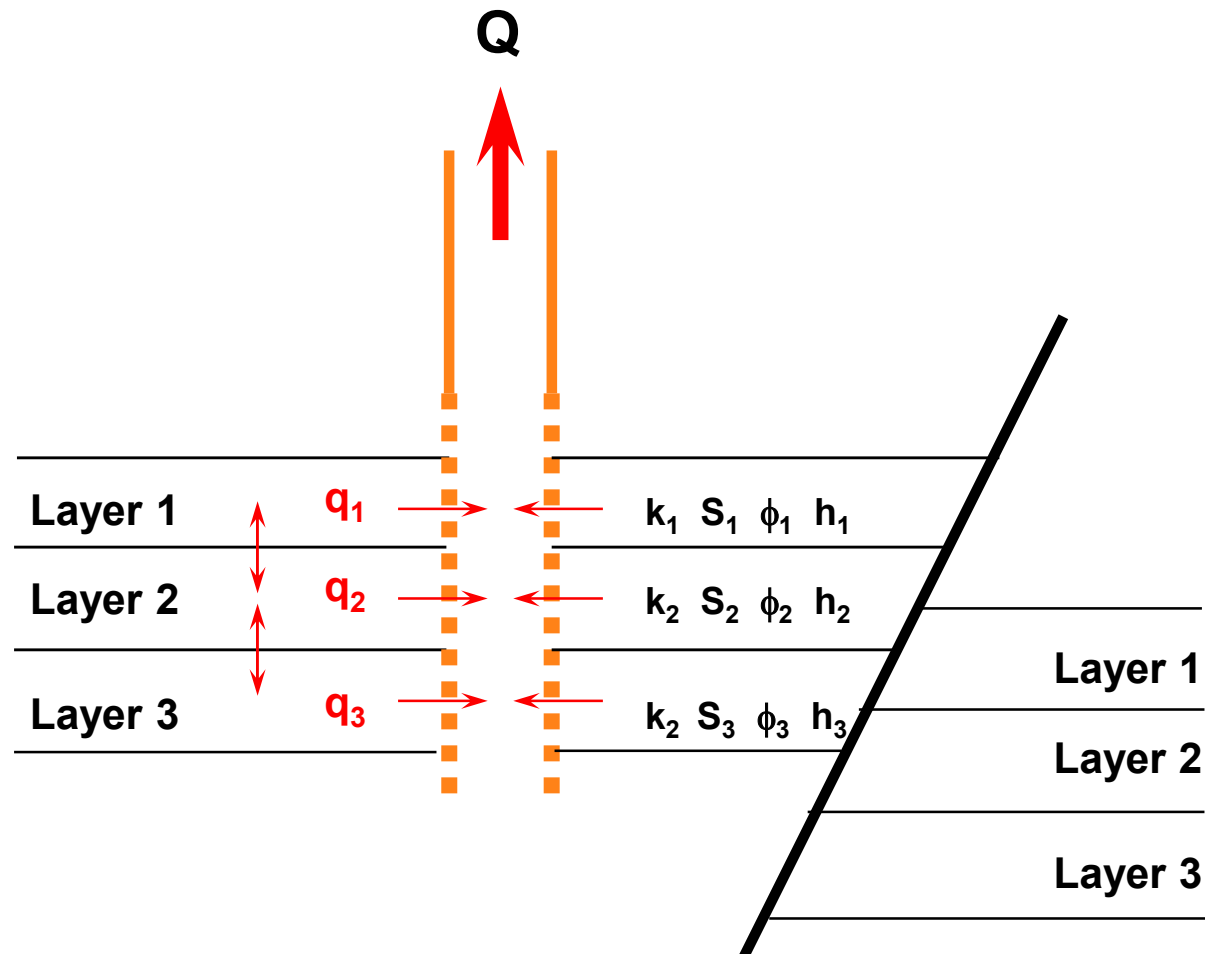


WELL TEST INTERPRETATION MODELS

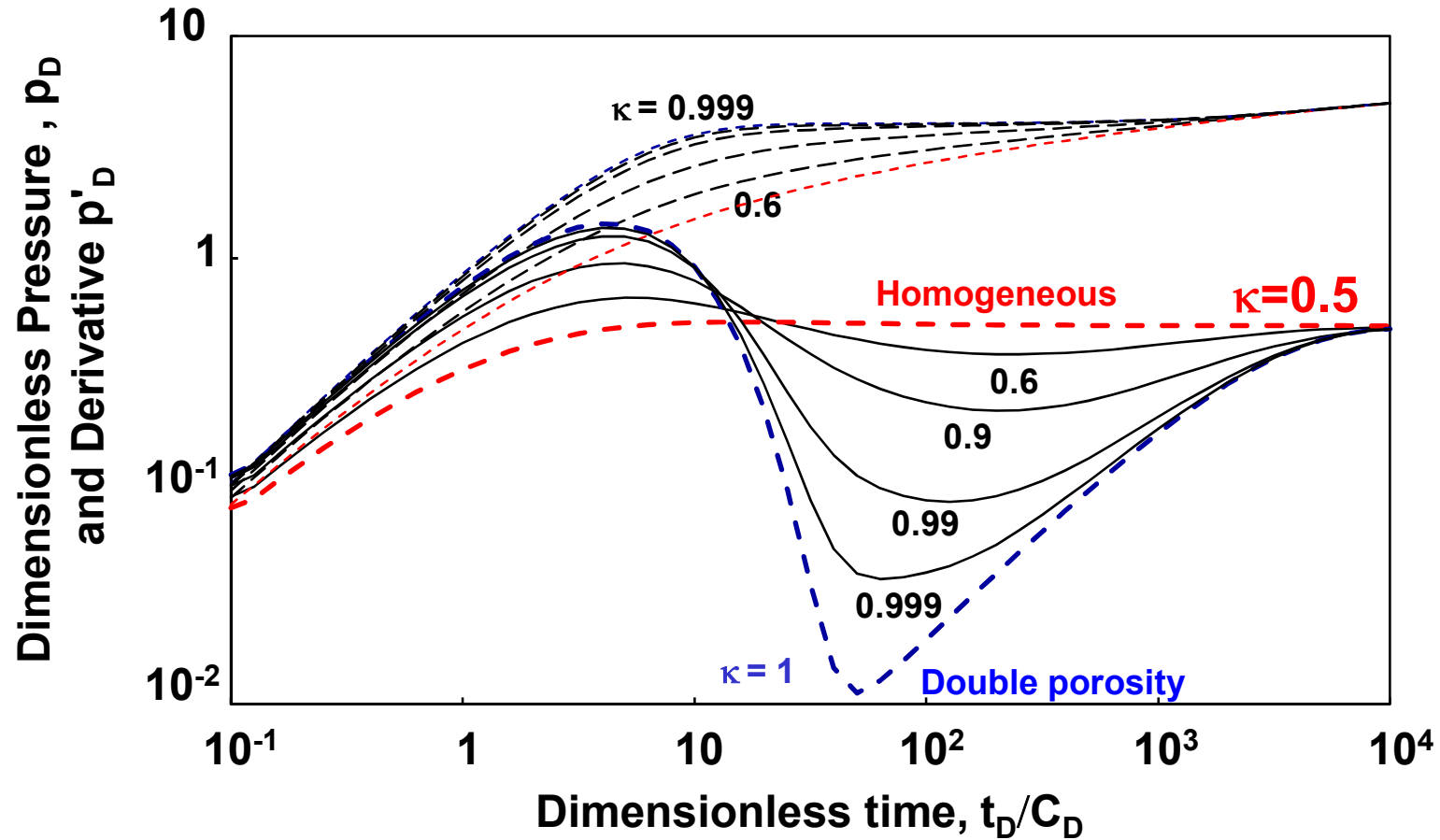
NEAR WELLBORE EFFECTS	RESERVOIR BEHAVIOUR	BOUNDARY EFFECTS
Wellbore Storage Skin Fracture Partial Penetration Horizontal Well	Homogeneous Heterogeneous -2-Porosity -2-Permeability -Composite	Infinite extent Specified Rate Specified Pressure Leaky Boundary
EARLY TIMES	MIDDLE TIMES	LATE TIMES

MULTILAYERED RESERVOIR



DOUBLE PERMEABILITY BEHAVIOUR

Bourdet SPE 13628 March 1985.



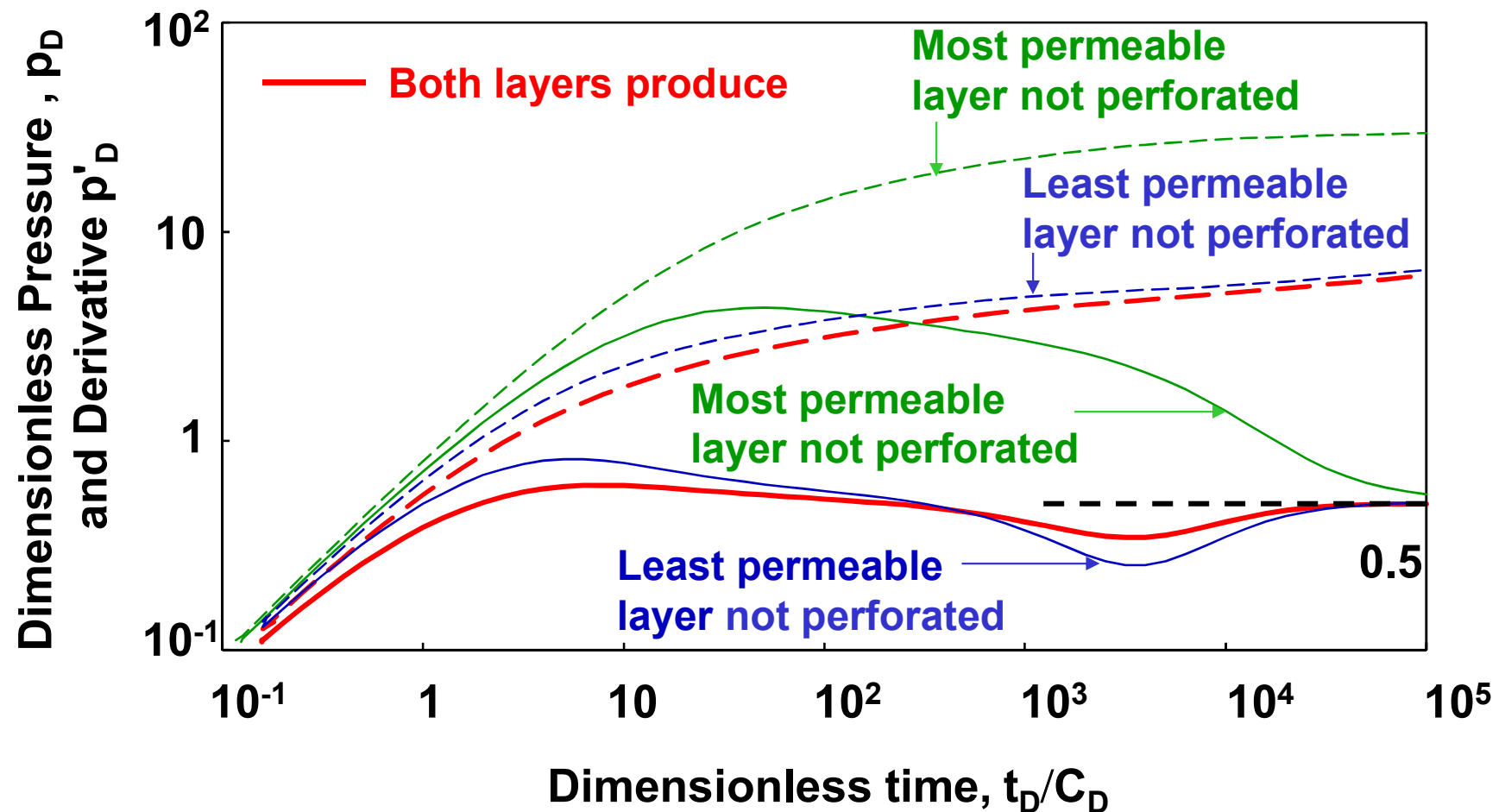
$$p_D = \frac{k_1 h_1 + k_2 h_2}{141.2 q B \mu_1} \Delta p$$

$$\frac{t_D}{C_D} = 0.000295 \frac{k_1 h_1 + k_2 h_2}{\mu} \frac{\Delta t}{C}$$

$$\kappa = \frac{k_1 h_1}{k_1 h_1 + k_2 h_2} = \frac{k_1 h_1}{k h_{\text{TOTAL}}}$$

MULTILAYERED RESERVOIR

Crossflow

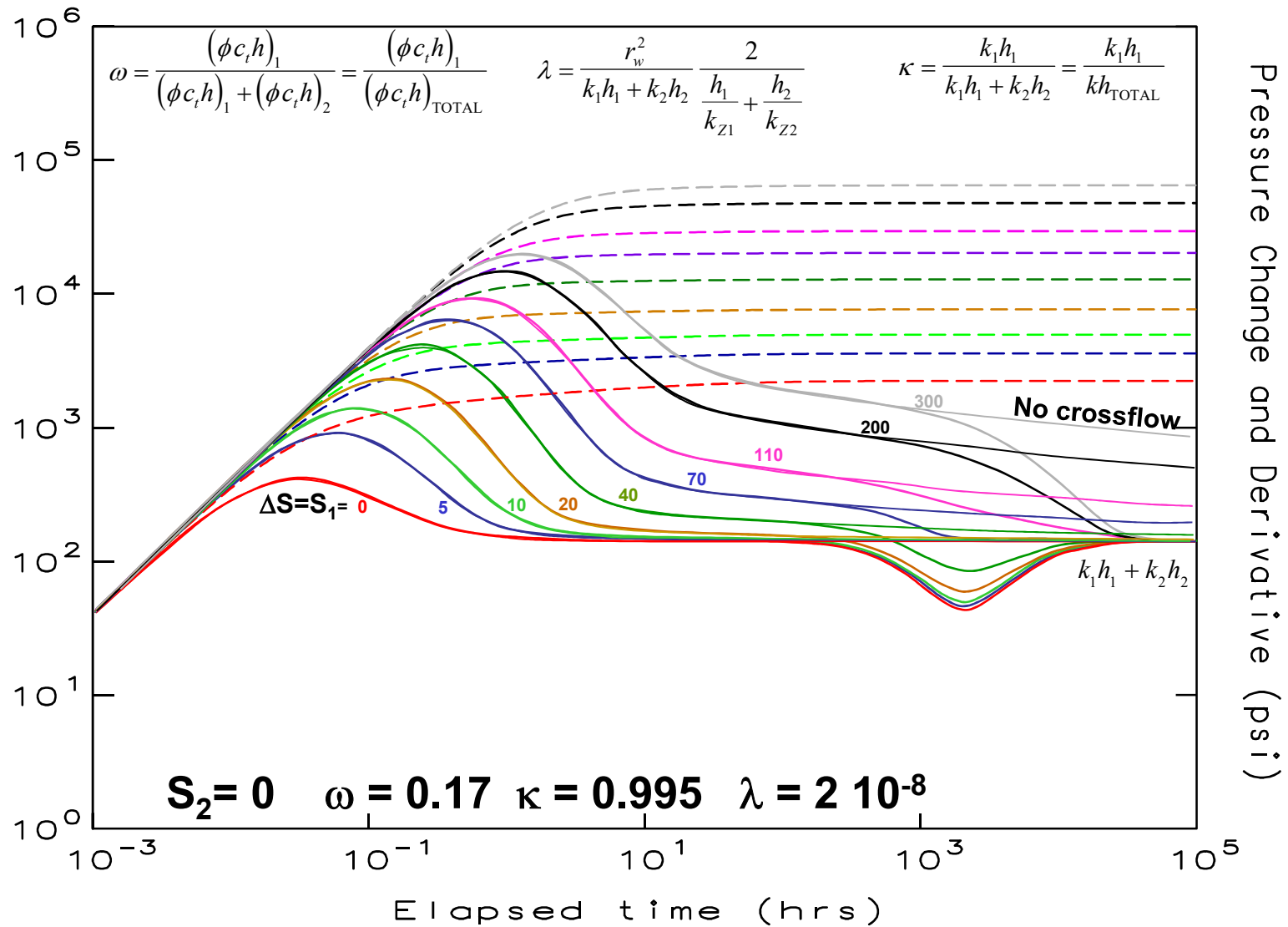


$$p_D = \frac{k_1 h_1 + k_2 h_2}{141.2 q B \mu_1} \Delta p$$

$$\frac{t_D}{C_D} = 0.000295 \frac{k_1 h_1 + k_2 h_2}{\mu} \frac{\Delta t}{C}$$

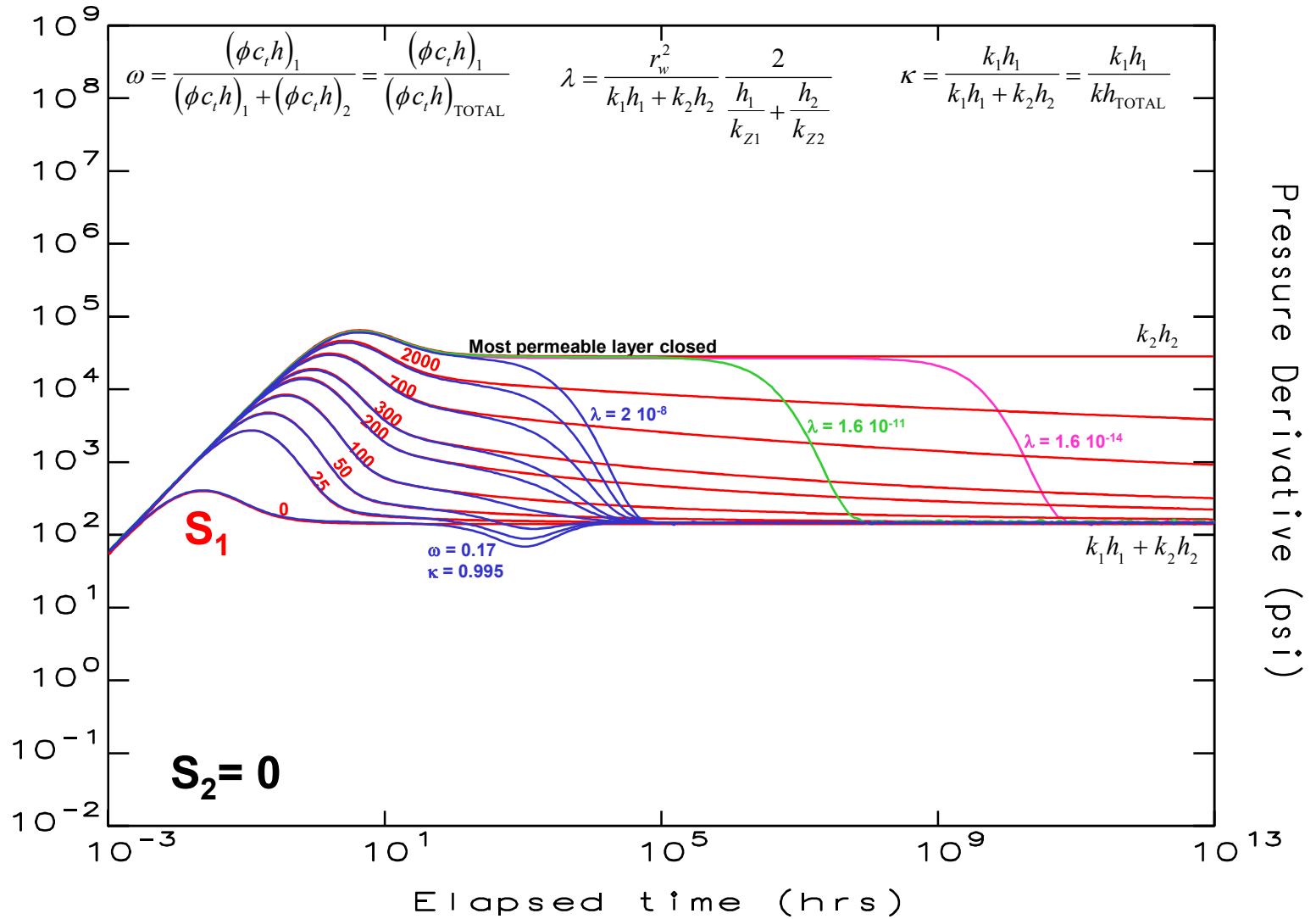
MULTILAYERED RESERVOIR

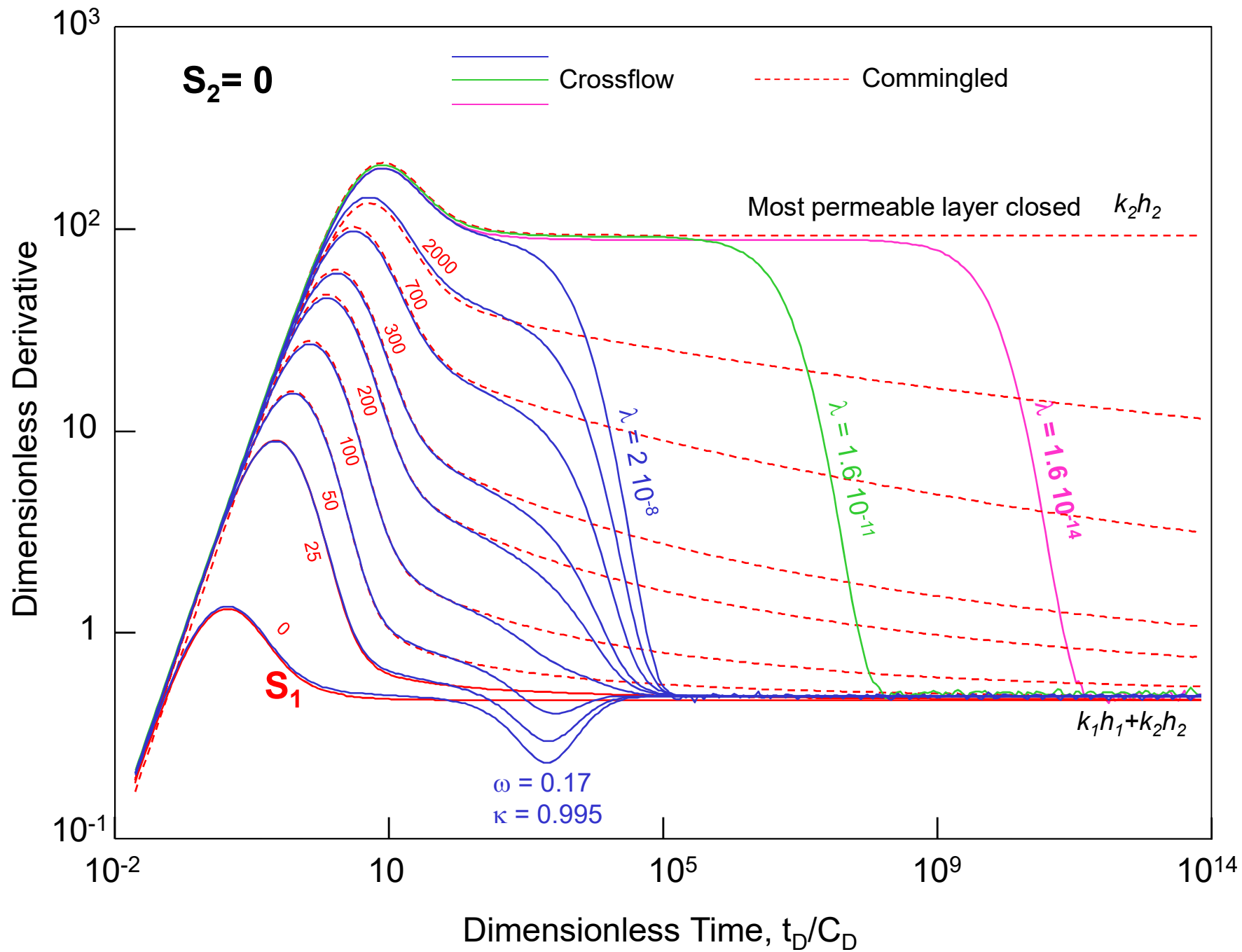
Crossflow



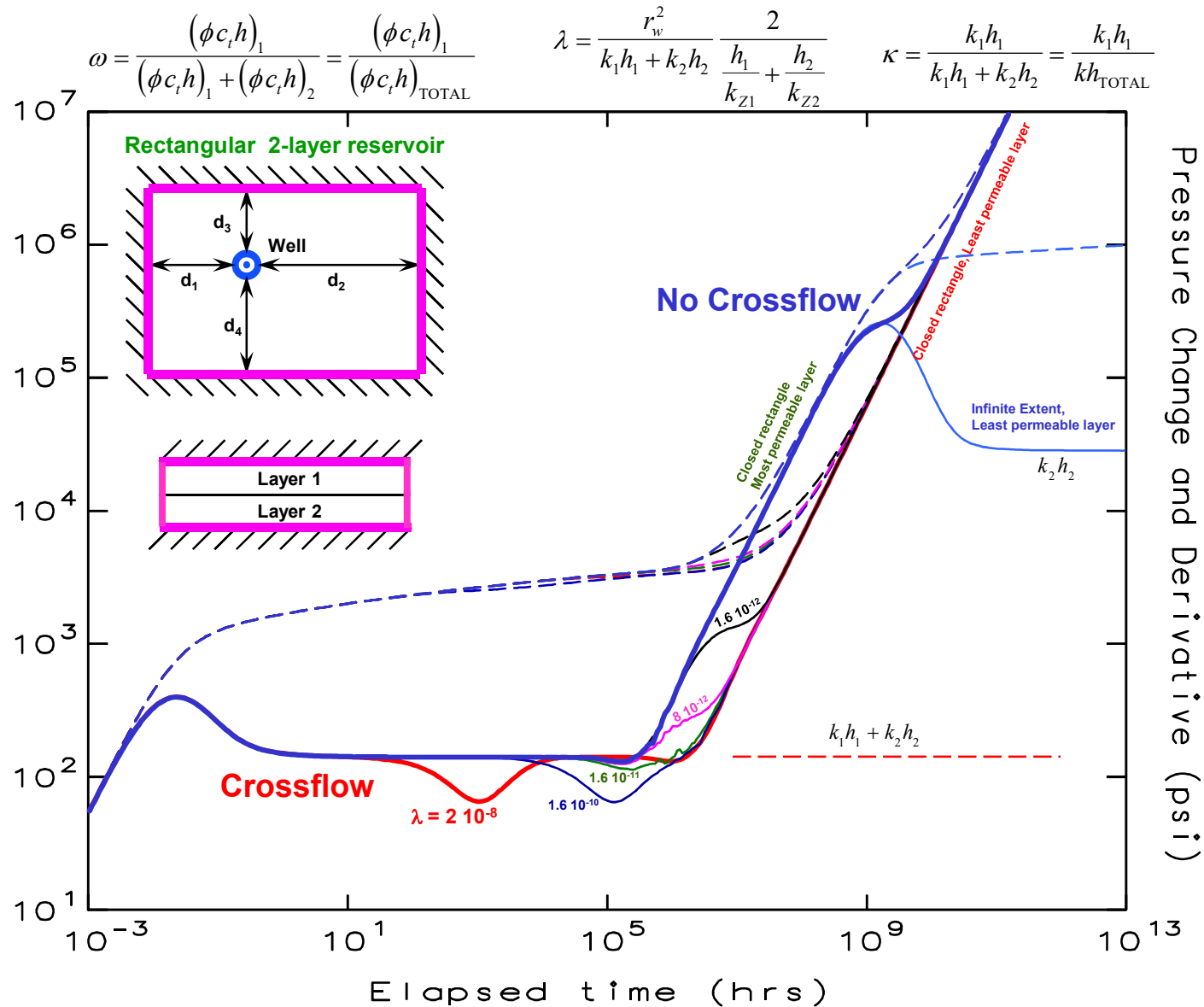
MULTILAYERED RESERVOIR

No Crossflow



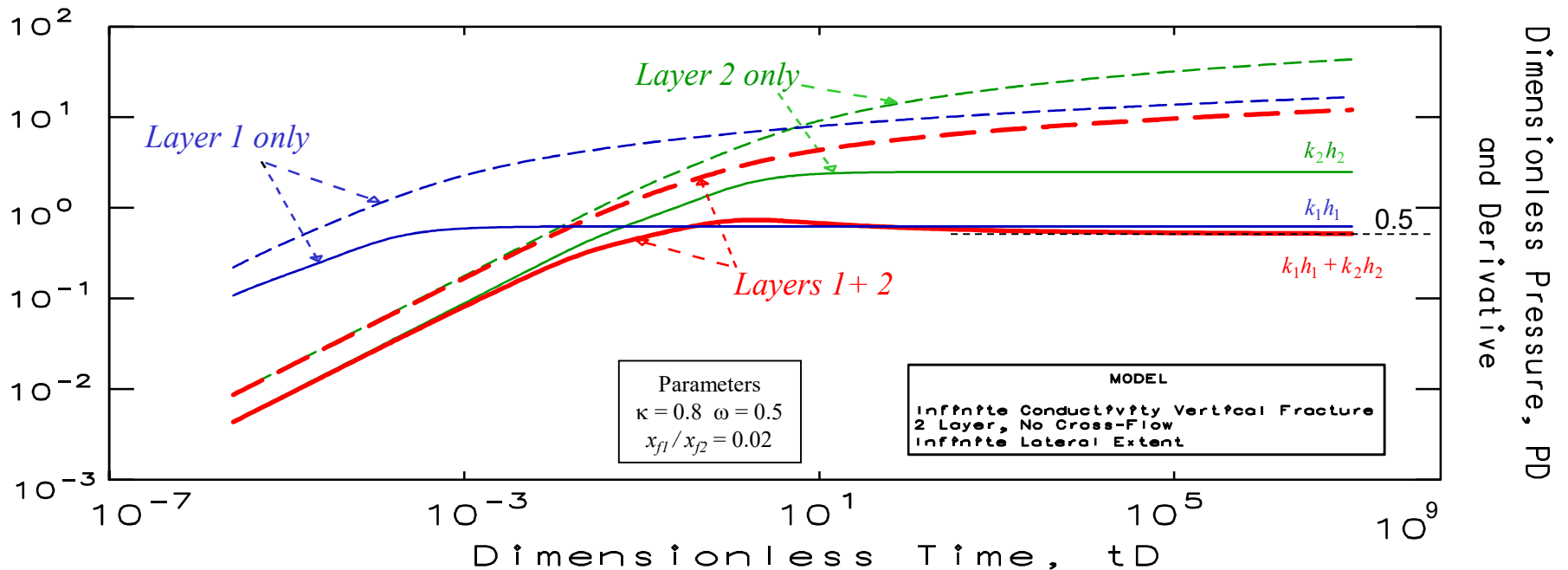


MULTILAYERED CLOSED RESERVOIR

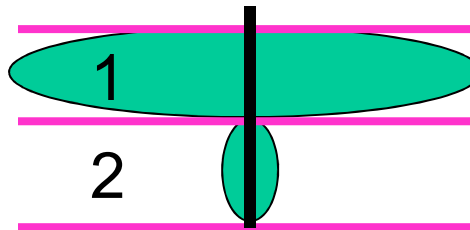


MULTILAYERED RESERVOIR

Fractured well, 2 layers, no crossflow



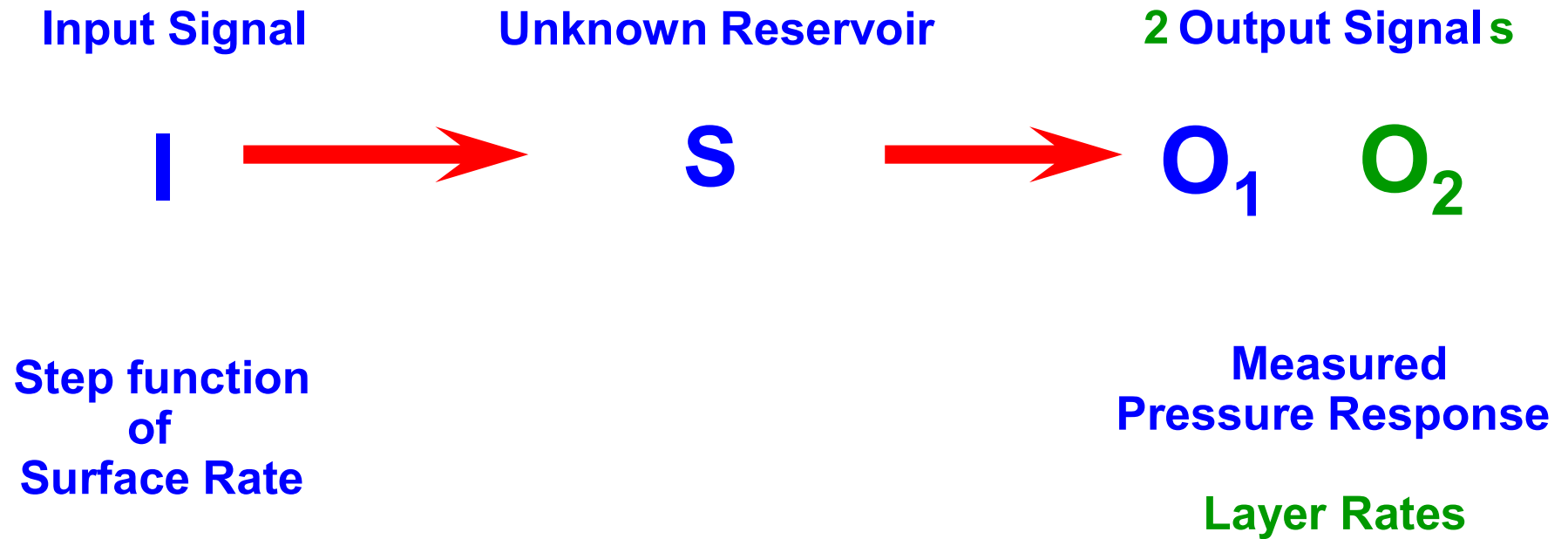
$$p_D = \frac{k_1 h_1 + k_2 h_2}{141.2 q B \mu_1} \Delta p$$

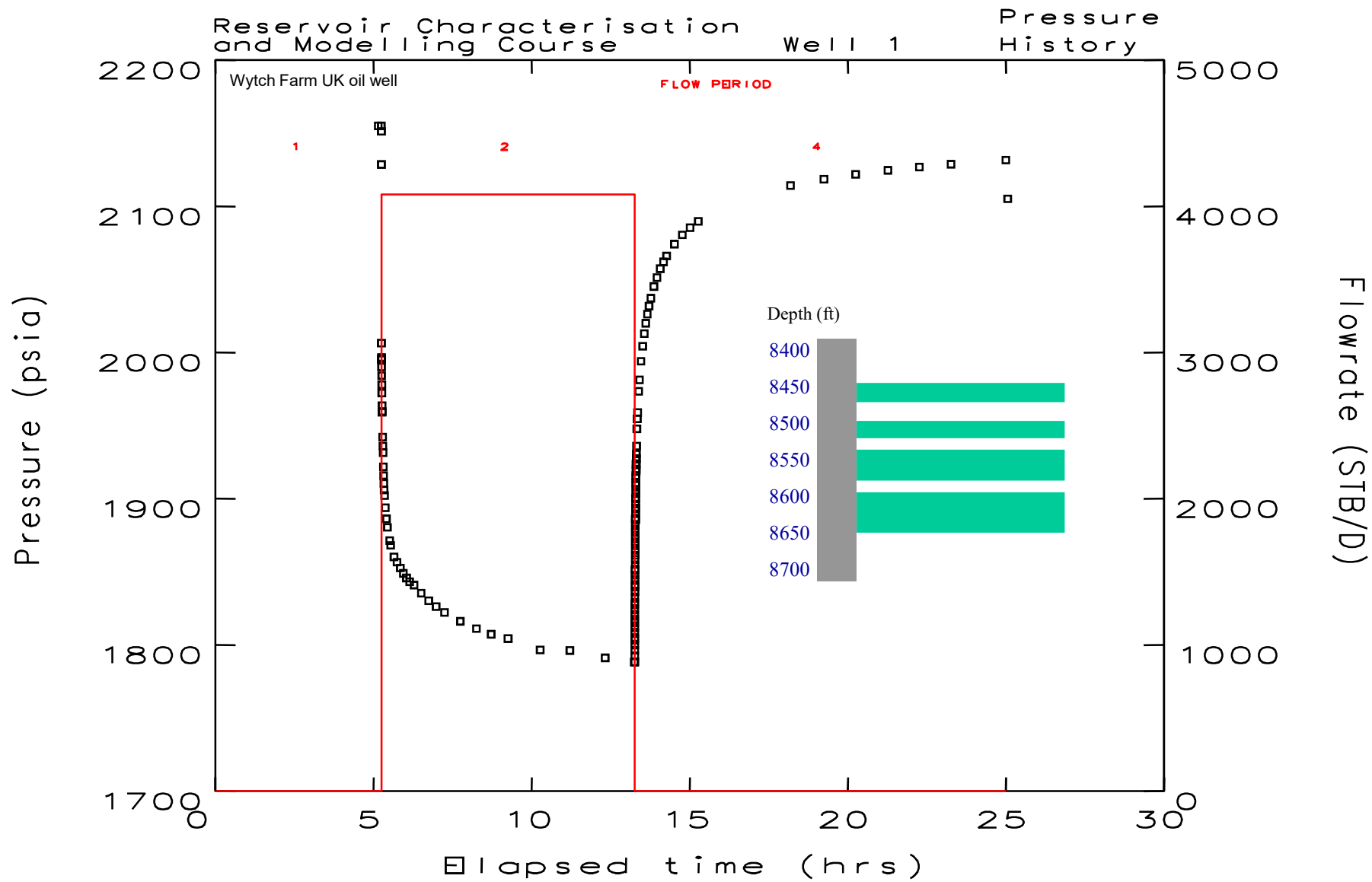


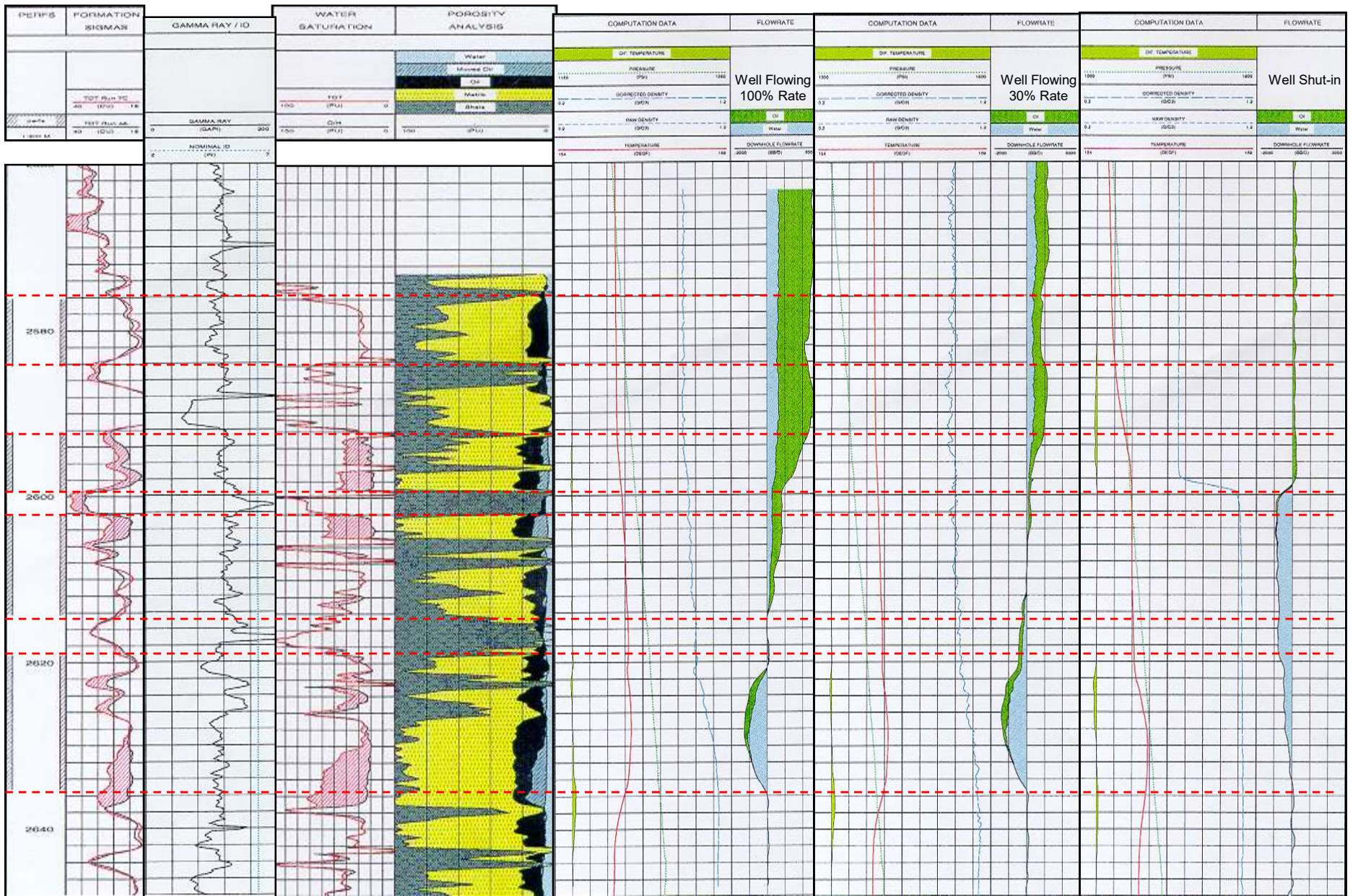
$$t_{Df} = 0.000264 \frac{k_1 h_1 + k_2 h_2}{\phi \mu c_t} \frac{\Delta t}{x_f^2}$$

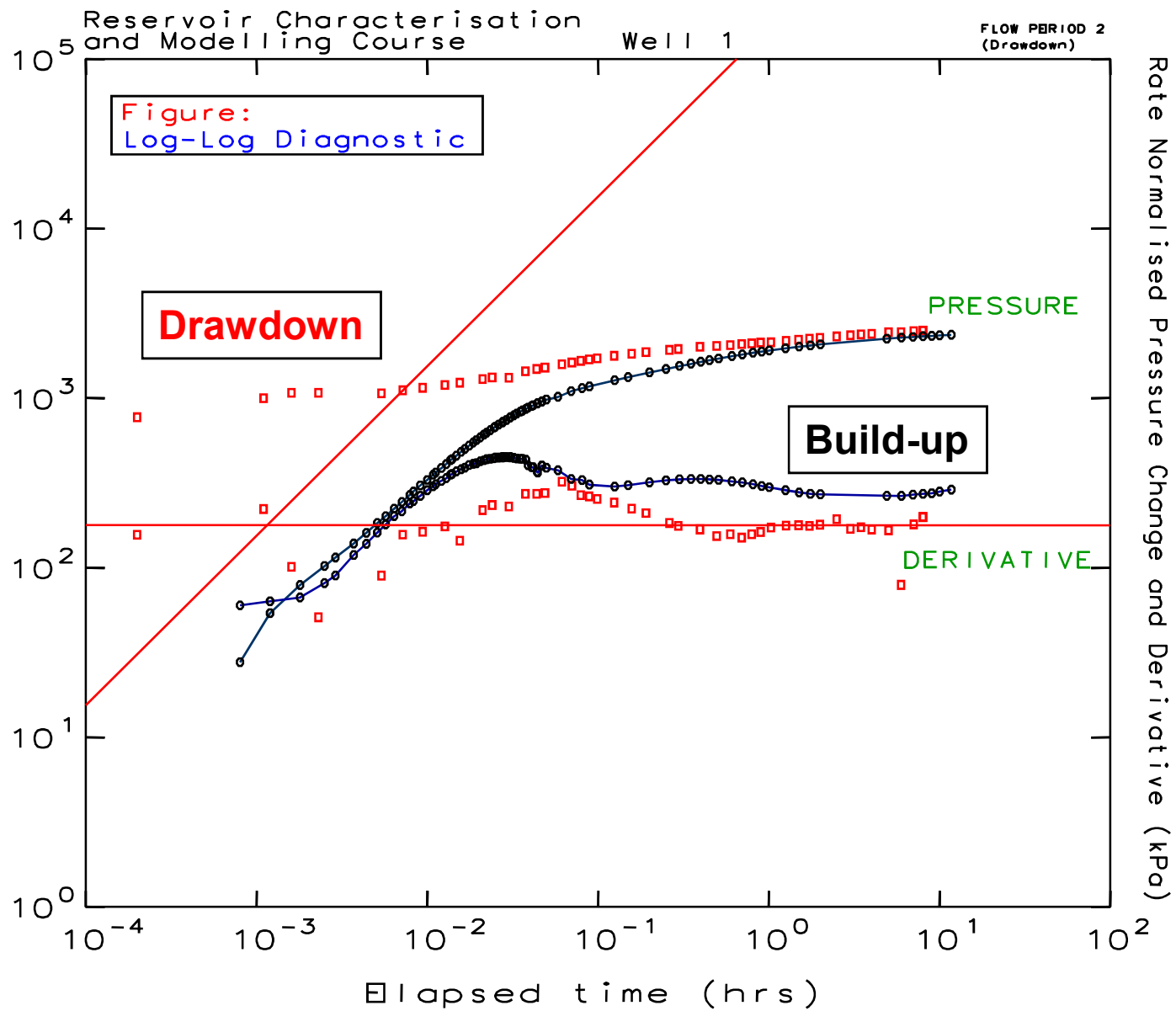
WELL TEST ANALYSIS

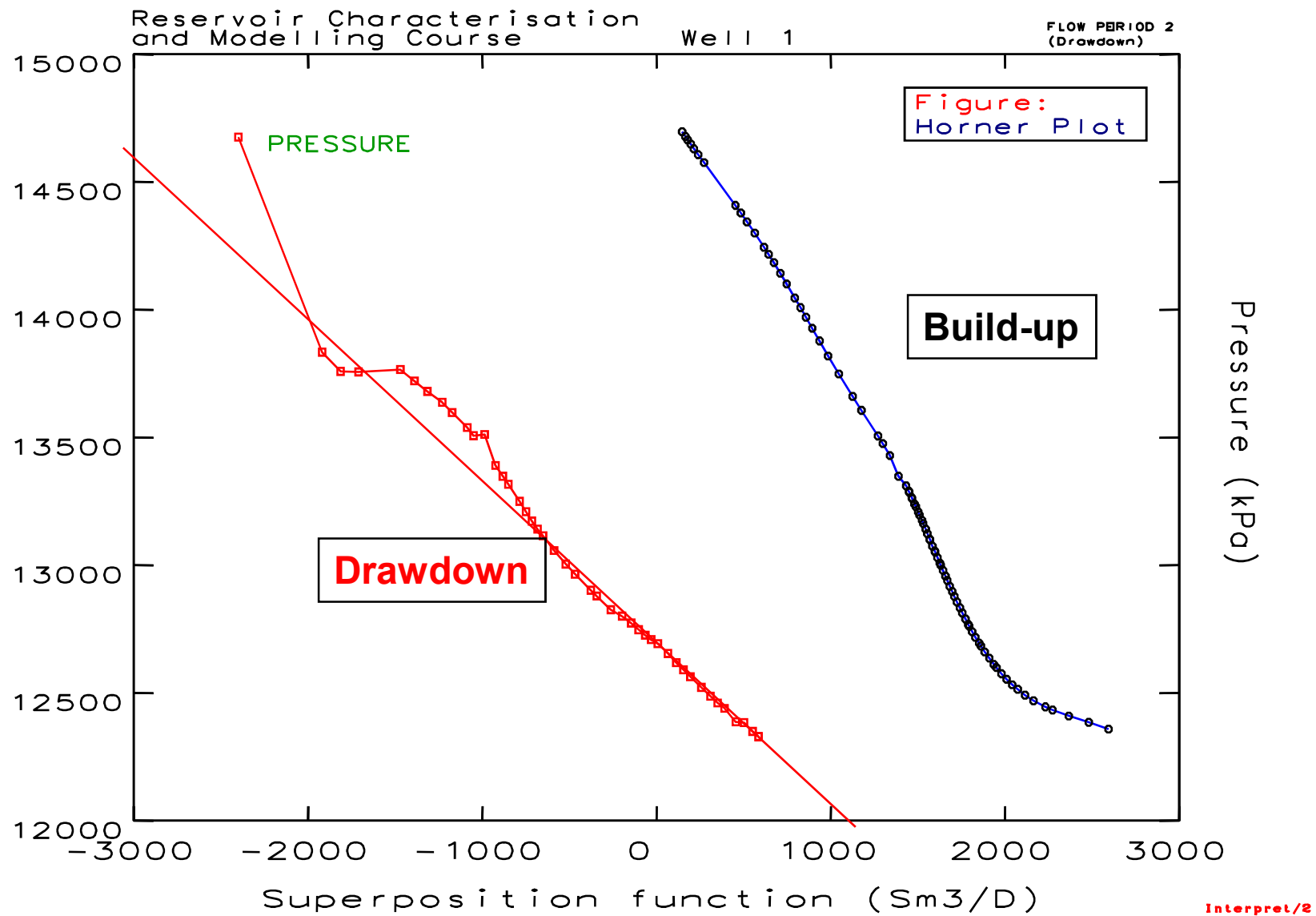
Multilayered Reservoir

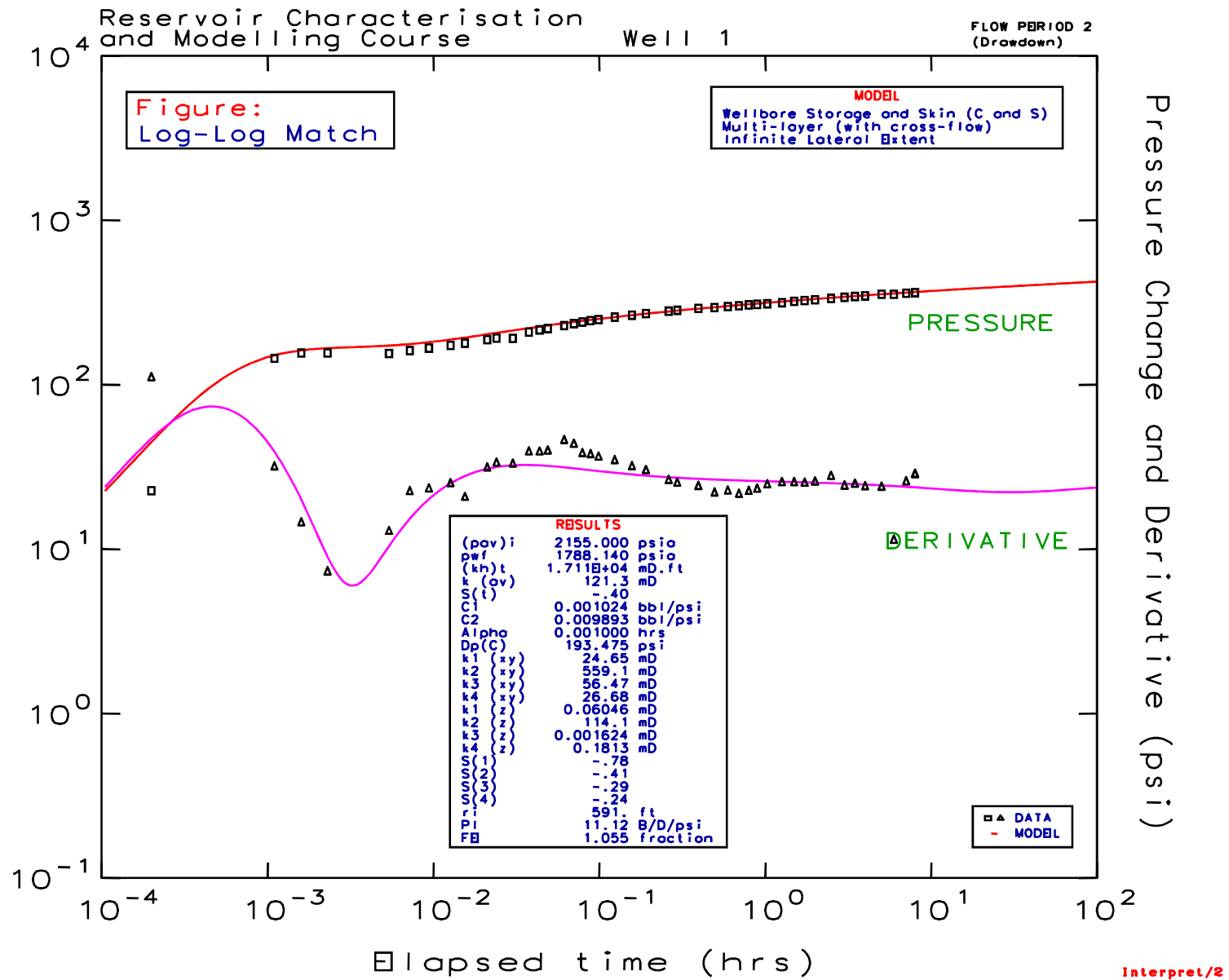


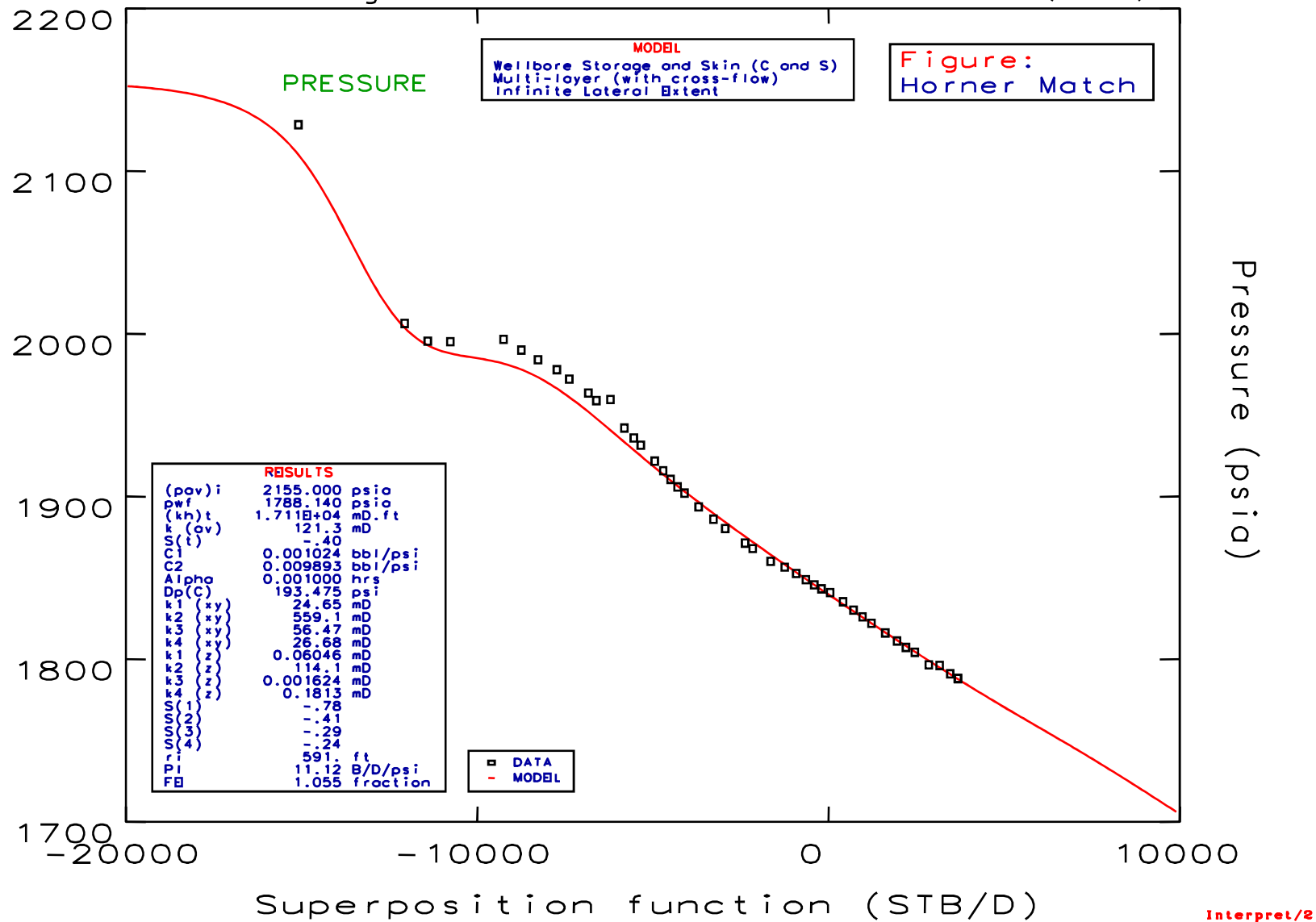


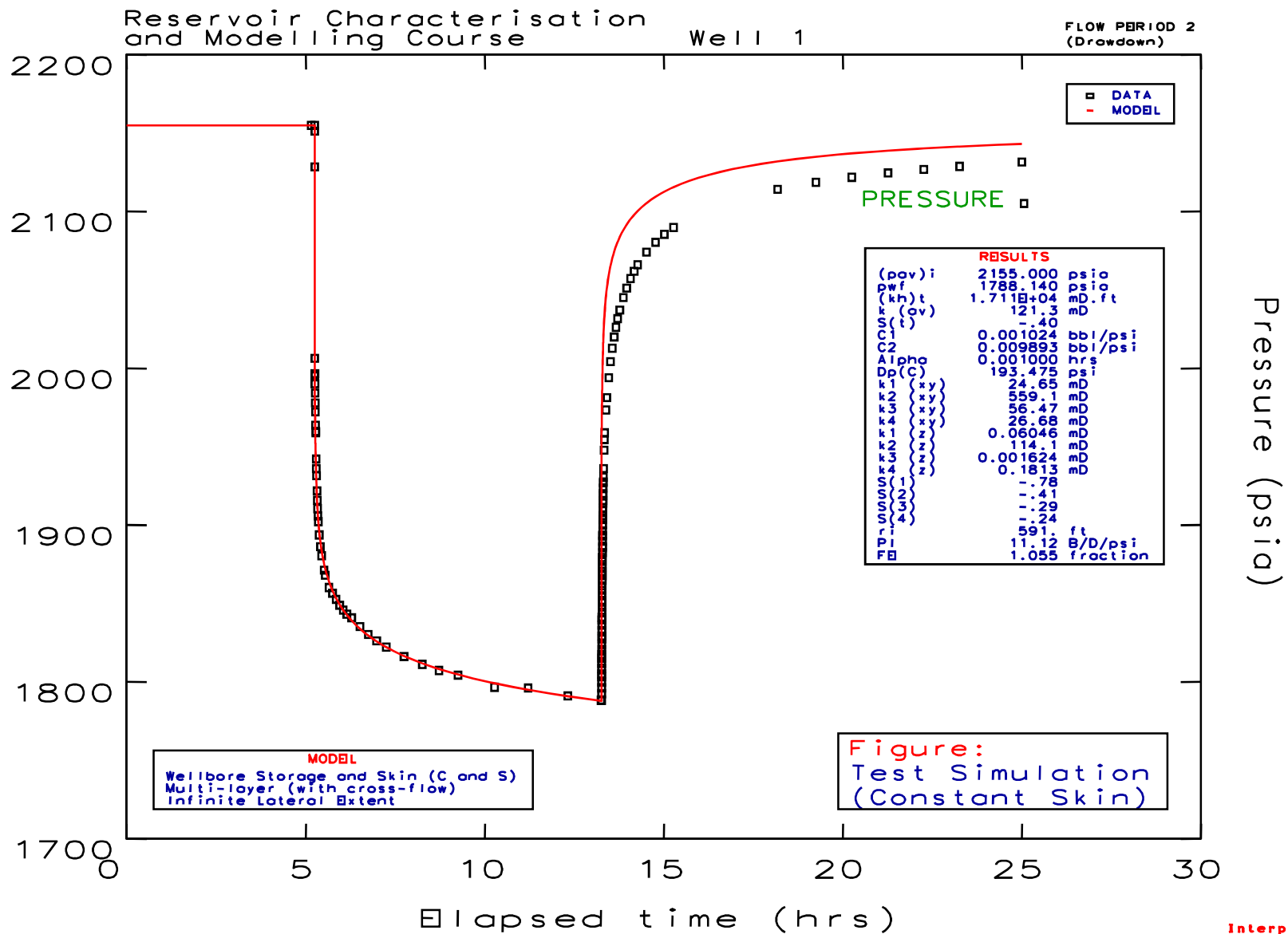




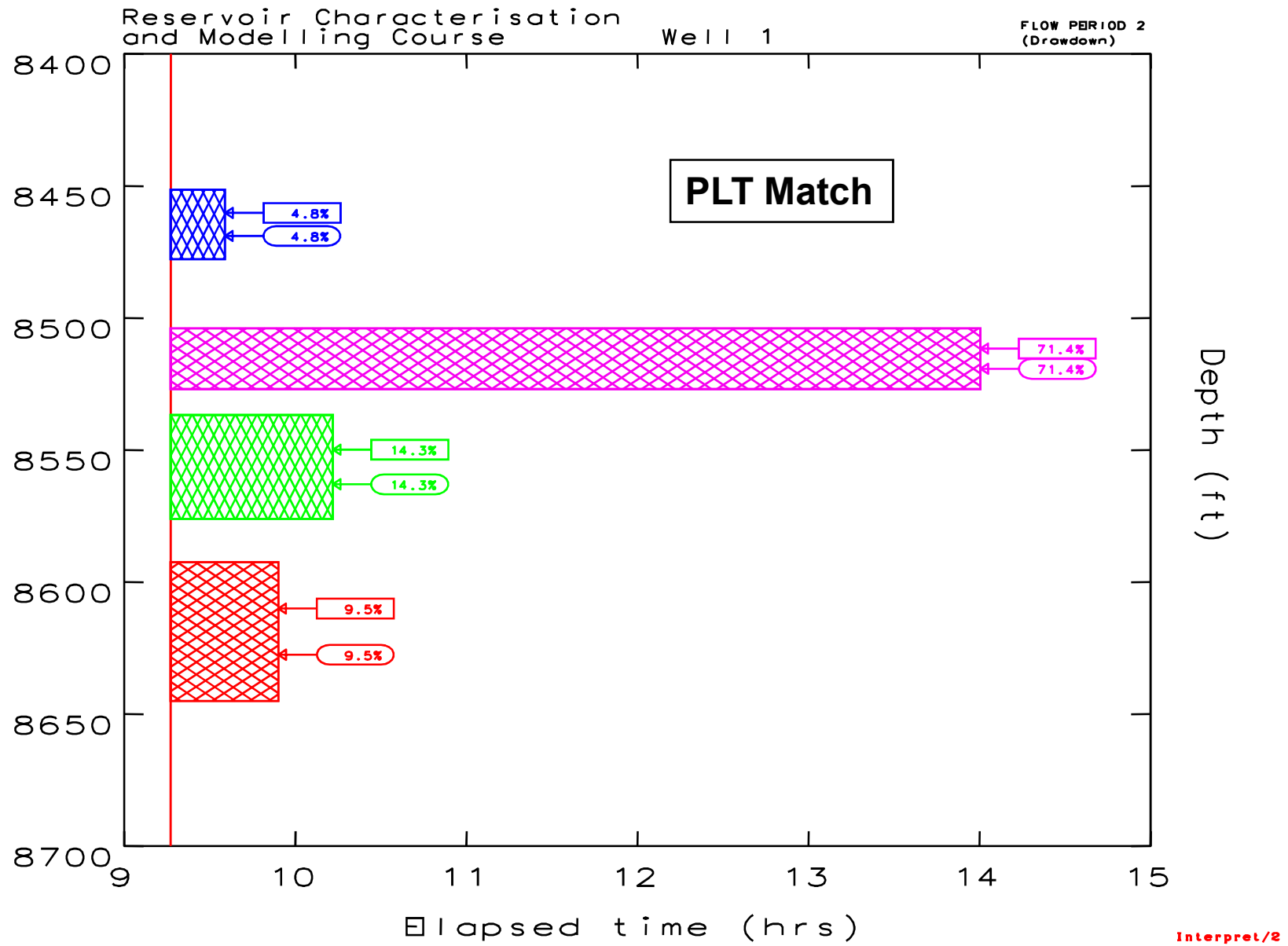


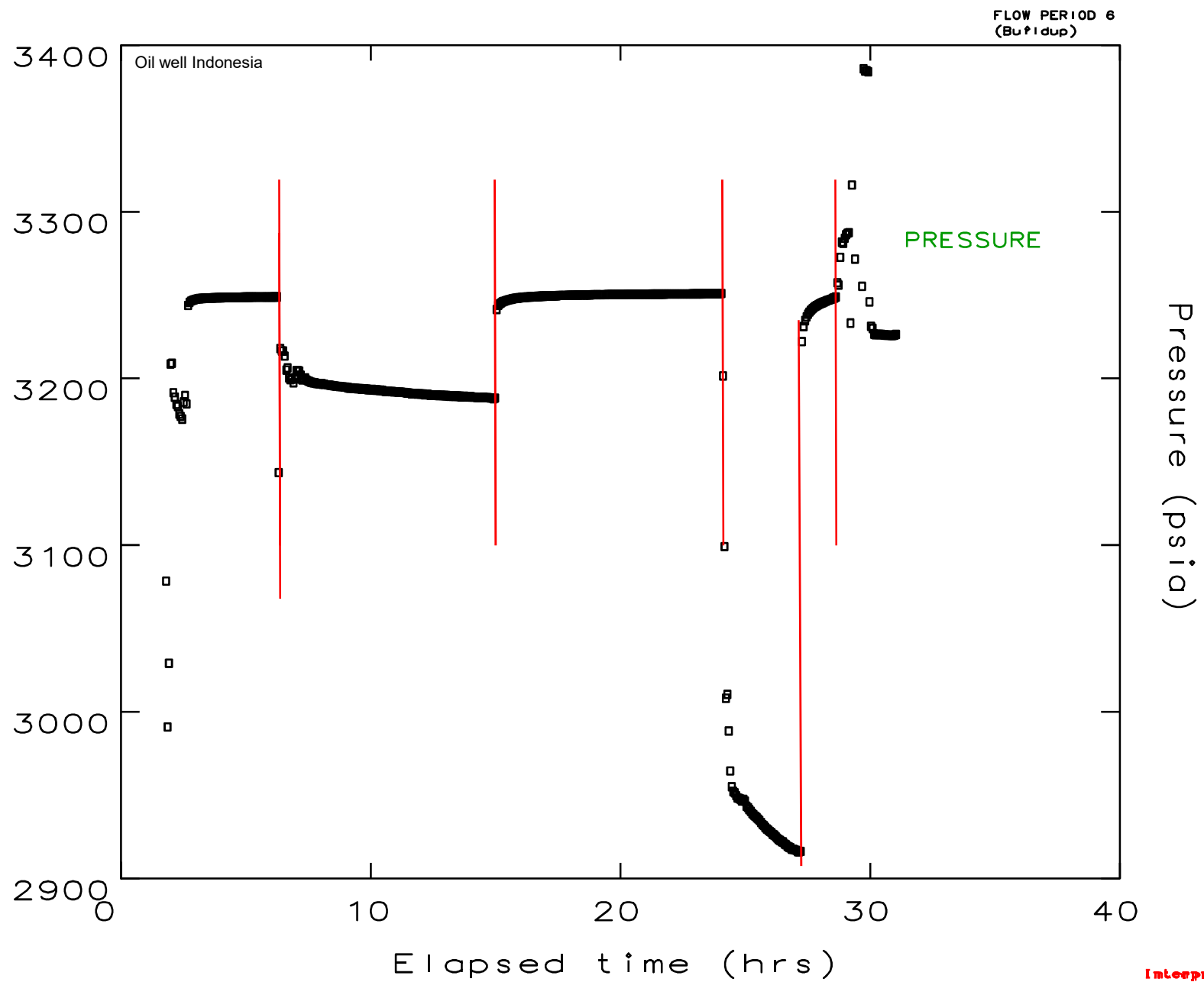


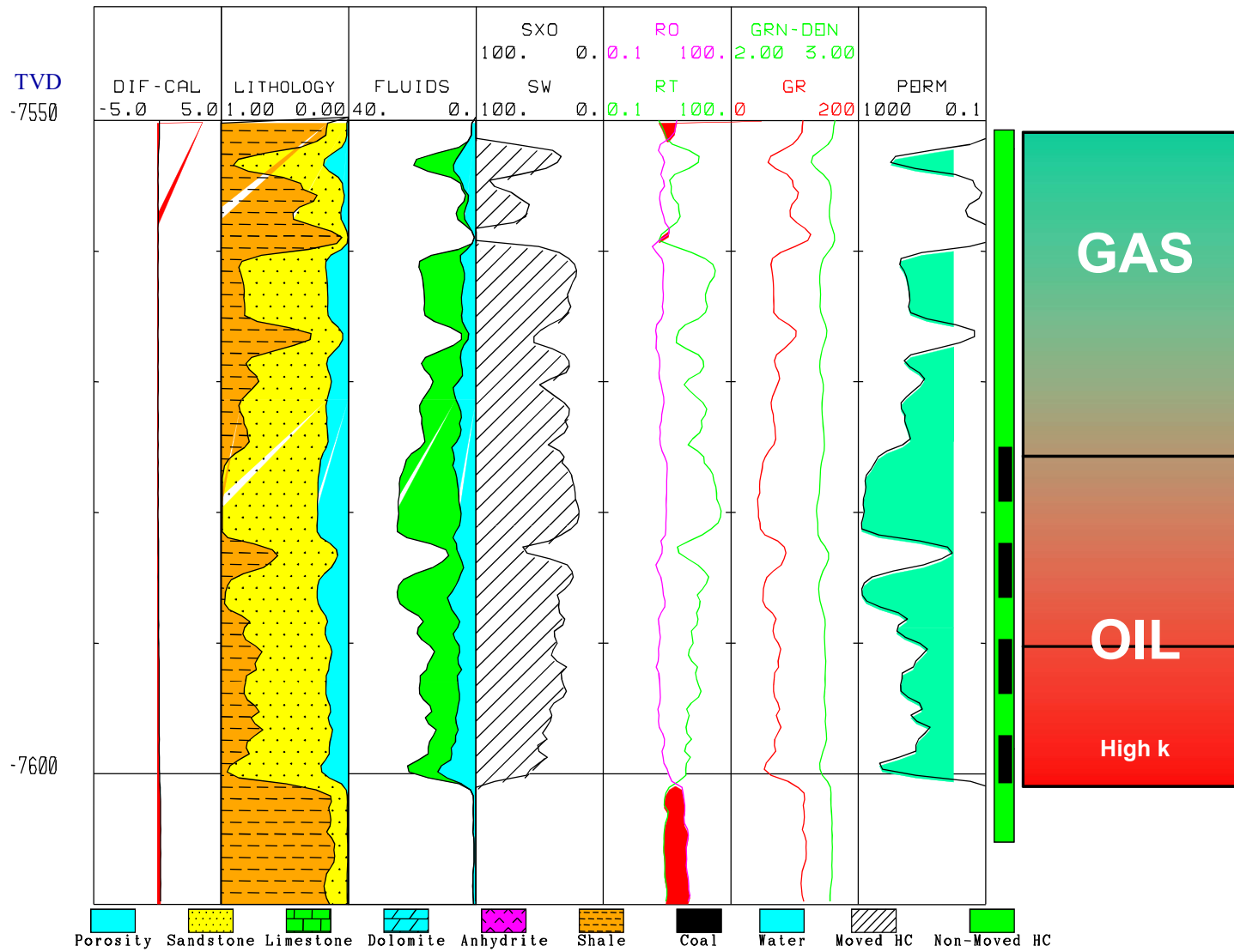


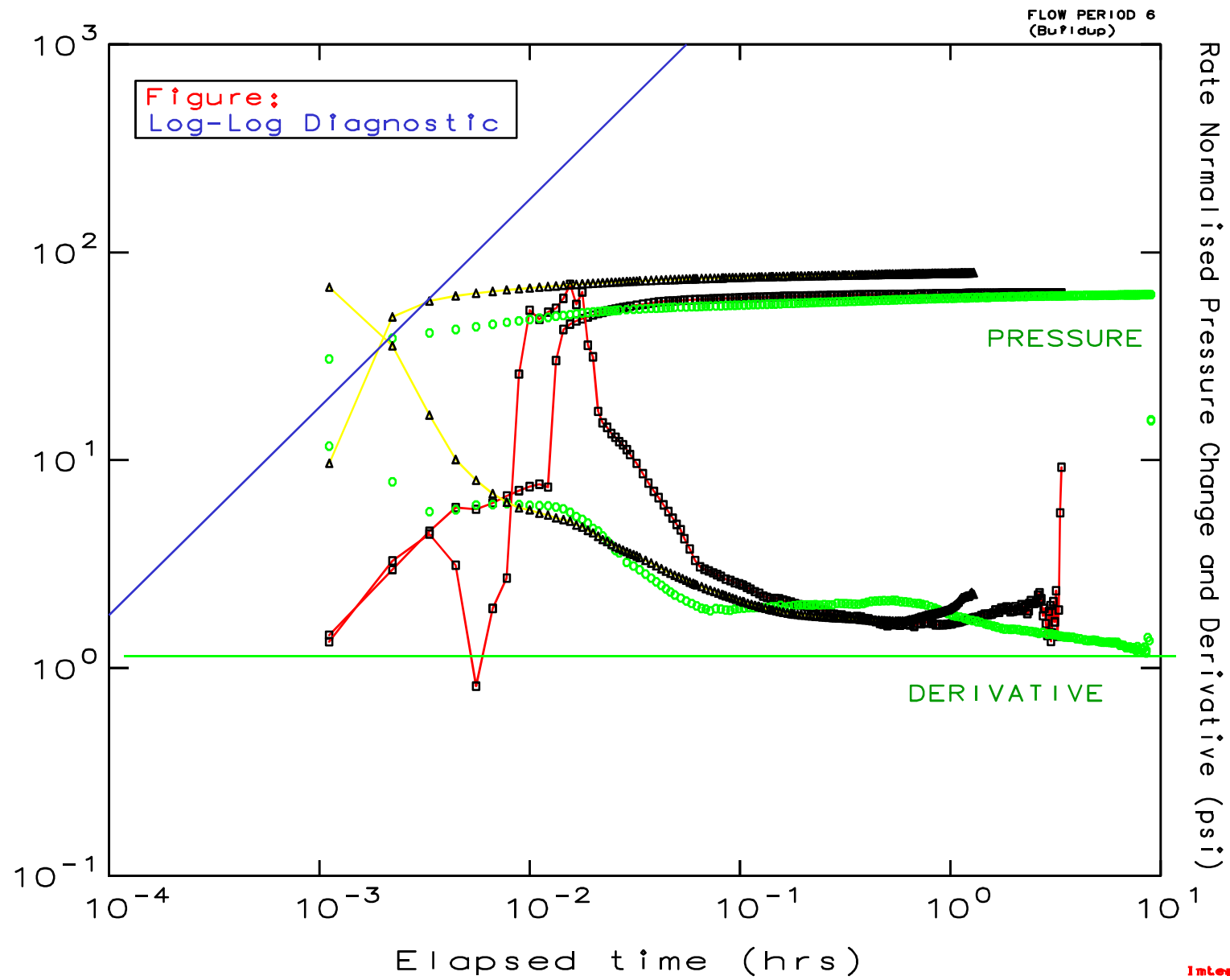


Interpret/2

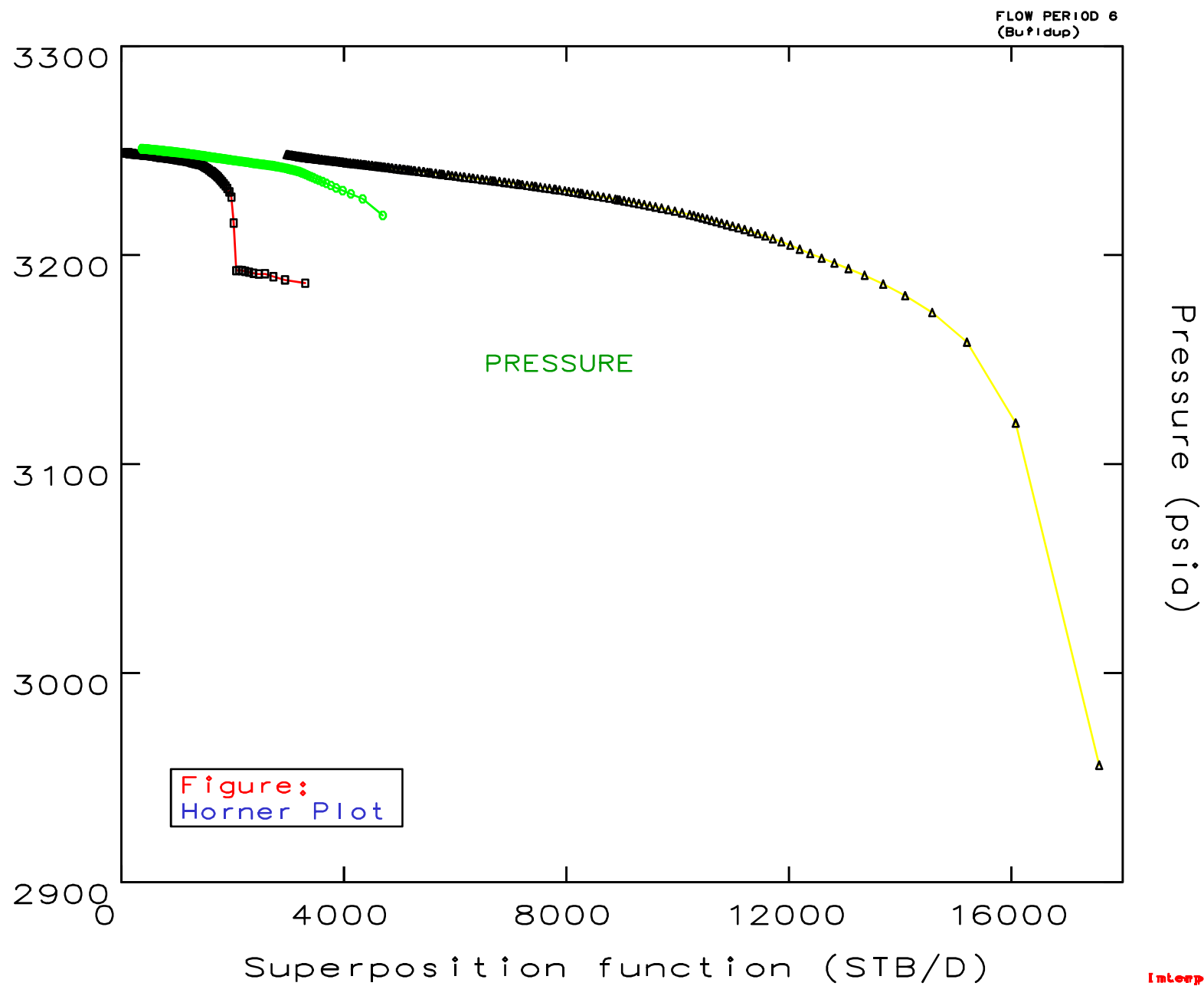


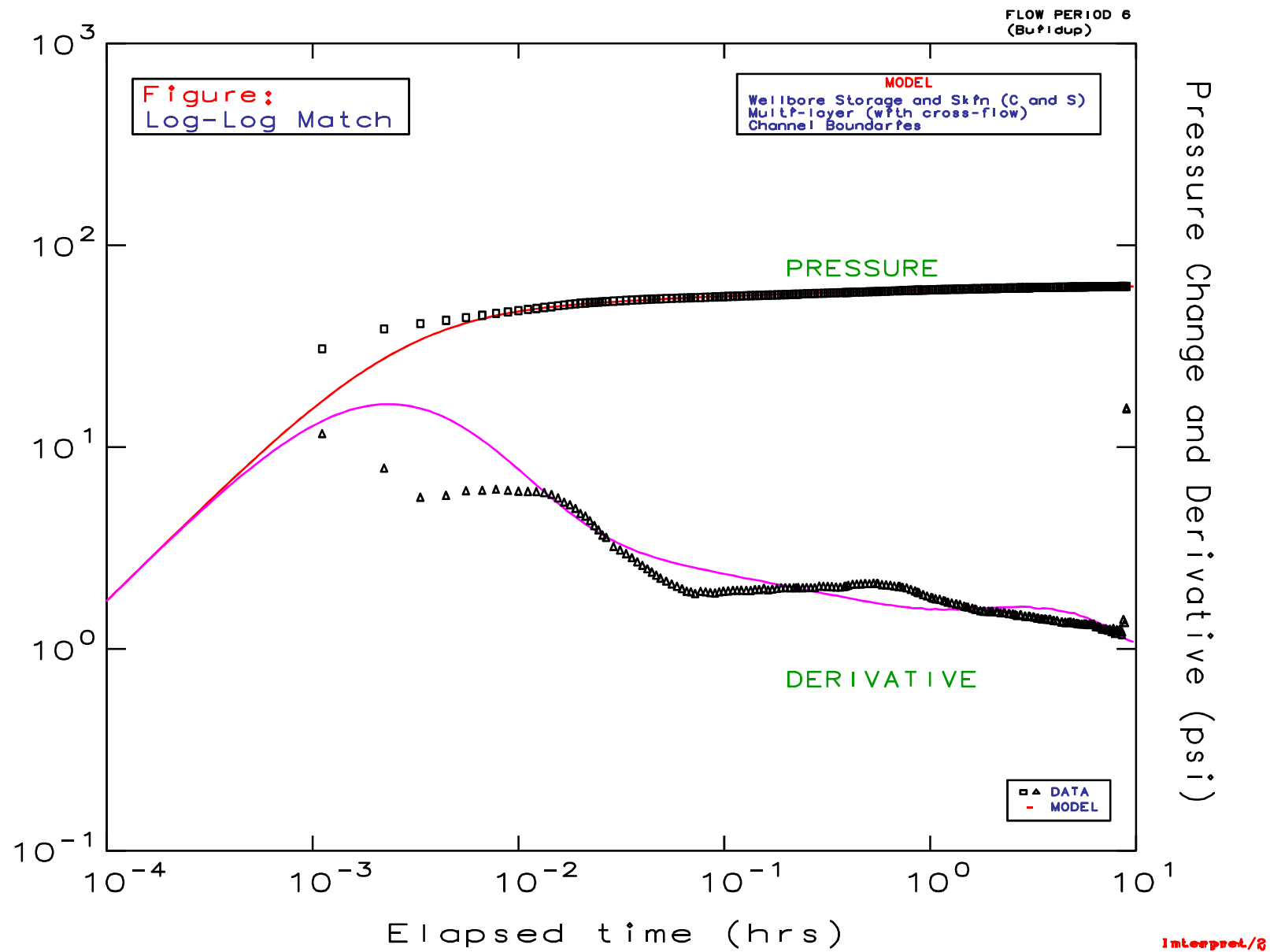


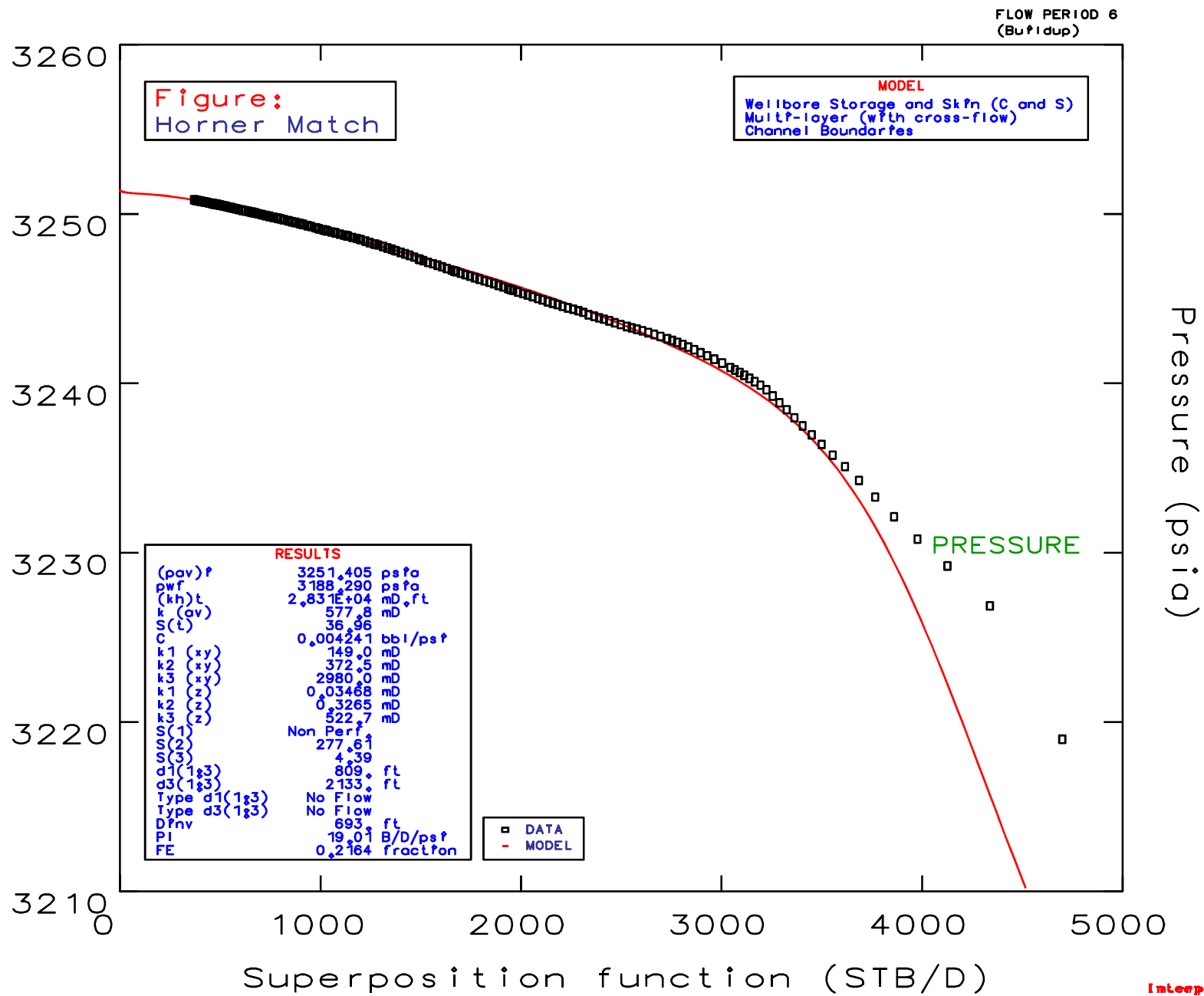




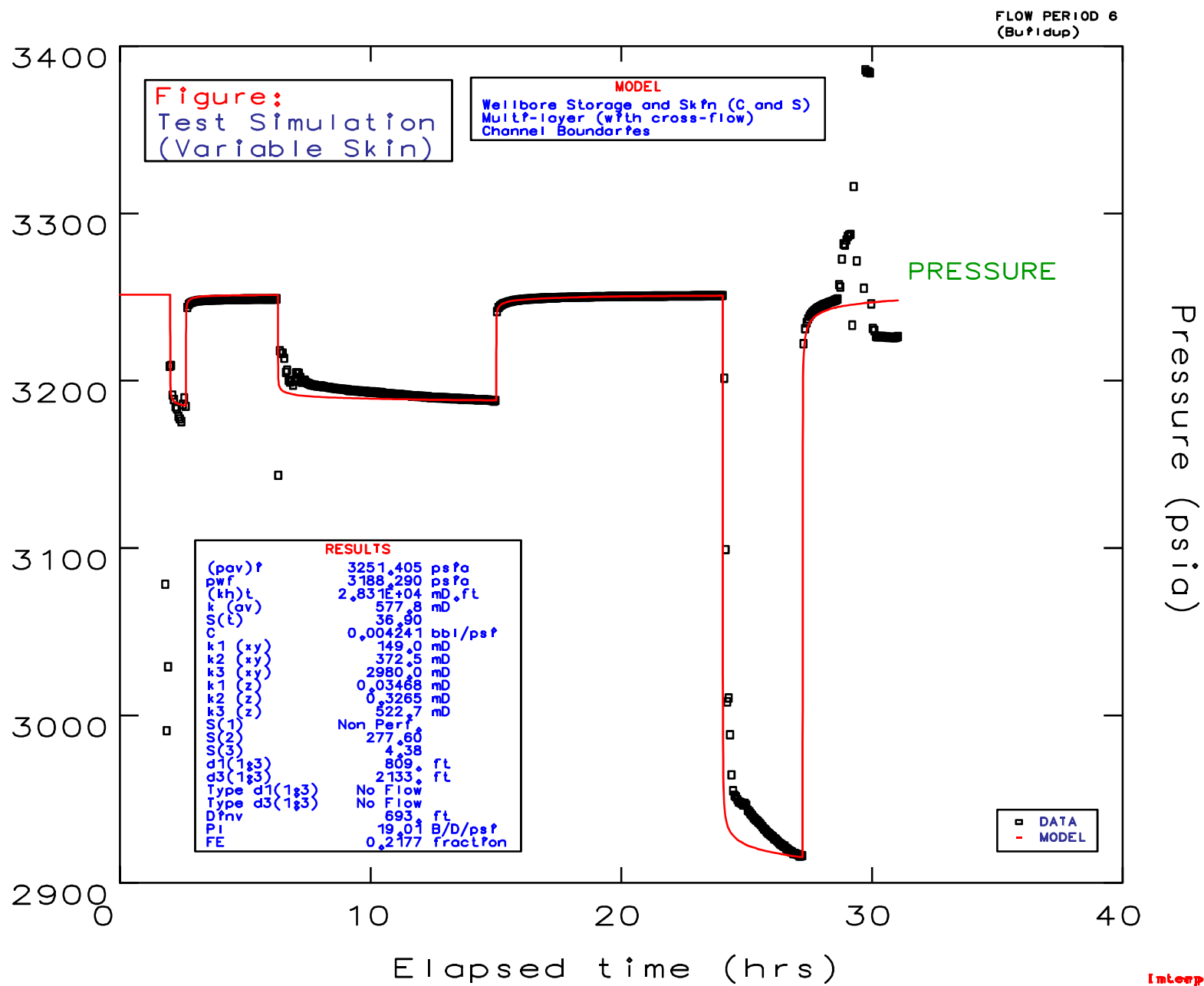
Interpret/8







Interpret/2



Interpret/2