

RESERVOIR MODELING OF THE BELRIDGE DIATOMITE

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The Belridge giant oil field is an elongated, faulted anticline on the west side of the San Joaquin Valley, California. Since discovery in 1911, it has produced more than 1.2 billion BO. The Miocene diatomite reservoir has approximately 6,000 well penetrations with a large associated core and well log data base. Because the role played by silica diagenesis is poorly understood, estimation of hydrocarbon volume has always been a challenge.

A workflow for an improved volumetric hydrocarbon estimation is presented. This is an integrated workflow which includes the use of mineralogy (XRF), oil-base core data, mercury-air capillary, open-hole logs, production tests, and 3D geological modeling software.