Using Aqtesolve

Start Aqtesolve, use 'File', 'New', and select the 'Pumping Test Wizard'.



Your homework uses a multiwall test (one pumping well and one observation well).

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Choose the units you want to work in:

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Make sure the aquifer thickness is greater than the maximum drawdown. Notice that this aquifer test measures transmissivity – not hydraulic conductivity—so the thickness you use here is not important unless you want to estimate the hydraulic conductivity from the transmissivity.

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Leave the pumping well at the coordinate 0,0:

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Choose the default, vertical, full penetration of pumped aquifer well configuration for both the pumping and observations wells:

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The default well casing and filter pack radii of 1 m will work fine for both the pumping and observation wells in this case:

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Put in the time of the start of the pumping rate (0) and the rate (500 m^3/d):

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Put the observation well 95 m away from the pumping well:

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Import the observation well data from a file consisting of the time and drawdown. My abbreviated file (based on Fitts, Chapter 8, Problem 15) looks like this:

1,0.15

- 2,0.22
- 4,0.3
- 8,0.39
- 15,0.46
- 30,0.55
- 60,0.63
- 120,0.72

240,0.81

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No changes are needed to the following screens if your file contains the data as one column of time and one column of drawdown:



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You should end up at a screen like the following:

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Under ' Match' choose 'Solution':



Turn off the 'Solution is inactive' check box and pick 'Confined Aquifers', 'Theis (1935)':



Then pick 'View', 'Displacement-time':



It is appropriate to view this on log-log axes (use the

button):





Click and drag on the screen to move the type curve around until you get a good fit:

To use the Cooper-Jacob straight line method, choose 'Match', 'Solution', 'Cooper-Jacob':





The graph should change immediately to the other method:





Click 'Estimate' the get the result.