

Assignment 9:

1. Download the student version (50 x 50 x 4) of Groundwater Vistas from <http://www.esinternational.com/software/Download.asp>. You will need to register. You can skip the 'last' installation step.
2. Use the default parameters for the aquifer properties. Place a constant head boundary on the right had side of the domain. Place a pumping well ($Q = -10,000$) at row 25, column 10. Compute the heads. Add a line of 20 particles at column 49. Run MODPATH. Choose Plot/Particles/Options/Time Posting. Use an interval of 36.527 d ($= 365.25/10$) and a multiplier of 0.0027385 ($=1/365.25$). This will give the time stamps in years. You will probably want to change the font size. Print your result.
3. Plot an approximate breakthrough curve at the well based on the arrival times of the particles. Assume that the constant head source is at a concentration of 1. Then the relative concentration C/C_0 at a particular time is the number of particles that have entered the well relative to the total number. Plot the piston flow approximation assuming a 1-D flow system, an approximate gradient, and the default parameters for K and porosity.