

## **Carbonate Seismic Stratigraphy of Minagish Formation within Minagish and Umm Gudair Fields Area, Kuwait**

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### **ABSTRACT**

The Berriasian-Valanginian Middle Minagish Member (Minagish Oolite) is known as an oil bearing carbonate reservoir in Minagish and Umm-Gudair fields, West Kuwait. It was deposited in inner ramp settings with shoals development over paleohighs. Previous exploration in Minagish and Umm Gudair fields of Kuwait has concentrated on the principle structures using 3D seismic with much less attention directed towards stratigraphic studies. Therefore, the focus of this study is to investigate carbonate seismic facies within a sequence stratigraphic framework. A systematic approach has been adopted to integrate sedimentology, petrography, petrophysics, sequence stratigraphy, seismic amplitude and attributes to establish depositional sequences and subdivided parasequences, and to interpret stratigraphic features as well. An integrated Galloway borehole motif –Vail seismic sequence procedure indicates seven distinct operational seismic sequences (parasequence sets). By using the seismic stratigraphic approach to identify new stratigraphic features, additional sub-cycles have been identified and mapped within the Middle Minagish Member. Another finding is the accumulation of carbonate shoals that have been located as potential stratigraphic traps. Further seismic facies work integrated with borehole petrophysics and petrography may provide important insight into the petroleum system evolution of the Minagish Field, as well as identify stratigraphic leads.