

## **Development of High Risk Deep Horizons with Secondary Recovery: Golfo San Jorge Basin, Santa Cruz, Argentina**

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### **Abstract**

As part of an integrated field management, this study was carried out with the double aim of developing exploitation by secondary recovery of Cañadón Seco formation and by primary developing of the deep horizons Mina del Carmen Formation (MEC), Chubut Group (lower Cretaceous).

The MEC Formation is composed by lenticular sandy bodies that are generally isolated, losing inter connectivity, both lateral and vertical, due to the existence of numerous pelitic intervals that constitute local seals. A strong dispersion of porosity values can be observed due to the composition of the clasts. The dominant components are vitreous and crystal vitro tobas.

The standalone development of this formation is practically impossible due to its geological high risk. Deep depth, discontinuity of the mineralized horizons and the porosity variation makes the development project not to be profitable. Complementing with a secondary recovery project and drilling in-fill wells, who pass completely through the MEC Fm. (PF 2300 m), its development is possible.

This study includes a traditional Secondary Recovery project of water injection @ FM Cañadón Seco and the new deep in-fill drilling. The location of these wells will be dependent to the results of the geological stochastic modeling.

The strategy is that each project adds value to the other. The strength lies that the secondary recovery minimizes the risks of unproductive wells. On the other hand, these new wells increase the contact area of the Cañadón Seco Fm.

In our mature field, primary development of main objectives is reaching its economic limits; this makes us to take more risky objectives to be developed. This proposal would be a methodology to develop the MEC Fm, whose areal extension, continuity and potential still not has been investigated in its entirety.