Fracture Identification Using Non-Imaging Open Hole Logs

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The accurate identification of natural fractures is a critical part of many reservoir evaluations. The ability to properly identify such features is critical in better evaluating the economic viability of many reservoirs by adding a second "porosity and permeability" system to a matrix based reservoir. Apparently tight, non porous reservoirs can be shown to be productive due to the presence of natural fractures.

Although some techniques exist to utilize conventional logging data to identify natural fractures, the tendency today is normally focused on the acquisition and processing of wellbore imaging logs. This process can be very expensive and time consuming when you consider all the costs associated with this data acquisition (including rig time and associated costs). In addition, wellbore stability oftentimes precludes the ability to run these tools.

Fracture Intensity Vision (FIV) is an analysis that takes conventional log data and subsequently extracts information as to the presence and density of natural fractures in a wellbore. Examples of this application in both vertical and horizontal wells will be shown in addition to cases where apparent dry holes were turned into producing wells based on the identification of fractures using this technology.