



# MPath Spotlights – Mesh Overrides

## Generating new source and seal scenarios

After running a base case MPath Dynamic Migration scenario, you may find that you want to generate alternative source and seal scenarios. Basin Mesh Overrides is a powerful tool that allows you to generate petroleum masses and edit seal properties of selected layers and facies in the basin mesh without re-running the basin model. This is an excellent way to create multiple scenarios for risk analysis.

## Petroleum generation

To create an alternative petroleum generation scenario:

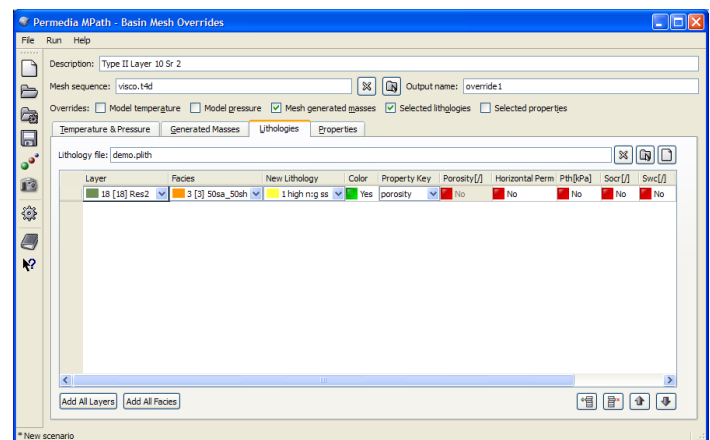
1. Open a mesh sequence in Basin Mesh Overrides.  
(To do this, in the main window under Meshes, right-click the mesh sequence you want to evaluate and choose Open Sequence in Basin Mesh Overrides.)
2. Enter an Output name. Basin Mesh Overrides generates a new mesh based on the basin mesh, and names the new mesh using this Output name.
3. On the Generated Masses tab, click the Add button to add a row to the table.
4. Select the Layer and/or Lithology to override.
5. Select the Kinetics scheme to assign to the selected Layer/Lithology.
6. Set the P<sub>1</sub>, HI, GOGI, TOC, Ag and Ao.
7. Save and Run.

## Lithologies

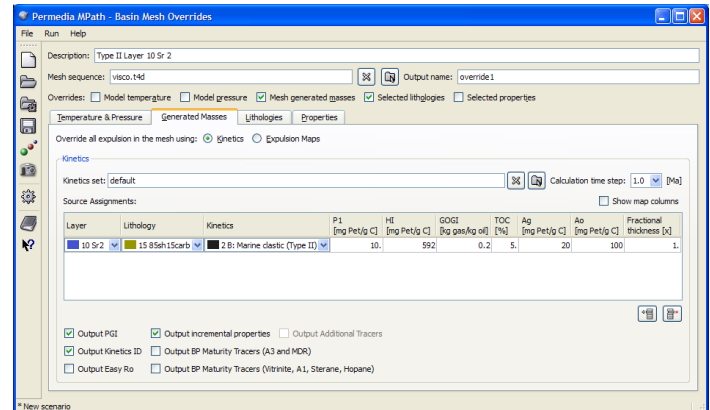
To modify lithology properties (typically Pth for seals):

1. On the Lithologies tab, click Select to choose a Lithology file, select the .plith file and click OK.
2. Click Add to add rows to the table.
3. Select the Layer and/or Facies to override.
4. Select the New Lithology to assign to the selected Layer/Facies.
5. Set Property Key to porosity.
6. Set the mesh properties to override by double-clicking the respective cell. Yes indicates the property will be overridden using the New Lithology values.
7. From the Run menu, choose Run.

Mesh Overrides writes a new Permedia mesh (.pmesh) sequence to the project directory, using the Output name. MPath treats these meshes as standard meshes, which can be viewed and manipulated like any other. Simply load this new mesh into your existing Dynamic Migration scenario and re-run the simulation.



Overriding lithologies



Overriding generated masses

## Other things to try

Create multiple Dynamic Migration scenarios with different source and/or seal properties and use Batch Manager to generate multiple realizations for risking.