

Modelling tasks to successfully pass an exam
Course: Modeling GW Flow and Contaminant Transport

1. Building a mesh, refining mesh
2. Adding specified coordinate system
3. Applying dxf or bln base map
4. Adding fixed head boundary
5. Adding GHB (General Head Boundary)
6. Applying constant or varying initial heads (applying given horizontal hydraulic gradient)
7. Defining gravelly, sandy, silty and clayey layers with representative hydraulic properties
8. Implementing production or injection wells
9. Implementing drains
10. Implementing rivers
11. Implementing slurry walls (horizontal flow barriers)
12. Implementing time variant head cells
13. Adding recharge with different options
14. Drawing potential and head maps
15. Drawing pathlines
16. Calculating water budget
17. Defining transient model time parameters (periods, time steps)
18. Adding monitoring wells
19. Making animation of time series of contour maps
20. Using the Search and Modify command
21. Drawing time variant drawdown and head in monitoring wells
22. Using the Field Interpolator
23. Using the Digitizer
24. Defining multiple contaminants in a transport model
25. Adding initial concentrations to a transport model
26. Defining dispersion parameters
27. Defining sorption parameters for different formations (clay/silt/sand/gravel) and related bulk densities
28. Defining decay parameters (understanding half-life / decay coefficient conversion)
29. Defining injection well as contaminant source
30. Defining recharge from surface as contaminant source
31. Defining background concentration by applying given concentration of boundary inflow fluxes
32. Understanding Mass-Loading rate cells
33. Defining concentration monitoring wells
34. Drawing concentration maps and/or animations
35. Drawing concentration changes in monitoring wells