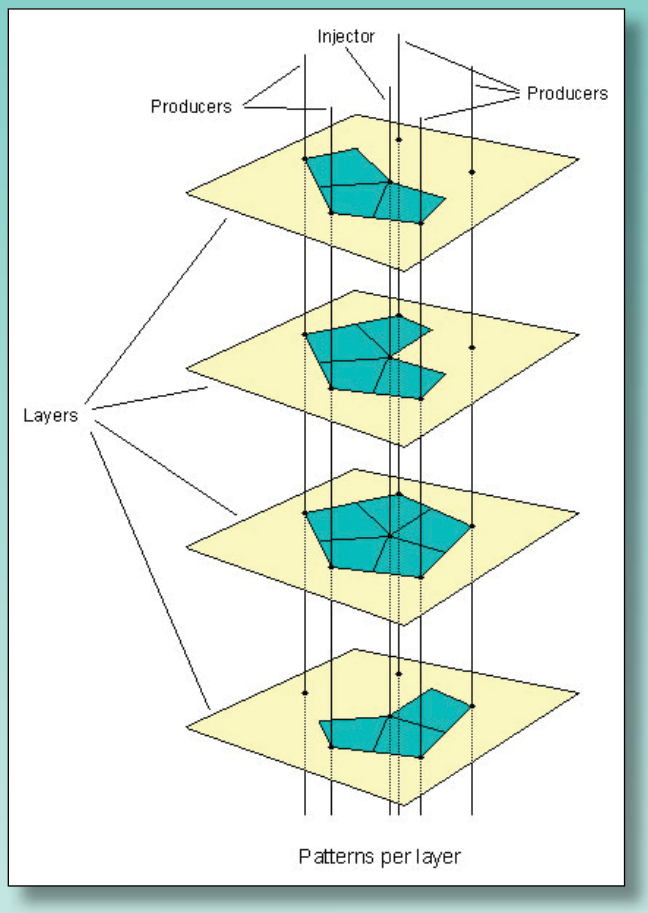
Sahara CRM

New

interfaces

Reservoir Visualization, Analysis & Management Software



Sahara uses a Capacitance Resistive Model (CRM) to calculate connectivities between producer – injector pairs in each layer while using the Sahara Waterflood Pattern Simulator.

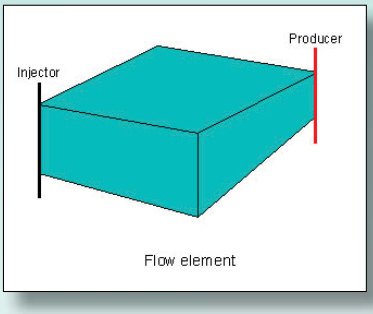
The Sahara Waterflood Pattern Simulator consists of multi - layer patterns. These injection patterns contain a series of flow elements that link each injector with the neighboring producing wells in each layer.

Flow Elements

A flow element is the reservoir volume where the sweeping from an injector well towards the producer well takes place.

Every flow element in Sahara's Waterflood Pattern Simulator is characterized by the following data:

- Injector and Producer Well
- Geometry
- Layer
- Creation and End Date
- Pore Volume
- Initial Oil Saturation
- Residual Oil Saturation
- ***Allocation in Time Coefficients***



These allocation in time coefficients can be interpreted as the weights or connectivity coefficients in Capacitance Resistive Models, since they represent the steady state fraction of water injected in each injector per layer that contributes to production (both oil and water) in each connected producer.

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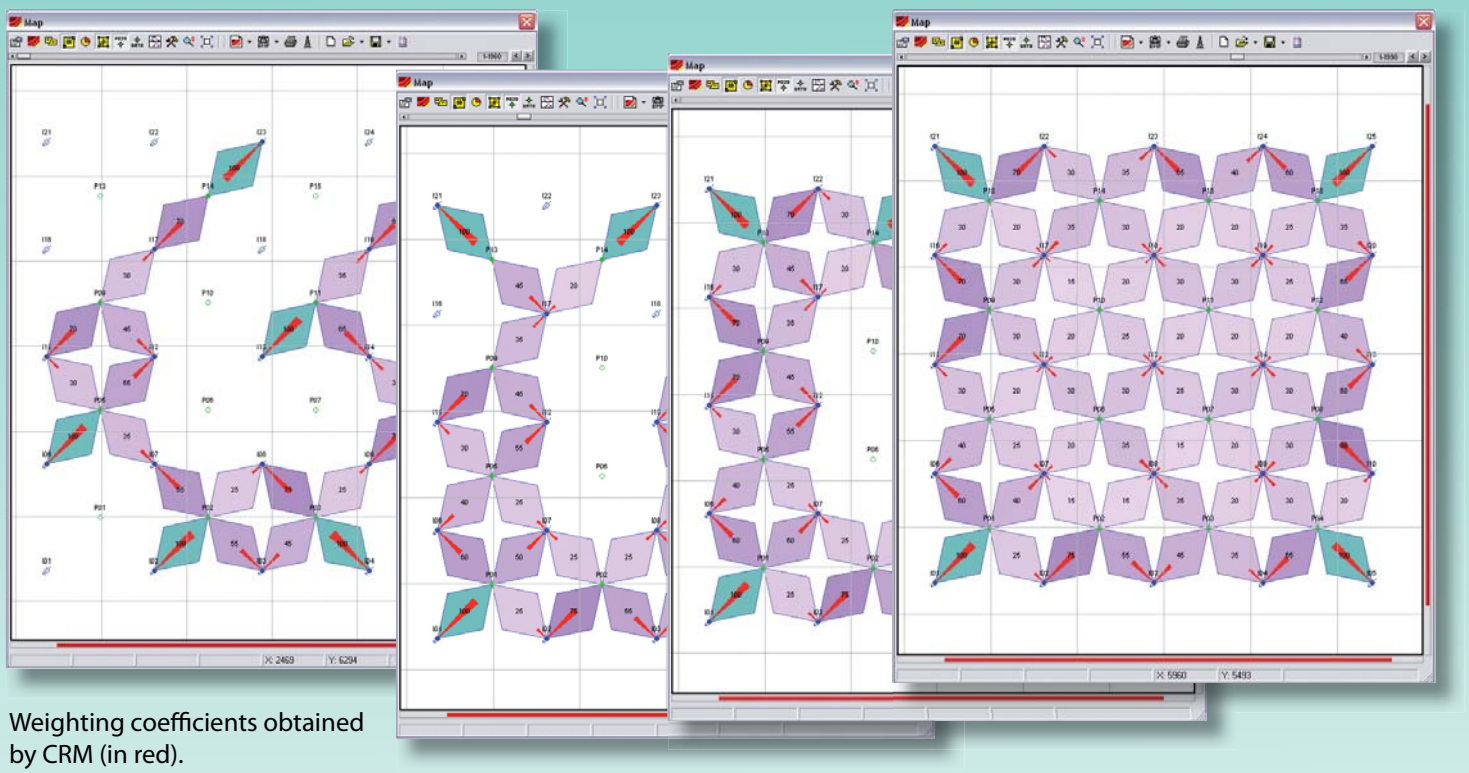
Sahara is able to obtain allocation in time coefficients adjusting a Capacitance Resistive Model using the production and injection data available at the wells. Sahara accounts for the changes the coefficients suffer in time as different events take place along a waterflood history project (open/close layers, shut in wells, wells conversions).

Sahara calculates weighting coefficients based on the geometry proposed for the problem.



Weighting coefficients obtained by CRM (in red).

Actual total production (Blue). CRM adjusted total production (Red)

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