Characterizing the Natural Fracture System of the Buda Formation, South Texas

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EXTENDED ABSTRACT

Introduction

The Cenomanian age Buda Formation is a naturally fractured limestone play in South Texas. Stratigraphically, the Buda Limestone occurs between the Eagle Ford/ Boquillas Formation and the Del Rio Formation (Peschier, 2006) (Fig. 1). The Buda Limestone play of South Texas has been a producer of hydrocarbons for decades through the use of vertical wells. With formation porosity maxing at 6%, vertical wells do not exploit the natural fracture system of the Buda Formation. In recent years horizontal wells have been utilized to target the Buda by intercepting the vertical fractures within the formation. Targeting not only a maximum numbers of fractures but also quality fractures is the key to making the Buda play economical (Davis et al., 2016). The exploration challenge resides is locating and identifying zones in the Buda with these economical parameters (Smirnov, 2018). This study examines outcrops along U.S. Highway 90 in Val Verde County, Texas, that provide considerable insight into the natural fracture system of the Buda Formation.

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