



Spotlight – Dynamic Migration

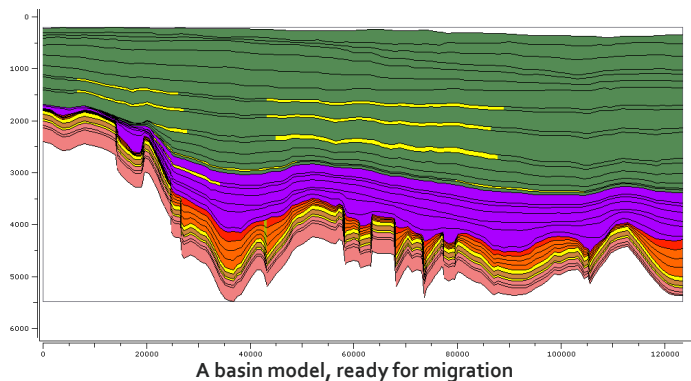
Petroleum migration

Permedia Petroleum Systems features a patented multi-component, multi-phase migration solver that runs on native Temis and PetroMod meshes, without conversion – run a migration on your basin models in a matter of minutes.

Setting the project directory

Set the project directory to the location of your basin model:

- Temis – the Run2D or Run3D directory. Temis meshes appear in the main window as “visco.t4d”.
- PetroMod – the “out” directory. PetroMod meshes appear in the main window as “layers.pmt”.



Running Dynamic Migration

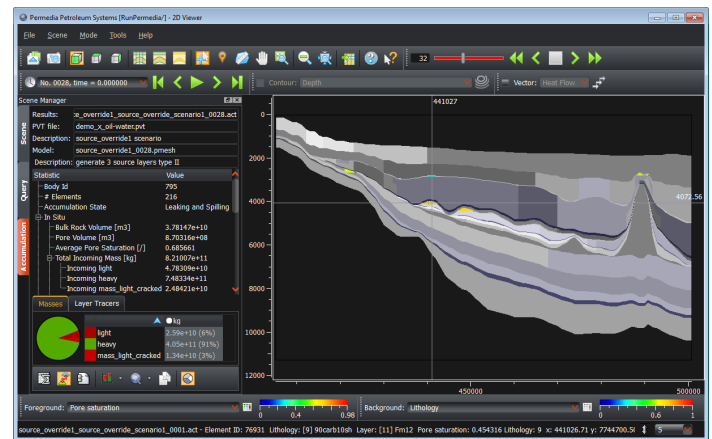
1. In the main window, on the Basin panel, click Dynamic Migration (2-component).
2. Click Load, select the mesh sequence and click Open.
3. Click Show Masses to display the amount of light and heavy mass at each timestep, along with a cross plot of the masses.
4. On the Simulation tab, for PVT file, click Select, select a PVT file and click OK. If you don't have a PVT file, click the Permedia icon to copy sample data to the project directory.

For Temis, select the “oil-water” PVT file (Temis stores capillary pressures in an oil-water base system); for PetroMod, select the “Hg-air” PVT file (PetroMod stores capillary pressures in a mercury-air based system).

5. From the Run menu, choose Run. Enter a File name and click Save. The simulation runs.

Viewing results

1. In the main window, under Simulation Results, right-click the output sequence and choose Open Sequence in 2D Viewer.
2. From the Mode menu, choose Query mode and click different accumulations. Accumulation (fluid body) properties are shown in the Accumulation panel.
3. Use the Foreground toolbar menu to show different output variables.



Other things to try

In Dynamic Migration, select Secondary Cracking to crack the heavier components at specified conditions. These cracked components are tracked separately from other species.

In Dynamic Migration, select Tracers to trace the origin of petroleum masses. Options include Layer Tracers, Facies Tracers, Category Tracers (e.g., fetch maps), Property Tracers, Genetic Tracers for viewing 3D fetch areas, and Maturity Tracers.

Use Basin Mesh Overrides to add petroleum masses or create alternate generation scenarios. To do this, right-click any mesh sequence in the main window and choose Open Sequence in Basin Mesh Overrides.

Use Risk Editor to wrap probability distributions around Migration parameters. To do this, set up a base case in Dynamic Migration, then load this base case in Risk Editor. To run risk jobs, use Batch Manager to run simulations locally or on a distributed processing system.