

Impact on Faults and Across Fault Flow on Reserves Calculation

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In the estimation of reserves in oil and gas fields, faults are often used as compartment boundaries. Often little or no work is done to assess the validity of the fault interpretation and the subsequent impact on the reserves calculations.

Using a series of theoretical models and thought experiments, a series of reserves assessment show the importance of:

- 1) Fault geometry prior to using the fault as a compartment boundary.
- 2) Defining the trapping geometry of an accumulation
- 3) Identifying the location of sand on sand juxtapositions in faults.

Using deterministic and probabilistic seal/leakage fault plane profile (Allan Map) models for in the analysis of prospects with multiple fault dependencies, the impact on reserves of trap geometry can be compared with stratigraphic uncertainties and depositional scenarios.

Through the thought experiments and examples, the importance of explaining the trapping mechanism is vital in calculating the calculation of oil and gas reserves.