

Well Block Pressures at shut-in on 1-July-2010 (With Crossflow to M110 Sand)
Depletion 35mbd from 430-0010 (cumulative prodn: 2.52 mmstb total production)

Reservoir Section	Top Depth RTVDSS	Near Well Pressure psia	Reservoir Pressure psia	Comment
M110	8,969	5,503	4,731	gas sand at 18" shoe (depth of 18" shoe)
M57B	11,281	9,863	10,846	gas sand (cross flow)
M57C	17,614	10,756	12,788	gas sand (cross flow)
M56A	17,718	9,867	8,744	gas sand (cross flow)
M56B	17,895	9,954	9,951	water sand (little flow)
M56C	17,844	10,349	10,454	water sand (little flow)
M56D	17,961	9,968	11,278	oil sand
M56E	16,034	9,900	10,844	Main Oil Sand (on which 11,850 psia is based)
M56F	18,132	9,991	11,164	oil sand

Note: all pressures hydrocarbon zone volume weighted at mid-point of reservoir layer
M110 Sand modelled as effectively "infinite", hydrocarbon PV = 0.6x10¹² reservoir bbls

All pressures are reported 0.1 days (2.4 hours) after shut-in.

Assumptions

1. The calculation was performed using a VIP simulation model with the following parameters:

- Oil B_{oi} : 2.345 rb/stb
- c_f : 6×10^{-6} psia⁻¹

- The "near well pressure" is taken from the well's gridblock, with dimensions of 100 x 100 ft.
- The model includes the M57(B, C) and M56(B, C, D, E, F) sands, and was originally created to address whether the wellbore could become gas filled during shut-in at the "topkill."
- The M57 gas sands have a higher initial pressure than the main oil sands; they are modelled with a limited areal extent. These sands contribute some flow for the first 10 days of production, during which time the predicted GOR drops from 4,600 SCF/stb to 3030 SCF/stb.
- For depletion with only the M56D-F open, depletion at a constant 35 mbd would yield a near well pressure in the M56E of 10,889 psia, and there would be no change in the sand's average pressure.