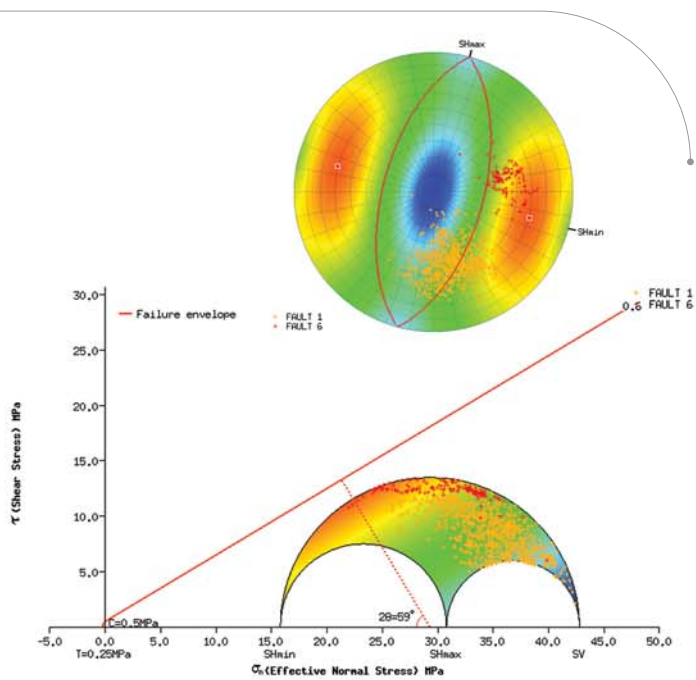


stress tester

FAULT REACTIVATION ANALYSIS



In tectonically active regions or in fields where fluid pressures have been elevated by injection, there is a real danger that otherwise stable faults may wholly or partly reactivate. If the fault was assessed as being a likely sealing structure, reactivation is a possible mechanism for leaking hydrocarbons away from the trap.

StressTester embeds a series of rock mechanics methods into the TT6 environment that calculate and illustrate the proximity to failure or reactivation. TT6 uses the validated 3-dimensional model and/or fracture networks from FaultED (or other sources) in conjunction with the known, 3-dimensional stress tensor. The susceptibility to failure is given in terms of the pore fluid pressure increase required to push the stress circle through the failure envelope (fracture or slip stability) or as a slip or dilation tendency.

Slip and dilation tendency and fracture stability are not just used to assess the effect of present day stress on trap integrity. They are also important parameters in determining which sets of fractures are likely to be the most conductive and which sets are likely to be closed. Thus static stress analysis can have a major influence on well planning decisions.

