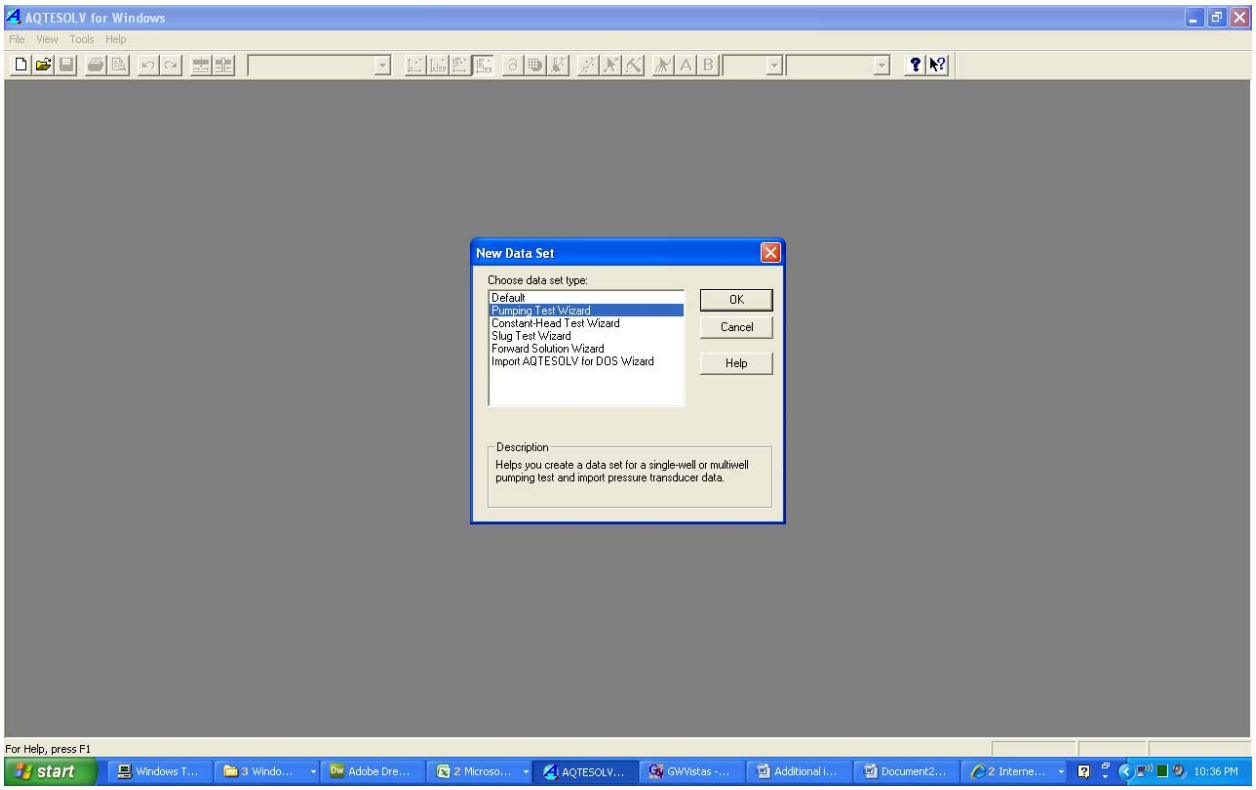
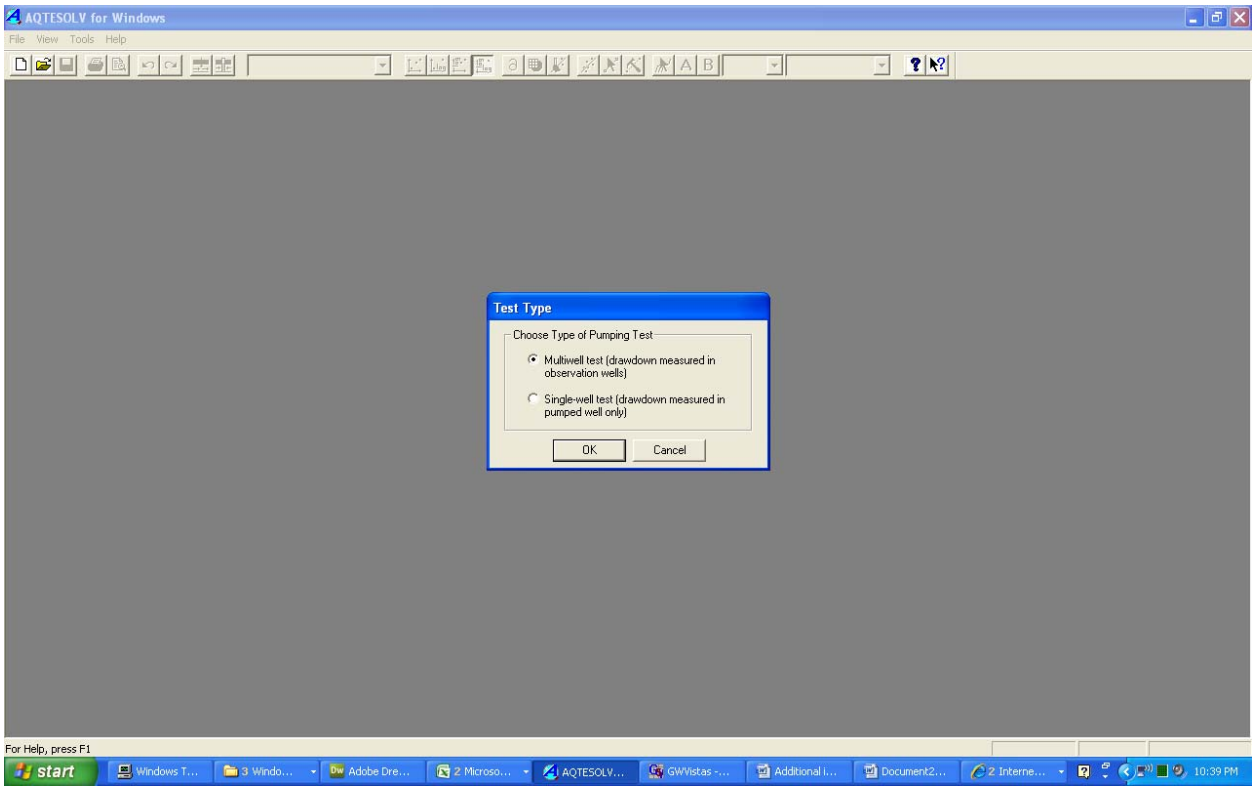
Using Aqtesolve

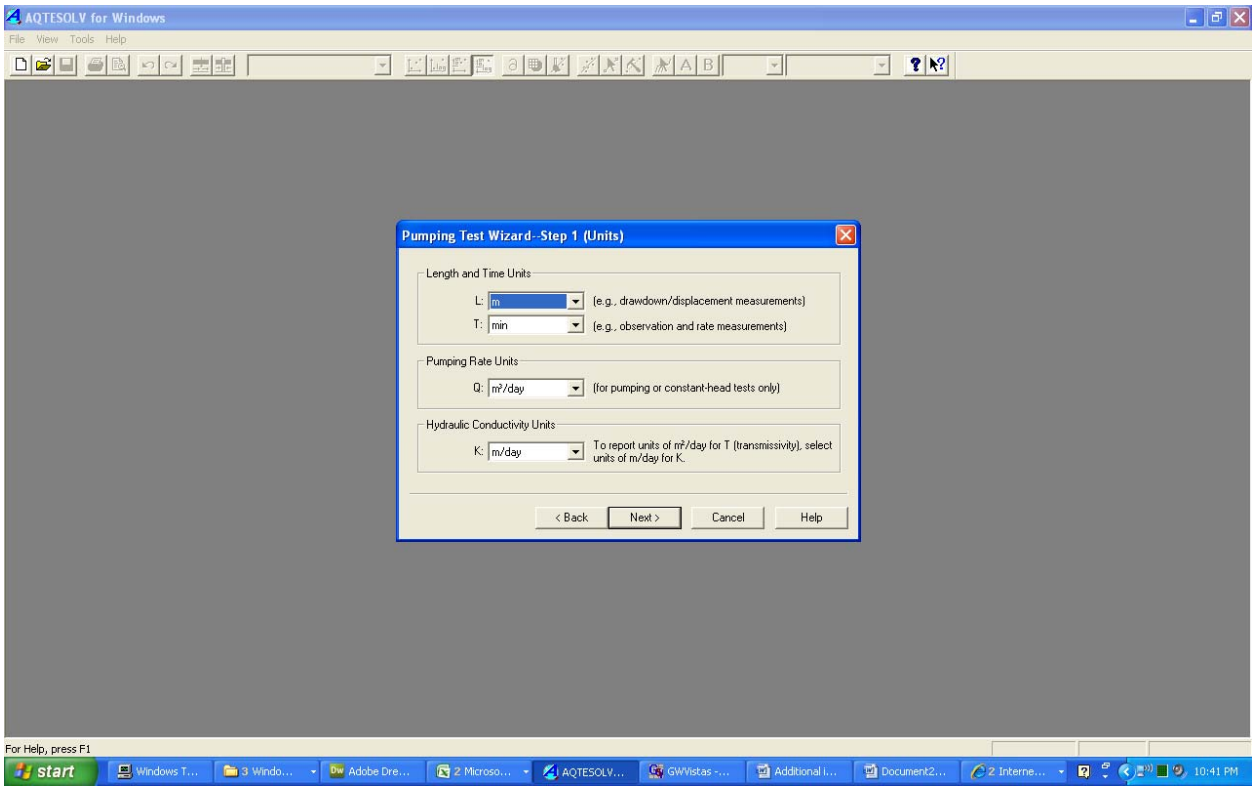
Start Aqtesolve, use ‘File’, ‘New’, and select the ‘Pumping Test Wizard’.



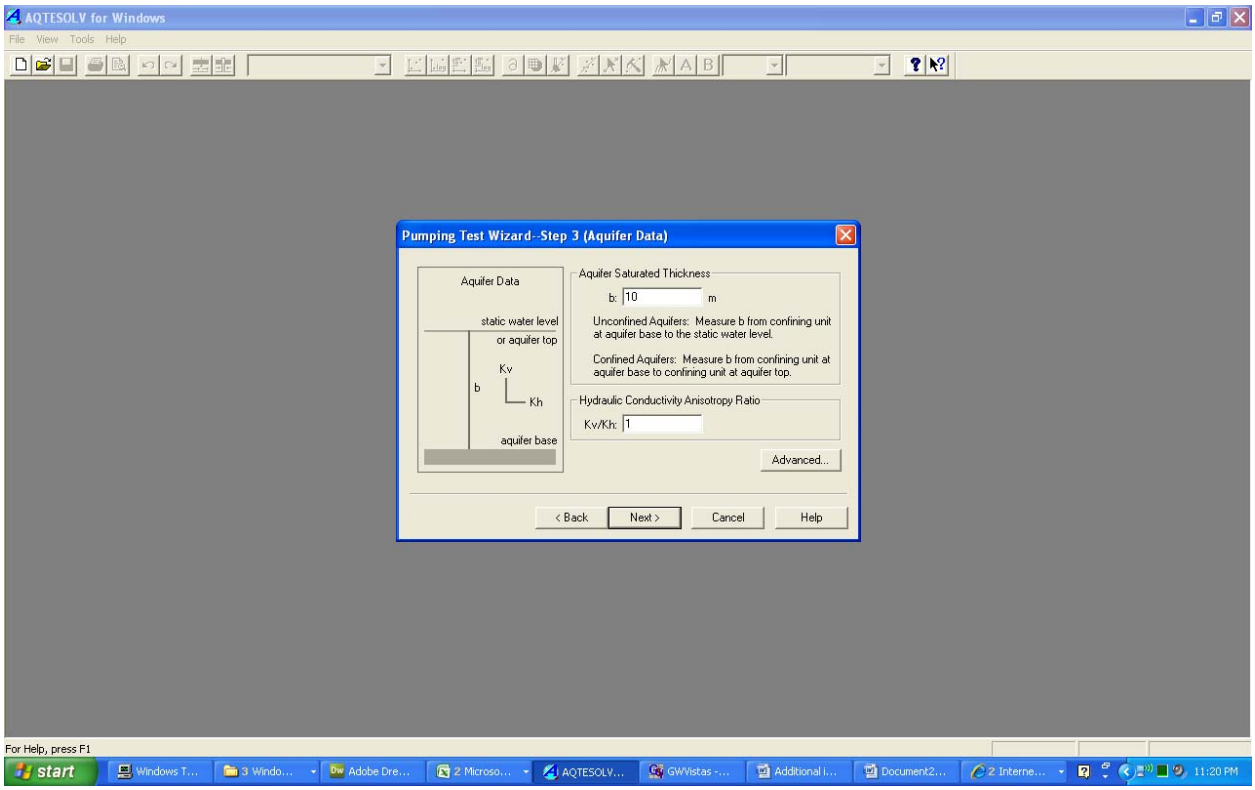
Your homework uses a multiwall test (one pumping well and one observation well).



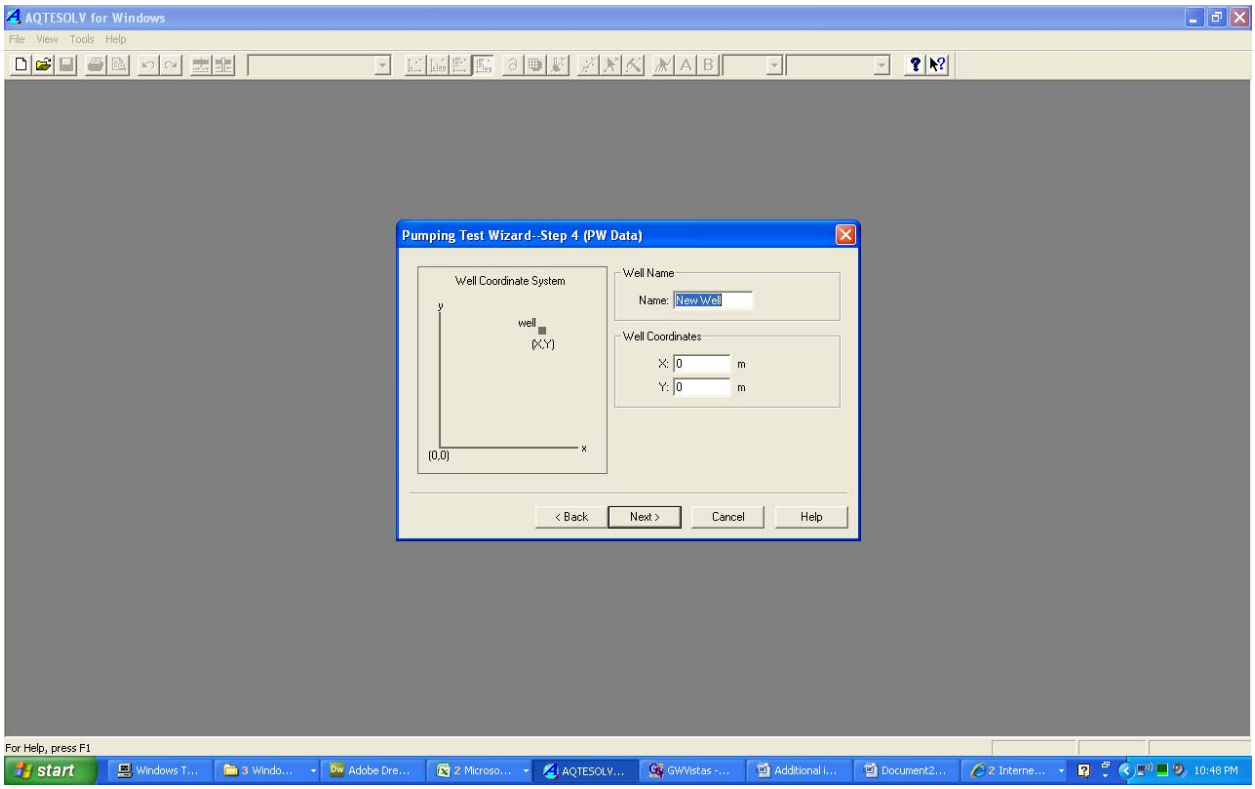
Choose the units you want to work in:



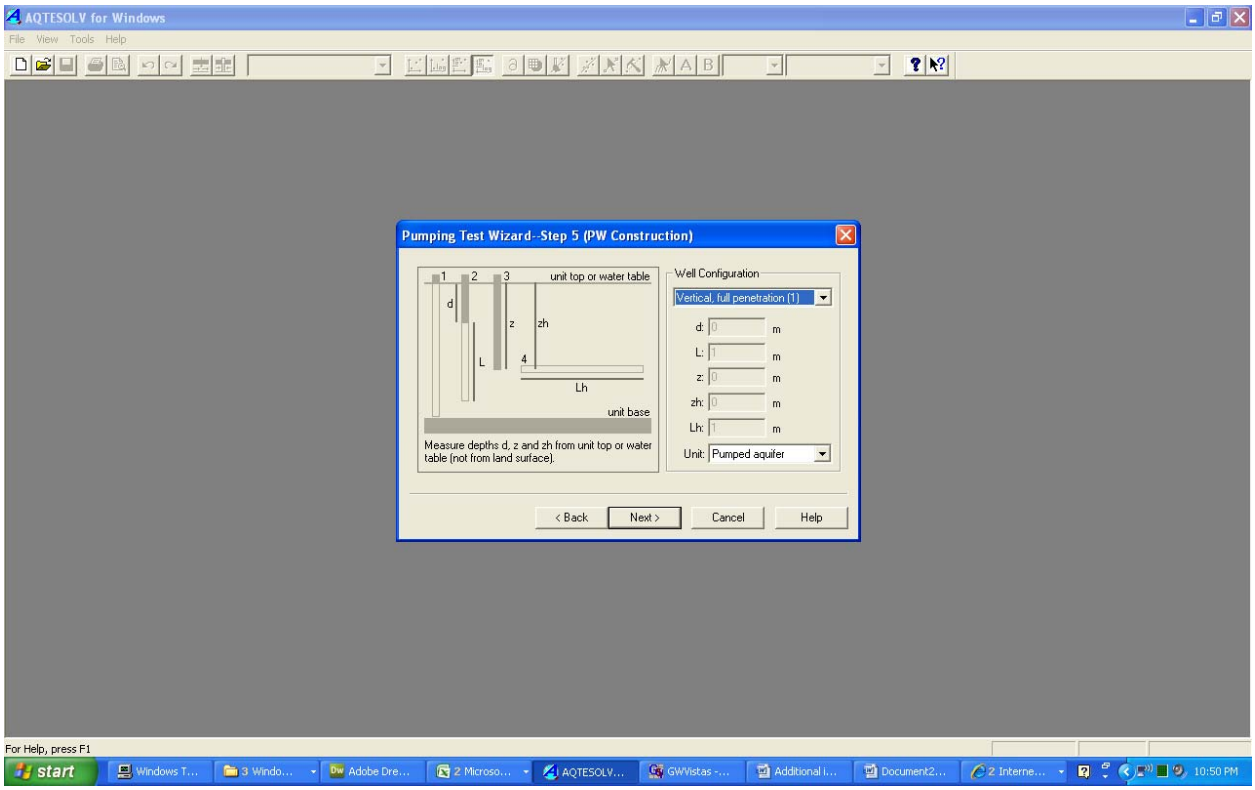
Make sure the aquifer thickness is greater than the maximum drawdown. Notice that this aquifer test measures transmissivity – not hydraulic conductivity—so the thickness you use here is not important unless you want to estimate the hydraulic conductivity from the transmissivity.



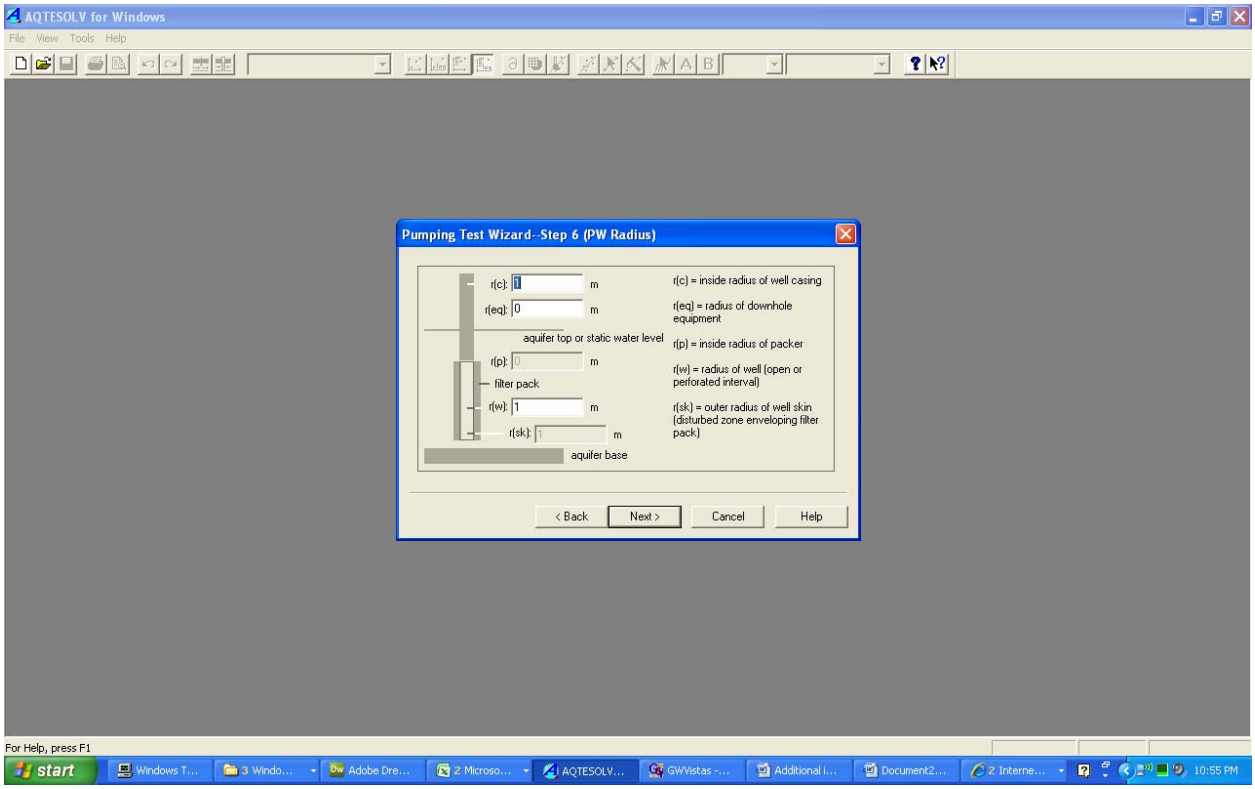
Leave the pumping well at the coordinate 0,0:



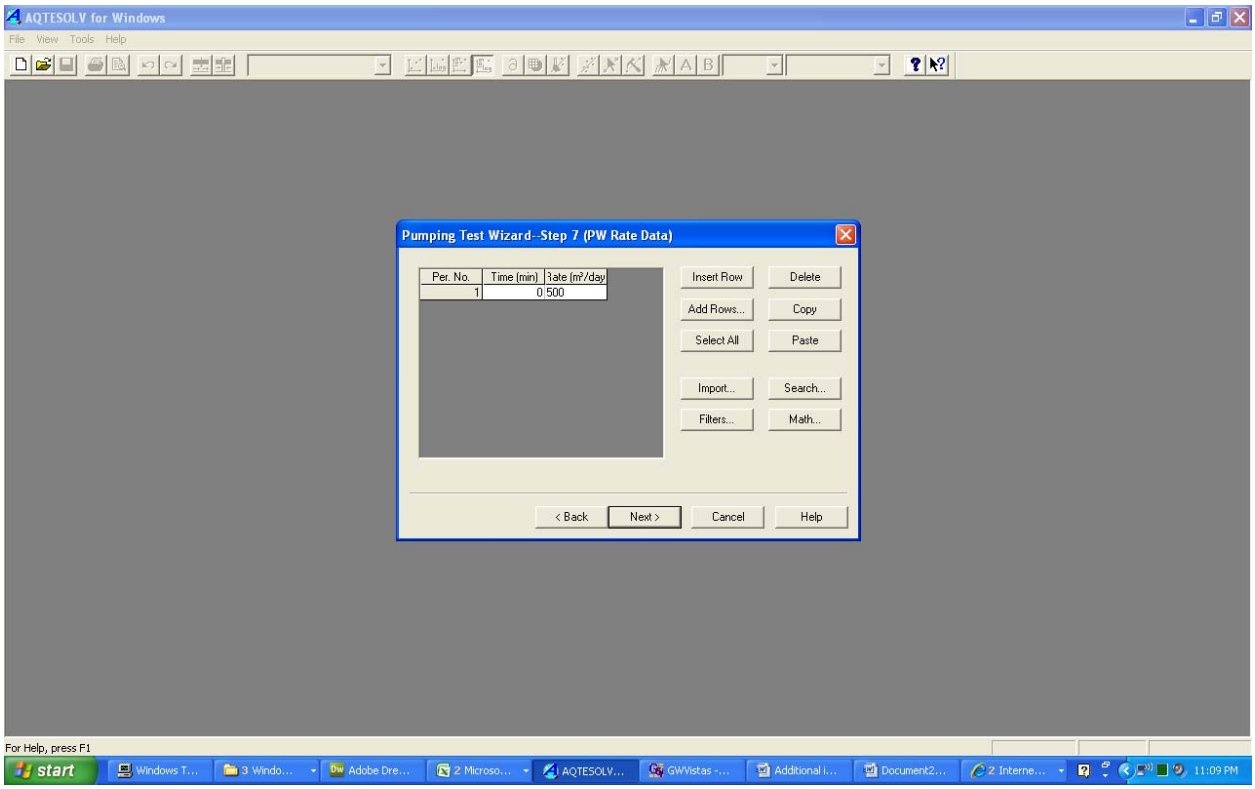
Choose the default, vertical, full penetration of pumped aquifer well configuration for both the pumping and observations wells:



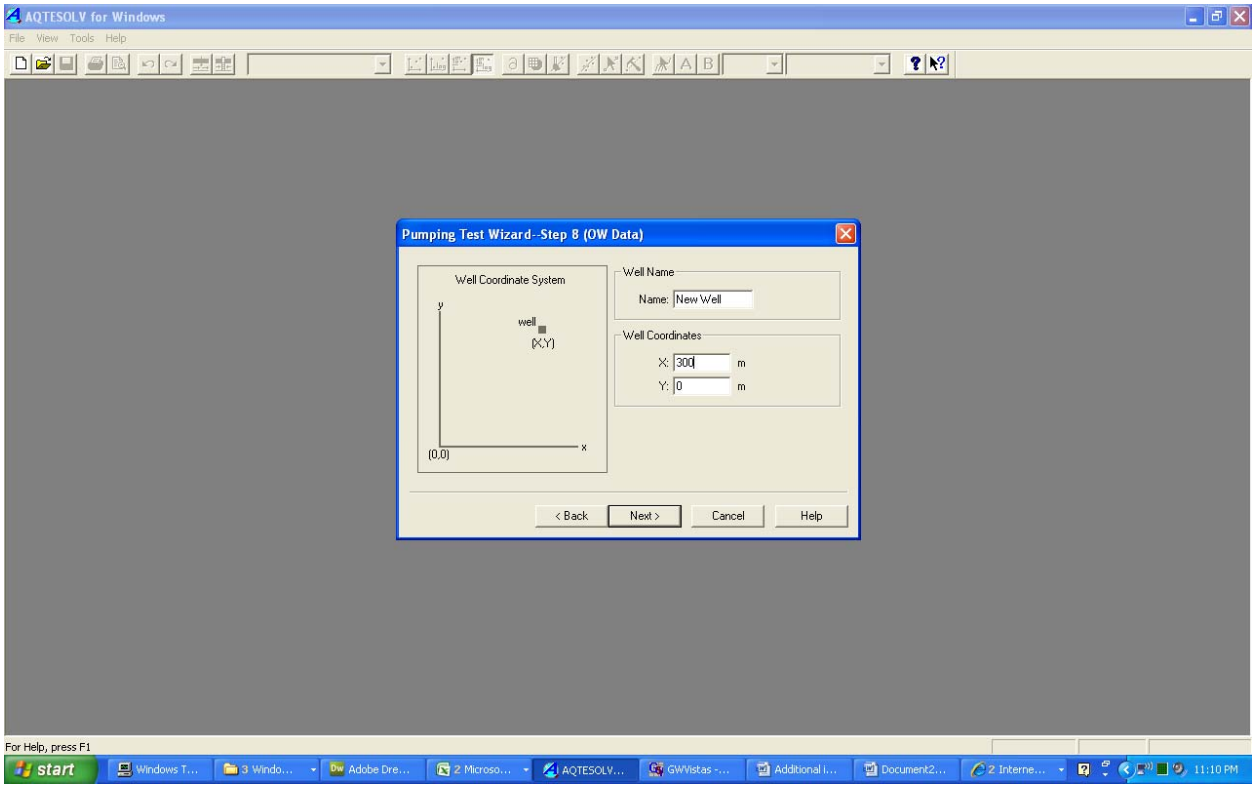
The default well casing and filter pack radii of 1 m will work fine for both the pumping and observation wells in this case:



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

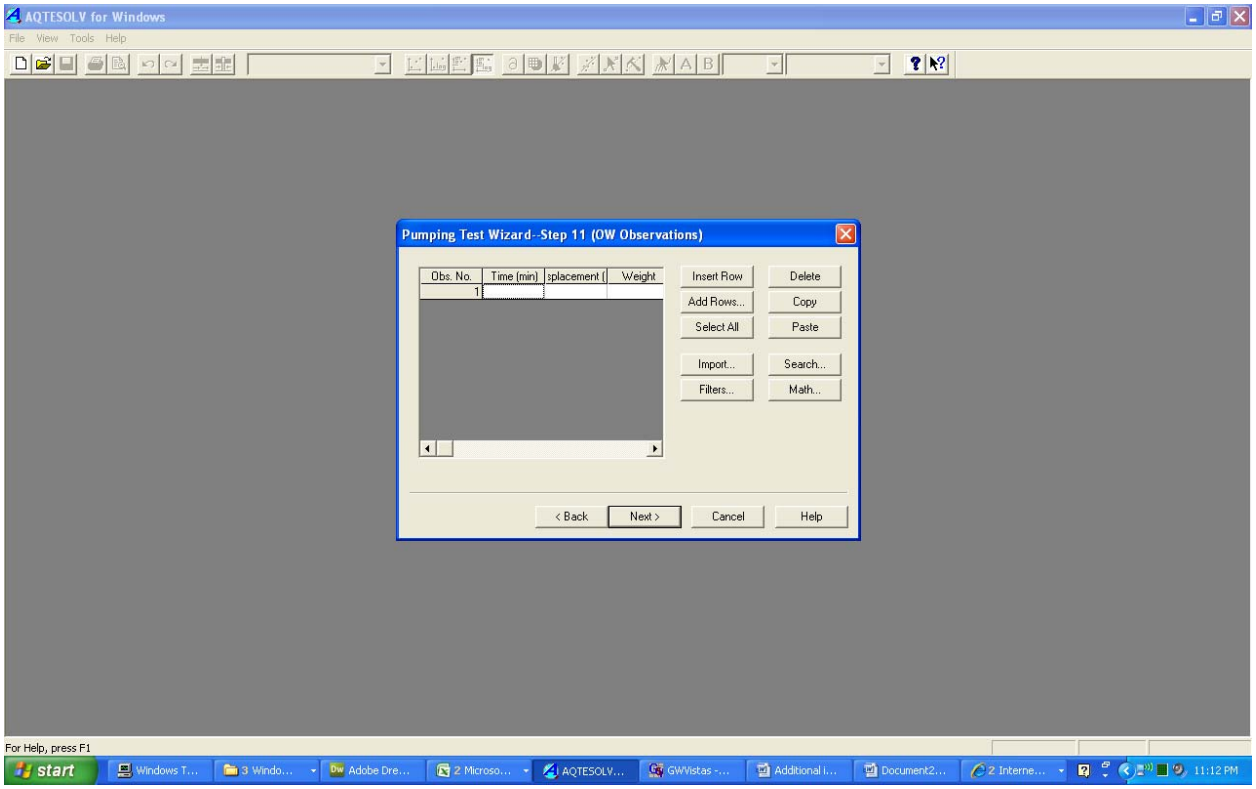


Put the observation well 95 m away from the pumping well:

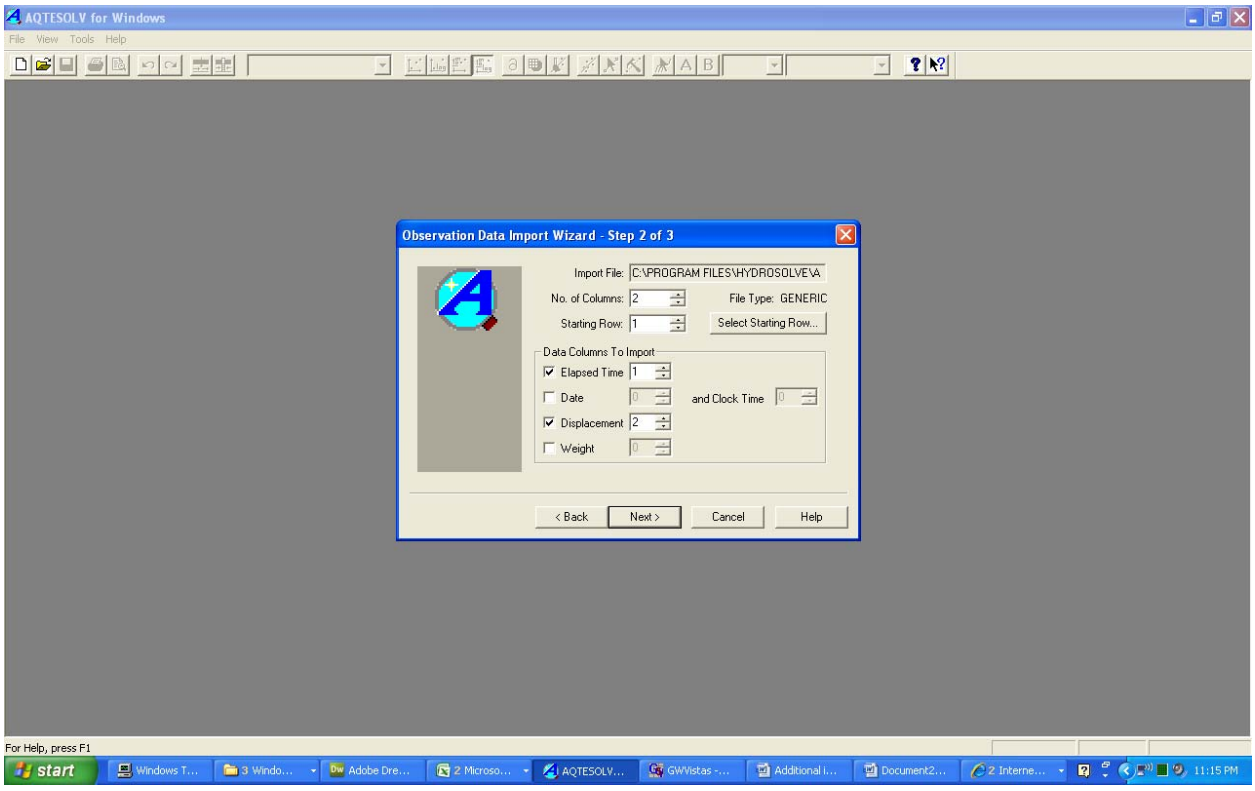


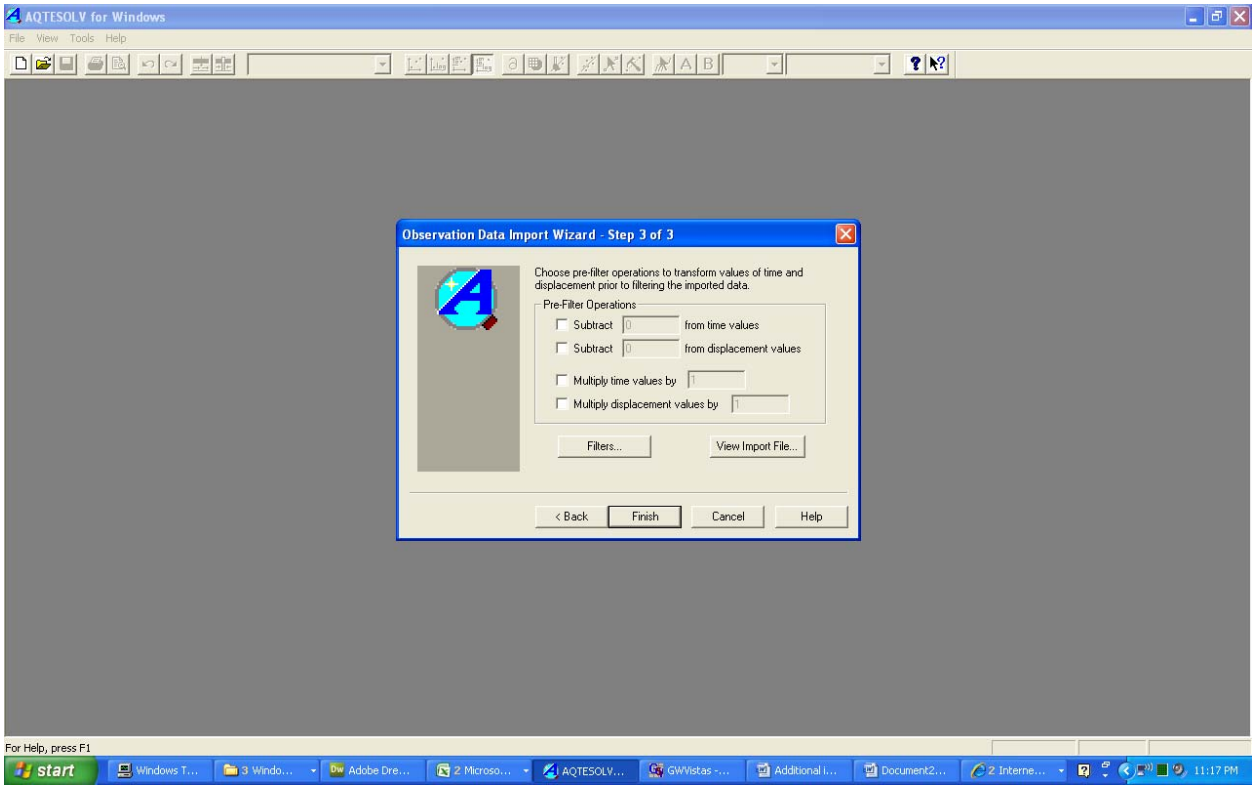
Import the observation well data from a file consisting of the time and drawdown. My abbreviated file (based on Fitts, Chapter 8, Problem 15) looks like this:

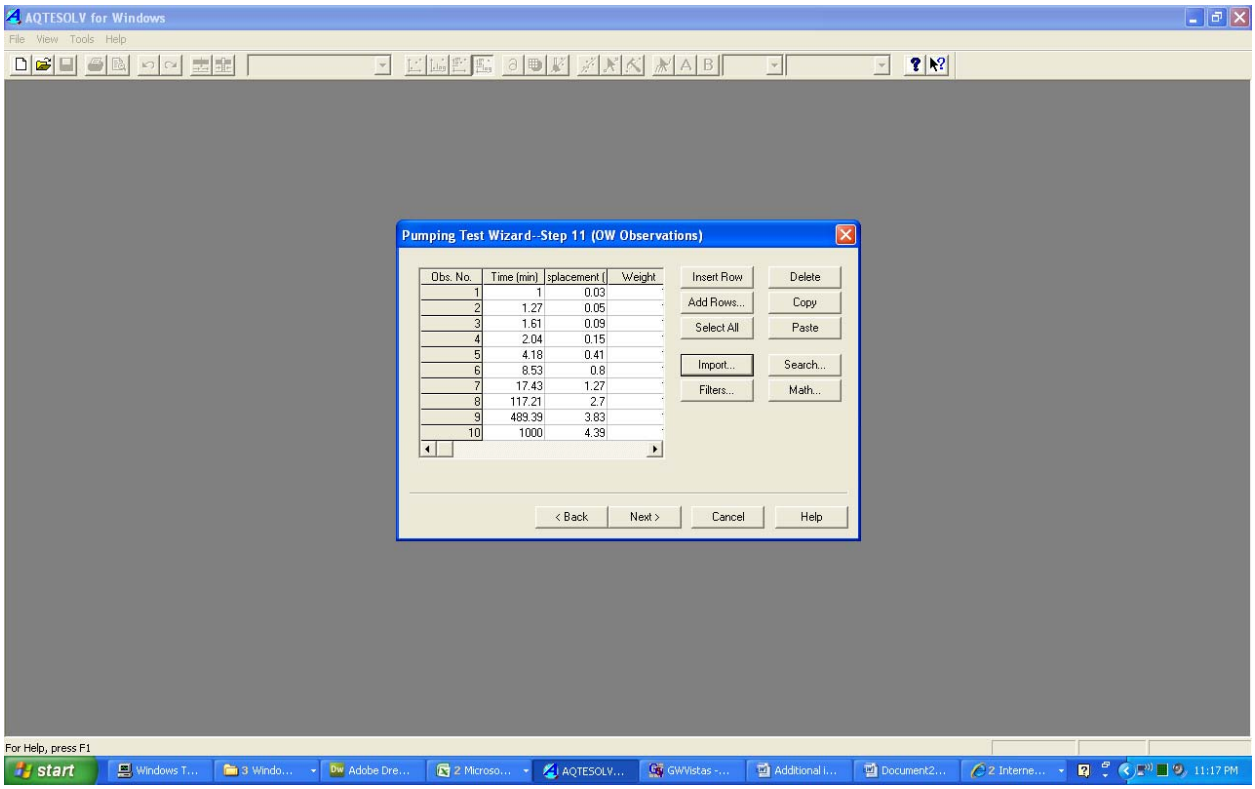
```
1,0.15

2,0.22

4,0.3

8,0.39

15,0.46

30,0.55

60,0.63

120,0.72

240,0.81
```



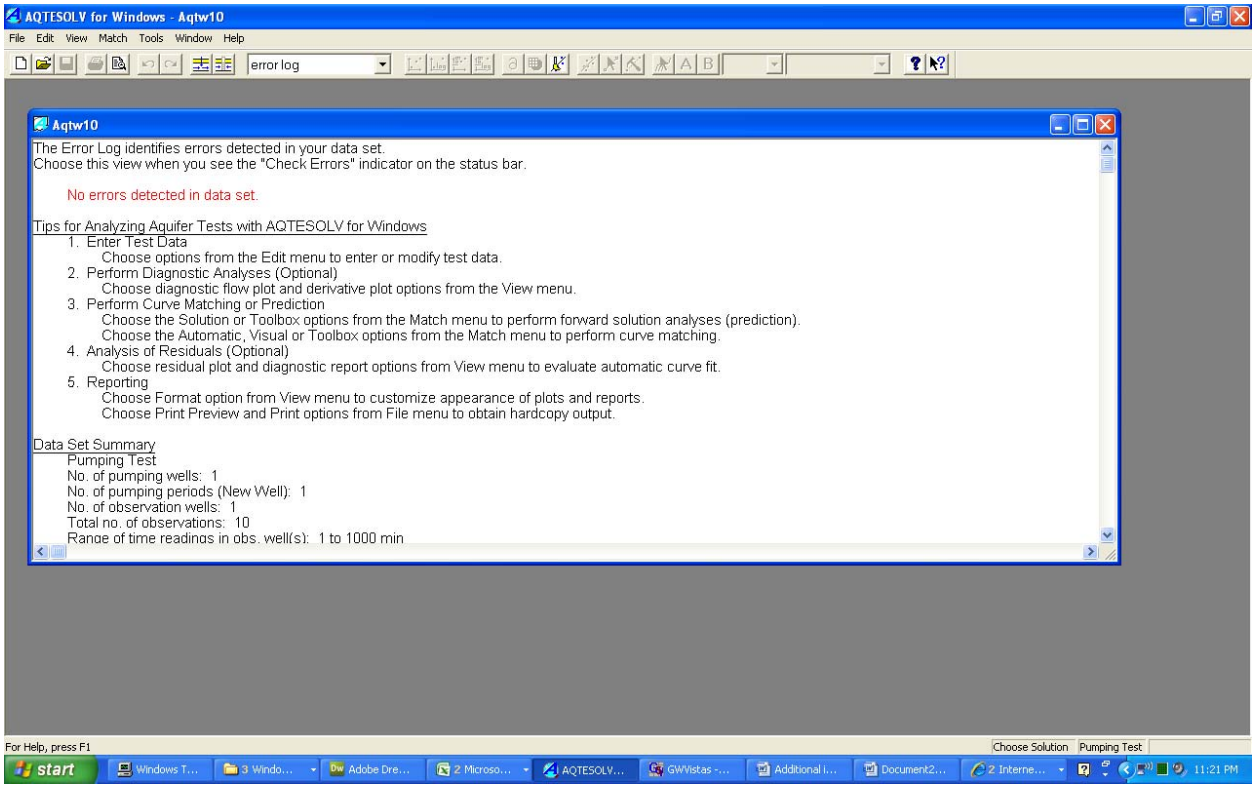
No changes are needed to the following screens if your file contains the data as one column of time and one column of drawdown:


AQTESOLV for Windows
File View Tools Help
Observation Data Import Wizard - Step 2 of 3
Import File: C:\PROGRAM FILES\HYDROSOLVE\A
No. of Columns: 2
File Type: GENERIC
Starting Row: 1
Select Starting Row...
Data Columns To Import
Elapsed Time 1
Date 0
and Clock Time 0
Displacement 2
Weight 0
< Back
Next >
Cancel
Help
For Help, press F1
start
11:15 PM

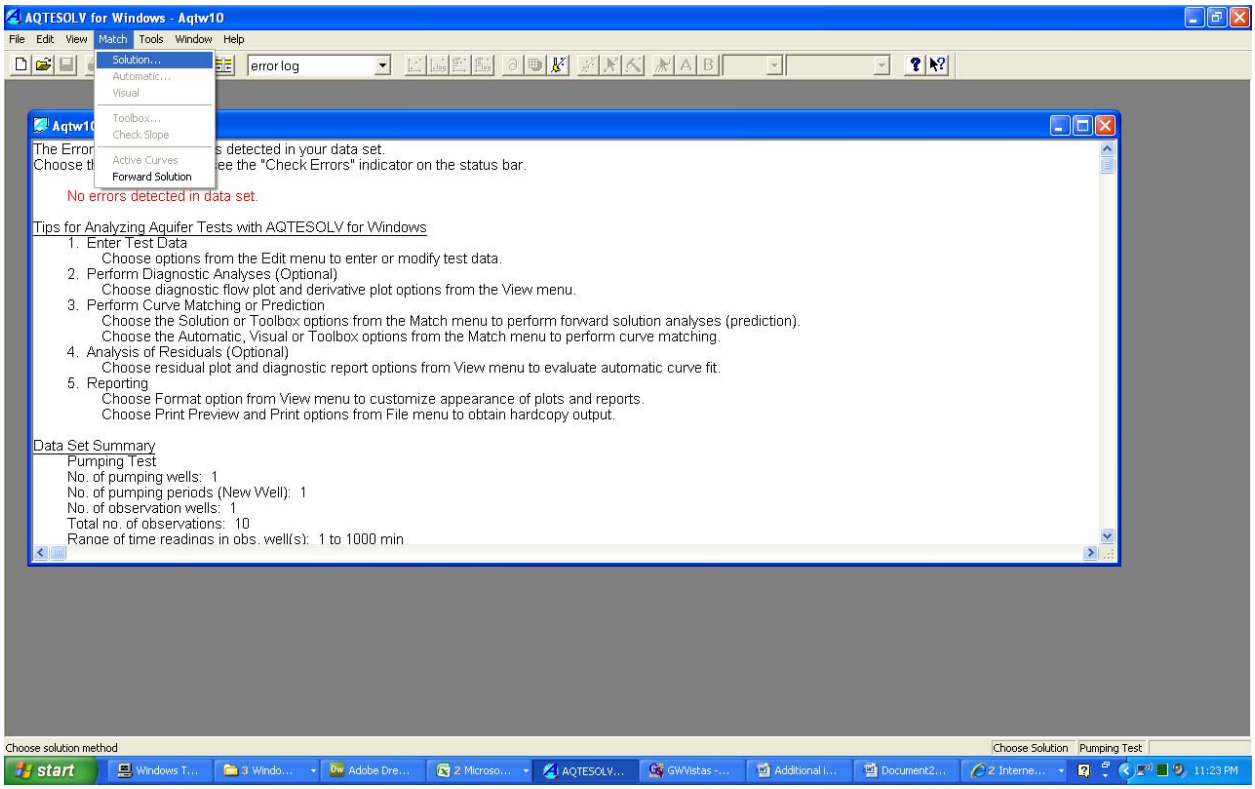

AQTESOLV for Windows
File View Tools Help
Observation Data Import Wizard - Step 3 of 3
Choose pre-filter operations to transform values of time and displacement prior to filtering the imported data.
Pre-Filter Operations
Subtract 0 from time values
Subtract 0 from displacement values
Multiply time values by 1
Multiply displacement values by 1
Filters...
View Import File...
< Back
Finish
Cancel
Help
For Help, press F1
start
11:17 PM



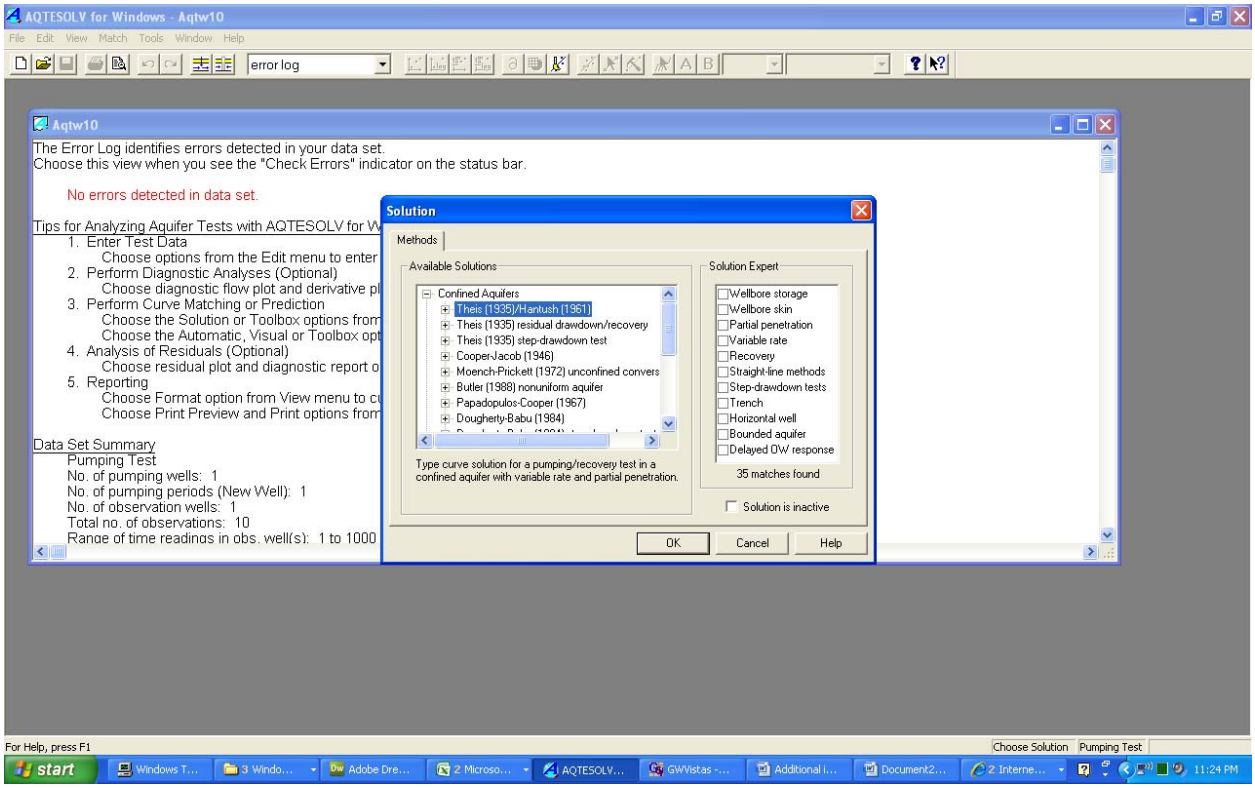
You should end up at a screen like the following:



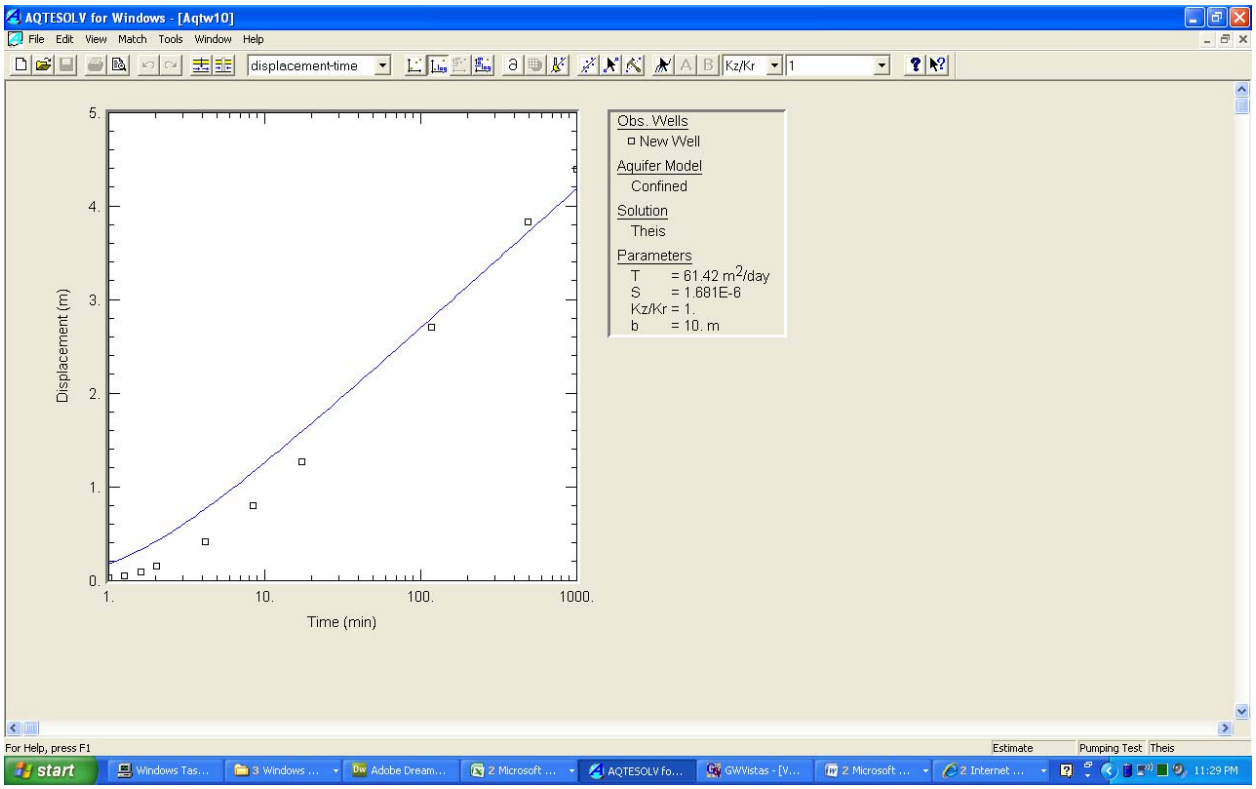
Under ‘ Match’ choose ‘Solution’:



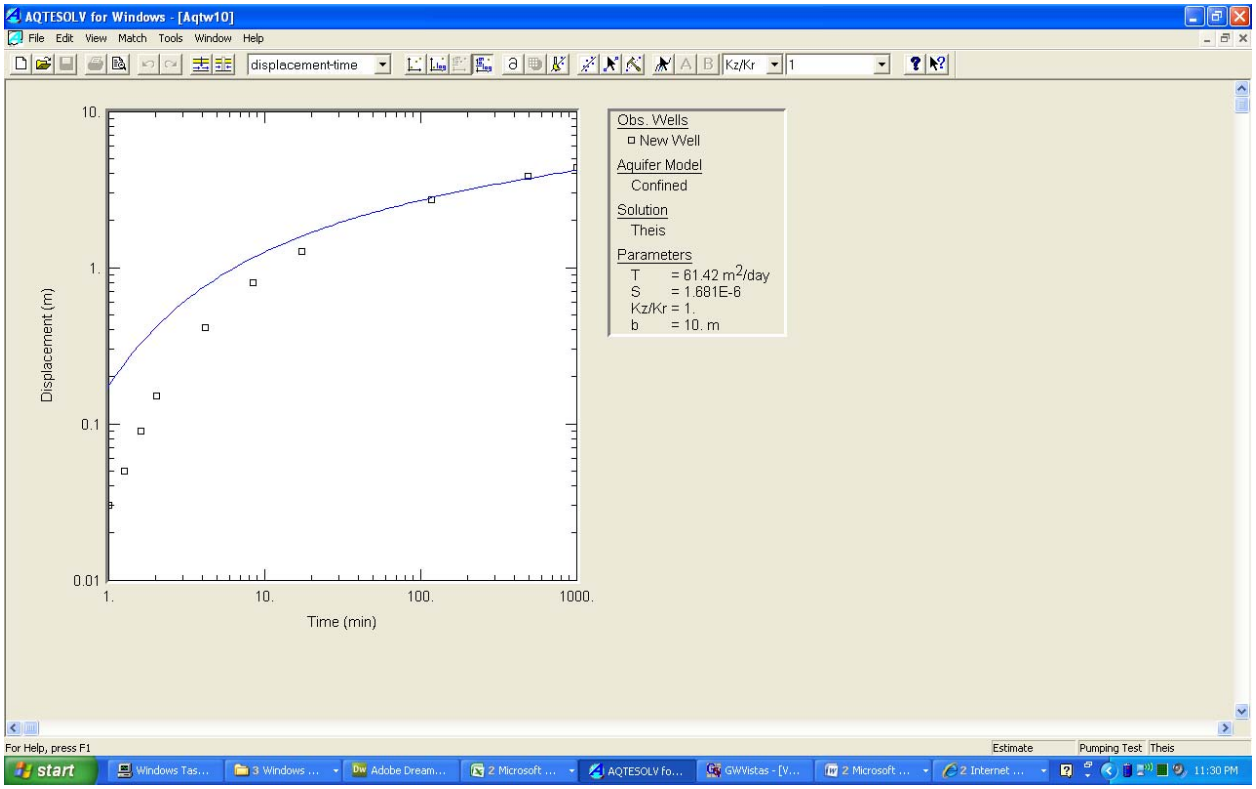
Turn off the 'Solution is inactive' check box and pick 'Confined Aquifers', 'Theis (1935)':



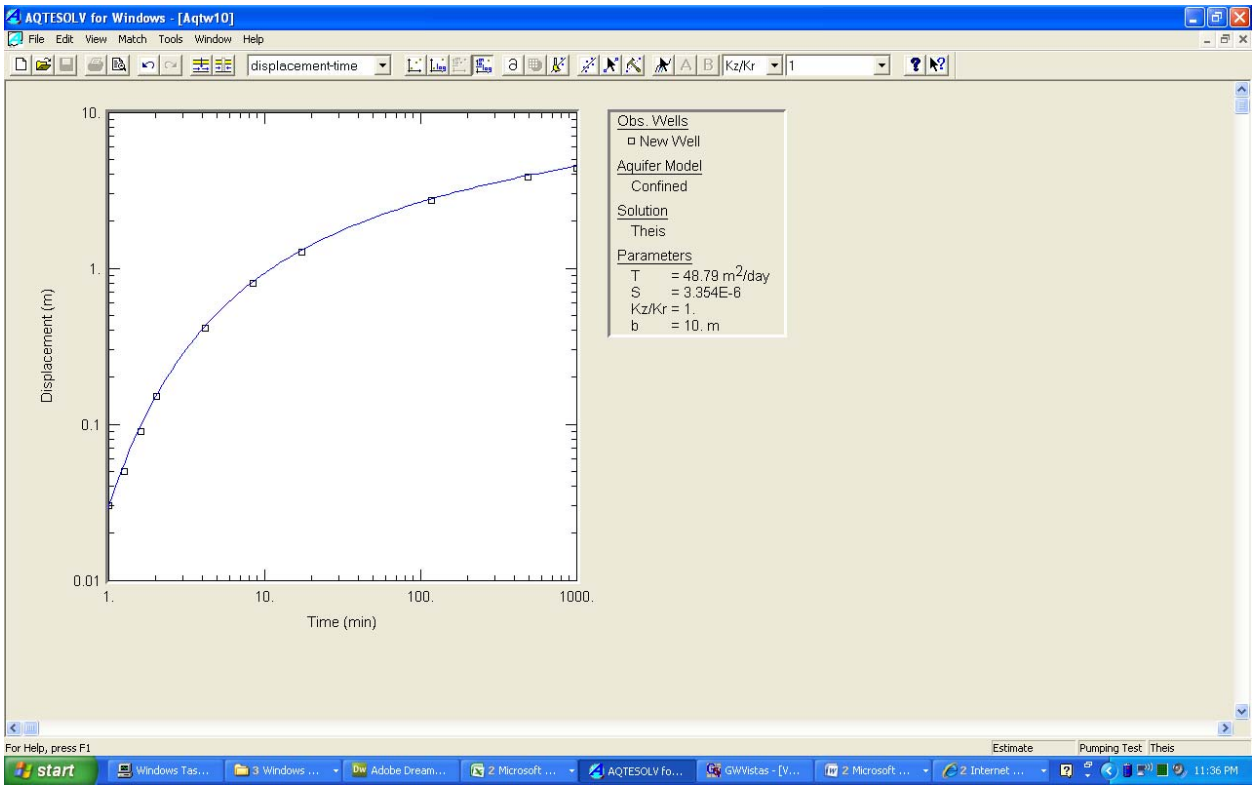
Then pick 'View', 'Displacement-time':



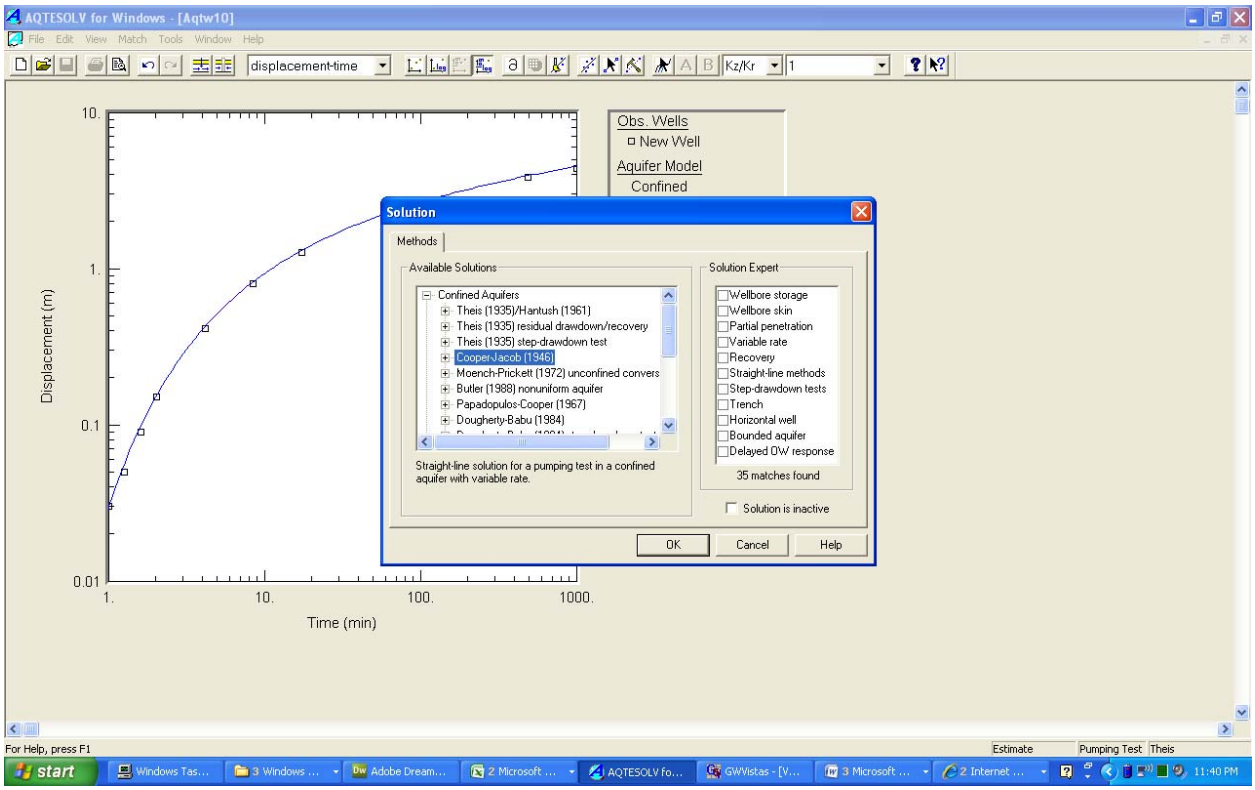
It is appropriate to view this on log-log axes (use the  button):



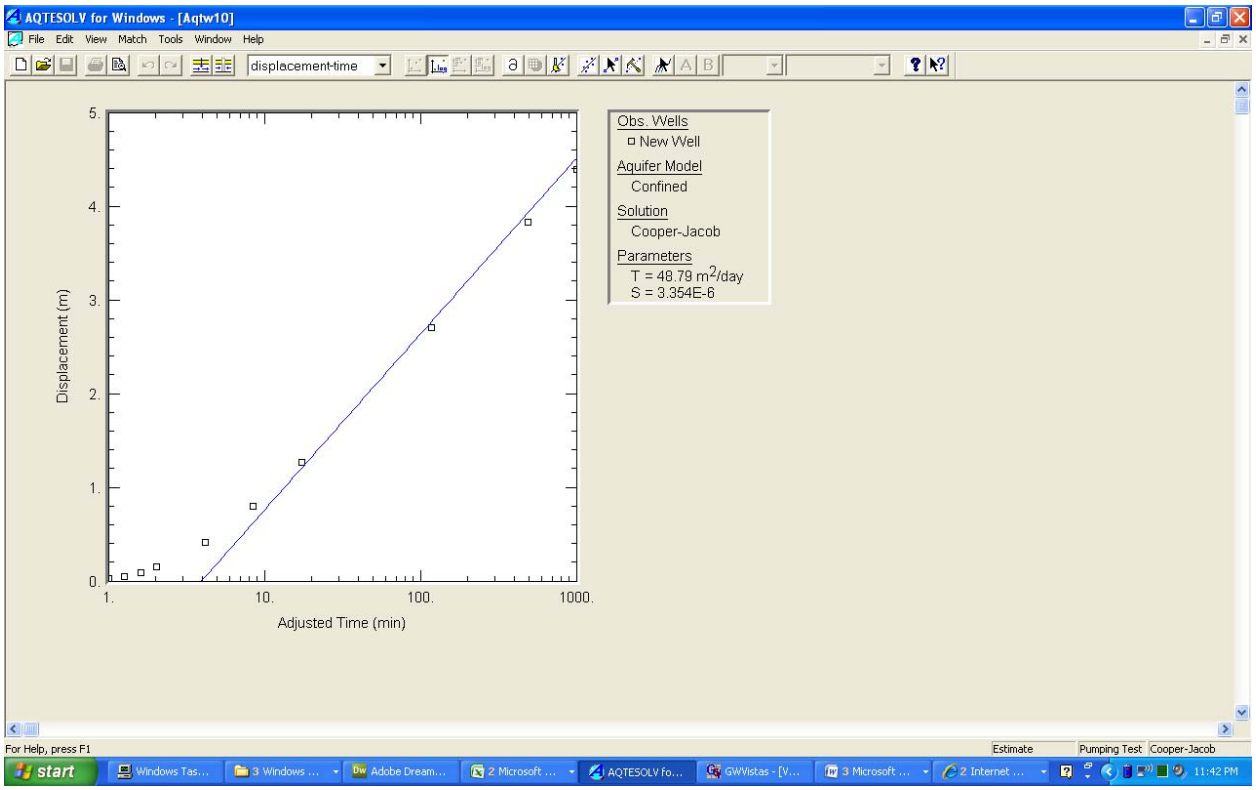
Click and drag on the screen to move the type curve around until you get a good fit:



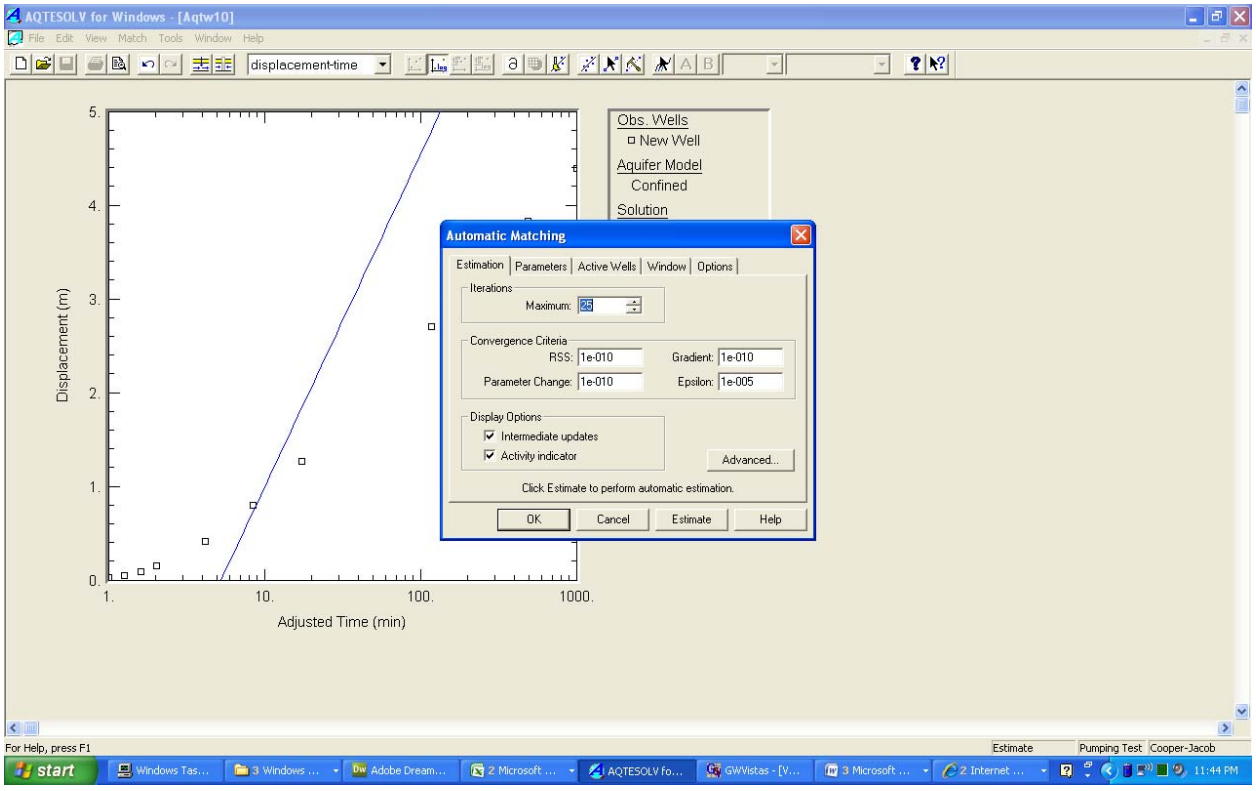
To use the Cooper-Jacob straight line method, choose ‘Match’, ‘Solution’, ‘Cooper-Jacob’:



The graph should change immediately to the other method:



You can also use ‘Match’, ‘Automatic’:



Click ‘Estimate’ the get the result.