

An Integrated Geo-Modelling & Reservoir Management Case Study: 3D Visualization of Closely Spaced Horizontal Wells in Dina Hayter Heavy Oil Reservoir, AB Section 26-40-1W4

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The Dina sands in the Hayter Dina heavy oil pool, eastern Alberta have been mapped in a 1.6 sq mile area. Since detailed modelling and horizontal well placement strategy will have a direct bearing on the production and ultimate recovery from this reservoir, an integrated reservoir model was developed utilizing the vertical, horizontal wells as well as additional control from 3D seismic for the purpose of future well placement strategies. There were 95 horizontal and deviated well trajectories within the study area.

Enhancement of the model was further extended from the porosity and saturation properties to visualization of a cone of uncertainty around the well trajectory surveys using SMART 4D Modelling. This was used to evaluate existing well trajectories and to mitigate potential collision of additional closely spaced proposed wells thereby avoiding costly problems.

