

Integrated Modeling for Brown Field Reservoir Management, Forties Field, North Sea

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The keys to making mature assets give up their remaining wealth lie in the equipping of technical staff with the skills, time and tools to efficiently re-evaluate the asset. Fundamental to this is the integrating of the abstract and non-abstract - the assimilation of inherited field lore with new techniques for interpreting and managing the quantitative field data.

Skills can obviously be enhanced by technology. Equipping the geoscientist with the best technology and tools to aid their analytical skills and make them more efficient is essential. Time, not only to do the everyday tasks more efficiently, but to think creatively is crucial. Workflows in the mid to late 90s to map, model and simulate fields were time consuming and the driver often spent more time under the hood than at the wheel. It permitted little time to do what the geoscientist was employed for, to think and to impart abstract creative expertise into the quantitative, simulated world. The time available to think has, supposedly, increased in direct proportion to computing power and is an area that corporate culture needs to jealously safeguard for its staff.

Apache's acquisition of the Forties Field in the UK Sector of the North Sea is an example of where the integration of an inherited strong geotechnical legacy, new technology and improved computing performance within a focused working environment is enabling a mature asset to re-perform. Initial results from the modeling have been incorporated with the current seismic volumes to cross-validate in-fill targets, independently assess target volumetrics and remaining reserves and forms part of the long term field management of a mature asset.