a.

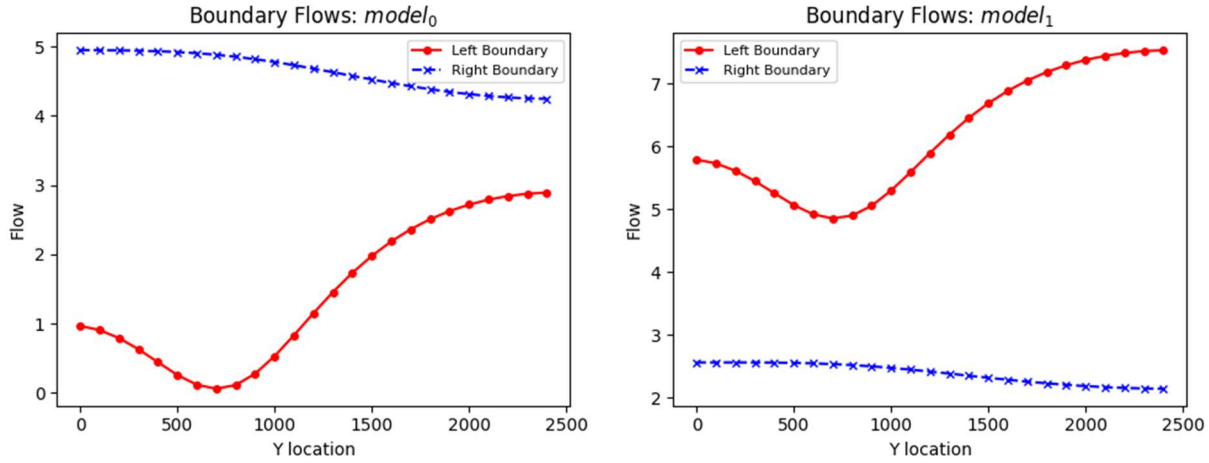

Figure 1: Left figure ($model_0$) shows flow with only Local Recharge and the Head left/right boundary conditions. The right figure ($model_1$) shows the same model, except with ET active at a rate of 5e-5 m/d and an extinction depth of 3 m.

b.

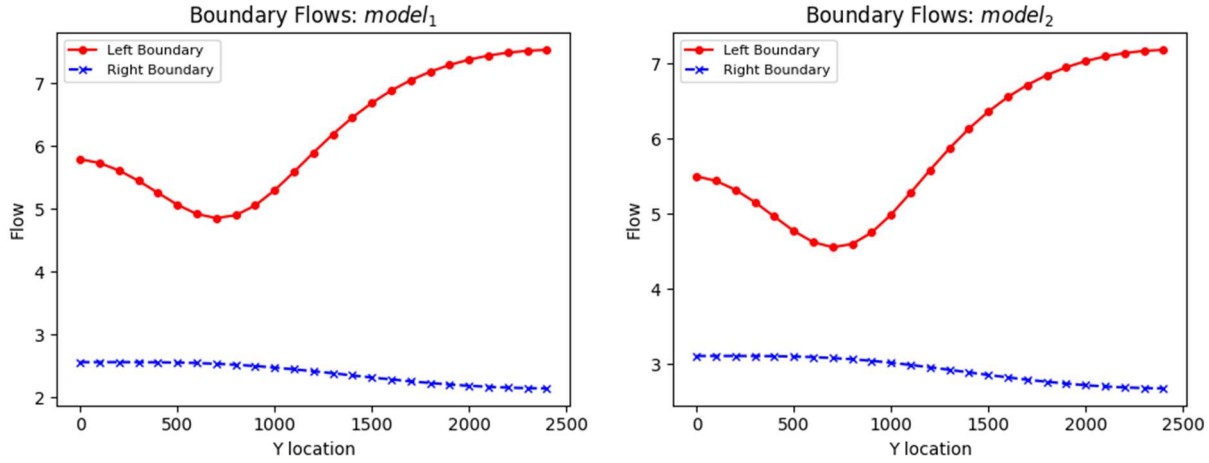

Figure 2: Left figure ($model_1$) shows initial ET model with an extinction depth of 3 m. Right figure ($model_2$) shows the same model, but with an extinction depth of 1 m for ET. Magnitude of flow is greater along the right boundary for the shallower extinction depth, with a reduced magnitude for the left boundary flow.

c.

No figures for part C, though an explanation of MODFLOW and ET is doable. I believe that MODFLOW puts constraints on the ET dependent upon head within the system and the extinction depth used for ET. After calculating the constraints and weighting the system, MODFLOW treats ET as a system wide negative flux where it meets the constraints put in place (so, if head is within/above the constraints, i.e. the top of the system at 10 m or above 10 m – Extinction Depth (m), it uses ET in the calculations for flow with the appropriate weighting.)

d.

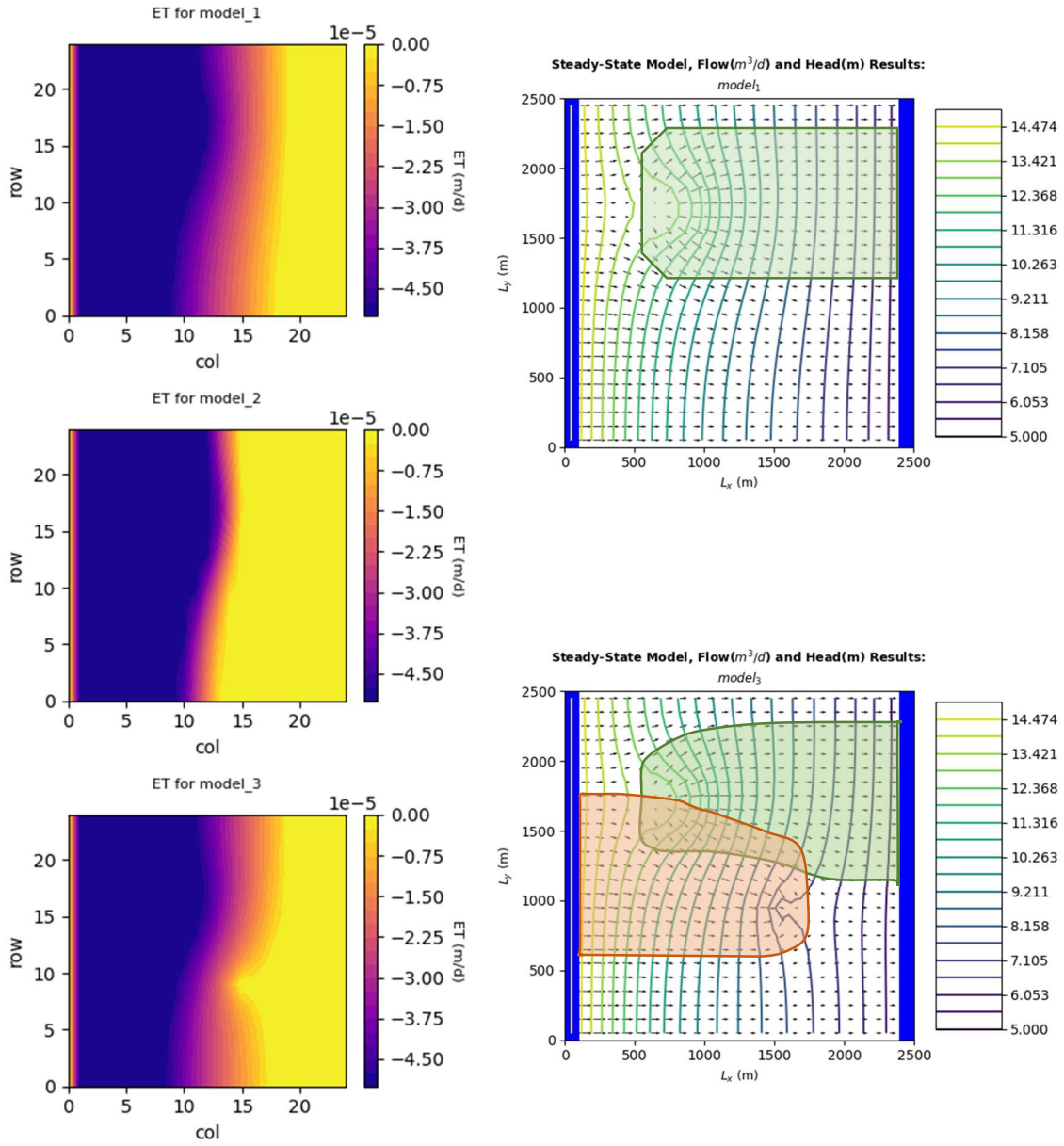

*Figure 3: Left side graphs show the ET as a negative flux (divided by Area of the cells, or drow*dcol) across the 3 models with ET (model$_1$: ET = 5e-5, Ext. D = 3m; model$_2$: ET = 5e-5, Ext. D = 1m; model$_3$: ET = 5e-5, Ext. D = 3m w/ well active). The right graphs show the flow vectors/equipotentials for model$_1$ and model$_3$ with the approximated areas affected by recharge (green area) and contribution to the well (reddish-brown area).*