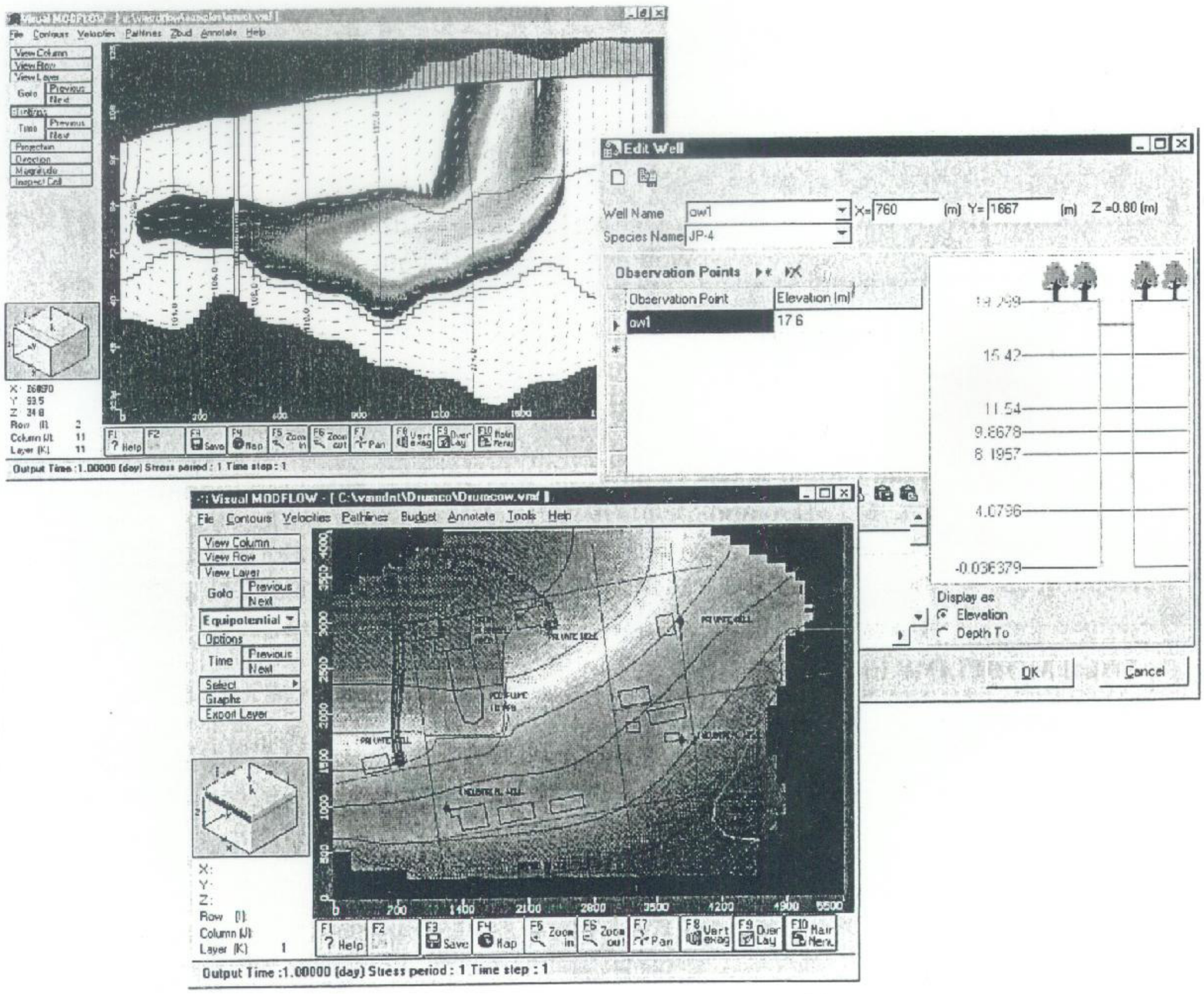
Supporting 2-J

Simplified Visual MODFLOW Manual for MCDC Staff Members

(Related to Chapter 9)

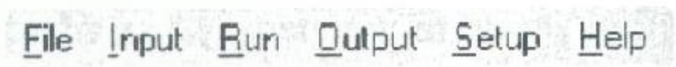
Simplified Visual MODFLOW Manual

for MCDC Staff Members



1. How to Open File

a. Double click **[Visual Modflow]**.



[File]	Select a file utility or exit Visual MODFLOW.
[Input]	Go to the Input Module to modify the current Visual MODFLOW data set.
[Run]	Go to the Run Module to modify run time parameters and run numerical simulations in either project or batch mode.
[Output]	Go to the Output Module to post-process results from numerical simulations.
[Setup]	Choose the desired variant and transport numerical engine.
[Help]	Main help screen appears and general information on Visual MODFLOW given.

b. Open File

b-1. Click **[File]**.

b-2. Click **[Open ...]**.

b-3. Double click the file name you want to run.
(For example, 'Mawn Mawn Than Exercise'.)

b-4. Click the sub-file name. (For example, 'Mandalay2.vmf'.)

b-5. Click **[Open]**.

Then, the figure of Mandaly model appears.

[1] **[Open...]** to open an existing file; or

[2] **[New]** to create a new data set;

[3] **[Save As]** to save the current model to a different filename;

[4] **[Close]** to close the current model and remain in Visual MODFLOW.

[5] **[Import MODFLOW]** to import an existing MODFLOW dataset (***.BAS**);

[6] **[Export...]** to export the graphic as an AutoCAD DXF file in World or Model Co-ordinates (***.DXF**) or an Enhanced Windows Metafile (***.EMF**).

[7] **[Change Units...]** to change units in an existing model. Note this will not convert existing values to you new system of units.

[8] **[Print]** to edit page layout and project information (old Visual MODFLOW printing). Prints the current screen to the selected printer.

[9] **[Exit]** to shut-down Visual MODFLOW.

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* Usually, 'Click' means left click. Right click is especially expressed like that.

2. How to Copy File

For safety, you are better to make copy file for exercise.

a. Double click [**my computer**].

b. Indicate the file you want to copy using  (up).
(For example, 'Mawn Mawn Than Exercise'.)

c. Click the file name.

d. Click **[Edit]** on the top bar.

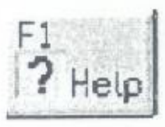
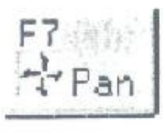
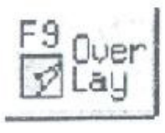
e. Click **[Copy]**.

f. Right click outside the desktop menu (= on the desktop).

g. Click **[Paste]**. Then, new file (named 'copy of Mawn Mawn Than' etc.) appeared on the screen.

g'. How to rename: Click right-down corner of the new file name, then (after color of the file name changed), retype new name. → Press **[Enter]** button.

h. Open file by taking the same procedure as **1. a, b-1** and **b-2**. Drag the new file into the same place as the former file.

	Function Buttons:	Common functions to the Input, Run, and Output screens can be selected by clicking on the button or by pressing the function key on your keyboard. The function buttons are:
	**F1 - Help**	Accesses the general help dialog box.
	**F2 - 3D**	Reserved for future 3-D options.
	**F3 - Save**	Updates the file as previously named.
	**F4 - Map**	Displays a File Selection dialog where you can select a **.DXF** format map file for importing. The map can be toggled on and off in the Overlay dialog box.
	**F5 – Zoom In**	Allows you to extend a zoom window over the screen with the left mouse button. Click with the right mouse button to specify the co-ordinates of the zoom area for consistent plot windows.
	**F6 – Zoom Out**	Resets the screen image to the model extent.
	**F7 - Pan**	Allows the user scroll through and move the location of the model domain on the window. The first click with the left mouse button selects a point on the model and the second click places the selected point on a new point in the window.
	**F8 – Vert Exag**	Allows the user to specify the amount of vertical exaggeration seen in the row or column view.
	**F9 - Overlay**	Allows the user to toggle on or off the various plot and map features.
	**F10 – Main Menu**	Returns you to the Main Screen.

3. Data Input

3-1. Input Vertical Geological Layer Boundary

If you get a new geologic column, you can change vertical geological boundary.

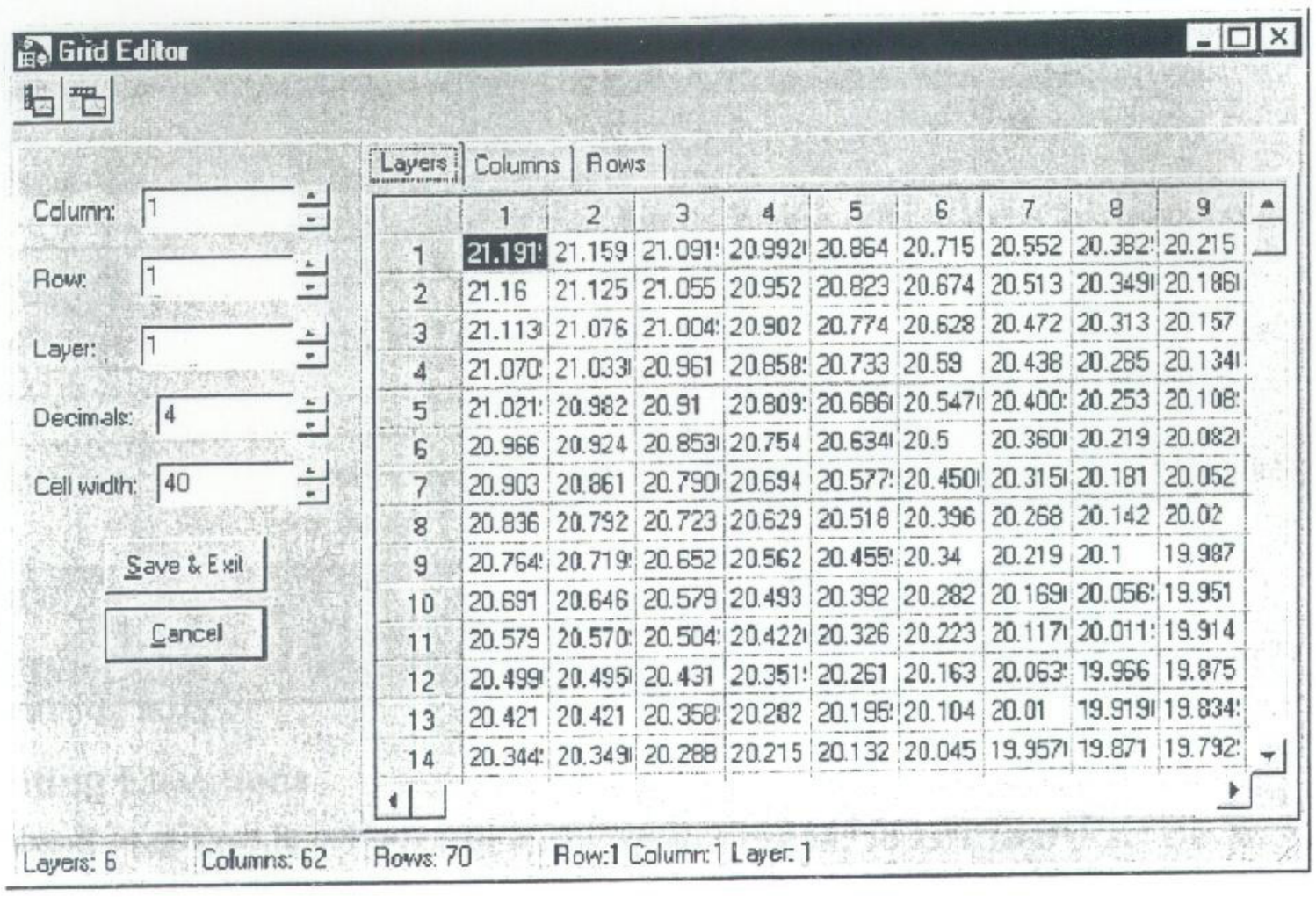
a. Click **[Input]** from main menu.

(If you want to display main menu, click **[F10 Main Menu.]**.)

b. Select **[Edit Elevations]** on the left menu bar.

c. Choose 1. Layer 2.Column 3. Row, you want to change.

In Mandalay model, Layer 1. surface elevation.
Layer 2. bottom elevation of phreatic aquifer.
Layer 3. bottom elevation of shallow confined aquifer.
Layer 4. bottom elevation of confining layer (hard clay).
Layer 5. bottom elevation of deep confined aquifer (main aquifer).



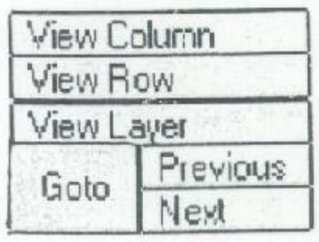
d. Retype the elevation to be changed (all data).

e. Click **[Save & Exit]**. (Important! Never forget to do so!)

3-2. Input Pumping Data

a. Choose **[Input]** (main menu) → **[Wells]** → **[Pumping Wells]**.

b. Choose layer you want to change the pumping data: Click (Goto) **[Next]** in the left side bar (Repeat until you find the layer you want to change.).



Side Menu Bar:	Contains the view options plus functions particular to the current screen or module. The view options are as follows:
[View Column]	View a cross-section along a column.
[View Row]	View a cross-section along a row.
[View Layer]	Switch from cross-section to plan view.
[Goto]	View a specified column, row or layer.
[Previous]	View previous column, row, or layer.
[Next]	View next column, row, or layer.

c. Choose **[Edit Well]**.

d. Enter new data.

d-1. Click **the cell** in the figure you want to change.

d-2. Input Bottom & Top elevations in meter. (You can add another screen, if necessary.)

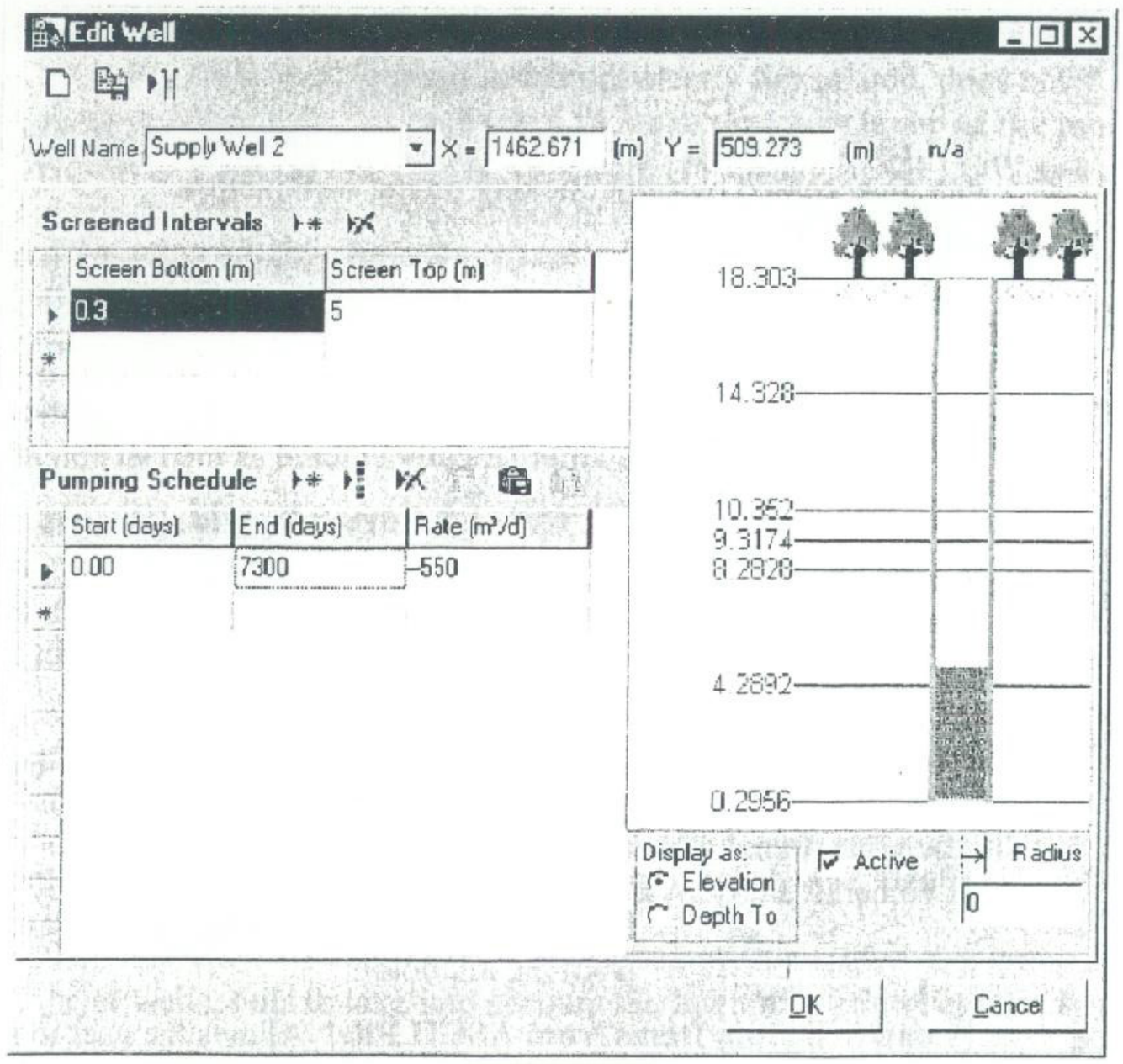
d-3. Input Pumping **Rate** (m^3/d). The number should be **minus values** (for example, -800 m^3/d. Plus number means to enter water into the well).

e. Click **[OK]**.

f. Repeat **d-1. to d-3.** procedures until you finish all the data you should change.

g. Click **[F10 Main Menu]**.

h. Warning: before you finish, do you maintain well data? → Click **[Yes]**.



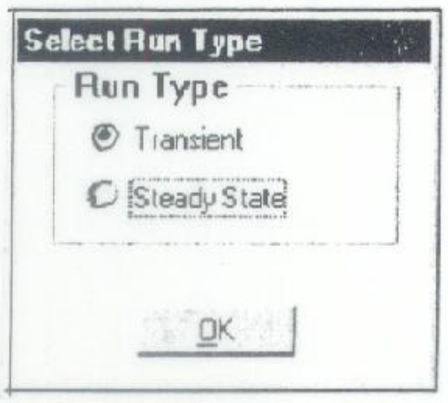
4. How to Run Visual Modflow

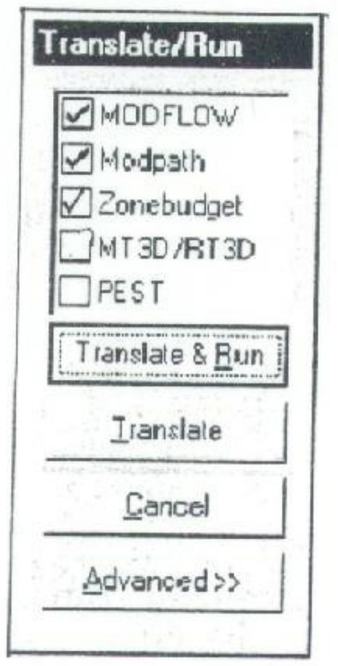
a. Select [**Run**] on the main menu.

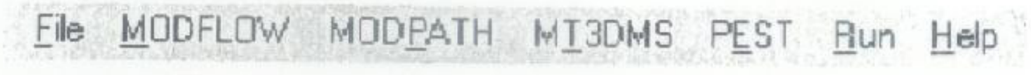
b. Select Run Type: [**Transient**], then click **[OK]**.

c. Click [**Run**].

d. Click **[MODFLOW]** **[Modpath]** & **[Zone Budget]** (✓ mark). Then, click **[Translate & Run]** (When the calculation is successful, check mark (✓) will be appeared for both Modflow & Zone Budget.).





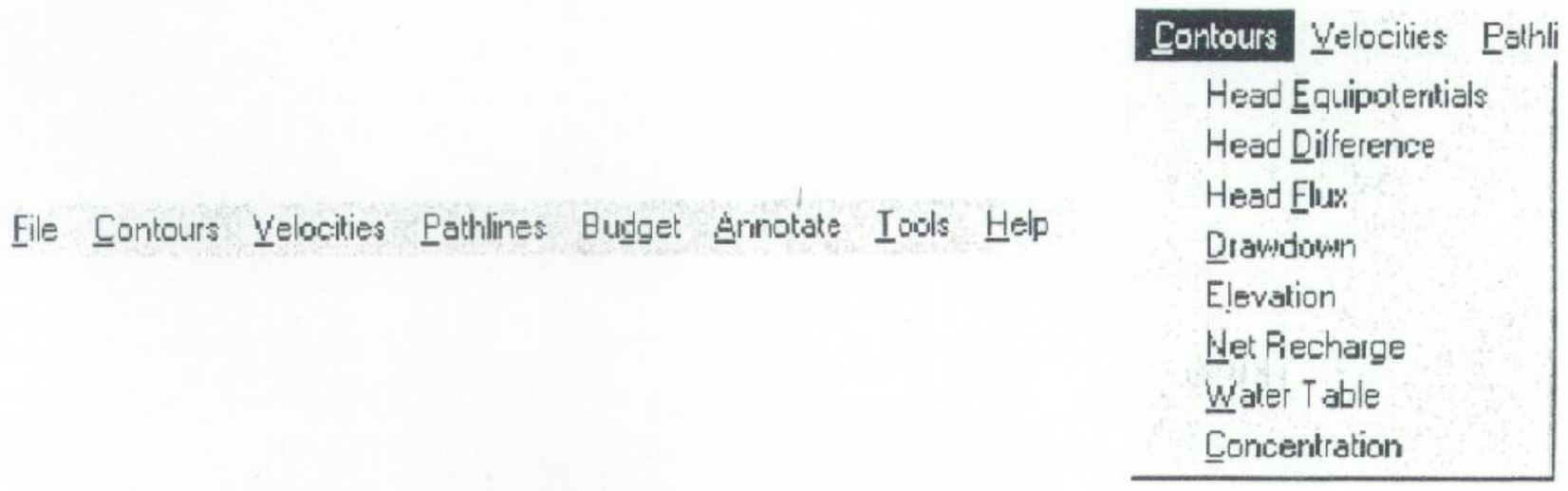


5. Output

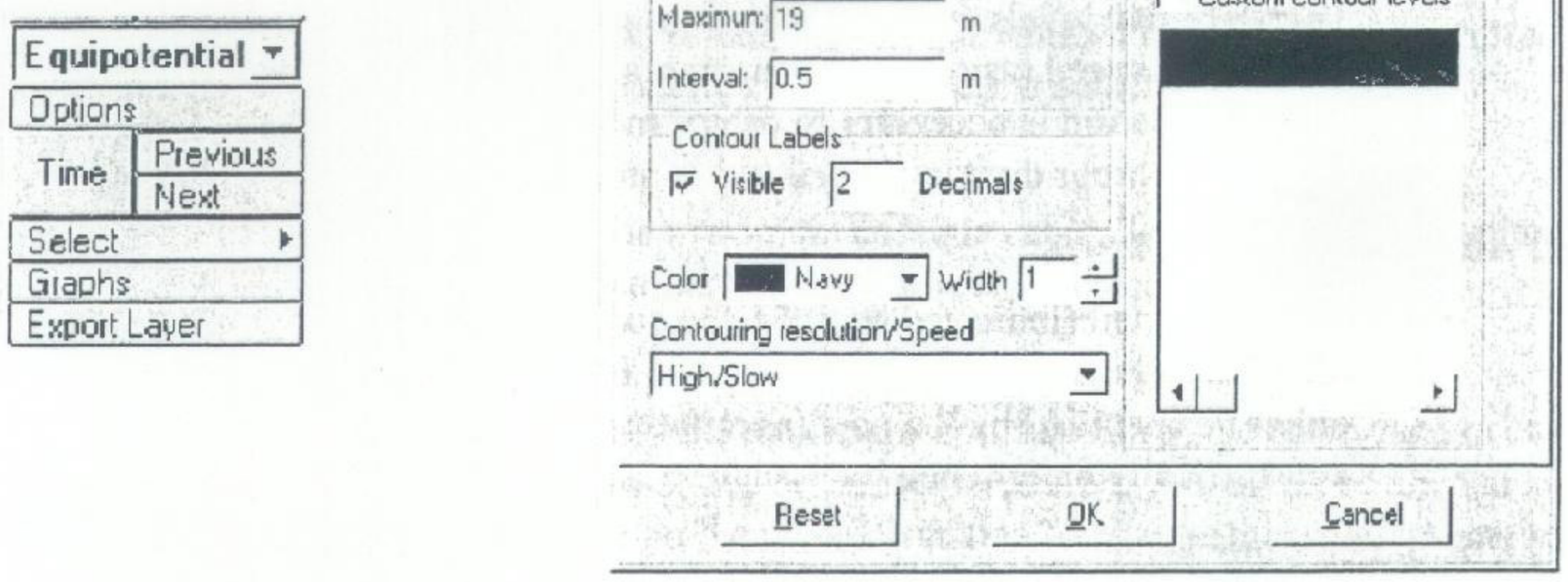
5-1. Head Equipotentials & Velocities

a. Select [**Output**]. Click [**Contours**] on the top bar. Click [**Head Equipotentials**].

b. Click [**Time**]. Click [**6575.00000**] (18 years after). Click [**OK**].



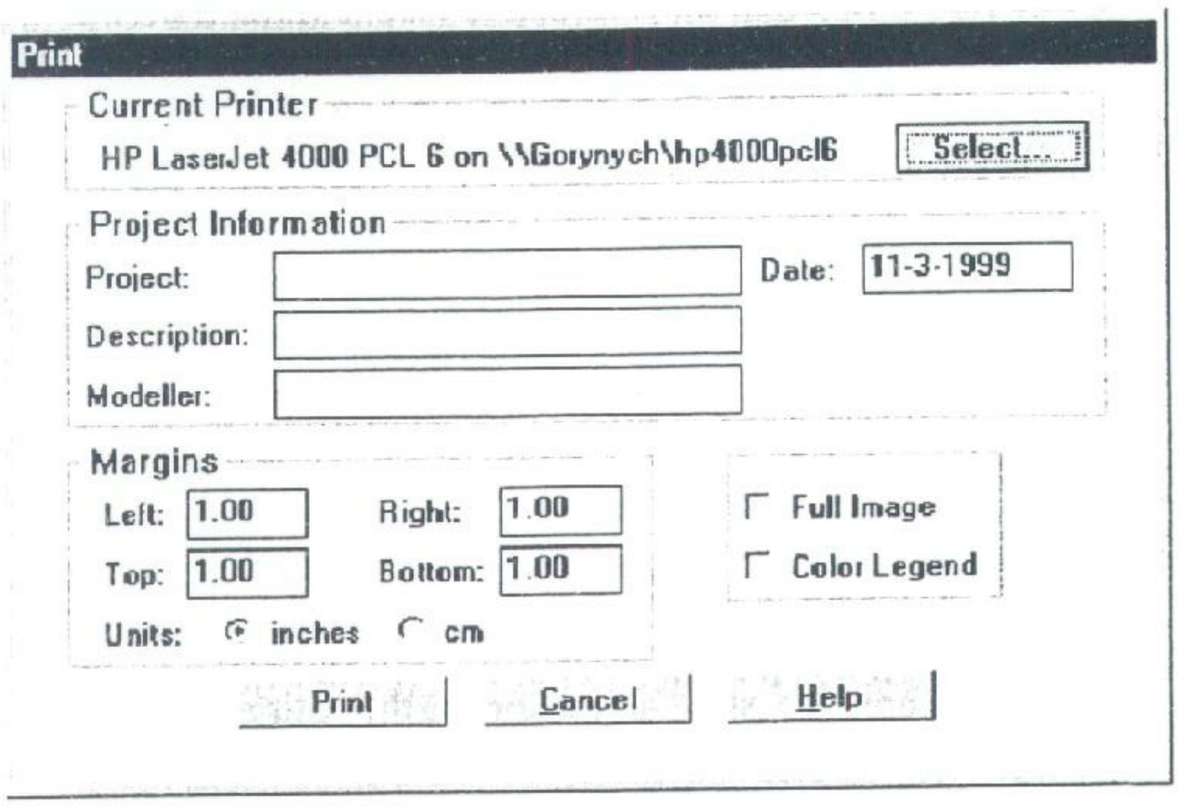
c. Indicate the Aquifer to display using (Goto) [**Next**] ,if necessary. Click [**Options**].



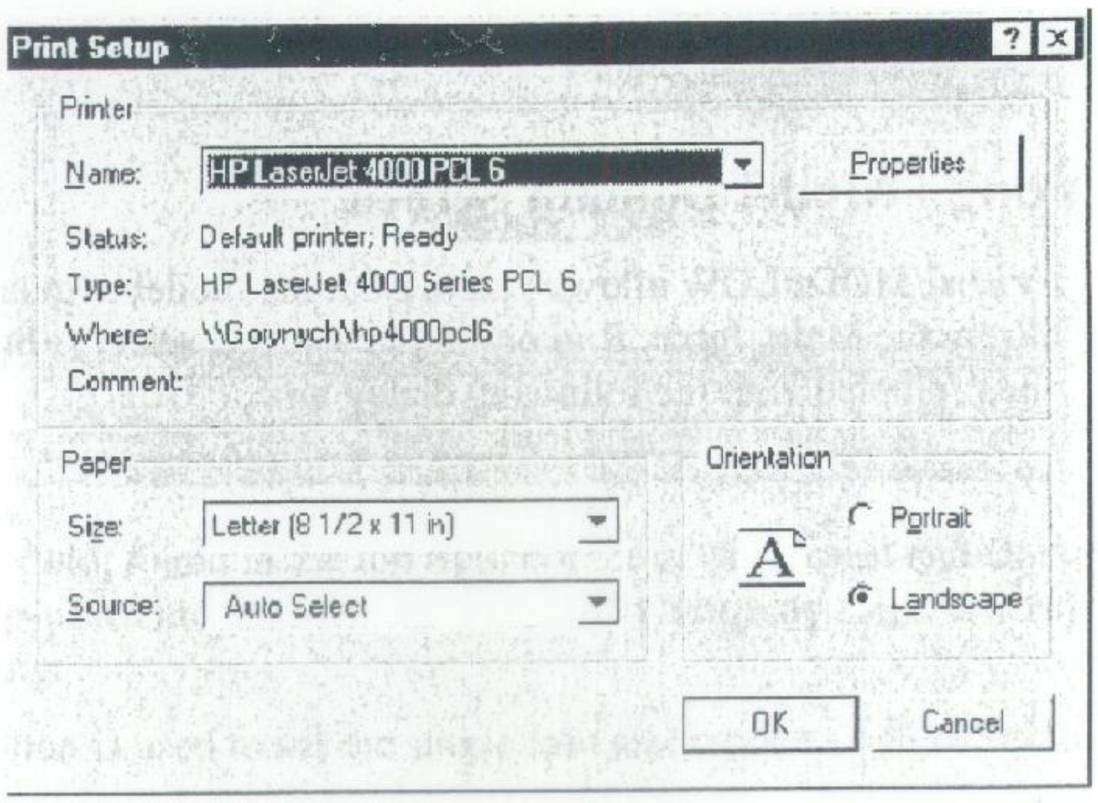
d. Change contour interval as you like (usually 1 to 2m). → Click [**OK**].

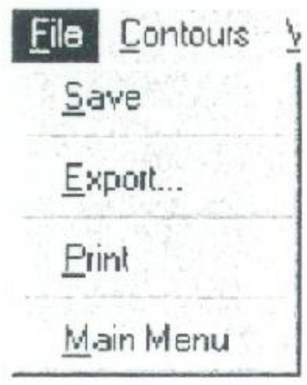
e. Click [**Velocities**] on the top bar. Click [**Options**]. Change the length of velocity vector as you like. → Click [**OK**].

f. **Print**: Click [**Print**] on the top bar. Click [**Select**]. Choose the printer you use. Choose the direction of paper ([**Portrait**] or [**Landscape**]: usually [**Landscape**]).



g. Type information: **[Project]** **[Description]** (Change aquifer: Aq. 1, Aq. 2, Confining layer (like Con.) & Aq. 3, **[Modeller]** (like Mawn Mawn Than). Choose **[Full Image]** or **[Color legend]**.





h. Click **[Print]**.

i. Output next layer. Repeat **c. to h.** procedures for another layers.

j. After you finish printing for all layers, Click **[File]**. → Click **[Save]**.

k. Click **[F10 Main Menu]**. Click **[File]**. If you want to finish job, click **[Exit]**.

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* For changing printer ink etc., ask someone. For example, a computer engineer , Kyaw Kyaw Tein, or Tun Tun etc.