

## **Natural Fractures Paragenetic Stages of Najmah and Sargelu Formations**

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### **Abstract**

Production from reservoirs in Najmah and Sargelu formations of Kuwait is dependent on the presence of fractures and often unpredictably varies from field-to-field. The relationship of paragenetic sequence and fractured system is worked out to understand the production behavior. The analysis of 8,400ft of core has been performed to build-up a detailed archetypical diagenetic sequence with focus on stages of fracturing. Occasionally, the main challenge is to have an utterly representative sample that contains the sequential formation of minerals relating to the stages of fracture genesis. This paper will attempt to demonstrate that the fracture system in Najmah and Sargelu formations have an extensive diagenetic overprints that are related to six stages of fracturing, three stages of pressure dissolution and sixteen Eogenetic and Mesogenetic events. Diagenetic footprints of hydrocarbon expulsion and tectonic reactivation events have also been captured in an attempt to unlock the production potential and reservoir behavior of Najmah and Sargelu formations.