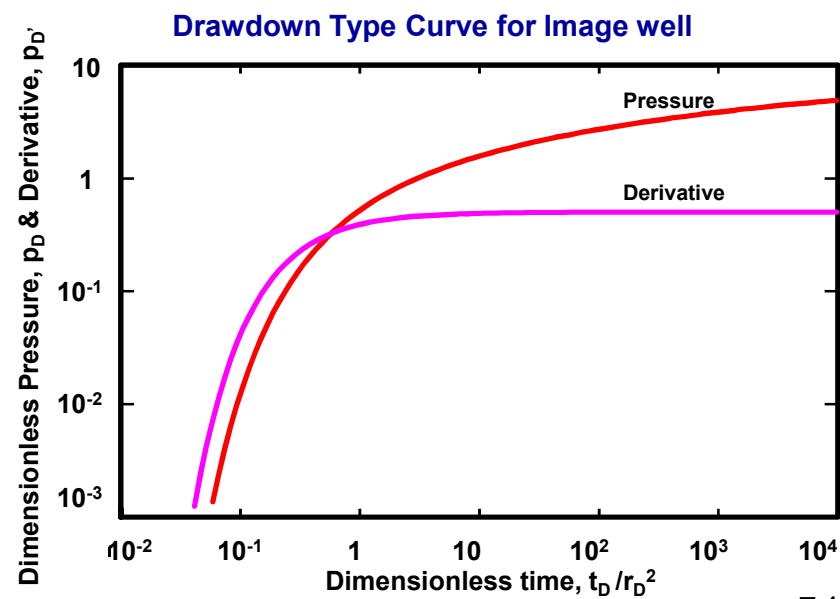
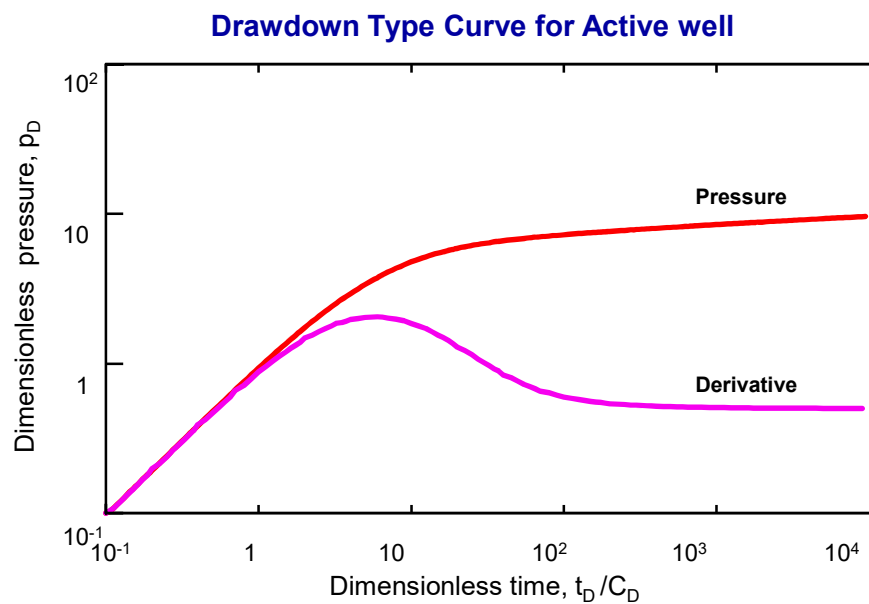
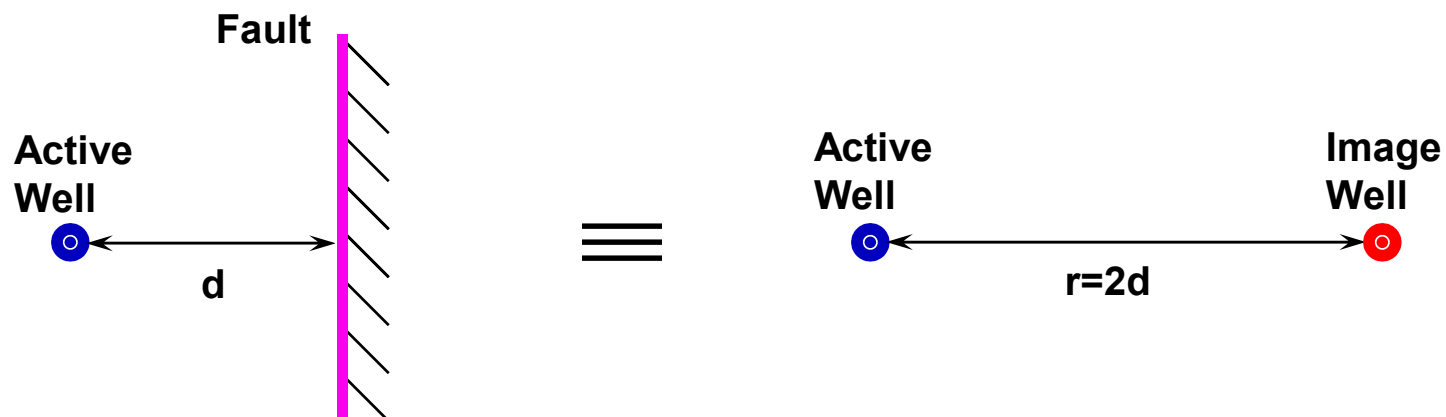


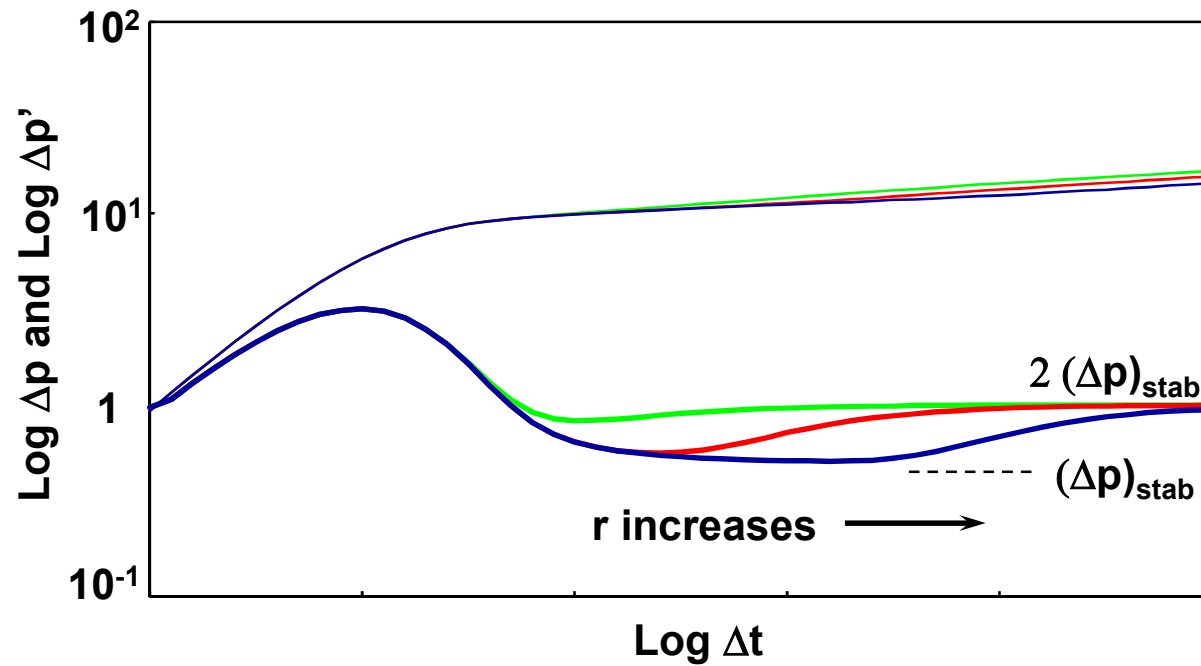
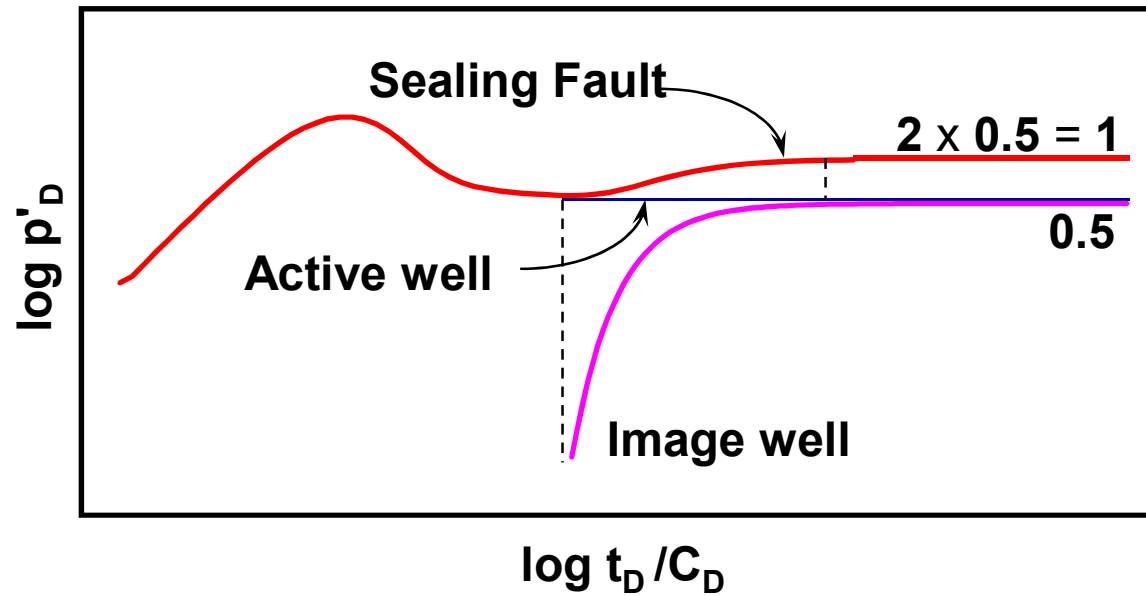
WELL TEST INTERPRETATION MODELS

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

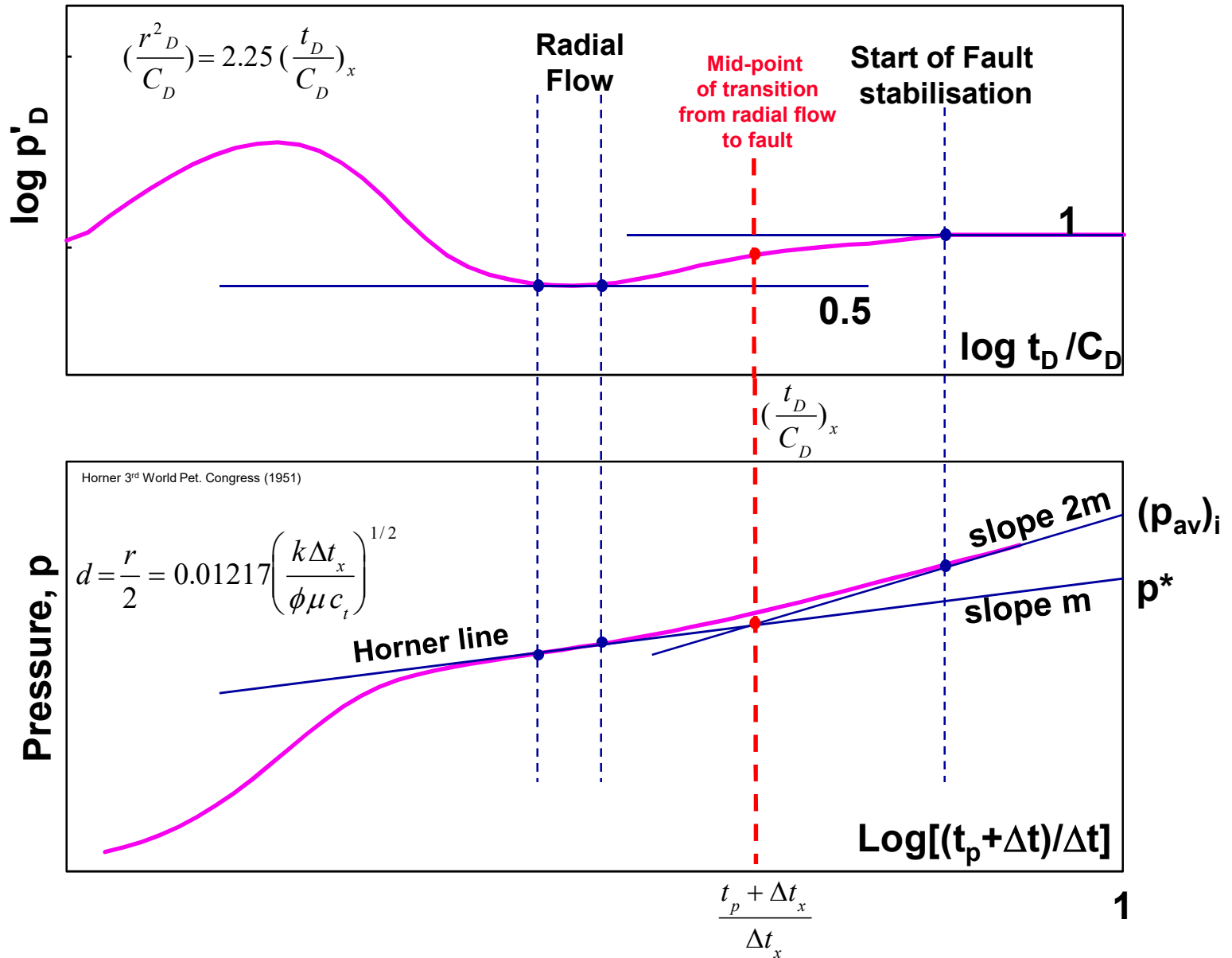
SINGLE SEALING FAULT



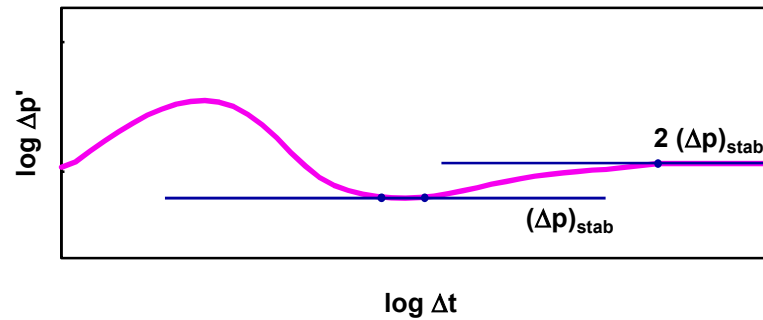
SINGLE SEALING FAULT



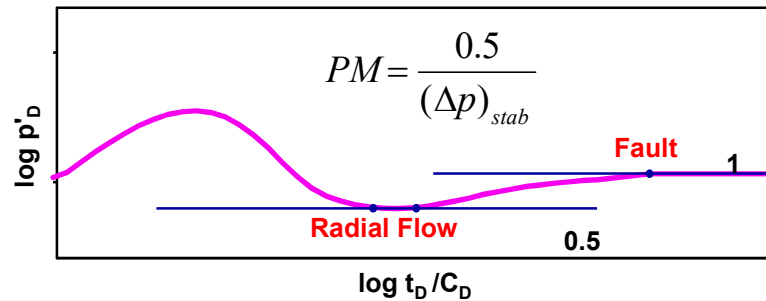
SINGLE SEALING FAULT



SINGLE SEALING FAULT vs 2-POROSITY

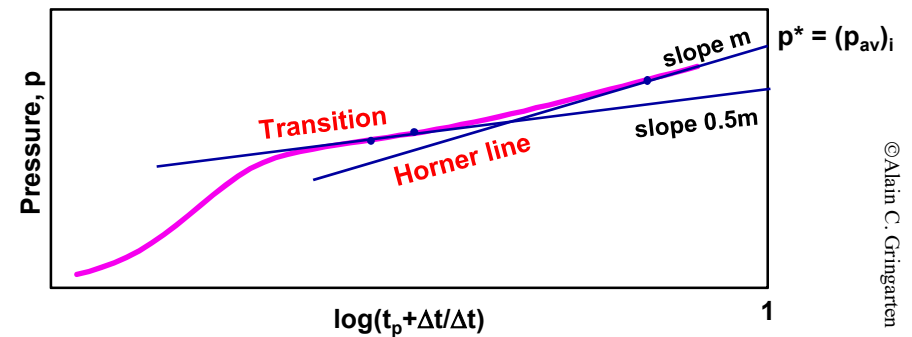
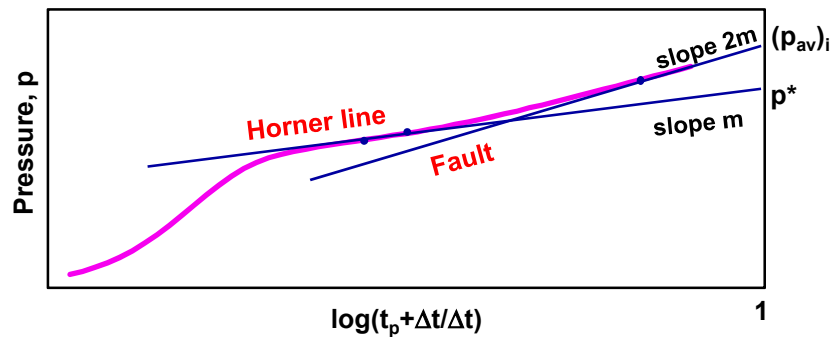
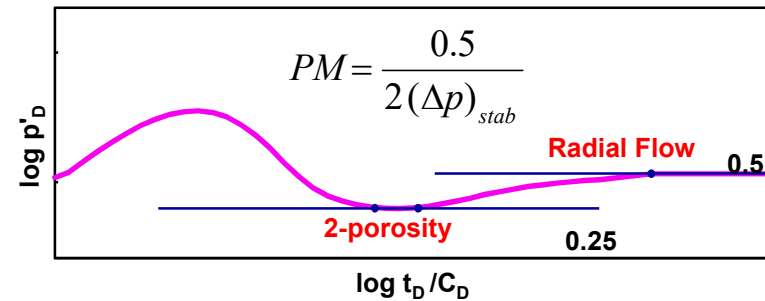


(1) Homogeneous behaviour,
sealing fault

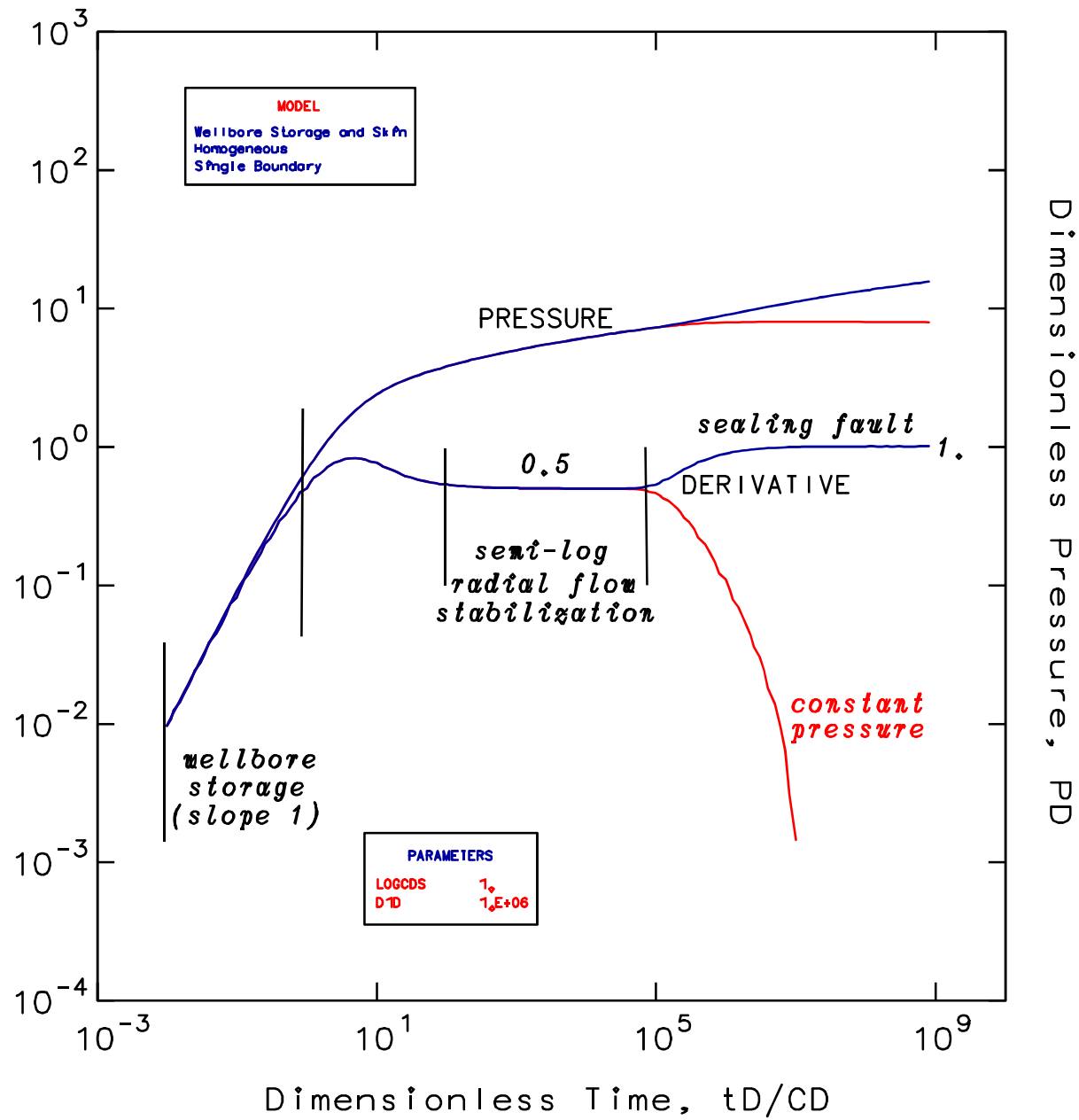


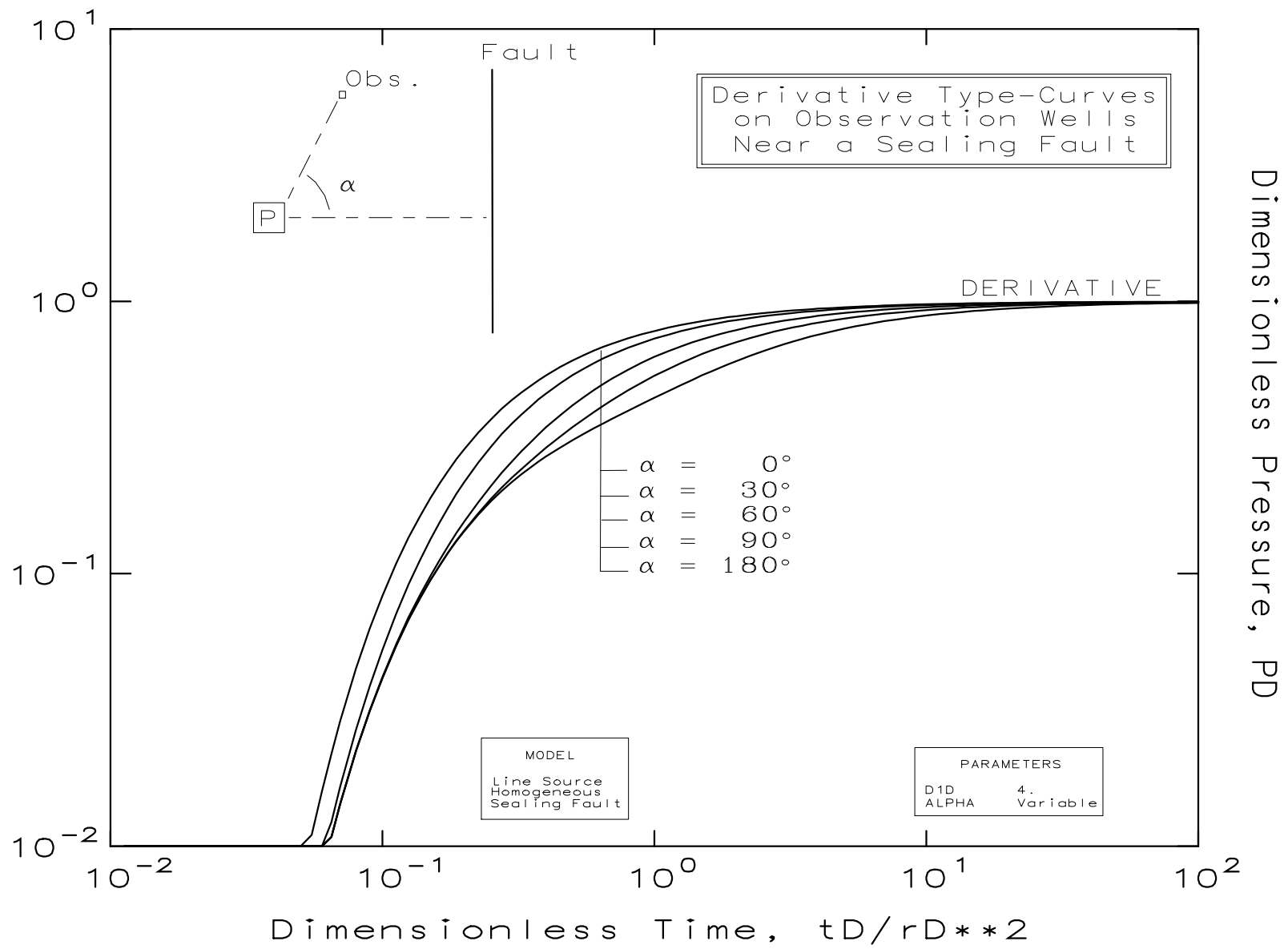
OR

(2) Unrestricted interporosity flow,
2-porosity behaviour, infinite acting



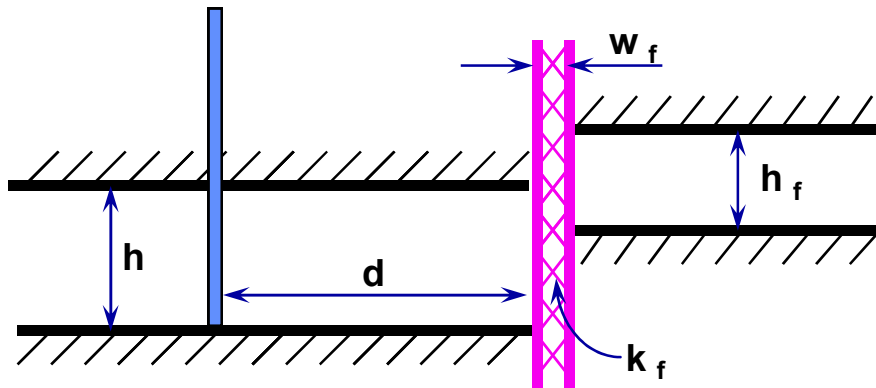
SINGLE FAULT



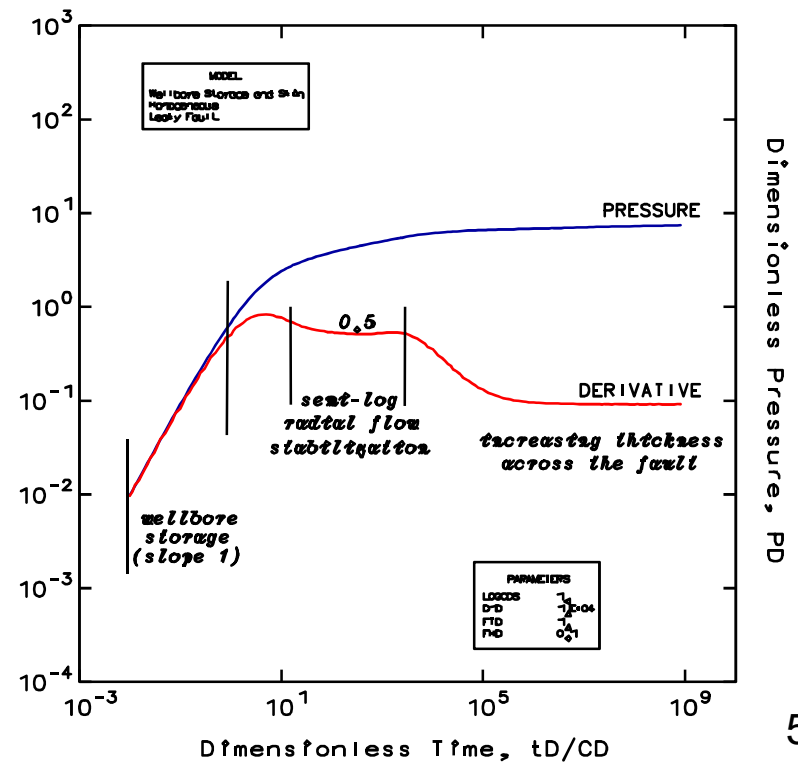
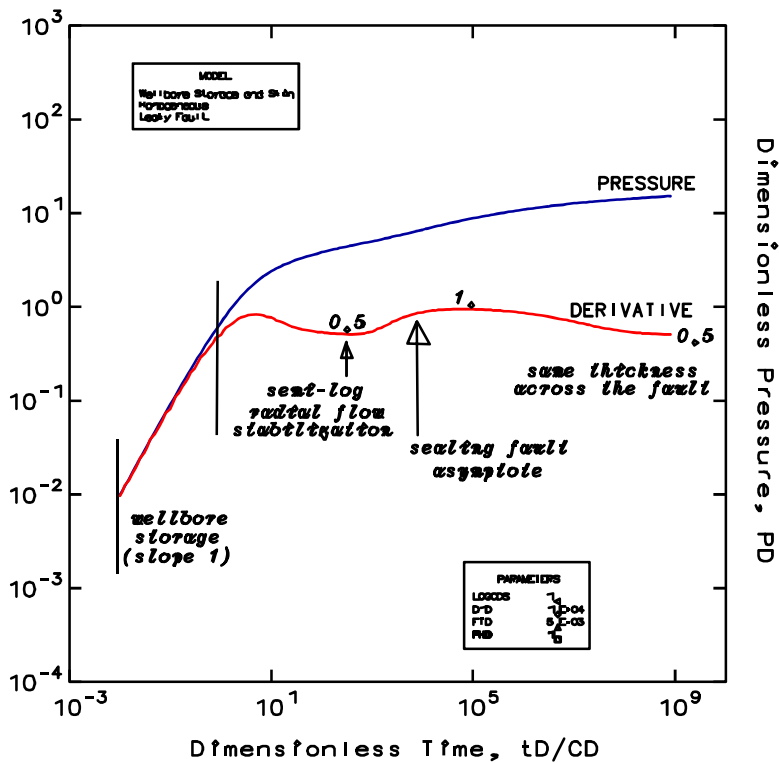


SINGLE SEMI-PERMEABLE (LEAKY) FAULT

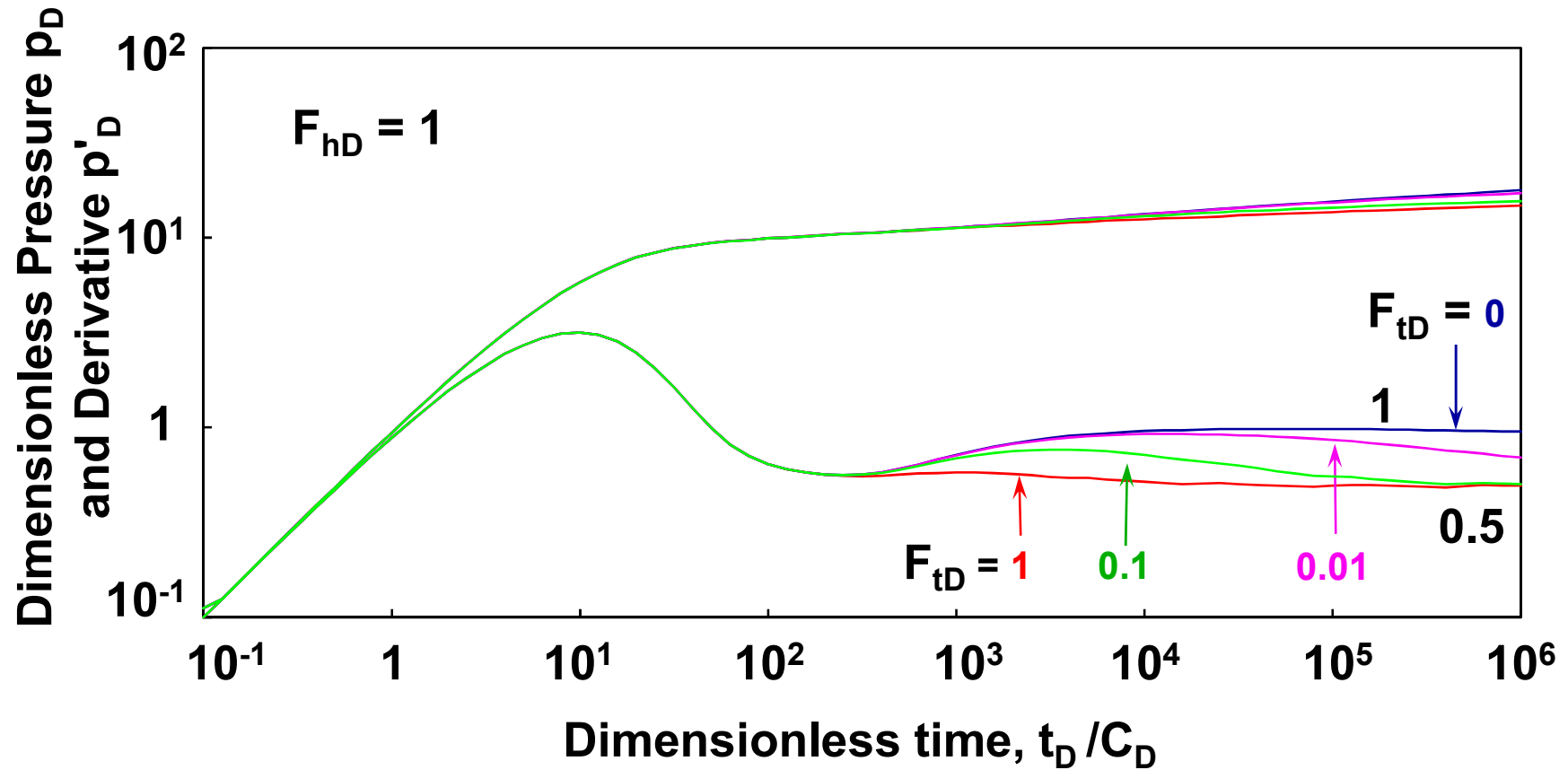
Yaxley SPEFE (Dec. 1987)



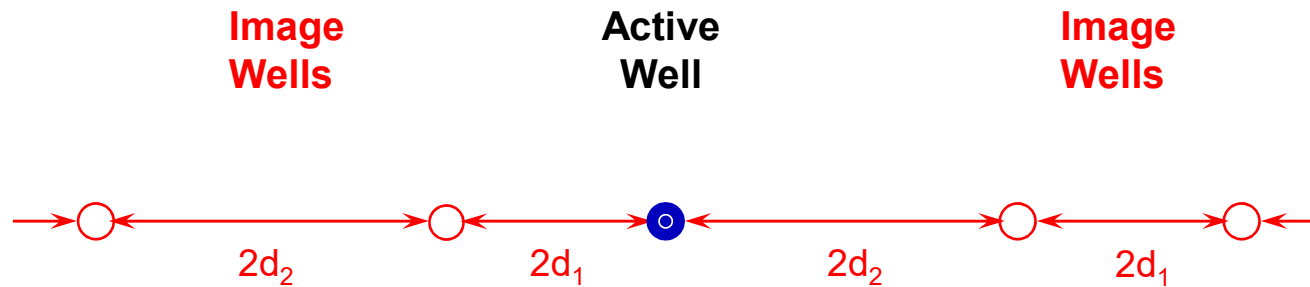
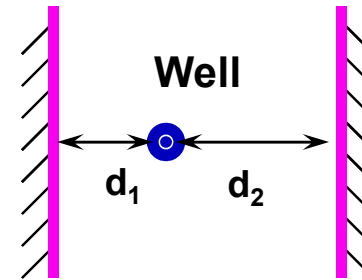
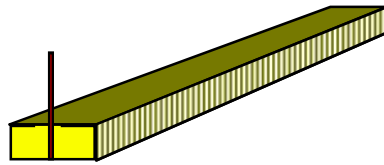
$$F_{iD} = \frac{k_f / w_f}{k/d} \quad F_{hD} = \frac{h}{h_f}$$



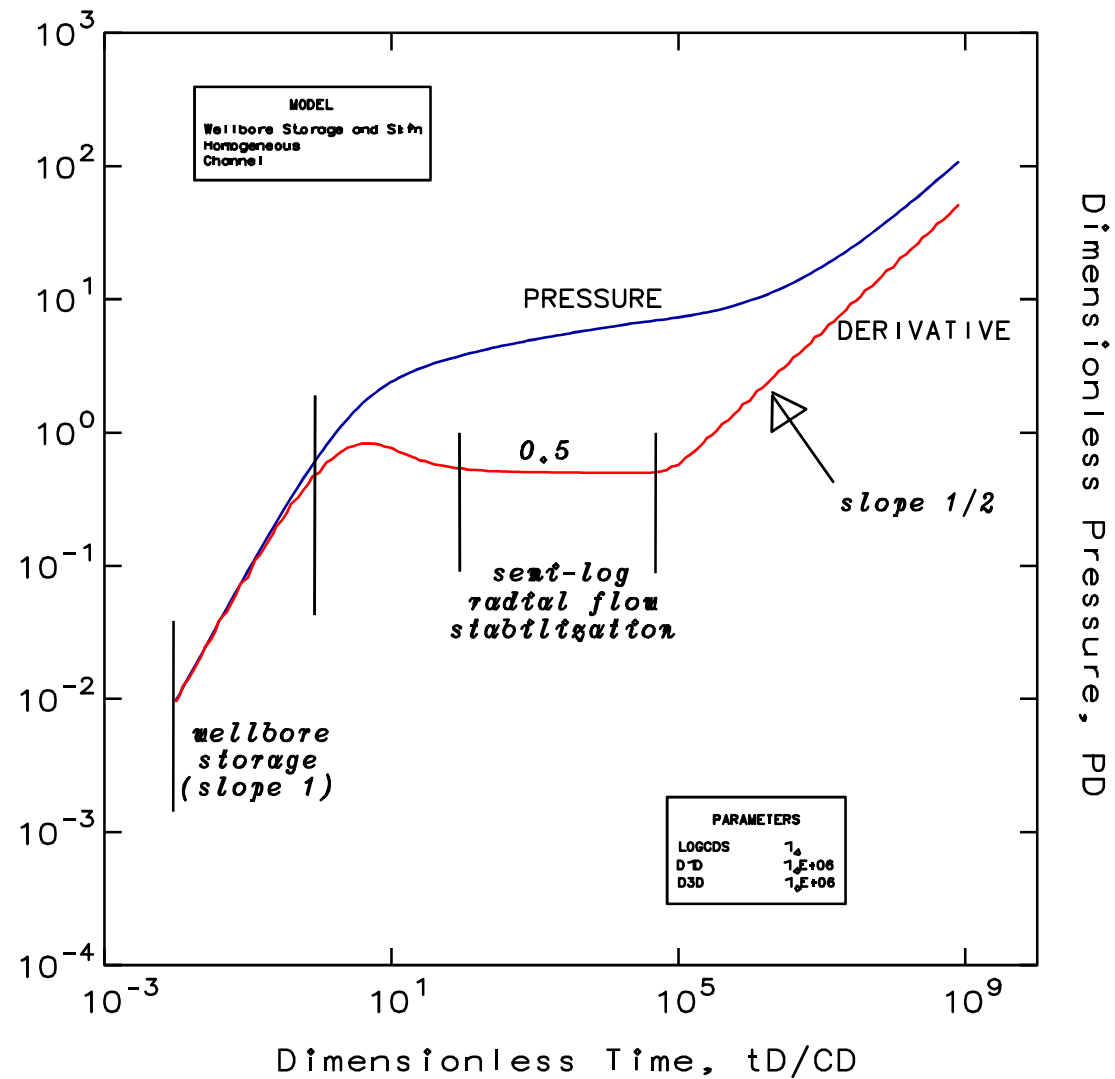
SINGLE SEMI-PERMEABLE (LEAKY) FAULT



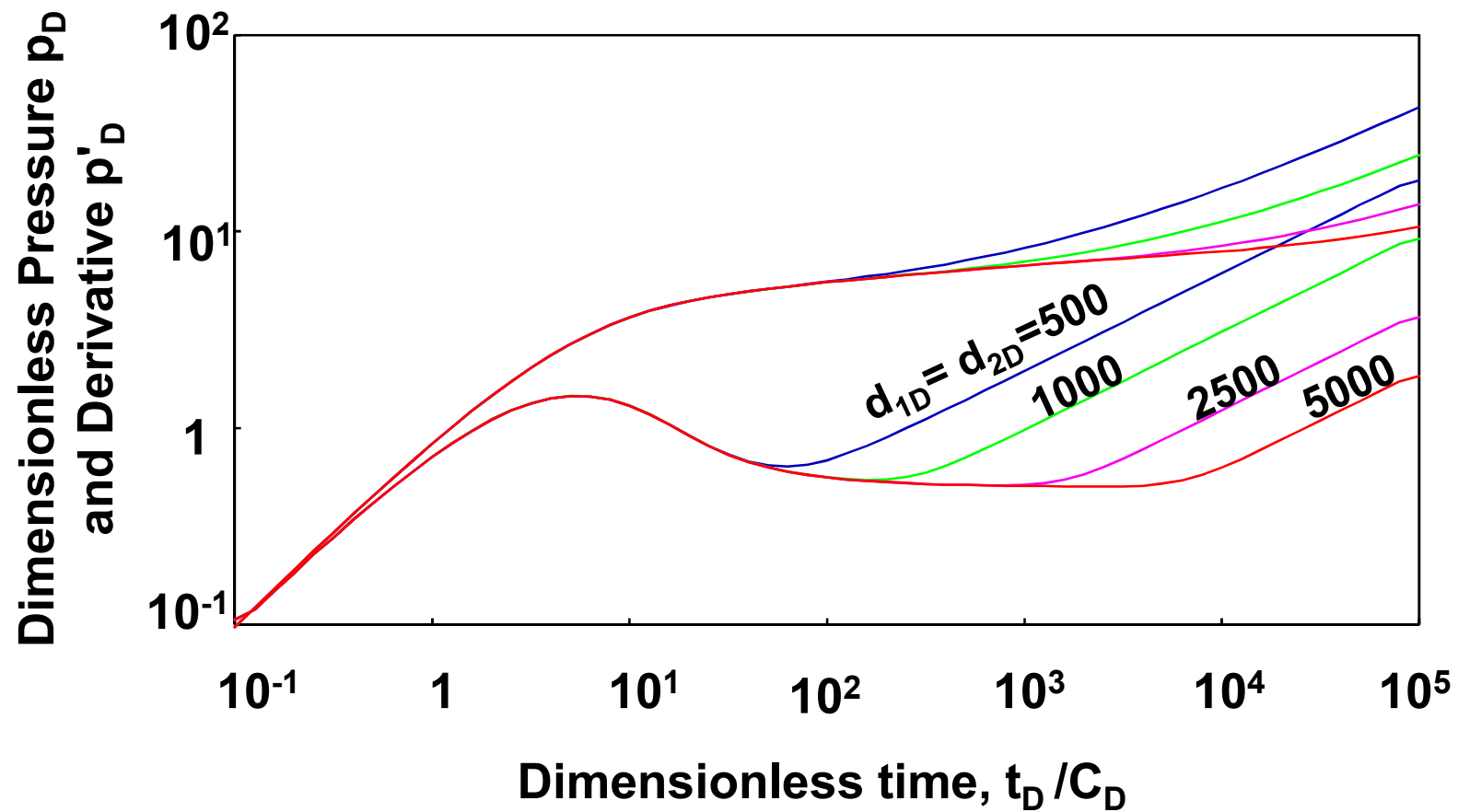
TWO PARALLEL LINEAR BOUNDARIES (CHANNEL)



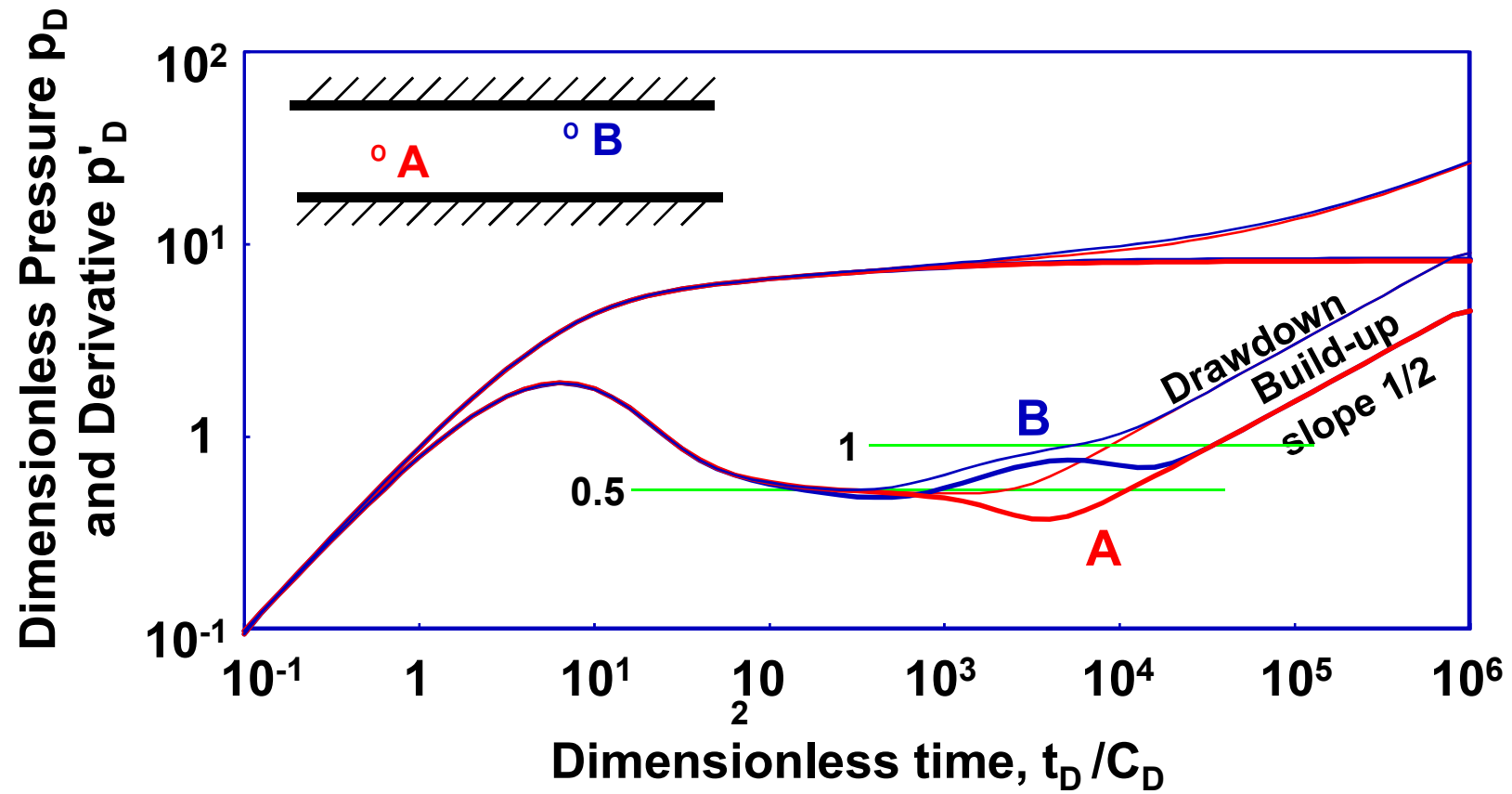
TWO PARALLEL LINEAR BOUNDARIES (CHANNEL)



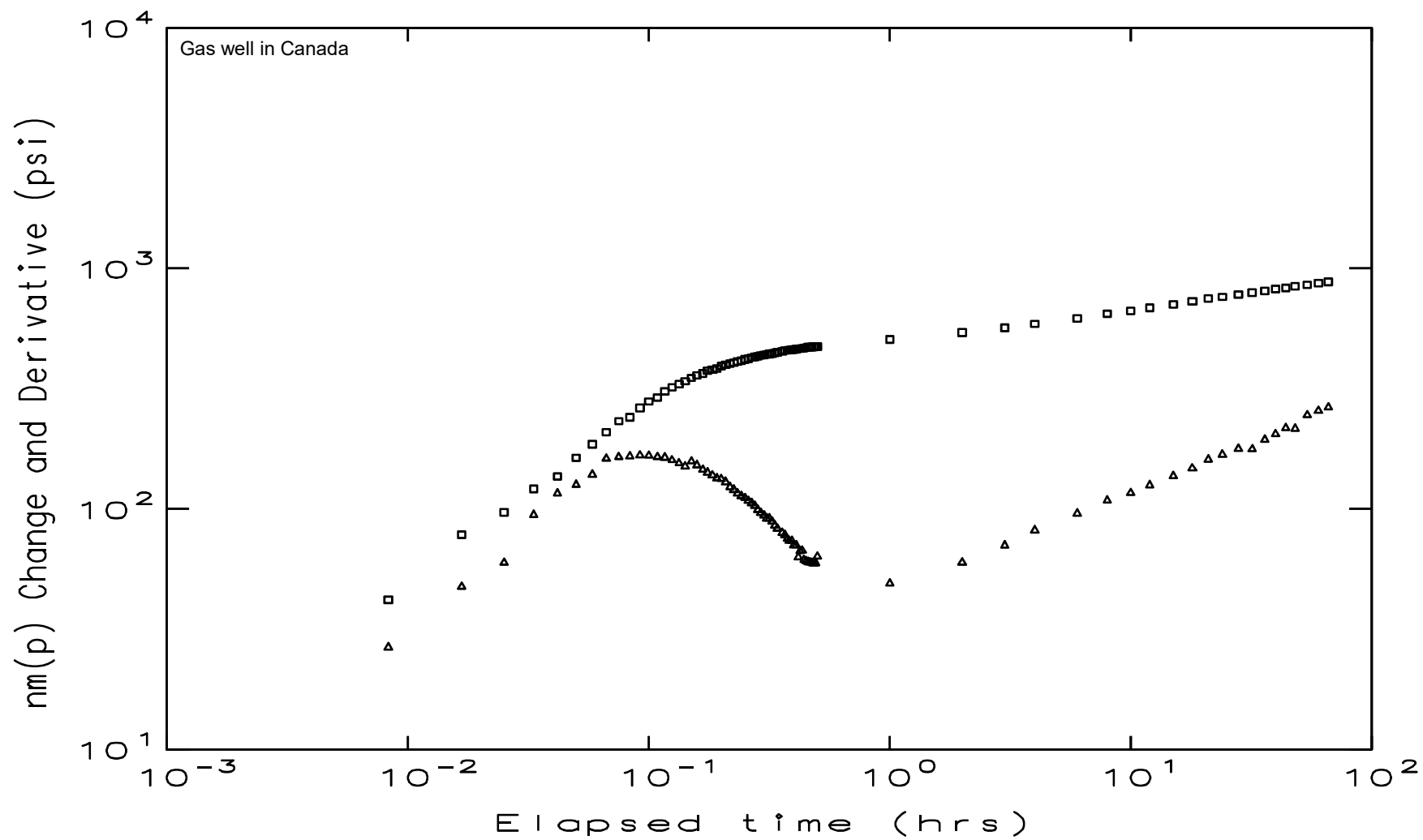
TWO PARALLEL LINEAR BOUNDARIES (CHANNEL)

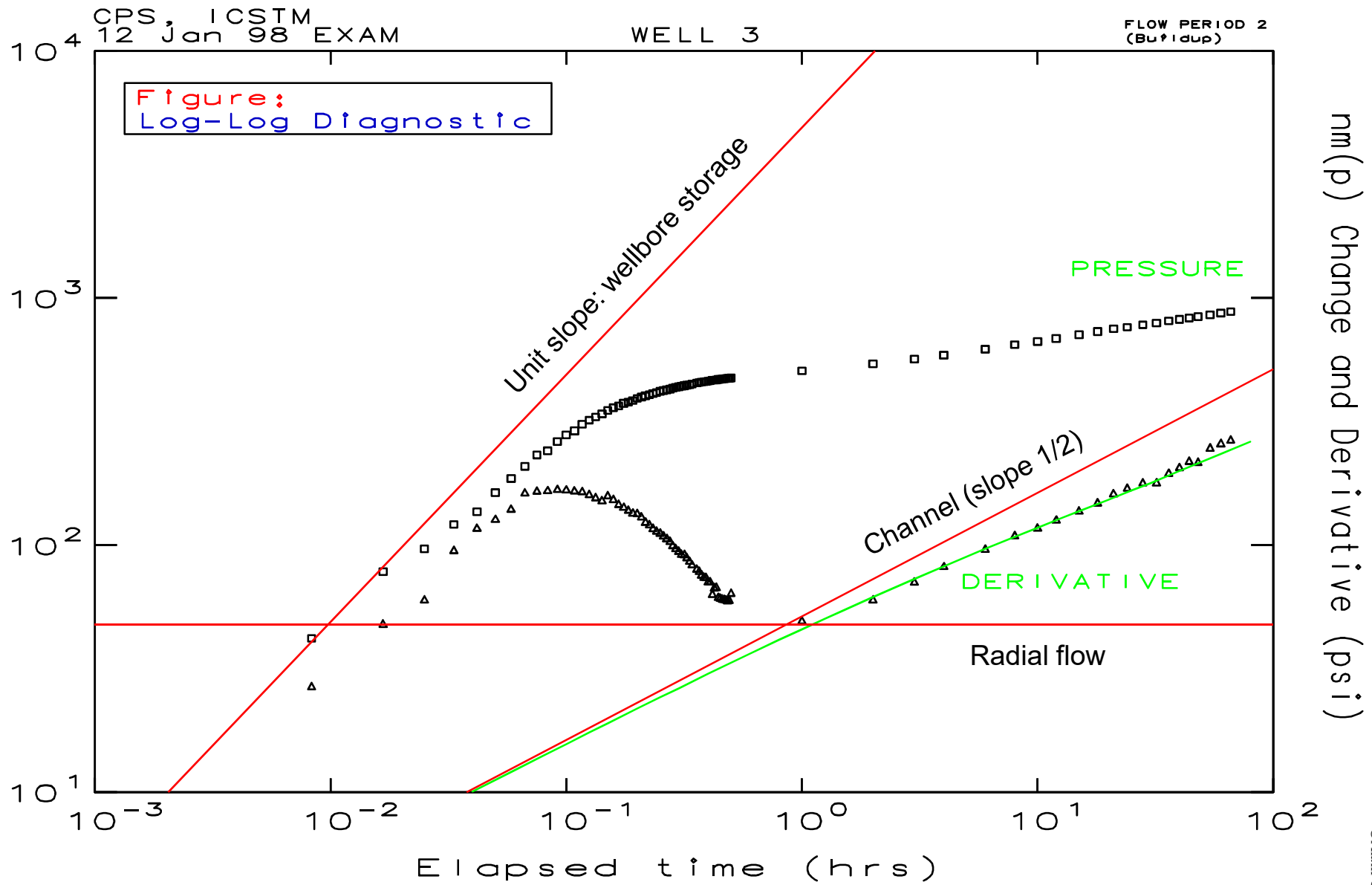


CHANNEL: DRAWDOWN vs BUILD-UP

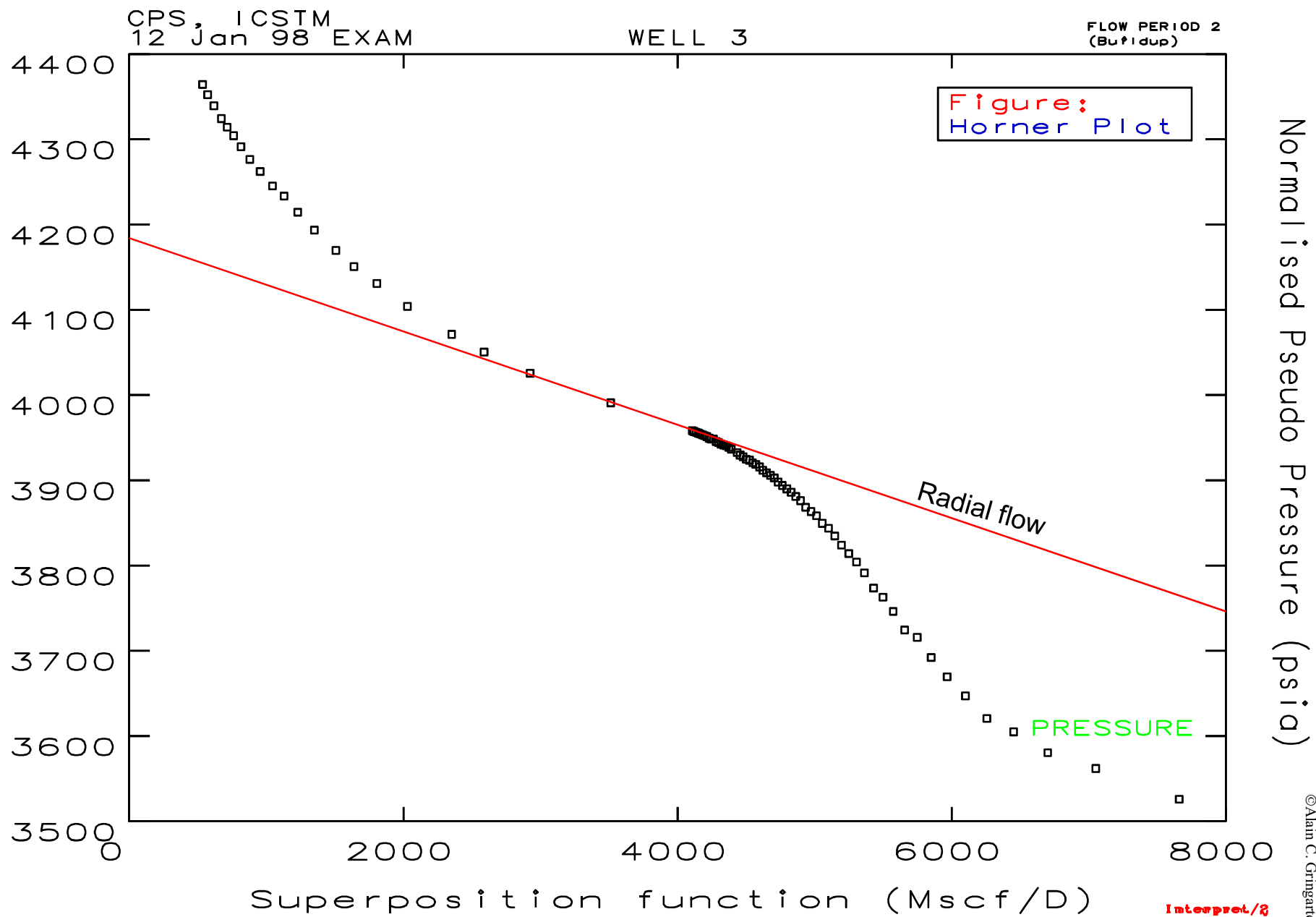


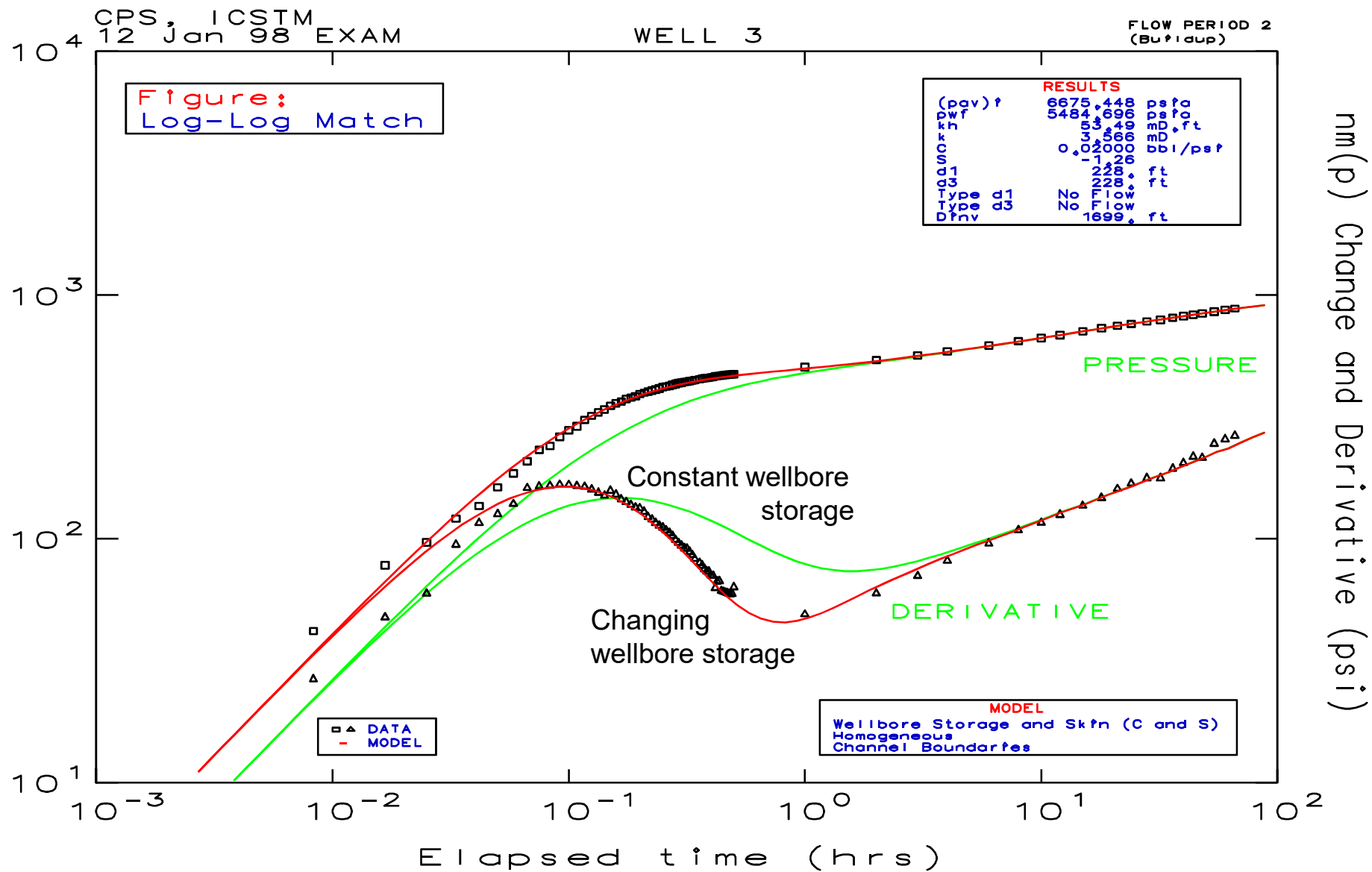
WELL # 3





Interpret/8

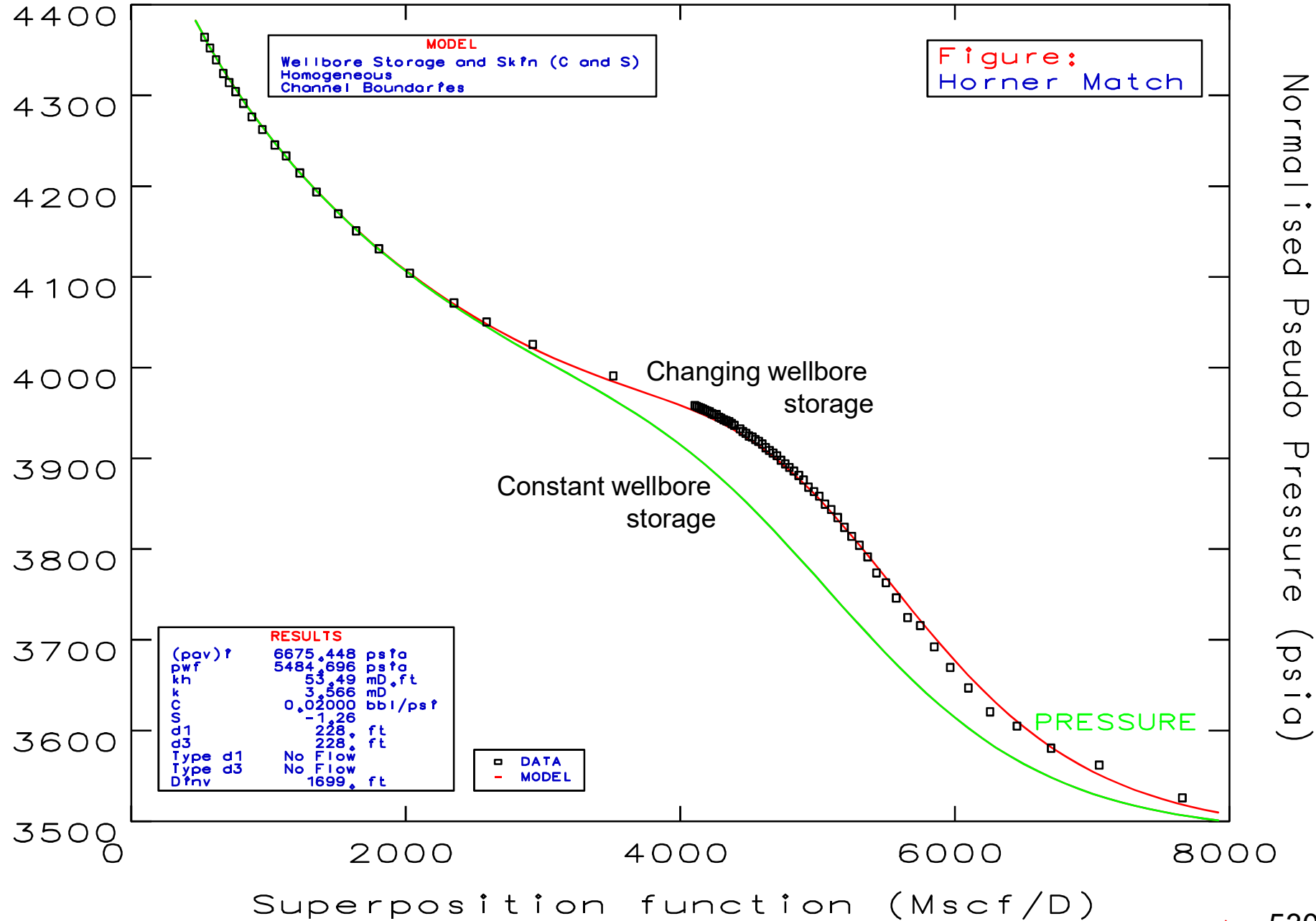


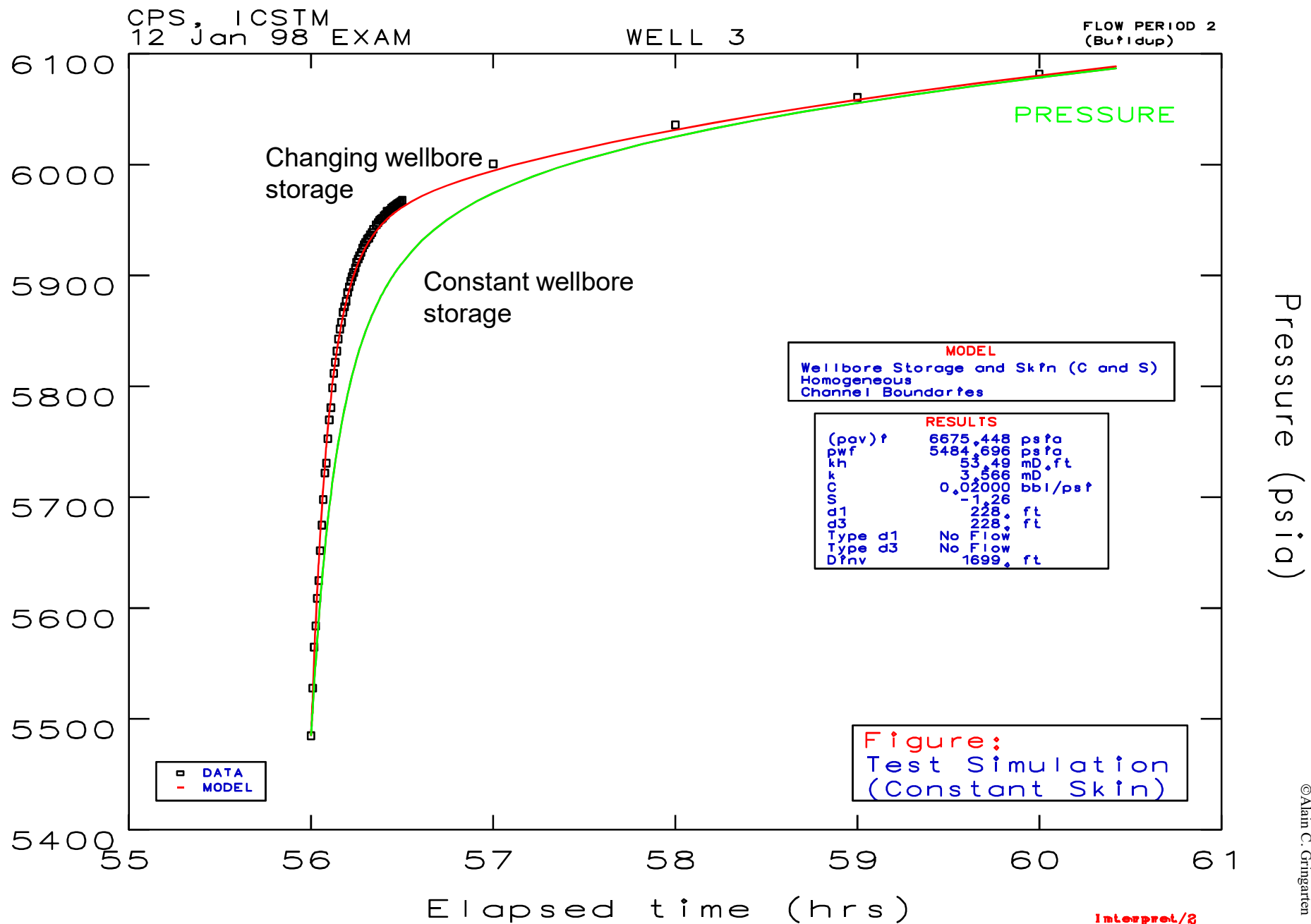


CPS, ICSTM
12 Jan 98 EXAM

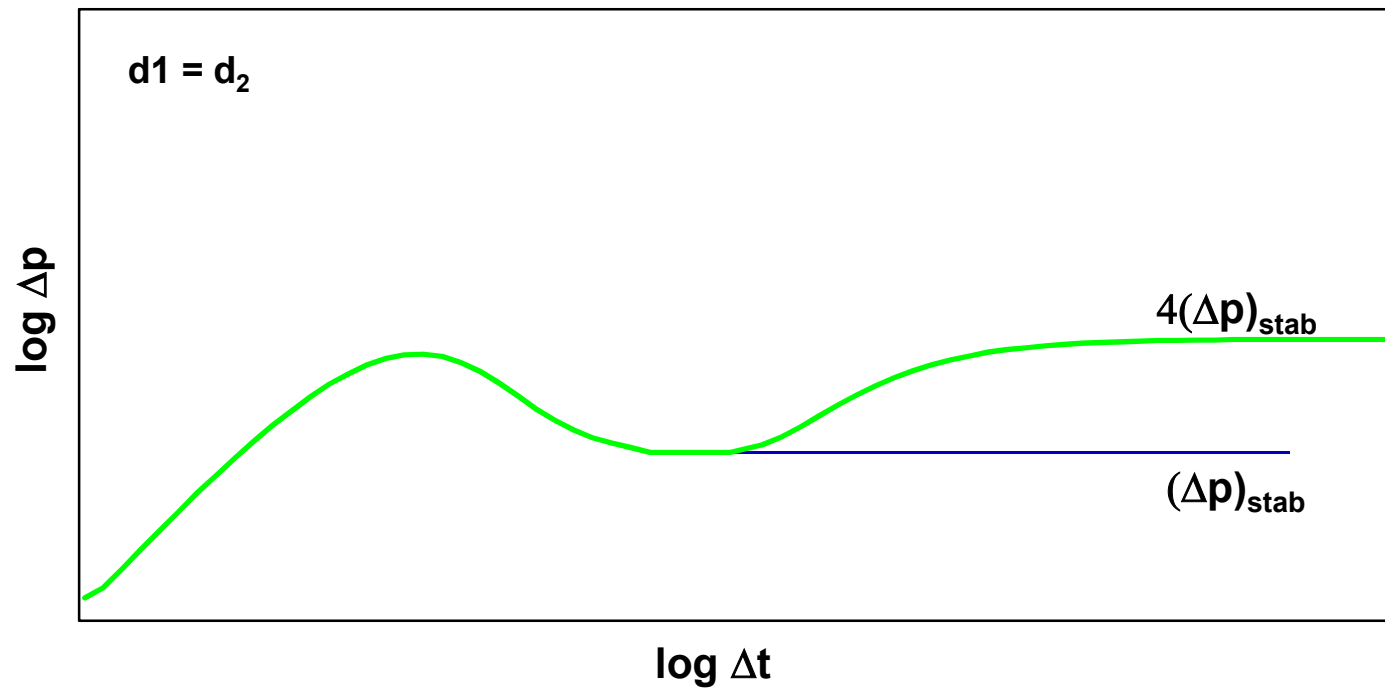
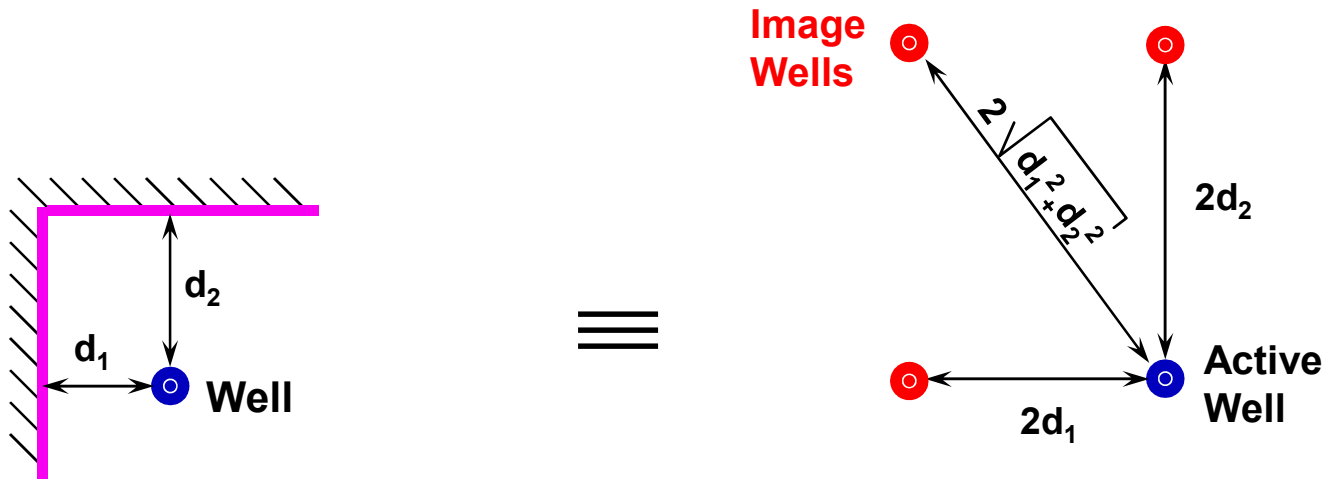
WELL 3

FLOW PERIOD 2
(Bu f idup)

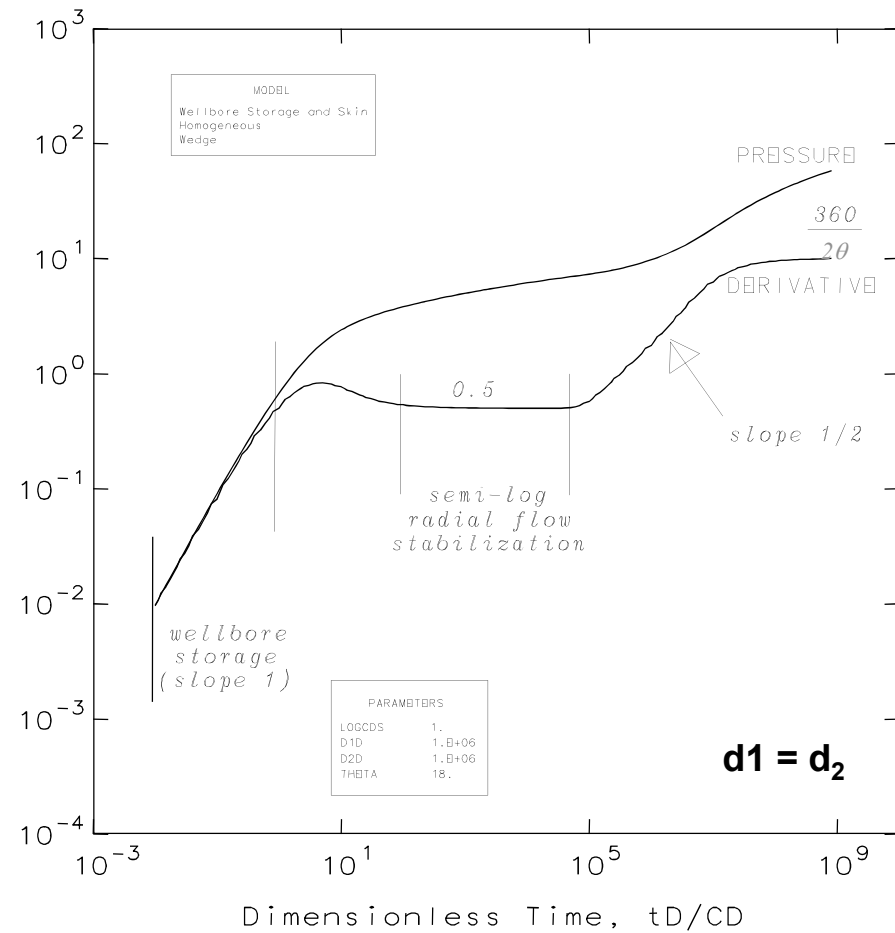
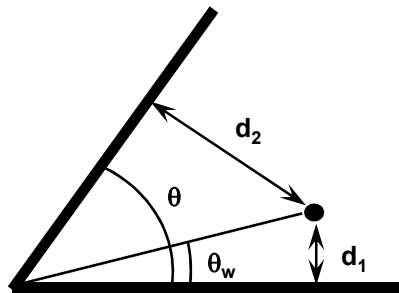




TWO PERPENDICULAR LINEAR BOUNDARIES



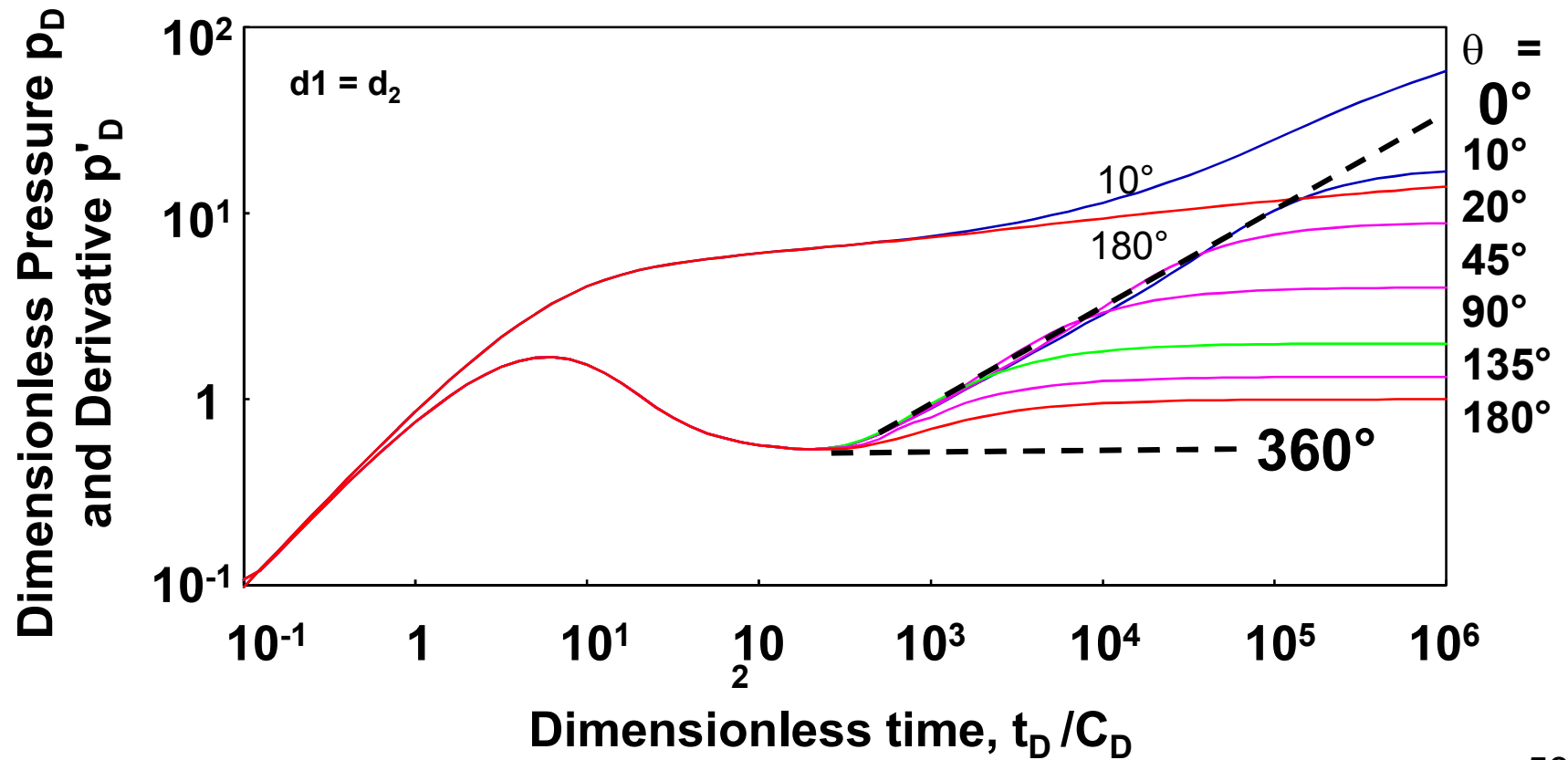
INTERSECTING BOUNDARIES (WEDGE)



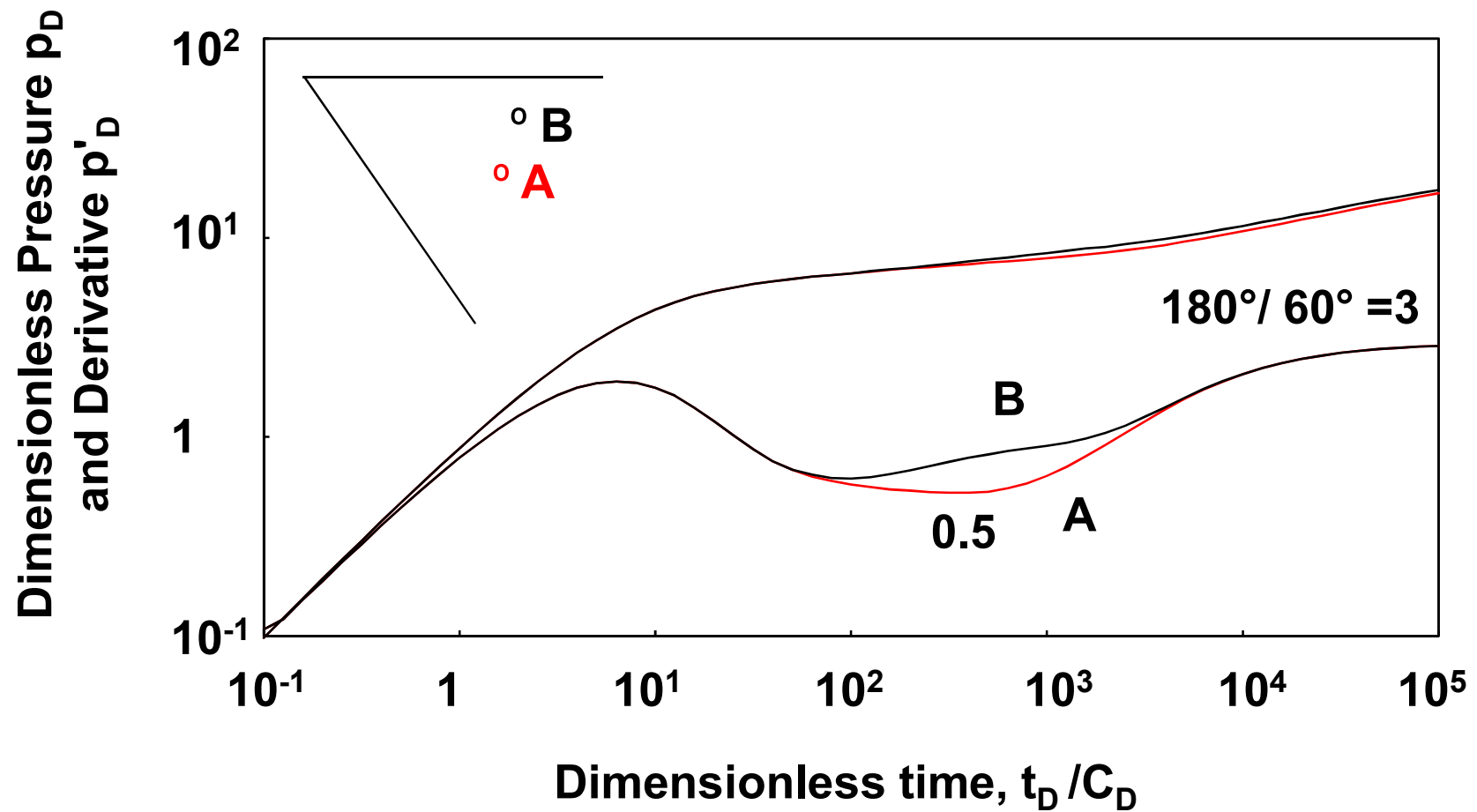
Dimensionless Pressure, P_D

©Amin C. Gringarten 2015

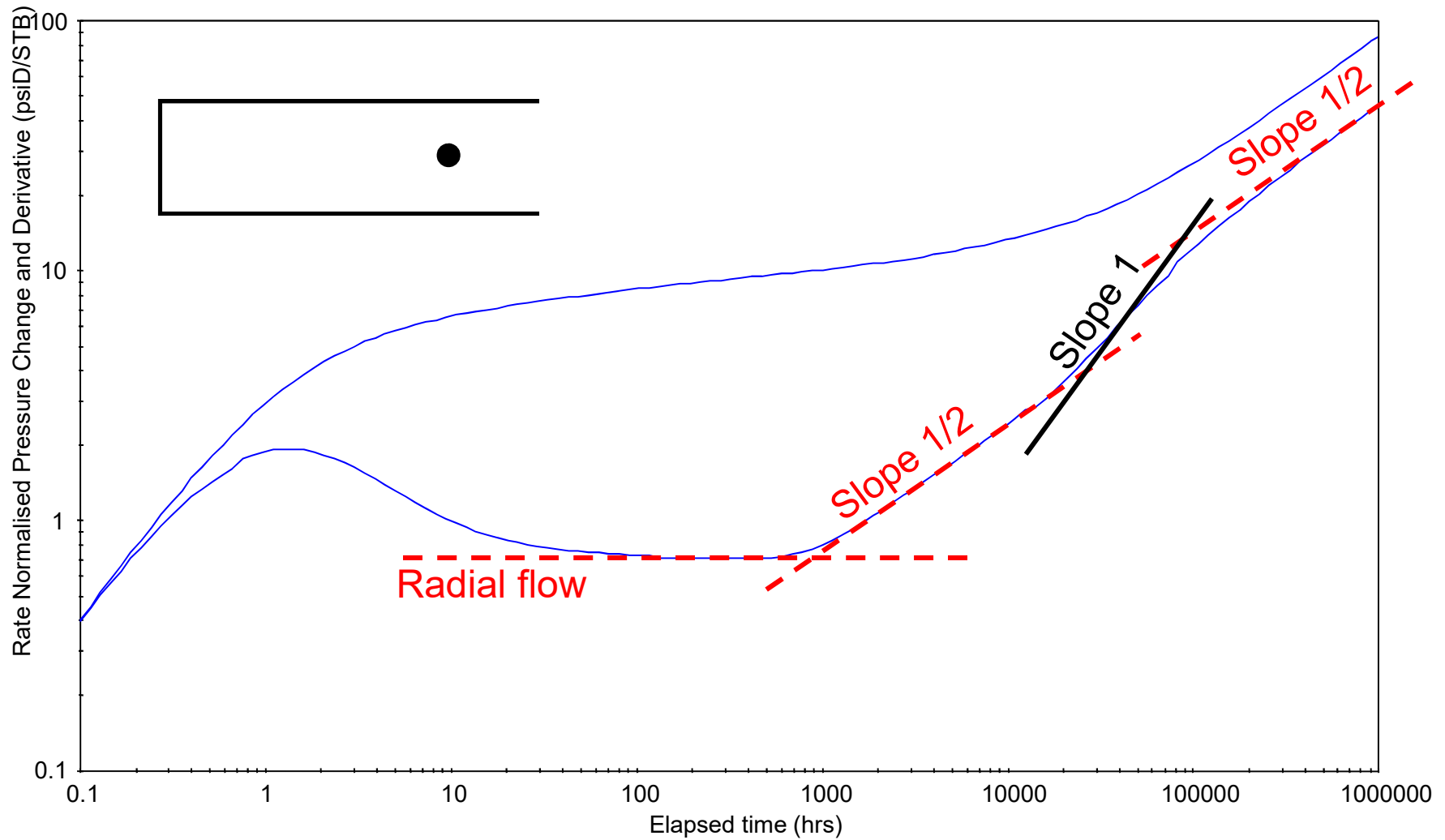
INTERSECTING BOUNDARIES (WEDGE)



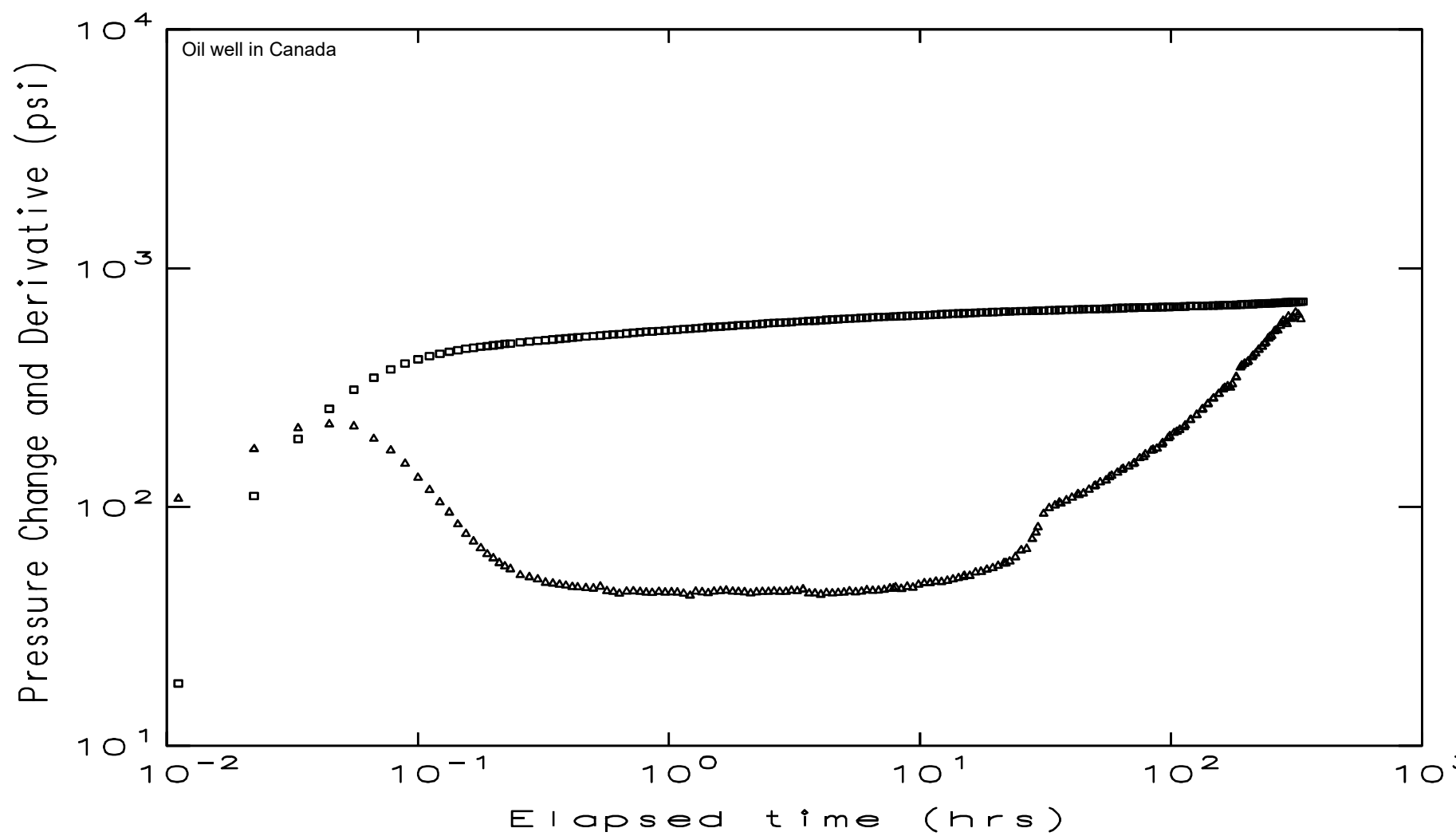
INTERSECTING BOUNDARIES (WEDGE)

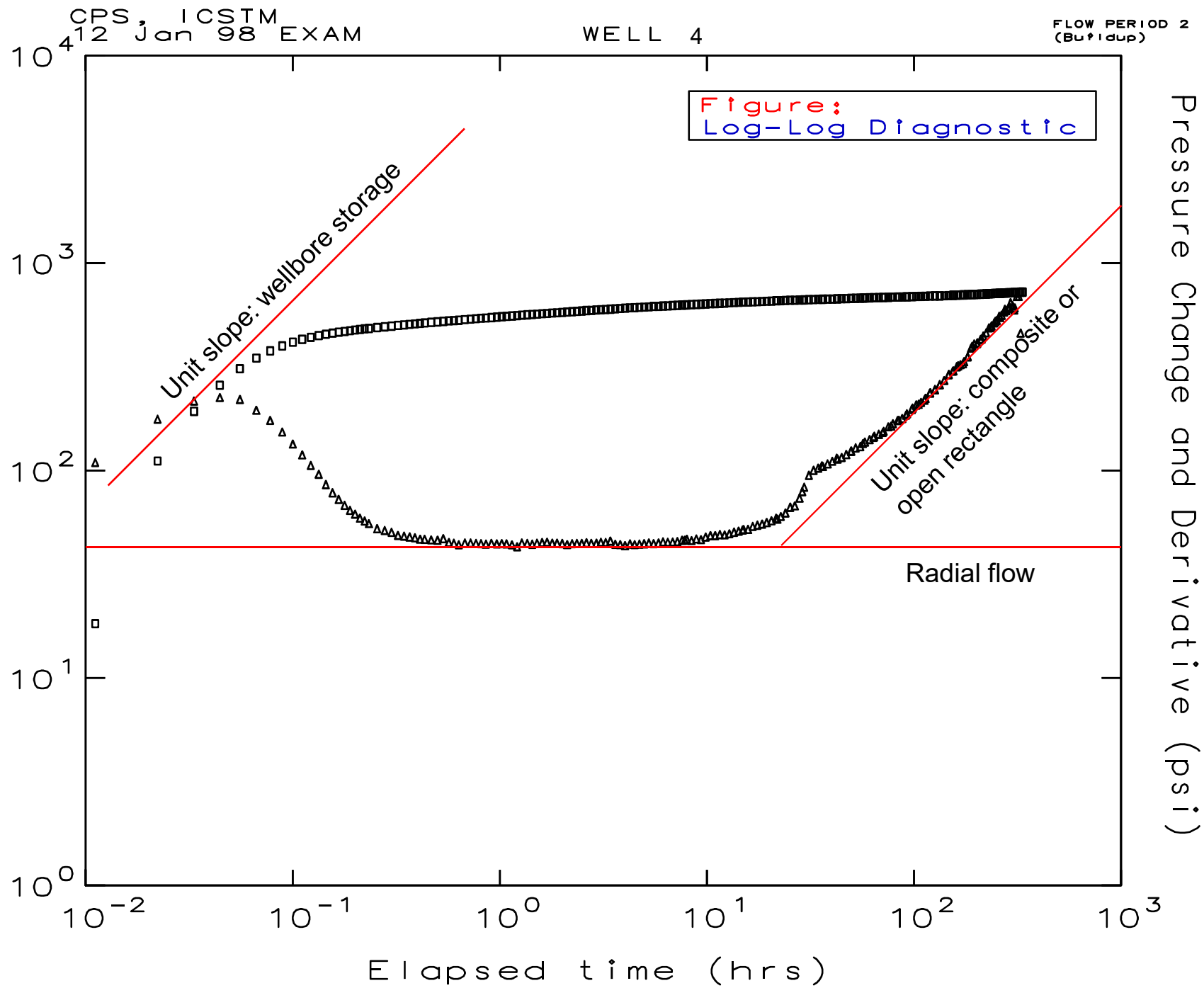


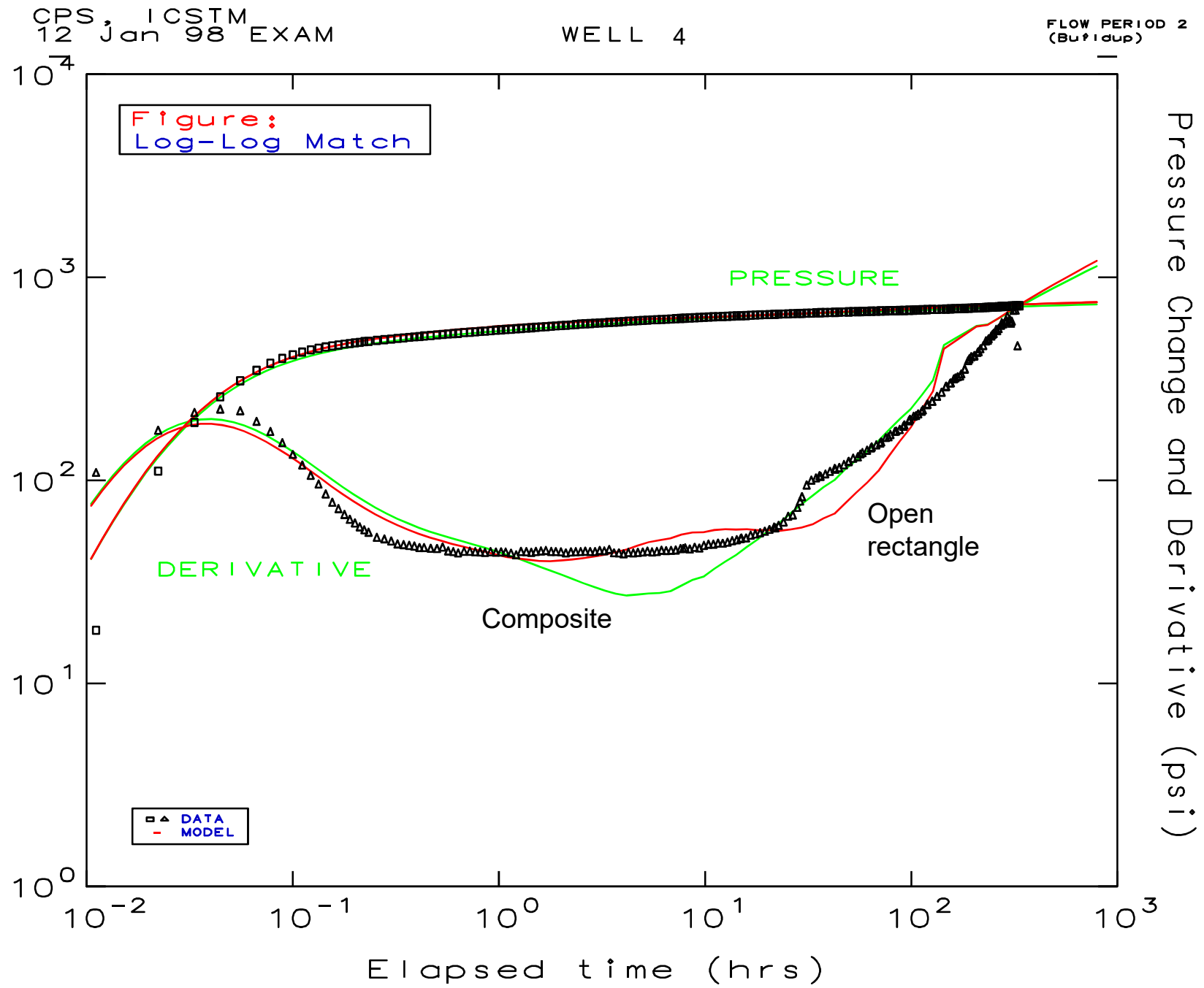
OPEN RECTANGLE



WELL # 4



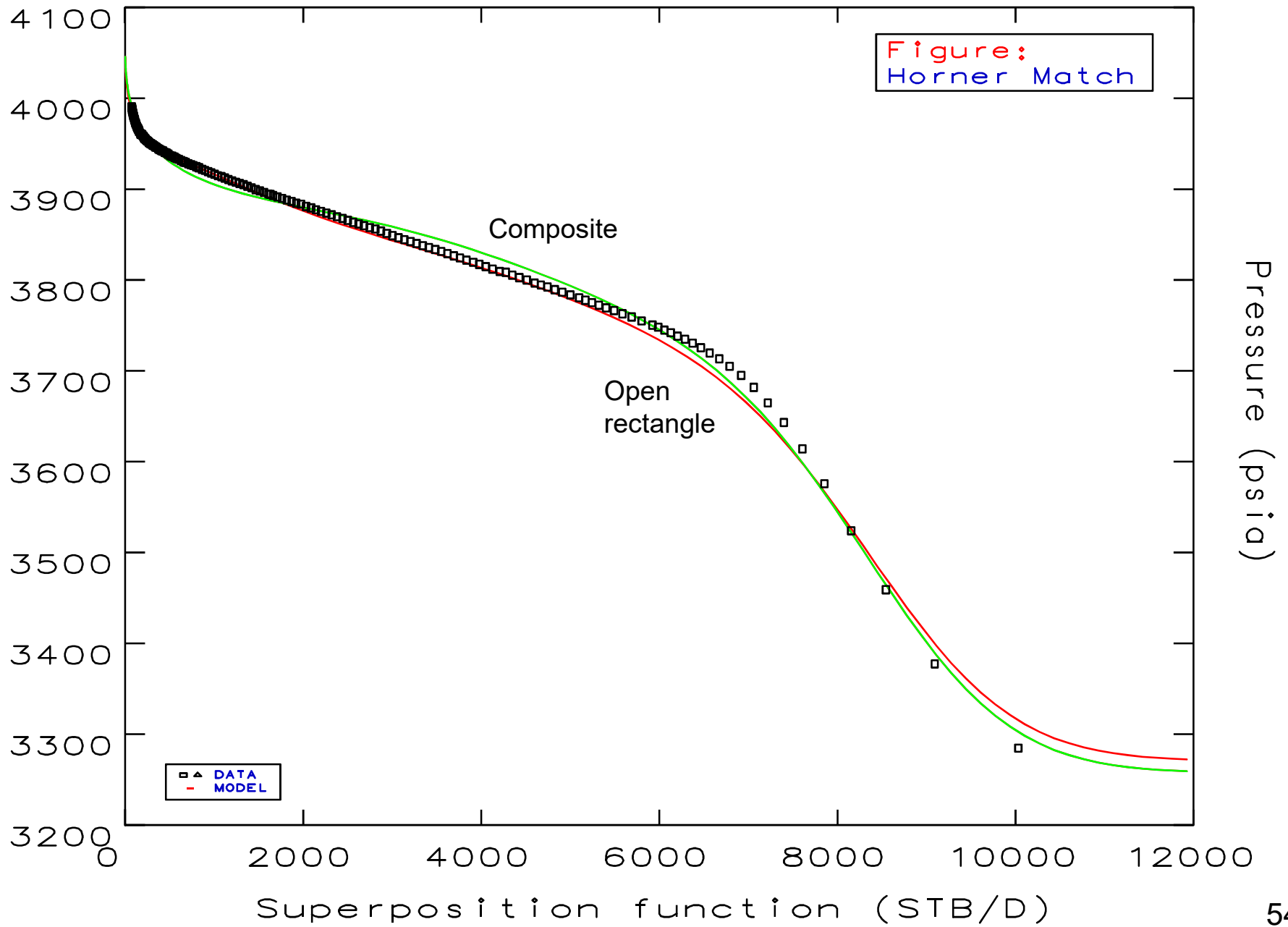


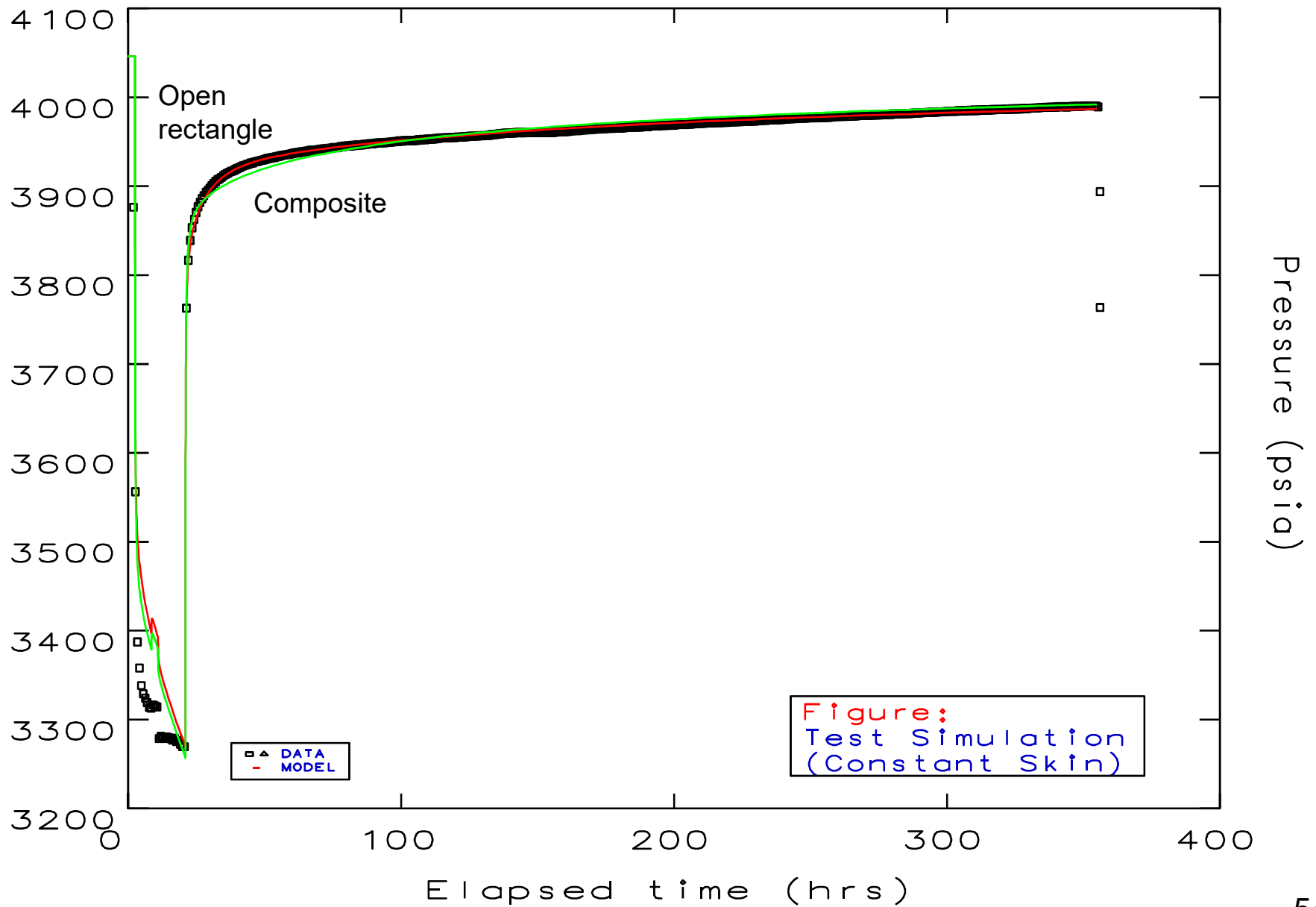


CPS, ICSTM
12 Jan 98 EXAM

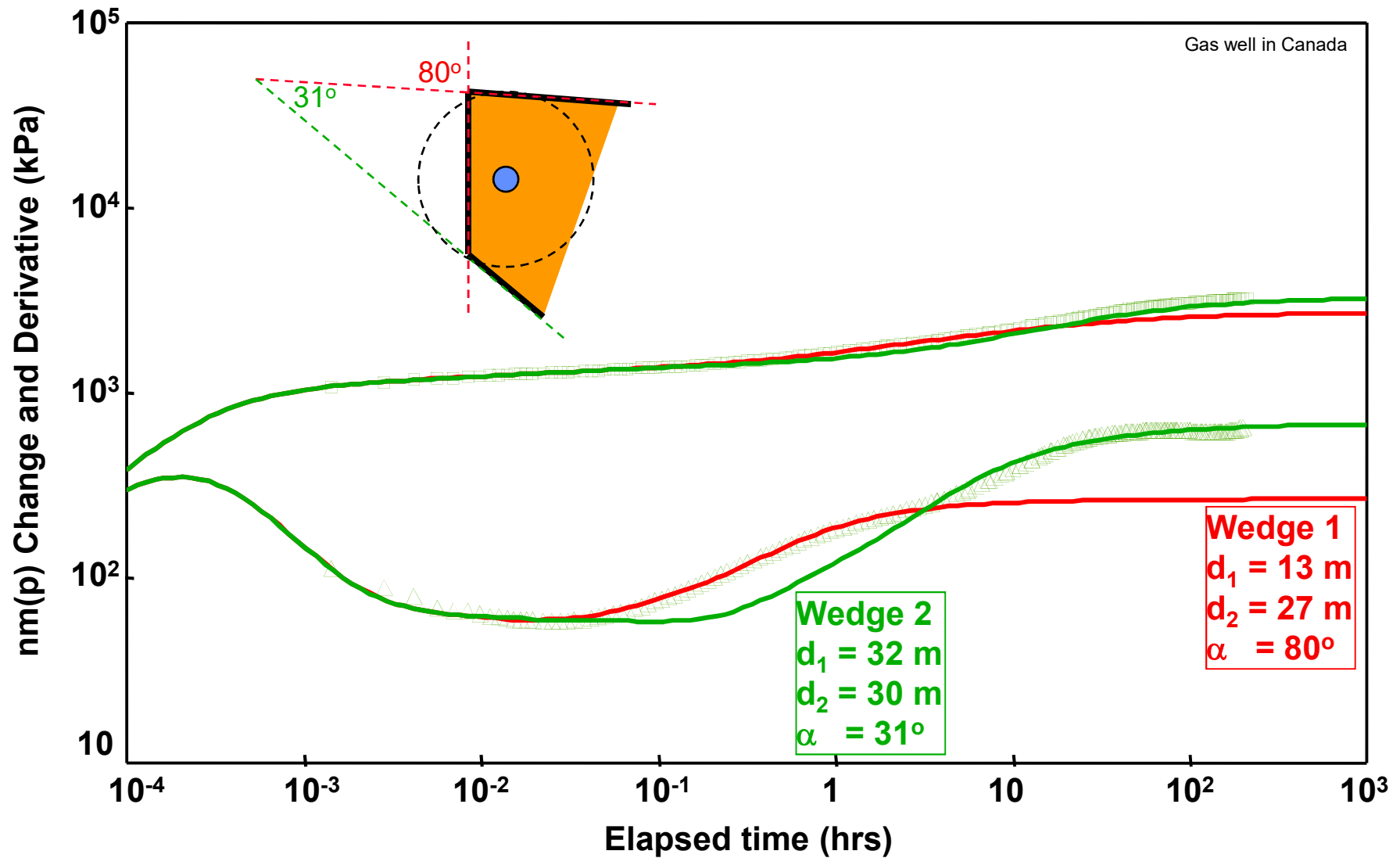
WELL 4

FLOW PERIOD 2
(Bu + 1 day)

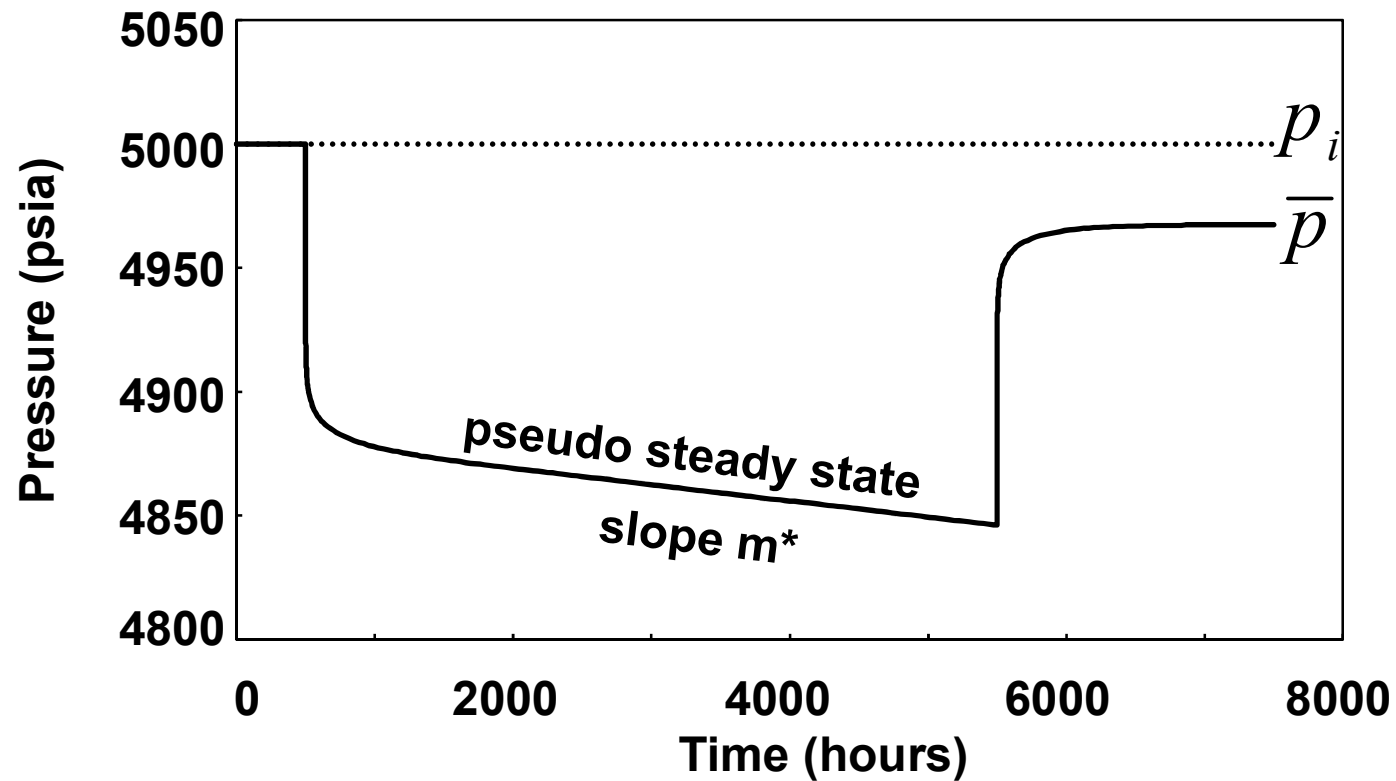
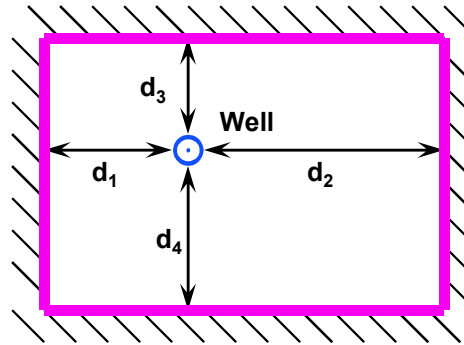


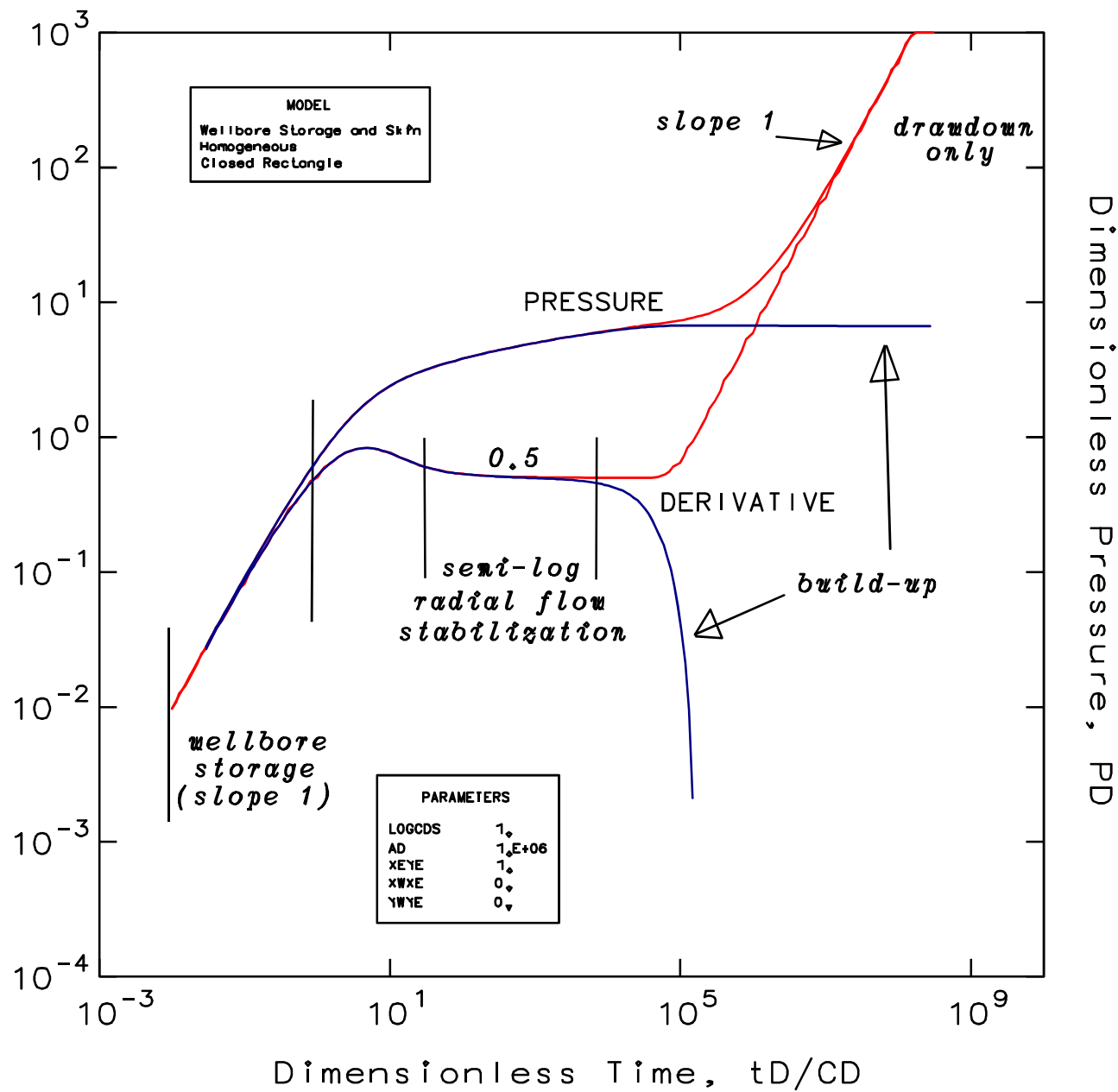


INTERSECTING BOUNDARIES

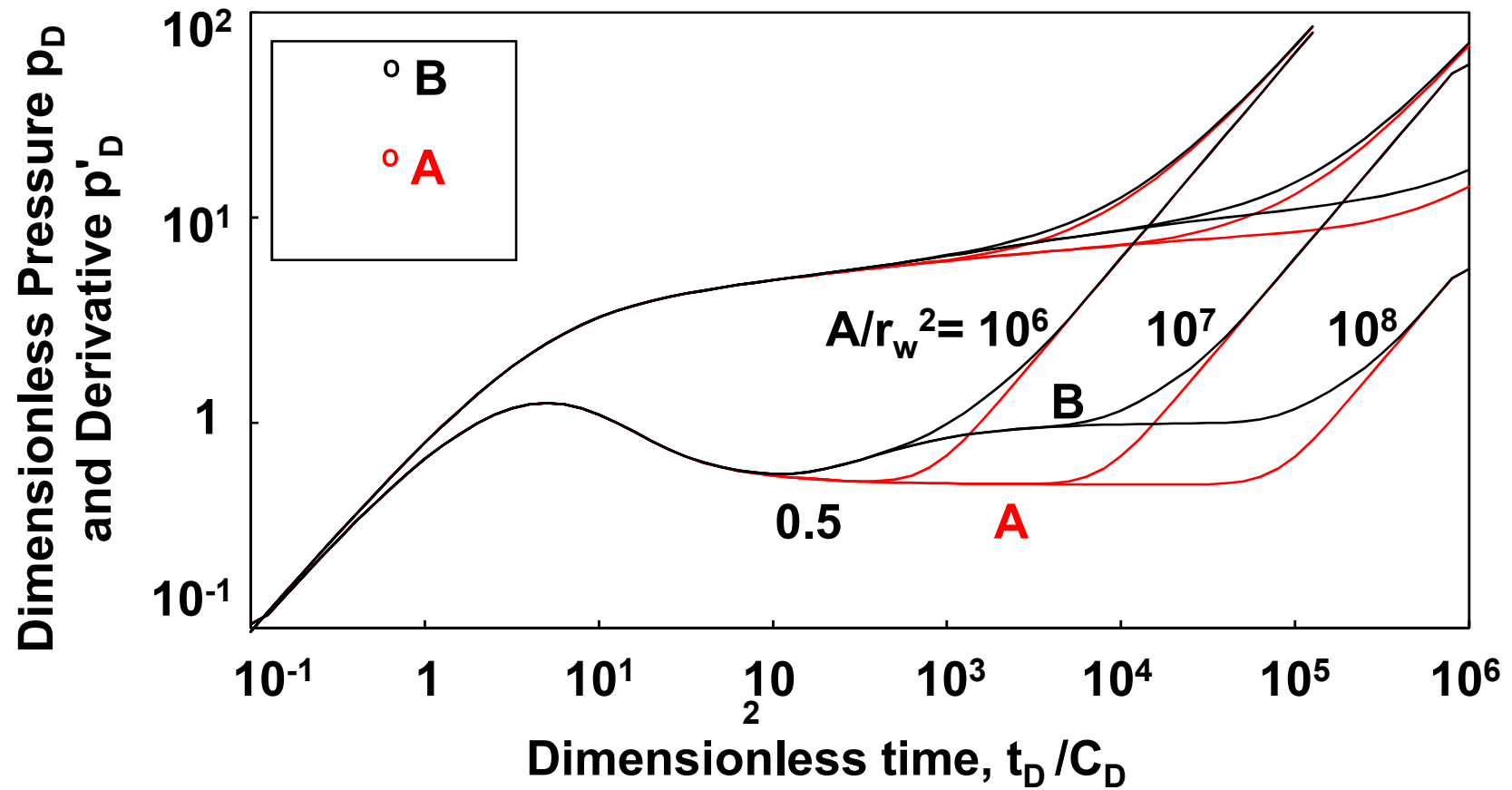


CLOSED RESERVOIR

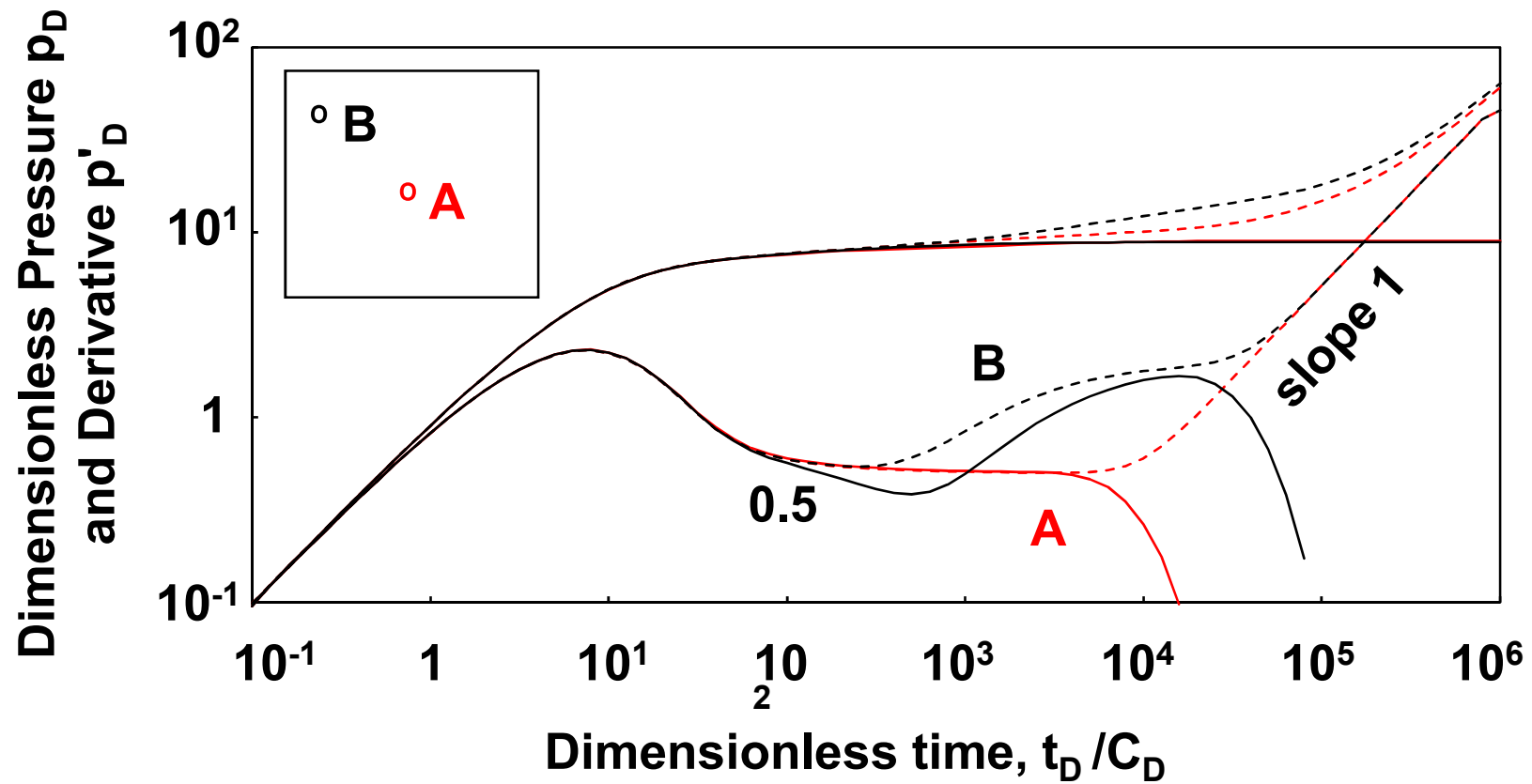




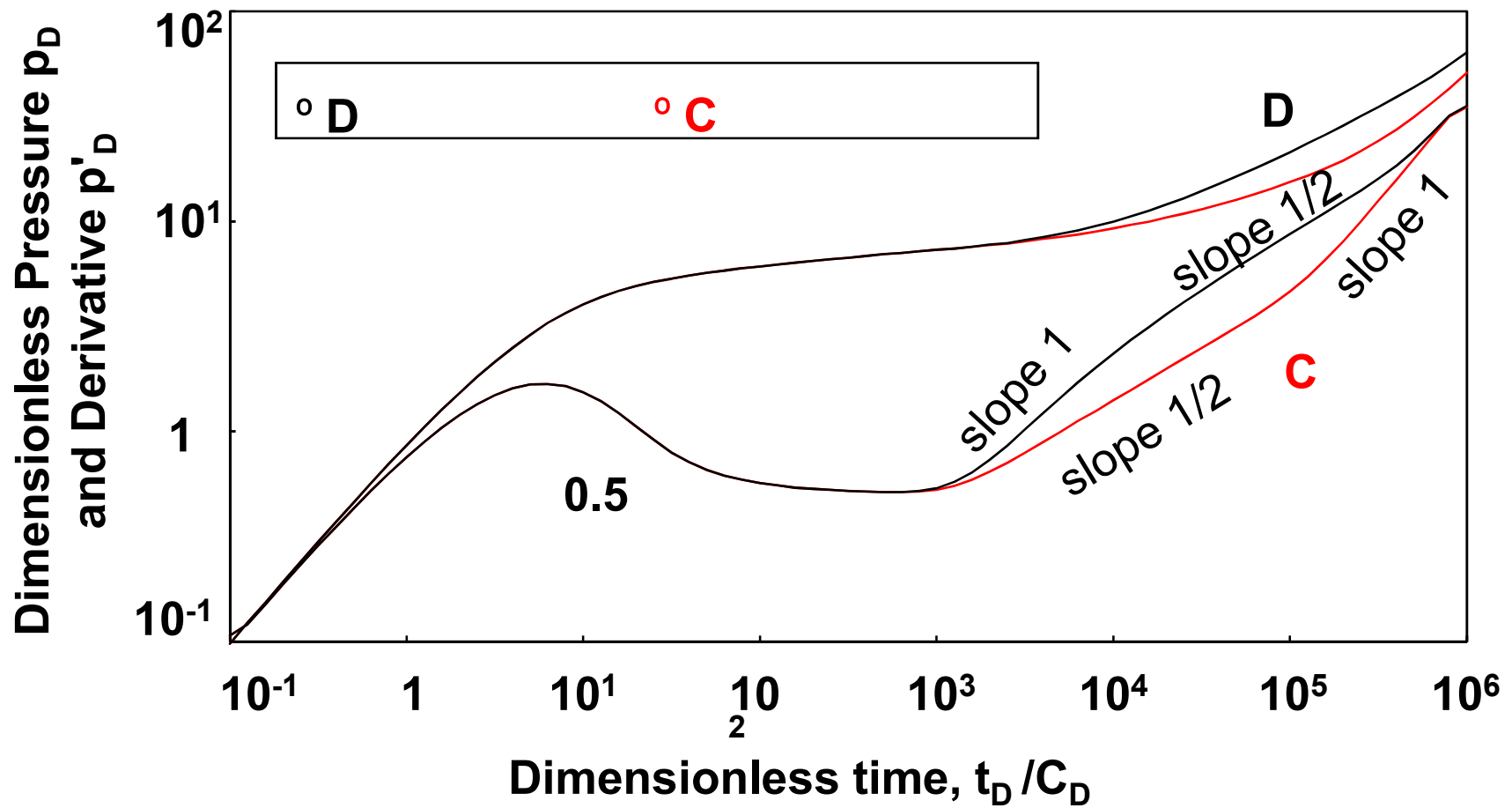
CLOSED RESERVOIR



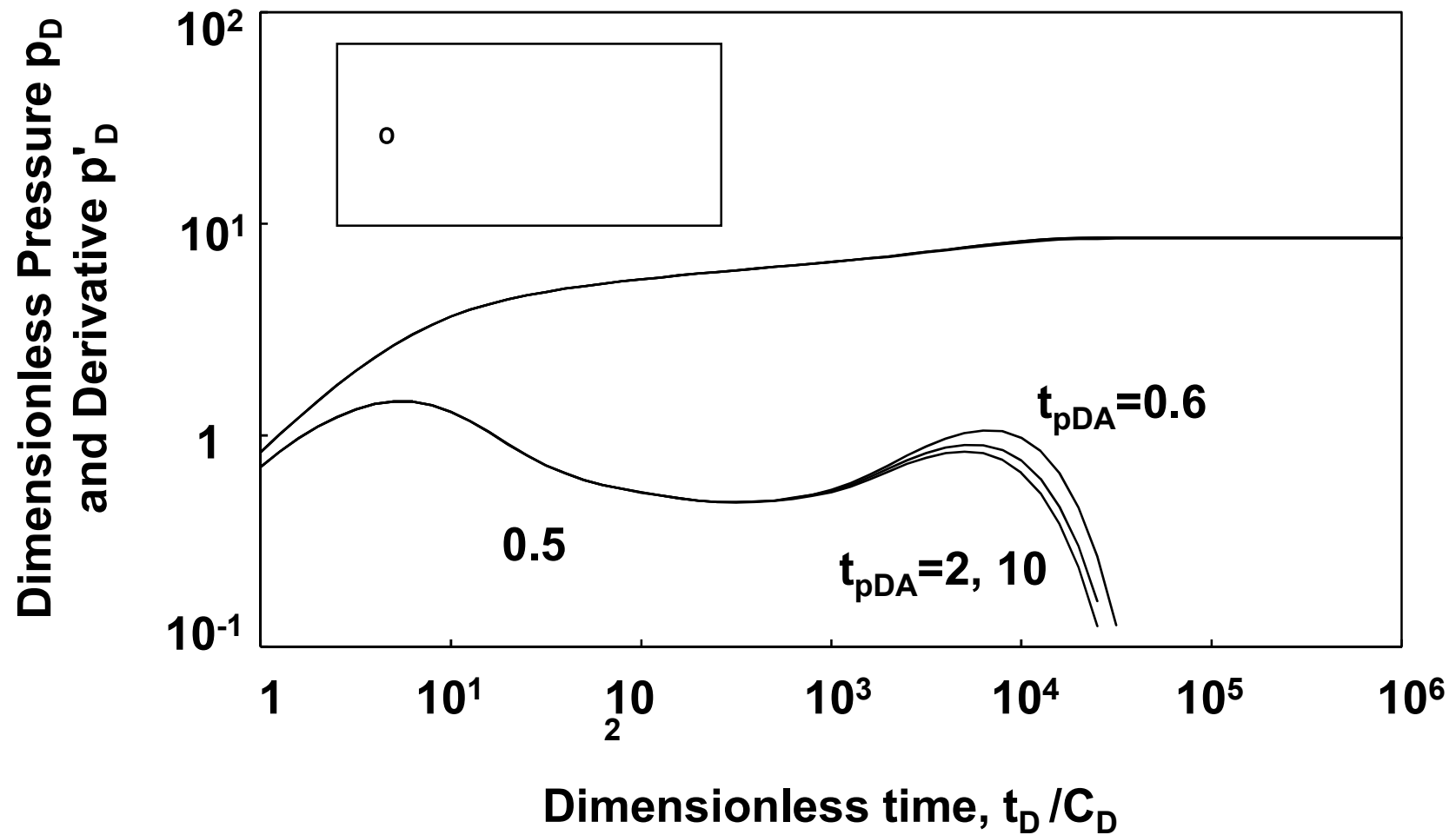
CLOSED RESERVOIR



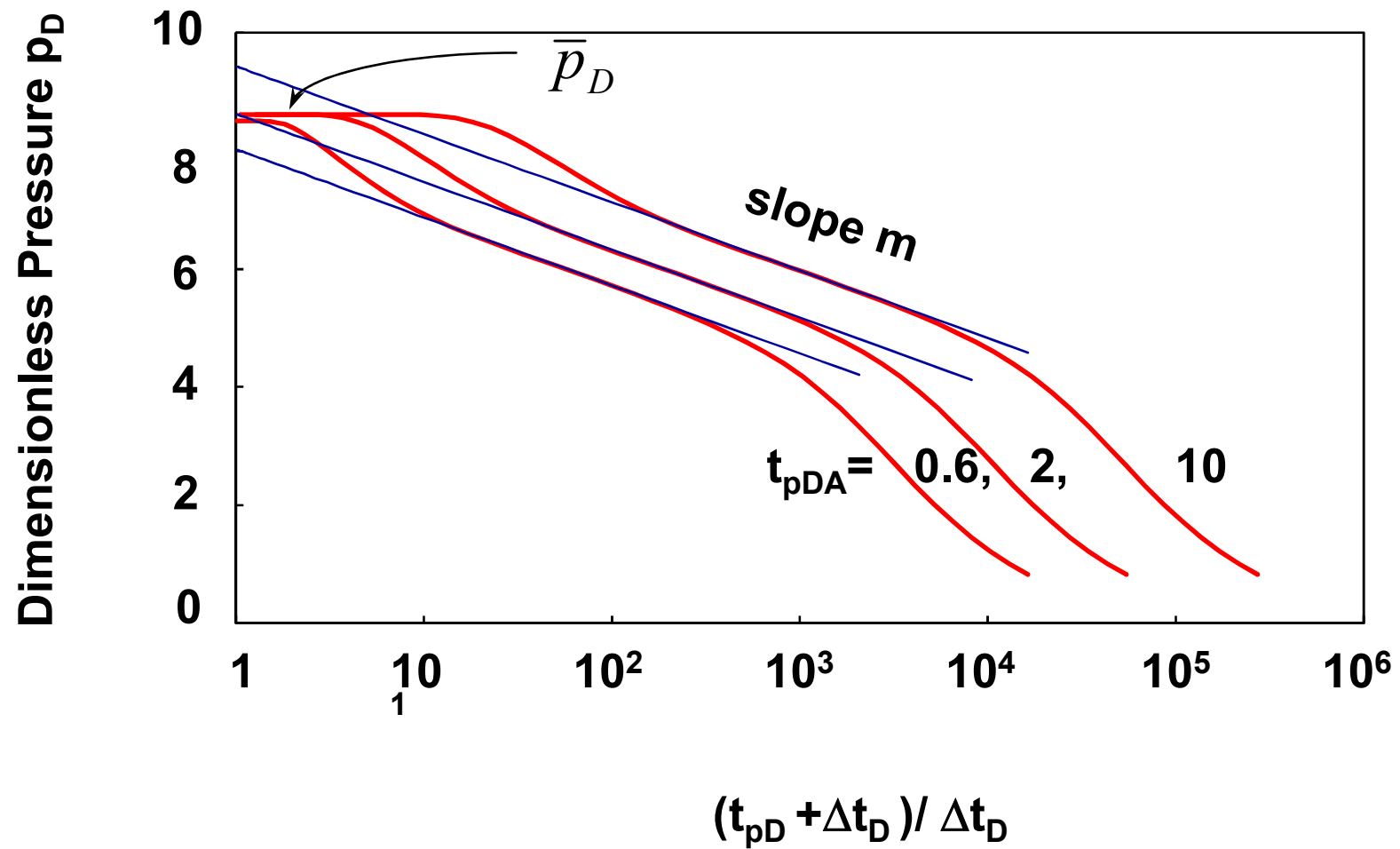
CLOSED RESERVOIR

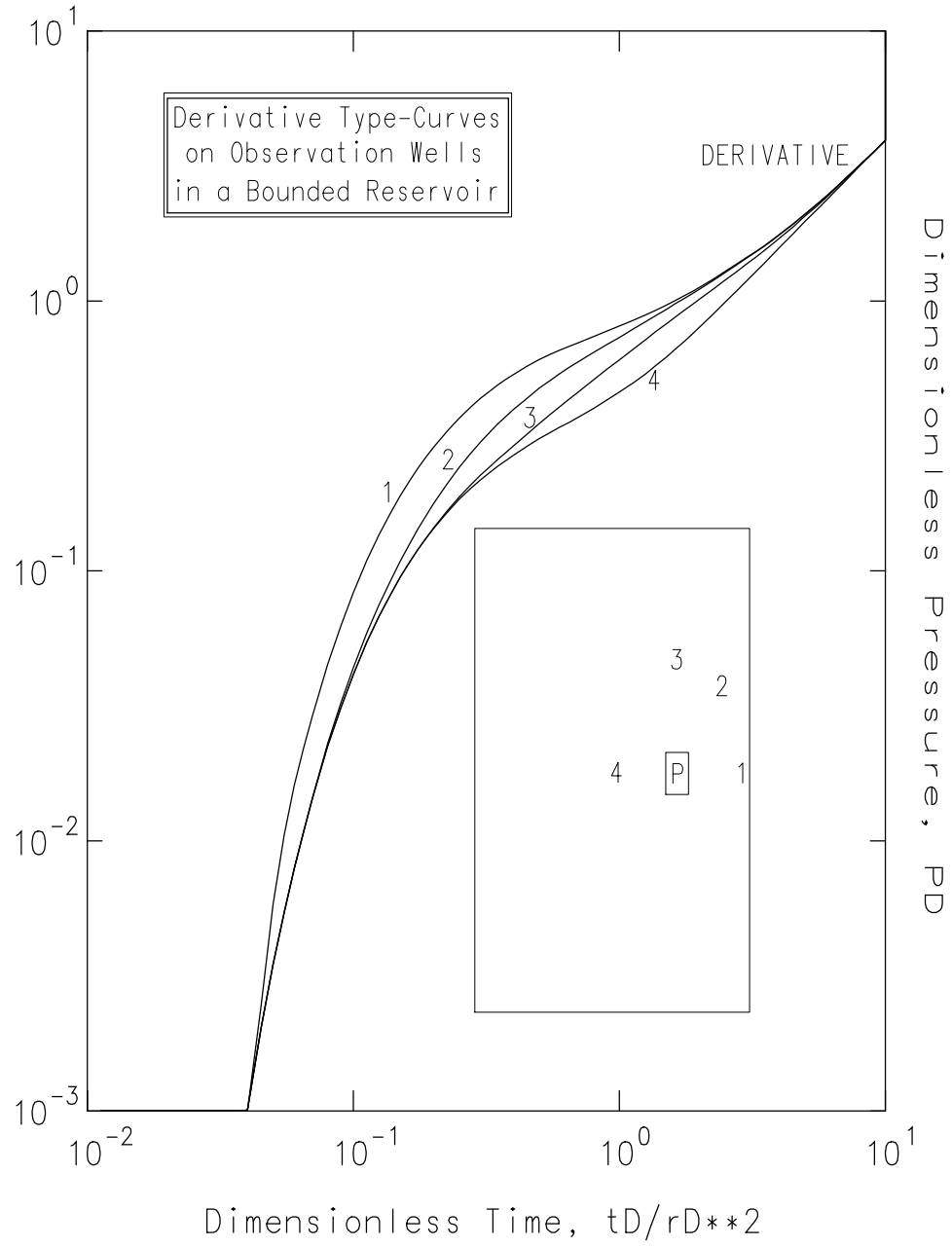


CLOSED RESERVOIR



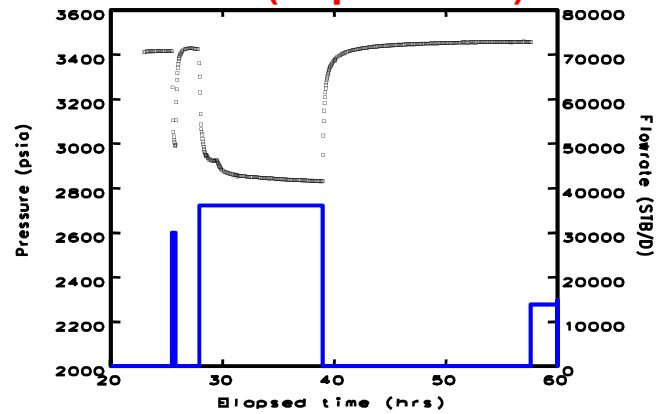
CLOSED RESERVOIR



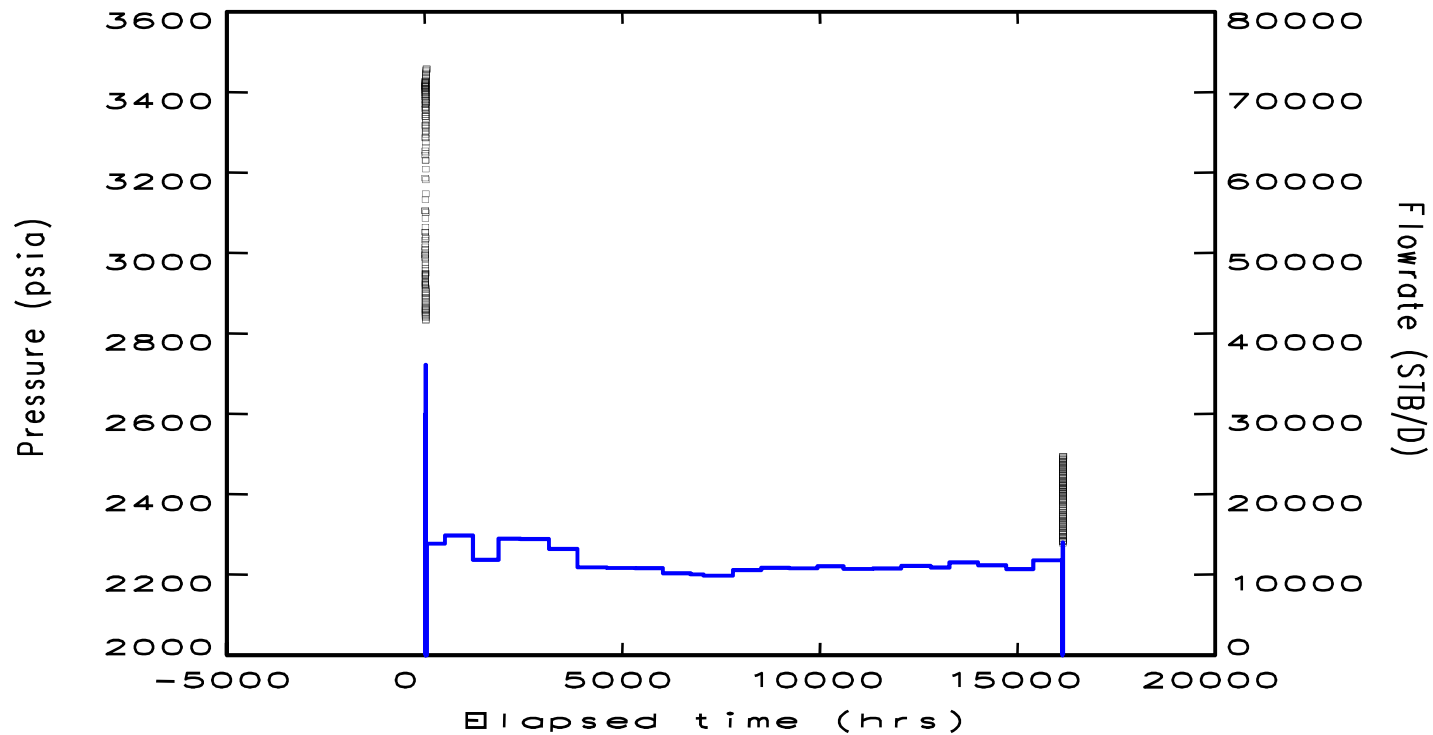
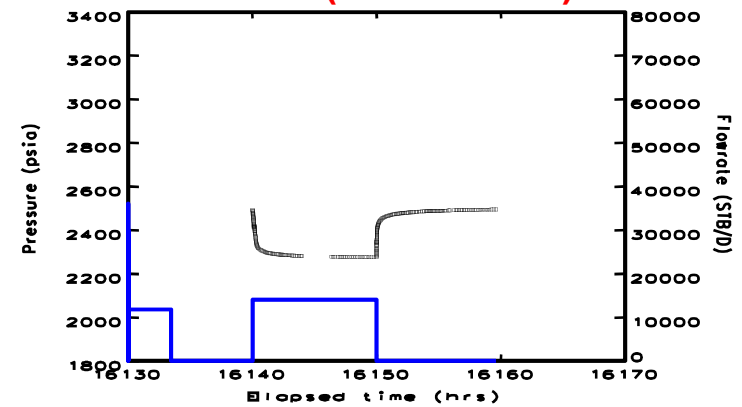


Maureen A2

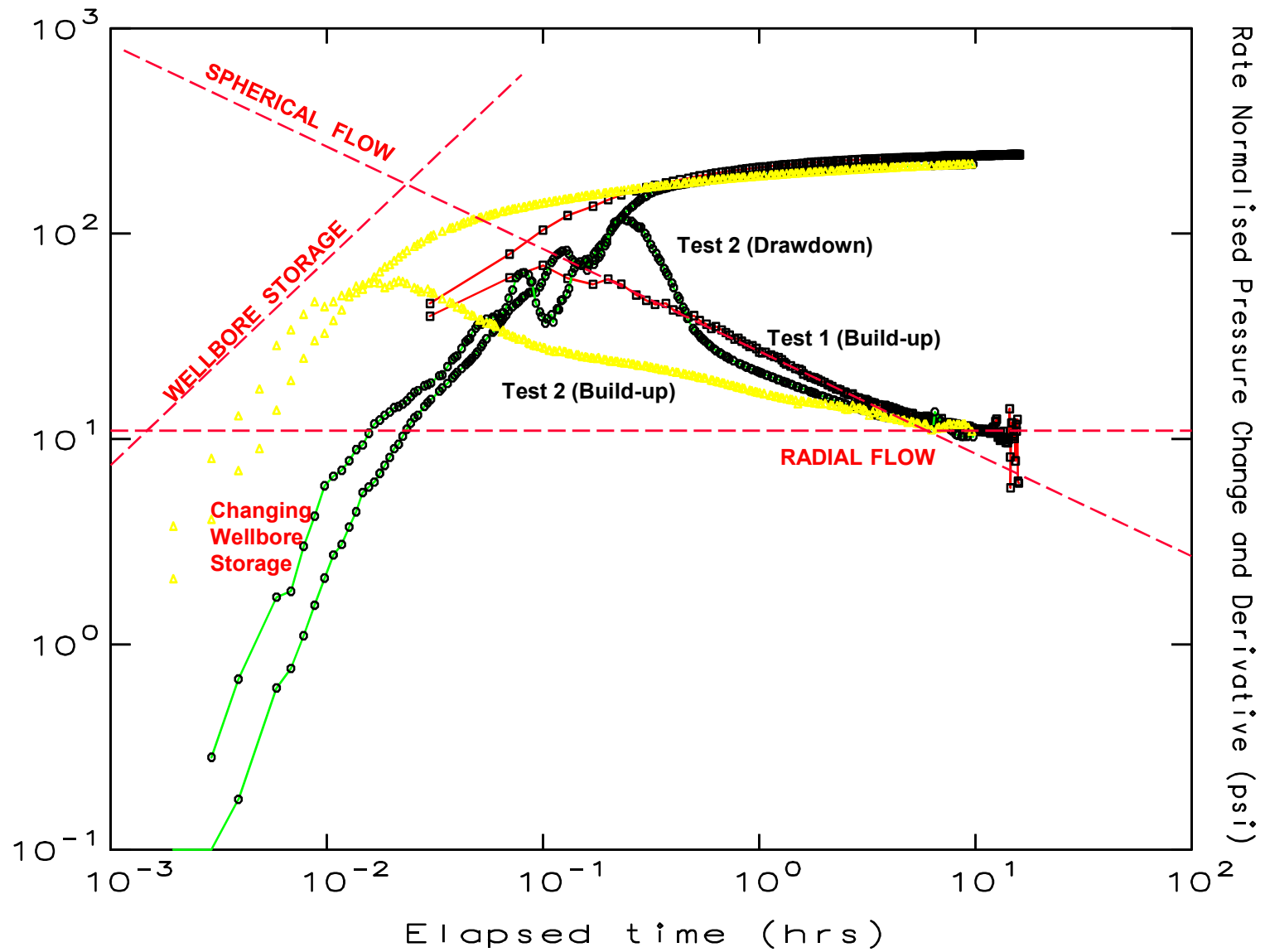
Test 1 (Exploration)



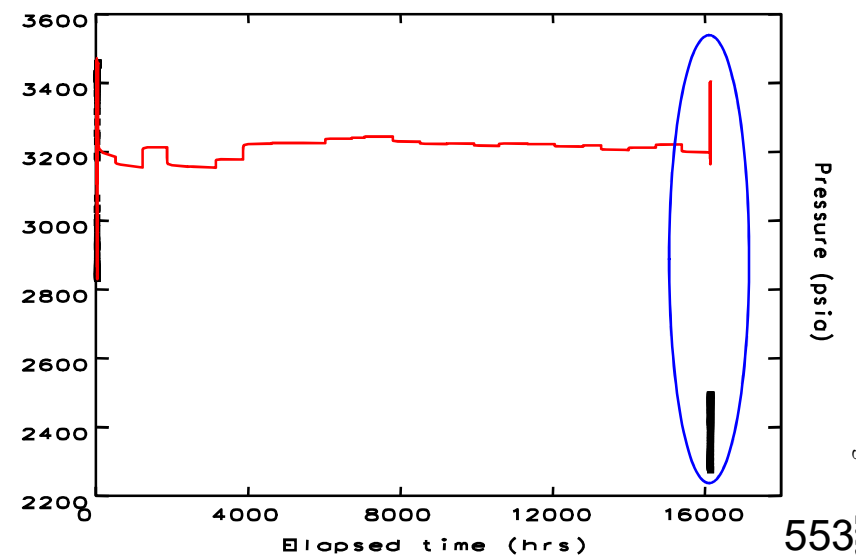
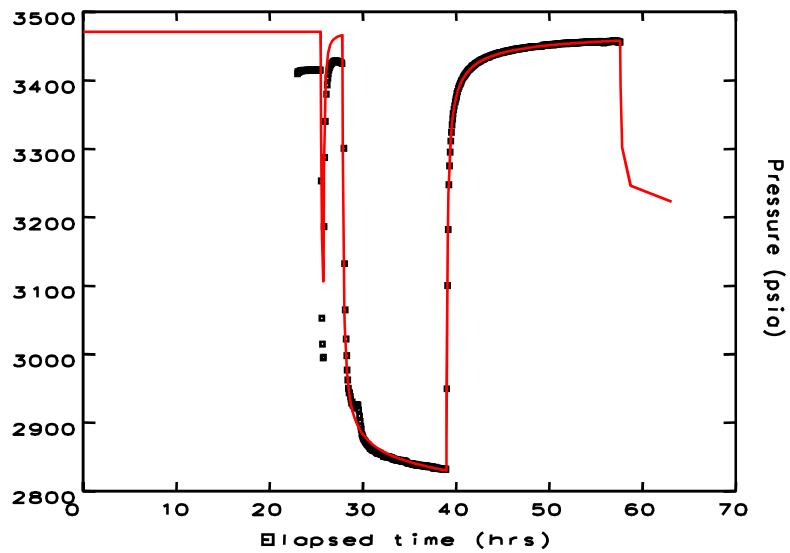
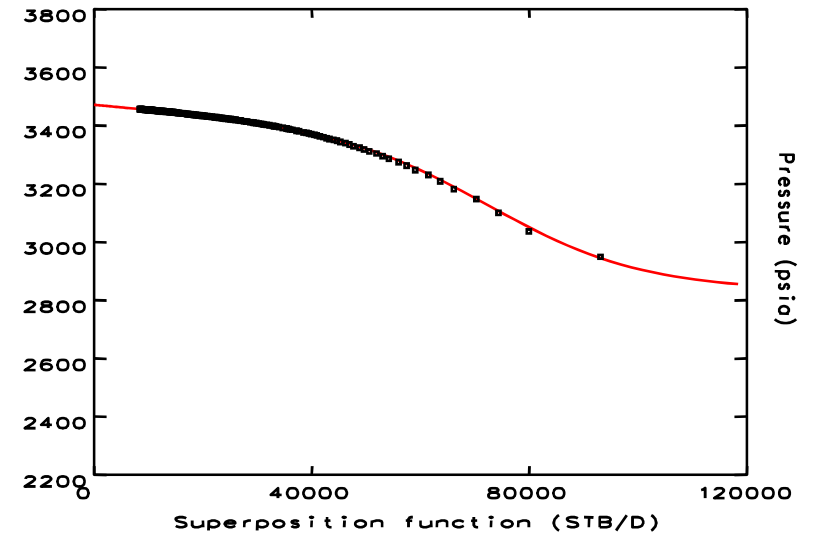
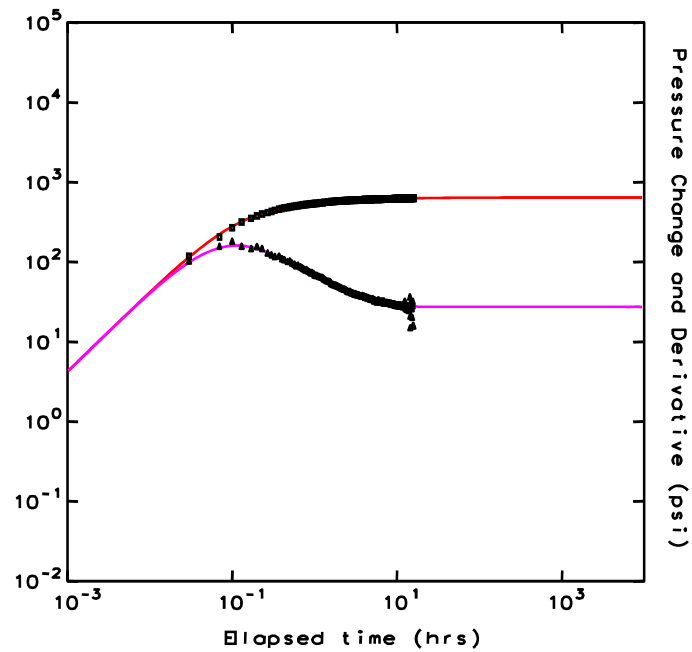
Test 2 (Production)



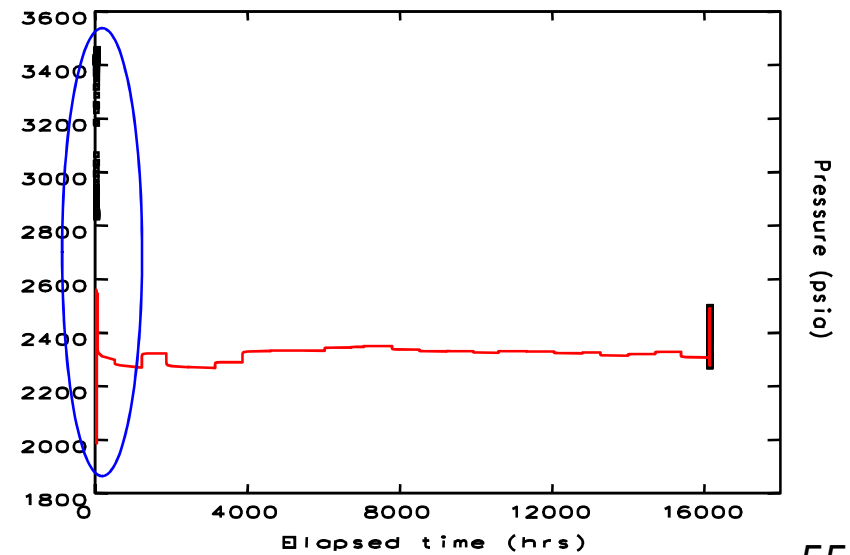
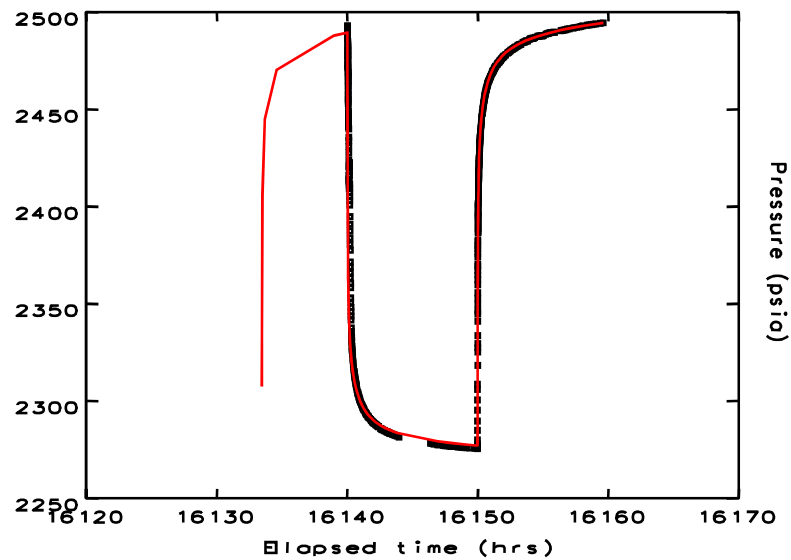
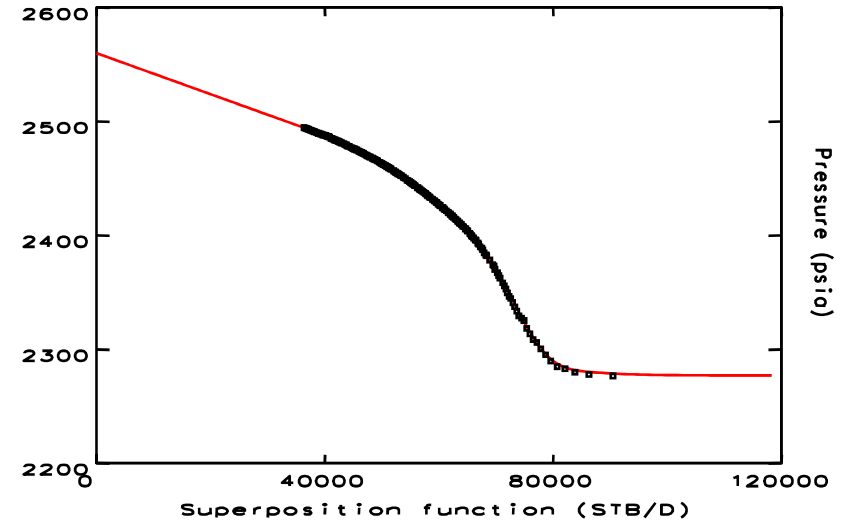
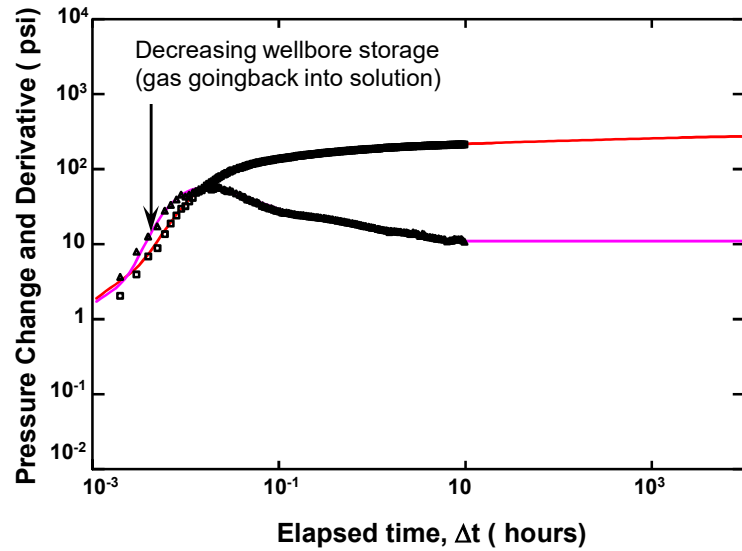
Maureen A2



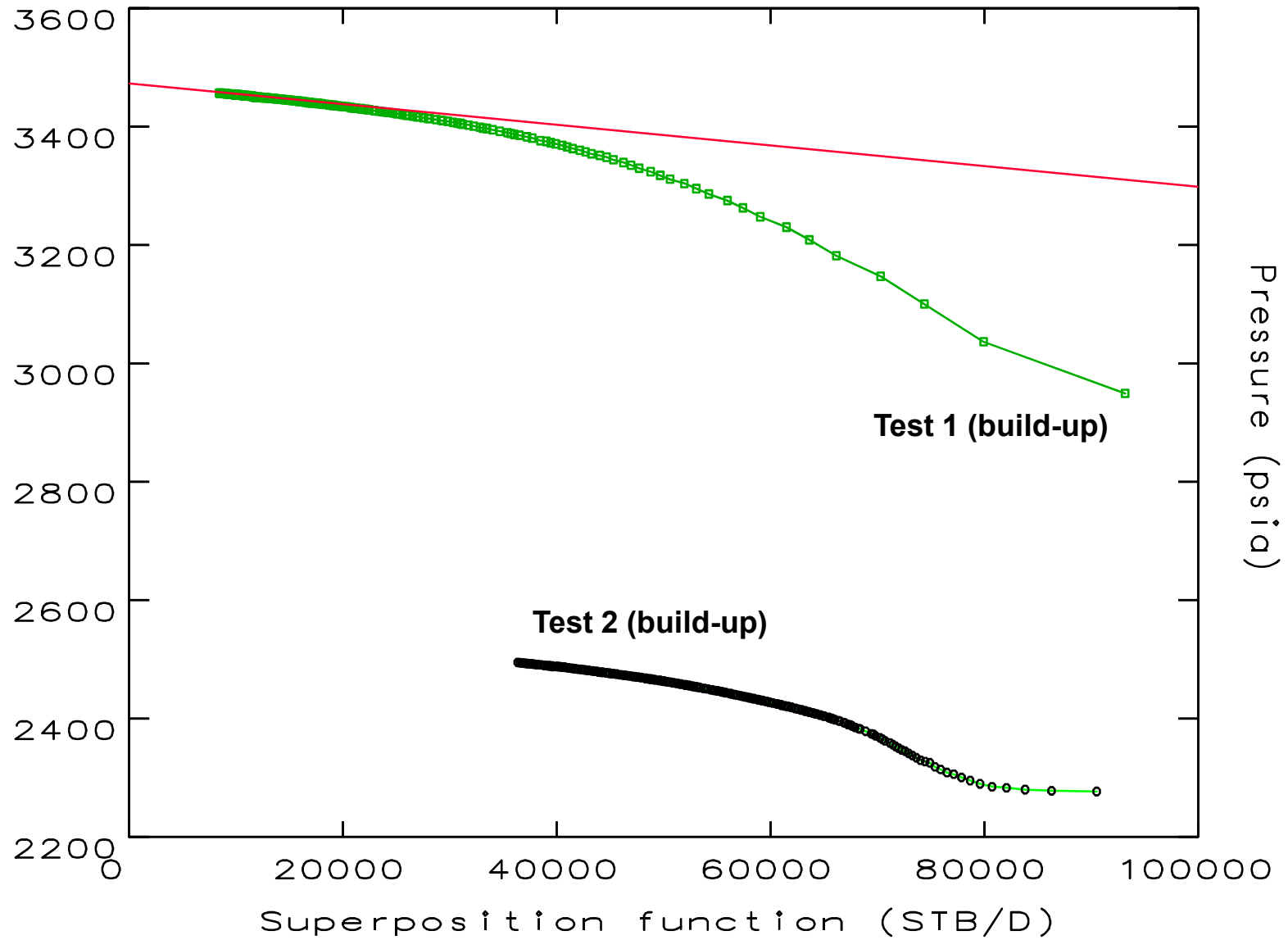
Maureen A2 Test 1 (Exploration)



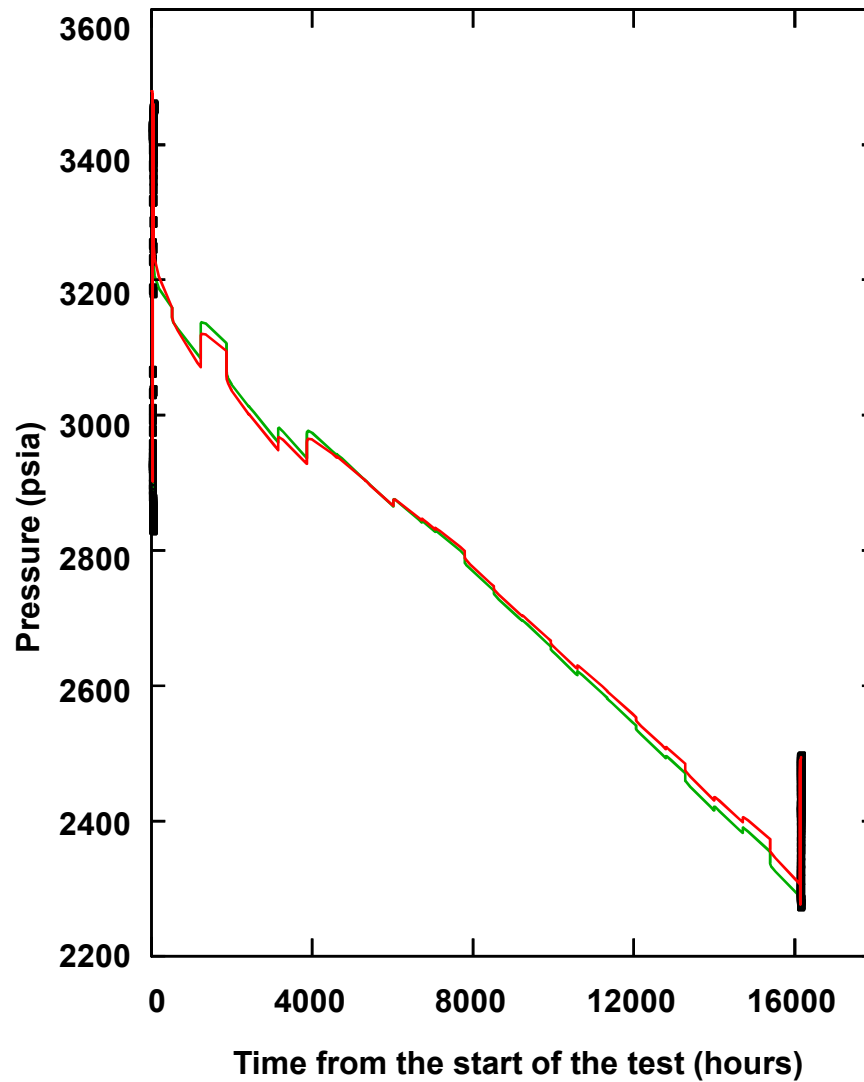
Maureen A2 Test 2 (Production)



Maureen A2: Evidence of depletion

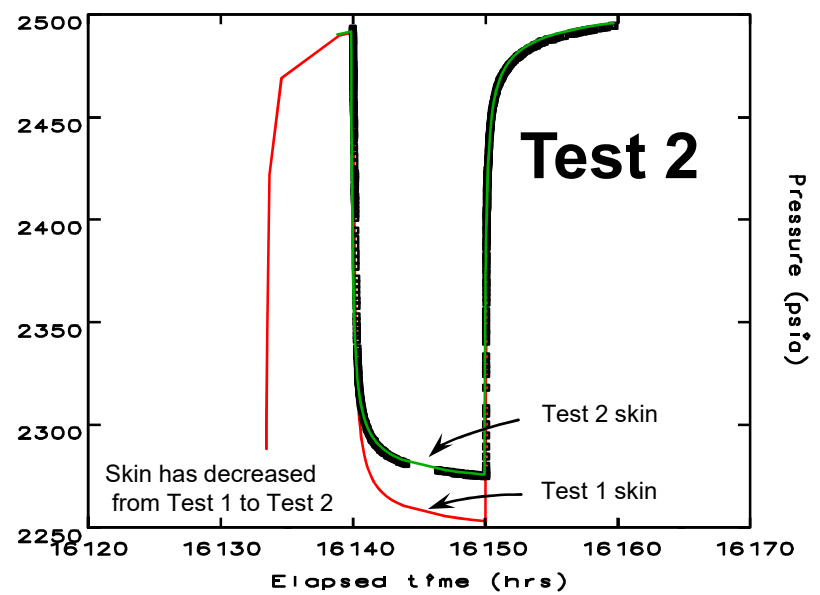
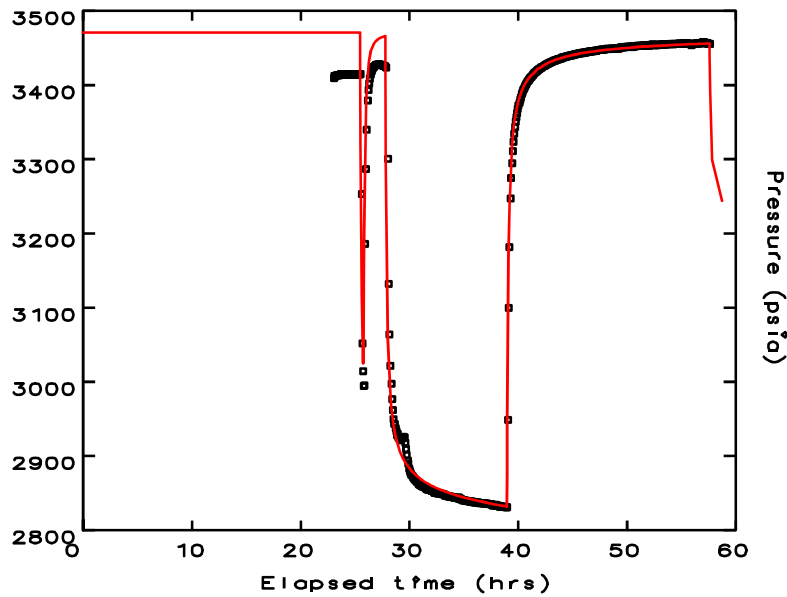
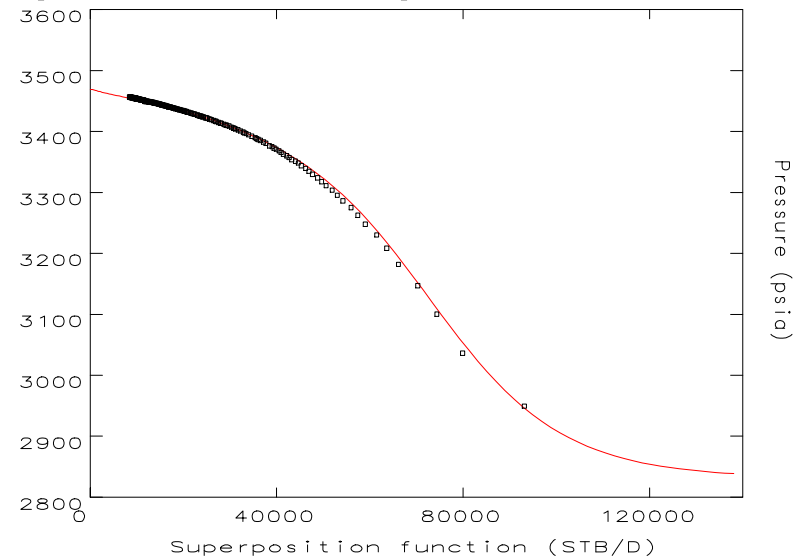
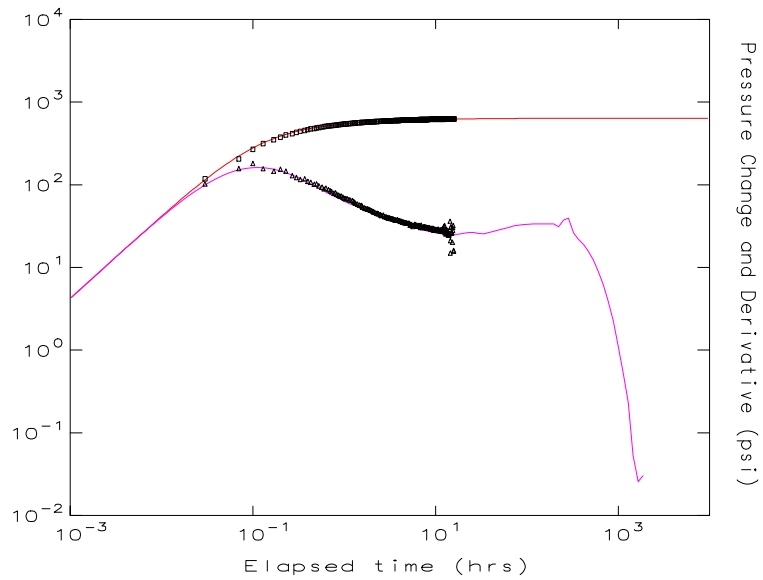


Maureen A2 : Closed rectangle model

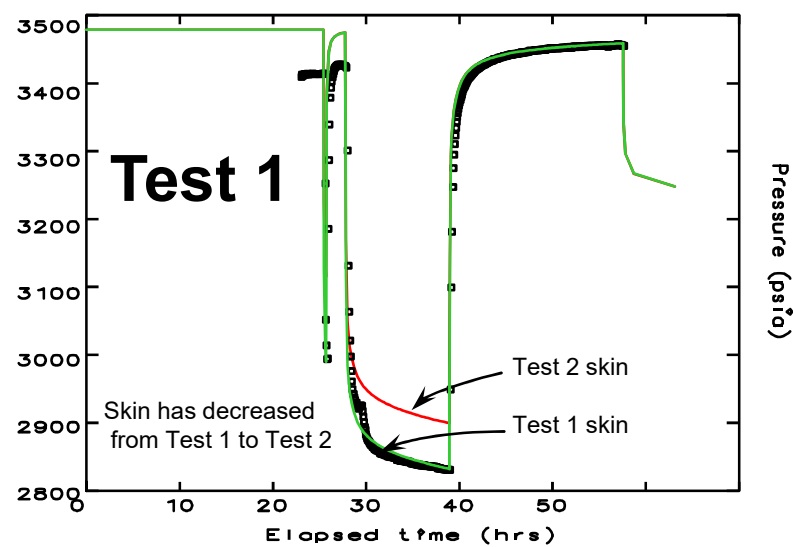
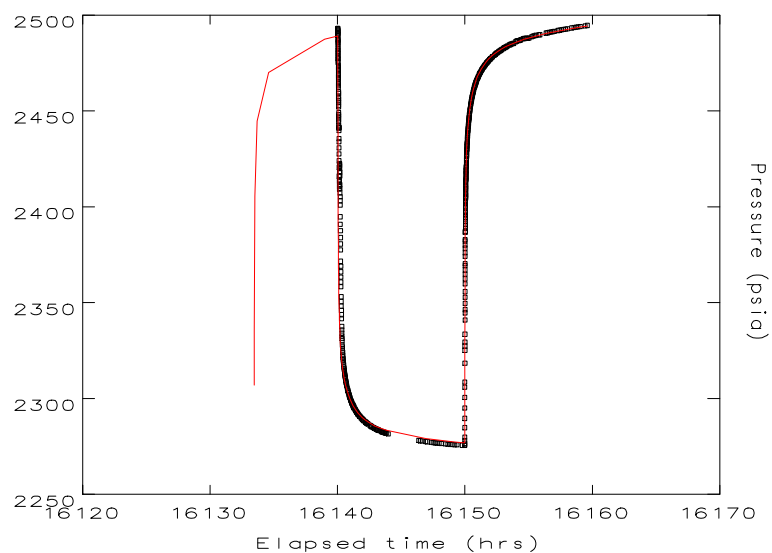
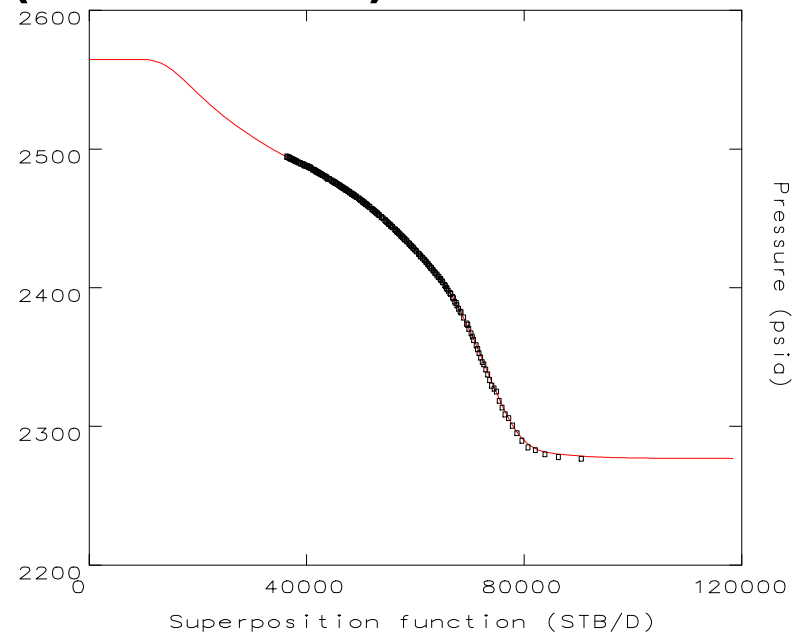
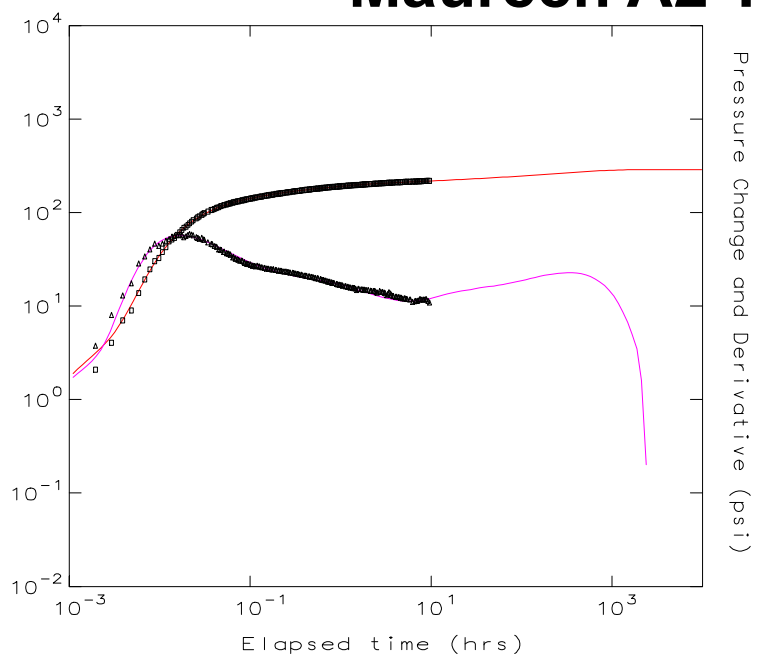


	Test 1	Test 2	
$(p_{av})_i$	3471.1	3478.6	psia
$(p_{av})_f$ at the end of the test	3469	2565	psia
kh	89170	84090	mD.ft
k(xy)	442	416	mD
k(z)	4	6	mD
C1	0.44	0.37	bbl/psi
C2		0.06	bbl/psi
α		7.551E-03	hrs
h_w/h	0.35	0.35	
h_w	70	70	ft
S(w)	-3.3	-3.7	
S(c)	12.8	12.2	
S(t)	3.3	1.4	
Z_w	166.5	166.5	ft
d_1	15900	5233	ft
d_2	8120	25923	ft
d_3	16000	7947	ft
d_4	2909	1734	ft
A	3.52E+08	3.65E+08	ft ²

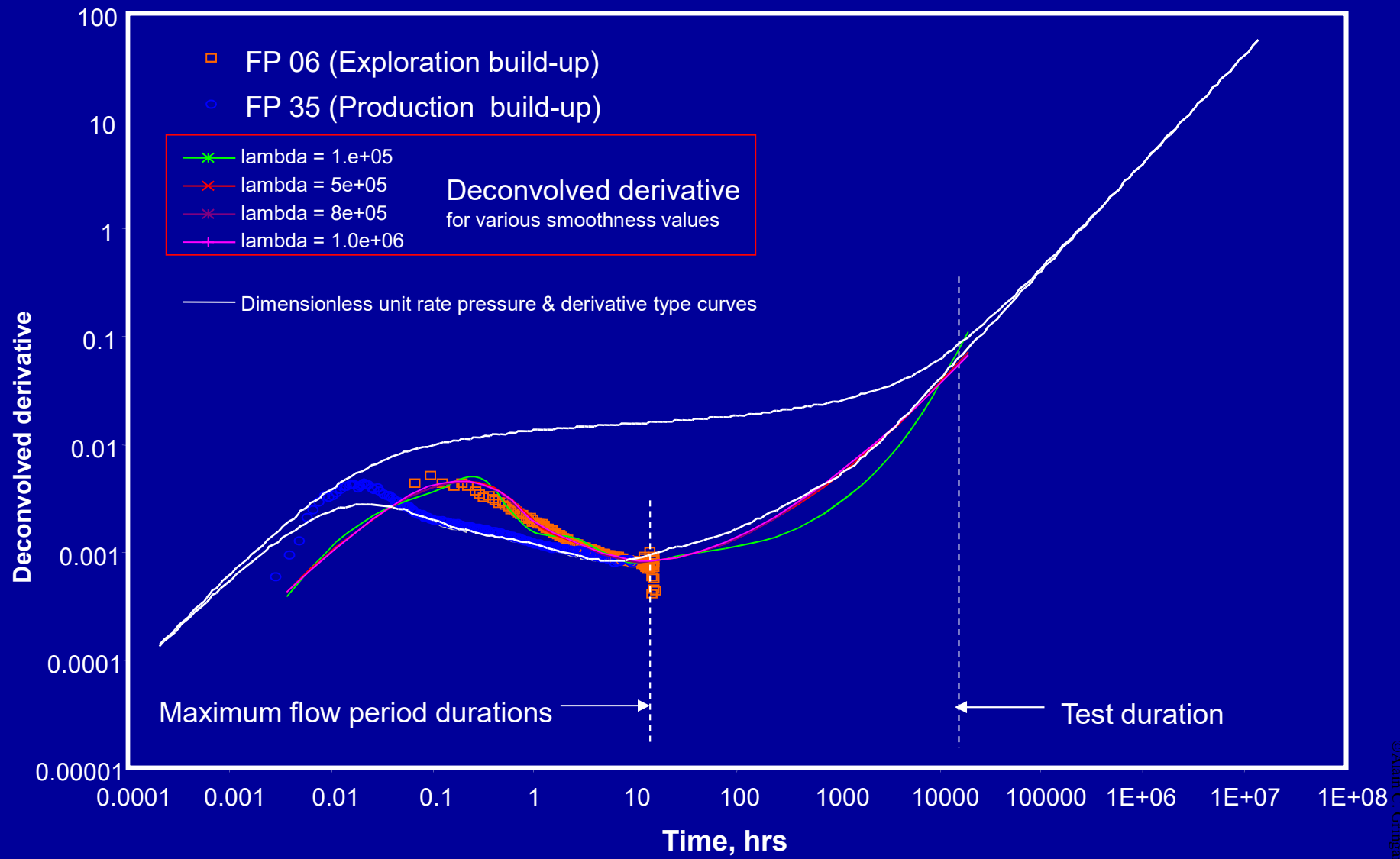
Maureen A2 Test 1 (Exploration)



Maureen A2 Test 2 (Production)



Boundary identification by deconvolution



Maureen UKCS

