

Appendix C. SEAM3D Execution

C.1 Executing a SEAM3D Simulation

Execution of SEAM3D is essentially identical to MT3D (Zheng, 1990), with the exception that the user does not specify the name of the standard output file, and additional input files may need to be specified. It is recommended that SEAM3D be run from the directory that contains the input files. At the operating system command line, the user enters the path to the directory containing the SEAM3D executable file, and the name of the executable.

For example, if input files have been created in the "**c:\seam3d\test**" directory, and the executable file "**SEAM3D.EXE**" is located in the "**c:\seam3d**" directory, then the following steps should be followed.

1. Change directories so that "**c:\seam3d\test**" is the current directory. The command prompt should appear as
c:\seam3d\test>
2. Type "**SEAM3D**" (the directory "**c:\seam3d**" must be included in the operating system path). The program prompts for the required input files, and pauses while the user enters the corresponding file names. If the test problem includes all of the available packages in SEAM3D, then the screen prompts will appear as follows (with user input shown to the right in bold):

```
Enter name for Basic Transport Input File:      BTN.INP
Enter name for Advection Input File:           ADV.INP
Enter name for Dispersion Input File:          DSP.INP
Enter name for Sink & Source Input File:       SSM.INP
Enter name for Chemical Reaction/
          Biodegradation Input File:          RCT.INP
Enter name for NAPL Dissolution Input File:    DIS.INP
Enter name for Unformatted Head & Flow File:   FLO.INP
Print out Heads and Flow Terms for Checking? (Y/N)  N
```

As an alternative to entering the file names from the keyboard, the user may create a response file that contains the required file names in the proper order. For the above example, a response file named **"RUN.FIL"** would contain the following:

```
BTN.INP
ADV.INP
DSP.INP
SSM.INP
RCT.INP
DIS.INP
FLO.INP
N
```

At the command prompt, the user enters **"SEAM3D < RUN.FIL"**, and the program reads the input file names from the response file instead of the screen. Note that if an input package is not included in the simulation, then SEAM3D will not prompt for its filename, and the corresponding line should not be included in **RUN.FIL**. In the above example, if NAPL dissolution had not been simulated, then the line containing **DIS.INP** would be omitted.

C.2 Continuation of a Previous Simulation

The continuation of a previous simulation in SEAM3D follows the same method used by MT3D and MODFLOW. The user must save the concentrations from the previous run in the **SM* .UCN** files. This is accomplished by setting the logical flag SAVUCN to "true" in line A15 of the Basic Transport File. If concentrations have been saved at more than one time, then the program SAVELAST should be run to extract the concentrations at the final time of the previous run. The files **SM* .UCN** must be renamed, and then they can be specified as the starting concentration files in the continuation simulation (see the input instructions for details).

Note that the mass budget terms are set to zero at the start of each simulation, so the mass budget for the continuation.