

WELL TESTING TYPICAL RESPONSES PANSYSTEM USER GUIDELINES



VERTICAL WELLS		BOUNDARY MODELS		
RESERVOIR FLOW MODEL	NAME	BOUNDARY MODEL	NAME	BOUNDARY CONFIGURATION
	Radial homogeneous	1	Infinite Acting or No Boundary	
2	Radial homogeneous with wellbore storage	2	Single fault- No flow boundary	L
3	Vertical fracture – infinite conductivity	3	Constant pressure – (generic)	L
4	Vertical fracture – infinite conductivity with wellbore storage	4	Parallel faults (equidistant)	L
5	Vertical fracture – uniform flux	5	Intersecting faults 30 deg – (12 x slope)	L 230
5	Vertical fracture – uniform flux with wellbore storage	6	Intersecting faults 45 deg – (8 x slope)	L (45)
7	Vertical fracture – finite conductivity	7	Intersecting faults 60 deg – (6 x slope)	L 60
8	Limited height fracture Zwdf = 0.5 – homogeneous	8	Intersecting faults 90 deg – (4 x slope)	L L (90
9	Limited height fracture Zwdf < 0.5 - homogeneous		Intersecting faults 120 deg – (3 x slope)	L (20)
10	Limited height fracture Zwdf = 0.5 – short fracture homogeneous	9	U_shaped faults – L,L,L	L L
1	Dual porosity – pseudo steady state	10	U_shaped faults – L,10L, L	L 10 L
12	Dual porosity – pseudo steady state with wellbore storage	11	U_shaped faults – L,L, 10L	L 10L
13	Dual porosity - transient	12	Closed system – L,L, L, L (drawdown)	L L L



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14	Dual porosity – transient with wellbore storage	13	Closed system – L,L,L, L (buildup)	L L L
15	Dual permeability	14	Closed system – 5L,L, 5L, 9L (drawdown)	5L 9L L 5L
16	Dual permeability with wellbore storage	_15	Closed system – 5L,L, 5L, 9L (buildup)	5 L 9 L 5 L
17	Radial composite – inner mobility lower	16	Closed system – L,L, 9L, 9L (drawdown)	9L LL
18	Radial composite with wellbore storage – inner mobility lower		Closed system – L,L, 9L, 9L (buildup)	9L
19	Radial composite – inner mobility higher	18	Closed system – 2L,10L,2L, 10L (drawdown)	10L 2L 10L
20	Radial composite with wellbore storage – inner mobility higher	19	Closed system – 2L,10L,2L, 10L (buildup)	10L 2L 10L 2L
21	Partial penetration	20	Closed system – 2L,19L,2L, L (drawdown)	19L 2L L
22	Partial penetration with wellbore storage	21	Closed system – 2L,19L,2L,L (buildup)	19L 2L L
23	Gas cap/aquifer support	22	Closed system – L,19L,3L, L (drawdown)	19L LL 3L
24	Gas cap/aquifer support with wellbore storage	23	Closed system – L,19L,3L, L (buildup)	19L L'L
		24	2-cell compartmentalised – (drawdown)	V2 V1 L L L L
		25	2-cell compartmentalised – (buildup)	V2 V1 L L L L L L L L L L L L L L L L L L
		27	Hexagonal system - L	



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HORIZONTAL WELLS				
RESERVOIR FLOW MODEL	NAME			
23	Horizontal well – two no-flow boundaries Zwd = 0.5 –homogeneous			
24	Horizontal well – two no-flow boundaries Zwd = 0.5 – homogeneous with wellbore storage			
25	Horizontal well – two no-flow boundaries Zwd > 0.5 – homogeneous			
26	Horizontal well – two no-flow boundaries Zwd > 0.5 – homogeneous with wellbore storage			
27	Horizontal well – two no-flow boundaries – dual porosity			
28	Horizontal well – two no-flow boundaries – dual porosity with storage			
29	Horizontal well – no-flow/constant pressure boundary – homogeneous			
30	Horizontal well – no-flow/constant pressure boundary – homogeneous with storage			
31	Horizontal well – no-flow/constant pressure boundary – dual porosity			
32	Horizontal well – no-flow/constant pressure boundary – dual porosity with storage			